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| Project | **IEEE 802.16 Broadband Wireless Access Working Group <**<http://ieee802.org/16>**>** |
| Title | **ASN.1 coding for BS mode switching messages of multimode HR-MS over IEEE 802.16.1a**  |
| Date Submitted | **2012-05-04** |
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| Re: | “IEEE 802.16-12-271,” in response to Letter Ballot Recirc #38a on P802.16.1a/D2 |
| Abstract | This provides AWD text proposals for ASN.1 coding of AAI-MM-BS-REQ, AAI-MM-BS-RSP and AAI-MM-BS-CMD for multimode operation in IEEE p802.16.1a/D2 |
| Purpose | To discuss and adopt the proposed text in the draft amendment document on GRIDMAN |
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**ASN.1 coding for BS mode switching messages of multimode HR-MS over IEEE 802.16.1a**

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# Introduction

This document provides ASN.1 coding of AAI-MM-BS-REQ, AAI-MM-BS-RSP and AAI-MM-BS-CMD for HR-Network.

# References

[1] IEEE P802.16nTM/D2, Air Interface for Broadband Wireless Access Systems - Draft Amendment: Higher Reliability Networks, April 2012.

[2] IEEE P802.16.1aTM/D2, WirelessMAN-Advanced Air Interface for Broadband Access Systems - Draft Amendment: Higher Reliability Networks, April 2012.

[3] EEE P802.16Rev3/D4, IEEE Draft Standard for Local and metropolitan area networks; Part 16: Air Interface for Fixed and Mobile Broadband Wireless Access Systems,” February 2012.

[4] IEEE P802.16.1TM/D4, IEEE Draft for WirelessMAN-Advanced Air Interface for Broadband Wireless Access Systems, February 2012.

# Proposed Text for the 802.16.1a AWD

Note:

The text in **BLACK** color: the existing text in the 802.16.1a AWD

The text in **~~RED~~** color: the removal of existing 802.16.1a AWD

The text in **BLUE** color: the new text added to the 802.16.1a AWD

 [-------------------------------------------------Start of Text Proposal---------------------------------------------------]

**Annex A**

***...***

**A.2 MAC control message definitions (normative)**

***Change Annex A.2 as indicated:***

WirelessMAN-Advanced-Air-Interface DEFINITIONS AUTOMATIC TAGS ::=

BEGIN

-- MAC Control Messages

MAC-Control-Message ::= SEQUENCE {

message MAC-Control-Msg-Type,

...

}

**[*Remedy1: Add the following codes below Line# 64, Page#218 in IEEE P802.16.1a/D2.*]**

MAC-Control-Msg-Type ::= CHOICE {

...

-- HR Multicast message

AaiHrMgInd AAI-HR-MG-IND,

AaiHrMtInd AAI-HR-MT-IND,

-- HR Multimode operation

aaiMmBsReq AAI-MM-BS-REQ,

aaiMmBsRsp AAI-MM-BS-RSP,

aaiMmBsCmd AAI-MM-BS-CMD,

...

}

-- \*-\*-\*-\*-\*-\*-\*-\*-\*-\*-\*-\*-\*-\*-\*-\*-\*-\*-\*-\*-\*-\*-\*-\*-\*-\*-\*-\*-

-- MAC control messages for HR-Networks

-- \*-\*-\*-\*-\*-\*-\*-\*-\*-\*-\*-\*-\*-\*-\*-\*-\*-\*-\*-\*-\*-\*-\*-\*-\*-\*-\*-\*-

...

-- +-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-

-- HR Multicast Traffic Indication Message

-- +-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-

...

**[*Remedy2: Add the following codes below Line# 18, Page#229 in IEEE P802.16.1a/D2.*]**

-- +-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-

-- HR Multimode BS Request message

-- +-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-

SuperordinateBsParameterInfo ::= SEQUENCE {

sSFHChangeCount INTEGER (0..15),

globalCarrierConfigChangeCount INTEGER (0..7),

scdChangeCount INTEGER (0..15),

mcChangeCount INTEGER (0..15)

}

RecommendedParameterInfo ::= SEQUENCE {

fAIndex FAIndex,

bsID BSID,

macProtocolVersion MacProtocolVersion,

cpLength CPLength,

mmCarrierInfoList SEQUENCE (SIZE (1..maxCarriers)) OF MmCarrierInfo

}

MmCarrierInfo ::= SEQUENCE {

saPreambleIndex PreambleIndex,

phyCarrierIndex PhyCarrierIndex,

pgid PGID,

sfhChangeCount INTEGER (0..15),

sfhEncFmt CHOICE {

-- All parameters of SFHSubpacket shall be included

fullSubpkt SFHSubpacket,

-- Parameters of SFHSubpacket are partially included

deltaInfoCurrentCxr OptSFHSubpacket,

-- Parameters of SFHSubpacket are partially included

deltaInfoPrecedingCxr OptSFHSubpacket,

noSFHIncluded NULL

}

}

AAI-MM-BS-REQ ::= SEQUENCE {

actionCode ENUMERATED {

requestBsRole,

responseForUnsolicitRequest,

rejectForUnsolicitRequest,

spare1

}

bsConfInd CHOICE {

noRecommendedParameter Null,

superordinateBsParameterInfo SuperordinateBsParameterInfo,

recommendedParameterInfo RecommendedParameterInfo

}

}

-- +-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-

-- HR Multimode BS Response message

-- +-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-

BsModeOperation ::= ENUMERATED {

retransmitBsReqMsg,

retransmitBsReqMsgAfterSysCfgChangeCountUpdate,

cancelBsConfig,

spare1

}

AAI-MM-BS-RSP ::= SEQUENCE {

responseCode CHOICE {

unsolicitedReqByHrMs NULL,

requestApproval BsModeOperation,

requestRejection NULL

}

}

-- +-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-

-- HR Multimode BS Commend message

-- +-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-

AAI-MM-BS-CMD ::= SEQUENCE {

modeTriggerType CHOICE {

startBsModeAfterActionTime NULL,

startBsModeUponReachingCondition TriggerConditions

}

}