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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**

Sponsor

**LAN MAN Standards Committee**  
of the  
**IEEE Computer Society**

and the

**IEEE Microwave Theory and Techniques Society**



**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.)

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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 for Local 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.

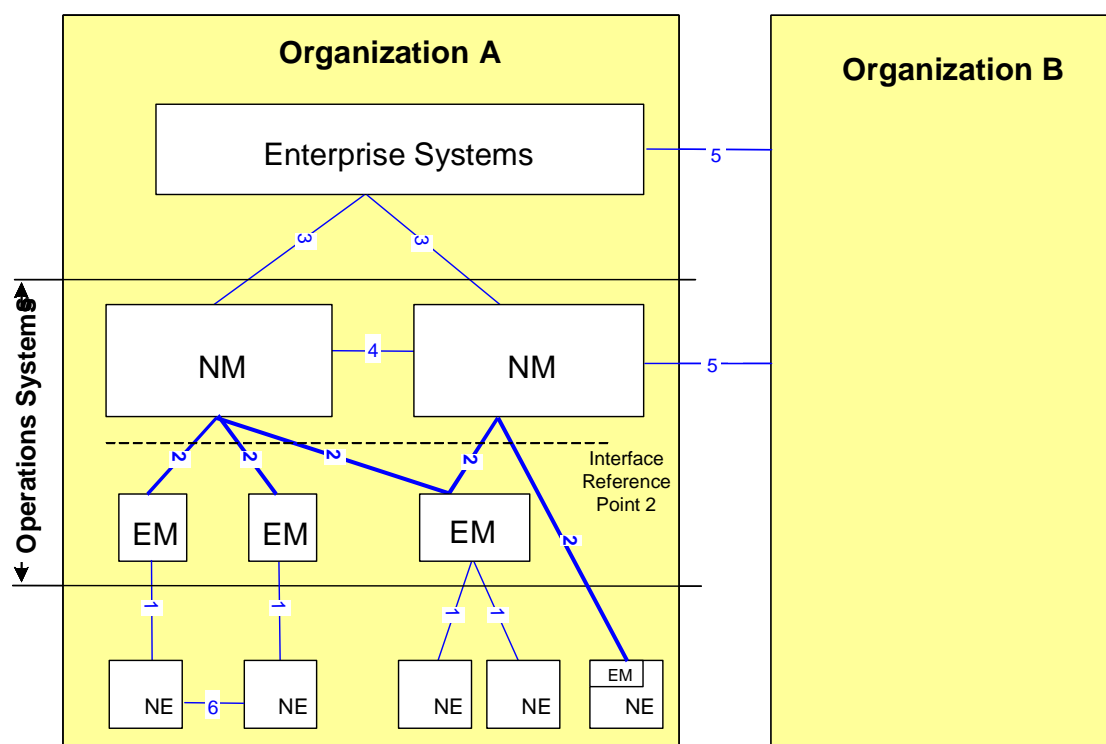
#### 1.3 Reference Models

### 1.3.1 Management Reference Models

Figure 1 illustrates the Management Reference Model (see also [01]). 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.



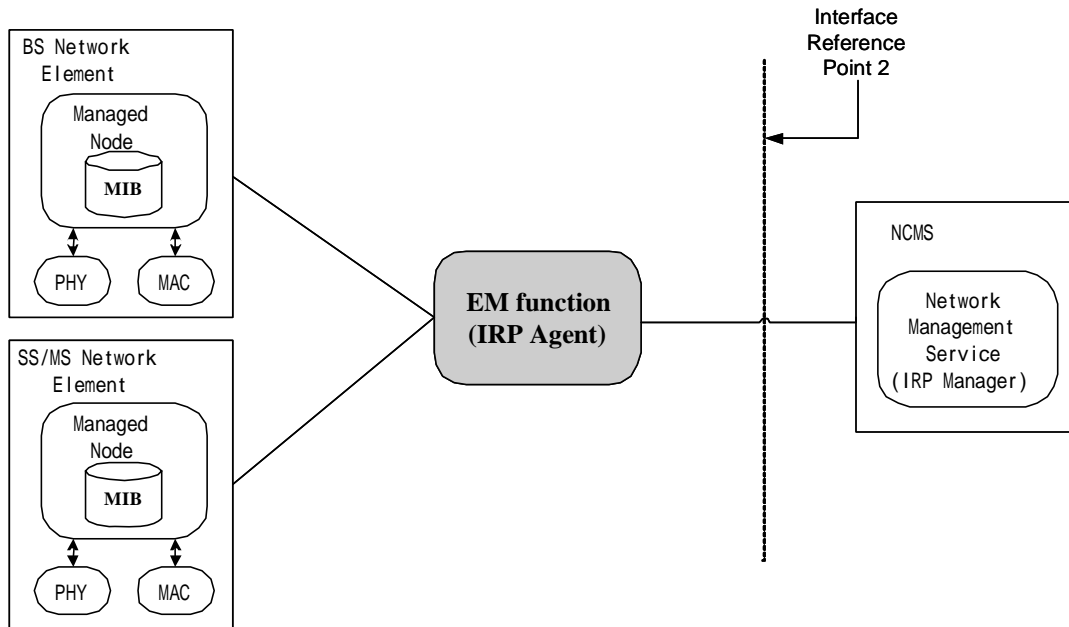
**Figure 1—Mobile BWA Network Management Reference Model**

Figure 2 and Figure 3 identify system contexts of the Management Interface "2" in terms of its implementation, called IRP Agent, and the user of the IRP Agent, called IRP Manager (for a definition of IRP Manager and IRP Agent see [2]). An NE can be managed either

- Via System Context A (element management function and IRP Agent are 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 IRP Agent shall support one of the two System Contexts.



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

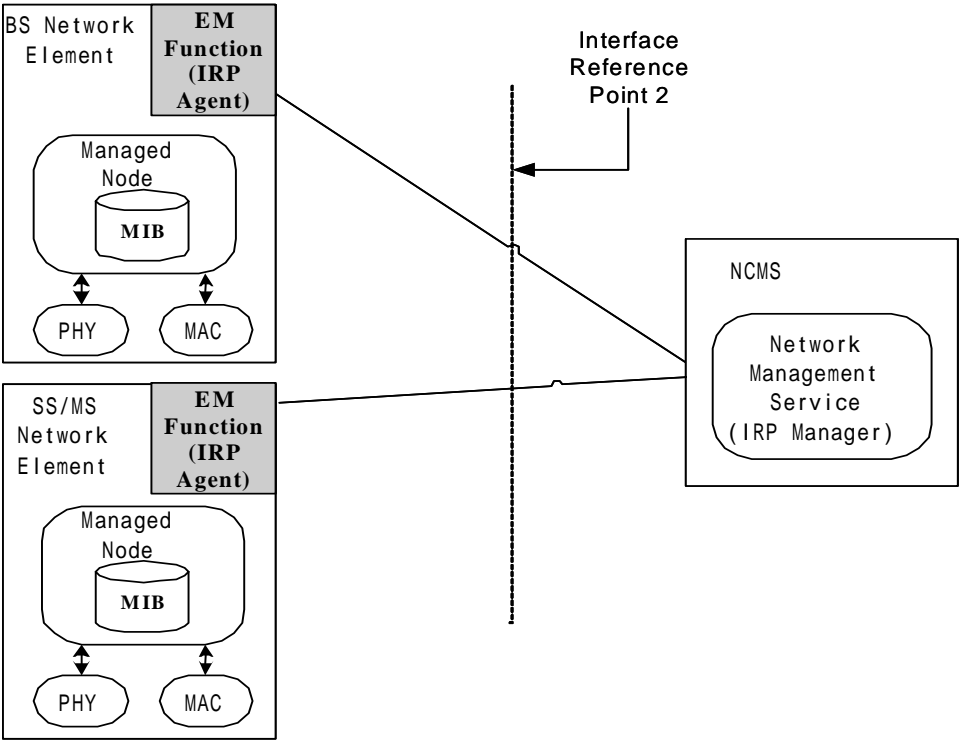


Figure 3—Mobile BWA Network Management Architecture - Context B



## 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 3 of 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"; V6.1.0 (Release 6) [http://www.3gpp.org/ftp/specs/archive/32\\_series](http://www.3gpp.org/ftp/specs/archive/32_series)

3GPP TS 32.150, "Integration Reference Point (IRP) Concept and Definitions", V6.4.0 (Release 6) [http://www.3gpp.org/ftp/specs/archive/32\\_series](http://www.3gpp.org/ftp/specs/archive/32_series)

3GPP TS 32.151, "Integration Reference Point (IRP) Information Service (IS) Template", V6.1.1 (Release 6) [http://www.3gpp.org/ftp/specs/archive/32\\_series](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", V6.3.0 (Release 6) [http://www.3gpp.org/ftp/specs/archive/32\\_series](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)"; V6.5.0 (Release 6) [http://www.3gpp.org/ftp/specs/archive/32\\_series](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](http://www.3gpp2.org/Public_html/specs/index.cfm)

#### 4. Abbreviations and Acronyms

*[Insert a new definition in this sunclause]*

RDN Relative Distinguished Name

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## 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:

- IEEE 802.16-2004, OFDM 256
- 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 RFC286

**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 4 shows a procedure describing how MS can determine the FFT size of a BS during DL synchronization.

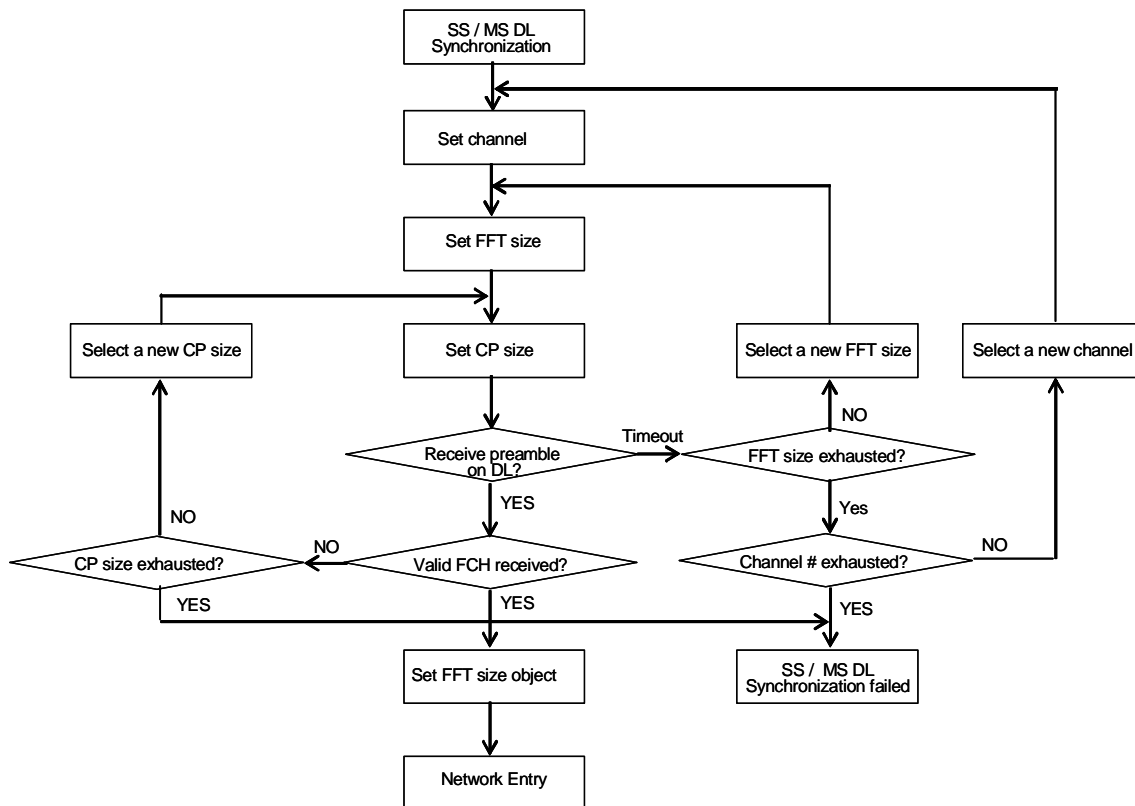
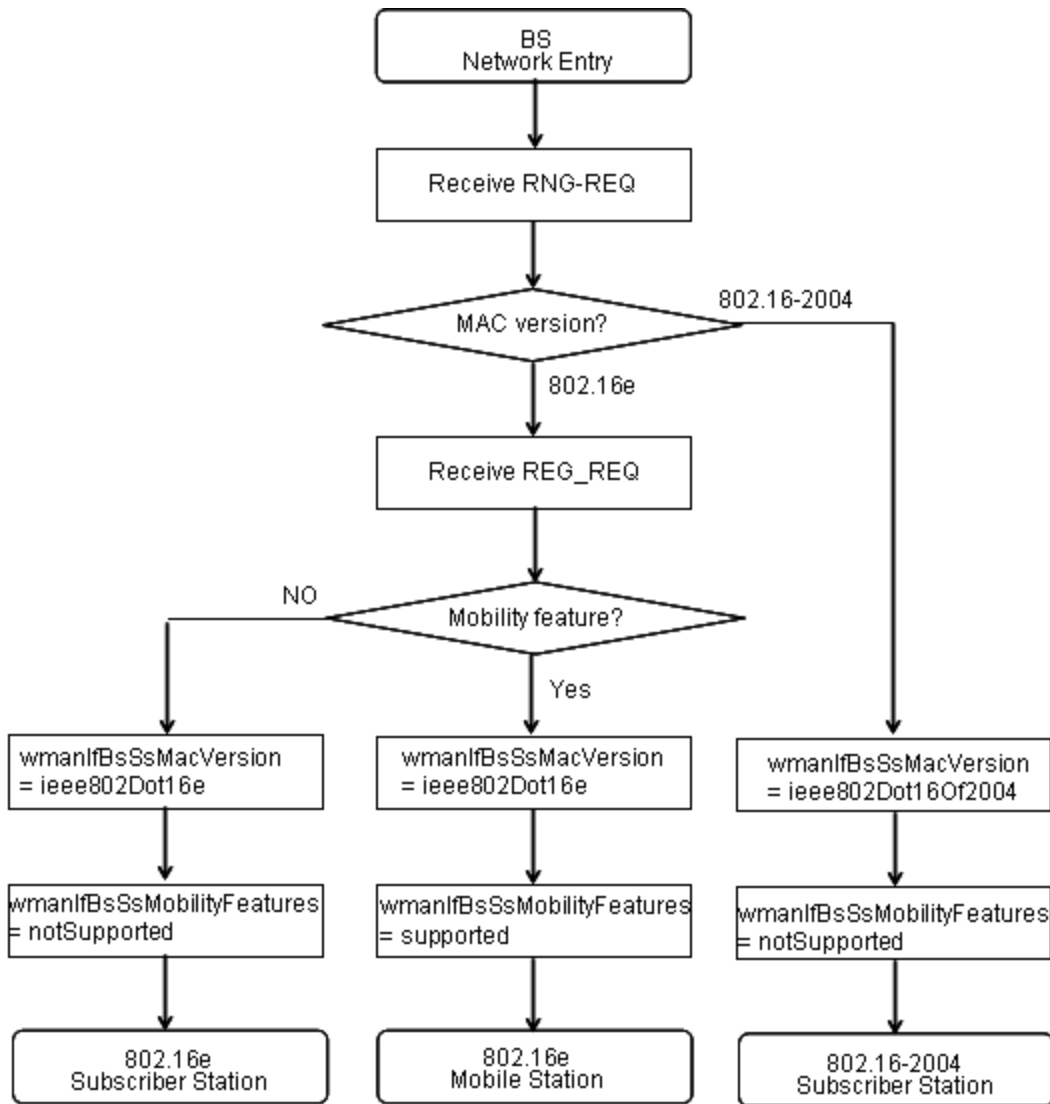


Figure 4—SS / MS DL Synchronization

7. Set the Rx channel (Select a frequency for receiving DL channel)
8. Set the FFT size
9. Set the CP size
10. If a preamble is received successfully, then go to step 5; otherwise,
  - a) If FFT size is not exhausted, then select a new FFT size, and go to step 2; otherwise,
    - 1) If channel to be scanned is exhausted, then declare SS / MS DL synchronization failed; otherwise, select a new channel, and go step 1
11. Set the CP size
12. If a FCH (Frame Control Header) is received successfully, then go to network entry; otherwise,
  - a) If CP size is not exhausted, then select a new CP size, and go to step 3; otherwise, declare SS / MS DL synchronization failed
  - a) b) Set FFT size object

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



**Figure 5—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

- 1       a)   wmanIfBsSsMacVersion = ieee802Dot16e
- 2       b)   wmanIfBsSsMobilityFeatures = Not Supported
- 3
- 4   5.   Continue network entry procedure
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*[Insert a new subclause 15]*

## 15. IRP Definitions

For the purpose of Management Interface development an Interface Methodology known as Integration Reference Point (IRP) was developed to promote the wider adoption of standardized Management interfaces in telecommunication networks. The IRP methodology employs Protocol & Technology Neutral modeling methods as well as protocol specific solution sets to help achieve its goals. The Integration Reference Point is a methodology to aid a modular approach to the development of standards interfaces.

There are three cornerstones to the IRP approach:

### 1. Top-down, process-driven modeling approach

The process begins with a requirements phase, the aim at this step is to provide conceptual and use case definitions for a specific interface aspect as well as defining subsequent requirements for this IRP.

### 2. Technology-independent modeling

The second phase of the process is the development of a protocol independent model of the interface. This protocol independent model is specified in the IRP Information Service.

### 3. Standards-based technology-dependent modeling

The third phase of the process is to create one or more interface technology and protocol dependent models from the Information Service model. This is specified in the IRP Solution Set(s).

This document encompasses 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 [03] as well as the UML Repertoire defined in [04] - refer to these specifications for details on how to interpret the information defined below.

## 15.1.1 Information Service Models

### 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 [05], information object class, ManagedElement	ManagedElement
3GPP TS 32.622 [05], information object class, ManagedFunction	ManagedFunction
3GPP TS 32.622 [05], information object class, SubNetwork	SubNetwork
3GPP TS 32.622 [05], information object class, Top	Top
3GPP2 S.S0028-002-C-[06], 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

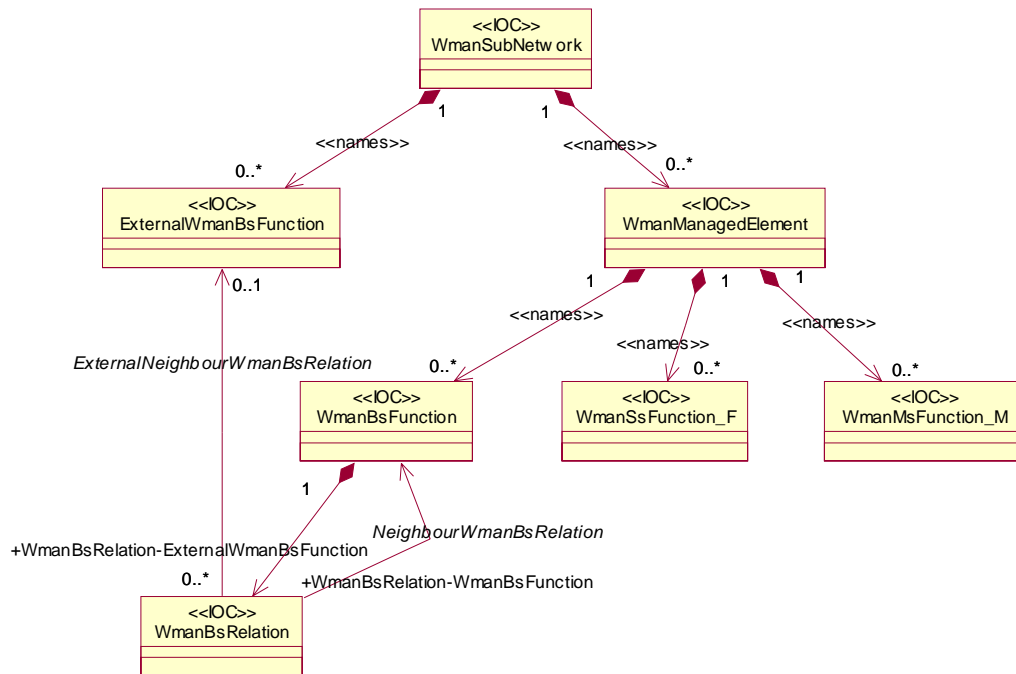


Figure 6—WmanSubNetwork Containment/Naming and Association Diagram

### 15.1.1.2.1.2 Bs Object Relationships

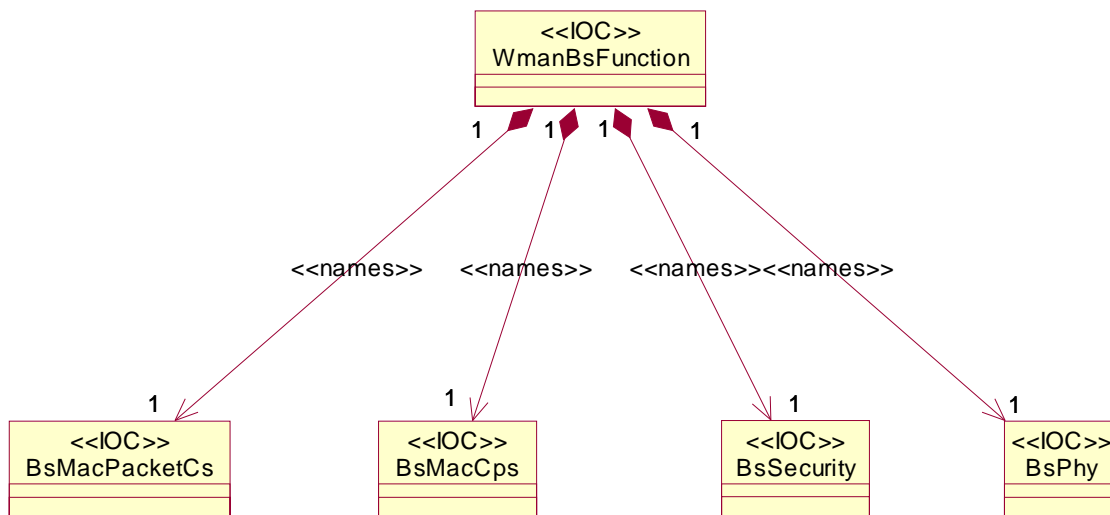


Figure 7—WmanBsFunction Containment/Naming and Association Diagram

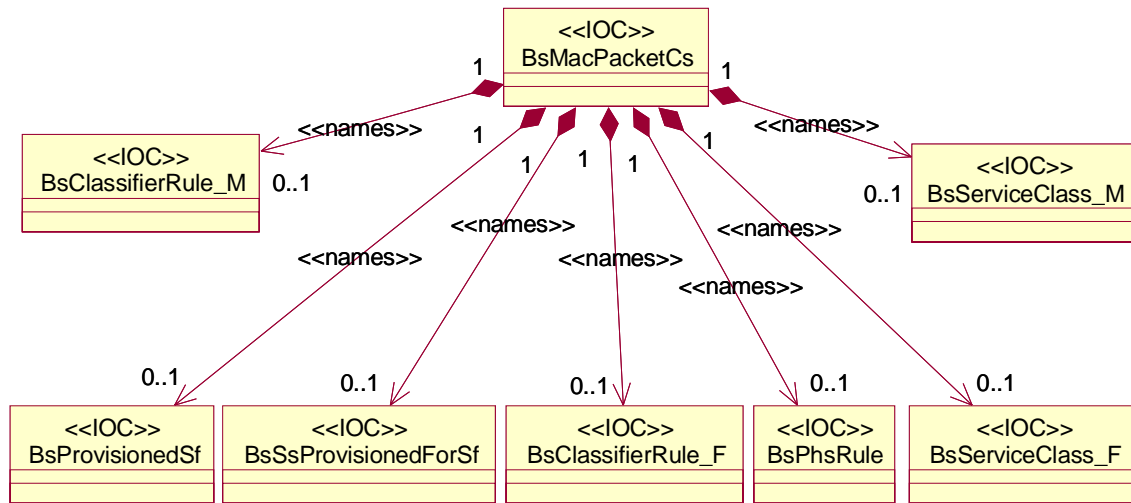


Figure 8—BsMacPacketCs Containment/Naming and Association Diagram

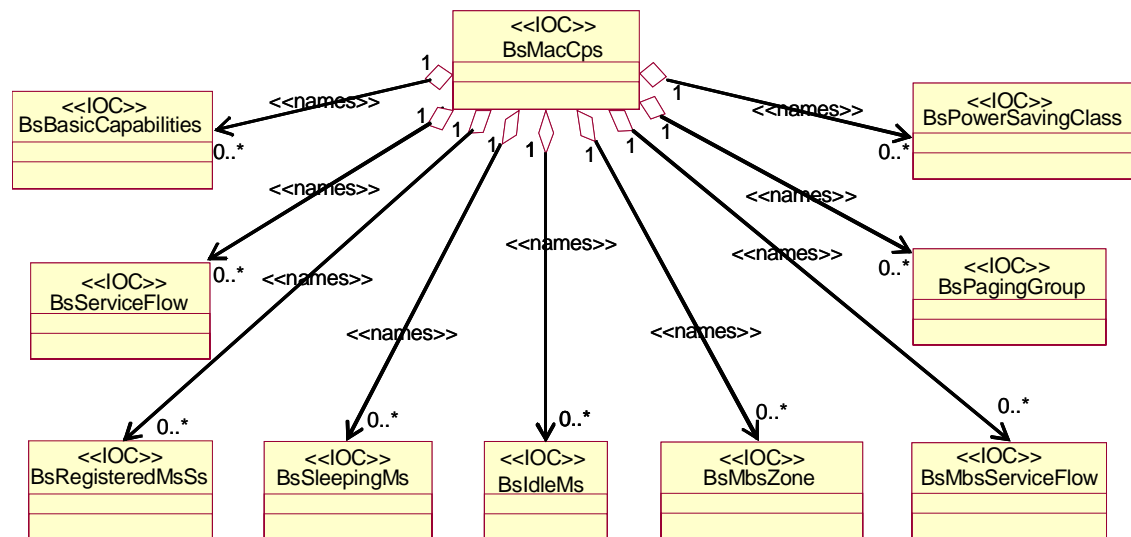


Figure 9—BsMacCps Containment/Naming and Association Diagram

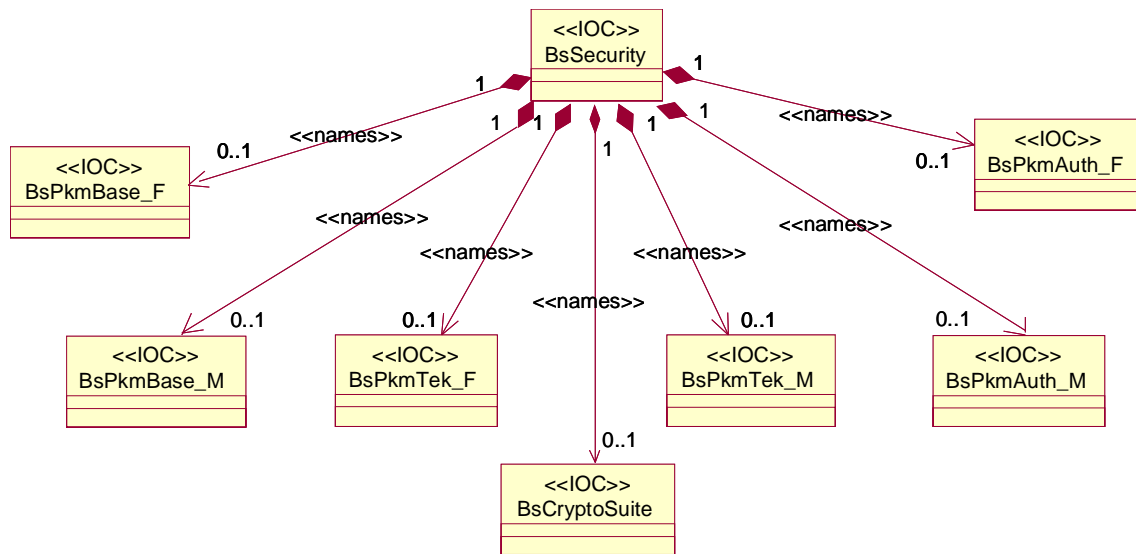


Figure 10—BsSecurity Containment/Naming and Association Diagram

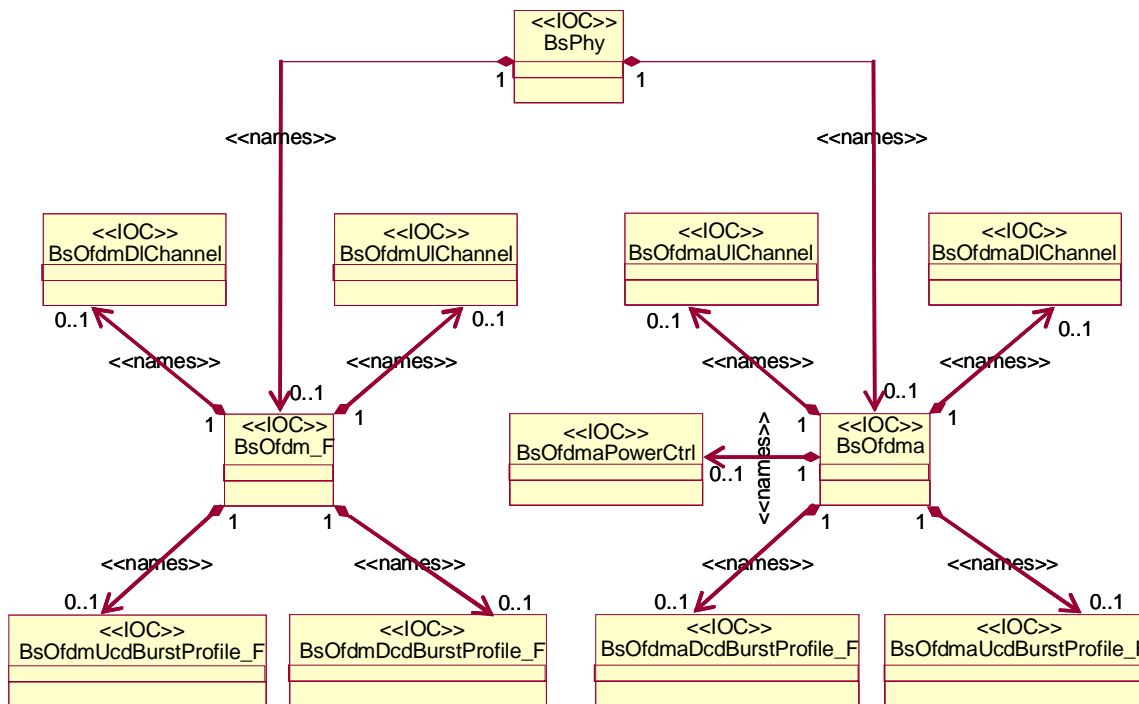


Figure 11—BsPhy Containment/Naming and Association Diagram

#### 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

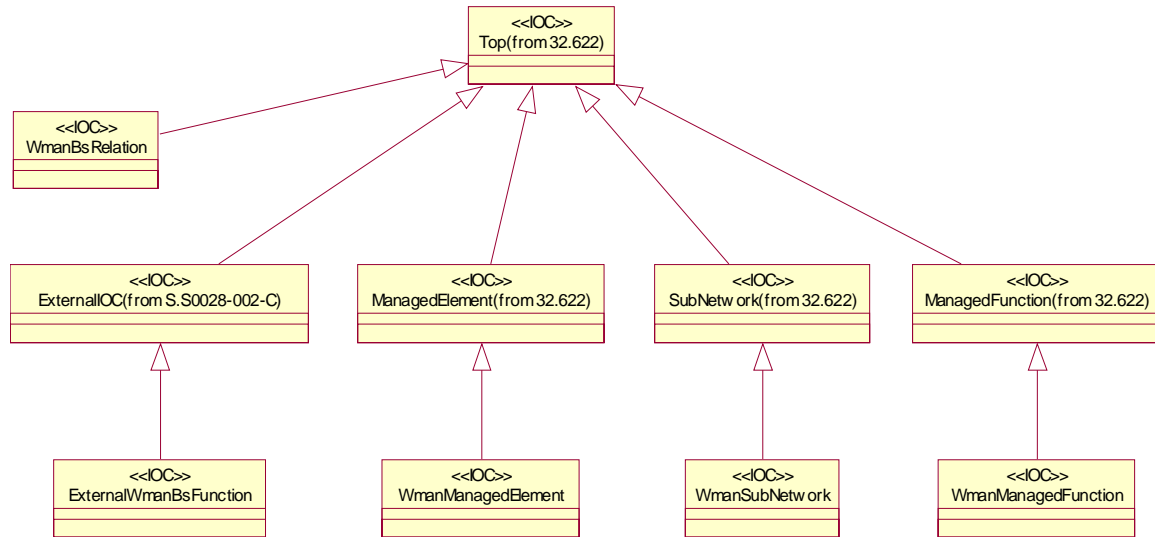


Figure 12—Top Inheritance Hierarchy Diagram

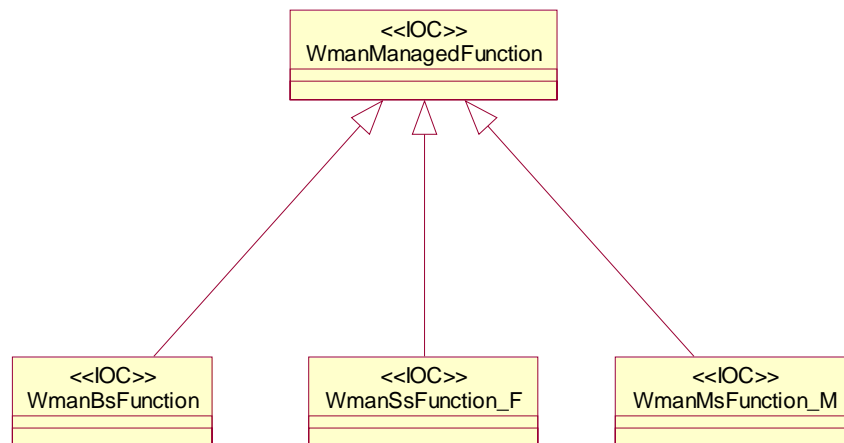


Figure 13—WmanManagedFunction Inheritance Hierarchy Diagram

### 15.1.1.2.2.2 Bs Object Inheritance

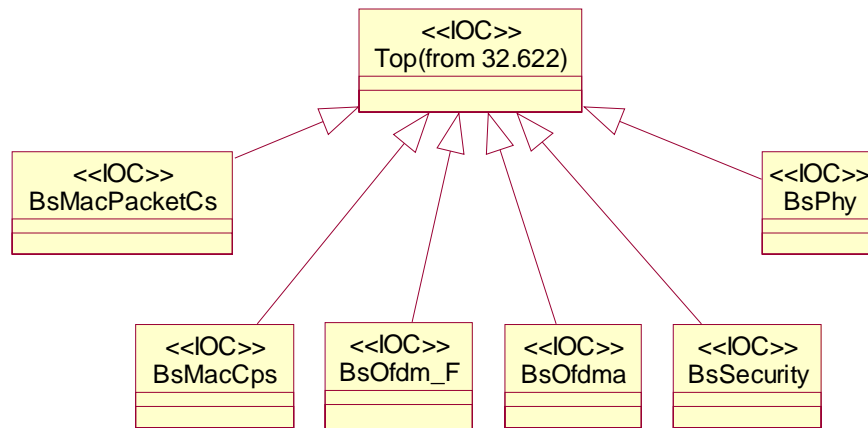


Figure 14—Bs Inheritance Hierarchy Diagram

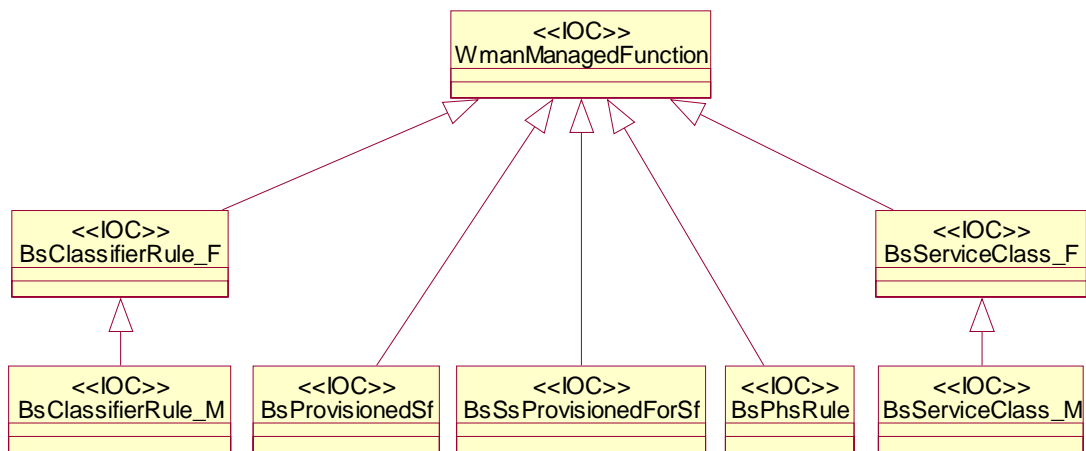
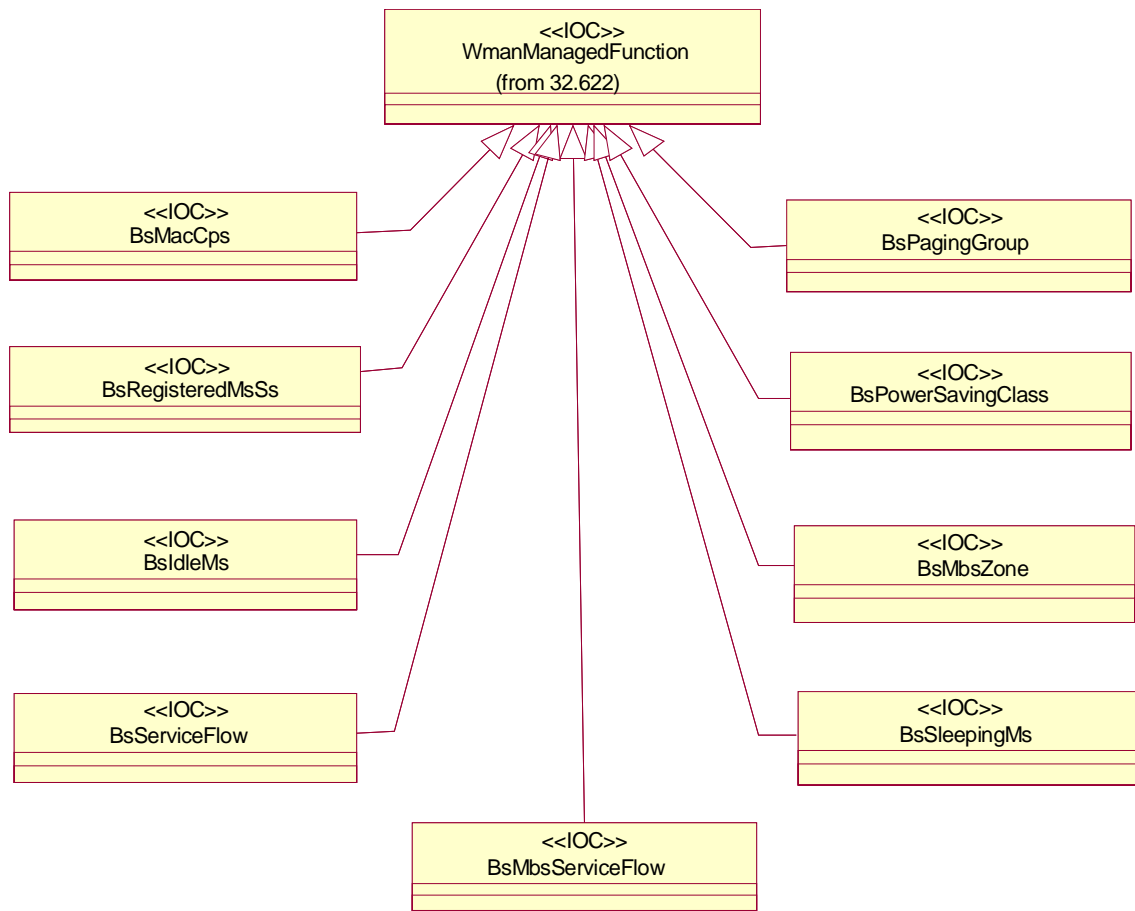


Figure 15—Bs PacketCs Inheritance Hierarchy Diagram



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



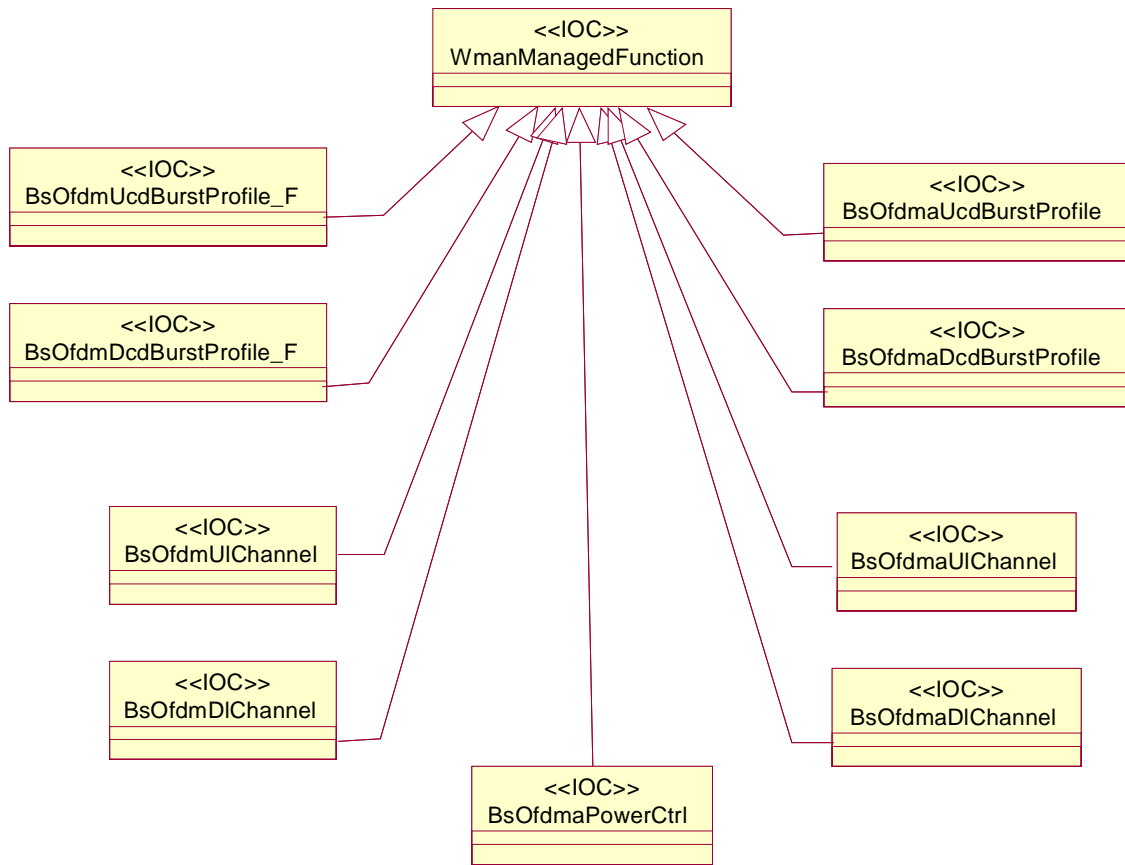


Figure 17—Bs Phy Inheritance Hierarchy Diagram

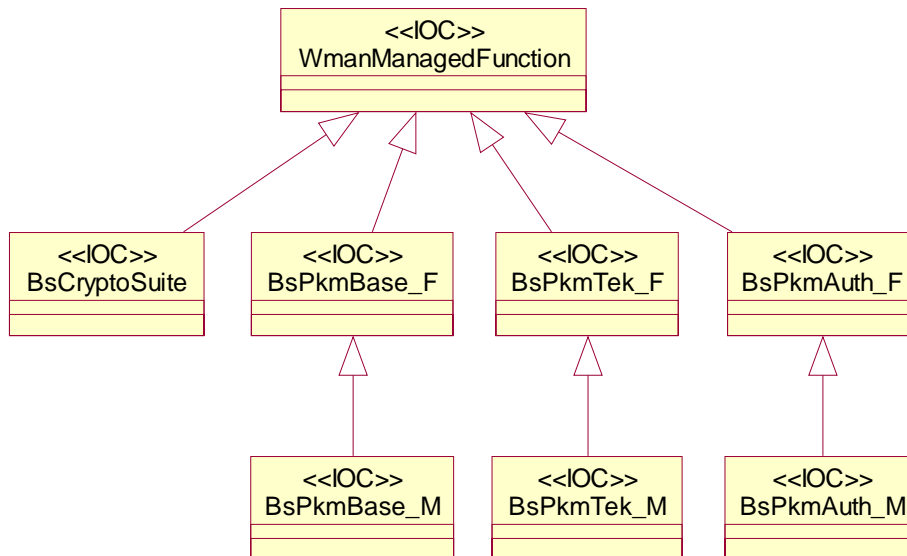


Figure 18—Bs Security Inheritance Hierarchy Diagram

### 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
HOPProcessOptimization	+	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
HOPprocessOptimization	+	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
wmanIfBsPkmDefaultSelfSig-ManufCertTrust	-	+	M	M	M
wmanIfBsPkmCheckCertValidity-Periods	-	+	M	M	M
wmanIfBsPMKDefaultPreHandshakeLifetime	-	+	M	M	M
wmanIfBsPMKDefaultLifetime	-	+	M	M	M
wmanIfBsDefaultSACChallengeTimer	-	+	M	M	M
wmanIfBsDefaultSaChallenge-MaxResends	-	+	M	M	M
wmanIfBsDefaultSATEKTimer	-	+	M	M	M
wmanIfBsDefaultSATEKRequest-MaxResends	-	+	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
BsOfdmNumSubChReqRegion-Full	-	+	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_Fld	-	+	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))
SystemResourceRetain-Time	The Resource_Retain_Time is the duration for MS's connection information that will be retained in serving BS. BS shall start Resource_Retain_Time timer at MS notification of pending HO attempt through MOB_HO-IND or by detecting an MS drop. The unit of this value is 100 milliseconds.	
HOOptimizationMSTimer	the duration in frames MS shall wait until receipt of the next unsolicited network re-entry MAC management message as indicated in the HO Process Optimization element of the RNG-RSP message.	

**Table 20—Information attributes definition**

Attribute Name	Definition	Legal Values
MSHOREtransmission-Timer	After a MS transmits MOB_MSHO-REQ to initiate a handover process, it shall start MS Handover Retransmission Timer and shall not transmit another MOB_MSHO-REQ until the expiration of the MS Handover Retransmission Timer.	
MobilitySupportedIndication	The Mobility features supported field indicates whether or not the MS supports mobility modes.	Type: Enumerated value 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 unavailable.	
REQDuration	Waiting value for the DREG-REQ message re-transmission(measured in frames)	
MACHashSkipThreshold	Maximum number of successive MOB_PAG-ADV messages that may be sent from a BS without individual notification for an MS for which BS is allowed to skip MS MAC address Hash when the Action Code for the MS is 0b00,'No Action Required'.	
BsCDMATransmissionOpportunityAssignment	The CDMA code and transmission opportunity assignment field indicates the assigned code and transmission opportunity for a MS who is paged to use over dedicated CDMA ranging region	
PagingResponseWindow	The Page-Response Window indicates the Page-Response window for a MS who is paged to transmit the assigned code for CDMA ranging channel.	
IdleModeTimer	MS timed interval to conduct Location Update. Set timer to MS Idle Mode Timeout capabilities setting. Timer recycles on successful Idle Mode Location Update.	Range: (128..65536)
IdleModeSystemTimer	For BS acting as Paging Controller, timed interval to receive notification of MS Idle Mode Location Update. Set timer to MS Idle Mode Timeout. Timer recycles on successful Idle Mode Location Update.	Range: (128..65536)
PagingIntervalLength	time duration of Paging Interval of the BS	Range: (2..5)
PagingCycle	Cycle in which the paging message is transmitted within the paging group.	

**Table 20—Information attributes definition**

Attribute Name	Definition	Legal Values
powerCtrlId	An attribute whose "name+value" can be used as an RDN when naming an instance of the object class. This RDN uniquely identifies the object instance within the scope of its containing (parent) object instance.	
msUpPwrAdjStep	MS-specific up power offset adjustment step	
msDownPwrAdjStep	MS-specific down power offset adjustment step	
minPwrAdjLever	Minimum level of power offset adjustment	
maxPwrAdjLever	Maximum level of power offset adjustment	
txPwrRepThreshold	Tx Power Report Threshold	
txPwrRepInterval	Tx Power Report Interval	
alphaPAvg	Alpha of p_avg	
txPwrRepThresholdCQI	Tx Power Report Threshold,CQICH is allocated to the SS	
txPwrRepIntervalCQI	Tx Power Report Interval,CQICH is allocated to the SS	
alphaPAvgCQI	Alpha of p_avg,CQICH is allocated to the SS	
securityManagementId	It contains 'name+value' that is the RDN, when naming an instance, of this object class containing this attribute. This RDN uniquely identifies the object instance within the scope of its containing (parent) object instance.	
wmanIfBsPkmBaseId	It contains 'name+value' that is the RDN, when naming an instance, of this object class containing this attribute. This RDN uniquely identifies the object instance within the scope of its containing (parent) object instance.	
wmanIfBsPkmTekId	It contains 'name+value' that is the RDN, when naming an instance, of this object class containing this attribute. This RDN uniquely identifies the object instance within the scope of its containing (parent) object instance.	
wmanIfBsMsPkmAuthID	It contains 'name+value' that is the RDN, when naming an instance, of this object class containing this attribute. This RDN uniquely identifies the object instance within the scope of its containing (parent) object instance.	
wmanIfBsPkmDefaultAuthLifetime	The value of this object is the default lifetime, in seconds, the BS assigns to a new authorization key.	
wmanIfBsPkmDefaultTekLifetime	The value of this object is the default lifetime, in seconds, the BS assigns to a new Traffic Encryption Key(TEK).	
wmanIfBsPkmDefaultSelfSigManufCertTrust	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)	
wmanIfBsDefaultSACHallengeTimer	Time prior to re-send of SA-TEK-Challenge (in seconds)	
wmanIfBsDefaultSaChallengeMaxResends	Maximum number of transmissions of SATEK-Challenge	
wmanIfBsDefaultSATEK-Timer	Time prior to re-send of SA-TEK-Request (in seconds)	
wmanIfBsDefault-SATEKRequestMaxResends	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)
wmanIfBsPkmTekDataEncryptAlg	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 algorithm being utilized.	No Data Authentication(0)
wmanIfBsPkmTekEncryptAlg	The value of this object is the TEK key encryption algorithm being utilized.	3-DES EDE with 128-bit key(1) RSA with 1024-bit key(2) AES with 128-bit key(3)
wmanIfBsPkmTekLifetime	The value of this object is the lifetime, in seconds, the BS assigns to keys for this TEK association.	
wmanIfBsPkmTekKeySequenceNumber	The value of this object is the most recent TEK key sequence number for this SAID.	
wmanIfBsPkmTekExpireOld	The value of this object is the actual clock time for expiration of the immediate predecessor of the most recent TEK for this FSM. If this FSM has only one TEK, then the value is the time of activation of this FSM.	
wmanIfBsPkmTekExpiresNew	The value of this object is the actual clock time for expiration of the most recent TEK for this FSM.	

**Table 20—Information attributes definition**

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

**Table 20—Information attributes definition**

Attribute Name	Definition	Legal Values
wmanIfBsSsPkmAuthValidStatus	Contains the reason why a SS's certificate is deemed valid or invalid. Return unknown if the SS is running PKM mode. ValidSsChained means the certificate is valid because it chains to a valid certificate. ValidSsTrusted means the certificate is valid because it has been provisioned to be trusted. InvalidSsUntrusted means the certificate is invalid because it has been provisioned to be untrusted. InvalidCAUntrusted means the certificate is invalid because it chains to an untrusted certificate. InvalidSsOther and InvalidCAOther refer to errors in parsing, validity periods, etc, which are attributable to the SS certificate or its chain respectively.	unknown (0), 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	
wmanIfBsKeyPush-Counter	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 maximum 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 subchanneled allocation.	Default value 0. Allowed values 0-8.
BsOfdmBsEIRP	The EIRP is the equivalent isotropic radiated power of the base station, which is computed for a simple single-antenna transmitter.	
BsOfdmChannelNumber	Downlink channel number as defined in 8.5. Used for license-exempt operation only.	
BsOfdmTTG	Transmit / Receive Transition Gap.	
BsOfdmRTG	Receive / Transmit Transition Gap.	
BsOfdmInitRngMaxRSS	Initial Ranging Max. Received Signal Strength at BS Signed in units of 1 dBm.	
BsOfdmDownlinkCenterFreq	Downlink center frequency (kHz).	
BsOfdmBsId	Base station ID.	
BsOfdmMacVersion	This parameter specifies the version of 802.16 to which the message originator conforms.	
BsOfdmFrameDurationCode	The duration of the frame. The frame duration code values are specified in Table 230.	
BsOfdmUiucIndex	The Uplink Interval Usage Code indicates the uplink burst profile in the UCD message, and is used along with ifIndex to identify an entry in the wmanIfBsOfdmUcdBurstProfileTable.	
BsOfdmUcdFecCodeType	Uplink FEC code type and modulation type	



**Table 20—Information attributes definition**

Attribute Name	Definition	Legal Values
BsOfdmFocusCtPowerBoost	The power boost in dB of focused contention carriers	
BsOfdmUcdTcsEnable	This parameter determines the transmission convergence sublayer, as described in 8.1.4.3, can be enabled on a per-burst basis for both uplink and downlink. Through DIUC/UIUC messages.	tcsDisabled(0), 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_Fld	It contains 'name+value' that is the RDN, when naming an instance, of this object class containing this attribute. This RDN uniquely identifies the object instance within the scope of its containing (parent) object instance.	
BsClassifierRulePriority	The value specifies the priority for the Classifier, which is used for determining the order of the Classifier. A higher value indicates higher priority. Classifiers may have priorities in the range 0..255.	0..255
BsClassifierRuleIpTosLow	The low value of a range of TOS byte values. If the referenced parameter is not present in a classifier, this object reports the value of 0.	
BsClassifierRuleIpTosHigh	The 8-bit high value of a range of TOS byte values. If the referenced parameter is not present in a classifier, this object reports the value of 0.	
BsClassifierRuleIpTosMask	The value of this object specifies the matching parameter for the IP type of service/DSCP [IETF RFC 2474] byte mask. An IP packet with IP type of service (ToS) byte value ip-tos matches this parameter if tos-low less than or equal (ip-tos AND tos-mask) less than or equal tos-high.	
BsClassifierRuleIpProtocol	This object indicates the value of the IP Protocol field required for IP packets to match this rule. If the referenced parameter is not present in a classifier, this object reports the value of 0.	

**Table 20—Information attributes definition**

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

**Table 20—Information attributes definition**

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

**Table 20—Information attributes definition**

Attribute Name	Definition	Legal Values
BsClassifierRuleUserPriLow	This object applies only to Ethernet frames using the 802.1P/Q tag header (indicated with EtherType 0x8100). Such frames include a 16-bit Tag that contains a 3 bit Priority field and a 12 bit VLAN number. Tagged Ethernet packets must have a 3-bit Priority field within the range of BsClassifierRuleUserPriLow and BsClassifierRuleUserPriHigh in order to match this rule. If the referenced parameter is not present in the classifier, the value of this object is reported as 0.	
BsClassifierRuleUserPriHigh	This object applies only to Ethernet frames using the 802.1P/Q tag header (indicated with EtherType 0x8100). Such frames include a 16-bit Tag that contains a 3 bit Priority field and a 12 bit VLAN number. Tagged Ethernet packets must have a 3-bit Priority field within the range of BsClassifierRuleUserPriLow and BsClassifierRuleUserPriHigh in order to match this rule. If the referenced parameter is not present in the classifier, the value of this object is reported as 7.	
BsClassifierRuleVlanId	This object applies only to Ethernet frames using the 802.1P/Q tag header. If this object's value is nonzero, tagged packets must have a VLAN Identifier that matches the value in order to match the rule. Only the least significant 12 bits of this object's value are valid. If the referenced parameter is not present in the classifier, the value of this object is reported as 0.	
BsClassifierRuleState	This object indicates whether or not the classifier is enabled to classify packets to a Service Flow. If the referenced parameter is not present in the classifier, the value of this object is reported as active(1).	active(1), 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 phs-Mask in BsClassifierRuleBitMap is set to 0 and flag phs-Size 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).	

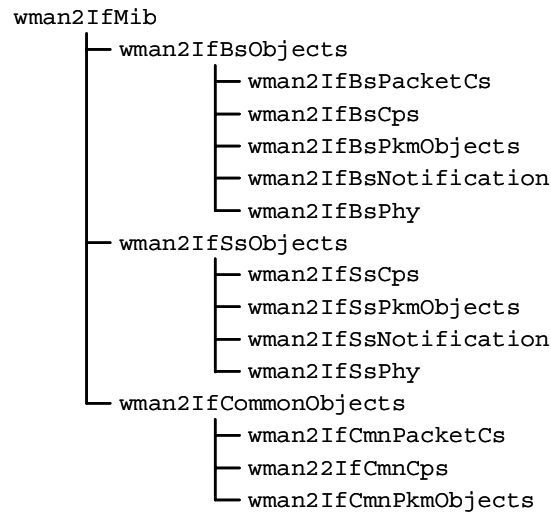
**Table 20—Information attributes definition**

Attribute Name	Definition	Legal Values
BsClassifierRulePhsMask	This object is used to configure the PHS rule for this classifier. 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 (BsClassifierRulePhs-Size/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.

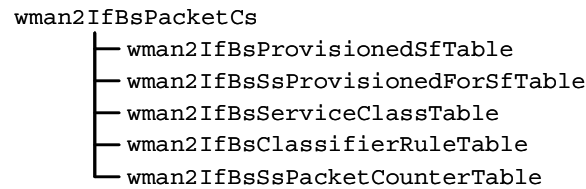


**Figure 19—wman2IfMib structure**

#### 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.



**Figure 20—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 associated 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.

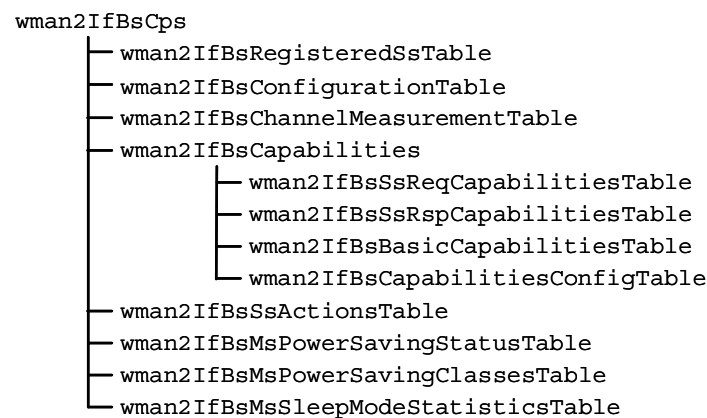


Figure 21—wman2IfBsCps structure

#### 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.

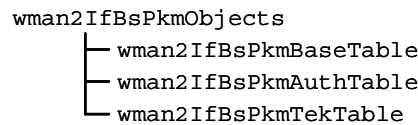
##### 15.2.1.1.2.8 wmanIfBsMsSleepModeStatisticsTable

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.





**Figure 22—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

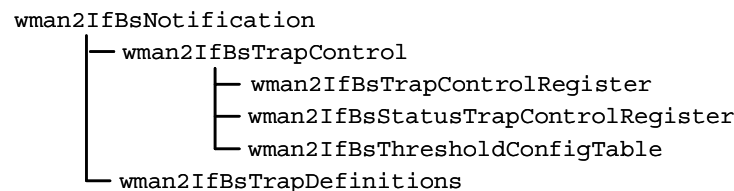
wman2IfBsSsPkmAuthTable contains runtime subscriber station authentication and authorization parameters for each base station.

#### 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.



**Figure 23—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.

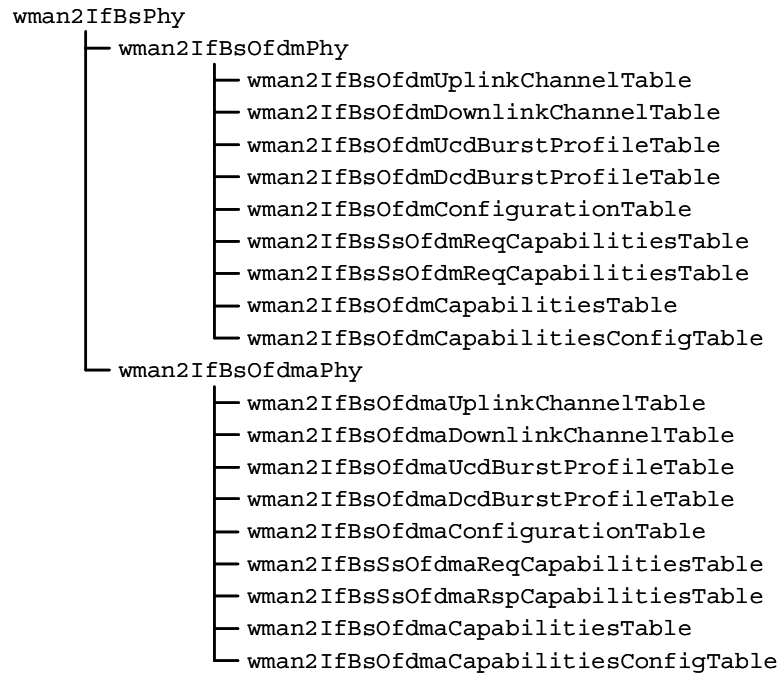


Figure 24—wman2IfBsPhy structure

##### 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.

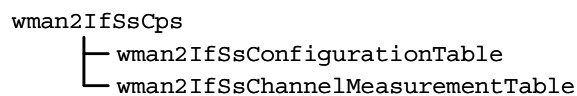
#### 15.2.1.1.5.2.9 wman2IfBsOfdmaCapabilitiesConfigTable

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.



**Figure 25—wman2IfSsCps structure**

#### 15.2.1.2.1.1 wman2IfSsConfigurationTable

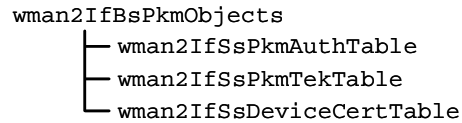
wman2IfSsConfigurationTable contains objects for SS system parameters and constants as defined in sub-clause 10.1 of IEEE 802.16-2004 standard.

#### 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.



**Figure 26—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

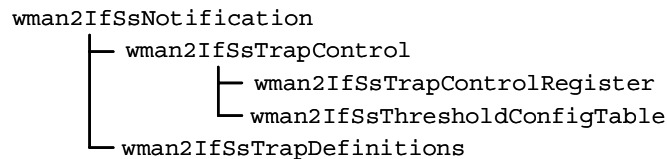
wman2IfSsPkmTekTable contains subscriber station runtime parameters for each active security association.

#### 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.



**Figure 27—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

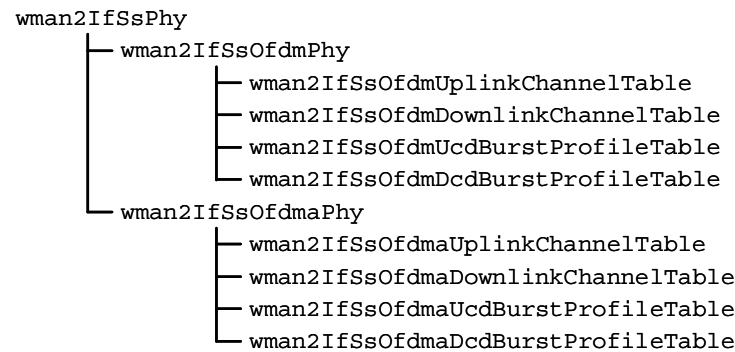
wman2IfSsThresholdConfigTable contains threshold objects that can be set to detect the threshold crossing events.

##### 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.



**Figure 28—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.

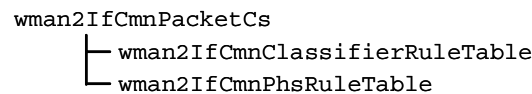
#### 15.2.1.2.4.2.4 wman2IfSsOfdmaDcdBurstProfileTable

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.



**Figure 29—wman2IfCmnPacketCs structure**

#### 15.2.1.3.1.1 wman2IfCmnClassifierRuleTable

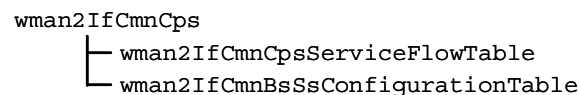
wman2IfCmnClassifierRuleTable contains runtime classifier rules screening criteria for each service flow.

#### 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.



**Figure 30—wman2IfCmnCps structure**

#### 15.2.1.3.2.1 wman2IfCmnCpsServiceFlowTable

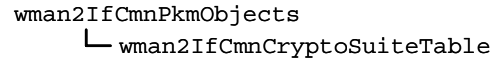
wman2IfCmnCpsServiceFlowTable contains Service Flow managed objects that are common in BS and SS.

#### 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.



**Figure 31—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

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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 "200605230000Z"

DESCRIPTION

"The first revision of WMAN2-IF-MIB module that is

```

1      enhanced to support IEEE 802.16e-2005 standard."
2      ::= { transmission 184 }
3
4
5      wman2IfMibObjects OBJECT IDENTIFIER ::= { wman2IfMib 1 }
6      wman2IfBsObjects OBJECT IDENTIFIER ::= { wman2IfMibObjects 1 }
7      wman2IfSsObjects OBJECT IDENTIFIER ::= { wman2IfMibObjects 2 }
8      wman2IfCommonObjects OBJECT IDENTIFIER ::= { wman2IfMibObjects 3 }
9
10
11  -- Textual Conventions
12  Wman2IfSfSchedulingType ::= TEXTUAL-CONVENTION
13      STATUS          current
14      DESCRIPTION
15          "The scheduling service provided by a SC for an
16          upstream service flow. If the parameter is omitted
17          from an upstream QOS Parameter Set, this object takes
18          the value of bestEffort (2). This parameter must be
19          reported as undefined (1) for downstream QOS Parameter
20          Sets."
21
22      SYNTAX          INTEGER {undefined(1),
23                      bestEffort(2),
24                      nonRealTimePollingService(3),
25                      realTimePollingService(4),
26                      reserved(5),
27                      unsolicitedGrantService(6)}
28
29
30
31  Wman2IfPhsRuleVerify ::= TEXTUAL-CONVENTION
32      STATUS          current
33      DESCRIPTION
34          "The value of this field indicates to the sending entity
35          whether or not the packet header contents are to be
36          verified prior to performing suppression. If PHSV is
37          enabled, the sender shall compare the bytes in the packet
38          header with the bytes in the PHSF that are to be
39          suppressed as indicated by the PHSM."
40
41      REFERENCE
42          "Subclause 11.13.19.3.7.5 in IEEE Std 802.16-2004"
43
44      SYNTAX          INTEGER {phsVerifyEnable(0),
45                              phsVerifyDisable(1)}
46
47
48  Wman2IfClassifierBitMap ::= TEXTUAL-CONVENTION
49      STATUS          current
50      DESCRIPTION
51          "A bit of of this object is set to 1 if the parameter
52          indicated by the comment was present in the classifier
53          encoding, and 0 otherwise.
54          Note: that BITS are encoded most significant bit first,
55          so that if e.g. bits 6 and 7 are set, this object is
56          encoded as the octet string '030000'H."
57
58      REFERENCE
59          "Subclause 11.13.19.3.4 in IEEE Std 802.16-2004"
60
61      SYNTAX          BITS {priority(0),
62                          ipTos(1),
63                          ipProtocol(2),
64                          ipMaskedSrcAddr(3),
65

```

```

1          ipMaskedDestAddr(4),
2          srcPort(5),
3          destPort(6),
4          destMacAddr(7),
5          srcMacAddr(8),
6          ethernetProtocol(9),
7          userPriority(10),
8          vlanId(11),
9          ipv6FlowLabel(12)}
10
11
12
13 Wman2IfSfState ::= TEXTUAL-CONVENTION
14     STATUS      current
15     DESCRIPTION
16         "Wman2IfSfState defines the state of a service flow."
17     SYNTAX      INTEGER {authorized(1),
18                     admitted(2),
19                     active(3)}
20
21
22
23 Wman2IfServClassName ::= TEXTUAL-CONVENTION
24     STATUS      current
25     DESCRIPTION
26         "Wman2IfServClassName defines the type of service
27         class name."
28     SYNTAX      OCTET STRING (SIZE(2..128))
29
30
31 Wman2IfCsSpecification ::= TEXTUAL-CONVENTION
32     STATUS      current
33     DESCRIPTION
34         "Wman2IfCsSpecification defines the types of convergence
35         sublayer."
36     REFERENCE
37         "Subclause 11.13.19.1 in IEEE Std 802.16e-2005"
38     SYNTAX      INTEGER {reserved(0),
39                     packetIPv4(1),
40                     packetIPv6(2),
41                     packet802dot3Ethernet(3),
42                     packet802dot1QVlan(4),
43                     packetIPv4Over802dot3(5),
44                     packetIPv6Over802dot3(6),
45                     packetIPv4Over802dot1Q(7),
46                     packetIPv6Over802dot1Q(8),
47                     atm(9),
48                     packet802dot3EthernetRohcHc(10),
49                     packet802dot3EthernetEcrtpHc(11),
50                     packetIp2RohcHc(12),
51                     packetIp2EcrtpHc(13)}
52
53
54
55
56
57 Wman2IfMacVersion ::= TEXTUAL-CONVENTION
58     STATUS      current
59     DESCRIPTION
60         "Version number of IEEE 802.16."
61     SYNTAX      INTEGER {ieee802Dot16Of2001(1),
62                     ieee802Dot16cOf2002(2),
63                     ieee802Dot16aOf2003(3),
64
65

```

```

1             ieee802Dot16Of2004(4),
2             ieee802Dot16e(5),
3             tbd(6) }
4
5
6 Wman2IfCidType ::= TEXTUAL-CONVENTION
7     STATUS      current
8     DESCRIPTION
9         "Type of CID."
10    SYNTAX      INTEGER (0 .. 65535)
11
12
13 Wman2IfDataEncryptAlgId ::= TEXTUAL-CONVENTION
14     STATUS      current
15     DESCRIPTION
16         "Data encryption algorithm identifiers."
17     REFERENCE
18         "Table 375 in IEEE Std 802.16-2004"
19     SYNTAX      INTEGER {none(0),
20                     des56BitCbcMode(1),
21                     aesCcmMode(2) }
22
23
24
25 Wman2IfDataAuthAlgId ::= TEXTUAL-CONVENTION
26     STATUS      current
27     DESCRIPTION
28         "Data authentication algorithm identifiers."
29     REFERENCE
30         "Table 376 in IEEE Std 802.16-2004"
31     SYNTAX      INTEGER {noDataAuthentication(0),
32                     reserved(1) }
33
34
35
36 Wman2IfTekEncryptAlgId ::= TEXTUAL-CONVENTION
37     STATUS      current
38     DESCRIPTION
39         "TEK encryption algorithm identifiers."
40     REFERENCE
41         "Table 377 in IEEE Std 802.16-2004"
42     SYNTAX      INTEGER {tripleDes128BitKey(1),
43                     rsa1024BitKey(2),
44                     aes128BitKey(3) }
45
46
47
48 Wman2IfChannelNumber ::= TEXTUAL-CONVENTION
49     STATUS      current
50     DESCRIPTION
51         "Physical channel number"
52     SYNTAX      INTEGER (0 .. 199)
53
54
55
56 Wman2IfOfdmFecCodeType ::= TEXTUAL-CONVENTION
57     STATUS      current
58     DESCRIPTION
59         "FEC code type and modulation type"
60     REFERENCE
61         "Table 356 and Table 362 in IEEE Std 802.16-2004"
62     SYNTAX      INTEGER {bpskCc1Over2(0),
63                     qpskRsCcCc1Over2(1),
64                     qpskRsCcCc3Over4(2),
65

```

```

1          sixteenQamRsCcCc1Over2(3),
2          sixteenQamRsCcCc3Over4(4),
3          sixtyFourQamRsCcCc2Over3(5),
4          sixtyFourQamRsCcCc3Over4(6),
5          qpskBtc1Over2(7),
6          qpskBtc3Over4(8),
7          sixteenQamBtc3Over4(9),
8          sixteenQamBtc4Over5(10),
9          sixtyFourQamBtc2Over3(11),
10         sixtyFourQamBtc5Over6(12),
11         qpskCtc1Over2(13),
12         qpskCtc2Over3(14),
13         qpskCtc3Over4(15),
14         sixteenQamCtc1Over2(16),
15         sixteenQamCtc3Over4(17),
16         sixtyFourQamCtc2Over3(18),
17         sixtyFourQamCtc3Over4(19) }
18
19 Wman2IfOfdmaFecCodeType ::= TEXTUAL-CONVENTION
20     STATUS          current
21     DESCRIPTION
22         "FEC code type and modulation type"
23     REFERENCE
24         "Table 356 and Table 362 in IEEE Std 802.16-2004"
25     SYNTAX          INTEGER { qpskCc1Over2(0),
26                             qpskCc3Over4(1),
27                             sixteenQamCc1Over2(2),
28                             sixteenQamCc3Over4(3),
29                             sixtyFourQamCc2Over3(4),
30                             sixtyFourQamCc3Over4(5),
31                             qpskBtc1Over2(6),
32                             qpskBtc2Over3(7),
33                             sixteenQamBtc3Over5(8),
34                             sixteenQamBtc4Over5(9),
35                             sixtyFourQamBtc5Over8(10),
36                             sixtyFourQamBtc4Over5(11),
37                             qpskCtc1Over2(12),
38                             qpskCtc2Over3(13),
39                             qpskCtc3Over4(14),
40                             sixteenQamCtc1Over2(15),
41                             sixteenQamCtc3Over4(16),
42                             sixtyFourQamCtc2Over3(17),
43                             sixtyFourQamCtc3Over4(18),
44                             sixtyFourQamCtc5Over6(19),
45                             qpskZtCc1Over2(20),
46                             qpskZtCc3Over4(21),
47                             sixteenQamZtCc1Over2(22),
48                             sixteenQamZtCc3Over4(23),
49                             sixtyFourQamZtCc2Over3(24),
50                             sixtyFourQamZtCc3Over4(25) }
51
52 -- Textual convention for capabilities encodings
53 Wman2IfNumOfUplinkCid ::= TEXTUAL-CONVENTION
54     STATUS          current
55

```

```

1      DESCRIPTION
2          "The object of this type shows the number of Uplink CIDs
3          the SS can support."
4
5      REFERENCE
6          "Subclause 11.7.4 in IEEE Std 802.16-2004"
7      SYNTAX      INTEGER (2..65535)
8
9
10     Wman2IfArqSupportType ::= TEXTUAL-CONVENTION
11         STATUS      current
12         DESCRIPTION
13             "The object of this type indicates whether the SS support
14             ARQ."
15         REFERENCE
16             "Subclause 11.7.8.1 in IEEE Std 802.16-2004"
17         SYNTAX      INTEGER {arqNotSupported(0),
18                             arqSupported(1)}
19
20
21     Wman2IfMaxDsxFLOWType ::= TEXTUAL-CONVENTION
22         STATUS      current
23         DESCRIPTION
24             "The object of this type specifies the maximum number of
25             concurrent DSA, DSC, or DSD transactions that may be
26             outstanding."
27         REFERENCE
28             "Subclause 11.7.8.2 in IEEE Std 802.16-2004"
29         SYNTAX      INTEGER (0..255)
30
31
32     Wman2IfMacCrcSupport ::= TEXTUAL-CONVENTION
33         STATUS      current
34         DESCRIPTION
35             "The object of this type indicates whether or not the SS
36             supports MAC level CRC."
37         REFERENCE
38             "Subclause 11.7.8.3 in IEEE Std 802.16-2004"
39         SYNTAX      INTEGER {noMacCrcSupport(0),
40                             macCrcSupport(1)}
41
42
43     Wman2IfMaxMcaFlowType ::= TEXTUAL-CONVENTION
44         STATUS      current
45         DESCRIPTION
46             "The object of this type specifies the maximum number of
47             concurrent MCA transactions that may be outstanding."
48         REFERENCE
49             "Subclause 11.7.8.4 in IEEE Std 802.16-2004"
50         SYNTAX      INTEGER (0..255)
51
52
53     Wman2IfMaxMcpGroupCid ::= TEXTUAL-CONVENTION
54         STATUS      current
55         DESCRIPTION
56             "The object of this type indicates the maximum number of
57             simultaneous Multicast Polling Groups the SS is
58             capable of belonging to."
59         REFERENCE
60             "Subclause 11.7.8.5 in IEEE Std 802.16-2004"
61
62
63
64
65

```

```

1          SYNTAX          INTEGER (0..255)
2
3
4 Wman2IfMaxPkmFlowType ::= TEXTUAL-CONVENTION
5     STATUS          current
6     DESCRIPTION
7         "The object of this type specifies the maximum number of
8         concurrent PKM transactions that may be outstanding."
9
10    REFERENCE
11        "Subclause 11.7.8.6 in IEEE Std 802.16-2004"
12    SYNTAX          INTEGER (0..255)
13
14 Wman2IfAuthPolicyType ::= TEXTUAL-CONVENTION
15     STATUS          current
16     DESCRIPTION
17         "The object of this type specifies authorization policy
18         that both SS and BS need to negotiate and synchronize.
19         A bit value of 0 = not supported, 1 = supported. If this
20         field is omitted, then both SS and BS shall use the IEEE
21         802.16 security, constituting X.509 digital certificates
22         and the RSA public key encryption algorithm, as
23         authorization policy."
24
25    REFERENCE
26        "Subclause 11.7.8.7 in IEEE Std 802.16-2004"
27
28    SYNTAX          BITS {ieee802Dot16PrivacySupported(0),
29                          reserved1(1),
30                          reserved2(2),
31                          reserved3(3),
32                          reserved4(4),
33                          reserved5(5),
34                          reserved6(6),
35                          reserved7(7)}
36
37
38
39 Wman2IfMaxNumOfSaType ::= TEXTUAL-CONVENTION
40     STATUS          current
41     DESCRIPTION
42         "This field specifies maximum number of supported
43         security association of the SS."
44
45    REFERENCE
46        "Subclause 11.7.8.8 in IEEE Std 802.16-2004"
47
48    SYNTAX          INTEGER (0..255)
49
50 Wman2IfIpVersionType ::= TEXTUAL-CONVENTION
51     STATUS          current
52     DESCRIPTION
53         "The object of this type indicates the version of IP used
54         on the Secondary Management Connection. The value should
55         be undefined if the 2nd management CID doesn't exist."
56
57    REFERENCE
58        "Subclause 11.7.4 in IEEE Std 802.16-2004"
59
60    SYNTAX          INTEGER {undefined(0),
61                             ipv4(1),
62                             ipv6(2)}
63
64 Wman2IfMacCsBitMap ::= TEXTUAL-CONVENTION
65

```

```

1      STATUS      current
2      DESCRIPTION
3          "The object of this type indicates the set of MAC
4          convergence sublayer support. When a bit is set, it
5          indicates the corresponding CS feature is supported."
6      REFERENCE
7          "Subclause 11.7.7.1 in IEEE Std 802.16e-2005"
8      SYNTAX      BITS {atm(0),
9                  packetIpv4(1),
10                 packetIpv6(2),
11                 packet802Dot3(3),
12                 packet802Dot1Q(4),
13                 packetIpv4Over802Dot3(5),
14                 packetIpv6Over802Dot3(6),
15                 packetIpv4Over802Dot1Q(7),
16                 packetIpv6Over802Dot1Q(8),
17                 packet802dot3EthernetRohcHc(10),
18                 packet802dot3EthernetEcrtphc(11),
19                 packetIpv4Orv6RohcHc(12),
20                 packetIpv4Orv6Ecrtphc(13)}
21
22 Wman2IfMaxClassifiers ::= TEXTUAL-CONVENTION
23     STATUS      current
24     DESCRIPTION
25         "The object of this type indicates the maximum number of
26         admitted Classifiers that the SS is allowed to have."
27     REFERENCE
28         "Subclause 11.7.7.2 in IEEE Std 802.16-2004"
29     SYNTAX      INTEGER (0..65535)
30
31 Wman2IfPhsSupportType ::= TEXTUAL-CONVENTION
32     STATUS      current
33     DESCRIPTION
34         "The object of this type indicates the level
35         of PHS support."
36     REFERENCE
37         "Subclause 11.7.7.3 in IEEE Std 802.16-2004"
38     SYNTAX      INTEGER {noPhsSupport(0),
39                 atmPhsSupport(1),
40                 packetPhsSupport(2)}
41
42 Wman2IfBwAllocSupport ::= TEXTUAL-CONVENTION
43     STATUS      current
44     DESCRIPTION
45         "This field indicates properties of the SS that the BS
46         needs to know for bandwidth allocation purposes. When
47         a bit is set, it indicates the corresponding feature
48         is supported. All unspecified and reserved bits should
49         be set to zero."
50     REFERENCE
51         "Subclause 11.8.1 in IEEE Std 802.16-2004"
52     SYNTAX      BITS {reserved(0),
53                 halfDuplexFdd(1),
54                 fullDuplexFdd(2)}
55
56
57
58
59
60
61
62
63
64
65

```



```

1
2 Wman2IfPduConstruction ::= TEXTUAL-CONVENTION
3     STATUS          current
4     DESCRIPTION
5         "Specifies capabilities for construction and transmission
6         of MAC PDUs. When piggybackedRequests bit is set, it
7         indicates that the piggybacked requests are supported. The
8         fsnValuesSize bit is coded as follows:
9         0 - only 3-bit FSN values are supported
10        1 - only 11-bit FSN values are supported
11        All unspecified and reserved bits should be set to zero."
12    REFERENCE
13        "Subclause 11.8.2 in IEEE Std 802.16-2004"
14    SYNTAX      BITS {piggybackedRequests(0),
15                    fsnValuesSize(1)}
16
17 Wman2IfSsTransitionGap ::= TEXTUAL-CONVENTION
18     STATUS          current
19     DESCRIPTION
20         "This field indicates the transition speed SSTTG and SSRTG
21         for TDD and H-FDD SSs. Allowed values are:
22         OFDM mode: TDD and H-FDD 0..100
23         Other modes: TDD: 0..50; H-FDD: 0..100"
24    REFERENCE
25        "Subclause 11.8.3.1 in IEEE Std 802.16-2004"
26    SYNTAX      INTEGER (0..100)
27
28 Wman2IfMaxTxPowerType ::= TEXTUAL-CONVENTION
29     STATUS          current
30     DESCRIPTION
31         "This type is used to define maximum available power for
32         BPSK, QPSK, 16-QAM and 64-QAM constellations. The maximum
33         power parameters are reported in dBm and quantized in 0.5
34         dBm steps ranging from -64 dBm (encoded 0x00) to 63.5 dBm
35         (encoded 0xFF). Values outside this range shall be
36         assigned the closest extreme. SSs that do not support
37         QAM64 shall report the value of 0x00 in the maximum QAM64
38         power field."
39    REFERENCE
40        "Subclause 11.8.3.2 in IEEE Std 802.16-2004"
41    SYNTAX      INTEGER (0..255)
42
43 Wman2IfOfdmFftSizes ::= TEXTUAL-CONVENTION
44     STATUS          current
45     DESCRIPTION
46         "This field indicates the FFT sizes supported by the SS/MS.
47         It is used for describing OFDM or OFDMA capabilities,
48         depending on context. For each FFT size, a bit value of 0
49         indicates 'not supported' while 1 indicates 'supported'."
50    REFERENCE
51        "Subclause 11.8.3.7.1 in IEEE 802.16e-2005"
52    SYNTAX      BITS {fft256(0),
53                    fft2048(1),
54                    fft128(2),

```

```

1          fft512(3),
2          fft1024(4) }
3
4
5 Wman2IfOfdmSsDeModType ::= TEXTUAL-CONVENTION
6     STATUS          current
7     DESCRIPTION
8         "This field indicates the different demodulator options
9         supported by a WirelessMAN-OFDM PHY SS for downlink. This
10        field is not used for other PHY specifications. A bit
11        value of 0 indicates 'not supported' while 1 indicates
12        'supported'."
13
14     REFERENCE
15         "Subclause 11.8.3.6.2 in IEEE Std 802.16-2004"
16
17     SYNTAX          BITS {qam64(0),
18                          btc(1),
19                          ctc(2),
20                          stc(3),
21                          aac(4) }
22
23
24 Wman2IfOfdmSsModType ::= TEXTUAL-CONVENTION
25     STATUS          current
26     DESCRIPTION
27         "This field indicates the different modulator options
28         supported by a WirelessMAN-OFDM PHY SS for uplink. This
29         field is not used for other PHY specifications. A bit
30         value of 0 indicates 'not supported' while 1 indicates
31         'supported'."
32
33     REFERENCE
34         "Subclause 11.8.3.6.3 in IEEE Std 802.16-2004"
35
36     SYNTAX          BITS {qam64(0),
37                          btc(1),
38                          ctc(2),
39                          subchannellization(3),
40                          focusedCtBwReq(4) }
41
42
43 Wman2IfOfdmFocusedCt ::= TEXTUAL-CONVENTION
44     STATUS          current
45     DESCRIPTION
46         "This field indicates whether the SS supports Focused
47         Contention (see 8.3.7.3.3). A bit value of 0 indicates
48         'not supported' while 1 indicates 'supported'."
49
50     REFERENCE
51         "Subclause 11.8.3.6.4 in IEEE Std 802.16-2004"
52
53     SYNTAX          BITS {focusedCtSupport(0) }
54
55 Wman2IfOfdmTcSublayer ::= TEXTUAL-CONVENTION
56     STATUS          current
57     DESCRIPTION
58         "This field indicates whether or not the SS supports the
59         TC sublayer (see 8.3.4). A bit value of 0 indicates
60         'not supported' while 1 indicates 'supported'."
61
62     REFERENCE
63         "Subclause 11.8.3.6.5 in IEEE Std 802.16-2004"
64
65     SYNTAX          BITS {tcSublayerSupport(0) }

```

```

1
2 Wman2IfBsIdType ::= TEXTUAL-CONVENTION
3     STATUS          current
4     DESCRIPTION
5         "Defines the encoding of BSID. The BSID is a 6 byte number
6         and follows the encoding rules of MacAddress textual
7         convention, i.e. as if it were transmitted
8         least-significant bit first. The value should be displayed
9         with 2 parts clearly separated by a colon e.g:
10        001DFF:00003A. The most significant part is representing
11        the Operator ID. "
12
13     SYNTAX          OCTET STRING (SIZE(6))
14
15
16 Wman2IfIpv6FlowLabel ::= TEXTUAL-CONVENTION
17     STATUS          current
18     DESCRIPTION
19         "The value of this field specifies the matching values for
20         the IPv6 Flow label field. As the flow label field has a
21         length of 20 bits, the first 4 bits of the most
22         significant byte shall be set to 0x0 and disregarded."
23
24     SYNTAX          OCTET STRING (SIZE(3))
25
26
27 Wman2IfOfdmaMsDeModType ::= TEXTUAL-CONVENTION
28     STATUS          current
29     DESCRIPTION
30         "This field indicates the different demodulator options
31         supported by a WirelessMAN-OFDMA PHY SS for downlink.
32         A bit value of 0 indicates 'not supported' while 1
33         indicates 'supported'."
34
35     REFERENCE
36         "Subclause 11.8.3.7.2 in IEEE 802.16e"
37
38     SYNTAX          BITS {qam64(0),
39                          btc(1),
40                          ctc(2),
41                          stc(3),
42                          aasDiversityMapScan(4),
43                          harqChase(5),
44                          harqCtcIr(6),
45                          reserved(7),
46                          harqCcIr(8),
47                          ldpc(9)}
48
49
50
51 Wman2IfOfdmaMsModType ::= TEXTUAL-CONVENTION
52     STATUS          current
53     DESCRIPTION
54         "This field indicates the different modulator options
55         supported by a WirelessMAN-OFDMA PHY SS for uplink. A bit
56         value of 0 indicates 'not supported' while 1 indicates
57         'supported'."
58
59     REFERENCE
60         "Subclause 11.8.3.7.3 in IEEE 802.16e"
61
62     SYNTAX          BITS {qam64(0),
63                          btc(1),
64                          ctc(2),
65

```

```

1          stc(3),
2          harqChase(4),
3          ctclIr(5),
4          ccIr(6),
5          ldpc(7)}
6
7
8 Wman2IfOfdmaPermutation ::= TEXTUAL-CONVENTION
9     STATUS          current
10    DESCRIPTION
11        "This field indicates the OFDMA SS Permutation support
12        A bit value of 0 indicates 'not supported' while 1
13        indicates 'supported'."
14    REFERENCE
15        "Subclause 11.8.3.7.5 in IEEE 802.16e"
16    SYNTAX          BITS {optionalPuscSupport(0),
17                        optionalFuscSupport(1),
18                        amcOneBySixSupport(2),
19                        amcTwoByThreeSupport(3),
20                        amcThreeByTwoSupport(4),
21                        amcSupportWithHarqMap(5),
22                        tusclSupport(6),
23                        tusc2(7)}
24
25
26 Wman2IfOfdmaMobility ::= TEXTUAL-CONVENTION
27     STATUS          current
28    DESCRIPTION
29        "This field indicates whether or not the MS supports
30        mobility hand-over, Sleepmode, and Idle-mode. A bit
31        value of 0 indicates 'not supported' while 1 indicates
32        it is supported."
33    REFERENCE
34        "Subclause 11.8.3.7.5 in IEEE 802.16e"
35    SYNTAX          BITS {handoverSupport(0),
36                        sleepModeSupport(1),
37                        idleModeSupport(2)}
38
39
40 Wman2IfPsClassId ::= TEXTUAL-CONVENTION
41     STATUS          current
42    DESCRIPTION
43        "Wman2IfPsClassId indicates the index to Power Saving
44        Classes. The ID shall be unique within the group of Power
45        Saving Classes associated with the MS. This ID may be
46        used in further MOB_SLP-REQ/RSP messages for activation /
47        deactivation of Power Saving Class."
48    REFERENCE
49        "Subclause 6.3.2.3.44 in IEEE Std 802.16e-2005"
50    SYNTAX          INTEGER (0..63)
51
52
53 Wman2PsClassType ::= TEXTUAL-CONVENTION
54     STATUS          current
55    DESCRIPTION
56        "The types of power saving classes."
57    REFERENCE
58        "Table 374a in IEEE Std 802.16e-2005"
59
60
61
62
63
64
65

```

```

1          SYNTAX          INTEGER {powerSavingClassTypeI(1),
2                               powerSavingClassTypeII(2),
3                               powerSavingClassTypeIII(3)}
4
5
6 Wman2PsClassCidDirection ::= TEXTUAL-CONVENTION
7     STATUS          current
8     DESCRIPTION
9         "The direction of power saving class's CIDs.
10         0b00 = Unspecified. Each CID has its own direction
11         assign in its connection creation. Can be
12         DL, UL, or both (in the case of management
13         connections).
14         0b01 = Downlink direction only.
15         0b10 = Uplink direction only."
16
17     REFERENCE
18         "Subclause 6.3.2.3.44 in IEEE Std 802.16e-2005"
19
20     SYNTAX          INTEGER {unspecified(0),
21                               downlink(1),
22                               uplink(2)}
23
24
25 Wman2IfPowerSavingMode ::= TEXTUAL-CONVENTION
26     STATUS          current
27     DESCRIPTION
28         "Power saving class mode active or not active."
29
30     REFERENCE
31         "Subclause 6.3.2.3.44 in IEEE Std 802.16e-2005"
32
33     SYNTAX          INTEGER {psNotActive(0),
34                               psActive(1)}
35
36 --
37 -- BS object group - containing tables and objects to be implemented in
38 -- the Base station
39 --
40 -- wman2IfBsPacketCs contain the Base Station Packet Convergence
41 -- Sublayer objects
42 --
43 --
44 wman2IfBsPacketCs OBJECT IDENTIFIER ::= { wman2IfBsObjects 1 }
45
46
47 wman2IfBsProvisionedSfTable OBJECT-TYPE
48     SYNTAX          SEQUENCE OF Wman2IfBsProvisionedSfEntry
49     MAX-ACCESS      not-accessible
50     STATUS          current
51     DESCRIPTION
52         "This table contains service flow profiles provisioned by
53         NMS. The service flow should be created with SS(s)
54         following instruction given by wman2IfBsSfState object.
55         1. The QoS parameters of the service flow are provisioned
56         in wman2IfBsServiceClassTable and referenced by
57         wman2IfBsServiceClassIndex.
58         2. The classifier rules of the service flow are provisioned
59         in wman2IfBsClassifierRuleTable, where they refer to SF
60         via wman2IfBsSfId.
61
62         The MAC addresses of SSs the service flow is created with
63
64
65

```

```

1         are provisioned in wman2IfBsSsProvisionedForSfTable, where
2         they refer to SF via wman2IfBsSfId."
3
4     REFERENCE
5         "Subclause 6.3.13 and 6.3.14 in IEEE Std 802.16-2004"
6     ::= { wman2IfBsPacketCs 1 }
7
8 wman2IfBsProvisionedSfEntry OBJECT-TYPE
9     SYNTAX      Wman2IfBsProvisionedSfEntry
10    MAX-ACCESS  not-accessible
11    STATUS      current
12    DESCRIPTION
13        "This table provides one row for each service flow
14        provisioned by NMS. The table is indexed by ifIndex and
15        wman2IfBsSfId. ifIndex is associated with the BS sector."
16    INDEX { ifIndex, wman2IfBsSfId }
17    ::= { wman2IfBsProvisionedSfTable 1 }
18
19
20
21 Wman2IfBsProvisionedSfEntry ::= SEQUENCE {
22     wman2IfBsSfId                Unsigned32,
23     wman2IfBsSfDirection         INTEGER,
24     wman2IfBsServiceClassIndex  INTEGER,
25     wman2IfBsSfState             Wman2IfSfState,
26     wman2IfBsSfProvisionedTime   TimeStamp,
27     wman2IfBsSfCsSpecification   Wman2IfCsSpecification,
28     wman2IfBsProvisionedSfRowStatus RowStatus}
29
30
31
32 wman2IfBsSfId OBJECT-TYPE
33     SYNTAX      Unsigned32 (1 .. 4294967295)
34     MAX-ACCESS  not-accessible
35     STATUS      current
36     DESCRIPTION
37         "A 32 bit quantity that uniquely identifies a service flow
38         to both the subscriber station and base station (BS)."
39     ::= { wman2IfBsProvisionedSfEntry 1 }
40
41
42
43 wman2IfBsSfDirection OBJECT-TYPE
44     SYNTAX      INTEGER {downstream(1),
45                          upstream(2)}
46     MAX-ACCESS  read-create
47     STATUS      current
48     DESCRIPTION
49         "An attribute indicating the service flow is downstream or
50         upstream."
51     ::= { wman2IfBsProvisionedSfEntry 2 }
52
53
54
55 wman2IfBsServiceClassIndex OBJECT-TYPE
56     SYNTAX      INTEGER (1..65535)
57     MAX-ACCESS  read-create
58     STATUS      current
59     DESCRIPTION
60         "The index in wman2IfBsServiceClassTable describing the
61         service class or QoS parameters for such service flow.
62         If no associated entry in wman2IfBsServiceClassTable
63         exists, this object returns a value of zero."
64
65

```

```

1      ::= { wman2IfBsProvisionedSfEntry 3 }
2
3
4  wman2IfBsSfState OBJECT-TYPE
5      SYNTAX      Wman2IfSfState
6      MAX-ACCESS  read-create
7      STATUS      current
8      DESCRIPTION
9          "wman2IfBsSfState determines the requested state of a service
10         flow.
11         - authorized state: A service flow is provisioned but
12         not resource is reserved yet
13         - admitted state: service flow has resources reserved.
14         - active state: has resources committed by the BS (e.g., is
15         actively sending maps containing unsolicited grants for a
16         UGS-based service flow),"
17
18  REFERENCE
19      "Subclause 6.3.14.6, in IEEE Std 802.16-2004"
20  ::= { wman2IfBsProvisionedSfEntry 4 }
21
22
23
24  wman2IfBsSfProvisionedTime OBJECT-TYPE
25      SYNTAX      TimeStamp
26      MAX-ACCESS  read-create
27      STATUS      current
28      DESCRIPTION
29          "Indicates the date and time when the service flow is
30         provisioned."
31  ::= { wman2IfBsProvisionedSfEntry 5 }
32
33
34
35  wman2IfBsSfCsSpecification OBJECT-TYPE
36      SYNTAX      Wman2IfCsSpecification
37      MAX-ACCESS  read-create
38      STATUS      current
39      DESCRIPTION
40          "This parameter specifies the convergence sublayer
41         encapsulation mode."
42  REFERENCE
43      "Subclause 11.13.19.1 in IEEE Std 802.16-2004"
44  ::= { wman2IfBsProvisionedSfEntry 6 }
45
46
47
48  wman2IfBsProvisionedSfRowStatus OBJECT-TYPE
49      SYNTAX      RowStatus
50      MAX-ACCESS  read-create
51      STATUS      current
52      DESCRIPTION
53          "This object is used to create a new row or modify or
54         delete an existing row in this table.
55
56         If the implementator of this MIB has choosen not
57         to implement 'dynamic assignment' of profiles, this
58         object is not useful and should return noSuchName
59         upon SNMP request."
60  ::= { wman2IfBsProvisionedSfEntry 7 }
61
62
63
64  wman2IfBsSsProvisionedForSfTable OBJECT-TYPE
65

```

```

1      SYNTAX      SEQUENCE OF Wman2IfBsSsProvisionedForSfEntry
2      MAX-ACCESS  not-accessible
3      STATUS      current
4      DESCRIPTION
5
6          "This table maps the MAC addresses of SSs to the service
7          flows provisioned in wman2IfBsProvisionedSfTable."
8      REFERENCE
9
10         "Subclause 6.3.14 in IEEE Std 802.16-2004"
11     ::= { wman2IfBsPacketCs 2 }
12
13 wman2IfBsSsProvisionedForSfEntry OBJECT-TYPE
14     SYNTAX      Wman2IfBsSsProvisionedForSfEntry
15     MAX-ACCESS  not-accessible
16     STATUS      current
17     DESCRIPTION
18
19         "This table is indexed by wman2IfBsSsProvMacAddress and
20         wman2IfBsProvSfId."
21     INDEX { wman2IfBsSsProvMacAddress, wman2IfBsProvSfId }
22     ::= { wman2IfBsSsProvisionedForSfTable 1 }
23
24
25 Wman2IfBsSsProvisionedForSfEntry ::= SEQUENCE {
26     wman2IfBsSsProvMacAddress      MacAddress,
27     wman2IfBsProvSfId              Unsigned32,
28     wman2IfBsSsProvisionedForSfRowStatus  RowStatus}
29
30
31 wman2IfBsSsProvMacAddress OBJECT-TYPE
32     SYNTAX      MacAddress
33     MAX-ACCESS  not-accessible
34     STATUS      current
35     DESCRIPTION
36
37         "The MAC address of the SS, the service flow is created
38         with."
39     ::= { wman2IfBsSsProvisionedForSfEntry 1 }
40
41
42 wman2IfBsProvSfId OBJECT-TYPE
43     SYNTAX      Unsigned32 (1 .. 4294967295)
44     MAX-ACCESS  not-accessible
45     STATUS      current
46     DESCRIPTION
47
48         "A 32 bit quantity that uniquely identifies a service flow.
49         The value of this object can be used by BS to index the
50         wman2BsProvisionedSfTable."
51     ::= { wman2IfBsSsProvisionedForSfEntry 2 }
52
53
54 wman2IfBsSsProvisionedForSfRowStatus OBJECT-TYPE
55     SYNTAX      RowStatus
56     MAX-ACCESS  read-create
57     STATUS      current
58     DESCRIPTION
59
60         "This object is used to ensure that the write, create,
61         delete operation to multiple columns is guaranteed to
62         be treated as atomic operation by agent."
63     ::= { wman2IfBsSsProvisionedForSfEntry 3 }
64
65

```



```

1  wman2IfBsServiceClassTable OBJECT-TYPE
2      SYNTAX          SEQUENCE OF Wman2IfBsServiceClassEntry
3      MAX-ACCESS      not-accessible
4      STATUS          current
5      DESCRIPTION
6          "This table is provisioned and is indexed by
7              wman2IfBsQoSProfileIndex. Each entry of the table contains
8              corresponding service flow characteristic attributes
9              (e.g. QoS parameter set). The value of
10             wman2IfBsQoSProfileIndex is obtained from
11             wman2IfBsServiceClassIndex in wman2IfBsProvisionedSfTable"
12      REFERENCE
13          "Subclause 6.3.14.4 in IEEE Std 802.16-2004"
14      ::= { wman2IfBsPacketCs 3 }
15
16  wman2IfBsServiceClassEntry OBJECT-TYPE
17      SYNTAX          Wman2IfBsServiceClassEntry
18      MAX-ACCESS      not-accessible
19      STATUS          current
20      DESCRIPTION
21          "This table provides one row for each service class"
22      INDEX { ifIndex, wman2IfBsQoSProfileIndex }
23      ::= { wman2IfBsServiceClassTable 1 }
24
25  Wman2IfBsServiceClassEntry ::= SEQUENCE {
26      wman2IfBsQoSProfileIndex          INTEGER,
27      wman2IfBsQoSServiceClassName      Wman2IfServClassName,
28      wman2IfBsQoSSTrafficPriority       INTEGER,
29      wman2IfBsQoSMaxSustainedRate      Unsigned32,
30      wman2IfBsQoSMaxTrafficBurst       Unsigned32,
31      wman2IfBsQoSMinReservedRate       Unsigned32,
32      wman2IfBsQOSToleratedJitter       Unsigned32,
33      wman2IfBsQoSMaxLatency            Unsigned32,
34      wman2IfBsQoSFixedVsVariableSduInd INTEGER,
35      wman2IfBsQOSSduSize               Unsigned32,
36      wman2IfBsQoSScSchedulingType      Wman2IfSfSchedulingType,
37      wman2IfBsQoSScArqEnable           TruthValue,
38      wman2IfBsQoSScArqWindowSize       INTEGER,
39      wman2IfBsQoSScArqBlockLifetime    INTEGER,
40      wman2IfBsQoSScArqSyncLossTimeout  INTEGER,
41      wman2IfBsQoSScArqDeliverInOrder   TruthValue,
42      wman2IfBsQoSScArqRxPurgeTimeout   INTEGER,
43      wman2IfBsQoSScArqBlockSize        INTEGER,
44      wman2IfBsQoSSCMinRsvdTolerableRate Unsigned32,
45      wman2IfBsQoSReqTxPolicy            BITS,
46      wman2IfBsQOSServiceClassRowStatus RowStatus}
47
48  wman2IfBsQoSProfileIndex OBJECT-TYPE
49      SYNTAX          INTEGER (1 .. 65535)
50      MAX-ACCESS      not-accessible
51      STATUS          current
52      DESCRIPTION
53          "The index value which uniquely identifies an entry
54          in the wman2IfBsServiceClassTable"
55
56
57
58
59
60
61
62
63
64
65

```

```

1      ::= { wman2IfBsServiceClassEntry 1 }
2
3
4  wman2IfBsQoSServiceClassName OBJECT-TYPE
5      SYNTAX      Wman2IfServClassName
6      MAX-ACCESS  read-create
7      STATUS      current
8      DESCRIPTION
9          "Refers to the Service Class Name"
10
11     REFERENCE
12         "Subclause 11.13.3 in IEEE Std 802.16-2004"
13     ::= { wman2IfBsServiceClassEntry 2 }
14
15
16  wman2IfBsQoSSTrafficPriority OBJECT-TYPE
17      SYNTAX      INTEGER (0..7)
18      MAX-ACCESS  read-create
19      STATUS      current
20      DESCRIPTION
21          "The value of this parameter specifies the priority
22           assigned to a service flow. For uplink service flows,
23           the BS should use this parameter when determining
24           precedence in request service and grant generation,
25           and the SS shall preferentially select contention
26           Request opportunities for Priority Request CIDs
27           based on this priority. Higher numbers indicate higher
28           priority"
29
30     REFERENCE
31         "Subclause 11.13.5 in IEEE Std 802.16-2004"
32     ::= { wman2IfBsServiceClassEntry 3 }
33
34
35
36  wman2IfBsQoSMaxSustainedRate OBJECT-TYPE
37      SYNTAX      Unsigned32
38      UNITS       "b/s"
39      MAX-ACCESS  read-create
40      STATUS      current
41      DESCRIPTION
42          "This parameter defines the peak information rate
43           of the service. The rate is expressed in bits per
44           second and pertains to the SDUs at the input to
45           the system."
46
47     REFERENCE
48         "Subclause 11.13.6 in IEEE Std 802.16-2004"
49     ::= { wman2IfBsServiceClassEntry 4 }
50
51
52
53  wman2IfBsQoSMaxTrafficBurst OBJECT-TYPE
54      SYNTAX      Unsigned32
55      UNITS       "byte"
56      MAX-ACCESS  read-create
57      STATUS      current
58      DESCRIPTION
59          "This parameter defines the maximum burst size that
60           must be accommodated for the service."
61
62     REFERENCE
63         "Subclause 11.13.7 in IEEE Std 802.16-2004"
64     ::= { wman2IfBsServiceClassEntry 5 }
65

```

```

1
2 wman2IfBsQoSMinReservedRate OBJECT-TYPE
3     SYNTAX      Unsigned32
4     UNITS       "b/s"
5     MAX-ACCESS  read-create
6     STATUS      current
7     DESCRIPTION
8         "This parameter specifies the minimum rate reserved
9         for this service flow."
10
11     REFERENCE
12         "Subclause 11.13.8 in IEEE Std 802.16-2004"
13     ::= { wman2IfBsServiceClassEntry 6 }
14
15
16 wman2IfBsQoSToleratedJitter OBJECT-TYPE
17     SYNTAX      Unsigned32
18     UNITS       "millisecond"
19     MAX-ACCESS  read-create
20     STATUS      current
21     DESCRIPTION
22         "This parameter defines the Maximum delay
23         variation (jitter) for the connection."
24
25     REFERENCE
26         "Subclause 11.13.13 in IEEE Std 802.16-2004"
27     ::= { wman2IfBsServiceClassEntry 7 }
28
29
30
31 wman2IfBsQoSMaxLatency OBJECT-TYPE
32     SYNTAX      Unsigned32
33     UNITS       "millisecond"
34     MAX-ACCESS  read-create
35     STATUS      current
36     DESCRIPTION
37         "The value of this parameter specifies the maximum
38         latency between the reception of a packet by the BS
39         or SS on its network interface and the forwarding
40         of the packet to its RF Interface."
41
42     REFERENCE
43         "Subclause 11.13.14 in IEEE Std 802.16-2004"
44     ::= { wman2IfBsServiceClassEntry 8 }
45
46
47
48 wman2IfBsQoSFixedVsVariableSduInd OBJECT-TYPE
49     SYNTAX      INTEGER {variableLength(0),
50                      fixedLength(1)}
51     MAX-ACCESS  read-create
52     STATUS      current
53     DESCRIPTION
54         "The value of this parameter specifies whether the SDUs
55         on the service flow are variable-length (0) or
56         fixed-length (1). The parameter is used only if
57         packing is on for the service flow. The default value
58         is 0, i.e., variable-length SDUs."
59
60     REFERENCE
61         "Subclause 11.13.15 in IEEE Std 802.16-2004"
62     DEFVAL      { variableLength }
63     ::= { wman2IfBsServiceClassEntry 9 }
64
65

```

```

1
2 wman2IfBsQoSduSize OBJECT-TYPE
3     SYNTAX      Unsigned32
4     UNITS       "byte"
5     MAX-ACCESS  read-create
6     STATUS      current
7     DESCRIPTION
8         "The value of this parameter specifies the length of the
9         SDU for a fixed-length SDU service flow. This parameter
10        is used only if packing is on and the service flow is
11        indicated as carrying fixed-length SDUs. The default
12        value is 49 bytes, i.e., VC-switched ATM cells with PHS.
13        The parameter is relevant for both ATM and Packet
14        Convergence Sublayers."
15    REFERENCE
16        "Subclause 11.13.16 in IEEE Std 802.16-2004"
17    DEFVAL      { 49 }
18    ::= { wman2IfBsServiceClassEntry 10 }
19
20 wman2IfBsQoSScSchedulingType OBJECT-TYPE
21     SYNTAX      Wman2IfSfSchedulingType
22     MAX-ACCESS  read-create
23     STATUS      current
24     DESCRIPTION
25         "Specifies the upstream scheduling service used for
26         upstream service flow. If the referenced parameter
27         is not present in the corresponding 802.16 QOS
28         Parameter Set of an upstream service flow, the
29         default value of this object is bestEffort(2)."

```

```

1
2 wman2IfBsQosScArqBlockLifetime OBJECT-TYPE
3     SYNTAX      INTEGER (0 .. 65535)
4     UNITS       "10 us"
5     MAX-ACCESS  read-create
6     STATUS      current
7     DESCRIPTION
8         "The maximum time interval an ARQ fragment will be
9         managed by the transmitter ARQ machine, once
10        initial transmission of the fragment has occurred.
11        If transmission or retransmission of the fragment
12        is not acknowledged by the receiver before the
13        time limit is reached, the fragment is discarded.
14        A value of 0 means Infinite."
15    REFERENCE
16        "Subclause 11.13.18 in IEEE Std 802.16-2004"
17    DEFVAL      {0}
18    ::= { wman2IfBsServiceClassEntry 14 }
19
20 wman2IfBsQosScArqSyncLossTimeout OBJECT-TYPE
21     SYNTAX      INTEGER (0 .. 65535 )
22     UNITS       "10 us"
23     MAX-ACCESS  read-create
24     STATUS      current
25     DESCRIPTION
26         "The maximum interval before declaring a loss
27         of synchronization of the sender and receiver
28         state machines. A value of 0 means Infinite."
29    REFERENCE
30        "Subclause 11.13.18 in IEEE Std 802.16-2004"
31    DEFVAL      {0}
32    ::= { wman2IfBsServiceClassEntry 15 }
33
34 wman2IfBsQosScArqDeliverInOrder OBJECT-TYPE
35     SYNTAX      TruthValue
36     MAX-ACCESS  read-create
37     STATUS      current
38     DESCRIPTION
39         "Indicates whether or not data is to be delivered
40         by the receiving MAC to its client application
41         in the order in which data was handed off to the
42         originating MAC."
43    REFERENCE
44        "Subclause 11.13.18 in IEEE Std 802.16-2004"
45    ::= { wman2IfBsServiceClassEntry 16 }
46
47 wman2IfBsQosScArqRxPurgeTimeout OBJECT-TYPE
48     SYNTAX      INTEGER (0 .. 65535)
49     UNITS       "10 us"
50     MAX-ACCESS  read-create
51     STATUS      current
52     DESCRIPTION
53         "Indicates the time interval the ARQ window is advanced
54         after a fragment is received. A value of 0 means
55

```

```

1           Infinite."
2   REFERENCE
3           "Subclause 11.13.18 in IEEE Std 802.16-2004"
4   DEFVAL    {0}
5   ::= { wman2IfBsServiceClassEntry 17 }
6
7
8   wman2IfBsQosScArqBlockSize OBJECT-TYPE
9       SYNTAX      INTEGER (1..2040)
10      UNITS        "byte"
11      MAX-ACCESS   read-create
12      STATUS       current
13      DESCRIPTION
14          "The value of this parameter specifies the size of an
15           ARQ block. This parameter shall be established by
16           negotiation during the connection creation dialog."
17      REFERENCE
18          "Subclause 11.13.18.8 in IEEE Std 802.16-2004"
19      ::= { wman2IfBsServiceClassEntry 18 }
20
21
22   wman2IfBsQosSCMinRsvdTolerableRate OBJECT-TYPE
23       SYNTAX      Unsigned32
24       UNITS        "b/s"
25       MAX-ACCESS   read-create
26       STATUS       current
27       DESCRIPTION
28          "Minimum Tolerable Traffic Rate = R (bits/sec) with
29           time base T(sec) means the following. Let S denote
30           additional demand accumulated at the MAC SAP of the
31           transmitter during an arbitrary time interval of the
32           length T. Then the amount of data forwarded at the
33           receiver to CS (in bits) during this interval should
34           be not less than min {S, R * T}."
35      REFERENCE
36          "Subclause 11.13.9 in IEEE Std 802.16-2004"
37      ::= { wman2IfBsServiceClassEntry 19 }
38
39
40   wman2IfBsQoSReqTxPolicy OBJECT-TYPE
41       SYNTAX      BITS {noBroadcastBwReq(0),
42                          reserved1(1),
43                          noPiggybackReq(2),
44                          noFragmentData(3),
45                          noPHS(4),
46                          noSduPacking(5),
47                          noCrc(6),
48                          reserved2(7)}
49       MAX-ACCESS   read-create
50       STATUS       current
51       DESCRIPTION
52          "The value of this parameter provides the capability to
53           specify certain attributes for the associated service
54           flow. An attribute is enabled by setting the
55           corresponding bit position to 1."
56      REFERENCE
57          "Subclause 11.13.12 in IEEE Std 802.16-2004"
58      ::= { wman2IfBsServiceClassEntry 20 }
59
60
61
62
63
64
65

```

```

1
2 wman2IfBsQoSServiceClassRowStatus OBJECT-TYPE
3     SYNTAX      RowStatus
4     MAX-ACCESS  read-create
5     STATUS      current
6     DESCRIPTION
7         "This object is used to create a new row or modify or
8         delete an existing row in this table.
9
10
11         If the implementator of this MIB has choosen not
12         to implement 'dynamic assignment' of profiles, this
13         object is not useful and should return noSuchName
14         upon SNMP request."
15     ::= { wman2IfBsServiceClassEntry 21 }
16
17
18 wman2IfBsClassifierRuleTable OBJECT-TYPE
19     SYNTAX      SEQUENCE OF Wman2IfBsClassifierRuleEntry
20     MAX-ACCESS  not-accessible
21     STATUS      current
22     DESCRIPTION
23         "This table contains packet classifier rules associated
24         with service flows."
25     REFERENCE
26         "Subclause 11.13.19.3.4 in IEEE Std 802.16-2004"
27     ::= { wman2IfBsPacketCs 4 }
28
29
30 wman2IfBsClassifierRuleEntry OBJECT-TYPE
31     SYNTAX      Wman2IfBsClassifierRuleEntry
32     MAX-ACCESS  not-accessible
33     STATUS      current
34     DESCRIPTION
35         "This table provides one row for each packet classifier
36         rule, and is indexed by ifIndex, wman2IfBsSfId, and
37         wman2IfBsClassifierRuleIndex. IfIdex is associated with
38         the BS sector. wman2IfBsSfId identifies the service flow,
39         while wman2IfBsClassifierRuleIndex identifies the packet
40         classifier rule."
41     INDEX { ifIndex, wman2IfBsSfId, wman2IfBsClassifierRuleIndex }
42     ::= { wman2IfBsClassifierRuleTable 1 }
43
44
45 Wman2IfBsClassifierRuleEntry ::= SEQUENCE {
46     wman2IfBsClassifierRuleIndex      Unsigned32,
47     wman2IfBsClassifierRulePriority    INTEGER,
48     wman2IfBsClassifierRuleIpTosLow   INTEGER,
49     wman2IfBsClassifierRuleIpTosHigh  INTEGER,
50     wman2IfBsClassifierRuleIpTosMask  INTEGER,
51     wman2IfBsClassifierRuleIpProtocol Integer32,
52     wman2IfBsClassifierRuleIpSourceAddr InetAddress,
53     wman2IfBsClassifierRuleIpSourceMask InetAddress,
54     wman2IfBsClassifierRuleIpDestAddr  InetAddress,
55     wman2IfBsClassifierRuleIpDestMask  InetAddress,
56     wman2IfBsClassifierRuleSourcePortStart Integer32,
57     wman2IfBsClassifierRuleSourcePortEnd Integer32,
58     wman2IfBsClassifierRuleDestPortStart Integer32,
59
60
61
62
63
64
65

```

```

1      wman2IfBsClassifierRuleDestPortEnd      Integer32,
2      wman2IfBsClassifierRuleDestMacAddr      MacAddress,
3      wman2IfBsClassifierRuleDestMacMask      MacAddress,
4      wman2IfBsClassifierRuleSourceMacAddr     MacAddress,
5      wman2IfBsClassifierRuleSourceMacMask     MacAddress,
6      wman2IfBsClassifierRuleEnetProtocolType  INTEGER,
7      wman2IfBsClassifierRuleEnetProtocol      Integer32,
8      wman2IfBsClassifierRuleUserPriLow        Integer32,
9      wman2IfBsClassifierRuleUserPriHigh       Integer32,
10     wman2IfBsClassifierRuleVlanId            Integer32,
11     wman2IfBsClassifierRuleState             INTEGER,
12     wman2IfBsClassifierRulePhsSize           Integer32,
13     wman2IfBsClassifierRulePhsMask           OCTET STRING,
14     wman2IfBsClassifierRulePhsVerify         Wman2IfPhsRuleVerify,
15     wman2IfBsClassifierRuleIpv6FlowLabel     Wman2IfIpv6FlowLabel,
16     wman2IfBsClassifierRuleBitMap            Wman2IfClassifierBitMap,
17     wman2IfBsClassifierRuleRowStatus         RowStatus}
18
19
20
21
22
23     wman2IfBsClassifierRuleIndex OBJECT-TYPE
24         SYNTAX      Unsigned32 (1..4294967295)
25         MAX-ACCESS  not-accessible
26         STATUS      current
27         DESCRIPTION
28             "An index is assigned to a classifier in BS classifiers
29              table"
30         ::= { wman2IfBsClassifierRuleEntry 1 }
31
32
33     wman2IfBsClassifierRulePriority OBJECT-TYPE
34         SYNTAX      INTEGER (0..255)
35         MAX-ACCESS  read-create
36         STATUS      current
37         DESCRIPTION
38             "The value specifies the priority for the Classifier, which
39              is used for determining the order of the Classifier. A
40              higher value indicates higher priority. Classifiers may
41              have priorities in the range 0..255."
42         REFERENCE
43             "Subclause 11.13.19.3.4.1 in IEEE Std 802.16-2004"
44         DEFVAL      { 0 }
45         ::= { wman2IfBsClassifierRuleEntry 2 }
46
47
48
49
50     wman2IfBsClassifierRuleIpTosLow OBJECT-TYPE
51         SYNTAX      INTEGER (0..255)
52         MAX-ACCESS  read-create
53         STATUS      current
54         DESCRIPTION
55             "The low value of a range of TOS byte values. If the
56              referenced parameter is not present in a classifier, this
57              object reports the value of 0."
58         REFERENCE
59             "Subclause 11.13.19.3.4.2 in IEEE Std 802.16-2004"
60         ::= { wman2IfBsClassifierRuleEntry 3 }
61
62
63
64
65     wman2IfBsClassifierRuleIpTosHigh OBJECT-TYPE

```



```

1      SYNTAX      INTEGER (0..255)
2      MAX-ACCESS  read-create
3      STATUS      current
4      DESCRIPTION
5          "The 8-bit high value of a range of TOS byte values.
6          If the referenced parameter is not present in a classifier,
7          this object reports the value of 0."
8      REFERENCE
9          "Subclause 11.13.19.3.4.2 in IEEE Std 802.16-2004"
10     ::= { wman2IfBsClassifierRuleEntry 4 }
11
12 wman2IfBsClassifierRuleIpTosMask OBJECT-TYPE
13     SYNTAX      INTEGER (0..255)
14     MAX-ACCESS  read-create
15     STATUS      current
16     DESCRIPTION
17         "The value of this object specifies the matching parameter
18         for the IP type of service/DSCP [IETF RFC 2474] byte mask.
19         An IP packet with IP type of service (ToS) byte value
20         ip-tos matches this parameter if tos-low less than or
21         equal (ip-tos AND tos-mask) less than or equal tos-high."
22     REFERENCE
23         "Subclause 11.13.19.3.4.2 in IEEE Std 802.16-2004"
24     ::= { wman2IfBsClassifierRuleEntry 5 }
25
26 wman2IfBsClassifierRuleIpProtocol OBJECT-TYPE
27     SYNTAX      Integer32 (0..255)
28     MAX-ACCESS  read-create
29     STATUS      current
30     DESCRIPTION
31         "This object indicates the value of the IP Protocol field
32         required for IP packets to match this rule. If the
33         referenced parameter is not present in a classifier, this
34         object reports the value of 0."
35     REFERENCE
36         "Subclause 11.13.19.3.4.3 in IEEE Std 802.16-2004"
37     ::= { wman2IfBsClassifierRuleEntry 6 }
38
39 wman2IfBsClassifierRuleIpSourceAddr OBJECT-TYPE
40     SYNTAX      InetAddress
41     MAX-ACCESS  read-create
42     STATUS      current
43     DESCRIPTION
44         "This object specifies the value of the IP Source Address
45         required for packets to match this rule. An IP packet
46         matches the rule when the packet ip source address bitwise
47         ANDed with the wman2IfBsClassifierRuleIpSourceMask value
48         equals the wman2IfBsClassifierRuleIpSourceAddr value.
49         If the referenced parameter is not present in a classifier,
50         this object reports the value of 0.0.0.0."
51     REFERENCE
52         "Subclause 11.13.19.3.4.4 in IEEE Std 802.16-2004"
53     ::= { wman2IfBsClassifierRuleEntry 7 }
54
55
56
57
58
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60
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```

```

1  wman2IfBsClassifierRuleIpSourceMask OBJECT-TYPE
2      SYNTAX      InetAddress
3      MAX-ACCESS  read-create
4      STATUS      current
5      DESCRIPTION
6          "This object specifies which bits of a packet's IP Source
7          Address that are compared to match this rule. An IP packet
8          matches the rule when the packet source address bitwise
9          ANDed with the
10         wman2IfBsClassifierRuleIpSourceMask value equals the
11         wman2IfBsClassifierRuleIpSourceAddr value.
12         If the referenced parameter is not present in a classifier,
13         this object reports the value of 0.0.0.0."
14     REFERENCE
15         "Subclause 11.13.19.3.4.4 in IEEE Std 802.16-2004"
16     ::= { wman2IfBsClassifierRuleEntry 8 }
17
21  wman2IfBsClassifierRuleIpDestAddr OBJECT-TYPE
22      SYNTAX      InetAddress
23      MAX-ACCESS  read-create
24      STATUS      current
25      DESCRIPTION
26          "This object specifies the value of the IP Destination
27          Address required for packets to match this rule. An IP
28          packet matches the rule when the packet IP destination
29          address bitwise ANDed with the
30          wman2IfBsClassifierRuleIpDestMask value equals the
31          wman2IfBsClassifierRuleIpDestAddr value.
32          If the referenced parameter is not present in a
33          classifier, this object reports the value of 0.0.0.0."
34     REFERENCE
35         "Subclause 11.13.19.3.4.5 in IEEE Std 802.16-2004"
36     ::= { wman2IfBsClassifierRuleEntry 9 }
37
41  wman2IfBsClassifierRuleIpDestMask OBJECT-TYPE
42      SYNTAX      InetAddress
43      MAX-ACCESS  read-create
44      STATUS      current
45      DESCRIPTION
46          "This object specifies which bits of a packet's IP
47          Destination Address that are compared to match this rule.
48          An IP packet matches the rule when the packet destination
49          address bitwise ANDed with the
50          wman2IfBsClassifierRuleIpDestMask value equals the
51          wman2IfBsClassifierRuleIpDestAddr value.
52          If the referenced parameter is not present in a classifier
53          , this object reports the value of 0.0.0.0."
54     REFERENCE
55         "Subclause 11.13.19.3.4.5 in IEEE Std 802.16-2004"
56     ::= { wman2IfBsClassifierRuleEntry 10 }
57
61  wman2IfBsClassifierRuleSourcePortStart OBJECT-TYPE
62      SYNTAX      Integer32 (0..65535)
63      MAX-ACCESS  read-create
64
65

```

```

1      STATUS      current
2      DESCRIPTION
3          "This object specifies the low end inclusive range of
4          TCP/UDP source port numbers to which a packet is compared.
5          This object is irrelevant for non-TCP/UDP IP packets.
6          If the referenced parameter is not present in a
7          classifier, this object reports the value of 0."
8
9      REFERENCE
10         "Subclause 11.13.19.3.4.6 in IEEE Std 802.16-2004"
11         ::= { wman2IfBsClassifierRuleEntry 11 }
12
13
14 wman2IfBsClassifierRuleSourcePortEnd OBJECT-TYPE
15     SYNTAX      Integer32 (0..65535)
16     MAX-ACCESS  read-create
17     STATUS      current
18     DESCRIPTION
19         "This object specifies the high end inclusive range of
20         TCP/UDP source port numbers to which a packet is compared.
21         This object is irrelevant for non-TCP/UDP IP packets.
22         If the referenced parameter is not present in a classifier,
23         this object reports the value of 65535."
24
25     REFERENCE
26         "Subclause 11.13.19.3.4.6 in IEEE Std 802.16-2004"
27         ::= { wman2IfBsClassifierRuleEntry 12 }
28
29
30
31 wman2IfBsClassifierRuleDestPortStart OBJECT-TYPE
32     SYNTAX      Integer32 (0..65535)
33     MAX-ACCESS  read-create
34     STATUS      current
35     DESCRIPTION
36         "This object specifies the low end inclusive range of
37         TCP/UDP destination port numbers to which a packet is
38         compared. If the referenced parameter is not present
39         in a classifier, this object reports the value of 0."
40
41     REFERENCE
42         "Subclause 11.13.19.3.4.7 in IEEE Std 802.16-2004"
43         ::= { wman2IfBsClassifierRuleEntry 13 }
44
45
46
47 wman2IfBsClassifierRuleDestPortEnd OBJECT-TYPE
48     SYNTAX      Integer32 (0..65535)
49     MAX-ACCESS  read-create
50     STATUS      current
51     DESCRIPTION
52         "This object specifies the high end inclusive range of
53         TCP/UDP destination port numbers to which a packet is
54         compared. If the referenced parameter is not present
55         in a classifier, this object reports the value of
56         65535."
57
58     REFERENCE
59         "Subclause 11.13.19.3.4.7 in IEEE Std 802.16-2004"
60         ::= { wman2IfBsClassifierRuleEntry 14 }
61
62
63 wman2IfBsClassifierRuleDestMacAddr OBJECT-TYPE
64     SYNTAX      MacAddress
65

```

```

1      MAX-ACCESS    read-create
2      STATUS        current
3      DESCRIPTION
4          "An Ethernet packet matches an entry when its destination
5          MAC address bitwise ANDed with
6          wman2IfBsClassifierRuleDestMacMask equals the value of
7          wman2IfBsClassifierRuleDestMacAddr. If the referenced
8          parameter is not present in a classifier, this object
9          reports the value of '000000000000'H."
10
11      REFERENCE
12          "Subclause 11.13.19.3.4.8 in IEEE Std 802.16-2004"
13      ::= { wman2IfBsClassifierRuleEntry 15 }
14
15
16  wman2IfBsClassifierRuleDestMacMask OBJECT-TYPE
17      SYNTAX          MacAddress
18      MAX-ACCESS      read-create
19      STATUS          current
20      DESCRIPTION
21          "An Ethernet packet matches an entry when its destination
22          MAC address bitwise ANDed with
23          wman2IfBsClassifierRuleDestMacMask equals the value of
24          wman2IfBsClassifierRuleDestMacAddr. If the referenced
25          parameter is not present in a classifier, this object
26          reports the value of '000000000000'H."
27
28      REFERENCE
29          "Subclause 11.13.19.3.4.8 in IEEE Std 802.16-2004"
30      ::= { wman2IfBsClassifierRuleEntry 16 }
31
32
33
34  wman2IfBsClassifierRuleSourceMacAddr OBJECT-TYPE
35      SYNTAX          MacAddress
36      MAX-ACCESS      read-create
37      STATUS          current
38      DESCRIPTION
39          "An Ethernet packet matches this entry when its source
40          MAC address bitwise ANDed with
41          wman2IfBsClassifierRuleSourceMacMask equals the value
42          of wman2IfBsClassifierRuleSourceMacAddr. If the
43          referenced parameter is not present in a classifier,
44          this object reports the value of '000000000000'H."
45
46      REFERENCE
47          "Subclause 11.13.19.3.4.9 in IEEE Std 802.16-2004"
48      ::= { wman2IfBsClassifierRuleEntry 17 }
49
50
51
52  wman2IfBsClassifierRuleSourceMacMask OBJECT-TYPE
53      SYNTAX          MacAddress
54      MAX-ACCESS      read-create
55      STATUS          current
56      DESCRIPTION
57          "An Ethernet packet matches an entry when its source
58          MAC address bitwise ANDed with
59          wman2IfBsClassifierRuleSourceMacMask equals the value of
60          wman2IfBsClassifierRuleSourceMacAddr. If the referenced
61          parameter is not present in a classifier, this object
62          reports the value of '000000000000'H."
63
64
65

```

## 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 }

1  
2 wman2IfBsClassifierRuleUserPriLow OBJECT-TYPE

3 SYNTAX Integer32 (0..7)

4 MAX-ACCESS read-create

5 STATUS current

6 DESCRIPTION

7  
8 "This object applies only to Ethernet frames using the  
9 802.1P/Q tag header (indicated with EtherType 0x8100).  
10 Such frames include a 16-bit Tag that contains a 3 bit  
11 Priority field and a 12 bit VLAN number.  
12 Tagged Ethernet packets must have a 3-bit Priority field  
13 within the range of wman2IfBsClassifierRuleUserPriLow and  
14 wman2IfBsClassifierRuleUserPriHigh in order to match this  
15 rule.  
16 If the referenced parameter is not present in the  
17 classifier, the value of this object is reported as 0."

18 REFERENCE

19 "Subclause 11.13.19.3.4.11 in IEEE Std 802.16-2004"

20 ::= { wman2IfBsClassifierRuleEntry 21 }

21  
22  
23  
24  
25 wman2IfBsClassifierRuleUserPriHigh OBJECT-TYPE

26 SYNTAX Integer32 (0..7)

27 MAX-ACCESS read-create

28 STATUS current

29 DESCRIPTION

30  
31 "This object applies only to Ethernet frames using the  
32 802.1P/Q tag header (indicated with EtherType 0x8100).  
33 Such frames include a 16-bit Tag that contains a 3 bit  
34 Priority field and a 12 bit VLAN number.  
35 Tagged Ethernet packets must have a 3-bit Priority  
36 field within the range of wman2IfBsClassifierRuleUserPriLow  
37 and wman2IfBsClassifierRuleUserPriHigh in order to match  
38 this rule.  
39 If the referenced parameter is not present in the  
40 classifier, the value of this object is reported as 7."

41 REFERENCE

42 "Subclause 11.13.19.3.4.11 in IEEE Std 802.16-2004"

43 ::= { wman2IfBsClassifierRuleEntry 22 }

44  
45  
46  
47  
48 wman2IfBsClassifierRuleVlanId OBJECT-TYPE

49 SYNTAX Integer32 (0..4095)

50 MAX-ACCESS read-create

51 STATUS current

52 DESCRIPTION

53  
54 "This object applies only to Ethernet frames using the  
55 802.1P/Q tag header.  
56 If this object's value is nonzero, tagged packets must  
57 have a VLAN Identifier that matches the value in order  
58 to match the rule.  
59 Only the least significant 12 bits of this object's  
60 value are valid.  
61 If the referenced parameter is not present in the  
62 classifier, the value of this object is reported as 0."

63 REFERENCE

```

1         "Subclause 11.13.19.3.4.12 in IEEE Std 802.16-2004"
2         ::= { wman2IfBsClassifierRuleEntry 23 }
3
4
5 wman2IfBsClassifierRuleState OBJECT-TYPE
6     SYNTAX      INTEGER {active(1),
7                  inactive(2)}
8     MAX-ACCESS  read-create
9     STATUS      current
10    DESCRIPTION
11        "This object indicates whether or not the classifier is
12         enabled to classify packets to a Service Flow.
13         If the referenced parameter is not present in the
14         classifier, the value of this object is reported
15         as active(1)."

```

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



```

1         upon SNMP request."
2         ::= { wman2IfBsClassifierRuleEntry 30 }
3
4
5 wman2IfBsSsPacketCounterTable OBJECT-TYPE
6     SYNTAX      SEQUENCE OF Wman2IfBsSsPacketCounterEntry
7     MAX-ACCESS  not-accessible
8     STATUS      current
9     DESCRIPTION
10        "This table contains counters to keep track of the number
11        of packets and octets that have been received or
12        transmitted on the per service flow basis."
13        ::= { wman2IfBsPacketCs 5 }
14
15
16 wman2IfBsSsPacketCounterEntry OBJECT-TYPE
17     SYNTAX      Wman2IfBsSsPacketCounterEntry
18     MAX-ACCESS  not-accessible
19     STATUS      current
20     DESCRIPTION
21        "This table provides one row for each service flow, and
22        is indexed by ifIndex, wman2IfCmnCpsSfMacAddress, and
23        wman2IfCmnCpsSfId."
24     INDEX { ifIndex, wman2IfCmnCpsSfMacAddress,
25             wman2IfCmnCpsSfId }
26     ::= { wman2IfBsSsPacketCounterTable 1 }
27
28
29
30
31 Wman2IfBsSsPacketCounterEntry ::= SEQUENCE {
32     wman2IfBsSsMacSduCount          Counter64,
33     wman2IfBsSsOctetCount           Counter64,
34     wman2IfBsSsResetCounter         INTEGER,
35     wman2IfBsSsResetCounterTime     TimeStamp}
36
37
38 wman2IfBsSsMacSduCount OBJECT-TYPE
39     SYNTAX      Counter64
40     MAX-ACCESS  read-only
41     STATUS      current
42     DESCRIPTION
43        "This object counts the number of MAC SDUs that have
44        been transmitted or received."
45        ::= { wman2IfBsSsPacketCounterEntry 1 }
46
47
48
49 wman2IfBsSsOctetCount OBJECT-TYPE
50     SYNTAX      Counter64
51     MAX-ACCESS  read-only
52     STATUS      current
53     DESCRIPTION
54        "This object counts the number of octets of MAC SDUs
55        that have been transmitted or received."
56        ::= { wman2IfBsSsPacketCounterEntry 2 }
57
58
59
60 wman2IfBsSsResetCounter OBJECT-TYPE
61     SYNTAX      INTEGER {null(0),
62                        resetCounter(1)}
63     MAX-ACCESS  read-write
64     STATUS      current
65

```

```

1      DESCRIPTION
2          "When this attribute is SET to resetCounter(1), the
3            corresponding entry of packet counters will be reset.
4            A GET operation performed on this object will always
5            return null(0). The counter is normally reset after
6            the packet count information is retrieved. "
7
8      ::= { wman2IfBsSsPacketCounterEntry 3 }
9
10
11 wman2IfBsSsResetCounterTime OBJECT-TYPE
12     SYNTAX      TimeStamp
13     MAX-ACCESS  read-only
14     STATUS      current
15     DESCRIPTION
16         "Indicates the date and time when the counter is
17         reset."
18     ::= { wman2IfBsSsPacketCounterEntry 4 }
19
20
21 --
22 -- wman2IfBsCps contain the Base Station Common Part Sublayer objects
23 --
24
25 wman2IfBsCps OBJECT IDENTIFIER ::= { wman2IfBsObjects 2 }
26
27
28 wman2IfBsRegisteredSsTable OBJECT-TYPE
29     SYNTAX      SEQUENCE OF Wman2IfBsRegisteredSsEntry
30     MAX-ACCESS  not-accessible
31     STATUS      current
32     DESCRIPTION
33         "This table contains the basic capability information
34         of SSs that have been negotiated and agreed between
35         BS and SS via REG-REQ and REG-RSP messages. An entry
36         in this table indicates the SS has entered and registered
37         into the BS."
38
39     REFERENCE
40         "Subclause 6.3.2.3.7 in IEEE Std 802.16-2004"
41     ::= { wman2IfBsCps 1 }
42
43
44 wman2IfBsRegisteredSsEntry OBJECT-TYPE
45     SYNTAX      Wman2IfBsRegisteredSsEntry
46     MAX-ACCESS  not-accessible
47     STATUS      current
48     DESCRIPTION
49         "This table provides one row for each SS that has been
50         registered in the BS, and is indexed by
51         wman2IfBsSsMacAddress. The primary index is the ifIndex
52         with an ifType of propBWAmp2Mp, indicating the BS sector
53         with which the SS is associated. wman2IfBsSsMacAddress
54         identifies the SS being registered."
55
56     INDEX { ifIndex, wman2IfBsSsMacAddress }
57     ::= { wman2IfBsRegisteredSsTable 1 }
58
59
60
61 Wman2IfBsRegisteredSsEntry ::= SEQUENCE {
62     wman2IfBsSsMacAddress      MacAddress,
63     wman2IfBsSsBasicCid       Wman2IfCidType,
64     wman2IfBsSsPrimaryCid     Wman2IfCidType,
65

```

```

1      wman2IfBsSsSecondaryCid      Wman2IfCidType,
2      wman2IfBsSsManagementSupport  INTEGER,
3      wman2IfBsSsIpManagementMode   INTEGER,
4      wman2IfBsSs2ndMgmtArqEnable    TruthValue,
5      wman2IfBsSs2ndMgmtArqWindowSize  INTEGER,
6      wman2IfBsSs2ndMgmtArqDnLinkTxDelay  INTEGER,
7      wman2IfBsSs2ndMgmtArqUpLinkTxDelay  INTEGER,
8      wman2IfBsSs2ndMgmtArqDnLinkRxDelay  INTEGER,
9      wman2IfBsSs2ndMgmtArqUpLinkRxDelay  INTEGER,
10     wman2IfBsSs2ndMgmtArqBlockLifetime  INTEGER,
11     wman2IfBsSs2ndMgmtArqSyncLossTimeout  INTEGER,
12     wman2IfBsSs2ndMgmtArqDeliverInOrder  TruthValue,
13     wman2IfBsSs2ndMgmtArqRxPurgeTimeout  INTEGER,
14     wman2IfBsSs2ndMgmtArqBlockSize      INTEGER,
15     wman2IfBsSsVendorIdEncoding         OCTET STRING,
16     wman2IfBsSsAasBroadcastPermission   INTEGER,
17     wman2IfBsSsMaxTxPowerBpsk           Wman2IfMaxTxPowerType,
18     wman2IfBsSsMaxTxPowerQpsk           Wman2IfMaxTxPowerType,
19     wman2IfBsSsMaxTxPower16Qam          Wman2IfMaxTxPowerType,
20     wman2IfBsSsMaxTxPower64Qam          Wman2IfMaxTxPowerType,
21     wman2IfBsSsMacVersion               Wman2IfMacVersion}
22
23 wman2IfBsSsMacAddress OBJECT-TYPE
24     SYNTAX      MacAddress
25     MAX-ACCESS  not-accessible
26     STATUS      current
27     DESCRIPTION
28         "The MAC address of SS is received from the RNG-REQ
29         message. When SS registers, this MAC address is entered
30         into the table, and used as the identifier to the SS."
31     REFERENCE
32         "Subclause 6.3.2.3.5 in IEEE Std 802.16-2004"
33     ::= { wman2IfBsRegisteredSsEntry 1 }
34
35 wman2IfBsSsBasicCid OBJECT-TYPE
36     SYNTAX      Wman2IfCidType
37     MAX-ACCESS  read-only
38     STATUS      current
39     DESCRIPTION
40         "The value of this object indicates the SS's basic CID
41         that was sent in the RNG-RSP message."
42     REFERENCE
43         "Subclause 6.3.2.3.6 in IEEE Std 802.16-2004"
44     ::= { wman2IfBsRegisteredSsEntry 2 }
45
46 wman2IfBsSsPrimaryCid OBJECT-TYPE
47     SYNTAX      Wman2IfCidType
48     MAX-ACCESS  read-only
49     STATUS      current
50     DESCRIPTION
51         "The value of this object indicates the primary CID of the
52         SS received from the RNG-RSP message."
53     REFERENCE
54         "Subclause 6.3.2.3.6 in IEEE Std 802.16-2004"

```

```

1      ::= { wman2IfBsRegisteredSsEntry 3 }
2
3
4  wman2IfBsSsSecondaryCid OBJECT-TYPE
5      SYNTAX      Wman2IfCidType
6      MAX-ACCESS  read-only
7      STATUS      current
8      DESCRIPTION
9          "The value of this object indicates the secondary
10         management CID present in the REG-RSP message. The value
11         should be null if the 2nd management connection is not
12         available."
13
14      REFERENCE
15          "Subclause 6.4.2.3.8 in IEEE Std 802.16-2004"
16      ::= { wman2IfBsRegisteredSsEntry 4 }
17
18
19  wman2IfBsSsManagementSupport OBJECT-TYPE
20      SYNTAX      INTEGER {unmanagedSs(0),
21                          managedSs(1)}
22
23      MAX-ACCESS  read-only
24      STATUS      current
25      DESCRIPTION
26          "This object indicates whether or not the SS is managed."
27
28      REFERENCE
29          "Subclause 11.7.2 in IEEE Std 802.16-2004"
30      ::= { wman2IfBsRegisteredSsEntry 5 }
31
32
33  wman2IfBsSsIpManagementMode OBJECT-TYPE
34      SYNTAX      INTEGER {unmanaged(0),
35                          ipManaged(1)}
36
37      MAX-ACCESS  read-only
38      STATUS      current
39      DESCRIPTION
40          "The IP management mode parameter dictates whether
41         the provider intends to manage the SS on an ongoing
42         basis via IP-based mechanisms."
43
44      REFERENCE
45          "Subclause 11.7.3 in IEEE Std 802.16-2004"
46      ::= { wman2IfBsRegisteredSsEntry 6 }
47
48
49  wman2IfBsSs2ndMgmtArqEnable OBJECT-TYPE
50      SYNTAX      TruthValue
51      MAX-ACCESS  read-only
52      STATUS      current
53      DESCRIPTION
54          "True(1) ARQ enabling is requested for the 2nd
55         management channel."
56
57      REFERENCE
58          "Subclause 11.13.18.1 in IEEE Std 802.16-2004"
59      ::= { wman2IfBsRegisteredSsEntry 7 }
60
61
62  wman2IfBsSs2ndMgmtArqWindowSize OBJECT-TYPE
63      SYNTAX      INTEGER (1 .. 1024)
64      MAX-ACCESS  read-only
65      STATUS      current

```

```

1      DESCRIPTION
2          "Indicates the maximum number of unacknowledged
3          fragments at any time for 2nd management connection."
4      REFERENCE
5          "Subclause 11.13.18.2 in IEEE Std 802.16-2004"
6          ::= { wman2IfBsRegisteredSsEntry 8 }
7
8
9      wman2IfBsSs2ndMgmtArqDnLinkTxDelay OBJECT-TYPE
10         SYNTAX      INTEGER (0 .. 65535)
11         UNITS        "us"
12         MAX-ACCESS   read-only
13         STATUS        current
14         DESCRIPTION
15             "The object defines the ARQ transmitter delay for
16             downlink transmission."
17         REFERENCE
18             "Subclause 11.13.18.3 in IEEE Std 802.16-2004"
19             ::= { wman2IfBsRegisteredSsEntry 9 }
20
21
22      wman2IfBsSs2ndMgmtArqUpLinkTxDelay OBJECT-TYPE
23         SYNTAX      INTEGER (0 .. 65535)
24         UNITS        "us"
25         MAX-ACCESS   read-only
26         STATUS        current
27         DESCRIPTION
28             "The object defines the ARQ transmitter delay for
29             uplink transmission."
30         REFERENCE
31             "Subclause 11.13.18.3 in IEEE Std 802.16-2004"
32             ::= { wman2IfBsRegisteredSsEntry 10 }
33
34
35      wman2IfBsSs2ndMgmtArqDnLinkRxDelay OBJECT-TYPE
36         SYNTAX      INTEGER (0 .. 65535)
37         UNITS        "us"
38         MAX-ACCESS   read-only
39         STATUS        current
40         DESCRIPTION
41             "The object defines the ARQ receiver delay for
42             downlink transmission."
43         REFERENCE
44             "Subclause 11.13.18.3 in IEEE Std 802.16-2004"
45             ::= { wman2IfBsRegisteredSsEntry 11 }
46
47
48      wman2IfBsSs2ndMgmtArqUpLinkRxDelay OBJECT-TYPE
49         SYNTAX      INTEGER (0 .. 65535)
50         UNITS        "us"
51         MAX-ACCESS   read-only
52         STATUS        current
53         DESCRIPTION
54             "The object defines the ARQ receiver delay for
55             uplink transmission."
56         REFERENCE
57             "Subclause 11.13.18.3 in IEEE Std 802.16-2004"
58             ::= { wman2IfBsRegisteredSsEntry 12 }
59
60
61
62
63
64
65

```

```

1
2 wman2IfBsSs2ndMgmtArqBlockLifetime OBJECT-TYPE
3     SYNTAX      INTEGER (0 .. 65535)
4     UNITS       "10 us"
5     MAX-ACCESS  read-only
6     STATUS      current
7     DESCRIPTION
8         "The maximum time interval an ARQ fragment will be
9         managed by the transmitter ARQ machine, once
10        initial transmission of the fragment has occurred.
11        If transmission or retransmission of the fragment
12        is not acknowledged by the receiver before the
13        time limit is reached, the fragment is discarded.
14        A value of 0 means Infinite."
15    REFERENCE
16        "Subclause 11.13.18.4 in IEEE Std 802.16-2004"
17    DEFVAL      {0}
18    ::= { wman2IfBsRegisteredSsEntry 13 }
19
20 wman2IfBsSs2ndMgmtArqSyncLossTimeout OBJECT-TYPE
21     SYNTAX      INTEGER (0 .. 65535)
22     UNITS       "10 us"
23     MAX-ACCESS  read-only
24     STATUS      current
25     DESCRIPTION
26         "The maximum interval before declaring a loss
27         of synchronization of the sender and receiver
28         state machines. A value of 0 means Infinite."
29    REFERENCE
30        "Subclause 11.13.18.5 in IEEE Std 802.16-2004"
31    DEFVAL      {0}
32    ::= { wman2IfBsRegisteredSsEntry 14 }
33
34 wman2IfBsSs2ndMgmtArqDeliverInOrder OBJECT-TYPE
35     SYNTAX      TruthValue
36     MAX-ACCESS  read-only
37     STATUS      current
38     DESCRIPTION
39         "Indicates whether or not data is to be delivered
40         by the receiving MAC to its client application
41         in the order in which data was handed off to the
42         originating MAC."
43    REFERENCE
44        "Subclause 11.13.18.6 in IEEE Std 802.16-2004"
45    ::= { wman2IfBsRegisteredSsEntry 15 }
46
47 wman2IfBsSs2ndMgmtArqRxPurgeTimeout OBJECT-TYPE
48     SYNTAX      INTEGER (0 .. 65535)
49     UNITS       "10 us"
50     MAX-ACCESS  read-only
51     STATUS      current
52     DESCRIPTION
53         "Indicates the time interval the ARQ window is advanced
54         after a fragment is received. A value of 0 means Infinite."
55
56
57
58
59
60
61
62
63
64
65

```

```

1      REFERENCE
2          "Subclause 11.13.18.7 in IEEE Std 802.16-2004"
3      DEFVAL      {0}
4      ::= { wman2IfBsRegisteredSsEntry 16 }
5
6
7      wman2IfBsSs2ndMgmtArqBlockSize OBJECT-TYPE
8          SYNTAX      INTEGER (1 .. 2040)
9          MAX-ACCESS   read-only
10         STATUS      current
11         DESCRIPTION
12             "This parameter specifies the size of a ARQ block. This
13             parameter shall be established by negotiation during the
14             connection setup. The requester includes its desired
15             setting in the REQ message. The receiver of the REQ
16             message shall take the smaller of the value it prefers and
17             value in the REQ message. The minimum value is included in
18             the RSP message."
19         REFERENCE
20             "Subclause 11.13.18.8 in IEEE Std 802.16-2004"
21         ::= { wman2IfBsRegisteredSsEntry 17 }
22
23
24      wman2IfBsSsVendorIdEncoding OBJECT-TYPE
25          SYNTAX      OCTET STRING (SIZE(3))
26          MAX-ACCESS   read-only
27          STATUS      current
28          DESCRIPTION
29              "The value field contains the vendor identification
30              specified by the 3 byte vendor-specific organizationally
31              unique identifier of the SS or BS MAC address. A vendor ID
32              used in a REG-REQ shall be the Vendor ID of the SS sending
33              the request. A vendor ID used in a REG-RSP shall be the
34              Vendor ID of the BS sending the response."
35          REFERENCE
36              "Subclause 11.1.5 in IEEE Std 802.16-2004"
37          ::= { wman2IfBsRegisteredSsEntry 18 }
38
39
40      wman2IfBsSsAasBroadcastPermission OBJECT-TYPE
41          SYNTAX      INTEGER {contBasedBwReqPermitted(0),
42                               contBasedBwReqNotPermitted(1)}
43          MAX-ACCESS   read-only
44          STATUS      current
45          DESCRIPTION
46              "This parameter specifies if SS can issue contention-based
47              bandwidth request or not."
48          REFERENCE
49              "Subclause 11.6 in IEEE Std 802.16-2004"
50          ::= { wman2IfBsRegisteredSsEntry 19 }
51
52
53      wman2IfBsSsMaxTxPowerBpsk OBJECT-TYPE
54          SYNTAX      Wman2IfMaxTxPowerType
55          MAX-ACCESS   read-only
56          STATUS      current
57          DESCRIPTION
58              "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



```

1      "Subclause 11.8.3.2 in IEEE Std 802.16-2004"
2      ::= { wman2IfBsRegisteredSsEntry 23 }
3
4
5  wman2IfBsSsMacVersion OBJECT-TYPE
6      SYNTAX      Wman2IfMacVersion
7      MAX-ACCESS  read-only
8      STATUS      current
9      DESCRIPTION
10         "This parameter specifies the version of 802.16 to which the
11         message originator conforms."
12
13     REFERENCE
14         "Subclause 11.1.3 in IEEE Std 802.16-2004"
15     ::= { wman2IfBsRegisteredSsEntry 24 }
16
17
18 --
19 -- wman2IfBsConfigurationTable contains global parameters common in BS
20 --
21
22 wman2IfBsConfigurationTable OBJECT-TYPE
23     SYNTAX      SEQUENCE OF Wman2IfBsConfigurationEntry
24     MAX-ACCESS  not-accessible
25     STATUS      current
26     DESCRIPTION
27         "This table provides one row for each BS sector that
28         contains the BS system parameters as defined in Subclause
29         10.1 of [3]. The objects in this table define the default
30         behaviour of the BS for 2nd Management connection
31         scheduling and SFID allocation as well as configuration
32         parameters of the CPS scheduler and AAS system."
33
34     REFERENCE
35         "Subclause 10.1 in IEEE Std 802.16-2004"
36     ::= { wman2IfBsCps 2 }
37
38
39
40 wman2IfBsConfigurationEntry OBJECT-TYPE
41     SYNTAX      Wman2IfBsConfigurationEntry
42     MAX-ACCESS  not-accessible
43     STATUS      current
44     DESCRIPTION
45         "This table is indexed by ifIndex with an ifType of
46         propBWA2Mp."
47     INDEX { ifIndex }
48     ::= { wman2IfBsConfigurationTable 1 }
49
50
51 Wman2IfBsConfigurationEntry ::= SEQUENCE {
52     wman2IfBsDcdInterval          INTEGER,
53     wman2IfBsUcdInterval          INTEGER,
54     wman2IfBsUcdTransition        INTEGER,
55     wman2IfBsDcdTransition        INTEGER,
56     wman2IfBsInitialRangingInterval INTEGER,
57     wman2IfBsSsULMapProcTime      Unsigned32,
58     wman2IfBsSsRangRespProcTime   Unsigned32,
59     wman2IfBsT5Timeout            INTEGER,
60     wman2IfBsT9Timeout            INTEGER,
61     wman2IfBsT13Timeout           INTEGER,
62     wman2IfBsT15Timeout           INTEGER,
63
64
65

```

```

1      wman2IfBsT17Timeout      INTEGER,
2      wman2IfBsT27IdleTimer    Unsigned32,
3      wman2IfBsT27ActiveTimer  Unsigned32,
4      wman2IfBs2ndMgmtDlQoSProfileIndex  INTEGER,
5      wman2IfBs2ndMgmtUlQoSProfileIndex  INTEGER,
6      wman2IfBsAutoSfidEnabled  INTEGER,
7      wman2IfBsAutoSfidRangeMin Unsigned32,
8      wman2IfBsAutoSfidRangeMax Unsigned32,
9      wman2IfBsAasChanFbckReqFreq  INTEGER,
10     wman2IfBsAasBeamSelectFreq  INTEGER,
11     wman2IfBsAasChanFbckReqResolution  INTEGER,
12     wman2IfBsAasBeamReqResolution  INTEGER,
13     wman2IfBsAasNumOptDiversityZones  INTEGER,
14     wman2IfBsResetSector  INTEGER}
15
16
17
18
19  wman2IfBsDcdInterval OBJECT-TYPE
20      SYNTAX      INTEGER (0..10000)
21      UNITS       "milliseconds"
22      MAX-ACCESS  read-write
23      STATUS      current
24      DESCRIPTION
25          "Time between transmission of DCD messages in ms."
26      ::= { wman2IfBsConfigurationEntry 1 }
27
28
29
30  wman2IfBsUcdInterval OBJECT-TYPE
31      SYNTAX      INTEGER (0..10000)
32      UNITS       "milliseconds"
33      MAX-ACCESS  read-write
34      STATUS      current
35      DESCRIPTION
36          "Time between transmission of UCD messages in ms."
37      ::= { wman2IfBsConfigurationEntry 2 }
38
39
40
41  wman2IfBsUcdTransition OBJECT-TYPE
42      SYNTAX      INTEGER (2..65535)
43      UNITS       "Number of MAC Frames"
44      MAX-ACCESS  read-write
45      STATUS      current
46      DESCRIPTION
47          "The time the BS shall wait after transmitting a UCD message
48          with an incremented Configuration Change Count before
49          issuing a UL-MAP message referring to
50          Uplink_Burst_Profiles defined in that UCD message."
51      ::= { wman2IfBsConfigurationEntry 3 }
52
53
54
55  wman2IfBsDcdTransition OBJECT-TYPE
56      SYNTAX      INTEGER (2..65535)
57      UNITS       "Number of MAC Frames"
58      MAX-ACCESS  read-write
59      STATUS      current
60      DESCRIPTION
61          "The time the BS shall wait after transmitting a DCD message
62          with an incremented Configuration Change Count before
63          issuing a DL-MAP message referring to
64
65

```

```

1           Downlink_Burst_Profiles defined in that DCD message."
2       ::= { wman2IfBsConfigurationEntry 4 }
3
4
5   wman2IfBsInitialRangingInterval OBJECT-TYPE
6       SYNTAX      INTEGER(0..2000)
7       UNITS       "milliseconds"
8       MAX-ACCESS  read-write
9       STATUS      current
10      DESCRIPTION
11          "Time between Initial Ranging regions assigned by the BS
12           in ms."
13      ::= { wman2IfBsConfigurationEntry 5 }
14
15
16   wman2IfBsSsULMapProcTime OBJECT-TYPE
17       SYNTAX      Unsigned32 (200 .. 4294967295)
18       UNITS       "micro seconds"
19       MAX-ACCESS  read-write
20       STATUS      current
21       DESCRIPTION
22          "Time provided between arrival of the last bit of a UL-MAP
23           at an SS and effectiveness of that map in us."
24      ::= { wman2IfBsConfigurationEntry 6 }
25
26
27   wman2IfBsSsRangRespProcTime OBJECT-TYPE
28       SYNTAX      Unsigned32 (10000 .. 4294967295)
29       UNITS       "micro seconds"
30       MAX-ACCESS  read-write
31       STATUS      current
32       DESCRIPTION
33          "Time allowed for an SS following receipt of a ranging
34           response before it is expected to reply to an invited
35           ranging request in us."
36      ::= { wman2IfBsConfigurationEntry 7 }
37
38
39   wman2IfBsT5Timeout OBJECT-TYPE
40       SYNTAX      INTEGER (0 .. 2000)
41       UNITS       "milliseconds"
42       MAX-ACCESS  read-write
43       STATUS      current
44       DESCRIPTION
45          "Wait for Uplink Channel Change Response in ms."
46      ::= { wman2IfBsConfigurationEntry 8 }
47
48
49   wman2IfBsT9Timeout OBJECT-TYPE
50       SYNTAX      INTEGER (300 .. 65535)
51       UNITS       "milliseconds"
52       MAX-ACCESS  read-write
53       STATUS      current
54       DESCRIPTION
55          "Registration Timeout, the time allowed between the BS
56           sending a RNG-RSP (success) to an SS, and receiving a
57           SBC-REQ from that same SS in ms."
58      ::= { wman2IfBsConfigurationEntry 9 }
59
60
61
62
63
64
65

```

```

1  wman2IfBsT13Timeout OBJECT-TYPE
2      SYNTAX      INTEGER (15 .. 65535)
3      UNITS       "minutes"
4      MAX-ACCESS  read-write
5      STATUS      current
6      DESCRIPTION
7          "The time allowed for an SS, following receipt of a
8              REG-RSP message to send a TFTP-CPLT message to the BS
9              in min."
10         ::= { wman2IfBsConfigurationEntry 10 }
11
12  wman2IfBsT15Timeout OBJECT-TYPE
13      SYNTAX      INTEGER (20 .. 65535)
14      UNITS       "milliseconds"
15      MAX-ACCESS  read-write
16      STATUS      current
17      DESCRIPTION
18          "Wait for MCA-RSP in ms."
19         ::= { wman2IfBsConfigurationEntry 11 }
20
21  wman2IfBsT17Timeout OBJECT-TYPE
22      SYNTAX      INTEGER (5 .. 65535)
23      UNITS       "minutes"
24      MAX-ACCESS  read-write
25      STATUS      current
26      DESCRIPTION
27          "Time allowed for SS to complete SS Authorization and
28              Key Exchange in minutes."
29         ::= { wman2IfBsConfigurationEntry 12 }
30
31  wman2IfBsT27IdleTimer OBJECT-TYPE
32      SYNTAX      Unsigned32 (10000 .. 4294967295)
33      UNITS       "us"
34      MAX-ACCESS  read-write
35      STATUS      current
36      DESCRIPTION
37          "Maximum time between unicast grants to SS when BS believes
38              SS uplink transmission quality is good enough."
39         ::= { wman2IfBsConfigurationEntry 13 }
40
41  wman2IfBsT27ActiveTimer OBJECT-TYPE
42      SYNTAX      Unsigned32 (10000 .. 4294967295)
43      UNITS       "us"
44      MAX-ACCESS  read-write
45      STATUS      current
46      DESCRIPTION
47          "Maximum time between unicast grants to SS when BS believes
48              SS uplink transmission quality is not good enough."
49         ::= { wman2IfBsConfigurationEntry 14 }
50
51  wman2IfBs2ndMgmtDlQoSProfileIndex OBJECT-TYPE
52      SYNTAX      INTEGER (1..65535)
53      MAX-ACCESS  read-write
54
55
56
57
58
59
60
61
62
63
64
65

```

```

1      STATUS      current
2      DESCRIPTION
3          "This object defines the index of a row in
4          wman2IfBsServiceClassTable which is used to obtain all QoS
5          parameters required for the BS downlink scheduler to
6          properly allocate and manage the bandwidth and schedule
7          the 2nd Management Connection traffic. The 2nd Management
8          Connection traffic doesn't differ from Traffic Connection
9          traffic in the area of QoS management."
10         ::= { wman2IfBsConfigurationEntry 15 }
11
12 wman2IfBs2ndMgmtUlQoSProfileIndex OBJECT-TYPE
13     SYNTAX      INTEGER (1..65535)
14     MAX-ACCESS  read-write
15     STATUS      current
16     DESCRIPTION
17         "This object defines the index of a row in
18         wman2IfBsServiceClassTable which is used to obtain all QoS
19         parameters required for the BS uplink scheduler to
20         properly allocate and manage the bandwidth and schedule
21         the 2nd Management Connection traffic. The 2nd Management
22         Connection traffic doesn't differ from Traffic Connection
23         traffic in the area of QoS management."
24         ::= { wman2IfBsConfigurationEntry 16 }
25
26 wman2IfBsAutoSfidEnabled OBJECT-TYPE
27     SYNTAX      INTEGER {autoSfidDisabled(0),
28                        autoSfidEnabled(1)}
29     MAX-ACCESS  read-write
30     STATUS      current
31     DESCRIPTION
32         "This object defines whether the BS is allowed to
33         autonomously allocate SFIDs. When the object is set to
34         autoSfidEnabled, the BS is allowed to autonomously allocate
35         SFIDs from the range of allowed values defined by
36         wman2IfBsConfigExtAutoSfidRangeMin and
37         wman2IfBsConfigExtAutoSfidRangeMax. A SF is created
38         autonomously when it has not been provisioned in the
39         wman2IfBsProvisionedSfTable and may be initiated by either
40         the SS or BS. The BS should always initiate SF creation
41         based on the provisioned Service flows configured in
42         wman2IfBsProvisionedSfTable."
43     REFERENCE
44         "Subclause 11.13.1 in IEEE Std 802.16-2004"
45     ::= { wman2IfBsConfigurationEntry 17 }
46
47 wman2IfBsAutoSfidRangeMin OBJECT-TYPE
48     SYNTAX      Unsigned32 ( 1 .. 4294967295)
49     MAX-ACCESS  read-write
50     STATUS      current
51     DESCRIPTION
52         "This object defines the minimum value of the range of SFID
53         values allocated for the BS sector for the purpose of
54         autonomous creation of service flows. This value is used

```

```

1           when the object wman2IfBsAutoSfidEnabled allows
2           autonomous creation of SFIDs."
3
4   REFERENCE
5       "Subclause 11.13.1 in IEEE Std 802.16-2004"
6   ::= { wman2IfBsConfigurationEntry 18 }
7
8   wman2IfBsAutoSfidRangeMax OBJECT-TYPE
9       SYNTAX      Unsigned32 ( 1 .. 4294967295)
10      MAX-ACCESS   read-write
11      STATUS       current
12      DESCRIPTION
13          "This object defines the maximum value of the range of SFID
14          values allocated for the BS sector for the purpose of
15          autonomous creation of the service flows. This value is
16          used when the object wman2IfBsAutoSfidEnabled allows
17          autonomous creation of SFIDs."
18      REFERENCE
19          "Subclause 11.13.1 in IEEE Std 802.16-2004"
20      ::= { wman2IfBsConfigurationEntry 19 }
21
22   wman2IfBsAasChanFbckReqFreq OBJECT-TYPE
23       SYNTAX      INTEGER (5..10000)
24       UNITS       "ms"
25       MAX-ACCESS   read-write
26       STATUS       current
27       DESCRIPTION
28          "This object defines AAS channel feedback request frequency.
29          It controls the frequency of downlink beam measurements.
30          The relevant MAC messages are AAS-FBCK-REQ/RSP"
31      REFERENCE
32          "Subclause 6.3.2.3.40 in IEEE Std 802.16-2004"
33      ::= { wman2IfBsConfigurationEntry 20 }
34
35   wman2IfBsAasBeamSelectFreq OBJECT-TYPE
36       SYNTAX      INTEGER (5..10000)
37       UNITS       "ms"
38       MAX-ACCESS   read-write
39       STATUS       current
40       DESCRIPTION
41          "This object defines AAS beam select frequency.
42          It controls how often SS issues beam select messages.
43          The relevant MAC message is AAS_Beam_Select"
44      REFERENCE
45          "Subclause 6.3.2.3.41 in IEEE Std 802.16-2004"
46      ::= { wman2IfBsConfigurationEntry 21 }
47
48   wman2IfBsAasChanFbckReqResolution OBJECT-TYPE
49       SYNTAX      INTEGER { aasChanFbckRes00(0),
50                             aasChanFbckRes01(1),
51                             aasChanFbckRes10(2),
52                             aasChanFbckRes11(3) }
53       MAX-ACCESS   read-write
54       STATUS       current
55       DESCRIPTION

```

```

1      "This object defines AAS feedback request frequency
2      measurements resolution. It is coded as follows:
3      aasChanFbckRes00 - every 4th carrier
4                          (-100, -96, -92, .., 100)
5      aasChanFbckRes01 - every 8th carrier
6                          (-100, -92, -84, .., 100)
7      aasChanFbckRes10 - every 16th carrier
8                          (-100, -84, -68, .., 100)
9      aasChanFbckRes11 - every 32th carrier
10                         (-100, -68, -36, .., 100)"
11
12  REFERENCE
13      "Subclause 8.3.6.4 in IEEE Std 802.16-2004"
14      ::= { wman2IfBsConfigurationEntry 22 }
15
16  wman2IfBsAasBeamReqResolution OBJECT-TYPE
17      SYNTAX      INTEGER {aasBeamReqRes000(0),
18                          aasBeamReqRes001(1),
19                          aasBeamReqRes010(2),
20                          aasBeamReqRes011(3),
21                          aasBeamReqRes100(4)}
22
23      MAX-ACCESS  read-write
24      STATUS      current
25      DESCRIPTION
26          "This object defines AAS beam select request resolution
27          parameter. It is coded as follows:
28          aasBeamReqRes000 - every 4th carrier
29          aasBeamReqRes001 - every 8th carrier
30          aasBeamReqRes010 - every 16th carrier
31          aasBeamReqRes011 - every 32th carrier
32          aasBeamReqRes100 - every 64th carrier"
33
34  REFERENCE
35      "Subclause 8.3.6.5 in IEEE Std 802.16-2004"
36      ::= { wman2IfBsConfigurationEntry 23 }
37
38  wman2IfBsAasNumOptDiversityZones OBJECT-TYPE
39      SYNTAX      INTEGER (0..65535)
40      MAX-ACCESS  read-write
41      STATUS      current
42      DESCRIPTION
43          "This object defines the number of optional diversity zones
44          transmitted in downlink."
45
46  REFERENCE
47      "Figure 209 in IEEE Std 802.16-2004"
48      ::= { wman2IfBsConfigurationEntry 24 }
49
50  wman2IfBsResetSector OBJECT-TYPE
51      SYNTAX      INTEGER {actionResetSectorNoAction(0),
52                          actionResetSector(1)}
53
54      MAX-ACCESS  read-write
55      STATUS      current
56      DESCRIPTION
57          "This object should be implemented as follows:
58          - When set to actionsResetSector value, instructs BS to
59          reset the sector identified by ifIndex. As a result of

```

```

1         this action the Phy and Mac of this sector should be
2         reinitialised.
3         - When set to value different than actionsResetSector it
4         should be ignored
5         - When read it should return actionsResetSectorNoAction"
6         ::= { wman2IfBsConfigurationEntry 25 }
7
8
9
10        --
11        -- Base Station Channel Measurement Table
12        --
13        wman2IfBsChannelMeasurementTable OBJECT-TYPE
14            SYNTAX      SEQUENCE OF Wman2IfBsChannelMeasurementEntry
15            MAX-ACCESS   not-accessible
16            STATUS       current
17            DESCRIPTION
18                "This table contains channel measurement information as
19                derived from BS measurement of uplink signal from SS,
20                and the downlink signal as reported from SS using
21                REP-REQ/RSP messages. The table shall be maintained as
22                FIFO to store measurement samples that can be used to
23                create RSSI and CINR histogram report. When the
24                measurement entry for a SS reaches the limit, the oldest
25                entry shall be deleted as the new entry is added to the
26                table."
27            REFERENCE
28                "6.3.2.3.33 in IEEE Std 802.16-2004"
29            ::= { wman2IfBsCps 3 }
30
31
32
33
34        wman2IfBsChannelMeasurementEntry OBJECT-TYPE
35            SYNTAX      Wman2IfBsChannelMeasurementEntry
36            MAX-ACCESS   not-accessible
37            STATUS       current
38            DESCRIPTION
39                "Each entry in the table contains RSSI and CINR
40                signal quality measurement on signal received from the SS.
41                The primary index is the ifIndex with ifType of propBWAmp2Mp
42                identifying the BS sector. wman2IfBsSsMacAddress identifies
43                the SS from which the signal was received.
44                wman2IfBsChannelDirection is the index to the direction of
45                the channel. wman2IfBsHistogramIndex is the index to
46                histogram samples. Since there is no time stamp in the
47                table, wman2IfBsHistogramIndex should be increased
48                monotonically, and wraps around when it reaches the
49                implementation specific limit."
50            INDEX
51                { ifIndex,
52                  wman2IfBsSsMacAddress,
53                  wman2IfBsChannelDirection,
54                  wman2IfBsHistogramIndex }
55            ::= { wman2IfBsChannelMeasurementTable 1 }
56
57
58
59
60
61        Wman2IfBsChannelMeasurementEntry ::= SEQUENCE {
62            wman2IfBsChannelDirection      INTEGER,
63            wman2IfBsHistogramIndex         Unsigned32,
64            wman2IfBsChannelNumber          Wman2IfChannelNumber,
65

```



```

1          wman2IfBsStartFrame                INTEGER,
2          wman2IfBsDuration                   INTEGER,
3          wman2IfBsBasicReport                BITS,
4          wman2IfBsMeanCinrReport             INTEGER,
5          wman2IfBsMeanRssiReport             INTEGER,
6          wman2IfBsStdDeviationCinrReport     INTEGER,
7          wman2IfBsStdDeviationRssiReport     INTEGER}
8
9
10
11  wman2IfBsChannelDirection OBJECT-TYPE
12      SYNTAX      INTEGER {downstream(1),
13                      upstream(2)}
14      MAX-ACCESS  not-accessible
15      STATUS      current
16      DESCRIPTION
17          "wman2IfBsChannelDirection identifies the direction of a
18           a channel where the measurement takes place."
19      ::= { wman2IfBsChannelMeasurementEntry 1 }
20
21
22
23  wman2IfBsHistogramIndex OBJECT-TYPE
24      SYNTAX      Unsigned32 (1 .. 4294967295)
25      MAX-ACCESS  read-only
26      STATUS      current
27      DESCRIPTION
28          "wman2IfBsHistogramIndex identifies the histogram samples
29           in the table for each subscriber station."
30      ::= { wman2IfBsChannelMeasurementEntry 2 }
31
32
33
34  wman2IfBsChannelNumber OBJECT-TYPE
35      SYNTAX      Wman2IfChannelNumber
36      MAX-ACCESS  read-only
37      STATUS      current
38      DESCRIPTION
39          "Physical channel number to be reported on is only
40           applicable to license exempt band. For licensed band,
41           this parameter should be null."
42      REFERENCE
43          "Subclause 11.12 in IEEE Std 802.16-2004"
44      ::= { wman2IfBsChannelMeasurementEntry 3 }
45
46
47
48  wman2IfBsStartFrame OBJECT-TYPE
49      SYNTAX      INTEGER (0..65535)
50      MAX-ACCESS  read-only
51      STATUS      current
52      DESCRIPTION
53          "Frame number in which measurement for this channel
54           started."
55      REFERENCE
56          "Subclause 11.12 in IEEE Std 802.16-2004"
57      ::= { wman2IfBsChannelMeasurementEntry 4 }
58
59
60
61  wman2IfBsDuration OBJECT-TYPE
62      SYNTAX      INTEGER (0 .. 16777215)
63      MAX-ACCESS  read-only
64      STATUS      current
65

```

```

1      DESCRIPTION
2          "Cumulative measurement duration on the channel in
3          multiples of Ts. For any value exceeding 0xFFFFF,
4          report 0xFFFFF."
5
6      REFERENCE
7          "Subclause 11.12 in IEEE Std 802.16-2004"
8      ::= { wman2IfBsChannelMeasurementEntry 5 }
9
10
11  wman2IfBsBasicReport OBJECT-TYPE
12      SYNTAX      BITS {wirelessHuman(0),
13                    unknownTransmission(1),
14                    primaryUser(2),
15                    channelNotMeasured(3)}
16
17      MAX-ACCESS  read-only
18      STATUS      current
19      DESCRIPTION
20          "Bit #0: WirelessHUMAN detected on the channel
21          Bit #1: Unknown transmissions detected on the channel
22          Bit #2: Primary User detected on the channel
23          Bit #3: Unmeasured. Channel not measured"
24
25      REFERENCE
26          "Subclause 11.12 in IEEE Std 802.16-2004"
27      ::= { wman2IfBsChannelMeasurementEntry 6 }
28
29
30  wman2IfBsMeanCinrReport OBJECT-TYPE
31      SYNTAX      INTEGER (0 .. 41)
32      UNITS        "dB"
33      MAX-ACCESS  read-only
34      STATUS      current
35      DESCRIPTION
36          "Mean CINR report."
37
38      REFERENCE
39          "Subclause 8.2.2, 8.3.9 in IEEE Std 802.16-2004"
40      ::= { wman2IfBsChannelMeasurementEntry 7 }
41
42
43  wman2IfBsMeanRssiReport OBJECT-TYPE
44      SYNTAX      INTEGER (0 .. 83)
45      UNITS        "dBm"
46      MAX-ACCESS  read-only
47      STATUS      current
48      DESCRIPTION
49          "Mean RSSI report."
50
51      REFERENCE
52          "Subclause 8.2.2, 8.3.9 in IEEE Std 802.16-2004"
53      ::= { wman2IfBsChannelMeasurementEntry 8 }
54
55
56  wman2IfBsStdDeviationCinrReport OBJECT-TYPE
57      SYNTAX      INTEGER (0 .. 41)
58      UNITS        "dB"
59      MAX-ACCESS  read-only
60      STATUS      current
61      DESCRIPTION
62          "Standard deviation CINR report."
63
64      REFERENCE
65

```

```

1         "Subclause 8.2.2, 8.3.9 in IEEE Std 802.16-2004"
2         ::= { wman2IfBsChannelMeasurementEntry 9 }
3
4
5 wman2IfBsStdDeviationRssiReport OBJECT-TYPE
6     SYNTAX      INTEGER (0 .. 83)
7     UNITS       "dB"
8     MAX-ACCESS  read-only
9     STATUS      current
10    DESCRIPTION
11        "Standard deviation RSSI report."
12    REFERENCE
13        "Subclause 8.2.2, 8.3.9 in IEEE Std 802.16-2004"
14    ::= { wman2IfBsChannelMeasurementEntry 10 }
15
16
17 --
18 -- Base Station capabilities
19 --
20
21 wman2IfBsCapabilities OBJECT IDENTIFIER ::= { wman2IfBsCps 4 }
22
23
24 wman2IfBsSsReqCapabilitiesTable OBJECT-TYPE
25     SYNTAX      SEQUENCE OF Wman2IfBsSsReqCapabilitiesEntry
26     MAX-ACCESS  not-accessible
27     STATUS      current
28     DESCRIPTION
29         "This table contains the basic capability information of SSs
30         that have been reported by SSs to BS using RNG-REQ, SBC-REQ
31         and REG-REQ messages. Entries in this table should be
32         created when an SS registers with a BS."
33     ::= { wman2IfBsCapabilities 1 }
34
35
36
37 wman2IfBsSsReqCapabilitiesEntry OBJECT-TYPE
38     SYNTAX      Wman2IfBsSsReqCapabilitiesEntry
39     MAX-ACCESS  not-accessible
40     STATUS      current
41     DESCRIPTION
42         "This table provides one row for each SS that has been
43         registered in the BS. This table augments the table
44         wman2IfBsRegisteredSsTable."
45     AUGMENTS { wman2IfBsRegisteredSsEntry }
46     ::= { wman2IfBsSsReqCapabilitiesTable 1 }
47
48
49
50 Wman2IfBsSsReqCapabilitiesEntry ::= SEQUENCE {
51     wman2IfBsSsReqCapUplinkCidSupport      Wman2IfNumOfUplinkCid,
52     wman2IfBsSsReqCapArqSupport            Wman2IfArqSupportType,
53     wman2IfBsSsReqCapDsxFlowControl        Wman2IfMaxDsxFlowType,
54     wman2IfBsSsReqCapMacCrcSupport         Wman2IfMacCrcSupport,
55     wman2IfBsSsReqCapMcaFlowControl        Wman2IfMaxMcaFlowType,
56     wman2IfBsSsReqCapMcpGroupCidSupport    Wman2IfMaxMcpGroupCid,
57     wman2IfBsSsReqCapPkmFlowControl        Wman2IfMaxPkmFlowType,
58     wman2IfBsSsReqCapAuthPolicyControl     Wman2IfAuthPolicyType,
59     wman2IfBsSsReqCapMaxNumOfSupportedSA   Wman2IfMaxNumOfSaType,
60     wman2IfBsSsReqCapIpVersion             Wman2IfIpVersionType,
61     wman2IfBsSsReqCapMacCsSupportBitMap    Wman2IfMacCsBitMap,
62     wman2IfBsSsReqCapMaxNumOfClassifier    Wman2IfMaxClassifiers,

```

```

1      wman2IfBsSsReqCapPhsSupport      Wman2IfPhsSupportType,
2      wman2IfBsSsReqCapBandwidthAllocSupport Wman2IfBwAllocSupport,
3      wman2IfBsSsReqCapPduConstruction    Wman2IfPduConstruction,
4      wman2IfBsSsReqCapTtgTransitionGap    Wman2IfSsTransitionGap,
5      wman2IfBsSsReqCapRtgTransitionGap    Wman2IfSsTransitionGap}
6
7
8      wman2IfBsSsReqCapUplinkCidSupport OBJECT-TYPE
9          SYNTAX      Wman2IfNumOfUplinkCid
10         MAX-ACCESS  read-only
11         STATUS      current
12         DESCRIPTION
13             "This object shows the number of Uplink CIDs the SS can
14             support."
15         ::= { wman2IfBsSsReqCapabilitiesEntry 1 }
16
17
18      wman2IfBsSsReqCapArqSupport OBJECT-TYPE
19          SYNTAX      Wman2IfArqSupportType
20         MAX-ACCESS  read-only
21         STATUS      current
22         DESCRIPTION
23             "This object indicates whether the SS supports ARQ."
24         ::= { wman2IfBsSsReqCapabilitiesEntry 2 }
25
26
27
28      wman2IfBsSsReqCapDsxFowControl OBJECT-TYPE
29          SYNTAX      Wman2IfMaxDsxFowType
30         MAX-ACCESS  read-only
31         STATUS      current
32         DESCRIPTION
33             "This object specifies the maximum number of concurrent
34             DSA, DSC, or DSD transactions that SS is capable of having
35             outstanding."
36         DEFVAL      { 0 }
37         ::= { wman2IfBsSsReqCapabilitiesEntry 3 }
38
39
40
41      wman2IfBsSsReqCapMacCrcSupport OBJECT-TYPE
42          SYNTAX      Wman2IfMacCrcSupport
43         MAX-ACCESS  read-only
44         STATUS      current
45         DESCRIPTION
46             "This object indicates whether or not the SS supports MAC
47             level CRC."
48         DEFVAL      { macCrcSupport }
49         ::= { wman2IfBsSsReqCapabilitiesEntry 4 }
50
51
52
53      wman2IfBsSsReqCapMcaFlowControl OBJECT-TYPE
54          SYNTAX      Wman2IfMaxMcaFlowType
55         MAX-ACCESS  read-only
56         STATUS      current
57         DESCRIPTION
58             "This object specifies the maximum number of concurrent MCA
59             transactions that SS is capable of having outstanding."
60         DEFVAL      { 0 }
61         ::= { wman2IfBsSsReqCapabilitiesEntry 5 }
62
63
64
65

```

```

1  wman2IfBsSsReqCapMcpGroupCidSupport OBJECT-TYPE
2      SYNTAX      Wman2IfMaxMcpGroupCid
3      MAX-ACCESS  read-only
4      STATUS      current
5      DESCRIPTION
6          "This object indicates the maximum number of
7          simultaneous Multicast Polling Groups the SS is
8          capable of belonging to."
9
10     DEFVAL      { 0 }
11     ::= { wman2IfBsSsReqCapabilitiesEntry 6 }
12
13
14  wman2IfBsSsReqCapPkmFlowControl OBJECT-TYPE
15      SYNTAX      Wman2IfMaxPkmFlowType
16      MAX-ACCESS  read-only
17      STATUS      current
18      DESCRIPTION
19          "This object specifies the maximum number of concurrent PKM
20          transactions that SS is capable of having outstanding."
21
22     DEFVAL      { 0 }
23     ::= { wman2IfBsSsReqCapabilitiesEntry 7 }
24
25
26  wman2IfBsSsReqCapAuthPolicyControl OBJECT-TYPE
27      SYNTAX      Wman2IfAuthPolicyType
28      MAX-ACCESS  read-only
29      STATUS      current
30      DESCRIPTION
31          "This object specifies authorization policy that SS is
32          capable of. A bit value of 0 = not supported,
33          1 = supported. If this field is omitted, then both SS and
34          BS shall use the IEEE 802.16 security, constituting X.509
35          digital certificates and the RSA public key encryption
36          algorithm, as authorization policy."
37
38     ::= { wman2IfBsSsReqCapabilitiesEntry 8 }
39
40
41
42  wman2IfBsSsReqCapMaxNumOfSupportedSA OBJECT-TYPE
43      SYNTAX      Wman2IfMaxNumOfSaType
44      MAX-ACCESS  read-only
45      STATUS      current
46      DESCRIPTION
47          "This field specifies the maximum number of supported
48          security associations of the SS."
49
50     DEFVAL      { 1 }
51     ::= { wman2IfBsSsReqCapabilitiesEntry 9 }
52
53
54  wman2IfBsSsReqCapIpVersion OBJECT-TYPE
55      SYNTAX      Wman2IfIpVersionType
56      MAX-ACCESS  read-only
57      STATUS      current
58      DESCRIPTION
59          "This object indicates the version of IP used on the 2nd
60          Management Connection. The value should be undefined
61          if the 2nd management CID doesn't exist."
62
63     ::= { wman2IfBsSsReqCapabilitiesEntry 10 }
64
65

```

```

1  wman2IfBsSsReqCapMacCsSupportBitMap OBJECT-TYPE
2      SYNTAX      Wman2IfMacCsBitMap
3      MAX-ACCESS  read-only
4      STATUS      current
5      DESCRIPTION
6          "This object indicates SS reported set of MAC convergence
7          sublayer support. When a bit is set, it indicates
8          the corresponding CS feature is supported."
9      ::= { wman2IfBsSsReqCapabilitiesEntry 11 }
10
11
12
13  wman2IfBsSsReqCapMaxNumOfClassifier OBJECT-TYPE
14      SYNTAX      Wman2IfMaxClassifiers
15      MAX-ACCESS  read-only
16      STATUS      current
17      DESCRIPTION
18          "This object indicates the maximum number of admitted
19          Classifiers that the SS can support."
20      DEFVAL      { 0 }
21      ::= { wman2IfBsSsReqCapabilitiesEntry 12 }
22
23
24
25  wman2IfBsSsReqCapPhsSupport OBJECT-TYPE
26      SYNTAX      Wman2IfPhsSupportType
27      MAX-ACCESS  read-only
28      STATUS      current
29      DESCRIPTION
30          "This object indicates indicates the level of SS support
31          for PHS."
32      DEFVAL      { noPhsSupport }
33      ::= { wman2IfBsSsReqCapabilitiesEntry 13 }
34
35
36
37  wman2IfBsSsReqCapBandwidthAllocSupport OBJECT-TYPE
38      SYNTAX      Wman2IfBwAllocSupport
39      MAX-ACCESS  read-only
40      STATUS      current
41      DESCRIPTION
42          "This field indicates the bandwidth allocation
43          capabilities of the SS. The usage is defined by
44          Wman2IfBwAllocSupport."
45      ::= { wman2IfBsSsReqCapabilitiesEntry 14 }
46
47
48
49  wman2IfBsSsReqCapPduConstruction OBJECT-TYPE
50      SYNTAX      Wman2IfPduConstruction
51      MAX-ACCESS  read-only
52      STATUS      current
53      DESCRIPTION
54          "This field indicates the SS's capabilities for
55          construction and transmission of MAC PDUs. The usage
56          is defined by Wman2IfPduConstruction."
57      ::= { wman2IfBsSsReqCapabilitiesEntry 15 }
58
59
60
61  wman2IfBsSsReqCapTtgTransitionGap OBJECT-TYPE
62      SYNTAX      Wman2IfSsTransitionGap
63      UNITS        "us"
64      MAX-ACCESS  read-only
65

```

```

1      STATUS      current
2      DESCRIPTION
3          "This field indicates the SS's transition speed SSTTG
4          for TDD and H-FDD SSs. The usage is defined by
5          Wman2IfSsTransitionGap."
6      ::= { wman2IfBsSsReqCapabilitiesEntry 16 }
7
8
9
10     wman2IfBsSsReqCapRtgTransitionGap OBJECT-TYPE
11         SYNTAX      Wman2IfSsTransitionGap
12         UNITS        "us"
13         MAX-ACCESS   read-only
14         STATUS       current
15         DESCRIPTION
16             "This field indicates the SS's transition speed SSRTG
17             for TDD and H-FDD SSs. The usage is defined by
18             Wman2IfSsTransitionGap."
19         ::= { wman2IfBsSsReqCapabilitiesEntry 17 }
20
21
22
23     wman2IfBsSsRspCapabilitiesTable OBJECT-TYPE
24         SYNTAX      SEQUENCE OF Wman2IfBsSsRspCapabilitiesEntry
25         MAX-ACCESS   not-accessible
26         STATUS       current
27         DESCRIPTION
28             "This table contains the basic capability information of SSs
29             that have been negotiated and agreed between BS and SS via
30             RNG-REQ/RSP, SBC-REQ/RSP and REG-REQ/RSP messages.
31             This table augments the wman2IfBsRegisteredSsTable."
32         REFERENCE
33             "Subclause 6.3.2.3.7 in IEEE Std 802.16-2004"
34         ::= { wman2IfBsCapabilities 2 }
35
36
37
38     wman2IfBsSsRspCapabilitiesEntry OBJECT-TYPE
39         SYNTAX      Wman2IfBsSsRspCapabilitiesEntry
40         MAX-ACCESS   not-accessible
41         STATUS       current
42         DESCRIPTION
43             "This table provides one row for each SS that has been
44             registered in the BS. This table augments the
45             wman2IfBsRegisteredSsTable. "
46         AUGMENTS { wman2IfBsRegisteredSsEntry }
47         ::= { wman2IfBsSsRspCapabilitiesTable 1 }
48
49
50
51     Wman2IfBsSsRspCapabilitiesEntry ::= SEQUENCE {
52         wman2IfBsSsRspCapUplinkCidSupport      Wman2IfNumOfUplinkCid,
53         wman2IfBsSsRspCapArqSupport            Wman2IfArqSupportType,
54         wman2IfBsSsRspCapDsxFLOWControl        Wman2IfMaxDsxFLOWType,
55         wman2IfBsSsRspCapMacCrcSupport         Wman2IfMacCrcSupport,
56         wman2IfBsSsRspCapMcaFlowControl        Wman2IfMaxMcaFlowType,
57         wman2IfBsSsRspCapMcpGroupCidSupport    Wman2IfMaxMcpGroupCid,
58         wman2IfBsSsRspCapPkmFlowControl        Wman2IfMaxPkmFlowType,
59         wman2IfBsSsRspCapAuthPolicyControl     Wman2IfAuthPolicyType,
60         wman2IfBsSsRspCapMaxNumOfSupportedSA   Wman2IfMaxNumOfSaType,
61         wman2IfBsSsRspCapIpVersion            Wman2IfIpVersionType,
62         wman2IfBsSsRspCapMacCsSupportBitMap    Wman2IfMacCsBitMap,
63

```

```

1          wman2IfBsSsRspCapMaxNumOfClassifier      Wman2IfMaxClassifiers,
2          wman2IfBsSsRspCapPhsSupport              Wman2IfPhsSupportType,
3          wman2IfBsSsRspCapBandwidthAllocSupport   Wman2IfBwAllocSupport,
4          wman2IfBsSsRspCapPduConstruction         Wman2IfPduConstruction,
5          wman2IfBsSsRspCapTtgTransitionGap        Wman2IfSsTransitionGap,
6          wman2IfBsSsRspCapRtgTransitionGap        Wman2IfSsTransitionGap}
7
8
9
10         wman2IfBsSsRspCapUplinkCidSupport OBJECT-TYPE
11             SYNTAX      Wman2IfNumOfUplinkCid
12             MAX-ACCESS  read-only
13             STATUS      current
14             DESCRIPTION
15                 "Negotiated number of Uplink CIDs the SS can support."
16             ::= { wman2IfBsSsRspCapabilitiesEntry 1 }
17
18
19         wman2IfBsSsRspCapArqSupport OBJECT-TYPE
20             SYNTAX      Wman2IfArqSupportType
21             MAX-ACCESS  read-only
22             STATUS      current
23             DESCRIPTION
24                 "This object indicates whether the SS is allowed to use ARQ
25                 as a result of the capabilities negotiation."
26             ::= { wman2IfBsSsRspCapabilitiesEntry 2 }
27
28
29
30         wman2IfBsSsRspCapDsxFowControl OBJECT-TYPE
31             SYNTAX      Wman2IfMaxDsxFowType
32             MAX-ACCESS  read-only
33             STATUS      current
34             DESCRIPTION
35                 "Negotiated maximum number of concurrent DSA, DSC, or DSD
36                 transactions that may be outstanding."
37             ::= { wman2IfBsSsRspCapabilitiesEntry 3 }
38
39
40
41         wman2IfBsSsRspCapMacCrcSupport OBJECT-TYPE
42             SYNTAX      Wman2IfMacCrcSupport
43             MAX-ACCESS  read-only
44             STATUS      current
45             DESCRIPTION
46                 "This object indicates whether or not the SS is allowed to
47                 use MAC level CRC as a result of the capabilities
48                 negotiation."
49             DEFVAL      { macCrcSupport }
50             ::= { wman2IfBsSsRspCapabilitiesEntry 4 }
51
52
53
54         wman2IfBsSsRspCapMcaFlowControl OBJECT-TYPE
55             SYNTAX      Wman2IfMaxMcaFlowType
56             MAX-ACCESS  read-only
57             STATUS      current
58             DESCRIPTION
59                 "Negotiated maximum number of concurrent
60                 MCA transactions that may be outstanding."
61             DEFVAL      { 0 }
62             ::= { wman2IfBsSsRspCapabilitiesEntry 5 }
63
64
65

```



```

1  wman2IfBsSsRspCapMcpGroupCidSupport OBJECT-TYPE
2      SYNTAX      Wman2IfMaxMcpGroupCid
3      MAX-ACCESS  read-only
4      STATUS      current
5      DESCRIPTION
6          "Negotiated maximum number of simultaneous Multicast
7          Polling Groups the SS is capable of belonging to."
8      DEFVAL      { 0 }
9      ::= { wman2IfBsSsRspCapabilitiesEntry 6 }
10
11
12
13  wman2IfBsSsRspCapPkmFlowControl OBJECT-TYPE
14      SYNTAX      Wman2IfMaxPkmFlowType
15      MAX-ACCESS  read-only
16      STATUS      current
17      DESCRIPTION
18          "Negotiated maximum number of concurrent PKM
19          transactions that may be outstanding."
20      DEFVAL      { 0 }
21      ::= { wman2IfBsSsRspCapabilitiesEntry 7 }
22
23
24
25  wman2IfBsSsRspCapAuthPolicyControl OBJECT-TYPE
26      SYNTAX      Wman2IfAuthPolicyType
27      MAX-ACCESS  read-only
28      STATUS      current
29      DESCRIPTION
30          "This object specifies negotiated authorization policy.
31          A bit value of 0 = not supported, 1 = supported. If this
32          field is omitted, then both SS and BS shall use the IEEE
33          802.16 security, constituting X.509 digital certificates
34          and the RSA public key encryption algorithm, as
35          authorization policy."
36      ::= { wman2IfBsSsRspCapabilitiesEntry 8 }
37
38
39
40
41  wman2IfBsSsRspCapMaxNumOfSupportedSA OBJECT-TYPE
42      SYNTAX      Wman2IfMaxNumOfSaType
43      MAX-ACCESS  read-only
44      STATUS      current
45      DESCRIPTION
46          "Negotiated maximum number of supported security
47          association of the SS."
48      DEFVAL      { 1 }
49      ::= { wman2IfBsSsRspCapabilitiesEntry 9 }
50
51
52
53  wman2IfBsSsRspCapIpVersion OBJECT-TYPE
54      SYNTAX      Wman2IfIpVersionType
55      MAX-ACCESS  read-only
56      STATUS      current
57      DESCRIPTION
58          "Negotiated version of IP used on the 2nd Management
59          Connection. The value should be undefined if the 2nd
60          management CID doesn't exist."
61      ::= { wman2IfBsSsRspCapabilitiesEntry 10 }
62
63
64
65  wman2IfBsSsRspCapMacCsSupportBitMap OBJECT-TYPE

```

```

1      SYNTAX      Wman2IfMacCsBitMap
2      MAX-ACCESS  read-only
3      STATUS      current
4      DESCRIPTION
5          "Negotiated set of MAC convergence sublayer support.
6          When a bit is set, it indicates the corresponding CS
7          feature is supported."
8      ::= { wman2IfBsSsRspCapabilitiesEntry 11 }
9
10
11
12  wman2IfBsSsRspCapMaxNumOfClassifier OBJECT-TYPE
13      SYNTAX      Wman2IfMaxClassifiers
14      MAX-ACCESS  read-only
15      STATUS      current
16      DESCRIPTION
17          "Negotiated maximum number of admitted Classifiers
18          that the SS is allowed to have."
19      DEFVAL      { 0 }
20      ::= { wman2IfBsSsRspCapabilitiesEntry 12 }
21
22
23
24  wman2IfBsSsRspCapPhsSupport OBJECT-TYPE
25      SYNTAX      Wman2IfPhsSupportType
26      MAX-ACCESS  read-only
27      STATUS      current
28      DESCRIPTION
29          "This object indicates the negotiated level of PHS
30          support."
31      DEFVAL      { noPhsSupport }
32      ::= { wman2IfBsSsRspCapabilitiesEntry 13 }
33
34
35
36  wman2IfBsSsRspCapBandwidthAllocSupport OBJECT-TYPE
37      SYNTAX      Wman2IfBwAllocSupport
38      MAX-ACCESS  read-only
39      STATUS      current
40      DESCRIPTION
41          "This field indicates negotiated properties of the SS
42          for bandwidth allocation purposes. The usage is defined
43          by Wman2IfBwAllocSupport."
44      ::= { wman2IfBsSsRspCapabilitiesEntry 14 }
45
46
47
48  wman2IfBsSsRspCapPduConstruction OBJECT-TYPE
49      SYNTAX      Wman2IfPduConstruction
50      MAX-ACCESS  read-only
51      STATUS      current
52      DESCRIPTION
53          "Specifies negotiated capabilities for construction and
54          transmission of MAC PDUs. The usage is defined by
55          Wman2IfPduConstruction."
56      ::= { wman2IfBsSsRspCapabilitiesEntry 15 }
57
58
59
60  wman2IfBsSsRspCapTtgTransitionGap OBJECT-TYPE
61      SYNTAX      Wman2IfSsTransitionGap
62      UNITS        "us"
63      MAX-ACCESS  read-only
64      STATUS      current
65

```

```

1      DESCRIPTION
2          "This field indicates the negotiated transition speed
3          SSTTG for TDD and H-FDD SSs. The usage is defined by
4          Wman2IfSsTransitionGap."
5      ::= { wman2IfBsSsRspCapabilitiesEntry 16 }
6
7
8      wman2IfBsSsRspCapRtgTransitionGap OBJECT-TYPE
9          SYNTAX      Wman2IfSsTransitionGap
10         UNITS        "us"
11         MAX-ACCESS   read-only
12         STATUS       current
13         DESCRIPTION
14             "This field indicates the negotiated transition speed
15             SSRTG for TDD and H-FDD SSs. The usage is defined by
16             Wman2IfSsTransitionGap."
17         ::= { wman2IfBsSsRspCapabilitiesEntry 17 }
18
19
20
21      wman2IfBsBasicCapabilitiesTable OBJECT-TYPE
22          SYNTAX      SEQUENCE OF Wman2IfBsBasicCapabilitiesEntry
23          MAX-ACCESS   not-accessible
24          STATUS       current
25          DESCRIPTION
26              "This table contains the basic capabilities of the BS as
27              implemented in BS hardware and software. These capabilities
28              along with the configuration for them
29              (wman2IfBsCapabilitiesConfigTable) are used for negotiation
30              of basic capabilities with SS using RNG-RSP, SBC-RSP and
31              REG-RSP messages. The negotiated capabilities are obtained
32              by interSubclause of SS raw reported capabilities, BS raw
33              capabilities and BS configured capabilities. The objects in
34              the table have read-only access. The table is maintained
35              by BS."
36          ::= { wman2IfBsCapabilities 3 }
37
38
39
40
41      wman2IfBsBasicCapabilitiesEntry OBJECT-TYPE
42          SYNTAX      Wman2IfBsBasicCapabilitiesEntry
43          MAX-ACCESS   not-accessible
44          STATUS       current
45          DESCRIPTION
46              "This table provides one row for each BS sector and is
47              indexed by ifIndex."
48          INDEX { ifIndex }
49          ::= { wman2IfBsBasicCapabilitiesTable 1 }
50
51
52
53      Wman2IfBsBasicCapabilitiesEntry ::= SEQUENCE {
54          wman2IfBsCapUplinkCidSupport      Wman2IfNumOfUplinkCid,
55          wman2IfBsCapArqSupport            Wman2IfArqSupportType,
56          wman2IfBsCapDsxFlowControl        Wman2IfMaxDsxFlowType,
57          wman2IfBsCapMacCrcSupport          Wman2IfMacCrcSupport,
58          wman2IfBsCapMcaFlowControl        Wman2IfMaxMcaFlowType,
59          wman2IfBsCapMcpGroupCidSupport     Wman2IfMaxMcpGroupCid,
60          wman2IfBsCapPkmFlowControl        Wman2IfMaxPkmFlowType,
61          wman2IfBsCapAuthPolicyControl     Wman2IfAuthPolicyType,
62          wman2IfBsCapMaxNumOfSupportedSA   Wman2IfMaxNumOfSaType,
63

```

```

1      wman2IfBsCapIpVersion                      Wman2IfIpVersionType,
2      wman2IfBsCapMacCsSupportBitMap             Wman2IfMacCsBitMap,
3      wman2IfBsCapMaxNumOfClassifier             Wman2IfMaxClassifiers,
4      wman2IfBsCapPhsSupport                     Wman2IfPhsSupportType,
5      wman2IfBsCapBandwidthAllocSupport          Wman2IfBwAllocSupport,
6      wman2IfBsCapPduConstruction                Wman2IfPduConstruction,
7      wman2IfBsCapTtgTransitionGap               Wman2IfSsTransitionGap,
8      wman2IfBsCapRtgTransitionGap               Wman2IfSsTransitionGap}
9
10
11
12  wman2IfBsCapUplinkCidSupport OBJECT-TYPE
13      SYNTAX      Wman2IfNumOfUplinkCid
14      MAX-ACCESS  read-only
15      STATUS      current
16      DESCRIPTION
17          "This object shows the number of Uplink CIDs the BS can
18           support per SS."
19      ::= { wman2IfBsBasicCapabilitiesEntry 1 }
20
21
22
23  wman2IfBsCapArqSupport OBJECT-TYPE
24      SYNTAX      Wman2IfArqSupportType
25      MAX-ACCESS  read-only
26      STATUS      current
27      DESCRIPTION
28          "This object indicates whether the BS supports ARQ."
29      ::= { wman2IfBsBasicCapabilitiesEntry 2 }
30
31
32
33  wman2IfBsCapDsxFowControl OBJECT-TYPE
34      SYNTAX      Wman2IfMaxDsxFowType
35      MAX-ACCESS  read-only
36      STATUS      current
37      DESCRIPTION
38          "This object specifies the maximum number of concurrent
39           DSA, DSC, or DSD transactions that BS allows each SS to
40           have outstanding."
41      DEFVAL      { 0 }
42      ::= { wman2IfBsBasicCapabilitiesEntry 3 }
43
44
45
46  wman2IfBsCapMacCrcSupport OBJECT-TYPE
47      SYNTAX      Wman2IfMacCrcSupport
48      MAX-ACCESS  read-only
49      STATUS      current
50      DESCRIPTION
51          "This object indicates whether or not the BS supports MAC
52           level CRC."
53      DEFVAL      { macCrcSupport }
54      ::= { wman2IfBsBasicCapabilitiesEntry 4 }
55
56
57
58  wman2IfBsCapMcaFlowControl OBJECT-TYPE
59      SYNTAX      Wman2IfMaxMcaFlowType
60      MAX-ACCESS  read-only
61      STATUS      current
62      DESCRIPTION
63          "This object specifies the maximum number of concurrent
64           MCA transactions that BS allows each SS to have."
65

```

```

1      DEFVAL      { 0 }
2      ::= { wman2IfBsBasicCapabilitiesEntry 5 }
3
4
5      wman2IfBsCapMcpGroupCidSupport OBJECT-TYPE
6          SYNTAX      Wman2IfMaxMcpGroupCid
7          MAX-ACCESS  read-only
8          STATUS      current
9          DESCRIPTION
10             "This object indicates the maximum number of simultaneous
11             Multicast Polling Groups the BS allows each SS to belong
12             to."
13
14      DEFVAL      { 0 }
15      ::= { wman2IfBsBasicCapabilitiesEntry 6 }
16
17
18      wman2IfBsCapPkmFlowControl OBJECT-TYPE
19          SYNTAX      Wman2IfMaxPkmFlowType
20          MAX-ACCESS  read-only
21          STATUS      current
22          DESCRIPTION
23             "This object specifies the maximum number of concurrent
24             PKM transactions that BS allows each SS to have."
25
26      DEFVAL      { 0 }
27      ::= { wman2IfBsBasicCapabilitiesEntry 7 }
28
29
30      wman2IfBsCapAuthPolicyControl OBJECT-TYPE
31          SYNTAX      Wman2IfAuthPolicyType
32          MAX-ACCESS  read-only
33          STATUS      current
34          DESCRIPTION
35             "This object specifies authorization policy that BS is
36             capable of. A bit value of 0 = not supported,
37             1 = upported. If this field is omitted, then both SS and
38             BS shall use the IEEE 802.16 security, constituting X.509
39             digital certificates and the RSA public key encryption
40             algorithm, as authorization policy."
41
42      ::= { wman2IfBsBasicCapabilitiesEntry 8 }
43
44
45      wman2IfBsCapMaxNumOfSupportedSA OBJECT-TYPE
46          SYNTAX      Wman2IfMaxNumOfSaType
47          MAX-ACCESS  read-only
48          STATUS      current
49          DESCRIPTION
50             "This field specifies maximum number of supported security
51             associations per SS that the BS allows."
52
53      DEFVAL      { 1 }
54      ::= { wman2IfBsBasicCapabilitiesEntry 9 }
55
56
57      wman2IfBsCapIpVersion OBJECT-TYPE
58          SYNTAX      Wman2IfIpVersionType
59          MAX-ACCESS  read-only
60          STATUS      current
61          DESCRIPTION
62             "This object indicates the version of IP BS allows each SS
63             to use on the 2nd Management Connection. The value
64
65

```

```

1          'undefined' should not be used for this field."
2      REFERENCE
3          "Subclause 11.7.4 in IEEE Std 802.16-2004"
4      ::= { wman2IfBsBasicCapabilitiesEntry 10 }
5
6
7      wman2IfBsCapMacCsSupportBitMap OBJECT-TYPE
8          SYNTAX      Wman2IfMacCsBitMap
9          MAX-ACCESS  read-only
10         STATUS      current
11         DESCRIPTION
12             "This object indicates BS set of MAC convergence
13              sublayer support. When a bit is set, it indicates
14              the corresponding CS feature is supported."
15         ::= { wman2IfBsBasicCapabilitiesEntry 11 }
16
17
18
19      wman2IfBsCapMaxNumOfClassifier OBJECT-TYPE
20          SYNTAX      Wman2IfMaxClassifiers
21          MAX-ACCESS  read-only
22          STATUS      current
23          DESCRIPTION
24              "This object indicates the maximum number of admitted
25               Classifiers per SS that the BS allows."
26          DEFVAL      { 0 }
27          ::= { wman2IfBsBasicCapabilitiesEntry 12 }
28
29
30
31      wman2IfBsCapPhsSupport OBJECT-TYPE
32          SYNTAX      Wman2IfPhsSupportType
33          MAX-ACCESS  read-only
34          STATUS      current
35          DESCRIPTION
36              "This object indicates the level of BS support for PHS.
37               The usage is defined by Wman2IfPhsSupportType."
38          DEFVAL      { noPhsSupport }
39          ::= { wman2IfBsBasicCapabilitiesEntry 13 }
40
41
42
43      wman2IfBsCapBandwidthAllocSupport OBJECT-TYPE
44          SYNTAX      Wman2IfBwAllocSupport
45          MAX-ACCESS  read-only
46          STATUS      current
47          DESCRIPTION
48              "This field indicates the bandwidth allocation properties
49               that the BS permits SSs to use. The usage is defined by
50               Wman2IfBwAllocSupport."
51          ::= { wman2IfBsBasicCapabilitiesEntry 14 }
52
53
54
55      wman2IfBsCapPduConstruction OBJECT-TYPE
56          SYNTAX      Wman2IfPduConstruction
57          MAX-ACCESS  read-only
58          STATUS      current
59          DESCRIPTION
60              "Specifies the capabilities for construction and
61               transmission of MAC PDUs allowed by the BS. The usage is
62               defined by Wman2IfPduConstruction."
63          ::= { wman2IfBsBasicCapabilitiesEntry 15 }
64
65

```

```

1
2 wman2IfBsCapTtgTransitionGap OBJECT-TYPE
3     SYNTAX      Wman2IfSsTransitionGap
4     UNITS       "us"
5     MAX-ACCESS  read-only
6     STATUS      current
7     DESCRIPTION
8         "This field indicates the transition speed SSTTG for TDD
9         and H-FDD SSs allowed by the BS. The usage is defined by
10        Wman2IfSsTransitionGap."
11        ::= { wman2IfBsBasicCapabilitiesEntry 16 }
12
13
14
15 wman2IfBsCapRtgTransitionGap OBJECT-TYPE
16     SYNTAX      Wman2IfSsTransitionGap
17     UNITS       "us"
18     MAX-ACCESS  read-only
19     STATUS      current
20     DESCRIPTION
21         "This field indicates the transition speed SSRTG for TDD
22         and H-FDD SSs allowed by the BS. The usage is defined
23         by Wman2IfSsTransitionGap."
24        ::= { wman2IfBsBasicCapabilitiesEntry 17 }
25
26
27
28
29 wman2IfBsCapabilitiesConfigTable OBJECT-TYPE
30     SYNTAX      SEQUENCE OF Wman2IfBsCapabilitiesConfigEntry
31     MAX-ACCESS  not-accessible
32     STATUS      current
33     DESCRIPTION
34         "This table contains the configuration for basic
35         capabilities of BS. The table is intended to be used to
36         restrict the Capabilities implemented by BS, for example in
37         order to comply with local regulatory requirements. The BS
38         should use the configuration along with the implemented
39         Capabilities (wman2IfBsBasicCapabilitiesTable) for
40         negotiation of basic capabilities with SS using RNG-RSP,
41         SBC-RSP and REG-RSP messages. The negotiated capabilities
42         are obtained by interSubclause of SS reported capabilities,
43         BS raw capabilities and BS configured capabilities. The
44         objects in the table have read-write access. The rows are
45         created by BS as a copy of wman2IfBsBasicCapabilitiesTable
46         and can be modified by NMS."
47        ::= { wman2IfBsCapabilities 4 }
48
49
50
51
52
53 wman2IfBsCapabilitiesConfigEntry OBJECT-TYPE
54     SYNTAX      Wman2IfBsCapabilitiesConfigEntry
55     MAX-ACCESS  not-accessible
56     STATUS      current
57     DESCRIPTION
58         "This table provides one row for each BS sector and is
59         indexed by ifIndex."
60     INDEX { ifIndex }
61     ::= { wman2IfBsCapabilitiesConfigTable 1 }
62
63
64 Wman2IfBsCapabilitiesConfigEntry ::= SEQUENCE {
65

```

1	wman2IfBsCapCfgUplinkCidSupport	Wman2IfNumOfUplinkCid,
2	wman2IfBsCapCfgArqSupport	Wman2IfArqSupportType,
3	wman2IfBsCapCfgDsxFlowControl	Wman2IfMaxDsxFlowType,
4	wman2IfBsCapCfgMacCrcSupport	Wman2IfMacCrcSupport,
5	wman2IfBsCapCfgMcaFlowControl	Wman2IfMaxMcaFlowType,
6	wman2IfBsCapCfgMcpGroupCidSupport	Wman2IfMaxMcpGroupCid,
7	wman2IfBsCapCfgPkmFlowControl	Wman2IfMaxPkmFlowType,
8	wman2IfBsCapCfgAuthPolicyControl	Wman2IfAuthPolicyType,
9	wman2IfBsCapCfgMaxNumOfSupportedSA	Wman2IfMaxNumOfSaType,
10	wman2IfBsCapCfgIpVersion	Wman2IfIpVersionType,
11	wman2IfBsCapCfgMacCsSupportBitMap	Wman2IfMacCsBitMap,
12	wman2IfBsCapCfgMaxNumOfClassifier	Wman2IfMaxClassifiers,
13	wman2IfBsCapCfgPhsSupport	Wman2IfPhsSupportType,
14	wman2IfBsCapCfgBandwidthAllocSupport	Wman2IfBwAllocSupport,
15	wman2IfBsCapCfgPduConstruction	Wman2IfPduConstruction,
16	wman2IfBsCapCfgTtgTransitionGap	Wman2IfSsTransitionGap,
17	wman2IfBsCapCfgRtgTransitionGap	Wman2IfSsTransitionGap}
18		
19	wman2IfBsCapCfgUplinkCidSupport OBJECT-TYPE	
20	SYNTAX Wman2IfNumOfUplinkCid	
21	MAX-ACCESS read-write	
22	STATUS current	
23	DESCRIPTION	
24	"This object shows the configured number of Uplink CIDs the	
25	BS can support per SS."	
26	::= { wman2IfBsCapabilitiesConfigEntry 1 }	
27		
28	wman2IfBsCapCfgArqSupport OBJECT-TYPE	
29	SYNTAX Wman2IfArqSupportType	
30	MAX-ACCESS read-write	
31	STATUS current	
32	DESCRIPTION	
33	"This object indicates whether the BS is configured to	
34	support ARQ."	
35	::= { wman2IfBsCapabilitiesConfigEntry 2 }	
36		
37	wman2IfBsCapCfgDsxFlowControl OBJECT-TYPE	
38	SYNTAX Wman2IfMaxDsxFlowType	
39	MAX-ACCESS read-write	
40	STATUS current	
41	DESCRIPTION	
42	"This object specifies the configured maximum number of	
43	concurrent DSA, DSC, or DSD transactions that BS allows	
44	each SS to have outstanding."	
45	DEFVAL { 0 }	
46	::= { wman2IfBsCapabilitiesConfigEntry 3 }	
47		
48	wman2IfBsCapCfgMacCrcSupport OBJECT-TYPE	
49	SYNTAX Wman2IfMacCrcSupport	
50	MAX-ACCESS read-write	
51	STATUS current	
52	DESCRIPTION	
53	"This object indicates whether BS is configured to support	
54	MAC level CRC."	
55		
56		
57		
58		
59		
60		
61		
62		
63		
64		
65		



```

1      DEFVAL      { macCrcSupport }
2      ::= { wman2IfBsCapabilitiesConfigEntry 4 }
3
4
5      wman2IfBsCapCfgMcaFlowControl OBJECT-TYPE
6          SYNTAX      Wman2IfMaxMcaFlowType
7          MAX-ACCESS  read-write
8          STATUS      current
9          DESCRIPTION
10             "This object specifies the maximum number of concurrent
11             MCA transactions that BS is configured to allow each SS to
12             have."
13
14      DEFVAL      { 0 }
15      ::= { wman2IfBsCapabilitiesConfigEntry 5 }
16
17
18      wman2IfBsCapCfgMcpGroupCidSupport OBJECT-TYPE
19          SYNTAX      Wman2IfMaxMcpGroupCid
20          MAX-ACCESS  read-write
21          STATUS      current
22          DESCRIPTION
23             "This object indicates the maximum number of simultaneous
24             Multicast Polling Groups the BS is configured to allow
25             each SS to belong to."
26
27      DEFVAL      { 0 }
28      ::= { wman2IfBsCapabilitiesConfigEntry 6 }
29
30
31      wman2IfBsCapCfgPkmFlowControl OBJECT-TYPE
32          SYNTAX      Wman2IfMaxPkmFlowType
33          MAX-ACCESS  read-write
34          STATUS      current
35          DESCRIPTION
36             "This object specifies the maximum number of concurrent
37             PKM transactions that BS is configured to allow each SS
38             to have."
39
40      DEFVAL      { 0 }
41      ::= { wman2IfBsCapabilitiesConfigEntry 7 }
42
43
44      wman2IfBsCapCfgAuthPolicyControl OBJECT-TYPE
45          SYNTAX      Wman2IfAuthPolicyType
46          MAX-ACCESS  read-write
47          STATUS      current
48          DESCRIPTION
49             "This object specifies authorization policy that BS is
50             configured to be capable of. A bit value of 0 = not
51             supported, 1 = upported. If this field is omitted, then
52             both SS and BS shall use the IEEE 802.16 security,
53             constituting X.509 digital certificates and the RSA
54             public key encryption algorithm, as authorization policy."
55
56      ::= { wman2IfBsCapabilitiesConfigEntry 8 }
57
58
59
60      wman2IfBsCapCfgMaxNumOfSupportedSA OBJECT-TYPE
61          SYNTAX      Wman2IfMaxNumOfSaType
62          MAX-ACCESS  read-write
63          STATUS      current
64          DESCRIPTION
65

```

```

1         "This field specifies configured maximum number of supported
2         security association per SS."
3     DEFVAL      { 1 }
4     ::= { wman2IfBsCapabilitiesConfigEntry 9 }
5
6
7     wman2IfBsCapCfgIpVersion OBJECT-TYPE
8         SYNTAX      Wman2IfIpVersionType
9         MAX-ACCESS   read-write
10        STATUS      current
11        DESCRIPTION
12            "This object indicates the configured version of IP that the
13            BS allows each SS to use on the 2nd Management Connection.
14            The value 'undefined' should not be used in this field."
15        ::= { wman2IfBsCapabilitiesConfigEntry 10 }
16
17
18
19     wman2IfBsCapCfgMacCsSupportBitMap OBJECT-TYPE
20         SYNTAX      Wman2IfMacCsBitMap
21         MAX-ACCESS   read-write
22         STATUS      current
23         DESCRIPTION
24             "This object indicates BS configured set of MAC convergence
25             sublayer support. When a bit is set, it indicates
26             the corresponding CS feature is supported."
27         ::= { wman2IfBsCapabilitiesConfigEntry 11 }
28
29
30
31     wman2IfBsCapCfgMaxNumOfClassifier OBJECT-TYPE
32         SYNTAX      Wman2IfMaxClassifiers
33         MAX-ACCESS   read-write
34         STATUS      current
35         DESCRIPTION
36             "This object indicates the configured maximum number of
37             admitted Classifiers per SS that the BS can support."
38         DEFVAL      { 0 }
39         ::= { wman2IfBsCapabilitiesConfigEntry 12 }
40
41
42
43     wman2IfBsCapCfgPhsSupport OBJECT-TYPE
44         SYNTAX      Wman2IfPhsSupportType
45         MAX-ACCESS   read-write
46         STATUS      current
47         DESCRIPTION
48             "This object indicates the configured level of BS support
49             for PHS."
50         DEFVAL      { noPhsSupport }
51         ::= { wman2IfBsCapabilitiesConfigEntry 13 }
52
53
54
55     wman2IfBsCapCfgBandwidthAllocSupport OBJECT-TYPE
56         SYNTAX      Wman2IfBwAllocSupport
57         MAX-ACCESS   read-write
58         STATUS      current
59         DESCRIPTION
60             "This field indicates configured properties of the BS for
61             bandwidth allocation purposes. The usage is defined by
62             Wman2IfCapBwAllocSupport."
63         ::= { wman2IfBsCapabilitiesConfigEntry 14 }
64
65

```

```

1
2 wman2IfBsCapCfgPduConstruction OBJECT-TYPE
3     SYNTAX      Wman2IfPduConstruction
4     MAX-ACCESS  read-write
5     STATUS      current
6     DESCRIPTION
7         "Specifies configured capabilities for construction and
8         transmission of MAC PDUs. The usage is defined by
9         Wman2IfPduConstruction."
10        ::= { wman2IfBsCapabilitiesConfigEntry 15 }
11
12
13
14 wman2IfBsCapCfgTtgTransitionGap OBJECT-TYPE
15     SYNTAX      Wman2IfSsTransitionGap
16     UNITS       "us"
17     MAX-ACCESS  read-write
18     STATUS      current
19     DESCRIPTION
20         "This field indicates the configured transition speed
21         SSTTG for TDD and H-FDD SSs. The usage is defined by
22         Wman2IfSsTransitionGap."
23        ::= { wman2IfBsCapabilitiesConfigEntry 16 }
24
25
26
27 wman2IfBsCapCfgRtgTransitionGap OBJECT-TYPE
28     SYNTAX      Wman2IfSsTransitionGap
29     UNITS       "us"
30     MAX-ACCESS  read-write
31     STATUS      current
32     DESCRIPTION
33         "This field indicates the configured transition speed
34         SSRTG for TDD and H-FDD SSs. The usage is defined by
35         Wman2IfSsTransitionGap."
36        ::= { wman2IfBsCapabilitiesConfigEntry 17 }
37
38
39
40
41 wman2IfBsSsActionsTable OBJECT-TYPE
42     SYNTAX      SEQUENCE OF Wman2IfBsSsActionsEntry
43     MAX-ACCESS  not-accessible
44     STATUS      current
45     DESCRIPTION
46         "This table contains all the actions specified for SSs in
47         the standard. The actions are routed down to SS using
48         unsolicited MAC messages: REG-RSP, DREG-REQ and RES-CMD.
49         The table also contains the parameters of the actions in
50         cases where they are specified by the standard."
51        ::= { wman2IfBsCps 5 }
52
53
54
55 wman2IfBsSsActionsEntry OBJECT-TYPE
56     SYNTAX      Wman2IfBsSsActionsEntry
57     MAX-ACCESS  not-accessible
58     STATUS      current
59     DESCRIPTION
60         "This table is indexed by wman2IfBsSsActionsMacAddress. The
61         action can be requested for SS in any state not only those
62         registered. However BS will decide whether the action is
63         applicable to the SS based on its current state and execute
64
65

```

```

1         it or skip it as defined in each action definition."
2     INDEX { wman2IfBsSsActionsMacAddress }
3     ::= { wman2IfBsSsActionsTable 1 }
4
5
6     Wman2IfBsSsActionsEntry ::= SEQUENCE {
7         wman2IfBsSsActionsMacAddress      MacAddress,
8         wman2IfBsSsActionsResetSs         INTEGER,
9         wman2IfBsSsActionsAbortSs         INTEGER,
10        wman2IfBsSsActionsOverrideDnFreq  Unsigned32,
11        wman2IfBsSsActionsOverrideChannelId INTEGER,
12        wman2IfBsSsActionsDeReRegSs       INTEGER,
13        wman2IfBsSsActionsDeReRegSsCode   INTEGER,
14        wman2IfBsSsActionsRowStatus       RowStatus}
15
16
17
18     wman2IfBsSsActionsMacAddress OBJECT-TYPE
19         SYNTAX      MacAddress
20         MAX-ACCESS   not-accessible
21         STATUS       current
22         DESCRIPTION
23             "This object uniquely identifies the SS as an action
24              target."
25         ::= { wman2IfBsSsActionsEntry 1 }
26
27
28
29     wman2IfBsSsActionsResetSs OBJECT-TYPE
30         SYNTAX      INTEGER {actionsResetSsNoAction(0),
31                             actionsResetSs(1)}
32         MAX-ACCESS   read-create
33         STATUS       current
34         DESCRIPTION
35             "This object should be implemented as follows:
36             - When set to actionsResetSs value, instructs BS to send
37               RES-CMD to SS
38             - When set to value different than actionsResetSs it
39               should be ignored
40             - When read it should return actionsResetSsNoAction
41             The RES-CMD message shall be transmitted by the BS on an
42             SS Basic CID to force the SS to reset itself,
43             reinitialize its MAC, and repeat initial system access."
44         REFERENCE
45             "Subclause 6.3.2.3.22 in IEEE Std 802.16-2004"
46         ::= { wman2IfBsSsActionsEntry 2 }
47
48
49
50
51
52     wman2IfBsSsActionsAbortSs OBJECT-TYPE
53         SYNTAX      INTEGER {actionsAbortSsNoAction(0),
54                             actionsAbortSs(1),
55                             actionAbortSsParams(2)}
56
57         MAX-ACCESS   read-create
58         STATUS       current
59         DESCRIPTION
60             "This object should be implemented as follows:
61             - When set to actionsAbortSs value, it instructs BS to send
62               unsolicited RNG-RSP with Ranging Status equal to 'abort'
63               without override parameters
64
65

```

- 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 parameter 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 parameter 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

```

1          SS Basic CID to force the SS to change its access state.
2          Upon receiving a DREG-CMD, the SS shall take the action
3          indicated by the action code defined by
4          wman2IfBsSsActionsDeReRegSsCode."
5
6      REFERENCE
7          "Subclause 6.3.2.3.26 in IEEE Std 802.16-2004"
8      ::= { wman2IfBsSsActionsEntry 6 }
9
10
11  wman2IfBsSsActionsDeReRegSsCode OBJECT-TYPE
12      SYNTAX      INTEGER {actionsDeReRegSsCodeChangeChan(0),
13                          actionsDeReRegSsCodeNoTransmit(1),
14                          actionsDeReRegSsCodeLtdTransmit(2),
15                          actionsDeReRegSsCodeResume(3)}
16
17      MAX-ACCESS   read-create
18      STATUS       current
19      DESCRIPTION
20          "This object defines the action code for
21          wman2IfBsSsActionsDeReRegSs action. The codes are defined
22          as follows:
23          actionsDeReRegSsCodeChangeChan - SS shall leave the
24          current channel and attempt to access another channel.
25          actionsDeReRegSsCodeNoTransmit - SS shall listen to the
26          current channel but shall not transmit until an
27          RES-CMD message or DREG_CMD with an Action Code that
28          allows transmission is received.
29          actionsDeReRegSsCodeLtdTransmit - SS shall listen to the
30          current channel but only transmit on the Basic,
31          Primary Management and 2nd Management Connections.
32          actionsDeReRegSsCodeResume - SS shall return to normal
33          operation and may transmit on any of its active
34          connections."
35
36      REFERENCE
37          "Subclause 6.3.2.3.26, Table 55 in IEEE Std 802.16-2004"
38      ::= { wman2IfBsSsActionsEntry 7 }
39
40
41  wman2IfBsSsActionsRowStatus OBJECT-TYPE
42
43      SYNTAX      RowStatus
44      MAX-ACCESS   read-create
45      STATUS       current
46      DESCRIPTION
47          "This object is used to ensure that the write operation to
48          multiple columns is guaranteed to be treated as atomic
49          operation by agent."
50      ::= { wman2IfBsSsActionsEntry 8 }
51
52
53  --
54  -- wman2IfBsMsPowerSavingStatusTable contains the power saving status
55  --
56
57  wman2IfBsMsPowerSavingStatusTable OBJECT-TYPE
58
59      SYNTAX      SEQUENCE OF Wman2IfBsMsPowerSavingStatusEntry
60      MAX-ACCESS   not-accessible
61      STATUS       current
62      DESCRIPTION
63          "This table contains the power saving status for each CID
64
65

```

```

1         in an MS. When the BS roams to a different BS, all entries
2         associated with such MS will be deleted."
3     ::= { wman2IfBsCps 6 }
4
5
6 wman2IfBsMsPowerSavingStatusEntry OBJECT-TYPE
7     SYNTAX      Wman2IfBsMsPowerSavingStatusEntry
8     MAX-ACCESS  not-accessible
9     STATUS      current
10    DESCRIPTION
11        "This table provides one row for each CID in an MS, and
12         is indexed by ifIndex, wman2IfBsSsMacAddress, and
13         wman2IfBsMsCid."
14    INDEX      { ifIndex,
15                 wman2IfBsSsMacAddress,
16                 wman2IfBsMsCid }
17    ::= { wman2IfBsMsPowerSavingStatusTable 1 }
18
19
20
21 Wman2IfBsMsPowerSavingStatusEntry ::= SEQUENCE {
22     wman2IfBsMsCid                Wman2IfCidType,
23     wman2IfBsMsPowerSavingClassId Wman2IfPsClassId}
24
25
26 wman2IfBsMsCid OBJECT-TYPE
27     SYNTAX      Wman2IfCidType
28     MAX-ACCESS  read-only
29     STATUS      current
30     DESCRIPTION
31        "A 16 bit channel identifier to identify a connection."
32    ::= { wman2IfBsMsPowerSavingStatusEntry 1 }
33
34
35
36 wman2IfBsMsPowerSavingClassId OBJECT-TYPE
37     SYNTAX      Wman2IfPsClassId
38     MAX-ACCESS  read-only
39     STATUS      current
40     DESCRIPTION
41        "wman2IfBsMsPowerSavingClassId identifies the power
42         saving class associated with this CID. It maps to an
43         entry in wman2IfBsMsPowerSavingClassesTable."
44    ::= { wman2IfBsMsPowerSavingStatusEntry 2 }
45
46
47
48 --
49 -- wman2IfBsMsPowerSavingClassesTable contains the power saving classes
50 -- information
51 --
52
53 wman2IfBsMsPowerSavingClassesTable OBJECT-TYPE
54     SYNTAX      SEQUENCE OF Wman2IfBsMsPowerSavingClassesEntry
55     MAX-ACCESS  not-accessible
56     STATUS      current
57     DESCRIPTION
58        "This table contains the power saving classes definitions,
59         and activation / deactivation information that are provided
60         by MOB_SLP-REQ and MOB_SLP-RSP messages. When the BS roams
61         to a different BS, all entries associated with such MS will
62         be deleted."
63    ::= { wman2IfBsCps 7 }
64
65

```

```

1
2 wman2IfBsMsPowerSavingClassesEntry OBJECT-TYPE
3     SYNTAX      Wman2IfBsMsPowerSavingClassesEntry
4     MAX-ACCESS  not-accessible
5     STATUS      current
6     DESCRIPTION
7         "This table is indexed by ifIndex, wman2IfBsSsMacAddress,
8         and wman2IfBsMsPsClassesId. It is intended to support both
9         unicast and multicast service flows.
10        wman2IfBsSsMacAddress contains the MAC address of the MS
11        to which the power saving classes are associated."
12    INDEX { ifIndex,
13            wman2IfBsSsMacAddress,
14            wman2IfBsMsPsClassId }
15    ::= { wman2IfBsMsPowerSavingClassesTable 1 }
16
17 Wman2IfBsMsPowerSavingClassesEntry ::= SEQUENCE {
18     wman2IfBsMsPsClassId          Wman2IfPsClassId,
19     wman2IfBsMsStartFrameNumber   INTEGER,
20     wman2IfBsMsPowerSavingClassType Wman2PsClassType,
21     wman2IfBsMsPsClassCidDirection Wman2PsClassCidDirection,
22     wman2IfBsMsTrafficTrigeredWakening INTEGER,
23     wman2IfBsMsInitialSleepWindow  INTEGER,
24     wman2IfBsMsFinalSleepWindowBase INTEGER,
25     wman2IfBsMsFinalSleepWindowExponent INTEGER,
26     wman2IfBsMsLinteningWindow     INTEGER,
27     wman2IfBsMsPowerSavingMode      Wman2IfPowerSavingMode,
28     wman2IfBsMsSlpId               INTEGER}
29
30 wman2IfBsMsPsClassId OBJECT-TYPE
31     SYNTAX      Wman2IfPsClassId
32     MAX-ACCESS  not-accessible
33     STATUS      current
34     DESCRIPTION
35         "This object uniquely identifies the power saving classes
36         in a MS."
37     ::= { wman2IfBsMsPowerSavingClassesEntry 1 }
38
39 wman2IfBsMsStartFrameNumber OBJECT-TYPE
40     SYNTAX      INTEGER
41     MAX-ACCESS  read-write
42     STATUS      current
43     DESCRIPTION
44         "Start frame number for first sleep window."
45     REFERENCE
46         "Subclause 6.3.2.3.44 in IEEE Std 802.16e-2005"
47     ::= { wman2IfBsMsPowerSavingClassesEntry 2 }
48
49 wman2IfBsMsPowerSavingClassType OBJECT-TYPE
50     SYNTAX      Wman2PsClassType
51     MAX-ACCESS  read-write
52     STATUS      current
53     DESCRIPTION
54         "Power saving classes type I - BE & NRT-VR,

```



```

1           Power saving classes type II - UGS & RT-VR,
2           Power saving classes type III - multicast, management CID"
3 REFERENCE
4           "Subclause 6.3.21.2-4, in IEEE Std 802.16e-2005"
5 ::= { wman2IfBsMsPowerSavingClassesEntry 3 }
6
7
8 wman2IfBsMsPsClassCidDirection OBJECT-TYPE
9     SYNTAX      Wman2PsClassCidDirection
10    MAX-ACCESS  read-write
11    STATUS      current
12    DESCRIPTION
13        "The direction of power saving class's CIDs."
14    REFERENCE
15        "Subclause 6.3.2.3.44, in IEEE Std 802.16e-2005"
16 ::= { wman2IfBsMsPowerSavingClassesEntry 4 }
17
18
19 wman2IfBsMsTrafficTrigeredWakening OBJECT-TYPE
20     SYNTAX      INTEGER (0..1)
21    MAX-ACCESS  read-write
22    STATUS      current
23    DESCRIPTION
24        "0 = Power Saving Class shall not be deactivated if
25        traffic appears at the connection as per 6.3.19.2.
26        1 = Power Saving Class shall be deactivated if
27        traffic appears at the connection as 6.3.19.2."
28    REFERENCE
29        "Subclause 6.3.19.2, in IEEE Std 802.16e-2005"
30 ::= { wman2IfBsMsPowerSavingClassesEntry 5 }
31
32
33 wman2IfBsMsInitialSleepWindow OBJECT-TYPE
34     SYNTAX      INTEGER (0..255)
35    UNITS        "frame"
36    MAX-ACCESS  read-write
37    STATUS      current
38    DESCRIPTION
39        "The initial duration for the sleep window. It is not
40        relevant for Power Saving Class type III, and shall
41        return '0'."
42    REFERENCE
43        "Subclause 6.3.2.3.44, in IEEE Std 802.16e-2005"
44 ::= { wman2IfBsMsPowerSavingClassesEntry 6 }
45
46
47 wman2IfBsMsFinalSleepWindowBase OBJECT-TYPE
48     SYNTAX      INTEGER (0..1023)
49    UNITS        "frame"
50    MAX-ACCESS  read-write
51    STATUS      current
52    DESCRIPTION
53        "The final value for the sleep interval. It is not
54        relevant for Power Saving Class type II, and shall
55        return '0'. For Power Saving Class type III, it is the
56        base for duration of single sleep window request."
57    REFERENCE
58        "Subclause 6.3.2.3.44, in IEEE Std 802.16e-2005"
59
60
61
62
63
64
65

```

```

1      ::= { wman2IfBsMsPowerSavingClassesEntry 7 }
2
3
4  wman2IfBsMsFinalSleepWindowExponent OBJECT-TYPE
5      SYNTAX      INTEGER (0..7)
6      MAX-ACCESS  read-write
7      STATUS      current
8      DESCRIPTION
9          "The factor by which the final-sleep window base is
10         multiplied in order to calculate the final-sleep window.
11         The following formula is used:
12         final-sleep window = final-sleep window base x
13                             2^(final-sleep window exponent)
14         For Power Saving Class type III, it is the exponent for
15         the duration of single sleep window request."
16
17  REFERENCE
18      "Subclause 6.3.2.3.44, in IEEE Std 802.16e-2005"
19
20  ::= { wman2IfBsMsPowerSavingClassesEntry 8 }
21
22
23  wman2IfBsMsLinteningWindow OBJECT-TYPE
24      SYNTAX      INTEGER (0..255)
25      UNITS       "frame"
26      MAX-ACCESS  read-write
27      STATUS      current
28      DESCRIPTION
29          "The Duration of MS listening window. It is not
30         relevant for Power Saving Class type III, and shall
31         return '0'."
32
33  REFERENCE
34      "Subclause 6.3.2.3.44, in IEEE Std 802.16e-2005"
35
36  ::= { wman2IfBsMsPowerSavingClassesEntry 9 }
37
38
39  wman2IfBsMsPowerSavingMode OBJECT-TYPE
40      SYNTAX      Wman2IfPowerSavingMode
41      MAX-ACCESS  read-write
42      STATUS      current
43      DESCRIPTION
44          "Indicate whether the power saving class mode of such
45         CID is active or not.
46         wman2IfBsMsPowerSavingMode = Sleep_Approved && Operation."
47
48  REFERENCE
49      "Subclause 6.3.2.3.45, in IEEE Std 802.16e-2005"
50
51  ::= { wman2IfBsMsPowerSavingClassesEntry 10 }
52
53
54  wman2IfBsMsSlpId OBJECT-TYPE
55      SYNTAX      INTEGER (0..1023)
56      MAX-ACCESS  read-only
57      STATUS      current
58      DESCRIPTION
59          "wman2IfBsMsSlpId is assigned by the BS whenever an MS is
60         instructed to enter sleep mode. This number shall be unique
61         among all MSs that are in sleep mode."
62
63  REFERENCE
64      "Subclause 6.3.2.3.45, in IEEE Std 802.16e-2005"
65
66  ::= { wman2IfBsMsPowerSavingClassesEntry 11 }

```

```

1
2  --
3  -- Mobile Station Sleep Mode Statistics Table
4  --
5
6  wman2IfBsMsSleepModeStatisticsTable OBJECT-TYPE
7      SYNTAX      SEQUENCE OF Wman2IfBsMsSleepModeStatisticsEntry
8      MAX-ACCESS  not-accessible
9      STATUS      current
10     DESCRIPTION
11         "This table contains the sleep mode statistic for MS. This
12         table shall be maintained as FIFO to store the sleep mode
13         statistics over a period of time that is subject to
14         implementation. This statistics information can be to
15         monitor, fine tuning, or debugging the power saving
16         performance of each MS. When the statistics entry for an
17         MS reaches the limit, it wraps around to the beginning, and
18         overwrites the oldest entry with the new entry. When the BS
19         roams to a different BS, all entries associated with such
20         MS will be deleted."
21     REFERENCE
22         "6.3.21 in IEEE Std 802.16e-2005"
23     ::= { wman2IfBsCps 8 }
24
25  wman2IfBsMsSleepModeStatisticsEntry OBJECT-TYPE
26      SYNTAX      Wman2IfBsMsSleepModeStatisticsEntry
27      MAX-ACCESS  not-accessible
28      STATUS      current
29      DESCRIPTION
30         "Each entry in the table contains the event of an MS
31         entering the sleep mode. It is indexed by ifIndex,
32         wman2IfBsSsMacAddress, and wman2IfBsMsStatisticsIndex.
33         wman2IfBsMsStatisticsIndex is the index to sleep mode event
34         entry in the table, and should be increased monotonically,
35         and wraps around when it reaches the implementation
36         specific limit. A time stamp is provided in each entry to
37         indicate when the sleep mode event took place."
38     INDEX      { ifIndex,
39                  wman2IfBsSsMacAddress,
40                  wman2IfBsMsCid,
41                  wman2IfBsMsStatisticsIndex }
42     ::= { wman2IfBsMsSleepModeStatisticsTable 1 }
43
44  Wman2IfBsMsSleepModeStatisticsEntry ::= SEQUENCE {
45      wman2IfBsMsStatisticsIndex      Unsigned32,
46      wman2IfBsMsSleepWindowStarted   Unsigned32,
47      wman2IfBsMsListeningWindowStarted Unsigned32,
48      wman2IfBsMsPendingMsdu          INTEGER,
49      wman2IfBsMsSleepWindowTimeStamp DateAndTime}
50
51  wman2IfBsMsStatisticsIndex OBJECT-TYPE
52      SYNTAX      Unsigned32 (1 .. 4294967295)
53      MAX-ACCESS  read-only
54      STATUS      current
55      DESCRIPTION
56

```

```

1         "wman2IfBsMsStatisticsIndex identifies the entry in the
2         table where the latest sleep mode event took place."
3         ::= { wman2IfBsMsSleepModeStatisticsEntry 1 }
4
5
6 wman2IfBsMsSleepWindowStarted OBJECT-TYPE
7     SYNTAX      Unsigned32 (1 .. 166777215)
8     UNITS       "frame"
9     MAX-ACCESS  read-only
10    STATUS      current
11    DESCRIPTION
12        "wman2IfBsMsSleepWindowStarted identifies when the sleep
13        mode is activated.
14        wman2IfBsMsSleepWindowStarted = current frame number +
15                                         Start_frame_number.
16        The frame number is provided in the DL-MAP, and is
17        incremented by 1 MOD 2^24 each frame."
18        ::= { wman2IfBsMsSleepModeStatisticsEntry 2 }
19
20
21
22
23 wman2IfBsMsListeningWindowStarted OBJECT-TYPE
24     SYNTAX      Unsigned32 (1 .. 166777215)
25     UNITS       "frame"
26     MAX-ACCESS  read-only
27     STATUS      current
28     DESCRIPTION
29        "wman2IfBsMsListeningWindowStarted identifies when the sleep
30        mode is deactivated.
31        wman2IfBsMsListeningWindowStarted =
32        wman2IfBsMsListeningWindowStarted + sleep window
33        The frame number is provided in the DL-MAP, and is
34        incremented by 1 MOD 2^24 each frame."
35        ::= { wman2IfBsMsSleepModeStatisticsEntry 3 }
36
37
38
39
40 wman2IfBsMsPendingMsdu OBJECT-TYPE
41     SYNTAX      INTEGER
42     MAX-ACCESS  read-only
43     STATUS      current
44     DESCRIPTION
45        "Indicate the number of MAC SDU that are received from the
46        network during the sleep window."
47        ::= { wman2IfBsMsSleepModeStatisticsEntry 4 }
48
49
50
51 wman2IfBsMsSleepWindowTimeStamp OBJECT-TYPE
52     SYNTAX      DateAndTime
53     MAX-ACCESS  read-only
54     STATUS      current
55     DESCRIPTION
56        "This is the time when sleep window is started in seconds.
57        The definition of time is as in IETF RFC 868."
58        ::= { wman2IfBsMsSleepModeStatisticsEntry 5 }
59
60
61 --
62 -- Base station PKM group
63 -- wman2IfBsPkmObjects contain the Base Station Privacy Sublayer objects
64 --
65

```

```

1  wman2IfBsPkmObjects OBJECT IDENTIFIER ::= { wman2IfBsObjects 3 }
2
3
4  --
5  -- Table wman2IfBsPkmBaseTable
6  --
7  wman2IfBsPkmBaseTable OBJECT-TYPE
8      SYNTAX      SEQUENCE OF Wman2IfBsPkmBaseEntry
9
10     MAX-ACCESS  not-accessible
11     STATUS      current
12     DESCRIPTION
13         "This table describes the basic PKM attributes of each Base
14         Station wireless interface."
15     ::= { wman2IfBsPkmObjects 1 }
16
17
18 wman2IfBsPkmBaseEntry OBJECT-TYPE
19     SYNTAX      Wman2IfBsPkmBaseEntry
20     MAX-ACCESS  not-accessible
21     STATUS      current
22     DESCRIPTION
23         "Each entry contains objects describing attributes of one
24         BS wireless interface."
25     INDEX       { ifIndex }
26     ::= { wman2IfBsPkmBaseTable 1 }
27
28
29
30 Wman2IfBsPkmBaseEntry ::= SEQUENCE {
31     wman2IfBsPkmDefaultAuthLifetime      Integer32,
32     wman2IfBsPkmDefaultTekLifetime        Integer32,
33     wman2IfBsPkmDefaultSelfSigManufCertTrust INTEGER,
34     wman2IfBsPkmCheckCertValidityPeriods TruthValue,
35     wman2IfBsPkmAuthentInfos              Counter32,
36     wman2IfBsPkmAuthRequests              Counter32,
37     wman2IfBsPkmAuthReplies              Counter32,
38     wman2IfBsPkmAuthRejects              Counter32,
39     wman2IfBsPkmAuthInvalids             Counter32}
40
41
42
43 wman2IfBsPkmDefaultAuthLifetime OBJECT-TYPE
44     SYNTAX      Integer32 (86400..604800)
45     UNITS       "seconds"
46     MAX-ACCESS  read-write
47     STATUS      current
48     DESCRIPTION
49         "The value of this object is the default lifetime, in
50         seconds, the BS assigns to a new authorization key."
51     REFERENCE
52         "Table 341 in IEEE Std 802.16-2004"
53     DEFVAL      { 604800 }
54     ::= { wman2IfBsPkmBaseEntry 1 }
55
56
57
58 wman2IfBsPkmDefaultTekLifetime OBJECT-TYPE
59     SYNTAX      Integer32 (1800..604800)
60     UNITS       "seconds"
61     MAX-ACCESS  read-write
62     STATUS      current
63     DESCRIPTION
64
65

```

```

1         "The value of this object is the default lifetime, in
2         seconds, the BS assigns to a new Traffic Encryption
3         Key (TEK) ."
4
5     REFERENCE
6         "Table 341 in IEEE Std 802.16-2004"
7     DEFVAL      { 43200 }
8     ::= { wman2IfBsPkmBaseEntry 2 }
9
10
11
12 wman2IfBsPkmDefaultSelfSigManufCertTrust OBJECT-TYPE
13     SYNTAX      INTEGER {trusted (1),
14                     untrusted (2)}
15     MAX-ACCESS  read-write
16     STATUS      current
17     DESCRIPTION
18         "This object determines the default trust of all (new)
19         self-signed manufacturer certificates obtained after
20         setting the object."
21     ::= { wman2IfBsPkmBaseEntry 3 }
22
23
24
25 wman2IfBsPkmCheckCertValidityPeriods OBJECT-TYPE
26     SYNTAX      TruthValue
27     MAX-ACCESS  read-write
28     STATUS      current
29     DESCRIPTION
30         "Setting this object to TRUE causes all certificates
31         received thereafter to have their validity periods (and
32         their chain's validity periods) checked against the current
33         time of day. A FALSE setting will cause all certificates
34         received Thereafter to not have their validity periods
35         (nor their chain's validity periods) checked against the
36         current time of day."
37     ::= { wman2IfBsPkmBaseEntry 4 }
38
39
40
41
42 wman2IfBsPkmAuthentInfos OBJECT-TYPE
43     SYNTAX      Counter32
44     MAX-ACCESS  read-only
45     STATUS      current
46     DESCRIPTION
47         "The value of this object is the count of times the BS has
48         received an Authentication Information message from any
49         SS."
50     ::= { wman2IfBsPkmBaseEntry 5 }
51
52
53
54 wman2IfBsPkmAuthRequests OBJECT-TYPE
55     SYNTAX      Counter32
56     MAX-ACCESS  read-only
57     STATUS      current
58     DESCRIPTION
59         "The value of this object is the count of times the BS has
60         received an Authorization Request message from any SS"
61     ::= { wman2IfBsPkmBaseEntry 6 }
62
63
64
65 wman2IfBsPkmAuthReplies OBJECT-TYPE

```

```

1      SYNTAX      Counter32
2      MAX-ACCESS  read-only
3      STATUS      current
4      DESCRIPTION
5          "The value of this object is the count of times the BS has
6          transmitted an Authorization Reply message to any SS."
7      ::= { wman2IfBsPkmBaseEntry 7 }
8
9
10
11 wman2IfBsPkmAuthRejects OBJECT-TYPE
12     SYNTAX      Counter32
13     MAX-ACCESS  read-only
14     STATUS      current
15     DESCRIPTION
16         "The value of this object is the count of times the BS has
17         transmitted an Authorization Reject message to any SS."
18     ::= { wman2IfBsPkmBaseEntry 8 }
19
20
21
22 wman2IfBsPkmAuthInvalids OBJECT-TYPE
23     SYNTAX      Counter32
24     MAX-ACCESS  read-only
25     STATUS      current
26     DESCRIPTION
27         "The value of this object is the count of times the BS has
28         transmitted an Authorization Invalid message to any SS."
29     ::= { wman2IfBsPkmBaseEntry 9 }
30
31
32
33 --
34 -- Table wman2IfBsSsPkmAuthTable
35 --
36 wman2IfBsSsPkmAuthTable OBJECT-TYPE
37     SYNTAX      SEQUENCE OF Wman2IfBsSsPkmAuthEntry
38     MAX-ACCESS  not-accessible
39     STATUS      current
40     DESCRIPTION
41         "This table describes PKM attributes related
42         to the authorization for each SS. The BS maintains one
43         Primary Security Association with each Baseline
44         Privacy-enabled SS on each BS wireless interface."
45     ::= { wman2IfBsPkmObjects 2 }
46
47
48
49 wman2IfBsSsPkmAuthEntry OBJECT-TYPE
50     SYNTAX      Wman2IfBsSsPkmAuthEntry
51     MAX-ACCESS  not-accessible
52     STATUS      current
53     DESCRIPTION
54         "The BS MUST create one entry per SS per wireless
55         interface, based on the receipt of an Authorization
56         Request message and MUST not delete the entry before
57         the SS authorization permanently expires."
58     INDEX      { ifIndex, wman2IfBsSsPkmAuthMacAddress }
59     ::= { wman2IfBsSsPkmAuthTable 1 }
60
61
62
63 Wman2IfBsSsPkmAuthEntry ::= SEQUENCE {
64     wman2IfBsSsPkmAuthMacAddress      MacAddress,
65

```

```

1      wman2IfBsSsPkmAuthKeySequenceNumber      Integer32,
2      wman2IfBsSsPkmAuthExpiresOld              DateAndTime,
3      wman2IfBsSsPkmAuthExpiresNew              DateAndTime,
4      wman2IfBsSsPkmAuthLifetime                Integer32,
5      wman2IfBsSsPkmAuthReset                   INTEGER,
6      wman2IfBsSsPkmAuthInfos                    Counter64,
7      wman2IfBsSsPkmAuthRequests                Counter64,
8      wman2IfBsSsPkmAuthReplies                 Counter64,
9      wman2IfBsSsPkmAuthRejects                 Counter64,
10     wman2IfBsSsPkmAuthRejects                  Counter64,
11     wman2IfBsSsPkmAuthRejects                  Counter64,
12     wman2IfBsSsPkmAuthRejects                  Counter64,
13     wman2IfBsSsPkmAuthRejectErrorCodes         INTEGER,
14     wman2IfBsSsPkmAuthRejectErrorStrings        SnmpAdminString,
15     wman2IfBsSsPkmAuthInvalidErrorCodes         INTEGER,
16     wman2IfBsSsPkmAuthInvalidErrorStrings       SnmpAdminString,
17     wman2IfBsSsPkmAuthPrimarySAId               INTEGER,
18     wman2IfBsSsPkmAuthValidStatus               INTEGER}
19
20
21     wman2IfBsSsPkmAuthMacAddress OBJECT-TYPE
22         SYNTAX      MacAddress
23         MAX-ACCESS   not-accessible
24         STATUS       current
25         DESCRIPTION
26             "The value of this object is the physical address of the SS
27             to which the authorization association applies."
28             ::= { wman2IfBsSsPkmAuthEntry 1 }
29
30
31     wman2IfBsSsPkmAuthKeySequenceNumber OBJECT-TYPE
32         SYNTAX      Integer32 (0..15)
33         MAX-ACCESS   read-only
34         STATUS       current
35         DESCRIPTION
36             "The value of this object is the most recent authorization
37             key sequence number for this SS."
38             ::= { wman2IfBsSsPkmAuthEntry 2 }
39
40
41     wman2IfBsSsPkmAuthExpiresOld OBJECT-TYPE
42         SYNTAX      DateAndTime
43         MAX-ACCESS   read-only
44         STATUS       current
45         DESCRIPTION
46             "The value of this object is the actual clock time for
47             expiration of the immediate predecessor of the most recent
48             authorization key for this FSM. If this FSM has only one
49             authorization key, then the value is the time of activation
50             of this FSM."
51             ::= { wman2IfBsSsPkmAuthEntry 3 }
52
53
54     wman2IfBsSsPkmAuthExpiresNew OBJECT-TYPE
55         SYNTAX      DateAndTime
56         MAX-ACCESS   read-only
57         STATUS       current
58         DESCRIPTION
59             "The value of this object is the actual clock time for
60             expiration of the most recent authorization key for this
61             "
62
63
64
65

```



```

1         FSM"
2         ::= { wman2IfBsSsPkmAuthEntry 4 }
3
4
5 wman2IfBsSsPkmAuthLifetime OBJECT-TYPE
6     SYNTAX      Integer32 (86400..6048000)
7     UNITS       "seconds"
8     MAX-ACCESS  read-only
9     STATUS      current
10    DESCRIPTION
11        "The vaue of this object is the lifetime, in seconds, the
12         BS assigns to an authorization key for this SS."
13    REFERENCE
14        "Table 341 in IEEE Std 802.16-2004"
15    DEFVAL      { 604800 }
16    ::= { wman2IfBsSsPkmAuthEntry 5 }
17
18
19
20 wman2IfBsSsPkmAuthReset OBJECT-TYPE
21     SYNTAX      INTEGER {noResetRequested(1),
22                        invalidateAuth(2),
23                        sendAuthInvalid(3),
24                        invalidateTeks(4)}
25     MAX-ACCESS  read-write
26     STATUS      current
27     DESCRIPTION
28        "Setting this object to invalidateAuth(2) causes the BS to
29         invalidate the current SS authorization key(s), but not to
30         transmit an Authorization Invalid message nor to invalidate
31         unicast TEKs. Setting this object to sendAuthInvalid(3)
32         causes the BS to invalidate the current SS authorization
33         key(s), and to transmit an Authorization Invalid message to
34         the SS, but not to invalidate unicast TEKs. Setting this
35         object to invalidateTeks(4) causes the BS to invalidate the
36         current SS authorization key(s), to transmit an
37         Authorization Invalid message to the SS, and to
38         invalidate all unicast TEKs associated with this SS
39         authorization. Reading this object returns the
40         most-recently-set value of this object, or returns
41         noResetRequested(1) if the object has not been set since
42         the last BS reboot."
43     ::= { wman2IfBsSsPkmAuthEntry 6 }
44
45
46
47
48
49
50 wman2IfBsSsPkmAuthInfos OBJECT-TYPE
51     SYNTAX      Counter64
52     MAX-ACCESS  read-only
53     STATUS      current
54     DESCRIPTION
55        "The value of this object is the count of times the BS has
56         received an Authentication Information message from this
57         SS."
58     ::= { wman2IfBsSsPkmAuthEntry 7 }
59
60
61
62 wman2IfBsSsPkmAuthRequests OBJECT-TYPE
63     SYNTAX      Counter64
64     MAX-ACCESS  read-only
65

```

```

1      STATUS      current
2      DESCRIPTION
3          "The value of this object is the count of times the BS has
4              received an Authorization Request message from this SS."
5      ::= { wman2IfBsSsPkmAuthEntry 8 }
6
7
8      wman2IfBsSsPkmAuthReplies OBJECT-TYPE
9          SYNTAX      Counter64
10         MAX-ACCESS  read-only
11         STATUS      current
12         DESCRIPTION
13             "The value of this object is the count of times the BS has
14                 transmitted an Authorization Reply message to this SS."
15         ::= { wman2IfBsSsPkmAuthEntry 9 }
16
17
18      wman2IfBsSsPkmAuthRejects OBJECT-TYPE
19          SYNTAX      Counter64
20          MAX-ACCESS  read-only
21          STATUS      current
22          DESCRIPTION
23              "The value of this object is the count of times the BS has
24                  transmitted an Authorization Reject message to this SS."
25          ::= { wman2IfBsSsPkmAuthEntry 10 }
26
27
28      wman2IfBsSsPkmAuthInvalids OBJECT-TYPE
29          SYNTAX      Counter64
30          MAX-ACCESS  read-only
31          STATUS      current
32          DESCRIPTION
33              "The value of this object is the count of times the BS has
34                  transmitted an Authorization Invalid message to this SS."
35          ::= { wman2IfBsSsPkmAuthEntry 11 }
36
37
38      wman2IfBsSsPkmAuthRejectErrorCode OBJECT-TYPE
39          SYNTAX      INTEGER {noInformation(0),
40              unauthorizedSs(1),
41              unauthorizedSaid(2),
42              permanentAuthorizationFailure(6)}
43          MAX-ACCESS  read-only
44          STATUS      current
45          DESCRIPTION
46              "The value of this object is the enumerated description of
47                  the Error-Code in most recent Authorization Reject message
48                  transmitted to the SS."
49          REFERENCE
50              "IEEE Std 802.16-2004; Table 371"
51          ::= { wman2IfBsSsPkmAuthEntry 12 }
52
53
54      wman2IfBsSsPkmAuthRejectErrorString OBJECT-TYPE
55          SYNTAX      SnmpAdminString (SIZE (0..128))
56          MAX-ACCESS  read-only
57          STATUS      current
58          DESCRIPTION
59              "The value of this object is the Display-String in most

```

```

1         recent Authorization Reject message transmitted to the SS.
2         This is a zero length string if no Authorization Reject
3         message has been transmitted to the SS."
4
5 ::= { wman2IfBsSsPkmAuthEntry 13 }
6
7 wman2IfBsSsPkmAuthInvalidErrorCode OBJECT-TYPE
8     SYNTAX      INTEGER {noInformation(0),
9                  unauthorizedSs(1),
10                 unsolicited(3),
11                 invalidKeySequence(4),
12                 keyRequestAuthenticationFailure(5)}
13
14     MAX-ACCESS  read-only
15     STATUS      current
16     DESCRIPTION
17         "The value of this object is the enumerated description of
18         the Error-Code in most recent Authorization Invalid message
19         transmitted to the SS."
20
21     REFERENCE
22         "IEEE Std 802.16-2004; Table 371"
23
24 ::= { wman2IfBsSsPkmAuthEntry 14 }
25
26 wman2IfBsSsPkmAuthInvalidErrorString OBJECT-TYPE
27     SYNTAX      SnmpAdminString (SIZE (0..128))
28     MAX-ACCESS  read-only
29     STATUS      current
30     DESCRIPTION
31         "The value of this object is the Display-String in most
32         recent Authorization Invalid message transmitted to the SS.
33         This is a zero length string if no Authorization Invalid
34         message has been transmitted to the SS."
35
36 ::= { wman2IfBsSsPkmAuthEntry 15 }
37
38
39 wman2IfBsSsPkmAuthPrimarySAId OBJECT-TYPE
40     SYNTAX      INTEGER (0..65535)
41     MAX-ACCESS  read-only
42     STATUS      current
43     DESCRIPTION
44         "The value of this object is the Primary Security
45         Association identifier."
46
47     REFERENCE
48         "IEEE Std 802.16-2004; 11.9.7"
49
50 ::= { wman2IfBsSsPkmAuthEntry 16 }
51
52
53 wman2IfBsSsPkmAuthValidStatus OBJECT-TYPE
54     SYNTAX      INTEGER {unknown (0),
55                          validSsChained (1),
56                          validSsTrusted (2),
57                          invalidSsUntrusted (3),
58                          invalidCAUntrusted (4),
59                          invalidSsOther (5),
60                          invalidCAOther (6)}
61
62     MAX-ACCESS  read-only
63     STATUS      current
64     DESCRIPTION
65

```

```

1          "Contains the reason why a SS's certificate is deemed valid
2          or invalid. Return unknown if the SS is running PKM mode.
3          ValidSsChained means the certificate is valid because it
4          chains to a valid certificate. ValidSsTrusted means the
5          certificate is valid because it has been provisioned to be
6          trusted. InvalidSsUntrusted means the certificate is
7          invalid because it has been provisioned to be untrusted.
8          InvalidCAUntrusted means the certificate is invalid
9          because it chains to an untrusted certificate.
10         InvalidSsOther and InvalidCAOther refer to errors in
11         parsing, validity periods, etc, which are attributable to
12         the SS certificate or its chain respectively."
13         ::= { wman2IfBsSsPkmAuthEntry 17 }
14
15
16
17
18
19
20
21
22         wman2IfBsPkmTekTable OBJECT-TYPE
23             SYNTAX          SEQUENCE OF Wman2IfBsPkmTekEntry
24             MAX-ACCESS      not-accessible
25             STATUS          current
26             DESCRIPTION
27                 "This table describes the attributes of each Traffic
28                 Encryption Key (TEK) association. The BS maintains one TEK
29                 association per SAID on each BS wireless interface."
30             ::= { wman2IfBsPkmObjects 3 }
31
32
33
34         wman2IfBsPkmTekEntry OBJECT-TYPE
35             SYNTAX          Wman2IfBsPkmTekEntry
36             MAX-ACCESS      not-accessible
37             STATUS          current
38             DESCRIPTION
39                 "Each entry contains objects describing attributes of one
40                 TEK association on a particular BS wireless interface. The
41                 BS MUST create one entry per SAID per wireless interface,
42                 based on the receipt of a Key Request message, and MUST not
43                 delete the entry before the SS authorization for the SAID
44                 permanently expires."
45             INDEX          { ifIndex, wman2IfBsPkmTekSAID }
46             ::= { wman2IfBsPkmTekTable 1 }
47
48
49
50         Wman2IfBsPkmTekEntry ::= SEQUENCE {
51             wman2IfBsPkmTekSAID                INTEGER,
52             wman2IfBsPkmTekSAType               INTEGER,
53             wman2IfBsPkmTekDataEncryptAlg      Wman2IfDataEncryptAlgId,
54             wman2IfBsPkmTekDataAuthAlg         Wman2IfDataAuthAlgId,
55             wman2IfBsPkmTekEncryptAlg          Wman2IfTekEncryptAlgId,
56             wman2IfBsPkmTekLifetime            Integer32,
57             wman2IfBsPkmTekKeySequenceNumber   Integer32,
58             wman2IfBsPkmTekExpiresOld          DateAndTime,
59             wman2IfBsPkmTekExpiresNew         DateAndTime,
60             wman2IfBsPkmTekReset               TruthValue,
61             wman2IfBsPkmKeyRequests            Counter32,
62             wman2IfBsPkmKeyReplies             Counter32,

```

```

1      wman2IfBsPkmKeyRejects          Counter32,
2      wman2IfBsPkmTekInvalids         Counter32,
3      wman2IfBsPkmKeyRejectErrorCode  INTEGER,
4      wman2IfBsPkmKeyRejectErrorString SnmpAdminString,
5      wman2IfBsPkmTekInvalidErrorCode INTEGER,
6      wman2IfBsPkmTekInvalidErrorString SnmpAdminString}
7
8
9
10     wman2IfBsPkmTekSAId OBJECT-TYPE
11         SYNTAX      INTEGER (0..65535)
12         MAX-ACCESS  not-accessible
13         STATUS      current
14         DESCRIPTION
15             "The value of this object is the Security Association
16             ID (SAID)."

```

```

1  wman2IfBsPkmTekEncryptAlg OBJECT-TYPE
2      SYNTAX      Wman2IfTekEncryptAlgId
3      MAX-ACCESS  read-only
4      STATUS      current
5      DESCRIPTION
6          "The value of this object is the TEK key encryption
7          algorithm being utilized."
8      REFERENCE
9          "Table 377, IEEE Std 802.16-2004"
10     ::= { wman2IfBsPkmTekEntry 5 }
11
12
13
14  wman2IfBsPkmTekLifetime OBJECT-TYPE
15      SYNTAX      Integer32 (1800..604800)
16      UNITS       "seconds"
17      MAX-ACCESS  read-only
18      STATUS      current
19      DESCRIPTION
20          "The value of this object is the lifetime, in seconds, the
21          BS assigns to keys for this TEK association."
22      REFERENCE
23          "Table 341 in IEEE Std 802.16-2004"
24      DEFVAL      { 43200 }
25      ::= { wman2IfBsPkmTekEntry 6 }
26
27
28
29
30  wman2IfBsPkmTekKeySequenceNumber OBJECT-TYPE
31      SYNTAX      Integer32 (0..3)
32      MAX-ACCESS  read-only
33      STATUS      current
34      DESCRIPTION
35          "The value of this object is the most recent TEK key
36          sequence number for this SAID."
37      REFERENCE
38          "IEEE Std 802.16-2004; subclause 11.9.5"
39      ::= { wman2IfBsPkmTekEntry 7 }
40
41
42
43  wman2IfBsPkmTekExpiresOld OBJECT-TYPE
44      SYNTAX      DateAndTime
45      MAX-ACCESS  read-only
46      STATUS      current
47      DESCRIPTION
48          "The value of this object is the actual clock time for
49          expiration of the immediate predecessor of the most recent
50          TEK for this FSM. If this FSM has only one TEK, then the
51          value is the time of activation of this FSM."
52      ::= { wman2IfBsPkmTekEntry 8 }
53
54
55
56  wman2IfBsPkmTekExpiresNew OBJECT-TYPE
57      SYNTAX      DateAndTime
58      MAX-ACCESS  read-only
59      STATUS      current
60      DESCRIPTION
61          "The value of this object is the actual clock time for
62          expiration of the most recent TEK for this FSM."
63      ::= { wman2IfBsPkmTekEntry 9 }
64
65

```

```

1
2 wman2IfBsPkmTekReset OBJECT-TYPE
3     SYNTAX      TruthValue
4     MAX-ACCESS  read-write
5     STATUS      current
6     DESCRIPTION
7         "Setting this object to TRUE causes the BS to invalidate
8         the current active TEK(s) (plural due to key transition
9         periods), and to generate a new TEK for the associated
10        SAID; the BS MAY also generate an unsolicited TEK Invalid
11        message, to optimize the TEK synchronization between the BS
12        and the SS. Reading this object always returns  FALSE."
13        ::= { wman2IfBsPkmTekEntry 10 }
14
15
16
17 wman2IfBsPkmKeyRequests OBJECT-TYPE
18     SYNTAX      Counter32
19     MAX-ACCESS  read-only
20     STATUS      current
21     DESCRIPTION
22         "The value of this object is the count of times the BS has
23         received a Key Request message."
24         ::= { wman2IfBsPkmTekEntry 11 }
25
26
27
28 wman2IfBsPkmKeyReplies OBJECT-TYPE
29     SYNTAX      Counter32
30     MAX-ACCESS  read-only
31     STATUS      current
32     DESCRIPTION
33         "The value of this object is the count of times the BS has
34         transmitted a Key Reply message."
35         ::= { wman2IfBsPkmTekEntry 12 }
36
37
38
39 wman2IfBsPkmKeyRejects OBJECT-TYPE
40     SYNTAX      Counter32
41     MAX-ACCESS  read-only
42     STATUS      current
43     DESCRIPTION
44         "The value of this object is the count of times the BS has
45         transmitted a Key Reject message."
46         ::= { wman2IfBsPkmTekEntry 13 }
47
48
49
50 wman2IfBsPkmTekInvalids OBJECT-TYPE
51     SYNTAX      Counter32
52     MAX-ACCESS  read-only
53     STATUS      current
54     DESCRIPTION
55         "The value of this object is the count of times the BS has
56         transmitted a TEK Invalid message."
57         ::= { wman2IfBsPkmTekEntry 14 }
58
59
60
61 wman2IfBsPkmKeyRejectErrorCode OBJECT-TYPE
62     SYNTAX      INTEGER {noInformation(0),
63                     unauthorizedSaid(2)}
64     MAX-ACCESS  read-only
65

```

```

1      STATUS      current
2      DESCRIPTION
3          "The value of this object is the enumerated; description of
4          the Error-Code in the most recent Key Reject message sent
5          in response to a Key Request for this SAID."
6      REFERENCE
7          "IEEE Std 802.16-2004; Table 371"
8      ::= { wman2IfBsPkmTekEntry 15 }
9
10
11
12 wman2IfBsPkmKeyRejectErrorString OBJECT-TYPE
13     SYNTAX      SnmpAdminString (SIZE (0..128))
14     MAX-ACCESS  read-only
15     STATUS      current
16     DESCRIPTION
17         "The value of this object is the Display-String in the most
18         recent Key Reject message sent in response to a Key Request
19         for this SAID. This is a zero length string if no Key
20         Reject message has been received since reboot."
21     ::= { wman2IfBsPkmTekEntry 16 }
22
23
24
25 wman2IfBsPkmTekInvalidErrorCode OBJECT-TYPE
26     SYNTAX      INTEGER {noInformation(0),
27                        invalidKeySequence(4)}
28     MAX-ACCESS  read-only
29     STATUS      current
30     DESCRIPTION
31         "The value of this object is the enumerated description of
32         the Error-Code in the most recent TEK Invalid message sent
33         in association with this SAID."
34     REFERENCE
35         "IEEE Std 802.16-2004; Table 371"
36     ::= { wman2IfBsPkmTekEntry 17 }
37
38
39
40
41 wman2IfBsPkmTekInvalidErrorString OBJECT-TYPE
42     SYNTAX      SnmpAdminString (SIZE (0..128))
43     MAX-ACCESS  read-only
44     STATUS      current
45     DESCRIPTION
46         "The value of this object is the Display-String in the most
47         recent TEK Invalid message sent in association with this
48         SAID. This is a zero length string if no TEK Invalid
49         message has been received since reboot."
50     ::= { wman2IfBsPkmTekEntry 18 }
51
52
53
54 --
55 -- Base station Notification Group
56 -- wman2IfBsNotificationObjects contains the BS SNMP Trap objects
57 --
58 wman2IfBsNotification OBJECT IDENTIFIER ::= { wman2IfBsObjects 4 }
59 wman2IfBsTrapControl   OBJECT IDENTIFIER ::= { wman2IfBsNotification 1
60 }
61 wman2IfBsTrapDefinitions OBJECT IDENTIFIER ::= { wman2IfBsNotification 2
62 }
63
64
65

```



```

1  -- This object groups all NOTIFICATION-TYPE objects for BS.
2  -- It is defined following RFC2758 sections 8.5 and 8.6
3  -- for the compatibility with SNMPv1.
4  wman2IfBsTrapPrefix OBJECT IDENTIFIER ::= { wman2IfBsTrapDefinitions 0 }
5
6
7  wman2IfBsTrapControlRegister OBJECT-TYPE
8      SYNTAX      BITS {wman2IfBsSsStatusNotification      (0),
9                      wman2IfBsSsDynamicServiceFail      (1),
10                     wman2IfBsSsRssiStatusChange          (2),
11                     wman2IfBsSsRegistrer                  (3),
12                     wman2IfBsSsPkmFail                    (4)}
13
14      MAX-ACCESS read-write
15      STATUS      current
16      DESCRIPTION
17          "The object is used to enable or disable Base Station traps.
18           From left to right, the set bit indicates the corresponding
19           Base Station trap is enabled."
20      ::= { wman2IfBsTrapControl 1 }
21
22
23
24  wman2IfBsStatusTrapControlRegister OBJECT-TYPE
25      SYNTAX      BITS {unused(0),
26                      ssInitRangingSucc(1),
27                      ssInitRangingFail(2),
28                      ssRegistered(3),
29                      ssRegistrationFail(4),
30                      ssDeregistered(5),
31                      ssBasicCapabilitySucc(6),
32                      ssBasicCapabilityFail(7),
33                      ssAuthorizationSucc(8),
34                      ssAuthorizationFail(9),
35                      tftpSucc(10),
36                      tftpFail(11),
37                      sfCreationSucc(12),
38                      sfCreationFail(13)}
39
40      MAX-ACCESS read-write
41      STATUS      current
42      DESCRIPTION
43          "The object is used to enable or disable Base Station status
44           notification traps. The set bit indicates the corresponding
45           Base Station trap is enabled."
46      ::= { wman2IfBsTrapControl 2 }
47
48
49
50
51  --
52  -- BS threshold Definitions
53  --
54
55  wman2IfBsThresholdConfigTable OBJECT-TYPE
56      SYNTAX      SEQUENCE OF Wman2IfBsThresholdConfigEntry
57      MAX-ACCESS not-accessible
58      STATUS      current
59      DESCRIPTION
60          "This table contains threshold objects that can be set
61           to detect the threshold crossing events."
62      ::= { wman2IfBsTrapControl 3 }
63
64
65

```

```

1  wman2IfBsThresholdConfigEntry OBJECT-TYPE
2      SYNTAX      Wman2IfBsThresholdConfigEntry
3      MAX-ACCESS  not-accessible
4      STATUS      current
5      DESCRIPTION
6          "This table provides one row for each BS sector, and is
7          indexed by ifIndex."
8      INDEX      { ifIndex }
9      ::= { wman2IfBsThresholdConfigTable 1 }
10
11
12
13  Wman2IfBsThresholdConfigEntry ::= SEQUENCE {
14      wman2IfBsRssiLowThreshold      Integer32,
15      wman2IfBsRssiHighThreshold     Integer32}
16
17
18  wman2IfBsRssiLowThreshold OBJECT-TYPE
19      SYNTAX      Integer32
20      UNITS       "dBm"
21      MAX-ACCESS  read-write
22      STATUS      current
23      DESCRIPTION
24          "Low threshold for generating the RSSI alarm."
25      ::= { wman2IfBsThresholdConfigEntry 1 }
26
27
28
29  wman2IfBsRssiHighThreshold OBJECT-TYPE
30      SYNTAX      Integer32
31      UNITS       "dBm"
32      MAX-ACCESS  read-write
33      STATUS      current
34      DESCRIPTION
35          "High threshold for clearing the RSSI alarm."
36      ::= { wman2IfBsThresholdConfigEntry 2 }
37
38
39
40  --
41  -- Subscriber station Notification Objects Definitions
42  --
43  wman2IfBsSsNotificationObjectsTable OBJECT-TYPE
44      SYNTAX      SEQUENCE OF Wman2IfBsSsNotificationObjectsEntry
45      MAX-ACCESS  not-accessible
46      STATUS      current
47      DESCRIPTION
48          "This table contains SS notification objects that have been
49          reported by the trap."
50      ::= { wman2IfBsTrapDefinitions 1 }
51
52
53
54  wman2IfBsSsNotificationObjectsEntry OBJECT-TYPE
55      SYNTAX      Wman2IfBsSsNotificationObjectsEntry
56      MAX-ACCESS  not-accessible
57      STATUS      current
58      DESCRIPTION
59          "This table provides one row for each SS that has
60          generated traps, and is double indexed by
61          wman2IfBsSsNotificationMacAddr and ifIndex for BS sector."
62      INDEX      { ifIndex, wman2IfBsSsNotificationMacAddr }
63      ::= { wman2IfBsSsNotificationObjectsTable 1 }
64
65

```

```

1
2 Wman2IfBsSsNotificationObjectsEntry ::= SEQUENCE {
3     wman2IfBsSsNotificationMacAddr      MacAddress,
4     wman2IfBsSsStatusValue              INTEGER,
5     wman2IfBsSsStatusInfo               OCTET STRING,
6     wman2IfBsDynamicServiceType         INTEGER,
7     wman2IfBsDynamicServiceFailReason   OCTET STRING,
8     wman2IfBsSsRssiStatus               INTEGER,
9     wman2IfBsSsRssiStatusInfo           OCTET STRING,
10    wman2IfBsSsRegisterStatus            INTEGER}
11
12
13
14 wman2IfBsSsNotificationMacAddr OBJECT-TYPE
15     SYNTAX      MacAddress
16     MAX-ACCESS  read-only
17     STATUS      current
18     DESCRIPTION
19         "The MAC address of the SS, reporing the notofiation."
20     ::= { wman2IfBsSsNotificationObjectsEntry 1 }
21
22
23
24 wman2IfBsSsStatusValue OBJECT-TYPE
25     SYNTAX      INTEGER {ssInitRangingSucc(1),
26                     ssInitRangingFail(2),
27                     ssRegistered(3),
28                     ssRegistrationFail(4),
29                     ssDeregistered(5),
30                     ssBasicCapabilitySucc(6),
31                     ssBasicCapabilityFail(7),
32                     ssAuthorizationSucc(8),
33                     ssAuthorizationFail(9),
34                     tftpSucc(10),
35                     tftpFail(11),
36                     sfCreationSucc(12),
37                     sfCreationFail(13)}
38     MAX-ACCESS  read-only
39     STATUS      current
40     DESCRIPTION
41         "This object indicates the status of a SS, as it goes
42         through network entry and initialization procedure."
43     ::= { wman2IfBsSsNotificationObjectsEntry 2 }
44
45
46
47
48
49 wman2IfBsSsStatusInfo OBJECT-TYPE
50     SYNTAX      OCTET STRING (SIZE(0..255))
51     MAX-ACCESS  read-only
52     STATUS      current
53     DESCRIPTION
54         "This object indicates the reason of SS's status change."
55     ::= { wman2IfBsSsNotificationObjectsEntry 3 }
56
57
58
59 wman2IfBsDynamicServiceType OBJECT-TYPE
60     SYNTAX      INTEGER {bsSfCreationReq(1),
61                     bsSfCreationRsp(2),
62                     bsSfCreationAck(3)}
63     MAX-ACCESS  read-only
64     STATUS      current
65

```

```

1      DESCRIPTION
2          "This object indicates the dynamic service flow
3          creation command type."
4      ::= { wman2IfBsSsNotificationObjectsEntry 4 }
5
6
7      wman2IfBsDynamicServiceFailReason OBJECT-TYPE
8          SYNTAX      OCTET STRING (SIZE(0..255))
9          MAX-ACCESS   read-only
10         STATUS      current
11         DESCRIPTION
12             "This object indicates the reason why the service flow
13             creation has failed."
14         ::= { wman2IfBsSsNotificationObjectsEntry 5 }
15
16
17      wman2IfBsSsRssiStatus OBJECT-TYPE
18          SYNTAX      INTEGER {bsRssiAlarm(1),
19                               bsRssiNoAlarm(2)}
20          MAX-ACCESS   read-only
21          STATUS      current
22          DESCRIPTION
23              "A RSSI alarm is generated when RSSI becomes lower than
24              wman2IfBsLowRssiThreshold and is cleared when RSSI becomes
25              higher than wman2IfBsLowRssiThreshold."
26          ::= { wman2IfBsSsNotificationObjectsEntry 6 }
27
28
29      wman2IfBsSsRssiStatusInfo OBJECT-TYPE
30          SYNTAX      OCTET STRING (SIZE(0..255))
31          MAX-ACCESS   read-only
32          STATUS      current
33          DESCRIPTION
34              "This object indicates the reason why RSSI alarm is
35              generated."
36          ::= { wman2IfBsSsNotificationObjectsEntry 7 }
37
38
39      wman2IfBsSsRegisterStatus OBJECT-TYPE
40          SYNTAX      INTEGER {ssRegister(1),
41                               ssDeregister(2)}
42          MAX-ACCESS   read-only
43          STATUS      current
44          DESCRIPTION
45              "This object indicates the status of SS registration."
46          ::= { wman2IfBsSsNotificationObjectsEntry 8 }
47
48
49      --
50      -- Subscriber station Notification Trap Definitions
51      --
52
53      wman2IfBsSsStatusNotificationTrap NOTIFICATION-TYPE
54          OBJECTS      {ifIndex,
55                        wman2IfBsSsNotificationMacAddr,
56                        wman2IfBsSsStatusValue,
57                        wman2IfBsSsStatusInfo}
58          STATUS      current
59          DESCRIPTION
60              "This trap reports the status of a SS. Based on this

```

```

1         notification the NMS will issue an alarm with certain
2         severity depending on the status and the reason received."
3         ::= { wman2IfBsTrapPrefix 1 }
4
5
6 wman2IfBsSsDynamicServiceFailTrap NOTIFICATION-TYPE
7     OBJECTS      {ifIndex,
8                   wman2IfBsSsNotificationMacAddr,
9                   wman2IfBsDynamicServiceType,
10                  wman2IfBsDynamicServiceFailReason}
11
12     STATUS       current
13
14     DESCRIPTION
15         "An event to report the failure of a dynamic service
16         operation happened during the dynamic services process
17         and detected in the Bs side."
18     ::= { wman2IfBsTrapPrefix 2 }
19
20 wman2IfBsSsRssiStatusChangeTrap NOTIFICATION-TYPE
21     OBJECTS      {ifIndex,
22                   wman2IfBsSsNotificationMacAddr,
23                   wman2IfBsSsRssiStatus,
24                   wman2IfBsSsRssiStatusInfo}
25
26     STATUS       current
27
28     DESCRIPTION
29         "An event to report that the uplink RSSI is below
30         wman2IfBsLowRssiThreshold, or above
31         wman2IfBsHighRssiThreshold after restore."
32     ::= { wman2IfBsTrapPrefix 3 }
33
34
35 wman2IfBsSsPkmFailTrap NOTIFICATION-TYPE
36     OBJECTS      {wman2IfBsSsNotificationMacAddr}
37
38     STATUS       current
39
40     DESCRIPTION
41         "An event to report the failure of a Pkm operation."
42     ::= { wman2IfBsTrapPrefix 4 }
43
44 wman2IfBsSsRegistrerTrap NOTIFICATION-TYPE
45     OBJECTS      {wman2IfBsSsNotificationMacAddr,
46                   wman2IfBsSsRegisterStatus}
47
48     STATUS       current
49
50     DESCRIPTION
51         "An event to report SS registration status."
52     ::= { wman2IfBsTrapPrefix 5 }
53
54 --
55 -- Base station PHY Group
56 --
57 wman2IfBsPhy OBJECT IDENTIFIER ::= { wman2IfBsObjects 6 }
58
59 --
60 -- BS OFDM PHY objects
61 --
62 wman2IfBsOfdmPhy OBJECT IDENTIFIER ::= { wman2IfBsPhy 1 }
63
64 wman2IfBsOfdmUplinkChannelTable OBJECT-TYPE
65

```

```

1      SYNTAX      SEQUENCE OF Wman2IfBsOfdmUplinkChannelEntry
2      MAX-ACCESS  not-accessible
3      STATUS      current
4      DESCRIPTION
5
6          "This table contains UCD channel attributes, defining the
7          transmission characteristics of uplink channels"
8      REFERENCE
9
10         "Table 349 and Table 352, in IEEE Std 802.16-2004"
11     ::= { wman2IfBsOfdmPhy 1 }
12
13 wman2IfBsOfdmUplinkChannelEntry OBJECT-TYPE
14     SYNTAX      Wman2IfBsOfdmUplinkChannelEntry
15     MAX-ACCESS  not-accessible
16     STATUS      current
17     DESCRIPTION
18
19         "This table provides one row for each uplink channel of
20         multi-sector BS, and is indexed by BS ifIndex. An entry
21         in this table exists for each ifEntry of BS with an
22         ifType of propBWAmp2Mp."
23     INDEX { ifIndex }
24     ::= { wman2IfBsOfdmUplinkChannelTable 1 }
25
26
27 Wman2IfBsOfdmUplinkChannelEntry ::= SEQUENCE {
28     wman2IfBsOfdmCtBasedResvTimeout      INTEGER,
29     wman2IfBsOfdmBwReqOppSize             INTEGER,
30     wman2IfBsOfdmRangReqOppSize           INTEGER,
31     wman2IfBsOfdmUplinkCenterFreq         Unsigned32,
32     wman2IfBsOfdmNumSubChReqRegionFull    INTEGER,
33     wman2IfBsOfdmNumSymbolsReqRegionFull  INTEGER,
34     wman2IfBsOfdmSubChFocusCtCode         INTEGER,
35     wman2IfBsOfdmUpLinkChannelId          INTEGER}
36
37
38
39 wman2IfBsOfdmCtBasedResvTimeout OBJECT-TYPE
40     SYNTAX      INTEGER (1..255)
41     MAX-ACCESS  read-write
42     STATUS      current
43     DESCRIPTION
44
45         "The number of UL-MAPs to receive before contention-based
46         reservation is attempted again for the same connection."
47     REFERENCE
48
49         "Table 349, in IEEE Std 802.16-2004"
50     ::= { wman2IfBsOfdmUplinkChannelEntry 1 }
51
52
53 wman2IfBsOfdmBwReqOppSize OBJECT-TYPE
54     SYNTAX      INTEGER (1..65535)
55     UNITS       "PS"
56     MAX-ACCESS  read-write
57     STATUS      current
58     DESCRIPTION
59
60         "Size (in units of PS) of PHY payload that SS may use to
61         format and transmit a bandwidth request message in a
62         contention request opportunity. The value includes all
63         PHY overhead as well as allowance for the MAC data the
64         message may hold."
65

```

```

1      REFERENCE
2          "Table 349, in IEEE Std 802.16-2004"
3      ::= { wman2IfBsOfdmUplinkChannelEntry 2 }
4
5
6  wman2IfBsOfdmRangReqOppSize OBJECT-TYPE
7      SYNTAX      INTEGER (1..65535)
8      UNITS       "PS"
9      MAX-ACCESS  read-write
10     STATUS      current
11     DESCRIPTION
12         "Size (in units of PS) of PHY payload that SS may use to
13         format and transmit a RNG-REQ message in a contention
14         request opportunity. The value includes all PHY overhead
15         as well as allowance for the MAC data the message may
16         hold and the maximum SS/BS roundtrip propagation delay."
17     REFERENCE
18         "Table 349, in IEEE Std 802.16-2004"
19     ::= { wman2IfBsOfdmUplinkChannelEntry 3 }
20
21
22  wman2IfBsOfdmUplinkCenterFreq OBJECT-TYPE
23     SYNTAX      Unsigned32
24     UNITS       "kHz"
25     MAX-ACCESS  read-write
26     STATUS      current
27     DESCRIPTION
28         " Uplink center frequency (kHz)"
29     REFERENCE
30         "Table 349, in IEEE Std 802.16-2004"
31     ::= { wman2IfBsOfdmUplinkChannelEntry 4 }
32
33
34  wman2IfBsOfdmNumSubChReqRegionFull OBJECT-TYPE
35     SYNTAX      INTEGER {oneSubchannel(0),
36                     twoSubchannels(1),
37                     fourSubchannels(2),
38                     eightSubchannels(3),
39                     sixteenSubchannels(4)}
40     MAX-ACCESS  read-write
41     STATUS      current
42     DESCRIPTION
43         "Number of subchannels used by each transmit
44         opportunity when REQ Region-Full is allocated in
45         subchannelization region."
46     REFERENCE
47         "Table 352, in IEEE Std 802.16-2004"
48     ::= { wman2IfBsOfdmUplinkChannelEntry 5 }
49
50
51  wman2IfBsOfdmNumSymbolsReqRegionFull OBJECT-TYPE
52     SYNTAX      INTEGER (0..31)
53     MAX-ACCESS  read-write
54     STATUS      current
55     DESCRIPTION
56         "Number of OFDM symbols used by each transmit
57         opportunity when REQ Region-Full is allocated in
58         subchannelization region."
59
60
61

```

```

1      REFERENCE
2          "Table 352, in IEEE Std 802.16-2004"
3      ::= { wman2IfBsOfdmUplinkChannelEntry 6 }
4
5
6      wman2IfBsOfdmSubChFocusCtCode OBJECT-TYPE
7          SYNTAX      INTEGER (0..8)
8          MAX-ACCESS  read-write
9          STATUS      current
10         DESCRIPTION
11             "Number of contention codes (CSE) that shall only be used to
12             request a subchannelized allocation. Default value 0.
13             Allowed values 0-8."
14         REFERENCE
15             "Table 352, in IEEE Std 802.16-2004"
16         DEFVAL      { 0 }
17         ::= { wman2IfBsOfdmUplinkChannelEntry 7 }
18
19
20
21      wman2IfBsOfdmUpLinkChannelId OBJECT-TYPE
22          SYNTAX      INTEGER (0..255)
23          MAX-ACCESS  read-write
24          STATUS      current
25          DESCRIPTION
26              "The identifier of the uplink channel to which the relevant
27              RNG-RSP or RNG-REQ message refers."
28          REFERENCE
29              "Subclause 6.3.2.3.4. Table 16, in IEEE Std 802.16-2004"
30          ::= { wman2IfBsOfdmUplinkChannelEntry 8 }
31
32
33
34      wman2IfBsOfdmDownlinkChannelTable OBJECT-TYPE
35          SYNTAX      SEQUENCE OF Wman2IfBsOfdmDownlinkChannelEntry
36          MAX-ACCESS  not-accessible
37          STATUS      current
38          DESCRIPTION
39              "This table contains DCD channel attributes, defining the
40              transmission characteristics of downlink channels"
41          REFERENCE
42              "Table 358, in IEEE Std 802.16-2004"
43          ::= { wman2IfBsOfdmPhy 2 }
44
45
46
47      wman2IfBsOfdmDownlinkChannelEntry OBJECT-TYPE
48          SYNTAX      Wman2IfBsOfdmDownlinkChannelEntry
49          MAX-ACCESS  not-accessible
50          STATUS      current
51          DESCRIPTION
52              "This table provides one row for each downlink channel of
53              multi-sector BS, and is indexed by BS ifIndex. An entry
54              in this table exists for each ifEntry of BS with an
55              ifType of propBWAp2Mp."
56          INDEX { ifIndex }
57          ::= { wman2IfBsOfdmDownlinkChannelTable 1 }
58
59
60
61      Wman2IfBsOfdmDownlinkChannelEntry ::= SEQUENCE {
62          wman2IfBsOfdmBsEIRP      INTEGER,
63          wman2IfBsOfdmChannelNumber Wman2IfChannelNumber,
64
65

```



```

1      wman2IfBsOfdmTTG                      INTEGER,
2      wman2IfBsOfdmRTG                      INTEGER,
3      wman2IfBsOfdmInitRngMaxRSS            INTEGER,
4      wman2IfBsOfdmDownlinkCenterFreq      Unsigned32,
5      wman2IfBsOfdmBsId                    Wman2IfBsIdType,
6      wman2IfBsOfdmMacVersion               Wman2IfMacVersion,
7      wman2IfBsOfdmFrameDurationCode       INTEGER,
8      wman2IfBsOfdmDownLinkChannelId       INTEGER}
9
10
11
12  wman2IfBsOfdmBsEIRP OBJECT-TYPE
13      SYNTAX          INTEGER (0..65535)
14      UNITS           "dBm"
15      MAX-ACCESS      read-write
16      STATUS          current
17      DESCRIPTION
18          "The EIRP is the equivalent isotropic radiated power of
19           the base station, which is computed for a simple
20           single-antenna transmitter."
21      REFERENCE
22          "Table 358, in IEEE Std 802.16-2004"
23      ::= { wman2IfBsOfdmDownlinkChannelEntry 1 }
24
25
26
27  wman2IfBsOfdmChannelNumber OBJECT-TYPE
28      SYNTAX          Wman2IfChannelNumber
29      MAX-ACCESS      read-write
30      STATUS          current
31      DESCRIPTION
32          "Downlink channel number as defined in 8.5.
33           Used for license-exempt operation only."
34      REFERENCE
35          "Table 358, in IEEE Std 802.16-2004"
36      ::= { wman2IfBsOfdmDownlinkChannelEntry 2 }
37
38
39
40
41  wman2IfBsOfdmTTG OBJECT-TYPE
42      SYNTAX          INTEGER (0..255)
43      MAX-ACCESS      read-write
44      STATUS          current
45      DESCRIPTION
46          "Transmit / Receive Transition Gap."
47      REFERENCE
48          "Table 358, in IEEE Std 802.16-2004"
49      ::= { wman2IfBsOfdmDownlinkChannelEntry 3 }
50
51
52
53  wman2IfBsOfdmRTG OBJECT-TYPE
54      SYNTAX          INTEGER (0..255)
55      MAX-ACCESS      read-write
56      STATUS          current
57      DESCRIPTION
58          "Receive / Transmit Transition Gap."
59      REFERENCE
60          "Table 358, in IEEE Std 802.16-2004"
61      ::= { wman2IfBsOfdmDownlinkChannelEntry 4 }
62
63
64
65  wman2IfBsOfdmInitRngMaxRSS OBJECT-TYPE

```

```

1      SYNTAX      INTEGER (0..65535)
2      UNITS       "dBm"
3      MAX-ACCESS  read-write
4      STATUS      current
5      DESCRIPTION
6          "Initial Ranging Max. Received Signal Strength at BS
7          Signed in units of 1 dBm."
8      REFERENCE
9          "Table 358, in IEEE Std 802.16-2004"
10     ::= { wman2IfBsOfdmDownlinkChannelEntry 5 }
11
12 wman2IfBsOfdmDownlinkCenterFreq OBJECT-TYPE
13     SYNTAX      Unsigned32
14     UNITS       "kHz"
15     MAX-ACCESS  read-write
16     STATUS      current
17     DESCRIPTION
18         "Downlink center frequency (kHz)."
```

```

19     REFERENCE
20         "Table 358, in IEEE Std 802.16-2004"
21     ::= { wman2IfBsOfdmDownlinkChannelEntry 6 }
22
23 wman2IfBsOfdmBsId OBJECT-TYPE
24     SYNTAX      Wman2IfBsIdType
25     MAX-ACCESS  read-write
26     STATUS      current
27     DESCRIPTION
28         "Base station ID."
29     REFERENCE
30         "Table 358, in IEEE Std 802.16-2004"
31     ::= { wman2IfBsOfdmDownlinkChannelEntry 7 }
32
33 wman2IfBsOfdmMacVersion OBJECT-TYPE
34     SYNTAX      Wman2IfMacVersion
35     MAX-ACCESS  read-write
36     STATUS      current
37     DESCRIPTION
38         "This parameter specifies the version of 802.16 to which
39         the message originator conforms."
40     REFERENCE
41         "Table 358, in IEEE Std 802.16-2004"
42     ::= { wman2IfBsOfdmDownlinkChannelEntry 8 }
43
44 wman2IfBsOfdmFrameDurationCode OBJECT-TYPE
45     SYNTAX      INTEGER {duration2dot5ms(0),
46                          duration4ms(1),
47                          duration5ms(2),
48                          duration8ms(3),
49                          duration10ms(4),
50                          duration12dot5ms(5),
51                          duration20ms(6)}
52     MAX-ACCESS  read-write
53     STATUS      current
54     DESCRIPTION

```

```

1         "The duration of the frame. The frame duration code
2         values are specified in Table 230."
3
4     REFERENCE
5         "Subclause 11.4.1, Table 230, in IEEE Std 802.16-2004"
6     ::= { wman2IfBsOfdmDownlinkChannelEntry 9 }
7
8
9     wman2IfBsOfdmDownLinkChannelId OBJECT-TYPE
10         SYNTAX      INTEGER (0..255)
11         MAX-ACCESS   read-write
12         STATUS       current
13         DESCRIPTION
14             "The identifier of the downlink channel to which this
15             message refers."
16         REFERENCE
17             "Subclause 6.3.2.3.1. Table 15, in IEEE Std 802.16-2004"
18         ::= { wman2IfBsOfdmDownlinkChannelEntry 10 }
19
20
21     wman2IfBsOfdmUcdBurstProfileTable OBJECT-TYPE
22         SYNTAX      SEQUENCE OF Wman2IfBsOfdmUcdBurstProfileEntry
23         MAX-ACCESS   not-accessible
24         STATUS       current
25         DESCRIPTION
26             "This table contains UCD burst profiles for each uplink
27             channel"
28         REFERENCE
29             "Table 356, in IEEE Std 802.16-2004"
30         ::= { wman2IfBsOfdmPhy 3 }
31
32
33     wman2IfBsOfdmUcdBurstProfileEntry OBJECT-TYPE
34         SYNTAX      Wman2IfBsOfdmUcdBurstProfileEntry
35         MAX-ACCESS   not-accessible
36         STATUS       current
37         DESCRIPTION
38             "This table provides one row for each UCD burst profile.
39             This table is double indexed. The primary index is an
40             ifIndex with an ifType of propBWA2Mp. The secondary index
41             is wman2IfBsOfdmUiucIndex."
42         INDEX { ifIndex, wman2IfBsOfdmUiucIndex }
43         ::= { wman2IfBsOfdmUcdBurstProfileTable 1 }
44
45
46     Wman2IfBsOfdmUcdBurstProfileEntry ::= SEQUENCE {
47         wman2IfBsOfdmUiucIndex          INTEGER,
48         wman2IfBsOfdmUcdFecCodeType     Wman2IfOfdmFecCodeType,
49         wman2IfBsOfdmFocusCtPowerBoost  INTEGER,
50         wman2IfBsOfdmUcdTcsEnable       INTEGER,
51         wman2IfBsOfdmUcdBurstProfileRowStatus RowStatus }
52
53
54     wman2IfBsOfdmUiucIndex OBJECT-TYPE
55         SYNTAX      INTEGER (5 .. 12)
56         MAX-ACCESS   not-accessible
57         STATUS       current
58         DESCRIPTION
59             "The Uplink Interval Usage Code indicates the uplink burst
60             profile in the UCD message, and is used along with ifIndex
61
62
63
64
65

```

```

1          to identify an entry in the
2          wman2IfBsOfdmUcdBurstProfileTable."
3
4      REFERENCE
5          "Subclause 8.3.6.3.1, in IEEE Std 802.16-2004"
6      ::= { wman2IfBsOfdmUcdBurstProfileEntry 1 }
7
8      wman2IfBsOfdmUcdFecCodeType OBJECT-TYPE
9          SYNTAX      Wman2IfOfdmFecCodeType
10         MAX-ACCESS   read-create
11         STATUS       current
12         DESCRIPTION
13             "Uplink FEC code type and modulation type"
14         REFERENCE
15             "Table 356, in IEEE Std 802.16-2004"
16     ::= { wman2IfBsOfdmUcdBurstProfileEntry 2 }
17
18     wman2IfBsOfdmFocusCtPowerBoost OBJECT-TYPE
19         SYNTAX      INTEGER (0 .. 255)
20         MAX-ACCESS   read-create
21         STATUS       current
22         DESCRIPTION
23             "The power boost in dB of focused contention carriers, as
24             described in 8.3.6.3.3."
25         REFERENCE
26             "Table 356, in IEEE Std 802.16-2004"
27     ::= { wman2IfBsOfdmUcdBurstProfileEntry 3 }
28
29     wman2IfBsOfdmUcdTcsEnable OBJECT-TYPE
30         SYNTAX      INTEGER {tcsDisabled(0),
31                             tcsEnabled(1)}
32         MAX-ACCESS   read-create
33         STATUS       current
34         DESCRIPTION
35             "This parameter determines the transmission convergence
36             sublayer, as described in 8.1.4.3, can be enabled on a
37             per-burst basis for both uplink and downlink. through
38             DIUC/UIUC messages."
39         REFERENCE
40             "Table 356, in IEEE Std 802.16-2004"
41     ::= { wman2IfBsOfdmUcdBurstProfileEntry 4 }
42
43     wman2IfBsOfdmUcdBurstProfileRowStatus OBJECT-TYPE
44         SYNTAX      RowStatus
45         MAX-ACCESS   read-create
46         STATUS       current
47         DESCRIPTION
48             "This object is used to create a new row or modify or
49             delete an existing row in this table.
50
51             If the implementator of this MIB has choosen not
52             to implement 'dynamic assignment' of profiles, this
53             object is not useful and should return noSuchName
54             upon SNMP request."
55     ::= { wman2IfBsOfdmUcdBurstProfileEntry 5 }

```

```

1
2 wman2IfBsOfdmDcdBurstProfileTable OBJECT-TYPE
3     SYNTAX      SEQUENCE OF Wman2IfBsOfdmDcdBurstProfileEntry
4     MAX-ACCESS  not-accessible
5     STATUS      current
6     DESCRIPTION
7         "This table provides one row for each DCD burst profile.
8         This table is double indexed. The primary index is an
9         ifIndex with an ifType of propBWAp2Mp. The secondary
10        index is wman2IfBsOfdmDiucIndex."
11    REFERENCE
12        "Table 362, in IEEE Std 802.16-2004"
13    ::= { wman2IfBsOfdmPhy 4 }
14
15 wman2IfBsOfdmDcdBurstProfileEntry OBJECT-TYPE
16     SYNTAX      Wman2IfBsOfdmDcdBurstProfileEntry
17     MAX-ACCESS  not-accessible
18     STATUS      current
19     DESCRIPTION
20         "This table provides one row for each DCD burst profile.
21         This table is double indexed. The primary index is an
22         ifIndex with an ifType of propBWAp2Mp. The secondary index
23         is wman2IfBsOfdmDiucIndex."
24     INDEX { ifIndex, wman2IfBsOfdmDiucIndex }
25     ::= { wman2IfBsOfdmDcdBurstProfileTable 1 }
26
27 Wman2IfBsOfdmDcdBurstProfileEntry ::= SEQUENCE {
28     wman2IfBsOfdmDiucIndex          INTEGER,
29     wman2IfBsOfdmDownlinkFrequency Unsigned32,
30     wman2IfBsOfdmDcdFecCodeType    Wman2IfOfdmFecCodeType,
31     wman2IfBsOfdmDiucMandatoryExitThresh INTEGER,
32     wman2IfBsOfdmDiucMinEntryThresh INTEGER,
33     wman2IfBsOfdmTcsEnable          INTEGER,
34     wman2IfBsOfdmDcdBurstProfileRowStatus RowStatus}
35
36 wman2IfBsOfdmDiucIndex OBJECT-TYPE
37     SYNTAX      INTEGER (1..11)
38     MAX-ACCESS  not-accessible
39     STATUS      current
40     DESCRIPTION
41         "The Downlink Interval Usage Code indicates the downlink
42         burst profile in the DCD message, and is used along with
43         ifIndex to identify an entry in the
44         wman2IfBsOfdmDcdBurstProfileTable."
45     REFERENCE
46         "Subclause 8.3.6.3.1, in IEEE Std 802.16-2004"
47     ::= { wman2IfBsOfdmDcdBurstProfileEntry 1 }
48
49 wman2IfBsOfdmDownlinkFrequency OBJECT-TYPE
50     SYNTAX      Unsigned32
51     UNITS       "kHz"
52     MAX-ACCESS  read-create
53     STATUS      current
54     DESCRIPTION
55

```

```

1         "Downlink Frequency (kHz)."
```

REFERENCE

```

3         "Table 359, in IEEE Std 802.16-2004"
```

```

5         ::= { wman2IfBsOfdmDcdBurstProfileEntry 2 }
```

wman2IfBsOfdmDcdFecCodeType OBJECT-TYPE

```

8         SYNTAX      Wman2IfOfdmFecCodeType
9         MAX-ACCESS   read-create
10        STATUS      current
11        DESCRIPTION
12            "Downlink FEC code type and modulation type"
```

REFERENCE

```

15        "Table 362, in IEEE Std 802.16-2004"
```

```

17        ::= { wman2IfBsOfdmDcdBurstProfileEntry 3 }
```

wman2IfBsOfdmDiucMandatoryExitThresh OBJECT-TYPE

```

20        SYNTAX      INTEGER (0..255)
21        MAX-ACCESS   read-create
22        STATUS      current
23        DESCRIPTION
24            "DIUC mandatory exit threshold: 0 - 63.75 dB CINR at or
25            below where this DIUC can no longer be used and where this
26            change to a more robust DIUC is required in 0.25 dB units."
```

REFERENCE

```

30        "Table 362, in IEEE Std 802.16-2004"
```

```

32        ::= { wman2IfBsOfdmDcdBurstProfileEntry 4 }
```

wman2IfBsOfdmDiucMinEntryThresh OBJECT-TYPE

```

35        SYNTAX      INTEGER (0..255)
36        MAX-ACCESS   read-create
37        STATUS      current
38        DESCRIPTION
39            "DIUC minimum entry threshold: 0 - 63.75 dB The minimum CINR
40            required to start using this DIUC when changing from a more
41            robust DIUC is required, in 0.25 dB units."
```

REFERENCE

```

44        "Table 362, in IEEE Std 802.16-2004"
```

```

46        ::= { wman2IfBsOfdmDcdBurstProfileEntry 5 }
```

wman2IfBsOfdmTcsEnable OBJECT-TYPE

```

49        SYNTAX      INTEGER {tcsDisabled (0),
50                        tcsEnabled (1)}
51        MAX-ACCESS   read-create
52        STATUS      current
53        DESCRIPTION
54            "Indicates whether Transmission CONvergence Sublayer
55            is enabled or disabled."
```

REFERENCE

```

58        "Table 362, in IEEE Std 802.16-2004"
```

```

60        ::= { wman2IfBsOfdmDcdBurstProfileEntry 6 }
```

wman2IfBsOfdmDcdBurstProfileRowStatus OBJECT-TYPE

```

63        SYNTAX      RowStatus
64        MAX-ACCESS   read-create
```

```

1      STATUS      current
2      DESCRIPTION
3          "This object is used to create a new row or modify or
4          delete an existing row in this table.
5
6          If the implementator of this MIB has choosen not
7          to implement 'dynamic assignment' of profiles, this
8          object is not useful and should return noSuchName
9          upon SNMP request."
10
11      ::= { wman2IfBsOfdmDcdBurstProfileEntry 7 }
12
13
14      wman2IfBsOfdmConfigurationTable OBJECT-TYPE
15          SYNTAX      SEQUENCE OF Wman2IfBsOfdmConfigurationEntry
16          MAX-ACCESS   not-accessible
17          STATUS      current
18          DESCRIPTION
19              "This table contains BS configuration objects, specific to
20              OFDM PHY."
21
22      ::= { wman2IfBsOfdmPhy 5 }
23
24
25      wman2IfBsOfdmConfigurationEntry OBJECT-TYPE
26          SYNTAX      Wman2IfBsOfdmConfigurationEntry
27          MAX-ACCESS   not-accessible
28          STATUS      current
29          DESCRIPTION
30              "This table is indexed by ifIndex with an ifType of
31              propBWA2Mp."
32
33      INDEX { ifIndex }
34
35      ::= { wman2IfBsOfdmConfigurationTable 1 }
36
37      Wman2IfBsOfdmConfigurationEntry ::= SEQUENCE {
38          wman2IfBsOfdmMinReqRegionFullTxOpp      INTEGER,
39          wman2IfBsOfdmMinFocusedCtTxOpp           INTEGER,
40          wman2IfBsOfdmMaxRoundTripDelay          INTEGER,
41          wman2IfBsOfdmRangeAbortTimingThold      INTEGER,
42          wman2IfBsOfdmRangeAbortPowerThold       INTEGER,
43          wman2IfBsOfdmRangeAbortFreqThold        INTEGER,
44          wman2IfBsOfdmDnlkRateId                 INTEGER,
45          wman2IfBsOfdmRatioG                     INTEGER}
46
47
48
49      wman2IfBsOfdmMinReqRegionFullTxOpp OBJECT-TYPE
50          SYNTAX      INTEGER (1..65535)
51          UNITS       "1/sec"
52          MAX-ACCESS   read-write
53          STATUS      current
54          DESCRIPTION
55              "The minimum number of Full bandwidth Req-Region Full
56              Transmit opportunities scheduled in the UL per second."
57
58      REFERENCE
59          "Subclause 6.3.7.4.3 in IEEE Std 802.16-2004"
60
61      ::= { wman2IfBsOfdmConfigurationEntry 1 }
62
63
64      wman2IfBsOfdmMinFocusedCtTxOpp OBJECT-TYPE
65          SYNTAX      INTEGER (0..65535)

```

```

1      UNITS          "1/sec"
2      MAX-ACCESS     read-write
3      STATUS         current
4      DESCRIPTION
5
6          "The minimum number of focused contention Transmit
7          opportunities scheduled in the UL per second. The value may
8          be 0 if the focused contention is not implemented."
9
10     REFERENCE
11
12         "Subclauses 6.3.6.4 and 8.3.7.3.3 in IEEE Std 802.16-2004"
13         ::= { wman2IfBsOfdmConfigurationEntry 2 }
14
15 wman2IfBsOfdmMaxRoundTripDelay OBJECT-TYPE
16     SYNTAX          INTEGER (1..65535)
17     UNITS           "us"
18     MAX-ACCESS     read-write
19     STATUS         current
20     DESCRIPTION
21
22         "Maximum supported round trip delay.
23         It is required to limit the cell size."
24     REFERENCE
25
26         "Subclause 8.3.5.1 in IEEE Std 802.16-2004"
27         ::= { wman2IfBsOfdmConfigurationEntry 3 }
28
29 wman2IfBsOfdmRangeAbortTimingThold OBJECT-TYPE
30     SYNTAX          INTEGER (0..255)
31     UNITS           "1/Fs"
32     MAX-ACCESS     read-write
33     STATUS         current
34     DESCRIPTION
35
36         "This object defines Tolerable Timing Offset. BS performs
37         Initial Ranging until the SS transmissions are within
38         limits that are deemed tolerable by the BS. If the SS does
39         not transmit within these limits after a number of
40         correction attempts then the BS aborts Initial Ranging."
41     REFERENCE
42
43         "Figure 63 and Table 365 in IEEE Std 802.16-2004"
44         ::= { wman2IfBsOfdmConfigurationEntry 4 }
45
46
47 wman2IfBsOfdmRangeAbortPowerThold OBJECT-TYPE
48     SYNTAX          INTEGER (0..255)
49     UNITS           "0.25dB"
50     MAX-ACCESS     read-write
51     STATUS         current
52     DESCRIPTION
53
54         "This object defines Tolerable Power Offset. BS performs
55         Initial Ranging until the SS transmissions are within
56         limits that are deemed tolerable by the BS. If the SS does
57         not transmit within these limits after a number of
58         correction attempts then the BS aborts Initial Ranging."
59     REFERENCE
60
61         "Figure 63 and Table 365 in IEEE Std 802.16-2004"
62         ::= { wman2IfBsOfdmConfigurationEntry 5 }
63
64
65 wman2IfBsOfdmRangeAbortFreqThold OBJECT-TYPE

```



```

1      SYNTAX      INTEGER (0..255)
2      UNITS       "Hz"
3      MAX-ACCESS  read-write
4      STATUS      current
5      DESCRIPTION
6          "This object defines Tolerable Frequency Offset. BS performs
7          Initial Ranging until the SS transmissions are within
8          limits that are deemed tolerable by the BS. If the SS does
9          not transmit within these limits after a number of
10         correction attempts then the BS aborts Initial Ranging."
11     REFERENCE
12         "Figure 63 and Table 365 in IEEE Std 802.16-2004"
13     ::= { wman2IfBsOfdmConfigurationEntry 6 }
14
15 wman2IfBsOfdmDnlnkRateId OBJECT-TYPE
16     SYNTAX      INTEGER {dnlnkRateIdBpsk1Over2(0),
17                          dnlnkRateIdQpsk1Over2(1),
18                          dnlnkRateIdQpsk3Over4(2),
19                          dnlnkRateId16Qam1Over2(3),
20                          dnlnkRateId16Qam3Over4(4),
21                          dnlnkRateId64Qam2Over3(5),
22                          dnlnkRateId64Qam3Over4(6)}
23     MAX-ACCESS  read-write
24     STATUS      current
25     DESCRIPTION
26         "The Rate ID to be used in the first downlink burst
27         immediately following the FCH. The Rate ID encoding is
28         static and cannot be changed during system operation. The
29         change of the Rate ID should be applied on system
30         re-intialisation (e.g. following sector or BS reset)."

```

```

1      DESCRIPTION
2          "This table contains the basic capability information,
3          specific to OFDM Phy, of SSs that have been reported by
4          SSs to BS using RNG-REQ, SBC-REQ and REG-REQ messages.
5          Entries in this table should be created when an SS
6          registers with a BS."
7      ::= { wman2IfBsOfdmPhy 6 }
8
9
10     wman2IfBsSsOfdmReqCapabilitiesEntry OBJECT-TYPE
11         SYNTAX      Wman2IfBsSsOfdmReqCapabilitiesEntry
12         MAX-ACCESS  not-accessible
13         STATUS      current
14         DESCRIPTION
15             "This table provides one row for each SS that has been
16             registered in the BS. This table augments the table
17             wman2IfBsRegisteredSsTable."
18         AUGMENTS { wman2IfBsRegisteredSsEntry }
19     ::= { wman2IfBsSsOfdmReqCapabilitiesTable 1 }
20
21
22     Wman2IfBsSsOfdmReqCapabilitiesEntry ::= SEQUENCE {
23         wman2IfBsSsOfdmReqCapFftSizes      Wman2IfOfdmFftSizes,
24         wman2IfBsSsOfdmReqCapSsDemodulator  Wman2IfOfdmSsDeModType,
25         wman2IfBsSsOfdmReqCapSsModulator    Wman2IfOfdmSsModType,
26         wman2IfBsSsOfdmReqCapFocusedCtSupport Wman2IfOfdmFocusedCt,
27         wman2IfBsSsOfdmReqCapTcSublayerSupport Wman2IfOfdmTcSublayer}
28
29
30     wman2IfBsSsOfdmReqCapFftSizes OBJECT-TYPE
31         SYNTAX      Wman2IfOfdmFftSizes
32         MAX-ACCESS  read-only
33         STATUS      current
34         DESCRIPTION
35             "This field indicates the FFT sizes supported by SS.
36             The usage is defined by Wman2IfOfdmFftSizes."
37     ::= { wman2IfBsSsOfdmReqCapabilitiesEntry 1 }
38
39
40     wman2IfBsSsOfdmReqCapSsDemodulator OBJECT-TYPE
41         SYNTAX      Wman2IfOfdmSsDeModType
42         MAX-ACCESS  read-only
43         STATUS      current
44         DESCRIPTION
45             "This field indicates the different demodulator options
46             supported by SS for downlink.
47             The usage is defined by Wman2IfOfdmSsDeModType."
48     ::= { wman2IfBsSsOfdmReqCapabilitiesEntry 2 }
49
50
51     wman2IfBsSsOfdmReqCapSsModulator OBJECT-TYPE
52         SYNTAX      Wman2IfOfdmSsModType
53         MAX-ACCESS  read-only
54         STATUS      current
55         DESCRIPTION
56             "This field indicates the different modulator options
57             supported by SS for uplink.
58             The usage is defined by Wman2IfOfdmSsModType."
59     ::= { wman2IfBsSsOfdmReqCapabilitiesEntry 3 }
60
61
62
63
64
65

```

```

1
2 wman2IfBsSsOfdmReqCapFocusedCtSupport OBJECT-TYPE
3     SYNTAX      Wman2IfOfdmFocusedCt
4     MAX-ACCESS  read-only
5     STATUS      current
6     DESCRIPTION
7         "This field indicates whether the SS supports Focused
8         Contention. The usage is defined by
9         Wman2IfOfdmFocusedCt."
10
11     ::= { wman2IfBsSsOfdmReqCapabilitiesEntry 4 }
12
13
14 wman2IfBsSsOfdmReqCapTcSublayerSupport OBJECT-TYPE
15     SYNTAX      Wman2IfOfdmTcSublayer
16     MAX-ACCESS  read-only
17     STATUS      current
18     DESCRIPTION
19         "This field indicates whether or not the SS supports
20         the TC sublayer. The usage is defined by
21         Wman2IfOfdmTcSublayer."
22
23     ::= { wman2IfBsSsOfdmReqCapabilitiesEntry 5 }
24
25
26 wman2IfBsSsOfdmRspCapabilitiesTable OBJECT-TYPE
27     SYNTAX      SEQUENCE OF Wman2IfBsSsOfdmRspCapabilitiesEntry
28     MAX-ACCESS  not-accessible
29     STATUS      current
30     DESCRIPTION
31         "This table contains the basic capability information,
32         specific to OFDM Phy, of SSs that have been negotiated
33         and agreed between BS and SS via RNG-REQ/RSP,
34         SBC-REQ/RSP and REG-REQ/RSP messages. This table
35         augments the wman2IfBsRegisteredSsTable."
36
37     REFERENCE
38         "Subclause 6.3.2.3.7 in IEEE Std 802.16-2004"
39
40     ::= { wman2IfBsOfdmPhy 7 }
41
42
43 wman2IfBsSsOfdmRspCapabilitiesEntry OBJECT-TYPE
44     SYNTAX      Wman2IfBsSsOfdmRspCapabilitiesEntry
45     MAX-ACCESS  not-accessible
46     STATUS      current
47     DESCRIPTION
48         "This table provides one row for each SS that has been
49         registered in the BS. This table augments the
50         wman2IfBsRegisteredSsTable. "
51
52     AUGMENTS { wman2IfBsRegisteredSsEntry }
53
54     ::= { wman2IfBsSsOfdmRspCapabilitiesTable 1 }
55
56
57 Wman2IfBsSsOfdmRspCapabilitiesEntry ::= SEQUENCE {
58     wman2IfBsSsOfdmRspCapFftSizes      Wman2IfOfdmFftSizes,
59     wman2IfBsSsOfdmRspCapSsDemodulator  Wman2IfOfdmSsDeModType,
60     wman2IfBsSsOfdmRspCapSsModulator    Wman2IfOfdmSsModType,
61     wman2IfBsSsOfdmRspCapFocusedCtSupport Wman2IfOfdmFocusedCt,
62     wman2IfBsSsOfdmRspCapTcSublayerSupport Wman2IfOfdmTcSublayer}
63
64
65 wman2IfBsSsOfdmRspCapFftSizes OBJECT-TYPE

```

```

1      SYNTAX      Wman2IfOfdmFftSizes
2      MAX-ACCESS  read-only
3      STATUS      current
4      DESCRIPTION
5
6          "This field indicates the FFT sizes negotiated with the
7          SS. The usage is defined by Wman2IfOfdmFftSizes."
8      ::= { wman2IfBsSsOfdmRspCapabilitiesEntry 1 }
9
10
11 wman2IfBsSsOfdmRspCapSsDemodulator OBJECT-TYPE
12     SYNTAX      Wman2IfOfdmSsDeModType
13     MAX-ACCESS  read-only
14     STATUS      current
15     DESCRIPTION
16
17         "This field indicates the different demodulator options
18         negotiated for SS for downlink. The usage is defined by
19         Wman2IfOfdmSsDeModType."
20     ::= { wman2IfBsSsOfdmRspCapabilitiesEntry 2 }
21
22
23 wman2IfBsSsOfdmRspCapSsModulator OBJECT-TYPE
24     SYNTAX      Wman2IfOfdmSsModType
25     MAX-ACCESS  read-only
26     STATUS      current
27     DESCRIPTION
28
29         "This field indicates the different modulator options
30         negotiated for SS for uplink. The usage is defined by
31         Wman2IfOfdmSsModType."
32     ::= { wman2IfBsSsOfdmRspCapabilitiesEntry 3 }
33
34
35 wman2IfBsSsOfdmRspCapFocusedCtSupport OBJECT-TYPE
36     SYNTAX      Wman2IfOfdmFocusedCt
37     MAX-ACCESS  read-only
38     STATUS      current
39     DESCRIPTION
40
41         "This field indicates whether the SS has negotiated the
42         support for Focused Contention. The usage is defined by
43         Wman2IfOfdmFocusedCt."
44     ::= { wman2IfBsSsOfdmRspCapabilitiesEntry 4 }
45
46
47 wman2IfBsSsOfdmRspCapTcSublayerSupport OBJECT-TYPE
48     SYNTAX      Wman2IfOfdmTcSublayer
49     MAX-ACCESS  read-only
50     STATUS      current
51     DESCRIPTION
52
53         "This field indicates whether the SS has negotiated
54         support for the TC sublayer. The usage is defined by
55         Wman2IfOfdmTcSublayer."
56     ::= { wman2IfBsSsOfdmRspCapabilitiesEntry 5 }
57
58
59 wman2IfBsOfdmCapabilitiesTable OBJECT-TYPE
60     SYNTAX      SEQUENCE OF Wman2IfBsOfdmCapabilitiesEntry
61     MAX-ACCESS  not-accessible
62     STATUS      current
63     DESCRIPTION
64
65         "This table contains the basic capabilities, specific to

```

```

1         OFDM Phy, of the BS as implemented in BS hardware and
2         software. These capabilities along with the configuration
3         for them (wman2IfBsOfdmCapabilitiesConfigTable) are used
4         for negotiation of basic capabilities with SS using
5         RNG-RSP, SBC-RSP and REG-RSP messages. The negotiated
6         capabilities are obtained by interSubclause of SS raw
7         reported capabilities, BS raw capabilities and BS
8         configured capabilities. The objects in the table have
9         read-only access. The table is maintained by BS."
10
11     ::= { wman2IfBsOfdmPhy 8 }
12
13
14 wman2IfBsOfdmCapabilitiesEntry OBJECT-TYPE
15     SYNTAX      Wman2IfBsOfdmCapabilitiesEntry
16     MAX-ACCESS  not-accessible
17     STATUS      current
18     DESCRIPTION
19         "This table provides one row for each BS sector and is
20         indexed by ifIndex."
21     INDEX { ifIndex }
22     ::= { wman2IfBsOfdmCapabilitiesTable 1 }
23
24
25
26 Wman2IfBsOfdmCapabilitiesEntry ::= SEQUENCE {
27     wman2IfBsOfdmCapFftSizes          Wman2IfOfdmFftSizes,
28     wman2IfBsOfdmCapSsDemodulator     Wman2IfOfdmSsDeModType,
29     wman2IfBsOfdmCapSsModulator       Wman2IfOfdmSsModType,
30     wman2IfBsOfdmCapFocusedCtSupport  Wman2IfOfdmFocusedCt,
31     wman2IfBsOfdmCapTcSublayerSupport Wman2IfOfdmTcSublayer}
32
33
34
35 wman2IfBsOfdmCapFftSizes OBJECT-TYPE
36     SYNTAX      Wman2IfOfdmFftSizes
37     MAX-ACCESS  read-only
38     STATUS      current
39     DESCRIPTION
40         "This field indicates the FFT sizes supported by the BS.
41         The usage is defined by Wman2IfOfdmCapFftSizes."
42     ::= { wman2IfBsOfdmCapabilitiesEntry 1 }
43
44
45
46 wman2IfBsOfdmCapSsDemodulator OBJECT-TYPE
47     SYNTAX      Wman2IfOfdmSsDeModType
48     MAX-ACCESS  read-only
49     STATUS      current
50     DESCRIPTION
51         "This field indicates the different BS demodulator options
52         for uplink supported by the BS. The usage is defined by
53         Wman2IfOfdmSsDeModType."
54     ::= { wman2IfBsOfdmCapabilitiesEntry 2 }
55
56
57
58 wman2IfBsOfdmCapSsModulator OBJECT-TYPE
59     SYNTAX      Wman2IfOfdmSsModType
60     MAX-ACCESS  read-only
61     STATUS      current
62     DESCRIPTION
63         "This field indicates the different BS modulator options
64         for downlink supported by the BS. The usage is defined by
65

```

```

1         Wman2IfOfdmSsModType."
2         ::= { wman2IfBsOfdmCapabilitiesEntry 3 }
3
4
5 wman2IfBsOfdmCapFocusedCtSupport OBJECT-TYPE
6     SYNTAX      Wman2IfOfdmFocusedCt
7     MAX-ACCESS  read-only
8     STATUS      current
9     DESCRIPTION
10        "This field indicates the BS support for Focused
11        Contention. The usage is defined by
12        Wman2IfOfdmFocusedCt."
13        ::= { wman2IfBsOfdmCapabilitiesEntry 4 }
14
15
16 wman2IfBsOfdmCapTcSublayerSupport OBJECT-TYPE
17     SYNTAX      Wman2IfOfdmTcSublayer
18     MAX-ACCESS  read-only
19     STATUS      current
20     DESCRIPTION
21        "This field indicates the BS supports for TC sublayer. The
22        usage is defined by Wman2IfOfdmTcSublayer."
23        ::= { wman2IfBsOfdmCapabilitiesEntry 5 }
24
25
26
27 wman2IfBsOfdmCapabilitiesConfigTable OBJECT-TYPE
28     SYNTAX      SEQUENCE OF Wman2IfBsOfdmCapabilitiesConfigEntry
29     MAX-ACCESS  not-accessible
30     STATUS      current
31     DESCRIPTION
32        "This table contains the configuration for basic
33        capabilities of BS, specific to OFDM Phy. The table is
34        intended to be used to restrict the Capabilities
35        implemented by BS, for example in order to comply with
36        local regulatory requirements. The BS should use the
37        configuration along with the implemented Capabilities
38        (wman2IfBsOfdmPhyTable) for negotiation of basic
39        capabilities with SS using RNG-RSP, SBC-RSP and REG-RSP
40        messages. The negotiated capabilities are obtained by
41        interSubclause of SS reported capabilities, BS raw
42        capabilities and BS configured capabilities. The objects
43        in the table have read-write access. The rows are created
44        by BS as a copy of wman2IfBsBasicCapabilitiesTable
45        and can be modified by NMS."
46        ::= { wman2IfBsOfdmPhy 9 }
47
48
49
50
51
52 wman2IfBsOfdmCapabilitiesConfigEntry OBJECT-TYPE
53     SYNTAX      Wman2IfBsOfdmCapabilitiesConfigEntry
54     MAX-ACCESS  not-accessible
55     STATUS      current
56     DESCRIPTION
57        "This table provides one row for each BS sector and is
58        indexed by ifIndex."
59     INDEX { ifIndex }
60     ::= { wman2IfBsOfdmCapabilitiesConfigTable 1 }
61
62
63
64 Wman2IfBsOfdmCapabilitiesConfigEntry ::= SEQUENCE {
65

```

```

1      wman2IfBsOfdmCapCfgFftSizes          Wman2IfOfdmFftSizes,
2      wman2IfBsOfdmCapCfgSsDemodulator      Wman2IfOfdmSsDeModType,
3      wman2IfBsOfdmCapCfgSsModulator         Wman2IfOfdmSsModType,
4      wman2IfBsOfdmCapCfgFocusedCtSupport    Wman2IfOfdmFocusedCt,
5      wman2IfBsOfdmCapCfgTcSublayerSupport   Wman2IfOfdmTcSublayer}
6
7
8      wman2IfBsOfdmCapCfgFftSizes OBJECT-TYPE
9          SYNTAX          Wman2IfOfdmFftSizes
10         MAX-ACCESS      read-write
11         STATUS          current
12         DESCRIPTION
13             "This field indicates the FFT sizes support configured for
14             the BS. The usage is defined by
15             Wman2IfOfdmCapFftSizes."
16         ::= { wman2IfBsOfdmCapabilitiesConfigEntry 1 }
17
18
19
20      wman2IfBsOfdmCapCfgSsDemodulator OBJECT-TYPE
21          SYNTAX          Wman2IfOfdmSsDeModType
22         MAX-ACCESS      read-write
23         STATUS          current
24         DESCRIPTION
25             "This field indicates the different BS demodulator options
26             configured for uplink. The usage is defined by
27             Wman2IfOfdmSsDeModType."
28         ::= { wman2IfBsOfdmCapabilitiesConfigEntry 2 }
29
30
31
32      wman2IfBsOfdmCapCfgSsModulator OBJECT-TYPE
33          SYNTAX          Wman2IfOfdmSsModType
34         MAX-ACCESS      read-write
35         STATUS          current
36         DESCRIPTION
37             "This field indicates the different BS modulator options
38             configured for downlink. The usage is defined by
39             Wman2IfOfdmSsModType."
40         ::= { wman2IfBsOfdmCapabilitiesConfigEntry 3 }
41
42
43
44      wman2IfBsOfdmCapCfgFocusedCtSupport OBJECT-TYPE
45          SYNTAX          Wman2IfOfdmFocusedCt
46         MAX-ACCESS      read-write
47         STATUS          current
48         DESCRIPTION
49             "This field indicates the BS support configured for
50             Focused Contention. The usage is defined by
51             Wman2IfOfdmFocusedCt."
52         ::= { wman2IfBsOfdmCapabilitiesConfigEntry 4 }
53
54
55
56      wman2IfBsOfdmCapCfgTcSublayerSupport OBJECT-TYPE
57          SYNTAX          Wman2IfOfdmTcSublayer
58         MAX-ACCESS      read-write
59         STATUS          current
60         DESCRIPTION
61             "This field indicates the BS support configured for TC
62             sublayer. The usage is defined by
63             Wman2IfOfdmTcSublayer."
64
65

```

```

1      ::= { wman2IfBsOfdmCapabilitiesConfigEntry 5 }
2
3
4      --
5      -- BS OFDMA PHY objects
6      --
7      wman2IfBsOfdmaPhy OBJECT IDENTIFIER ::= { wman2IfBsPhy 2 }
8
9
10     wman2IfBsOfdmaUplinkChannelTable OBJECT-TYPE
11         SYNTAX      SEQUENCE OF Wman2IfBsOfdmaUplinkChannelEntry
12         MAX-ACCESS   not-accessible
13         STATUS       current
14         DESCRIPTION
15             "This table contains UCD channel attributes, defining the
16             transmission characteristics of uplink channels"
17         REFERENCE
18             "Table 349 and Table 353, in IEEE Std 802.16-2004"
19         ::= { wman2IfBsOfdmaPhy 1 }
20
21
22     wman2IfBsOfdmaUplinkChannelEntry OBJECT-TYPE
23         SYNTAX      Wman2IfBsOfdmaUplinkChannelEntry
24         MAX-ACCESS   not-accessible
25         STATUS       current
26         DESCRIPTION
27             "This table provides one row for each uplink channel of
28             multi-sector BS, and is indexed by BS ifIndex. An entry
29             in this table exists for each ifEntry of BS with an
30             ifType of propBWAp2Mp."
31         INDEX        { ifIndex }
32         ::= { wman2IfBsOfdmaUplinkChannelTable 1 }
33
34
35     Wman2IfBsOfdmaUplinkChannelEntry ::= SEQUENCE {
36
37         wman2IfBsOfdmaCtBasedResvTimeout      INTEGER,
38         wman2IfBsOfdmaBwReqOppSize            INTEGER,
39         wman2IfBsOfdmaRangReqOppSize          INTEGER,
40         wman2IfBsOfdmaUplinkCenterFreq        Unsigned32,
41         wman2IfBsOfdmaInitRngCodes            INTEGER,
42         wman2IfBsOfdmaPeriodicRngCodes        INTEGER,
43         wman2IfBsOfdmaBWReqCodes              INTEGER,
44         wman2IfBsOfdmaPerRngBackoffStart      INTEGER,
45         wman2IfBsOfdmaPerRngBackoffEnd        INTEGER,
46         wman2IfBsOfdmaStartOfRngCodes         INTEGER,
47         wman2IfBsOfdmaPermutationBase         INTEGER,
48         wman2IfBsOfdmaULAllocSubchBitmap      OCTET STRING,
49         wman2IfBsOfdmaOptPermULAllocSubchBitmap OCTET STRING,
50         wman2IfBsOfdmaBandAMCAllocThreshold   INTEGER,
51         wman2IfBsOfdmaBandAMCReleaseThreshold INTEGER,
52         wman2IfBsOfdmaBandAMCAllocTimer       INTEGER,
53         wman2IfBsOfdmaBandAMCReleaseTimer     INTEGER,
54         wman2IfBsOfdmaBandStatRepMAXPeriod    INTEGER,
55         wman2IfBsOfdmaBandAMCRetryTimer       INTEGER,
56         wman2IfBsOfdmaSafetyChAllocThreshold  INTEGER,
57         wman2IfBsOfdmaSafetyChReleaseThreshold INTEGER,
58         wman2IfBsOfdmaSafetyChAllocTimer      INTEGER,
59         wman2IfBsOfdmaSafetyChReleaseTimer    INTEGER,
60
61
62
63
64
65

```



```

1          wman2IfBsOfdmaBinStatRepMAXPeriod      INTEGER,
2          wman2IfBsOfdmaSafetyChaRetryTimer      INTEGER,
3          wman2IfBsOfdmaHARQAackDelayULBurst      INTEGER,
4          wman2IfBsOfdmaCQICHBandAMCTranaDelay    INTEGER}
5
6
7  wman2IfBsOfdmaCtBasedResvTimeout OBJECT-TYPE
8      SYNTAX      INTEGER (1..255)
9      MAX-ACCESS  read-write
10     STATUS      current
11     DESCRIPTION
12         "The number of UL-MAPs to receive before contention-based
13         reservation is attempted again for the same connection."
14     REFERENCE
15         "Table 349, in IEEE Std 802.16-2004"
16     ::= { wman2IfBsOfdmaUplinkChannelEntry 1 }
17
18
19
20  wman2IfBsOfdmaBwReqOppSize OBJECT-TYPE
21     SYNTAX      INTEGER (1..65535)
22     UNITS       "PS"
23     MAX-ACCESS  read-write
24     STATUS      current
25     DESCRIPTION
26         "Size (in units of PS) of PHY payload that SS may use to
27         format and transmit a bandwidth request message in a
28         contention request opportunity. The value includes all
29         PHY overhead as well as allowance for the MAC data the
30         message may hold."
31     REFERENCE
32         "Table 349, in IEEE Std 802.16-2004"
33     ::= { wman2IfBsOfdmaUplinkChannelEntry 2 }
34
35
36
37
38  wman2IfBsOfdmaRangReqOppSize OBJECT-TYPE
39     SYNTAX      INTEGER (1..65535)
40     UNITS       "PS"
41     MAX-ACCESS  read-write
42     STATUS      current
43     DESCRIPTION
44         "Size (in units of PS) of PHY payload that SS may use to
45         format and transmit a RNG-REQ message in a contention
46         request opportunity. The value includes all PHY overhead
47         as well as allowance for the MAC data the message may
48         hold and the maximum SS/BS roundtrip propagation delay."
49     REFERENCE
50         "Table 349, in IEEE Std 802.16-2004"
51     ::= { wman2IfBsOfdmaUplinkChannelEntry 3 }
52
53
54
55
56  wman2IfBsOfdmaUplinkCenterFreq OBJECT-TYPE
57     SYNTAX      Unsigned32
58     UNITS       "kHz"
59     MAX-ACCESS  read-write
60     STATUS      current
61     DESCRIPTION
62         " Uplink center frequency (kHz)"
63     REFERENCE
64
65

```

```

1         "Table 349, in IEEE Std 802.16-2004"
2         ::= { wman2IfBsOfdmaUplinkChannelEntry 4 }
3
4
5 wman2IfBsOfdmaInitRngCodes OBJECT-TYPE
6     SYNTAX      INTEGER (0..255)
7     MAX-ACCESS  read-write
8     STATUS      current
9     DESCRIPTION
10        "Number of initial ranging CDMA codes. Possible values are
11         0..255. The total number of wman2IfBsOfdmaInitRngCodes,
12         wman2IfBsOfdmaPeriodicRngCodes and wman2IfBsOfdmaBWReqCodes
13         shall be equal or less than 256."
14    REFERENCE
15        "Subclause 11.3.1, Table 353, in IEEE Std 802.16-2004"
16    DEFVAL      { 30 }
17    ::= { wman2IfBsOfdmaUplinkChannelEntry 5 }
18
19
20
21 wman2IfBsOfdmaPeriodicRngCodes OBJECT-TYPE
22     SYNTAX      INTEGER (0..255)
23     MAX-ACCESS  read-write
24     STATUS      current
25     DESCRIPTION
26        "Number of periodic ranging CDMA codes. Possible values are
27         0..255. The total number of wman2IfBsOfdmaInitRngCodes,
28         wman2IfBsOfdmaPeriodicRngCodes and wman2IfBsOfdmaBWReqCodes
29         shall be equal or less than 256."
30    REFERENCE
31        "Subclause 11.3.1, Table 353, in IEEE Std 802.16-2004"
32    DEFVAL      { 30 }
33    ::= { wman2IfBsOfdmaUplinkChannelEntry 6 }
34
35
36
37 wman2IfBsOfdmaBWReqCodes OBJECT-TYPE
38     SYNTAX      INTEGER (0..255)
39     MAX-ACCESS  read-write
40     STATUS      current
41     DESCRIPTION
42        "Number of bandwidth request codes. Possible values are
43         0..255. The total number of wman2IfBsOfdmaInitRngCodes,
44         wman2IfBsOfdmaPeriodicRngCodes and wman2IfBsOfdmaBWReqCodes
45         shall be equal or less than 256."
46    REFERENCE
47        "Subclause 11.3.1, Table 353, in IEEE Std 802.16-2004"
48    DEFVAL      { 30 }
49    ::= { wman2IfBsOfdmaUplinkChannelEntry 7 }
50
51
52
53 wman2IfBsOfdmaPerRngBackoffStart OBJECT-TYPE
54     SYNTAX      INTEGER (0..15)
55     MAX-ACCESS  read-write
56     STATUS      current
57     DESCRIPTION
58        "Initial backoff window size for periodic ranging contention,
59         , expressed as a power of 2. Range: 0..15 (the highest order
60         bits shall be unused and set to 0)."
61    REFERENCE
62
63
64
65

```

```

1         "Subclause 11.3.1, Table 353, in IEEE Std 802.16-2004"
2     DEFVAL      { 0 }
3     ::= { wman2IfBsOfdmaUplinkChannelEntry 8 }
4
5
6     wman2IfBsOfdmaPerRngBackoffEnd OBJECT-TYPE
7         SYNTAX      INTEGER (0 .. 15)
8         MAX-ACCESS   read-write
9         STATUS       current
10        DESCRIPTION
11            "Final backoff window size for periodic ranging contention,
12             expressed as a power of 2. Range: 0..15 (the highest order
13             bits shall be unused and set to 0)."
```

REFERENCE

```

16        "Subclause 11.3.1, Table 353, in IEEE Std 802.16-2004"
17    DEFVAL      { 15 }
18    ::= { wman2IfBsOfdmaUplinkChannelEntry 9 }
19
20
21    wman2IfBsOfdmaStartOfRngCodes OBJECT-TYPE
22        SYNTAX      INTEGER (0..255)
23        MAX-ACCESS   read-write
24        STATUS       current
25        DESCRIPTION
26            "Indicates the starting number, S, of the group of codes
27             used for this uplink. All the ranging codes used on this
28             uplink will be between S and ((S+N+M+L) mod 256). Where,
29             N is the number of initial-ranging codes M is the number
30             of periodic-ranging codes L is the number of
31             bandwidth-request codes The range of values is 0 S255"
```

REFERENCE

```

36        "Subclause 11.3.1, Table 353, in IEEE Std 802.16-2004"
37    DEFVAL      { 0 }
38    ::= { wman2IfBsOfdmaUplinkChannelEntry 10 }
39
40
41    wman2IfBsOfdmaPermutationBase OBJECT-TYPE
42        SYNTAX      INTEGER (0..255)
43        MAX-ACCESS   read-write
44        STATUS       current
45        DESCRIPTION
46            "Determines the UL_IDcell parameter for the subcarrier
47             permutation to be used on this uplink channel"
```

REFERENCE

```

50        "Subclause 11.3.1, Table 353, in IEEE Std 802.16-2004"
51    DEFVAL      { 0 }
52    ::= { wman2IfBsOfdmaUplinkChannelEntry 11 }
53
54
55    wman2IfBsOfdmaULAllocSubchBitmap OBJECT-TYPE
56        SYNTAX      OCTET STRING (SIZE (9))
57        MAX-ACCESS   read-write
58        STATUS       current
59        DESCRIPTION
60            "This is a bitmap describing the sub-channels allocated
61             to the segment in the UL, when using the uplink PUSC
62             permutation. The LSB of the first byte shall correspond to
63             subchannel 0. For any bit that is not set,
```

```

1         the corresponding subchannel shall not be used by the SS
2         on that segment"
3
4     REFERENCE
5         "Subclause 11.3.1, Table 353, in IEEE Std 802.16-2004"
6     ::= { wman2IfBsOfdmaUplinkChannelEntry 12 }
7
8 wman2IfBsOfdmaOptPermULAllocSubchBitmap OBJECT-TYPE
9     SYNTAX      OCTET STRING (SIZE (13))
10    MAX-ACCESS  read-write
11    STATUS      current
12    DESCRIPTION
13        "This is a bitmap describing the sub-channels allocated to
14        the segment in the UL, when using the uplink optional PUSC
15        permutation (see 8.4.6.2.5 in IEEE Std 802.16-2004). The
16        LSB of the first byte shall correspond to subchannel 0.
17        For any bit that is not set, the corresponding subchannel
18        shall not be used by the SS on that segment"
19    REFERENCE
20        "Subclause 11.3.1, Table 353, in IEEE Std 802.16-2004"
21    ::= { wman2IfBsOfdmaUplinkChannelEntry 13 }
22
23 wman2IfBsOfdmaBandAMCAllocThreshold OBJECT-TYPE
24     SYNTAX      INTEGER (0 .. 255)
25     UNITS        "dB"
26     MAX-ACCESS  read-write
27     STATUS      current
28     DESCRIPTION
29         "dB unit"
30     REFERENCE
31         "Subclause 11.3.1, Table 353, in IEEE Std 802.16-2004"
32     ::= { wman2IfBsOfdmaUplinkChannelEntry 14 }
33
34 wman2IfBsOfdmaBandAMCReleaseThreshold OBJECT-TYPE
35     SYNTAX      INTEGER (0 .. 255)
36     UNITS        "dB"
37     MAX-ACCESS  read-write
38     STATUS      current
39     DESCRIPTION
40         "This object defines the OFDMA band AMC release
41         threshold."
42     REFERENCE
43         "Subclause 11.3.1, Table 353, in IEEE Std 802.16-2004"
44     ::= { wman2IfBsOfdmaUplinkChannelEntry 15 }
45
46 wman2IfBsOfdmaBandAMCAllocTimer OBJECT-TYPE
47     SYNTAX      INTEGER (0 .. 255)
48     UNITS        "Frame"
49     MAX-ACCESS  read-write
50     STATUS      current
51     DESCRIPTION
52         "This object defines the OFDMA band AMC allocation
53         timer."
54     REFERENCE
55         "Subclause 11.3.1, Table 353, in IEEE Std 802.16-2004"

```

```

1      ::= { wman2IfBsOfdmaUplinkChannelEntry 16 }
2
3
4  wman2IfBsOfdmaBandAMCReleaseTimer OBJECT-TYPE
5      SYNTAX      INTEGER (0 .. 255)
6      UNITS       "Frame"
7      MAX-ACCESS  read-write
8      STATUS      current
9      DESCRIPTION
10         "This object defines the OFDMA band AMC release
11         timer."
12
13     REFERENCE
14         "Subclause 11.3.1, Table 353, in IEEE Std 802.16-2004"
15     ::= { wman2IfBsOfdmaUplinkChannelEntry 17 }
16
17
18  wman2IfBsOfdmaBandStatRepMAXPeriod OBJECT-TYPE
19      SYNTAX      INTEGER (0 .. 255)
20      UNITS       "Frame"
21      MAX-ACCESS  read-write
22      STATUS      current
23      DESCRIPTION
24         "This object defines the OFDMA band status reporting
25         maximum period."
26
27     REFERENCE
28         "Subclause 11.3.1, Table 353, in IEEE Std 802.16-2004"
29     ::= { wman2IfBsOfdmaUplinkChannelEntry 18 }
30
31
32  wman2IfBsOfdmaBandAMCRetryTimer OBJECT-TYPE
33      SYNTAX      INTEGER (0 .. 255)
34      UNITS       "Frame"
35      MAX-ACCESS  read-write
36      STATUS      current
37      DESCRIPTION
38         "This object defines the OFDMA band AMC retry
39         timer."
40
41     REFERENCE
42         "Subclause 11.3.1, Table 353, in IEEE Std 802.16-2004"
43     ::= { wman2IfBsOfdmaUplinkChannelEntry 19 }
44
45
46  wman2IfBsOfdmaSafetyChAllocThreshold OBJECT-TYPE
47      SYNTAX      INTEGER (0 .. 255)
48      UNITS       "dB"
49      MAX-ACCESS  read-write
50      STATUS      current
51      DESCRIPTION
52         "This object defines the OFDMA safety channel allocation
53         threshold."
54
55     REFERENCE
56         "Subclause 11.3.1, Table 353, in IEEE Std 802.16-2004"
57     ::= { wman2IfBsOfdmaUplinkChannelEntry 20 }
58
59
60  wman2IfBsOfdmaSafetyChReleaseThreshold OBJECT-TYPE
61      SYNTAX      INTEGER (0 .. 255)
62      UNITS       "dB"
63      MAX-ACCESS  read-write
64
65

```

```

1      STATUS      current
2      DESCRIPTION
3          "This object defines the OFDMA safety channel release
4          threshold."
5      REFERENCE
6          "Subclause 11.3.1, Table 353, in IEEE Std 802.16-2004"
7      ::= { wman2IfBsOfdmaUplinkChannelEntry 21 }
8
9
10
11 wman2IfBsOfdmaSafetyChAllocTimer OBJECT-TYPE
12     SYNTAX      INTEGER (0 .. 255)
13     UNITS       "Frame"
14     MAX-ACCESS  read-write
15     STATUS      current
16     DESCRIPTION
17         "This object defines the OFDMA safety channel allocation
18         timer."
19     REFERENCE
20         "Subclause 11.3.1, Table 353, in IEEE Std 802.16-2004"
21     ::= { wman2IfBsOfdmaUplinkChannelEntry 22 }
22
23
24
25 wman2IfBsOfdmaSafetyChReleaseTimer OBJECT-TYPE
26     SYNTAX      INTEGER (0 .. 255)
27     UNITS       "Frame"
28     MAX-ACCESS  read-write
29     STATUS      current
30     DESCRIPTION
31         "This object defines the OFDMA safety channel release
32         timer."
33     REFERENCE
34         "Subclause 11.3.1, Table 353, in IEEE Std 802.16-2004"
35     ::= { wman2IfBsOfdmaUplinkChannelEntry 23 }
36
37
38
39 wman2IfBsOfdmaBinStatRepMAXPeriod OBJECT-TYPE
40     SYNTAX      INTEGER (0 .. 255)
41     UNITS       "Frame"
42     MAX-ACCESS  read-write
43     STATUS      current
44     DESCRIPTION
45         "This object defines the OFDMA bin status reporting
46         maximum period."
47     REFERENCE
48         "Subclause 11.3.1, Table 353, in IEEE Std 802.16-2004"
49     ::= { wman2IfBsOfdmaUplinkChannelEntry 24 }
50
51
52
53 wman2IfBsOfdmaSafetyChRetryTimer OBJECT-TYPE
54     SYNTAX      INTEGER (0 .. 255)
55     UNITS       "Frame"
56     MAX-ACCESS  read-write
57     STATUS      current
58     DESCRIPTION
59         "This object defines the OFDMA safety channel retry
60         timer."
61     REFERENCE
62         "Subclause 11.3.1, Table 353, in IEEE Std 802.16-2004"
63
64
65

```

```

1      ::= { wman2IfBsOfdmaUplinkChannelEntry 25 }
2
3  wman2IfBsOfdmaHARQAackDelayULBurst OBJECT-TYPE
4      SYNTAX      INTEGER { oneframeoffset(1),
5                      twoframesoffset(2),
6                      threeframesoffset(3) }
7
8      MAX-ACCESS   read-write
9      STATUS       current
10     DESCRIPTION
11         "This object defines the OFDMA H-ARQ ACK delay for UL burst.
12         1 = one frame offset
13         2 = two frames offset
14         3 = three frames offset"
15
16     REFERENCE
17         "Subclause 11.3.1, Table 353, in IEEE Std 802.16-2004"
18     ::= { wman2IfBsOfdmaUplinkChannelEntry 26 }
19
20
21  wman2IfBsOfdmaCQICHBandAMCTranaDelay OBJECT-TYPE
22     SYNTAX      INTEGER (0 .. 255)
23     UNITS       "Frame"
24     MAX-ACCESS   read-write
25     STATUS       current
26     DESCRIPTION
27         "This object defines the OFDMA CQICH band AMC transition
28         delay."
29
30     REFERENCE
31         "Subclause 11.3.1, Table 353, in IEEE Std 802.16-2004"
32     ::= { wman2IfBsOfdmaUplinkChannelEntry 27 }
33
34
35  wman2IfBsOfdmaDownlinkChannelTable OBJECT-TYPE
36     SYNTAX      SEQUENCE OF Wman2IfBsOfdmaDownlinkChannelEntry
37     MAX-ACCESS   not-accessible
38     STATUS       current
39     DESCRIPTION
40         "This table contains DCD channel attributes, defining the
41         transmission characteristics of downlink channels"
42
43     REFERENCE
44         "Subclause 11.4.1, Table 358, in IEEE Std 802.16-2004"
45     ::= { wman2IfBsOfdmaPhy 2 }
46
47
48  wman2IfBsOfdmaDownlinkChannelEntry OBJECT-TYPE
49     SYNTAX      Wman2IfBsOfdmaDownlinkChannelEntry
50     MAX-ACCESS   not-accessible
51     STATUS       current
52     DESCRIPTION
53         "This table provides one row for each downlink channel of
54         multi-sector BS, and is indexed by BS ifIndex. An entry in
55         this table exists for each ifEntry of BS with an ifType of
56         propBWA2Mp."
57
58     INDEX       { ifIndex }
59     ::= { wman2IfBsOfdmaDownlinkChannelTable 1 }
60
61
62  Wman2IfBsOfdmaDownlinkChannelEntry ::= SEQUENCE {
63      wman2IfBsOfdmaBsEIRP      INTEGER,
64
65

```

```

1      wman2IfBsOfdmaChannelNumber      Wman2IfChannelNumber,
2      wman2IfBsOfdmaTTG                 INTEGER,
3      wman2IfBsOfdmaRTG                 INTEGER,
4      wman2IfBsOfdmaInitRngMaxRSS       INTEGER,
5      wman2IfBsOfdmaDownlinkCenterFreq  Unsigned32,
6      wman2IfBsOfdmaBsId                Wman2IfBsIdType,
7      wman2IfBsOfdmaMacVersion          Wman2IfMacVersion,
8      wman2IfBsOfdmaFrameDurationCode   INTEGER,
9      wman2IfBsOfdmaSizeCqichIdField    INTEGER,
10     wman2IfBsOfdmaHARQAackDelayBurst   INTEGER}
11
12
13
14     wman2IfBsOfdmaBsEIRP OBJECT-TYPE
15         SYNTAX      INTEGER (0..65535)
16         UNITS       "dBm"
17         MAX-ACCESS   read-write
18         STATUS      current
19         DESCRIPTION
20             "The EIRP is the equivalent isotropic radiated power of
21             the base station, which is computed for a simple
22             single-antenna transmitter."
23         REFERENCE
24             "Subclause 11.4.1, Table 358, in IEEE Std 802.16-2004"
25         ::= { wman2IfBsOfdmaDownlinkChannelEntry 1 }
26
27
28
29
30     wman2IfBsOfdmaChannelNumber OBJECT-TYPE
31         SYNTAX      Wman2IfChannelNumber
32         MAX-ACCESS   read-write
33         STATUS      current
34         DESCRIPTION
35             "Downlink channel number as defined in 8.5. Used for
36             license-exempt operation only."
37         REFERENCE
38             "Subclause 11.4.1, Table 358, in IEEE Std 802.16-2004"
39         ::= { wman2IfBsOfdmaDownlinkChannelEntry 2 }
40
41
42
43     wman2IfBsOfdmaTTG OBJECT-TYPE
44         SYNTAX      INTEGER (0..255)
45         MAX-ACCESS   read-write
46         STATUS      current
47         DESCRIPTION
48             "Transmit / Receive Transition Gap."
49         REFERENCE
50             "Subclause 11.4.1, Table 358, in IEEE Std 802.16-2004"
51         ::= { wman2IfBsOfdmaDownlinkChannelEntry 3 }
52
53
54
55     wman2IfBsOfdmaRTG OBJECT-TYPE
56         SYNTAX      INTEGER (0..255)
57         MAX-ACCESS   read-write
58         STATUS      current
59         DESCRIPTION
60             "Receive / Transmit Transition Gap."
61         REFERENCE
62             "Subclause 11.4.1, Table 358, in IEEE Std 802.16-2004"
63         ::= { wman2IfBsOfdmaDownlinkChannelEntry 4 }
64
65

```



```

1
2 wman2IfBsOfdmaInitRngMaxRSS OBJECT-TYPE
3     SYNTAX      INTEGER (0..65535)
4     UNITS       "dBm"
5     MAX-ACCESS  read-write
6     STATUS      current
7     DESCRIPTION
8         "Initial Ranging Max. Received Signal Strength at BS
9         Signed in units of 1 dBm."
10
11 REFERENCE
12     "Subclause 11.4.1, Table 358, in IEEE Std 802.16-2004"
13 ::= { wman2IfBsOfdmaDownlinkChannelEntry 5 }
14
15
16 wman2IfBsOfdmaDownlinkCenterFreq OBJECT-TYPE
17     SYNTAX      Unsigned32
18     UNITS       "kHz"
19     MAX-ACCESS  read-write
20     STATUS      current
21     DESCRIPTION
22         "Downlink center frequency (kHz)."

```

```

1                                     duration20ms(8) }
2     MAX-ACCESS    read-write
3     STATUS        current
4     DESCRIPTION
5         "The duration of the frame. The frame duration code values
6         are specified in Table 274."
7     REFERENCE
8         "Table 273, in IEEE Std 802.16-2004"
9     ::= { wman2IfBsOfdmaDownlinkChannelEntry 9 }
10
11
12
13 wman2IfBsOfdmaSizeCqichIdField OBJECT-TYPE
14     SYNTAX        INTEGER {threebits(1),
15                         fourbits(2),
16                         fivebits(3),
17                         sixbits(4),
18                         sevenbits(5),
19                         eightbits(6),
20                         ninebits(7)}
21
22     MAX-ACCESS    read-write
23     STATUS        current
24     DESCRIPTION
25         "This object defines the size of CQICH ID field.
26         0 = Reserved
27         1 = 3 bits
28         2 = 4 bits
29         3 = 5 bits
30         4 = 6 bits
31         5 = 7 bits
32         6 = 8 bits
33         7 = 9 bits
34         8...255 = Reserved"
35     REFERENCE
36         "Subclause 11.3.1, Table 358, in IEEE Std 802.16-2004"
37     ::= { wman2IfBsOfdmaDownlinkChannelEntry 10 }
38
39
40
41
42
43 wman2IfBsOfdmaHARQAackDelayBurst OBJECT-TYPE
44     SYNTAX        INTEGER {oneframeoffset(1),
45                         twoframesoffset(2),
46                         threeframesoffset(3)}
47
48     MAX-ACCESS    read-write
49     STATUS        current
50     DESCRIPTION
51         "This object defines the OFDMA H-ARQ ACK delay for DL burst.
52         1 = one frame offset
53         2 = two frames offset
54         3 = three frames offset"
55     REFERENCE
56         "Subclause 11.3.1, Table 358, in IEEE Std 802.16-2004"
57     ::= { wman2IfBsOfdmaDownlinkChannelEntry 11 }
58
59
60
61 wman2IfBsOfdmaUcdBurstProfileTable OBJECT-TYPE
62     SYNTAX        SEQUENCE OF Wman2IfBsOfdmaUcdBurstProfileEntry
63     MAX-ACCESS    not-accessible
64     STATUS        current
65

```

```

1      DESCRIPTION
2          "This table contains UCD burst profiles for each uplink
3          channel"
4
5      REFERENCE
6          "Table 356, in IEEE Std 802.16-2004"
7          ::= { wman2IfBsOfdmaPhy 3 }
8
9
10     wman2IfBsOfdmaUcdBurstProfileEntry OBJECT-TYPE
11         SYNTAX      Wman2IfBsOfdmaUcdBurstProfileEntry
12         MAX-ACCESS   not-accessible
13         STATUS       current
14         DESCRIPTION
15             "This table provides one row for each UCD burst profile.
16             This table is double indexed. The primary index is an
17             ifIndex with an ifType of propBWA2Mp. The secondary index
18             is wman2IfBsOfdmaUiucIndex."
19
20         INDEX        { ifIndex, wman2IfBsOfdmaUiucIndex }
21         ::= { wman2IfBsOfdmaUcdBurstProfileTable 1 }
22
23
24     Wman2IfBsOfdmaUcdBurstProfileEntry ::= SEQUENCE {
25         wman2IfBsOfdmaUiucIndex      INTEGER,
26         wman2IfBsOfdmaUcdFecCodeType Wman2IfOfdmaFecCodeType,
27         wman2IfBsOfdmaRangingDataRatio INTEGER,
28         wman2IfBsOfdmaNorCOverNOverride OCTET STRING,
29         wman2IfBsOfdmaUcdBurstProfileRowStatus RowStatus}
30
31
32     wman2IfBsOfdmaUiucIndex OBJECT-TYPE
33         SYNTAX      INTEGER (1 .. 10)
34         MAX-ACCESS   not-accessible
35         STATUS       current
36         DESCRIPTION
37             "The Uplink Interval Usage Code indicates the uplink burst
38             profile in the UCD message, and is used along with ifIndex
39             to identify an entry in the
40             wman2IfBsOfdmaUcdBurstProfileTable."
41
42         REFERENCE
43             "Subclause 8.4.5.4.1, in IEEE Std 802.16-2004"
44             ::= { wman2IfBsOfdmaUcdBurstProfileEntry 1 }
45
46
47     wman2IfBsOfdmaUcdFecCodeType OBJECT-TYPE
48         SYNTAX      Wman2IfOfdmaFecCodeType
49         MAX-ACCESS   read-create
50         STATUS       current
51         DESCRIPTION
52             "Uplink FEC code type and modulation type"
53
54         REFERENCE
55             "Subclause 11.3.1.1, Table 357, in IEEE Std 802.16-2004"
56             ::= { wman2IfBsOfdmaUcdBurstProfileEntry 2 }
57
58
59     wman2IfBsOfdmaRangingDataRatio OBJECT-TYPE
60         SYNTAX      INTEGER (0 .. 255)
61         MAX-ACCESS   read-create
62         STATUS       current
63         DESCRIPTION
64
65

```

```

1         "Reducing factor in units of 1 dB, between the power used
2         for this burst and power should be used for CDMA Ranging."
3     REFERENCE
4     "Subclause 11.3.1.1, Table 357, in IEEE Std 802.16-2004"
5     ::= { wman2IfBsOfdmaUcdBurstProfileEntry 3 }
6
7
8 wman2IfBsOfdmaNorCOverNOVERRIDE OBJECT-TYPE
9     SYNTAX OCTET STRING (SIZE (5))
10    MAX-ACCESS read-create
11    STATUS current
12    DESCRIPTION
13        "This is a list of numbers, where each number is encoded by
14        one nibble, and interpreted as a signed integer. The nibbles
15        correspond in order to the list define by Table 334 in IEEE
16        Std 802.16-2004 starting from the second line, such that
17        the LS nibble of the first byte corresponds to the second
18        line in the table. The number encoded by each nibble
19        represents the difference in normalized C/N relative to the
20        previous line in the table"
21    REFERENCE
22        "Subclause 11.3.1.1, Table 357, in IEEE Std 802.16-2004"
23    ::= { wman2IfBsOfdmaUcdBurstProfileEntry 4 }
24
25
26 wman2IfBsOfdmaUcdBurstProfileRowStatus OBJECT-TYPE
27     SYNTAX      RowStatus
28     MAX-ACCESS  read-create
29     STATUS      current
30     DESCRIPTION
31         "This object is used to create a new row or modify or delete
32         an existing row in this table. If the implementator of this
33         MIB has choosen not to implement 'dynamic assignment' of
34         profiles, this object is not useful and should return
35         noSuchName upon SNMP request."
36     ::= { wman2IfBsOfdmaUcdBurstProfileEntry 5 }
37
38
39 wman2IfBsOfdmaDcdBurstProfileTable OBJECT-TYPE
40     SYNTAX      SEQUENCE OF Wman2IfBsOfdmaDcdBurstProfileEntry
41     MAX-ACCESS  not-accessible
42     STATUS      current
43     DESCRIPTION
44         "This table provides one row for each DCD burst profile.
45         This table is double indexed. The primary index is an
46         ifIndex with an ifType of propBWA2Mp. The secondary index
47         is wman2IfBsOfdmaDiucIndex."
48     ::= { wman2IfBsOfdmaPhy 4 }
49
50
51 wman2IfBsOfdmaDcdBurstProfileEntry OBJECT-TYPE
52     SYNTAX      Wman2IfBsOfdmaDcdBurstProfileEntry
53     MAX-ACCESS  not-accessible
54     STATUS      current
55     DESCRIPTION
56         "This table provides one row for each DCD burst profile.
57         This table is double indexed. The primary index is an
58         ifIndex with an ifType of propBWA2Mp. The secondary index
59

```

```

1         is wman2IfBsOfdmaDiucIndex."
2     INDEX      { ifIndex, wman2IfBsOfdmaDiucIndex }
3     ::= { wman2IfBsOfdmaDcdBurstProfileTable 1 }
4
5
6     Wman2IfBsOfdmaDcdBurstProfileEntry ::= SEQUENCE {
7         wman2IfBsOfdmaDiucIndex          INTEGER,
8         wman2IfBsOfdmaDownlinkFrequency  Unsigned32,
9         wman2IfBsOfdmaDcdFecCodeType     Wman2IfOfdmaFecCodeType,
10        wman2IfBsOfdmaDiucMandatoryExitThresh  INTEGER,
11        wman2IfBsOfdmaDiucMinEntryThresh    INTEGER,
12        wman2IfBsOfdmaDcdBurstProfileRowStatus  RowStatus}
13
14
15     wman2IfBsOfdmaDiucIndex OBJECT-TYPE
16     SYNTAX      INTEGER (0 .. 12)
17     MAX-ACCESS  not-accessible
18     STATUS      current
19     DESCRIPTION
20         "The Downlink Interval Usage Code indicates the downlink
21         burst profile in the DCD message, and is used along with
22         ifIndex to identify an entry in the
23         wman2IfBsOfdmaDcdBurstProfileTable."
24     REFERENCE
25         "Subclause 8.4.5.3.1, in IEEE Std 802.16-2004"
26     ::= { wman2IfBsOfdmaDcdBurstProfileEntry 1 }
27
28
29     wman2IfBsOfdmaDownlinkFrequency OBJECT-TYPE
30     SYNTAX      Unsigned32
31     UNITS       "kHz"
32     MAX-ACCESS  read-create
33     STATUS      current
34     DESCRIPTION
35         "Downlink Frequency (kHz)."

```

```

1         dB units."
2     REFERENCE
3         "Subclause 11.4.2, Table 363, in IEEE Std 802.16-2004"
4     ::= { wman2IfBsOfdmaDcdBurstProfileEntry 4 }
5
6
7     wman2IfBsOfdmaDiucMinEntryThresh OBJECT-TYPE
8         SYNTAX      INTEGER (0..255)
9         MAX-ACCESS   read-create
10        STATUS      current
11        DESCRIPTION
12            "DIUC minimum entry threshold: 0 - 63.75 dB The minimum
13             CINR required to start using this DIUC when changing from
14             a more robust DIUC is required, in 0.25 dB units."
15        REFERENCE
16            "Subclause 11.4.2, Table 363, in IEEE Std 802.16-2004"
17        ::= { wman2IfBsOfdmaDcdBurstProfileEntry 5 }
18
19
20
21     wman2IfBsOfdmaDcdBurstProfileRowStatus OBJECT-TYPE
22         SYNTAX      RowStatus
23         MAX-ACCESS   read-create
24         STATUS      current
25         DESCRIPTION
26             "This object is used to create a new row or modify or delete
27             an existing row in this table. If the implementator of this
28             MIB has choosen not to implement 'dynamic assignment' of
29             profiles, this object is not useful and should return
30             noSuchName upon SNMP request."
31         ::= { wman2IfBsOfdmaDcdBurstProfileEntry 6 }
32
33
34
35
36     wman2IfBsMsOfdmaReqCapabilitiesTable OBJECT-TYPE
37         SYNTAX      SEQUENCE OF Wman2IfBsMsOfdmaReqCapabilitiesEntry
38         MAX-ACCESS   not-accessible
39         STATUS      current
40         DESCRIPTION
41             "This table contains the basic capability information,
42             specific to OFDMA Phy, of MSs that have been reported by
43             MSs to BS using RNG-REQ, SBC-REQ and REG-REQ messages.
44             Entries in this table should be created when an MS
45             registers with a BS."
46         ::= { wman2IfBsOfdmaPhy 5 }
47
48
49
50     wman2IfBsMsOfdmaReqCapabilitiesEntry OBJECT-TYPE
51         SYNTAX      Wman2IfBsMsOfdmaReqCapabilitiesEntry
52         MAX-ACCESS   not-accessible
53         STATUS      current
54         DESCRIPTION
55             "This table provides one row for each MS that has been
56             registered in the BS. This table augments the table
57             wman2IfBsRegisteredSsTable."
58         AUGMENTS { wman2IfBsRegisteredSsEntry }
59         ::= { wman2IfBsMsOfdmaReqCapabilitiesTable 1 }
60
61
62
63     Wman2IfBsMsOfdmaReqCapabilitiesEntry ::= SEQUENCE {
64         wman2IfBsMsOfdmaReqCapFftSizes          Wman2IfOfdmFftSizes,
65

```

```

1          wman2IfBsMsOfdmaReqCapDemodulator      Wman2IfOfdmaMsDeModType,
2          wman2IfBsMsOfdmaReqCapModulator         Wman2IfOfdmaMsModType,
3          wman2IfBsMsOfdmaReqCapPermutation        Wman2IfOfdmaPermutation,
4          wman2IfBsMsOfdmaReqCapMobilityFeature    Wman2IfOfdmaMobility}
5
6
7  wman2IfBsMsOfdmaReqCapFftSizes OBJECT-TYPE
8      SYNTAX      Wman2IfOfdmFftSizes
9
10     MAX-ACCESS  read-only
11     STATUS      current
12     DESCRIPTION
13         "This field indicates the FFT sizes supported by MS."
14     ::= { wman2IfBsMsOfdmaReqCapabilitiesEntry 1 }
15
16
17  wman2IfBsMsOfdmaReqCapDemodulator OBJECT-TYPE
18      SYNTAX      Wman2IfOfdmaMsDeModType
19
20     MAX-ACCESS  read-only
21     STATUS      current
22     DESCRIPTION
23         "This field indicates the different demodulator options
24         supported by MS for downlink."
25     ::= { wman2IfBsMsOfdmaReqCapabilitiesEntry 2 }
26
27
28  wman2IfBsMsOfdmaReqCapModulator OBJECT-TYPE
29      SYNTAX      Wman2IfOfdmaMsModType
30
31     MAX-ACCESS  read-only
32     STATUS      current
33     DESCRIPTION
34         "This field indicates the different modulator options
35         supported by MS for uplink."
36     ::= { wman2IfBsMsOfdmaReqCapabilitiesEntry 3 }
37
38
39  wman2IfBsMsOfdmaReqCapPermutation OBJECT-TYPE
40      SYNTAX      Wman2IfOfdmaPermutation
41
42     MAX-ACCESS  read-only
43     STATUS      current
44     DESCRIPTION
45         "This field indicates the OFDMA MS Permutation support"
46     ::= { wman2IfBsMsOfdmaReqCapabilitiesEntry 4 }
47
48
49  wman2IfBsMsOfdmaReqCapMobilityFeature OBJECT-TYPE
50      SYNTAX      Wman2IfOfdmaMobility
51
52     MAX-ACCESS  read-only
53     STATUS      current
54     DESCRIPTION
55         "The field indicates whether or not the MS supports
56         mobility hand-over, Sleepmode, and Idle-mode."
57     ::= { wman2IfBsMsOfdmaReqCapabilitiesEntry 5 }
58
59  wman2IfBsMsOfdmaRspCapabilitiesTable OBJECT-TYPE
60      SYNTAX      SEQUENCE OF Wman2IfBsMsOfdmaRspCapabilitiesEntry
61
62     MAX-ACCESS  not-accessible
63     STATUS      current
64     DESCRIPTION
65         "This table contains the basic capability information,

```

```

1         specific to OFDMA Phy, of MSs that have been reported by
2         MSs to BS using RNG-REQ, SBC-REQ and REG-REQ messages.
3         Entries in this table should be created when an MS
4         registers with a BS."
5     ::= { wman2IfBsOfdmaPhy 6 }
6
7
8     wman2IfBsMsOfdmaRspCapabilitiesEntry OBJECT-TYPE
9         SYNTAX      Wman2IfBsMsOfdmaRspCapabilitiesEntry
10        MAX-ACCESS   not-accessible
11        STATUS       current
12        DESCRIPTION
13            "This table provides one row for each MS that has been
14            registered in the BS. This table augments the table
15            wman2IfBsRegisteredSsTable."
16        AUGMENTS { wman2IfBsRegisteredSsEntry }
17        ::= { wman2IfBsMsOfdmaRspCapabilitiesTable 1 }
18
19
20
21    Wman2IfBsMsOfdmaRspCapabilitiesEntry ::= SEQUENCE {
22        wman2IfBsMsOfdmaRspCapFftSizes      Wman2IfOfdmFftSizes,
23        wman2IfBsMsOfdmaRspCapDemodulator    Wman2IfOfdmaMsDeModType,
24        wman2IfBsMsOfdmaRspCapModulator      Wman2IfOfdmaMsModType,
25        wman2IfBsMsOfdmaRspCapPermutation    Wman2IfOfdmaPermutation,
26        wman2IfBsMsOfdmaRspCapMobilityFeature Wman2IfOfdmaMobility}
27
28
29
30    wman2IfBsMsOfdmaRspCapFftSizes OBJECT-TYPE
31        SYNTAX      Wman2IfOfdmFftSizes
32        MAX-ACCESS   read-only
33        STATUS       current
34        DESCRIPTION
35            "This field indicates the FFT sizes negotiated with the
36            MS."
37        ::= { wman2IfBsMsOfdmaRspCapabilitiesEntry 1 }
38
39
40
41    wman2IfBsMsOfdmaRspCapDemodulator OBJECT-TYPE
42        SYNTAX      Wman2IfOfdmaMsDeModType
43        MAX-ACCESS   read-only
44        STATUS       current
45        DESCRIPTION
46            "This field indicates the different demodulator options
47            negotiated for MS for downlink."
48        ::= { wman2IfBsMsOfdmaRspCapabilitiesEntry 2 }
49
50
51
52    wman2IfBsMsOfdmaRspCapModulator OBJECT-TYPE
53        SYNTAX      Wman2IfOfdmaMsModType
54        MAX-ACCESS   read-only
55        STATUS       current
56        DESCRIPTION
57            "This field indicates the different modulator options
58            negotiated for MS for uplink."
59        ::= { wman2IfBsMsOfdmaRspCapabilitiesEntry 3 }
60
61
62
63    wman2IfBsMsOfdmaRspCapPermutation OBJECT-TYPE
64        SYNTAX      Wman2IfOfdmaPermutation
65        MAX-ACCESS   read-only

```



```

1      STATUS      current
2      DESCRIPTION
3          "This field indicates the OFDMA MS Permutation support
4          negotiated for MS."
5      ::= { wman2IfBsMsOfdmaRspCapabilitiesEntry 4 }
6
7
8      wman2IfBsMsOfdmaRspCapMobilityFeature OBJECT-TYPE
9          SYNTAX      Wman2IfOfdmaMobility
10         MAX-ACCESS  read-only
11         STATUS      current
12         DESCRIPTION
13             "The field indicates the mobility hand-over, Sleepmode,
14             and Idle-mode negotiated for MS."
15         ::= { wman2IfBsMsOfdmaRspCapabilitiesEntry 5 }
16
17
18
19      wman2IfBsOfdmaCapabilitiesTable OBJECT-TYPE
20          SYNTAX      SEQUENCE OF Wman2IfBsOfdmaCapabilitiesEntry
21          MAX-ACCESS  not-accessible
22          STATUS      current
23          DESCRIPTION
24              "This table contains the basic capabilities, specific to
25              OFDMA Phy, of the BS as implemented in BS hardware and
26              software. These capabilities along with the configuration
27              for them (wman2IfBsOfdmaCapabilitiesConfigTable) are used
28              for negotiation of basic capabilities with SS using
29              RNG-RSP, SBC-RSP and REG-RSP messages. The negotiated
30              capabilities are obtained by interSubclause of MS raw
31              reported capabilities, BS raw capabilities and BS
32              configured capabilities. The objects in the table have
33              read-only access. The table is maintained by BS."
34          ::= { wman2IfBsOfdmaPhy 7 }
35
36
37
38
39      wman2IfBsOfdmaCapabilitiesEntry OBJECT-TYPE
40          SYNTAX      Wman2IfBsOfdmaCapabilitiesEntry
41          MAX-ACCESS  not-accessible
42          STATUS      current
43          DESCRIPTION
44              "This table provides one row for each BS sector and is
45              indexed by ifIndex."
46          INDEX { ifIndex }
47          ::= { wman2IfBsOfdmaCapabilitiesTable 1 }
48
49
50
51      Wman2IfBsOfdmaCapabilitiesEntry ::= SEQUENCE {
52          wman2IfBsOfdmaCapFftSizes          Wman2IfOfdmFftSizes,
53          wman2IfBsOfdmaCapDemodulator       Wman2IfOfdmaMsDeModType,
54          wman2IfBsOfdmaCapModulator         Wman2IfOfdmaMsModType,
55          wman2IfBsOfdmaCapPermutation       Wman2IfOfdmaPermutation,
56          wman2IfBsOfdmaCapMobilityFeature   Wman2IfOfdmaMobility}
57
58
59
60      wman2IfBsOfdmaCapFftSizes OBJECT-TYPE
61          SYNTAX      Wman2IfOfdmFftSizes
62          MAX-ACCESS  read-only
63          STATUS      current
64          DESCRIPTION
65

```

```

1         "This field indicates the FFT sizes supported by BS."
2         ::= { wman2IfBsOfdmaCapabilitiesEntry 1 }
3
4
5 wman2IfBsOfdmaCapDemodulator OBJECT-TYPE
6     SYNTAX      Wman2IfOfdmaMsDeModType
7     MAX-ACCESS  read-only
8     STATUS      current
9     DESCRIPTION
10        "This field indicates the different demodulator options
11        supported by BS."
12        ::= { wman2IfBsOfdmaCapabilitiesEntry 2 }
13
14
15 wman2IfBsOfdmaCapModulator OBJECT-TYPE
16     SYNTAX      Wman2IfOfdmaMsModType
17     MAX-ACCESS  read-only
18     STATUS      current
19     DESCRIPTION
20        "This field indicates the different modulator options
21        supported by BS."
22        ::= { wman2IfBsOfdmaCapabilitiesEntry 3 }
23
24
25
26 wman2IfBsOfdmaCapPermutation OBJECT-TYPE
27     SYNTAX      Wman2IfOfdmaPermutation
28     MAX-ACCESS  read-only
29     STATUS      current
30     DESCRIPTION
31        "This field indicates the OFDMA MS Permutation support
32        supported by BS."
33        ::= { wman2IfBsOfdmaCapabilitiesEntry 4 }
34
35
36
37 wman2IfBsOfdmaCapMobilityFeature OBJECT-TYPE
38     SYNTAX      Wman2IfOfdmaMobility
39     MAX-ACCESS  read-only
40     STATUS      current
41     DESCRIPTION
42        "The field indicates the mobility hand-over, Sleepmode,
43        and Idle-mode supported by BS."
44        ::= { wman2IfBsOfdmaCapabilitiesEntry 5 }
45
46
47
48 wman2IfBsOfdmaCapabilitiesConfigTable OBJECT-TYPE
49     SYNTAX      SEQUENCE OF Wman2IfBsOfdmaCapabilitiesConfigEntry
50     MAX-ACCESS  not-accessible
51     STATUS      current
52     DESCRIPTION
53        "This table contains the configuration for basic
54        capabilities of BS, specific to OFDMA Phy. The table is
55        intended to be used to restrict the Capabilities
56        implemented by BS, for example in order to comply with
57        local regulatory requirements. The BS should use the
58        configuration along with the implemented Capabilities
59        (wman2IfBsOfdmaPhyTable) for negotiation of basic
60        capabilities with SS using RNG-RSP, SBC-RSP and REG-RSP
61        messages. The negotiated capabilities are obtained by
62        interSubclause of MS reported capabilities, BS raw
63
64
65

```

```

1      capabilities and BS configured capabilities. The objects
2      in the table have read-write access. The rows are created
3      by BS as a copy of wman2IfBsBasicCapabilitiesTable
4      and can be modified by NMS."
5      ::= { wman2IfBsOfdmaPhy 8 }
6
7
8      wman2IfBsOfdmaCapabilitiesConfigEntry OBJECT-TYPE
9          SYNTAX      Wman2IfBsOfdmaCapabilitiesConfigEntry
10         MAX-ACCESS  not-accessible
11         STATUS      current
12         DESCRIPTION
13             "This table provides one row for each BS sector and is
14             indexed by ifIndex."
15         INDEX { ifIndex }
16         ::= { wman2IfBsOfdmaCapabilitiesConfigTable 1 }
17
18
19
20     Wman2IfBsOfdmaCapabilitiesConfigEntry ::= SEQUENCE {
21         wman2IfBsOfdmaCapCfgFftSizes      Wman2IfOfdmFftSizes,
22         wman2IfBsOfdmaCapCfgDemodulator    Wman2IfOfdmaMsDeModType,
23         wman2IfBsOfdmaCapCfgModulator       Wman2IfOfdmaMsModType,
24         wman2IfBsOfdmaCapCfgPermutation     Wman2IfOfdmaPermutation,
25         wman2IfBsOfdmaCapCfgMobilityFeature Wman2IfOfdmaMobility}
26
27
28
29     wman2IfBsOfdmaCapCfgFftSizes OBJECT-TYPE
30         SYNTAX      Wman2IfOfdmFftSizes
31         MAX-ACCESS  read-only
32         STATUS      current
33         DESCRIPTION
34             "This field indicates the FFT sizes configured for the BS."
35         ::= { wman2IfBsOfdmaCapabilitiesConfigEntry 1 }
36
37
38
39     wman2IfBsOfdmaCapCfgDemodulator OBJECT-TYPE
40         SYNTAX      Wman2IfOfdmaMsDeModType
41         MAX-ACCESS  read-only
42         STATUS      current
43         DESCRIPTION
44             "This field indicates the different demodulator options
45             configured for the BS."
46         ::= { wman2IfBsOfdmaCapabilitiesConfigEntry 2 }
47
48
49
50     wman2IfBsOfdmaCapCfgModulator OBJECT-TYPE
51         SYNTAX      Wman2IfOfdmaMsModType
52         MAX-ACCESS  read-only
53         STATUS      current
54         DESCRIPTION
55             "This field indicates the different modulator options
56             configured for the BS."
57         ::= { wman2IfBsOfdmaCapabilitiesConfigEntry 3 }
58
59
60
61     wman2IfBsOfdmaCapCfgPermutation OBJECT-TYPE
62         SYNTAX      Wman2IfOfdmaPermutation
63         MAX-ACCESS  read-only
64         STATUS      current
65         DESCRIPTION

```

```

1           "This field indicates the OFDMA MS Permutation support
2           configured for the BS."
3           ::= { wman2IfBsOfdmaCapabilitiesConfigEntry 4 }
4
5
6 wman2IfBsOfdmaCapCfgMobilityFeature OBJECT-TYPE
7     SYNTAX      Wman2IfOfdmaMobility
8     MAX-ACCESS  read-only
9     STATUS      current
10    DESCRIPTION
11      "The field indicates the mobility hand-over, Sleepmode,
12      and Idle-mode configured for the BS."
13      ::= { wman2IfBsOfdmaCapabilitiesConfigEntry 5 }
14
15
16
17 --
18 -- SS object group - containing tables and objects to be implemented in
19 -- the Subscriber station
20
21 --
22 -- wman2IfSsCps contain the SS Common Part Sublayer objects
23 --
24 wman2IfSsCps OBJECT IDENTIFIER ::= { wman2IfSsObjects 1 }
25
26
27 --
28 -- wman2IfSsConfigurationTable contains global parameters for SS
29 --
30 wman2IfSsConfigurationTable OBJECT-TYPE
31     SYNTAX      SEQUENCE OF Wman2IfSsConfigurationEntry
32     MAX-ACCESS  not-accessible
33     STATUS      current
34     DESCRIPTION
35       "This table contains one row for the SS system
36       parameters."
37     REFERENCE
38       "Subclause 10.1 in IEEE Std 802.16-2004"
39     ::= { wman2IfSsCps 1 }
40
41
42
43 wman2IfSsConfigurationEntry OBJECT-TYPE
44     SYNTAX      Wman2IfSsConfigurationEntry
45     MAX-ACCESS  not-accessible
46     STATUS      current
47     DESCRIPTION
48       "This table is indexed by ifIndex."
49     INDEX { ifIndex }
50     ::= { wman2IfSsConfigurationTable 1 }
51
52
53 Wman2IfSsConfigurationEntry ::= SEQUENCE {
54     wman2IfSsLostDLMapInterval          INTEGER,
55     wman2IfSsLostULMapInterval          INTEGER,
56     wman2IfSsContentionRangRetries      INTEGER,
57     wman2IfSsRequestRetries             INTEGER,
58     wman2IfSsRegRequestRetries          INTEGER,
59     wman2IfSsTftpBackoffStart           INTEGER,
60     wman2IfSsTftpBackoffEnd            INTEGER,
61     wman2IfSsTftpRequestRetries         INTEGER,
62

```

```

1      wman2IfSsTftpDownloadRetries      INTEGER,
2      wman2IfSsTftpWait                  INTEGER,
3      wman2IfSsToDRetries                 INTEGER,
4      wman2IfSsToDRetryPeriod             INTEGER,
5      wman2IfSsT1Timeout                  INTEGER,
6      wman2IfSsT2Timeout                  INTEGER,
7      wman2IfSsT3Timeout                  INTEGER,
8      wman2IfSsT4Timeout                  INTEGER,
9      wman2IfSsT6Timeout                  INTEGER,
10     wman2IfSsT12Timeout                  INTEGER,
11     wman2IfSsT14Timeout                  INTEGER,
12     wman2IfSsT16Timeout                  INTEGER,
13     wman2IfSsT18Timeout                  INTEGER,
14     wman2IfSsT19Timeout                  INTEGER,
15     wman2IfSsT20Timeout                  INTEGER,
16     wman2IfSsT21Timeout                  INTEGER,
17     wman2IfSsSBCRequestRetries           INTEGER,
18     wman2IfSsTftpCpltRetries             INTEGER,
19     wman2IfSsT26Timeout                  INTEGER,
20     wman2IfSsDLManagProcTime              INTEGER}
21
22
23
24
25
26 wman2IfSsLostDLMapInterval OBJECT-TYPE
27     SYNTAX      INTEGER (0..600)
28     UNITS       "milliseconds"
29     MAX-ACCESS  read-write
30     STATUS      current
31     DESCRIPTION
32         "Time since last received DL-MAP message before downlink
33         synchronization is considered lost in ms."
34     ::= { wman2IfSsConfigurationEntry 1 }
35
36
37
38 wman2IfSsLostULMapInterval OBJECT-TYPE
39     SYNTAX      INTEGER (0..600)
40     UNITS       "milliseconds"
41     MAX-ACCESS  read-write
42     STATUS      current
43     DESCRIPTION
44         "Time since last received UL-MAP message before uplink
45         synchronization is considered lost in ms."
46     ::= { wman2IfSsConfigurationEntry 2 }
47
48
49
50 wman2IfSsContentionRangRetries OBJECT-TYPE
51     SYNTAX      INTEGER (16..65535)
52     MAX-ACCESS  read-write
53     STATUS      current
54     DESCRIPTION
55         "Number of retries on contention Ranging Requests."
56     ::= { wman2IfSsConfigurationEntry 3 }
57
58
59
60 wman2IfSsRequestRetries OBJECT-TYPE
61     SYNTAX      INTEGER (16..65535)
62     MAX-ACCESS  read-write
63     STATUS      current
64     DESCRIPTION
65

```

```

1         "Number of retries on bandwidth allocation requests."
2         ::= { wman2IfSsConfigurationEntry 4 }
3
4
5 wman2IfSsRegRequestRetries OBJECT-TYPE
6     SYNTAX      INTEGER (3..65535)
7     MAX-ACCESS  read-write
8     STATUS      current
9     DESCRIPTION
10        "Number of retries on registration requests."
11        ::= { wman2IfSsConfigurationEntry 5 }
12
13
14 wman2IfSsTftpBackoffStart OBJECT-TYPE
15     SYNTAX      INTEGER (1..65535)
16     UNITS       "seconds"
17     MAX-ACCESS  read-write
18     STATUS      current
19     DESCRIPTION
20        "Initial value for TFTP backoff in second."
21        ::= { wman2IfSsConfigurationEntry 6 }
22
23
24
25 wman2IfSsTftpBackoffEnd OBJECT-TYPE
26     SYNTAX      INTEGER (16..65535)
27     UNITS       "seconds"
28     MAX-ACCESS  read-write
29     STATUS      current
30     DESCRIPTION
31        "Last value for TFTP backoff in second."
32        ::= { wman2IfSsConfigurationEntry 7 }
33
34
35
36 wman2IfSsTftpRequestRetries OBJECT-TYPE
37     SYNTAX      INTEGER (16..65535)
38     MAX-ACCESS  read-write
39     STATUS      current
40     DESCRIPTION
41        "Number of retries on TFTP request."
42        ::= { wman2IfSsConfigurationEntry 8 }
43
44
45
46 wman2IfSsTftpDownloadRetries OBJECT-TYPE
47     SYNTAX      INTEGER (3..65535)
48     MAX-ACCESS  read-write
49     STATUS      current
50     DESCRIPTION
51        "Number of retries on entire TFTP downloads."
52        ::= { wman2IfSsConfigurationEntry 9 }
53
54
55
56 wman2IfSsTftpWait OBJECT-TYPE
57     SYNTAX      INTEGER (2..65535)
58     UNITS       "minutes"
59     MAX-ACCESS  read-write
60     STATUS      current
61     DESCRIPTION
62        "The duration between two consecutive Transfer
63        operational parameters (TFTP) retries in min."
64        ::= { wman2IfSsConfigurationEntry 10 }
65

```

```

1
2 wman2IfSsToDRetries OBJECT-TYPE
3     SYNTAX      INTEGER (3..65535)
4     MAX-ACCESS  read-write
5     STATUS      current
6     DESCRIPTION
7         "Number of Retries to establisg the Time of Day."
8         ::= { wman2IfSsConfigurationEntry 11 }
9
10
11 wman2IfSsToDRetryPeriod OBJECT-TYPE
12     SYNTAX      INTEGER (5..65535)
13     UNITS       "minutes"
14     MAX-ACCESS  read-write
15     STATUS      current
16     DESCRIPTION
17         "The retry period to re-establishg the Time of Day, as
18         describe in the network entry procedure."
19         ::= { wman2IfSsConfigurationEntry 12 }
20
21
22 wman2IfSsT1Timeout OBJECT-TYPE
23     SYNTAX      INTEGER (0..50000)
24     UNITS       "milliseconds"
25     MAX-ACCESS  read-write
26     STATUS      current
27     DESCRIPTION
28         "Wait for DCD timeout in ms."
29         ::= { wman2IfSsConfigurationEntry 13 }
30
31
32 wman2IfSsT2Timeout OBJECT-TYPE
33     SYNTAX      INTEGER (0..10000)
34     UNITS       "milliseconds"
35     MAX-ACCESS  read-write
36     STATUS      current
37     DESCRIPTION
38         "Wait for broadcast ranging timeout in ms."
39         ::= { wman2IfSsConfigurationEntry 14 }
40
41
42 wman2IfSsT3Timeout OBJECT-TYPE
43     SYNTAX      INTEGER (0..200)
44     UNITS       "milliseconds"
45     MAX-ACCESS  read-write
46     STATUS      current
47     DESCRIPTION
48         "Ranging Response reception timeout following the
49         transmission of a Ranging Request in ms."
50         ::= { wman2IfSsConfigurationEntry 15 }
51
52
53 wman2IfSsT4Timeout OBJECT-TYPE
54     SYNTAX      INTEGER (30..35)
55     UNITS       "seconds"
56     MAX-ACCESS  read-write
57     STATUS      current
58     DESCRIPTION
59         "Wait for unicast ranging opportunity. If the pending until
60

```

```

1         complete field was used earlier by this SS, then the value
2         of that field shall be added to this interval in second."
3         ::= { wman2IfSsConfigurationEntry 16 }
4
5
6 wman2IfSsT6Timeout OBJECT-TYPE
7     SYNTAX      INTEGER (0..3000)
8     UNITS       "milliseconds"
9     MAX-ACCESS  read-write
10    STATUS      current
11    DESCRIPTION
12        "Wait for registration response in ms."
13    ::= { wman2IfSsConfigurationEntry 17 }
14
15
16 wman2IfSsT12Timeout OBJECT-TYPE
17     SYNTAX      INTEGER (0..50000)
18     UNITS       "milliseconds"
19     MAX-ACCESS  read-write
20     STATUS      current
21     DESCRIPTION
22        "Wait for UCD descriptor in ms."
23    ::= { wman2IfSsConfigurationEntry 18 }
24
25
26 wman2IfSsT14Timeout OBJECT-TYPE
27     SYNTAX      INTEGER (0..200)
28     UNITS       "milliseconds"
29     MAX-ACCESS  read-write
30     STATUS      current
31     DESCRIPTION
32        "Wait for DSX-RVD Timeout in ms."
33    ::= { wman2IfSsConfigurationEntry 19 }
34
35
36 wman2IfSsT16Timeout OBJECT-TYPE
37     SYNTAX      INTEGER (10..65535)
38     UNITS       "milliseconds"
39     MAX-ACCESS  read-write
40     STATUS      current
41     DESCRIPTION
42        "wait for bandwidth request grant in ms."
43    ::= { wman2IfSsConfigurationEntry 20 }
44
45
46 wman2IfSsT18Timeout OBJECT-TYPE
47     SYNTAX      INTEGER (0..65535)
48     UNITS       "milliseconds"
49     MAX-ACCESS  read-write
50     STATUS      current
51     DESCRIPTION
52        "wait for SBC-RSP timeout in ms."
53    ::= { wman2IfSsConfigurationEntry 21 }
54
55
56 wman2IfSsT19Timeout OBJECT-TYPE
57     SYNTAX      INTEGER (0..1048575)
58     UNITS       "milliseconds"
59     MAX-ACCESS  read-write
60     STATUS      current
61

```



```

1      DESCRIPTION
2          "Time DL-channel remains unusable in ms."
3      ::= { wman2IfSsConfigurationEntry 22 }
4
5
6      wman2IfSsT20Timeout OBJECT-TYPE
7          SYNTAX      INTEGER (0..65535)
8          UNITS        "milliseconds"
9          MAX-ACCESS   read-write
10         STATUS       current
11         DESCRIPTION
12             "Time SS searches for preambles on a given channel in ms."
13         ::= { wman2IfSsConfigurationEntry 23 }
14
15
16         wman2IfSsT21Timeout OBJECT-TYPE
17             SYNTAX      INTEGER (0..10000)
18             UNITS        "milliseconds"
19             MAX-ACCESS   read-write
20             STATUS       current
21             DESCRIPTION
22                 "Time SS searches for DL-MAP on a given channel in ms."
23             ::= { wman2IfSsConfigurationEntry 24 }
24
25
26         wman2IfSsSBCRequestRetries OBJECT-TYPE
27             SYNTAX      INTEGER (3..16)
28             MAX-ACCESS   read-write
29             STATUS       current
30             DESCRIPTION
31                 "Number of retries on SBC Request."
32             ::= { wman2IfSsConfigurationEntry 25 }
33
34
35         wman2IfSsTftpCpltRetries OBJECT-TYPE
36             SYNTAX      INTEGER (3..16)
37             MAX-ACCESS   read-write
38             STATUS       current
39             DESCRIPTION
40                 "Number of retries on TFTP-CPLT."
41             ::= { wman2IfSsConfigurationEntry 26 }
42
43
44         wman2IfSsT26Timeout OBJECT-TYPE
45             SYNTAX      INTEGER (10..200)
46             UNITS        "milliseconds"
47             MAX-ACCESS   read-write
48             STATUS       current
49             DESCRIPTION
50                 "Wait for TFTP-RSP in ms."
51             ::= { wman2IfSsConfigurationEntry 27 }
52
53
54         wman2IfSsDLManagProcTime OBJECT-TYPE
55             SYNTAX      INTEGER (0..200)
56             UNITS        "micro seconds"
57             MAX-ACCESS   read-write
58             STATUS       current
59             DESCRIPTION
60                 "Max. time between reception of Fast Power Control
61

```

```

1         management message and compliance to its instructions
2         by SS in us."
3         ::= { wman2IfSsConfigurationEntry 28 }
4
5
6     --
7     -- Subscriber Channel Measurement Table
8     --
9
10    wman2IfSsChannelMeasurementTable OBJECT-TYPE
11        SYNTAX      SEQUENCE OF Wman2IfSsChannelMeasurementEntry
12        MAX-ACCESS  not-accessible
13        STATUS      current
14        DESCRIPTION
15            "This table contains downlink channel measurement
16             information for each SS."
17        REFERENCE
18            "6.3.2.3.33 in IEEE Std 802.16-2004"
19        ::= { wman2IfSsCps 2 }
20
21
22
23    wman2IfSsChannelMeasurementEntry OBJECT-TYPE
24        SYNTAX      Wman2IfSsChannelMeasurementEntry
25        MAX-ACCESS  not-accessible
26        STATUS      current
27        DESCRIPTION
28            "Each entry in the table contains RSSI and CINR
29             signal quality measurement taken from the SS. The primary
30             index is the ifIndex pointing to SS.
31             wman2IfCmnHistogramIndex is the index to histogram
32             samples. Since there is no time stamp in the table,
33             wman2IfSsHistogramIndex should be increased monotonically,
34             and wraps around when it reaches the limit.
35             When the measurement entry for a SS reaches the limit,
36             the oldest entry shall be deleted as the new entry is
37             added to the table."
38        INDEX      { ifIndex, wman2IfSsHistogramIndex }
39        ::= { wman2IfSsChannelMeasurementTable 1 }
40
41
42
43
44    Wman2IfSsChannelMeasurementEntry ::= SEQUENCE {
45        wman2IfSsHistogramIndex      Unsigned32,
46        wman2IfSsChannelNumber       Wman2IfChannelNumber,
47        wman2IfSsStartFrame          INTEGER,
48        wman2IfSsDuration            INTEGER,
49        wman2IfSsBasicReport         BITS,
50        wman2IfSsMeanCinrReport      INTEGER,
51        wman2IfSsStdDeviationCinrReport  INTEGER,
52        wman2IfSsMeanRssiReport      INTEGER,
53        wman2IfSsStdDeviationRssiReport  INTEGER}
54
55
56
57    wman2IfSsHistogramIndex OBJECT-TYPE
58        SYNTAX      Unsigned32 (1 .. 4294967295)
59        MAX-ACCESS  not-accessible
60        STATUS      current
61        DESCRIPTION
62            "wman2IfSsHistogramIndex identifies the histogram samples
63             in the table for each subscriber station."
64
65

```

```

1      ::= { wman2IfSsChannelMeasurementEntry 1 }
2
3
4  wman2IfSsChannelNumber OBJECT-TYPE
5      SYNTAX      Wman2IfChannelNumber
6      MAX-ACCESS  read-only
7      STATUS      current
8      DESCRIPTION
9          "Physical channel number to be reported on."
10
11     REFERENCE
12         "Subclause 8.5.1 in IEEE Std 802.16-2004"
13     ::= { wman2IfSsChannelMeasurementEntry 2 }
14
15
16  wman2IfSsStartFrame OBJECT-TYPE
17      SYNTAX      INTEGER (0 .. 65535)
18      MAX-ACCESS  read-only
19      STATUS      current
20      DESCRIPTION
21          "Frame number in which measurement for this channel
22          started."
23
24     REFERENCE
25         "Subclause 11.12 in IEEE Std 802.16-2004"
26     ::= { wman2IfSsChannelMeasurementEntry 3 }
27
28
29  wman2IfSsDuration OBJECT-TYPE
30      SYNTAX      INTEGER (0..16777215)
31      MAX-ACCESS  read-only
32      STATUS      current
33      DESCRIPTION
34          "Cumulative measurement duration on the channel in
35          multiples of Ts. For any value exceeding 0xFFFFFFFF,
36          report 0xFFFFFFFF."
37
38     REFERENCE
39         "Subclause 11.12 in IEEE Std 802.16-2004"
40     ::= { wman2IfSsChannelMeasurementEntry 4 }
41
42
43  wman2IfSsBasicReport OBJECT-TYPE
44      SYNTAX      BITS {wirelessHuman(0),
45                        unknownTransmission(1),
46                        primaryUser(2),
47                        channelNotMeasured(3)}
48
49      MAX-ACCESS  read-only
50      STATUS      current
51      DESCRIPTION
52          "Bit #0: WirelessHUMAN detected on the channel
53          Bit #1: Unknown transmissions detected on the channel
54          Bit #2: Primary User detected on the channel
55          Bit #3: Unmeasured. Channel not measured"
56
57     REFERENCE
58         "Subclause 11.12 in IEEE Std 802.16-2004"
59     ::= { wman2IfSsChannelMeasurementEntry 5 }
60
61
62  wman2IfSsMeanCinrReport OBJECT-TYPE
63      SYNTAX      INTEGER (0 .. 41)
64      UNITS        "dB"
65

```

```

1      MAX-ACCESS    read-only
2      STATUS        current
3      DESCRIPTION
4          "Mean CINR report."
5      REFERENCE
6          "Subclause 8.2.2, 8.3.9 in IEEE Std 802.16-2004"
7      ::= { wman2IfSsChannelMeasurementEntry 6 }
8
9
10
11 wman2IfSsStdDeviationCinrReport OBJECT-TYPE
12     SYNTAX          INTEGER (0 .. 41)
13     UNITS            "dB"
14     MAX-ACCESS      read-only
15     STATUS          current
16     DESCRIPTION
17         "Standard deviation CINR report."
18     REFERENCE
19         "Subclause 8.2.2 and Subclause 8.3.9 in IEEE Std 802.16-2004"
20     ::= { wman2IfSsChannelMeasurementEntry 7 }
21
22
23
24 wman2IfSsMeanRssiReport OBJECT-TYPE
25     SYNTAX          INTEGER (0 .. 83)
26     UNITS            "dBm"
27     MAX-ACCESS      read-only
28     STATUS          current
29     DESCRIPTION
30         "Mean RSSI report."
31     REFERENCE
32         "Subclause 8.2.2 and Subclause 8.3.9 in IEEE Std 802.16-2004"
33     ::= { wman2IfSsChannelMeasurementEntry 8 }
34
35
36
37 wman2IfSsStdDeviationRssiReport OBJECT-TYPE
38     SYNTAX          INTEGER (0 .. 83)
39     UNITS            "dB"
40     MAX-ACCESS      read-only
41     STATUS          current
42     DESCRIPTION
43         "Standard deviation RSSI report."
44     REFERENCE
45         "Subclause 8.2.2 and Subclause 8.3.9 in IEEE Std 802.16-2004"
46     ::= { wman2IfSsChannelMeasurementEntry 9 }
47
48
49
50 --
51 -- Subscriber station PKM group
52 -- wman2IfSsPkmObjects contain the Subscriber Station Privacy Sublayer
53 -- objects
54 --
55
56 wman2IfSsPkmObjects OBJECT IDENTIFIER ::= { wman2IfSsObjects 2 }
57
58
59 --
60 -- Table wman2IfSsPkmAuthTable
61 --
62 wman2IfSsPkmAuthTable OBJECT-TYPE
63     SYNTAX          SEQUENCE OF Wman2IfSsPkmAuthEntry
64     MAX-ACCESS      not-accessible
65

```

```

1      STATUS      current
2      DESCRIPTION
3          "This table describes the PKM attributes related
4          to the authorization for each SS wireless interface."
5      ::= { wman2IfSsPkmObjects 1 }
6
7
8      wman2IfSsPkmAuthEntry OBJECT-TYPE
9          SYNTAX      Wman2IfSsPkmAuthEntry
10         MAX-ACCESS  not-accessible
11         STATUS      current
12         DESCRIPTION
13             "Each entry contains objects describing attributes of one
14             SS wireless interface."
15         INDEX        { ifIndex }
16         ::= { wman2IfSsPkmAuthTable 1 }
17
18
19
20     Wman2IfSsPkmAuthEntry ::= SEQUENCE {
21         wman2IfSsPkmAuthState          INTEGER,
22         wman2IfSsPkmAuthKeySequenceNumber Integer32,
23         wman2IfSsPkmAuthExpiresOld     DateAndTime,
24         wman2IfSsPkmAuthExpiresNew     DateAndTime,
25         wman2IfSsPkmAuthReset          TruthValue,
26         wman2IfSsPkmAuthentInfos       Counter32,
27         wman2IfSsPkmAuthRequests       Counter32,
28         wman2IfSsPkmAuthReplies        Counter32,
29         wman2IfSsPkmAuthRejects        Counter32,
30         wman2IfSsPkmAuthInvalids       Counter32,
31         wman2IfSsPkmAuthRejectErrorCode INTEGER,
32         wman2IfSsPkmAuthRejectErrorString SnmpAdminString,
33         wman2IfSsPkmAuthInvalidErrorCode INTEGER,
34         wman2IfSsPkmAuthInvalidErrorString SnmpAdminString,
35         wman2IfSsPkmAuthGraceTime      Integer32,
36         wman2IfSsPkmTekGraceTime       Integer32,
37         wman2IfSsPkmAuthWaitTimeout    Integer32,
38         wman2IfSsPkmReauthWaitTimeout  Integer32,
39         wman2IfSsPkmOpWaitTimeout      Integer32,
40         wman2IfSsPkmRekeyWaitTimeout   Integer32,
41         wman2IfSsPkmAuthRejectWaitTimeout Integer32}
42
43
44
45
46
47
48     wman2IfSsPkmAuthState OBJECT-TYPE
49         SYNTAX      INTEGER {start(1),
50                             authWait(2),
51                             authorized(3),
52                             reauthWait(4),
53                             authRejectWait(5),
54                             silent(6)}
55         MAX-ACCESS  read-only
56         STATUS      current
57         DESCRIPTION
58             "The value of this object is the state of the SS
59             authorization FSM. The start state indicates that FSM is
60             in its initial state."
61         ::= { wman2IfSsPkmAuthEntry 1 }
62
63
64
65

```

```

1  wman2IfSsPkmAuthKeySequenceNumber OBJECT-TYPE
2      SYNTAX      Integer32 (0..15)
3      MAX-ACCESS  read-only
4      STATUS      current
5      DESCRIPTION
6          "The value of this object is the most recent authorization
7          key sequence number for this FSM."
8      ::= { wman2IfSsPkmAuthEntry 2 }
9
10
11  wman2IfSsPkmAuthExpiresOld OBJECT-TYPE
12      SYNTAX      DateAndTime
13      MAX-ACCESS  read-only
14      STATUS      current
15      DESCRIPTION
16          "The value of this object is the actual clock time for
17          expiration of the immediate predecessor of the most recent
18          authorization key for this FSM. If this FSM has only one
19          authorization key, then the value is the time of activation
20          of this FSM."
21      ::= { wman2IfSsPkmAuthEntry 3 }
22
23
24  wman2IfSsPkmAuthExpiresNew OBJECT-TYPE
25      SYNTAX      DateAndTime
26      MAX-ACCESS  read-only
27      STATUS      current
28      DESCRIPTION
29          "The value of this object is the actual clock time for
30          expiration of the most recent authorization key for this
31          FSM."
32      ::= { wman2IfSsPkmAuthEntry 4 }
33
34
35  wman2IfSsPkmAuthReset OBJECT-TYPE
36      SYNTAX      TruthValue
37      MAX-ACCESS  read-write
38      STATUS      current
39      DESCRIPTION
40          "Setting this object to TRUE generates a Reauthorize event
41          in the authorization FSM. Reading this object always
42          returns FALSE."
43      ::= { wman2IfSsPkmAuthEntry 5 }
44
45
46  wman2IfSsPkmAuthentInfos OBJECT-TYPE
47      SYNTAX      Counter32
48      MAX-ACCESS  read-only
49      STATUS      current
50      DESCRIPTION
51          "The value of this object is the count of times the SS has
52          transmitted an Authentication Information message."
53      ::= { wman2IfSsPkmAuthEntry 6 }
54
55
56  wman2IfSsPkmAuthRequests OBJECT-TYPE
57      SYNTAX      Counter32
58      MAX-ACCESS  read-only
59      STATUS      current
60
61
62
63
64
65

```

```

1      DESCRIPTION
2          "The value of this object is the count of times the SS has
3            transmitted an Authorization Request message."
4      ::= { wman2IfSsPkmAuthEntry 7 }
5
6
7      wman2IfSsPkmAuthReplies OBJECT-TYPE
8          SYNTAX      Counter32
9          MAX-ACCESS  read-only
10         STATUS      current
11         DESCRIPTION
12             "The value of this object is the count of times the SS has
13               received an Authorization Reply message."
14         ::= { wman2IfSsPkmAuthEntry 8 }
15
16
17      wman2IfSsPkmAuthRejects OBJECT-TYPE
18          SYNTAX      Counter32
19          MAX-ACCESS  read-only
20          STATUS      current
21          DESCRIPTION
22              "The value of this object is the count of times the SS has
23                received an Authorization Reject message."
24          ::= { wman2IfSsPkmAuthEntry 9 }
25
26
27      wman2IfSsPkmAuthInvalids OBJECT-TYPE
28          SYNTAX      Counter32
29          MAX-ACCESS  read-only
30          STATUS      current
31          DESCRIPTION
32              "The value of this object is the count of times the SS has
33                received an Authorization Invalid message."
34          ::= { wman2IfSsPkmAuthEntry 10 }
35
36
37      wman2IfSsPkmAuthRejectErrorCode OBJECT-TYPE
38          SYNTAX      INTEGER {none(1),
39                        unknown(2),
40                        unauthorizedSs(3),
41                        unauthorizedSaid(4),
42                        permanentAuthorizationFailure(8),
43                        timeOfDayNotAcquired(11)}
44          MAX-ACCESS  read-only
45          STATUS      current
46          DESCRIPTION
47              "The value of this object is the enumerated description of
48                the Error-Code in most recent Authorization Reject message
49                received by the SS. This has value unknown(2) if the last
50                Error-Code value was 0, and none(1) if no Authorization
51                Reject message has been received since reboot."
52          ::= { wman2IfSsPkmAuthEntry 11 }
53
54
55      wman2IfSsPkmAuthRejectErrorString OBJECT-TYPE
56          SYNTAX      SnmpAdminString (SIZE (0..128))
57          MAX-ACCESS  read-only
58          STATUS      current
59          DESCRIPTION
60
61
62
63
64
65

```

```

1         "The value of this object is the Display-String in most
2         recent Authorization Reject message received by the SS.
3         This is a zero length string if no Authorization Reject
4         message has been received since reboot."
5     ::= { wman2IfSsPkmAuthEntry 12 }
6
7
8 wman2IfSsPkmAuthInvalidErrorCode OBJECT-TYPE
9     SYNTAX      INTEGER {none(1),
10                  unknown(2),
11                  unauthorizedSs(3),
12                  unsolicited(5),
13                  invalidKeySequence(6),
14                  keyRequestAuthenticationFailure(7)}
15
16     MAX-ACCESS  read-only
17     STATUS      current
18     DESCRIPTION
19         "The value of this object is the enumerated description of
20         the Error-Code in most recent Authorization Invalid message
21         received by the SS. This has value unknown(2) if the last
22         Error-Code value was 0, and none(1) if no Authorization
23         Invalid message has been received since reboot."
24     ::= { wman2IfSsPkmAuthEntry 13 }
25
26
27
28 wman2IfSsPkmAuthInvalidErrorString OBJECT-TYPE
29     SYNTAX      SnmpAdminString (SIZE (0..128))
30     MAX-ACCESS  read-only
31     STATUS      current
32     DESCRIPTION
33         "The value of this object is the Display-String in most
34         recent Authorization Invalid message received by the SS.
35         This is a zero length string if no Authorization Invalid
36         message has been received since reboot."
37     ::= { wman2IfSsPkmAuthEntry 14 }
38
39
40
41 wman2IfSsPkmAuthGraceTime OBJECT-TYPE
42     SYNTAX      Integer32 (300..3024000)
43     UNITS       "seconds"
44     MAX-ACCESS  read-only
45     STATUS      current
46     DESCRIPTION
47         "The value of this object is the grace time for an
48         authorization key. A SS is expected to start trying to get
49         a new authorization key beginning AuthGraceTime seconds
50         before the authorization key actually expires."
51     REFERENCE
52         "Table 341 in IEEE Std 802.16-2004"
53     DEFVAL      { 600 }
54     ::= { wman2IfSsPkmAuthEntry 15 }
55
56
57
58 wman2IfSsPkmTekGraceTime OBJECT-TYPE
59     SYNTAX      Integer32 (300..3024000)
60     UNITS       "seconds"
61     MAX-ACCESS  read-only
62     STATUS      current
63
64
65

```



```

1      DESCRIPTION
2          "The value of this object is the grace time for the TEK in
3          seconds. The SS is expected to start trying to acquire a
4          new TEK beginning TEK GraceTime seconds before the
5          expiration of the most recent TEK."
6      REFERENCE
7          "Table 341 in IEEE Std 802.16-2004"
8      DEFVAL      { 3600 }
9      ::= { wman2IfSsPkmAuthEntry 16 }
10
11  wman2IfSsPkmAuthWaitTimeout OBJECT-TYPE
12      SYNTAX      Integer32 (2..30)
13      UNITS       "seconds"
14      MAX-ACCESS  read-only
15      STATUS      current
16      DESCRIPTION
17          "The value of this object is the Authorize Wait Timeout."
18      REFERENCE
19          "Table 341 in IEEE Std 802.16-2004"
20      DEFVAL      { 10 }
21      ::= { wman2IfSsPkmAuthEntry 17 }
22
23  wman2IfSsPkmReauthWaitTimeout OBJECT-TYPE
24      SYNTAX      Integer32 (2..30)
25      UNITS       "seconds"
26      MAX-ACCESS  read-only
27      STATUS      current
28      DESCRIPTION
29          "The value of this object is the Reauthorize Wait Timeout
30          in seconds."
31      REFERENCE
32          "Table 341 in IEEE Std 802.16-2004"
33      DEFVAL      { 10 }
34      ::= { wman2IfSsPkmAuthEntry 18 }
35
36  wman2IfSsPkmOpWaitTimeout OBJECT-TYPE
37      SYNTAX      Integer32 (1..10)
38      UNITS       "seconds"
39      MAX-ACCESS  read-only
40      STATUS      current
41      DESCRIPTION
42          "The value of this object is the Operational Wait Timeout
43          in seconds."
44      REFERENCE
45          "Table 341 in IEEE Std 802.16-2004"
46      DEFVAL      { 1 }
47      ::= { wman2IfSsPkmAuthEntry 19 }
48
49  wman2IfSsPkmRekeyWaitTimeout OBJECT-TYPE
50      SYNTAX      Integer32 (1..10)
51      UNITS       "seconds"
52      MAX-ACCESS  read-only
53      STATUS      current
54      DESCRIPTION

```

```

1         "The value of this object is the Rekey Wait Timeout in
2         seconds."
3     REFERENCE
4         "Table 341 in IEEE Std 802.16-2004"
5     DEFVAL      { 1 }
6     ::= { wman2IfSsPkmAuthEntry 20 }
7
8
9
10    wman2IfSsPkmAuthRejectWaitTimeout OBJECT-TYPE
11        SYNTAX      Integer32 (10..600)
12        UNITS       "seconds"
13        MAX-ACCESS  read-only
14        STATUS      current
15        DESCRIPTION
16            "The value of this object is the Authorization Reject Wait
17            Timeout in seconds."
18        REFERENCE
19            "Table 341 in IEEE Std 802.16-2004"
20        DEFVAL      { 60 }
21        ::= { wman2IfSsPkmAuthEntry 21 }
22
23
24
25    --
26    -- Table wman2IfSsPkmTekTable
27    --
28
29    wman2IfSsPkmTekTable OBJECT-TYPE
30        SYNTAX      SEQUENCE OF Wman2IfSsPkmTekEntry
31        MAX-ACCESS  not-accessible
32        STATUS      current
33        DESCRIPTION
34            "This table describes the attributes of each SS Traffic
35            Encryption Key (TEK) association. The SS maintains (no more
36            than) one TEK association per SAID per SS wireless
37            interface."
38        ::= { wman2IfSsPkmObjects 2 }
39
40
41
42    wman2IfSsPkmTekEntry OBJECT-TYPE
43        SYNTAX      Wman2IfSsPkmTekEntry
44        MAX-ACCESS  not-accessible
45        STATUS      current
46        DESCRIPTION
47            "Each entry contains objects describing the TEK association
48            attributes of one SAID. The SS MUST create one entry per
49            SAID, regardless of whether the SAID was obtained from a
50            Registration Response message, from an Authorization Reply
51            message, or from any dynamic SAID establishment
52            mechanisms."
53        INDEX      { ifIndex, wman2IfSsPkmTekSAId }
54        ::= { wman2IfSsPkmTekTable 1 }
55
56
57
58
59    Wman2IfSsPkmTekEntry ::= SEQUENCE {
60        wman2IfSsPkmTekSAId                INTEGER,
61        wman2IfSsPkmTekSAType              INTEGER,
62        wman2IfSsPkmTekDataEncryptAlg      Wman2IfDataEncryptAlgId,
63        wman2IfSsPkmTekDataAuthAlg        Wman2IfDataAuthAlgId,
64        wman2IfSsPkmTekEncryptAlg          Wman2IfTekEncryptAlgId,
65

```

```

1      wman2IfSsPkmTekState                INTEGER,
2      wman2IfSsPkmTekKeySequenceNumber    Integer32,
3      wman2IfSsPkmTekExpiresOld            DateAndTime,
4      wman2IfSsPkmTekExpiresNew            DateAndTime,
5      wman2IfSsPkmTekKeyRequests           Counter32,
6      wman2IfSsPkmTekKeyReplies            Counter32,
7      wman2IfSsPkmTekKeyRejects            Counter32,
8      wman2IfSsPkmTekKeyRejects            Counter32,
9      wman2IfSsPkmTekInvalids              Counter32,
10     wman2IfSsPkmTekAuthPends              Counter32,
11     wman2IfSsPkmTekKeyRejectErrorCode     INTEGER,
12     wman2IfSsPkmTekKeyRejectErrorString   SnmpAdminString,
13     wman2IfSsPkmTekInvalidErrorCode       INTEGER,
14     wman2IfSsPkmTekInvalidErrorString     SnmpAdminString}
15
16
17
18     wman2IfSsPkmTekSAId OBJECT-TYPE
19         SYNTAX      INTEGER (0..65535)
20         MAX-ACCESS  not-accessible
21         STATUS      current
22         DESCRIPTION
23             "The value of this object is the Security Association
24              ID (SAID)."
```

```

25         ::= { wman2IfSsPkmTekEntry 1 }
26
27
28     wman2IfSsPkmTekSAType OBJECT-TYPE
29         SYNTAX      INTEGER {primarySA(0),
30                             staticSA(1),
31                             dynamicSA(2)}
32         MAX-ACCESS  read-only
33         STATUS      current
34         DESCRIPTION
35             "The value of this object is the type of security
36              association."
```

```

37         REFERENCE
38             "IEEE Std 802.16-2004; 11.9.18"
```

```

39         ::= { wman2IfSsPkmTekEntry 2 }
40
41
42     wman2IfSsPkmTekDataEncryptAlg OBJECT-TYPE
43         SYNTAX      Wman2IfDataEncryptAlgId
44         MAX-ACCESS  read-only
45         STATUS      current
46         DESCRIPTION
47             "The value of this object is the data encryption algorithm
48              being utilized."
```

```

49         REFERENCE
50             "Table 375, IEEE Std 802.16-2004"
```

```

51         ::= { wman2IfSsPkmTekEntry 3 }
52
53
54     wman2IfSsPkmTekDataAuthentAlg OBJECT-TYPE
55         SYNTAX      Wman2IfDataAuthAlgId
56         MAX-ACCESS  read-only
57         STATUS      current
58         DESCRIPTION
59             "The value of this object is the data authentication
60              algorithm being utilized."
```

```

1      REFERENCE
2          "Table 376, IEEE Std 802.16-2004"
3      ::= { wman2IfSsPkmTekEntry 4 }
4
5
6  wman2IfSsPkmTekEncryptAlg OBJECT-TYPE
7      SYNTAX      Wman2IfTekEncryptAlgId
8      MAX-ACCESS  read-only
9      STATUS      current
10     DESCRIPTION
11         "The value of this object is the TEK key encryption
12         algorithm for this cryptographic suite capability."
13     REFERENCE
14         "Table 377, IEEE Std 802.16-2004"
15     ::= { wman2IfSsPkmTekEntry 5 }
16
17
18
19  wman2IfSsPkmTekState OBJECT-TYPE
20      SYNTAX      INTEGER {start(1),
21                          opWait(2),
22                          opReauthWait(3),
23                          operational(4),
24                          rekeyWait(5),
25                          rekeyReauthWait(6)}
26      MAX-ACCESS  read-only
27      STATUS      current
28      DESCRIPTION
29          "The value of this object is the state of the indicated TEK
30          FSM. The start(1) state indicates that FSM is in its
31          initial state."
32      ::= { wman2IfSsPkmTekEntry 6 }
33
34
35
36
37  wman2IfSsPkmTekKeySequenceNumber OBJECT-TYPE
38      SYNTAX      Integer32 (0..3)
39      MAX-ACCESS  read-only
40      STATUS      current
41      DESCRIPTION
42          "The value of this object is the most recent TEK key
43          sequence number for this TEK FSM."
44     REFERENCE
45         "IEEE Std 802.16-2004; 11.9.5"
46     ::= { wman2IfSsPkmTekEntry 7 }
47
48
49
50  wman2IfSsPkmTekExpiresOld OBJECT-TYPE
51      SYNTAX      DateAndTime
52      MAX-ACCESS  read-only
53      STATUS      current
54      DESCRIPTION
55          "The value of this object is the actual clock time for
56          expiration of the immediate predecessor of the most recent
57          TEK for this FSM. If this FSM has only one TEK, then the
58          value is the time of activation of this FSM."
59      ::= { wman2IfSsPkmTekEntry 8 }
60
61
62
63  wman2IfSsPkmTekExpiresNew OBJECT-TYPE
64      SYNTAX      DateAndTime
65

```

```

1      MAX-ACCESS    read-only
2      STATUS        current
3      DESCRIPTION
4          "The value of this object is the actual clock time for
5          expiration of the most recent TEK for this FSM."
6      ::= { wman2IfSsPkmTekEntry 9 }
7
8
9
10     wman2IfSsPkmTekKeyRequests OBJECT-TYPE
11         SYNTAX      Counter32
12         MAX-ACCESS  read-only
13         STATUS      current
14         DESCRIPTION
15             "The value of this object is the count of times the SS has
16             transmitted a Key Request message."
17         ::= { wman2IfSsPkmTekEntry 10 }
18
19
20     wman2IfSsPkmTekKeyReplies OBJECT-TYPE
21         SYNTAX      Counter32
22         MAX-ACCESS  read-only
23         STATUS      current
24         DESCRIPTION
25             "The value of this object is the count of times the SS has
26             received a Key Reply message, including a message whose
27             authentication failed."
28         ::= { wman2IfSsPkmTekEntry 11 }
29
30
31
32     wman2IfSsPkmTekKeyRejects OBJECT-TYPE
33         SYNTAX      Counter32
34         MAX-ACCESS  read-only
35         STATUS      current
36         DESCRIPTION
37             "The value of this object is the count of times the SS has
38             received a Key Reject message, including a message whose
39             authentication failed."
40         ::= { wman2IfSsPkmTekEntry 12 }
41
42
43
44     wman2IfSsPkmTekInvalids OBJECT-TYPE
45         SYNTAX      Counter32
46         MAX-ACCESS  read-only
47         STATUS      current
48         DESCRIPTION
49             "The value of this object is the count of times the SS has
50             received a TEK Invalid message, including a message whose
51             authentication failed."
52         ::= { wman2IfSsPkmTekEntry 13 }
53
54
55
56     wman2IfSsPkmTekAuthPends OBJECT-TYPE
57         SYNTAX      Counter32
58         MAX-ACCESS  read-only
59         STATUS      current
60         DESCRIPTION
61             "The value of this object is the count of times an
62             Authorization Pending (Auth Pend) event occurred in this
63             FSM."
64
65

```

```

1      ::= { wman2IfSsPkmTekEntry 14 }
2
3  wman2IfSsPkmTekKeyRejectErrorCode OBJECT-TYPE
4      SYNTAX      INTEGER {none(1),
5                      unknown(2),
6                      unauthorizedSaid(4)}
7
8      MAX-ACCESS   read-only
9      STATUS       current
10     DESCRIPTION
11         "The value of this object is the enumerated description of
12         the Error-Code in most recent Key Reject message received
13         by the SS. This has value unknown(2) if the last Error-Code
14         value was 0, and none(1) if no Key Reject message has been
15         received since reboot."
16     ::= { wman2IfSsPkmTekEntry 15 }
17
18  wman2IfSsPkmTekKeyRejectErrorString OBJECT-TYPE
19     SYNTAX      SnmpAdminString (SIZE (0..128))
20     MAX-ACCESS   read-only
21     STATUS       current
22     DESCRIPTION
23         "The value of this object is the Display-String in most
24         recent Key Reject message received by the SS. This is a
25         zero length string if no Key Reject message has been
26         received since reboot."
27     ::= { wman2IfSsPkmTekEntry 16 }
28
29  wman2IfSsPkmTekInvalidErrorCode OBJECT-TYPE
30     SYNTAX      INTEGER {none(1),
31                      unknown(2),
32                      invalidKeySequence(6)}
33
34     MAX-ACCESS   read-only
35     STATUS       current
36     DESCRIPTION
37         "The value of this object is the enumerated description of
38         the Error-Code in most recent TEK Invalid message received
39         by the SS. This has value unknown(2) if the last
40         Error-Code value was 0, and none(1) if no TEK Invalid
41         message has been received since reboot."
42     ::= { wman2IfSsPkmTekEntry 17 }
43
44  wman2IfSsPkmTekInvalidErrorString OBJECT-TYPE
45     SYNTAX      SnmpAdminString (SIZE (0..128))
46     MAX-ACCESS   read-only
47     STATUS       current
48     DESCRIPTION
49         "The value of this object is the Display-String in most
50         recent TEK Invalid message received by the SS. This is a
51         zero length string if no TEK Invalid message has been
52         received since reboot."
53     ::= { wman2IfSsPkmTekEntry 18 }
54
55  --
56  -- Table wman2IfSsDeviceCertTable
57
58
59
60
61
62
63
64
65

```

```

1  --
2  wman2IfSsDeviceCertTable OBJECT-TYPE
3      SYNTAX      SEQUENCE OF Wman2IfSsDeviceCertEntry
4      MAX-ACCESS  not-accessible
5      STATUS      current
6      DESCRIPTION
7          "This table describes the PKM device certificates for each
8           SS wireless interface."
9      ::= { wman2IfSsPkmObjects 3 }
10
11
12
13  wman2IfSsDeviceCertEntry OBJECT-TYPE
14      SYNTAX      Wman2IfSsDeviceCertEntry
15      MAX-ACCESS  not-accessible
16      STATUS      current
17      DESCRIPTION
18          "Each entry contains the device certificate of one SS."
19      INDEX      { ifIndex }
20      ::= { wman2IfSsDeviceCertTable 1 }
21
22
23
24  Wman2IfSsDeviceCertEntry ::= SEQUENCE {
25      wman2IfSsDeviceCert          OCTET STRING,
26      wman2IfSsDeviceManufCert     OCTET STRING}
27
28
29  wman2IfSsDeviceCert OBJECT-TYPE
30      SYNTAX      OCTET STRING (SIZE(0..65535))
31      MAX-ACCESS  read-only
32      STATUS      current
33      DESCRIPTION
34          "The X509 DER-encoded subscriber station certificate."
35      ::= { wman2IfSsDeviceCertEntry 1 }
36
37
38  wman2IfSsDeviceManufCert OBJECT-TYPE
39      SYNTAX      OCTET STRING (SIZE(0..65535))
40      MAX-ACCESS  read-only
41      STATUS      current
42      DESCRIPTION
43          "The X509 DER-encoded manufacturer certificate which is
44           signed by the CA root authority certificate."
45      ::= { wman2IfSsDeviceCertEntry 2 }
46
47
48
49  --
50  -- Subscriber station Notification Group
51  -- wman2IfSsNotificationObjects contains the SS SNMP Trap objects
52  --
53  wman2IfSsNotification OBJECT IDENTIFIER ::= { wman2IfSsObjects 3 }
54  wman2IfSsTrapControl OBJECT IDENTIFIER ::= { wman2IfSsNotification 1 }
55  wman2IfSsTrapDefinitions OBJECT IDENTIFIER ::= { wman2IfSsNotification 2 }
56  }
57
58
59
60  -- This object groups all NOTIFICATION-TYPE objects for SS.
61  -- It is defined following RFC2758 sections 8.5 and 8.6
62  -- for the compatibility with SNMPv1.
63  wman2IfSsTrapPrefix OBJECT IDENTIFIER ::= { wman2IfSsTrapDefinitions 0 }
64
65

```

```

1  wman2IfSsTrapControlRegister    OBJECT-TYPE
2      SYNTAX          BITS {wman2IfSsTlvUnknown(0),
3                          wman2IfSsDynamicServiceFail(1),
4                          wman2IfSsDhcpSuccess(2),
5                          wman2IfSsRssiStatusChange(3)}
6
7      MAX-ACCESS      read-write
8      STATUS          current
9      DESCRIPTION
10         "The object is used to enable Subscriber Station traps.
11         From left to right, the set bit indicates the corresponding
12         Subscriber Station trap is enabled."
13         ::= { wman2IfSsTrapControl 1 }
14
15
16  wman2IfSsThresholdConfigTable OBJECT-TYPE
17      SYNTAX          SEQUENCE OF Wman2IfSsThresholdConfigEntry
18      MAX-ACCESS      not-accessible
19      STATUS          current
20      DESCRIPTION
21         "This table contains threshold objects that can be set to
22         detect the threshold crossing events."
23         ::= { wman2IfSsTrapControl 2 }
24
25
26
27  wman2IfSsThresholdConfigEntry OBJECT-TYPE
28      SYNTAX          Wman2IfSsThresholdConfigEntry
29      MAX-ACCESS      not-accessible
30      STATUS          current
31      DESCRIPTION
32         "This table provides one row for each Ss, and is indexed
33         by ifIndex."
34         INDEX          { ifIndex }
35         ::= { wman2IfSsThresholdConfigTable 1 }
36
37
38
39  Wman2IfSsThresholdConfigEntry ::= SEQUENCE {
40      wman2IfSsRssiLowThreshold      Integer32,
41      wman2IfSsRssiHighThreshold     Integer32}
42
43
44  wman2IfSsRssiLowThreshold OBJECT-TYPE
45      SYNTAX          Integer32
46      UNITS           "dBm"
47      MAX-ACCESS      read-write
48      STATUS          current
49      DESCRIPTION
50         "Low RSSI threshold for generating the RSSI alarm trap."
51         ::= { wman2IfSsThresholdConfigEntry 1 }
52
53
54
55  wman2IfSsRssiHighThreshold OBJECT-TYPE
56      SYNTAX          Integer32
57      UNITS           "dBm"
58      MAX-ACCESS      read-write
59      STATUS          current
60      DESCRIPTION
61         "High RSSI threshold for generating a trap to indicate
62         the RSSI is restored."
63         ::= { wman2IfSsThresholdConfigEntry 2 }
64
65

```



```

1
2 wman2IfSsTlvUnknownTrap NOTIFICATION-TYPE
3     OBJECTS      {ifIndex,
4                   wman2IfSsMacAddress,
5                   wman2IfSsUnknownTlv}
6
7     STATUS      current
8
9     DESCRIPTION
10        "Event that notifies detection of unknown TLV during
11         the TLV parsing process."
12        ::= { wman2IfSsTrapPrefix 1 }
13
14 wman2IfSsDynamicServiceFailTrap NOTIFICATION-TYPE
15     OBJECTS      {ifIndex,
16                   wman2IfSsMacAddress,
17                   wman2IfSsDynamicServiceType,
18                   wman2IfSsDynamicServiceFailReason}
19
20     STATUS      current
21
22     DESCRIPTION
23        "An event to report the failure of a dynamic service
24         operation happened during the dynamic services process
25         and detected in the BS side."
26        ::= { wman2IfSsTrapPrefix 2 }
27
28
29 wman2IfSsDhcpSuccessTrap NOTIFICATION-TYPE
30     OBJECTS      {ifIndex,
31                   wman2IfSsMacAddress}
32
33     STATUS      current
34
35     DESCRIPTION
36        "An event to report a successful Handshake to establish IP
37         connectivity."
38        ::= { wman2IfSsTrapPrefix 3 }
39
40 wman2IfSsRssiStatusChangeTrap NOTIFICATION-TYPE
41     OBJECTS      {ifIndex,
42                   wman2IfSsMacAddress,
43                   wman2IfSsRssiStatus,
44                   wman2IfSsRssiStatusInfo}
45
46     STATUS      current
47
48     DESCRIPTION
49        "An event to report that the downlink RSSI is below
50         wman2IfSsRssiLowThreshold, or above
51         wman2IfSsRssiHighThreshold after restore."
52        ::= { wman2IfSsTrapPrefix 4 }
53
54 wman2IfSsNotificationObjectsTable OBJECT-TYPE
55     SYNTAX      SEQUENCE OF Wman2IfSsNotificationObjectsEntry
56     MAX-ACCESS  not-accessible
57     STATUS      current
58     DESCRIPTION
59        "This table contains SS notification objects that have been
60         reported by the trap."
61        ::= { wman2IfSsTrapDefinitions 1 }
62
63
64 wman2IfSsNotificationObjectsEntry OBJECT-TYPE
65

```

```

1      SYNTAX      Wman2IfSsNotificationObjectsEntry
2      MAX-ACCESS  not-accessible
3      STATUS      current
4      DESCRIPTION
5          "This table provides one row for each SS that has
6              generated traps, and is indexed by ifIndex."
7      INDEX      { ifIndex }
8      ::= { wman2IfSsNotificationObjectsTable 1 }
9
10
11
12  Wman2IfSsNotificationObjectsEntry ::= SEQUENCE {
13      wman2IfSsMacAddress      MacAddress,
14      wman2IfSsUnknownTlv      OCTET STRING,
15      wman2IfSsDynamicServiceType  INTEGER,
16      wman2IfSsDynamicServiceFailReason  OCTET STRING,
17      wman2IfSsRssiStatus      INTEGER,
18      wman2IfSsRssiStatusInfo  OCTET STRING}
19
20
21  wman2IfSsMacAddress  OBJECT-TYPE
22      SYNTAX      MacAddress
23      MAX-ACCESS  read-only
24      STATUS      current
25      DESCRIPTION
26          "The MAC address of the SS generating the trap."
27      ::= { wman2IfSsNotificationObjectsEntry 1 }
28
29
30
31  wman2IfSsUnknownTlv  OBJECT-TYPE
32      SYNTAX      OCTET STRING (SIZE(0..65535))
33      MAX-ACCESS  read-only
34      STATUS      current
35      DESCRIPTION
36          "Indicating the value of the unknown TLV."
37      ::= { wman2IfSsNotificationObjectsEntry 2 }
38
39
40
41  wman2IfSsDynamicServiceType  OBJECT-TYPE
42      SYNTAX      INTEGER {ssSfCreationReq(1),
43                          ssSfCreationRsp(2),
44                          ssSfCreationAck(3)}
45      MAX-ACCESS  read-only
46      STATUS      current
47      DESCRIPTION
48          "This object indicates the dynamic service flow
49              creation command type."
50      ::= { wman2IfSsNotificationObjectsEntry 3 }
51
52
53
54  wman2IfSsDynamicServiceFailReason  OBJECT-TYPE
55      SYNTAX      OCTET STRING (SIZE(0..255))
56      MAX-ACCESS  read-only
57      STATUS      current
58      DESCRIPTION
59          "This object indicates the reason why the service flow
60              creation has failed."
61      ::= { wman2IfSsNotificationObjectsEntry 4 }
62
63
64
65  wman2IfSsRssiStatus  OBJECT-TYPE

```

```

1          SYNTAX          INTEGER {ssRssiAlarm(1),
2                               ssRssiNoAlarm(2)}
3
4          MAX-ACCESS      read-only
5          STATUS          current
6          DESCRIPTION
7              "A RSSI alarm is generated if the RSSI is lower than
8                wman2IfSsRssiLowThreshold, or above
9                wman2IfSsRssiHighThreshold after alarm is restored."
10             ::= { wman2IfSsNotificationObjectsEntry 5 }
11
12
13 wman2IfSsRssiStatusInfo OBJECT-TYPE
14     SYNTAX          OCTET STRING (SIZE(0..255))
15     MAX-ACCESS      read-only
16     STATUS          current
17     DESCRIPTION
18         "This object provides additional information about RSSI
19         alarm. It is implementation specific"
20     ::= { wman2IfSsNotificationObjectsEntry 6 }
21
22
23 --
24 -- Subscriber station PHY Group
25 --
26 --
27 wman2IfSsPhy OBJECT IDENTIFIER ::= { wman2IfSsObjects 5 }
28
29 --
30 -- SS OFDM PHY objects
31 --
32 --
33 wman2IfSsOfdmPhy OBJECT IDENTIFIER ::= { wman2IfSsPhy 1 }
34
35
36 wman2IfSsOfdmUplinkChannelTable OBJECT-TYPE
37     SYNTAX          SEQUENCE OF Wman2IfSsOfdmUplinkChannelEntry
38     MAX-ACCESS      not-accessible
39     STATUS          current
40     DESCRIPTION
41         "This table contains UCD channel attributes, defining the
42         transmission characteristics of uplink channels"
43     REFERENCE
44         "Table 349 and Table 352, in IEEE Std 802.16-2004"
45     ::= { wman2IfSsOfdmPhy 1 }
46
47
48
49 wman2IfSsOfdmUplinkChannelEntry OBJECT-TYPE
50     SYNTAX          Wman2IfSsOfdmUplinkChannelEntry
51     MAX-ACCESS      not-accessible
52     STATUS          current
53     DESCRIPTION
54         "This table provides one row for each uplink channel of
55         multi-sector BS, and is indexed by BS ifIndex. An entry
56         in this table exists for each ifEntry of BS with an
57         ifType of propBWAp2Mp."
58     INDEX { ifIndex }
59     ::= { wman2IfSsOfdmUplinkChannelTable 1 }
60
61
62
63 Wman2IfSsOfdmUplinkChannelEntry ::= SEQUENCE {
64     wman2IfSsOfdmCtBasedResvTimeout          INTEGER,
65

```

```

1      wman2IfSsOfdmBwReqOppSize          INTEGER,
2      wman2IfSsOfdmRangReqOppSize        INTEGER,
3      wman2IfSsOfdmUplinkCenterFreq      Unsigned32,
4      wman2IfSsOfdmNumSubChReqRegionFull INTEGER,
5      wman2IfSsOfdmNumSymbolsReqRegionFull INTEGER,
6      wman2IfSsOfdmSubChFocusCtCode      INTEGER,
7      wman2IfSsOfdmUplinkChannelId       INTEGER}
8
9
10
11  wman2IfSsOfdmCtBasedResvTimeout OBJECT-TYPE
12      SYNTAX      INTEGER (1..255)
13      MAX-ACCESS  read-only
14      STATUS      current
15      DESCRIPTION
16          "The number of UL-MAPs to receive before contention-based
17          reservation is attempted again for the same connection."
18      REFERENCE
19          "Table 349, in IEEE Std 802.16-2004"
20      ::= { wman2IfSsOfdmUplinkChannelEntry 1 }
21
22
23
24  wman2IfSsOfdmBwReqOppSize OBJECT-TYPE
25      SYNTAX      INTEGER (1..65535)
26      UNITS       "PS"
27      MAX-ACCESS  read-only
28      STATUS      current
29      DESCRIPTION
30          "Size (in units of PS) of PHY payload that SS may use to
31          format and transmit a bandwidth request message in a
32          contention request opportunity. The value includes all
33          PHY overhead as well as allowance for the MAC data the
34          message may hold."
35      REFERENCE
36          "Table 349, in IEEE Std 802.16-2004"
37      ::= { wman2IfSsOfdmUplinkChannelEntry 2 }
38
39
40
41
42  wman2IfSsOfdmRangReqOppSize OBJECT-TYPE
43      SYNTAX      INTEGER (1..65535)
44      UNITS       "PS"
45      MAX-ACCESS  read-only
46      STATUS      current
47      DESCRIPTION
48          "Size (in units of PS) of PHY payload that SS may use to
49          format and transmit a RNG-REQ message in a contention
50          request opportunity. The value includes all PHY overhead
51          as well as allowance for the MAC data the message may
52          hold and the maximum SS/BS roundtrip propagation delay."
53      REFERENCE
54          "Table 349, in IEEE Std 802.16-2004"
55      ::= { wman2IfSsOfdmUplinkChannelEntry 3 }
56
57
58
59
60  wman2IfSsOfdmUplinkCenterFreq OBJECT-TYPE
61      SYNTAX      Unsigned32
62      UNITS       "kHz"
63      MAX-ACCESS  read-only
64      STATUS      current
65

```

```

1      DESCRIPTION
2          " Uplink center frequency (kHz)"
3      REFERENCE
4          "Table 349, in IEEE Std 802.16-2004"
5      ::= { wman2IfSsOfdmUplinkChannelEntry 4 }
6
7
8      wman2IfSsOfdmNumSubChReqRegionFull OBJECT-TYPE
9          SYNTAX      INTEGER {oneSubchannel(0),
10                      twoSubchannels(1),
11                      fourSubchannels(2),
12                      eightSubchannels(3),
13                      sixteenSubchannels(4)}
14
15      MAX-ACCESS      read-only
16      STATUS          current
17      DESCRIPTION
18          "Number of subchannels used by each transmit
19          opportunity when REQ Region-Full is allocated in
20          subchannelization region."
21
22      REFERENCE
23          "Table 352, in IEEE Std 802.16-2004"
24      ::= { wman2IfSsOfdmUplinkChannelEntry 5 }
25
26
27      wman2IfSsOfdmNumSymbolsReqRegionFull OBJECT-TYPE
28          SYNTAX      INTEGER (0..31)
29
30      MAX-ACCESS      read-only
31      STATUS          current
32      DESCRIPTION
33          "Number of OFDM symbols used by each transmit
34          opportunity when REQ Region-Full is allocated in
35          subchannelization region."
36
37      REFERENCE
38          "Table 352, in IEEE Std 802.16-2004"
39      ::= { wman2IfSsOfdmUplinkChannelEntry 6 }
40
41
42      wman2IfSsOfdmSubChFocusCtCode OBJECT-TYPE
43          SYNTAX      INTEGER (0..8)
44
45      MAX-ACCESS      read-only
46      STATUS          current
47      DESCRIPTION
48          "Number of contention codes (CSE) that shall only be used to
49          request a subchannelized allocation. Default value 0.
50          Allowed values 0-8."
51
52      REFERENCE
53          "Table 352, in IEEE Std 802.16-2004"
54      DEFVAL          { 0 }
55      ::= { wman2IfSsOfdmUplinkChannelEntry 7 }
56
57
58      wman2IfSsOfdmUpLinkChannelId OBJECT-TYPE
59          SYNTAX      INTEGER (0..255)
60
61      MAX-ACCESS      read-only
62      STATUS          current
63      DESCRIPTION
64          "The identifier of the uplink channel to which this
65          message refers."

```

```

1      REFERENCE
2          "Subclause 6.3.2.3.4. Table 16, in IEEE Std 802.16-2004"
3      ::= { wman2IfSsOfdmUplinkChannelEntry 8 }
4
5
6      wman2IfSsOfdmDownlinkChannelTable OBJECT-TYPE
7          SYNTAX      SEQUENCE OF Wman2IfSsOfdmDownlinkChannelEntry
8          MAX-ACCESS  not-accessible
9          STATUS      current
10         DESCRIPTION
11             "This table contains DCD channel attributes, defining the
12              transmission characteristics of downlink channels"
13         REFERENCE
14             "Table 358, in IEEE Std 802.16-2004"
15         ::= { wman2IfSsOfdmPhy 2 }
16
17
18
19      wman2IfSsOfdmDownlinkChannelEntry OBJECT-TYPE
20          SYNTAX      Wman2IfSsOfdmDownlinkChannelEntry
21          MAX-ACCESS  not-accessible
22          STATUS      current
23          DESCRIPTION
24              "This table provides one row for each downlink channel of
25              multi-sector BS, and is indexed by BS ifIndex. An entry
26              in this table exists for each ifEntry of BS with an
27              ifType of propBWAp2Mp."
28          INDEX { ifIndex }
29          ::= { wman2IfSsOfdmDownlinkChannelTable 1 }
30
31
32
33      Wman2IfSsOfdmDownlinkChannelEntry ::= SEQUENCE {
34          wman2IfSsOfdmBsEIRP                INTEGER,
35          wman2IfSsOfdmChannelNumber          Wman2IfChannelNumber,
36          wman2IfSsOfdmTTG                    INTEGER,
37          wman2IfSsOfdmRTG                    INTEGER,
38          wman2IfSsOfdmInitRngMaxRSS          INTEGER,
39          wman2IfSsOfdmDownlinkCenterFreq     Unsigned32,
40          wman2IfSsOfdmBsId                   Wman2IfBsIdType,
41          wman2IfSsOfdmMacVersion             Wman2IfMacVersion,
42          wman2IfSsOfdmFrameDurationCode     INTEGER,
43          wman2IfSsOfdmDownLinkChannelId     INTEGER}
44
45
46
47
48      wman2IfSsOfdmBsEIRP OBJECT-TYPE
49          SYNTAX      INTEGER (0..65535)
50          UNITS       "dBm"
51          MAX-ACCESS  read-only
52          STATUS      current
53          DESCRIPTION
54              "The EIRP is the equivalent isotropic radiated power of
55              the base station, which is computed for a simple
56              single-antenna transmitter."
57          REFERENCE
58              "Table 358, in IEEE Std 802.16-2004"
59          ::= { wman2IfSsOfdmDownlinkChannelEntry 1 }
60
61
62
63      wman2IfSsOfdmChannelNumber OBJECT-TYPE
64          SYNTAX      Wman2IfChannelNumber
65

```

```

1      MAX-ACCESS    read-only
2      STATUS        current
3      DESCRIPTION
4          "Downlink channel number as defined in 8.5.
5          Used for license-exempt operation only."
6      REFERENCE
7          "Table 358, in IEEE Std 802.16-2004"
8      ::= { wman2IfSsOfdmDownlinkChannelEntry 2 }
9
10
11
12  wman2IfSsOfdmTTG OBJECT-TYPE
13      SYNTAX          INTEGER (0..255)
14      MAX-ACCESS      read-only
15      STATUS          current
16      DESCRIPTION
17          "Transmit / Receive Transition Gap."
18      REFERENCE
19          "Table 358, in IEEE Std 802.16-2004"
20      ::= { wman2IfSsOfdmDownlinkChannelEntry 3 }
21
22
23
24  wman2IfSsOfdmRTG OBJECT-TYPE
25      SYNTAX          INTEGER (0..255)
26      MAX-ACCESS      read-only
27      STATUS          current
28      DESCRIPTION
29          "Receive / Transmit Transition Gap."
30      REFERENCE
31          "Table 358, in IEEE Std 802.16-2004"
32      ::= { wman2IfSsOfdmDownlinkChannelEntry 4 }
33
34
35
36  wman2IfSsOfdmInitRngMaxRSS OBJECT-TYPE
37      SYNTAX          INTEGER (0..65535)
38      UNITS            "dBm"
39      MAX-ACCESS      read-only
40      STATUS          current
41      DESCRIPTION
42          "Initial Ranging Max. Received Signal Strength at BS
43          Signed in units of 1 dBm."
44      REFERENCE
45          "Table 358, in IEEE Std 802.16-2004"
46      ::= { wman2IfSsOfdmDownlinkChannelEntry 5 }
47
48
49
50  wman2IfSsOfdmDownlinkCenterFreq OBJECT-TYPE
51      SYNTAX          Unsigned32
52      UNITS            "kHz"
53      MAX-ACCESS      read-only
54      STATUS          current
55      DESCRIPTION
56          "Downlink center frequency (kHz)."
57      REFERENCE
58          "Table 358, in IEEE Std 802.16-2004"
59      ::= { wman2IfSsOfdmDownlinkChannelEntry 6 }
60
61
62
63  wman2IfSsOfdmBsId OBJECT-TYPE
64      SYNTAX          Wman2IfBsIdType
65

```

```

1      MAX-ACCESS    read-only
2      STATUS        current
3      DESCRIPTION
4          "Base station ID."
5      REFERENCE
6          "Table 358, in IEEE Std 802.16-2004"
7      ::= { wman2IfSsOfdmDownlinkChannelEntry 7 }
8
9
10
11 wman2IfSsOfdmMacVersion OBJECT-TYPE
12     SYNTAX          Wman2IfMacVersion
13     MAX-ACCESS      read-only
14     STATUS          current
15     DESCRIPTION
16         "This parameter specifies the version of 802.16 to which
17         the message originator conforms."
18     REFERENCE
19         "Table 358, in IEEE Std 802.16-2004"
20     ::= { wman2IfSsOfdmDownlinkChannelEntry 8 }
21
22
23
24 wman2IfSsOfdmFrameDurationCode OBJECT-TYPE
25     SYNTAX          INTEGER {duration2dot5ms(0),
26                          duration4ms(1),
27                          duration5ms(2),
28                          duration8ms(3),
29                          duration10ms(4),
30                          duration12dot5ms(5),
31                          duration20ms(6)}
32     MAX-ACCESS      read-only
33     STATUS          current
34     DESCRIPTION
35         "The duration of the frame. The frame duration code
36         values are specified in Table 230."
37     REFERENCE
38         "Subclause 11.4.1, Table 230, in IEEE Std 802.16-2004"
39     ::= { wman2IfSsOfdmDownlinkChannelEntry 9 }
40
41
42
43
44 wman2IfSsOfdmDownLinkChannelId OBJECT-TYPE
45     SYNTAX          INTEGER (0..255)
46     MAX-ACCESS      read-only
47     STATUS          current
48     DESCRIPTION
49         "The identifier of the downlink channel to which this
50         message refers."
51     REFERENCE
52         "Subclause 6.3.2.3.1, Table 15, in IEEE Std 802.16-2004"
53     ::= { wman2IfSsOfdmDownlinkChannelEntry 10 }
54
55
56
57 wman2IfSsOfdmUcdBurstProfileTable OBJECT-TYPE
58     SYNTAX          SEQUENCE OF Wman2IfSsOfdmUcdBurstProfileEntry
59     MAX-ACCESS      not-accessible
60     STATUS          current
61     DESCRIPTION
62         "This table contains UCD burst profiles for each uplink
63         channel"
64
65

```



```

1      REFERENCE
2          "Table 356, in IEEE Std 802.16-2004"
3      ::= { wman2IfSsOfdmPhy 3 }
4
5
6      wman2IfSsOfdmUcdBurstProfileEntry OBJECT-TYPE
7          SYNTAX      Wman2IfSsOfdmUcdBurstProfileEntry
8          MAX-ACCESS  not-accessible
9          STATUS      current
10         DESCRIPTION
11             "This table provides one row for each UCD burst profile.
12             This table is double indexed. The primary index is an
13             ifIndex with an ifType of propBWA2Mp. The secondary index
14             is wman2IfSsOfdmUcdBurstProfileIndex."
15         INDEX { ifIndex, wman2IfSsOfdmUiucIndex }
16         ::= { wman2IfSsOfdmUcdBurstProfileTable 1 }
17
18
19
20      Wman2IfSsOfdmUcdBurstProfileEntry ::= SEQUENCE {
21          wman2IfSsOfdmUiucIndex          INTEGER,
22          wman2IfSsOfdmUcdFecCodeType     Wman2IfOfdmFecCodeType,
23          wman2IfSsOfdmFocusCtPowerBoost  INTEGER,
24          wman2IfSsOfdmUcdTcsEnable       INTEGER}
25
26
27      wman2IfSsOfdmUiucIndex OBJECT-TYPE
28          SYNTAX      INTEGER (5 .. 12)
29          MAX-ACCESS  not-accessible
30          STATUS      current
31          DESCRIPTION
32              "The Uplink Interval Usage Code indicates the uplink burst
33              profile in the UCD message, and is used along with ifIndex
34              to identify an entry in the
35              wman2IfSsOfdmUcdBurstProfileTable."
36          REFERENCE
37              "Subclause 8.3.6.3.1, in IEEE Std 802.16-2004"
38          ::= { wman2IfSsOfdmUcdBurstProfileEntry 1 }
39
40
41
42
43      wman2IfSsOfdmUcdFecCodeType OBJECT-TYPE
44          SYNTAX      Wman2IfOfdmFecCodeType
45          MAX-ACCESS  read-only
46          STATUS      current
47          DESCRIPTION
48              "Uplink FEC code type and modulation type"
49          REFERENCE
50              "Table 356, in IEEE Std 802.16-2004"
51          ::= { wman2IfSsOfdmUcdBurstProfileEntry 2 }
52
53
54
55      wman2IfSsOfdmFocusCtPowerBoost OBJECT-TYPE
56          SYNTAX      INTEGER (0 .. 255)
57          MAX-ACCESS  read-only
58          STATUS      current
59          DESCRIPTION
60              "The power boost in dB of focused contention carriers, as
61              described in 8.3.6.3.3."
62          REFERENCE
63              "Table 356, in IEEE Std 802.16-2004"
64
65

```

```

1      ::= { wman2IfSsOfdmUcdBurstProfileEntry 3 }
2
3  wman2IfSsOfdmUcdTcsEnable OBJECT-TYPE
4      SYNTAX      INTEGER {tcsDisabled(0),
5                      tcsEnabled(1)}
6
7      MAX-ACCESS  read-only
8      STATUS      current
9      DESCRIPTION
10         "This parameter determines the transmission convergence
11         sublayer, as described in 8.1.4.3, can be enabled on a
12         per-burst basis for both uplink and downlink. through
13         DIUC/UIUC messages."
14
15     REFERENCE
16         "Table 356, in IEEE Std 802.16-2004"
17     ::= { wman2IfSsOfdmUcdBurstProfileEntry 4 }
18
19
20  wman2IfSsOfdmDcdBurstProfileTable OBJECT-TYPE
21      SYNTAX      SEQUENCE OF Wman2IfSsOfdmDcdBurstProfileEntry
22      MAX-ACCESS  not-accessible
23      STATUS      current
24      DESCRIPTION
25         "This table provides one row for each DCD burst profile.
26         This table is double indexed. The primary index is an
27         ifIndex with an ifType of propBWA2Mp. The secondary
28         index is wman2IfSsOfdmDiucIndex."
29
30     REFERENCE
31         "Table 362, in IEEE Std 802.16-2004"
32     ::= { wman2IfSsOfdmPhy 4 }
33
34
35  wman2IfSsOfdmDcdBurstProfileEntry OBJECT-TYPE
36      SYNTAX      Wman2IfSsOfdmDcdBurstProfileEntry
37      MAX-ACCESS  not-accessible
38      STATUS      current
39      DESCRIPTION
40         "This table provides one row for each DCD burst profile.
41         This table is double indexed. The primary index is an
42         ifIndex with an ifType of propBWA2Mp. The secondary index
43         is wman2IfSsOfdmDcdBurstProfIndex."
44
45     INDEX { ifIndex, wman2IfSsOfdmDiucIndex }
46     ::= { wman2IfSsOfdmDcdBurstProfileTable 1 }
47
48
49  Wman2IfSsOfdmDcdBurstProfileEntry ::= SEQUENCE {
50      wman2IfSsOfdmDiucIndex          INTEGER,
51      wman2IfSsOfdmDownlinkFrequency  Unsigned32,
52      wman2IfSsOfdmDcdFecCodeType     Wman2IfOfdmFecCodeType,
53      wman2IfSsOfdmDiucMandatoryExitThresh  INTEGER,
54      wman2IfSsOfdmDiucMinEntryThresh  INTEGER,
55      wman2IfSsOfdmTcsEnable          INTEGER}
56
57
58  wman2IfSsOfdmDiucIndex OBJECT-TYPE
59      SYNTAX      INTEGER (1..11)
60      MAX-ACCESS  not-accessible
61      STATUS      current
62      DESCRIPTION
63
64
65

```

```

1         "The Downlink Interval Usage Code indicates the downlink
2         burst profile in the DCD message, and is used along with
3         ifIndex to identify an entry in the
4         wman2IfSsOfdmDcdBurstProfileTable."
5     REFERENCE
6         "Subclause 8.3.6.3.1, in IEEE Std 802.16-2004"
7     ::= { wman2IfSsOfdmDcdBurstProfileEntry 1 }
8
9
10
11 wman2IfSsOfdmDownlinkFrequency OBJECT-TYPE
12     SYNTAX      Unsigned32
13     UNITS       "kHz"
14     MAX-ACCESS  read-only
15     STATUS      current
16     DESCRIPTION
17         "Downlink Frequency (kHz)."

```

```

1          SYNTAX          INTEGER {tcsDisabled (0),
2                               tcsEnabled (1)}
3
4          MAX-ACCESS      read-only
5          STATUS          current
6          DESCRIPTION
7              "Indicates whether Transmission CONvergence Sublayer
8              is enabled or disabled."
9
10         REFERENCE
11             "Table 362, in IEEE Std 802.16-2004"
12         ::= { wman2IfSsOfdmDcdBurstProfileEntry 6 }
13
14         --
15         -- SS OFDMA PHY objects
16         --
17         wman2IfSsOfdmaPhy OBJECT IDENTIFIER ::= { wman2IfSsPhy 2 }
18
19         wman2IfSsOfdmaUplinkChannelTable OBJECT-TYPE
20             SYNTAX          SEQUENCE OF Wman2IfSsOfdmaUplinkChannelEntry
21             MAX-ACCESS      not-accessible
22             STATUS          current
23             DESCRIPTION
24                 "This table contains UCD channel attributes, defining the
25                 transmission characteristics of uplink channels"
26             REFERENCE
27                 "Subclause 11.3.1, Table 349 and Table 353, in IEEE Std
28                 802.16-2004"
29             ::= { wman2IfSsOfdmaPhy 1 }
30
31         wman2IfSsOfdmaUplinkChannelEntry OBJECT-TYPE
32             SYNTAX          Wman2IfSsOfdmaUplinkChannelEntry
33             MAX-ACCESS      not-accessible
34             STATUS          current
35             DESCRIPTION
36                 "This table provides one row for each uplink channel of
37                 multi-sector BS, and is indexed by BS ifIndex. An entry
38                 in this table exists for each ifEntry of BS with an
39                 ifType of propBWAp2Mp."
40             INDEX          { ifIndex }
41             ::= { wman2IfSsOfdmaUplinkChannelTable 1 }
42
43         Wman2IfSsOfdmaUplinkChannelEntry ::= SEQUENCE {
44             wman2IfSsOfdmaCtBasedResvTimeout      INTEGER,
45             wman2IfSsOfdmaBwReqOppSize             INTEGER,
46             wman2IfSsOfdmaRangReqOppSize           INTEGER,
47             wman2IfSsOfdmaUplinkCenterFreq         Unsigned32,
48             wman2IfSsOfdmaInitRngCodes             INTEGER,
49             wman2IfSsOfdmaPeriodicRngCodes         INTEGER,
50             wman2IfSsOfdmaBWRngCodes              INTEGER,
51             wman2IfSsOfdmaPerRngBackoffStart       INTEGER,
52             wman2IfSsOfdmaPerRngBackoffEnd         INTEGER,
53             wman2IfSsOfdmaStartOfRngCodes          INTEGER,
54             wman2IfSsOfdmaPermutationBase          INTEGER,
55             wman2IfSsOfdmaULAllocSubchBitmap      OCTET STRING,
56             wman2IfSsOfdmaOptPermULAllocSubchBitmap OCTET STRING,

```

```

1      wman2IfSsOfdmaBandAMCAAllocThreshold      INTEGER,
2      wman2IfSsOfdmaBandAMCReleaseThreshold      INTEGER,
3      wman2IfSsOfdmaBandAMCAAllocTimer           INTEGER,
4      wman2IfSsOfdmaBandAMCReleaseTimer          INTEGER,
5      wman2IfSsOfdmaBandStatRepMAXPeriod         INTEGER,
6      wman2IfSsOfdmaBandAMCRetryTimer            INTEGER,
7      wman2IfSsOfdmaSafetyChAllocThreshold       INTEGER,
8      wman2IfSsOfdmaSafetyChReleaseThreshold     INTEGER,
9      wman2IfSsOfdmaSafetyChAllocTimer           INTEGER,
10     wman2IfSsOfdmaSafetyChReleaseTimer          INTEGER,
11     wman2IfSsOfdmaBinStatRepMAXPeriod           INTEGER,
12     wman2IfSsOfdmaSafetyChARetryTimer           INTEGER,
13     wman2IfSsOfdmaHARQAackDelayULBurst          INTEGER,
14     wman2IfSsOfdmaCQICHBandAMCTranaDelay        INTEGER}
15
16
17
18
19     wman2IfSsOfdmaCtBasedResvTimeout OBJECT-TYPE
20         SYNTAX      INTEGER (1..255)
21         MAX-ACCESS  read-only
22         STATUS      current
23         DESCRIPTION
24             "The number of UL-MAPs to receive before contention-based
25             reservation is attempted again for the same connection."
26         REFERENCE
27             "Table 349, in IEEE Std 802.16-2004"
28         ::= { wman2IfSsOfdmaUplinkChannelEntry 1 }
29
30
31
32     wman2IfSsOfdmaBwReqOppSize OBJECT-TYPE
33         SYNTAX      INTEGER (1..65535)
34         UNITS       "PS"
35         MAX-ACCESS  read-only
36         STATUS      current
37         DESCRIPTION
38             "Size (in units of PS) of PHY payload that SS may use to
39             format and transmit a bandwidth request message in a
40             contention request opportunity. The value includes all
41             PHY overhead as well as allowance for the MAC data the
42             message may hold."
43         REFERENCE
44             "Table 349, in IEEE Std 802.16-2004"
45         ::= { wman2IfSsOfdmaUplinkChannelEntry 2 }
46
47
48
49
50     wman2IfSsOfdmaRangReqOppSize OBJECT-TYPE
51         SYNTAX      INTEGER (1..65535)
52         UNITS       "PS"
53         MAX-ACCESS  read-only
54         STATUS      current
55         DESCRIPTION
56             "Size (in units of PS) of PHY payload that SS may use to
57             format and transmit a RNG-REQ message in a contention
58             request opportunity. The value includes all PHY overhead
59             as well as allowance for the MAC data the message may
60             hold and the maximum SS/BS roundtrip propagation delay."
61         REFERENCE
62             "Table 349, in IEEE Std 802.16-2004"
63
64
65

```

```

1      ::= { wman2IfSsOfdmaUplinkChannelEntry 3 }
2
3
4  wman2IfSsOfdmaUplinkCenterFreq OBJECT-TYPE
5      SYNTAX      Unsigned32
6      UNITS       "kHz"
7      MAX-ACCESS  read-only
8      STATUS      current
9      DESCRIPTION
10         " Uplink center frequency (kHz)"
11
12     REFERENCE
13         "Table 349, in IEEE Std 802.16-2004"
14     ::= { wman2IfSsOfdmaUplinkChannelEntry 4 }
15
16
17  wman2IfSsOfdmaInitRngCodes OBJECT-TYPE
18      SYNTAX      INTEGER (0..255)
19      MAX-ACCESS  read-only
20      STATUS      current
21      DESCRIPTION
22         "Number of initial ranging CDMA codes. Possible values are
23         0..255. The total number of wman2IfSsOfdmaInitRngCodes,
24         wman2IfSsOfdmaPeriodicRngCodes and wman2IfSsOfdmaBWReqCodes
25         shall be equal or less than 256."
26     REFERENCE
27         "Subclause 11.3.1, Table 353, in IEEE Std 802.16-2004"
28     DEFVAL      { 30 }
29     ::= { wman2IfSsOfdmaUplinkChannelEntry 5 }
30
31
32
33  wman2IfSsOfdmaPeriodicRngCodes OBJECT-TYPE
34      SYNTAX      INTEGER (0..255)
35      MAX-ACCESS  read-only
36      STATUS      current
37      DESCRIPTION
38         "Number of periodic ranging CDMA codes. Possible values are
39         0..255. The total number of wman2IfSsOfdmaInitRngCodes,
40         wman2IfSsOfdmaPeriodicRngCodes and wman2IfSsOfdmaBWReqCodes
41         shall be equal or less than 256."
42     REFERENCE
43         "Subclause 11.3.1, Table 353, in IEEE Std 802.16-2004"
44     DEFVAL      { 30 }
45     ::= { wman2IfSsOfdmaUplinkChannelEntry 6 }
46
47
48
49
50  wman2IfSsOfdmaBWReqCodes OBJECT-TYPE
51      SYNTAX      INTEGER (0..255)
52      MAX-ACCESS  read-only
53      STATUS      current
54      DESCRIPTION
55         "Number of bandwidth request codes. Possible values are
56         0..255. The total number of wman2IfSsOfdmaInitRngCodes,
57         wman2IfSsOfdmaPeriodicRngCodes and wman2IfSsOfdmaBWReqCodes
58         shall be equal or less than 256."
59     REFERENCE
60         "Subclause 11.3.1, Table 353, in IEEE Std 802.16-2004"
61     DEFVAL      { 30 }
62     ::= { wman2IfSsOfdmaUplinkChannelEntry 7 }
63
64
65

```

```

1
2 wman2IfSsOfdmaPerRngBackoffStart OBJECT-TYPE
3     SYNTAX      INTEGER (0..15)
4     MAX-ACCESS  read-only
5     STATUS      current
6     DESCRIPTION
7         "Initial backoff window size for periodic ranging
8         contention, expressed as a power of 2."
9
10    REFERENCE
11        "Subclause 11.3.1, Table 353, in IEEE Std 802.16-2004"
12
13    DEFVAL      { 0 }
14    ::= { wman2IfSsOfdmaUplinkChannelEntry 8 }
15
16 wman2IfSsOfdmaPerRngBackoffEnd OBJECT-TYPE
17     SYNTAX      INTEGER (0 .. 15)
18     MAX-ACCESS  read-only
19     STATUS      current
20     DESCRIPTION
21         "Final backoff window size for periodic ranging contention,
22         expressed as a power of 2."
23
24    REFERENCE
25        "Subclause 11.3.1, Table 353, in IEEE Std 802.16-2004"
26
27    DEFVAL      { 15 }
28    ::= { wman2IfSsOfdmaUplinkChannelEntry 9 }
29
30
31 wman2IfSsOfdmaStartOfRngCodes OBJECT-TYPE
32     SYNTAX      INTEGER (0..255)
33     MAX-ACCESS  read-only
34     STATUS      current
35     DESCRIPTION
36         "Indicates the starting number, S, of the group of codes
37         used for this uplink. All the ranging codes used on this
38         uplink will be between S and ((S+N+M+L) mod 256). Where,
39         N is the number of initial-ranging codes M is the number
40         of periodic-ranging codes L is the number of
41         bandwidth-request codes The range of values is 0 S255"
42
43    REFERENCE
44        "Subclause 11.3.1, Table 353, in IEEE Std 802.16-2004"
45
46    DEFVAL      { 0 }
47    ::= { wman2IfSsOfdmaUplinkChannelEntry 10 }
48
49
50 wman2IfSsOfdmaPermutationBase OBJECT-TYPE
51     SYNTAX      INTEGER (0..255)
52     MAX-ACCESS  read-only
53     STATUS      current
54     DESCRIPTION
55         "Determines the UL_IDcell parameter for the subcarrier
56         permutation to be used on this uplink channel"
57
58    REFERENCE
59        "Subclause 11.3.1, Table 353, in IEEE Std 802.16-2004"
60
61    DEFVAL      { 0 }
62    ::= { wman2IfSsOfdmaUplinkChannelEntry 11 }
63
64 wman2IfSsOfdmaULAllocSubchBitmap OBJECT-TYPE
65

```

```

1      SYNTAX      OCTET STRING (SIZE (9))
2      MAX-ACCESS  read-only
3      STATUS      current
4      DESCRIPTION
5
6          "This is a bitmap describing the sub-channels allocated
7          to the segment in the UL, when using the uplink PUSC
8          permutation. The LSB of the first byte shall correspond to
9          subchannel 0. For any bit that is not set,
10         the corresponding subchannel shall not be used by the SS
11         on that segment"
12
13     REFERENCE
14         "Subclause 11.3.1, Table 353, in IEEE Std 802.16-2004"
15     ::= { wman2IfSsOfdmaUplinkChannelEntry 12 }
16
17 wman2IfSsOfdmaOptPermULAllocSubchBitmap OBJECT-TYPE
18     SYNTAX      OCTET STRING (SIZE (13))
19     MAX-ACCESS  read-only
20     STATUS      current
21     DESCRIPTION
22
23         "This is a bitmap describing the sub-channels allocated to
24         the segment in the UL, when using the uplink optional PUSC
25         permutation (see 8.4.6.2.5 in IEEE Std 802.16-2004). The
26         LSB of the first byte shall correspond to subchannel 0.
27         For any bit that is not set, the corresponding subchannel
28         shall not be used by the SS on that segment"
29
30     REFERENCE
31         "Subclause 11.3.1, Table 353, in IEEE Std 802.16-2004"
32     ::= { wman2IfSsOfdmaUplinkChannelEntry 13 }
33
34 wman2IfSsOfdmaBandAMCAllocThreshold OBJECT-TYPE
35     SYNTAX      INTEGER (0 .. 255)
36     UNITS        "dB"
37     MAX-ACCESS  read-only
38     STATUS      current
39     DESCRIPTION
40
41         "This object defines the OFDMA band AMC allocation
42         threshold."
43
44     REFERENCE
45         "Subclause 11.3.1, Table 353, in IEEE Std 802.16-2004"
46     ::= { wman2IfSsOfdmaUplinkChannelEntry 14 }
47
48 wman2IfSsOfdmaBandAMCReleaseThreshold OBJECT-TYPE
49     SYNTAX      INTEGER (0 .. 255)
50     UNITS        "dB"
51     MAX-ACCESS  read-only
52     STATUS      current
53     DESCRIPTION
54
55         "This object defines the OFDMA band AMC release
56         threshold."
57
58     REFERENCE
59         "Subclause 11.3.1, Table 353, in IEEE Std 802.16-2004"
60     ::= { wman2IfSsOfdmaUplinkChannelEntry 15 }
61
62 wman2IfSsOfdmaBandAMCAllocTimer OBJECT-TYPE
63
64
65

```



```

1      SYNTAX      INTEGER (0 .. 255)
2      UNITS       "Frame"
3      MAX-ACCESS  read-only
4      STATUS      current
5      DESCRIPTION
6          "This object defines the OFDMA band AMC allocation
7          timer."
8
9      REFERENCE
10         "Subclause 11.3.1, Table 353, in IEEE Std 802.16-2004"
11         ::= { wman2IfSsOfdmaUplinkChannelEntry 16 }
12
13
14 wman2IfSsOfdmaBandAMCReleaseTimer OBJECT-TYPE
15     SYNTAX      INTEGER (0 .. 255)
16     UNITS       "Frame"
17     MAX-ACCESS  read-only
18     STATUS      current
19     DESCRIPTION
20         "This object defines the OFDMA band AMC release
21         timer."
22
23     REFERENCE
24         "Subclause 11.3.1, Table 353, in IEEE Std 802.16-2004"
25         ::= { wman2IfSsOfdmaUplinkChannelEntry 17 }
26
27
28 wman2IfSsOfdmaBandStatRepMAXPeriod OBJECT-TYPE
29     SYNTAX      INTEGER (0 .. 255)
30     UNITS       "Frame"
31     MAX-ACCESS  read-only
32     STATUS      current
33     DESCRIPTION
34         "This object defines the OFDMA band status reporting
35         maximum period."
36
37     REFERENCE
38         "Subclause 11.3.1, Table 353, in IEEE Std 802.16-2004"
39         ::= { wman2IfSsOfdmaUplinkChannelEntry 18 }
40
41
42 wman2IfSsOfdmaBandAMCRetryTimer OBJECT-TYPE
43     SYNTAX      INTEGER (0 .. 255)
44     UNITS       "Frame"
45     MAX-ACCESS  read-only
46     STATUS      current
47     DESCRIPTION
48         "This object defines the OFDMA band AMC retry
49         timer."
50
51     REFERENCE
52         "Subclause 11.3.1, Table 353, in IEEE Std 802.16-2004"
53         ::= { wman2IfSsOfdmaUplinkChannelEntry 19 }
54
55
56 wman2IfSsOfdmaSafetyChAllocThreshold OBJECT-TYPE
57     SYNTAX      INTEGER (0 .. 255)
58     UNITS       "dB"
59     MAX-ACCESS  read-only
60     STATUS      current
61     DESCRIPTION
62         "This object defines the OFDMA safety channel allocation
63
64
65

```

```

1         threshold."
2     REFERENCE
3         "Subclause 11.3.1, Table 353, in IEEE Std 802.16-2004"
4     ::= { wman2IfSsOfdmaUplinkChannelEntry 20 }
5
6
7 wman2IfSsOfdmaSafetyChReleaseThreshold OBJECT-TYPE
8     SYNTAX      INTEGER (0 .. 255)
9     UNITS       "dB"
10    MAX-ACCESS   read-only
11    STATUS       current
12    DESCRIPTION
13        "This object defines the OFDMA safety channel release
14        threshold."
15    REFERENCE
16        "Subclause 11.3.1, Table 353, in IEEE Std 802.16-2004"
17    ::= { wman2IfSsOfdmaUplinkChannelEntry 21 }
18
19
20
21 wman2IfSsOfdmaSafetyChAllocTimer OBJECT-TYPE
22     SYNTAX      INTEGER (0 .. 255)
23     UNITS       "Frame"
24     MAX-ACCESS   read-only
25     STATUS       current
26     DESCRIPTION
27         "This object defines the OFDMA safety channel allocation
28         timer."
29     REFERENCE
30         "Subclause 11.3.1, Table 353, in IEEE Std 802.16-2004"
31     ::= { wman2IfSsOfdmaUplinkChannelEntry 22 }
32
33
34
35
36 wman2IfSsOfdmaSafetyChReleaseTimer OBJECT-TYPE
37     SYNTAX      INTEGER (0 .. 255)
38     UNITS       "Frame"
39     MAX-ACCESS   read-only
40     STATUS       current
41     DESCRIPTION
42         "This object defines the OFDMA safety channel release
43         timer."
44     REFERENCE
45         "Subclause 11.3.1, Table 353, in IEEE Std 802.16-2004"
46     ::= { wman2IfSsOfdmaUplinkChannelEntry 23 }
47
48
49
50
51 wman2IfSsOfdmaBinStatRepMAXPeriod OBJECT-TYPE
52     SYNTAX      INTEGER (0 .. 255)
53     UNITS       "Frame"
54     MAX-ACCESS   read-only
55     STATUS       current
56     DESCRIPTION
57         "This object defines the OFDMA bin status reporting
58         maximum period."
59     REFERENCE
60         "Subclause 11.3.1, Table 353, in IEEE Std 802.16-2004"
61     ::= { wman2IfSsOfdmaUplinkChannelEntry 24 }
62
63
64
65 wman2IfSsOfdmaSafetyChaRetryTimer OBJECT-TYPE

```

```

1      SYNTAX      INTEGER (0 .. 255)
2      UNITS       "Frame"
3      MAX-ACCESS  read-only
4      STATUS      current
5      DESCRIPTION
6          "This object defines the OFDMA safety channel retry
7          timer."
8
9      REFERENCE
10         "Subclause 11.3.1, Table 353, in IEEE Std 802.16-2004"
11         ::= { wman2IfSsOfdmaUplinkChannelEntry 25 }
12
13
14 wman2IfSsOfdmaHARQAackDelayULBurst OBJECT-TYPE
15     SYNTAX      INTEGER {oneframeoffset(1),
16                     twoframesoffset(2),
17                     threeframesoffset(3)}
18     MAX-ACCESS  read-only
19     STATUS      current
20     DESCRIPTION
21         "This object defines the OFDMA H-ARQ ACK delay for UL burst.
22         1 = one frame offset
23         2 = two frames offset
24         3 = three frames offset"
25
26     REFERENCE
27         "Subclause 11.3.1, Table 353, in IEEE Std 802.16-2004"
28         ::= { wman2IfSsOfdmaUplinkChannelEntry 26 }
29
30
31
32 wman2IfSsOfdmaCQICHBandAMCTranaDelay OBJECT-TYPE
33     SYNTAX      INTEGER (0 .. 255)
34     UNITS       "Frame"
35     MAX-ACCESS  read-only
36     STATUS      current
37     DESCRIPTION
38         "This object defines the OFDMA CQICH band AMC transition
39         delay."
40
41     REFERENCE
42         "Subclause 11.3.1, Table 353, in IEEE Std 802.16-2004"
43         ::= { wman2IfSsOfdmaUplinkChannelEntry 27 }
44
45
46
47 wman2IfSsOfdmaDownlinkChannelTable OBJECT-TYPE
48     SYNTAX      SEQUENCE OF Wman2IfSsOfdmaDownlinkChannelEntry
49     MAX-ACCESS  not-accessible
50     STATUS      current
51     DESCRIPTION
52         "This table contains DCD channel attributes, defining the
53         transmission characteristics of downlink channels"
54
55     REFERENCE
56         "Subclause 11.4.1, Table 358, in IEEE Std 802.16-2004"
57         ::= { wman2IfSsOfdmaPhy 2 }
58
59
60 wman2IfSsOfdmaDownlinkChannelEntry OBJECT-TYPE
61     SYNTAX      Wman2IfSsOfdmaDownlinkChannelEntry
62     MAX-ACCESS  not-accessible
63     STATUS      current
64     DESCRIPTION
65

```

```

1          "This table provides one row for each downlink channel of
2          multi-sector BS, and is indexed by BS ifIndex. An entry in
3          this table exists for each ifEntry of BS with an ifType of
4          propBWA2Mp."
5      INDEX          { ifIndex }
6      ::= { wman2IfSsOfdmaDownlinkChannelTable 1 }
7
8
9
10     Wman2IfSsOfdmaDownlinkChannelEntry ::= SEQUENCE {
11         wman2IfSsOfdmaBsEIRP                INTEGER,
12         wman2IfSsOfdmaChannelNumber          Wman2IfChannelNumber,
13         wman2IfSsOfdmaTTG                    INTEGER,
14         wman2IfSsOfdmaRTG                    INTEGER,
15         wman2IfSsOfdmaInitRngMaxRSS           INTEGER,
16         wman2IfSsOfdmaDownlinkCenterFreq     Unsigned32,
17         wman2IfSsOfdmaBsId                   Wman2IfBsIdType,
18         wman2IfSsOfdmaMacVersion              Wman2IfMacVersion,
19         wman2IfSsOfdmaFrameDurationCode      INTEGER,
20         wman2IfSsOfdmaSizeCqichIdField       INTEGER,
21         wman2IfSsOfdmaHARQAackDelayBurst     INTEGER}
22
23
24
25     wman2IfSsOfdmaBsEIRP OBJECT-TYPE
26         SYNTAX          INTEGER (0..65535)
27         UNITS            "dBm"
28         MAX-ACCESS      read-only
29         STATUS           current
30         DESCRIPTION
31             "The EIRP is the equivalent isotropic radiated power of
32             the base station, which is computed for a simple
33             single-antenna transmitter."
34         REFERENCE
35             "Subclause 11.4.1, Table 358, in IEEE Std 802.16-2004"
36         ::= { wman2IfSsOfdmaDownlinkChannelEntry 1 }
37
38
39
40
41     wman2IfSsOfdmaChannelNumber OBJECT-TYPE
42         SYNTAX          Wman2IfChannelNumber
43         MAX-ACCESS      read-only
44         STATUS           current
45         DESCRIPTION
46             "Downlink channel number as defined in 8.5. Used for
47             license-exempt operation only."
48         REFERENCE
49             "Subclause 11.4.1, Table 358, in IEEE Std 802.16-2004"
50         ::= { wman2IfSsOfdmaDownlinkChannelEntry 2 }
51
52
53
54     wman2IfSsOfdmaTTG OBJECT-TYPE
55         SYNTAX          INTEGER (0..255)
56         MAX-ACCESS      read-only
57         STATUS           current
58         DESCRIPTION
59             "Transmit / Receive Transition Gap."
60         REFERENCE
61             "Subclause 11.4.1, Table 358, in IEEE Std 802.16-2004"
62         ::= { wman2IfSsOfdmaDownlinkChannelEntry 3 }
63
64
65

```

```

1  wman2IfSsOfdmaRTG OBJECT-TYPE
2      SYNTAX          INTEGER (0..255)
3      MAX-ACCESS      read-only
4      STATUS          current
5      DESCRIPTION
6          "Receive / Transmit Transition Gap."
7      REFERENCE
8          "Subclause 11.4.1, Table 358, in IEEE Std 802.16-2004"
9      ::= { wman2IfSsOfdmaDownlinkChannelEntry 4 }
10
11
12
13  wman2IfSsOfdmaInitRngMaxRSS OBJECT-TYPE
14      SYNTAX          INTEGER (0..65535)
15      UNITS            "dBm"
16      MAX-ACCESS      read-only
17      STATUS          current
18      DESCRIPTION
19          "Initial Ranging Max. Received Signal Strength at BS
20           Signed in units of 1 dBm."
21      REFERENCE
22          "Subclause 11.4.1, Table 358, in IEEE Std 802.16-2004"
23      ::= { wman2IfSsOfdmaDownlinkChannelEntry 5 }
24
25
26
27  wman2IfSsOfdmaDownlinkCenterFreq OBJECT-TYPE
28      SYNTAX          Unsigned32
29      UNITS            "kHz"
30      MAX-ACCESS      read-only
31      STATUS          current
32      DESCRIPTION
33          "Downlink center frequency (kHz)."

```

```

1  wman2IfSsOfdmaFrameDurationCode OBJECT-TYPE
2      SYNTAX          INTEGER {aASGap(0),
3                          duration2ms(1),
4                          duration2dot5ms(2),
5                          duration4ms(3),
6                          duration5ms(4),
7                          duration8ms(5),
8                          duration10ms(6),
9                          duration12dot5ms(7),
10                         duration20ms(8)}
11
12  MAX-ACCESS    read-only
13  STATUS        current
14  DESCRIPTION
15      "The duration of the frame. The frame duration code values
16      are specified in Table 232 in IEEE Std 802.16-2004."
17  REFERENCE
18      "Subclause 11.4.1, Table 358, in IEEE Std 802.16-2004"
19  ::= { wman2IfSsOfdmaDownlinkChannelEntry 9 }
20
21  wman2IfSsOfdmaSizeCqichIdField OBJECT-TYPE
22      SYNTAX          INTEGER {threebits(1),
23                          fourbits(2),
24                          fivebits(3),
25                          sixbits(4),
26                          sevenbits(5),
27                          eightbits(6),
28                          ninebits(7)}
29
30  MAX-ACCESS    read-only
31  STATUS        current
32  DESCRIPTION
33      "This object defines the size of CQICH ID field.
34      0 = Reserved
35      1 = 3 bits
36      2 = 4 bits
37      3 = 5 bits
38      4 = 6 bits
39      5 = 7 bits
40      6 = 8 bits
41      7 = 9 bits
42      8...255 = Reserved"
43  REFERENCE
44      "Subclause 11.3.1, Table 358, in IEEE Std 802.16-2004"
45  ::= { wman2IfSsOfdmaDownlinkChannelEntry 10 }
46
47  wman2IfSsOfdmaHARQAackDelayBurst OBJECT-TYPE
48      SYNTAX          INTEGER {oneframeoffset(1),
49                          twoframesoffset(2),
50                          threeframesoffset(3)}
51
52  MAX-ACCESS    read-only
53  STATUS        current
54  DESCRIPTION
55      "This object defines the OFDMA H-ARQ ACK delay for DL burst.
56      1 = one frame offset
57      2 = two frames offset
58
59
60
61
62
63
64
65

```

```

1           3 = three frames offset"
2 REFERENCE
3       "Subclause 11.3.1, Table 358, in IEEE Std 802.16-2004"
4 ::= { wman2IfSsOfdmaDownlinkChannelEntry 11 }
5
6
7 wman2IfSsOfdmaUcdBurstProfileTable OBJECT-TYPE
8     SYNTAX      SEQUENCE OF Wman2IfSsOfdmaUcdBurstProfileEntry
9     MAX-ACCESS  not-accessible
10    STATUS      current
11    DESCRIPTION
12        "This table contains UCD burst profiles for each uplink
13         channel"
14    REFERENCE
15        "Subclause 11.3.1.1, Table 288 and Table 357, in IEEE
16         Std 802.16-2004"
17 ::= { wman2IfSsOfdmaPhy 3 }
18
19
20
21 wman2IfSsOfdmaUcdBurstProfileEntry OBJECT-TYPE
22     SYNTAX      Wman2IfSsOfdmaUcdBurstProfileEntry
23     MAX-ACCESS  not-accessible
24     STATUS      current
25     DESCRIPTION
26         "This table provides one row for each UCD burst profile.
27         This table is double indexed. The primary index is an
28         ifIndex with an ifType of propBWAp2Mp. The secondary index
29         is wman2IfSsOfdmaUiucIndex."
30     INDEX       { ifIndex, wman2IfSsOfdmaUiucIndex }
31 ::= { wman2IfSsOfdmaUcdBurstProfileTable 1 }
32
33
34
35 Wman2IfSsOfdmaUcdBurstProfileEntry ::= SEQUENCE {
36     wman2IfSsOfdmaUiucIndex          INTEGER,
37     wman2IfSsOfdmaUcdFecCodeType     Wman2IfOfdmaFecCodeType,
38     wman2IfSsOfdmaRangingDataRatio   INTEGER,
39     wman2IfSsOfdmaNorCOverNOverride  OCTET STRING}
40
41
42
43 wman2IfSsOfdmaUiucIndex OBJECT-TYPE
44     SYNTAX      INTEGER (1 .. 10)
45     MAX-ACCESS  read-only
46     STATUS      current
47     DESCRIPTION
48         "The Uplink Interval Usage Code indicates the uplink burst
49         profile in the UCD message, and is used along with ifIndex
50         to identify an entry in the
51         wman2IfSsOfdmaUcdBurstProfileTable."
52     REFERENCE
53         "Subclause 8.4.5.4.1, in IEEE Std 802.16-2004"
54 ::= { wman2IfSsOfdmaUcdBurstProfileEntry 1 }
55
56
57
58 wman2IfSsOfdmaUcdFecCodeType OBJECT-TYPE
59     SYNTAX      Wman2IfOfdmaFecCodeType
60     MAX-ACCESS  read-only
61     STATUS      current
62     DESCRIPTION
63         "Uplink FEC code type and modulation type"
64
65

```

```

1      REFERENCE
2          "Subclause 11.3.1.1, Table 357, in IEEE Std 802.16-2004"
3      ::= { wman2IfSsOfdmaUcdBurstProfileEntry 2 }
4
5
6  wman2IfSsOfdmaRangingDataRatio OBJECT-TYPE
7      SYNTAX      INTEGER (0 .. 255)
8      MAX-ACCESS  read-only
9      STATUS      current
10     DESCRIPTION
11         "Reducing factor in units of 1 dB, between the power used
12         for this burst and power should be used for CDMA Ranging."
13     REFERENCE
14         "Subclause 11.3.1.1, Table 357, in IEEE Std 802.16-2004"
15     ::= { wman2IfSsOfdmaUcdBurstProfileEntry 3 }
16
17
18
19  wman2IfSsOfdmaNorCOverNOVERRIDE OBJECT-TYPE
20      SYNTAX OCTET STRING (SIZE (5))
21      MAX-ACCESS read-only
22      STATUS current
23      DESCRIPTION
24          "This is a list of numbers, where each number is encoded by
25          one nibble, and interpreted as a signed integer. The nibbles
26          correspond in order to the list define by Table 334 in IEEE
27          Std 802.16-2004 starting from the second line, such that
28          the LS nibble of the first byte corresponds to the second
29          line in the table. The number encoded by each nibble
30          represents the difference in normalized C/N relative to the
31          previous line in the table"
32     REFERENCE
33         "Subclause 11.3.1.1, Table 357, in IEEE Std 802.16-2004"
34     ::= { wman2IfSsOfdmaUcdBurstProfileEntry 4 }
35
36
37
38
39  wman2IfSsOfdmaDcdBurstProfileTable OBJECT-TYPE
40      SYNTAX      SEQUENCE OF Wman2IfSsOfdmaDcdBurstProfileEntry
41      MAX-ACCESS  not-accessible
42      STATUS      current
43      DESCRIPTION
44          "This table provides one row for each DCD burst profile.
45          This table is double indexed. The primary index is an
46          ifIndex with an ifType of propBWA2Mp. The secondary index
47          is wman2IfSsOfdmaDiucIndex."
48     ::= { wman2IfSsOfdmaPhy 4 }
49
50
51
52
53  wman2IfSsOfdmaDcdBurstProfileEntry OBJECT-TYPE
54      SYNTAX      Wman2IfSsOfdmaDcdBurstProfileEntry
55      MAX-ACCESS  not-accessible
56      STATUS      current
57      DESCRIPTION
58          "This table provides one row for each DCD burst profile,
59          and is double indexed. The primary index is an ifIndex
60          with an ifType of propBWA2Mp. The secondary index is
61          wman2IfSsOfdmaDiucIndex."
62     INDEX      { ifIndex, wman2IfSsOfdmaDiucIndex }
63     ::= { wman2IfSsOfdmaDcdBurstProfileTable 1 }
64
65

```



```

1
2 Wman2IfSsOfdmaDcdBurstProfileEntry ::= SEQUENCE {
3     wman2IfSsOfdmaDiucIndex          INTEGER,
4     wman2IfSsOfdmaDownlinkFrequency  Unsigned32,
5     wman2IfSsOfdmaDcdFecCodeType     Wman2IfOfdmaFecCodeType,
6     wman2IfSsOfdmaDiucMandatoryExitThresh  INTEGER,
7     wman2IfSsOfdmaDiucMinEntryThresh  INTEGER}
8
9
10
11 wman2IfSsOfdmaDiucIndex OBJECT-TYPE
12     SYNTAX      INTEGER (0 .. 12)
13     MAX-ACCESS  read-only
14     STATUS      current
15     DESCRIPTION
16         "The Downlink Interval Usage Code indicates the downlink
17         burst profile in the DCD message, and is used
18         along with ifIndex to identify an entry in the
19         wman2IfSsOfdmaDcdBurstProfileTable."
20     REFERENCE
21         "Subclause 8.4.5.3.1, in IEEE Std 802.16-2004"
22     ::= { wman2IfSsOfdmaDcdBurstProfileEntry 1 }
23
24
25
26 wman2IfSsOfdmaDownlinkFrequency OBJECT-TYPE
27     SYNTAX      Unsigned32
28     UNITS       "kHz"
29     MAX-ACCESS  read-only
30     STATUS      current
31     DESCRIPTION
32         "Downlink Frequency (kHz)."

```

```

1  wman2IfSsOfdmaDiucMinEntryThresh OBJECT-TYPE
2      SYNTAX          INTEGER (0..255)
3      MAX-ACCESS      read-only
4      STATUS          current
5      DESCRIPTION
6          "DIUC minimum entry threshold: 0 - 63.75 dB The minimum CINR
7              required to start using this DIUC when changing from a more
8              robust DIUC is required, in 0.25 dB units."
9
10     REFERENCE
11         "Subclause 11.4.2, Table 363, in IEEE Std 802.16-2004"
12     ::= { wman2IfSsOfdmaDcdBurstProfileEntry 5 }
13
14
15 --
16 -- Common object group - containing common tables and objects to be
17 -- implemented in both Base Station and Subscriber Station
18 --
19 --
20 -- wman2IfCmnPacketCs contain the Packet Convergence Sublayer objects
21 -- that are common to both Base Station and Subscriber Station
22 --
23 --
24 wman2IfCmnPacketCs OBJECT IDENTIFIER ::= { wman2IfCommonObjects 1 }
25
26 wman2IfCmnClassifierRuleTable OBJECT-TYPE
27     SYNTAX          SEQUENCE OF Wman2IfCmnClassifierRuleEntry
28     MAX-ACCESS      not-accessible
29     STATUS          current
30     DESCRIPTION
31         "This table contains packet classifier rules associated
32             with service flows."
33     ::= { wman2IfCmnPacketCs 1 }
34
35
36 wman2IfCmnClassifierRuleEntry OBJECT-TYPE
37     SYNTAX          Wman2IfCmnClassifierRuleEntry
38     MAX-ACCESS      not-accessible
39     STATUS          current
40     DESCRIPTION
41         "This table provides one row for each packet classifier
42             rule, and is indexed by ifIndex, wman2IfCmnCpsSfId, and
43             wman2IfCmnClassifierRuleIndex. ifIndex is associated with
44             the BS sector. wman2IfCmnCpsSfId identifies the service
45             flow, and wman2IfCmnClassifierRuleIndex identifies the
46             packet classifier rule."
47     INDEX { ifIndex, wman2IfCmnCpsSfId,
48             wman2IfCmnClassifierRuleIndex }
49     ::= { wman2IfCmnClassifierRuleTable 1 }
50
51
52 Wman2IfCmnClassifierRuleEntry ::= SEQUENCE {
53     wman2IfCmnClassifierRuleIndex      Unsigned32,
54     wman2IfCmnClassifierRulePriority    INTEGER,
55     wman2IfCmnClassifierRuleIpTosLow   INTEGER,
56     wman2IfCmnClassifierRuleIpTosHigh  INTEGER,
57     wman2IfCmnClassifierRuleIpTosMask  INTEGER,
58     wman2IfCmnClassifierRuleIpProtocol Integer32,
59     wman2IfCmnClassifierRuleIpSourceAddr InetAddress,
60     wman2IfCmnClassifierRuleIpSourceMask InetAddress,
61

```

```

1      wman2IfCmnClassifierRuleIpDestAddr      InetAddress,
2      wman2IfCmnClassifierRuleIpDestMask      InetAddress,
3      wman2IfCmnClassifierRuleSourcePortStart Integer32,
4      wman2IfCmnClassifierRuleSourcePortEnd   Integer32,
5      wman2IfCmnClassifierRuleDestPortStart   Integer32,
6      wman2IfCmnClassifierRuleDestPortEnd     Integer32,
7      wman2IfCmnClassifierRuleDestMacAddr     MacAddress,
8      wman2IfCmnClassifierRuleDestMacMask     MacAddress,
9      wman2IfCmnClassifierRuleSourceMacAddr   MacAddress,
10     wman2IfCmnClassifierRuleSourceMacMask   MacAddress,
11     wman2IfCmnClassifierRuleEnetProtocolType INTEGER,
12     wman2IfCmnClassifierRuleEnetProtocol   Integer32,
13     wman2IfCmnClassifierRuleUserPriLow     Integer32,
14     wman2IfCmnClassifierRuleUserPriHigh    Integer32,
15     wman2IfCmnClassifierRuleVlanId         Integer32,
16     wman2IfCmnClassifierRuleState          INTEGER,
17     wman2IfCmnClassifierRulePkts           Counter64,
18     wman2IfCmnClassifierRuleIpv6FlowLabel  Wman2IfIpv6FlowLabel,
19     wman2IfCmnClassifierRuleBitMap         Wman2IfClassifierBitMap
20
21     }
22
23 wman2IfCmnClassifierRuleIndex OBJECT-TYPE
24     SYNTAX      Unsigned32 (1..4294967295)
25     MAX-ACCESS  not-accessible
26     STATUS      current
27     DESCRIPTION
28         "An index is assigned to each classifier in the classifiers
29         table"
30     ::= { wman2IfCmnClassifierRuleEntry 1 }
31
32 wman2IfCmnClassifierRulePriority OBJECT-TYPE
33     SYNTAX      INTEGER (0..255)
34     MAX-ACCESS  read-only
35     STATUS      current
36     DESCRIPTION
37         "The value specifies the order of evaluation of the
38         classifiers. The higher the value the higher the
39         priority. The value of 0 is used as default in
40         provisioned service flows classifiers. The default
41         value of 64 is used for dynamic service flow classifiers.
42         If the referenced parameter is not present in a classifier
43         , this object reports the default value as defined above"
44     REFERENCE
45         "Subclause 11.13.19.3.4.1 in IEEE Std 802.16-2004"
46     DEFVAL      { 0 }
47     ::= { wman2IfCmnClassifierRuleEntry 2 }
48
49 wman2IfCmnClassifierRuleIpTosLow OBJECT-TYPE
50     SYNTAX      INTEGER (0 .. 255)
51     MAX-ACCESS  read-only
52     STATUS      current
53     DESCRIPTION
54         "The low value of a range of TOS byte values. If the
55         referenced parameter is not present in a classifier, this

```

```

1         object reports the value of 0."
2     REFERENCE
3         "Subclause 11.13.19.3.4.2 in IEEE Std 802.16-2004"
4     ::= { wman2IfCmnClassifierRuleEntry 3 }
5
6
7 wman2IfCmnClassifierRuleIpTosHigh OBJECT-TYPE
8     SYNTAX      INTEGER (0 .. 255)
9     MAX-ACCESS  read-only
10    STATUS      current
11    DESCRIPTION
12        "The 8-bit high value of a range of TOS byte values.
13         If the referenced parameter is not present in a classifier
14         , this object reports the value of 0."
15    REFERENCE
16        "Subclause 11.13.19.3.4.2 in IEEE Std 802.16-2004"
17    ::= { wman2IfCmnClassifierRuleEntry 4 }
18
19
20
21 wman2IfCmnClassifierRuleIpTosMask OBJECT-TYPE
22     SYNTAX      INTEGER (0 .. 255)
23     MAX-ACCESS  read-only
24     STATUS      current
25     DESCRIPTION
26         "The mask value is bitwise ANDed with TOS byte in an IP
27         packet and this value is used for the range checking of
28         TosLow and TosHigh. If the referenced parameter is not
29         present in a classifier, this object reports the value
30         of 0."
31     REFERENCE
32         "Subclause 11.13.19.3.4.2 in IEEE Std 802.16-2004"
33     ::= { wman2IfCmnClassifierRuleEntry 5 }
34
35
36
37
38 wman2IfCmnClassifierRuleIpProtocol OBJECT-TYPE
39     SYNTAX      Integer32 (0..255)
40     MAX-ACCESS  read-only
41     STATUS      current
42     DESCRIPTION
43         "This object indicates the value of the IP Protocol field
44         required for IP packets to match this rule. If the
45         referenced parameter is not present in a classifier, this
46         object reports the value of 0."
47     REFERENCE
48         "Subclause 11.13.19.3.4.3 in IEEE Std 802.16-2004"
49     ::= { wman2IfCmnClassifierRuleEntry 6 }
50
51
52
53
54 wman2IfCmnClassifierRuleIpSourceAddr OBJECT-TYPE
55     SYNTAX      InetAddress
56     MAX-ACCESS  read-only
57     STATUS      current
58     DESCRIPTION
59         "This object specifies the value of the IP Source Address
60         required for packets to match this rule. An IP packet
61         matches the rule when the packet ip source address bitwise
62         ANDed with the wman2IfCmnClassifierRuleIpSourceMask value
63         equals the wman2IfCmnClassifierRuleIpSourceAddr value.
64
65

```

```

1         If the referenced parameter is not present in a classifier
2         , this object reports the value of 0.0.0.0."
3     REFERENCE
4         "Subclause 11.13.19.3.4.4 in IEEE Std 802.16-2004"
5     ::= { wman2IfCmnClassifierRuleEntry 7 }
6
7
8     wman2IfCmnClassifierRuleIpSourceMask OBJECT-TYPE
9         SYNTAX      InetAddress
10        MAX-ACCESS   read-only
11        STATUS       current
12        DESCRIPTION
13            "This object specifies which bits of a packet's IP Source
14            Address that are compared to match this rule. An IP packet
15            matches the rule when the packet source address bitwise
16            ANDed with the
17            wman2IfCmnClassifierRuleIpSourceMask value equals the
18            wman2IfCmnClassifierRuleIpSourceAddr value.
19            If the referenced parameter is not present in a classifier
20            , this object reports the value of 0.0.0.0."
21        REFERENCE
22            "Subclause 11.13.19.3.4.4 in IEEE Std 802.16-2004"
23        ::= { wman2IfCmnClassifierRuleEntry 8 }
24
25
26     wman2IfCmnClassifierRuleIpDestAddr OBJECT-TYPE
27         SYNTAX      InetAddress
28         MAX-ACCESS   read-only
29         STATUS       current
30         DESCRIPTION
31             "This object specifies the value of the IP Destination
32             Address required for packets to match this rule. An IP
33             packet matches the rule when the packet IP destination
34             address bitwise ANDed with the
35             wman2IfCmnClassifierRuleIpDestMask value equals the
36             wman2IfCmnClassifierRuleIpDestAddr value.
37             If the referenced parameter is not present in a
38             classifier, this object reports the value of 0.0.0.0."
39         REFERENCE
40             "Subclause 11.13.19.3.4.5 in IEEE Std 802.16-2004"
41         ::= { wman2IfCmnClassifierRuleEntry 9 }
42
43
44     wman2IfCmnClassifierRuleIpDestMask OBJECT-TYPE
45         SYNTAX      InetAddress
46         MAX-ACCESS   read-only
47         STATUS       current
48         DESCRIPTION
49             "This object specifies which bits of a packet's IP
50             Destination Address that are compared to match this rule.
51             An IP packet matches the rule when the packet destination
52             address bitwise ANDed with the
53             wman2IfCmnClassifierRuleIpDestMask value equals the
54             wman2IfCmnClassifierRuleIpDestAddr value.
55             If the referenced parameter is not present in a classifier
56             , this object reports the value of 0.0.0.0."
57         REFERENCE
58
59
60
61
62
63
64
65

```

```

1         "Subclause 11.13.19.3.4.5 in IEEE Std 802.16-2004"
2         ::= { wman2IfCmnClassifierRuleEntry 10 }
3
4
5 wman2IfCmnClassifierRuleSourcePortStart OBJECT-TYPE
6     SYNTAX      Integer32 (0..65535)
7     MAX-ACCESS  read-only
8     STATUS      current
9     DESCRIPTION
10        "This object specifies the low end inclusive range of
11        TCP/UDP source port numbers to which a packet is compared
12        . This object is irrelevant for non-TCP/UDP IP packets.
13        If the referenced parameter is not present in a
14        classifier, this object reports the value of 0."
15
16     REFERENCE
17        "Subclause 11.13.19.3.4.6 in IEEE Std 802.16-2004"
18        ::= { wman2IfCmnClassifierRuleEntry 11 }
19
20
21 wman2IfCmnClassifierRuleSourcePortEnd OBJECT-TYPE
22     SYNTAX      Integer32 (0..65535)
23     MAX-ACCESS  read-only
24     STATUS      current
25     DESCRIPTION
26        "This object specifies the high end inclusive range of
27        TCP/UDP source port numbers to which a packet is compared.
28        This object is irrelevant for non-TCP/UDP IP packets.
29        If the referenced parameter is not present in a classifier,
30        this object reports the value of 65535."
31
32     REFERENCE
33        "Subclause 11.13.19.3.4.6 in IEEE Std 802.16-2004"
34        ::= { wman2IfCmnClassifierRuleEntry 12 }
35
36
37
38 wman2IfCmnClassifierRuleDestPortStart OBJECT-TYPE
39     SYNTAX      Integer32 (0..65535)
40     MAX-ACCESS  read-only
41     STATUS      current
42     DESCRIPTION
43        "This object specifies the low end inclusive range of
44        TCP/UDP destination port numbers to which a packet is
45        compared. If the referenced parameter is not present
46        in a classifier, this object reports the value of 0."
47
48     REFERENCE
49        "Subclause 11.13.19.3.4.7 in IEEE Std 802.16-2004"
50        ::= { wman2IfCmnClassifierRuleEntry 13 }
51
52
53
54 wman2IfCmnClassifierRuleDestPortEnd OBJECT-TYPE
55     SYNTAX      Integer32 (0..65535)
56     MAX-ACCESS  read-only
57     STATUS      current
58     DESCRIPTION
59        "This object specifies the high end inclusive range of
60        TCP/UDP destination port numbers to which a packet is
61        compared. If the referenced parameter is not present
62        in a classifier, this object reports the value of
63        65535."
64
65

```

## 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

```

1      "An Ethernet packet matches an entry when its destination
2      MAC address bitwise ANDed with
3      wman2IfCmnClassifierRuleSourceMacMask equals the value of
4      wman2IfCmnClassifierRuleSourceMacAddr. If the referenced
5      parameter is not present in a classifier, this object
6      reports the value of '000000000000'H."
7
8  REFERENCE
9      "Subclause 11.13.19.3.4.9 in IEEE Std 802.16-2004"
10     ::= { wman2IfCmnClassifierRuleEntry 18 }
11
12
13 wman2IfCmnClassifierRuleEnetProtocolType OBJECT-TYPE
14     SYNTAX      INTEGER {none(0),
15                  ethertype(1),
16                  dsap(2)}
17
18     MAX-ACCESS  read-only
19     STATUS      current
20     DESCRIPTION
21         "This object indicates the format of the layer 3 protocol
22         id in the Ethernet packet. A value of none(0) means that
23         the rule does not use the layer 3 protocol type as a
24         matching criteria. A value of ethertype(1) means that the
25         rule applies only to frames which contains an EtherType
26         value. Ethertype values are contained in packets using
27         the Dec-Intel-Xerox (DIX) encapsulation or the RFC1042
28         Sub-Network Access Protocol (SNAP) encapsulation formats.
29         A value of dsap(2) means that the rule applies only to
30         frames using the IEEE802.3 encapsulation format with a
31         Destination Service Access Point (DSAP) other than 0xAA
32         (which is reserved for SNAP). If the Ethernet frame
33         contains an 802.1P/Q Tag header (i.e. EtherType 0x8100),
34         this object applies to the embedded EtherType field within
35         the 802.1P/Q header. If the referenced parameter is not
36         present in a classifier, this object reports the value of
37         0."
38
39     REFERENCE
40         "Subclause 11.13.19.3.4.10 in IEEE Std 802.16-2004"
41     ::= { wman2IfCmnClassifierRuleEntry 19 }
42
43
44 wman2IfCmnClassifierRuleEnetProtocol OBJECT-TYPE
45     SYNTAX      Integer32 (0..65535)
46     MAX-ACCESS  read-only
47     STATUS      current
48     DESCRIPTION
49         "If wman2IfCmnClassifierRuleEnetProtocolType is none(0),
50         this object is ignored when considering whether a packet
51         matches the current rule.
52         If wman2IfCmnClassifierRuleEnetProtocolType is ethertype(1),
53         this object gives the 16-bit value of the EtherType that
54         the packet must match in order to match the rule.
55         If wman2IfCmnClassifierRuleEnetProtocolType is dsap(2), the
56         lower 8 bits of this object's value must match the DSAP
57         byte of the packet in order to match the rule.
58         If the Ethernet frame contains an 802.1P/Q Tag header
59         (i.e. EtherType 0x8100), this object applies to the
60
61
62
63
64
65

```



```

1         embedded EtherType field within the 802.1P/Q header.
2         If the referenced parameter is not present in the
3         classifier, the value of this object is reported as 0."
4     REFERENCE
5         "Subclause 11.13.19.3.4.10 in IEEE Std 802.16-2004"
6     ::= { wman2IfCmnClassifierRuleEntry 20 }
7
8
9
10    wman2IfCmnClassifierRuleUserPriLow OBJECT-TYPE
11        SYNTAX      Integer32 (0..7)
12        MAX-ACCESS   read-only
13        STATUS       current
14        DESCRIPTION
15            "This object applies only to Ethernet frames using the
16            802.1P/Q tag header (indicated with EtherType 0x8100).
17            Such frames include a 16-bit Tag that contains a 3 bit
18            Priority field and a 12 bit VLAN number.
19            Tagged Ethernet packets must have a 3-bit Priority field
20            within the range of wman2IfCmnClassifierRulePriLow and
21            wman2IfCmnClassifierRulePriHigh in order to match this
22            rule.
23            If the referenced parameter is not present in the
24            classifier, the value of this object is reported as 0."
25        REFERENCE
26            "Subclause 11.13.19.3.4.11 in IEEE Std 802.16-2004"
27        ::= { wman2IfCmnClassifierRuleEntry 21 }
28
29
30
31
32    wman2IfCmnClassifierRuleUserPriHigh OBJECT-TYPE
33        SYNTAX      Integer32 (0..7)
34        MAX-ACCESS   read-only
35        STATUS       current
36        DESCRIPTION
37            "This object applies only to Ethernet frames using the
38            802.1P/Q tag header (indicated with EtherType 0x8100).
39            Such frames include a 16-bit Tag that contains a 3 bit
40            Priority field and a 12 bit VLAN number.
41            Tagged Ethernet packets must have a 3-bit Priority
42            field within the range of wman2IfCmnClassifierRulePriLow
43            and wman2IfCmnClassifierRulePriHigh in order to match
44            this rule.
45            If the referenced parameter is not present in the
46            classifier, the value of this object is reported as 7."
47        REFERENCE
48            "Subclause 11.13.19.3.4.11 in IEEE Std 802.16-2004"
49        ::= { wman2IfCmnClassifierRuleEntry 22 }
50
51
52
53
54
55    wman2IfCmnClassifierRuleVlanId OBJECT-TYPE
56        SYNTAX      Integer32 (0..4095)
57        MAX-ACCESS   read-only
58        STATUS       current
59        DESCRIPTION
60            "This object applies only to Ethernet frames using the
61            802.1P/Q tag header.
62            If this object's value is nonzero, tagged packets must
63            have a VLAN Identifier that matches the value in order
64
65

```

```

1         to match the rule.
2         Only the least significant 12 bits of this object's
3         value are valid.
4         If the referenced parameter is not present in the
5         classifier, the value of this object is reported as 0."
6     REFERENCE
7         "Subclause 11.13.19.3.4.12 in IEEE Std 802.16-2004"
8     ::= { wman2IfCmnClassifierRuleEntry 23 }
9
10
11 wman2IfCmnClassifierRuleState OBJECT-TYPE
12     SYNTAX      INTEGER {active(1),
13                     inactive(2)}
14     MAX-ACCESS  read-only
15     STATUS      current
16     DESCRIPTION
17         "This object indicates whether or not the classifier is
18         enabled to classify packets to a Service Flow.
19         If the referenced parameter is not present in the
20         classifier, the value of this object is reported
21         as active(1)."

```

```

1      DESCRIPTION
2          "This table contains PHS rule dictionary entries. Each
3          entry contains the data of the header to be suppressed
4          along with its identification - PHSI. The classifier
5          uniquely maps packets to its associated PHS Rule. The
6          receiving entity uses the CID and the PHSI to restore the
7          PHSF. Once a PHSF has been assigned to a PHSI, it shall
8          not be changed. To change the value of a PHSF on a
9          service flow, a new PHS rule shall be defined, the old
10         rule is removed from the service flow, and the new rule
11         is added. When a classifier is deleted, any associated
12         PHS rule shall also be deleted."
13
14     REFERENCE
15         "Subclause 5.2.3 in IEEE Std 802.16-2004"
16     ::= { wman2IfCmnPacketCs 2 }
17
18 wman2IfCmnPhsRuleEntry OBJECT-TYPE
19     SYNTAX      Wman2IfCmnPhsRuleEntry
20     MAX-ACCESS  not-accessible
21     STATUS      current
22     DESCRIPTION
23         "This table provides one row for each PHS rule created
24         dynamically by the BS and SS on a given service flow. The
25         PHS rule is defined by the pair (PHSS, PHSM) for each
26         distinct header data. It is indexed by IfIndex,
27         wman2IfCmnCpsSfId, and wman2IfCmnPhsIndex. The table is
28         read-only for NMS. "
29     INDEX       { ifIndex, wman2IfCmnCpsSfId,
30                  wman2IfCmnPhsRulePhsIndex }
31     ::= { wman2IfCmnPhsRuleTable 1 }
32
33 Wman2IfCmnPhsRuleEntry ::= SEQUENCE {
34     wman2IfCmnPhsRulePhsIndex      INTEGER,
35     wman2IfCmnPhsRulePhsField      OCTET STRING,
36     wman2IfCmnPhsRulePhsMask       OCTET STRING,
37     wman2IfCmnPhsRulePhsSize       Integer32,
38     wman2IfCmnPhsRulePhsVerify     Wman2IfPhsRuleVerify}
39
40 wman2IfCmnPhsRulePhsIndex OBJECT-TYPE
41     SYNTAX      INTEGER (1..255)
42     MAX-ACCESS  not-accessible
43     STATUS      current
44     DESCRIPTION
45         "The PHSI (PHS Index) has a value between 1 and 255, which
46         uniquely references the suppressed byte string. The index
47         is unique per service flow. The uplink and downlink PHSI
48         values are independent of each other."
49     REFERENCE
50         "Subclause 11.13.19.3.7.1 in IEEE Std 802.16-2004"
51     ::= { wman2IfCmnPhsRuleEntry 1 }
52
53 wman2IfCmnPhsRulePhsField OBJECT-TYPE
54     SYNTAX      OCTET STRING (SIZE(0..65535))
55     MAX-ACCESS  read-only

```

```

1      STATUS      current
2      DESCRIPTION
3          "The PHSF (PHS Field) is a string of bytes containing the
4          header information to be suppressed by the sending CS and
5          reconstructed by the receiving CS. The most significant
6          byte of the string corresponds to the first byte of the
7          CS-SDU."
8
9      REFERENCE
10         "Subclause 11.13.19.3.7.2 in IEEE Std 802.16-2004"
11         ::= { wman2IfCmnPhsRuleEntry 2 }
12
13
14 wman2IfCmnPhsRulePhsMask OBJECT-TYPE
15     SYNTAX      OCTET STRING (SIZE(0..65535))
16     MAX-ACCESS  read-only
17     STATUS      current
18     DESCRIPTION
19         "The PHSM An 8-bit mask that indicates which bytes in the
20         PHS Field (PHSF) to suppress and which bytes to not
21         suppress. The PHSM allows fields, such as sequence numbers
22         or checksums (which vary in value), to be excluded from
23         suppression with the constant bytes around them suppressed.
24         It is encoded as follows:
25         bit 0:
26             0 = don't suppress the 1st byte of the suppression field
27             1 = suppress first byte of the suppression field
28         bit 1:
29             0 = don't suppress the 2nd byte of the suppression field
30             1 = suppress second byte of the suppression field
31         bit x:
32             0 = don't suppress the (x+1) byte of the suppression
33             field
34             1 = suppress (x+1) byte of the suppression field
35         where the length of the octet string is ceiling
36         (wman2IfCmnPhsRulePhsSize/8)."
37     REFERENCE
38         "Subclause 11.13.19.3.7.3 in IEEE Std 802.16-2004"
39         ::= { wman2IfCmnPhsRuleEntry 3 }
40
41
42 wman2IfCmnPhsRulePhsSize OBJECT-TYPE
43     SYNTAX      Integer32
44     UNITS       "byte"
45     MAX-ACCESS  read-only
46     STATUS      current
47     DESCRIPTION
48         "The value of this field - PHSS is the total number of bytes
49         in the header to be suppressed and then restored in a
50         service flow that uses PHS."
51     REFERENCE
52         "Subclause 11.13.19.3.7.4 in IEEE Std 802.16-2004"
53     DEFVAL      {0}
54     ::= { wman2IfCmnPhsRuleEntry 4 }
55
56
57 wman2IfCmnPhsRulePhsVerify OBJECT-TYPE
58     SYNTAX      Wman2IfPhsRuleVerify
59

```

```

1      MAX-ACCESS    read-only
2      STATUS        current
3      DESCRIPTION
4          "The value of this field indicates to the sending entity
5          whether or not the packet header contents are to be
6          verified prior to performing suppression."
7      DEFVAL        { phsVerifyEnable }
8      ::= { wman2IfCmnPhsRuleEntry 5 }
9
10
11
12  --
13  -- wman2IfCmnCps contain the Common Part Sublayer objects that are
14  -- common to both Base Station and Subscriber Station
15  --
16  wman2IfCmnCps OBJECT IDENTIFIER ::= { wman2IfCommonObjects 2 }
17
18  wman2IfCmnCpsServiceFlowTable OBJECT-TYPE
19      SYNTAX          SEQUENCE OF Wman2IfCmnCpsServiceFlowEntry
20      MAX-ACCESS      not-accessible
21      STATUS          current
22      DESCRIPTION
23          "This table contains Service Flow managed objects that
24          are common in BS and SS."
25      ::= { wman2IfCmnCps 1 }
26
27
28  wman2IfCmnCpsServiceFlowEntry OBJECT-TYPE
29      SYNTAX          Wman2IfCmnCpsServiceFlowEntry
30      MAX-ACCESS      not-accessible
31      STATUS          current
32      DESCRIPTION
33          "This table provides one row for each created service
34          flow for a given MacAddress, and is indexed by ifIndex,
35          wman2IfCmnCpsCpsSfMacAddress, and wman2IfCmnCpsSfId.
36          IfIndex is associated with the BS sector."
37      INDEX          { ifIndex, wman2IfCmnCpsSfMacAddress,
38                      wman2IfCmnCpsSfId }
39      ::= { wman2IfCmnCpsServiceFlowTable 1 }
40
41
42  Wman2IfCmnCpsServiceFlowEntry ::= SEQUENCE {
43      wman2IfCmnCpsSfMacAddress      MacAddress,
44      wman2IfCmnCpsSfId              Unsigned32,
45      wman2IfCmnCpsSfCid             Wman2IfCidType,
46      wman2IfCmnCpsSfDirection      INTEGER,
47      wman2IfCmnCpsSfState           Wman2IfSfState,
48      wman2IfCmnCpsTrafficPriority   INTEGER,
49      wman2IfCmnCpsMaxSustainedRate  Unsigned32,
50      wman2IfCmnCpsMaxTrafficBurst   Unsigned32,
51      wman2IfCmnCpsMinReservedRate   Unsigned32,
52      wman2IfCmnCpsToleratedJitter   Unsigned32,
53      wman2IfCmnCpsMaxLatency        Unsigned32,
54      wman2IfCmnCpsFixedVsVariableSduInd  INTEGER,
55      wman2IfCmnCpsSduSize           Unsigned32,
56      wman2IfCmnCpsSfSchedulingType  Wman2IfSfSchedulingType,
57      wman2IfCmnCpsArqEnable         TruthValue,
58      wman2IfCmnCpsArqWindowSize     INTEGER,
59

```

```

1      wman2IfCmnCpsArqBlockLifetime          INTEGER,
2      wman2IfCmnCpsArqSyncLossTimeout        INTEGER,
3      wman2IfCmnCpsArqDeliverInOrder          TruthValue,
4      wman2IfCmnCpsArqRxPurgeTimeout          INTEGER,
5      wman2IfCmnCpsArqBlockSize              INTEGER,
6      wman2IfCmnCpsMinRsVdTolerableRate       Unsigned32,
7      wman2IfCmnCpsReqTxPolicy                BITS,
8      wman2IfCmnSfCsSpecification             Wman2IfCsSpecification,
9      wman2IfCmnCpsTargetSaid                 INTEGER}
10
11
12
13  wman2IfCmnCpsSfMacAddress OBJECT-TYPE
14      SYNTAX      MacAddress
15      MAX-ACCESS  not-accessible
16      STATUS      current
17      DESCRIPTION
18          "When this table is implemented on the basestation, this
19          object contains the SS Mac address, the reported service
20          flow was created for. On the SS, the value returned is
21          the SS's own Mac address."
22      ::= { wman2IfCmnCpsServiceFlowEntry 1 }
23
24
25
26  wman2IfCmnCpsSfId OBJECT-TYPE
27      SYNTAX      Unsigned32 ( 1 .. 4294967295)
28      MAX-ACCESS  read-only
29      STATUS      current
30      DESCRIPTION
31          "A 32 bit quantity that uniquely identifies a service flow
32          to both the subscriber station and base station (BS)."
33      ::= { wman2IfCmnCpsServiceFlowEntry 2 }
34
35
36
37  wman2IfCmnCpsSfCid OBJECT-TYPE
38      SYNTAX      Wman2IfCidType
39      MAX-ACCESS  read-only
40      STATUS      current
41      DESCRIPTION
42          "A 16 bit channel identifier to identify the connection
43          being created by DSA."
44      ::= { wman2IfCmnCpsServiceFlowEntry 3 }
45
46
47
48  wman2IfCmnCpsSfDirection OBJECT-TYPE
49      SYNTAX      INTEGER {downstream(1),
50                        upstream(2)}
51      MAX-ACCESS  read-only
52      STATUS      current
53      DESCRIPTION
54          "An attribute indicating the service flow is downstream or
55          upstream."
56      ::= { wman2IfCmnCpsServiceFlowEntry 4 }
57
58
59
60  wman2IfCmnCpsSfState OBJECT-TYPE
61      SYNTAX      Wman2IfSfState
62      MAX-ACCESS  read-only
63      STATUS      current
64      DESCRIPTION
65

```

```

1         "wman2IfCmnCpsSfState indicates the service flow state:
2         Authorized (1), Admitted (2), and Active (3) service
3         flow state."
4
5     REFERENCE
6         "Subclause 6.3.14.6, in IEEE Std 802.16-2004"
7     ::= { wman2IfCmnCpsServiceFlowEntry 5 }
8
9
10    wman2IfCmnCpsTrafficPriority OBJECT-TYPE
11        SYNTAX      INTEGER (0 .. 7)
12        MAX-ACCESS   read-only
13        STATUS       current
14        DESCRIPTION
15            "The value of this parameter specifies the priority
16            assigned to a service flow. For uplink service flows,
17            the BS should use this parameter when determining
18            precedence in request service and grant generation,
19            and the SS shall preferentially select contention
20            Request opportunities for Priority Request CIDs
21            based on this priority"
22        REFERENCE
23            "Subclause 11.13.5 in IEEE Std 802.16-2004"
24        ::= { wman2IfCmnCpsServiceFlowEntry 6 }
25
26
27
28
29    wman2IfCmnCpsMaxSustainedRate OBJECT-TYPE
30        SYNTAX      Unsigned32
31        UNITS        "b/s"
32        MAX-ACCESS   read-only
33        STATUS       current
34        DESCRIPTION
35            "This parameter defines the peak information rate
36            of the service. The rate is expressed in bits per
37            second and pertains to the SDUs at the input to
38            the system."
39        REFERENCE
40            "Subclause 11.13.6 in IEEE Std 802.16-2004"
41        ::= { wman2IfCmnCpsServiceFlowEntry 7 }
42
43
44
45
46    wman2IfCmnCpsMaxTrafficBurst OBJECT-TYPE
47        SYNTAX      Unsigned32
48        UNITS        "byte"
49        MAX-ACCESS   read-only
50        STATUS       current
51        DESCRIPTION
52            "This parameter defines the maximum burst size that
53            must be accommodated for the service."
54        REFERENCE
55            "Subclause 11.13.7 in IEEE Std 802.16-2004"
56        ::= { wman2IfCmnCpsServiceFlowEntry 8 }
57
58
59
60    wman2IfCmnCpsMinReservedRate OBJECT-TYPE
61        SYNTAX      Unsigned32
62        UNITS        "byte"
63        MAX-ACCESS   read-only
64        STATUS       current
65

```

```

1      DESCRIPTION
2          "This parameter specifies the minimum rate reserved
3          for this service flow."
4
5      REFERENCE
6          "Subclause 11.13.8 in IEEE Std 802.16-2004"
7          ::= { wman2IfCmnCpsServiceFlowEntry 9 }
8
9
10     wman2IfCmnCpsToleratedJitter OBJECT-TYPE
11         SYNTAX      Unsigned32
12         UNITS        "millisecond"
13         MAX-ACCESS   read-only
14         STATUS       current
15         DESCRIPTION
16             "This parameter defines the Maximum delay
17             variation (jitter) for the connection."
18
19         REFERENCE
20             "Subclause 11.13.13 in IEEE Std 802.16-2004"
21             ::= { wman2IfCmnCpsServiceFlowEntry 10 }
22
23
24     wman2IfCmnCpsMaxLatency OBJECT-TYPE
25         SYNTAX      Unsigned32
26         UNITS        "millisecond"
27         MAX-ACCESS   read-only
28         STATUS       current
29         DESCRIPTION
30             "The value of this parameter specifies the maximum
31             latency between the reception of a packet by the BS
32             or SS on its network interface and the forwarding
33             of the packet to its RF Interface."
34
35         REFERENCE
36             "Subclause 11.13.14 in IEEE Std 802.16-2004"
37             ::= { wman2IfCmnCpsServiceFlowEntry 11 }
38
39
40
41     wman2IfCmnCpsFixedVsVariableSduInd OBJECT-TYPE
42         SYNTAX      INTEGER {variableLength(0),
43                             fixedLength(1)}
44         MAX-ACCESS   read-only
45         STATUS       current
46         DESCRIPTION
47             "The value of this parameter specifies whether the SDUs
48             on the service flow are variable-length (0) or
49             fixed-length (1). The parameter is used only if
50             packing is on for the service flow. The default value
51             is 0, i.e., variable-length SDUs."
52
53         REFERENCE
54             "Subclause 11.13.15 in IEEE Std 802.16-2004"
55
56         DEFVAL      { variableLength }
57         ::= { wman2IfCmnCpsServiceFlowEntry 12 }
58
59
60     wman2IfCmnCpsSduSize OBJECT-TYPE
61         SYNTAX      Unsigned32
62         UNITS        "byte"
63         MAX-ACCESS   read-only
64         STATUS       current
65

```



```

1      DESCRIPTION
2          "The value of this parameter specifies the length of the
3          SDU for a fixed-length SDU service flow. This parameter
4          is used only if packing is on and the service flow is
5          indicated as carrying fixed-length SDUs. The default
6          value is 49 bytes, i.e., VC-switched ATM cells with PHS.
7          The parameter is relevant for both ATM and Packet
8          Convergence Sublayers."
9
10     REFERENCE
11         "Subclause 11.13.16 in IEEE Std 802.16-2004"
12     DEFVAL      { 49 }
13     ::= { wman2IfCmnCpsServiceFlowEntry 13 }
14
15 wman2IfCmnCpsSfsSchedulingType OBJECT-TYPE
16     SYNTAX      Wman2IfSfsSchedulingType
17     MAX-ACCESS  read-only
18     STATUS      current
19     DESCRIPTION
20         "Specifies the upstream scheduling service used for
21         upstream service flow. If the referenced parameter
22         is not present in the corresponding 802.16 QOS
23         Parameter Set of an upstream service flow, the
24         default value of this object is bestEffort(2)."

```

```

1           If transmission or retransmission of the fragment
2           is not acknowledged by the receiver before the
3           time limit is reached, the fragment is discarded.
4           A value of 0 means Infinite."
5           ::= { wman2IfCmnCpsServiceFlowEntry 17 }
6
7
8 wman2IfCmnCpsArqSyncLossTimeout OBJECT-TYPE
9     SYNTAX      INTEGER (0 .. 65535 )
10    UNITS       "10 us"
11    MAX-ACCESS   read-only
12    STATUS       current
13    DESCRIPTION
14      "The maximum interval before declaring a loss
15       of synchronization of the sender and receiver
16       state machines. A value of 0 means Infinite."
17    ::= { wman2IfCmnCpsServiceFlowEntry 18 }
18
19
20
21 wman2IfCmnCpsArqDeliverInOrder OBJECT-TYPE
22     SYNTAX      TruthValue
23     MAX-ACCESS   read-only
24     STATUS       current
25     DESCRIPTION
26       "Indicates whether or not data is to be delivered
27       by the receiving MAC to its client application
28       in the order in which data was handed off to the
29       originating MAC."
30     ::= { wman2IfCmnCpsServiceFlowEntry 19 }
31
32
33
34 wman2IfCmnCpsArqRxPurgeTimeout OBJECT-TYPE
35     SYNTAX      INTEGER (0 .. 65535)
36     UNITS       "10 us"
37     MAX-ACCESS   read-only
38     STATUS       current
39     DESCRIPTION
40       "Indicates the time interval the ARQ window is advanced
41       after a fragment is received. A value of 0 means
42       Infinite."
43     ::= { wman2IfCmnCpsServiceFlowEntry 20 }
44
45
46
47 wman2IfCmnCpsArqBlockSize OBJECT-TYPE
48     SYNTAX      INTEGER (1..2040)
49     UNITS       "byte"
50     MAX-ACCESS   read-only
51     STATUS       current
52     DESCRIPTION
53       "This value of this parameter specifies the size of an
54       ARQ block. This parameter shall be established by
55       negotiation during the connection creation dialog."
56     REFERENCE
57       "Subclause 11.13.18.8 in IEEE Std 802.16-2004"
58     ::= { wman2IfCmnCpsServiceFlowEntry 21 }
59
60
61
62 wman2IfCmnCpsMinRsvdTolerableRate OBJECT-TYPE
63     SYNTAX      Unsigned32
64
65

```

```

1      UNITS          "b/s"
2      MAX-ACCESS    read-only
3      STATUS        current
4      DESCRIPTION
5
6          "Minimum Tolerable Traffic Rate = R (bits/sec) with
7          time base T(sec) means the following. Let S denote
8          additional demand accumulated at the MAC SAP of the
9          transmitter during an arbitrary time interval of the
10         length T. Then the amount of data forwarded at the
11         receiver to CS (in bits) during this interval should
12         be not less than min {S, R * T}."
13
14      REFERENCE
15
16          "Subclause 11.13.9 in IEEE Std 802.16-2004"
17      ::= { wman2IfCmnCpsServiceFlowEntry 22 }
18
19  wman2IfCmnCpsReqTxPolicy OBJECT-TYPE
20      SYNTAX          BITS {noBroadcastBwReq(0),
21                          reserved1(1),
22                          noPiggybackReq(2),
23                          noFragmentData(3),
24                          noPHS(4),
25                          noSduPacking(5),
26                          noCrc(6),
27                          reserved2(7)}
28
29      MAX-ACCESS    read-only
30      STATUS        current
31      DESCRIPTION
32
33          "The value of this parameter provides the capability to
34          specify certain attributes for the associated service
35          flow. An attribute is enabled by setting the
36          corresponding bit position to 1."
37
38      REFERENCE
39
40          "Subclause 11.13.12 in IEEE Std 802.16-2004"
41      ::= { wman2IfCmnCpsServiceFlowEntry 23 }
42
43  wman2IfCmnSfCsSpecification OBJECT-TYPE
44      SYNTAX          Wman2IfCsSpecification
45      MAX-ACCESS    read-only
46      STATUS        current
47      DESCRIPTION
48
49          "This parameter specifies the convergence sublayer
50          encapsulation mode."
51
52      REFERENCE
53
54          "Subclause 11.13.19.1 in IEEE Std 802.16-2004"
55      ::= { wman2IfCmnCpsServiceFlowEntry 24 }
56
57  wman2IfCmnCpsTargetSaid OBJECT-TYPE
58      SYNTAX          INTEGER (0 .. 65535)
59      MAX-ACCESS    read-only
60      STATUS        current
61      DESCRIPTION
62
63          "The target SAID parameter indicates the SAID onto
64          which the service flow being set up shall be mapped."
65      REFERENCE

```

```

1         "Subclause 11.13.17 in IEEE Std 802.16-2004"
2         ::= { wman2IfCmnCpsServiceFlowEntry 25 }
3
4
5     --
6     -- wman2IfCmnBsSsConfigurationTable contains global parameters
7     -- common in BS and SS
8     --
9
10    wman2IfCmnBsSsConfigurationTable OBJECT-TYPE
11        SYNTAX      SEQUENCE OF Wman2IfCmnBsSsConfigurationEntry
12        MAX-ACCESS   not-accessible
13        STATUS       current
14        DESCRIPTION
15            "This table provides one row for each BS sector that
16             contains the system parameters common in both SS and
17             BS. All SSs shall have the same parameters as the BS
18             to which the SSs are associated."
19        REFERENCE
20            "Subclause 10.1 in IEEE Std 802.16-2004"
21        ::= { wman2IfCmnCps 2 }
22
23
24
25    wman2IfCmnBsSsConfigurationEntry OBJECT-TYPE
26        SYNTAX      Wman2IfCmnBsSsConfigurationEntry
27        MAX-ACCESS   not-accessible
28        STATUS       current
29        DESCRIPTION
30            "This table is indexed by ifIndex, indicating BS
31             sector."
32        INDEX        { ifIndex }
33        ::= { wman2IfCmnBsSsConfigurationTable 1 }
34
35
36
37    Wman2IfCmnBsSsConfigurationEntry ::= SEQUENCE {
38        wman2IfCmnInvitedRangRetries      INTEGER,
39        wman2IfCmnDSxReqRetries           Unsigned32,
40        wman2IfCmnDSxRespRetries          Unsigned32,
41        wman2IfCmnT7Timeout               INTEGER,
42        wman2IfCmnT8Timeout               INTEGER,
43        wman2IfCmnT10Timeout              INTEGER,
44        wman2IfCmnT22Timeout              INTEGER}
45
46
47
48    wman2IfCmnInvitedRangRetries OBJECT-TYPE
49        SYNTAX      INTEGER (16..65535)
50        MAX-ACCESS   read-write
51        STATUS       current
52        DESCRIPTION
53            "Number of retries on inviting Ranging Requests."
54        ::= { wman2IfCmnBsSsConfigurationEntry 1 }
55
56
57
58    wman2IfCmnDSxReqRetries OBJECT-TYPE
59        SYNTAX      Unsigned32
60        MAX-ACCESS   read-write
61        STATUS       current
62        DESCRIPTION
63            "Number of Timeout Retries on DSA/DSC/DSD Requests."
64        DEFVAL      { 3 }
65

```

```

1      ::= { wman2IfCmnBsSsConfigurationEntry 2 }
2
3
4  wman2IfCmnDSxRespRetries OBJECT-TYPE
5      SYNTAX      Unsigned32
6      MAX-ACCESS  read-write
7      STATUS      current
8      DESCRIPTION
9          "Number of Timeout Retries on DSA/DSC/DSD Responses."
10     DEFVAL      { 3 }
11     ::= { wman2IfCmnBsSsConfigurationEntry 3 }
12
13
14  wman2IfCmnT7Timeout OBJECT-TYPE
15      SYNTAX      INTEGER (0 .. 1000)
16      UNITS       "milliseconds"
17      MAX-ACCESS  read-write
18      STATUS      current
19      DESCRIPTION
20          "Wait for DSA/DSC/DSD Response Timeout in ms."
21     ::= { wman2IfCmnBsSsConfigurationEntry 4 }
22
23
24
25  wman2IfCmnT8Timeout OBJECT-TYPE
26      SYNTAX      INTEGER (0 .. 300)
27      UNITS       "milliseconds"
28      MAX-ACCESS  read-write
29      STATUS      current
30      DESCRIPTION
31          "Wait for DSA/DSC/DSD Acknowledge Timeout in ms."
32     ::= { wman2IfCmnBsSsConfigurationEntry 5 }
33
34
35
36  wman2IfCmnT10Timeout OBJECT-TYPE
37      SYNTAX      INTEGER (0 .. 3000)
38      UNITS       "milliseconds"
39      MAX-ACCESS  read-write
40      STATUS      current
41      DESCRIPTION
42          "Wait for Transaction End timeout in ms."
43     ::= { wman2IfCmnBsSsConfigurationEntry 6 }
44
45
46
47  wman2IfCmnT22Timeout OBJECT-TYPE
48      SYNTAX      INTEGER (0 .. 500)
49      UNITS       "milliseconds"
50      MAX-ACCESS  read-write
51      STATUS      current
52      DESCRIPTION
53          "Wait for ARQ Reset in ms."
54     ::= { wman2IfCmnBsSsConfigurationEntry 7 }
55
56
57  -- Common PKM group
58  -- wman2IfCmnPkmObjects contain the Privacy Sublayer objects that are
59  -- common to both Base Station and Subscriber Station
60  --
61  --
62  wman2IfCmnPkmObjects OBJECT IDENTIFIER ::= { wman2IfCommonObjects 3 }
63
64
65  --

```

```

1  -- Table wman2IfCmnCryptoSuiteTable
2  --
3  wman2IfCmnCryptoSuiteTable OBJECT-TYPE
4      SYNTAX      SEQUENCE OF Wman2IfCmnCryptoSuiteEntry
5      MAX-ACCESS  not-accessible
6      STATUS      current
7      DESCRIPTION
8          "This table describes the PKM cryptographic suite
9          capabilites for each SS or BS wireless interface."
10         ::= { wman2IfCmnPkmObjects 1 }
11
12
13
14  wman2IfCmnCryptoSuiteEntry OBJECT-TYPE
15      SYNTAX      Wman2IfCmnCryptoSuiteEntry
16      MAX-ACCESS  not-accessible
17      STATUS      current
18      DESCRIPTION
19          "Each entry contains the cryptographic suite pair that SS
20          or BS supports."
21      INDEX       { ifIndex, wman2IfCmnCryptoSuiteIndex }
22      ::= { wman2IfCmnCryptoSuiteTable 1 }
23
24
25
26  Wman2IfCmnCryptoSuiteEntry ::= SEQUENCE {
27      wman2IfCmnCryptoSuiteIndex      Integer32,
28      wman2IfCmnCryptoSuiteDataEncryptAlg  Wman2IfDataEncryptAlgId,
29      wman2IfCmnCryptoSuiteDataAuthentAlg  Wman2IfDataAuthAlgId,
30      wman2IfCmnCryptoSuiteTekEncryptAlg   Wman2IfTekEncryptAlgId}
31
32
33  wman2IfCmnCryptoSuiteIndex OBJECT-TYPE
34      SYNTAX      Integer32 (1 .. 1000)
35      MAX-ACCESS  not-accessible
36      STATUS      current
37      DESCRIPTION
38          "The index for a cryptographic suite row."
39      ::= { wman2IfCmnCryptoSuiteEntry 1 }
40
41
42
43  wman2IfCmnCryptoSuiteDataEncryptAlg OBJECT-TYPE
44      SYNTAX      Wman2IfDataEncryptAlgId
45      MAX-ACCESS  read-only
46      STATUS      current
47      DESCRIPTION
48          "The value of this object is the data encryption algorithm
49          for this cryptographic suite capability."
50      REFERENCE
51          "Table 375, IEEE Std 802.16-2004"
52      ::= { wman2IfCmnCryptoSuiteEntry 2 }
53
54
55
56  wman2IfCmnCryptoSuiteDataAuthentAlg OBJECT-TYPE
57      SYNTAX      Wman2IfDataAuthAlgId
58      MAX-ACCESS  read-only
59      STATUS      current
60      DESCRIPTION
61          "The value of this object is the data authentication
62          algorithm for this cryptographic suite capability."
63      REFERENCE
64
65

```

```

1         "Table 376, IEEE Std 802.16-2004"
2         ::= { wman2IfCmnCryptoSuiteEntry 3 }
3
4
5 wman2IfCmnCryptoSuiteTekEncryptAlg OBJECT-TYPE
6     SYNTAX      Wman2IfTekEncryptAlgId
7     MAX-ACCESS  read-only
8     STATUS      current
9     DESCRIPTION
10        "The value of this object is the TEK key encryption
11         algorithm for this cryptographic suite capability."
12
13     REFERENCE
14        "Table 377, IEEE Std 802.16-2004"
15        ::= { wman2IfCmnCryptoSuiteEntry 4 }
16
17
18 --
19 -- Conformance Information
20 --
21 wman2IfMibConformance OBJECT IDENTIFIER ::= {wman2IfMib 2}
22 wman2IfMibGroups      OBJECT IDENTIFIER ::= {wman2IfMibConformance 1}
23 wman2IfMibCompliances OBJECT IDENTIFIER ::= {wman2IfMibConformance 2}
24
25
26 -- compliance statements
27 wman2IfMibCompliance MODULE-COMPLIANCE
28     STATUS      current
29     DESCRIPTION
30        "The compliance statement for devices that implement
31         Wireless MAN interfaces as defined in IEEE Std 802.16-2004."
32
33
34     MODULE -- wman2IfMib
35
36
37     MANDATORY-GROUPS -- unconditionally mandatory groups
38         { wman2IfMibCommonGroup }
39
40
41     GROUP wman2IfMibQoSGroup -- unconditionally mandatory group
42     DESCRIPTION
43         "This group is mandatory for Base Station and subscriber
44         station."
45
46
47     GROUP wman2IfMibBsGroup -- conditionally mandatory group
48     DESCRIPTION
49         "This group is mandatory for Base Station."
50
51
52     GROUP wman2IfMibBsAasGroup -- optional group
53     DESCRIPTION
54         "This group is mandatory for Base Station."
55
56
57     GROUP wman2IfMibSsGroup -- conditionally mandatory group
58     DESCRIPTION
59         "This group is mandatory for Subscriber Station."
60
61
62     GROUP wman2IfMibBsOfdmGroup -- conditionally mandatory group
63     DESCRIPTION
64         "This group is mandatory for Base Station
65         implementaing the OFDM PHY."

```

```

1
2      GROUP wman2IfMibSsOfdmGroup -- conditionally mandatory group
3      DESCRIPTION
4          "This group is mandatory for Subscriber Station
5          implementing the OFDM PHY."
6
7
8      GROUP wman2IfMibBsOfdmaGroup -- conditionally mandatory group
9      DESCRIPTION
10         "This group is mandatory for Base Station
11         implementaing the OFDMA PHY."
12
13
14      GROUP wman2IfMibSsOfdmaGroup -- conditionally mandatory group
15      DESCRIPTION
16         "This group is mandatory for Subscriber Station
17         implementing the OFDMA PHY."
18
19
20      GROUP wman2IfMibBsNotificationGroup -- unconditionally
21                                         -- mandatory groups
22
23      DESCRIPTION
24         "This group is mandatory for Base Station."
25
26
27      GROUP wman2IfMibSsNotificationGroup -- optional group
28      DESCRIPTION
29         "This group is optional for Subscriber Station."
30
31
32      GROUP wman2IfMibCmnPhsGroup -- optional group
33      DESCRIPTION
34         "This group is optional for Base Station and
35         Subscriber Station."
36
37
38      GROUP wman2IfMibBsPhsGroup -- optional group
39      DESCRIPTION
40         "This group is optional for Base Station."
41         ::= { wman2IfMibCompliances 1 }
42
43      wman2IfMibCommonGroup      OBJECT-GROUP
44          OBJECTS {-- Classification
45              wman2IfCmnClassifierRulePriority,
46              wman2IfCmnClassifierRuleIpTosLow,
47              wman2IfCmnClassifierRuleIpTosHigh,
48              wman2IfCmnClassifierRuleIpTosMask,
49              wman2IfCmnClassifierRuleIpProtocol,
50              wman2IfCmnClassifierRuleIpSourceAddr,
51              wman2IfCmnClassifierRuleIpSourceMask,
52              wman2IfCmnClassifierRuleIpDestAddr,
53              wman2IfCmnClassifierRuleIpDestMask,
54              wman2IfCmnClassifierRuleSourcePortStart,
55              wman2IfCmnClassifierRuleSourcePortEnd,
56              wman2IfCmnClassifierRuleDestPortStart,
57              wman2IfCmnClassifierRuleDestPortEnd,
58              wman2IfCmnClassifierRuleDestMacAddr,
59              wman2IfCmnClassifierRuleDestMacMask,
60              wman2IfCmnClassifierRuleSourceMacAddr,
61              wman2IfCmnClassifierRuleSourceMacMask,
62
63
64
65

```



```

1      wman2IfCmnClassifierRuleEnetProtocolType,
2      wman2IfCmnClassifierRuleEnetProtocol,
3      wman2IfCmnClassifierRuleUserPriLow,
4      wman2IfCmnClassifierRuleUserPriHigh,
5      wman2IfCmnClassifierRuleVlanId,
6      wman2IfCmnClassifierRuleState,
7      wman2IfCmnClassifierRulePkts,
8      wman2IfCmnClassifierRuleIpv6FlowLabel,
9      wman2IfCmnClassifierRuleBitMap,
10
11
12
13      -- Configuration parameters
14      wman2IfCmnCpsTargetSaid,
15      wman2IfCmnInvitedRangRetries,
16      wman2IfCmnDSxReqRetries,
17      wman2IfCmnDSxRespRetries,
18      wman2IfCmnT7Timeout,
19      wman2IfCmnT8Timeout,
20      wman2IfCmnT10Timeout,
21      wman2IfCmnT22Timeout,
22      wman2IfCmnCryptoSuiteDataEncryptAlg,
23      wman2IfCmnCryptoSuiteDataAuthentAlg,
24      wman2IfCmnCryptoSuiteTekEncryptAlg}
25
26
27  STATUS      current
28
29  DESCRIPTION
30      "This group contains objects for both BS and SS,
31      and are independent of PHY."
32  ::= { wman2IfMibGroups 1 }
33
34
35  wman2IfMibQoSGroup      OBJECT-GROUP
36      OBJECTS {wman2IfCmnCpsSfId,
37      wman2IfCmnCpsSfCid,
38      wman2IfCmnCpsSfDirection,
39      wman2IfCmnCpsSfState,
40      wman2IfCmnCpsTrafficPriority,
41      wman2IfCmnCpsMaxSustainedRate,
42      wman2IfCmnCpsMaxTrafficBurst,
43      wman2IfCmnCpsMinReservedRate,
44      wman2IfCmnCpsToleratedJitter,
45      wman2IfCmnCpsMaxLatency,
46      wman2IfCmnCpsFixedVsVariableSduInd,
47      wman2IfCmnCpsSduSize,
48      wman2IfCmnCpsSfSchedulingType,
49      wman2IfCmnCpsArqEnable,
50      wman2IfCmnCpsArqWindowSize,
51      wman2IfCmnCpsArqBlockLifetime,
52      wman2IfCmnCpsArqSyncLossTimeout,
53      wman2IfCmnCpsArqDeliverInOrder,
54      wman2IfCmnCpsArqRxPurgeTimeout,
55      wman2IfCmnCpsArqBlockSize,
56      wman2IfCmnCpsMinRsvdTolerableRate,
57      wman2IfCmnCpsReqTxPolicy,
58      wman2IfCmnSfCsSpecification}
59
60
61  STATUS      current
62
63  DESCRIPTION
64
65

```

```

1         "This group contains QoS objects for both BS and SS."
2     ::= { wman2IfMibGroups 2 }
3
4
5     wman2IfMibBsGroup      OBJECT-GROUP
6     OBJECTS {-- Service classes
7         wman2IfBsSfDirection,
8         wman2IfBsServiceClassIndex,
9         wman2IfBsSfState,
10        wman2IfBsSfProvisionedTime,
11        wman2IfBsProvisionedSfRowStatus,
12        wman2IfBsSsProvisionedForSfRowStatus,
13        wman2IfBsSfCsSpecification,
14        wman2IfBsQoSServiceClassName,
15        wman2IfBsQoSSTrafficPriority,
16        wman2IfBsQoSMaxSustainedRate,
17        wman2IfBsQoSMaxTrafficBurst,
18        wman2IfBsQoSMinReservedRate,
19        wman2IfBsQOSToleratedJitter,
20        wman2IfBsQoSMaxLatency,
21        wman2IfBsQoSFixedVsVariableSduInd,
22        wman2IfBsQOSSduSize,
23        wman2IfBsQoSScSchedulingType,
24        wman2IfBsQoSScArqEnable,
25        wman2IfBsQoSScArqWindowSize,
26        wman2IfBsQoSScArqBlockLifetime,
27        wman2IfBsQoSScArqSyncLossTimeout,
28        wman2IfBsQoSScArqDeliverInOrder,
29        wman2IfBsQoSScArqRxPurgeTimeout,
30        wman2IfBsQoSScArqBlockSize,
31        wman2IfBsQoSSCMinRsVdTolerableRate,
32        wman2IfBsQoSReqTxPolicy,
33        wman2IfBsQOSServiceClassRowStatus,
34
35        -- Classification
36        wman2IfBsClassifierRulePriority,
37        wman2IfBsClassifierRuleIpTosLow,
38        wman2IfBsClassifierRuleIpTosHigh,
39        wman2IfBsClassifierRuleIpTosMask,
40        wman2IfBsClassifierRuleIpProtocol,
41        wman2IfBsClassifierRuleIpSourceAddr,
42        wman2IfBsClassifierRuleIpSourceMask,
43        wman2IfBsClassifierRuleIpDestAddr,
44        wman2IfBsClassifierRuleIpDestMask,
45        wman2IfBsClassifierRuleSourcePortStart,
46        wman2IfBsClassifierRuleSourcePortEnd,
47        wman2IfBsClassifierRuleDestPortStart,
48        wman2IfBsClassifierRuleDestPortEnd,
49        wman2IfBsClassifierRuleDestMacAddr,
50        wman2IfBsClassifierRuleDestMacMask,
51        wman2IfBsClassifierRuleSourceMacAddr,
52        wman2IfBsClassifierRuleSourceMacMask,
53        wman2IfBsClassifierRuleEnetProtocolType,
54        wman2IfBsClassifierRuleEnetProtocol,
55        wman2IfBsClassifierRuleUserPriLow,
56
57
58
59
60
61
62
63
64
65

```

```

1      wman2IfBsClassifierRuleUserPriHigh,
2      wman2IfBsClassifierRuleVlanId,
3      wman2IfBsClassifierRuleState,
4      wman2IfBsClassifierRulePhsSize,
5      wman2IfBsClassifierRulePhsMask,
6      wman2IfBsClassifierRulePhsVerify,
7      wman2IfBsClassifierRuleIpv6FlowLabel,
8      wman2IfBsClassifierRuleBitMap,
9      wman2IfBsClassifierRuleRowStatus,
10
11
12
13      -- Packet counters
14      wman2IfBsSsMacSduCount,
15      wman2IfBsSsOctetCount,
16      wman2IfBsSsResetCounter,
17      wman2IfBsSsResetCounterTime,
18
19
20      -- Capability negotiation
21      wman2IfBsSsBasicCid,
22      wman2IfBsSsPrimaryCid,
23      wman2IfBsSsSecondaryCid,
24      wman2IfBsSsManagementSupport,
25      wman2IfBsSsIpManagementMode,
26      wman2IfBs2ndMgmtDlQoSProfileIndex,
27      wman2IfBs2ndMgmtUlQoSProfileIndex,
28      wman2IfBsAutoSfidEnabled,
29      wman2IfBsAutoSfidRangeMin,
30      wman2IfBsAutoSfidRangeMax,
31      wman2IfBsResetSector,
32      wman2IfBsSs2ndMgmtArqEnable,
33      wman2IfBsSs2ndMgmtArqWindowSize,
34      wman2IfBsSs2ndMgmtArqDnLinkTxDelay,
35      wman2IfBsSs2ndMgmtArqUpLinkTxDelay,
36      wman2IfBsSs2ndMgmtArqDnLinkRxDelay,
37      wman2IfBsSs2ndMgmtArqUpLinkRxDelay,
38      wman2IfBsSs2ndMgmtArqBlockLifetime,
39      wman2IfBsSs2ndMgmtArqSyncLossTimeout,
40      wman2IfBsSs2ndMgmtArqDeliverInOrder,
41      wman2IfBsSs2ndMgmtArqRxPurgeTimeout,
42      wman2IfBsSs2ndMgmtArqBlockSize,
43      wman2IfBsSsVendorIdEncoding,
44      wman2IfBsSsAasBroadcastPermission,
45      wman2IfBsSsMaxTxPowerBpsk,
46      wman2IfBsSsMaxTxPowerQpsk,
47      wman2IfBsSsMaxTxPower16Qam,
48      wman2IfBsSsMaxTxPower64Qam,
49
50
51      -- Configuration parameters
52      wman2IfBsSsMacVersion,
53      wman2IfBsDcdInterval,
54      wman2IfBsUcdInterval,
55      wman2IfBsUcdTransition,
56      wman2IfBsDcdTransition,
57      wman2IfBsInitialRangingInterval,
58      wman2IfBsSsULMapProcTime,
59
60
61

```

```

1      wman2IfBsSsRangRespProcTime,
2      wman2IfBsT5Timeout,
3      wman2IfBsT9Timeout,
4      wman2IfBsT13Timeout,
5      wman2IfBsT15Timeout,
6      wman2IfBsT17Timeout,
7      wman2IfBsT27IdleTimer,
8      wman2IfBsT27ActiveTimer,
9
10
11
12      -- Performance monitoring
13      wman2IfBsHistogramIndex,
14      wman2IfBsChannelNumber,
15      wman2IfBsStartFrame,
16      wman2IfBsDuration,
17      wman2IfBsBasicReport,
18      wman2IfBsMeanCinrReport,
19      wman2IfBsMeanRssiReport,
20      wman2IfBsStdDeviationCinrReport,
21      wman2IfBsStdDeviationRssiReport,
22
23
24
25      -- Capability negotiation
26      wman2IfBsSsReqCapUplinkCidSupport,
27      wman2IfBsSsReqCapArqSupport,
28      wman2IfBsSsReqCapDsxFlowControl,
29      wman2IfBsSsReqCapMacCrcSupport,
30      wman2IfBsSsReqCapMcaFlowControl,
31      wman2IfBsSsReqCapMcpGroupCidSupport,
32      wman2IfBsSsReqCapPkmFlowControl,
33      wman2IfBsSsReqCapAuthPolicyControl,
34      wman2IfBsSsReqCapMaxNumOfSupportedSA,
35      wman2IfBsSsReqCapIpVersion,
36      wman2IfBsSsReqCapMacCsSupportBitMap,
37      wman2IfBsSsReqCapMaxNumOfClassifier,
38      wman2IfBsSsReqCapPhsSupport,
39      wman2IfBsSsReqCapBandwidthAllocSupport,
40      wman2IfBsSsReqCapPduConstruction,
41      wman2IfBsSsReqCapTtgTransitionGap,
42      wman2IfBsSsReqCapRtgTransitionGap,
43      wman2IfBsSsRspCapUplinkCidSupport,
44      wman2IfBsSsRspCapArqSupport,
45      wman2IfBsSsRspCapDsxFlowControl,
46      wman2IfBsSsRspCapMacCrcSupport,
47      wman2IfBsSsRspCapMcaFlowControl,
48      wman2IfBsSsRspCapMcpGroupCidSupport,
49      wman2IfBsSsRspCapPkmFlowControl,
50      wman2IfBsSsRspCapAuthPolicyControl,
51      wman2IfBsSsRspCapMaxNumOfSupportedSA,
52      wman2IfBsSsRspCapIpVersion,
53      wman2IfBsSsRspCapMacCsSupportBitMap,
54      wman2IfBsSsRspCapMaxNumOfClassifier,
55      wman2IfBsSsRspCapPhsSupport,
56      wman2IfBsSsRspCapBandwidthAllocSupport,
57      wman2IfBsSsRspCapPduConstruction,
58      wman2IfBsSsRspCapTtgTransitionGap,
59
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61
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1      wman2IfBsSsRspCapRtgTransitionGap,
2      wman2IfBsCapUplinkCidSupport,
3      wman2IfBsCapArqSupport,
4      wman2IfBsCapDsxFowControl,
5      wman2IfBsCapMacCrcSupport,
6      wman2IfBsCapMcaFlowControl,
7      wman2IfBsCapMcpGroupCidSupport,
8      wman2IfBsCapPkmFlowControl,
9      wman2IfBsCapAuthPolicyControl,
10     wman2IfBsCapMaxNumOfSupportedSA,
11     wman2IfBsCapIpVersion,
12     wman2IfBsCapMacCsSupportBitMap,
13     wman2IfBsCapMaxNumOfClassifier,
14     wman2IfBsCapPhsSupport,
15     wman2IfBsCapBandwidthAllocSupport,
16     wman2IfBsCapPduConstruction,
17     wman2IfBsCapTtgTransitionGap,
18     wman2IfBsCapRtgTransitionGap,
19     wman2IfBsCapCfgUplinkCidSupport,
20     wman2IfBsCapCfgArqSupport,
21     wman2IfBsCapCfgDsxFowControl,
22     wman2IfBsCapCfgMacCrcSupport,
23     wman2IfBsCapCfgMcaFlowControl,
24     wman2IfBsCapCfgMcpGroupCidSupport,
25     wman2IfBsCapCfgPkmFlowControl,
26     wman2IfBsCapCfgAuthPolicyControl,
27     wman2IfBsCapCfgMaxNumOfSupportedSA,
28     wman2IfBsCapCfgIpVersion,
29     wman2IfBsCapCfgMacCsSupportBitMap,
30     wman2IfBsCapCfgMaxNumOfClassifier,
31     wman2IfBsCapCfgPhsSupport,
32     wman2IfBsCapCfgBandwidthAllocSupport,
33     wman2IfBsCapCfgPduConstruction,
34     wman2IfBsCapCfgTtgTransitionGap,
35     wman2IfBsCapCfgRtgTransitionGap,
36     wman2IfBsSsActionsResetSs,
37     wman2IfBsSsActionsAbortSs,
38     wman2IfBsSsActionsOverrideDnFreq,
39     wman2IfBsSsActionsOverrideChannelId,
40     wman2IfBsSsActionsDeReRegSs,
41     wman2IfBsSsActionsDeReRegSsCode,
42     wman2IfBsSsActionsRowStatus,
43
44     -- Privacy sublayer
45     wman2IfBsPkmDefaultAuthLifetime,
46     wman2IfBsPkmDefaultTekLifetime,
47     wman2IfBsPkmDefaultSelfSigManufCertTrust,
48     wman2IfBsPkmCheckCertValidityPeriods,
49     wman2IfBsPkmAuthentInfos,
50     wman2IfBsPkmAuthRequests,
51     wman2IfBsPkmAuthReplies,
52     wman2IfBsPkmAuthRejects,
53     wman2IfBsPkmAuthInvalids,
54     wman2IfBsSsPkmAuthKeySequenceNumber,
55
56
57
58
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1      wman2IfBsSsPkmAuthExpiresOld,
2      wman2IfBsSsPkmAuthExpiresNew,
3      wman2IfBsSsPkmAuthLifetime,
4      wman2IfBsSsPkmAuthReset,
5      wman2IfBsSsPkmAuthInfos,
6      wman2IfBsSsPkmAuthRequests,
7      wman2IfBsSsPkmAuthReplies,
8      wman2IfBsSsPkmAuthRejects,
9      wman2IfBsSsPkmAuthInvalids,
10     wman2IfBsSsPkmAuthRejectErrorCode,
11     wman2IfBsSsPkmAuthRejectErrorString,
12     wman2IfBsSsPkmAuthInvalidErrorCode,
13     wman2IfBsSsPkmAuthInvalidErrorString,
14     wman2IfBsSsPkmAuthPrimarySAId,
15     wman2IfBsSsPkmAuthValidStatus,
16     wman2IfBsPkmTekSAType,
17     wman2IfBsPkmTekDataEncryptAlg,
18     wman2IfBsPkmTekDataAuthentAlg,
19     wman2IfBsPkmTekEncryptAlg,
20     wman2IfBsPkmTekLifetime,
21     wman2IfBsPkmTekKeySequenceNumber,
22     wman2IfBsPkmTekExpiresOld,
23     wman2IfBsPkmTekExpiresNew,
24     wman2IfBsPkmTekReset,
25     wman2IfBsPkmKeyRequests,
26     wman2IfBsPkmKeyReplies,
27     wman2IfBsPkmKeyRejects,
28     wman2IfBsPkmTekInvalids,
29     wman2IfBsPkmKeyRejectErrorCode,
30     wman2IfBsPkmKeyRejectErrorString,
31     wman2IfBsPkmTekInvalidErrorCode,
32     wman2IfBsPkmTekInvalidErrorString,
33
34     -- Notification
35     wman2IfBsTrapControlRegister,
36     wman2IfBsStatusTrapControlRegister,
37     wman2IfBsRssiLowThreshold,
38     wman2IfBsRssiHighThreshold,
39     wman2IfBsSsNotificationMacAddr,
40     wman2IfBsSsStatusValue,
41     wman2IfBsSsStatusInfo,
42     wman2IfBsDynamicServiceType,
43     wman2IfBsDynamicServiceFailReason,
44     wman2IfBsSsRssiStatus,
45     wman2IfBsSsRssiStatusInfo,
46     wman2IfBsSsRegisterStatus}
47
48 STATUS      current
49
50 DESCRIPTION
51     "This group contains objects for BS, and are
52     independent of PHY."
53 ::= { wman2IfMibGroups 3 }
54
55 wman2IfMibBsAasGroup      OBJECT-GROUP
56     OBJECTS {-- AAS Configuration parameters

```

```

1          wman2IfBsAasChanFbckReqFreq,
2          wman2IfBsAasBeamSelectFreq,
3          wman2IfBsAasChanFbckReqResolution,
4          wman2IfBsAasBeamReqResolution,
5          wman2IfBsAasNumOptDiversityZones}
6
7      STATUS          current
8
9      DESCRIPTION
10         "This group contains objects for AAS in BS."
11         ::= { wman2IfMibGroups 4 }
12
13 wman2IfMibSsGroup      OBJECT-GROUP
14     OBJECTS {-- Configuration parameters
15         wman2IfSsLostDLMapInterval,
16         wman2IfSsLostULMapInterval,
17         wman2IfSsContentionRangRetries,
18         wman2IfSsRequestRetries,
19         wman2IfSsRegRequestRetries,
20         wman2IfSsTftpBackoffStart,
21         wman2IfSsTftpBackoffEnd,
22         wman2IfSsTftpRequestRetries,
23         wman2IfSsTftpDownloadRetries,
24         wman2IfSsTftpWait,
25         wman2IfSsToDRetries,
26         wman2IfSsToDRetryPeriod,
27         wman2IfSsT1Timeout,
28         wman2IfSsT2Timeout,
29         wman2IfSsT3Timeout,
30         wman2IfSsT4Timeout,
31         wman2IfSsT6Timeout,
32         wman2IfSsT12Timeout,
33         wman2IfSsT14Timeout,
34         wman2IfSsT16Timeout,
35         wman2IfSsT18Timeout,
36         wman2IfSsT19Timeout,
37         wman2IfSsT20Timeout,
38         wman2IfSsT21Timeout,
39         wman2IfSsSBCRequestRetries,
40         wman2IfSsTftpCpltRetries,
41         wman2IfSsT26Timeout,
42         wman2IfSsDLManagProcTime,
43
44         -- Performance monitoring
45         wman2IfSsChannelNumber,
46         wman2IfSsStartFrame ,
47         wman2IfSsDuration,
48         wman2IfSsBasicReport,
49         wman2IfSsMeanCinrReport,
50         wman2IfSsStdDeviationCinrReport,
51         wman2IfSsMeanRssiReport,
52         wman2IfSsStdDeviationRssiReport,
53
54         -- Privacy sublayer
55         wman2IfSsPkmAuthState,
56         wman2IfSsPkmAuthKeySequenceNumber,
57
58
59
60
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```

```

1      wman2IfSsPkmAuthExpiresOld,
2      wman2IfSsPkmAuthExpiresNew ,
3      wman2IfSsPkmAuthReset,
4      wman2IfSsPkmAuthentInfos,
5      wman2IfSsPkmAuthRequests,
6      wman2IfSsPkmAuthReplies,
7      wman2IfSsPkmAuthRejects,
8      wman2IfSsPkmAuthInvalids,
9      wman2IfSsPkmAuthRejectErrorCode,
10     wman2IfSsPkmAuthRejectErrorString,
11     wman2IfSsPkmAuthInvalidErrorCode,
12     wman2IfSsPkmAuthInvalidErrorString ,
13     wman2IfSsPkmAuthGraceTime,
14     wman2IfSsPkmTekGraceTime,
15     wman2IfSsPkmAuthWaitTimeout,
16     wman2IfSsPkmReauthWaitTimeout,
17     wman2IfSsPkmOpWaitTimeout,
18     wman2IfSsPkmRekeyWaitTimeout,
19     wman2IfSsPkmAuthRejectWaitTimeout,
20     wman2IfSsPkmTekSAType,
21     wman2IfSsPkmTekDataEncryptAlg,
22     wman2IfSsPkmTekDataAuthentAlg,
23     wman2IfSsPkmTekEncryptAlg,
24     wman2IfSsPkmTekState,
25     wman2IfSsPkmTekKeySequenceNumber,
26     wman2IfSsPkmTekExpiresOld,
27     wman2IfSsPkmTekExpiresNew,
28     wman2IfSsPkmTekKeyRequests,
29     wman2IfSsPkmTekKeyReplies,
30     wman2IfSsPkmTekKeyRejects,
31     wman2IfSsPkmTekInvalids,
32     wman2IfSsPkmTekAuthPends,
33     wman2IfSsPkmTekKeyRejectErrorCode,
34     wman2IfSsPkmTekKeyRejectErrorString,
35     wman2IfSsPkmTekInvalidErrorCode,
36     wman2IfSsPkmTekInvalidErrorString,
37     wman2IfSsDeviceCert,
38     wman2IfSsDeviceManufCert,
39
40     -- Notofocation
41     wman2IfSsTrapControlRegister,
42     wman2IfSsRssiLowThreshold,
43     wman2IfSsRssiHighThreshold,
44     wman2IfSsMacAddress,
45     wman2IfSsUnknownTlv,
46     wman2IfSsDynamicServiceType,
47     wman2IfSsDynamicServiceFailReason,
48     wman2IfSsRssiStatus,
49     wman2IfSsRssiStatusInfo}
50
51 STATUS      current
52
53 DESCRIPTION
54     "This group contains objects for SS, and are
55     independent of PHY."
56 ::= { wman2IfMibGroups 5 }

```



```

1
2 wman2IfMibBsOfdmGroup      OBJECT-GROUP
3     OBJECTS {wman2IfBsOfdmCtBasedResvTimeout,
4               wman2IfBsOfdmBwReqOppSize,
5               wman2IfBsOfdmRangReqOppSize,
6               wman2IfBsOfdmUplinkCenterFreq,
7               wman2IfBsOfdmNumSubChReqRegionFull,
8               wman2IfBsOfdmNumSymbolsReqRegionFull,
9               wman2IfBsOfdmSubChFocusCtCode,
10              wman2IfBsOfdmUpLinkChannelId,
11              wman2IfBsOfdmBsEIRP,
12              wman2IfBsOfdmChannelNumber,
13              wman2IfBsOfdmTTG,
14              wman2IfBsOfdmRTG,
15              wman2IfBsOfdmInitRngMaxRSS,
16              wman2IfBsOfdmDownlinkCenterFreq,
17              wman2IfBsOfdmBsId,
18              wman2IfBsOfdmMacVersion,
19              wman2IfBsOfdmFrameDurationCode,
20              wman2IfBsOfdmDownLinkChannelId,
21              wman2IfBsOfdmUcdFecCodeType,
22              wman2IfBsOfdmFocusCtPowerBoost,
23              wman2IfBsOfdmUcdTcsEnable,
24              wman2IfBsOfdmUcdBurstProfileRowStatus,
25              wman2IfBsOfdmDownlinkFrequency,
26              wman2IfBsOfdmDcdFecCodeType,
27              wman2IfBsOfdmDiucMandatoryExitThresh,
28              wman2IfBsOfdmDiucMinEntryThresh,
29              wman2IfBsOfdmTcsEnable,
30              wman2IfBsOfdmDcdBurstProfileRowStatus,
31              wman2IfBsOfdmMinReqRegionFullTxOpp,
32              wman2IfBsOfdmMinFocusedCtTxOpp,
33              wman2IfBsOfdmMaxRoundTripDelay,
34              wman2IfBsOfdmRangeAbortTimingThold,
35              wman2IfBsOfdmRangeAbortPowerThold ,
36              wman2IfBsOfdmRangeAbortFreqThold,
37              wman2IfBsOfdmDnlkRateId,
38              wman2IfBsOfdmRatioG,
39              wman2IfBsSsOfdmReqCapFftSizes,
40              wman2IfBsSsOfdmReqCapSsDemodulator,
41              wman2IfBsSsOfdmReqCapSsModulator,
42              wman2IfBsSsOfdmReqCapFocusedCtSupport,
43              wman2IfBsSsOfdmReqCapTcSublayerSupport,
44              wman2IfBsSsOfdmRspCapFftSizes,
45              wman2IfBsSsOfdmRspCapSsDemodulator,
46              wman2IfBsSsOfdmRspCapSsModulator,
47              wman2IfBsSsOfdmRspCapFocusedCtSupport,
48              wman2IfBsSsOfdmRspCapTcSublayerSupport,
49              wman2IfBsOfdmCapFftSizes,
50              wman2IfBsOfdmCapSsDemodulator,
51              wman2IfBsOfdmCapSsModulator,
52              wman2IfBsOfdmCapFocusedCtSupport,
53              wman2IfBsOfdmCapTcSublayerSupport,
54              wman2IfBsOfdmCapCfgFftSizes,
55
56
57
58
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```

```

1          wman2IfBsOfdmCapCfgSsDemodulator,
2          wman2IfBsOfdmCapCfgSsModulator,
3          wman2IfBsOfdmCapCfgFocusedCtSupport,
4          wman2IfBsOfdmCapCfgTcSublayerSupport}
5
6      STATUS          current
7      DESCRIPTION
8          "This group contains objects for BS and OFDM PHY."
9      ::= { wman2IfMibGroups 6 }
10
11
12      wman2IfMibSsOfdmGroup      OBJECT-GROUP
13          OBJECTS {wman2IfSsOfdmCtBasedResvTimeout,
14                  wman2IfSsOfdmBwReqOppSize,
15                  wman2IfSsOfdmRangReqOppSize,
16                  wman2IfSsOfdmUplinkCenterFreq,
17                  wman2IfSsOfdmNumSubChReqRegionFull,
18                  wman2IfSsOfdmNumSymbolsReqRegionFull,
19                  wman2IfSsOfdmSubChFocusCtCode,
20                  wman2IfSsOfdmUpLinkChannelId,
21                  wman2IfSsOfdmBsEIRP,
22                  wman2IfSsOfdmChannelNumber,
23                  wman2IfSsOfdmTTG,
24                  wman2IfSsOfdmRTG,
25                  wman2IfSsOfdmInitRngMaxRSS,
26                  wman2IfSsOfdmDownlinkCenterFreq,
27                  wman2IfSsOfdmBsId,
28                  wman2IfSsOfdmMacVersion,
29                  wman2IfSsOfdmFrameDurationCode,
30                  wman2IfSsOfdmDownLinkChannelId,
31                  wman2IfSsOfdmUcdFecCodeType,
32                  wman2IfSsOfdmFocusCtPowerBoost,
33                  wman2IfSsOfdmUcdTcsEnable,
34                  wman2IfSsOfdmDownlinkFrequency,
35                  wman2IfSsOfdmDcdFecCodeType,
36                  wman2IfSsOfdmDiucMandatoryExitThresh,
37                  wman2IfSsOfdmDiucMinEntryThresh,
38                  wman2IfSsOfdmTcsEnable}
39
40      STATUS          current
41      DESCRIPTION
42          "This group contains objects for SS and OFDM PHY."
43      ::= { wman2IfMibGroups 7 }
44
45
46      wman2IfMibBsOfdmaGroup      OBJECT-GROUP
47          OBJECTS {wman2IfBsOfdmaCtBasedResvTimeout,
48                  wman2IfBsOfdmaBwReqOppSize,
49                  wman2IfBsOfdmaRangReqOppSize,
50                  wman2IfBsOfdmaUplinkCenterFreq,
51                  wman2IfBsOfdmaInitRngCodes,
52                  wman2IfBsOfdmaPeriodicRngCodes,
53                  wman2IfBsOfdmaBWReqCodes,
54                  wman2IfBsOfdmaPerRngBackoffStart,
55                  wman2IfBsOfdmaPerRngBackoffEnd,
56                  wman2IfBsOfdmaStartOfRngCodes,
57                  wman2IfBsOfdmaPermutationBase,
58                  wman2IfBsOfdmaULAllocSubchBitmap,
59

```

```

1      wman2IfBsOfdmaOptPermULAllocSubchBitmap,
2      wman2IfBsOfdmaBandAMCAllocThreshold,
3      wman2IfBsOfdmaBandAMCReleaseThreshold,
4      wman2IfBsOfdmaBandAMCAllocTimer,
5      wman2IfBsOfdmaBandAMCReleaseTimer,
6      wman2IfBsOfdmaBandStatRepMAXPeriod,
7      wman2IfBsOfdmaBandAMCRetryTimer,
8      wman2IfBsOfdmaSafetyChAllocThreshold,
9      wman2IfBsOfdmaSafetyChReleaseThreshold,
10     wman2IfBsOfdmaSafetyChAllocTimer,
11     wman2IfBsOfdmaSafetyChReleaseTimer,
12     wman2IfBsOfdmaBinStatRepMAXPeriod,
13     wman2IfBsOfdmaSafetyChARetryTimer,
14     wman2IfBsOfdmaHARQAackDelayULBurst,
15     wman2IfBsOfdmaCQICHBandAMCTranaDelay,
16     wman2IfBsOfdmaBsEIRP,
17     wman2IfBsOfdmaChannelNumber,
18     wman2IfBsOfdmaTTG,
19     wman2IfBsOfdmaRTG,
20     wman2IfBsOfdmaInitRngMaxRSS,
21     wman2IfBsOfdmaDownlinkCenterFreq,
22     wman2IfBsOfdmaBsId,
23     wman2IfBsOfdmaMacVersion,
24     wman2IfBsOfdmaFrameDurationCode,
25     wman2IfBsOfdmaSizeCqichIdField,
26     wman2IfBsOfdmaHARQAackDelayBurst,
27     wman2IfBsOfdmaUcdFecCodeType,
28     wman2IfBsOfdmaRangingDataRatio,
29     wman2IfBsOfdmaNorCOverNOVERRIDE,
30     wman2IfBsOfdmaUcdBurstProfileRowStatus,
31     wman2IfBsOfdmaDownlinkFrequency,
32     wman2IfBsOfdmaDcdFecCodeType,
33     wman2IfBsOfdmaDiucMandatoryExitThresh,
34     wman2IfBsOfdmaDiucMinEntryThresh,
35     wman2IfBsOfdmaDcdBurstProfileRowStatus}
36
37 STATUS      current
38
39 DESCRIPTION
40     "This group contains objects for BS and OFDMA PHY."
41 ::= { wman2IfMibGroups 8 }
42
43
44
45
46
47
48
49 wman2IfMibSsOfdmaGroup      OBJECT-GROUP
50     OBJECTS {wman2IfSsOfdmaCtBasedResvTimeout,
51             wman2IfSsOfdmaBwReqOppSize,
52             wman2IfSsOfdmaRangReqOppSize,
53             wman2IfSsOfdmaUplinkCenterFreq,
54             wman2IfSsOfdmaInitRngCodes,
55             wman2IfSsOfdmaPeriodicRngCodes,
56             wman2IfSsOfdmaBWReqCodes,
57             wman2IfSsOfdmaPerRngBackoffStart,
58             wman2IfSsOfdmaPerRngBackoffEnd,
59             wman2IfSsOfdmaStartOfRngCodes,
60             wman2IfSsOfdmaPermutationBase,
61             wman2IfSsOfdmaULAllocSubchBitmap,
62             wman2IfSsOfdmaOptPermULAllocSubchBitmap,
63             wman2IfSsOfdmaULAllocSubchBitmap,
64             wman2IfSsOfdmaOptPermULAllocSubchBitmap,
65             wman2IfSsOfdmaOptPermULAllocSubchBitmap,

```

```

1      wman2IfSsOfdmaBandAMCAllocThreshold,
2      wman2IfSsOfdmaBandAMCReleaseThreshold,
3      wman2IfSsOfdmaBandAMCAllocTimer,
4      wman2IfSsOfdmaBandAMCReleaseTimer,
5      wman2IfSsOfdmaBandStatRepMAXPeriod,
6      wman2IfSsOfdmaBandAMCRetryTimer,
7      wman2IfSsOfdmaSafetyChAllocThreshold,
8      wman2IfSsOfdmaSafetyChReleaseThreshold,
9      wman2IfSsOfdmaSafetyChAllocTimer,
10     wman2IfSsOfdmaSafetyChReleaseTimer,
11     wman2IfSsOfdmaBinStatRepMAXPeriod,
12     wman2IfSsOfdmaSafetyChARetryTimer,
13     wman2IfSsOfdmaHARQAackDelayULBurst,
14     wman2IfSsOfdmaCQICHBandAMCTranaDelay,
15     wman2IfSsOfdmaBsEIRP,
16     wman2IfSsOfdmaChannelNumber,
17     wman2IfSsOfdmaTTG,
18     wman2IfSsOfdmaRTG,
19     wman2IfSsOfdmaInitRngMaxRSS,
20     wman2IfSsOfdmaDownlinkCenterFreq,
21     wman2IfSsOfdmaBsId,
22     wman2IfSsOfdmaMacVersion,
23     wman2IfSsOfdmaFrameDurationCode,
24     wman2IfSsOfdmaSizeCqichIdField,
25     wman2IfSsOfdmaHARQAackDelayBurst,
26     wman2IfSsOfdmaUiucIndex,
27     wman2IfSsOfdmaUcdFecCodeType,
28     wman2IfSsOfdmaRangingDataRatio,
29     wman2IfSsOfdmaNorCOverNOVERRIDE,
30     wman2IfSsOfdmaDiucIndex,
31     wman2IfSsOfdmaDownlinkFrequency,
32     wman2IfSsOfdmaDcdFecCodeType,
33     wman2IfSsOfdmaDiucMandatoryExitThresh,
34     wman2IfSsOfdmaDiucMinEntryThresh}
35
36 STATUS      current
37
38 DESCRIPTION
39     "This group contains objects for SS and OFDMA PHY."
40 ::= { wman2IfMibGroups 9 }
41
42 wman2IfMibBsNotificationGroup      NOTIFICATION-GROUP
43 NOTIFICATIONS {wman2IfBsSsStatusNotificationTrap,
44                wman2IfBsSsDynamicServiceFailTrap,
45                wman2IfBsSsRssiStatusChangeTrap,
46                wman2IfBsSsPkmFailTrap,
47                wman2IfBsSsRegistrerTrap}
48
49 STATUS      current
50
51 DESCRIPTION
52     "This group contains event notifications for BS."
53 ::= { wman2IfMibGroups 10 }
54
55 wman2IfMibSsNotificationGroup      NOTIFICATION-GROUP
56 NOTIFICATIONS {wman2IfSsTlvUnknownTrap,
57                wman2IfSsDynamicServiceFailTrap,
58                wman2IfSsDhcpSuccessTrap,
59

```

```

1          wman2IfSsRssiStatusChangeTrap}
2      STATUS          current
3      DESCRIPTION
4          "This group contains event notifications for SS."
5      ::= { wman2IfMibGroups 11 }
6
7
8      wman2IfMibCmnPhsGroup      OBJECT-GROUP
9      OBJECTS {-- Payload header supression
10          wman2IfCmnPhsRulePhsField,
11          wman2IfCmnPhsRulePhsMask,
12          wman2IfCmnPhsRulePhsSize,
13          wman2IfCmnPhsRulePhsVerify}
14      STATUS          current
15      DESCRIPTION
16          "This group contains common objects for PHS."
17      ::= { wman2IfMibGroups 12 }
18
19
20
21      wman2IfMibBsPhsGroup      OBJECT-GROUP
22      OBJECTS {-- Payload header supression
23          wman2IfBsClassifierRulePhsSize,
24          wman2IfBsClassifierRulePhsMask,
25          wman2IfBsClassifierRulePhsVerify,
26          wman2IfBsClassifierRuleBitMap}
27      STATUS          current
28      DESCRIPTION
29          "This group contains BS objects for PHS."
30      ::= { wman2IfMibGroups 13 }
31
32
33      END
34
35
36
37
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42
43
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**Annex E.**

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## **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

```

1  wmanIfBsMobility OBJECT IDENTIFIER ::= { wmanIfBsObjects x} -- e.g. x = 7
2
3
4
5
6  wmanIfBsHandoverConfiguration OBJECT IDENTIFIER ::= { wmanIfBsMobility 2 }
7
8
9  wmanIfBsOperatorId OBJECT-TYPE
10     SYNTAX Integer32
11     MAX-ACCESS read-write
12     STATUS current
13     DESCRIPTION
14         "An unique operator identifier."
15     ::= { wmanIfBsHandoverConfiguration 1 }
16
17
18  wmanIfBsId OBJECT-TYPE
19     SYNTAX WmanIfBsIdType
20     MAX-ACCESS read-write
21     STATUS current
22     DESCRIPTION
23         "An unique BS identifier."
24     ::= { wmanIfBsHandoverConfiguration 2 }
25
26
27  wmanIfBsHandoverSupport OBJECT-TYPE
28     SYNTAX BITS
29         {
30             {
31                 MDHO/FBSS HO not supported(0),
32                 FBSS/MDHO DLRF combining supported(1),
33                 MDHO DL soft combining supported monitoring single MAP from anchor
34                 BS(2),
35                 MDHO DL soft combining supported monitoring MAPS from active BSs(3),
36                 reserved1(5),
37                 reserved2(6),
38                 reserved3(7)
39             }
40             }
41     MAX-ACCESS read-write
42     STATUS current
43     DESCRIPTION
44         "The Handover supported field indicates what type(s) of HO the BS and the MS
45         supports."
46     ::= { wmanIfBsHandoverConfiguration 3 }
47
48
49
50  wmanIfBsHandoverSupport OBJECT-TYPE
51     SYNTAX BITS
52         {
53             {
54                 mdho/fbss HO not supported(0),
55                 fbss/mdho DLRF combining supported(1),
56                 mdho DL soft combining supported monitoring single MAP from anchor BS(2),
57                 mdho DL soft combining supported monitoring MAPS from active BSs(3)
58             }
59             }
60     MAX-ACCESS read-write
61     STATUS current
62     DESCRIPTION
63         "The Handover supported field indicates what type(s) of HO the BS and the MS
64         supports."
65

```

1 ::= { wmanIfBsHandoverConfiguration 3 }

2  
3 wmanIfBsResourceRetainTime OBJECT-TYPE

4 SYNTAX Integer32

5 MAX-ACCESS read-write

6 STATUS current

7 DESCRIPTION

8  
9 "The Resource\_Retain\_Time is the duration for MS s connection information  
10 that will be retained in serving BS. BS shall start Resource\_Retain\_Time timer at MS notification  
11  
12  
13  
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59  
60  
61  
62  
63  
64  
65

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 }

wmanIfBsMsHOCConnectProcessingTime 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

```

1           "Time in ms the MS needs to completely
2           process TEK information during HO."
3           ::= { wmanIfBsHandoverConfiguration 9 }
4
5
6   wmanIfBsULPermutationBase OBJECT-TYPE
7       SYNTAX OCTET STRING
8       MAX-ACCESS read-write
9       STATUS current
10      DESCRIPTION
11          "This parameter is used for uplink subcarrier allocation."
12      ::= { wmanIfBsHandoverConfiguration 10 }
13
14
15   wmanIfBsDLPermutationBase OBJECT-TYPE
16       SYNTAX OCTET STRING
17       MAX-ACCESS read-write
18       STATUS current
19       DESCRIPTION
20          "This parameter is used for downlink subcarrier allocation."
21      ::= { wmanIfBsHandoverConfiguration 11 }
22
23
24   wmanIfBsPreambleIndex OBJECT-TYPE
25       SYNTAX OCTET STRING
26       MAX-ACCESS read-write
27       STATUS current
28       DESCRIPTION
29          "This parameter is used for downlink synchronization by MS."
30      ::= { wmanIfBsHandoverConfiguration 12 }
31
32
33   wmanIfBsSegmentNumber OBJECT-TYPE
34       SYNTAX INTEGER
35       MAX-ACCESS read-write
36       STATUS current
37       DESCRIPTION
38          "This parameter is an unique segment identifier ."
39      ::= { wmanIfBsHandoverConfiguration 13 }
40
41
42   wmanIfNeighbourBsTable OBJECT-TYPE
43       SYNTAX SEQUENCE OF WmanIfNeighbourBsEntry
44       MAX-ACCESS not-accessible
45       STATUS current
46       DESCRIPTION
47          "This table contains neighbouring BS related parameters."
48      ::= { wmanIfBsHandoverConfiguration 14 }
49
50
51   wmanIfNeighbourBsEntry OBJECT-TYPE
52       SYNTAX WmanIfNeighbourBsEntry
53       MAX-ACCESS not-accessible
54       STATUS current
55       DESCRIPTION
56          "This table is indexed by wmanIfNeighbourBsId."
57       INDEX { ifIndex, wmanIfNeighbourBsId }
58       ::= { wmanIfNeighbourBsTable 1 }
59
60   wmanIfNeighbourBsEntry ::= SEQUENCE {
61
62
63
64
65

```

```

1      wmanIfNeighbourBsId          WmanIfBsIdType,
2      wmanIfNeighbourBsFAIndex INTEGER,
3      wmanIfNeighbourBsEIRP        INTEGER (-128..127),
4      wmanIfNeighbourBsHOPProcessOptimizationInteger32,
5      wmanIfNeighbourBsSchedulingServiceSupportBITS,
6      wmanIfNeighbourBsBandwidthInteger32,
7      wmanIfNeighbourBsFFTSize     Integer32,
8      wmanIfNeighbourBsCyclePrefixInteger32,
9      wmanIfNeighbourBsFrameDurationCodeInteger32,
10     wmanIfNeighbourBsULPermutationBaseInteger32,
11     wmanIfNeighbourBsDLPermutationBaseInteger32,
12     wmanIfNeighbourBsSegmentNumberInteger32,
13     wmanIfNeighbourBsPreambleIndexInteger32
14 }
15
16
17
18
19     wmanIfNeighbourBsId OBJECT-TYPE
20         SYNTAX WmanIfBsIdType
21         MAX-ACCESS read-write
22         STATUS current
23         DESCRIPTION
24             "The neighbouring BS identifier."
25             ::= { wmanIfNeighbourBsEntry 1 }
26
27
28
29     wmanIfNeighbourBsFAIndex OBJECT-TYPE
30         SYNTAX INTEGER
31         MAX-ACCESS read-write
32         STATUS current
33         DESCRIPTION
34             "Frequency Assignment Index."
35             ::= { wmanIfNeighbourBsEntry 2 }
36
37
38
39     wmanIfNeighbourBsEIRP OBJECT-TYPE
40         SYNTAX INTEGER (-128..127)
41         MAX-ACCESS read-write
42         STATUS current
43         DESCRIPTION
44             "Neighbour BS EIRP."
45             ::= { wmanIfNeighbourBsEntry 3 }
46
47
48
49     wmanIfNeighbourBsHOPProcessOptimization OBJECT-TYPE
50         SYNTAX Integer32
51         MAX-ACCESS read-write
52         STATUS current
53         DESCRIPTION
54             "Identifies re-entry process management messages that may be omitted during
55             the current HO attempt due to the availability of MS service and operational context information,
56             and the MS service and operational status post-HO completion."
57             ::= { wmanIfNeighbourBsEntry 4 }
58
59
60
61     wmanIfNeighbourBsSchedulingServiceSupport OBJECT-TYPE
62         SYNTAX BITS
63         {
64             real-time polling service(0),
65             extended real-time polling service(1),

```

```

1          non-real-time polling service(2),
2          unsolicited grant service(3),
3          best effort(4)
4      }
5      MAX-ACCESS read-write
6      STATUS current
7      DESCRIPTION
8          "This parameter is used to indicate neighbouring BS scheduling service type."
9      ::= { wmanIfNeighbourBsEntry 5 }
10
11
12
13      wmanIfNeighbourBsBandwidth OBJECT-TYPE
14          SYNTAX Integer32
15          MAX-ACCESS read-write
16          STATUS current
17          DESCRIPTION
18              "This parameter is used to indicate neighbouring BS bandwidth."
19          ::= { wmanIfNeighbourBsEntry 6 }
20
21
22
23      wmanIfNeighbourBsFFTSize OBJECT-TYPE
24          SYNTAX Integer32
25          MAX-ACCESS read-write
26          STATUS current
27          DESCRIPTION
28              "This parameter is used to indicate neighbouring BS FFT size."
29          ::= { wmanIfNeighbourBsEntry 7 }
30
31
32
33      wmanIfNeighbourBsCyclePrefix OBJECT-TYPE
34          SYNTAX Integer32
35          MAX-ACCESS read-write
36          STATUS current
37          DESCRIPTION
38              "This parameter is used to indicate neighbouring BS Cycle prefix."
39          ::= { wmanIfNeighbourBsEntry 8 }
40
41
42
43      wmanIfNeighbourBsFrameDurationCode OBJECT-TYPE
44          SYNTAX Integer32
45          MAX-ACCESS read-write
46          STATUS current
47          DESCRIPTION
48              "This parameter is used to indicate neighbouring BS Frame duration code."
49          ::= { wmanIfNeighbourBsEntry 9 }
50
51
52
53      wmanIfNeighbourBsULPermutationBase OBJECT-TYPE
54          SYNTAX Integer32
55          MAX-ACCESS read-write
56          STATUS current
57          DESCRIPTION
58              "This parameter is used to indicate neighbouring BS uplink permutation base."
59          ::= { wmanIfNeighbourBsEntry 10 }
60
61
62
63      wmanIfNeighbourBsDLPermutationBase OBJECT-TYPE
64          SYNTAX Integer32
65          MAX-ACCESS read-write
66          STATUS current

```

```

1      DESCRIPTION
2          "This parameter is used to indicate neighbouring BS downlink permutation
3      base."
4          ::= { wmanIfNeighbourBsEntry 11 }
5
6
7      wmanIfNeighbourBsSegmentNumber OBJECT-TYPE
8          SYNTAX Integer32
9          MAX-ACCESS read-write
10         STATUS current
11         DESCRIPTION
12             "This parameter is used to indicate neighbouring BS segment number."
13             ::= { wmanIfNeighbourBsEntry 12 }
14
15
16
17     wmanIfNeighbourBsPreambleIndex OBJECT-TYPE
18         SYNTAX Integer32
19         MAX-ACCESS read-write
20         STATUS current
21         DESCRIPTION
22             "This parameter is used to indicate neighbouring BS preamble index."
23             ::= { wmanIfNeighbourBsEntry 13 }
24
25
26
27     wmanIfBsPagingGroupTable OBJECT-TYPE
28         SYNTAX SEQUENCE OF WmanIfBsPagingGroupEntry
29         MAX-ACCESS not-accessible
30         STATUS current
31         DESCRIPTION
32             "This table contains paging group related parameters."
33             ::= { wmanIfBsMobility 3 }
34
35
36
37     wmanIfBsPagingGroupEntry OBJECT-TYPE
38         SYNTAX WmanIfBsPagingGroupEntry
39         MAX-ACCESS not-accessible
40         STATUS current
41         DESCRIPTION
42             "This table is indexed by wmanIfBsPagingGroupId."
43         INDEX { wmanIfBsPagingGroupId }
44         ::= { wmanIfBsPagingGroupTable 1 }
45
46
47     wmanIfBsPagingGroupEntry ::= SEQUENCE {
48         wmanIfBsPagingControlId          IpAddress,
49         wmanIfBsPagingGroupId            INTEGER,
50         wmanIfBsMgmtResourceHoldingTimerInteger32,
51         wmanIfBsT46Timer                  Integer32,
52         wmanIfBsPagingRetryCount          INTEGER,
53         wmanIfBsREQDuration                INTEGER,
54         wmanIfBsMACHashSkipThresholdInteger32,
55         wmanIfBsCDMATransmissionOpportunityAssignmentINTEGER,
56         wmanIfBsPagingResponseWindow      INTEGER,
57         wmanIfBsIdleModeTimer              INTEGER,
58         wmanIfBsIdleModeSystemTimer      INTEGER,
59         wmanIfBsPagingIntervalLength      INTEGER,
60         wmanIfBsPagingCycle                INTEGER
61     }
62
63
64
65

```



```

1      wmanIfBsPagingControlId OBJECT-TYPE
2          SYNTAX IpAddress
3          MAX-ACCESS read-write
4          STATUS current
5          DESCRIPTION
6              "This parameter is used to indicate paging controller identifier connected by BS."
7              ::= { wmanIfBsPagingGroupEntry 1 }
8
9
10     wmanIfBsPagingGroupId OBJECT-TYPE
11         SYNTAX INTEGER
12         MAX-ACCESS read-write
13         STATUS current
14         DESCRIPTION
15             "This parameter is used to indicate the paging group identifier assigned to BS by
16             network."
17             ::= { wmanIfBsPagingGroupEntry 2 }
18
19
20
21     wmanIfBsMgmtResourceHoldingTimer OBJECT-TYPE
22         SYNTAX Integer32
23         MAX-ACCESS read-write
24         STATUS current
25         DESCRIPTION
26             "Time the BS maintain connection
27             information with the MS after the
28             BS send DREG-CMD to the MS"
29             ::= { wmanIfBsPagingGroupEntry 3 }
30
31
32
33     wmanIfBsT46Timer OBJECT-TYPE
34         SYNTAX Integer32
35         MAX-ACCESS read-write
36         STATUS current
37         DESCRIPTION
38             "Time the BS waits for DREGREQ
39             in case of unsolicited Idle
40             Mode initiation from BS."
41             ::= { wmanIfBsPagingGroupEntry 4 }
42
43
44
45     wmanIfBsPagingRetryCount OBJECT-TYPE
46         SYNTAX INTEGER
47         MAX-ACCESS read-write
48         STATUS current
49         DESCRIPTION
50             "Number of retries on paging
51             transmission. If the BS does not
52             receive RNG-REQ from the MS
53             until this value decreases to zero,
54             it determines that the MS is
55             unavailable."
56             ::= { wmanIfBsPagingGroupEntry 5 }
57
58
59
60
61     wmanIfBsREQDuration OBJECT-TYPE
62         SYNTAX INTEGER
63         MAX-ACCESS read-write
64         STATUS current
65

```

```

1      DESCRIPTION
2          "Waiting value for the DREG-REQ message re-transmission
3          (measured in frames)."
4      ::= { wmanIfBsPagingGroupEntry 6 }
5
6
7      wmanIfBsMACHashSkipThreshold OBJECT-TYPE
8          SYNTAX Integer32
9          MAX-ACCESS read-write
10         STATUS current
11         DESCRIPTION
12             "Maximum number of successive MOB_PAG-ADV messages
13             that may be sent from a BS without individual notification for
14             an MS for which BS is allowed to skip MS MAC Address Hash
15             when the Action Code for the MS is 0b00,'No Action Required'."
16         ::= { wmanIfBsPagingGroupEntry 7 }
17
18
19
20     wmanIfBsCDMATransmissionOpportunityAssignment OBJECT-TYPE
21         SYNTAX INTEGER
22         MAX-ACCESS read-write
23         STATUS current
24         DESCRIPTION
25             "The CDMA code and transmission opportunity
26             assignment field indicates the assigned code
27             and transmission opportunity for a MS who is
28             paged to use over dedicated CDMA ranging region."
29         ::= { wmanIfBsPagingGroupEntry 8 }
30
31
32
33     wmanIfBsPagingResponseWindow OBJECT-TYPE
34         SYNTAX INTEGER
35         MAX-ACCESS read-write
36         STATUS current
37         DESCRIPTION
38             "The Page-Response Window indicates the Page-Response window for a MS
39             who is paged to transmit
40             the assigned code for CDMA ranging channel."
41         ::= { wmanIfBsPagingGroupEntry 9 }
42
43
44
45     wmanIfBsIdleModeTimer OBJECT-TYPE
46         SYNTAX INTEGER (128..65536)
47         MAX-ACCESS read-write
48         STATUS current
49         DESCRIPTION
50             "MS timed interval to conduct
51             Location Update. Set timer to MS
52             Idle Mode Timeout capabilities
53             setting. Timer recycles on successful
54             Idle Mode Location Update."
55         ::= { wmanIfBsPagingGroupEntry 10 }
56
57
58
59     wmanIfBsIdleModeSystemTimer OBJECT-TYPE
60         SYNTAX INTEGER (128..65536)
61         MAX-ACCESS read-write
62         STATUS current
63         DESCRIPTION
64
65

```

```
1          "For BS acting as Paging Controller,  
2          timed interval to receive notification  
3          of MS Idle Mode Location Update. Set  
4          timer to MS Idle Mode Timeout. Timer  
5          recycles on successful Idle Mode  
6          Location Update."  
7  
8      ::= { wmanIfBsPagingGroupEntry 11 }  
9  
10  
11      wmanIfBsPagingIntervalLength OBJECT-TYPE  
12          SYNTAX INTEGER (2..5)  
13          MAX-ACCESS read-write  
14          STATUS current  
15          DESCRIPTION  
16              "time duration of Paging Interval  
17              of the BS."  
18  
19      ::= { wmanIfBsPagingGroupEntry 12 }  
20  
21  
22      wmanIfBsPagingCycle OBJECT-TYPE  
23          SYNTAX INTEGER  
24          MAX-ACCESS read-write  
25          STATUS current  
26          DESCRIPTION  
27              "Cycle in which the paging message is transmitted  
28              within the paging group."  
29  
30      ::= { wmanIfBsPagingGroupEntry 13 }  
31  
32  
33  
34  
35  
36  
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