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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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Baseline document for Draft Amendment to IEEE Standard forLocal and metropolitan area networks

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.

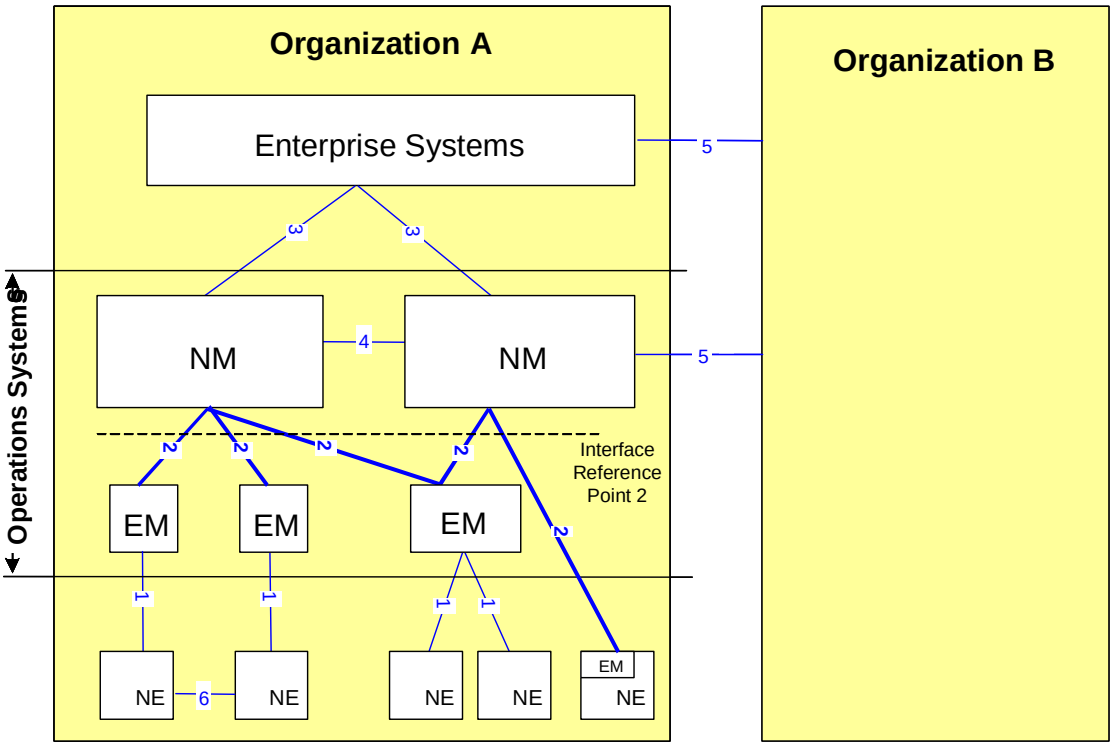

Figure 1—Mobile BWA Network Management Reference Model

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.

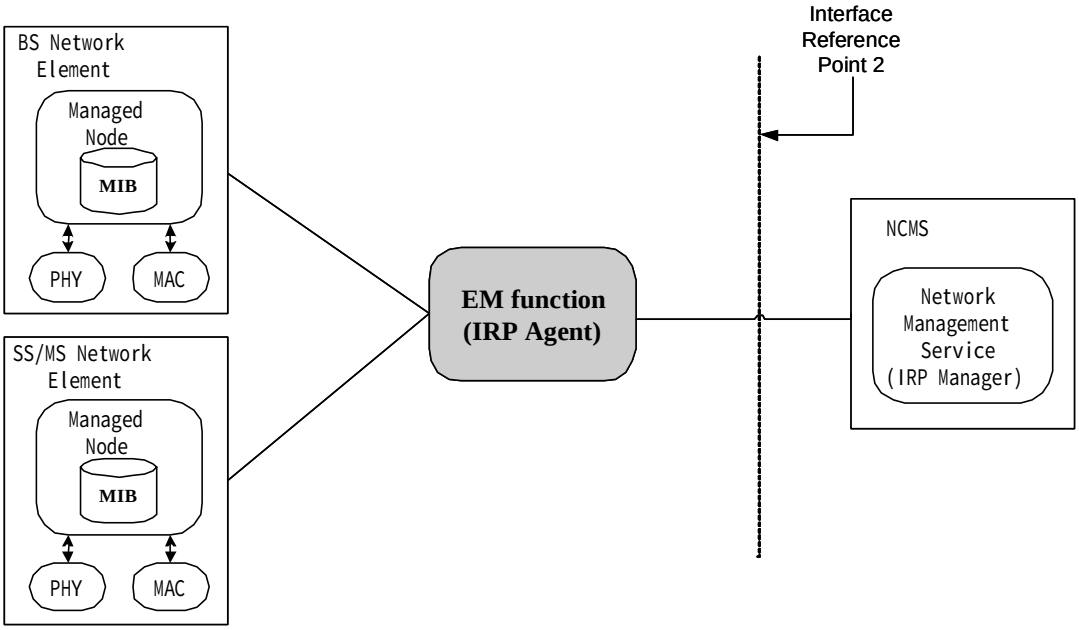

Figure 2—Mobile BWA Network Management Architecture - Context A

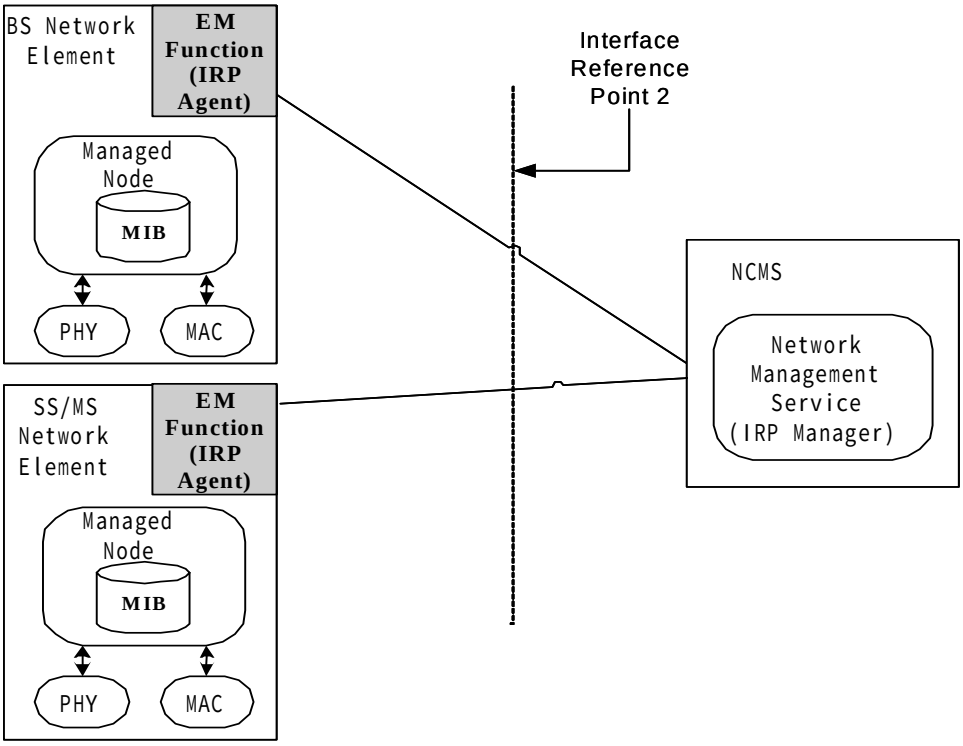

Figure 3—Mobile BWA Network Management Architecture - Context B

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

wman2IfMib is located under MIB-II subtree. A submission will be sent to the Internet Assigned Numbers Authority (IANA) to assign ieee80216WMAN for wman2IfMib.

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

Pending on IETF approval, wman2IfMib 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.

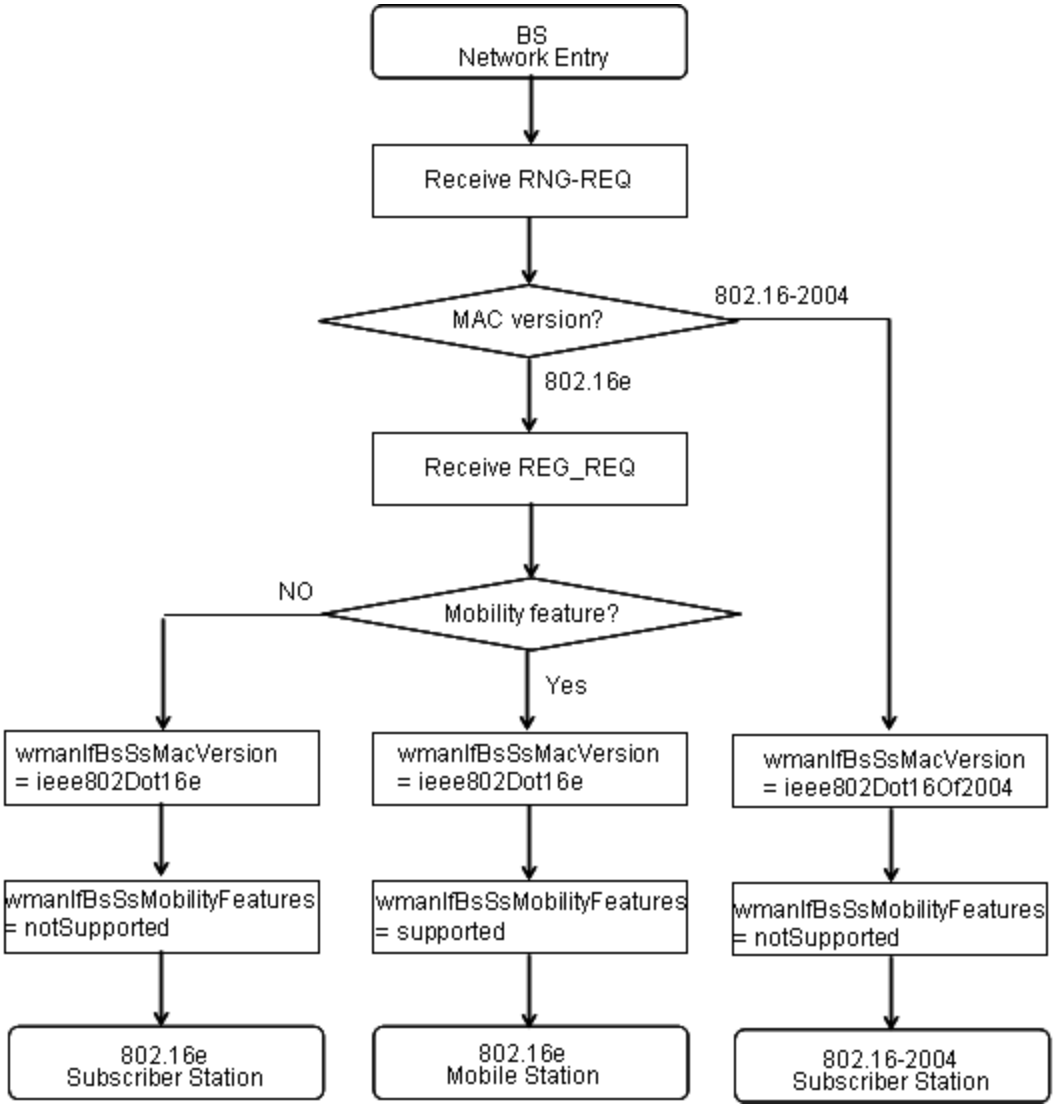

Figure 4—SS / MS Network Entry

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

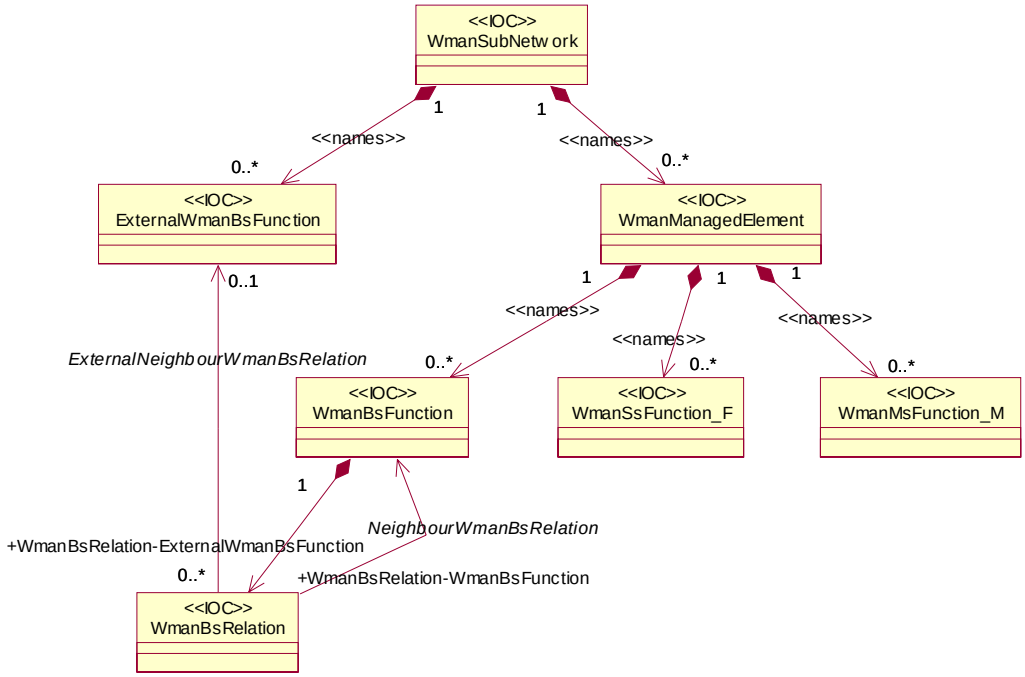

Figure 5—WmanSubNetwork Containment/Naming and Association Diagram

15.1.1.2.1.2 Bs Object Relationships

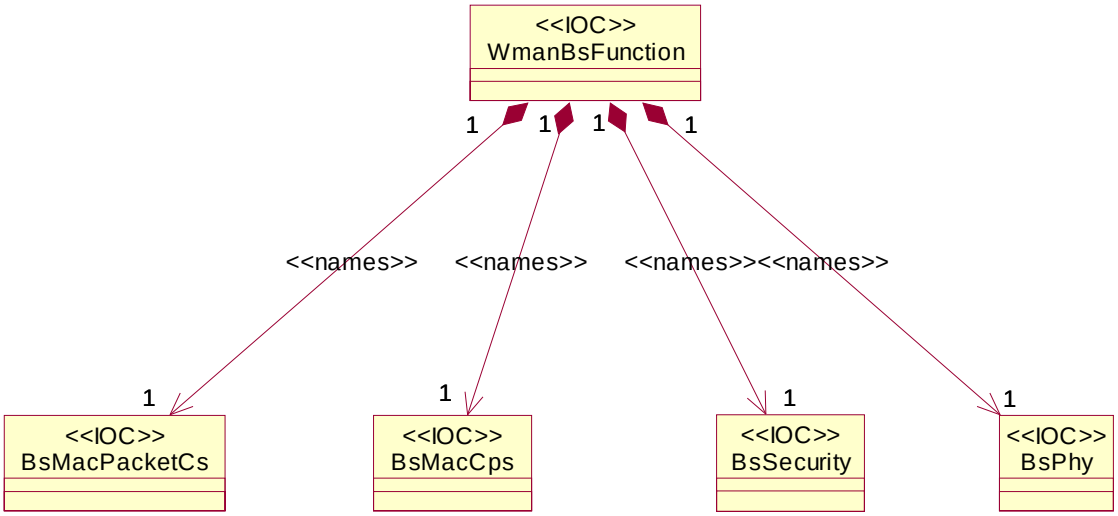

Figure 6—WmanBsFunction Containment/Naming and Association Diagram

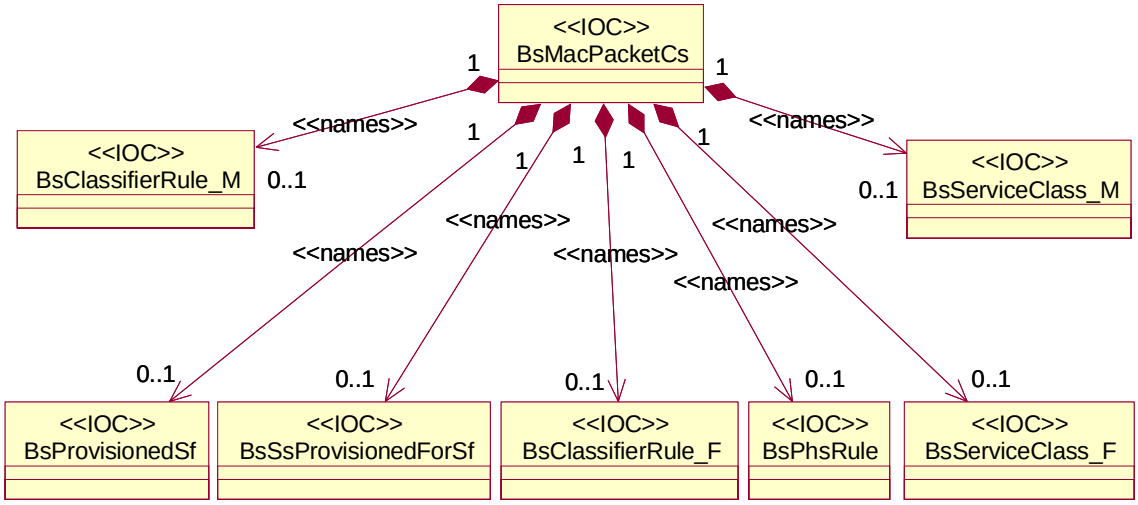

Figure 7—BsMacPacketCs Containment/Naming and Association Diagram

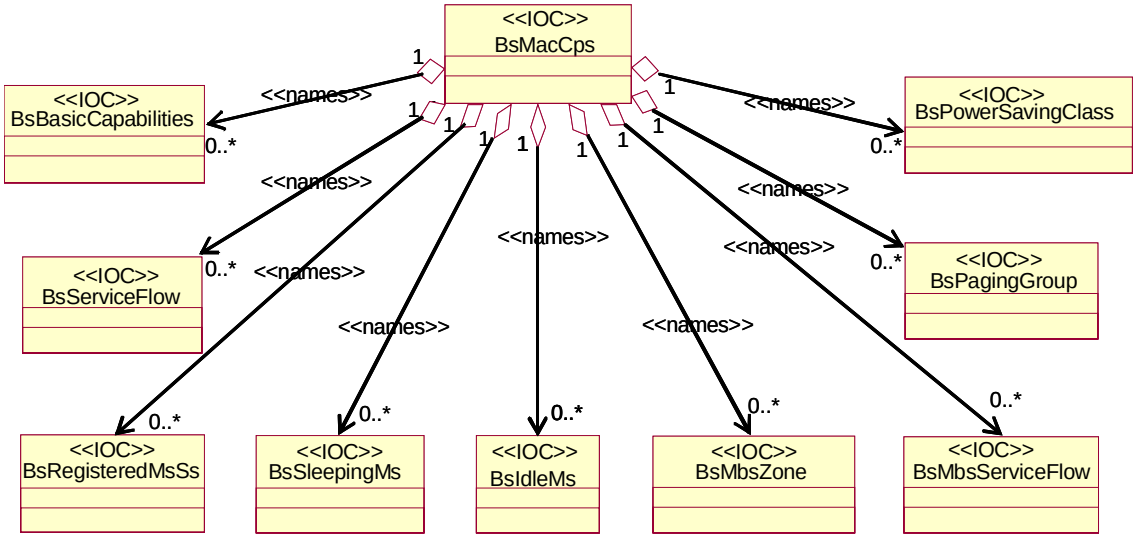

Figure 8—BsMacCps Containment/Naming and Association Diagram

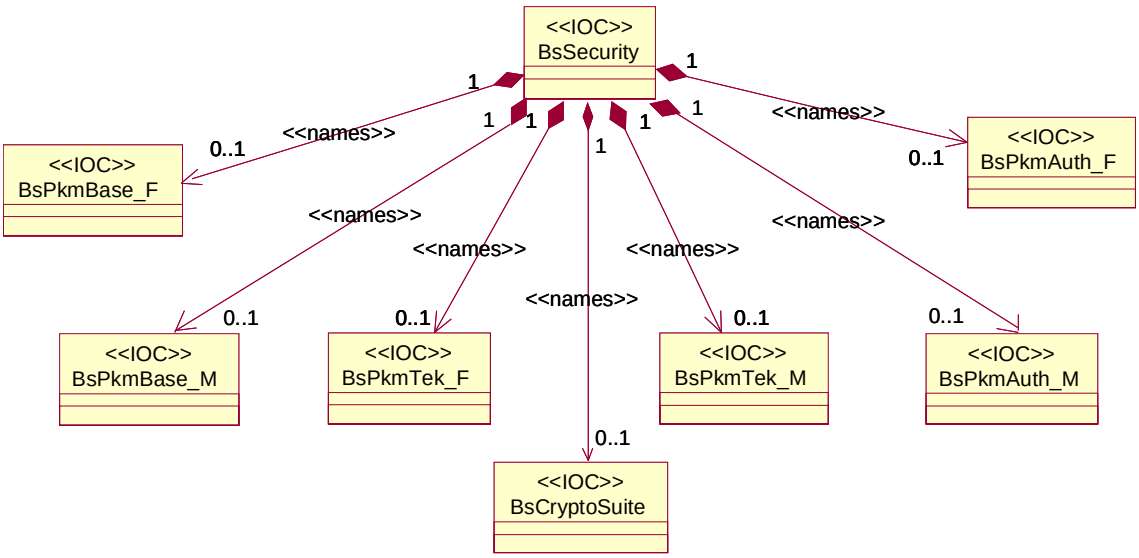

Figure 9—BsSecurity Containment/Naming and Association Diagram

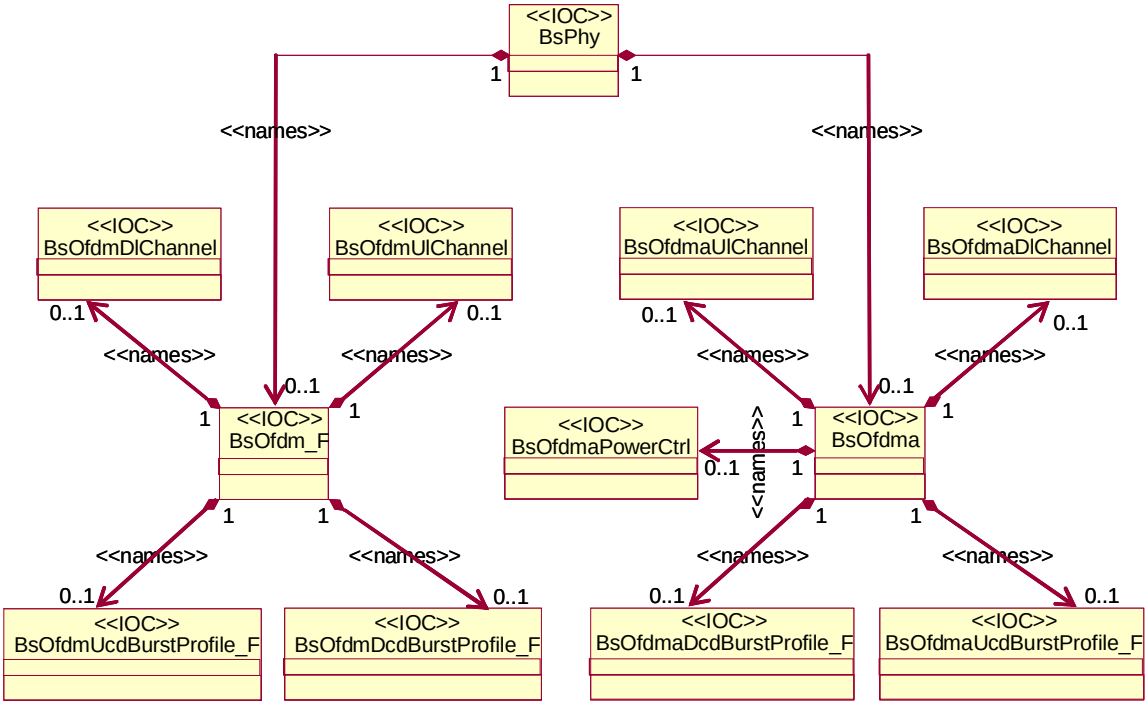

Figure 10—BsPhy Containment/Naming and Association Diagram

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

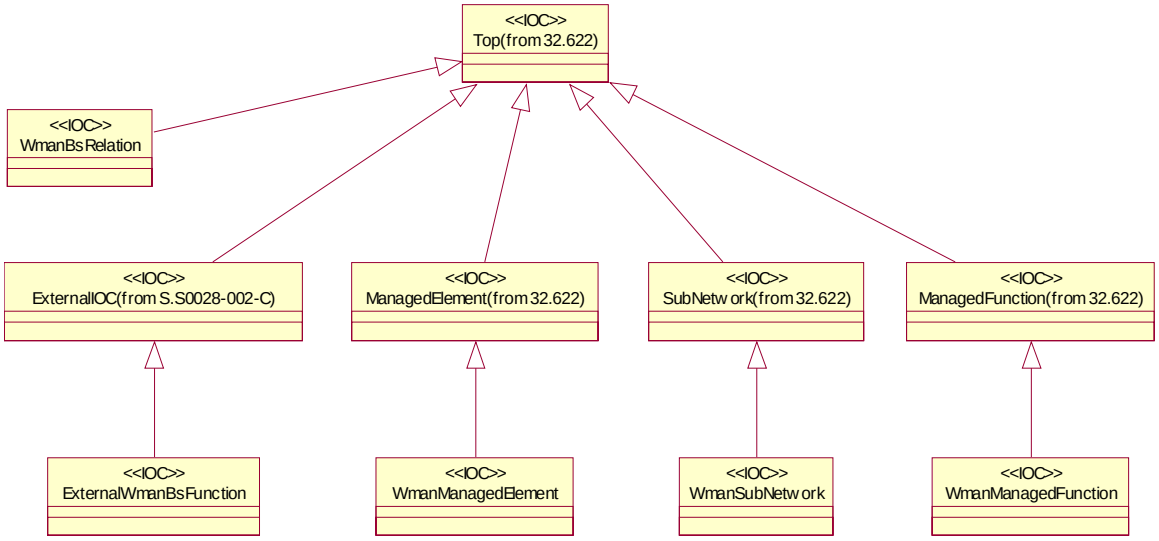

Figure 11—Top Inheritance Hierarchy Diagram

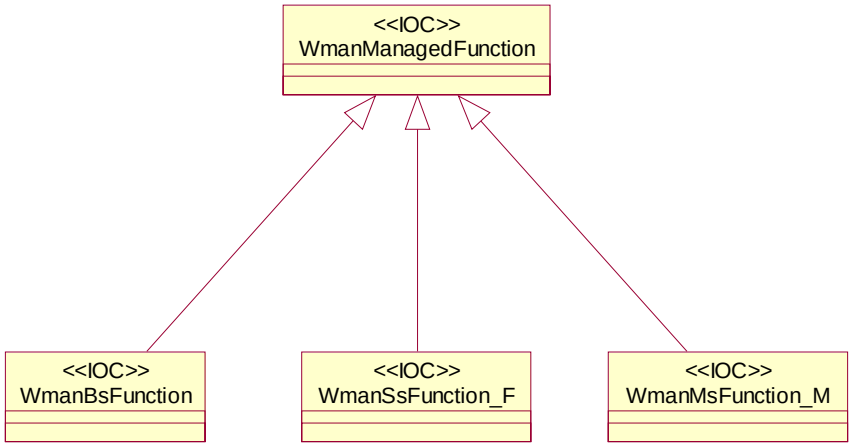

Figure 12—WmanManagedFunction Inheritance Hierarchy Diagram

15.1.1.2.2.2 Bs Object Inheritance

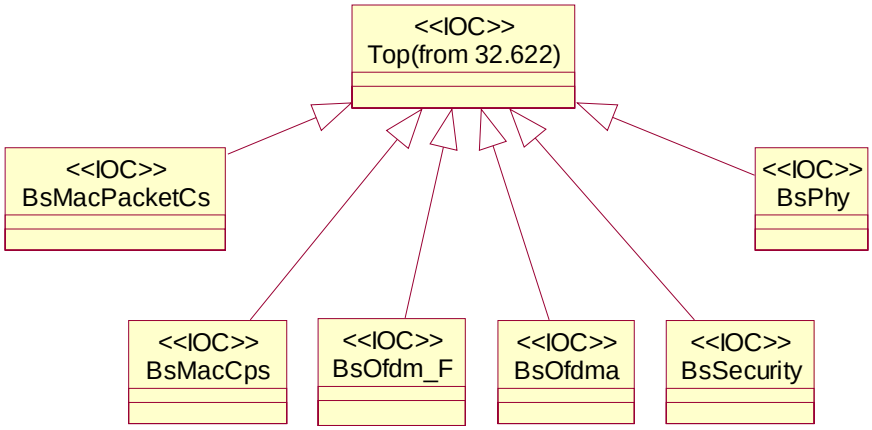

Figure 13—Bs Inheritance Hierarchy Diagram

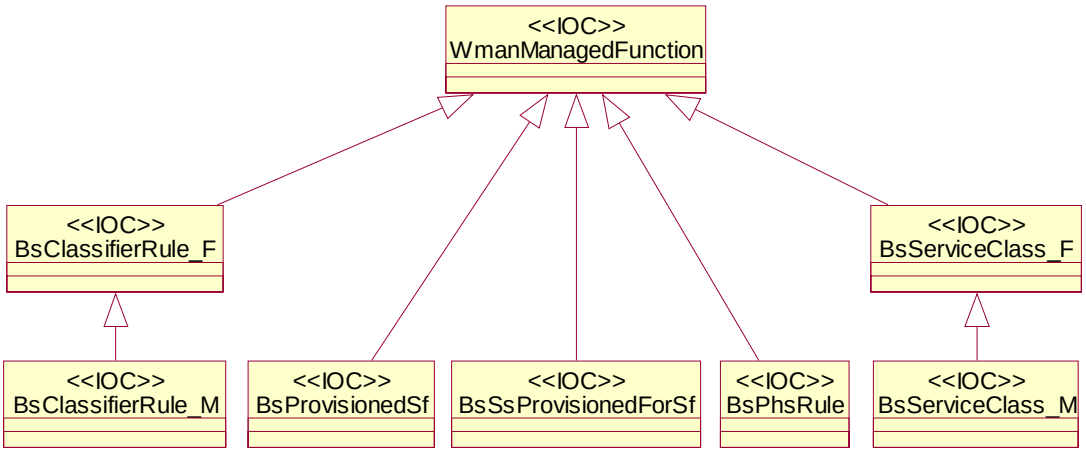

Figure 14—Bs PacketCs Inheritance Hierarchy Diagra

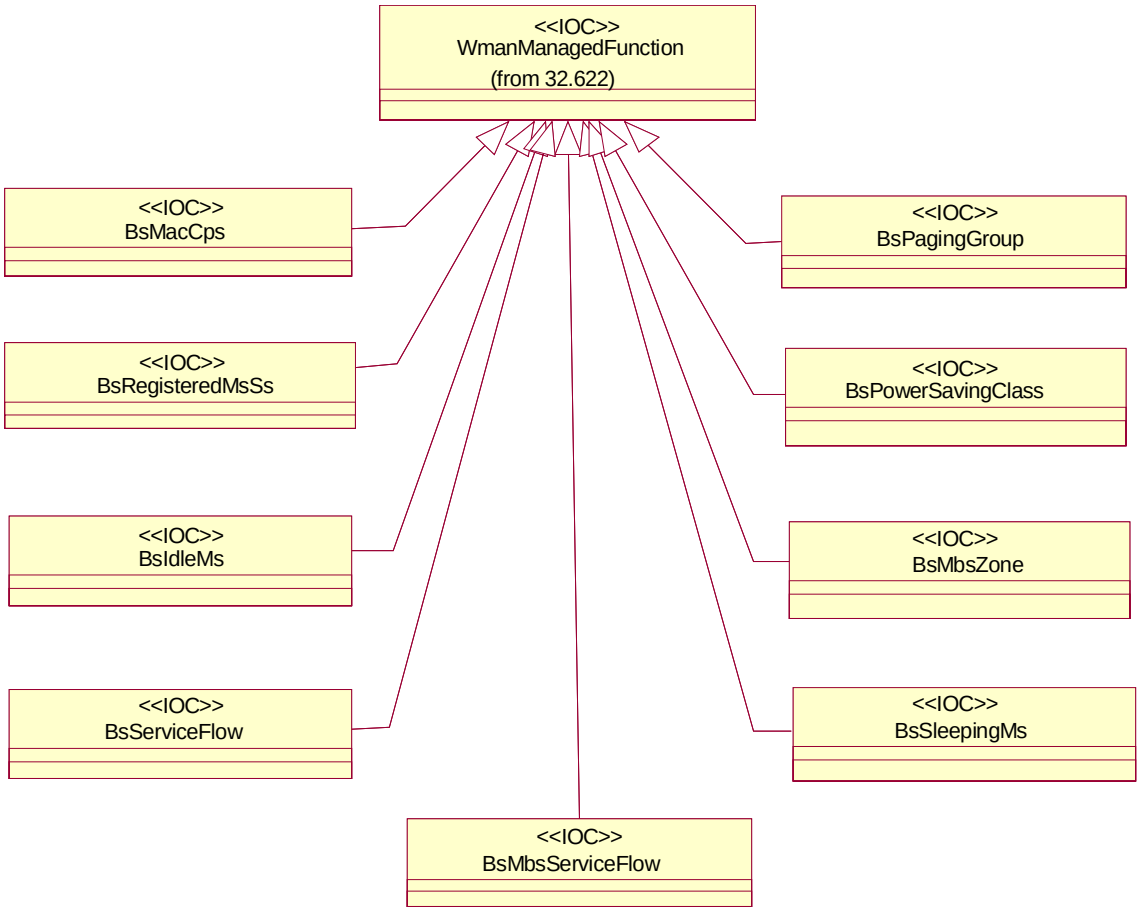

Figure 15—Bs MacCps Inheritance Hierarchy Diagram

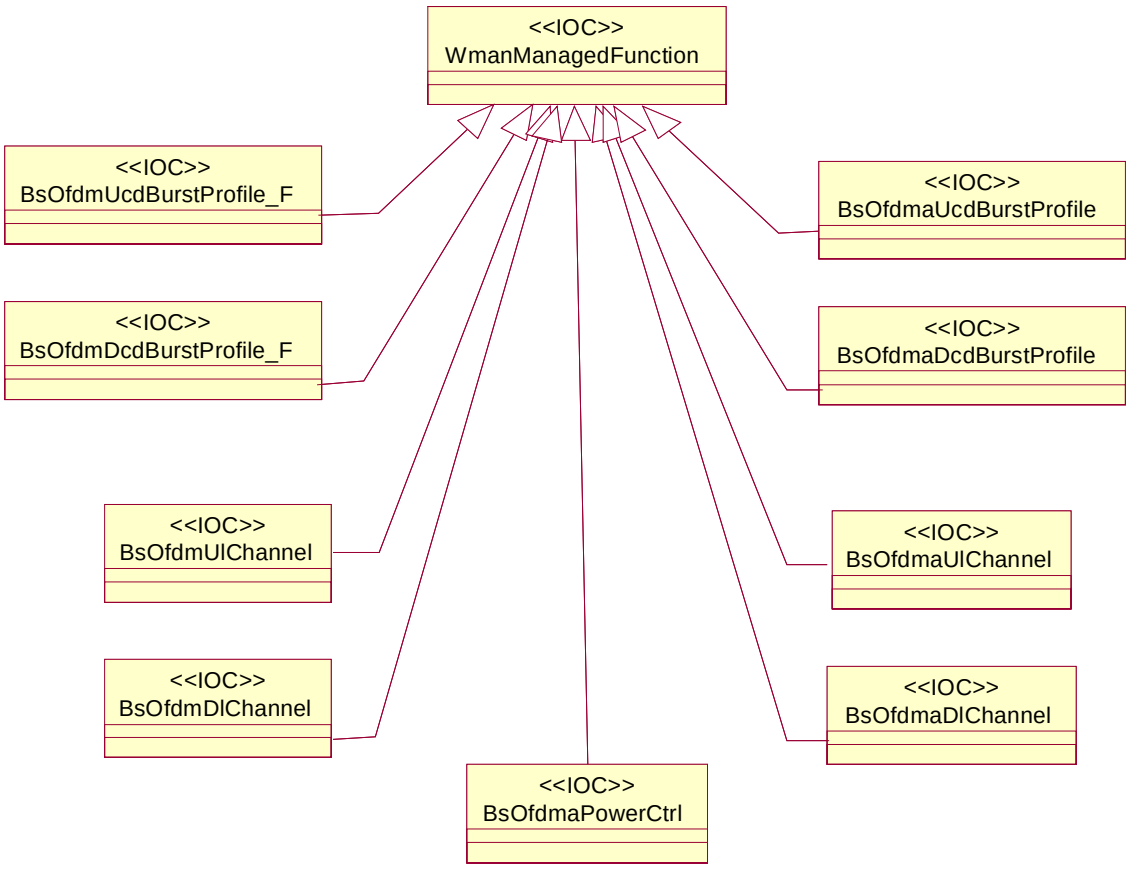

Figure 16—Bs Phy Inheritance Hierarchy Diagram

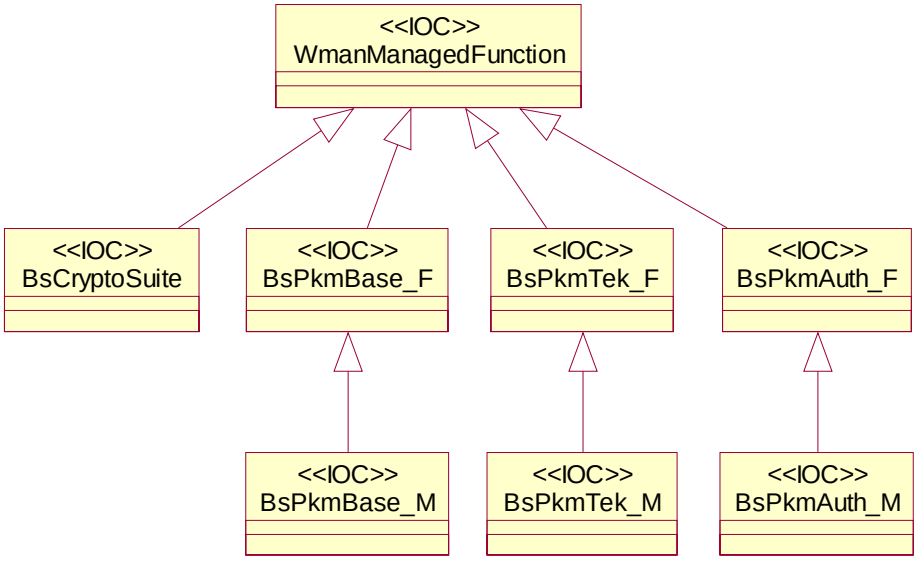

Figure 17—Bs Security Inheritance Hierarchy Diagram

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 Range: (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))
SystemResourceRetainTime	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 Range :(Handover Support(0), Sleep-mode Support(1), 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 Range: (Non-real-time Polling Service(0), Real-time Polling Service(0), Extended real-time Polling Service(0), Unsolicited Grant Service(0), 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 unavail-able.	
REQDuration	Waiting value for the DREG-REQ message re-transmis-sion(measured in frames)	
MACHashSkipThreshold	Maximum number of successive MOB_PAG-ADV mes-sages that may be sent from a BS without individual noti-fication 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'.	
BsCDMATransmissionOp-portunityAssignment	The CDMA code and transmission opportunity assign-ment 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.	
wmanIfBsPkmDefaultAu-thLifetime	The value of this object is the default lifetime, in seconds, the BS assigns to a new authorization key.	
wmanIfBsPkmDefaultTek-Lifetime	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), untrusted (2)

Table 20—Information attributes definition

Attribute Name	Definition	Legal Values
wmanIfBsPkmCheck-CertValidityPeriods	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, FALSE
wmanIfBsPMKDefault-PreHandshakeLifetime	The lifetime assigned to PMK when created	
wmanIfBsPMKDefault-Lifetime	If MSK lifetime is unspecified (i.e. by AAA server), PMK lifetime shall be set to this value.(in seconds)	
wmanIfBsDefaultSAChal-lengeTimer	Time prior to re-send of SA-TEK-Challenge (in seconds)	
wmanIfBsDefaultSaChal-lengeMaxResends	Maximum number of transmissions of SATEK-Challenge	
wmanIfBsDefaultSATEK-Timer	Time prior to re-send of SA-TEK-Request (in seconds)	
wmanIfBsDefault-SATEKRequestMaxRe-sends	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) staticSA (1) dynamicSA (2)
wmanIfBsPkmTekDataEn-cryptAlg	The value of this object is the data encryption algorithm being utilized.	No Data Encryption(0) CBC-Mode(1) AES, CCM Mode(2)
wmanIfBsPkmTek-DataAuthentAlg	The value of this object is the data authentication algo-rithm being utilized.	No Data Authentica-tion(0)
wmanIfBsPkmTekEncryp-tAlg	The value of this object is the TEK key encryption algo-rithm being utilized.	3-DES EDE with 128-bit key(1) RSA with 1024-bit key(2) AES with 128-bit key(3)
wmanIfBsPkmTekLife-time	The value of this object is the lifetime, in seconds, the BS assigns to keys for this TEK association.	
wmanIfBsPkmTekKeySe-quenceNumber	The value of this object is the most recent TEK key sequence number for this SAID.	
wmanIfBsPkmTekExpire-sOld	The value of this object is the actual clock time for expi-ration 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.	
wmanIfBsPkmTekEx-piresNew	The value of this object is the actual clock time for expi-ration 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 FALSE
wmanIfBsPkmAssociat-edGKEKSequenceNumber	Associated GKEK sequence number with this TEK-Parameters	
wmanIfBsPkmSAService-Type	This attribute indicates service types of the corresponding SA type.	0: Unicast service 1: Group multicast ser-vice 2: MBS service 3-255: Reserved.
wmanIfBsSsPkmAuth-MacAddress	The value of this object is the physical address of the SS to which the authorization association applies.	
wmanIfBsSsPkmAuth-KeySequenceNumber	The value of this object is the most recent authorization key sequence number for this SS.	
wmanIfBsSsPkmAuthEx-piresOld	The value of this object is the actual clock time for expi-ration 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.	
wmanIfBsSsPkmAuthEx-piresNew	The value of this object is the actual clock time for expi-ration of the most recent authorization key for this FSM	
wmanIfBsSsPkmAuth-Lifetime	The vaue of this object is the lifetime, in seconds, the BS assigns to an authorization key for this SS.	
wmanIfBsSsPkmAu-thReset	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 invali-date unicast TEKs. Setting this object to sendAuthIn-valid(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.	noResetRe-quested(1), invalidate-Auth(2), sendAuthIn-valid(3), invalidateTeks(4)
wmanIfBsSsPkmAuthPri-marySAId	The value of this object is the Primary Security Associa-tion 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), validSsChained(1), validSsTrusted(2), invalidSsUntrusted(3), invalidCAUntrusted(4), invalidSsOther(5), 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), twoSubchannels(1), fourSubchannels(2), eightSubchannels(3), 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
BsOfdmFocusCtPower-Boost	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), 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), 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.	
BsClassifierRuleIp-TosHigh	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.	
BsClassifierRuleIp-TosMask	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
BsClassifierRuleIp-SourceAddr	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 bit-wise 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.	
BsClassifierRuleIpSource-Mask	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.	
BsClassifierRuleIpDes-tAddr	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 BsClassifierRuleIpDest-Mask value equals the BsClassifierRuleIpDestAddr value. If the referenced parameter is not present in a clas-sifier, this object reports the value of 0.0.0.0.	
BsClassifierRuleIpDest-Mask	This object specifies which bits of a packet's IP Destina-tion Address that are compared to match this rule. An IP packet matches the rule when the packet destination address bitwise ANDed with the BsClassifierRuleIpDest-Mask value equals the BsClassifierRuleIpDestAddr value. If the referenced parameter is not present in a clas-sifier, this object reports the value of 0.0.0.0.	
BsClassifierRuleSource-PortStart	This object specifies the low end inclusive range of TCP/UDP source port numbers to which a packet is com-pared.This object is irrelevant for non-TCP/UDP IP pack-ets.If the referenced parameter is not present in a classifier, this object reports the value of 0.	
BsClassifierRuleSource-PortEnd	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.	
BsClassifierRuleDestPort-Start	This object specifies the low end inclusive range of TCP/UDP destination port numbers to which a packet is com-pared. If the referenced parameter is not present in a clas-sifier, this object reports the value of 0.	
BsClassifierRuleDestPor-tEnd	This object specifies the high end inclusive range of TCP/UDP destination port numbers to which a packet is com-pared. If the referenced parameter is not present in a clas-sifier, this object reports the value of 65535.	
BsClassifierRuleDestMac-Addr	An Ethernet packet matches an entry when its destination MAC address bitwise ANDed with BsClassifierRuleDes-tMacMask equals the value of BsClassifierRuleDestMac-Addr. 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
BsClassifierRuleDestMac-Mask	An Ethernet packet matches an entry when its destination MAC address bitwise ANDed with BsClassifierRuleDestMacMask equals the value of BsClassifierRuleDestMac-Addr. If the referenced parameter is not present in a classifier, this object reports the value of '000000000000'H.	
BsClassifierRule-SourceMacAddr	An Ethernet packet matches this entry when its source MAC address bitwise ANDed with BsClassifierRule-SourceMacMask equals the value of BsClassifierRule-SourceMacAddr. If the referenced parameter is not present in a classifier, this object reports the value of '000000000000'H.	
BsClassifierRule-SourceMacMask	An Ethernet packet matches an entry when its source MAC address bitwise ANDed with BsClassifierRule-SourceMacMask equals the value of BsClassifierRule-SourceMacAddr. If the referenced parameter is not present in a classifier, this object reports the value of '000000000000'H.	
BsClassifierRuleEnetPro-tocolType	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), ethertype(1), dsap(2)
BsClassifierRuleEnetPro-tocol	If BsClassifierRuleEnetProtocolType is none(0),this object is ignored when considering whether a packet matches the current rule. If BsClassifierRuleEnetProto-colType 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
BsClassifierRuleUser-PriLow	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 BsClassifier-RuleUserPriHigh 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.	
BsClassifierRuleUserPri-High	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 BsClassifier-RuleUserPriHigh 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), 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 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 (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.	
BsClassifierRuleIpv6FlowLabel	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: 0 = none. 1 = Discard packet 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 wman2IfMib

Figure 19 shows the high level MIB structure of wman2IfMib for 802.16. The MIB structure is organized based on the the reference model as defined in IEEE 802.16-2004 standard.

```
wman2IfMib
    ├─ wman2IfBsObjects
            ├─ wman2IfBsPacketCs
            ├─ wman2IfBsCps
            ├─ wman2IfBsPkmObjects
            ├─ wman2IfBsNotification
            └─ wman2IfBsPhy
    ├─ wman2IfSsObjects
            ├─ wman2IfSsCps
            ├─ wman2IfSsPkmObjects
            ├─ wman2IfSsNotification
            └─ wman2IfSsPhy
    └─ wman2IfCommonObjects
            ├─ wman2IfCmnPacketCs
            ├─ wman22IfCmnCps
            └─ wman2IfCmnPkmObjects
```

Figure 18—wman2IfMib structure

15.2.1.1 wman2IfBsObjects

15.2.1.1.1 wman2IfBsPacketCs

Figure 20 shows the structure of wman2IfBsPacketCs subtree that contains BS managed objects related to the Packet CS management entity layer.

```
wman2IfBsPacketCs
    ├─ wman2IfBsProvisionedSfTable
    ├─ wman2IfBsSsProvisionedForSfTable
    ├─ wman2IfBsServiceClassTable
    ├─ wman2IfBsClassifierRuleTable
    └─ wman2IfBsSsPacketCounterTable
```

Figure 19—wman2IfBsPacketCs structure

15.2.1.1.1.1 wman2IfBsProvisionedSfTable

wman2IfBsProvisionedSfTable contains provisioned service flow profiles for SSs, and pointers to wman2IfBsServiceClassTable and wman2IfBsClassifierRuleTable for QoS parameters and classifier rules respectively.

15.2.1.1.1.2 wman2IfBsProvisionedForSfTable

wman2IfBsProvisionedForSfTable maps the MAC addresses of SSs to the service flows provisioned in wman2IfBsProvisionedSfTable. 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 wman2IfBsServiceClassTable

Each entry of the wman2IfBsServiceClassTable 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 wman2IfBsClassifierRuleTable

wman2IfBsClassifierRuleTable contains the packet classifier rules sassociated with service flows.

15.2.1.1.1.5 wman2IfBsSsPacketCounterTable

wman2IfBsSsPacketCounterTable 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 wman2IfBsCps

Figure 21 shows the structure of wman2IfBsCps subtree that contains BS managed objects related to the MAC CPS management entity layer.

```
wman2IfBsCps
    ├─ wman2IfBsRegisteredSsTable
    ├─ wman2IfBsConfigurationTable
    ├─ wman2IfBsChannelMeasurementTable
    ├─ wman2IfBsCapabilities
    │       ├─ wman2IfBsSsReqCapabilitiesTable
    │       ├─ wman2IfBsSsRspCapabilitiesTable
    │       ├─ wman2IfBsBasicCapabilitiesTable
    │       └─ wman2IfBsCapabilitiesConfigTable
    ├─ wman2IfBsSsActionsTable
    ├─ wman2IfBsMsPowerSavingStatusTable
    ├─ wman2IfBsMsPowerSavingClassesTable
    └─ wman2IfBsMsSleepModeStatisticsTable
```

Figure 20—wman2IfBsCps structure

15.2.1.1.2.1 wman2IfBsRegisteredSsTable

Each entry in the wman2IfBsRegisteredSsTable contains the information of SS that has been registered through REG-REQ and REG-RSP messages.

15.2.1.1.2.2 wman2IfBsConfigurationTable

wman2IfBsConfigurationTable contains objects for BS system parameters and constants as defined in subclause 10.1 of IEEE 802.16-2004 standard. wman2IfBsConfigurationTable 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 wman2IfBsChannelMeasurementTable

wman2IfBsChannelMeasurementTable 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 wman2IfBsCapabilities

15.2.1.1.2.4.1 wman2IfBsSsReqCapabilitiesTable

wman2IfBsSsReqCapabilitiesTable 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 wman2IfBsSsRspCapabilitiesTable

wman2IfBsSsRspCapabilitiesTable 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 wman2IfBsBasicCapabilitiesTable

wman2IfBsBasicCapabilitiesTable contains the basic capabilities of the BS as implemented in BS hardware and software. These capabilities along with the configuration for them (wman2IfBsCapabilitiesConfigTable) 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 wman2IfBsCapabilitiesConfigTable

wman2IfBsCapabilitiesConfigTable 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 (wman2IfBsBasicCapabilitiesTable) for negotiation of basic capabilities with SS using RNG-RSP, SBC-RSP and REG-RSP messages.

15.2.1.1.2.5 wman2IfBsSsActionsTable

wman2IfBsSsActionsTable 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 wmanIfMsBsPowerSavingStatusTable

wmanIfMsBsPowerSavingClassesTable contains the power saving status for each CID in an MS.

15.2.1.1.2.7 wmanIfMsBsPowerSavingClassesTable

wmanIfMsBsPowerSavingClassesTable 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 wmanIfBsMsSleepModeStatisticsTable

wmanIfMsBsPowerSavingClassesTable contains the sleep mode statistic for MS.

15.2.1.1.3 wman2IfBsPkmObjects

Figure 22 shows the structure of wman2IfBsPkmObjects subtree that contains BS managed objects related to the MAC privacy management entity.

```
wman2IfBsPkmObjects
     ├─ wman2IfBsPkmBaseTable
     ├─ wman2IfBsPkmAuthTable
     └─ wman2IfBsPkmTekTable
```

Figure 21—wman2IfBsPkmObjects structure

15.2.1.1.3.1 wman2IfBsPkmBaseTable

wman2IfBsPkmBaseTable contains base station PKM operational parameters described in subclause 10.2 of IEEE 802.16-2004 standard.

15.2.1.1.3.2 wman2IfBsSsPkmAuthTable

wman2IfBsSsPkmAuthTable contains runtime subscriber station authentication and authorization parameters for each base station.

15.2.1.1.3.3 wman2IfBsPkmTekTable

wman2IfBsPkmTekTable is double indexed by ifIndex and SAId and contains runtime Security association parameters for each base station.

15.2.1.1.4 wman2IfBsNotification

Figure 23 shows the structure of wman2IfBsNotification subtree that contains BS traps to report fault events and exceptions, such as power status, RSSI threshold crossing.

```
wman2IfBsNotification
     ├─ wman2IfBsTrapControl
     │        ├─ wman2IfBsTrapControlRegister
     │        ├─ wman2IfBsStatusTrapControlRegister
     │        └─ wman2IfBsThresholdConfigTable
     └─ wman2IfBsTrapDefinitions
```

Figure 22—wman2IfBsNotification structure

15.2.1.1.4.1 wman2IfBsTrapControl

15.2.1.1.4.1.1 wman2IfBsTrapControlRegister

wman2IfBsTrapControlRegister is used to enable or disable Base traps independently.

15.2.1.1.4.1.2 wman2IfBsStatusTrapControlRegister

wman2IfBsStatusTrapControlRegister is used to enable or disable Base Station status notification traps.

15.2.1.1.4.1.3 wman2IfBsThresholdConfigTable

wman2IfBsThresholdConfigTable contains threshold objects that can be set to detect the threshold crossing events.

15.2.1.1.4.2 wman2IfBsTrapDefinitions

wman2IfBsTrapDefinitions object group defines all the traps reported by BS.

15.2.1.1.5 wman2IfBsPhy

Figure 24 shows the structure of wman2IfBsPhy subtree that contains BS managed objects related to the Physical layer.

```
wman2IfBsPhy
    ├─ wman2IfBsOfdmPhy
    │        ├─ wman2IfBsOfdmUplinkChannelTable
    │        ├─ wman2IfBsOfdmDownlinkChannelTable
    │        ├─ wman2IfBsOfdmUcdBurstProfileTable
    │        ├─ wman2IfBsOfdmDcdBurstProfileTable
    │        ├─ wman2IfBsOfdmConfigurationTable
    │        ├─ wman2IfBsSsOfdmReqCapabilitiesTable
    │        ├─ wman2IfBsSsOfdmReqCapabilitiesTable
    │        ├─ wman2IfBsOfdmCapabilitiesTable
    │        └─ wman2IfBsOfdmCapabilitiesConfigTable
    └─ wman2IfBsOfdmaPhy
             ├─ wman2IfBsOfdmaUplinkChannelTable
             ├─ wman2IfBsOfdmaDownlinkChannelTable
             ├─ wman2IfBsOfdmaUcdBurstProfileTable
             ├─ wman2IfBsOfdmaDcdBurstProfileTable
             ├─ wman2IfBsOfdmaConfigurationTable
             ├─ wman2IfBsSsOfdmaReqCapabilitiesTable
             ├─ wman2IfBsSsOfdmaRspCapabilitiesTable
             ├─ wman2IfBsOfdmaCapabilitiesTable
             └─ wman2IfBsOfdmaCapabilitiesConfigTable
```

Figure 23—wman2IfBsPhy structure

15.2.1.1.5.1 wman2IfBsOfdmPhy

wman2IfBsOfdmPhy is a group containing objects specific to OFDM PHY.

15.2.1.1.5.1.1 wman2IfBsOfdmUplinkChannelTable

wman2IfBsOfdmUplinkChannelTable contains OFDM UCD (Uplink Channel Descriptor) channel attributes, defining the transmission characteristics of uplink channels.

15.2.1.1.5.1.2 wman2IfBsOfdmDownlinkChannelTable

wman2IfBsOfdmDownlinkChannelTable contains OFDM DCD (Downlink Channel Descriptor) channel attributes, defining the transmission characteristics of downlink channels.

15.2.1.1.5.1.3 wman2IfBsOfdmUcdBurstProfileTable

wman2IfBsOfdmUcdBurstProfileTable contains OFDM UCD burst profiles for each uplink channel.

15.2.1.1.5.1.4 wman2IfBsOfdmDcdBurstProfileTable

wman2IfBsOfdmDcdBurstProfileTable provides one row for each OFDM DCD burst profile.

15.2.1.1.5.1.5 wman2IfBsOfdmConfigurationTable

wman2IfBsOfdmConfigurationTable contains BS configuration objects, specific to OFDM PHY.

15.2.1.1.5.1.6 wman2IfBsSsOfdmReqCapabilitiesTable

wman2IfBsSsOfdmReqCapabilitiesTable 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 wman2IfBsSsOfdmRspCapabilitiesTable

wman2IfBsSsOfdmRspCapabilitiesTable 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 wman2IfBsRegisteredSsTable.

15.2.1.1.5.1.8 wman2IfBsOfdmCapabilitiesTable

wman2IfBsOfdmCapabilitiesTable 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 wman2IfBsOfdmCapabilitiesConfigTable

wman2IfBsOfdmCapabilitiesConfigTable 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.

15.2.1.1.5.2 wman2IfBsOfdmaPhy

wman2IfBsOfdmaPhy is a group containing objects specific to OFDMA PHY.

15.2.1.1.5.2.1 wman2IfBsOfdmaUplinkChannelTable

wman2IfBsOfdmaUplinkChannelTable contains OFDMA UCD channel attributes, defining the transmission characteristics of uplink channels.

15.2.1.1.5.2.2 wman2IfBsOfdmaDownlinkChannelTable

wman2IfBsOfdmaDownlinkChannelTable contains OFDMA DCD channel attributes, defining the transmission characteristics of downlink channels.

15.2.1.1.5.2.3 wman2IfBsOfdmaUcdBurstProfileTable

wman2IfBsOfdmaUcdBurstProfileTable contains OFDMA UCD burst profiles for each uplink channel.

15.2.1.1.5.2.4 wman2IfBsOfdmaDcdBurstProfileTable

wman2IfBsOfdmaDcdBurstProfileTable provides one row for each OFDMA DCD burst profile.

15.2.1.1.5.2.5 wman2IfBsOfdmaConfigurationTable

wman2IfBsOfdmaConfigurationTable contains BS configuration objects, specific to OFDMA PHY.

15.2.1.1.5.2.6 wman2IfBsSsOfdmaReqCapabilitiesTable

wman2IfBsSsOfdmaReqCapabilitiesTable 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 wman2IfBsSsOfdmaRspCapabilitiesTable

wman2IfBsSsOfdmaRspCapabilitiesTable 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 wman2IfBsRegisteredSsTable.

15.2.1.1.5.2.8 wman2IfBsOfdmaCapabilitiesTable

wman2IfBsOfdmaCapabilitiesTable 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 wman2IfBsOfdmaCapabilitiesConfigTable

wman2IfBsOfdmaCapabilitiesConfigTable 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 wman2IfSsObjects

15.2.1.2.1 wman2IfSsCps

Figure 25 shows the structure of wman2IfSsCps subtree that contains SS managed objects related to the MAC CPS management entity layer.

```
wman2IfSsCps
     ├─ wman2IfSsConfigurationTable
     └─ wman2IfSsChannelMeasurementTable
```

Figure 24—wman2IfSsCps structure

15.2.1.2.1.1 wman2IfSsConfigurationTable

wman2IfSsConfigurationTable 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 wman2IfSsChannelMeasurementTable

wman2IfSsChannelMeasurementTable contains downlink channel measurement information for each SS.

15.2.1.2.2 wman2IfSsPkmObjects

Figure 26 shows the structure of wman2IfSsPkmObjects subtree that contains subscriber station manageable objects related to the privacy management entity.

```
wman2IfBsPkmObjects
     ├─ wman2IfSsPkmAuthTable
     ├─ wman2IfSsPkmTekTable
     └─ wman2IfSsDeviceCertTable
```

Figure 25—wman2IfSsPkmObjects structure

15.2.1.2.2.1 wman2IfSsPkmAuthTable

wman2IfSsPkmAuthTable 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 wman2IfSsPkmTekTable

wman2IfSsPkmTekTable contains subscriber station runtime parameters for each active security association.

15.2.1.2.2.3 wman2IfSsDeviceCertTable

wman2IfSsDeviceCertTable describes the PKM device certificates for each SS wireless interface.

15.2.1.2.3 wman2IfSsNotification

Figure 27 shows the structure of wman2IfSsNotification subtree that contains SS traps to report fault events and exceptions, such as RSSI threshold crossing.

```
wman2IfSsNotification
     ├─ wman2IfSsTrapControl
     │        ├─ wman2IfSsTrapControlRegister
     │        └─ wman2IfSsThresholdConfigTable
     └─ wman2IfSsTrapDefinitions
```

Figure 26—wman2IfSsNotification structure

15.2.1.2.3.1 wman2IfSsTrapControl

15.2.1.2.3.1.1 wman2IfSsTrapControlRegister

wman2IfSsTrapControlRegister is used to enable or disable Subscriber Station traps.

15.2.1.2.3.1.2 wman2IfSsThresholdConfigTable

wman2IfSsThresholdConfigTable contains threshold objects that can be set to detect the threshold crossing events.

15.2.1.2.3.2 wman2IfSsTrapDefinitions

wman2IfSsTrapDefinitions group defines all the traps reported by SS.

15.2.1.2.4 wman2IfSsPhy

Figure 28 shows the structure of wman2IfSsPhy subtree that contains SS managed objects related to the Physical layer.

```
wman2IfSsPhy
    ├─ wman2IfSsOfdmPhy
    │        ├─ wman2IfSsOfdmUplinkChannelTable
    │        ├─ wman2IfSsOfdmDownlinkChannelTable
    │        ├─ wman2IfSsOfdmUcdBurstProfileTable
    │        └─ wman2IfSsOfdmDcdBurstProfileTable
    └─ wman2IfSsOfdmaPhy
             ├─ wman2IfSsOfdmaUplinkChannelTable
             ├─ wman2IfSsOfdmaDownlinkChannelTable
             ├─ wman2IfSsOfdmaUcdBurstProfileTable
             └─ wman2IfSsOfdmaDcdBurstProfileTable
```

Figure 27—wman2IfSsPhy structure

15.2.1.2.4.1 wman2IfSsOfdmPhy

wman2IfSsOfdmPhy is a group containing objects specific to OFDM PHY.

15.2.1.2.4.1.1 wman2IfSsOfdmUplinkChannelTable

wman2IfSsOfdmUplinkChannelTable contains OFDM UCD channel attributes, defining the transmission characteristics of uplink channels.

15.2.1.2.4.1.2 wman2IfSsOfdmDownlinkChannelTable

wman2IfSsOfdmUplinkChannelTable contains OFDM DCD channel attributes, defining the transmission characteristics of downlink channels.

15.2.1.2.4.1.3 wman2IfSsOfdmUcdBurstProfileTable

wman2IfSsOfdmUcdBurstProfileTable contains OFDM UCD burst profiles for each uplink channel.

15.2.1.2.4.1.4 wman2IfSsOfdmDcdBurstProfileTable

wman2IfSsOfdmDcdBurstProfileTable provides one row for each OFDM DCD burst profile.

15.2.1.2.4.2 wman2IfSsOfdmaPhy

wman2IfSsOfdmaPhy is a group containing objects specific to OFDMA PHY.

15.2.1.2.4.2.1 wman2IfSsOfdmaUplinkChannelTable

wman2IfSsOfdmaUplinkChannelTable contains OFDMA UCD channel attributes, defining the transmission characteristics of uplink channels.

15.2.1.2.4.2.2 wman2IfSsOfdmaDownlinkChannelTable

wman2IfSsOfdmaDownlinkChannelTable contains OFDMA DCD channel attributes, defining the transmission characteristics of downlink channels.

15.2.1.2.4.2.3 wman2IfSsOfdmaUcdBurstProfileTable

wman2IfSsOfdmaUcdBurstProfileTable contains OFDMA UCD burst profiles for each uplink channel.

15.2.1.2.4.2.4 wman2IfSsOfdmaDcdBurstProfileTable

wman2IfSsOfdmaDcdBurstProfileTable provides one row for each OFDMA DCD burst profile.

15.2.1.3 wman2IfCommonObjects

15.2.1.3.1 wman2IfCmnPacketCs

Figure 29 shows the structure of wman2IfCmnPacketCs subtree that contains common managed objects related to the Packet CS management entity layer.

```
wman2IfCmnPacketCs
     ├─ wman2IfCmnClassifierRuleTable
     └─ wman2IfCmnPhsRuleTable
```

Figure 28—wman2IfCmnPacketCs structure

15.2.1.3.1.1 wman2IfCmnClassifierRuleTable

wman2IfCmnClassifierRuleTable contains runtime classifier rules screening criteria for each service flow.

15.2.1.3.1.2 wman2IfCmnPhsRuleTable

wman2IfCmnPhsRuleTable 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 wman2IfCmnCps

Figure 30 shows the structure of wman2IfCmnCps subtree that contains common managed objects related to the MAC CPS management entity.

```
wman2IfCmnCps
     ├─ wman2IfCmnCpsServiceFlowTable
     └─ wman2IfCmnBsSsConfigurationTable
```

Figure 29—wman2IfCmnCps structure

15.2.1.3.2.1 wman2IfCmnCpsServiceFlowTable

wman2IfCmnCpsServiceFlowTable contains Service Flow managed objects that are common in BS and SS.

15.2.1.3.2.2 wman2IfCmnBsSsConfigurationTable

wman2IfCmnBsSsConfigurationTable 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 wman2IfCmnPkmObjects

Figure 31 shows the structure of wman2IfCmnPkmObjects subtree that contains common PKM objects.

```
wman2IfCmnPkmObjects
     └─ wman2IfCmnCryptoSuiteTable
```

Figure 30—wman2IfCmnPkmObjects structure

15.2.1.3.3.1 wman2IfCmnCryptoSuiteTable

wman2IfCmnCryptoSuiteTable contains supported crypto suites for the particular SS and other crypto parameters such as key lifetimes.

15.2.2 ASN.1 Definitions of 802.16 MIB for SNMP

```
WMAN2-IF-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;

wman2IfMib MODULE-IDENTITY
        LAST-UPDATED    "200608080000Z" -- August 08, 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

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             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
             IEEE 802.16e-2005 based Subscriber Station
             and Base Station."
        REVISION        "200608080000Z"
        DESCRIPTION
            "The second revision of WMAN2-IF-MIB module."
```

```
        REVISION        "200605230000Z"
        DESCRIPTION
            "The first revision of WMAN2-IF-MIB module that is
             enhanced to support IEEE 802.16e-2005 standard."
        ::= { transmission 184 }

wman2IfMibObjects  OBJECT IDENTIFIER ::= { wman2IfMib 1 }
wman2IfBsObjects OBJECT IDENTIFIER ::= { wman2IfMibObjects 1 }
wman2IfSsObjects   OBJECT IDENTIFIER ::= { wman2IfMibObjects 2 }
wman2IfCommonObjects OBJECT IDENTIFIER ::= { wman2IfMibObjects 3 }

-- Textual Conventions
Wman2IfSfSchedulingType ::= 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)}

Wman2IfPhsRuleVerify ::= 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)}

Wman2IfClassifierBitMap ::= 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)}

Wman2IfSfState ::= TEXTUAL-CONVENTION
        STATUS      current
        DESCRIPTION
            "Wman2IfSfState defines the state of a service flow."
        SYNTAX      INTEGER {authorized(1),
                             admitted(2),
                             active(3)}

Wman2IfServClassName ::= TEXTUAL-CONVENTION
        STATUS      current
        DESCRIPTION
            "Wman2IfServClassName defines the type of service
             class name."
        SYNTAX      OCTET STRING (SIZE(2..128))

Wman2IfCsSpecification ::= TEXTUAL-CONVENTION
        STATUS      current
        DESCRIPTION
            "Wman2IfCsSpecification 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)}

Wman2IfMacVersion ::= 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)}

Wman2IfCidType ::= TEXTUAL-CONVENTION
        STATUS      current
        DESCRIPTION
            "Type of CID."
        SYNTAX      INTEGER (0 .. 65535)

Wman2IfDataEncryptAlgId ::= 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)}

Wman2IfDataAuthAlgId ::= TEXTUAL-CONVENTION
        STATUS      current
        DESCRIPTION
            "Data authentication algorithm identifiers."
        REFERENCE
            "Table 376 in IEEE Std 802.16-2004"
        SYNTAX      INTEGER {noDataAuthentication(0),
                             reserved(1)}

Wman2IfTekEncryptAlgId ::= 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)}

Wman2IfChannelNumber ::= TEXTUAL-CONVENTION
        STATUS      current
        DESCRIPTION
            "Physical channel number"
        SYNTAX      INTEGER (0 .. 199)

Wman2IfOfdmFecCodeType ::= 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)}

Wman2IfOfdmaFecCodeType ::= 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
Wman2IfNumOfUplinkCid ::= TEXTUAL-CONVENTION
        STATUS      current
        DESCRIPTION
            "The object of this type shows the number of Uplink CIDs
             the SS can support."
        REFERENCE
            "Subclause 11.7.4 in IEEE Std 802.16-2004"
        SYNTAX      INTEGER (2..65535)

Wman2IfArqSupportType ::= 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)}

Wman2IfMaxDsxFlowType ::= 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)

Wman2IfMacCrcSupport ::= 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)}

Wman2IfMaxMcaFlowType ::= 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)

Wman2IfMaxMcpGroupCid ::= 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)

    Wman2IfMaxPkmFlowType ::= 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)

    Wman2IfAuthPolicyType ::= 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)}

    Wman2IfMaxNumOfSaType ::= 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)

    Wman2IfIpVersionType ::= 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)}

Wman2IfMacCsBitMap ::= 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)}

Wman2IfMaxClassifiers ::= 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)

Wman2IfPhsSupportType ::= 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 802.16-2004"
        SYNTAX      INTEGER {noPhsSupport(0),
                             atmPhsSupport(1),
                             packetPhsSupport(2)}

Wman2IfBwAllocSupport ::= 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)}

Wman2IfPduConstruction ::= 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 802.16-2004"
        SYNTAX      BITS {piggybackedRequests(0),
                          fsnValuesSize(1)}

Wman2IfSsTransitionGap ::= 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)

Wman2IfMaxTxPowerType ::= 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)

Wman2IfOfdmFftSizes ::= TEXTUAL-CONVENTION
        STATUS      current
        DESCRIPTION
            "This field indicates the FFT sizes supported by the SS/MS.
             It is used for describing OFDM or OFDMA capabilities,
             depending on context. 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)}

Wman2IfOfdmSsDeModType ::= 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 802.16-2004"
        SYNTAX      BITS {qam64(0),
                          btc(1),
                          ctc(2),
                          stc(3),
                          aac(4)}

Wman2IfOfdmSsModType ::= 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 802.16-2004"
        SYNTAX      BITS {qam64(0),
                          btc(1),
                          ctc(2),
                          subchanellization(3),
                          focusedCtBwReq(4)}

Wman2IfOfdmFocusedCt ::= 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)}

Wman2IfOfdmTcSublayer ::= 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)}

Wman2IfBsIdType ::= 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))

Wman2IfIpv6FlowLabel ::= 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))

Wman2IfOfdmaMsDeModType ::= 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 802.16e"
        SYNTAX      BITS {qam64(0),
                          btc(1),
                          ctc(2),
                          stc(3),
                          aasDiversityMapScan(4),
                          harqChase(5),
                          harqCtcIr(6),
                          reserved(7),
                          harqCcIr(8),
                          ldpc(9)}

Wman2IfOfdmaMsModType ::= 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 802.16e"
```

```
        SYNTAX      BITS {qam64(0),
                          btc(1),
                          ctc(2),
                          stc(3),
                          harqChase(4),
                          ctcIr(5),
                          ccIr(6),
                          ldpc(7)}

Wman2IfOfdmaPermutation ::= 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 11.8.3.7.5 in IEEE 802.16e"
        SYNTAX      BITS {optionalPuscSupport(0),
                          optionalFuscSupport(1),
                          amcOneBySixSupport(2),
                          amcTwoByThreeSupport(3),
                          amcThreeByTwoSupport(4),
                          amcSupportWithHarqMap(5),
                          tusc1Support(6),
                          tusc2(7)}

Wman2IfOfdmaMobility ::= 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)}

Wman2IfPsClassId ::= TEXTUAL-CONVENTION
        STATUS      current
        DESCRIPTION
            "Wman2IfPsClassId 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)

Wman2PsClassType ::= 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)}

Wman2PsClassCidDirection ::= 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)}

Wman2IfPowerSavingMode ::= 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)}

--
-- BS object group - containing tables and objects to be implemented in
-- the Base station
--
-- wman2IfBsPacketCs contain the Base Station Packet Convergence
-- Sublayer objects
--
wman2IfBsPacketCs OBJECT IDENTIFIER ::= { wman2IfBsObjects 1 }

wman2IfBsProvisionedSfTable OBJECT-TYPE
        SYNTAX      SEQUENCE OF Wman2IfBsProvisionedSfEntry
        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 wman2IfBsSfState object.
             1. The QoS parameters of the service flow are provisioned
                in wman2IfBsServiceClassTable and referenced by
                wman2IfBsServiceClassIndex.
             2. The classifier rules of the service flow are provisioned
                in wman2IfBsClassifierRuleTable, where they refer to SF
```

```
                via wman2IfBsSfId.

             The MAC addresses of SSs the service flow is created with
             are provisioned in wman2IfBsSsProvisionedForSfTable, where
             they refer to SF via wman2IfBsSfId."
        REFERENCE
            "Subclause 6.3.13 and 6.3.14 in IEEE Std 802.16-2004"
        ::= { wman2IfBsPacketCs 1 }

wman2IfBsProvisionedSfEntry OBJECT-TYPE
        SYNTAX      Wman2IfBsProvisionedSfEntry
        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
             wman2IfBsSfId. ifIndex is associated with the BS sector."
        INDEX { ifIndex, wman2IfBsSfId }
        ::= { wman2IfBsProvisionedSfTable 1 }

Wman2IfBsProvisionedSfEntry ::= SEQUENCE {
        wman2IfBsSfId                           Unsigned32,
        wman2IfBsSfDirection                    INTEGER,
        wman2IfBsServiceClassIndex              INTEGER,
        wman2IfBsSfState                        Wman2IfSfState,
        wman2IfBsSfProvisionedTime              TimeStamp,
        wman2IfBsSfCsSpecification              Wman2IfCsSpecification,
        wman2IfBsProvisionedSfRowStatus         RowStatus}

wman2IfBsSfId 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)."
        ::= { wman2IfBsProvisionedSfEntry 1 }

wman2IfBsSfDirection 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."
        ::= { wman2IfBsProvisionedSfEntry 2 }

wman2IfBsServiceClassIndex OBJECT-TYPE
        SYNTAX      INTEGER (1..65535)
        MAX-ACCESS  read-create
        STATUS      current
        DESCRIPTION
            "The index in wman2IfBsServiceClassTable describing the
```

```
                service class or QoS parameters for such service flow.
                If no associated entry in wman2IfBsServiceClassTable
                exists, this object returns a value of zero."
        ::= { wman2IfBsProvisionedSfEntry 3 }

wman2IfBsSfState OBJECT-TYPE
        SYNTAX      Wman2IfSfState
        MAX-ACCESS  read-create
        STATUS      current
        DESCRIPTION
            "wman2IfBsSfState 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"
        ::= { wman2IfBsProvisionedSfEntry 4 }

wman2IfBsSfProvisionedTime OBJECT-TYPE
        SYNTAX      TimeStamp
        MAX-ACCESS  read-create
        STATUS      current
        DESCRIPTION
            "Indicates the date and time when the service flow is
                provisioned."
        ::= { wman2IfBsProvisionedSfEntry 5 }

wman2IfBsSfCsSpecification OBJECT-TYPE
        SYNTAX      Wman2IfCsSpecification
        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"
        ::= { wman2IfBsProvisionedSfEntry 6 }

wman2IfBsProvisionedSfRowStatus 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."
```

```
        ::= { wman2IfBsProvisionedSfEntry 7 }

wman2IfBsSsProvisionedForSfTable OBJECT-TYPE
        SYNTAX      SEQUENCE OF Wman2IfBsSsProvisionedForSfEntry
        MAX-ACCESS  not-accessible
        STATUS      current
        DESCRIPTION
            "This table maps the MAC addresses of SSs to the service
             flows provisioned in wman2IfBsProvisionedSfTable."
        REFERENCE
            "Subclause 6.3.14 in IEEE Std 802.16-2004"
        ::= { wman2IfBsPacketCs 2 }

wman2IfBsSsProvisionedForSfEntry OBJECT-TYPE
        SYNTAX      Wman2IfBsSsProvisionedForSfEntry
        MAX-ACCESS  not-accessible
        STATUS      current
        DESCRIPTION
            "This table is indexed by wman2IfBsSsProvMacAddress and
             wman2IfBsProvSfId."
        INDEX { wman2IfBsSsProvMacAddress, wman2IfBsProvSfId }
        ::= { wman2IfBsSsProvisionedForSfTable 1 }

Wman2IfBsSsProvisionedForSfEntry ::= SEQUENCE {
        wman2IfBsSsProvMacAddress               MacAddress,
        wman2IfBsProvSfId                       Unsigned32,
        wman2IfBsSsProvisionedForSfRowStatus    RowStatus}

wman2IfBsSsProvMacAddress OBJECT-TYPE
        SYNTAX      MacAddress
        MAX-ACCESS  not-accessible
        STATUS      current
        DESCRIPTION
            "The MAC address of the SS, the service flow is created
             with."
        ::= { wman2IfBsSsProvisionedForSfEntry 1 }

wman2IfBsProvSfId 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."
        ::= { wman2IfBsSsProvisionedForSfEntry 2 }

wman2IfBsSsProvisionedForSfRowStatus 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."
        ::= { wman2IfBsSsProvisionedForSfEntry 3 }

wman2IfBsServiceClassTable OBJECT-TYPE
        SYNTAX      SEQUENCE OF Wman2IfBsServiceClassEntry
        MAX-ACCESS  not-accessible
        STATUS      current
        DESCRIPTION
            "This table is provisioned and is indexed by
             wman2IfBsQoSProfileIndex. Each entry of the table contains
             corresponding service flow characteristic attributes
             (e.g. QoS parameter set). The value of
             wman2IfBsQoSProfileIndex is obtained from
             wman2IfBsServiceClassIndex in wman2IfBsProvisionedSfTable"
        REFERENCE
            "Subclause 6.3.14.4 in IEEE Std 802.16-2004"
        ::= { wman2IfBsPacketCs 3 }

wman2IfBsServiceClassEntry OBJECT-TYPE
        SYNTAX      Wman2IfBsServiceClassEntry
        MAX-ACCESS  not-accessible
        STATUS      current
        DESCRIPTION
            "This table provides one row for each service class"
        INDEX { ifIndex, wman2IfBsQoSProfileIndex }
        ::= { wman2IfBsServiceClassTable 1 }

Wman2IfBsServiceClassEntry ::= SEQUENCE {
        wman2IfBsQoSProfileIndex                INTEGER,
        wman2IfBsQosServiceClassName            Wman2IfServClassName,
        wman2IfBsQoSTrafficPriority             INTEGER,
        wman2IfBsQoSMaxSustainedRate            Unsigned32,
        wman2IfBsQoSMaxTrafficBurst             Unsigned32,
        wman2IfBsQoSMinReservedRate             Unsigned32,
        wman2IfBsQoSToleratedJitter             Unsigned32,
        wman2IfBsQoSMaxLatency                  Unsigned32,
        wman2IfBsQoSFixedVsVariableSduInd       INTEGER,
        wman2IfBsQoSSduSize                     Unsigned32,
        wman2IfBsQosScSchedulingType            Wman2IfSfSchedulingType,
        wman2IfBsQosScArqEnable                 TruthValue,
        wman2IfBsQosScArqWindowSize             INTEGER,
        wman2IfBsQosScArqBlockLifetime          INTEGER,
        wman2IfBsQosScArqSyncLossTimeout        INTEGER,
        wman2IfBsQosScArqDeliverInOrder         TruthValue,
        wman2IfBsQosScArqRxPurgeTimeout         INTEGER,
        wman2IfBsQosScArqBlockSize              INTEGER,
        wman2IfBsQosSCMinRsvdTolerableRate      Unsigned32,
        wman2IfBsQoSReqTxPolicy                 BITS,
        wman2IfBsQoSServiceClassRowStatus       RowStatus}

wman2IfBsQoSProfileIndex OBJECT-TYPE
        SYNTAX      INTEGER (1 .. 65535)
        MAX-ACCESS  not-accessible
        STATUS      current
```

```
        DESCRIPTION
            "The index value which uniquely identifies an entry
             in the wman2IfBsServiceClassTable"
        ::= { wman2IfBsServiceClassEntry 1 }

wman2IfBsQosServiceClassName  OBJECT-TYPE
        SYNTAX      Wman2IfServClassName
        MAX-ACCESS  read-create
        STATUS      current
        DESCRIPTION
            "Refers to the Service Class Name"
        REFERENCE
            "Subclause 11.13.3 in IEEE Std 802.16-2004"
        ::= { wman2IfBsServiceClassEntry 2 }

wman2IfBsQoSTrafficPriority 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"
        ::= { wman2IfBsServiceClassEntry 3 }

wman2IfBsQoSMaxSustainedRate 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"
        ::= { wman2IfBsServiceClassEntry 4 }

wman2IfBsQoSMaxTrafficBurst 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"
        ::= { wman2IfBsServiceClassEntry 5 }

wman2IfBsQoSMinReservedRate 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"
        ::= { wman2IfBsServiceClassEntry 6 }

wman2IfBsQoSToleratedJitter 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"
        ::= { wman2IfBsServiceClassEntry 7 }

wman2IfBsQoSMaxLatency 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"
        ::= { wman2IfBsServiceClassEntry 8 }

wman2IfBsQoSFixedVsVariableSduInd 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 }
        ::= { wman2IfBsServiceClassEntry 9 }

wman2IfBsQoSSduSize 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 }
        ::= { wman2IfBsServiceClassEntry 10 }

wman2IfBsQosScSchedulingType OBJECT-TYPE
        SYNTAX      Wman2IfSfSchedulingType
        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}
        ::= { wman2IfBsServiceClassEntry 11 }

wman2IfBsQosScArqEnable 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"
        ::= { wman2IfBsServiceClassEntry 12 }

wman2IfBsQosScArqWindowSize 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"
        ::= { wman2IfBsServiceClassEntry 13 }

wman2IfBsQosScArqBlockLifetime 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}
        ::= { wman2IfBsServiceClassEntry 14 }

wman2IfBsQosScArqSyncLossTimeout 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}
        ::= { wman2IfBsServiceClassEntry 15 }

wman2IfBsQosScArqDeliverInOrder  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"
        ::= { wman2IfBsServiceClassEntry 16 }

wman2IfBsQosScArqRxPurgeTimeout  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}
        ::= { wman2IfBsServiceClassEntry 17 }

wman2IfBsQosScArqBlockSize 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"
        ::= { wman2IfBsServiceClassEntry 18 }

wman2IfBsQosSCMinRsvdTolerableRate 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"
        ::= { wman2IfBsServiceClassEntry 19 }

wman2IfBsQoSReqTxPolicy 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"
        ::= { wman2IfBsServiceClassEntry 20 }

wman2IfBsQoSServiceClassRowStatus 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."
        ::= { wman2IfBsServiceClassEntry 21 }

wman2IfBsClassifierRuleTable OBJECT-TYPE
        SYNTAX      SEQUENCE OF Wman2IfBsClassifierRuleEntry
        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"
        ::= { wman2IfBsPacketCs 4 }

wman2IfBsClassifierRuleEntry OBJECT-TYPE
        SYNTAX      Wman2IfBsClassifierRuleEntry
        MAX-ACCESS  not-accessible
        STATUS      current
        DESCRIPTION
           "This table provides one row for each packet classifier
            rule, and is indexed by ifIndex, wman2IfBsSfId, and
            wman2IfBsClassifierRuleIndex. IfIdex is associated with
            the BS sector. wman2IfBsSfId identifies the service flow,
            while wman2IfBsClassifierRuleIndex identifies the packet
            classifier rule."
        INDEX { ifIndex, wman2IfBsSfId, wman2IfBsClassifierRuleIndex }
        ::= { wman2IfBsClassifierRuleTable 1 }

Wman2IfBsClassifierRuleEntry::= SEQUENCE {
        wman2IfBsClassifierRuleIndex            Unsigned32,
        wman2IfBsClassifierRulePriority         INTEGER,
        wman2IfBsClassifierRuleIpTosLow         INTEGER,
        wman2IfBsClassifierRuleIpTosHigh        INTEGER,
        wman2IfBsClassifierRuleIpTosMask        INTEGER,
        wman2IfBsClassifierRuleIpProtocol       Integer32,
        wman2IfBsClassifierRuleIpSourceAddr     InetAddress,
        wman2IfBsClassifierRuleIpSourceMask     InetAddress,
        wman2IfBsClassifierRuleIpDestAddr       InetAddress,
        wman2IfBsClassifierRuleIpDestMask       InetAddress,
```

```
        wman2IfBsClassifierRuleSourcePortStart  Integer32,
        wman2IfBsClassifierRuleSourcePortEnd    Integer32,
        wman2IfBsClassifierRuleDestPortStart    Integer32,
        wman2IfBsClassifierRuleDestPortEnd      Integer32,
        wman2IfBsClassifierRuleDestMacAddr      MacAddress,
        wman2IfBsClassifierRuleDestMacMask      MacAddress,
        wman2IfBsClassifierRuleSourceMacAddr    MacAddress,
        wman2IfBsClassifierRuleSourceMacMask    MacAddress,
        wman2IfBsClassifierRuleEnetProtocolType INTEGER,
        wman2IfBsClassifierRuleEnetProtocol     Integer32,
        wman2IfBsClassifierRuleUserPriLow       Integer32,
        wman2IfBsClassifierRuleUserPriHigh      Integer32,
        wman2IfBsClassifierRuleVlanId           Integer32,
        wman2IfBsClassifierRuleState            INTEGER,
        wman2IfBsClassifierRulePhsSize          Integer32,
        wman2IfBsClassifierRulePhsMask          OCTET STRING,
        wman2IfBsClassifierRulePhsVerify        Wman2IfPhsRuleVerify,
        wman2IfBsClassifierRuleIpv6FlowLabel    Wman2IfIpv6FlowLabel,
        wman2IfBsClassifierRuleBitMap           Wman2IfClassifierBitMap,
        wman2IfBsClassifierRuleRowStatus        RowStatus}

wman2IfBsClassifierRuleIndex  OBJECT-TYPE
        SYNTAX      Unsigned32 (1..4294967295)
        MAX-ACCESS  not-accessible
        STATUS      current
        DESCRIPTION
            "An index is assigned to a classifier in BS classifiers
             table"
        ::= { wman2IfBsClassifierRuleEntry 1 }

wman2IfBsClassifierRulePriority 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 }
        ::= { wman2IfBsClassifierRuleEntry 2 }

wman2IfBsClassifierRuleIpTosLow 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"
```

```
        ::= { wman2IfBsClassifierRuleEntry 3 }

wman2IfBsClassifierRuleIpTosHigh 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"
        ::= { wman2IfBsClassifierRuleEntry 4 }

wman2IfBsClassifierRuleIpTosMask 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"
        ::= { wman2IfBsClassifierRuleEntry 5 }

wman2IfBsClassifierRuleIpProtocol 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"
        ::= { wman2IfBsClassifierRuleEntry 6 }

wman2IfBsClassifierRuleIpSourceAddr 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 wman2IfBsClassifierRuleIpSourceMask value
             equals the wman2IfBsClassifierRuleIpSourceAddr 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"
            ::= { wman2IfBsClassifierRuleEntry 7 }

wman2IfBsClassifierRuleIpSourceMask 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
                 wman2IfBsClassifierRuleIpSourceMask value equals the
                 wman2IfBsClassifierRuleIpSourceAddr 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"
            ::= { wman2IfBsClassifierRuleEntry 8 }

wman2IfBsClassifierRuleIpDestAddr 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
                 wman2IfBsClassifierRuleIpDestMask value equals the
                 wman2IfBsClassifierRuleIpDestAddr 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"
            ::= { wman2IfBsClassifierRuleEntry 9 }

wman2IfBsClassifierRuleIpDestMask 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
                 wman2IfBsClassifierRuleIpDestMask value equals the
                 wman2IfBsClassifierRuleIpDestAddr 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"
            ::= { wman2IfBsClassifierRuleEntry 10 }
```

```
wman2IfBsClassifierRuleSourcePortStart 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"
        ::= { wman2IfBsClassifierRuleEntry 11 }

wman2IfBsClassifierRuleSourcePortEnd 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"
        ::= { wman2IfBsClassifierRuleEntry 12 }

wman2IfBsClassifierRuleDestPortStart 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"
        ::= { wman2IfBsClassifierRuleEntry 13 }

wman2IfBsClassifierRuleDestPortEnd 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"
        ::= { wman2IfBsClassifierRuleEntry 14 }
```

```
wman2IfBsClassifierRuleDestMacAddr 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
             wman2IfBsClassifierRuleDestMacMask equals the value of
             wman2IfBsClassifierRuleDestMacAddr. 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"
        ::= { wman2IfBsClassifierRuleEntry 15 }

wman2IfBsClassifierRuleDestMacMask 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
             wman2IfBsClassifierRuleDestMacMask equals the value of
             wman2IfBsClassifierRuleDestMacAddr. 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"
        ::= { wman2IfBsClassifierRuleEntry 16 }

wman2IfBsClassifierRuleSourceMacAddr 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
             wman2IfBsClassifierRuleSourceMacMask equals the value
             of wman2IfBsClassifierRuleSourceMacAddr. 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"
        ::= { wman2IfBsClassifierRuleEntry 17 }

wman2IfBsClassifierRuleSourceMacMask 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
             wman2IfBsClassifierRuleSourceMacMask equals the value of
```

```
                wman2IfBsClassifierRuleSourceMacAddr. 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"
        ::= { wman2IfBsClassifierRuleEntry 18 }

wman2IfBsClassifierRuleEnetProtocolType 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"
        ::= { wman2IfBsClassifierRuleEntry 19 }

wman2IfBsClassifierRuleEnetProtocol OBJECT-TYPE
        SYNTAX      Integer32 (0..65535)
        MAX-ACCESS  read-create
        STATUS      current
        DESCRIPTION
            "If wman2IfBsClassifierRuleEnetProtocolType is none(0),
             this object is ignored when considering whether a packet
             matches the current rule.
             If wman2IfBsClassifierRuleEnetProtocolType 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 wman2IfBsClassifierRuleEnetProtocolType 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"
        ::= { wman2IfBsClassifierRuleEntry 20 }

wman2IfBsClassifierRuleUserPriLow 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 wman2IfBsClassifierRuleUserPriLow and
             wman2IfBsClassifierRuleUserPriHigh 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"
        ::= { wman2IfBsClassifierRuleEntry 21 }

wman2IfBsClassifierRuleUserPriHigh 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 wman2IfBsClassifierRuleUserPriLow
             and wman2IfBsClassifierRuleUserPriHigh 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"
        ::= { wman2IfBsClassifierRuleEntry 22 }

wman2IfBsClassifierRuleVlanId 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"
            ::= { wman2IfBsClassifierRuleEntry 23 }

    wman2IfBsClassifierRuleState 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)."
            ::= { wman2IfBsClassifierRuleEntry 24 }

    wman2IfBsClassifierRulePhsSize 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 wman2IfBsClassifierRuleBitMap
                 is set to 0 and flag phsSize in
                wman2IfBsClassifierRuleBitMap 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}
            ::= { wman2IfBsClassifierRuleEntry 25 }

    wman2IfBsClassifierRulePhsMask 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
             (wman2IfBsClassifierRulePhsSize/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
              wman2IfBsClassifierRuleBitMap is set to 0 and flag phsSize
              in wman2IfBsClassifierRuleBitMap 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"
        ::= { wman2IfBsClassifierRuleEntry 26 }

wman2IfBsClassifierRulePhsVerify OBJECT-TYPE
        SYNTAX      Wman2IfPhsRuleVerify
        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 }
        ::= { wman2IfBsClassifierRuleEntry 27 }

wman2IfBsClassifierRuleIpv6FlowLabel OBJECT-TYPE
        SYNTAX      Wman2IfIpv6FlowLabel
        MAX-ACCESS  read-create
        STATUS      current
        DESCRIPTION
            "The value of this field specifies the matching values for
             the IPv6 Flow label field."
        ::= { wman2IfBsClassifierRuleEntry 28 }

wman2IfBsClassifierRuleBitMap OBJECT-TYPE
        SYNTAX      Wman2IfClassifierBitMap
        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"
        ::= { wman2IfBsClassifierRuleEntry 29 }

wman2IfBsClassifierRuleRowStatus 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."
            ::= { wman2IfBsClassifierRuleEntry 30 }

wman2IfBsSsPacketCounterTable OBJECT-TYPE
            SYNTAX      SEQUENCE OF Wman2IfBsSsPacketCounterEntry
            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."
            ::= { wman2IfBsPacketCs 5 }

wman2IfBsSsPacketCounterEntry OBJECT-TYPE
            SYNTAX      Wman2IfBsSsPacketCounterEntry
            MAX-ACCESS  not-accessible
            STATUS      current
            DESCRIPTION
               "This table provides one row for each service flow, and
                is indexed by ifIndex, wman2IfCmnCpsSfMacAddress, and
                wman2IfCmnCpsSfId."
            INDEX { ifIndex, wman2IfCmnCpsSfMacAddress,
                    wman2IfCmnCpsSfId }
            ::= { wman2IfBsSsPacketCounterTable 1 }

Wman2IfBsSsPacketCounterEntry::= SEQUENCE {
            wman2IfBsSsMacSduCount                  Counter64,
            wman2IfBsSsOctetCount                   Counter64,
            wman2IfBsSsResetCounter                 INTEGER,
            wman2IfBsSsResetCounterTime             TimeStamp}

wman2IfBsSsMacSduCount 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."
            ::= { wman2IfBsSsPacketCounterEntry 1 }

wman2IfBsSsOctetCount 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."
            ::= { wman2IfBsSsPacketCounterEntry 2 }

wman2IfBsSsResetCounter 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. "
        ::= { wman2IfBsSsPacketCounterEntry 3 }

wman2IfBsSsResetCounterTime OBJECT-TYPE
        SYNTAX      TimeStamp
        MAX-ACCESS  read-only
        STATUS      current
        DESCRIPTION
            "Indicates the date and time when the counter is
             reset."
        ::= { wman2IfBsSsPacketCounterEntry 4 }

--
-- wman2IfBsCps contain the Base Station Common Part Sublayer objects
--
wman2IfBsCps OBJECT IDENTIFIER ::= { wman2IfBsObjects 2 }

wman2IfBsRegisteredSsTable OBJECT-TYPE
        SYNTAX      SEQUENCE OF Wman2IfBsRegisteredSsEntry
        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"
        ::= { wman2IfBsCps 1 }

wman2IfBsRegisteredSsEntry OBJECT-TYPE
        SYNTAX      Wman2IfBsRegisteredSsEntry
        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
             wman2IfBsSsMacAddress. The primary index is the ifIndex
             with an ifType of propBWAp2Mp, indicating the BS sector
             with which the SS is associated. wman2IfBsSsMacAddress
             identifies the SS being registered."
        INDEX { ifIndex, wman2IfBsSsMacAddress }
        ::= { wman2IfBsRegisteredSsTable 1 }

Wman2IfBsRegisteredSsEntry ::= SEQUENCE {
```

```
        wman2IfBsSsMacAddress                    MacAddress,
        wman2IfBsSsBasicCid                      Wman2IfCidType,
        wman2IfBsSsPrimaryCid                    Wman2IfCidType,
        wman2IfBsSsSecondaryCid                  Wman2IfCidType,
        wman2IfBsSsManagementSupport             INTEGER,
        wman2IfBsSsIpManagementMode              INTEGER,
        wman2IfBsSs2ndMgmtArqEnable              TruthValue,
        wman2IfBsSs2ndMgmtArqWindowSize          INTEGER,
        wman2IfBsSs2ndMgmtArqDnLinkTxDelay       INTEGER,
        wman2IfBsSs2ndMgmtArqUpLinkTxDelay       INTEGER,
        wman2IfBsSs2ndMgmtArqDnLinkRxDelay       INTEGER,
        wman2IfBsSs2ndMgmtArqUpLinkRxDelay       INTEGER,
        wman2IfBsSs2ndMgmtArqBlockLifetime       INTEGER,
        wman2IfBsSs2ndMgmtArqSyncLossTimeout     INTEGER,
        wman2IfBsSs2ndMgmtArqDeliverInOrder      TruthValue,
        wman2IfBsSs2ndMgmtArqRxPurgeTimeout      INTEGER,
        wman2IfBsSs2ndMgmtArqBlockSize           INTEGER,
        wman2IfBsSsVendorIdEncoding              OCTET STRING,
        wman2IfBsSsAasBroadcastPermission        INTEGER,
        wman2IfBsSsMaxTxPowerBpsk                Wman2IfMaxTxPowerType,
        wman2IfBsSsMaxTxPowerQpsk                Wman2IfMaxTxPowerType,
        wman2IfBsSsMaxTxPower16Qam               Wman2IfMaxTxPowerType,
        wman2IfBsSsMaxTxPower64Qam               Wman2IfMaxTxPowerType,
        wman2IfBsSsMacVersion                    Wman2IfMacVersion}

wman2IfBsSsMacAddress 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"
        ::= { wman2IfBsRegisteredSsEntry 1 }

wman2IfBsSsBasicCid OBJECT-TYPE
        SYNTAX      Wman2IfCidType
        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"
        ::= { wman2IfBsRegisteredSsEntry 2 }

wman2IfBsSsPrimaryCid OBJECT-TYPE
        SYNTAX      Wman2IfCidType
        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"
            ::= { wman2IfBsRegisteredSsEntry 3 }

    wman2IfBsSsSecondaryCid OBJECT-TYPE
            SYNTAX      Wman2IfCidType
            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"
            ::= { wman2IfBsRegisteredSsEntry 4 }

    wman2IfBsSsManagementSupport 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"
            ::= { wman2IfBsRegisteredSsEntry 5 }

    wman2IfBsSsIpManagementMode 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"
            ::= { wman2IfBsRegisteredSsEntry 6 }

    wman2IfBsSs2ndMgmtArqEnable 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"
            ::= { wman2IfBsRegisteredSsEntry 7 }

    wman2IfBsSs2ndMgmtArqWindowSize 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"
        ::= { wman2IfBsRegisteredSsEntry 8 }

wman2IfBsSs2ndMgmtArqDnLinkTxDelay 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"
        ::= { wman2IfBsRegisteredSsEntry 9 }

wman2IfBsSs2ndMgmtArqUpLinkTxDelay 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"
        ::= { wman2IfBsRegisteredSsEntry 10 }

wman2IfBsSs2ndMgmtArqDnLinkRxDelay 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"
        ::= { wman2IfBsRegisteredSsEntry 11 }

wman2IfBsSs2ndMgmtArqUpLinkRxDelay 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"
        ::= { wman2IfBsRegisteredSsEntry 12 }

wman2IfBsSs2ndMgmtArqBlockLifetime 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}
        ::= { wman2IfBsRegisteredSsEntry 13 }

wman2IfBsSs2ndMgmtArqSyncLossTimeout 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}
        ::= { wman2IfBsRegisteredSsEntry 14 }

wman2IfBsSs2ndMgmtArqDeliverInOrder  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"
        ::= { wman2IfBsRegisteredSsEntry 15 }

wman2IfBsSs2ndMgmtArqRxPurgeTimeout  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}
     ::= { wman2IfBsRegisteredSsEntry 16 }

wman2IfBsSs2ndMgmtArqBlockSize 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"
        ::= { wman2IfBsRegisteredSsEntry 17 }

wman2IfBsSsVendorIdEncoding 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"
        ::= { wman2IfBsRegisteredSsEntry 18 }

wman2IfBsSsAasBroadcastPermission 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"
        ::= { wman2IfBsRegisteredSsEntry 19 }

wman2IfBsSsMaxTxPowerBpsk OBJECT-TYPE
        SYNTAX      Wman2IfMaxTxPowerType
        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"
        ::= { wman2IfBsRegisteredSsEntry 20 }

wman2IfBsSsMaxTxPowerQpsk OBJECT-TYPE
        SYNTAX      Wman2IfMaxTxPowerType
        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"
        ::= { wman2IfBsRegisteredSsEntry 21 }

wman2IfBsSsMaxTxPower16Qam OBJECT-TYPE
        SYNTAX      Wman2IfMaxTxPowerType
        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"
        ::= { wman2IfBsRegisteredSsEntry 22 }

wman2IfBsSsMaxTxPower64Qam OBJECT-TYPE
        SYNTAX      Wman2IfMaxTxPowerType
        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"
        ::= { wman2IfBsRegisteredSsEntry 23 }

wman2IfBsSsMacVersion OBJECT-TYPE
        SYNTAX      Wman2IfMacVersion
        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"
        ::= { wman2IfBsRegisteredSsEntry 24 }

--
-- wman2IfBsConfigurationTable contains global parameters common in BS
--
wman2IfBsConfigurationTable OBJECT-TYPE
        SYNTAX      SEQUENCE OF Wman2IfBsConfigurationEntry
        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"
        ::= { wman2IfBsCps 2 }

wman2IfBsConfigurationEntry OBJECT-TYPE
        SYNTAX      Wman2IfBsConfigurationEntry
        MAX-ACCESS  not-accessible
        STATUS      current
        DESCRIPTION
            "This table is indexed by ifIndex with an ifType of
             propBWAp2Mp."
        INDEX { ifIndex }
        ::= { wman2IfBsConfigurationTable 1 }

Wman2IfBsConfigurationEntry ::= SEQUENCE {
        wman2IfBsDcdInterval                    INTEGER,
        wman2IfBsUcdInterval                    INTEGER,
        wman2IfBsUcdTransition                  INTEGER,
        wman2IfBsDcdTransition                  INTEGER,
        wman2IfBsInitialRangingInterval         INTEGER,
        wman2IfBsSsULMapProcTime                Unsigned32,
        wman2IfBsSsRangRespProcTime             Unsigned32,
        wman2IfBsT5Timeout                      INTEGER,
```

```
        wman2IfBsT9Timeout                      INTEGER,
        wman2IfBsT13Timeout                     INTEGER,
        wman2IfBsT15Timeout                     INTEGER,
        wman2IfBsT17Timeout                     INTEGER,
        wman2IfBsT27IdleTimer                   Unsigned32,
        wman2IfBsT27ActiveTimer                 Unsigned32,
        wman2IfBs2ndMgmtDlQoSProfileIndex       INTEGER,
        wman2IfBs2ndMgmtUlQoSProfileIndex       INTEGER,
        wman2IfBsAutoSfidEnabled                INTEGER,
        wman2IfBsAutoSfidRangeMin               Unsigned32,
        wman2IfBsAutoSfidRangeMax               Unsigned32,
        wman2IfBsAasChanFbckReqFreq             INTEGER,
        wman2IfBsAasBeamSelectFreq              INTEGER,
        wman2IfBsAasChanFbckReqResolution       INTEGER,
        wman2IfBsAasBeamReqResolution           INTEGER,
        wman2IfBsAasNumOptDiversityZones        INTEGER,
        wman2IfBsResetSector                    INTEGER}

wman2IfBsDcdInterval OBJECT-TYPE
        SYNTAX      INTEGER (0..10000)
        UNITS       "milliseconds"
        MAX-ACCESS  read-write
        STATUS      current
        DESCRIPTION
            "Time between transmission of DCD messages in ms."
        ::= { wman2IfBsConfigurationEntry 1 }

wman2IfBsUcdInterval OBJECT-TYPE
        SYNTAX      INTEGER (0..10000)
        UNITS       "milliseconds"
        MAX-ACCESS  read-write
        STATUS      current
        DESCRIPTION
            "Time between transmission of UCD messages in ms."
        ::= { wman2IfBsConfigurationEntry 2 }

wman2IfBsUcdTransition 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."
        ::= { wman2IfBsConfigurationEntry 3 }

wman2IfBsDcdTransition 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."
            ::= { wman2IfBsConfigurationEntry 4 }

    wman2IfBsInitialRangingInterval 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."
            ::= { wman2IfBsConfigurationEntry 5 }

    wman2IfBsSsULMapProcTime 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."
            ::= { wman2IfBsConfigurationEntry 6 }

    wman2IfBsSsRangRespProcTime 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."
            ::= { wman2IfBsConfigurationEntry 7 }

    wman2IfBsT5Timeout OBJECT-TYPE
            SYNTAX      INTEGER (0 .. 2000)
            UNITS       "milliseconds"
            MAX-ACCESS  read-write
            STATUS      current
            DESCRIPTION
                "Wait for Uplink Channel Change Response in ms."
            ::= { wman2IfBsConfigurationEntry 8 }

    wman2IfBsT9Timeout 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."
            ::= { wman2IfBsConfigurationEntry 9 }

    wman2IfBsT13Timeout 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."
            ::= { wman2IfBsConfigurationEntry 10 }

    wman2IfBsT15Timeout OBJECT-TYPE
            SYNTAX      INTEGER (20 .. 65535)
            UNITS       "milliseconds"
            MAX-ACCESS  read-write
            STATUS      current
            DESCRIPTION
                "Wait for MCA-RSP in ms."
            ::= { wman2IfBsConfigurationEntry 11 }

    wman2IfBsT17Timeout 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."
            ::= { wman2IfBsConfigurationEntry 12 }

    wman2IfBsT27IdleTimer 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."
            ::= { wman2IfBsConfigurationEntry 13 }

    wman2IfBsT27ActiveTimer 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."
            ::= { wman2IfBsConfigurationEntry 14 }
```

```
wman2IfBs2ndMgmtDlQoSProfileIndex OBJECT-TYPE
        SYNTAX      INTEGER (1..65535)
        MAX-ACCESS  read-write
        STATUS      current
        DESCRIPTION
            "This object defines the index of a row in
             wman2IfBsServiceClassTable 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."
         ::= { wman2IfBsConfigurationEntry 15 }

wman2IfBs2ndMgmtUlQoSProfileIndex OBJECT-TYPE
        SYNTAX      INTEGER (1..65535)
        MAX-ACCESS  read-write
        STATUS      current
        DESCRIPTION
            "This object defines the index of a row in
             wman2IfBsServiceClassTable 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."
        ::= { wman2IfBsConfigurationEntry 16 }

wman2IfBsAutoSfidEnabled 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
             wman2IfBsConfigExtAutoSfidRangeMin and
             wman2IfBsConfigExtAutoSfidRangeMax. A SF is created
             autonomously when it has not been provisioned in the
             wman2IfBsProvisionedSfTable 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
             wman2IfBsProvisionedSfTable."
        REFERENCE
            "Subclause 11.13.1 in IEEE Std 802.16-2004"
         ::= { wman2IfBsConfigurationEntry 17 }

wman2IfBsAutoSfidRangeMin 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 wman2IfBsAutoSfidEnabled allows
             autonomous creation of SFIDs."
        REFERENCE
            "Subclause 11.13.1 in IEEE Std 802.16-2004"
        ::= { wman2IfBsConfigurationEntry 18 }

wman2IfBsAutoSfidRangeMax 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 wman2IfBsAutoSfidEnabled allows
             autonomous creation of SFIDs."
        REFERENCE
            "Subclause 11.13.1 in IEEE Std 802.16-2004"
        ::= { wman2IfBsConfigurationEntry 19 }

wman2IfBsAasChanFbckReqFreq 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"
        ::= { wman2IfBsConfigurationEntry 20 }

wman2IfBsAasBeamSelectFreq 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"
        ::= { wman2IfBsConfigurationEntry 21 }

wman2IfBsAasChanFbckReqResolution 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"
        ::= { wman2IfBsConfigurationEntry 22 }

wman2IfBsAasBeamReqResolution 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"
        ::= { wman2IfBsConfigurationEntry 23 }

wman2IfBsAasNumOptDiversityZones 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"
        ::= { wman2IfBsConfigurationEntry 24 }

wman2IfBsResetSector  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"
        ::= { wman2IfBsConfigurationEntry 25 }

--
-- Base Station Channel Measurement Table
--
wman2IfBsChannelMeasurementTable OBJECT-TYPE
        SYNTAX      SEQUENCE OF   Wman2IfBsChannelMeasurementEntry
        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"
        ::= { wman2IfBsCps 3 }

wman2IfBsChannelMeasurementEntry OBJECT-TYPE
        SYNTAX      Wman2IfBsChannelMeasurementEntry
        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. wman2IfBsSsMacAddress identifies
                 the SS from which the signal was received.
                 wman2IfBsChannelDirection is the index to the direction of
                 the channel. wman2IfBsHistogramIndex is the index to
                 histogram samples. Since there is no time stamp in the
                 table, wman2IfBsHistogramIndex should be increased
                 monotonically, and wraps around when it reaches the
                 implementation specific limit."
        INDEX       { ifIndex,
                      wman2IfBsSsMacAddress,
                      wman2IfBsChannelDirection,
                      wman2IfBsHistogramIndex }
        ::= { wman2IfBsChannelMeasurementTable  1 }

Wman2IfBsChannelMeasurementEntry ::= SEQUENCE {
```

```
        wman2IfBsChannelDirection               INTEGER,
        wman2IfBsHistogramIndex                 Unsigned32,
        wman2IfBsChannelNumber                  Wman2IfChannelNumber,
        wman2IfBsStartFrame                     INTEGER,
        wman2IfBsDuration                       INTEGER,
        wman2IfBsBasicReport                    BITS,
        wman2IfBsMeanCinrReport                 INTEGER,
        wman2IfBsMeanRssiReport                 INTEGER,
        wman2IfBsStdDeviationCinrReport         INTEGER,
        wman2IfBsStdDeviationRssiReport         INTEGER}

wman2IfBsChannelDirection OBJECT-TYPE
        SYNTAX      INTEGER {downstream(1),
                             upstream(2)}
        MAX-ACCESS  not-accessible
        STATUS      current
        DESCRIPTION
            "wman2IfBsChannelDirection identifies the direction of a
             a channel where the measurement takes place."
        ::= { wman2IfBsChannelMeasurementEntry 1 }

wman2IfBsHistogramIndex OBJECT-TYPE
        SYNTAX      Unsigned32 (1 .. 4294967295)
        MAX-ACCESS  read-only
        STATUS      current
        DESCRIPTION
            "wman2IfBsHistogramIndex identifies the histogram samples
             in the table for each subscriber station."
        ::= { wman2IfBsChannelMeasurementEntry 2 }

wman2IfBsChannelNumber OBJECT-TYPE
        SYNTAX      Wman2IfChannelNumber
        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"
        ::= { wman2IfBsChannelMeasurementEntry 3 }

wman2IfBsStartFrame 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"
        ::= { wman2IfBsChannelMeasurementEntry 4 }

wman2IfBsDuration 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"
        ::= { wman2IfBsChannelMeasurementEntry 5 }

wman2IfBsBasicReport 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"
        ::= { wman2IfBsChannelMeasurementEntry 6 }

wman2IfBsMeanCinrReport 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"
        ::= { wman2IfBsChannelMeasurementEntry 7 }

wman2IfBsMeanRssiReport 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"
        ::= { wman2IfBsChannelMeasurementEntry 8 }

wman2IfBsStdDeviationCinrReport 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"
        ::= { wman2IfBsChannelMeasurementEntry 9 }

wman2IfBsStdDeviationRssiReport 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"
        ::= { wman2IfBsChannelMeasurementEntry 10 }

--
-- Base Station capabilities
--
wman2IfBsCapabilities OBJECT IDENTIFIER ::= { wman2IfBsCps 4 }

wman2IfBsSsReqCapabilitiesTable OBJECT-TYPE
        SYNTAX      SEQUENCE OF Wman2IfBsSsReqCapabilitiesEntry
        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."
        ::= { wman2IfBsCapabilities 1 }

wman2IfBsSsReqCapabilitiesEntry OBJECT-TYPE
        SYNTAX      Wman2IfBsSsReqCapabilitiesEntry
        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
             wman2IfBsRegisteredSsTable."
        AUGMENTS { wman2IfBsRegisteredSsEntry }
        ::= { wman2IfBsSsReqCapabilitiesTable 1 }

Wman2IfBsSsReqCapabilitiesEntry ::= SEQUENCE {
        wman2IfBsSsReqCapUplinkCidSupport       Wman2IfNumOfUplinkCid,
        wman2IfBsSsReqCapArqSupport             Wman2IfArqSupportType,
        wman2IfBsSsReqCapDsxFlowControl         Wman2IfMaxDsxFlowType,
        wman2IfBsSsReqCapMacCrcSupport          Wman2IfMacCrcSupport,
        wman2IfBsSsReqCapMcaFlowControl         Wman2IfMaxMcaFlowType,
        wman2IfBsSsReqCapMcpGroupCidSupport     Wman2IfMaxMcpGroupCid,
        wman2IfBsSsReqCapPkmFlowControl         Wman2IfMaxPkmFlowType,
        wman2IfBsSsReqCapAuthPolicyControl      Wman2IfAuthPolicyType,
        wman2IfBsSsReqCapMaxNumOfSupportedSA    Wman2IfMaxNumOfSaType,
```

```
        wman2IfBsSsReqCapIpVersion              Wman2IfIpVersionType,
        wman2IfBsSsReqCapMacCsSupportBitMap     Wman2IfMacCsBitMap,
        wman2IfBsSsReqCapMaxNumOfClassifier     Wman2IfMaxClassifiers,
        wman2IfBsSsReqCapPhsSupport             Wman2IfPhsSupportType,
        wman2IfBsSsReqCapBandwidthAllocSupport  Wman2IfBwAllocSupport,
        wman2IfBsSsReqCapPduConstruction        Wman2IfPduConstruction,
        wman2IfBsSsReqCapTtgTransitionGap       Wman2IfSsTransitionGap,
        wman2IfBsSsReqCapRtgTransitionGap       Wman2IfSsTransitionGap}

wman2IfBsSsReqCapUplinkCidSupport OBJECT-TYPE
        SYNTAX      Wman2IfNumOfUplinkCid
        MAX-ACCESS  read-only
        STATUS      current
        DESCRIPTION
           "This object shows the number of Uplink CIDs the SS can
            support."
        ::= { wman2IfBsSsReqCapabilitiesEntry 1 }

wman2IfBsSsReqCapArqSupport OBJECT-TYPE
        SYNTAX      Wman2IfArqSupportType
        MAX-ACCESS  read-only
        STATUS      current
        DESCRIPTION
            "This object indicates whether the SS supports ARQ."
        ::= { wman2IfBsSsReqCapabilitiesEntry 2 }

wman2IfBsSsReqCapDsxFlowControl OBJECT-TYPE
        SYNTAX      Wman2IfMaxDsxFlowType
        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 }
        ::= { wman2IfBsSsReqCapabilitiesEntry 3 }

wman2IfBsSsReqCapMacCrcSupport OBJECT-TYPE
        SYNTAX      Wman2IfMacCrcSupport
        MAX-ACCESS  read-only
        STATUS      current
        DESCRIPTION
            "This object indicates whether or not the SS supports MAC
             level CRC."
        DEFVAL    { macCrcSupport }
        ::= { wman2IfBsSsReqCapabilitiesEntry 4 }

wman2IfBsSsReqCapMcaFlowControl OBJECT-TYPE
        SYNTAX      Wman2IfMaxMcaFlowType
        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 }
        ::= { wman2IfBsSsReqCapabilitiesEntry 5 }

wman2IfBsSsReqCapMcpGroupCidSupport OBJECT-TYPE
        SYNTAX      Wman2IfMaxMcpGroupCid
        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 }
        ::= { wman2IfBsSsReqCapabilitiesEntry 6 }

wman2IfBsSsReqCapPkmFlowControl OBJECT-TYPE
        SYNTAX      Wman2IfMaxPkmFlowType
        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 }
        ::= { wman2IfBsSsReqCapabilitiesEntry 7 }

wman2IfBsSsReqCapAuthPolicyControl OBJECT-TYPE
        SYNTAX      Wman2IfAuthPolicyType
        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."
        ::= { wman2IfBsSsReqCapabilitiesEntry 8 }

wman2IfBsSsReqCapMaxNumOfSupportedSA OBJECT-TYPE
        SYNTAX      Wman2IfMaxNumOfSaType
        MAX-ACCESS  read-only
        STATUS      current
        DESCRIPTION
            "This field specifies the maximum number of supported
             security associations of the SS."
        DEFVAL    { 1 }
        ::= { wman2IfBsSsReqCapabilitiesEntry 9 }

wman2IfBsSsReqCapIpVersion OBJECT-TYPE
        SYNTAX      Wman2IfIpVersionType
        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."
    ::= { wman2IfBsSsReqCapabilitiesEntry 10 }

wman2IfBsSsReqCapMacCsSupportBitMap OBJECT-TYPE
        SYNTAX      Wman2IfMacCsBitMap
        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."
        ::= { wman2IfBsSsReqCapabilitiesEntry 11 }

wman2IfBsSsReqCapMaxNumOfClassifier OBJECT-TYPE
        SYNTAX      Wman2IfMaxClassifiers
        MAX-ACCESS  read-only
        STATUS      current
        DESCRIPTION
            "This object indicates the maximum number of admitted
             Classifiers that the SS can support."
        DEFVAL      { 0 }
        ::= { wman2IfBsSsReqCapabilitiesEntry 12 }

wman2IfBsSsReqCapPhsSupport OBJECT-TYPE
        SYNTAX      Wman2IfPhsSupportType
        MAX-ACCESS  read-only
        STATUS      current
        DESCRIPTION
            "This object indicates indicates the level of SS support
             for PHS."
        DEFVAL      { noPhsSupport }
        ::= { wman2IfBsSsReqCapabilitiesEntry 13 }

wman2IfBsSsReqCapBandwidthAllocSupport OBJECT-TYPE
        SYNTAX      Wman2IfBwAllocSupport
        MAX-ACCESS  read-only
        STATUS      current
        DESCRIPTION
            "This field indicates the bandwidth allocation
             capabilities of the SS. The usage is defined by
             Wman2IfBwAllocSupport."
        ::= { wman2IfBsSsReqCapabilitiesEntry 14 }

wman2IfBsSsReqCapPduConstruction OBJECT-TYPE
        SYNTAX      Wman2IfPduConstruction
        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 Wman2IfPduConstruction."
        ::= { wman2IfBsSsReqCapabilitiesEntry 15 }

wman2IfBsSsReqCapTtgTransitionGap OBJECT-TYPE
```

```
        SYNTAX      Wman2IfSsTransitionGap
        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
             Wman2IfSsTransitionGap."
        ::= { wman2IfBsSsReqCapabilitiesEntry 16 }

wman2IfBsSsReqCapRtgTransitionGap OBJECT-TYPE
        SYNTAX      Wman2IfSsTransitionGap
        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
             Wman2IfSsTransitionGap."
        ::= { wman2IfBsSsReqCapabilitiesEntry 17 }

wman2IfBsSsRspCapabilitiesTable OBJECT-TYPE
        SYNTAX      SEQUENCE OF Wman2IfBsSsRspCapabilitiesEntry
        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 wman2IfBsRegisteredSsTable."
        REFERENCE
            "Subclause 6.3.2.3.7 in IEEE Std 802.16-2004"
        ::= { wman2IfBsCapabilities 2 }

wman2IfBsSsRspCapabilitiesEntry OBJECT-TYPE
        SYNTAX      Wman2IfBsSsRspCapabilitiesEntry
        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
             wman2IfBsRegisteredSsTable. "
        AUGMENTS { wman2IfBsRegisteredSsEntry }
        ::= { wman2IfBsSsRspCapabilitiesTable 1 }

Wman2IfBsSsRspCapabilitiesEntry ::= SEQUENCE {
        wman2IfBsSsRspCapUplinkCidSupport       Wman2IfNumOfUplinkCid,
        wman2IfBsSsRspCapArqSupport             Wman2IfArqSupportType,
        wman2IfBsSsRspCapDsxFlowControl         Wman2IfMaxDsxFlowType,
        wman2IfBsSsRspCapMacCrcSupport          Wman2IfMacCrcSupport,
        wman2IfBsSsRspCapMcaFlowControl         Wman2IfMaxMcaFlowType,
        wman2IfBsSsRspCapMcpGroupCidSupport     Wman2IfMaxMcpGroupCid,
        wman2IfBsSsRspCapPkmFlowControl         Wman2IfMaxPkmFlowType,
        wman2IfBsSsRspCapAuthPolicyControl      Wman2IfAuthPolicyType,
```

```
        wman2IfBsSsRspCapMaxNumOfSupportedSA    Wman2IfMaxNumOfSaType,
        wman2IfBsSsRspCapIpVersion              Wman2IfIpVersionType,
        wman2IfBsSsRspCapMacCsSupportBitMap     Wman2IfMacCsBitMap,
        wman2IfBsSsRspCapMaxNumOfClassifier     Wman2IfMaxClassifiers,
        wman2IfBsSsRspCapPhsSupport             Wman2IfPhsSupportType,
        wman2IfBsSsRspCapBandwidthAllocSupport  Wman2IfBwAllocSupport,
        wman2IfBsSsRspCapPduConstruction        Wman2IfPduConstruction,
        wman2IfBsSsRspCapTtgTransitionGap       Wman2IfSsTransitionGap,
        wman2IfBsSsRspCapRtgTransitionGap       Wman2IfSsTransitionGap}

wman2IfBsSsRspCapUplinkCidSupport OBJECT-TYPE
        SYNTAX      Wman2IfNumOfUplinkCid
        MAX-ACCESS  read-only
        STATUS      current
        DESCRIPTION
            "Negotiated number of Uplink CIDs the SS can support."
        ::= { wman2IfBsSsRspCapabilitiesEntry 1 }

wman2IfBsSsRspCapArqSupport OBJECT-TYPE
        SYNTAX      Wman2IfArqSupportType
        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."
        ::= { wman2IfBsSsRspCapabilitiesEntry 2 }

wman2IfBsSsRspCapDsxFlowControl OBJECT-TYPE
        SYNTAX      Wman2IfMaxDsxFlowType
        MAX-ACCESS  read-only
        STATUS      current
        DESCRIPTION
            "Negotiated maximum number of concurrent DSA, DSC, or DSD
             transactions that may be outstanding."
        ::= { wman2IfBsSsRspCapabilitiesEntry 3 }

wman2IfBsSsRspCapMacCrcSupport OBJECT-TYPE
        SYNTAX      Wman2IfMacCrcSupport
        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 }
        ::= { wman2IfBsSsRspCapabilitiesEntry 4 }

wman2IfBsSsRspCapMcaFlowControl OBJECT-TYPE
        SYNTAX      Wman2IfMaxMcaFlowType
        MAX-ACCESS  read-only
        STATUS      current
        DESCRIPTION
            "Negotiated maximum number of concurrent
             MCA transactions that may be outstanding."
```

```
        DEFVAL    { 0 }
        ::= { wman2IfBsSsRspCapabilitiesEntry 5 }

wman2IfBsSsRspCapMcpGroupCidSupport OBJECT-TYPE
        SYNTAX      Wman2IfMaxMcpGroupCid
        MAX-ACCESS  read-only
        STATUS      current
        DESCRIPTION
            "Negotiated maximum number of simultaneous Multicast
             Polling Groups the SS is capable of belonging to."
        DEFVAL    { 0 }
        ::= { wman2IfBsSsRspCapabilitiesEntry 6 }

wman2IfBsSsRspCapPkmFlowControl OBJECT-TYPE
        SYNTAX      Wman2IfMaxPkmFlowType
        MAX-ACCESS  read-only
        STATUS      current
        DESCRIPTION
            "Negotiated maximum number of concurrent PKM
             transactions that may be outstanding."
        DEFVAL    { 0 }
        ::= { wman2IfBsSsRspCapabilitiesEntry 7 }

wman2IfBsSsRspCapAuthPolicyControl OBJECT-TYPE
        SYNTAX      Wman2IfAuthPolicyType
        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."
        ::= { wman2IfBsSsRspCapabilitiesEntry 8 }

wman2IfBsSsRspCapMaxNumOfSupportedSA OBJECT-TYPE
        SYNTAX      Wman2IfMaxNumOfSaType
        MAX-ACCESS  read-only
        STATUS      current
        DESCRIPTION
            "Negotiated maximum number of supported security
             association of the SS."
        DEFVAL    { 1 }
        ::= { wman2IfBsSsRspCapabilitiesEntry 9 }

wman2IfBsSsRspCapIpVersion OBJECT-TYPE
        SYNTAX      Wman2IfIpVersionType
        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."
```

```
    ::= { wman2IfBsSsRspCapabilitiesEntry 10 }

wman2IfBsSsRspCapMacCsSupportBitMap OBJECT-TYPE
        SYNTAX      Wman2IfMacCsBitMap
        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."
        ::= { wman2IfBsSsRspCapabilitiesEntry 11 }

wman2IfBsSsRspCapMaxNumOfClassifier OBJECT-TYPE
        SYNTAX      Wman2IfMaxClassifiers
        MAX-ACCESS  read-only
        STATUS      current
        DESCRIPTION
            "Negotiated maximum number of admitted Classifiers
             that the SS is allowed to have."
        DEFVAL      { 0 }
        ::= { wman2IfBsSsRspCapabilitiesEntry 12 }

wman2IfBsSsRspCapPhsSupport OBJECT-TYPE
        SYNTAX      Wman2IfPhsSupportType
        MAX-ACCESS  read-only
        STATUS      current
        DESCRIPTION
            "This object indicates the negotiated level of PHS
             support."
        DEFVAL      { noPhsSupport }
        ::= { wman2IfBsSsRspCapabilitiesEntry 13 }

wman2IfBsSsRspCapBandwidthAllocSupport OBJECT-TYPE
        SYNTAX      Wman2IfBwAllocSupport
        MAX-ACCESS  read-only
        STATUS      current
        DESCRIPTION
            "This field indicates negotiated properties of the SS
             for bandwidth allocation purposes. The usage is defined
             by Wman2IfBwAllocSupport."
        ::= { wman2IfBsSsRspCapabilitiesEntry 14 }

wman2IfBsSsRspCapPduConstruction OBJECT-TYPE
        SYNTAX      Wman2IfPduConstruction
        MAX-ACCESS  read-only
        STATUS      current
        DESCRIPTION
            "Specifies negotiated capabilities for construction and
             transmission of MAC PDUs. The usage is defined by
             Wman2IfPduConstruction."
        ::= { wman2IfBsSsRspCapabilitiesEntry 15 }

wman2IfBsSsRspCapTtgTransitionGap OBJECT-TYPE
        SYNTAX      Wman2IfSsTransitionGap
```

```
        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
             Wman2IfSsTransitionGap."
        ::= { wman2IfBsSsRspCapabilitiesEntry 16 }

wman2IfBsSsRspCapRtgTransitionGap OBJECT-TYPE
        SYNTAX      Wman2IfSsTransitionGap
        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
             Wman2IfSsTransitionGap."
        ::= { wman2IfBsSsRspCapabilitiesEntry 17 }

wman2IfBsBasicCapabilitiesTable OBJECT-TYPE
        SYNTAX      SEQUENCE OF Wman2IfBsBasicCapabilitiesEntry
        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
             (wman2IfBsCapabilitiesConfigTable) 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."
        ::= { wman2IfBsCapabilities 3 }

wman2IfBsBasicCapabilitiesEntry OBJECT-TYPE
        SYNTAX      Wman2IfBsBasicCapabilitiesEntry
        MAX-ACCESS  not-accessible
        STATUS      current
        DESCRIPTION
            "This table provides one row for each BS sector and is
             indexed by ifIndex."
        INDEX { ifIndex }
        ::= { wman2IfBsBasicCapabilitiesTable 1 }

Wman2IfBsBasicCapabilitiesEntry ::= SEQUENCE {
        wman2IfBsCapUplinkCidSupport            Wman2IfNumOfUplinkCid,
        wman2IfBsCapArqSupport                  Wman2IfArqSupportType,
        wman2IfBsCapDsxFlowControl              Wman2IfMaxDsxFlowType,
        wman2IfBsCapMacCrcSupport               Wman2IfMacCrcSupport,
        wman2IfBsCapMcaFlowControl              Wman2IfMaxMcaFlowType,
        wman2IfBsCapMcpGroupCidSupport          Wman2IfMaxMcpGroupCid,
```

```
        wman2IfBsCapPkmFlowControl              Wman2IfMaxPkmFlowType,
        wman2IfBsCapAuthPolicyControl           Wman2IfAuthPolicyType,
        wman2IfBsCapMaxNumOfSupportedSA         Wman2IfMaxNumOfSaType,
        wman2IfBsCapIpVersion                   Wman2IfIpVersionType,
        wman2IfBsCapMacCsSupportBitMap          Wman2IfMacCsBitMap,
        wman2IfBsCapMaxNumOfClassifier          Wman2IfMaxClassifiers,
        wman2IfBsCapPhsSupport                  Wman2IfPhsSupportType,
        wman2IfBsCapBandwidthAllocSupport       Wman2IfBwAllocSupport,
        wman2IfBsCapPduConstruction             Wman2IfPduConstruction,
        wman2IfBsCapTtgTransitionGap            Wman2IfSsTransitionGap,
        wman2IfBsCapRtgTransitionGap            Wman2IfSsTransitionGap}

wman2IfBsCapUplinkCidSupport OBJECT-TYPE
        SYNTAX      Wman2IfNumOfUplinkCid
        MAX-ACCESS  read-only
        STATUS      current
        DESCRIPTION
            "This object shows the number of Uplink CIDs the BS can
             support per SS."
        ::= { wman2IfBsBasicCapabilitiesEntry 1 }

wman2IfBsCapArqSupport OBJECT-TYPE
        SYNTAX      Wman2IfArqSupportType
        MAX-ACCESS  read-only
        STATUS      current
        DESCRIPTION
            "This object indicates whether the BS supports ARQ."
        ::= { wman2IfBsBasicCapabilitiesEntry 2 }

wman2IfBsCapDsxFlowControl OBJECT-TYPE
        SYNTAX      Wman2IfMaxDsxFlowType
        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 }
        ::= { wman2IfBsBasicCapabilitiesEntry 3 }

wman2IfBsCapMacCrcSupport OBJECT-TYPE
        SYNTAX      Wman2IfMacCrcSupport
        MAX-ACCESS  read-only
        STATUS      current
        DESCRIPTION
            "This object indicates whether or not the BS supports MAC
             level CRC."
        DEFVAL    { macCrcSupport }
        ::= { wman2IfBsBasicCapabilitiesEntry 4 }

wman2IfBsCapMcaFlowControl OBJECT-TYPE
        SYNTAX      Wman2IfMaxMcaFlowType
        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 }
        ::= { wman2IfBsBasicCapabilitiesEntry 5 }

wman2IfBsCapMcpGroupCidSupport OBJECT-TYPE
        SYNTAX      Wman2IfMaxMcpGroupCid
        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 }
        ::= { wman2IfBsBasicCapabilitiesEntry 6 }

wman2IfBsCapPkmFlowControl OBJECT-TYPE
        SYNTAX      Wman2IfMaxPkmFlowType
        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 }
        ::= { wman2IfBsBasicCapabilitiesEntry 7 }

wman2IfBsCapAuthPolicyControl OBJECT-TYPE
        SYNTAX      Wman2IfAuthPolicyType
        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 = upported. 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."
        ::= { wman2IfBsBasicCapabilitiesEntry 8 }

wman2IfBsCapMaxNumOfSupportedSA OBJECT-TYPE
        SYNTAX      Wman2IfMaxNumOfSaType
        MAX-ACCESS  read-only
        STATUS      current
        DESCRIPTION
            "This field specifies maximum number of supported security
             associations per SS that the BS allows."
        DEFVAL    { 1 }
        ::= { wman2IfBsBasicCapabilitiesEntry 9 }

wman2IfBsCapIpVersion OBJECT-TYPE
        SYNTAX      Wman2IfIpVersionType
        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"
    ::= { wman2IfBsBasicCapabilitiesEntry 10 }

wman2IfBsCapMacCsSupportBitMap OBJECT-TYPE
        SYNTAX      Wman2IfMacCsBitMap
        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."
        ::= { wman2IfBsBasicCapabilitiesEntry 11 }

wman2IfBsCapMaxNumOfClassifier OBJECT-TYPE
        SYNTAX      Wman2IfMaxClassifiers
        MAX-ACCESS  read-only
        STATUS      current
        DESCRIPTION
            "This object indicates the maximum number of admitted
             Classifiers per SS that the BS allows."
        DEFVAL      { 0 }
        ::= { wman2IfBsBasicCapabilitiesEntry 12 }

wman2IfBsCapPhsSupport OBJECT-TYPE
        SYNTAX      Wman2IfPhsSupportType
        MAX-ACCESS  read-only
        STATUS      current
        DESCRIPTION
            "This object indicates the level of BS support for PHS.
             The usage is defined by Wman2IfPhsSupportType."
        DEFVAL      { noPhsSupport }
        ::= { wman2IfBsBasicCapabilitiesEntry 13 }

wman2IfBsCapBandwidthAllocSupport OBJECT-TYPE
        SYNTAX      Wman2IfBwAllocSupport
        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
             Wman2IfBwAllocSupport."
        ::= { wman2IfBsBasicCapabilitiesEntry 14 }

wman2IfBsCapPduConstruction OBJECT-TYPE
        SYNTAX      Wman2IfPduConstruction
        MAX-ACCESS  read-only
        STATUS      current
        DESCRIPTION
            "Specifies the capabilities for construction and
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                transmission of MAC PDUs allowed by the BS. The usage is
                defined by Wman2IfPduConstruction."
        ::= { wman2IfBsBasicCapabilitiesEntry 15 }

wman2IfBsCapTtgTransitionGap OBJECT-TYPE
        SYNTAX      Wman2IfSsTransitionGap
        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
             Wman2IfSsTransitionGap."
        ::= { wman2IfBsBasicCapabilitiesEntry 16 }

wman2IfBsCapRtgTransitionGap OBJECT-TYPE
        SYNTAX      Wman2IfSsTransitionGap
        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 Wman2IfSsTransitionGap."
        ::= { wman2IfBsBasicCapabilitiesEntry 17 }

wman2IfBsCapabilitiesConfigTable OBJECT-TYPE
        SYNTAX      SEQUENCE OF Wman2IfBsCapabilitiesConfigEntry
        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 (wman2IfBsBasicCapabilitiesTable) 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 wman2IfBsBasicCapabilitiesTable
             and can be modified by NMS."
        ::= { wman2IfBsCapabilities 4 }

wman2IfBsCapabilitiesConfigEntry OBJECT-TYPE
        SYNTAX      Wman2IfBsCapabilitiesConfigEntry
        MAX-ACCESS  not-accessible
        STATUS      current
        DESCRIPTION
            "This table provides one row for each BS sector and is
             indexed by ifIndex."
        INDEX { ifIndex }
```

```
        ::= { wman2IfBsCapabilitiesConfigTable 1 }

Wman2IfBsCapabilitiesConfigEntry ::= SEQUENCE {
        wman2IfBsCapCfgUplinkCidSupport         Wman2IfNumOfUplinkCid,
        wman2IfBsCapCfgArqSupport               Wman2IfArqSupportType,
        wman2IfBsCapCfgDsxFlowControl           Wman2IfMaxDsxFlowType,
        wman2IfBsCapCfgMacCrcSupport            Wman2IfMacCrcSupport,
        wman2IfBsCapCfgMcaFlowControl           Wman2IfMaxMcaFlowType,
        wman2IfBsCapCfgMcpGroupCidSupport       Wman2IfMaxMcpGroupCid,
        wman2IfBsCapCfgPkmFlowControl           Wman2IfMaxPkmFlowType,
        wman2IfBsCapCfgAuthPolicyControl        Wman2IfAuthPolicyType,
        wman2IfBsCapCfgMaxNumOfSupportedSA      Wman2IfMaxNumOfSaType,
        wman2IfBsCapCfgIpVersion                Wman2IfIpVersionType,
        wman2IfBsCapCfgMacCsSupportBitMap       Wman2IfMacCsBitMap,
        wman2IfBsCapCfgMaxNumOfClassifier       Wman2IfMaxClassifiers,
        wman2IfBsCapCfgPhsSupport               Wman2IfPhsSupportType,
        wman2IfBsCapCfgBandwidthAllocSupport    Wman2IfBwAllocSupport,
        wman2IfBsCapCfgPduConstruction          Wman2IfPduConstruction,
        wman2IfBsCapCfgTtgTransitionGap         Wman2IfSsTransitionGap,
        wman2IfBsCapCfgRtgTransitionGap         Wman2IfSsTransitionGap}

wman2IfBsCapCfgUplinkCidSupport OBJECT-TYPE
        SYNTAX      Wman2IfNumOfUplinkCid
        MAX-ACCESS  read-write
        STATUS      current
        DESCRIPTION
            "This object shows the configured number of Uplink CIDs the
             BS can support per SS."
        ::= { wman2IfBsCapabilitiesConfigEntry 1 }

wman2IfBsCapCfgArqSupport OBJECT-TYPE
        SYNTAX      Wman2IfArqSupportType
        MAX-ACCESS  read-write
        STATUS      current
        DESCRIPTION
            "This object indicates whether the BS is configured to
             support ARQ."
        ::= { wman2IfBsCapabilitiesConfigEntry 2 }

wman2IfBsCapCfgDsxFlowControl OBJECT-TYPE
        SYNTAX      Wman2IfMaxDsxFlowType
        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 }
        ::= { wman2IfBsCapabilitiesConfigEntry 3 }

wman2IfBsCapCfgMacCrcSupport OBJECT-TYPE
        SYNTAX      Wman2IfMacCrcSupport
        MAX-ACCESS  read-write
        STATUS      current
```

```
        DESCRIPTION
            "This object indicates whether BS is configured to support
             MAC level CRC."
        DEFVAL    { macCrcSupport }
        ::= { wman2IfBsCapabilitiesConfigEntry 4 }

wman2IfBsCapCfgMcaFlowControl OBJECT-TYPE
        SYNTAX      Wman2IfMaxMcaFlowType
        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 }
        ::= { wman2IfBsCapabilitiesConfigEntry 5 }

wman2IfBsCapCfgMcpGroupCidSupport OBJECT-TYPE
        SYNTAX      Wman2IfMaxMcpGroupCid
        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 }
        ::= { wman2IfBsCapabilitiesConfigEntry 6 }

wman2IfBsCapCfgPkmFlowControl OBJECT-TYPE
        SYNTAX      Wman2IfMaxPkmFlowType
        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 }
        ::= { wman2IfBsCapabilitiesConfigEntry 7 }

wman2IfBsCapCfgAuthPolicyControl OBJECT-TYPE
        SYNTAX      Wman2IfAuthPolicyType
        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 = upported. 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."
        ::= { wman2IfBsCapabilitiesConfigEntry 8 }

wman2IfBsCapCfgMaxNumOfSupportedSA OBJECT-TYPE
        SYNTAX      Wman2IfMaxNumOfSaType
```

```
        MAX-ACCESS  read-write
        STATUS      current
        DESCRIPTION
            "This field specifies configured maximum number of supported
             security association per SS."
        DEFVAL    { 1 }
        ::= { wman2IfBsCapabilitiesConfigEntry 9 }

wman2IfBsCapCfgIpVersion OBJECT-TYPE
        SYNTAX      Wman2IfIpVersionType
        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."
   ::= { wman2IfBsCapabilitiesConfigEntry 10 }

wman2IfBsCapCfgMacCsSupportBitMap OBJECT-TYPE
        SYNTAX      Wman2IfMacCsBitMap
        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."
        ::= { wman2IfBsCapabilitiesConfigEntry 11 }

wman2IfBsCapCfgMaxNumOfClassifier OBJECT-TYPE
        SYNTAX      Wman2IfMaxClassifiers
        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 }
        ::= { wman2IfBsCapabilitiesConfigEntry 12 }

wman2IfBsCapCfgPhsSupport OBJECT-TYPE
        SYNTAX      Wman2IfPhsSupportType
        MAX-ACCESS  read-write
        STATUS      current
        DESCRIPTION
            "This object indicates the configured level of BS support
             for PHS."
        DEFVAL      { noPhsSupport }
        ::= { wman2IfBsCapabilitiesConfigEntry 13 }

wman2IfBsCapCfgBandwidthAllocSupport OBJECT-TYPE
        SYNTAX      Wman2IfBwAllocSupport
        MAX-ACCESS  read-write
        STATUS      current
        DESCRIPTION
            "This field indicates configured properties of the BS for
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                bandwidth allocation purposes. The usage is defined by
                Wman2IfCapBwAllocSupport."
        ::= { wman2IfBsCapabilitiesConfigEntry 14 }

wman2IfBsCapCfgPduConstruction OBJECT-TYPE
        SYNTAX      Wman2IfPduConstruction
        MAX-ACCESS  read-write
        STATUS      current
        DESCRIPTION
            "Specifies configured capabilities for construction and
             transmission of MAC PDUs. The usage is defined by
             Wman2IfPduConstruction."
        ::= { wman2IfBsCapabilitiesConfigEntry 15 }

wman2IfBsCapCfgTtgTransitionGap OBJECT-TYPE
        SYNTAX      Wman2IfSsTransitionGap
        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
             Wman2IfSsTransitionGap."
        ::= { wman2IfBsCapabilitiesConfigEntry 16 }

wman2IfBsCapCfgRtgTransitionGap OBJECT-TYPE
        SYNTAX      Wman2IfSsTransitionGap
        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
             Wman2IfSsTransitionGap."
        ::= { wman2IfBsCapabilitiesConfigEntry 17 }

wman2IfBsSsActionsTable OBJECT-TYPE
        SYNTAX      SEQUENCE OF Wman2IfBsSsActionsEntry
        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."
        ::= { wman2IfBsCps 5 }

wman2IfBsSsActionsEntry OBJECT-TYPE
        SYNTAX      Wman2IfBsSsActionsEntry
        MAX-ACCESS  not-accessible
        STATUS      current
        DESCRIPTION
            "This table is indexed by wman2IfBsSsActionsMacAddress. The
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                 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 { wman2IfBsSsActionsMacAddress }
            ::= { wman2IfBsSsActionsTable 1 }

    Wman2IfBsSsActionsEntry ::= SEQUENCE {
            wman2IfBsSsActionsMacAddress            MacAddress,
            wman2IfBsSsActionsResetSs               INTEGER,
            wman2IfBsSsActionsAbortSs               INTEGER,
            wman2IfBsSsActionsOverrideDnFreq        Unsigned32,
            wman2IfBsSsActionsOverrideChannelId     INTEGER,
            wman2IfBsSsActionsDeReRegSs             INTEGER,
            wman2IfBsSsActionsDeReRegSsCode         INTEGER,
            wman2IfBsSsActionsRowStatus             RowStatus}

    wman2IfBsSsActionsMacAddress OBJECT-TYPE
            SYNTAX      MacAddress
            MAX-ACCESS  not-accessible
            STATUS      current
            DESCRIPTION
                "This object uniquely identifies the SS as an action
                 target."
            ::= { wman2IfBsSsActionsEntry 1 }

    wman2IfBsSsActionsResetSs 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"
            ::= { wman2IfBsSsActionsEntry 2 }

    wman2IfBsSsActionsAbortSs 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"
        ::= { wman2IfBsSsActionsEntry 3 }

wman2IfBsSsActionsOverrideDnFreq 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"
        ::= { wman2IfBsSsActionsEntry 4 }

wman2IfBsSsActionsOverrideChannelId 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"
        ::= { wman2IfBsSsActionsEntry 5 }

wman2IfBsSsActionsDeReRegSs 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
                wman2IfBsSsActionsDeReRegSsCode."
        REFERENCE
            "Subclause 6.3.2.3.26 in IEEE Std 802.16-2004"
        ::= { wman2IfBsSsActionsEntry 6 }

wman2IfBsSsActionsDeReRegSsCode 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
             wman2IfBsSsActionsDeReRegSs 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"
        ::= { wman2IfBsSsActionsEntry 7 }

wman2IfBsSsActionsRowStatus 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."
        ::= { wman2IfBsSsActionsEntry 8 }

--
-- wman2IfBsMsPowerSavingStatusTable contains the power saving status
--
wman2IfBsMsPowerSavingStatusTable OBJECT-TYPE
        SYNTAX      SEQUENCE OF Wman2IfBsMsPowerSavingStatusEntry
        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."
        ::= { wman2IfBsCps 6 }

wman2IfBsMsPowerSavingStatusEntry OBJECT-TYPE
        SYNTAX      Wman2IfBsMsPowerSavingStatusEntry
        MAX-ACCESS  not-accessible
        STATUS      current
        DESCRIPTION
            "This table provides one row for each CID in an MS, and
             is indexed by ifIndex, wman2IfBsSsMacAddress, and
             wman2IfBsMsCid."
        INDEX     { ifIndex,
                    wman2IfBsSsMacAddress,
                    wman2IfBsMsCid  }
        ::= { wman2IfBsMsPowerSavingStatusTable 1 }

Wman2IfBsMsPowerSavingStatusEntry::= SEQUENCE {
        wman2IfBsMsCid                          Wman2IfCidType,
        wman2IfBsMsPowerSavingClassId           Wman2IfPsClassId}

wman2IfBsMsCid OBJECT-TYPE
        SYNTAX      Wman2IfCidType
        MAX-ACCESS  read-only
        STATUS      current
        DESCRIPTION
            "A 16 bit channel identifier to identify a connection."
       ::= { wman2IfBsMsPowerSavingStatusEntry 1 }

wman2IfBsMsPowerSavingClassId OBJECT-TYPE
        SYNTAX      Wman2IfPsClassId
        MAX-ACCESS  read-only
        STATUS      current
        DESCRIPTION
            "wman2IfBsMsPowerSavingClassId identifies the power
             saving class associated with this CID. It maps to an
             entry in wman2IfBsMsPowerSavingClassesTable."
        ::= { wman2IfBsMsPowerSavingStatusEntry 2 }

--
-- wman2IfBsMsPowerSavingClassesTable contains the power saving classes
-- information
--
wman2IfBsMsPowerSavingClassesTable OBJECT-TYPE
        SYNTAX      SEQUENCE OF Wman2IfBsMsPowerSavingClassesEntry
        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."
        ::= { wman2IfBsCps 7 }

wman2IfBsMsPowerSavingClassesEntry OBJECT-TYPE
        SYNTAX      Wman2IfBsMsPowerSavingClassesEntry
        MAX-ACCESS  not-accessible
        STATUS      current
        DESCRIPTION
            "This table is indexed by ifIndex, wman2IfBsSsMacAddress,
             and wman2IfBsMsPsClassesId. It is intended to support both
             unicast and multicast service flows.
             wman2IfBsSsMacAddress contains the MAC address of the MS
             to which the power saving classes are associated."
        INDEX { ifIndex,
                wman2IfBsSsMacAddress,
                wman2IfBsMsPsClassId }
        ::= { wman2IfBsMsPowerSavingClassesTable 1 }

Wman2IfBsMsPowerSavingClassesEntry ::= SEQUENCE {
        wman2IfBsMsPsClassId                    Wman2IfPsClassId,
        wman2IfBsMsStartFrameNumber             INTEGER,
        wman2IfBsMsPowerSavingClassType         Wman2PsClassType,
        wman2IfBsMsPsClassCidDirection          Wman2PsClassCidDirection,
        wman2IfBsMsTrafficTriggeredWakening     INTEGER,
        wman2IfBsMsInitialSleepWindow           INTEGER,
        wman2IfBsMsFinalSleepWindowBase         INTEGER,
        wman2IfBsMsFinalSleepWindowExponent     INTEGER,
        wman2IfBsMsListeningWindow              INTEGER,
        wman2IfBsMsPowerSavingMode              Wman2IfPowerSavingMode,
        wman2IfBsMsSlpId                        INTEGER}

wman2IfBsMsPsClassId OBJECT-TYPE
        SYNTAX      Wman2IfPsClassId
        MAX-ACCESS  not-accessible
        STATUS      current
        DESCRIPTION
            "This object uniquely identifies the power saving classes
             in a MS."
        ::= { wman2IfBsMsPowerSavingClassesEntry 1 }

wman2IfBsMsStartFrameNumber 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"
        ::= { wman2IfBsMsPowerSavingClassesEntry 2 }

wman2IfBsMsPowerSavingClassType OBJECT-TYPE
        SYNTAX      Wman2PsClassType
        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"
        ::= { wman2IfBsMsPowerSavingClassesEntry 3 }

wman2IfBsMsPsClassCidDirection OBJECT-TYPE
        SYNTAX      Wman2PsClassCidDirection
        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"
        ::= { wman2IfBsMsPowerSavingClassesEntry 4 }

wman2IfBsMsTrafficTriggeredWakening 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"
        ::= { wman2IfBsMsPowerSavingClassesEntry 5 }

wman2IfBsMsInitialSleepWindow 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"
        ::= { wman2IfBsMsPowerSavingClassesEntry 6 }

wman2IfBsMsFinalSleepWindowBase 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"
            ::= { wman2IfBsMsPowerSavingClassesEntry 7 }

    wman2IfBsMsFinalSleepWindowExponent 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"
            ::= { wman2IfBsMsPowerSavingClassesEntry 8 }

    wman2IfBsMsListeningWindow 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"
            ::= { wman2IfBsMsPowerSavingClassesEntry 9 }

    wman2IfBsMsPowerSavingMode OBJECT-TYPE
            SYNTAX      Wman2IfPowerSavingMode
            MAX-ACCESS  read-write
            STATUS      current
            DESCRIPTION
                "Indicate whether the power saving class mode of such
                 CID is active or not.
                 wman2IfBsMsPowerSavingMode = Sleep_Approved && Operation."
            REFERENCE
                "Subclause 6.3.2.3.45, in IEEE Std 802.16e-2005"
            ::= { wman2IfBsMsPowerSavingClassesEntry 10 }

    wman2IfBsMsSlpId OBJECT-TYPE
            SYNTAX      INTEGER (0..1023)
            MAX-ACCESS  read-only
            STATUS      current
            DESCRIPTION
                "wman2IfBsMsSlpId 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"
        ::= { wman2IfBsMsPowerSavingClassesEntry 11 }

--
-- Mobile Station Sleep Mode Statistics Table
--
wman2IfBsMsSleepModeStatisticsTable OBJECT-TYPE
        SYNTAX      SEQUENCE OF   Wman2IfBsMsSleepModeStatisticsEntry
        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"
        ::= { wman2IfBsCps 8 }

wman2IfBsMsSleepModeStatisticsEntry OBJECT-TYPE
        SYNTAX      Wman2IfBsMsSleepModeStatisticsEntry
        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,
             wman2IfBsSsMacAddress, and wman2IfBsMsStatisticsIndex.
             wman2IfBsMsStatisticsIndex 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,
                      wman2IfBsSsMacAddress,
                      wman2IfBsMsCid,
                      wman2IfBsMsStatisticsIndex }
        ::= { wman2IfBsMsSleepModeStatisticsTable  1 }

Wman2IfBsMsSleepModeStatisticsEntry ::= SEQUENCE {
        wman2IfBsMsStatisticsIndex              Unsigned32,
        wman2IfBsMsSleepWindowStarted           Unsigned32,
        wman2IfBsMsListeningWindowStarted       Unsigned32,
        wman2IfBsMsPendingMsdu                  INTEGER,
        wman2IfBsMsSleepWindowTimeStamp         DateAndTime}

wman2IfBsMsStatisticsIndex OBJECT-TYPE
        SYNTAX      Unsigned32 (1 .. 4294967295)
```

```
        MAX-ACCESS  read-only
        STATUS      current
        DESCRIPTION
            "wman2IfBsMsStatisticsIndex identifies the entry in the
             table where the latest sleep mode event took place."
        ::= { wman2IfBsMsSleepModeStatisticsEntry 1 }

wman2IfBsMsSleepWindowStarted OBJECT-TYPE
        SYNTAX      Unsigned32 (1 .. 166777215)
        UNITS       "frame"
        MAX-ACCESS  read-only
        STATUS      current
        DESCRIPTION
            "wman2IfBsMsSleepWindowStarted identifies when the sleep
             mode is activated.
             wman2IfBsMsSleepWindowStarted = 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."
        ::= { wman2IfBsMsSleepModeStatisticsEntry 2 }

wman2IfBsMsListeningWindowStarted OBJECT-TYPE
        SYNTAX      Unsigned32 (1 .. 166777215)
        UNITS       "frame"
        MAX-ACCESS  read-only
        STATUS      current
        DESCRIPTION
            "wman2IfBsMsListeningWindowStarted identifies when the sleep
             mode is deactivated.
             wman2IfBsMsListeningWindowStarted =
             wman2IfBsMsListeningWindowStarted + sleep window
             The frame number is provided in the DL-MAP, and is
             incremented by 1 MOD 2^24 each frame."
        ::= { wman2IfBsMsSleepModeStatisticsEntry 3 }

wman2IfBsMsPendingMsdu 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."
        ::= { wman2IfBsMsSleepModeStatisticsEntry 4 }

wman2IfBsMsSleepWindowTimeStamp 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."
        ::= { wman2IfBsMsSleepModeStatisticsEntry 5 }

--
```

```
-- Base station PKM group
-- wman2IfBsPkmObjects contain the Base Station Privacy Sublayer objects
--
wman2IfBsPkmObjects OBJECT IDENTIFIER ::= { wman2IfBsObjects  3 }

--
-- Table wman2IfBsPkmBaseTable
--
wman2IfBsPkmBaseTable OBJECT-TYPE
        SYNTAX      SEQUENCE OF   Wman2IfBsPkmBaseEntry
        MAX-ACCESS  not-accessible
        STATUS      current
        DESCRIPTION
            "This table describes the basic PKM attributes of each Base
             Station wireless interface."
        ::= { wman2IfBsPkmObjects  1 }

wman2IfBsPkmBaseEntry OBJECT-TYPE
        SYNTAX      Wman2IfBsPkmBaseEntry
        MAX-ACCESS  not-accessible
        STATUS      current
        DESCRIPTION
            "Each entry contains objects describing attributes of one
             BS wireless interface."
        INDEX       { ifIndex }
        ::= { wman2IfBsPkmBaseTable  1 }

Wman2IfBsPkmBaseEntry ::= SEQUENCE {
        wman2IfBsPkmDefaultAuthLifetime          Integer32,
        wman2IfBsPkmDefaultTekLifetime           Integer32,
        wman2IfBsPkmDefaultSelfSigManufCertTrust INTEGER,
        wman2IfBsPkmCheckCertValidityPeriods     TruthValue,
        wman2IfBsPkmAuthentInfos                 Counter32,
        wman2IfBsPkmAuthRequests                 Counter32,
        wman2IfBsPkmAuthReplies                  Counter32,
        wman2IfBsPkmAuthRejects                  Counter32,
        wman2IfBsPkmAuthInvalids                 Counter32,
        wman2IfBsPkmAuthGraceTime                Integer32,
        wman2IfBsPkmTekGraceTime                 Integer32,
        wman2IfBsPkmAuthWaitTimeout              Integer32,
        wman2IfBsPkmReauthWaitTimeout            Integer32,
        wman2IfBsPkmOpWaitTimeout                Integer32,
        wman2IfBsPkmRekeyWaitTimeout             Integer32,
        wman2IfBsPkmAuthRejectWaitTimeout        Integer32}

wman2IfBsPkmDefaultAuthLifetime 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 }
        ::= { wman2IfBsPkmBaseEntry 1 }

wman2IfBsPkmDefaultTekLifetime 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 }
        ::= { wman2IfBsPkmBaseEntry 2 }


wman2IfBsPkmDefaultSelfSigManufCertTrust 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."
        ::= { wman2IfBsPkmBaseEntry 3 }

wman2IfBsPkmCheckCertValidityPeriods 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."
        ::= { wman2IfBsPkmBaseEntry 4 }

wman2IfBsPkmAuthentInfos 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."
        ::= { wman2IfBsPkmBaseEntry 5 }
```

```
wman2IfBsPkmAuthRequests 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"
        ::= { wman2IfBsPkmBaseEntry 6 }

wman2IfBsPkmAuthReplies 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."
        ::= { wman2IfBsPkmBaseEntry 7 }

wman2IfBsPkmAuthRejects 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."
        ::= { wman2IfBsPkmBaseEntry 8 }

wman2IfBsPkmAuthInvalids 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."
        ::= { wman2IfBsPkmBaseEntry 9 }

wman2IfBsPkmAuthGraceTime 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 }
        ::= { wman2IfBsPkmBaseEntry 10 }

wman2IfBsPkmTekGraceTime 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 }
        ::= { wman2IfBsPkmBaseEntry 11 }

wman2IfBsPkmAuthWaitTimeout 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 }
        ::= { wman2IfBsPkmBaseEntry 12 }

wman2IfBsPkmReauthWaitTimeout 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 }
        ::= { wman2IfBsPkmBaseEntry 13 }

wman2IfBsPkmOpWaitTimeout 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 }
        ::= { wman2IfBsPkmBaseEntry 14 }

wman2IfBsPkmRekeyWaitTimeout 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 }
        ::= { wman2IfBsPkmBaseEntry 15 }

wman2IfBsPkmAuthRejectWaitTimeout 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 }
        ::= { wman2IfBsPkmBaseEntry 16 }

--
-- Table wman2IfBsSsPkmAuthTable
--
wman2IfBsSsPkmAuthTable OBJECT-TYPE
        SYNTAX      SEQUENCE OF   Wman2IfBsSsPkmAuthEntry
        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."
        ::= { wman2IfBsPkmObjects  2 }

wman2IfBsSsPkmAuthEntry OBJECT-TYPE
        SYNTAX      Wman2IfBsSsPkmAuthEntry
        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, wman2IfBsSsPkmAuthMacAddress }
        ::= { wman2IfBsSsPkmAuthTable  1 }

Wman2IfBsSsPkmAuthEntry ::= SEQUENCE {
        wman2IfBsSsPkmAuthMacAddress            MacAddress,
        wman2IfBsSsPkmAuthKeySequenceNumber     Integer32,
        wman2IfBsSsPkmAuthExpiresOld            DateAndTime,
        wman2IfBsSsPkmAuthExpiresNew            DateAndTime,
        wman2IfBsSsPkmAuthLifetime              Integer32,
```

```
        wman2IfBsSsPkmAuthReset                 INTEGER,
        wman2IfBsSsPkmAuthInfos                 Counter64,
        wman2IfBsSsPkmAuthRequests              Counter64,
        wman2IfBsSsPkmAuthReplies               Counter64,
        wman2IfBsSsPkmAuthRejects               Counter64,
        wman2IfBsSsPkmAuthInvalids              Counter64,
        wman2IfBsSsPkmAuthRejectErrorCode       INTEGER,
        wman2IfBsSsPkmAuthRejectErrorString     SnmpAdminString,
        wman2IfBsSsPkmAuthInvalidErrorCode      INTEGER,
        wman2IfBsSsPkmAuthInvalidErrorString    SnmpAdminString,
        wman2IfBsSsPkmAuthPrimarySAId           INTEGER,
        wman2IfBsSsPkmAuthValidStatus           INTEGER}

wman2IfBsSsPkmAuthMacAddress 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."
        ::= { wman2IfBsSsPkmAuthEntry 1 }

wman2IfBsSsPkmAuthKeySequenceNumber 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."
        ::= { wman2IfBsSsPkmAuthEntry 2 }

wman2IfBsSsPkmAuthExpiresOld 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."
        ::= { wman2IfBsSsPkmAuthEntry 3 }

wman2IfBsSsPkmAuthExpiresNew 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"
        ::= { wman2IfBsSsPkmAuthEntry 4 }

wman2IfBsSsPkmAuthLifetime 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 }
        ::= { wman2IfBsSsPkmAuthEntry 5 }

wman2IfBsSsPkmAuthReset 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."
        ::= { wman2IfBsSsPkmAuthEntry 6 }

wman2IfBsSsPkmAuthInfos 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."
        ::= { wman2IfBsSsPkmAuthEntry 7 }

wman2IfBsSsPkmAuthRequests 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."
```

```
        ::= { wman2IfBsSsPkmAuthEntry 8 }

wman2IfBsSsPkmAuthReplies 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."
        ::= { wman2IfBsSsPkmAuthEntry 9 }

wman2IfBsSsPkmAuthRejects 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."
        ::= { wman2IfBsSsPkmAuthEntry 10 }

wman2IfBsSsPkmAuthInvalids 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."
        ::= { wman2IfBsSsPkmAuthEntry 11 }

wman2IfBsSsPkmAuthRejectErrorCode 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"
        ::= { wman2IfBsSsPkmAuthEntry 12 }

wman2IfBsSsPkmAuthRejectErrorString 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."
        ::= { wman2IfBsSsPkmAuthEntry 13 }
```

```
wman2IfBsSsPkmAuthInvalidErrorCode 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"
        ::= { wman2IfBsSsPkmAuthEntry 14 }

wman2IfBsSsPkmAuthInvalidErrorString 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."
        ::= { wman2IfBsSsPkmAuthEntry 15 }

wman2IfBsSsPkmAuthPrimarySAId 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"
        ::= { wman2IfBsSsPkmAuthEntry 16 }

wman2IfBsSsPkmAuthValidStatus 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."
        ::= { wman2IfBsSsPkmAuthEntry 17 }

--
-- Table wman2IfBsPkmTekTable
--
wman2IfBsPkmTekTable OBJECT-TYPE
        SYNTAX      SEQUENCE OF   Wman2IfBsPkmTekEntry
        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."
        ::= { wman2IfBsPkmObjects  3 }

wman2IfBsPkmTekEntry OBJECT-TYPE
        SYNTAX      Wman2IfBsPkmTekEntry
        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, wman2IfBsPkmTekSAId }
        ::= { wman2IfBsPkmTekTable  1 }

Wman2IfBsPkmTekEntry ::= SEQUENCE {
        wman2IfBsPkmTekSAId                     INTEGER,
        wman2IfBsPkmTekSAType                   INTEGER,
        wman2IfBsPkmTekDataEncryptAlg           Wman2IfDataEncryptAlgId,
        wman2IfBsPkmTekDataAuthentAlg           Wman2IfDataAuthAlgId,
        wman2IfBsPkmTekEncryptAlg               Wman2IfTekEncryptAlgId,
        wman2IfBsPkmTekLifetime                 Integer32,
        wman2IfBsPkmTekKeySequenceNumber        Integer32,
        wman2IfBsPkmTekExpiresOld               DateAndTime,
        wman2IfBsPkmTekExpiresNew               DateAndTime,
        wman2IfBsPkmTekReset                    TruthValue,
        wman2IfBsPkmKeyRequests                 Counter32,
        wman2IfBsPkmKeyReplies                  Counter32,
        wman2IfBsPkmKeyRejects                  Counter32,
        wman2IfBsPkmTekInvalids                 Counter32,
        wman2IfBsPkmKeyRejectErrorCode          INTEGER,
        wman2IfBsPkmKeyRejectErrorString        SnmpAdminString,
```

```
        wman2IfBsPkmTekInvalidErrorCode         INTEGER,
        wman2IfBsPkmTekInvalidErrorString       SnmpAdminString}

wman2IfBsPkmTekSAId 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"
        ::= { wman2IfBsPkmTekEntry 1 }

wman2IfBsPkmTekSAType 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"
        ::= { wman2IfBsPkmTekEntry 2 }

wman2IfBsPkmTekDataEncryptAlg OBJECT-TYPE
        SYNTAX      Wman2IfDataEncryptAlgId
        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"
        ::= { wman2IfBsPkmTekEntry 3 }

wman2IfBsPkmTekDataAuthentAlg OBJECT-TYPE
        SYNTAX      Wman2IfDataAuthAlgId
        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"
        ::= { wman2IfBsPkmTekEntry 4 }

wman2IfBsPkmTekEncryptAlg OBJECT-TYPE
        SYNTAX      Wman2IfTekEncryptAlgId
        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"
        ::= { wman2IfBsPkmTekEntry 5 }

wman2IfBsPkmTekLifetime 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 }
        ::= { wman2IfBsPkmTekEntry 6 }

wman2IfBsPkmTekKeySequenceNumber 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"
        ::= { wman2IfBsPkmTekEntry 7 }

wman2IfBsPkmTekExpiresOld 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."
        ::= { wman2IfBsPkmTekEntry 8 }

wman2IfBsPkmTekExpiresNew 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."
        ::= { wman2IfBsPkmTekEntry 9 }

wman2IfBsPkmTekReset 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."
        ::= { wman2IfBsPkmTekEntry 10 }

wman2IfBsPkmKeyRequests 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."
        ::= { wman2IfBsPkmTekEntry 11 }

wman2IfBsPkmKeyReplies 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."
        ::= { wman2IfBsPkmTekEntry 12 }

wman2IfBsPkmKeyRejects 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."
        ::= { wman2IfBsPkmTekEntry 13 }

wman2IfBsPkmTekInvalids 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."
        ::= { wman2IfBsPkmTekEntry 14 }

wman2IfBsPkmKeyRejectErrorCode 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"
            ::= { wman2IfBsPkmTekEntry 15 }

    wman2IfBsPkmKeyRejectErrorString 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."
            ::= { wman2IfBsPkmTekEntry 16 }

    wman2IfBsPkmTekInvalidErrorCode 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"
            ::= { wman2IfBsPkmTekEntry 17 }

    wman2IfBsPkmTekInvalidErrorString 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."
            ::= { wman2IfBsPkmTekEntry 18 }

    --
    -- Base station Notification Group
    -- wman2IfBsNotificationObjects contains the BS SNMP Trap objects
    --
    wman2IfBsNotification OBJECT IDENTIFIER ::= { wman2IfBsObjects  4 }
    wman2IfBsTrapControl     OBJECT IDENTIFIER ::= { wman2IfBsNotification 1
    }
    wman2IfBsTrapDefinitions OBJECT IDENTIFIER ::= { wman2IfBsNotification 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.
    wman2IfBsTrapPrefix OBJECT IDENTIFIER ::= { wman2IfBsTrapDefinitions 0 }
```

```
wman2IfBsTrapControlRegister    OBJECT-TYPE
        SYNTAX      BITS {wman2IfBsSsStatusNotification    (0),
                          wman2IfBsSsDynamicServiceFail    (1),
                          wman2IfBsSsRssiStatusChange      (2),
                          wman2IfBsSsRegistrer             (3),
                          wman2IfBsSsPkmFail               (4),
                          wman2IfBsSsDynamicServiceFail2   (5),
                          wman2IfBsSsRegister2Trap         (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."
        ::= { wman2IfBsTrapControl 1 }

wman2IfBsStatusTrapControlRegister    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."
        ::= { wman2IfBsTrapControl 2 }

--
-- BS threshold Definitions
--
wman2IfBsThresholdConfigTable OBJECT-TYPE
        SYNTAX      SEQUENCE OF Wman2IfBsThresholdConfigEntry
        MAX-ACCESS  not-accessible
        STATUS      current
        DESCRIPTION
            "This table contains threshold objects that can be set
             to detect the threshold crossing events."
        ::= { wman2IfBsTrapControl 3 }

wman2IfBsThresholdConfigEntry OBJECT-TYPE
        SYNTAX      Wman2IfBsThresholdConfigEntry
```

```
        MAX-ACCESS  not-accessible
        STATUS      current
        DESCRIPTION
            "This table provides one row for each BS sector, and is
             indexed by ifIndex."
        INDEX       { ifIndex }
        ::= { wman2IfBsThresholdConfigTable 1 }

Wman2IfBsThresholdConfigEntry ::= SEQUENCE {
        wman2IfBsRssiLowThreshold               Integer32,
        wman2IfBsRssiHighThreshold              Integer32}

wman2IfBsRssiLowThreshold OBJECT-TYPE
        SYNTAX      Integer32
        UNITS       "dBm"
        MAX-ACCESS  read-write
        STATUS      current
        DESCRIPTION
            "Low threshold for generating the RSSI alarm."
        ::= { wman2IfBsThresholdConfigEntry 1 }

wman2IfBsRssiHighThreshold OBJECT-TYPE
        SYNTAX      Integer32
        UNITS       "dBm"
        MAX-ACCESS  read-write
        STATUS      current
        DESCRIPTION
            "High threshold for clearing the RSSI alarm."
        ::= { wman2IfBsThresholdConfigEntry 2 }

--
-- Subscriber station Notification Objects Definitions
--
wman2IfBsSsNotificationObjectsTable OBJECT-TYPE
        SYNTAX      SEQUENCE OF Wman2IfBsSsNotificationObjectsEntry
        MAX-ACCESS  not-accessible
        STATUS      current
        DESCRIPTION
            "This table contains SS notification objects that have been
             reported by the trap."
        ::= { wman2IfBsTrapDefinitions 1 }

wman2IfBsSsNotificationObjectsEntry OBJECT-TYPE
        SYNTAX      Wman2IfBsSsNotificationObjectsEntry
        MAX-ACCESS  not-accessible
        STATUS      current
        DESCRIPTION
            "This table provides one row for each SS that has
             generated traps, and is double indexed by
             wman2IfBsSsNotificationMacAddr and ifIndex for BS sector."
        INDEX       { ifIndex, wman2IfBsSsNotificationMacAddr }
        ::= { wman2IfBsSsNotificationObjectsTable 1 }

Wman2IfBsSsNotificationObjectsEntry ::= SEQUENCE {
```

```
        wman2IfBsSsNotificationMacAddr          MacAddress,
        wman2IfBsSsStatusValue                  INTEGER,
        wman2IfBsSsStatusInfo                   OCTET STRING,
        wman2IfBsDynamicServiceType             INTEGER,
        wman2IfBsDynamicServiceFailReason       OCTET STRING,
        wman2IfBsSsRssiStatus                   INTEGER,
        wman2IfBsSsRssiStatusInfo               OCTET STRING,
        wman2IfBsSsRegisterStatus               INTEGER,
        wman2IfBsDynamicServiceFailSfid         Unsigned32}

wman2IfBsSsNotificationMacAddr OBJECT-TYPE
        SYNTAX      MacAddress
        MAX-ACCESS  read-only
        STATUS      current
        DESCRIPTION
            "The MAC address of the SS, reporing the notofiation."
        ::= { wman2IfBsSsNotificationObjectsEntry 1 }

wman2IfBsSsStatusValue  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."
        ::= { wman2IfBsSsNotificationObjectsEntry 2 }

wman2IfBsSsStatusInfo  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."
        ::= { wman2IfBsSsNotificationObjectsEntry 3 }

wman2IfBsDynamicServiceType  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."
            ::= { wman2IfBsSsNotificationObjectsEntry 4 }

    wman2IfBsDynamicServiceFailReason  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."
            ::= { wman2IfBsSsNotificationObjectsEntry 5 }

    wman2IfBsSsRssiStatus  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
                 wman2IfBsLowRssiThreshold and is cleared when RSSI becomes
                 higher than wman2IfBsLowRssiThreshold."
            ::= { wman2IfBsSsNotificationObjectsEntry 6 }

    wman2IfBsSsRssiStatusInfo  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."
            ::= { wman2IfBsSsNotificationObjectsEntry 7 }

    wman2IfBsSsRegisterStatus OBJECT-TYPE
            SYNTAX      INTEGER {ssRegister(1),
                                 ssDeregister(2)}
            MAX-ACCESS  read-only
            STATUS      current
            DESCRIPTION
                "This object indicates the status of SS registration."
            ::= { wman2IfBsSsNotificationObjectsEntry 8 }

    wman2IfBsDynamicServiceFailSfid OBJECT-TYPE
            SYNTAX      Unsigned32 (1..4294967295)
            MAX-ACCESS  read-only
            STATUS      current
            DESCRIPTION
                "This object identifies the dynamic service flow
                 for notification purposes."
            ::= { wman2IfBsSsNotificationObjectsEntry 9 }

    --
    -- Subscriber station Notification Trap Definitions
    --
```

```
wman2IfBsSsStatusNotificationTrap NOTIFICATION-TYPE
        OBJECTS     {ifIndex,
                     wman2IfBsSsNotificationMacAddr,
                     wman2IfBsSsStatusValue,
                     wman2IfBsSsStatusInfo}
        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."
        ::= { wman2IfBsTrapPrefix 1 }

wman2IfBsSsDynamicServiceFailTrap NOTIFICATION-TYPE
        OBJECTS     {ifIndex,
                     wman2IfBsSsNotificationMacAddr,
                     wman2IfBsDynamicServiceType,
                     wman2IfBsDynamicServiceFailReason}
        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."
        ::= { wman2IfBsTrapPrefix 2 }

wman2IfBsSsRssiStatusChangeTrap NOTIFICATION-TYPE
        OBJECTS     {ifIndex,
                     wman2IfBsSsNotificationMacAddr,
                     wman2IfBsSsRssiStatus,
                     wman2IfBsSsRssiStatusInfo}
        STATUS      current
        DESCRIPTION
            "An event to report that the uplink RSSI is below
             wman2IfBsLowRssiThreshold, or above
             wman2IfBsHighRssiThreshold after restore."
        ::= { wman2IfBsTrapPrefix 3 }

wman2IfBsSsPkmFailTrap NOTIFICATION-TYPE
        OBJECTS     {wman2IfBsSsNotificationMacAddr}
        STATUS      current
        DESCRIPTION
            "An event to report the failure of a Pkm operation."
        ::= { wman2IfBsTrapPrefix 4 }

wman2IfBsSsRegistrerTrap NOTIFICATION-TYPE
        OBJECTS     {wman2IfBsSsNotificationMacAddr,
                     wman2IfBsSsRegisterStatus}
        STATUS      deprecated
        DESCRIPTION
            "Trap deprecated due to limited value without object ifIndex
             reported.
             An event to report SS registration status."
        ::= { wman2IfBsTrapPrefix 5 }
```

```
wman2IfBsSsDynamicServiceFail2Trap NOTIFICATION-TYPE
        OBJECTS     {ifIndex,
                     wman2IfBsSsNotificationMacAddr,
                     wman2IfBsDynamicServiceType,
                     wman2IfBsDynamicServiceFailReason,
                     wman2IfBsDynamicServiceFailSfid}
        STATUS      current
        DESCRIPTION
            "An event reporting failure of DSx operation for a service
             flow identified by wman2IfBsDynamicServiceFailSfid and
             detected in the Bs side."
        ::= { wman2IfBsTrapPrefix 6 }

wman2IfBsSsRegister2Trap NOTIFICATION-TYPE
        OBJECTS     {ifIndex,
                     wman2IfBsSsNotificationMacAddr,
                     wman2IfBsSsRegisterStatus}
        STATUS      current
        DESCRIPTION
            "An event to report SS registration status for a given sector
             identified by ifIndex."
        ::= { wman2IfBsTrapPrefix 7 }

--
-- Base station PHY Group
--
wman2IfBsPhy OBJECT IDENTIFIER ::= { wman2IfBsObjects  6 }

--
-- BS OFDM PHY objects
--
wman2IfBsOfdmPhy OBJECT IDENTIFIER ::= { wman2IfBsPhy 1 }

wman2IfBsOfdmUplinkChannelTable OBJECT-TYPE
        SYNTAX      SEQUENCE OF Wman2IfBsOfdmUplinkChannelEntry
        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"
        ::= { wman2IfBsOfdmPhy 1 }

wman2IfBsOfdmUplinkChannelEntry OBJECT-TYPE
        SYNTAX      Wman2IfBsOfdmUplinkChannelEntry
        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 }
        ::= { wman2IfBsOfdmUplinkChannelTable 1 }

Wman2IfBsOfdmUplinkChannelEntry ::= SEQUENCE {
        wman2IfBsOfdmCtBasedResvTimeout         INTEGER,
        wman2IfBsOfdmBwReqOppSize               INTEGER,
        wman2IfBsOfdmRangReqOppSize             INTEGER,
        wman2IfBsOfdmUplinkCenterFreq           Unsigned32,
        wman2IfBsOfdmNumSubChReqRegionFull      INTEGER,
        wman2IfBsOfdmNumSymbolsReqRegionFull    INTEGER,
        wman2IfBsOfdmSubChFocusCtCode           INTEGER,
        wman2IfBsOfdmUpLinkChannelId            INTEGER}

wman2IfBsOfdmCtBasedResvTimeout 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"
        ::= { wman2IfBsOfdmUplinkChannelEntry 1 }

wman2IfBsOfdmBwReqOppSize 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"
        ::= { wman2IfBsOfdmUplinkChannelEntry 2 }

wman2IfBsOfdmRangReqOppSize 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"
        ::= { wman2IfBsOfdmUplinkChannelEntry 3 }
```

```
wman2IfBsOfdmUplinkCenterFreq 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"
        ::= { wman2IfBsOfdmUplinkChannelEntry 4 }

wman2IfBsOfdmNumSubChReqRegionFull 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"
        ::= { wman2IfBsOfdmUplinkChannelEntry 5 }

wman2IfBsOfdmNumSymbolsReqRegionFull 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"
        ::= { wman2IfBsOfdmUplinkChannelEntry 6 }

wman2IfBsOfdmSubChFocusCtCode 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 }
        ::= { wman2IfBsOfdmUplinkChannelEntry 7 }

wman2IfBsOfdmUpLinkChannelId 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"
        ::= { wman2IfBsOfdmUplinkChannelEntry 8 }

wman2IfBsOfdmDownlinkChannelTable OBJECT-TYPE
        SYNTAX      SEQUENCE OF Wman2IfBsOfdmDownlinkChannelEntry
        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"
        ::= { wman2IfBsOfdmPhy 2 }

wman2IfBsOfdmDownlinkChannelEntry OBJECT-TYPE
        SYNTAX      Wman2IfBsOfdmDownlinkChannelEntry
        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 }
        ::= { wman2IfBsOfdmDownlinkChannelTable 1 }

Wman2IfBsOfdmDownlinkChannelEntry ::= SEQUENCE {
        wman2IfBsOfdmBsEIRP                     INTEGER,
        wman2IfBsOfdmChannelNumber              Wman2IfChannelNumber,
        wman2IfBsOfdmTTG                        INTEGER,
        wman2IfBsOfdmRTG                        INTEGER,
        wman2IfBsOfdmInitRngMaxRSS              INTEGER,
        wman2IfBsOfdmDownlinkCenterFreq         Unsigned32,
        wman2IfBsOfdmBsId                       Wman2IfBsIdType,
        wman2IfBsOfdmMacVersion                 Wman2IfMacVersion,
        wman2IfBsOfdmFrameDurationCode          INTEGER,
        wman2IfBsOfdmDownLinkChannelId          INTEGER}

wman2IfBsOfdmBsEIRP 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"
            ::= { wman2IfBsOfdmDownlinkChannelEntry 1 }

    wman2IfBsOfdmChannelNumber OBJECT-TYPE
            SYNTAX      Wman2IfChannelNumber
            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"
            ::= { wman2IfBsOfdmDownlinkChannelEntry 2 }

    wman2IfBsOfdmTTG 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"
            ::= { wman2IfBsOfdmDownlinkChannelEntry 3 }

    wman2IfBsOfdmRTG 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"
            ::= { wman2IfBsOfdmDownlinkChannelEntry 4 }

    wman2IfBsOfdmInitRngMaxRSS 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"
            ::= { wman2IfBsOfdmDownlinkChannelEntry 5 }

    wman2IfBsOfdmDownlinkCenterFreq 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"
        ::= { wman2IfBsOfdmDownlinkChannelEntry 6 }

wman2IfBsOfdmBsId OBJECT-TYPE
        SYNTAX      Wman2IfBsIdType
        MAX-ACCESS  read-write
        STATUS      current
        DESCRIPTION
            "Base station ID."
        REFERENCE
            "Table 358, in IEEE Std 802.16-2004"
        ::= { wman2IfBsOfdmDownlinkChannelEntry 7 }

wman2IfBsOfdmMacVersion OBJECT-TYPE
        SYNTAX      Wman2IfMacVersion
        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"
        ::= { wman2IfBsOfdmDownlinkChannelEntry 8 }

wman2IfBsOfdmFrameDurationCode 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"
        ::= { wman2IfBsOfdmDownlinkChannelEntry 9 }

wman2IfBsOfdmDownLinkChannelId 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"
        ::= { wman2IfBsOfdmDownlinkChannelEntry 10 }

wman2IfBsOfdmUcdBurstProfileTable OBJECT-TYPE
        SYNTAX      SEQUENCE OF Wman2IfBsOfdmUcdBurstProfileEntry
```

```
        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"
        ::= { wman2IfBsOfdmPhy 3 }

wman2IfBsOfdmUcdBurstProfileEntry OBJECT-TYPE
        SYNTAX      Wman2IfBsOfdmUcdBurstProfileEntry
        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 wman2IfBsOfdmUiucIndex."
        INDEX { ifIndex, wman2IfBsOfdmUiucIndex }
        ::= { wman2IfBsOfdmUcdBurstProfileTable 1 }

Wman2IfBsOfdmUcdBurstProfileEntry ::= SEQUENCE {
        wman2IfBsOfdmUiucIndex                  INTEGER,
        wman2IfBsOfdmUcdFecCodeType             Wman2IfOfdmFecCodeType,
        wman2IfBsOfdmFocusCtPowerBoost          INTEGER,
        wman2IfBsOfdmUcdTcsEnable               INTEGER,
        wman2IfBsOfdmUcdBurstProfileRowStatus   RowStatus}

wman2IfBsOfdmUiucIndex 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
             wman2IfBsOfdmUcdBurstProfileTable."
        REFERENCE
            "Subclause 8.3.6.3.1, in IEEE Std 802.16-2004"
        ::= { wman2IfBsOfdmUcdBurstProfileEntry 1 }

wman2IfBsOfdmUcdFecCodeType OBJECT-TYPE
        SYNTAX      Wman2IfOfdmFecCodeType
        MAX-ACCESS  read-create
        STATUS      current
        DESCRIPTION
            "Uplink FEC code type and modulation type"
        REFERENCE
            "Table 356, in IEEE Std 802.16-2004"
        ::= { wman2IfBsOfdmUcdBurstProfileEntry 2 }

wman2IfBsOfdmFocusCtPowerBoost 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"
        ::= { wman2IfBsOfdmUcdBurstProfileEntry 3 }

wman2IfBsOfdmUcdTcsEnable 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"
        ::= { wman2IfBsOfdmUcdBurstProfileEntry 4 }

wman2IfBsOfdmUcdBurstProfileRowStatus 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."
        ::= { wman2IfBsOfdmUcdBurstProfileEntry 5 }

wman2IfBsOfdmDcdBurstProfileTable OBJECT-TYPE
        SYNTAX      SEQUENCE OF Wman2IfBsOfdmDcdBurstProfileEntry
        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 wman2IfBsOfdmDiucIndex."
        REFERENCE
            "Table 362, in IEEE Std 802.16-2004"
        ::= { wman2IfBsOfdmPhy 4 }

wman2IfBsOfdmDcdBurstProfileEntry OBJECT-TYPE
        SYNTAX      Wman2IfBsOfdmDcdBurstProfileEntry
        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 wman2IfBsOfdmDiucIndex."
        INDEX { ifIndex, wman2IfBsOfdmDiucIndex }
        ::= { wman2IfBsOfdmDcdBurstProfileTable 1 }

Wman2IfBsOfdmDcdBurstProfileEntry ::= SEQUENCE {
        wman2IfBsOfdmDiucIndex                  INTEGER,
        wman2IfBsOfdmDownlinkFrequency          Unsigned32,
        wman2IfBsOfdmDcdFecCodeType             Wman2IfOfdmFecCodeType,
        wman2IfBsOfdmDiucMandatoryExitThresh    INTEGER,
        wman2IfBsOfdmDiucMinEntryThresh         INTEGER,
        wman2IfBsOfdmTcsEnable                  INTEGER,
        wman2IfBsOfdmDcdBurstProfileRowStatus   RowStatus}

wman2IfBsOfdmDiucIndex 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
             wman2IfBsOfdmDcdBurstProfileTable."
        REFERENCE
            "Subclause 8.3.6.3.1, in IEEE Std 802.16-2004"
        ::= { wman2IfBsOfdmDcdBurstProfileEntry 1 }

wman2IfBsOfdmDownlinkFrequency 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"
        ::= { wman2IfBsOfdmDcdBurstProfileEntry 2 }

wman2IfBsOfdmDcdFecCodeType OBJECT-TYPE
        SYNTAX      Wman2IfOfdmFecCodeType
        MAX-ACCESS  read-create
        STATUS      current
        DESCRIPTION
            "Downlink FEC code type and modulation type"
        REFERENCE
            "Table 362, in IEEE Std 802.16-2004"
        ::= { wman2IfBsOfdmDcdBurstProfileEntry 3 }

wman2IfBsOfdmDiucMandatoryExitThresh 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"
        ::= { wman2IfBsOfdmDcdBurstProfileEntry 4 }

wman2IfBsOfdmDiucMinEntryThresh 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"
        ::= { wman2IfBsOfdmDcdBurstProfileEntry 5 }

wman2IfBsOfdmTcsEnable 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"
        ::= { wman2IfBsOfdmDcdBurstProfileEntry 6 }

wman2IfBsOfdmDcdBurstProfileRowStatus 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."
        ::= { wman2IfBsOfdmDcdBurstProfileEntry 7 }

wman2IfBsOfdmConfigurationTable OBJECT-TYPE
        SYNTAX      SEQUENCE OF Wman2IfBsOfdmConfigurationEntry
        MAX-ACCESS  not-accessible
        STATUS      current
        DESCRIPTION
            "This table contains BS configuration objects, specific to
             OFDM PHY."
        ::= { wman2IfBsOfdmPhy 5 }
```

```
wman2IfBsOfdmConfigurationEntry OBJECT-TYPE
        SYNTAX      Wman2IfBsOfdmConfigurationEntry
        MAX-ACCESS  not-accessible
        STATUS      current
        DESCRIPTION
            "This table is indexed by ifIndex with an ifType of
             propBWAp2Mp."
        INDEX { ifIndex }
        ::= { wman2IfBsOfdmConfigurationTable 1 }

Wman2IfBsOfdmConfigurationEntry ::= SEQUENCE {
        wman2IfBsOfdmMinReqRegionFullTxOpp      INTEGER,
        wman2IfBsOfdmMinFocusedCtTxOpp          INTEGER,
        wman2IfBsOfdmMaxRoundTripDelay          INTEGER,
        wman2IfBsOfdmRangeAbortTimingThold      INTEGER,
        wman2IfBsOfdmRangeAbortPowerThold       INTEGER,
        wman2IfBsOfdmRangeAbortFreqThold        INTEGER,
        wman2IfBsOfdmDnlkRateId                 INTEGER,
        wman2IfBsOfdmRatioG                     INTEGER}

wman2IfBsOfdmMinReqRegionFullTxOpp 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"
        ::= { wman2IfBsOfdmConfigurationEntry 1 }

wman2IfBsOfdmMinFocusedCtTxOpp 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"
        ::= { wman2IfBsOfdmConfigurationEntry 2 }

wman2IfBsOfdmMaxRoundTripDelay 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"
        ::= { wman2IfBsOfdmConfigurationEntry 3 }

wman2IfBsOfdmRangeAbortTimingThold 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"
        ::= { wman2IfBsOfdmConfigurationEntry 4 }

wman2IfBsOfdmRangeAbortPowerThold 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"
        ::= { wman2IfBsOfdmConfigurationEntry 5 }

wman2IfBsOfdmRangeAbortFreqThold 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"
        ::= { wman2IfBsOfdmConfigurationEntry 6 }

wman2IfBsOfdmDnlkRateId 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 }
        ::= { wman2IfBsOfdmConfigurationEntry 7 }

wman2IfBsOfdmRatioG 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 }
        ::= { wman2IfBsOfdmConfigurationEntry 8 }

wman2IfBsSsOfdmReqCapabilitiesTable OBJECT-TYPE
        SYNTAX      SEQUENCE OF Wman2IfBsSsOfdmReqCapabilitiesEntry
        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."
        ::= { wman2IfBsOfdmPhy 6 }

wman2IfBsSsOfdmReqCapabilitiesEntry OBJECT-TYPE
        SYNTAX      Wman2IfBsSsOfdmReqCapabilitiesEntry
        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
             wman2IfBsRegisteredSsTable."
        AUGMENTS { wman2IfBsRegisteredSsEntry }
        ::= { wman2IfBsSsOfdmReqCapabilitiesTable 1 }
```

```
Wman2IfBsSsOfdmReqCapabilitiesEntry ::= SEQUENCE {
        wman2IfBsSsOfdmReqCapFftSizes           Wman2IfOfdmFftSizes,
        wman2IfBsSsOfdmReqCapSsDemodulator      Wman2IfOfdmSsDeModType,
        wman2IfBsSsOfdmReqCapSsModulator        Wman2IfOfdmSsModType,
        wman2IfBsSsOfdmReqCapFocusedCtSupport   Wman2IfOfdmFocusedCt,
        wman2IfBsSsOfdmReqCapTcSublayerSupport  Wman2IfOfdmTcSublayer}

wman2IfBsSsOfdmReqCapFftSizes OBJECT-TYPE
        SYNTAX      Wman2IfOfdmFftSizes
        MAX-ACCESS  read-only
        STATUS      current
        DESCRIPTION
            "This field indicates the FFT sizes supported by SS.
             The usage is defined by Wman2IfOfdmFftSizes."
        ::= { wman2IfBsSsOfdmReqCapabilitiesEntry 1 }

wman2IfBsSsOfdmReqCapSsDemodulator OBJECT-TYPE
        SYNTAX      Wman2IfOfdmSsDeModType
        MAX-ACCESS  read-only
        STATUS      current
        DESCRIPTION
            "This field indicates the different demodulator options
             supported by SS for downlink.
             The usage is defined by Wman2IfOfdmSsDeModType."
        ::= { wman2IfBsSsOfdmReqCapabilitiesEntry 2 }

wman2IfBsSsOfdmReqCapSsModulator OBJECT-TYPE
        SYNTAX      Wman2IfOfdmSsModType
        MAX-ACCESS  read-only
        STATUS      current
        DESCRIPTION
            "This field indicates the different modulator options
             supported by SS for uplink.
             The usage is defined by Wman2IfOfdmSsModType."
        ::= { wman2IfBsSsOfdmReqCapabilitiesEntry 3 }

wman2IfBsSsOfdmReqCapFocusedCtSupport OBJECT-TYPE
        SYNTAX      Wman2IfOfdmFocusedCt
        MAX-ACCESS  read-only
        STATUS      current
        DESCRIPTION
            "This field indicates whether the SS supports Focused
             Contention. The usage is defined by
             Wman2IfOfdmFocusedCt."
        ::= { wman2IfBsSsOfdmReqCapabilitiesEntry 4 }

wman2IfBsSsOfdmReqCapTcSublayerSupport OBJECT-TYPE
        SYNTAX      Wman2IfOfdmTcSublayer
        MAX-ACCESS  read-only
        STATUS      current
        DESCRIPTION
            "This field indicates whether or not the SS supports
             the TC sublayer. The usage is defined by
             Wman2IfOfdmTcSublayer."
```

```
        ::= { wman2IfBsSsOfdmReqCapabilitiesEntry 5 }

wman2IfBsSsOfdmRspCapabilitiesTable OBJECT-TYPE
        SYNTAX      SEQUENCE OF Wman2IfBsSsOfdmRspCapabilitiesEntry
        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 wman2IfBsRegisteredSsTable."
        REFERENCE
            "Subclause 6.3.2.3.7 in IEEE Std 802.16-2004"
        ::= { wman2IfBsOfdmPhy 7 }

wman2IfBsSsOfdmRspCapabilitiesEntry OBJECT-TYPE
        SYNTAX      Wman2IfBsSsOfdmRspCapabilitiesEntry
        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
              wman2IfBsRegisteredSsTable. "
        AUGMENTS { wman2IfBsRegisteredSsEntry }
        ::= { wman2IfBsSsOfdmRspCapabilitiesTable 1 }

Wman2IfBsSsOfdmRspCapabilitiesEntry ::= SEQUENCE {
        wman2IfBsSsOfdmRspCapFftSizes           Wman2IfOfdmFftSizes,
        wman2IfBsSsOfdmRspCapSsDemodulator      Wman2IfOfdmSsDeModType,
        wman2IfBsSsOfdmRspCapSsModulator        Wman2IfOfdmSsModType,
        wman2IfBsSsOfdmRspCapFocusedCtSupport   Wman2IfOfdmFocusedCt,
        wman2IfBsSsOfdmRspCapTcSublayerSupport  Wman2IfOfdmTcSublayer}

wman2IfBsSsOfdmRspCapFftSizes OBJECT-TYPE
        SYNTAX      Wman2IfOfdmFftSizes
        MAX-ACCESS  read-only
        STATUS      current
        DESCRIPTION
            "This field indicates the FFT sizes negotiated with the
             SS. The usage is defined by Wman2IfOfdmFftSizes."
        ::= { wman2IfBsSsOfdmRspCapabilitiesEntry 1 }

wman2IfBsSsOfdmRspCapSsDemodulator OBJECT-TYPE
        SYNTAX      Wman2IfOfdmSsDeModType
        MAX-ACCESS  read-only
        STATUS      current
        DESCRIPTION
            "This field indicates the different demodulator options
             negotiated for SS for downlink. The usage is defined by
             Wman2IfOfdmSsDeModType."
        ::= { wman2IfBsSsOfdmRspCapabilitiesEntry 2 }

wman2IfBsSsOfdmRspCapSsModulator OBJECT-TYPE
```

```
        SYNTAX      Wman2IfOfdmSsModType
        MAX-ACCESS  read-only
        STATUS      current
        DESCRIPTION
            "This field indicates the different modulator options
             negotiated for SS for uplink. The usage is defined by
             Wman2IfOfdmSsModType."
        ::= { wman2IfBsSsOfdmRspCapabilitiesEntry 3 }

wman2IfBsSsOfdmRspCapFocusedCtSupport OBJECT-TYPE
        SYNTAX      Wman2IfOfdmFocusedCt
        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
             Wman2IfOfdmFocusedCt."
        ::= { wman2IfBsSsOfdmRspCapabilitiesEntry 4 }

wman2IfBsSsOfdmRspCapTcSublayerSupport OBJECT-TYPE
        SYNTAX      Wman2IfOfdmTcSublayer
        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
             Wman2IfOfdmTcSublayer."
        ::= { wman2IfBsSsOfdmRspCapabilitiesEntry 5 }

wman2IfBsOfdmCapabilitiesTable OBJECT-TYPE
        SYNTAX      SEQUENCE OF Wman2IfBsOfdmCapabilitiesEntry
        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 (wman2IfBsOfdmCapabilitiesConfigTable) 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."
        ::= { wman2IfBsOfdmPhy 8 }

wman2IfBsOfdmCapabilitiesEntry OBJECT-TYPE
        SYNTAX      Wman2IfBsOfdmCapabilitiesEntry
        MAX-ACCESS  not-accessible
        STATUS      current
        DESCRIPTION
            "This table provides one row for each BS sector and is
             indexed by ifIndex."
        INDEX { ifIndex }
```

```
        ::= { wman2IfBsOfdmCapabilitiesTable 1 }

Wman2IfBsOfdmCapabilitiesEntry ::= SEQUENCE {
        wman2IfBsOfdmCapFftSizes                Wman2IfOfdmFftSizes,
        wman2IfBsOfdmCapSsDemodulator           Wman2IfOfdmSsDeModType,
        wman2IfBsOfdmCapSsModulator             Wman2IfOfdmSsModType,
        wman2IfBsOfdmCapFocusedCtSupport        Wman2IfOfdmFocusedCt,
        wman2IfBsOfdmCapTcSublayerSupport       Wman2IfOfdmTcSublayer}

wman2IfBsOfdmCapFftSizes OBJECT-TYPE
        SYNTAX      Wman2IfOfdmFftSizes
        MAX-ACCESS  read-only
        STATUS      current
        DESCRIPTION
            "This field indicates the FFT sizes supported by the BS.
             The usage is defined by Wman2IfOfdmCapFftSizes."
        ::= { wman2IfBsOfdmCapabilitiesEntry 1 }

wman2IfBsOfdmCapSsDemodulator OBJECT-TYPE
        SYNTAX      Wman2IfOfdmSsDeModType
        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
             Wman2IfOfdmSsDeModType."
        ::= { wman2IfBsOfdmCapabilitiesEntry 2 }

wman2IfBsOfdmCapSsModulator OBJECT-TYPE
        SYNTAX      Wman2IfOfdmSsModType
        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
             Wman2IfOfdmSsModType."
        ::= { wman2IfBsOfdmCapabilitiesEntry 3 }

wman2IfBsOfdmCapFocusedCtSupport OBJECT-TYPE
        SYNTAX      Wman2IfOfdmFocusedCt
        MAX-ACCESS  read-only
        STATUS      current
        DESCRIPTION
            "This field indicates the BS support for Focused
             Contention. The usage is defined by
             Wman2IfOfdmFocusedCt."
        ::= { wman2IfBsOfdmCapabilitiesEntry 4 }

wman2IfBsOfdmCapTcSublayerSupport OBJECT-TYPE
        SYNTAX      Wman2IfOfdmTcSublayer
        MAX-ACCESS  read-only
        STATUS      current
        DESCRIPTION
            "This field indicates the BS supports for TC sublayer. The
```

```
                usage is defined by Wman2IfOfdmTcSublayer."
        ::= { wman2IfBsOfdmCapabilitiesEntry 5 }

wman2IfBsOfdmCapabilitiesConfigTable OBJECT-TYPE
        SYNTAX      SEQUENCE OF Wman2IfBsOfdmCapabilitiesConfigEntry
        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
             (wman2IfBsOfdmPhyTable) 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 wman2IfBsBasicCapabilitiesTable
             and can be modified by NMS."
        ::= { wman2IfBsOfdmPhy 9 }

wman2IfBsOfdmCapabilitiesConfigEntry OBJECT-TYPE
        SYNTAX      Wman2IfBsOfdmCapabilitiesConfigEntry
        MAX-ACCESS  not-accessible
        STATUS      current
        DESCRIPTION
            "This table provides one row for each BS sector and is
             indexed by ifIndex."
        INDEX { ifIndex }
        ::= { wman2IfBsOfdmCapabilitiesConfigTable 1 }

Wman2IfBsOfdmCapabilitiesConfigEntry ::= SEQUENCE {
        wman2IfBsOfdmCapCfgFftSizes             Wman2IfOfdmFftSizes,
        wman2IfBsOfdmCapCfgSsDemodulator        Wman2IfOfdmSsDeModType,
        wman2IfBsOfdmCapCfgSsModulator          Wman2IfOfdmSsModType,
        wman2IfBsOfdmCapCfgFocusedCtSupport     Wman2IfOfdmFocusedCt,
        wman2IfBsOfdmCapCfgTcSublayerSupport    Wman2IfOfdmTcSublayer}

wman2IfBsOfdmCapCfgFftSizes OBJECT-TYPE
        SYNTAX      Wman2IfOfdmFftSizes
        MAX-ACCESS  read-write
        STATUS      current
        DESCRIPTION
            "This field indicates the FFT sizes support configured for
             the BS. The usage is defined by
             Wman2IfOfdmCapFftSizes."
        ::= { wman2IfBsOfdmCapabilitiesConfigEntry 1 }

wman2IfBsOfdmCapCfgSsDemodulator OBJECT-TYPE
        SYNTAX      Wman2IfOfdmSsDeModType
        MAX-ACCESS  read-write
```

```
        STATUS      current
        DESCRIPTION
            "This field indicates the different BS demodulator options
             configured for uplink. The usage is defined by
             Wman2IfOfdmSsDeModType."
        ::= { wman2IfBsOfdmCapabilitiesConfigEntry 2 }

wman2IfBsOfdmCapCfgSsModulator OBJECT-TYPE
        SYNTAX      Wman2IfOfdmSsModType
        MAX-ACCESS  read-write
        STATUS      current
        DESCRIPTION
            "This field indicates the different BS modulator options
             configured for downlink. The usage is defined by
             Wman2IfOfdmSsModType."
        ::= { wman2IfBsOfdmCapabilitiesConfigEntry 3 }

wman2IfBsOfdmCapCfgFocusedCtSupport OBJECT-TYPE
        SYNTAX      Wman2IfOfdmFocusedCt
        MAX-ACCESS  read-write
        STATUS      current
        DESCRIPTION
            "This field indicates the BS support configured for
             Focused Contention. The usage is defined by
             Wman2IfOfdmFocusedCt."
        ::= { wman2IfBsOfdmCapabilitiesConfigEntry 4 }

wman2IfBsOfdmCapCfgTcSublayerSupport OBJECT-TYPE
        SYNTAX      Wman2IfOfdmTcSublayer
        MAX-ACCESS  read-write
        STATUS      current
        DESCRIPTION
            "This field indicates the BS support configured for TC
             sublayer. The usage is defined by
             Wman2IfOfdmTcSublayer."
        ::= { wman2IfBsOfdmCapabilitiesConfigEntry 5 }

--
-- BS OFDMA PHY objects
--
wman2IfBsOfdmaPhy OBJECT IDENTIFIER ::= { wman2IfBsPhy 2 }

wman2IfBsOfdmaUplinkChannelTable OBJECT-TYPE
        SYNTAX      SEQUENCE OF Wman2IfBsOfdmaUplinkChannelEntry
        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"
        ::= { wman2IfBsOfdmaPhy 1 }

wman2IfBsOfdmaUplinkChannelEntry OBJECT-TYPE
```

```
        SYNTAX      Wman2IfBsOfdmaUplinkChannelEntry
        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 }
        ::= { wman2IfBsOfdmaUplinkChannelTable 1 }

Wman2IfBsOfdmaUplinkChannelEntry ::= SEQUENCE {
        wman2IfBsOfdmaCtBasedResvTimeout        INTEGER,
        wman2IfBsOfdmaBwReqOppSize              INTEGER,
        wman2IfBsOfdmaRangReqOppSize            INTEGER,
        wman2IfBsOfdmaUplinkCenterFreq          Unsigned32,
        wman2IfBsOfdmaInitRngCodes              INTEGER,
        wman2IfBsOfdmaPeriodicRngCodes          INTEGER,
        wman2IfBsOfdmaBWReqCodes                INTEGER,
        wman2IfBsOfdmaPerRngBackoffStart        INTEGER,
        wman2IfBsOfdmaPerRngBackoffEnd          INTEGER,
        wman2IfBsOfdmaStartOfRngCodes           INTEGER,
        wman2IfBsOfdmaPermutationBase           INTEGER,
        wman2IfBsOfdmaULAllocSubchBitmap        OCTET STRING,
        wman2IfBsOfdmaOptPermULAllocSubchBitmap OCTET STRING,
        wman2IfBsOfdmaBandAMCAllocThreshold     INTEGER,
        wman2IfBsOfdmaBandAMCReleaseThreshold   INTEGER,
        wman2IfBsOfdmaBandAMCAllocTimer         INTEGER,
        wman2IfBsOfdmaBandAMCReleaseTimer       INTEGER,
        wman2IfBsOfdmaBandStatRepMAXPeriod      INTEGER,
        wman2IfBsOfdmaBandAMCRetryTimer         INTEGER,
        wman2IfBsOfdmaSafetyChAllocThreshold    INTEGER,
        wman2IfBsOfdmaSafetyChReleaseThreshold  INTEGER,
        wman2IfBsOfdmaSafetyChAllocTimer        INTEGER,
        wman2IfBsOfdmaSafetyChReleaseTimer      INTEGER,
        wman2IfBsOfdmaBinStatRepMAXPeriod       INTEGER,
        wman2IfBsOfdmaSafetyChaRetryTimer       INTEGER,
        wman2IfBsOfdmaHARQAackDelayULBurst      INTEGER,
        wman2IfBsOfdmaCQICHBandAMCTranaDelay    INTEGER}

wman2IfBsOfdmaCtBasedResvTimeout 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"
        ::= { wman2IfBsOfdmaUplinkChannelEntry 1 }

wman2IfBsOfdmaBwReqOppSize 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"
        ::= { wman2IfBsOfdmaUplinkChannelEntry 2 }

wman2IfBsOfdmaRangReqOppSize 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"
        ::= { wman2IfBsOfdmaUplinkChannelEntry 3 }

wman2IfBsOfdmaUplinkCenterFreq 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"
        ::= { wman2IfBsOfdmaUplinkChannelEntry 4 }

wman2IfBsOfdmaInitRngCodes OBJECT-TYPE
        SYNTAX      INTEGER (0..255)
        MAX-ACCESS  read-write
        STATUS      current
        DESCRIPTION
            "Number of initial ranging CDMA codes. Possible values are
             0..255. The total number of wman2IfBsOfdmaInitRngCodes,
             wman2IfBsOfdmaPeriodicRngCodes and wman2IfBsOfdmaBWReqCodes
             shall be equal or less than 256."
        REFERENCE
            "Subclause 11.3.1, Table 353, in IEEE Std 802.16-2004"
        DEFVAL      { 30 }
        ::= { wman2IfBsOfdmaUplinkChannelEntry 5 }

wman2IfBsOfdmaPeriodicRngCodes OBJECT-TYPE
        SYNTAX      INTEGER (0..255)
```

```
        MAX-ACCESS  read-write
        STATUS      current
        DESCRIPTION
            "Number of periodic ranging CDMA codes. Possible values are
             0..255. The total number of wman2IfBsOfdmaInitRngCodes,
             wman2IfBsOfdmaPeriodicRngCodes and wman2IfBsOfdmaBWReqCodes
             shall be equal or less than 256."
        REFERENCE
            "Subclause 11.3.1, Table 353, in IEEE Std 802.16-2004"
        DEFVAL     { 30 }
        ::= { wman2IfBsOfdmaUplinkChannelEntry 6 }

wman2IfBsOfdmaBWReqCodes OBJECT-TYPE
        SYNTAX      INTEGER (0..255)
        MAX-ACCESS  read-write
        STATUS      current
        DESCRIPTION
            "Number of bandwidth request codes. Possible values are
             0..255. The total number of wman2IfBsOfdmaInitRngCodes,
             wman2IfBsOfdmaPeriodicRngCodes and wman2IfBsOfdmaBWReqCodes
             shall be equal or less than 256."
        REFERENCE
            "Subclause 11.3.1, Table 353, in IEEE Std 802.16-2004"
        DEFVAL     { 30 }
            ::= { wman2IfBsOfdmaUplinkChannelEntry 7 }

wman2IfBsOfdmaPerRngBackoffStart OBJECT-TYPE
        SYNTAX      INTEGER (0..15)
        MAX-ACCESS read-write
        STATUS      current
        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 }
        ::= { wman2IfBsOfdmaUplinkChannelEntry 8 }

wman2IfBsOfdmaPerRngBackoffEnd OBJECT-TYPE
        SYNTAX      INTEGER (0 .. 15)
        MAX-ACCESS  read-write
        STATUS      current
        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 }
        ::= { wman2IfBsOfdmaUplinkChannelEntry 9 }

wman2IfBsOfdmaStartOfRngCodes 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 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 }
        ::= { wman2IfBsOfdmaUplinkChannelEntry 10 }

wman2IfBsOfdmaPermutationBase OBJECT-TYPE
        SYNTAX      INTEGER (0..255)
        MAX-ACCESS  read-write
        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 }
        ::= { wman2IfBsOfdmaUplinkChannelEntry 11 }

wman2IfBsOfdmaULAllocSubchBitmap OBJECT-TYPE
        SYNTAX      OCTET STRING (SIZE (9))
        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 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"
        ::= { wman2IfBsOfdmaUplinkChannelEntry 12 }

wman2IfBsOfdmaOptPermULAllocSubchBitmap 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"
        REFERENCE
            "Subclause 11.3.1, Table 353, in IEEE Std 802.16-2004"
```

```
        ::= { wman2IfBsOfdmaUplinkChannelEntry 13 }

wman2IfBsOfdmaBandAMCAllocThreshold OBJECT-TYPE
        SYNTAX      INTEGER (0 .. 255)
        UNITS       "dB"
        MAX-ACCESS  read-write
        STATUS      current
        DESCRIPTION
            "dB unit"
        REFERENCE
            "Subclause 11.3.1, Table 353, in IEEE Std 802.16-2004"
        ::= { wman2IfBsOfdmaUplinkChannelEntry 14 }

wman2IfBsOfdmaBandAMCReleaseThreshold OBJECT-TYPE
        SYNTAX      INTEGER (0 .. 255)
        UNITS       "dB"
        MAX-ACCESS  read-write
        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"
        ::= { wman2IfBsOfdmaUplinkChannelEntry 15 }

wman2IfBsOfdmaBandAMCAllocTimer OBJECT-TYPE
        SYNTAX      INTEGER (0 .. 255)
        UNITS       "Frame"
        MAX-ACCESS  read-write
        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"
        ::= { wman2IfBsOfdmaUplinkChannelEntry 16 }

wman2IfBsOfdmaBandAMCReleaseTimer OBJECT-TYPE
        SYNTAX      INTEGER (0 .. 255)
        UNITS       "Frame"
        MAX-ACCESS  read-write
        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"
        ::= { wman2IfBsOfdmaUplinkChannelEntry 17 }

wman2IfBsOfdmaBandStatRepMAXPeriod OBJECT-TYPE
        SYNTAX      INTEGER (0 .. 255)
        UNITS       "Frame"
        MAX-ACCESS  read-write
        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"
        ::= { wman2IfBsOfdmaUplinkChannelEntry 18 }

wman2IfBsOfdmaBandAMCRetryTimer OBJECT-TYPE
        SYNTAX      INTEGER (0 .. 255)
        UNITS       "Frame"
        MAX-ACCESS  read-write
        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"
        ::= { wman2IfBsOfdmaUplinkChannelEntry 19 }

wman2IfBsOfdmaSafetyChAllocThreshold OBJECT-TYPE
        SYNTAX      INTEGER (0 .. 255)
        UNITS       "dB"
        MAX-ACCESS  read-write
        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"
        ::= { wman2IfBsOfdmaUplinkChannelEntry 20 }

wman2IfBsOfdmaSafetyChReleaseThreshold OBJECT-TYPE
        SYNTAX      INTEGER (0 .. 255)
        UNITS       "dB"
        MAX-ACCESS  read-write
        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"
        ::= { wman2IfBsOfdmaUplinkChannelEntry 21 }

wman2IfBsOfdmaSafetyChAllocTimer OBJECT-TYPE
        SYNTAX      INTEGER (0 .. 255)
        UNITS       "Frame"
        MAX-ACCESS read-write
        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"
        ::= { wman2IfBsOfdmaUplinkChannelEntry 22 }
```

```
wman2IfBsOfdmaSafetyChReleaseTimer OBJECT-TYPE
        SYNTAX      INTEGER (0 .. 255)
        UNITS       "Frame"
        MAX-ACCESS  read-write
        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"
        ::= { wman2IfBsOfdmaUplinkChannelEntry 23 }

wman2IfBsOfdmaBinStatRepMAXPeriod OBJECT-TYPE
        SYNTAX      INTEGER (0 .. 255)
        UNITS       "Frame"
        MAX-ACCESS  read-write
        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"
        ::= { wman2IfBsOfdmaUplinkChannelEntry 24 }

wman2IfBsOfdmaSafetyChaRetryTimer OBJECT-TYPE
        SYNTAX      INTEGER (0 .. 255)
        UNITS       "Frame"
        MAX-ACCESS  read-write
        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"
        ::= { wman2IfBsOfdmaUplinkChannelEntry 25 }

wman2IfBsOfdmaHARQAackDelayULBurst 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 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"
                ::= { wman2IfBsOfdmaUplinkChannelEntry 26 }

wman2IfBsOfdmaCQICHBandAMCTranaDelay OBJECT-TYPE
        SYNTAX      INTEGER (0 .. 255)
```

```
        UNITS       "Frame"
        MAX-ACCESS  read-write
        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"
        ::= { wman2IfBsOfdmaUplinkChannelEntry 27 }

wman2IfBsOfdmaDownlinkChannelTable OBJECT-TYPE
        SYNTAX      SEQUENCE OF Wman2IfBsOfdmaDownlinkChannelEntry
        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"
        ::= { wman2IfBsOfdmaPhy 2 }

wman2IfBsOfdmaDownlinkChannelEntry OBJECT-TYPE
        SYNTAX      Wman2IfBsOfdmaDownlinkChannelEntry
        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 }
        ::= { wman2IfBsOfdmaDownlinkChannelTable 1 }

Wman2IfBsOfdmaDownlinkChannelEntry ::= SEQUENCE {
        wman2IfBsOfdmaBsEIRP                    INTEGER,
        wman2IfBsOfdmaChannelNumber             Wman2IfChannelNumber,
        wman2IfBsOfdmaTTG                       INTEGER,
        wman2IfBsOfdmaRTG                       INTEGER,
        wman2IfBsOfdmaInitRngMaxRSS             INTEGER,
        wman2IfBsOfdmaDownlinkCenterFreq        Unsigned32,
        wman2IfBsOfdmaBsId                      Wman2IfBsIdType,
        wman2IfBsOfdmaMacVersion                Wman2IfMacVersion,
        wman2IfBsOfdmaFrameDurationCode         INTEGER,
        wman2IfBsOfdmaSizeCqichIdField          INTEGER,
        wman2IfBsOfdmaHARQAackDelayBurst        INTEGER}

wman2IfBsOfdmaBsEIRP 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"
            ::= { wman2IfBsOfdmaDownlinkChannelEntry 1 }

    wman2IfBsOfdmaChannelNumber OBJECT-TYPE
            SYNTAX      Wman2IfChannelNumber
            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"
            ::= { wman2IfBsOfdmaDownlinkChannelEntry 2 }

    wman2IfBsOfdmaTTG 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"
            ::= { wman2IfBsOfdmaDownlinkChannelEntry 3 }

    wman2IfBsOfdmaRTG 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"
            ::= { wman2IfBsOfdmaDownlinkChannelEntry 4 }

    wman2IfBsOfdmaInitRngMaxRSS 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"
            ::= { wman2IfBsOfdmaDownlinkChannelEntry 5 }

    wman2IfBsOfdmaDownlinkCenterFreq 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"
            ::= { wman2IfBsOfdmaDownlinkChannelEntry 6 }

    wman2IfBsOfdmaBsId OBJECT-TYPE
            SYNTAX      Wman2IfBsIdType
            MAX-ACCESS  read-write
            STATUS      current
            DESCRIPTION
                "Base station ID."
            REFERENCE
                "Subclause 11.4.1, Table 358, in IEEE Std 802.16-2004"
            ::= { wman2IfBsOfdmaDownlinkChannelEntry 7 }

    wman2IfBsOfdmaMacVersion OBJECT-TYPE
            SYNTAX      Wman2IfMacVersion
            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"
            ::= { wman2IfBsOfdmaDownlinkChannelEntry 8 }

    wman2IfBsOfdmaFrameDurationCode 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"
            ::= { wman2IfBsOfdmaDownlinkChannelEntry 9 }

    wman2IfBsOfdmaSizeCqichIdField 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"
        ::= { wman2IfBsOfdmaDownlinkChannelEntry 10 }

wman2IfBsOfdmaHARQAackDelayBurst 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"
        ::= { wman2IfBsOfdmaDownlinkChannelEntry 11 }

wman2IfBsOfdmaUcdBurstProfileTable OBJECT-TYPE
        SYNTAX      SEQUENCE OF Wman2IfBsOfdmaUcdBurstProfileEntry
        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"
        ::= { wman2IfBsOfdmaPhy 3 }

wman2IfBsOfdmaUcdBurstProfileEntry OBJECT-TYPE
        SYNTAX      Wman2IfBsOfdmaUcdBurstProfileEntry
        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 wman2IfBsOfdmaUiucIndex."
        INDEX       { ifIndex, wman2IfBsOfdmaUiucIndex }
        ::= { wman2IfBsOfdmaUcdBurstProfileTable 1 }
```

```
Wman2IfBsOfdmaUcdBurstProfileEntry ::= SEQUENCE {
        wman2IfBsOfdmaUiucIndex                 INTEGER,
        wman2IfBsOfdmaUcdFecCodeType            Wman2IfOfdmaFecCodeType,
        wman2IfBsOfdmaRangingDataRatio          INTEGER,
        wman2IfBsOfdmaNorCOverNOverride         OCTET STRING,
        wman2IfBsOfdmaUcdBurstProfileRowStatus  RowStatus}

wman2IfBsOfdmaUiucIndex 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
             wman2IfBsOfdmaUcdBurstProfileTable."
        REFERENCE
            "Subclause 8.4.5.4.1, in IEEE Std 802.16-2004"
        ::= { wman2IfBsOfdmaUcdBurstProfileEntry 1 }

wman2IfBsOfdmaUcdFecCodeType OBJECT-TYPE
        SYNTAX      Wman2IfOfdmaFecCodeType
        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"
        ::= { wman2IfBsOfdmaUcdBurstProfileEntry 2 }

wman2IfBsOfdmaRangingDataRatio 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"
        ::= { wman2IfBsOfdmaUcdBurstProfileEntry 3 }

wman2IfBsOfdmaNorCOverNOverride 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"
        ::= { wman2IfBsOfdmaUcdBurstProfileEntry 4 }

wman2IfBsOfdmaUcdBurstProfileRowStatus 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."
        ::= { wman2IfBsOfdmaUcdBurstProfileEntry 5 }

wman2IfBsOfdmaDcdBurstProfileTable OBJECT-TYPE
        SYNTAX      SEQUENCE OF Wman2IfBsOfdmaDcdBurstProfileEntry
        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 wman2IfBsOfdmaDiucIndex."
        ::= { wman2IfBsOfdmaPhy 4 }

wman2IfBsOfdmaDcdBurstProfileEntry OBJECT-TYPE
        SYNTAX      Wman2IfBsOfdmaDcdBurstProfileEntry
        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 wman2IfBsOfdmaDiucIndex."
        INDEX       { ifIndex, wman2IfBsOfdmaDiucIndex }
        ::= { wman2IfBsOfdmaDcdBurstProfileTable 1 }

Wman2IfBsOfdmaDcdBurstProfileEntry ::= SEQUENCE {
        wman2IfBsOfdmaDiucIndex                 INTEGER,
        wman2IfBsOfdmaDownlinkFrequency         Unsigned32,
        wman2IfBsOfdmaDcdFecCodeType            Wman2IfOfdmaFecCodeType,
        wman2IfBsOfdmaDiucMandatoryExitThresh   INTEGER,
        wman2IfBsOfdmaDiucMinEntryThresh        INTEGER,
        wman2IfBsOfdmaDcdBurstProfileRowStatus  RowStatus}

wman2IfBsOfdmaDiucIndex 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
                wman2IfBsOfdmaDcdBurstProfileTable."
            REFERENCE
                "Subclause 8.4.5.3.1, in IEEE Std 802.16-2004"
            ::= { wman2IfBsOfdmaDcdBurstProfileEntry 1 }

    wman2IfBsOfdmaDownlinkFrequency 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"
            ::= { wman2IfBsOfdmaDcdBurstProfileEntry 2 }

    wman2IfBsOfdmaDcdFecCodeType OBJECT-TYPE
            SYNTAX      Wman2IfOfdmaFecCodeType
            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"
            ::= { wman2IfBsOfdmaDcdBurstProfileEntry 3 }

    wman2IfBsOfdmaDiucMandatoryExitThresh 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"
            ::= { wman2IfBsOfdmaDcdBurstProfileEntry 4 }

    wman2IfBsOfdmaDiucMinEntryThresh 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"
            ::= { wman2IfBsOfdmaDcdBurstProfileEntry 5 }

    wman2IfBsOfdmaDcdBurstProfileRowStatus 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."
        ::= { wman2IfBsOfdmaDcdBurstProfileEntry 6 }

wman2IfBsMsOfdmaReqCapabilitiesTable OBJECT-TYPE
        SYNTAX      SEQUENCE OF Wman2IfBsMsOfdmaReqCapabilitiesEntry
        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."
        ::= { wman2IfBsOfdmaPhy 5 }

wman2IfBsMsOfdmaReqCapabilitiesEntry OBJECT-TYPE
        SYNTAX      Wman2IfBsMsOfdmaReqCapabilitiesEntry
        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
             wman2IfBsRegisteredSsTable."
        AUGMENTS { wman2IfBsRegisteredSsEntry }
        ::= { wman2IfBsMsOfdmaReqCapabilitiesTable 1 }

Wman2IfBsMsOfdmaReqCapabilitiesEntry ::= SEQUENCE {
        wman2IfBsMsOfdmaReqCapFftSizes          Wman2IfOfdmFftSizes,
        wman2IfBsMsOfdmaReqCapDemodulator       Wman2IfOfdmaMsDeModType,
        wman2IfBsMsOfdmaReqCapModulator         Wman2IfOfdmaMsModType,
        wman2IfBsMsOfdmaReqCapPermutation       Wman2IfOfdmaPermutation,
        wman2IfBsMsOfdmaReqCapMobilityFeature   Wman2IfOfdmaMobility}

wman2IfBsMsOfdmaReqCapFftSizes OBJECT-TYPE
        SYNTAX      Wman2IfOfdmFftSizes
        MAX-ACCESS  read-only
        STATUS      current
        DESCRIPTION
            "This field indicates the FFT sizes supported by MS."
        ::= { wman2IfBsMsOfdmaReqCapabilitiesEntry 1 }

wman2IfBsMsOfdmaReqCapDemodulator OBJECT-TYPE
        SYNTAX      Wman2IfOfdmaMsDeModType
        MAX-ACCESS  read-only
        STATUS      current
        DESCRIPTION
            "This field indicates the different demodulator options
```

```
                 supported by MS for downlink."
            ::= { wman2IfBsMsOfdmaReqCapabilitiesEntry 2 }

    wman2IfBsMsOfdmaReqCapModulator OBJECT-TYPE
            SYNTAX      Wman2IfOfdmaMsModType
            MAX-ACCESS  read-only
            STATUS      current
            DESCRIPTION
                "This field indicates the different modulator options
                 supported by MS for uplink."
            ::= { wman2IfBsMsOfdmaReqCapabilitiesEntry 3 }

    wman2IfBsMsOfdmaReqCapPermutation OBJECT-TYPE
            SYNTAX      Wman2IfOfdmaPermutation
            MAX-ACCESS  read-only
            STATUS      current
            DESCRIPTION
                "This field indicates the OFDMA MS Permutation support"
            ::= { wman2IfBsMsOfdmaReqCapabilitiesEntry 4 }

    wman2IfBsMsOfdmaReqCapMobilityFeature OBJECT-TYPE
            SYNTAX      Wman2IfOfdmaMobility
            MAX-ACCESS  read-only
            STATUS      current
            DESCRIPTION
                "The field indicates whether or not the MS supports
                 mobility hand-over, Sleepmode, and Idle-mode."
            ::= { wman2IfBsMsOfdmaReqCapabilitiesEntry 5 }

    wman2IfBsMsOfdmaRspCapabilitiesTable OBJECT-TYPE
            SYNTAX      SEQUENCE OF Wman2IfBsMsOfdmaRspCapabilitiesEntry
            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."
            ::= { wman2IfBsOfdmaPhy 6 }

    wman2IfBsMsOfdmaRspCapabilitiesEntry OBJECT-TYPE
            SYNTAX      Wman2IfBsMsOfdmaRspCapabilitiesEntry
            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
                 wman2IfBsRegisteredSsTable."
            AUGMENTS { wman2IfBsRegisteredSsEntry }
            ::= { wman2IfBsMsOfdmaRspCapabilitiesTable 1 }

    Wman2IfBsMsOfdmaRspCapabilitiesEntry ::= SEQUENCE {
            wman2IfBsMsOfdmaRspCapFftSizes          Wman2IfOfdmFftSizes,
```

```
        wman2IfBsMsOfdmaRspCapDemodulator       Wman2IfOfdmaMsDeModType,
        wman2IfBsMsOfdmaRspCapModulator         Wman2IfOfdmaMsModType,
        wman2IfBsMsOfdmaRspCapPermutation       Wman2IfOfdmaPermutation,
        wman2IfBsMsOfdmaRspCapMobilityFeature   Wman2IfOfdmaMobility}

wman2IfBsMsOfdmaRspCapFftSizes OBJECT-TYPE
        SYNTAX      Wman2IfOfdmFftSizes
        MAX-ACCESS  read-only
        STATUS      current
        DESCRIPTION
            "This field indicates the FFT sizes negotiated with the
             MS."
        ::= { wman2IfBsMsOfdmaRspCapabilitiesEntry 1 }

wman2IfBsMsOfdmaRspCapDemodulator OBJECT-TYPE
        SYNTAX      Wman2IfOfdmaMsDeModType
        MAX-ACCESS  read-only
        STATUS      current
        DESCRIPTION
            "This field indicates the different demodulator options
             negotiated for MS for downlink."
        ::= { wman2IfBsMsOfdmaRspCapabilitiesEntry 2 }

wman2IfBsMsOfdmaRspCapModulator OBJECT-TYPE
        SYNTAX      Wman2IfOfdmaMsModType
        MAX-ACCESS  read-only
        STATUS      current
        DESCRIPTION
            "This field indicates the different modulator options
             negotiated for MS for uplink."
        ::= { wman2IfBsMsOfdmaRspCapabilitiesEntry 3 }

wman2IfBsMsOfdmaRspCapPermutation OBJECT-TYPE
        SYNTAX      Wman2IfOfdmaPermutation
        MAX-ACCESS  read-only
        STATUS      current
        DESCRIPTION
            "This field indicates the OFDMA MS Permutation support
             negotiated for MS."
        ::= { wman2IfBsMsOfdmaRspCapabilitiesEntry 4 }

wman2IfBsMsOfdmaRspCapMobilityFeature OBJECT-TYPE
        SYNTAX      Wman2IfOfdmaMobility
        MAX-ACCESS  read-only
        STATUS      current
        DESCRIPTION
            "The field indicates the mobility hand-over, Sleepmode,
             and Idle-mode negotiated for MS."
        ::= { wman2IfBsMsOfdmaRspCapabilitiesEntry 5 }

wman2IfBsOfdmaCapabilitiesTable OBJECT-TYPE
        SYNTAX      SEQUENCE OF Wman2IfBsOfdmaCapabilitiesEntry
        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 (wman2IfBsOfdmaCapabilitiesConfigTable) 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."
        ::= { wman2IfBsOfdmaPhy 7 }

wman2IfBsOfdmaCapabilitiesEntry OBJECT-TYPE
        SYNTAX      Wman2IfBsOfdmaCapabilitiesEntry
        MAX-ACCESS  not-accessible
        STATUS      current
        DESCRIPTION
            "This table provides one row for each BS sector and is
             indexed by ifIndex."
        INDEX { ifIndex }
        ::= { wman2IfBsOfdmaCapabilitiesTable 1 }

Wman2IfBsOfdmaCapabilitiesEntry ::= SEQUENCE {
        wman2IfBsOfdmaCapFftSizes               Wman2IfOfdmFftSizes,
        wman2IfBsOfdmaCapDemodulator            Wman2IfOfdmaMsDeModType,
        wman2IfBsOfdmaCapModulator              Wman2IfOfdmaMsModType,
        wman2IfBsOfdmaCapPermutation            Wman2IfOfdmaPermutation,
        wman2IfBsOfdmaCapMobilityFeature        Wman2IfOfdmaMobility}

wman2IfBsOfdmaCapFftSizes OBJECT-TYPE
        SYNTAX      Wman2IfOfdmFftSizes
        MAX-ACCESS  read-only
        STATUS      current
        DESCRIPTION
            "This field indicates the FFT sizes supported by BS."
        ::= { wman2IfBsOfdmaCapabilitiesEntry 1 }

wman2IfBsOfdmaCapDemodulator OBJECT-TYPE
        SYNTAX      Wman2IfOfdmaMsDeModType
        MAX-ACCESS  read-only
        STATUS      current
        DESCRIPTION
            "This field indicates the different demodulator options
             supported by BS."
        ::= { wman2IfBsOfdmaCapabilitiesEntry 2 }

wman2IfBsOfdmaCapModulator OBJECT-TYPE
        SYNTAX      Wman2IfOfdmaMsModType
        MAX-ACCESS  read-only
        STATUS      current
        DESCRIPTION
            "This field indicates the different modulator options
             supported by BS."
```

```
        ::= { wman2IfBsOfdmaCapabilitiesEntry 3 }

wman2IfBsOfdmaCapPermutation OBJECT-TYPE
        SYNTAX      Wman2IfOfdmaPermutation
        MAX-ACCESS  read-only
        STATUS      current
        DESCRIPTION
            "This field indicates the OFDMA MS Permutation support
             supported by BS."
        ::= { wman2IfBsOfdmaCapabilitiesEntry 4 }

wman2IfBsOfdmaCapMobilityFeature OBJECT-TYPE
        SYNTAX      Wman2IfOfdmaMobility
        MAX-ACCESS  read-only
        STATUS      current
        DESCRIPTION
            "The field indicates the mobility hand-over, Sleepmode,
             and Idle-mode supported by BS."
        ::= { wman2IfBsOfdmaCapabilitiesEntry 5 }

wman2IfBsOfdmaCapabilitiesConfigTable OBJECT-TYPE
        SYNTAX      SEQUENCE OF Wman2IfBsOfdmaCapabilitiesConfigEntry
        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
             (wman2IfBsOfdmaPhyTable) 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 wman2IfBsBasicCapabilitiesTable
             and can be modified by NMS."
        ::= { wman2IfBsOfdmaPhy 8 }

wman2IfBsOfdmaCapabilitiesConfigEntry OBJECT-TYPE
        SYNTAX      Wman2IfBsOfdmaCapabilitiesConfigEntry
        MAX-ACCESS  not-accessible
        STATUS      current
        DESCRIPTION
            "This table provides one row for each BS sector and is
             indexed by ifIndex."
        INDEX { ifIndex }
        ::= { wman2IfBsOfdmaCapabilitiesConfigTable 1 }

Wman2IfBsOfdmaCapabilitiesConfigEntry ::= SEQUENCE {
        wman2IfBsOfdmaCapCfgFftSizes            Wman2IfOfdmFftSizes,
        wman2IfBsOfdmaCapCfgDemodulator         Wman2IfOfdmaMsDeModType,
```

```
        wman2IfBsOfdmaCapCfgModulator           Wman2IfOfdmaMsModType,
        wman2IfBsOfdmaCapCfgPermutation         Wman2IfOfdmaPermutation,
        wman2IfBsOfdmaCapCfgMobilityFeature     Wman2IfOfdmaMobility}

wman2IfBsOfdmaCapCfgFftSizes OBJECT-TYPE
        SYNTAX      Wman2IfOfdmFftSizes
        MAX-ACCESS  read-only
        STATUS      current
        DESCRIPTION
            "This field indicates the FFT sizes configured for the BS."
        ::= { wman2IfBsOfdmaCapabilitiesConfigEntry 1 }

wman2IfBsOfdmaCapCfgDemodulator OBJECT-TYPE
        SYNTAX      Wman2IfOfdmaMsDeModType
        MAX-ACCESS  read-only
        STATUS      current
        DESCRIPTION
            "This field indicates the different demodulator options
             configured for the BS."
        ::= { wman2IfBsOfdmaCapabilitiesConfigEntry 2 }

wman2IfBsOfdmaCapCfgModulator OBJECT-TYPE
        SYNTAX      Wman2IfOfdmaMsModType
        MAX-ACCESS  read-only
        STATUS      current
        DESCRIPTION
            "This field indicates the different modulator options
             configured for the BS."
        ::= { wman2IfBsOfdmaCapabilitiesConfigEntry 3 }

wman2IfBsOfdmaCapCfgPermutation OBJECT-TYPE
        SYNTAX      Wman2IfOfdmaPermutation
        MAX-ACCESS  read-only
        STATUS      current
        DESCRIPTION
            "This field indicates the OFDMA MS Permutation support
             configured for the BS."
        ::= { wman2IfBsOfdmaCapabilitiesConfigEntry 4 }

wman2IfBsOfdmaCapCfgMobilityFeature OBJECT-TYPE
        SYNTAX      Wman2IfOfdmaMobility
        MAX-ACCESS  read-only
        STATUS      current
        DESCRIPTION
            "The field indicates the mobility hand-over, Sleepmode,
             and Idle-mode configured for the BS."
        ::= { wman2IfBsOfdmaCapabilitiesConfigEntry 5 }

--
-- SS object group - containing tables and objects to be implemented in
-- the Subscriber station

--
-- wman2IfSsCps contain the SS Common Part Sublayer objects
```

```
--
wman2IfSsCps OBJECT IDENTIFIER ::= { wman2IfSsObjects 1 }

--
-- wman2IfSsConfigurationTable contains global parameters for SS
--
wman2IfSsConfigurationTable OBJECT-TYPE
        SYNTAX      SEQUENCE OF Wman2IfSsConfigurationEntry
        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"
        ::= { wman2IfSsCps 1 }

wman2IfSsConfigurationEntry OBJECT-TYPE
        SYNTAX      Wman2IfSsConfigurationEntry
        MAX-ACCESS  not-accessible
        STATUS      current
        DESCRIPTION
            "This table is indexed by ifIndex."
        INDEX { ifIndex }
        ::= { wman2IfSsConfigurationTable 1 }

Wman2IfSsConfigurationEntry ::= SEQUENCE {
        wman2IfSsLostDLMapInterval              INTEGER,
        wman2IfSsLostULMapInterval              INTEGER,
        wman2IfSsContentionRangRetries          INTEGER,
        wman2IfSsRequestRetries                 INTEGER,
        wman2IfSsRegRequestRetries              INTEGER,
        wman2IfSsTftpBackoffStart               INTEGER,
        wman2IfSsTftpBackoffEnd                 INTEGER,
        wman2IfSsTftpRequestRetries             INTEGER,
        wman2IfSsTftpDownloadRetries            INTEGER,
        wman2IfSsTftpWait                       INTEGER,
        wman2IfSsToDRetries                     INTEGER,
        wman2IfSsToDRetryPeriod                 INTEGER,
        wman2IfSsT1Timeout                      INTEGER,
        wman2IfSsT2Timeout                      INTEGER,
        wman2IfSsT3Timeout                      INTEGER,
        wman2IfSsT4Timeout                      INTEGER,
        wman2IfSsT6Timeout                      INTEGER,
        wman2IfSsT12Timeout                     INTEGER,
        wman2IfSsT14Timeout                     INTEGER,
        wman2IfSsT16Timeout                     INTEGER,
        wman2IfSsT18Timeout                     INTEGER,
        wman2IfSsT19Timeout                     INTEGER,
        wman2IfSsT20Timeout                     INTEGER,
        wman2IfSsT21Timeout                     INTEGER,
        wman2IfSsSBCRequestRetries              INTEGER,
        wman2IfSsTftpCpltRetries                INTEGER,
        wman2IfSsT26Timeout                     INTEGER,
```

```
        wman2IfSsDLManagProcTime                INTEGER}

wman2IfSsLostDLMapInterval 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."
        ::= { wman2IfSsConfigurationEntry 1 }

wman2IfSsLostULMapInterval 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."
        ::= { wman2IfSsConfigurationEntry 2 }

wman2IfSsContentionRangRetries OBJECT-TYPE
        SYNTAX      INTEGER (16..65535)
        MAX-ACCESS  read-write
        STATUS      current
        DESCRIPTION
            "Number of retries on contention Ranging Requests."
        ::= { wman2IfSsConfigurationEntry 3 }

wman2IfSsRequestRetries OBJECT-TYPE
        SYNTAX      INTEGER (16..65535)
        MAX-ACCESS  read-write
        STATUS      current
        DESCRIPTION
            "Number of retries on bandwidth allocation requests."
        ::= { wman2IfSsConfigurationEntry 4 }

wman2IfSsRegRequestRetries OBJECT-TYPE
        SYNTAX      INTEGER (3..65535)
        MAX-ACCESS  read-write
        STATUS      current
        DESCRIPTION
            "Number of retries on registration requests."
        ::= { wman2IfSsConfigurationEntry 5 }

wman2IfSsTftpBackoffStart OBJECT-TYPE
        SYNTAX      INTEGER (1..65535)
        UNITS       "seconds"
        MAX-ACCESS  read-write
        STATUS      current
        DESCRIPTION
            "Initial value for TFTP backoff in second."
        ::= { wman2IfSsConfigurationEntry 6 }
```

```
wman2IfSsTftpBackoffEnd OBJECT-TYPE
        SYNTAX      INTEGER (16..65535)
        UNITS       "seconds"
        MAX-ACCESS  read-write
        STATUS      current
        DESCRIPTION
            "Last value for TFTP backoff in second."
        ::= { wman2IfSsConfigurationEntry 7 }

wman2IfSsTftpRequestRetries OBJECT-TYPE
        SYNTAX      INTEGER (16..65535)
        MAX-ACCESS  read-write
        STATUS      current
        DESCRIPTION
            "Number of retries on TFTP request."
        ::= { wman2IfSsConfigurationEntry 8 }

wman2IfSsTftpDownloadRetries OBJECT-TYPE
        SYNTAX      INTEGER (3..65535)
        MAX-ACCESS  read-write
        STATUS      current
        DESCRIPTION
            "Number of retries on entire TFTP downloads."
        ::= { wman2IfSsConfigurationEntry 9 }

wman2IfSsTftpWait 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."
        ::= { wman2IfSsConfigurationEntry 10 }

wman2IfSsToDRetries OBJECT-TYPE
        SYNTAX      INTEGER (3..65535)
        MAX-ACCESS  read-write
        STATUS      current
        DESCRIPTION
            "Number of Retries to establisg the Time of Day."
        ::= { wman2IfSsConfigurationEntry 11 }

wman2IfSsToDRetryPeriod 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."
        ::= { wman2IfSsConfigurationEntry 12 }
```

```
wman2IfSsT1Timeout OBJECT-TYPE
        SYNTAX      INTEGER (0..50000)
        UNITS       "milliseconds"
        MAX-ACCESS  read-write
        STATUS      current
        DESCRIPTION
            "Wait for DCD timeout in ms."
        ::= { wman2IfSsConfigurationEntry 13 }

wman2IfSsT2Timeout OBJECT-TYPE
        SYNTAX      INTEGER (0..10000)
        UNITS       "milliseconds"
        MAX-ACCESS  read-write
        STATUS      current
        DESCRIPTION
            "Wait for broadcast ranging timeout in ms."
        ::= { wman2IfSsConfigurationEntry 14 }

wman2IfSsT3Timeout 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."
        ::= { wman2IfSsConfigurationEntry 15 }

wman2IfSsT4Timeout 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."
        ::= { wman2IfSsConfigurationEntry 16 }

wman2IfSsT6Timeout OBJECT-TYPE
        SYNTAX      INTEGER (0..3000)
        UNITS       "milliseconds"
        MAX-ACCESS  read-write
        STATUS      current
        DESCRIPTION
            "Wait for registration response in ms."
        ::= { wman2IfSsConfigurationEntry 17 }

wman2IfSsT12Timeout OBJECT-TYPE
        SYNTAX      INTEGER (0..50000)
        UNITS       "milliseconds"
        MAX-ACCESS  read-write
        STATUS      current
        DESCRIPTION
```

```
            "Wait for UCD descriptor in ms."
        ::= { wman2IfSsConfigurationEntry 18 }

wman2IfSsT14Timeout OBJECT-TYPE
        SYNTAX      INTEGER (0..200)
        UNITS       "milliseconds"
        MAX-ACCESS  read-write
        STATUS      current
        DESCRIPTION
            "Wait for DSX-RVD Timeout in ms."
        ::= { wman2IfSsConfigurationEntry 19 }

wman2IfSsT16Timeout OBJECT-TYPE
        SYNTAX      INTEGER (10..65535)
        UNITS       "milliseconds"
        MAX-ACCESS  read-write
        STATUS      current
        DESCRIPTION
            "wait for bandwidth request grant in ms."
        ::= { wman2IfSsConfigurationEntry 20 }

wman2IfSsT18Timeout OBJECT-TYPE
        SYNTAX      INTEGER (0..65535)
        UNITS       "milliseconds"
        MAX-ACCESS  read-write
        STATUS      current
        DESCRIPTION
            "wait for SBC-RSP timeout in ms."
        ::= { wman2IfSsConfigurationEntry 21 }

wman2IfSsT19Timeout OBJECT-TYPE
        SYNTAX      INTEGER (0..1048575)
        UNITS       "milliseconds"
        MAX-ACCESS  read-write
        STATUS      current
        DESCRIPTION
            "Time DL-channel remains unusable in ms."
        ::= { wman2IfSsConfigurationEntry 22 }

wman2IfSsT20Timeout 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."
        ::= { wman2IfSsConfigurationEntry 23 }

wman2IfSsT21Timeout 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."
        ::= { wman2IfSsConfigurationEntry 24 }

wman2IfSsSBCRequestRetries OBJECT-TYPE
        SYNTAX      INTEGER (3..16)
        MAX-ACCESS  read-write
        STATUS      current
        DESCRIPTION
            "Number of retries on SBC Request."
        ::= { wman2IfSsConfigurationEntry 25 }

wman2IfSsTftpCpltRetries OBJECT-TYPE
        SYNTAX      INTEGER (3..16)
        MAX-ACCESS  read-write
        STATUS      current
        DESCRIPTION
            "Number of retries on TFTP-CPLT."
        ::= { wman2IfSsConfigurationEntry 26 }

wman2IfSsT26Timeout OBJECT-TYPE
        SYNTAX      INTEGER (10..200)
        UNITS       "milliseconds"
        MAX-ACCESS  read-write
        STATUS      current
        DESCRIPTION
            "Wait for TFTP-RSP in ms."
        ::= { wman2IfSsConfigurationEntry 27 }

wman2IfSsDLManagProcTime 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."
        ::= { wman2IfSsConfigurationEntry 28 }

--
-- Subscriber Channel Measurement Table
--
wman2IfSsChannelMeasurementTable OBJECT-TYPE
        SYNTAX      SEQUENCE OF   Wman2IfSsChannelMeasurementEntry
        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"
        ::= { wman2IfSsCps 2 }

wman2IfSsChannelMeasurementEntry OBJECT-TYPE
```

```
        SYNTAX      Wman2IfSsChannelMeasurementEntry
        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.
             wman2IfCmnHistogramIndex is the index to histogram
             samples. Since there is no time stamp in the table,
             wman2IfSsHistogramIndex 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, wman2IfSsHistogramIndex }
        ::= { wman2IfSsChannelMeasurementTable  1 }

Wman2IfSsChannelMeasurementEntry ::= SEQUENCE {
        wman2IfSsHistogramIndex                 Unsigned32,
        wman2IfSsChannelNumber                  Wman2IfChannelNumber,
        wman2IfSsStartFrame                     INTEGER,
        wman2IfSsDuration                       INTEGER,
        wman2IfSsBasicReport                    BITS,
        wman2IfSsMeanCinrReport                 INTEGER,
        wman2IfSsStdDeviationCinrReport         INTEGER,
        wman2IfSsMeanRssiReport                 INTEGER,
        wman2IfSsStdDeviationRssiReport         INTEGER}

wman2IfSsHistogramIndex OBJECT-TYPE
        SYNTAX      Unsigned32 (1 .. 4294967295)
        MAX-ACCESS  not-accessible
        STATUS      current
        DESCRIPTION
            "wman2IfSsHistogramIndex identifies the histogram samples
             in the table for each subscriber station."
        ::= { wman2IfSsChannelMeasurementEntry 1 }

wman2IfSsChannelNumber OBJECT-TYPE
        SYNTAX      Wman2IfChannelNumber
        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"
        ::= { wman2IfSsChannelMeasurementEntry 2 }

wman2IfSsStartFrame 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"
        ::= { wman2IfSsChannelMeasurementEntry 3 }

wman2IfSsDuration 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"
        ::= { wman2IfSsChannelMeasurementEntry 4 }

wman2IfSsBasicReport 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"
        ::= { wman2IfSsChannelMeasurementEntry 5 }

wman2IfSsMeanCinrReport 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"
        ::= { wman2IfSsChannelMeasurementEntry 6 }

wman2IfSsStdDeviationCinrReport 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"
        ::= { wman2IfSsChannelMeasurementEntry 7 }
```

```
wman2IfSsMeanRssiReport 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"
        ::= { wman2IfSsChannelMeasurementEntry 8 }

wman2IfSsStdDeviationRssiReport 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"
        ::= { wman2IfSsChannelMeasurementEntry 9 }

--
-- Subscriber station PKM group
-- wman2IfSsPkmObjects contain the Subscriber Station Privacy Sublayer
-- objects
--
wman2IfSsPkmObjects OBJECT IDENTIFIER ::= { wman2IfSsObjects  2 }

--
-- Table wman2IfSsPkmAuthTable
--
wman2IfSsPkmAuthTable OBJECT-TYPE
        SYNTAX      SEQUENCE OF   Wman2IfSsPkmAuthEntry
        MAX-ACCESS  not-accessible
        STATUS      current
        DESCRIPTION
            "This table describes the PKM attributes related
             to the authorization for each SS wireless interface."
        ::= { wman2IfSsPkmObjects  1 }

wman2IfSsPkmAuthEntry OBJECT-TYPE
        SYNTAX      Wman2IfSsPkmAuthEntry
        MAX-ACCESS  not-accessible
        STATUS      current
        DESCRIPTION
            "Each entry contains objects describing attributes of one
             SS wireless interface."
        INDEX       { ifIndex }
        ::= { wman2IfSsPkmAuthTable  1 }

Wman2IfSsPkmAuthEntry ::= SEQUENCE {
        wman2IfSsPkmAuthState                   INTEGER,
        wman2IfSsPkmAuthKeySequenceNumber       Integer32,
```

```
        wman2IfSsPkmAuthExpiresOld              DateAndTime,
        wman2IfSsPkmAuthExpiresNew              DateAndTime,
        wman2IfSsPkmAuthReset                   TruthValue,
        wman2IfSsPkmAuthentInfos                Counter32,
        wman2IfSsPkmAuthRequests                Counter32,
        wman2IfSsPkmAuthReplies                 Counter32,
        wman2IfSsPkmAuthRejects                 Counter32,
        wman2IfSsPkmAuthInvalids                Counter32,
        wman2IfSsPkmAuthRejectErrorCode         INTEGER,
        wman2IfSsPkmAuthRejectErrorString       SnmpAdminString,
        wman2IfSsPkmAuthInvalidErrorCode        INTEGER,
        wman2IfSsPkmAuthInvalidErrorString      SnmpAdminString,
        wman2IfSsPkmAuthGraceTime               Integer32,
        wman2IfSsPkmTekGraceTime                Integer32,
        wman2IfSsPkmAuthWaitTimeout             Integer32,
        wman2IfSsPkmReauthWaitTimeout           Integer32,
        wman2IfSsPkmOpWaitTimeout               Integer32,
        wman2IfSsPkmRekeyWaitTimeout            Integer32,
        wman2IfSsPkmAuthRejectWaitTimeout       Integer32}

wman2IfSsPkmAuthState 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."
        ::= { wman2IfSsPkmAuthEntry 1 }

wman2IfSsPkmAuthKeySequenceNumber 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."
        ::= { wman2IfSsPkmAuthEntry 2 }

wman2IfSsPkmAuthExpiresOld 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."
```

```
        ::= { wman2IfSsPkmAuthEntry 3 }

wman2IfSsPkmAuthExpiresNew 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."
        ::= { wman2IfSsPkmAuthEntry 4 }

wman2IfSsPkmAuthReset 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."
        ::= { wman2IfSsPkmAuthEntry 5 }

wman2IfSsPkmAuthentInfos 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."
        ::= { wman2IfSsPkmAuthEntry 6 }

wman2IfSsPkmAuthRequests 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."
        ::= { wman2IfSsPkmAuthEntry 7 }

wman2IfSsPkmAuthReplies 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."
        ::= { wman2IfSsPkmAuthEntry 8 }

wman2IfSsPkmAuthRejects 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."
            ::= { wman2IfSsPkmAuthEntry 9 }

    wman2IfSsPkmAuthInvalids 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."
            ::= { wman2IfSsPkmAuthEntry 10 }

    wman2IfSsPkmAuthRejectErrorCode 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."
            ::= { wman2IfSsPkmAuthEntry 11 }

    wman2IfSsPkmAuthRejectErrorString 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."
            ::= { wman2IfSsPkmAuthEntry 12 }

    wman2IfSsPkmAuthInvalidErrorCode 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."
        ::= { wman2IfSsPkmAuthEntry 13 }

wman2IfSsPkmAuthInvalidErrorString 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."
        ::= { wman2IfSsPkmAuthEntry 14 }

wman2IfSsPkmAuthGraceTime 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 }
        ::= { wman2IfSsPkmAuthEntry 15 }

wman2IfSsPkmTekGraceTime 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 }
        ::= { wman2IfSsPkmAuthEntry 16 }

wman2IfSsPkmAuthWaitTimeout 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 }
        ::= { wman2IfSsPkmAuthEntry 17 }

wman2IfSsPkmReauthWaitTimeout 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 }
        ::= { wman2IfSsPkmAuthEntry 18 }

wman2IfSsPkmOpWaitTimeout 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 }
        ::= { wman2IfSsPkmAuthEntry 19 }

wman2IfSsPkmRekeyWaitTimeout 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 }
        ::= { wman2IfSsPkmAuthEntry 20 }

wman2IfSsPkmAuthRejectWaitTimeout 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 }
        ::= { wman2IfSsPkmAuthEntry 21 }
```

```
--
-- Table wman2IfSsPkmTekTable
--
wman2IfSsPkmTekTable OBJECT-TYPE
        SYNTAX      SEQUENCE OF   Wman2IfSsPkmTekEntry
        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."
        ::= { wman2IfSsPkmObjects  2 }

wman2IfSsPkmTekEntry OBJECT-TYPE
        SYNTAX      Wman2IfSsPkmTekEntry
        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, wman2IfSsPkmTekSAId }
        ::= { wman2IfSsPkmTekTable  1 }

Wman2IfSsPkmTekEntry ::= SEQUENCE {
        wman2IfSsPkmTekSAId                     INTEGER,
        wman2IfSsPkmTekSAType                   INTEGER,
        wman2IfSsPkmTekDataEncryptAlg           Wman2IfDataEncryptAlgId,
        wman2IfSsPkmTekDataAuthentAlg           Wman2IfDataAuthAlgId,
        wman2IfSsPkmTekEncryptAlg               Wman2IfTekEncryptAlgId,
        wman2IfSsPkmTekState                    INTEGER,
        wman2IfSsPkmTekKeySequenceNumber        Integer32,
        wman2IfSsPkmTekExpiresOld               DateAndTime,
        wman2IfSsPkmTekExpiresNew               DateAndTime,
        wman2IfSsPkmTekKeyRequests              Counter32,
        wman2IfSsPkmTekKeyReplies               Counter32,
        wman2IfSsPkmTekKeyRejects               Counter32,
        wman2IfSsPkmTekInvalids                 Counter32,
        wman2IfSsPkmTekAuthPends                Counter32,
        wman2IfSsPkmTekKeyRejectErrorCode       INTEGER,
        wman2IfSsPkmTekKeyRejectErrorString     SnmpAdminString,
        wman2IfSsPkmTekInvalidErrorCode         INTEGER,
        wman2IfSsPkmTekInvalidErrorString       SnmpAdminString}

wman2IfSsPkmTekSAId OBJECT-TYPE
        SYNTAX      INTEGER (0..65535)
        MAX-ACCESS  not-accessible
        STATUS      current
        DESCRIPTION
```

```
            "The value of this object is the Security Association
             ID (SAID)."
        ::= { wman2IfSsPkmTekEntry 1 }

wman2IfSsPkmTekSAType 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"
        ::= { wman2IfSsPkmTekEntry 2 }

wman2IfSsPkmTekDataEncryptAlg OBJECT-TYPE
        SYNTAX      Wman2IfDataEncryptAlgId
        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"
        ::= { wman2IfSsPkmTekEntry 3 }

wman2IfSsPkmTekDataAuthentAlg OBJECT-TYPE
        SYNTAX      Wman2IfDataAuthAlgId
        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"
        ::= { wman2IfSsPkmTekEntry 4 }

wman2IfSsPkmTekEncryptAlg OBJECT-TYPE
        SYNTAX      Wman2IfTekEncryptAlgId
        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"
        ::= { wman2IfSsPkmTekEntry 5 }

wman2IfSsPkmTekState 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."
        ::= { wman2IfSsPkmTekEntry 6 }

wman2IfSsPkmTekKeySequenceNumber 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"
        ::= { wman2IfSsPkmTekEntry 7 }

wman2IfSsPkmTekExpiresOld 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."
        ::= { wman2IfSsPkmTekEntry 8 }

wman2IfSsPkmTekExpiresNew 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."
        ::= { wman2IfSsPkmTekEntry 9 }

wman2IfSsPkmTekKeyRequests 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."
        ::= { wman2IfSsPkmTekEntry 10 }

wman2IfSsPkmTekKeyReplies 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."
        ::= { wman2IfSsPkmTekEntry 11 }

wman2IfSsPkmTekKeyRejects 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."
        ::= { wman2IfSsPkmTekEntry 12 }

wman2IfSsPkmTekInvalids 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."
        ::= { wman2IfSsPkmTekEntry 13 }

wman2IfSsPkmTekAuthPends 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."
        ::= { wman2IfSsPkmTekEntry 14 }

wman2IfSsPkmTekKeyRejectErrorCode 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."
        ::= { wman2IfSsPkmTekEntry 15 }

wman2IfSsPkmTekKeyRejectErrorString 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."
        ::= { wman2IfSsPkmTekEntry 16 }

wman2IfSsPkmTekInvalidErrorCode 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."
        ::= { wman2IfSsPkmTekEntry 17 }

wman2IfSsPkmTekInvalidErrorString 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."
        ::= { wman2IfSsPkmTekEntry 18 }

--
-- Table wman2IfSsDeviceCertTable
--
wman2IfSsDeviceCertTable OBJECT-TYPE
        SYNTAX      SEQUENCE OF   Wman2IfSsDeviceCertEntry
        MAX-ACCESS  not-accessible
        STATUS      current
        DESCRIPTION
            "This table describes the PKM device certificates for each
             SS wireless interface."
        ::= { wman2IfSsPkmObjects  3 }

wman2IfSsDeviceCertEntry OBJECT-TYPE
        SYNTAX      Wman2IfSsDeviceCertEntry
        MAX-ACCESS  not-accessible
        STATUS      current
        DESCRIPTION
            "Each entry contains the device certificate of one SS."
        INDEX       { ifIndex }
        ::= { wman2IfSsDeviceCertTable  1 }
```

```
Wman2IfSsDeviceCertEntry ::= SEQUENCE {
        wman2IfSsDeviceCert                     OCTET STRING,
        wman2IfSsDeviceManufCert                OCTET STRING}

wman2IfSsDeviceCert OBJECT-TYPE
        SYNTAX      OCTET STRING (SIZE(0..65535))
        MAX-ACCESS  read-only
        STATUS      current
        DESCRIPTION
            "The X509 DER-encoded subscriber station certificate."
        ::= { wman2IfSsDeviceCertEntry 1 }

wman2IfSsDeviceManufCert 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."
        ::= { wman2IfSsDeviceCertEntry 2 }

--
-- Subscriber station Notification Group
-- wman2IfSsNotificationObjects contains the SS SNMP Trap objects
--
wman2IfSsNotification OBJECT IDENTIFIER ::= { wman2IfSsObjects  3 }
wman2IfSsTrapControl OBJECT IDENTIFIER ::= { wman2IfSsNotification 1 }
wman2IfSsTrapDefinitions OBJECT IDENTIFIER ::= { wman2IfSsNotification 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.
wman2IfSsTrapPrefix OBJECT IDENTIFIER ::= { wman2IfSsTrapDefinitions 0 }

wman2IfSsTrapControlRegister    OBJECT-TYPE
        SYNTAX      BITS {wman2IfSsTlvUnknown(0),
                          wman2IfSsDynamicServiceFail(1),
                          wman2IfSsDhcpSuccess(2),
                          wman2IfSsRssiStatusChange(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."
        ::= { wman2IfSsTrapControl  1 }

wman2IfSsThresholdConfigTable OBJECT-TYPE
        SYNTAX      SEQUENCE OF Wman2IfSsThresholdConfigEntry
        MAX-ACCESS  not-accessible
        STATUS      current
        DESCRIPTION
            "This table contains threshold objects that can be set to
```

```
                 detect the threshold crossing events."
            ::= { wman2IfSsTrapControl 2 }

wman2IfSsThresholdConfigEntry OBJECT-TYPE
            SYNTAX      Wman2IfSsThresholdConfigEntry
            MAX-ACCESS  not-accessible
            STATUS      current
            DESCRIPTION
                "This table provides one row for each Ss, and is indexed
                 by ifIndex."
            INDEX       { ifIndex }
            ::= { wman2IfSsThresholdConfigTable 1 }

Wman2IfSsThresholdConfigEntry ::= SEQUENCE {
            wman2IfSsRssiLowThreshold                Integer32,
            wman2IfSsRssiHighThreshold               Integer32}

wman2IfSsRssiLowThreshold OBJECT-TYPE
            SYNTAX      Integer32
            UNITS       "dBm"
            MAX-ACCESS  read-write
            STATUS      current
            DESCRIPTION
                "Low RSSI threshold for generating the RSSI alarm trap."
            ::= { wman2IfSsThresholdConfigEntry 1 }

wman2IfSsRssiHighThreshold 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."
            ::= { wman2IfSsThresholdConfigEntry 2 }

wman2IfSsTlvUnknownTrap NOTIFICATION-TYPE
            OBJECTS     {ifIndex,
                         wman2IfSsMacAddress,
                         wman2IfSsUnknownTlv}
            STATUS      current
            DESCRIPTION
                "Event that notifies detection of unknown TLV during
                 the TLV parsing process."
            ::= { wman2IfSsTrapPrefix 1 }

wman2IfSsDynamicServiceFailTrap NOTIFICATION-TYPE
            OBJECTS     {ifIndex,
                         wman2IfSsMacAddress,
                         wman2IfSsDynamicServiceType,
                         wman2IfSsDynamicServiceFailReason}
            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."
            ::= { wman2IfSsTrapPrefix 2 }

wman2IfSsDhcpSuccessTrap    NOTIFICATION-TYPE
            OBJECTS     {ifIndex,
                         wman2IfSsMacAddress}
            STATUS      current
            DESCRIPTION
                "An event to report a successful Handshake to establish IP
                 connectivity."
            ::= { wman2IfSsTrapPrefix 3 }

wman2IfSsRssiStatusChangeTrap NOTIFICATION-TYPE
            OBJECTS     {ifIndex,
                         wman2IfSsMacAddress,
                         wman2IfSsRssiStatus,
                         wman2IfSsRssiStatusInfo}
            STATUS      current
            DESCRIPTION
                "An event to report that the downlink RSSI is below
                 wman2IfSsRssiLowThreshold, or above
                 wman2IfSsRssiHighThreshold after restore."
            ::= { wman2IfSsTrapPrefix 4 }

wman2IfSsNotificationObjectsTable OBJECT-TYPE
            SYNTAX      SEQUENCE OF Wman2IfSsNotificationObjectsEntry
            MAX-ACCESS  not-accessible
            STATUS      current
            DESCRIPTION
                "This table contains SS notification objects that have been
                 reported by the trap."
            ::= { wman2IfSsTrapDefinitions 1 }

wman2IfSsNotificationObjectsEntry OBJECT-TYPE
            SYNTAX      Wman2IfSsNotificationObjectsEntry
            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 }
            ::= { wman2IfSsNotificationObjectsTable 1 }

Wman2IfSsNotificationObjectsEntry ::= SEQUENCE {
            wman2IfSsMacAddress                     MacAddress,
            wman2IfSsUnknownTlv                     OCTET STRING,
            wman2IfSsDynamicServiceType             INTEGER,
            wman2IfSsDynamicServiceFailReason       OCTET STRING,
            wman2IfSsRssiStatus                     INTEGER,
            wman2IfSsRssiStatusInfo                 OCTET STRING}

wman2IfSsMacAddress  OBJECT-TYPE
            SYNTAX      MacAddress
```

```
        MAX-ACCESS  read-only
        STATUS      current
        DESCRIPTION
            "The MAC address of the SS generating the trap."
        ::= { wman2IfSsNotificationObjectsEntry 1 }

wman2IfSsUnknownTlv  OBJECT-TYPE
        SYNTAX      OCTET STRING (SIZE(0..65535))
        MAX-ACCESS  read-only
        STATUS      current
        DESCRIPTION
            "Indicating the value of the unknown TLV."
        ::= { wman2IfSsNotificationObjectsEntry 2 }

wman2IfSsDynamicServiceType  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."
        ::= { wman2IfSsNotificationObjectsEntry 3 }

wman2IfSsDynamicServiceFailReason  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."
        ::= { wman2IfSsNotificationObjectsEntry 4 }

wman2IfSsRssiStatus  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
             wman2IfSsRssiLowThreshold, or above
             wman2IfSsRssiHighThreshold after alarm is restored."
        ::= { wman2IfSsNotificationObjectsEntry 5 }

wman2IfSsRssiStatusInfo  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"
        ::= { wman2IfSsNotificationObjectsEntry 6 }
```

```
--
-- Subscriber station PHY Group
--
wman2IfSsPhy OBJECT IDENTIFIER ::= { wman2IfSsObjects  5 }

--
-- SS OFDM PHY objects
--
wman2IfSsOfdmPhy OBJECT IDENTIFIER ::= { wman2IfSsPhy 1 }

wman2IfSsOfdmUplinkChannelTable OBJECT-TYPE
        SYNTAX      SEQUENCE OF Wman2IfSsOfdmUplinkChannelEntry
        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"
        ::= { wman2IfSsOfdmPhy 1 }

wman2IfSsOfdmUplinkChannelEntry OBJECT-TYPE
        SYNTAX      Wman2IfSsOfdmUplinkChannelEntry
        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 }
        ::= { wman2IfSsOfdmUplinkChannelTable 1 }

Wman2IfSsOfdmUplinkChannelEntry ::= SEQUENCE {
        wman2IfSsOfdmCtBasedResvTimeout         INTEGER,
        wman2IfSsOfdmBwReqOppSize               INTEGER,
        wman2IfSsOfdmRangReqOppSize             INTEGER,
        wman2IfSsOfdmUplinkCenterFreq           Unsigned32,
        wman2IfSsOfdmNumSubChReqRegionFull      INTEGER,
        wman2IfSsOfdmNumSymbolsReqRegionFull    INTEGER,
        wman2IfSsOfdmSubChFocusCtCode           INTEGER,
        wman2IfSsOfdmUpLinkChannelId            INTEGER}

wman2IfSsOfdmCtBasedResvTimeout 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"
        ::= { wman2IfSsOfdmUplinkChannelEntry 1 }
```

```
wman2IfSsOfdmBwReqOppSize 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"
        ::= { wman2IfSsOfdmUplinkChannelEntry 2 }

wman2IfSsOfdmRangReqOppSize 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"
        ::= { wman2IfSsOfdmUplinkChannelEntry 3 }

wman2IfSsOfdmUplinkCenterFreq 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"
        ::= { wman2IfSsOfdmUplinkChannelEntry 4 }

wman2IfSsOfdmNumSubChReqRegionFull 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"
        ::= { wman2IfSsOfdmUplinkChannelEntry 5 }

wman2IfSsOfdmNumSymbolsReqRegionFull 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"
        ::= { wman2IfSsOfdmUplinkChannelEntry 6 }

wman2IfSsOfdmSubChFocusCtCode 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 }
        ::= { wman2IfSsOfdmUplinkChannelEntry 7 }

wman2IfSsOfdmUpLinkChannelId 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"
        ::= { wman2IfSsOfdmUplinkChannelEntry 8 }

wman2IfSsOfdmDownlinkChannelTable OBJECT-TYPE
        SYNTAX      SEQUENCE OF Wman2IfSsOfdmDownlinkChannelEntry
        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"
        ::= { wman2IfSsOfdmPhy 2 }

wman2IfSsOfdmDownlinkChannelEntry OBJECT-TYPE
        SYNTAX      Wman2IfSsOfdmDownlinkChannelEntry
        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 }
        ::= { wman2IfSsOfdmDownlinkChannelTable 1 }

Wman2IfSsOfdmDownlinkChannelEntry ::= SEQUENCE {
        wman2IfSsOfdmBsEIRP                     INTEGER,
        wman2IfSsOfdmChannelNumber              Wman2IfChannelNumber,
        wman2IfSsOfdmTTG                        INTEGER,
        wman2IfSsOfdmRTG                        INTEGER,
        wman2IfSsOfdmInitRngMaxRSS              INTEGER,
        wman2IfSsOfdmDownlinkCenterFreq         Unsigned32,
        wman2IfSsOfdmBsId                       Wman2IfBsIdType,
        wman2IfSsOfdmMacVersion                 Wman2IfMacVersion,
        wman2IfSsOfdmFrameDurationCode          INTEGER,
        wman2IfSsOfdmDownLinkChannelId          INTEGER}

wman2IfSsOfdmBsEIRP 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"
        ::= { wman2IfSsOfdmDownlinkChannelEntry 1 }

wman2IfSsOfdmChannelNumber OBJECT-TYPE
        SYNTAX      Wman2IfChannelNumber
        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"
        ::= { wman2IfSsOfdmDownlinkChannelEntry 2 }

wman2IfSsOfdmTTG 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"
        ::= { wman2IfSsOfdmDownlinkChannelEntry 3 }
```

```
wman2IfSsOfdmRTG 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"
        ::= { wman2IfSsOfdmDownlinkChannelEntry 4 }

wman2IfSsOfdmInitRngMaxRSS 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"
        ::= { wman2IfSsOfdmDownlinkChannelEntry 5 }

wman2IfSsOfdmDownlinkCenterFreq 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"
        ::= { wman2IfSsOfdmDownlinkChannelEntry 6 }

wman2IfSsOfdmBsId OBJECT-TYPE
        SYNTAX      Wman2IfBsIdType
        MAX-ACCESS  read-only
        STATUS      current
        DESCRIPTION
            "Base station ID."
        REFERENCE
            "Table 358, in IEEE Std 802.16-2004"
        ::= { wman2IfSsOfdmDownlinkChannelEntry 7 }

wman2IfSsOfdmMacVersion OBJECT-TYPE
        SYNTAX      Wman2IfMacVersion
        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"
        ::= { wman2IfSsOfdmDownlinkChannelEntry 8 }
```

```
wman2IfSsOfdmFrameDurationCode 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"
        ::= { wman2IfSsOfdmDownlinkChannelEntry 9 }

wman2IfSsOfdmDownLinkChannelId 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"
        ::= { wman2IfSsOfdmDownlinkChannelEntry 10 }

wman2IfSsOfdmUcdBurstProfileTable OBJECT-TYPE
        SYNTAX      SEQUENCE OF Wman2IfSsOfdmUcdBurstProfileEntry
        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"
        ::= { wman2IfSsOfdmPhy 3 }

wman2IfSsOfdmUcdBurstProfileEntry OBJECT-TYPE
        SYNTAX      Wman2IfSsOfdmUcdBurstProfileEntry
        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 wman2IfSsOfdmOfdmUcdBurstProfIndex."
        INDEX { ifIndex, wman2IfSsOfdmUiucIndex }
        ::= { wman2IfSsOfdmUcdBurstProfileTable 1 }

Wman2IfSsOfdmUcdBurstProfileEntry ::= SEQUENCE {
        wman2IfSsOfdmUiucIndex                  INTEGER,
        wman2IfSsOfdmUcdFecCodeType             Wman2IfOfdmFecCodeType,
```

```
        wman2IfSsOfdmFocusCtPowerBoost          INTEGER,
        wman2IfSsOfdmUcdTcsEnable               INTEGER}

wman2IfSsOfdmUiucIndex 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
             wman2IfSsOfdmUcdBurstProfileTable."
        REFERENCE
            "Subclause 8.3.6.3.1, in IEEE Std 802.16-2004"
        ::= { wman2IfSsOfdmUcdBurstProfileEntry 1 }

wman2IfSsOfdmUcdFecCodeType OBJECT-TYPE
        SYNTAX      Wman2IfOfdmFecCodeType
        MAX-ACCESS  read-only
        STATUS      current
        DESCRIPTION
            "Uplink FEC code type and modulation type"
        REFERENCE
            "Table 356, in IEEE Std 802.16-2004"
        ::= { wman2IfSsOfdmUcdBurstProfileEntry 2 }

wman2IfSsOfdmFocusCtPowerBoost 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"
        ::= { wman2IfSsOfdmUcdBurstProfileEntry 3 }

wman2IfSsOfdmUcdTcsEnable 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"
        ::= { wman2IfSsOfdmUcdBurstProfileEntry 4 }

wman2IfSsOfdmDcdBurstProfileTable OBJECT-TYPE
        SYNTAX      SEQUENCE OF Wman2IfSsOfdmDcdBurstProfileEntry
        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 wman2IfSsOfdmDiucIndex."
        REFERENCE
            "Table 362, in IEEE Std 802.16-2004"
        ::= { wman2IfSsOfdmPhy 4 }

wman2IfSsOfdmDcdBurstProfileEntry OBJECT-TYPE
        SYNTAX      Wman2IfSsOfdmDcdBurstProfileEntry
        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 wman2IfSsOfdmDcdBurstProfIndex."
        INDEX { ifIndex, wman2IfSsOfdmDiucIndex }
        ::= { wman2IfSsOfdmDcdBurstProfileTable 1 }

Wman2IfSsOfdmDcdBurstProfileEntry ::= SEQUENCE {
        wman2IfSsOfdmDiucIndex                  INTEGER,
        wman2IfSsOfdmDownlinkFrequency          Unsigned32,
        wman2IfSsOfdmDcdFecCodeType             Wman2IfOfdmFecCodeType,
        wman2IfSsOfdmDiucMandatoryExitThresh    INTEGER,
        wman2IfSsOfdmDiucMinEntryThresh         INTEGER,
        wman2IfSsOfdmTcsEnable                  INTEGER}

wman2IfSsOfdmDiucIndex 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
             wman2IfSsOfdmDcdBurstProfileTable."
        REFERENCE
            "Subclause 8.3.6.3.1, in IEEE Std 802.16-2004"
        ::= { wman2IfSsOfdmDcdBurstProfileEntry 1 }

wman2IfSsOfdmDownlinkFrequency 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"
        ::= { wman2IfSsOfdmDcdBurstProfileEntry 2 }
```

```
wman2IfSsOfdmDcdFecCodeType OBJECT-TYPE
        SYNTAX      Wman2IfOfdmFecCodeType
        MAX-ACCESS  read-only
        STATUS      current
        DESCRIPTION
            "Downlink FEC code type and modulation type"
        REFERENCE
            "Table 362, in IEEE Std 802.16-2004"
        ::= { wman2IfSsOfdmDcdBurstProfileEntry 3 }

wman2IfSsOfdmDiucMandatoryExitThresh 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"
        ::= { wman2IfSsOfdmDcdBurstProfileEntry 4 }

wman2IfSsOfdmDiucMinEntryThresh 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"
        ::= { wman2IfSsOfdmDcdBurstProfileEntry 5 }

wman2IfSsOfdmTcsEnable 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"
        ::= { wman2IfSsOfdmDcdBurstProfileEntry 6 }

--
-- SS OFDMA PHY objects
--
wman2IfSsOfdmaPhy OBJECT IDENTIFIER ::= { wman2IfSsPhy 2 }

wman2IfSsOfdmaUplinkChannelTable OBJECT-TYPE
        SYNTAX      SEQUENCE OF Wman2IfSsOfdmaUplinkChannelEntry
        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"
        ::= { wman2IfSsOfdmaPhy 1 }

wman2IfSsOfdmaUplinkChannelEntry OBJECT-TYPE
        SYNTAX      Wman2IfSsOfdmaUplinkChannelEntry
        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 }
        ::= { wman2IfSsOfdmaUplinkChannelTable 1 }

Wman2IfSsOfdmaUplinkChannelEntry ::= SEQUENCE {
        wman2IfSsOfdmaCtBasedResvTimeout        INTEGER,
        wman2IfSsOfdmaBwReqOppSize              INTEGER,
        wman2IfSsOfdmaRangReqOppSize            INTEGER,
        wman2IfSsOfdmaUplinkCenterFreq          Unsigned32,
        wman2IfSsOfdmaInitRngCodes              INTEGER,
        wman2IfSsOfdmaPeriodicRngCodes          INTEGER,
        wman2IfSsOfdmaBWReqCodes                INTEGER,
        wman2IfSsOfdmaPerRngBackoffStart        INTEGER,
        wman2IfSsOfdmaPerRngBackoffEnd          INTEGER,
        wman2IfSsOfdmaStartOfRngCodes           INTEGER,
        wman2IfSsOfdmaPermutationBase           INTEGER,
        wman2IfSsOfdmaULAllocSubchBitmap        OCTET STRING,
        wman2IfSsOfdmaOptPermULAllocSubchBitmap OCTET STRING,
        wman2IfSsOfdmaBandAMCAllocThreshold     INTEGER,
        wman2IfSsOfdmaBandAMCReleaseThreshold   INTEGER,
        wman2IfSsOfdmaBandAMCAllocTimer         INTEGER,
        wman2IfSsOfdmaBandAMCReleaseTimer       INTEGER,
        wman2IfSsOfdmaBandStatRepMAXPeriod      INTEGER,
        wman2IfSsOfdmaBandAMCRetryTimer         INTEGER,
        wman2IfSsOfdmaSafetyChAllocThreshold    INTEGER,
        wman2IfSsOfdmaSafetyChReleaseThreshold  INTEGER,
        wman2IfSsOfdmaSafetyChAllocTimer        INTEGER,
        wman2IfSsOfdmaSafetyChReleaseTimer      INTEGER,
        wman2IfSsOfdmaBinStatRepMAXPeriod       INTEGER,
        wman2IfSsOfdmaSafetyChaRetryTimer       INTEGER,
        wman2IfSsOfdmaHARQAackDelayULBurst      INTEGER,
        wman2IfSsOfdmaCQICHBandAMCTranaDelay    INTEGER}

wman2IfSsOfdmaCtBasedResvTimeout 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"
        ::= { wman2IfSsOfdmaUplinkChannelEntry 1 }

wman2IfSsOfdmaBwReqOppSize 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"
        ::= { wman2IfSsOfdmaUplinkChannelEntry 2 }

wman2IfSsOfdmaRangReqOppSize 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"
        ::= { wman2IfSsOfdmaUplinkChannelEntry 3 }

wman2IfSsOfdmaUplinkCenterFreq 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"
        ::= { wman2IfSsOfdmaUplinkChannelEntry 4 }

wman2IfSsOfdmaInitRngCodes 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 wman2IfSsOfdmaInitRngCodes,
                wman2IfSsOfdmaPeriodicRngCodes and wman2IfSsOfdmaBWReqCodes
                shall be equal or less than 256."
        REFERENCE
            "Subclause 11.3.1, Table 353, in IEEE Std 802.16-2004"
        DEFVAL      { 30 }
        ::= { wman2IfSsOfdmaUplinkChannelEntry 5 }

wman2IfSsOfdmaPeriodicRngCodes 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 wman2IfSsOfdmaInitRngCodes,
                wman2IfSsOfdmaPeriodicRngCodes and wman2IfSsOfdmaBWReqCodes
                shall be equal or less than 256."
        REFERENCE
            "Subclause 11.3.1, Table 353, in IEEE Std 802.16-2004"
        DEFVAL     { 30 }
        ::= { wman2IfSsOfdmaUplinkChannelEntry 6 }

wman2IfSsOfdmaBWReqCodes 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 wman2IfSsOfdmaInitRngCodes,
                wman2IfSsOfdmaPeriodicRngCodes and wman2IfSsOfdmaBWReqCodes
                shall be equal or less than 256."
        REFERENCE
            "Subclause 11.3.1, Table 353, in IEEE Std 802.16-2004"
        DEFVAL     { 30 }
            ::= { wman2IfSsOfdmaUplinkChannelEntry 7 }

wman2IfSsOfdmaPerRngBackoffStart 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 }
        ::= { wman2IfSsOfdmaUplinkChannelEntry 8 }

wman2IfSsOfdmaPerRngBackoffEnd 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 }
            ::= { wman2IfSsOfdmaUplinkChannelEntry 9 }

    wman2IfSsOfdmaStartOfRngCodes 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 }
            ::= { wman2IfSsOfdmaUplinkChannelEntry 10 }

    wman2IfSsOfdmaPermutationBase 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 }
            ::= { wman2IfSsOfdmaUplinkChannelEntry 11 }

    wman2IfSsOfdmaULAllocSubchBitmap 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"
            ::= { wman2IfSsOfdmaUplinkChannelEntry 12 }

    wman2IfSsOfdmaOptPermULAllocSubchBitmap 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"
            ::= { wman2IfSsOfdmaUplinkChannelEntry 13 }

    wman2IfSsOfdmaBandAMCAllocThreshold 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"
            ::= { wman2IfSsOfdmaUplinkChannelEntry 14 }

    wman2IfSsOfdmaBandAMCReleaseThreshold 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"
            ::= { wman2IfSsOfdmaUplinkChannelEntry 15 }

    wman2IfSsOfdmaBandAMCAllocTimer 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"
            ::= { wman2IfSsOfdmaUplinkChannelEntry 16 }

    wman2IfSsOfdmaBandAMCReleaseTimer 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"
        ::= { wman2IfSsOfdmaUplinkChannelEntry 17 }

wman2IfSsOfdmaBandStatRepMAXPeriod 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"
        ::= { wman2IfSsOfdmaUplinkChannelEntry 18 }

wman2IfSsOfdmaBandAMCRetryTimer 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"
        ::= { wman2IfSsOfdmaUplinkChannelEntry 19 }

wman2IfSsOfdmaSafetyChAllocThreshold 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"
        ::= { wman2IfSsOfdmaUplinkChannelEntry 20 }

wman2IfSsOfdmaSafetyChReleaseThreshold 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"
        ::= { wman2IfSsOfdmaUplinkChannelEntry 21 }

wman2IfSsOfdmaSafetyChAllocTimer 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"
        ::= { wman2IfSsOfdmaUplinkChannelEntry 22 }

wman2IfSsOfdmaSafetyChReleaseTimer 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"
        ::= { wman2IfSsOfdmaUplinkChannelEntry 23 }

wman2IfSsOfdmaBinStatRepMAXPeriod 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"
        ::= { wman2IfSsOfdmaUplinkChannelEntry 24 }

wman2IfSsOfdmaSafetyChaRetryTimer 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"
        ::= { wman2IfSsOfdmaUplinkChannelEntry 25 }

wman2IfSsOfdmaHARQAackDelayULBurst 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"
                ::= { wman2IfSsOfdmaUplinkChannelEntry 26 }

wman2IfSsOfdmaCQICHBandAMCTranaDelay 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"
        ::= { wman2IfSsOfdmaUplinkChannelEntry 27 }

wman2IfSsOfdmaDownlinkChannelTable OBJECT-TYPE
        SYNTAX      SEQUENCE OF Wman2IfSsOfdmaDownlinkChannelEntry
        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"
        ::= { wman2IfSsOfdmaPhy 2 }

wman2IfSsOfdmaDownlinkChannelEntry OBJECT-TYPE
        SYNTAX      Wman2IfSsOfdmaDownlinkChannelEntry
        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 }
        ::= { wman2IfSsOfdmaDownlinkChannelTable 1 }

Wman2IfSsOfdmaDownlinkChannelEntry ::= SEQUENCE {
        wman2IfSsOfdmaBsEIRP                    INTEGER,
        wman2IfSsOfdmaChannelNumber             Wman2IfChannelNumber,
        wman2IfSsOfdmaTTG                       INTEGER,
        wman2IfSsOfdmaRTG                       INTEGER,
        wman2IfSsOfdmaInitRngMaxRSS             INTEGER,
        wman2IfSsOfdmaDownlinkCenterFreq        Unsigned32,
        wman2IfSsOfdmaBsId                      Wman2IfBsIdType,
        wman2IfSsOfdmaMacVersion                Wman2IfMacVersion,
        wman2IfSsOfdmaFrameDurationCode         INTEGER,
        wman2IfSsOfdmaSizeCqichIdField          INTEGER,
        wman2IfSsOfdmaHARQAackDelayBurst        INTEGER}
```

```
wman2IfSsOfdmaBsEIRP 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"
        ::= { wman2IfSsOfdmaDownlinkChannelEntry 1 }

wman2IfSsOfdmaChannelNumber OBJECT-TYPE
        SYNTAX      Wman2IfChannelNumber
        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"
        ::= { wman2IfSsOfdmaDownlinkChannelEntry 2 }

wman2IfSsOfdmaTTG 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"
        ::= { wman2IfSsOfdmaDownlinkChannelEntry 3 }

wman2IfSsOfdmaRTG 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"
        ::= { wman2IfSsOfdmaDownlinkChannelEntry 4 }

wman2IfSsOfdmaInitRngMaxRSS 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"
            ::= { wman2IfSsOfdmaDownlinkChannelEntry 5 }

wman2IfSsOfdmaDownlinkCenterFreq 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"
            ::= { wman2IfSsOfdmaDownlinkChannelEntry 6 }

wman2IfSsOfdmaBsId OBJECT-TYPE
            SYNTAX      Wman2IfBsIdType
            MAX-ACCESS  read-only
            STATUS      current
            DESCRIPTION
                "Base station ID."
            REFERENCE
                "Subclause 11.4.1, Table 358, in IEEE Std 802.16-2004"
            ::= { wman2IfSsOfdmaDownlinkChannelEntry 7 }

wman2IfSsOfdmaMacVersion OBJECT-TYPE
            SYNTAX      Wman2IfMacVersion
            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"
            ::= { wman2IfSsOfdmaDownlinkChannelEntry 8 }

wman2IfSsOfdmaFrameDurationCode 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"
            ::= { wman2IfSsOfdmaDownlinkChannelEntry 9 }
```

```
wman2IfSsOfdmaSizeCqichIdField 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"
        ::= { wman2IfSsOfdmaDownlinkChannelEntry 10 }

wman2IfSsOfdmaHARQAackDelayBurst 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"
        ::= { wman2IfSsOfdmaDownlinkChannelEntry 11 }

wman2IfSsOfdmaUcdBurstProfileTable OBJECT-TYPE
        SYNTAX      SEQUENCE OF Wman2IfSsOfdmaUcdBurstProfileEntry
        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"
        ::= { wman2IfSsOfdmaPhy 3 }

wman2IfSsOfdmaUcdBurstProfileEntry OBJECT-TYPE
        SYNTAX      Wman2IfSsOfdmaUcdBurstProfileEntry
```

```
        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 wman2IfSsOfdmaUiucIndex."
        INDEX       { ifIndex, wman2IfSsOfdmaUiucIndex }
        ::= { wman2IfSsOfdmaUcdBurstProfileTable 1 }

Wman2IfSsOfdmaUcdBurstProfileEntry ::= SEQUENCE {
        wman2IfSsOfdmaUiucIndex                 INTEGER,
        wman2IfSsOfdmaUcdFecCodeType            Wman2IfOfdmaFecCodeType,
        wman2IfSsOfdmaRangingDataRatio          INTEGER,
        wman2IfSsOfdmaNorCOverNOverride         OCTET STRING}

wman2IfSsOfdmaUiucIndex 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
             wman2IfSsOfdmaUcdBurstProfileTable."
        REFERENCE
            "Subclause 8.4.5.4.1, in IEEE Std 802.16-2004"
        ::= { wman2IfSsOfdmaUcdBurstProfileEntry 1 }

wman2IfSsOfdmaUcdFecCodeType OBJECT-TYPE
        SYNTAX      Wman2IfOfdmaFecCodeType
        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"
        ::= { wman2IfSsOfdmaUcdBurstProfileEntry 2 }

wman2IfSsOfdmaRangingDataRatio 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"
        ::= { wman2IfSsOfdmaUcdBurstProfileEntry 3 }

wman2IfSsOfdmaNorCOverNOverride 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"
        ::= { wman2IfSsOfdmaUcdBurstProfileEntry 4 }

wman2IfSsOfdmaDcdBurstProfileTable OBJECT-TYPE
        SYNTAX      SEQUENCE OF Wman2IfSsOfdmaDcdBurstProfileEntry
        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 wman2IfSsOfdmaDiucIndex."
        ::= { wman2IfSsOfdmaPhy 4 }

wman2IfSsOfdmaDcdBurstProfileEntry OBJECT-TYPE
        SYNTAX      Wman2IfSsOfdmaDcdBurstProfileEntry
        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
             wman2IfSsOfdmaDiucIndex."
        INDEX       { ifIndex, wman2IfSsOfdmaDiucIndex }
        ::= { wman2IfSsOfdmaDcdBurstProfileTable 1 }

Wman2IfSsOfdmaDcdBurstProfileEntry ::= SEQUENCE {
        wman2IfSsOfdmaDiucIndex                 INTEGER,
        wman2IfSsOfdmaDownlinkFrequency         Unsigned32,
        wman2IfSsOfdmaDcdFecCodeType            Wman2IfOfdmaFecCodeType,
        wman2IfSsOfdmaDiucMandatoryExitThresh   INTEGER,
        wman2IfSsOfdmaDiucMinEntryThresh        INTEGER}

wman2IfSsOfdmaDiucIndex 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
             wman2IfSsOfdmaDcdBurstProfileTable."
        REFERENCE
            "Subclause 8.4.5.3.1, in IEEE Std 802.16-2004"
```

```
        ::= { wman2IfSsOfdmaDcdBurstProfileEntry 1 }

wman2IfSsOfdmaDownlinkFrequency 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"
        ::= { wman2IfSsOfdmaDcdBurstProfileEntry 2 }

wman2IfSsOfdmaDcdFecCodeType OBJECT-TYPE
        SYNTAX      Wman2IfOfdmaFecCodeType
        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"
        ::= { wman2IfSsOfdmaDcdBurstProfileEntry 3 }

wman2IfSsOfdmaDiucMandatoryExitThresh 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"
        ::= { wman2IfSsOfdmaDcdBurstProfileEntry 4 }

wman2IfSsOfdmaDiucMinEntryThresh 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"
        ::= { wman2IfSsOfdmaDcdBurstProfileEntry 5 }

--
-- Common object group - containing common tables and objects to be
-- implemented in both Base Station and Subscriber Station
--
-- wman2IfCmnPacketCs contain the Packet Convergence Sublayer objects
-- that are common to both Base Station and Subscriber Station
--
```

```
wman2IfCmnPacketCs OBJECT IDENTIFIER ::= { wman2IfCommonObjects 1 }

wman2IfCmnClassifierRuleTable OBJECT-TYPE
        SYNTAX      SEQUENCE OF Wman2IfCmnClassifierRuleEntry
        MAX-ACCESS  not-accessible
        STATUS      current
        DESCRIPTION
            "This table contains packet classifier rules associated
             with service flows."
        ::= { wman2IfCmnPacketCs 1 }

wman2IfCmnClassifierRuleEntry OBJECT-TYPE
        SYNTAX      Wman2IfCmnClassifierRuleEntry
        MAX-ACCESS  not-accessible
        STATUS      current
        DESCRIPTION
            "This table provides one row for each packet classifier
             rule, and is indexed by ifIndex, wman2IfCmnCpsSfId, and
             wman2IfCmnClassifierRuleIndex. ifIndex is associated with
             the BS sector. wman2IfCmnCpsSfId identifies the service
             flow,  and wman2IfCmnClassifierRuleIndex identifies the
             packet classifier rule."
        INDEX { ifIndex, wman2IfCmnCpsSfId,
                wman2IfCmnClassifierRuleIndex }
        ::= { wman2IfCmnClassifierRuleTable 1 }

Wman2IfCmnClassifierRuleEntry::= SEQUENCE {
        wman2IfCmnClassifierRuleIndex            Unsigned32,
        wman2IfCmnClassifierRulePriority         INTEGER,
        wman2IfCmnClassifierRuleIpTosLow         INTEGER,
        wman2IfCmnClassifierRuleIpTosHigh        INTEGER,
        wman2IfCmnClassifierRuleIpTosMask        INTEGER,
        wman2IfCmnClassifierRuleIpProtocol       Integer32,
        wman2IfCmnClassifierRuleIpSourceAddr     InetAddress,
        wman2IfCmnClassifierRuleIpSourceMask     InetAddress,
        wman2IfCmnClassifierRuleIpDestAddr       InetAddress,
        wman2IfCmnClassifierRuleIpDestMask       InetAddress,
        wman2IfCmnClassifierRuleSourcePortStart  Integer32,
        wman2IfCmnClassifierRuleSourcePortEnd    Integer32,
        wman2IfCmnClassifierRuleDestPortStart    Integer32,
        wman2IfCmnClassifierRuleDestPortEnd      Integer32,
        wman2IfCmnClassifierRuleDestMacAddr      MacAddress,
        wman2IfCmnClassifierRuleDestMacMask      MacAddress,
        wman2IfCmnClassifierRuleSourceMacAddr    MacAddress,
        wman2IfCmnClassifierRuleSourceMacMask    MacAddress,
        wman2IfCmnClassifierRuleEnetProtocolType INTEGER,
        wman2IfCmnClassifierRuleEnetProtocol     Integer32,
        wman2IfCmnClassifierRuleUserPriLow       Integer32,
        wman2IfCmnClassifierRuleUserPriHigh      Integer32,
        wman2IfCmnClassifierRuleVlanId           Integer32,
        wman2IfCmnClassifierRuleState            INTEGER,
        wman2IfCmnClassifierRulePkts             Counter64,
      wman2IfCmnClassifierRuleIpv6FlowLabel   Wman2IfIpv6FlowLabel,
        wman2IfCmnClassifierRuleBitMap           Wman2IfClassifierBitMap
```

```
                                                        }

wman2IfCmnClassifierRuleIndex  OBJECT-TYPE
        SYNTAX      Unsigned32 (1..4294967295)
        MAX-ACCESS  not-accessible
        STATUS      current
        DESCRIPTION
            "An index is assigned to each classifier in the classifiers
             table"
        ::= { wman2IfCmnClassifierRuleEntry 1 }

wman2IfCmnClassifierRulePriority 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 }
        ::= { wman2IfCmnClassifierRuleEntry 2 }

wman2IfCmnClassifierRuleIpTosLow 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"
        ::= { wman2IfCmnClassifierRuleEntry 3 }

wman2IfCmnClassifierRuleIpTosHigh 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"
        ::= { wman2IfCmnClassifierRuleEntry 4 }

wman2IfCmnClassifierRuleIpTosMask 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"
        ::= { wman2IfCmnClassifierRuleEntry 5 }

wman2IfCmnClassifierRuleIpProtocol 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"
        ::= { wman2IfCmnClassifierRuleEntry 6 }

wman2IfCmnClassifierRuleIpSourceAddr 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 wman2IfCmnClassifierRuleIpSourceMask value
             equals the wman2IfCmnClassifierRuleIpSourceAddr 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"
        ::= { wman2IfCmnClassifierRuleEntry 7 }

wman2IfCmnClassifierRuleIpSourceMask 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
             wman2IfCmnClassifierRuleIpSourceMask value equals the
             wman2IfCmnClassifierRuleIpSourceAddr 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"
        ::= { wman2IfCmnClassifierRuleEntry 8 }

wman2IfCmnClassifierRuleIpDestAddr 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
             wman2IfCmnClassifierRuleIpDestMask value equals the
             wman2IfCmnClassifierRuleIpDestAddr 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"
        ::= { wman2IfCmnClassifierRuleEntry 9 }

wman2IfCmnClassifierRuleIpDestMask 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
             wman2IfCmnClassifierRuleIpDestMask value equals the
             wman2IfCmnClassifierRuleIpDestAddr 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"
        ::= { wman2IfCmnClassifierRuleEntry 10 }

wman2IfCmnClassifierRuleSourcePortStart 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"
        ::= { wman2IfCmnClassifierRuleEntry 11 }

wman2IfCmnClassifierRuleSourcePortEnd 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"
        ::= { wman2IfCmnClassifierRuleEntry 12 }

wman2IfCmnClassifierRuleDestPortStart 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"
        ::= { wman2IfCmnClassifierRuleEntry 13 }

wman2IfCmnClassifierRuleDestPortEnd 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"
        ::= { wman2IfCmnClassifierRuleEntry 14 }

wman2IfCmnClassifierRuleDestMacAddr 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
             wman2IfCmnClassifierRuleDestMacMask equals the value of
             wman2IfCmnClassifierRuleDestMacAddr. 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"
        ::= { wman2IfCmnClassifierRuleEntry 15 }
```

```
wman2IfCmnClassifierRuleDestMacMask 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
             wman2IfCmnClassifierRuleDestMacMask equals the value of
             wman2IfCmnClassifierRuleDestMacAddr. 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"
        ::= { wman2IfCmnClassifierRuleEntry 16 }

wman2IfCmnClassifierRuleSourceMacAddr 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
             wman2IfCmnClassifierRuleSourceMacMask equals the value
             of wman2IfCmnClassifierRuleSourceMacAddr. 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"
        ::= { wman2IfCmnClassifierRuleEntry 17 }

wman2IfCmnClassifierRuleSourceMacMask 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
             wman2IfCmnClassifierRuleSourceMacMask equals the value of
             wman2IfCmnClassifierRuleSourceMacAddr. 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"
        ::= { wman2IfCmnClassifierRuleEntry 18 }

wman2IfCmnClassifierRuleEnetProtocolType 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"
            ::= { wman2IfCmnClassifierRuleEntry 19 }

    wman2IfCmnClassifierRuleEnetProtocol OBJECT-TYPE
            SYNTAX      Integer32 (0..65535)
            MAX-ACCESS  read-only
            STATUS      current
            DESCRIPTION
                "If wman2IfCmnClassifierRuleEnetProtocolType is none(0),
                 this object is ignored when considering whether a packet
                 matches the current rule.
                 If wman2IfCmnClassifierRuleEnetProtocolType 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 wman2IfCmnClassifierRuleEnetProtocolType 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"
            ::= { wman2IfCmnClassifierRuleEntry 20 }

    wman2IfCmnClassifierRuleUserPriLow 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 wman2IfCmnClassifierRulePriLow and
                 wman2IfCmnClassifierRulePriHigh 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"
        ::= { wman2IfCmnClassifierRuleEntry 21 }

wman2IfCmnClassifierRuleUserPriHigh 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 wman2IfCmnClassifierRulePriLow
            and wman2IfCmnClassifierRulePriHigh 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"
        ::= { wman2IfCmnClassifierRuleEntry 22 }

wman2IfCmnClassifierRuleVlanId 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"
        ::= { wman2IfCmnClassifierRuleEntry 23 }

wman2IfCmnClassifierRuleState 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)."
        ::= { wman2IfCmnClassifierRuleEntry 24 }

wman2IfCmnClassifierRulePkts 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."
        ::= { wman2IfCmnClassifierRuleEntry 25 }
wman2IfCmnClassifierRuleIpv6FlowLabel OBJECT-TYPE
        SYNTAX      Wman2IfIpv6FlowLabel
        MAX-ACCESS  read-only
        STATUS      current
        DESCRIPTION
            "The value of this field specifies the matching values for
             the IPv6 Flow label field."
        ::= { wman2IfCmnClassifierRuleEntry 26 }

wman2IfCmnClassifierRuleBitMap OBJECT-TYPE
        SYNTAX      Wman2IfClassifierBitMap
        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"
        ::= { wman2IfCmnClassifierRuleEntry 27 }

wman2IfCmnPhsRuleTable OBJECT-TYPE
        SYNTAX      SEQUENCE OF Wman2IfCmnPhsRuleEntry
        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"
        ::= { wman2IfCmnPacketCs 2 }

wman2IfCmnPhsRuleEntry OBJECT-TYPE
        SYNTAX      Wman2IfCmnPhsRuleEntry
        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,
             wman2IfCmnCpsSfId, and wman2IfCmnPhsIndex. The table is
             read-only for NMS. "
        INDEX       { ifIndex, wman2IfCmnCpsSfId,
                      wman2IfCmnPhsRulePhsIndex }
        ::= { wman2IfCmnPhsRuleTable 1 }

Wman2IfCmnPhsRuleEntry::= SEQUENCE {
        wman2IfCmnPhsRulePhsIndex               INTEGER,
        wman2IfCmnPhsRulePhsField               OCTET STRING,
        wman2IfCmnPhsRulePhsMask                OCTET STRING,
        wman2IfCmnPhsRulePhsSize                Integer32,
        wman2IfCmnPhsRulePhsVerify              Wman2IfPhsRuleVerify}

wman2IfCmnPhsRulePhsIndex 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"
        ::= { wman2IfCmnPhsRuleEntry 1 }

wman2IfCmnPhsRulePhsField 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"
        ::= { wman2IfCmnPhsRuleEntry 2 }

wman2IfCmnPhsRulePhsMask 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
                (wman2IfCmnPhsRulePhsSize/8)."
            REFERENCE
                "Subclause 11.13.19.3.7.3 in IEEE Std 802.16-2004"
            ::= { wman2IfCmnPhsRuleEntry 3 }

    wman2IfCmnPhsRulePhsSize 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}
            ::= { wman2IfCmnPhsRuleEntry 4 }

    wman2IfCmnPhsRulePhsVerify OBJECT-TYPE
            SYNTAX      Wman2IfPhsRuleVerify
            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 }
            ::= { wman2IfCmnPhsRuleEntry 5 }

    --
    -- wman2IfCmnCps contain the Common Part Sublayer objects that are
    -- common to both Base Station and Subscriber Station
    --
    wman2IfCmnCps OBJECT IDENTIFIER ::= { wman2IfCommonObjects 2 }

    wman2IfCmnCpsServiceFlowTable OBJECT-TYPE
            SYNTAX      SEQUENCE OF Wman2IfCmnCpsServiceFlowEntry
            MAX-ACCESS  not-accessible
            STATUS      current
```

```
        DESCRIPTION
            "This table contains Service Flow managed objects that
             are common in BS and SS."
        ::= { wman2IfCmnCps 1 }

wman2IfCmnCpsServiceFlowEntry OBJECT-TYPE
        SYNTAX      Wman2IfCmnCpsServiceFlowEntry
        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,
             wman2IfCmnCpsCpsSfMacAddress, and wman2IfCmnCpsSfId.
             IfIndex is associated with the BS sector."
        INDEX     { ifIndex, wman2IfCmnCpsSfMacAddress,
                    wman2IfCmnCpsSfId  }
        ::= { wman2IfCmnCpsServiceFlowTable 1 }

Wman2IfCmnCpsServiceFlowEntry::= SEQUENCE {
        wman2IfCmnCpsSfMacAddress               MacAddress,
        wman2IfCmnCpsSfId                       Unsigned32,
        wman2IfCmnCpsSfCid                      Wman2IfCidType,
        wman2IfCmnCpsSfDirection                INTEGER,
        wman2IfCmnCpsSfState                    Wman2IfSfState,
        wman2IfCmnCpsTrafficPriority            INTEGER,
        wman2IfCmnCpsMaxSustainedRate           Unsigned32,
        wman2IfCmnCpsMaxTrafficBurst            Unsigned32,
        wman2IfCmnCpsMinReservedRate            Unsigned32,
        wman2IfCmnCpsToleratedJitter            Unsigned32,
        wman2IfCmnCpsMaxLatency                 Unsigned32,
        wman2IfCmnCpsFixedVsVariableSduInd      INTEGER,
        wman2IfCmnCpsSduSize                    Unsigned32,
        wman2IfCmnCpsSfSchedulingType           Wman2IfSfSchedulingType,
        wman2IfCmnCpsArqEnable                  TruthValue,
        wman2IfCmnCpsArqWindowSize              INTEGER,
        wman2IfCmnCpsArqBlockLifetime           INTEGER,
        wman2IfCmnCpsArqSyncLossTimeout         INTEGER,
        wman2IfCmnCpsArqDeliverInOrder          TruthValue,
        wman2IfCmnCpsArqRxPurgeTimeout          INTEGER,
        wman2IfCmnCpsArqBlockSize               INTEGER,
        wman2IfCmnCpsMinRsvdTolerableRate       Unsigned32,
        wman2IfCmnCpsReqTxPolicy                BITS,
        wman2IfCmnSfCsSpecification             Wman2IfCsSpecification,
        wman2IfCmnCpsTargetSaid                 INTEGER}

wman2IfCmnCpsSfMacAddress 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."
```

```
        ::= { wman2IfCmnCpsServiceFlowEntry 1 }

wman2IfCmnCpsSfId 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)."
        ::= { wman2IfCmnCpsServiceFlowEntry 2 }

wman2IfCmnCpsSfCid OBJECT-TYPE
        SYNTAX      Wman2IfCidType
        MAX-ACCESS  read-only
        STATUS      current
        DESCRIPTION
            "A 16 bit channel identifier to identify the connection
             being created by DSA."
        ::= { wman2IfCmnCpsServiceFlowEntry 3 }

wman2IfCmnCpsSfDirection 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."
        ::= { wman2IfCmnCpsServiceFlowEntry 4 }

wman2IfCmnCpsSfState OBJECT-TYPE
        SYNTAX      Wman2IfSfState
        MAX-ACCESS  read-only
        STATUS      current
        DESCRIPTION
            "wman2IfCmnCpsSfState 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"
        ::= { wman2IfCmnCpsServiceFlowEntry 5 }

wman2IfCmnCpsTrafficPriority 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"
        ::= { wman2IfCmnCpsServiceFlowEntry 6 }

wman2IfCmnCpsMaxSustainedRate 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"
        ::= { wman2IfCmnCpsServiceFlowEntry 7 }

wman2IfCmnCpsMaxTrafficBurst 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"
        ::= { wman2IfCmnCpsServiceFlowEntry 8 }

wman2IfCmnCpsMinReservedRate 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"
        ::= { wman2IfCmnCpsServiceFlowEntry 9 }

wman2IfCmnCpsToleratedJitter 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"
        ::= { wman2IfCmnCpsServiceFlowEntry 10 }
```

```
wman2IfCmnCpsMaxLatency 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"
        ::= { wman2IfCmnCpsServiceFlowEntry 11 }

wman2IfCmnCpsFixedVsVariableSduInd 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 }
        ::= { wman2IfCmnCpsServiceFlowEntry 12 }

wman2IfCmnCpsSduSize 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 }
        ::= { wman2IfCmnCpsServiceFlowEntry 13 }

wman2IfCmnCpsSfSchedulingType OBJECT-TYPE
        SYNTAX      Wman2IfSfSchedulingType
        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 }
        ::= { wman2IfCmnCpsServiceFlowEntry 14 }

wman2IfCmnCpsArqEnable OBJECT-TYPE
        SYNTAX      TruthValue
        MAX-ACCESS  read-only
        STATUS      current
        DESCRIPTION
            "True(1) ARQ enabling is requested for the connection."
        ::= { wman2IfCmnCpsServiceFlowEntry 15 }

wman2IfCmnCpsArqWindowSize OBJECT-TYPE
        SYNTAX    INTEGER (1..1024)
        MAX-ACCESS  read-only
        STATUS      current
        DESCRIPTION
            "Indicates the maximum number of unacknowledged
             fragments at any time."
        ::= { wman2IfCmnCpsServiceFlowEntry 16 }

wman2IfCmnCpsArqBlockLifetime 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."
        ::= { wman2IfCmnCpsServiceFlowEntry 17 }

wman2IfCmnCpsArqSyncLossTimeout 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."
        ::= { wman2IfCmnCpsServiceFlowEntry 18 }

wman2IfCmnCpsArqDeliverInOrder  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."
        ::= { wman2IfCmnCpsServiceFlowEntry 19 }

wman2IfCmnCpsArqRxPurgeTimeout  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."
        ::= { wman2IfCmnCpsServiceFlowEntry 20 }

wman2IfCmnCpsArqBlockSize 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"
        ::= { wman2IfCmnCpsServiceFlowEntry 21 }

wman2IfCmnCpsMinRsvdTolerableRate 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"
        ::= { wman2IfCmnCpsServiceFlowEntry 22 }

wman2IfCmnCpsReqTxPolicy 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"
        ::= { wman2IfCmnCpsServiceFlowEntry 23 }

wman2IfCmnSfCsSpecification OBJECT-TYPE
        SYNTAX      Wman2IfCsSpecification
        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"
        ::= { wman2IfCmnCpsServiceFlowEntry 24 }

wman2IfCmnCpsTargetSaid 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"
        ::= { wman2IfCmnCpsServiceFlowEntry 25 }


--
-- wman2IfCmnBsSsConfigurationTable contains global parameters
-- common in BS and SS
--
wman2IfCmnBsSsConfigurationTable OBJECT-TYPE
        SYNTAX      SEQUENCE OF Wman2IfCmnBsSsConfigurationEntry
        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"
        ::= { wman2IfCmnCps 2 }
```

```
wman2IfCmnBsSsConfigurationEntry OBJECT-TYPE
        SYNTAX      Wman2IfCmnBsSsConfigurationEntry
        MAX-ACCESS  not-accessible
        STATUS      current
        DESCRIPTION
            "This table is indexed by ifIndex, indicating BS
             sector."
        INDEX       { ifIndex }
        ::= { wman2IfCmnBsSsConfigurationTable 1 }

Wman2IfCmnBsSsConfigurationEntry ::= SEQUENCE {
        wman2IfCmnInvitedRangRetries            INTEGER,
        wman2IfCmnDSxReqRetries                 Unsigned32,
        wman2IfCmnDSxRespRetries                Unsigned32,
        wman2IfCmnT7Timeout                     INTEGER,
        wman2IfCmnT8Timeout                     INTEGER,
        wman2IfCmnT10Timeout                    INTEGER,
        wman2IfCmnT22Timeout                    INTEGER}

wman2IfCmnInvitedRangRetries OBJECT-TYPE
        SYNTAX      INTEGER (16..65535)
        MAX-ACCESS  read-write
        STATUS      current
        DESCRIPTION
            "Number of retries on inviting Ranging Requests."
        ::= { wman2IfCmnBsSsConfigurationEntry 1 }

wman2IfCmnDSxReqRetries OBJECT-TYPE
        SYNTAX      Unsigned32
        MAX-ACCESS  read-write
        STATUS      current
        DESCRIPTION
            "Number of Timeout Retries on DSA/DSC/DSD Requests."
        DEFVAL      { 3 }
        ::= { wman2IfCmnBsSsConfigurationEntry 2 }

wman2IfCmnDSxRespRetries OBJECT-TYPE
        SYNTAX      Unsigned32
        MAX-ACCESS  read-write
        STATUS      current
        DESCRIPTION
            "Number of Timeout Retries on DSA/DSC/DSD Responses."
        DEFVAL      { 3 }
        ::= { wman2IfCmnBsSsConfigurationEntry 3 }

wman2IfCmnT7Timeout OBJECT-TYPE
        SYNTAX      INTEGER (0 .. 1000)
        UNITS       "milliseconds"
        MAX-ACCESS  read-write
        STATUS      current
        DESCRIPTION
            "Wait for DSA/DSC/DSD Response Timeout in ms."
        ::= { wman2IfCmnBsSsConfigurationEntry 4 }
```

```
wman2IfCmnT8Timeout OBJECT-TYPE
        SYNTAX      INTEGER (0 .. 300)
        UNITS       "milliseconds"
        MAX-ACCESS  read-write
        STATUS      current
        DESCRIPTION
            "Wait for DSA/DSC/DSD Acknowledge Timeout in ms."
        ::= { wman2IfCmnBsSsConfigurationEntry 5 }

wman2IfCmnT10Timeout OBJECT-TYPE
        SYNTAX      INTEGER (0 .. 3000)
        UNITS       "milliseconds"
        MAX-ACCESS  read-write
        STATUS      current
        DESCRIPTION
            "Wait for Transaction End timeout in ms."
        ::= { wman2IfCmnBsSsConfigurationEntry 6 }

wman2IfCmnT22Timeout OBJECT-TYPE
        SYNTAX      INTEGER (0 .. 500)
        UNITS       "milliseconds"
        MAX-ACCESS  read-write
        STATUS      current
        DESCRIPTION
            "Wait for ARQ Reset in ms."
        ::= { wman2IfCmnBsSsConfigurationEntry 7 }

-- Common PKM  group
-- wman2IfCmnPkmObjects contain the Privacy Sublayer objects that are
-- common to both Base Station and Subscriber Station
--
wman2IfCmnPkmObjects OBJECT IDENTIFIER ::= { wman2IfCommonObjects  3 }

--
-- Table wman2IfCmnCryptoSuiteTable
--
wman2IfCmnCryptoSuiteTable OBJECT-TYPE
        SYNTAX      SEQUENCE OF   Wman2IfCmnCryptoSuiteEntry
        MAX-ACCESS  not-accessible
        STATUS      current
        DESCRIPTION
            "This table describes the PKM cryptographic suite
             capabilites for each SS or BS wireless interface."
        ::= { wman2IfCmnPkmObjects  1 }

wman2IfCmnCryptoSuiteEntry OBJECT-TYPE
        SYNTAX      Wman2IfCmnCryptoSuiteEntry
        MAX-ACCESS  not-accessible
        STATUS      current
        DESCRIPTION
            "Each entry contains the cryptographic suite pair that SS
             or BS supports."
        INDEX       { ifIndex, wman2IfCmnCryptoSuiteIndex }
```

```
        ::= { wman2IfCmnCryptoSuiteTable  1 }

Wman2IfCmnCryptoSuiteEntry ::= SEQUENCE {
        wman2IfCmnCryptoSuiteIndex              Integer32,
        wman2IfCmnCryptoSuiteDataEncryptAlg     Wman2IfDataEncryptAlgId,
        wman2IfCmnCryptoSuiteDataAuthentAlg     Wman2IfDataAuthAlgId,
        wman2IfCmnCryptoSuiteTekEncryptAlg      Wman2IfTekEncryptAlgId}

wman2IfCmnCryptoSuiteIndex OBJECT-TYPE
        SYNTAX      Integer32 (1 .. 1000)
        MAX-ACCESS  not-accessible
        STATUS      current
        DESCRIPTION
            "The index for a cryptographic suite row."
        ::= { wman2IfCmnCryptoSuiteEntry 1 }

wman2IfCmnCryptoSuiteDataEncryptAlg OBJECT-TYPE
        SYNTAX      Wman2IfDataEncryptAlgId
        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"
        ::= { wman2IfCmnCryptoSuiteEntry 2 }

wman2IfCmnCryptoSuiteDataAuthentAlg OBJECT-TYPE
        SYNTAX      Wman2IfDataAuthAlgId
        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"
        ::= { wman2IfCmnCryptoSuiteEntry 3 }

wman2IfCmnCryptoSuiteTekEncryptAlg OBJECT-TYPE
        SYNTAX      Wman2IfTekEncryptAlgId
        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"
        ::= { wman2IfCmnCryptoSuiteEntry 4 }

--
-- Conformance Information
--
wman2IfMibConformance OBJECT IDENTIFIER ::= {wman2IfMib 2}
wman2IfMibGroups      OBJECT IDENTIFIER ::= {wman2IfMibConformance 1}
```

```
wman2IfMibCompliances OBJECT IDENTIFIER ::= {wman2IfMibConformance 2}

-- compliance statements
wman2IfMibCompliance MODULE-COMPLIANCE
        STATUS      current
        DESCRIPTION
            "The compliance statement for devices that implement
            Wireless MAN interfaces as defined in IEEE Std 802.16-2004."

        MODULE  -- wman2IfMib

        MANDATORY-GROUPS            -- unconditionally mandatory groups
            { wman2IfMibCommonGroup }

        GROUP wman2IfMibQoSGroup     -- unconditionally mandatory group
        DESCRIPTION
            "This group is mandatory for Base Station and subscriber
             station."

        GROUP wman2IfMibBsGroup      -- conditionally mandatory group
        DESCRIPTION
            "This group is mandatory for Base Station."

        GROUP wman2IfMibBsAasGroup   -- optional group
        DESCRIPTION
            "This group is mandatory for Base Station."

        GROUP wman2IfMibSsGroup      -- conditionally mandatory group
        DESCRIPTION
            "This group is mandatory for Subscriber Station."

        GROUP wman2IfMibBsOfdmGroup  -- conditionally mandatory group
        DESCRIPTION
            "This group is mandatory for Base Station
             implementaing the OFDM PHY."

        GROUP wman2IfMibSsOfdmGroup  -- conditionally mandatory group
        DESCRIPTION
            "This group is mandatory for Subscriber Station
             implementing the OFDM PHY."

        GROUP wman2IfMibBsOfdmaGroup -- conditionally mandatory group
        DESCRIPTION
            "This group is mandatory for Base Station
             implementaing the OFDMA PHY."

        GROUP wman2IfMibSsOfdmaGroup -- conditionally mandatory group
        DESCRIPTION
            "This group is mandatory for Subscriber Station
             implementing the OFDMA PHY."

        GROUP wman2IfMibBsNotificationGroup -- unconditionally
                                            -- mandatory groups
        DESCRIPTION
```

```
                "This group is mandatory for Base Station."

            GROUP wman2IfMibSsNotificationGroup -- optional group
            DESCRIPTION
                "This group is optional for Subscriber Station."

            GROUP wman2IfMibCmnPhsGroup -- optional group
            DESCRIPTION
                "This group is optional for Base Station and
                 Subscriber Station."

            GROUP wman2IfMibBsPhsGroup -- optional group
            DESCRIPTION
                "This group is optional for Base Station."
            ::= { wman2IfMibCompliances 1 }

    wman2IfMibCommonGroup     OBJECT-GROUP
            OBJECTS {-- Classification
                     wman2IfCmnClassifierRulePriority,
                     wman2IfCmnClassifierRuleIpTosLow,
                     wman2IfCmnClassifierRuleIpTosHigh,
                     wman2IfCmnClassifierRuleIpTosMask,
                     wman2IfCmnClassifierRuleIpProtocol,
                     wman2IfCmnClassifierRuleIpSourceAddr,
                     wman2IfCmnClassifierRuleIpSourceMask,
                     wman2IfCmnClassifierRuleIpDestAddr,
                     wman2IfCmnClassifierRuleIpDestMask,
                     wman2IfCmnClassifierRuleSourcePortStart,
                     wman2IfCmnClassifierRuleSourcePortEnd,
                     wman2IfCmnClassifierRuleDestPortStart,
                     wman2IfCmnClassifierRuleDestPortEnd,
                     wman2IfCmnClassifierRuleDestMacAddr,
                     wman2IfCmnClassifierRuleDestMacMask,
                     wman2IfCmnClassifierRuleSourceMacAddr,
                     wman2IfCmnClassifierRuleSourceMacMask,
                     wman2IfCmnClassifierRuleEnetProtocolType,
                     wman2IfCmnClassifierRuleEnetProtocol,
                     wman2IfCmnClassifierRuleUserPriLow,
                     wman2IfCmnClassifierRuleUserPriHigh,
                     wman2IfCmnClassifierRuleVlanId,
                     wman2IfCmnClassifierRuleState,
                     wman2IfCmnClassifierRulePkts,
                     wman2IfCmnClassifierRuleIpv6FlowLabel,
                     wman2IfCmnClassifierRuleBitMap,

                     -- Configuration parameters
                     wman2IfCmnCpsTargetSaid,
                     wman2IfCmnInvitedRangRetries,
                     wman2IfCmnDSxReqRetries,
                     wman2IfCmnDSxRespRetries,
                     wman2IfCmnT7Timeout,
                     wman2IfCmnT8Timeout,
                     wman2IfCmnT10Timeout,
                     wman2IfCmnT22Timeout,
```

```
                    wman2IfCmnCryptoSuiteDataEncryptAlg,
                    wman2IfCmnCryptoSuiteDataAuthentAlg,
                    wman2IfCmnCryptoSuiteTekEncryptAlg}
            STATUS       current
            DESCRIPTION
                "This group contains objects for both BS and SS,
                 and are independent of PHY."
            ::= { wman2IfMibGroups 1 }

    wman2IfMibQoSGroup     OBJECT-GROUP
            OBJECTS {wman2IfCmnCpsSfId,
                    wman2IfCmnCpsSfCid,
                    wman2IfCmnCpsSfDirection,
                    wman2IfCmnCpsSfState,
                    wman2IfCmnCpsTrafficPriority,
                    wman2IfCmnCpsMaxSustainedRate,
                    wman2IfCmnCpsMaxTrafficBurst,
                    wman2IfCmnCpsMinReservedRate,
                    wman2IfCmnCpsToleratedJitter,
                    wman2IfCmnCpsMaxLatency,
                    wman2IfCmnCpsFixedVsVariableSduInd,
                    wman2IfCmnCpsSduSize,
                    wman2IfCmnCpsSfSchedulingType,
                    wman2IfCmnCpsArqEnable,
                    wman2IfCmnCpsArqWindowSize,
                    wman2IfCmnCpsArqBlockLifetime,
                    wman2IfCmnCpsArqSyncLossTimeout,
                    wman2IfCmnCpsArqDeliverInOrder,
                    wman2IfCmnCpsArqRxPurgeTimeout,
                    wman2IfCmnCpsArqBlockSize,
                    wman2IfCmnCpsMinRsvdTolerableRate,
                    wman2IfCmnCpsReqTxPolicy,
                    wman2IfCmnSfCsSpecification}
            STATUS       current
            DESCRIPTION
                "This group contains QoS objects for both BS and SS."
            ::= { wman2IfMibGroups 2 }

    wman2IfMibBsGroup     OBJECT-GROUP
            OBJECTS {-- Service classes
                    wman2IfBsSfDirection,
                    wman2IfBsServiceClassIndex,
                    wman2IfBsSfState,
                    wman2IfBsSfProvisionedTime,
                    wman2IfBsProvisionedSfRowStatus,
                    wman2IfBsSsProvisionedForSfRowStatus,
                    wman2IfBsSfCsSpecification,
                    wman2IfBsQosServiceClassName,
                    wman2IfBsQoSTrafficPriority,
                    wman2IfBsQoSMaxSustainedRate,
                    wman2IfBsQoSMaxTrafficBurst,
                    wman2IfBsQoSMinReservedRate,
                    wman2IfBsQoSToleratedJitter,
                    wman2IfBsQoSMaxLatency,
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                    wman2IfBsQoSFixedVsVariableSduInd,
                    wman2IfBsQoSSduSize,
                    wman2IfBsQosScSchedulingType,
                    wman2IfBsQosScArqEnable,
                    wman2IfBsQosScArqWindowSize,
                    wman2IfBsQosScArqBlockLifetime,
                    wman2IfBsQosScArqSyncLossTimeout,
                    wman2IfBsQosScArqDeliverInOrder,
                    wman2IfBsQosScArqRxPurgeTimeout,
                    wman2IfBsQosScArqBlockSize,
                    wman2IfBsQosSCMinRsvdTolerableRate,
                    wman2IfBsQoSReqTxPolicy,
                    wman2IfBsQoSServiceClassRowStatus,

                    -- Classification
                    wman2IfBsClassifierRulePriority,
                    wman2IfBsClassifierRuleIpTosLow,
                    wman2IfBsClassifierRuleIpTosHigh,
                    wman2IfBsClassifierRuleIpTosMask,
                    wman2IfBsClassifierRuleIpProtocol,
                    wman2IfBsClassifierRuleIpSourceAddr,
                    wman2IfBsClassifierRuleIpSourceMask,
                    wman2IfBsClassifierRuleIpDestAddr,
                    wman2IfBsClassifierRuleIpDestMask,
                    wman2IfBsClassifierRuleSourcePortStart,
                    wman2IfBsClassifierRuleSourcePortEnd,
                    wman2IfBsClassifierRuleDestPortStart,
                    wman2IfBsClassifierRuleDestPortEnd,
                    wman2IfBsClassifierRuleDestMacAddr,
                    wman2IfBsClassifierRuleDestMacMask,
                    wman2IfBsClassifierRuleSourceMacAddr,
                    wman2IfBsClassifierRuleSourceMacMask,
                    wman2IfBsClassifierRuleEnetProtocolType,
                    wman2IfBsClassifierRuleEnetProtocol,
                    wman2IfBsClassifierRuleUserPriLow,
                    wman2IfBsClassifierRuleUserPriHigh,
                    wman2IfBsClassifierRuleVlanId,
                    wman2IfBsClassifierRuleState,
                    wman2IfBsClassifierRulePhsSize,
                    wman2IfBsClassifierRulePhsMask,
                    wman2IfBsClassifierRulePhsVerify,
                    wman2IfBsClassifierRuleIpv6FlowLabel,
                    wman2IfBsClassifierRuleBitMap,
                    wman2IfBsClassifierRuleRowStatus,

                    -- Packet counters
                    wman2IfBsSsMacSduCount,
                    wman2IfBsSsOctetCount,
                    wman2IfBsSsResetCounter,
                    wman2IfBsSsResetCounterTime,

                    -- Capability negotiation
                    wman2IfBsSsBasicCid,
                    wman2IfBsSsPrimaryCid,
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                    wman2IfBsSsSecondaryCid,
                    wman2IfBsSsManagementSupport,
                    wman2IfBsSsIpManagementMode,
                    wman2IfBs2ndMgmtDlQoSProfileIndex,
                    wman2IfBs2ndMgmtUlQoSProfileIndex,
                    wman2IfBsAutoSfidEnabled,
                    wman2IfBsAutoSfidRangeMin,
                    wman2IfBsAutoSfidRangeMax,
                    wman2IfBsResetSector,
                    wman2IfBsSs2ndMgmtArqEnable,
                    wman2IfBsSs2ndMgmtArqWindowSize,
                    wman2IfBsSs2ndMgmtArqDnLinkTxDelay,
                    wman2IfBsSs2ndMgmtArqUpLinkTxDelay,
                    wman2IfBsSs2ndMgmtArqDnLinkRxDelay,
                    wman2IfBsSs2ndMgmtArqUpLinkRxDelay,
                    wman2IfBsSs2ndMgmtArqBlockLifetime,
                    wman2IfBsSs2ndMgmtArqSyncLossTimeout,
                    wman2IfBsSs2ndMgmtArqDeliverInOrder,
                    wman2IfBsSs2ndMgmtArqRxPurgeTimeout,
                    wman2IfBsSs2ndMgmtArqBlockSize,
                    wman2IfBsSsVendorIdEncoding,
                    wman2IfBsSsAasBroadcastPermission,
                    wman2IfBsSsMaxTxPowerBpsk,
                    wman2IfBsSsMaxTxPowerQpsk,
                    wman2IfBsSsMaxTxPower16Qam,
                    wman2IfBsSsMaxTxPower64Qam,

                    -- Configuration parameters
                    wman2IfBsSsMacVersion,
                    wman2IfBsDcdInterval,
                    wman2IfBsUcdInterval,
                    wman2IfBsUcdTransition,
                    wman2IfBsDcdTransition,
                    wman2IfBsInitialRangingInterval,
                    wman2IfBsSsULMapProcTime,
                    wman2IfBsSsRangRespProcTime,
                    wman2IfBsT5Timeout,
                    wman2IfBsT9Timeout,
                    wman2IfBsT13Timeout,
                    wman2IfBsT15Timeout,
                    wman2IfBsT17Timeout,
                    wman2IfBsT27IdleTimer,
                    wman2IfBsT27ActiveTimer,

                    -- Performance monitoring
                    wman2IfBsHistogramIndex,
                    wman2IfBsChannelNumber,
                    wman2IfBsStartFrame,
                    wman2IfBsDuration,
                    wman2IfBsBasicReport,
                    wman2IfBsMeanCinrReport,
                    wman2IfBsMeanRssiReport,
                    wman2IfBsStdDeviationCinrReport,
                    wman2IfBsStdDeviationRssiReport,
```

```
-- Capability negotiation
wman2IfBsSsReqCapUplinkCidSupport,
wman2IfBsSsReqCapArqSupport,
wman2IfBsSsReqCapDsxFlowControl,
wman2IfBsSsReqCapMacCrcSupport,
wman2IfBsSsReqCapMcaFlowControl,
wman2IfBsSsReqCapMcpGroupCidSupport,
wman2IfBsSsReqCapPkmFlowControl,
wman2IfBsSsReqCapAuthPolicyControl,
wman2IfBsSsReqCapMaxNumOfSupportedSA,
wman2IfBsSsReqCapIpVersion,
wman2IfBsSsReqCapMacCsSupportBitMap,
wman2IfBsSsReqCapMaxNumOfClassifier,
wman2IfBsSsReqCapPhsSupport,
wman2IfBsSsReqCapBandwidthAllocSupport,
wman2IfBsSsReqCapPduConstruction,
wman2IfBsSsReqCapTtgTransitionGap,
wman2IfBsSsReqCapRtgTransitionGap,
wman2IfBsSsRspCapUplinkCidSupport,
wman2IfBsSsRspCapArqSupport,
wman2IfBsSsRspCapDsxFlowControl,
wman2IfBsSsRspCapMacCrcSupport,
wman2IfBsSsRspCapMcaFlowControl,
wman2IfBsSsRspCapMcpGroupCidSupport,
wman2IfBsSsRspCapPkmFlowControl,
wman2IfBsSsRspCapAuthPolicyControl,
wman2IfBsSsRspCapMaxNumOfSupportedSA,
wman2IfBsSsRspCapIpVersion,
wman2IfBsSsRspCapMacCsSupportBitMap,
wman2IfBsSsRspCapMaxNumOfClassifier,
wman2IfBsSsRspCapPhsSupport,
wman2IfBsSsRspCapBandwidthAllocSupport,
wman2IfBsSsRspCapPduConstruction,
wman2IfBsSsRspCapTtgTransitionGap,
wman2IfBsSsRspCapRtgTransitionGap,
wman2IfBsCapUplinkCidSupport,
wman2IfBsCapArqSupport,
wman2IfBsCapDsxFlowControl,
wman2IfBsCapMacCrcSupport,
wman2IfBsCapMcaFlowControl,
wman2IfBsCapMcpGroupCidSupport,
wman2IfBsCapPkmFlowControl,
wman2IfBsCapAuthPolicyControl,
wman2IfBsCapMaxNumOfSupportedSA,
wman2IfBsCapIpVersion,
wman2IfBsCapMacCsSupportBitMap,
wman2IfBsCapMaxNumOfClassifier,
wman2IfBsCapPhsSupport,
wman2IfBsCapBandwidthAllocSupport,
wman2IfBsCapPduConstruction,
wman2IfBsCapTtgTransitionGap,
wman2IfBsCapRtgTransitionGap,
wman2IfBsCapCfgUplinkCidSupport,
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wman2IfBsCapCfgArqSupport,
wman2IfBsCapCfgDsxFlowControl,
wman2IfBsCapCfgMacCrcSupport,
wman2IfBsCapCfgMcaFlowControl,
wman2IfBsCapCfgMcpGroupCidSupport,
wman2IfBsCapCfgPkmFlowControl,
wman2IfBsCapCfgAuthPolicyControl,
wman2IfBsCapCfgMaxNumOfSupportedSA,
wman2IfBsCapCfgIpVersion,
wman2IfBsCapCfgMacCsSupportBitMap,
wman2IfBsCapCfgMaxNumOfClassifier,
wman2IfBsCapCfgPhsSupport,
wman2IfBsCapCfgBandwidthAllocSupport,
wman2IfBsCapCfgPduConstruction,
wman2IfBsCapCfgTtgTransitionGap,
wman2IfBsCapCfgRtgTransitionGap,
wman2IfBsSsActionsResetSs,
wman2IfBsSsActionsAbortSs,
wman2IfBsSsActionsOverrideDnFreq,
wman2IfBsSsActionsOverrideChannelId,
wman2IfBsSsActionsDeReRegSs,
wman2IfBsSsActionsDeReRegSsCode,
wman2IfBsSsActionsRowStatus,

-- Privacy sublayer
wman2IfBsPkmDefaultAuthLifetime,
wman2IfBsPkmDefaultTekLifetime,
wman2IfBsPkmDefaultSelfSigManufCertTrust,
wman2IfBsPkmCheckCertValidityPeriods,
wman2IfBsPkmAuthentInfos,
wman2IfBsPkmAuthRequests,
wman2IfBsPkmAuthReplies,
wman2IfBsPkmAuthRejects,
wman2IfBsPkmAuthInvalids,
wman2IfBsSsPkmAuthKeySequenceNumber,
wman2IfBsSsPkmAuthExpiresOld,
wman2IfBsSsPkmAuthExpiresNew,
wman2IfBsSsPkmAuthLifetime,
wman2IfBsSsPkmAuthReset,
wman2IfBsSsPkmAuthInfos,
wman2IfBsSsPkmAuthRequests,
wman2IfBsSsPkmAuthReplies,
wman2IfBsSsPkmAuthRejects,
wman2IfBsSsPkmAuthInvalids,
wman2IfBsSsPkmAuthRejectErrorCode,
wman2IfBsSsPkmAuthRejectErrorString,
wman2IfBsSsPkmAuthInvalidErrorCode,
wman2IfBsSsPkmAuthInvalidErrorString,
wman2IfBsSsPkmAuthPrimarySAId,
wman2IfBsSsPkmAuthValidStatus,
wman2IfBsPkmTekSAType,
wman2IfBsPkmTekDataEncryptAlg,
wman2IfBsPkmTekDataAuthentAlg,
wman2IfBsPkmTekEncryptAlg,
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                    wman2IfBsPkmTekLifetime,
                    wman2IfBsPkmTekKeySequenceNumber,
                    wman2IfBsPkmTekExpiresOld,
                    wman2IfBsPkmTekExpiresNew,
                    wman2IfBsPkmTekReset,
                    wman2IfBsPkmKeyRequests,
                    wman2IfBsPkmKeyReplies,
                    wman2IfBsPkmKeyRejects,
                    wman2IfBsPkmTekInvalids,
                    wman2IfBsPkmKeyRejectErrorCode,
                    wman2IfBsPkmKeyRejectErrorString,
                    wman2IfBsPkmTekInvalidErrorCode,
                    wman2IfBsPkmTekInvalidErrorString,

                    -- Notification
                    wman2IfBsTrapControlRegister,
                    wman2IfBsStatusTrapControlRegister,
                    wman2IfBsRssiLowThreshold,
                    wman2IfBsRssiHighThreshold,
                    wman2IfBsSsNotificationMacAddr,
                    wman2IfBsSsStatusValue,
                    wman2IfBsSsStatusInfo,
                    wman2IfBsDynamicServiceType,
                    wman2IfBsDynamicServiceFailReason,
                    wman2IfBsSsRssiStatus,
                    wman2IfBsSsRssiStatusInfo,
                    wman2IfBsSsRegisterStatus}
            STATUS       current
            DESCRIPTION
                "This group contains objects for BS, and are
                 independent of PHY."
            ::= { wman2IfMibGroups 3 }

    wman2IfMibBsAasGroup     OBJECT-GROUP
            OBJECTS {-- AAS Configuration parameters
                    wman2IfBsAasChanFbckReqFreq,
                    wman2IfBsAasBeamSelectFreq,
                    wman2IfBsAasChanFbckReqResolution,
                    wman2IfBsAasBeamReqResolution,
                    wman2IfBsAasNumOptDiversityZones}
            STATUS       current
            DESCRIPTION
                "This group contains objects for AAS in BS."
            ::= { wman2IfMibGroups 4 }

    wman2IfMibSsGroup     OBJECT-GROUP
            OBJECTS {-- Configuration parameters
                    wman2IfSsLostDLMapInterval,
                    wman2IfSsLostULMapInterval,
                    wman2IfSsContentionRangRetries,
                    wman2IfSsRequestRetries,
                    wman2IfSsRegRequestRetries,
                    wman2IfSsTftpBackoffStart,
                    wman2IfSsTftpBackoffEnd,
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                    wman2IfSsTftpRequestRetries,
                    wman2IfSsTftpDownloadRetries,
                    wman2IfSsTftpWait,
                    wman2IfSsToDRetries,
                    wman2IfSsToDRetryPeriod,
                    wman2IfSsT1Timeout,
                    wman2IfSsT2Timeout,
                    wman2IfSsT3Timeout,
                    wman2IfSsT4Timeout,
                    wman2IfSsT6Timeout,
                    wman2IfSsT12Timeout,
                    wman2IfSsT14Timeout,
                    wman2IfSsT16Timeout,
                    wman2IfSsT18Timeout,
                    wman2IfSsT19Timeout,
                    wman2IfSsT20Timeout,
                    wman2IfSsT21Timeout,
                    wman2IfSsSBCRequestRetries,
                    wman2IfSsTftpCpltRetries,
                    wman2IfSsT26Timeout,
                    wman2IfSsDLManagProcTime,

                    -- Performance monitoring
                    wman2IfSsChannelNumber,
                    wman2IfSsStartFrame ,
                    wman2IfSsDuration,
                    wman2IfSsBasicReport,
                    wman2IfSsMeanCinrReport,
                    wman2IfSsStdDeviationCinrReport,
                    wman2IfSsMeanRssiReport,
                    wman2IfSsStdDeviationRssiReport,

                    -- Privacy sublayer
                    wman2IfSsPkmAuthState,
                    wman2IfSsPkmAuthKeySequenceNumber,
                    wman2IfSsPkmAuthExpiresOld,
                    wman2IfSsPkmAuthExpiresNew ,
                    wman2IfSsPkmAuthReset,
                    wman2IfSsPkmAuthentInfos,
                    wman2IfSsPkmAuthRequests,
                    wman2IfSsPkmAuthReplies,
                    wman2IfSsPkmAuthRejects,
                    wman2IfSsPkmAuthInvalids,
                    wman2IfSsPkmAuthRejectErrorCode,
                    wman2IfSsPkmAuthRejectErrorString,
                    wman2IfSsPkmAuthInvalidErrorCode,
                    wman2IfSsPkmAuthInvalidErrorString ,
                    wman2IfSsPkmAuthGraceTime,
                    wman2IfSsPkmTekGraceTime,
                    wman2IfSsPkmAuthWaitTimeout,
                    wman2IfSsPkmReauthWaitTimeout,
                    wman2IfSsPkmOpWaitTimeout,
                    wman2IfSsPkmRekeyWaitTimeout,
                    wman2IfSsPkmAuthRejectWaitTimeout,
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                    wman2IfSsPkmTekSAType,
                    wman2IfSsPkmTekDataEncryptAlg,
                    wman2IfSsPkmTekDataAuthentAlg,
                    wman2IfSsPkmTekEncryptAlg,
                    wman2IfSsPkmTekState,
                    wman2IfSsPkmTekKeySequenceNumber,
                    wman2IfSsPkmTekExpiresOld,
                    wman2IfSsPkmTekExpiresNew,
                    wman2IfSsPkmTekKeyRequests,
                    wman2IfSsPkmTekKeyReplies,
                    wman2IfSsPkmTekKeyRejects,
                    wman2IfSsPkmTekInvalids,
                    wman2IfSsPkmTekAuthPends,
                    wman2IfSsPkmTekKeyRejectErrorCode,
                    wman2IfSsPkmTekKeyRejectErrorString,
                    wman2IfSsPkmTekInvalidErrorCode,
                    wman2IfSsPkmTekInvalidErrorString,
                    wman2IfSsDeviceCert,
                    wman2IfSsDeviceManufCert,

                    -- Notofocation
                    wman2IfSsTrapControlRegister,
                    wman2IfSsRssiLowThreshold,
                    wman2IfSsRssiHighThreshold,
                    wman2IfSsMacAddress,
                    wman2IfSsUnknownTlv,
                    wman2IfSsDynamicServiceType,
                    wman2IfSsDynamicServiceFailReason,
                    wman2IfSsRssiStatus,
                    wman2IfSsRssiStatusInfo}
            STATUS       current
            DESCRIPTION
                "This group contains objects for SS, and are
                 independent of PHY."
            ::= { wman2IfMibGroups 5 }

wman2IfMibBsOfdmGroup     OBJECT-GROUP
            OBJECTS {wman2IfBsOfdmCtBasedResvTimeout,
                    wman2IfBsOfdmBwReqOppSize,
                    wman2IfBsOfdmRangReqOppSize,
                    wman2IfBsOfdmUplinkCenterFreq,
                    wman2IfBsOfdmNumSubChReqRegionFull,
                    wman2IfBsOfdmNumSymbolsReqRegionFull,
                    wman2IfBsOfdmSubChFocusCtCode,
                    wman2IfBsOfdmUpLinkChannelId,
                    wman2IfBsOfdmBsEIRP,
                    wman2IfBsOfdmChannelNumber,
                    wman2IfBsOfdmTTG,
                    wman2IfBsOfdmRTG,
                    wman2IfBsOfdmInitRngMaxRSS,
                    wman2IfBsOfdmDownlinkCenterFreq,
                    wman2IfBsOfdmBsId,
                    wman2IfBsOfdmMacVersion,
                    wman2IfBsOfdmFrameDurationCode,
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                    wman2IfBsOfdmDownLinkChannelId,
                    wman2IfBsOfdmUcdFecCodeType,
                    wman2IfBsOfdmFocusCtPowerBoost,
                    wman2IfBsOfdmUcdTcsEnable,
                    wman2IfBsOfdmUcdBurstProfileRowStatus,
                    wman2IfBsOfdmDownlinkFrequency,
                    wman2IfBsOfdmDcdFecCodeType,
                    wman2IfBsOfdmDiucMandatoryExitThresh,
                    wman2IfBsOfdmDiucMinEntryThresh,
                    wman2IfBsOfdmTcsEnable,
                    wman2IfBsOfdmDcdBurstProfileRowStatus,
                    wman2IfBsOfdmMinReqRegionFullTxOpp,
                    wman2IfBsOfdmMinFocusedCtTxOpp,
                    wman2IfBsOfdmMaxRoundTripDelay,
                    wman2IfBsOfdmRangeAbortTimingThold,
                    wman2IfBsOfdmRangeAbortPowerThold ,
                    wman2IfBsOfdmRangeAbortFreqThold,
                    wman2IfBsOfdmDnlkRateId,
                    wman2IfBsOfdmRatioG,
                    wman2IfBsSsOfdmReqCapFftSizes,
                    wman2IfBsSsOfdmReqCapSsDemodulator,
                    wman2IfBsSsOfdmReqCapSsModulator,
                    wman2IfBsSsOfdmReqCapFocusedCtSupport,
                    wman2IfBsSsOfdmReqCapTcSublayerSupport,
                    wman2IfBsSsOfdmRspCapFftSizes,
                    wman2IfBsSsOfdmRspCapSsDemodulator,
                    wman2IfBsSsOfdmRspCapSsModulator,
                    wman2IfBsSsOfdmRspCapFocusedCtSupport,
                    wman2IfBsSsOfdmRspCapTcSublayerSupport,
                    wman2IfBsOfdmCapFftSizes,
                    wman2IfBsOfdmCapSsDemodulator,
                    wman2IfBsOfdmCapSsModulator,
                    wman2IfBsOfdmCapFocusedCtSupport,
                    wman2IfBsOfdmCapTcSublayerSupport,
                    wman2IfBsOfdmCapCfgFftSizes,
                    wman2IfBsOfdmCapCfgSsDemodulator,
                    wman2IfBsOfdmCapCfgSsModulator,
                    wman2IfBsOfdmCapCfgFocusedCtSupport,
                    wman2IfBsOfdmCapCfgTcSublayerSupport}
            STATUS       current
            DESCRIPTION
                "This group contains objects for BS and OFDM PHY."
            ::= { wman2IfMibGroups 6 }

wman2IfMibSsOfdmGroup     OBJECT-GROUP
            OBJECTS {wman2IfSsOfdmCtBasedResvTimeout,
                    wman2IfSsOfdmBwReqOppSize,
                    wman2IfSsOfdmRangReqOppSize,
                    wman2IfSsOfdmUplinkCenterFreq,
                    wman2IfSsOfdmNumSubChReqRegionFull,
                    wman2IfSsOfdmNumSymbolsReqRegionFull,
                    wman2IfSsOfdmSubChFocusCtCode,
                    wman2IfSsOfdmUpLinkChannelId,
                    wman2IfSsOfdmBsEIRP,
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                    wman2IfSsOfdmChannelNumber,
                    wman2IfSsOfdmTTG,
                    wman2IfSsOfdmRTG,
                    wman2IfSsOfdmInitRngMaxRSS,
                    wman2IfSsOfdmDownlinkCenterFreq,
                    wman2IfSsOfdmBsId,
                    wman2IfSsOfdmMacVersion,
                    wman2IfSsOfdmFrameDurationCode,
                    wman2IfSsOfdmDownLinkChannelId,
                    wman2IfSsOfdmUcdFecCodeType,
                    wman2IfSsOfdmFocusCtPowerBoost,
                    wman2IfSsOfdmUcdTcsEnable,
                    wman2IfSsOfdmDownlinkFrequency,
                    wman2IfSsOfdmDcdFecCodeType,
                    wman2IfSsOfdmDiucMandatoryExitThresh,
                    wman2IfSsOfdmDiucMinEntryThresh,
                    wman2IfSsOfdmTcsEnable}
            STATUS       current
            DESCRIPTION
                "This group contains objects for SS and OFDM PHY."
            ::= { wman2IfMibGroups 7 }

wman2IfMibBsOfdmaGroup     OBJECT-GROUP
            OBJECTS {wman2IfBsOfdmaCtBasedResvTimeout,
                    wman2IfBsOfdmaBwReqOppSize,
                    wman2IfBsOfdmaRangReqOppSize,
                    wman2IfBsOfdmaUplinkCenterFreq,
                    wman2IfBsOfdmaInitRngCodes,
                    wman2IfBsOfdmaPeriodicRngCodes,
                    wman2IfBsOfdmaBWReqCodes,
                    wman2IfBsOfdmaPerRngBackoffStart,
                    wman2IfBsOfdmaPerRngBackoffEnd,
                    wman2IfBsOfdmaStartOfRngCodes,
                    wman2IfBsOfdmaPermutationBase,
                    wman2IfBsOfdmaULAllocSubchBitmap,
                    wman2IfBsOfdmaOptPermULAllocSubchBitmap,
                    wman2IfBsOfdmaBandAMCAllocThreshold,
                    wman2IfBsOfdmaBandAMCReleaseThreshold,
                    wman2IfBsOfdmaBandAMCAllocTimer,
                    wman2IfBsOfdmaBandAMCReleaseTimer,
                    wman2IfBsOfdmaBandStatRepMAXPeriod,
                    wman2IfBsOfdmaBandAMCRetryTimer,
                    wman2IfBsOfdmaSafetyChAllocThreshold,
                    wman2IfBsOfdmaSafetyChReleaseThreshold,
                    wman2IfBsOfdmaSafetyChAllocTimer,
                    wman2IfBsOfdmaSafetyChReleaseTimer,
                    wman2IfBsOfdmaBinStatRepMAXPeriod,
                    wman2IfBsOfdmaSafetyChaRetryTimer,
                    wman2IfBsOfdmaHARQAackDelayULBurst,
                    wman2IfBsOfdmaCQICHBandAMCTranaDelay,
                    wman2IfBsOfdmaBsEIRP,
                    wman2IfBsOfdmaChannelNumber,
                    wman2IfBsOfdmaTTG,
                    wman2IfBsOfdmaRTG,
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                    wman2IfBsOfdmaInitRngMaxRSS,
                    wman2IfBsOfdmaDownlinkCenterFreq,
                    wman2IfBsOfdmaBsId,
                    wman2IfBsOfdmaMacVersion,
                    wman2IfBsOfdmaFrameDurationCode,
                    wman2IfBsOfdmaSizeCqichIdField,
                    wman2IfBsOfdmaHARQAackDelayBurst,
                    wman2IfBsOfdmaUcdFecCodeType,
                    wman2IfBsOfdmaRangingDataRatio,
                    wman2IfBsOfdmaNorCOverNOverride,
                    wman2IfBsOfdmaUcdBurstProfileRowStatus,
                    wman2IfBsOfdmaDownlinkFrequency,
                    wman2IfBsOfdmaDcdFecCodeType,
                    wman2IfBsOfdmaDiucMandatoryExitThresh,
                    wman2IfBsOfdmaDiucMinEntryThresh,
                    wman2IfBsOfdmaDcdBurstProfileRowStatus}
            STATUS       current
            DESCRIPTION
                "This group contains objects for BS and OFDMA PHY."
            ::= { wman2IfMibGroups 8 }

    wman2IfMibSsOfdmaGroup     OBJECT-GROUP
            OBJECTS {wman2IfSsOfdmaCtBasedResvTimeout,
                    wman2IfSsOfdmaBwReqOppSize,
                    wman2IfSsOfdmaRangReqOppSize,
                    wman2IfSsOfdmaUplinkCenterFreq,
                    wman2IfSsOfdmaInitRngCodes,
                    wman2IfSsOfdmaPeriodicRngCodes,
                    wman2IfSsOfdmaBWReqCodes,
                    wman2IfSsOfdmaPerRngBackoffStart,
                    wman2IfSsOfdmaPerRngBackoffEnd,
                    wman2IfSsOfdmaStartOfRngCodes,
                    wman2IfSsOfdmaPermutationBase,
                    wman2IfSsOfdmaULAllocSubchBitmap,
                    wman2IfSsOfdmaOptPermULAllocSubchBitmap,
                    wman2IfSsOfdmaBandAMCAllocThreshold,
                    wman2IfSsOfdmaBandAMCReleaseThreshold,
                    wman2IfSsOfdmaBandAMCAllocTimer,
                    wman2IfSsOfdmaBandAMCReleaseTimer,
                    wman2IfSsOfdmaBandStatRepMAXPeriod,
                    wman2IfSsOfdmaBandAMCRetryTimer,
                    wman2IfSsOfdmaSafetyChAllocThreshold,
                    wman2IfSsOfdmaSafetyChReleaseThreshold,
                    wman2IfSsOfdmaSafetyChAllocTimer,
                    wman2IfSsOfdmaSafetyChReleaseTimer,
                    wman2IfSsOfdmaBinStatRepMAXPeriod,
                    wman2IfSsOfdmaSafetyChaRetryTimer,
                    wman2IfSsOfdmaHARQAackDelayULBurst,
                    wman2IfSsOfdmaCQICHBandAMCTranaDelay,
                    wman2IfSsOfdmaBsEIRP,
                    wman2IfSsOfdmaChannelNumber,
                    wman2IfSsOfdmaTTG,
                    wman2IfSsOfdmaRTG,
                    wman2IfSsOfdmaInitRngMaxRSS,
```

```
                  wman2IfSsOfdmaDownlinkCenterFreq,
                  wman2IfSsOfdmaBsId,
                  wman2IfSsOfdmaMacVersion,
                  wman2IfSsOfdmaFrameDurationCode,
                  wman2IfSsOfdmaSizeCqichIdField,
                  wman2IfSsOfdmaHARQAackDelayBurst,
                  wman2IfSsOfdmaUiucIndex,
                  wman2IfSsOfdmaUcdFecCodeType,
                  wman2IfSsOfdmaRangingDataRatio,
                  wman2IfSsOfdmaNorCOverNOverride,
                  wman2IfSsOfdmaDiucIndex,
                  wman2IfSsOfdmaDownlinkFrequency,
                  wman2IfSsOfdmaDcdFecCodeType,
                  wman2IfSsOfdmaDiucMandatoryExitThresh,
                  wman2IfSsOfdmaDiucMinEntryThresh}
        STATUS       current
        DESCRIPTION
            "This group contains objects for SS and OFDMA PHY."
        ::= { wman2IfMibGroups 9 }

wman2IfMibBsNotificationGroup     NOTIFICATION-GROUP
        NOTIFICATIONS {wman2IfBsSsStatusNotificationTrap,
                       wman2IfBsSsDynamicServiceFailTrap,
                       wman2IfBsSsRssiStatusChangeTrap,
                       wman2IfBsSsPkmFailTrap,
                       wman2IfBsSsRegistrerTrap}
        STATUS       current
        DESCRIPTION
            "This group contains event notifications for BS."
        ::= { wman2IfMibGroups 10 }

wman2IfMibSsNotificationGroup     NOTIFICATION-GROUP
        NOTIFICATIONS {wman2IfSsTlvUnknownTrap,
                       wman2IfSsDynamicServiceFailTrap,
                       wman2IfSsDhcpSuccessTrap,
                       wman2IfSsRssiStatusChangeTrap}
        STATUS       current
        DESCRIPTION
            "This group contains event notifications for SS."
        ::= { wman2IfMibGroups 11 }

wman2IfMibCmnPhsGroup     OBJECT-GROUP
        OBJECTS {-- Payload header supression
                  wman2IfCmnPhsRulePhsField,
                  wman2IfCmnPhsRulePhsMask,
                  wman2IfCmnPhsRulePhsSize,
                  wman2IfCmnPhsRulePhsVerify}
        STATUS       current
        DESCRIPTION
            "This group contains common objects for PHS."
        ::= { wman2IfMibGroups 12 }

wman2IfMibBsPhsGroup     OBJECT-GROUP
        OBJECTS {-- Payload header supression
```

```
                    wman2IfBsClassifierRulePhsSize,
                    wman2IfBsClassifierRulePhsMask,
                    wman2IfBsClassifierRulePhsVerify,
                    wman2IfBsClassifierRuleBitMap}
            STATUS       current
            DESCRIPTION
                "This group contains BS objects for PHS."
            ::= { wman2IfMibGroups 13 }
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

```
wmanIfBsMobility OBJECT IDENTIFIER ::= { wmanIfBsObjects x} -- e.g. x = 7

wmanIfBsHandoverConfiguration OBJECT IDENTIFIER ::= { wmanIfBsMobility 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 }
```