IEEE P802.11
Wireless LANs

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| LB272 CR for Sensing Terminologies |
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Abstract

##### This This submission presents proposed resolutions for the following 14 CIDs:

##### 1023, 1024, 1032, 1327, 1328, 1329, 1339, 1676, 1821, 1822, 1853, 1884, 1899, 2259

##### The proposed changes are based on 802.11bf/D1.0.

##### Revision history:

##### r0 – initial version

r1- editorial change

r2 – update the resolution of CID 1327

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| **CID** | **Commenter** | **Clause** | **Page.Line** | **Comment** | **Proposed Change** | **Resolution** |
| 1023 | Massinissa Lalam | 4.11 | 24.15 | Not sure why subclause 11.55.1 is called "WLAN sensing procedure" and not "Sensing procedure" to keep constency with the way DMG sensing/DMG SBP procedures are named. Adding WLAN does not add meaningful information and makes the name longer. | Rename 11.55.1 in "Sensing procedure" | Accepted |
| 1024 | Massinissa Lalam | 6.3.136 | 25.09 | Not sure why subclause 6.3.136 is called "WLAN sensing procedure" and not "Sensing procedure" to keep constency with the way DMG sensing/DMG SBP procedures are named | Rename 6.3.136 in "Sensing procedure" | Accepted |
| 1032 | Lei Wang | 4.11 | 24.15 | The name of the first sensing procedure defined in 11bf, "WLAN sensing procedure", is not clearly distinguitable from the 11bf project name, "WLAN sensing". Section 4.11 clearly states that WLAN sensing consists of 4 sensing procedures, i.e., "WLAN sensing procedure" is one of the four. It is really desirable to have a clearly identifiable name for the ""WLAN sensing procedure". | How about changing "WLAN sensing procedure" to "basic WLAN sensing procedure", throughout the 11bf spec? | RevisedAccording to the SP in 11-23/0428r1, “WLAN Sensing” defined in D1.0 is replaced with “Sensing” in future drafts. The meaning of “WLAN sensing” is then aligned with the one in the PAR for 11bf.TGbf editor: please incorporate changes shown in 11-23/0538r2 under the tag 1032. |
| 1327 | Tomoko Adachi | 4.11 | 0.00 | The title of this subclause, "Sensing", seems to be too general and broad. | Change the title to "WLAN sensing". Also change the first sentence in the first paragraph under 4.11 to "WLAN sensing uses PHY and MAC features of IEEE 802.11 STAs to obtain measurements that may be useful to estimate such as range, velocity, and motion of objects in an area of interest." | Revised.Agree with the commenter regarding the first part, i.e., change the title to “WLAN sensing”. To be consistent with PAR which shows that “Additional Explanatory Notes: 5.2.b: WLAN sensing is the use of PHY and MAC features of IEEE 802.11 stations to obtain channel measurements that characterize the environment in which the stations operate. Measurements obtained with WLAN sensing are used to enable applications such as presence detection and gesture classification, among others. The specification of such applications is beyond the scope of the project.”, no change is made on the first sentence of 4.11.TGbf editor: please incorporate changes shown in 11-23/0538r2 under the tag 1327. |
| 1328 | Tomoko Adachi | 4.11 | 0.00 | "Four procedures are defined to enable sensing: WLAN sensing procedure (see 11.55.1 (WLAN sensing procedure)), sensing by proxy (SBP) procedure (see 11.55.2 (SBP procedure)), DMG sensing procedure (see 11.55.3 (DMG sensing procedure)), and DMG SBP procedure (see 11.55.4 (DMG SBP procedure))."It seems as though WLAN sensing procedure described in 11.55.1 and SBP procedure described in 11.55.2 are for non-DMG STAs. To clarify that those are not describing general procedures including the DMG cases but are different from the ones described in 11.55.3 and 11.55.2, it is better to change the names of those procedures. | Change WLAN sensing procedure to non-DMG WLAN sensing procedure and SBP procedure to non-DMG SBP procedure throughout the draft. | RevisedAccording to the SP in 11-23/0428r1, “WLAN Sensing” defined in D1.0 is replaced with “Sensing” in future drafts. The meaning of “WLAN sensing” is then aligned with the one in the PAR for 11bf.TGbf editor: please incorporate changes shown in 11-23/0538r2 under the tag 1328. |
| 1329 | Tomoko Adachi | 11.55 | 0.00 | The title of this subclause, "Sensing", seems to be too general and broad. | Change the title to "WLAN sensing". | Accepted |
| 1339 | Osama Aboulmagd | 3.2 | 22.47 | The term Wireless Local Area Sensing is too broad. Shouldn't be defined as sensing in the below 7 GHz bands sensing | Define sensing by band to be more specific. | RevisedAccording to the SP in 11-23/0428r1, “WLAN Sensing” defined in D1.0 is replaced with “Sensing” in future drafts. The meaning of “WLAN sensing” is then aligned with the one in the PAR for 11bf. TGbf editor: please incorporate changes shown in 11-23/0538r2 under the tag 1339. |
| 1676 | James Yee | 4.11 | 24.12 | "WLAN sensing may be" should be "sensing may be" since "WLAN sensing" is later described as for non-DMG only. | As suggested. | RevisedAccording to the SP in 11-23/0428r1, “WLAN Sensing” defined in D1.0 is replaced by “Sensing” in future drafts. The meaning of “WLAN sensing” is then aligned with the one in the PAR for 11bf. In this place, WLAN sensing is the correct usage. No change is needed.  |
| 1821 | Stephen McCann | 3.2 | 22.29 | Why is sensing procedure referred to as a WLAN sensing procedure? It appears that this should be called a non-DMG sensing procedure. DMG is also a WLAN, so it is rather confusing to use this adjective. | Change "WLAN sensing procedure" to "sensing procedure" throughout the draft. | Accepted |
| 1822 | Stephen McCann | 4.11 | 24.11 | Typo "WLAN" | Remove the word "WLAN" |  RevisedAccording to the SP in 11-23/0428r1, “WLAN Sensing” defined in D1.0 is replaced with “Sensing” in future drafts. The meaning of “WLAN sensing” is then aligned with the one in the PAR for 11bf. In this place, WLAN sensing is the correct usage.No change is needed.  |
| 1853 | Hassan Omar | 4.11 | 24.20 | Specify the term 'sensing', i.e., WLAN sensing or DMG sensing. to be consistent with the definitions in Section 3.2 | Define 'sensing' in Section 3.2 or change lines 20-24 to become as follows: [The WLAN sensing procedure allows a non-DMG STA to perform WLAN sensing. The SBP procedure enables a non-AP non-DMG STA to request a non-DMG AP to perform WLAN sensing on its behalf. Similarly, the DMG sensing procedure allows a DMG STA to perform DMG sensing, and the DMG SBP procedure enables a non-AP and non-PCP DMG STA to request a DMG PCP/AP to perform DMG sensing on its behalf. |  RevisedAccording to the SP in 11-23/0428r1, “WLAN Sensing” defined in D1.0 is replaced with “Sensing” in future drafts. The meaning of “WLAN sensing” is then aligned with the one in the PAR for 11bf. Changes are made based on this decision. TGbf editor: please incorporate changes shown in 11-23/0538r2 under the tag 1853. |
| 1884 | RUI YANG | 3.2 | 22.52 | The definition of WLAN sensing procedure should include DMG STA to perform WLAN sensing. Otherwise, this subclause should include a definition for sensing using DMG STAs. | As in comment. | RevisedAccording to the SP in 11-23/0428, “WLAN sensing” defined in D1.0 will be replaced with “Sensing”. The meaning of “WLAN sensing” is then aligned with the one in the PAR for 11bf. TGbf editor: please incorporate changes shown in 11-23/0538r2 under the tag 1884. |
| 1899 | Leif Wilhelmsson | 4.11 | 24.12 | Remove the word WLAN, since WLAN sensing refers to non DMG and in this senstence I beleive the intention is to talk aobut sensing in general also including DMG. Also, the paragraphs starts til "Sensing", rather than "WLAN sensing". | As in comment | Revised.Per discussion in 11-23/0428, WLAN sensing includes sensing and DMG sensing. The SP in 11-23/0428 indicates that “WLAN sensing” will be replaced with “Sensing”. In this place, WLAN sensing is the correct usage.No change is needed.  |

***Proposed resolutions:*** Revised

***Discussions:***

Per discussion in 11-23/0428, WLAN sensing includes sensing and DMG sensing. According to the SP in 11-23/0428, “WLAN sensing” will be replaced with “Sensing”.

**End of Discussions**

***Modification: TGbf editor- please review the draft and make the global changes in all subclauses as follows:***

1. Replace “WLAN sensing” (121 occurrences in 802.11bf D1.0) with “sensing”.
2. Replace “dot11WLANSensingImplemented” (17 occurrences in 802.11bf D1.0) with “dot11SensingImplemented”

***TGbf editor: please make the following change in subclause 3.2***

(#1339) **Sensing**: The use of physical layer (PHY) and medium access control (MAC) features of non-directional multi-gigabit (non-DMG) stations (STAs) to obtain measurements that may be useful to estimate features such as range, velocity, and motion of objects in an area of interest.

(#1884) **Sensing procedure**: A procedure that allows a non-directional multigigabit (non-DMG) station (STA) to perform sensing.

***TGbf editor: please make the following change in subclause 4.11***

**4.11 (#1327, 1032) WLAN Sensing**

(#1327, 1032) WLAN Sensing uses PHY and MAC features of IEEE 802.11 stations to obtain measurements that may be useful to estimate features such as range, velocity, and motion of objects in an area of interest. Measurements obtained with WLAN sensing may be used to enable applications such as presence detection and gesture classification.

Four procedures are defined to enable (#1032) WLAN sensing: (#1023, #1328)Sensing procedure (see 11.55.1 (Sensing procedure)), sensing by proxy (SBP) procedure (see 11.55.2 (SBP procedure)), DMG sensing procedure (see 11.55.3 (DMG sensing procedure)), and DMG SBP procedure (see 11.55.4 (DMG SBP procedure)).

The sensing procedure allows a non-DMG STA to perform sensing. The SBP procedure enables a non-AP non-DMG STA to request a non-DMG AP to perform sensing on its behalf. Similarly, the DMG sensing procedure allows a DMG STA to perform (#1853) DMG sensing, and the DMG SBP procedure enables a non-AP and non-PCP DMG STA to request a DMG PCP/AP to perform (#1853) DMG sensing on its behalf.

***TGbf editor: please make the following change in subclause 6.3.136, P25L243***

**6.3.136 (#1024)Sensing procedure**

***TGbf editor: please make the following change in subclause 11.55***

**11.55(#1329) WLAN Sensing**

**11.55.1 (#1023) Sensing procedure**

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| **CID** | **Commenter** | **Clause** | **Page.Line** | **Comment** | **Proposed Change** | **Resolution** |
| 2259 | Joseph Levy | 3.2 | 22.14 | Why is it necessary to define DMG sensing procedure? Defining DMG sensing seems adequate. | Delete the definition for DMG sensing procedure. | RejectedPer definition of WLAN Sensing in 4.11, four procedures are defined to enable WLAN sensing, sensing procedure, SBP procedure, DMG sensing procedure and DMG SBP procedure. Therefore, there is a need to keep the definition of DMG sensing procedure. |