IEEE P802.11  
Wireless LANs

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| IEEE P802.11bf/D3.0 Mandatory Draft Review (MDR) Report | | | | |
| Date: 2024-01-16 | | | | |
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**Abstract**

This document contains the report of the IEEE P802.11bf D3.0 Mandatory Draft Review.

r0: section headings.

r1: Edward, Emily, Carol and ANA findings.

# Introduction

## Purpose of this document

This document is the report from the group of volunteers that participated in the P802.11bf/D3.0 mandatory draft review.

This document contains recommendations for changes to the P802.11bf draft to bring it into improved compliance to IEEE-SA and WG11 style.

The recommended changes need to be reviewed by TGbf and approved, or ownership of the issues taken by TGbf.

## Process / references

The MDR process is described in:

* [11-11/615r6](https://mentor.ieee.org/802.11/dcn/11/11-11-0615-06-0000-wg802-11-mec-process.doc) – WG802.11 MEC Process

And references:

* [11-09/1034r21](https://mentor.ieee.org/802.11/dcn/09/11-09-1034-21-0000-802-11-editorial-style-guide.docx) – 802.11 Editorial Style Guide

A setup meeting will be held with and review topics assigned to volunteers. The review comments from the volunteers will be compiled into this document.

## Acknowledgements

The 802.11 technical editors (Robert Stacey & Emily Qi) gratefully acknowledges the work and contribution of the members listed in the authors list.

# Findings

## Style

### Style Gude 2.1 – Frames

#### Style Guide 2.1.1 – Frame Format Figures

Emily

add “format”.

33.13, 33.4: change “STA Info field in a” to “STA Info field format in a”.

36.64, 37.48, 38.30, 39.18: change “User Info field for” to “User Info field format for”.

40.15, 40.57: change “User Info field for” to “User Info field format for”.

45.56: change “Information field format for” to “Information field format for”.

84.59: change formats of Beam Descriptor 1 to Beam Descriptor N with the repeating field description in the style guide 2.1.1.2.

91.13: change formats of Beam Index 1 to Beam Index N with the repeating field description in the style guide 2.1.1.2.

107.15: change formats of Sector Descriptor 1 to Sector Descriptor N with the repeating field description in the style guide 2.1.1.2.

#### Style Guide 2.1.2 – Naming Frames

Emily

No findings.

### Style Guide 2.2 – true/false

Claudio

### Style Guide 2.3 – “is set to”

Joseph

### Style Guide 2.4 – Information Elements/Subelements

#### Style Guide 2.4.1 – Information Elements/subelements – Naming

Claudio

#### Style Guide 2.4.2 – Definition Conventions

Mark

#### Style Guide 2.4.3 – Element Inclusion Conventions

Claudio

### Style Guide 2.5 – Removal of functions and features

Not applicable

### Style Guide 2.6 – Capitalization

Ross

### Style Guide 2.7 – Terminology: frame vs packet vs PPDU vs MPDU

Ross

### Style Guide 2.8 – Use of verbs & problematic words

#### normative, non-normative, ensure

Mark

#### Style Guide 2.8.1 – which/that

Carol

p. 30.12 – “~~which~~ that is either an AP …”

p. 32.45 – awkward wording: “…there is only one intended recipient STA, which is an AP, and the RS field is set to the address of that STA.”

recommend: “… the only intended recipient STA is an AP and the RA field is set to the address of that STA.”

p. 52.48 – “, ~~which~~ that involves scaling…”

p.118.48 – “… that was initiated by the SBP procedure, ~~which~~ that is intended to be terminated.”

p. 129.46 – “… the DMG SBP request frame ~~which~~ that triggered the response.”

p. 130.20 and 130.25 – “…the actual number for Sensing Responders ~~with~~ to which the DMG Measurement Session ID is assigned…”

Also, 132.50 and 132.56, same text.

p.140.54 – “…to the sensing initiator ~~which~~ that transmitted the Sensing Measurement Request frame”

p. 142.65 – “…shall assign a value in the Min Measurement Interval field ~~which~~ that is not lower than the value…”

p. 146.32 – “… a TB sensing measurement exchange~~, which~~ that consists of a polling phase…”

p. 151.10 - “…shall use the EHT puncturing pattern indicated in the Disabled Subchannel Bitmap subfield of the EHT Operation element ~~which~~ that is one of the non-OFDMA puncturing patterns…”

p. 161.32 – “A sensing responder ~~which~~ that is a sensing receiver shall include…”

p.167 – the NOTEs need to be numbered.

p. 177.2 – “…the transmission of a DMG Sensing Measurement Response frame to the sensing initiator ~~which~~ that transmitted the DMG Sensing Measurement Request frame.”

p. 181.10 – “The sensing initiator shall determine the parameters of the DMG monostatic sensing PPDUs transmitted and received by the sensing responders in a way ~~which~~ that is compatible with the sensing responders’ capabilities…”

p.184.24 – “In Exchange 2, the Duration field of the first DMG Sensing Request frame is set based on Equation (11-8a)~~, which~~ that utilizes the Sounding Duration 1a, Report Duration 1a, Sounding Duration 1b, and Report Duration 1b fields…”

p. 188.25 – “In each BRP frame, the First Beam Index field within the BRP Sensing element indicates ~~which is~~ the first beam that is used in the TRN field of the PPDU.”

p. 191.1 – “Each sensing responder responds after a SIFS with a DMG Sensing Report frame ~~which~~ that includes a DMG Sensing Report Control element…”

p. 208.6 – “However, the TRN subfields ~~which are~~ of the EDMG TRN-Unit M are used in a different way,…” \*\* not certain what was meant here. Also previous sentence may have a stray capitalization – Each.

p. 208.43 – “The index corresponds to the STA ID ~~with which~~ that each STA is assigned in the DMG Sensing Request frame at the beginning of the multistatic EDMG sensing measurement exchange.”

#### Style Guide 2.8.2 – articles

#### Style Guide 2.8.3 – missing nouns

Roy

#### Style Guide 2.8.4 – unnecessary nouns

Roy

#### Style Guide 2.8.5 – unicast and multicast

Emily

36.29, 159.36: change “unicast” to “individually addressed”.

### Style Guide 2.9 – Numbers

Edward

[001] 31.13: Replace “in the range of” with “in the range”.

[002] 33.62: Please italicize FVal. Twice appearances.

[003] 36.20: Replace “in the range of” with “in the range”.

[004] 36.21: Replace “in the range of” with “in the range”.

[005] 44.6: Replace “all ‘zeros’” with “all 0s”.

[006] 44.44: Replace “equals to zero” with “equal to 0".

[007] 66.10: Replace “in the range of” with “in the range”.

[008] 66.48: Replace “64624” with “64 624” (i.e., a space is added).

[009] 105.2: Replace “-255dBm” with “-255 dBm” (i.e., a space is added).

[010] 137.20: Please italicize Q.

[011] 138.8: Replace “in the range from” with “in the range”.

[012] 149.23: Replace “by one modulo 8” with “by 1 module 8”.

[013] 161.51: Replace “in the range of” with “in the range”.

[014] 161.64: Replace “in the range of” with “in the range”.

[015] 162.23: Replace “in the range of” with “in the range”.

[016] 162.28: Replace “in the range of” with “in the range”.

[017] 210.9: Replace “10MHz” with “10 MHz” (i.e., a space is added).

### Style Guide 2.10 – Maths operators and relations

Edward

[001] 59.23: Add a space between “+” and “80” in “40 +80”.

[002] 71.20: Add a space between “10k” and “TU” in “10kTU”.

[003] 71.23: Add a space between “10(k+1)” and “TU” in “10(k+1)TU”.

[004] 71.27: What is (9-3ca)?

[005] 130.6: Replace “less or equal” with “less than or equal”.

[006] 182.46: Replace “In Equation (11-8a)” with “where”.

[007] 185.43: Is it equation (11-8b) rather than equation (11-9b)?

[008] 185.50: Replace “In Equation (11-9b)” with “where”.

[009] 189.5: Add a space before and after the equality sign.

[010] 189.6: Add a space before and after the equality sign.

Via email:

In addition to my findings sent on January 20, I forgot to mention that it is great if the instances of "-: be replaced by endash when the numbers are involved.  I know it may be a significant update but it is what we have been doing so far (especially in REVm).

### Style Guide 2.11 – Hyphenation

Edward

[001] 24.22: Replace “threshold-based” with “threshold based”.

[002] 24.49: Replace “threshold-based” with “threshold based”.

[003] 26.62: Replace “threshold-based” with “threshold based”.

[004] 35.11: Replace “Sensing Threshold-based Reporting” with “Sensing Threshold Based Reporting”.

[005] 35.27: Replace “Sensing Threshold-based Reporting Trigger frame” with “Sensing Threshold Based Reporting Trigger frames”.

[006] 36.5: Replace “Sensing Threshold-based Reporting” with “Sensing Threshold Based Reporting”.

[007] 38.47: Replace “Sensing Threshold-based Reporting” with “Sensing Threshold Based Reporting”.

[008] 38.49: Replace “Sensing Threshold-based Reporting” with “Sensing Threshold Based Reporting”.

[009] 38.53: Replace “Sensing Threshold-based Reporting” with “Sensing Threshold Based Reporting”.

[010] 43.63: Replace “non-zero” with “nonzero”.

[011] 44.2: Replace “non-zero” with “nonzero”.

[012] 55.6: Replace “Sensing Threshold-based Reporting” with “Sensing Threshold Based Reporting”.

[013] 83.51: Replace “two-dimension” with “two dimension range”.

[014] 83.55: Replace “three-dimension” with “three dimension”.

[015] 83.62: Replace “two-dimensional” with “two dimensional”.

[016] 84.1: Replace “four-dimension” with “four dimension”

[017] 91.33: Replace “Inter-Burst Interval” with “Inter Burst Interval”.

[018] 91.47: Replace “Inter-Burst Interval field” with “Inter Burst Interval field”.

[019] 91.51: Replace “Inter-Burst Interval field” with “Inter Burst Interval field”.

[020] 104.1: Replace “non-zero” with “nonzero”.

[021] 104.2: Replace “Target Index of zero” with “Target Index of 0”.

[022] 136.50: Replace “non-conflicting” with “nonconflicting”.

[023] 147.12: Replace “threshold-based” with “threshold based”.

[024] 147.16: Replace “threshold-based” with “threshold based”.

[025] 155.23: Replace “threshold-based” with “threshold based”.

[026] 156.1: Replace “threshold-based” with “threshold based”.

[027] 156.3: Replace “threshold-based” with “threshold based”. Twice appearances.

[028] 156.9: Replace “threshold-based” with “threshold based”.

[029] 156.19: Replace “threshold-based” with “threshold based”.

[030] 156.50: Replace “implementation-dependent” with “implementation dependent”.

[031] 156.53: Replace “implementation-dependent” with “implementation dependent”.

[032] 157.9: Replace “Sensing Threshold-based Reporting Trigger Frame” with “Sensing Threshold Based Reporting Trigger frame”.

[033] 157.24: Replace “threshold-based” with “threshold based”.

[034] 157.28: Replace “threshold-based” with “threshold based”.

[035] 157.34: Replace “threshold-based” with “threshold based”.

[036] 160.62: Replace “non-reserved” with “nonreserved”.

[037] 163.13: Replace “re-establish” with “reestablish”.

[038] 164.1: Replace “timing-related” with “timing related”.

[039] 164.5: Replace “timing-related” with “timing related”.

[040] 170.26: Replace “re-establish” with “reestablish”.

[041] 171.46: Replace “intra-burst and inter-burst intervals” with “intra burst and inter burst intervals”.

[042] 171.48: Replace “inter-burst and intra-burst” with “inter burst and intra burst”.

[043] 171.62: Replace “intra-burst interval” with “intra burst interval”.

[044] 171.62: Replace “inter-burst interval” with “inter burst interval”.

[045] 171.65: Replace “intra-burst interval” with “intra burst interval”.

[046] 171.65: Replace “inter-burst interval” with “inter burst interval”.

[047] 172.27: Replace “inter-burst interval” with “inter burst interval”.

[048] 172.29: Replace “intra-burst interval” with “intra burst interval”.

[049] 173.3: Replace “timing-related” with “timing related”.

[050] 173.17: Replace “timing-related” with “timing related”.

[051] 173.21: Replace “timing-related” with “timing related”.

[052] 174.43: Replace “inter-burst and intra-burst” with “inter burst and intra burst”.

[053] 178.19: Replace “Intra-Burst” with “Intra Burst”.

[054] 178.27: Replace “Intra-Burst” with “Intra Burst”.

[055] 179.49: Replace “intra-burst and inter-burst intervals” with “intra burst and inter burst intervals”.

[056] 179.49: Replace “(inter-burst and intra-burst)” with “(inter burst and intra burst)”.

[057] 179.58: Replace “intra-burst interval” with “intra burst interval”.

[058] 179.59: Replace “inter-burst interval” with “inter burst interval”.

[059] 192.53: Replace “non-zero” with “nonzero”.

[060] 195.1: Replace “timing-related” with “timing related”.

[061] 195.5: Replace “timing-related” with “timing related”.

[062] 214.18: Replace “threshold-based” with “threshold based”.

[063] 222.12: Replace “Threshold-based” with “Threshold based”.

[064] 226.4: Replace “pre-association” with “preassociation”.

[065] 227.64: Replace “re-use” with “reuse”.

### Style Guide 2.12 – References to SAP primitives

Also conformance to new clause 6 style

Graham

### Style Guide 2.13 – References to the contents of a field/subfield

Claudio

### Style Guide 2.14 – MIB attributes

Mark

### Style Guide 2.15 – Hanging Paragraphs

Emily

No error was found.

### Style Guide 2.16 – Abbreviations

Edward

[001] 18.27: Please expand the abbreviation DMG as per the style applicable to Clause 3.

[002] 18.32: Please expand the abbreviation DMG as per the style applicable to Clause 3.

[003] 18.37: Please expand the abbreviation DMG as per the style applicable to Clause 3.

[004] 18.51: Please expand the abbreviation DMG as per the style applicable to Clause 3.

[005] 18.55: Please expand the abbreviation PPDU as per the style applicable to Clause 3.

[006] 19.16: Please swap the order of appearance of the last 3 abbreviations as USID first, followed by USNM-MFPR, and lastly USNM-MFPR-X20.

[007] 25.36: Replace “sensing initiator to sensing responder (SI2SR)” with “SI2SR”.

[008] 32.8: Replace “unassociated STA identifier (USID)” with “USID”.

[009] 34.55: Replace “sensing responder to sensing responder (SR2SR)” with “SR2SR”.

[010] 40.23: Replace “trigger frame (TF) sounding phase” with “TF sounding phase”.

[011] 70.48: Replace “unassociated sensing negotiation and measurement management frame protection required exempt 20 MHz (USNM-MFPR-X20)” with “USNM-MFPR- X20”.

[012] 70.54: Replace “unassociated sensing negotiation and measurement management frame protection required (USNM-MFPR)” with “USNM-MFPR”.

[013] 85.52: Either replace “Horizontally Polarized (HP)” with “Horizontally Polarized” or add HP as an abbreviation in subclause 3.4.

[014] 85.53: Either replace “Vertically Polarized (VP)” with “Vertically Polarized” or add VP as an abbreviation in subclause 3.4.

[015] 85.54: Either replace “Left Hand Circularly Polarized (LHCP)” with “Left Hand Circularly Polarized” or add LHCP as an abbreviation in subclause 3.4.

[016] 85.55: Either replace “Right Hand Circularly Polarized (RHCP)” with “Right Hand Circularly Polarized” or add RHCP as an abbreviation in subclause 3.4.

[017] 92.52: Replace “lookup table (LUT)” with “LUT”.

[018] 145.43: Replace “Trigger-based (TB) sensing measurement exchange” with “TB sensing measurement exchange”.

[019] 145.46: Replace “Non-Trigger-based (Non-TB) sensing measurement exchange” with “Non-TB sensing measurement exchange”.

[020] 146.12: Replace “Trigger frame (TF) sounding phase” with “TF sounding phase”.

[021] 157.55: Replace “non-trigger-based” with “non-TB”.

[022] 157.60: Replace “wireless medium” with “WM”.

[023] 161.57: Replace “operating points (OPs)” with “OPs”.

[024] 161.65: Replace “operating point” with “OP”.

[025] 162.1: Replace “operating point” with “OP”.

[026] 162.6: Replace “operating point” with “OP”.

[027] 162.9: Replace “operating point” with “OP”.

[028] 162.12: Replace “operating point” with “OP”.

[029] 175.26: Replace “H-H and V-V” with “Horizontal-Horizontal and Vertical-Vertical”.

[030] 175.27: Replace “H-V and V-H” with “Horizontal-Vertical and Vertical-Horizontal”.

[031] 192.36: Replace “H-H, or H-V” with “Horizontal-Horizontal and Horizontal-Vertical”.

[032] 196.65: Replace “MEasurement” with “Measurement”.

[033] 203.38: Replace “operating point (OP)” with “OP”.

[034] 203.53: Replace “operating point” with “OP”.

[035] 212.37: Replace “operating point (OP)” with “OP”.

[036] 212.54: Replace “operating point” with “OP”.

[037] 32.6: Replace “least significant bits” with “LSBs”.

### Style Guide 2.17 – Format for code/pseudocode

Not applicable

### Style guide 3 – Style applicable to specific Clauses

#### Definitions (Clause 3)

Mark

#### General Description (Clause 4)

Emily

No findings.

#### Frame formats (Clause 9) – shall or may?

Claudio

#### SAP interfaces (Clause 6)

Graham

#### New top level clauses

#### Annex A – Bibliography

Not applicable

#### Annex B – PICS

Edward

[001] 213.35: Add “\*” prior to “CFSSTA” because this PICS is referenced by the others.

[002] 213.41: Add “\*” prior to “CFDSSTA” because this PICS is referenced by the others.

[003] 213.48: Add “\*” prior to “CFDSPASS” because this PICS is referenced by the others.

[004] 214.12: Add “\*” prior to “PC49” because this PICS is referenced by the others.

[005] 214.18: Add “\*” prior to “PC50” because this PICS is referenced by the others.

[006] 214.32: Add “\*” prior to “PC52” because this PICS is referenced by the others.

[007] 214.36: Add “\*” prior to “PC53” because this PICS is referenced by the others.

[008] 214.48: Add “\*” prior to “PC56” because this PICS is referenced by the others.

[009] 214.57: Add “\*” prior to “PC57” because this PICS is referenced by the others.

[010] 215.16: Add “\*” prior to “PC58” because this PICS is referenced by the others.

[011] 215.25: Add “\*” prior to “PC58.1” because this PICS is referenced by the others.

[012] 215.33: Add “\*” prior to “PC58.2” because this PICS is referenced by the others.

[013] 215.42: Add “\*” prior to “PC59” because this PICS is referenced by the others.

[014] 215.61: Add “\*” prior to “PC62” because this PICS is referenced by the others.

[015] 216.3: Add “\*” prior to “PC63” because this PICS is referenced by the others.

[016] 219.3: FR77 is currently used by P802.11be D5.0 as EHT NDP Announcement frame.

[017] 222.4: Add “\*” prior to “WS4” because this PICS is referenced by the others.

[018] 222.27: Add “\*” prior to “WS8” because this PICS is referenced by the others.

#### Annex G – Frame exchange sequences

Not applicable

## ANA

Check for correct use of numbers against database.

Check names against database (update database if names have changed).

Robert Stacey

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Page/Line** | **Clause/Table/Figure** | **Notes** | **Allocated value(s)** | **Status** |
| 50.48 | Table 9-81—Category values | Protected Sensing frame | 38 | OK |
| 67.10 | Table 9-130—Element IDs | Use allocated values for the 16 elements in this table. | 117-132 | Use allocated values |
| 111.52 | Table 9-471—Public Action field values | 9 Entries in this table as used allocated. | 51-59 | OK |
| 224.30 | dot11smt | dot11SENSStationConfigTable | 49 | OK |
| 68.25 | Table 9-192—Extended Capabilities field | **Unallocated numbers in use!** | No allocation | Numbers used collide with other usage (11be, REVme). Needs allocation. |
| 70.43 | Table 9-373—Extended RSN Capabilities field | 2 entries; allocation required. | No allocation | Needs allocation. |

Checked, found no issue with the following (list from editors deck):

Frame types and subtypes

Protocol Version subfield: 9.2.4.1.2

Frame types and subtypes: 9.2.4.1.3, Tables 9-1 and 9-2

~~Element ID and Element ID extension: Table 9-128~~

Capability Information field: 9.4.1.4

~~Extended Capabilities: 9.4.2.25, Table 9-190~~

Reason codes: 9.4.1.7, Table 9-77

Status codes: 9.4.1.9, Table 9-78

~~Action frame categories: 9.4.1.11, Table 9-79~~

Authentication algorithm: 9.4.1.1

RSNE: 9.4.2.23

Cypher suites: Table 9-186

AKM suites: Table 9-188

RSN Capabilities: Figure 9-345

~~RSNXE Capabilities: 9.4.2.240, Table 9-365~~

ANQP-element (Info ID): 9.4.5.1, Table 9-412

Neighbor Report subelements: 9.4.2.35, Table 9-210

FTE subelements: 9.4.2.46, Table 9-219

~~Public Action frames: 9.6.7.1, Table 9-450~~

WMN-Notification Types: 9.6.13.29, Table 9-516

Mesh Configuration Active Path: 9.4.2.96.2, Table 9-277

TLV encodings: 9.4.4

Operating classes: Annex E

global, USA, Europe, Japan

MIB objects: Annex C

ieee802dot11, ~~dot11smt~~, dot11phy, dot11mac, dot11StationConfigEntry, dot11OperationEntry, dot11Compliances, dot11Groups

Additional Actions:

The table number at 70.43 is incorrect. Should be Table 9-373.

The table number at 111.52 is incorrect. Should be Table 9-471.

## MIB

Yongho Seok

The compiled MIB is embedded as the following.

[Embed MIB after compilation]

### Detailed proposed changes

* MIB Detail

# Collateral findings

# IEEE-SA MEC

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| --- |
|  |