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This a NetMan Task Group P802.16i Baseline Document.

# ~~Draft Amendment to IEEE Standard~~ for Local and Metropolitan Area Networks - Part 16: Management Information Base Extensions

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**Abstract**: This document provides updates to IEEE Std 802.16's MIB for the MAC, PHY and associated management procedures in order to accommodate recent extensions to the standard. The project will use protocol-neutral methodologies for network management to develop resource models and related solution sets for the management of devices in a multi-vendor 802.16 network.

**Keywords**: fixed broadband wireless access network, mobile broadband wireless access network, metropolitan area network, microwave, millimeter wave, WirelessMAN™ standards, WMAN MIB

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# Introduction

(This introduction is not part of IEEE Draft P802.16i, Draft Amendment to IEEE Standard for Local and Metropolitan Area Networks - Part 16: Management Information Base Extensions.)

# Participants

This document was developed by the IEEE 802.16 Working Group on Broadband Wireless Access, which develops the WirelessMAN™ Standard for Wireless Metropolitan Area Networks.

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Primary development was carried out by the Working Group's Network Management Task Group.

**Phillip Barber,** *Chair*
**Joey Chou,** *Technical Editor, 802.16f*

The following members of the IEEE 802.16 Working Group on Broadband Wireless Access participated in the Working Group Letter Ballot in which the draft of this standard was prepared and finalized for IEEE Ballot:

*[to be determined]*

The following participated as non-members in the Working Group Letter Ballot:

*[to be determined]*

The following members of the IEEE Balloting Committee voted on this standard, whether voting for approval or disapproval, or abstaining.

*[to be determined]*

The following persons, who were not members of the IEEE Balloting Committee, participated (without voting) in the IEEE Sponsor Ballot in which the draft of this standard was approved:

*[to be determined]*

When the IEEE-SA Standards Board approved this standard on *[date]*, it had the following membership:

*[to be determined]*

Also included is the following nonvoting IEEE-SA Standards Board liaison:

*[to be determined]*

This draft is intended for IEEE-SA Sponsor Ballot with individuals as the ballot group members.

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# Part 16: Management Information Base Extensions

NOTE-The editing instructions contained in this amendment define how to merge the material contained herein into the existing base standard IEEE Std 802.16-2004.

The editing instructions are shown ***bold italic***. Four editing instructions are used: ***change***, ***delete***, ***insert***, and ***replace***. ***Change*** is used to make small corrections in existing text or tables. The editing instruction specifies the location of the change and describes what is being changed by using strike through (to remove old material) and underscore (to add new material). ***Delete*** removes existing material. ***Insert*** adds new material without disturbing the existing material. Insertions may require renumbering. If so, renumbering instructions are given in the editing instruction. ***Replace*** is used to make large changes in existing text, subclauses, tables, or figures by removing existing material and replacing it with new material. Editorial notes will not be carried over into future editions because the changes will be incorporated into the base standard.

## 1. Overview

### 1.1 Scope

This document provides mobility enhancements to the IEEE Std 802.16 Management Information Base for the medium access control layer, physical layer, and associated management procedures. It uses protocol-neutral methodologies for network management to specify resource models and related solution sets for the management of devices in a multivendor 802.16 mobile network.

### 1.2 Purpose

This amendment provides a definition of managed objects to enhance the standards-based management of 802.16 devices.

### 1.3 Reference Models

### 1.3.1 Management Reference Models

Figure 1 illustrates the Management Reference Model (see also 3GPP TS 32.101). It shows the Operation System interfacing with other systems. A number of management interfaces are identified in Figure 1, namely:

1. Between the Network Elements (NEs) and the Element Manager (EM)
2. Between the Element Manager (EM) and the Network Manager (NM)
3. Between the Network Managers and the Enterprise Systems
4. Between Network Managers (NMs)
5. Between Enterprise Systems & Network Managers of different Organisations
6. Between Network Elements (NEs).

The resource model defined within this section focuses primarily on serving management interface "2" and to a lesser extent on management interface "1" from the above list.

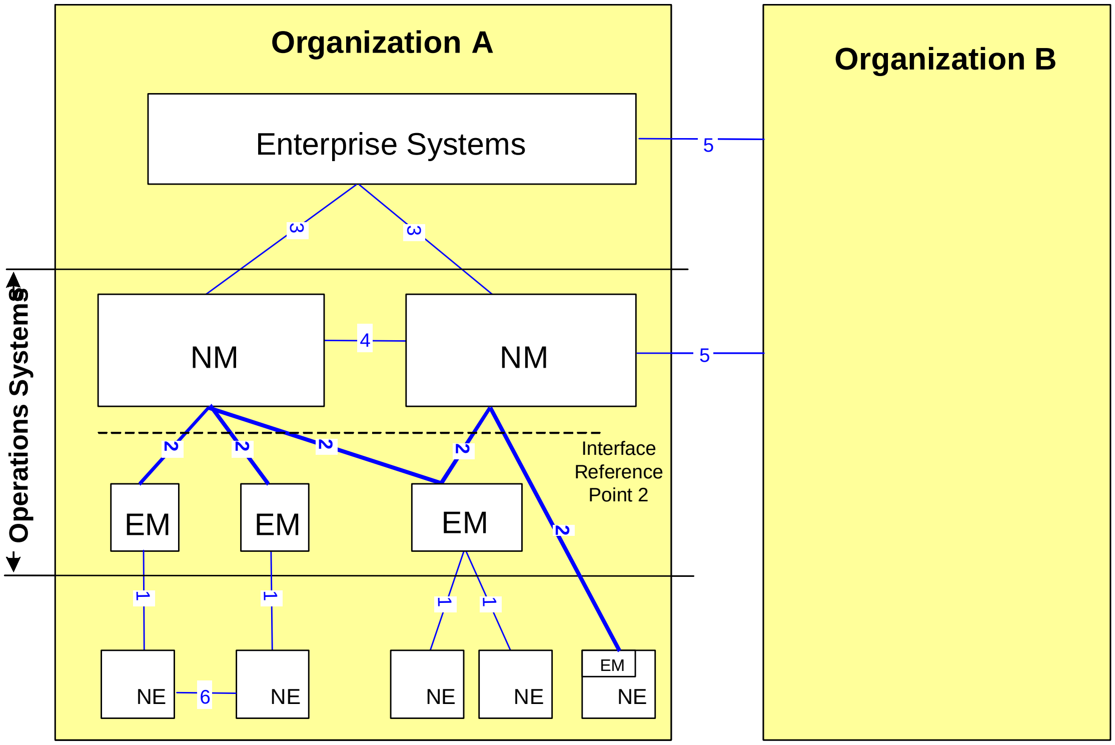

**Figure 1—Mobile BWA Network Management Reference Model**

Figure 2 and Figure 3 identify system contexts of the Management Interface "2" in terms of its implementation, called IRPAgent, and the user of the IRPAgent, called IRPManager (for a definition of IRPManager and IRPAgent see 3GPP TS 32.102). An NE can be managed either

- via System Context A (IRP Agent is a standalone system) or
- Via System Context B (element management function and IRP Agent embedded within the NE).

The criterion for choosing System Context A or B to manage a particular NE is implementation dependent. An IRPAgent shall support one of the two System Contexts.

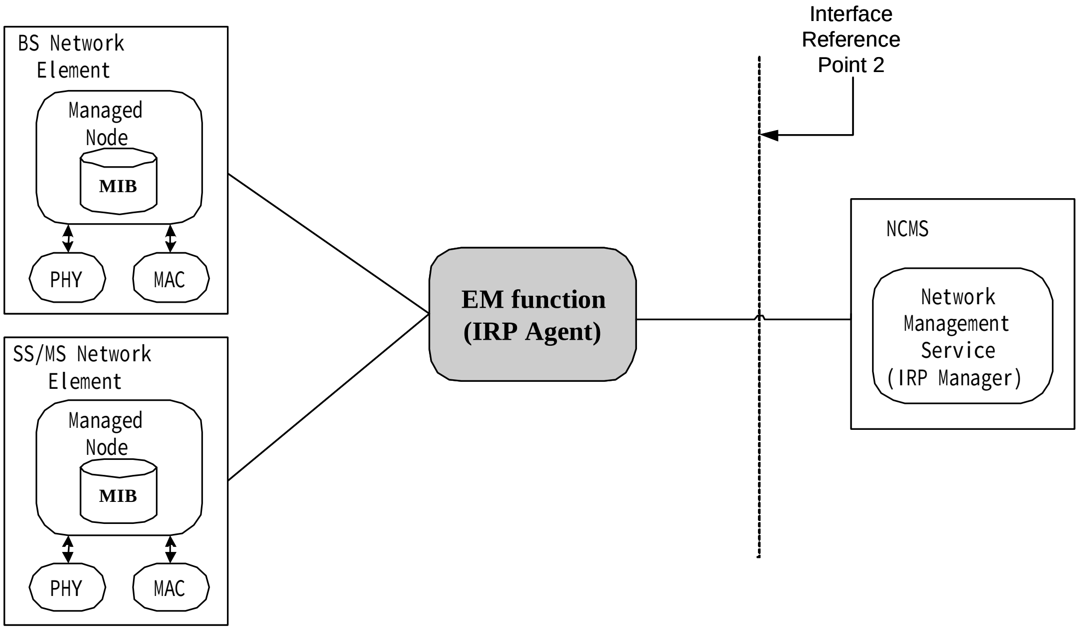

**Figure 2—Mobile BWA Network Management Architecture - Context A**

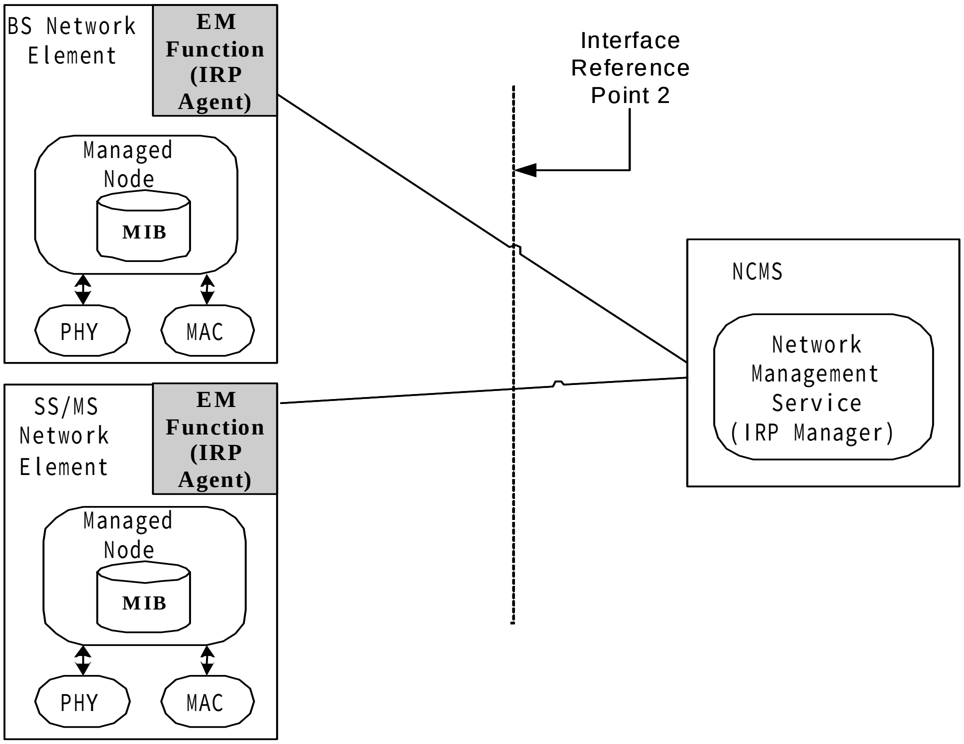

**Figure 3—Mobile BWA Network Management Architecture - Context B**

## 2. References

This standard shall be used in conjunction with the following publications. When the following specifications are superseded by an approved revision, the revision shall apply.

***[Replace the following references]***

~~IETF RFC1902, "Structure of Management Information for version 2 of the Simple Network Management Protocol (SNMPv2)", January 1996~~

IETF RFC2578 "Structure of Management Information Version 2 (SMIv2) " April 1999

~~IETF RFC1903, "Textual Convention for Version 2 of the Simple Network Management Protocol (SNMPv2)", January 1996~~

IETF RFC2579 "Textual Conventions for SMIv2 " April 1999

~~IETF RFC2576, “Coexistence between Version 1, Version 2, and Version 3of the Internet-standard Network Management Framework”, March 2000~~

IETF RFC3584 "TCoexistence between Version 1, Version 2, and Version 3 of the Internet-standard Network Management Framework " August 2003

***[Insert the following new references]***

3GPP TS 32.101, "Principles and High Level Requirements"; Release 6, http://www.3gpp.org/ftp/specs/archive/32_series

3GPP TS 32.150, "Integration Reference Point (IRP) Concept and Definitions", Release 6, http://www.3gpp.org/ftp/specs/archive/32_series

3GPP TS 32.151, "Integration Reference Point (IRP) Information Service (IS) Template", Release 6, http://www.3gpp.org/ftp/specs/archive/32_series

3GPP TS 32.152, "Integration Reference Point (IRP) Information Service (IS) Unified Modelling Language (UML) Repertoire", Release 6, http://www.3gpp.org/ftp/specs/archive/32_series

3GPP TS 32.622, "Configuration Management (CM); Generic Network Resources Integration Reference Point (IRP); Network Resource Model (NRM)"; Release 6, http://www.3gpp.org/ftp/specs/archive/32_series

3GPP2 S.S0028-002-C, "OAM&P for cdma2000 (3GPP2 Generic NRM IRP)" http://www.3gpp2.org/Public_html/specs/index.cfm

3GPP TS 32.102, "Telecommunication management; Architecture", Release 6, http://www.3gpp.org/ftp/

specs/archive/32_series

# 4. Abbreviations and Acronyms

***[Insert a new definition in this sunclause]***

RDN Relative Distinguished Name

RP Integration Reference Point

IS Information Service

NRM Network Resource Model

# 9. Configuration

*[Insert a new subclause 9.4]*

## 9.4 Mobile MIB for SNMP

### 9.4.1 MIB-II integration

wmanIf2Mib is located under MIB-II subtree. A submission will be sent to the Internet Assigned Numbers Authority (IANA) to assign ieee80216WMAN for wmanIf2Mib.

```
IANAifType ::= TEXTUAL-CONVENTION
SYNTAX INTEGER
{
        ieee80216WMAN (???)     -- IEEE 802.16 WirelessMAN standard to be assigned
                                -- by IANA
}
```

Pending on IETF approval, wmanIf2Mib will be accessed through

```
iso.org.dod.internet.mgmt.mib-2.transmission.ifType (1.3.6.1.2.1.10.???)
```

### 9.4.2 Usage of MIB-II tables

"Interfaces" group of MIB-II, in RFC2863, has been designed to manage various sub-layers (e.g. MAC and PHY) beneath the internetwork-layer for numerous media-specific interfaces. The implementation of ifTable in SNMP managed BS and SS is mandatory.

The implementation of the ifTable for BS must create one row for each BS sector. Each BS sector may support different standards (e.g. IEEE 802.16-2004, IEEE 802.16e). The following recommendations must be applied to each row defining BS sector:

- ifIndex value is implementation specific
- ifType must be set to ieee80216WMAN
- ifSpeed must be null
- ifPhysAddress must be set to the MAC Address of the BS sector
- All other columnar objects must be initialized as specified in RFC2863

**Table 1—Example of the Usage of ifTable objects for BS**

| ifTable | ifIndex | ifType (IANA) | ifSpeed | ifPhysAddress | ifAdminStatus | ifOperStatus |
|---|---|---|---|---|---|---|
| BS Sector 1 | 1 | ieee80216WMAN | Null | MAC address of BS sector | Administration Status | Operational Status |
| BS Sector 2 | 2 | ieee80216WMAN | Null | MAC address of BS sector | Administration Status | Operational Status |
| BS Sector 3 | 3 | ieee80216WMAN | Null | MAC address of BS sector | Administration Status | Operational Status |
| BS Sector 4 | 4 | ieee80216WMAN | Null | MAC address of BS sector | Administration Status | Operational Status |
| Ethernet | | | Null | MAC address | Administration Status | Operational Status |

Table 1 shows an example of the usage of ifTable for BS that supports multiple sectors. Each sector may support one of the following MAC / PHY interfaces:

- IEEE 802.16-2004, OFDM 256
- IEEE 802.16-2004, OFDMA 2048
- IEEE 802.16e, OFDM 128
- IEEE 802.16e, OFDM 512
- IEEE 802.16e, OFDM 1024

The implementation of the ifTable for SS must create one row for each SS WirelessMAN interface. Additional rows may be necessary to support other network interfaces, such as Ethernet. The following recommendations must be applied to each row:

- ifIndex value is implementation specific
- ifType must be set to ieee80216WMAN
- ifSpeed must be null
- ifPhysAddress must be set to the SS MAC Address (of the WirelessMAN interface)
- All other columnar objects must be initialized as specified in RFC2863

**Table 2—Example of the Usage of ifTable objects for SS**

| fTable | ifIndex | ifType (IANA) | ifSpeed | ifPhysAddress | ifAdminStatus | ifOperStatus |
|---|---|---|---|---|---|---|
| SS | An ifEntry for SS | ieee80216WMAN | Null | MAC address of SS | Administration Status | Operational Status |
| Ethernet | | | Null | MAC address | Administration Status | Operational Status |

Table 2 shows an example of the usage of ifTable for SS that may support one of the following MAC / PHY interfaces:

- IEEE 802.16-2004, OFDM 256
- IEEE 802.16-2004, OFDMA 2048

- IEEE 802.16e, OFDMA 128
- IEEE 802.16e, OFDMA 512
- IEEE 802.16e, OFDMA 102

Figure 5 shows a procedure describing how BS can determine the MAC / PHY standard interface and capability a SS / MS can support.

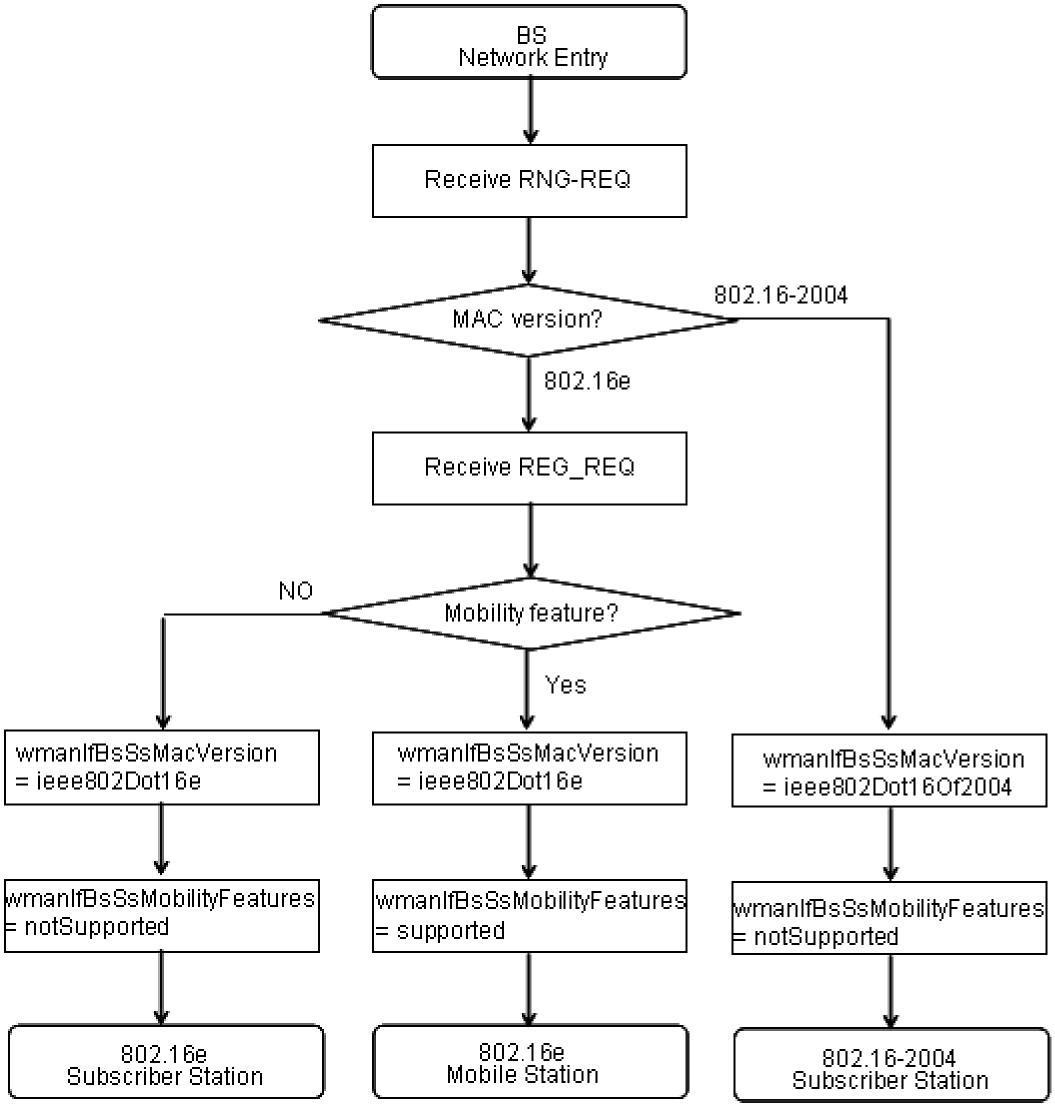

**Figure 4—SS / MS Network Entry**

1. Receive RNG-REQ from SS / MS
2. If MAC version is 802.16-2004, then
   a) wmanIfBsSsMacVersion = ieee802Dot16Of2004
   b) wmanIfBsSsMobilityFeatures = No Supported
   c) Go to step 5
3. Receive REG-REQ from SS / MS

4. If Mobility Feature is supported, then
   a) wmanIfBsSsMacVersion = ieee802Dot16e
   b) wmanIfBsSsMobilityFeatures =  Supported

   otherwise

   a) wmanIfBsSsMacVersion = ieee802Dot16e
   b) wmanIfBsSsMobilityFeatures = Not Supported
5. Continue network entry procedure

***[Insert a new subclause 15]***

# 15. IRP Definitions

The IRP concept is borrowed from 3GPP. TS 32.150 states:

"For the purpose of management interface development 3GPP has developed an interface concept known as Integration Reference Point (IRP) to promote the wider adoption of standardized management interfaces in telecommunication networks. The IRP concept and associated methodology employs protocol and technology neutral modelling methods as well as protocol specific solution sets to achieve its goals."

According to TS 32.150:

"The three cornerstones of the IRP concept are:

- Top-down, process-driven modelling approach: The purpose of each IRP is automation of one specific task [...]. This allows taking a "one step at a time" approach with a focus on the most important tasks.
- Technology-independent modelling: To create from the requirements an interface technology independent model. This is specified in the IRP Information Service.
- Standards-based technology-dependent modelling: To create one or more interface technology dependent models from the technology independent model. This is specified in the IRP Solution Set(s)."

This document encompases phases 2 and 3 only.

## 15.1 NRM IRP IS

This subclause defines the NRM IRP IS for 802.16 Mobile & Fixed Network, and is based on the IS Template defined in 3GPP TS 32.151 as well as the UML Repertoire defined in 3GPP TS 32.152 - refer to these specifications for details on how to interpret the information defined below.

### 15.1.1 Information Object Classes

#### 15.1.1.1 Information entities imported and local labels:

**Table 3—Information entities imported and local labels**

| Label reference | Local label |
|---|---|
| 3GPP TS 32.622, information object class, `ManagedElement` | `ManagedElement` |
| 3GPP TS 32.622, information object class, `ManagedFunction` | `ManagedFunction` |

**Table 3—Information entities imported and local labels**

| Label reference | Local label |
|---|---|
| 3GPP TS 32.622, information object class, `SubNetwork` | `SubNetwork` |
| 3GPP TS 32.622, information object class, `Top` | `Top` |
| 3GPP2 S.S0028-002-C, information object class, `ExternalIOC` | `ExternalIOC` |

### 15.1.1.2 Class diagram

### 15.1.1.2.1 Attributes and relationships

This clause provides the overview of all information object classes in UML. Subsequent clauses provide more detailed specification of various aspects of these information object classes.

The naming and containment for the protocol neutral network management models of the 802.16 standard are shown in the following figures. They are split in several figures only for a readability purpose.

### 15.1.1.2.1.1 WmanSubNetwork Relationships

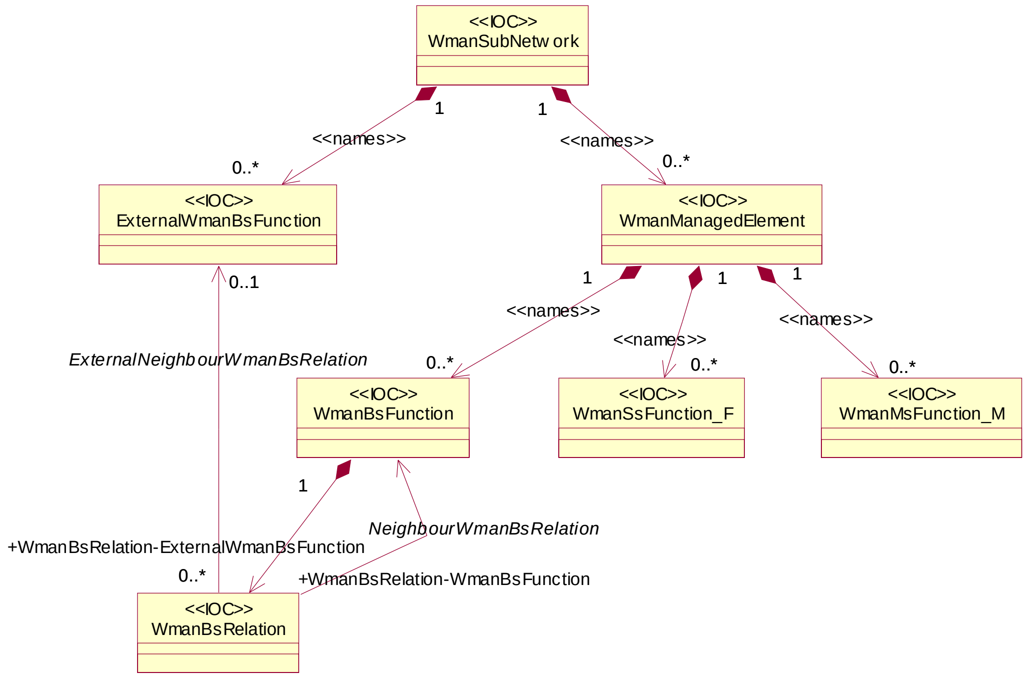

**Figure 5—WmanSubNetwork Containment/Naming and Association Diagram**

### 15.1.1.2.1.2 Bs Object Relationships

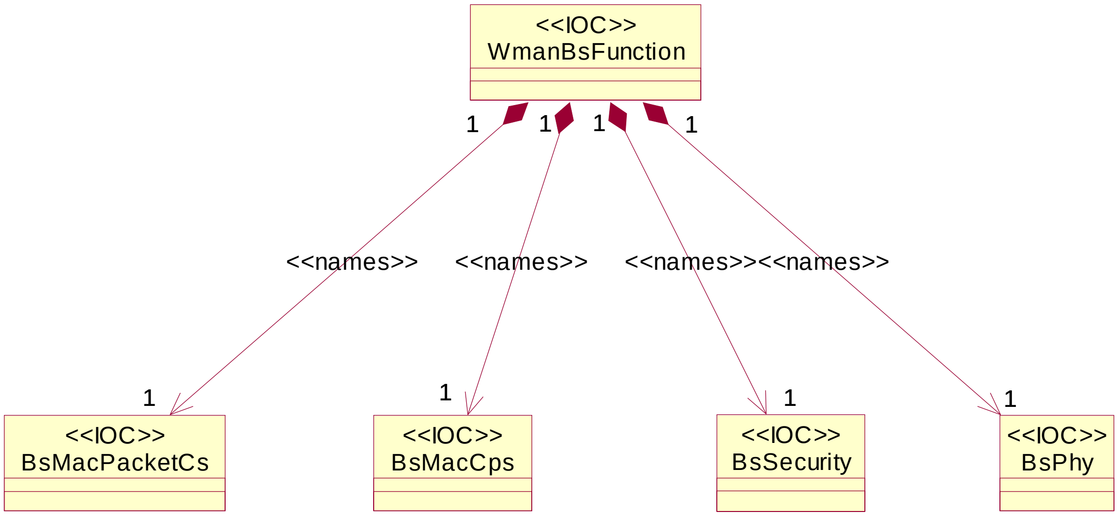

**Figure 6—WmanBsFunction Containment/Naming and Association Diagram**

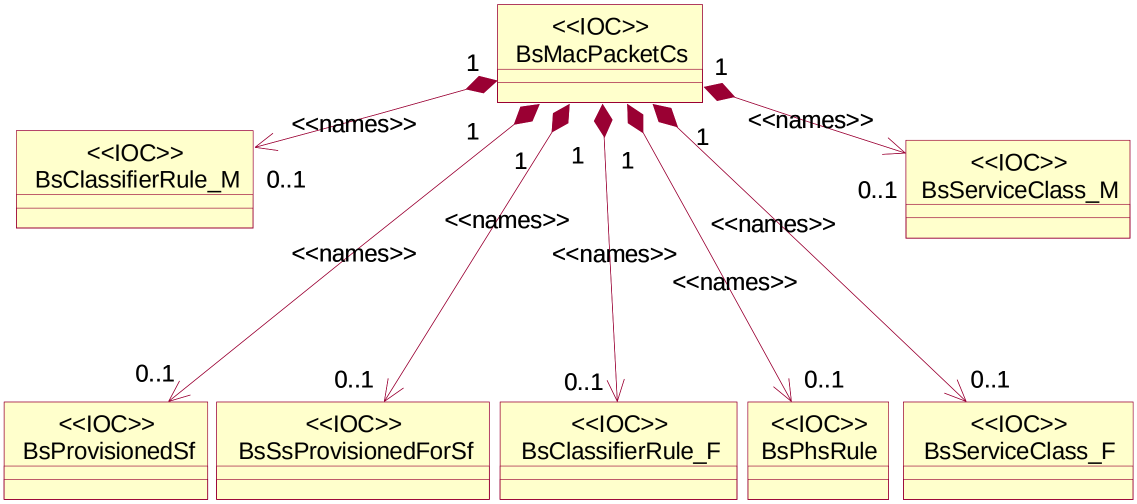

**Figure 7—BsMacPacketCs Containment/Naming and Association Diagram**

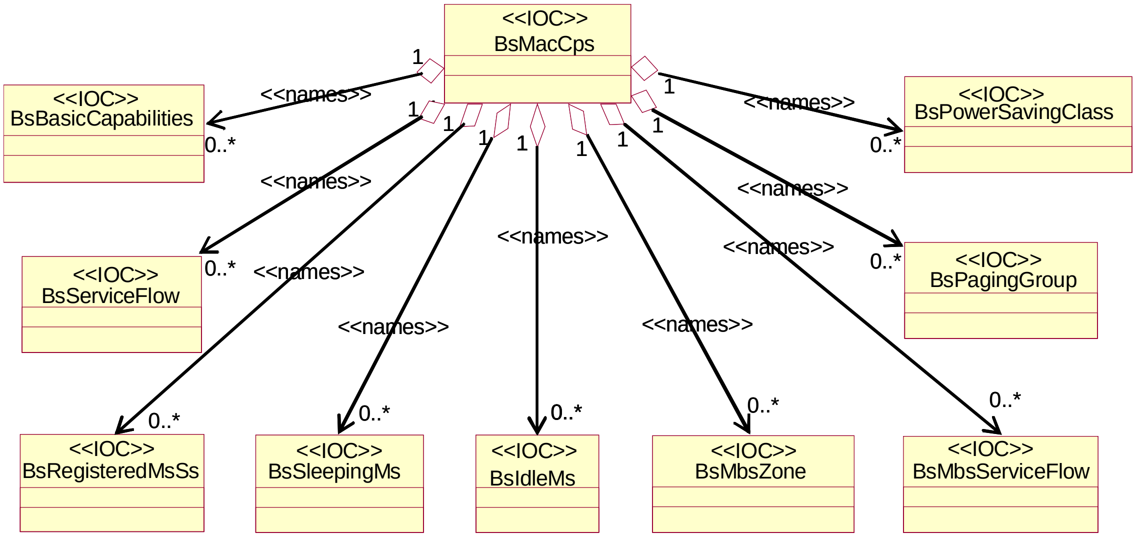

**Figure 8—BsMacCps Containment/Naming and Association Diagram**

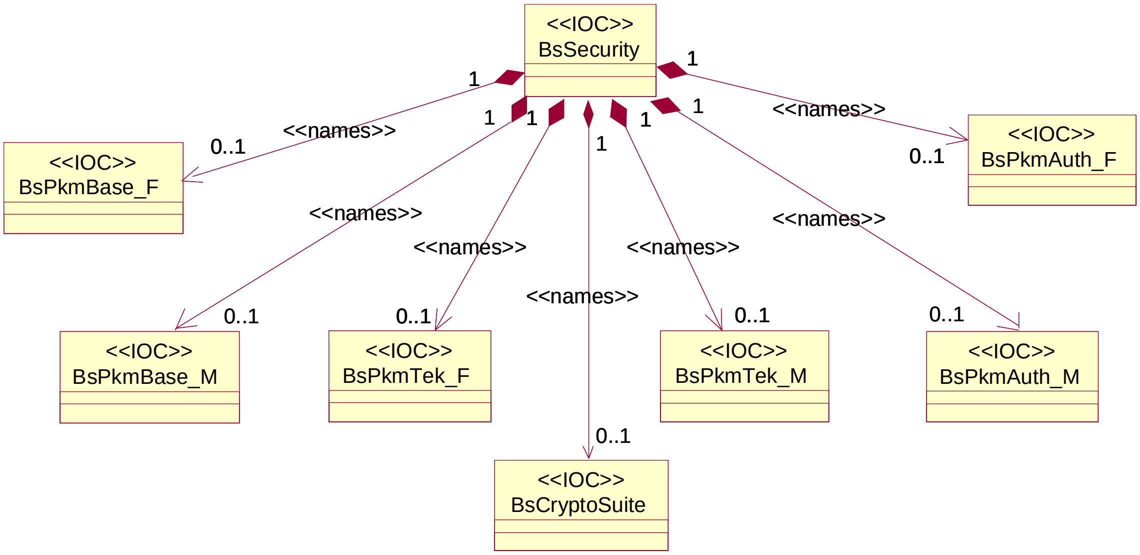

**Figure 9—BsSecurity Containment/Naming and Association Diagram**

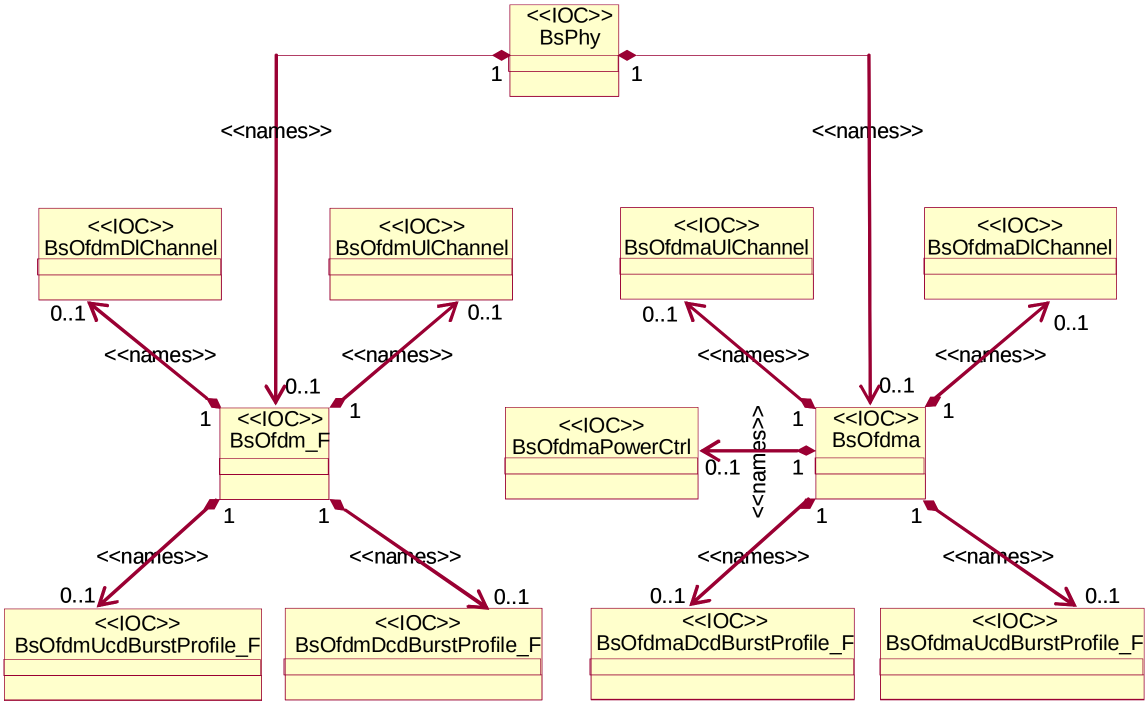

**Figure 10—BsPhy Containment/Naming and Association Diagram**

### 15.1.1.2.1.3 Ss Object Relationships

*TBD*

### 15.1.1.2.2 Inheritance

This subclause depicts the inheritance relationships that exist between information object classes.

### 15.1.1.2.2.1 TOP Inheritance

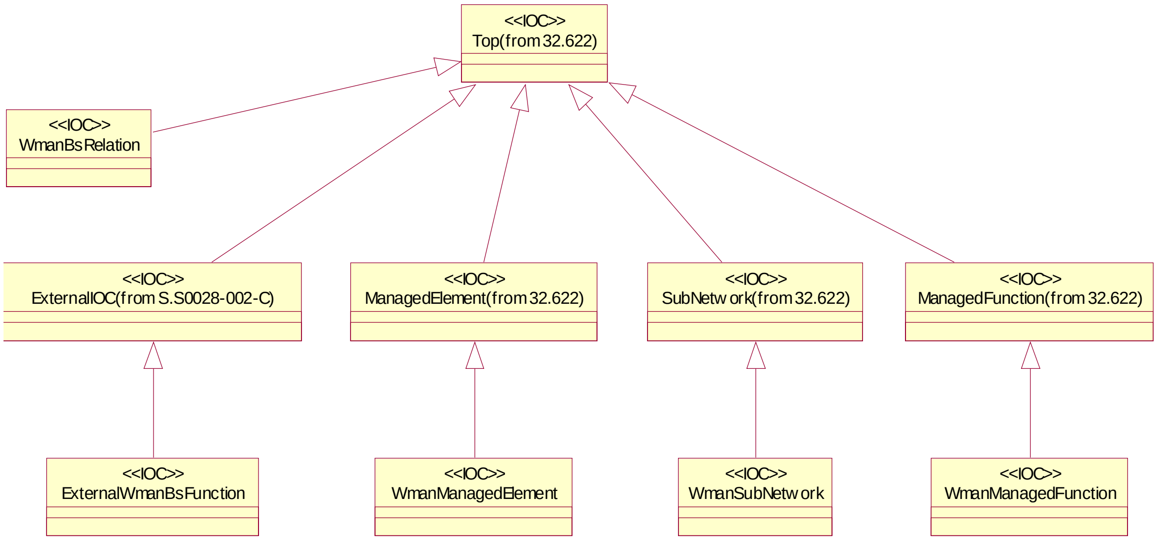

**Figure 11—Top Inheritance Hierarchy Diagram**

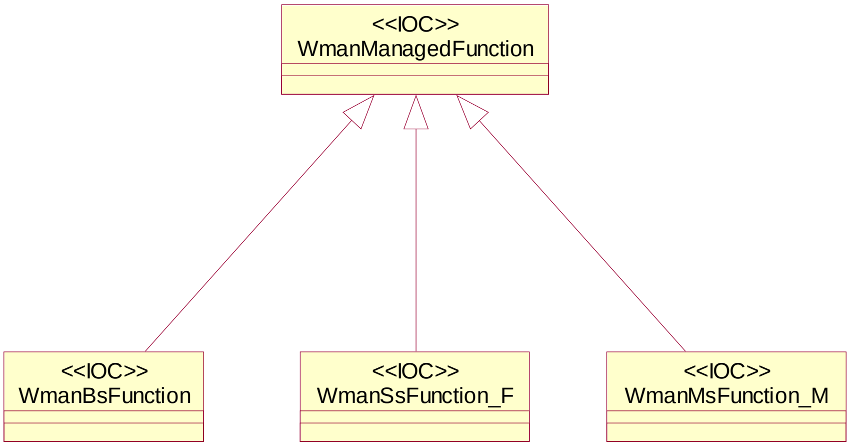

**Figure 12—WmanManagedFunction Inheritance Hierarchy Diagram**

#### 15.1.1.2.2.2 Bs Object Inheritance

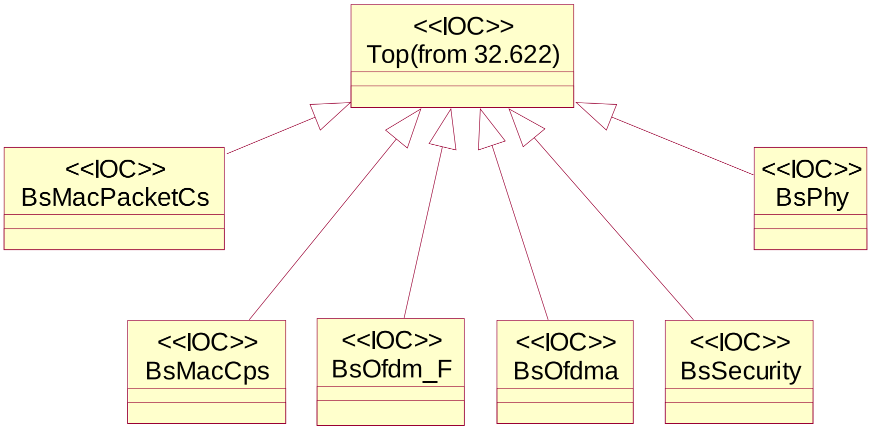

**Figure 13—Bs Inheritance Hierarchy Diagram**

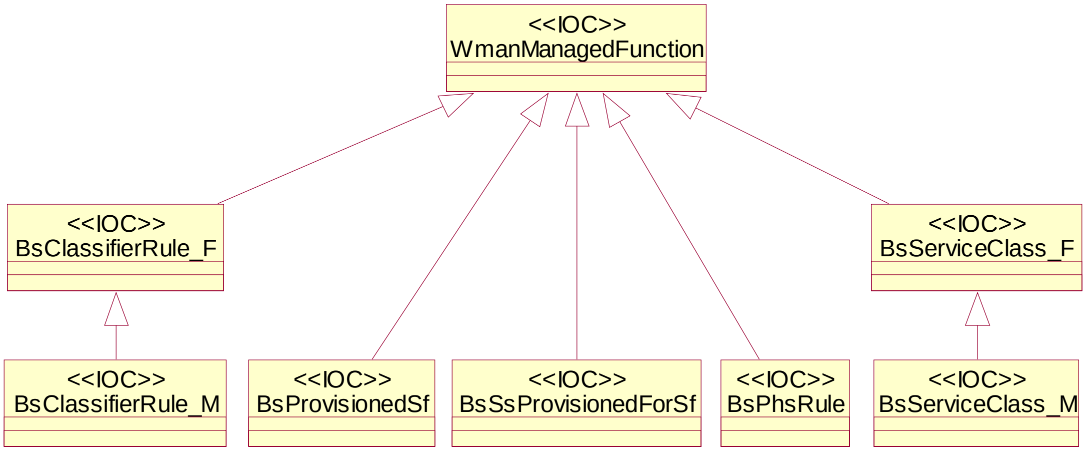

**Figure 14—Bs PacketCs Inheritance Hierarchy Diagra**

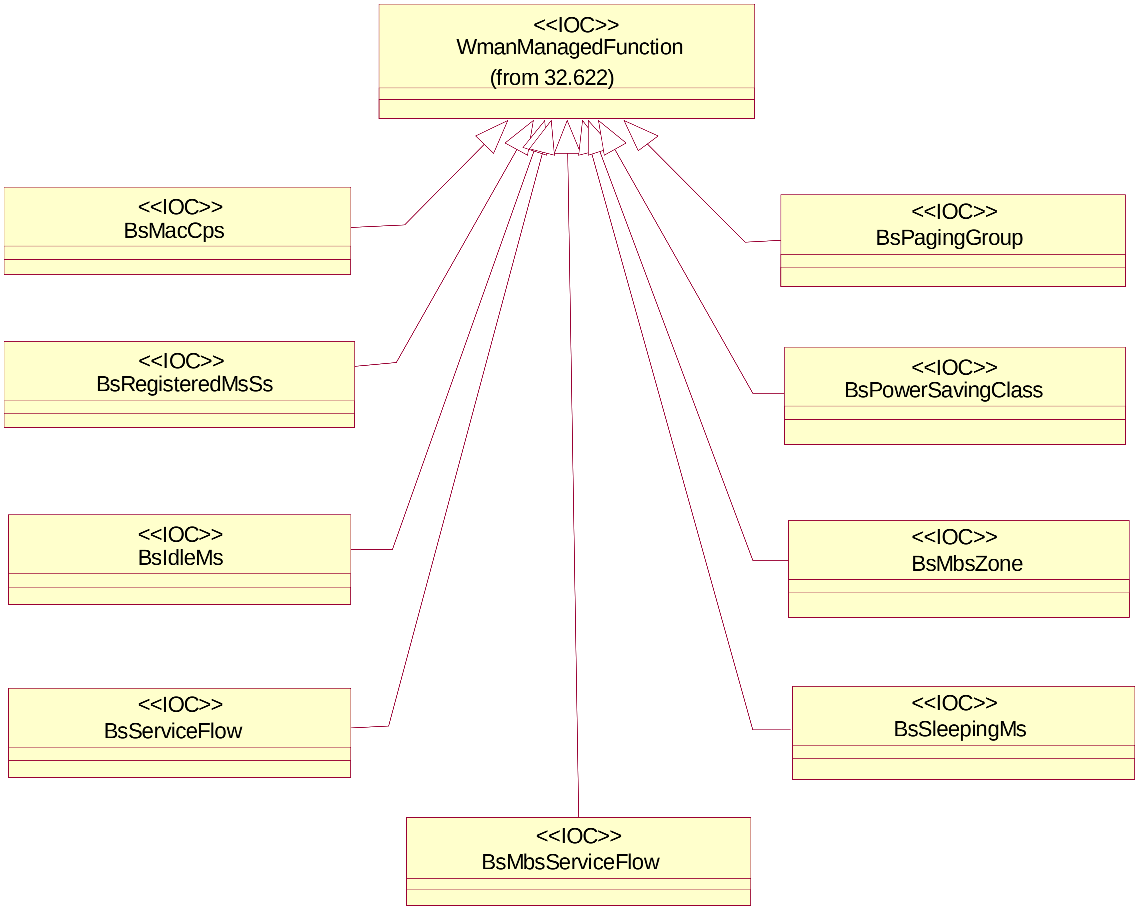

**Figure 15—Bs MacCps Inheritance Hierarchy Diagram**

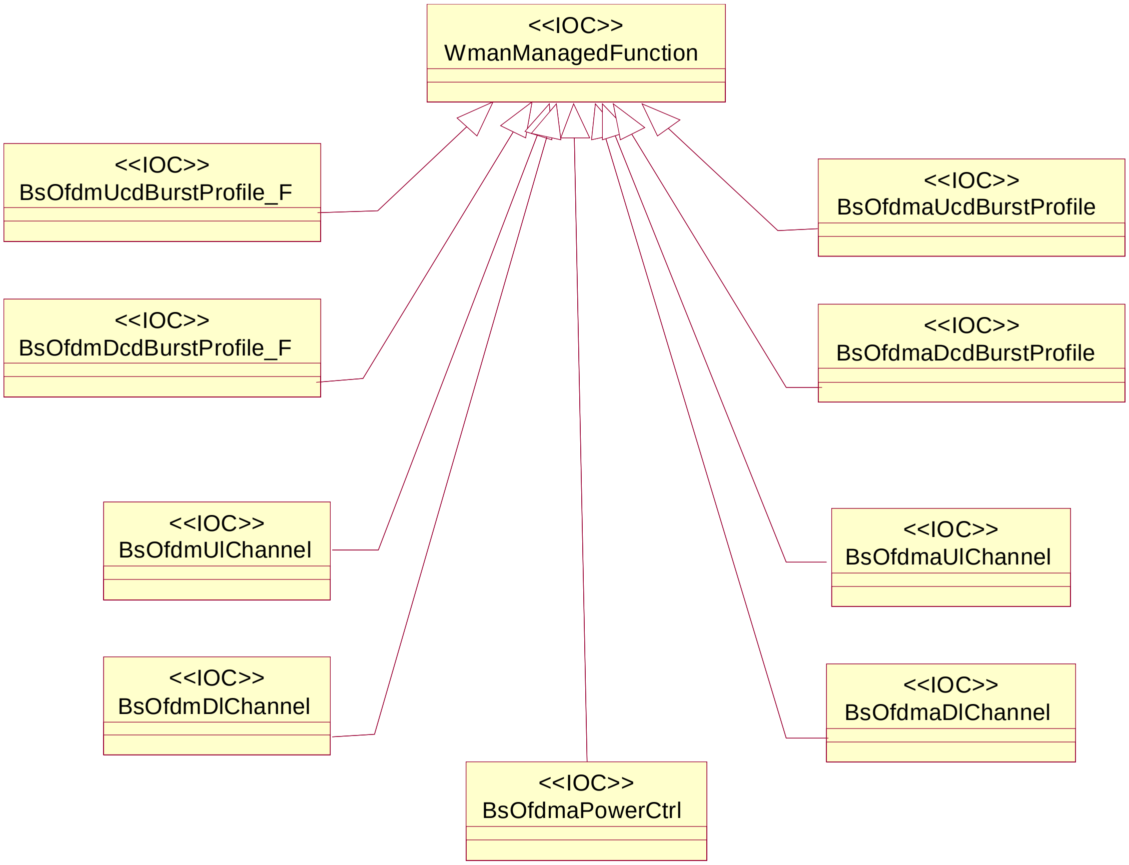

**Figure 16—Bs Phy Inheritance Hierarchy Diagram**

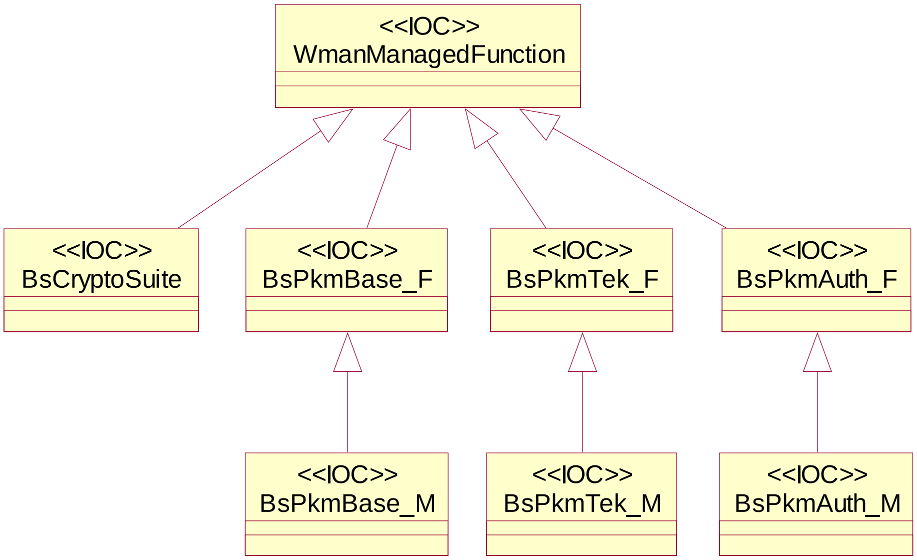

**Figure 17—Bs Security Inheritance Hierarchy Diagram**

#### 15.1.1.2.2.3 Ss Object Inheritance

*TBD*

### 15.1.1.3 Information object classes definition

#### 15.1.1.3.1 IOC WmanBsFunction

#### 15.1.1.3.1.1 Definition

This IOC represents a WMAN Base Station. It is derived from WmanManagedFunction

#### 15.1.1.3.1.2 Attributes

**Table 4—Attributes of WmanBsFunction**

| Attribute name | Visibility | Support Qualifier | Read Qualifier | Write Qualifier |
|---|---|---|---|---|
| OperatorID | + | M | M | M |
| BSID | + | M | M | M |
| HandoverSupportedType | + | M | M | M |
| SystemResourceRetainTime | + | M | M | M |
| HOOptimizationMSTimer | + | M | M | M |
| MSHORetransmissionTimer | + | M | M | M |
| MobilitySupportedIndication | + | M | M | M |
| MSHOConnectionProcessTime | + | M | M | M |
| MSHOTEKProcessTime | + | M | M | M |
| ULPermutationBase | + | M | M | M |
| DLPermutationBase | + | M | M | M |
| PreambleIndex | + | M | M | M |
| SegmentNumber | + | M | M | M |

#### 15.1.1.3.2 IOC ExternalWmanBsFunction

#### 15.1.1.3.2.1 Definition

This IOC represents a WMAN base station which belongs to the other subnetwork. It is derived from WmanManagedFunction

#### 15.1.1.3.2.2 Attributes

**Table 5—Attributes of ExternalWmanBsFunction**

| Attribute name | Visibility | Support Qualifier | Read Qualifier | Write Qualifier |
|---|---|---|---|---|
| ExternalBSId | + | M | M | - |
| FAIndex | + | M | M | M |
| BSEIRP | + | M | M | M |
| SchedulingServiceSupported | + | M | M | M |
| HOProcessOptimization | + | M | M | M |
| Bandwidth | + | M | M | M |
| FFTSize | + | M | M | M |
| CyclePrefix | + | M | M | M |
| FramDurationCode | + | M | M | M |
| ULPermutationBase | + | M | M | M |
| DLPermutationBase | + | M | M | M |
| SegmentNumber | + | M | M | M |
| PreambleIndex | + | M | M | M |

#### 15.1.1.3.3 IOC WmanBsRelation

#### 15.1.1.3.3.1 Definition

This IOC represents the relation between two neighbor WMAN base stations. It is derived from WmanManagedFunction.

#### 15.1.1.3.3.2 Attributes

**Table 6—Attributes of WmanBsRelation**

| Attribute name | Visibility | Support Qualifier | Read Qualifier | Write Qualifier |
|---|---|---|---|---|
| BSRelationId | + | M | M | - |
| adjacentBS | + | M | M | M |
| FAIndex | + | M | M | M |
| BSEIRP | + | M | M | M |
| SchedulingServiceSupported | + | M | M | M |
| HOProcessOptimization | + | M | M | M |
| Bandwidth | + | M | M | M |
| FFTSize | + | M | M | M |
| CyclePrefix | + | M | M | M |
| FramDurationCode | + | M | M | M |
| ULPermutationBase | + | M | M | M |
| DLPermutationBase | + | M | M | M |
| SegmentNumber | + | M | M | M |
| PreambleIndex | + | M | M | M |

#### 15.1.1.3.4 IOC BsPagingGroup

#### 15.1.1.3.4.1 Definition

This IOC represents the BS related paging group information. It is derived from WmanManagedFunction.

#### 15.1.1.3.4.2 Attributes

Table 7—Attributes of BsPagingGroup

| Attribute name | Visibility | Support Qualifier | Read Qualifier | Write Qualifier |
|---|---|---|---|---|
| PagingControlId | + | M | M | M |
| PagingGroupId | + | M | M | M |
| MgmtResourceHoldingTimer | + | M | M | M |
| T46Timer | + | M | M | M |
| PagingRetryCount | + | M | M | M |
| REQDuration | + | M | M | M |
| MACHashSkipThreshold | + | M | M | M |
| BsCDMATransmissionOpportunityAssignment | + | M | M | M |
| PagingResponseWindow | + | M | M | M |
| IdleModeTimer | + | M | M | M |
| IdleModeSystemTimer | + | M | M | M |
| PagingIntervalLength | + | M | M | M |
| PagingCycle | + | M | M | M |

### 15.1.1.3.5 IOC BsOfdmaPowerCtrl

#### 15.1.1.3.5.1 Definition

This Information Object Class represents the power control entity of 802.16 BS. For more information about the BS, see  subclause 8.4.10.3 of 802.16-2004 and 802.16e-2005.

PowerCtrl is an object which is derived from the WmanManagedFunction.

#### 15.1.1.3.5.2 Attributes

Table 8—Attributes of BsOfdmaPowerCtrl

| Attribute name | Defined in | Visibility | Support Qualifier | Read Qualifier | Write Qualifier |
|---|---|---|---|---|---|
| powerCtrlId | -- | + | M | M | -- |
| objectClass | Top | +inherited | Minherited | Minherited | --inherited |
| objectInstance | Top | +inherited | Minherited | Minherited | --inherited |
| userLabel | WmanManagedFunction | +inherited | Minherited | Minherited | Minherited |
| msUpPwrAdjStep | -- | + | M | M | O |
| msDownPwrAdjStep | -- | + | M | M | O |
| minPwrAdjLever | -- | + | M | M | O |
| maxPwrAdjLever | -- | + | M | M | O |
| txPwrRepThreshold | -- | + | M | M | O |
| txPwrRepInterval | -- | + | M | M | O |
| alphaPAvg | -- | + | M | M | O |
| txPwrRepThresholdCQI | -- | + | M | M | O |
| txPwrRepIntervalCQI | -- | + | M | M | O |
| alphaPAvgCQI | -- | + | M | M | O |

#### 15.1.1.3.6 IOC BsSecurity

#### 15.1.1.3.6.1 Definition

This IOC represents a SecurityManagmentFunction object. It is derived from WmanManagedFunction

#### 15.1.1.3.6.2 Attributes

**Table 9—Attributes of BsSecurity**

| **Attribute name** | | | | | |
|---|---|---|---|---|---|
| Defined in | Visibility | Support Qualifier | Read Qualifier | Write Qualifier | |
| objectClass | Top | +inherited | Minherited | Minherited | --inherited |
| objectInstance | Top | +inherited | Minherited | Minherited | --inherited |
| userLabel | WmanManagedFunction | +inherited | Minherited | Minherited | Minherited |
| securityManagementId | - | + | M | M | - |

### 15.1.1.3.7 IOC PkmBase_F

#### 15.1.1.3.7.1 Definition

This IOC represents a PkmBase object. It is derived from WmanManagedFunction.

#### 15.1.1.3.7.2 Attributes

**Table 10—Attributes of PkmBase_F**

| Attribute name | Defined in | Visibility | Support Qualifier | Read Qualifier | Write Qualifier |
|---|---|---|---|---|---|
| objectClass | Top | +inherited | Minherited | Minherited | --inherited |
| objectInstance | Top | +inherited | Minherited | Minherited | --inherited |
| userLabel | WmanManagedFunction | +inherited | Minherited | Minherited | Minherited |
| wmanIfBsPkmBaseId | - | + | M | M | - |
| wmanIfBsPkmDefaultAuthLifetime | - | + | M | M | M |
| wmanIfBsPkmDefaultTekLifetime | - | + | M | M | M |
| wmanIfBsPkmDefaultSelfSigManufCertTrust | - | + | M | M | M |
| wmanIfBsPkmCheckCertValidityPeriods | - | + | M | M | M |
| wmanIfBsPMKDefaultPreHandshakeLifetime | - | + | M | M | M |
| wmanIfBsPMKDefaultLifetime | - | + | M | M | M |
| wmanIfBsDefaultSAChallengeTimer | - | + | M | M | M |
| wmanIfBsDefaultSaChallengeMaxResends | - | + | M | M | M |
| wmanIfBsDefaultSATEKTimer | - | + | M | M | M |
| wmanIfBsDefaultSATEKRequestMaxResends | - | + | M | M | M |

### 15.1.1.3.8 IOC PkmTek_F

#### 15.1.1.3.8.1 Definition

This IOC represents a PkmTek object. It is derived from WmanManagedFunction.

#### 15.1.1.3.8.2 Attributes

Table 11—Attributes of PkmTek_F

| Attribute name | Defined in | Visibility | Support Qualifier | Read Qualifier | Write Qualifier |
|---|---|---|---|---|---|
| objectClass | Top | +inherited | Minherited | Minherited | --inherited |
| objectInstance | Top | +inherited | Minherited | Minherited | --inherited |
| userLabel | WmanManagedFunction | +inherited | Minherited | Minherited | Minherited |
| wmanIfBsPkmTekId | - | + | M | M | - |
| wmanIfBsPkmTekSAId | - | + | M | - | - |
| wmanIfBsPkmTekSAType | - | + | M | M | - |
| wmanIfBsPkmTekDataEncryptAlg | - | + | M | M | - |
| wmanIfBsPkmTekDataAuthentAlg | - | + | M | M | - |
| wmanIfBsPkmTekEncryptAlg | - | + | M | M | - |
| wmanIfBsPkmTekLifetime | - | + | M | M | - |
| wmanIfBsPkmTekKeySequenceNumber | - | + | M | M | - |
| wmanIfBsPkmTekExpiresOld | - | + | M | M | - |
| wmanIfBsPkmTekExpiresNew | - | + | M | M | - |
| wmanIfBsPkmTekReset | - | + | M | M | M |
| wmanIfBsPkmAssociatedGKEKSequenceNumber | - | + | M | M | - |
| wmanIfBsPkmSAServiceType | - | + | M | M | - |

### 15.1.1.3.9 IOC BsPkmAuth_F

#### 15.1.1.3.9.1 Definition

This IOC represents a MS/SSPkmAuth object. It is derived from WmanManagedFunction.

#### 15.1.1.3.9.2 Attributes

**Table 12—Attributes of BsPkmAuth_F**

| Attribute name | Defined in | Visibility | Support Qualifier | Read Qualifier | Write Qualifier |
|---|---|---|---|---|---|
| objectClass | Top | +inherited | Minherited | Minherited | --inherited |
| objectInstance | Top | +inherited | Minherited | Minherited | --inherited |
| userLabel | WmanManagedFunction | +inherited | Minherited | Minherited | Minherited |
| wmanIfBsMsPkmAuthID | - | + | M | M | - |
| wmanIfBsSsPkmAuthMacAddress | - | - | M | - | - |
| wmanIfBsSsPkmAuthKeySequenceNumber | - | + | M | M | - |
| wmanIfBsSsPkmAuthExpiresOld | - | + | M | M | - |
| wmanIfBsSsPkmAuthExpiresNew | - | + | M | M | - |
| wmanIfBsSsPkmAuthLifetime | - | + | M | M | - |
| wmanIfBsSsPkmAuthReset | - | + | M | M | M |
| wmanIfBsSsPkmAuthPrimarySAId | - | + | M | M | - |
| wmanIfBsSsPkmAuthValidStatus | - | + | M | M | - |
| wmanIfBsMsCMACPacketNumbercounter | - | + | M | M | |
| wmanIfBsMsCMAC_PN_UL | - | + | M | M | |
| wmanIfBsMsCMAC_PN_DL | - | + | M | M | |
| wmanIfBsMsCMACValue | - | + | M | M | |
| wmanIfBsMsPkmAuthResultCode | - | + | M | M | |
| wmanIfBsMsPkmAKId | - | + | M | M | |
| wmanIfBsKeyPushMode | - | + | O | M | |
| wmanIfBsKeyPushCounter | - | + | O | M | |

### 15.1.1.3.10 IOC BsOfdmUlChannel

#### 15.1.1.3.10.1 Definition

This IOC represents a BsOfdmUlChannel object. It is derived from WmanWmanManagedFunction.

### 15.1.1.3.10.2 Attributes

Table 13—Attributes of BsOfdmUlChannel

| Attribute name | Defined in | Visibility | Support Qualifier | Read Qualifier | Write Qualifier |
|---|---|---|---|---|---|
| objectClass | Top | +inherited | Minherited | Minherited | --inherited |
| objectInstance | Top | +inherited | Minherited | Minherited | --inherited |
| userLabel | WmanManagedFunction | +inherited | Minherited | Minherited | Minherited |
| BsOfdmUpLinkChannelId | - | + | M | M | M |
| BsOfdmCtBasedResvTimeout | - | + | O | M | M |
| BsOfdmBwReqOppSize | - | + | O | M | M |
| BsOfdmRangReqOppSize | - | + | O | M | M |
| BsOfdmUplinkCenterFreq | - | + | O | M | M |
| BsOfdmNumSubChReqRegionFull | - | + | O | M | M |
| BsOfdmNumSymbolsReqRegionFull | - | + | O | M | M |
| BsOfdmSubChFocusCtCode | - | + | O | M | M |

### 15.1.1.3.11 IOC BsOfdmDlChannel

### 15.1.1.3.11.1 Definition

This IOC represents a BsOfdmDlChannel object. It is derived from WmanManagedFunction.

### 15.1.1.3.11.2 Attributes

**Table 14—Attributes of BsOfdmDlChannel**

| Attribute name | Defined in | Visibility | Support Qualifier | Read Qualifier | Write Qualifier |
|---|---|---|---|---|---|
| objectClass | Top | +inherited | Minherited | Minherited | --inherited |
| objectInstance | Top | +inherited | Minherited | Minherited | --inherited |
| userLabel | WmanManagedFunction | +inherited | Minherited | Minherited | Minherited |
| BsOfdmDownLinkChannelId | - | + | M | M | M |
| BsOfdmBsEIRP | - | + | O | M | M |
| BsOfdmChannelNumber | - | + | O | M | M |
| BsOfdmTTG | - | + | O | M | M |
| BsOfdmRTG | - | + | O | M | M |
| BsOfdmInitRngMaxRSS | - | + | O | M | M |
| BsOfdmDownlinkCenterFreq | - | + | O | M | M |
| BsOfdmBsId | - | + | O | M | M |
| BsOfdmMacVersion | - | + | O | M | M |
| BsOfdmFrameDurationCode | - | + | O | M | M |

### 15.1.1.3.12 IOC BsOfdmUcdBurstProfile_F

### 15.1.1.3.12.1 Definition

This IOC represents a BsOfdmUcdBurstProfile_F object. It is derived from WmanManagedFunction.

### 15.1.1.3.12.2 Attributes

**Table 15—Attributes of BsOfdmUcdBurstProfile_F**

| Attribute name | Defined in | Visibility | Support Qualifier | Read Qualifier | Write Qualifier |
|---|---|---|---|---|---|
| objectClass | Top | +inherited | Minherited | Minherited | --inherited |
| objectInstance | Top | +inherited | Minherited | Minherited | --inherited |
| userLabel | WmanManagedFunction | +inherited | Minherited | Minherited | Minherited |
| BsOfdmUcdBurstProfileId | - | + | M | M | M |
| BsOfdmUiucIndex | - | + | O | - | - |
| BsOfdmUcdFecCodeType | - | + | O | M | M |
| BsOfdmFocusCtPowerBoost | - | + | O | M | M |
| BsOfdmUcdTcsEnable | - | + | O | M | M |

### 15.1.1.3.13 IOC BsOfdmDcdBurstProfile_F

### 15.1.1.3.13.1 Definition

This IOC represents a BsOfdmDcdBurstProfile_F object. It is derived from WmanManagedFunction.

#### 15.1.1.3.13.2 Attributes

**Table 16—Attributes of BsOfdmDcdBurstProfile_**

| Attribute name | Defined in | Visibility | Support Qualifier | Read Qualifier | Write Qualifier |
|---|---|---|---|---|---|
| objectClass | Top | +inherited | Minherited | Minherited | --inherited |
| objectInstance | Top | +inherited | Minherited | Minherited | --inherited |
| userLabel | WmanManagedFunction | +inherited | Minherited | Minherited | Minherited |
| BsOfdmDcdBurstProfileId | - | + | M | M | - |
| BsOfdmDiucIndex | - | + | O | - | - |
| BsOfdmDownlinkFrequency | - | + | O | M | M |
| BsOfdmDcdFecCodeType | - | + | O | M | M |
| BsOfdmDiucMandatoryExitThresh | - | + | O | M | M |
| BsOfdmDiucMinEntryThresh | - | + | O | M | M |
| BsOfdmTcsEnable | - | + | O | M | M |

### 15.1.1.3.14 IOC BsClassifierRule_F

#### 15.1.1.3.14.1 Definition

This IOC represents a BsClassifierRule_F object . It is derived from WmanManagedFunction.

#### 15.1.1.3.14.2 Attributes

Table 17—Attributes of BsClassifierRule_F

| Attribute name | Defined in | Visibility | Support Qualifier | Read Qualifier | Write Qualifier |
|---|---|---|---|---|---|
| objectClass | Top | +inherited | Minherited | Minherited | --inherited |
| objectInstance | Top | +inherited | Minherited | Minherited | --inherited |
| userLabel | WmanManagedFunction | +inherited | Minherited | Minherited | Minherited |
| BsClassifierRule_FId | - | + | M | M | M |
| BsClassifierRulePriority | - | + | M | M | O |
| BsClassifierRuleIpTosLow | - | + | M | M | O |
| BsClassifierRuleIpTosHigh | - | + | M | M | O |
| BsClassifierRuleIpTosMask | - | + | M | M | O |
| BsClassifierRuleIpProtocol | - | + | M | M | O |
| BsClassifierRuleIpSourceAddr | - | + | M | M | O |
| BsClassifierRuleIpSourceMask | - | + | M | M | O |
| BsClassifierRuleIpDestAddr | - | + | M | M | O |
| BsClassifierRuleIpDestMask | - | + | M | M | O |
| BsClassifierRuleSourcePortStart | - | + | M | M | O |
| BsClassifierRuleSourcePortEnd | - | + | M | M | O |
| BsClassifierRuleDestPortStart | - | + | M | M | O |
| BsClassifierRuleDestPortEnd | - | + | M | M | O |
| BsClassifierRuleDestMacAddr | - | + | M | M | O |
| BsClassifierRuleDestMacMask | - | + | M | M | O |
| BsClassifierRuleSourceMacAddr | - | + | M | M | O |
| BsClassifierRuleSourceMacMask | - | + | M | M | O |
| BsClassifierRuleEnetProtocolType | - | + | M | M | O |
| BsClassifierRuleEnetProtocol | - | + | M | M | O |
| BsClassifierRuleUserPriLow | - | + | M | M | O |
| BsClassifierRuleUserPriHigh | - | + | M | M | O |
| BsClassifierRuleVlanId | - | + | M | M | O |
| BsClassifierRuleState | - | + | M | M | O |

Table 17—Attributes of BsClassifierRule_F

| Attribute name | Defined in | Visibility | Support Qualifier | Read Qualifier | Write Qualifier |
|---|---|---|---|---|---|
| BsClassifierRulePhsSize | - | + | M | M | O |
| BsClassifierRulePhsMask | - | + | M | M | O |
| BsClassifierRulePhsVerify | - | + | M | M | O |
| BsClassifierRuleIpv6FlowLabel | - | + | M | M | O |

### 15.1.1.3.15 IOC BsClassifierRule_M

#### 15.1.1.3.15.1 Definition

This IOC represents a BsClassifierRule_M object . It is derived from WmanManagedFunction.

#### 15.1.1.3.15.2 Attributes

Table 18—Attributes of BsClassifierRule_M

| Attribute name | Defined in | Visibility | Support Qualifier | Read Qualifier | Write Qualifier |
|---|---|---|---|---|---|
| objectClass | Top | +inherited | Minherited | Minherited | --inherited |
| objectInstance | Top | +inherited | Minherited | Minherited | --inherited |
| userLabel | WmanManagedFunction | +inherited | Minherited | Minherited | Minherited |
| BsClassifierRule_MId | - | + | M | M | M |
| BsClassifierContextId | - | + | M | M | O |
| BsClassifierActionRule | - | + | M | M | O |
| BsClassifierShortFormatContextId | - | + | M | M | O |

### 15.1.1.4 Information relationships definition

#### 15.1.1.4.1 ExternalNeighbourWmanBsRelation

#### 15.1.1.4.1.1 Definition

This represents a unidirectional relation from BSRelation to the ExternalBSFunction. The role of the relation shall be mapped to a reference attribute, named adjacentBS, of the IOC.

#### 15.1.1.4.1.2 Roles

Table 19—Roles of the relation ExternalNeighbourWmanBsRelation

| Name | Definition |
|---|---|
| BSRelation -ExternalBSFunction | This role (when present) represents BSRelation capability to identify one ExternalBSFunction. When this role is present, the BSRelation.adjacentBS shall contain one ExternalBS DN. |

#### 15.1.1.4.1.3 Constraints

This role (for a particular WmanBsRelation ) shall be present if the NeighbourWmanBsRelation of this particular WmanBsRelation is absent. This role shall be absent if the NeighbourWmanBsRelation of this particular WmanBsRelation is present.

### 15.1.1.5 Notifications

### 15.1.1.6 Information attributes definition

#### 15.1.1.6.1 Definition and legal values

The following table defines the attributes that are present in several Information Object Classes (IOCs) of the present document.

Table 20—Information attributes definition

| Attribute Name | Definition | Legal Values |
|---|---|---|
| OperatorID | Operator Identifier | |
| BSID | BS Identifier | |
| HandoverSupportedType | The Handover supported field indicates what type(s) of HO the BS and the MS support. | Type: Enumerated value<br>Range:<br>(MDHO/FBSS HO not supported (0),<br>FBSS/MDHO DLRF combining supported(1),<br>MDHO DL soft combining supported monitoring single MAP from anchor BS(2),<br>MDHO DL soft combining supported monitoring MAPS from active BSs(3)) |
| SystemResourceRetain-Time | The Resource_Retain_Time is the duration for MS s connection information that will be retained in serving BS. BS shall start Resource_Retain_Time timer at MS notification of pending HO attempt through MOB_HO-IND or by detecting an MS drop. The unit of this value is 100 milliseconds. | |
| HOOptimizationMSTimer | the duration in frames MS shall wait until receipt of the next unsolicited network re-entry MAC management message as indicated in the HO Process Optimization element of the RNG-RSP message. | |

**Table 20—Information attributes definition**

| Attribute Name | Definition | Legal Values |
|---|---|---|
| MSHORetransmission-Timer | After a MS transmits MOB_MSHO-REQ to initiate a handover process, it shall start MS Handover Retransmission Timer and shall not transmit another MOB_MSHO-REQ until the expiration of the MS Handover Retransmission Timer. | |
| MobilitySupportedIndication | The Mobility features supported field indicates whether or not the MS supports mobility modes. | Type: Enumerated value<br>Range :(<br>Handover Support(0),<br>Sleep-mode Support(1),<br>Idle-mode Support(2)) |
| MSHOConnectionProcess-Time | Time in ms the MS needs to process information on connections provided in RNGRSP or REG-RSP message during HO | |
| MSHOTEKProcessTime | Time in ms the MS needs to completely process TEK information during HO | |
| ULPermutationBase | Uplink subcarrier allocation | |
| DLPermutationBase | Downlink subcarrier allocation | |
| PreambleIndex | Downlink synchronization by MS | |
| SegmentNumber | An unique segment identifier | |
| ExternalBSId | External BS Identifier | |
| FAIndex | Frequency Assignment Index | |
| BSEIRP | Neighbour BS EIRP | |
| HOProcessOptimization | Identifies re-entry process management messages that may be omitted during the current HO attempt due to the availability of MS service and operational context information, and the MS service and operational status post-HO completion. | |
| SchedulingServiceSupported | Indicate neighbouring BS scheduling service type. | Type: Enumerated value<br>Range: (<br>Non-real-time Polling Service(0),<br>Real-time Polling Service(0),<br>Extended real-time Polling Service(0),<br>Unsolicited Grant Service(0),<br>Best Effort(3)) |
| Bandwidth | Indicate neighbouring BS bandwidth. | |
| FFTSize | Indicate neighbouring BS FFT size | |
| CyclePrefix | indicate neighbouring BS Cycle Prefix | |
| FramDurationCode | Indicate neighbouring BS Frame duration code | |
| ULPermutationBase | Indicate neighbouring BS uplink permutation base. | |

Table 20—Information attributes definition

| Attribute Name | Definition | Legal Values |
|---|---|---|
| DLPermutationBase | Indicate neighbouring BS uplink permutation base. | |
| SegmentNumber | Indicate neighbouring BS segment number. | |
| PreambleIndex | Indicate neighbouring BS preamble index. | |
| BSRelationId | | |
| adjacentBS | It carries the DN of the BS or the ExternalBS. | |
| PagingControlId | indicate paging controller identifier connected by BS | |
| PagingGroupId | indicate the paging group identifier assigned to BS by network | |
| MgmtResourceHolding-Timer | Time the BS maintain connection information with the MS after the BS send DREG-CMD to the MS | |
| T46Timer | Time the BS waits for DREGREQ in case of unsolicited Idle Mode initiation from BS | |
| PagingRetryCount | Number of retries on paging transmission. If the BS does not receive RNG-REQ from the MS until this value decreases to zero, it determines that the MS is unavailable. | |
| REQDuration | Waiting value for the DREG-REQ message re-transmission(measured in frames) | |
| MACHashSkipThreshold | Maximum number of successive MOB_PAG-ADV messages that may be sent from a BS without individual notification for an MS for which BS is allowed to skip MS MAC address Hash when the Action Code for the MS is 0b00,'No Action Required'. | |
| BsCDMATransmissionOpportunityAssignment | The CDMA code and transmission opportunity assignment field indicates the assigned code and transmission opportunity for a MS who is paged to use over dedicated CDMA ranging region | |
| PagingResponseWindow | The Page-Response Window indicates the Page-Response window for a MS who is paged to transmit the assigned code for CDMA ranging channel. | |
| IdleModeTimer | MS timed interval to conduct Location Update. Set timer to MS Idle Mode Timeout capabilities setting. Timer recycles on successful Idle Mode Location Update. | Range: (128..65536) |
| IdleModeSystemTimer | For BS acting as Paging Controller, timed interval to receive notification of MS Idle Mode Location Update. Set timer to MS Idle Mode Timeout. Timer recycles on successful Idle Mode Location Update. | Range: (128..65536) |
| PagingIntervalLength | time duration of Paging Interval of the BS | Range: (2..5) |
| PagingCycle | Cycle in which the paging message is transmitted within the paging group. | |

Table 20—Information attributes definition

| Attribute Name | Definition | Legal Values |
|---|---|---|
| powerCtrlId | An attribute whose "name+value" can be used as an RDN when naming an instance of the object class. This RDN uniquely identifies the object instance within the scope of its containing (parent) object instance. | |
| msUpPwrAdjStep | MS-specific up power offset adjustment step | |
| msDownPwrAdjStep | MS-specific down power offset adjustment step | |
| minPwrAdjLever | Minimum level of power offset adjustment | |
| maxPwrAdjLever | Maximum level of power offset adjustment | |
| txPwrRepThreshold | Tx Power Report Threshold | |
| txPwrRepInterval | Tx Power Report Interval | |
| alphaPAvg | Alpha of p_avg | |
| txPwrRepThresholdCQI | Tx Power Report Threshold,CQICH is allocated to the SS | |
| txPwrRepIntervalCQI | Tx Power Report Interval,CQICH is allocated to the SS | |
| alphaPAvgCQI | Alpha of p_avg,CQICH is allocated to the SS | |
| securityManagementId | It contains 'name+value' that is the RDN, when naming an instance, of this object class containing this attribute. This RDN uniquely identifies the object instance within the scope of its containing (parent) object instance. | |
| wmanIfBsPkmBaseId | It contains 'name+value' that is the RDN, when naming an instance, of this object class containing this attribute. This RDN uniquely identifies the object instance within the scope of its containing (parent) object instance. | |
| wmanIfBsPkmTekId | It contains 'name+value' that is the RDN, when naming an instance, of this object class containing this attribute. This RDN uniquely identifies the object instance within the scope of its containing (parent) object instance. | |
| wmanIfBsMsPkmAuthID | It contains 'name+value' that is the RDN, when naming an instance, of this object class containing this attribute. This RDN uniquely identifies the object instance within the scope of its containing (parent) object instance. | |
| wmanIfBsPkmDefaultAuthLifetime | The value of this object is the default lifetime, in seconds, the BS assigns to a new authorization key. | |
| wmanIfBsPkmDefaultTekLifetime | The value of this object is the default lifetime, in seconds, the BS assigns to a new Traffic Encryption Key(TEK). | |
| wmanIfBsPkmDefault-SelfSigManufCertTrust | This object determines the default trust of all (new) self-signed manufacturer certificates obtained after setting the object. | trusted (1),<br>untrusted (2) |

Table 20—Information attributes definition

| Attribute Name | Definition | Legal Values |
|---|---|---|
| wmanIfBsPkmCheckCertValidityPeriods | Setting this object to TRUE causes all certificates received thereafter to have their validity periods (and their chain's validity periods) checked against the current time of day. A FALSE setting will cause all certificates received Thereafter to not have their validity periods (nor their chain's validity periods) checked against the current time of day. | TRUE,<br>FALSE |
| wmanIfBsPMKDefaultPreHandshakeLifetime | The lifetime assigned to PMK when created | |
| wmanIfBsPMKDefaultLifetime | If MSK lifetime is unspecified (i.e. by AAA server), PMK lifetime shall be set to this value.(in seconds) | |
| wmanIfBsDefaultSAChallengeTimer | Time prior to re-send of SA-TEK-Challenge (in seconds) | |
| wmanIfBsDefaultSaChallengeMaxResends | Maximum number of transmissions of SATEK-Challenge | |
| wmanIfBsDefaultSATEKTimer | Time prior to re-send of SA-TEK-Request (in seconds) | |
| wmanIfBsDefaultSATEKRequestMaxResends | Maximum number of transmissions of SATEK-Request | |
| wmanIfBsPkmTekSAId | The value of this object is the Security Association ID (SAID). | |
| wmanIfBsPkmTekSAType | The value of this object is the type of security association. Dynamic does not apply to SSs running in PKM mode. | primarySA (0)<br>staticSA (1)<br>dynamicSA (2) |
| wmanIfBsPkmTekDataEncryptAlg | The value of this object is the data encryption algorithm being utilized. | No Data Encryption(0)<br>CBC-Mode(1)<br>AES, CCM Mode(2) |
| wmanIfBsPkmTekDataAuthentAlg | The value of this object is the data authentication algorithm being utilized. | No Data Authentication(0) |
| wmanIfBsPkmTekEncryptAlg | The value of this object is the TEK key encryption algorithm being utilized. | 3-DES EDE with 128-bit key(1)<br>RSA with 1024-bit key(2)<br>AES with 128-bit key(3) |
| wmanIfBsPkmTekLifetime | The value of this object is the lifetime, in seconds, the BS assigns to keys for this TEK association. | |
| wmanIfBsPkmTekKeySequenceNumber | The value of this object is the most recent TEK key sequence number for this SAID. | |
| wmanIfBsPkmTekExpiresOld | The value of this object is the actual clock time for expiration of the immediate predecessor of the most recent TEK for this FSM. If this FSM has only one TEK, then the value is the time of activation of this FSM. | |
| wmanIfBsPkmTekExpiresNew | The value of this object is the actual clock time for expiration of the most recent TEK for this FSM. | |

**Table 20—Information attributes definition**

| Attribute Name | Definition | Legal Values |
|---|---|---|
| wmanIfBsPkmTekReset | Setting this object to TRUE causes the BS to invalidate the current active TEK(s) (plural due to key transition periods), and to generate a new TEK for the associated SAID; the BS MAY also generate an unsolicited TEK Invalid message, to optimize the TEK synchronization between the BS and the SS. Reading this object always returns FALSE. | TRUE<br>FALSE |
| wmanIfBsPkmAssociatedGKEKSequenceNumber | Associated GKEK sequence number with this TEK-Parameters | |
| wmanIfBsPkmSAServiceType | This attribute indicates service types of the corresponding SA type. | 0: Unicast service<br>1: Group multicast service<br>2: MBS service<br>3-255: Reserved. |
| wmanIfBsSsPkmAuthMacAddress | The value of this object is the physical address of the SS to which the authorization association applies. | |
| wmanIfBsSsPkmAuthKeySequenceNumber | The value of this object is the most recent authorization key sequence number for this SS. | |
| wmanIfBsSsPkmAuthExpiresOld | The value of this object is the actual clock time for expiration of the immediate predecessor of the most recent authorization key for this FSM. If this FSM has only one authorization key, then the value is the time of activation of this FSM. | |
| wmanIfBsSsPkmAuthExpiresNew | The value of this object is the actual clock time for expiration of the most recent authorization key for this FSM | |
| wmanIfBsSsPkmAuthLifetime | The vaue of this object is the lifetime, in seconds, the BS assigns to an authorization key for this SS. | |
| wmanIfBsSsPkmAuthReset | Setting this object to invalidateAuth(2) causes the BS to invalidate the current SS authorization key(s), but not to transmit an Authorization Invalid message nor to invalidate unicast TEKs. Setting this object to sendAuthInvalid(3) causes the BS to invalidate the current SS authorization key(s), and to transmit an Authorization Invalid message to the SS, but not to invalidate unicast TEKs. Setting this object to invalidateTeks(4) causes the BS to invalidate the current SS authorization key(s), to transmit an Authorization Invalid message to the SS, and to invalidate all unicast TEKs associated with this SS authorization. Reading this object returns the most-recently-set value of this object, or returns noResetRequested(1) if the object has not been set since the last BS reboot. | noResetRequested(1),<br>invalidateAuth(2),<br>sendAuthInvalid(3),<br>invalidateTeks(4) |
| wmanIfBsSsPkmAuthPrimarySAId | The value of this object is the Primary Security Association identifier. | |

Table 20—Information attributes definition

| Attribute Name | Definition | Legal Values |
|---|---|---|
| wmanIfBsSsPkmAuthValidStatus | Contains the reason why a SS's certificate is deemed valid or invalid. Return unknown if the SS is running PKM mode. ValidSsChained means the certificate is valid because it chains to a valid certificate. ValidSsTrusted means the certificate is valid because it has been provisioned to be trusted. InvalidSsUntrusted means the certificate is invalid because it has been provisioned to be untrusted. InvalidCAUntrusted means the certificate is invalid because it chains to an untrusted certificate. InvalidSsOther and InvalidCAOther refer to errors in parsing, validity periods, etc, which are attributable to the SS certificate or its chain respectively. | unknown (0),<br>validSsChained(1),<br>validSsTrusted(2),<br>invalidSsUntrusted(3),<br>invalidCAUntrusted(4),<br>invalidSsOther(5),<br>invalidCAOther (6) |
| wmanIfBsMsCMACPacketNumbercounter | | |
| wmanIfBsMsCMAC_PN_UL | | |
| wmanIfBsMsCMAC_PN_DL | | |
| wmanIfBsMsCMACValue | | |
| wmanIfBsMsPkmAuthResultCode | Contains the result code of the RSA-based authorization(only for PKMv2) | |
| wmanIfBsMsPkmAKId | Identify the AK as defined in Table 133 | |
| wmanIfBsKeyPushMode | Distinguish usage code of a PKMv2 Group Key Update Command message | |
| wmanIfBsKeyPushCounter | Protect for replay attack. | |
| BsOfdmUpLinkChannelId | It contains 'name+value' that is the RDN, when naming an instance, of this object class containing this attribute. This RDN uniquely identifies the object instance within the scope of its containing (parent) object instance. | |
| BsOfdmDownLinkChannelId | It contains 'name+value' that is the RDN, when naming an instance, of this object class containing this attribute. This RDN uniquely identifies the object instance within the scope of its containing (parent) object instance. | |
| BsOfdmUcdBurstProfileId | It contains 'name+value' that is the RDN, when naming an instance, of this object class containing this attribute. This RDN uniquely identifies the object instance within the scope of its containing (parent) object instance. | |
| BsOfdmDcdBurstProfileId | It contains 'name+value' that is the RDN, when naming an instance, of this object class containing this attribute. This RDN uniquely identifies the object instance within the scope of its containing (parent) object instance. | |
| BsOfdmCtBasedResvTimeout | The number of UL-MAPs to receive before contention-based reservation is attempted again for the same connection. | |

**Table 20—Information attributes definition**

| Attribute Name | Definition | Legal Values |
|---|---|---|
| BsOfdmBwReqOppSize | Size (in units of PS) of PHY payload that SS may use to format and transmit a bandwidth request message in a contention request opportunity. The value includes all PHY overhead as well as allowance for the MAC data the message may hold. | |
| BsOfdmRangReqOppSize | Size (in units of PS) of PHY payload that SS may use to format and transmit a RNG-REQ message in a contention request opportunity. The value includes all PHY overhead as well as allowance for the MAC data the message may hold and the maxiumum SS/BS roundtrip propagation delay. | |
| BsOfdmUplinkCenterFreq | Uplink center frequency (kHz) | |
| BsOfdmNumSubChReqRegionFull | Number of subchannels used by each transmit opportunity when REQ Region-Full is allocated in subchannelization region. | oneSubchannel(0),<br>twoSubchannels(1),<br>fourSubchannels(2),<br>eightSubchannels(3),<br>sixteenSubchannels(4) |
| BsOfdmNumSymbolsReqRegionFull | Number of OFDM symbols used by each transmit opportunity when REQ Region-Full is allocated in subchannelization region. | |
| BsOfdmSubChFocusCtCode | Number of contention codes (CSE) that shall only be used to request a subchannelized allocation. | Default value 0. Allowed values 0-8. |
| BsOfdmBsEIRP | The EIRP is the equivalent isotropic radiated power of the base station, which is computed for a simple single-antenna transmitter. | |
| BsOfdmChannelNumber | Downlink channel number as defined in 8.5. Used for license-exempt operation only. | |
| BsOfdmTTG | Transmit / Receive Transition Gap. | |
| BsOfdmRTG | Receive / Transmit Transition Gap. | |
| BsOfdmInitRngMaxRSS | Initial Ranging Max. Received Signal Strength at BS Signed in units of 1 dBm. | |
| BsOfdmDownlinkCenterFreq | Downlink center frequency (kHz). | |
| BsOfdmBsId | Base station ID. | |
| BsOfdmMacVersion | This parameter specifies the version of 802.16 to which the message originator conforms. | |
| BsOfdmFrameDurationCode | The duration of the frame. The frame duration code values are specified in Table 230. | |
| BsOfdmUiucIndex | The Uplink Interval Usage Code indicates the uplink burst profile in the UCD message, and is used along with ifIndex to identify an entry in the wmanIfBsOfdmUcdBurstProfileTable. | |
| BsOfdmUcdFecCodeType | Uplink FEC code type and modulation type | |

**Table 20—Information attributes definition**

| Attribute Name | Definition | Legal Values |
|---|---|---|
| BsOfdmFocusCtPowerBoost | The power boost in dB of focused contention carriers | |
| BsOfdmUcdTcsEnable | This parameter determines the transmission convergence sublayer, as described in 8.1.4.3, can be enabled on a per-burst basis for both uplink and downlink. Through DIUC/UIUC messages. | tcsDisabled(0),<br>tcsEnabled(1) |
| BsOfdmDiucIndex | The Downlink Interval Usage Code indicates the downlink burst profile in the DCD message, and is used along with ifIndex to identify an entry in the wmanIfBsOfdmDcdBurstProfileTable. | |
| BsOfdmDownlinkFrequency | Downlink Frequency (kHz). | |
| BsOfdmDcdFecCodeType | Downlink FEC code type and modulation type | |
| BsOfdmDiucMandatoryExitThresh | DIUC mandatory exit threshold: 0 - 63.75 dB CINR at or below where this DIUC can no longer be used and where this change to a more robust DIUC is required in 0.25 dB units. | |
| BsOfdmDiucMinEntryThresh | DIUC minimum entry threshold: 0 - 63.75 dB The minimum CINR required to start using this DIUC when changing from a more robust DIUC is required, in 0.25 dB units. | |
| BsOfdmTcsEnable | Indicates whether Transmission Convergence Sublayer is enabled or disabled. | tcsDisabled(0),<br>tcsEnabled(1) |
| BsClassifierRule_FId | It contains 'name+value' that is the RDN, when naming an instance, of this object class containing this attribute. This RDN uniquely identifies the object instance within the scope of its containing (parent) object instance. | |
| BsClassifierRulePriority | The value specifies the priority for the Classifier, which is used for determining the order of the Classifier. A higher value indicates higher priority. Classifiers may have priorities in the range 0..255. | 0..255 |
| BsClassifierRuleIpTosLow | The low value of a range of TOS byte values. If the referenced parameter is not present in a classifier, this object reports the value of 0. | |
| BsClassifierRuleIpTosHigh | The 8-bit high value of a range of TOS byte values. If the referenced parameter is not present in a classifier, this object reports the value of 0. | |
| BsClassifierRuleIpTosMask | The value of this object specifies the matching parameter for the IP type of service/DSCP [IETF RFC 2474] byte mask. An IP packet with IP type of service (ToS) byte value ip-tos matches this parameter if tos-low less than or equal (ip-tos AND tos-mask) less than or equal tos-high. | |
| BsClassifierRuleIpProtocol | This object indicates the value of the IP Protocol field required for IP packets to match this rule. If the referenced parameter is not present in a classifier, this object reports the value of 0. | |

**Table 20—Information attributes definition**

| Attribute Name | Definition | Legal Values |
|---|---|---|
| BsClassifierRuleIpSourceAddr | This object specifies the value of the IP Source Address required for packets to match this rule. An IP packet matches the rule when the packet ip source address bitwise ANDed with the BsClassifierRuleIpSourceMask value equals the BsClassifierRuleIpSourceAddr value. If the referenced parameter is not present in a classifier, this object reports the value of 0.0.0.0. | |
| BsClassifierRuleIpSourceMask | This object specifies which bits of a packet's IP Source Address that are compared to match this rule. An IP packet matches the rule when the packet source address bitwise ANDed with the BsClassifierRuleIpSourceMask value equals the BsClassifierRuleIpSourceAddr value.If the referenced parameter is not present in a classifier, this object reports the value of 0.0.0.0. | |
| BsClassifierRuleIpDestAddr | This object specifies the value of the IP Destination Address required for packets to match this rule. An IP packet matches the rule when the packet IP destination address bitwise ANDed with the BsClassifierRuleIpDestMask value equals the BsClassifierRuleIpDestAddr value. If the referenced parameter is not present in a classifier, this object reports the value of 0.0.0.0. | |
| BsClassifierRuleIpDestMask | This object specifies which bits of a packet's IP Destination Address that are compared to match this rule. An IP packet matches the rule when the packet destination address bitwise ANDed with the BsClassifierRuleIpDestMask value equals the BsClassifierRuleIpDestAddr value. If the referenced parameter is not present in a classifier, this object reports the value of 0.0.0.0. | |
| BsClassifierRuleSourcePortStart | This object specifies the low end inclusive range of TCP/UDP source port numbers to which a packet is compared.This object is irrelevant for non-TCP/UDP IP packets.If the referenced parameter is not present in a classifier, this object reports the value of 0. | |
| BsClassifierRuleSourcePortEnd | This object specifies the high end inclusive range of TCP/UDP source port numbers to which a packet is compared. This object is irrelevant for non-TCP/UDP IP packets. If the referenced parameter is not present in a classifier, this object reports the value of 65535. | |
| BsClassifierRuleDestPortStart | This object specifies the low end inclusive range of TCP/UDP destination port numbers to which a packet is compared. If the referenced parameter is not present in a classifier, this object reports the value of 0. | |
| BsClassifierRuleDestPortEnd | This object specifies the high end inclusive range of TCP/UDP destination port numbers to which a packet is compared. If the referenced parameter is not present in a classifier, this object reports the value of 65535. | |
| BsClassifierRuleDestMacAddr | An Ethernet packet matches an entry when its destination MAC address bitwise ANDed with BsClassifierRuleDestMacMask equals the value of BsClassifierRuleDestMacAddr. If the referenced parameter is not present in a classifier, this object reports the value of '000000000000'H. | |

**Table 20—Information attributes definition**

| Attribute Name | Definition | Legal Values |
|---|---|---|
| BsClassifierRuleDestMacMask | An Ethernet packet matches an entry when its destination MAC address bitwise ANDed with BsClassifierRuleDestMacMask equals the value of BsClassifierRuleDestMacAddr. If the referenced parameter is not present in a classifier, this object reports the value of '000000000000'H. | |
| BsClassifierRuleSourceMacAddr | An Ethernet packet matches this entry when its source MAC address bitwise ANDed with BsClassifierRuleSourceMacMask equals the value of BsClassifierRuleSourceMacAddr. If the referenced parameter is not present in a classifier, this object reports the value of '000000000000'H. | |
| BsClassifierRuleSourceMacMask | An Ethernet packet matches an entry when its source MAC address bitwise ANDed with BsClassifierRuleSourceMacMask equals the value of BsClassifierRuleSourceMacAddr. If the referenced parameter is not present in a classifier, this object reports the value of '000000000000'H. | |
| BsClassifierRuleEnetProtocolType | This object indicates the format of the layer 3 protocol id in the Ethernet packet. A value of none(0) means that the rule does not use the layer 3 protocol type as a matching criteria. A value of ethertype(1) means that the rule applies only to frames which contains an EtherType value. Ethertype values are contained in packets using the Dec-Intel-Xerox (DIX) encapsulation or the RFC1042 Sub-Network Access Protocol (SNAP) encapsulation formats. A value of dsap(2) means that the rule applies only to frames using the IEEE802.3 encapsulation format with a Destination Service Access Point (DSAP) other than 0xAA(which is reserved for SNAP). If the Ethernet frame contains an 802.1P/Q Tag header (i.e. EtherType 0x8100), this object applies to the embedded EtherType field within the 802.1P/Q header. If the referenced parameter is not present in a classifier, this object reports the value of 0. | none(0),<br>ethertype(1),<br>dsap(2) |
| BsClassifierRuleEnetProtocol | If BsClassifierRuleEnetProtocolType is none(0),this object is ignored when considering whether a packet matches the current rule. If BsClassifierRuleEnetProtocolType is ethertype(1), this object gives the 16-bit value of the EtherType that the packet must match in order to match the rule. If BsClassifierRuleEnetProtocolType is dsap(2), the lower 8 bits of this object's value must match the DSAP byte of the packet in order to match the rule. If the Ethernet frame contains an 802.1P/Q Tag header (i.e. EtherType 0x8100), this object applies to the embedded EtherType field within the 802.1P/Q header. If the referenced parameter is not present in the classifier, the value of this object is reported as 0. | |

**Table 20—Information attributes definition**

| Attribute Name | Definition | Legal Values |
|---|---|---|
| BsClassifierRuleUserPriLow | This object applies only to Ethernet frames using the 802.1P/Q tag header (indicated with EtherType 0x8100). Such frames include a 16-bit Tag that contains a 3 bit Priority field and a 12 bit VLAN number. Tagged Ethernet packets must have a 3-bit Priority field within the range of BsClassifierRuleUserPriLow and BsClassifierRuleUserPriHigh in order to match this rule. If the referenced parameter is not present in the classifier, the value of this object is reported as 0. | |
| BsClassifierRuleUserPriHigh | This object applies only to Ethernet frames using the 802.1P/Q tag header (indicated with EtherType 0x8100). Such frames include a 16-bit Tag that contains a 3 bit Priority field and a 12 bit VLAN number. Tagged Ethernet packets must have a 3-bit Priority field within the range of BsClassifierRuleUserPriLow and BsClassifierRuleUserPriHigh in order to match this rule. If the referenced parameter is not present in the classifier, the value of this object is reported as 7. | |
| BsClassifierRuleVlanId | This object applies only to Ethernet frames using the 802.1P/Q tag header. If this object's value is nonzero, tagged packets must have a VLAN Identifier that matches the value in order to match the rule. Only the least significant 12 bits of this object's value are valid. If the referenced parameter is not present in the classifier, the value of this object is reported as 0. | |
| BsClassifierRuleState | This object indicates whether or not the classifier is enabled to classify packets to a Service Flow. If the referenced parameter is not present in the classifier, the value of this object is reported as active(1). | active(1),<br>inactive(2) |
| BsClassifierRulePhsSize | This object is used to configure the PHS rule for this classifier. The value of this field - PHSS is the total number of bytes in the header to be suppressed and then restored in a service flow that uses PHS. If the value of this field is 0 bytes then PHS is disabled for this classifier. If flag phsMask in BsClassifierRuleBitMap is set to 0 and flag phsSize in BsClassifierRuleBitMap is set to 0, then BS can still create PHS rules using its own custom mask (i.e. the rule is not configured by NMS). | |

Table 20—Information attributes definition

| Attribute Name | Definition | Legal Values |
|---|---|---|
| BsClassifierRulePhsMask | This object is used to configure the PHS rule for this classifer. It is encoded as follows<br>bit 0:<br>0 = don't suppress the 1st byte of the suppression field<br>1 = suppress first byte of the suppression field<br>bit 1:<br>0 = don't suppress the 2nd byte of the suppression field<br>1 = suppress second byte of the suppression field<br>bit x:<br>0 = don't suppress the (x+1) byte of the suppression field<br>1 = suppress (x+1) byte of the suppression field where the length of the octet string is ceiling (BsClassifierRulePhsSize/8). BS should use this value to create a new PHS rule index (PHSI) and field (PHSF) as defined in the standard. If flag phsMask in BsClassifierRuleBitMap is set to 0 and flag phsSize in BsClassifierRuleBitMap is set to 0, then BS can still create PHS rules using its own custom mask (i.e. the rule is not configured by NMS). | |
| BsClassifierRulePhsVerify | The value of this field indicates to the sending entity whether or not the packet header contents are to be verified prior to performing suppression. | |
| BsClassifierRuleIpv6Flow Label | The value of this field specifies the matching values for the IPv6 Flow label field. | |
| BsClassifierContextId | The values of the field specify the context ID for ROHC- or ECRTP-compressed packets. The CS will attempt to match the context ID with the payload packet's one-byte or two-byte embedded Context ID field according to the scheme described in RFC 3095 section 5.1.3. | |
| BsClassifierActionRule | The value of this field specifies an action associate with the classifier rule. | bit 0:<br>0 = none.<br>1 = Discard packet<br>bit 1-7: Reserved. |
| BsClassifierShortFormat-ContextId | The values of the field specify a short-format context ID for ROHC- or ECRTP-compressed packets. The CS will attempt to match the context ID with the payload packet's zero- or one-byte prefix Context ID field according to the scheme described in RFC 3095 section 5.1.3. | |

## 15.2 NRM IRP SNMP Solution Set

### 15.2.1 wmanIf2Mib

Figure 18 shows the high level MIB structure of wmanIf2Mib for 802.16. The MIB structure is organized based on the the reference model as defined in IEEE 802.16-2004 standard.

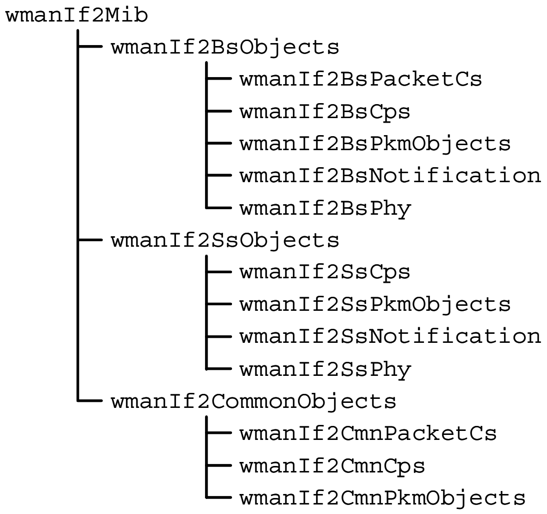

Figure 18—wmanIf2Mib structure

#### 15.2.1.1 wmanIf2BsObjects

##### 15.2.1.1.1 wmanIf2BsPacketCs

Figure 19 shows the structure of wmanIf2BsPacketCs subtree that contains BS managed objects related to the Packet CS management entity layer.

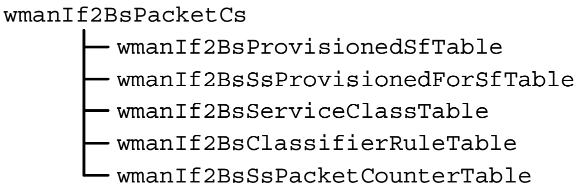
wmanIf2BsPacketCs
wmanIf2BsProvisionedSfTable
wmanIf2BsSsProvisionedForSfTable
wmanIf2BsServiceClassTable
wmanIf2BsClassifierRuleTable
wmanIf2BsSsPacketCounterTable

Figure 19—wmanIf2BsPacketCs structure

###### 15.2.1.1.1.1 wmanIf2BsProvisionedSfTable

wmanIf2BsProvisionedSfTable contains provisioned service flow profiles for SSs, and pointers to wmanIf2BsServiceClassTable and wmanIf2BsClassifierRuleTable for QoS parameters and classifier rules respectively.

###### 15.2.1.1.1.2 wmanIf2BsProvisionedForSfTable

wmanIf2BsProvisionedForSfTable maps the MAC addresses of SSs to the service flows provisioned in wmanIf2BsProvisionedSfTable. It enables downlink multicast services where MAC addresses of multiple SSs can be mapped to the same service flow.

#### 15.2.1.1.1.3 wmanIf2BsServiceClassTable

Each entry of the wmanIf2BsServiceClassTable contains QoS parameter set, as defined in subclause 6.3.14 and 11.13 in IEEE 802.16-2004 standard.

#### 15.2.1.1.1.4 wmanIf2BsClassifierRuleTable

wmanIf2BsClassifierRuleTable contains the packet classifier rules sassociated with service flows.

#### 15.2.1.1.1.5 wmanIf2BsSsPacketCounterTable

wmanIf2BsSsPacketCounterTable contains counters to keep track of the number of packets and octets that have been received or transmitted on the per service flow basis.

### 15.2.1.1.2 wmanIf2BsCps

Figure 20 shows the structure of wmanIf2BsCps subtree that contains BS managed objects related to the MAC CPS management entity layer.

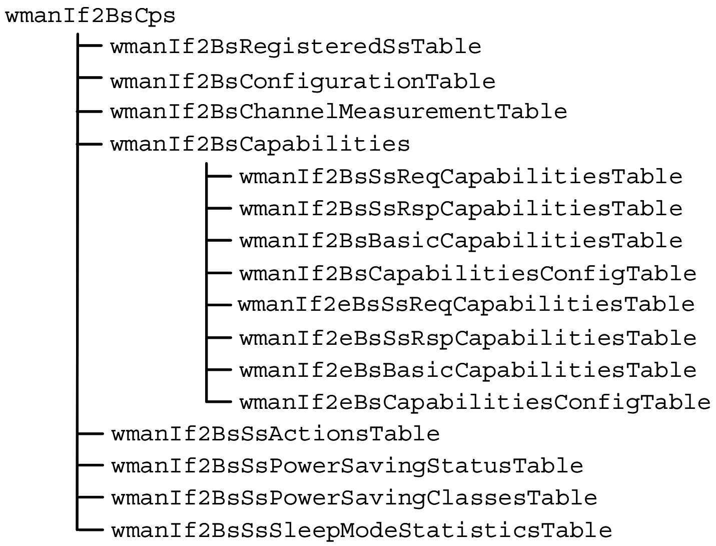
wmanIf2BsCps
wmanIf2BsRegisteredSsTable
wmanIf2BsConfigurationTable
wmanIf2BsChannelMeasurementTable
wmanIf2BsCapabilities
wmanIf2BsSsReqCapabilitiesTable
wmanIf2BsSsRspCapabilitiesTable
wmanIf2BsBasicCapabilitiesTable
wmanIf2BsCapabilitiesConfigTable
wmanIf2eBsSsReqCapabilitiesTable
wmanIf2eBsSsRspCapabilitiesTable
wmanIf2eBsBasicCapabilitiesTable
wmanIf2eBsCapabilitiesConfigTable
wmanIf2BsSsActionsTable
wmanIf2BsSsPowerSavingStatusTable
wmanIf2BsSsPowerSavingClassesTable
wmanIf2BsSsSleepModeStatisticsTable

**Figure 20—wmanIf2BsCps structure**

#### 15.2.1.1.2.1 wmanIf2BsRegisteredSsTable

Each entry in the wmanIf2BsRegisteredSsTable contains the information of SS that has been registered through REG-REQ and REG-RSP messages.

#### 15.2.1.1.2.2 wmanIf2BsConfigurationTable

wmanIf2BsConfigurationTable contains objects for BS system parameters and constants as defined in subclause 10.1 of IEEE 802.16-2004 standard. wmanIf2BsConfigurationTable also contains objects that define the default behaviour of the BS for 2nd Management Channel scheduling and SFID allocation as well as configuration parameters of the CPS scheduler and AAS system.

#### 15.2.1.1.2.3 wmanIf2BsChannelMeasurementTable

wmanIf2BsChannelMeasurementTable contains channel measurement information on the uplink signal that were received from SS, and the downlink signal were obtained from SS using REP-REQ/RSP messages..

#### 15.2.1.1.2.4 wmanIf2BsCapabilities

#### 15.2.1.1.2.4.1 wmanIf2BsSsReqCapabilitiesTable

wmanIf2BsSsReqCapabilitiesTable contains the basic capability information of SSs that have been reported by SSs to BS using RNG-REQ, SBC-REQ and REG-REQ messages.

#### 15.2.1.1.2.4.2 wmanIf2BsSsRspCapabilitiesTable

wmanIf2BsSsRspCapabilitiesTable contains the basic capability information of SSs that have been negotiated and agreed between BS and SS via RNG-REQ/RSP, SBC-REQ/RSP and REG-REQ/RSP messages.

#### 15.2.1.1.2.4.3 wmanIf2BsBasicCapabilitiesTable

wmanIf2BsBasicCapabilitiesTable contains the basic capabilities of the BS as implemented in BS hardware and software. These capabilities along with the configuration for them (wmanIf2BsCapabilitiesConfigTable) are used for negotiation of basic capabilities with SS using RNG-RSP, SBC-RSP and REG-RSP messages.

#### 15.2.1.1.2.4.4 wmanIf2BsCapabilitiesConfigTable

wmanIf2BsCapabilitiesConfigTable contains the configuration for basic capabilities of BS. The table is intended to be used to restrict the Capabilities implemented by BS, for example in order to comply with local regulatory requirements. The BS should use the configuration along with the implemented Capabilities (wmanIf2BsBasicCapabilitiesTable) for negotiation of basic capabilities with SS using RNG-RSP, SBC-RSP and REG-RSP messages.

#### 15.2.1.1.2.4.5 wmanIf2eBsSsReqCapabilitiesTable

wmanIf2eBsSsReqCapabilitiesTable is the AUGMENTS to wmanIf2BsRegisteredSsTable to contain new basic capability information of SS that have been added to IEEE 802.16e 2005.

#### 15.2.1.1.2.4.6 wmanIf2eBsSsRspCapabilitiesTable

wmanIf2eBsSsRspCapabilitiesTable is the AUGMENTS to wmanIf2BsRegisteredSsTable to contain new basic capability information of SS that have been added to IEEE 802.16e 2005.

#### 15.2.1.1.2.4.7 wmanIf2eBsBasicCapabilitiesTable

wmanIf2eBsBasicCapabilitiesTable is the AUGMENTS to wmanIf2BsRegisteredSsTable to contain new basic capability information of SS that have been added to IEEE 802.16e 2005.

#### 15.2.1.1.2.4.8 wmanIf2eBsCapabilitiesConfigTable

wmanIf2eBsCapabilitiesConfigTable is the AUGMENTS to wmanIf2BsRegisteredSsTable to contain new basic capability information of SS that have been added to IEEE 802.16e 2005.

#### 15.2.1.1.2.5 wmanIf2BsSsActionsTable

wmanIf2BsSsActionsTable contains all the actions specified for SSs in the standard. The actions are routed down to SS using nsolicited MAC messages: REG-RSP, DREG-REQ and RES-CMD. The table also contains the parameters of the actions in cases where they are specified by the standard.

#### 15.2.1.1.2.6 wmanIfBsSsPowerSavingStatusTable

wmanIfBsSsPowerSavingStatusTable contains the power saving status for each CID in an SS.

#### 15.2.1.1.2.7 wmanIfBsSsPowerSavingClassesTable

wmanIfBsSsPowerSavingClassesTable contains the power saving classes definitions, and activation / deactivation information that are provided by MOB_SLP-REQ and MOB_SLP-RSP messages.

#### 15.2.1.1.2.8 wmanIfBsSsSleepModeStatisticsTable

wmanIfBsSsSleepModeStatisticsTable contains the sleep mode statistic for SS.

#### 15.2.1.1.3 wmanIf2BsPkmObjects

Figure 21 shows the structure of wmanIf2BsPkmObjects subtree that contains BS managed objects related to the MAC privacy management entity.

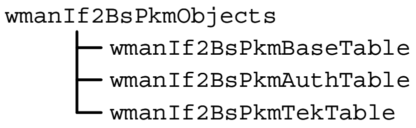

Figure 21—wmanIf2BsPkmObjects structure

#### 15.2.1.1.3.1 wmanIf2BsPkmBaseTable

wmanIf2BsPkmBaseTable contains base station PKM operational parameters described in subclause 10.2 of IEEE 802.16-2004 standard.

#### 15.2.1.1.3.2 wmanIf2BsSsPkmAuthTable

wmanIf2BsSsPkmAuthTable contains runtime subscriber station authentication and authorization parameters for each base station.

#### 15.2.1.1.3.3 wmanIf2BsPkmTekTable

wmanIf2BsPkmTekTable is double indexed by ifIndex and SAId  and contains runtime Security association parameters for each base station.

#### 15.2.1.1.4 wmanIf2BsNotification

Figure 22 shows the structure of wmanIf2BsNotification subtree that contains BS traps to report fault events and exceptions, such as power status, RSSI threshold crossing.

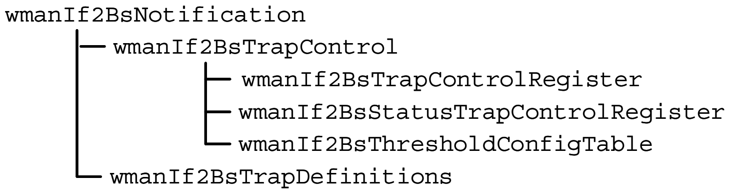
wmanIf2BsNotification
wmanIf2BsTrapControl
wmanIf2BsTrapControlRegister
wmanIf2BsStatusTrapControlRegister
wmanIf2BsThresholdConfigTable
wmanIf2BsTrapDefinitions

**Figure 22—wmanIf2BsNotification structure**

#### 15.2.1.1.4.1 wmanIf2BsTrapControl

##### 15.2.1.1.4.1.1 wmanIf2BsTrapControlRegister

wmanIf2BsTrapControlRegister is used to enable or disable Base traps independently.

##### 15.2.1.1.4.1.2 wmanIf2BsStatusTrapControlRegister

wmanIf2BsStatusTrapControlRegister is used to enable or disable Base Station status notification traps.

##### 15.2.1.1.4.1.3 wmanIf2BsThresholdConfigTable

wmanIf2BsThresholdConfigTable contains threshold objects that can be set to detect the threshold crossing events.

#### 15.2.1.1.4.2 wmanIf2BsTrapDefinitions

wmanIf2BsTrapDefinitions object group defines all the traps reported by BS.

### 15.2.1.1.5 wmanIf2BsPhy

Figure 23 shows the structure of wmanIf2BsPhy subtree that contains BS managed objects related to the Physical layer.

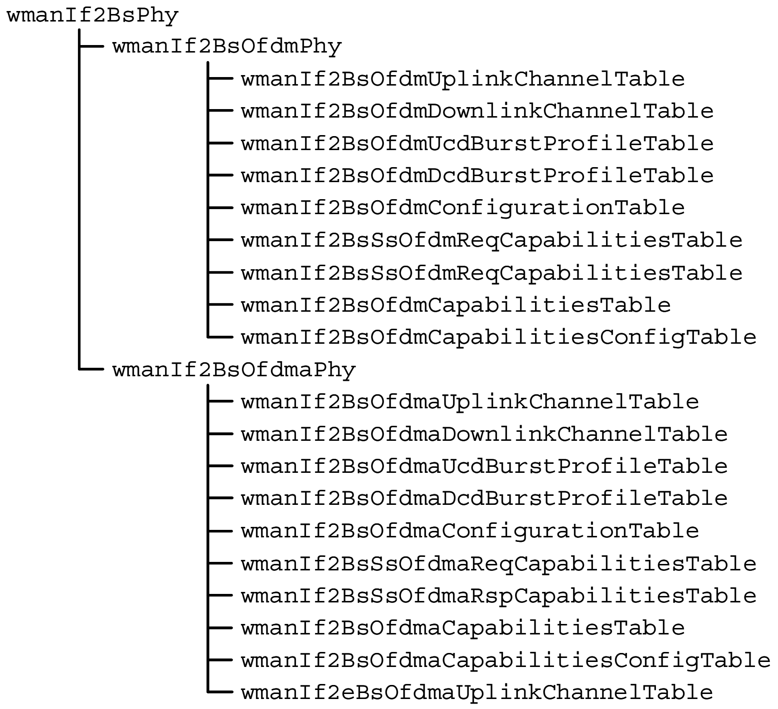
wmanIf2BsPhy
wmanIf2BsOfdmPhy
wmanIf2BsOfdmUplinkChannelTable
wmanIf2BsOfdmDownlinkChannelTable
wmanIf2BsOfdmUcdBurstProfileTable
wmanIf2BsOfdmDcdBurstProfileTable
wmanIf2BsOfdmConfigurationTable
wmanIf2BsSsOfdmReqCapabilitiesTable
wmanIf2BsSsOfdmReqCapabilitiesTable
wmanIf2BsOfdmCapabilitiesTable
wmanIf2BsOfdmCapabilitiesConfigTable
wmanIf2BsOfdmaPhy
wmanIf2BsOfdmaUplinkChannelTable
wmanIf2BsOfdmaDownlinkChannelTable
wmanIf2BsOfdmaUcdBurstProfileTable
wmanIf2BsOfdmaDcdBurstProfileTable
wmanIf2BsOfdmaConfigurationTable
wmanIf2BsSsOfdmaReqCapabilitiesTable
wmanIf2BsSsOfdmaRspCapabilitiesTable
wmanIf2BsOfdmaCapabilitiesTable
wmanIf2BsOfdmaCapabilitiesConfigTable
wmanIf2eBsOfdmaUplinkChannelTable

**Figure 23—wmanIf2BsPhy structure**

#### 15.2.1.1.5.1 wmanIf2BsOfdmPhy

wmanIf2BsOfdmPhy is a group containing objects specific to OFDM PHY.

#### 15.2.1.1.5.1.1 wmanIf2BsOfdmUplinkChannelTable

wmanIf2BsOfdmUplinkChannelTable contains OFDM UCD (Uplink Channel Descriptor) channel attributes, defining the transmission characteristics of uplink channels.

#### 15.2.1.1.5.1.2 wmanIf2BsOfdmDownlinkChannelTable

wmanIf2BsOfdmDownlinkChannelTable contains OFDM DCD (Downlink Channel Descriptor) channel attributes, defining the transmission characteristics of downlink channels.

#### 15.2.1.1.5.1.3 wmanIf2BsOfdmUcdBurstProfileTable

wmanIf2BsOfdmUcdBurstProfileTable contains OFDM UCD burst profiles for each uplink channel.

#### 15.2.1.1.5.1.4 wmanIf2BsOfdmDcdBurstProfileTable

wmanIf2BsOfdmDcdBurstProfileTable provides one row for each OFDM DCD burst profile.

#### 15.2.1.1.5.1.5 wmanIf2BsOfdmConfigurationTable

wmanIf2BsOfdmConfigurationTable contains BS configuration objects, specific to OFDM PHY.

#### 15.2.1.1.5.1.6 wmanIf2BsSsOfdmReqCapabilitiesTable

wmanIf2BsSsOfdmReqCapabilitiesTable contains the basic capability information, specific to OFDM Phy, of SSs that have been reported by SSs to BS using RNG-REQ, SBC-REQ and REG-REQ messages. Entries in this table should be created when an SS registers with a BS.

#### 15.2.1.1.5.1.7 wmanIf2BsSsOfdmRspCapabilitiesTable

wmanIf2BsSsOfdmRspCapabilitiesTable contains the basic capability information, specific to OFDM Phy, of SSs that have been negotiated and agreed between BS and SS via RNG-REQ/RSP, SBC-REQ/RSP and REG-REQ/RSP messages. This table augments the wmanIf2BsRegisteredSsTable.

#### 15.2.1.1.5.1.8 wmanIf2BsOfdmCapabilitiesTable

wmanIf2BsOfdmCapabilitiesTable contains the basic capabilities, specific to OFDM Phy, of the BS as implemented in BS hardware and software.

#### 15.2.1.1.5.1.9 wmanIf2BsOfdmCapabilitiesConfigTable

wmanIf2BsOfdmCapabilitiesConfigTable contains the configuration for basic capabilities of BS, specific to OFDM Phy. The table is intended to be used to restrict the Capabilities implemented by BS.

#### 15.2.1.1.5.1.10 wmanIf2eBsOfdmaUplinkChannelTable

wmanIf2eBsOfdmaUplinkChannelTable is the AUGMENTS to wmanIf2BsOfdmaUplinkChannelTable to contain new UCD attributes that have been added to IEEE 802.16e 2005.

#### 15.2.1.1.5.2 wmanIf2BsOfdmaPhy

wmanIf2BsOfdmaPhy is a group containing objects specific to OFDMA PHY.

#### 15.2.1.1.5.2.1 wmanIf2BsOfdmaUplinkChannelTable

wmanIf2BsOfdmaUplinkChannelTable contains OFDMA UCD channel attributes, defining the transmission characteristics of uplink channels.

#### 15.2.1.1.5.2.2 wmanIf2BsOfdmaDownlinkChannelTable

wmanIf2BsOfdmaDownlinkChannelTable contains OFDMA DCD channel attributes, defining the transmission characteristics of downlink channels.

#### 15.2.1.1.5.2.3 wmanIf2BsOfdmaUcdBurstProfileTable

wmanIf2BsOfdmaUcdBurstProfileTable contains OFDMA UCD burst profiles for each uplink channel.

#### 15.2.1.1.5.2.4 wmanIf2BsOfdmaDcdBurstProfileTable

wmanIf2BsOfdmaDcdBurstProfileTable provides one row for each OFDMA DCD burst profile.

#### 15.2.1.1.5.2.5 wmanIf2BsOfdmaConfigurationTable

wmanIf2BsOfdmaConfigurationTable contains BS configuration objects, specific to OFDMA PHY.

#### 15.2.1.1.5.2.6 wmanIf2BsSsOfdmaReqCapabilitiesTable

wmanIf2BsSsOfdmaReqCapabilitiesTable contains the basic capability information, specific to OFDMA Phy, of SSs or MSs that have been reported by SSs to BS using RNG-REQ, SBC-REQ and REG-REQ messages. Entries in this table should be created when an SS registers with a BS.

#### 15.2.1.1.5.2.7 wmanIf2BsSsOfdmaRspCapabilitiesTable

wmanIf2BsSsOfdmaRspCapabilitiesTable contains the basic capability information, specific to OFDMA Phy, of SSs or MSs that have been negotiated and agreed between BS and SS via RNG-REQ/RSP, SBC-REQ/RSP and REG-REQ/RSP messages. This table augments the wmanIf2BsRegisteredSsTable.

#### 15.2.1.1.5.2.8 wmanIf2BsOfdmaCapabilitiesTable

wmanIf2BsOfdmaCapabilitiesTable contains the basic capabilities, specific to OFDMA Phy, of the BS as implemented in BS hardware and software.

#### 15.2.1.1.5.2.9 wmanIf2BsOfdmaCapabilitiesConfigTable

wmanIf2BsOfdmaCapabilitiesConfigTable contains the configuration for basic capabilities of BS, specific to OFDMA Phy. The table is intended to be used to restrict the Capabilities implemented by BS.

### 15.2.1.2 wmanIf2SsObjects

#### 15.2.1.2.1 wmanIf2SsCps

Figure 24 shows the structure of wmanIf2SsCps subtree that contains SS managed objects related to the MAC CPS management entity layer.

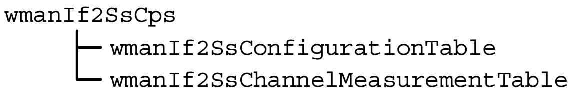

**Figure 24—wmanIf2SsCps structure**

#### 15.2.1.2.1.1 wmanIf2SsConfigurationTable

wmanIf2SsConfigurationTable contains objects for SS system parameters and constants as defined in subclause 10.1 of IEEE 802.16-2004 standard.

#### 15.2.1.2.1.2 wmanIf2SsChannelMeasurementTable

wmanIf2SsChannelMeasurementTable contains downlink channel measurement information for each SS.

#### 15.2.1.2.2 wmanIf2SsPkmObjects

Figure 25 shows the structure of wmanIf2SsPkmObjects subtree that contains subscriber station manageable objects related to the privacy management entity.

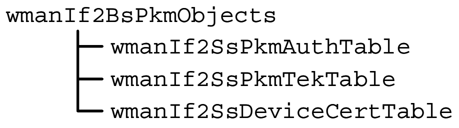

**Figure 25—wmanIf2SsPkmObjects structure**

#### 15.2.1.2.2.1 wmanIf2SsPkmAuthTable

wmanIf2SsPkmAuthTable contains subscriber station authentication and authorization parameters including those described in subclause 10.2 of IEEE 802.16-2004.

#### 15.2.1.2.2.2 wmanIf2SsPkmTekTable

wmanIf2SsPkmTekTable contains subscriber station runtime parameters for each active security association.

#### 15.2.1.2.2.3 wmanIf2SsDeviceCertTable

wmanIf2SsDeviceCertTable describes the PKM device certificates for each SS wireless interface.

#### 15.2.1.2.3 wmanIf2SsNotification

Figure 26 shows the structure of wmanIf2SsNotification subtree that contains SS traps to report fault events and exceptions, such as RSSI threshold crossing.

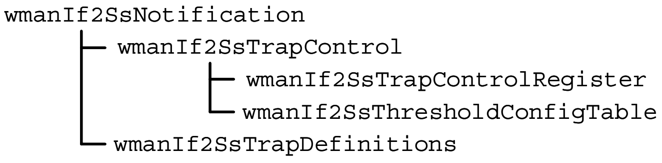

**Figure 26—wmanIf2SsNotification structure**

#### 15.2.1.2.3.1 wmanIf2SsTrapControl

#### 15.2.1.2.3.1.1 wmanIf2SsTrapControlRegister

wmanIf2SsTrapControlRegister is used to enable or disable Subscriber Station traps.

#### 15.2.1.2.3.1.2 wmanIf2SsThresholdConfigTable

wmanIf2SsThresholdConfigTable contains threshold objects that can be set to detect the threshold crossing events.

#### 15.2.1.2.3.2 wmanIf2SsTrapDefinitions

wmanIf2SsTrapDefinitions group defines all the traps reported by SS.

#### 15.2.1.2.4 wmanIf2SsPhy

Figure 27 shows the structure of wmanIf2SsPhy subtree that contains SS managed objects related to the Physical layer.

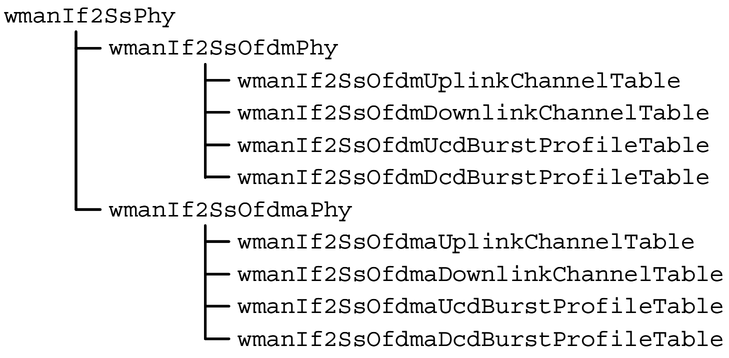
wmanIf2SsPhy
wmanIf2SsOfdmPhy
wmanIf2SsOfdmUplinkChannelTable
wmanIf2SsOfdmDownlinkChannelTable
wmanIf2SsOfdmUcdBurstProfileTable
wmanIf2SsOfdmDcdBurstProfileTable
wmanIf2SsOfdmaPhy
wmanIf2SsOfdmaUplinkChannelTable
wmanIf2SsOfdmaDownlinkChannelTable
wmanIf2SsOfdmaUcdBurstProfileTable
wmanIf2SsOfdmaDcdBurstProfileTable

**Figure 27—wmanIf2SsPhy structure**

##### 15.2.1.2.4.1 wmanIf2SsOfdmPhy

wmanIf2SsOfdmPhy is a group containing objects specific to OFDM PHY.

###### 15.2.1.2.4.1.1 wmanIf2SsOfdmUplinkChannelTable

wmanIf2SsOfdmUplinkChannelTable contains OFDM UCD channel attributes, defining the transmission characteristics of uplink channels.

###### 15.2.1.2.4.1.2 wmanIf2SsOfdmDownlinkChannelTable

wmanIf2SsOfdmUplinkChannelTable contains OFDM DCD channel attributes, defining the transmission characteristics of downlink channels.

###### 15.2.1.2.4.1.3 wmanIf2SsOfdmUcdBurstProfileTable

wmanIf2SsOfdmUcdBurstProfileTable contains OFDM UCD burst profiles for each uplink channel.

###### 15.2.1.2.4.1.4 wmanIf2SsOfdmDcdBurstProfileTable

wmanIf2SsOfdmDcdBurstProfileTable provides one row for each OFDM DCD burst profile.

##### 15.2.1.2.4.2 wmanIf2SsOfdmaPhy

wmanIf2SsOfdmaPhy is a group containing objects specific to OFDMA PHY.

###### 15.2.1.2.4.2.1 wmanIf2SsOfdmaUplinkChannelTable

wmanIf2SsOfdmaUplinkChannelTable contains OFDMA UCD channel attributes, defining the transmission characteristics of uplink channels.

#### 15.2.1.2.4.2.2 wmanIf2SsOfdmaDownlinkChannelTable

wmanIf2SsOfdmaDownlinkChannelTable contains OFDMA DCD channel attributes, defining the transmission characteristics of downlink channels.

#### 15.2.1.2.4.2.3 wmanIf2SsOfdmaUcdBurstProfileTable

wmanIf2SsOfdmaUcdBurstProfileTable contains OFDMA UCD burst profiles for each uplink channel.

#### 15.2.1.2.4.2.4 wmanIf2SsOfdmaDcdBurstProfileTable

wmanIf2SsOfdmaDcdBurstProfileTable provides one row for each OFDMA DCD burst profile.

### 15.2.1.3 wmanIf2CommonObjects

#### 15.2.1.3.1 wmanIf2CmnPacketCs

Figure 28 shows the structure of wmanIf2CmnPacketCs subtree that contains common managed objects related to the Packet CS management entity layer.

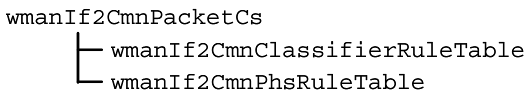

**Figure 28—wmanIf2CmnPacketCs structure**

#### 15.2.1.3.1.1 wmanIf2CmnClassifierRuleTable

wmanIf2CmnClassifierRuleTable contains runtime classifier rules screening criteria for each service flow.

#### 15.2.1.3.1.2 wmanIf2CmnPhsRuleTable

wmanIf2CmnPhsRuleTable contains PHS rule dictionary entries. Each entry contains the data of the header to be suppressed along with its identification - PHSI.

#### 15.2.1.3.2 wmanIf2CmnCps

Figure 29 shows the structure of wmanIf2CmnCps subtree that contains common managed objects related to the MAC CPS management entity.

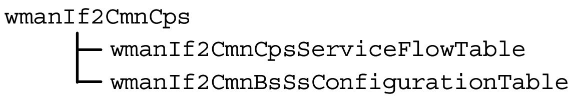
wmanIf2CmnCps
wmanIf2CmnCpsServiceFlowTable
wmanIf2CmnBsSsConfigurationTable

**Figure 29—wmanIf2CmnCps structure**

#### 15.2.1.3.2.1 wmanIf2CmnCpsServiceFlowTable

wmanIf2CmnCpsServiceFlowTable contains Service Flow managed objects that are common in BS and SS.

#### 15.2.1.3.2.2 wmanIf2CmnBsSsConfigurationTable

wmanIf2CmnBsSsConfigurationTable provides one row for each BS sector that contains the system parameters common in both SS and BS. All SSs shall have the same parameters as the BS to which the SSs are associated.

### 15.2.1.3.3 wmanIf2CmnPkmObjects

Figure 30 shows the structure of wmanIf2CmnPkmObjects subtree that contains common PKM objects.

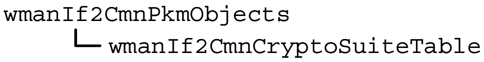

**Figure 30—wmanIf2CmnPkmObjects structure**

#### 15.2.1.3.3.1 wmanIf2CmnCryptoSuiteTable

wmanIf2CmnCryptoSuiteTable contains supported crypto suites for the particular SS and other crypto parameters such as key lifetimes.

## 15.2.2 wmanIf2mMib

wmanIf2mMib for 802.16. defines managed objects that are specific to mobile Broadband Wireless Networks.

### 15.2.3 ASN.1 Definitions of 802.16 MIB for SNMP

#### 15.2.3.1 WMAN-IF2-MIB

```
WMAN-IF2-MIB DEFINITIONS ::= BEGIN

  IMPORTS
        MODULE-IDENTITY,
        OBJECT-TYPE,
        NOTIFICATION-TYPE,
        Unsigned32, Integer32, Counter32,
        Counter64, transmission
                FROM SNMPv2-SMI
        SnmpAdminString
                FROM SNMP-FRAMEWORK-MIB
        TEXTUAL-CONVENTION,
        MacAddress, RowStatus, TruthValue,
        TimeStamp, DateAndTime
                FROM SNMPv2-TC
        InetAddressType, InetAddress
                FROM INET-ADDRESS-MIB
        OBJECT-GROUP,
        MODULE-COMPLIANCE,
        NOTIFICATION-GROUP
                FROM SNMPv2-CONF
        ifIndex
                FROM IF-MIB;

wmanIf2Mib MODULE-IDENTITY
        LAST-UPDATED    "200610160000Z" -- October 16, 2006
        ORGANIZATION    "IEEE 802.16"
        CONTACT-INFO
            "WG E-mail: stds-802-16@ieee.org
             WG Chair:  Roger B. Marks
             Postal:    (U.S.) National Institute
                         of Standards and Technology
             E-mail:    r.b.marks@ieee.org

             TGf Chair: Phillip Barber
             Postal:    Huawei Technologies Co., Ltd
             E-mail:    pbarber@futurewei.com

             Editor:    Joey Chou
             Postal:    Intel Corporation
                        5000 W. Chandler Blvd,
                        Chandler, AZ 85227, USA
             E-mail:    joey.chou@intel.com"
        DESCRIPTION
            "This material is from IEEE Std 802.16i
             Copyright (c) 2006 IEEE.
             This MIB Module defines managed objects for
             Subscriber Station and Base Station based on IEEE Std
             802.16-2004 and its amendment IEEE Std 802.16e-2005.
             The MIB contains managed objects that are common for
             both fixed and mobile Broadband Wireless Networks."
        REVISION        "200610160000Z"
        DESCRIPTION
            "The second revision of WMAN2-IF2-MIB module."
        REVISION        "200605230000Z"
        DESCRIPTION
            "The first revision of WMAN-IF2-MIB module that is
             enhanced to support IEEE 802.16e-2005 standard."
        ::= { transmission 184 }

wmanIf2MibObjects  OBJECT IDENTIFIER ::= { wmanIf2Mib 1 }
wmanIf2BsObjects OBJECT IDENTIFIER ::= { wmanIf2MibObjects 1 }
wmanIf2SsObjects   OBJECT IDENTIFIER ::= { wmanIf2MibObjects 2 }
wmanIf2CommonObjects OBJECT IDENTIFIER ::= { wmanIf2MibObjects 3 }

-- Textual Conventions
WmanIf2SfSchedulingType ::= TEXTUAL-CONVENTION
        STATUS      current
        DESCRIPTION
            "The scheduling service provided by a SC for an
             upstream service flow. If the parameter is omitted
             from an upstream QOS Parameter Set, this object takes
             the value of bestEffort (2). This parameter must be
             reported as undefined (1) for downstream QOS Parameter
             Sets."
        SYNTAX      INTEGER {undefined(1),
                             bestEffort(2),
                             nonRealTimePollingService(3),
                             realTimePollingService(4),
                             reserved(5),
                             unsolicitedGrantService(6)}

WmanIf2PhsRuleVerify ::= TEXTUAL-CONVENTION
        STATUS      current
        DESCRIPTION
            "The value of this field indicates to the sending entity
             whether or not the packet header contents are to be
             verified prior to performing suppression. If PHSV is
             enabled, the sender shall compare the bytes in the packet
             header with the bytes in the PHSF that are to be
             suppressed as indicated by the PHSM."
        REFERENCE
            "Subclause 11.13.19.3.7.5 in IEEE Std 802.16-2004"
        SYNTAX      INTEGER {phsVerifyEnable(0),
                             phsVerifyDisable(1)}

WmanIf2ClassifierBitMap ::= TEXTUAL-CONVENTION
        STATUS      current
        DESCRIPTION
            "A bit of of this object is set to 1 if the parameter
             indicated by the comment was present in the classifier
             encoding, and 0 otherwise.
             Note: that BITS are encoded most significant bit first,
             so that if e.g. bits 6 and 7 are set, this object is
             encoded as the octet string '030000'H."
        REFERENCE
            "Subclause 11.13.19.3.4 in IEEE Std 802.16-2004"
        SYNTAX      BITS {priority(0),
                          ipTos(1),
                          ipProtocol(2),
                          ipMaskedSrcAddr(3),
                          ipMaskedDestAddr(4),
                          srcPort(5),
                          destPort(6),
                          destMacAddr(7),
                          srcMacAddr(8),
                          ethernetProtocol(9),
                          userPriority(10),
                          vlanId(11),
                          ipv6FlowLabel(12)}

WmanIf2SfState ::= TEXTUAL-CONVENTION
        STATUS      current
        DESCRIPTION
            "Defines the state of a service flow."
        SYNTAX      INTEGER {authorized(1),
                             admitted(2),
                             active(3)}

WmanIf2ServClassName ::= TEXTUAL-CONVENTION
        STATUS      current
        DESCRIPTION
            "Defines the type of service class name."
        SYNTAX      OCTET STRING (SIZE(2..128))

WmanIf2CsSpecification ::= TEXTUAL-CONVENTION
        STATUS      current
        DESCRIPTION
            "Defines the types of convergence sublayer."
        REFERENCE
            "Subclause 11.13.19.1 in IEEE Std 802.16e-2005"
        SYNTAX      INTEGER {reserved(0),
                             packetIpV4(1),
                             packetIpV6(2),
                             packet802dot3Ethernet(3),
                             packet802dot1QVlan(4),
                             packetIpV4Over802dot3(5),
                             packetIpV6Over802dot3(6),
                             packetIpV4Over802dot1Q(7),
                             packetIpV6Over802dot1Q(8),
                             atm(9),
                             packet802dot3EthernetRohcHc(10),
                             packet802dot3EthernetEcrtpHc(11),
                             packetIp2RohcHc(12),
                             packetIp2EcrtpHc(13)}

WmanIf2MacVersion ::= TEXTUAL-CONVENTION
        STATUS      current
        DESCRIPTION
            "Version number of IEEE 802.16."
        SYNTAX      INTEGER {ieee802Dot16Of2001(1),
                             ieee802Dot16cOf2002(2),
                             ieee802Dot16aOf2003(3),
                             ieee802Dot16Of2004(4),
                             ieee802Dot16e(5),
                             tbd(6)}

WmanIf2CidType ::= TEXTUAL-CONVENTION
        STATUS      current
        DESCRIPTION
            "Type of CID."
        SYNTAX      INTEGER (0 .. 65535)

WmanIf2DataEncryptAlgId ::= TEXTUAL-CONVENTION
        STATUS      current
        DESCRIPTION
            "Data encryption algorithm identifiers."
        REFERENCE
            "Table 375 in IEEE Std 802.16-2004"
        SYNTAX      INTEGER {none(0),
                             des56BitCbcMode(1),
              aesCcmMode(2)}

WmanIf2DataAuthAlgId ::= TEXTUAL-CONVENTION
        STATUS      current
        DESCRIPTION
            "Data authentication algorithm identifiers."
        REFERENCE
            "Table 376 in IEEE Std 802.16-2004"
        SYNTAX      INTEGER {noDataAuthentication(0),
                             reserved(1)}

WmanIf2TekEncryptAlgId ::= TEXTUAL-CONVENTION
        STATUS      current
        DESCRIPTION
            "TEK encryption algorithm identifiers."
        REFERENCE
            "Table 377 in IEEE Std 802.16-2004"
        SYNTAX      INTEGER {tripleDes128BitKey(1),
                             rsa1024BitKey(2),
                             aes128BitKey(3)}

WmanIf2ChannelNumber ::= TEXTUAL-CONVENTION
        STATUS      current
        DESCRIPTION
            "Physical channel number"
        SYNTAX      INTEGER (0 .. 199)

WmanIf2OfdmFecCodeType ::= TEXTUAL-CONVENTION
        STATUS      current
        DESCRIPTION
            "FEC code type and modulation type"
        REFERENCE
            "Table 356 and Table 362 in IEEE Std 802.16-2004"
        SYNTAX      INTEGER {bpskCc1Over2(0),
                             qpskRsCcCc1Over2(1),
                             qpskRsCcCc3Over4(2),
                             sixteenQamRsCcCc1Over2(3),
                             sixteenQamRsCcCc3Over4(4),
                             sixtyFourQamRsCcCc2Over3(5),
                             sixtyFourQamRsCcCc3Over4(6),
                             qpskBtc1Over2(7),
                             qpskBtc3Over4(8),
                             sixteenQamBtc3Over4(9),
                             sixteenQamBtc4Over5(10),
                             sixtyFourQamBtc2Over3(11),
                             sixtyFourQamBtc5Over6(12),
                             qpskCtc1Over2(13),
                             qpskCtc2Over3(14),
                             qpskCtc3Over4(15),
                             sixteenQamCtc1Over2(16),
                             sixteenQamCtc3Over4(17),
                             sixtyFourQamCtc2Over3(18),
                             sixtyFourQamCtc3Over4(19)}

WmanIf2OfdmaFecCodeType ::= TEXTUAL-CONVENTION
        STATUS      current
        DESCRIPTION
            "FEC code type and modulation type"
        REFERENCE
            "Table 356 and Table 362 in IEEE Std 802.16-2004"
        SYNTAX     INTEGER {qpskCc1Over2(0),
                             qpskCc3Over4(1),
                             sixteenQamCc1Over2(2),
                             sixteenQamCc3Over4(3),
                             sixtyFourQamCc2Over3(4),
                             sixtyFourQamCc3Over4(5),
                             qpskBtc1Over2(6),
                             qpskBtc2Over3(7),
                             sixteenQamBtc3Over5(8),
                             sixteenQamBtc4Over5(9),
                             sixtyFourQamBtc5Over8(10),
                             sixtyFourQamBtc4Over5(11),
                             qpskCtc1Over2(12),
                             qpskCtc2Over3(13),
                             qpskCtc3Over4(14),
                             sixteenQamCtc1Over2(15),
                             sixteenQamCtc3Over4(16),
                             sixtyFourQamCtc2Over3(17),
                             sixtyFourQamCtc3Over4(18),
                             sixtyFourQamCtc5Over6(19),
                             qpskZtCc1Over2(20),
                             qpskZtCc3Over4(21),
                             sixteenQamZtCc1Over2(22),
                             sixteenQamZtCc3Over4(23),
                             sixtyFourQamZtCc2Over3(24),
                             sixtyFourQamZtCc3Over4(25)}

-- Textual convention for capabilities encodings
WmanIf2eNumOfCid ::= TEXTUAL-CONVENTION
        STATUS      current
        DESCRIPTION
            "The object of this type shows the number of CIDs that
             SS can support."
        REFERENCE
            "Subclause 11.7.6 in IEEE Std 802.16e-2005"
        SYNTAX      INTEGER (2..65535)

WmanIf2ArqSupportType ::= TEXTUAL-CONVENTION
        STATUS      current
        DESCRIPTION
            "The object of this type indicates whether the SS support
             ARQ."
        REFERENCE
            "Subclause 11.7.8.1 in IEEE Std 802.16-2004"
        SYNTAX      INTEGER {arqNotSupported(0),
                             arqSupported(1)}

WmanIf2MaxDsxFlowType ::= TEXTUAL-CONVENTION
        STATUS      current
        DESCRIPTION
            "The object of this type specifies the maximum number of
             concurrent DSA, DSC, or DSD transactions that may be
             outstanding."
        REFERENCE
            "Subclause 11.7.8.2 in IEEE Std 802.16-2004"
        SYNTAX      INTEGER (0..255)

WmanIf2MacCrcSupport ::= TEXTUAL-CONVENTION
        STATUS      current
        DESCRIPTION
            "The object of this type indicates whether or not the SS
             supports MAC level CRC."
        REFERENCE
            "Subclause 11.7.8.3 in IEEE Std 802.16-2004"
        SYNTAX      INTEGER {noMacCrcSupport(0),
                             macCrcSupport(1)}

WmanIf2MaxMcaFlowType ::= TEXTUAL-CONVENTION
        STATUS      current
        DESCRIPTION
            "The object of this type specifies the maximum number of
             concurrent MCA transactions that may be outstanding."
        REFERENCE
            "Subclause 11.7.8.4 in IEEE Std 802.16-2004"
        SYNTAX      INTEGER (0..255)

WmanIf2MaxMcpGroupCid ::= TEXTUAL-CONVENTION
        STATUS      current
        DESCRIPTION
```

```
            "The object of this type indicates the maximum number of
             simultaneous Multicast Polling Groups the SS is
             capable of belonging to."
        REFERENCE
            "Subclause 11.7.8.5 in IEEE Std 802.16-2004"
        SYNTAX      INTEGER (0..255)

WmanIf2MaxPkmFlowType ::= TEXTUAL-CONVENTION
        STATUS      current
        DESCRIPTION
            "The object of this type specifies the maximum number of
             concurrent PKM transactions that may be outstanding."
        REFERENCE
            "Subclause 11.7.8.6 in IEEE Std 802.16-2004"
        SYNTAX      INTEGER (0..255)

WmanIf2AuthPolicyType ::= TEXTUAL-CONVENTION
        STATUS      current
        DESCRIPTION
            "The object of this type specifies authorization policy
             that both SS and BS need to negotiate and synchronize.
             A bit value of 0 = 'not supported', 1 = 'supported'. If
             this field is omitted, then both SS and BS shall use the
             IEEE 802.16 security, constituting X.509 digital
             certificates and the RSA public key encryption
             algorithm, as authorization policy."
        REFERENCE
            "Subclause 11.7.8.7 in IEEE Std 802.16-2004"
        SYNTAX      BITS {ieee802Dot16PrivacySupported(0),
                          reserved1(1),
                          reserved2(2),
                          reserved3(3),
                          reserved4(4),
                          reserved5(5),
                          reserved6(6),
                          reserved7(7)}

WmanIf2MaxNumOfSaType ::= TEXTUAL-CONVENTION
        STATUS      current
        DESCRIPTION
            "This field specifies maximum number of supported
             security association of the SS."
        REFERENCE
            "Subclause 11.7.8.8 in IEEE Std 802.16-2004"
        SYNTAX      INTEGER (0..255)

WmanIf2IpVersionType ::= TEXTUAL-CONVENTION
        STATUS      current
        DESCRIPTION
            "The object of this type indicates the version of IP used
             on the Secondary Management Connection. The valus should
             be undefined if the 2nd management CID doesn't exist."
        REFERENCE
            "Subclause 11.7.4 in IEEE Std 802.16-2004"
        SYNTAX      INTEGER {undefined(0),
                             ipv4(1),
                             ipv6(2)}

WmanIf2MacCsBitMap ::= TEXTUAL-CONVENTION
        STATUS      current
        DESCRIPTION
            "The object of this type indicates the set of MAC
             convergence sublayer support. When a bit is set, it
             indicates the corresponding CS feature is supported."
        REFERENCE
            "Subclause 11.7.7.1 in IEEE Std 802.16e-2005"
        SYNTAX      BITS {atm(0),
                          packetIpv4(1),
                          packetIpv6(2),
                          packet802Dot3(3),
                          packet802Dot1Q(4),
                          packetIpv4Over802Dot3(5),
                          packetIpv6Over802Dot3(6),
                          packetIpv4Over802Dot1Q(7),
                          packetIpv6Over802Dot1Q(8),
                          packet802dot3EthernetRohcHc(9),
                          packet802dot3EthernetEcrtpHc(10),
                          packetIpv4Orv6RohcHc(11),
                          packetIpv4Orv6EcrtpHc(12)}

WmanIf2MaxClassifiers ::= TEXTUAL-CONVENTION
        STATUS      current
        DESCRIPTION
            "The object of this type indicates the maximum number of
             admitted Classifiers that the SS is allowed to have."
        REFERENCE
            "Subclause 11.7.7.2 in IEEE Std 802.16-2004"
        SYNTAX      INTEGER (0..65535)

WmanIf2PhsSupportType ::= TEXTUAL-CONVENTION
        STATUS      current
        DESCRIPTION
            "The object of this type indicates the level
             of PHS support."
        REFERENCE
            "Subclause 11.7.7.3 in IEEE Std 802.16e-2005"
        SYNTAX      INTEGER {noPhsSupport(0),
                             atmPhsSupport(1),
                             packetPhsSupport(2),
                             atmAndPacketPhsSupport(3)}

WmanIf2BwAllocSupport ::= TEXTUAL-CONVENTION
        STATUS      current
        DESCRIPTION
            "This field indicates properties of the SS that the BS
             needs to know for bandwidth allocation purposes. When
             a bit is set, it indicates the corresponding feature
             is supported. All unspecified and reserved bits should
             be set to zero."
        REFERENCE
            "Subclause 11.8.1 in IEEE Std 802.16-2004"
        SYNTAX      BITS {reserved(0),
                          halfDuplexFdd(1),
                          fullDuplexFdd(2)}

WmanIf2PduConstruction ::= TEXTUAL-CONVENTION
        STATUS      current
        DESCRIPTION
            "Specifies capabilities for construction and transmission
             of MAC PDUs. When piggybackedRequests bit is set, it
             indicates that the piggybacked requests are supported. The
             fsnValuesSize bit is coded as follows:
               0 - only 3-bit FSN values are supported
               1 - only 11-bit FSN values are supported
             All unspecified and reserved bits should be set to zero."
        REFERENCE
            "Subclause 11.8.2 in IEEE Std 802.16e-2005"
        SYNTAX      BITS {piggybackedRequests(0),
                          fsnValuesSize(1)}

WmanIf2SsTransitionGap ::= TEXTUAL-CONVENTION
        STATUS      current
        DESCRIPTION
            "This field indicates the transition speed SSTTG and SSRTG
             for TDD and H-FDD SSs. Allowed values are:
               OFDM mode: TDD and H-FDD 0..100
               Other modes: TDD: 0..50; H-FDD: 0..100"
        REFERENCE
            "Subclause 11.8.3.1 in IEEE Std 802.16-2004"
        SYNTAX      INTEGER (0..100)

WmanIf2MaxTxPowerType ::= TEXTUAL-CONVENTION
        STATUS      current
        DESCRIPTION
            "This type is used to define maximum available power for
             BPSK, QPSK, 16-QAM and 64-QAM constellations. The maximum
             power parameters are reported in dBm and quantized in 0.5
             dBm steps ranging from -64 dBm (encoded 0x00) to 63.5 dBm
             (encoded 0xFF). Values outside this range shall be
             assigned the closest extreme. SSs that do not support
             QAM64 shall report the value of 0x00 in the maximum QAM64
             power field."
        REFERENCE
            "Subclause 11.8.3.2 in IEEE Std 802.16-2004"
        SYNTAX      INTEGER (0..255)

WmanIf2OfdmFftSizes ::= TEXTUAL-CONVENTION
        STATUS      current
        DESCRIPTION
            "This field indicates the FFT sizes supported by the SS.
             For each FFT size, a bit value of 0 indicates 'not
             supported' while 1 indicates 'supported'."
        REFERENCE
            "Subclause 11.8.3.6.1 in IEEE 802.16-2004"
        SYNTAX      BITS {fft256(0),
                          fft2048(1)}

WmanIf2OfdmSsDeModType ::= TEXTUAL-CONVENTION
        STATUS      current
        DESCRIPTION
            "This field indicates the different demodulator options
             supported by a WirelessMAN-OFDM PHY SS for downlink. This
             field is not used for other PHY specifications. A bit
             value of 0 indicates 'not supported' while 1 indicates
             'supported'."
        REFERENCE
            "Subclause 11.8.3.6.2 in IEEE Std 802.16e-2005"
        SYNTAX      BITS {qam64(0),
                          btc(1),
                          ctc(2),
                          stc(3),
                          aas(4),
                          subchannelization(5)}

WmanIf2OfdmSsModType ::= TEXTUAL-CONVENTION
        STATUS      current
        DESCRIPTION
            "This field indicates the different modulator options
             supported by a WirelessMAN-OFDM PHY SS for uplink. This
             field is not used for other PHY specifications. A bit
             value of 0 indicates 'not supported' while 1 indicates
             'supported'."
        REFERENCE
            "Subclause 11.8.3.6.3 in IEEE Std 802.16e-2005"
        SYNTAX      BITS {qam64(0),
                          btc(1),
                          ctc(2),
                          subchanellization(3),
                          focusedCtBwReq(4),
                          ulCyclicDelay(5)}

WmanIf2OfdmFocusedCt ::= TEXTUAL-CONVENTION
        STATUS      current
        DESCRIPTION
            "This field indicates whether the SS supports Focused
             Contention (see 8.3.7.3.3). A bit value of 0 indicates
             'not supported' while 1 indicates 'supported'."
        REFERENCE
            "Subclause 11.8.3.6.4 in IEEE Std 802.16-2004"
        SYNTAX      BITS {focusedCtSupport(0)}

WmanIf2OfdmTcSublayer ::= TEXTUAL-CONVENTION
        STATUS      current
        DESCRIPTION
            "This field indicates whether or not the SS supports the
             TC sublayer (see 8.3.4). A bit value of 0 indicates
             'not supported' while 1 indicates 'supported'."
        REFERENCE
            "Subclause 11.8.3.6.5 in IEEE Std 802.16-2004"
        SYNTAX      BITS {tcSublayerSupport(0)}

WmanIf2eOfdmPrivMap ::= TEXTUAL-CONVENTION
        STATUS      current
        DESCRIPTION
            "This field indicates if the private map parameters
             is supported. A bit value of 0 indicates
             'not supported' while 1 indicates 'supported'."
        REFERENCE
            "Subclause 11.8.3.6.6 in IEEE Std 802.16e-2005"
        SYNTAX      BITS {regularMap(0),
                          compressedMap(1)}

WmanIf2eOfdmUlPower ::= TEXTUAL-CONVENTION
        STATUS      current
        DESCRIPTION
            "This field indicates the uplink power control options
             supported by a WirelessMAN-OFDM PHY SS for uplink
             transmission. A bit value of 0 indicates
             'not supported' while 1 indicates 'supported'."
        REFERENCE
            "Subclause 11.8.3.7.10 in IEEE Std 802.16e-2005"
        SYNTAX      BITS {ulOpenLoopPwrCntl(0),
                          ulAasPreamblePwrCntl(1)}

WmanIf2BsIdType ::= TEXTUAL-CONVENTION
        STATUS      current
        DESCRIPTION
            "Defines the encoding of BSID. The BSID is a 6 byte number
             and follows the encoding rules of MacAddress textual
             convention, i.e. as if it were transmitted
             least-significant bit first. The value should be displayed
             with 2 parts clearly separated by a colon e.g:
             001DFF:00003A. The most significant part is representing
             the Operator ID. "
        SYNTAX      OCTET STRING (SIZE(6))

WmanIf2Ipv6FlowLabel ::= TEXTUAL-CONVENTION
        STATUS      current
        DESCRIPTION
            "The value of this field specifies the matching values for
             the IPv6 Flow label field. As the flow label field has a
             length of 20 bits, the first 4 bits of the most
             significant byte shall be set to 0x0 and disregarded."
        SYNTAX      OCTET STRING (SIZE(3))

WmanIf2OfdmaFftSizes ::= TEXTUAL-CONVENTION
        STATUS      current
        DESCRIPTION
            "This field indicates the FFT sizes supported by the SS/MS.
             For each FFT size, a bit value of 0 indicates 'not
             supported' while 1 indicates 'supported'."
        REFERENCE
            "Subclause 11.8.3.7.1 in IEEE 802.16e-2005"
        SYNTAX      BITS {fft256(0),
                          fft2048(1),
                          fft128(2),
                          fft512(3),
                          fft1024(4)}

WmanIf2OfdmaMsDeModType ::= TEXTUAL-CONVENTION
        STATUS      current
        DESCRIPTION
            "This field indicates the different demodulator options
             supported by a WirelessMAN-OFDMA PHY SS for downlink.
             A bit value of 0 indicates 'not supported' while 1
             indicates 'supported'."
        REFERENCE
            "Subclause 11.8.3.7.2 in IEEE Std 802.16e-2005"
        SYNTAX      BITS {qam64(0),
                          btc(1),
                          ctc(2),
                          stc(3),
                          ccWithInterleacer(4),
                          harqChase(5),
                          harqCtcIr(6),
                          reserved(7),
                          harqCcIr(8),
                          ldpc(9),
                          dedicatedPilots(10)}

WmanIf2OfdmaMsModType ::= TEXTUAL-CONVENTION
        STATUS      current
        DESCRIPTION
            "This field indicates the different modulator options
             supported by a WirelessMAN-OFDMA PHY SS for uplink. A bit
             value of 0 indicates 'not supported' while 1 indicates
             'supported'."
        REFERENCE
            "Subclause 11.8.3.7.3 in IEEE Std 802.16e-2005"
        SYNTAX      BITS {qam64(0),
                          btc(1),
                          ctc(2),
                          stc(3),
                          harqChase(4),
                          ctcIr(5),
                          ccIr(6),
                          ldpc(7)}

WmanIf2OfdmaPermutation ::= TEXTUAL-CONVENTION
        STATUS      current
        DESCRIPTION
            "This field indicates the OFDMA SS Permutation support
             A bit value of 0 indicates 'not supported' while 1
             indicates 'supported'."
        REFERENCE
            "Subclause 11.8.3.7.4 in IEEE 802.16e"
        SYNTAX      BITS {optionalPuscSupport(0),
                          optionalFuscSupport(1),
                          amcOneBySixSupport(2),
                          amcTwoByThreeSupport(3),
                          amcThreeByTwoSupport(4),
                          amcSupportWithHarqMap(5),
                          tusc1Support(6),
                          tusc2Support(7)}

WmanIf2eOfdmaDemMimo ::= TEXTUAL-CONVENTION
        STATUS      current
        DESCRIPTION
            "This field indicates the MIMO capability of OFDMA MS
             demodulator. A bit value of 0 indicates 'not supported'
             while 1 indicates 'supported'."
        REFERENCE
            "Subclause 11.8.3.7.5 in IEEE 802.16e"
        SYNTAX      BITS {twoAntStcMatrixA(0),
                          twoAntStcMatrixBVCoding(1),
                          twoAntStcMatrixBHCoding(2),
                          fourAntStcMatrixA(3),
                          fourAntStcMatrixBVCoding(4),
                          fourAntStcMatrixBHCoding(5),
                          fourAntStcMatrixCVCoding(6),
                          fourAntStcMatrixCHCodingt(7)}

WmanIf2eOfdmaMimoCap ::= TEXTUAL-CONVENTION
        STATUS      current
        DESCRIPTION
            "This field indicates the MIMO capability of
             OFDMA MS demodulator."
        REFERENCE
            "Subclause 11.8.3.7.5 in IEEE 802.16e"
        SYNTAX      BITS {twoAntStcMatrixA(0),
                          twoAntStcMatrixBVCoding(1),
                          fourRxAntenna(2),
                          fourAntStcMatrixA(3),
                          fourAntStcMatrixBVCoding(4),
                          fourAntStcMatrixBHCoding(5),
                          fourAntStcMatrixCVCoding(6),
                          fourAntStcMatrixCHCodingt(7),
                          threeAntStcMatrixA(8),
                          threeAntStcMatrixB(9),
                          threeAntStcMatrixCVCoding(10),
                          threeAntStcMatrixCHCodingt(11),
                          calculatingPrecodingWeight(12),
                          adaptiveRateControl(13),
                          calculatingChannelMatrix(14),
                          antennaGrouping(15),
                          antennaSelection(16),
                          codebookBasedPrecoding(17),
                          longTermPrecoding(18),
                          mimoMidamble(19)}

WmanIf2eOfdmaUlMimo ::= TEXTUAL-CONVENTION
        STATUS      current
        DESCRIPTION
            "This field indicates the different MIMO options supported
             by a WirelessMAN-OFDMA PHY SS in the uplink.
             A bit value of 0 indicates 'not supported' while 1
             indicates 'supported'."
        REFERENCE
            "Subclause 11.8.3.7.6 in IEEE 802.16e"
        SYNTAX      BITS {twoAntSttd(0),
                          twoAntSmVCoding(1),
                          oneAntCooperativeSm(2)}

WmanIf2eOfdmaPrivMap ::= TEXTUAL-CONVENTION
        STATUS      current
        DESCRIPTION
            "This field indicates the AAS private map parameters
             supported by a WirelessMAN-OFDMA SS. A bit value of
             0 indicates 'not supported' while 1 indicates
             'supported' for most bits, except chainConcurrency0,
             chainConcurrency1 that indicates how many parallel
             private map chains can be supported by an SS.
                0:    no limit
                1..3: maximum concurrent private map chains"
        REFERENCE
            "Subclause 11.8.3.7.7 in IEEE Std 802.16e-2005"
        SYNTAX      BITS {harqMap(0),
                          privMap(1),
                          reducedPrivMap(2),
                          privMapChainEnable(3),
                          privMapDlFrameOffset(4),
                          privMapUlFrameOffset(5),
                          chainConcurrency0(6),
                          chainConcurrency1(7)}

WmanIf2eOfdmaAasCap ::= TEXTUAL-CONVENTION
        STATUS      current
        DESCRIPTION
            "This field indicates the different AAS options
             supported by a WirelessMAN-OFDMA PHY SS in the
             downlink. A bit value of 0 indicates 'not supported'
             while 1 indicates 'supported' for most bits."
        REFERENCE
            "Subclause 11.8.3.7.8 in IEEE Std 802.16e-2005"
        SYNTAX      BITS {aasZone(0),
                          aasDiversityMapScan(1),
                          aasFbckRsp(2),
                          dlAasPreamble(3),
                          ulAasPreamble(4)}

WmanIf2eOfdmaCinrCap ::= TEXTUAL-CONVENTION
        STATUS      current
        DESCRIPTION
            "This field indicates the CINR measurement capability
             supported by a WirelessMAN-OFDMA PHY SS in the
             downlink. A bit value of 0 indicates 'not supported'
             while 1 indicates 'supported'."
        REFERENCE
            "Subclause 11.8.3.7.9 in IEEE Std 802.16e-2005"
        SYNTAX      BITS {phyCinrPreamble(0),
                          phyCinrPilotSubc(1),
                          phyCinrDataSubc(2),
                          effectiveCinrPreamble(3),
                          effectiveCinrPilotSubc(4),
                          effectiveCinrDataSubc(5),
                          twoCqiChannel(6),
                          freqSelectivityReport(7)}

WmanIf2eOfdmaUlPower ::= TEXTUAL-CONVENTION
        STATUS      current
        DESCRIPTION
            "This field indicates the power control options
             supported by a WirelessMAN-OFDMA PHY SS for uplink
             transmission. A bit value of 0 indicates
             'not supported' while 1 indicates 'supported'."
        REFERENCE
            "Subclause 11.8.3.7.11 in IEEE Std 802.16e-2005"
        SYNTAX      BITS {ulOpenLoopPwrCntl(0),
                          ulAasPreamblePwrCntl(1)}

WmanIf2eOfdmaMapCap ::= TEXTUAL-CONVENTION
        STATUS      current
        DESCRIPTION
            "This field indicates the different MAP options supported
             by a WirelessMAN-OFDMA PHY SS. A bit value of 0
             indicates 'not supported' while 1 indicates 'supported'."
        REFERENCE
            "Subclause 11.8.3.7.12 in IEEE Std 802.16e-2005"
        SYNTAX      BITS {harqMap(0),
                          extendedHarqIe(1),
                          subMapFor1stZone(2),
                          subMapForOtherZone(3),
                          dlRegionDefinition(4)}

WmanIf2eOfdmaUlCntlCh ::= TEXTUAL-CONVENTION
        STATUS      current
        DESCRIPTION
            "This field indicates different uplink control channels
             supported by a WirelessMAN-OFDMA PHY SS. A bit value
             of 0 indicates 'not supported' while 1 indicates
             'supported'."
        REFERENCE
            "Subclause 11.8.3.7.13 in IEEE Std 802.16e-2005"
        SYNTAX      BITS {threeBitMimoFastFeedback(0),
                          enhancedFastFeedback(1),
                          ulAck(2),
                          reserved(3),
                          uepFastFeedback(4),
                          fastDlMeasurementFeedback(5),
                          priSecFastFeedback(6),
                          diucCqiFastFeedback(7)}

WmanIf2eOfdmaMsCistCap ::= TEXTUAL-CONVENTION
        STATUS      current
        DESCRIPTION
            "This field indicates MS capability of supporting CSIT
             (uplink sounding). A bit value of 0 indicates 'not
             supported' while 1 indicates 'supported'.

             Bits 3..5: Time needed for SS to respond to a sounding
                        command transmitted by the BS
                  000   0.5ms
                  001   0.75ms
                  010   1ms
                  011   1.25ms
                  100   1.5ms
                  101   min(2ms, Next Frame)
                  110   min(5ms, Next Frame)
                  111   Next Frame

             Bits 6..9: Max number of simultaneous sounding
                        instructions (0 = unlimited)"
        REFERENCE
            "Subclause 11.8.3.7.14 in IEEE Std 802.16e-2005"
        SYNTAX      BITS {csitTypeA(0),
                          csitTypeB(1),
                          powerAssignment(2),
                          soundingRspTime0(3),
                          soundingRspTime1(4),
                          soundingRspTime2(5),
                          maxSimuSoundInst0(6),
                          maxSimuSoundInst1(7),
                          maxSimuSoundInst2(8),
                          maxSimuSoundInst3(9),
                          noP9Or18ForCsitTypeA(10),
                          csitNotSupported(11)}

WmanIf2eOfdmaMaxHarq ::= TEXTUAL-CONVENTION
        STATUS      current
        DESCRIPTION
            "This field indicates the maximum number of UL/DL HARQ
             burst allocations for the SS in a single UL/DL subframe.

             Bits 0..2: Maximum number of UL HARQ bursts per HARQ
                        enabled MS per frame
                        0b000 = 1 (default)

             Bit     3: Indicates whether the maximum number of UL
                        HARQ bursts per frame in bits 0-2 includes the
                        one Non-HARQ burst.
                        0 = not included (default)
                        1 = included

             Bits 4..7: Maximum number of DL HARQ bursts per HARQ
                        enabled MS per frame.
                        0b0000 = 1 (default)"
        REFERENCE
            "Subclause 11.8.3.7.15 in IEEE Std 802.16e-2005"
        SYNTAX      BITS {maxUlHarqBurst0(0),
                          maxUlHarqBurst1(1),
                          maxUlHarqBurst2(2),
                          nonHarqBurstInUl(3),
                          maxDlHarqBurst0(4),
                          maxDlHarqBurst1(5),
                          maxDlHarqBurst2(6),
                          maxDlHarqBurst3(7)}

WmanIf2eOfdmaModMimo ::= TEXTUAL-CONVENTION
        STATUS      current
        DESCRIPTION
            "This field indicates the MIMO capability of OFDMA SS
             modulator. A bit value of 0 indicates 'not supported'
             while 1 indicates 'supported'"
        REFERENCE
            "Subclause 11.8.3.7.16 in IEEE Std 802.16e-2005"
        SYNTAX      BITS {twoTxAntenna(0),
                          txDiversity(1),
                          spatialMultiplexing(2),
                          beamforming(3),
                          adaptiveRateControl(4),
                          singleAntenna(5),
                          twoAntenna(6)}

WmanIf2eSdmaPilotCap ::= TEXTUAL-CONVENTION
        STATUS      current
        DESCRIPTION
            "This field indicates SDMA pilot pattern support for
             AMC zone."
        REFERENCE
            "Subclause 11.8.3.7.17 in IEEE Std 802.16e-2005"
        SYNTAX      INTEGER {noSupport(0),
                             sdmaPilotAandB(1),
                             allSdmaPilotPatterns(2)}

WmanIf2eMultiBurst ::= TEXTUAL-CONVENTION
        STATUS      current
        DESCRIPTION
            "This field indicates whether multiple FEC types are
             supported in DL/UL burst profiles. A bit value of 0
             indicates 'not supported' while 1 indicates
             'supported'"
        REFERENCE
            "Subclause 11.8.3.7.18 in IEEE Std 802.16e-2005"
        SYNTAX      INTEGER {dlWithMultiFecType(0),
                             ulWithMultiFecType(1)}

WmanIf2eIncrHarqBuf ::= TEXTUAL-CONVENTION
        STATUS      current
        DESCRIPTION
            "This field indicates the maximal number of data
             bits the SS is able to use for buffering for NEP/NSCH
             based incremental redundancy CTC in downlink and uplink
             transmissions.

             Bits 0..3: NEP value indicating downlink HARQ buffering
                        capability for incremental redundancy CTC

             Bit     4: Aggregation Flag for DL
                        0 = the number of bits is counted separately
                            for each channel
                        1 = buffering capability may be shared between
                            channels

             Bits 5..7: reserved

             Bits 8..11: NEP value indicating uplink HARQ buffering
                         capability for incremental redundancy CTC

             Bit    12: Aggregation Flag for UL
                        0 = the number of bits is counted separately
                            for each channel
                        1 = buffering capability may be shared between
                            channels"
        REFERENCE
            "Subclause 11.8.3.7.19 in IEEE Std 802.16e-2005"
        SYNTAX      INTEGER {dlNep0(0),
                             dlNep1(1),
                             dlNep2(2),
                             dlNep3(3),
                             dlAggFlag(4),
                             reserved0(5),
                             reserved1(6),
                             reserved2(7),
                             ulNep0(8),
                             ulNep1(9),
                             ulNep2(10),
                             ulNep3(11),
                             ulAggFlag(12)}

WmanIf2eChaseHarqBuf ::= TEXTUAL-CONVENTION
        STATUS      current
        DESCRIPTION
            "This field indicates the maximal number of data
             bits the SS is able to use for buffering for
             DIUC/duration based HARQ methods (Chase combining and
             CC-IR)in downlink and uplink transmissions.

             Bits 0..5: Downlink HARQ buffering capability for
```

```
                        chase combining (K)

             Bit     6: Aggregation Flag for DL
                        0 = the number of bits is counted separately
                            for each channel
                        1 = buffering capability may be shared between
                            channels

             Bits    7: reserved

             Bits 8..13: Uplink HARQ buffering capability for chase
                         combining (K)

             Bit    14: Aggregation Flag for UL
                        0 = the number of bits is counted separately
                            for each channel
                        1 = buffering capability may be shared between
                            channels"
        REFERENCE
            "Subclause 11.8.3.7.19 in IEEE Std 802.16e-2005"
        SYNTAX      INTEGER {dlChaseComb0(0),
                             dlChaseComb1(1),
                             dlChaseComb2(2),
                             dlChaseComb3(3),
                             dlChaseComb4(4),
                             dlChaseComb5(5),
                             dlAggFlag(6),
                             reserved(7),
                             ulChaseComb0(8),
                             ulChaseComb1(9),
                             ulChaseComb2(10),
                             ulChaseComb3(11),
                             ulChaseComb4(12),
                            ulChaseComb5(13),
                             ulAggFlag(14)}

WmanIf2eOfdmaMobility ::= TEXTUAL-CONVENTION
        STATUS      current
        DESCRIPTION
            "This field indicates whether or not the MS supports
             mobility hand-over, Sleepmode, and Idle-mode. A bit
             value of 0 indicates 'not supported' while 1 indicates
             it is supported."
        REFERENCE
            "Subclause 11.8.3.7.5 in IEEE 802.16e"
        SYNTAX      BITS {handoverSupport(0),
                          sleepModeSupport(1),
                          idleModeSupport(2)}

WmanIf2PsClassId ::= TEXTUAL-CONVENTION
        STATUS      current
        DESCRIPTION
            "Indicates the index to Power Saving Classes. The ID shall
             be unique within the group of Power Saving Classes
             associated with the MS. This ID may be used in further
             MOB_SLP-REQ/RSP messages for activation / deactivation
             of Power Saving Class."
        REFERENCE
            "Subclause 6.3.2.3.44 in IEEE Std 802.16e-2005"
        SYNTAX      INTEGER (0..63)

WmanIf2ePsClassType ::= TEXTUAL-CONVENTION
        STATUS      current
        DESCRIPTION
            "The types of power saving classes."
        REFERENCE
            "Table 374a in IEEE Std 802.16e-2005"
        SYNTAX      INTEGER {powerSavingClassTypeI(1),
                             powerSavingClassTypeII(2),
                             powerSavingClassTypeIII(3)}

WmanIf2ePsClassCidDir ::= TEXTUAL-CONVENTION
        STATUS      current
        DESCRIPTION
            "The direction of power saving class's CIDs.
             0b00 = Unspecified. Each CID has its own direction
                    assign in its connection creation. Can be
                    DL, UL, or both (in the case of management
                    connections).
             0b01 = Downlink direction only.
             0b10 = Uplink direction only."
        REFERENCE
            "Subclause 6.3.2.3.44 in IEEE Std 802.16e-2005"
        SYNTAX      INTEGER {unspecified(0),
                             downlink(1),
                             uplink(2)}

WmanIf2PowerSavingMode ::= TEXTUAL-CONVENTION
        STATUS      current
        DESCRIPTION
            "Power saving class mode active or not active."
        REFERENCE
            "Subclause 6.3.2.3.44 in IEEE Std 802.16e-2005"
        SYNTAX      INTEGER {psNotActive(0),
                             psActive(1)}

WmanIf2eMaxMacLevel ::= TEXTUAL-CONVENTION
        STATUS      current
        DESCRIPTION
            "maximum amount of MAC level data including MAC headers
             and HARQ retransmission bursts the MS is capable of
             processing in the DL/UL part of a single MAC frame."
        REFERENCE
            "Subclause 11.7.8.10 in IEEE Std 802.16e-2005"
        SYNTAX      INTEGER (0..65535)

WmanIf2ePackingSupport ::= TEXTUAL-CONVENTION
        STATUS      current
        DESCRIPTION
            "Indicates the availability of MS support for Packing"
        REFERENCE
            "Subclause 11.7.8.11 in IEEE Std 802.16e-2005"
        SYNTAX      INTEGER {noPackingSupport(0),
                             packingSupported(1)}

WmanIf2eExtRtpsSupport ::= TEXTUAL-CONVENTION
        STATUS      current
        DESCRIPTION
            "Indicates the availability of MS support for Extended
             rtPS."
        REFERENCE
            "Subclause 11.7.8.12 in IEEE Std 802.16e-2005"
        SYNTAX      INTEGER {noExtendedRtpsSupport(0),
                             extendedRtpsSupported(1)}

WmanIf2eIpAllocMethod ::= TEXTUAL-CONVENTION
        STATUS      current
        DESCRIPTION
            "Indicates the method of allocating IP address for the
             secondary management connection. A bit value of 0
             indicates 'not supported' while 1 indicates 'supported'."
        REFERENCE
            "Subclause 11.7.8.11 in IEEE Std 802.16e-2005"
        SYNTAX      BITS {dhcp(0),
                          mobileIpv4(1),
                          dhcpV6(2),
                          ipv6Autoconfig(3)}

WmanIf2eHandoverType ::= TEXTUAL-CONVENTION
        STATUS      current
        DESCRIPTION
            "Indicates what type(s) of Handover the BS and the MS
             supports.
               bit#0: when it is set to 1, MDHO/FBSS HO not supported.
                      the BS shall ignore all other bits.
               bit#1: when it is set to 1, FBSS/MDHO DL RF Combining
                      is supported with monitoring MAPs from active BSs
               bit#2: when it is set to 1, MDHO DL soft Combining is
                      supported with monitoring single MAP from
                      anchor BS
               bit#3: when it is set to 1, MDHO DL soft combining is
                      supported with monitoring MAPs from active BSs
               bit#3: when it is set to 1, MDHO UL Multiple
                      transmission is supported"
        REFERENCE
            "Subclause 11.7.8.12 in IEEE Std 802.16e-2005"
        SYNTAX      BITS {mdhcFbssHoNotSpported(0),
                          mdhcFbssDlMapsFromActiveBss(1),
                          mdhcDlMapFromAnchorBs(2),
                          mdhcDlMapsFromActiveBss(3),
                          mdhcUlMultipleTx(4)}
```

```
WmanIf2eArqAckType ::= TEXTUAL-CONVENTION
        STATUS      current
        DESCRIPTION
            "Specifies the ARQ ACK type supported by the MS."
        REFERENCE
            "Subclause 11.7.23 in IEEE Std 802.16e-2005"
        SYNTAX      BITS {selectiveAck(0),
                          cumulativeAck(1),
                          cumWithSelAck(2),
                          cumWithBlockSeqAck(3)}

WmanIf2eMacHeaderSupp ::= TEXTUAL-CONVENTION
        STATUS      current
        DESCRIPTION
            "Indicates whether or not the MS and BS support various
             types of MAC header and extended subheaders. A bit
             value of 0 indicates 'not supported', while 1 indicates
             'supported'.

             Bits 8-10: parameters of SDU_SN extended subheader that
                 represent the period of SDU_SN transmission for
                 connection with ARQ disabled = once every 2^p MAC
                 PDUs."
        REFERENCE
            "Subclause 11.7.25 in IEEE Std 802.16e-2005"
        SYNTAX      BITS {bwReqUlTxPowerReport(0),
                          bwReqCinrReport(1),
                          cqichAlloationReq(2),
                          phyChannelReport(3),
                          bwReqUlSleepCntl(4),
                          snReport(5),
                          feedbackReport(6),
                          sduSn(7),
                          sdnSnPeriod0(8),
                          sdnSnPeriod1(9),
                          sdnSnPeriod2(10),
                          dlSleepControl(11),
                          feedbackRequest(12),
                          mimcModeFeedback(13),
                          ulTxPowerReport(14),
                          miniFeedback(15),
                          snRequest(16),
                          shortPduSn(17),
                          longPduSn(18)}

WmanIf2eHarqAckDelay ::= TEXTUAL-CONVENTION
        STATUS      current
        DESCRIPTION
            "HARQ ACK delay for DL burst
               1 = one frame offset
               2 = two frames offset
               3 = three frames offset"
        REFERENCE
            "Table 353 in IEEE Std 802.16e-2005"
        SYNTAX      INTEGER {oneframeoffset(1),
                             twoframesoffset(2),
                             threeframesoffset(3)}

WmanIf2eAasBeamSel ::= TEXTUAL-CONVENTION
        STATUS      current
        DESCRIPTION
            "Boolean to indicate whether unsolicited AAS Beam Select
             messages (see 6.3.2.3.41 in IEEE 802.16e-2005) should be
             sent by the MS.
               0: MS should not send AAS Beam Select Messages
               1: MS may send AAS Beam Select Messages"
        REFERENCE
            "Table 353 in IEEE Std 802.16e-2005"
        SYNTAX      INTEGER {notAllowed(0),
                     allowed(1)}

--
-- BS object group - containing tables and objects to be implemented in
-- the Base station
--
-- wmanIf2BsPacketCs contain the Base Station Packet Convergence
-- Sublayer objects
--
wmanIf2BsPacketCs OBJECT IDENTIFIER ::= { wmanIf2BsObjects 1 }

wmanIf2BsProvisionedSfTable OBJECT-TYPE
        SYNTAX      SEQUENCE OF WmanIf2BsProvisionedSfEntry
        MAX-ACCESS  not-accessible
        STATUS      current
        DESCRIPTION
            "This table contains service flow profiles provisioned by
             NMS. The service flow should be created with SS(s)
             following instruction given by wmanIf2BsSfState object.
             1. The QoS parameters of the service flow are provisioned
                in wmanIf2BsServiceClassTable and referenced by
                wmanIf2BsServiceClassIndex.
             2. The classifier rules of the service flow are provisioned
                in wmanIf2BsClassifierRuleTable, where they refer to SF
                via wmanIf2BsSfId.

             The MAC addresses of SSs the service flow is created with
             are provisioned in wmanIf2BsSsProvisionedForSfTable, where
             they refer to SF via wmanIf2BsSfId."
        REFERENCE
            "Subclause 6.3.13 and 6.3.14 in IEEE Std 802.16-2004"
        ::= { wmanIf2BsPacketCs 1 }

wmanIf2BsProvisionedSfEntry OBJECT-TYPE
        SYNTAX      WmanIf2BsProvisionedSfEntry
        MAX-ACCESS  not-accessible
        STATUS      current
        DESCRIPTION
            "This table provides one row for each service flow
```

```
             provisioned by NMS. The table is indexed by ifIndex and
             wmanIf2BsSfId. ifIndex is associated with the BS sector."
        INDEX { ifIndex, wmanIf2BsSfId }
        ::= { wmanIf2BsProvisionedSfTable 1 }

WmanIf2BsProvisionedSfEntry ::= SEQUENCE {
        wmanIf2BsSfId                           Unsigned32,
        wmanIf2BsSfDirection                    INTEGER,
        wmanIf2BsServiceClassIndex              INTEGER,
        wmanIf2BsSfState                        WmanIf2SfState,
        wmanIf2BsSfProvisionedTime              TimeStamp,
        wmanIf2BsSfCsSpecification              WmanIf2CsSpecification,
        wmanIf2BsProvisionedSfRowStatus         RowStatus}

wmanIf2BsSfId OBJECT-TYPE
        SYNTAX      Unsigned32 (1 .. 4294967295)
        MAX-ACCESS  not-accessible
        STATUS      current
        DESCRIPTION
            "A 32 bit quantity that uniquely identifies a service flow
             to both the subscriber station and base station (BS)."
        ::= { wmanIf2BsProvisionedSfEntry 1 }

wmanIf2BsSfDirection OBJECT-TYPE
        SYNTAX      INTEGER {downstream(1),
                             upstream(2)}
        MAX-ACCESS  read-create
        STATUS      current
        DESCRIPTION
            "An attribute indicating the service flow is downstream or
             upstream."
        ::= { wmanIf2BsProvisionedSfEntry 2 }

wmanIf2BsServiceClassIndex OBJECT-TYPE
        SYNTAX      INTEGER (1..65535)
        MAX-ACCESS  read-create
        STATUS      current
        DESCRIPTION
            "The index in wmanIf2BsServiceClassTable describing the
             service class or QoS parameters for such service flow.
             If no associated entry in wmanIf2BsServiceClassTable
             exists, this object returns a value of zero."
        ::= { wmanIf2BsProvisionedSfEntry 3 }

wmanIf2BsSfState OBJECT-TYPE
        SYNTAX      WmanIf2SfState
        MAX-ACCESS  read-create
        STATUS      current
        DESCRIPTION
           "wmanIf2BsSfState determines the requested state of a service
             flow.
             - authorized state: A service flow is provisioned but
               not resource is reserved yet
             - admitted state: service flow has resources reserved.
             - active state: has resources committed by the BS (e.g., is
               actively sending maps containing unsolicited grants for a
               UGS-based service flow),"
        REFERENCE
            "Subclause 6.3.14.6, in IEEE Std 802.16-2004"
        ::= { wmanIf2BsProvisionedSfEntry 4 }

wmanIf2BsSfProvisionedTime OBJECT-TYPE
        SYNTAX      TimeStamp
        MAX-ACCESS  read-create
        STATUS      current
        DESCRIPTION
            "Indicates the date and time when the service flow is
             provisioned."
        ::= { wmanIf2BsProvisionedSfEntry 5 }

wmanIf2BsSfCsSpecification OBJECT-TYPE
        SYNTAX      WmanIf2CsSpecification
        MAX-ACCESS  read-create
        STATUS      current
        DESCRIPTION
            "This parameter specifies the convergence sublayer
             encapsulation mode."
        REFERENCE
            "Subclause 11.13.19.1 in IEEE Std 802.16-2004"
        ::= { wmanIf2BsProvisionedSfEntry 6 }

wmanIf2BsProvisionedSfRowStatus OBJECT-TYPE
        SYNTAX          RowStatus
        MAX-ACCESS      read-create
        STATUS          current
        DESCRIPTION
            "This object is used to create a new row or modify or
             delete an existing row in this table.

             If the implementator of this MIB has choosen not
             to implement 'dynamic assignment' of profiles, this
             object is not useful and should return noSuchName
             upon SNMP request."
        ::= { wmanIf2BsProvisionedSfEntry 7 }

wmanIf2BsSsProvisionedForSfTable OBJECT-TYPE
        SYNTAX      SEQUENCE OF WmanIf2BsSsProvisionedForSfEntry
        MAX-ACCESS  not-accessible
        STATUS      current
        DESCRIPTION
            "This table maps the MAC addresses of SSs to the service
             flows provisioned in wmanIf2BsProvisionedSfTable."
        REFERENCE
            "Subclause 6.3.14 in IEEE Std 802.16-2004"
        ::= { wmanIf2BsPacketCs 2 }

wmanIf2BsSsProvisionedForSfEntry OBJECT-TYPE
        SYNTAX      WmanIf2BsSsProvisionedForSfEntry
        MAX-ACCESS  not-accessible
        STATUS      current
        DESCRIPTION
            "This table is indexed by wmanIf2BsSsProvMacAddress and
             wmanIf2BsProvSfId."
        INDEX { wmanIf2BsSsProvMacAddress, wmanIf2BsProvSfId }
        ::= { wmanIf2BsSsProvisionedForSfTable 1 }

WmanIf2BsSsProvisionedForSfEntry ::= SEQUENCE {
        wmanIf2BsSsProvMacAddress               MacAddress,
        wmanIf2BsProvSfId                       Unsigned32,
        wmanIf2BsSsProvisionedForSfRowStatus    RowStatus}

wmanIf2BsSsProvMacAddress OBJECT-TYPE
        SYNTAX      MacAddress
        MAX-ACCESS  not-accessible
        STATUS      current
        DESCRIPTION
            "The MAC address of the SS, the service flow is created
             with."
        ::= { wmanIf2BsSsProvisionedForSfEntry 1 }

wmanIf2BsProvSfId OBJECT-TYPE
        SYNTAX      Unsigned32 (1 .. 4294967295)
        MAX-ACCESS  not-accessible
        STATUS      current
        DESCRIPTION
            "A 32 bit quantity that uniquely identifies a service flow.
             The value of this object can be used by BS to index the
             wman2BsProvisionedSfTable."
        ::= { wmanIf2BsSsProvisionedForSfEntry 2 }

wmanIf2BsSsProvisionedForSfRowStatus OBJECT-TYPE
        SYNTAX          RowStatus
        MAX-ACCESS      read-create
        STATUS          current
        DESCRIPTION
            "This object is used to ensure that the write, create,
             delete operation to multiple columns is guaranteed to
             be treated as atomic operation by agent."
        ::= { wmanIf2BsSsProvisionedForSfEntry 3 }

wmanIf2BsServiceClassTable OBJECT-TYPE
        SYNTAX      SEQUENCE OF WmanIf2BsServiceClassEntry
        MAX-ACCESS  not-accessible
        STATUS      current
        DESCRIPTION
            "This table is provisioned and is indexed by
             wmanIf2BsQoSProfileIndex. Each entry of the table contains
             corresponding service flow characteristic attributes
             (e.g. QoS parameter set). The value of
             wmanIf2BsQoSProfileIndex is obtained from
             wmanIf2BsServiceClassIndex in wmanIf2BsProvisionedSfTable"
        REFERENCE
```

```
            "Subclause 6.3.14.4 in IEEE Std 802.16-2004"
        ::= { wmanIf2BsPacketCs 3 }

wmanIf2BsServiceClassEntry OBJECT-TYPE
        SYNTAX      WmanIf2BsServiceClassEntry
        MAX-ACCESS  not-accessible
        STATUS      current
        DESCRIPTION
            "This table provides one row for each service class"
        INDEX { ifIndex, wmanIf2BsQoSProfileIndex }
        ::= { wmanIf2BsServiceClassTable 1 }

WmanIf2BsServiceClassEntry ::= SEQUENCE {
        wmanIf2BsQoSProfileIndex                INTEGER,
        wmanIf2BsQosServiceClassName            WmanIf2ServClassName,
        wmanIf2BsQoSTrafficPriority             INTEGER,
        wmanIf2BsQoSMaxSustainedRate            Unsigned32,
        wmanIf2BsQoSMaxTrafficBurst             Unsigned32,
        wmanIf2BsQoSMinReservedRate             Unsigned32,
        wmanIf2BsQoSToleratedJitter             Unsigned32,
        wmanIf2BsQoSMaxLatency                  Unsigned32,
        wmanIf2BsQoSFixedVsVariableSduInd       INTEGER,
        wmanIf2BsQoSSduSize                     Unsigned32,
        wmanIf2BsQosScSchedulingType            WmanIf2SfSchedulingType,
        wmanIf2BsQosScArqEnable                 TruthValue,
        wmanIf2BsQosScArqWindowSize             INTEGER,
        wmanIf2BsQosScArqBlockLifetime          INTEGER,
        wmanIf2BsQosScArqSyncLossTimeout        INTEGER,
        wmanIf2BsQosScArqDeliverInOrder         TruthValue,
        wmanIf2BsQosScArqRxPurgeTimeout         INTEGER,
        wmanIf2BsQosScArqBlockSize              INTEGER,
        wmanIf2BsQosSCMinRsvdTolerableRate      Unsigned32,
        wmanIf2BsQoSReqTxPolicy                 BITS,
        wmanIf2BsQoSServiceClassRowStatus       RowStatus}

wmanIf2BsQoSProfileIndex OBJECT-TYPE
        SYNTAX      INTEGER (1 .. 65535)
        MAX-ACCESS  not-accessible
        STATUS      current
        DESCRIPTION
            "The index value which uniquely identifies an entry
             in the wmanIf2BsServiceClassTable"
        ::= { wmanIf2BsServiceClassEntry 1 }

wmanIf2BsQosServiceClassName  OBJECT-TYPE
        SYNTAX      WmanIf2ServClassName
        MAX-ACCESS  read-create
        STATUS      current
        DESCRIPTION
            "Refers to the Service Class Name"
        REFERENCE
            "Subclause 11.13.3 in IEEE Std 802.16-2004"
        ::= { wmanIf2BsServiceClassEntry 2 }
```

```
wmanIf2BsQoSTrafficPriority OBJECT-TYPE
        SYNTAX      INTEGER (0..7)
        MAX-ACCESS  read-create
        STATUS      current
        DESCRIPTION
            "The value of this parameter specifies the priority
             assigned to a service flow. For uplink service flows,
             the BS should use this parameter when determining
             precedence in request service and grant generation,
             and the SS shall preferentially select contention
             Request opportunities for Priority Request CIDs
             based on this priority. Higher numbers indicate higher
             priority"
        REFERENCE
            "Subclause 11.13.5 in IEEE Std 802.16-2004"
        ::= { wmanIf2BsServiceClassEntry 3 }

wmanIf2BsQoSMaxSustainedRate OBJECT-TYPE
        SYNTAX      Unsigned32
        UNITS       "b/s"
        MAX-ACCESS  read-create
        STATUS      current
        DESCRIPTION
            "This parameter defines the peak information rate
             of the service. The rate is expressed in bits per
             second and pertains to the SDUs at the input to
             the system."
        REFERENCE
            "Subclause 11.13.6 in IEEE Std 802.16-2004"
        ::= { wmanIf2BsServiceClassEntry 4 }

wmanIf2BsQoSMaxTrafficBurst OBJECT-TYPE
        SYNTAX      Unsigned32
        UNITS       "byte"
        MAX-ACCESS  read-create
        STATUS      current
        DESCRIPTION
            "This parameter defines the maximum burst size that
             must be accommodated for the service."
        REFERENCE
            "Subclause 11.13.7 in IEEE Std 802.16-2004"
        ::= { wmanIf2BsServiceClassEntry 5 }

wmanIf2BsQoSMinReservedRate OBJECT-TYPE
        SYNTAX      Unsigned32
        UNITS       "b/s"
        MAX-ACCESS  read-create
        STATUS      current
        DESCRIPTION
            "This parameter specifies the minimum rate reserved
             for this service flow."
        REFERENCE
            "Subclause 11.13.8 in IEEE Std 802.16-2004"
        ::= { wmanIf2BsServiceClassEntry 6 }
```

```
wmanIf2BsQoSToleratedJitter OBJECT-TYPE
        SYNTAX      Unsigned32
        UNITS       "millisecond"
        MAX-ACCESS  read-create
        STATUS      current
        DESCRIPTION
            "This parameter defines the Maximum delay
             variation (jitter) for the connection."
        REFERENCE
            "Subclause 11.13.13 in IEEE Std 802.16-2004"
        ::= { wmanIf2BsServiceClassEntry 7 }

wmanIf2BsQoSMaxLatency OBJECT-TYPE
        SYNTAX      Unsigned32
        UNITS       "millisecond"
        MAX-ACCESS  read-create
        STATUS      current
        DESCRIPTION
            "The value of this parameter specifies the maximum
             latency between the reception of a packet by the BS
             or SS on its network interface and the forwarding
             of the packet to its RF Interface."
        REFERENCE
            "Subclause 11.13.14 in IEEE Std 802.16-2004"
        ::= { wmanIf2BsServiceClassEntry 8 }

wmanIf2BsQoSFixedVsVariableSduInd OBJECT-TYPE
        SYNTAX      INTEGER {variableLength(0),
                             fixedLength(1)}
        MAX-ACCESS  read-create
        STATUS      current
        DESCRIPTION
            "The value of this parameter specifies whether the SDUs
             on the service flow are variable-length (0) or
             fixed-length (1). The parameter is used only if
             packing is on for the service flow. The default value
             is 0, i.e.,variable-length SDUs."
        REFERENCE
            "Subclause 11.13.15 in IEEE Std 802.16-2004"
        DEFVAL      { variableLength }
        ::= { wmanIf2BsServiceClassEntry 9 }

wmanIf2BsQoSSduSize OBJECT-TYPE
        SYNTAX      Unsigned32
        UNITS       "byte"
        MAX-ACCESS  read-create
        STATUS      current
        DESCRIPTION
            "The value of this parameter specifies the length of the
             SDU for a fixed-length SDU service flow. This parameter
             is used only if packing is on and the service flow is
             indicated as carrying fixed-length SDUs. The default
             value is 49 bytes, i.e., VC-switched ATM cells with PHS.
             The parameter is relevant for both ATM and Packet
             Convergence Sublayers."
        REFERENCE
            "Subclause 11.13.16 in IEEE Std 802.16-2004"
        DEFVAL      { 49 }
        ::= { wmanIf2BsServiceClassEntry 10 }

wmanIf2BsQosScSchedulingType OBJECT-TYPE
        SYNTAX      WmanIf2SfSchedulingType
        MAX-ACCESS  read-create
        STATUS      current
        DESCRIPTION
            "Specifies the upstream scheduling service used for
             upstream service flow. If the referenced parameter
             is not present in the corresponding 802.16 QOS
             Parameter Set of an upstream service flow, the
             default value of this object is bestEffort(2)."
        REFERENCE
            "Subclause 11.13.11 in IEEE Std 802.16-2004"
        DEFVAL    {bestEffort}
        ::= { wmanIf2BsServiceClassEntry 11 }

wmanIf2BsQosScArqEnable OBJECT-TYPE
        SYNTAX      TruthValue
        MAX-ACCESS  read-create
        STATUS      current
        DESCRIPTION
            "True(1) ARQ enabling is requested for the connection."
        REFERENCE
            "Subclause 11.13.18 in IEEE Std 802.16-2004"
        ::= { wmanIf2BsServiceClassEntry 12 }

wmanIf2BsQosScArqWindowSize OBJECT-TYPE
        SYNTAX      INTEGER (1 .. 1024)
        MAX-ACCESS  read-create
        STATUS      current
        DESCRIPTION
            "Indicates the maximum number of unacknowledged
             fragments at any time."
        REFERENCE
            "Subclause 11.13.18 in IEEE Std 802.16-2004"
        ::= { wmanIf2BsServiceClassEntry 13 }

wmanIf2BsQosScArqBlockLifetime OBJECT-TYPE
        SYNTAX    INTEGER (0 .. 65535)
        UNITS    "10 us"
        MAX-ACCESS  read-create
        STATUS      current
        DESCRIPTION
            "The maximum time interval an ARQ fragment will be
             managed by the transmitter ARQ machine, once
             initial transmission of the fragment has occured.
             If transmission or retransmission of the fragment
             is not acknowledged by the receiver before the
             time limit is reached, the fragment is discarded.
             A value of 0 means Infinite."
        REFERENCE
            "Subclause 11.13.18 in IEEE Std 802.16-2004"
        DEFVAL    {0}
        ::= { wmanIf2BsServiceClassEntry 14 }

wmanIf2BsQosScArqSyncLossTimeout OBJECT-TYPE
        SYNTAX      INTEGER (0 .. 65535 )
        UNITS       "10 us"
        MAX-ACCESS  read-create
        STATUS      current
        DESCRIPTION
            "The maximum interval before declaring a loss
             of synchronization of the sender and receiver
             state machines. A value of 0 means Infinite."
        REFERENCE
            "Subclause 11.13.18 in IEEE Std 802.16-2004"
        DEFVAL    {0}
        ::= { wmanIf2BsServiceClassEntry 15 }

wmanIf2BsQosScArqDeliverInOrder  OBJECT-TYPE
        SYNTAX      TruthValue
        MAX-ACCESS  read-create
        STATUS      current
        DESCRIPTION
            "Indicates whether or not data is to be delivered
             by the receiving MAC to its client application
             in the order in which data was handed off to the
             originating MAC."
        REFERENCE
            "Subclause 11.13.18 in IEEE Std 802.16-2004"
        ::= { wmanIf2BsServiceClassEntry 16 }

wmanIf2BsQosScArqRxPurgeTimeout  OBJECT-TYPE
        SYNTAX      INTEGER (0 .. 65535)
        UNITS       "10 us"
        MAX-ACCESS  read-create
        STATUS      current
        DESCRIPTION
            "Indicates the time interval the ARQ window is advanced
             after a fragment is received. A value of 0 means
             Infinite."
        REFERENCE
            "Subclause 11.13.18 in IEEE Std 802.16-2004"
        DEFVAL    {0}
        ::= { wmanIf2BsServiceClassEntry 17 }

wmanIf2BsQosScArqBlockSize OBJECT-TYPE
        SYNTAX      INTEGER (1..2040)
        UNITS       "byte"
        MAX-ACCESS  read-create
        STATUS      current
        DESCRIPTION
```

```
            "The value of this parameter specifies the size of an
             ARQ block. This parameter shall be established by
             negotiation during the connection creation dialog."
        REFERENCE
            "Subclause 11.13.18.8 in IEEE Std 802.16-2004"
        ::= { wmanIf2BsServiceClassEntry 18 }

wmanIf2BsQosSCMinRsvdTolerableRate OBJECT-TYPE
        SYNTAX      Unsigned32
        UNITS       "b/s"
        MAX-ACCESS  read-create
        STATUS      current
        DESCRIPTION
            "Minimum Tolerable Traffic Rate = R (bits/sec) with
             time base T(sec) means the following. Let S denote
             additional demand accumulated at the MAC SAP of the
             transmitter during an arbitrary time interval of the
             length T. Then the amount of data forwarded at the
             receiver to CS (in bits) during this interval should
             be not less than min {S, R * T}."
        REFERENCE
            "Subclause 11.13.9 in IEEE Std 802.16-2004"
        ::= { wmanIf2BsServiceClassEntry 19 }

wmanIf2BsQoSReqTxPolicy OBJECT-TYPE
        SYNTAX      BITS {noBroadcastBwReq(0),
                          reserved1(1),
                          noPiggybackReq(2),
                          noFragmentData(3),
                          noPHS(4),
                          noSduPacking(5),
                          noCrc(6),
                          reserved2(7)}
        MAX-ACCESS  read-create
        STATUS      current
        DESCRIPTION
            "The value of this parameter provides the capability to
             specify certain attributes for the associated service
             flow. An attribute is enabled by setting the
             corresponding bit position to 1."
        REFERENCE   "Subclause 11.13.12 in IEEE Std 802.16-2004"
        ::= { wmanIf2BsServiceClassEntry 20 }

wmanIf2BsQoSServiceClassRowStatus OBJECT-TYPE
        SYNTAX      RowStatus
        MAX-ACCESS  read-create
        STATUS      current
        DESCRIPTION
            "This object is used to create a new row or modify or
             delete an existing row in this table.

             If the implementator of this MIB has choosen not
             to implement 'dynamic assignment' of profiles, this
             object is not useful and should return noSuchName
             upon SNMP request."
        ::= { wmanIf2BsServiceClassEntry 21 }

wmanIf2BsClassifierRuleTable OBJECT-TYPE
        SYNTAX      SEQUENCE OF WmanIf2BsClassifierRuleEntry
        MAX-ACCESS  not-accessible
        STATUS      current
        DESCRIPTION
            "This table contains packet classifier rules associated
             with service flows."
        REFERENCE
            "Subclause 11.13.19.3.4 in IEEE Std 802.16-2004"
        ::= { wmanIf2BsPacketCs 4 }

wmanIf2BsClassifierRuleEntry OBJECT-TYPE
        SYNTAX      WmanIf2BsClassifierRuleEntry
        MAX-ACCESS  not-accessible
        STATUS      current
        DESCRIPTION
           "This table provides one row for each packet classifier
            rule, and is indexed by ifIndex, wmanIf2BsSfId, and
            wmanIf2BsClassifierRuleIndex. IfIdex is associated with
            the BS sector. wmanIf2BsSfId identifies the service flow,
            while wmanIf2BsClassifierRuleIndex identifies the packet
            classifier rule."
        INDEX { ifIndex, wmanIf2BsSfId, wmanIf2BsClassifierRuleIndex }
        ::= { wmanIf2BsClassifierRuleTable 1 }

WmanIf2BsClassifierRuleEntry::= SEQUENCE {
        wmanIf2BsClassifierRuleIndex            Unsigned32,
        wmanIf2BsClassifierRulePriority         INTEGER,
        wmanIf2BsClassifierRuleIpTosLow         INTEGER,
        wmanIf2BsClassifierRuleIpTosHigh        INTEGER,
        wmanIf2BsClassifierRuleIpTosMask        INTEGER,
        wmanIf2BsClassifierRuleIpProtocol       Integer32,
        wmanIf2BsClassifierRuleIpSourceAddr     InetAddress,
        wmanIf2BsClassifierRuleIpSourceMask     InetAddress,
        wmanIf2BsClassifierRuleIpDestAddr       InetAddress,
        wmanIf2BsClassifierRuleIpDestMask       InetAddress,
        wmanIf2BsClassifierRuleSourcePortStart  Integer32,
        wmanIf2BsClassifierRuleSourcePortEnd    Integer32,
        wmanIf2BsClassifierRuleDestPortStart    Integer32,
        wmanIf2BsClassifierRuleDestPortEnd      Integer32,
        wmanIf2BsClassifierRuleDestMacAddr      MacAddress,
        wmanIf2BsClassifierRuleDestMacMask      MacAddress,
        wmanIf2BsClassifierRuleSourceMacAddr    MacAddress,
        wmanIf2BsClassifierRuleSourceMacMask    MacAddress,
        wmanIf2BsClassifierRuleEnetProtocolType INTEGER,
        wmanIf2BsClassifierRuleEnetProtocol     Integer32,
        wmanIf2BsClassifierRuleUserPriLow       Integer32,
        wmanIf2BsClassifierRuleUserPriHigh      Integer32,
        wmanIf2BsClassifierRuleVlanId           Integer32,
        wmanIf2BsClassifierRuleState            INTEGER,
        wmanIf2BsClassifierRulePhsSize          Integer32,
        wmanIf2BsClassifierRulePhsMask          OCTET STRING,
        wmanIf2BsClassifierRulePhsVerify        WmanIf2PhsRuleVerify,
        wmanIf2BsClassifierRuleIpv6FlowLabel    WmanIf2Ipv6FlowLabel,
        wmanIf2BsClassifierRuleBitMap           WmanIf2ClassifierBitMap,
        wmanIf2BsClassifierRuleRowStatus        RowStatus}

wmanIf2BsClassifierRuleIndex  OBJECT-TYPE
        SYNTAX      Unsigned32 (1..4294967295)
        MAX-ACCESS  not-accessible
        STATUS      current
        DESCRIPTION
            "An index is assigned to a classifier in BS classifiers
             table"
        ::= { wmanIf2BsClassifierRuleEntry 1 }

wmanIf2BsClassifierRulePriority OBJECT-TYPE
        SYNTAX      INTEGER (0..255)
        MAX-ACCESS  read-create
        STATUS      current
        DESCRIPTION
            "The value specifies the priority for the Classifier, which
             is used for determining the order of the Classifier. A
             higher value indicates higher priority. Classifiers may
             have priorities in the range 0..255."
        REFERENCE
            "Subclause 11.13.19.3.4.1 in IEEE Std 802.16-2004"
        DEFVAL      { 0 }
        ::= { wmanIf2BsClassifierRuleEntry 2 }

wmanIf2BsClassifierRuleIpTosLow OBJECT-TYPE
        SYNTAX      INTEGER (0..255)
        MAX-ACCESS  read-create
        STATUS      current
        DESCRIPTION
            "The low value of a range of TOS byte values. If the
            referenced parameter is not present in a classifier, this
            object reports the value of 0."
        REFERENCE
            "Subclause 11.13.19.3.4.2 in IEEE Std 802.16-2004"
        ::= { wmanIf2BsClassifierRuleEntry 3 }

wmanIf2BsClassifierRuleIpTosHigh OBJECT-TYPE
        SYNTAX      INTEGER (0..255)
        MAX-ACCESS  read-create
        STATUS      current
        DESCRIPTION
            "The 8-bit high value of a range of TOS byte values.
             If the referenced parameter is not present in a classifier,
             this object reports the value of 0."
        REFERENCE
            "Subclause 11.13.19.3.4.2 in IEEE Std 802.16-2004"
        ::= { wmanIf2BsClassifierRuleEntry 4 }

wmanIf2BsClassifierRuleIpTosMask OBJECT-TYPE
```

```
        SYNTAX      INTEGER (0..255)
        MAX-ACCESS  read-create
        STATUS      current
        DESCRIPTION
            "The value of this object specifies the matching parameter
             for the IP type of service/DSCP [IETF RFC 2474] byte mask.
             An IP packet with IP type of service (ToS) byte value
             ip-tos matches this parameter if tos-low less than or
             equal (ip-tos AND tos-mask) less than or equal tos-high."
        REFERENCE
            "Subclause 11.13.19.3.4.2 in IEEE Std 802.16-2004"
        ::= { wmanIf2BsClassifierRuleEntry 5 }

wmanIf2BsClassifierRuleIpProtocol OBJECT-TYPE
        SYNTAX      Integer32 (0..255)
        MAX-ACCESS  read-create
        STATUS      current
        DESCRIPTION
            "This object indicates the value of the IP Protocol field
             required for IP packets to match this rule. If the
             referenced parameter is not present in a classifier, this
             object reports the value of 0."
        REFERENCE
            "Subclause 11.13.19.3.4.3 in IEEE Std 802.16-2004"
        ::= { wmanIf2BsClassifierRuleEntry 6 }

wmanIf2BsClassifierRuleIpSourceAddr OBJECT-TYPE
        SYNTAX      InetAddress
        MAX-ACCESS  read-create
        STATUS      current
        DESCRIPTION
            "This object specifies the value of the IP Source Address
             required for packets to match this rule. An IP packet
             matches the rule when the packet ip source address bitwise
             ANDed with the wmanIf2BsClassifierRuleIpSourceMask value
             equals the wmanIf2BsClassifierRuleIpSourceAddr value.
             If the referenced parameter is not present in a classifier,
             this object reports the value of 0.0.0.0."
        REFERENCE
            "Subclause 11.13.19.3.4.4 in IEEE Std 802.16-2004"
        ::= { wmanIf2BsClassifierRuleEntry 7 }

wmanIf2BsClassifierRuleIpSourceMask OBJECT-TYPE
        SYNTAX      InetAddress
        MAX-ACCESS  read-create
        STATUS      current
        DESCRIPTION
            "This object specifies which bits of a packet's IP Source
             Address that are compared to match this rule. An IP packet
             matches the rule when the packet source address bitwise
             ANDed with the
             wmanIf2BsClassifierRuleIpSourceMask value equals the
             wmanIf2BsClassifierRuleIpSourceAddr value.
             If the referenced parameter is not present in a classifier,
             this object reports the value of 0.0.0.0."
        REFERENCE
            "Subclause 11.13.19.3.4.4 in IEEE Std 802.16-2004"
        ::= { wmanIf2BsClassifierRuleEntry 8 }

wmanIf2BsClassifierRuleIpDestAddr OBJECT-TYPE
        SYNTAX      InetAddress
        MAX-ACCESS  read-create
        STATUS      current
        DESCRIPTION
            "This object specifies the value of the IP Destination
             Address required for packets to match this rule. An IP
             packet matches the rule when the packet IP destination
             address bitwise ANDed with the
             wmanIf2BsClassifierRuleIpDestMask value equals the
             wmanIf2BsClassifierRuleIpDestAddr value.
             If the referenced parameter is not present in a
             classifier, this object reports the value of 0.0.0.0."
        REFERENCE
            "Subclause 11.13.19.3.4.5 in IEEE Std 802.16-2004"
        ::= { wmanIf2BsClassifierRuleEntry 9 }

wmanIf2BsClassifierRuleIpDestMask OBJECT-TYPE
        SYNTAX      InetAddress
        MAX-ACCESS  read-create
        STATUS      current
        DESCRIPTION
            "This object specifies which bits of a packet's IP
             Destination Address that are compared to match this rule.
             An IP packet matches the rule when the packet destination
             address bitwise ANDed with the
             wmanIf2BsClassifierRuleIpDestMask value equals the
             wmanIf2BsClassifierRuleIpDestAddr value.
             If the referenced parameter is not present in a classifier
             , this object reports the value of 0.0.0.0."
        REFERENCE
            "Subclause 11.13.19.3.4.5 in IEEE Std 802.16-2004"
        ::= { wmanIf2BsClassifierRuleEntry 10 }

wmanIf2BsClassifierRuleSourcePortStart OBJECT-TYPE
        SYNTAX      Integer32 (0..65535)
        MAX-ACCESS  read-create
        STATUS      current
        DESCRIPTION
            "This object specifies the low end inclusive range of
             TCP/UDP source port numbers to which a packet is compared.
             This object is irrelevant for non-TCP/UDP IP packets.
             If the referenced parameter is not present in a
             classifier, this object reports the value of 0."
        REFERENCE
            "Subclause 11.13.19.3.4.6 in IEEE Std 802.16-2004"
        ::= { wmanIf2BsClassifierRuleEntry 11 }

wmanIf2BsClassifierRuleSourcePortEnd OBJECT-TYPE
```

```
        SYNTAX      Integer32 (0..65535)
        MAX-ACCESS  read-create
        STATUS      current
        DESCRIPTION
            "This object specifies the high end inclusive range of
             TCP/UDP source port numbers to which a packet is compared.
             This object is irrelevant for non-TCP/UDP IP packets.
             If the referenced parameter is not present in a classifier,
             this object reports the value of 65535."
        REFERENCE
            "Subclause 11.13.19.3.4.6 in IEEE Std 802.16-2004"
        ::= { wmanIf2BsClassifierRuleEntry 12 }

wmanIf2BsClassifierRuleDestPortStart OBJECT-TYPE
        SYNTAX      Integer32 (0..65535)
        MAX-ACCESS  read-create
        STATUS      current
        DESCRIPTION
            "This object specifies the low end inclusive range of
             TCP/UDP destination port numbers to which a packet is
             compared. If the referenced parameter is not present
             in a classifier, this object reports the value of 0."
        REFERENCE
            "Subclause 11.13.19.3.4.7 in IEEE Std 802.16-2004"
        ::= { wmanIf2BsClassifierRuleEntry 13 }

wmanIf2BsClassifierRuleDestPortEnd OBJECT-TYPE
        SYNTAX      Integer32 (0..65535)
        MAX-ACCESS  read-create
        STATUS      current
        DESCRIPTION
            "This object specifies the high end inclusive range of
             TCP/UDP destination port numbers to which a packet is
             compared. If the referenced parameter is not present
             in a classifier, this object reports the value of
             65535."
        REFERENCE
            "Subclause 11.13.19.3.4.7 in IEEE Std 802.16-2004"
        ::= { wmanIf2BsClassifierRuleEntry 14 }

wmanIf2BsClassifierRuleDestMacAddr OBJECT-TYPE
        SYNTAX      MacAddress
        MAX-ACCESS  read-create
        STATUS      current
        DESCRIPTION
            "An Ethernet packet matches an entry when its destination
             MAC address bitwise ANDed with
             wmanIf2BsClassifierRuleDestMacMask equals the value of
             wmanIf2BsClassifierRuleDestMacAddr. If the referenced
             parameter is not present in a classifier, this object
             reports the value of '000000000000'H."
        REFERENCE
            "Subclause 11.13.19.3.4.8 in IEEE Std 802.16-2004"
        ::= { wmanIf2BsClassifierRuleEntry 15 }
```

```
wmanIf2BsClassifierRuleDestMacMask OBJECT-TYPE
        SYNTAX      MacAddress
        MAX-ACCESS  read-create
        STATUS      current
        DESCRIPTION
            "An Ethernet packet matches an entry when its destination
             MAC address bitwise ANDed with
             wmanIf2BsClassifierRuleDestMacMask equals the value of
             wmanIf2BsClassifierRuleDestMacAddr. If the referenced
             parameter is not present in a classifier, this object
             reports the value of '000000000000'H."
        REFERENCE
            "Subclause 11.13.19.3.4.8 in IEEE Std 802.16-2004"
        ::= { wmanIf2BsClassifierRuleEntry 16 }

wmanIf2BsClassifierRuleSourceMacAddr OBJECT-TYPE
        SYNTAX      MacAddress
        MAX-ACCESS  read-create
        STATUS      current
        DESCRIPTION
            "An Ethernet packet matches this entry when its source
             MAC address  bitwise ANDed with
             wmanIf2BsClassifierRuleSourceMacMask equals the value
             of wmanIf2BsClassifierRuleSourceMacAddr. If the
             referenced parameter is not present in a classifier,
             this object reports the value of '000000000000'H."
        REFERENCE
            "Subclause 11.13.19.3.4.9 in IEEE Std 802.16-2004"
        ::= { wmanIf2BsClassifierRuleEntry 17 }

wmanIf2BsClassifierRuleSourceMacMask OBJECT-TYPE
        SYNTAX      MacAddress
        MAX-ACCESS  read-create
        STATUS      current
        DESCRIPTION
            "An Ethernet packet matches an entry when its source
             MAC address bitwise ANDed with
             wmanIf2BsClassifierRuleSourceMacMask equals the value of
             wmanIf2BsClassifierRuleSourceMacAddr. If the referenced
             parameter is not present in a classifier, this object
             reports the value of '000000000000'H."
        REFERENCE
            "Subclause 11.13.19.3.4.9 in IEEE Std 802.16-2004"
        ::= { wmanIf2BsClassifierRuleEntry 18 }

wmanIf2BsClassifierRuleEnetProtocolType OBJECT-TYPE
        SYNTAX      INTEGER {none(0),
                             ethertype(1),
                             dsap(2)}
        MAX-ACCESS  read-create
        STATUS      current
        DESCRIPTION
            "This object indicates the format of the layer 3 protocol
```

```
             id in the Ethernet packet. A value of none(0) means that
             the rule does not use the layer 3 protocol type as a
             matching criteria. A value of ethertype(1) means that the
             rule applies only to frames which contains an EtherType
             value. Ethertype values are contained in packets using
             the Dec-Intel-Xerox (DIX) encapsulation or the RFC1042
             Sub-Network Access Protocol (SNAP) encapsulation formats.
             A value of dsap(2) means that the rule applies only to
             frames using the IEEE802.3 encapsulation format with a
             Destination Service Access Point (DSAP) other than 0xAA
             (which is reserved for SNAP). If the Ethernet frame
             contains an 802.1P/Q Tag header (i.e. EtherType 0x8100),
             this object applies to the embedded EtherType field within
             the 802.1P/Q header. If the referenced parameter is not
             present in a classifier, this object reports the value of
             0."
        REFERENCE
            "Subclause 11.13.19.3.4.10 in IEEE Std 802.16-2004"
        ::= { wmanIf2BsClassifierRuleEntry 19 }

wmanIf2BsClassifierRuleEnetProtocol OBJECT-TYPE
        SYNTAX      Integer32 (0..65535)
        MAX-ACCESS  read-create
        STATUS      current
        DESCRIPTION
            "If wmanIf2BsClassifierRuleEnetProtocolType is none(0),
             this object is ignored when considering whether a packet
             matches the current rule.
             If wmanIf2BsClassifierRuleEnetProtocolType is ethertype(1),
             this object gives the 16-bit value of the EtherType that
             the packet must match in order to match the rule.
             If wmanIf2BsClassifierRuleEnetProtocolType is dsap(2), the
             lower 8 bits of this object's value must match the DSAP
             byte of the packet in order to match the rule.
             If the Ethernet frame contains an 802.1P/Q Tag header
             (i.e. EtherType 0x8100), this object applies to the
             embedded EtherType field within the 802.1P/Q header.
             If the referenced parameter is not present in the
             classifier, the value of this object is reported as 0."
        REFERENCE
            "Subclause 11.13.19.3.4.10 in IEEE Std 802.16-2004"
        ::= { wmanIf2BsClassifierRuleEntry 20 }

wmanIf2BsClassifierRuleUserPriLow OBJECT-TYPE
        SYNTAX      Integer32 (0..7)
        MAX-ACCESS  read-create
        STATUS      current
        DESCRIPTION
            "This object applies only to Ethernet frames using the
             802.1P/Q tag header (indicated with EtherType 0x8100).
             Such frames include a 16-bit Tag that contains a 3 bit
             Priority field and a 12 bit VLAN number.
             Tagged Ethernet packets must have a 3-bit Priority field
             within the range of wmanIf2BsClassifierRuleUserPriLow and
             wmanIf2BsClassifierRuleUserPriHigh in order to match this
             rule.
             If the referenced parameter is not present in the
             classifier, the value of this object is reported as 0."
        REFERENCE
            "Subclause 11.13.19.3.4.11 in IEEE Std 802.16-2004"
        ::= { wmanIf2BsClassifierRuleEntry 21 }

wmanIf2BsClassifierRuleUserPriHigh OBJECT-TYPE
        SYNTAX      Integer32 (0..7)
        MAX-ACCESS  read-create
        STATUS      current
        DESCRIPTION
            "This object applies only to Ethernet frames using the
             802.1P/Q tag header (indicated with EtherType 0x8100).
             Such frames include a 16-bit Tag that contains a 3 bit
             Priority field and a 12 bit VLAN number.
             Tagged Ethernet packets must have a 3-bit Priority
             field within the range of wmanIf2BsClassifierRuleUserPriLow
             and wmanIf2BsClassifierRuleUserPriHigh in order to match
             this rule.
             If the referenced parameter is not present in the
             classifier, the value of this object is reported as 7."
        REFERENCE
            "Subclause 11.13.19.3.4.11 in IEEE Std 802.16-2004"
        ::= { wmanIf2BsClassifierRuleEntry 22 }

wmanIf2BsClassifierRuleVlanId OBJECT-TYPE
        SYNTAX      Integer32 (0..4095)
        MAX-ACCESS  read-create
        STATUS      current
        DESCRIPTION
            "This object applies only to Ethernet frames using the
             802.1P/Q tag header.
             If this object's value is nonzero, tagged packets must
             have a VLAN Identifier that matches the value in order
             to match the rule.
             Only the least significant 12 bits of this object's
             value are valid.
             If the referenced parameter is not present in the
             classifier, the value of this object is reported as 0."
        REFERENCE
            "Subclause 11.13.19.3.4.12 in IEEE Std 802.16-2004"
        ::= { wmanIf2BsClassifierRuleEntry 23 }

wmanIf2BsClassifierRuleState OBJECT-TYPE
        SYNTAX      INTEGER {active(1),
                             inactive(2)}
        MAX-ACCESS  read-create
        STATUS      deprecated
        DESCRIPTION
            "This object indicates whether or not the classifier is
             enabled to classify packets to a Service Flow.
             If the referenced parameter is not present in the
             classifier, the value of this object is reported
             as active(1)."
        ::= { wmanIf2BsClassifierRuleEntry 24 }

wmanIf2BsClassifierRulePhsSize OBJECT-TYPE
        SYNTAX      Integer32 (0..255)
        UNITS       "byte"
        MAX-ACCESS  read-create
        STATUS      current
        DESCRIPTION
            "This object is used to configure the PHS rule for this
             classifer. The value of this field - PHSS is the total
             number of bytes in the header to be suppressed and then
             restored in a service flow that uses PHS. If the value of
             this field is 0 bytes then PHS is disabled for this
             classifer. If flag phsMask in wmanIf2BsClassifierRuleBitMap
             is set to 0 and flag phsSize in
            wmanIf2BsClassifierRuleBitMap is set to 0, then BS can still
             create PHS rules using its own custom mask (i.e. the rule
             is not configured by NMS)."
        REFERENCE
            "Subclause 11.13.19.3.7.4 in IEEE Std 802.16-2004"
        DEFVAL      {0}
        ::= { wmanIf2BsClassifierRuleEntry 25 }

wmanIf2BsClassifierRulePhsMask OBJECT-TYPE
        SYNTAX      OCTET STRING (SIZE(0..65535))
        MAX-ACCESS  read-create
        STATUS      current
        DESCRIPTION
            "This object is used to configure the PHS rule for this
             classifer. It is encoded as follows:
             bit 0:
                0 = don't suppress the 1st byte of the suppression field
                1 = suppress first byte of the suppression field
             bit 1:
                0 = don't suppress the 2nd byte of the suppression field
                1 = suppress second byte of the suppression field
             bit x:
                0 = don't suppress the (x+1) byte of the suppression
                    field
                1 = suppress (x+1) byte of the suppression field
             where the length of the octet string is ceiling
            (wmanIf2BsClassifierRulePhsSize/8). BS should use this value
             to create a new PHS rule index (PHSI) and field (PHSF) as
             defined in the standard. If flag phsMask in
             wmanIf2BsClassifierRuleBitMap is set to 0 and flag phsSize
             in wmanIf2BsClassifierRuleBitMap is set to 0, then BS can
             still create PHS rules using its own custom mask (i.e. the
             rule is not configured by NMS)."
        REFERENCE
            "Subclause 11.13.19.3.7.3 in IEEE Std 802.16-2004"
        ::= { wmanIf2BsClassifierRuleEntry 26 }
```

```
wmanIf2BsClassifierRulePhsVerify OBJECT-TYPE
        SYNTAX      WmanIf2PhsRuleVerify
        MAX-ACCESS  read-create
        STATUS      current
        DESCRIPTION
            "The value of this field indicates to the sending entity
             whether or not the packet header contents are to be
             verified prior to performing suppression."
        DEFVAL      { phsVerifyEnable }
        ::= { wmanIf2BsClassifierRuleEntry 27 }

wmanIf2BsClassifierRuleIpv6FlowLabel OBJECT-TYPE
        SYNTAX      WmanIf2Ipv6FlowLabel
        MAX-ACCESS  read-create
        STATUS      current
        DESCRIPTION
            "The value of this field specifies the matching values for
             the IPv6 Flow label field."
        ::= { wmanIf2BsClassifierRuleEntry 28 }

wmanIf2BsClassifierRuleBitMap OBJECT-TYPE
        SYNTAX      WmanIf2ClassifierBitMap
        MAX-ACCESS  read-create
        STATUS      current
        DESCRIPTION
            "This object indicates which parameter encodings were
             actually present in the entry. A bit set to '1' indicates
             the corresponding classifier encoding is present, and '0'
             means otherwise"
        ::= { wmanIf2BsClassifierRuleEntry 29 }

wmanIf2BsClassifierRuleRowStatus OBJECT-TYPE
        SYNTAX      RowStatus
        MAX-ACCESS  read-create
        STATUS      current
        DESCRIPTION
            "This object is used to create a new row or modify or
             delete an existing row in this table.

             If the implementator of this MIB has choosen not
             to implement 'dynamic assignment' of profiles, this
             object is not useful and should return noSuchName
             upon SNMP request."
        ::= { wmanIf2BsClassifierRuleEntry 30 }

wmanIf2BsSsPacketCounterTable OBJECT-TYPE
        SYNTAX      SEQUENCE OF WmanIf2BsSsPacketCounterEntry
        MAX-ACCESS  not-accessible
        STATUS      current
        DESCRIPTION
            "This table contains counters to keep track of the number
             of packets and octets that have been received or
             transmitted on the per service flow basis."
        ::= { wmanIf2BsPacketCs 5 }
```

```
wmanIf2BsSsPacketCounterEntry OBJECT-TYPE
        SYNTAX      WmanIf2BsSsPacketCounterEntry
        MAX-ACCESS  not-accessible
        STATUS      current
        DESCRIPTION
           "This table provides one row for each service flow, and
            is indexed by ifIndex, wmanIf2CmnCpsSfMacAddress, and
            wmanIf2CmnCpsSfId."
        INDEX { ifIndex, wmanIf2CmnCpsSfMacAddress,
                wmanIf2CmnCpsSfId }
        ::= { wmanIf2BsSsPacketCounterTable 1 }

WmanIf2BsSsPacketCounterEntry::= SEQUENCE {
        wmanIf2BsSsMacSduCount                  Counter64,
        wmanIf2BsSsOctetCount                   Counter64,
        wmanIf2BsSsResetCounter                 INTEGER,
        wmanIf2BsSsResetCounterTime             TimeStamp}

wmanIf2BsSsMacSduCount OBJECT-TYPE
        SYNTAX      Counter64
        MAX-ACCESS  read-only
        STATUS      current
        DESCRIPTION
            "This object counts the number of MAC SDUs that have
             been transmitted or received."
        ::= { wmanIf2BsSsPacketCounterEntry 1 }

wmanIf2BsSsOctetCount OBJECT-TYPE
        SYNTAX      Counter64
        MAX-ACCESS  read-only
        STATUS      current
        DESCRIPTION
            "This object counts the number of octets of MAC SDUs
             that have been transmitted or received."
        ::= { wmanIf2BsSsPacketCounterEntry 2 }

wmanIf2BsSsResetCounter OBJECT-TYPE
        SYNTAX      INTEGER {null(0),
                             resetCounter(1)}
        MAX-ACCESS  read-write
        STATUS      current
        DESCRIPTION
            "When this attribute is SET to resetCounter(1), the
             corresponding entry of packet counters will be reset.
             A GET operation performed on this object will always
             return null(0). The counter is normally reset after
             the packet count information is retrieved. "
        ::= { wmanIf2BsSsPacketCounterEntry 3 }

wmanIf2BsSsResetCounterTime OBJECT-TYPE
        SYNTAX      TimeStamp
        MAX-ACCESS  read-only
        STATUS      current
        DESCRIPTION
            "Indicates the date and time when the counter is
             reset."
        ::= { wmanIf2BsSsPacketCounterEntry 4 }

--
-- wmanIf2BsCps contain the Base Station Common Part Sublayer objects
--
wmanIf2BsCps OBJECT IDENTIFIER ::= { wmanIf2BsObjects 2 }

wmanIf2BsRegisteredSsTable OBJECT-TYPE
        SYNTAX      SEQUENCE OF WmanIf2BsRegisteredSsEntry
        MAX-ACCESS  not-accessible
        STATUS      current
        DESCRIPTION
            "This table contains the basic capability information
             of SSs that have been negotiated and agreed between
             BS and SS via REG-REQ and REG-RSP messages. An entry
             in this table indicates the SS has entered and registered
             into the BS."
        REFERENCE
            "Subclause 6.3.2.3.7 in IEEE Std 802.16-2004"
        ::= { wmanIf2BsCps 1 }

wmanIf2BsRegisteredSsEntry OBJECT-TYPE
        SYNTAX      WmanIf2BsRegisteredSsEntry
        MAX-ACCESS  not-accessible
        STATUS      current
        DESCRIPTION
            "This table provides one row for each SS that has been
             registered in the BS, and is indexed by
             wmanIf2BsSsMacAddress. The primary index is the ifIndex
             with an ifType of propBWAp2Mp, indicating the BS sector
             with which the SS is associated. wmanIf2BsSsMacAddress
             identifies the SS being registered."
        INDEX { ifIndex, wmanIf2BsSsMacAddress }
        ::= { wmanIf2BsRegisteredSsTable 1 }

WmanIf2BsRegisteredSsEntry ::= SEQUENCE {
        wmanIf2BsSsMacAddress                   MacAddress,
        wmanIf2BsSsBasicCid                     WmanIf2CidType,
        wmanIf2BsSsPrimaryCid                   WmanIf2CidType,
        wmanIf2BsSsSecondaryCid                 WmanIf2CidType,
        wmanIf2BsSsManagementSupport            INTEGER,
        wmanIf2BsSsIpManagementMode             INTEGER,
        wmanIf2BsSs2ndMgmtArqEnable             TruthValue,
        wmanIf2BsSs2ndMgmtArqWindowSize         INTEGER,
        wmanIf2BsSs2ndMgmtArqDnLinkTxDelay      INTEGER,
        wmanIf2BsSs2ndMgmtArqUpLinkTxDelay      INTEGER,
        wmanIf2BsSs2ndMgmtArqDnLinkRxDelay      INTEGER,
        wmanIf2BsSs2ndMgmtArqUpLinkRxDelay      INTEGER,
        wmanIf2BsSs2ndMgmtArqBlockLifetime      INTEGER,
        wmanIf2BsSs2ndMgmtArqSyncLossTimeout    INTEGER,
        wmanIf2BsSs2ndMgmtArqDeliverInOrder     TruthValue,
        wmanIf2BsSs2ndMgmtArqRxPurgeTimeout     INTEGER,
        wmanIf2BsSs2ndMgmtArqBlockSize          INTEGER,
        wmanIf2BsSsVendorIdEncoding             OCTET STRING,
        wmanIf2BsSsAasBroadcastPermission       INTEGER,
        wmanIf2BsSsMaxTxPowerBpsk               WmanIf2MaxTxPowerType,
        wmanIf2BsSsMaxTxPowerQpsk               WmanIf2MaxTxPowerType,
        wmanIf2BsSsMaxTxPower16Qam              WmanIf2MaxTxPowerType,
        wmanIf2BsSsMaxTxPower64Qam              WmanIf2MaxTxPowerType,
        wmanIf2BsSsMacVersion                   WmanIf2MacVersion}

wmanIf2BsSsMacAddress OBJECT-TYPE
        SYNTAX      MacAddress
        MAX-ACCESS  not-accessible
        STATUS      current
        DESCRIPTION
            "The MAC address of SS is received from the RNG-REQ
             message. When SS registers, this MAC address is entered
             into the table, and used as the identifier to the SS."
        REFERENCE
            "Subclause 6.3.2.3.5 in IEEE Std 802.16-2004"
        ::= { wmanIf2BsRegisteredSsEntry 1 }

wmanIf2BsSsBasicCid OBJECT-TYPE
        SYNTAX      WmanIf2CidType
        MAX-ACCESS  read-only
        STATUS      current
        DESCRIPTION
            "The value of this object indicates the SS's basic CID
             that was sent in the RNG-RSP message."
        REFERENCE
            "Subclause 6.3.2.3.6 in IEEE Std 802.16-2004"
        ::= { wmanIf2BsRegisteredSsEntry 2 }

wmanIf2BsSsPrimaryCid OBJECT-TYPE
        SYNTAX      WmanIf2CidType
        MAX-ACCESS  read-only
        STATUS      current
        DESCRIPTION
            "The value of this object indicates the primary CID of the
             SS received from the RNG-RSP message."
        REFERENCE
            "Subclause 6.3.2.3.6 in IEEE Std 802.16-2004"
        ::= { wmanIf2BsRegisteredSsEntry 3 }

wmanIf2BsSsSecondaryCid OBJECT-TYPE
        SYNTAX      WmanIf2CidType
        MAX-ACCESS  read-only
        STATUS      current
        DESCRIPTION
            "The value of this object indicates the secondary
             management CID present in the REG-RSP message. The value
             should be null if the 2nd management connection is not
             available."
        REFERENCE
```

```
            "Subclause 6.4.2.3.8 in IEEE Std 802.16-2004"
        ::= { wmanIf2BsRegisteredSsEntry 4 }

wmanIf2BsSsManagementSupport OBJECT-TYPE
        SYNTAX      INTEGER {unmanagedSs(0),
                             managedSs(1)}
        MAX-ACCESS  read-only
        STATUS      current
        DESCRIPTION
            "This object indicates whether or not the SS is managed."
        REFERENCE
            "Subclause 11.7.2 in IEEE Std 802.16-2004"
        ::= { wmanIf2BsRegisteredSsEntry 5 }

wmanIf2BsSsIpManagementMode OBJECT-TYPE
        SYNTAX      INTEGER {unmanaged(0),
                             ipManaged(1)}
        MAX-ACCESS  read-only
        STATUS      current
        DESCRIPTION
            "The IP management mode parameter dictates whether
             the provider intends to manage the SS on an ongoing
             basis via IP-based mechanisms."
        REFERENCE
            "Subclause 11.7.3 in IEEE Std 802.16-2004"
        ::= { wmanIf2BsRegisteredSsEntry 6 }

wmanIf2BsSs2ndMgmtArqEnable OBJECT-TYPE
        SYNTAX      TruthValue
        MAX-ACCESS  read-only
        STATUS      current
        DESCRIPTION
            "True(1) ARQ enabling is requested for the 2nd
             management channel."
        REFERENCE
            "Subclause 11.13.18.1 in IEEE Std 802.16-2004"
        ::= { wmanIf2BsRegisteredSsEntry 7 }

wmanIf2BsSs2ndMgmtArqWindowSize OBJECT-TYPE
        SYNTAX      INTEGER (1 .. 1024)
        MAX-ACCESS  read-only
        STATUS      current
        DESCRIPTION
            "Indicates the maximum number of unacknowledged
             fragments at any time for 2nd management connection."
        REFERENCE
            "Subclause 11.13.18.2 in IEEE Std 802.16-2004"
        ::= { wmanIf2BsRegisteredSsEntry 8 }

wmanIf2BsSs2ndMgmtArqDnLinkTxDelay OBJECT-TYPE
        SYNTAX      INTEGER (0 .. 65535)
        UNITS       "us"
        MAX-ACCESS  read-only
        STATUS      current
        DESCRIPTION
            "The object defines the ARQ transmitter delay for
             downlink transmission."
        REFERENCE
            "Subclause 11.13.18.3 in IEEE Std 802.16-2004"
        ::= { wmanIf2BsRegisteredSsEntry 9 }

wmanIf2BsSs2ndMgmtArqUpLinkTxDelay OBJECT-TYPE
        SYNTAX      INTEGER (0 .. 65535)
        UNITS       "us"
        MAX-ACCESS  read-only
        STATUS      current
        DESCRIPTION
            "The object defines the ARQ transmitter delay for
             uplink transmission."
        REFERENCE
            "Subclause 11.13.18.3 in IEEE Std 802.16-2004"
        ::= { wmanIf2BsRegisteredSsEntry 10 }

wmanIf2BsSs2ndMgmtArqDnLinkRxDelay OBJECT-TYPE
        SYNTAX      INTEGER (0 .. 65535)
        UNITS       "us"
        MAX-ACCESS  read-only
        STATUS      current
        DESCRIPTION
            "The object defines the ARQ receiver delay for
             downlink transmission."
        REFERENCE
            "Subclause 11.13.18.3 in IEEE Std 802.16-2004"
        ::= { wmanIf2BsRegisteredSsEntry 11 }

wmanIf2BsSs2ndMgmtArqUpLinkRxDelay OBJECT-TYPE
        SYNTAX      INTEGER (0 .. 65535)
        UNITS       "us"
        MAX-ACCESS  read-only
        STATUS      current
        DESCRIPTION
            "The object defines the ARQ receiver delay for
             uplink transmission."
        REFERENCE
            "Subclause 11.13.18.3 in IEEE Std 802.16-2004"
        ::= { wmanIf2BsRegisteredSsEntry 12 }

wmanIf2BsSs2ndMgmtArqBlockLifetime OBJECT-TYPE
        SYNTAX      INTEGER (0 .. 65535)
        UNITS       "10 us"
        MAX-ACCESS  read-only
        STATUS      current
        DESCRIPTION
            "The maximum time interval an ARQ fragment will be
             managed by the transmitter ARQ machine, once
             initial transmission of the fragment has occured.
             If transmission or retransmission of the fragment
             is not acknowledged by the receiver before the
             time limit is reached, the fragment is discarded.
             A value of 0 means Infinite."
        REFERENCE
            "Subclause 11.13.18.4 in IEEE Std 802.16-2004"
        DEFVAL    {0}
        ::= { wmanIf2BsRegisteredSsEntry 13 }

wmanIf2BsSs2ndMgmtArqSyncLossTimeout OBJECT-TYPE
        SYNTAX      INTEGER (0 .. 65535)
        UNITS       "10 us"
        MAX-ACCESS  read-only
        STATUS      current
        DESCRIPTION
            "The maximum interval before declaring a loss
             of synchronization of the sender and receiver
             state machines. A value of 0 means Infinite."
        REFERENCE
            "Subclause 11.13.18.5 in IEEE Std 802.16-2004"
        DEFVAL    {0}
        ::= { wmanIf2BsRegisteredSsEntry 14 }

wmanIf2BsSs2ndMgmtArqDeliverInOrder  OBJECT-TYPE
        SYNTAX      TruthValue
        MAX-ACCESS  read-only
        STATUS      current
        DESCRIPTION
            "Indicates whether or not data is to be delivered
             by the receiving MAC to its client application
             in the order in which data was handed off to the
             originating MAC."
        REFERENCE
            "Subclause 11.13.18.6 in IEEE Std 802.16-2004"
        ::= { wmanIf2BsRegisteredSsEntry 15 }

wmanIf2BsSs2ndMgmtArqRxPurgeTimeout  OBJECT-TYPE
        SYNTAX      INTEGER (0 .. 65535)
        UNITS       "10 us"
        MAX-ACCESS  read-only
        STATUS      current
        DESCRIPTION
            "Indicates the time interval the ARQ window is advanced
             after a fragment is received. A value of 0 means Infinite."
        REFERENCE
            "Subclause 11.13.18.7 in IEEE Std 802.16-2004"
        DEFVAL    {0}
      ::= { wmanIf2BsRegisteredSsEntry 16 }

wmanIf2BsSs2ndMgmtArqBlockSize OBJECT-TYPE
        SYNTAX      INTEGER (1 .. 2040)
        MAX-ACCESS  read-only
        STATUS      current
        DESCRIPTION
            "This parameter specifies the size of a ARQ block. This
             parameter shall be established by negotiation during the
             connection setup. The requester includes its desired
             setting in the REQ message. The receiver of the REQ
             message shall take the smaller of the value it prefers and
             value in the REQ message. The minimum value is included in
             the RSP message."
        REFERENCE
            "Subclause 11.13.18.8 in IEEE Std 802.16-2004"
        ::= { wmanIf2BsRegisteredSsEntry 17 }

wmanIf2BsSsVendorIdEncoding OBJECT-TYPE
        SYNTAX      OCTET STRING (SIZE(3))
        MAX-ACCESS  read-only
        STATUS      current
        DESCRIPTION
            "The value field contains the vendor identification
             specified by the 3 byte vendor-specific organizationally
             unique identifier of the SS or BS MAC address.A vendor ID
             used in a REG-REQ shall be the Vendor ID of the SS sending
             the request. A vendor ID used in a REG-RSP shall be the
             Vendor ID of the BS sending the response."
        REFERENCE
            "Subclause 11.1.5 in IEEE Std 802.16-2004"
        ::= { wmanIf2BsRegisteredSsEntry 18 }

wmanIf2BsSsAasBroadcastPermission OBJECT-TYPE
        SYNTAX    INTEGER {contBasedBwReqPermitted(0),
                             contBasedBwReqNotPermitted(1)}
        MAX-ACCESS  read-only
        STATUS      current
        DESCRIPTION
            "This parameter specifies if SS can issue contention-based
             bandwidth request or not."
        REFERENCE
            "Subclause 11.6 in IEEE Std 802.16-2004"
        ::= { wmanIf2BsRegisteredSsEntry 19 }

wmanIf2BsSsMaxTxPowerBpsk OBJECT-TYPE
        SYNTAX      WmanIf2MaxTxPowerType
        MAX-ACCESS  read-only
        STATUS      current
        DESCRIPTION
            "The maximum available power for BPSK. The maximum power
             parameters are reported in dBm and quantized in 0.5 dBm
             steps ranging from -64 dBm (encoded 0x00) to 63.5 dBm
             (encoded 0xFF). Values outside this range shall be assigned
             the closest extreme. This parameter is only applicable to
             systems supporting the SCa, OFDM or OFDMA PHY."
        REFERENCE
            "Subclause 11.8.3.2 in IEEE Std 802.16-2004"
        ::= { wmanIf2BsRegisteredSsEntry 20 }

wmanIf2BsSsMaxTxPowerQpsk OBJECT-TYPE
        SYNTAX      WmanIf2MaxTxPowerType
        MAX-ACCESS  read-only
        STATUS      current
        DESCRIPTION
            "The maximum available power for QPSK. The maximum power
             parameters are reported in dBm and quantized in 0.5 dBm
             steps ranging from -64 dBm (encoded 0x00) to 63.5 dBm
             (encoded 0xFF). Values outside this range shall be assigned
             to closest extreme. This parameter is only applicable to
             systems supporting the SCa, OFDM or OFDMA PHY."
        REFERENCE
            "Subclause 11.8.3.2 in IEEE Std 802.16-2004"
        ::= { wmanIf2BsRegisteredSsEntry 21 }

wmanIf2BsSsMaxTxPower16Qam OBJECT-TYPE
        SYNTAX      WmanIf2MaxTxPowerType
        MAX-ACCESS  read-only
        STATUS      current
        DESCRIPTION
            "The maximum available power for 16-QAM constellations.
             The maximum power parameters are reported in dBm and
             quantized in 0.5 dBm steps ranging from -64 dBm (encoded
             0x00) to 63.5 dBm (encoded 0xFF). Values outside this
             range shall be assigned the closest extreme. This parameter
             is only applicable to systems supporting the SCa, OFDM or
             OFDMA PHY."
        REFERENCE
            "Subclause 11.8.3.2 in IEEE Std 802.16-2004"
        ::= { wmanIf2BsRegisteredSsEntry 22 }

wmanIf2BsSsMaxTxPower64Qam OBJECT-TYPE
        SYNTAX      WmanIf2MaxTxPowerType
        MAX-ACCESS  read-only
        STATUS      current
        DESCRIPTION
            "The maximum available power for 64-QAM constellations.
             The maximum power parameters are reported in dBm and
             quantized in 0.5 dBm steps ranging from -64 dBm (encoded
             0x00) to 63.5 dBm (encoded 0xFF). Values outside this
             range shall be assigned the closest extreme. SSs that do
             not support QAM64 shall report the value of 0x00. This
             parameter is only applicable to systems supporting the SCa,
             OFDM or OFDMA PHY."
        REFERENCE
            "Subclause 11.8.3.2 in IEEE Std 802.16-2004"
        ::= { wmanIf2BsRegisteredSsEntry 23 }

wmanIf2BsSsMacVersion OBJECT-TYPE
        SYNTAX      WmanIf2MacVersion
        MAX-ACCESS  read-only
        STATUS      current
        DESCRIPTION
            "This parameter specifies the version of 802.16 to which the
             message originator conforms."
        REFERENCE
            "Subclause 11.1.3 in IEEE Std 802.16-2004"
        ::= { wmanIf2BsRegisteredSsEntry 24 }

--
-- wmanIf2BsConfigurationTable contains global parameters common in BS
--
wmanIf2BsConfigurationTable OBJECT-TYPE
        SYNTAX      SEQUENCE OF WmanIf2BsConfigurationEntry
        MAX-ACCESS  not-accessible
        STATUS      current
        DESCRIPTION
            "This table provides one row for each BS sector that
             contains the BS system parameters as defined in Subclause
             10.1 of [3]. The objects in this table define the default
             behaviour of the BS for 2nd Management connection
             scheduling and SFID allocation as well as configuration
             parameters of the CPS scheduler and AAS system."
        REFERENCE
            "Subclause 10.1 in IEEE Std 802.16-2004"
        ::= { wmanIf2BsCps 2 }

wmanIf2BsConfigurationEntry OBJECT-TYPE
        SYNTAX      WmanIf2BsConfigurationEntry
        MAX-ACCESS  not-accessible
        STATUS      current
        DESCRIPTION
            "This table is indexed by ifIndex with an ifType of
             propBWAp2Mp."
        INDEX { ifIndex }
        ::= { wmanIf2BsConfigurationTable 1 }

WmanIf2BsConfigurationEntry ::= SEQUENCE {
        wmanIf2BsDcdInterval                    INTEGER,
        wmanIf2BsUcdInterval                    INTEGER,
        wmanIf2BsUcdTransition                  INTEGER,
        wmanIf2BsDcdTransition                  INTEGER,
        wmanIf2BsInitialRangingInterval         INTEGER,
        wmanIf2BsSsULMapProcTime                Unsigned32,
        wmanIf2BsSsRangRespProcTime             Unsigned32,
        wmanIf2BsT5Timeout                      INTEGER,
        wmanIf2BsT9Timeout                      INTEGER,
        wmanIf2BsT13Timeout                     INTEGER,
        wmanIf2BsT15Timeout                     INTEGER,
        wmanIf2BsT17Timeout                     INTEGER,
        wmanIf2BsT27IdleTimer                   Unsigned32,
        wmanIf2BsT27ActiveTimer                 Unsigned32,
        wmanIf2Bs2ndMgmtDlQoSProfileIndex       INTEGER,
        wmanIf2Bs2ndMgmtUlQoSProfileIndex       INTEGER,
        wmanIf2BsAutoSfidEnabled                INTEGER,
        wmanIf2BsAutoSfidRangeMin               Unsigned32,
        wmanIf2BsAutoSfidRangeMax               Unsigned32,
        wmanIf2BsAasChanFbckReqFreq             INTEGER,
        wmanIf2BsAasBeamSelectFreq              INTEGER,
        wmanIf2BsAasChanFbckReqResolution       INTEGER,
        wmanIf2BsAasBeamReqResolution           INTEGER,
        wmanIf2BsAasNumOptDiversityZones        INTEGER,
        wmanIf2BsResetSector                    INTEGER}

wmanIf2BsDcdInterval OBJECT-TYPE
        SYNTAX      INTEGER (0..10000)
        UNITS       "milliseconds"
        MAX-ACCESS  read-write
        STATUS      current
        DESCRIPTION
            "Time between transmission of DCD messages in ms."
        ::= { wmanIf2BsConfigurationEntry 1 }

wmanIf2BsUcdInterval OBJECT-TYPE
        SYNTAX      INTEGER (0..10000)
        UNITS       "milliseconds"
        MAX-ACCESS  read-write
        STATUS      current
        DESCRIPTION
            "Time between transmission of UCD messages in ms."
        ::= { wmanIf2BsConfigurationEntry 2 }

wmanIf2BsUcdTransition OBJECT-TYPE
        SYNTAX      INTEGER (2..65535)
        UNITS       "Number of MAC Frames"
        MAX-ACCESS  read-write
        STATUS      current
        DESCRIPTION
            "The time the BS shall wait after transmitting a UCD message
             with an incremented Configuration Change Count before
             issuing a UL-MAP message referring to
             Uplink_Burst_Profiles defined in that UCD message."
        ::= { wmanIf2BsConfigurationEntry 3 }

wmanIf2BsDcdTransition OBJECT-TYPE
        SYNTAX      INTEGER (2..65535)
        UNITS       "Number of MAC Frames"
        MAX-ACCESS  read-write
        STATUS      current
        DESCRIPTION
            "The time the BS shall wait after transmitting a DCD message
             with an incremented Configuration Change Count before
             issuing a DL-MAP message referring to
             Downlink_Burst_Profiles defined in that DCD message."
        ::= { wmanIf2BsConfigurationEntry 4 }

wmanIf2BsInitialRangingInterval OBJECT-TYPE
        SYNTAX      INTEGER(0..2000)
        UNITS       "milliseconds"
        MAX-ACCESS  read-write
        STATUS      current
        DESCRIPTION
            "Time between Initial Ranging regions assigned by the BS
             in ms."
        ::= { wmanIf2BsConfigurationEntry 5 }
```

```
wmanIf2BsSsULMapProcTime OBJECT-TYPE
        SYNTAX      Unsigned32 (200 .. 4294967295)
        UNITS       "micro seconds"
        MAX-ACCESS  read-write
        STATUS      current
        DESCRIPTION
            "Time provided between arrival of the last bit of a UL-MAP
             at an SS and effectiveness of that map in us."
        ::= { wmanIf2BsConfigurationEntry 6 }

wmanIf2BsSsRangRespProcTime OBJECT-TYPE
        SYNTAX      Unsigned32 (10000 .. 4294967295)
        UNITS       "micro seconds"
        MAX-ACCESS  read-write
        STATUS      current
        DESCRIPTION
            "Time allowed for an SS following receipt of a ranging
             response before it is expected to reply to an invited
             ranging request in us."
        ::= { wmanIf2BsConfigurationEntry 7 }

wmanIf2BsT5Timeout OBJECT-TYPE
        SYNTAX      INTEGER (0 .. 2000)
        UNITS       "milliseconds"
        MAX-ACCESS  read-write
        STATUS      current
        DESCRIPTION
            "Wait for Uplink Channel Change Response in ms."
        ::= { wmanIf2BsConfigurationEntry 8 }

wmanIf2BsT9Timeout OBJECT-TYPE
        SYNTAX      INTEGER (300 .. 65535)
        UNITS       "milliseconds"
        MAX-ACCESS  read-write
        STATUS      current
        DESCRIPTION
            "Registration Timeout, the time allowed between the BS
             sending a RNG-RSP (success) to an SS, and receiving a
             SBC-REQ from that same SS in ms."
        ::= { wmanIf2BsConfigurationEntry 9 }

wmanIf2BsT13Timeout OBJECT-TYPE
        SYNTAX      INTEGER (15 .. 65535)
        UNITS       "minutes"
        MAX-ACCESS  read-write
        STATUS      current
        DESCRIPTION
            "The time allowed for an SS, following receipt of a
             REG-RSP message to send a TFTP-CPLT message to the BS
             in min."
        ::= { wmanIf2BsConfigurationEntry 10 }

wmanIf2BsT15Timeout OBJECT-TYPE
```

```
        SYNTAX      INTEGER (20 .. 65535)
        UNITS       "milliseconds"
        MAX-ACCESS  read-write
        STATUS      current
        DESCRIPTION
            "Wait for MCA-RSP in ms."
        ::= { wmanIf2BsConfigurationEntry 11 }

wmanIf2BsT17Timeout OBJECT-TYPE
        SYNTAX      INTEGER (5 .. 65535)
        UNITS       "minutes"
        MAX-ACCESS  read-write
        STATUS      current
        DESCRIPTION
            "Time allowed for SS to complete SS Authorization and
              Key Exchange in minutes."
        ::= { wmanIf2BsConfigurationEntry 12 }

wmanIf2BsT27IdleTimer OBJECT-TYPE
        SYNTAX      Unsigned32 (10000 .. 4294967295)
        UNITS       "us"
        MAX-ACCESS  read-write
        STATUS      current
        DESCRIPTION
            "Maximum time between unicast grants to SS when BS believes
             SS uplink transmission quality is good enough."
        ::= { wmanIf2BsConfigurationEntry 13 }

wmanIf2BsT27ActiveTimer OBJECT-TYPE
        SYNTAX      Unsigned32 (10000 .. 4294967295)
        UNITS       "us"
        MAX-ACCESS  read-write
        STATUS      current
        DESCRIPTION
            "Maximum time between unicast grants to SS when BS believes
             SS uplink transmission quality is not good enough."
        ::= { wmanIf2BsConfigurationEntry 14 }


wmanIf2Bs2ndMgmtDlQoSProfileIndex OBJECT-TYPE
        SYNTAX      INTEGER (1..65535)
        MAX-ACCESS  read-write
        STATUS      current
        DESCRIPTION
            "This object defines the index of a row in
             wmanIf2BsServiceClassTable which is used to obtain all QoS
             parameters required for the BS downlink scheduler to
             properly allocate and manage the bandwidth and schedule
             the 2nd Management Connection traffic. The 2nd Management
             Connection traffic doesn't differ from Traffic Connection
             traffic in the area of QoS management."
         ::= { wmanIf2BsConfigurationEntry 15 }

wmanIf2Bs2ndMgmtUlQoSProfileIndex OBJECT-TYPE
```

```
        SYNTAX      INTEGER (1..65535)
        MAX-ACCESS  read-write
        STATUS      current
        DESCRIPTION
            "This object defines the index of a row in
             wmanIf2BsServiceClassTable which is used to obtain all QoS
             parameters required for the BS uplink scheduler to
             properly allocate and manage the bandwidth and schedule
             the 2nd Management Connection traffic. The 2nd Management
             Connection traffic doesn't differ from Traffic Connection
             traffic in the area of QoS management."
        ::= { wmanIf2BsConfigurationEntry 16 }

wmanIf2BsAutoSfidEnabled OBJECT-TYPE
        SYNTAX      INTEGER {autoSfidDisabled(0),
                             autoSfidEnabled(1)}
        MAX-ACCESS  read-write
        STATUS      current
        DESCRIPTION
            "This object defines whether the BS is allowed to
             autonomously allocate SFIDs. When the object is set to
             autoSfidEnabled, the BS is allowed to autonomously allocate
             SFIDs from the range of allowed values defined by
             wmanIf2BsConfigExtAutoSfidRangeMin and
             wmanIf2BsConfigExtAutoSfidRangeMax. A SF is created
             autonomously when it has not been provisioned in the
             wmanIf2BsProvisionedSfTable and may be initiated by either
             the SS or BS. The BS should always initiate SF creation
             based on the provisioned Service flows configured in
             wmanIf2BsProvisionedSfTable."
        REFERENCE
            "Subclause 11.13.1 in IEEE Std 802.16-2004"
         ::= { wmanIf2BsConfigurationEntry 17 }

wmanIf2BsAutoSfidRangeMin OBJECT-TYPE
        SYNTAX      Unsigned32 ( 1 .. 4294967295)
        MAX-ACCESS  read-write
        STATUS      current
        DESCRIPTION
            "This object defines the minimum value of the range of SFID
             values allocated for the BS sector for the purpose of
             autonomous creation of service flows. This value is used
             when the object wmanIf2BsAutoSfidEnabled allows
             autonomous creation of SFIDs."
        REFERENCE
            "Subclause 11.13.1 in IEEE Std 802.16-2004"
        ::= { wmanIf2BsConfigurationEntry 18 }

wmanIf2BsAutoSfidRangeMax OBJECT-TYPE
        SYNTAX      Unsigned32 ( 1 .. 4294967295)
        MAX-ACCESS  read-write
        STATUS      current
        DESCRIPTION
            "This object defines the maximum value of the range of SFID
```

```
             values allocated for the BS sector for the purpose of
             autonomous creation of the service flows. This value is
             used when the object wmanIf2BsAutoSfidEnabled allows
             autonomous creation of SFIDs."
        REFERENCE
            "Subclause 11.13.1 in IEEE Std 802.16-2004"
        ::= { wmanIf2BsConfigurationEntry 19 }

wmanIf2BsAasChanFbckReqFreq OBJECT-TYPE
        SYNTAX      INTEGER (5..10000)
        UNITS       "ms"
        MAX-ACCESS  read-write
        STATUS      current
        DESCRIPTION
            "This object defines AAS channel feedback request frequency.
             It controls the frequency of downlink beam measurements.
             The relevant MAC messages are AAS-FBCK-REQ/RSP"
        REFERENCE
            "Subclause 6.3.2.3.40 in IEEE Std 802.16-2004"
        ::= { wmanIf2BsConfigurationEntry 20 }

wmanIf2BsAasBeamSelectFreq OBJECT-TYPE
        SYNTAX      INTEGER (5..10000)
        UNITS       "ms"
        MAX-ACCESS  read-write
        STATUS      current
        DESCRIPTION
            "This object defines AAS beam select frequency.
             It controls how often SS issues beam select messages.
             The relevant MAC message is AAS_Beam_Select"
        REFERENCE
            "Subclause 6.3.2.3.41 in IEEE Std 802.16-2004"
        ::= { wmanIf2BsConfigurationEntry 21 }

wmanIf2BsAasChanFbckReqResolution OBJECT-TYPE
        SYNTAX      INTEGER {aasChanFbckRes00(0),
                             aasChanFbckRes01(1),
                             aasChanFbckRes10(2),
                             aasChanFbckRes11(3)}
        MAX-ACCESS  read-write
        STATUS      current
        DESCRIPTION
            "This object defines AAS feedback request frequency
             measurements resolution. It is coded as follows:
             aasChanFbckRes00 - every 4th carrier
                                (-100, -96, -92, .., 100)
             aasChanFbckRes01 - every 8th carrier
                                (-100, -92, -84, .., 100)
             aasChanFbckRes10 - every 16th carrier
                                (-100, -84, -68, .., 100)
             aasChanFbckRes11 - every 32th carrier
                                (-100, -68, -36, .., 100)"
        REFERENCE
            "Subclause 8.3.6.4 in IEEE Std 802.16-2004"
        ::= { wmanIf2BsConfigurationEntry 22 }

wmanIf2BsAasBeamReqResolution OBJECT-TYPE
        SYNTAX      INTEGER {aasBeamReqRes000(0),
                             aasBeamReqRes001(1),
                             aasBeamReqRes010(2),
                             aasBeamReqRes011(3),
                             aasBeamReqRes100(4)}
        MAX-ACCESS  read-write
        STATUS      current
        DESCRIPTION
            "This object defines AAS beam select request resolution
             parameter. It is coded as follows:
             aasBeamReqRes000 - every 4th carrier
             aasBeamReqRes001 - every 8th carrier
             aasBeamReqRes010 - every 16th carrier
             aasBeamReqRes011 - every 32th carrier
             aasBeamReqRes100 - every 64th carrier"
        REFERENCE
            "Subclause 8.3.6.5 in IEEE Std 802.16-2004"
        ::= { wmanIf2BsConfigurationEntry 23 }

wmanIf2BsAasNumOptDiversityZones OBJECT-TYPE
        SYNTAX      INTEGER (0..65535)
        MAX-ACCESS  read-write
        STATUS      current
        DESCRIPTION
            "This object defines the number of optional diversity zones
             transmitted in downlink."
        REFERENCE
            "Figure 209 in IEEE Std 802.16-2004"
        ::= { wmanIf2BsConfigurationEntry 24 }

wmanIf2BsResetSector  OBJECT-TYPE
        SYNTAX      INTEGER {actionResetSectorNoAction(0),
                             actionResetSector(1)}
        MAX-ACCESS  read-write
        STATUS      current
        DESCRIPTION
            "This object should be implemented as follows:
             - When set to actionsResetSector value, instructs BS to
               reset the sector identified by ifIndex. As a result of
               this action the Phy and Mac of this sector should be
               reinitialised.
             - When set to value different than actionsResetSector it
               should be ignored
             - When read it should return actionsResetSectorNoAction"
        ::= { wmanIf2BsConfigurationEntry 25 }

--
-- Base Station Channel Measurement Table
--
wmanIf2BsChannelMeasurementTable OBJECT-TYPE
        SYNTAX      SEQUENCE OF   WmanIf2BsChannelMeasurementEntry
        MAX-ACCESS  not-accessible
        STATUS      current
        DESCRIPTION
            "This table contains channel measurement information as
             derived from BS measurement of uplink signal from SS,
             and the downlink signal as reported from SS using
             REP-REQ/RSP messages. The table shall be maintained as
             FIFO to store measurement samples that can be used to
             create RSSI and CINR histogram report. When the
             measurement entry for a SS reaches the limit, the oldest
             entry shall be deleted as the new entry is added to the
             table."
        REFERENCE
            "6.3.2.3.33 in IEEE Std 802.16-2004"
        ::= { wmanIf2BsCps 3 }

wmanIf2BsChannelMeasurementEntry OBJECT-TYPE
        SYNTAX      WmanIf2BsChannelMeasurementEntry
        MAX-ACCESS  not-accessible
        STATUS      current
        DESCRIPTION
            "Each entry in the table contains RSSI and CINR
             signal quality measurement on signal received from the SS.
             The primary index is the ifIndex with ifType of propBWAp2Mp
             identifing the BS sector. wmanIf2BsSsMacAddress identifies
             the SS from which the signal was received.
             wmanIf2BsChannelDirection is the index to the direction of
             the channel. wmanIf2BsHistogramIndex is the index to
             histogram samples. Since there is no time stamp in the
             table, wmanIf2BsHistogramIndex should be increased
             monotonically, and wraps around when it reaches the
             implementation specific limit."
        INDEX       { ifIndex,
                      wmanIf2BsSsMacAddress,
                      wmanIf2BsChannelDirection,
                      wmanIf2BsHistogramIndex }
        ::= { wmanIf2BsChannelMeasurementTable  1 }

WmanIf2BsChannelMeasurementEntry ::= SEQUENCE {
        wmanIf2BsChannelDirection               INTEGER,
        wmanIf2BsHistogramIndex                 Unsigned32,
        wmanIf2BsChannelNumber                  WmanIf2ChannelNumber,
        wmanIf2BsStartFrame                     INTEGER,
        wmanIf2BsDuration                       INTEGER,
        wmanIf2BsBasicReport                    BITS,
        wmanIf2BsMeanCinrReport                 INTEGER,
        wmanIf2BsMeanRssiReport                 INTEGER,
        wmanIf2BsStdDeviationCinrReport         INTEGER,
        wmanIf2BsStdDeviationRssiReport         INTEGER}

wmanIf2BsChannelDirection OBJECT-TYPE
        SYNTAX      INTEGER {downstream(1),
                             upstream(2)}
        MAX-ACCESS  not-accessible
        STATUS      current
        DESCRIPTION
            "wmanIf2BsChannelDirection identifies the direction of a
             a channel where the measurement takes place."
        ::= { wmanIf2BsChannelMeasurementEntry 1 }

wmanIf2BsHistogramIndex OBJECT-TYPE
        SYNTAX      Unsigned32 (1 .. 4294967295)
        MAX-ACCESS  read-only
        STATUS      current
        DESCRIPTION
            "wmanIf2BsHistogramIndex identifies the histogram samples
             in the table for each subscriber station."
        ::= { wmanIf2BsChannelMeasurementEntry 2 }

wmanIf2BsChannelNumber OBJECT-TYPE
        SYNTAX      WmanIf2ChannelNumber
        MAX-ACCESS  read-only
        STATUS      current
        DESCRIPTION
            "Physical channel number to be reported on is only
             applicable to license exempt band. For licensed band,
             this parameter should be null."
        REFERENCE
            "Subclause 11.12 in IEEE Std 802.16-2004"
        ::= { wmanIf2BsChannelMeasurementEntry 3 }

wmanIf2BsStartFrame OBJECT-TYPE
        SYNTAX      INTEGER (0..65535)
        MAX-ACCESS  read-only
        STATUS      current
        DESCRIPTION
            "Frame number in which measurement for this channel
             started."
        REFERENCE
            "Subclause 11.12 in IEEE Std 802.16-2004"
        ::= { wmanIf2BsChannelMeasurementEntry 4 }

wmanIf2BsDuration OBJECT-TYPE
        SYNTAX      INTEGER (0 .. 16777215)
        MAX-ACCESS  read-only
        STATUS      current
        DESCRIPTION
            "Cumulative measurement duration on the channel in
             multiples of Ts. For any value exceeding 0xFFFFFF,
             report 0xFFFFFF."
        REFERENCE
            "Subclause 11.12 in IEEE Std 802.16-2004"
        ::= { wmanIf2BsChannelMeasurementEntry 5 }

wmanIf2BsBasicReport OBJECT-TYPE
        SYNTAX      BITS {wirelessHuman(0),
                          unknownTransmission(1),
                          primaryUser(2),
                         channelNotMeasured(3)}
        MAX-ACCESS  read-only
        STATUS      current
        DESCRIPTION
            "Bit #0: WirelessHUMAN detected on the channel
             Bit #1: Unknown transmissions detected on the channel
             Bit #2: Primary User detected on the channel
             Bit #3: Unmeasured. Channel not measured"
        REFERENCE
            "Subclause 11.12 in IEEE Std 802.16-2004"
        ::= { wmanIf2BsChannelMeasurementEntry 6 }

wmanIf2BsMeanCinrReport OBJECT-TYPE
        SYNTAX      INTEGER (0 .. 41)
        UNITS       "dB"
        MAX-ACCESS  read-only
        STATUS      current
        DESCRIPTION
            "Mean CINR report."
        REFERENCE
            "Subclause 8.2.2, 8.3.9 in IEEE Std 802.16-2004"
        ::= { wmanIf2BsChannelMeasurementEntry 7 }

wmanIf2BsMeanRssiReport OBJECT-TYPE
        SYNTAX      INTEGER (0 .. 83)
        UNITS       "dBm"
        MAX-ACCESS  read-only
        STATUS      current
        DESCRIPTION
            "Mean RSSI report."
        REFERENCE
            "Subclause 8.2.2, 8.3.9 in IEEE Std 802.16-2004"
        ::= { wmanIf2BsChannelMeasurementEntry 8 }

wmanIf2BsStdDeviationCinrReport OBJECT-TYPE
        SYNTAX      INTEGER (0 .. 41)
        UNITS       "dB"
        MAX-ACCESS  read-only
        STATUS      current
        DESCRIPTION
             "Standard deviation CINR report."
        REFERENCE
            "Subclause 8.2.2, 8.3.9 in IEEE Std 802.16-2004"
        ::= { wmanIf2BsChannelMeasurementEntry 9 }

wmanIf2BsStdDeviationRssiReport OBJECT-TYPE
        SYNTAX      INTEGER (0 .. 83)
        UNITS       "dB"
        MAX-ACCESS  read-only
        STATUS      current
        DESCRIPTION
             "Standard deviation RSSI report."
        REFERENCE
            "Subclause 8.2.2, 8.3.9 in IEEE Std 802.16-2004"
        ::= { wmanIf2BsChannelMeasurementEntry 10 }

--
-- Base Station capabilities
--
wmanIf2BsCapabilities OBJECT IDENTIFIER ::= { wmanIf2BsCps 4 }

wmanIf2BsSsReqCapabilitiesTable OBJECT-TYPE
        SYNTAX      SEQUENCE OF WmanIf2BsSsReqCapabilitiesEntry
        MAX-ACCESS  not-accessible
        STATUS      current
        DESCRIPTION
            "This table contains the basic capability information of SSs
             that have been reported by SSs to BS using RNG-REQ, SBC-REQ
             and REG-REQ messages. Entries in this table should be
             created when an SS registers with a BS."
        ::= { wmanIf2BsCapabilities 1 }

wmanIf2BsSsReqCapabilitiesEntry OBJECT-TYPE
        SYNTAX      WmanIf2BsSsReqCapabilitiesEntry
        MAX-ACCESS  not-accessible
        STATUS      current
        DESCRIPTION
            "This table provides one row for each SS that has been
             registered in the BS. This table augments the table
             wmanIf2BsRegisteredSsTable."
        AUGMENTS { wmanIf2BsRegisteredSsEntry }
        ::= { wmanIf2BsSsReqCapabilitiesTable 1 }

WmanIf2BsSsReqCapabilitiesEntry ::= SEQUENCE {
        wmanIf2BsSsReqCapUplinkCidSupport       WmanIf2eNumOfCid,
        wmanIf2BsSsReqCapArqSupport             WmanIf2ArqSupportType,
        wmanIf2BsSsReqCapDsxFlowControl         WmanIf2MaxDsxFlowType,
        wmanIf2BsSsReqCapMacCrcSupport          WmanIf2MacCrcSupport,
        wmanIf2BsSsReqCapMcaFlowControl         WmanIf2MaxMcaFlowType,
        wmanIf2BsSsReqCapMcpGroupCidSupport     WmanIf2MaxMcpGroupCid,
        wmanIf2BsSsReqCapPkmFlowControl         WmanIf2MaxPkmFlowType,
        wmanIf2BsSsReqCapAuthPolicyControl      WmanIf2AuthPolicyType,
        wmanIf2BsSsReqCapMaxNumOfSupportedSA    WmanIf2MaxNumOfSaType,
        wmanIf2BsSsReqCapIpVersion              WmanIf2IpVersionType,
        wmanIf2BsSsReqCapMacCsSupportBitMap     WmanIf2MacCsBitMap,
        wmanIf2BsSsReqCapMaxNumOfClassifier     WmanIf2MaxClassifiers,
        wmanIf2BsSsReqCapPhsSupport             WmanIf2PhsSupportType,
        wmanIf2BsSsReqCapBandwidthAllocSupport  WmanIf2BwAllocSupport,
        wmanIf2BsSsReqCapPduConstruction        WmanIf2PduConstruction,
        wmanIf2BsSsReqCapTtgTransitionGap       WmanIf2SsTransitionGap,
        wmanIf2BsSsReqCapRtgTransitionGap       WmanIf2SsTransitionGap}

wmanIf2BsSsReqCapUplinkCidSupport OBJECT-TYPE
        SYNTAX      WmanIf2eNumOfCid
        MAX-ACCESS  read-only
        STATUS      current
        DESCRIPTION
           "This object shows the number of Uplink CIDs the SS can
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            support."
        ::= { wmanIf2BsSsReqCapabilitiesEntry 1 }

wmanIf2BsSsReqCapArqSupport OBJECT-TYPE
        SYNTAX      WmanIf2ArqSupportType
        MAX-ACCESS  read-only
        STATUS      current
        DESCRIPTION
            "This object indicates whether the SS supports ARQ."
        ::= { wmanIf2BsSsReqCapabilitiesEntry 2 }

wmanIf2BsSsReqCapDsxFlowControl OBJECT-TYPE
        SYNTAX      WmanIf2MaxDsxFlowType
        MAX-ACCESS  read-only
        STATUS      current
        DESCRIPTION
            "This object specifies the maximum number of concurrent
             DSA, DSC, or DSD transactions that SS is capable of having
             outstanding."
        DEFVAL    { 0 }
        ::= { wmanIf2BsSsReqCapabilitiesEntry 3 }

wmanIf2BsSsReqCapMacCrcSupport OBJECT-TYPE
        SYNTAX      WmanIf2MacCrcSupport
        MAX-ACCESS  read-only
        STATUS      current
        DESCRIPTION
            "This object indicates whether or not the SS supports MAC
             level CRC."
        DEFVAL    { macCrcSupport }
        ::= { wmanIf2BsSsReqCapabilitiesEntry 4 }

wmanIf2BsSsReqCapMcaFlowControl OBJECT-TYPE
        SYNTAX      WmanIf2MaxMcaFlowType
        MAX-ACCESS  read-only
        STATUS      current
        DESCRIPTION
            "This object specifies the maximum number of concurrent MCA
             transactions that SS is capable of having outstanding."
        DEFVAL    { 0 }
        ::= { wmanIf2BsSsReqCapabilitiesEntry 5 }

wmanIf2BsSsReqCapMcpGroupCidSupport OBJECT-TYPE
        SYNTAX      WmanIf2MaxMcpGroupCid
        MAX-ACCESS  read-only
        STATUS      current
        DESCRIPTION
            "This object indicates the maximum number of
             simultaneous Multicast Polling Groups the SS is
             capable of belonging to."
        DEFVAL    { 0 }
        ::= { wmanIf2BsSsReqCapabilitiesEntry 6 }

wmanIf2BsSsReqCapPkmFlowControl OBJECT-TYPE
```

```
        SYNTAX      WmanIf2MaxPkmFlowType
        MAX-ACCESS  read-only
        STATUS      current
        DESCRIPTION
            "This object specifies the maximum number of concurrent PKM
             transactions that SS is capable of having outstanding."
        DEFVAL    { 0 }
        ::= { wmanIf2BsSsReqCapabilitiesEntry 7 }

wmanIf2BsSsReqCapAuthPolicyControl OBJECT-TYPE
        SYNTAX      WmanIf2AuthPolicyType
        MAX-ACCESS  read-only
        STATUS      current
        DESCRIPTION
            "This object specifies authorization policy that SS is
             capable of. A bit value of 0 = 'not supported', 1 =
             'supported'. If this field is omitted, then both SS and
             BS shall use the IEEE 802.16 security, constituting X.509
             digital certificates and the RSA public key encryption
             algorithm, as authorization policy."
        ::= { wmanIf2BsSsReqCapabilitiesEntry 8 }

wmanIf2BsSsReqCapMaxNumOfSupportedSA OBJECT-TYPE
        SYNTAX      WmanIf2MaxNumOfSaType
        MAX-ACCESS  read-only
        STATUS      current
        DESCRIPTION
            "This field specifies the maximum number of supported
             security associations of the SS."
        DEFVAL    { 1 }
        ::= { wmanIf2BsSsReqCapabilitiesEntry 9 }

wmanIf2BsSsReqCapIpVersion OBJECT-TYPE
        SYNTAX      WmanIf2IpVersionType
        MAX-ACCESS  read-only
        STATUS      current
        DESCRIPTION
            "This object indicates the version of IP used on the 2nd
             Management Connection. The value should be undefined
             if the 2nd management CID doesn't exist."
   ::= { wmanIf2BsSsReqCapabilitiesEntry 10 }

wmanIf2BsSsReqCapMacCsSupportBitMap OBJECT-TYPE
        SYNTAX      WmanIf2MacCsBitMap
        MAX-ACCESS  read-only
        STATUS      current
        DESCRIPTION
            "This object indicates SS reported set of MAC convergence
             sublayer support. When a bit is set, it indicates
             the corresponding CS feature is supported."
        ::= { wmanIf2BsSsReqCapabilitiesEntry 11 }

wmanIf2BsSsReqCapMaxNumOfClassifier OBJECT-TYPE
        SYNTAX      WmanIf2MaxClassifiers
        MAX-ACCESS  read-only
        STATUS      current
        DESCRIPTION
            "This object indicates the maximum number of admitted
             Classifiers that the SS can support."
        DEFVAL      { 0 }
        ::= { wmanIf2BsSsReqCapabilitiesEntry 12 }

wmanIf2BsSsReqCapPhsSupport OBJECT-TYPE
        SYNTAX      WmanIf2PhsSupportType
        MAX-ACCESS  read-only
        STATUS      current
        DESCRIPTION
            "This object indicates indicates the level of SS support
             for PHS."
        DEFVAL      { noPhsSupport }
        ::= { wmanIf2BsSsReqCapabilitiesEntry 13 }

wmanIf2BsSsReqCapBandwidthAllocSupport OBJECT-TYPE
        SYNTAX      WmanIf2BwAllocSupport
        MAX-ACCESS  read-only
        STATUS      current
        DESCRIPTION
            "This field indicates the bandwidth allocation
             capabilities of the SS. The usage is defined by
             WmanIf2BwAllocSupport."
        ::= { wmanIf2BsSsReqCapabilitiesEntry 14 }

wmanIf2BsSsReqCapPduConstruction OBJECT-TYPE
        SYNTAX      WmanIf2PduConstruction
        MAX-ACCESS  read-only
        STATUS      current
        DESCRIPTION
            "This field indicates the SS's capabilities for
             construction and transmission of MAC PDUs. The usage
             is defined by WmanIf2PduConstruction."
        ::= { wmanIf2BsSsReqCapabilitiesEntry 15 }

wmanIf2BsSsReqCapTtgTransitionGap OBJECT-TYPE
        SYNTAX      WmanIf2SsTransitionGap
        UNITS       "us"
        MAX-ACCESS  read-only
        STATUS      current
        DESCRIPTION
            "This field indicates the SS's transition speed SSTTG
             for TDD and H-FDD SSs. The usage is defined by
             WmanIf2SsTransitionGap."
        ::= { wmanIf2BsSsReqCapabilitiesEntry 16 }

wmanIf2BsSsReqCapRtgTransitionGap OBJECT-TYPE
        SYNTAX      WmanIf2SsTransitionGap
        UNITS       "us"
        MAX-ACCESS  read-only
        STATUS      current
        DESCRIPTION
            "This field indicates the SS's transition speed SSRTG
             for TDD and H-FDD SSs. The usage is defined by
             WmanIf2SsTransitionGap."
        ::= { wmanIf2BsSsReqCapabilitiesEntry 17 }

wmanIf2BsSsRspCapabilitiesTable OBJECT-TYPE
        SYNTAX      SEQUENCE OF WmanIf2BsSsRspCapabilitiesEntry
        MAX-ACCESS  not-accessible
        STATUS      current
        DESCRIPTION
            "This table contains the basic capability information of SSs
             that have been negotiated and agreed between BS and SS via
             RNG-REQ/RSP, SBC-REQ/RSP and REG-REQ/RSP messages.
             This table augments the wmanIf2BsRegisteredSsTable."
        REFERENCE
            "Subclause 6.3.2.3.7 in IEEE Std 802.16-2004"
        ::= { wmanIf2BsCapabilities 2 }

wmanIf2BsSsRspCapabilitiesEntry OBJECT-TYPE
        SYNTAX      WmanIf2BsSsRspCapabilitiesEntry
        MAX-ACCESS  not-accessible
        STATUS      current
        DESCRIPTION
            "This table provides one row for each SS that has been
             registered in the BS. This table augments the
             wmanIf2BsRegisteredSsTable. "
        AUGMENTS { wmanIf2BsRegisteredSsEntry }
        ::= { wmanIf2BsSsRspCapabilitiesTable 1 }

WmanIf2BsSsRspCapabilitiesEntry ::= SEQUENCE {
        wmanIf2BsSsRspCapUplinkCidSupport       WmanIf2eNumOfCid,
        wmanIf2BsSsRspCapArqSupport             WmanIf2ArqSupportType,
        wmanIf2BsSsRspCapDsxFlowControl         WmanIf2MaxDsxFlowType,
        wmanIf2BsSsRspCapMacCrcSupport          WmanIf2MacCrcSupport,
        wmanIf2BsSsRspCapMcaFlowControl         WmanIf2MaxMcaFlowType,
        wmanIf2BsSsRspCapMcpGroupCidSupport     WmanIf2MaxMcpGroupCid,
        wmanIf2BsSsRspCapPkmFlowControl         WmanIf2MaxPkmFlowType,
        wmanIf2BsSsRspCapAuthPolicyControl      WmanIf2AuthPolicyType,
        wmanIf2BsSsRspCapMaxNumOfSupportedSA    WmanIf2MaxNumOfSaType,
        wmanIf2BsSsRspCapIpVersion              WmanIf2IpVersionType,
        wmanIf2BsSsRspCapMacCsSupportBitMap     WmanIf2MacCsBitMap,
        wmanIf2BsSsRspCapMaxNumOfClassifier     WmanIf2MaxClassifiers,
        wmanIf2BsSsRspCapPhsSupport             WmanIf2PhsSupportType,
        wmanIf2BsSsRspCapBandwidthAllocSupport  WmanIf2BwAllocSupport,
        wmanIf2BsSsRspCapPduConstruction        WmanIf2PduConstruction,
        wmanIf2BsSsRspCapTtgTransitionGap       WmanIf2SsTransitionGap,
        wmanIf2BsSsRspCapRtgTransitionGap       WmanIf2SsTransitionGap}

wmanIf2BsSsRspCapUplinkCidSupport OBJECT-TYPE
        SYNTAX      WmanIf2eNumOfCid
        MAX-ACCESS  read-only
        STATUS      current
        DESCRIPTION
```

```
            "Negotiated number of Uplink CIDs the SS can support."
        ::= { wmanIf2BsSsRspCapabilitiesEntry 1 }

wmanIf2BsSsRspCapArqSupport OBJECT-TYPE
        SYNTAX      WmanIf2ArqSupportType
        MAX-ACCESS  read-only
        STATUS      current
        DESCRIPTION
            "This object indicates whether the SS is allowed to use ARQ
             as a result of the capabilities negotiation."
        ::= { wmanIf2BsSsRspCapabilitiesEntry 2 }

wmanIf2BsSsRspCapDsxFlowControl OBJECT-TYPE
        SYNTAX      WmanIf2MaxDsxFlowType
        MAX-ACCESS  read-only
        STATUS      current
        DESCRIPTION
            "Negotiated maximum number of concurrent DSA, DSC, or DSD
             transactions that may be outstanding."
        ::= { wmanIf2BsSsRspCapabilitiesEntry 3 }

wmanIf2BsSsRspCapMacCrcSupport OBJECT-TYPE
        SYNTAX      WmanIf2MacCrcSupport
        MAX-ACCESS  read-only
        STATUS      current
        DESCRIPTION
            "This object indicates whether or not the SS is allowed to
             use MAC level CRC as a result of the capabilities
             negotiation."
        DEFVAL    { macCrcSupport }
        ::= { wmanIf2BsSsRspCapabilitiesEntry 4 }

wmanIf2BsSsRspCapMcaFlowControl OBJECT-TYPE
        SYNTAX      WmanIf2MaxMcaFlowType
        MAX-ACCESS  read-only
        STATUS      current
        DESCRIPTION
            "Negotiated maximum number of concurrent
             MCA transactions that may be outstanding."
        DEFVAL    { 0 }
        ::= { wmanIf2BsSsRspCapabilitiesEntry 5 }

wmanIf2BsSsRspCapMcpGroupCidSupport OBJECT-TYPE
        SYNTAX      WmanIf2MaxMcpGroupCid
        MAX-ACCESS  read-only
        STATUS      current
        DESCRIPTION
            "Negotiated maximum number of simultaneous Multicast
             Polling Groups the SS is capable of belonging to."
        DEFVAL    { 0 }
        ::= { wmanIf2BsSsRspCapabilitiesEntry 6 }

wmanIf2BsSsRspCapPkmFlowControl OBJECT-TYPE
        SYNTAX      WmanIf2MaxPkmFlowType
        MAX-ACCESS  read-only
        STATUS      current
        DESCRIPTION
            "Negotiated maximum number of concurrent PKM
             transactions that may be outstanding."
        DEFVAL    { 0 }
        ::= { wmanIf2BsSsRspCapabilitiesEntry 7 }

wmanIf2BsSsRspCapAuthPolicyControl OBJECT-TYPE
        SYNTAX      WmanIf2AuthPolicyType
        MAX-ACCESS  read-only
        STATUS      current
        DESCRIPTION
            "This object specifies negotiated authorization policy.
             A bit value of 0 = 'not supported', 1 = 'supported'. If
             this field is omitted, then both SS and BS shall use the
             IEEE 802.16 security, constituting X.509 digital
             certificates and the RSA public key encryption
             algorithm, as authorization policy."
        ::= { wmanIf2BsSsRspCapabilitiesEntry 8 }

wmanIf2BsSsRspCapMaxNumOfSupportedSA OBJECT-TYPE
        SYNTAX      WmanIf2MaxNumOfSaType
        MAX-ACCESS  read-only
        STATUS      current
        DESCRIPTION
            "Negotiated maximum number of supported security
             association of the SS."
        DEFVAL    { 1 }
        ::= { wmanIf2BsSsRspCapabilitiesEntry 9 }

wmanIf2BsSsRspCapIpVersion OBJECT-TYPE
        SYNTAX      WmanIf2IpVersionType
        MAX-ACCESS  read-only
        STATUS      current
        DESCRIPTION
            "Negotiated version of IP used on the 2nd Management
             Connection. The value should be undefined if the 2nd
             management CID doesn't exist."
   ::= { wmanIf2BsSsRspCapabilitiesEntry 10 }

wmanIf2BsSsRspCapMacCsSupportBitMap OBJECT-TYPE
        SYNTAX      WmanIf2MacCsBitMap
        MAX-ACCESS  read-only
        STATUS      current
        DESCRIPTION
            "Negotiated set of MAC convergence sublayer support.
             When a bit is set, it indicates the corresponding CS
             feature is supported."
        ::= { wmanIf2BsSsRspCapabilitiesEntry 11 }

wmanIf2BsSsRspCapMaxNumOfClassifier OBJECT-TYPE
        SYNTAX      WmanIf2MaxClassifiers
        MAX-ACCESS  read-only
        STATUS      current
        DESCRIPTION
            "Negotiated maximum number of admitted Classifiers
             that the SS is allowed to have."
        DEFVAL      { 0 }
        ::= { wmanIf2BsSsRspCapabilitiesEntry 12 }

wmanIf2BsSsRspCapPhsSupport OBJECT-TYPE
        SYNTAX      WmanIf2PhsSupportType
        MAX-ACCESS  read-only
        STATUS      current
        DESCRIPTION
            "This object indicates the negotiated level of PHS
             support."
        DEFVAL      { noPhsSupport }
        ::= { wmanIf2BsSsRspCapabilitiesEntry 13 }

wmanIf2BsSsRspCapBandwidthAllocSupport OBJECT-TYPE
        SYNTAX      WmanIf2BwAllocSupport
        MAX-ACCESS  read-only
        STATUS      current
        DESCRIPTION
            "This field indicates negotiated properties of the SS
             for bandwidth allocation purposes. The usage is defined
             by WmanIf2BwAllocSupport."
        ::= { wmanIf2BsSsRspCapabilitiesEntry 14 }

wmanIf2BsSsRspCapPduConstruction OBJECT-TYPE
        SYNTAX      WmanIf2PduConstruction
        MAX-ACCESS  read-only
        STATUS      current
        DESCRIPTION
            "Specifies negotiated capabilities for construction and
             transmission of MAC PDUs. The usage is defined by
             WmanIf2PduConstruction."
        ::= { wmanIf2BsSsRspCapabilitiesEntry 15 }

wmanIf2BsSsRspCapTtgTransitionGap OBJECT-TYPE
        SYNTAX      WmanIf2SsTransitionGap
        UNITS       "us"
        MAX-ACCESS  read-only
        STATUS      current
        DESCRIPTION
            "This field indicates the negotiated transition speed
             SSTTG for TDD and H-FDD SSs. The usage is defined by
             WmanIf2SsTransitionGap."
        ::= { wmanIf2BsSsRspCapabilitiesEntry 16 }

wmanIf2BsSsRspCapRtgTransitionGap OBJECT-TYPE
        SYNTAX      WmanIf2SsTransitionGap
        UNITS       "us"
        MAX-ACCESS  read-only
        STATUS      current
        DESCRIPTION
```

```
            "This field indicates the negotiated transition speed
             SSRTG for TDD and H-FDD SSs. The usage is defined by
             WmanIf2SsTransitionGap."
        ::= { wmanIf2BsSsRspCapabilitiesEntry 17 }

wmanIf2BsBasicCapabilitiesTable OBJECT-TYPE
        SYNTAX      SEQUENCE OF WmanIf2BsBasicCapabilitiesEntry
        MAX-ACCESS  not-accessible
        STATUS      current
        DESCRIPTION
            "This table contains the basic capabilities of the BS as
             implemented in BS hardware and software. These capabilities
             along with the configuration for them
             (wmanIf2BsCapabilitiesConfigTable) are used for negotiation
             of basic capabilities with SS using RNG-RSP, SBC-RSP and
             REG-RSP messages. The negotiated capabilities are obtained
             by interSubclause of SS raw reported capabilities, BS raw
             capabilities and BS configured capabilities. The objects in
             the table have read-only access. The table is maintained
             by BS."
        ::= { wmanIf2BsCapabilities 3 }

wmanIf2BsBasicCapabilitiesEntry OBJECT-TYPE
        SYNTAX      WmanIf2BsBasicCapabilitiesEntry
        MAX-ACCESS  not-accessible
        STATUS      current
        DESCRIPTION
            "This table provides one row for each BS sector and is
             indexed by ifIndex."
        INDEX { ifIndex }
        ::= { wmanIf2BsBasicCapabilitiesTable 1 }

WmanIf2BsBasicCapabilitiesEntry ::= SEQUENCE {
        wmanIf2BsCapUplinkCidSupport            WmanIf2eNumOfCid,
        wmanIf2BsCapArqSupport                  WmanIf2ArqSupportType,
        wmanIf2BsCapDsxFlowControl              WmanIf2MaxDsxFlowType,
        wmanIf2BsCapMacCrcSupport               WmanIf2MacCrcSupport,
        wmanIf2BsCapMcaFlowControl              WmanIf2MaxMcaFlowType,
        wmanIf2BsCapMcpGroupCidSupport          WmanIf2MaxMcpGroupCid,
        wmanIf2BsCapPkmFlowControl              WmanIf2MaxPkmFlowType,
        wmanIf2BsCapAuthPolicyControl           WmanIf2AuthPolicyType,
        wmanIf2BsCapMaxNumOfSupportedSA         WmanIf2MaxNumOfSaType,
        wmanIf2BsCapIpVersion                   WmanIf2IpVersionType,
        wmanIf2BsCapMacCsSupportBitMap          WmanIf2MacCsBitMap,
        wmanIf2BsCapMaxNumOfClassifier          WmanIf2MaxClassifiers,
        wmanIf2BsCapPhsSupport                  WmanIf2PhsSupportType,
        wmanIf2BsCapBandwidthAllocSupport       WmanIf2BwAllocSupport,
        wmanIf2BsCapPduConstruction             WmanIf2PduConstruction,
        wmanIf2BsCapTtgTransitionGap            WmanIf2SsTransitionGap,
        wmanIf2BsCapRtgTransitionGap            WmanIf2SsTransitionGap}

wmanIf2BsCapUplinkCidSupport OBJECT-TYPE
        SYNTAX      WmanIf2eNumOfCid
        MAX-ACCESS  read-only
        STATUS      current
        DESCRIPTION
            "This object shows the number of Uplink CIDs the BS can
             support per SS."
        ::= { wmanIf2BsBasicCapabilitiesEntry 1 }

wmanIf2BsCapArqSupport OBJECT-TYPE
        SYNTAX      WmanIf2ArqSupportType
        MAX-ACCESS  read-only
        STATUS      current
        DESCRIPTION
            "This object indicates whether the BS supports ARQ."
        ::= { wmanIf2BsBasicCapabilitiesEntry 2 }

wmanIf2BsCapDsxFlowControl OBJECT-TYPE
        SYNTAX      WmanIf2MaxDsxFlowType
        MAX-ACCESS  read-only
        STATUS      current
        DESCRIPTION
            "This object specifies the maximum number of concurrent
             DSA, DSC, or DSD transactions that BS allows each SS to
             have outstanding."
        DEFVAL    { 0 }
        ::= { wmanIf2BsBasicCapabilitiesEntry 3 }

wmanIf2BsCapMacCrcSupport OBJECT-TYPE
        SYNTAX      WmanIf2MacCrcSupport
        MAX-ACCESS  read-only
        STATUS      current
        DESCRIPTION
            "This object indicates whether or not the BS supports MAC
             level CRC."
        DEFVAL    { macCrcSupport }
        ::= { wmanIf2BsBasicCapabilitiesEntry 4 }

wmanIf2BsCapMcaFlowControl OBJECT-TYPE
        SYNTAX      WmanIf2MaxMcaFlowType
        MAX-ACCESS  read-only
        STATUS      current
        DESCRIPTION
            "This object specifies the maximum number of concurrent
             MCA transactions that BS allows each SS to have."
        DEFVAL    { 0 }
        ::= { wmanIf2BsBasicCapabilitiesEntry 5 }

wmanIf2BsCapMcpGroupCidSupport OBJECT-TYPE
        SYNTAX      WmanIf2MaxMcpGroupCid
        MAX-ACCESS  read-only
        STATUS      current
        DESCRIPTION
            "This object indicates the maximum number of simultaneous
             Multicast Polling Groups the BS allows each SS to belong
             to."
        DEFVAL    { 0 }
        ::= { wmanIf2BsBasicCapabilitiesEntry 6 }

wmanIf2BsCapPkmFlowControl OBJECT-TYPE
        SYNTAX      WmanIf2MaxPkmFlowType
        MAX-ACCESS  read-only
        STATUS      current
        DESCRIPTION
            "This object specifies the maximum number of concurrent
             PKM transactions that BS allows each SS to have."
        DEFVAL    { 0 }
        ::= { wmanIf2BsBasicCapabilitiesEntry 7 }

wmanIf2BsCapAuthPolicyControl OBJECT-TYPE
        SYNTAX      WmanIf2AuthPolicyType
        MAX-ACCESS  read-only
        STATUS      current
        DESCRIPTION
            "This object specifies authorization policy that BS is
             capable of. A bit value of 0 = 'not supported', 1 =
             'supported'. If this field is omitted, then both SS and
             BS shall use the IEEE 802.16 security, constituting X.509
             digital certificates and the RSA public key encryption
             algorithm, as authorization policy."
        ::= { wmanIf2BsBasicCapabilitiesEntry 8 }

wmanIf2BsCapMaxNumOfSupportedSA OBJECT-TYPE
        SYNTAX      WmanIf2MaxNumOfSaType
        MAX-ACCESS  read-only
        STATUS      current
        DESCRIPTION
            "This field specifies maximum number of supported security
             associations per SS that the BS allows."
        DEFVAL    { 1 }
        ::= { wmanIf2BsBasicCapabilitiesEntry 9 }

wmanIf2BsCapIpVersion OBJECT-TYPE
        SYNTAX      WmanIf2IpVersionType
        MAX-ACCESS  read-only
        STATUS      current
        DESCRIPTION
            "This object indicates the version of IP BS allows each SS
             to use on the 2nd Management Connection. The value
             'undefined' should not be used for this field."
        REFERENCE
            "Subclause 11.7.4 in IEEE Std 802.16-2004"
   ::= { wmanIf2BsBasicCapabilitiesEntry 10 }

wmanIf2BsCapMacCsSupportBitMap OBJECT-TYPE
        SYNTAX      WmanIf2MacCsBitMap
        MAX-ACCESS  read-only
        STATUS      current
        DESCRIPTION
            "This object indicates BS set of MAC convergence
             sublayer support. When a bit is set, it indicates
             the corresponding CS feature is supported."
        ::= { wmanIf2BsBasicCapabilitiesEntry 11 }

wmanIf2BsCapMaxNumOfClassifier OBJECT-TYPE
        SYNTAX      WmanIf2MaxClassifiers
        MAX-ACCESS  read-only
        STATUS      current
        DESCRIPTION
            "This object indicates the maximum number of admitted
             Classifiers per SS that the BS allows."
        DEFVAL      { 0 }
        ::= { wmanIf2BsBasicCapabilitiesEntry 12 }

wmanIf2BsCapPhsSupport OBJECT-TYPE
        SYNTAX      WmanIf2PhsSupportType
        MAX-ACCESS  read-only
        STATUS      current
        DESCRIPTION
            "This object indicates the level of BS support for PHS.
             The usage is defined by WmanIf2PhsSupportType."
        DEFVAL      { noPhsSupport }
        ::= { wmanIf2BsBasicCapabilitiesEntry 13 }

wmanIf2BsCapBandwidthAllocSupport OBJECT-TYPE
        SYNTAX      WmanIf2BwAllocSupport
        MAX-ACCESS  read-only
        STATUS      current
        DESCRIPTION
            "This field indicates the bandwidth allocation properties
             that the BS permits SSs to use. The usage is defined by
             WmanIf2BwAllocSupport."
        ::= { wmanIf2BsBasicCapabilitiesEntry 14 }

wmanIf2BsCapPduConstruction OBJECT-TYPE
        SYNTAX      WmanIf2PduConstruction
        MAX-ACCESS  read-only
        STATUS      current
        DESCRIPTION
            "Specifies the capabilities for construction and
             transmission of MAC PDUs allowed by the BS. The usage is
             defined by WmanIf2PduConstruction."
        ::= { wmanIf2BsBasicCapabilitiesEntry 15 }

wmanIf2BsCapTtgTransitionGap OBJECT-TYPE
        SYNTAX      WmanIf2SsTransitionGap
        UNITS       "us"
        MAX-ACCESS  read-only
        STATUS      current
        DESCRIPTION
            "This field indicates the transition speed SSTTG for TDD
             and H-FDD SSs allowed by the BS. The usage is defined by
             WmanIf2SsTransitionGap."
        ::= { wmanIf2BsBasicCapabilitiesEntry 16 }
```

```
wmanIf2BsCapRtgTransitionGap OBJECT-TYPE
        SYNTAX      WmanIf2SsTransitionGap
        UNITS       "us"
        MAX-ACCESS  read-only
        STATUS      current
        DESCRIPTION
            "This field indicates the transition speed SSRTG for TDD
             and H-FDD SSs allowed by the BS. The usage is defined
             by WmanIf2SsTransitionGap."
        ::= { wmanIf2BsBasicCapabilitiesEntry 17 }

wmanIf2BsCapabilitiesConfigTable OBJECT-TYPE
        SYNTAX      SEQUENCE OF WmanIf2BsCapabilitiesConfigEntry
        MAX-ACCESS  not-accessible
        STATUS      current
        DESCRIPTION
            "This table contains the configuration for basic
             capabilities of BS. The table is intended to be used to
             restrict the Capabilities implemented by BS, for example in
             order to comply with local regulatory requirements. The BS
             should use the configuration along with the implemented
             Capabilities (wmanIf2BsBasicCapabilitiesTable) for
             negotiation of basic capabilities with SS using RNG-RSP,
             SBC-RSP and REG-RSP messages. The negotiated capabilities
             are obtained by interSubclause of SS reported capabilities,
             BS raw capabilities and BS configured capabilities. The
             objects in the table have read-write access. The rows are
             created by BS as a copy of wmanIf2BsBasicCapabilitiesTable
             and can be modified by NMS."
        ::= { wmanIf2BsCapabilities 4 }

wmanIf2BsCapabilitiesConfigEntry OBJECT-TYPE
        SYNTAX      WmanIf2BsCapabilitiesConfigEntry
        MAX-ACCESS  not-accessible
        STATUS      current
        DESCRIPTION
            "This table provides one row for each BS sector and is
             indexed by ifIndex."
        INDEX { ifIndex }
        ::= { wmanIf2BsCapabilitiesConfigTable 1 }

WmanIf2BsCapabilitiesConfigEntry ::= SEQUENCE {
        wmanIf2BsCapCfgUplinkCidSupport         WmanIf2eNumOfCid,
        wmanIf2BsCapCfgArqSupport               WmanIf2ArqSupportType,
        wmanIf2BsCapCfgDsxFlowControl           WmanIf2MaxDsxFlowType,
        wmanIf2BsCapCfgMacCrcSupport            WmanIf2MacCrcSupport,
        wmanIf2BsCapCfgMcaFlowControl           WmanIf2MaxMcaFlowType,
        wmanIf2BsCapCfgMcpGroupCidSupport       WmanIf2MaxMcpGroupCid,
        wmanIf2BsCapCfgPkmFlowControl           WmanIf2MaxPkmFlowType,
        wmanIf2BsCapCfgAuthPolicyControl        WmanIf2AuthPolicyType,
        wmanIf2BsCapCfgMaxNumOfSupportedSA      WmanIf2MaxNumOfSaType,
        wmanIf2BsCapCfgIpVersion                WmanIf2IpVersionType,
        wmanIf2BsCapCfgMacCsSupportBitMap       WmanIf2MacCsBitMap,
        wmanIf2BsCapCfgMaxNumOfClassifier       WmanIf2MaxClassifiers,
        wmanIf2BsCapCfgPhsSupport                WmanIf2PhsSupportType,
        wmanIf2BsCapCfgBandwidthAllocSupport     WmanIf2BwAllocSupport,
        wmanIf2BsCapCfgPduConstruction           WmanIf2PduConstruction,
        wmanIf2BsCapCfgTtgTransitionGap          WmanIf2SsTransitionGap,
        wmanIf2BsCapCfgRtgTransitionGap          WmanIf2SsTransitionGap}

wmanIf2BsCapCfgUplinkCidSupport OBJECT-TYPE
        SYNTAX      WmanIf2eNumOfCid
        MAX-ACCESS  read-write
        STATUS      current
        DESCRIPTION
            "This object shows the configured number of Uplink CIDs the
             BS can support per SS."
        ::= { wmanIf2BsCapabilitiesConfigEntry 1 }

wmanIf2BsCapCfgArqSupport OBJECT-TYPE
        SYNTAX      WmanIf2ArqSupportType
        MAX-ACCESS  read-write
        STATUS      current
        DESCRIPTION
            "This object indicates whether the BS is configured to
             support ARQ."
        ::= { wmanIf2BsCapabilitiesConfigEntry 2 }

wmanIf2BsCapCfgDsxFlowControl OBJECT-TYPE
        SYNTAX      WmanIf2MaxDsxFlowType
        MAX-ACCESS  read-write
        STATUS      current
        DESCRIPTION
            "This object specifies the configured maximum number of
             concurrent DSA, DSC, or DSD transactions that BS allows
             each SS to have outstanding."
        DEFVAL    { 0 }
        ::= { wmanIf2BsCapabilitiesConfigEntry 3 }

wmanIf2BsCapCfgMacCrcSupport OBJECT-TYPE
        SYNTAX      WmanIf2MacCrcSupport
        MAX-ACCESS  read-write
        STATUS      current
        DESCRIPTION
            "This object indicates whether BS is configured to support
             MAC level CRC."
        DEFVAL    { macCrcSupport }
        ::= { wmanIf2BsCapabilitiesConfigEntry 4 }

wmanIf2BsCapCfgMcaFlowControl OBJECT-TYPE
        SYNTAX      WmanIf2MaxMcaFlowType
        MAX-ACCESS  read-write
        STATUS      current
        DESCRIPTION
            "This object specifies the maximum number of concurrent
             MCA transactions that BS is configured to allow each SS to
             have."
        DEFVAL    { 0 }
        ::= { wmanIf2BsCapabilitiesConfigEntry 5 }

wmanIf2BsCapCfgMcpGroupCidSupport OBJECT-TYPE
        SYNTAX      WmanIf2MaxMcpGroupCid
        MAX-ACCESS  read-write
        STATUS      current
        DESCRIPTION
            "This object indicates the maximum number of simultaneous
             Multicast Polling Groups the BS is configured to allow
             each SS to belong to."
        DEFVAL    { 0 }
        ::= { wmanIf2BsCapabilitiesConfigEntry 6 }

wmanIf2BsCapCfgPkmFlowControl OBJECT-TYPE
        SYNTAX      WmanIf2MaxPkmFlowType
        MAX-ACCESS  read-write
        STATUS      current
        DESCRIPTION
            "This object specifies the maximum number of concurrent
             PKM transactions that BS is configured to allow each SS
             to have."
        DEFVAL    { 0 }
        ::= { wmanIf2BsCapabilitiesConfigEntry 7 }

wmanIf2BsCapCfgAuthPolicyControl OBJECT-TYPE
        SYNTAX      WmanIf2AuthPolicyType
        MAX-ACCESS  read-write
        STATUS      current
        DESCRIPTION
            "This object specifies authorization policy that BS is
             configured to be capable of. A bit value of 0 = 'not
             supported', 1 = 'supported'. If this field is omitted,
             then both SS and BS shall use the IEEE 802.16 security,
             constituting X.509 digital certificates and the RSA
             public key encryption algorithm, as authorization policy."
        ::= { wmanIf2BsCapabilitiesConfigEntry 8 }

wmanIf2BsCapCfgMaxNumOfSupportedSA OBJECT-TYPE
        SYNTAX      WmanIf2MaxNumOfSaType
        MAX-ACCESS  read-write
        STATUS      current
        DESCRIPTION
            "This field specifies configured maximum number of supported
             security association per SS."
        DEFVAL    { 1 }
        ::= { wmanIf2BsCapabilitiesConfigEntry 9 }

wmanIf2BsCapCfgIpVersion OBJECT-TYPE
        SYNTAX      WmanIf2IpVersionType
        MAX-ACCESS  read-write
        STATUS      current
        DESCRIPTION
            "This object indicates the configured version of IP that the
             BS allows each SS to use on the 2nd Management Connection.
             The value 'undefined' should not be used in this field."
   ::= { wmanIf2BsCapabilitiesConfigEntry 10 }

wmanIf2BsCapCfgMacCsSupportBitMap OBJECT-TYPE
        SYNTAX      WmanIf2MacCsBitMap
        MAX-ACCESS  read-write
        STATUS      current
        DESCRIPTION
            "This object indicates BS configured set of MAC convergence
             sublayer support. When a bit is set, it indicates
             the corresponding CS feature is supported."
        ::= { wmanIf2BsCapabilitiesConfigEntry 11 }

wmanIf2BsCapCfgMaxNumOfClassifier OBJECT-TYPE
        SYNTAX      WmanIf2MaxClassifiers
        MAX-ACCESS  read-write
        STATUS      current
        DESCRIPTION
            "This object indicates the configured maximum number of
             admitted Classifiers per SS that the BS can support."
        DEFVAL      { 0 }
        ::= { wmanIf2BsCapabilitiesConfigEntry 12 }

wmanIf2BsCapCfgPhsSupport OBJECT-TYPE
        SYNTAX      WmanIf2PhsSupportType
        MAX-ACCESS  read-write
        STATUS      current
        DESCRIPTION
            "This object indicates the configured level of BS support
             for PHS."
        DEFVAL      { noPhsSupport }
        ::= { wmanIf2BsCapabilitiesConfigEntry 13 }

wmanIf2BsCapCfgBandwidthAllocSupport OBJECT-TYPE
        SYNTAX      WmanIf2BwAllocSupport
        MAX-ACCESS  read-write
        STATUS      current
        DESCRIPTION
            "This field indicates configured properties of the BS for
             bandwidth allocation purposes. The usage is defined by
             WmanIf2CapBwAllocSupport."
        ::= { wmanIf2BsCapabilitiesConfigEntry 14 }

wmanIf2BsCapCfgPduConstruction OBJECT-TYPE
        SYNTAX      WmanIf2PduConstruction
        MAX-ACCESS  read-write
        STATUS      current
        DESCRIPTION
            "Specifies configured capabilities for construction and
             transmission of MAC PDUs. The usage is defined by
             WmanIf2PduConstruction."
        ::= { wmanIf2BsCapabilitiesConfigEntry 15 }

wmanIf2BsCapCfgTtgTransitionGap OBJECT-TYPE
```

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        SYNTAX      WmanIf2SsTransitionGap
        UNITS       "us"
        MAX-ACCESS  read-write
        STATUS      current
        DESCRIPTION
            "This field indicates the configured transition speed
             SSTTG for TDD and H-FDD SSs. The usage is defined by
             WmanIf2SsTransitionGap."
        ::= { wmanIf2BsCapabilitiesConfigEntry 16 }

wmanIf2BsCapCfgRtgTransitionGap OBJECT-TYPE
        SYNTAX      WmanIf2SsTransitionGap
        UNITS       "us"
        MAX-ACCESS  read-write
        STATUS      current
        DESCRIPTION
            "This field indicates the configured transition speed
             SSRTG for TDD and H-FDD SSs. The usage is defined by
             WmanIf2SsTransitionGap."
        ::= { wmanIf2BsCapabilitiesConfigEntry 17 }

wmanIf2eBsSsReqCapabilitiesTable OBJECT-TYPE
        SYNTAX      SEQUENCE OF WmanIf2eBsSsReqCapabilitiesEntry
        MAX-ACCESS  not-accessible
        STATUS      current
        DESCRIPTION
            "This table augments wmanIf2BsRegisteredSsTable to include
             new capabilities as introduced in IEEE 802.16e 2005
             standard."
        ::= { wmanIf2BsCapabilities 5 }

wmanIf2eBsSsReqCapabilitiesEntry OBJECT-TYPE
        SYNTAX      WmanIf2eBsSsReqCapabilitiesEntry
        MAX-ACCESS  not-accessible
        STATUS      current
        DESCRIPTION
            "This table provides one row for each MS that has been
             registered in the BS. This table augments the table
             wmanIf2BsRegisteredSsTable."
        AUGMENTS { wmanIf2BsRegisteredSsEntry }
        ::= { wmanIf2eBsSsReqCapabilitiesTable 1 }

WmanIf2eBsSsReqCapabilitiesEntry ::= SEQUENCE {
        wmanIf2eBsSsReqCapDownlinkCidSupport    WmanIf2eNumOfCid,
        wmanIf2eBsSsReqCapPackingSupport        WmanIf2ePackingSupport,
        wmanIf2eBsSsReqCapExtendedRtpsSupport   WmanIf2eExtRtpsSupport,
        wmanIf2eBsSsReqCapMaxNumBurstToMs       INTEGER,
        wmanIf2eBsSsReqCapIpAddrAllocMethod     WmanIf2eIpAllocMethod,
        wmanIf2eBsSsReqCapHandoverSupported     WmanIf2eHandoverType,
        wmanIf2eBsSsReqCapHoProcessTimer        Unsigned32,
        wmanIf2eBsSsReqCapIdleModeTimeout       Unsigned32,
        wmanIf2eBsSsReqCapArqAckType            WmanIf2eArqAckType,
        wmanIf2eBsSsReqCapMacHeader             WmanIf2eMacHeaderSupp}
```

```
wmanIf2eBsSsReqCapDownlinkCidSupport OBJECT-TYPE
        SYNTAX      WmanIf2eNumOfCid
        MAX-ACCESS  read-only
        STATUS      current
        DESCRIPTION
           "This object shows the number of Downlink CIDs the SS can
            support."
        ::= { wmanIf2eBsSsReqCapabilitiesEntry 1 }

wmanIf2eBsSsReqCapPackingSupport OBJECT-TYPE
        SYNTAX      WmanIf2ePackingSupport
        MAX-ACCESS  read-only
        STATUS      current
        DESCRIPTION
           "Indicates the availability of MS support for Packing."
        REFERENCE
            "Subclause 11.7.8.11 in IEEE Std 802.16e-2005"
        ::= { wmanIf2eBsSsReqCapabilitiesEntry 2 }

wmanIf2eBsSsReqCapExtendedRtpsSupport OBJECT-TYPE
        SYNTAX      WmanIf2eExtRtpsSupport
        MAX-ACCESS  read-only
        STATUS      current
        DESCRIPTION
           "Indicates the availability of MS support for extended
            rtPs."
        REFERENCE
            "Subclause 11.7.8.12 in IEEE Std 802.16e-2005"
        ::= { wmanIf2eBsSsReqCapabilitiesEntry 3 }

wmanIf2eBsSsReqCapMaxNumBurstToMs OBJECT-TYPE
        SYNTAX      INTEGER (1..16)
        MAX-ACCESS  read-only
        STATUS      current
        DESCRIPTION
            "Maximum number of bursts transmitted concurrently to the MS
            , including all bursts without CID or with CIDs matching
             the MS's CIDs."
        REFERENCE
            "Subclause 11.7.8.13 in IEEE Std 802.16e-2005"
        ::= { wmanIf2eBsSsReqCapabilitiesEntry 4 }

wmanIf2eBsSsReqCapIpAddrAllocMethod OBJECT-TYPE
        SYNTAX      WmanIf2eIpAllocMethod
        MAX-ACCESS  read-only
        STATUS      current
        DESCRIPTION
            "Indicates the method of allocating IP address for the
             secondary management connection."
        REFERENCE
            "Subclause 11.7.11 in IEEE Std 802.16e-2005"
        ::= { wmanIf2eBsSsReqCapabilitiesEntry 5 }

wmanIf2eBsSsReqCapHandoverSupported OBJECT-TYPE
```

```
        SYNTAX      WmanIf2eHandoverType
        MAX-ACCESS  read-only
        STATUS      current
        DESCRIPTION
            "Indicates what type(s) of Handover the BS or MS supports."
        REFERENCE
            "Subclause 11.7.12 in IEEE Std 802.16e-2005"
        ::= { wmanIf2eBsSsReqCapabilitiesEntry 6 }

wmanIf2eBsSsReqCapHoProcessTimer OBJECT-TYPE
        SYNTAX      Unsigned32
        UNITS       "frames"
        MAX-ACCESS  read-only
        STATUS      current
        DESCRIPTION
            "The duration in frames the MS shall wait until receipt of
             the next unsolicited network re-entry MAC management
             message as indicated in the HO Process Optimization
             element of the RNG-RSP message."
        REFERENCE
            "Subclause 11.7.13.2 in IEEE Std 802.16e-2005"
        ::= { wmanIf2eBsSsReqCapabilitiesEntry 7 }

wmanIf2eBsSsReqCapIdleModeTimeout OBJECT-TYPE
        SYNTAX      Unsigned32
        UNITS       "seconds"
        MAX-ACCESS  read-only
        STATUS      current
        DESCRIPTION
            "Max time interval between MS Idle Mode Location Updates."
        REFERENCE
            "Subclause 11.7.20.1 in IEEE Std 802.16e-2005"
        DEFVAL         { 4096 }
        ::= { wmanIf2eBsSsReqCapabilitiesEntry 8 }

wmanIf2eBsSsReqCapArqAckType OBJECT-TYPE
        SYNTAX      WmanIf2eArqAckType
        MAX-ACCESS  read-only
        STATUS      current
        DESCRIPTION
            "The value of this parameter specifies the ARQ ACK type
             supported by the MS."
        REFERENCE
            "Subclause 11.7.23 in IEEE Std 802.16e-2005"
        ::= { wmanIf2eBsSsReqCapabilitiesEntry 9 }

wmanIf2eBsSsReqCapMacHeader OBJECT-TYPE
        SYNTAX      WmanIf2eMacHeaderSupp
        MAX-ACCESS  read-only
        STATUS      current
        DESCRIPTION
            "Indicates whether or not the MS and BS support various
             types of MAC header and extended subheaders."
        REFERENCE
```

```
            "Subclause 11.7.25 in IEEE Std 802.16e-2005"
        ::= { wmanIf2eBsSsReqCapabilitiesEntry 10 }

wmanIf2eBsSsRspCapabilitiesTable OBJECT-TYPE
        SYNTAX      SEQUENCE OF WmanIf2eBsSsRspCapabilitiesEntry
        MAX-ACCESS  not-accessible
        STATUS      current
        DESCRIPTION
            "This table contains the basic capability information of SSs
             that have been negotiated and agreed between BS and SS via
             RNG-REQ/RSP, SBC-REQ/RSP and REG-REQ/RSP messages.
             This table augments the wmanIf2BsRegisteredSsTable."
        REFERENCE
            "Subclause 6.3.2.3.7 in IEEE Std 802.16-2004"
        ::= { wmanIf2BsCapabilities 6 }

wmanIf2eBsSsRspCapabilitiesEntry OBJECT-TYPE
        SYNTAX      WmanIf2eBsSsRspCapabilitiesEntry
        MAX-ACCESS  not-accessible
        STATUS      current
        DESCRIPTION
            "This table provides one row for each SS that has been
             registered in the BS. This table augments the
             wmanIf2BsRegisteredSsTable. "
        AUGMENTS { wmanIf2BsRegisteredSsEntry }
        ::= { wmanIf2eBsSsRspCapabilitiesTable 1 }

WmanIf2eBsSsRspCapabilitiesEntry ::= SEQUENCE {
        wmanIf2eBsSsRspCapDownlinkCidSupport    WmanIf2eNumOfCid,
        wmanIf2eBsSsRspCapPackingSupport        WmanIf2ePackingSupport,
        wmanIf2eBsSsRspCapExtendedRtpsSupport   WmanIf2eExtRtpsSupport,
        wmanIf2eBsSsRspCapMaxNumBurstToMs       INTEGER,
        wmanIf2eBsSsRspCapIpAddrAllocMethod     WmanIf2eIpAllocMethod,
        wmanIf2eBsSsRspCapHandoverSupported     WmanIf2eHandoverType,
        wmanIf2eBsSsRspCapHoProcessTimer        Unsigned32,
        wmanIf2eBsSsRspCapIdleModeTimeout       Unsigned32,
        wmanIf2eBsSsRspCapArqAckType            WmanIf2eArqAckType,
        wmanIf2eBsSsRspCapMacHeader             WmanIf2eMacHeaderSupp}

wmanIf2eBsSsRspCapDownlinkCidSupport OBJECT-TYPE
        SYNTAX      WmanIf2eNumOfCid
        MAX-ACCESS  read-only
        STATUS      current
        DESCRIPTION
            "This object shows the number of Downlink CIDs the SS can
             support."
        ::= { wmanIf2eBsSsRspCapabilitiesEntry 1 }

wmanIf2eBsSsRspCapPackingSupport OBJECT-TYPE
        SYNTAX      WmanIf2ePackingSupport
        MAX-ACCESS  read-only
        STATUS      current
        DESCRIPTION
            "Indicates the availability of MS support for Packing."
        REFERENCE
            "Subclause 11.7.8.11 in IEEE Std 802.16e-2005"
        ::= { wmanIf2eBsSsRspCapabilitiesEntry 2 }

wmanIf2eBsSsRspCapExtendedRtpsSupport OBJECT-TYPE
        SYNTAX      WmanIf2eExtRtpsSupport
        MAX-ACCESS  read-only
        STATUS      current
        DESCRIPTION
            "Indicates the availability of MS support for extended
             rtPs."
        REFERENCE
            "Subclause 11.7.8.12 in IEEE Std 802.16e-2005"
        ::= { wmanIf2eBsSsRspCapabilitiesEntry 3 }

wmanIf2eBsSsRspCapMaxNumBurstToMs OBJECT-TYPE
        SYNTAX      INTEGER (1..16)
        MAX-ACCESS  read-only
        STATUS      current
        DESCRIPTION
            "Maximum number of bursts transmitted concurrently to the MS
             , including all bursts without CID or with CIDs matching
             the MS CIDs."
        REFERENCE
            "Subclause 11.7.8.13 in IEEE Std 802.16e-2005"
        ::= { wmanIf2eBsSsRspCapabilitiesEntry 4 }

wmanIf2eBsSsRspCapIpAddrAllocMethod OBJECT-TYPE
        SYNTAX      WmanIf2eIpAllocMethod
        MAX-ACCESS  read-only
        STATUS      current
        DESCRIPTION
            "Indicates the method of allocating IP address for the
             secondary management connection."
        REFERENCE
            "Subclause 11.7.11 in IEEE Std 802.16e-2005"
        ::= { wmanIf2eBsSsRspCapabilitiesEntry 5 }

wmanIf2eBsSsRspCapHandoverSupported OBJECT-TYPE
        SYNTAX      WmanIf2eHandoverType
        MAX-ACCESS  read-only
        STATUS      current
        DESCRIPTION
           "Indicates what type(s) of Handover the BS or MS supports."
        REFERENCE
            "Subclause 11.7.12 in IEEE Std 802.16e-2005"
        ::= { wmanIf2eBsSsRspCapabilitiesEntry 6 }

wmanIf2eBsSsRspCapHoProcessTimer OBJECT-TYPE
        SYNTAX      Unsigned32
        UNITS       "frames"
        MAX-ACCESS  read-only
        STATUS      current
        DESCRIPTION
```

```
            "The duration in frames the MS shall wait until receipt of
             the next unsolicited network re-entry MAC management
             message as indicated in the HO Process Optimization
             element of the RNG-RSP message."
        REFERENCE
            "Subclause 11.7.13.2 in IEEE Std 802.16e-2005"
        ::= { wmanIf2eBsSsRspCapabilitiesEntry 7 }

wmanIf2eBsSsRspCapIdleModeTimeout OBJECT-TYPE
        SYNTAX      Unsigned32
        UNITS       "seconds"
        MAX-ACCESS  read-only
        STATUS      current
        DESCRIPTION
            "Max time interval between MS Idle Mode Location Updates."
        REFERENCE
            "Subclause 11.7.20.1 in IEEE Std 802.16e-2005"
        DEFVAL         { 4096 }
        ::= { wmanIf2eBsSsRspCapabilitiesEntry 8 }

wmanIf2eBsSsRspCapArqAckType OBJECT-TYPE
        SYNTAX      WmanIf2eArqAckType
        MAX-ACCESS  read-only
        STATUS      current
        DESCRIPTION
            "The value of this parameter specifies the ARQ ACK type
             supported by the MS."
        REFERENCE
            "Subclause 11.7.23 in IEEE Std 802.16e-2005"
        ::= { wmanIf2eBsSsRspCapabilitiesEntry 9 }

wmanIf2eBsSsRspCapMacHeader OBJECT-TYPE
        SYNTAX      WmanIf2eMacHeaderSupp
        MAX-ACCESS  read-only
        STATUS      current
        DESCRIPTION
            "Indicates whether or not the MS and BS support various
             types of MAC header and extended subheaders."
        REFERENCE
            "Subclause 11.7.25 in IEEE Std 802.16e-2005"
        ::= { wmanIf2eBsSsRspCapabilitiesEntry 10 }

wmanIf2eBsBasicCapabilitiesTable OBJECT-TYPE
        SYNTAX      SEQUENCE OF WmanIf2eBsBasicCapabilitiesEntry
        MAX-ACCESS  not-accessible
        STATUS      current
        DESCRIPTION
            "This table contains the basic capabilities of the BS as
             implemented in BS hardware and software. These capabilities
             along with the configuration for them
            (wmanIf2eBsCapabilitiesConfigTable) are used for negotiation
             of basic capabilities with SS using RNG-RSP, SBC-RSP and
             REG-RSP messages. The negotiated capabilities are obtained
             by interSubclause of SS raw reported capabilities, BS raw
             capabilities and BS configured capabilities. The objects in
             the table have read-only access. The table is maintained
             by BS."
        ::= { wmanIf2BsCapabilities 7 }

wmanIf2eBsBasicCapabilitiesEntry OBJECT-TYPE
        SYNTAX      WmanIf2eBsBasicCapabilitiesEntry
        MAX-ACCESS  not-accessible
        STATUS      current
        DESCRIPTION
            "This table provides one row for each BS sector and is
             indexed by ifIndex."
        INDEX { ifIndex }
        ::= { wmanIf2eBsBasicCapabilitiesTable 1 }

WmanIf2eBsBasicCapabilitiesEntry ::= SEQUENCE {
        wmanIf2eBsCapDownlinkCidSupport         WmanIf2eNumOfCid,
        wmanIf2eBsCapPackingSupport             WmanIf2ePackingSupport,
        wmanIf2eBsCapExtendedRtpsSupport        WmanIf2eExtRtpsSupport,
        wmanIf2eBsCapMaxNumBurstToMs            INTEGER,
        wmanIf2eBsCapIpAddrAllocMethod          WmanIf2eIpAllocMethod,
        wmanIf2eBsCapHandoverSupported          WmanIf2eHandoverType,
        wmanIf2eBsCapHoProcessTimer             Unsigned32,
        wmanIf2eBsCapIdleModeTimeout            Unsigned32,
        wmanIf2eBsCapArqAckType                 WmanIf2eArqAckType,
        wmanIf2eBsCapMacHeader                  WmanIf2eMacHeaderSupp}

wmanIf2eBsCapDownlinkCidSupport OBJECT-TYPE
        SYNTAX      WmanIf2eNumOfCid
        MAX-ACCESS  read-only
        STATUS      current
        DESCRIPTION
            "This object shows the number of Downlink CIDs the SS can
             support."
        ::= { wmanIf2eBsBasicCapabilitiesEntry 1 }

wmanIf2eBsCapPackingSupport OBJECT-TYPE
        SYNTAX      WmanIf2ePackingSupport
        MAX-ACCESS  read-only
        STATUS      current
        DESCRIPTION
            "Indicates the availability of MS support for Packing."
        REFERENCE
            "Subclause 11.7.8.11 in IEEE Std 802.16e-2005"
        ::= { wmanIf2eBsBasicCapabilitiesEntry 2 }

wmanIf2eBsCapExtendedRtpsSupport OBJECT-TYPE
        SYNTAX      WmanIf2eExtRtpsSupport
        MAX-ACCESS  read-only
        STATUS      current
        DESCRIPTION
            "Indicates the availability of MS support for extended
             rtPs."
        REFERENCE
```

```
            "Subclause 11.7.8.12 in IEEE Std 802.16e-2005"
        ::= { wmanIf2eBsBasicCapabilitiesEntry 3 }

wmanIf2eBsCapMaxNumBurstToMs OBJECT-TYPE
        SYNTAX      INTEGER (1..16)
        MAX-ACCESS  read-only
        STATUS      current
        DESCRIPTION
            "Maximum number of bursts transmitted concurrently to the MS
             , including all bursts without CID or with CIDs matching
             the MS CIDs."
        REFERENCE
            "Subclause 11.7.8.13 in IEEE Std 802.16e-2005"
        ::= { wmanIf2eBsBasicCapabilitiesEntry 4 }

wmanIf2eBsCapIpAddrAllocMethod OBJECT-TYPE
        SYNTAX      WmanIf2eIpAllocMethod
        MAX-ACCESS  read-only
        STATUS      current
        DESCRIPTION
            "Indicates the method of allocating IP address for the
             secondary management connection."
        REFERENCE
            "Subclause 11.7.11 in IEEE Std 802.16e-2005"
        ::= { wmanIf2eBsBasicCapabilitiesEntry 5 }

wmanIf2eBsCapHandoverSupported OBJECT-TYPE
        SYNTAX      WmanIf2eHandoverType
        MAX-ACCESS  read-only
        STATUS      current
        DESCRIPTION
            "Indicates what type(s) of Handover the BS or MS supports."
        REFERENCE
            "Subclause 11.7.12 in IEEE Std 802.16e-2005"
        ::= { wmanIf2eBsBasicCapabilitiesEntry 6 }

wmanIf2eBsCapHoProcessTimer OBJECT-TYPE
        SYNTAX      Unsigned32
        UNITS       "frames"
        MAX-ACCESS  read-only
        STATUS      current
        DESCRIPTION
            "The duration in frames the MS shall wait until receipt of
             the next unsolicited network re-entry MAC management
             message as indicated in the HO Process Optimization
             element of the RNG-RSP message."
        REFERENCE
            "Subclause 11.7.13.2 in IEEE Std 802.16e-2005"
        ::= { wmanIf2eBsBasicCapabilitiesEntry 7 }

wmanIf2eBsCapIdleModeTimeout OBJECT-TYPE
        SYNTAX      Unsigned32
        UNITS       "seconds"
        MAX-ACCESS  read-only
        STATUS      current
        DESCRIPTION
            "Max time interval between MS Idle Mode Location Updates."
        REFERENCE
            "Subclause 11.7.20.1 in IEEE Std 802.16e-2005"
        DEFVAL         { 4096 }
        ::= { wmanIf2eBsBasicCapabilitiesEntry 8 }

wmanIf2eBsCapArqAckType OBJECT-TYPE
        SYNTAX      WmanIf2eArqAckType
        MAX-ACCESS  read-only
        STATUS      current
        DESCRIPTION
            "The value of this parameter specifies the ARQ ACK type
             supported by the MS."
        REFERENCE
            "Subclause 11.7.23 in IEEE Std 802.16e-2005"
        ::= { wmanIf2eBsBasicCapabilitiesEntry 9 }

wmanIf2eBsCapMacHeader OBJECT-TYPE
        SYNTAX      WmanIf2eMacHeaderSupp
        MAX-ACCESS  read-only
        STATUS      current
        DESCRIPTION
            "Indicates whether or not the MS and BS support various
             types of MAC header and extended subheaders."
        REFERENCE
            "Subclause 11.7.25 in IEEE Std 802.16e-2005"
        ::= { wmanIf2eBsBasicCapabilitiesEntry 10 }

wmanIf2eBsCapabilitiesConfigTable OBJECT-TYPE
        SYNTAX      SEQUENCE OF WmanIf2eBsCapabilitiesConfigEntry
        MAX-ACCESS  not-accessible
        STATUS      current
        DESCRIPTION
            "This table contains the configuration for basic
             capabilities of BS. The table is intended to be used to
             restrict the Capabilities implemented by BS, for example in
             order to comply with local regulatory requirements. The BS
             should use the configuration along with the implemented
             Capabilities (wmanIf2eBsBasicCapabilitiesTable) for
             negotiation of basic capabilities with SS using RNG-RSP,
             SBC-RSP and REG-RSP messages. The negotiated capabilities
             are obtained by interSubclause of SS reported capabilities,
             BS raw capabilities and BS configured capabilities. The
             objects in the table have read-write access. The rows are
             created by BS as a copy of wmanIf2eBsBasicCapabilitiesTable
             and can be modified by NMS."
        ::= { wmanIf2BsCapabilities 8 }

wmanIf2eBsCapabilitiesConfigEntry OBJECT-TYPE
        SYNTAX      WmanIf2eBsCapabilitiesConfigEntry
        MAX-ACCESS  not-accessible
        STATUS      current
        DESCRIPTION
            "This table provides one row for each BS sector and is
             indexed by ifIndex."
        INDEX { ifIndex }
        ::= { wmanIf2eBsCapabilitiesConfigTable 1 }

WmanIf2eBsCapabilitiesConfigEntry ::= SEQUENCE {
        wmanIf2eBsCapCfgDownlinkCidSupport      WmanIf2eNumOfCid,
        wmanIf2eBsCapCfgPackingSupport          WmanIf2ePackingSupport,
        wmanIf2eBsCapCfgExtendedRtpsSupport     WmanIf2eExtRtpsSupport,
        wmanIf2eBsCapCfgMaxNumBurstToMs         INTEGER,
        wmanIf2eBsCapCfgIpAddrAllocMethod       WmanIf2eIpAllocMethod,
        wmanIf2eBsCapCfgHandoverSupported       WmanIf2eHandoverType,
        wmanIf2eBsCapCfgHoProcessTimer          Unsigned32,
        wmanIf2eBsCapCfgIdleModeTimeout         Unsigned32,
        wmanIf2eBsCapCfgArqAckType              WmanIf2eArqAckType,
        wmanIf2eBsCapCfgMacHeader               WmanIf2eMacHeaderSupp}

wmanIf2eBsCapCfgDownlinkCidSupport OBJECT-TYPE
        SYNTAX      WmanIf2eNumOfCid
        MAX-ACCESS  read-write
        STATUS      current
        DESCRIPTION
            "This object shows the number of Downlink CIDs the SS can
             support."
        ::= { wmanIf2eBsCapabilitiesConfigEntry 1 }

wmanIf2eBsCapCfgPackingSupport OBJECT-TYPE
        SYNTAX      WmanIf2ePackingSupport
        MAX-ACCESS  read-only
        STATUS      current
        DESCRIPTION
            "Indicates the availability of MS support for Packing."
        REFERENCE
            "Subclause 11.7.8.11 in IEEE Std 802.16e-2005"
        ::= { wmanIf2eBsCapabilitiesConfigEntry 2 }

wmanIf2eBsCapCfgExtendedRtpsSupport OBJECT-TYPE
        SYNTAX      WmanIf2eExtRtpsSupport
        MAX-ACCESS  read-write
        STATUS      current
        DESCRIPTION
            "Indicates the availability of MS support for extended
             rtPs."
        REFERENCE
            "Subclause 11.7.8.12 in IEEE Std 802.16e-2005"
        ::= { wmanIf2eBsCapabilitiesConfigEntry 3 }

wmanIf2eBsCapCfgMaxNumBurstToMs OBJECT-TYPE
        SYNTAX      INTEGER (1..16)
        MAX-ACCESS  read-write
        STATUS      current
        DESCRIPTION
            "Maximum number of bursts transmitted concurrently to the MS
```

```
             , including all bursts without CID or with CIDs matching
             the MS CIDs."
        REFERENCE
            "Subclause 11.7.8.13 in IEEE Std 802.16e-2005"
        ::= { wmanIf2eBsCapabilitiesConfigEntry 4 }

wmanIf2eBsCapCfgIpAddrAllocMethod OBJECT-TYPE
        SYNTAX      WmanIf2eIpAllocMethod
        MAX-ACCESS  read-write
        STATUS      current
        DESCRIPTION
            "Indicates the method of allocating IP address for the
             secondary management connection."
        REFERENCE
            "Subclause 11.7.11 in IEEE Std 802.16e-2005"
        ::= { wmanIf2eBsCapabilitiesConfigEntry 5 }

wmanIf2eBsCapCfgHandoverSupported OBJECT-TYPE
        SYNTAX      WmanIf2eHandoverType
        MAX-ACCESS  read-write
        STATUS      current
        DESCRIPTION
            "Indicates what type(s) of Handover the BS or MS supports."
        REFERENCE
            "Subclause 11.7.12 in IEEE Std 802.16e-2005"
        ::= { wmanIf2eBsCapabilitiesConfigEntry 6 }

wmanIf2eBsCapCfgHoProcessTimer OBJECT-TYPE
        SYNTAX      Unsigned32
        UNITS       "frames"
        MAX-ACCESS  read-write
        STATUS      current
        DESCRIPTION
            "The duration in frames the MS shall wait until receipt of
             the next unsolicited network re-entry MAC management
             message as indicated in the HO Process Optimization
             element of the RNG-RSP message."
        REFERENCE
            "Subclause 11.7.13.2 in IEEE Std 802.16e-2005"
        ::= { wmanIf2eBsCapabilitiesConfigEntry 7 }

wmanIf2eBsCapCfgIdleModeTimeout OBJECT-TYPE
        SYNTAX      Unsigned32
        UNITS       "seconds"
        MAX-ACCESS  read-write
        STATUS      current
        DESCRIPTION
            "Max time interval between MS Idle Mode Location Updates."
        REFERENCE
            "Subclause 11.7.20.1 in IEEE Std 802.16e-2005"
        DEFVAL         { 4096 }
        ::= { wmanIf2eBsCapabilitiesConfigEntry 8 }

wmanIf2eBsCapCfgArqAckType OBJECT-TYPE
```

```
        SYNTAX      WmanIf2eArqAckType
        MAX-ACCESS  read-write
        STATUS      current
        DESCRIPTION
            "The value of this parameter specifies the ARQ ACK type
             supported by the MS."
        REFERENCE
            "Subclause 11.7.23 in IEEE Std 802.16e-2005"
        ::= { wmanIf2eBsCapabilitiesConfigEntry 9 }

wmanIf2eBsCapCfgMacHeader OBJECT-TYPE
        SYNTAX      WmanIf2eMacHeaderSupp
        MAX-ACCESS  read-write
        STATUS      current
        DESCRIPTION
            "Indicates whether or not the MS and BS support various
             types of MAC header and extended subheaders."
        REFERENCE
            "Subclause 11.7.25 in IEEE Std 802.16e-2005"
        ::= { wmanIf2eBsCapabilitiesConfigEntry 10 }

wmanIf2BsSsActionsTable OBJECT-TYPE
        SYNTAX      SEQUENCE OF WmanIf2BsSsActionsEntry
        MAX-ACCESS  not-accessible
        STATUS      current
        DESCRIPTION
            "This table contains all the actions specified for SSs in
             the standard. The actions are routed down to SS using
             unsolicited MAC messages: REG-RSP, DREG-REQ and RES-CMD.
             The table also contains the parameters of the actions in
             cases where they are specified by the standard."
        ::= { wmanIf2BsCps 5 }

wmanIf2BsSsActionsEntry OBJECT-TYPE
        SYNTAX      WmanIf2BsSsActionsEntry
        MAX-ACCESS  not-accessible
        STATUS      current
        DESCRIPTION
            "This table is indexed by wmanIf2BsSsActionsMacAddress. The
             action can be requested for SS in any state not only those
             registered. However BS will decide whether the action is
             applicable to the SS based on its current state and execute
             it or skip it as defined in each action definition."
        INDEX { wmanIf2BsSsActionsMacAddress }
        ::= { wmanIf2BsSsActionsTable 1 }

WmanIf2BsSsActionsEntry ::= SEQUENCE {
        wmanIf2BsSsActionsMacAddress            MacAddress,
        wmanIf2BsSsActionsResetSs               INTEGER,
        wmanIf2BsSsActionsAbortSs               INTEGER,
        wmanIf2BsSsActionsOverrideDnFreq        Unsigned32,
        wmanIf2BsSsActionsOverrideChannelId     INTEGER,
        wmanIf2BsSsActionsDeReRegSs             INTEGER,
        wmanIf2BsSsActionsDeReRegSsCode         INTEGER,
        wmanIf2BsSsActionsRowStatus             RowStatus}

wmanIf2BsSsActionsMacAddress OBJECT-TYPE
        SYNTAX      MacAddress
        MAX-ACCESS  not-accessible
        STATUS      current
        DESCRIPTION
            "This object uniquely identifies the SS as an action
             target."
        ::= { wmanIf2BsSsActionsEntry 1 }

wmanIf2BsSsActionsResetSs OBJECT-TYPE
        SYNTAX      INTEGER {actionsResetSsNoAction(0),
                             actionsResetSs(1)}
        MAX-ACCESS  read-create
        STATUS      current
        DESCRIPTION
            "This object should be implemented as follows:
             - When set to actionsResetSs value, instructs BS to send
               RES-CMD to SS
             - When set to value different than actionsResetSs it
               should be ignored
             - When read it should return actionsResetSsNoAction
             The RES-CMD message shall be transmitted by the BS on an
             SS Basic CID to force the SS to reset itself,
             reinitialize its MAC, and repeat initial system access."
        REFERENCE
            "Subclause 6.3.2.3.22 in IEEE Std 802.16-2004"
        ::= { wmanIf2BsSsActionsEntry 2 }

wmanIf2BsSsActionsAbortSs OBJECT-TYPE
        SYNTAX      INTEGER {actionsAbortSsNoAction(0),
                             actionsAbortSs(1),
                             actionAbortSsParams(2)}

        MAX-ACCESS  read-create
        STATUS      current
        DESCRIPTION
            "This object should be implemented as follows:
             - When set to actionsAbortSs value, it instructs BS to send
               unsolicited RNG-RSP with Ranging Status equal to 'abort'
               without override parameters
             - When set to actionAbortSsParams value, it instructs BS to
               send unsolicited RNG-RSP with Ranging Status equal to
               'abort' and with 'Downlink Frequency Override' and
               'Uplink Channel ID Override' parameters.
             - When set to any other value it should be ignored
             - When read it should returned actionsAbortSsNoAction"
        REFERENCE
            "Subclause 11.6, Table 365 in IEEE Std 802.16-2004"
        ::= { wmanIf2BsSsActionsEntry 3 }

wmanIf2BsSsActionsOverrideDnFreq OBJECT-TYPE
        SYNTAX      Unsigned32
        UNITS       "kHz"
        MAX-ACCESS  read-create
        STATUS      current
        DESCRIPTION
            "This object is used as a parmeter of the AbortSs action
             with the code actionAbortSsParams. It is used for licensed
             bands only. It defines the Center frequency, in kHz, of
             new downlink channel where the SS should redo initial
             ranging."
        REFERENCE
            "Subclause 11.6, Table 365 in IEEE Std 802.16-2004"
        ::= { wmanIf2BsSsActionsEntry 4 }

wmanIf2BsSsActionsOverrideChannelId OBJECT-TYPE
        SYNTAX      INTEGER (0..199)
        MAX-ACCESS  read-create
        STATUS      current
        DESCRIPTION
            "This object is used as a parmeter of the AbortSs action
             with the code actionAbortSsParams. It is coded as follows:
             - Licensed bands: The identifier of the uplink channel
               with which the SS is to redo initial ranging (not used
               with PHYs without channelized uplinks).
             - License-exempt bands: The Channel Nr (see 8.5.1) where
               the SS should redo initial ranging."
        REFERENCE
            "Subclause 11.6, Table 365 in IEEE Std 802.16-2004"
        ::= { wmanIf2BsSsActionsEntry 5 }

wmanIf2BsSsActionsDeReRegSs OBJECT-TYPE
        SYNTAX      INTEGER {actionsDeReRegSsNoAction(0),
                             actionsDeReRegSs(1)}
        MAX-ACCESS  read-create
        STATUS      current
        DESCRIPTION
            "This object should be implemented as follows:
             - When set to actionsDeReRegSs value, instructs BS to
               send DREG-CMD to SS with specified action code
             - When set to value different than actionsDeReRegSs it
               should be ignored
             - When read it should return actionsDeReRegSsNoAction
             The DREG-CMD message shall be transmitted by the BS on an
             SS Basic CID to force the SS to change its access state.
             Upon receiving a DREG-CMD, the SS shall take the action
             indicated by the action code defined by
             wmanIf2BsSsActionsDeReRegSsCode."
        REFERENCE
            "Subclause 6.3.2.3.26 in IEEE Std 802.16-2004"
        ::= { wmanIf2BsSsActionsEntry 6 }

wmanIf2BsSsActionsDeReRegSsCode OBJECT-TYPE
        SYNTAX      INTEGER {actionsDeReRegSsCodeChangeChan(0),
                             actionsDeReRegSsCodeNoTransmit(1),
                             actionsDeReRegSsCodeLtdTransmit(2),
                             actionsDeReRegSsCodeResume(3)}
        MAX-ACCESS  read-create
        STATUS      current
        DESCRIPTION
            "This object defines the action code for
             wmanIf2BsSsActionsDeReRegSs action. The codes are defined
             as follows:
             actionsDeReRegSsCodeChangeChan - SS shall leave the
                 current channel and attempt to access another channel.
             actionsDeReRegSsCodeNoTransmit - SS shall listen to the
                 current channel but shall not transmit until an
                 RES-CMD message or DREG_CMD with an Action Code that
                 allows transmission is received.
             actionsDeReRegSsCodeLtdTransmit - SS shall listen to the
                 current channel but only transmit on the Basic,
                 Primary Management and 2nd Management Connections.
             actionsDeReRegSsCodeResume - SS shall return to normal
                 operation and may transmit on any of its active
                 connections."
        REFERENCE
            "Subclause 6.3.2.3.26, Table 55 in IEEE Std 802.16-2004"
        ::= { wmanIf2BsSsActionsEntry 7 }

wmanIf2BsSsActionsRowStatus OBJECT-TYPE
        SYNTAX      RowStatus
        MAX-ACCESS  read-create
        STATUS      current
        DESCRIPTION
            "This object is used to ensure that the write operation to
             multiple columns is guaranteed to be treated as atomic
             operation by agent."
        ::= { wmanIf2BsSsActionsEntry 8 }

--
-- wmanIf2BsSsPowerSavingStatusTable contains the power saving status
--
wmanIf2BsSsPowerSavingStatusTable OBJECT-TYPE
        SYNTAX      SEQUENCE OF WmanIf2BsSsPowerSavingStatusEntry
        MAX-ACCESS  not-accessible
        STATUS      current
        DESCRIPTION
            "This table contains the power saving status for each CID
             in an MS. When the BS roams to a different BS, all entries
             associated with such MS will be deleted."
        ::= { wmanIf2BsCps 6 }

wmanIf2BsSsPowerSavingStatusEntry OBJECT-TYPE
        SYNTAX      WmanIf2BsSsPowerSavingStatusEntry
        MAX-ACCESS  not-accessible
        STATUS      current
        DESCRIPTION
            "This table provides one row for each CID in an MS, and
             is indexed by ifIndex, wmanIf2BsSsMacAddress, and
             wmanIf2BsSsCid."
        INDEX     { ifIndex,
                    wmanIf2BsSsMacAddress,
                    wmanIf2BsSsCid  }
        ::= { wmanIf2BsSsPowerSavingStatusTable 1 }

WmanIf2BsSsPowerSavingStatusEntry::= SEQUENCE {
        wmanIf2BsSsCid                          WmanIf2CidType,
        wmanIf2BsSsPowerSavingClassId           WmanIf2PsClassId}

wmanIf2BsSsCid OBJECT-TYPE
        SYNTAX      WmanIf2CidType
        MAX-ACCESS  read-only
        STATUS      current
        DESCRIPTION
            "A 16 bit channel identifier to identify a connection."
       ::= { wmanIf2BsSsPowerSavingStatusEntry 1 }

wmanIf2BsSsPowerSavingClassId OBJECT-TYPE
        SYNTAX      WmanIf2PsClassId
        MAX-ACCESS  read-only
        STATUS      current
        DESCRIPTION
            "wmanIf2BsSsPowerSavingClassId identifies the power
             saving class associated with this CID. It maps to an
             entry in wmanIf2BsSsPowerSavingClassesTable."
        ::= { wmanIf2BsSsPowerSavingStatusEntry 2 }

--
-- wmanIf2BsSsPowerSavingClassesTable contains the power saving classes
-- information
--
wmanIf2BsSsPowerSavingClassesTable OBJECT-TYPE
        SYNTAX      SEQUENCE OF WmanIf2BsSsPowerSavingClassesEntry
        MAX-ACCESS  not-accessible
        STATUS      current
        DESCRIPTION
            "This table contains the power saving classes definitions,
             and activation / deactivation information that are provided
             by MOB_SLP-REQ and MOB_SLP-RSP messages. When the BS roams
             to a different BS, all entries associated with such MS will
             be deleted."
        ::= { wmanIf2BsCps 7 }

wmanIf2BsSsPowerSavingClassesEntry OBJECT-TYPE
        SYNTAX      WmanIf2BsSsPowerSavingClassesEntry
        MAX-ACCESS  not-accessible
        STATUS      current
        DESCRIPTION
            "This table is indexed by ifIndex, wmanIf2BsSsMacAddress,
             and wmanIf2BsSsPsClassesId. It is intended to support both
             unicast and multicast service flows.
             wmanIf2BsSsMacAddress contains the MAC address of the MS
             to which the power saving classes are associated."
        INDEX { ifIndex,
                wmanIf2BsSsMacAddress,
                wmanIf2BsSsPsClassId }
        ::= { wmanIf2BsSsPowerSavingClassesTable 1 }

WmanIf2BsSsPowerSavingClassesEntry ::= SEQUENCE {
        wmanIf2BsSsPsClassId                    WmanIf2PsClassId,
        wmanIf2BsSsStartFrameNumber             INTEGER,
        wmanIf2BsSsPowerSavingClassType         WmanIf2ePsClassType,
        wmanIf2BsSsPsClassCidDirection          WmanIf2ePsClassCidDir,
        wmanIf2BsSsTrafficTriggeredWakening     INTEGER,
        wmanIf2BsSsInitialSleepWindow           INTEGER,
        wmanIf2BsSsFinalSleepWindowBase         INTEGER,
        wmanIf2BsSsFinalSleepWindowExponent     INTEGER,
        wmanIf2BsSsListeningWindow              INTEGER,
        wmanIf2BsSsPowerSavingMode              WmanIf2PowerSavingMode,
        wmanIf2BsSsSlpId                        INTEGER}

wmanIf2BsSsPsClassId OBJECT-TYPE
        SYNTAX      WmanIf2PsClassId
        MAX-ACCESS  not-accessible
        STATUS      current
        DESCRIPTION
            "This object uniquely identifies the power saving classes
             in a MS."
        ::= { wmanIf2BsSsPowerSavingClassesEntry 1 }

wmanIf2BsSsStartFrameNumber OBJECT-TYPE
        SYNTAX      INTEGER
        MAX-ACCESS  read-write
        STATUS      current
        DESCRIPTION
            "Start frame number for first sleep window."
        REFERENCE
            "Subclause 6.3.2.3.44 in IEEE Std 802.16e-2005"
        ::= { wmanIf2BsSsPowerSavingClassesEntry 2 }

wmanIf2BsSsPowerSavingClassType OBJECT-TYPE
        SYNTAX      WmanIf2ePsClassType
        MAX-ACCESS  read-write
        STATUS      current
        DESCRIPTION
            "Power saving classes type I - BE & NRT-VR,
             Power saving classes type II - UGS & RT-VR,
             Power saving classes type III - multicast, management CID"
        REFERENCE
            "Subclause 6.3.21.2-4, in IEEE Std 802.16e-2005"
        ::= { wmanIf2BsSsPowerSavingClassesEntry 3 }

wmanIf2BsSsPsClassCidDirection OBJECT-TYPE
        SYNTAX      WmanIf2ePsClassCidDir
        MAX-ACCESS  read-write
        STATUS      current
        DESCRIPTION
            "The direction of power saving class's CIDs."
        REFERENCE
            "Subclause 6.3.2.3.44, in IEEE Std 802.16e-2005"
        ::= { wmanIf2BsSsPowerSavingClassesEntry 4 }

wmanIf2BsSsTrafficTriggeredWakening OBJECT-TYPE
        SYNTAX      INTEGER (0..1)
        MAX-ACCESS  read-write
        STATUS      current
        DESCRIPTION
            "0 = Power Saving Class shall not be deactivated if
             traffic appears at the connection as per 6.3.19.2.
             1 = Power Saving Class shall be deactivated if
             traffic appears at the connection as 6.3.19.2."
        REFERENCE
            "Subclause 6.3.19.2, in IEEE Std 802.16e-2005"
        ::= { wmanIf2BsSsPowerSavingClassesEntry 5 }

wmanIf2BsSsInitialSleepWindow OBJECT-TYPE
        SYNTAX      INTEGER (0..255)
        UNITS       "frame"
        MAX-ACCESS  read-write
        STATUS      current
        DESCRIPTION
            "The initial duration for the sleep window. It is not
             relevant for Power Saving Class type III, and shall
             return '0'."
        REFERENCE
            "Subclause 6.3.2.3.44, in IEEE Std 802.16e-2005"
        ::= { wmanIf2BsSsPowerSavingClassesEntry 6 }

wmanIf2BsSsFinalSleepWindowBase OBJECT-TYPE
        SYNTAX      INTEGER (0..1023)
        UNITS       "frame"
        MAX-ACCESS  read-write
        STATUS      current
        DESCRIPTION
            "The final value for the sleep interval. It is not
             relevant for Power Saving Class type II, and shall
             return '0'. For Power Saving Class type III, it is the
             base for duration of single sleep window request."
        REFERENCE
            "Subclause 6.3.2.3.44, in IEEE Std 802.16e-2005"
        ::= { wmanIf2BsSsPowerSavingClassesEntry 7 }

wmanIf2BsSsFinalSleepWindowExponent OBJECT-TYPE
        SYNTAX      INTEGER (0..7)
        MAX-ACCESS  read-write
        STATUS      current
        DESCRIPTION
            "The factor by which the final-sleep window base is
             multiplied in order to calculate the final-sleep window.
             The following formula is used:
             final-sleep window = final-sleep window base x
                                  2^(final-sleep window exponent)
```

```
              For Power Saving Class type III, it is the exponent for
              the duration of single sleep window request."
        REFERENCE
            "Subclause 6.3.2.3.44, in IEEE Std 802.16e-2005"
        ::= { wmanIf2BsSsPowerSavingClassesEntry 8 }

wmanIf2BsSsListeningWindow OBJECT-TYPE
        SYNTAX      INTEGER (0..255)
        UNITS       "frame"
        MAX-ACCESS  read-write
        STATUS      current
        DESCRIPTION
            "The Duration of MS listening window. It is not
             relevant for Power Saving Class type III, and shall
             return '0'."
        REFERENCE
            "Subclause 6.3.2.3.44, in IEEE Std 802.16e-2005"
        ::= { wmanIf2BsSsPowerSavingClassesEntry 9 }

wmanIf2BsSsPowerSavingMode OBJECT-TYPE
        SYNTAX      WmanIf2PowerSavingMode
        MAX-ACCESS  read-write
        STATUS      current
        DESCRIPTION
            "Indicate whether the power saving class mode of such
             CID is active or not.
             wmanIf2BsSsPowerSavingMode = Sleep_Approved && Operation."
        REFERENCE
            "Subclause 6.3.2.3.45, in IEEE Std 802.16e-2005"
        ::= { wmanIf2BsSsPowerSavingClassesEntry 10 }

wmanIf2BsSsSlpId OBJECT-TYPE
        SYNTAX      INTEGER (0..1023)
        MAX-ACCESS  read-only
        STATUS      current
        DESCRIPTION
            "wmanIf2BsSsSlpId is assigned by the BS whenever an MS is
             instructed to enter sleep mode. This number shall be unique
             among all MSs that are in sleep mode."
        REFERENCE
            "Subclause 6.3.2.3.45, in IEEE Std 802.16e-2005"
        ::= { wmanIf2BsSsPowerSavingClassesEntry 11 }

--
-- Mobile Station Sleep Mode Statistics Table
--
wmanIf2BsSsSleepModeStatisticsTable OBJECT-TYPE
        SYNTAX      SEQUENCE OF   WmanIf2BsSsSleepModeStatisticsEntry
        MAX-ACCESS  not-accessible
        STATUS      current
        DESCRIPTION
            "This table contains the sleep mode statistic for MS. This
             table shall be maintained as FIFO to store the sleep mode
             statistics over a period of time that is subject to
             implementation. This statistics information can be to
             monitor, fine tuning, or debugging the power saving
             performance of each MS. When the statistics entry for an
             MS reaches the limit, it wraps around to the beginning, and
             overwrites the oldest entry with the new entry. When the BS
             roams to a different BS, all entries associated with such
             MS will be deleted."
        REFERENCE
            "6.3.21 in IEEE Std 802.16e-2005"
        ::= { wmanIf2BsCps 8 }

wmanIf2BsSsSleepModeStatisticsEntry OBJECT-TYPE
        SYNTAX      WmanIf2BsSsSleepModeStatisticsEntry
        MAX-ACCESS  not-accessible
        STATUS      current
        DESCRIPTION
            "Each entry in the table contains the event of an MS
             entering the sleep mode. It is indexed by ifIndex,
             wmanIf2BsSsMacAddress, and wmanIf2BsSsStatisticsIndex.
             wmanIf2BsSsStatisticsIndex is the index to sleep mode event
             entry in the table, and should be increased monotonically,
             and wraps around when it reaches the implementation
             specific limit. A time stamp is provided in each entry to
             indicate when the sleep mode event took place."
        INDEX       { ifIndex,
                      wmanIf2BsSsMacAddress,
                      wmanIf2BsSsCid,
                      wmanIf2BsSsStatisticsIndex }
        ::= { wmanIf2BsSsSleepModeStatisticsTable  1 }

WmanIf2BsSsSleepModeStatisticsEntry ::= SEQUENCE {
        wmanIf2BsSsStatisticsIndex              Unsigned32,
        wmanIf2BsSsSleepWindowStarted           Unsigned32,
        wmanIf2BsSsListeningWindowStarted       Unsigned32,
        wmanIf2BsSsPendingMsdu                  INTEGER,
        wmanIf2BsSsSleepWindowTimeStamp         DateAndTime}

wmanIf2BsSsStatisticsIndex OBJECT-TYPE
        SYNTAX      Unsigned32 (1 .. 4294967295)
        MAX-ACCESS  read-only
        STATUS      current
        DESCRIPTION
            "wmanIf2BsSsStatisticsIndex identifies the entry in the
             table where the latest sleep mode event took place."
        ::= { wmanIf2BsSsSleepModeStatisticsEntry 1 }

wmanIf2BsSsSleepWindowStarted OBJECT-TYPE
        SYNTAX      Unsigned32 (1 .. 166777215)
        UNITS       "frame"
        MAX-ACCESS  read-only
        STATUS      current
        DESCRIPTION
            "wmanIf2BsSsSleepWindowStarted identifies when the sleep
             mode is activated.
             wmanIf2BsSsSleepWindowStarted = current frame number +
                                               Start_frame_number.
             The frame number is provided in the DL-MAP, and is
             incremented by 1 MOD 2^24 each frame."
        ::= { wmanIf2BsSsSleepModeStatisticsEntry 2 }

wmanIf2BsSsListeningWindowStarted OBJECT-TYPE
        SYNTAX      Unsigned32 (1 .. 166777215)
        UNITS       "frame"
        MAX-ACCESS  read-only
        STATUS      current
        DESCRIPTION
            "wmanIf2BsSsListeningWindowStarted identifies when the sleep
             mode is deactivated.
             wmanIf2BsSsListeningWindowStarted =
             wmanIf2BsSsListeningWindowStarted + sleep window
             The frame number is provided in the DL-MAP, and is
             incremented by 1 MOD 2^24 each frame."
        ::= { wmanIf2BsSsSleepModeStatisticsEntry 3 }

wmanIf2BsSsPendingMsdu OBJECT-TYPE
        SYNTAX      INTEGER
        MAX-ACCESS  read-only
        STATUS      current
        DESCRIPTION
            "Indicate the number of MAC SDU that are received from the
             network during the sleep window."
        ::= { wmanIf2BsSsSleepModeStatisticsEntry 4 }

wmanIf2BsSsSleepWindowTimeStamp OBJECT-TYPE
        SYNTAX      DateAndTime
        MAX-ACCESS  read-only
        STATUS      current
        DESCRIPTION
            "This is the time when sleep window is started in seconds.
             The definition of time is as in IETF RFC 868."
        ::= { wmanIf2BsSsSleepModeStatisticsEntry 5 }

--
-- Base station PKM group
-- wmanIf2BsPkmObjects contain the Base Station Privacy Sublayer objects
--
wmanIf2BsPkmObjects OBJECT IDENTIFIER ::= { wmanIf2BsObjects  3 }

--
-- Table wmanIf2BsPkmBaseTable
--
wmanIf2BsPkmBaseTable OBJECT-TYPE
        SYNTAX      SEQUENCE OF   WmanIf2BsPkmBaseEntry
        MAX-ACCESS  not-accessible
        STATUS      current
        DESCRIPTION
            "This table describes the basic PKM attributes of each Base
             Station wireless interface."
        ::= { wmanIf2BsPkmObjects  1 }

wmanIf2BsPkmBaseEntry OBJECT-TYPE
        SYNTAX      WmanIf2BsPkmBaseEntry
        MAX-ACCESS  not-accessible
        STATUS      current
        DESCRIPTION
            "Each entry contains objects describing attributes of one
             BS wireless interface."
        INDEX       { ifIndex }
        ::= { wmanIf2BsPkmBaseTable  1 }

WmanIf2BsPkmBaseEntry ::= SEQUENCE {
        wmanIf2BsPkmDefaultAuthLifetime           Integer32,
        wmanIf2BsPkmDefaultTekLifetime            Integer32,
        wmanIf2BsPkmDefaultSelfSigManufCertTrust INTEGER,
        wmanIf2BsPkmCheckCertValidityPeriods     TruthValue,
        wmanIf2BsPkmAuthentInfos                  Counter32,
        wmanIf2BsPkmAuthRequests                  Counter32,
        wmanIf2BsPkmAuthReplies                   Counter32,
        wmanIf2BsPkmAuthRejects                   Counter32,
        wmanIf2BsPkmAuthInvalids                  Counter32,
        wmanIf2BsPkmAuthGraceTime                 Integer32,
        wmanIf2BsPkmTekGraceTime                  Integer32,
        wmanIf2BsPkmAuthWaitTimeout               Integer32,
        wmanIf2BsPkmReauthWaitTimeout             Integer32,
        wmanIf2BsPkmOpWaitTimeout                 Integer32,
        wmanIf2BsPkmRekeyWaitTimeout              Integer32,
        wmanIf2BsPkmAuthRejectWaitTimeout         Integer32}

wmanIf2BsPkmDefaultAuthLifetime OBJECT-TYPE
        SYNTAX      Integer32 (86400..6048000)
        UNITS       "seconds"
        MAX-ACCESS  read-write
        STATUS      current
        DESCRIPTION
            "The value of this object is the default lifetime, in
             seconds, the BS assigns to a new authorization key."
        REFERENCE
             "Table 343 in IEEE Std 802.16-2004"
        DEFVAL         { 604800 }
        ::= { wmanIf2BsPkmBaseEntry 1 }

wmanIf2BsPkmDefaultTekLifetime OBJECT-TYPE
        SYNTAX      Integer32 (1800..604800)
        UNITS       "seconds"
        MAX-ACCESS  read-write
        STATUS      current
        DESCRIPTION
            "The value of this object is the default lifetime, in
             seconds, the BS assigns to a new Traffic Encryption
             Key(TEK)."
        REFERENCE
             "Table 343 in IEEE Std 802.16-2004"
        DEFVAL         { 43200 }
        ::= { wmanIf2BsPkmBaseEntry 2 }


wmanIf2BsPkmDefaultSelfSigManufCertTrust OBJECT-TYPE
        SYNTAX      INTEGER {trusted (1),
                             untrusted (2)}
        MAX-ACCESS  read-write
        STATUS      current
        DESCRIPTION
            "This object determines the default trust of all (new)
             self-signed manufacturer certificates obtained after
             setting the object."
        ::= { wmanIf2BsPkmBaseEntry 3 }

wmanIf2BsPkmCheckCertValidityPeriods OBJECT-TYPE
        SYNTAX      TruthValue
        MAX-ACCESS  read-write
        STATUS      current
        DESCRIPTION
            "Setting this object to TRUE causes all certificates
             received thereafter to have their validity periods (and
             their chain's validity periods) checked against the current
             time of day. A FALSE setting will cause all certificates
             received Thereafter to not have their validity periods
             (nor their chain's validity periods) checked against the
             current time of day."
        ::= { wmanIf2BsPkmBaseEntry 4 }

wmanIf2BsPkmAuthentInfos OBJECT-TYPE
        SYNTAX      Counter32
        MAX-ACCESS  read-only
        STATUS      current
        DESCRIPTION
            "The value of this object is the count of times the BS has
             received an Authentication Information message from any
             SS."
        ::= { wmanIf2BsPkmBaseEntry 5 }

wmanIf2BsPkmAuthRequests OBJECT-TYPE
        SYNTAX      Counter32
        MAX-ACCESS  read-only
        STATUS      current
        DESCRIPTION
            "The value of this object is the count of times the BS has
             received an Authorization Request message from any SS"
        ::= { wmanIf2BsPkmBaseEntry 6 }

wmanIf2BsPkmAuthReplies OBJECT-TYPE
        SYNTAX      Counter32
        MAX-ACCESS  read-only
        STATUS      current
        DESCRIPTION
            "The value of this object is the count of times the BS has
```

```
             transmitted an Authorization Reply message to any SS."
        ::= { wmanIf2BsPkmBaseEntry 7 }

wmanIf2BsPkmAuthRejects OBJECT-TYPE
        SYNTAX      Counter32
        MAX-ACCESS  read-only
        STATUS      current
        DESCRIPTION
            "The value of this object is the count of times the BS has
             transmitted an Authorization Reject message to any SS."
        ::= { wmanIf2BsPkmBaseEntry 8 }

wmanIf2BsPkmAuthInvalids OBJECT-TYPE
        SYNTAX      Counter32
        MAX-ACCESS  read-only
        STATUS      current
        DESCRIPTION
            "The value of this object is the count of times the BS has
             transmitted an Authorization Invalid message to any SS."
        ::= { wmanIf2BsPkmBaseEntry 9 }

wmanIf2BsPkmAuthGraceTime OBJECT-TYPE
        SYNTAX      Integer32 (300..3024000)
        UNITS       "seconds"
        MAX-ACCESS  read-write
        STATUS      current
        DESCRIPTION
            "The value of this object is the grace time for an
             authorization key. A SS is expected to start trying to get
             a new authorization key beginning AuthGraceTime seconds
             before the authorization key actually expires."
        REFERENCE
            "Table 343 and subclause 11.9.19 in IEEE Std 802.16-2004"
        DEFVAL      { 600 }
        ::= { wmanIf2BsPkmBaseEntry 10 }

wmanIf2BsPkmTekGraceTime OBJECT-TYPE
        SYNTAX      Integer32 (300..3024000)
        UNITS       "seconds"
        MAX-ACCESS  read-write
        STATUS      current
        DESCRIPTION
            "The value of this object is the grace time for the TEK in
             seconds. The SS is expected to start trying to acquire a
             new TEK beginning TEK GraceTime seconds before the
             expiration of the most recent TEK."
        REFERENCE
            "Table 343 and subclause 11.9.19 in IEEE Std 802.16-2004"
        DEFVAL      { 3600 }
        ::= { wmanIf2BsPkmBaseEntry 11 }

wmanIf2BsPkmAuthWaitTimeout OBJECT-TYPE
        SYNTAX      Integer32 (2..30)
        UNITS       "seconds"
        MAX-ACCESS  read-write
        STATUS      current
        DESCRIPTION
            "The value of this object is the Authorize Wait Timeout."
        REFERENCE
            "Table 343 and subclause 11.9.19 in IEEE Std 802.16-2004"
        DEFVAL      { 10 }
        ::= { wmanIf2BsPkmBaseEntry 12 }

wmanIf2BsPkmReauthWaitTimeout OBJECT-TYPE
        SYNTAX      Integer32 (2..30)
        UNITS       "seconds"
        MAX-ACCESS  read-write
        STATUS      current
        DESCRIPTION
            "The value of this object is the Reauthorize Wait Timeout
             in seconds."
        REFERENCE
            "Table 343 and subclause 11.9.19 in IEEE Std 802.16-2004"
        DEFVAL      { 10 }
        ::= { wmanIf2BsPkmBaseEntry 13 }

wmanIf2BsPkmOpWaitTimeout OBJECT-TYPE
        SYNTAX      Integer32 (1..10)
        UNITS       "seconds"
        MAX-ACCESS  read-write
        STATUS      current
        DESCRIPTION
            "The value of this object is the Operational Wait Timeout
             in seconds."
        REFERENCE
            "Table 343 and subclause 11.9.19 in IEEE Std 802.16-2004"
        DEFVAL      { 1 }
        ::= { wmanIf2BsPkmBaseEntry 14 }

wmanIf2BsPkmRekeyWaitTimeout OBJECT-TYPE
        SYNTAX      Integer32 (1..10)
        UNITS       "seconds"
        MAX-ACCESS  read-write
        STATUS      current
        DESCRIPTION
            "The value of this object is the Rekey Wait Timeout in
             seconds."
        REFERENCE
            "Table 343 and subclause 11.9.19 in IEEE Std 802.16-2004"
        DEFVAL      { 1 }
        ::= { wmanIf2BsPkmBaseEntry 15 }

wmanIf2BsPkmAuthRejectWaitTimeout OBJECT-TYPE
        SYNTAX      Integer32 (10..600)
        UNITS       "seconds"
        MAX-ACCESS  read-write
        STATUS      current
        DESCRIPTION
```

```
            "The value of this object is the Authorization Reject Wait
             Timeout in seconds."
        REFERENCE
            "Table 343 and subclause 11.9.19 in IEEE Std 802.16-2004"
        DEFVAL      { 60 }
        ::= { wmanIf2BsPkmBaseEntry 16 }

--
-- Table wmanIf2BsSsPkmAuthTable
--
wmanIf2BsSsPkmAuthTable OBJECT-TYPE
        SYNTAX      SEQUENCE OF   WmanIf2BsSsPkmAuthEntry
        MAX-ACCESS  not-accessible
        STATUS      current
        DESCRIPTION
            "This table describes PKM attributes related
             to the authorization for each SS. The BS maintains one
             Primary Security Association with each Baseline
             Privacy-enabled SS on each BS wireless interface."
        ::= { wmanIf2BsPkmObjects  2 }

wmanIf2BsSsPkmAuthEntry OBJECT-TYPE
        SYNTAX      WmanIf2BsSsPkmAuthEntry
        MAX-ACCESS  not-accessible
        STATUS      current
        DESCRIPTION
            "The BS MUST create one entry per SS per wireless
             interface, based on the receipt of an Authorization
             Request message and MUST not delete the entry before
             the SS authorization permanently expires."
        INDEX       { ifIndex, wmanIf2BsSsPkmAuthMacAddress }
        ::= { wmanIf2BsSsPkmAuthTable  1 }

WmanIf2BsSsPkmAuthEntry ::= SEQUENCE {
        wmanIf2BsSsPkmAuthMacAddress            MacAddress,
        wmanIf2BsSsPkmAuthKeySequenceNumber     Integer32,
        wmanIf2BsSsPkmAuthExpiresOld            DateAndTime,
        wmanIf2BsSsPkmAuthExpiresNew            DateAndTime,
        wmanIf2BsSsPkmAuthLifetime              Integer32,
        wmanIf2BsSsPkmAuthReset                 INTEGER,
        wmanIf2BsSsPkmAuthInfos                 Counter64,
        wmanIf2BsSsPkmAuthRequests              Counter64,
        wmanIf2BsSsPkmAuthReplies               Counter64,
        wmanIf2BsSsPkmAuthRejects               Counter64,
        wmanIf2BsSsPkmAuthInvalids              Counter64,
        wmanIf2BsSsPkmAuthRejectErrorCode       INTEGER,
        wmanIf2BsSsPkmAuthRejectErrorString     SnmpAdminString,
        wmanIf2BsSsPkmAuthInvalidErrorCode      INTEGER,
        wmanIf2BsSsPkmAuthInvalidErrorString    SnmpAdminString,
        wmanIf2BsSsPkmAuthPrimarySAId           INTEGER,
        wmanIf2BsSsPkmAuthValidStatus           INTEGER}

wmanIf2BsSsPkmAuthMacAddress OBJECT-TYPE
        SYNTAX      MacAddress
        MAX-ACCESS  not-accessible
        STATUS      current
        DESCRIPTION
            "The value of this object is the physical address of the SS
             to which the authorization association applies."
        ::= { wmanIf2BsSsPkmAuthEntry 1 }

wmanIf2BsSsPkmAuthKeySequenceNumber OBJECT-TYPE
        SYNTAX      Integer32 (0..15)
        MAX-ACCESS  read-only
        STATUS      current
        DESCRIPTION
            "The value of this object is the most recent authorization
             key sequence number for this SS."
        ::= { wmanIf2BsSsPkmAuthEntry 2 }

wmanIf2BsSsPkmAuthExpiresOld OBJECT-TYPE
        SYNTAX      DateAndTime
        MAX-ACCESS  read-only
        STATUS      current
        DESCRIPTION
            "The value of this object is the actual clock time for
             expiration of the immediate predecessor of the most recent
             authorization key for this FSM. If this FSM has only one
             authorization key, then the value is the time of activation
             of this FSM."
        ::= { wmanIf2BsSsPkmAuthEntry 3 }

wmanIf2BsSsPkmAuthExpiresNew OBJECT-TYPE
        SYNTAX      DateAndTime
        MAX-ACCESS  read-only
        STATUS      current
        DESCRIPTION
            "The value of this object is the actual clock time for
             expiration of the most recent authorization key for this
             FSM"
        ::= { wmanIf2BsSsPkmAuthEntry 4 }

wmanIf2BsSsPkmAuthLifetime OBJECT-TYPE
        SYNTAX      Integer32 (86400..6048000)
        UNITS       "seconds"
        MAX-ACCESS  read-only
        STATUS      current
        DESCRIPTION
            "The vaue of this object is the lifetime, in seconds, the
             BS assigns to an authorization key for this SS."
        REFERENCE
             "Table 343 in IEEE Std 802.16-2004"
        DEFVAL      { 604800 }
        ::= { wmanIf2BsSsPkmAuthEntry 5 }

wmanIf2BsSsPkmAuthReset OBJECT-TYPE
        SYNTAX      INTEGER {noResetRequested(1),
                             invalidateAuth(2),
                             sendAuthInvalid(3),
                             invalidateTeks(4)}
        MAX-ACCESS  read-write
        STATUS      current
        DESCRIPTION
            "Setting this object to invalidateAuth(2) causes the BS to
             invalidate the current SS authorization key(s), but not to
             transmit an Authorization Invalid message nor to invalidate
             unicast TEKs. Setting this object to sendAuthInvalid(3)
             causes the BS to invalidate the current SS authorization
             key(s), and to transmit an Authorization Invalid message to
             the SS, but not to invalidate unicast TEKs. Setting this
             object to invalidateTeks(4) causes the BS to invalidate the
             current SS authorization key(s), to transmit an
             Authorization Invalid message to the SS, and to
             invalidate all unicast TEKs associated with this SS
             authorization. Reading this object returns the
             most-recently-set value of this object, or returns
             noResetRequested(1) if the object has not been set since
             the last BS reboot."
        ::= { wmanIf2BsSsPkmAuthEntry 6 }

wmanIf2BsSsPkmAuthInfos OBJECT-TYPE
        SYNTAX      Counter64
        MAX-ACCESS  read-only
        STATUS      current
        DESCRIPTION
            "The value of this object is the count of times the BS has
             received an Authentication Information message from this
             SS."
        ::= { wmanIf2BsSsPkmAuthEntry 7 }

wmanIf2BsSsPkmAuthRequests OBJECT-TYPE
        SYNTAX      Counter64
        MAX-ACCESS  read-only
        STATUS      current
        DESCRIPTION
            "The value of this object is the count of times the BS has
             received an Authorization Request message from this SS."
        ::= { wmanIf2BsSsPkmAuthEntry 8 }

wmanIf2BsSsPkmAuthReplies OBJECT-TYPE
        SYNTAX      Counter64
        MAX-ACCESS  read-only
        STATUS      current
        DESCRIPTION
            "The value of this object is the count of times the BS has
             transmitted an Authorization Reply message to this SS."
        ::= { wmanIf2BsSsPkmAuthEntry 9 }

wmanIf2BsSsPkmAuthRejects OBJECT-TYPE
        SYNTAX      Counter64
        MAX-ACCESS  read-only
        STATUS      current
        DESCRIPTION
            "The value of this object is the count of times the BS has
             transmitted an Authorization Reject message to this SS."
        ::= { wmanIf2BsSsPkmAuthEntry 10 }

wmanIf2BsSsPkmAuthInvalids OBJECT-TYPE
        SYNTAX      Counter64
        MAX-ACCESS  read-only
        STATUS      current
        DESCRIPTION
            "The value of this object is the count of times the BS has
             transmitted an Authorization Invalid message to this SS."
        ::= { wmanIf2BsSsPkmAuthEntry 11 }

wmanIf2BsSsPkmAuthRejectErrorCode OBJECT-TYPE
        SYNTAX      INTEGER {noInformation(0),
                             unauthorizedSs(1),
                             unauthorizedSaid(2),
                             permanentAuthorizationFailure(6)}
        MAX-ACCESS  read-only
        STATUS      current
        DESCRIPTION
            "The value of this object is the enumerated description of
             the Error-Code in most recent Authorization Reject message
             transmitted to the SS."
        REFERENCE
             "IEEE Std 802.16-2004; Table 371"
        ::= { wmanIf2BsSsPkmAuthEntry 12 }

wmanIf2BsSsPkmAuthRejectErrorString OBJECT-TYPE
        SYNTAX      SnmpAdminString (SIZE (0..128))
        MAX-ACCESS  read-only
        STATUS      current
        DESCRIPTION
            "The value of this object is the Display-String in most
             recent Authorization Reject message transmitted to the SS.
             This is a zero length string if no Authorization Reject
             message has been transmitted to the SS."
        ::= { wmanIf2BsSsPkmAuthEntry 13 }

wmanIf2BsSsPkmAuthInvalidErrorCode OBJECT-TYPE
        SYNTAX      INTEGER {noInformation(0),
                             unauthorizedSs(1),
                             unsolicited(3),
                             invalidKeySequence(4),
                             keyRequestAuthenticationFailure(5)}
        MAX-ACCESS  read-only
        STATUS      current
        DESCRIPTION
            "The value of this object is the enumerated description of
             the Error-Code in most recent Authorization Invalid message
             transmitted to the SS."
        REFERENCE
             "IEEE Std 802.16-2004; Table 371"
        ::= { wmanIf2BsSsPkmAuthEntry 14 }

wmanIf2BsSsPkmAuthInvalidErrorString OBJECT-TYPE
        SYNTAX      SnmpAdminString (SIZE (0..128))
        MAX-ACCESS  read-only
        STATUS      current
        DESCRIPTION
            "The value of this object is the Display-String in most
             recent Authorization Invalid message transmitted to the SS.
             This is a zero length string if no Authorization Invalid
             message has been transmitted to the SS."
        ::= { wmanIf2BsSsPkmAuthEntry 15 }

wmanIf2BsSsPkmAuthPrimarySAId OBJECT-TYPE
        SYNTAX      INTEGER (0..65535)
        MAX-ACCESS  read-only
        STATUS      current
        DESCRIPTION
            "The value of this object is the Primary Security
             Association identifier."
        REFERENCE
             "IEEE Std 802.16-2004; 11.9.7"
        ::= { wmanIf2BsSsPkmAuthEntry 16 }

wmanIf2BsSsPkmAuthValidStatus OBJECT-TYPE
        SYNTAX      INTEGER {unknown (0),
                             validSsChained (1),
                             validSsTrusted (2),
                             invalidSsUntrusted (3),
                             invalidCAUntrusted (4),
                             invalidSsOther (5),
                             invalidCAOther (6)}
        MAX-ACCESS  read-only
        STATUS      current
        DESCRIPTION
            "Contains the reason why a SS's certificate is deemed valid
             or invalid. Return unknown if the SS is running PKM mode.
             ValidSsChained means the certificate is valid because it
             chains to a valid certificate. ValidSsTrusted means the
             certificate is valid because it has been provisioned to be
             trusted. InvalidSsUntrusted means the certificate is
             invalid because it has been provisioned to be untrusted.
             InvalidCAUntrusted means the certificate is invalid
             because   it chains to an untrusted certificate.
             InvalidSsOther and InvalidCAOther refer to errors in
             parsing, validity periods, etc, which are attributable to
             the SS certificate or its chain respectively."
        ::= { wmanIf2BsSsPkmAuthEntry 17 }

--
-- Table wmanIf2BsPkmTekTable
--
wmanIf2BsPkmTekTable OBJECT-TYPE
        SYNTAX      SEQUENCE OF   WmanIf2BsPkmTekEntry
        MAX-ACCESS  not-accessible
        STATUS      current
        DESCRIPTION
            "This table describes the attributes of each Traffic
             Encryption Key (TEK) association. The BS maintains one TEK
             association per SAID on each BS wireless interface."
        ::= { wmanIf2BsPkmObjects  3 }

wmanIf2BsPkmTekEntry OBJECT-TYPE
        SYNTAX      WmanIf2BsPkmTekEntry
        MAX-ACCESS  not-accessible
        STATUS      current
        DESCRIPTION
            "Each entry contains objects describing attributes of one
             TEK association on a particular BS wireless interface. The
             BS MUST create one entry per SAID per wireless interface,
             based on the receipt of a Key Request message, and MUST not
             delete the entry before the SS authorization for the SAID
             permanently expires."
        INDEX       { ifIndex, wmanIf2BsPkmTekSAId }
        ::= { wmanIf2BsPkmTekTable  1 }

WmanIf2BsPkmTekEntry ::= SEQUENCE {
        wmanIf2BsPkmTekSAId                   INTEGER,
        wmanIf2BsPkmTekSAType                 INTEGER,
        wmanIf2BsPkmTekDataEncryptAlg         WmanIf2DataEncryptAlgId,
        wmanIf2BsPkmTekDataAuthentAlg         WmanIf2DataAuthAlgId,
        wmanIf2BsPkmTekEncryptAlg             WmanIf2TekEncryptAlgId,
        wmanIf2BsPkmTekLifetime               Integer32,
        wmanIf2BsPkmTekKeySequenceNumber      Integer32,
        wmanIf2BsPkmTekExpiresOld             DateAndTime,
        wmanIf2BsPkmTekExpiresNew             DateAndTime,
        wmanIf2BsPkmTekReset                  TruthValue,
        wmanIf2BsPkmKeyRequests               Counter32,
        wmanIf2BsPkmKeyReplies                Counter32,
        wmanIf2BsPkmKeyRejects                Counter32,
        wmanIf2BsPkmTekInvalids               Counter32,
        wmanIf2BsPkmKeyRejectErrorCode        INTEGER,
        wmanIf2BsPkmKeyRejectErrorString      SnmpAdminString,
        wmanIf2BsPkmTekInvalidErrorCode       INTEGER,
        wmanIf2BsPkmTekInvalidErrorString     SnmpAdminString}

wmanIf2BsPkmTekSAId OBJECT-TYPE
        SYNTAX      INTEGER (0..65535)
        MAX-ACCESS  not-accessible
        STATUS      current
        DESCRIPTION
            "The value of this object is the Security Association
             ID (SAID)."
        REFERENCE
             "IEEE Std 802.16-2004; 11.9.7"
        ::= { wmanIf2BsPkmTekEntry 1 }

wmanIf2BsPkmTekSAType OBJECT-TYPE
```

```
        SYNTAX      INTEGER {primarySA(0),
                             staticSA(1),
                             dynamicSA(2)}
        MAX-ACCESS  read-only
        STATUS      current
        DESCRIPTION
            "The value of this object is the type of security
             association. Dynamic does not apply to SSs running in PKM
             mode."
        REFERENCE
             "IEEE Std 802.16-2004; subclause 11.9.18"
        ::= { wmanIf2BsPkmTekEntry 2 }

wmanIf2BsPkmTekDataEncryptAlg OBJECT-TYPE
        SYNTAX      WmanIf2DataEncryptAlgId
        MAX-ACCESS  read-only
        STATUS      current
        DESCRIPTION
            "The value of this object is the data encryption algorithm
             being utilized."
        REFERENCE
             "Table 375, IEEE Std 802.16-2004"
        ::= { wmanIf2BsPkmTekEntry 3 }

wmanIf2BsPkmTekDataAuthentAlg OBJECT-TYPE
        SYNTAX      WmanIf2DataAuthAlgId
        MAX-ACCESS  read-only
        STATUS      current
        DESCRIPTION
            "The value of this object is the data authentication
             algorithm being utilized."
        REFERENCE
             "Table 376, IEEE Std 802.16-2004"
        ::= { wmanIf2BsPkmTekEntry 4 }

wmanIf2BsPkmTekEncryptAlg OBJECT-TYPE
        SYNTAX      WmanIf2TekEncryptAlgId
        MAX-ACCESS  read-only
        STATUS      current
        DESCRIPTION
            "The value of this object is the TEK key encryption
             algorithm being utilized."
        REFERENCE
             "Table 377, IEEE Std 802.16-2004"
        ::= { wmanIf2BsPkmTekEntry 5 }

wmanIf2BsPkmTekLifetime OBJECT-TYPE
        SYNTAX      Integer32 (1800..604800)
        UNITS       "seconds"
        MAX-ACCESS  read-only
        STATUS      current
        DESCRIPTION
            "The value of this object is the lifetime, in seconds, the
             BS assigns to keys for this TEK association."
        REFERENCE
             "Table 343 in IEEE Std 802.16-2004"
        DEFVAL      { 43200 }
        ::= { wmanIf2BsPkmTekEntry 6 }

wmanIf2BsPkmTekKeySequenceNumber OBJECT-TYPE
        SYNTAX      Integer32 (0..3)
        MAX-ACCESS  read-only
        STATUS      current
        DESCRIPTION
            "The value of this object is the most recent TEK key
             sequence number for this SAID."
        REFERENCE
             "IEEE Std 802.16-2004; subclause 11.9.5"
        ::= { wmanIf2BsPkmTekEntry 7 }

wmanIf2BsPkmTekExpiresOld OBJECT-TYPE
        SYNTAX      DateAndTime
        MAX-ACCESS  read-only
        STATUS      current
        DESCRIPTION
            "The value of this object is the actual clock time for
             expiration of the immediate predecessor of the most recent
             TEK for this FSM. If this FSM has only one TEK, then the
             value is the time of activation of this FSM."
        ::= { wmanIf2BsPkmTekEntry 8 }

wmanIf2BsPkmTekExpiresNew OBJECT-TYPE
        SYNTAX      DateAndTime
        MAX-ACCESS  read-only
        STATUS      current
        DESCRIPTION
            "The value of this object is the actual clock time for
             expiration of the most recent TEK for this FSM."
        ::= { wmanIf2BsPkmTekEntry 9 }

wmanIf2BsPkmTekReset OBJECT-TYPE
        SYNTAX      TruthValue
        MAX-ACCESS  read-write
        STATUS      current
        DESCRIPTION
            "Setting this object to TRUE causes the BS to invalidate
             the current active TEK(s) (plural due to key transition
             periods), and to generate a new TEK for the associated
             SAID; the BS MAY also generate an unsolicited TEK Invalid
             message, to optimize the TEK synchronization between the BS
             and the SS. Reading this object always returns   FALSE."
        ::= { wmanIf2BsPkmTekEntry 10 }

wmanIf2BsPkmKeyRequests OBJECT-TYPE
        SYNTAX      Counter32
        MAX-ACCESS  read-only
        STATUS      current
        DESCRIPTION
```

```
            "The value of this object is the count of times the BS has
             received a Key Request message."
        ::= { wmanIf2BsPkmTekEntry 11 }

wmanIf2BsPkmKeyReplies OBJECT-TYPE
        SYNTAX      Counter32
        MAX-ACCESS  read-only
        STATUS      current
        DESCRIPTION
            "The value of this object is the count of times the BS has
             transmitted a Key Reply message."
        ::= { wmanIf2BsPkmTekEntry 12 }

wmanIf2BsPkmKeyRejects OBJECT-TYPE
        SYNTAX      Counter32
        MAX-ACCESS  read-only
        STATUS      current
        DESCRIPTION
            "The value of this object is the count of times the BS has
             transmitted a Key Reject message."
        ::= { wmanIf2BsPkmTekEntry 13 }

wmanIf2BsPkmTekInvalids OBJECT-TYPE
        SYNTAX      Counter32
        MAX-ACCESS  read-only
        STATUS      current
        DESCRIPTION
            "The value of this object is the count of times the BS has
             transmitted a TEK Invalid message."
        ::= { wmanIf2BsPkmTekEntry 14 }

wmanIf2BsPkmKeyRejectErrorCode OBJECT-TYPE
        SYNTAX      INTEGER {noInformation(0),
                             unauthorizedSaid(2)}
        MAX-ACCESS  read-only
        STATUS      current
        DESCRIPTION
            "The value of this object is the enumerated; description of
             the Error-Code in the most recent Key Reject message sent
             in response to a Key Request for this SAID."
        REFERENCE
             "IEEE Std 802.16-2004; Table 371"
        ::= { wmanIf2BsPkmTekEntry 15 }

wmanIf2BsPkmKeyRejectErrorString OBJECT-TYPE
        SYNTAX      SnmpAdminString (SIZE (0..128))
        MAX-ACCESS  read-only
        STATUS      current
        DESCRIPTION
            "The value of this object is the Display-String in the most
             recent Key Reject message sent in response to a Key Request
             for this SAID. This is a zero length string if no Key
             Reject message has been received since reboot."
        ::= { wmanIf2BsPkmTekEntry 16 }
```

```
wmanIf2BsPkmTekInvalidErrorCode OBJECT-TYPE
        SYNTAX      INTEGER  {noInformation(0),
                              invalidKeySequence(4)}
        MAX-ACCESS  read-only
        STATUS      current
        DESCRIPTION
            "The value of this object is the enumerated description of
             the Error-Code in the most recent TEK Invalid message sent
             in association with this SAID."
        REFERENCE
             "IEEE Std 802.16-2004; Table 371"
        ::= { wmanIf2BsPkmTekEntry 17 }

wmanIf2BsPkmTekInvalidErrorString OBJECT-TYPE
        SYNTAX      SnmpAdminString (SIZE (0..128))
        MAX-ACCESS  read-only
        STATUS      current
        DESCRIPTION
            "The value of this object is the Display-String in the most
             recent TEK Invalid message sent in association with this
             SAID.  This is a zero length string if no TEK Invalid
             message has been received since reboot."
        ::= { wmanIf2BsPkmTekEntry 18 }

--
-- Base station Notification Group
-- wmanIf2BsNotificationObjects contains the BS SNMP Trap objects
--
wmanIf2BsNotification OBJECT IDENTIFIER ::= { wmanIf2BsObjects  4 }
wmanIf2BsTrapControl     OBJECT IDENTIFIER ::= { wmanIf2BsNotification 1
}
wmanIf2BsTrapDefinitions OBJECT IDENTIFIER ::= { wmanIf2BsNotification 2
}

-- This object groups all NOTIFICATION-TYPE objects for BS.
-- It is defined following RFC2758 sections 8.5 and 8.6
-- for the compatibility with SNMPv1.
wmanIf2BsTrapPrefix OBJECT IDENTIFIER ::= { wmanIf2BsTrapDefinitions 0 }

wmanIf2BsTrapControlRegister    OBJECT-TYPE
        SYNTAX      BITS {wmanIf2BsSsStatusNotification    (0),
                          wmanIf2BsSsDynamicServiceFail    (1),
                          wmanIf2BsSsRssiStatusChange      (2),
                          wmanIf2BsSsRegistrer             (3),
                          wmanIf2BsSsPkmFail               (4),
                          wmanIf2BsSsDynamicServiceFail2   (5),
                          wmanIf2BsSsRegister2Trap         (6)}
        MAX-ACCESS read-write
        STATUS     current
        DESCRIPTION
            "The object is used to enable or disable Base Station traps.
             From left to right, the set bit indicates the corresponding
             Base Station trap is enabled."
        ::= { wmanIf2BsTrapControl 1 }

wmanIf2BsStatusTrapControlRegister    OBJECT-TYPE
        SYNTAX      BITS {unused(0),
                          ssInitRangingSucc(1),
                          ssInitRangingFail(2),
                          ssRegistered(3),
                          ssRegistrationFail(4),
                          ssDeregistered(5),
                          ssBasicCapabilitySucc(6),
                          ssBasicCapabilityFail(7),
                          ssAuthorizationSucc(8),
                          ssAuthorizationFail(9),
                          tftpSucc(10),
                          tftpFail(11),
                          sfCreationSucc(12),
                          sfCreationFail(13)}
        MAX-ACCESS read-write
        STATUS     current
        DESCRIPTION
            "The object is used to enable or disable Base Station status
             notification traps. The set bit indicates the corresponding
             Base Station trap is enabled."
        ::= { wmanIf2BsTrapControl 2 }

--
-- BS threshold Definitions
--
wmanIf2BsThresholdConfigTable OBJECT-TYPE
        SYNTAX      SEQUENCE OF WmanIf2BsThresholdConfigEntry
        MAX-ACCESS  not-accessible
        STATUS      current
        DESCRIPTION
            "This table contains threshold objects that can be set
             to detect the threshold crossing events."
        ::= { wmanIf2BsTrapControl 3 }

wmanIf2BsThresholdConfigEntry OBJECT-TYPE
        SYNTAX      WmanIf2BsThresholdConfigEntry
        MAX-ACCESS  not-accessible
        STATUS      current
        DESCRIPTION
            "This table provides one row for each BS sector, and is
             indexed by ifIndex."
        INDEX       { ifIndex }
        ::= { wmanIf2BsThresholdConfigTable 1 }

WmanIf2BsThresholdConfigEntry ::= SEQUENCE {
        wmanIf2BsRssiLowThreshold               Integer32,
        wmanIf2BsRssiHighThreshold              Integer32}

wmanIf2BsRssiLowThreshold OBJECT-TYPE
        SYNTAX      Integer32
        UNITS       "dBm"
        MAX-ACCESS  read-write
        STATUS      current
        DESCRIPTION
            "Low threshold for generating the RSSI alarm."
        ::= { wmanIf2BsThresholdConfigEntry 1 }

wmanIf2BsRssiHighThreshold OBJECT-TYPE
        SYNTAX      Integer32
        UNITS       "dBm"
        MAX-ACCESS  read-write
        STATUS      current
        DESCRIPTION
            "High threshold for clearing the RSSI alarm."
        ::= { wmanIf2BsThresholdConfigEntry 2 }

--
-- Subscriber station Notification Objects Definitions
--
wmanIf2BsSsNotificationObjectsTable OBJECT-TYPE
        SYNTAX      SEQUENCE OF WmanIf2BsSsNotificationObjectsEntry
        MAX-ACCESS  not-accessible
        STATUS      current
        DESCRIPTION
            "This table contains SS notification objects that have been
             reported by the trap."
        ::= { wmanIf2BsTrapDefinitions 1 }

wmanIf2BsSsNotificationObjectsEntry OBJECT-TYPE
        SYNTAX      WmanIf2BsSsNotificationObjectsEntry
        MAX-ACCESS  not-accessible
        STATUS      current
        DESCRIPTION
            "This table provides one row for each SS that has
             generated traps, and is double indexed by
             wmanIf2BsSsNotificationMacAddr and ifIndex for BS sector."
        INDEX       { ifIndex, wmanIf2BsSsNotificationMacAddr }
        ::= { wmanIf2BsSsNotificationObjectsTable 1 }

WmanIf2BsSsNotificationObjectsEntry ::= SEQUENCE {
        wmanIf2BsSsNotificationMacAddr          MacAddress,
        wmanIf2BsSsStatusValue                  INTEGER,
        wmanIf2BsSsStatusInfo                   OCTET STRING,
        wmanIf2BsDynamicServiceType             INTEGER,
        wmanIf2BsDynamicServiceFailReason       OCTET STRING,
        wmanIf2BsSsRssiStatus                   INTEGER,
        wmanIf2BsSsRssiStatusInfo               OCTET STRING,
        wmanIf2BsSsRegisterStatus               INTEGER,
        wmanIf2BsDynamicServiceFailSfid         Unsigned32}

wmanIf2BsSsNotificationMacAddr OBJECT-TYPE
        SYNTAX      MacAddress
        MAX-ACCESS  read-only
        STATUS      current
        DESCRIPTION
```

```
            "The MAC address of the SS, reporing the notofiation."
        ::= { wmanIf2BsSsNotificationObjectsEntry 1 }

wmanIf2BsSsStatusValue  OBJECT-TYPE
        SYNTAX      INTEGER {ssInitRangingSucc(1),
                             ssInitRangingFail(2),
                             ssRegistered(3),
                             ssRegistrationFail(4),
                             ssDeregistered(5),
                             ssBasicCapabilitySucc(6),
                             ssBasicCapabilityFail(7),
                             ssAuthorizationSucc(8),
                             ssAuthorizationFail(9),
                             tftpSucc(10),
                             tftpFail(11),
                             sfCreationSucc(12),
                             sfCreationFail(13)}
        MAX-ACCESS  read-only
        STATUS      current
        DESCRIPTION
            "This object indicates the status of a SS, as it goes
             through network entry and initialization procedure."
        ::= { wmanIf2BsSsNotificationObjectsEntry 2 }

wmanIf2BsSsStatusInfo  OBJECT-TYPE
        SYNTAX      OCTET STRING (SIZE(0..255))
        MAX-ACCESS  read-only
        STATUS      current
        DESCRIPTION
            "This object indicates the reason of SS's status change."
        ::= { wmanIf2BsSsNotificationObjectsEntry 3 }

wmanIf2BsDynamicServiceType  OBJECT-TYPE
        SYNTAX      INTEGER {bsSfCreationReq(1),
                             bsSfCreationRsp(2),
                             bsSfCreationAck(3)}
        MAX-ACCESS  read-only
        STATUS      current
        DESCRIPTION
            "This object indicates the dynamic service flow
             creation command type."
        ::= { wmanIf2BsSsNotificationObjectsEntry 4 }

wmanIf2BsDynamicServiceFailReason  OBJECT-TYPE
        SYNTAX      OCTET STRING (SIZE(0..255))
        MAX-ACCESS  read-only
        STATUS      current
        DESCRIPTION
            "This object indicates the reason why the service flow
             creation has failed."
        ::= { wmanIf2BsSsNotificationObjectsEntry 5 }

wmanIf2BsSsRssiStatus  OBJECT-TYPE
        SYNTAX      INTEGER {bsRssiAlarm(1),
                             bsRssiNoAlarm(2)}
        MAX-ACCESS  read-only
        STATUS      current
        DESCRIPTION
            "A RSSI alarm is generated when RSSI becomes lower than
             wmanIf2BsLowRssiThreshold and is cleared when RSSI becomes
             higher than wmanIf2BsLowRssiThreshold."
        ::= { wmanIf2BsSsNotificationObjectsEntry 6 }

wmanIf2BsSsRssiStatusInfo  OBJECT-TYPE
        SYNTAX      OCTET STRING (SIZE(0..255))
        MAX-ACCESS  read-only
        STATUS      current
        DESCRIPTION
            "This object indicates the reason why RSSI alarm is
             generated."
        ::= { wmanIf2BsSsNotificationObjectsEntry 7 }

wmanIf2BsSsRegisterStatus OBJECT-TYPE
        SYNTAX      INTEGER {ssRegister(1),
                             ssDeregister(2)}
        MAX-ACCESS  read-only
        STATUS      current
        DESCRIPTION
            "This object indicates the status of SS registration."
        ::= { wmanIf2BsSsNotificationObjectsEntry 8 }

wmanIf2BsDynamicServiceFailSfid OBJECT-TYPE
        SYNTAX      Unsigned32 (1..4294967295)
        MAX-ACCESS  read-only
        STATUS      current
        DESCRIPTION
            "This object identifies the dynamic service flow
             for notification purposes."
        ::= { wmanIf2BsSsNotificationObjectsEntry 9 }

--
-- Subscriber station Notification Trap Definitions
--
wmanIf2BsSsStatusNotificationTrap NOTIFICATION-TYPE
        OBJECTS     {ifIndex,
                     wmanIf2BsSsNotificationMacAddr,
                     wmanIf2BsSsStatusValue,
                     wmanIf2BsSsStatusInfo}
        STATUS      current
        DESCRIPTION
            "This trap reports the status of a SS. Based on this
             notification the NMS will issue an alarm with certain
             severity depending on the status and the reason received."
        ::= { wmanIf2BsTrapPrefix 1 }

wmanIf2BsSsDynamicServiceFailTrap NOTIFICATION-TYPE
        OBJECTS     {ifIndex,
                     wmanIf2BsSsNotificationMacAddr,
                      wmanIf2BsDynamicServiceType,
                      wmanIf2BsDynamicServiceFailReason}
        STATUS      deprecated
        DESCRIPTION
            "Trap deprecated due to limited value without object
             reporting SFID of victim service flow.
             An event to report the failure of a dynamic service
             operation happened during the dynamic services process
             and detected in the Bs side."
        ::= { wmanIf2BsTrapPrefix 2 }

wmanIf2BsSsRssiStatusChangeTrap NOTIFICATION-TYPE
        OBJECTS     {ifIndex,
                      wmanIf2BsSsNotificationMacAddr,
                      wmanIf2BsSsRssiStatus,
                      wmanIf2BsSsRssiStatusInfo}
        STATUS      current
        DESCRIPTION
            "An event to report that the uplink RSSI is below
             wmanIf2BsLowRssiThreshold, or above
             wmanIf2BsHighRssiThreshold after restore."
        ::= { wmanIf2BsTrapPrefix 3 }

wmanIf2BsSsPkmFailTrap NOTIFICATION-TYPE
        OBJECTS     {wmanIf2BsSsNotificationMacAddr}
        STATUS      current
        DESCRIPTION
            "An event to report the failure of a Pkm operation."
        ::= { wmanIf2BsTrapPrefix 4 }

wmanIf2BsSsRegistrerTrap NOTIFICATION-TYPE
        OBJECTS     {wmanIf2BsSsNotificationMacAddr,
                      wmanIf2BsSsRegisterStatus}
        STATUS      deprecated
        DESCRIPTION
            "Trap deprecated due to limited value without object ifIndex
             reported.
             An event to report SS registration status."
        ::= { wmanIf2BsTrapPrefix 5 }

wmanIf2BsSsDynamicServiceFail2Trap NOTIFICATION-TYPE
        OBJECTS     {ifIndex,
                      wmanIf2BsSsNotificationMacAddr,
                      wmanIf2BsDynamicServiceType,
                      wmanIf2BsDynamicServiceFailReason,
                      wmanIf2BsDynamicServiceFailSfid}
        STATUS      current
        DESCRIPTION
            "An event reporting failure of DSx operation for a service
             flow identified by wmanIf2BsDynamicServiceFailSfid and
             detected in the Bs side."
        ::= { wmanIf2BsTrapPrefix 6 }

wmanIf2BsSsRegister2Trap NOTIFICATION-TYPE
```

```
        OBJECTS     {ifIndex,
                     wmanIf2BsSsNotificationMacAddr,
                     wmanIf2BsSsRegisterStatus}
        STATUS      current
        DESCRIPTION
           "An event to report SS registration status for a given sector
             identified by ifIndex."
        ::= { wmanIf2BsTrapPrefix 7 }

--
-- Base station PHY Group
--
wmanIf2BsPhy OBJECT IDENTIFIER ::= { wmanIf2BsObjects  6 }

--
-- BS OFDM PHY objects
--
wmanIf2BsOfdmPhy OBJECT IDENTIFIER ::= { wmanIf2BsPhy 1 }

wmanIf2BsOfdmUplinkChannelTable OBJECT-TYPE
        SYNTAX      SEQUENCE OF WmanIf2BsOfdmUplinkChannelEntry
        MAX-ACCESS  not-accessible
        STATUS      current
        DESCRIPTION
            "This table contains UCD channel attributes, defining the
             transmission characteristics of uplink channels"
        REFERENCE
            "Table 349 and Table 352, in IEEE Std 802.16-2004"
        ::= { wmanIf2BsOfdmPhy 1 }

wmanIf2BsOfdmUplinkChannelEntry OBJECT-TYPE
        SYNTAX      WmanIf2BsOfdmUplinkChannelEntry
        MAX-ACCESS  not-accessible
        STATUS      current
        DESCRIPTION
             "This table provides one row for each uplink channel of
              multi-sector BS, and is indexed by BS ifIndex. An entry
              in this table exists for each ifEntry of BS with an
              ifType of propBWAp2Mp."
        INDEX { ifIndex }
        ::= { wmanIf2BsOfdmUplinkChannelTable 1 }

WmanIf2BsOfdmUplinkChannelEntry ::= SEQUENCE {
        wmanIf2BsOfdmCtBasedResvTimeout         INTEGER,
        wmanIf2BsOfdmBwReqOppSize               INTEGER,
        wmanIf2BsOfdmRangReqOppSize             INTEGER,
        wmanIf2BsOfdmUplinkCenterFreq           Unsigned32,
        wmanIf2BsOfdmNumSubChReqRegionFull      INTEGER,
        wmanIf2BsOfdmNumSymbolsReqRegionFull    INTEGER,
        wmanIf2BsOfdmSubChFocusCtCode           INTEGER,
        wmanIf2BsOfdmUpLinkChannelId            INTEGER}

wmanIf2BsOfdmCtBasedResvTimeout OBJECT-TYPE
        SYNTAX      INTEGER (1..255)
        MAX-ACCESS  read-write
        STATUS      current
        DESCRIPTION
            "The number of UL-MAPs to receive before contention-based
             reservation is attempted again for the same connection."
        REFERENCE
            "Table 349, in IEEE Std 802.16-2004"
        ::= { wmanIf2BsOfdmUplinkChannelEntry 1 }

wmanIf2BsOfdmBwReqOppSize OBJECT-TYPE
        SYNTAX      INTEGER (1..65535)
        UNITS       "PS"
        MAX-ACCESS  read-write
        STATUS      current
        DESCRIPTION
            "Size (in units of PS) of PHY payload that SS may use to
             format and transmit a bandwidth request message in a
             contention request opportunity. The value includes all
             PHY overhead as well as allowance for the MAC data the
             message may hold."
        REFERENCE
            "Table 349, in IEEE Std 802.16-2004"
        ::= { wmanIf2BsOfdmUplinkChannelEntry 2 }

wmanIf2BsOfdmRangReqOppSize OBJECT-TYPE
        SYNTAX      INTEGER (1..65535)
        UNITS       "PS"
        MAX-ACCESS  read-write
        STATUS      current
        DESCRIPTION
            "Size (in units of PS) of PHY payload that SS may use to
             format and transmit a RNG-REQ message in a contention
             request opportunity. The value includes all PHY overhead
             as well as allowance for the MAC data the message may
             hold and the maxiumum SS/BS roundtrip propagation delay."
        REFERENCE
            "Table 349, in IEEE Std 802.16-2004"
        ::= { wmanIf2BsOfdmUplinkChannelEntry 3 }

wmanIf2BsOfdmUplinkCenterFreq OBJECT-TYPE
        SYNTAX      Unsigned32
        UNITS       "kHz"
        MAX-ACCESS  read-write
        STATUS      current
        DESCRIPTION
            " Uplink center frequency (kHz)"
        REFERENCE
            "Table 349, in IEEE Std 802.16-2004"
        ::= { wmanIf2BsOfdmUplinkChannelEntry 4 }

wmanIf2BsOfdmNumSubChReqRegionFull OBJECT-TYPE
        SYNTAX      INTEGER {oneSubchannel(0),
                             twoSubchannels(1),
                             fourSubchannels(2),
                             eightSubchannels(3),
                             sixteenSubchannels(4)}
        MAX-ACCESS  read-write
        STATUS      current
        DESCRIPTION
            "Number of subchannels used by each transmit
             opportunity when REQ Region-Full is allocated in
             subchannelization region."
        REFERENCE
             "Table 352, in IEEE Std 802.16-2004"
        ::= { wmanIf2BsOfdmUplinkChannelEntry 5 }

wmanIf2BsOfdmNumSymbolsReqRegionFull OBJECT-TYPE
        SYNTAX      INTEGER (0..31)
        MAX-ACCESS  read-write
        STATUS      current
        DESCRIPTION
            "Number of OFDM symbols used by each transmit
             opportunity when REQ Region-Full is allocated in
             subchannelization region."
        REFERENCE
             "Table 352, in IEEE Std 802.16-2004"
        ::= { wmanIf2BsOfdmUplinkChannelEntry 6 }

wmanIf2BsOfdmSubChFocusCtCode OBJECT-TYPE
        SYNTAX      INTEGER (0..8)
        MAX-ACCESS  read-write
        STATUS      current
        DESCRIPTION
            "Number of contention codes (CSE) that shall only be used to
             request a subchannelized allocation. Default value 0.
             Allowed values 0-8."
        REFERENCE
            "Table 352, in IEEE Std 802.16-2004"
        DEFVAL         { 0 }
        ::= { wmanIf2BsOfdmUplinkChannelEntry 7 }

wmanIf2BsOfdmUpLinkChannelId OBJECT-TYPE
        SYNTAX      INTEGER (0..255)
        MAX-ACCESS  read-write
        STATUS      current
        DESCRIPTION
            "The identifier of the uplink channel to which the relevant
             RNG-RSP or RNG-REQ message refers."
        REFERENCE
            "Subclause 6.3.2.3.4. Table 16, in IEEE Std 802.16-2004"
        ::= { wmanIf2BsOfdmUplinkChannelEntry 8 }

wmanIf2BsOfdmDownlinkChannelTable OBJECT-TYPE
        SYNTAX      SEQUENCE OF WmanIf2BsOfdmDownlinkChannelEntry
        MAX-ACCESS  not-accessible
        STATUS      current
        DESCRIPTION
            "This table contains DCD channel attributes, defining the
```

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             transmission characteristics of downlink channels"
        REFERENCE
            "Table 358, in IEEE Std 802.16-2004"
        ::= { wmanIf2BsOfdmPhy 2 }

wmanIf2BsOfdmDownlinkChannelEntry OBJECT-TYPE
        SYNTAX      WmanIf2BsOfdmDownlinkChannelEntry
        MAX-ACCESS  not-accessible
        STATUS      current
        DESCRIPTION
            "This table provides one row for each downlink channel of
             multi-sector BS, and is indexed by BS ifIndex. An entry
             in this table exists for each ifEntry of BS with an
             ifType of propBWAp2Mp."
        INDEX { ifIndex }
        ::= { wmanIf2BsOfdmDownlinkChannelTable 1 }

WmanIf2BsOfdmDownlinkChannelEntry ::= SEQUENCE {
        wmanIf2BsOfdmBsEIRP                     INTEGER,
        wmanIf2BsOfdmChannelNumber              WmanIf2ChannelNumber,
        wmanIf2BsOfdmTTG                        INTEGER,
        wmanIf2BsOfdmRTG                        INTEGER,
        wmanIf2BsOfdmInitRngMaxRSS              INTEGER,
        wmanIf2BsOfdmDownlinkCenterFreq         Unsigned32,
        wmanIf2BsOfdmBsId                       WmanIf2BsIdType,
        wmanIf2BsOfdmMacVersion                 WmanIf2MacVersion,
        wmanIf2BsOfdmFrameDurationCode          INTEGER,
        wmanIf2BsOfdmDownLinkChannelId          INTEGER}

wmanIf2BsOfdmBsEIRP OBJECT-TYPE
        SYNTAX      INTEGER (-32768..32767)
        UNITS       "dBm"
        MAX-ACCESS  read-write
        STATUS      current
        DESCRIPTION
            "The EIRP is the equivalent isotropic radiated power of
             the base station, which is computed for a simple
             single-antenna transmitter."
        REFERENCE
            "Table 358, in IEEE Std 802.16-2004"
        ::= { wmanIf2BsOfdmDownlinkChannelEntry 1 }

wmanIf2BsOfdmChannelNumber OBJECT-TYPE
        SYNTAX      WmanIf2ChannelNumber
        MAX-ACCESS  read-write
        STATUS      current
        DESCRIPTION
            "Downlink channel number as defined in 8.5.
             Used for license-exempt operation only."
        REFERENCE
            "Table 358, in IEEE Std 802.16-2004"
        ::= { wmanIf2BsOfdmDownlinkChannelEntry 2 }

wmanIf2BsOfdmTTG OBJECT-TYPE
```

```
        SYNTAX      INTEGER (0..255)
        MAX-ACCESS  read-write
        STATUS      current
        DESCRIPTION
            "Transmit / Receive Transition Gap."
        REFERENCE
            "Table 358, in IEEE Std 802.16-2004"
        ::= { wmanIf2BsOfdmDownlinkChannelEntry 3 }

wmanIf2BsOfdmRTG OBJECT-TYPE
        SYNTAX      INTEGER (0..255)
        MAX-ACCESS  read-write
        STATUS      current
        DESCRIPTION
            "Receive / Transmit Transition Gap."
        REFERENCE
            "Table 358, in IEEE Std 802.16-2004"
        ::= { wmanIf2BsOfdmDownlinkChannelEntry 4 }

wmanIf2BsOfdmInitRngMaxRSS OBJECT-TYPE
        SYNTAX      INTEGER (-32768..32767)
        UNITS       "dBm"
        MAX-ACCESS  read-write
        STATUS      current
        DESCRIPTION
            "Initial Ranging Max. equivalent isotropic received power
             at BS Signed in units of 1 dBm."
        REFERENCE
            "Table 358, in IEEE Std 802.16-2004"
        ::= { wmanIf2BsOfdmDownlinkChannelEntry 5 }

wmanIf2BsOfdmDownlinkCenterFreq OBJECT-TYPE
        SYNTAX      Unsigned32
        UNITS       "kHz"
        MAX-ACCESS  read-write
        STATUS      current
        DESCRIPTION
            "Downlink center frequency (kHz)."
        REFERENCE
            "Table 358, in IEEE Std 802.16-2004"
        ::= { wmanIf2BsOfdmDownlinkChannelEntry 6 }

wmanIf2BsOfdmBsId OBJECT-TYPE
        SYNTAX      WmanIf2BsIdType
        MAX-ACCESS  read-write
        STATUS      current
        DESCRIPTION
            "Base station ID."
        REFERENCE
            "Table 358, in IEEE Std 802.16-2004"
        ::= { wmanIf2BsOfdmDownlinkChannelEntry 7 }

wmanIf2BsOfdmMacVersion OBJECT-TYPE
        SYNTAX      WmanIf2MacVersion
        MAX-ACCESS  read-write
        STATUS      current
        DESCRIPTION
            "This parameter specifies the version of 802.16 to which
             the message originator conforms."
        REFERENCE
            "Table 358, in IEEE Std 802.16-2004"
        ::= { wmanIf2BsOfdmDownlinkChannelEntry 8 }

wmanIf2BsOfdmFrameDurationCode OBJECT-TYPE
        SYNTAX      INTEGER {duration2dot5ms(0),
                             duration4ms(1),
                             duration5ms(2),
                             duration8ms(3),
                             duration10ms(4),
                             duration12dot5ms(5),
                             duration20ms(6)}
        MAX-ACCESS  read-write
        STATUS      current
        DESCRIPTION
            "The duration of the frame. The frame duration code
             values are specified in Table 230."
        REFERENCE
            "Subclause 11.4.1, Table 230, in IEEE Std 802.16-2004"
        ::= { wmanIf2BsOfdmDownlinkChannelEntry 9 }

wmanIf2BsOfdmDownLinkChannelId OBJECT-TYPE
        SYNTAX      INTEGER (0..255)
        MAX-ACCESS  read-write
        STATUS      current
        DESCRIPTION
            "The identifier of the downlink channel to which this
             message refers."
        REFERENCE
            "Subclause 6.3.2.3.1. Table 15, in IEEE Std 802.16-2004"
        ::= { wmanIf2BsOfdmDownlinkChannelEntry 10 }

wmanIf2BsOfdmUcdBurstProfileTable OBJECT-TYPE
        SYNTAX      SEQUENCE OF WmanIf2BsOfdmUcdBurstProfileEntry
        MAX-ACCESS  not-accessible
        STATUS      current
        DESCRIPTION
            "This table contains UCD burst profiles for each uplink
             channel"
        REFERENCE
            "Table 356, in IEEE Std 802.16-2004"
        ::= { wmanIf2BsOfdmPhy 3 }

wmanIf2BsOfdmUcdBurstProfileEntry OBJECT-TYPE
        SYNTAX      WmanIf2BsOfdmUcdBurstProfileEntry
        MAX-ACCESS  not-accessible
        STATUS      current
        DESCRIPTION
            "This table provides one row for each UCD burst profile.
```

```
             This table is double indexed. The primary index is an
             ifIndex with an ifType of propBWAp2Mp. The secondary index
             is wmanIf2BsOfdmUiucIndex."
        INDEX { ifIndex, wmanIf2BsOfdmUiucIndex }
        ::= { wmanIf2BsOfdmUcdBurstProfileTable 1 }

WmanIf2BsOfdmUcdBurstProfileEntry ::= SEQUENCE {
        wmanIf2BsOfdmUiucIndex                  INTEGER,
        wmanIf2BsOfdmUcdFecCodeType             WmanIf2OfdmFecCodeType,
        wmanIf2BsOfdmFocusCtPowerBoost          INTEGER,
        wmanIf2BsOfdmUcdTcsEnable               INTEGER,
        wmanIf2BsOfdmUcdBurstProfileRowStatus   RowStatus}

wmanIf2BsOfdmUiucIndex OBJECT-TYPE
        SYNTAX      INTEGER (5 .. 12)
        MAX-ACCESS  not-accessible
        STATUS      current
        DESCRIPTION
            "The Uplink Interval Usage Code indicates the uplink burst
             profile in the UCD message, and is used along with ifIndex
             to identify an entry in the
             wmanIf2BsOfdmUcdBurstProfileTable."
        REFERENCE
            "Subclause 8.3.6.3.1, in IEEE Std 802.16-2004"
        ::= { wmanIf2BsOfdmUcdBurstProfileEntry 1 }

wmanIf2BsOfdmUcdFecCodeType OBJECT-TYPE
        SYNTAX      WmanIf2OfdmFecCodeType
        MAX-ACCESS  read-create
        STATUS      current
        DESCRIPTION
            "Uplink FEC code type and modulation type"
        REFERENCE
            "Table 356, in IEEE Std 802.16-2004"
        ::= { wmanIf2BsOfdmUcdBurstProfileEntry 2 }

wmanIf2BsOfdmFocusCtPowerBoost OBJECT-TYPE
        SYNTAX      INTEGER (0 .. 255)
        MAX-ACCESS  read-create
        STATUS      current
        DESCRIPTION
            "The power boost in dB of focused contention carriers, as
             described in 8.3.6.3.3."
        REFERENCE
            "Table 356, in IEEE Std 802.16-2004"
        ::= { wmanIf2BsOfdmUcdBurstProfileEntry 3 }

wmanIf2BsOfdmUcdTcsEnable OBJECT-TYPE
        SYNTAX      INTEGER {tcsDisabled(0),
                             tcsEnabled(1)}
        MAX-ACCESS  read-create
        STATUS      current
        DESCRIPTION
            "This parameter determines the transmission convergence
```

```
             sublayer, as described in 8.1.4.3, can be enabled on a
             per-burst basis for both uplink and downlink. through
             DIUC/UIUC messages."
        REFERENCE
            "Table 356, in IEEE Std 802.16-2004"
        ::= { wmanIf2BsOfdmUcdBurstProfileEntry 4 }

wmanIf2BsOfdmUcdBurstProfileRowStatus OBJECT-TYPE
        SYNTAX      RowStatus
        MAX-ACCESS  read-create
        STATUS      current
        DESCRIPTION
            "This object is used to create a new row or modify or
             delete an existing row in this table.

             If the implementator of this MIB has choosen not
             to implement 'dynamic assignment' of profiles, this
             object is not useful and should return noSuchName
             upon SNMP request."
        ::= { wmanIf2BsOfdmUcdBurstProfileEntry 5 }

wmanIf2BsOfdmDcdBurstProfileTable OBJECT-TYPE
        SYNTAX      SEQUENCE OF WmanIf2BsOfdmDcdBurstProfileEntry
        MAX-ACCESS  not-accessible
        STATUS      current
        DESCRIPTION
            "This table provides one row for each DCD burst profile.
             This table is double indexed. The primary index is an
             ifIndex with an ifType of propBWAp2Mp. The secondary
             index is wmanIf2BsOfdmDiucIndex."
        REFERENCE
            "Table 362, in IEEE Std 802.16-2004"
        ::= { wmanIf2BsOfdmPhy 4 }

wmanIf2BsOfdmDcdBurstProfileEntry OBJECT-TYPE
        SYNTAX      WmanIf2BsOfdmDcdBurstProfileEntry
        MAX-ACCESS  not-accessible
        STATUS      current
        DESCRIPTION
            "This table provides one row for each DCD burst profile.
             This table is double indexed. The primary index is an
             ifIndex with an ifType of propBWAp2Mp. The secondary index
             is wmanIf2BsOfdmDiucIndex."
        INDEX { ifIndex, wmanIf2BsOfdmDiucIndex }
        ::= { wmanIf2BsOfdmDcdBurstProfileTable 1 }

WmanIf2BsOfdmDcdBurstProfileEntry ::= SEQUENCE {
        wmanIf2BsOfdmDiucIndex                  INTEGER,
        wmanIf2BsOfdmDownlinkFrequency          Unsigned32,
        wmanIf2BsOfdmDcdFecCodeType             WmanIf2OfdmFecCodeType,
        wmanIf2BsOfdmDiucMandatoryExitThresh    INTEGER,
        wmanIf2BsOfdmDiucMinEntryThresh         INTEGER,
        wmanIf2BsOfdmTcsEnable                  INTEGER,
        wmanIf2BsOfdmDcdBurstProfileRowStatus   RowStatus}
```

```
wmanIf2BsOfdmDiucIndex OBJECT-TYPE
        SYNTAX      INTEGER (1..11)
        MAX-ACCESS  not-accessible
        STATUS      current
        DESCRIPTION
            "The Downlink Interval Usage Code indicates the downlink
             burst profile in the DCD message, and is used along with
             ifIndex to identify an entry in the
             wmanIf2BsOfdmDcdBurstProfileTable."
        REFERENCE
            "Subclause 8.3.6.3.1, in IEEE Std 802.16-2004"
        ::= { wmanIf2BsOfdmDcdBurstProfileEntry 1 }

wmanIf2BsOfdmDownlinkFrequency OBJECT-TYPE
        SYNTAX      Unsigned32
        UNITS       "kHz"
        MAX-ACCESS  read-create
        STATUS      current
        DESCRIPTION
            "Downlink Frequency (kHz)."
        REFERENCE
            "Table 359, in IEEE Std 802.16-2004"
        ::= { wmanIf2BsOfdmDcdBurstProfileEntry 2 }

wmanIf2BsOfdmDcdFecCodeType OBJECT-TYPE
        SYNTAX      WmanIf2OfdmFecCodeType
        MAX-ACCESS  read-create
        STATUS      current
        DESCRIPTION
            "Downlink FEC code type and modulation type"
        REFERENCE
            "Table 362, in IEEE Std 802.16-2004"
        ::= { wmanIf2BsOfdmDcdBurstProfileEntry 3 }

wmanIf2BsOfdmDiucMandatoryExitThresh OBJECT-TYPE
        SYNTAX      INTEGER (0..255)
        MAX-ACCESS  read-create
        STATUS      current
        DESCRIPTION
            "DIUC mandatory exit threshold: 0 - 63.75 dB CINR at or
             below where this DIUC can no longer be used and where this
             change to a more robust DIUC is required in 0.25 dB units."
        REFERENCE
            "Table 362, in IEEE Std 802.16-2004"
        ::= { wmanIf2BsOfdmDcdBurstProfileEntry 4 }

wmanIf2BsOfdmDiucMinEntryThresh OBJECT-TYPE
        SYNTAX      INTEGER (0..255)
        MAX-ACCESS  read-create
        STATUS      current
        DESCRIPTION
            "DIUC minimum entry threshold: 0 - 63.75 dB The minimum CINR
             required to start using this DIUC when changing from a more
             robust DIUC is required, in 0.25 dB units."
        REFERENCE
            "Table 362, in IEEE Std 802.16-2004"
        ::= { wmanIf2BsOfdmDcdBurstProfileEntry 5 }

wmanIf2BsOfdmTcsEnable OBJECT-TYPE
        SYNTAX      INTEGER {tcsDisabled (0),
                             tcsEnabled (1)}
        MAX-ACCESS  read-create
        STATUS      current
        DESCRIPTION
            "Indicates whether Transmission COnvergence Sublayer
             is enabled or disabled."
        REFERENCE
            "Table 362, in IEEE Std 802.16-2004"
        ::= { wmanIf2BsOfdmDcdBurstProfileEntry 6 }

wmanIf2BsOfdmDcdBurstProfileRowStatus OBJECT-TYPE
        SYNTAX      RowStatus
        MAX-ACCESS  read-create
        STATUS      current
        DESCRIPTION
            "This object is used to create a new row or modify or
             delete an existing row in this table.

             If the implementator of this MIB has choosen not
             to implement 'dynamic assignment' of profiles, this
             object is not useful and should return noSuchName
             upon SNMP request."
        ::= { wmanIf2BsOfdmDcdBurstProfileEntry 7 }

wmanIf2BsOfdmConfigurationTable OBJECT-TYPE
        SYNTAX      SEQUENCE OF WmanIf2BsOfdmConfigurationEntry
        MAX-ACCESS  not-accessible
        STATUS      current
        DESCRIPTION
            "This table contains BS configuration objects, specific to
             OFDM PHY."
        ::= { wmanIf2BsOfdmPhy 5 }

wmanIf2BsOfdmConfigurationEntry OBJECT-TYPE
        SYNTAX      WmanIf2BsOfdmConfigurationEntry
        MAX-ACCESS  not-accessible
        STATUS      current
        DESCRIPTION
            "This table is indexed by ifIndex with an ifType of
             propBWAp2Mp."
        INDEX { ifIndex }
        ::= { wmanIf2BsOfdmConfigurationTable 1 }

WmanIf2BsOfdmConfigurationEntry ::= SEQUENCE {
        wmanIf2BsOfdmMinReqRegionFullTxOpp      INTEGER,
        wmanIf2BsOfdmMinFocusedCtTxOpp          INTEGER,
        wmanIf2BsOfdmMaxRoundTripDelay          INTEGER,
        wmanIf2BsOfdmRangeAbortTimingThold      INTEGER,
        wmanIf2BsOfdmRangeAbortPowerThold       INTEGER,
        wmanIf2BsOfdmRangeAbortFreqThold        INTEGER,
        wmanIf2BsOfdmDnlkRateId                 INTEGER,
        wmanIf2BsOfdmRatioG                     INTEGER}

wmanIf2BsOfdmMinReqRegionFullTxOpp OBJECT-TYPE
        SYNTAX      INTEGER (1..65535)
        UNITS       "1/sec"
        MAX-ACCESS  read-write
        STATUS      current
        DESCRIPTION
            "The minimum number of Full bandwidth Req-Region Full
             Transmit opportunities scheduled in the UL per second."
        REFERENCE
            "Subclause 6.3.7.4.3 in IEEE Std 802.16-2004"
        ::= { wmanIf2BsOfdmConfigurationEntry 1 }

wmanIf2BsOfdmMinFocusedCtTxOpp OBJECT-TYPE
        SYNTAX      INTEGER (0..65535)
        UNITS       "1/sec"
        MAX-ACCESS  read-write
        STATUS      current
        DESCRIPTION
            "The minimum number of focused contention Transmit
             opportunities scheduled in the UL per second. The value may
             be 0 if the focused contention is not implemented."
        REFERENCE
            "Subclauses 6.3.6.4 and 8.3.7.3.3 in IEEE Std 802.16-2004"
        ::= { wmanIf2BsOfdmConfigurationEntry 2 }

wmanIf2BsOfdmMaxRoundTripDelay OBJECT-TYPE
        SYNTAX      INTEGER (1..65535)
        UNITS       "us"
        MAX-ACCESS  read-write
        STATUS      current
        DESCRIPTION
            "Maximum supported round trip delay.
             It is required to limit the cell size."
        REFERENCE
            "Subclause 8.3.5.1 in IEEE Std 802.16-2004"
        ::= { wmanIf2BsOfdmConfigurationEntry 3 }

wmanIf2BsOfdmRangeAbortTimingThold OBJECT-TYPE
        SYNTAX      INTEGER (0..255)
        UNITS       "1/Fs"
        MAX-ACCESS  read-write
        STATUS      current
        DESCRIPTION
            "This object defines Tolerable Timing Offset. BS performs
             Initial Ranging until the SS transmissions are within
             limits that are deemed tolerable by the BS. If the SS does
             not transmit within these limits after a number of
             correction attempts then the BS aborts Initial Ranging."
        REFERENCE
            "Figure 63 and Table 365 in IEEE Std 802.16-2004"
        ::= { wmanIf2BsOfdmConfigurationEntry 4 }

wmanIf2BsOfdmRangeAbortPowerThold OBJECT-TYPE
        SYNTAX      INTEGER (0..255)
        UNITS       "0.25dB"
        MAX-ACCESS  read-write
        STATUS      current
        DESCRIPTION
            "This object defines Tolerable Power Offset. BS performs
             Initial Ranging until the SS transmissions are within
             limits that are deemed tolerable by the BS. If the SS does
             not transmit within these limits after a number of
             correction attempts then the BS aborts Initial Ranging."
        REFERENCE
            "Figure 63 and Table 365 in IEEE Std 802.16-2004"
        ::= { wmanIf2BsOfdmConfigurationEntry 5 }

wmanIf2BsOfdmRangeAbortFreqThold OBJECT-TYPE
        SYNTAX      INTEGER (0..255)
        UNITS       "Hz"
        MAX-ACCESS  read-write
        STATUS      current
        DESCRIPTION
            "This object defines Tolerable Frequency Offset. BS performs
             Initial Ranging until the SS transmissions are within
             limits that are deemed tolerable by the BS. If the SS does
             not transmit within these limits after a number of
             correction attempts then the BS aborts Initial Ranging."
        REFERENCE
            "Figure 63 and Table 365 in IEEE Std 802.16-2004"
        ::= { wmanIf2BsOfdmConfigurationEntry 6 }

wmanIf2BsOfdmDnlkRateId OBJECT-TYPE
        SYNTAX      INTEGER {dnlkRateIdBpsk1Over2(0),
                             dnlkRateIdQpsk1Over2(1),
                             dnlkRateIdQpsk3Over4(2),
                             dnlkRateId16Qam1Over2(3),
                             dnlkRateId16Qam3Over4(4),
                             dnlkRateId64Qam2Over3(5),
                             dnlkRateId64Qam3Over4(6)}
        MAX-ACCESS  read-write
        STATUS      current
        DESCRIPTION
            "The Rate ID to be used in the first downlink burst
             immediately following the FCH. The Rate ID encoding is
             static and cannot be changed during system operation. The
             change of the Rate ID should be applied on system
             re-intialisation (e.g. following sector or BS reset)."
        REFERENCE
            "Subclause 8.3.3.4.3 in IEEE Std 802.16-2004"
        DEFVAL      { dnlkRateIdBpsk1Over2 }
        ::= { wmanIf2BsOfdmConfigurationEntry 7 }
```

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wmanIf2BsOfdmRatioG OBJECT-TYPE
        SYNTAX INTEGER {ratio1To4(0),
                        ratio1To8(1),
                        ratio1To16(2),
                        ratio1To32(3)}
        MAX-ACCESS  read-write
        STATUS      current
        DESCRIPTION
            "The ratio of CP time to 'useful' time.Values
             are 1/4, 1/8, 1/16 or 1/32."
        REFERENCE
            "Subclause 8.3.1.1.1 in IEEE Std 802.16-2004"
        DEFVAL      { ratio1To4 }
        ::= { wmanIf2BsOfdmConfigurationEntry 8 }

wmanIf2BsSsOfdmReqCapabilitiesTable OBJECT-TYPE
        SYNTAX      SEQUENCE OF WmanIf2BsSsOfdmReqCapabilitiesEntry
        MAX-ACCESS  not-accessible
        STATUS      current
        DESCRIPTION
            "This table contains the basic capability information,
             specific to OFDM Phy, of SSs that have been reported by
             SSs to BS using RNG-REQ, SBC-REQ and REG-REQ messages.
             Entries in this table should be created when an SS
             registers with a BS."
        ::= { wmanIf2BsOfdmPhy 6 }

wmanIf2BsSsOfdmReqCapabilitiesEntry OBJECT-TYPE
        SYNTAX      WmanIf2BsSsOfdmReqCapabilitiesEntry
        MAX-ACCESS  not-accessible
        STATUS      current
        DESCRIPTION
            "This table provides one row for each SS that has been
             registered in the BS. This table augments the table
             wmanIf2BsRegisteredSsTable."
        AUGMENTS { wmanIf2BsRegisteredSsEntry }
        ::= { wmanIf2BsSsOfdmReqCapabilitiesTable 1 }

WmanIf2BsSsOfdmReqCapabilitiesEntry ::= SEQUENCE {
        wmanIf2BsSsOfdmReqCapFftSizes           WmanIf2OfdmFftSizes,
        wmanIf2BsSsOfdmReqCapSsDemodulator      WmanIf2OfdmSsDeModType,
        wmanIf2BsSsOfdmReqCapSsModulator        WmanIf2OfdmSsModType,
        wmanIf2BsSsOfdmReqCapFocusedCtSupport   WmanIf2OfdmFocusedCt,
        wmanIf2BsSsOfdmReqCapTcSublayerSupport  WmanIf2OfdmTcSublayer,
        wmanIf2eBsSsOfdmReqCapPrivteMapSupport  WmanIf2eOfdmPrivMap,
        wmanIf2eBsSsOfdmReqCapUlPowerControl    WmanIf2eOfdmUlPower,
        wmanIf2eBsSsOfdmReqCapLoopPwrControlSw  Unsigned32}

wmanIf2BsSsOfdmReqCapFftSizes OBJECT-TYPE
        SYNTAX      WmanIf2OfdmFftSizes
        MAX-ACCESS  read-only
        STATUS      current
        DESCRIPTION
```

```
            "This field indicates the FFT sizes supported by SS.
             The usage is defined by WmanIf2OfdmFftSizes."
        ::= { wmanIf2BsSsOfdmReqCapabilitiesEntry 1 }

wmanIf2BsSsOfdmReqCapSsDemodulator OBJECT-TYPE
        SYNTAX      WmanIf2OfdmSsDeModType
        MAX-ACCESS  read-only
        STATUS      current
        DESCRIPTION
            "This field indicates the different demodulator options
             supported by SS for downlink.
             The usage is defined by WmanIf2OfdmSsDeModType."
        ::= { wmanIf2BsSsOfdmReqCapabilitiesEntry 2 }

wmanIf2BsSsOfdmReqCapSsModulator OBJECT-TYPE
        SYNTAX      WmanIf2OfdmSsModType
        MAX-ACCESS  read-only
        STATUS      current
        DESCRIPTION
            "This field indicates the different modulator options
             supported by SS for uplink.
             The usage is defined by WmanIf2OfdmSsModType."
        ::= { wmanIf2BsSsOfdmReqCapabilitiesEntry 3 }

wmanIf2BsSsOfdmReqCapFocusedCtSupport OBJECT-TYPE
        SYNTAX      WmanIf2OfdmFocusedCt
        MAX-ACCESS  read-only
        STATUS      current
        DESCRIPTION
            "This field indicates whether the SS supports Focused
             Contention. The usage is defined by
             WmanIf2OfdmFocusedCt."
        ::= { wmanIf2BsSsOfdmReqCapabilitiesEntry 4 }

wmanIf2BsSsOfdmReqCapTcSublayerSupport OBJECT-TYPE
        SYNTAX      WmanIf2OfdmTcSublayer
        MAX-ACCESS  read-only
        STATUS      current
        DESCRIPTION
            "This field indicates whether or not the SS supports
             the TC sublayer. The usage is defined by
             WmanIf2OfdmTcSublayer."
        ::= { wmanIf2BsSsOfdmReqCapabilitiesEntry 5 }

wmanIf2eBsSsOfdmReqCapPrivteMapSupport OBJECT-TYPE
        SYNTAX      WmanIf2eOfdmPrivMap
        MAX-ACCESS  read-only
        STATUS      current
        DESCRIPTION
            "This field indicates if the private map parameters
             is supported."
        ::= { wmanIf2BsSsOfdmReqCapabilitiesEntry 6 }

wmanIf2eBsSsOfdmReqCapUlPowerControl OBJECT-TYPE
```

```
        SYNTAX      WmanIf2eOfdmUlPower
        MAX-ACCESS  read-only
        STATUS      current
        DESCRIPTION
            "This field indicates the uplink power control options
             supported by SS."
        ::= { wmanIf2BsSsOfdmReqCapabilitiesEntry 7 }

wmanIf2eBsSsOfdmReqCapLoopPwrControlSw OBJECT-TYPE
        SYNTAX      Unsigned32
        MAX-ACCESS  read-only
        STATUS      current
        DESCRIPTION
            "This field indicates he minimum number of frames that
             SS takes to switch from the open loop power control
             scheme to the closed loop power control scheme or
             vice versa."
        ::= { wmanIf2BsSsOfdmReqCapabilitiesEntry 8 }

wmanIf2BsSsOfdmRspCapabilitiesTable OBJECT-TYPE
        SYNTAX      SEQUENCE OF WmanIf2BsSsOfdmRspCapabilitiesEntry
        MAX-ACCESS  not-accessible
        STATUS      current
        DESCRIPTION
            "This table contains the basic capability information,
             specific to OFDM Phy, of SSs that have been negotiated
             and agreed between BS and SS via RNG-REQ/RSP,
             SBC-REQ/RSP and REG-REQ/RSP messages. This table
             augments the wmanIf2BsRegisteredSsTable."
        REFERENCE
            "Subclause 6.3.2.3.7 in IEEE Std 802.16-2004"
        ::= { wmanIf2BsOfdmPhy 7 }

wmanIf2BsSsOfdmRspCapabilitiesEntry OBJECT-TYPE
        SYNTAX      WmanIf2BsSsOfdmRspCapabilitiesEntry
        MAX-ACCESS  not-accessible
        STATUS      current
        DESCRIPTION
            "This table provides one row for each SS that has been
             registered in the BS. This table augments the
              wmanIf2BsRegisteredSsTable. "
        AUGMENTS { wmanIf2BsRegisteredSsEntry }
        ::= { wmanIf2BsSsOfdmRspCapabilitiesTable 1 }

WmanIf2BsSsOfdmRspCapabilitiesEntry ::= SEQUENCE {
        wmanIf2BsSsOfdmRspCapFftSizes           WmanIf2OfdmFftSizes,
        wmanIf2BsSsOfdmRspCapSsDemodulator      WmanIf2OfdmSsDeModType,
        wmanIf2BsSsOfdmRspCapSsModulator        WmanIf2OfdmSsModType,
        wmanIf2BsSsOfdmRspCapFocusedCtSupport   WmanIf2OfdmFocusedCt,
        wmanIf2BsSsOfdmRspCapTcSublayerSupport  WmanIf2OfdmTcSublayer,
        wmanIf2eBsSsOfdmRspCapPrivteMapSupport  WmanIf2eOfdmPrivMap,
        wmanIf2eBsSsOfdmRspCapUlPowerControl    WmanIf2eOfdmUlPower,
        wmanIf2eBsSsOfdmRspCapLoopPwrControlSw  Unsigned32}
```

```
wmanIf2BsSsOfdmRspCapFftSizes OBJECT-TYPE
        SYNTAX      WmanIf2OfdmFftSizes
        MAX-ACCESS  read-only
        STATUS      current
        DESCRIPTION
            "This field indicates the FFT sizes negotiated with the
             SS. The usage is defined by WmanIf2OfdmFftSizes."
        ::= { wmanIf2BsSsOfdmRspCapabilitiesEntry 1 }

wmanIf2BsSsOfdmRspCapSsDemodulator OBJECT-TYPE
        SYNTAX      WmanIf2OfdmSsDeModType
        MAX-ACCESS  read-only
        STATUS      current
        DESCRIPTION
            "This field indicates the different demodulator options
             negotiated for SS for downlink. The usage is defined by
             WmanIf2OfdmSsDeModType."
        ::= { wmanIf2BsSsOfdmRspCapabilitiesEntry 2 }

wmanIf2BsSsOfdmRspCapSsModulator OBJECT-TYPE
        SYNTAX      WmanIf2OfdmSsModType
        MAX-ACCESS  read-only
        STATUS      current
        DESCRIPTION
            "This field indicates the different modulator options
             negotiated for SS for uplink. The usage is defined by
             WmanIf2OfdmSsModType."
        ::= { wmanIf2BsSsOfdmRspCapabilitiesEntry 3 }

wmanIf2BsSsOfdmRspCapFocusedCtSupport OBJECT-TYPE
        SYNTAX      WmanIf2OfdmFocusedCt
        MAX-ACCESS  read-only
        STATUS      current
        DESCRIPTION
            "This field indicates whether the SS has negotiated the
             support for Focused Contention. The usage is defined by
             WmanIf2OfdmFocusedCt."
        ::= { wmanIf2BsSsOfdmRspCapabilitiesEntry 4 }

wmanIf2BsSsOfdmRspCapTcSublayerSupport OBJECT-TYPE
        SYNTAX      WmanIf2OfdmTcSublayer
        MAX-ACCESS  read-only
        STATUS      current
        DESCRIPTION
            "This field indicates whether the SS has negotiated
             support for the TC sublayer. The usage is defined by
             WmanIf2OfdmTcSublayer."
        ::= { wmanIf2BsSsOfdmRspCapabilitiesEntry 5 }

wmanIf2eBsSsOfdmRspCapPrivteMapSupport OBJECT-TYPE
        SYNTAX      WmanIf2eOfdmPrivMap
        MAX-ACCESS  read-only
        STATUS      current
        DESCRIPTION
```

```
            "This field iindicates if the private map parameters
             is supported."
        ::= { wmanIf2BsSsOfdmRspCapabilitiesEntry 6 }

wmanIf2eBsSsOfdmRspCapUlPowerControl OBJECT-TYPE
        SYNTAX      WmanIf2eOfdmUlPower
        MAX-ACCESS  read-only
        STATUS      current
        DESCRIPTION
            "This field indicates the uplink power control options
             supported by SS."
        ::= { wmanIf2BsSsOfdmRspCapabilitiesEntry 7 }

wmanIf2eBsSsOfdmRspCapLoopPwrControlSw OBJECT-TYPE
        SYNTAX      Unsigned32
        MAX-ACCESS  read-only
        STATUS      current
        DESCRIPTION
            "This field indicates he minimum number of frames that
             SS takes to switch from the open loop power control
             scheme to the closed loop power control scheme or
             vice versa."
        ::= { wmanIf2BsSsOfdmRspCapabilitiesEntry 8 }

wmanIf2BsOfdmCapabilitiesTable OBJECT-TYPE
        SYNTAX      SEQUENCE OF WmanIf2BsOfdmCapabilitiesEntry
        MAX-ACCESS  not-accessible
        STATUS      current
        DESCRIPTION
            "This table contains the basic capabilities, specific to
             OFDM Phy, of the BS as implemented in BS hardware and
             software. These capabilities along with the configuration
             for them (wmanIf2BsOfdmCapabilitiesConfigTable) are used
             for negotiation of basic capabilities with SS using
             RNG-RSP, SBC-RSP and REG-RSP messages. The negotiated
             capabilities are obtained by interSubclause of SS raw
             reported capabilities, BS raw capabilities and BS
             configured capabilities. The objects in the table have
             read-only access. The table is maintained by BS."
        ::= { wmanIf2BsOfdmPhy 8 }

wmanIf2BsOfdmCapabilitiesEntry OBJECT-TYPE
        SYNTAX      WmanIf2BsOfdmCapabilitiesEntry
        MAX-ACCESS  not-accessible
        STATUS      current
        DESCRIPTION
            "This table provides one row for each BS sector and is
             indexed by ifIndex."
        INDEX { ifIndex }
        ::= { wmanIf2BsOfdmCapabilitiesTable 1 }

WmanIf2BsOfdmCapabilitiesEntry ::= SEQUENCE {
        wmanIf2BsOfdmCapFftSizes                WmanIf2OfdmFftSizes,
        wmanIf2BsOfdmCapSsDemodulator           WmanIf2OfdmSsDeModType,
        wmanIf2BsOfdmCapSsModulator             WmanIf2OfdmSsModType,
        wmanIf2BsOfdmCapFocusedCtSupport        WmanIf2OfdmFocusedCt,
        wmanIf2BsOfdmCapTcSublayerSupport       WmanIf2OfdmTcSublayer,
        wmanIf2eBsOfdmCapPrivteMapSupport       WmanIf2eOfdmPrivMap,
        wmanIf2eBsSsOfdmCapUlPowerControl       WmanIf2eOfdmUlPower,
        wmanIf2eBsSsOfdmCapLoopPwrControlSw     Unsigned32}

wmanIf2BsOfdmCapFftSizes OBJECT-TYPE
        SYNTAX      WmanIf2OfdmFftSizes
        MAX-ACCESS  read-only
        STATUS      current
        DESCRIPTION
            "This field indicates the FFT sizes supported by the BS.
             The usage is defined by WmanIf2OfdmFftSizes."
        ::= { wmanIf2BsOfdmCapabilitiesEntry 1 }

wmanIf2BsOfdmCapSsDemodulator OBJECT-TYPE
        SYNTAX      WmanIf2OfdmSsDeModType
        MAX-ACCESS  read-only
        STATUS      current
        DESCRIPTION
            "This field indicates the different BS demodulator options
             for uplink supported by the BS. The usage is defined by
             WmanIf2OfdmSsDeModType."
        ::= { wmanIf2BsOfdmCapabilitiesEntry 2 }

wmanIf2BsOfdmCapSsModulator OBJECT-TYPE
        SYNTAX      WmanIf2OfdmSsModType
        MAX-ACCESS  read-only
        STATUS      current
        DESCRIPTION
            "This field indicates the different BS modulator options
             for downlink supported by the BS. The usage is defined by
             WmanIf2OfdmSsModType."
        ::= { wmanIf2BsOfdmCapabilitiesEntry 3 }

wmanIf2BsOfdmCapFocusedCtSupport OBJECT-TYPE
        SYNTAX      WmanIf2OfdmFocusedCt
        MAX-ACCESS  read-only
        STATUS      current
        DESCRIPTION
            "This field indicates the BS support for Focused
             Contention. The usage is defined by
             WmanIf2OfdmFocusedCt."
        ::= { wmanIf2BsOfdmCapabilitiesEntry 4 }

wmanIf2BsOfdmCapTcSublayerSupport OBJECT-TYPE
        SYNTAX      WmanIf2OfdmTcSublayer
        MAX-ACCESS  read-only
        STATUS      current
        DESCRIPTION
            "This field indicates the BS supports for TC sublayer. The
             usage is defined by WmanIf2OfdmTcSublayer."
        ::= { wmanIf2BsOfdmCapabilitiesEntry 5 }
```

```
wmanIf2eBsOfdmCapPrivteMapSupport OBJECT-TYPE
        SYNTAX      WmanIf2eOfdmPrivMap
        MAX-ACCESS  read-only
        STATUS      current
        DESCRIPTION
            "This field iindicates if the private map parameters
             is supported."
        ::= { wmanIf2BsOfdmCapabilitiesEntry 6 }

wmanIf2eBsSsOfdmCapUlPowerControl OBJECT-TYPE
        SYNTAX      WmanIf2eOfdmUlPower
        MAX-ACCESS  read-only
        STATUS      current
        DESCRIPTION
            "This field indicates the uplink power control options
             supported by SS."
        ::= { wmanIf2BsOfdmCapabilitiesEntry 7 }

wmanIf2eBsSsOfdmCapLoopPwrControlSw OBJECT-TYPE
        SYNTAX      Unsigned32
        MAX-ACCESS  read-only
        STATUS      current
        DESCRIPTION
            "This field indicates he minimum number of frames that
             SS takes to switch from the open loop power control
             scheme to the closed loop power control scheme or
             vice versa."
        ::= { wmanIf2BsOfdmCapabilitiesEntry 8 }

wmanIf2BsOfdmCapabilitiesConfigTable OBJECT-TYPE
        SYNTAX      SEQUENCE OF WmanIf2BsOfdmCapabilitiesConfigEntry
        MAX-ACCESS  not-accessible
        STATUS      current
        DESCRIPTION
            "This table contains the configuration for basic
             capabilities of BS, specific to OFDM Phy. The table is
             intended to be used to restrict the Capabilities
             implemented by BS, for example in order to comply with
             local regulatory requirements. The BS should use the
             configuration along with the implemented Capabilities
             (wmanIf2BsOfdmPhyTable) for negotiation of basic
             capabilities with SS using RNG-RSP, SBC-RSP and REG-RSP
             messages. The negotiated capabilities are obtained by
             interSubclause of SS reported capabilities, BS raw
             capabilities and BS configured capabilities. The objects
             in the table have read-write access. The rows are created
             by BS as a copy of wmanIf2BsBasicCapabilitiesTable
             and can be modified by NMS."
        ::= { wmanIf2BsOfdmPhy 9 }

wmanIf2BsOfdmCapabilitiesConfigEntry OBJECT-TYPE
        SYNTAX      WmanIf2BsOfdmCapabilitiesConfigEntry
        MAX-ACCESS  not-accessible
        STATUS      current
        DESCRIPTION
            "This table provides one row for each BS sector and is
             indexed by ifIndex."
        INDEX { ifIndex }
        ::= { wmanIf2BsOfdmCapabilitiesConfigTable 1 }

WmanIf2BsOfdmCapabilitiesConfigEntry ::= SEQUENCE {
        wmanIf2BsOfdmCapCfgFftSizes             WmanIf2OfdmFftSizes,
        wmanIf2BsOfdmCapCfgSsDemodulator        WmanIf2OfdmSsDeModType,
        wmanIf2BsOfdmCapCfgSsModulator          WmanIf2OfdmSsModType,
        wmanIf2BsOfdmCapCfgFocusedCtSupport     WmanIf2OfdmFocusedCt,
        wmanIf2BsOfdmCapCfgTcSublayerSupport    WmanIf2OfdmTcSublayer,
        wmanIf2eBsOfdmCapCfgPrivteMapSupport    WmanIf2eOfdmPrivMap,
        wmanIf2eBsSsOfdmCapCfgUlPowerControl    WmanIf2eOfdmUlPower,
        wmanIf2eBsSsOfdmCapCfgLoopPwrControlSw  Unsigned32}

wmanIf2BsOfdmCapCfgFftSizes OBJECT-TYPE
        SYNTAX      WmanIf2OfdmFftSizes
        MAX-ACCESS  read-write
        STATUS      current
        DESCRIPTION
            "This field indicates the FFT sizes support configured for
             the BS. The usage is defined by WmanIf2OfdmFftSizes."
        ::= { wmanIf2BsOfdmCapabilitiesConfigEntry 1 }

wmanIf2BsOfdmCapCfgSsDemodulator OBJECT-TYPE
        SYNTAX      WmanIf2OfdmSsDeModType
        MAX-ACCESS  read-write
        STATUS      current
        DESCRIPTION
            "This field indicates the different BS demodulator options
             configured for uplink. The usage is defined by
             WmanIf2OfdmSsDeModType."
        ::= { wmanIf2BsOfdmCapabilitiesConfigEntry 2 }

wmanIf2BsOfdmCapCfgSsModulator OBJECT-TYPE
        SYNTAX      WmanIf2OfdmSsModType
        MAX-ACCESS  read-write
        STATUS      current
        DESCRIPTION
            "This field indicates the different BS modulator options
             configured for downlink. The usage is defined by
             WmanIf2OfdmSsModType."
        ::= { wmanIf2BsOfdmCapabilitiesConfigEntry 3 }

wmanIf2BsOfdmCapCfgFocusedCtSupport OBJECT-TYPE
        SYNTAX      WmanIf2OfdmFocusedCt
        MAX-ACCESS  read-write
        STATUS      current
        DESCRIPTION
            "This field indicates the BS support configured for
             Focused Contention. The usage is defined by
             WmanIf2OfdmFocusedCt."
        ::= { wmanIf2BsOfdmCapabilitiesConfigEntry 4 }

wmanIf2BsOfdmCapCfgTcSublayerSupport OBJECT-TYPE
        SYNTAX      WmanIf2OfdmTcSublayer
        MAX-ACCESS  read-write
        STATUS      current
        DESCRIPTION
            "This field indicates the BS support configured for TC
             sublayer. The usage is defined by
             WmanIf2OfdmTcSublayer."
        ::= { wmanIf2BsOfdmCapabilitiesConfigEntry 5 }

wmanIf2eBsOfdmCapCfgPrivteMapSupport OBJECT-TYPE
        SYNTAX      WmanIf2eOfdmPrivMap
        MAX-ACCESS  read-write
        STATUS      current
        DESCRIPTION
            "This field iindicates if the private map parameters
             is supported."
        ::= { wmanIf2BsOfdmCapabilitiesConfigEntry 6 }

wmanIf2eBsSsOfdmCapCfgUlPowerControl OBJECT-TYPE
        SYNTAX      WmanIf2eOfdmUlPower
        MAX-ACCESS  read-write
        STATUS      current
        DESCRIPTION
            "This field indicates the uplink power control options
             supported by SS."
        ::= { wmanIf2BsOfdmCapabilitiesConfigEntry 7 }

wmanIf2eBsSsOfdmCapCfgLoopPwrControlSw OBJECT-TYPE
        SYNTAX      Unsigned32
        MAX-ACCESS  read-write
        STATUS      current
        DESCRIPTION
            "This field indicates he minimum number of frames that
             SS takes to switch from the open loop power control
             scheme to the closed loop power control scheme or
             vice versa."
        ::= { wmanIf2BsOfdmCapabilitiesConfigEntry 8 }

--
-- BS OFDMA PHY objects
--
wmanIf2BsOfdmaPhy OBJECT IDENTIFIER ::= { wmanIf2BsPhy 2 }

wmanIf2BsOfdmaUplinkChannelTable OBJECT-TYPE
        SYNTAX      SEQUENCE OF WmanIf2BsOfdmaUplinkChannelEntry
        MAX-ACCESS  not-accessible
        STATUS      current
        DESCRIPTION
            "This table contains UCD channel attributes, defining the
             transmission characteristics of uplink channels"
        REFERENCE
```

```
            "Table 349 and Table 353, in IEEE Std 802.16-2004"
        ::= { wmanIf2BsOfdmaPhy 1 }

wmanIf2BsOfdmaUplinkChannelEntry OBJECT-TYPE
        SYNTAX      WmanIf2BsOfdmaUplinkChannelEntry
        MAX-ACCESS  not-accessible
        STATUS      current
        DESCRIPTION
            "This table provides one row for each uplink channel of
             multi-sector BS, and is indexed by BS ifIndex. An entry
             in this table exists for each ifEntry of BS with an
             ifType of propBWAp2Mp."
        INDEX       { ifIndex }
        ::= { wmanIf2BsOfdmaUplinkChannelTable 1 }

WmanIf2BsOfdmaUplinkChannelEntry ::= SEQUENCE {
        wmanIf2BsOfdmaCtBasedResvTimeout        INTEGER,
        wmanIf2BsOfdmaBwReqOppSize              INTEGER,
        wmanIf2BsOfdmaRangReqOppSize            INTEGER,
        wmanIf2BsOfdmaUplinkCenterFreq          Unsigned32,
        wmanIf2BsOfdmaInitRngCodes              INTEGER,
        wmanIf2BsOfdmaPeriodicRngCodes          INTEGER,
        wmanIf2BsOfdmaBWReqCodes                INTEGER,
        wmanIf2BsOfdmaPerRngBackoffStart        INTEGER,
        wmanIf2BsOfdmaPerRngBackoffEnd          INTEGER,
        wmanIf2eBsOfdmaStartOfRngCodes          INTEGER,
        wmanIf2BsOfdmaPermutationBase           INTEGER,
        wmanIf2BsOfdmaULAllocSubchBitmap        OCTET STRING,
        wmanIf2BsOfdmaOptPermULAllocSubchBitmap OCTET STRING,
        wmanIf2BsOfdmaBandAMCAllocThreshold     INTEGER,
        wmanIf2BsOfdmaBandAMCReleaseThreshold   INTEGER,
        wmanIf2BsOfdmaBandAMCAllocTimer         INTEGER,
        wmanIf2BsOfdmaBandAMCReleaseTimer       INTEGER,
        wmanIf2BsOfdmaBandStatRepMAXPeriod      INTEGER,
        wmanIf2BsOfdmaBandAMCRetryTimer         INTEGER,
        wmanIf2BsOfdmaSafetyChAllocThreshold    INTEGER,
        wmanIf2BsOfdmaSafetyChReleaseThreshold  INTEGER,
        wmanIf2BsOfdmaSafetyChAllocTimer        INTEGER,
        wmanIf2BsOfdmaSafetyChReleaseTimer      INTEGER,
        wmanIf2BsOfdmaBinStatRepMAXPeriod       INTEGER,
        wmanIf2BsOfdmaSafetyChaRetryTimer       INTEGER,
        wmanIf2BsOfdmaHARQAackDelayULBurst      INTEGER,
        wmanIf2BsOfdmaCQICHBandAMCTranaDelay    INTEGER}

wmanIf2BsOfdmaCtBasedResvTimeout OBJECT-TYPE
        SYNTAX      INTEGER (1..255)
        MAX-ACCESS  read-write
        STATUS      current
        DESCRIPTION
            "The number of UL-MAPs to receive before contention-based
             reservation is attempted again for the same connection."
        REFERENCE
            "Table 349, in IEEE Std 802.16-2004"
        ::= { wmanIf2BsOfdmaUplinkChannelEntry 1 }
```

```
wmanIf2BsOfdmaBwReqOppSize OBJECT-TYPE
        SYNTAX      INTEGER (1..65535)
        UNITS       "PS"
        MAX-ACCESS  read-write
        STATUS      current
        DESCRIPTION
            "Size (in units of PS) of PHY payload that SS may use to
             format and transmit a bandwidth request message in a
             contention request opportunity. The value includes all
             PHY overhead as well as allowance for the MAC data the
             message may hold."
        REFERENCE
            "Table 349, in IEEE Std 802.16-2004"
        ::= { wmanIf2BsOfdmaUplinkChannelEntry 2 }

wmanIf2BsOfdmaRangReqOppSize OBJECT-TYPE
        SYNTAX      INTEGER (1..65535)
        UNITS       "PS"
        MAX-ACCESS  read-write
        STATUS      current
        DESCRIPTION
            "Size (in units of PS) of PHY payload that SS may use to
             format and transmit a RNG-REQ message in a contention
             request opportunity. The value includes all PHY overhead
             as well as allowance for the MAC data the message may
             hold and the maxiumum SS/BS roundtrip propagation delay."
        REFERENCE
            "Table 349, in IEEE Std 802.16-2004"
        ::= { wmanIf2BsOfdmaUplinkChannelEntry 3 }

wmanIf2BsOfdmaUplinkCenterFreq OBJECT-TYPE
        SYNTAX      Unsigned32
        UNITS       "kHz"
        MAX-ACCESS  read-write
        STATUS      current
        DESCRIPTION
            " Uplink center frequency (kHz)"
        REFERENCE
            "Table 349, in IEEE Std 802.16-2004"
        ::= { wmanIf2BsOfdmaUplinkChannelEntry 4 }

wmanIf2BsOfdmaInitRngCodes OBJECT-TYPE
        SYNTAX      INTEGER (0..255)
        MAX-ACCESS  read-write
        STATUS      deprecated
        DESCRIPTION
            "Number of initial ranging CDMA codes. Possible values are
             0..255. The total number of wmanIf2BsOfdmaInitRngCodes,
             wmanIf2BsOfdmaPeriodicRngCodes and wmanIf2BsOfdmaBWReqCodes
             shall be equal or less than 256."
        REFERENCE
            "Subclause 11.3.1, Table 353, in IEEE Std 802.16-2004"
        DEFVAL      { 30 }
        ::= { wmanIf2BsOfdmaUplinkChannelEntry 5 }

wmanIf2BsOfdmaPeriodicRngCodes OBJECT-TYPE
        SYNTAX      INTEGER (0..255)
        MAX-ACCESS  read-write
        STATUS      deprecated
        DESCRIPTION
            "Number of periodic ranging CDMA codes. Possible values are
             0..255. The total number of wmanIf2BsOfdmaInitRngCodes,
             wmanIf2BsOfdmaPeriodicRngCodes and wmanIf2BsOfdmaBWReqCodes
             shall be equal or less than 256."
        REFERENCE
            "Subclause 11.3.1, Table 353, in IEEE Std 802.16-2004"
        DEFVAL     { 30 }
        ::= { wmanIf2BsOfdmaUplinkChannelEntry 6 }

wmanIf2BsOfdmaBWReqCodes OBJECT-TYPE
        SYNTAX      INTEGER (0..255)
        MAX-ACCESS  read-write
        STATUS      deprecated
        DESCRIPTION
            "Number of bandwidth request codes. Possible values are
             0..255. The total number of wmanIf2BsOfdmaInitRngCodes,
             wmanIf2BsOfdmaPeriodicRngCodes and wmanIf2BsOfdmaBWReqCodes
             shall be equal or less than 256."
        REFERENCE
            "Subclause 11.3.1, Table 353, in IEEE Std 802.16-2004"
        DEFVAL     { 30 }
            ::= { wmanIf2BsOfdmaUplinkChannelEntry 7 }

wmanIf2BsOfdmaPerRngBackoffStart OBJECT-TYPE
        SYNTAX      INTEGER (0..15)
        MAX-ACCESS read-write
        STATUS      deprecated
        DESCRIPTION
           "Initial backoff window size for periodic ranging contention,
            , expressed as a power of 2. Range: 0..15 (the highest order
             bits shall be unused and set to 0)."
        REFERENCE
            "Subclause 11.3.1, Table 353, in IEEE Std 802.16-2004"
        DEFVAL     { 0 }
        ::= { wmanIf2BsOfdmaUplinkChannelEntry 8 }

wmanIf2BsOfdmaPerRngBackoffEnd OBJECT-TYPE
        SYNTAX      INTEGER (0 .. 15)
        MAX-ACCESS  read-write
        STATUS      deprecated
        DESCRIPTION
            "Final backoff window size for periodic ranging contention,
             expressed as a power of 2. Range: 0..15 (the highest order
             bits shall be unused and set to 0)."
        REFERENCE
            "Subclause 11.3.1, Table 353, in IEEE Std 802.16-2004"
        DEFVAL     { 15 }
        ::= { wmanIf2BsOfdmaUplinkChannelEntry 9 }

wmanIf2eBsOfdmaStartOfRngCodes OBJECT-TYPE
        SYNTAX      INTEGER (0..255)
        MAX-ACCESS  read-write
        STATUS      current
        DESCRIPTION
            "Indicates the starting number, S, of the group of codes
             used for this uplink.All the ranging codes used on this
             uplink will be between S and ((S+N+M+L) mod 256). Where,
               N: the number of initial-ranging codes
               M: the number of periodic-ranging codes
               L: the number of bandwidth-request codes
               O: the number of handover-ranging codes"
        REFERENCE
            "Subclause 11.3.1, Table 353, in IEEE Std 802.16e-2005"
        DEFVAL     { 0 }
        ::= { wmanIf2BsOfdmaUplinkChannelEntry 10 }

wmanIf2BsOfdmaPermutationBase OBJECT-TYPE
        SYNTAX      INTEGER (0..255)
        MAX-ACCESS  read-write
        STATUS      current
        DESCRIPTION
            "Determines the UL_PermBase parameter for the subcarrier
             permutation to be used on this uplink channel.
                 UL_PermBase = 7 LSBs of Permutation base."
        REFERENCE
            "Subclause 11.3.1, Table 353, in IEEE Std 802.16-2004"
        DEFVAL     { 0 }
        ::= { wmanIf2BsOfdmaUplinkChannelEntry 11 }

wmanIf2BsOfdmaULAllocSubchBitmap OBJECT-TYPE
        SYNTAX      OCTET STRING (SIZE (9))
        MAX-ACCESS  read-write
        STATUS      current
        DESCRIPTION
            "This is a bitmap describing the physical sub-channels
             allocated to the segment in the UL, when using the uplink
             PUSC permutation. The LSB of the first byte shall corrspond
             to subchannel 0. For any bit that is not set, the
             corresponding subchannel shall not be used by the SS on
             that segment"
        REFERENCE
            "Subclause 11.3.1, Table 353, in IEEE Std 802.16e-2005"
        ::= { wmanIf2BsOfdmaUplinkChannelEntry 12 }

wmanIf2BsOfdmaOptPermULAllocSubchBitmap OBJECT-TYPE
        SYNTAX      OCTET STRING (SIZE (13))
        MAX-ACCESS  read-write
        STATUS      current
        DESCRIPTION
            "This is a bitmap describing the sub-channels allocated to
             the segment in the UL, when using the uplink optional PUSC
             permutation (see 8.4.6.2.5 in IEEE Std 802.16-2004). The
             LSB of the first byte shall correspond to subchannel 0.
             For any bit that is not set, the corresponding subchannel
             shall not be used by the SS on that segment. When this TLV
             is not present, BS may allocate any subchannels to an SS."
        REFERENCE
            "Subclause 11.3.1, Table 353, in IEEE Std 802.16-2004"
        ::= { wmanIf2BsOfdmaUplinkChannelEntry 13 }

wmanIf2BsOfdmaBandAMCAllocThreshold OBJECT-TYPE
        SYNTAX      INTEGER (0 .. 255)
        UNITS       "dB"
        MAX-ACCESS  read-write
        STATUS      current
        DESCRIPTION
            "Threshold of the maximum of the standard deviations of the
             individual bands CINR measurements over time to trigger
             mode transition from normal subchannel to Band AMC"
        REFERENCE
            "Subclause 11.3.1, Table 353, in IEEE Std 802.16e-2005"
        ::= { wmanIf2BsOfdmaUplinkChannelEntry 14 }

wmanIf2BsOfdmaBandAMCReleaseThreshold OBJECT-TYPE
        SYNTAX      INTEGER (0 .. 255)
        UNITS       "dB"
        MAX-ACCESS  read-write
        STATUS      current
        DESCRIPTION
            "Threshold of the maximum of the standard deviations of the
             individual bands CINR measurements over time to trigger
             mode transition from Band AMC to normal subchannel"
        REFERENCE
            "Subclause 11.3.1, Table 353, in IEEE Std 802.16e-2005"
        ::= { wmanIf2BsOfdmaUplinkChannelEntry 15 }

wmanIf2BsOfdmaBandAMCAllocTimer OBJECT-TYPE
        SYNTAX      INTEGER (0 .. 255)
        UNITS       "Frame"
        MAX-ACCESS  read-write
        STATUS      current
        DESCRIPTION
            "Minimum required number of frames to measure the average
            and standard deviation for the event of Band AMC triggering"
        REFERENCE
            "Subclause 11.3.1, Table 353, in IEEE Std 802.16e-2005"
        ::= { wmanIf2BsOfdmaUplinkChannelEntry 16 }

wmanIf2BsOfdmaBandAMCReleaseTimer OBJECT-TYPE
        SYNTAX      INTEGER (0 .. 255)
        UNITS       "Frame"
        MAX-ACCESS  read-write
        STATUS      current
        DESCRIPTION
            "Minimum required number of frames to measure the average
```

```
             and standard deviation for the event triggering from Band
             AMC to normal subchannel"
        REFERENCE
            "Subclause 11.3.1, Table 353, in IEEE Std 802.16e-2005"
        ::= { wmanIf2BsOfdmaUplinkChannelEntry 17 }

wmanIf2BsOfdmaBandStatRepMAXPeriod OBJECT-TYPE
        SYNTAX      INTEGER (0 .. 255)
        UNITS       "Frame"
        MAX-ACCESS  read-write
        STATUS      current
        DESCRIPTION
            "Maximum period between refreshing the Band CINR
             measurement by the unsolicited REP-RSP"
        REFERENCE
            "Subclause 11.3.1, Table 353, in IEEE Std 802.16e-2005"
        ::= { wmanIf2BsOfdmaUplinkChannelEntry 18 }

wmanIf2BsOfdmaBandAMCRetryTimer OBJECT-TYPE
        SYNTAX      INTEGER (0 .. 255)
        UNITS       "Frame"
        MAX-ACCESS  read-write
        STATUS      current
        DESCRIPTION
            "Backoff timer between consecutive mode transitions from
             normal subchannel to Band AMC when the previous request
             is failed"
        REFERENCE
            "Subclause 11.3.1, Table 353, in IEEE Std 802.16e-2005"
        ::= { wmanIf2BsOfdmaUplinkChannelEntry 19 }

wmanIf2BsOfdmaSafetyChAllocThreshold OBJECT-TYPE
        SYNTAX      INTEGER (0 .. 255)
        UNITS       "dB"
        MAX-ACCESS  read-write
        STATUS      deprecated
        DESCRIPTION
            "This object defines the OFDMA safety channel allocation
             threshold."
        REFERENCE
            "Subclause 11.3.1, Table 353, in IEEE Std 802.16-2004"
        ::= { wmanIf2BsOfdmaUplinkChannelEntry 20 }

wmanIf2BsOfdmaSafetyChReleaseThreshold OBJECT-TYPE
        SYNTAX      INTEGER (0 .. 255)
        UNITS       "dB"
        MAX-ACCESS  read-write
        STATUS      deprecated
        DESCRIPTION
            "This object defines the OFDMA safety channel release
             threshold."
        REFERENCE
            "Subclause 11.3.1, Table 353, in IEEE Std 802.16-2004"
        ::= { wmanIf2BsOfdmaUplinkChannelEntry 21 }
```

```
wmanIf2BsOfdmaSafetyChAllocTimer OBJECT-TYPE
        SYNTAX      INTEGER (0 .. 255)
        UNITS       "Frame"
        MAX-ACCESS read-write
        STATUS      deprecated
        DESCRIPTION
            "This object defines the OFDMA safety channel allocation
             timer."
        REFERENCE
            "Subclause 11.3.1, Table 353, in IEEE Std 802.16-2004"
        ::= { wmanIf2BsOfdmaUplinkChannelEntry 22 }

wmanIf2BsOfdmaSafetyChReleaseTimer OBJECT-TYPE
        SYNTAX      INTEGER (0 .. 255)
        UNITS       "Frame"
        MAX-ACCESS  read-write
        STATUS      deprecated
        DESCRIPTION
            "This object defines the OFDMA safety channel release
             timer."
        REFERENCE
            "Subclause 11.3.1, Table 353, in IEEE Std 802.16-2004"
        ::= { wmanIf2BsOfdmaUplinkChannelEntry 23 }

wmanIf2BsOfdmaBinStatRepMAXPeriod OBJECT-TYPE
        SYNTAX      INTEGER (0 .. 255)
        UNITS       "Frame"
        MAX-ACCESS  read-write
        STATUS      deprecated
        DESCRIPTION
            "This object defines the OFDMA bin status reporting
             maximum period."
        REFERENCE
            "Subclause 11.3.1, Table 353, in IEEE Std 802.16-2004"
        ::= { wmanIf2BsOfdmaUplinkChannelEntry 24 }

wmanIf2BsOfdmaSafetyChaRetryTimer OBJECT-TYPE
        SYNTAX      INTEGER (0 .. 255)
        UNITS       "Frame"
        MAX-ACCESS  read-write
        STATUS      deprecated
        DESCRIPTION
            "This object defines the OFDMA safety channel retry
             timer."
        REFERENCE
            "Subclause 11.3.1, Table 353, in IEEE Std 802.16-2004"
        ::= { wmanIf2BsOfdmaUplinkChannelEntry 25 }

wmanIf2BsOfdmaHARQAackDelayULBurst OBJECT-TYPE
        SYNTAX      INTEGER {oneframeoffset(1),
                             twoframesoffset(2),
                             threeframesoffset(3)}
        MAX-ACCESS  read-write
        STATUS      deprecated
        DESCRIPTION
            "This object defines the OFDMA H-ARQ ACK delay for UL burst.
             1 = one frame offset
             2 = two frames offset
             3 = three frames offset"
        REFERENCE
            "Subclause 11.3.1, Table 353, in IEEE Std 802.16-2004"
                ::= { wmanIf2BsOfdmaUplinkChannelEntry 26 }

wmanIf2BsOfdmaCQICHBandAMCTranaDelay OBJECT-TYPE
        SYNTAX      INTEGER (0 .. 255)
        UNITS       "Frame"
        MAX-ACCESS  read-write
        STATUS      deprecated
        DESCRIPTION
            "This object defines the OFDMA CQICH band AMC transition
             delay."
        REFERENCE
            "Subclause 11.3.1, Table 353, in IEEE Std 802.16-2004"
        ::= { wmanIf2BsOfdmaUplinkChannelEntry 27 }

wmanIf2BsOfdmaDownlinkChannelTable OBJECT-TYPE
        SYNTAX      SEQUENCE OF WmanIf2BsOfdmaDownlinkChannelEntry
        MAX-ACCESS  not-accessible
        STATUS      current
        DESCRIPTION
            "This table contains DCD channel attributes, defining the
             transmission characteristics of downlink channels"
        REFERENCE
            "Subclause 11.4.1, Table 358, in IEEE Std 802.16-2004"
        ::= { wmanIf2BsOfdmaPhy 2 }

wmanIf2BsOfdmaDownlinkChannelEntry OBJECT-TYPE
        SYNTAX      WmanIf2BsOfdmaDownlinkChannelEntry
        MAX-ACCESS  not-accessible
        STATUS      current
        DESCRIPTION
            "This table provides one row for each downlink channel of
             multi-sector BS, and is indexed by BS ifIndex. An entry in
             this table exists for each ifEntry of BS with an ifType of
             propBWAp2Mp."
        INDEX       { ifIndex }
        ::= { wmanIf2BsOfdmaDownlinkChannelTable 1 }

WmanIf2BsOfdmaDownlinkChannelEntry ::= SEQUENCE {
        wmanIf2BsOfdmaBsEIRP                    INTEGER,
        wmanIf2BsOfdmaChannelNumber             WmanIf2ChannelNumber,
        wmanIf2BsOfdmaTTG                       INTEGER,
        wmanIf2BsOfdmaRTG                       INTEGER,
        wmanIf2BsOfdmaInitRngMaxRSS             INTEGER,
        wmanIf2BsOfdmaDownlinkCenterFreq        Unsigned32,
        wmanIf2BsOfdmaBsId                      WmanIf2BsIdType,
        wmanIf2BsOfdmaMacVersion                WmanIf2MacVersion,
        wmanIf2BsOfdmaFrameDurationCode         INTEGER,
        wmanIf2BsOfdmaSizeCqichIdField          INTEGER,
        wmanIf2BsOfdmaHARQAackDelayBurst        INTEGER}

wmanIf2BsOfdmaBsEIRP OBJECT-TYPE
        SYNTAX      INTEGER (-32768..32767)
        UNITS       "dBm"
        MAX-ACCESS  read-write
        STATUS      current
        DESCRIPTION
            "The EIRP is the equivalent isotropic radiated power of
             the base station, which is computed for a simple
             single-antenna transmitter."
        REFERENCE
            "Subclause 11.4.1, Table 358, in IEEE Std 802.16-2004"
        ::= { wmanIf2BsOfdmaDownlinkChannelEntry 1 }

wmanIf2BsOfdmaChannelNumber OBJECT-TYPE
        SYNTAX      WmanIf2ChannelNumber
        MAX-ACCESS  read-write
        STATUS      current
        DESCRIPTION
            "Downlink channel number as defined in 8.5. Used for
             license-exempt operation only."
        REFERENCE
            "Subclause 11.4.1, Table 358, in IEEE Std 802.16-2004"
        ::= { wmanIf2BsOfdmaDownlinkChannelEntry 2 }

wmanIf2BsOfdmaTTG OBJECT-TYPE
        SYNTAX      INTEGER (0..255)
        MAX-ACCESS  read-write
        STATUS      current
        DESCRIPTION
            "Transmit / Receive Transition Gap."
        REFERENCE
            "Subclause 11.4.1, Table 358, in IEEE Std 802.16-2004"
        ::= { wmanIf2BsOfdmaDownlinkChannelEntry 3 }

wmanIf2BsOfdmaRTG OBJECT-TYPE
        SYNTAX      INTEGER (0..255)
        MAX-ACCESS  read-write
        STATUS      current
        DESCRIPTION
            "Receive / Transmit Transition Gap."
        REFERENCE
            "Subclause 11.4.1, Table 358, in IEEE Std 802.16-2004"
        ::= { wmanIf2BsOfdmaDownlinkChannelEntry 4 }

wmanIf2BsOfdmaInitRngMaxRSS OBJECT-TYPE
        SYNTAX      INTEGER (-32768..32767)
        UNITS       "dBm"
        MAX-ACCESS  read-write
        STATUS      current
        DESCRIPTION
```

```
            "Initial Ranging Max. equivalent isotropic received power
             at BS Signed in units of 1 dBm."
        REFERENCE
            "Subclause 11.4.1, Table 358, in IEEE Std 802.16-2004"
        ::= { wmanIf2BsOfdmaDownlinkChannelEntry 5 }

wmanIf2BsOfdmaDownlinkCenterFreq OBJECT-TYPE
        SYNTAX      Unsigned32
        UNITS       "kHz"
        MAX-ACCESS  read-write
        STATUS      current
        DESCRIPTION
            "Downlink center frequency (kHz)."
        REFERENCE
            "Subclause 11.4.1, Table 358, in IEEE Std 802.16-2004"
        ::= { wmanIf2BsOfdmaDownlinkChannelEntry 6 }

wmanIf2BsOfdmaBsId OBJECT-TYPE
        SYNTAX      WmanIf2BsIdType
        MAX-ACCESS  read-write
        STATUS      current
        DESCRIPTION
            "Base station ID."
        REFERENCE
            "Subclause 11.4.1, Table 358, in IEEE Std 802.16-2004"
        ::= { wmanIf2BsOfdmaDownlinkChannelEntry 7 }

wmanIf2BsOfdmaMacVersion OBJECT-TYPE
        SYNTAX      WmanIf2MacVersion
        MAX-ACCESS  read-write
        STATUS      current
        DESCRIPTION
            "This parameter specifies the version of 802.16 to which
             the message originator conforms."
        REFERENCE
            "Subclause 11.4.1, Table 358, in IEEE Std 802.16-2004"
        ::= { wmanIf2BsOfdmaDownlinkChannelEntry 8 }

wmanIf2BsOfdmaFrameDurationCode OBJECT-TYPE
        SYNTAX      INTEGER {aASGap(0),
                             duration2ms(1),
                             duration2dot5ms(2),
                             duration4ms(3),
                             duration5ms(4),
                             duration8ms(5),
                             duration10ms(6),
                             duration12dot5ms(7),
                             duration20ms(8)}
        MAX-ACCESS  read-write
        STATUS      current
        DESCRIPTION
            "The duration of the frame. The frame duration code values
             are specified in Table 274."
        REFERENCE
```

```
            "Table 273, in IEEE Std 802.16-2004"
        ::= { wmanIf2BsOfdmaDownlinkChannelEntry 9 }

wmanIf2BsOfdmaSizeCqichIdField OBJECT-TYPE
        SYNTAX      INTEGER {threebits(1),
                             fourbits(2),
                             fivebits(3),
                             sixbits(4),
                             sevenbits(5),
                             eightbits(6),
                             ninebits(7)}
        MAX-ACCESS  read-write
        STATUS      current
        DESCRIPTION
            "This object defines the size of CQICH ID field.
             0 = Reserved
             1 = 3 bits
             2 = 4 bits
             3 = 5 bits
             4 = 6 bits
             5 = 7 bits
             6 = 8 bits
             7 = 9 bits
             8...255 = Reserved"
        REFERENCE
            "Subclause 11.3.1, Table 358, in IEEE Std 802.16-2004"
        ::= { wmanIf2BsOfdmaDownlinkChannelEntry 10 }

wmanIf2BsOfdmaHARQAackDelayBurst OBJECT-TYPE
        SYNTAX      INTEGER {oneframeoffset(1),
                             twoframesoffset(2),
                             threeframesoffset(3)}
        MAX-ACCESS  read-write
        STATUS      current
        DESCRIPTION
            "This object defines the OFDMA H-ARQ ACK delay for DL burst.
             1 = one frame offset
             2 = two frames offset
             3 = three frames offset"
        REFERENCE
            "Subclause 11.3.1, Table 358, in IEEE Std 802.16-2004"
        ::= { wmanIf2BsOfdmaDownlinkChannelEntry 11 }

wmanIf2BsOfdmaUcdBurstProfileTable OBJECT-TYPE
        SYNTAX      SEQUENCE OF WmanIf2BsOfdmaUcdBurstProfileEntry
        MAX-ACCESS  not-accessible
        STATUS      current
        DESCRIPTION
            "This table contains UCD burst profiles for each uplink
             channel"
        REFERENCE
            "Table 356, in IEEE Std 802.16-2004"
        ::= { wmanIf2BsOfdmaPhy 3 }
```

```
wmanIf2BsOfdmaUcdBurstProfileEntry OBJECT-TYPE
        SYNTAX      WmanIf2BsOfdmaUcdBurstProfileEntry
        MAX-ACCESS  not-accessible
        STATUS      current
        DESCRIPTION
            "This table provides one row for each UCD burst profile.
             This table is double indexed. The primary index is an
             ifIndex with an ifType of propBWAp2Mp. The secondary index
             is wmanIf2BsOfdmaUiucIndex."
        INDEX       { ifIndex, wmanIf2BsOfdmaUiucIndex }
        ::= { wmanIf2BsOfdmaUcdBurstProfileTable 1 }

WmanIf2BsOfdmaUcdBurstProfileEntry ::= SEQUENCE {
        wmanIf2BsOfdmaUiucIndex                 INTEGER,
        wmanIf2BsOfdmaUcdFecCodeType            WmanIf2OfdmaFecCodeType,
        wmanIf2BsOfdmaRangingDataRatio          INTEGER,
        wmanIf2BsOfdmaNorCOverNOverride         OCTET STRING,
        wmanIf2BsOfdmaUcdBurstProfileRowStatus  RowStatus}

wmanIf2BsOfdmaUiucIndex OBJECT-TYPE
        SYNTAX      INTEGER (1 .. 10)
        MAX-ACCESS not-accessible
        STATUS      current
        DESCRIPTION
            "The Uplink Interval Usage Code indicates the uplink burst
             profile in the UCD message, and is used along with ifIndex
             to identify an entry in the
             wmanIf2BsOfdmaUcdBurstProfileTable."
        REFERENCE
            "Subclause 8.4.5.4.1, in IEEE Std 802.16-2004"
        ::= { wmanIf2BsOfdmaUcdBurstProfileEntry 1 }

wmanIf2BsOfdmaUcdFecCodeType OBJECT-TYPE
        SYNTAX      WmanIf2OfdmaFecCodeType
        MAX-ACCESS  read-create
        STATUS      current
        DESCRIPTION
            "Uplink FEC code type and modulation type"
        REFERENCE
            "Subclause 11.3.1.1, Table 357, in IEEE Std 802.16-2004"
        ::= { wmanIf2BsOfdmaUcdBurstProfileEntry 2 }

wmanIf2BsOfdmaRangingDataRatio OBJECT-TYPE
        SYNTAX      INTEGER (0 .. 255)
        MAX-ACCESS  read-create
        STATUS      current
        DESCRIPTION
            "Reducing factor in units of 1 dB, between the power used
             for this burst and power should be used for CDMA Ranging."
        REFERENCE
        "Subclause 11.3.1.1, Table 357, in IEEE Std 802.16-2004"
        ::= { wmanIf2BsOfdmaUcdBurstProfileEntry 3 }

wmanIf2BsOfdmaNorCOverNOverride OBJECT-TYPE
```

```
        SYNTAX OCTET STRING (SIZE (5))
        MAX-ACCESS read-create
        STATUS current
        DESCRIPTION
            "This is a list of numbers, where each number is encoded by
             one nibble, and interpeted as a signed integer. The nibbles
             correspond in order to the list define by Table 334 in IEEE
             Std 802.16-2004 starting from the second line, such that
             the LS nibble of the first byte corresponds to the second
             line in the table. The number encoded by each nibble
             represents the difference in normalized C/N relative to the
             previous line in the table"
        REFERENCE
            "Subclause 11.3.1.1, Table 357, in IEEE Std 802.16-2004"
        ::= { wmanIf2BsOfdmaUcdBurstProfileEntry 4 }

wmanIf2BsOfdmaUcdBurstProfileRowStatus OBJECT-TYPE
        SYNTAX      RowStatus
        MAX-ACCESS  read-create
        STATUS      current
        DESCRIPTION
            "This object is used to create a new row or modify or delete
             an existing row in this table. If the implementator of this
             MIB has choosen not to implement 'dynamic assignment' of
             profiles, this object is not useful and should return
             noSuchName upon SNMP request."
        ::= { wmanIf2BsOfdmaUcdBurstProfileEntry 5 }

wmanIf2BsOfdmaDcdBurstProfileTable OBJECT-TYPE
        SYNTAX      SEQUENCE OF WmanIf2BsOfdmaDcdBurstProfileEntry
        MAX-ACCESS  not-accessible
        STATUS      current
        DESCRIPTION
            "This table provides one row for each DCD burst profile.
             This table is double indexed. The primary index is an
             ifIndex with an ifType of propBWAp2Mp. The secondary index
             is wmanIf2BsOfdmaDiucIndex."
        ::= { wmanIf2BsOfdmaPhy 4 }

wmanIf2BsOfdmaDcdBurstProfileEntry OBJECT-TYPE
        SYNTAX      WmanIf2BsOfdmaDcdBurstProfileEntry
        MAX-ACCESS  not-accessible
        STATUS      current
        DESCRIPTION
            "This table provides one row for each DCD burst profile.
             This table is double indexed. The primary index is an
             ifIndex with an ifType of propBWAp2Mp. The secondary index
             is wmanIf2BsOfdmaDiucIndex."
        INDEX       { ifIndex, wmanIf2BsOfdmaDiucIndex }
        ::= { wmanIf2BsOfdmaDcdBurstProfileTable 1 }

WmanIf2BsOfdmaDcdBurstProfileEntry ::= SEQUENCE {
        wmanIf2BsOfdmaDiucIndex                 INTEGER,
        wmanIf2BsOfdmaDownlinkFrequency         Unsigned32,
        wmanIf2BsOfdmaDcdFecCodeType            WmanIf2OfdmaFecCodeType,
        wmanIf2BsOfdmaDiucMandatoryExitThresh   INTEGER,
        wmanIf2BsOfdmaDiucMinEntryThresh        INTEGER,
        wmanIf2BsOfdmaDcdBurstProfileRowStatus  RowStatus}

wmanIf2BsOfdmaDiucIndex OBJECT-TYPE
        SYNTAX      INTEGER (0 .. 12)
        MAX-ACCESS  not-accessible
        STATUS      current
        DESCRIPTION
            "The Downlink Interval Usage Code indicates the downlink
             burst profile in the DCD message, and is used along with
             ifIndex to identify an entry in the
             wmanIf2BsOfdmaDcdBurstProfileTable."
        REFERENCE
            "Subclause 8.4.5.3.1, in IEEE Std 802.16-2004"
        ::= { wmanIf2BsOfdmaDcdBurstProfileEntry 1 }

wmanIf2BsOfdmaDownlinkFrequency OBJECT-TYPE
        SYNTAX      Unsigned32
        UNITS       "kHz"
        MAX-ACCESS  read-create
        STATUS      current
        DESCRIPTION
            "Downlink Frequency (kHz)."
        REFERENCE
            "Subclause 11.4.2, Table 359, in IEEE Std 802.16-2004"
        ::= { wmanIf2BsOfdmaDcdBurstProfileEntry 2 }

wmanIf2BsOfdmaDcdFecCodeType OBJECT-TYPE
        SYNTAX      WmanIf2OfdmaFecCodeType
        MAX-ACCESS  read-create
        STATUS      current
        DESCRIPTION
            "Downlink FEC code type and modulation type"
        REFERENCE
            "Subclause 11.4.2, Table 363, in IEEE Std 802.16-2004"
        ::= { wmanIf2BsOfdmaDcdBurstProfileEntry 3 }

wmanIf2BsOfdmaDiucMandatoryExitThresh OBJECT-TYPE
        SYNTAX      INTEGER (0..255)
        MAX-ACCESS  read-create
        STATUS      current
        DESCRIPTION
            "DIUC mandatory exit threshold: 0 - 63.75 dB CINR at or
             below where this DIUC can no longer be used and where
             this change to a more robust DIUC is required, in 0.25
             dB units."
        REFERENCE
            "Subclause 11.4.2, Table 363, in IEEE Std 802.16-2004"
        ::= { wmanIf2BsOfdmaDcdBurstProfileEntry 4 }

wmanIf2BsOfdmaDiucMinEntryThresh OBJECT-TYPE
        SYNTAX      INTEGER (0..255)
        MAX-ACCESS  read-create
        STATUS      current
        DESCRIPTION
            "DIUC minimum entry threshold: 0 - 63.75 dB The minimum
             CINR required to start using this DIUC when changing from
             a more robust DIUC is required, in 0.25 dB units."
        REFERENCE
            "Subclause 11.4.2, Table 363, in IEEE Std 802.16-2004"
        ::= { wmanIf2BsOfdmaDcdBurstProfileEntry 5 }

wmanIf2BsOfdmaDcdBurstProfileRowStatus OBJECT-TYPE
        SYNTAX      RowStatus
        MAX-ACCESS  read-create
        STATUS      current
        DESCRIPTION
            "This object is used to create a new row or modify or delete
             an existing row in this table. If the implementator of this
             MIB has choosen not to implement 'dynamic assignment' of
             profiles, this object is not useful and should return
             noSuchName upon SNMP request."
        ::= { wmanIf2BsOfdmaDcdBurstProfileEntry 6 }

wmanIf2BsSsOfdmaReqCapabilitiesTable OBJECT-TYPE
        SYNTAX      SEQUENCE OF WmanIf2BsSsOfdmaReqCapabilitiesEntry
        MAX-ACCESS  not-accessible
        STATUS      current
        DESCRIPTION
            "This table contains the basic capability information,
             specific to OFDMA Phy, of MSs that have been reported by
             MSs to BS using RNG-REQ, SBC-REQ and REG-REQ messages.
             Entries in this table should be created when an MS
             registers with a BS."
        ::= { wmanIf2BsOfdmaPhy 5 }

wmanIf2BsSsOfdmaReqCapabilitiesEntry OBJECT-TYPE
        SYNTAX      WmanIf2BsSsOfdmaReqCapabilitiesEntry
        MAX-ACCESS  not-accessible
        STATUS      current
        DESCRIPTION
            "This table provides one row for each MS that has been
             registered in the BS. This table augments the table
             wmanIf2BsRegisteredSsTable."
        AUGMENTS { wmanIf2BsRegisteredSsEntry }
        ::= { wmanIf2BsSsOfdmaReqCapabilitiesTable 1 }

WmanIf2BsSsOfdmaReqCapabilitiesEntry ::= SEQUENCE {
        wmanIf2BsSsOfdmaReqCapFftSizes          WmanIf2OfdmaFftSizes,
        wmanIf2BsSsOfdmaReqCapDemodulator       WmanIf2OfdmaMsDeModType,
        wmanIf2BsSsOfdmaReqCapModulator         WmanIf2OfdmaMsModType,
        wmanIf2eBsSsOfdmaReqCapNoHarqChannel    Unsigned32,
     wmanIf2BsSsOfdmaReqCapPermutation     WmanIf2OfdmaPermutation,
        wmanIf2eBsSsOfdmaReqCapMobilityFeature  WmanIf2eOfdmaMobility,
        wmanIf2eBsSsOfdmaReqCapMaxMacLevelDlFm  WmanIf2eMaxMacLevel,
        wmanIf2eBsSsOfdmaReqCapMaxMacLevelUlFm  WmanIf2eMaxMacLevel,
        wmanIf2eBsSsOfdmaReqCapDemMimo          WmanIf2eOfdmaDemMimo,
        wmanIf2eBsSsOfdmaReqCapMimoCapability   WmanIf2eOfdmaMimoCap,
        wmanIf2eBsSsOfdmaReqCapUlMimo           WmanIf2eOfdmaUlMimo,
        wmanIf2eBsSsOfdmaReqCapPrivateMap       WmanIf2eOfdmaPrivMap,
        wmanIf2eBsSsOfdmaReqCapAasCapability    WmanIf2eOfdmaAasCap,
        wmanIf2eBsSsOfdmaReqCapCinrMesurement   WmanIf2eOfdmaCinrCap,
        wmanIf2eBsSsOfdmaReqCapUlPowerControl   WmanIf2eOfdmaUlPower,
        wmanIf2eBsSsOfdmaReqCapMapCapability    WmanIf2eOfdmaMapCap,
        wmanIf2eBsSsOfdmaReqCapUlControlChannel WmanIf2eOfdmaUlCntlCh,
        wmanIf2eBsSsOfdmaReqCapCistCapability   WmanIf2eOfdmaMsCistCap,
        wmanIf2eBsSsOfdmaReqCapMaxHarqBurst     WmanIf2eOfdmaMaxHarq,
        wmanIf2eBsSsOfdmaReqCapModMimo          WmanIf2eOfdmaModMimo,
        wmanIf2eBsSsOfdmaReqCapSdmaPilot        WmanIf2eSdmaPilotCap,
        wmanIf2eBsSsOfdmaReqCapMultipleBurst    WmanIf2eMultiBurst,
        wmanIf2eBsSsOfdmaReqCapIncrHarqBuffer   WmanIf2eIncrHarqBuf,
        wmanIf2eBsSsOfdmaReqCapChaseHarqBuffer  WmanIf2eChaseHarqBuf}

wmanIf2BsSsOfdmaReqCapFftSizes OBJECT-TYPE
        SYNTAX      WmanIf2OfdmaFftSizes
        MAX-ACCESS  read-only
        STATUS      current
        DESCRIPTION
            "This field indicates the FFT sizes supported by MS."
        ::= { wmanIf2BsSsOfdmaReqCapabilitiesEntry 1 }

wmanIf2BsSsOfdmaReqCapDemodulator OBJECT-TYPE
        SYNTAX      WmanIf2OfdmaMsDeModType
        MAX-ACCESS  read-only
        STATUS      current
        DESCRIPTION
            "This field indicates the different demodulator options
             supported by MS for downlink."
        ::= { wmanIf2BsSsOfdmaReqCapabilitiesEntry 2 }

wmanIf2BsSsOfdmaReqCapModulator OBJECT-TYPE
        SYNTAX      WmanIf2OfdmaMsModType
        MAX-ACCESS  read-only
        STATUS      current
        DESCRIPTION
            "This field indicates the different modulator options
             supported by MS for uplink."
        ::= { wmanIf2BsSsOfdmaReqCapabilitiesEntry 3 }

wmanIf2eBsSsOfdmaReqCapNoHarqChannel OBJECT-TYPE
        SYNTAX      Unsigned32
        MAX-ACCESS  read-only
        STATUS      current
        DESCRIPTION
            "This field specifies the number of uplink H-ARQ
             channels (n) the SS supports, where n = 1..16.
             The value of this object should be 0..15."
        ::= { wmanIf2BsSsOfdmaReqCapabilitiesEntry 4 }

wmanIf2BsSsOfdmaReqCapPermutation OBJECT-TYPE
```

```
        SYNTAX      WmanIf2OfdmaPermutation
        MAX-ACCESS  read-only
        STATUS      current
        DESCRIPTION
            "This field indicates the OFDMA MS Permutation support."
        ::= { wmanIf2BsSsOfdmaReqCapabilitiesEntry 5 }

wmanIf2eBsSsOfdmaReqCapMobilityFeature OBJECT-TYPE
        SYNTAX      WmanIf2eOfdmaMobility
        MAX-ACCESS  read-only
        STATUS      current
        DESCRIPTION
            "The field indicates whether or not the MS supports
             mobility hand-over, Sleepmode, and Idle-mode."
        ::= { wmanIf2BsSsOfdmaReqCapabilitiesEntry 6 }

wmanIf2eBsSsOfdmaReqCapMaxMacLevelDlFm OBJECT-TYPE
        SYNTAX      WmanIf2eMaxMacLevel
        MAX-ACCESS  read-only
        STATUS      current
        DESCRIPTION
           "Maximum amount of MAC level data the MS is capable of
            processing per DL frame."
        REFERENCE
            "Subclause 11.7.8.10.1 in IEEE Std 802.16e-2005"
        DEFVAL      { 0 }
        ::= { wmanIf2BsSsOfdmaReqCapabilitiesEntry 7 }

wmanIf2eBsSsOfdmaReqCapMaxMacLevelUlFm OBJECT-TYPE
        SYNTAX      WmanIf2eMaxMacLevel
        MAX-ACCESS  read-only
        STATUS      current
        DESCRIPTION
           "Maximum amount of MAC level data the MS is capable of
            processing per UL frame."
        REFERENCE
            "Subclause 11.7.8.10.1 in IEEE Std 802.16e-2005"
        DEFVAL      { 0 }
        ::= { wmanIf2BsSsOfdmaReqCapabilitiesEntry 8 }

wmanIf2eBsSsOfdmaReqCapDemMimo OBJECT-TYPE
        SYNTAX      WmanIf2eOfdmaDemMimo
        MAX-ACCESS  read-only
        STATUS      current
        DESCRIPTION
            "This field indicates the different MIMO options supported
             by a WirelessMAN-OFDMA PHY SS in the downlink."
        ::= { wmanIf2BsSsOfdmaReqCapabilitiesEntry 9 }

wmanIf2eBsSsOfdmaReqCapMimoCapability OBJECT-TYPE
        SYNTAX      WmanIf2eOfdmaMimoCap
        MAX-ACCESS  read-only
        STATUS      current
        DESCRIPTION
```

```
            "This field indicates the MIMO capability of OFDMA MS
             demodulator."
        ::= { wmanIf2BsSsOfdmaReqCapabilitiesEntry 10 }

wmanIf2eBsSsOfdmaReqCapUlMimo OBJECT-TYPE
        SYNTAX      WmanIf2eOfdmaUlMimo
        MAX-ACCESS  read-only
        STATUS      current
        DESCRIPTION
            "This field indicates different MIMO options supported
             by a OFDMA PHY SS in the uplink"
        REFERENCE
            "Subclause 11.8.3.7.6 in IEEE 802.16e"
        ::= { wmanIf2BsSsOfdmaReqCapabilitiesEntry 11 }

wmanIf2eBsSsOfdmaReqCapPrivateMap OBJECT-TYPE
        SYNTAX      WmanIf2eOfdmaPrivMap
        MAX-ACCESS  read-only
        STATUS      current
        DESCRIPTION
            "This field indicates AAS private map parameters
             supported by a OFDMA SS"
        REFERENCE
            "Subclause 11.8.3.7.7 in IEEE 802.16e"
        ::= { wmanIf2BsSsOfdmaReqCapabilitiesEntry 12 }

wmanIf2eBsSsOfdmaReqCapAasCapability OBJECT-TYPE
        SYNTAX      WmanIf2eOfdmaAasCap
        MAX-ACCESS  read-only
        STATUS      current
        DESCRIPTION
            "This field indicates different AAS options
             supported by a OFDMA PHY SS in the downlink"
        REFERENCE
            "Subclause 11.8.3.7.8 in IEEE 802.16e"
        ::= { wmanIf2BsSsOfdmaReqCapabilitiesEntry 13 }

wmanIf2eBsSsOfdmaReqCapCinrMesurement OBJECT-TYPE
        SYNTAX      WmanIf2eOfdmaCinrCap
        MAX-ACCESS  read-only
        STATUS      current
        DESCRIPTION
            "This field indicates the CINR measurement capability
             supported by a OFDMA PHY SS in the downlink."
        REFERENCE
            "Subclause 11.8.3.7.9 in IEEE 802.16e"
        ::= { wmanIf2BsSsOfdmaReqCapabilitiesEntry 14 }

wmanIf2eBsSsOfdmaReqCapUlPowerControl OBJECT-TYPE
        SYNTAX      WmanIf2eOfdmaUlPower
        MAX-ACCESS  read-only
        STATUS      current
        DESCRIPTION
            "This field indicates the power control options
```

```
                supported by a OFDMA PHY SS for uplink transmission."
        REFERENCE
            "Subclause 11.8.3.7.11 in IEEE 802.16e"
        ::= { wmanIf2BsSsOfdmaReqCapabilitiesEntry 15 }

wmanIf2eBsSsOfdmaReqCapMapCapability OBJECT-TYPE
        SYNTAX      WmanIf2eOfdmaMapCap
        MAX-ACCESS  read-only
        STATUS      current
        DESCRIPTION
            "This field indicates the different MAP options supported
             by a OFDMA PHY SS"
        REFERENCE
            "Subclause 11.8.3.7.11 in IEEE 802.16e"
        ::= { wmanIf2BsSsOfdmaReqCapabilitiesEntry 16 }

wmanIf2eBsSsOfdmaReqCapUlControlChannel OBJECT-TYPE
        SYNTAX      WmanIf2eOfdmaUlCntlCh
        MAX-ACCESS  read-only
        STATUS      current
        DESCRIPTION
            "This field indicates the different uplink control channels
             supported by a OFDMA PHY SS."
        REFERENCE
            "Subclause 11.8.3.7.13 in IEEE 802.16e"
        ::= { wmanIf2BsSsOfdmaReqCapabilitiesEntry 17 }

wmanIf2eBsSsOfdmaReqCapCistCapability OBJECT-TYPE
        SYNTAX      WmanIf2eOfdmaMsCistCap
        MAX-ACCESS  read-only
        STATUS      current
        DESCRIPTION
            "This field indicates the MS capability of supporting CSIT
             (uplink sounding)."
        REFERENCE
            "Subclause 11.8.3.7.14 in IEEE 802.16e"
        ::= { wmanIf2BsSsOfdmaReqCapabilitiesEntry 18 }

wmanIf2eBsSsOfdmaReqCapMaxHarqBurst OBJECT-TYPE
        SYNTAX      WmanIf2eOfdmaMaxHarq
        MAX-ACCESS  read-only
        STATUS      current
        DESCRIPTION
            "This field indicates the maximum number of UL/DL HARQ
             burst allocations for the SS in a single UL/DL subframe."
        REFERENCE
            "Subclause 11.8.3.7.15 in IEEE 802.16e"
        ::= { wmanIf2BsSsOfdmaReqCapabilitiesEntry 19 }

wmanIf2eBsSsOfdmaReqCapModMimo OBJECT-TYPE
        SYNTAX      WmanIf2eOfdmaModMimo
        MAX-ACCESS  read-only
        STATUS      current
        DESCRIPTION
```

```
            "This field indicates the MIMO capability of OFDMA SS
             modulator."
        REFERENCE
            "Subclause 11.8.3.7.16 in IEEE 802.16e"
        ::= { wmanIf2BsSsOfdmaReqCapabilitiesEntry 20 }

wmanIf2eBsSsOfdmaReqCapSdmaPilot OBJECT-TYPE
        SYNTAX      WmanIf2eSdmaPilotCap
        MAX-ACCESS  read-only
        STATUS      current
        DESCRIPTION
            "This field indicates the SDMA pilot pattern support
             for AMC zone."
        REFERENCE
            "Subclause 11.8.3.7.17 in IEEE 802.16e"
        ::= { wmanIf2BsSsOfdmaReqCapabilitiesEntry 21 }

wmanIf2eBsSsOfdmaReqCapMultipleBurst OBJECT-TYPE
        SYNTAX      WmanIf2eMultiBurst
        MAX-ACCESS  read-only
        STATUS      current
        DESCRIPTION
            "This field indicates whether multiple FEC types are
             supported in DL/UL burst profiles."
        REFERENCE
            "Subclause 11.8.3.7.18 in IEEE 802.16e"
        ::= { wmanIf2BsSsOfdmaReqCapabilitiesEntry 22 }

wmanIf2eBsSsOfdmaReqCapIncrHarqBuffer OBJECT-TYPE
        SYNTAX      WmanIf2eIncrHarqBuf
        MAX-ACCESS  read-only
        STATUS      current
        DESCRIPTION
            "This field indicates the maximal number of data
             bits the SS is able to use for buffering for NEP/NSCH
             based incremental redundancy CTC in downlink and uplink
             transmissions."
        REFERENCE
            "Subclause 11.8.3.7.19 in IEEE 802.16e"
        ::= { wmanIf2BsSsOfdmaReqCapabilitiesEntry 23 }

wmanIf2eBsSsOfdmaReqCapChaseHarqBuffer OBJECT-TYPE
        SYNTAX      WmanIf2eChaseHarqBuf
        MAX-ACCESS  read-only
        STATUS      current
        DESCRIPTION
            "This field indicates the maximal number of data
             bits the SS is able to use for buffering for
             DIUC/duration based HARQ methods (Chase combining and
             CC-IR)in downlink and uplink transmissions."
        REFERENCE
            "Subclause 11.8.3.7.19 in IEEE 802.16e"
      ::= { wmanIf2BsSsOfdmaReqCapabilitiesEntry 24 }
```

```
wmanIf2BsSsOfdmaRspCapabilitiesTable OBJECT-TYPE
        SYNTAX      SEQUENCE OF WmanIf2BsSsOfdmaRspCapabilitiesEntry
        MAX-ACCESS  not-accessible
        STATUS      current
        DESCRIPTION
            "This table contains the basic capability information,
             specific to OFDMA Phy, of MSs that have been reported by
             MSs to BS using RNG-REQ, SBC-REQ and REG-REQ messages.
             Entries in this table should be created when an MS
             registers with a BS."
        ::= { wmanIf2BsOfdmaPhy 6 }

wmanIf2BsSsOfdmaRspCapabilitiesEntry OBJECT-TYPE
        SYNTAX      WmanIf2BsSsOfdmaRspCapabilitiesEntry
        MAX-ACCESS  not-accessible
        STATUS      current
        DESCRIPTION
            "This table provides one row for each MS that has been
             registered in the BS. This table augments the table
             wmanIf2BsRegisteredSsTable."
        AUGMENTS { wmanIf2BsRegisteredSsEntry }
        ::= { wmanIf2BsSsOfdmaRspCapabilitiesTable 1 }

WmanIf2BsSsOfdmaRspCapabilitiesEntry ::= SEQUENCE {
        wmanIf2BsSsOfdmaRspCapFftSizes          WmanIf2OfdmaFftSizes,
        wmanIf2BsSsOfdmaRspCapDemodulator       WmanIf2OfdmaMsDeModType,
        wmanIf2BsSsOfdmaRspCapModulator         WmanIf2OfdmaMsModType,
        wmanIf2BsSsOfdmaRspCapNoHarqChannel     Unsigned32,
        wmanIf2BsSsOfdmaRspCapPermutation       WmanIf2OfdmaPermutation,
        wmanIf2eBsSsOfdmaRspCapMobilityFeature  WmanIf2eOfdmaMobility,
        wmanIf2eBsSsOfdmaRspCapMaxMacLevelDlFm  WmanIf2eMaxMacLevel,
        wmanIf2eBsSsOfdmaRspCapMaxMacLevelUlFm  WmanIf2eMaxMacLevel,
        wmanIf2eBsSsOfdmaRspCapDemMimo          WmanIf2eOfdmaDemMimo,
        wmanIf2eBsSsOfdmaRspCapMimoCapability   WmanIf2eOfdmaMimoCap,
        wmanIf2eBsSsOfdmaRspCapUlMimo           WmanIf2eOfdmaUlMimo,
        wmanIf2eBsSsOfdmaRspCapPrivateMap       WmanIf2eOfdmaPrivMap,
        wmanIf2eBsSsOfdmaRspCapAasCapability    WmanIf2eOfdmaAasCap,
        wmanIf2eBsSsOfdmaRspCapCinrMesurement   WmanIf2eOfdmaCinrCap,
        wmanIf2eBsSsOfdmaRspCapUlPowerControl   WmanIf2eOfdmaUlPower,
        wmanIf2eBsSsOfdmaRspCapMapCapability    WmanIf2eOfdmaMapCap,
        wmanIf2eBsSsOfdmaRspCapUlControlChannel WmanIf2eOfdmaUlCntlCh,
        wmanIf2eBsSsOfdmaRspCapCistCapability   WmanIf2eOfdmaMsCistCap,
        wmanIf2eBsSsOfdmaRspCapMaxHarqBurst     WmanIf2eOfdmaMaxHarq,
        wmanIf2eBsSsOfdmaRspCapModMimo          WmanIf2eOfdmaModMimo,
        wmanIf2eBsSsOfdmaRspCapSdmaPilot        WmanIf2eSdmaPilotCap,
        wmanIf2eBsSsOfdmaRspCapMultipleBurst    WmanIf2eMultiBurst,
        wmanIf2eBsSsOfdmaRspCapIncrHarqBuffer   WmanIf2eIncrHarqBuf,
        wmanIf2eBsSsOfdmaRspCapChaseHarqBuffer  WmanIf2eChaseHarqBuf}

wmanIf2BsSsOfdmaRspCapFftSizes OBJECT-TYPE
        SYNTAX      WmanIf2OfdmaFftSizes
        MAX-ACCESS  read-only
        STATUS      current
        DESCRIPTION
```

```
            "This field indicates the FFT sizes negotiated with the
             MS."
        ::= { wmanIf2BsSsOfdmaRspCapabilitiesEntry 1 }

wmanIf2BsSsOfdmaRspCapDemodulator OBJECT-TYPE
        SYNTAX      WmanIf2OfdmaMsDeModType
        MAX-ACCESS  read-only
        STATUS      current
        DESCRIPTION
            "This field indicates the different demodulator options
             negotiated for MS for downlink."
        ::= { wmanIf2BsSsOfdmaRspCapabilitiesEntry 2 }

wmanIf2BsSsOfdmaRspCapModulator OBJECT-TYPE
        SYNTAX      WmanIf2OfdmaMsModType
        MAX-ACCESS  read-only
        STATUS      current
        DESCRIPTION
            "This field indicates the different modulator options
             negotiated for MS for uplink."
        ::= { wmanIf2BsSsOfdmaRspCapabilitiesEntry 3 }

wmanIf2BsSsOfdmaRspCapNoHarqChannel OBJECT-TYPE
        SYNTAX      Unsigned32
        MAX-ACCESS  read-only
        STATUS      current
        DESCRIPTION
            "This field specifies the number of uplink H-ARQ
             channels (n) the SS supports, where n = 1..16.
             The value of this object should be 0..15."
        ::= { wmanIf2BsSsOfdmaRspCapabilitiesEntry 4 }

wmanIf2BsSsOfdmaRspCapPermutation OBJECT-TYPE
        SYNTAX      WmanIf2OfdmaPermutation
        MAX-ACCESS  read-only
        STATUS      current
        DESCRIPTION
            "This field indicates the OFDMA MS Permutation support
             negotiated for MS."
        ::= { wmanIf2BsSsOfdmaRspCapabilitiesEntry 5 }

wmanIf2eBsSsOfdmaRspCapMobilityFeature OBJECT-TYPE
        SYNTAX      WmanIf2eOfdmaMobility
        MAX-ACCESS  read-only
        STATUS      current
        DESCRIPTION
            "The field indicates the mobility hand-over, Sleepmode,
             and Idle-mode negotiated for MS."
        ::= { wmanIf2BsSsOfdmaRspCapabilitiesEntry 6 }

wmanIf2eBsSsOfdmaRspCapMaxMacLevelDlFm OBJECT-TYPE
        SYNTAX      WmanIf2eMaxMacLevel
        MAX-ACCESS  read-only
        STATUS      current
        DESCRIPTION
           "Maximum amount of MAC level data the MS is capable of
            processing per DL frame. A value of 0 indicates such
            limitation does not exist, except the limitation of
            the physical medium"
        REFERENCE
            "Subclause 11.7.8.10.1 in IEEE Std 802.16e-2005"
        DEFVAL      { 0 }
        ::= { wmanIf2BsSsOfdmaRspCapabilitiesEntry 7 }

wmanIf2eBsSsOfdmaRspCapMaxMacLevelUlFm OBJECT-TYPE
        SYNTAX      WmanIf2eMaxMacLevel
        MAX-ACCESS  read-only
        STATUS      current
        DESCRIPTION
           "Maximum amount of MAC level data the MS is capable of
            processing per UL frame. A value of 0 indicates such
            limitation does not exist, except the limitation of
            the physical medium"
        REFERENCE
            "Subclause 11.7.8.10.1 in IEEE Std 802.16e-2005"
        DEFVAL      { 0 }
        ::= { wmanIf2BsSsOfdmaRspCapabilitiesEntry 8 }

wmanIf2eBsSsOfdmaRspCapDemMimo OBJECT-TYPE
        SYNTAX      WmanIf2eOfdmaDemMimo
        MAX-ACCESS  read-only
        STATUS      current
        DESCRIPTION
            "This field indicates the different MIMO options supported
             by a WirelessMAN-OFDMA PHY SS in the downlink."
        ::= { wmanIf2BsSsOfdmaRspCapabilitiesEntry 9 }

wmanIf2eBsSsOfdmaRspCapMimoCapability OBJECT-TYPE
        SYNTAX      WmanIf2eOfdmaMimoCap
        MAX-ACCESS  read-only
        STATUS      current
        DESCRIPTION
            "This field indicates the MIMO capability of OFDMA MS
             demodulator."
        ::= { wmanIf2BsSsOfdmaRspCapabilitiesEntry 10 }

wmanIf2eBsSsOfdmaRspCapUlMimo OBJECT-TYPE
        SYNTAX      WmanIf2eOfdmaUlMimo
        MAX-ACCESS  read-only
        STATUS      current
        DESCRIPTION
            "This field indicates different MIMO options supported
             by a OFDMA PHY SS in the uplink"
        REFERENCE
            "Subclause 11.8.3.7.6 in IEEE 802.16e"
        ::= { wmanIf2BsSsOfdmaRspCapabilitiesEntry 11 }

wmanIf2eBsSsOfdmaRspCapPrivateMap OBJECT-TYPE
```

```
        SYNTAX      WmanIf2eOfdmaPrivMap
        MAX-ACCESS  read-only
        STATUS      current
        DESCRIPTION
            "This field indicates AAS private map parameters
             supported by a OFDMA SS"
        REFERENCE
            "Subclause 11.8.3.7.7 in IEEE 802.16e"
        ::= { wmanIf2BsSsOfdmaRspCapabilitiesEntry 12 }

wmanIf2eBsSsOfdmaRspCapAasCapability OBJECT-TYPE
        SYNTAX      WmanIf2eOfdmaAasCap
        MAX-ACCESS  read-only
        STATUS      current
        DESCRIPTION
            "This field indicates different AAS options
             supported by a OFDMA PHY SS in the downlink"
        REFERENCE
            "Subclause 11.8.3.7.8 in IEEE 802.16e"
        ::= { wmanIf2BsSsOfdmaRspCapabilitiesEntry 13 }

wmanIf2eBsSsOfdmaRspCapCinrMesurement OBJECT-TYPE
        SYNTAX      WmanIf2eOfdmaCinrCap
        MAX-ACCESS  read-only
        STATUS      current
        DESCRIPTION
            "This field indicates the CINR measurement capability
             supported by a OFDMA PHY SS in the downlink."
        REFERENCE
            "Subclause 11.8.3.7.9 in IEEE 802.16e"
        ::= { wmanIf2BsSsOfdmaRspCapabilitiesEntry 14 }

wmanIf2eBsSsOfdmaRspCapUlPowerControl OBJECT-TYPE
        SYNTAX      WmanIf2eOfdmaUlPower
        MAX-ACCESS  read-only
        STATUS      current
        DESCRIPTION
            "This field indicates the power control options
             supported by a OFDMA PHY SS for uplink transmission."
        REFERENCE
            "Subclause 11.8.3.7.11 in IEEE 802.16e"
        ::= { wmanIf2BsSsOfdmaRspCapabilitiesEntry 15 }

wmanIf2eBsSsOfdmaRspCapMapCapability OBJECT-TYPE
        SYNTAX      WmanIf2eOfdmaMapCap
        MAX-ACCESS  read-only
        STATUS      current
        DESCRIPTION
            "This field indicates the different MAP options supported
             by a OFDMA PHY SS"
        REFERENCE
            "Subclause 11.8.3.7.11 in IEEE 802.16e"
        ::= { wmanIf2BsSsOfdmaRspCapabilitiesEntry 16 }
```

```
wmanIf2eBsSsOfdmaRspCapUlControlChannel OBJECT-TYPE
        SYNTAX      WmanIf2eOfdmaUlCntlCh
        MAX-ACCESS  read-only
        STATUS      current
        DESCRIPTION
            "This field indicates the different uplink control channels
             supported by a OFDMA PHY SS."
        REFERENCE
            "Subclause 11.8.3.7.13 in IEEE 802.16e"
        ::= { wmanIf2BsSsOfdmaRspCapabilitiesEntry 17 }

wmanIf2eBsSsOfdmaRspCapCistCapability OBJECT-TYPE
        SYNTAX      WmanIf2eOfdmaMsCistCap
        MAX-ACCESS  read-only
        STATUS      current
        DESCRIPTION
            "This field indicates the MS capability of supporting CSIT
             (uplink sounding)."
        REFERENCE
            "Subclause 11.8.3.7.14 in IEEE 802.16e"
        ::= { wmanIf2BsSsOfdmaRspCapabilitiesEntry 18 }

wmanIf2eBsSsOfdmaRspCapMaxHarqBurst OBJECT-TYPE
        SYNTAX      WmanIf2eOfdmaMaxHarq
        MAX-ACCESS  read-only
        STATUS      current
        DESCRIPTION
            "This field indicates the maximum number of UL/DL HARQ
             burst allocations for the SS in a single UL/DL subframe."
        REFERENCE
            "Subclause 11.8.3.7.15 in IEEE 802.16e"
        ::= { wmanIf2BsSsOfdmaRspCapabilitiesEntry 19 }

wmanIf2eBsSsOfdmaRspCapModMimo OBJECT-TYPE
        SYNTAX      WmanIf2eOfdmaModMimo
        MAX-ACCESS  read-only
        STATUS      current
        DESCRIPTION
            "This field indicates the MIMO capability of OFDMA SS
             modulator."
        REFERENCE
            "Subclause 11.8.3.7.16 in IEEE 802.16e"
        ::= { wmanIf2BsSsOfdmaRspCapabilitiesEntry 20 }

wmanIf2eBsSsOfdmaRspCapSdmaPilot OBJECT-TYPE
        SYNTAX      WmanIf2eSdmaPilotCap
        MAX-ACCESS  read-only
        STATUS      current
        DESCRIPTION
            "This field indicates the SDMA pilot pattern support
             for AMC zone."
        REFERENCE
            "Subclause 11.8.3.7.17 in IEEE 802.16e"
        ::= { wmanIf2BsSsOfdmaRspCapabilitiesEntry 21 }
```

```
wmanIf2eBsSsOfdmaRspCapMultipleBurst OBJECT-TYPE
        SYNTAX      WmanIf2eMultiBurst
        MAX-ACCESS  read-only
        STATUS      current
        DESCRIPTION
            "This field indicates whether multiple FEC types are
             supported in DL/UL burst profiles."
        REFERENCE
            "Subclause 11.8.3.7.18 in IEEE 802.16e"
        ::= { wmanIf2BsSsOfdmaRspCapabilitiesEntry 22 }

wmanIf2eBsSsOfdmaRspCapIncrHarqBuffer OBJECT-TYPE
        SYNTAX      WmanIf2eIncrHarqBuf
        MAX-ACCESS  read-only
        STATUS      current
        DESCRIPTION
            "This field indicates the maximal number of data
             bits the SS is able to use for buffering for NEP/NSCH
             based incremental redundancy CTC in downlink and uplink
             transmissions."
        REFERENCE
            "Subclause 11.8.3.7.19 in IEEE 802.16e"
        ::= { wmanIf2BsSsOfdmaRspCapabilitiesEntry 23 }

wmanIf2eBsSsOfdmaRspCapChaseHarqBuffer OBJECT-TYPE
        SYNTAX      WmanIf2eChaseHarqBuf
        MAX-ACCESS  read-only
        STATUS      current
        DESCRIPTION
            "This field indicates the maximal number of data
             bits the SS is able to use for buffering for
             DIUC/duration based HARQ methods (Chase combining and
             CC-IR)in downlink and uplink transmissions."
        REFERENCE
            "Subclause 11.8.3.7.19 in IEEE 802.16e"
      ::= { wmanIf2BsSsOfdmaRspCapabilitiesEntry 24 }

wmanIf2BsOfdmaCapabilitiesTable OBJECT-TYPE
        SYNTAX      SEQUENCE OF WmanIf2BsOfdmaCapabilitiesEntry
        MAX-ACCESS  not-accessible
        STATUS      current
        DESCRIPTION
            "This table contains the basic capabilities, specific to
             OFDMA Phy, of the BS as implemented in BS hardware and
             software. These capabilities along with the configuration
             for them (wmanIf2BsOfdmaCapabilitiesConfigTable) are used
             for negotiation of basic capabilities with SS using
             RNG-RSP, SBC-RSP and REG-RSP messages. The negotiated
             capabilities are obtained by interSubclause of MS raw
             reported capabilities, BS raw capabilities and BS
             configured capabilities. The objects in the table have
             read-only access. The table is maintained by BS."
        ::= { wmanIf2BsOfdmaPhy 7 }
```

```
wmanIf2BsOfdmaCapabilitiesEntry OBJECT-TYPE
        SYNTAX      WmanIf2BsOfdmaCapabilitiesEntry
        MAX-ACCESS  not-accessible
        STATUS      current
        DESCRIPTION
            "This table provides one row for each BS sector and is
             indexed by ifIndex."
        INDEX { ifIndex }
        ::= { wmanIf2BsOfdmaCapabilitiesTable 1 }

WmanIf2BsOfdmaCapabilitiesEntry ::= SEQUENCE {
        wmanIf2BsOfdmaCapFftSizes               WmanIf2OfdmaFftSizes,
        wmanIf2BsOfdmaCapDemodulator            WmanIf2OfdmaMsDeModType,
        wmanIf2BsOfdmaCapModulator              WmanIf2OfdmaMsModType,
        wmanIf2BsOfdmaCapNoHarqChannel          Unsigned32,
        wmanIf2BsOfdmaCapPermutation            WmanIf2OfdmaPermutation,
        wmanIf2eBsOfdmaCapMobilityFeature       WmanIf2eOfdmaMobility,
        wmanIf2eBsSsOfdmaCapMaxMacLevelDlFm     WmanIf2eMaxMacLevel,
        wmanIf2eBsSsOfdmaCapMaxMacLevelUlFm     WmanIf2eMaxMacLevel,
        wmanIf2eBsSsOfdmaCapDemMimo             WmanIf2eOfdmaDemMimo,
        wmanIf2eBsSsOfdmaCapMimoCapability      WmanIf2eOfdmaMimoCap,
        wmanIf2eBsSsOfdmaCapUlMimo              WmanIf2eOfdmaUlMimo,
        wmanIf2eBsSsOfdmaCapPrivateMap          WmanIf2eOfdmaPrivMap,
        wmanIf2eBsSsOfdmaCapAasCapability       WmanIf2eOfdmaAasCap,
        wmanIf2eBsSsOfdmaCapCinrMesurement      WmanIf2eOfdmaCinrCap,
        wmanIf2eBsSsOfdmaCapUlPowerControl      WmanIf2eOfdmaUlPower,
        wmanIf2eBsSsOfdmaCapMapCapability       WmanIf2eOfdmaMapCap,
        wmanIf2eBsSsOfdmaCapUlControlChannel    WmanIf2eOfdmaUlCntlCh,
        wmanIf2eBsSsOfdmaCapCistCapability      WmanIf2eOfdmaMsCistCap,
        wmanIf2eBsSsOfdmaCapMaxHarqBurst        WmanIf2eOfdmaMaxHarq,
        wmanIf2eBsSsOfdmaCapModMimo             WmanIf2eOfdmaModMimo,
        wmanIf2eBsSsOfdmaCapSdmaPilot           WmanIf2eSdmaPilotCap,
        wmanIf2eBsSsOfdmaCapMultipleBurst       WmanIf2eMultiBurst,
        wmanIf2eBsSsOfdmaCapIncrHarqBuffer      WmanIf2eIncrHarqBuf,
        wmanIf2eBsSsOfdmaCapChaseHarqBuffer     WmanIf2eChaseHarqBuf}

wmanIf2BsOfdmaCapFftSizes OBJECT-TYPE
        SYNTAX      WmanIf2OfdmaFftSizes
        MAX-ACCESS  read-only
        STATUS      current
        DESCRIPTION
            "This field indicates the FFT sizes supported by BS."
        ::= { wmanIf2BsOfdmaCapabilitiesEntry 1 }

wmanIf2BsOfdmaCapDemodulator OBJECT-TYPE
        SYNTAX      WmanIf2OfdmaMsDeModType
        MAX-ACCESS  read-only
        STATUS      current
        DESCRIPTION
            "This field indicates the different demodulator options
             supported by BS."
        ::= { wmanIf2BsOfdmaCapabilitiesEntry 2 }
```

```
wmanIf2BsOfdmaCapModulator OBJECT-TYPE
        SYNTAX      WmanIf2OfdmaMsModType
        MAX-ACCESS  read-only
        STATUS      current
        DESCRIPTION
            "This field indicates the different modulator options
             supported by BS."
        ::= { wmanIf2BsOfdmaCapabilitiesEntry 3 }

wmanIf2BsOfdmaCapNoHarqChannel OBJECT-TYPE
        SYNTAX      Unsigned32
        MAX-ACCESS  read-only
        STATUS      current
        DESCRIPTION
            "This field specifies the number of uplink H-ARQ
             channels (n) the SS supports, where n = 1..16.
             The value of this object should be 0..15."
        ::= { wmanIf2BsOfdmaCapabilitiesEntry 4 }

wmanIf2BsOfdmaCapPermutation OBJECT-TYPE
        SYNTAX      WmanIf2OfdmaPermutation
        MAX-ACCESS  read-only
        STATUS      current
        DESCRIPTION
            "This field indicates the OFDMA MS Permutation support
             supported by BS."
        ::= { wmanIf2BsOfdmaCapabilitiesEntry 5 }

wmanIf2eBsOfdmaCapMobilityFeature OBJECT-TYPE
        SYNTAX      WmanIf2eOfdmaMobility
        MAX-ACCESS  read-only
        STATUS      current
        DESCRIPTION
            "The field indicates the mobility hand-over, Sleepmode,
             and Idle-mode supported by BS."
        ::= { wmanIf2BsOfdmaCapabilitiesEntry 6 }

wmanIf2eBsSsOfdmaCapMaxMacLevelDlFm OBJECT-TYPE
        SYNTAX      WmanIf2eMaxMacLevel
        MAX-ACCESS  read-only
        STATUS      current
        DESCRIPTION
           "Maximum amount of MAC level data the MS is capable of
            processing per DL frame. A value of 0 indicates such
            limitation does not exist, except the limitation of
            the physical medium"
        REFERENCE
            "Subclause 11.7.8.10.1 in IEEE Std 802.16e-2005"
        DEFVAL      { 0 }
        ::= { wmanIf2BsOfdmaCapabilitiesEntry 7 }

wmanIf2eBsSsOfdmaCapMaxMacLevelUlFm OBJECT-TYPE
        SYNTAX      WmanIf2eMaxMacLevel
        MAX-ACCESS  read-only
        STATUS      current
        DESCRIPTION
           "Maximum amount of MAC level data the MS is capable of
            processing per UL frame. A value of 0 indicates such
            limitation does not exist, except the limitation of
            the physical medium"
        REFERENCE
            "Subclause 11.7.8.10.1 in IEEE Std 802.16e-2005"
        DEFVAL      { 0 }
        ::= { wmanIf2BsOfdmaCapabilitiesEntry 8 }

wmanIf2eBsSsOfdmaCapDemMimo OBJECT-TYPE
        SYNTAX      WmanIf2eOfdmaDemMimo
        MAX-ACCESS  read-only
        STATUS      current
        DESCRIPTION
            "This field indicates the different MIMO options supported
             by a WirelessMAN-OFDMA PHY SS in the downlink."
        ::= { wmanIf2BsOfdmaCapabilitiesEntry 9 }

wmanIf2eBsSsOfdmaCapMimoCapability OBJECT-TYPE
        SYNTAX      WmanIf2eOfdmaMimoCap
        MAX-ACCESS  read-only
        STATUS      current
        DESCRIPTION
            "This field indicates the MIMO capability of OFDMA MS
             demodulator."
        ::= { wmanIf2BsOfdmaCapabilitiesEntry 10 }

wmanIf2eBsSsOfdmaCapUlMimo OBJECT-TYPE
        SYNTAX      WmanIf2eOfdmaUlMimo
        MAX-ACCESS  read-only
        STATUS      current
        DESCRIPTION
            "This field indicates different MIMO options supported
             by a OFDMA PHY SS in the uplink"
        REFERENCE
            "Subclause 11.8.3.7.6 in IEEE 802.16e"
        ::= { wmanIf2BsOfdmaCapabilitiesEntry 11 }

wmanIf2eBsSsOfdmaCapPrivateMap OBJECT-TYPE
        SYNTAX      WmanIf2eOfdmaPrivMap
        MAX-ACCESS  read-only
        STATUS      current
        DESCRIPTION
            "This field indicates AAS private map parameters
             supported by a OFDMA SS"
        REFERENCE
            "Subclause 11.8.3.7.7 in IEEE 802.16e"
        ::= { wmanIf2BsOfdmaCapabilitiesEntry 12 }

wmanIf2eBsSsOfdmaCapAasCapability OBJECT-TYPE
        SYNTAX      WmanIf2eOfdmaAasCap
        MAX-ACCESS  read-only
        STATUS      current
        DESCRIPTION
            "This field indicates different AAS options
             supported by a OFDMA PHY SS in the downlink"
        REFERENCE
            "Subclause 11.8.3.7.8 in IEEE 802.16e"
        ::= { wmanIf2BsOfdmaCapabilitiesEntry 13 }

wmanIf2eBsSsOfdmaCapCinrMesurement OBJECT-TYPE
        SYNTAX      WmanIf2eOfdmaCinrCap
        MAX-ACCESS  read-only
        STATUS      current
        DESCRIPTION
            "This field indicates the CINR measurement capability
             supported by a OFDMA PHY SS in the downlink."
        REFERENCE
            "Subclause 11.8.3.7.9 in IEEE 802.16e"
        ::= { wmanIf2BsOfdmaCapabilitiesEntry 14 }

wmanIf2eBsSsOfdmaCapUlPowerControl OBJECT-TYPE
        SYNTAX      WmanIf2eOfdmaUlPower
        MAX-ACCESS  read-only
        STATUS      current
        DESCRIPTION
            "This field indicates the power control options
             supported by a OFDMA PHY SS for uplink transmission."
        REFERENCE
            "Subclause 11.8.3.7.11 in IEEE 802.16e"
        ::= { wmanIf2BsOfdmaCapabilitiesEntry 15 }

wmanIf2eBsSsOfdmaCapMapCapability OBJECT-TYPE
        SYNTAX      WmanIf2eOfdmaMapCap
        MAX-ACCESS  read-only
        STATUS      current
        DESCRIPTION
            "This field indicates the different MAP options supported
             by a OFDMA PHY SS"
        REFERENCE
            "Subclause 11.8.3.7.11 in IEEE 802.16e"
        ::= { wmanIf2BsOfdmaCapabilitiesEntry 16 }

wmanIf2eBsSsOfdmaCapUlControlChannel OBJECT-TYPE
        SYNTAX      WmanIf2eOfdmaUlCntlCh
        MAX-ACCESS  read-only
        STATUS      current
        DESCRIPTION
            "This field indicates the different uplink control channels
             supported by a OFDMA PHY SS."
        REFERENCE
            "Subclause 11.8.3.7.13 in IEEE 802.16e"
        ::= { wmanIf2BsOfdmaCapabilitiesEntry 17 }

wmanIf2eBsSsOfdmaCapCistCapability OBJECT-TYPE
        SYNTAX      WmanIf2eOfdmaMsCistCap
        MAX-ACCESS  read-only
        STATUS      current
        DESCRIPTION
            "This field indicates the MS capability of supporting CSIT
             (uplink sounding)."
        REFERENCE
            "Subclause 11.8.3.7.14 in IEEE 802.16e"
        ::= { wmanIf2BsOfdmaCapabilitiesEntry 18 }

wmanIf2eBsSsOfdmaCapMaxHarqBurst OBJECT-TYPE
        SYNTAX      WmanIf2eOfdmaMaxHarq
        MAX-ACCESS  read-only
        STATUS      current
        DESCRIPTION
            "This field indicates the maximum number of UL/DL HARQ
             burst allocations for the SS in a single UL/DL subframe."
        REFERENCE
            "Subclause 11.8.3.7.15 in IEEE 802.16e"
        ::= { wmanIf2BsOfdmaCapabilitiesEntry 19 }

wmanIf2eBsSsOfdmaCapModMimo OBJECT-TYPE
        SYNTAX      WmanIf2eOfdmaModMimo
        MAX-ACCESS  read-only
        STATUS      current
        DESCRIPTION
            "This field indicates the MIMO capability of OFDMA SS
             modulator."
        REFERENCE
            "Subclause 11.8.3.7.16 in IEEE 802.16e"
        ::= { wmanIf2BsOfdmaCapabilitiesEntry 20 }

wmanIf2eBsSsOfdmaCapSdmaPilot OBJECT-TYPE
        SYNTAX      WmanIf2eSdmaPilotCap
        MAX-ACCESS  read-only
        STATUS      current
        DESCRIPTION
            "This field indicates the SDMA pilot pattern support
             for AMC zone."
        REFERENCE
            "Subclause 11.8.3.7.17 in IEEE 802.16e"
        ::= { wmanIf2BsOfdmaCapabilitiesEntry 21 }

wmanIf2eBsSsOfdmaCapMultipleBurst OBJECT-TYPE
        SYNTAX      WmanIf2eMultiBurst
        MAX-ACCESS  read-only
        STATUS      current
        DESCRIPTION
            "This field indicates whether multiple FEC types are
             supported in DL/UL burst profiles."
        REFERENCE
            "Subclause 11.8.3.7.18 in IEEE 802.16e"
        ::= { wmanIf2BsOfdmaCapabilitiesEntry 22 }

wmanIf2eBsSsOfdmaCapIncrHarqBuffer OBJECT-TYPE
```

```
        SYNTAX      WmanIf2eIncrHarqBuf
        MAX-ACCESS  read-only
        STATUS      current
        DESCRIPTION
            "This field indicates the maximal number of data
             bits the SS is able to use for buffering for NEP/NSCH
             based incremental redundancy CTC in downlink and uplink
             transmissions."
        REFERENCE
            "Subclause 11.8.3.7.19 in IEEE 802.16e"
        ::= { wmanIf2BsOfdmaCapabilitiesEntry 23 }

wmanIf2eBsSsOfdmaCapChaseHarqBuffer OBJECT-TYPE
        SYNTAX      WmanIf2eChaseHarqBuf
        MAX-ACCESS  read-only
        STATUS      current
        DESCRIPTION
            "This field indicates the maximal number of data
             bits the SS is able to use for buffering for
             DIUC/duration based HARQ methods (Chase combining and
             CC-IR)in downlink and uplink transmissions."
        REFERENCE
            "Subclause 11.8.3.7.19 in IEEE 802.16e"
       ::= { wmanIf2BsOfdmaCapabilitiesEntry 24 }

wmanIf2BsOfdmaCapabilitiesConfigTable OBJECT-TYPE
        SYNTAX      SEQUENCE OF WmanIf2BsOfdmaCapabilitiesConfigEntry
        MAX-ACCESS  not-accessible
        STATUS      current
        DESCRIPTION
            "This table contains the configuration for basic
             capabilities of BS, specific to OFDMA Phy. The table is
             intended to be used to restrict the Capabilities
             implemented by BS, for example in order to comply with
             local regulatory requirements. The BS should use the
             configuration along with the implemented Capabilities
             (wmanIf2BsOfdmaPhyTable) for negotiation of basic
             capabilities with SS using RNG-RSP, SBC-RSP and REG-RSP
             messages. The negotiated capabilities are obtained by
             interSubclause of MS reported capabilities, BS raw
             capabilities and BS configured capabilities. The objects
             in the table have read-write access. The rows are created
             by BS as a copy of wmanIf2BsBasicCapabilitiesTable
             and can be modified by NMS."
        ::= { wmanIf2BsOfdmaPhy 8 }

wmanIf2BsOfdmaCapabilitiesConfigEntry OBJECT-TYPE
        SYNTAX      WmanIf2BsOfdmaCapabilitiesConfigEntry
        MAX-ACCESS  not-accessible
        STATUS      current
        DESCRIPTION
            "This table provides one row for each BS sector and is
             indexed by ifIndex."
        INDEX { ifIndex }
        ::= { wmanIf2BsOfdmaCapabilitiesConfigTable 1 }

WmanIf2BsOfdmaCapabilitiesConfigEntry ::= SEQUENCE {
        wmanIf2BsOfdmaCapCfgFftSizes            WmanIf2OfdmaFftSizes,
        wmanIf2BsOfdmaCapCfgDemodulator         WmanIf2OfdmaMsDeModType,
        wmanIf2BsOfdmaCapCfgModulator           WmanIf2OfdmaMsModType,
        wmanIf2BsOfdmaCapCfgNoHarqChannel       Unsigned32,
        wmanIf2BsOfdmaCapCfgPermutation         WmanIf2OfdmaPermutation,
        wmanIf2eBsOfdmaCapCfgMobilityFeature    WmanIf2eOfdmaMobility,
        wmanIf2eBsSsOfdmaCapCfgMaxMacLevelDlFm  WmanIf2eMaxMacLevel,
        wmanIf2eBsSsOfdmaCapCfgMaxMacLevelUlFm  WmanIf2eMaxMacLevel,
        wmanIf2eBsSsOfdmaCapCfgDemMimo          WmanIf2eOfdmaDemMimo,
        wmanIf2eBsSsOfdmaCapCfgMimoCapability   WmanIf2eOfdmaMimoCap,
        wmanIf2eBsSsOfdmaCapCfgUlMimo           WmanIf2eOfdmaUlMimo,
        wmanIf2eBsSsOfdmaCapCfgPrivateMap       WmanIf2eOfdmaPrivMap,
        wmanIf2eBsSsOfdmaCapCfgAasCapability    WmanIf2eOfdmaAasCap,
        wmanIf2eBsSsOfdmaCapCfgCinrMesurement   WmanIf2eOfdmaCinrCap,
        wmanIf2eBsSsOfdmaCapCfgUlPowerControl   WmanIf2eOfdmaUlPower,
        wmanIf2eBsSsOfdmaCapCfgMapCapability    WmanIf2eOfdmaMapCap,
        wmanIf2eBsSsOfdmaCapCfgUlControlChannel WmanIf2eOfdmaUlCntlCh,
        wmanIf2eBsSsOfdmaCapCfgCistCapability   WmanIf2eOfdmaMsCistCap,
        wmanIf2eBsSsOfdmaCapCfgMaxHarqBurst     WmanIf2eOfdmaMaxHarq,
        wmanIf2eBsSsOfdmaCapCfgModMimo          WmanIf2eOfdmaModMimo,
        wmanIf2eBsSsOfdmaCapCfgSdmaPilot        WmanIf2eSdmaPilotCap,
        wmanIf2eBsSsOfdmaCapCfgMultipleBurst    WmanIf2eMultiBurst,
        wmanIf2eBsSsOfdmaCapCfgIncrHarqBuffer   WmanIf2eIncrHarqBuf,
        wmanIf2eBsSsOfdmaCapCfgChaseHarqBuffer  WmanIf2eChaseHarqBuf}

wmanIf2BsOfdmaCapCfgFftSizes OBJECT-TYPE
        SYNTAX      WmanIf2OfdmaFftSizes
        MAX-ACCESS  read-write
        STATUS      current
        DESCRIPTION
            "This field indicates the FFT sizes configured for the BS."
        ::= { wmanIf2BsOfdmaCapabilitiesConfigEntry 1 }

wmanIf2BsOfdmaCapCfgDemodulator OBJECT-TYPE
        SYNTAX      WmanIf2OfdmaMsDeModType
        MAX-ACCESS  read-write
        STATUS      current
        DESCRIPTION
            "This field indicates the different demodulator options
             configured for the BS."
        ::= { wmanIf2BsOfdmaCapabilitiesConfigEntry 2 }

wmanIf2BsOfdmaCapCfgModulator OBJECT-TYPE
        SYNTAX      WmanIf2OfdmaMsModType
        MAX-ACCESS  read-write
        STATUS      current
        DESCRIPTION
            "This field indicates the different modulator options
             configured for the BS."
        ::= { wmanIf2BsOfdmaCapabilitiesConfigEntry 3 }
```

```
wmanIf2BsOfdmaCapCfgNoHarqChannel OBJECT-TYPE
        SYNTAX      Unsigned32
        MAX-ACCESS  read-only
        STATUS      current
        DESCRIPTION
            "This field specifies the number of uplink H-ARQ
             channels (n) the SS supports, where n = 1..16.
             The value of this object should be 0..15."
        ::= { wmanIf2BsOfdmaCapabilitiesConfigEntry 4 }

wmanIf2BsOfdmaCapCfgPermutation OBJECT-TYPE
        SYNTAX      WmanIf2OfdmaPermutation
        MAX-ACCESS  read-write
        STATUS      current
        DESCRIPTION
            "This field indicates the OFDMA MS Permutation support
             configured for the BS."
        ::= { wmanIf2BsOfdmaCapabilitiesConfigEntry 5 }

wmanIf2eBsOfdmaCapCfgMobilityFeature OBJECT-TYPE
        SYNTAX      WmanIf2eOfdmaMobility
        MAX-ACCESS  read-write
        STATUS      current
        DESCRIPTION
            "The field indicates the mobility hand-over, Sleepmode,
             and Idle-mode configured for the BS."
        ::= { wmanIf2BsOfdmaCapabilitiesConfigEntry 6 }

wmanIf2eBsSsOfdmaCapCfgMaxMacLevelDlFm OBJECT-TYPE
        SYNTAX      WmanIf2eMaxMacLevel
        MAX-ACCESS  read-write
        STATUS      current
        DESCRIPTION
           "Maximum amount of MAC level data the MS is capable of
            processing per DL frame. A value of 0 indicates such
            limitation does not exist, except the limitation of
            the physical medium"
        REFERENCE
            "Subclause 11.7.8.10.1 in IEEE Std 802.16e-2005"
        DEFVAL      { 0 }
        ::= { wmanIf2BsOfdmaCapabilitiesConfigEntry 7 }

wmanIf2eBsSsOfdmaCapCfgMaxMacLevelUlFm OBJECT-TYPE
        SYNTAX      WmanIf2eMaxMacLevel
        MAX-ACCESS  read-write
        STATUS      current
        DESCRIPTION
           "Maximum amount of MAC level data the MS is capable of
            processing per UL frame. A value of 0 indicates such
            limitation does not exist, except the limitation of
            the physical medium"
        REFERENCE
            "Subclause 11.7.8.10.1 in IEEE Std 802.16e-2005"
        DEFVAL      { 0 }
        ::= { wmanIf2BsOfdmaCapabilitiesConfigEntry 8 }

wmanIf2eBsSsOfdmaCapCfgDemMimo OBJECT-TYPE
        SYNTAX      WmanIf2eOfdmaDemMimo
        MAX-ACCESS  read-write
        STATUS      current
        DESCRIPTION
            "This field indicates the different MIMO options supported
             by a WirelessMAN-OFDMA PHY SS in the downlink."
        ::= { wmanIf2BsOfdmaCapabilitiesConfigEntry 9 }

wmanIf2eBsSsOfdmaCapCfgMimoCapability OBJECT-TYPE
        SYNTAX      WmanIf2eOfdmaMimoCap
        MAX-ACCESS  read-write
        STATUS      current
        DESCRIPTION
            "This field indicates the MIMO capability of OFDMA MS
             demodulator."
        ::= { wmanIf2BsOfdmaCapabilitiesConfigEntry 10 }

wmanIf2eBsSsOfdmaCapCfgUlMimo OBJECT-TYPE
        SYNTAX      WmanIf2eOfdmaUlMimo
        MAX-ACCESS  read-write
        STATUS      current
        DESCRIPTION
            "This field indicates different MIMO options supported
             by a OFDMA PHY SS in the uplink"
        REFERENCE
            "Subclause 11.8.3.7.6 in IEEE 802.16e"
        ::= { wmanIf2BsOfdmaCapabilitiesConfigEntry 11 }

wmanIf2eBsSsOfdmaCapCfgPrivateMap OBJECT-TYPE
        SYNTAX      WmanIf2eOfdmaPrivMap
        MAX-ACCESS  read-write
        STATUS      current
        DESCRIPTION
            "This field indicates AAS private map parameters
             supported by a OFDMA SS"
        REFERENCE
            "Subclause 11.8.3.7.7 in IEEE 802.16e"
        ::= { wmanIf2BsOfdmaCapabilitiesConfigEntry 12 }

wmanIf2eBsSsOfdmaCapCfgAasCapability OBJECT-TYPE
        SYNTAX      WmanIf2eOfdmaAasCap
        MAX-ACCESS  read-write
        STATUS      current
        DESCRIPTION
            "This field indicates different AAS options
             supported by a OFDMA PHY SS in the downlink"
        REFERENCE
            "Subclause 11.8.3.7.8 in IEEE 802.16e"
        ::= { wmanIf2BsOfdmaCapabilitiesConfigEntry 13 }

wmanIf2eBsSsOfdmaCapCfgCinrMesurement OBJECT-TYPE
```

```
        SYNTAX      WmanIf2eOfdmaCinrCap
        MAX-ACCESS  read-write
        STATUS      current
        DESCRIPTION
            "This field indicates the CINR measurement capability
             supported by a OFDMA PHY SS in the downlink."
        REFERENCE
            "Subclause 11.8.3.7.9 in IEEE 802.16e"
        ::= { wmanIf2BsOfdmaCapabilitiesConfigEntry 14 }

wmanIf2eBsSsOfdmaCapCfgUlPowerControl OBJECT-TYPE
        SYNTAX      WmanIf2eOfdmaUlPower
        MAX-ACCESS  read-write
        STATUS      current
        DESCRIPTION
            "This field indicates the power control options
             supported by a OFDMA PHY SS for uplink transmission."
        REFERENCE
            "Subclause 11.8.3.7.11 in IEEE 802.16e"
        ::= { wmanIf2BsOfdmaCapabilitiesConfigEntry 15 }

wmanIf2eBsSsOfdmaCapCfgMapCapability OBJECT-TYPE
        SYNTAX      WmanIf2eOfdmaMapCap
        MAX-ACCESS  read-write
        STATUS      current
        DESCRIPTION
            "This field indicates the different MAP options supported
             by a OFDMA PHY SS"
        REFERENCE
            "Subclause 11.8.3.7.11 in IEEE 802.16e"
        ::= { wmanIf2BsOfdmaCapabilitiesConfigEntry 16 }

wmanIf2eBsSsOfdmaCapCfgUlControlChannel OBJECT-TYPE
        SYNTAX      WmanIf2eOfdmaUlCntlCh
        MAX-ACCESS  read-write
        STATUS      current
        DESCRIPTION
            "This field indicates the different uplink control channels
             supported by a OFDMA PHY SS."
        REFERENCE
            "Subclause 11.8.3.7.13 in IEEE 802.16e"
        ::= { wmanIf2BsOfdmaCapabilitiesConfigEntry 17 }

wmanIf2eBsSsOfdmaCapCfgCistCapability OBJECT-TYPE
        SYNTAX      WmanIf2eOfdmaMsCistCap
        MAX-ACCESS  read-write
        STATUS      current
        DESCRIPTION
            "This field indicates the MS capability of supporting CSIT
             (uplink sounding)."
        REFERENCE
            "Subclause 11.8.3.7.14 in IEEE 802.16e"
        ::= { wmanIf2BsOfdmaCapabilitiesConfigEntry 18 }
```

```
wmanIf2eBsSsOfdmaCapCfgMaxHarqBurst OBJECT-TYPE
        SYNTAX      WmanIf2eOfdmaMaxHarq
        MAX-ACCESS  read-write
        STATUS      current
        DESCRIPTION
            "This field indicates the maximum number of UL/DL HARQ
             burst allocations for the SS in a single UL/DL subframe."
        REFERENCE
            "Subclause 11.8.3.7.15 in IEEE 802.16e"
        ::= { wmanIf2BsOfdmaCapabilitiesConfigEntry 19 }

wmanIf2eBsSsOfdmaCapCfgModMimo OBJECT-TYPE
        SYNTAX      WmanIf2eOfdmaModMimo
        MAX-ACCESS  read-write
        STATUS      current
        DESCRIPTION
            "This field indicates the MIMO capability of OFDMA SS
             modulator."
        REFERENCE
            "Subclause 11.8.3.7.16 in IEEE 802.16e"
        ::= { wmanIf2BsOfdmaCapabilitiesConfigEntry 20 }

wmanIf2eBsSsOfdmaCapCfgSdmaPilot OBJECT-TYPE
        SYNTAX      WmanIf2eSdmaPilotCap
        MAX-ACCESS  read-write
        STATUS      current
        DESCRIPTION
            "This field indicates the SDMA pilot pattern support
             for AMC zone."
        REFERENCE
            "Subclause 11.8.3.7.17 in IEEE 802.16e"
        ::= { wmanIf2BsOfdmaCapabilitiesConfigEntry 21 }

wmanIf2eBsSsOfdmaCapCfgMultipleBurst OBJECT-TYPE
        SYNTAX      WmanIf2eMultiBurst
        MAX-ACCESS  read-write
        STATUS      current
        DESCRIPTION
            "This field indicates whether multiple FEC types are
             supported in DL/UL burst profiles."
        REFERENCE
            "Subclause 11.8.3.7.18 in IEEE 802.16e"
        ::= { wmanIf2BsOfdmaCapabilitiesConfigEntry 22 }

wmanIf2eBsSsOfdmaCapCfgIncrHarqBuffer OBJECT-TYPE
        SYNTAX      WmanIf2eIncrHarqBuf
        MAX-ACCESS  read-write
        STATUS      current
        DESCRIPTION
            "This field indicates the maximal number of data
             bits the SS is able to use for buffering for NEP/NSCH
             based incremental redundancy CTC in downlink and uplink
             transmissions."
        REFERENCE
```

```
            "Subclause 11.8.3.7.19 in IEEE 802.16e"
        ::= { wmanIf2BsOfdmaCapabilitiesConfigEntry 23 }

wmanIf2eBsSsOfdmaCapCfgChaseHarqBuffer OBJECT-TYPE
        SYNTAX      WmanIf2eChaseHarqBuf
        MAX-ACCESS  read-write
        STATUS      current
        DESCRIPTION
            "This field indicates the maximal number of data
             bits the SS is able to use for buffering for
             DIUC/duration based HARQ methods (Chase combining and
             CC-IR)in downlink and uplink transmissions."
        REFERENCE
            "Subclause 11.8.3.7.19 in IEEE 802.16e"
      ::= { wmanIf2BsOfdmaCapabilitiesConfigEntry 24 }

wmanIf2eBsOfdmaUplinkChannelTable OBJECT-TYPE
        SYNTAX      SEQUENCE OF WmanIf2eBsOfdmaUplinkChannelEntry
        MAX-ACCESS  not-accessible
        STATUS      current
        DESCRIPTION
            "This table contains UCD channel attributes, defining the
             transmission characteristics of uplink channels"
        REFERENCE
            "Table 349 and Table 353, in IEEE Std 802.16-2004"
        ::= { wmanIf2BsOfdmaPhy 9 }

wmanIf2eBsOfdmaUplinkChannelEntry OBJECT-TYPE
        SYNTAX      WmanIf2eBsOfdmaUplinkChannelEntry
        MAX-ACCESS  not-accessible
        STATUS      current
        DESCRIPTION
            "This table provides one row for each uplink channel of
             multi-sector BS, and is indexed by BS ifIndex. An entry
             in this table exists for each ifEntry of BS with an
             ifType of propBWAp2Mp."
        AUGMENTS { wmanIf2BsOfdmaUplinkChannelEntry }
        ::= { wmanIf2eBsOfdmaUplinkChannelTable 1 }

WmanIf2eBsOfdmaUplinkChannelEntry ::= SEQUENCE {
        wmanIf2eBsOfdmaHandoverRangingStart     INTEGER,
        wmanIf2eBsOfdmaHandoverRangingEnd       INTEGER,
        wmanIf2eBsOfdmaHARQAackDelayDLBurst     WmanIf2eHarqAckDelay,
        wmanIf2eBsOfdmaUlAmcAlloPhyBandsBitmap  OCTET STRING,
        wmanIf2eBsOfdmaMaxRetransmission        INTEGER,
        wmanIf2eBsOfdmaNormalizedCnOverride     OCTET STRING,
        wmanIf2eBsOfdmaSizeOfCqichId            INTEGER,
        wmanIf2eBsOfdmaNormalizedCnValue        INTEGER,
        wmanIf2eBsOfdmaNormalizedCnOverride2    OCTET STRING,
        wmanIf2eBsOfdmaBandAmcEntryAvgCinr      INTEGER,
        wmanIf2eBsOfdmaAasPreambleUpperBond     INTEGER,
        wmanIf2eBsOfdmaAasPreambleLowerBond     INTEGER,
        wmanIf2eBsOfdmaAasBeamSelectAllowed     WmanIf2eAasBeamSel,
        wmanIf2eBsOfdmaCqichIndicationFlag      OCTET STRING,
        wmanIf2eBsOfdmaUpPowerAdjStep           Unsigned32,
        wmanIf2eBsOfdmaDownPowerAdjStep         Unsigned32,
        wmanIf2eBsOfdmaMinPowerOffsetAdj        INTEGER,
        wmanIf2eBsOfdmaMaxPowerOffsetAdj        INTEGER,
        wmanIf2eBsOfdmaHandoverRngCodes         INTEGER,
        wmanIf2eBsOfdmaTxPwrRepThreshold        INTEGER,
        wmanIf2eBsOfdmaTprPower                 INTEGER,
        wmanIf2eBsOfdmaAlphaPavg                INTEGER,
        wmanIf2eBsOfdmaCqichTxPwrRepThreshold   INTEGER,
        wmanIf2eBsOfdmaCqichTprPower            INTEGER,
        wmanIf2eBsOfdmaCqichAlphaPavg           INTEGER,
        wmanIf2eBsOfdmaNormalizedCnChSounding   INTEGER,
        wmanIf2eBsOfdmaInitialRngInterval       INTEGER,
        wmanIf2eBsOfdmaInitialRngBackoffStart   INTEGER,
        wmanIf2eBsOfdmaInitialRngBackoffEnd     INTEGER,
        wmanIf2eBsOfdmaBwRequestBackoffStart    INTEGER,
        wmanIf2eBsOfdmaBwRequestBackoffEnd      INTEGER}

wmanIf2eBsOfdmaHandoverRangingStart OBJECT-TYPE
        SYNTAX      INTEGER (0..15)
        MAX-ACCESS  read-write
        STATUS      current
        DESCRIPTION
            "Initial backoff window size for MS performing initial
             ranging during handover process, expressed as a power
             of 2."
        REFERENCE
            "Table 349, in IEEE Std 802.16e-2005"
        ::= { wmanIf2eBsOfdmaUplinkChannelEntry 1 }

wmanIf2eBsOfdmaHandoverRangingEnd OBJECT-TYPE
        SYNTAX      INTEGER (0..15)
        MAX-ACCESS  read-write
        STATUS      current
        DESCRIPTION
            "Final backoff window size for MS performing initial
             ranging during handover process, expressed as a power
             of 2."
        REFERENCE
            "Table 349, in IEEE Std 802.16e-2005"
        ::= { wmanIf2eBsOfdmaUplinkChannelEntry 2 }

wmanIf2eBsOfdmaHARQAackDelayDLBurst OBJECT-TYPE
        SYNTAX      WmanIf2eHarqAckDelay
        MAX-ACCESS  read-write
        STATUS      current
        DESCRIPTION
            "This object defines the OFDMA H-ARQ ACK delay for DL
             burst."
        REFERENCE
            "Subclause 11.3.1, Table 353, in IEEE Std 802.16e-2005"
                ::= { wmanIf2eBsOfdmaUplinkChannelEntry 3 }

wmanIf2eBsOfdmaUlAmcAlloPhyBandsBitmap OBJECT-TYPE
```

```
        SYNTAX      OCTET STRING (SIZE (6))
        MAX-ACCESS  read-write
        STATUS      current
        DESCRIPTION
            "A bitmap describing the physical bands allocated to the
             segment in the UL, when using the optional AMC permutation
             with regular MAPs (see 8.4.6.3). The LSB of the first byte
             shall correspond to the physical band 0. For any bit that
             is not set, the corresponding physical bands shall not be
             used by the SS on that segment. When this TLV is not
             present, BS may allocate any physical bands to an SS."
        REFERENCE
            "Subclause 11.3.1, Table 353, in IEEE Std 802.16e-2005"
        ::= { wmanIf2eBsOfdmaUplinkChannelEntry 4 }

wmanIf2eBsOfdmaMaxRetransmission OBJECT-TYPE
        SYNTAX      INTEGER (1..255)
        MAX-ACCESS  read-write
        STATUS      current
        DESCRIPTION
            "Maximum number of retransmission in UL HARQ."
        REFERENCE
            "Table 353, in IEEE Std 802.16e-2005"
        DEFVAL      { 4 }
        ::= { wmanIf2eBsOfdmaUplinkChannelEntry 5 }

wmanIf2eBsOfdmaNormalizedCnOverride OBJECT-TYPE
        SYNTAX      OCTET STRING (SIZE (8))
        MAX-ACCESS  read-write
        STATUS      current
        DESCRIPTION
            "This is a list of numbers, where each number is encoded by
             one nibble, and interpreted as a signed integer. The
             nibbles correspond in order to the list define by Table
             334, starting from the second line, such that the LS
             nibble of the first byte corresponds to the second line in
             the table. The number encoded by each nibble represents
             the difference in normalized C/N relative to the previous
             line in the table."
        REFERENCE
            "Subclause 11.3.1, Table 353, in IEEE Std 802.16e-2005"
        ::= { wmanIf2eBsOfdmaUplinkChannelEntry 6 }

wmanIf2eBsOfdmaSizeOfCqichId OBJECT-TYPE
        SYNTAX      INTEGER (0..7)
        MAX-ACCESS  read-write
        STATUS      current
        DESCRIPTION
            "Size of CQICH ID field.
                 0 = 0 bits
                 1 = 3 bits
                 2 = 4 bits
                 3 = 5 bits
                 4 = 6 bits
                 5 = 7 bits
                 6 = 8 bits
                 7 = 9 bits"
        REFERENCE
            "Subclause 11.3.1, Table 353, in IEEE Std 802.16e-2005"
        DEFVAL      { 0 }
                ::= { wmanIf2eBsOfdmaUplinkChannelEntry 7 }

wmanIf2eBsOfdmaNormalizedCnValue OBJECT-TYPE
        SYNTAX      INTEGER (-128..128)
        UNITS       "dB"
        MAX-ACCESS  read-write
        STATUS      current
        DESCRIPTION
            "It shall be interpreted as signed integer in dB. It
             corresponds to the normalized C/N value in the first line
             (counting except for header cell of table)"
        REFERENCE
            "Subclause 11.3.1, Table 353, in IEEE Std 802.16e-2005"
        ::= { wmanIf2eBsOfdmaUplinkChannelEntry 8 }

wmanIf2eBsOfdmaNormalizedCnOverride2 OBJECT-TYPE
        SYNTAX      OCTET STRING (SIZE (7))
        MAX-ACCESS  read-write
        STATUS      current
        DESCRIPTION
            "This is a list of numbers, where each number is encoded
             by one nibble, and interpreted as a signed integer. The
             nibbles correspond in order to the list define by Table
             334, starting from the second line (counting except for
             the header cell of table), such that the LS nibble of
             the first byte corresponds to the second line in the
             table. The number encoded by each nibble represents the
             difference in normalized C/N relative to the previous
             line in the table."
        REFERENCE
            "Subclause 11.3.1, Table 353, in IEEE Std 802.16e-2005"
        ::= { wmanIf2eBsOfdmaUplinkChannelEntry 9 }

wmanIf2eBsOfdmaBandAmcEntryAvgCinr OBJECT-TYPE
        SYNTAX      INTEGER (-128..128)
        UNITS       "dB"
        MAX-ACCESS  read-write
        STATUS      current
        DESCRIPTION
            "Threshold of the average CINR of the whole bandwidth to
             trigger mode transition from normal subchannel to AMC"
        REFERENCE
            "Subclause 11.3.1, Table 353, in IEEE Std 802.16e-2005"
        ::= { wmanIf2eBsOfdmaUplinkChannelEntry 10 }

wmanIf2eBsOfdmaAasPreambleUpperBond OBJECT-TYPE
        SYNTAX      INTEGER (-128..128)
        UNITS       "0.25 dB"
        MAX-ACCESS  read-write
        STATUS      current
        DESCRIPTION
            "Upper bound of AAS preamble."
        REFERENCE
            "Subclause 11.3.1, Table 353, in IEEE Std 802.16e-2005"
        ::= { wmanIf2eBsOfdmaUplinkChannelEntry 11 }

wmanIf2eBsOfdmaAasPreambleLowerBond OBJECT-TYPE
        SYNTAX      INTEGER (-128..128)
        UNITS       "0.25 dB"
        MAX-ACCESS  read-write
        STATUS      current
        DESCRIPTION
            "Lower bound of AAS preamble."
        REFERENCE
            "Subclause 11.3.1, Table 353, in IEEE Std 802.16e-2005"
        ::= { wmanIf2eBsOfdmaUplinkChannelEntry 12 }

wmanIf2eBsOfdmaAasBeamSelectAllowed OBJECT-TYPE
        SYNTAX      WmanIf2eAasBeamSel
        UNITS       "0.25 dB"
        MAX-ACCESS  read-write
        STATUS      current
        DESCRIPTION
            "Indicate whether unsolicited AAS Beam Select messages
            (see 6.3.2.3.41 in IEEE 802.16e-2005) should be sent by
            the MS."
        REFERENCE
            "Subclause 11.3.1, Table 353, in IEEE Std 802.16e-2005"
        DEFVAL      { allowed }
        ::= { wmanIf2eBsOfdmaUplinkChannelEntry 13 }

wmanIf2eBsOfdmaCqichIndicationFlag OBJECT-TYPE
        SYNTAX      OCTET STRING (SIZE (1))
        MAX-ACCESS  read-write
        STATUS      current
        DESCRIPTION
            "The N MSB values of this field represents the N-bit
             payload value on the Fast-Feedback channel reserved as
             indication flag for MS to initiate feedback on the
             Feedback header, where N is the number of payload bits
             used for S/N measurement feedback on the Fast-Feedback
             channel. The value shall not be set to all zeros."
        REFERENCE
            "Subclause 11.3.1, Table 353, in IEEE Std 802.16e-2005"
        ::= { wmanIf2eBsOfdmaUplinkChannelEntry 14 }

wmanIf2eBsOfdmaUpPowerAdjStep OBJECT-TYPE
        SYNTAX      Unsigned32
        UNITS       "0.01 dB"
        MAX-ACCESS  read-write
        STATUS      current
        DESCRIPTION
```

```
            "MS-specific up power offset adjustment step"
        REFERENCE
            "Subclause 11.3.1, Table 353, in IEEE Std 802.16e-2005"
        ::= { wmanIf2eBsOfdmaUplinkChannelEntry 15 }

wmanIf2eBsOfdmaDownPowerAdjStep OBJECT-TYPE
        SYNTAX      Unsigned32
        UNITS       "0.01 dB"
        MAX-ACCESS  read-write
        STATUS      current
        DESCRIPTION
            "MS-specific down power offset adjustment step"
        REFERENCE
            "Subclause 11.3.1, Table 353, in IEEE Std 802.16e-2005"
        ::= { wmanIf2eBsOfdmaUplinkChannelEntry 16 }

wmanIf2eBsOfdmaMinPowerOffsetAdj OBJECT-TYPE
        SYNTAX      INTEGER
        UNITS       "0.1 dB"
        MAX-ACCESS  read-write
        STATUS      current
        DESCRIPTION
            "Minimum level of power offset adjustment"
        REFERENCE
            "Subclause 11.3.1, Table 353, in IEEE Std 802.16e-2005"
        ::= { wmanIf2eBsOfdmaUplinkChannelEntry 17 }

wmanIf2eBsOfdmaMaxPowerOffsetAdj OBJECT-TYPE
        SYNTAX      INTEGER
        UNITS       "0.1 dB"
        MAX-ACCESS  read-write
        STATUS      current
        DESCRIPTION
            "Minimum level of power offset adjustment"
        REFERENCE
            "Subclause 11.3.1, Table 353, in IEEE Std 802.16e-2005"
        ::= { wmanIf2eBsOfdmaUplinkChannelEntry 18 }

wmanIf2eBsOfdmaHandoverRngCodes OBJECT-TYPE
        SYNTAX      INTEGER (0..255)
        MAX-ACCESS  read-write
        STATUS      current
        DESCRIPTION
            "Number of handover ranging CDMA codes"
        REFERENCE
            "Subclause 11.3.1, Table 353, in IEEE Std 802.16e-2005"
        ::= { wmanIf2eBsOfdmaUplinkChannelEntry 19 }

wmanIf2eBsOfdmaInitialRngInterval OBJECT-TYPE
        SYNTAX      INTEGER
        MAX-ACCESS  read-write
        STATUS      current
        DESCRIPTION
            "Number of frames between initial ranging interval
```

```
             allocation."
        REFERENCE
            "Subclause 11.3.1, Table 353, in IEEE Std 802.16e-2005"
        ::= { wmanIf2eBsOfdmaUplinkChannelEntry 20 }

wmanIf2eBsOfdmaTxPwrRepThreshold OBJECT-TYPE
        SYNTAX      INTEGER (0..15)
        UNITS       "dB"
        MAX-ACCESS  read-write
        STATUS      current
        DESCRIPTION
            "Tx power report threshold.
             wmanIf2eBsOfdmaTxPwrRepThreshold = 0b1111 means infinite."
        REFERENCE
            "Subclause 11.3.1, Table 353, and 8.4.10.3.2.1 in IEEE
             Std 802.16e-2005"
        ::= { wmanIf2eBsOfdmaUplinkChannelEntry 21 }

wmanIf2eBsOfdmaTprPower OBJECT-TYPE
        SYNTAX      INTEGER (0..15)
        UNITS       "dB"
        MAX-ACCESS  read-write
        STATUS      current
        DESCRIPTION
            "Tx power report interval = 2 ^ wmanIf2eBsOfdmaTprPower.
             The unit of Tx power report interval is frame.
             wmanIf2eBsOfdmaTprPower = 0b1111 means infinite."
        REFERENCE
            "Subclause 11.3.1, Table 353, and 8.4.10.3.2.1 in IEEE
             Std 802.16e-2005"
        ::= { wmanIf2eBsOfdmaUplinkChannelEntry 22 }

wmanIf2eBsOfdmaAlphaPavg OBJECT-TYPE
        SYNTAX      INTEGER (0..15)
        UNITS       "dB"
        MAX-ACCESS  read-write
        STATUS      current
        DESCRIPTION
            "Aplha p_avg parameter as shown in equation 138d in
             IEEE 802.16e-2005 indicates the multiple of 1/16. For
             example '0' means 1/16, 15 means 16/16. "
        REFERENCE
            "Subclause 11.3.1, Table 353, and 8.4.10.3.2.1 in IEEE
             Std 802.16e-2005"
        ::= { wmanIf2eBsOfdmaUplinkChannelEntry 23 }

wmanIf2eBsOfdmaCqichTxPwrRepThreshold OBJECT-TYPE
        SYNTAX      INTEGER (0..15)
        UNITS       "dB"
        MAX-ACCESS  read-write
        STATUS      current
        DESCRIPTION
            "Tx power report threshold.
             wmanIf2eBsOfdmaTxPwrRepThreshold = 0b1111 means infinite.
             It shall be used when CQICH is allocated to the SS."
        REFERENCE
            "Subclause 11.3.1, Table 353, and 8.4.10.3.2.1 in IEEE
             Std 802.16e-2005"
        ::= { wmanIf2eBsOfdmaUplinkChannelEntry 24 }

wmanIf2eBsOfdmaCqichTprPower OBJECT-TYPE
        SYNTAX      INTEGER (0..15)
        UNITS       "dB"
        MAX-ACCESS  read-write
        STATUS      current
        DESCRIPTION
            "Tx power report interval = 2 ^ wmanIf2eBsOfdmaTprPower.
             The unit of Tx power report interval is frame.
             wmanIf2eBsOfdmaTprPower = 0b1111 means infinite.
             It shall be used when CQICH is allocated to the SS."
        REFERENCE
            "Subclause 11.3.1, Table 353, and 8.4.10.3.2.1 in IEEE
             Std 802.16e-2005"
        ::= { wmanIf2eBsOfdmaUplinkChannelEntry 25 }

wmanIf2eBsOfdmaCqichAlphaPavg OBJECT-TYPE
        SYNTAX      INTEGER (0..15)
        UNITS       "dB"
        MAX-ACCESS  read-write
        STATUS      current
        DESCRIPTION
            "Aplha p_avg parameter as shown in equation 138d in
             IEEE 802.16e-2005 indicates the multiple of 1/16. For
             example '0' means 1/16, 15 means 16/16. It shall be
             used when CQICH is allocated to the SS."
        REFERENCE
            "Subclause 11.3.1, Table 353, and 8.4.10.3.2.1 in IEEE
             Std 802.16e-2005"
        ::= { wmanIf2eBsOfdmaUplinkChannelEntry 26 }

wmanIf2eBsOfdmaNormalizedCnChSounding OBJECT-TYPE
        SYNTAX      INTEGER
        MAX-ACCESS  read-write
        STATUS      current
        DESCRIPTION
            "Signed integer for the required C/N (dB) for Channel
             Sounding."
        REFERENCE
            "Subclause 11.3.1, Table 353, in IEEE Std 802.16e-2005"
        ::= { wmanIf2eBsOfdmaUplinkChannelEntry 27 }

wmanIf2eBsOfdmaInitialRngBackoffStart OBJECT-TYPE
        SYNTAX      INTEGER (0..15)
        MAX-ACCESS  read-write
        STATUS      current
        DESCRIPTION
            "Initial backoff window size for initial ranging
             contention, expressed as a power of 2."
        REFERENCE
            "Subclause 11.3.1, Table 353, in IEEE Std 802.16e-2005"
        ::= { wmanIf2eBsOfdmaUplinkChannelEntry 28 }

wmanIf2eBsOfdmaInitialRngBackoffEnd OBJECT-TYPE
        SYNTAX      INTEGER (0..15)
        MAX-ACCESS  read-write
        STATUS      current
        DESCRIPTION
            "Final backoff window size for initial ranging
             contention, expressed as a power of 2."
        REFERENCE
            "Subclause 11.3.1, Table 353, in IEEE Std 802.16e-2005"
        ::= { wmanIf2eBsOfdmaUplinkChannelEntry 29 }

wmanIf2eBsOfdmaBwRequestBackoffStart OBJECT-TYPE
        SYNTAX      INTEGER (0..15)
        MAX-ACCESS  read-write
        STATUS      current
        DESCRIPTION
            "Initial backoff window size for contention BW requests,
             expressed as a power of 2."
        REFERENCE
            "Subclause 11.3.1, Table 353, in IEEE Std 802.16e-2005"
        ::= { wmanIf2eBsOfdmaUplinkChannelEntry 30 }

wmanIf2eBsOfdmaBwRequestBackoffEnd OBJECT-TYPE
        SYNTAX      INTEGER (0..15)
        MAX-ACCESS  read-write
        STATUS      current
        DESCRIPTION
            "Final backoff window size for contention BW requests,
             expressed as a power of 2."
        REFERENCE
            "Subclause 11.3.1, Table 353, in IEEE Std 802.16e-2005"
        ::= { wmanIf2eBsOfdmaUplinkChannelEntry 31 }

--
-- SS object group – containing tables and objects to be implemented in
-- the Subscriber station

--
-- wmanIf2SsCps contain the SS Common Part Sublayer objects
--
wmanIf2SsCps OBJECT IDENTIFIER ::= { wmanIf2SsObjects 1 }

--
-- wmanIf2SsConfigurationTable contains global parameters for SS
--
wmanIf2SsConfigurationTable OBJECT-TYPE
        SYNTAX      SEQUENCE OF WmanIf2SsConfigurationEntry
        MAX-ACCESS  not-accessible
        STATUS      current
        DESCRIPTION
```

```
            "This table contains one row for the SS system
             parameters."
        REFERENCE
            "Subclause 10.1 in IEEE Std 802.16-2004"
        ::= { wmanIf2SsCps 1 }

wmanIf2SsConfigurationEntry OBJECT-TYPE
        SYNTAX      WmanIf2SsConfigurationEntry
        MAX-ACCESS  not-accessible
        STATUS      current
        DESCRIPTION
            "This table is indexed by ifIndex."
        INDEX { ifIndex }
        ::= { wmanIf2SsConfigurationTable 1 }

WmanIf2SsConfigurationEntry ::= SEQUENCE {
        wmanIf2SsLostDLMapInterval              INTEGER,
        wmanIf2SsLostULMapInterval              INTEGER,
        wmanIf2SsContentionRangRetries          INTEGER,
        wmanIf2SsRequestRetries                 INTEGER,
        wmanIf2SsRegRequestRetries              INTEGER,
        wmanIf2SsTftpBackoffStart               INTEGER,
        wmanIf2SsTftpBackoffEnd                 INTEGER,
        wmanIf2SsTftpRequestRetries             INTEGER,
        wmanIf2SsTftpDownloadRetries            INTEGER,
        wmanIf2SsTftpWait                       INTEGER,
        wmanIf2SsToDRetries                     INTEGER,
        wmanIf2SsToDRetryPeriod                 INTEGER,
        wmanIf2SsT1Timeout                      INTEGER,
        wmanIf2SsT2Timeout                      INTEGER,
        wmanIf2SsT3Timeout                      INTEGER,
        wmanIf2SsT4Timeout                      INTEGER,
        wmanIf2SsT6Timeout                      INTEGER,
        wmanIf2SsT12Timeout                     INTEGER,
        wmanIf2SsT14Timeout                     INTEGER,
        wmanIf2SsT16Timeout                     INTEGER,
        wmanIf2SsT18Timeout                     INTEGER,
        wmanIf2SsT19Timeout                     INTEGER,
        wmanIf2SsT20Timeout                     INTEGER,
        wmanIf2SsT21Timeout                     INTEGER,
        wmanIf2SsSBCRequestRetries              INTEGER,
        wmanIf2SsTftpCpltRetries                INTEGER,
        wmanIf2SsT26Timeout                     INTEGER,
        wmanIf2SsDLManagProcTime                INTEGER}

wmanIf2SsLostDLMapInterval OBJECT-TYPE
        SYNTAX      INTEGER (0..600)
        UNITS       "milliseconds"
        MAX-ACCESS  read-write
        STATUS      current
        DESCRIPTION
            "Time since last received DL-MAP message before downlink
             synchronization is considered lost in ms."
        ::= { wmanIf2SsConfigurationEntry 1 }
```

```
wmanIf2SsLostULMapInterval OBJECT-TYPE
        SYNTAX      INTEGER (0..600)
        UNITS       "milliseconds"
        MAX-ACCESS  read-write
        STATUS      current
        DESCRIPTION
            "Time since last received UL-MAP message before uplink
             synchronization is considered lost in ms."
        ::= { wmanIf2SsConfigurationEntry 2 }

wmanIf2SsContentionRangRetries OBJECT-TYPE
        SYNTAX      INTEGER (16..65535)
        MAX-ACCESS  read-write
        STATUS      current
        DESCRIPTION
            "Number of retries on contention Ranging Requests."
        ::= { wmanIf2SsConfigurationEntry 3 }

wmanIf2SsRequestRetries OBJECT-TYPE
        SYNTAX      INTEGER (16..65535)
        MAX-ACCESS  read-write
        STATUS      current
        DESCRIPTION
            "Number of retries on bandwidth allocation requests."
        ::= { wmanIf2SsConfigurationEntry 4 }

wmanIf2SsRegRequestRetries OBJECT-TYPE
        SYNTAX      INTEGER (3..65535)
        MAX-ACCESS  read-write
        STATUS      current
        DESCRIPTION
            "Number of retries on registration requests."
        ::= { wmanIf2SsConfigurationEntry 5 }

wmanIf2SsTftpBackoffStart OBJECT-TYPE
        SYNTAX      INTEGER (1..65535)
        UNITS       "seconds"
        MAX-ACCESS  read-write
        STATUS      current
        DESCRIPTION
            "Initial value for TFTP backoff in second."
        ::= { wmanIf2SsConfigurationEntry 6 }

wmanIf2SsTftpBackoffEnd OBJECT-TYPE
        SYNTAX      INTEGER (16..65535)
        UNITS       "seconds"
        MAX-ACCESS  read-write
        STATUS      current
        DESCRIPTION
            "Last value for TFTP backoff in second."
        ::= { wmanIf2SsConfigurationEntry 7 }

wmanIf2SsTftpRequestRetries OBJECT-TYPE
```

```
        SYNTAX      INTEGER (16..65535)
        MAX-ACCESS  read-write
        STATUS      current
        DESCRIPTION
            "Number of retries on TFTP request."
        ::= { wmanIf2SsConfigurationEntry 8 }

wmanIf2SsTftpDownloadRetries OBJECT-TYPE
        SYNTAX      INTEGER (3..65535)
        MAX-ACCESS  read-write
        STATUS      current
        DESCRIPTION
            "Number of retries on entire TFTP downloads."
        ::= { wmanIf2SsConfigurationEntry 9 }

wmanIf2SsTftpWait OBJECT-TYPE
        SYNTAX      INTEGER (2..65535)
        UNITS       "minutes"
        MAX-ACCESS  read-write
        STATUS      current
        DESCRIPTION
            "The duration between two consecutive Transfer
             operational parameters (TFTP) retries in min."
        ::= { wmanIf2SsConfigurationEntry 10 }

wmanIf2SsToDRetries OBJECT-TYPE
        SYNTAX      INTEGER (3..65535)
        MAX-ACCESS  read-write
        STATUS      current
        DESCRIPTION
            "Number of Retries to establisg the Time of Day."
        ::= { wmanIf2SsConfigurationEntry 11 }

wmanIf2SsToDRetryPeriod OBJECT-TYPE
        SYNTAX      INTEGER (5..65535)
        UNITS       "minutes"
        MAX-ACCESS  read-write
        STATUS      current
        DESCRIPTION
            "The retry period to re-establisg the Time of Day, as
             describe in the network entry procedure."
        ::= { wmanIf2SsConfigurationEntry 12 }

wmanIf2SsT1Timeout OBJECT-TYPE
        SYNTAX      INTEGER (0..50000)
        UNITS       "milliseconds"
        MAX-ACCESS  read-write
        STATUS      current
        DESCRIPTION
            "Wait for DCD timeout in ms."
        ::= { wmanIf2SsConfigurationEntry 13 }

wmanIf2SsT2Timeout OBJECT-TYPE
        SYNTAX      INTEGER (0..10000)
        UNITS       "milliseconds"
        MAX-ACCESS  read-write
        STATUS      current
        DESCRIPTION
            "Wait for broadcast ranging timeout in ms."
        ::= { wmanIf2SsConfigurationEntry 14 }

wmanIf2SsT3Timeout OBJECT-TYPE
        SYNTAX      INTEGER (0..200)
        UNITS       "milliseconds"
        MAX-ACCESS  read-write
        STATUS      current
        DESCRIPTION
            "Ranging Response reception timeout following the
             transmission of a Ranging Request in ms."
        ::= { wmanIf2SsConfigurationEntry 15 }

wmanIf2SsT4Timeout OBJECT-TYPE
        SYNTAX      INTEGER (30..35)
        UNITS       "seconds"
        MAX-ACCESS  read-write
        STATUS      current
        DESCRIPTION
            "Wait for unicast ranging opportunity. If the pending until
             complete field was used earlier by this SS, then the value
             of that field shall be added to this interval in second."
        ::= { wmanIf2SsConfigurationEntry 16 }

wmanIf2SsT6Timeout OBJECT-TYPE
        SYNTAX      INTEGER (0..3000)
        UNITS       "milliseconds"
        MAX-ACCESS  read-write
        STATUS      current
        DESCRIPTION
            "Wait for registration response in ms."
        ::= { wmanIf2SsConfigurationEntry 17 }

wmanIf2SsT12Timeout OBJECT-TYPE
        SYNTAX      INTEGER (0..50000)
        UNITS       "milliseconds"
        MAX-ACCESS  read-write
        STATUS      current
        DESCRIPTION
            "Wait for UCD descriptor in ms."
        ::= { wmanIf2SsConfigurationEntry 18 }

wmanIf2SsT14Timeout OBJECT-TYPE
        SYNTAX      INTEGER (0..200)
        UNITS       "milliseconds"
        MAX-ACCESS  read-write
        STATUS      current
        DESCRIPTION
            "Wait for DSX-RVD Timeout in ms."
        ::= { wmanIf2SsConfigurationEntry 19 }
```

```
wmanIf2SsT16Timeout OBJECT-TYPE
        SYNTAX      INTEGER (10..65535)
        UNITS       "milliseconds"
        MAX-ACCESS  read-write
        STATUS      current
        DESCRIPTION
            "wait for bandwidth request grant in ms."
        ::= { wmanIf2SsConfigurationEntry 20 }

wmanIf2SsT18Timeout OBJECT-TYPE
        SYNTAX      INTEGER (0..65535)
        UNITS       "milliseconds"
        MAX-ACCESS  read-write
        STATUS      current
        DESCRIPTION
            "wait for SBC-RSP timeout in ms."
        ::= { wmanIf2SsConfigurationEntry 21 }

wmanIf2SsT19Timeout OBJECT-TYPE
        SYNTAX      INTEGER (0..1048575)
        UNITS       "milliseconds"
        MAX-ACCESS  read-write
        STATUS      current
        DESCRIPTION
            "Time DL-channel remains unusable in ms."
        ::= { wmanIf2SsConfigurationEntry 22 }

wmanIf2SsT20Timeout OBJECT-TYPE
        SYNTAX      INTEGER (0..65535)
        UNITS       "milliseconds"
        MAX-ACCESS  read-write
        STATUS      current
        DESCRIPTION
            "Time SS searches for preambles on a given channel in ms."
        ::= { wmanIf2SsConfigurationEntry 23 }

wmanIf2SsT21Timeout OBJECT-TYPE
        SYNTAX      INTEGER (0..10000)
        UNITS       "milliseconds"
        MAX-ACCESS  read-write
        STATUS      current
        DESCRIPTION
            "Time SS searches for DL-MAP on a given channel in ms."
        ::= { wmanIf2SsConfigurationEntry 24 }

wmanIf2SsSBCRequestRetries OBJECT-TYPE
        SYNTAX      INTEGER (3..16)
        MAX-ACCESS  read-write
        STATUS      current
        DESCRIPTION
            "Number of retries on SBC Request."
        ::= { wmanIf2SsConfigurationEntry 25 }
```

```
wmanIf2SsTftpCpltRetries OBJECT-TYPE
        SYNTAX      INTEGER (3..16)
        MAX-ACCESS  read-write
        STATUS      current
        DESCRIPTION
            "Number of retries on TFTP-CPLT."
        ::= { wmanIf2SsConfigurationEntry 26 }

wmanIf2SsT26Timeout OBJECT-TYPE
        SYNTAX      INTEGER (10..200)
        UNITS       "milliseconds"
        MAX-ACCESS  read-write
        STATUS      current
        DESCRIPTION
            "Wait for TFTP-RSP in ms."
        ::= { wmanIf2SsConfigurationEntry 27 }

wmanIf2SsDLManagProcTime OBJECT-TYPE
        SYNTAX      INTEGER (0..200)
        UNITS       "micro seconds"
        MAX-ACCESS  read-write
        STATUS      current
        DESCRIPTION
            "Max. time between reception of Fast Power Control
             management message and compliance to its instructions
             by SS in us."
        ::= { wmanIf2SsConfigurationEntry 28 }

--
-- Subscriber Channel Measurement Table
--
wmanIf2SsChannelMeasurementTable OBJECT-TYPE
        SYNTAX      SEQUENCE OF   WmanIf2SsChannelMeasurementEntry
        MAX-ACCESS  not-accessible
        STATUS      current
        DESCRIPTION
            "This table contains downlink channel measurement
             information for each SS."
        REFERENCE
            "6.3.2.3.33 in IEEE Std 802.16-2004"
        ::= { wmanIf2SsCps 2 }

wmanIf2SsChannelMeasurementEntry OBJECT-TYPE
        SYNTAX      WmanIf2SsChannelMeasurementEntry
        MAX-ACCESS  not-accessible
        STATUS      current
        DESCRIPTION
            "Each entry in the table contains RSSI and CINR
             signal quality measurement taken from the SS. The primary
             index is the ifIndex pointing to SS.
             wmanIf2CmnHistogramIndex is the index to histogram
             samples. Since there is no time stamp in the table,
             wmanIf2SsHistogramIndex should be increased monotonically,
             and wraps around when it reaches the limit.
             When the measurement entry for a SS reaches the limit,
             the oldest entry shall be deleted as the new entry is
             added to the table."
        INDEX       { ifIndex, wmanIf2SsHistogramIndex }
        ::= { wmanIf2SsChannelMeasurementTable  1 }

WmanIf2SsChannelMeasurementEntry ::= SEQUENCE {
        wmanIf2SsHistogramIndex                 Unsigned32,
        wmanIf2SsChannelNumber                  WmanIf2ChannelNumber,
        wmanIf2SsStartFrame                     INTEGER,
        wmanIf2SsDuration                       INTEGER,
        wmanIf2SsBasicReport                    BITS,
        wmanIf2SsMeanCinrReport                 INTEGER,
        wmanIf2SsStdDeviationCinrReport         INTEGER,
        wmanIf2SsMeanRssiReport                 INTEGER,
        wmanIf2SsStdDeviationRssiReport         INTEGER}

wmanIf2SsHistogramIndex OBJECT-TYPE
        SYNTAX      Unsigned32 (1 .. 4294967295)
        MAX-ACCESS  not-accessible
        STATUS      current
        DESCRIPTION
            "wmanIf2SsHistogramIndex identifies the histogram samples
             in the table for each subscriber station."
        ::= { wmanIf2SsChannelMeasurementEntry 1 }

wmanIf2SsChannelNumber OBJECT-TYPE
        SYNTAX      WmanIf2ChannelNumber
        MAX-ACCESS  read-only
        STATUS      current
        DESCRIPTION
            "Physical channel number to be reported on."
        REFERENCE
            "Subclause 8.5.1 in IEEE Std 802.16-2004"
        ::= { wmanIf2SsChannelMeasurementEntry 2 }

wmanIf2SsStartFrame OBJECT-TYPE
        SYNTAX      INTEGER (0 .. 65535)
        MAX-ACCESS  read-only
        STATUS      current
        DESCRIPTION
            "Frame number in which measurement for this channel
             started."
        REFERENCE
            "Subclause 11.12 in IEEE Std 802.16-2004"
        ::= { wmanIf2SsChannelMeasurementEntry 3 }

wmanIf2SsDuration OBJECT-TYPE
        SYNTAX      INTEGER (0..16777215)
        MAX-ACCESS  read-only
        STATUS      current
        DESCRIPTION
            "Cumulative measurement duration on the channel in
             multiples of Ts. For any value exceeding 0xFFFFFF,
             report 0xFFFFFF."
        REFERENCE
            "Subclause 11.12 in IEEE Std 802.16-2004"
        ::= { wmanIf2SsChannelMeasurementEntry 4 }

wmanIf2SsBasicReport OBJECT-TYPE
        SYNTAX      BITS {wirelessHuman(0),
                          unknownTransmission(1),
                          primaryUser(2),
                         channelNotMeasured(3)}
        MAX-ACCESS  read-only
        STATUS      current
        DESCRIPTION
            "Bit #0: WirelessHUMAN detected on the channel
             Bit #1: Unknown transmissions detected on the channel
             Bit #2: Primary User detected on the channel
             Bit #3: Unmeasured. Channel not measured"
        REFERENCE
            "Subclause 11.12 in IEEE Std 802.16-2004"
        ::= { wmanIf2SsChannelMeasurementEntry 5 }

wmanIf2SsMeanCinrReport OBJECT-TYPE
        SYNTAX      INTEGER (0 .. 41)
        UNITS       "dB"
        MAX-ACCESS  read-only
        STATUS      current
        DESCRIPTION
            "Mean CINR report."
        REFERENCE
            "Subclause 8.2.2, 8.3.9 in IEEE Std 802.16-2004"
        ::= { wmanIf2SsChannelMeasurementEntry 6 }

wmanIf2SsStdDeviationCinrReport OBJECT-TYPE
        SYNTAX      INTEGER (0 .. 41)
        UNITS       "dB"
        MAX-ACCESS  read-only
        STATUS      current
        DESCRIPTION
            "Standard deviation CINR report."
        REFERENCE
           "Subclause 8.2.2 and Subclause 8.3.9 in IEEE Std 802.16-2004"
        ::= { wmanIf2SsChannelMeasurementEntry 7 }

wmanIf2SsMeanRssiReport OBJECT-TYPE
        SYNTAX      INTEGER (0 .. 83)
        UNITS       "dBm"
        MAX-ACCESS  read-only
        STATUS      current
        DESCRIPTION
            "Mean RSSI report."
        REFERENCE
           "Subclause 8.2.2 and Subclause 8.3.9 in IEEE Std 802.16-2004"
        ::= { wmanIf2SsChannelMeasurementEntry 8 }
```

```
wmanIf2SsStdDeviationRssiReport OBJECT-TYPE
        SYNTAX      INTEGER (0 .. 83)
        UNITS       "dB"
        MAX-ACCESS  read-only
        STATUS      current
        DESCRIPTION
            "Standard deviation RSSI report."
        REFERENCE
           "Subclause 8.2.2 and Subclause 8.3.9 in IEEE Std 802.16-2004"
        ::= { wmanIf2SsChannelMeasurementEntry 9 }

--
-- Subscriber station PKM group
-- wmanIf2SsPkmObjects contain the Subscriber Station Privacy Sublayer
-- objects
--
wmanIf2SsPkmObjects OBJECT IDENTIFIER ::= { wmanIf2SsObjects  2 }

--
-- Table wmanIf2SsPkmAuthTable
--
wmanIf2SsPkmAuthTable OBJECT-TYPE
        SYNTAX      SEQUENCE OF   WmanIf2SsPkmAuthEntry
        MAX-ACCESS  not-accessible
        STATUS      current
        DESCRIPTION
            "This table describes the PKM attributes related
             to the authorization for each SS wireless interface."
        ::= { wmanIf2SsPkmObjects  1 }

wmanIf2SsPkmAuthEntry OBJECT-TYPE
        SYNTAX      WmanIf2SsPkmAuthEntry
        MAX-ACCESS  not-accessible
        STATUS      current
        DESCRIPTION
            "Each entry contains objects describing attributes of one
             SS wireless interface."
        INDEX       { ifIndex }
        ::= { wmanIf2SsPkmAuthTable  1 }

WmanIf2SsPkmAuthEntry ::= SEQUENCE {
        wmanIf2SsPkmAuthState                   INTEGER,
        wmanIf2SsPkmAuthKeySequenceNumber       Integer32,
        wmanIf2SsPkmAuthExpiresOld              DateAndTime,
        wmanIf2SsPkmAuthExpiresNew              DateAndTime,
        wmanIf2SsPkmAuthReset                   TruthValue,
        wmanIf2SsPkmAuthentInfos                Counter32,
        wmanIf2SsPkmAuthRequests                Counter32,
        wmanIf2SsPkmAuthReplies                 Counter32,
        wmanIf2SsPkmAuthRejects                 Counter32,
        wmanIf2SsPkmAuthInvalids                Counter32,
        wmanIf2SsPkmAuthRejectErrorCode         INTEGER,
        wmanIf2SsPkmAuthRejectErrorString       SnmpAdminString,
        wmanIf2SsPkmAuthInvalidErrorCode        INTEGER,
        wmanIf2SsPkmAuthInvalidErrorString      SnmpAdminString,
        wmanIf2SsPkmAuthGraceTime               Integer32,
        wmanIf2SsPkmTekGraceTime                Integer32,
        wmanIf2SsPkmAuthWaitTimeout             Integer32,
        wmanIf2SsPkmReauthWaitTimeout           Integer32,
        wmanIf2SsPkmOpWaitTimeout               Integer32,
        wmanIf2SsPkmRekeyWaitTimeout            Integer32,
        wmanIf2SsPkmAuthRejectWaitTimeout       Integer32}

wmanIf2SsPkmAuthState OBJECT-TYPE
        SYNTAX      INTEGER {start(1),
                             authWait(2),
                             authorized(3),
                             reauthWait(4),
                             authRejectWait(5),
                             silent(6)}
        MAX-ACCESS  read-only
        STATUS      current
        DESCRIPTION
            "The value of this object is the state of the SS
             authorization FSM.  The start state indicates that FSM is
             in its initial state."
        ::= { wmanIf2SsPkmAuthEntry 1 }

wmanIf2SsPkmAuthKeySequenceNumber OBJECT-TYPE
        SYNTAX      Integer32 (0..15)
        MAX-ACCESS  read-only
        STATUS      current
        DESCRIPTION
            "The value of this object is the most recent authorization
             key sequence number for this FSM."
        ::= { wmanIf2SsPkmAuthEntry 2 }

wmanIf2SsPkmAuthExpiresOld OBJECT-TYPE
        SYNTAX      DateAndTime
        MAX-ACCESS  read-only
        STATUS      current
        DESCRIPTION
            "The value of this object is the actual clock time for
             expiration of the immediate predecessor of the most recent
             authorization key for this FSM.  If this FSM has only one
             authorization key, then the value is the time of activation
             of this FSM."
        ::= { wmanIf2SsPkmAuthEntry 3 }

wmanIf2SsPkmAuthExpiresNew OBJECT-TYPE
        SYNTAX      DateAndTime
        MAX-ACCESS  read-only
        STATUS      current
        DESCRIPTION
            "The value of this object is the actual clock time for
             expiration of the most recent authorization key for this
             FSM."
        ::= { wmanIf2SsPkmAuthEntry 4 }
```

```
wmanIf2SsPkmAuthReset OBJECT-TYPE
        SYNTAX      TruthValue
        MAX-ACCESS  read-write
        STATUS      current
        DESCRIPTION
            "Setting this object to TRUE generates a Reauthorize event
             in the authorization FSM. Reading this object always
             returns FALSE."
        ::= { wmanIf2SsPkmAuthEntry 5 }

wmanIf2SsPkmAuthentInfos OBJECT-TYPE
        SYNTAX      Counter32
        MAX-ACCESS  read-only
        STATUS      current
        DESCRIPTION
            "The value of this object is the count of times the SS has
             transmitted an Authentication Information message."
        ::= { wmanIf2SsPkmAuthEntry 6 }

wmanIf2SsPkmAuthRequests OBJECT-TYPE
        SYNTAX      Counter32
        MAX-ACCESS  read-only
        STATUS      current
        DESCRIPTION
            "The value of this object is the count of times the SS has
             transmitted an Authorization Request message."
        ::= { wmanIf2SsPkmAuthEntry 7 }

wmanIf2SsPkmAuthReplies OBJECT-TYPE
        SYNTAX      Counter32
        MAX-ACCESS  read-only
        STATUS      current
        DESCRIPTION
            "The value of this object is the count of times the SS has
             received an Authorization Reply message."
        ::= { wmanIf2SsPkmAuthEntry 8 }

wmanIf2SsPkmAuthRejects OBJECT-TYPE
        SYNTAX      Counter32
        MAX-ACCESS  read-only
        STATUS      current
        DESCRIPTION
            "The value of this object is the count of times the SS has
             received an Authorization Reject message."
        ::= { wmanIf2SsPkmAuthEntry 9 }

wmanIf2SsPkmAuthInvalids OBJECT-TYPE
        SYNTAX      Counter32
        MAX-ACCESS  read-only
        STATUS      current
        DESCRIPTION
            "The value of this object is the count of times the SS has
             received an Authorization Invalid message."
        ::= { wmanIf2SsPkmAuthEntry 10 }

wmanIf2SsPkmAuthRejectErrorCode OBJECT-TYPE
        SYNTAX      INTEGER {none(1),
                             unknown(2),
                             unauthorizedSs(3),
                             unauthorizedSaid(4),
                             permanentAuthorizationFailure(8),
                             timeOfDayNotAcquired(11)}
        MAX-ACCESS  read-only
        STATUS      current
        DESCRIPTION
            "The value of this object is the enumerated description of
             the Error-Code in most recent Authorization Reject message
             received by the SS.  This has value unknown(2)if the last
             Error-Code value was 0, and none(1) if no Authorization
             Reject message has been received since reboot."
        ::= { wmanIf2SsPkmAuthEntry 11 }

wmanIf2SsPkmAuthRejectErrorString OBJECT-TYPE
        SYNTAX      SnmpAdminString (SIZE (0..128))
        MAX-ACCESS  read-only
        STATUS      current
        DESCRIPTION
            "The value of this object is the Display-String in most
             recent Authorization Reject message received by the SS.
             This is a zero length string if no Authorization Reject
             message has been received since reboot."
        ::= { wmanIf2SsPkmAuthEntry 12 }

wmanIf2SsPkmAuthInvalidErrorCode OBJECT-TYPE
        SYNTAX      INTEGER {none(1),
                             unknown(2),
                             unauthorizedSs(3),
                             unsolicited(5),
                             invalidKeySequence(6),
                             keyRequestAuthenticationFailure(7)}
        MAX-ACCESS  read-only
        STATUS      current
        DESCRIPTION
            "The value of this object is the enumerated description of
             the Error-Code in most recent Authorization Invalid message
             received by the SS.  This has value unknown(2) if the last
             Error-Code value was 0, and none(1) if no Authorization
             Invalid message has been received since reboot."
        ::= { wmanIf2SsPkmAuthEntry 13 }

wmanIf2SsPkmAuthInvalidErrorString OBJECT-TYPE
        SYNTAX      SnmpAdminString (SIZE (0..128))
        MAX-ACCESS  read-only
        STATUS      current
        DESCRIPTION
            "The value of this object is the Display-String in most
             recent Authorization Invalid message received by the SS.
             This is a zero length string if no Authorization Invalid
             message has been received since reboot."
        ::= { wmanIf2SsPkmAuthEntry 14 }

wmanIf2SsPkmAuthGraceTime OBJECT-TYPE
        SYNTAX      Integer32 (300..3024000)
        UNITS       "seconds"
        MAX-ACCESS  read-only
        STATUS      current
        DESCRIPTION
            "The value of this object is the grace time for an
             authorization key.  A SS is expected to start trying to get
             a new authorization key beginning AuthGraceTime seconds
             before the authorization key actually expires."
        REFERENCE
            "Table 343 in IEEE Std 802.16-2004"
        DEFVAL      { 600 }
        ::= { wmanIf2SsPkmAuthEntry 15 }

wmanIf2SsPkmTekGraceTime OBJECT-TYPE
        SYNTAX      Integer32 (300..3024000)
        UNITS       "seconds"
        MAX-ACCESS  read-only
        STATUS      current
        DESCRIPTION
            "The value of this object is the grace time for the TEK in
             seconds. The SS is expected to start trying to acquire a
             new TEK beginning TEK GraceTime seconds before the
             expiration of the most recent TEK."
        REFERENCE
            "Table 343 in IEEE Std 802.16-2004"
        DEFVAL      { 3600 }
        ::= { wmanIf2SsPkmAuthEntry 16 }

wmanIf2SsPkmAuthWaitTimeout OBJECT-TYPE
        SYNTAX      Integer32 (2..30)
        UNITS       "seconds"
        MAX-ACCESS  read-only
        STATUS      current
        DESCRIPTION
            "The value of this object is the Authorize Wait Timeout."
        REFERENCE
            "Table 343 in IEEE Std 802.16-2004"
        DEFVAL      { 10 }
        ::= { wmanIf2SsPkmAuthEntry 17 }

wmanIf2SsPkmReauthWaitTimeout OBJECT-TYPE
        SYNTAX      Integer32 (2..30)
        UNITS       "seconds"
        MAX-ACCESS  read-only
        STATUS      current
        DESCRIPTION
            "The value of this object is the Reauthorize Wait Timeout
             in seconds."
        REFERENCE
            "Table 343 in IEEE Std 802.16-2004"
        DEFVAL      { 10 }
        ::= { wmanIf2SsPkmAuthEntry 18 }

wmanIf2SsPkmOpWaitTimeout OBJECT-TYPE
        SYNTAX      Integer32 (1..10)
        UNITS       "seconds"
        MAX-ACCESS  read-only
        STATUS      current
        DESCRIPTION
            "The value of this object is the Operational Wait Timeout
             in seconds."
        REFERENCE
            "Table 343 in IEEE Std 802.16-2004"
        DEFVAL      { 1 }
        ::= { wmanIf2SsPkmAuthEntry 19 }

wmanIf2SsPkmRekeyWaitTimeout OBJECT-TYPE
        SYNTAX      Integer32 (1..10)
        UNITS       "seconds"
        MAX-ACCESS  read-only
        STATUS      current
        DESCRIPTION
            "The value of this object is the Rekey Wait Timeout in
             seconds."
        REFERENCE
            "Table 343 in IEEE Std 802.16-2004"
        DEFVAL      { 1 }
        ::= { wmanIf2SsPkmAuthEntry 20 }

wmanIf2SsPkmAuthRejectWaitTimeout OBJECT-TYPE
        SYNTAX      Integer32 (10..600)
        UNITS       "seconds"
        MAX-ACCESS  read-only
        STATUS      current
        DESCRIPTION
            "The value of this object is the Authorization Reject Wait
             Timeout in seconds."
        REFERENCE
             "Table 343 in IEEE Std 802.16-2004"
        DEFVAL      { 60 }
        ::= { wmanIf2SsPkmAuthEntry 21 }

--
-- Table wmanIf2SsPkmTekTable
--
wmanIf2SsPkmTekTable OBJECT-TYPE
        SYNTAX      SEQUENCE OF   WmanIf2SsPkmTekEntry
        MAX-ACCESS  not-accessible
        STATUS      current
        DESCRIPTION
            "This table describes the attributes of each SS Traffic
             Encryption Key(TEK) association. The SS maintains (no more
              than) one TEK association per SAID per SS wireless
              interface."
        ::= { wmanIf2SsPkmObjects  2 }

wmanIf2SsPkmTekEntry OBJECT-TYPE
        SYNTAX      WmanIf2SsPkmTekEntry
        MAX-ACCESS  not-accessible
        STATUS      current
        DESCRIPTION
            "Each entry contains objects describing the TEK association
              attributes of one SAID. The SS MUST create one entry per
              SAID, regardless of whether the SAID was obtained from a
              Registration Response message, from an Authorization Reply
              message, or from any dynamic SAID establishment
              mechanisms."
        INDEX       { ifIndex, wmanIf2SsPkmTekSAId }
        ::= { wmanIf2SsPkmTekTable  1 }

WmanIf2SsPkmTekEntry ::= SEQUENCE {
        wmanIf2SsPkmTekSAId                     INTEGER,
        wmanIf2SsPkmTekSAType                   INTEGER,
        wmanIf2SsPkmTekDataEncryptAlg           WmanIf2DataEncryptAlgId,
        wmanIf2SsPkmTekDataAuthentAlg           WmanIf2DataAuthAlgId,
        wmanIf2SsPkmTekEncryptAlg               WmanIf2TekEncryptAlgId,
        wmanIf2SsPkmTekState                    INTEGER,
        wmanIf2SsPkmTekKeySequenceNumber        Integer32,
        wmanIf2SsPkmTekExpiresOld               DateAndTime,
        wmanIf2SsPkmTekExpiresNew               DateAndTime,
        wmanIf2SsPkmTekKeyRequests              Counter32,
        wmanIf2SsPkmTekKeyReplies               Counter32,
        wmanIf2SsPkmTekKeyRejects               Counter32,
        wmanIf2SsPkmTekInvalids                 Counter32,
        wmanIf2SsPkmTekAuthPends                Counter32,
        wmanIf2SsPkmTekKeyRejectErrorCode       INTEGER,
        wmanIf2SsPkmTekKeyRejectErrorString     SnmpAdminString,
        wmanIf2SsPkmTekInvalidErrorCode         INTEGER,
        wmanIf2SsPkmTekInvalidErrorString       SnmpAdminString}

wmanIf2SsPkmTekSAId OBJECT-TYPE
        SYNTAX      INTEGER (0..65535)
        MAX-ACCESS  not-accessible
        STATUS      current
        DESCRIPTION
            "The value of this object is the Security Association
             ID (SAID)."
        ::= { wmanIf2SsPkmTekEntry 1 }

wmanIf2SsPkmTekSAType OBJECT-TYPE
        SYNTAX      INTEGER {primarySA(0),
                             staticSA(1),
                             dynamicSA(2)}
        MAX-ACCESS  read-only
        STATUS      current
        DESCRIPTION
```

```
            "The value of this object is the type of security
             association."
        REFERENCE
            "IEEE Std 802.16-2004; 11.9.18"
        ::= { wmanIf2SsPkmTekEntry 2 }

wmanIf2SsPkmTekDataEncryptAlg OBJECT-TYPE
        SYNTAX      WmanIf2DataEncryptAlgId
        MAX-ACCESS  read-only
        STATUS      current
        DESCRIPTION
            "The value of this object is the data encryption algorithm
             being utilized."
        REFERENCE
            "Table 375, IEEE Std 802.16-2004"
        ::= { wmanIf2SsPkmTekEntry 3 }

wmanIf2SsPkmTekDataAuthentAlg OBJECT-TYPE
        SYNTAX      WmanIf2DataAuthAlgId
        MAX-ACCESS  read-only
        STATUS      current
        DESCRIPTION
            "The value of this object is the data authentication
             algorithm being utilized."
        REFERENCE
            "Table 376, IEEE Std 802.16-2004"
        ::= { wmanIf2SsPkmTekEntry 4 }

wmanIf2SsPkmTekEncryptAlg OBJECT-TYPE
        SYNTAX      WmanIf2TekEncryptAlgId
        MAX-ACCESS  read-only
        STATUS      current
        DESCRIPTION
            "The value of this object is the TEK key encryption
             algorithm for this cryptographic suite capability."
        REFERENCE
            "Table 377, IEEE Std 802.16-2004"
        ::= { wmanIf2SsPkmTekEntry 5 }

wmanIf2SsPkmTekState OBJECT-TYPE
        SYNTAX      INTEGER {start(1),
                             opWait(2),
                             opReauthWait(3),
                             operational(4),
                             rekeyWait(5),
                             rekeyReauthWait(6)}
        MAX-ACCESS  read-only
        STATUS      current
        DESCRIPTION
            "The value of this object is the state of the indicated TEK
             FSM. The start(1) state indicates that FSM is in its
             initial state."
        ::= { wmanIf2SsPkmTekEntry 6 }
```

```
wmanIf2SsPkmTekKeySequenceNumber OBJECT-TYPE
        SYNTAX      Integer32 (0..3)
        MAX-ACCESS  read-only
        STATUS      current
        DESCRIPTION
            "The value of this object is the most recent TEK key
             sequence number for this TEK FSM."
        REFERENCE
            "IEEE Std 802.16-2004; 11.9.5"
        ::= { wmanIf2SsPkmTekEntry 7 }

wmanIf2SsPkmTekExpiresOld OBJECT-TYPE
        SYNTAX      DateAndTime
        MAX-ACCESS  read-only
        STATUS      current
        DESCRIPTION
            "The value of this object is the actual clock time for
             expiration of the immediate predecessor of the most recent
             TEK for this FSM.  If this FSM has only one TEK, then the
             value is the time of activation of this FSM."
        ::= { wmanIf2SsPkmTekEntry 8 }

wmanIf2SsPkmTekExpiresNew OBJECT-TYPE
        SYNTAX      DateAndTime
        MAX-ACCESS  read-only
        STATUS      current
        DESCRIPTION
            "The value of this object is the actual clock time for
             expiration of the most recent TEK for this FSM."
        ::= { wmanIf2SsPkmTekEntry 9 }

wmanIf2SsPkmTekKeyRequests OBJECT-TYPE
        SYNTAX      Counter32
        MAX-ACCESS  read-only
        STATUS      current
        DESCRIPTION
            "The value of this object is the count of times the SS has
             transmitted a Key Request message."
        ::= { wmanIf2SsPkmTekEntry 10 }

wmanIf2SsPkmTekKeyReplies OBJECT-TYPE
        SYNTAX      Counter32
        MAX-ACCESS  read-only
        STATUS      current
        DESCRIPTION
            "The value of this object is the count of times the SS has
             received a Key Reply message, including a message whose
             authentication failed."
        ::= { wmanIf2SsPkmTekEntry 11 }

wmanIf2SsPkmTekKeyRejects OBJECT-TYPE
        SYNTAX      Counter32
        MAX-ACCESS  read-only
        STATUS      current
        DESCRIPTION
            "The value of this object is the count of times the SS has
             received a Key Reject message, including a message whose
             authentication failed."
        ::= { wmanIf2SsPkmTekEntry 12 }

wmanIf2SsPkmTekInvalids OBJECT-TYPE
        SYNTAX      Counter32
        MAX-ACCESS  read-only
        STATUS      current
        DESCRIPTION
            "The value of this object is the count of times the SS has
             received a TEK Invalid message, including a message whose
             authentication failed."
        ::= { wmanIf2SsPkmTekEntry 13 }

wmanIf2SsPkmTekAuthPends OBJECT-TYPE
        SYNTAX      Counter32
        MAX-ACCESS  read-only
        STATUS      current
        DESCRIPTION
            "The value of this object is the count of times an
             Authorization Pending (Auth Pend) event occurred in this
             FSM."
        ::= { wmanIf2SsPkmTekEntry 14 }

wmanIf2SsPkmTekKeyRejectErrorCode OBJECT-TYPE
        SYNTAX      INTEGER {none(1),
                             unknown(2),
                             unauthorizedSaid(4)}
        MAX-ACCESS  read-only
        STATUS      current
        DESCRIPTION
            "The value of this object is the enumerated description of
             the Error-Code in most recent Key Reject message received
             by the SS. This has value unknown(2) if the last Error-Code
             value was 0, and none(1) if no Key Reject message has been
             received since reboot."
        ::= { wmanIf2SsPkmTekEntry 15 }

wmanIf2SsPkmTekKeyRejectErrorString OBJECT-TYPE
        SYNTAX      SnmpAdminString (SIZE (0..128))
        MAX-ACCESS  read-only
        STATUS      current
        DESCRIPTION
            "The value of this object is the Display-String in most
             recent Key Reject message received by the SS. This is a
             zero length string if no Key Reject message has been
             received since reboot."
        ::= { wmanIf2SsPkmTekEntry 16 }

wmanIf2SsPkmTekInvalidErrorCode OBJECT-TYPE
        SYNTAX      INTEGER {none(1),
                             unknown(2),
                              invalidKeySequence(6)}
        MAX-ACCESS  read-only
        STATUS      current
        DESCRIPTION
            "The value of this object is the enumerated description of
             the Error-Code in most recent TEK Invalid message received
             by the SS.  This has value unknown(2) if the last
             Error-Code value was 0, and  none(1) if no TEK Invalid
             message has been received since reboot."
        ::= { wmanIf2SsPkmTekEntry 17 }

wmanIf2SsPkmTekInvalidErrorString OBJECT-TYPE
        SYNTAX      SnmpAdminString (SIZE (0..128))
        MAX-ACCESS  read-only
        STATUS      current
        DESCRIPTION
            "The value of this object is the Display-String in most
             recent TEK Invalid message received by the SS. This is a
             zero length string if no TEK Invalid message has been
             received since reboot."
        ::= { wmanIf2SsPkmTekEntry 18 }

--
-- Table wmanIf2SsDeviceCertTable
--
wmanIf2SsDeviceCertTable OBJECT-TYPE
        SYNTAX      SEQUENCE OF   WmanIf2SsDeviceCertEntry
        MAX-ACCESS  not-accessible
        STATUS      current
        DESCRIPTION
            "This table describes the PKM device certificates for each
             SS wireless interface."
        ::= { wmanIf2SsPkmObjects  3 }

wmanIf2SsDeviceCertEntry OBJECT-TYPE
        SYNTAX      WmanIf2SsDeviceCertEntry
        MAX-ACCESS  not-accessible
        STATUS      current
        DESCRIPTION
            "Each entry contains the device certificate of one SS."
        INDEX       { ifIndex }
        ::= { wmanIf2SsDeviceCertTable  1 }

WmanIf2SsDeviceCertEntry ::= SEQUENCE {
        wmanIf2SsDeviceCert                     OCTET STRING,
        wmanIf2SsDeviceManufCert                OCTET STRING}

wmanIf2SsDeviceCert OBJECT-TYPE
        SYNTAX      OCTET STRING (SIZE(0..65535))
        MAX-ACCESS  read-only
        STATUS      current
        DESCRIPTION
            "The X509 DER-encoded subscriber station certificate."
        ::= { wmanIf2SsDeviceCertEntry 1 }
```

```
wmanIf2SsDeviceManufCert OBJECT-TYPE
        SYNTAX      OCTET STRING (SIZE(0..65535))
        MAX-ACCESS  read-only
        STATUS      current
        DESCRIPTION
            "The X509 DER-encoded manufacturer certificate which is
             signed by the CA root authority certificate."
        ::= { wmanIf2SsDeviceCertEntry 2 }

--
-- Subscriber station Notification Group
-- wmanIf2SsNotificationObjects contains the SS SNMP Trap objects
--
wmanIf2SsNotification OBJECT IDENTIFIER ::= { wmanIf2SsObjects  3 }
wmanIf2SsTrapControl OBJECT IDENTIFIER ::= { wmanIf2SsNotification 1 }
wmanIf2SsTrapDefinitions OBJECT IDENTIFIER ::= { wmanIf2SsNotification 2
}

-- This object groups all NOTIFICATION-TYPE objects for SS.
-- It is defined following RFC2758 sections 8.5 and 8.6
-- for the compatibility with SNMPv1.
wmanIf2SsTrapPrefix OBJECT IDENTIFIER ::= { wmanIf2SsTrapDefinitions 0 }

wmanIf2SsTrapControlRegister    OBJECT-TYPE
        SYNTAX      BITS {wmanIf2SsTlvUnknown(0),
                          wmanIf2SsDynamicServiceFail(1),
                          wmanIf2SsDhcpSuccess(2),
                          wmanIf2SsRssiStatusChange(3)}
        MAX-ACCESS  read-write
        STATUS      current
        DESCRIPTION
            "The object is used to enable Subscriber Station traps.
             From left to right, the set bit indicates the corresponding
             Subscriber Station trap is enabled."
        ::= { wmanIf2SsTrapControl  1 }

wmanIf2SsThresholdConfigTable OBJECT-TYPE
        SYNTAX      SEQUENCE OF WmanIf2SsThresholdConfigEntry
        MAX-ACCESS  not-accessible
        STATUS      current
        DESCRIPTION
            "This table contains threshold objects that can be set to
             detect the threshold crossing events."
        ::= { wmanIf2SsTrapControl 2 }

wmanIf2SsThresholdConfigEntry OBJECT-TYPE
        SYNTAX      WmanIf2SsThresholdConfigEntry
        MAX-ACCESS  not-accessible
        STATUS      current
        DESCRIPTION
            "This table provides one row for each Ss, and is indexed
             by ifIndex."
        INDEX       { ifIndex }
        ::= { wmanIf2SsThresholdConfigTable 1 }

WmanIf2SsThresholdConfigEntry ::= SEQUENCE {
        wmanIf2SsRssiLowThreshold                Integer32,
        wmanIf2SsRssiHighThreshold               Integer32}

wmanIf2SsRssiLowThreshold OBJECT-TYPE
        SYNTAX      Integer32
        UNITS       "dBm"
        MAX-ACCESS  read-write
        STATUS      current
        DESCRIPTION
            "Low RSSI threshold for generating the RSSI alarm trap."
        ::= { wmanIf2SsThresholdConfigEntry 1 }

wmanIf2SsRssiHighThreshold OBJECT-TYPE
        SYNTAX      Integer32
        UNITS       "dBm"
        MAX-ACCESS  read-write
        STATUS      current
        DESCRIPTION
            "High RSSI threshold for generating a trap to indicate
             the RSSI is restored."
        ::= { wmanIf2SsThresholdConfigEntry 2 }

wmanIf2SsTlvUnknownTrap NOTIFICATION-TYPE
        OBJECTS     {ifIndex,
                     wmanIf2SsMacAddress,
                     wmanIf2SsUnknownTlv}
        STATUS      current
        DESCRIPTION
            "Event that notifies detection of unknown TLV during
             the TLV parsing process."
        ::= { wmanIf2SsTrapPrefix 1 }

wmanIf2SsDynamicServiceFailTrap NOTIFICATION-TYPE
        OBJECTS     {ifIndex,
                     wmanIf2SsMacAddress,
                     wmanIf2SsDynamicServiceType,
                     wmanIf2SsDynamicServiceFailReason}
        STATUS      current
        DESCRIPTION
            "An event to report the failure of a dynamic service
             operation happened during the dynamic services process
             and detected in the BS side."
        ::= { wmanIf2SsTrapPrefix 2 }

wmanIf2SsDhcpSuccessTrap    NOTIFICATION-TYPE
        OBJECTS     {ifIndex,
                     wmanIf2SsMacAddress}
        STATUS      current
        DESCRIPTION
            "An event to report a successful Handshake to establish IP
             connectivity."
        ::= { wmanIf2SsTrapPrefix 3 }

wmanIf2SsRssiStatusChangeTrap NOTIFICATION-TYPE
        OBJECTS     {ifIndex,
                     wmanIf2SsMacAddress,
                     wmanIf2SsRssiStatus,
                     wmanIf2SsRssiStatusInfo}
        STATUS      current
        DESCRIPTION
            "An event to report that the downlink RSSI is below
             wmanIf2SsRssiLowThreshold, or above
             wmanIf2SsRssiHighThreshold after restore."
        ::= { wmanIf2SsTrapPrefix 4 }

wmanIf2SsNotificationObjectsTable OBJECT-TYPE
        SYNTAX      SEQUENCE OF WmanIf2SsNotificationObjectsEntry
        MAX-ACCESS  not-accessible
        STATUS      current
        DESCRIPTION
            "This table contains SS notification objects that have been
             reported by the trap."
        ::= { wmanIf2SsTrapDefinitions 1 }

wmanIf2SsNotificationObjectsEntry OBJECT-TYPE
        SYNTAX      WmanIf2SsNotificationObjectsEntry
        MAX-ACCESS  not-accessible
        STATUS      current
        DESCRIPTION
            "This table provides one row for each SS that has
             generated traps, and is indexed by ifIndex."
        INDEX       { ifIndex }
        ::= { wmanIf2SsNotificationObjectsTable 1 }

WmanIf2SsNotificationObjectsEntry ::= SEQUENCE {
        wmanIf2SsMacAddress                     MacAddress,
        wmanIf2SsUnknownTlv                     OCTET STRING,
        wmanIf2SsDynamicServiceType             INTEGER,
        wmanIf2SsDynamicServiceFailReason       OCTET STRING,
        wmanIf2SsRssiStatus                     INTEGER,
        wmanIf2SsRssiStatusInfo                 OCTET STRING}

wmanIf2SsMacAddress  OBJECT-TYPE
        SYNTAX      MacAddress
        MAX-ACCESS  read-only
        STATUS      current
        DESCRIPTION
            "The MAC address of the SS generating the trap."
        ::= { wmanIf2SsNotificationObjectsEntry 1 }

wmanIf2SsUnknownTlv  OBJECT-TYPE
        SYNTAX      OCTET STRING (SIZE(0..65535))
        MAX-ACCESS  read-only
        STATUS      current
        DESCRIPTION
```

```
            "Indicating the value of the unknown TLV."
        ::= { wmanIf2SsNotificationObjectsEntry 2 }

wmanIf2SsDynamicServiceType  OBJECT-TYPE
        SYNTAX      INTEGER {ssSfCreationReq(1),
                             ssSfCreationRsp(2),
                             ssSfCreationAck(3)}
        MAX-ACCESS  read-only
        STATUS      current
        DESCRIPTION
            "This object indicates the dynamic service flow
             creation command type."
        ::= { wmanIf2SsNotificationObjectsEntry 3 }

wmanIf2SsDynamicServiceFailReason  OBJECT-TYPE
        SYNTAX      OCTET STRING (SIZE(0..255))
        MAX-ACCESS  read-only
        STATUS      current
        DESCRIPTION
            "This object indicates the reason why the service flow
             creation has failed."
        ::= { wmanIf2SsNotificationObjectsEntry 4 }

wmanIf2SsRssiStatus  OBJECT-TYPE
        SYNTAX      INTEGER {ssRssiAlarm(1),
                             ssRssiNoAlarm(2)}
        MAX-ACCESS  read-only
        STATUS      current
        DESCRIPTION
            "A RSSI alarm is generated if the RSSI is lower than
             wmanIf2SsRssiLowThreshold, or above
             wmanIf2SsRssiHighThreshold after alarm is restored."
        ::= { wmanIf2SsNotificationObjectsEntry 5 }

wmanIf2SsRssiStatusInfo  OBJECT-TYPE
        SYNTAX      OCTET STRING (SIZE(0..255))
        MAX-ACCESS  read-only
        STATUS      current
        DESCRIPTION
            "This object provides additional information about RSSI
             alarm. It is implementation specific"
        ::= { wmanIf2SsNotificationObjectsEntry 6 }

--
-- Subscriber station PHY Group
--
wmanIf2SsPhy OBJECT IDENTIFIER ::= { wmanIf2SsObjects  5 }

--
-- SS OFDM PHY objects
--
wmanIf2SsOfdmPhy OBJECT IDENTIFIER ::= { wmanIf2SsPhy 1 }

wmanIf2SsOfdmUplinkChannelTable OBJECT-TYPE
```

```
        SYNTAX      SEQUENCE OF WmanIf2SsOfdmUplinkChannelEntry
        MAX-ACCESS  not-accessible
        STATUS      current
        DESCRIPTION
            "This table contains UCD channel attributes, defining the
             transmission characteristics of uplink channels"
        REFERENCE
            "Table 349 and Table 352, in IEEE Std 802.16-2004"
        ::= { wmanIf2SsOfdmPhy 1 }

wmanIf2SsOfdmUplinkChannelEntry OBJECT-TYPE
        SYNTAX      WmanIf2SsOfdmUplinkChannelEntry
        MAX-ACCESS  not-accessible
        STATUS      current
        DESCRIPTION
            "This table provides one row for each uplink channel of
             multi-sector BS, and is indexed by BS ifIndex. An entry
             in this table exists for each ifEntry of BS with an
             ifType of propBWAp2Mp."
        INDEX { ifIndex }
        ::= { wmanIf2SsOfdmUplinkChannelTable 1 }

WmanIf2SsOfdmUplinkChannelEntry ::= SEQUENCE {
        wmanIf2SsOfdmCtBasedResvTimeout         INTEGER,
        wmanIf2SsOfdmBwReqOppSize               INTEGER,
        wmanIf2SsOfdmRangReqOppSize             INTEGER,
        wmanIf2SsOfdmUplinkCenterFreq           Unsigned32,
        wmanIf2SsOfdmNumSubChReqRegionFull      INTEGER,
        wmanIf2SsOfdmNumSymbolsReqRegionFull    INTEGER,
        wmanIf2SsOfdmSubChFocusCtCode           INTEGER,
        wmanIf2SsOfdmUpLinkChannelId            INTEGER}

wmanIf2SsOfdmCtBasedResvTimeout OBJECT-TYPE
        SYNTAX      INTEGER (1..255)
        MAX-ACCESS  read-only
        STATUS      current
        DESCRIPTION
            "The number of UL-MAPs to receive before contention-based
             reservation is attempted again for the same connection."
        REFERENCE
            "Table 349, in IEEE Std 802.16-2004"
        ::= { wmanIf2SsOfdmUplinkChannelEntry 1 }

wmanIf2SsOfdmBwReqOppSize OBJECT-TYPE
        SYNTAX      INTEGER (1..65535)
        UNITS       "PS"
        MAX-ACCESS  read-only
        STATUS      current
        DESCRIPTION
            "Size (in units of PS) of PHY payload that SS may use to
             format and transmit a bandwidth request message in a
             contention request opportunity. The value includes all
             PHY overhead as well as allowance for the MAC data the
             message may hold."
        REFERENCE
            "Table 349, in IEEE Std 802.16-2004"
        ::= { wmanIf2SsOfdmUplinkChannelEntry 2 }

wmanIf2SsOfdmRangReqOppSize OBJECT-TYPE
        SYNTAX      INTEGER (1..65535)
        UNITS       "PS"
        MAX-ACCESS  read-only
        STATUS      current
        DESCRIPTION
            "Size (in units of PS) of PHY payload that SS may use to
             format and transmit a RNG-REQ message in a contention
             request opportunity. The value includes all PHY overhead
             as well as allowance for the MAC data the message may
             hold and the maxiumum SS/BS roundtrip propagation delay."
        REFERENCE
            "Table 349, in IEEE Std 802.16-2004"
        ::= { wmanIf2SsOfdmUplinkChannelEntry 3 }

wmanIf2SsOfdmUplinkCenterFreq OBJECT-TYPE
        SYNTAX      Unsigned32
        UNITS       "kHz"
        MAX-ACCESS  read-only
        STATUS      current
        DESCRIPTION
            " Uplink center frequency (kHz)"
        REFERENCE
            "Table 349, in IEEE Std 802.16-2004"
        ::= { wmanIf2SsOfdmUplinkChannelEntry 4 }

wmanIf2SsOfdmNumSubChReqRegionFull OBJECT-TYPE
        SYNTAX      INTEGER {oneSubchannel(0),
                             twoSubchannels(1),
                             fourSubchannels(2),
                             eightSubchannels(3),
                             sixteenSubchannels(4)}
        MAX-ACCESS  read-only
        STATUS      current
        DESCRIPTION
            "Number of subchannels used by each transmit
             opportunity when REQ Region-Full is allocated in
             subchannelization region."
        REFERENCE
             "Table 352, in IEEE Std 802.16-2004"
        ::= { wmanIf2SsOfdmUplinkChannelEntry 5 }

wmanIf2SsOfdmNumSymbolsReqRegionFull OBJECT-TYPE
        SYNTAX      INTEGER (0..31)
        MAX-ACCESS  read-only
        STATUS      current
        DESCRIPTION
            "Number of OFDM symbols used by each transmit
             opportunity when REQ Region-Full is allocated in
             subchannelization region."
        REFERENCE
             "Table 352, in IEEE Std 802.16-2004"
        ::= { wmanIf2SsOfdmUplinkChannelEntry 6 }

wmanIf2SsOfdmSubChFocusCtCode OBJECT-TYPE
        SYNTAX      INTEGER (0..8)
        MAX-ACCESS  read-only
        STATUS      current
        DESCRIPTION
            "Number of contention codes (CSE) that shall only be used to
             request a subchannelized allocation. Default value 0.
             Allowed values 0-8."
        REFERENCE
            "Table 352, in IEEE Std 802.16-2004"
        DEFVAL         { 0 }
        ::= { wmanIf2SsOfdmUplinkChannelEntry 7 }

wmanIf2SsOfdmUpLinkChannelId OBJECT-TYPE
        SYNTAX      INTEGER (0..255)
        MAX-ACCESS  read-only
        STATUS      current
        DESCRIPTION
            "The identifier of the uplink channel to which this
             message refers."
        REFERENCE
            "Subclause 6.3.2.3.4. Table 16, in IEEE Std 802.16-2004"
        ::= { wmanIf2SsOfdmUplinkChannelEntry 8 }

wmanIf2SsOfdmDownlinkChannelTable OBJECT-TYPE
        SYNTAX      SEQUENCE OF WmanIf2SsOfdmDownlinkChannelEntry
        MAX-ACCESS  not-accessible
        STATUS      current
        DESCRIPTION
            "This table contains DCD channel attributes, defining the
             transmission characteristics of downlink channels"
        REFERENCE
            "Table 358, in IEEE Std 802.16-2004"
        ::= { wmanIf2SsOfdmPhy 2 }

wmanIf2SsOfdmDownlinkChannelEntry OBJECT-TYPE
        SYNTAX      WmanIf2SsOfdmDownlinkChannelEntry
        MAX-ACCESS  not-accessible
        STATUS      current
        DESCRIPTION
            "This table provides one row for each downlink channel of
             multi-sector BS, and is indexed by BS ifIndex. An entry
             in this table exists for each ifEntry of BS with an
             ifType of propBWAp2Mp."
        INDEX { ifIndex }
        ::= { wmanIf2SsOfdmDownlinkChannelTable 1 }

WmanIf2SsOfdmDownlinkChannelEntry ::= SEQUENCE {
        wmanIf2SsOfdmBsEIRP                     INTEGER,
        wmanIf2SsOfdmChannelNumber              WmanIf2ChannelNumber,
        wmanIf2SsOfdmTTG                        INTEGER,
        wmanIf2SsOfdmRTG                        INTEGER,
        wmanIf2SsOfdmInitRngMaxRSS              INTEGER,
        wmanIf2SsOfdmDownlinkCenterFreq         Unsigned32,
        wmanIf2SsOfdmBsId                       WmanIf2BsIdType,
        wmanIf2SsOfdmMacVersion                 WmanIf2MacVersion,
        wmanIf2SsOfdmFrameDurationCode          INTEGER,
        wmanIf2SsOfdmDownLinkChannelId          INTEGER}

wmanIf2SsOfdmBsEIRP OBJECT-TYPE
        SYNTAX      INTEGER (-32768..32767)
        UNITS       "dBm"
        MAX-ACCESS  read-only
        STATUS      current
        DESCRIPTION
            "The EIRP is the equivalent isotropic radiated power of
             the base station, which is computed for a simple
             single-antenna transmitter."
        REFERENCE
            "Table 358, in IEEE Std 802.16-2004"
        ::= { wmanIf2SsOfdmDownlinkChannelEntry 1 }

wmanIf2SsOfdmChannelNumber OBJECT-TYPE
        SYNTAX      WmanIf2ChannelNumber
        MAX-ACCESS  read-only
        STATUS      current
        DESCRIPTION
            "Downlink channel number as defined in 8.5.
             Used for license-exempt operation only."
        REFERENCE
            "Table 358, in IEEE Std 802.16-2004"
        ::= { wmanIf2SsOfdmDownlinkChannelEntry 2 }

wmanIf2SsOfdmTTG OBJECT-TYPE
        SYNTAX      INTEGER (0..255)
        MAX-ACCESS  read-only
        STATUS      current
        DESCRIPTION
            "Transmit / Receive Transition Gap."
        REFERENCE
            "Table 358, in IEEE Std 802.16-2004"
        ::= { wmanIf2SsOfdmDownlinkChannelEntry 3 }

wmanIf2SsOfdmRTG OBJECT-TYPE
        SYNTAX      INTEGER (0..255)
        MAX-ACCESS  read-only
        STATUS      current
        DESCRIPTION
            "Receive / Transmit Transition Gap."
        REFERENCE
            "Table 358, in IEEE Std 802.16-2004"
        ::= { wmanIf2SsOfdmDownlinkChannelEntry 4 }

wmanIf2SsOfdmInitRngMaxRSS OBJECT-TYPE
```

```
        SYNTAX      INTEGER (-32768..32767)
        UNITS       "dBm"
        MAX-ACCESS  read-only
        STATUS      current
        DESCRIPTION
            "Initial Ranging Max. equivalent isotropic received power
             at BS Signed in units of 1 dBm."
        REFERENCE
            "Table 358, in IEEE Std 802.16-2004"
        ::= { wmanIf2SsOfdmDownlinkChannelEntry 5 }

wmanIf2SsOfdmDownlinkCenterFreq OBJECT-TYPE
        SYNTAX      Unsigned32
        UNITS       "kHz"
        MAX-ACCESS  read-only
        STATUS      current
        DESCRIPTION
            "Downlink center frequency (kHz)."
        REFERENCE
            "Table 358, in IEEE Std 802.16-2004"
        ::= { wmanIf2SsOfdmDownlinkChannelEntry 6 }

wmanIf2SsOfdmBsId OBJECT-TYPE
        SYNTAX      WmanIf2BsIdType
        MAX-ACCESS  read-only
        STATUS      current
        DESCRIPTION
            "Base station ID."
        REFERENCE
            "Table 358, in IEEE Std 802.16-2004"
        ::= { wmanIf2SsOfdmDownlinkChannelEntry 7 }

wmanIf2SsOfdmMacVersion OBJECT-TYPE
        SYNTAX      WmanIf2MacVersion
        MAX-ACCESS  read-only
        STATUS      current
        DESCRIPTION
            "This parameter specifies the version of 802.16 to which
             the message originator conforms."
        REFERENCE
            "Table 358, in IEEE Std 802.16-2004"
        ::= { wmanIf2SsOfdmDownlinkChannelEntry 8 }

wmanIf2SsOfdmFrameDurationCode OBJECT-TYPE
        SYNTAX      INTEGER {duration2dot5ms(0),
                             duration4ms(1),
                             duration5ms(2),
                             duration8ms(3),
                             duration10ms(4),
                             duration12dot5ms(5),
                             duration20ms(6)}
        MAX-ACCESS  read-only
        STATUS      current
        DESCRIPTION
```

```
            "The duration of the frame. The frame duration code
             values are specified in Table 230."
        REFERENCE
            "Subclause 11.4.1, Table 230, in IEEE Std 802.16-2004"
        ::= { wmanIf2SsOfdmDownlinkChannelEntry 9 }

wmanIf2SsOfdmDownLinkChannelId OBJECT-TYPE
        SYNTAX      INTEGER (0..255)
        MAX-ACCESS  read-only
        STATUS      current
        DESCRIPTION
            "The identifier of the downlink channel to which this
             message refers."
        REFERENCE
            "Subclause 6.3.2.3.1, Table 15, in IEEE Std 802.16-2004"
        ::= { wmanIf2SsOfdmDownlinkChannelEntry 10 }

wmanIf2SsOfdmUcdBurstProfileTable OBJECT-TYPE
        SYNTAX      SEQUENCE OF WmanIf2SsOfdmUcdBurstProfileEntry
        MAX-ACCESS  not-accessible
        STATUS      current
        DESCRIPTION
            "This table contains UCD burst profiles for each uplink
             channel"
        REFERENCE
            "Table 356, in IEEE Std 802.16-2004"
        ::= { wmanIf2SsOfdmPhy 3 }

wmanIf2SsOfdmUcdBurstProfileEntry OBJECT-TYPE
        SYNTAX      WmanIf2SsOfdmUcdBurstProfileEntry
        MAX-ACCESS  not-accessible
        STATUS      current
        DESCRIPTION
            "This table provides one row for each UCD burst profile.
             This table is double indexed. The primary index is an
             ifIndex with an ifType of propBWAp2Mp. The secondary index
             is wmanIf2SsOfdmOfdmUcdBurstProfIndex."
        INDEX { ifIndex, wmanIf2SsOfdmUiucIndex }
        ::= { wmanIf2SsOfdmUcdBurstProfileTable 1 }

WmanIf2SsOfdmUcdBurstProfileEntry ::= SEQUENCE {
        wmanIf2SsOfdmUiucIndex                  INTEGER,
        wmanIf2SsOfdmUcdFecCodeType             WmanIf2OfdmFecCodeType,
        wmanIf2SsOfdmFocusCtPowerBoost          INTEGER,
        wmanIf2SsOfdmUcdTcsEnable               INTEGER}

wmanIf2SsOfdmUiucIndex OBJECT-TYPE
        SYNTAX      INTEGER (5 .. 12)
        MAX-ACCESS  not-accessible
        STATUS      current
        DESCRIPTION
            "The Uplink Interval Usage Code indicates the uplink burst
             profile in the UCD message, and is used along with ifIndex
             to identify an entry in the
             wmanIf2SsOfdmUcdBurstProfileTable."
        REFERENCE
            "Subclause 8.3.6.3.1, in IEEE Std 802.16-2004"
        ::= { wmanIf2SsOfdmUcdBurstProfileEntry 1 }

wmanIf2SsOfdmUcdFecCodeType OBJECT-TYPE
        SYNTAX      WmanIf2OfdmFecCodeType
        MAX-ACCESS  read-only
        STATUS      current
        DESCRIPTION
            "Uplink FEC code type and modulation type"
        REFERENCE
            "Table 356, in IEEE Std 802.16-2004"
        ::= { wmanIf2SsOfdmUcdBurstProfileEntry 2 }

wmanIf2SsOfdmFocusCtPowerBoost OBJECT-TYPE
        SYNTAX      INTEGER (0 .. 255)
        MAX-ACCESS  read-only
        STATUS      current
        DESCRIPTION
            "The power boost in dB of focused contention carriers, as
             described in 8.3.6.3.3."
        REFERENCE
            "Table 356, in IEEE Std 802.16-2004"
        ::= { wmanIf2SsOfdmUcdBurstProfileEntry 3 }

wmanIf2SsOfdmUcdTcsEnable OBJECT-TYPE
        SYNTAX      INTEGER {tcsDisabled(0),
                             tcsEnabled(1)}
        MAX-ACCESS  read-only
        STATUS      current
        DESCRIPTION
            "This parameter determines the transmission convergence
             sublayer, as described in 8.1.4.3, can be enabled on a
             per-burst basis for both uplink and downlink. through
             DIUC/UIUC messages."
        REFERENCE
            "Table 356, in IEEE Std 802.16-2004"
        ::= { wmanIf2SsOfdmUcdBurstProfileEntry 4 }

wmanIf2SsOfdmDcdBurstProfileTable OBJECT-TYPE
        SYNTAX      SEQUENCE OF WmanIf2SsOfdmDcdBurstProfileEntry
        MAX-ACCESS  not-accessible
        STATUS      current
        DESCRIPTION
            "This table provides one row for each DCD burst profile.
             This table is double indexed. The primary index is an
             ifIndex with an ifType of propBWAp2Mp. The secondary
             index is wmanIf2SsOfdmDiucIndex."
        REFERENCE
            "Table 362, in IEEE Std 802.16-2004"
        ::= { wmanIf2SsOfdmPhy 4 }

wmanIf2SsOfdmDcdBurstProfileEntry OBJECT-TYPE
```

```
        SYNTAX      WmanIf2SsOfdmDcdBurstProfileEntry
        MAX-ACCESS  not-accessible
        STATUS      current
        DESCRIPTION
            "This table provides one row for each DCD burst profile.
             This table is double indexed. The primary index is an
             ifIndex with an ifType of propBWAp2Mp. The secondary index
             is wmanIf2SsOfdmDcdBurstProfIndex."
        INDEX { ifIndex, wmanIf2SsOfdmDiucIndex }
        ::= { wmanIf2SsOfdmDcdBurstProfileTable 1 }

WmanIf2SsOfdmDcdBurstProfileEntry ::= SEQUENCE {
        wmanIf2SsOfdmDiucIndex                  INTEGER,
        wmanIf2SsOfdmDownlinkFrequency          Unsigned32,
        wmanIf2SsOfdmDcdFecCodeType             WmanIf2OfdmFecCodeType,
        wmanIf2SsOfdmDiucMandatoryExitThresh    INTEGER,
        wmanIf2SsOfdmDiucMinEntryThresh         INTEGER,
        wmanIf2SsOfdmTcsEnable                  INTEGER}

wmanIf2SsOfdmDiucIndex OBJECT-TYPE
        SYNTAX      INTEGER (1..11)
        MAX-ACCESS  not-accessible
        STATUS      current
        DESCRIPTION
            "The Downlink Interval Usage Code indicates the downlink
             burst profile in the DCD message, and is used along with
             ifIndex to identify an entry in the
             wmanIf2SsOfdmDcdBurstProfileTable."
        REFERENCE
            "Subclause 8.3.6.3.1, in IEEE Std 802.16-2004"
        ::= { wmanIf2SsOfdmDcdBurstProfileEntry 1 }

wmanIf2SsOfdmDownlinkFrequency OBJECT-TYPE
        SYNTAX      Unsigned32
        UNITS       "kHz"
        MAX-ACCESS  read-only
        STATUS      current
        DESCRIPTION
            "Downlink Frequency (kHz)."
        REFERENCE
            "Table 362, in IEEE Std 802.16-2004"
        ::= { wmanIf2SsOfdmDcdBurstProfileEntry 2 }

wmanIf2SsOfdmDcdFecCodeType OBJECT-TYPE
        SYNTAX      WmanIf2OfdmFecCodeType
        MAX-ACCESS  read-only
        STATUS      current
        DESCRIPTION
            "Downlink FEC code type and modulation type"
        REFERENCE
            "Table 362, in IEEE Std 802.16-2004"
        ::= { wmanIf2SsOfdmDcdBurstProfileEntry 3 }

wmanIf2SsOfdmDiucMandatoryExitThresh OBJECT-TYPE
```

```
        SYNTAX      INTEGER (0..255)
        MAX-ACCESS  read-only
        STATUS      current
        DESCRIPTION
            "DIUC mandatory exit threshold: 0 - 63.75 dB CINR at or
             below where this DIUC can no longer be used and where this
             change to a more robust DIUC is required in 0.25 dB units."
        REFERENCE
            "Table 362, in IEEE Std 802.16-2004"
        ::= { wmanIf2SsOfdmDcdBurstProfileEntry 4 }

wmanIf2SsOfdmDiucMinEntryThresh OBJECT-TYPE
        SYNTAX      INTEGER (0..255)
        MAX-ACCESS  read-only
        STATUS      current
        DESCRIPTION
            "DIUC minimum entry threshold: 0 - 63.75 dB The minimum CINR
             required to start using this DIUC when changing from a more
             robust DIUC is required, in 0.25 dB units."
        REFERENCE
            "Table 362, in IEEE Std 802.16-2004"
        ::= { wmanIf2SsOfdmDcdBurstProfileEntry 5 }

wmanIf2SsOfdmTcsEnable OBJECT-TYPE
        SYNTAX      INTEGER {tcsDisabled (0),
                             tcsEnabled (1)}
        MAX-ACCESS  read-only
        STATUS      current
        DESCRIPTION
            "Indicates whether Transmission COnvergence Sublayer
             is enabled or disabled."
        REFERENCE
            "Table 362, in IEEE Std 802.16-2004"
        ::= { wmanIf2SsOfdmDcdBurstProfileEntry 6 }

--
-- SS OFDMA PHY objects
--
wmanIf2SsOfdmaPhy OBJECT IDENTIFIER ::= { wmanIf2SsPhy 2 }

wmanIf2SsOfdmaUplinkChannelTable OBJECT-TYPE
        SYNTAX      SEQUENCE OF WmanIf2SsOfdmaUplinkChannelEntry
        MAX-ACCESS  not-accessible
        STATUS      current
        DESCRIPTION
            "This table contains UCD channel attributes, defining the
             transmission characteristics of uplink channels"
        REFERENCE
            "Subclause 11.3.1, Table 349 and Table 353, in IEEE Std
             802.16-2004"
        ::= { wmanIf2SsOfdmaPhy 1 }

wmanIf2SsOfdmaUplinkChannelEntry OBJECT-TYPE
        SYNTAX      WmanIf2SsOfdmaUplinkChannelEntry
        MAX-ACCESS  not-accessible
        STATUS      current
        DESCRIPTION
            "This table provides one row for each uplink channel of
             multi-sector BS, and is indexed by BS ifIndex. An entry
             in this table exists for each ifEntry of BS with an
             ifType of propBWAp2Mp."
        INDEX       { ifIndex }
        ::= { wmanIf2SsOfdmaUplinkChannelTable 1 }

WmanIf2SsOfdmaUplinkChannelEntry ::= SEQUENCE {
        wmanIf2SsOfdmaCtBasedResvTimeout        INTEGER,
        wmanIf2SsOfdmaBwReqOppSize              INTEGER,
        wmanIf2SsOfdmaRangReqOppSize            INTEGER,
        wmanIf2SsOfdmaUplinkCenterFreq          Unsigned32,
        wmanIf2SsOfdmaInitRngCodes              INTEGER,
        wmanIf2SsOfdmaPeriodicRngCodes          INTEGER,
        wmanIf2SsOfdmaBWReqCodes                INTEGER,
        wmanIf2SsOfdmaPerRngBackoffStart        INTEGER,
        wmanIf2SsOfdmaPerRngBackoffEnd          INTEGER,
        wmanIf2SsOfdmaStartOfRngCodes           INTEGER,
        wmanIf2SsOfdmaPermutationBase           INTEGER,
        wmanIf2SsOfdmaULAllocSubchBitmap        OCTET STRING,
        wmanIf2SsOfdmaOptPermULAllocSubchBitmap OCTET STRING,
        wmanIf2SsOfdmaBandAMCAllocThreshold     INTEGER,
        wmanIf2SsOfdmaBandAMCReleaseThreshold   INTEGER,
        wmanIf2SsOfdmaBandAMCAllocTimer         INTEGER,
        wmanIf2SsOfdmaBandAMCReleaseTimer       INTEGER,
        wmanIf2SsOfdmaBandStatRepMAXPeriod      INTEGER,
        wmanIf2SsOfdmaBandAMCRetryTimer         INTEGER,
        wmanIf2SsOfdmaSafetyChAllocThreshold    INTEGER,
        wmanIf2SsOfdmaSafetyChReleaseThreshold  INTEGER,
        wmanIf2SsOfdmaSafetyChAllocTimer        INTEGER,
        wmanIf2SsOfdmaSafetyChReleaseTimer      INTEGER,
        wmanIf2SsOfdmaBinStatRepMAXPeriod       INTEGER,
        wmanIf2SsOfdmaSafetyChaRetryTimer       INTEGER,
        wmanIf2SsOfdmaHARQAackDelayULBurst      INTEGER,
        wmanIf2SsOfdmaCQICHBandAMCTranaDelay    INTEGER}

wmanIf2SsOfdmaCtBasedResvTimeout OBJECT-TYPE
        SYNTAX      INTEGER (1..255)
        MAX-ACCESS  read-only
        STATUS      current
        DESCRIPTION
            "The number of UL-MAPs to receive before contention-based
             reservation is attempted again for the same connection."
        REFERENCE
            "Table 349, in IEEE Std 802.16-2004"
        ::= { wmanIf2SsOfdmaUplinkChannelEntry 1 }

wmanIf2SsOfdmaBwReqOppSize OBJECT-TYPE
        SYNTAX      INTEGER (1..65535)
        UNITS       "PS"
        MAX-ACCESS  read-only
        STATUS      current
        DESCRIPTION
            "Size (in units of PS) of PHY payload that SS may use to
             format and transmit a bandwidth request message in a
             contention request opportunity. The value includes all
             PHY overhead as well as allowance for the MAC data the
             message may hold."
        REFERENCE
            "Table 349, in IEEE Std 802.16-2004"
        ::= { wmanIf2SsOfdmaUplinkChannelEntry 2 }

wmanIf2SsOfdmaRangReqOppSize OBJECT-TYPE
        SYNTAX      INTEGER (1..65535)
        UNITS       "PS"
        MAX-ACCESS  read-only
        STATUS      current
        DESCRIPTION
            "Size (in units of PS) of PHY payload that SS may use to
             format and transmit a RNG-REQ message in a contention
             request opportunity. The value includes all PHY overhead
             as well as allowance for the MAC data the message may
             hold and the maxiumum SS/BS roundtrip propagation delay."
        REFERENCE
            "Table 349, in IEEE Std 802.16-2004"
        ::= { wmanIf2SsOfdmaUplinkChannelEntry 3 }

wmanIf2SsOfdmaUplinkCenterFreq OBJECT-TYPE
        SYNTAX      Unsigned32
        UNITS       "kHz"
        MAX-ACCESS  read-only
        STATUS      current
        DESCRIPTION
            " Uplink center frequency (kHz)"
        REFERENCE
            "Table 349, in IEEE Std 802.16-2004"
        ::= { wmanIf2SsOfdmaUplinkChannelEntry 4 }

wmanIf2SsOfdmaInitRngCodes OBJECT-TYPE
        SYNTAX      INTEGER (0..255)
        MAX-ACCESS  read-only
        STATUS      current
        DESCRIPTION
            "Number of initial ranging CDMA codes. Possible values are
             0..255. The total number of wmanIf2SsOfdmaInitRngCodes,
             wmanIf2SsOfdmaPeriodicRngCodes and wmanIf2SsOfdmaBWReqCodes
             shall be equal or less than 256."
        REFERENCE
            "Subclause 11.3.1, Table 353, in IEEE Std 802.16-2004"
        DEFVAL      { 30 }
        ::= { wmanIf2SsOfdmaUplinkChannelEntry 5 }

wmanIf2SsOfdmaPeriodicRngCodes OBJECT-TYPE
        SYNTAX      INTEGER (0..255)
        MAX-ACCESS  read-only
        STATUS      current
        DESCRIPTION
            "Number of periodic ranging CDMA codes. Possible values are
             0..255. The total number of wmanIf2SsOfdmaInitRngCodes,
             wmanIf2SsOfdmaPeriodicRngCodes and wmanIf2SsOfdmaBWReqCodes
             shall be equal or less than 256."
        REFERENCE
            "Subclause 11.3.1, Table 353, in IEEE Std 802.16-2004"
        DEFVAL     { 30 }
        ::= { wmanIf2SsOfdmaUplinkChannelEntry 6 }

wmanIf2SsOfdmaBWReqCodes OBJECT-TYPE
        SYNTAX      INTEGER (0..255)
        MAX-ACCESS  read-only
        STATUS      current
        DESCRIPTION
            "Number of bandwidth request codes. Possible values are
             0..255. The total number of wmanIf2SsOfdmaInitRngCodes,
             wmanIf2SsOfdmaPeriodicRngCodes and wmanIf2SsOfdmaBWReqCodes
             shall be equal or less than 256."
        REFERENCE
            "Subclause 11.3.1, Table 353, in IEEE Std 802.16-2004"
        DEFVAL      { 30 }
            ::= { wmanIf2SsOfdmaUplinkChannelEntry 7 }

wmanIf2SsOfdmaPerRngBackoffStart OBJECT-TYPE
        SYNTAX      INTEGER (0..15)
        MAX-ACCESS read-only
        STATUS      current
        DESCRIPTION
            "Initial backoff window size for periodic ranging
             contention, expressed as a power of 2."
        REFERENCE
            "Subclause 11.3.1, Table 353, in IEEE Std 802.16-2004"
        DEFVAL      { 0 }
        ::= { wmanIf2SsOfdmaUplinkChannelEntry 8 }

wmanIf2SsOfdmaPerRngBackoffEnd OBJECT-TYPE
        SYNTAX      INTEGER (0 .. 15)
        MAX-ACCESS  read-only
        STATUS      current
        DESCRIPTION
            "Final backoff window size for periodic ranging contention,
             expressed as a power of 2."
        REFERENCE
            "Subclause 11.3.1, Table 353, in IEEE Std 802.16-2004"
        DEFVAL      { 15 }
        ::= { wmanIf2SsOfdmaUplinkChannelEntry 9 }

wmanIf2SsOfdmaStartOfRngCodes OBJECT-TYPE
        SYNTAX      INTEGER (0..255)
        MAX-ACCESS  read-only
        STATUS      current
        DESCRIPTION
```

```
            "Indicates the starting number, S, of the group of codes
             used for this uplink.All the ranging codes used on this
             uplink will be between S and ((S+N+M+L) mod 256). Where,
             N is the number of initial-ranging codes M is the number
             of periodic-ranging codes L is the number of
             bandwidth-request codes The range of values is 0 S255"
        REFERENCE
            "Subclause 11.3.1, Table 353, in IEEE Std 802.16-2004"
        DEFVAL     { 0 }
        ::= { wmanIf2SsOfdmaUplinkChannelEntry 10 }

wmanIf2SsOfdmaPermutationBase OBJECT-TYPE
        SYNTAX      INTEGER (0..255)
        MAX-ACCESS  read-only
        STATUS      current
        DESCRIPTION
            "Determines the UL_IDcell parameter for the subcarrier
             permutation to be used on this uplink channel"
        REFERENCE
            "Subclause 11.3.1, Table 353, in IEEE Std 802.16-2004"
        DEFVAL     { 0 }
        ::= { wmanIf2SsOfdmaUplinkChannelEntry 11 }

wmanIf2SsOfdmaULAllocSubchBitmap OBJECT-TYPE
        SYNTAX      OCTET STRING (SIZE (9))
        MAX-ACCESS  read-only
        STATUS      current
        DESCRIPTION
            "This is a bitmap describing the sub-channels allocated
             to the segment in the UL, when using the uplink PUSC
             permutation. The LSB of the first byte shall corrspond to
             subchannel 0. For any bit that is not set,
             the corresponding subchannel shall not be used by the SS
             on that segment"
        REFERENCE
            "Subclause 11.3.1, Table 353, in IEEE Std 802.16-2004"
        ::= { wmanIf2SsOfdmaUplinkChannelEntry 12 }

wmanIf2SsOfdmaOptPermULAllocSubchBitmap OBJECT-TYPE
        SYNTAX      OCTET STRING (SIZE (13))
        MAX-ACCESS  read-only
        STATUS      current
        DESCRIPTION
            "This is a bitmap describing the sub-channels allocated to
             the segment in the UL, when using the uplink optional PUSC
             permutation (see 8.4.6.2.5 in IEEE Std 802.16-2004). The
             LSB of the first byte shall correspond to subchannel 0.
             For any bit that is not set, the corresponding subchannel
             shall not be used by the SS on that segment"
        REFERENCE
            "Subclause 11.3.1, Table 353, in IEEE Std 802.16-2004"
        ::= { wmanIf2SsOfdmaUplinkChannelEntry 13 }

wmanIf2SsOfdmaBandAMCAllocThreshold OBJECT-TYPE
```

```
        SYNTAX      INTEGER (0 .. 255)
        UNITS       "dB"
        MAX-ACCESS  read-only
        STATUS      current
        DESCRIPTION
            "This object defines the OFDMA band AMC allocation
             threshold."
        REFERENCE
            "Subclause 11.3.1, Table 353, in IEEE Std 802.16-2004"
        ::= { wmanIf2SsOfdmaUplinkChannelEntry 14 }

wmanIf2SsOfdmaBandAMCReleaseThreshold OBJECT-TYPE
        SYNTAX      INTEGER (0 .. 255)
        UNITS       "dB"
        MAX-ACCESS  read-only
        STATUS      current
        DESCRIPTION
            "This object defines the OFDMA band AMC release
             threshold."
        REFERENCE
            "Subclause 11.3.1, Table 353, in IEEE Std 802.16-2004"
        ::= { wmanIf2SsOfdmaUplinkChannelEntry 15 }

wmanIf2SsOfdmaBandAMCAllocTimer OBJECT-TYPE
        SYNTAX      INTEGER (0 .. 255)
        UNITS       "Frame"
        MAX-ACCESS  read-only
        STATUS      current
        DESCRIPTION
            "This object defines the OFDMA band AMC allocation
             timer."
        REFERENCE
            "Subclause 11.3.1, Table 353, in IEEE Std 802.16-2004"
        ::= { wmanIf2SsOfdmaUplinkChannelEntry 16 }

wmanIf2SsOfdmaBandAMCReleaseTimer OBJECT-TYPE
        SYNTAX      INTEGER (0 .. 255)
        UNITS       "Frame"
        MAX-ACCESS  read-only
        STATUS      current
        DESCRIPTION
            "This object defines the OFDMA band AMC release
             timer."
        REFERENCE
            "Subclause 11.3.1, Table 353, in IEEE Std 802.16-2004"
        ::= { wmanIf2SsOfdmaUplinkChannelEntry 17 }

wmanIf2SsOfdmaBandStatRepMAXPeriod OBJECT-TYPE
        SYNTAX      INTEGER (0 .. 255)
        UNITS       "Frame"
        MAX-ACCESS  read-only
        STATUS      current
        DESCRIPTION
            "This object defines the OFDMA band status reporting
```

```
             maximum period."
        REFERENCE
            "Subclause 11.3.1, Table 353, in IEEE Std 802.16-2004"
        ::= { wmanIf2SsOfdmaUplinkChannelEntry 18 }

wmanIf2SsOfdmaBandAMCRetryTimer OBJECT-TYPE
        SYNTAX      INTEGER (0 .. 255)
        UNITS       "Frame"
        MAX-ACCESS  read-only
        STATUS      current
        DESCRIPTION
            "This object defines the OFDMA band AMC retry
             timer."
        REFERENCE
            "Subclause 11.3.1, Table 353, in IEEE Std 802.16-2004"
        ::= { wmanIf2SsOfdmaUplinkChannelEntry 19 }

wmanIf2SsOfdmaSafetyChAllocThreshold OBJECT-TYPE
        SYNTAX      INTEGER (0 .. 255)
        UNITS       "dB"
        MAX-ACCESS  read-only
        STATUS      current
        DESCRIPTION
            "This object defines the OFDMA safety channel allocation
             threshold."
        REFERENCE
            "Subclause 11.3.1, Table 353, in IEEE Std 802.16-2004"
        ::= { wmanIf2SsOfdmaUplinkChannelEntry 20 }

wmanIf2SsOfdmaSafetyChReleaseThreshold OBJECT-TYPE
        SYNTAX      INTEGER (0 .. 255)
        UNITS       "dB"
        MAX-ACCESS  read-only
        STATUS      current
        DESCRIPTION
            "This object defines the OFDMA safety channel release
             threshold."
        REFERENCE
            "Subclause 11.3.1, Table 353, in IEEE Std 802.16-2004"
        ::= { wmanIf2SsOfdmaUplinkChannelEntry 21 }

wmanIf2SsOfdmaSafetyChAllocTimer OBJECT-TYPE
        SYNTAX      INTEGER (0 .. 255)
        UNITS       "Frame"
        MAX-ACCESS read-only
        STATUS      current
        DESCRIPTION
            "This object defines the OFDMA safety channel allocation
             timer."
        REFERENCE
            "Subclause 11.3.1, Table 353, in IEEE Std 802.16-2004"
        ::= { wmanIf2SsOfdmaUplinkChannelEntry 22 }

wmanIf2SsOfdmaSafetyChReleaseTimer OBJECT-TYPE
```

```
        SYNTAX      INTEGER (0 .. 255)
        UNITS       "Frame"
        MAX-ACCESS  read-only
        STATUS      current
        DESCRIPTION
            "This object defines the OFDMA safety channel release
             timer."
        REFERENCE
            "Subclause 11.3.1, Table 353, in IEEE Std 802.16-2004"
        ::= { wmanIf2SsOfdmaUplinkChannelEntry 23 }

wmanIf2SsOfdmaBinStatRepMAXPeriod OBJECT-TYPE
        SYNTAX      INTEGER (0 .. 255)
        UNITS       "Frame"
        MAX-ACCESS  read-only
        STATUS      current
        DESCRIPTION
            "This object defines the OFDMA bin status reporting
             maximum period."
        REFERENCE
            "Subclause 11.3.1, Table 353, in IEEE Std 802.16-2004"
        ::= { wmanIf2SsOfdmaUplinkChannelEntry 24 }

wmanIf2SsOfdmaSafetyChaRetryTimer OBJECT-TYPE
        SYNTAX      INTEGER (0 .. 255)
        UNITS       "Frame"
        MAX-ACCESS  read-only
        STATUS      current
        DESCRIPTION
            "This object defines the OFDMA safety channel retry
             timer."
        REFERENCE
            "Subclause 11.3.1, Table 353, in IEEE Std 802.16-2004"
        ::= { wmanIf2SsOfdmaUplinkChannelEntry 25 }

wmanIf2SsOfdmaHARQAackDelayULBurst OBJECT-TYPE
        SYNTAX      INTEGER {oneframeoffset(1),
                             twoframesoffset(2),
                             threeframesoffset(3)}
        MAX-ACCESS  read-only
        STATUS      current
        DESCRIPTION
            "This object defines the OFDMA H-ARQ ACK delay for UL burst.
             1 = one frame offset
             2 = two frames offset
             3 = three frames offset"
        REFERENCE
            "Subclause 11.3.1, Table 353, in IEEE Std 802.16-2004"
                ::= { wmanIf2SsOfdmaUplinkChannelEntry 26 }

wmanIf2SsOfdmaCQICHBandAMCTranaDelay OBJECT-TYPE
        SYNTAX      INTEGER (0 .. 255)
        UNITS       "Frame"
        MAX-ACCESS  read-only
        STATUS      current
        DESCRIPTION
            "This object defines the OFDMA CQICH band AMC transition
             delay."
        REFERENCE
            "Subclause 11.3.1, Table 353, in IEEE Std 802.16-2004"
        ::= { wmanIf2SsOfdmaUplinkChannelEntry 27 }

wmanIf2SsOfdmaDownlinkChannelTable OBJECT-TYPE
        SYNTAX      SEQUENCE OF WmanIf2SsOfdmaDownlinkChannelEntry
        MAX-ACCESS  not-accessible
        STATUS      current
        DESCRIPTION
            "This table contains DCD channel attributes, defining the
             transmission characteristics of downlink channels"
        REFERENCE
            "Subclause 11.4.1, Table 358, in IEEE Std 802.16-2004"
        ::= { wmanIf2SsOfdmaPhy 2 }

wmanIf2SsOfdmaDownlinkChannelEntry OBJECT-TYPE
        SYNTAX      WmanIf2SsOfdmaDownlinkChannelEntry
        MAX-ACCESS  not-accessible
        STATUS      current
        DESCRIPTION
            "This table provides one row for each downlink channel of
             multi-sector BS, and is indexed by BS ifIndex. An entry in
             this table exists for each ifEntry of BS with an ifType of
             propBWAp2Mp."
        INDEX       { ifIndex }
        ::= { wmanIf2SsOfdmaDownlinkChannelTable 1 }

WmanIf2SsOfdmaDownlinkChannelEntry ::= SEQUENCE {
        wmanIf2SsOfdmaBsEIRP                    INTEGER,
        wmanIf2SsOfdmaChannelNumber             WmanIf2ChannelNumber,
        wmanIf2SsOfdmaTTG                       INTEGER,
        wmanIf2SsOfdmaRTG                       INTEGER,
        wmanIf2SsOfdmaInitRngMaxRSS             INTEGER,
        wmanIf2SsOfdmaDownlinkCenterFreq        Unsigned32,
        wmanIf2SsOfdmaBsId                      WmanIf2BsIdType,
        wmanIf2SsOfdmaMacVersion                WmanIf2MacVersion,
        wmanIf2SsOfdmaFrameDurationCode         INTEGER,
        wmanIf2SsOfdmaSizeCqichIdField          INTEGER,
        wmanIf2SsOfdmaHARQAackDelayBurst        INTEGER}

wmanIf2SsOfdmaBsEIRP OBJECT-TYPE
        SYNTAX      INTEGER (-32768..32767)
        UNITS       "dBm"
        MAX-ACCESS  read-only
        STATUS      current
        DESCRIPTION
            "The EIRP is the equivalent isotropic radiated power of
             the base station, which is computed for a simple
             single-antenna transmitter."
        REFERENCE
```

```
            "Subclause 11.4.1, Table 358, in IEEE Std 802.16-2004"
        ::= { wmanIf2SsOfdmaDownlinkChannelEntry 1 }

wmanIf2SsOfdmaChannelNumber OBJECT-TYPE
        SYNTAX      WmanIf2ChannelNumber
        MAX-ACCESS  read-only
        STATUS      current
        DESCRIPTION
            "Downlink channel number as defined in 8.5. Used for
             license-exempt operation only."
        REFERENCE
            "Subclause 11.4.1, Table 358, in IEEE Std 802.16-2004"
        ::= { wmanIf2SsOfdmaDownlinkChannelEntry 2 }

wmanIf2SsOfdmaTTG OBJECT-TYPE
        SYNTAX      INTEGER (0..255)
        MAX-ACCESS  read-only
        STATUS      current
        DESCRIPTION
            "Transmit / Receive Transition Gap."
        REFERENCE
            "Subclause 11.4.1, Table 358, in IEEE Std 802.16-2004"
        ::= { wmanIf2SsOfdmaDownlinkChannelEntry 3 }

wmanIf2SsOfdmaRTG OBJECT-TYPE
        SYNTAX      INTEGER (0..255)
        MAX-ACCESS  read-only
        STATUS      current
        DESCRIPTION
            "Receive / Transmit Transition Gap."
        REFERENCE
            "Subclause 11.4.1, Table 358, in IEEE Std 802.16-2004"
        ::= { wmanIf2SsOfdmaDownlinkChannelEntry 4 }

wmanIf2SsOfdmaInitRngMaxRSS OBJECT-TYPE
        SYNTAX      INTEGER (-32768..32767)
        UNITS       "dBm"
        MAX-ACCESS  read-only
        STATUS      current
        DESCRIPTION
            "Initial Ranging Max. equivalent isotropic received power
             at BS Signed in units of 1 dBm."
        REFERENCE
            "Subclause 11.4.1, Table 358, in IEEE Std 802.16-2004"
        ::= { wmanIf2SsOfdmaDownlinkChannelEntry 5 }

wmanIf2SsOfdmaDownlinkCenterFreq OBJECT-TYPE
        SYNTAX      Unsigned32
        UNITS       "kHz"
        MAX-ACCESS  read-only
        STATUS      current
        DESCRIPTION
            "Downlink center frequency (kHz)."
        REFERENCE
```

```
            "Subclause 11.4.1, Table 358, in IEEE Std 802.16-2004"
        ::= { wmanIf2SsOfdmaDownlinkChannelEntry 6 }

wmanIf2SsOfdmaBsId OBJECT-TYPE
        SYNTAX      WmanIf2BsIdType
        MAX-ACCESS  read-only
        STATUS      current
        DESCRIPTION
            "Base station ID."
        REFERENCE
            "Subclause 11.4.1, Table 358, in IEEE Std 802.16-2004"
        ::= { wmanIf2SsOfdmaDownlinkChannelEntry 7 }

wmanIf2SsOfdmaMacVersion OBJECT-TYPE
        SYNTAX      WmanIf2MacVersion
        MAX-ACCESS  read-only
        STATUS      current
        DESCRIPTION
            "This parameter specifies the version of 802.16 to which
             the message originator conforms."
        REFERENCE
            "Subclause 11.4.1, Table 358, in IEEE Std 802.16-2004"
        ::= { wmanIf2SsOfdmaDownlinkChannelEntry 8 }

wmanIf2SsOfdmaFrameDurationCode OBJECT-TYPE
        SYNTAX      INTEGER {aASGap(0),
                             duration2ms(1),
                             duration2dot5ms(2),
                             duration4ms(3),
                             duration5ms(4),
                             duration8ms(5),
                             duration10ms(6),
                             duration12dot5ms(7),
                             duration20ms(8)}
        MAX-ACCESS  read-only
        STATUS      current
        DESCRIPTION
            "The duration of the frame. The frame duration code values
             are specified in Table 232 in IEEE Std 802.16-2004."
        REFERENCE
            "Subclause 11.4.1, Table 358, in IEEE Std 802.16-2004"
        ::= { wmanIf2SsOfdmaDownlinkChannelEntry 9 }

wmanIf2SsOfdmaSizeCqichIdField OBJECT-TYPE
        SYNTAX      INTEGER {threebits(1),
                             fourbits(2),
                             fivebits(3),
                             sixbits(4),
                             sevenbits(5),
                             eightbits(6),
                             ninebits(7)}
        MAX-ACCESS  read-only
        STATUS      current
        DESCRIPTION
```

```
            "This object defines the size of CQICH ID field.
             0 = Reserved
             1 = 3 bits
             2 = 4 bits
             3 = 5 bits
             4 = 6 bits
             5 = 7 bits
             6 = 8 bits
             7 = 9 bits
             8...255 = Reserved"
        REFERENCE
            "Subclause 11.3.1, Table 358, in IEEE Std 802.16-2004"
        ::= { wmanIf2SsOfdmaDownlinkChannelEntry 10 }

wmanIf2SsOfdmaHARQAackDelayBurst OBJECT-TYPE
        SYNTAX      INTEGER {oneframeoffset(1),
                             twoframesoffset(2),
                             threeframesoffset(3)}
        MAX-ACCESS  read-only
        STATUS      current
        DESCRIPTION
            "This object defines the OFDMA H-ARQ ACK delay for DL burst.
             1 = one frame offset
             2 = two frames offset
             3 = three frames offset"
        REFERENCE
            "Subclause 11.3.1, Table 358, in IEEE Std 802.16-2004"
        ::= { wmanIf2SsOfdmaDownlinkChannelEntry 11 }

wmanIf2SsOfdmaUcdBurstProfileTable OBJECT-TYPE
        SYNTAX      SEQUENCE OF WmanIf2SsOfdmaUcdBurstProfileEntry
        MAX-ACCESS  not-accessible
        STATUS      current
        DESCRIPTION
            "This table contains UCD burst profiles for each uplink
             channel"
        REFERENCE
            "Subclause 11.3.1.1, Table 288 and Table 357, in IEEE
             Std 802.16-2004"
        ::= { wmanIf2SsOfdmaPhy 3 }

wmanIf2SsOfdmaUcdBurstProfileEntry OBJECT-TYPE
        SYNTAX      WmanIf2SsOfdmaUcdBurstProfileEntry
        MAX-ACCESS  not-accessible
        STATUS      current
        DESCRIPTION
            "This table provides one row for each UCD burst profile.
             This table is double indexed. The primary index is an
             ifIndex with an ifType of propBWAp2Mp. The secondary index
             is wmanIf2SsOfdmaUiucIndex."
        INDEX       { ifIndex, wmanIf2SsOfdmaUiucIndex }
        ::= { wmanIf2SsOfdmaUcdBurstProfileTable 1 }

WmanIf2SsOfdmaUcdBurstProfileEntry ::= SEQUENCE {
        wmanIf2SsOfdmaUiucIndex                 INTEGER,
        wmanIf2SsOfdmaUcdFecCodeType            WmanIf2OfdmaFecCodeType,
        wmanIf2SsOfdmaRangingDataRatio          INTEGER,
        wmanIf2SsOfdmaNorCOverNOverride         OCTET STRING}

wmanIf2SsOfdmaUiucIndex OBJECT-TYPE
        SYNTAX      INTEGER (1 .. 10)
        MAX-ACCESS read-only
        STATUS      current
        DESCRIPTION
            "The Uplink Interval Usage Code indicates the uplink burst
             profile in the UCD message, and is used along with ifIndex
             to identify an entry in the
             wmanIf2SsOfdmaUcdBurstProfileTable."
        REFERENCE
            "Subclause 8.4.5.4.1, in IEEE Std 802.16-2004"
        ::= { wmanIf2SsOfdmaUcdBurstProfileEntry 1 }

wmanIf2SsOfdmaUcdFecCodeType OBJECT-TYPE
        SYNTAX      WmanIf2OfdmaFecCodeType
        MAX-ACCESS  read-only
        STATUS      current
        DESCRIPTION
            "Uplink FEC code type and modulation type"
        REFERENCE
            "Subclause 11.3.1.1, Table 357, in IEEE Std 802.16-2004"
        ::= { wmanIf2SsOfdmaUcdBurstProfileEntry 2 }

wmanIf2SsOfdmaRangingDataRatio OBJECT-TYPE
        SYNTAX      INTEGER (0 .. 255)
        MAX-ACCESS  read-only
        STATUS      current
        DESCRIPTION
            "Reducing factor in units of 1 dB, between the power used
             for this burst and power should be used for CDMA Ranging."
        REFERENCE
        "Subclause 11.3.1.1, Table 357, in IEEE Std 802.16-2004"
        ::= { wmanIf2SsOfdmaUcdBurstProfileEntry 3 }

wmanIf2SsOfdmaNorCOverNOverride OBJECT-TYPE
        SYNTAX OCTET STRING (SIZE (5))
        MAX-ACCESS read-only
        STATUS current
        DESCRIPTION
            "This is a list of numbers, where each number is encoded by
             one nibble, and interpeted as a signed integer. The nibbles
             correspond in order to the list define by Table 334 in IEEE
             Std 802.16-2004 starting from the second line, such that
             the LS nibble of the first byte corresponds to the second
             line in the table. The number encoded by each nibble
             represents the difference in normalized C/N relative to the
             previous line in the table"
        REFERENCE
            "Subclause 11.3.1.1, Table 357, in IEEE Std 802.16-2004"
        ::= { wmanIf2SsOfdmaUcdBurstProfileEntry 4 }

wmanIf2SsOfdmaDcdBurstProfileTable OBJECT-TYPE
        SYNTAX      SEQUENCE OF WmanIf2SsOfdmaDcdBurstProfileEntry
        MAX-ACCESS  not-accessible
        STATUS      current
        DESCRIPTION
            "This table provides one row for each DCD burst profile.
             This table is double indexed. The primary index is an
             ifIndex with an ifType of propBWAp2Mp. The secondary index
             is wmanIf2SsOfdmaDiucIndex."
        ::= { wmanIf2SsOfdmaPhy 4 }

wmanIf2SsOfdmaDcdBurstProfileEntry OBJECT-TYPE
        SYNTAX      WmanIf2SsOfdmaDcdBurstProfileEntry
        MAX-ACCESS  not-accessible
        STATUS      current
        DESCRIPTION
            "This table provides one row for each DCD burst profile,
             and is double indexed. The primary index is an ifIndex
             with an ifType of propBWAp2Mp. The secondary index is
             wmanIf2SsOfdmaDiucIndex."
        INDEX       { ifIndex, wmanIf2SsOfdmaDiucIndex }
        ::= { wmanIf2SsOfdmaDcdBurstProfileTable 1 }

WmanIf2SsOfdmaDcdBurstProfileEntry ::= SEQUENCE {
        wmanIf2SsOfdmaDiucIndex                 INTEGER,
        wmanIf2SsOfdmaDownlinkFrequency         Unsigned32,
        wmanIf2SsOfdmaDcdFecCodeType            WmanIf2OfdmaFecCodeType,
        wmanIf2SsOfdmaDiucMandatoryExitThresh   INTEGER,
        wmanIf2SsOfdmaDiucMinEntryThresh        INTEGER}

wmanIf2SsOfdmaDiucIndex OBJECT-TYPE
        SYNTAX      INTEGER (0 .. 12)
        MAX-ACCESS  read-only
        STATUS      current
        DESCRIPTION
            "The Downlink Interval Usage Code indicates the downlink
             burst profile in the DCD message, and is used
             along with ifIndex to identify an entry in the
             wmanIf2SsOfdmaDcdBurstProfileTable."
        REFERENCE
            "Subclause 8.4.5.3.1, in IEEE Std 802.16-2004"
        ::= { wmanIf2SsOfdmaDcdBurstProfileEntry 1 }

wmanIf2SsOfdmaDownlinkFrequency OBJECT-TYPE
        SYNTAX      Unsigned32
        UNITS       "kHz"
        MAX-ACCESS  read-only
        STATUS      current
        DESCRIPTION
            "Downlink Frequency (kHz)."
        REFERENCE
            "Subclause 11.4.2, Table 359, in IEEE Std 802.16-2004"
        ::= { wmanIf2SsOfdmaDcdBurstProfileEntry 2 }

wmanIf2SsOfdmaDcdFecCodeType OBJECT-TYPE
        SYNTAX      WmanIf2OfdmaFecCodeType
        MAX-ACCESS  read-only
        STATUS      current
        DESCRIPTION
            "Downlink FEC code type and modulation type"
        REFERENCE
            "Subclause 11.4.2, Table 363, in IEEE Std 802.16-2004"
        ::= { wmanIf2SsOfdmaDcdBurstProfileEntry 3 }

wmanIf2SsOfdmaDiucMandatoryExitThresh OBJECT-TYPE
        SYNTAX      INTEGER (0..255)
        MAX-ACCESS  read-only
        STATUS      current
        DESCRIPTION
            "DIUC mandatory exit threshold: 0 - 63.75 dB CINR at or
             below where this DIUC can no longer be used and where this
             change to a more robust DIUC is required in 0.25 dB units."
        REFERENCE
            "Subclause 11.4.2, Table 363, in IEEE Std 802.16-2004"
        ::= { wmanIf2SsOfdmaDcdBurstProfileEntry 4 }

wmanIf2SsOfdmaDiucMinEntryThresh OBJECT-TYPE
        SYNTAX      INTEGER (0..255)
        MAX-ACCESS  read-only
        STATUS      current
        DESCRIPTION
            "DIUC minimum entry threshold: 0 - 63.75 dB The minimum CINR
             required to start using this DIUC when changing from a more
             robust DIUC is required, in 0.25 dB units."
        REFERENCE
            "Subclause 11.4.2, Table 363, in IEEE Std 802.16-2004"
        ::= { wmanIf2SsOfdmaDcdBurstProfileEntry 5 }

--
-- Common object group – containing common tables and objects to be
-- implemented in both Base Station and Subscriber Station
--
-- wmanIf2CmnPacketCs contain the Packet Convergence Sublayer objects
-- that are common to both Base Station and Subscriber Station
--
wmanIf2CmnPacketCs OBJECT IDENTIFIER ::= { wmanIf2CommonObjects 1 }

wmanIf2CmnClassifierRuleTable OBJECT-TYPE
        SYNTAX      SEQUENCE OF WmanIf2CmnClassifierRuleEntry
        MAX-ACCESS  not-accessible
        STATUS      current
        DESCRIPTION
            "This table contains packet classifier rules associated
             with service flows."
        ::= { wmanIf2CmnPacketCs 1 }
```

```
wmanIf2CmnClassifierRuleEntry OBJECT-TYPE
        SYNTAX      WmanIf2CmnClassifierRuleEntry
        MAX-ACCESS  not-accessible
        STATUS      current
        DESCRIPTION
            "This table provides one row for each packet classifier
             rule, and is indexed by ifIndex, wmanIf2CmnCpsSfId, and
             wmanIf2CmnClassifierRuleIndex. ifIndex is associated with
             the BS sector. wmanIf2CmnCpsSfId identifies the service
             flow,  and wmanIf2CmnClassifierRuleIndex identifies the
             packet classifier rule."
        INDEX { ifIndex, wmanIf2CmnCpsSfId,
                wmanIf2CmnClassifierRuleIndex }
        ::= { wmanIf2CmnClassifierRuleTable 1 }

WmanIf2CmnClassifierRuleEntry::= SEQUENCE {
        wmanIf2CmnClassifierRuleIndex            Unsigned32,
        wmanIf2CmnClassifierRulePriority         INTEGER,
        wmanIf2CmnClassifierRuleIpTosLow         INTEGER,
        wmanIf2CmnClassifierRuleIpTosHigh        INTEGER,
        wmanIf2CmnClassifierRuleIpTosMask        INTEGER,
        wmanIf2CmnClassifierRuleIpProtocol       Integer32,
        wmanIf2CmnClassifierRuleIpSourceAddr     InetAddress,
        wmanIf2CmnClassifierRuleIpSourceMask     InetAddress,
        wmanIf2CmnClassifierRuleIpDestAddr       InetAddress,
        wmanIf2CmnClassifierRuleIpDestMask       InetAddress,
        wmanIf2CmnClassifierRuleSourcePortStart  Integer32,
        wmanIf2CmnClassifierRuleSourcePortEnd    Integer32,
        wmanIf2CmnClassifierRuleDestPortStart    Integer32,
        wmanIf2CmnClassifierRuleDestPortEnd      Integer32,
        wmanIf2CmnClassifierRuleDestMacAddr      MacAddress,
        wmanIf2CmnClassifierRuleDestMacMask      MacAddress,
        wmanIf2CmnClassifierRuleSourceMacAddr    MacAddress,
        wmanIf2CmnClassifierRuleSourceMacMask    MacAddress,
        wmanIf2CmnClassifierRuleEnetProtocolType INTEGER,
        wmanIf2CmnClassifierRuleEnetProtocol     Integer32,
        wmanIf2CmnClassifierRuleUserPriLow       Integer32,
        wmanIf2CmnClassifierRuleUserPriHigh      Integer32,
        wmanIf2CmnClassifierRuleVlanId           Integer32,
        wmanIf2CmnClassifierRuleState            INTEGER,
        wmanIf2CmnClassifierRulePkts             Counter64,
      wmanIf2CmnClassifierRuleIpv6FlowLabel   WmanIf2Ipv6FlowLabel,
        wmanIf2CmnClassifierRuleBitMap           WmanIf2ClassifierBitMap
                                                 }

wmanIf2CmnClassifierRuleIndex  OBJECT-TYPE
        SYNTAX      Unsigned32 (1..4294967295)
        MAX-ACCESS  not-accessible
        STATUS      current
        DESCRIPTION
            "An index is assigned to each classifier in the classifiers
             table"
        ::= { wmanIf2CmnClassifierRuleEntry 1 }
```

```
wmanIf2CmnClassifierRulePriority OBJECT-TYPE
        SYNTAX      INTEGER (0..255)
        MAX-ACCESS  read-only
        STATUS      current
        DESCRIPTION
            "The value specifies the order of evaluation of the
             classifiers. The higher the value the higher the
             priority. The value of 0 is used as default in
             provisioned service flows classifiers. The default
             value of 64 is used for dynamic service flow classifiers.
             If the referenced parameter is not present in a classifier
             , this object reports the default value as defined above"
        REFERENCE
            "Subclause 11.13.19.3.4.1 in IEEE Std 802.16-2004"
        DEFVAL      { 0 }
        ::= { wmanIf2CmnClassifierRuleEntry 2 }

wmanIf2CmnClassifierRuleIpTosLow OBJECT-TYPE
        SYNTAX      INTEGER (0 .. 255)
        MAX-ACCESS  read-only
        STATUS      current
        DESCRIPTION
            "The low value of a range of TOS byte values. If the
             referenced parameter is not present in a classifier, this
             object reports the value of 0."
        REFERENCE
            "Subclause 11.13.19.3.4.2 in IEEE Std 802.16-2004"
        ::= { wmanIf2CmnClassifierRuleEntry 3 }

wmanIf2CmnClassifierRuleIpTosHigh OBJECT-TYPE
        SYNTAX      INTEGER (0 .. 255)
        MAX-ACCESS  read-only
        STATUS      current
        DESCRIPTION
            "The 8-bit high value of a range of TOS byte values.
             If the referenced parameter is not present in a classifier
             , this object reports the value of 0."
        REFERENCE
            "Subclause 11.13.19.3.4.2 in IEEE Std 802.16-2004"
        ::= { wmanIf2CmnClassifierRuleEntry 4 }

wmanIf2CmnClassifierRuleIpTosMask OBJECT-TYPE
        SYNTAX      INTEGER (0 .. 255)
        MAX-ACCESS  read-only
        STATUS      current
        DESCRIPTION
            "The mask value is bitwise ANDed with TOS byte in an IP
             packet and this value is used for the range checking of
             TosLow and TosHigh. If the referenced parameter is not
             present in a classifier, this object reports the value
             of 0."
        REFERENCE
            "Subclause 11.13.19.3.4.2 in IEEE Std 802.16-2004"
        ::= { wmanIf2CmnClassifierRuleEntry 5 }
```

```
wmanIf2CmnClassifierRuleIpProtocol OBJECT-TYPE
        SYNTAX      Integer32 (0..255)
        MAX-ACCESS  read-only
        STATUS      current
        DESCRIPTION
            "This object indicates the value of the IP Protocol field
             required for IP packets to match this rule. If the
             referenced parameter is not present in a classifier, this
             object reports the value of 0."
        REFERENCE
            "Subclause 11.13.19.3.4.3 in IEEE Std 802.16-2004"
        ::= { wmanIf2CmnClassifierRuleEntry 6 }

wmanIf2CmnClassifierRuleIpSourceAddr OBJECT-TYPE
        SYNTAX      InetAddress
        MAX-ACCESS  read-only
        STATUS      current
        DESCRIPTION
            "This object specifies the value of the IP Source Address
             required for packets to match this rule. An IP packet
             matches the rule when the packet ip source address bitwise
             ANDed with the wmanIf2CmnClassifierRuleIpSourceMask value
             equals the wmanIf2CmnClassifierRuleIpSourceAddr value.
             If the referenced parameter is not present in a classifier
             , this object reports the value of 0.0.0.0."
        REFERENCE
            "Subclause 11.13.19.3.4.4 in IEEE Std 802.16-2004"
        ::= { wmanIf2CmnClassifierRuleEntry 7 }

wmanIf2CmnClassifierRuleIpSourceMask OBJECT-TYPE
        SYNTAX      InetAddress
        MAX-ACCESS  read-only
        STATUS      current
        DESCRIPTION
            "This object specifies which bits of a packet's IP Source
             Address that are compared to match this rule. An IP packet
             matches the rule when the packet source address bitwise
             ANDed with the
             wmanIf2CmnClassifierRuleIpSourceMask value equals the
             wmanIf2CmnClassifierRuleIpSourceAddr value.
             If the referenced parameter is not present in a classifier
             , this object reports the value of 0.0.0.0."
        REFERENCE
            "Subclause 11.13.19.3.4.4 in IEEE Std 802.16-2004"
        ::= { wmanIf2CmnClassifierRuleEntry 8 }

wmanIf2CmnClassifierRuleIpDestAddr OBJECT-TYPE
        SYNTAX      InetAddress
        MAX-ACCESS  read-only
        STATUS      current
        DESCRIPTION
            "This object specifies the value of the IP Destination
             Address required for packets to match this rule. An IP
             packet matches the rule when the packet IP destination
             address bitwise ANDed with the
             wmanIf2CmnClassifierRuleIpDestMask value equals the
             wmanIf2CmnClassifierRuleIpDestAddr value.
             If the referenced parameter is not present in a
             classifier, this object reports the value of 0.0.0.0."
        REFERENCE
            "Subclause 11.13.19.3.4.5 in IEEE Std 802.16-2004"
        ::= { wmanIf2CmnClassifierRuleEntry 9 }

wmanIf2CmnClassifierRuleIpDestMask OBJECT-TYPE
        SYNTAX      InetAddress
        MAX-ACCESS  read-only
        STATUS      current
        DESCRIPTION
            "This object specifies which bits of a packet's IP
             Destination Address that are compared to match this rule.
             An IP packet matches the rule when the packet destination
             address bitwise ANDed with the
             wmanIf2CmnClassifierRuleIpDestMask value equals the
             wmanIf2CmnClassifierRuleIpDestAddr value.
             If the referenced parameter is not present in a classifier
             , this object reports the value of 0.0.0.0."
        REFERENCE
            "Subclause 11.13.19.3.4.5 in IEEE Std 802.16-2004"
        ::= { wmanIf2CmnClassifierRuleEntry 10 }

wmanIf2CmnClassifierRuleSourcePortStart OBJECT-TYPE
        SYNTAX      Integer32 (0..65535)
        MAX-ACCESS  read-only
        STATUS      current
        DESCRIPTION
             "This object specifies the low end inclusive range of
              TCP/UDP source port numbers to which a packet is compared
              . This object is irrelevant for non-TCP/UDP IP packets.
              If the referenced parameter is not present in a
              classifier, this object reports the value of 0."
        REFERENCE
            "Subclause 11.13.19.3.4.6 in IEEE Std 802.16-2004"
        ::= { wmanIf2CmnClassifierRuleEntry 11 }

wmanIf2CmnClassifierRuleSourcePortEnd OBJECT-TYPE
        SYNTAX      Integer32 (0..65535)
        MAX-ACCESS  read-only
        STATUS      current
        DESCRIPTION
            "This object specifies the high end inclusive range of
             TCP/UDP source port numbers to which a packet is compared.
             This object is irrelevant for non-TCP/UDP IP packets.
             If the referenced parameter is not present in a classifier,
             this object reports the value of 65535."
        REFERENCE
            "Subclause 11.13.19.3.4.6 in IEEE Std 802.16-2004"
        ::= { wmanIf2CmnClassifierRuleEntry 12 }
```

```
wmanIf2CmnClassifierRuleDestPortStart OBJECT-TYPE
        SYNTAX      Integer32 (0..65535)
        MAX-ACCESS  read-only
        STATUS      current
        DESCRIPTION
            "This object specifies the low end inclusive range of
             TCP/UDP destination port numbers to which a packet is
             compared. If the referenced parameter is not present
             in a classifier, this object reports the value of 0."
        REFERENCE
            "Subclause 11.13.19.3.4.7 in IEEE Std 802.16-2004"
        ::= { wmanIf2CmnClassifierRuleEntry 13 }

wmanIf2CmnClassifierRuleDestPortEnd OBJECT-TYPE
        SYNTAX      Integer32 (0..65535)
        MAX-ACCESS  read-only
        STATUS      current
        DESCRIPTION
            "This object specifies the high end inclusive range of
             TCP/UDP destination port numbers to which a packet is
             compared. If the referenced parameter is not present
             in a classifier, this object reports the value of
             65535."
        REFERENCE
            "Subclause 11.13.19.3.4.7 in IEEE Std 802.16-2004"
        ::= { wmanIf2CmnClassifierRuleEntry 14 }

wmanIf2CmnClassifierRuleDestMacAddr OBJECT-TYPE
        SYNTAX      MacAddress
        MAX-ACCESS  read-only
        STATUS      current
        DESCRIPTION
            "An Ethernet packet matches an entry when its destination
             MAC address bitwise ANDed with
             wmanIf2CmnClassifierRuleDestMacMask equals the value of
             wmanIf2CmnClassifierRuleDestMacAddr. If the referenced
             parameter is not present in a classifier, this object
             reports the value of '000000000000'H."
        REFERENCE
            "Subclause 11.13.19.3.4.8 in IEEE Std 802.16-2004"
        ::= { wmanIf2CmnClassifierRuleEntry 15 }

wmanIf2CmnClassifierRuleDestMacMask OBJECT-TYPE
        SYNTAX      MacAddress
        MAX-ACCESS  read-only
        STATUS      current
        DESCRIPTION
            "An Ethernet packet matches an entry when its destination
             MAC address bitwise ANDed with
             wmanIf2CmnClassifierRuleDestMacMask equals the value of
             wmanIf2CmnClassifierRuleDestMacAddr. If the referenced
             parameter is not present in a classifier, this object
             reports the value of '000000000000'H."
        REFERENCE
            "Subclause 11.13.19.3.4.8 in IEEE Std 802.16-2004"
        ::= { wmanIf2CmnClassifierRuleEntry 16 }

wmanIf2CmnClassifierRuleSourceMacAddr OBJECT-TYPE
        SYNTAX      MacAddress
        MAX-ACCESS  read-only
        STATUS      current
        DESCRIPTION
            "An Ethernet packet matches this entry when its source
             MAC address  bitwise ANDed with
             wmanIf2CmnClassifierRuleSourceMacMask equals the value
             of wmanIf2CmnClassifierRuleSourceMacAddr. If the
             referenced parameter is not present in a classifier,
             this object reports the value of '000000000000'H."
        REFERENCE
            "Subclause 11.13.19.3.4.9 in IEEE Std 802.16-2004"
        ::= { wmanIf2CmnClassifierRuleEntry 17 }

wmanIf2CmnClassifierRuleSourceMacMask OBJECT-TYPE
        SYNTAX      MacAddress
        MAX-ACCESS  read-only
        STATUS      current
        DESCRIPTION
            "An Ethernet packet matches an entry when its destination
             MAC address bitwise ANDed with
             wmanIf2CmnClassifierRuleSourceMacMask equals the value of
             wmanIf2CmnClassifierRuleSourceMacAddr. If the referenced
             parameter is not present in a classifier, this object
             reports the value of '000000000000'H."
        REFERENCE
            "Subclause 11.13.19.3.4.9 in IEEE Std 802.16-2004"
        ::= { wmanIf2CmnClassifierRuleEntry 18 }

wmanIf2CmnClassifierRuleEnetProtocolType OBJECT-TYPE
        SYNTAX      INTEGER {none(0),
                             ethertype(1),
                             dsap(2)}
        MAX-ACCESS  read-only
        STATUS      current
        DESCRIPTION
            "This object indicates the format of the layer 3 protocol
             id in the Ethernet packet. A value of none(0) means that
             the rule does not use the layer 3 protocol type as a
             matching criteria. A value of ethertype(1) means that the
             rule applies only to frames which contains an EtherType
             value. Ethertype values are contained in packets using
             the Dec-Intel-Xerox (DIX) encapsulation or the RFC1042
             Sub-Network Access Protocol (SNAP) encapsulation formats.
             A value of dsap(2) means that the rule applies only to
             frames using the IEEE802.3 encapsulation format with a
             Destination Service Access Point (DSAP) other than 0xAA
             (which is reserved for SNAP). If the Ethernet frame
             contains an 802.1P/Q Tag header (i.e. EtherType 0x8100),
             this object applies to the embedded EtherType field within
             the 802.1P/Q header. If the referenced parameter is not
             present in a classifier, this object reports the value of
             0."
        REFERENCE
            "Subclause 11.13.19.3.4.10 in IEEE Std 802.16-2004"
        ::= { wmanIf2CmnClassifierRuleEntry 19 }

wmanIf2CmnClassifierRuleEnetProtocol OBJECT-TYPE
        SYNTAX      Integer32 (0..65535)
        MAX-ACCESS  read-only
        STATUS      current
        DESCRIPTION
            "If wmanIf2CmnClassifierRuleEnetProtocolType is none(0),
             this object is ignored when considering whether a packet
             matches the current rule.
             If wmanIf2CmnClassifierRuleEnetProtocolType is ethertype(1)
             ,this object gives the 16-bit value of the EtherType that
             the packet must match in order to match the rule.
             If wmanIf2CmnClassifierRuleEnetProtocolType is dsap(2), the
             lower 8 bits of this object's value must match the DSAP
             byte of the packet in order to match the rule.
             If the Ethernet frame contains an 802.1P/Q Tag header
             (i.e. EtherType 0x8100), this object applies to the
             embedded EtherType field within the 802.1P/Q header.
             If the referenced parameter is not present in the
             classifier, the value of this object is reported as 0."
        REFERENCE
            "Subclause 11.13.19.3.4.10 in IEEE Std 802.16-2004"
        ::= { wmanIf2CmnClassifierRuleEntry 20 }

wmanIf2CmnClassifierRuleUserPriLow OBJECT-TYPE
        SYNTAX      Integer32 (0..7)
        MAX-ACCESS  read-only
        STATUS      current
        DESCRIPTION
            "This object applies only to Ethernet frames using the
             802.1P/Q tag header (indicated with EtherType 0x8100).
             Such frames include a 16-bit Tag that contains a 3 bit
             Priority field and a 12 bit VLAN number.
             Tagged Ethernet packets must have a 3-bit Priority field
             within the range of wmanIf2CmnClassifierRulePriLow and
             wmanIf2CmnClassifierRulePriHigh in order to match this
             rule.
             If the referenced parameter is not present in the
             classifier, the value of this object is reported as 0."
        REFERENCE
            "Subclause 11.13.19.3.4.11 in IEEE Std 802.16-2004"
        ::= { wmanIf2CmnClassifierRuleEntry 21 }

wmanIf2CmnClassifierRuleUserPriHigh OBJECT-TYPE
        SYNTAX      Integer32 (0..7)
        MAX-ACCESS  read-only
        STATUS      current
        DESCRIPTION
            "This object applies only to Ethernet frames using the
            802.1P/Q tag header (indicated with EtherType 0x8100).
            Such frames include a 16-bit Tag that contains a 3 bit
            Priority field and a 12 bit VLAN number.
            Tagged Ethernet packets must have a 3-bit Priority
            field within the range of wmanIf2CmnClassifierRulePriLow
            and wmanIf2CmnClassifierRulePriHigh in order to match
            this rule.
            If the referenced parameter is not present in the
            classifier, the value of this object is reported as 7."
        REFERENCE
            "Subclause 11.13.19.3.4.11 in IEEE Std 802.16-2004"
        ::= { wmanIf2CmnClassifierRuleEntry 22 }

wmanIf2CmnClassifierRuleVlanId OBJECT-TYPE
        SYNTAX      Integer32 (0..4095)
        MAX-ACCESS  read-only
        STATUS      current
        DESCRIPTION
            "This object applies only to Ethernet frames using the
             802.1P/Q tag header.
             If this object's value is nonzero, tagged packets must
             have a VLAN Identifier that matches the value in order
             to match the rule.
             Only the least significant 12 bits of this object's
             value are valid.
             If the referenced parameter is not present in the
             classifier, the value of this object is reported as 0."
        REFERENCE
            "Subclause 11.13.19.3.4.12 in IEEE Std 802.16-2004"
        ::= { wmanIf2CmnClassifierRuleEntry 23 }

wmanIf2CmnClassifierRuleState OBJECT-TYPE
        SYNTAX      INTEGER {active(1),
                             inactive(2)}
        MAX-ACCESS  read-only
        STATUS      deprecated
        DESCRIPTION
            "This object indicates whether or not the classifier is
             enabled to classify packets to a Service Flow.
             If the referenced parameter is not present in the
             classifier, the value of this object is reported
             as active(1)."
        ::= { wmanIf2CmnClassifierRuleEntry 24 }

wmanIf2CmnClassifierRulePkts OBJECT-TYPE
        SYNTAX      Counter64
        MAX-ACCESS  read-only
        STATUS      current
        DESCRIPTION
            "This object counts the number of packets that have
             been classified using this entry."
        ::= { wmanIf2CmnClassifierRuleEntry 25 }
```

```
wmanIf2CmnClassifierRuleIpv6FlowLabel OBJECT-TYPE
        SYNTAX      WmanIf2Ipv6FlowLabel
        MAX-ACCESS  read-only
        STATUS      current
        DESCRIPTION
            "The value of this field specifies the matching values for
             the IPv6 Flow label field."
        ::= { wmanIf2CmnClassifierRuleEntry 26 }

wmanIf2CmnClassifierRuleBitMap OBJECT-TYPE
        SYNTAX      WmanIf2ClassifierBitMap
        MAX-ACCESS  read-only
        STATUS      current
        DESCRIPTION
            "This object indicates which parameter encodings were
             actually present in the entry. A bit set to '1' indicates
             the corresponding classifier encoding is present, and '0'
             means otherwise"
        ::= { wmanIf2CmnClassifierRuleEntry 27 }

wmanIf2CmnPhsRuleTable OBJECT-TYPE
        SYNTAX      SEQUENCE OF WmanIf2CmnPhsRuleEntry
        MAX-ACCESS  not-accessible
        STATUS      current
        DESCRIPTION
            "This table contains PHS rule dictionary entries. Each
             entry contains the data of the header to be suppressed
             along with its identification - PHSI. The classifier
             uniquely maps packets to its associated PHS Rule. The
             receiving entity uses the CID and the PHSI to restore the
             PHSF. Once a PHSF has been assigned to a PHSI, it shall
             not be changed. To change the value of a PHSF on a
             service flow, a new PHS rule shall be defined, the old
             rule is removed from the service flow, and the new rule
             is added. When a classifier is deleted, any associated
             PHS rule shall also be deleted."
        REFERENCE
            "Subclause 5.2.3 in IEEE Std 802.16-2004"
        ::= { wmanIf2CmnPacketCs 2 }

wmanIf2CmnPhsRuleEntry OBJECT-TYPE
        SYNTAX      WmanIf2CmnPhsRuleEntry
        MAX-ACCESS  not-accessible
        STATUS      current
        DESCRIPTION
            "This table provides one row for each PHS rule created
             dynamically by the BS and SS on a given service flow. The
             PHS rule is defined by the pair (PHSS, PHSM) for each
             distinct header data. It is indexed by IfIndex,
             wmanIf2CmnCpsSfId, and wmanIf2CmnPhsIndex. The table is
             read-only for NMS. "
        INDEX       { ifIndex, wmanIf2CmnCpsSfId,
                      wmanIf2CmnPhsRulePhsIndex }
        ::= { wmanIf2CmnPhsRuleTable 1 }

WmanIf2CmnPhsRuleEntry::= SEQUENCE {
        wmanIf2CmnPhsRulePhsIndex               INTEGER,
        wmanIf2CmnPhsRulePhsField               OCTET STRING,
        wmanIf2CmnPhsRulePhsMask                OCTET STRING,
        wmanIf2CmnPhsRulePhsSize                Integer32,
        wmanIf2CmnPhsRulePhsVerify              WmanIf2PhsRuleVerify}

wmanIf2CmnPhsRulePhsIndex OBJECT-TYPE
        SYNTAX      INTEGER (1..255)
        MAX-ACCESS  not-accessible
        STATUS      current
        DESCRIPTION
            "The PHSI (PHS Index) has a value between 1 and 255, which
             uniquely references the suppressed byte string. The index
             is unique per service flow. The uplink and downlink PHSI
             values are independent of each other."
        REFERENCE
            "Subclause 11.13.19.3.7.1 in IEEE Std 802.16-2004"
        ::= { wmanIf2CmnPhsRuleEntry 1 }

wmanIf2CmnPhsRulePhsField OBJECT-TYPE
        SYNTAX      OCTET STRING (SIZE(0..65535))
        MAX-ACCESS  read-only
        STATUS      current
        DESCRIPTION
            "The PHSF (PHS Field) is a string of bytes containing the
             header information to be suppressed by the sending CS and
             reconstructed by the receiving CS. The most significant
             byte of the string corresponds to the first byte of the
             CS-SDU."
        REFERENCE
            "Subclause 11.13.19.3.7.2 in IEEE Std 802.16-2004"
        ::= { wmanIf2CmnPhsRuleEntry 2 }

wmanIf2CmnPhsRulePhsMask OBJECT-TYPE
        SYNTAX      OCTET STRING (SIZE(0..65535))
        MAX-ACCESS  read-only
        STATUS      current
        DESCRIPTION
            "The PHSM An 8-bit mask that indicates which bytes in the
             PHS Field (PHSF) to suppress and which bytes to not
             suppress. The PHSM allows fields, such as sequence numbers
             or checksums (which vary in value), to be excluded from
             suppression with the constant bytes around them suppressed.
             It is encodded as follows:
             bit 0:
                0 = don't suppress the 1st byte of the suppression field
                1 = suppress first byte of the suppression field
             bit 1:
                0 = don't suppress the 2nd byte of the suppression field
                1 = suppress second byte of the suppression field
             bit x:
                0 = don't suppress the (x+1) byte of the suppression
                    field
                1 = suppress (x+1) byte of the suppression field
             where the length of the octet string is ceiling
             (wmanIf2CmnPhsRulePhsSize/8)."
        REFERENCE
            "Subclause 11.13.19.3.7.3 in IEEE Std 802.16-2004"
        ::= { wmanIf2CmnPhsRuleEntry 3 }

wmanIf2CmnPhsRulePhsSize OBJECT-TYPE
        SYNTAX      Integer32 (0..255)
        UNITS       "byte"
        MAX-ACCESS  read-only
        STATUS      current
        DESCRIPTION
            "The value of this field - PHSS is the total number of bytes
             in the header to be suppressed and then restored in a
             service flow that uses PHS."
        REFERENCE
            "Subclause 11.13.19.3.7.4 in IEEE Std 802.16-2004"
        DEFVAL      {0}
        ::= { wmanIf2CmnPhsRuleEntry 4 }

wmanIf2CmnPhsRulePhsVerify OBJECT-TYPE
        SYNTAX      WmanIf2PhsRuleVerify
        MAX-ACCESS  read-only
        STATUS      current
        DESCRIPTION
            "The value of this field indicates to the sending entity
             whether or not the packet header contents are to be
             verified prior to performing suppression."
        DEFVAL      { phsVerifyEnable }
        ::= { wmanIf2CmnPhsRuleEntry 5 }

--
-- wmanIf2CmnCps contain the Common Part Sublayer objects that are
-- common to both Base Station and Subscriber Station
--
wmanIf2CmnCps OBJECT IDENTIFIER ::= { wmanIf2CommonObjects 2 }

wmanIf2CmnCpsServiceFlowTable OBJECT-TYPE
        SYNTAX      SEQUENCE OF WmanIf2CmnCpsServiceFlowEntry
        MAX-ACCESS  not-accessible
        STATUS      current
        DESCRIPTION
            "This table contains Service Flow managed objects that
             are common in BS and SS."
        ::= { wmanIf2CmnCps 1 }

wmanIf2CmnCpsServiceFlowEntry OBJECT-TYPE
        SYNTAX      WmanIf2CmnCpsServiceFlowEntry
        MAX-ACCESS  not-accessible
        STATUS      current
        DESCRIPTION
```

```
            "This table provides one row for each created service
             flow for a given MacAddress, and is indexed by ifIndex,
             wmanIf2CmnCpsCpsSfMacAddress, and wmanIf2CmnCpsSfId.
             IfIndex is associated with the BS sector."
        INDEX     { ifIndex, wmanIf2CmnCpsSfMacAddress,
                    wmanIf2CmnCpsSfId  }
        ::= { wmanIf2CmnCpsServiceFlowTable 1 }

WmanIf2CmnCpsServiceFlowEntry::= SEQUENCE {
        wmanIf2CmnCpsSfMacAddress               MacAddress,
        wmanIf2CmnCpsSfId                       Unsigned32,
        wmanIf2CmnCpsSfCid                      WmanIf2CidType,
        wmanIf2CmnCpsSfDirection                INTEGER,
        wmanIf2CmnCpsSfState                    WmanIf2SfState,
        wmanIf2CmnCpsTrafficPriority            INTEGER,
        wmanIf2CmnCpsMaxSustainedRate           Unsigned32,
        wmanIf2CmnCpsMaxTrafficBurst            Unsigned32,
        wmanIf2CmnCpsMinReservedRate            Unsigned32,
        wmanIf2CmnCpsToleratedJitter            Unsigned32,
        wmanIf2CmnCpsMaxLatency                 Unsigned32,
        wmanIf2CmnCpsFixedVsVariableSduInd      INTEGER,
        wmanIf2CmnCpsSduSize                    Unsigned32,
        wmanIf2CmnCpsSfSchedulingType           WmanIf2SfSchedulingType,
        wmanIf2CmnCpsArqEnable                  TruthValue,
        wmanIf2CmnCpsArqWindowSize              INTEGER,
        wmanIf2CmnCpsArqBlockLifetime           INTEGER,
        wmanIf2CmnCpsArqSyncLossTimeout         INTEGER,
        wmanIf2CmnCpsArqDeliverInOrder          TruthValue,
        wmanIf2CmnCpsArqRxPurgeTimeout          INTEGER,
        wmanIf2CmnCpsArqBlockSize               INTEGER,
        wmanIf2CmnCpsMinRsvdTolerableRate       Unsigned32,
        wmanIf2CmnCpsReqTxPolicy                BITS,
        wmanIf2CmnSfCsSpecification             WmanIf2CsSpecification,
        wmanIf2CmnCpsTargetSaid                 INTEGER}

wmanIf2CmnCpsSfMacAddress OBJECT-TYPE
        SYNTAX      MacAddress
        MAX-ACCESS  not-accessible
        STATUS      current
        DESCRIPTION
            "When this table is implemented on the basestation, this
             object contains the SS Mac address, the reported service
             flow was created for. On the SS, the value returned is
             the SS's own Mac address."
        ::= { wmanIf2CmnCpsServiceFlowEntry 1 }

wmanIf2CmnCpsSfId OBJECT-TYPE
        SYNTAX      Unsigned32 ( 1 .. 4294967295)
        MAX-ACCESS  read-only
        STATUS      current
        DESCRIPTION
            "A 32 bit quantity that uniquely identifies a service flow
             to both the subscriber station and base station (BS)."
        ::= { wmanIf2CmnCpsServiceFlowEntry 2 }
```

```
wmanIf2CmnCpsSfCid OBJECT-TYPE
        SYNTAX      WmanIf2CidType
        MAX-ACCESS  read-only
        STATUS      current
        DESCRIPTION
            "A 16 bit channel identifier to identify the connection
             being created by DSA."
        ::= { wmanIf2CmnCpsServiceFlowEntry 3 }

wmanIf2CmnCpsSfDirection OBJECT-TYPE
        SYNTAX      INTEGER {downstream(1),
                             upstream(2)}
        MAX-ACCESS  read-only
        STATUS      current
        DESCRIPTION
            "An attribute indicating the service flow is downstream or
             upstream."
        ::= { wmanIf2CmnCpsServiceFlowEntry 4 }

wmanIf2CmnCpsSfState OBJECT-TYPE
        SYNTAX      WmanIf2SfState
        MAX-ACCESS  read-only
        STATUS      current
        DESCRIPTION
            "wmanIf2CmnCpsSfState indicates the service flow state:
             Authorized (1), Admitted (2), and Active (3) service
             flow state."
        REFERENCE
            "Subclause 6.3.14.6, in IEEE Std 802.16-2004"
        ::= { wmanIf2CmnCpsServiceFlowEntry 5 }

wmanIf2CmnCpsTrafficPriority OBJECT-TYPE
        SYNTAX      INTEGER (0 .. 7)
        MAX-ACCESS  read-only
        STATUS      current
        DESCRIPTION
            "The value of this parameter specifies the priority
             assigned to a service flow. For uplink service flows,
             the BS should use this parameter when determining
             precedence in request service and grant generation,
             and the SS shall preferentially select contention
             Request opportunities for Priority Request CIDs
             based on this priority"
        REFERENCE
            "Subclause 11.13.5 in IEEE Std 802.16-2004"
        ::= { wmanIf2CmnCpsServiceFlowEntry 6 }

wmanIf2CmnCpsMaxSustainedRate OBJECT-TYPE
        SYNTAX      Unsigned32
        UNITS       "b/s"
        MAX-ACCESS  read-only
        STATUS      current
        DESCRIPTION
```

```
            "This parameter defines the peak information rate
             of the service. The rate is expressed in bits per
             second and pertains to the SDUs at the input to
             the system."
        REFERENCE
            "Subclause 11.13.6 in IEEE Std 802.16-2004"
        ::= { wmanIf2CmnCpsServiceFlowEntry 7 }

wmanIf2CmnCpsMaxTrafficBurst OBJECT-TYPE
        SYNTAX      Unsigned32
        UNITS    "byte"
        MAX-ACCESS  read-only
        STATUS      current
        DESCRIPTION
            "This parameter defines the maximum burst size that
             must be accommodated for the service."
        REFERENCE
            "Subclause 11.13.7 in IEEE Std 802.16-2004"
        ::= { wmanIf2CmnCpsServiceFlowEntry 8 }

wmanIf2CmnCpsMinReservedRate OBJECT-TYPE
        SYNTAX      Unsigned32
        UNITS       "byte"
        MAX-ACCESS  read-only
        STATUS      current
        DESCRIPTION
            "This parameter specifies the minimum rate reserved
             for this service flow."
        REFERENCE
            "Subclause 11.13.8 in IEEE Std 802.16-2004"
        ::= { wmanIf2CmnCpsServiceFlowEntry 9 }

wmanIf2CmnCpsToleratedJitter OBJECT-TYPE
        SYNTAX      Unsigned32
        UNITS       "millisecond"
        MAX-ACCESS  read-only
        STATUS      current
        DESCRIPTION
            "This parameter defines the Maximum delay
             variation (jitter) for the connection."
        REFERENCE
            "Subclause 11.13.13 in IEEE Std 802.16-2004"
        ::= { wmanIf2CmnCpsServiceFlowEntry 10 }

wmanIf2CmnCpsMaxLatency OBJECT-TYPE
        SYNTAX      Unsigned32
        UNITS       "millisecond"
        MAX-ACCESS  read-only
        STATUS      current
        DESCRIPTION
            "The value of this parameter specifies the maximum
             latency between the reception of a packet by the BS
             or SS on its network interface and the forwarding
             of the packet to its RF Interface."
        REFERENCE
            "Subclause 11.13.14 in IEEE Std 802.16-2004"
        ::= { wmanIf2CmnCpsServiceFlowEntry 11 }

wmanIf2CmnCpsFixedVsVariableSduInd OBJECT-TYPE
        SYNTAX      INTEGER {variableLength(0),
                             fixedLength(1)}
        MAX-ACCESS  read-only
        STATUS      current
        DESCRIPTION
            "The value of this parameter specifies whether the SDUs
             on the service flow are variable-length (0) or
             fixed-length (1). The parameter is used only if
             packing is on for the service flow. The default value
             is 0, i.e.,variable-length SDUs."
        REFERENCE
            "Subclause 11.13.15 in IEEE Std 802.16-2004"
        DEFVAL      { variableLength }
        ::= { wmanIf2CmnCpsServiceFlowEntry 12 }

wmanIf2CmnCpsSduSize OBJECT-TYPE
        SYNTAX      Unsigned32
        UNITS       "byte"
        MAX-ACCESS  read-only
        STATUS      current
        DESCRIPTION
            "The value of this parameter specifies the length of the
             SDU for a fixed-length SDU service flow. This parameter
             is used only if packing is on and the service flow is
             indicated as carrying fixed-length SDUs. The default
             value is 49 bytes, i.e., VC-switched ATM cells with PHS.
             The parameter is relevant for both ATM and Packet
             Convergence Sublayers."
        REFERENCE
            "Subclause 11.13.16 in IEEE Std 802.16-2004"
        DEFVAL      { 49 }
        ::= { wmanIf2CmnCpsServiceFlowEntry 13 }

wmanIf2CmnCpsSfSchedulingType OBJECT-TYPE
        SYNTAX      WmanIf2SfSchedulingType
        MAX-ACCESS  read-only
        STATUS      current
        DESCRIPTION
            "Specifies the upstream scheduling service used for
             upstream service flow. If the referenced parameter
             is not present in the corresponding 802.16 QOS
             Parameter Set of an upstream service flow, the
             default value of this object is bestEffort(2)."
        REFERENCE
            "Subclause 11.13.11 in IEEE Std 802.16-2004"
        DEFVAL         { bestEffort }
        ::= { wmanIf2CmnCpsServiceFlowEntry 14 }

wmanIf2CmnCpsArqEnable OBJECT-TYPE
```

```
        SYNTAX      TruthValue
        MAX-ACCESS  read-only
        STATUS      current
        DESCRIPTION
            "True(1) ARQ enabling is requested for the connection."
        ::= { wmanIf2CmnCpsServiceFlowEntry 15 }

wmanIf2CmnCpsArqWindowSize OBJECT-TYPE
        SYNTAX    INTEGER (1..1024)
        MAX-ACCESS  read-only
        STATUS      current
        DESCRIPTION
            "Indicates the maximum number of unacknowledged
             fragments at any time."
        ::= { wmanIf2CmnCpsServiceFlowEntry 16 }

wmanIf2CmnCpsArqBlockLifetime OBJECT-TYPE
        SYNTAX    INTEGER (0 .. 65535)
        UNITS    "10 us"
        MAX-ACCESS  read-only
        STATUS      current
        DESCRIPTION
            "The maximum time interval an ARQ fragment will be
             managed by the transmitter ARQ machine, once
             initial transmission of the fragment has occured.
             If transmission or retransmission of the fragment
             is not acknowledged by the receiver before the
             time limit is reached, the fragment is discarded.
             A value of 0 means Infinite."
        ::= { wmanIf2CmnCpsServiceFlowEntry 17 }

wmanIf2CmnCpsArqSyncLossTimeout OBJECT-TYPE
        SYNTAX    INTEGER (0 .. 65535 )
        UNITS    "10 us"
        MAX-ACCESS  read-only
        STATUS      current
        DESCRIPTION
            "The maximum interval before declaring a loss
             of synchronization of the sender and receiver
             state machines. A value of 0 means Infinite."
        ::= { wmanIf2CmnCpsServiceFlowEntry 18 }

wmanIf2CmnCpsArqDeliverInOrder  OBJECT-TYPE
        SYNTAX      TruthValue
        MAX-ACCESS  read-only
        STATUS      current
        DESCRIPTION
            "Indicates whether or not data is to be delivered
             by the receiving MAC to its client application
             in the order in which data was handed off to the
             originating MAC."
        ::= { wmanIf2CmnCpsServiceFlowEntry 19 }

wmanIf2CmnCpsArqRxPurgeTimeout  OBJECT-TYPE
```

```
        SYNTAX    INTEGER (0 .. 65535)
        UNITS    "10 us"
        MAX-ACCESS  read-only
        STATUS      current
        DESCRIPTION
            "Indicates the time interval the ARQ window is advanced
             after a fragment is received. A value of 0 means
             Infinite."
        ::= { wmanIf2CmnCpsServiceFlowEntry 20 }

wmanIf2CmnCpsArqBlockSize OBJECT-TYPE
        SYNTAX    INTEGER (1..2040)
        UNITS       "byte"
        MAX-ACCESS  read-only
        STATUS      current
        DESCRIPTION
            "This value of this parameter specifies the size of an
             ARQ block. This parameter shall be established by
             negotiation during the connection creation dialog."
        REFERENCE
            "Subclause 11.13.18.8 in IEEE Std 802.16-2004"
        ::= { wmanIf2CmnCpsServiceFlowEntry 21 }

wmanIf2CmnCpsMinRsvdTolerableRate OBJECT-TYPE
        SYNTAX      Unsigned32
        UNITS       "b/s"
        MAX-ACCESS  read-only
        STATUS      current
        DESCRIPTION
            "Minimum Tolerable Traffic Rate = R (bits/sec) with
             time base T(sec) means the following. Let S denote
             additional demand accumulated at the MAC SAP of the
             transmitter during an arbitrary time interval of the
             length T. Then the amount of data forwarded at the
             receiver to CS (in bits) during this interval should
             be not less than min {S, R * T}."
        REFERENCE
            "Subclause 11.13.9 in IEEE Std 802.16-2004"
        ::= { wmanIf2CmnCpsServiceFlowEntry 22 }

wmanIf2CmnCpsReqTxPolicy OBJECT-TYPE
        SYNTAX      BITS {noBroadcastBwReq(0),
                          reserved1(1),
                          noPiggybackReq(2),
                          noFragmentData(3),
                          noPHS(4),
                          noSduPacking(5),
                          noCrc(6),
                          reserved2(7)}
        MAX-ACCESS  read-only
        STATUS      current
        DESCRIPTION
            "The value of this parameter provides the capability to
             specify certain attributes for the associated service
```

```
                flow. An attribute is enabled by setting the
                corresponding bit position to 1."
        REFERENCE
            "Subclause 11.13.12 in IEEE Std 802.16-2004"
        ::= { wmanIf2CmnCpsServiceFlowEntry 23 }

wmanIf2CmnSfCsSpecification OBJECT-TYPE
        SYNTAX      WmanIf2CsSpecification
        MAX-ACCESS  read-only
        STATUS      current
        DESCRIPTION
            "This parameter specifies the convergence sublayer
             encapsulation mode."
        REFERENCE
            "Subclause 11.13.19.1 in IEEE Std 802.16-2004"
        ::= { wmanIf2CmnCpsServiceFlowEntry 24 }

wmanIf2CmnCpsTargetSaid OBJECT-TYPE
        SYNTAX      INTEGER (0 .. 65535)
        MAX-ACCESS  read-only
        STATUS      current
        DESCRIPTION
            "The target SAID parameter indicates the SAID onto
             which the service flow being set up shall be mapped."
        REFERENCE
            "Subclause 11.13.17 in IEEE Std 802.16-2004"
        ::= { wmanIf2CmnCpsServiceFlowEntry 25 }

--
-- wmanIf2CmnBsSsConfigurationTable contains global parameters
-- common in BS and SS
--
wmanIf2CmnBsSsConfigurationTable OBJECT-TYPE
        SYNTAX      SEQUENCE OF WmanIf2CmnBsSsConfigurationEntry
        MAX-ACCESS  not-accessible
        STATUS      current
        DESCRIPTION
            "This table provides one row for each BS sector that
             contains the system parameters common in both SS and
             BS. All SSs shall have the same parameters as the BS
             to which the SSs are associated."
        REFERENCE
            "Subclause 10.1 in IEEE Std 802.16-2004"
        ::= { wmanIf2CmnCps 2 }

wmanIf2CmnBsSsConfigurationEntry OBJECT-TYPE
        SYNTAX      WmanIf2CmnBsSsConfigurationEntry
        MAX-ACCESS  not-accessible
        STATUS      current
        DESCRIPTION
            "This table is indexed by ifIndex, indicating BS
             sector."
        INDEX       { ifIndex }
        ::= { wmanIf2CmnBsSsConfigurationTable 1 }
```

```
WmanIf2CmnBsSsConfigurationEntry ::= SEQUENCE {
        wmanIf2CmnInvitedRangRetries            INTEGER,
        wmanIf2CmnDSxReqRetries                 Unsigned32,
        wmanIf2CmnDSxRespRetries                Unsigned32,
        wmanIf2CmnT7Timeout                     INTEGER,
        wmanIf2CmnT8Timeout                     INTEGER,
        wmanIf2CmnT10Timeout                    INTEGER,
        wmanIf2CmnT22Timeout                    INTEGER}

wmanIf2CmnInvitedRangRetries OBJECT-TYPE
        SYNTAX      INTEGER (16..65535)
        MAX-ACCESS  read-write
        STATUS      current
        DESCRIPTION
            "Number of retries on inviting Ranging Requests."
        ::= { wmanIf2CmnBsSsConfigurationEntry 1 }

wmanIf2CmnDSxReqRetries OBJECT-TYPE
        SYNTAX      Unsigned32
        MAX-ACCESS  read-write
        STATUS      current
        DESCRIPTION
            "Number of Timeout Retries on DSA/DSC/DSD Requests."
        DEFVAL      { 3 }
        ::= { wmanIf2CmnBsSsConfigurationEntry 2 }

wmanIf2CmnDSxRespRetries OBJECT-TYPE
        SYNTAX      Unsigned32
        MAX-ACCESS  read-write
        STATUS      current
        DESCRIPTION
            "Number of Timeout Retries on DSA/DSC/DSD Responses."
        DEFVAL      { 3 }
        ::= { wmanIf2CmnBsSsConfigurationEntry 3 }

wmanIf2CmnT7Timeout OBJECT-TYPE
        SYNTAX      INTEGER (0 .. 1000)
        UNITS       "milliseconds"
        MAX-ACCESS  read-write
        STATUS      current
        DESCRIPTION
            "Wait for DSA/DSC/DSD Response Timeout in ms."
        ::= { wmanIf2CmnBsSsConfigurationEntry 4 }

wmanIf2CmnT8Timeout OBJECT-TYPE
        SYNTAX      INTEGER (0 .. 300)
        UNITS       "milliseconds"
        MAX-ACCESS  read-write
        STATUS      current
        DESCRIPTION
            "Wait for DSA/DSC/DSD Acknowledge Timeout in ms."
        ::= { wmanIf2CmnBsSsConfigurationEntry 5 }
```

```
wmanIf2CmnT10Timeout OBJECT-TYPE
        SYNTAX      INTEGER (0 .. 3000)
        UNITS       "milliseconds"
        MAX-ACCESS  read-write
        STATUS      current
        DESCRIPTION
            "Wait for Transaction End timeout in ms."
        ::= { wmanIf2CmnBsSsConfigurationEntry 6 }

wmanIf2CmnT22Timeout OBJECT-TYPE
        SYNTAX      INTEGER (0 .. 500)
        UNITS       "milliseconds"
        MAX-ACCESS  read-write
        STATUS      current
        DESCRIPTION
            "Wait for ARQ Reset in ms."
        ::= { wmanIf2CmnBsSsConfigurationEntry 7 }

-- Common PKM  group
-- wmanIf2CmnPkmObjects contain the Privacy Sublayer objects that are
-- common to both Base Station and Subscriber Station
--
wmanIf2CmnPkmObjects OBJECT IDENTIFIER ::= { wmanIf2CommonObjects  3 }

--
-- Table wmanIf2CmnCryptoSuiteTable
--
wmanIf2CmnCryptoSuiteTable OBJECT-TYPE
        SYNTAX      SEQUENCE OF   WmanIf2CmnCryptoSuiteEntry
        MAX-ACCESS  not-accessible
        STATUS      current
        DESCRIPTION
            "This table describes the PKM cryptographic suite
             capabilites for each SS or BS wireless interface."
        ::= { wmanIf2CmnPkmObjects  1 }

wmanIf2CmnCryptoSuiteEntry OBJECT-TYPE
        SYNTAX      WmanIf2CmnCryptoSuiteEntry
        MAX-ACCESS  not-accessible
        STATUS      current
        DESCRIPTION
            "Each entry contains the cryptographic suite pair that SS
             or BS supports."
        INDEX       { ifIndex, wmanIf2CmnCryptoSuiteIndex }
        ::= { wmanIf2CmnCryptoSuiteTable  1 }

WmanIf2CmnCryptoSuiteEntry ::= SEQUENCE {
        wmanIf2CmnCryptoSuiteIndex              Integer32,
        wmanIf2CmnCryptoSuiteDataEncryptAlg     WmanIf2DataEncryptAlgId,
        wmanIf2CmnCryptoSuiteDataAuthentAlg     WmanIf2DataAuthAlgId,
        wmanIf2CmnCryptoSuiteTekEncryptAlg      WmanIf2TekEncryptAlgId}

wmanIf2CmnCryptoSuiteIndex OBJECT-TYPE
        SYNTAX      Integer32 (1 .. 1000)
        MAX-ACCESS  not-accessible
        STATUS      current
        DESCRIPTION
            "The index for a cryptographic suite row."
        ::= { wmanIf2CmnCryptoSuiteEntry 1 }

wmanIf2CmnCryptoSuiteDataEncryptAlg OBJECT-TYPE
        SYNTAX      WmanIf2DataEncryptAlgId
        MAX-ACCESS  read-only
        STATUS      current
        DESCRIPTION
            "The value of this object is the data encryption algorithm
             for this cryptographic suite capability."
        REFERENCE
            "Table 375, IEEE Std 802.16-2004"
        ::= { wmanIf2CmnCryptoSuiteEntry 2 }

wmanIf2CmnCryptoSuiteDataAuthentAlg OBJECT-TYPE
        SYNTAX      WmanIf2DataAuthAlgId
        MAX-ACCESS  read-only
        STATUS      current
        DESCRIPTION
            "The value of this object is the data authentication
             algorithm for this cryptographic suite capability."
        REFERENCE
            "Table 376, IEEE Std 802.16-2004"
        ::= { wmanIf2CmnCryptoSuiteEntry 3 }

wmanIf2CmnCryptoSuiteTekEncryptAlg OBJECT-TYPE
        SYNTAX      WmanIf2TekEncryptAlgId
        MAX-ACCESS  read-only
        STATUS      current
        DESCRIPTION
            "The value of this object is the TEK key encryption
             algorithm for this cryptographic suite capability."
        REFERENCE
            "Table 377, IEEE Std 802.16-2004"
        ::= { wmanIf2CmnCryptoSuiteEntry 4 }

--
-- Conformance Information
--
wmanIf2MibConformance OBJECT IDENTIFIER ::= {wmanIf2Mib 2}
wmanIf2MibGroups      OBJECT IDENTIFIER ::= {wmanIf2MibConformance 1}
wmanIf2MibCompliances OBJECT IDENTIFIER ::= {wmanIf2MibConformance 2}

-- compliance statements
wmanIf2MibCompliance MODULE-COMPLIANCE
        STATUS      current
        DESCRIPTION
            "The compliance statement for devices that implement
            Wireless MAN interfaces as defined in IEEE Std 802.16-2004."

        MODULE  -- wmanIf2Mib
        MANDATORY-GROUPS            -- unconditionally mandatory groups
            { wmanIf2MibCommonGroup }

        GROUP wmanIf2MibQoSGroup     -- unconditionally mandatory group
        DESCRIPTION
            "This group is mandatory for Base Station and subscriber
             station."

        GROUP wmanIf2MibBsGroup      -- conditionally mandatory group
        DESCRIPTION
            "This group is mandatory for Base Station."

        GROUP wmanIf2MibBsAasGroup   -- optional group
        DESCRIPTION
            "This group is mandatory for Base Station."

        GROUP wmanIf2MibSsGroup      -- conditionally mandatory group
        DESCRIPTION
            "This group is mandatory for Subscriber Station."

        GROUP wmanIf2MibBsOfdmGroup  -- conditionally mandatory group
        DESCRIPTION
            "This group is mandatory for Base Station
             implementaing the OFDM PHY."

        GROUP wmanIf2MibSsOfdmGroup  -- conditionally mandatory group
        DESCRIPTION
            "This group is mandatory for Subscriber Station
             implementing the OFDM PHY."

        GROUP wmanIf2MibBsOfdmaGroup -- conditionally mandatory group
        DESCRIPTION
            "This group is mandatory for Base Station
             implementaing the OFDMA PHY."

        GROUP wmanIf2MibSsOfdmaGroup -- conditionally mandatory group
        DESCRIPTION
            "This group is mandatory for Subscriber Station
             implementing the OFDMA PHY."

        GROUP wmanIf2MibBsNotificationGroup -- unconditionally
                                            -- mandatory groups
        DESCRIPTION
            "This group is mandatory for Base Station."

        GROUP wmanIf2MibSsNotificationGroup -- optional group
        DESCRIPTION
            "This group is optional for Subscriber Station."

        GROUP wmanIf2MibCmnPhsGroup -- optional group
        DESCRIPTION
            "This group is optional for Base Station and
             Subscriber Station."
        GROUP wmanIf2MibBsPhsGroup -- optional group
        DESCRIPTION
            "This group is optional for Base Station."
        ::= { wmanIf2MibCompliances 1 }

wmanIf2MibCommonGroup     OBJECT-GROUP
        OBJECTS {-- Classification
                 wmanIf2CmnClassifierRulePriority,
                 wmanIf2CmnClassifierRuleIpTosLow,
                 wmanIf2CmnClassifierRuleIpTosHigh,
                 wmanIf2CmnClassifierRuleIpTosMask,
                 wmanIf2CmnClassifierRuleIpProtocol,
                 wmanIf2CmnClassifierRuleIpSourceAddr,
                 wmanIf2CmnClassifierRuleIpSourceMask,
                 wmanIf2CmnClassifierRuleIpDestAddr,
                 wmanIf2CmnClassifierRuleIpDestMask,
                 wmanIf2CmnClassifierRuleSourcePortStart,
                 wmanIf2CmnClassifierRuleSourcePortEnd,
                 wmanIf2CmnClassifierRuleDestPortStart,
                 wmanIf2CmnClassifierRuleDestPortEnd,
                 wmanIf2CmnClassifierRuleDestMacAddr,
                 wmanIf2CmnClassifierRuleDestMacMask,
                 wmanIf2CmnClassifierRuleSourceMacAddr,
                 wmanIf2CmnClassifierRuleSourceMacMask,
                 wmanIf2CmnClassifierRuleEnetProtocolType,
                 wmanIf2CmnClassifierRuleEnetProtocol,
                 wmanIf2CmnClassifierRuleUserPriLow,
                 wmanIf2CmnClassifierRuleUserPriHigh,
                 wmanIf2CmnClassifierRuleVlanId,
                 wmanIf2CmnClassifierRuleState,
                 wmanIf2CmnClassifierRulePkts,
                 wmanIf2CmnClassifierRuleIpv6FlowLabel,
                 wmanIf2CmnClassifierRuleBitMap,

                 -- Configuration parameters
                 wmanIf2CmnCpsTargetSaid,
                 wmanIf2CmnInvitedRangRetries,
                 wmanIf2CmnDSxReqRetries,
                 wmanIf2CmnDSxRespRetries,
                 wmanIf2CmnT7Timeout,
                 wmanIf2CmnT8Timeout,
                 wmanIf2CmnT10Timeout,
                 wmanIf2CmnT22Timeout,
                 wmanIf2CmnCryptoSuiteDataEncryptAlg,
                 wmanIf2CmnCryptoSuiteDataAuthentAlg,
                 wmanIf2CmnCryptoSuiteTekEncryptAlg}
        STATUS       current
        DESCRIPTION
            "This group contains objects for both BS and SS,
             and are independent of PHY."
        ::= { wmanIf2MibGroups 1 }

wmanIf2MibQoSGroup     OBJECT-GROUP
```

```
        OBJECTS {wmanIf2CmnCpsSfId,
                 wmanIf2CmnCpsSfCid,
                 wmanIf2CmnCpsSfDirection,
                 wmanIf2CmnCpsSfState,
                 wmanIf2CmnCpsTrafficPriority,
                 wmanIf2CmnCpsMaxSustainedRate,
                 wmanIf2CmnCpsMaxTrafficBurst,
                 wmanIf2CmnCpsMinReservedRate,
                 wmanIf2CmnCpsToleratedJitter,
                 wmanIf2CmnCpsMaxLatency,
                 wmanIf2CmnCpsFixedVsVariableSduInd,
                 wmanIf2CmnCpsSduSize,
                 wmanIf2CmnCpsSfSchedulingType,
                 wmanIf2CmnCpsArqEnable,
                 wmanIf2CmnCpsArqWindowSize,
                 wmanIf2CmnCpsArqBlockLifetime,
                 wmanIf2CmnCpsArqSyncLossTimeout,
                 wmanIf2CmnCpsArqDeliverInOrder,
                 wmanIf2CmnCpsArqRxPurgeTimeout,
                 wmanIf2CmnCpsArqBlockSize,
                 wmanIf2CmnCpsMinRsvdTolerableRate,
                 wmanIf2CmnCpsReqTxPolicy,
                 wmanIf2CmnSfCsSpecification}
        STATUS       current
        DESCRIPTION
            "This group contains QoS objects for both BS and SS."
        ::= { wmanIf2MibGroups 2 }

wmanIf2MibBsGroup     OBJECT-GROUP
        OBJECTS {-- Service classes
                 wmanIf2BsSfDirection,
                 wmanIf2BsServiceClassIndex,
                 wmanIf2BsSfState,
                 wmanIf2BsSfProvisionedTime,
                 wmanIf2BsProvisionedSfRowStatus,
                 wmanIf2BsSsProvisionedForSfRowStatus,
                 wmanIf2BsSfCsSpecification,
                 wmanIf2BsQosServiceClassName,
                 wmanIf2BsQoSTrafficPriority,
                 wmanIf2BsQoSMaxSustainedRate,
                 wmanIf2BsQoSMaxTrafficBurst,
                 wmanIf2BsQoSMinReservedRate,
                 wmanIf2BsQoSToleratedJitter,
                 wmanIf2BsQoSMaxLatency,
                 wmanIf2BsQoSFixedVsVariableSduInd,
                 wmanIf2BsQoSSduSize,
                 wmanIf2BsQosScSchedulingType,
                 wmanIf2BsQosScArqEnable,
                 wmanIf2BsQosScArqWindowSize,
                 wmanIf2BsQosScArqBlockLifetime,
                 wmanIf2BsQosScArqSyncLossTimeout,
                 wmanIf2BsQosScArqDeliverInOrder,
                 wmanIf2BsQosScArqRxPurgeTimeout,
                 wmanIf2BsQosScArqBlockSize,
                 wmanIf2BsQosSCMinRsvdTolerableRate,
                 wmanIf2BsQoSReqTxPolicy,
                 wmanIf2BsQoSServiceClassRowStatus,

                 -- Classification
                 wmanIf2BsClassifierRulePriority,
                 wmanIf2BsClassifierRuleIpTosLow,
                 wmanIf2BsClassifierRuleIpTosHigh,
                 wmanIf2BsClassifierRuleIpTosMask,
                 wmanIf2BsClassifierRuleIpProtocol,
                 wmanIf2BsClassifierRuleIpSourceAddr,
                 wmanIf2BsClassifierRuleIpSourceMask,
                 wmanIf2BsClassifierRuleIpDestAddr,
                 wmanIf2BsClassifierRuleIpDestMask,
                 wmanIf2BsClassifierRuleSourcePortStart,
                 wmanIf2BsClassifierRuleSourcePortEnd,
                 wmanIf2BsClassifierRuleDestPortStart,
                 wmanIf2BsClassifierRuleDestPortEnd,
                 wmanIf2BsClassifierRuleDestMacAddr,
                 wmanIf2BsClassifierRuleDestMacMask,
                 wmanIf2BsClassifierRuleSourceMacAddr,
                 wmanIf2BsClassifierRuleSourceMacMask,
                 wmanIf2BsClassifierRuleEnetProtocolType,
                 wmanIf2BsClassifierRuleEnetProtocol,
                 wmanIf2BsClassifierRuleUserPriLow,
                 wmanIf2BsClassifierRuleUserPriHigh,
                 wmanIf2BsClassifierRuleVlanId,
                 wmanIf2BsClassifierRuleState,
                 wmanIf2BsClassifierRulePhsSize,
                 wmanIf2BsClassifierRulePhsMask,
                 wmanIf2BsClassifierRulePhsVerify,
                 wmanIf2BsClassifierRuleIpv6FlowLabel,
                 wmanIf2BsClassifierRuleBitMap,
                 wmanIf2BsClassifierRuleRowStatus,

                 -- Packet counters
                 wmanIf2BsSsMacSduCount,
                 wmanIf2BsSsOctetCount,
                 wmanIf2BsSsResetCounter,
                 wmanIf2BsSsResetCounterTime,

                 -- Capability negotiation
                 wmanIf2BsSsBasicCid,
                 wmanIf2BsSsPrimaryCid,
                 wmanIf2BsSsSecondaryCid,
                 wmanIf2BsSsManagementSupport,
                 wmanIf2BsSsIpManagementMode,
                 wmanIf2Bs2ndMgmtDlQoSProfileIndex,
                 wmanIf2Bs2ndMgmtUlQoSProfileIndex,
                 wmanIf2BsAutoSfidEnabled,
                 wmanIf2BsAutoSfidRangeMin,
                 wmanIf2BsAutoSfidRangeMax,
                 wmanIf2BsResetSector,
                 wmanIf2BsSs2ndMgmtArqEnable,
                 wmanIf2BsSs2ndMgmtArqWindowSize,
                 wmanIf2BsSs2ndMgmtArqDnLinkTxDelay,
                 wmanIf2BsSs2ndMgmtArqUpLinkTxDelay,
                 wmanIf2BsSs2ndMgmtArqDnLinkRxDelay,
                 wmanIf2BsSs2ndMgmtArqUpLinkRxDelay,
                 wmanIf2BsSs2ndMgmtArqBlockLifetime,
                 wmanIf2BsSs2ndMgmtArqSyncLossTimeout,
                 wmanIf2BsSs2ndMgmtArqDeliverInOrder,
                 wmanIf2BsSs2ndMgmtArqRxPurgeTimeout,
                 wmanIf2BsSs2ndMgmtArqBlockSize,
                 wmanIf2BsSsVendorIdEncoding,
                 wmanIf2BsSsAasBroadcastPermission,
                 wmanIf2BsSsMaxTxPowerBpsk,
                 wmanIf2BsSsMaxTxPowerQpsk,
                 wmanIf2BsSsMaxTxPower16Qam,
                 wmanIf2BsSsMaxTxPower64Qam,

                 -- Configuration parameters
                 wmanIf2BsSsMacVersion,
                 wmanIf2BsDcdInterval,
                 wmanIf2BsUcdInterval,
                 wmanIf2BsUcdTransition,
                 wmanIf2BsDcdTransition,
                 wmanIf2BsInitialRangingInterval,
                 wmanIf2BsSsULMapProcTime,
                 wmanIf2BsSsRangRespProcTime,
                 wmanIf2BsT5Timeout,
                 wmanIf2BsT9Timeout,
                 wmanIf2BsT13Timeout,
                 wmanIf2BsT15Timeout,
                 wmanIf2BsT17Timeout,
                 wmanIf2BsT27IdleTimer,
                 wmanIf2BsT27ActiveTimer,

                 -- Performance monitoring
                 wmanIf2BsHistogramIndex,
                 wmanIf2BsChannelNumber,
                 wmanIf2BsStartFrame,
                 wmanIf2BsDuration,
                 wmanIf2BsBasicReport,
                 wmanIf2BsMeanCinrReport,
                 wmanIf2BsMeanRssiReport,
                 wmanIf2BsStdDeviationCinrReport,
                 wmanIf2BsStdDeviationRssiReport,

                 -- Capability negotiation
                 wmanIf2BsSsReqCapUplinkCidSupport,
                 wmanIf2BsSsReqCapArqSupport,
                 wmanIf2BsSsReqCapDsxFlowControl,
                 wmanIf2BsSsReqCapMacCrcSupport,
                 wmanIf2BsSsReqCapMcaFlowControl,
                 wmanIf2BsSsReqCapMcpGroupCidSupport,
                 wmanIf2BsSsReqCapPkmFlowControl,
                 wmanIf2BsSsReqCapAuthPolicyControl,
                 wmanIf2BsSsReqCapMaxNumOfSupportedSA,
                 wmanIf2BsSsReqCapIpVersion,
                 wmanIf2BsSsReqCapMacCsSupportBitMap,
                 wmanIf2BsSsReqCapMaxNumOfClassifier,
                 wmanIf2BsSsReqCapPhsSupport,
                 wmanIf2BsSsReqCapBandwidthAllocSupport,
                 wmanIf2BsSsReqCapPduConstruction,
                 wmanIf2BsSsReqCapTtgTransitionGap,
                 wmanIf2BsSsReqCapRtgTransitionGap,
                 wmanIf2BsSsRspCapUplinkCidSupport,
                 wmanIf2BsSsRspCapArqSupport,
                 wmanIf2BsSsRspCapDsxFlowControl,
                 wmanIf2BsSsRspCapMacCrcSupport,
                 wmanIf2BsSsRspCapMcaFlowControl,
                 wmanIf2BsSsRspCapMcpGroupCidSupport,
                 wmanIf2BsSsRspCapPkmFlowControl,
                 wmanIf2BsSsRspCapAuthPolicyControl,
                 wmanIf2BsSsRspCapMaxNumOfSupportedSA,
                 wmanIf2BsSsRspCapIpVersion,
                 wmanIf2BsSsRspCapMacCsSupportBitMap,
                 wmanIf2BsSsRspCapMaxNumOfClassifier,
                 wmanIf2BsSsRspCapPhsSupport,
                 wmanIf2BsSsRspCapBandwidthAllocSupport,
                 wmanIf2BsSsRspCapPduConstruction,
                 wmanIf2BsSsRspCapTtgTransitionGap,
                 wmanIf2BsSsRspCapRtgTransitionGap,
                 wmanIf2BsCapUplinkCidSupport,
                 wmanIf2BsCapArqSupport,
                 wmanIf2BsCapDsxFlowControl,
                 wmanIf2BsCapMacCrcSupport,
                 wmanIf2BsCapMcaFlowControl,
                 wmanIf2BsCapMcpGroupCidSupport,
                 wmanIf2BsCapPkmFlowControl,
                 wmanIf2BsCapAuthPolicyControl,
                 wmanIf2BsCapMaxNumOfSupportedSA,
                 wmanIf2BsCapIpVersion,
                 wmanIf2BsCapMacCsSupportBitMap,
                 wmanIf2BsCapMaxNumOfClassifier,
                 wmanIf2BsCapPhsSupport,
                 wmanIf2BsCapBandwidthAllocSupport,
                 wmanIf2BsCapPduConstruction,
                 wmanIf2BsCapTtgTransitionGap,
                 wmanIf2BsCapRtgTransitionGap,
                 wmanIf2BsCapCfgUplinkCidSupport,
                 wmanIf2BsCapCfgArqSupport,
                 wmanIf2BsCapCfgDsxFlowControl,
                 wmanIf2BsCapCfgMacCrcSupport,
                 wmanIf2BsCapCfgMcaFlowControl,
                 wmanIf2BsCapCfgMcpGroupCidSupport,
                 wmanIf2BsCapCfgPkmFlowControl,
                 wmanIf2BsCapCfgAuthPolicyControl,
                 wmanIf2BsCapCfgMaxNumOfSupportedSA,
                 wmanIf2BsCapCfgIpVersion,
                 wmanIf2BsCapCfgMacCsSupportBitMap,
                 wmanIf2BsCapCfgMaxNumOfClassifier,
                 wmanIf2BsCapCfgPhsSupport,
                 wmanIf2BsCapCfgBandwidthAllocSupport,
                 wmanIf2BsCapCfgPduConstruction,
                 wmanIf2BsCapCfgTtgTransitionGap,
                 wmanIf2BsCapCfgRtgTransitionGap,
                 wmanIf2BsSsActionsResetSs,
                 wmanIf2BsSsActionsAbortSs,
                 wmanIf2BsSsActionsOverrideDnFreq,
                 wmanIf2BsSsActionsOverrideChannelId,
                 wmanIf2BsSsActionsDeReRegSs,
                 wmanIf2BsSsActionsDeReRegSsCode,
                 wmanIf2BsSsActionsRowStatus,

                 -- Privacy sublayer
                 wmanIf2BsPkmDefaultAuthLifetime,
                 wmanIf2BsPkmDefaultTekLifetime,
                 wmanIf2BsPkmDefaultSelfSigManufCertTrust,
                 wmanIf2BsPkmCheckCertValidityPeriods,
                 wmanIf2BsPkmAuthentInfos,
                 wmanIf2BsPkmAuthRequests,
                 wmanIf2BsPkmAuthReplies,
                 wmanIf2BsPkmAuthRejects,
                 wmanIf2BsPkmAuthInvalids,
                 wmanIf2BsSsPkmAuthKeySequenceNumber,
                 wmanIf2BsSsPkmAuthExpiresOld,
                 wmanIf2BsSsPkmAuthExpiresNew,
                 wmanIf2BsSsPkmAuthLifetime,
                 wmanIf2BsSsPkmAuthReset,
                 wmanIf2BsSsPkmAuthInfos,
                 wmanIf2BsSsPkmAuthRequests,
                 wmanIf2BsSsPkmAuthReplies,
                 wmanIf2BsSsPkmAuthRejects,
                 wmanIf2BsSsPkmAuthInvalids,
                 wmanIf2BsSsPkmAuthRejectErrorCode,
                 wmanIf2BsSsPkmAuthRejectErrorString,
                 wmanIf2BsSsPkmAuthInvalidErrorCode,
                 wmanIf2BsSsPkmAuthInvalidErrorString,
                 wmanIf2BsSsPkmAuthPrimarySAId,
                 wmanIf2BsSsPkmAuthValidStatus,
                 wmanIf2BsPkmTekSAType,
                 wmanIf2BsPkmTekDataEncryptAlg,
                 wmanIf2BsPkmTekDataAuthentAlg,
                 wmanIf2BsPkmTekEncryptAlg,
                 wmanIf2BsPkmTekLifetime,
                 wmanIf2BsPkmTekKeySequenceNumber,
                 wmanIf2BsPkmTekExpiresOld,
                 wmanIf2BsPkmTekExpiresNew,
                 wmanIf2BsPkmTekReset,
                 wmanIf2BsPkmKeyRequests,
                 wmanIf2BsPkmKeyReplies,
                 wmanIf2BsPkmKeyRejects,
                 wmanIf2BsPkmTekInvalids,
                 wmanIf2BsPkmKeyRejectErrorCode,
                 wmanIf2BsPkmKeyRejectErrorString,
                 wmanIf2BsPkmTekInvalidErrorCode,
                 wmanIf2BsPkmTekInvalidErrorString,

                 -- Notification
                 wmanIf2BsTrapControlRegister,
                 wmanIf2BsStatusTrapControlRegister,
                 wmanIf2BsRssiLowThreshold,
                 wmanIf2BsRssiHighThreshold,
                 wmanIf2BsSsNotificationMacAddr,
                 wmanIf2BsSsStatusValue,
                 wmanIf2BsSsStatusInfo,
                 wmanIf2BsDynamicServiceType,
                 wmanIf2BsDynamicServiceFailReason,
                 wmanIf2BsSsRssiStatus,
                 wmanIf2BsSsRssiStatusInfo,
                 wmanIf2BsSsRegisterStatus}
        STATUS       current
        DESCRIPTION
            "This group contains objects for BS, and are
             independent of PHY."
        ::= { wmanIf2MibGroups 3 }

wmanIf2MibBsAasGroup     OBJECT-GROUP
        OBJECTS {-- AAS Configuration parameters
                 wmanIf2BsAasChanFbckReqFreq,
                 wmanIf2BsAasBeamSelectFreq,
                 wmanIf2BsAasChanFbckReqResolution,
                 wmanIf2BsAasBeamReqResolution,
                 wmanIf2BsAasNumOptDiversityZones}
        STATUS       current
        DESCRIPTION
            "This group contains objects for AAS in BS."
        ::= { wmanIf2MibGroups 4 }

wmanIf2MibSsGroup     OBJECT-GROUP
        OBJECTS {-- Configuration parameters
                 wmanIf2SsLostDLMapInterval,
                 wmanIf2SsLostULMapInterval,
                 wmanIf2SsContentionRangRetries,
                 wmanIf2SsRequestRetries,
                 wmanIf2SsRegRequestRetries,
                 wmanIf2SsTftpBackoffStart,
                 wmanIf2SsTftpBackoffEnd,
                 wmanIf2SsTftpRequestRetries,
                 wmanIf2SsTftpDownloadRetries,
                 wmanIf2SsTftpWait,
                 wmanIf2SsToDRetries,
                 wmanIf2SsToDRetryPeriod,
                 wmanIf2SsT1Timeout,
                 wmanIf2SsT2Timeout,
                 wmanIf2SsT3Timeout,
                 wmanIf2SsT4Timeout,
                 wmanIf2SsT6Timeout,
                 wmanIf2SsT12Timeout,
                 wmanIf2SsT14Timeout,
                 wmanIf2SsT16Timeout,
                 wmanIf2SsT18Timeout,
                 wmanIf2SsT19Timeout,
                 wmanIf2SsT20Timeout,
                 wmanIf2SsT21Timeout,
                 wmanIf2SsSBCRequestRetries,
                 wmanIf2SsTftpCpltRetries,
                 wmanIf2SsT26Timeout,
                 wmanIf2SsDLManagProcTime,

                 -- Performance monitoring
                 wmanIf2SsChannelNumber,
                 wmanIf2SsStartFrame ,
                 wmanIf2SsDuration,
                 wmanIf2SsBasicReport,
                 wmanIf2SsMeanCinrReport,
                 wmanIf2SsStdDeviationCinrReport,
                 wmanIf2SsMeanRssiReport,
                 wmanIf2SsStdDeviationRssiReport,

                 -- Privacy sublayer
                 wmanIf2SsPkmAuthState,
                 wmanIf2SsPkmAuthKeySequenceNumber,
                 wmanIf2SsPkmAuthExpiresOld,
                 wmanIf2SsPkmAuthExpiresNew ,
                 wmanIf2SsPkmAuthReset,
                 wmanIf2SsPkmAuthentInfos,
                 wmanIf2SsPkmAuthRequests,
                 wmanIf2SsPkmAuthReplies,
                 wmanIf2SsPkmAuthRejects,
                 wmanIf2SsPkmAuthInvalids,
                 wmanIf2SsPkmAuthRejectErrorCode,
                 wmanIf2SsPkmAuthRejectErrorString,
                 wmanIf2SsPkmAuthInvalidErrorCode,
                 wmanIf2SsPkmAuthInvalidErrorString ,
                 wmanIf2SsPkmAuthGraceTime,
                 wmanIf2SsPkmTekGraceTime,
                 wmanIf2SsPkmAuthWaitTimeout,
                 wmanIf2SsPkmReauthWaitTimeout,
                 wmanIf2SsPkmOpWaitTimeout,
                 wmanIf2SsPkmRekeyWaitTimeout,
                 wmanIf2SsPkmAuthRejectWaitTimeout,
                 wmanIf2SsPkmTekSAType,
                 wmanIf2SsPkmTekDataEncryptAlg,
                 wmanIf2SsPkmTekDataAuthentAlg,
                 wmanIf2SsPkmTekEncryptAlg,
                 wmanIf2SsPkmTekState,
                 wmanIf2SsPkmTekKeySequenceNumber,
                 wmanIf2SsPkmTekExpiresOld,
                 wmanIf2SsPkmTekExpiresNew,
                 wmanIf2SsPkmTekKeyRequests,
                 wmanIf2SsPkmTekKeyReplies,
                 wmanIf2SsPkmTekKeyRejects,
                 wmanIf2SsPkmTekInvalids,
                 wmanIf2SsPkmTekAuthPends,
                 wmanIf2SsPkmTekKeyRejectErrorCode,
                 wmanIf2SsPkmTekKeyRejectErrorString,
                 wmanIf2SsPkmTekInvalidErrorCode,
                 wmanIf2SsPkmTekInvalidErrorString,
                 wmanIf2SsDeviceCert,
                 wmanIf2SsDeviceManufCert,

                 -- Notofocation
                 wmanIf2SsTrapControlRegister,
                 wmanIf2SsRssiLowThreshold,
                 wmanIf2SsRssiHighThreshold,
                 wmanIf2SsMacAddress,
                 wmanIf2SsUnknownTlv,
                 wmanIf2SsDynamicServiceType,
                 wmanIf2SsDynamicServiceFailReason,
                 wmanIf2SsRssiStatus,
                 wmanIf2SsRssiStatusInfo}
        STATUS       current
        DESCRIPTION
            "This group contains objects for SS, and are
             independent of PHY."
        ::= { wmanIf2MibGroups 5 }

wmanIf2MibBsOfdmGroup    OBJECT-GROUP
        OBJECTS {wmanIf2BsOfdmCtBasedResvTimeout,
                 wmanIf2BsOfdmBwReqOppSize,
                 wmanIf2BsOfdmRangReqOppSize,
                 wmanIf2BsOfdmUplinkCenterFreq,
                 wmanIf2BsOfdmNumSubChReqRegionFull,
                 wmanIf2BsOfdmNumSymbolsReqRegionFull,
                 wmanIf2BsOfdmSubChFocusCtCode,
                 wmanIf2BsOfdmUpLinkChannelId,
                 wmanIf2BsOfdmBsEIRP,
                 wmanIf2BsOfdmChannelNumber,
                 wmanIf2BsOfdmTTG,
                 wmanIf2BsOfdmRTG,
                 wmanIf2BsOfdmInitRngMaxRSS,
                 wmanIf2BsOfdmDownlinkCenterFreq,
                 wmanIf2BsOfdmBsId,
                 wmanIf2BsOfdmMacVersion,
                 wmanIf2BsOfdmFrameDurationCode,
                 wmanIf2BsOfdmDownLinkChannelId,
                 wmanIf2BsOfdmUcdFecCodeType,
                 wmanIf2BsOfdmFocusCtPowerBoost,
                 wmanIf2BsOfdmUcdTcsEnable,
                 wmanIf2BsOfdmUcdBurstProfileRowStatus,
                 wmanIf2BsOfdmDownlinkFrequency,
                 wmanIf2BsOfdmDcdFecCodeType,
                 wmanIf2BsOfdmDiucMandatoryExitThresh,
                 wmanIf2BsOfdmDiucMinEntryThresh,
                 wmanIf2BsOfdmTcsEnable,
                 wmanIf2BsOfdmDcdBurstProfileRowStatus,
                 wmanIf2BsOfdmMinReqRegionFullTxOpp,
                 wmanIf2BsOfdmMinFocusedCtTxOpp,
                 wmanIf2BsOfdmMaxRoundTripDelay,
                 wmanIf2BsOfdmRangeAbortTimingThold,
                 wmanIf2BsOfdmRangeAbortPowerThold ,
                 wmanIf2BsOfdmRangeAbortFreqThold,
                 wmanIf2BsOfdmDnlkRateId,
                 wmanIf2BsOfdmRatioG,
                 wmanIf2BsSsOfdmReqCapFftSizes,
                 wmanIf2BsSsOfdmReqCapSsDemodulator,
                 wmanIf2BsSsOfdmReqCapSsModulator,
                 wmanIf2BsSsOfdmReqCapFocusedCtSupport,
                 wmanIf2BsSsOfdmReqCapTcSublayerSupport,
                 wmanIf2BsSsOfdmRspCapFftSizes,
                 wmanIf2BsSsOfdmRspCapSsDemodulator,
                 wmanIf2BsSsOfdmRspCapSsModulator,
                 wmanIf2BsSsOfdmRspCapFocusedCtSupport,
                 wmanIf2BsSsOfdmRspCapTcSublayerSupport,
                 wmanIf2BsOfdmCapFftSizes,
                 wmanIf2BsOfdmCapSsDemodulator,
                 wmanIf2BsOfdmCapSsModulator,
                 wmanIf2BsOfdmCapFocusedCtSupport,
                 wmanIf2BsOfdmCapTcSublayerSupport,
                 wmanIf2BsOfdmCapCfgFftSizes,
                 wmanIf2BsOfdmCapCfgSsDemodulator,
                 wmanIf2BsOfdmCapCfgSsModulator,
                 wmanIf2BsOfdmCapCfgFocusedCtSupport,
                 wmanIf2BsOfdmCapCfgTcSublayerSupport}
        STATUS          current
        DESCRIPTION
            "This group contains objects for BS and OFDM PHY."
        ::= { wmanIf2MibGroups 6 }

wmanIf2MibSsOfdmGroup     OBJECT-GROUP
        OBJECTS {wmanIf2SsOfdmCtBasedResvTimeout,
                 wmanIf2SsOfdmBwReqOppSize,
                 wmanIf2SsOfdmRangReqOppSize,
                 wmanIf2SsOfdmUplinkCenterFreq,
                 wmanIf2SsOfdmNumSubChReqRegionFull,
                 wmanIf2SsOfdmNumSymbolsReqRegionFull,
                 wmanIf2SsOfdmSubChFocusCtCode,
                 wmanIf2SsOfdmUpLinkChannelId,
                 wmanIf2SsOfdmBsEIRP,
                 wmanIf2SsOfdmChannelNumber,
                 wmanIf2SsOfdmTTG,
                 wmanIf2SsOfdmRTG,
                 wmanIf2SsOfdmInitRngMaxRSS,
                 wmanIf2SsOfdmDownlinkCenterFreq,
                 wmanIf2SsOfdmBsId,
                 wmanIf2SsOfdmMacVersion,
                 wmanIf2SsOfdmFrameDurationCode,
                 wmanIf2SsOfdmDownLinkChannelId,
                 wmanIf2SsOfdmUcdFecCodeType,
                 wmanIf2SsOfdmFocusCtPowerBoost,
                 wmanIf2SsOfdmUcdTcsEnable,
                 wmanIf2SsOfdmDownlinkFrequency,
                 wmanIf2SsOfdmDcdFecCodeType,
                 wmanIf2SsOfdmDiucMandatoryExitThresh,
                 wmanIf2SsOfdmDiucMinEntryThresh,
                 wmanIf2SsOfdmTcsEnable}
        STATUS       current
        DESCRIPTION
            "This group contains objects for SS and OFDM PHY."
        ::= { wmanIf2MibGroups 7 }

wmanIf2MibBsOfdmaGroup     OBJECT-GROUP
        OBJECTS {wmanIf2BsOfdmaCtBasedResvTimeout,
                 wmanIf2BsOfdmaBwReqOppSize,
                 wmanIf2BsOfdmaRangReqOppSize,
                 wmanIf2BsOfdmaUplinkCenterFreq,
                 wmanIf2BsOfdmaInitRngCodes,
                 wmanIf2BsOfdmaPeriodicRngCodes,
                 wmanIf2BsOfdmaBWReqCodes,
                 wmanIf2BsOfdmaPerRngBackoffStart,
                 wmanIf2BsOfdmaPerRngBackoffEnd,
                 wmanIf2eBsOfdmaStartOfRngCodes,
                 wmanIf2BsOfdmaPermutationBase,
                 wmanIf2BsOfdmaULAllocSubchBitmap,
                 wmanIf2BsOfdmaOptPermULAllocSubchBitmap,
                 wmanIf2BsOfdmaBandAMCAllocThreshold,
                 wmanIf2BsOfdmaBandAMCReleaseThreshold,
                 wmanIf2BsOfdmaBandAMCAllocTimer,
                 wmanIf2BsOfdmaBandAMCReleaseTimer,
                 wmanIf2BsOfdmaBandStatRepMAXPeriod,
                 wmanIf2BsOfdmaBandAMCRetryTimer,
                 wmanIf2BsOfdmaSafetyChAllocThreshold,
                 wmanIf2BsOfdmaSafetyChReleaseThreshold,
                 wmanIf2BsOfdmaSafetyChAllocTimer,
                 wmanIf2BsOfdmaSafetyChReleaseTimer,
                 wmanIf2BsOfdmaBinStatRepMAXPeriod,
                 wmanIf2BsOfdmaSafetyChaRetryTimer,
                 wmanIf2BsOfdmaHARQAackDelayULBurst,
                 wmanIf2BsOfdmaCQICHBandAMCTranaDelay,
                 wmanIf2BsOfdmaBsEIRP,
                 wmanIf2BsOfdmaChannelNumber,
                 wmanIf2BsOfdmaTTG,
                 wmanIf2BsOfdmaRTG,
                 wmanIf2BsOfdmaInitRngMaxRSS,
                 wmanIf2BsOfdmaDownlinkCenterFreq,
                 wmanIf2BsOfdmaBsId,
                 wmanIf2BsOfdmaMacVersion,
                 wmanIf2BsOfdmaFrameDurationCode,
                 wmanIf2BsOfdmaSizeCqichIdField,
                 wmanIf2BsOfdmaHARQAackDelayBurst,
                 wmanIf2BsOfdmaUcdFecCodeType,
                 wmanIf2BsOfdmaRangingDataRatio,
                 wmanIf2BsOfdmaNorCOverNOverride,
                 wmanIf2BsOfdmaUcdBurstProfileRowStatus,
                 wmanIf2BsOfdmaDownlinkFrequency,
                 wmanIf2BsOfdmaDcdFecCodeType,
                 wmanIf2BsOfdmaDiucMandatoryExitThresh,
                 wmanIf2BsOfdmaDiucMinEntryThresh,
                 wmanIf2BsOfdmaDcdBurstProfileRowStatus}
        STATUS       current
        DESCRIPTION
            "This group contains objects for BS and OFDMA PHY."
        ::= { wmanIf2MibGroups 8 }

wmanIf2MibSsOfdmaGroup     OBJECT-GROUP
        OBJECTS {wmanIf2SsOfdmaCtBasedResvTimeout,
                 wmanIf2SsOfdmaBwReqOppSize,
                 wmanIf2SsOfdmaRangReqOppSize,
                 wmanIf2SsOfdmaUplinkCenterFreq,
                 wmanIf2SsOfdmaInitRngCodes,
                 wmanIf2SsOfdmaPeriodicRngCodes,
                 wmanIf2SsOfdmaBWReqCodes,
                 wmanIf2SsOfdmaPerRngBackoffStart,
                 wmanIf2SsOfdmaPerRngBackoffEnd,
                 wmanIf2SsOfdmaStartOfRngCodes,
                 wmanIf2SsOfdmaPermutationBase,
                 wmanIf2SsOfdmaULAllocSubchBitmap,
                 wmanIf2SsOfdmaOptPermULAllocSubchBitmap,
                 wmanIf2SsOfdmaBandAMCAllocThreshold,
                 wmanIf2SsOfdmaBandAMCReleaseThreshold,
                 wmanIf2SsOfdmaBandAMCAllocTimer,
                 wmanIf2SsOfdmaBandAMCReleaseTimer,
                 wmanIf2SsOfdmaBandStatRepMAXPeriod,
                 wmanIf2SsOfdmaBandAMCRetryTimer,
                 wmanIf2SsOfdmaSafetyChAllocThreshold,
                 wmanIf2SsOfdmaSafetyChReleaseThreshold,
                 wmanIf2SsOfdmaSafetyChAllocTimer,
                 wmanIf2SsOfdmaSafetyChReleaseTimer,
                 wmanIf2SsOfdmaBinStatRepMAXPeriod,
                 wmanIf2SsOfdmaSafetyChaRetryTimer,
                 wmanIf2SsOfdmaHARQAackDelayULBurst,
                 wmanIf2SsOfdmaCQICHBandAMCTranaDelay,
                 wmanIf2SsOfdmaBsEIRP,
                 wmanIf2SsOfdmaChannelNumber,
                 wmanIf2SsOfdmaTTG,
                 wmanIf2SsOfdmaRTG,
                 wmanIf2SsOfdmaInitRngMaxRSS,
                 wmanIf2SsOfdmaDownlinkCenterFreq,
                 wmanIf2SsOfdmaBsId,
                 wmanIf2SsOfdmaMacVersion,
                 wmanIf2SsOfdmaFrameDurationCode,
                 wmanIf2SsOfdmaSizeCqichIdField,
                 wmanIf2SsOfdmaHARQAackDelayBurst,
                 wmanIf2SsOfdmaUiucIndex,
                 wmanIf2SsOfdmaUcdFecCodeType,
                 wmanIf2SsOfdmaRangingDataRatio,
                 wmanIf2SsOfdmaNorCOverNOverride,
                 wmanIf2SsOfdmaDiucIndex,
                 wmanIf2SsOfdmaDownlinkFrequency,
                 wmanIf2SsOfdmaDcdFecCodeType,
                 wmanIf2SsOfdmaDiucMandatoryExitThresh,
                 wmanIf2SsOfdmaDiucMinEntryThresh}
        STATUS       current
        DESCRIPTION
            "This group contains objects for SS and OFDMA PHY."
        ::= { wmanIf2MibGroups 9 }

wmanIf2MibBsNotificationGroup     NOTIFICATION-GROUP
        NOTIFICATIONS {wmanIf2BsSsStatusNotificationTrap,
                       wmanIf2BsSsDynamicServiceFailTrap,
                       wmanIf2BsSsRssiStatusChangeTrap,
                       wmanIf2BsSsPkmFailTrap,
                       wmanIf2BsSsRegistrerTrap}
        STATUS       current
        DESCRIPTION
            "This group contains event notifications for BS."
        ::= { wmanIf2MibGroups 10 }

wmanIf2MibSsNotificationGroup     NOTIFICATION-GROUP
        NOTIFICATIONS {wmanIf2SsTlvUnknownTrap,
                       wmanIf2SsDynamicServiceFailTrap,
                       wmanIf2SsDhcpSuccessTrap,
                       wmanIf2SsRssiStatusChangeTrap}
        STATUS       current
        DESCRIPTION
            "This group contains event notifications for SS."
        ::= { wmanIf2MibGroups 11 }

wmanIf2MibCmnPhsGroup     OBJECT-GROUP
        OBJECTS {-- Payload header supression
                 wmanIf2CmnPhsRulePhsField,
                 wmanIf2CmnPhsRulePhsMask,
                 wmanIf2CmnPhsRulePhsSize,
                 wmanIf2CmnPhsRulePhsVerify}
        STATUS       current
        DESCRIPTION
            "This group contains common objects for PHS."
        ::= { wmanIf2MibGroups 12 }

wmanIf2MibBsPhsGroup     OBJECT-GROUP
        OBJECTS {-- Payload header supression
                 wmanIf2BsClassifierRulePhsSize,
                 wmanIf2BsClassifierRulePhsMask,
                 wmanIf2BsClassifierRulePhsVerify,
                 wmanIf2BsClassifierRuleBitMap}
        STATUS       current
        DESCRIPTION
            "This group contains BS objects for PHS."
        ::= { wmanIf2MibGroups 13 }
END
```

### 15.2.3.2 WMAN-IF2M-MIB

```
WMAN-IF2M-MIB DEFINITIONS ::= BEGIN

  IMPORTS
        MODULE-IDENTITY,
        OBJECT-TYPE,
        NOTIFICATION-TYPE,
        Unsigned32, Integer32, Counter32,
        Counter64, transmission
                FROM SNMPv2-SMI
        SnmpAdminString
                FROM SNMP-FRAMEWORK-MIB
        TEXTUAL-CONVENTION,
        MacAddress, RowStatus, TruthValue,
        TimeStamp, DateAndTime
                FROM SNMPv2-TC
        InetAddressType, InetAddress
                FROM INET-ADDRESS-MIB
        OBJECT-GROUP,
        MODULE-COMPLIANCE,
        NOTIFICATION-GROUP
                FROM SNMPv2-CONF
        ifIndex
                FROM IF-MIB;

wmanIf2mMib MODULE-IDENTITY
        LAST-UPDATED    "200610160000Z" -- October 16, 2006
        ORGANIZATION    "IEEE 802.16"
        CONTACT-INFO
            "WG E-mail: stds-802-16@ieee.org
             WG Chair:  Roger B. Marks
             Postal:    (U.S.) National Institute
                         of Standards and Technology
             E-mail:    r.b.marks@ieee.org

             TGf Chair: Phillip Barber
             Postal:    Huawei Technologies Co., Ltd
             E-mail:    pbarber@futurewei.com

             Editor:    Joey Chou
             Postal:    Intel Corporation
                        5000 W. Chandler Blvd,
                        Chandler, AZ 85227, USA
             E-mail:    joey.chou@intel.com"
        DESCRIPTION
            "This material is from IEEE Std 802.16i
             Copyright (c) 2006 IEEE.
             This MIB Module defines managed objects for
             Subscriber Station and Base Station based on IEEE Std
             802.16-2004 and its amendment IEEE Std 802.16e-2005.
             The MIB contains managed objects that are specific
             to mobile Broadband Wireless Networks."
        REVISION        "200610160000Z"
        DESCRIPTION
            "The 1st revision of WMAN-IF2M-MIB module."
        ::= { ??? ??? }


END
```

# Annex E.

# Annex F. Proposal for Adding Mobility Handover and Paging group MIBs

## 1. Introduction

With the mobility feature introduced, handover between BS and its neighbouring BS is inevitable. This contribution proposes to add BS handover related parameters which will help to execute smoothly handover.

Paging group configuration is also very important in the mobility scenario, proper paging group settings will make the paging procedure simple and effective. The configuration of paging group is also included in this contribution.

## 2. Proposed Text Introduction

### 2.1 wmanIfBsObjects

### 2.1.1 wmanIfBsMobility

### 2.1.1.1 wmanIfBsHandoverConfiguration

wmanIfBsHandoverConfiguration contains handover related parameters. Handover related parameters include BS configuration parameters and its neighbouring BSes configuration parameters.

### 2.1.1.2 wmanIfBsPagingGroupTable

wmanIfBsPagingGroupTable contains paging group related parameters

# 3. ASN.1 Definitions of 802.16 MIB for SNMP

```
wman2IfMibObjects OBJECT IDENTIFIER ::= { wman2IfMib 1 }
wman2IfBsObjects OBJECT IDENTIFIER ::= { wman2IfMibObjects 1 }
wman2IfMsObjects OBJECT IDENTIFIER ::= { wman2IfMibObjects 2 }
wman2IfCommonObjects OBJECT IDENTIFIER ::= { wman2IfMibObjects 3 }
wmanIfBsFm OBJECT IDENTIFIER ::= { wman2IfBsObjects x } -- e.g. x=0
wmanIfBsCm OBJECT IDENTIFIER ::= { wman2IfBsObjects x } -- e.g. x=7
wmanIfBsAm OBJECT IDENTIFIER ::= { wman2IfBsObjects x } -- e.g. x=0
wmanIfBsPm OBJECT IDENTIFIER ::= { wman2IfBsObjects x } -- e.g. x=0
wmanIfBsSm OBJECT IDENTIFIER ::= { wman2IfBsObjects x } -- e.g. x=0
wmanIfMsFm OBJECT IDENTIFIER ::= { wman2IfMsObjects x } -- e.g. x=0
wmanIfMsCm OBJECT IDENTIFIER ::= { wman2IfMsObjects x } -- e.g. x=0
wmanIfMsAm OBJECT IDENTIFIER ::= { wman2IfMsObjects x } -- e.g. x=0
wmanIfMsPm OBJECT IDENTIFIER ::= { wman2IfMsObjects x } -- e.g. x=0
wmanIfMsSm OBJECT IDENTIFIER ::= { wman2IfMsObjects x } -- e.g. x=0
wmanIfBsCmHOConfiguration OBJECT IDENTIFIER ::= { wmanIfBsCm 2 }

wmanIfBsOperatorId OBJECT-TYPE
        SYNTAX Integer32
        MAX-ACCESS read-write
        STATUS current
        DESCRIPTION
                "An unique operator identifier."
        ::= { wmanIfBsHandoverConfiguration 1 }

wmanIfBsId OBJECT-TYPE
        SYNTAX WmanIfBsIdType
        MAX-ACCESS read-write
        STATUS current
        DESCRIPTION
                "An unique BS identifier."
        ::= { wmanIfBsHandoverConfiguration 2 }

wmanIfBsHandoverSupport OBJECT-TYPE
        SYNTAX BITS
                {
                MDHO/FBSS HO not supported(0),
                FBSS/MDHO DLRF combining supported(1),
                MDHO DL soft combining supported monitoring single MAP from anchor
BS(2),
                MDHO DL soft combining supported monitoring MAPS from active BSs(3),
                reserved1(5),
                reserved2(6),
                reserved3(7)
                }
        MAX-ACCESS read-write
        STATUS current
        DESCRIPTION
                "The Handover supported field indicates what type(s) of HO the BS and the MS
supports."
        ::= { wmanIfBsHandoverConfiguration 3 }
```

```
wmanIfBsHandoverSupport OBJECT-TYPE
        SYNTAX BITS
                {
                mdho/fbss HO not supported(0),
                fbss/mdho DLRF combining supported(1),
                mdho DL soft combining supported monitoring single MAP from anchor BS(2),
                mdho DL soft combining supported monitoring MAPS from active BSs(3)
                }
        MAX-ACCESS read-write
        STATUS current
        DESCRIPTION
                "The Handover supported field indicates what type(s) of HO the BS and the MS
supports."
        ::= { wmanIfBsHandoverConfiguration 3 }

wmanIfBsResourceRetainTime OBJECT-TYPE
        SYNTAX Integer32
        MAX-ACCESS read-write
        STATUS current
        DESCRIPTION
                "The Resource_Retain_Time is the duration for MS s connection information
that will be retained in serving BS. BS shall start Resource_Retain_Time timer at MS notification
```

```
of pending HO attempt through MOB_HO-IND or by detecting an MS drop. The unit of this value
is 100 milliseconds."
        ::= { wmanIfBsHandoverConfiguration 4 }

wmanIfBsHOProcessOptimizationMSTimer OBJECT-TYPE
        SYNTAX INTEGER
        MAX-ACCESS read-write
        STATUS current
        DESCRIPTION
                "the duration in frames MS shall wait until receipt
                 of the next unsolicited network re-entry MAC
                management message as indicated in the HO Process
                 Optimization element of the RNG-RSP message."
        ::= { wmanIfBsHandoverConfiguration 5 }

wmanIfBsMsHORetransmissionTimer OBJECT-TYPE
        SYNTAX INTEGER
        MAX-ACCESS read-write
        STATUS current
        DESCRIPTION
                "After a MS transmits MOB_MSHO-REQ to initiate a handover process, it shall
start MS Handover Retransmission Timer and shall not transmit another MOB_MSHO-REQ until
the expiration of the MS Handover Retransmission Timer."
        ::= { wmanIfBsHandoverConfiguration 6 }

wmanIfBsMobilityModeSupport OBJECT-TYPE
        SYNTAX BITS
                {
                handover support(0),
                sleep-mode support(1),
                idle-mode support(2)
                }
        MAX-ACCESS read-write
        STATUS current
        DESCRIPTION
                "This parameter is to represent the supported mobility mode."
        ::= { wmanIfBsHandoverConfiguration 7 }

wmanIfBsMsHOConnectProcessingTime OBJECT-TYPE
        SYNTAX INTEGER
        MAX-ACCESS read-write
        STATUS current
        DESCRIPTION
                "Time in ms the MS needs to process information
                on connections provided in
                RNGRSP or REG-RSP message during
                HO."
        ::= { wmanIfBsHandoverConfiguration 8 }

wmanIfBsMsHoTekProcessingTime OBJECT-TYPE
        SYNTAX INTEGER
        MAX-ACCESS read-write
        STATUS current
        DESCRIPTION
```

```
                "Time in ms the MS needs to completely
                process TEK information during HO."
        ::= { wmanIfBsHandoverConfiguration 9 }

wmanIfBsULPermutationBase OBJECT-TYPE
        SYNTAX OCTET STRING
        MAX-ACCESS read-write
        STATUS current
        DESCRIPTION
                "This parameter is used for uplink subcarrier allocation."
        ::= { wmanIfBsHandoverConfiguration 10 }

wmanIfBsDLPermutationBase OBJECT-TYPE
        SYNTAX OCTET STRING
        MAX-ACCESS read-write
        STATUS current
        DESCRIPTION
                "This parameter is used for downlink subcarrier allocation."
        ::= { wmanIfBsHandoverConfiguration 11 }

wmanIfBsPreambleIndex OBJECT-TYPE
        SYNTAX OCTET STRING
        MAX-ACCESS read-write
        STATUS current
        DESCRIPTION
                "This parameter is used for downlink synchronization by MS."
        ::= { wmanIfBsHandoverConfiguration 12 }

wmanIfBsSegmentNumber OBJECT-TYPE
        SYNTAX INTEGER
        MAX-ACCESS read-write
        STATUS current
        DESCRIPTION
                "This parameter is an unique segment identifier ."
        ::= { wmanIfBsHandoverConfiguration 13 }

wmanIfNeighbourBsTable OBJECT-TYPE
        SYNTAX SEQUENCE OF WmanIfNeighbourBsEntry
        MAX-ACCESS not-accessible
        STATUS current
        DESCRIPTION
                "This table contains neighbouring BS related parameters."
        ::= { wmanIfBsHandoverConfiguration 14 }

wmanIfNeighbourBsEntry OBJECT-TYPE
        SYNTAX WmanIfNeighbourBsEntry
        MAX-ACCESS not-accessible
        STATUS current
        DESCRIPTION
                "This table is indexed by wmanIfNeighbourBsId."
        INDEX { ifIndex, wmanIfNeighbourBsId }
        ::= { wmanIfNeighbourBsTable 1 }

wmanIfNeighbourBsEntry ::= SEQUENCE {
```

```
wmanIfNeighbourBsId             WmanIfBsIdType,
wmanIfNeighbourBsFAIndex INTEGER,
wmanIfNeighbourBsEIRP           INTEGER (-128..127),
wmanIfNeighbourBsHOProcessOptimizationInteger32,
wmanIfNeighbourBsSchedulingServiceSupportBITS,
wmanIfNeighbourBsBandwidthInteger32,
wmanIfNeighbourBsFFTSize        Integer32,
wmanIfNeighbourBsCyclePrefixInteger32,
wmanIfNeighbourBsFrameDurationCodeInteger32,
wmanIfNeighbourBsULPermutationBaseInteger32,
wmanIfNeighbourBsDLPermutationBaseInteger32,
wmanIfNeighbourBsSegmentNumberInteger32,
wmanIfNeighbourBsPreambleIndexInteger32
}

wmanIfNeighbourBsId OBJECT-TYPE
        SYNTAX WmanIfBsIdType
        MAX-ACCESS read-write
        STATUS current
        DESCRIPTION
                "The neighbouring BS identifier."
        ::= { wmanIfNeighbourBsEntry 1 }

wmanIfNeighbourBsFAIndex OBJECT-TYPE
        SYNTAX INTEGER
        MAX-ACCESS read-write
        STATUS current
        DESCRIPTION
                "Frequency Assignment Index."
        ::= { wmanIfNeighbourBsEntry 2 }

wmanIfNeighbourBsEIRP OBJECT-TYPE
        SYNTAX INTEGER (-128..127)
        MAX-ACCESS read-write
        STATUS current
        DESCRIPTION
                "Neighbour BS EIRP."
        ::= { wmanIfNeighbourBsEntry 3 }

wmanIfNeighbourBsHOProcessOptimization OBJECT-TYPE
        SYNTAX Integer32
        MAX-ACCESS read-write
        STATUS current
        DESCRIPTION
                "Identifies re-entry process management messages that may be omitted during
the current HO attempt due to the availability of MS service and operational context information,
and the MS service and operational status post-HO completion."
        ::= { wmanIfNeighbourBsEntry 4 }

wmanIfNeighbourBsSchedulingServiceSupport OBJECT-TYPE
        SYNTAX BITS
                {
                real-time polling service(0),
                extended real-time polling service(1),
                    non-real-time polling service(2),
                    unsolicited grant service(3),
                    best effort(4)
                    }
          MAX-ACCESS read-write
          STATUS current
          DESCRIPTION
                    "This parameter is used to indicate neighbouring BS scheduling service type."
          ::= { wmanIfNeighbourBsEntry 5 }

wmanIfNeighbourBsBandwidth OBJECT-TYPE
          SYNTAX Integer32
          MAX-ACCESS read-write
          STATUS current
          DESCRIPTION
                    "This parameter is used to indicate neighbouring BS bandwidth."
          ::= { wmanIfNeighbourBsEntry 6 }

wmanIfNeighbourBsFFTSize OBJECT-TYPE
          SYNTAX Integer32
          MAX-ACCESS read-write
          STATUS current
          DESCRIPTION
                    "This parameter is used to indicate neighbouring BS FFT size."
          ::= { wmanIfNeighbourBsEntry 7 }

wmanIfNeighbourBsCyclePrefix OBJECT-TYPE
          SYNTAX Integer32
          MAX-ACCESS read-write
          STATUS current
          DESCRIPTION
                    "This parameter is used to indicate neighbouring BS Cycle prefix."
          ::= { wmanIfNeighbourBsEntry 8 }

wmanIfNeighbourBsFrameDurationCode OBJECT-TYPE
          SYNTAX Integer32
          MAX-ACCESS read-write
          STATUS current
          DESCRIPTION
                    "This parameter is used to indicate neighbouring BS Frame duration code."
          ::= { wmanIfNeighbourBsEntry 9 }

wmanIfNeighbourBsULPermutationBase OBJECT-TYPE
          SYNTAX Integer32
          MAX-ACCESS read-write
          STATUS current
          DESCRIPTION
                    "This parameter is used to indicate neighbouring BS uplink permutation base."
          ::= { wmanIfNeighbourBsEntry 10 }

wmanIfNeighbourBsDLPermutationBase OBJECT-TYPE
          SYNTAX Integer32
          MAX-ACCESS read-write
          STATUS current
```

```
        DESCRIPTION
                "This parameter is used to indicate neighbouring BS downlink permutation base."
        ::= { wmanIfNeighbourBsEntry 11 }

wmanIfNeighbourBsSegmentNumber OBJECT-TYPE
        SYNTAX Integer32
        MAX-ACCESS read-write
        STATUS current
        DESCRIPTION
                "This parameter is used to indicate neighbouring BS segment number."
        ::= { wmanIfNeighbourBsEntry 12 }

wmanIfNeighbourBsPreambleIndex OBJECT-TYPE
        SYNTAX Integer32
        MAX-ACCESS read-write
        STATUS current
        DESCRIPTION
                "This parameter is used to indicate neighbouring BS preamble index."
        ::= { wmanIfNeighbourBsEntry 13 }

wmanIfBsPagingGroupTable OBJECT-TYPE
        SYNTAX SEQUENCE OF WmanIfBsPagingGroupEntry
        MAX-ACCESS not-accessible
        STATUS current
        DESCRIPTION
                "This table contains paging group related parameters."
        ::= { wmanIfBsMobility 3 }

wmanIfBsPagingGroupEntry OBJECT-TYPE
        SYNTAX WmanIfBsPagingGroupEntry
        MAX-ACCESS not-accessible
        STATUS current
        DESCRIPTION
                "This table is indexed by wmanIfBsPagingGroupId."
        INDEX { wmanIfBsPagingGroupId }
        ::= { wmanIfBsPagingGroupTable 1 }

wmanIfBsPagingGroupEntry ::= SEQUENCE {
wmanIfBsPagingControlId                 IpAddress,
wmanIfBsPagingGroupId                   INTEGER,
wmanIfBsMgmtResourceHoldingTimerInteger32,
wmanIfBsT46Timer                                Integer32,
wmanIfBsPagingRetryCount                INTEGER,
wmanIfBsREQDuration                     INTEGER,
wmanIfBsMACHashSkipThresholdInteger32,
wmanIfBsCDMATransmissionOpportunityAssignmentINTEGER,
wmanIfBsPagingResponseWindow INTEGER,
wmanIfBsIdleModeTimer                   INTEGER,
wmanIfBsIdleModeSystemTimer     INTEGER,
wmanIfBsPagingIntervalLength    INTEGER,
wmanIfBsPagingCycle                     INTEGER
}
```

```
wmanIfBsPagingControlId OBJECT-TYPE
        SYNTAX IpAddress
        MAX-ACCESS read-write
        STATUS current
        DESCRIPTION
                "This parameter is used to indicate paging controller identifier connected by BS."
        ::= { wmanIfBsPagingGroupEntry 1 }

wmanIfBsPagingGroupId OBJECT-TYPE
        SYNTAX INTEGER
        MAX-ACCESS read-write
        STATUS current
        DESCRIPTION
                "This parameter is used to indicate the paging group identifier assigned to BS by
network."
        ::= { wmanIfBsPagingGroupEntry 2 }

wmanIfBsMgmtResourceHoldingTimer OBJECT-TYPE
        SYNTAX Integer32
        MAX-ACCESS read-write
        STATUS current
        DESCRIPTION
                "Time the BS maintain connection
                information with the MS after the
                BS send DREG-CMD to the MS"
        ::= { wmanIfBsPagingGroupEntry 3 }

wmanIfBsT46Timer OBJECT-TYPE
        SYNTAX Integer32
        MAX-ACCESS read-write
        STATUS current
        DESCRIPTION
                "Time the BS waits for DREGREQ
                in case of unsolicited Idle
                Mode initiation from BS."
        ::= { wmanIfBsPagingGroupEntry 4 }

wmanIfBsPagingRetryCount OBJECT-TYPE
        SYNTAX INTEGER
        MAX-ACCESS read-write
        STATUS current
        DESCRIPTION
                "Number of retries on paging
                transmission. If the BS does not
                receive RNG-REQ from the MS
                until this value decreases to zero,
                it determines that the MS is
                unavailable."
        ::= { wmanIfBsPagingGroupEntry 5 }

wmanIfBsREQDuration OBJECT-TYPE
        SYNTAX INTEGER
        MAX-ACCESS read-write
        STATUS current
        DESCRIPTION
                "Waiting value for the DREG-REQ message re-transmission
                (measured in frames)."
        ::= { wmanIfBsPagingGroupEntry 6 }

wmanIfBsMACHashSkipThreshold OBJECT-TYPE
        SYNTAX Integer32
        MAX-ACCESS read-write
        STATUS current
        DESCRIPTION
                "Maximum number of successive MOB_PAG-ADV messages
                that may be sent from a BS without individual notification for
                an MS for which BS is allowed to skip MS MAC Address Hash
                when the Action Code for the MS is 0b00,'No Action Required'."
        ::= { wmanIfBsPagingGroupEntry 7 }

wmanIfBsCDMATransmissionOpportunityAssignment OBJECT-TYPE
        SYNTAX INTEGER
        MAX-ACCESS read-write
        STATUS current
        DESCRIPTION
                "The CDMA code and transmission opportunity
                assignment field indicates the assigned code
                and transmission opportunity for a MS who is
                paged to use over dedicated CDMA ranging region."
        ::= { wmanIfBsPagingGroupEntry 8 }

wmanIfBsPagingResponseWindow OBJECT-TYPE
        SYNTAX INTEGER
        MAX-ACCESS read-write
        STATUS current
        DESCRIPTION
                "The Page-Response Window indicates the Page-Response window for a MS
who is paged to transmit
                the assigned code for CDMA ranging channel."
        ::= { wmanIfBsPagingGroupEntry 9 }

wmanIfBsIdleModeTimer OBJECT-TYPE
        SYNTAX INTEGER (128..65536)
        MAX-ACCESS read-write
        STATUS current
        DESCRIPTION
                "MS timed interval to conduct
                Location Update. Set timer to MS
                Idle Mode Timeout capabilities
                setting. Timer recycles on successful
                Idle Mode Location Update."
        ::= { wmanIfBsPagingGroupEntry 10 }

wmanIfBsIdleModeSystemTimer OBJECT-TYPE
        SYNTAX INTEGER (128..65536)
        MAX-ACCESS read-write
        STATUS current
        DESCRIPTION
```

```
                "For BS acting as Paging Controller,
                timed interval to receive notification
                of MS Idle Mode Location Update. Set
                timer to MS Idle Mode Timeout. Timer
                recycles on successful Idle Mode
                Location Update."
        ::= { wmanIfBsPagingGroupEntry 11 }

wmanIfBsPagingIntervalLength OBJECT-TYPE
        SYNTAX INTEGER (2..5)
        MAX-ACCESS read-write
        STATUS current
        DESCRIPTION
                "time duration of Paging Interval
                of the BS."
        ::= { wmanIfBsPagingGroupEntry 12 }

wmanIfBsPagingCycle OBJECT-TYPE
        SYNTAX INTEGER
        MAX-ACCESS read-write
        STATUS current
        DESCRIPTION
                "Cycle in which the paging message is transmitted
                within the paging group."
        ::= { wmanIfBsPagingGroupEntry 13 }
```