IEEE P802.11
Wireless LANs

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| Resolutions for CIDs 7081, 7434, 7581, 7771, 7788 D5.0 |
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Abstract

This submission proposes resolution for CIDs 7081, 7434, 7581, 7771, 7788 on D5.0

Green indicates material agreed to in the group,

yellow material to be discussed, red material rejected by the group and

cyan material not to be overlooked.

The “Final” view should be selected in Word.

R2 contains new discussion and proposed resolution for 7771.

7081

P1271.14 SIFS Clause

"The SIFS shall be used prior to transmission of an Ack frame, a CTS frame, a PPDU containing a BlockAck frame that is an immediate response to either a BlockAckReq frame or an A-MPDU, a DMG CTS frame, a DMG DTS frame, a Grant Ack frame, a response frame transmitted in the ATI,(11ad)(Ed) the second or subsequent MPDU of a fragment burst, and by a STA responding to any polling by the PCF. The SIFS may also be used by a PC for any types of frames during the CFP (see 10.4 (PCF))."

No mention of SIFS between data packets in a TXOP. Needs to be added to list.

Proposed Change

At 1271.12. After "The SIFS may also be used by a PC for any types of frames during the CFP (see 10.4 (PCF))" add ", or within a TXOP."

REVISED

AT 1271.12,

Change “The SIFS may also be used by a PC for any types of frames during the CFP (see 10.4 (PCF))"

to

"The SIFS may also be used within a TXOP or by a PC for any types of frames during the CFP (see 10.4 (PCF))"

7434

P657.22

"A STA sets the Short Slot Time subfield to 1 in transmitted Association Request, Reassociation Request, DLS Request, and DLS Response frames when dot11ShortSlotTimeOptionImplemented and dot11ShortSlotTimeOptionActivated are true. Otherwise, the STA sets the Short Slot Time subfield to 0 in transmitted Association Request and Reassociation Request frames." -- and otherwise in DLS frames

Proposed Change

Change the second sentence to "Otherwise, the STA sets the Short Slot Time subfield to 0."

ACCEPT

7581

P877.15 **BSS AC Access Delay element**

It says " EDCA services" -- what's that?

“The value 254 indicates that EDCA services are currently unable to access…”

Proposed Change

Change to " EDCAF"

REVISED: At 877.15 Replace “ EDCA services are” with “the EDCAF is”

7771

P1298.26 **Determination of the EstimatedAckTxTime based on properties of the PPDU**

**causing the EIFS**

Table 10-5 does not have any rows for VHT or DMG modulations. Ipso facto, dynamic EIFS cannot be used with these

Proposed Change

Change 1298.13 to say "When dot11DynamicEIFSActivated is true, the PPDU that causes the EIFS does not contain a single MPDU with a length equal to 14 or 32 octets, and this PPDU is covered by one of the rows in Table 10-5, EIFS is determined as shown in Equation 10-7."

1298.13 says “When dot11DynamicEIFSActivated is true and the PPDU that causes the EIFS does not contain a single MPDU with a length equal to 14 or 32 octets, EIFS is determined as shown in Equation 10-7.

REVISED

Change 1298.13 to say "When dot11DynamicEIFSActivated is true, if the PPDU that causes the EIFS does not contain a single MPDU with a length equal to 14 or 32 octets, and this PPDU is covered by one of the rows in Table 10-5, then EIFS is determined as shown in Equation 10-7."

Menzo to check if VHT needs EIFS.

Note “If covered by” language may need to be changed.

**From Menzo:**

**Dynamic EIFS was added in May 2013, and my guess is that VHT had not been rolled up into the baseline yet at that time. So it could not be referred to in TGm.**

**My preference would be to add the following three VHT entries at the end of the table:**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **VHT** | **BPSK** |  | **Block Ack** | **68** |
| **VHT** | **QPSK** |  | **Block Ack** | **44** |
| **VHT** | **≥16-QAM** |  | **Block Ack** | **32** |

 **For DMG, one way to go about this is to perhaps add that dot11DynamicEIFSActivated is never true for DMG?**

**Also add** at 1298.64, add

**"When dot11DynamicEIFSActivated is true and the modulation of the PPDU that causes the EIFS does not occur in Table 10-5, then EIFS is determined as shown in Equation 10-6.”**

Discussion for DMG:

1297.63

“When dot11DynamicEIFSActivated is false or not defined, the EIFS is derived from the SIFS and the DIFS

and the length of time it takes to transmit an Ack frame at the lowest PHY mandatory rate by Equation 10-6.

EIFS = aSIFSTime + AckTxTime + DIFS (10-6)

where

AckTxTime is the time expressed in microseconds required to transmit an Ack frame, including

preamble, PHY header and any additional PHY dependent information, at the lowest PHY

mandatory rate.”

**As it stands this would apply to DMG.**

“When dot11DynamicEIFSActivated is true, EIFS is based on an estimated duration of the PPDU that is the

possible response to the PPDU that causes the EIFS.

When dot11DynamicEIFSActivated is true and the PPDU that causes the EIFS does not contain a single

MPDU with a length equal to 14 or 32 octets, EIFS is determined as shown in Equation 10-7.

EIFS = aSIFSTime + EstimatedAckTxTime + DIFS (10-7)

where

EstimatedAckTxTime is based on an estimated duration of the PPDU that is the possible response to the

PPDU that causes the EIFS, as specified in Table 10-5 (Determination of the EstimatedAckTx-

Time based on properties of the PPDU causing the EIFS). “

**As DMG is not in Table 10-5 then at the moment DMG is not covered.**

Options:

1. Go with text along lines of

 Change 1298.13 to say "When dot11DynamicEIFSActivated is true, if the PPDU that causes the EIFS does not contain a single MPDU with a length equal to 14 or 32 octets, and this PPDU is covered by one of the rows in Table 10-5, then EIFS is determined as shown in Equation 10-7."

1. Add statement “dot11DynamicEIFSActivated is never true for DMG”
2. Both

I propose 1) as it leaves it open for DMG to add itself to the Table if it so wished.

Note also at 1298.59,

“When dot11DynamicEIFSActivated is true and the PPDU that causes the EIFS contains a single MPDU with a

length equal to 14 or 32 octets, EIFS is equal to DIFS. This reflects the fact that a 14 or 32 octet MPDU is very

likely an Ack or a BlockAck frame, which does not cause a response PPDU to be transmitted.”

Does this make any difference for DMG?

On the face of it, if DMG sets dot11DynamicEIFSActivated to true then the table applies (not in it) but in the case of an ACK, DIFS is used.

Maybe 2 is clearer.

PROPOSED RESOLUTION:

REVISED

Add to bottom of Table 10-5 three new rows:

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| VHT | BPSK |   | Block Ack | 68 |
| VHT | QPSK |   | Block Ack | 44 |
| VHT | ≥16-QAM |   | Block Ack | 32 |

OPTION A:

AND

At 1298.13 Change

“When dot11DynamicEIFSActivated is true and the PPDU that causes the EIFS does not contain a single MPDU with a length equal to 14 or 32 octets, EIFS is determined as shown in Equation 10-7.”

To

"When dot11DynamicEIFSActivated is true, if the PPDU that causes the EIFS does not contain a single MPDU with a length equal to 14 or 32 octets, and the modulation of the PPDU that causes the EIFS is included in Table 10-5, then EIFS is determined as shown in Equation 10-7."

AND at 1298.64, add

"When dot11DynamicEIFSActivated is true and the modulation of the PPDU that causes the EIFS does not occur in Table 10-5, then EIFS is determined as shown in Equation 10-6.”

OPTION B:

AND

At 1298.12 Insert
“A DMG STA shall not set dot11DynamicEIFSActivated true.”

OPTION C

Both A and B or some other combination.

7788

1290.51

What does "CWindow" indicate in Figure 10-15, exactly? It seems to be some kind of fixed period after DIFS for any station that just transmitted a frame, but no such period exists

Proposed RESOLUTION

Delete "CWindow" from Figure 9-15, including the key

REJECT

The CWindow is there to indicate the presence and use of the contention window in the backoff procedure.