IEEE P802.11
Wireless LANs

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| 11ay MIB |
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Abstract

This document proposes content for Annex C (the MIB) covering 11ay. It resolves CIDs 1717, 1948, 1737, 1738, 1193, 1389, 1422, 1834, 1674, 1631, 1882, 2229, 1433, 1989, 1087, 1678, 1924, 2221, 1724, 1559, 1177, 1639. These CIDs are requesting to define the MIB for 11ay.

**Annex C**

(normative)

**ASN.1 encoding of the MAC and PHY MIB**

**C.3 MIB Detail**

***Editor Note: all of the references to <LAST + 1> in the MIB definition below will be replaced by the appropriate number following on from baseline and dependencies. Will be done prior to sponsor ballot.***

***Insert the following comment in numeric order in the “dot11smt OBJECT IDENTIFIER” list in the “Major sections” part of C.3:***

-- dot11EDMGSTAConfigTable ::= { dot11smt <ANA> }

***Insert the following comment at the end of the “MAC GROUPS” list in the “Major sections” of C.3:***

-- dot11EDMGOperationTable ::= { dot11mac <ANA> }

***Insert the following comment at the end of the “PHY GROUPS” list in the “Major sections” of C.3:***

-- dot11PHYEDMGTable ::= { dot11phy <ANA> }

***Change the definitions of “dot11BeaconRprtPhyType,” “dot11FrameRprtPhyType,” and “dot11RMNeighborReportPhyType” in C.3 as follows:***

dot11BeaconRprtPhyType OBJECT-TYPE

SYNTAX INTEGER {

fhss(1),

dsss(2),

irbaseband(3),

ofdm(4),

hrdsss(5),

erp(6),

ht(7),

dmg(8),

vht (9),

tvht (10),

edmg (<LAST + 1>)}

MAX-ACCESS read-only

STATUS current

DESCRIPTION

"This is a status variable. It is written by the SME when a measurement report is completed.

This attribute indicates the PHY Type for this row of Beacon Report."

::= { dot11BeaconReportEntry 9 }

dot11FrameRprtPhyType OBJECT-TYPE

SYNTAX INTEGER {

fhss(1),

dsss(2),

irbaseband(3),

ofdm(4),

hrdsss(5),

erp(6),

ht(7),

dmg(8),

vht (9),

tvht (10),

edmg (<LAST + 1>) }

MAX-ACCESS read-create

STATUS current

DESCRIPTION

"This is a status variable. It is written by the SME when a measurement report is completed.

This attribute indicates the PHY used for frame reception in this row of the frame report."

::= { dot11FrameReportEntry 10 }

dot11RMNeighborReportPhyType OBJECT-TYPE

SYNTAX INTEGER {

fhss(1),

dsss(2),

irbaseband(3),

ofdm(4),

hrdsss(5),

erp(6),

ht(7),

dmg(8),

vht (9),

tvht (10),

edmg (<LAST + 1>) }

MAX-ACCESS read-create

STATUS current

DESCRIPTION

"This is a status variable. It is written by the SME when a measurement report is completed.

This attribute indicates the PHY Type of the neighbor AP identified by this BSSID."

::= { dot11RMNeighborReportEntry 15 }

***Change the definition of “dot11PhyType” in the “dot11PhyOperation TABLE” in C.3 as follows:***

dot11PHYType OBJECT-TYPE

SYNTAX INTEGER {

fhss(1),

dsss(2),

irbaseband(3),

ofdm(4),

hrdsss(5),

erp(6),

ht(7),

dmg(8),

vht (9),

tvht (10),

edmg (<LAST + 1>) }

MAX-ACCESS read-only

STATUS current

DESCRIPTION

"This is a status variable. It is written by the PHY.

This is an 8-bit integer value that identifies the PHY type supported by the attached PLCP and PMD. Currently defined values and their corresponding PHY types are:

DSSS 2.4 GHz = 2, OFDM = 4, HRDSSS = 5, ERP = 6, HT = 7, DMG = 8, VHT = 9, TVHT = 10, EDMG = <LAST + 1>"

::= { dot11PhyOperationEntry 1 }

***Insert the following table (“dot11EDMGSTAConfigTable”) after the “dot11STACivicLocationConfig TABLE” in
C.3:***

-- \*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*
-- \* dot11EDMGSTAConfigTable TABLE
-- \*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*

dot11EDMGSTAConfigTable OBJECT-TYPE

SYNTAX SEQUENCE OF Dot11EDMGSTAConfigEntry

MAX-ACCESS not-accessible

STATUS current

DESCRIPTION

"This is a table management object. The dot11EDMGSTAConfig Table"

::= { dot11smt <ANA> }

dot11EDMGSTAConfigEntry OBJECT-TYPE

SYNTAX Dot11EDMGSTAConfigEntry

MAX-ACCESS not-accessible

STATUS current

DESCRIPTION

"This is an entry in the dot11EDMGSTAConfig Table.

ifIndex - Each IEEE 802.11 interface is represented by an ifEntry. Interface tables in this MIB module are indexed by ifIndex."

INDEX { ifIndex }

::= { dot11EDMGSTAConfigTable 1 }

Dot11EDMGSTAConfigEntry ::=

SEQUENCE {

dot11EDMGOptionImplemented TruthValue,

dot11AMPDUwithMultipleTIDOptionImplemented TruthValue
}

dot11EDMGOptionImplemented OBJECT-TYPE

SYNTAX TruthValue

MAX-ACCESS read-only

STATUS current

DESCRIPTION

"This is a capability variable. Its value is determined by device capabilities.

EDMG Capable Object

This attribute, when true, indicates the STA is EDMG capable. This attribute, when false, indicates the STA is not EDMG capable. The default value of this attribute is false."

DEFVAL { false }

::= { dot11EDMGSTAConfigEntry 1 }

dot11AMPDUwithMultipleTIDOptionImplemented OBJECT-TYPE

SYNTAX TruthValue

MAX-ACCESS read-only

STATUS current

DESCRIPTION

"This is a capability variable.

Its value is determined by device capabilities.

This attribute, when true, indicates that the station implementation is capable of generating an A-MPDU that contains QoS Data frames with two or more different TID values. The capability is disabled, otherwise."

DEFVAL { false }

::= { dot11EDMGSTAConfigEntry 2 }

-- \*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*
-- \* End of dot11EDMGSTAConfigTable TABLE
-- \*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*

***Insert the following tables (“dot11 Phy EDMG TABLE”) after the “dot11DMGBeamformingConfigTable TABLE” in C.3:***

-- \*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*
-- \* dot11 Phy EDMG TABLE
-- \*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*

dot11PHYEDMGTable OBJECT-TYPE

SYNTAX SEQUENCE OF Dot11PHYEDMGEntry

MAX-ACCESS not-accessible

STATUS current

DESCRIPTION

"Entry of attributes for dot11PhyEDMGTable. Implemented as a table indexed on ifIndex to allow for multiple instances on an Agent."

::= { dot11phy <ANA> }

dot11PHYEDMGEntry OBJECT-TYPE

SYNTAX Dot11PHYEDMGEntry

MAX-ACCESS not-accessible

STATUS current

DESCRIPTION

"An entry in the dot11PHYEDMGEntry Table.

ifIndex - Each IEEE 802.11 interface is represented by an ifEntry. Interface tables in this MIB module are indexed by ifIndex."

INDEX {ifIndex}

::= { dot11PHYEDMGTable 1 }

Dot11PHYEDMGEntry ::=

SEQUENCE {

dot11OFDMPHYImplemented TruthValue,

dot11OFDMPHYActivated TruthValue,

dot11CurrentChannelWidth INTEGER,

dot11CurrentChannelCenterFrequencyIndex0 Unsigned32,

dot11CurrentChannelCenterFrequencyIndex1 Unsigned32,

dot11CurrentPrimaryChannel Unsigned32

}

dot11OFDMPHYImplemented OBJECT-TYPE

SYNTAX TruthValue

MAX-ACCESS read-only

STATUS current

DESCRIPTION

"This is a capability variable.

Its value is determined by device capabilities. This attribute, when true, indicates that the OFDM PHY is implemented."

DEFVAL { false }

::= { dot11PHYEDMGEntry 1 }

dot11OFDMPHYActivated OBJECT-TYPE

SYNTAX TruthValue

MAX-ACCESS read-write

STATUS current

DESCRIPTION

"This is a control variable.

It is written by an external management entity. Changes take effect as soon as practical in the implementation. This attribute, when true, indicates that the OFDM is activated."

DEFVAL { false }

::= { dot11PHYEDMGEntry 2 }

dot11CurrentChannelWidth OBJECT-TYPE

 SYNTAX INTEGER { cbw216(0), cbw432(1), cbw648(2), cbw864(3), cbw216p216(4), cbw432p432(5) }

 MAX-ACCESS read-only

 STATUS current

 DESCRIPTION

"This is a status variable.

Indicates the operating channel width."

 DEFVAL { cbw216 }

::= { dot11PHYEDMGEntry 3 }

dot11CurrentChannelCenterFrequencyIndex0 OBJECT-TYPE

SYNTAX Unsigned32 (0..3000)

MAX-ACCESS read-only

STATUS current

DESCRIPTION

"This is a status variable.

For a 2.16 GHz, 4.32 GHz, 6.48 GHz, or 8.64 GHz channel, denotes the channel center frequency.

For a 2.16+2.16 GHz or 4.32+4.32 GHz channel, denotes the channel center frequency of frequency segment 0."

DEFVAL { 0 }

::= { dot11PHYEDMGEntry 4 }

dot11CurrentChannelCenterFrequencyIndex1 OBJECT-TYPE

SYNTAX Unsigned32 (0..3000)

MAX-ACCESS read-only

STATUS current

DESCRIPTION

"This is a status variable.

For a 2.16 GHz, 4.32 GHz, 6.48 GHz, or 8.64 GHz channel, denotes the channel center frequency of frequency segment 1.

Set to 0 for a 2.16+2.16 GHz or 4.32+4.32 GHz channel."

DEFVAL { 0 }

::= { dot11PHYEDMGEntry 5 }

dot11CurrentPrimaryChannel OBJECT-TYPE

SYNTAX Unsigned32

MAX-ACCESS read-only

STATUS current

DESCRIPTION

"This is a status variable. It is written by the PHY.

This attribute indicates the primary channel number."

::= { dot11PHYEDMGEntry 6 }

-- \*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*
-- \* End of dot11 PHY EDMG TABLE
-- \*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*

***Insert the following table (“dot11EDMGOperation TABLE”) after the “dot11BSSStatisticsTable TABLE” in C.3:***

-- \*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*
-- \* dot11EDMGOperation TABLE
-- \*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*

dot11EDMGOperationTable OBJECT-TYPE

SYNTAX SEQUENCE OF Dot11EDMGOperationEntry

MAX-ACCESS not-accessible

STATUS current

DESCRIPTION

"This is a Table management object.

The dot11DEMGOperation Table"

::= { dot11mac <ANA> }

dot11EDMGOperationEntry OBJECT-TYPE

SYNTAX Dot11EDMGOperationEntry

MAX-ACCESS not-accessible

STATUS current

DESCRIPTION

"This is an entry in the dot11EDMGOperatingTable Table.

ifIndex - Each IEEE 802.11 interface is represented by an ifEntry. Interface tables in this MIB module are indexed by ifIndex."

INDEX { ifIndex }

::= { dot11EDMGOperationTable 1 }

Dot11EDMGOperationEntry ::=

SEQUENCE {

-- dot11MaxLostBeacons Unsigned32

}

-- dot11MaxLostBeacons OBJECT-TYPE

-- SYNTAX Unsigned32 (1..32)

-- MAX-ACCESS read-write

-- STATUS current

-- DESCRIPTION

-- "This is a control variable.

-- It is written by the SME or an external management entity. Changes take effect as soon as practical in the implementation. Maximum Number of Lost Beacons"

-- DEFVAL { 4 }

-- ::= { dot11EDMGOperationEntry 1 }

-- \*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*
-- \* End of dot11EDMGOperation TABLE
-- \*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*

***Insert the following groups into the “Groups - units of conformance” section after “dot11FineTimingMeasurement” (dot11Groups 93) in C.3:***

dot11EDMGComplianceGroup OBJECT-GROUP

OBJECTS {

dot11OFDMPHYImplemented,

dot11OFDMPHYActivated,

dot11EDMGOptionImplemented,

dot11AMPDUwithMultipleTIDOptionImplemented

}
STATUS current

DESCRIPTION

"Attributes that configure the EDMG Group for IEEE 802.11."

::= { dot11Groups <ANA> }

dot11EDMGOperationsComplianceGroup OBJECT-GROUP

OBJECTS {

dot11CurrentChannelWidth,

dot11CurrentChannelCenterFrequencyIndex0,

dot11CurrentChannelCenterFrequencyIndex1,

dot11CurrentPrimaryChannel

}

STATUS current

DESCRIPTION

"Attributes that configure the EDMG Operation for IEEE 802.11."

::= { dot11Groups <ANA> }

***Insert the following groups after “GROUP dot11TransmitBeamformingGroup” in the “dot11Compliance” module of the “Compliance Statements” section of C.3:***

GROUP dot11EDMGComplianceGroup

DESCRIPTION

"Implementation of this group is required when the object dot11PHYType has the value of EDMG.

This group is mutually exclusive to the following groups:

dot11PhyDSSSComplianceGroup

dot11PhyOFDMComplianceGroup3

dot11PhyHRDSSSComplianceGroup

dot11PhyERPComplianceGroup

dot11PhyHTComplianceGroup

dot11PhyVHTComplianceGroup

dot11PhyTVHTComplianceGroup"

GROUP dot11EDMGOperationsComplianceGroup

DESCRIPTION

"EDMG Operations Compliance Group"

***In the “dot11Compliances” module of the “Compliance Statements” section of C.3, insert the following
text:***

dot11EDMGComplianceGroup

***as the last line for the description of mutually exclusive groups for the following groups:***

dot11PhyDSSSComplianceGroup
dot11PhyOFDMComplianceGroup3
dot11PhyHRDSSSComplianceGroup
dot11PhyERPComplianceGroup
dot11PhyHTComplianceGroup

dot11PhyVHTComplianceGroup

dot11PhyTVHTComplianceGroup

***Insert the following compliance statement (“Compliance Statements – EDMG”) after the “Compliance
Statements – dot11FILSCompliance” section in C.3:***

dot11EDMGCompliance MODULE-COMPLIANCE

STATUS current

DESCRIPTION

"The compliance statement for SNMPv2 entities that implement the IEEE 802.11 MIB for EDMG operation."

MODULE -- this module

MANDATORY-GROUPS {

dot11EDMGComplianceGroup, dot11EDMGOperationsComplianceGroup

}

::= { dot11Compliances <ANA> }