IEEE P802.11
Wireless LANs

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| Miscellaneous TGmc CID resolutions |
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|  |  |  |  |  |

Abstract

This document discusses the following CIDs:

7403, 7404, 7412, 7422, 7294, 7295, 7296, 7386, 7387, 7526, 7587, 7701, 7702

CID 166

# CID 7403

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| 7403 | 21.2.5.2 | 2505 | 1 | There is no SECONDARY\_CHANNEL\_OFFSET in the vector | Change SECONDARY\_CHANNEL\_OFFSET to CHANNEL\_WIDTH. Also at 2505.39 |

The comment is correct: the parameters in PHYCONFIG\_TXVECTOR for a VHT PHY are highlighted below. “SECONDARY\_CHANNEL\_OFFSET” is a parameter for HT, but not VHT. It appears that “CHANNEL\_WIDTH” is intended instead.





# Proposed resolution:

Accept (including the occurrence on page 2505.39)

BTW: PHYCONFIG.request(PHYCONFIG\_VECTOR) should be PHY-CONFIG.request(PHYCONFIG\_VECTOR), i.e.: hyphen between “PHY” and “CONFIG”. This typo appears in about 5 places in the text. Ask editor to make the replacement.

# CID 7404

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| 7404 | 21.2.5.2 | 2504 | 30 | You need to use 20U if the prim is above the sec | Change < to > |

The comment is about the paragraph below:



The first paragraph of 21.2.5.2 seems to be an almost exact copy of the text in 19.2.5 for HT (see below).

 The problem appears to start there. A 20 MHz non-HT PPDU should be sent in the primary 20 MHz channel. If the SECONDARY\_CHANNEL\_OFFSET parameter of the PHYCONFIG\_VECTOR is set to SECONDARY\_CHANNEL\_ABOVE, it means that the secondary channel is above the primary in frequency (see below):



In that case, CH\_OFFSET should be set to CH\_OFF\_20L instead of CH\_OFF\_20U as incorrectly stated in 19.12.5



So the comment is correct insofar as it applies to 19.2.5.

The problem with 21.2.5.2 is different however. In copying from 19.2.5, it references fields in TXVECTOR that does not exist for VHT. In VHT, only the CH\_BANDWIDTH needs to be set to 20. It’s understood that any 20 MHz transmission in a BSS with wider bandwidth must occur in the primary 20 MHz (see for instance Table 21-7). Reference to CH\_OFFSET is unnecessary. It is more natural to use the VHT parameters. This will also cover all bandwidths in a more straightforward manner.

## Proposed resolution

Revised.

1. Change text on page 2230, starting at line 36 as follows:

**19.2.5 Support for NON\_HT formats**

In order to transmit a non-HT PPDU, the MAC shall set the CH\_BANDWIDTH and CH\_OFFSET in the

TXVECTOR to achieve the required non-HT PPDU format (see Table 19-2 (PPDU format as a function of

CH\_BANDWIDTH and CH\_OFFSET parameters)); for 20 MHz bandwidth transmissions in a 40 MHz

channel, the CH\_OFFSET shall be ~~CH\_OFF\_20U~~ CH\_OFF\_20L if the SECONDARY\_CHANNEL\_OFFSET parameter of the PHYCONFIG\_VECTOR was SECONDARY\_CHANNEL\_ABOVE, or ~~CH\_OFF\_20L~~ CH\_OFF\_20U otherwise.

1. Change text on page 2504, starting at line 24 as follows:

**21.2.5.2 Support for NON\_HT format when NON\_HT\_MODULATION is OFDM**

In order to transmit a non-HT PPDU, the MAC shall set the CH\_BANDWIDTH ~~and CH\_OFFSET in the~~

~~TXVECTOR~~ to achieve the required non-HT PPDU format (see Table ~~19-2~~ 21-7~~(PPDU format as a function of~~

~~CH\_BANDWIDTH and CH\_OFFSET parameters)~~); ~~for 20 MHz bandwidth transmissions in a 40 MHz~~

~~channel, the CH\_OFFSET shall be CH\_OFF\_20U if~~ *~~f~~*~~P20,idx <~~ *~~f~~*~~S20,idx, or CH\_OFF\_20L otherwise. The quantities~~ *~~f~~*~~P20,idx and~~ *~~f~~*~~S20,idx are defined in 21.3.7.3 (Channel frequencies).~~

This also resolves CID 7408.

# CID 7412

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| 7412 | 21.2.5.3 | 2505 | 60 | "PHY-TXSTART.request(TXVECTOR) primitive is issued" -- to what? There is no OFDM PHY | Use "as if" wording, as above |



Comment is not clear. The wording is similar to what is used for NON-HT (page 2504):



NOTE: The reference to Table 20-1 in the first piece of cited text is wrong and should be Table 19-1.

## Proposed resolution:

Reject.

Editor should consider fixing the reference to Table 20-1 on page 2505, line 59.

# CID 7422

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| 7422 | 21.3.17.4.3 | 2583 | 51 | It says "The relative constellation RMS error, calculated by first averaging over subcarriers, frequency segments, OFDM PPDUs, and spatial streams" but this is the VHT PHY | Change "OFDM" to "VHT" |



## Proposed resolution:

Accept

# CID 7294

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| 7294 | 17.4.4 | 2306 | 23 | These values are not correct. The time to the start of the DATA field is 20 us (see F17-4) | Change the values to 20, 40 and 80 (microseconds) |



Assuming F17-4 refers to Figure 17-4, this shows the following:



The length of the preamble until the data field is 20 usec.

aRxPHYStartDelay is defined on page 534 as:



The value is used to parametrize various durations and timeouts in the channel access. It is not clear that the value is linked to the length of the preamble until data reception.

## Proposed resolution:

Reject

# CID 7295

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| 7295 | 17.5.4 | 2318 | 57 | This value is not correct. The time to the start of the DATA field is 20 us (see F17-4) | Change the value to 20 (microseconds) |

Similar to 7294

## Proposed resolution:

Reject

# CID 7296

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| 7296 | 19.4.4 | 2415 | 62 | This value is not correct. The time to the start of the DATA field is at least 36 us for MF and can be as little as 28 us for GF (see F19-1) | Change to "36 <micro>s for MF and 28 <micro>s for GF" |

Similar to 7294

## Proposed resolution:

Reject

# CID 7386

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| 7386 | 15.2.2.7 | 2208 | 4 | "The number of available antennas shall be determined from the MIB table parameters aSuprtRxAntennas and aSuprtTxAntennas." -- - there are no such things, whatever "MIB table parameters" might mean | Delete the cited sentence |

The names aSuprtRxAntennas and aSuprtTxAntennas only appear in the following places:

Page 2208, line 4 and page 2248, line 6. No further references or definition exist.

## Proposed resolution:

Accept

# CID 7387

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| 7387 | 16.3.5 | 2248 | 6 | "The number of available antennas is determined from the MIB table parameters, aSuprtRxAntennas and aSuprtTxAntennas" -- - there are no such things, whatever "MIB table parameters" might mean | Delete the cited sentence |

See CID 7386

## Proposed resolution:

Accept

# CID 7526

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| 7526 | 19.2.4 | 2330 | 7 | Under NON\_HT\_CBW20, why is the CH\_OFF\_20 case about "a non-HT format packet according to [OFDM] or [ERP]" while CH\_OFF\_20U/L is about "non-HT packet of type ERP-DSSS, ERP-CCK, ERP-OFDM, or OFDM". Is the former not intended to cover ERP-DSSS/CCK? | Change to "The STA transmits a non-HT packetof type ERP-DSSS, ERP-CCK, ERP-OFDM, or OFDM in a 20 MHz channel". Canonicalise at 2329.39 and 2329.54 too |

The comment is about the inconsistent use of words in what should be the same wording in all three cases.





## Proposed resolution:

Revise: make the change on page 2230, line 7 as proposed.

Change the sentence on page 2329.39 as follows:

CH\_OFF\_20: *20 MHz HT format*—A STA that has a 20 MHz operating channel

width transmits an HT-mixed or HT-greenfield ~~format packet of 20 MHz bandwidth~~

~~with one to four spatial streams~~ format packet of 20 MHz bandwidth with one to four spatial streams.

Change the sentence on page 2329.54 as follows:

CH\_OFF\_40: *40 MHz HT format*—~~A PPDU of this format occupies a 40 MHz~~

~~channel to transmit an HT-mixed or HT-greenfield format packet of 40 MHz~~

~~bandwidth with one to four spatial streams.~~ The STA transmits an HT-mixed or HTgreenfield

format packet of 40 MHz bandwidth with one to four spatial streams.

# CID 7587

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| 7587 | 16.2.2.3 | 2233 | 25 | Some bits of the spec state/imply "HR/DSSS/short" is included in "HR/DSSS", others exclude it.Here are some contradictions:55.6:HR/DSSS high rate direct sequence spread spectrum using the long preamble and headerHR/DSSS/short high rate direct sequence spread spectrum using the optional short preamble andheader modeHere HR/DSSS and HR/DSSS/short are non-overlapping.2231.32:Another optional mode is provided that allows data throughput at the higher rates (2, 5.5, and 11 Mb/s) to besignificantly increased by using a shorter PHY preamble. This mode is called HR/DSSS/short. This shortpreamble mode can coexist with DSSS, HR/DSSS under limited circumstances, such as on differentchannels or with appropriate CCA mechanisms.Here too the two are non-overlapping.2233.25:The short PHY preamble and header (HR/DSSS/short) is defined as optional for HR/DSSS.Here though HR/DSSS/short seems to be a subset of HR/DSSS.2239.16:The 8-bit SIGNAL field of the short header indicates to the PHY the data rate that shall be used fortransmission (and reception) of the PSDU. A PHY operating with the HR/DSSS/short option supports threemandatory rates given by the following 8-bit words, where the LSB shall be transmitted first in time and thenumber represents the rate in units of 100 kBit/s:No problem here.2240.49:The transmit procedures for a high rate PHY using the long PHY preamble and header are the same as thetransmit procedures described in 16.3.6 (Transmit PHY) and 16.3.7 (Receive PHY) and do not change apartfrom the ability to transmit 5.5 Mb/s and 11 Mb/s.The procedures for a transmitter employing HR/DSSS/short are the same except for length and rate changes.The decision to use a long or short PHY is beyond the scope of this standard.Here again the two are non-overlapping. | At 2233.25 change the first sentence to "The short PHY preamble and header (HR/DSSS/short) is optional. " |

## Proposed resolution:

Accept

# CID 7701

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| 7701 | 16.3.8.5 | 2259 | 10 | "is being received at the antenna" -- where else? | Delete "at the antenna" |

The words “at the antenna” are being used frequently throughout the document to refer to observed power. The use appears correct and there is no reason to remove it in a single place.

## Proposed resolution:

Reject

# CID 7702

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| 7702 | 18.3.4 | 2313 | 23 | "is being received at the antenna" -- where else? | Delete "at the antenna" |

See CID 7701

## Proposed resolution:

Reject