|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| WLAN sensing procedure | | | | |
| Date: 2021-08-09 | | | | |
| Author(s): | | | | |
| Name | Affiliation | Address | Phone | email |
| Solomon Trainin | Qualcomm |  |  | strainin@qti.qualcomm.com |
| Alecs Eitan | Qualcomm |  |  | eitana@qti.qualcomm.com |
| Assaf Kasher | Qualcomm |  |  | akasher@qti.qualcomm.com |
| Ali Raissinia | Qualcomm |  |  | alirezar@qti.qualcomm.com |

Abstract

Suggestions to modify the SFD text

## 7.1 WLAN sensing (SENS) procedure

### TGbf editor, modify the text in sub-clauses from 7.1.1 until 7.1.5 (not including) as follows

### **7.1.1 Overview**

A sensing procedure allows a STA to perform sensing and obtain measurement results. A sensing session is an agreement between a sensing initiator and a sensing responder to participate in the sensing procedure. (Motion 8, 20/1849r4).

A sensing procedure is composed of one or more of the following: WLAN sensing session setup and the WLAN sensing measurement setup as defined below (7.1.2, 7.1.3), WLAN sensing measurement instance (7.1.4), WLAN sensing measurement setup termination, and WLAN sensing session termination as defined in 7.1.5 and 7.1.5a respectively (Motion 15, 20/1851r4).

A sensing procedure may be comprised of multiple sensing measurement instances (Motion 14, 21/0145r4).

The sensing measurement instance includes multiple phases as defined below (7.1.4)

More than one sensing responder may participate in the sensing measurement instance Motion 16, 20/0145r5

(Motion 24, 21/0644r4).

(Motion 24, 21/0644r4).

A sensing initiator is a STA that initiates a sensing procedure. A sensing responder is a STA that participates in a sensing procedure initiated by a sensing initiator. A sensing transmitter is a STA that transmits PPDUs used for sensing measurements in a sensing procedure. A sensing receiver is a STA that receives PPDUs sent by a sensing transmitter and performs sensing measurements in a sensing procedure (Motion 9, 20/1849r4).

A STA can assume multiple roles in one sensing procedure (Motion 9, 20/1849r4). In a sensing procedure, a sensing initiator might be a sensing transmitter, a sensing receiver, both or neither (Motion 10c, 21/0147r3).

In a sensing procedure a sensing responder may be a transmitter, receiver, or both.

A sensing initiator may maintain multiple sensing sessions (Motion 23, 21/0644r4).

### **7.1.2 WLAN sensing session setup**

In the sensing session setup of a sensing procedure, a sensing session is established, and operational parameters associated with the sensing session are determined and may be exchanged between STAs (Motion 15, 20/1851r4).

### **7.1.3 WLAN sensing measurement setup**

**7.1.3.1 General**

An optional negotiation process of the Measurement setup is defined that allows for a sensing initiator and a sensing responder to exchange and agree on operational attributes associated with a sensing Measurement instances (Motion 17, 20/0370r1; Motion 23, 21/0644r4).The operational attributes may include responder’s roles, measurement report types and other operational parameters

The type of measurement result reported in a sensing procedure shall be decided by its initiator (Motion 13, 21/0147r3).

More than one type of sensing measurement results may be defined (Motion 12, 21/0147r3).

**7.1.3.2 TB sensing measurement setup**

**7.1.3.3 Non-TB sensing measurement setup**

### **7.1.4 WLAN sensing Measurement instance**

**7.1.4.1 General**

In the measurement instance of a sensing procedure, sensing measurements are performed (Motion 15, 20/1851r4)and the results are reported

**7.1.4.2 TB sensing measurement instance**

**7.1.4.2.1 Polling phase**

**7.1.4.2.2 NDPA sounding phase**

NDP can be used for the channel measurement (e.g. CSI) between sensing transmitter and sensing receiver(s) in sub-7 GHz bands. NDP format for sensing is TBD (Motion 22, 21/1015r1).

**7.1.4.2.3 TF sounding phase**

NDP can be used for the channel measurement (e.g. CSI) between sensing transmitter and sensing receiver(s) in sub-7 GHz bands. NDP format for sensing is TBD (Motion 22, 21/1015r1).

**7.1.4.2.4 TBD LTF security update phase**

### **7.1.4.2.5 Reporting phase**

In the reporting phase of a sensing measurement instance, sensing measurement results are reported (Motion 15, 20/1851r4).

Results of measurement performed in a sensing procedure should be obtained by or reported to its initiator (Motion 11, 21/0147r3).

Transmission of the Sensing Measurement Report frame is initiated by an MLME primitive. Both immediate and delayed reporting are acceptable (Motion 21, 21/0908r2).

**7.1.4.3 Non-TB sensing measurement instance**

### TGbf editor, append the text below as follows

**7.1.5 WLAN Sensing measurement setup termination**

The initiator may terminate the agreement of the negotiated attributes identified with the Measurement Setup ID.

The responder may request the initiator to terminate the agreement of the negotiated attributes identified with the Measurement Setup ID.

### **7.1.5a WLAN Sensing session Termination**

The Initiator and the Responder may terminate the session. In the termination of a sensing session, STAs stop performing measurements and terminate the sensing session (Motion 15, 20/1851r4).

References:

1. 11-21-0504-02-00bf-specification-framework-for-tgbf
2. P802.11az/D3.2, July 2021
3. IEEE P802.11ax/D8.0, October 2020

SP2

Do you agree to append to the SFD the text changes presented in the sub-clauses from 7.1.1 till 7.1.4.3 in the document 11-21-1322-02-00bf-WLAN sensing procedure text?

SP3

Do you agree to append to the SFD the text presented in the sub-clauses 7.1.5 and 7.1.5a in the document 11-21-1322-02-00bf-WLAN sensing procedure text?