



**IEEE Standard for Information Technology—
Telecommunications and Information Exchange between Systems
Local and Metropolitan Area Networks—
Specific Requirements**

Part 11: Wireless LAN Medium Access Control (MAC) and Physical Layer (PHY) Specifications

Amendment 4: Enhancements for Wireless LAN Sensing

IEEE Computer Society

Developed by the
LAN/MAN Standards Committee

IEEE Std 802.11bf™-2025

(Amendment to IEEE Std 802.11™-2024
as amended by IEEE Std 802.11bh™-2024,
IEEE Std 802.11be™-2024, and
IEEE Std 802.11bk™-2025)

IEEE Std 802.11bf™-2025

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Approved 28 May 2025

IEEE SA Standards Board

Abstract: This amendment defines modifications to the IEEE 802.11 medium access control (MAC); the physical layer (PHY) service interface of High Efficiency (HE) and Extremely High Throughput (EHT) PHYs; and to the Directional Multi Gigabit (DMG) and enhanced DMG (EDMG) PHYs to enhance Wireless Local Area Network (LAN) sensing operation in license-exempt frequency bands between 1 GHz and 7.125 GHz and above 45 GHz.

Keywords: amendment, IEEE 802.11, IEEE 802.11bf, MAC, medium access control, PHY, physical layer, Wireless LAN sensing, wireless local area network, WLAN

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Introduction

This introduction is not part of IEEE Std 802.11bf-2025, IEEE Standard for Information Technology—Telecommunications and Information Exchange between Systems—Local and Metropolitan Area Networks—Specific Requirements—Part 11: Wireless LAN Medium Access Control (MAC) and Physical Layer (PHY) Specifications—Amendment 4: Enhancements for Wireless LAN Sensing.

This amendment defines modifications to the IEEE 802.11 medium access control (MAC); the physical layer (PHY) service interface of High Efficiency (HE) and Extremely High Throughput (EHT) PHYs; and to the Directional Multi Gigabit (DMG) and enhanced DMG (EDMG) PHYs to enhance Wireless Local Area Network (LAN) sensing operation in license-exempt frequency bands between 1 GHz and 7.125 GHz and above 45 GHz.

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**IEEE Standard for Information Technology—
Telecommunications and Information Exchange between Systems
Local and Metropolitan Area Networks—
Specific Requirements**

**Part 11: Wireless LAN Medium Access Control
(MAC) and Physical Layer (PHY) Specifications**

**Amendment 4: Enhancements for Wireless LAN
Sensing**

NOTE—The editing instructions contained in this amendment define how to merge the material contained herein into the existing base standard and its amendments to form the comprehensive standard.

The editing instructions are shown in ***bold italic***. Four editing instructions are used: change, delete, insert, and replace. ***Change*** is used to make corrections in existing text or tables. The editing instruction specifies the location of the change and describes what is being changed by using ~~strikethrough~~ (to remove old material) and underscore (to add new material). ***Delete*** removes existing material. ***Insert*** adds new material without disturbing the existing material. Insertions may require renumbering. If so, renumbering instructions are given in the editing instruction. ***Replace*** is used to make changes in figures or equations by removing the existing figure or equation and replacing it with a new one. Editorial instructions, change markings and this NOTE will not be carried over into future editions of the base standard because the changes will be incorporated into the base standard.

3. Definitions, acronyms, and abbreviations

3.2 Definitions specific to IEEE Std 802.11

Insert the following definitions (maintaining alphabetical order):

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

directional multi-gigabit (DMG) sensing procedure: [DMG sensing procedure] A procedure that allows a DMG station (STA) to perform DMG sensing.

sensing: The use of physical layer (PHY) and medium access control (MAC) features of high-efficiency (HE) stations (STAs) or extremely high throughput (EHT) STAs to obtain measurements that might be useful to estimate features such as range, velocity, and motion of objects in an area of interest.

sensing by proxy (SBP) initiator: [SBP initiator] A non-access point (non-AP) high-efficiency (HE) station (STA) or non-AP extremely high throughput (EHT) STA that transmits an SBP Request frame, or a

non-AP, or non-personal basic service set (PBSS) control point (non-PCP) directional multi-gigabit (DMG) STA that transmits a DMG SBP Request frame.

sensing by proxy (SBP) responder: [SBP responder] A high-efficiency (HE) access point (AP) or extremely high throughput (EHT) AP that is the intended recipient of an SBP Request frame, or a directional multi-gigabit (DMG) AP or a DMG personal basic service set (PBSS) control point (PCP) that is the intended recipient of a DMG SBP Request frame.

sensing initiator: A high-efficiency (HE) station (STA) or extremely high throughput (EHT) STA that initiates a sensing procedure by transmitting a Sensing Measurement Request frame, or a directional multi-gigabit (DMG) STA that initiates a DMG sensing procedure by transmitting a DMG Sensing Measurement Request frame.

sensing procedure: A procedure that allows a high-efficiency (HE) station (STA) or extremely high throughput (EHT) STA to perform sensing.

sensing receiver: A station (STA) that is the intended recipient of physical layer (PHY) protocol data units (PPDUs) sent by a sensing transmitter to obtain sensing measurements in either a sensing procedure or a directional multi-gigabit (DMG) sensing procedure.

sensing responder: A high-efficiency (HE) station (STA) or extremely high throughput (EHT) STA that participates in a sensing procedure by responding to a sensing initiator, or a directional multi-gigabit (DMG) STA that participates in a DMG sensing procedure by responding to a sensing initiator.

sensing transmitter: A station (STA) that transmits physical layer (PHY) protocol data units (PPDUs) used for measurements in a sensing procedure or a directional multi-gigabit (DMG) sensing procedure.

unassociated sensing negotiation and measurement management frame protection required: A security policy that specifies whether sensing frames are required to be protected without association.

unassociated sensing negotiation and measurement management frame protection required exempt 20 MHz: A security policy that specifies whether sensing frames are required to be protected without association if bandwidth greater than 20 MHz is used.

3.4 Acronyms and abbreviations

Insert the following acronym definitions (maintaining alphabetical order):

LUT	lookup table
NDPA	NDP announcement
SBP	sensing by proxy
SI2SR	sensing initiator to sensing responder
SR2SI	sensing responder to sensing initiator
SR2SR	sensing responder to sensing responder
TF	trigger frame
USID	unassociated STA identifier
USNM-MFPR	unassociated sensing negotiation and measurement management frame protection required
USNM-MFPR-X20	unassociated sensing negotiation and measurement management frame protection required exempt 20 MHz

4. General description

Insert the following subclause at the end of Clause 4:

4.11 WLAN sensing

WLAN sensing uses certain IEEE 802.11 PHY and MAC features to make environmental measurements that could be useful to estimate the range, velocity, and motion of objects in an area of interest. Measurements obtained with WLAN sensing might support applications such as presence detection, motion detection, and gesture classification.

WLAN sensing comprises four procedures: sensing procedure (see 11.55.1), sensing by proxy (SBP) procedure (see 11.55.2), DMG sensing procedure (see 11.55.3), and DMG SBP procedure (see 11.55.4).

The sensing procedure allows HE STAs or EHT STAs to perform sensing measurements. The SBP procedure enables a non-AP HE STA or non-AP EHT STA to request an HE AP or EHT AP to perform sensing measurements on its behalf. Similarly, the DMG sensing procedure allows DMG STAs to perform DMG sensing measurements, and the DMG SBP procedure enables a non-AP and non-PCP DMG STA to request a DMG AP or DMG PCP to perform DMG sensing measurements on its behalf.

6. Layer management

6.4 Table of MLME SAP interfaces

Insert the following rows in Table 6-1:

Table 6-1—MLME SAP interface

Service Name	MLME-xxx	Type	References	Comments
Sensing procedure	SENSMSMTSESSION	1	9.6.7.56, 9.6.7.57	See 11.55.1.4
	SENSMSMTQUERY	3	9.6.7.60	See 11.55.1.4.2
	SENSMSMTTERMINA TION	2	9.6.7.59	See 11.55.1.6
	SENSTBMSMTRQ	6	9.3.1.22.15.2, 9.3.1.19.6, 9.3.1.22.15.3, 9.3.1.22.15.4, 9.3.1.22.15.5, 9.3.1.22.15.6	See 11.55.1.5.2
	SENSNONTBMSMTRQ	6	9.3.1.19.6, 9.6.7.58	See 11.55.1.5.3
	SENSREPORT	7	9.4.1.81	See 11.55.1.5.2.6, 11.55.1.5.3.3
	SENSREPORTRQ	N/A	6.5.33	
SBP procedure	SBP	1	9.6.7.58, 9.6.39.2	See 11.55.2.2
	SBPREPORT	2	9.6.7.58, 9.6.39.2	See 11.55.2.3
	SBPTERMINATION	2	9.6.7.63	See 11.55.2.4
DMG sensing procedure	DMG- SENSMSMTSESSION	1	9.6.19.24, 9.6.19.25, 9.6.21.8, 9.6.21.9	See 11.55.3.4
	DMG- SENSMSMTTERMINA TION	2	9.6.21.11, 9.6.39.5	See 11.55.3.8
	DMG- SENSMSMTSTART	5	9.6.21.3, 9.3.1.26.5, 9.3.1.26.7	See 11.55.3.5, 11.55.3.6
	DMG-SENSMSMT	7	9.6.21.10, 9.6.39.4	See 11.55.3.6, 11.55.3.7
	DMG-SENSREPORT	3		
DMG SBP procedure	DMG-SBP	1	9.6.19.26, 9.6.19.27, 9.6.21.12, 9.6.21.13	See 11.55.4.2
	DMG-SBPREPORT	2	9.6.19.28, 9.6.21.14	See 11.55.4.3
	DMG- SBPTERMINATION	2	9.6.21.15, 9.6.39.6	See 11.55.4.4

6.5 MLME SAP primitives

Insert the following new subclause at the end of 6.5 :

6.5.33 Sensing report request

6.5.33.1 General

The following set of MLME primitives support the reporting of sensing measurement results between an AP and a non-AP STA.

If used in the basic reporting phase of a TB sensing measurement exchange (see 11.55.1.5.2.6.1) or in a non-TB sensing measurement exchange (see 11.55.1.5.3.3), the set of MLME primitives in this subclause assume the general form Type 2 (see 6.3.3).

If used in the threshold-based reporting phase of a TB sensing measurement exchange (see 11.55.1.5.2.6.2), the use of the set of MLME primitives is illustrated in Figure 6-16a.

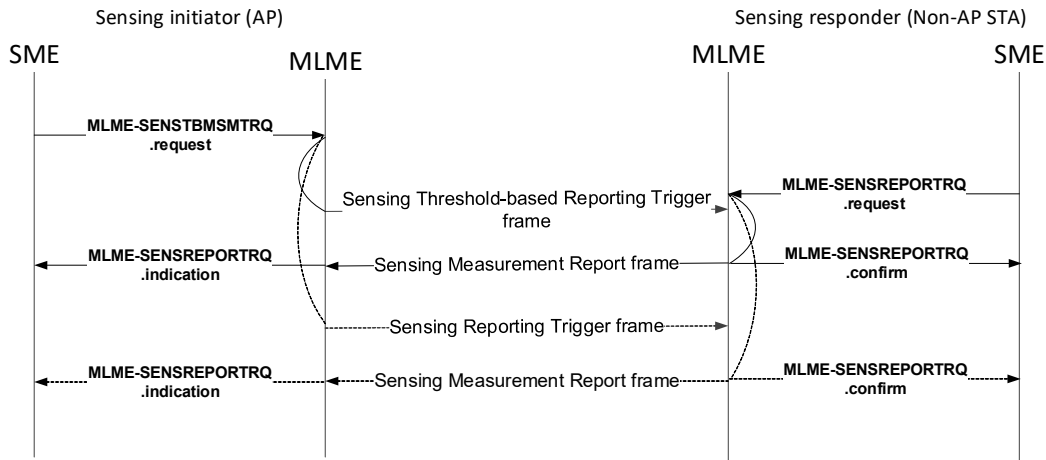


Figure 6-16a—Example of the threshold-based reporting phase of a TB sensing measurement exchange

6.5.33.2 MLME-SENSREPORTRQ.request

6.5.33.2.1 Function

This primitive requests the transmission of a Sensing Measurement Report frame to a peer STA.

6.5.33.2.2 Semantics of the service primitive

The primitive parameters are as follows:

```

MLME-SENSREPORTRQ.request(
    PeerSTAAddress,
    SensingMeasurementReportContainer
)
    
```

Name	Type	Valid range	Description
PeerSTAAddress	MAC address	Any valid individual MAC address	Specifies the MAC address of the sensing initiator to which the Sensing Measurement Report frame is sent.
SensingMeasurementReportContainer	As defined in 9.4.1.81.	As defined in 9.4.1.81.	As defined in 9.4.1.81.

6.5.33.2.3 When generated

This primitive is generated by the SME to request that a Sensing Measurement Report frame be sent to a peer STA to deliver a sensing measurement report.

6.5.33.2.4 Effect of receipt

On receipt of this primitive during a TB sensing measurement exchange (see 11.55.1.5.2.6), the MLME constructs a Sensing Measurement Report frame and causes it to be transmitted when triggered by the Sensing Reporting Trigger frame (see 11.55.1.5.2.6.1) or the Sensing Threshold-Based Reporting Trigger frame (see 11.55.1.5.2.6.2).

On receipt of this primitive during a non-TB sensing measurement exchange (see 11.55.1.5.3.3), the MLME constructs a Sensing Measurement Report frame and causes it to be transmitted to the non-AP STA in response to the received Sensing NDP Announcement frame and sensing initiator to sensing responder (SI2SR) NDP.

6.5.33.3 MLME-SENSREPORTRQ.confirm

6.5.33.3.1 Function

This primitive reports the results of a request to transmit a Sensing Measurement Report frame.

6.5.33.3.2 Semantics of the service primitive

The primitive parameters are as follows:

```
MLME-SENSREPORTRQ.confirm(
    PeerSTAAddress,
    MeasurementSessionID,
    MeasurementExchangeID
)
```

Name	Type	Valid range	Description
PeerSTAAddress	MAC address	Any valid individual MAC address	Specifies the MAC address of the sensing initiator to which the Sensing Measurement Report frame is sent.
MeasurementSessionID	Integer	As defined in Figure 9-1258c	Identifies the sensing measurement session for the Sensing Measurement Report frame that was sent.
MeasurementExchangeID	Integer	As defined in 11.55.1.5.1	Identifies the sensing measurement exchange for the Sensing Measurement Report frame that was sent.

6.5.33.3 When generated

This primitive is generated by the MLME when the STA successfully transmits a Sensing Measurement Report frame.

6.5.33.3.4 Effect of receipt

On receipt of this primitive, the SME may release the resources associated with the sensing measurement report of the reported sensing measurement exchange.

6.5.33.4 MLME-SENSREPORTRQ.indication

6.5.33.4.1 Function

This primitive indicates that a Sensing Measurement Report frame has been received.

6.5.33.4.2 Semantics of the service primitive

The primitive parameters are as follows:

```
MLME-SENSREPORTRQ.indication(
    PeerSTAAddress,
    SensingMeasurementReportContainer
)
```

Name	Type	Valid range	Description
PeerSTAAddress	MAC address	Any valid individual MAC address	Specifies the MAC address of the sensing initiator to which the Sensing Measurement Report frame is sent.
SensingMeasurementReportContainer	As defined in 9.4.1.81.	As defined in 9.4.1.81.	Provides sensing measurement results or a CSI variation feedback value obtained from a sensing measurement exchange, as defined in 9.4.1.81.

6.5.33.4.3 When generated

This primitive is generated by the MLME when the STA receives a Sensing Measurement Report frame.

6.5.33.4.4 Effect of receipt

On receipt of this primitive, if received during the basic reporting phase of a TB sensing measurement exchange (see 11.55.1.5.2.6.1) or during a non-TB sensing measurement exchange (see 11.55.1.5.3.3), the SME is notified of sensing measurement results. If received during the threshold-based reporting phase of a TB sensing measurement exchange (see 11.55.1.5.2.6.2), the SME is notified of sensing measurement results or the CSI variation feedback value.

8. PHY service specification

8.3 Detailed PHY service specifications

8.3.4 Basic service and options

8.3.4.4 Vector descriptions

Insert the following row in Table 8-4:

Table 8-4—Vector descriptions

Parameter	Associated vector	Value
EDMG_MS_SEN SING_NSTA	PHYCONFIG_VE CTOR	Set to the number of STAs that are the intended recipients of the next EDMG multistatic sensing PPDU.

9. Frame formats

9.3 Format of individual frame types

9.3.1 Control frames

9.3.1.19 NDP Announcement frame format

9.3.1.19.1 General description

Change the first paragraph of 9.3.1.19.1 as follows:

The NDP Announcement frame has ~~four~~ five variants, the NDP Announcement frame, the HE NDP Announcement frame, the Ranging NDP Announcement frame, the Sensing NDP Announcement frame, and the EHT NDP Announcement frame. The ~~four~~ five formats are distinguished by the setting of the NDP Announcement Variant subfield in the Sounding Dialog Token field: and the presence of the STA Info field with AID11 subfield equal to 2045 and with B31 set to 1 (see Table 9-42b).

Change Table 9-42a as follows:

**Table 9-42a—Encoding of the AID11 subfield in
an NDP Announcement frame**

AID11 subfield	Description	NDP Announcement frame variant applicability (see NOTE)				
		VHT	HE	EHT	Ranging	<u>Sensing</u>
0	STA Info field is addressed to an AP or mesh	Applicable				
1–2006	If the NDP Announcement frame is not a Ranging or a <u>Sensing</u> variant, the STA Info field is addressed to an associated STA whose AID is equal to the value in the AID11 subfield.	Applicable				
2007	If the NDP Announcement frame is a Ranging or a <u>Sensing</u> variant, the STA Info field is addressed to an unassociated STA or an associated STA whose RSID/ <u>USID</u> /AID is equal to the value in the RSID11/ <u>USID11</u> /AID11 subfield.	Applicable	Applicable (subject to 35.15.1)	Not applicable	Applicable	<u>Applicable</u>
2008– 2042	N/A	Not applicable				

**Table 9-42a—Encoding of the AID11 subfield in
an NDP Announcement frame (*continued*)**

AID11 subfield	Description	NDP Announcement frame variant applicability (see NOTE)				
		VHT	HE	EHT	Ranging	Sensing
2043	STA Info field contains a sequence authentication code	Not applicable	Not applicable	Not applicable	Applicable	<u>Not applicable</u>
2044	STA Info field contains a partial TSF	Not applicable	Not applicable	Not applicable	Applicable	<u>Applicable</u>
2045	~~STA Info field contains the I2R NDP Tx Power and R2I NDP Target RSSI subfields if the NDP Announcement frame is a Ranging variant.~~ For Ranging NDP Announcement frame, it contains I2R NDP TX Power and R2I RSSI target. For Sensing NDP Announcement frame, it contains the SI2SR NDP TX power and the Measurement Session ID, and it may contain the sensing responder to sensing initiator (SR2SI) NDP Target RSSI.	Not applicable	Not applicable	Not applicable	Applicable	<u>Applicable</u>
2046	N/A	Not applicable				
2047	STA Info field contains a Disallowed Subchannel Bitmap subfield	Not applicable	Applicable	Not applicable	Not applicable	<u>Not applicable</u>
NOTE—Not applicable means that the particular AID11 value is not used for that variant and is reserved.						

Change the second paragraph below Table 9-42a as follows:

If the NDP Announcement frame contains ~~only exactly~~ one STA Info field with a value less than 2008 in the AID11, AID12 or AID13 subfield, then in the case of VHT, HE or EHT NDP Announcement frames the RA field is set to the address of the STA addressed in the ~~only~~ STA Info field of this NDP Announcement frame (see 10.35.5.2, 26.7, 35.7). In the case of Ranging NDP Announcement frame, the RA address is set to the address of the RSTA or ISTA that is the intended recipient of the frame. In the case of Sensing NDP Announcement frame, the RA is set to the address of the sensing responder that is either an AP in non-TB sensing measurement exchanges (see 11.55.1.5.3) or a non-AP STA in TB sensing measurement exchanges (see 11.55.1.5.2). If the NDP Announcement frame contains more than one STA Info field with a value less than 2008 in the AID11 subfield, then the RA field is set to the broadcast address.

Change Table 9-42b as follows:

Table 9-42b—NDP Announcement frame variant encoding

NDP Announcement Variant subfield	NDP Announcement frame variant
0	VHT NDP Announcement frame
1	Ranging NDP Announcement frame <u>or Sensing NDP Announcement frame</u>
2	HE NDP Announcement frame
3	EHT NDP Announcement frame

Insert a sixth new child subclause within 9.3.1.19 as follows:

9.3.1.19.6 Sensing NDP Announcement frame format

In a Sensing NDP Announcement frame, the STA Info field with AID11 subfield equal to 2045 is always present and it is transmitted as the first STA Info field. The STA Info field with AID11 subfield equal to 2045 is not present in the Ranging NDP Announcement frame used for TB ranging measurement exchange but might be present in the non-TB ranging measurement exchange (see Table 9-42ba).

Table 9-42ba—Ranging NDP Announcement frame and Sensing NDP Announcement frame encoding

Presence of STA Info field with AID11 subfield equal to 2045	B31 in the STA Info field with AID11 subfield equal to 2045	NDP Announcement frame variant
N/A	N/A	Ranging NDP Announcement frame in TB ranging exchange
Yes	Reserved	Ranging NDP Announcement frame in non-TB ranging exchange if negotiated to include TX power for I2R NDP
Yes	1	Sensing NDP Announcement frame in TB/non-TB sensing measurement exchange

The format of the Sensing NDP Announcement frame is the same as the HE NDP Announcement frame shown in Figure 9-74f.

The Sounding Dialog Token Number field in the Sounding Dialog Token field contains a Measurement Exchange ID value in the range 0 to 63 that identifies the measurement exchange that this transmitted Sensing NDP Announcement frame is part of (see 11.55.1.5.2 and 11.55.1.5.3).

The format of the STA Info field in a Sensing NDP Announcement frame if the AID11 subfield is less than 2008 is defined in Figure 9-74p if the frame is sent in a non-TB sensing measurement exchange, and Figure 9-74q if the frame is sent in a TB sensing measurement exchange.

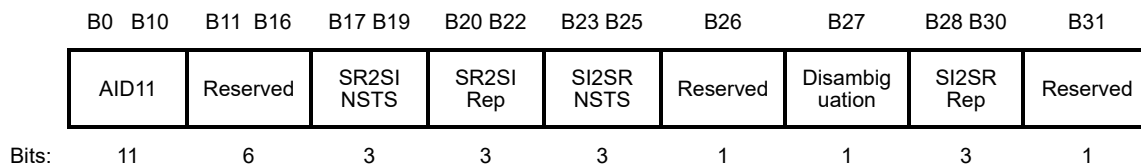


Figure 9-74p—STA Info field format in a Sensing NDP Announcement frame if the AID11 subfield is less than 2008 and if the frame is sent in a non-TB sensing measurement exchange

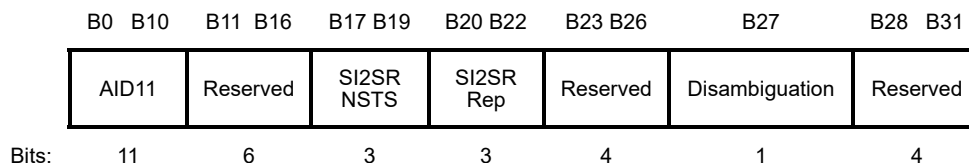


Figure 9-74q—STA Info field format in a Sensing NDP Announcement frame if the AID11 subfield is less than 2008 and if the frame is sent in a TB sensing measurement exchange

A Sensing NDP Announcement frame contains at most one STA Info field with an AID11 subfield less than 2008 per STA that is an intended recipient of this frame.

In a TB sensing measurement exchange (see 11.55.1.5.2), the RA field is set to the broadcast address if more than one STA are intended recipients of this frame; otherwise, the RA field is set to the address of the STA that is the single intended recipient of this frame.

If the AID11 subfield is less than 2008, it identifies a STA that is an intended recipient of this frame and assigns the parameters within this STA Info field to this STA. In case of the TB sensing measurement exchange (see 11.55.1.5.2), the AID11 subfield in Figure 9-74q contains the 11 LSBs of the AID of an associated STA or the unassociated STA identifier (USID) of an unassociated STA that is to process the NDP that follows. In the case of a non-TB sensing measurement exchange (see 11.55.1.5.3), the intended recipient is identified by the RA field and the AID11 subfield in Figure 9-74p is set to 0.

When used in a TB sensing measurement exchange (see 11.55.1.5.2 and Figure 9-74q):

- If the bandwidth of the PPDU carrying the NDP Announcement frame is less than or equal to 160 MHz,
 - The SI2SR NSTS and SI2SR Rep fields are used to indicate the HE-LTF configuration (see 27.3.19.1) of the SI2SR NDP that follows; and
 - The SI2SR Rep field is set to the number of HE-LTF repetitions of the corresponding HE Ranging NDP minus 1 (see 27.3.19.1). If the SI2SR Rep is equal to 0, then there is no HE-LTF repetition in the SI2SR NDP.
- If the bandwidth of the PPDU carrying the NDP Announcement frame is equal to 320 MHz,

- The SI2SR NSTS and SI2SR Rep fields are used to indicate the EHT-LTF configuration (see 36.3.19a.1) of the SI2SR NDP that follows, and the SI2SR Rep field is set the number of EHT-LTF repetitions of the corresponding EHT Ranging NDP minus 1 (see 36.3.19a.1). If the SI2SR Rep is equal to 0, then there is no EHT-LTF repetitions in the SI2SR NDP.

In a non-TB sensing measurement exchange (see 11.55.1.5.3), the single intended recipient STA is an AP and the RA field is set to the address of that STA.

When used in a non-TB sensing measurement exchange (see 11.55.1.5.3 and Figure 9-74p):

- If the bandwidth of the PPDU carrying the NDP Announcement frame is less than or equal to 160 MHz,
 - The SI2SR NSTS and SI2SR Rep fields are used to indicate the HE-LTF configuration (see 27.3.19.1) of the SI2SR NDP that follows;
 - The SR2SI NSTS and SR2SI Rep fields indicate the HE-LTF configuration of the SR2SI NDP sent in response by the AP (i.e., sensing responder); and
 - The SR2SI Rep and SI2SR Rep fields are set to the number of HE-LTF repetitions of the corresponding HE Ranging NDP minus 1 (see 27.3.19.1). If the SI2SR Rep and SR2SI Rep are equal to 0, then there is no HE-LTF repetition in the SI2SR NDP and SR2SI NDP that follow, respectively.
- If the bandwidth of the PPDU carrying the NDP Announcement frame is equal to 320 MHz,
 - The SI2SR NSTS and SI2SR Rep fields are used to indicate the EHT-LTF configuration (see 36.3.19a.1) of the SI2SR NDP that follows, the SR2SI NSTS and SR2SI Rep fields indicate the EHT-LTF configuration of the SR2SI NDP sent in response by the AP (i.e., sensing responder), and the SR2SI Rep and SI2SR Rep fields are set to the number of EHT-LTF repetitions of the corresponding EHT Ranging NDP minus 1 (see 36.3.19a.1). If the SI2SR Rep and SR2SI Rep are equal to 0, then there is no EHT-LTF repetition in the SI2SR NDP and SR2SI NDP that follow, respectively.

The format of the STA Info field with AID11 equal to 2044 is shown in Figure 9-74r.

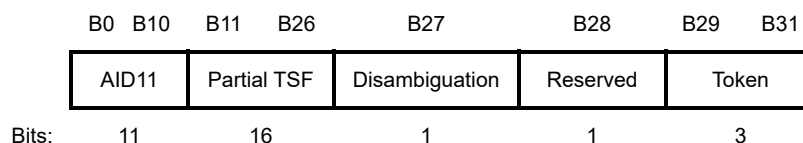


Figure 9-74r— STA Info field format in a Sensing NDP Announcement frame with AID11 subfield equal to 2044

The STA Info field with AID11 subfield equal to 2044 is used in TB sensing measurement exchanges (see 11.55.1.5.2) to carry the Partial TSF field. The Partial TSF field contains 16 bits of the AP's TSF time, TSF[21:6], at the time of transmitting the preceding Sensing Polling Trigger frame.

The Token field is set to the value of the Token field of the Sensing Polling Trigger frame whose partial transmission TSF time is carried.

If the AID11 subfield is equal to 2045, the format of the STA Info field is shown in Figure 9-74s.

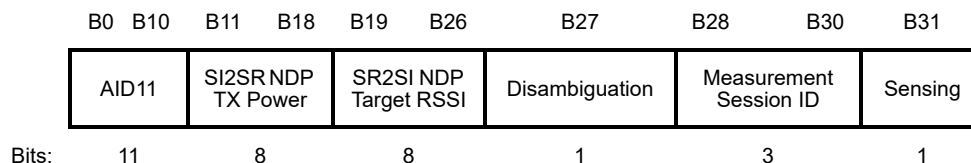


Figure 9-74s—STA Info field format in a Sensing NDP Announcement frame with AID11 subfield equal to 2045

The STA Info field with AID11 subfield equal to 2045 is used in the non-TB sensing measurement exchange (see 11.55.1.5.3) to carry the SI2SR NDP TX Power and SR2SI NDP Target RSSI fields. It is also used in a TB sensing measurement exchange (see 11.55.1.5.2) to carry the SI2SR NDP TX Power, while the SR2SI NDP Target RSSI field is reserved.

The SI2SR NDP TX Power field indicates the average power per 20 MHz bandwidth referenced to the antenna connector of all antennas used to transmit the following SI2SR NDP. The transmit power is reported with a resolution of 1 dB, with values in the range 0 to 60 representing –20 dBm to 40 dBm, respectively. Values above 60 are reserved.

The SR2SI NDP Target RSSI field indicates the preferred receive signal power, averaged over the non-AP STA’s antenna connectors, for future SR2SI NDPs to be transmitted by the AP. The preferred receive signal power in units of dBm is $\text{Target RSSI} = -110 + FVal$, where $FVal$ is the value of the SR2SI NDP Target RSSI field, except that values above 90 indicate that the non-AP STA has no receive signal power preference for the SR2SI NDPs.

In the STA Info field with AID11 subfield equal to 2045, bit B31 is set to 1 to indicate that the frame is a Sensing NDP Announcement frame, and bits B28 through B30 are set to the Measurement Session ID of the corresponding sensing measurement exchange.

9.3.1.22 Trigger frame format

9.3.1.22.1 General

Change Table 9-47 as follows:

Table 9-47—Trigger Type subfield encoding

Trigger Type subfield value	Trigger frame variant
8	Ranging/ <u>Sensing</u>

Change the second paragraph below Table 9-47 as follows:

The More TF subfield of the Common Info field indicates whether or not a subsequent Trigger frame is scheduled for transmission. The More TF subfield is set as defined in 26.8.2, 26.8.3.2, ~~and~~ 11.21.6.4.3, ~~and~~ 11.55.1.5.2.

Change Table 9-46k as follows:

Table 9-46k—UL Target Receive Power subfield in Trigger frame

UL Target Receive Power subfield	Description
127	The STA transmits the TB PPDU at the STA's maximum transmit power for the assigned MCS. If the eliciting trigger frame is a Sounding Ranging Trigger frame, ~~or~~ a Passive Sounding Ranging Trigger frame, <u>an SR2SI Sounding Trigger frame, or an SR2SR Sounding Trigger frame</u>, then the STA uses the maximum transmit power for HE-MCS 0 for an HE TB Ranging NDP and an HE Ranging NDP or EHT-MCS 0 for an EHT TB Ranging NDP and an EHT Ranging NDP. If the eliciting trigger frame is a Secure Sounding Ranging Trigger frame, then the STA uses the maximum transmit power for HE-MCS 6 for an HE TB Ranging NDP or EHTMCS 6 for an EHT TB Ranging NDP. NOTE—The expected receive signal power is then the STA's maximum transmit power for the assigned HE or EHT MCS minus the path loss.

Insert the following subclauses after 9.3.1.22.14:

9.3.1.22.15 Sensing Trigger frame format

9.3.1.22.15.1 General

The format of the Trigger Dependent Common Info field of the Sensing Polling (see 9.3.1.22.15.2), SR2SI Sounding (see 9.3.1.22.15.3), Sensing Threshold-Based Reporting (see 9.3.1.22.15.4), and Sensing Reporting (see 9.3.1.22.15.5) Trigger frames is shown in Figure 9-103a.



Figure 9-103a—Trigger Dependent Common Info field format of the Sensing Polling, SR2SI Sounding, Sensing Reporting, and Sensing Threshold-Based Reporting Trigger frames

The Token field in the Trigger Dependent Common Info field is used in a Sensing Polling Trigger frame to match it with the partial TSF time in a following Sensing NDP Announcement frame, SR2SI Sounding Trigger frame, or SR2SR Sounding Trigger frame. It is reserved in all other Sensing Trigger subvariants.

The format of the Trigger Dependent Common Info field of the SR2SR Sounding Trigger frame is shown in Figure 9-103b.

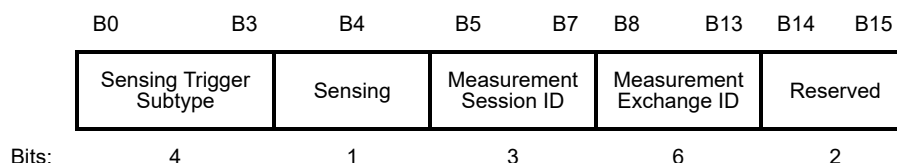


Figure 9-103b—Trigger Dependent Common Info field format of the SR2SR Sounding Trigger frame

The value of the Sensing Trigger Subtype field in the Sensing Trigger frame is defined in Table 9-55a.

Table 9-55a—Sensing Trigger Subtype field encoding

Sensing Trigger Subtype field value	Sensing Trigger frame variant
0	Sensing Polling
1	SR2SI Sounding
2	Sensing Threshold-Based Reporting
3	Sensing Reporting
4	SR2SR Sounding
5–15	Reserved

The Sensing field indicates whether the Trigger frame is of the type Sensing Trigger variant. The Sensing field is set to 1 to indicate whether the Trigger frame with Trigger Type subfield value 8 is a Sensing Trigger variant.

In the Trigger Dependent Common Info field of the SR2SR Sounding Trigger frame, the Measurement Session ID field contains a value in the range 0 to 7 that indicates the Measurement Session ID, and the Measurement Exchange ID field contains a value in the range 0 to 63 that indicates the measurement exchange ID.

The RA field, the CS Required, and the UL BW fields in the Common Info field of the Sensing Trigger frame are identical to the Basic Trigger frame described in 26.5.2, 35.5.2, and 9.3.1.22, except that the RA field in a Sensing Trigger frame with exactly one User Info field that is not a Special User Info field can be either individually addressed or broadcast.

The More Trigger Frame (TF) field of the Common Info field of the Sensing Trigger frame indicates whether a subsequent extra TB sensing measurement exchange is scheduled within a sensing availability window (see 11.55.1.5.2).

The TA of a Trigger frame destined to sensing responders in a TB sensing measurement exchange is set to the transmitting AP's MAC address if these sensing responders have accepted a Sensing Measurement Request frame containing the same transmitting AP's MAC address. The TA of a Trigger frame destined to sensing responders in a TB sensing measurement exchange is set to the transmitted BSSID if these sensing responders have received the Sensing Measurement Request frame containing different BSSID from an AP that support multiple BSSIDs.

9.3.1.22.15.2 Sensing Polling Trigger frame

The format of the User Info field in the Sensing Polling Trigger frame is defined in Figure 9-103c.

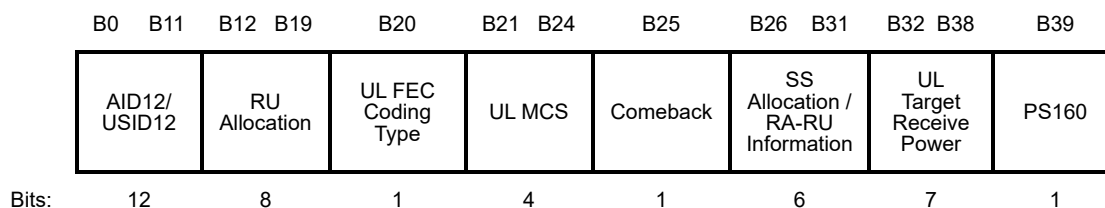


Figure 9-103c—User Info field format for a Sensing Polling Trigger frame

The AID12/USID12 field contains the 12 LSBs of the AID of an associated STA or the USID of an unassociated STA that is the intended recipient of the Sensing Reporting Trigger frame. The UL FEC Coding Type and UL Target Receive Power fields are identical to the corresponding fields in the Basic Trigger frame; see 9.3.1.22.

If the Sensing Polling Trigger frame solicits the transmission of an HE TB PPDU:

- The RU Allocation and SS Allocation/RA-RU Information fields are identical to the corresponding fields in the HE variant User Info field (see 9.3.1.22.4).
- The UL MCS field is identical to the UL HE-MCS field in the HE variant User Info field.
- The PS160 field is reserved.

If the Sensing Polling Trigger frame solicits the transmission of an EHT TB PPDU:

- The RU Allocation, SS Allocation/RA-RU Information, and PS160 fields are identical to the corresponding fields in the EHT variant User Info field (see 9.3.1.22.5).
- The UL MCS field is identical to the UL EHT MCS field in the EHT variant User Info field.

The Comeback field indicates whether the AP requests an unassociated non-AP STA to send a Sensing Measurement Query frame (9.6.7.60) to either establish a sensing measurement session or terminate an existing sensing measurement session(s). The Comeback field is set to 1 to indicate that the AP requests an unassociated non-AP STA to send a Sensing Measurement Query frame, otherwise is set to 0. The Comeback field is reserved for associated STAs.

The Trigger Dependent User Info field is not present in the Sensing Polling Trigger frame.

9.3.1.22.15.3 SR2SI Sounding Trigger frame

The format of the User Info field in the SR2SI Sounding Trigger frame if the AID12/USID12 subfield is not equal to 2008 is defined in Figure 9-103d.

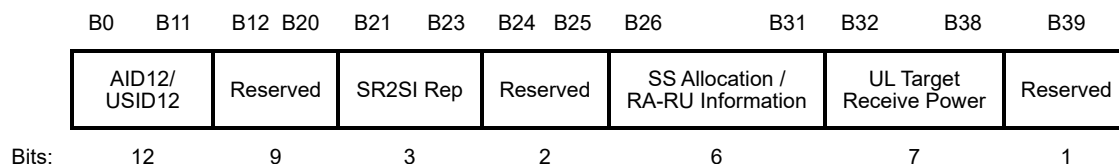


Figure 9-103d—User Info field format for SR2SI Sounding Trigger frame if the AID12/USID12 subfield is not equal to 2008

The AID12/USID12 field contains the 12 LSBs of the AID of an associated STA or the USID of an unassociated STA that is the intended recipient of the SR2SI Sounding Trigger frame.

The SR2SI Rep field indicates the number of LTF repetitions in the corresponding HE TB Ranging NDP or EHT TB Ranging NDP from the non-AP STA indicated in the AID12/USID12 subfield; the SR2SI Rep field is set to the number of LTF repetitions minus 1. The value of the SR2SI Rep field is the same in all User Info fields in a single SR2SI Sounding Trigger frame.

If the SR2SI Sounding Trigger frame is soliciting an HE TB Ranging NDP, the SS Allocation/RA-RU Information and UL Target Receive Power fields are identical to the corresponding fields in the HE variant User Info field of a Basic Trigger frame; see 9.3.1.22.4. If the SR2SI Sounding Trigger frame is soliciting an EHT TB Ranging NDP, the SS-Allocation/RA-RU Information and UL Target Receive Power fields are identical to the corresponding fields in the EHT User Info field of a Basic Trigger frame, see 9.3.1.22.5.

In both the HE variant Common Info field and the EHT variant Common Info field, the UL STBC, LDPC Extra Symbol Segment, Pre-FEC Padding Factor, and PE Disambiguity subfields are reserved.

The GI And HE-LTF Type subfield in the HE variant Common Info field is set to 1 (2x HE-LTF + 1.6 μ s GI). The GI And HE/EHT-LTF Type subfield in the EHT variant Common Info field is set to 1 (2x EHT-LTF + 1.6 μ s GI). The MU-MIMO HE-LTF Mode subfield in the HE variant Common Info field is set to 0 (HE single stream pilot HE-LTF mode).

The Doppler subfield in the HE variant Common Info field is set to 0.

The format of the User Info field in the SR2SI Sounding Trigger frame if the AID12/USID12 subfield is equal to 2008 is defined in Figure 9-103e.

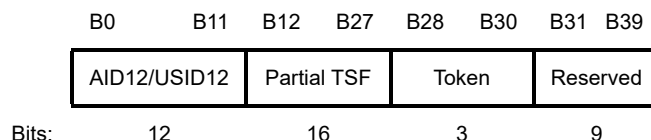


Figure 9-103e—User Info field format for SR2SI/SR2SR Sounding Trigger frame if the AID12/USID12 subfield is equal to 2008

If the AID12/USID12 subfield is equal to 2008, the User Info field is used to carry the Partial TSF field. The Partial TSF field contains 16 bits of the AP's TSF time, TSF[21:6], at the time of the transmission of the Sensing Polling Trigger frame that preceded the SR2SI Sounding Trigger frame carrying this User Info field.

The Token field is set to the value of the Token field of the Sensing Polling Trigger frame whose partial transmission TSF time is carried.

The SR2SI Sounding Trigger frame contains at least one User Info field with AID12/USID12 subfield set to less than 2008, and one User Info field with the AID12/USID12 subfield set to 2008.

The Trigger Dependent User Info field is not present in the SR2SI Sounding Trigger frame.

9.3.1.22.15.4 Sensing Threshold-Based Reporting Trigger frame

The format of the User Info field in the Sensing Threshold-Based Reporting Trigger frame is identical to the Sensing Reporting Trigger frame (see 9.3.1.22.15.5).

The Trigger Dependent User Info field is not present in the Sensing Threshold-Based Reporting Trigger frame.

9.3.1.22.15.5 Sensing Reporting Trigger frame

The format of the User Info field in the Sensing Reporting Trigger frame is defined in Figure 9-103f.

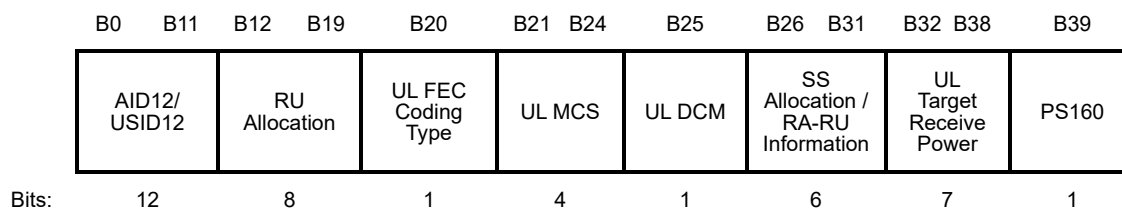


Figure 9-103f—User Info field format for Sensing Reporting Trigger frame

The AID12/USID12 field is identical to the corresponding subfield in the Sensing Polling Trigger frame. The UL FEC Coding Type and UL Target Receive Power fields are identical to the corresponding fields in the Basic Trigger frame; see 9.3.1.22.

If the Sensing Reporting Trigger frame solicits the transmission of an HE TB PPDU:

- The RU Allocation, UL DCM, and SS Allocation/RA-RU Information fields are identical to the corresponding fields in the HE variant User Info field (9.3.1.22.4).
- The UL MCS field is identical to the UL HE MCS field in the HE variant User Info field.
- The PS160 field is reserved.

If the Sensing Reporting Trigger frame solicits the transmission of an EHT TB PPDU:

- The RU Allocation, SS Allocation/RA-RU Information, and PS160 fields are identical to the corresponding fields in the EHT variant User Info field (9.3.1.22.5).
- The UL MCS field is identical to the UL EHT MCS subfield in the EHT variant User Info field.
- The UL DCM field is reserved.

The Trigger Dependent User Info field is not present in the Sensing Reporting Trigger frame.

9.3.1.22.15.6 SR2SR Sounding Trigger frame

The SR2SR Sounding Trigger frame contains one Transmitter User Info field, one or more Receiver User Info fields, and one User Info field with the AID12/USID12 subfield set to 2008.

The format of the Transmitter User Info field is defined in Figure 9-103g.

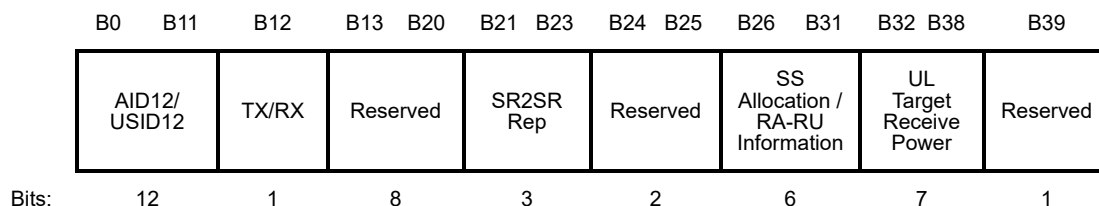


**Figure 9-103g—Transmitter User Info field format for SR2SR Sounding Trigger frame
if AID/USID is not equal to 2008**

The Transmitter User Info field for the SR2SR Sounding Trigger frame follows the definition of the User Info field for the SR2SI Sounding Trigger frame except for the following:

- The TX/RX field is set to 0 to indicate that the addressed sensing responder is a sensing transmitter in the current SR2SR variant of the trigger frame (TF) sounding phase.
- The SR2SR Rep field indicates the number of LTF repetitions in the corresponding HE Ranging NDP or EHT Ranging NDP from the non-AP STA indicated in the AID12/USID12 subfield; the SR2SR Rep field is set to the number of LTF repetitions minus 1.
- If the SR2SR Sounding Trigger frame is soliciting an HE Ranging NDP, the SS Allocation/RA-RU Information field and UL Target Receive Power field are identical to the same fields in the HE variant User Info field of a Basic Trigger frame; see 9.3.1.22.4 corresponding to the HE Ranging NDP from the non-AP STA indicated in the AID12/USID12 subfield in this SR2SR Sounding Trigger frame. If the SR2SR Sounding Trigger frame is soliciting an EHT Ranging NDP, the

SS-Allocation/RA-RU Information and UL Target Receive Power fields are identical to the corresponding fields in the EHT User Info field of a Basic Trigger frame, see 9.3.1.22.5 corresponding to the EHT Ranging NDP from the non-AP STA indicated in the AID12/USID12 field in the SR2SR Sounding Trigger frame.

The format of the Receiver User Info field is defined in Figure 9-103h.

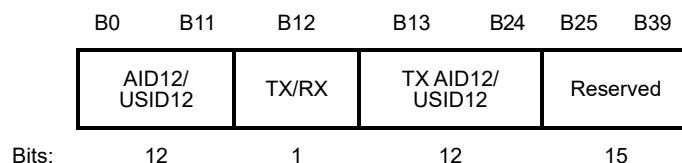


**Figure 9-103h—Receiver User Info field format for SR2SR Sounding Trigger frame
if AID/USID is not equal to 2008**

The AID12/USID12 field contains the 12 LSBs of the AID of an associated STA or the USID of an unassociated STA that is the intended recipient of the SR2SR Sounding Trigger frame.

The TX/RX field is set to 1 to indicate that the addressed sensing responder is a sensing receiver in the current SR2SR variant of the trigger frame (TF) sounding phase.

The TX AID12/USID12 subfield indicates the AID/USID of the sensing transmitter in the current SR2SR variant of the TF sounding phase. The value of the TX AID12/USID12 subfield is the same as the value of the AID12/USID12 subfield in the Transmitter User Info field.

The AID12/USID12 subfield of the Transmitter User Info field or the Receiver User Info field is not equal to 2008.

The format of the User Info field in the SR2SR Sounding Trigger frame is defined in Figure 9-103e if the AID12/USID12 subfield is equal to 2008.

If the AID12/USID12 subfield is equal to 2008, the User Info field is used to carry the Partial TSF field. The Partial TSF field contains 16 bits of the AP's TSF time, TSF[21:6], at the time of transmitting the Sensing Polling Trigger frame that preceded the SR2SR Sounding Trigger frame carrying this User Info field.

The Token field is set to the value of the Token field of the Sensing Polling Trigger frame whose partial transmission TSF time is carried.

In both the HE variant Common Info field and the EHT variant Common Info field, the UL STBC, LDPC Extra Symbol Segment, Pre-FEC Padding Factor, and PE Disambiguity subfields are reserved.

The GI And HE-LTF Type subfield in the HE variant Common Info field is set to 1 (2x HE-LTF + 1.6 μ s GI). The GI And HE/EHT-LTF Type subfield in the EHT variant Common Info field is set to 1 (2x EHT-LTF + 1.6 μ s GI). The MU-MIMO HE-LTF Mode subfield in the HE variant Common Info field is set to 0 (HE single stream pilot HE-LTF mode).

The Doppler subfield in the HE variant Common Info field is set to 0.

9.3.1.26 TDD Beamforming frame format

9.3.1.26.1 Overview

Change the paragraph below Figure 9-111 as follows:

Collectively, the TDD Group Beamforming, TDD Beam Measurement, and RA field values indicate a TDD Beamforming frame usage, as listed in Table 9-57 and Table 9-57a.

Change the title of Table 9-57 from “TDD Beamforming frame usage” to “TDD Beamforming frame usage if TDD Beamforming frame type subfield is not set to 3 (DMG Sensing)”.

Insert the following table after Table 9-57:

Table 9-57a—TDD Beamforming frame usage if the TDD Beamforming frame type subfield is set to 3 (DMG Sensing)

TDD Group Beamforming field value	TDD Beam Measurement field value	Frame usage
0	0	DMG Sensing Request
0	1	DMG Sensing Response
1	0	DMG Sensing Poll
1	1	Reserved

Change the last row in Table 9-58 as follows:

Table 9-58—TDD Beamforming Frame Type subfield definition

Value	Meaning
3	~~Reserved~~ DMG Sensing.

Insert the following subclauses after 9.3.1.26.4:

9.3.1.26.5 DMG Sensing Request frame

The TDD Beamforming Information field of a DMG Sensing Request frame is shown in Figure 9-118a.

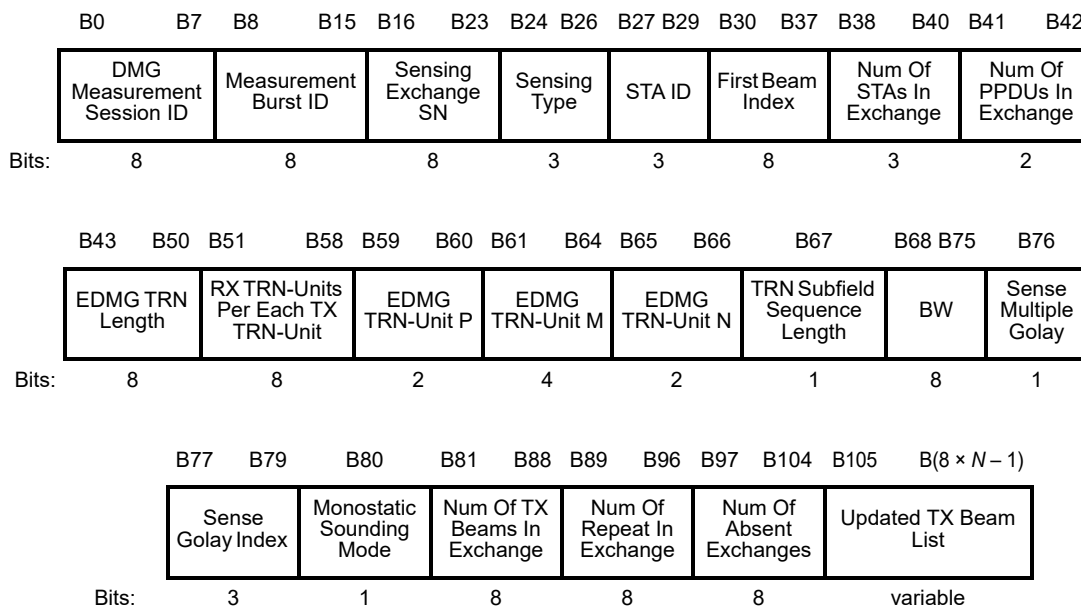


Figure 9-118a—TDD Beamforming Information field format for a DMG Sensing Request frame

The DMG Measurement Session ID, Measurement Burst ID, and Sensing Exchange SN fields identify the DMG sensing measurement session, the DMG sensing burst, and the DMG sensing measurement exchange, respectively.

The Sensing Type field indicates the type of sensing requested by the DMG Sensing Request frame and is defined in Table 9-59a. It takes values indicated in Table 9-417ac with the exception of the value of 2 (Bistatic), which is invalid in a DMG Sensing Request frame.

Table 9-59a—Sensing Type field definition

Value	Description
0	Coordinated Monostatic
1	Coordinated Bistatic
2	Multistatic
3–7	Reserved

The STA ID field identifies the index of the receiving STA sync field in the EDMG multistatic sensing PPDU (see 28.9.4.4.2). The STA ID field also indicates the order in which DMG Sensing Request frames are sent in sensing measurement exchanges that use such frame.

The First Beam Index field is an index into the TX Beam List in the DMG Sensing Measurement Session element. It indicates the first beam to be used in the DMG sensing measurement exchange. It is reserved if the Sensing Type field is set to Coordinated Bistatic.

The Num Of STAs In Exchange field indicates the number of STAs participating in the DMG sensing measurement exchange.

The Num Of PPDU's In Exchange field indicates the number of EDMG multistatic sensing PPDU's present in the DMG sensing measurement exchange. The Num Of PPDU's In Exchange field is reserved if the Sensing Type field is set to Coordinated Monostatic.

The EDMG TRN Length, RX TRN-Units Per Each TX TRN-Unit, EDMG TRN-Unit P, EDMG TRN-Unit M, EDMG TRN-Unit N, and TRN Subfield Sequence Length fields contain the values of the corresponding header fields in the EDMG multistatic sensing PPDU. These fields are reserved if the Sensing Type field is set to Coordinated Monostatic or Coordinated Bistatic.

The Sense Multiple Golay field indicates that the Golay sequence used in the TRN field of EDMG BRP PPDU's or EDMG multistatic sensing PPDU's sent in the DMG sensing measurement exchange is based on the sequence index specified in the Sense Golay Index field. For the coordinated monostatic sensing type, if sensing is performed with the TRN field, this field indicates that the Golay sequence suggested to be used in the TRN field of DMG Monostatic sensing PPDU's is based on the Sense Golay Index field. Otherwise, this field is reserved. The Sense Golay Index field indicates the index of the Golay sequence of the TRN field (see 28.10.2).

The Monostatic Sounding Mode field indicates whether the sounding phase of the coordinated monostatic DMG sensing measurement exchange is performed in sequential or parallel mode. A value of 1 indicates the sequential mode, a value of 0 indicates the parallel mode. This field is reserved if the Sensing Type field is not set to Coordinated Monostatic.

The BW field is set to a nonzero value, in which “one” indicates the channel over which in the sounding phase, a Monostatic PPDU is transmitted if the Sensing Type field is set to Coordinated Monostatic with the Monostatic Sounding Mode field set to 0. The BW fields carried within different DMG Sensing Request frames are set to different nonzero values. The operating channel indicated in the BW field is one of the channels as specified in the BSS Operating Channels field and Primary Channel field within the EDMG Operation element (see 9.4.2.266) transmitted by an EDMG AP or an EDMG PCP (see 10.23.2.14). The BW field is set to all 0s if the Sensing Type field is set to Coordinated Monostatic with the Monostatic Sounding Mode field set to 0 to indicate that in the sounding phase Monostatic PPDU's are transmitted solely on the primary channel. The BW field is reserved if the Sensing Type field is set to Coordinated Bistatic or Coordinated Monostatic with the Monostatic Sounding Mode field set to 1.

The Num Of TX Beams In Exchange, Num Of Repeat In Exchange, and Updated TX Beam List fields are present if the Sensing Type field is set to the Coordinated Monostatic; otherwise, they are not present.

The Num Of TX Beams In Exchange field indicates the number of TX beams to be used in the next DMG sensing measurement exchange. The Num Of TX Beams In Exchange field in the last DMG sensing measurement exchange of a burst indicates the number of TX beams to be used in the first DMG sensing measurement exchange of the next burst. This field is reserved in the last DMG sensing measurement exchange of the last burst.

The Num Of Repeat In Exchange field indicates the number of times to repeat the transmission in the next DMG sensing measurement exchange. The Num Of Repeat In Exchange field in the last DMG sensing measurement exchange of a burst indicates the number of times to repeat the transmission in the first DMG sensing measurement exchange of the next burst. This field is reserved in the last DMG sensing measurement exchange of the last burst.

The Num Of Absent Exchanges field indicates the number of consecutive DMG sensing measurement exchanges that the addressed STA does not need to participate from the next DMG sensing measurement exchange.

The Updated TX Beam List field contains a list of transmit beam indices. The beam indices represent indices into the Beam Descriptors list sent within the DMG Sensing Beam Descriptor element (see 9.4.2.335) with the TX Flag field set to 1. The Updated TX Beam List field is defined in Figure 9-118b. If the Number Beam Indices field is equal to 0, none of the Beam Index field are present.

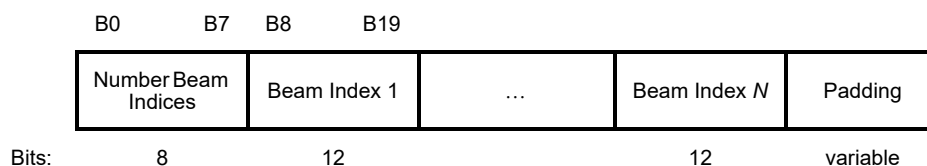


Figure 9-118b—Updated TX Beam List field format

The Padding field length is set to make the length of the TDD Beamforming Information field an integer number of octets. If the Updated TX Beam List subfield is sent to different STAs in a DMG sensing measurement exchange and it does not have the same length, it is adapted to have the same length by adjusting the length of the Padding field.

9.3.1.26.6 DMG Sensing Response frame

The TDD Beamforming Information field of a DMG Sensing Response frame if the Sensing Type field in the DMG Sensing Request frame is set to Coordinated Monostatic is shown in Figure 9-118c. Otherwise, the TDD Beamforming Information field of a DMG Sensing Response frame is not present.

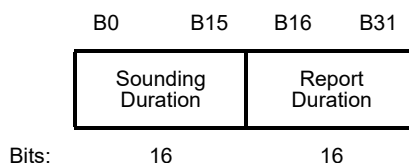


Figure 9-118c—TDD Beamforming Information field format if the Sensing Type field is Coordinated Monostatic

The Sounding Duration field indicates the duration of sounding in the next DMG sensing measurement exchange. This field is in the unit of microsecond. A value of 0 indicates that the sensing responder does not transmit any sounding PPDU.

The Report Duration field indicates the duration of the report frame transmitted by the sensing responder in the next DMG sensing measurement exchange. This field is in the unit of microsecond. A value of 0 indicates that the sensing responder does not transmit any report frames.

Both the Sounding Duration field and the Report Duration field are set to 0s in a DMG Sensing Response frame when the sensing responder is unable to participate in parallel coordinated monostatic DMG sensing or sequential coordinated monostatic DMG sensing.

9.3.1.26.7 DMG Sensing Poll frame

The TDD Beamforming Information field of a DMG Sensing Poll frame is shown in Figure 9-118d.

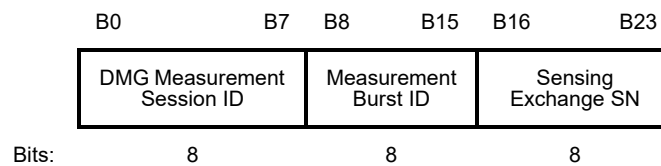


Figure 9-118d—TDD Beamforming Information field format for the DMG Sensing Poll frame

The DMG Measurement Session ID, Measurement Burst ID, and Sensing Exchange SN fields identify the DMG sensing measurement session, DMG sensing burst, and DMG sensing measurement exchange.

9.3.3 (PV0) Management frames

9.3.3.5 Association Request frame format

Insert the following rows in Table 9-64:

Table 9-64—Association Request frame body

Order	Information	Notes
66	Sensing Capabilities	The element is defined in 9.4.2.332 and is present if dot11SensingImplemented is true. Otherwise, the element is not present.
67	DMG Sensing Capabilities	The element is defined in 9.4.2.334 and is present if dot11DMGSensingMsmtImplemented is true. Otherwise, the element is not present.
68	DMG Sensing Beam Descriptor	The element is defined in 9.4.2.335 and is optionally present if dot11DMGSensingMsmtImplemented is true. Two DMG Sensing Beam Descriptor elements may be present, one for TX beams and one for RX beams. If dot11DMGSensingMsmtImplemented is false, the element is not present.
69	DMG Sensing Short Capabilities	The element is defined in 9.4.2.336 and is present if dot11DMGSensingMsmtImplemented is true. Otherwise, the element is not present.