IEEE P802.11
Wireless LANs

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| LB258: Resoltions for CIDs 2386 and 2387 |
| Date: 2022-05-09 |
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Abstract

This submission proposes resolutions for the following 2 CIDs received for TGme LB258:

2386, 2387

Revisions:

- Rev 0: Initial version of the document.

**Comments**

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **CID** | **PP.LL** | **Clause** | **Comment** | **Proposed Change** | **Resolution** |
| 2386 | 5790.50 | D.2.2 | The parameters of "Frequency" and "Maximum BW allowed" on the "Geographic area" of "Japan" in Table D-4 should be revised according to the forthcoming changes of the reguratory rules in Japan. | The commentor is considering the revised document. | Revised.See the resolution presenteded in 22/0719 (this document). |
| 2387 | 5809.19 | E.1 | The parameters on the "S1G operating Class" of "Japan" in Tables E-4 and E-5 should be revised according to the forthcoming changes of the reguratory rules in Japan.  | The commentor is considering the revised document. | Revised.See the resolution presenteded in 22/0719 (this document). |

**Discussion**

The technical conditions regarding S1G PHY/MAC (802.11ah) usage in Japanese 920 MHz band have been approved at the council in Japanese government (MIC: Ministry of Internal Affairs and Communications) on 22nd March, 2022 [1]. The technical changes will include bandwidth expansion up to 4 MHz. 11ah devices will be able to use 2/4 MHz channel, in addition to the existing 1 MHz channel.

If everything will go smoothly, the regulatory rules will be changed in this summer.

The current REVme draft has some issues that shall be resolved as commented on the CIDs 2386 and 2387.

First, the annex D shall be updated to reflect the upcoming regulatory rule changes.

Second, there is no concrete definition about the channelization of upcoming Japanese 2 or 4 MHz transmission for 11ah in the Annex E of REVme D1.0. To keep interoperability among S1G devices targeted to Japanese market, it is indispensable to define the exact channelization on Annex E. In addition, some of Japanese 1 MHz channels defined in Annex E cannot be used for S1G PHY/MAC according to the Japanese regulatory rules and the channl usage rules of the Japanese local standard for 920MHz (ARIB STD T-108 [2]).

The proposed channelization (on pages 3 and 4 in this document) includes partially-overlapped allocations of 2 and 4 MHz channels. The merit of this channel allocation is that it enhances the degree of freedom of channelization, which make it quite easier to avoid narrow-band interference caused by LPWA systems operated in the same band especially for 4 MHz channel. On the other hands, it may spoil efficient channel usage in cases of dense deployment because a packet header of 2 MHz S1G PPDU cannot be decoded by only higher or lower 1 MHz part but this problem can be resolved by using RTS/CTS protection.

To consider current usage of existing systems in Japan, it is reasonable to define the partially-overlapped allocations.

**Proposed Resolution**

**TGm Editor: *Change the following text on the Table D-4:* (#2386)**

**Table D-4—Maximum STA transmit power and maximum BW allowed for the S1G band**

|  |  |  |  |
| --- | --- | --- | --- |
| **Geographic area** | **Frequency (MHz)** | **Maximum BW allowed (MHz)** | **Maximum STA transmit****power****(Max EIRP (mW) except****where noted)** |
| …… |
| Japan | 915.9-916.9 | 1 | See NOTE 6 |
| 920.5-929.7 | 4 | See NOTE 2 |
| 920.5-923.5 | 1 | See NOTE 3 |
| …… |
| NOTE 2—1 or 20 mW transmitter output power plus up to 3 dBi antenna gain (maximum EIRP is 1 or 20 mW + 3 dBi)NOTE 3—250 mW transmitter output power plus up to 3 dBi antenna gain (maximum EIRP is 250 mW + 3 dBi)NOTE 6—1 mW transmitter output power plus up to 3 dBi antenna gain (maximum EIRP is 1 mW + 3 dBi) |

**TGm Editor: *Change the following text on the Table D-4:* (#2387)**

**Table E-4—Global operating classes**

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| **Operating Class** | **Nonglobal operating Class(es) (see NOTE 3)** | **Channel starting frequency (GHz)** | **Channel spacing (MHz)** | **Channel set** | **Channel center frequency index** | **Behavior limits set** |
| 1-63 | — | Reserved | Reserved | Reserved | — | Reserved |
| 64 | E-5-9,E-5-10 | 0.9225 | 2 | — | Reserved | — |
| 65 | E-5-11,E-5-12 | 0.9065 | 4 | — | Reserved | — |
| …… |
| 73 | E-5-8 | 0.9165 | 1 | — | Reserved | — |
| …… |

**TGm Editor: *Change the following text on the Table D-4:* (#2387)**

**Table E-4—Global operating classes**

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| **S1G Operating Class** | **Global operating Class (see Table E-4)** | **Channel starting frequency (GHz)** | **Channel spacing (MHz)** | **Channel center frequency index** | **CCA Level Classification** | **Behavior limits set** |
| 8 (Japan) | 73 | 0.9165 | 1 | 9, 13, 15, 17, 19, 21 | Type 1(920.5-927.5 MHz) | — |
| 9 (Japan) | 64 | 0.9225 | 2 | 2, 6 | Type 1(922.5-926.5 MHz) | — |
| 10 (Japan) | 64 | 0.9225 | 2 | 4, 8 | Type 1(923.5-927.5 MHz) | — |
| 11 (Japan) | 65 | 0.9065 | 4 | 36 | Type 1(922.5-926.5 MHz) | — |
| 12 (Japan) | 65 | 0.9065 | 4 | 38 | Type 1(923.5-927.5 MHz) | — |
| 13 | — | Reserved | Reserved | Reserved | Reserved | Reserved |

**References:**

[1] Official release from MIC (*in Japanese*)

<https://www.soumu.go.jp/menu_news/s-news/01kiban14_02000540.html>

[2] ARIB STD T-108

<https://www.arib.or.jp/english/std_tr/telecommunications/std-t108.html>