IEEE P802.11
Wireless LANs

|  |
| --- |
| Proposed resolution to CID 96, 123 and 172 in LB217 |
| Date: 2016-07-26 |
| Author(s):  |
| Name | Company | Address | Phone | Email |
| Jiamin Chen | Huawei |  |  | Jiamin.chen@mail01.huawei.com |
|  |  |  |  |  |
|  |  |  |  |  |
|  |  |  |  |  |

 Abstract

This document proposes resolutions to CIDs: 96, 123 and 172 on TGaj D1.0:

**Revision History**

R0: Initial version.

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| CID | Clause | Page | Line | Type | Comment | Proposed Change | Remark |
| 123 | 25.3.6 | 199 | 50 | T | The preamble is not backward compatible with that of the DMG STA as defined in section 20.3.6.2. The number of repetitions in the STF are different | Reuse the DMG PHY |  |

Proposed resolution: **Rejected.**

The 1.08 GHz PHY defined for CDMG STAs is used by a CDMG STA only when operating on a 1.08 GHz channel. When operating on a 2.16 GHz channel, a CDMG STA reuses the DMG PHY defined in 20.3.6.2. In order to improve backward compatibility with DMG STA, some rules are defined in subclause 10.42 (DBC mechanism for CDMG STAs). Also similar comments were discussed and resolved in document [11-16/0719r1](https://mentor.ieee.org/802.11/dcn/16/11-16-0719-01-00aj-proposed-resolution-to-cid-100-101-102-etc-in-lb217.docx) for reference.

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| CID | Clause | Page | Line | Type | Comment | Proposed Change | Remark |
| 172 |  |  |  | T | 11aj should restrict the specification to 45GHz since there are other standards such as 11ad and 11ay addressing 60GHz | Restrict the specification to 45GHz |  |

Proposed resolution: **Rejected.**

802.11aj was formed as a platform for collaboration between 802.11 and China wireless personal area network (CWPAN) working group. According to the radio regulations in China, there are only two physical 2.16 GHz bandwidth unlicensed channels available in 60 GHz band. When developing Chinese 60GHz national standard, the China radio regulation committee pointed out that only two physical channels will generate serious co-channel interference for many scenarios. So the (CWPAN) working group suggests further splitting two 2.16 GHz channels into four 1.08 GHz channels. The benefits would include: providing up to 4 physical channels to avoid or mitigate inter-BSS interferences and improve spectrum efficiency; more suitable for low-power portable devices such as smart phone/watch because the instantaneous power requirement is lower for battery powered devices operating on a 1.08 GHz bandwidth channel. There exist the need and benefits to have 11aj (60 GHz). Also similar comments were discussed and resolved in document [11-16/0719r1](https://mentor.ieee.org/802.11/dcn/16/11-16-0719-01-00aj-proposed-resolution-to-cid-100-101-102-etc-in-lb217.docx) for reference.

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| CID | Clause | Page | Line | Type | Comment | Proposed Change | Remark |
| 96 | B.4.27.1 | 284 | 18 | T | The status field in the PICs is TBD for all features. | Specify the conditional and mandatory options in the PICS. |  |

Proposed resolution: **Revised.**

Similar CID 111 was already resolved and approved in May session as follows:

***Change the table in B.4.3 as follows:***

**B.4.3 IUT configuration (continued)**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Item | Protocol capability | References | Status | Support |
| … | … | … | … | … |
| \*CF33 | CDMG STA |  | O.5 | Yes, No  |
| \*CF34 | 45MG STA |  | O.5 | Yes, No  |

Discussion:

***Insert the following subclause, B.4.27 to B.4.27.2, after B.4.26:***

* **CDMG features**
* **CDMG MAC features**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Item | Protocol capability | References | Status | Support |
|  | Are the following MAC protocol features supported? |  |  |  |
| CDMG-M0 | DMG MAC features | B.4.24.1(DMG MAC features) | CF33:M |  |
| CDMG-M1 | CDMG capabilities signaling |  |  |  |
| CDMG-M1.1 | CDMG Capabilities element | 8.4.2.172 (CDMG Capabilities element) | CF33:M | Yes, No, N/A |
| CDMG-M1.2 | Signalling of STA capabilities in Probe Request, (Re)Association Request frames | 8.3.3.5 (Association Request frame format), 8.3.3.7 (Reassociation Request frame format), 8.3.3.9 (Probe Request frame format), 8.4.2.172 (CDMG Capabilities element)) | (CF33 AND (CF2.1 OR CF2.2 OR CF2.4.2)):M | Yes, No, N/A |
| CDMG-M1.3 | Signalling of STA and BSS capabilities in DMG Beacon, Probe Response, (Re)Association Response frames | 8.3.3.6 (Association Response frame format), 8.3.3.8 (Reassociation Response frame format), 8.3.3.10 (Probe Response frame format), 8.3.4.2 (DMG Beacon)), 8.4.2.172 (CDMG Capabilities element) |  (CF25 AND (CF1 OR CF2.4.1)):M | Yes, No, N/A |
| CDMG-M2 | Dynamic bandwidth control | 8.3.4.2 (DMG Beacon), 9.41a (DBC mechanism for CDMG STAs)  | CF33:M | Yes, No, N/A |
| CDMG-M3 | Dynamic Channel Transfer | 10.47 (DCT Procedure), 8.6.8.36 (DCT Measurement Request frame)-8.6.8.39 (DCT Response frame), 6.3.116 (DCT procedure) | CF33:O | Yes, No, N/A |
| CDMG-M4 | Opportunistic transmissions  | 8.4.1.7 (Reason Code field), 8.4.2.174 (CDMG Extended Schedule element), 9.36.11 (Opportunistic transmission in alternative channel for CDMG STAs)  | CF33:O | Yes, No, N/A |
| CDMG-M5 | Selection of candidate SPs for spatial sharing | 8.4.2.175 (SSW Report element), 10.32.1 (General), AA.1 (Selection of candidate SPs for spatial sharing) | CF33:O | Yes, No, N/A |
| CDMG-M6 | CDMG AP or PCP clustering | 9.37a (CDMG AP or PCP clustering) | CF33:M | Yes, No, N/A |
| CDMG-M7 | CDMG protected period establishment and maintenance | 9.36.6.6.2a (CDMG protected period establishment and maintenance) | CF33:M | Yes, No, N/A |
| CDMG-M8 | Spatial sharing in a CDMG AP or PCP cluster | 9.37a.6 (Spatial sharing in a CDMG AP or PCP cluster) | CF33:M | Yes, No, N/A |
| CDMG-M9 | CDMG Enhanced Beam Tracking | 9.38.9 (CDMG enhanced beam tracking), Annex AA.3 (Beam tracking and switching for enhanced beam tracking mechanism) | CF33:O | Yes, No, N/A |
| CDMG-M10 | CDMG dynamic truncation of service period | 9.36.8.2 (CDMG dynamic truncation of service period) | CF33:M | Yes, No, N/A |
|  |  |  |  |  |

* **CDMG PHY features**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Item | Protocol capability | References | Status | Support |
|  | Are the following PHY protocol features supported? |  |  |  |
| CDMG-M0 | DMG PHY features | B.4.24.2 (DMG PHY features) | CF33:M |  |
| CDMG-P1 | PHY operating modes |  |  |  |
| CDMG-P1.1 | Operation according to Clause 25 (China directional multi-gigabit (CDMG) PHY specification) | 25 (China directional multi-gigabit (DMG) PHY specification) | CF33:M |  |
| CDMG-P2 | CDMG PHY frame format  |  |  |  |
| CDMG-P2.1 | CDMG control mode format | 25.4 (CDMG control mode) | CF33:M | Yes, No, N/A |
| CDMG-P2.2 | CDMG SC mode format | 25.6 (CDMG SC mode) | CF33:M | Yes, No, N/A |
| CDMG-P | CDMG MCS 17-28 of OFDM mode | 25.5 (CDMG  | TBD | Yes, No, N/A |
| CDMG-P2.3 | CDMG low-power SC mode format | 25.7 (CDMG low-power SC mode) | CF33:O | Yes, No, N/A |
| CDMG-P2.4 | Modulation and coding schemes (MCS) |  |  |  |
| CDMG-P2.4.1 |  MCS 0 of CDMG control mode |  | DMG-P2.1:M | Yes, No, N/A |
| CDMG-P2.4.2 | MCS 1-16 of CDMG SC mode |  |  |  |
| CDMG-P2.4.2.1 | MCS 1-9 |  | CDMG-P2.2:M | Yes, No, N/A |
| CDMG-P2.4.2.2 | MCS 10-16 |  | CDMG-P2.2:O | Yes, No, N/A |
| CDMG-P2.4.3 | MCS 29-35 of CDMG low-power SC mode |  | CDMG-P2.3:M | Yes, No, N/A |
| CDMG-P2 |  Common preamble format | 25.3 (Common parameters) | CF33:M | Yes, No, N/A |
| CDMG-P3 | Enhanced mobile device support Mode | 25.6 (CDMG SC mode) | CF33:M | Yes, No, N/A |
| … | … | … | … | … |

* **QMG features**
* **QMG MAC feature**
* **45MG PHY features**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Item | Protocol capability | References | Status | Support |
|  | Are the following PHY protocol features supported? |  |  |  |
| 45MG-P1 | 45MG modulation and coding schemes (45MG MCS) |  |  |  |
| 45MG-P1.1 | 45MG MCS 0 of control mode | 26.4 (45MG control mode) | 45MG-P1.1: M | Yes, No, N/A |
| 45MG-P1.2 | 45MG MCS 1-8 of SC mode | 26.5 (45MG SC mode) | 45MG-P1.2: M | Yes, No, N/A |
| 45MG-P1.3 | 45MG MCS 9-16 of OFDM mode | 26.6 (45MG OFDM mode) | 45MG-P1.3: M | Yes, No, N/A |
| … | … | … | … | … |