IEEE P802.11  
Wireless LANs

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| Pre-ballot (802.11-2012) resolutions for PICS | | | | |
| Date: 2012-11-10 | | | | |
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Abstract

This document proposes resolutions for CIDs 29, 127, 154, 179, 180 and 269 on 802.11-2012, regarding the PICS.

## Revision History

r0: Initial revision.

## Comments

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| 29 | Adrian Stephens | B.2.1 (1785) | In: "O.<n> optional, but support of at least one of the group of options labeled by the same numeral <n> is  required"  it is not clear what is the scope of the numbering. Are group numbers unique throughout the PICS, or only within a Table. | Update to indicate the scope of the numbering. |
| 127 | Mark RISON | B (1785) | The PICS is very messy (e.g. operator precedence is unclear, use of parentheses is random, use of "AND" v. "&" is random, whether to include "N/A", exactly what it means if there are multiple conditions, exactly what happens if none of the predicates are true, etc.) | Clean up the PICS |
| 154 | Mark RISON | (1789) | The PICS abbreviations are not helpful | Come up with some more useful abbreviations for the fundamental stuff, e.g. use "IBSS" instead of "CF2.2" and "HT" instead of "CF16" |
| 179 | Mark RISON | B (1785) | Why are there questions in the PICS? | Change all questions to statements, e.g. "Is spectrum management operation supported?" to "Spectrum management operation" |
| 180 | Mark RISON | B.4.3 (1789) | There's only one O.3 | Change it to just O |
| 269 | Mark RISON |  | The PICS needs a good scrubbing | Scrub vigorously |

## Discussion

It’s safest to restrict O.n to a given PICS table, else future amendments are guaranteed to inadvertently reuse an n. Identifying the CF items textually than numerically makes them much more helpful (and immediately reveals a number of bugs!). It is desirable to canonicalise the syntax, to avoid possible confusion. The use of conditional symbols is not defined clearly, which causes ambiguity which should be addressed. There’s the usual slew of editorial niggles to fix. Cleanliness is next to godliness.

## Proposed changes

The changes are relative to D0.3. The changes are shown using Word change tracking (it may be worth not showing formatting changes, if Word is being more stupid than it usually is). Select “Final Showing Markup” or “Final” as appropriate. Editorial instructions are shown using bold italics; those with “Editor:” prefix are to be effected by the editor before the next draft; those without are to be given as-is in the draft. Any Word comments should be ignored when merging the proposed changes in. <http://cybertext.wordpress.com/2010/06/02/word-jump-to-next-track-change-with-keyboard/> may be helpful as regards efficiently going through the changes.



Protocol Implementation Conformance Statement (PICS) -proforma

* Introduction
* Any occurrences of <year> throughout this clause will be replaced by the year of publication by the IEEE-SA publication editor.

The supplier of a protocol implementation that is claimed to conform to IEEE Std 802.11-<year> shall complete the following protocol implementation conformance statement (PICS) proforma.

A completed PICS proforma is the PICS for the implementation in question. The PICS is a statement of which capabilities and options of the protocol have been implemented. This annex may not be compatible with operation in any Regulatory Domain or describe combinations of usable features in any Regulatory Domain. The PICS has a number of uses, including use:

* By the protocol implementer, as a checklist to reduce the risk of failure to conform to the standard through oversight;
* By the supplier and acquirer, or potential acquirer, of the implementation, as a detailed indication of the capabilities of the implementation, stated relative to the common basis for understanding provided by the standard PICS proforma;
* By the user, or potential user, of the implementation, as a basis for initially checking the possibility of interworking with another implementation (note that, while interworking is not guaranteed, failure to interwork can often be predicted from incompatible PICS proformas);
* By a protocol tester, as the basis for selecting appropriate tests against which to assess the claim for conformance of the implementation.
* Abbreviations and special symbols
* Symbols for Status column

M mandatory

O optional

O.<n> optional, but support of at least one of the group of options labeled by the same numeral <n>, in any given table in the PICS proforma (Subannex B.4), is required

pred: predicate identification

* General abbreviations for Item and Support columns

N/A not applicable

AD address function

AVT audio/video transport(11aa)

CF implementation under test (IUT) configuration

DS direct sequence

DSE dynamic station enablement

ERP extended rate physical layer (PHY)

FH frequency hopping

FR frame reception

FS frame sequence

FT frame transmission

HRDS high rate direct sequence

HTM high-throughput (HT) medium access control (MAC) features

HTP high-throughput (HT) physical layer (PHY) features

HWM hybrid wireless mesh protocol (HWMP) path selection protocol

IR infrared

IW interworking with external networks

MD multidomain

MP mesh protocol

OF orthogonal frequency division multiplexing (OFDM)

PC protocol capability

RC operating classes (formerly “regulatory classes”)

RM radio management

QB quality-of-service (QoS) base functionality

QD quality-of-service (QoS) enhanced distributed channel access (EDCA)

QMF quality-of-service management frame(11ae)

QP quality-of-service (QoS) hybrid coordination function (HCF) controlled channel access (HCCA)

SM spectrum management

TDLS tunneled direct-link setup

WNM wireless network management

* Instructions for completing the PICS proforma
* General structure of the PICS proforma

The first parts of the PICS proforma, Implementation identification and Protocol summary, are to be completed as indicated with the information necessary to identify fully both the supplier and the implementation.

The main part of the PICS proforma is a fixed questionnaire, divided into subclauses, each containing a number of individual items. Answers to the questionnaire items are to be provided in the rightmost column, either by simply marking an answer to indicate a restricted choice (usually Yes or No) or by entering a value or a set or a range of values. (Note that there are some items where two or more choices from a set of possible answers may apply. All relevant choices are to be marked in these cases.)

Each item is identified by an item reference in the first column. The second column contains the question to be answered. The third column contains the reference or references to the material that specifies the item in the main body of this standard. The remaining columns record the status of each item, i.e., whether support is mandatory, optional, or conditional, and provide the space for the answers (see also Conditional status). Marking an item as supported is to be interpreted as a statement that all relevant requirements of the subclauses and normative annexes, cited in the References column for the item, are met by the implementation.

A supplier may also provide, or be required to provide, further information, categorized as either Additional Information or Exception Information. When present, each kind of further information is to be provided in a further subclause of items labeled A<*I*> or X<*I*>, respectively, for cross-referencing purposes, where <*I*> is any unambiguous identification for the item (e.g., simply a numeral). There are no other restrictions on its format or presentation.

A completed PICS proforma, including any Additional Information and Exception Information, is the PICS for the implementation in question.

NOTE—Where an implementation is capable of being configured in more than one way, a single PICS might be able to describe all such configurations. However, the supplier has the choice of providing more than one PICS, each covering some subset of the implementation’s capabilities, if this makes for easier and clearer presentation of the information.

* Additional information

Items of Additional Information allow a supplier to provide further information intended to assist in the interpretation of the PICS. It is not intended or expected that a large quantity of information will be supplied, and a PICS can be considered complete without any such information. Examples of such Additional Information might be an outline of the ways in which an (single) implementation can be set up to operate in a variety of environments and configurations, or information about aspects of the implementation that are outside the scope of this standard but have a bearing upon the answers to some items.

References to items of Additional Information may be entered next to any answer in the questionnaire, and may be included in items of Exception Information.

* Exception information

It may happen occasionally that a supplier wishes to answer an item with mandatory status (after any conditions have been applied) in a way that conflicts with the indicated requirement. No preprinted answer is found in the Support column for this. Instead, the supplier shall write the missing answer into the Support column, together with an X<*I*> reference to an item of Exception Information, and shall provide the appropriate rationale in the Exception Information item itself.

An implementation for which an Exception Information item is required in this way does not conform to this standard.

NOTE—A possible reason for the situation described above is that a defect in this standard has been reported, a correction for which is expected to change the requirement not met by the implementation.

* Conditional status

The PICS proforma contains a number of conditional items. These are items for which both the applicability of the item itself, and its status if it does apply, mandatory or optional, are dependent upon whether certain other items are supported.

Where a group of items is subject to the same condition for applicability, a separate preliminary question about the condition appears at the head of the group, with an instruction to skip to a later point in the questionnaire if the N/A answer is selected. Otherwise, individual conditional items are indicated by one or more conditional symbols in the Status column.

A conditional symbol is of the form “<pred>:<S>” or “O”, where “<pred>” is a predicate as described below, and “<S>” is one of the status symbols M or O.

If the value of a predicate is true, the conditional symbol is applicable, and yields the status given by S. If any applicable conditional symbol yields mandatory status, the conditional item has mandatory status. Otherwise, if any applicable conditional symbol (including one of the form “O”) yields optional status, the conditional item has optional status. In either case, the support column is to be completed in the usual way. If no conditional symbol is applicable, the conditional item is not relevant and the N/A answer is to be marked.

A predicate is one of the following:

* An item-reference for an item in the PICS proforma: the value of the predicate is true if the item is marked as supported, and is false otherwise.
* An expression constructed by combining item-references using the boolean operators (in decreasing order of precedence) “NOT”, “AND”, and “OR”, with or without the use of parenthetical groupings: the value of the predicate is true if the expression evaluates to true and is false otherwise.

**Editor: replace all “&”s and “and”s in the Status column of tables in B.4 with “AND”s, adding spaces on the sides where not already present.**

**Editor: replace all “or”s and small-caps “OR”s in the Status column of tables in B.4 with plain “OR”s, adding spaces on the sides where not already present.**

**Editor: replace all “not”s in the Status column of tables in B.4 with “NOT”s, adding a space after where not already present.**

**Editor: in B.4 make the following substitutions (status shown for reference):**

|  |  |  |
| --- | --- | --- |
| **Replace** | **With** | **Status** |
| **CF1** | **CFap** | **O.1** |
| **CF2** | **CFindepsta** | **O.1** |
| **CF2.1** | **CFstaofap** | **CFindepsta:M** |
| **CF2.2** | **CFibss** | **CFindepsta:O** |
| **CF2.3** | **CFocb** | **NOT CF5g4:O CF5g9:M** |
| **CF14** | **CFinfrasta** | **O** |
| **CF21** | **CFmbss** | **O.1** |
| **CF4** | **CF1997** | **O.2** |
| **CF6** | **CFa** | **O.2** |
| **CF7** | **CFb** | **O.2** |
| **CF9** | **CFg** | **O.2** |
| **CF16** | **CFn** | **O** |
| **CF8** | **CFmd** | **O.3** |
| **CF10** | **CFsm** | **CFa OR CFn:O** |
| **CF11** | **CFoc** | **(CFa OR CFn) AND CFmd AND CFsm:O** |
| **CF12** | **CFqos** | **O CFn OR CFmbss OR CFqmf:M** |
| **CF13** | **CFrm** | **CFa AND CFoc:O** |
| **CF15** | **CF3g6** | **CFa AND CFmd AND CFsm AND CFoc:O** |
| **CF17** | **CF5g9** | **CFa:O** |
| **CF18** | **CFtdls** | **O** |
| **CF19** | **CFwnm** | **CFmd AND CFoc AND CFrm AND CF3g6 AND SupportedOperatingClass AND ExtendedChannelSwitch:O** |
| **CF20** | **CFiw** | **[Broken]** |
| **CF22** | **CFqmf** | **O** |
| **CF23** | **CFrobustavt** | **CFqos:O** |

Each item referenced in a predicate, or in a preliminary question for grouped conditional items, is indicated by an asterisk in the Item column.

* PICS proforma—IEEE Std 802.11-<year>[[1]](#footnote-1)
* Implementation identification

|  |  |
| --- | --- |
| Supplier |  |
| Contact point for queries about the PICS |  |
| Implementation Name(s) and Version(s) |  |
| Other information necessary for full identification, e.g., name(s) and version(s) of the machines and/or operating systems(s), system names |  |

NOTE 1—Only the first three items are required for all implementations. Other information may be completed as appropriate in meeting the requirement for full identification.

NOTE 2—The terms Name and Version need to be interpreted appropriately to correspond with a supplier’s terminology (e.g., Type, Series, Model).

* Protocol summary

|  |  |
| --- | --- |
| Identification of protocol standard | IEEE Std 802.11-<year> |
| Identification of amendments and corrigenda to this PICS proforma that have been completed as part of this PICS | Amd. : Corr. :  Amd. : Corr. : |
| Have any exception items been required? (See Exception information; the answer Yes means that the implementation does not conform to IEEE Std 802.11-<year>.) | Yes  No  |

|  |  |
| --- | --- |
| Date of statement (yyyy-mm-dd) |  |

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| * IUT configuration | | | | |
| Item | IUT configuration | References | Status | Support |
|  | What is the configuration of the IUT? |  |  |  |
| \* CF1 | Access point (AP) | 4.3 (Components of the IEEE 802.11 architecture) | O.1 | Yes  No  |
| \* CF2 | Independent station (neither an AP nor a mesh STA) | 4.3 (Components of the IEEE 802.11 architecture) | O.1 | Yes  No  |
| \*CF2.1 | Operation in an infrastructure BSS | 4.3 (Components of the IEEE 802.11 architecture) | CF2:M | Yes  No  N/A  |
| \*CF2.2 | Operation in an independent BSS (IBSS) | 4.3 (Components of the IEEE 802.11 architecture) | CF2:O | Yes  No  N/A  |
| \*CF2.3 | Operation outside the context of a BSS (OCB) | 10.20 (STAs communicating data frames outside the context of a BSS) | not CF17:O CF17:M | Yes  No  |
| NOTE—See CF21 for mesh STA | | | | |
| \* CF3 | Frequency-hopping spread spectrum (FHSS) PHY for the 2.4 GHz band | — | O.2 | Yes  No  |
| \* CF4 | Direct sequence spread spectrum (DSSS) PHY | — | O.2 | Yes  No  |
| CF5 | Infrared (IR) PHY | — | O.2 | Yes  No  |
| \* CF6 | Orthogonal frequency division multiplexing (OFDM) PHY | — | O.2 | Yes  No  |
| \* CF7 | High rate direct sequence spread spectrum (HR/DSSS) PHY | — | O.2 | Yes  No  |
| \* CF8 | Multidomain operation | 8.4.2.11 (Hopping Pattern Parameters element), 8.4.2.12 (Hopping Pattern Table element), 9.18 (Operation across regulatory domains), 10.1.4.5 (Synchronizing with a BSS) | O | Yes  No  |
| \* CF9 | Extended rate PHY (ERP) | Clause 19 (Extended Rate PHY (ERP) specification) | O.2 | Yes  No  |
| \* CF10 | Spectrum management | 8.4.1.4 (Capability Information field), 10.6 (Higher layer timer synchronization) | CF6 OR CF16:O | Yes  No  |
| \*CF11 | Operating classes | 8.4.2.13 (Request element), 18.3.8.4.2 (Channel numbering), 18.3.8.7 (Slot time), 18.4.2 (OFDM PHY MIB), Annex D, Annex E | (CF6 OR CF16) &CF8& CF10:O | Yes  No  N/A  |
| \* CF12 | Quality of service (QoS) | 9.19 (HCF), 9.21 (Block Acknowledgment (Block Ack)), 4.3.10 (High-throughput (HT) STA), 4.3.15.3 (Mesh STA) | O  CF16 OR CF21 OR CF22:M | Yes  No  N/A  |
| \* CF13 | Radio measurement | 8.4.1.4 (Capability Information field), 10.11 (Radio measurement procedures) | CF6 AND CF11:O | Yes  No  N/A  |
| \*CF14 | Infrastructure mode | 4.3.3 (STA membership in a BSS is dynamic) | O | Yes  No  |
| \*CF15 | 3.65–3.70 GHz band in the United States | 8.4.2.54 (DSE Registered Location element), 10.12 (DSE procedures), 18.3.6 (CCA), 18.3.10.6 (CCA requirements), Annex D, Annex E | CF6&CF8&CF10&CF11:O | Yes  No  N/A  |
| \*CF16 | High-throughput (HT) PHY | 8.4.2.58 (HT Capabilities element) | O | Yes  No  |
| \*CF17 | 5.9 GHz band | Annex E | CF6:O | Yes  No  |
| \*CF18 | Tunneled direct-link setup | 10.22 (Tunneled direct-link setup) | O | Yes  No  N/A  |
| \*CF19 | Wireless network management (WNM) |  | CF8 & CF11 & CF13 & CF15 & DSE5 & DSE6 & DSE7 & DSE8 & DSE9:O | Yes  No  N/A  |
| \*CF20 | Interworking with external networks | Extended Capabilities  8.4.2.29 (Extended Capabilities element) | (CF15, CF8 & CF11):O | Yes  No  |
| \*CF21 | Mesh station | 4.3.15 (Mesh BSS: IEEE 802.11 wireless mesh network) | O.1 | Yes  No  |
| CF21.1 | Operation in a mesh BSS (MBSS) | 4.3.15 (Mesh BSS: IEEE 802.11 wireless mesh network) | CF21:M | Yes  No  N/A  |
| \*CF22(11ae) | QoS management frame (QMF) policy | 10.25 (Quality-of-service management frame (QMF)(11ae)) | O | Yes  No  N/A  |
| \*CF23(11aa) | Robust audio/video transport (AVT) | 4.3.16 (Robust audio video (AV) streaming(11aa)) | CF12:O | Yes  No  N/A  |

* MAC protocol

|  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| * MAC protocol capabilities | | | | | | | | | |
| Item | | Protocol capability | | References | | Status | | Support | |
|  | | Are the following MAC protocol capabilities supported? | |  | |  | |  | |
| PC1 | | Authentication service | | 4.5.4.2 (Authentication), 4.5.4.3 (Deauthentication),  11.1 (Framework), 10.20 (STAs communicating data frames outside the context of a BSS), Annex J | | not CF2.3:M | | Yes  No  N/A  | |
| PC1.1 | | Authentication state | | 10.3 (STA authentication and association) | | M | | Yes  No  | |
| PC1.2 | | Open System authentication | | 11.1.2 (Security methods) | | M | | Yes  No  | |
| PC1.3 | | Shared Key authentication | | 11.1.3 (RSNA equipment and RSNA capabilities),  11.4 (RSNA confidentiality and integrity protocols) | | PC2:M | | Yes  No  N/A  | |
| \* PC2 | | Wired equivalent privacy (WEP) algorithm This capability is deprecated (applicable only to systems that are backward -compatible). | | 4.5.4.4 (Data confidentiality), 11.2.2 (Wired equivalent privacy (WEP)), Annex J | | O | | Yes  No  | |
| PC2.1 | | WEP encryption procedure | | 11.2.2 (Wired equivalent privacy (WEP)) | | PC2:M | | Yes  No  N/A  | |
| PC2.2 | | WEP decryption procedure | | 11.2.2 (Wired equivalent privacy (WEP)) | | PC2:M | | Yes  No  N/A  | |
| PC3 | | Distributed coordination function (DCF) | | 9.2 (MAC architecture), 9.3 (DCF), Annex J | | M | | Yes  No  | |
| PC3.1 | | Network allocation vector (NAV) -function | | 9.3.2.1 (CS mechanism),  9.3.4 (DCF access procedure),  9.4.3.3 (NAV operation during the CFP) | | M | | Yes  No  | |
| PC3.2 | | Interframe space usage and timing | | 9.3.2.3 (IFS), 9.3.4 (DCF access procedure), 9.3.7 (DCF timing relations) | | M | | Yes  No  | |
| PC3.3 | | Random Backoff function | | 9.3.3 (Random backoff time) | | M | | Yes  No  | |
| PC3.4 | | DCF Access procedure | | 9.3.4.2 (Basic access), 9.3.4.5 (Control of the channel) | | M | | Yes  No  | |
| PC3.5 | | Random Backoff procedure | | 9.3.4.3 (Backoff procedure for DCF) | | M | | Yes  No  | |
| PC3.6 | | Recovery procedures and retransmit limits | | 9.3.4.4 (Recovery procedures and retransmit limits) | | M | | Yes  No  | |
| PC3.7 | | Request to send (RTS)/clear to send (CTS) procedure | | 9.3.2.4 (Setting and resetting the NAV), 9.3.2.5 (RTS/CTS with fragmentation), 9.3.2.6 (CTS procedure) | | M | | Yes  No  | |
| PC3.8 | | Individually addressed MAC protocol data unit (MPDU) transfer | | 9.3.5 (Individually addressed MPDU transfer procedure) | | M | | Yes  No  | |
| PC3.9 | | Group addressed MPDU transfer | | 9.3.6 (Group addressed MPDU transfer procedure) | | M | | Yes  No  | |
| PC3.10 | | MAC-level acknowledgment | | 9.3.2.2 (MAC-Level Acknowledgements),  9.3.2.8 (ACK procedure) | | M | | Yes  No  | |
| PC3.11 | | Duplicate detection and recovery | | 9.3.2.10 (Duplicate detection and recovery) | | M | | Yes  No  | |
| \* PC4 | | Point coordinator (PC) | | 9.2 (MAC architecture), 9.4 (PCF), Annex J | | CF1:O | | Yes  No  N/A  | |
| PC4.1 | | Maintenance of contention-free period (CFP) structure and timing | | 9.4.2 (CFP structure and timing), 9.4.3 (PCF access procedure) | | PC4:M | | Yes  No  N/A  | |
| PC4.2 | | Point coordination function (PCF) MPDU transfer from PC | | 9.4.4 (PCF transfer procedure) | | PC4:M | | Yes  No  N/A  | |
| \* PC4.3 | | PCF MPDU transfer to PC | | 9.4.4 (PCF transfer procedure) | | PC4:O | | Yes  No  N/A  | |
| PC4.4 | | Overlapping PC provisions | | 9.4.4.3 (Operation with overlapping point-coordinated BSSs) | | PC4:M | | Yes  No  N/A  | |
| PC4.5 | | Polling list maintenance | | 9.4.5 (CF polling list) | | PC4.3:M | | Yes  No  N/A  | |
| \* PC5 | | Contention-free (CF)-Pollable | | 9.2 (MAC architecture), 9.4 (PCF), Annex J | | CF2.1:O | | Yes  No  N/A  | |
| PC5.1 | | Interpretation of CFP structure and -timing | | 9.4.2 (CFP structure and timing), 9.4.3 (PCF access procedure) | | PC5:M | | Yes  No  N/A  | |
| PC5.2 | | PCF MPDU transfer to/from and CF--Pollable station (STA) | | 9.4.4 (PCF transfer procedure) | | PC5:M | | Yes  No  N/A  | |
| PC5.3 | | Polling list update | | 9.4.5 (CF polling list) | | PC5:M | | Yes  No  N/A  | |
| PC6 | | Fragmentation | | 9.3 (DCF), 9.5 (Fragmentation), Annex J | | M | | Yes  No  | |
| PC7 | | Defragmentation | | 9.3 (DCF), 9.6 (Defragmentation), Annex J | | M | | Yes  No  | |
| PC8 | | MAC data service | | 9.2.8 (MAC data service), 9.8 (MSDU transmission restrictions), Annex J | | M | | Yes  No  | |
| PC8.1 | | ReorderableGroupAddressed   service class | | 9.8 (MSDU transmission restrictions) | | M | | Yes  No  | |
| PC8.2 | | StrictlyOrdered service class | | 9.8 (MSDU transmission restrictions) | | O | | Yes  No  | |
| PC9 | | Multirate support | | 9.7 (Multirate support),  Annex J | | M | | Yes  No  | |
| \* PC10 | | Multiple outstanding MAC service data unit (MSDU) support | | 9.8 (MSDU transmission restrictions),  Annex J | | O | | Yes  No  | |
| PC10.1 | | Multiple outstanding MSDU transmission restrictions | | 9.8 (MSDU transmission restrictions) | | PC10:M | | Yes  No  N/A  | |
| PC11 | | Timing synchronization function (TSF) | | 10.1 (Synchronization),  Annex J | | not CF2.3:M CF2.3:O | | Yes  No  | |
| PC11.1 | | Timing in an infrastructure network | | 10.1.2.1 (TSF for infrastructure networks), 10.1.5 (Adjusting STA timers) | | CF1:M | | Yes  No  N/A  | |
| PC11.2 | | Timing in an independent basic service set (IBSS) | | 10.1.2.2 (TSF for an IBSS), 10.1.5 (Adjusting STA timers) | | CF2.2:M | | Yes  No  N/A  | |
| PC11.3 | | Beacon generation function | | 10.1.3 (Maintaining synchronization) | | M | | Yes  No  | |
| PC11.4 | | TSF synchronization and accuracy | | 10.1.2 (Basic approach), 10.1.3 (Maintaining synchronization) | | not CF2.3:M | | Yes  No  N/A  | |
| PC11.5 | | Infrastructure basic service set (BSS) initialization | | 10.1.4 (Acquiring synchronization, scanning) | | CF1:M | | Yes  No  N/A  | |
| PC11.6 | | IBSS initialization | | 10.1.4 (Acquiring synchronization, scanning) | | CF2.2:M | | Yes  No  N/A  | |
| PC11.7 | | Passive scanning | | 10.1.4 (Acquiring synchronization, scanning) | | CF2.1 or CF2.2:M | | Yes  No  N/A  | |
| PC11.8 | | Active scanning | | 10.1.4 (Acquiring synchronization, scanning) | | CF2.1 or CF2.2:M | | Yes  No  N/A  | |
| PC11.9 | | Probe response | | 10.1.4 (Acquiring synchronization, scanning) | | not CF2.3:M | | Yes  No  N/A  | |
| PC11.10 | | Hop Synchronization function | | 10.1.6 (Timing synchronization for FH PHYs) | | CF3:M | | Yes  No  N/A  | |
| PC12 | | Infrastructure power management | | 10.2.1 (Power management in an infrastructure network), Annex J | | M | | Yes  No  | |
| PC12.1 | | STA power management modes | | 10.2.1.2 (STA Power Management modes), 10.2.1.9 (Receive operation for STAs in PS mode during the CFP) | | CF2.1 or CF2.2:M | | Yes  No  N/A  | |
| PC12.2 | | Traffic indication map (TIM) -transmission | | 10.2.1.3 (AP TIM transmissions), 10.2.1.4 (TIM types) | | CF1:M | | Yes  No  N/A  | |
| PC12.3 | | AP function during contention period (CP) | | 10.2.1.5 (Power management with APSD) | | CF1:M | | Yes  No  N/A  | |
| PC12.4 | | AP function during CFP | | 10.2.1.6 (AP operation during the CP) | | PC4:M | | Yes  No  N/A  | |
| PC12.5 | | Receive function during CP | | 10.2.1.7 (AP operation during the CFP) | | CF2.1 or CF2.2:M | | Yes  No  N/A  | |
| PC12.6 | | Receive function during CFP | | 10.2.1.8 (Receive operation for STAs in PS mode during the CP) | | PC5:M | | Yes  No  N/A  | |
| PC12.7 | | Aging function | | 10.2.1.10 (Receive operation using APSD) | | CF1:M | | Yes  No  N/A  | |
| PC13 | | IBSS power management | | 10.2.2 (Power management in an IBSS), Annex J | | CF2.2:M | | Yes  No  N/A  | |
| PC13.1 | | Initialization of power management | | 10.2.2.3 (Initialization of power management within an IBSS) | | CF2.2:M | | Yes  No  N/A  | |
| PC13.2 | | STA power state transitions | | 10.2.2.4 (STA power state transitions) | | CF2.2:M | | Yes  No  N/A  | |
| PC13.3 | | Announcement traffic indication message (ATIM) and frame transmission | | 10.2.2.5 (ATIM and frame transmission) | | CF2.2:M | | Yes  No  N/A  | |
| PC14 | | Association and reassociation | | 4.5 (Overview of the services), 10.3 (STA authentication and association), 10.3.5 (Association, reassociation, and disassociation), 10.20 (STAs communicating data frames outside the context of a BSS), Annex J | | not CF2.3:M | | Yes  No  N/A  | |
| PC14.1 | | Association state | | 10.3.5 (Association, reassociation, and disassociation) | | M | | Yes  No  | |
| PC14.2 | | STA association procedure | | 10.3.5.2 (Non-AP STA association initiation procedures) | | CF2.1:M | | Yes  No  N/A  | |
| PC14.3 | | AP association procedure | | 10.3.5.3 (AP association receipt procedures) | | CF1:M | | Yes  No  N/A  | |
| PC14.4 | | STA reassociation procedure | | 10.3.5.4 (Non-AP STA reassociation initiation procedures) | | CF2.1:M | | Yes  No  N/A  | |
| PC14.5 | | AP reassociation procedure | | 10.3.5.5 (AP reassociation receipt procedures) | | CF1:M | | Yes  No  N/A  | |
| PC15 | | Management information base (MIB) | | Annex C | | M | | Yes  No  | |
| PC15.1 | | dot11SMTbase, dot11SmtAuthenticationAlgorithms | | Annex C | | M | | Yes  No  | |
| \* PC15.2 | | dot11SMTprivacy | | Annex C | | PC2:M | | Yes  No  N/A  | |
| PC15.3 | | dot11MACbase, dot11CountersGroup, dot11MacGroupAddresses | | Annex C | | M | | Yes  No  | |
| \* PC15.4 | | dot11MACStatistics | | Annex C | | O | | Yes  No  | |
| PC15.5 | | dot11ResourceTypeID | | Annex C | | M | | Yes  No  | |
| PC16 | | Set dot11ShortPreambleOptionImplemented to 1 | | 8.4.1.4 (Capability Information field) | | CF9:M | | Yes  No  N/A  | |
| PC17 | | Set packet binary convolutional code (PBCC) subfield as described in reference  The PBCC option is obsolete. Consequently this option may be removed in a later revision of the standard. | | 8.4.1.4 (Capability Information field) | | CF9:M | | Yes  No  N/A  | |
| PC18 | | Set DSSS-OFDM subfield as described in -reference  The use of the DSSS-OFDM option is deprecated, and this option may be removed in a later revision of the standard. | | 8.4.1.4 (Capability Information field) | | CF9:M | | Yes  No  N/A  | |
| PC19 | | Set channel agility subfield as described in -reference | | 8.4.1.4 (Capability Information field) | | CF9:M | | Yes  No  N/A  | |
| PC20 | | Set Short Slot Time subfield as described in reference | | 8.4.1.4 (Capability Information field) | | CF9:M | | Yes  No  N/A  | |
| PC21 | | Monitor each received short time slot subfield and take action as described in reference. | | 8.4.1.4 (Capability Information field) | | CF9:M | | Yes  No  N/A  | |
| PC22 | | Transmit the ERP element in each transmitted Beacon or Probe Responses in the format and with content as described in -reference | | 8.4.1.4 (Capability Information field) | | CF9:M | | Yes  No  N/A  | |
| PC23 | | Receive the ERP element and employ a protection mechanism when required prior to transmitting information using ERP-OFDM modulation | | 8.4.1.4 (Capability Information field) | | CF9:M | | Yes  No  N/A  | |
| PC24 | | Determine the value of aCWmin based on the characteristic rate set as described in the -reference | | 9.3.9 (Determination of PLME aCWmin characteristics) | | CF9:M | | Yes  No  N/A  | |
| PC25 | | Transmit control response frames at the -largest basic rates less than equal to the rate received and with the same PHY options or use the highest mandatory rate if no basic rate meets the above criterion | | 9.7 (Multirate support) | | CF9:M | | Yes  No  N/A  | |
| PC26 | | Transmit group addressed frames at a rate contained in the BSSBasicRateSet parameter | | 9.7 (Multirate support) | | CF9:M | | Yes  No  N/A  | |
| PC27 | | Transmit individually addressed frames at any supported rate selected by a rate switching mechanism as long as it is supported by the destination STA | | 9.7 (Multirate support) | | CF9:M | | Yes  No  N/A  | |
| PC28 | | Do not transmit at a data rate higher than the greatest rate in the OperationalRateSet | | 9.7 (Multirate support) | | CF9:M | | Yes  No  N/A  | |
| PC29 | | Use ERP element to control use of protection mechanism as described in the -reference | | 9.23 (Protection mechanisms) | | CF9:M | | Yes  No  N/A  | |
| PC30 | | Updated NAV is long enough to cover frame and any response | | 9.23 (Protection mechanisms) | | CF9:M | | Yes  No  N/A  | |
| PC31 | | Support transmission of CTS-to-self sequence as described in the references | | 9.3.2.11 (NAV distribution) | | CF9:O | | Yes  No  N/A  | |
| PC32 | | Support reception of CTS-to-self sequence as described in the references | | 9.3.2.11 (NAV distribution) | | CF9:M | | Yes  No  N/A  | |
| PC33 | | Update NAV | | 9.23 (Protection mechanisms) | | CF9:M | | Yes  No  N/A  | |
| \* PC34 | | Robust security network association (RSNA) | | 8.3.2.1 (Data frame format), 8.4.1.4 (Capability Information field), 4.5.4.4 (Data confidentiality), 11.8.2 (RSNA frame pseudo-code), 11.8.2.2 (Per-MSDU/Per-A-MSDU Tx pseudo-code), 11.8.2.4 (Per-MPDU Tx pseudo-code), 11.8.2.6 (Per-MPDU Rx pseudo-code), 11.8.2.8 (Per-MSDU/Per-A-MSDU Rx pseudo-code), 10.3.4 (Authentication and deauthentication), 10.3.5 (Association, reassociation, and disassociation), 11.4.3 (CTR with CBC-MAC Protocol (CCMP)) | | O | | Yes  No  | |
| PC34.1 | | RSN element | | 8.4.2.27 (RSNE) | | PC34:M | | Yes  No  N/A  | |
| PC34.1.1 | | Group cipher suite | | 8.4.2.27 (RSNE) | | PC34.1:M | | Yes  No  N/A  | |
| PC34.1.2 | | Pairwise cipher suite list | | 8.4.2.27 (RSNE) | | PC34.1:M | | Yes  No  N/A  | |
| PC34.1.2.1 | | Counter mode with Cipher-block chaining Message authentication code Protocol (CCMP) data confidentiality protocol | | 11.4.3 (CTR with CBC-MAC Protocol (CCMP)) | | PC34:M | | Yes  No  N/A  | |
| PC34.1.2.1.1 | | CCMP cryptographic encapsulation procedure | | 11.4.3.3 (CCMP cryptographic encapsulation) | | PC34.1.2.1:M | | Yes  No  N/A  | |
| PC34.1.2.1.2 | | CCMP decapsulation procedure | | 11.4.3.4 (CCMP decapsulation) | | PC34.1.2.1:M | | Yes  No  N/A  | |
| PC34.1.2.2 | | Temporal Key Integrity Protocol (TKIP) data confidentiality protocol | | 11.4.2 (Temporal Key Integrity Protocol (TKIP)) | | PC34:O | | Yes  No  N/A  | |
| PC34.1.2.2.1 | | TKIP cryptographic encapsulation procedure | | 11.4.2.1.2 (TKIP cryptographic encapsulation) | | PC34.1.2.2:M | | Yes  No  N/A  | |
| PC34.1.2.2.2 | | TKIP decapsulation procedure | | 11.4.2.1.3 (TKIP decapsulation) | | PC34.1.2.2:M | | Yes  No  N/A  | |
| PC34.1.2.2.3 | | TKIP countermeasures | | 11.4.2.4 (TKIP countermeasures procedures) | | PC34.1.2.2:M | | Yes  No  N/A  | |
| PC34.1.2.2.4 | | TKIP security services management | | 11.4.2.3 (TKIP MIC) | | PC34.1.2.2:M | | Yes  No  N/A  | |
| \*PC34.1.3 | | Authentication key management (AKM) suite list | | 8.4.2.27 (RSNE), 11.4.1 (Overview) | | PC34.1:M | | Yes  No  N/A  | |
| PC34.1.3.1 | | IEEE 802.1X-defined/RSNA key management | | 8.4.2.27 (RSNE) | | PC34.1:M | | Yes  No  N/A  | |
| PC34.1.3.2 | | Preshared key (PSK)/ RSNA key management | | 8.4.2.27 (RSNE) | | PC34.1:M | | Yes  No  N/A  | |
| PC34.1.3.3 | | RSNA key management | | 11.6 (Keys and key distribution) | | PC34.1:M | | Yes  No  N/A  | |
| PC34.1.3.3.1 | | Key hierarchy | | 11.6 (Keys and key distribution), 11.7 (Mapping EAPOL keys to IEEE 802.11 keys) | | PC34.1:M | | Yes  No  N/A  | |
| PC34.1.3.3.1.1 | | Pairwise key hierarchy | | 11.6.1.3 (Pairwise key hierarchy) | | PC34.1:M | | Yes  No  N/A  | |
| PC34.1.3.3.1.2 | | Group key hierarchy | | 11.6.1.4 (Group key hierarchy) | | PC34.1:M | | Yes  No  N/A  | |
| PC34.1.3.3.2 | | 4-Way Handshake | | 11.6.6 (4-Way Handshake) | | PC34.1:M | | Yes  No  N/A  | |
| PC34.1.3.3.3 | | Group Key Handshake | | 11.6.7 (Group Key Handshake) | | PC34.1:M | | Yes  No  N/A  | |
| PC34.1.4 | | RSN capabilities | | 8.4.2.27 (RSNE), 11.1.3 (RSNA equipment and RSNA capabilities) | | PC34.1:M | | Yes  No  N/A  | |
| PC34.1.5 | | RSNA preauthentication | | 11.5.9.2 (Preauthentication and RSNA key management) | | PC34.1:O | | Yes  No  N/A  | |
| PC34.1.6 | | RSNA security association -management | | 11.5 (RSNA security association management) | | PC34.1:M | | Yes  No  N/A  | |
| PC34.1.7 | | RSNA pairwise master key security -association (PMKSA) caching | | 11.5.1 (Security associations), 11.5.9.3 (Cached PMKSAs and RSNA key management) | | PC34.1:M | | Yes  No  N/A  | |
| PC34.1.8 | | RSNA extended service set (ESS) | | 11.5.9 (RSNA authentication in an ESS), 11.5.12 (RSNA key management in an ESS) | | PC34.1 and CF1:M | | Yes  No  N/A  | |
| PC34.1.8.1 | | RSNA PeerKey Handshake | | 11.6.8 (PeerKey Handshake) | | PC34.1.8:O | | Yes  No  N/A  | |
| PC34.1.9 | | RSNA IBSS | | 11.5.5 (RSNA policy selection in an IBSS and for DLS), 11.5.10 (RSNA authentication in an IBSS), 11.5.13 (RSNA key management in an IBSS) | | PC34.1 and CF2.2:O | | Yes  No  N/A  | |
| \*PC 34.1.10 | | Management frame protection | | 8.4.1.11 (Action field), 8.5.3 (QoS Action frame details), 8.2.4.1.10 (Order field), 8.4.2.27.4 (RSN capabilities), 11.4.2.1.2 (TKIP cryptographic encapsulation), 11.4.2.1.3 (TKIP decapsulation), 11.4.2.2 (TKIP MPDU formats), 11.2.3.3.5 (Shared Key authentication (final frame)), 11.4.3.3.3 (Construct AAD), 11.4.3.3.6 (CCM originator processing), 11.4.3.4.2 (CCM recipient processing), 11.4.3.4.4 (PN and replay detection), 11.5.3 (RSNA policy selection in an ESS), 11.8.2.3 (Per-MMPDU Tx pseudo-code), 11.8.2.5 (Per-MPDU Tx pseudo-code for MMPDU), 11.8.2.7 (Per-MPDU Rx pseudo-code for an MMPDU), 11.8.2.9 (Per-MMPDU Rx pseudo-code) | | PC34:O | | Yes  No  N/A  | |
| \*PC 34.1.10.1 | | BIP | | 11.4.4 (Broadcast/Multicast Integrity Protocol (BIP)), Clause 10 (MLME) | | PC34.1.10:M | | Yes  No  N/A  | |
| PC 34.1.10.1.1 | | Management MIC element | | 8.4.2.57 (Management MIC element) | | PC34.1.10.1:M | | Yes  No  N/A  | |
| PC 34.1.11 | | AKM: IEEE 802.1X authentication with SHA-256 PRF | | 8.4.2.27 (RSNE), 11.6 (Keys and key distribution) | | PC34:O | | Yes  No  N/A  | |
| PC 34.1.12 | | AKM: PSK with SHA-256 PRF | | 8.4.2.27 (RSNE), 11.6 (Keys and key distribution) | | PC34:O | | Yes  No  N/A  | |
| \*PC35 | | Fast basic service set (BSS) transition (FT) | | Clause 12 (Fast BSS transition) | | CF14:O | | Yes  No  N/A  | |
| PC35.1 | | Mobility Domain element (MDE) | | 8.4.2.49 (Mobility Domain element (MDE)) | | PC35:M | | Yes  No  N/A  | |
| PC35.2 | | Fast basic service set (BSS) Transition element (FTE) | | 8.4.2.50 (Fast BSS Transition element (FTE)) | | PC35&PC34:M | | Yes  No  N/A  | |
| PC35.3 | | Timeout Interval element (TIE) | | 8.4.2.51 (Timeout Interval element (TIE)) | | PC35:M | | Yes  No  N/A  | |
| PC35.4 | | Fast basic service set (BSS) Transition (FT) authentication algorithm | | 8.4.1.1 (Authentication Algorithm Number field) | | PC35:M | | Yes  No  N/A  | |
| PC35.5 | | Fast basic service set (BSS) Transition (FT) Action frames | | 8.5.9 (FT Action frame details) | | PC35:M | | Yes  No  N/A  | |
| PC35.6 | | Fast basic service set (BSS) Transition (FT) key management based on IEEE 802.1X | | 11.6.1.7 (FT key hierarchy), 8.4.2.27 (RSNE) | | PC35&PC34:M | | Yes  No  N/A  | |
| PC35.7 | | Fast basic service set (BSS) Transition (FT) key management based on preshared keys (PSKs) | | 11.6.1.7 (FT key hierarchy), 8.4.2.27 (RSNE) | | PC35&PC34:M | | Yes  No  N/A  | |
| PC35.8 | | Fast basic service set (BSS) Transition (FT) key hierarchy | | 11.6.1.7 (FT key hierarchy) | | PC35&PC34:M | | Yes  No  N/A  | |
| PC35.9 | | FT initial mobility domain association | | 12.4 (FT initial mobility domain association) | | PC35&PC34:M | | Yes  No  N/A  | |
| PC35.10 | | Fast Basic Service Set (BSS) Transition (FT) Protocol | | 12.5 (FT Protocol) | | PC35:M | | Yes  No  N/A  | |
| PC35.10.1 | | Fast Basic Service Set (BSS) Transition (FT) Protocol in robust security network (RSN) | | 12.5.2 (Over-the-air FT Protocol authentication in an RSN), 12.5.3 (Over-the-DS FT Protocol authentication in an RSN), 12.7.1 (FT reassociation in an RSN) | | PC35&PC34:M | | Yes  No  N/A  | |
| PC35.10.2 | | Fast Basic Service Set (BSS) Transition (FT) Protocol in nonrobust security network (non-RSN) | | 12.5.4 (Over-the-air FT Protocol authentication in a non-RSN), 12.5.5 (Over-the-DS FT Protocol authentication in a non-RSN), 12.7.2 (FT reassociation in a non-RSN) | | PC35:M | | Yes  No  N/A  | |
| \*PC35.11 | | Fast Basic Service Set (BSS) Transition (FT) Resource Request Protocol | | 12.6 (FT Resource Request Protocol) | | PC35:O | | Yes  No  N/A  | |
| PC35.11.1 | | Resource Request protocol over the air | | 12.6.2 (Over-the-air fast BSS transition with resource request) | | PC35.11:M | | Yes  No  N/A  | |
| PC35.11.2 | | Resource Request protocol over the distribution system (DS) | | 12.6.3 (Over-the-DS fast BSS transition with resource request), 12.10 (Remote request broker (RRB) communication) | | PC35.11:M | | Yes  No  N/A  | |
| PC35.12 | | QoS procedures for fast basic service set (BSS) transition | | 12.11 (Resource request procedures) | | CF12& PC35:M | | Yes  No  N/A  | |
| \*PC35.13 | | Resource Information Container (RIC) Data element (RDE) | | 12.11 (Resource request procedures), 8.4.2.52 (RIC Data element (RDE)) | | PC35:M | | Yes  No  N/A  | |
| PC35.13.1 | | Resource Request Procedures at the fast basic service set (BSS) transition originator (FTO) | | 12.11.3.1 (FTO procedures) | | PC35.13:M | | Yes  No  N/A  | |
| PC35.13.2 | | Resource Request Procedures at the target access point (AP) | | 12.11.3.2 (AP procedures) | | PC35.13:M | | Yes  No  N/A  | |
| \*PC35.14 | | Remote Request Procedures at the current access point (AP) | | 12.10 (Remote request broker (RRB) communication) | | PC35:M | | Yes  No  N/A  | |
| PC35.14.1 | | Remote Request/Response frame support | | 12.10.3 (Remote Request/Response frame definition) | | PC35.14:O | | Yes  No  N/A  | |
| PC35.14.2 | | Vendor-specific remote request broker (RRB) mechanism | | 12.10.3 (Remote Request/Response frame definition) | | PC35.14:O | | Yes  No  N/A  | |
| PC36 | | SA Query Procedure | | 8.5.10 (SA Query Action frame details), 10.3 (STA authentication and association) | | PC34.1.10:M | | Yes  No  N/A  | |
| \*PC37 | | Power save multi-poll (PSMP) | | 8.5.12.4 (PSMP frame format), 9.26 (PSMP Operation) | | O | | Yes  No  | |
| \*PC37.1 | | Scheduled PSMP | | 8.4.2.32 (TSPEC element), 10.4.6 (PSMP management) | | PC37:M | | Yes  No  N/A  | |
| PC37.1.1 | | PSMP additions to TSPEC | | 8.4.2.32 (TSPEC element) | | PC37.1:M | | Yes  No  N/A  | |
| PC37.1.2 | | AP role in scheduled PSMP sequence | | 9.26.1.2 (PSMP downlink transmission (PSMP-DTT)), 9.26.1.3 (PSMP uplink transmission (PSMP-UTT)) | | PC37.1 and CF1:M | | Yes  No  N/A  | |
| PC37.1.3 | | STA role in scheduled PSMP sequence | | 9.26.1.2 (PSMP downlink transmission (PSMP-DTT)),  9.26.1.3 (PSMP uplink transmission (PSMP-UTT)) | | PC37.1 and CF2:M | | Yes  No  N/A  | |
| \*PC37.2 | | Unscheduled PSMP | | 9.26.3 (Unscheduled PSMP) | | PC37:M | | Yes  No  N/A  | |
| PC37.2.1 | | PSMP additions to TSPEC | | 8.4.2.32 (TSPEC element) | | CF1 and PC37.2:M  CF2 and PC37.2:O | | Yes  No  N/A  | |
| PC37.3 | | Creation, scheduling, and transmission of PSMP frame | | 8.5.12.4 (PSMP frame format), 9.26.1.1 (PSMP frame transmission (PSMP-DTT and PSMP-UTT)) | | PC37 and CF1:M | | Yes  No  N/A  | |
| PC37.4 | | Reception and interpretation of PSMP frame | | 8.5.12.4 (PSMP frame format) | | PC37 and CF2:M | | Yes  No  N/A  | |
| PC37.5 | | Multi-TID Block Ack rules in PSMP sequence | | 8.3.1.8.4 (Multi-TID BlockAckReq variant), 8.3.1.9.4 (Multi-TID BlockAck variant), 9.26.1.7 (PSMP acknowledgment rules), 10.16.2 (Operation at a PCO active AP) | | PC37:M | | Yes  No  N/A  | |
| PC37.6 | | Multi-phase PSMP | | 9.26.1.5 (Resource allocation within a PSMP burst) | | PC37:M | | Yes  No  N/A  | |
| PC38 | | dot11OCBActivated is false when STA is a BSS member | | 10.20 (STAs communicating data frames outside the context of a BSS) | | CF2.1 or CF2.2:M | | Yes  No  N/A  | |
| PC39 | | Simultaneous authentication of equals (SAE) | | 11.3 (Authentication using a password) | | CF21:M | | Yes  No  | |
| * MAC frames | | | | | | | | |
| Item | MAC frame | | References | | Status | | Support | |
|  | Is transmission of the following MAC frames supported? | | Clause 8 (Frame formats), Annex J | |  | |  | |
| FT1 | Association request | | Clause 8 (Frame formats) | | CF2.1:M | | Yes  No  N/A  | |
| FT2 | Association response | | Clause 8 (Frame formats) | | CF1:M | | Yes  No  N/A  | |
| FT3 | Reassociation request | | Clause 8 (Frame formats) | | CF2.1:M | | Yes  No  N/A  | |
| FT4 | Reassociation response | | Clause 8 (Frame formats) | | CF1:M | | Yes  No  N/A  | |
| FT5 | Probe request | | Clause 8 (Frame formats) | | CF2.1 or CF2.2:M | | Yes  No  N/A  | |
| FT6 | Probe response | | Clause 8 (Frame formats) | | not CF2.3:M | | Yes  No  N/A  | |
| FT7 | Beacon | | Clause 8 (Frame formats) | | not CF2.3:M | | Yes  No  N/A  | |
| FT8 | ATIM | | Clause 8 (Frame formats) | | CF2.1 or CF2.2:M | | Yes  No  N/A  | |
| FT9 | Disassociation | | Clause 8 (Frame formats) | | not CF2.3:M | | Yes  No  N/A  | |
| FT10 | Authentication | | Clause 8 (Frame formats) | | not CF2.3:M | | Yes  No  N/A  | |
| FT11 | Deauthentication | | Clause 8 (Frame formats) | | not CF2.3:M | | Yes  No  N/A  | |
| FT12 | Power save (PS)-Poll | | Clause 8 (Frame formats) | | CF2.1:M | | Yes  No  N/A  | |
| FT13 | RTS | | Clause 8 (Frame formats) | | M | | Yes  No  | |
| FT14 | CTS | | Clause 8 (Frame formats) | | M | | Yes  No  | |
| FT15 | Acknowledgment (ACK) | | Clause 8 (Frame formats) | | M | | Yes  No  | |
| FT16 | CF-End | | Clause 8 (Frame formats) | | PC4:M | | Yes  No  N/A  | |
| FT17 | CF End+CF-Ack | | Clause 8 (Frame formats) | | PC4:M | | Yes  No  N/A  | |
| FT18 | Data | | Clause 8 (Frame formats) | | M | | Yes  No  | |
| FT19 | Data + CF-Ack | | Clause 8 (Frame formats) | | PC4 or PC5:M | | Yes  No  N/A  | |
| FT20 | Data + CF-Poll | | Clause 8 (Frame formats) | | PC4.3:M | | Yes  No  N/A  | |
| FT21 | Data + CF-Ack+CF-Poll | | Clause 8 (Frame formats) | | PC4.3:M | | Yes  No  N/A  | |
| FT22 | Null | | Clause 8 (Frame formats) | | M | | Yes  No  | |
| FT23 | CF-Ack (no data) | | Clause 8 (Frame formats) | | PC4 or PC5:M | | Yes  No  N/A  | |
| FT24 | CF-Poll (no data) | | Clause 8 (Frame formats) | | PC4.3:M | | Yes  No  N/A  | |
| FT25 | CF-Ack+CF-Poll (no data) | | Clause 8 (Frame formats) | | PC4.3:M | | Yes  No  N/A  | |
| FT26 | Timing Advertisement frame | | Clause 8 (Frame formats) | | O | | Yes  No  N/A  | |
|  | Is reception of the following MAC frames supported? | | Clause 8 (Frame formats), Annex J | |  | |  | |
| FR1 | Association request | | Clause 8 (Frame formats) | | CF1:M | | Yes  No  N/A  | |
| FR2 | Association response | | Clause 8 (Frame formats) | | CF2.1:M | | Yes  No  N/A  | |
| FR3 | Reassociation request | | Clause 8 (Frame formats) | | CF1:M | | Yes  No  N/A  | |
| FR4 | Reassociation response | | Clause 8 (Frame formats) | | CF2.1:M | | Yes  No  N/A  | |
| FR5 | Probe request | | Clause 8 (Frame formats) | | not CF2.3:M | | Yes  No  N/A  | |
| FR6 | Probe response | | Clause 8 (Frame formats) | | not CF2.3:M | | Yes  No  N/A  | |
| FR7 | Beacon | | Clause 8 (Frame formats) | | not CF2.3:M | | Yes  No  N/A  | |
| FR8 | ATIM | | Clause 8 (Frame formats) | | CF2.2:M | | Yes  No  N/A  | |
| FR9 | Disassociation | | Clause 8 (Frame formats) | | not CF2.3:M | | Yes  No  N/A  | |
| FR10 | Authentication | | Clause 8 (Frame formats) | | not CF2.3:M | | Yes  No  N/A  | |
| FR11 | Deauthentication | | Clause 8 (Frame formats) | | not CF2.3:M | | Yes  No  N/A  | |
| FR12 | PS-Poll | | Clause 8 (Frame formats) | | CF1:M | | Yes  No  N/A  | |
| FR13 | RTS | | Clause 8 (Frame formats) | | M | | Yes  No  | |
| FR14 | CTS | | Clause 8 (Frame formats) | | M | | Yes  No  | |
| FR15 | ACK | | Clause 8 (Frame formats) | | M | | Yes  No  | |
| FR16 | CF-End | | Clause 8 (Frame formats) | | not CF2.3:M | | Yes  No  N/A  | |
| FR17 | CF End+CF-Ack | | Clause 8 (Frame formats) | | not CF2.3:M | | Yes  No  N/A  | |
| FR18 | Data | | Clause 8 (Frame formats) | | M | | Yes  No  | |
| FR19 | Data + CF-Ack | | Clause 8 (Frame formats) | | not CF2.3:M | | Yes  No  N/A  | |
| FR20 | Data + CF-Poll | | Clause 8 (Frame formats) | | PC5:M | | Yes  No  N/A  | |
| FR21 | Data + CF-Ack+CF-Poll | | Clause 8 (Frame formats) | | PC5:M | | Yes  No  N/A  | |
| FR22 | Null | | Clause 8 (Frame formats) | | M | | Yes  No  | |
| FR23 | CF-Ack (no data) | | Clause 8 (Frame formats) | | PC4 or PC5:M | | Yes  No  N/A  | |
| FR24 | CF-Poll (no data) | | Clause 8 (Frame formats) | | PC5:M | | Yes  No  N/A  | |
| FR25 | CF-Ack+CF-Poll (no data) | | Clause 8 (Frame formats) | | PC5:M | | Yes  No  N/A  | |
| FR26 | Timing Advertisement frame | | Clause 8 (Frame formats) | | O | | Yes  No  N/A  | |

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| * Frame exchange sequences | | | | |
| Item | Frame exchange sequence | References | Status | Support |
|  | Are the following frame sequences  supported? |  |  |  |
| FS1 | Basic frame sequences | 9.3.2.5 (RTS/CTS with fragmentation), 9.3.2.6 (CTS procedure), 9.3.5 (Individually addressed MPDU transfer procedure), 9.3.6 (Group addressed MPDU transfer procedure), 9.3.2.8 (ACK procedure), 9.4.3 (PCF access procedure) | M | Yes  No  |
| FS2 | CF-Frame sequences | 9.4.3 (PCF access procedure), 9.4.4 (PCF transfer procedure) | PC4 or PC5:M | Yes  No  N/A  |

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| * MAC addressing functions | | | | | | | | |
| Item | MAC Address function | | References | | Status | | | Support |
|  | Are the following MAC Addressing functions supported? | |  | |  | | |  |
| AD1 | STA universal individual IEEE 802 address | | 8.2.4.3 (Address fields) | | M | | | Yes  No  |
| AD2 | BSS identification (BSSID) -generation | | 8.2.4.3 (Address fields), 10.1.4 (Acquiring synchronization, scanning), Annex J | | M | | | Yes  No  |
| AD3 | Receive address matching | | 8.2.4.3 (Address fields), 8.3.2.1 (Data frame format), Annex J | | M | | | Yes  No  |
| AD4 | Wildcard BSSID | | 8.2.4.3.4 (BSSID field), 8.3.2 (Data frames) | | CF2.3:M | | | Yes  No  N/A  |
| AD5 | MAC and PHY operation resumes with appropriate MIB attributes in less than 2 TU | | 10.20 (STAs communicating data frames outside the context of a BSS) | | CF2.3:M | | | Yes  No  N/A  |
| AD6 | Group addressed Mesh Data frame addressing (3 address frame) | | 8.2.3 (General frame format), 8.2.4.1 (Frame Control field), 8.2.4.3 (Address fields), 9.32.3 (Frame addressing in an MBSS) | | CF21:M | | | Yes  No  N/A  |
| AD7 | Individually addressed Mesh Data frame addressing (4 address frame) | | 8.2.3 (General frame format), 8.2.4.1 (Frame Control field), 8.2.4.3 (Address fields), 9.32.3 (Frame addressing in an MBSS) | | CF21:M | | | Yes  No  N/A  |
| AD8 | Proxied group addressed Mesh Data frame addressing (4 address frame) | | 8.2.3 (General frame format), 8.2.4.1 (Frame Control field), 8.2.4.3 (Address fields), 8.2.4.7.3 (Mesh Control field), 9.32.3 (Frame addressing in an MBSS) | | CF21:M | | | Yes  No  N/A  |
| AD9 | Proxied individually addressed Mesh Data frame addressing (6 address frame) | | 8.2.3 (General frame format), 8.2.4.1 (Frame Control field), 8.2.4.3 (Address fields), 8.2.4.7.3 (Mesh Control field), 9.32.3 (Frame addressing in an MBSS) | | CF21:M | | | Yes  No  N/A  |
| AD10 | Multihop Action frame addressing (4 address frame) | | 8.2.3 (General frame format), 8.2.4.1 (Frame Control field), 8.2.4.3 (Address fields), 8.2.4.7.3 (Mesh Control field), 8.5.18 (Multihop Action frame details), 9.32.3 (Frame addressing in an MBSS) | | CF21:M | | | Yes  No  N/A  |
| AD11 | TA filtering for mesh STA | | 8.2.4.3 (Address fields), 8.3.2.1 (Data frame format), 9.32.3 (Frame addressing in an MBSS) | | CF21:M | | | Yes  No  N/A  |
| * Frequency hopping (FH) PHY functions | | | | | | | | | |
| Item | | Protocol feature | | References | | Status | Support | | |
|  | | Which requirements and options does the PHY support? | |  | |  |  | | |
| FH1 | | PHY service primitive parameters | |  | |  |  | | |
| FH1.1 | | TXVECTOR parameter: LENGTH | | 14.3.2.2 (TXVECTOR LENGTH) | | M | Yes  No  | | |
| FH1.2 | | TXVECTOR parameter: PLCPBITRATE | | 14.3.2.3 (TXVECTOR DATARATE) | | M | Yes  No  | | |
| FH1.2.1 | | PLCPBITRATE = X'00' (1.0 Mb/s) | | 14.3.2.3 (TXVECTOR DATARATE) | | M | Yes  No  | | |
| \* FH1.2.2 | | PLCPBITRATE = X'02' (2.0 Mb/s) | | 14.3.2.3 (TXVECTOR DATARATE) | | O | Yes  No  | | |
| FH1.3 | | RXVECTOR parameter: LENGTH | | 14.3.3.2 (TRXVECTOR LENGTH) | | M | Yes  No  | | |
| FH1.4 | | RXVECTOR parameter: Receive signal strength indicator (RSSI) | | 14.3.3.3 (RXVECTOR RSSI) | | O | Yes  No  | | |
| FH2 | | Physical layer convergence procedure (PLCP) frame format | |  | |  |  | | |
| FH2.1 | | PLCP preamble: Sync | | 14.4.3.2.2 (Preamble SYNC field) | | M | Yes  No  | | |
| FH2.2 | | PLCP preamble: Start frame delimiter (SFD) | | 14.4.3.2.3 (SFD) | | M | Yes  No  | | |
| FH2.3 | | PLCP header: PSDU length word (PLW) | | 14.4.3.3.2 (PLW) | | M | Yes  No  | | |
| FH2.4 | | PLCP header: PLCP Signaling field (PSF) | | 14.4.3.3.3 (PSF) | | M | Yes  No  | | |
| FH2.5 | | PLCP header: Header error check (HEC) | | 14.4.3.3.4 (HEC field) | | M | Yes  No  | | |
| FH2.6 | | PLCP data whitener: Scrambling and bias suppression encoding | | 14.4.3.4 (PLCP data whitener), 14.4.4.2.2 (Transmit state machine) | | M | Yes  No  | | |
| FH3 | | Transmit PLCP | |  | |  |  | | |
| FH3.1 | | Transmit: transmit on MAC request | | 14.4.4.2.2 (Transmit state machine) | | M | Yes  No  | | |
| FH3.2 | | Transmit: format and whiten frame | | 14.4.4.2.2 (Transmit state machine) | | M | Yes  No  | | |
| FH3.3 | | Transmit: Timing | | 14.4.4.2.2 (Transmit state machine) | | M | Yes  No  | | |
| FH4 | | Carrier sense (CS)/clear channel assessment (CCA) procedure | |  | |  |  | | |
| FH4.1 | | CS/CCA: perform on a minimum of one antenna | | 14.4.4.3.2 (CS/CCA state machine) | | M | Yes  No  | | |
| FH4.2. | | CS/CCA: Detect preamble starting up to 20 s after start of slot time | | 14.4.4.3.2 (CS/CCA state machine) | | M | Yes  No  | | |
| FH4.3 | | CS/CCA: Detect preamble starting at least 16 s prior to end of slot time | | 14.4.4.3.2 (CS/CCA state machine) | | M | Yes  No  | | |
| FH4.4 | | CS/CCA: Detect random data | | 14.4.4.3.2 (CS/CCA state machine) | | M | Yes  No  | | |
| FH4.5 | | CS/CCA: Perform on antenna with essentially same gain and pattern as transmit antenna | | 14.4.4.3.2 (CS/CCA state machine) | | M | Yes  No  | | |
| FH4.6 | | CS/CCA: Detect valid SFD and PLCP header | | 14.4.4.3.2 (CS/CCA state machine) | | M | Yes  No  | | |
| FH4.7 | | CS/CCA: Maintain BUSY indication until end of length contained in valid PLCP header | | 14.4.4.3.2 (CS/CCA state machine) | | M | Yes  No  | | |
| FH5 | | Receive PLCP | |  | |  |  | | |
| FH5.1 | | Receive: Receive and dewhiten frame | | 14.4.4.4.2 (Receive state machine) | | M | Yes  No  | | |
| FH6 | | Physical layer management entity (PLME) | |  | |  |  | | |
| FH6.1 | | PLME: Support FH sync | | 14.5.2.2 (FH synchronization) | | M | Yes  No  | | |
| FH6.2 | | PLME: Support PLME primitives | | 14.5.3.2 (PLME state machine) | | O | Yes  No  | | |
| FH7 | | Geographic area specific requirements | |  | |  |  | | |
| \* FH7.1 | | Geographic areas | |  | |  |  | | |
| FH7.1.1 | | North America | | 14.7.2 (Regulatory requirements) | | O.1 | Yes  No  | | |
| FH7.1.2 | | Most of Europe | | 14.7.2 (Regulatory requirements) | | O.1 | Yes  No  | | |
| FH7.1.3 | | Japan | | 14.7.2 (Regulatory requirements) | | O.1 | Yes  No  | | |
| FH7.1.4 | | Spain | | 14.7.2 (Regulatory requirements) | | O.1 | Yes  No  | | |
| FH7.1.5 | | France | | 14.7.2 (Regulatory requirements) | | O.1 | Yes  No  | | |
| FH7.1.6 | | China | | 14.7.2 (Regulatory requirements) | | O.1 | Yes  No  | | |
| FH7.2 | | Operating frequency range | | 14.7.3 (Operating frequency range) | | FH7.1:M | Yes  No  | | |
| FH7.3 | | Number of operating channels | | 14.7.4 (Number of operating channels) | | FH7.1:M | Yes  No  | | |
| FH7.4 | | Operating channel frequencies | | 14.7.5 (Operating channel center frequency) | | FH7.1:M | Yes  No  | | |
| FH7.5 | | Occupied channel bandwidth | | 14.7.6 (Occupied channel bandwidth) | | FH7.1:M | Yes  No  | | |
| FH7.6 | | Minimum hop rate | | 14.7.7 (Minimum hop rate) | | FH7.1:M | Yes  No  | | |
| FH7.7 | | Hop sequences | | 14.7.8 (Hop sequences) | | FH7.1:M | Yes  No  | | |
| FH7.8 | | Unwanted emissions | | 14.7.9 (Unwanted emissions) | | FH7.1:M | Yes  No  | | |
| FH8 | | 1 Mb/s physical medium dependent (PMD) | |  | |  |  | | |
| FH8.1 | | Modulation 2GFSK, bit time (BT) = 0.5, 1 = positive frequency deviation, 0 = negative fre-quency deviation | | 14.7.10 (Modulation) | | M | Yes  No  | | |
| FH8.2 | | Peak frequency deviation | | 14.7.10 (Modulation) | | M | Yes  No  | | |
| FH8.3 | | Zero-Crossing error | | 14.7.10 (Modulation) | | M | Yes  No  | | |
| FH8.4 | | Nominal channel data rate | | 14.7.11 (Channel data rate) | | M | Yes  No  | | |
| FH8.5 | | Channel switching/settling time | | 14.7.12 (Channel switching/settling time) | | M | Yes  No  | | |
| FH8.6 | | Receive to transmit switch time | | 14.7.13 (Receive to transmit switch time) | | M | Yes  No  | | |
| FH8.7 | | Nominal transmit power | | 14.7.14.2 (Nominal transmit power) | | M | Yes  No  | | |
| FH8.8 | | Transmit power levels | | 14.7.14.3 (Transmit power levels) | | M | Yes  No  | | |
| FH8.9 | | Transmit power level control to  < 100 mW | | 14.7.14.4 (Transmit power level control) | | M | Yes  No  | | |
| FH8.10 | | Transmit spectrum shape | | 14.7.14.5 (Transmit spectrum shape) | | M | Yes  No  | | |
| FH8.11 | | Transmit center frequency tolerance | | 14.7.14.6 (Transmit center frequency tolerance) | | M | Yes  No  | | |
| FH8.12 | | Transmitter ramp periods | | 14.7.14.7 (Transmitter ramp periods) | | M | Yes  No  | | |
| FH8.13 | | Receiver input dynamic range | | 14.7.15.2 (Input signal range) | | M | Yes  No  | | |
| FH8.14 | | Receiver center frequency acceptance range | | 14.7.15.3 (Receive center frequency acceptance range) | | M | Yes  No  | | |
| FH8.15 | | CCA power threshold for a probability of detection of 90% (preamble)/70% (-random data) for 100 mW units | | 14.7.15.4 (CCA power threshold) | | M | Yes  No  | | |
| FH8.16 | | CCA power threshold for units > 100 mW; sensitivity threshold is 1/2 dB lower for every dB above 20 dBm | | 14.7.15.4 (CCA power threshold) | | M | Yes  No  | | |
| FH8.17 | | Minimum receiver sensitivity at frame error ratio (FER) = 3% with 400 octet frames | | 14.7.15.5 (Receiver sensitivity) | | M | Yes  No  | | |
| FH8.18 | | Intermodulation protection (IMp) | | 14.7.15.6 (Intermodulation) | | M | Yes  No  | | |
| FH8.19 | | Desensitization (Dp) | | 14.7.15.7 (Desensitization (Dp)) | | M | Yes  No  | | |
| FH9 | | 2 Mb/s PMD | |  | |  |  | | |
| FH9.1 | | All 1M PMD requirements | | 14.8.1 (Overview) | | FH1.2.2:M | Yes  No  N/A  | | |
| FH9.2 | | Modulation 4GFSK, BT = 0.5 | | 14.8.2 (4GFSK modulation) | | FH1.2.2:M | Yes  No  N/A  | | |
| FH9.3 | | Frame structure for 2M PHY | | 14.8.3 (Frame structure for HS FHSS PHY) | | FH1.2.2:M | Yes  No  N/A  | | |
| FH9.4 | | Nominal channel data rate | | 14.8.4 (Channel data rate) | | FH1.2.2:M | Yes  No  N/A  | | |
| FH9.5 | | Input dynamic range | | 14.8.5 (Input dynamic range) | | FH1.2.2:M | Yes  No  N/A  | | |
| FH9.6 | | Minimum receiver sensitivity at FER = 3% with 400 octet frames | | 14.8.6 (Receiver sensitivity) | | FH1.2.2:M | Yes  No  N/A  | | |
| FH9.7 | | IMp | | 14.8.7 (IMp) | | FH1.2.2:M | Yes  No  N/A  | | |
| FH9.8 | | Dp | | 14.8.8 (Dp) | | FH1.2.2:M | Yes  No  N/A  | | |
| FH10 | | MIB | | 14.9 (FHSS PHY MIB), Annex C | | M | Yes  No  | | |
| FH10.1 | | dot11PhyFHSSComplianceGroup, dot11PhyRegDomainsSupportGroup, and dot11PhyOperationComplianceGroup | | 14.9 (FHSS PHY MIB) | | M | Yes  No  | | |

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| * Direct sequence PHY functions | | | | | | | | | |
| Item | | PHY feature | | References | Status | | | Support | |
|  | | PLCP sublayer procedures | | 16.2 (DSSS PLCP sublayer) |  | | |  | |
| DS1 | | Preamble prepend on transmit (TX) | | 16.2.1 (Overview) | M | | | Yes  No  | |
| DS1.1 | | PLCP frame format | | 16.2.2 (PLCP frame format), 16.2.3 (PLCP field definitions) | M | | | Yes  No  | |
| DS1.2 | | PLCP integrity check generation | | 16.2.3 (PLCP field definitions), 16.2.3.7 (PLCP CRC field) | M | | | Yes  No  | |
| DS1.3 | | TX rate change capability | | 16.2.3.4 (PLCP IEEE 802.11 SIGNAL field), 16.2.5 (PLCP data modulation and modulation rate change) | M | | | Yes  No  | |
| DS1.4 | | Supported data rates | | 16.1 (Overview), 16.2.3.4 (PLCP IEEE 802.11 SIGNAL field) | M | | | Yes  No  | |
| DS1.5 | | Data whitener scrambler | | 16.2.4 (PLCP/DSSS PHY data scrambler and descrambler) | M | | | Yes  No  | |
| DS1.6 | | Scrambler initialization | | 16.2.4 (PLCP/DSSS PHY data scrambler and descrambler) | M | | | Yes  No  | |
| DS2 | | Preamble process on receive (RX) | | 16.2.1 (Overview) |  | | |  | |
| DS2.1 | | PLCP frame format | | 16.2.2 (PLCP frame format), 16.2.3 (PLCP field definitions) | M | | | Yes  No  | |
| DS2.2 | | PLCP integrity check verify | | 16.2.3 (PLCP field definitions), 16.2.3.7 (PLCP CRC field) | M | | | Yes  No  | |
| DS2.3 | | RX Rate change capability | | 16.2.3.4 (PLCP IEEE 802.11 SIGNAL field), 16.2.5 (PLCP data modulation and modulation rate change) | M | | | Yes  No  | |
| DS2.4 | | Data whitener descrambler | | 16.2.4 (PLCP/DSSS PHY data scrambler and descrambler) | M | | | Yes  No  | |
| DS3 | | Pseudonoise (PN) code sequence | | 16.4.6.4 (Spreading sequence) | M | | | Yes  No  | |
| DS4 | | Chipping continue on power-down | | 16.2.6 (Transmit PLCP) | O | | | Yes  No  | |
| \*DS5 | | Operating channel capability | | 16.2.6 (Transmit PLCP), 16.4.6.3 (Channel Numbering of operating channels) |  | | |  | |
| \* DS5.1 | | North America (FCC) | | 16.2.6 (Transmit PLCP), 16.4.6.3 (Channel Numbering of operating channels) | DS5:O.1 | | | Yes  No  N/A  | |
| DS5.1.1 | | Channel 1 | | 16.2.6 (Transmit PLCP), 16.4.6.3 (Channel Numbering of operating channels) | DS5.1:M | | | Yes  No  N/A  | |
| DS5.1.2 | | Channel 2 | | 16.2.6 (Transmit PLCP), 16.4.6.3 (Channel Numbering of operating channels) | DS5.1:M | | | Yes  No  N/A  | |
| DS5.1.3 | | Channel 3 | | 16.2.6 (Transmit PLCP), 16.4.6.3 (Channel Numbering of operating channels) | DS5.1:M | | | Yes  No  N/A  | |
| DS5.1.4 | | Channel 4 | | 16.2.6 (Transmit PLCP), 16.4.6.3 (Channel Numbering of operating channels) | DS5.1:M | | | Yes  No  N/A  | |
| DS5.1.5 | | Channel 5 | | 16.2.6 (Transmit PLCP), 16.4.6.3 (Channel Numbering of operating channels) | DS5.1:M | | | Yes  No  N/A  | |
| DS5.1.6 | | Channel 6 | | 16.2.6 (Transmit PLCP), 16.4.6.3 (Channel Numbering of operating channels) | DS5.1:M | | | Yes  No  N/A  | |
| DS5.1.7 | | Channel 7 | | 16.2.6 (Transmit PLCP), 16.4.6.3 (Channel Numbering of operating channels) | DS5.1:M | | | Yes  No  N/A  | |
| DS5.1.8 | | Channel 8 | | 16.2.6 (Transmit PLCP), 16.4.6.3 (Channel Numbering of operating channels) | DS5.1:M | | | Yes  No  N/A  | |
| DS5.1.9 | | Channel 9 | | 16.2.6 (Transmit PLCP), 16.4.6.3 (Channel Numbering of operating channels) | DS5.1:M | | | Yes  No  N/A  | |
| DS5.1.10 | | Channel 10 | | 16.2.6 (Transmit PLCP), 16.4.6.3 (Channel Numbering of operating channels) | DS5.1:M | | | Yes  No  N/A  | |
| DS5.1.11 | | Channel 11 | | 16.2.6 (Transmit PLCP), 16.4.6.3 (Channel Numbering of operating channels) | DS5.1:M | | | Yes  No  N/A  | |
| \* DS5.2 | | Canada (IC) | | 16.2.6 (Transmit PLCP), 16.4.6.3 (Channel Numbering of operating channels) | DS5:O.1 | | | Yes  No  N/A  | |
| DS5.2.1 | | Channel 1 | | 16.2.6 (Transmit PLCP), 16.4.6.3 (Channel Numbering of operating channels) | DS5.2:M | | | Yes  No  N/A  | |
| DS5.2.2 | | Channel 2 | | 16.2.6 (Transmit PLCP), 16.4.6.3 (Channel Numbering of operating channels) | DS5.2:M | | | Yes  No  N/A  | |
| DS5.2.3 | | Channel 3 | | 16.2.6 (Transmit PLCP), 16.4.6.3 (Channel Numbering of operating channels) | DS5.2:M | | | Yes  No  N/A  | |
| DS5.2.4 | | Channel 4 | | 16.2.6 (Transmit PLCP), 16.4.6.3 (Channel Numbering of operating channels) | DS5.2:M | | | Yes  No  N/A  | |
| DS5.2.5 | | Channel 5 | | 16.2.6 (Transmit PLCP), 16.4.6.3 (Channel Numbering of operating channels) | DS5.2:M | | | Yes  No  N/A  | |
| DS5.2.6 | | Channel 6 | | 16.2.6 (Transmit PLCP), 16.4.6.3 (Channel Numbering of operating channels) | DS5.2:M | | | Yes  No  N/A  | |
| DS5.2.7 | | Channel 7 | | 16.2.6 (Transmit PLCP), 16.4.6.3 (Channel Numbering of operating channels) | DS5.2:M | | | Yes  No  N/A  | |
| DS5.2.8 | | Channel 8 | | 16.2.6 (Transmit PLCP), 16.4.6.3 (Channel Numbering of operating channels) | DS5.2:M | | | Yes  No  N/A  | |
| DS5.2.9 | | Channel 9 | | 16.2.6 (Transmit PLCP), 16.4.6.3 (Channel Numbering of operating channels) | DS5.2:M | | | Yes  No  N/A  | |
| DS5.2.10 | | Channel 10 | | 16.2.6 (Transmit PLCP), 16.4.6.3 (Channel Numbering of operating channels) | DS5.2:M | | | Yes  No  N/A  | |
| DS5.2.11 | | Channel 11 | | 16.2.6 (Transmit PLCP), 16.4.6.3 (Channel Numbering of operating channels) | DS5.2:M | | | Yes  No  N/A  | |
| \* DS5.3 | | Europe (ETSI) | | 16.2.6 (Transmit PLCP), 16.4.6.3 (Channel Numbering of operating channels) | DS5:O.1 | | | Yes  No  N/A  | |
| DS5.3.1 | | Channel 1 | | 16.2.6 (Transmit PLCP), 16.4.6.3 (Channel Numbering of operating channels) | DS5.3:M | | | Yes  No  N/A  | |
| DS5.3.2 | | Channel 2 | | 16.2.6 (Transmit PLCP), 16.4.6.3 (Channel Numbering of operating channels) | DS5.3:M | | | Yes  No  N/A  | |
| DS5.3.3 | | Channel 3 | | 16.2.6 (Transmit PLCP), 16.4.6.3 (Channel Numbering of operating channels) | DS5.3:M | | | Yes  No  N/A  | |
| DS5.3.4 | | Channel 4 | | 16.2.6 (Transmit PLCP), 16.4.6.3 (Channel Numbering of operating channels) | DS5.3:M | | | Yes  No  N/A  | |
| DS5.3.5 | | Channel 5 | | 16.2.6 (Transmit PLCP), 16.4.6.3 (Channel Numbering of operating channels) | DS5.3:M | | | Yes  No  N/A  | |
| DS5.3.6 | | Channel 6 | | 16.2.6 (Transmit PLCP), 16.4.6.3 (Channel Numbering of operating channels) | DS5.3:M | | | Yes  No  N/A  | |
| DS5.3.7 | | Channel 7 | | 16.2.6 (Transmit PLCP), 16.4.6.3 (Channel Numbering of operating channels) | DS5.3:M | | | Yes  No  N/A  | |
| DS5.3.8 | | Channel 8 | | 16.2.6 (Transmit PLCP), 16.4.6.3 (Channel Numbering of operating channels) | DS5.3:M | | | Yes  No  N/A  | |
| DS5.3.9 | | Channel 9 | | 16.2.6 (Transmit PLCP), 16.4.6.3 (Channel Numbering of operating channels) | DS5.3:M | | | Yes  No  N/A  | |
| DS5.3.10 | | Channel 10 | | 16.2.6 (Transmit PLCP), 16.4.6.3 (Channel Numbering of operating channels) | DS5.3:M | | | Yes  No  N/A  | |
| DS5.3.11 | | Channel 11 | | 16.2.6 (Transmit PLCP), 16.4.6.3 (Channel Numbering of operating channels) | DS5.3:M | | | Yes  No  N/A  | |
| DS5.3.12 | | Channel 12 | | 16.2.6 (Transmit PLCP), 16.4.6.3 (Channel Numbering of operating channels) | DS5.3:M | | | Yes  No  N/A  | |
| DS5.3.13 | | Channel 13 | | 16.2.6 (Transmit PLCP), 16.4.6.3 (Channel Numbering of operating channels) | DS5.3:M | | | Yes  No  N/A  | |
| \* DS5.4 | | France | | 16.2.6 (Transmit PLCP), 16.4.6.3 (Channel Numbering of operating channels) | DS5:O.1 | | | Yes  No  N/A  | |
| DS5.4.1 | | Channel 10 | | 16.2.6 (Transmit PLCP), 16.4.6.3 (Channel Numbering of operating channels) | DS5.4:M | | | Yes  No  N/A  | |
| DS5.4.2 | | Channel 11 | | 16.2.6 (Transmit PLCP), 16.4.6.3 (Channel Numbering of operating channels) | DS5.4:M | | | Yes  No  N/A  | |
| DS5.4.3 | | Channel 12 | | 16.2.6 (Transmit PLCP), 16.4.6.3 (Channel Numbering of operating channels) | DS5.4:M | | | Yes  No  N/A  | |
| DS5.4.4 | | Channel 13 | | 16.2.6 (Transmit PLCP), 16.4.6.3 (Channel Numbering of operating channels) | DS5.4:M | | | Yes  No  N/A  | |
| \* DS5.5 | | Spain | | 16.2.6 (Transmit PLCP), 16.4.6.3 (Channel Numbering of operating channels) | DS5:O.1 | | | Yes  No  N/A  | |
| DS5.5.1 | | Channel 10 | | 16.2.6 (Transmit PLCP), 16.4.6.3 (Channel Numbering of operating channels) | DS5.5:M | | | Yes  No  N/A  | |
| DS5.5.2 | | Channel 11 | | 16.2.6 (Transmit PLCP), 16.4.6.3 (Channel Numbering of operating channels) | DS5.5:M | | | Yes  No  N/A  | |
| \* DS5.6 | | Japan | | 16.2.6 (Transmit PLCP), 16.4.6.3 (Channel Numbering of operating channels) | DS5:O.1 | | | Yes  No  N/A  | |
| \* DS5.7 | | China | | 16.2.6 (Transmit PLCP), 16.4.6.3 (Channel Numbering of operating channels) | DS5:O.1 | | | Yes  No  N/A  | |
| DS5.7.1 | | Channel 1 | | 16.2.6 (Transmit PLCP), 16.4.6.3 (Channel Numbering of operating channels) | DS5.7:M | | | Yes  No  N/A  | |
| DS5.7.2 | | Channel 2 | | 16.2.6 (Transmit PLCP), 16.4.6.3 (Channel Numbering of operating channels) | DS5.7:M | | | Yes  No  N/A  | |
| DS5.7.3 | | Channel 3 | | 16.2.6 (Transmit PLCP), 16.4.6.3 (Channel Numbering of operating channels) | DS5.7:M | | | Yes  No  N/A  | |
| DS5.7.4 | | Channel 4 | | 16.2.6 (Transmit PLCP), 16.4.6.3 (Channel Numbering of operating channels) | DS5.7:M | | | Yes  No  N/A  | |
| DS5.7.5 | | Channel 5 | | 16.2.6 (Transmit PLCP), 16.4.6.3 (Channel Numbering of operating channels) | DS5.7:M | | | Yes  No  N/A  | |
| DS5.7.6 | | Channel 6 | | 16.2.6 (Transmit PLCP), 16.4.6.3 (Channel Numbering of operating channels) | DS5.7:M | | | Yes  No  N/A  | |
| DS5.7.7 | | Channel 7 | | 16.2.6 (Transmit PLCP), 16.4.6.3 (Channel Numbering of operating channels) | DS5.7:M | | | Yes  No  N/A  | |
| DS5.7.8 | | Channel 8 | | 16.2.6 (Transmit PLCP), 16.4.6.3 (Channel Numbering of operating channels) | DS5.7:M | | | Yes  No  N/A  | |
| DS5.7.9 | | Channel 9 | | 16.2.6 (Transmit PLCP), 16.4.6.3 (Channel Numbering of operating channels) | DS5.7:M | | | Yes  No  N/A  | |
| DS5.7.10 | | Channel 10 | | 16.2.6 (Transmit PLCP), 16.4.6.3 (Channel Numbering of operating channels) | DS5.7:M | | | Yes  No  N/A  | |
| DS5.7.11 | | Channel 11 | | 16.2.6 (Transmit PLCP), 16.4.6.3 (Channel Numbering of operating channels) | DS5.7:M | | | Yes  No  N/A  | |
| DS5.7.12 | | Channel 12 | | 16.2.6 (Transmit PLCP), 16.4.6.3 (Channel Numbering of operating channels) | DS5.7:M | | | Yes  No  N/A  | |
| DS5.7.13 | | Channel 13 | | 16.2.6 (Transmit PLCP), 16.4.6.3 (Channel Numbering of operating channels) | DS5.7:M | | | Yes  No  N/A  | |
| DS6 | | Bits to symbol mapping | | 16.4.6.5 (Modulation and channel data rates) |  | | |  | |
| DS6.1 | | 1 Mb/s | | 16.4.6.5 (Modulation and channel data rates) | M | | | Yes  No  | |
| DS6.2 | | 2 Mb/s | | 16.4.6.5 (Modulation and channel data rates) | M | | | Yes  No  | |
| \*DS7 | | CCA functionality | | 16.4.8.5 (CCA) |  | | |  | |
| DS7.1 | | Energy Only (RSSI above threshold) | | 16.4.8.5 (CCA) | DS7:O.2 | | | Yes  No  N/A  | |
| DS7.2 | | IEEE 802.11 DSSS correlation | | 16.4.8.5 (CCA) | DS7:O.2 | | | Yes  No  N/A  | |
| DS7.3 | | Both methods | | 16.4.8.5 (CCA) | DS7:O.2 | | | Yes  No  N/A  | |
| DS7.4 | | Hold CCA busy for packet duration of a correctly received PLCP but carrier lost during reception of MPDU | | 16.2.7 (Receive PLCP) | M | | | Yes  No  | |
| DS7.5 | | Hold CCA busy for packet duration of a correctly received but out of specifi-cation PLCP | | 16.2.7 (Receive PLCP) | M | | | Yes  No  | |
| DS8 | | Transmit antenna selection | | 16.4.5.6 (PMD\_ANTSEL.request), 16.4.5.7 (PMD\_ANTSEL.indication) | O | | | Yes  No  | |
| DS9 | | Receive antenna diversity | | 16.4.5.6 (PMD\_ANTSEL.request), 16.4.5.7 (PMD\_ANTSEL.indication), 16.4.5.8 (PMD\_TXPWRLVL.request) | O | | | Yes  No  | |
| \*DS10 | | Antenna port(s) availability | | 16.4.6.10 (Transmit and receive antenna port impedance) | O | | | Yes  No  | |
| DS10.1 | | 50 ¾ impedance | | 16.4.6.10 (Transmit and receive antenna port impedance) | DS10:M | | | Yes  No  N/A  | |
| \*DS11 | | Transmit power level support | | 16.4.5.9 (PMD\_RATE.request), 16.4.7.4 (Transmit power level control) | O | | | Yes  No  | |
| DS11.1 | | If greater than 100 mW capability | | 16.4.7.4 (Transmit power level control) | DS11:M | | | Yes  No  N/A  | |
| DS12 | | Spurious emissions conformance | | 16.4.6.6 (Transmit and receive in-band and out-of-band spurious emissions) | M | | | Yes  No  | |
| DS13 | | TX-to-RX turnaround time | | 16.4.6.7 (TX-to-RX turnaround time) | M | | | Yes  No  | |
| DS14 | | RX-to-TX turnaround time | | 16.4.6.8 (RX-to-TX turnaround time) | M | | | Yes  No  | |
| DS15 | | Slot time | | 16.4.6.9 (Slot time) | M | | | Yes  No  | |
| DS16 | | Energy detection (ED) reporting time | | 16.4.6.9 (Slot time), 16.4.8.5 (CCA) | M | | | Yes  No  | |
| DS17 | | Minimum transmit power level | | 16.4.7.3 (Minimum transmitted power level) | M | | | Yes  No  | |
| DS18 | | Transmit spectral mask conformance | | 16.4.7.5 (Transmit spectrum mask) | M | | | Yes  No  | |
| DS19 | | Transmitted center frequency  tolerance | | 16.4.7.6 (Transmit center frequency tolerance) | M | | | Yes  No  | |
| DS20 | | Chip clock frequency tolerance | | 16.4.7.7 (Chip clock frequency tolerance) | M | | | Yes  No  | |
| DS21 | | Transmit power-on ramp | | 16.4.7.8 (Transmit power-on and power-down ramp) | M | | | Yes  No  | |
| DS22 | | Transmit power-down ramp | | 16.4.7.8 (Transmit power-on and power-down ramp) | M | | | Yes  No  | |
| DS23 | | Radio frequency (RF) carrier -suppression | | 16.4.7.9 (RF carrier suppression) | M | | | Yes  No  | |
| DS24 | | Transmit modulation accuracy | | 16.4.7.10 (Transmit modulation accuracy) | M | | | Yes  No  | |
| DS25 | | Receiver minimum input level  sensitivity | | 16.4.8.2 (Receiver minimum input level sensitivity) | M | | | Yes  No  | |
| DS26 | | Receiver maximum input level | | 16.4.8.3 (Receiver maximum input level) | M | | | Yes  No  | |
| DS27 | | Receiver adjacent channel rejection | | 16.4.8.4 (Receiver adjacent channel rejection) | M | | | Yes  No  | |
| DS28 | | MIB | | 16.3.2 (DSSS PHY MIB),  Annex C | M | | | Yes  No  | |
| DS28.1 | | dot11PhyDSSSComplianceGroup, dot11PhyRegDomainsSupportGroup, and dot11PhyOperationComplianceGroup | | 16.3.2 (DSSS PHY MIB) | M | | | Yes  No  | |
| * IR baseband PHY functions | | | | | | | | |
| Item | Feature | | References | | | Status | Support | |
| IR1 | Is the transmitted synchronization (SYNC) field length in the range of required number of pulse position modulation (PPM) slots, with the absence of a pulse in the last slot of the field? | | 15.3.5.1 (PLCP SYNC field) | | | M | Yes  No  | |
| IR2 | Is the transmitted SYNC field entirely populated by alternating presence and absence of pulses in consecutive PPM slots, with the absence of a pulse in the last slot of the field? | | 15.3.5.1 (PLCP SYNC field) | | | M | Yes  No  | |
| IR3 | Is the transmitted SFD field the binary sequence 1001, where 1 indicates a pulse in the PPM slot and 0 indicates no pulse in the PPM slot? | | 15.3.5.2 (PLCP SFD field) | | | M | Yes  No  | |
| IR4 | Is the transmitted data rate (DR) field pulse sequence equal to the correct value for the data rate provided by the TXVECTOR parameter PLCP BITRATE, where 1 indicates a pulse in the PPM slot and 0 indicates no pulse in the PPM slot? | | 15.3.5.3 (PLCP DR field) | | | M | Yes  No  | |
| IR5 | Is the transmitted dc level adjustment (DCLA) field 32 PPM slots long with the specified sequence for 1 Mb/s, where 1 indicates a pulse in the PPM slot and 0 indicates no pulse in the PPM slot?  1 Mb/s: 00000000100000000000000010000000 | | 15.3.5.4 (PLCP DCLA field) | | | M | Yes  No  | |
| \* IR5a | Does the unit support 2 Mb/s transmission? | | 15.3.5.4 (PLCP DCLA field) | | | O | Yes  No  | |
| IR5b | If the unit supports 2 Mb/s transmission, is the transmitted DCLA field 32 PPM slots long with the specified sequence for 2 Mb/s, where 1 indicates a pulse in the PPM slot and 0 indicates no pulse in the PPM slot?  2 Mb/s: 00100010001000100010001000100010 | | 15.3.5.4 (PLCP DCLA field) | | | IR5a:M | Yes  No  N/A  | |
| IR6 | Is the transmitted LENGTH field the correct PPM representation of the unsigned 16-bit binary integer, least significant bit (LSB) transmitted first, equal to the correct value provided by the TXVECTOR parameter LENGTH? | | 15.3.5.5 (PLCP LENGTH field) | | | M | Yes  No  | |
| IR7 | Is the transmitted cyclic redundancy code (CRC) field the correct PPM representation of the CRC value calculated according to the reference subclause, transmitted LSB first? | | 15.3.5.6 (PLCP CRC field) | | | M | Yes  No  | |
| IR8 | Is the transmitted PLCP service data unit (PSDU) field the correct PPM representation of the PSDU, transmitted LSB first? | | 15.3.5.7 (PSDU field) | | | M | Yes  No  | |
| IR9 | When the CCA is false does transmission begin based on a PHY-TXSTART.request primitive? | | 15.3.6.1 (Transmit PLCP) | | | M | Yes  No  | |
| IR10 | Does the PHY issue a PHY-TXSTART.confirm primitive after the transmission of the PLCP header? | | 15.3.6.1 (Transmit PLCP) | | | M | Yes  No  | |
| IR11 | Does the PHY accept each octet of the PSDU in a PHY-DATA.request primitive and answer with a PHYDATA.confirm primitive? | | 15.3.6.1 (Transmit PLCP) | | | M | Yes  No  | |
| IR12 | Does the PHY cease transmission in response to a PHY-TXEND.request primitive and answer with a PHY-TXEND.confirm primitive? | | 15.3.6.1 (Transmit PLCP) | | | M | Yes  No  | |
| IR13 | Does the PHY of a receiving STA send a PHY-CCA.indication primitive during reception of the SYNC field? | | 15.3.6.2 (Receive PLCP) | | | M | Yes  No  | |
| IR14 | Does the PHY of a receiving STA properly receive a transmission that changes data rate according to the DR field? | | 15.3.6.2 (Receive PLCP) | | | M | Yes  No  | |
| IR15 | Does the PHY of a receiving STA properly reject an incorrect CRC? | | 15.3.6.2 (Receive PLCP) | | | M | Yes  No  | |
| IR16 | Does the PHY of a receiving STA properly reject a DR field other than those specified in reference subclause? | | 15.3.6.2 (Receive PLCP), 15.3.5.3 (PLCP DR field) | | | M | Yes  No  | |
| IR17 | Does the PHY of a receiving STA send PHY-RXSTART.indication primitive with correct RATE and LENGTH parameters after proper reception of PLCP preamble and PLCP header? | | 15.3.6.2 (Receive PLCP) | | | M | Yes  No  | |
| IR18 | Does the PHY of a receiving STA forward receive octets in PHY-DATA.indication primitives? | | 15.3.6.2 (Receive PLCP) | | | M | Yes  No  | |
| IR19 | Does the PHY of a receiving STA send a PHY-RXEND.indication primitive after the final octet indicated by the LENGTH field? | | 15.3.6.2 (Receive PLCP) | | | M | Yes  No  | |
| IR20 | Does the PHY of a receiving STA send a PHY-CCA.indication primitive with a state value of IDLE after the PHY-RXEND.indication primitive? | | 15.3.6.2 (Receive PLCP) | | | M | Yes  No  | |
| IR21 | Does the PHY reset its CCA detection -mechanism upon receiving a -PHY-CCARST.request primitive, and respond with a PHY-CCARST.indication primitive? | | 15.3.6.3 (CCA procedure) | | | M | Yes  No  | |
| IR22 | When transmitting at 1 Mb/s does the PHY transmit PPM symbols according to the 16-PPM Basic Rate Mapping table, transmitting from left to right? | | 15.4.3.2 (Modulation and channel data rates), 15.4.3.3 (Octet partition and PPM symbol generation procedure) | | | M | Yes  No  | |
| IR23 | When transmitting at 2 Mb/s does the PHY transmit PPM symbols according to the 4-PPM Enhanced Rate Mapping table, transmitting from left to right? | | 15.4.3.2 (Modulation and channel data rates), 15.4.3.3 (Octet partition and PPM symbol generation procedure) | | | IR5a:M | Yes  No  | |
| \* IR24 | If the unit is conformant to emitter radiation mask 1, is the peak optical power of an emitted pulse within the specification range averaged over the pulse width? | | 15.4.4.2 (Transmitted peak optical power) | | | O.1 | Yes  No  | |
| \* IR25 | If the unit is conformant to emitter radiation mask 2, is the peak optical power of an emitted pulse within the specification range averaged over the pulse width? | | 15.4.4.2 (Transmitted peak optical power) | | | O.1 | Yes  No  | |
| IR26 | Does the transmitted pulse shape conform to the description of the reference subclause? | | 15.4.4.3 (Basic pulse shape and parameters) | | | M | Yes  No  | |
| IR27 | Does the emitter radiation pattern as a function of angle conform to the requirements of the reference subclause as applicable based on conformance to emitter radiation Mask 1? | | 15.4.4.4 (Emitter radiation pattern mask) | | | IR24:M | Yes  No  N/A  | |
| IR27a | Does the emitter radiation pattern as a function of angle conform to the requirements of the reference subclause as applicable based on conformance to emitter radiation Mask 2? | | 15.4.4.4 (Emitter radiation pattern mask) | | | IR25:M | Yes  No  N/A  | |
| IR28 | Is the peak emitter optical output as a function of wavelength in the range specified? | | 15.4.4.5 (Optical emitter peak wavelength) | | | M | Yes  No  | |
| IR29 | Does the spectrum of the transmit signal amplitude as a voltage or current meet the requirements of the reference subclause? | | 15.4.4.6 (Transmit spectrum mask) | | | M | Yes  No  | |
| IR30 | Does the receiver sensitivity meet the requirements of the reference subclause for receive signals of both 1 Mb/s and 2 Mb/s? | | 15.4.5.2 (Receiver sensitivity) | | | M | Yes  No  | |
| IR31 | Does the receiver exhibit a dynamic range as specified in reference subclause? | | 15.4.5.3 (Receiver dynamic range) | | | M | Yes  No  | |
| IR32 | Does the receiver field of view (FOV) -conform to the requirements of the reference subclause? | | 15.4.5.4 (Receiver field of view (FOV)) | | | M | Yes  No  | |
| IR33 | When it is known that the conditions are such that the carrier detect signal and the ED signal are false, is the CCA asserted IDLE? | | 15.4.6.1 (ED signal) | | | M | Yes  No  | |
| IR34 | When the conditions are such that ED is true for greater than the time defined in reference subclause, does CCA become IDLE? | | 15.4.6.1 (ED signal) | | | M | Yes  No  | |
| IR35 | When conditions are such that either carrier detect or ED go true, does CCA go BUSY? | | 15.4.6.1 (ED signal) | | | M | Yes  No  | |
| IR36 | Are these compliance groups implemented? dot11PhyIRComplianceGroup, dot11PhyRegDomainsSupportGroup, and dot11PhyOperationComplianceGroup | | 15.5 (PHY attributes) | | | M | Yes  No  | |

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| * OFDM PHY functions | | | | |
| Item | Feature | References | Status | Support |
| OF1: OFDM PHY Specific Service Parameters | | | | |
| OF1.1 | TXVECTOR parameter: LENGTH | 18.2.2.2 (TXVECTOR LENGTH) | M | Yes  No  |
| OF1.2 | TXVECTOR parameter: DATARATE | 18.2.2.3 (TXVECTOR DATARATE) | M | Yes  No  |
| OF1.2.1 | DATARATE = 6.0 Mb/s | 18.2.2.3 (TXVECTOR DATARATE) | M | Yes  No  |
| \*OF1.2.2 | DATARATE = 9.0 Mb/s | 18.2.2.3 (TXVECTOR DATARATE) | O | Yes  No  |
| OF1.2.3 | DATARATE = 12.0 Mb/s | 18.2.2.3 (TXVECTOR DATARATE) | M | Yes  No  |
| \*OF1.2.4 | DATARATE = 18.0 Mb/s | 18.2.2.3 (TXVECTOR DATARATE) | O | Yes  No  |
| \*OF1.2.5 | DATARATE = 24.0 Mb/s | 18.2.2.3 (TXVECTOR DATARATE), Annex E | NOT CF15:M CF15:O | Yes  No  N/A  |
| \*OF1.2.6 | DATARATE = 36.0 Mb/s | 18.2.2.3 (TXVECTOR DATARATE) | O | Yes  No  |
| \*OF1.2.7 | DATARATE = 48.0 Mb/s | 18.2.2.3 (TXVECTOR DATARATE) | O | Yes  No  |
| \*OF1.2.8 | DATARATE = 54.0 Mb/s | 18.2.2.3 (TXVECTOR DATARATE) | O | Yes  No  |
| OF1.3 | TXVECTOR parameter: SERVICE | 18.2.2.4 (TXVECTOR SERVICE) | M | Yes  No  |
| OF1.4 | TXVECTOR parameter: TXPWR\_LEVEL | 18.2.2.5 (TXVECTOR TXPWR\_LEVEL) | M | Yes  No  |
| OF1.5 | RXVECTOR parameter: LENGTH | 18.2.3.2 (RXVECTOR LENGTH) | M | Yes  No  |
| OF1.6 | RXVECTOR parameter: RSSI | 18.2.3.3 (RXVECTOR RSSI) | M | Yes  No  |
| \*OF1.7 | 10 MHz Channel spacing | 18.2.2 (TXVECTOR parameters), 18.2.3 (RXVECTOR parameters), 18.2.3.4 (DATARATE), Annex E | CF11:O CF15&DSE2:M | Yes  No  N/A  |
| \*OF1.7.1 | DATARATE = 3 Mb/s  (10 MHz channel spacing) | 18.2.2 (TXVECTOR parameters), 18.2.3 (RXVECTOR parameters), 18.2.3.4 (DATARATE) | CF11& OF1.7:M | Yes  No  N/A  |
| \*OF1.7.2 | DATARATE = 4.5 Mb/s (10 MHz channel spacing) | 18.2.2 (TXVECTOR parameters), 18.2.3 (RXVECTOR parameters), 18.2.3.4 (DATARATE) | CF11& OF1.7:O | Yes  No  N/A  |
| \*OF1.7.3 | DATARATE = 6 Mb/s  (10 MHz channel spacing) | 18.2.2 (TXVECTOR parameters), 18.2.3 (RXVECTOR parameters), 18.2.3.4 (DATARATE) | CF11& OF1.7:M | Yes  No  N/A  |
| \*OF1.7.4 | DATARATE = 9 Mb/s  (10 MHz channel spacing) | 18.2.2 (TXVECTOR parameters), 18.2.3 (RXVECTOR parameters), 18.2.3.4 (DATARATE) | CF11& OF1.7:O | Yes  No  N/A  |
| \*OF1.7.5 | DATARATE = 12 Mb/s  (10 MHz channel spacing) | 18.2.2 (TXVECTOR parameters), 18.2.3 (RXVECTOR parameters), 18.2.3.4 (DATARATE) | CF11& OF1.7:M | Yes  No  N/A  |
| \*OF1.7.6 | DATARATE = 18 Mb/s  (10 MHz channel spacing) | 18.2.2 (TXVECTOR parameters), 18.2.3 (RXVECTOR parameters), 18.2.3.4 (DATARATE) | CF11& OF1.7:O | Yes  No  N/A  |
| \*OF1.7.7 | DATARATE = 24 Mb/s  (10 MHz channel spacing) | 18.2.2 (TXVECTOR parameters), 18.2.3 (RXVECTOR parameters), 18.2.3.4 (DATARATE) | CF11& OF1.7:O | Yes  No  N/A  |
| \*OF1.7.8 | DATARATE = 27 Mb/s  (10 MHz channel spacing) | 18.2.2 (TXVECTOR parameters), 18.2.3 (RXVECTOR parameters), 18.2.3.4 (DATARATE) | CF11& OF1.7:O | Yes  No  N/A  |
| \*OF1.8 | 5 MHz Channel spacing | 18.2.2 (TXVECTOR parameters), 18.2.3 (RXVECTOR parameters), 18.2.3.4 (DATARATE), Annex E | CF11:O CF15&DSE2:M CF15&DSE3:M | Yes  No  N/A  |
| \*OF1.8.1 | DATARATE = 1.5Mb/s  (5 MHz channel spacing) | 18.2.2 (TXVECTOR parameters), 18.2.3 (RXVECTOR parameters), 18.2.3.4 (DATARATE) | CF11& OF1.8:M | Yes  No  N/A  |
| \*OF1.8.2 | DATARATE = 2.25 Mb/s (5 MHz channel spacing) | 18.2.2 (TXVECTOR parameters), 18.2.3 (RXVECTOR parameters), 18.2.3.4 (DATARATE) | CF11& OF1.8:O | Yes  No  N/A  |
| \*OF1.8.3 | DATARATE = 3Mb/s  (5 MHz channel spacing) | 18.2.2 (TXVECTOR parameters), 18.2.3 (RXVECTOR parameters), 18.2.3.4 (DATARATE) | CF11& OF1.8:M | Yes  No  N/A  |
| \*OF1.8.4 | DATARATE = 4.5 Mb/s  (5 MHz channel spacing) | 18.2.2 (TXVECTOR parameters), 18.2.3 (RXVECTOR parameters), 18.2.3.4 (DATARATE) | CF11& OF1.8:O | Yes  No  N/A  |
| \*OF1.8.5 | DATARATE = 6 Mb/s  (5 MHz channel spacing) | 18.2.2 (TXVECTOR parameters), 18.2.3 (RXVECTOR parameters), 18.2.3.4 (DATARATE) | CF11& OF1.8:M | Yes  No  N/A  |
| \*OF1.8.6 | DATARATE = 9 Mb/s  (5 MHz channel spacing) | 18.2.2 (TXVECTOR parameters), 18.2.3 (RXVECTOR parameters), 18.2.3.4 (DATARATE) | CF11& OF1.8:O | Yes  No  N/A  |
| \*OF1.8.7 | DATARATE = 12 Mb/s  (5 MHz channel spacing) | 18.2.2 (TXVECTOR parameters), 18.2.3 (RXVECTOR parameters), 18.2.3.4 (DATARATE) | CF11& OF1.8:O | Yes  No  N/A  |
| \*OF1.8.8 | DATARATE = 13.5 Mb/s  (5 MHz channel spacing) | 18.2.2 (TXVECTOR parameters), 18.2.3 (RXVECTOR parameters), 18.2.3.4 (DATARATE) | CF11& OF1.8:O | Yes  No  N/A  |
| OF2: OFDM PLCP Sublayer | | | | |
| OF2.1 | RATE-dependent parameters | 18.3.2.3 (Modulation-dependent parameters) | M | Yes  No  |
| OF2.2 | Timing related parameters | 18.3.2.4 (Timing related parameters) | M | Yes  No  |
| OF2.3 | PLCP preamble: SYNC | 18.3.3 (PLCP preamble (SYNC)) | M | Yes  No  |
| OF2.4 | PLCP header: SIGNAL | 18.3.4 (SIGNAL field) | M | Yes  No  |
| OF2.5 | PLCP header: LENGTH | 18.3.4.2 (RATE field) | M | Yes  No  |
| OF2.6 | PLCP header: RATE | 18.3.4.3 (PLCP LENGTH field) | M | Yes  No  |
| OF2.7 | PLCP header: parity, reserve | 18.3.4.4 (Parity (P), Reserved (R), and SIGNAL TAIL fields) | M | Yes  No  |
| OF2.8 | PLCP header: SIGNAL TAIL | 18.3.4.4 (Parity (P), Reserved (R), and SIGNAL TAIL fields) | M | Yes  No  |
| OF2.9 | PLCP header: SERVICE | 18.3.5.2 (SERVICE field) | M | Yes  No  |
| OF2.10 | PLCP protocol data unit (PPDU): TAIL | 18.3.5.3 (PPDU TAIL field) | M | Yes  No  |
| OF2.11 | PPDU: PAD | 18.3.5.4 (Pad bits (PAD)) | M | Yes  No  |
| OF2.12 | PLCP/OFDM PHY data scrambler  and descrambler | 18.3.5.5 (PLCP DATA scrambler and descrambler) | M | Yes  No  |
| OF2.13 | Convolutional encoder | 18.3.5.6 (Convolutional encoder) | M | Yes  No  |
| OF2.13.1 | Rate R = 1/2 | 18.3.5.6 (Convolutional encoder) | M | Yes  No  |
| OF2.13.2 | Punctured coding R = 2/3 | 18.3.5.6 (Convolutional encoder) | OF1.2.7:M | Yes  No  N/A  |
| OF2.13.3 | Punctured coding R = 3/4 | 18.3.5.6 (Convolutional encoder) | OF1.2.2 OR OF1.2.4 OR OF1.2.6 OR OF1.2.8:M | Yes  No  N/A  |
| OF2.14 | Data interleaving | 18.3.5.7 (Data interleaving) | M | Yes  No  |
| OF2.15 | Subcarrier modulation mapping | 18.3.5.8 (Subcarrier modulation mapping) | M | Yes  No  |
| OF2.15.1 | Binary phase shift keying (BPSK) | 18.3.5.8 (Subcarrier modulation mapping) | M | Yes  No  |
| OF2.15.2 | Quadrature phase shift keying (QPSK) | 18.3.5.8 (Subcarrier modulation mapping) | M | Yes  No  |
| OF2.15.3 | 16-quadrature amplitude modulation (QAM) | 18.3.5.8 (Subcarrier modulation mapping) | M | Yes  No  |
| OF2.15.4 | 64-QAM | 18.3.5.8 (Subcarrier modulation mapping) | OF1.2.7 OR OF1.2.8:M | Yes  No  N/A  |
| OF2.16 | Pilot subcarriers | 18.3.5.9 (Pilot subcarriers) | M | Yes  No  |
| OF2.17 | OFDM modulation | 18.3.5.10 (OFDM modulation) | M | Yes  No  |
| OF2.18 | Packet duration calculation |  | M | Yes  No  |
| OF2.19 | CCA |  |  |  |
| OF2.19.1 | CCA: RSSI | 18.3.6 (CCA) | M | Yes  No  |
| OF2.19.2 | CCA: indication to MAC sublayer | 18.3.6 (CCA) | M | Yes  No  |
| \*OF2.19.3 | CCA-ED functionality | 18.3.10.6 (CCA requirements) | CF15:M | Yes  No  N/A  |
| OF2.19.3.1 | CCA-ED energy only (RPI above threshold) | 18.3.10.6 (CCA requirements) | OF2.19.3:M | Yes  No  N/A  |
| OF2.19.3.2 | Hold CCA busy for packet duration of a correctly received PLCP, but carrier lost during reception of MPDU | 18.3.10.6 (CCA requirements) | OF2.19.3:M | Yes  No  N/A  |
| OF2.20 | PLCP data modulation and modulation rate change | 18.3.7 (PLCP data modulation and modulation rate change) | M | Yes  No  |
| OF2.21 | Modulation-dependent parameters  (10 MHz channel spacing) | 18.3.2.3 (Modulation-dependent parameters) | CF11& OF1.7:M | Yes  No  N/A  |
| OF2.22 | Timing-related parameters  (10 MHz channel spacing) | 18.3.2.4 (Timing related parameters) | CF11& OF1.7:M | Yes  No  N/A  |
| OF2.23 | PLCP header: RATE  (10 MHz channel spacing) | 18.3.4.2 (RATE field) | CF11& OF1.7:M | Yes  No  N/A  |
| OF2.24 | Modulation-dependent parameters  (5 MHz channel spacing) | 18.3.2.3 (Modulation-dependent parameters) | CF11& OF1.8:M | Yes  No  N/A  |
| OF2.25 | Timing-related parameters  (5 MHz channel spacing) | 18.3.2.4 (Timing related parameters) | CF11& OF1.8:M | Yes  No  N/A  |
| OF2.26 | PLCP header: RATE  (5 MHz channel spacing) | 18.3.4.2 (RATE field) | CF11& OF1.8:M | Yes  No  N/A  |
| OF3: PDM Operating Specification General | | | | |
| OF3.1 | Occupied channel bandwidth |  |  |  |
| OF3.1.1 | 20 MHz channel spacing | 18.3.8.2 (Outline description) | M | Yes  No  |
| OF3.1.2 | 10 MHz channel spacing | 18.3.8.2 (Outline description) | CF11& OF1.7:M | Yes  No  N/A  |
| OF3.1.3 | 5 MHz channel spacing | 18.3.8.2 (Outline description) | CF11& OF1.8:M | Yes  No  N/A  |
| OF3.2 | Operating frequency range | 18.3.8.4.1 (Operating frequency range) |  |  |
| \*OF3.2.1 | 4.9 GHz band | Annex E | CF11:O | Yes  No  N/A  |
| \*OF3.2.2 | 5.0 GHz band | Annex E | CF11:M | Yes  No  N/A  |
| OF3.2.3 | 5.15–5.25 GHz band | 18.3.8.4 (Operating channel frequencies) | O.1 | Yes  No  |
| OF3.2.4 | 5.25–5.35 GHz band | 18.3.8.4 (Operating channel frequencies) | O.1 | Yes  No  |
| \*OF3.2.5 | 5.47–5.725 GHz band | Annex E | CF10:M | Yes  No  N/A  |
| OF3.2.6 | 5.725–5.85 GHz band | 18.3.8.4 (Operating channel frequencies) | O.1 | Yes  No  |
| \*OF3.2.7 | 3.65–3.70 GHz band | Annex D, Annex E | CF15:M | Yes  No  N/A  |
| OF3.2.8 | 5.9 GHz band | Annex E | CF17:M | Yes  No  N/A  |
| OF3.3 | Channelization |  |  |  |
| OF3.3.1 | 5.15–5.25 GHz (20 MHz channel spacing) | Annex E | O.1 | Yes  No  |
| OF3.3.2 | 5.25–5.35 GHz (20 MHz channel spacing) | Annex E | O.1 | Yes  No  |
| OF3.3.3 | 5.725–5.825 GHz (20 MHz channel spacing) | Annex E | O.1 | Yes  No  |
| OF3.3.4 | 5.15–5.25 GHz band in Japan (20 MHz channel spacing) | Annex E | CF11:M | Yes  No  N/A  |
| OF3.3.5 | 5.47–5.725 GHz (20 MHz channel spacing) | Annex E | CF10& OF3.2.5:M | Yes  No  N/A  |
| OF3.3.6 | 5.725–5.85 GHz (20 MHz channel spacing) | Annex E | O.1 | Yes  No  |
| OF3.3.7 | 4.9 GHz band (20 MHz channel spacing) | Annex E | CF11& OF3.2.1:M | Yes  No  N/A  |
| OF3.3.8 | 5.0 GHz band (20 MHz channel spacing) | Annex E | CF11& OF3.2.2:M | Yes  No  N/A  |
| OF3.3.9 | 4.9 GHz band (10 MHz channel spacing) | Annex E | CF11& OF3.2.1& OF1.7:M | Yes  No  N/A  |
| OF3.3.10 | 5.0 GHz band (10 MHz channel spacing) | Annex E | CF11& OF3.2.2& OF1.7:M | Yes  No  N/A  |
| OF3.3.11 | 4.9 GHz band (5 MHz channel spacing) | Annex E | CF11& OF3.2.1& OF1.8:M | Yes  No  N/A  |
| OF3.3.12 | 5.0 GHz band (5 MHz channel spacing) | Annex E | CF11& OF3.2.2& OF1.8:M | Yes  No  N/A  |
| OF3.3.13 | 3.65–3.70 GHz (20 MHz channel spacing) | Annex E | CF15&OF3.2.7:M | Yes  No  N/A  |
| OF3.3.14 | 3.65–3.70 GHz (10 MHz channel spacing) | Annex E | CF15&OF3.2.7&OF1.7:M | Yes  No  N/A  |
| OF3.3.15 | 3.65–3.70 GHz (5 MHz channel spacing) | Annex E | CF15&OF3.2.7&OF1.8:M | Yes  No  N/A  |
| OF3.3.16 | 5.9 GHz band (10 MHz channel spacing) | Annex E | CF17:O | Yes  No  N/A  |
| OF3.3.17 | 5.9 GHz band (20 MHz channel spacing) | Annex E | CF17:O | Yes  No  N/A  |
| OF3.3.18 | 5.9 GHz band (5 MHz channel spacing) | Annex E | CF17:O | Yes  No  N/A  |
| OF3.4 | Number of operating channels | Annex E | M | Yes  No  |
| OF3.5 | Operating channel frequencies | Annex E | M | Yes  No  |
| OF3.6 | Transmit and receive in band and out of band spurious emission | Annex E | M | Yes  No  |
| OF3.6.1 | Interference-limited areas, 4.9 GHz band (20 MHz channel spacing) | Annex E | CF11& OF3.2.1:M | Yes  No  N/A  |
| OF3.6.2 | Interference-limited areas, 5.0 GHz band (20 MHz channel spacing) | Annex E | CF11& OF3.2.2:M | Yes  No  N/A  |
| OF3.6.3 | Interference-limited areas, 4.9 GHz band (10 MHz channel spacing) | Annex E | CF11& OF3.2.1& OF1.7:O | Yes  No  N/A  |
| OF3.6.4 | Interference-limited areas, 5.0 GHz band (10 MHz channel spacing) | Annex E | CF11& OF3.2.2& OF1.7:O | Yes  No  N/A  |
| OF3.6.5 | Interference-limited areas, 4.9 GHz band (5 MHz channel spacing) | Annex E | CF11& OF3.2.1& OF1.8:O | Yes  No  N/A  |
| OF3.6.6 | Interference-limited areas, 5.0 GHz band (5 MHz channel spacing) | Annex E | CF11& OF3.2.2& OF1.8:O | Yes  No  N/A  |
| OF3.7 | TX RF delay | 18.3.8.6 (TX RF delay) | M | Yes  No  |
| OF3.8 | Slot time | 18.3.8.7 (Slot time) | M | Yes  No  |
| OF3.8.1 | Slot time (20 MHz channel spacing) | 18.3.8.7 (Slot time) | CF11& RC2:M | Yes  No  N/A  |
| OF3.8.2 | Slot time (10 MHz channel spacing) | 18.3.8.7 (Slot time) | CF11& RC3& OF1.7:M | Yes  No  N/A  |
| OF3.8.3 | Slot time (5 MHz channel spacing) | 18.3.8.7 (Slot time) | CF11& RC4& OF1.8:M | Yes  No  N/A  |
| OF3.9 | Transmit and receive antenna port  impedance | 18.3.8.8 (Transmit and receive antenna port impedance) | M | Yes  No  |
| OF4: PMD Transmit Specification | | | | |
| OF4.1 | Transmit power levels |  | M | Yes  No  |
| OF4.1.1 | Power level (5.15–5.25 GHz) | 18.3.9.2 (Transmit power levels) | OF3.3.1:M | Yes  No  N/A  |
| OF4.1.2 | Power level (5.25–5.35 GHz) | 18.3.9.2 (Transmit power levels) | OF3.3.2:M | Yes  No  N/A  |
| OF4.1.3 | Power level (5.725–5.825 GHz) | 18.3.9.2 (Transmit power levels) | OF3.3.3:M | Yes  No  N/A  |
| \*OF4.1.4 | Power Level (5.850–5.925 GHz), Class A | D.2.2 (Transmit power levels) | CF17:M | Yes  No  N/A  |
| \*OF4.1.5 | Power Level (5.850–5.925 GHz), Class B | D.2.2 (Transmit power levels) | CF17:O | Yes  No  N/A  |
| \*OF4.1.6 | Power Level (5.850–5.925 GHz), Class C | D.2.2 (Transmit power levels) | CF17:O | Yes  No  N/A  |
| \*OF4.1.7 | Power Level (5.850–5.925 GHz), Class D | D.2.2 (Transmit power levels) | CF17:O | Yes  No  N/A  |
| OF4.2 | Spectrum mask | 18.3.9.3 (Transmit spectrum mask) | M | Yes  No  |
| OF4.3 | Spurious | 18.3.9.4 (Transmission spurious) | M | Yes  No  |
| OF4.4 | Center frequency tolerance | 18.3.9.5 (Transmit center frequency tolerance) | M | Yes  No  |
| OF4.5 | Clock frequency tolerance | 18.3.9.6 (Symbol clock frequency tolerance) | M | Yes  No  |
| OF4.6 | Modulation accuracy |  |  | Yes  No  |
| OF4.6.1 | Center frequency leakage | 18.3.9.7.2 (Transmitter center frequency leakage) | M | Yes  No  |
| OF4.6.2 | Spectral flatness | 18.3.9.7.3 (Transmitter spectral flatness) | M | Yes  No  |
| OF4.6.3 | Transmitter constellation error < –5 dB | 18.3.9.7.4 (Transmitter constellation error) | M | Yes  No  |
| OF4.6.4 | Transmitter constellation error < –8 dB | 18.3.9.7.4 (Transmitter constellation error) | OF1.2.2:M | Yes  No  N/A  |
| OF4.6.5 | Transmitter constellation error < –10 dB | 18.3.9.7.4 (Transmitter constellation error) | M | Yes  No  |
| OF4.6.6 | Transmitter constellation error < –13 dB | 18.3.9.7.4 (Transmitter constellation error) | OF1.2.4:M | Yes  No  N/A  |
| OF4.6.7 | Transmitter constellation error < –16 dB | 18.3.9.7.4 (Transmitter constellation error) | M | Yes  No  |
| OF4.6.8 | Transmitter constellation error < –19 dB | 18.3.9.7.4 (Transmitter constellation error) | OF1.2.6:M | Yes  No  N/A  |
| OF4.6.9 | Transmitter constellation error < –22 db | 18.3.9.7.4 (Transmitter constellation error) | OF1.2.7:M | Yes  No  N/A  |
| OF4.6.10 | Transmitter constellation error < –25 dB | 18.3.9.7.4 (Transmitter constellation error) | OF1.2.8:M | Yes  No  N/A  |
| OF4.7 | Power level, 4.9 GHz band  (20 MHz channel spacing) | 18.3.9.2 (Transmit power levels) | CF11& OF3.12.1:M | Yes  No  N/A  |
| OF4.8 | Power level, 5.0 GHz band  (20 MHz channel spacing) | 18.3.9.2 (Transmit power levels) | CF11& OF3.12.2:M | Yes  No  N/A  |
| OF4.9 | Power level, 5.47–5.725 GHz band | 18.3.9.2 (Transmit power levels) | CF11& OF3.12.3:M | Yes  No  N/A  |
| OF4.10 | Power level, 4.9 GHz band  (10 MHz channel spacing) | 18.3.9.2 (Transmit power levels) | CF11& OF3.12.1&OF1.7:M | Yes  No  N/A  |
| OF4.11 | Power level, 5.0 GHz band  (10 MHz channel spacing) | 18.3.9.2 (Transmit power levels) | CF11& OF3.12.2&OF1.7:M | Yes  No  N/A  |
| OF4.12 | Power level, 4.9 GHz band  (5 MHz channel spacing) | 18.3.9.2 (Transmit power levels) | CF11& OF3.12.1&OF1.8:M | Yes  No  N/A  |
| OF4.13 | Power level, 5.0 GHz band  (5 MHz channel spacing) | 18.3.9.2 (Transmit power levels) | CF11& OF3.12.2&OF1.8:M | Yes  No  N/A  |
| OF4.13a | Power level, 3.65–3.70 GHz (20 MHz channel spacing) | Annex E | CF15&OF3.2.7:M | Yes  No  N/A  |
| OF4.13b | Power level, 3.65–3.70 GHz (10 MHz channel spacing) | Annex E | CF15&OF3.2.7&OF1.7:M | Yes  No  N/A  |
| OF4.13c | Power level, 3.65–3.70 GHz (5 MHz channel spacing) | Annex E | CF15&OF3.2.7&OF1.8:M | Yes  No  N/A  |
| OF4.14 | Spectrum mask  (20 MHz channel spacing) | 18.3.9.3 (Transmit spectrum mask) | CF11:M | Yes  No  N/A  |
| OF4.15 | Spectrum mask  (10 MHz channel spacing) | 18.3.9.3 (Transmit spectrum mask) | CF11& OF1.7:M | Yes  No  N/A  |
| OF4.15.1 | Spectrum mask, Class A  (10 MHz channel spacing) | D.2.3 (Transmit spectrum mask) | OF4.1.4:M | Yes  No  N/A  |
| OF4.15.2 | Spectrum mask, Class B  (10 MHz channel spacing) | D.2.3 (Transmit spectrum mask) | OF4.1.5:M | Yes  No  N/A  |
| OF4.15.3 | Spectrum mask, Class C  (10 MHz channel spacing) | D.2.3 (Transmit spectrum mask) | OF4.1.6:M | Yes  No  N/A  |
| OF4.15.4 | Spectrum mask, Class D  (10 MHz channel spacing) | D.2.3 (Transmit spectrum mask) | OF4.1.7:M | Yes  No  N/A  |
| OF4.16 | Spectrum mask  (5 MHz channel spacing) | 18.3.9.3 (Transmit spectrum mask) | CF11& OF1.8:M | Yes  No  N/A  |
| OF4.17 | Transmitter constellation error  (10 MHz channel spacing) |  |  |  |
| OF4.17.1 | Transmitter constellation error < –5 dB (10 MHz channel spacing) | 18.3.9.7.4 (Transmitter constellation error) | CF11& OF1.7.1:M | Yes  No  N/A  |
| OF4.17.2 | Transmitter constellation error < –8 dB (10 MHz channel spacing) | 18.3.9.7.4 (Transmitter constellation error) | CF11& OF1.7.2:M | Yes  No  N/A  |
| OF4.17.3 | Transmitter constellation error < –10 dB (10 MHz channel spacing) | 18.3.9.7.4 (Transmitter constellation error) | CF11& OF1.7.3:M | Yes  No  N/A  |
| OF4.17.4 | Transmitter constellation error < –13 dB (10 MHz channel spacing) | 18.3.9.7.4 (Transmitter constellation error) | CF11& OF1.7.4:M | Yes  No  N/A  |
| OF4.17.5 | Transmitter constellation error < –16 dB (10 MHz channel spacing) | 18.3.9.7.4 (Transmitter constellation error) | CF11& OF1.7.5:M | Yes  No  N/A  |
| OF4.17.6 | Transmitter constellation error < –19 dB (10 MHz channel spacing) | 18.3.9.7.4 (Transmitter constellation error) | CF11& OF1.7.6:M | Yes  No  N/A  |
| OF4.17.7 | Transmitter constellation error < –22 dB (10 MHz channel spacing) | 18.3.9.7.4 (Transmitter constellation error) | CF11& OF1.7.7:M | Yes  No  N/A  |
| OF4.17.8 | Transmitter constellation error < –25 dB (10 MHz channel spacing) | 18.3.9.7.4 (Transmitter constellation error) | CF11& OF1.7.8:M | Yes  No  N/A  |
| OF4.18 | Transmitter constellation error  (5 MHz channel spacing) |  |  |  |
| OF4.18.1 | Transmitter constellation error < –5 dB  (5 MHz channel spacing) | 18.3.9.7.4 (Transmitter constellation error) | CF11& OF1.8.1:M | Yes  No  N/A  |
| OF4.18.2 | Transmitter constellation error < –8 dB  (5 MHz channel spacing) | 18.3.9.7.4 (Transmitter constellation error) | CF11& OF1.8.2:M | Yes  No  N/A  |
| OF4.18.3 | Transmitter constellation error < –10 dB  (5 MHz channel spacing) | 18.3.9.7.4 (Transmitter constellation error) | CF11& OF1.8.3:M | Yes  No  N/A  |
| OF4.18.4 | Transmitter constellation error < –13 dB  (5 MHz channel spacing) | 18.3.9.7.4 (Transmitter constellation error) | CF11& OF1.8.4:M | Yes  No  N/A  |
| OF4.18.5 | Transmitter constellation error < –16 dB (5 MHz channel spacing) | 18.3.9.7.4 (Transmitter constellation error) | CF11& OF1.8.5:M | Yes  No  N/A  |
| OF4.18.6 | Transmitter constellation error < –19 dB (5 MHz channel spacing) | 18.3.9.7.4 (Transmitter constellation error) | CF11& OF1.8.6:M | Yes  No  N/A  |
| OF4.18.7 | Transmitter constellation error < –22 dB (5 MHz channel spacing) | 18.3.9.7.4 (Transmitter constellation error) | CF11& OF1.8.7:M | Yes  No  N/A  |
| OF4.18.8 | Transmitter constellation error < –25 dB (5 MHz channel spacing) | 18.3.9.7.4 (Transmitter constellation error) | CF11& OF1.8.8:M | Yes  No  N/A  |
| OF5: PMD Receiver Specifications | | | | |
| OF5.1 | Minimum input level sensitivity at packet error ratio (PER) = 10% with 1000 octet frames |  |  |  |
| OF5.1.1 | –82 dBm for 6 Mb/s | 18.3.10.2 (Receiver minimum input sensitivity) | M | Yes  No  |
| OF5.1.2 | –81 dBm for 9 Mb/s | 18.3.10.2 (Receiver minimum input sensitivity) | OF1.2.2:M | Yes  No  N/A  |
| OF5.1.3 | –79 dBm for 12 Mb/s | 18.3.10.2 (Receiver minimum input sensitivity) | M | Yes  No  |
| OF5.1.4 | –77 dBm for 18 Mb/s | 18.3.10.2 (Receiver minimum input sensitivity) | OF1.2.4:M | Yes  No  N/A  |
| OF5.1.5 | –74 dBm for 24 Mb/s | 18.3.10.2 (Receiver minimum input sensitivity) | M | Yes  No  |
| OF5.1.6 | –70 dBm for 36 Mb/s | 18.3.10.2 (Receiver minimum input sensitivity) | OF1.2.6:M | Yes  No  N/A  |
| OF5.1.7 | –66 dBm for 48 Mb/s | 18.3.10.2 (Receiver minimum input sensitivity) | OF1.2.7:M | Yes  No  N/A  |
| OF5.1.8 | –65 dBm for 54 Mb/s | 18.3.10.2 (Receiver minimum input sensitivity) | OF1.2.8:M | Yes  No  N/A  |
| OF5.2 | Adjacent channel rejection | 18.3.10.3 (Adjacent channel rejection) | M | Yes  No  |
| OF5.2.1 | Optional adjacent channel rejection | 18.3.10.3 (Adjacent channel rejection) | O | Yes  No  |
| OF5.3 | Nonadjacent channel rejection | 18.3.10.4 (Nonadjacent channel rejection) | M | Yes  No  |
| OF5.3.1 | Optional nonadjacent channel rejection | 18.3.10.4 (Nonadjacent channel rejection) | O | Yes  No  |
| OF5.4 | Maximum input level | 18.3.10.5 (Receiver maximum input level) | M | Yes  No  |
| OF5.5 | CCA sensitivity | 18.3.10.6 (CCA requirements) | M | Yes  No  |
| OF5.6 | Maximum input level sensitivity at packet error ratio (PER) = 10% with 1000 octet frames (10 MHz channel spacing) |  |  |  |
| OF5.6.1 | –85 dBm for 3 Mb/s  (10 MHz channel spacing) | 18.3.10.2 (Receiver minimum input sensitivity) | CF11& OF1.7.1:M | Yes  No  N/A  |
| OF5.6.2 | –84 dBm for 4.5 Mb/s  (10 MHz channel spacing) | 18.3.10.2 (Receiver minimum input sensitivity) | CF11& OF1.7.2:M | Yes  No  N/A  |
| OF5.6.3 | –82 dBm for 6 Mb/s  (10 MHz channel spacing) | 18.3.10.2 (Receiver minimum input sensitivity) | CF11& OF1.7.3:M | Yes  No  N/A  |
| OF5.6.4 | –80 dBm for 9 Mb/s  (10 MHz channel spacing) | 18.3.10.2 (Receiver minimum input sensitivity) | CF11& OF1.7.4:M | Yes  No  N/A  |
| OF5.6.5 | –77 dBm for 12 Mb/s  (10 MHz channel spacing) | 18.3.10.2 (Receiver minimum input sensitivity) | CF11& OF1.7.5:M | Yes  No  N/A  |
| OF5.6.6 | –73 dBm for 18 Mb/s  (10 MHz channel spacing) | 18.3.10.2 (Receiver minimum input sensitivity) | CF11& OF1.7.6:M | Yes  No  N/A  |
| OF5.6.7 | –69 dBm for 24 Mb/s  (10 MHz channel spacing) | 18.3.10.2 (Receiver minimum input sensitivity) | CF11& OF1.7.7:M | Yes  No  N/A  |
| OF5.6.8 | –68 dBm for 27 Mb/s  (10 MHz channel spacing) | 18.3.10.2 (Receiver minimum input sensitivity) | CF11& OF1.7.8:M | Yes  No  N/A  |
| OF5.7 | Adjacent channel rejection  (10 MHz channel spacing) | 18.3.10.3 (Adjacent channel rejection) | CF11& OF1.7:M | Yes  No  N/A  |
| OF5.8 | Nonadjacent channel rejection  (10 MHz channel spacing) | 18.3.10.4 (Nonadjacent channel rejection) | CF11& OF1.7:M | Yes  No  N/A  |
| OF5.9 | Maximum input level  (10 MHz channel spacing) | 18.3.10.5 (Receiver maximum input level) | CF11& OF1.7:M | Yes  No  N/A  |
| OF5.10 | CCA sensitivity  (10 MHz channel spacing) | 18.3.10.6 (CCA requirements) | CF11& OF1.7:M | Yes  No  N/A  |
| OF5.11 | Maximum input level sensitivity at packet error ratio (PER) = 10% with 1000 octet frames (5 MHz channel spacing) |  |  |  |
| OF5.11.1 | –85 dBm for 3 Mb/s  (5 MHz channel spacing) | 18.3.10.2 (Receiver minimum input sensitivity) | CF11& OF1.8.1:M | Yes  No  N/A  |
| OF5.11.2 | –84 dBm for 4.5 Mb/s  (5 MHz channel spacing) | 18.3.10.2 (Receiver minimum input sensitivity) | CF11& OF1.8.2:M | Yes  No  N/A  |
| OF5.11.3 | –82 dBm for 6 Mb/s  (5 MHz channel spacing) | 18.3.10.2 (Receiver minimum input sensitivity) | CF11& OF1.8.3:M | Yes  No  N/A  |
| OF5.11.4 | –80 dBm for 9 Mb/s  (5 MHz channel spacing) | 18.3.10.2 (Receiver minimum input sensitivity) | CF11& OF1.8.4:M | Yes  No  N/A  |
| OF5.11.5 | –77 dBm for 12 Mb/s  (5 MHz channel spacing) | 18.3.10.2 (Receiver minimum input sensitivity) | CF11& OF1.8.5:M | Yes  No  N/A  |
| OF5.11.6 | –73 dBm for 18 Mb/s  (5 MHz channel spacing) | 18.3.10.2 (Receiver minimum input sensitivity) | CF11& OF1.8.6:M | Yes  No  N/A  |
| OF5.11.7 | –69 dBm for 24 Mb/s  (5 MHz channel spacing) | 18.3.10.2 (Receiver minimum input sensitivity) | CF11& OF.1.8.7:M | Yes  No  N/A  |
| OF5.11.8 | –68 dBm for 27 Mb/s  (5 MHz channel spacing) | 18.3.10.2 (Receiver minimum input sensitivity) | CF11& OF1.8.8:M | Yes  No  N/A  |
| OF5.12 | Adjacent channel rejection  (5 MHz channel spacing) | 18.3.10.3 (Adjacent channel rejection) | CF11& OF1.8:M | Yes  No  N/A  |
| OF5.13 | Nonadjacent channel rejection  (5 MHz channel spacing) | 18.3.10.4 (Nonadjacent channel rejection) | CF11& OF1.8:M | Yes  No  N/A  |
| OF5.14 | Maximum input level  (5 MHz channel spacing) | 18.3.10.5 (Receiver maximum input level) | CF11& OF1.8:M | Yes  No  N/A  |
| OF5.15 | CCA sensitivity  (5 MHz channel spacing) | 18.3.10.6 (CCA requirements) | CF11& OF1.8:M | Yes  No  N/A  |
| OF6: Transmit PLCP | | | | |
| OF6.1 | Transmit: transmit on MAC request | 18.3.11 (Transmit PLCP) | M | Yes  No  |
| OF6.2 | Transmit: format and data encoding | 18.3.11 (Transmit PLCP) | M | Yes  No  |
| OF6.3 | Transmit: timing | 18.3.11 (Transmit PLCP) | M | Yes  No  |
| OF7: Receive PLCP | | | | |
| OF7.1 | Receive: receive and data decoding | 18.3.12 (Receive PLCP) | M | Yes  No  |
| OF8: PLME | | | | |
| OF8.1 | PLME: support PLME\_SAP  management primitives | 18.4.1 (PLME\_SAP sublayer management primitives) | M | Yes  No  |
| OF8.2 | PLME: support PHY MIB | 18.4.2 (OFDM PHY MIB) | M | Yes  No  |
| OF8.3 | PLME: support PHY characteristics | 18.4.3 (OFDM TXTIME calculation) | M | Yes  No  |
| OF8.4 | PLME:support PHY characteristics (dot11ChannelStartingFactor) | 18.4.2 (OFDM PHY MIB) | CF11:M | Yes  No  N/A  |
| OF9: OFDM PMD Sublayer | | | | |
| OF9.1 | PMD: support PMD\_SAP peer-to-peer service primitives | 18.5.4.2 (PMD\_SAP peer-to-peer service primitives), 18.5.5.2 (PMD\_DATA.request), 18.5.5.3 (PMD\_DATA.indication) | M | Yes  No  |
| OF9.2 | PMD: support PMD\_SAP sublayer-to-sublayer service primitives | 18.5.4.3 (PMD\_SAP sublayer-to-sublayer service primitives), 18.5.5.4 (PMD\_TXSTART.request), 18.5.5.5 (PMD\_TXEND.request), 18.5.5.6 (PMD\_TXPWRLVL.request), 18.5.5.7 (PMD\_RATE.request), 18.5.5.8 (PMD\_RSSI.indication) | M | Yes  No  |
| OF9.3 | PMD\_SAP service primitive parameters |  |  |  |
| OF9.3.1 | Parameter: TXD\_UNIT | 18.5.4.4 (PMD\_SAP service primitive parameters) | M | Yes  No  |
| OF9.3.2 | Parameter: RXD\_UNIT | 18.5.4.4 (PMD\_SAP service primitive parameters) | M | Yes  No  |
| OF9.3.3 | Parameter: TXPWR\_LEVEL | 18.5.4.4 (PMD\_SAP service primitive parameters) | M | Yes  No  |
| OF9.3.4 | Parameter: RATE (12 Mb/s) | 18.5.4.4 (PMD\_SAP service primitive parameters) | M | Yes  No  |
| OF9.3.5 | Parameter: RATE (24 Mb/s) | 18.5.4.4 (PMD\_SAP service primitive parameters) | M | Yes  No  |
| OF9.3.6 | Parameter: RATE (48 Mb/s) | 18.5.4.4 (PMD\_SAP service primitive parameters) | M | Yes  No  |
| OF9.3.7 | Parameter: RATE (72 Mb/s) | 18.5.4.4 (PMD\_SAP service primitive parameters) | O | Yes  No  |
| OF9.3.8 | Parameter: RSSI | 18.5.4.4 (PMD\_SAP service primitive parameters) | M | Yes  No  |
| OF9.4 |  |  |  |  |
| OF9.4.1 | Parameter: RATE  (6 Mb/s for 10 MHz channel spacing) | 18.5.4.4 (PMD\_SAP service primitive parameters) | CF11& OF1.7:M | Yes  No  N/A  |
| OF9.4.2 | Parameter: RATE  (12 Mb/s for 10 MHz channel spacing) | 18.5.4.4 (PMD\_SAP service primitive parameters) | CF11& OF1.7:M | Yes  No  N/A  |
| OF9.4.3 | Parameter: RATE  (24 Mb/s for 10 MHz channel spacing) | 18.5.4.4 (PMD\_SAP service primitive parameters) | CF11& OF1.7:M | Yes  No  N/A  |
| OF9.4.4 | Parameter: RATE  (36 Mb/s for 10 MHz channel spacing) | 18.5.4.4 (PMD\_SAP service primitive parameters) | CF11& OF1.7:O | Yes  No  N/A  |
| OF9.4.5 | Parameter: RATE  (3 Mb/s for 5MHz channel spacing) | 18.5.4.4 (PMD\_SAP service primitive parameters) | CF11& OF1.8:M | Yes  No  N/A  |
| OF9.4.6 | Parameter: RATE  (6 Mb/s for 5 MHz channel spacing) | 18.5.4.4 (PMD\_SAP service primitive parameters) | CF11& OF1.8:M | Yes  No  N/A  |
| OF9.4.7 | Parameter: RATE  (12 Mb/s for 5 MHz channel spacing) | 18.5.4.4 (PMD\_SAP service primitive parameters) | CF11& OF1.8:M | Yes  No  N/A  |
| OF9.4.8 | Parameter: RATE  (18 Mb/s for 5 MHz channel spacing) | 18.5.4.4 (PMD\_SAP service primitive parameters) | CF11& OF1.8:O | Yes  No  N/A  |
| OF10: Geographic Area Specific Requirements | | | | |
| \*OF10.1 | Geographic areas | 18.3.8.3 (Regulatory requirements),  18.3.8.4 (Operating channel frequencies),  18.3.8.5 (Transmit and receive in-band and out-of-band spurious emissions),  18.3.9.4 (Transmission spurious) | M | Yes  No  |
| OF10.2 | Regulatory domain extensions | 18.3.8.4.3 (Channelization), 18.3.8.5 (Transmit and receive in-band and out-of-band spurious emissions), 18.3.9.2 (Transmit power levels), 18.3.9.3 (Transmit spectrum mask), Annex E | CF11:M | Yes  No  N/A  |

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| * High Rate, direct sequence PHY functions | | | | |
| Item | PHY feature | References | Status | Support |
|  | Are the following PHY features -supported? |  |  |  |
| HRDS1 | Long preamble and header procedures | 17.2 (High Rate PLCP sublayer) | M | Yes  No  |
| HRDS1.1 | Long direct sequence preamble prepended on TX | 17.2.1 (Overview) | M | Yes  No  |
| HRDS1.2 | Long PLCP integrity check generation | 17.2.3 (PPDU field definitions), 17.2.3.7 (PLCP CRC (CRC-16) field) | M | Yes  No  |
| HRDS1.3 | TX rate change capability | 17.2.3.4 (Long PLCP SIGNAL field) | M | Yes  No  |
| HRDS1.4 | Supported data rates | 17.1 (Overview), 17.2.3.4 (Long PLCP SIGNAL field) | M | Yes  No  |
| HRDS1.5 | Data scrambler | 17.2.4 (PLCP/High Rate PHY data scrambler and descrambler) | M | Yes  No  |
| HRDS1.6 | Scrambler initialization | 17.2.4 (PLCP/High Rate PHY data scrambler and descrambler) | M | Yes  No  |
| \*HRDS2 | Channel Agility option | 17.3.2 (High Rate PHY MIB) | O | Yes  No  |
| \*HRDS3 | Short preamble and header procedures | 17.2 (High Rate PLCP sublayer) | O | Yes  No  |
| HRDS3.1 | Short preamble prepended on TX | 17.2.2 (PPDU format) | HRDS3:M | Yes  No  N/A  |
| HRDS3.2 | Short header transmission | 17.2.3.9 (Short PLCP synchronization (shortSYNC)), 17.2.3.10 (Short PLCP SFD field (shortSFD)),  17.2.3.11 (Short PLCP SIGNAL field (shortSIGNAL)), 17.2.3.12 (Short PLCP SERVICE field (shortSERVICE)),  17.2.3.13 (Short PLCP LENGTH field (shortLENGTH)),  17.2.3.14 (Short CRC-16 field (shortCRC)),  17.2.3.15 (Short PLCP data modulation and modulation rate change) | HRDS3:M | Yes  No  N/A  |
| HRDS4 | Long preamble process on RX | 17.2.6 (Receive PLCP) | M | Yes  No  |
| HRDS4.1 | PLCP format | 17.2.6 (Receive PLCP) | M | Yes  No  |
| HRDS4.2 | PLCP integrity check verify | 17.2.6 (Receive PLCP) | M | Yes  No  |
| HRDS4.3 | RX Rate change capability | 17.2.6 (Receive PLCP) | M | Yes  No  |
| HRDS4.4 | Data whitener descrambler | 17.2.6 (Receive PLCP) | M | Yes  No  |
| \*HRDS5 | Short preamble process on RX | 17.2.6 (Receive PLCP) | HRDS3:M | Yes  No  N/A  |
| HRDS5.1 | PLCP format | 17.2.6 (Receive PLCP) | HRDS5:M | Yes  No  N/A  |
| HRDS5.2 | PLCP integrity check verify | 17.2.6 (Receive PLCP) | HRDS5:M | Yes  No  N/A  |
| HRDS5.3 | RX rate change capability | 17.2.6 (Receive PLCP) | HRDS5:M | Yes  No  N/A  |
| HRDS5.4 | Data whitener descrambler | 17.2.6 (Receive PLCP) | HRDS5:M | Yes  No  N/A  |
| \*HRDS6 | Operating channel capability | — | — | — |
| \*HRDS6.1 | North America (FCC) | 17.4.6.3 (Channel Numbering of operating channels) | HRDS6:O.3 | Yes  No  N/A  |
| HRDS6.1.1 | Channel 1 | 17.4.6.3 (Channel Numbering of operating channels) | HRDS6.1:M | Yes  No  N/A  |
| HRDS6.1.2 | Channel 2 | 17.4.6.3 (Channel Numbering of operating channels) | HRDS6.1:M | Yes  No  N/A  |
| HRDS6.1.3 | Channel 3 | 17.4.6.3 (Channel Numbering of operating channels) | HRDS6.1:M | Yes  No  N/A  |
| HRDS6.1.4 | Channel 4 | 17.4.6.3 (Channel Numbering of operating channels) | HRDS6.1:M | Yes  No  N/A  |
| HRDS6.1.5 | Channel 5 | 17.4.6.3 (Channel Numbering of operating channels) | HRDS6.1:M | Yes  No  N/A  |
| HRDS6.1.6 | Channel 6 | 17.4.6.3 (Channel Numbering of operating channels) | HRDS6.1:M | Yes  No  N/A  |
| HRDS6.1.7 | Channel 7 | 17.4.6.3 (Channel Numbering of operating channels) | HRDS6.1:M | Yes  No  N/A  |
| HRDS6.1.8 | Channel 8 | 17.4.6.3 (Channel Numbering of operating channels) | HRDS6.1:M | Yes  No  N/A  |
| HRDS6.1.9 | Channel 9 | 17.4.6.3 (Channel Numbering of operating channels) | HRDS6.1:M | Yes  No  N/A  |
| HRDS6.1.10 | Channel 10 | 17.4.6.3 (Channel Numbering of operating channels) | HRDS6.1:M | Yes  No  N/A  |
| HRDS6.1.11 | Channel 11 | 17.4.6.3 (Channel Numbering of operating channels) | HRDS6.1:M | Yes  No  N/A  |
| \*HRDS6.2 | Canada (IC) | 17.4.6.3 (Channel Numbering of operating channels) | HRDS6:O.3 | Yes  No  N/A  |
| HRDS6.2.1 | Channel 1 | 17.4.6.3 (Channel Numbering of operating channels) | HRDS6.2:M | Yes  No  N/A  |
| HRDS6.2.2 | Channel 2 | 17.4.6.3 (Channel Numbering of operating channels) | HRDS6.2:M | Yes  No  N/A  |
| HRDS6.2.3 | Channel 3 | 17.4.6.3 (Channel Numbering of operating channels) | HRDS6.2:M | Yes  No  N/A  |
| HRDS6.2.4 | Channel 4 | 17.4.6.3 (Channel Numbering of operating channels) | HRDS6.2:M | Yes  No  N/A  |
| HRDS6.2.5 | Channel 5 | 17.4.6.3 (Channel Numbering of operating channels) | HRDS6.2:M | Yes  No  N/A  |
| HRDS6.2.6 | Channel 6 | 17.4.6.3 (Channel Numbering of operating channels) | HRDS6.2:M | Yes  No  N/A  |
| HRDS6.2.7 | Channel 7 | 17.4.6.3 (Channel Numbering of operating channels) | HRDS6.2:M | Yes  No  N/A  |
| HRDS6.2.8 | Channel 8 | 17.4.6.3 (Channel Numbering of operating channels) | HRDS6.2:M | Yes  No  N/A  |
| HRDS6.2.9 | Channel 9 | 17.4.6.3 (Channel Numbering of operating channels) | HRDS6.2:M | Yes  No  N/A  |
| HRDS6.2.10 | Channel 10 | 17.4.6.3 (Channel Numbering of operating channels) | HRDS6.2:M | Yes  No  N/A  |
| HRDS6.2.11 | Channel 11 | 17.4.6.3 (Channel Numbering of operating channels) | HRDS6.2:M | Yes  No  N/A  |
| \*HRDS6.3 | Europe (ETSI) | 17.4.6.3 (Channel Numbering of operating channels) | HRDS6:O.3 | Yes  No  N/A  |
| HRDS6.3.1 | Channel 1 | 17.4.6.3 (Channel Numbering of operating channels) | HRDS6.3:M | Yes  No  N/A  |
| HRDS6.3.2 | Channel 2 | 17.4.6.3 (Channel Numbering of operating channels) | HRDS6.3:M | Yes  No  N/A  |
| HRDS6.3.3 | Channel 3 | 17.4.6.3 (Channel Numbering of operating channels) | HRDS6.3:M | Yes  No  N/A  |
| HRDS6.3.4 | Channel 4 | 17.4.6.3 (Channel Numbering of operating channels) | HRDS6.3:M | Yes  No  N/A  |
| HRDS6.3.5 | Channel 5 | 17.4.6.3 (Channel Numbering of operating channels) | HRDS6.3:M | Yes  No  N/A  |
| HRDS6.3.6 | Channel 6 | 17.4.6.3 (Channel Numbering of operating channels) | HRDS6.3:M | Yes  No  N/A  |
| HRDS6.3.7 | Channel 7 | 17.4.6.3 (Channel Numbering of operating channels) | HRDS6.3:M | Yes  No  N/A  |
| HRDS6.3.8 | Channel 8 | 17.4.6.3 (Channel Numbering of operating channels) | HRDS6.3:M | Yes  No  N/A  |
| HRDS6.3.9 | Channel 9 | 17.4.6.3 (Channel Numbering of operating channels) | HRDS6.3:M | Yes  No  N/A  |
| HRDS6.3.10 | Channel 10 | 17.4.6.3 (Channel Numbering of operating channels) | HRDS6.3:M | Yes  No  N/A  |
| HRDS6.3.11 | Channel 11 | 17.4.6.3 (Channel Numbering of operating channels) | HRDS6.3:M | Yes  No  N/A  |
| HRDS6.3.12 | Channel 12 | 17.4.6.3 (Channel Numbering of operating channels) | HRDS6.3:M | Yes  No  N/A  |
| HRDS6.3.13 | Channel 13 | 17.4.6.3 (Channel Numbering of operating channels) | HRDS6.3:M | Yes  No  N/A  |
| \*HRDS6.4 | France | 17.4.6.3 (Channel Numbering of operating channels) | HRDS6:O.3 | Yes  No  N/A  |
| HRDS6.4.1 | Channel 10 | 17.4.6.3 (Channel Numbering of operating channels) | HRDS6.4:M | Yes  No  N/A  |
| HRDS6.4.2 | Channel 11 | 17.4.6.3 (Channel Numbering of operating channels) | HRDS6.4:M | Yes  No  N/A  |
| HRDS6.4.3 | Channel 12 | 17.4.6.3 (Channel Numbering of operating channels) | HRDS6.4:M | Yes  No  N/A  |
| HRDS6.4.4 | Channel 13 | 17.4.6.3 (Channel Numbering of operating channels) | HRDS6.4:M | Yes  No  N/A  |
| \*HRDS6.5 | Spain | 17.4.6.3 (Channel Numbering of operating channels) | HRDS6:O.3 | Yes  No  N/A  |
| HRDS6.5.1 | Channel 10 | 17.4.6.3 (Channel Numbering of operating channels) | HRDS6.5:M | Yes  No  N/A  |
| HRDS6.5.2 | Channel 11 | 17.4.6.3 (Channel Numbering of operating channels) | HRDS6.5:M | Yes  No  N/A  |
| \*HRDS6.6 | Japan | 17.4.6.3 (Channel Numbering of operating channels) | HRDS6:O.3 | Yes  No  N/A  |
| HRDS6.6.1 | Channel 1 | 17.4.6.3 (Channel Numbering of operating channels) | HRDS6.6:M | Yes  No  N/A  |
| HRDS6.6.2 | Channel 2 | 17.4.6.3 (Channel Numbering of operating channels) | HRDS6.6:M | Yes  No  N/A  |
| HRDS6.6.3 | Channel 3 | 17.4.6.3 (Channel Numbering of operating channels) | HRDS6.6:M | Yes  No  N/A  |
| HRDS6.6.4 | Channel 4 | 17.4.6.3 (Channel Numbering of operating channels) | HRDS6.6:M | Yes  No  N/A  |
| HRDS6.6.5 | Channel 5 | 17.4.6.3 (Channel Numbering of operating channels) | HRDS6.6:M | Yes  No  N/A  |
| HRDS6.6.6 | Channel 6 | 17.4.6.3 (Channel Numbering of operating channels) | HRDS6.6:M | Yes  No  N/A  |
| HRDS6.6.7 | Channel 7 | 17.4.6.3 (Channel Numbering of operating channels) | HRDS6.6:M | Yes  No  N/A  |
| HRDS6.6.8 | Channel 8 | 17.4.6.3 (Channel Numbering of operating channels) | HRDS6.6:M | Yes  No  N/A  |
| HRDS6.6.9 | Channel 9 | 17.4.6.3 (Channel Numbering of operating channels) | HRDS6.6:M | Yes  No  N/A  |
| HRDS6.6.10 | Channel 10 | 17.4.6.3 (Channel Numbering of operating channels) | HRDS6.6:M | Yes  No  N/A  |
| HRDS6.6.11 | Channel 11 | 17.4.6.3 (Channel Numbering of operating channels) | HRDS6.6:M | Yes  No  N/A  |
| HRDS6.6.12 | Channel 12 | 17.4.6.3 (Channel Numbering of operating channels) | HRDS6.6:M | Yes  No  N/A  |
| HRDS6.6.13 | Channel 13 | 17.4.6.3 (Channel Numbering of operating channels) | HRDS6.6:M | Yes  No  N/A  |
| HRDS6.6.14 | Channel 14 | 17.4.6.3 (Channel Numbering of operating channels) | HRDS6.6:M | Yes  No  N/A  |
| \*HRDS6.7 | China (Radio Administration The Radio Administration of P.R.China) | 17.4.6.3 (Channel Numbering of operating channels) | HRDS6:O.3 | Yes  No  N/A  |
| HRDS6.7.1 | Channel 1 | 17.4.6.3 (Channel Numbering of operating channels) | HRDS6.7:M | Yes  No  N/A  |
| HRDS6.7.2 | Channel 2 | 17.4.6.3 (Channel Numbering of operating channels) | HRDS6.7:M | Yes  No  N/A  |
| HRDS6.7.3 | Channel 3 | 17.4.6.3 (Channel Numbering of operating channels) | HRDS6.7:M | Yes  No  N/A  |
| HRDS6.7.4 | Channel 4 | 17.4.6.3 (Channel Numbering of operating channels) | HRDS6.7:M | Yes  No  N/A  |
| HRDS6.7.5 | Channel 5 | 17.4.6.3 (Channel Numbering of operating channels) | HRDS6.7:M | Yes  No  N/A  |
| HRDS6.7.6 | Channel 6 | 17.4.6.3 (Channel Numbering of operating channels) | HRDS6.7:M | Yes  No  N/A  |
| HRDS6.7.7 | Channel 7 | 17.4.6.3 (Channel Numbering of operating channels) | HRDS6.7:M | Yes  No  N/A  |
| HRDS6.7.8 | Channel 8 | 17.4.6.3 (Channel Numbering of operating channels) | HRDS6.7:M | Yes  No  N/A  |
| HRDS6.7.9 | Channel 9 | 17.4.6.3 (Channel Numbering of operating channels) | HRDS6.7:M | Yes  No  N/A  |
| HRDS6.7.10 | Channel 10 | 17.4.6.3 (Channel Numbering of operating channels) | HRDS6.7:M | Yes  No  N/A  |
| HRDS6.7.11 | Channel 11 | 17.4.6.3 (Channel Numbering of operating channels) | HRDS6.7:M | Yes  No  N/A  |
| HRDS6.7.12 | Channel 12 | 17.4.6.3 (Channel Numbering of operating channels) | HRDS6.7:M | Yes  No  N/A  |
| HRDS6.7.13 | Channel 13 | 17.4.6.3 (Channel Numbering of operating channels) | HRDS6.7:M | Yes  No  N/A  |
| HRDS7 | Hop sequences |  | HRDS2:M | Yes  No  N/A  |
| HRDS8 | Complementary code keying (CCK) bits to symbol mapping |  |  |  |
| HRDS8.1 | 5.5 Mb/s | 17.4.6.6 (Spreading sequences and modulation for CCK modulation at 5.5 Mb/s and 11 Mb/s) | M | Yes  No  |
| HRDS8.2 | 11 Mb/s | 17.4.6.6 (Spreading sequences and modulation for CCK modulation at 5.5 Mb/s and 11 Mb/s) | M | Yes  No  |
| \*HRDS9 | PBCC bits to symbol mappings | 17.4.6.7 (DSSS/PBCC data modulation and modulation rate (optional)) | O | Yes  No  |
| HRDS9.1 | 5.5 Mb/s | 17.4.6.7 (DSSS/PBCC data modulation and modulation rate (optional)) | HRDS9:M | Yes  No  N/A  |
| HRDS9.2 | 11 Mb/s | 17.4.6.7 (DSSS/PBCC data modulation and modulation rate (optional)) | HRDS9:M | Yes  No  N/A  |
| \*HRDS10 | CCA functionality | 17.4.8.5 (CCA) |  |  |
| HRDS10.1 | CCA Mode 1, energy only (RSSI above threshold) | 17.4.8.5 (CCA) | HRDS10:O.4 | Yes  No  N/A  |
| HRDS10.2 | CCA Mode 4, CS with timer | 17.4.8.5 (CCA) | HRDS10:O.4 | Yes  No  N/A  |
| HRDS10.3 | CCA Mode 5, energy detect with High Rate CS | 17.4.8.5 (CCA) | HRDS10:O.4 | Yes  No  N/A  |
| HRDS10.4 | Hold CCA busy for packet duration of a correctly received PLCP, but carrier lost during reception of MPDU. | 17.2.6 (Receive PLCP) | M | Yes  No  |
| HRDS10.5 | Hold CCA busy for packet duration of a correctly received, but out of spec, PLCP. | 17.2.6 (Receive PLCP) | M | Yes  No  |
| HRDS11 | Transmit antenna selection | 17.4.5.9 (PMD\_ANTSEL.request) | O | Yes  No  |
| HRDS12 | Receive antenna diversity | 17.4.5.9 (PMD\_ANTSEL.request), 17.4.5.10 (PMD\_TXPWRLVL.request) | O | Yes  No  |
| \*HRDS13 | Antenna port(s) availability | 17.4.6.9 (Transmit and receive in-band and out-of-band spurious emissions) | O | Yes  No  |
| HRDS13.1 | If available (50 impedance) | 17.4.6.9 (Transmit and receive in-band and out-of-band spurious emissions) | HRDS13:M | Yes  No  N/A  |
| \*HRDS14 | Transmit power level support | 17.4.5.10 (PMD\_TXPWRLVL.request), 17.4.7.3 (Transmit power level control) | O | Yes  No  |
| HRDS14.1 | If greater than 100 mW capability | 17.4.7.3 (Transmit power level control) | HRDS14:M | Yes  No  N/A  |
| HRDS15 | Spurious emissions conformance | 17.4.6.9 (Transmit and receive in-band and out-of-band spurious emissions) | M | Yes  No  |
| HRDS16 | TX-to-RX turnaround time | 17.4.6.10 (TX-to-RX turnaround time) | M | Yes  No  |
| HRDS17 | RX-to-TX turnaround time | 17.4.6.11 (RX-to-TX turnaround time) | M | Yes  No  |
| HRDS18 | Slot time | 17.4.6.12 (Slot time) | M | Yes  No  |
| HRDS19 | ED reporting time | 17.4.6.11 (RX-to-TX turnaround time), 17.4.8.5 (CCA) | M | Yes  No  |
| HRDS20 | Minimum transmit power level | 17.4.7.3 (Transmit power level control) | M | Yes  No  |
| HRDS21 | Transmit spectral mask conformance | 17.4.7.4 (Transmit spectrum mask) | M | Yes  No  |
| HRDS22 | Transmitted center frequency tolerance | 17.4.7.5 (Transmit center frequency tolerance) | M | Yes  No  |
| HRDS23 | Chip clock frequency tolerance | 17.4.7.6 (Chip clock frequency tolerance) | M | Yes  No  |
| HRDS24 | Transmit power-on ramp | 17.4.7.7 (Transmit power-on and power-down ramp) | M | Yes  No  |
| HRDS25 | Transmit power-down ramp | 17.4.7.7 (Transmit power-on and power-down ramp) | M | Yes  No  |
| HRDS26 | RF carrier suppression | 17.4.7.8 (RF carrier suppression) | M | Yes  No  |
| HRDS27 | Transmit modulation accuracy | 17.4.7.9 (Transmit modulation accuracy) | M | Yes  No  |
| HRDS28 | Receiver minimum input level  sensitivity | 17.4.8.2 (Receiver minimum input level sensitivity) | M | Yes  No  |
| HRDS29 | Receiver maximum input level | 17.4.8.3 (Receiver maximum input level) | M | Yes  No  |
| HRDS30 | Receiver adjacent channel rejection | 17.4.8.4 (Receiver adjacent channel rejection) | M | Yes  No  |
| HRDS31 | MIB | 17.3.2 (High Rate PHY MIB), Annex J | M | Yes  No  |
| HRDS31.1 | PHY object class | 17.3.3 (DS PHY characteristics) | M | Yes  No  |

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| * Regulatory Domain Extensions | | | | |
| Item | Protocol capability | References | Status | Support |
| MD1 | Country element  Length  Country String  First Channel Number  Maximum Transmit Power Level  Number of Channels | 8.3.3.2 (Beacon frame format),  8.3.3.10 (Probe Response frame format)  8.4.2.10 (Country element) | CF8:M | Yes  No  N/A  |
| MD2 | Inclusion of the Request information in the Probe Request frame | 8.3.3.9 (Probe Request frame format) | CF8:O | Yes  No  N/A  |
| MD3 | Hopping Pattern Parameters  Element ID  Prime Radix  Number of Channels | 8.4.2.11 (Hopping Pattern Parameters element) | (CF3 or (CF7 and HRDS2)) and CF8:M | Yes  No  N/A  |
| MD4 | Hopping Pattern element    Format  Element ID  Random table method | 8.4.2.12 (Hopping Pattern Table element) | (CF3 or (CF7 and HRDS2)) and CF8:M | Yes  No  N/A  |
| MD5 | Request element    Format  Element ID  Order of the Requested Elemented IDs | 8.4.2.13 (Request element) | CF8:M | Yes  No  N/A  |
| MD6 | Entering a Regulatory Domain  Lost Connectivity with its extended service set (ESS)  Passive Scanning to learn  Beacon information  Transmit Probe Request | 9.18.2 (Operation upon entering a regulatory domain) | CF8:M | Yes  No  N/A  |
| MD7 | Determination of the Hopping Patterns  [Hop Index Method without table, Hop Index Method with table, and hyperbolic congruence code (HCC)/extended HCC (EHCC)]  The hopping pattern option is obsolete. Consequently this option may be removed in a later revision of the standard. | 8.4.2.12 (Hopping Pattern Table element), 9.18.3 (Determination of hopping patterns for FH PHYs) | (CF3 or (CF7 and HRDS2)) and CF8:M | Yes  No  N/A  |
| MD8 | Roaming requires Beacon frame with country element | 10.1.4.4 (Initializing a BSS) | CF8:M | Yes  No  N/A  |
| MD9 | Actions to be taken upon the receipt of the Beacon frame | 10.1.4.5 (Synchronizing with a BSS) | CF8:M | Yes  No  N/A  |
| MD10 | Ignore improperly formed Request element | 8.3.3.10 (Probe Response frame format) | CF8:O | Yes  No  N/A  |
| MD11 | Hopping Pattern set attribute | 14.9.2.19 (dot11CurrentSet) | (CF3 or (CF7 and HRDS2)) and CF8:M | Yes  No  N/A  |
| MD12 | Operating and Coverage classes | 8.4.2.10 (Country element) | RC1:M | Yes  No  N/A  |
| MD13 | Reserved First Channel Number | 9.18.5 (Operation with operating classes) | CF15:M | Yes  No  N/A  |
| MD14 | Reserved Operating Class | 9.18.5 (Operation with operating classes) | CF15:M | Yes  No  N/A  |
| MD15 | Operation with operating classes  Multiple classes in Country element  Multiple classes in Association and Reassociation frames | 9.18.5 (Operation with operating classes)  9.18.5 (Operation with operating classes) | CF15:M  CF15:M | Yes  No  N/A    Yes  No  N/A  |

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| * ERP functions | | | | |
| Item | PHY features | References | Status | Support |
| \*ERP1 | Transmit and Receive ERP-DSSS data rates 1 and 2 Mb/s and ERP-CCK data rates 5.5 and 11 Mb/s | 19.3.2 (PPDU format) | CF9:M | Yes  No  N/A  |
| ERP1.1 | Transmit and receive ERP-OFDM data rates of 6, 12, and 24 Mb/s | 19.3.2 (PPDU format) | CF9:M | Yes  No  N/A  |
| ERP1.2 | Transmit and receive ERP-OFDM data rate of 9 Mb/s | 19.3.2 (PPDU format) | ERP1:O | Yes  No  N/A  |
| ERP1.3 | Transmit and receive ERP-OFDM data rate of 18 Mb/s | 19.3.2 (PPDU format) | ERP1:O | Yes  No  N/A  |
| ERP1.4 | Transmit and receive ERP-OFDM data rate of 36 Mb/s | 19.3.2 (PPDU format) | ERP1:O | Yes  No  N/A  |
| ERP1.5 | Transmit and receive ERP-OFDM data rate of 48 Mb/s | 19.3.2 (PPDU format) | ERP1:O | Yes  No  N/A  |
| ERP1.6 | Transmit and receive ERP-OFDM data rate of 54 Mb/s | 19.3.2 (PPDU format) | ERP1:O | Yes  No  N/A  |
| \*ERP2 | Transmit and receive ERP-PBCC data rate of 22 Mb/s  The ERP-PBCC option is obsolete. Consequently this option may be removed in a later revision of the standard. | 19.3.2 (PPDU format) | CF9&HRDS9.1&HRDS9.2:O | Yes  No  N/A  |
| ERP2.1 | Transmit and receive ERP-PBCC data rate of 33 Mb/s | 19.3.2 (PPDU format) | ERP2:O | Yes  No  N/A  |
| \*ERP3 | Transmit and receive DSSS-OFDM data at same rates as ERP-OFDM | 19.3.2 (PPDU format) | CF9:O | Yes  No  N/A  |
| ERP4 | Support of ERP3 required PPDU formats as described in -reference | 19.3.2 (PPDU format) | CF9:O | Yes  No  N/A  |
| ERP5 | Able to transmit and receive long and short DSSS as well as OFDM preambles | 19.3.2 (PPDU format) | CF9:M | Yes  No  N/A  |
| ERP6 | Set SERVICE field bits for DSSS-OFDM, ERP-PBCC, locked clocks, and length extension (b0, b2, b3, b5, b6, and b7) | 19.3.2.2 (Long preamble PPDU format) | CF9:M | Yes  No  N/A  |
| ERP7 | Set b1 and b4 of long and short preamble PPDU SERVICE field to 0 | 19.3.2.2 (Long preamble PPDU format) | CF9:M | Yes  No  N/A  |
| ERP8 | b2 shall be set to 1 in all long and short preamble PPDU SERVICE fields | 19.3.2.2 (Long preamble PPDU format) | CF9:M | Yes  No  N/A  |
| ERP9 | Set bits b5, b6, and b7 of the long and short preamble PPDU -SERVICE fields as described in the -reference | 19.3.2.2 (Long preamble PPDU format), 19.3.2.2.3 (ERP-PBCC PLCP length (LENGTH) field calculation) | CF9:M | Yes  No  N/A  |
| ERP10 | Use Clause 16 (DSSS PHY specification for the 2.4 GHz band designated for ISM -applications) or Clause 17 (High Rate direct sequence spread spectrum (HR/DSSS) PHY -specification) rates when using protection -mechanisms | 9.23 (Protection mechanisms) | CF9:M | Yes  No  N/A  |
| ERP11 | SIGNAL field set to 3 Mb/s in all long and short DSSS-OFDM PPDU formats as described in the -reference | 19.3.2.5 (DSSS-OFDM long preamble PPDU format) | ERP3:M | Yes  No  N/A  |
| ERP12 | Calculate DSSS-OFDM length with signal extension | 19.3.2.6 (DSSS-OFDM PLCP length field calculation) | ERP3:M | Yes  No  N/A  |
| ERP13 | Set ERP-PBCC encoder in state 0 at beginning of PPDU | 19.3.3.2 (ERP-PBCC 22 Mb/s and 33 Mb/s formats) | ERP2:M | Yes  No  N/A  |
| ERP14 | Set phase of ERP-PBCC relative to header | 19.3.3.2 (ERP-PBCC 22 Mb/s and 33 Mb/s formats) | ERP2:M | Yes  No  N/A  |
| ERP15 | Use same pulse shape for 22 and 33 Mb/s | 19.3.3.2 (ERP-PBCC 22 Mb/s and 33 Mb/s formats) | ERP2:M | Yes  No  N/A  |
| ERP16 | Add signal extension of 6 µs | 19.3.2.4 (ERP-OFDM PPDU format) | CF9:M | Yes  No  N/A  |
| ERP17 | Simultaneous CCA on long preamble Barker, short preamble Barker, and OFDM | 19.3.5 (CCA) | CF9:M | Yes  No  N/A  |
| ERP18 | CCA with energy detect above threshold and CS | 19.3.5 (CCA) | CF9:M | Yes  No  N/A  |
| ERP19 | Decode as DSSS-OFDM if signal field indicates 3 Mb/s | 19.3.6 (PLCP receive procedure) | ERP3:M | Yes  No  N/A  |
| ERP20 | Able to automatically detect format of long preamble Barker, short preamble Barker, and OFDM and receive appropriately | 19.3.6 (PLCP receive procedure) | CF9:M | Yes  No  N/A  |
| ERP21 | Comply with local regulatory frequency allocation requirements | 19.4.2 (Regulatory requirements) | CF9:M | Yes  No  N/A  |
| ERP22 | Use frequency plan for 2.4 GHz | 19.4.3 (Operating channel frequencies) | CF9:M | Yes  No  N/A  |
| ERP23 | Comply with regulatory spurious emissions -regulations | 19.4.4 (Transmit and receive in-band and out-of-band spurious emissions) | CF9:M | Yes  No  N/A  |
| ERP24 | Slot time requirements | 19.4.5 (Slot time) | CF9:M | Yes  No  N/A  |
| ERP25 | Implement Short Slot Time option | 19.4.5 (Slot time) | CF9:O | Yes  No  N/A  |
| ERP26 | Use 10 µs short interframe space (SIFS) time | 19.4.7 (CCA performance) | CF9:M | Yes  No  N/A  |
| ERP27 | Comply with regulatory transmit power -requirements | 19.4.8.2 (Transmit power levels) | CF9:M | Yes  No  N/A  |
| ERP28 | ± 25 PPM frequency tolerance | 19.4.8.3 (Transmit center frequency tolerance) | CF9:M | Yes  No  N/A  |
| ERP29 | Use locked clocks | 19.4.8.3 (Transmit center frequency tolerance), 19.4.8.4 (Symbol clock frequency tolerance) | CF9:M | Yes  No  N/A  |
| ERP30 | Tolerate input level of   –20 dBm | 19.5.4 (Receive maximum input level capability) | CF9:M | Yes  No  N/A  |
| ERP31 | Use specified transmit mask | 19.5.5 (Transmit spectral mask) | CF9:M | Yes  No  N/A  |
| ERP32 | Meet sensitivity for all supported data rates | 19.5.2 (Receiver minimum input level sensitivity) | CF9:M | Yes  No  N/A  |
| ERP33 | Reject adjacent channels as in Table 18-14 (Receiver performance requirements) in 18.3.10.2 (Receiver minimum input sensitivity) or in 17.4.8.4 (Receiver adjacent channel rejection) as appropriate | 19.5.3 (Adjacent channel rejection) | CF9:M | Yes  No  N/A  |
| ERP34 | Coherent transition of ERP-DSSS to OFDM | 19.7.3 (Single carrier to multicarrier transition requirements), 19.7.3.8 (Transmit modulation accuracy requirement) | ERP3:M | Yes  No  N/A  |
| ERP35 | Same signal shaping of ERP-DSSS and OFDM | 19.7.3.2 (Spectral binding requirement) | ERP3:M | Yes  No  N/A  |
| ERP36 | Transmit power equal for ERP-DSSS and OFDM segments | 19.7.3.3 (Sample-power matching requirement) | ERP3:M | Yes  No  N/A  |
| ERP37 | Align transition time | 19.7.3.4 (Transition time alignment) | ERP3:M | Yes  No  N/A  |
| ERP38 | Set transition phase to 45 degrees | 19.7.3.4 (Transition time alignment) | ERP3:M | Yes  No  N/A  |
| ERP39 | Calculate ERP-OFDM TXTIME | 19.8.3.2 (ERP-OFDM TXTIME calculations) | CF9:M | Yes  No  N/A  |
| ERP40 | Calculate ERP-PBCC TXTIME | 19.8.3.3 (ERP-PBCC TXTIME calculations) | ERP2:M | Yes  No  N/A  |
| ERP41 | Calculate DSSS-OFDM TXTIME | 19.8.3.4 (DSSS-OFDM TXTIME calculations) | ERP3:M | Yes  No  N/A  |
| ERP42 | Revert to long slot time when establishing association with a long slot time STA | 8.4.1.4 (Capability Information field) | CF9:M | Yes  No  N/A  |
| ERP43 | Support TXVECTOR and RXVECTOR as described in reference | 9.3 (DCF) | CF9:M | Yes  No  N/A  |
| ERP44 | Terminate single carrier segment smoothly | 19.7.3.5 (Single carrier termination) | ERP3:M | Yes  No  N/A  |

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| * Spectrum management extensions | | | | |
| Item | IUT configuration | References | Status | Support |
| SM1 | Country, Power Constraint, and transmit power control (TPC) Report elements included in -Beacon and Probe Response frames | 8.3.3.2 (Beacon frame format), 8.3.3.10 (Probe Response frame format), 8.4.2.10 (Country element), 8.4.2.14 (ERP element), 8.4.2.17 (Power Capability element) | CF10:M | Yes  No  N/A  |
| SM2 | Spectrum Management Capability bit | 8.4.1.4 (Capability Information field) | CF10:M | Yes  No  N/A  |
| SM3 | Power Capability and Supported -Channels elements in Association and Reassociation frames | 8.3.3.5 (Association Request frame format), 8.3.3.6 (Association Response frame format), 10.6.1 (Introduction) | CF10:M | Yes  No  N/A  |
| SM4 | Action frame protocol for spectrum -management actions | 8.4.1.11 (Action field), 8.5 (Action frame format details) | CF10:M | Yes  No  N/A  |
| SM4.1 | Measurement Request frame | 8.5.2.2 (Measurement Request frame format) | CF10:M | Yes  No  N/A  |
| SM4.2 | Measurement Report frame | 8.5.2.3 (Measurement Report frame format) | CF10:M | Yes  No  N/A  |
| SM4.3 | TPC Request frame | 8.5.2.4 (TPC Request frame format) | CF10:M | Yes  No  N/A  |
| SM4.4 | TPC Report frame | 8.5.2.5 (TPC Report frame format) | CF10:M | Yes  No  N/A  |
| SM4.5 | Channel Switch Announcement frame | 8.5.2.6 (Channel Switch Announcement frame format) | CF10:M | Yes  No  N/A  |
| SM5 | Measurement requests |  |  |  |
| SM5.1 | Basic request | 8.4.2.23.2 (Basic request) | CF10:M | Yes  No  N/A  |
| SM5.2 | CCA request | 8.4.2.23.3 (CCA request) | CF10:O | Yes  No  N/A  |
| SM5.3 | Receive power indication (RPI) -histogram | 8.4.2.23.4 (RPI histogram request) | CF10:O | Yes  No  N/A  |
| SM5.4 | Enabling/disabling requests and reports | 8.4.2.23 (Measurement Request element) | CF10:M | Yes  No  N/A  |
| SM6 | Measurement reports |  |  |  |
| SM6.1 | Basic report | 8.4.2.24.2 (Basic report) | CF10:M | Yes  No  N/A  |
| SM6.2 | CCA report | 8.4.2.24.3 (CCA report) | CF10:O | Yes  No  N/A  |
| SM6.3 | RPI histogram report | 8.4.2.24.4 (RPI histogram report) | CF10:O | Yes  No  N/A  |
| SM6.4 | Refusal to measure | 8.4.2.24 (Measurement Report element) | CF10:M | Yes  No  N/A  |
| SM7 | Quiet interval |  |  |  |
| SM7.1 | AP-defined Quiet interval | 8.3.3.2 (Beacon frame format), 8.3.3.10 (Probe Response frame format), 8.4.2.25 (Quiet element), 10.6.2 (Procedure at the STA) | CF1 and CF10:M | Yes  No  N/A  |
| SM7.2 | STA-defined Quiet interval | 8.3.3.2 (Beacon frame format), 8.3.3.10 (Probe Response frame format), 8.4.2.25 (Quiet element), 10.6.2 (Procedure at the STA) | CF2.1 and CF10:M | Yes  No  N/A  |
| SM7.3 | STA support for Quiet interval | 8.3.3.2 (Beacon frame format), 8.3.3.10 (Probe Response frame format), 8.4.2.25 (Quiet element), 10.6.2 (Procedure at the STA) | CF10:M | Yes  No  N/A  |
| SM8 | Association control based on -spectrum management capability | 10.5 (Block Ack operation), 10.6 (Higher layer timer synchronization) | CF1 and CF10:M | Yes  No  N/A  |
| SM9 | Association control based on -transmit power capability | 10.8.2 (Association based on transmit power capability) | CF1 and CF10:M | Yes  No  N/A  |
| SM10 | Maximum transmit power levels |  |  |  |
| SM10.1 | AP determination and communication of local maximum transmit power level | 10.8.4 (Specification of regulatory and local maximum transmit power levels) | CF1 and CF10:M | Yes  No  N/A  |
| SM10.2 | STA determination and communication of local maximum transmit power level | 10.8.4 (Specification of regulatory and local maximum transmit power levels) | (CF2.1 or CF2.2) and CF10:M | Yes  No  N/A  |
| SM11 | Selection of transmit power | 10.8.5 (Selection of a transmit power) | CF10:M | Yes  No  N/A  |
| SM12 | Adaptation of transmit power |  |  |  |
| SM12.1 | TPC report in Beacon and Probe Response frames | 10.8.6 (Adaptation of the transmit power) | CF10:M | Yes  No  N/A  |
| SM13.1 | Dynamic transmit power -adaptation | 10.8.6 (Adaptation of the transmit power) | CF10:O | Yes  No  N/A  |
| SM13 | Testing channels for radars | 10.9.4 (Testing channels for radars) | CF10:M | Yes  No  N/A  |
| SM14 | Detecting and discontinuing -operations after detection of a radar | 10.9.5 (Discontinuing operations after detecting radars) | CF10:M | Yes  No  N/A  |
| SM15 | Requesting and reporting of -measurements | 10.9.7 (Requesting and reporting of measurements) | CF10:M | Yes  No  N/A  |
| SM16 | Autonomous reporting of radars | 10.9.7 (Requesting and reporting of measurements) | CF10:M | Yes  No  N/A  |
| SM17 | IBSS dynamic frequency selection (DFS) -element including channel map | 8.4.2.26 (IBSS DFS element) | CF2.2 and CF10:M | Yes  No  N/A  |
| SM18 | DFS owner function | 10.9.8 (Selecting and advertising a new channel) | CF2.2 and CF10:M | Yes  No  N/A  |
| SM19 | DFS owner recovery procedure | 10.9.8 (Selecting and advertising a new channel) | CF2.2 and CF10:M | Yes  No  N/A  |
| SM20 | Channel switch procedure |  |  |  |
| SM20.1 | Transmission of channel switch announcement and channel switch procedure by an AP | 10.9.8 (Selecting and advertising a new channel) | CF1 and CF10:M | Yes  No  N/A  |
| SM20.2 | Transmission of channel switch announcement and channel switch procedure by a STA | 10.9.8 (Selecting and advertising a new channel) | CF2.1 and CF10:M | Yes  No  N/A  |
| SM20.3 | Reception of channel switch announcement and channel switch procedure by a STA | 10.9.8 (Selecting and advertising a new channel) | CF10:M | Yes  No  N/A  |

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| * Operating Classes extensions | | | | |
| Item | Protocol capability | References | Status | Support |
| RC1 | Operating and coverage classes | 8.4.2.10 (Country element) | CF8&CF11:M | Yes  No  N/A  |
| RC2 | Operating and coverage classes (20 MHz channel spacing) | 8.4.2.10 (Country element), 18.3.8.7 (Slot time) | CF8&CF11:M | Yes  No  N/A  |
| RC3 | Operating and coverage classes (10 MHz channel spacing) | 8.4.2.10 (Country element), 18.3.8.7 (Slot time) | CF8&CF11& OF1.7:M | Yes  No  N/A  |
| RC4 | Operating and coverage classes (5 MHz channel spacing) | 8.4.2.10 (Country element), 18.3.8.7 (Slot time) | CF8&CF11& OF1.8:M | Yes  No  N/A  |
| RC5 | Coverage classes 0–31 | 9.18.6 (Operation with coverage classes) | CF15:M | Yes  No  N/A  |
|  | Coverage class operation when not associated | 9.18.6 (Operation with coverage classes) | CF15:M | Yes  No  N/A  |
| RC6 | Power level, equivalent maximum transmit power level and operating class | 9.18.6 (Operation with coverage classes) | CF15:M | Yes  No  N/A  |
|  | Power level operation when not associated | 9.18.6 (Operation with coverage classes) | CF15:M | Yes  No  N/A  |
| RC7 | Power level, different maximum transmit power level and operating class | 9.18.6 (Operation with coverage classes) | CF15:M | Yes  No  N/A  |
|  | Power level operation when not associated | 9.18.6 (Operation with coverage classes) | CF15:M | Yes  No  N/A  |

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| * QoS base functionality | | | | |
| Item | Protocol capability | References | Status | Support |
| QB1 | QoS frame format | 8.3.1.2 (RTS frame format)–8.3.1.4 (ACK frame format), 8.3.2.1 (Data frame format), 8.3.3.2 (Beacon frame format), 8.3.3.5 (Association Request frame format)–8.3.3.8 (Reassociation Response frame format), 8.3.3.10 (Probe Response frame format), 8.3.3.13 (Action frame format) | CF12:M | Yes  No  N/A  |
| QB2 | Per traffic identifier (TID) -duplicate detection | 8.2.4.4 (Sequence Control field), 8.2.4.5 (QoS Control field), 9.3.2.10 (Duplicate detection and recovery) | CF12:M | Yes  No  N/A  |
| QB3 | Decode of no-acknowledgment policy in QoS data frames | 8.2.4.5.4 (Ack Policy subfield), 9.19.2.4 (Multiple frame transmission in an EDCA TXOP), 9.19.2.5 (EDCA backoff procedure), 9.19.4.2 (Contention-based admission control procedures), 9.19.4.3 (Controlled-access admission control) | CF12:M | Yes  No  N/A  |
| QB4 | Block Acknowledgments (Block Acks) |  |  |  |
| QB4.1 | Immediate Block Ack | 8.3.1.8.1 (Overview), 8.3.1.8.2 (Basic BlockAckReq variant), 8.3.1.9.1 (Overview), 8.3.1.9.2 (Basic BlockAck variant),  8.5.5 (Block Ack Action frame details), 9.21 (Block Acknowledgment (Block Ack)) (except 9.21.7 (HT-immediate Block Ack extensions) and 9.21.8 (HT-delayed Block Ack extensions)), 10.5 (Block Ack operation) | CF12:O  CF16:M | Yes  No  N/A  |
| \*QB4.2 | Delayed Block Ack | 8.3.1.8.1 (Overview), 8.3.1.8.2 (Basic BlockAckReq variant), 8.3.1.9.1 (Overview), 8.3.1.9.2 (Basic BlockAck variant),  8.5.5 (Block Ack Action frame details), 9.21 (Block Acknowledgment (Block Ack)) (except 9.21.7 (HT-immediate Block Ack extensions) and 9.21.8 (HT-delayed Block Ack extensions)), 10.5 (Block Ack operation) | CF12:O | Yes  No  N/A  |
| QB4.3 | Compressed Block Ack | 8.3.1.8.3 (Compressed BlockAckReq variant) | CF12:O CF16:M | Yes  No  N/A  |
| QB4.4 | MultiTID Block Ack | 8.3.1.8.4 (Multi-TID BlockAckReq variant) | CF12:O CF16:M | Yes  No  N/A  |
| QB5 | Automatic power save delivery (APSD) | 8.5.3 (QoS Action frame details), 10.2.1 (Power management in an infrastructure network) | CF1 and CF12:O CF2 and CF12:O | Yes  No  N/A  |
| QB6 | Direct-link setup (DLS) | 8.4.2.21 (Channel Switch Announcement element), 8.5.4 (DLS Action frame details), 6.3.14 (Measurement request), 10.7 (DLS operation) | CF1 AND CF12:M  CF2.1 AND CF12:O | Yes  No  N/A  |

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| * QoS enhanced distributed channel access (EDCA) | | | | |
| Item | Protocol capability | References | Status | Support |
| QD1 | Support for four transmit queues with a separate channel access entity associated with each | 9.2.4.2 (HCF contention-based channel access (EDCA)), 9.19.2.1 (Reference implementation) | CF12:M | Yes  No  N/A  |
| QD2 | Per-channel access function -differentiated channel access | 9.19.2.2 (EDCA TXOPs), 9.19.2.3 (Obtaining an EDCA TXOP), 9.19.2.5 (EDCA backoff procedure) | CF12:M | Yes  No  N/A  |
| QD3 | Multiple frame transmission -support | 9.19.2.4 (Multiple frame transmission in an EDCA TXOP) | CF12:O | Yes  No  N/A  |
| QD4 | Maintenance of within-queue ordering, exhaustive -retransmission when sending non‑QoS data frames | 9.19.2.6 (Retransmit procedures) | CF12:M | Yes  No  N/A  |
| QD5 | Interpretation of admission -control mandatory (ACM) bit in EDCA Parameter Set element | 8.4.2.15 (Extended Supported Rates element), 9.19.4.2 (Contention-based admission control procedures) | CF2.1 & CF12:M | Yes  No  N/A  |
| QD6 | Contention-based admission -control | 9.19.4.2 (Contention-based admission control procedures), 8.4.2.16 (Power Constraint element), 8.4.2.17 (Power Capability element), 8.5.3.2 (ADDTS Request frame format)–8.5.3.4 (DELTS frame format), 10.4 (TS operation) | CF1 & CF12:O  CF2.1 & CF12:O | Yes  No  N/A  |
| QD7 | Power management in an infrastructure BSS or in an IBSS | 10.2 (Power management) | CF1 and CF12:O CF2 and CF12:O | Yes  No  N/A  |
| QD8 | Default EDCA parameters for communications outside context of BBS | 8.4.2.31 (EDCA Parameter Set element), 9.19.2.2 (EDCA TXOPs) | CF2.3:M | Yes  No  N/A  |

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| * QoS hybrid coordination function (HCF)  controlled channel access (HCCA) | | | | |
| Item | Protocol Capability | References | Status | Support |
| QP1 | Traffic specification (TSPEC) and associated frame formats | 8.5.3 (QoS Action frame details) | CF1 and CF12:M CF2 and CF12:M | Yes  No  N/A  |
| QP2 | HCCA rules | 9.2.4.3 (HCF controlled channel access (HCCA)), 9.19.3 (HCCA), 9.19.3.2 (HCCA procedure)–9.19.3.5 (HCCA transfer rules) | CF1 and CF12:M CF2 and CF12:M | Yes  No  N/A  |
| QP3 | HCCA schedule generation and management | 9.19.4 (Admission Control at the HC) | CF1 & CF12:M | Yes  No  N/A  |
| QP4 | HCF frame exchange sequences | 9.19.2 (HCF contention-based channel access (EDCA)), 9.4.3 (PCF access procedure) | CF1 and CF12:M CF2 and CF12:M | Yes  No  N/A  |
| QP5 | Traffic stream (TS) management | 10.4 (TS operation) | CF1 and CF12:M CF2 and CF12:M | Yes  No  N/A  |
| QP6 | Minimum TSPEC parameter set | 9.19.4 (Admission Control at the HC) | CF1 and CF12:M CF2 and CF12:M | Yes  No  N/A  |
| QP7 | Power management in an infrastructure BSS | 10.2.1.5 (Power management with APSD), 10.2.1.6 (AP operation during the CP), 10.2.1.7 (AP operation during the CFP), 10.2.1.8 (Receive operation for STAs in PS mode during the CP), 10.2.1.9 (Receive operation for STAs in PS mode during the CFP), 10.2.1.10 (Receive operation using APSD), 10.2.1.11 (STAs operating in the Active mode) | CF1 and CF12:M CF2 and CF12:M | Yes  No  N/A  |

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| * Radio Management extensions | | | | |
| Item | **Protocol Capability** | References | Status | Support |
|  | Are the following Radio Measurement capabilities supported? |  |  |  |
| RM1 | Radio Measurement Capability | 8.4.1.4 (Capability Information field) | CF13:M | Yes  No  N/A  |
| RM2 | Action frame protocol for measurements | 8.5 (Action frame format details) | CF13:M | Yes  No  N/A  |
| RM2.1 | Radio Measurement Request frame | 8.5.7.2 (Radio Measurement Request frame format) | CF13:M | Yes  No  N/A  |
| RM2.2 | Radio Measurement Report frame | 8.5.7.3 (Radio Measurement Report frame format) | CF13:M | Yes  No  N/A  |
| RM2.3 | Link Measurement Request frame | 8.5.7.4 (Link Measurement Request frame format) | CF13:M | Yes  No  N/A  |
| RM2.4 | Link Measurement Report frame | 8.5.7.5 (Link Measurement Report frame format) | CF13:M | Yes  No  N/A  |
| RM2.5 | Neighbor Report Request |  |  |  |
| RM2.5.1 | Generate and transmit Neighbor Report Request | 8.5.7.6 (Neighbor Report Request frame format) | CF13 AND CF2.1:M | Yes  No  N/A  |
| RM2.5.2 | Receive and process Neighbor Report Request | 8.5.7.6 (Neighbor Report Request frame format) | CF13 AND CF1:M | Yes  No  N/A  |
| RM2.6 | Neighbor Report Response |  |  |  |
| RM2.6.1 | Generate and transmit Neighbor Report Response | 8.5.7.7 (Neighbor Report Response frame format), 8.4.2.39 (Neighbor Report element) | CF13 AND CF1:M | Yes  No  N/A  |
| RM2.6.2 | Receive and process Neighbor Report Response | 7.4.8.5.7.7 (Neighbor Report Response frame format), 8.4.2.39 (Neighbor Report element) | CF13 AND CF2.1:M | Yes  No  N/A  |
| RM3 | General protocol for requesting and reporting of measurements | 8.4.2.23 (Measurement Request element), 8.4.2.24 (Measurement Report element), 10.11 (Radio measurement procedures), 10.11.6 (Requesting and reporting of measurements) | CF13:M | Yes  No  N/A  |
| RM3.1 | Parallel Measurements | 8.4.2.23 (Measurement Request element), 10.11.6 (Requesting and reporting of measurements), 8.4.2.24 (Measurement Report element) | CF13:M | Yes  No  N/A  |
| RM3.2 | Use of Enable, Request and Report bits to enable/disable measurement requests and triggered autonomous reports Measurement Requests | 8.4.2.23 (Measurement Request element), 10.11.8 (Triggered autonomous reporting), 10.11.6 (Requesting and reporting of measurements) | CF13:M | Yes  No  N/A  |
| RM3.3 | Enable Autonomous Report | 8.4.2.23 (Measurement Request element), 10.11.8 (Triggered autonomous reporting) | CF13:M | Yes  No  N/A  |
| RM3.4 | Duration Mandatory | 8.4.2.23 (Measurement Request element), 10.11.4 (Measurement Duration) | CF13:M | Yes  No  N/A  |
| RM3.5 | Incapable Indication | 8.4.2.24 (Measurement Report element) | CF13:M | Yes  No  N/A  |
| RM3.6 | Refused Indication | 8.4.2.24 (Measurement Report element), 10.11.5 (Station responsibility for conducting measurements) | CF13:M | Yes  No  N/A  |
| RM3.7 | Repeated Measurement | 8.5.7.2 (Radio Measurement Request frame format), 10.11.7 (Repeated measurement request frames) | CF13:M | Yes  No  N/A  |
| RM3.8 | Measurement pause | 8.4.2.23.12 (Measurement pause request), 10.11.9.7 (Measurement pause) | CF13:M | Yes  No  N/A  |
| RM4 | Beacon Measurement Type | 10.11 (Radio measurement procedures), 10.11.9.1 (Beacon Report) | CF13:M | Yes  No  N/A  |
| RM4.1 | Beacon Request | 8.4.2.23.7 (Beacon Request) | CF13:M | Yes  No  N/A  |
| RM4.2 | Passive Measurement mode | 8.4.2.23.7 (Beacon Request), 10.11.9.1 (Beacon Report) | CF13:M | Yes  No  N/A  |
| RM4.3 | Active Measurement mode | 8.4.2.23.7 (Beacon Request), 10.11.9.1 (Beacon Report) | CF13:M | Yes  No  N/A  |
| RM4.4 | Beacon table mode | 8.4.2.23.7 (Beacon Request), 10.11.9.1 (Beacon Report) | CF13:M | Yes  No  N/A  |
| RM4.5 | Reporting Conditions | 8.4.2.23.7 (Beacon Request) | CF13:O | Yes  No  N/A  |
| RM4.6 | Beacon Report | 8.4.2.23.7 (Beacon Request) | CF13:M | Yes  No  N/A  |
| RM4.7 | Reporting Detail | 8.4.2.23.7 (Beacon Request), 8.4.2.24.7 (Beacon Report), 8.4.2.38 (AP Channel Report element) | CF13:O | Yes  No  N/A  |
| \* RM5 | Frame Measurement Type | 10.11 (Radio measurement procedures), 10.11.9.2 (Frame Report) | CF13:O | Yes  No  N/A  |
| RM5.1 | Frame request | 8.4.2.23.8 (Frame request) | CF13 AND RM5:M | Yes  No  N/A  |
| RM5.2 | Frame Report | 8.4.2.24.8 (Frame Report) | CF13 AND RM5:M | Yes  No  N/A  |
| RM6 | Channel Load Measurement Type | 10.11 (Radio measurement procedures), 10.11.9.3 (Channel Load Report) | CF13:M | Yes  No  N/A  |
| RM6.1 | Channel Load Request | 8.4.2.23.5 (Channel Load Request) | CF13:M | Yes  No  N/A  |
| RM6.2 | Channel Load Report | 8.4.2.24.5 (Channel Load Report) | CF13:M | Yes  No  N/A  |
| RM7 | Noise Histogram Measurement Type | 10.11 (Radio measurement procedures), 10.11.9.4 (Noise Histogram Report) | CF13:M | Yes  No  N/A  |
| RM7.1 | Noise Histogram Request | 8.4.2.23.6 (Noise Histogram Request) | CF13:M | Yes  No  N/A  |
| RM7.2 | Noise Histogram Report | 8.4.2.24.6 (Noise Histogram Report) | CF13:M | Yes  No  N/A  |
| RM8 | STA Statistics Measurement Type | 10.11 (Radio measurement procedures), 10.11.9.5 (STA Statistics Report) | CF13:M | Yes  No  N/A  |
| RM8.1 | STA Statistics Request | 8.4.2.23.9 (STA Statistics Request) | CF13:M | Yes  No  N/A  |
| RM8.2 | STA Statistics Report | 8.4.2.24.9 (STA Statistics Report) | CF13:M | Yes  No  N/A  |
| RM9 | LCI Measurement Type | 10.11 (Radio measurement procedures), 10.11.9.6 (Location Configuration Information Report) | CF13:M | Yes  No  N/A  |
| RM9.1 | LCI Request | 8.4.2.23.10 (Location Configuration Information Request) | CF13:M | Yes  No  N/A  |
| RM9.1.1 | Location Subject | 8.4.2.23.10 (Location Configuration Information Request) | CF13:M | Yes  No  N/A  |
| RM9.1.1.1 | Location Subject third party | 8.4.2.23.10 (Location Configuration Information Request) | CF13:O | Yes □ No □ N/A □ |
| RM9.1.2 | Latitude Requested Resolution | 8.4.2.23.10 (Location Configuration Information Request) | CF13:M | Yes  No  N/A  |
| RM9.1.3 | Longitude Requested Resolution | 8.4.2.23.10 (Location Configuration Information Request) | CF13:M | Yes  No  N/A  |
| RM9.1.4 | Altitude Requested Resolution | 8.4.2.23.10 (Location Configuration Information Request) | CF13:M | Yes  No  N/A  |
| RM9.2 | LCI Report | 8.4.2.24.10 (Location Configuration Information Report) | CF13:M | Yes  No  N/A  |
| RM9.3 | Azimuth | 10.11 (Radio measurement procedures), 10.11.9.6 (Location Configuration Information Report) | CF13:O | Yes  No  N/A  |
| RM9.3.1 | Azimuth Request | 8.4.2.23.10 (Location Configuration Information Request) | CF13:O | Yes  No  N/A  |
| RM9.3.2 | Azimuth Response | 8.4.2.24.10 (Location Configuration Information Report) | CF13:O | Yes  No  N/A  |
| \*RM10 | Transmit Stream/Category Measurement Type | 10.11 (Radio measurement procedures), 10.11.9.8 (Transmit Stream/Category Measurement Report) | CF13 AND CF12:O | Yes  No  N/A  |
| RM10.1 | Transmit Stream/Category Measurement Request | 8.4.2.23.11 (Transmit Stream/Category Measurement Request) | RM10:M | Yes  No  N/A  |
| RM10.2 | Transmit Stream/Category Measurement Report | 8.4.2.24.11 (Transmit Stream/Category Measurement Report) | RM10:M | Yes  No  N/A  |
| RM10.3 | Triggered Transmit Stream/Category Measurement Report | 8.4.2.24.11 (Transmit Stream/Category Measurement Report), 10.11.9.8 (Transmit Stream/Category Measurement Report) | RM10:O | Yes  No  N/A  |
| RM11 | AP Channel Report | 8.4.2.10 (Country element), 8.4.2.38 (AP Channel Report element) | CF13 AND CF1:M | Yes  No  N/A  |
| RM11.1 | Generate and transmit AP Channel Report | 8.3.3.2 (Beacon frame format), 8.3.3.10 (Probe Response frame format), 8.4.2.38 (AP Channel Report element) | CF13 AND CF1:M | Yes  No  N/A  |
| RM11.2 | Receive and process AP Channel Report | 8.3.3.2 (Beacon frame format), 8.3.3.10 (Probe Response frame format), 8.4.2.38 (AP Channel Report element) | CF13 AND CF2.1:M | Yes  No  N/A  |
| RM12 | Neighbor Report Procedure | 10.11 (Radio measurement procedures), 10.11.10 (Usage of the neighbor report) | CF13:M | Yes  No  N/A  |
| RM12.1 | Neighbor Report Procedure | 10.11.10.2 (Requesting a neighbor report), 10.11.10.3 (Receiving a neighbor report) | CF13:M | Yes  No  N/A  |
| RM12.2 | TSF Offset in Neighbor Report | 8.4.2.39 (Neighbor Report element), 10.11.10.3 (Receiving a neighbor report) | CF13:O | Yes  No  N/A  |
| RM13 | RCPI Measurement |  |  |  |
| RM13.1 | RCPI Measurement for DSSS PHY at 2.4 GHz | 16.4.8.6 (Received Channel Power Indicator Measurement) | CF13 AND CF4:M | Yes  No  N/A  |
| RM13.2 | RCPI Measurement for OFDM PHY at 5 GHz | 18.2.3.6 (RXVECTOR RCPI), 18.3.10.7 (Received Channel Power Indicator Measurement), 18.5.4.4 (PMD\_SAP service primitive parameters), 18.5.5.9 (PMD\_RCPI.indication) | CF13 AND CF6:M | Yes  No  N/A  |
| RM13.3 | RCPI Measurement for HR/DSSS PHY at 2.4 GHz | 17.4.5.17 (PMD\_RCPI.indication), 17.4.8.6 (Received Channel Power Indicator Measurement) | CF13 AND CF7:M | Yes  No  N/A  |
| RM13.4 | RCPI Measurement for Extended Rate PHY at 2.4 GHz | 19.9.5.15 (PMD\_RCPI.indication) | CF13 AND CF9:M | Yes  No  N/A  |
| RM14 | RCPI Measurement during Active Scanning |  |  |  |
| RM14.1 | Respond with RCPI element when requested | 10.1.4.3.3 (Active scanning procedure) | CF13 AND CF12 AND CF1:M | Yes  No  N/A  |
| RM14.2 | Measurement of RCPI on Probe Request frames | 10.1.4.3.3 (Active scanning procedure) | CF13 AND CF12 AND CF1:O | Yes  No  N/A  |
| RM15 | RSNI Measurement | 8.4.2.43 (RSNI element) | CF13 AND RM13:M | Yes  No  N/A  |
| RM16 | TPC Information in Beacon and Probe Response frames |  |  |  |
| RM16.1 | Country and TPC Report elements included in Beacon and Probe Response frames | 8.3.3.2 (Beacon frame format), 8.3.3.10 (Probe Response frame format), 8.4.2.10 (Country element), 8.4.2.19 (TPC Report element), 10.8 (TPC procedures) | CF13:M | Yes  No  N/A  |
| RM16.2 | Power Constraint element included in Beacon and Probe Response frames | 8.3.3.2 (Beacon frame format), 8.3.3.10 (Probe Response frame format), 8.4.2.16 (Power Constraint element) | CF13:O | Yes  No  N/A  |
| RM17 | Power Capability elements in Association and Reassociation frames | 8.3.3.5 (Association Request frame format), 8.3.3.6 (Association Response frame format), 10.9.2 (Association based on supported channels) | CF13:M | Yes  No  N/A  |
| RM18 | Management Information Base |  |  |  |
| RM18.1 | dot11RadioMeasurement | Annex C | CF13 AND CF1:M | Yes  No  N/A  |
| RM18.2 | dot11SMTRMRequest | Annex C | CF13 AND CF1:O | Yes  No  N/A  |
| RM18.3 | dot11SMTRMReport | Annex C | CF13 AND CF1:O | Yes  No  N/A  |
| RM18.4 | dot11SMTRMConfig | Annex C | CF13 AND CF1:O | Yes  No  N/A  |
| RM19 | Measurement Pilot Frame | 8.4.1.18 (Measurement Pilot Interval field), 8.4.2.48 (Multiple BSSID element), 6.3.32 (Neighbor report request), 10.8 (TPC procedures), 10.11.14 (Multiple BSSID Set), 10.11.15 (Measurement Pilot generation and usage) | CF13:O | Yes  No  N/A  |
| RM20 | BSS Average Access Delay elements included in Beacon and Probe Response frames | 8.3.3.2 (Beacon frame format), 8.3.3.10 (Probe Response frame format), 8.4.2.41 (BSS Average Access Delay element) | CF1 AND CF13:M | Yes  No  N/A  |
| RM21 | Antenna elements included in Beacon and Probe Response frames | 8.3.3.2 (Beacon frame format), 8.3.3.10 (Probe Response frame format), 8.4.2.42 (Antenna element) | CF13:M | Yes  No  N/A  |
| RM22 | Measurement Pilot Transmission element and Multiple BSSID element, if required, included in Probe Response frame | 8.3.3.10 (Probe Response frame format), 8.4.2.44 (Measurement Pilot Transmission element), 8.4.2.48 (Multiple BSSID element) | CF13:O | Yes  No  N/A  |
| RM23 | Quiet interval |  |  |  |
| RM23.1 | AP-defined Quiet Interval | 8.3.3.2 (Beacon frame format), 8.3.3.10 (Probe Response frame format), 8.4.2.25 (Quiet element), 10.9.3 (Quieting channels for testing) | CF1 AND CF13:M | Yes  No  N/A  |
| RM23.2 | STA-defined Quiet Interval | 8.3.3.2 (Beacon frame format), 8.3.3.10 (Probe Response frame format), 8.4.2.25 (Quiet element), 10.9.3 (Quieting channels for testing) | CF2.1 AND CF13:M | Yes  No  N/A  |
| RM23.3 | STA support for Quiet Interval | 8.3.3.2 (Beacon frame format), 8.3.3.10 (Probe Response frame format), 8.4.2.25 (Quiet element), 10.9.3 (Quieting channels for testing) | CF13:M | Yes  No  N/A  |
| RM24 | BSS Available Admission Capacity | 8.4.2.45 (BSS Available Admission Capacity element) | CF1 AND CF12 AND CF13:M | Yes  No  N/A  |
| RM25 | BSS AC Access Delay | 8.3.3.2 (Beacon frame format), 8.3.3.10 (Probe Response frame format), 8.4.2.46 (BSS AC Access Delay element) | CF1 AND CF12 AND CF13:M | Yes  No  N/A  |

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| * DSE functions | | | | |
| Item | Protocol capability | References | Status | Support |
| \*DSE1 | Fixed STA operation with RegLoc | 10.12.3 (Registered STA operation) | CF15:O.1 | Yes  No  N/A  |
| \*DSE2 | Enabling STA operation with RegLoc | 10.12.3 (Registered STA operation) | CF15:O.1 | Yes  No  N/A  |
| DSE2.1 | Enabling STA creation of DSE service area | 10.12.4 (Enabling STA operation with DSE) | DSE2:M | Yes  No  N/A  |
| DSE2.2 | Enabling STA operation with DSE | 10.12.3 (Registered STA operation) | DSE2:M | Yes  No  N/A  |
| \*DSE3 | Dependent STA operation with DSE | 10.12.5 (Dependent STA operation with DSE) | CF15:O.1 | Yes  No  N/A  |
| DSE3.1 | Dependent STA enablement | 10.12.5 (Dependent STA operation with DSE) | DSE3:M | Yes  No  N/A  |
| DSE3.2 | Dependent STA DSE time to enablement | 10.12.5 (Dependent STA operation with DSE) | DSE3:M | Yes  No  N/A  |
| DSE3.3 | Dependent STA DSE time to not transmit | 10.12.5 (Dependent STA operation with DSE) | DSE3:M | Yes  No  N/A  |
| DSE3.4 | Dependent STA DSE Registered Location Announcement frame | 10.12.5 (Dependent STA operation with DSE) | DSE3:M | Yes  No  N/A  |
| DSE3.5 | Dependent STA MLME-ASSOCIATE.response primitive DSE | 6.3.7.5 (MLME-ASSOCIATE.response) | DSE3:M | Yes  No  N/A  |
| DSE3.6 | Dependent STA MLME-REASSOCIATE.response primitive DSE | 6.3.8.5 (MLME-REASSOCIATE.response) | DSE3:M | Yes  No  N/A  |
| DSE4 | DSE request report procedure  Transmission of DSE measurement request by an AP  Transmission of DSE measurement report by a STA | 10.12.5 (Dependent STA operation with DSE)  10.12.5 (Dependent STA operation with DSE) | CF15&CF1:M  CF15&CF2.1:M | Yes  No  N/A   Yes  No  N/A  |
| DSE5 | STA association procedure  Transmission of Association Request frame with Supported Operating Classes element by a STA  Transmission of Association Response frame with Supported Operating Classes element by an AP | 9.18.5 (Operation with operating classes), 10.3.5.2 (Non-AP STA association initiation procedures)  9.18.5 (Operation with operating classes), 10.3.5.3 (AP association receipt procedures) | CF15&CF2.1:M  CF15&CF1:M | Yes  No  N/A   Yes  No  N/A  |
| DSE6 | STA reassociation procedure  Transmission of Reassociation Request frame with Supported Operating Classes element by a STA  Transmission of Reassociation Response frame with Supported Operating Classes element by an AP | 9.18.5 (Operation with operating classes), 10.3.5.4 (Non-AP STA reassociation initiation procedures)  9.18.5 (Operation with operating classes), 10.3.5.5 (AP reassociation receipt procedures) | CF15&CF2.1:M  CF15&CF1:M | Yes  No  N/A   Yes  No  N/A  |
| DSE7 | Probe request procedure  Transmission of Probe Request frame with Supported Operating Classes element by a STA | 10.10.1 (General) | CF15&CF2.1:M | Yes  No  N/A  |
| DSE8 | Probe response procedure  Transmission of Probe Response frame with Supported Operating Classes element by an AP | 10.10.1 (General) | CF15&CF1:M | Yes  No  N/A  |
| DSE9 | Extended 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 | 10.10.3 (Selecting and advertising a new channel and/or operating class)  10.10.3 (Selecting and advertising a new channel and/or operating class)  10.10.3 (Selecting and advertising a new channel and/or operating class) | CF15&CF1:M  CF15&CF2.1:M  CF15:M | Yes  No  N/A   Yes  No  N/A   Yes  No  N/A  |
| DSE10 | DSE power constraint procedure  Transmission of DSE power constraint announcement by an enabling STA  Reception of DSE power constraint announcement by a dependent STA | 10.12.5 (Dependent STA operation with DSE)  10.12.5 (Dependent STA operation with DSE) | CF15&CF1:M    CF15:M | Yes No N/A   Yes No N/A  |

* High-throughput (HT) features

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| * HT MAC features | | | | | | | | | |
| Item | Protocol capability | | | References | | Status | | Support | |
|  | Are the following MAC protocol features supported? | | |  | |  | |  | |
| HTM1 | HT capabilities signaling | | |  | |  | |  | |
| HTM1.1 | HT Capabilities element | | | 8.4.2.58.1 (HT Capabilities element structure) | | CF16:M | | Yes  No  N/A  | |
| HTM1.2 | Signaling of STA capabilities in Probe Request, (Re)Association Request frames | | | 8.4.2.58 (HT Capabilities element), 8.3.3.9 (Probe Request frame format), 8.3.3.5 (Association Request frame format), 8.3.3.7 (Reassociation Request frame format) | | CF16 and CF2:M | | Yes  No  N/A  | |
| HTM1.3 | Signaling of STA and BSS capabilities in Beacon, Probe Response, (Re)Association Response frames | | | 8.4.2.58 (HT Capabilities element), 8.3.3.2 (Beacon frame format), 8.3.3.10 (Probe Response frame format), 8.3.3.6 (Association Response frame format), 8.3.3.8 (Reassociation Response frame format) | | CF16 and CF1:M | | Yes  No  N/A  | |
| HTM2 | Signaling of HT operation | | | 8.4.2.59 (HT Operation element) | | CF16 and CF1:M | | Yes  No  N/A  | |
| HTM3 | MPDU aggregation | | |  | |  | |  | |
| HTM3.1 | Reception of A-MPDU | | | 8.4.2.58.3 (A-MPDU Parameters field), 11.4 (RSNA confidentiality and integrity protocols), 9.12.2 (A-MPDU length limit rules) | | CF16:M | | Yes  No  N/A  | |
| HTM3.2 | A-MPDU format | | | 8.6.1 (A-MPDU format) | | CF16:M | | Yes  No  N/A  | |
| HTM3.3 | A-MPDU contents | | | 8.6.3 (A-MPDU contents) | | CF16:M | | Yes  No  N/A  | |
| HTM3.4 | A-MPDU frame exchange sequences | | | 9.19.2.4 (Multiple frame transmission in an EDCA TXOP) | | CF16:M | | Yes  No  N/A  | |
| HTM3.5 | Transmission of A-MPDU | | | 8.4.2.58.3 (A-MPDU Parameters field), 11.4 (RSNA confidentiality and integrity protocols) | | CF16:O | | Yes  No  N/A  | |
| HTM4 | MSDU aggregation | | |  | |  | |  | |
| HTM4.1 | Reception of A-MSDUs | | | 8.2.4.5 (QoS Control field), 8.3.2.2 (A-MSDU format) | | CF16:M | | Yes  No  N/A  | |
| HTM4.2 | A-MSDU format | | | 8.3.2.2 (A-MSDU format) | | CF16:M | | Yes  No  N/A  | |
| HTM4.3 | A-MSDU content | | | 8.3.2.2 (A-MSDU format) | | CF16:M | | Yes  No  N/A  | |
| HTM4.4 | Transmission of A-MSDUs | | | 8.3.2.2 (A-MSDU format), 8.2.4.5 (QoS Control field) | | CF16:O | | Yes  No  N/A  | |
| HTM5 | Block Ack | | |  | |  | |  | |
| HTM5.1 | Block Ack mechanism | | | 8.3.1.8 (BlockAckReq frame format), 8.3.1.9 (BlockAck frame format), 8.4.1.14 (Block Ack Parameter Set field), 9.21 (Block Acknowledgment (Block Ack)), 10.15 (20/40 MHz BSS operation) | | CF16:M | | Yes  No  N/A  | |
| HTM5.2 | Use of compressed bitmap between HT STAs | | | 8.3.1.9.3 (Compressed BlockAck variant), 9.21.6 (Selection of BlockAck and BlockAckReq variants), | | CF16:M | | Yes  No  N/A  | |
| HTM5.3 | HT-immediate Block Ack extensions | | | 9.21.7 (HT-immediate Block Ack extensions) | | CF16:M | | Yes  No  N/A  | |
| HTM5.4 | HT-delayed Block Ack extensions | | | 9.21.8 (HT-delayed Block Ack extensions) | | CF16 and QB4.2:M | | Yes  No  N/A  | |
| HTM5.5 | Multiple TID Block Ack | | | 8.3.1.8.4 (Multi-TID BlockAckReq variant), 8.3.1.9.4 (Multi-TID BlockAck variant), 9.26.1.7 (PSMP acknowledgment rules) | | PC37:M | | Yes  No  N/A  | |
| HTM6 | Protection mechanisms for different HT PHY options | | |  | |  | |  | |
| HTM6.1 | Protection of RIFS PPDUs in the presence of non-HT STAs | | | 9.23.3.3 (RIFS protection) | | CF16:M | | Yes  No  N/A  | |
| HTM6.1a | Protection of RIFS PPDUs in an IBSS | | | 9.23.3.3 (RIFS protection) | | CF16:M | | Yes  No  N/A  | |
| HTM6.2 | Protection of HT-greenfield PPDUs in the presence of non-HT STAs | | | 9.23.3.1 (General) | | HTP1.3:M | | Yes  No  N/A  | |
| HTM6.2a | Protection of HT-greenfield PPDUs in an IBSS | | | 9.23.3.1 (General) | | CF16:M | | Yes  No  N/A  | |
| \*HTM7 | L-SIG TXOP protection mechanism | | | 9.23.5 (L-SIG TXOP protection) | | CF16:O | | Yes  No  N/A  | |
| HTM7.1 | Update NAV according to L-SIG | | | 9.23.5.4 (L-SIG TXOP protection NAV update rule) | | HTM7:M | | Yes  No  N/A  | |
| HTM8 | Duration/ID rules for A-MPDU and TXOP | | | 8.2.4.2 (Duration/ID field) | | CF16:O | | Yes  No  N/A  | |
| HTM9 | Truncation of TXOP as TXOP holder | | | 9.19.2.7 (Truncation of TXOP) | | CF16:O | | Yes  No  N/A  | |
| HTM10 | Reception of +HTC frames | | | 8.2.4.1.10 (Order field), 8.4.2.58.5 (HT Extended Capabilities field), 9.9 (HT Control field operation) | | CF16:O | | Yes  No  N/A  | |
| \*HTM11 | Reverse direction (RD) aggregation exchanges | | | 9.25 (Reverse Direction Protocol) | | CF16:O | | Yes  No  N/A  | |
| HTM11.1 | Constraints regarding responses | | | 9.25.4 (Rules for RD responder) | | HTM11:M | | Yes  No  N/A  | |
| HTM12 | Link adaptation | | |  | |  | |  | |
| HTM12.1 | Use of the HT Control field for link adaptation in immediate response exchange | | | 8.2.4.6 (HT Control field), 8.3.3.14 (Action No Ack frame format), 9.28.2 (Link adaptation using the HT Control field) | | CF16:O | | Yes  No  N/A  | |
| HTM12.2 | Link adaptation using explicit feedback mechanism | | | 8.3.3.14 (Action No Ack frame format), 9.29.3 (Explicit feedback beamforming) | | CF16:O | | Yes  No  N/A  | |
| HTM13 | Transmit beamforming | | |  | |  | |  | |
| \*HTM13.1 | Transmission of beamformed PPDUs | | | 9.29 (Transmit beamforming) | | CF16:O | | Yes  No  N/A  | |
| \*HTM13.2 | Reception of beamformed PPDUs | | | 9.29 (Transmit beamforming) | | CF16:O | | Yes  No  N/A  | |
| \*HTM13.3 | Initiate transmit beamforming frame exchange with implicit feedback | | | 9.29.2 (Transmit beamforming with implicit feedback) | | HTM13.1:O | | Yes  No  N/A  | |
| HTM13.3.1 | Reception of sounding PPDUs | | | 9.29.2 (Transmit beamforming with implicit feedback) | | HTM13.3:M | | Yes  No  N/A  | |
| \*HTM13.4 | Response to transmit beamforming frame exchange with implicit feedback | | | 9.29.2 (Transmit beamforming with implicit feedback) | | HTM13.2:O | | Yes  No  N/A  | |
| HTM13.4.1 | Transmission of sounding PPDUs | | | 9.29.2 (Transmit beamforming with implicit feedback) | | HTM13.4:M | | Yes  No  N/A  | |
| \*HTM13.5 | Initiate transmit beamforming frame exchange with explicit feedback | | | 8.5.12.6 (CSI frame format), 9.29.3 (Explicit feedback beamforming) | | HTM13.1:O | | Yes  No  N/A  | |
| HTM13.5.1 | Transmission of sounding PPDUs | | | 9.29.3 (Explicit feedback beamforming) | | HTM13.5:M | | Yes  No  N/A  | |
| \*HTM13.6 | Respond to transmit beamforming frame exchange with explicit feedback | | | 9.29.3 (Explicit feedback beamforming) | | HTM13.2:O | | Yes  No  N/A  | |
| HTM13.6.1 | Transmission of Action No Ack +HTC frame including Action payload of type CSI | | | 9.29.3 (Explicit feedback beamforming), 8.5.12.6 (CSI frame format) | | HTM13.6:O.1 | | Yes  No  N/A  | |
| HTM13.6.2 | Transmission of Action No Ack +HTC frame including Action payload of type “Noncompressed beamforming” | | | 9.29.3 (Explicit feedback beamforming), 8.5.12.7 (Noncompressed Beamforming frame format) | | HTM13.6:O.1 | | Yes  No  N/A  | |
| HTM13.6.3 | Transmission of Action No Ack +HTC frame including Action payload of type “Compressed beamforming” | | | 9.29.3 (Explicit feedback beamforming), 8.5.12.8 (Compressed Beamforming frame format) | | HTM13.6:O.1 | | Yes  No  N/A  | |
| \*HTM13.7 | Calibration procedure | | | 8.3.3.14 (Action No Ack frame format), 9.29.2.4 (Calibration) | | HTM13:O | | Yes  No  N/A  | |
| HTM14 | Antenna selection (ASEL) | | | 8.2.4.6 (HT Control field), 8.4.2.58.7 (ASEL Capability field), 8.5.12.9 (Antenna Selection Indices Feedback frame format), 9.30 (Antenna selection (ASEL)) | | CF16:O | | Yes  No  N/A  | |
| \*HTM15 | Null data packet (NDP) | | | 9.31 (Null data packet (NDP) sounding) | | CF16:O | | Yes  No  N/A  | |
| HTM16 | Space-time block coding (STBC) support | | |  | |  | |  | |
| HTM16.1 | STBC beacon transmission | | | 10.1.3.2 (Beacon generation in infrastructure networks) | | HTP2.11:O | | Yes  No  N/A  | |
| HTM16.2 | Dual CTS protection | | | 9.3.2.7 (Dual CTS protection) | | HTP2.11:O | | Yes  No  N/A  | |
| HTM17 | SM power save support | | |  | |  | |  | |
| \*HTM17.1 | AP support for dynamic and static SM power save mode | | | 10.2.4 (SM power save) | | CF16 and CF1:M | | Yes  No  N/A  | |
| \*HTM17.2 | STA support for dynamic and static SM power save mode | | | 10.2.4 (SM power save) | | CF16 and CF2:O | | Yes  No  N/A  | |
| HTM17.3 | Transmit SM Power Save state information using HT capabilities, or SM Power Save frame | | | 8.5.12.3 (SM Power Save frame format), 10.2.4 (SM power save) | | HTM17.1 OR HTM17.2:M | | Yes  No  N/A  | |
| HTM17.4 | Receive SM Power Save state information and support frame exchanges with SM Power Save STAs | | | 10.2.4 (SM power save) | | CF16:M | | Yes  No  N/A  | |
| HTM18 | Mechanisms for coexistence of 20 MHz and 40 MHz channels | | | 10.15 (20/40 MHz BSS operation) | | CF16:M | | Yes  No  N/A  | |
| HTM19 | Channel selection methods for  20/40 MHz operation | | | 10.15.3 (Channel selection methods for 20/40 MHz operation) | | HTP2.3.4 and CF1:M | | Yes  No  N/A  | |
| HTM20 | 20/40 MHz operation | | | 10.15 (20/40 MHz BSS operation) | | HTP2.3.4:M | | Yes  No  N/A  | |
| HTM21 | Phased coexistence operation (PCO) | | |  | |  | |  | |
| \*HTM21.1 | PCO capability at AP | | | 10.16 (Phased coexistence operation (PCO)) | | CF16 and CF1:O | | Yes  No  N/A  | |
| HTM21.1.1 | Rules for operation at a PCO active AP | | | 8.5.12.5 (Set PCO Phase frame format), 10.16.2 (Operation at a PCO active AP) | | HTM21.1:M | | Yes  No  N/A  | |
| \*HTM21.2 | STA support for PCO mode | | | 10.16 (Phased coexistence operation (PCO)) | | CF16 and CF2:O | | Yes  No  N/A  | |
| HTM21.2.1 | Rules for operation at PCO active STA | | | 8.5.12.5 (Set PCO Phase frame format), 10.16.3 (Operation at a PCO active non-AP STA) | | HTM21.2:M | | Yes  No  N/A  | |
| HTM22 | Management information base (MIB) | | |  | |  | |  | |
| HTM22.1 | dot11PhyHTComplianceGroup | | | Annex C | | CF16:M | | Yes  No  N/A  | |
| HTM22.2 | dot11PhyMCSGroup | | | Annex C | | CF16:M | | Yes  No  N/A  | |
| * HT PHY features | | | | | | | | |
| Item | | Protocol capability | References | | Status | | Support | |
|  | | Are the following PHY protocol features supported? |  | |  | |  | |
| HTP1 | | PHY operating modes |  | |  | |  | |
| HTP1.1 | | Operation according to 18 (Orthogonal frequency division multiplexing (OFDM) PHY specification) and/or Clause 19 (Extended Rate PHY (ERP) specification) | 20.1.4 (PPDU formats) | | CF16:M | | Yes  No  N/A  | |
| HTP1.2 | | HT-mixed format | 20.1.4 (PPDU formats) | | CF16:M | | Yes  No  N/A  | |
| \*HTP1.3 | | HT-greenfield format | 20.1.4 (PPDU formats) | | CF16:O | | Yes  No  N/A  | |
| HTP2 | | PLCP frame format |  | |  | |  | |
| HTP2.1 | | HT-mixed format PLCP format | 20.3.2 (PPDU format) | | CF16:M | | Yes  No  N/A  | |
| HTP2.2 | | HT-greenfield PLCP format | 20.3.2 (PPDU format) | | HTP1.3:M | | Yes  No  N/A  | |
| HTP2.3 | | Modulation and coding schemes (MCS) |  | |  | |  | |
| HTP2.3.1 | | MCS 0 to MCS 7 in 20 MHz with 800 ns guard interval (GI) |  | |  | |  | |
| HTP2.3.1.1 | | Support for 20 MHz with 800 ns GI MCS index 0 | 20.3.5 (Modulation and coding scheme (MCS)), 20.6 (Parameters for HT MCSs) | | CF16:M | | Yes  No  N/A  | |
| HTP2.3.1.2 | | Support for 20 MHz with 800 ns GI MCS index 1 | 20.3.5 (Modulation and coding scheme (MCS)), 20.6 (Parameters for HT MCSs) | | CF16:M | | Yes  No  N/A  | |
| HTP2.3.1.3 | | Support for 20 MHz with 800 ns GI MCS index 2 | 20.3.5 (Modulation and coding scheme (MCS)), 20.6 (Parameters for HT MCSs) | | CF16:M | | Yes  No  N/A  | |
| HTP2.3.1.4 | | Support for 20 MHz with 800 ns GI MCS index 3 | 20.3.5 (Modulation and coding scheme (MCS)), 20.6 (Parameters for HT MCSs) | | CF16:M | | Yes  No  N/A  | |
| HTP2.3.1.5 | | Support for 20 MHz with 800 ns GI MCS index 4 | 20.3.5 (Modulation and coding scheme (MCS)), 20.6 (Parameters for HT MCSs) | | CF16:M | | Yes  No  N/A  | |
| HTP2.3.1.6 | | Support for 20 MHz with 800 ns GI MCS index 5 | 20.3.5 (Modulation and coding scheme (MCS)), 20.6 (Parameters for HT MCSs) | | CF16:M | | Yes  No  N/A  | |
| HTP2.3.1.7 | | Support for 20 MHz with 800 ns GI MCS index 6 | 20.3.5 (Modulation and coding scheme (MCS)), 20.6 (Parameters for HT MCSs) | | CF16:M | | Yes  No  N/A  | |
| HTP2.3.1.8 | | Support for 20 MHz with 800 ns GI MCS index 7 | 20.3.5 (Modulation and coding scheme (MCS)), 20.6 (Parameters for HT MCSs) | | CF16:M | | Yes  No  N/A  | |
| HTP2.3.2 | | MCS 8 to MCS 15 in 20 MHz with 800 ns GI |  | |  | |  | |
| HTP2.3.2.1 | | Support for 20 MHz with 800 ns GI MCS index 8 | 20.3.5 (Modulation and coding scheme (MCS)), 20.6 (Parameters for HT MCSs) | | CF16 and CF1:M | | Yes  No  N/A  | |
| HTP2.3.2.2 | | Support for 20 MHz with 800 ns GI MCS index 9 | 20.3.5 (Modulation and coding scheme (MCS)), 20.6 (Parameters for HT MCSs) | | CF16 and CF1:M | | Yes  No  N/A  | |
| HTP2.3.2.3 | | Support for 20 MHz with 800 ns GI MCS index 10 | 20.3.5 (Modulation and coding scheme (MCS)), 20.6 (Parameters for HT MCSs) | | CF16 and CF1:M | | Yes  No  N/A  | |
| HTP2.3.2.4 | | Support for 20 MHz with 800 ns GI MCS index 11 | 20.3.5 (Modulation and coding scheme (MCS)), 20.6 (Parameters for HT MCSs) | | CF16 and CF1:M | | Yes  No  N/A  | |
| HTP2.3.2.5 | | Support for 20 MHz with 800 ns GI MCS index 12 | 20.3.5 (Modulation and coding scheme (MCS)), 20.6 (Parameters for HT MCSs) | | CF16 and CF1:M | | Yes  No  N/A  | |
| HTP2.3.2.6 | | Support for 20 MHz with 800 ns GI MCS index 13 | 20.3.5 (Modulation and coding scheme (MCS)), 20.6 (Parameters for HT MCSs) | | CF16 and CF1:M | | Yes  No  N/A  | |
| HTP2.3.2.7 | | Support for 20 MHz with 800 ns GI MCS index 14 | 20.3.5 (Modulation and coding scheme (MCS)), 20.6 (Parameters for HT MCSs) | | CF16 and CF1:M | | Yes  No  N/A  | |
| HTP2.3.2.8 | | Support for 20 MHz with 800 ns GI MCS index 15 | 20.3.5 (Modulation and coding scheme (MCS)), 20.6 (Parameters for HT MCSs) | | CF16 and CF1:M | | Yes  No  N/A  | |
| HTP2.3.3 | | Transmit and receive support for 400 ns GI | 20.3.5 (Modulation and coding scheme (MCS)), 20.6 (Parameters for HT MCSs) | | CF16:O | | Yes  No  N/A  | |
| \*HTP2.3.4 | | Operation at 40 MHz | 20.3.5 (Modulation and coding scheme (MCS)), 20.6 (Parameters for HT MCSs) | | CF16:O | | Yes  No  N/A  | |
| HTP2.3.5 | | Support for MCS with indices 16 to 76 |  | |  | |  | |
| HTP2.3.5.1 | | Support for MCS with index 16 | 20.3.5 (Modulation and coding scheme (MCS)), 20.6 (Parameters for HT MCSs) | | CF16:O | | Yes  No  N/A  | |
| HTP2.3.5.2 | | Support for MCS with index 17 | 20.3.5 (Modulation and coding scheme (MCS)), 20.6 (Parameters for HT MCSs) | | CF16:O | | Yes  No  N/A  | |
| HTP2.3.5.3 | | Support for MCS with index 18 | 20.3.5 (Modulation and coding scheme (MCS)), 20.6 (Parameters for HT MCSs) | | CF16:O | | Yes  No  N/A  | |
| HTP2.3.5.4 | | Support for MCS with index 19 | 20.3.5 (Modulation and coding scheme (MCS)), 20.6 (Parameters for HT MCSs) | | CF16:O | | Yes  No  N/A  | |
| HTP2.3.5.5 | | Support for MCS with index 20 | 20.3.5 (Modulation and coding scheme (MCS)), 20.6 (Parameters for HT MCSs) | | CF16:O | | Yes  No  N/A  | |
| HTP2.3.5.6 | | Support for MCS with index 21 | 20.3.5 (Modulation and coding scheme (MCS)), 20.6 (Parameters for HT MCSs) | | CF16:O | | Yes  No  N/A  | |
| HTP2.3.5.7 | | Support for MCS with index 22 | 20.3.5 (Modulation and coding scheme (MCS)), 20.6 (Parameters for HT MCSs) | | CF16:O | | Yes  No  N/A  | |
| HTP2.3.5.8 | | Support for MCS with index 23 | 20.3.5 (Modulation and coding scheme (MCS)), 20.6 (Parameters for HT MCSs) | | CF16:O | | Yes  No  N/A  | |
| HTP2.3.5.9 | | Support for MCS with index 24 | 20.3.5 (Modulation and coding scheme (MCS)), 20.6 (Parameters for HT MCSs) | | CF16:O | | Yes  No  N/A  | |
| HTP2.3.5.10 | | Support for MCS with index 25 | 20.3.5 (Modulation and coding scheme (MCS)), 20.6 (Parameters for HT MCSs) | | CF16:O | | Yes  No  N/A  | |
| HTP2.3.5.11 | | Support for MCS with index 26 | 20.3.5 (Modulation and coding scheme (MCS)), 20.6 (Parameters for HT MCSs) | | CF16:O | | Yes  No  N/A  | |
| HTP2.3.5.12 | | Support for MCS with index 27 | 20.3.5 (Modulation and coding scheme (MCS)), 20.6 (Parameters for HT MCSs) | | CF16:O | | Yes  No  N/A  | |
| HTP2.3.5.13 | | Support for MCS with index 28 | 20.3.5 (Modulation and coding scheme (MCS)), 20.6 (Parameters for HT MCSs) | | CF16:O | | Yes  No  N/A  | |
| HTP2.3.5.14 | | Support for MCS with index 29 | 20.3.5 (Modulation and coding scheme (MCS)), 20.6 (Parameters for HT MCSs) | | CF16:O | | Yes  No  N/A  | |
| HTP2.3.5.15 | | Support for MCS with index 30 | 20.3.5 (Modulation and coding scheme (MCS)), 20.6 (Parameters for HT MCSs) | | CF16:O | | Yes  No  N/A  | |
| HTP2.3.5.16 | | Support for MCS with index 31 | 20.3.5 (Modulation and coding scheme (MCS)), 20.6 (Parameters for HT MCSs) | | CF16:O | | Yes  No  N/A  | |
| HTP2.3.5.17 | | Support for MCS with index 32 | 20.3.5 (Modulation and coding scheme (MCS)), 20.6 (Parameters for HT MCSs) | | CF16:O | | Yes  No  N/A  | |
| HTP2.3.5.18 | | Support for MCS with index 33 | 20.3.5 (Modulation and coding scheme (MCS)), 20.6 (Parameters for HT MCSs) | | CF16:O | | Yes  No  N/A  | |
| HTP2.3.5.19 | | Support for MCS with index 34 | 20.3.5 (Modulation and coding scheme (MCS)), 20.6 (Parameters for HT MCSs) | | CF16:O | | Yes  No  N/A  | |
| HTP2.3.5.20 | | Support for MCS with index 35 | 20.3.5 (Modulation and coding scheme (MCS)), 20.6 (Parameters for HT MCSs) | | CF16:O | | Yes  No  N/A  | |
| HTP2.3.5.21 | | Support for MCS with index 36 | 20.3.5 (Modulation and coding scheme (MCS)), 20.6 (Parameters for HT MCSs) | | CF16:O | | Yes  No  N/A  | |
| HTP2.3.5.22 | | Support for MCS with index 37 | 20.3.5 (Modulation and coding scheme (MCS)), 20.6 (Parameters for HT MCSs) | | CF16:O | | Yes  No  N/A  | |
| HTP2.3.5.23 | | Support for MCS with index 38 | 20.3.5 (Modulation and coding scheme (MCS)), 20.6 (Parameters for HT MCSs) | | CF16:O | | Yes  No  N/A  | |
| HTP2.3.5.24 | | Support for MCS with index 39 | 20.3.5 (Modulation and coding scheme (MCS)), 20.6 (Parameters for HT MCSs) | | CF16:O | | Yes  No  N/A  | |
| HTP2.3.5.25 | | Support for MCS with index 40 | 20.3.5 (Modulation and coding scheme (MCS)), 20.6 (Parameters for HT MCSs) | | CF16:O | | Yes  No  N/A  | |
| HTP2.3.5.26 | | Support for MCS with index 41 | 20.3.5 (Modulation and coding scheme (MCS)), 20.6 (Parameters for HT MCSs) | | CF16:O | | Yes  No  N/A  | |
| HTP2.3.5.27 | | Support for MCS with index 42 | 20.3.5 (Modulation and coding scheme (MCS)), 20.6 (Parameters for HT MCSs) | | CF16:O | | Yes  No  N/A  | |
| HTP2.3.5.28 | | Support for MCS with index 43 | 20.3.5 (Modulation and coding scheme (MCS)), 20.6 (Parameters for HT MCSs) | | CF16:O | | Yes  No  N/A  | |
| HTP2.3.5.29 | | Support for MCS with index 44 | 20.3.5 (Modulation and coding scheme (MCS)), 20.6 (Parameters for HT MCSs) | | CF16:O | | Yes  No  N/A  | |
| HTP2.3.5.30 | | Support for MCS with index 45 | 20.3.5 (Modulation and coding scheme (MCS)), 20.6 (Parameters for HT MCSs) | | CF16:O | | Yes  No  N/A  | |
| HTP2.3.5.31 | | Support for MCS with index 46 | 20.3.5 (Modulation and coding scheme (MCS)), 20.6 (Parameters for HT MCSs) | | CF16:O | | Yes  No  N/A  | |
| HTP2.3.5.32 | | Support for MCS with index 47 | 20.3.5 (Modulation and coding scheme (MCS)), 20.6 (Parameters for HT MCSs) | | CF16:O | | Yes  No  N/A  | |
| HTP2.3.5.33 | | Support for MCS with index 48 | 20.3.5 (Modulation and coding scheme (MCS)), 20.6 (Parameters for HT MCSs) | | CF16:O | | Yes  No  N/A  | |
| HTP2.3.5.34 | | Support for MCS with index 49 | 20.3.5 (Modulation and coding scheme (MCS)), 20.6 (Parameters for HT MCSs) | | CF16:O | | Yes  No  N/A  | |
| HTP2.3.5.35 | | Support for MCS with index 50 | 20.3.5 (Modulation and coding scheme (MCS)), 20.6 (Parameters for HT MCSs) | | CF16:O | | Yes  No  N/A  | |
| HTP2.3.5.36 | | Support for MCS with index 51 | 20.3.5 (Modulation and coding scheme (MCS)), 20.6 (Parameters for HT MCSs) | | CF16:O | | Yes  No  N/A  | |
| HTP2.3.5.37 | | Support for MCS with index 52 | 20.3.5 (Modulation and coding scheme (MCS)), 20.6 (Parameters for HT MCSs) | | CF16:O | | Yes  No  N/A  | |
| HTP2.3.5.38 | | Support for MCS with index 53 | 20.3.5 (Modulation and coding scheme (MCS)), 20.6 (Parameters for HT MCSs) | | CF16:O | | Yes  No  N/A  | |
| HTP2.3.5.39 | | Support for MCS with index 54 | 20.3.5 (Modulation and coding scheme (MCS)), 20.6 (Parameters for HT MCSs) | | CF16:O | | Yes  No  N/A  | |
| HTP2.3.5.40 | | Support for MCS with index 55 | 20.3.5 (Modulation and coding scheme (MCS)), 20.6 (Parameters for HT MCSs) | | CF16:O | | Yes  No  N/A  | |
| HTP2.3.5.41 | | Support for MCS with index 56 | 20.3.5 (Modulation and coding scheme (MCS)), 20.6 (Parameters for HT MCSs) | | CF16:O | | Yes  No  N/A  | |
| HTP2.3.5.42 | | Support for MCS with index 57 | 20.3.5 (Modulation and coding scheme (MCS)), 20.6 (Parameters for HT MCSs) | | CF16:O | | Yes  No  N/A  | |
| HTP2.3.5.43 | | Support for MCS with index 58 | 20.3.5 (Modulation and coding scheme (MCS)), 20.6 (Parameters for HT MCSs) | | CF16:O | | Yes  No  N/A  | |
| HTP2.3.5.44 | | Support for MCS with index 59 | 20.3.5 (Modulation and coding scheme (MCS)), 20.6 (Parameters for HT MCSs) | | CF16:O | | Yes  No  N/A  | |
| HTP2.3.5.45 | | Support for MCS with index 60 | 20.3.5 (Modulation and coding scheme (MCS)), 20.6 (Parameters for HT MCSs) | | CF16:O | | Yes  No  N/A  | |
| HTP2.3.5.46 | | Support for MCS with index 61 | 20.3.5 (Modulation and coding scheme (MCS)), 20.6 (Parameters for HT MCSs) | | CF16:O | | Yes  No  N/A  | |
| HTP2.3.5.47 | | Support for MCS with index 62 | 20.3.5 (Modulation and coding scheme (MCS)), 20.6 (Parameters for HT MCSs) | | CF16:O | | Yes  No  N/A  | |
| HTP2.3.5.48 | | Support for MCS with index 63 | 20.3.5 (Modulation and coding scheme (MCS)), 20.6 (Parameters for HT MCSs) | | CF16:O | | Yes  No  N/A  | |
| HTP2.3.5.49 | | Support for MCS with index 64 | 20.3.5 (Modulation and coding scheme (MCS)), 20.6 (Parameters for HT MCSs) | | CF16:O | | Yes  No  N/A  | |
| HTP2.3.5.50 | | Support for MCS with index 65 | 20.3.5 (Modulation and coding scheme (MCS)), 20.6 (Parameters for HT MCSs) | | CF16:O | | Yes  No  N/A  | |
| HTP2.3.5.51 | | Support for MCS with index 66 | 20.3.5 (Modulation and coding scheme (MCS)), 20.6 (Parameters for HT MCSs) | | CF16:O | | Yes  No  N/A  | |
| HTP2.3.5.52 | | Support for MCS with index 67 | 20.3.5 (Modulation and coding scheme (MCS)), 20.6 (Parameters for HT MCSs) | | CF16:O | | Yes  No  N/A  | |
| HTP2.3.5.53 | | Support for MCS with index 68 | 20.3.5 (Modulation and coding scheme (MCS)), 20.6 (Parameters for HT MCSs) | | CF16:O | | Yes  No  N/A  | |
| HTP2.3.5.54 | | Support for MCS with index 69 | 20.3.5 (Modulation and coding scheme (MCS)), 20.6 (Parameters for HT MCSs) | | CF16:O | | Yes  No  N/A  | |
| HTP2.3.5.55 | | Support for MCS with index 70 | 20.3.5 (Modulation and coding scheme (MCS)), 20.6 (Parameters for HT MCSs) | | CF16:O | | Yes  No  N/A  | |
| HTP2.3.5.56 | | Support for MCS with index 71 | 20.3.5 (Modulation and coding scheme (MCS)), 20.6 (Parameters for HT MCSs) | | CF16:O | | Yes  No  N/A  | |
| HTP2.3.5.57 | | Support for MCS with index 72 | 20.3.5 (Modulation and coding scheme (MCS)), 20.6 (Parameters for HT MCSs) | | CF16:O | | Yes  No  N/A  | |
| HTP2.3.5.58 | | Support for MCS with index 73 | 20.3.5 (Modulation and coding scheme (MCS)), 20.6 (Parameters for HT MCSs) | | CF16:O | | Yes  No  N/A  | |
| HTP2.3.5.59 | | Support for MCS with index 74 | 20.3.5 (Modulation and coding scheme (MCS)), 20.6 (Parameters for HT MCSs) | | CF16:O | | Yes  No  N/A  | |
| HTP2.3.5.60 | | Support for MCS with index 75 | 20.3.5 (Modulation and coding scheme (MCS)), 20.6 (Parameters for HT MCSs) | | CF16:O | | Yes  No  N/A  | |
| HTP2.3.5.61 | | Support for MCS with index 76 | 20.3.5 (Modulation and coding scheme (MCS)), 20.6 (Parameters for HT MCSs) | | CF16:O | | Yes  No  N/A  | |
| HTP2.4 | | PHY timing parameters |  | |  | |  | |
| HTP2.4.1 | | Values in non-HT 20 MHz channel | 20.3.6 (Timing-related parameters) | | CF16:M | | Yes  No  N/A  | |
| HTP2.4.2 | | Values in 20 MHz HT channel | 20.3.6 (Timing-related parameters) | | CF16:M | | Yes  No  N/A  | |
| HTP2.4.3 | | Values in 40 MHz channel | 20.3.6 (Timing-related parameters) | | HTP2.3.4:M | | Yes  No  N/A  | |
| HTP2.5 | | HT Preamble field definition and coding |  | |  | |  | |
| HTP2.5.1 | | HT-mixed format preamble | 20.3.9.2 (HT-mixed format preamble) | | CF16:M | | Yes  No  N/A  | |
| HTP2.5.2 | | HT-greenfield preamble | 20.3.9.5 (HT-greenfield format preamble) | | HTP1.3:M | | Yes  No  N/A  | |
| HTP2.5.3 | | Extension HT Long Training fields (HT-ELTFs) | 20.3.9.4.6 (HT-LTF definition) | | CF16:O | | Yes  No  N/A  | |
| HTP2.6 | | HT Data field definition and coding | 20.3.11 (Data field) | | CF16:M | | Yes  No  N/A  | |
| HTP2.6.1 | | Use of LDPC codes | 20.3.11.7 (LDPC codes) | | CF16:O | | Yes  No  N/A  | |
| HTP2.7 | | Beamforming | 20.3.12 (Beamforming) | | CF16:O | | Yes  No  N/A  | |
| HTP2.8 | | Sounding PPDUs |  | |  | |  | |
| HTP2.8.1 | | HT preamble format for sounding PPDUs | 20.3.13 (HT Preamble format for sounding PPDUs) | | CF16:O | | Yes  No  N/A  | |
| HTP2.8.2 | | Sounding with an NDP | 20.3.13.2 (Sounding with a NDP) | | HTM15:O | | Yes  No  N/A  | |
| HTP2.8.3 | | Sounding PPDU for calibration | 20.3.13.3 (Sounding PPDU for calibration) | | HTM14.7:M | | Yes  No  N/A  | |
| HTP2.9 | | Channel numbering and channelization |  | |  | |  | |
| HTP2.9.1 | | Channel allocation for 20 MHz channels at 5 GHz | 18.3.8.4 (Operating channel frequencies) | | CF16:M | | Yes  No  N/A  | |
| HTP2.9.2 | | Channel allocation for 20 MHz channels at 2.4 GHz | 19.4.3 (Operating channel frequencies) | | CF16:M | | Yes  No  N/A  | |
| HTP2.9.3 | | Channel allocation for 40 MHz channels at 5 GHz | 20.3.15.3 (Channel allocation in the 5 GHz band) | | HTP2.3.4:M | | Yes  No  N/A  | |
| HTP2.9.4 | | Channel allocation for 40 MHz channels at 2.4 GHz | 20.3.15.2 (Channel allocation in the 2.4 GHz Band) | | HTP2.3.4:M | | Yes  No  N/A  | |
| HTP2.10 | | PMD transmit specification |  | |  | |  | |
| HTP2.10.1 | | PMD transmit specification for 20 MHz channel | 20.3.20 (PMD transmit specification) | | CF16:M | | Yes  No  N/A  | |
| HTP2.10.2 | | PMD transmit specification for 40 MHz channel | 20.3.20 (PMD transmit specification) | | HTP2.3.4:M | | Yes  No  N/A  | |
| \*HTP2.11 | | Space-time block coding (STBC) | 20.3.11.9.2 (Space-time block coding (STBC)) | | CF16:O | | Yes  No  N/A  | |
| HTP2.12 | | PMD receive specification |  | |  | |  | |
| HTP2.12.1 | | PMD receive specification for 20 MHz channel | 20.3.21 (HT PMD receiver specification) | | CF16:M | | Yes  No  N/A  | |
| HTP2.12.2 | | PMD receive specification for 40 MHz channel | 20.3.21 (HT PMD receiver specification) | | HTP2.3.4:M | | Yes  No  N/A  | |
| HTP2.13 | | PPDU reception with RIFS | 20.3.21.7 (Reduced interframe space (RIFS)) | | CF16:M | | Yes  No  N/A  | |

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| * Tunneled direct-link setup extensions | | | | |
| Item | Protocol capability | References | Status | Support |
| TDLS1 | Tunneled direct-link setup | 8.5.13 (TDLS Action field formats), 10.22 (Tunneled direct-link setup) | CF2&CF18:M | Yes  No  N/A  |
| TDLS1.1 | TDLS setup | 8.4.2.64 (Link Identifier element), 8.5.13.2 (TDLS Setup Request Action field format), 8.5.13.3 (TDLS Setup Response Action field format), 8.5.13.4 (TDLS Setup Confirm Action field format),  10.22.4 (TDLS direct-link establishment) | CF2&CF18:M | Yes  No  N/A  |
| TDLS1.2 | TDLS teardown | 8.4.2.64 (Link Identifier element), 8.5.13.5 (TDLS Teardown Action field format),  10.22.5 (TDLS direct-link teardown) | CF2&CF18:M | Yes  No  N/A  |
| TDLS1.3 | TDLS Peer Key Handshake | 11.6.9 (TDLS Peer Key security protocol) | CF2&CF18:M | Yes  No  N/A  |
| TDLS1.4 | TDLS Peer PSM | 8.4.2.64 (Link Identifier element), 8.4.2.65 (Wakeup Schedule element),  8.5.13.9 (TDLS Peer PSM Request Action field format), 8.5.13.10 (TDLS Peer PSM Response Action field format),  10.2.1.14 (TDLS Peer Power Save Mode) | CF2&CF18:O | Yes  No  N/A  |
| TDLS 1.5 | TDLS Peer U-APSD | 8.4.2.64 (Link Identifier element), 8.4.2.67 (PTI Control element), 8.4.2.68 (TPU Buffer Status element),  8.5.13.6 (TDLS Peer Traffic Indication Action field format), 8.5.13.11 (TDLS Peer Traffic Response Action field format),  10.2.1.15 (TDLS Peer U-APSD) | CF2&CF18:O | Yes  No  N/A  |
| TDLS 1.6 | TDLS Channel Switching | 8.4.2.64 (Link Identifier element), 8.4.2.66 (Channel Switch Timing element),  8.5.13.7 (TDLS Channel Switch Request Action field format), 8.5.13.8 (TDLS Channel Switch Response Action field format),  10.22.6 (TDLS channel switching) | CF2&CF8& CF11&CF18:O | Yes  No  N/A  |
| TDLS1.7 | TDLS Discovery | 8.4.2.64 (Link Identifier element),  8.5.13.12 (TDLS Discovery Request Action field format), 8.5.8.16 (TDLS Discovery Response frame format),  10.22.3 (TDLS Discovery) | CF2&CF8& CF11&CF18:O | Yes  No  N/A  |

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| * WNM extensions | | | | |
| Item | Protocol capability | References | Status | Support |
| WNM1 | Extended Capabilities information  element | 8.4.2.29 (Extended Capabilities element) | CF19:M | Yes □ No □ N/A □ |
| WNM2 | STA Statistics (Triggered) and Multicast Diagnostics | 10.11.8 (Triggered autonomous reporting) | CF19:M | Yes □ No □ N/A □ |
| WNM2.1 | Protocol for Triggered Measurements | 10.11.8 (Triggered autonomous reporting) | CF19:M | Yes □ No □ N/A □ |
| WNM2.2 | Triggered STA Statistics | 8.4.2.23.9 (STA Statistics Request), 8.4.2.24.9 (STA Statistics Report), 8.5.7.2 (Radio Measurement Request frame format),8.5.7.3 (Radio Measurement Report frame format), 10.11.9.5 (STA Statistics Report) | CF19:O | Yes □ No □ N/A □ |
| WNM2.3 | Multicast Diagnostics | 8.4.2.23.13 (Multicast Diagnostics Request), 8.4.2.24.12 (Multicast Diagnostics Report), 8.5.7.2 (Radio Measurement Request frame format),8.5.7.3 (Radio Measurement Report frame format), 10.11.19 (Multicast diagnostic reporting) | CF19:M | Yes □ No □ N/A □ |
| WNM3 | Event | 10.23.2 (Event request and report procedures) | CF19:M | Yes □ No □ N/A □ |
| WNM3.1 | Event Request frame | 8.4.2.69 (Event Request element), 8.5.14.2 (Event Request frame format) | CF19 & CF1:M | Yes □ No □ N/A □ |
| WNM3.2 | Event Report frame | 8.4.2.70 (Event Report element), 8.5.14.3 (Event Report frame format) | CF19 & CF2:M | Yes □ No □ N/A □ |
| WNM4 | Diagnostic | 10.23.3 (Diagnostic request and report procedures) | CF19:M | Yes □ No □ N/A □ |
| WNM4.1 | Diagnostic Request frame | 8.4.2.71 (Diagnostic Request element), 8.5.14.4 (Diagnostic Request frame format) | CF19 & CF1:M | Yes □ No □ N/A □ |
| WNM4.2 | Diagnostic Report frame | 8.4.2.72 (Diagnostic Report element), 8.5.14.5 (Diagnostic Report frame format) | CF19 & CF2:M | Yes □ No □ N/A □ |
| WNM4.3 | Configuration Profile Diagnostic Type | 8.4.2.72.3 (Configuration Profile report), 10.23.3.2 (Configuration Profile report) | CF19:M | Yes □ No □ N/A □ |
| WNM4.4 | Manufacturer Information STA Report Diagnostic Type | 8.4.2.72.2 (Manufacturer Information STA Report), 10.23.3.3 (Manufacturer information STA report) | CF19:M | Yes □ No □ N/A □ |
| WNM4.5 | Association Diagnostic Type | 8.4.2.71.2 (Association Diagnostic request), 8.4.2.72.4 (Association Diagnostic report), 10.23.3.4 (Association diagnostic) | CF19:M | Yes □ No □ N/A □ |
| WNM4.6 | IEEE 802.1X Authentication Diagnostic Type | 8.4.2.71.3 (IEEE 802.1X Authentication Diagnostic request),  8.4.2.72.5 (IEEE 802.1X Authentication Diagnostic report), 10.23.3.5 (IEEE 802.1X authentication diagnostic) | CF19 & PC34:M | Yes □ No □ N/A □ |
| WNM5 | Location | 10.23.4 (Location track procedures), 8.4.2.73 (Location Parameters element) | CF19:M | Yes □ No □ N/A □ |
| WNM5.1 | Location Civic Request/Report | 10.11.9.9 (Location Civic report) | CF19:M | Yes □ No □ N/A □ |
| WNM5.2 | Location Identifier Request/Report | 10.11.9.10 (Location Identifier Report) | CF19:M | Yes □ No □ N/A □ |
| WNM5.3 | Location Track Notification | 10.23.4 (Location track procedures), 8.5.8.17 (Location Track Notification frame format) | CF19:O | Yes □ No □ N/A □ |
| WNM5.3.1 | Time of Departure Notifications | 10.23.4 (Location track procedures), 8.4.2.73 (Location Parameters element) | CF19:O | Yes □ No □ N/A □ |
| WNM5.3.2 | Motion Detection Notifications | 10.23.4 (Location track procedures), 8.4.2.73 (Location Parameters element) | CF19:O | Yes □ No □ N/A □ |
| WNM5.4 | Location Configuration Request frame | 8.5.14.6 (Location Configuration Request frame format), 8.4.2.73 (Location Parameters element) | CF19:M | Yes □ No □ N/A □ |
| WNM5.4.1 | Normal Indication | 8.5.14.6 (Location Configuration Request frame format), 8.4.2.73 (Location Parameters element) | CF19:O | Yes □ No □ N/A □ |
| WNM5.4.2 | Motion Indication | 8.5.14.6 (Location Configuration Request frame format), 8.4.2.73 (Location Parameters element) | CF19:O | Yes □ No □ N/A □ |
| WNM5.5 | Location Configuration Response frame | 8.5.14.7 (Location Configuration Response frame format), 8.4.2.73 (Location Parameters element) | CF19:M | Yes □ No □ N/A □ |
| \*WNM6 | Multiple BSSID Support | 10.1.3.6 (Multiple BSSID procedure), 10.1.4 (Acquiring synchronization, scanning), 10.11.14 (Multiple BSSID Set) | CF19:O | Yes □ No □ N/A □ |
| WNM6.1 | Multiple BSSID element | 8.4.2.48 (Multiple BSSID element) | WNM6:M | Yes □ No □ N/A □ |
| WNM6.2 | Multiple BSSID-index element | 8.4.2.76 (Multiple BSSID-Index element) | WNM6:M | Yes □ No □ N/A □ |
| WNM7 | BSS Transition Management | 10.23.6 (BSS transition management for network load balancing) | CF19:O | Yes □ No □ N/A □ |
| WNM7.1 | Neighbor Report element | 8.4.2.39 (Neighbor Report element) | CF19 & CF1:M | Yes □ No □ N/A □ |
| WNM7.2 | BSS Transition Management Query frame | 8.5.14.8 (BSS Transition Management Query frame format) | CF19 & CF1:M | Yes □ No □ N/A □ |
| WNM7.3 | BSS Transition Management Request frame | 8.5.14.9 (BSS Transition Management Request frame format) | CF19 & CF2:M | Yes □ No □ N/A □ |
| WNM7.4 | BSS Transition Management Response frame | 8.5.14.10 (BSS Transition Management Response frame format) | CF19 & CF2:M | Yes □ No □ N/A □ |
| \*WNM8 | FMS | 10.2.1.16 (FMS power management) | CF19:O | Yes □ No □ N/A □ |
| WNM8.1 | FMS Request frame | 8.5.14.11 (FMS Request frame format) | CF2 & WNM8:M | Yes □ No □ N/A □ |
| WNM8.2 | FMS Response frame | 8.5.14.12 (FMS Response frame format) | CF1 & WNM8:M | Yes □ No □ N/A □ |
| WNM9 | Proxy ARP | 10.23.13 (Proxy ARP (including Proxy Neighbor Discovery) service) | CF19:O | Yes □ No □ N/A □ |
| \*WNM10 | Collocated Interference Reporting | 10.23.9 (QoS Traffic capability procedure) | CF19:O | Yes □ No □ N/A □ |
| WNM10.1 | Collocated Interference Request frame | 8.5.14.13 (Collocated Interference Request frame format) | WNM10:M | Yes □ No □ N/A □ |
| WNM10.2 | Collocated Interference Report frame | 8.5.14.14 (Collocated Interference Report frame format) | WNM10:M | Yes □ No □ N/A □ |
| \*WNM11 | BSS Max idle period | 10.23.12 (BSS Max idle period management) | CF19:M | Yes □ No □ N/A □ |
| WNM11.1 | BSS Max Idle Period element | 8.4.2.81 (BSS Max Idle Period element) | WNM11:M | Yes □ No □ N/A □ |
| \*WNM12 | TFS | 10.23.11 (TFS procedures) | CF19:O | Yes □ No □ N/A □ |
| WNM12.1 | TFS Request frame | 8.4.2.82 (TFS Request element), 8.5.14.15 (TFS Request frame format) | WNM12:M | Yes □ No □ N/A □ |
| WNM12.2 | TFS Response frame | 8.4.2.83 (TFS Response element), 8.5.14.16 (TFS Response frame format) | WNM12:M | Yes □ No □ N/A □ |
| WNM12.3 | TFS Notify frame | 8.5.14.17 (TFS Notify frame format) | CF1 & WNM12:M CF2 & WNM12:O | Yes □ No □ N/A □ |
| \*WNM13 | WNM-Sleep Mode | 10.2.1.18 (WNM-Sleep mode) | WNM12:O | Yes □ No □ N/A □ |
| WNM13.1 | WNM-Sleep Mode Request frame | 8.4.2.84 (WNM-Sleep Mode element), 8.5.14.18 (WNM-Sleep Mode Request frame format) | WNM13:M | Yes □ No □ N/A □ |
| WNM13.2 | WNM-Sleep Mode Response frame | 8.4.2.84 (WNM-Sleep Mode element), 8.5.14.19 (WNM-Sleep Mode Response frame format) | WNM13:M | Yes □ No □ N/A □ |
| \*WNM14 | TIM Broadcast | 10.2.1.17 (TIM Broadcast) | CF19:O | Yes □ No □ N/A □ |
| WNM14.1 | TIM Broadcast Request frame | 8.4.2.85 (TIM Broadcast Request element), 8.5.14.20 (TIM Broadcast Request frame format), | WNM14:M | Yes □ No □ N/A □ |
| WNM14.2 | TIM Broadcast Response frame | 8.4.2.86 (TIM Broadcast Response element), 8.5.14.21 (TIM Broadcast Response frame format) | WNM14:M | Yes □ No □ N/A □ |
| WNM14.3 | TIM Broadcast frame | 8.5.15.2 (TIM frame format) | WNM14:M | Yes □ No □ N/A □ |
| \*WNM15 | QoS Traffic Capability | 10.23.9 (QoS Traffic capability procedure) | CF19 & CF2:O | Yes □ No □ N/A □ |
| WNM15.1 | QoS Traffic Capability element | 8.4.2.80 (QoS Traffic Capability element) | WNM15:M | Yes □ No □ N/A □ |
| WNM15.2 | QoS Traffic Capability update frame | 8.5.14.22 (QoS Traffic Capability Update frame format) | WNM15:M | Yes □ No □ N/A □ |
| WNM16 | AC Station Count | 10.23.10 (AC Station Count) | CF19 & CF2:O | Yes □ No □ N/A □ |
| WNM17 | Timing Measurement | 10.23.5 (Timing measurement procedure) | CF19:O | Yes □ No □ N/A □ |
| WNM17.1 | Timing Measurement Request | 8.5.14.27 (Timing Measurement Request frame format) | WNM17:M | Yes □ No □ N/A □ |
| WNM17.2 | Timing Measurement | 8.5.15.3 (Timing Measurement frame format) | WNM17:M | Yes □ No □ N/A □ |
| \*WNM18 | Channel Usage | 10.23.14 (Channel usage procedures) | CF19:O | Yes □ No □ N/A □ |
| WNM18.1 | Channel Usage Request frame | 8.4.2.88 (Channel Usage element), 8.5.14.23 (Channel Usage Request frame format) | WNM18:M | Yes □ No □ N/A □ |
| WNM18.2 | Channel Usage Response frame | 8.4.2.88 (Channel Usage element), 8.5.14.24 (Channel Usage Response frame format) | WNM18:M | Yes □ No □ N/A □ |
| \*WNM19 | DMS | 10.23.15 (Group addressed transmission service(11aa)) | CF19 & CF16:O | Yes □ No □ N/A □ |
| WNM19.1 | DMS Request frame | 8.4.2.90 (DMS Request element), 8.5.14.25 (DMS Request frame format) | WNM19:M | Yes □ No □ N/A □ |
| WNM19.2 | DMS Response frame | 8.4.2.91 (DMS Response element), 8.5.14.26 (DMS Response frame format) | WNM19:M | Yes □ No □ N/A □ |
| WNM20 | UTC TSF Offset | 10.21.3 (UTC TSF Offset procedures), 8.4.2.63 (Time Advertisement element), 8.4.2.89 (Time Zone element) | CF19:O | Yes □ No □ N/A □ |
| WNM21 | U-APSD Coexistence | 8.4.2.93 (U-APSD Coexistence element), 10.2.1.5.2 (U-APSD Coexistence) | CF19:O | Yes □ No □ N/A □ |
| WNM22 | WNM-Notification | 10.23.16 (WNM-Notification) | CF19 & CF16:O | Yes □ No □ N/A □ |
| WNM22.1 | WNM-Notification Request frame | 8.5.14.28 (WNM-Notification Request frame format) | WNM21:M | Yes □ No □ N/A □ |
| WNM22.2 | WNM-Notification Response frame | 8.5.14.29 (WNM-Notification Response frame format) | WNM21:M | Yes □ No □ N/A □ |

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| * Interworking (IW) with external networks extensions | | | | |
| Item | Protocol capability | References | Status | Support |
|  | Are the following Interworking with External Networks capabilities supported? |  |  |  |
| IW1 | Interworking capabilities and Information | 8.4.2.94 (Interworking element), 10.24.2 (Interworking capabilities and information) | CF20:M | Yes  No  N/A  |
| IW1.1 | Interworking element | 8.4.2.94 (Interworking element) | IW1:M | Yes  No  N/A  |
| IW1.2 | Access network type | 8.4.2.94 (Interworking element) | IW1:M | Yes  No  N/A  |
| IW1.3 | Venue type | 8.4.2.94 (Interworking element) | IW1:M | Yes  No  N/A  |
| IW1.4 | HESSID | 8.4.2.94 (Interworking element) | IW1:M | Yes  No  N/A  |
| IW2 | Generic Advertisement Service | 10.24.3 (Interworking procedures: generic advertisement service (GAS)) | CF20:M | Yes  No  N/A  |
| IW2.1 | Advertisement Protocol element | 8.4.2.95 (Advertisement Protocol element) | IW2:M | Yes  No  N/A  |
| \*IW2.2 | GAS Protocol | 10.24.3.1 (GAS Protocol) | IW2:M | Yes  No  N/A  |
| \*IW2.2.1 | GAS frames | 8.5.8 (Public Action details) | IW2:M | Yes  No  N/A  |
| IW2.2.2 | Access Network Query Protocol | 8.4.4 (Access Network Query Protocol (ANQP) elements) | IW2.2:M | Yes  No  N/A  |
| IW2.2.3 | Query List | 8.4.4.2 (Query List ANQP-element) | IW2.2.1:M | Yes  No  N/A  |
| IW2.2.4 | Capability List | 8.4.4.3 (Capability List ANQP-element) | IW2.2.1:M | Yes  No  N/A  |
| IW2.2.5 | Venue Name | 8.4.4.4 (Venue Name ANQP-element) | IW2.2.1:O | Yes  No  N/A  |
| IW2.2.6 | Emergency Call Number | 8.4.4.5 (Emergency Call Number ANQP-element) | IW2.2.1:O | Yes  No  N/A  |
| IW2.2.7 | Network Authentication Type | 8.4.4.6 (Network Authentication Type ANQP-element) | IW2.2.1:O | Yes  No  N/A  |
| IW2.2.8 | Roaming Consortium | 8.4.4.7 (Roaming Consortium ANQP-element) | IW2.2.1:O | Yes  No  N/A  |
| IW2.2.9 | IP Address Type Availability | 8.4.4.9 (IP Address Type Availability ANQP-element) | IW2.2.1:O | Yes  No  N/A  |
| IW2.2.10 | NAI Realm | 8.4.4.10 (NAI Realm ANQP-element) | IW2.2.1:O | Yes  No  N/A  |
| IW2.2.11 | 3GPP Cellular Network | 8.4.4.11 (3GPP Cellular Network ANQP-element) | IW2.2.1:O | Yes  No  N/A  |
| IW2.2.12 | AP Geospatial Location | 8.4.4.12 (AP Geospatial Location ANQP-element) | IW2.2.1:O | Yes  No  N/A  |
| IW2.2.13 | AP Civic Location | 8.4.4.13 (AP Civic Location ANQP-element) | IW2.2.1:O | Yes  No  N/A  |
| IW2.2.14 | AP Location Public Identifier URI | 8.4.4.14 (AP Location Public Identifier URI ANQP-element) | IW2.2.1:O | Yes  No  N/A  |
| IW2.2.15 | Domain Name | 8.4.4.15 (Domain Name ANQP-element) | IW2.2.1:O | Yes  No  N/A  |
| IW2.2.16 | Emergency Alert URI | 8.4.4.16 (Emergency Alert URI ANQP-element) | IW2.2.1:O | Yes  No  N/A  |
| IW2.2.17 | Emergency NAI | 8.4.4.17 (Emergency NAI ANQP-element) | IW2.2.1:O | Yes  No  N/A  |
| IW2.2.18 | Vendor Specific | 8.4.4.8 (Vendor Specific ANQP-element) | IW2.2.1:O | Yes  No  N/A  |
| IW2.2.19 | MIH IS | 8.4.2.95 (Advertisement Protocol element), 10.24.4 (Interworking procedures: IEEE 802.21 MIH support) | IW2:O | Yes  No  N/A  |
| IW2.2.20 | MIH Event and Command Services Discovery | 8.4.2.95 (Advertisement Protocol element), 10.24.4 (Interworking procedures: IEEE 802.21 MIH support) | IW2.2:O | Yes  No  N/A  |
| IW2.2.21 | Emergency Alert System (EAS) | 8.4.2.95 (Advertisement Protocol element), 8.4.2.99 (Emergency Alert Identifier element) | IW2.2:O | Yes  No  N/A  |
| IW2.2.22 | Advertisement Protocol ID, Vendor Specific | 8.4.2.95 (Advertisement Protocol element) | IW2.2:O | Yes  No  N/A  |
| IW2.2.23 | TDLS Capability | 8.4.4.18 (TDLS Capability ANQP-element) | IW2.21:O | Yes  No  N/A  |
| IW2.2.24 | Neighbor Report | 8.4.4.19 (Neighbor Report ANQP-element) | IW2.21:O | Yes  No  N/A  |
| IW2.3 | GAS Initial Request frame | 8.5.8.12 (GAS Initial Request frame format) | IW2:M | Yes  No  N/A  |
| IW2.4 | GAS Initial Response frame | 8.5.8.13 (GAS Initial Response frame format) | IW2:M | Yes  No  N/A  |
| IW2.5 | GAS Comeback Request frame | 8.5.8.14 (GAS Comeback Request frame format) | IW2:M | Yes  No  N/A  |
| IW2.6 | GAS Comeback Response frame | 8.5.8.15 (GAS Comeback Response frame format) | IW2:M | Yes  No  N/A  |
| IW3 | QoS Mapping from External Networks | 10.24.9 (Interworking procedures: support for QoS mapping from external networks), 9.19.4.2 (Contention-based admission control procedures), 9.19.4.3 (Controlled-access admission control) | CF20:O | Yes  No  N/A  |
| IW3.1 | QoS Map Set element | 8.4.2.97 (QoS Map Set element) | IW3:M | Yes  No  N/A  |
| IW3.2 | Transport of QoS Map Set | 10.24.9 (Interworking procedures: support for QoS mapping from external networks) | IW3:M | Yes  No  N/A  |
| IW3.3 | QoS Map Configure | 8.5.3.6 (QoS Map Configure frame format) | IW3:M | Yes  No  N/A  |
| IW4 | MIH Support | 6.4 (MAC state generic convergence function (MSGCF)), 10.24.4 (Interworking procedures: IEEE 802.21 MIH support) | CF20:O | Yes  No  N/A  |
| IW4.1 | MAC State Generic Convergence Function Support | 6.4 (MAC state generic convergence function (MSGCF)) | IW4:M | Yes  No  N/A  |
| IW4.2 | Informational events | 6.4.5 (Convergence function informational events) | IW4:M | Yes  No  N/A  |
| IW4.3 | ESS status reporting | 6.4.7 (ESS status reporting) | IW4:M | Yes  No  N/A  |
| IW4.4 | Network configuration | 6.4.8 (Network configuration) | IW4:M | Yes  No  N/A  |
| IW4.5 | Network events | 6.4.9 (Network events) | IW4:M | Yes  No  N/A  |
| IW4.6 | Network command interface | 6.4.10 (Network command interface) | IW4:M | Yes  No  N/A  |
| IW4.7 | Mobility management | 6.4.11 (MAC state SME SAP—mobility management) | IW4:M | Yes  No  N/A  |
| IW4.8 | Network configuration | 6.4.8 (Network configuration) | IW4:M | Yes  No  N/A  |
| IW5 | Extended channel switch enabled | 8.4.2.60 (20/40 BSS Intolerant Channel Report element), 10.1.4 (Acquiring synchronization, scanning) | CF15 AND DSE9:M | Yes  No  N/A  |
| IW6 | Expedited Bandwidth Request | 8.4.2.96 (Expedited Bandwidth Request element) | CF20:O | Yes  No  N/A  |
| IW7 | SSPN Interface | 10.24.5 (Interworking procedures: interactions with SSPN) | CF20:O | Yes  No  N/A  |

* Mesh protocol capabilities

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| * General mesh support | | | | |
| Item | Protocol capability | Reference | Status | Support |
| \*MP1 | Support of mesh capability | 4.3.15 (Mesh BSS: IEEE 802.11 wireless mesh network), 13.1 (Mesh STA dependencies) | CF21:M | Yes  No  N/A  |
| MP1.1 | Mesh BSS scanning | 13.2.2 (Mesh identifier), 13.2.6 (Scanning mesh BSSs) | MP1:M | Yes  No  N/A  |
| MP1.2 | Candidate peer mesh STA determination | 13.2.7 (Candidate peer mesh STA) | MP1:M | Yes  No  N/A  |
| MP1.3 | Active mesh profile  determination | 13.2.3 (Mesh profile), 13.2.4 (Mesh STA configuration) | MP1:M | Yes  No  N/A  |
| MP1.4 | Establishing a mesh BSS | 13.2.8 (Establishing or becoming a member of a mesh BSS) | MP1:M | Yes  No  N/A  |
| MP1.5 | Becoming a member of a mesh BSS | 13.2.8 (Establishing or becoming a member of a mesh BSS) | MP1:M | Yes  No  N/A  |
| MP1.6 | Announcement of mesh  profile and supplemental information for the mesh  discovery | 13.2.3 (Mesh profile), 13.2.5 (Supplemental information for the mesh discovery) | MP1:M | Yes  No  N/A  |
| \*MP2 | Mesh peering management (MPM) framework | 13.3 (Mesh peering management (MPM)) | CF21:M | Yes  No  N/A  |
| \*MP2.1 | Mesh peering management (MPM) protocol | 13.3 (Mesh peering management (MPM)) | MP2:M | Yes  No  N/A  |
| MP2.1.1 | Processing of Mesh Peering Open frame | 13.3.6 (Mesh peering open) | MP2.1:M | Yes  No  N/A  |
| MP2.1.2 | Processing of Mesh Peering Confirm frame | 13.3.7 (Mesh peering confirm) | MP2.1:M | Yes  No  N/A  |
| MP2.1.3 | Processing of Mesh Peering Close frame | 13.3.8 (Mesh peering close) | MP2.1:M | Yes  No  N/A  |
| MP2.1.4 | MPM finite state machine | 13.4 (Mesh peering management finite state machine (MPM FSM)) | MP2.1:M | Yes  No  N/A  |
| \*MP2.2 | Authenticated mesh peering exchange (AMPE) | 13.5 (Authenticated mesh peering exchange (AMPE)) | MP2:O | Yes  No  N/A  |
| MP2.2.1 | Mesh authentication using SAE | 13.3.3 (Mesh authentication), 11.3 (Authentication using a password) | MP2.2:M | Yes  No  N/A  |
| MP2.2.2 | Mesh authentication using IEEE 802.1X | 13.3.3 (Mesh authentication), 4.10 (IEEE Std 802.11 and IEEE Std 802.1X-2004) | MP2.2:O | Yes  No  N/A  |
| MP2.2.3 | Protected Mesh Peering Management frame processing | 13.5.3 (Construction and processing AES-SIV-protected Mesh Peering Management frames), 13.5.5 (Mesh Peering Management frames for AMPE) | MP2.2:M | Yes  No  N/A  |
| MP2.2.4 | AMPE finite state machine | 13.5.6 (AMPE finite state machine) | MP2.2:M | Yes  No  N/A  |
| MP2.2.5 | MGTK distribution | 13.5.4 (Distribution of group transient keys in an MBSS) | MP2.2:M | Yes  No  N/A  |
| MP2.2.6 | MGTK update | 13.6 (Mesh group key handshake) | MP2.2:O | Yes  No  N/A  |
| MP3 | Mesh STA beaconing | 13.13.3 (Beaconing) | CF21:M | Yes  No  N/A  |
| \*MP4 | Mesh STA synchronization | 13.13.2 (Extensible synchronization framework) | CF21:M | Yes  No  N/A  |
| \*MP4.1 | Neighbor offset synchronization method | 13.13.2 (Extensible synchronization framework) | MP4:M | Yes  No  N/A  |
| MP4.1.1 | Calculation of TSF offset | 13.13.2.2.2 (Timing offset calculation) | MP4.1:M | Yes  No  N/A  |
| MP4.1.2 | Clock drift adjustment | 13.13.2.2.3 (Clock drift adjustment) | MP4.1:M | Yes  No  N/A  |
| \*MP4.2 | Mesh beacon collision  avoidance (MBCA) | 13.13.4 (Mesh beacon collision avoidance (MBCA)) | MP4:O | Yes  No  N/A  |
| MP4.2.1 | Beacon timing advertisement | 13.13.4.2 (Beacon timing advertisement) | MP4.2:M | Yes  No  N/A  |
| MP4.2.2 | TBTT selection | 13.13.4.3 (TBTT selection) | MP4.2:M | Yes  No  N/A  |
| MP4.2.3 | TBTT adjustment | 13.13.4.4 (TBTT adjustment) | MP4.2:M | Yes  No  N/A  |
| MP4.2.4 | Frame transmission across reported TBTT | 13.13.4.5 (Frame transmission across reported TBTT) | MP4.2:O | Yes  No  N/A  |
| MP4.2.5 | Delayed beacon transmission | 13.13.4.6 (Delayed beacon transmissions) | MP4.2:O | Yes  No  N/A  |
| \*MP5 | MCCA | 9.20.3 (MCF controlled channel access (MCCA)) | CF21:O | Yes  No  N/A  |
| MP5.1 | MCCAOP Advertisement | 9.20.3.7 (MCCAOP advertisement) | MP5:M | Yes  No  N/A  |
| MP5.2 | Neighbor MCCAOP  Recognition | 9.20.3.4 (Neighborhood MCCAOP periods at a mesh STA)–9.20.3.5 (MCCA access fraction (MAF)) | MP5:M | Yes  No  N/A  |
| MP5.3 | MCCAOP Setup | 9.20.3.6 (MCCAOP setup procedure) | MP5:M | Yes  No  N/A  |
| MP5.4 | Access during MCCAOPs | 9.20.3.9 (Access during MCCAOPs) | MP5:M | Yes  No  N/A  |
| MP5.5 | MCCAOP teardown | 9.20.3.8 (MCCAOP teardown) | MP5:M | Yes  No  N/A  |
| \*MP6 | Intra mesh congestion control | 13.12 (Intra-mesh congestion control) | CF21:O | Yes  No  N/A  |
| MP6.1 | Local congestion monitoring and detection | 13.12 (Intra-mesh congestion control) | MP6:M | Yes  No  N/A  |
| MP6.2 | Congestion control signaling | 13.12 (Intra-mesh congestion control) | MP6:M | Yes  No  N/A  |
| MP6.3 | Local rate control | 13.12 (Intra-mesh congestion control) | MP6:M | Yes  No  N/A  |
| \*MP7 | MBSS channel switch  procedure | 10.9.8 (Selecting and advertising a new channel), 10.10.3 (Selecting and advertising a new channel and/or operating class) | CF21:M | Yes  No  N/A  |
| MP7.1 | Transmission of channel switch advertisement | 10.9.8 (Selecting and advertising a new channel), 10.10.3 (Selecting and advertising a new channel and/or operating class) | MP7:M | Yes  No  N/A  |
| MP7.2 | Propagation of channel switch advertisement | 10.9.8 (Selecting and advertising a new channel), 10.10.3 (Selecting and advertising a new channel and/or operating class) | MP7:M | Yes  No  N/A  |
| \*MP8 | Mesh power save operation (operation in light or deep sleep mode) | 13.14 (Power save in a mesh BSS) | CF21:O | Yes  No  N/A  |
| MP8.1 | Link-specific mesh power mode setting | 13.14.2.2 (Peer-specific mesh power modes), 13.14.8 (Operation in peer-specific and nonpeer mesh power modes) | MP8:M | Yes  No  N/A  |
| MP8.2 | Nonpeer mesh power mode setting | 13.14.2.3 (Nonpeer mesh power modes) | MP8:M | Yes  No  N/A  |
| MP8.3 | Light sleep mode operation | 13.14.8.4 (Operation in light sleep mode for a mesh peering) | MP8:M | Yes  No  N/A  |
| MP8.4 | Deep sleep mode operation | 13.14.8.5 (Operation in deep sleep mode for a mesh peering) | MP8:M | Yes  No  N/A  |
| MP8.5 | STA power state transitions | 13.14.3 (Mesh power mode indications and transitions) | MP8:M | Yes  No  N/A  |
| MP8.6 | Mesh awake window  operation | 13.14.6 (Mesh awake window) | MP8:M | Yes  No  N/A  |
| \*MP9 | Mesh power save support | 13.14 (Power save in a mesh BSS) | CF21:M | Yes  No  N/A  |
| MP9.1 | TIM transmission | 13.14.4 (TIM transmissions in an MBSS) | MP9:M | Yes  No  N/A  |
| MP9.2 | Link-specific mesh power modes determination | 13.14.2 (Mesh power modes) | MP9:M | Yes  No  N/A  |
| MP9.3 | Group addressed frame  transmission | 13.14.7 (Power save support) | MP9:M | Yes  No  N/A  |
| MP9.4 | Frame transmission to a mesh STA in light sleep mode | 13.14.7 (Power save support), 13.14.9 (Mesh peer service periods) | MP9:M | Yes  No  N/A  |
| MP9.5 | Frame transmission to a mesh STA in deep sleep mode | 13.14.7 (Power save support), 13.14.9 (Mesh peer service periods) | MP9:M | Yes  No  N/A  |
| MP10 | Airtime link metric  computation | 13.9 (Airtime link metric) | CF21:M | Yes  No  N/A  |
| \*MP11 | Link metric reporting | 13.8.3 (Link metric reporting) | CF21:M | Yes  No  N/A  |
| MP11.1 | Autonomous link metric reporting | 13.8.3 (Link metric reporting) | MP11:O | Yes  No  N/A  |
| MP11.2 | Link metric reporting upon request | 13.8.3 (Link metric reporting) | MP11:M | Yes  No  N/A  |
| \*MP12 | Proxy operation | 13.11.4 (Proxy information and proxy update) | CF21:O | Yes  No  N/A  |
| MP12.1 | Data forwarding at proxy mesh gate | 13.11.3 (Data forwarding at proxy mesh gates) | MP12:M | Yes  No  N/A  |
| MP12.2 | Maintenance of proxy  information | 13.11.4.2 (Proxy information) | CF21:M | Yes  No  N/A  |
| MP12.3 | Proxy update using Proxy Update and Proxy Update Confirmation frames | 13.11.4 (Proxy information and proxy update) | CF21:M | Yes  No  N/A  |
| MP12.4 | Proxy update using HWMP Mesh Path Selection frames | 13.10.9 (Path request (PREQ)), 13.10.10 (Path reply (PREP)), 13.10.11 (Path error (PERR)) | HWM1:M | Yes  No  N/A  |
| \*MP13 | Gate announcement | 13.11.2 (Gate announcement (GANN)) | CF21:O | Yes  No  N/A  |
| MP13.1 | GANN transmission | 13.11.2 (Gate announcement (GANN)) | MP13:O | Yes  No  N/A  |
| MP13.2 | GANN reception and  propagation | 13.11.2 (Gate announcement (GANN)) | CF21:M | Yes  No  N/A  |
| \*MP14 | Mesh Control field handling | 8.2.4.7.3 (Mesh Control field) | CF21:M | Yes  No  N/A  |
| MP14.1 | Address Extension  recognition | 8.2.4.7.3 (Mesh Control field), 9.32.3 (Frame addressing in an MBSS) | MP14:M | Yes  No  N/A  |
| MP14.2 | Mesh TTL handling | 8.2.4.7.3 (Mesh Control field), 9.32.4 (Addressing and forwarding of individually addressed Mesh Data frames), 9.32.5 (Addressing and forwarding of group addressed Mesh Data frames), 9.32.6 (Addressing of Management frames and MMPDU forwarding) | MP14:M | Yes  No  N/A  |
| MP14.3 | Mesh Sequence Number  handling | 8.2.4.7.3 (Mesh Control field), 9.32.4 (Addressing and forwarding of individually addressed Mesh Data frames), 9.32.5 (Addressing and forwarding of group addressed Mesh Data frames), 9.32.6 (Addressing of Management frames and MMPDU forwarding), 9.32.7 (Detection of duplicate MSDUs/MMPDUs) | MP14:M | Yes  No  N/A  |
| \*MP15 | MSDU/MMPDU forwarding | 9.32 (Mesh forwarding framework) | CF21:O | Yes  No  N/A  |
| MP15.1 | Individually addressed MSDU forwarding | 9.32.4 (Addressing and forwarding of individually addressed Mesh Data frames) | MP15:M | Yes  No  N/A  |
| MP15.2 | Group addressed MSDU  forwarding | 9.32.5 (Addressing and forwarding of group addressed Mesh Data frames) | MP15:M | Yes  No  N/A  |
| MP15.3 | MMPDU forwarding | 9.32.6 (Addressing of Management frames and MMPDU forwarding) | MP15:M | Yes  No  N/A  |
| MP15.4 | Detection of duplicate MSDUs/MMPDUs | 9.32.7 (Detection of duplicate MSDUs/MMPDUs) | CF21:M | Yes  No  N/A  |
| MP15.5 | Treatment of unknown  destination | 9.32.9 (Frame forwarding and unknown destination) | CF21:M | Yes  No  N/A  |

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| * HWMP path selection protocol capabilities | | | | |
| Item | Protocol capability | Reference | Status | Support |
| \*HWM1 | Hybrid wireless mesh  protocol (HWMP) | 13.10 (Hybrid wireless mesh protocol (HWMP)) | CF21:M | Yes  No  N/A  |
| \*HWM1.1 | On-demand path selection | 13.10.3 (On-demand path selection mode) | HWM1:M | Yes  No  N/A  |
| HWM1.1.1 | PREQ processing for on-demand path selection | 13.10.9 (Path request (PREQ)) | HWM1.1:M | Yes  No  N/A  |
| HWM1.1.2 | PREP processing for on-demand path selection | 13.10.10 (Path reply (PREP)) | HWM1.1:M | Yes  No  N/A  |
| HWM1.1.3 | PERR processing for on-demand path selection | 13.10.11 (Path error (PERR)) | HWM1.1:M | Yes  No  N/A  |
| \*HWM1.2 | Proactive tree building | 13.10.4 (Proactive tree building mode) | HWM1:M | Yes  No  N/A  |
| HWM1.2.1 | PREQ processing for  proactive tree building | 13.10.9 (Path request (PREQ)) | HWM1.2:M | Yes  No  N/A  |
| HWM1.2.2 | PREP processing for  proactive tree building | 13.10.10 (Path reply (PREP)) | HWM1.2:M | Yes  No  N/A  |
| HWM1.2.3 | PERR processing for  proactive tree building | 13.10.11 (Path error (PERR)) | HWM1.2:M | Yes  No  N/A  |
| HWM1.2.4 | RANN processing | 13.10.12 (Root announcement (RANN)) | HWM1.2:M | Yes  No  N/A  |
| HWM2 | Maintenance of forwarding information | 9.32.2 (Forwarding information), 13.10.8.4 (Forwarding information) | MP15:M | Yes  No  N/A  |

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| * QMF extensions (11ae) | | | | |
| Item | Protocol capability | References | Status | Support |
| QMF1 | Extended Capabilities element | 8.4.2.29 (Extended Capabilities element) | CF22:M | Yes  No  N/A  |
| QMF2 | Channel access procedures for QMFs | 9.2.4.2 (HCF contention-based channel access (EDCA)) | CF22:M | Yes  No  N/A  |
| QMF3 | Duplicate detection and recovery for QMFs | 9.3.2.10 (Duplicate detection and recovery) | CF22:M | Yes  No  N/A  |
| QMF4 | QMF policy Configuration | 10.25.2 (QMF policy advertisement and configuration procedures(11ae)) | CF22:M | Yes  No  N/A  |
| QMF5 | Interpreting QMF priority | 10.25.3 (Interpreting QMF access categories) | CF22:M | Yes  No  N/A  |
| QMF6 | CCMP cryptographic encapsulation for QMFs | 11.4.3.3 (CCMP cryptographic encapsulation) | CF22 AND PC34.1.10:M | Yes  No  N/A  |

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| * RobustAVT extensions (11aa) | | | | |
| Item | Protocol capability | References | Status | Support |
| AVT1 | Extended Capabilities element | 8.4.2.29 (Extended Capabilities element) | CF23:M | Yes  No  N/A  |
| AVT2 | Groupcast with Retries (GCR) | 10.23.15.3.2 (GCR group membership procedures(11aa)), 10.23.15.3.3 (GCR setup procedures(11aa))  , 10.23.15.3.4 (GCR frame exchange procedures(11aa))  , 10.23.15.3.5 (Concealment of GCR transmissions(11aa)), 10.23.15.3.6 (GCR unsolicited retry(11aa)) | CF16 and CF23 and WNM19:M | Yes  No  N/A  |
| CF1 and CF23 and WNM19 and HTM4.4:M | Yes  No  N/A  |
| AVT2.1 | Advanced GCR | 8.4.2.29 (Extended Capabilities element), 10.23.15.3.7 (GCR Block Ack(11aa)), 10.23.15.3.8 (GCR-SP(11aa)), 9.21.10 (GCR Block Ack(11aa)) | CF23 and QB5:O | Yes  No  N/A  |
| AVT3 | Alternate EDCA transmit queues | 9.2.4.2 (HCF contention-based channel access (EDCA)) | CF23:O | Yes  No  N/A  |
| AVT4  AVT4.1  AVT4.2  AVT4.3 | Stream Classification Service (SCS)  SCS Request frame  SCS Response frame  Drop eligibility indicator (DEI) | 10.26.2 (SCS procedures(11aa))  8.5.19.2 (SCS Request frame format(11aa))  8.5.19.3 (SCS Response frame format(11aa))  10.26.2 (SCS procedures(11aa)) | CF23:O  AVT4:M  AVT4:M  CF16 and AVT4:M | Yes  No  N/A   Yes  No  N/A   Yes  No  N/A   Yes  No  N/A  |
| ATV5 | Overlapping Basic Service Set (OBSS) Management | 10.27 (Procedures to manage OBSS(11aa)), 8.4.2.29 (Extended Capabilities element) | CF1 and (QP2 or QD6) and CF23:M | Yes  No  N/A  |
| ATV5.1 | AP Peer Key | 11.10 (AP PeerKey support(11aa)) | AVT5:O | Yes  No  N/A  |
| ATV5.2  AVT5.2.1  AVT5.2.2  AVT5.2.3  AVT5.2.4 | QLoad Report  QLoad Report element  QLoad Request frame  QLoad Report frame  Protected QLoad Report | 10.27.2 (QLoad Report element(11aa))  8.4.2.125 (QLoad Report element (11aa))  8.5.8.20 (QLoad Request frame format(11aa))  8.5.8.21 (QLoad Report frame format(11aa))  8.5.8.21 (QLoad Report frame format(11aa)) | AVT5:M  AVT5.2:M  AVT5.2:M  AVT5.2:M  AVT5.2 and AVT5.1:O | Yes  No  N/A   Yes  No  N/A   Yes  No  N/A   Yes  No  N/A   Yes  No  N/A  |
| AVT5.3 | HCCA TXOP Update Count element | 8.4.2.126 (HCCA TXOP Update Count element (11aa)) | AVT5 and QP2:O | Yes  No  N/A  |
| AVT5.3.1 | HCCA TXOP Negotiation | 10.27.3 (HCCA TXOP negotiation (11aa)) | AVT5.3:O | Yes  No  N/A  |
| AVT5.3.2 | Protected HCCA TXOP Negotiation | 10.27.3 (HCCA TXOP negotiation (11aa)) | AVT5.3 and ATV5.1:O | Yes  No  N/A  |
| AVT6 | GCR for Mesh | 8.4.2.29 (Extended Capabilities element), 9.21.10 (GCR Block Ack(11aa)), 10.23.15.3.7 (GCR Block Ack(11aa)), 10.23.15.3.6 (GCR unsolicited retry(11aa)) | WNM19 and HTM4.4 and CF16 and CF23 and CF2a:O | Yes  No  N/A  |

## Proposed resolution

29, 127, 154, 179, 180 and 269: REVISED. See Proposed changes in 12/1345r$last\_revision, which agree in principle with the commenter.

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