

**IEEE P802.15**  
**Wireless Personal Area Networks**

Project	IEEE P802.15 Working Group for Wireless Personal Area Networks (WPANs)		
Title	<b>TG4md Comment Resolution CID232</b>		
Date Submitted	6 Feb 2020		
Source	[Kunal Shah] [ Itron Inc.]	Voice: [ ] Fax: [ ] E-mail: [ Kunal.Shah @itron.com ]	
Re:	TG4md Comment Resolution CID232 proposed resolution		
Abstract	TG4md Comment Resolution CID232 proposed resolution		
Purpose	TG4md comment resolution to sponsor ballot comment		
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**CID232:**

Comment: Line 5 states "The PHR shall be transmitted using the lowest supported modulation and coding scheme (MCS) level, as described in Table 20-9" Since 802.15.4x the lowest supported modulation type for all OFDM options is MCS0, which has an impact on the number of symbols used by the PHR.

Proposed change: The text in lines 1-8 shall be modified as follows: "When the PIB attribute phyOfdmInterleaving, as defined in 11.3, is zero (i.e., interleaving depth of one symbol), the PHR occupies three OFDM symbols for Option 1, six OFDM symbols for Option 2, twelve OFDM symbols for Option 3, and twenty-four OFDM symbols for Option 4. When the PIB attribute phyOfdmInterleaving is one (i.e., interleaving depth of the number of symbols equal to the frequency domain spreading factor), the PHR occupies four OFDM symbols for Option 1, eight OFDM symbols for Option 2, twelve OFDM symbols for Option 3, and twenty-four OFDM symbols for Option 4. The PHR shall be transmitted using the lowest supported modulation and coding scheme (MCS) level, as described in Table 20-9, for the option being used. It is sent to the convolutional encoder starting from the leftmost bit in Figure 20-5 to the rightmost bit."

**Proposed resolution:**

Replace the paragraph on page 581 line 1-8 with,

The PHR occupies symbols for each OFDM options as described in Table 20-xx, for phyOfdmInterleaving PIB attribute. The PHR shall be transmitted using the lowest supported modulation and coding scheme (MCS) level, as described in Table 20-9, for the option being used, except for OFDM option 3 and OFDM Option 4, the PHR shall be transmitted using MCS1 and MCS2 respectively. It is sent to the convolutional encoder starting from the leftmost bit in Figure 20-5 to the rightmost bit.

Add a new table 20-xx after line 8 on page 581 as,

Table 20-xx PHR Symbols for OFDM options

OFDM Option	MCS Level	PHR Symbols	phyOfdmInterleaving
1	0-6	3	0
2	0-6	6	0
3	1-6	6	0
	0	12	0
4	2-6	6	0
	0-1	24	0
1	0-6	4	1
2	0-6	8	1
3	1-6	6	1
	0	12	1
4	2-6	6	1
	0-1	24	1