IEEE P802.11  
Wireless LANs

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| --- | --- | --- | --- | --- |
| Proposed resolution to CID 1, 23, 24, 47, 57, 59, 74, 75, 79, 81, 82, 85, 86, 131,132, 133, 134, 135, 136, 142 and 145 on TGaj D1.0 in LB217 | | | | |
| Date: 2016-01-27 | | | | |
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|  |  |  |  |  |

Abstract

This document proposes resolutions to TGaj D1.0 CIDs: 1, 23, 24, 47, 57, 59, 74, 75, 79, 81, 82, 85, 86, 131,132, 133, 134, 135, 136, 142 and 145.

**Revision History**

R0: Initial version.

R1: Updated based on discussions occurred during the January meeting.

**Editorial Comments**

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| --- | --- | --- | --- | --- | --- | --- | --- |
| CID | Clause | Page | Line | Type | Comment | Suggested Remedy | Remark |
| 1 | 2 | 2 | 2 | E | Editorial - misspelling in 11-15-1535-00-00aj-coexistence-assurance.docx. | "challeization" should be "channelization" |  |

Proposed resolution: **Revised**

Fix all typos and insert missing space throughout the coexistence assurance document 11-15/1535r0 as follows:

“When 802.11aj operates on 2.16GHz channel in the 60GHz frequency band, to enhance coexistence, it keeps the same 2.16GHz channel spacing with the same common channelization as what is defined in Clause 21 for 802.11ad [4]…."

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| CID | Clause | Page | Line | Type | Comment | Suggested Remedy | Remark |
| 23 | 3.2 | 2 | 35 | E | Missing spaces between number and unit | Change "47.2GHz" to "47.2 GHz" and "48.4GHz" to "48.4 GHz". |  |
| 24 | 4.3.24 | 4 | 33 | E | Missing spaces between number and unit | Change "47.2GHz" to "47.2 GHz" and "48.4GHz" to "48.4 GHz". |  |

Proposed resolution: **Accept**

Do as noted in the suggested remedy. Insert a space between the number and unit throughout the spec.

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| CID | Clause | Page | Line | Type | Comment | Suggested Remedy | Remark |
| 47 | 25.1.1 | 164 | 16 | E | Embedded parentheses for text is not recommended; fine for mathematical expressions. | Use other type of delimiters to differentiate embedded parenthetical comments. |  |

Proposed resolution: **Revised**

Change the paragraph in P164L16 as follows:

“The CDMG PHY supports three modulation methods:

— A control modulation using CDMG MCS 0 of the CDMG Control mode defined in 25.4 (CDMG control mode)

— A single carrier (SC) modulation using CDMG MCS 1 to CDMG MCS 16 of the CDMG SC mode defined in 25.6 (CDMG SC mode) and CDMG MCS 29 to CDMG MCS 35 of the CDMG low-power SC mode defined in 25.7 (CDMG low-power SC mode)

— An OFDM modulation using CDMG MCS 17 to CDMG MCS 28 of the CDMG OFDM mode defined in 25.5 (CDMG OFDM mode)”

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| CID | Clause | Page | Line | Type | Comment | Suggested Remedy | Remark |
| 57 |  |  |  | E | Frontmatter page I, the Amendment number "5" does not agree with the "as amended by" in the top right of the page. | Adjust the amendment numbering and list of previous amendments to agree with the Publication Order agreed by the editors. Match any changes on page 1. |  |

Proposed resolution: **Revised**

Do as noted in the suggested remedy on the top right of frontmatter page I as follows:

“**IEEE P802.11aj™/D1.0, November 2015**

(Amendment to IEEE Std 802.11REVmc™,

as amended by IEEE Std 802.11ah™

IEEE Std 802.11ai™

IEEE Std 802.11ak™

and IEEE Std 802.11aq™)

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| CID | Clause | Page | Line | Type | Comment | Suggested Remedy | Remark |
| 74 |  | 49 | 50 | E | unnecessary underlining | Remove underlining that does not show an insertion to be made. |  |

Proposed resolution: **Accept**

This is a newly defined element, not an amendment to an existing frame. So remove unnecessary underlining in Figure 8-581. Fix the similar problems throughout the draft.

From

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| --- | --- | --- | --- | --- | --- | --- | --- | --- |
|  | Element  ID | Length | DBC  Control | Channel  Number | BI Offset | TBTT  Offset | NP/BHI  Duration | Adjacent  NP/BHI  Duration |
| Octets: | 1 | 1 | 7 | 1 | 4 | 4 | 2 | 2 |
| * Dynamic Bandwidth Control element format | | | | | | | | |

to:

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| --- | --- | --- | --- | --- | --- | --- | --- | --- |
|  | Element  ID | Length | DBC  Control | Channel  Number | BI Offset | TBTT  Offset | NP/BHI  Duration | Adjacent  NP/BHI  Duration |
| Octets: | 1 | 1 | 7 | 1 | 4 | 4 | 2 | 2 |
| * Dynamic Bandwidth Control element format | | | | | | | | |

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| CID | Clause | Page | Line | Type | Comment | Suggested Remedy | Remark |
| 79 |  | 76 | 55 | E | "requester" - this word doesn't exist in English | The closest I can suggest as a replacement is "requesting" |  |

Proposed resolution: **Accept**

Change “requester” to “requesting”, do the same where applicable throughout the draft:

“The New Channel Number field is set to the channel number to which the DCT requesting AP or PCP request the DCT responder AP’s or PCP’s BSS to move (as defined in 18.3.8.4.3 (Channelization)). This field is valid when the Request Type field sets to 1; otherwise reserved.”

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| CID | Clause | Page | Line | Type | Comment | Suggested Remedy | Remark |
| 81 | 25.2.2 | 166 | 38 | E | Word duplication PHY PHY | PHY |  |
| 82 | 25.2.2 | 166 | 41 | E | Word duplication PHY PHY | PHY |  |

Proposed resolution: **Accept**

In REVmc, the “PLCP” is removed and changed to “PHY” where applicable. Thus caused some typos when replacing “PLCP” with “PHY”. So delete the redundant “PHY” in Table 25-1.

**Table 25-1—TXVECTOR and RXVECTOR parameters**

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| --- | --- | --- |
| Parameter | Value | TXVECTOR |
| … | … | … |
| TIME\_OF\_DEPARTURE\_REQUESTED | Enumerated type:  — true indicates that the MAC entity requests that the PHY entity measures and reports time of departure parameters corresponding to the time when the first frame energy is sent by the transmitting port.  — false indicates that the MAC entity requests that the PHY entity neither measures nor reports time of departure parameters. |  |
| … | … | … |

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| CID | Clause | Page | Line | Type | Comment | Suggested Remedy | Remark |
| 85 | 9.41a.2.2 | 140 | 42 | E | Typo in " DMG Beacon frames shall follows the rules" | Change "follows" to "follow" |  |

Proposed resolution: **Accept**

Fix the typo. Change “follows” to “follow”.

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| CID | Clause | Page | Line | Type | Comment | Suggested Remedy | Remark |
| 86 | 25.10.2 | 197 | 1 | E | "Figure 25-16--Typical Tx state machine" is in a wrong place. | Move "Figure 25-16--Typical Tx state machine" to subclause "25.8 PHY transmit procedure" |  |

Proposed resolution: **Accept**

Do as noted in the suggested remedy.

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| CID | Clause | Page | Line | Type | Comment | Suggested Remedy | Remark |
| 132 | 26.7.2.2 | 260 | 56 | E | The title of Figure 26-28 is not complete. | Change to "Figure 26-28 BRP Packet Structure". |  |

Proposed resolution: **Accept**

Change the title of Figure 26-28 as follows to make it complete.



“Figure 26- BRP packet structure”

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| CID | Clause | Page | Line | Type | Comment | Suggested Remedy | Remark |
| 133 | 8.4.2.146 | 47 | 3 | E | "see Annex E () (Country elements and operating classes)". There is a redundant pair of "()" here. | Delete the redundant "()". |  |

Proposed resolution: **Accept**

Delete the redundant “()” here.

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| CID | Clause | Page | Line | Type | Comment | Suggested Remedy | Remark |
| 134 |  | 83 | 55 | E | There is a typo here. It should be Figure 8-729c. | Change "Table 8-729c" to "Figure 8-729c" |  |

Proposed resolution: **Accept**

Do as noted as follows:

“**8.6.24.6 Allocation Request frame format**

The format of the Allocation Request frame Action field is shown in Figure 8-729c (Channel Splitting Request frame Action field format).”

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| CID | Clause | Page | Line | Type | Comment | Suggested Remedy | Remark |
| 135 | 26.5.6.4 | 235 | 1 | E | "Table 25-15 Values of mSE". Wrong reference here, it should be "Table 25-16 (Values of NCBPB)". | Change "Table 26-15 (Values of mSE)." to "Table 25-16 (Values of NCBPB)". |  |

Proposed resolution: **Accept**

Change "Table 26-15 (Values of mSE)." to "Table 25-16 (Values of NCBPB)":

“where *LCHECK* is the number of LDPC parity bits, *mSE* values are listed in Table 26-15 (Values of mSE) and *NCBPB* values are shown in Table 26-16 (Values of NCBPB).”

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| CID | Clause | Page | Line | Type | Comment | Suggested Remedy | Remark |
| 136 | 8.3.3.5 | 27 | 12 | E | "Table 8-21 Association Request frame body". The table number here should be 8-29 according to REVmc. | Change "Table 8-21" to "Table 8-29". Fix the similar typos for Table 8-22 to Table 8-26. |  |

Proposed resolution: **Accept**

Fix the figure numbering problems based on REVmc as noted:

“Table 8-29…”; “Table 8-30…”; “Table 8-31…”; “Table 8-32…”; “Table 8-33…”; “Table 8-34…”.

**General Comments:**

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| CID | Clause | Page | Line | Type | Comment | Suggested Remedy | Remark |
| 59 |  | 6 | 10 | G | "one layer and is not separated into PLCP and PMD sublayers" - it is not necessary to say this because PLCP has disappeared. | Remove whole insertion at cited location. |  |

Proposed resolution: **Revised**

Remove “PLCP” and “PMD” or change to “PHY”, or reword according to the context.

“6.1 Overview of management model

Insert the following paragraph after the third paragraph of 6.1:

The description of the QMG PHY in Clause 26 (Q-band Multiple Gigabit (QMG) PHY specification) is provided as one layer.”

P135L41-49:

“An enhanced beam tracking responder that receives a packet with the Enhanced Beam Tracking Request field in the PHY header is 1 (corresponding to the ENHANCED\_BEAM\_TRACKING\_REQUEST parameter in the RXVECTOR set to enhanced beam tracking requested) and the Packet Type field in the PHY header is 0 (corresponding to the PACKET-TYPE field in the RXVECTOR set to TRN-R-PACKET) shall follow the rules described in 25.10.2.2 (Beam refinement) and shall include a beam refinement AGC field, TRN-R subfields, STF field and CE field appended to the following packet transmitted to the initiator.”

Change all of “PLCP header” to “PHY header” throughout the draft.

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| CID | Clause | Page | Line | Type | Comment | Suggested Remedy | Remark |
| 75 |  | 55 | 59 | G | "00 (binary)" -- WG11 style is to avoid unnecessary use of binary, because of the possible confusion with bit strings. | Replace any "xx (binary)" with the decimal value throughout the document. |  |

Proposed resolution: **Accept**

Change "xx (binary)" with the decimal value throughout the document as follows:

“The Backup AWV Setting subfield is used to set the alternative AWV of the peer STA. The default alternative AWV of the peer STA is set to omni-directional. If the Backup AWV Setting subfield is 0, the peer STA does not update the alternative AWV. If the Backup AWV Setting subfield is 1 , the peer STA set the alternative AWV according to the AWV specified by the Peer Tx Antenna Parameter field. If the Backup AWV Setting subfield is 2, the current received AWV of peer is used to update the alternative AWV; if the Backup AWV Setting subfield is 3, it indicates that the last transmitted AWV of peer is used to update the alternative AWV.”

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| CID | Clause | Page | Line | Type | Comment | Suggested Remedy | Remark |
| 131 | 8.2.3 | 22 | 23 | G | Figure 8-1a is not cited or described in the txt; therefore, it is not clear for reader. | Add descriptions for Figure 8-1a in the txt. Ditto to Figure 9-91e,i,j,k,l; 26-21, 28, 14, 18, 19, 32, 33, 34;Table 8-253c; Table 25-12. |  |

Proposed resolution: **Revised**

Add descriptions for the following figures and tables in the txt where applicable:

For the description for Figure 8-1a, please see resolution to CID 10.

***Insert the following sentence at the end of the last paragraph but one of 9.41a.2.3:***

“…Figure 9-91e (An AP or PCP ceases its service on channel 5) shows an example that an AP or PCP can cease its service on channel 5, a 1.08 GHz channel.”***Insert the following paragraph at the end of 9.41a.5:***

“Figure 9-91i to Figure 9-91l illustrate 4 cases of backward compatibility and interoperation between CDMG and DMG STAs”

***Change the following paragraph as follows:***

“…. If the Additional PPDU field within the PHY header is equal to 1, the final block transmitted of the last PPDU in an A-PPDU is followed by the same ZCZ sequence guard interval, as shown in Figure 26-21 (Block transmission).”

***Insert the following sentence at the end of the paragraph in P228L44:***

“…The mapping between bits and complex constellation points for BPSK is shown in Figure 26-14 (Constellation bit encoding for BPSK).”

***Insert the following sentence at the end of the paragraph in P236L15:***

“…The mapping between bits and complex constellation points for QPSK is shown in Figure 26-18 (Constellation bit encoding for QPSK).”

***Insert the following sentence at the end of the paragraph in P236L40:***

“…The mapping between bits and complex constellation points for 16QAM is shown in Figure 26-19 (Constellation bit encoding for 16QAM).”

***Insert the following sentence at the end of the paragraph in P237L2:***

“…The mapping between bits and complex constellation points for 64QAM is shown in Figure 26-20 (Constellation bit encoding for 64QAM).”

***Change the paragraph in P260L50 as follows:***

“Each BRP packet is composed of an STF, a CEF field and a data field followed by a training field containing an AGC training field and a receiver training field, as shown in Figure 26-28 (BRP packet structure).”

***Insert the following sentence at the end of the paragraph in P266L1:***

“…The channelization for 540 MHz is shown in Figure 26-32 (Channelization for 540 MHz).”

***Insert the following sentence at the end of the paragraph in P266L22:***

“…The channelization for 1080 MHz is shown in Figure 26-33 (Channelization for 1080 MHz).”

***Insert the following sentence at the end of the paragraph in P267L42:***

“…Figure 26-34 shows an example transmit spectral mask for a PPDU.”

***Insert the following sentence at the end of the paragraph in P62L15:***

“…The definition for A-MPDU Parameters field is shown in Figure 8-253c.”

**Technical comments:**

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| CID | Clause | Page | Line | Type | Comment | Suggested Remedy | Remark |
| 142 | 25.2.2 | 167 | 16 | T | This paragraph is as the same as 11ad. However, the receiver sensitivity of 1.08GHz channel in 11aj is 3dB lower than that of 2.16GHz channel in 11ad. So the indication of the received power level needs to be changed accordingly. | Change to "Valid values are integers in the range 0 to 15:  -- Values of 2-14 represent power levels (-74+value×2)) dBm.  -- A value of 15 represents power greater than or equal to -45 dBm.  -- A value of 1 represents power less than or equal to -71 dBm.  -- A value of 0 indicates that the previous packet was not received an SIFS period before the current transmission.". |  |

Proposed resolution: **Accept**

Change the paragraph in P167L16 in Table 25-1 (TXVECTOR and RXVECTOR parameters) as follows:

“Valid values are integers in the range 0 to 15:

— Values of 2-14 represent power levels (-74+value×2) dBm.

— A value of 15 represents power greater than or equal to -45 dBm.

— A value of 1 represents power less than or equal to -71 dBm. — A value of 0 indicates that the previous packet was not received an SIFS period before the current transmission. ”

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| CID | Clause | Page | Line | Type | Comment | Suggested Remedy | Remark |
| 145 | 4.3.23 | 4 | 19-21 | T | "The basic channel access of a CDMG STA (see 9.36 (DMG channel access) and 9.41a (DBC mechanism for CDMG STAs)) allows it to operate in an Infrastructure BSS, in an IBSS, and in a PBSS." A STA can operate in one of the modes -- BSS, IBSS or PBSS. Not in all modes at the same time. | Replace with "The basic channel access of a CDMG STA (see 9.36 (DMG channel access) and 9.41a (DBC mechanism for CDMG STAs)) allows it to operate in an Infrastructure BSS, in an IBSS, or in a PBSS." |  |

Proposed resolution: **Accept**

Change the sentence in P4L19 as follows:

“…The basic channel access of a CDMG STA (see 9.36 and 9.41a) allows it to operate in an Infrastructure BSS, in an IBSS, or in a PBSS.”