

IEEE P802.11y™/D1.0

Draft STANDARD for Information Technology — Telecommunications and information exchange between systems— Local and metropolitan area networks- Specific requirements— Part 11: Wireless LAN Medium Access Control (MAC) and Physical Layer (PHY) specifications: Amendment <number>: 3650-3700 MHz Operation in USA

EDITORIAL NOTE—the amendment number will be inserted by IEEE-SA editorial staff during preparation for publication.

Prepared by the 802.11 Working Group of the 802 Committee

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Abstract: This amendment defines enhancements to the 802.11 PHY and MAC to support operation in the 3650-3700 MHz band in the United States of America.

Keywords: Wireless LAN, 3650 MHz

Introduction

(This introduction is not part of IEEE P802.11y/D1.0, Draft Amendment to STANDARD for Information Technology— Telecommunications and information exchange between systems— Local and metropolitan area networks— Specific requirements— Part 11: Wireless LAN Medium Access Control (MAC) and Physical Layer (PHY) specifications: 3650-3700 MHz Operation in USA.)

This amendment defines enhancements to the 802.11 PHY and MAC to support operation in the 3650-3700 MHz band in the United States of America.

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At the time this draft standard was completed, the 802.11 Working Group had the following membership:

Stuart J. Kerry, *Chair*

Al Petrick and **Harry Worstell**, *Vice-chair*

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The following members of the balloting committee voted on this standard. Balloters may have voted for approval, disapproval, or abstention.

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Telecommunications and information exchange
between systems— Local and metropolitan area
networks— Specific requirements— Part 11:
Wireless LAN Medium Access Control (MAC) and
Physical Layer (PHY) specifications: Amendment
<number> 3650-3700 MHz Operation in USA**

EDITORIAL NOTE—the amendment number will be inserted by IEEE-SA editorial staff during preparation for publication.

The editing instructions contained in this amendment define how to merge the material contained herein into the existing base standard to form the new comprehensive standard. The editing instructions are shown in ***bold italic***. Four editing instructions are used: ***change***, ***delete***, ***insert*** and ***replace***. ***Change*** is used to make small corrections in existing text or tables. The editing instruction specifies the location of the change and describes what is being changed either by using ~~striketrough~~ (to remove old material) and underscore (to add new material). ***Delete*** removes existing material. ***Insert*** adds new material without disturbing the existing material. Insertions may require renumbering. If so, renumbering instructions are given in the editing instruction. ***Replace*** is used to make changes in figures or equations by removing the existing figure or equation and replacing it with a new one. Editorial notes will not be carried over into future editions because the changes will be incorporated into the base standard.

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1 *(Ed: Editorial comments that will be removed from the draft that is put to any working group or sponsor*
 2 *ballot are formatted like this note – i.e. bold italic, prefixed by “Ed:” and enclosed in parentheses.*
 3 *Editorial notes intended to remain in the draft put to ballot are marked: “Editorial Note:”)*

4 *(Ed: Change History*

5 *This table will be removed from any balloted versions of this document as it is part of an editorial*
 6 *comment.*

Draft	Date	Contributions and Motions applied
D0.01	Sept 2006	Initial TGy Motion to create draft from confirmed proposal documents: 1) 11-06-0855-03-000y-annex-and-j-3650-mhz-band.doc 2) 11-06-0955-02-000y-ofdm-phy-3650-mhz-band.doc 3) 11-06-0864-03-000y-3650-mhz-mobile-service-enablement.doc 4) Motion to add 9.8.3 fourth paragraph text 5) 11-06-1432-00-000y-extended-channel-switch-announcement-normative-text.doc
D0.02	Nov 2006	Text replacement motion 1) 11-06-0864-04 replaces 11-06-0864-03 entirely 2) 11-06-0955-03 replaces 11-06-0955-02 entirely 3) 11-06-1432-01 replaces 11-06-1432-00 entirely Text changes motion 11-06-1727-01-tgy-nov-7 th -text-changes.doc
D1.0	Nov 2006	Created from D0.02

7)

1. Overview

2. Normative references

Insert the following new reference in alphabetical order:

IETF RFC 3825, Dynamic Host Configuration Protocol Option for Coordinate-based Location Configuration Information, Polk, J., Schnizlein, J., Linsner, M., July 2004

3. Definitions

EDITORIAL NOTE—*The subclause numbering of definitions is of the form “3.y<x>” where <x> is an increasing number. The 802.11 technical editor will assign numbers when merging this list into the baseline document.*

Insert the following new definitions in alphabetical order and renumber accordingly:

3.y1 enabling station: The term "enabling station" means a publicly registered station that may enable dependent stations.

3.y2 dependent station: Any station whose operation is conditioned on the reception and decoding of an enabling signal transmitted by an enabling station. Dependent stations cannot be enabling stations to other stations.

3.y3 fixed station: The term "fixed station" means a publicly registered station that does not enable dependent stations.

3.y4 dependent station enablement (DSE): Procedures to satisfy requirements in some regulatory domains that makes operation conditional on the direct reception and decoding of an enabling signal transmitted by an enabling station.

4. Abbreviations and acronyms

Insert the following new acronym in alphabetical order:

DEI	dependent enablement identifier
DSE	dependent station enablement

5. General description

5.2 Components of the IEEE 802.11 architecture

EDITORIAL NOTE—11 ma D9.0 ends subclause 5.2 with 5.2.6 QoS basic service set

Insert the following new subclause before 5.3 and renumber accordingly:

5.2.7 Licensed operation in shared bands

Spectrum sharing between licensed and unlicensed devices will become more prevalent. It is common in private land mobile bands to allow the use of certified but unlicensed devices with enabling stations of licensed operators. The Japanese 4.9 GHz band and the US 4.94 GHz-4.99 GHz Public Safety band are examples for which some 802.11 station operations have been standardized. Operators are required to respond to and resolve interference complaints from other operators. Equipment in the band should have cognitive radio capabilities for flexibility in operation and enhance sharing the spectrum among many operators. Higher transmit power may be allowed for fixed stations and enabling stations that are registered, while unregistered stations are restricted to lower transmit power, and operation under the control of enabling stations.

The rules for the US 3650 MHz Wireless Broadband Services band permit operation of ‘mobile’ and ‘portable’ devices under the control of an enabling station that is operated by a licensed operator. The rules require the use of a ‘contention-based protocol’ ‘by which a transmitter provides reasonable opportunities for other transmitters to operate.’ A ‘listen-before-talk’ protocol like CSMA-CA is suitable, and enhancements to ‘listening’ are key to operation in shared bands. For this reason, in the 802.11 standard, all stations operating in the US 3650 MHz band shall use CCA-Energy Detect Clear Channel Assessment to better coexist with other primary users. Additionally, all stations shall use Multi-Domain capability (dot11MultiDomainCapabilityEnabled true), Spectrum Management capability (dot11SpectrumManagementRequired true), Regulatory Classes (dot11RegulatoryClassesRequired true) and the OFDM PHY.

Operator's requirements for registered stations are much greater than of unregistered stations, leading us to put more stringent requirements on fixed and enabling stations, so that operators have more flexibility to respond to interference complaints from other operators. Operation with more than one channel width is a key capability for outdoor operation, both to adapt to multipath and to other primary users. For this reason, in the 802.11 standard, fixed and enabling stations in the 3650 MHz band shall be capable of operation using 5-, 10-, and 20-MHz channel widths, and dependent stations shall be capable of operation using 5 MHz channel widths.

6. MAC Service Definition

7. Frame formats

7.1 MAC frame formats

7.2 Format of individual frame types

7.2.1 Control frames

1 **7.2.2 Data frames**2 **7.2.3 Management frames**3 **7.2.3.1 Beacon frame format**4 *Insert the following new elements in table 8 as shown:*5 **Table 8: Beacon frame body**

Order	Information	Notes
<u>25</u>	<u>DSE registered location</u>	<u>The DSE registered location information element shall be present if dot11DSERequired is true or dot11RegLocRequired is true.</u>
<u>26</u>	<u>Extended Channel Switch Announcement</u>	<u>Extended Channel Switch Announcement element may be present if dot11OFDMCCAEDRequired is true.</u>

6 **7.2.3.2 IBSS ATIM frame format**7 **7.2.3.3 Disassociation frame format**8 **7.2.3.4 Association Request frame format**9 *Insert new row into table 10 as shown below:*10 **Table 10: Association Request frame format**

Order	Information	Notes
<u>10</u>	<u>Supported Regulatory Classes</u>	<u>Supported Regulatory Classes is present if dot11OFDMCCAEDRequired is true.</u>

11 EDITORIAL NOTE— last entry in 11ma-D9.0 has order 9.

12 **7.2.3.5 Association Response frame format**13 *Insert new rows into table 11 as shown below:*14 **Table 11: Association Response frame body**

Order	Information	Notes
<u>7</u>	<u>Supported Regulatory Classes</u>	<u>Supported Regulatory Classes information element is present if dot11OFDMCCAEDRequired is true.</u>
<u>8</u>	<u>DSE registered location</u>	<u>DSE registered location information element is present if</u>

		<u>dot11RegLocRequired is true or dot11DSERequired is true</u>
--	--	--

1 EDITORIAL NOTE— last entry in 11ma-D9.0 has order 6.

2 7.2.3.6 Reassociation Request frame format

3 *Insert a new row into table 12 as shown below:*

4 **Table 12: Reassociation Request frame body**

Order	Information	Notes
<u>11</u>	<u>Supported Regulatory Classes</u>	<u>Supported Regulatory Classes information element is present if dot11OFDMCCAEDRequired is true.</u>

5 EDITORIAL NOTE— last entry in 11ma-D9.0 has order 10.

6 7.2.3.7 Reassociation Response frame format

7 *Insert new rows into table 13 as shown below:*

8 **Table 13: Reassociation Response frame body**

Order	Information	Notes
<u>7</u>	<u>Supported Regulatory Classes</u>	<u>Supported Regulatory Classes information element is present if dot11OFDMCCAEDRequired is true.</u>
<u>8</u>	<u>DSE registered location</u>	<u>DSE registered location information element is present if dot11RegLocRequired is true or dot11DSERequired is true</u>

9 EDITORIAL NOTE— last entry in 11ma-D9.0 has order 6.

10 7.2.3.8 Probe Request frame format

11 7.2.3.9 Probe Response frame format

12 *Insert the following changes to 7.2.3.9 – Table 15:*

13 **Table 15: Probe Response frame body**

Order	Information	Notes
<u>23</u>	<u>DSE registered location</u>	<u>Is present only if dot11RegLocRequired is true or dot11DSERequired is true.</u>
<u>24</u>	<u>Extended Channel Switch Announcement</u>	<u>Extended Channel Switch Announcement element may be present if dot11OFDMCCAEDRequired is true.</u>

1 EDITORIAL NOTE— last entry in 11ma-D9.0 has order 22.

2 7.3 Management frame body components

3 7.3.1 Fields that are not information elements

4 7.3.2 Information elements

5 *Insert a new element after element 50 in Table 26, and change the Reserved row accordingly*

6 *Insert Element IDs x and $x+1$ into Table 26 and change the Reserved row accordingly*

7 **Table 26—Element IDs**

Information Element	Element ID	Length (in octets)
DSE registered location (see 7.3.2.36)	<u>51</u>	<u>16</u>
Reserved	52 –126	
Extended Capabilities	127	2 to 257
<u>Extended Channel Switch Announcement</u>	<u>x</u>	
<u>Supported Regulatory Classes</u>	<u>$x+1$</u>	
Reserved	$x+2$ –220	

8 7.3.2.1 SSID element

9 7.3.2.2 Supported Rates element

10 7.3.2.3 FH Parameter Set element

11 7.3.2.4 DS Parameter Set element

12 7.3.2.5 CF Parameter Set element

13 7.3.2.6 TIM

- 1 **7.3.2.7 IBSS Parameter Set element**
- 2 **7.3.2.8 Challenge Text element**
- 3 **7.3.2.9 Country information element**
- 4 **7.3.2.10 Hopping Pattern Parameters information element**
- 5 **7.3.2.11 Hopping Pattern Table information element**
- 6 **7.3.2.12 Request information element**
- 7 **7.3.2.13 ERP Information element**
- 8 **7.3.2.14 Extended Supported Rates element**
- 9 **7.3.2.15 Power Constraint element**
- 10 **7.3.2.16 Power Capability element**
- 11 **7.3.2.17 TPC Request element**
- 12 **7.3.2.18 TPC Report element**
- 13 **7.3.2.19 Supported Channels element**
- 14 **7.3.2.20 Channel Switch Announcement element**
- 15 **7.3.2.21 Measurement Request element**
- 16 **7.3.2.22 Measurement Report element**
- 17 **7.3.2.23 Quiet element**
- 18 **7.3.2.24 IBSS DFS element**
- 19 **7.3.2.25 RSN information element**
- 20 **7.3.2.26 Vendor Specific information element**

- 1 **7.3.2.27 Extended Capabilities information element**
- 2 **7.3.2.28 QBSS Load element**
- 3 **7.3.2.29 EDCA Parameter Set element**
- 4 **7.3.2.30 TSPEC element**
- 5 **7.3.2.31 TCLAS element**
- 6 **7.3.2.32 TS Delay element**
- 7 **7.3.2.33 TCLAS Processing element**
- 8 **7.3.2.34 Schedule element**
- 9 **7.3.2.35 QoS Capability element**
- 10 *Insert the following new clauses before 7.4 and renumber accordingly:*
- 11 **7.3.2.36 DSE registered location element**
- 12 A DSE registered location element includes a DSE Location Configuration Information report, which
- 13 contains Latitude, Longitude and Altitude information. The DSE LCI report format is shown in Figure
- 14 y112A.

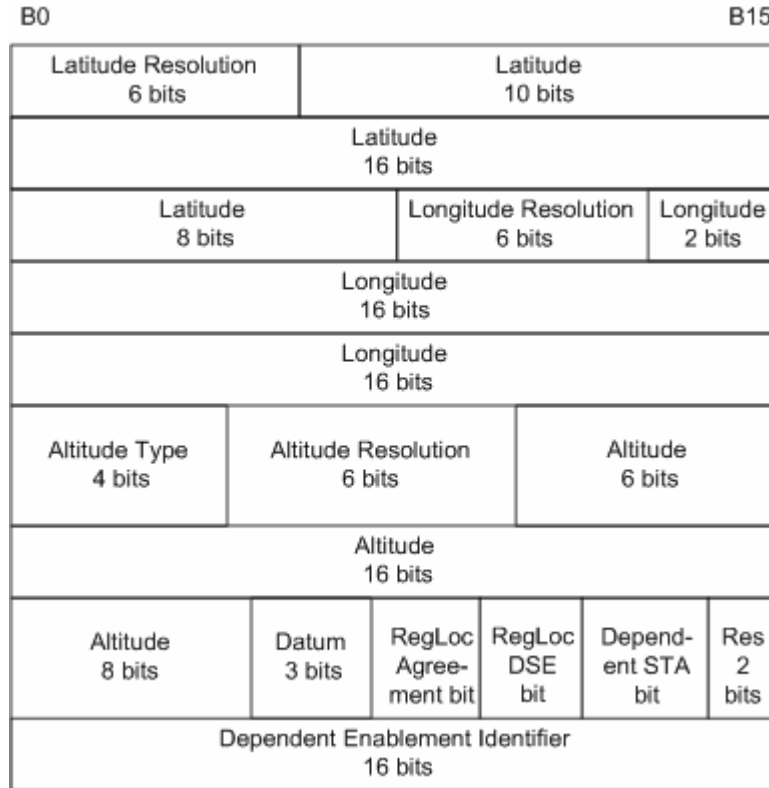


Figure y112A—DSE Location Configuration Information

This structure and information fields are little-endian, per conventions defined in 7.1.1, and are based on the LCI format described in IETF RFC 3825, “Dynamic Host Configuration Protocol Option for Coordinate-based Location Configuration Information”.

The definition of elements within the DSE LCI report shall be as defined in IETF RFC 3825 section 2.1 or as defined herein.

Altitude Type (AT) codes are:

- 1: Meters - in 2s-complement fixed-point 22-bit integer part with 8-bit fraction
- 2: Floors - in 2s-complement fixed-point 22-bit integer part with 8-bit fraction
- 3: Height Above Ground, Meters - in 2s-complement fixed-point 22-bit integer part with 8-bit fraction

If AT = 3, an altitude resolution value 0.0 would indicate unknown altitude. The most precise Altitude would have an altitude resolution value of 30.

Datum is a three-bit field, rather than the eight-bit field defined in RFC 3825, and the codes used are as defined in RFC 3825.

RegLoc Agreement is TRUE to report that the STA is operating within a national policy area or an international agreement area near a national border, otherwise is FALSE.

RegLoc DSE is TRUE to report that the enabling station is enabling the operation of STAs with DSE, otherwise is FALSE.

Dependent STA is TRUE to report that the STA is operating with the enablement of the enabling station whose LCI is being reported, otherwise is FALSE.

The most-significant two bits of the DSE LCI are reserved.

Dependent Enablement Identifier is a 16-bit field with a dependent station identifier value set by the enabling station.

7.3.2.37 Extended Channel Switch Announcement element

The Extended Channel Switch Announcement element is used by an AP in a BSS or a STA in an IBSS to advertise when it is changing to a new channel. The announcement includes both the regulatory class and the channel number of the new channel. The format of the Extended Channel Switch Announcement element is shown in Figure y112B.

Element ID	Length	Channel Switch Mode	New Regulatory Class	New Channel Number	Channel Switch Count
Octets:	1	1	1	1	1

Figure y112B. Extended Channel Switch Announcement information element.

The Length field shall be set to 4.

The Channel Switch Mode field indicates any restrictions on transmission until a channel switch. An AP in a BSS or a STA in an IBSS sets the Channel Switch Mode field to either 0 or 1 on transmission. A Channel Switch Mode set to 1 means that the STA in a BSS to which the frame containing the element is addressed transmits no further frames within the BSS until the scheduled channel switch. A STA in an IBSS may treat a Channel Switch Mode field set to 1 as advisory. A Channel Switch Mode set to 0 does not impose any requirement on the receiving STA.

The New Regulatory Class field shall be set to the number of the regulatory class to which the STA is moving as defined in Annex J.

The New Channel Number field shall be set to the number of the channel to which the STA is moving. The channel number shall be a channel from the STA's new Regulatory Class as defined in Annex J.

The Channel Switch Count field either shall be set to the number of TBTTs until the STA sending the Channel Switch Announcement element switches to the new channel or shall be set to 0. A value of 1 indicates that the switch shall occur immediately before the next TBTT. A value of 0 indicates that the switch shall occur at any time after the frame containing the element is transmitted.

The Extended Channel Switch Announcement element is included in Extended Channel Switch Announcement frames, as described in 7.4.1.6, and may be included in Beacon frames, as described in 7.2.3.1, and Probe Response frames, as described in 7.2.3.9. The use of Extended Channel Switch Announcement elements and frames is described in 11.9.7.

7.3.2.38 Supported Regulatory Classes element

The Supported Regulatory Classes element is used by a STA to advertise the Regulatory Classes that it supports. The format of the Supported Regulatory Classes element is shown in Figure y112C.

Element ID	Length	Current Regulatory Class	First alternate Regulatory Class	Second alternate Regulatory Class	Next alternate Regulatory Class
Octets:	1	1	1	1	1

Figure y112C. Supported Regulatory Classes information element.

The length of the Supported Regulatory Classes element is between 1 and 32 octets. The Current Regulatory Class octet shall indicate the Regulatory Class in use. The alternate Regulatory Class numbers shall be in increasing order.

The Supported Regulatory Classes element may be included in Association Request frames, as described in 7.2.3.4, Association Response frames, as described in 7.2.3.5, in Reassociation Request frames, as described in 7.2.3.6, and Reassociation Response frames, as described in 7.2.3.7.

7.4 Action frame format details

7.4.1 Spectrum management action details

7.4.1.1 Measurement Request frame format

Insert a penultimate row and change the last for of 7.4.1.1 – Table 44 as shown:

Table 44—spectrum management action value field values

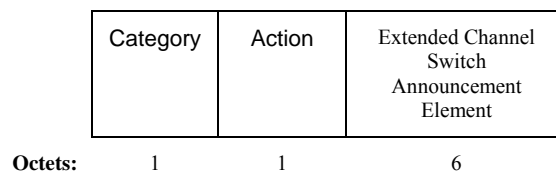
Action Value field value	Description
0	Measurement Request
1	Measurement Response
2	TPC Request
3	TPC Report
4	Channel Switch Announcement
<u>5</u>	<u>Extended Channel Switch Announcement</u>
56 -255	Reserved

7.4.1.2 Measurement Report frame format

7.4.1.3 TPC Request frame format

1 **7.4.1.4 TPC Report frame format**2 **7.4.1.5 Channel Switch Announcement frame format**3 *Insert the following subclause after 7.4.1.5 and renumber accordingly:*4 **7.4.1.6 Extended Channel Switch Announcement frame format**

5 The Extended Channel Switch Announcement frame uses the Action frame body format and is transmitted
 6 by an AP in a BSS or a STA in an IBSS to advertise a channel switch. The format of the Extended Channel
 7 Switch Announcement frame body is shown in Figure y117A

8 **Figure y117A. Extended Channel Switch Announcement frame format.**

9 The Category field shall be set to 0 (representing spectrum management).

10 The Action Value field shall be set to 5 (representing a Extended Channel Switch Announcement frame).

11 The Extended Channel Switch Announcement element shall be set as described 7.3.2.37.

12 **8. Security**13 **9. MAC sublayer functional description**14 **9.1 MAC architecture**15 **9.2 DCF**16 **9.3 PCF**17 **9.4 Fragmentation**18 **9.5 Defragmentation**

1 **9.6 Multirate support**

2 **9.7 MSDU transmission restrictions**

3 **9.8 Operation across regulatory domains**

4 **9.8.1 Operation upon entering a regulatory domain**

5 **9.8.2 Support for FH PHYs**

6 *Insert the following subclauses after 9.8.2 as follows:*

7 **9.8.3 Operation across regulatory classes within a regulatory domain**

8 Where dot11RegulatoryClassesRequired is false, or where Regulatory Classes domain information is not
9 present in a STA, that STA is not required to change its operation in response to an Information Element or
10 element-specific information field that contains a Regulatory Class.

11
12 Where dot11RegulatoryClassesRequired is true, or where Regulatory Classes domain information is
13 present, the STA shall indicate Regulatory Class information in Country Information elements and
14 Supported Regulatory Classes Information elements.

15
16 Where a STA is capable of operating as specified by more than one Regulatory Class, the STA shall
17 include the Country Information and SupportedRegulatoryClasses elements in associate and reassociate
18 messages.

19
20 Where dot11RegulatoryClassesRequired is true, or where Regulatory Classes domain information is
21 present, and the STA parsing a Country Information element finds a First Channel Number or Regulatory
22 Class with a Reserved value, it shall ignore the remainder of the information element and shall parse any
23 remaining management frame body for additional information elements.

24 25 **9.8.4 Operation at distances greater than 150 meters**

26 The default PHY parameters are based on aAirPropagationTime having a value of 1 μ s or less, and
27 SlotTime and other MAC timing is based on the PHY timing parameters. Where regulatory classes
28 capability is implemented, it is possible to manage the MAC timing of stations that can receive beacon
29 frames or Information request Probe Responses that contain the Country Information element (7.3.2.9).
30 Radio waves propagate at ~299 792 458 m per second in free space, and 3 μ s would be the ceiling for BSS
31 maximum one way distance of ~450 m. The Coverage Class field of the Country Information element shall
32 be processed whenever received, replacing the current aAirPropagationTime with one indicated by the
33 Coverage Class field.

34
35 With the Country Information element, an AP can change Coverage Class and Max Transmit Power Level
36 to enhance operation outdoors. Where the Max Transmit Power Level is different than the Transmit Power
37 limit indicated by the Regulatory Class, the receiving STA shall operate at a transmit power at or below
38 that indicated by the lesser of the two limits.

1

2 **10. Layer management**3 **10.1 Overview of management model**4 **10.2 Generic management primitives**5 **10.3 MLME SAP Interface**6 **10.3.1 Power Management**7 **10.3.2 Scan**8 **10.3.2.1 MLME-SCAN.request**9 **10.3.2.2 MLME-SCAN.confirm**10 **10.3.2.2.1 Function**11 **10.3.2.2.2 Semantics of the service primitive**12 *Insert the following row at the end of the BSSDescription table:*

Name	Type	Valid range	Description
<u>DSE registered location</u>	<u>As defined in information element</u>	<u>As defined in frame format</u>	<u>The information from the DSE registered location information element, if such a field is present in Probe Response or Beacon, else null</u>

13 *Change 10.3.6 as follows:*14 **10.3.6 Associate**15 **10.3.6.1 MLME-ASSOCIATE.request**

1 **10.3.6.1.2 Semantics of the service primitive**2 *Change the primitive parameter list as shown:*

```

3 MLME-ASSOCIATE.request      (
4                               PeerSTAAddress,
5                               AssociateFailureTimeout,
6                               CapabilityInformation,
7                               ListenInterval,
8                               Supported Channels,
9                               RSN,
10                              QoS Capability,
11                              SupportedRegulatoryClasses,
12                              VendorSpecificInfo
13                              )

```

14 *Insert the following row at the end of the parameter table:*

Name	Type	Valid Range	Description
SupportedRegulatoryClasses	As defined in the Supported Regulatory Classes element	As defined in the Supported Regulatory Classes element	Specifies the Supported Regulatory Classes capabilities of the non-AP STA. This parameter shall only be present if the MIB attribute dot11OFDMCCAEDRequired is true.

15 **10.3.6.2 MLME-ASSOCIATE.confirm**16 **10.3.6.3 MLME-ASSOCIATE.indication**17 **10.3.6.4 MLME-ASSOCIATE.response**18 **10.3.6.4.2 Semantics of the service primitive**19 *Change the primitive parameter list as shown:*

20

```

21 MLME-ASSOCIATE.response      (
22                               PeerSTAAddress,
23                               ResultCode,
24                               CapabilityInformation,
25                               AssociationID,
26                               EDCAParameterSet,
27                               SupportedRegulatoryClasses,
28                               DSERegisteredLocation,
29                               VendorSpecificInfo
30                               )

```

1 *Insert the following rows at the end of the parameter table:*

Name	Type	Valid Range	Description
SupportedRegulatoryClasses	As defined in the Supported Regulatory Classes element	As defined in the Supported Regulatory Classes element	Indicates the Supported Regulatory Classes capabilities of the AP. This parameter shall only be present if the MIB attribute dot11OFDMCCAEDRequired is true.
DSERegisteredLocation	As defined in the DSE registered location element	As defined in the DSE registered location element	Indicates the DSE registered location including the Dependent Enablement Identifier assigned by the enabling station. This parameter shall only be present if dot11DSERequired is true or dot11RegLocRequired is true.

2 *Change 10.3.7 as follows:*

3 **10.3.7 Reassociate**

4 **10.3.7.1 MLME-REASSOCIATE.request**

5 **10.3.7.1.2 Semantics of the service primitive**

6 *Change the primitive parameter list as shown:*

7 MLME-REASSOCIATE.request (

8 NewAPAddress,

9 ReassociateFailureTimeout,

10 CapabilityInformation,

11 ListenInterval,

12 Supported Channels,

13 RSN,

14 QoS Capability,

15 SupportedRegulatoryClasses,

16 VendorSpecificInfo

17)

18 *Insert the following row at the end of the parameter table:*

Name	Type	Valid Range	Description
SupportedRegulatoryClasses	As defined in the Supported Regulatory Classes element	As defined in the Supported Regulatory Classes element	Specifies the Supported Regulatory Classes of the non-AP STA. This parameter shall only be present if the MIB attribute dot11OFDMCCAEDRequired is true.

1 **10.3.7.2 MLME-REASSOCIATE.confirm**2 **10.3.7.3 MLME-REASSOCIATE.indication**3 **10.3.7.4 MLME-REASSOCIATE.response**4 **10.3.7.4.2 Semantics of the service primitive**5 *Change the primitive parameter list as shown:*

```

6 MLME-REASSOCIATE.response      (
7                                 PeerSTAAddress,
8                                 ResultCode,
9                                 CapabilityInformation,
10                                AssociationID,
11                                EDCAParameterSet,
12                                SupportedRegulatoryClasses,
13                                DSERegisteredLocation,
14                                VendorSpecificInfo
15                                )

```

16 *Insert the following rows at the end of the parameter table:*

Name	Type	Valid Range	Description
SupportedRegulatoryClasses	As defined in the Supported Regulatory Classes element	As defined in the Supported Regulatory Classes element	Specifies the Supported Regulatory Classes of the non-AP STA. This parameter shall only be present if the MIB attribute dot11OFDMCCAEDRequired is true.
DSERegisteredLocation	As defined in the DSE registered location element	As defined in the DSE registered location element	Indicates the DSE registered location including the Dependent Enablement Identifier assigned by the enabling station. This parameter shall only be present if dot11DSERequired is true or dot11RegLocRequired is true.

17 **10.3.8 Disassociate**18 **10.3.9 Reset**19 **10.3.10 Start**20 **10.3.10.1 MLME-START.request**

10.3.10.1.2 Semantics of the service primitive*Change the primitive parameters as shown:*

```

MLME-START.request(
    SSID,
    BSSType,
    BeaconPeriod,
    DTIMPeriod,
    CF parameter set,
    PHY parameter set,
    IBSS parameter set,
    ProbeDelay,
    CapabilityInformation,
    BSSBasicRateSet,
    OperationalRateSet,
    Country,
    IBSS DFS Recovery Interval,
    EDCAParameterSet,
    DSE registered location,
    VendorSpecificInfo
)

```

Insert the following entry to the end of the table in the subclause:

Name	Type	Valid range	Description
<u>DSE registered location</u>	<u>As defined in information element</u>	<u>As defined in frame format</u>	<u>The information from the DSE registered location information element. Present only if dot11RegLocRequired is true or dot11DSERequired is true.</u>

*Insert the following subclauses after 10.3.29.3.4 as follows:***10.3.30 Extended Channel Switch Announcement**

The following MLME primitives support the signaling of Extended Channel Switch Announcement.

10.3.30.1 MLME-EXTCHANNELSWITCH.request**10.3.30.1.1 Function**

This primitive requests that an Extended Channel Switch Announcement frame be sent by an AP.

10.3.30.1.2 Semantics of the service primitive

The primitive parameters are as follows:

```

MLME-EXTCHANNELSWITCH.request (
    Mode,
    Regulatory Class,
    Channel Number,

```

1 Channel Switch Count,
2 VendorSpecificInfo
3)

Name	Type	Valid Range	Description
Mode	Integer	0,1	Channel switch mode, as defined for the Extended Channel Switch Announcement element.
Regulatory Class	Integer	As defined in Annex J	Specifies the new regulatory class.
Channel Number	Integer	As defined in Annex J	Specifies the new channel number.
Channel Switch Count	Integer	0 – 255	Specifies the number of TBTTs until the channel switch event, as described for the Extended Channel Switch Announcement element.
VendorSpecificInfo	A set of information elements	As defined in 7.3.2.26	Zero or more information elements.

10.3.30.1.3 When generated

This primitive is generated by the SME to request that a Extended Channel Switch Announcement frame be sent to a non-AP STA that is associated to the AP.

10.3.30.1.4 Effect of receipt

On receipt of this primitive, the MLME constructs an Extended Channel Switch Announcement frame. The AP then attempts to transmit this to other STAs that are associated.

10.3.30.2 MLME-EXTCHANNELSWITCH.confirm

10.3.30.2.1 Function

This primitive reports the result of a request to switch channel.

10.3.30.2.2 Semantics of the service primitive

The primitive parameters are as follows:

MLME-EXTCHANNELSWITCH.confirm (
 ResultCode,
 VendorSpecificInfo
)

Name	Type	Valid Range	Description
ResultCode	Enumeration	SUCCESS, INVALID PARAMETERS or UNSPECIFIED FAILURE	Reports the result of an extended channel switch request.
VendorSpecificInfo	A set of information elements	As defined in 7.3.2.26	Zero or more information elements.

10.3.30.2.3 When generated

This primitive is generated by the MLME when an extended channel switch request completes. Possible unspecified failure causes include an inability to schedule an extended channel announcement.

10.3.30.2.4 Effect of receipt

The SME is notified of the results of the extended channel switch procedure.

10.3.30.3 MLME-EXTCHANNELSWITCH.indication**10.3.30.3.1 Function**

This primitive indicates that an Extended Channel Switch Announcement frame was received from an AP.

10.3.30.3.2 Semantics of the service primitive

The primitive parameters are as follows:

```
MLME-EXTCHANNELSWITCH.indication (
    Peer MAC Address,
    Mode,
    Regulatory Class,
    Channel Number,
    Channel Switch Count,
    VendorSpecificInfo
)
```

Name	Type	Valid Range	Description
PeerMAC Address	MACAddress	Any valid individual MAC Address	The address of the peer MAC entity from which the Measurement Report frame was received.
Mode	Integer	0,1	Channel switch mode, as defined for the Channel Switch Announcement element.
Regulatory Class	Integer	As defined in Annex J	Specifies the new regulatory class.
Channel Number	Integer	As defined in Annex J	Specifies the new channel number.
Channel Switch Count	Integer	0 – 255	Specifies the number of TBTTs until the channel switch event, as described for the Extended Channel Switch Announcement element.
VendorSpecificInfo	A set of information elements	As defined in 7.3.2.26	Zero or more information elements.

10.3.30.3.3 When generated

This primitive is generated by the MLME when a valid Extended Channel Switch Announcement frame is received.

10.3.30.3.4 Effect of receipt

On receipt of this primitive, the SME decides whether to accept the switch request.

10.3.30.4 MLME-EXTCHANNELSWITCH.response**10.3.30.4.1 Function**

This primitive is used to schedule an accepted extended channel switch.

10.3.30.4.2 Semantics of the service primitive

The primitive parameters are as follows:

```
MLME-EXTCHANNELSWITCH.response (
    Mode,
    Regulatory Class,
    Channel Number,
    Channel Switch Count,
    VendorSpecificInfo
)
```

Name	Type	Valid Range	Description
Mode	Integer	0,1	Channel switch mode, as defined for the Channel Switch Announcement element.
Regulatory Class	Integer	As defined in Annex J	Specifies the new regulatory class.
Channel Number	Integer	As defined in Annex J	Specifies the new channel number.
Channel Switch Count	Integer	0 – 255	Specifies the number of TBTTs until the channel switch event, as described for the Extended Channel Switch Announcement element.
VendorSpecificInfo	A set of information elements	As defined in 7.3.2.26	Zero or more information elements.

10.3.30.4.3 When generated

This primitive is generated by the SME to schedule an accepted extended channel switch request.

10.3.30.4.4 Effect of receipt

On receipt of this primitive, the MLME schedules the extended channel switch. The actual channel switch is at the appropriate time through the MLME-PLME interface using the PLME-SET primitive of the dot11CurrentFrequency MIB attribute. If Mode = 0, STA shall refrain from transmitting until the time of the extended channel switch.

- 1 **11. MLME**
- 2 **11.1 Synchronization**
- 3 **11.2 Power management**
- 4 **11.3 STA Authentication and Association**
- 5 **11.4 TS Operation**
- 6 **11.5 Block Ack operation**
- 7 **11.6 Higher layer timer synchronization**
- 8 **11.7 DLS operation**
- 9 **11.8 TPC procedures**
- 10 **11.9 DFS procedures**
- 11 **11.9.1 Association based on supported channels**
- 12 **11.9.2 Quieting channels for testing**
- 13 **11.9.3 Testing channels for radar**
- 14 **11.9.4 Discontinuing operations after detecting radars**
- 15 **11.9.5 Detecting radars**
- 16 **11.9.6 Requesting and reporting of measurements**

11.9.7 Selecting and advertising a new channel

Change clause 11.9.7.1 as follows:

11.9.7.1 Selecting and advertising a new channel in an infrastructure BSS

The decision to switch to a new operating channel in an infrastructure BSS shall be made only by the AP. An AP may make use of the information in the Supported Channel and Supported Regulatory Classes elements and the results of measurements undertaken by the AP and other STAs in the BSS to assist the selection of the new channel. The algorithm to choose a new channel is beyond the scope of this standard, but shall satisfy applicable regulatory requirements, including uniform spreading rules and channel testing rules. The AP shall attempt to select a new channel that is supported by all associated STAs, although it should be noted that this might not always be possible.

In the following text wherever Channel Switch Announcement is referred to, the following rules apply:

- 1) If an AP is switching to a new channel in a different regulatory class then the AP shall use the Extended Channel Switch Announcement elements and frames instead of the Channel Switch Announcement elements and frames.
- 2) If an AP is switching to a channel within the same regulatory class, and dot11OFDMCCAEDRequired is true, then the AP shall send the Extended Channel Switch Announcement element and frame, else the AP shall send the Channel Switch Announcement element and frame. Optionally the Extended Channel Switch Announcement element and frame may be used.

An AP shall inform associated STAs that the AP is moving to a new channel and maintain the association by advertising the switch using Channel Switch Announcement elements in Beacon frames, Probe Response frames, either of the Channel Switch Announcement frames until the intended channel switch time. The AP may force STAs in the BSS to stop transmissions until the channel switch takes place using the Channel Switch Mode field in Channel Switch Announcement element. If possible, the channel switch should be scheduled so that all STAs in the BSS, including STAs in power save mode, have the opportunity to receive at least one Channel Switch Announcement element before the switch. The AP may send the Channel Switch Announcement frame in a BSS without performing a backoff, after determining that the WM is idle for one PIFS period.

A STA that receives a Channel Switch Announcement element may choose not to perform the specified switch, but to take alternative action. For example, it may choose to move to a different BSS.

A STA in a BSS that is not the AP shall not transmit the Channel Switch Announcement element.

Insert new first paragraph in clause 11.9.7.2 as follows:

11.9.7.2 Selecting and advertising a new channel in an IBSS

In the following text wherever Channel Switch Announcement is referred to, the following rules apply:

- 1) If a DFS owner is switching to a new channel in a different regulatory class then the DFS owner shall use the Extended Channel Switch Announcement elements and frames instead of the Channel Switch Announcement elements and frames.
- 2) If a DFS owner is switching to a channel within the same regulatory class, and dot11OFDMCCAEDRequired is true, then the DFS owner shall send the Extended Channel Switch Announcement element and frame, else the DFS owner shall send the Channel Switch Announcement element and frame. Optionally the Extended Channel Switch Announcement element and frame may be used.

EDITORIAL NOTE—11 ma D9.0 last subclause is 11.9.7.2

Insert the following new subclauses after clause 11.9.7.2 and renumber accordingly:

11.10 DSE procedures

Regulations that apply to the US 3650 MHz band require enabling stations to implement a mechanism to enable mobile station operation. Similar regulations exist in other regulatory domains. This standard describes such a mechanism, referred to as dependent station enablement (DSE).

This subclause describes DSE procedures that can be used to satisfy these and similar future regulatory requirements. Regulations that apply to the US 3650 MHz band require fixed stations and enabling stations to have their operating locations registered. Licensees of stations suffering or causing harmful interference are expected to cooperate and resolve problems by mutually satisfactory arrangements. The procedures may also satisfy needs in other frequency bands and be useful for other purposes.

STAs shall use the DSE procedures defined in this subclause if dot11DSERequired is true. dot11DSERequired shall be TRUE when regulatory authorities require DSE. It may also be set to TRUE in other circumstances. If licensees in more than one frequency band of a country use DSE procedures, then a dot11RegLocRequired and a dot11DSERequired shall be specific to each frequency band using DSE procedures of that country.

The DSE procedures provide for the following:

- Fixed station and enabling station operation
- Creation of a Basic Service Area for dependent station operation
- Dependent STA operation with DSE

For the purpose of DSE, a STA with dot11DSERequired set to FALSE shall not support the DSE registered location order unless dot11RegLocRequired is set to TRUE.

11.10.1 Fixed station and enabling station operation

Fixed stations and enabling stations shall have dot11RegLocRequired set to TRUE, and shall transmit the DSE registered location element in every beacon, and shall set the Dependent STA bit to FALSE. If the registered location of the fixed or enabling station is within a national policy area, such as within a Fixed Satellite Service exclusion zone, or the registered location is within an international agreement area near a national border, RegLoc Agreement shall be set to TRUE, otherwise it shall be set to FALSE.

The registered location element Latitude, Longitude and Altitude fields shall be reported to their full resolutions, which may exceed the resolutions required by regulatory authorities. The Altitude Type shall be 3, Height Above Ground Meters (altitude in meters above adjacent terrain), unless another altitude type is required for operation in the regulatory domain. The Datum value shall be 1 (World Geodetic System 1984), unless another datum is required for operation in the regulatory domain.

11.10.2 Creation of a BSA for dependent station operation

An enabling station may allow the creation of a BSA for dependent STA operation where regulatory requirements permit, and signifies the creation of a BSA by setting the RegLoc DSE to TRUE in the DSE registered location element. Dependent STA operation is conditional on receiving and decoding a DSE registered location element with RegLoc DSE true directly from an enabling station. Before association to any one enabling station, a dependent STA may have detected several enabling stations, and may attempt association with one and fail, then attempt association to another. An enabling station in an DSE BSA may schedule quiet intervals using DFS procedures, so that all dependent stations can listen for others in the frequency band.

11.10.3 Dependent STA operation with DSE

Dependent STAs shall have dot11RegLocRequired and dot11DSERequired set to TRUE.

For the purpose of DSE, the following statements apply:

- A STA with dot11DSERequired set to TRUE shall not operate in a BSS or IBSS unless it has received a beacon frame or probe response frame from an enabling station with Spectrum Management bit set to 1 in the Capability Information field;

- Every dependent STA that is not associated with an enabling station shall not transmit, except to authenticate and associate with an enabling station, unless such action is as mandated in the regulatory domain (e.g. Emergency Services);

- Every dependent STA shall associate with an enabling station that is sending beacons with DSE registered location element RegLoc DSE set to TRUE, and operate under the control of the enabling station to which the dependent station is associated;

- Every dependent STA shall create a dependent DSE registered location element with the enabling station's DSE registered location element and having the Dependent STA bit set to TRUE. Before association, the Dependent Enablement Identifier (DEI) field shall be set to zero. Upon association or Reassociation, the DEI field shall be set to the DEI value in the MLME-ASSOCIATE.response or MLME-REASSOCIATE.response, and this DSE registered location element shall be used in constructing Probe Response frames;

- Every dependent STA that is not associated with an enabling station shall only transmit for up to [8] seconds in attempting to associate,

- then if it is not associated with an enabling station, it shall not transmit for [512] seconds, before it can again attempt to authenticate and associate;

- Every associated dependent STA shall cease transmission within [60] seconds if it does not receive either a beacon frame or a Probe Response frame with RegLoc DSE set to TRUE in the DSE registered location element, and set to zero all fields of the dependent DSE registered location element;

- Every dependent STA shall respond to a Request information Probe Request having the DSE registered location element (asking “what enabling station's signal did you receive and decode that enables you to transmit?”) with a Probe Response DSE the dependent DSE registered location element;

- Every dependent STA shall create a Probe Response frame containing order 23 (DSE), with the dependent DSE registered location element. The dependent STA shall count the sum of dot11TransmittedFragmentCount, dot11MulticastTransmittedFrameCount and dot11ReceivedFragmentCount, and schedule this Probe Response be sent to self using normal frame transmission rules, whenever the sum modulo [256] changes.

12. PHY service specification

13. PHY management

1 **14. Frequency-Hopping spread spectrum (FHSS) PHY specifications for the**
2 **2.4 GHz industrial, scientific and medical (ISM) band**

3 **15. DSSS PHY specification for the 2.4 GHz band designated for ISM**
4 **applications**

5 **16. Infrared (IR) PHY specification**

6 *Change the Clause 17 title as shown:*

7 **17. Orthogonal frequency division multiplexing (OFDM) PHY specification**
8 **for the 5 GHz band**

9 **17.1 Introduction**

10 *Change the end of the second paragraph as shown:*

11 The regulatory requirements and information regarding the use of this OFDM system ~~in 4.9 GHz and 5~~
12 ~~GHz bands~~ is in Annex I and Annex J. This OFDM system shall not be operated in the 2.4 GHz frequency
13 band. The 2.4 GHz DSSS-OFDM PHY and ERP-OFDM PHY systems are described in Clause 19.

14 *Change the last sentence of the third paragraph as shown:*

15 The regulatory requirements and information regarding the use of this OFDM system ~~in the 4.9 GHz band~~
16 is in Annex I and Annex J.

17 **17.1.1 Scope**

18 *Change the first sentence as shown:*

19 This subclause describes the PHY services provided to the IEEE 802.11 wireless LAN MAC by the ~~5 GHz~~
20 ~~(bands)~~ OFDM system.

21 **17.1.2 OFDM PHY functions**

22 *Change the first sentence as shown:*

23 The ~~5 GHz~~ OFDM PHY architecture is depicted in the reference model shown in Figure 10 (in 5.97).

24 **17.1.2.1 PLCP sublayer**

25 **17.1.2.2 PMD sublayer**

1 *Change the second sentence as shown:*

2 The PMD sublayer provides a means to send and receive data between two or more stations. This clause is
3 concerned with ~~the 5 GHz~~any band using OFDM modulation.

4 **17.2 OFDM PHY specific service parameter list**

5 **17.3 OFDM PLCP sublayer**

6 **17.3.1 Introduction**

7 **17.3.2 PLCP frame format**

8 **17.3.3 PLCP preamble (SYNC)**

9 **17.3.4 SIGNAL field**

10 **17.3.5 DATA field**

11 **17.3.6 CCA**

12 PLCP shall provide the capability to perform CCA and report the result to the MAC. The CCA mechanism
13 shall detect a “medium busy” condition with a performance specified in 17.3.10.5. This medium status
14 report is indicated by the primitive PHY_CCA.indicate.

15 *Insert the following text after the only paragraph of 17.3.6:*

16 For improved spectrum sharing in some bands, an optional Clear Channel Assessment-Energy Detect
17 (CCA-ED) may be required, as indicated in Annex J

18
19 The ED status shall be given by the PMD primitive, PMD_ED. The CS status shall be given by PMD_CS.
20 The status of PMD_ED and PMD_CS is used in the PLCP to indicate activity to the MAC through the PHY
21 interface primitive, PHY-CCA.indicate.

22
23 A busy channel shall be indicated by PHY-CCA.indicate of class BUSY. A clear channel shall be indicated
24 by PHY-CCA.indicate of class IDLE.

25
26 The PHY MIB attribute, dot11CCAEDModeSupported, shall indicate the appropriate operation modes. The
27 PHY shall be configured through the PHY MIB attribute, dot11OFDMCurrentCCAEDMode.

28 29 **17.3.7 PLCP data modulation and modulation rate change**

30 **17.3.8 PMD operating specifications (general)**

1 **17.3.8.1 Outline description**

2 **17.3.8.2 Regulatory requirements**

3 **17.3.8.3 Operating channel frequencies**

4 **17.3.8.3.1 Operating frequency range**

5 *Change the first two sentences as shown:*

6 The OFDM PHY shall operate in frequency bands, as allocated by a regulatory body in its operational
7 region. Spectrum allocation in the frequency bands are subject to authorities responsible for geographic-
8 specific regulatory domains (e.g., global, regional, and national).

9 **17.3.9 PMD transmit specifications**

10 **17.3.9.1 Transmit power levels**

11 **17.3.9.2 Transmit spectrum mask**

12 The transmit spectrum mask by regulatory domain is defined in Annex I and Annex J.

13 *Insert the following text and figure after the only sentence in 17.3.9.2 and renumber accordingly:*

14 The default transmitted spectrum shall have a 0 dBr (dB relative to the maximum spectral density of the
15 signal) bandwidth not exceeding 18 MHz, –20 dBr at 11 MHz frequency offset, –28 dBr at 20 MHz
16 frequency offset and –40 dBr at 30 MHz frequency offset and above. The transmitted spectral density of
17 the transmitted signal shall fall within the default spectral mask, as shown in Figure y254A. The
18 measurements shall be made using a 100 kHz resolution bandwidth and a 30 kHz video bandwidth.

19

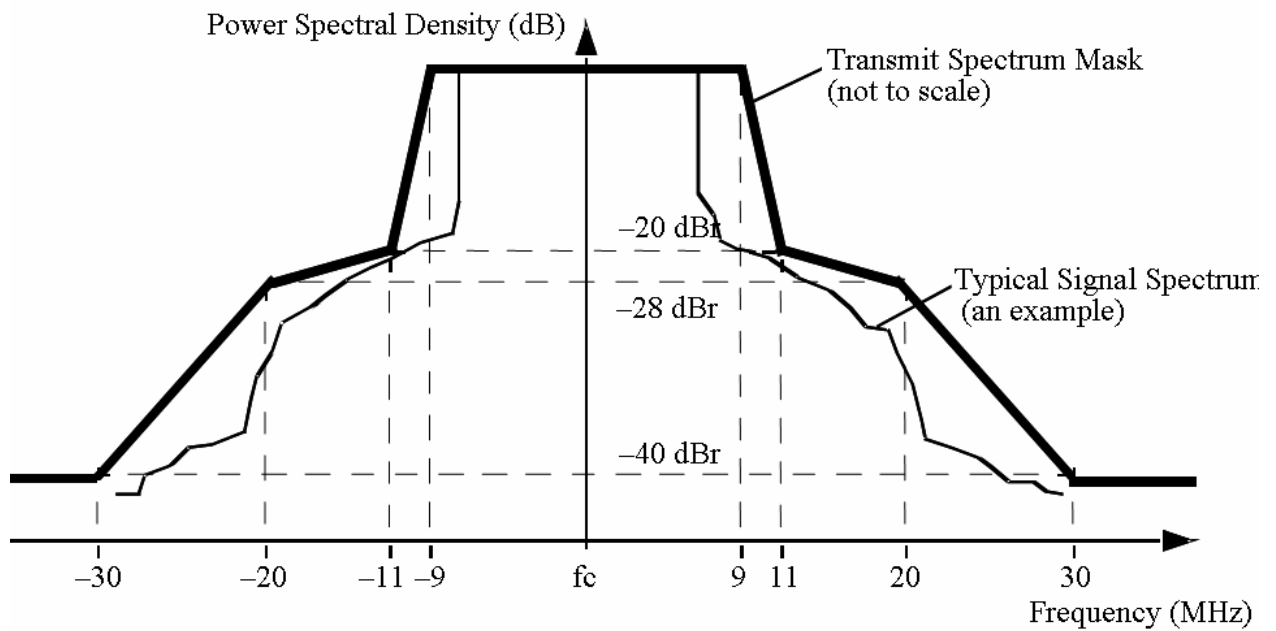


Figure y254A—Default transmit spectrum mask

1
2
3
4
5
6
7
8
9

17.3.10 PMD receiver specifications

17.3.10.1 Receiver minimum input sensitivity

17.3.10.2 Adjacent channel rejection

17.3.10.3 Nonadjacent channel rejection

17.3.10.4 Receiver maximum input level

17.3.10.5 CCA sensitivity

Insert the following text and change the paragraph as shown:

For improved spectrum sharing in some bands, an optional Clear Channel Assessment-Energy Detect (CCA-ED) may be required, as indicated in Annex J. Where the optional CCA-ED is not used, receiving the start of a valid OFDM transmission at a receive level equal to or greater than the minimum modulation and coding rate sensitivity (−82 dBm for 20 MHz channel spacing, −85 dBm for 10 MHz channel spacing, and −88 dBm for 5 MHz channel spacing) shall cause CCA to indicate busy with a probability > 90% within 4 μs for 20 MHz channel spacing, 8 μs for 10 MHz channel spacing, and 16 μs for 5 MHz channel spacing.

If the preamble portion was missed, the receiver shall hold the CS signal busy for any signal 20 dB above the minimum modulation and coding rate sensitivity (−62 dBm for 20 MHz channel spacing, −65 dBm for 10 MHz channel spacing, and −68 dBm for 5 MHz channel spacing).

NOTE—CCA detect time is based on finding the short sequences in the preamble, so when T_{SYM} doubles, so does CCA detect time.

Insert the following text after the NOTE:

For the optional CCA-ED, the OFDM PHY shall provide the capability to perform CCA-ED according to the following two methods:

- CCA-ED Mode 1: Energy above threshold. CCA shall report a busy medium upon detecting any energy above the ED threshold.
- CCA-ED Mode 2: A combination of CS and energy above threshold. CCA shall report busy at least while an OFDM PPDU with energy above the ED threshold is being received at the antenna.

The CCA shall indicate IDLE if there is no energy detect or CS. The CCA parameters are subject to the following criteria:

a) If a valid OFDM signal is detected during its preamble within the CCA window, the ED threshold shall be less than or equal to [−82 dBm] for 20 MHz channel widths; [−85 dBm] for 10 MHz channel widths; and [−88 dBm] for 5 MHz channel widths.

b) With a valid signal (according to the CCA-ED mode of operation) present at the receiver antenna within [5 μs] of the start of a MAC slot boundary, the CCA indicator shall report channel busy before the end of the slot time. This implies that the CCA signal is available as an exposed test point. Refer to Figure 170 (in 9.2.10) for a slot time boundary definition.

c) In the event that a correct PLCP header is received, the OFDM PHY shall hold the CCA signal inactive (channel busy) for the full duration, as indicated by the PLCP LENGTH field. Should a loss of CS occur in the middle of reception, the CCA shall indicate a busy medium for the intended duration of the transmitted PPDU.

Conformance to the optional CCA-ED shall be demonstrated by applying an equivalent OFDM compliant signal above the appropriate ED threshold (item a) so that all conditions described in item b and item c are demonstrated for that channel width.

17.3.11 Transmit PLCP

17.3.12 Receive PLCP

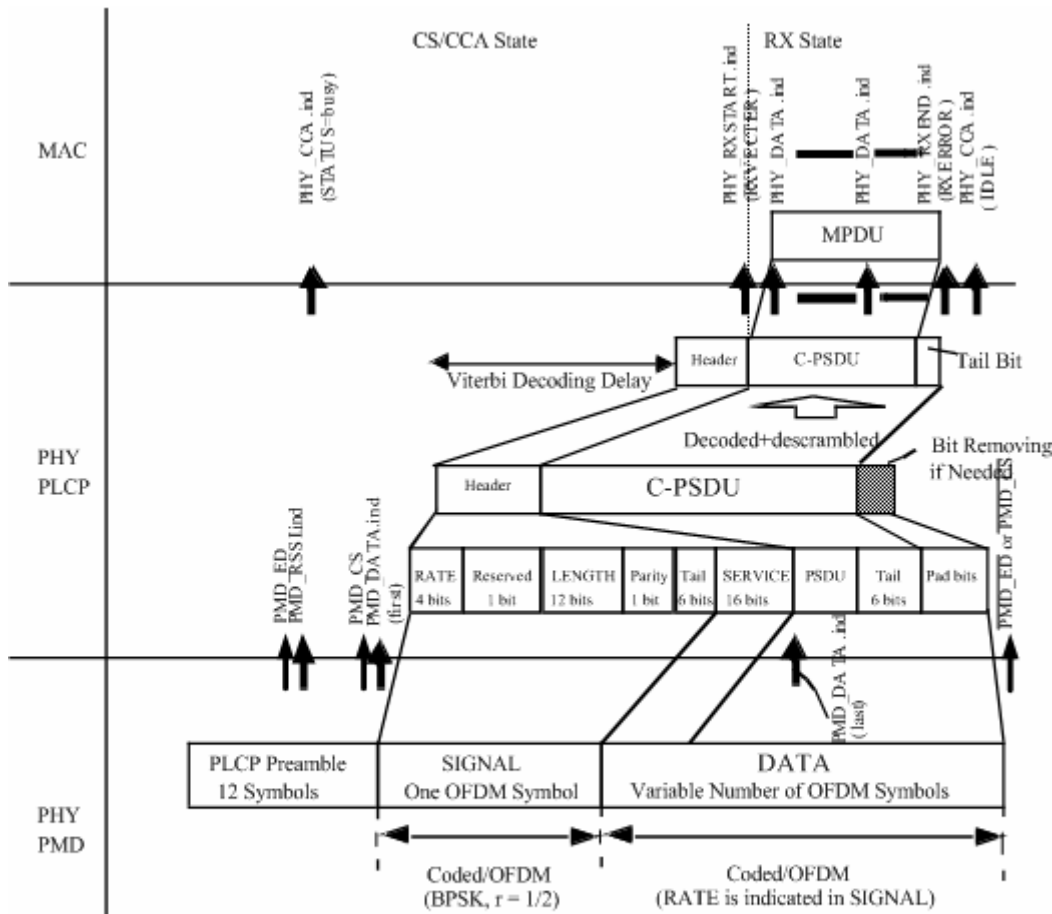


Figure 264—Receive PLCP

EDITORIAL NOTE— The above figure was modified to add `PMD_ED` and `PMD_CS` and this cannot be shown by revision marks.

Insert new sentence before second paragraph:

The receiver shall implement the CCA procedure as defined in 17.3.10.5.

Insert new paragraph after second paragraph:

Where the optional CCA-ED is used, upon receiving the transmitted energy, according to the selected CCA mode, the `PMD_ED` shall be enabled (according to 17.3.10.5) as the RSSI reaches the `ED_THRESHOLD`, and/or `PMD_CS` shall be enabled after the PLCP preamble has been received. `PHY-CCA.indicate(BUSY)` shall be issued for ED and/or CS prior to correct reception of the PLCP header.

Change the sixth paragraph as shown:

Where the optional CCA-ED is not used, in the event that a change in the RSSI causes the status of the CCA to return to the IDLE state before the complete reception of the PSDU, as indicated by the PLCP `LENGTH` field, the error condition `PHY-RXEND.indicate(CarrierLost)` shall be reported to the MAC. Where the optional CCA-ED is used, in the event that a change in `PMD_CS.indicate` or `PMD_ED.indicate`

- 1 to DISABLED occurs before the complete reception of the PSDU, as indicated by the PLCP LENGTH
 2 field, the error condition PHY-RXEND.indicate(CarrierLost) shall be reported to the MAC. The OFDM
 3 PHY will insure that the CCA indicates a busy medium for the intended duration of the transmitted packet.

4 **17.4 OFDM PLME**

5 **17.4.1 PLME_SAP sublayer management primitives**

- 6 *Insert two Managed Objects at the end of Table 146 as shown:*

Managed object	Default value/range	Operational semantics
<u>dot11CurrentCCAEDMode</u>	<u>Implementation dependent</u>	<u>Dynamic</u>
<u>dot11EDThreshold</u>	<u>Implementation dependent</u>	<u>Dynamic</u>

7 **17.5 OFDM PMD sublayer**

8 **17.5.1 Scope and field of application**

9 **17.5.2 Overview of service**

10 **17.5.3 Overview of interactions**

11 **17.5.4 Basic service and options**

12 **17.5.4.1 PMD_SAP peer-to-peer service primitives**

13 **17.5.4.2 PMD_SAP sublayer-to-sublayer service primitives**

- 14 *Insert two Primitives at the end of Table 149 as shown:*
-

Primitive	Request	Indicate	Confirm	Response
<u>PMD_CS</u>	=	<u>X</u>	=	=
<u>PMD_ED</u>	<u>X</u>	<u>X</u>	=	=

1 17.5.4.3 PMD_SAP service primitive parameters

2 *Insert three Parameters at the end of Table 150 as shown:*

Parameter	Associated primitive	Value (20 MHz channel spacing)	Value (10 MHz channel spacing)	Value (5 MHz channel spacing)
<u>CS</u>	<u>PMD_CS.indicate</u>	<u>0 for DISABLED</u> <u>1 for ENABLED</u>	<u>0 for DISABLED</u> <u>1 for ENABLED</u>	<u>0 for DISABLED</u> <u>1 for ENABLED</u>
<u>ED</u>	<u>PMD_ED.indicate</u>	<u>0 for DISABLED</u> <u>1 for ENABLED</u>	<u>0 for DISABLED</u> <u>1 for ENABLED</u>	<u>0 for DISABLED</u> <u>1 for ENABLED</u>
<u>ED</u>	<u>PMD_ED.request</u>	<u>ED_THRESHOLD</u>	<u>ED_THRESHOLD</u>	<u>ED_THRESHOLD</u>

3 17.5.5 PMD_SAP detailed service specification

4 17.5.5.1 PMD_DATA.request

5 17.5.5.2 PMD_DATA.indicate

6 17.5.5.3 PMD_TXSTART.request

7 17.5.5.4 PMD_TXEND.request

8 17.5.5.5 PMD_TXPWRLVL.request

9 17.5.5.6 PMD_RATE.request

10 17.5.5.7 PMD_RSSI.indicate

1 *Insert new service specifications after end of 17.5.5.7 RSSI.indicate:*

2 **17.5.5.8 PMD_CS.indicate**

3 **17.5.5.8.1 Function**

4 This optional primitive may be generated by the PMD to provide an indication that the receiver has
5 acquired the end of the OFDM PLCP preamble, and data are being demodulated.

6 **17.5.5.8.2 Semantics of the service primitive**

7 This primitive provides the following parameters.

Parameter	Associated primitive	Value	Description
PMD_CS	PMD_CS.indicate	0 for DISABLED 1 for ENABLED	The PMD_CS primitive, in conjunction with PMD_ED, provides CCA status through the PLCP layer PHY-CCA.indicate primitive. PMD_CS indicates a binary status of ENABLED or DISABLED. PMD_CS is ENABLED when the OFDM PLCP preamble has been received. PMD_CS is DISABLED when OFDM symbols are not being received.

8 **17.5.5.8.3 When generated**

9 This primitive is generated by the PMD sublayer when the OFDM PHY is receiving a PPDU and the end of
10 the OFDM PLCP preamble has been acquired.

11 **17.5.5.8.4 Effect of receipt**

12 This indicator is provided to the PLCP for forwarding to the MAC entity for information purposes through
13 the PHY_CCA indicator. This parameter shall indicate that the RF medium is busy and occupied by an
14 OFDM PHY signal. The OFDM PHY should not be placed into the transmit state when PMD_CS is
15 ENABLED.

16 **17.5.5.9 PMD_ED.indicate**

17 **17.5.5.9.1 Function**

18 This optional primitive may be generated by the PMD to provide an indication that the receiver has
19 detected RF energy indicated by the PMD_RSSI primitive that is above a predefined threshold.

20 **17.5.5.9.2 Semantics of the service primitive**

21 This primitive provides the following parameters.

Parameter	Associated primitive	Value	Description
PMD_ED	PMD_ED.indicate	0 for DISABLED 1 for ENABLED	The PMD_ED primitive, in conjunction with PMD_CS, provides CCA status through the PLCP layer PHY-CCA.indicate primitive. PMD_ED indicates a binary status of ENABLED or DISABLED. PMD_ED is ENABLED when the RSSI in PMD_RSSI is greater than the ED_THRESHOLD parameter. PMD_ED is DISABLED when the PMD_RSSI falls below the energy detect threshold.

1 17.5.5.9.3 When generated

2 This primitive is generated by the PMD sublayer when the OFDM PHY is receiving RF energy from any
3 source that exceeds the ED_THRESHOLD parameter.

4 17.5.5.9.4 Effect of receipt

5 This indicator is provided to the PLCP for forwarding to the MAC entity for information purposes through
6 the PHY_CCA indicator. This parameter shall indicate that the RF medium may be busy with an RF energy
7 source that is not OFDM PHY compliant. If an OFDM PHY is being received, the PMD_CS function is
8 enabled shortly after the PMD_ED function is ENABLED.

9 17.5.5.10 PMD_ED.request

10 17.5.5.10.1 Function

11 This optional primitive may be generated by the PLCP to set a value for the energy detect
12 ED_THRESHOLD.
13

14 17.5.5.10.2 Semantics of the service primitive

15 This primitive provides the following parameters.

Parameter	Associated primitive	Value	Description
PMD_ED	PMD_ED.request	ED_THRESHOLD	ED_THRESHOLD is the threshold that the RSSI should be greater than in order for PMD_ED to be enabled. PLD_ED is DISABLED when the PMD_RSSI falls below the energy detect threshold.

16 17.5.5.10.3 When generated

17 This primitive is generated by the PLCP sublayer to change or set the current OFDM PHY energy detect
18 threshold.

1 **17.5.5.10.4 Effect of receipt**

- 2 The receipt of the PHY_ED.request primitive immediately changes the energy detect threshold as set by the
3 ED_THRESHOLD parameter.

1 Annex A (normative) Protocol Implementation Conformance Statement

2 (PICS) proforma

3 A.1 Introduction

4 A.2 Abbreviations and special symbols

5 A.3 Instructions for completing the PICS pro forma

6 A.4 PICS proforma—IEEE Std. 802.11, 2006 edition

7 A.4.1 Implementation identification

8 A.4.2 Protocol summary

9 A.4.3 IUT configuration

10 *Change the CF6 entry as shown:*

Item	IUT configuration	References	Status	Support
*CF6	Orthogonal frequency division multiplexing PHY for the 5 GHz band	—	<u>O.2</u>	<u>Yes</u> <input type="checkbox"/> <u>No</u> <input type="checkbox"/>

11 *EDITORIAL NOTE— The item CFy below will be replaced by the IEEE 802.11 Technical Editor with*
 12 *the next sequential Item number available, and all subsequent references to CFy will be changed*
 13 *accordingly.*

14 *Append this entry to the end of this table*

Item	IUT configuration	References	Status	Support
*CFy	<u>3.65-3.70 GHz band in US</u>	<u>5.2.7, 7.3.2.36, 11.10, 17.3.6, 17.3.10.5, Annex I, Annex J</u>	<u>CF6&CF8&CF10&CF11:O</u>	<u>Yes</u> <input type="checkbox"/> <u>No</u> <input type="checkbox"/> <u>N/A</u> <input type="checkbox"/>

15 A.4.4 MAC protocol

1 **A.4.5 Frequency hopping (FH) PHY functions**

2 **A.4.6 Direct sequence PHY functions**

3 **A.4.7 Infrared baseband PHY functions**

4 **A.4.8 OFDM PHY functions**

5 *Change OF1.7 and OF1.8 as shown:*

Item	Feature	References	Status	Support
*OF1.7	<u>10 MHz Channel spacing</u>	<u>5.2.7, 17.2.2, 17.2.3, 17.2.3.3</u>	<u>CF11:O, CFy&MS2:M</u>	Yes <input type="checkbox"/> No <input type="checkbox"/> N/A <input type="checkbox"/>
*OF1.8	<u>5 MHz Channel spacing</u>	<u>5.2.7, 17.2.2, 17.2.3, 17.2.3.3</u>	<u>CF11:O, CFy&MS2:M, CFy&MS3:M</u>	Yes <input type="checkbox"/> No <input type="checkbox"/> N/A <input type="checkbox"/>

6

7 *Insert new items in OF2 after OF2.19.2 and renumber accordingly:*

Item	Feature	References	Status	Support
------	---------	------------	--------	---------

<u>*OF2.19.3</u>	<u>CCA-ED functionality</u>	<u>17.3.10.5</u>	<u>CFy:M</u>	Yes <input type="checkbox"/> No <input type="checkbox"/> N/A <input type="checkbox"/>
<u>OF2.19.3.1</u>	<u>CCA-ED Mode 1, energy only (RPI above threshold)</u>	<u>17.3.10.5</u>	<u>OF2.19.3:M</u>	Yes <input type="checkbox"/> No <input type="checkbox"/> N/A <input type="checkbox"/>
<u>OF2.19.3.2</u>	<u>CCA-ED Mode 2, energy detect with OFDM CS</u>	<u>17.3.10.5</u>	<u>OF2.19.3:M</u>	Yes <input type="checkbox"/> No <input type="checkbox"/> N/A <input type="checkbox"/>
<u>OF2.19.3.3</u>	<u>Hold CCA busy for packet duration of a correctly received PLCP, but carrier lost during reception of MPDU.</u>	<u>17.3.10.5</u>	<u>OF2.19.3:M</u>	Yes <input type="checkbox"/> No <input type="checkbox"/> N/A <input type="checkbox"/>
<u>OF2.19.3.4</u>	<u>Hold CCA busy for packet duration of a correctly received, but out of spec, PLCP.</u>	<u>17.3.10.5</u>	<u>OF2.19.3:M</u>	Yes <input type="checkbox"/> No <input type="checkbox"/> N/A <input type="checkbox"/>

1 *Insert this entry before OF3.3 Channelization:*

Item	IUT configuration	References	Status	Support
<u>*OF3.2.7</u>	<u>3.65-3.70 GHz band</u>	<u>Annex J</u>	<u>CFy:M</u>	<u>Yes <input type="checkbox"/> No <input type="checkbox"/> N/A <input type="checkbox"/></u>

2 *Insert these entries before OF3.4 Number of operating channels:*

Item	IUT configuration	References	Status	Support
<u>OF3.3.13</u>	<u>3.65-3.70 GHz (20 MHz channel spacing)</u>	<u>Annex J</u>	<u>CFy&OF3.2.7:M</u>	<u>Yes <input type="checkbox"/> No <input type="checkbox"/> N/A <input type="checkbox"/></u>
<u>OF3.3.14</u>	<u>3.65-3.70 GHz (10 MHz channel spacing)</u>	<u>Annex J</u>	<u>CFy&OF3.2.7&OF1.7:M</u>	<u>Yes <input type="checkbox"/> No <input type="checkbox"/> N/A <input type="checkbox"/></u>
<u>OF3.3.15</u>	<u>3.65-3.70 GHz (5 MHz channel spacing)</u>	<u>Annex J</u>	<u>CFy&OF3.2.7&OF1.8:M</u>	<u>Yes <input type="checkbox"/> No <input type="checkbox"/> N/A <input type="checkbox"/></u>

3 *Insert these entries before OF4.14 Spectrum mask, and renumber accordingly:*

Item	IUT configuration	References	Status	Support
------	-------------------	------------	--------	---------

<u>OF4.14</u>	<u>Power level, 3.65-3.70 GHz (20 MHz channel spacing)</u>	<u>Annex J</u>	<u>CFy&OF3.2.7:M</u>	<u>Yes</u> <input type="checkbox"/> <u>No</u> <input type="checkbox"/> <u>N/A</u> <input type="checkbox"/>
<u>OF4.15</u>	<u>Power level, 3.65-3.70 GHz (10 MHz channel spacing)</u>	<u>Annex J</u>	<u>CFy&OF3.2.7&OF1.7:M</u>	<u>Yes</u> <input type="checkbox"/> <u>No</u> <input type="checkbox"/> <u>N/A</u> <input type="checkbox"/>
<u>OF4.16</u>	<u>Power level, 3.65-3.70 GHz (5 MHz channel spacing)</u>	<u>Annex J</u>	<u>CFy&OF3.2.7&OF1.8:M</u>	<u>Yes</u> <input type="checkbox"/> <u>No</u> <input type="checkbox"/> <u>N/A</u> <input type="checkbox"/>

1 **A.4.9 High Rate, direct sequence PHY functions**

2 **A.4.10 Regulatory Domain Extensions**

3 *Insert new entries at end of table:*

Item	Protocol capability	References	Status	Support
<u>MD13</u>	<u>Reserved First Channel Number</u>	<u>9.8.3</u>	<u>CFy:M</u>	<u>Yes</u> <input type="checkbox"/> <u>No</u> <input type="checkbox"/> <u>N/A</u> <input type="checkbox"/>
<u>MD14</u>	<u>Reserved Regulatory Class</u>	<u>9.8.3</u>	<u>CFy:M</u>	<u>Yes</u> <input type="checkbox"/> <u>No</u> <input type="checkbox"/> <u>N/A</u> <input type="checkbox"/>

4 **A.4.11 ERP functions**

5 **A.4.12 Spectrum management extensions**

6 **A.4.13 Regulatory classes extensions**

7 *Insert these entries at the end of A.4.13:*

Item	Protocol capability	References	Status	Support
<u>RC5</u>	<u>CoverageClass 0-31</u>	<u>9.8.4</u>	<u>CFy:M</u>	<u>Yes</u> <input type="checkbox"/> <u>No</u> <input type="checkbox"/> <u>N/A</u> <input type="checkbox"/>
<u>RC6</u>	<u>Power level, equivalent Max Transmit Power Level and Regulatory Class</u>	<u>9.8.4</u>	<u>CFy:M</u>	<u>Yes</u> <input type="checkbox"/> <u>No</u> <input type="checkbox"/> <u>N/A</u> <input type="checkbox"/>
<u>RC7</u>	<u>Power level, different Max Transmit Power Level and Regulatory Class</u>	<u>9.8.4</u>	<u>CFy:M</u>	<u>Yes</u> <input type="checkbox"/> <u>No</u> <input type="checkbox"/> <u>N/A</u> <input type="checkbox"/>

8

- 1 **A.4.14 QoS base functionality**
- 2 **A.4.15 QoS enhanced distributed channel access (EDCA)**
- 3 **A.4.16 QoS hybrid coordination function (HCF) controlled channel access (HCCA)**
- 4 *Insert this new clause after A.4.16*
- 5 **A.4.17 DSE functions**

Item	Protocol Capability	References	Status	Support
*MS1	Fixed station operation with RegLoc	11.10.1	CFy:O.1	Yes <input type="checkbox"/> No <input type="checkbox"/> N/A <input type="checkbox"/>
*MS2	Enabling station operation with RegLoc	11.10.1	CFy:O.1	Yes <input type="checkbox"/> No <input type="checkbox"/> N/A <input type="checkbox"/>
MS2.1	Enabling station creation of BSA	11.10.2	MS2:M	Yes <input type="checkbox"/> No <input type="checkbox"/> N/A <input type="checkbox"/>
MS2.2	Enabling station operation with DSE	11.10.1	MS2:M	Yes <input type="checkbox"/> No <input type="checkbox"/> N/A <input type="checkbox"/>
*MS3	Dependent STA operation with DSE	11.10.3	CFy:O.1	Yes <input type="checkbox"/> No <input type="checkbox"/> N/A <input type="checkbox"/>
MS3.1	Dependent STA Enablement	11.10.3	MS3:M	Yes <input type="checkbox"/> No <input type="checkbox"/> N/A <input type="checkbox"/>
MS3.2	Dependent STA DSE Time to Associate	11.10.3	MS3:M	Yes <input type="checkbox"/> No <input type="checkbox"/> N/A <input type="checkbox"/>
MS3.3	Dependent STA DSE Time to Not Transmit	11.10.3	MS3:M	Yes <input type="checkbox"/> No <input type="checkbox"/> N/A <input type="checkbox"/>
MS3.4	Dependent STA DSE Probe Response	11.10.3	MS3:M	Yes <input type="checkbox"/> No <input type="checkbox"/> N/A <input type="checkbox"/>
MS3.5	Dependent STA MLME-ASSOCIATE.response DSE	10.3.6.4	MS3:M	Yes <input type="checkbox"/> No <input type="checkbox"/> N/A <input type="checkbox"/>
MS3.6	Dependent STA MLME-REASSOCIATE.response DSE	10.3.7.4	MS3:M	Yes <input type="checkbox"/> No <input type="checkbox"/> N/A <input type="checkbox"/>
MS4	Channel switch procedure Transmission of extended channel switch announcement and channel switch procedure by an AP Transmission of extended channel switch announcement and channel switch procedure by a STA Reception of extended channel switch announcement and channel switch procedure by a STA	11.9.7 11.9.7 11.9.7	(CFy AND CF1):M (CFy AND CF2):M CFy:M	Yes <input type="checkbox"/> No <input type="checkbox"/> N/A <input type="checkbox"/>

Item	Protocol Capability	References	Status	Support
MS5	Station Association procedure Transmission of Association Request with SupportedRegulatoryClasses by a STA	9.8.3, 11.3.2.1	(CFy AND CF2):M	Yes <input type="checkbox"/> No <input type="checkbox"/> N/A <input type="checkbox"/>
	Transmission of Association Response with SupportedRegulatoryClasses by an AP	9.8.3, 11.3.2.2	(CFy AND CF1):M	
MS6	Station Reassociation procedure Transmission of Association Request with SupportedRegulatoryClasses by a STA	9.8.3, 11.2.3.3	(CFy AND CF2):M	Yes <input type="checkbox"/> No <input type="checkbox"/> N/A <input type="checkbox"/>
	Transmission of Reassociation Response with SupportedRegulatoryClasses by an AP	9.8.3, 11.2.3.4	(CFy AND CF1):M	

1 Annex B (informative) Hopping sequences

1 **Annex C (informative) Formal description of a subset of MAC operation**2 **Annex D (informative) ASN.1 encoding of the MAC and PHY MIB**3 *EDITORIAL NOTE—11 ma D9.0 has a last entry of dot11smt 13*4 *In the Major section of Annex D, insert the following objects at the end of dot11smt section, behind*
5 *object dot11RegulatoryClassesTable:*6 -- dot11LCIDSETable ::= { dot11smt 14 }
7 -- dot11LCIDSEReportTable ::= { dot11smt 15 }
89 *EDITORIAL NOTE—11 ma D9.0 station config table has a last entry of dot11DLSAllowed*10 *In the dot11StationConfig table of Annex D, insert two entries at the end of the dot11StationConfigEntry*
11 *sequence list as follows:*12 dot11DLSAllowed TruthValue,
13 dot11LCIDSEImplemented TruthValue,
14 dot11LCIDSERequired TruthValue }
1516 *Insert the following elements to the end of dot11StationConfigTable element definitions after*
17 *dot11DLSAllowed:*18 dot11LCIDSEImplemented OBJECT-TYPE
19 SYNTAX TruthValue
20 MAX-ACCESS read-only
21 STATUS current
22 DESCRIPTION
23 "This attribute, when TRUE, indicates that the station
24 implementation is capable of supporting LCI DSE. The capability
25 is disabled otherwise. The default value of this attribute
26 is FALSE."
27 ::= { dot11StationConfigEntry 43 }
28
29 dot11LCIDSERequired OBJECT-TYPE
30 SYNTAX TruthValue
31 MAX-ACCESS read-write
32 STATUS current
33 DESCRIPTION
34 "A STA will use the defined Dependent Station
35 Enablement procedures if and only if this attribute
36 is TRUE. The default value of this attribute is FALSE."
37 ::= { dot11StationConfigEntry 44 }38 *In SMT MIB of Annex D, insert the following LCI DSE Table MIBs after the*
39 *Regulatory Classes MIB*40 -- *****
41 -- * dot11LCIDSE TABLE
42 -- *****
43 dot11LCIDSETable OBJECT-TYPE
44 SYNTAX SEQUENCE OF Dot11LCIDSEEntry
45 MAX-ACCESS not-accessible
46 STATUS current
47 DESCRIPTION
48 "Group contains conceptual table of attributes for
49 Dependent Station Enablement."
50 ::= { dot11smt 14 }
51
52 dot11LCIDSEEntry OBJECT-TYPE
53 SYNTAX Dot11LCIDSEReportEntry
54 MAX-ACCESS not-accessible
55 STATUS current
56 DESCRIPTION

```

1      "An entry in the dot11LCIDSETable
2      Indexed by dot11LCIDSEIndex."
3      INDEX { dot11LCIDSEIndex }
4      ::= { dot11LCIDSETable 1 }
5
6      Dot11LCIDSEEntry ::=
7          SEQUENCE {
8              dot11LCIDSEIndex Unsigned32,
9              dot11LCIDSEIfIndex InterfaceIndex,
10             dot11LCIDSEFrequencyBandSupported INTEGER,
11             dot11LCIDSELatitudeResolution INTEGER,
12             dot11LCIDSELatitudeInteger INTEGER,
13             dot11LCIDSELatitudeFraction Unsigned32,
14             dot11LCIDSELongitudeResolution INTEGER,
15             dot11LCIDSELongitudeInteger INTEGER,
16             dot11LCIDSELongitudeFraction Unsigned32,
17             dot11LCIDSEAltitudeType INTEGER,
18             dot11LCIDSEAltitudeResolution INTEGER,
19             dot11LCIDSEAltitudeInteger Integer32,
20             dot11LCIDSEAltitudeFraction Unsigned32,
21             dot11LCIDSEDatum INTEGER,
22             dot11RegLocAgreement INTEGER,
23             dot11RegLocDSE INTEGER,
24             dot11DependentSTA INTEGER,
25             dot11DependentEnablementIdentifier Integer32 }
26
27      dot11LCIDSEIndex OBJECT-TYPE
28          SYNTAX Unsigned32
29          MAX-ACCESS not-accessible
30          STATUS current
31          DESCRIPTION
32              "Index for LCI DSE Report elements in dot11LCIDSETable,
33              greater than 0."
34      ::= { dot11LCIDSEEntry 1 }
35
36
37      dot11LCIDSEIfIndex OBJECT-TYPE
38          SYNTAX InterfaceIndex
39          MAX-ACCESS read-only
40          STATUS current
41          DESCRIPTION
42              "Each 802.11 interface is represented by an ifEntry. Interface
43              Tables in this MIB are indexed by ifIndex."
44      ::= { dot11LCIDSEEntry 2 }
45
46
47      dot11LCIDSEFrequencyBandSupported OBJECT-TYPE
48          SYNTAX INTEGER (0..7)
49          MAX-ACCESS read-write
50          STATUS current
51          DESCRIPTION
52              "Frequency Band Supported is 3 bits indicating the particular
53              OFDM frequency Band being supported."
54      ::= { dot11LCIDSEEntry 3 }
55
56
57      dot11LCIDSELatitudeResolution OBJECT-TYPE
58          SYNTAX INTEGER (0..63)
59          MAX-ACCESS read-write
60          STATUS current
61          DESCRIPTION
62              "Latitude resolution is 6 bits indicating the number of valid
63              bits in the fixed-point value of Latitude."
64      ::= { dot11LCIDSEEntry 4 }
65
66
67      dot11LCIDSELatitudeInteger OBJECT-TYPE
68          SYNTAX INTEGER (0..511)
69          MAX-ACCESS read-write
70          STATUS current
71          DESCRIPTION
              "Latitude is a 34 bit fixed point value consisting of 9 bits
              of integer and 25 bits of fraction. This field contains the

```

```

1      9 bits of integer portion of Latitude."
2      ::= { dot11LCIDSEEntry 5 }
3
4      dot11LCIDSELatitudeFraction OBJECT-TYPE
5          SYNTAX Unsigned32
6          MAX-ACCESS read-write
7          STATUS current
8          DESCRIPTION
9              "Latitude is a 34 bit fixed point value consisting of 9 bits
10             of integer and 25 bits of fraction. This field contains the
11             25 bits of fraction portion of Latitude."
12      ::= { dot11LCIDSEEntry 6 }
13
14      dot11LCIDSELongitudeResolution OBJECT-TYPE
15          SYNTAX INTEGER (0..63)
16          MAX-ACCESS read-write
17          STATUS current
18          DESCRIPTION
19              "Longitude resolution is 6 bits indicating the number of valid
20             bits in the fixed-point value of Longitude."
21      ::= { dot11LCIDSEEntry 7 }
22
23      dot11LCIDSELongitudeInteger OBJECT-TYPE
24          SYNTAX INTEGER (0..511)
25          MAX-ACCESS read-write
26          STATUS current
27          DESCRIPTION
28              "Longitude is a 34 bit fixed point value consisting of 9 bits
29             of integer and 25 bits of fraction. This field contains the
30             9 bits of integer portion of Longitude."
31      ::= { dot11LCIDSEEntry 8 }
32
33      dot11LCIDSELongitudeFraction OBJECT-TYPE
34          SYNTAX Unsigned32
35          MAX-ACCESS read-write
36          STATUS current
37          DESCRIPTION
38              "Longitude is a 34 bit fixed point value consisting of 9 bits
39             of integer and 25 bits of fraction. This field contains the
40             25 bits of fraction portion of Longitude."
41      ::= { dot11LCIDSEEntry 9 }
42
43      dot11LCIDSEAltitudeType OBJECT-TYPE
44          SYNTAX INTEGER {
45              meters(1),
46              floors(2),
47              hagsm(3) }
48          MAX-ACCESS read-write
49          STATUS current
50          DESCRIPTION
51              "Altitude Type is four bits encoding the type of altitude.
52              Codes defined are:
53              meters : in 2s-complement fixed-point 22-bit integer part
54              with 8-bit fraction
55              floors : in 2s-complement fixed-point 22-bit integer part
56              with 8-bit fraction
57              hagsm : in 2s-complement fixed-point 22-bit integer part
58              with 8-bit fraction"
59      ::= { dot11LCIDSEEntry 10 }
60
61      dot11LCIDSEAltitudeResolution OBJECT-TYPE
62          SYNTAX INTEGER (0..63)
63          MAX-ACCESS read-write
64          STATUS current
65          DESCRIPTION
66              "Altitude resolution is 6 bits indicating the number of valid
67             bits in the altitude."
68      ::= { dot11LCIDSEEntry 11 }
69
70      dot11LCIDSEAltitudeInteger OBJECT-TYPE
71          SYNTAX Integer32

```

```

1      MAX-ACCESS read-write
2      STATUS current
3      DESCRIPTION
4          "Altitude is a 30 bit value defined by the Altitude type field.
5          The field is encoded as a 2s-complement fixed-point 22-bit integer
6          Part with 8-bit fraction. This field contains the fixed-point
7          Part of Altitude."
8      ::= { dot11LCIDSEEntry 12 }
9
10     dot11LCIDSEAltitudeFraction OBJECT-TYPE
11         SYNTAX Unsigned32
12         MAX-ACCESS read-write
13         STATUS current
14         DESCRIPTION
15             "Altitude is a 30 bit value defined by the Altitude type field.
16             The field is encoded as a 2s-complement fixed-point 22-bit integer
17             Part with 8-bit fraction. This field contains the fraction part
18             of Altitude."
19         ::= { dot11LCIDSEEntry 13 }
20
21     dot11LCIDSEDatum OBJECT-TYPE
22         SYNTAX INTEGER (0..7)
23         MAX-ACCESS read-write
24         STATUS current
25         DESCRIPTION
26             "Datum is a three-bit value encoding the horizontal and vertical
27             references used for the coordinates given in this LCI."
28         ::= { dot11LCIDSEEntry 14 }
29
30     dot11RegLocAgreement OBJECT-TYPE
31         SYNTAX INTEGER {
32             noagreement(0),
33             agreement(1),
34         }
35         MAX-ACCESS read-write
36         STATUS current
37         DESCRIPTION
38             "RegLocAgreement reports the RegLoc STA's Agreement status.
39             Zero indicates it is operating away from national borders and outside
40             national policy zones. One indicates it is operating by agreement near
41             national borders or inside national policy zones."
42         DEFVAL{ 0 }
43         ::= { dot11LCIDSEEntry 15 }
44
45     dot11RegLocDSE OBJECT-TYPE
46         SYNTAX INTEGER {
47             dependentstasnotenabled(0),
48             dependentstasenabled(1),
49         }
50         MAX-ACCESS read-write
51         STATUS current
52         DESCRIPTION
53             "RegLocDSE reports the RegLoc STA's DSE status.
54             Zero indicates Dependent STAs are not enabled.
55             One indicates Dependent STA operation is enabled."
56         DEFVAL{ 0 }
57         ::= { dot11LCIDSEEntry 16 }
58
59     dot11DependentSTA OBJECT-TYPE
60         SYNTAX INTEGER {
61             notdependentsta(0),
62             dependentsta(1),
63         }
64         MAX-ACCESS read-write
65         STATUS current
66         DESCRIPTION
67             "This attribute reports the Dependent STA status of the STA that
68             sent the beacon or Probe Response with this information. Zero
69             indicates that STA is not operating as a Dependent STA. One
70             indicates that STA is operating as a Dependent STA."
71         DEFVAL{ 0 }

```

```

1      ::= { dot11LCIDSEEntry 17 }
2
3      dot11DependentEnablementIdentifier OBJECT-TYPE
4          SYNTAX Integer32
5          MAX-ACCESS read-write
6          STATUS current
7          DESCRIPTION
8              "This attribute reports the Dependent STA identifier assigned by
9              the enabling station to the dependent station. The default value
10             shall be zero."
11          DEFVAL{ 0 }
12      ::= { dot11LCIDSEEntry 18 }
13
14
15
16      -- *****
17      -- * End of dot11LCIDSE TABLE
18      -- *****
19
20
21      -- *****
22      -- * dot11LCIDSEReport TABLE
23      -- *****
24      dot11LCIDSEReportTable OBJECT-TYPE
25          SYNTAX SEQUENCE OF Dot11LCIDSEReportEntry
26          MAX-ACCESS not-accessible
27          STATUS current
28          DESCRIPTION
29              "Group contains the current list of LCIDSE reports that have been
30              received by the MLME. The report tables shall be maintained as FIFO to
31              preserve freshness, thus the rows in this table can be deleted for memory
32              constraints or other implementation constraints determined by the vendor.
33              New rows shall have different RprtIndex values than those deleted within the
34              range limitation of the index. One easy way is to monotonically increase
35              RprtIndex for new reports being written in the table."
36      ::= { dot11smt 15 }
37
38      dot11LCIDSEReportEntry OBJECT-TYPE
39          SYNTAX Dot11LCIDSEReportEntry
40          MAX-ACCESS not-accessible
41          STATUS current
42          DESCRIPTION
43              "An entry in the dot11LCIDSEReportTable
44              Indexed by dot11LCIDSEReportIndex."
45          INDEX { dot11LCIDSEReportIndex }
46      ::= { dot11LCIDSEReportTable 1 }
47
48      Dot11LCIDSEReportEntry ::=
49          SEQUENCE {
50              dot11LCIDSEReportIndex Unsigned32,
51              dot11LCIDSERptIfIndex InterfaceIndex,
52              dot11LCIDSERptSTAAddress MacAddress,
53              dot11LCIDSERptFrequencyBandReported INTEGER,
54              dot11LCIDSERptLatitudeResolution INTEGER,
55              dot11LCIDSERptLatitudeInteger INTEGER,
56              dot11LCIDSERptLatitudeFraction Unsigned32,
57              dot11LCIDSERptLongitudeResolution INTEGER,
58              dot11LCIDSERptLongitudeInteger INTEGER,
59              dot11LCIDSERptLongitudeFraction Unsigned32,
60              dot11LCIDSERptAltitudeType INTEGER,
61              dot11LCIDSERptAltitudeResolution INTEGER,
62              dot11LCIDSERptAltitudeInteger Integer32,
63              dot11LCIDSERptAltitudeFraction Unsigned32,
64              dot11LCIDSERptDatum INTEGER,
65              dot11RptRegLocAgreement INTEGER,
66              dot11RptRegLocDSE INTEGER,
67              dot11RptDependentSTA INTEGER,
68              dot11RptDependentEnablementIdentifier Integer32 }
69
70      dot11LCIDSEReportIndex OBJECT-TYPE
71          SYNTAX Unsigned32

```



```

1      MAX-ACCESS not-accessible
2      STATUS current
3      DESCRIPTION
4          "Index for LCI DSE Report elements in dot11LCIDSEReportTable,
5          greater than 0."
6      ::= { dot11LCIDSEReportEntry 1 }
7
8
9      dot11LCIDSERptIfIndex OBJECT-TYPE
10         SYNTAX InterfaceIndex
11         MAX-ACCESS read-only
12         STATUS current
13         DESCRIPTION
14             "Identifies the Interface that this row of LCI Report has been
15             received on"
16         ::= { dot11LCIDSEReportEntry 2 }
17
18         dot11LCIDSERptSTAAddress OBJECT-TYPE
19             SYNTAX MacAddress
20             MAX-ACCESS read-only
21             STATUS current
22             DESCRIPTION
23                 "The MAC address of the STA that returned this LCI report"
24             ::= { dot11LCIDSEReportEntry 3 }
25
26         dot11LCIDSERptFrequencyBandReported OBJECT-TYPE
27             SYNTAX INTEGER (0..7)
28             MAX-ACCESS read-only
29             STATUS current
30             DESCRIPTION
31                 "Frequency Band Reported is 3 bits indicating the particular
32                 OFDM frequency Band being reported."
33             ::= { dot11LCIDSEReportEntry 4 }
34
35         dot11LCIDSERptLatitudeResolution OBJECT-TYPE
36             SYNTAX INTEGER (0..63)
37             MAX-ACCESS read-only
38             STATUS current
39             DESCRIPTION
40                 "Latitude resolution is 6 bits indicating the number of valid
41                 bits in the fixed-point value of Latitude."
42             ::= { dot11LCIDSEReportEntry 5 }
43
44         dot11LCIDSERptLatitudeInteger OBJECT-TYPE
45             SYNTAX INTEGER (0..511)
46             MAX-ACCESS read-only
47             STATUS current
48             DESCRIPTION
49                 "Latitude is a 34 bit fixed point value consisting of 9 bits
50                 of integer and 25 bits of fraction. This field contains the
51                 9 bits of integer portion of Latitude."
52             ::= { dot11LCIDSEReportEntry 6 }
53
54         dot11LCIDSERptLatitudeFraction OBJECT-TYPE
55             SYNTAX Unsigned32
56             MAX-ACCESS read-only
57             STATUS current
58             DESCRIPTION
59                 "Latitude is a 34 bit fixed point value consisting of 9 bits
60                 of integer and 25 bits of fraction. This field contains the
61                 25 bits of fraction portion of Latitude."
62             ::= { dot11LCIDSEReportEntry 7 }
63
64         dot11LCIDSERptLongitudeResolution OBJECT-TYPE
65             SYNTAX INTEGER (0..63)
66             MAX-ACCESS read-only
67             STATUS current
68             DESCRIPTION
69                 "Longitude resolution is 6 bits indicating the number of valid
70                 bits in the fixed-point value of Longitude."
71             ::= { dot11LCIDSEReportEntry 8 }

```

```
1
2 dot11LCIDSERptLongitudeInteger OBJECT-TYPE
3     SYNTAX INTEGER (0..511)
4     MAX-ACCESS read-only
5     STATUS current
6     DESCRIPTION
7         "Longitude is a 34 bit fixed point value consisting of 9 bits
8         of integer and 25 bits of fraction. This field contains the
9         9 bits of integer portion of Longitude."
10    ::= { dot11LCIDSEReportEntry 9 }
11
12 dot11LCIDSERptLongitudeFraction OBJECT-TYPE
13     SYNTAX Unsigned32
14     MAX-ACCESS read-only
15     STATUS current
16     DESCRIPTION
17         "Longitude is a 34 bit fixed point value consisting of 9 bits
18         of integer and 25 bits of fraction. This field contains the
19         25 bits of fraction portion of Longitude."
20    ::= { dot11LCIDSEReportEntry 10 }
21
22 dot11LCIDSERptAltitudeType OBJECT-TYPE
23     SYNTAX INTEGER {
24         meters(1),
25         floors(2),
26         hagsm(3) }
27     MAX-ACCESS read-only
28     STATUS current
29     DESCRIPTION
30         "Altitude Type is four bits encoding the type of altitude.
31         Codes defined are:
32         meters : in 2s-complement fixed-point 22-bit integer part
33         with 8-bit fraction
34         floors : in 2s-complement fixed-point 22-bit integer part
35         with 8-bit fraction
36         hagsm : in 2s-complement fixed-point 22-bit integer part
37         with 8-bit fraction"
38    ::= { dot11LCIDSEReportEntry 11 }
39
40 dot11LCIDSERptAltitudeResolution OBJECT-TYPE
41     SYNTAX INTEGER (0..63)
42     MAX-ACCESS read-only
43     STATUS current
44     DESCRIPTION
45         "Altitude resolution is 6 bits indicating the number of valid
46         bits in the altitude."
47    ::= { dot11LCIDSEReportEntry 12 }
48
49 dot11LCIDSERptAltitudeInteger OBJECT-TYPE
50     SYNTAX Integer32
51     MAX-ACCESS read-only
52     STATUS current
53     DESCRIPTION
54         "Altitude is a 30 bit value defined by the Altitude type field.
55         The field is encoded as a 2s-complement fixed-point 22-bit integer
56         Part with 8-bit fraction. This field contains the fixed-point
57         Part of Altitude."
58    ::= { dot11LCIDSEReportEntry 13 }
59
60 dot11LCIDSERptAltitudeFraction OBJECT-TYPE
61     SYNTAX Unsigned32
62     MAX-ACCESS read-only
63     STATUS current
64     DESCRIPTION
65         "Altitude is a 30 bit value defined by the Altitude type field.
66         The field is encoded as a 2s-complement fixed-point 22-bit integer
67         Part with 8-bit fraction. This field contains the fraction part
68         of Altitude."
69    ::= { dot11LCIDSEReportEntry 14 }
70
71 dot11LCIDSERptDatum OBJECT-TYPE
```

```

1      SYNTAX INTEGER (0..7)
2      MAX-ACCESS read-only
3      STATUS current
4      DESCRIPTION
5          "Datum is a three-bit value encoding the horizontal and vertical
6           references used for the coordinates given in this LCI."
7      ::= { dot11LCIDSEReportEntry 15 }
8
9  dot11RptRegLocAgreement OBJECT-TYPE
10     SYNTAX INTEGER {
11         noagreement(0),
12         agreement(1),
13     }
14     MAX-ACCESS read-only
15     STATUS current
16     DESCRIPTION
17         "RptRegLocAgreement reports the RegLoc STA's Agreement status.
18         Zero indicates it is operating away from national borders and outside
19         national policy zones. One indicates it is operating by agreement near
20         national borders or inside national policy zones."
21     DEFVAL{ 0 }
22     ::= { dot11LCIDSEReportEntry 16 }
23
24  dot11RptRegLocDSE OBJECT-TYPE
25     SYNTAX INTEGER {
26         dependentstasnotenabled(0),
27         dependentstasenabled(1),
28     }
29     MAX-ACCESS read-only
30     STATUS current
31     DESCRIPTION
32         "RptRegLocDSE reports the RegLoc STA's DSE status.
33         Zero indicates Dependent STAs are not enabled.
34         One indicates Dependent STA operation is enabled."
35     DEFVAL{ 0 }
36     ::= { dot11LCIDSEReportEntry 17 }
37
38  dot11RptDependentSTA OBJECT-TYPE
39     SYNTAX INTEGER {
40         notdependentsta(0),
41         dependentsta(1),
42     }
43     MAX-ACCESS read-only
44     STATUS current
45     DESCRIPTION
46         "This attribute reports the Dependent STA status of the STA that
47         sent the beacon or Probe Response with this information. Zero
48         indicates that STA is not operating as a Dependent STA. One
49         indicates that STA is operating as a Dependent STA."
50     DEFVAL{ 0 }
51     ::= { dot11LCIDSEReportEntry 18 }
52
53  dot11RptDependentEnablementIdentifier OBJECT-TYPE
54     SYNTAX Integer32
55     MAX-ACCESS read-write
56     STATUS current
57     DESCRIPTION
58         "This attribute reports the Dependent STA identifier assigned by
59         the enabling station to the dependent station. The default value
60         shall be zero."
61     DEFVAL{ 0 }
62     ::= { dot11LCIDSEReportEntry 19 }
63
64  -- *****
65  -- * End of dot11LCIDSEReport TABLE
66  -- *****
67
68

```

In the dot11PhyOFDM Table of Annex D, insert the following text at the end of Dot11PhyOFDMEntry:

```

dot11OFDMCCAEDImplemented          TRUTHVALUE,
dot11OFDMCCAEDRequired              TRUTHVALUE,
dot11OFDMCurrentCCAMode             INTEGER,
dot11OFDMEDThreshold                 Integer32 }
```

In the dot11PHYOFDM Table of Annex D, change dot11FrequencyBandsSupported as shown:

```

dot11FrequencyBandsSupported OBJECT-TYPE
SYNTAX INTEGER (1..127)
MAX-ACCESS read-only
STATUS current deprecated
DESCRIPTION
    "The capability of the OFDM PHY implementation to operate in the 4.9
    GHz and 5 GHz bands. Coded as an integer value with bit 0 LSB as
    follows:
        bit 0 .. capable of operating in the 5.15-5.25 GHz band
        bit 1 .. capable of operating in the 5.25-5.35 GHz band
        bit 2 .. capable of operating in the 5.725-5.825 GHz band
        bit 3 .. capable of operating in the 5.47-5.725 GHz band
        bit 4 .. capable of operating in the lower Japanese (5.15-
        5.25 GHz) band
        bit 5 .. capable of operating in the 5.03-5.091 GHz band
        bit 6 .. capable of operating in the 4.94-4.99 GHz band
        band
    For example, for an implementation capable of operating in the
    5.15-5.35 GHz bands this attribute would take
    the value 3."
 ::= { dot11PhyOFDMEntry 3 }
```

In the dot11PhyOFDM Table of Annex D, insert the following text after the end of dot11PhyOFDMEntry 8:

```

dot11FrequencyBandsSupported OBJECT-TYPE
SYNTAX INTEGER (1..255)
MAX-ACCESS read-only
STATUS current
DESCRIPTION
    "The capability of the OFDM PHY implementation to operate in many
    bands. Coded as an integer value with bit 0 LSB as follows:
        bit 0 .. capable of operating in the 5.15-5.25 GHz band
        bit 1 .. capable of operating in the 5.25-5.35 GHz band
        bit 2 .. capable of operating in the 5.725-5.825 GHz band
        bit 3 .. capable of operating in the 5.47-5.725 GHz band
        bit 4 .. capable of operating in the lower Japanese (5.15-
        5.25 GHz) band
        bit 5 .. capable of operating in the 5.03-5.091 GHz band
        bit 6 .. capable of operating in the 4.94-4.99 GHz band
        band
        bit 7 .. capable of operating in the 3.65-3.70 GHz band
    For example, for an implementation capable of operating in the
    5.15-5.35 GHz bands this attribute would take
    the value 3."
 ::= { dot11PhyOFDMEntry 9 }

dot11OFDMCCAEDImplemented OBJECT-TYPE
SYNTAX TruthValue
MAX-ACCESS read-only
STATUS current
DESCRIPTION
    "This attribute indicates that the OFDM PHY is capable of
    CCA-Energy Detect."
 ::= { dot11PhyOFDMEntry 10 }

dot11OFDMCCAEDRequired OBJECT-TYPE
SYNTAX TruthValue
MAX-ACCESS read-only
```

```

1      STATUS current
2      DESCRIPTION
3          "This attribute indicates that the PHY CCA-Energy Detect
4          functionality is enabled."
5      ::= { dot11PhyOFDMEEntry 11 }
6
7  dot11OFDMCurrentCCAMode OBJECT-TYPE
8      SYNTAX INTEGER { edonly(1), edandcs(2) }
9      MAX-ACCESS read-write
10     STATUS current
11     DESCRIPTION
12         "The current CCA method in operation. Valid values are:
13         energy detect only (edonly) = 01,
14         carrier sense and energy detect (edandcs)= 02."
15     ::= { dot11PhyOFDMEEntry 12 }
16
17  dot11OFDMEDThreshold OBJECT-TYPE
18      SYNTAX Integer32
19      MAX-ACCESS read-write
20      STATUS current
21      DESCRIPTION
22          "The current Energy Detect Threshold being used by the OFDM PHY."
23      ::= { dot11PhyOFDMEEntry 13 }
24
25

```

In the dot11Compliance statements of Annex D, change references to dot11PhyOFDMComplianceGroup as shown:

```

28  GROUP dot11PhyDSSSComplianceGroup
29      DESCRIPTION
30          "Implementation of this group is required when object
31          dot11PHYType has the value of dsss. This group is
32          mutually exclusive with the groups dot11PhyIRComplianceGroup,
33          dot11PhyFHSSComplianceGroup, dot11PhyOFDMComplianceGroup23
34          and dot11PhyHRDSSSComplianceGroup."
35
36  GROUP dot11PhyIRComplianceGroup
37      DESCRIPTION
38          "Implementation of this group is required when object
39          dot11PHYType has the value of irbaseband. This group is
40          mutually exclusive with the groups dot11PhyDSSSComplianceGroup,
41          dot11PhyFHSSComplianceGroup, dot11PhyOFDMComplianceGroup23
42          and dot11PhyHRDSSSComplianceGroup."
43
44  GROUP dot11PhyFHSSComplianceGroup
45      DESCRIPTION
46          "Implementation of this group is required when object
47          dot11PHYType has the value of fhss. This group is
48          mutually exclusive with the groups dot11PhyDSSSComplianceGroup,
49          dot11PhyIRComplianceGroup, dot11PhyOFDMComplianceGroup23
50          and dot11PhyHRDSSSComplianceGroup."
51
52  GROUP dot11PhyOFDMComplianceGroup23
53      DESCRIPTION
54          "Implementation of this group is required when object
55          dot11PHYType has the value of ofdm. This group is
56          mutually exclusive with the groups dot11PhyDSSSComplianceGroup,
57          dot11PhyIRComplianceGroup, dot11PhyFHSSComplianceGroup
58          and dot11PhyHRDSSSComplianceGroup."
59
60  GROUP dot11PhyHRDSSSComplianceGroup
61      DESCRIPTION
62          "Implementation of this group is required when object
63          dot11PHYType has the value of hrdsss. This group is
64          mutually exclusive with the groups
65          dot11PhyDSSSComplianceGroup, dot11PhyIRComplianceGroup,
66          dot11PhyFHSSComplianceGroup and dot11PhyOFDMComplianceGroup23."

```

In the dot11Compliance statements of Annex D, change MANDATORY-GROUPS as shown:

```
dot11Compliance MODULE-COMPLIANCE
    STATUS current
    DESCRIPTION
        "The compliance statement for SNMPv2 entities
        that implement the IEEE 802.11 MIB."
    MODULE -- this module
    MANDATORY-GROUPS {
        dot11SMTbase6,
        dot11MACbase2, dot11CountersGroup2,
        dot11SmtAuthenticationAlgorithms,
        dot11ResourceTypeID, dot11PhyOperationComplianceGroup }
```

In the dot11Compliance section, change dot11SMTbase6 as shown:

```
dot11SMTbase6 OBJECT-GROUP
    OBJECTS { dot11MediumOccupancyLimit,
        dot11CFPollable,
        dot11CFPPeriod,
        dot11CFPMaxDuration,
        dot11AuthenticationResponseTimeOut,
        dot11PrivacyOptionImplemented,
        dot11PowerManagementMode,
        dot11DesiredSSID, dot11DesiredBSSType,
        dot11OperationalRateSet,
        dot11BeaconPeriod, dot11DTIMPeriod,
        dot11AssociationResponseTimeOut,
        dot11DisassociateReason,
        dot11DisassociateStation,
        dot11DeauthenticateReason,
        dot11DeauthenticateStation,
        dot11AuthenticateFailStatus,
        dot11AuthenticateFailStation,
        dot11MultiDomainCapabilityImplemented,
        dot11MultiDomainCapabilityEnabled,
        dot11CountryString,
        dot11RSNAOptionImplemented,
        dot11RegulatoryClassesImplemented,
        dot11RegulatoryClassesRequired,
        dot11QosOptionImplemented,
        dot11ImmediateBlockAckOptionImplemented,
        dot11DelayedBlockAckOptionImplemented,
        dot11DirectOptionImplemented,
        dot11APSDOptionImplemented,
        dot11QackOptionImplemented,
        dot11QBSSLoadOptionImplemented,
        dot11QueueRequestOptionImplemented,
        dot11TXOPRequestOptionImplemented,
        dot11MoreDataAckOptionImplemented,
        dot11AssociateinQBSS,
        dot11DLSAllowedInQBSS,
        dot11DLSAllowed }
    STATUS current deprecated
    DESCRIPTION
        "The SMTbase6 object class provides the necessary support at the
        STA to manage the processes in the STA such that the STA may work
        cooperatively as a part of an IEEE 802.11 network."
    ::= { dot11Groups 34 }
```

In the dot11Compliance statements in Annex D, change dot11PhyOFDMComplianceGroup2 and insert dot11PhyOFDMComplianceGroup3 as shown:

```
dot11PhyOFDMComplianceGroup2 OBJECT-GROUP
    OBJECTS { dot11CurrentFrequency,
        dot11TIThreshold,
        dot11FrequencyBandsSupported,
        dot11ChannelStartingFactor,
        dot11FiveMHzOperationImplemented,
        dot11TenMHzOperationImplemented,
```

```

1      dot11TwentyMHzOperationImplemented,
2      dot11PhyOFDMChannelWidth }
3  STATUS current deprecated
4  DESCRIPTION
5      "Attributes that configure the OFDM for IEEE 802.11."
6  ::= { dot11Groups 35}
7
8  dot11PhyOFDMComplianceGroup3 OBJECT-GROUP
9      OBJECTS { dot11CurrentFrequency,
10               dot11TIThreshold,
11               dot11FrequencyBandsSupported,
12               dot11ChannelStartingFactor,
13               dot11FiveMHzOperationImplemented,
14               dot11TenMHzOperationImplemented,
15               dot11TwentyMHzOperationImplemented,
16               dot11PhyOFDMChannelWidth,
17               dot11OFDMCCAEDImplemented,
18               dot11OFDMCCAEDRequired,
19               dot11OFDMCurrentCCAMode,
20               dot11OFDMEDThreshold }
21  STATUS current
22  DESCRIPTION
23      "Attributes that configure the OFDM for IEEE 802.11."
24  ::= { dot11Groups 36}
25

```

In the dot11Compliance statements of Annex D, insert new dot11SMTbase7 after the last dot11PhyOFDMComplianceGroup and renumber accordingly:

```

26  dot11SMTbase7 OBJECT-GROUP
27      OBJECTS { dot11MediumOccupancyLimit,
28               dot11CFPollable,
29               dot11CFPPeriod,
30               dot11CFPMaxDuration,
31               dot11AuthenticationResponseTimeOut,
32               dot11PrivacyOptionImplemented,
33               dot11PowerManagementMode,
34               dot11DesiredSSID, dot11DesiredBSSType,
35               dot11OperationalRateSet,
36               dot11BeaconPeriod, dot11DTIMPeriod,
37               dot11AssociationResponseTimeOut,
38               dot11DisassociateReason,
39               dot11DisassociateStation,
40               dot11DeauthenticateReason,
41               dot11DeauthenticateStation,
42               dot11AuthenticateFailStatus,
43               dot11AuthenticateFailStation,
44               dot11MultiDomainCapabilityImplemented,
45               dot11MultiDomainCapabilityEnabled,
46               dot11CountryString,
47               dot11RSNAOptionImplemented,
48               dot11RegulatoryClassesImplemented,
49               dot11RegulatoryClassesRequired,
50               dot11QosOptionImplemented,
51               dot11ImmediateBlockAckOptionImplemented,
52               dot11DelayedBlockAckOptionImplemented,
53               dot11DirectOptionImplemented,
54               dot11APSDOptionImplemented,
55               dot11QAckOptionImplemented,
56               dot11QBSSLoadOptionImplemented,
57               dot11QueueRequestOptionImplemented,
58               dot11TXOPRequestOptionImplemented,
59               dot11MoreDataAckOptionImplemented,
60               dot11AssociateInQBSS,
61               dot11DLSAllowedInQBSS,
62               dot11DLSAllowed,
63               dot11LCIDSEImplemented,
64               dot11LCIDSERequired }
65  STATUS current
66

```

```
1      DESCRIPTION
2      "The SMTbase7 object class provides the necessary support at the
3      STA to manage the processes in the STA such that the STA may work
4      cooperatively as a part of an IEEE 802.11 network."
5 ::= { dot11Groups 37 }
```


- 1 **Annex E Bibliography**
- 2 **Annex F High Rate PHY/FH interoperability**
- 3 **Annex G An example of encoding a frame for OFDM PHY**
- 4 **Annex H RSNA reference implementations and test vectors**
- 5 **Annex I (informative) Regulatory Classes**
- 6 **I.1 External regulatory references**
- 7 *Change the documents column in Table I.1 as shown:*

Geographic area	Approval standards	Documents	Approval authority
United States	Federal Communications Commission (FCC)	FCC CFR47 [B8], Part 15, Sections 15.205, 15.209, and 15.247; and Subpart E, Sections 15.401–15.407, Section 90.210, Section 90.1201-90.1217, <u>Section 90.1301 et seq.</u>	FCC

- 8 *Insert new row and change last row in Table I.2 as shown:*

Emissions limits set	USA	Europe	Japan
----------------------	-----	--------	-------

6 shared 3650 MHz band	<u>FCC CFR47, Clause 90.1323</u>	<u>Reserved</u>	<u>Reserved</u>
6 7-255	Reserved	Reserved	Reserved

- 1 *Change fifth through tenth rows, insert a new last row and change footnotes of Table I.3 as shown:*

Behavior limits set	USA	Europe	Japan
3 transmit power control ^b	Reserved	ETSI EN 301 389-1	Reserved
4 dynamic frequency selection ^b	Reserved	ETSI EN 301 389-1	Reserved
5 Independent basic service set (IBSS) prohibited	Reserved <u>FCC CFR47, Clause 90.1333</u>	Reserved	MIC EO Article 49.21
6 4 ms CS ^{ab}	4 ms, no exceptions	Reserved	MIC EO Articles 49.20, 49.21
7 <u>enabling</u> base station ^c	Reserved <u>FCC CFR47, Clause 90.1331</u>	Reserved	MIC EO Article 49.21
8 <u>dependent</u> mobile station ^c	Reserved <u>FCC CFR47, Clause 90.1333</u>	Reserved	MIC EO Articles 49.20, 49.21
9 public safety	FCC CFR47 [B8], Section 90.1209	Reserved	Reserved
<u>10 CCA-ED^b</u>	<u>Reserved</u>	<u>Reserved</u>	<u>Reserved</u>

- 2 ^a The Japanese 4 ms CS rule says no STA can transmit for more than 4 ms without carrier sensing, whether transmitting frames or fragments, unless it is controlled by another STA

- 3 ^b Procedures which may be used to improve sharing spectrum in addition to explicit regulatory requirements.

- 4 ^c The deployment in US 3650 MHz band excludes operation near grandfathered satellite earth stations, Federal government radiolocation facilities and Canadian and Mexican borders. If mutual agreement can be reached, the FCC will permit operation within the declared exclusion zones. Operation near Canadian and Mexican borders is subject to current and future agreements with Canada and Mexico.

7

- 8 *Insert new second and third rows in Table I.4 as shown:*

Frequency band (GHz)	USA (Maximum output power with up to 6 dBi antenna gain) (mW)	Europe (EIRP)
<u>3.650-3.700 fixed/enabling</u>	<u>1W/MHz EIRP</u>	<u>Reserved</u>
<u>3.650-3.700 dependent mobile/portable</u>	<u>40 mW/MHz EIRP</u>	<u>Reserved</u>

1 **Annex J**

2 (normative)

3 *Change the title, insert six new rows and change the last row of Table J.1 as shown:*4 **Table J.1—Regulatory classes for the 4.9 GHz and 5 GHz bands in the USA**

Regulatory Class	Channel Starting Frequency (GHz)	Channel Spacing (MHz)	Channel set	Transmit Power limit (mW)	Emissions Limits set	Behavior Limits set
<u>12</u>	<u>3.000</u>	<u>20</u>	<u>133, 137</u>	<u>1W/MHz</u> <u>EIRP</u>	<u>6</u>	<u>3, 4, 6, 7,</u> <u>10</u>
<u>12</u>	<u>3.000</u>	<u>20</u>	<u>133, 137</u>	<u>40mW/MHz</u> <u>EIRP</u>	<u>6</u>	<u>3, 4, 5, 6,</u> <u>8, 10</u>
<u>13</u>	<u>3.000</u>	<u>10</u>	<u>132, 134, 136, 138</u>	<u>1W/MHz</u> <u>EIRP</u>	<u>6</u>	<u>3, 4, 6, 7,</u> <u>10</u>
<u>13</u>	<u>3.000</u>	<u>10</u>	<u>132, 134, 136, 138</u>	<u>40mW/MHz</u> <u>EIRP</u>	<u>6</u>	<u>3, 4, 5, 6,</u> <u>8, 10</u>
<u>14</u>	<u>3.0025</u>	<u>5</u>	<u>131, 132, 133, 134,</u> <u>135, 136, 137, 138</u>	<u>1W/MHz</u> <u>EIRP</u>	<u>6</u>	<u>3, 4, 6, 7,</u> <u>10</u>
<u>14</u>	<u>3.0025</u>	<u>5</u>	<u>131, 132, 133, 134,</u> <u>135, 136, 137, 138</u>	<u>40mW/MHz</u> <u>EIRP</u>	<u>6</u>	<u>3, 4, 5, 6,</u> <u>8, 10</u>
42 <u>15-255</u>	Reserved	Reserved	Reserved	Reserved	Reserved	Reserved

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