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Re:	Contribution to revision of IEEE P802.16f/D1	
Abstract	<p>This contribution defines the extension to wmanIfMib (Wireless MAN Interface MIB). The areas covered are SS/BS capabilities, upgrade, management actions, missing QoS and CS parameters, default Phy settings.</p> <p>Rev1 of the document contains changes applied to the contribution following review on the TGf group.</p>	
Purpose	Adopt to improve the manageability of 802.16d based equipment.	
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Extension of wmanIfMib

for improved manageability of 802.16d equipment

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1. Introduction

The first draft of “Amendment to IEEE Standard for Local and Metropolitan Area Networks - Management Information Base” IEEE P802.16f/D1 largely covers configuration, status and notification as required by MAC and Phy definitions of the standard.

The standard MIB however lacks some of objects required to assure efficient and comprehensive management of 802.16d equipment. This includes reporting/controlling capabilities, software upgrade, management actions etc. The missing objects are either directly or indirectly related to the standard but are very relevant to 802.16d equipment management. This contribution details the MIB objects we believe need to be added, along with appropriate justification.

Detailed review of the draft MIB uncovered a number of issues, which need to be resolved. All the unresolved issues are also enumerated in this contribution along with suggested corrective action.

2. Proposed MIB extensions

The proposed extensions are based on ASN.1 definition of wmanIfMib of the revision dated 2004-09-21 (embedded in the draft 1 of 802.16f standard).

2.1. wmanIfBsCapabilities

Description:

wmanIfBsCapabilities contains all the tables with capabilities BS and SS negotiate using RNG, SBC and REG messages.

Related changes – editorial instruction:

- The capabilities being subject to negotiation between BS and SS are defined in the capabilities tables. They should be accordingly removed from wmanIfBsRegisteredSsTable.

2.1.1. wmanIfBsCapabilitiesTable

Description:

wmanIfBsCapabilitiesTable table reports all the capabilities of BS as defined in the standard, which are subject to negotiation with SS.

The table augments (uses the same indexes) wmanIfBsConfigurationTable.

Justification:

- NMS/EMS system must report raw capabilities of managed equipment. This information is essential for fault and performance problems diagnosis. The raw capabilities can be compared with negotiated capabilities and the actual performance can be compared with expected performance for BS with particular capabilities.

2.1.2. wmanIfBsCapabilitiesConfigTable

Description:

wmanIfBsCapabilitiesConfigTable table contains configuration objects for each reported BS capability. Whether the enabled and reported capabilities of the BS are used for a particular connection with the SS will depend on the result of negotiation with each SS. The table augments (uses the same indexes) wmanIfBsConfigurationTable.

Justification:

- NMS/EMS system should be able to disable/enable capabilities to satisfy local operator's regulatory requirements, to apply predefined BS profile (e.g. by WiMax consortium) and finally for interoperability test purposes.

2.1.3. wmanIfBsSsReqCapabilitiesTable

Description:

wmanIfBsSsReqCapabilitiesTable table reports all the capabilities of each registered SS as received from the SS by the BS during the relevant net entry phases (SBC-REQ, REG-REQ, RNG-REQ messages). The table augments (uses the same indexes) the wmanIfBsRegisteredSsTable.

Justification:

- NMS/EMS system must report raw capabilities of managed equipment. This information is essential for fault and performance problems diagnosis. The raw capabilities can be compared with the negotiated capabilities and the actual performance can be compared with the expected performance for SS with particular capabilities.

2.1.4. wmanIfBsSsRspCapabilitiesTable

Description:

wmanIfBsSsRspCapabilitiesTable table contains the basic capability information of SS that have been negotiated and agreed between BS and SS using RNG-RSP, SBC-RSP, REG-RSP messages. The table augments (uses the same indexes) the wmanIfBsRegisteredSsTable.

Justification:

- NMS/EMS system must report the negotiated capabilities of managed equipment. This information is essential for fault and performance problems diagnosis. The raw capabilities can be compared with negotiated capabilities and the actual performance can be compared with expected performance for SS with particular capabilities.

2.1.5. wmanIfBsOfdmCapabilitiesTable

Description:

wmanIfBsOfdmCapabilitiesTable table reports all the OFDM capabilities of BS as defined in the standard, which are subject to negotiation with SS.

The table augments (uses the same indexes) wmanIfBsConfigurationTable.

2.1.6. wmanIfBsOfdmCapabilitiesConfigTable

Description:

wmanIfBsOfdmCapabilitiesConfigTable table contains configuration objects for each reported BS OFDM capability. Whether the enabled and reported capabilities of the BS are used for a particular connection with the SS will depend on the result of negotiation with each SS.

The table augments (uses the same indexes) wmanIfBsConfigurationTable.

2.1.7. wmanIfBsOfdmReqCapabilities

Description:

wmanIfBsSsOfdmReqCapabilitiesTable table reports all the OFDM capabilities of each registered SS as received from the SS by the BS during the relevant net entry phases (SBC-REQ, REG-REQ, RNG-REQ messages).

The table augments (uses the same indexes) the wmanIfBsRegisteredSsTable.

2.1.8. wmanIfBsOfdmRspCapabilities

Description:

wmanIfBsSsOfdmRspCapabilitiesTable table contains the basic capability information, OFDM specific, of SS that have been negotiated and agreed between BS and SS using RNG-RSP, SBC-RSP, REG-RSP messages.

The table augments (uses the same indexes) the wmanIfBsRegisteredSsTable.

2.2. wmanIfBsSnmpAgent

Description:

wmanIfBsSnmpAgent contains the tables with status and configuration related to BS as an entity implementing SNMP agent as oppose to a specified interface (sector).

2.2.1. wmanIfBSSnmpAgentConfigTable

Description:

This table contains configuration and action objects relevant to the BS SNMP agent as opposed to a single sector of a BS. The table will have only one row. The table contains:

- V1, V2 trap destination (IP address and port number)
- Reset BS action

Justification:

- NMS should be able to configure BS SNMP agent with a trap destination to allow trap reception in the circumstances where the destination server changes.
- The ability to reset the whole BS with all sectors is essential for remote diagnostics and test purposes.

2.3. *wmanIfBsConfiguration*

Description:

wmanIfBsConfiguration contains all the tables with general configuration for the BS.

2.3.1. *wmanIfBsConfigExtTable*

Description:

This table contains general default configuration for BS, which is not defined in section 10.1 of the standard. It also contains action applicable to a sector. The table augments wmanIfBsConfigurationTable. The table contains:

- Default Service Classes for Secondary Management Connection in downlink and uplink defined as indexes to wmanIfBsServiceClassTable
- Range of SFID numbers BS is allowed to allocate autonomously for SF created without being provisioned.
- OFDM ranging configuration parameters
- AAS configuration parameters
- Initial downlink burst rate ID
- Reset Sector action

Justification:

- Secondary Management Connection is used for IP connectivity. As such it should be subject to strict QoS and bandwidth control.
- One of the SF creation models described in the standard does allow creation of the SF without it being provisioned by NMS. In this case BS would have to autonomously allocate SFID. To guarantee the uniqueness of the SFID numbers across the operator's network, configuration of the allowed range of the SFID numbers is required for the SF flows created without provisioning.
- Ranging process is defined in the standard with some basic configuration parameters. These parameters are required for BS to take appropriate ranging decisions and are described in the OFDM section of 802.16d PHY (section 8.3).
- AAS is defined in the standard and requires a number of configuration parameters.
- Initial DL Burst does not have to be transmitted with the most robust modulation/coding and operator may decide to apply different rate to different cells.
- The ability to reset the whole BS as well as the selected sector is essential for remote diagnostics and test purposes.

Related changes – editorial instruction:

- Service Class Name is optional in the standard so the Service class name can be used in MIB only as an attribute of a service class and not as a reference to Service Class definition.
1. Remove object wmanIfBsServiceClassName from table wmanIfBsProvisionedSfTable.
 2. Remove object wmanIfCmnCpsServiceClassName from table wmanIfCmnCpsServiceFlowTable.

2.4. *wmanIfBsSsActions*

Description:

This table contains objects used to request a particular action for an SS specified by MAC address. The actions are:

- Reset SS (message RES-CMD)
- Abort SS (unsolicited RNG-RSP with Abort ranging result and optionally with downlink frequency override)
- DeReRegister SS (unsolicited DREG-CMD with appropriate action code)

Justification:

- SS actions are specified in the standard and are essential for effective management, diagnostics and test.

2.5. *Change in wmanIfBsClassifierRuleTable:*

Description:

This table will have additional objects defining PHS configuration for the classifier:

- PHS Size (PHSS)
- PHS Mask (PHSM)
- PHS Verify (PHSV)

Justification:

PHS rules are defined in the standard and essential to guarantee efficient use of air interface. Standard 5.2.3 says “The classifier uniquely maps packets to its associated PHS Rule”.

2.6. *wmanIfCmnPhsRuleTable*

Description:

This table contains the reported definition of PHS rules in use. It is indexed by wmanIfCmnCpsSfId and wmanIfCmnPhsRulePhsIndex. It contains all parameters of PHS rule.

Justification:

PHS rules are part of DSC message defined in the standard along with PHS TLV encodings.

3. ASN.1 Definition of 802.16 MIB extensions

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

```
IMPORTS
```

```

MODULE-IDENTITY,
OBJECT-TYPE,
NOTIFICATION-TYPE,
Unsigned32,
Integer32,
Counter32,
Counter64,
TimeTicks,
IpAddress,
transmission,
BITS
    FROM SNMPv2-SMI
SnmpAdminString
    FROM SNMP-FRAMEWORK-MIB
TEXTUAL-CONVENTION,
MacAddress,
RowStatus,
TruthValue,
DateAndTime,
DisplayString,
TimeInterval,
TimeStamp
    FROM SNMPv2-TC
InetAddressType, InetAddress
    FROM INET-ADDRESS-MIB
OBJECT-GROUP,

MODULE-COMPLIANCE
    FROM SNMPv2-CONF
ifIndex, InterfaceIndex, InterfaceIndexOrZero
    FROM IF-MIB;
```

```
wmanIfMib MODULE-IDENTITY
```

```

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ORGANIZATION      "IEEE 802.16"
CONTACT-INFO      "
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                  UK
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```

```
DESCRIPTION
```

```

"PROPOSAL: This MIB is based on the 802.16f draft 1
of the MIB for 802.16d standard. It contains the changes
suggested by Airspan Networks to improve managability of
802.16 equipment.
```

```
This MIB is only intended as a illustration to the contribution C802.16f-04_03r1."
```

```
::= { transmission 184 }
```

```

wmanIfMibObjects OBJECT IDENTIFIER ::= { wmanIfMib 1 }
wmanIfBsObjects OBJECT IDENTIFIER ::= { wmanIfMibObjects 1 }
wmanIfSsObjects OBJECT IDENTIFIER ::= { wmanIfMibObjects 2 }
wmanIfCommonObjects OBJECT IDENTIFIER ::= { wmanIfMibObjects 3 }
```

```
-- Textual Conventions
```

```
WmanIfSfSchedulingType ::= TEXTUAL-CONVENTION
```



```

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

```

```

WmanIfBsPhsRulePhsVerifyType ::= TEXTUAL-CONVENTION
STATUS      current
DESCRIPTION
  "The value of this field indicates to the sending entity
  whether or not the packet header contents are to be verified
  prior to performing suppression.
  If PHSV is enabled, the sender shall compare the bytes in the
  packet header with the bytes in the PHSF that
  are to be suppressed as indicated by the PHSM."
REFERENCE   "Section 11.13.19.3.7.5 in IEEE 802.16REVd/D5-2004"
SYNTAX      INTEGER {phsVerifyEnable(0),
                    phsVerifyDisable(1)}

```

```

WmanIfClassifierBitMap ::= TEXTUAL-CONVENTION
STATUS      current
DESCRIPTION
  "A bit of of this object is set to 1 if the parameter
  indicated by the comment was present in the classifier
  encoding, and 0 otherwise.
  Note: that BITS are encoded most significant bit first,
  so that if e.g. bits 6 and 7 are set, this object is
  encoded as the octet string '030000'H."
SYNTAX      BITS {priority(0),
                 ipTosLow(1),
                 ipTosHigh(2),
                 ipTosMask(3),
                 ipProtocol(4),
                 ipAddrType(5),
                 ipSrcAddr(6),
                 ipSrcAddrMask(7),
                 ipDestAddr(8),
                 ipDestAddrMask(9),
                 srcPortStart(10),
                 srcPortEnd(11),
                 destPortStart(12),
                 destPortEnd(13),
                 destMacAddr(14),
                 destMacAddrMask(15),
                 srcMacAddr(16),
                 srcMacAddrMask(17),
                 ethernetProtType(18),
                 ethernetProtocol(19),
                 userPriLow(20),
                 userPriHigh(21),
                 vlanId(22),
                 phsSize(23),
                 phsMask(24),
                 phsVerify(25)
                }

```

```

-- Textual convention for capabilities encodings
WmanIfCapUlCidSupportType ::= TEXTUAL-CONVENTION
STATUS      current

```

```

DESCRIPTION
  "The object of this typeshows the number of Uplink CIDs the SS can
  support."
REFERENCE
  "Section 11.7.4 in IEEE 802.16REVd/D5-2004"
SYNTAX      INTEGER (2..65535)

```

```

WmanIfCapArqSupportType ::= TEXTUAL-CONVENTION
STATUS      current
DESCRIPTION
  "The object of this type indicates whether the SS support ARQ."
REFERENCE
  "Section 11.7.8.1 in IEEE 802.16REVd/D5-2004"
SYNTAX      INTEGER {arqNotSupported(0),
                    arqSupported(1)}

```

```

WmanIfCapDsxFlowControlType ::= TEXTUAL-CONVENTION
STATUS      current
DESCRIPTION
  "The object of this type specifies the maximum number of concurrent
  DSA, DSC, or DSD transactions that may be outstanding."
REFERENCE
  "Section 11.7.8.2 in IEEE 802.16REVd/D5-2004"
SYNTAX      INTEGER (0..255)

```

```

WmanIfCapMacCrcSupportType ::= TEXTUAL-CONVENTION
STATUS      current
DESCRIPTION
  "The object of this type indicates whether or not the SS supports MAC
  level CRC."
REFERENCE
  "Section 11.7.8.3 in IEEE 802.16REVd/D5-2004"
SYNTAX      INTEGER {noMacCrcSupport(0),
                    macCrcSupport(1)}

```

```

WmanIfCapMcaFlowControlType ::= TEXTUAL-CONVENTION
STATUS      current
DESCRIPTION
  "The object of this type specifies the maximum number of concurrent
  MCA transactions that may be outstanding."
REFERENCE
  "Section 11.7.8.4 in IEEE 802.16REVd/D5-2004"
SYNTAX      INTEGER (0..255)

```

```

WmanIfCapMcpGroupCidSupportType ::= TEXTUAL-CONVENTION
STATUS      current
DESCRIPTION
  "The object of this type indicates the maximum number of
  simultaneous Multicast Polling Groups the SS is
  capable of belonging to."
REFERENCE
  "Section 11.7.8.5 in IEEE 802.16REVd/D5-2004"
SYNTAX      INTEGER (0..255)

```

```

WmanIfCapPkmFlowControlType ::= TEXTUAL-CONVENTION
STATUS      current
DESCRIPTION
  "The object of this type specifies the maximum number of concurrent PKM
  transactions that may be outstanding."
REFERENCE
  "Section 11.7.8.6 in IEEE 802.16REVd/D5-2004"
SYNTAX      INTEGER (0..255)

```

```

WmanIfCapAuthorizationPolicyControlType ::= TEXTUAL-CONVENTION
STATUS      current
DESCRIPTION
  "The object of this type specifies authorization policy that both SS and

```

BS need to negotiate and synchronize. A bit value of 0 = not supported, 1 = supported. If this field is omitted, then both SS and BS shall use the IEEE 802.16 security, constituting X.509 digital certificates and the RSA public key encryption algorithm, as authorization policy."

REFERENCE

"Section 11.7.8.7 in IEEE 802.16REVd/D5-2004"

```
SYNTAX      BITS {ieee802-16PrivacySupported(0),
                reserved1(1),
                reserved2(2),
                reserved3(3),
                reserved4(4),
                reserved5(5),
                reserved6(6),
                reserved7(7)}
```

WmanIfCapMaxNumOfSupportedSAType ::= TEXTUAL-CONVENTION

STATUS current

DESCRIPTION

"This field specifies maximum number of supported security association of the SS."

REFERENCE

"Section 11.7.8.8 in IEEE 802.16REVd/D5-2004"

```
SYNTAX      INTEGER (0..255)
```

WmanIfCapIpVersionType ::= TEXTUAL-CONVENTION

STATUS current

DESCRIPTION

"The object of this type indicates the version of IP used on the Secondary Management Connection. The value should be undefined if the 2nd management CID doesn't exist."

REFERENCE

"Section 11.7.4 in IEEE 802.16REVd/D5-2004"

```
SYNTAX      INTEGER {undefined(0),
                    ipv4(1),
                    ipv6(2)}
```

WmanIfCapMacCsSupportBitMapType ::= TEXTUAL-CONVENTION

STATUS current

DESCRIPTION

"The object of this type indicates the set of MAC convergence sublayer support. When a bit is set, it indicates the corresponding CS feature is supported."

REFERENCE

"Section 11.7.7.1 in IEEE 802.16REVd/D5-2004"

```
SYNTAX      BITS {atm(0),
                packetIpv4(1),
                packetIpv6(2),
                packet802-3(3),
                packet802-1Q(4),
                packetIpv4Over802-3(5),
                packetIpv6Over802-3(6),
                packetIpv4Over802-1Q(7),
                packetIpv6Over802-1Q(8)}
```

WmanIfCapMaxNumOfClassifierType ::= TEXTUAL-CONVENTION

STATUS current

DESCRIPTION

"The object of this type indicates the maximum number of admitted Classifiers that the SS is allowed to have."

REFERENCE

"Section 11.7.7.2 in IEEE 802.16REVd/D5-2004"

```
SYNTAX      INTEGER (0..65535)
```

WmanIfCapPhsSupportType ::= TEXTUAL-CONVENTION

STATUS current

DESCRIPTION

"The object of this type indicates indicates the level of PHS support."

REFERENCE

"Section 11.7.7.3 in IEEE 802.16REVd/D5-2004"

SYNTAX INTEGER {noPhsSupport(0),
atmPhsSupport(1),
packetPhsSupport(2)}

WmanIfCapBandwidthAllocSupportType ::= TEXTUAL-CONVENTION

STATUS current

DESCRIPTION

"This field indicates properties of the SS that the BS needs to know for bandwidth allocation purposes. When a bit is set, it indicates the corresponding feature is supported. All unspecified and reserved bits should be set to zero."

REFERENCE

"Section 11.8.1 in IEEE 802.16REVd/D5-2004"

SYNTAX BITS {reserved(0),
halfDuplexFdd(1),
fullDuplexFdd(2)}

WmanIfCapPduConstructionType ::= TEXTUAL-CONVENTION

STATUS current

DESCRIPTION

"Specifies capabilities for construction and transmission of MAC PDUs. When piggybackedRequests bit is set, it indicates that the piggybacked requests are supported. The fsnValuesSize bit is coded as follows:
0 - only 3-bit FSN values are supported
1 - only 11-bit FSN values are supported
All unspecified and reserved bits should be set to zero."

REFERENCE

"Section 11.8.2 in IEEE 802.16REVd/D5-2004"

SYNTAX BITS {piggybackedRequests(0),
fsnValuesSize(1)}

WmanIfCapSsTransitionGapType ::= TEXTUAL-CONVENTION

STATUS current

DESCRIPTION

"This field indicates the transition speed SSTTG and SSRTG for TDD and H-FDD Ss. Allowed values are:
OFDM mode: TDD and H-FDD 0..100
Other modes: TDD: 0..50; H-FDD: 0..100"

REFERENCE

"Section 11.8.3.1 in IEEE 802.16REVd/D5-2004"

SYNTAX INTEGER (0..100)

WmanIfCapMaxTransmitPowerType ::= TEXTUAL-CONVENTION

STATUS current

DESCRIPTION

"This type is used to define maximum available power for BPSK, QPSK, 16-QAM and 64-QAM constellations. The maximum power parameters are reported in dBm and quantized in 0.5 dBm steps ranging from -64 dBm (encoded 0x00) to 63.5 dBm (encoded 0xFF). Values outside this range shall be assigned the closest extreme. Ss that do not support QAM64 shall report the value of 0x00 in the maximum QAM64 power field."

REFERENCE

"Section 11.8.3.2 in IEEE 802.16REVd/D5-2004"

SYNTAX INTEGER (0..255)

WmanIfCapOfdmFftSizesType ::= TEXTUAL-CONVENTION

STATUS current

DESCRIPTION

"This field indicates the FFT sizes supported by the SS. For each FFT size, a bit value of 0 indicates 'not supported' while 1 indicates 'supported'."

REFERENCE

"Section 11.8.3.6.1 in IEEE 802.16REVd/D5-2004"

```
SYNTAX      BITS {fft256(0),
                 fft2048(1)}
```

```
WmanIfCapOfdmSsDemodulatorType ::= TEXTUAL-CONVENTION
```

```
STATUS      current
```

```
DESCRIPTION
```

```
"This field indicates the different demodulator options supported
by a WirelessMAN-OFDM PHY SS for downlink. This field is not used
for other PHY specifications.
```

```
A bit value of 0 indicates 'not supported' while 1 indicates 'supported'."
```

```
REFERENCE
```

```
"Section 11.8.3.6.2 in IEEE 802.16REVd/D5-2004"
```

```
SYNTAX      BITS {qam64(0),
                 btc(1),
                 ctc(2),
                 stc(3),
                 aac(4)}
```

```
WmanIfCapOfdmSsModulatorType ::= TEXTUAL-CONVENTION
```

```
STATUS      current
```

```
DESCRIPTION
```

```
"This field indicates the different modulator options supported
by a WirelessMAN-OFDM PHY SS for uplink. This field is not used
for other PHY specifications. A bit value of 0 indicates 'not supported'
while 1 indicates 'supported'."
```

```
REFERENCE
```

```
"Section 11.8.3.6.3 in IEEE 802.16REVd/D5-2004"
```

```
SYNTAX      BITS {qam64(0),
                 btc(1),
                 ctc(2),
                 subchannellization(3),
                 focusedCtBwReq(4)}
```

```
WmanIfCapOfdmFocusedCtSupportType ::= TEXTUAL-CONVENTION
```

```
STATUS      current
```

```
DESCRIPTION
```

```
"This field indicates whether the SS supports Focused Contention (see 8.3.7.3.3).
```

```
A bit value of 0 indicates 'not supported' while 1 indicates 'supported'."
```

```
REFERENCE
```

```
"Section 11.8.3.6.4 in IEEE 802.16REVd/D5-2004"
```

```
SYNTAX      BITS {focusedCtSupport(0)}
```

```
WmanIfCapOfdmTcSublayerSupportType ::= TEXTUAL-CONVENTION
```

```
STATUS      current
```

```
DESCRIPTION
```

```
"This field indicates whether or not the SS supports the TC sublayer (see 8.3.4).
```

```
A bit value of 0 indicates 'not supported' while 1 indicates 'supported'."
```

```
REFERENCE
```

```
"Section 11.8.3.6.5 in IEEE 802.16REVd/D5-2004"
```

```
SYNTAX      BITS {tcSublayerSupport(0)}
```

```
--
```

```
-- BS object group - containing tables and objects to be implemented in
-- the Base station
```

```
--
```

```
-- wmanIfBsPacketCs contain the Base Station Packet Convergence Sublayer
-- objects
```

```
wmanIfBsPacketCs OBJECT IDENTIFIER ::= { wmanIfBsObjects 1 }
```

```
wmanIfBsClassifierRuleTable OBJECT-TYPE
```

```
SYNTAX      SEQUENCE OF WmanIfBsClassifierRuleEntry
```

```
MAX-ACCESS  not-accessible
```

```
STATUS      current
```

```
DESCRIPTION
```

"This table contains packet classifier rules associated with service flows."

REFERENCE

"Section 11.13.19.3.4 in IEEE 802.16REVd/D5-2004"

::= { wmanIfBsPacketCs 3 }

wmanIfBsClassifierRuleEntry OBJECT-TYPE

SYNTAX WmanIfBsClassifierRuleEntry

MAX-ACCESS not-accessible

STATUS current

DESCRIPTION

"This table provides one row for each packet classifier rule, and is indexed by wmanIfBsSfId and wmanIfBsClassifierRuleIndex. wmanIfBsSfIndex identifies the service flow, while wmanIfBsClassifierRuleIndex identifies the packet classifier rule."

INDEX { wmanIfBsSfIndex, wmanIfBsClassifierRuleIndex }

::= { wmanIfBsClassifierRuleTable 1 }

WmanIfBsClassifierRuleEntry ::= SEQUENCE {

wmanIfBsSfIndex	Unsigned32,
wmanIfBsClassifierRuleIndex	Unsigned32,
wmanIfBsClassifierRulePhsSize	Integer32,
wmanIfBsClassifierRulePhsMask	OCTET STRING,
wmanIfBsClassifierRulePhsVerify	WmanIfBsPhsRulePhsVerifyType,
wmanIfBsClassifierRuleBitMap	WmanIfClassifierBitMap,
wmanIfBsClassifierRuleRowStatus	RowStatus

}

wmanIfBsSfIndex OBJECT-TYPE

SYNTAX Unsigned32 (1 .. 4294967295)

MAX-ACCESS not-accessible

STATUS current

DESCRIPTION

"A 32 bit quantity that uniquely identifies a service flow to both the subscriber station and base station (BS)."

::= { wmanIfBsClassifierRuleEntry 1 }

wmanIfBsClassifierRuleIndex OBJECT-TYPE

SYNTAX Unsigned32 (1..4294967295)

MAX-ACCESS not-accessible

STATUS current

DESCRIPTION

"An index is assigned to a classifier in BS classifiers table"

::= { wmanIfBsClassifierRuleEntry 2 }

wmanIfBsClassifierRulePhsSize OBJECT-TYPE

SYNTAX Integer32

UNITS "byte"

MAX-ACCESS read-create

STATUS current

DESCRIPTION

"This object is used to configure the PHS rule for this classifier. The value of this field - PHSS is the total number of bytes in the header to be suppressed and then restored in a service flow that uses PHS. If the value of this field is 0 bytes then PHS is disabled for this classifier. If flag phsMask in wmanIfBsClassifierRuleBitMap is set to 0 and flag phsSize in wmanIfBsClassifierRuleBitMap 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

"Section 11.13.19.3.7.4 in IEEE 802.16REVd/D5-2004"

DEFVAL {0}

::= { wmanIfBsClassifierRuleEntry 28 }

wmanIfBsClassifierRulePhsMask OBJECT-TYPE

SYNTAX OCTET STRING
 MAX-ACCESS read-create
 STATUS current

DESCRIPTION

"This object is used to configure the PHS rule for this classifier.

It is encoded as follows:

bit 0: 0 = don't suppress first byte of the suppression field
 1 = suppress first byte of the suppression field
 bit 1: 0 = don't suppress second byte of the suppression field
 1 = suppress second byte of the suppression field
 bit x: 0 = don't suppress (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 (wmanIfBsClassifierRulePhsSize/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 wmanIfBsClassifierRuleBitMap is set to 0 and flag phsSize in wmanIfBsClassifierRuleBitMap 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

"Section 11.13.19.3.7.3 in IEEE 802.16REVd/D5-2004"

::= { wmanIfBsClassifierRuleEntry 29 }

wmanIfBsClassifierRulePhsVerify OBJECT-TYPE

SYNTAX WmanIfBsPhsRulePhsVerifyType
 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 }

::= { wmanIfBsClassifierRuleEntry 30 }

wmanIfBsClassifierRuleBitMap OBJECT-TYPE

SYNTAX WmanIfClassifierBitMap
 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"

REFERENCE

"Section 11.13.19.3.7.5 in IEEE 802.16REVd/D5-2004"

::= { wmanIfBsClassifierRuleEntry 31 }

wmanIfBsClassifierRuleRowStatus 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 chosen not to implement 'dynamic assignment' of profiles, this object is not useful and should return noSuchName upon SNMP request."

::= { wmanIfBsClassifierRuleEntry 32 }

--

-- wmanIfBsCps contain the Base Station Common Part Sublayer objects

wmanIfBsCps OBJECT IDENTIFIER ::= { wmanIfBsObjects 2 }

```

wmanIfBsRegisteredSsTable OBJECT-TYPE
    SYNTAX      SEQUENCE OF WmanIfBsRegisteredSsEntry
    MAX-ACCESS  not-accessible
    STATUS      current
    DESCRIPTION
        "This table contains the basic capability information
        of SSs that have been negotiated and agreed between
        BS and SS via REG-REQ and REG-RSP messages. An entry
        in this table indicates the SS has entered and registered
        into the BS."
    REFERENCE
        "Section 6.3.2.3.7 in IEEE 802.16REVd/D5-2004"
    ::= { wmanIfBsCps 1 }

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

WmanIfBsRegisteredSsEntry ::= SEQUENCE {
    wmanIfBsSsIdIndex      Unsigned32,
    wmanIfBsSsMacAddress   MacAddress,
}

wmanIfBsSsIdIndex OBJECT-TYPE
    SYNTAX      Unsigned32 (1 .. 4294967295)
    MAX-ACCESS  read-only
    STATUS      current
    DESCRIPTION
        "wmanIfBsSsIdIndex identifies the SS that is registered."
    ::= { wmanIfBsRegisteredSsEntry 1 }

wmanIfBsSsMacAddress OBJECT-TYPE
    SYNTAX      MacAddress
    MAX-ACCESS  read-only
    STATUS      current
    DESCRIPTION
        "The MAC address of SS is received from the RNG-REQ
        message. When SS registers, this MAC address is entered
        into the table, and used as the identifier to the SS."
    REFERENCE
        "Section 6.3.2.3.6 in IEEE 802.16REVd/D5-2004"
    ::= { wmanIfBsRegisteredSsEntry 2 }

--
-- wmanIfBsCps contain the general Base Station Cps configuration tables
wmanIfBsConfiguration OBJECT IDENTIFIER ::= { wmanIfBsCps 2 }

wmanIfBsConfigurationTable OBJECT-TYPE
    SYNTAX      SEQUENCE OF WmanIfBsConfigurationEntry
    MAX-ACCESS  not-accessible
    STATUS      current
    DESCRIPTION
        "This table provides one row for each BS sector that
        contains the BS system parameters as defined in section
        10.1 of [3]."
    REFERENCE
        "Section 10.1 in IEEE 802.16REVd/D5-2004"

```



```

 ::= { wmanIfBsConfiguration 1 }

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

WmanIfBsConfigurationEntry ::= SEQUENCE {
    wmanIfBsConfigurationRowStatus      RowStatus
}

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

         If the implementator of this MIB has choosen not
         to implement 'dynamic assignment' of profiles, this
         object is not useful and should return noSuchName
         upon SNMP request."
 ::= { wmanIfBsConfigurationEntry 17 }

wmanIfBsConfigExtTable OBJECT-TYPE
    SYNTAX      SEQUENCE OF WmanIfBsConfigExtEntry
    MAX-ACCESS  not-accessible
    STATUS      current
    DESCRIPTION
        "This table contains BS configuration objects, which are
         not specified in section 10.1 in IEEE 802.16REVd/D5-2004.
         The objects in this table define the default behaviour of the BS
         for Secondary Management Channel scheduling and SFID allocation
         as well as configuration parameters of the Cps scheduler
         and AAS system."
 ::= { wmanIfBsConfiguration 2 }

wmanIfBsConfigExtEntry OBJECT-TYPE
    SYNTAX      WmanIfBsConfigExtEntry
    MAX-ACCESS  not-accessible
    STATUS      current
    DESCRIPTION
        "This table augments table wmanIfBsConfigurationTable."
    AUGMENTS { wmanIfBsConfigurationEntry }
 ::= { wmanIfBsConfigExtTable 1 }

WmanIfBsConfigExtEntry ::= SEQUENCE {
    wmanIfBsCfgExt2ndMgmtDnlkQoSProfileIndex      INTEGER,
    wmanIfBsCfgExt2ndMgmtUplkQoSProfileIndex      INTEGER,
    wmanIfBsCfgExtAutoSfidEnabled                 INTEGER,
    wmanIfBsCfgExtAutoSfidRangeMin                Unsigned32,
    wmanIfBsCfgExtAutoSfidRangeMax                Unsigned32,
    wmanIfBsCfgExtOfdmMinReqRegionFullTOS        INTEGER,
    wmanIfBsCfgExtOfdmMinFocusedContentionTOS    INTEGER,
    wmanIfBsCfgExtOfdmMaxRoundTripDelay          INTEGER,
    wmanIfBsCfgExtOfdmRangeAbortTimingThresh     INTEGER,
    wmanIfBsCfgExtOfdmRangeAbortPowerThresh      INTEGER,
    wmanIfBsCfgExtOfdmRangeAbortFreqThresh       INTEGER,
    wmanIfBsCfgExtOfdmDnlkRateId                 INTEGER,
    wmanIfBsCfgExtAasChanFbckReqFreq             INTEGER,

```

```

wmanIfBsCfgExtAasBeamSelectFreq          INTEGER,
wmanIfBsCfgExtAasChanFbckReqResolution  INTEGER,
wmanIfBsCfgExtAasBeamReqResolution      INTEGER,
wmanIfBsCfgExtAasNumOptDiversityZones   INTEGER,
wmanIfBsCfgExtResetSector               INTEGER,
wmanIfBsCfgExtRowStatus                 RowStatus
}

wmanIfBsCfgExt2ndMgmtDnlkQoSProfileIndex OBJECT-TYPE
SYNTAX      INTEGER (1..65535)
MAX-ACCESS  read-write
STATUS      current
DESCRIPTION
    "This object defines the index of a row in wmanIfBsServiceClassTable which is used
    to obtain all QoS parameters required for the BS downlink scheduler
    to properly allocate and manage the bandwidth and schedule the Secondary
    Management Connection traffic. The Secondary Management Connection traffic
    doesn't differ from Traffic Connection traffic in the area of QoS management."
 ::= { wmanIfBsConfigExtEntry 1 }

wmanIfBsCfgExt2ndMgmtUplkQoSProfileIndex OBJECT-TYPE
SYNTAX      INTEGER (1..65535)
MAX-ACCESS  read-write
STATUS      current
DESCRIPTION
    "This object defines the index of a row in wmanIfBsServiceClassTable which is used
    to obtain all QoS parameters required for the BS uplink scheduler
    to properly allocate and manage the bandwidth and schedule the Secondary
    Management Connection traffic. The Secondary Management Connection traffic
    doesn't differ from Traffic Connection traffic in the area of QoS management."
 ::= { wmanIfBsConfigExtEntry 2 }

wmanIfBsCfgExtAutoSfidEnabled OBJECT-TYPE
SYNTAX      INTEGER {autoSfidDisabled(0),
                    autoSfidEnabled(1)}
MAX-ACCESS  read-write
STATUS      current
DESCRIPTION
    "This object defines whether the BS is allowed to autonomously allocate SFIDs.
    When the object is set to autoSfidEnabled, the BS is allowed to autonomously allocate
    SFIDs from the range of allowed values defined by wmanIfBsConfigExtAutoSfidRangeMin and
    wmanIfBsConfigExtAutoSfidRangeMax.
    A SF is created autonomously when it has not been provisioned in the
wmanIfBsProvisionedSfTable
    and may be initiated by either the SS or BS.
    The BS should always initiate SF creation based on the provisioned Service flows
    configured in wmanIfBsProvisionedSfTable."
REFERENCE   "Section 11.13.1 in IEEE 802.16REVd/D5-2004"
 ::= { wmanIfBsConfigExtEntry 3 }

wmanIfBsCfgExtAutoSfidRangeMin OBJECT-TYPE
SYNTAX      Unsigned32 ( 1 .. 4294967295)
MAX-ACCESS  read-write
STATUS      current
DESCRIPTION
    "This object defines the minimum value of the range of SFID values allocated for
    the BS sector for the purpose of autonomous creation of service flows.
    This value is used when the object wmanIfBsCfgExtAutoSfidEnabled allows
    autonomous creation of SFIDs."
REFERENCE   "Section 11.13.1 in IEEE 802.16REVd/D5-2004"
 ::= { wmanIfBsConfigExtEntry 4 }

wmanIfBsCfgExtAutoSfidRangeMax OBJECT-TYPE
SYNTAX      Unsigned32 ( 1 .. 4294967295)
MAX-ACCESS  read-write
STATUS      current
DESCRIPTION

```

"This object defines the maximum value of the range of SFID values allocated for the BS sector for the purpose of autonomous creation of the service flows. This value is used when the object wmanIfBsCfgExtAutoSfidEnabled allows autonomous creation of SFIDs."

REFERENCE "Section 11.13.1 in IEEE 802.16REVd/D5-2004"
 ::= { wmanIfBsConfigExtEntry 5 }

wmanIfBsCfgExtOfdmMinReqRegionFullTos OBJECT-TYPE

SYNTAX INTEGER (1..65535)

UNITS "1/sec"

MAX-ACCESS read-write

STATUS current

DESCRIPTION

"The minimum number of Full bandwidth Req-Region Full Transmit opportunities scheduled in the UL per second."

REFERENCE "Section 6.3.7.4.3 in IEEE 802.16REVd/D5-2004"

::= { wmanIfBsConfigExtEntry 6 }

wmanIfBsCfgExtOfdmMinFocusedContentionTos OBJECT-TYPE

SYNTAX INTEGER (0..65535)

UNITS "1/sec"

MAX-ACCESS read-write

STATUS current

DESCRIPTION

"The minimum number of focused contention Transmit opportunities scheduled in the UL per second.

The value may be 0 if the focused contention is not implemented."

REFERENCE "Section 6.3.6.4 and 8.3.7.3.3 in IEEE 802.16REVd/D5-2004"

::= { wmanIfBsConfigExtEntry 7 }

wmanIfBsCfgExtOfdmMaxRoundTripDelay OBJECT-TYPE

SYNTAX INTEGER (1..65535)

UNITS "us"

MAX-ACCESS read-write

STATUS current

DESCRIPTION

"Maximum supported round trip delay.

It is required to limit the cell size."

REFERENCE "Section 8.3.5.1 in IEEE 802.16REVd/D5-2004"

::= { wmanIfBsConfigExtEntry 8 }

wmanIfBsCfgExtOfdmRangeAbortTimingThresh OBJECT-TYPE

SYNTAX INTEGER (0..255)

UNITS "1/Fs"

MAX-ACCESS read-write

STATUS current

DESCRIPTION

"This object defines Tolerable Timing Offset.

BS performs Initial Ranging until the SS transmissions are within limits that are deemed tolerable by the BS. If the SS does not transmit within these limits after a number of correction attempts then the BS aborts Initial Ranging."

REFERENCE "Figure 63 and Table 365 in IEEE 802.16REVd/D5-2004"

::= { wmanIfBsConfigExtEntry 9 }

wmanIfBsCfgExtOfdmRangeAbortPowerThresh OBJECT-TYPE

SYNTAX INTEGER (0..255)

UNITS "0.25dB"

MAX-ACCESS read-write

STATUS current

DESCRIPTION

"This object defines Tolerable Power Offset.

BS performs Initial Ranging until the SS transmissions are within limits that are deemed tolerable by the BS. If the SS does not transmit within these limits after a number of correction attempts then the BS aborts Initial Ranging."

REFERENCE "Figure 63 and Table 365 in IEEE 802.16REVd/D5-2004"

```
::= { wmanIfBsConfigExtEntry 10 }
```

```
wmanIfBsCfgExtOfdmRangeAbortFreqThresh OBJECT-TYPE
SYNTAX      INTEGER (0..255)
UNITS       "Hz"
MAX-ACCESS  read-write
STATUS      current
DESCRIPTION
    "This object defines Tolerable Frequency Offset.
    BS performs Initial Ranging until the SS transmissions are within
    limits that are deemed tolerable by the BS. If the SS does not
    transmit within these limits after a number of correction
    attempts then the BS aborts Initial Ranging."
REFERENCE   "Figure 63 and Table 365 in IEEE 802.16REVd/D5-2004"
::= { wmanIfBsConfigExtEntry 11 }
```

```
wmanIfBsCfgExtOfdmDnlkRateId OBJECT-TYPE
SYNTAX      INTEGER {dnlkRateIdBpsk1-2(0),
                    dnlkRateIdQpsk1-2(1),
                    dnlkRateIdQpsk3-4(2),
                    dnlkRateId16Qam1-2(3),
                    dnlkRateId16Qam3-4(4),
                    dnlkRateId64Qam2-3(5),
                    dnlkRateId64Qam3-4(6)}
MAX-ACCESS  read-write
STATUS      current
DESCRIPTION
    "The Rate ID to be used in the first downlink burst immediately
    following the FCH. The Rate ID encoding is static and cannot
    be changed during system operation. The change of the Rate ID
    should be applied on system re-initialisation (e.g. following
    sector or BS reset)."
```

```
REFERENCE   "Section 8.3.3.4.3 in IEEE 802.16REVd/D5-2004"
DEFVAL      { dnlkRateIdBpsk1-2 }
::= { wmanIfBsConfigExtEntry 12 }
```

```
wmanIfBsCfgExtAasChanFbckReqFreq OBJECT-TYPE
SYNTAX      INTEGER (5..10000)
UNITS       "ms"
MAX-ACCESS  read-write
STATUS      current
DESCRIPTION
    "This object defines AAS channel feedback request frequency.
    It controls the frequency of downlink beam measurements.
    The relevant MAC messages are AAS-FBCK-REQ/RSP"
REFERENCE   "Section 6.3.2.3.40 in IEEE 802.16REVd/D5-2004"
::= { wmanIfBsConfigExtEntry 13 }
```

```
wmanIfBsCfgExtAasBeamSelectFreq OBJECT-TYPE
SYNTAX      INTEGER (5..10000)
UNITS       "ms"
MAX-ACCESS  read-write
STATUS      current
DESCRIPTION
    "This object defines AAS beam select frequency.
    It controls how often SS issues beam select messages.
    The relevant MAC message is AAS_Beam_Select"
REFERENCE   "Section 6.3.2.3.41 in IEEE 802.16REVd/D5-2004"
::= { wmanIfBsConfigExtEntry 14 }
```

```
wmanIfBsCfgExtAasChanFbckReqResolution OBJECT-TYPE
SYNTAX      INTEGER {aasChanFbckRes00(0),
                    aasChanFbckRes01(1),
                    aasChanFbckRes10(2),
                    aasChanFbckRes11(3)}
MAX-ACCESS  read-write
STATUS      current
```

DESCRIPTION

"This object defines AAS feedback request frequency measurements resolution. It is coded as follows:

aasChanFbckRes00 - every 4th carrier (-100, -96, -92, .., 100)
 aasChanFbckRes01 - every 8th carrier (-100, -92, -84, .., 100)
 aasChanFbckRes10 - every 16th carrier (-100, -84, -68, .., 100)
 aasChanFbckRes11 - every 32th carrier (-100, -68, -36, .., 100)"

REFERENCE "Section 8.3.6.4 in IEEE 802.16REVd/D5-2004"
 ::= { wmanIfBsConfigExtEntry 15 }

wmanIfBsCfgExtAasBeamReqResolution OBJECT-TYPE

SYNTAX INTEGER {aasBeamReqRes000(0),
 aasBeamReqRes001(1),
 aasBeamReqRes010(2),
 aasBeamReqRes011(3),
 aasBeamReqRes100(4)}

MAX-ACCESS read-write

STATUS current

DESCRIPTION

"This object defines AAS beam select request resolution parameter.

It is coded as follows:

aasBeamReqRes000 - every 4th carrier
 aasBeamReqRes001 - every 8th carrier
 aasBeamReqRes010 - every 16th carrier
 aasBeamReqRes011 - every 32th carrier
 aasBeamReqRes100 - every 64th carrier"

REFERENCE "Section 8.3.6.5 in IEEE 802.16REVd/D5-2004"
 ::= { wmanIfBsConfigExtEntry 16 }

wmanIfBsCfgExtAasNumOptDiversityZones OBJECT-TYPE

SYNTAX INTEGER (0..65535)

MAX-ACCESS read-write

STATUS current

DESCRIPTION

"This object defines the number of optional diversity zones transmitted in downlink."

REFERENCE "Figure 209 in IEEE 802.16REVd/D5-2004"
 ::= { wmanIfBsConfigExtEntry 17 }

wmanIfBsCfgExtResetSector OBJECT-TYPE

SYNTAX INTEGER {actionResetSectorNoAction(0),
 actionResetSector(1)}

MAX-ACCESS read-write

STATUS current

DESCRIPTION

"This object should be implemented as follows:

- When set to actionsResetSector value, instructs BS to reset the sector identified by ifIndex. As a result of this action the Phy and Mac of this sector should be reinitialised.
- When set to value different than actionsResetSector it should be ignored
- When read it should return actionsResetSectorNoAction"

::= { wmanIfBsConfigExtEntry 18 }

wmanIfBsCfgExtRowStatus OBJECT-TYPE

SYNTAX RowStatus

MAX-ACCESS read-write

STATUS current

DESCRIPTION

"This object is used to ensure that the write operation to multiple columns is guaranteed to be treated as atomic operation by agent."

::= { wmanIfBsConfigExtEntry 19 }

wmanIfBsStatisticCounter OBJECT IDENTIFIER ::= { wmanIfBsCps 3 }

wmanIfBsCapabilities OBJECT IDENTIFIER ::= { wmanIfBsCps 4 }

wmanIfBsSsReqCapabilitiesTable OBJECT-TYPE

```

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

```

```

wmanIfBsSsReqCapabilitiesEntry OBJECT-TYPE
SYNTAX      WmanIfBsSsReqCapabilitiesEntry
MAX-ACCESS  not-accessible
STATUS      current
DESCRIPTION
    "This table provides one row for each SS that has been
    registered in the BS. This table augments the table
    wmanIfBsRegisteredSsTable."
AUGMENTS { wmanIfBsRegisteredSsEntry }
 ::= { wmanIfBsSsReqCapabilitiesTable 1 }

```

```

WmanIfBsSsReqCapabilitiesEntry ::= SEQUENCE {
    wmanIfBsSsReqCapUlCidSupport          WmanIfCapUlCidSupportType,
    wmanIfBsSsReqCapArqSupport            WmanIfCapArqSupportType,
    wmanIfBsSsReqCapDsxFwControl          WmanIfCapDsxFwControlType,
    wmanIfBsSsReqCapMacCrcSupport         WmanIfCapMacCrcSupportType,
    wmanIfBsSsReqCapMcaFwControl          WmanIfCapMcaFwControlType,
    wmanIfBsSsReqCapMcpGroupCidSupport    WmanIfCapMcpGroupCidSupportType,
    wmanIfBsSsReqCapPkmFwControl          WmanIfCapPkmFwControlType,
    wmanIfBsSsReqCapAuthorizationPolicyControl WmanIfCapAuthorizationPolicyControlType,
    wmanIfBsSsReqCapMaxNumOfSupportedSA   WmanIfCapMaxNumOfSupportedSAType,
    wmanIfBsSsReqCapIpVersion             WmanIfCapIpVersionType,
    wmanIfBsSsReqCapMacCsSupportBitMap    WmanIfCapMacCsSupportBitMapType,
    wmanIfBsSsReqCapMaxNumOfClassifier    WmanIfCapMaxNumOfClassifierType,
    wmanIfBsSsReqCapPhsSupport            WmanIfCapPhsSupportType,
    wmanIfBsSsReqCapBandwidthAllocSupport WmanIfCapBandwidthAllocSupportType,
    wmanIfBsSsReqCapPduConstruction       WmanIfCapPduConstructionType,
    wmanIfBsSsReqCapSsTtgTransitionGap    WmanIfCapSsTransitionGapType,
    wmanIfBsSsReqCapSsRtgTransitionGap    WmanIfCapSsTransitionGapType,
}

```

```

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

```

```

wmanIfBsSsReqCapArqSupport OBJECT-TYPE
SYNTAX      WmanIfCapArqSupportType
MAX-ACCESS  read-only
STATUS      current
DESCRIPTION
    "This object indicates whether the SS supports ARQ."
 ::= { wmanIfBsSsReqCapabilitiesEntry 3 }

```

```

wmanIfBsSsReqCapDsxFwControl OBJECT-TYPE
SYNTAX      WmanIfCapDsxFwControlType
MAX-ACCESS  read-only
STATUS      current
DESCRIPTION
    "This object specifies the maximum number of concurrent
    DSA, DSC, or DSD transactions that SS is capable of having
    outstanding."
DEFVAL      { 0 }
 ::= { wmanIfBsSsReqCapabilitiesEntry 4 }

```

```

wmanIfBsSsReqCapMacCrcSupport OBJECT-TYPE
    SYNTAX      WmanIfCapMacCrcSupportType
    MAX-ACCESS  read-only
    STATUS      current
    DESCRIPTION
        "This object indicates whether or not the SS supports MAC level CRC."
    DEFVAL      { macCrcSupport }
    ::= { wmanIfBsSsReqCapabilitiesEntry 5 }

wmanIfBsSsReqCapMcaFlowControl OBJECT-TYPE
    SYNTAX      WmanIfCapMcaFlowControlType
    MAX-ACCESS  read-only
    STATUS      current
    DESCRIPTION
        "This object specifies the maximum number of concurrent
        MCA transactions that SS is capable of having outstanding."
    DEFVAL      { 0 }
    ::= { wmanIfBsSsReqCapabilitiesEntry 6 }

wmanIfBsSsReqCapMcpGroupCidSupport OBJECT-TYPE
    SYNTAX      WmanIfCapMcpGroupCidSupportType
    MAX-ACCESS  read-only
    STATUS      current
    DESCRIPTION
        "This object indicates the maximum number of
        simultaneous Multicast Polling Groups the SS is
        capable of belonging to."
    DEFVAL      { 0 }
    ::= { wmanIfBsSsReqCapabilitiesEntry 7 }

wmanIfBsSsReqCapPkmFlowControl OBJECT-TYPE
    SYNTAX      WmanIfCapPkmFlowControlType
    MAX-ACCESS  read-only
    STATUS      current
    DESCRIPTION
        "This object specifies the maximum number of concurrent PKM
        transactions that SS is capable of having outstanding."
    DEFVAL      { 0 }
    ::= { wmanIfBsSsReqCapabilitiesEntry 8 }

wmanIfBsSsReqCapAuthorizationPolicyControl OBJECT-TYPE
    SYNTAX      WmanIfCapAuthorizationPolicyControlType
    MAX-ACCESS  read-only
    STATUS      current
    DESCRIPTION
        "This object specifies authorization policy that SS is capable of.
        A bit value of 0 = not supported, 1 = supported. If this field is omitted, then
        both SS and BS shall use the IEEE 802.16 security,
        constituting X.509 digital certificates and the RSA public
        key encryption algorithm, as authorization policy."
    ::= { wmanIfBsSsReqCapabilitiesEntry 9 }

wmanIfBsSsReqCapMaxNumOfSupportedSA OBJECT-TYPE
    SYNTAX      WmanIfCapMaxNumOfSupportedSAType
    MAX-ACCESS  read-only
    STATUS      current
    DESCRIPTION
        "This field specifies the maximum number of supported security
        associations of the SS."
    DEFVAL      { 1 }
    ::= { wmanIfBsSsReqCapabilitiesEntry 10 }

wmanIfBsSsReqCapIpVersion OBJECT-TYPE
    SYNTAX      WmanIfCapIpVersionType
    MAX-ACCESS  read-only
    STATUS      current

```

DESCRIPTION

"This object indicates the version of IP used on the Secondary Management Connection. The value should be undefined if the 2nd management CID doesn't exist."

::= { wmanIfBsSsReqCapabilitiesEntry 11 }

wmanIfBsSsReqCapMacCsSupportBitMap OBJECT-TYPE

SYNTAX WmanIfCapMacCsSupportBitMapType

MAX-ACCESS read-only

STATUS current

DESCRIPTION

"This object indicates SS reported set of MAC convergence sublayer support. When a bit is set, it indicates the corresponding CS feature is supported."

::= { wmanIfBsSsReqCapabilitiesEntry 12 }

wmanIfBsSsReqCapMaxNumOfClassifier OBJECT-TYPE

SYNTAX WmanIfCapMaxNumOfClassifierType

MAX-ACCESS read-only

STATUS current

DESCRIPTION

"This object indicates the maximum number of admitted Classifiers that the SS can support."

DEFVAL { 0 }

::= { wmanIfBsSsReqCapabilitiesEntry 13 }

wmanIfBsSsReqCapPhsSupport OBJECT-TYPE

SYNTAX WmanIfCapPhsSupportType

MAX-ACCESS read-only

STATUS current

DESCRIPTION

"This object indicates indicates the level of SS support for PHS."

DEFVAL { noPhsSupport }

::= { wmanIfBsSsReqCapabilitiesEntry 14 }

wmanIfBsSsReqCapBandwidthAllocSupport OBJECT-TYPE

SYNTAX WmanIfCapBandwidthAllocSupportType

MAX-ACCESS read-only

STATUS current

DESCRIPTION

"This field indicates the bandwidth allocation capabilities of the SS. The usage is defined by WmanIfCapBandwidthAllocSupportType."

::= { wmanIfBsSsReqCapabilitiesEntry 16 }

wmanIfBsSsReqCapPduConstruction OBJECT-TYPE

SYNTAX WmanIfCapPduConstructionType

MAX-ACCESS read-only

STATUS current

DESCRIPTION

"This field indicates the SS's capabilities for construction and transmission of MAC PDUs.

The usage is defined by WmanIfCapPduConstructionType."

::= { wmanIfBsSsReqCapabilitiesEntry 17 }

wmanIfBsSsReqCapSsTtgTransitionGap OBJECT-TYPE

SYNTAX WmanIfCapSsTransitionGapType

UNITS "us"

MAX-ACCESS read-only

STATUS current

DESCRIPTION

"This field indicates the SS's transition speed SSTTG for TDD and H-FDD SSs.

The usage is defined by WmanIfCapSsTransitionGapType."

::= { wmanIfBsSsReqCapabilitiesEntry 18 }

wmanIfBsSsReqCapSsRtgTransitionGap OBJECT-TYPE

SYNTAX WmanIfCapSsTransitionGapType


```

UNITS          "us"
MAX-ACCESS    read-only
STATUS        current
DESCRIPTION
  "This field indicates the SS's transition speed SSRTG for TDD and H-FDD SSs.
  The usage is defined by WmanIfCapSsTransitionGapType."
 ::= { wmanIfBsSsReqCapabilitiesEntry 19 }

```

```

wmanIfBsSsRspCapabilitiesTable OBJECT-TYPE
SYNTAX        SEQUENCE OF WmanIfBsSsRspCapabilitiesEntry
MAX-ACCESS    not-accessible
STATUS        current
DESCRIPTION
  "This table contains the basic capability information
  of SSs that have been negotiated and agreed between
  BS and SS via RNG-REQ/RSP, SBC-REQ/RSP and REG-REQ/RSP messages.
  This table augments the wmanIfBsRegisteredSsTable."
REFERENCE
  "Section 6.3.2.3.7 in IEEE 802.16REVd/D5-2004"
 ::= { wmanIfBsCapabilities 2 }

```

```

wmanIfBsSsRspCapabilitiesEntry OBJECT-TYPE
SYNTAX        WmanIfBsSsRspCapabilitiesEntry
MAX-ACCESS    not-accessible
STATUS        current
DESCRIPTION
  "This table provides one row for each SS that has been registered in the BS.
  This table augments the wmanIfBsRegisteredSsTable. "
AUGMENTS { wmanIfBsRegisteredSsEntry }
 ::= { wmanIfBsSsRspCapabilitiesTable 1 }

```

```

WmanIfBsSsRspCapabilitiesEntry ::= SEQUENCE {
  wmanIfBsSsRspCapUlCidSupport          WmanIfCapUlCidSupportType,
  wmanIfBsSsRspCapArqSupport            WmanIfCapArqSupportType,
  wmanIfBsSsRspCapDsxFlowControl        WmanIfCapDsxFlowControlType,
  wmanIfBsSsRspCapMacCrcSupport         WmanIfCapMacCrcSupportType,
  wmanIfBsSsRspCapMcaFlowControl        WmanIfCapMcaFlowControlType,
  wmanIfBsSsRspCapMcpGroupCidSupport    WmanIfCapMcpGroupCidSupportType,
  wmanIfBsSsRspCapPkmFlowControl        WmanIfCapPkmFlowControlType,
  wmanIfBsSsRspCapAuthorizationPolicyControl WmanIfCapAuthorizationPolicyControlType,
  wmanIfBsSsRspCapMaxNumOfSupportedSA   WmanIfCapMaxNumOfSupportedSAType,
  wmanIfBsSsRspCapIpVersion             WmanIfCapIpVersionType,
  wmanIfBsSsRspCapMacCsSupportBitMap    WmanIfCapMacCsSupportBitMapType,
  wmanIfBsSsRspCapMaxNumOfClassifier    WmanIfCapMaxNumOfClassifierType,
  wmanIfBsSsRspCapPhsSupport            WmanIfCapPhsSupportType,
  wmanIfBsSsRspCapBandwidthAllocSupport WmanIfCapBandwidthAllocSupportType,
  wmanIfBsSsRspCapPduConstruction       WmanIfCapPduConstructionType,
  wmanIfBsSsRspCapTtgTransitionGap      WmanIfCapSsTransitionGapType,
  wmanIfBsSsRspCapRtgTransitionGap      WmanIfCapSsTransitionGapType,
}

```

```

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

```

```

wmanIfBsSsRspCapArqSupport OBJECT-TYPE
SYNTAX        WmanIfCapArqSupportType
MAX-ACCESS    read-only
STATUS        current
DESCRIPTION   "This object indicates whether the SS is allowed to use ARQ
              as a result of the capabilities negotiation."
 ::= { wmanIfBsSsRspCapabilitiesEntry 3 }

```

```

wmanIfBsSsRspCapDsxFwControl OBJECT-TYPE
    SYNTAX      WmanIfCapDsxFwControlType
    MAX-ACCESS  read-only
    STATUS      current
    DESCRIPTION
        "Negotiated maximum number of concurrent
         DSA, DSC, or DSD transactions that may be outstanding."
    ::= { wmanIfBsSsRspCapabilitiesEntry 4 }

wmanIfBsSsRspCapMacCrcSupport OBJECT-TYPE
    SYNTAX      WmanIfCapMacCrcSupportType
    MAX-ACCESS  read-only
    STATUS      current
    DESCRIPTION
        "This object indicates whether or not the SS is allowed to use MAC level CRC
         as a result of the capabilities negotiation."
    DEFVAL      { macCrcSupport }
    ::= { wmanIfBsSsRspCapabilitiesEntry 5 }

wmanIfBsSsRspCapMcaFlowControl OBJECT-TYPE
    SYNTAX      WmanIfCapMcaFlowControlType
    MAX-ACCESS  read-only
    STATUS      current
    DESCRIPTION
        "Negotiated maximum number of concurrent
         MCA transactions that may be outstanding."
    DEFVAL      { 0 }
    ::= { wmanIfBsSsRspCapabilitiesEntry 6 }

wmanIfBsSsRspCapMcpGroupCidSupport OBJECT-TYPE
    SYNTAX      WmanIfCapMcpGroupCidSupportType
    MAX-ACCESS  read-only
    STATUS      current
    DESCRIPTION
        "Negotiated maximum number of
         simultaneous Multicast Polling Groups the SS is
         capable of belonging to."
    DEFVAL      { 0 }
    ::= { wmanIfBsSsRspCapabilitiesEntry 7 }

wmanIfBsSsRspCapPkmFlowControl OBJECT-TYPE
    SYNTAX      WmanIfCapPkmFlowControlType
    MAX-ACCESS  read-only
    STATUS      current
    DESCRIPTION
        "Negotiated maximum number of concurrent PKM
         transactions that may be outstanding."
    DEFVAL      { 0 }
    ::= { wmanIfBsSsRspCapabilitiesEntry 8 }

wmanIfBsSsRspCapAuthorizationPolicyControl OBJECT-TYPE
    SYNTAX      WmanIfCapAuthorizationPolicyControlType
    MAX-ACCESS  read-only
    STATUS      current
    DESCRIPTION
        "This object specifies negotiated authorization policy. A bit value of 0 =
         not supported, 1 = supported. If this field is omitted, then
         both SS and BS shall use the IEEE 802.16 security,
         constituting X.509 digital certificates and the RSA public
         key encryption algorithm, as authorization policy."
    ::= { wmanIfBsSsRspCapabilitiesEntry 9 }

wmanIfBsSsRspCapMaxNumOfSupportedSA OBJECT-TYPE
    SYNTAX      WmanIfCapMaxNumOfSupportedSAType
    MAX-ACCESS  read-only
    STATUS      current
    DESCRIPTION

```

```

        "Negotiated maximum number of supported security
        association of the SS."
    DEFVAL          { 1 }
    ::= { wmanIfBsSsRspCapabilitiesEntry 10 }

wmanIfBsSsRspCapIpVersion OBJECT-TYPE
    SYNTAX          WmanIfCapIpVersionType
    MAX-ACCESS      read-only
    STATUS          current
    DESCRIPTION
        "Negotiated version of IP used on the
        Secondary Management Connection. The value should be undefined
        if the 2nd management CID doesn't exist."
    ::= { wmanIfBsSsRspCapabilitiesEntry 11 }

wmanIfBsSsRspCapMacCsSupportBitMap OBJECT-TYPE
    SYNTAX          WmanIfCapMacCsSupportBitMapType
    MAX-ACCESS      read-only
    STATUS          current
    DESCRIPTION
        "Negotiated set of MAC convergence
        sublayer support. When a bit is set, it indicates
        the corresponding CS feature is supported."
    ::= { wmanIfBsSsRspCapabilitiesEntry 12 }

wmanIfBsSsRspCapMaxNumOfClassifier OBJECT-TYPE
    SYNTAX          WmanIfCapMaxNumOfClassifierType
    MAX-ACCESS      read-only
    STATUS          current
    DESCRIPTION
        "Negotiated maximum number of admitted
        Classifiers that the SS is allowed to have."
    DEFVAL          { 0 }
    ::= { wmanIfBsSsRspCapabilitiesEntry 13 }

wmanIfBsSsRspCapPhsSupport OBJECT-TYPE
    SYNTAX          WmanIfCapPhsSupportType
    MAX-ACCESS      read-only
    STATUS          current
    DESCRIPTION
        "This object indicates indicates the negotiated level of PHS support."
    DEFVAL          { noPhsSupport }
    ::= { wmanIfBsSsRspCapabilitiesEntry 14 }

wmanIfBsSsRspCapBandwidthAllocSupport OBJECT-TYPE
    SYNTAX          WmanIfCapBandwidthAllocSupportType
    MAX-ACCESS      read-only
    STATUS          current
    DESCRIPTION
        "This field indicates negotiated properties of the SS
        for bandwidth allocation purposes.
        The usage is defined by WmanIfCapBandwidthAllocSupportType."
    ::= { wmanIfBsSsRspCapabilitiesEntry 16 }

wmanIfBsSsRspCapPduConstruction OBJECT-TYPE
    SYNTAX          WmanIfCapPduConstructionType
    MAX-ACCESS      read-only
    STATUS          current
    DESCRIPTION
        "Specifies negotiated capabilities for construction and transmission of MAC PDUs.
        The usage is defined by WmanIfCapPduConstructionType."
    ::= { wmanIfBsSsRspCapabilitiesEntry 17 }

wmanIfBsSsRspCapTtgTransitionGap OBJECT-TYPE
    SYNTAX          WmanIfCapSsTransitionGapType
    UNITS           "us"

```

```

MAX-ACCESS read-only
STATUS current
DESCRIPTION
  "This field indicates the negotiated transition speed SSTTG for TDD and H-FDD SSs.
  The usage is defined by WmanIfCapSsTransitionGapType."
 ::= { wmanIfBsSsRspCapabilitiesEntry 18 }

```

```

wmanIfBsSsRspCapRtgTransitionGap OBJECT-TYPE
SYNTAX WmanIfCapSsTransitionGapType
UNITS "us"
MAX-ACCESS read-only
STATUS current
DESCRIPTION
  "This field indicates the negotiated transition speed SSRTG for TDD and H-FDD SSs.
  The usage is defined by WmanIfCapSsTransitionGapType."
 ::= { wmanIfBsSsRspCapabilitiesEntry 19 }

```

```

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

```

```

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

```

```

WmanIfBsCapabilitiesEntry ::= SEQUENCE {
  wmanIfBsCapUlCidSupport           WmanIfCapUlCidSupportType,
  wmanIfBsCapArqSupport            WmanIfCapArqSupportType,
  wmanIfBsCapDsxFlowControl        WmanIfCapDsxFlowControlType,
  wmanIfBsCapMacCrcSupport         WmanIfCapMacCrcSupportType,
  wmanIfBsCapMcaFlowControl        WmanIfCapMcaFlowControlType,
  wmanIfBsCapMcpGroupCidSupport    WmanIfCapMcpGroupCidSupportType,
  wmanIfBsCapPkmFlowControl        WmanIfCapPkmFlowControlType,
  wmanIfBsCapAuthorizationPolicyControl WmanIfCapAuthorizationPolicyControlType,
  wmanIfBsCapMaxNumOfSupportedSA   WmanIfCapMaxNumOfSupportedSAType,
  wmanIfBsCapIpVersion             WmanIfCapIpVersionType,
  wmanIfBsCapMacCsSupportBitMap     WmanIfCapMacCsSupportBitMapType,
  wmanIfBsCapMaxNumOfClassifier    WmanIfCapMaxNumOfClassifierType,
  wmanIfBsCapPhsSupport            WmanIfCapPhsSupportType,
  wmanIfBsCapBandwidthAllocSupport WmanIfCapBandwidthAllocSupportType,
  wmanIfBsCapPduConstruction        WmanIfCapPduConstructionType,
  wmanIfBsCapSsTtgTransitionGap     WmanIfCapSsTransitionGapType,
  wmanIfBsCapSsRtgTransitionGap     WmanIfCapSsTransitionGapType,
}

```

```

wmanIfBsCapUlCidSupport OBJECT-TYPE
SYNTAX WmanIfCapUlCidSupportType
MAX-ACCESS read-only
STATUS current

```

DESCRIPTION

"This object shows the number of Uplink CIDs the BS can support per SS."
 ::= { wmanIfBsCapabilitiesEntry 1 }

wmanIfBsCapArqSupport OBJECT-TYPE

SYNTAX WmanIfCapArqSupportType
 MAX-ACCESS read-only
 STATUS current
 DESCRIPTION

"This object indicates whether the BS supports ARQ."
 ::= { wmanIfBsCapabilitiesEntry 3 }

wmanIfBsCapDsxFlowControl OBJECT-TYPE

SYNTAX WmanIfCapDsxFlowControlType
 MAX-ACCESS read-only
 STATUS current
 DESCRIPTION

"This object specifies the maximum number of concurrent
 DSA, DSC, or DSD transactions that BS allows each SS to have outstanding."
 DEFVAL { 0 }
 ::= { wmanIfBsCapabilitiesEntry 4 }

wmanIfBsCapMacCrcSupport OBJECT-TYPE

SYNTAX WmanIfCapMacCrcSupportType
 MAX-ACCESS read-only
 STATUS current
 DESCRIPTION

"This object indicates whether or not the BS supports MAC level CRC."
 DEFVAL { macCrcSupport }
 ::= { wmanIfBsCapabilitiesEntry 5 }

wmanIfBsCapMcaFlowControl OBJECT-TYPE

SYNTAX WmanIfCapMcaFlowControlType
 MAX-ACCESS read-only
 STATUS current
 DESCRIPTION

"This object specifies the maximum number of concurrent
 MCA transactions that BS allows each SS to have."
 DEFVAL { 0 }
 ::= { wmanIfBsCapabilitiesEntry 6 }

wmanIfBsCapMcpGroupCidSupport OBJECT-TYPE

SYNTAX WmanIfCapMcpGroupCidSupportType
 MAX-ACCESS read-only
 STATUS current
 DESCRIPTION

"This object indicates the maximum number of
 simultaneous Multicast Polling Groups the BS allows each SS
 to belong to."
 DEFVAL { 0 }
 ::= { wmanIfBsCapabilitiesEntry 7 }

wmanIfBsCapPkmFlowControl OBJECT-TYPE

SYNTAX WmanIfCapPkmFlowControlType
 MAX-ACCESS read-only
 STATUS current
 DESCRIPTION

"This object specifies the maximum number of concurrent PKM
 transactions that BS allows each SS to have."
 DEFVAL { 0 }
 ::= { wmanIfBsCapabilitiesEntry 8 }

wmanIfBsCapAuthorizationPolicyControl OBJECT-TYPE

SYNTAX WmanIfCapAuthorizationPolicyControlType
 MAX-ACCESS read-only
 STATUS current
 DESCRIPTION

"This object specifies authorization policy that BS is capable of.
 A bit value of 0 = not supported, 1 = supported. If this field is omitted, then
 both SS and BS shall use the IEEE 802.16 security,
 constituting X.509 digital certificates and the RSA public
 key encryption algorithm, as authorization policy."
 ::= { wmanIfBsCapabilitiesEntry 9 }

wmanIfBsCapMaxNumOfSupportedSA OBJECT-TYPE
 SYNTAX WmanIfCapMaxNumOfSupportedSAType
 MAX-ACCESS read-only
 STATUS current
 DESCRIPTION
 "This field specifies maximum number of supported security
 associations per SS that the BS allows."
 DEFVAL { 1 }
 ::= { wmanIfBsCapabilitiesEntry 10 }

wmanIfBsCapIpVersion OBJECT-TYPE
 SYNTAX WmanIfCapIpVersionType
 MAX-ACCESS read-only
 STATUS current
 DESCRIPTION
 "This object indicates the version of IP BS allows each SS to use on the
 Secondary Management Connection. The value 'undefined' should not be used
 for this field."
 REFERENCE
 "Section 11.7.4 in IEEE 802.16REVd/D5-2004"
 ::= { wmanIfBsCapabilitiesEntry 11 }

wmanIfBsCapMacCsSupportBitMap OBJECT-TYPE
 SYNTAX WmanIfCapMacCsSupportBitMapType
 MAX-ACCESS read-only
 STATUS current
 DESCRIPTION
 "This object indicates BS set of MAC convergence
 sublayer support. When a bit is set, it indicates
 the corresponding CS feature is supported."
 ::= { wmanIfBsCapabilitiesEntry 12 }

wmanIfBsCapMaxNumOfClassifier OBJECT-TYPE
 SYNTAX WmanIfCapMaxNumOfClassifierType
 MAX-ACCESS read-only
 STATUS current
 DESCRIPTION
 "This object indicates the maximum number of admitted
 Classifiers per SS that the BS allows."
 DEFVAL { 0 }
 ::= { wmanIfBsCapabilitiesEntry 13 }

wmanIfBsCapPhsSupport OBJECT-TYPE
 SYNTAX WmanIfCapPhsSupportType
 MAX-ACCESS read-only
 STATUS current
 DESCRIPTION
 "This object indicates the level of BS support for PHS.
 The usage is defined by WmanIfCapPhsSupportType."
 DEFVAL { noPhsSupport }
 ::= { wmanIfBsCapabilitiesEntry 14 }

wmanIfBsCapBandwidthAllocSupport OBJECT-TYPE
 SYNTAX WmanIfCapBandwidthAllocSupportType
 MAX-ACCESS read-only
 STATUS current
 DESCRIPTION
 "This field indicates the bandwidth allocation properties that
 the BS permits SSS to use."

The usage is defined by WmanIfCapBandwidthAllocSupportType."
 ::= { wmanIfBsCapabilitiesEntry 16 }

wmanIfBsCapPduConstruction OBJECT-TYPE
 SYNTAX WmanIfCapPduConstructionType
 MAX-ACCESS read-only
 STATUS current
 DESCRIPTION
 "Specifies the capabilities for construction and transmission of MAC PDUs
 allowed by the BS.
 The usage is defined by WmanIfCapPduConstructionType."
 ::= { wmanIfBsCapabilitiesEntry 17 }

wmanIfBsCapSsTtgTransitionGap OBJECT-TYPE
 SYNTAX WmanIfCapSsTransitionGapType
 UNITS "us"
 MAX-ACCESS read-only
 STATUS current
 DESCRIPTION
 "This field indicates the transition speed SSTG for TDD and H-FDD SSs allowed
 by the BS.
 The usage is defined by WmanIfCapSsTransitionGapType."
 ::= { wmanIfBsCapabilitiesEntry 18 }

wmanIfBsCapSsRtgTransitionGap OBJECT-TYPE
 SYNTAX WmanIfCapSsTransitionGapType
 UNITS "us"
 MAX-ACCESS read-only
 STATUS current
 DESCRIPTION
 "This field indicates the transition speed SSRTG for TDD and H-FDD SSs allowed
 by the BS.
 The usage is defined by WmanIfCapSsTransitionGapType."
 ::= { wmanIfBsCapabilitiesEntry 19 }

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

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

WmanIfBsCapabilitiesConfigEntry ::= SEQUENCE {
 wmanIfBsCapCfgUlCidSupport WmanIfCapUlCidSupportType,
 wmanIfBsCapCfgArqSupport WmanIfCapArqSupportType,
 wmanIfBsCapCfgDsxFowControl WmanIfCapDsxFowControlType,
 wmanIfBsCapCfgMacCrcSupport WmanIfCapMacCrcSupportType,

wmanIfBsCapCfgMcaFlowControl	WmanIfCapMcaFlowControlType,
wmanIfBsCapCfgMcpGroupCidSupport	WmanIfCapMcpGroupCidSupportType,
wmanIfBsCapCfgPkmFlowControl	WmanIfCapPkmFlowControlType,
wmanIfBsCapCfgAuthorizationPolicyControl	WmanIfCapAuthorizationPolicyControlType,
wmanIfBsCapCfgMaxNumOfSupportedSA	WmanIfCapMaxNumOfSupportedSAType,
wmanIfBsCapCfgIpVersion	WmanIfCapIpVersionType,
wmanIfBsCapCfgMacCsSupportBitMap	WmanIfCapMacCsSupportBitMapType,
wmanIfBsCapCfgMaxNumOfClassifier	WmanIfCapMaxNumOfClassifierType,
wmanIfBsCapCfgPhsSupport	WmanIfCapPhsSupportType,
wmanIfBsCapCfgBandwidthAllocSupport	WmanIfCapBandwidthAllocSupportType,
wmanIfBsCapCfgPduConstruction	WmanIfCapPduConstructionType,
wmanIfBsCapCfgSsTtgTransitionGap	WmanIfCapSsTransitionGapType,
wmanIfBsCapCfgSsRtgTransitionGap	WmanIfCapSsTransitionGapType,
wmanIfBsCapabilitiesConfigRowStatus	RowStatus

```

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

```

```

wmanIfBsCapCfgArqSupport OBJECT-TYPE
    SYNTAX      WmanIfCapArqSupportType
    MAX-ACCESS  read-write
    STATUS      current
    DESCRIPTION
        "This object indicates whether the BS is configured to support ARQ."
    ::= { wmanIfBsCapabilitiesConfigEntry 3 }

```

```

wmanIfBsCapCfgDsxFlowControl OBJECT-TYPE
    SYNTAX      WmanIfCapDsxFlowControlType
    MAX-ACCESS  read-write
    STATUS      current
    DESCRIPTION
        "This object specifies the configured maximum number of concurrent
        DSA, DSC, or DSD transactions that BS allows each SS to have outstanding."
    DEFVAL      { 0 }
    ::= { wmanIfBsCapabilitiesConfigEntry 4 }

```

```

wmanIfBsCapCfgMacCrcSupport OBJECT-TYPE
    SYNTAX      WmanIfCapMacCrcSupportType
    MAX-ACCESS  read-write
    STATUS      current
    DESCRIPTION
        "This object indicates whether BS is configured to support MAC level CRC."
    DEFVAL      { macCrcSupport }
    ::= { wmanIfBsCapabilitiesConfigEntry 5 }

```

```

wmanIfBsCapCfgMcaFlowControl OBJECT-TYPE
    SYNTAX      WmanIfCapMcaFlowControlType
    MAX-ACCESS  read-write
    STATUS      current
    DESCRIPTION
        "This object specifies the maximum number of concurrent
        MCA transactions that BS is configured to allow each SS to have."
    DEFVAL      { 0 }
    ::= { wmanIfBsCapabilitiesConfigEntry 6 }

```

```

wmanIfBsCapCfgMcpGroupCidSupport OBJECT-TYPE
    SYNTAX      WmanIfCapMcpGroupCidSupportType
    MAX-ACCESS  read-write
    STATUS      current
    DESCRIPTION
        "This object indicates the maximum number of simultaneous

```



```

        Multicast Polling Groups the BS is configured to allow each SS
        to belong to."
    DEFVAL          { 0 }
    ::= { wmanIfBsCapabilitiesConfigEntry 7 }

wmanIfBsCapCfgPkmFlowControl OBJECT-TYPE
    SYNTAX          WmanIfCapPkmFlowControlType
    MAX-ACCESS      read-write
    STATUS          current
    DESCRIPTION
        "This object specifies the maximum number of concurrent PKM
        transactions that BS is configured to allow each SS to have."
    DEFVAL          { 0 }
    ::= { wmanIfBsCapabilitiesConfigEntry 8 }

wmanIfBsCapCfgAuthorizationPolicyControl OBJECT-TYPE
    SYNTAX          WmanIfCapAuthorizationPolicyControlType
    MAX-ACCESS      read-write
    STATUS          current
    DESCRIPTION
        "This object specifies authorization policy that BS is configured to be capable of.
        A bit value of 0 = not supported, 1 = supported. If this field is omitted, then
        both SS and BS shall use the IEEE 802.16 security,
        constituting X.509 digital certificates and the RSA public
        key encryption algorithm, as authorization policy."
    ::= { wmanIfBsCapabilitiesConfigEntry 9 }

wmanIfBsCapCfgMaxNumOfSupportedSA OBJECT-TYPE
    SYNTAX          WmanIfCapMaxNumOfSupportedSAType
    MAX-ACCESS      read-write
    STATUS          current
    DESCRIPTION
        "This field specifies configured maximum number of supported security
        association per SS."
    DEFVAL          { 1 }
    ::= { wmanIfBsCapabilitiesConfigEntry 10 }

wmanIfBsCapCfgIpVersion OBJECT-TYPE
    SYNTAX          WmanIfCapIpVersionType
    MAX-ACCESS      read-write
    STATUS          current
    DESCRIPTION
        "This object indicates the configured version of IP that the BS
        allows each SS to use on the Secondary Management Connection.
        The value 'undefined' should not be used in this field."
    ::= { wmanIfBsCapabilitiesConfigEntry 11 }

wmanIfBsCapCfgMacCsSupportBitMap OBJECT-TYPE
    SYNTAX          WmanIfCapMacCsSupportBitMapType
    MAX-ACCESS      read-write
    STATUS          current
    DESCRIPTION
        "This object indicates BS configured set of MAC convergence
        sublayer support. When a bit is set, it indicates
        the corresponding CS feature is supported."
    ::= { wmanIfBsCapabilitiesConfigEntry 12 }

wmanIfBsCapCfgMaxNumOfClassifier OBJECT-TYPE
    SYNTAX          WmanIfCapMaxNumOfClassifierType
    MAX-ACCESS      read-write
    STATUS          current
    DESCRIPTION
        "This object indicates the configured maximum number of admitted
        Classifiers per SS that the BS can support."
    DEFVAL          { 0 }
    ::= { wmanIfBsCapabilitiesConfigEntry 13 }

```

```

wmanIfBsCapCfgPhsSupport OBJECT-TYPE
    SYNTAX      WmanIfCapPhsSupportType
    MAX-ACCESS  read-write
    STATUS      current
    DESCRIPTION
        "This object indicates the configured level of BS support for PHS."
    DEFVAL     { noPhsSupport }
    ::= { wmanIfBsCapabilitiesConfigEntry 14 }

wmanIfBsCapCfgBandwidthAllocSupport OBJECT-TYPE
    SYNTAX      WmanIfCapBandwidthAllocSupportType
    MAX-ACCESS  read-write
    STATUS      current
    DESCRIPTION
        "This field indicates configured properties of the BS
        for bandwidth allocation purposes.
        The usage is defined by WmanIfCapBandwidthAllocSupportType."
    ::= { wmanIfBsCapabilitiesConfigEntry 16 }

wmanIfBsCapCfgPduConstruction OBJECT-TYPE
    SYNTAX      WmanIfCapPduConstructionType
    MAX-ACCESS  read-write
    STATUS      current
    DESCRIPTION
        "Specifies configured capabilities for construction and transmission of MAC PDUs.
        The usage is defined by WmanIfCapPduConstructionType."
    ::= { wmanIfBsCapabilitiesConfigEntry 17 }

wmanIfBsCapCfgSsTtgTransitionGap OBJECT-TYPE
    SYNTAX      WmanIfCapSsTransitionGapType
    UNITS       "us"
    MAX-ACCESS  read-write
    STATUS      current
    DESCRIPTION
        "This field indicates the configured transition speed SSTTG for TDD and H-FDD SSs.
        The usage is defined by WmanIfCapSsTransitionGapType."
    ::= { wmanIfBsCapabilitiesConfigEntry 18 }

wmanIfBsCapCfgSsRtgTransitionGap OBJECT-TYPE
    SYNTAX      WmanIfCapSsTransitionGapType
    UNITS       "us"
    MAX-ACCESS  read-write
    STATUS      current
    DESCRIPTION
        "This field indicates the configured transition speed SSRTG for TDD and H-FDD SSs.
        The usage is defined by WmanIfCapSsTransitionGapType."
    ::= { wmanIfBsCapabilitiesConfigEntry 19 }

wmanIfBsCapabilitiesConfigRowStatus OBJECT-TYPE
    SYNTAX      RowStatus
    MAX-ACCESS  read-write
    STATUS      current
    DESCRIPTION
        "This object is used to ensure that the write operation to multiple
        comments is guaranteed to be treated as atomic operation by agent."
    ::= { wmanIfBsCapabilitiesConfigEntry 20 }

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

```

```
::= { wmanIfBsCapabilities 5 }
```

```
wmanIfBsSsReqOfdmCapabilitiesEntry OBJECT-TYPE
```

```
SYNTAX      WmanIfBsSsReqOfdmCapabilitiesEntry
```

```
MAX-ACCESS  not-accessible
```

```
STATUS      current
```

```
DESCRIPTION
```

```
"This table provides one row for each SS that has been
registered in the BS. This table augments the table
wmanIfBsRegisteredSsTable."
```

```
AUGMENTS { wmanIfBsRegisteredSsEntry }
```

```
::= { wmanIfBsSsReqOfdmCapabilitiesTable 1 }
```

```
WmanIfBsSsReqOfdmCapabilitiesEntry ::= SEQUENCE {
```

```
  wmanIfBsSsReqCapOfdmFftSizes
```

```
  WmanIfCapOfdmFftSizesType,
```

```
  wmanIfBsSsReqCapOfdmSsDemodulator
```

```
  WmanIfCapOfdmSsDemodulatorType,
```

```
  wmanIfBsSsReqCapOfdmSsModulator
```

```
  WmanIfCapOfdmSsModulatorType,
```

```
  wmanIfBsSsReqCapOfdmFocusedCtSupport
```

```
  WmanIfCapOfdmFocusedCtSupportType,
```

```
  wmanIfBsSsReqCapOfdmTcSublayerSupport
```

```
  WmanIfCapOfdmTcSublayerSupportType
```

```
}
```

```
wmanIfBsSsReqCapOfdmFftSizes OBJECT-TYPE
```

```
SYNTAX      WmanIfCapOfdmFftSizesType
```

```
MAX-ACCESS  read-only
```

```
STATUS      current
```

```
DESCRIPTION
```

```
"This field indicates the FFT sizes supported by SS.
The usage is defined by WmanIfCapOfdmFftSizesType."
```

```
::= { wmanIfBsSsReqOfdmCapabilitiesEntry 1 }
```

```
wmanIfBsSsReqCapOfdmSsDemodulator OBJECT-TYPE
```

```
SYNTAX      WmanIfCapOfdmSsDemodulatorType
```

```
MAX-ACCESS  read-only
```

```
STATUS      current
```

```
DESCRIPTION
```

```
"This field indicates the different demodulator options
supported by SS for downlink.
The usage is defined by WmanIfCapOfdmSsDemodulatorType."
```

```
::= { wmanIfBsSsReqOfdmCapabilitiesEntry 2 }
```

```
wmanIfBsSsReqCapOfdmSsModulator OBJECT-TYPE
```

```
SYNTAX      WmanIfCapOfdmSsModulatorType
```

```
MAX-ACCESS  read-only
```

```
STATUS      current
```

```
DESCRIPTION
```

```
"This field indicates the different modulator options
supported by SS for uplink.
The usage is defined by WmanIfCapOfdmSsModulatorType."
```

```
::= { wmanIfBsSsReqOfdmCapabilitiesEntry 3 }
```

```
wmanIfBsSsReqCapOfdmFocusedCtSupport OBJECT-TYPE
```

```
SYNTAX      WmanIfCapOfdmFocusedCtSupportType
```

```
MAX-ACCESS  read-only
```

```
STATUS      current
```

```
DESCRIPTION
```

```
"This field indicates whether the SS supports Focused Contention.
The usage is defined by WmanIfCapOfdmFocusedCtSupportType."
```

```
::= { wmanIfBsSsReqOfdmCapabilitiesEntry 4 }
```

```
wmanIfBsSsReqCapOfdmTcSublayerSupport OBJECT-TYPE
```

```
SYNTAX      WmanIfCapOfdmTcSublayerSupportType
```

```
MAX-ACCESS  read-only
```

```
STATUS      current
```

```
DESCRIPTION
```

```
"This field indicates whether or not the SS supports the TC sublayer.
The usage is defined by WmanIfCapOfdmTcSublayerSupportType."
```

```
::= { wmanIfBsSsReqOfdmCapabilitiesEntry 5 }
```

```

wmanIfBsSsRspOfdmCapabilitiesTable OBJECT-TYPE
    SYNTAX      SEQUENCE OF WmanIfBsSsRspOfdmCapabilitiesEntry
    MAX-ACCESS  not-accessible
    STATUS      current
    DESCRIPTION
        "This table contains the basic capability information, specific to OFDM Phy,
        of Ss 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 wmanIfBsRegisteredSsTable."
    REFERENCE
        "Section 6.3.2.3.7 in IEEE 802.16REVd/D5-2004"
    ::= { wmanIfBsCapabilities 6 }

wmanIfBsSsRspOfdmCapabilitiesEntry OBJECT-TYPE
    SYNTAX      WmanIfBsSsRspOfdmCapabilitiesEntry
    MAX-ACCESS  not-accessible
    STATUS      current
    DESCRIPTION
        "This table provides one row for each SS that has been registered in the BS.
        This table augments the wmanIfBsRegisteredSsTable. "
    AUGMENTS { wmanIfBsRegisteredSsEntry }
    ::= { wmanIfBsSsRspOfdmCapabilitiesTable 1 }

WmanIfBsSsRspOfdmCapabilitiesEntry ::= SEQUENCE {
    wmanIfBsSsRspCapOfdmFftSizes          WmanIfCapOfdmFftSizesType,
    wmanIfBsSsRspCapOfdmSsDemodulator    WmanIfCapOfdmSsDemodulatorType,
    wmanIfBsSsRspCapOfdmSsModulator      WmanIfCapOfdmSsModulatorType,
    wmanIfBsSsRspCapOfdmFocusedCtSupport WmanIfCapOfdmFocusedCtSupportType,
    wmanIfBsSsRspCapOfdmTcSublayerSupport WmanIfCapOfdmTcSublayerSupportType
}

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

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

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

wmanIfBsSsRspCapOfdmFocusedCtSupport OBJECT-TYPE
    SYNTAX      WmanIfCapOfdmFocusedCtSupportType
    MAX-ACCESS  read-only
    STATUS      current
    DESCRIPTION

```

```

        "This field indicates whether the SS has negotiated the support
        for Focused Contention.
        The usage is defined by WmanIfCapOfdmFocusedCtSupportType."
 ::= { wmanIfBsSsRspOfdmCapabilitiesEntry 4 }

wmanIfBsSsRspCapOfdmTcSublayerSupport OBJECT-TYPE
    SYNTAX      WmanIfCapOfdmTcSublayerSupportType
    MAX-ACCESS  read-only
    STATUS      current
    DESCRIPTION
        "This field indicates whether the SS has negotiated support
        for the TC sublayer.
        The usage is defined by WmanIfCapOfdmTcSublayerSupportType."
 ::= { wmanIfBsSsRspOfdmCapabilitiesEntry 5 }

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

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

WmanIfBsOfdmCapabilitiesEntry ::= SEQUENCE {
    wmanIfBsCapOfdmFftSizes          WmanIfCapOfdmFftSizesType,
    wmanIfBsCapOfdmBsModulator       WmanIfCapOfdmSsDemodulatorType,
    wmanIfBsCapOfdmBsDemodulator     WmanIfCapOfdmSsModulatorType,
    wmanIfBsCapOfdmFocusedCtSupport  WmanIfCapOfdmFocusedCtSupportType,
    wmanIfBsCapOfdmTcSublayerSupport WmanIfCapOfdmTcSublayerSupportType
}

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

wmanIfBsCapOfdmBsModulator OBJECT-TYPE
    SYNTAX      WmanIfCapOfdmSsDemodulatorType
    MAX-ACCESS  read-only
    STATUS      current
    DESCRIPTION
        "This field indicates the different BS modulator options for downlink
        supported by the BS.
        The usage is defined by WmanIfCapOfdmSsDemodulatorType."
 ::= { wmanIfBsOfdmCapabilitiesEntry 2 }

```

```

wmanIfBsCapOfdmBsDemodulator OBJECT-TYPE
    SYNTAX      WmanIfCapOfdmSsModulatorType
    MAX-ACCESS  read-only
    STATUS      current
    DESCRIPTION
        "This field indicates the different BS demodulator options for uplink
        supported by the BS.
        The usage is defined by WmanIfCapOfdmSsModulatorType."
    ::= { wmanIfBsOfdmCapabilitiesEntry 3 }

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

wmanIfBsCapOfdmTcSublayerSupport OBJECT-TYPE
    SYNTAX      WmanIfCapOfdmTcSublayerSupportType
    MAX-ACCESS  read-only
    STATUS      current
    DESCRIPTION
        "This field indicates the BS supports for TC sublayer.
        The usage is defined by WmanIfCapOfdmTcSublayerSupportType."
    ::= { wmanIfBsOfdmCapabilitiesEntry 5 }

wmanIfBsOfdmCapabilitiesConfigTable OBJECT-TYPE
    SYNTAX      SEQUENCE OF WmanIfBsOfdmCapabilitiesConfigEntry
    MAX-ACCESS  not-accessible
    STATUS      current
    DESCRIPTION
        "This table contains the configuration for basic capabilities of BS, specific to OFDM
        Phy.

        The table is intended to be used to restrict the Capabilities implemented
        by BS, for example in order to comply with local regulatory requirements.
        The BS should use the configuration along with the implemented Capabilities
        (wmanIfBsCapabilitiesTable) for negotiation of basic capabilities
        with SS using RNG-RSP, SBC-RSP and REG-RSP messages.
        The negotiated capabilities are obtained by intersection of SS reported
        capabilities, BS raw capabilities and BS configured capabilities.
        The objects in the table have read-write access. The rows are created by BS
        as a copy of wmanIfBsCapabilitiesTable and can be modified by NMS."
    ::= { wmanIfBsCapabilities 8 }

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

WmanIfBsOfdmCapabilitiesConfigEntry ::= SEQUENCE {
    wmanIfBsCapCfgOfdmFftSizes      WmanIfCapOfdmFftSizesType,
    wmanIfBsCapCfgOfdmBsModulator   WmanIfCapOfdmSsDemodulatorType,
    wmanIfBsCapCfgOfdmBsDemodulator WmanIfCapOfdmSsModulatorType,
    wmanIfBsCapCfgOfdmFocusedCtSupport WmanIfCapOfdmFocusedCtSupportType,
    wmanIfBsCapCfgOfdmTcSublayerSupport WmanIfCapOfdmTcSublayerSupportType,
    wmanIfBsOfdmCapabilitiesConfigRowStatus RowStatus
}

wmanIfBsCapCfgOfdmFftSizes OBJECT-TYPE

```

```

SYNTAX      WmanIfCapOfdmFftSizesType
MAX-ACCESS  read-write
STATUS      current
DESCRIPTION
    "This field indicates the FFT sizes support configured for the BS.
    The usage is defined by WmanIfCapOfdmFftSizesType."
 ::= { wmanIfBsOfdmCapabilitiesConfigEntry 1 }

wmanIfBsCapCfgOfdmBsModulator OBJECT-TYPE
SYNTAX      WmanIfCapOfdmSsDemodulatorType
MAX-ACCESS  read-write
STATUS      current
DESCRIPTION
    "This field indicates the different BS modulator options configured for downlink.
    The usage is defined by WmanIfCapOfdmSsDemodulatorType."
 ::= { wmanIfBsOfdmCapabilitiesConfigEntry 2 }

wmanIfBsCapCfgOfdmBsDemodulator OBJECT-TYPE
SYNTAX      WmanIfCapOfdmSsModulatorType
MAX-ACCESS  read-write
STATUS      current
DESCRIPTION
    "This field indicates the different BS demodulator options configured for uplink.
    The usage is defined by WmanIfCapOfdmSsModulatorType."
 ::= { wmanIfBsOfdmCapabilitiesConfigEntry 3 }

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

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

wmanIfBsOfdmCapabilitiesConfigRowStatus OBJECT-TYPE
SYNTAX      RowStatus
MAX-ACCESS  read-write
STATUS      current
DESCRIPTION
    "This object is used to ensure that the write operation to multiple
    comments is guaranteed to be treated as atomic operation by agent."
 ::= { wmanIfBsOfdmCapabilitiesConfigEntry 6 }

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

wmanIfBsSsActionsEntry OBJECT-TYPE
SYNTAX      WmanIfBsSsActionsEntry
MAX-ACCESS  not-accessible

```

```

STATUS      current
DESCRIPTION
    "This table is indexed by wmanIfBsSsActionsMacAddress. The action can be requested
    for SS in any state not only those registered. However BS will decide whether
    the action is applicable to the SS based on its current state and execute it
    or skip it as defined in each action definition."
INDEX { wmanIfBsSsActionsMacAddress }
 ::= { wmanIfBsSsActionsTable 1 }

WmanIfBsSsActionsEntry ::= SEQUENCE {
    wmanIfBsSsActionsMacAddress      MacAddress,
    wmanIfBsSsActionsResetSs        INTEGER,
    wmanIfBsSsActionsAbortSs        INTEGER,
    wmanIfBsSsActionsOverrideDnFreq Unsigned32,
    wmanIfBsSsActionsOverrideChannelId INTEGER,
    wmanIfBsSsActionsDeReRegSs      INTEGER,
    wmanIfBsSsActionsDeReRegSsCode  INTEGER,
    wmanIfBsSsActionsRowStatus      RowStatus
}

wmanIfBsSsActionsMacAddress OBJECT-TYPE
SYNTAX      MacAddress
MAX-ACCESS  read-create
STATUS      current
DESCRIPTION "This object uniquely identifies the SS as an action target."
 ::= { wmanIfBsSsActionsEntry 1 }

wmanIfBsSsActionsResetSs OBJECT-TYPE
SYNTAX      INTEGER {actionsResetSsNoAction(0),
                    actionsResetSs(1)}
MAX-ACCESS  read-create
STATUS      current
DESCRIPTION
    "This object should be implemented as follows:
    - When set to actionsResetSs value, instructs BS to send RES-CMD to SS
    - When set to value different than actionsResetSs it should be ignored
    - When read it should return actionsResetSsNoAction
    The RES-CMD message shall be transmitted by the BS on an SS's Basic CID
    to force the SS to reset itself, reinitialize its MAC, and repeat
    initial system access."
REFERENCE   "Section 6.3.2.3.22 in IEEE 802.16REVd/D5-2004"
 ::= { wmanIfBsSsActionsEntry 2 }

wmanIfBsSsActionsAbortSs OBJECT-TYPE
SYNTAX      INTEGER {actionsAbortSsNoAction(0),
                    actionsAbortSs(1),
                    actionAbortSsParams(2)}
MAX-ACCESS  read-create
STATUS      current
DESCRIPTION
    "This object should be implemented as follows:
    - When set to actionsAbortSs value, it instructs BS to send unsolicited RNG-RSP
      with Ranging Status equal to 'abort' without override parameters
    - When set to actionAbortSsParams value, it instructs BS to send unsolicited
      RNG-RSP with Ranging Status equal to 'abort' and with
      'Downlink Frequency Override' and 'Uplink Channel ID Override' parameters.
    - When set to any other value it should be ignored
    - When read it should returned actionsAbortSsNoAction"
REFERENCE   "Section 11.6, table 365 in IEEE 802.16REVd/D5-2004"
 ::= { wmanIfBsSsActionsEntry 3 }

wmanIfBsSsActionsOverrideDnFreq 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 licenced bands only. It defines the Center frequency, in kHz, of new downlink channel where the SS should redo initial ranging."

REFERENCE "Section 11.6, table 365 in IEEE 802.16REVd/D5-2004"
 ::= { wmanIfBsSsActionsEntry 4 }

wmanIfBsSsActionsOverrideChannelId 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 "Section 11.6, table 365 in IEEE 802.16REVd/D5-2004"
 ::= { wmanIfBsSsActionsEntry 5 }

wmanIfBsSsActionsDeReRegSs OBJECT-TYPE

SYNTAX INTEGER {actionsDeReRegSsNoAction(0),
 actionsDeReRegSs(1)}

MAX-ACCESS read-create

STATUS current

DESCRIPTION

"This object should be implemented as follows:
 - When set to actionsDeReRegSs value, instructs BS to send DREG-CMD to SS with specified action code
 - When set to value different than actionsDeReRegSs it should be ignored
 - When read it should return actionsDeReRegSsNoAction
 The DREG-CMD message shall be transmitted by the BS on an SS's Basic CID to force the SS to change its access state. Upon receiving a DREG-CMD, the SS shall take the action indicated by the action code defined by wmanIfBsSsActionsDeReRegSsCode."

REFERENCE "Section 6.3.2.3.26 in IEEE 802.16REVd/D5-2004"
 ::= { wmanIfBsSsActionsEntry 6 }

wmanIfBsSsActionsDeReRegSsCode OBJECT-TYPE

SYNTAX INTEGER {actionsDeReRegSsCodeChangeChan(0),
 actionsDeReRegSsCodeNoTransmit(1),
 actionsDeReRegSsCodeLtdTransmit(2),
 actionsDeReRegSsCodeResume(3)}

MAX-ACCESS read-create

STATUS current

DESCRIPTION

"This object defined the action code for wmanIfBsSsActionsDeReRegSs action. The codes are defined as follows:
 actionsDeReRegSsCodeChangeChan - SS shall leave the current channel and attempt to access another channel.
 actionsDeReRegSsCodeNoTransmit - SS shall listen to the current channel but shall not transmit until an RES-CMD message or DREG_CMD with an Action Code that allows transmission is received.
 actionsDeReRegSsCodeLtdTransmit - SS shall listen to the current channel but only transmit on the Basic, Primary Management and Secondary Management Connections.
 actionsDeReRegSsCodeResume - SS shall return to normal operation and may transmit on any of its active connections."

REFERENCE "Section 6.3.2.3.26, table 55 in IEEE 802.16REVd/D5-2004"
 ::= { wmanIfBsSsActionsEntry 7 }

wmanIfBsSsActionsRowStatus OBJECT-TYPE

SYNTAX RowStatus

MAX-ACCESS read-create

```

STATUS      current
DESCRIPTION
    "This object is used to ensure that the write operation to multiple
    columns is guaranteed to be treated as atomic operation by agent."
 ::= { wmanIfBsSsActionsEntry 8 }

wmanIfBsPkmObjects OBJECT IDENTIFIER ::= { wmanIfBsObjects 3 }
wmanIfBsNotification OBJECT IDENTIFIER ::= { wmanIfBsObjects 4 }
--
-- wmanIfBsSnmpAgent contain objects related to the whole BS
wmanIfBsSnmpAgent OBJECT IDENTIFIER ::= { wmanIfBsObjects 5 }

-- Bs SNMP Agent Config Table
wmanIfBsSnmpAgentConfigTable OBJECT-TYPE
    SYNTAX      SEQUENCE OF WmanIfBsSnmpAgentConfigEntry
    MAX-ACCESS  not-accessible
    STATUS      current
    DESCRIPTION
        "This table contains the configuration objects for the
        BS controller entity implementing SNMP agent."
    ::= { wmanIfBsSnmpAgent 1 }

wmanIfBsSnmpAgentConfigEntry OBJECT-TYPE
    SYNTAX      WmanIfBsSnmpAgentConfigEntry
    MAX-ACCESS  not-accessible
    STATUS      current
    DESCRIPTION
        "This table augments the table wmanIfBsSnmpAgentStatusTable.
        The table has one row only."
    INDEX { wmanIfBsSnmpAgentConfigIndex }
    ::= { wmanIfBsSnmpAgentConfigTable 1 }

WmanIfBsSnmpAgentConfigEntry ::= SEQUENCE {
    wmanIfBsSnmpAgentConfigIndex          INTEGER,
    wmanIfBsSnmpAgentV1V2TrapDestIpAddrType  InetAddressType,
    wmanIfBsSnmpAgentV1V2TrapDestIpAddr    InetAddress,
    wmanIfBsSnmpAgentV1V2TrapDestPort      Integer32,
    wmanIfBsSnmpAgentResetBs              INTEGER,
    wmanIfBsSnmpAgentConfigRowStatus       RowStatus
}

wmanIfBsSnmpAgentConfigIndex OBJECT-TYPE
    SYNTAX      INTEGER (1..1)
    MAX-ACCESS  not-accessible
    STATUS      current
    DESCRIPTION
        "An arbitrary index. Must have value of 1."
    ::= { wmanIfBsSnmpAgentConfigEntry 1 }

wmanIfBsSnmpAgentV1V2TrapDestIpAddrType OBJECT-TYPE
    SYNTAX      InetAddressType
    MAX-ACCESS  read-write
    STATUS      current
    DESCRIPTION
        "The type of IP address used in the object wmanIfBsSnmpAgentConfigV1V2TrapDestIpAddr."
    ::= { wmanIfBsSnmpAgentConfigEntry 2 }

wmanIfBsSnmpAgentV1V2TrapDestIpAddr OBJECT-TYPE
    SYNTAX      InetAddress
    MAX-ACCESS  read-write
    STATUS      current
    DESCRIPTION
        "IP address of SNMP manager configured as a trap destination
        for versions V1 and V2 of SNMP. If this object is not created or empty
        the traps are not sent."
    ::= { wmanIfBsSnmpAgentConfigEntry 3 }

```

```

wmanIfBsSnmpAgentV1V2TrapDestPort OBJECT-TYPE
    SYNTAX      Integer32 (0..65535)
    MAX-ACCESS  read-write
    STATUS      current
    DESCRIPTION
        "Port number of SNMP manager configured as a trap destination
        for versions V1 and V2 of SNMP."
    REFERENCE
        "Section 11.13.19.3.4.6 in IEEE 802.16REVd/D5-2004"
    ::= { wmanIfBsSnmpAgentConfigEntry 4 }

wmanIfBsSnmpAgentResetBs OBJECT-TYPE
    SYNTAX      INTEGER {actionResetBsNoAction(0),
                        actionResetBs(1)}
    MAX-ACCESS  read-write
    STATUS      current
    DESCRIPTION
        "This object should be implemented as follows:
        - When set to actionsResetBs value, instructs BS to reset itself
        - When set to value different than actionsResetBs it should be ignored
        - When read it should return actionsResetBsNoAction"
    ::= { wmanIfBsSnmpAgentConfigEntry 5 }

wmanIfBsSnmpAgentConfigRowStatus OBJECT-TYPE
    SYNTAX      RowStatus
    MAX-ACCESS  read-write
    STATUS      current
    DESCRIPTION
        "This object is used to ensure that the write operation to multiple
        columns is guaranteed to be treated as atomic operation by agent."
    ::= { wmanIfBsSnmpAgentConfigEntry 6 }

wmanIfSsCps OBJECT IDENTIFIER ::= { wmanIfSsObjects 1 }
wmanIfSsPkmObjects OBJECT IDENTIFIER ::= { wmanIfSsObjects 2 }
wmanIfSsNotification OBJECT IDENTIFIER ::= { wmanIfSsObjects 3 }
wmanIfCmnPacketCs OBJECT IDENTIFIER ::= { wmanIfCommonObjects 1 }

wmanIfCmnPhsRuleTable OBJECT-TYPE
    SYNTAX      SEQUENCE OF WmanIfCmnPhsRuleEntry
    MAX-ACCESS  not-accessible
    STATUS      current
    DESCRIPTION
        "This table contains PHS rule dictionary entries. Each entry contains
        the data of the header to be suppressed along with its identification - PHSI.
        The classifier uniquely maps packets to its associated PHS Rule.
        The receiving entity uses the CID and the PHSI to restore the PHSF.
        Once a PHSF has been assigned to a PHSI, it shall not be changed.
        To change the value of a PHSF on a service flow, a new PHS rule shall be defined,
        the old rule is removed from the service flow, and the new rule is added.
        When a classifier is deleted, any associated PHS rule shall also be deleted."
    REFERENCE
        "Section 5.2.3 in IEEE 802.16REVd/D5-2004"
    ::= { wmanIfCmnPacketCs 2 }

wmanIfCmnPhsRuleEntry OBJECT-TYPE
    SYNTAX      WmanIfCmnPhsRuleEntry
    MAX-ACCESS  not-accessible
    STATUS      current
    DESCRIPTION
        "This table provides one row for each PHS rule created dynamically by the
        BS and SS on a given service flow. The PHS rule is defined by the
        pair (PHSS, PHSM) for each distinct header data. It is indexed by
        wmanIfCmnCpsSfId and wmanIfCmnPhsIndex.
        The table is read-only for NMS. "
    INDEX { wmanIfCmnCpsSfId, wmanIfCmnPhsRulePhsIndex }

```

```
::= { wmanIfCmnPhsRuleTable 1 }
```

```
WmanIfCmnPhsRuleEntry ::= SEQUENCE {
    wmanIfCmnPhsRulePhsIndex    INTEGER,
    wmanIfCmnPhsRulePhsField    OCTET STRING,
    wmanIfCmnPhsRulePhsMask     OCTET STRING,
    wmanIfCmnPhsRulePhsSize     Integer32,
    wmanIfCmnPhsRulePhsVerify   WmanIfBsPhsRulePhsVerifyType
}
```

```
wmanIfCmnPhsRulePhsIndex OBJECT-TYPE
    SYNTAX      INTEGER (1..255)
    MAX-ACCESS  read-only
    STATUS      current
    DESCRIPTION
        "The PHSI (PHS Index) has a value between 1 and 255, which uniquely references
        the suppressed byte string. The index is unique per service flow.
        The uplink and downlink PHSI values are independent of each other."
    REFERENCE   "Section 11.13.19.3.7.1 in IEEE 802.16REVd/D5-2004"
    ::= { wmanIfCmnPhsRuleEntry 1 }
```

```
wmanIfCmnPhsRulePhsField OBJECT-TYPE
    SYNTAX      OCTET STRING
    MAX-ACCESS  read-only
    STATUS      current
    DESCRIPTION
        "The PHSF (PHS Field) is a string of bytes containing the header information
        to be suppressed by the sending CS and reconstructed by the receiving CS.
        The most significant byte of the string corresponds to the first byte of the CS-SDU."
    REFERENCE   "Section 11.13.19.3.7.2 in IEEE 802.16REVd/D5-2004"
    ::= { wmanIfCmnPhsRuleEntry 2 }
```

```
wmanIfCmnPhsRulePhsMask OBJECT-TYPE
    SYNTAX      OCTET STRING
    MAX-ACCESS  read-only
    STATUS      current
    DESCRIPTION
        "The PHSM An 8-bit mask that indicates which bytes in the PHS Field (PHSF)
        to suppress and which bytes to not suppress. The PHSM allows fields,
        such as sequence numbers or checksums (which vary in value),
        to be excluded from suppression with the constant bytes around them suppressed.
        It is encoded as follows:
        bit 0: 0 = don't suppress first byte of the suppression field
               1 = suppress first byte of the suppression field
        bit 1: 0 = don't suppress second byte of the suppression field
               1 = suppress second byte of the suppression field
        bit x: 0 = don't suppress (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 (wmanIfCmnPhsRulePhsSize/8)."
    REFERENCE   "Section 11.13.19.3.7.3 in IEEE 802.16REVd/D5-2004"
    ::= { wmanIfCmnPhsRuleEntry 3 }
```

```
wmanIfCmnPhsRulePhsSize OBJECT-TYPE
    SYNTAX      Integer32
    UNITS       "byte"
    MAX-ACCESS  read-only
    STATUS      current
    DESCRIPTION
        "The value of this field - PHSS is the total number of bytes
        in the header to be suppressed and then restored in a service
        flow that uses PHS."
    REFERENCE   "Section 11.13.19.3.7.4 in IEEE 802.16REVd/D5-2004"
    DEFVAL      {0}
    ::= { wmanIfCmnPhsRuleEntry 4 }
```

```

wmanIfCmnPhsRulePhsVerify OBJECT-TYPE
    SYNTAX      WmanIfBsPhsRulePhsVerifyType
    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 }
    ::= { wmanIfCmnPhsRuleEntry 5 }

wmanIfCmnCps OBJECT IDENTIFIER ::= { wmanIfCommonObjects 2 }

wmanIfCmnCpsServiceFlowTable OBJECT-TYPE
    SYNTAX      SEQUENCE OF WmanIfCmnCpsServiceFlowEntry
    MAX-ACCESS  not-accessible
    STATUS      current
    DESCRIPTION
        "This table contains Service Flows that are created in
         both BS and SS."
    ::= { wmanIfCmnCps 1 }

wmanIfCmnCpsServiceFlowEntry OBJECT-TYPE
    SYNTAX      WmanIfCmnCpsServiceFlowEntry
    MAX-ACCESS  not-accessible
    STATUS      current
    DESCRIPTION
        "This table provides one row for each service flow, and is
         indexed by wmanIfCmnCpsSfId. The value of wmanIfCmnCpsSfId
         is obtained from wmanIfBsSfId."
    INDEX       { wmanIfCmnCpsSfId }
    ::= { wmanIfCmnCpsServiceFlowTable 1 }

WmanIfCmnCpsServiceFlowEntry ::= SEQUENCE {
    wmanIfCmnCpsSfId                Unsigned32
}

wmanIfCmnCpsSfId OBJECT-TYPE
    SYNTAX      Unsigned32 ( 1 .. 4294967295 )
    MAX-ACCESS  read-only
    STATUS      current
    DESCRIPTION
        "A 32 bit quantity that uniquely identifies a service flow
         to both the subscriber station and base station (BS)."
    ::= { wmanIfCmnCpsServiceFlowEntry 1 }

END

```