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Re:	IEEE P802.16-REVd/D5		
Abstract	This contribution introduces corrections for AAS preamble PHY Modifier in OFDMA PHY		
Purpose	Adopt into P802.16d/D5 corrigenda		
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Corrections for AAS Preamble PHY Modifiers in OFDMA PHY

Todd Chauvin, Dave Pechner, John Dogan

1 Problems with the current AAS Preamble definition

The definition of AAS Preambles contains ambiguities and contradictions that need to be resolved:

1. The preamble definition of equation (100) omits the time shift.
2. There are several errors in table PHY_MOD_DL_IE (Table 284).
3. There are several errors in table PHY_MOD_UL_IE (Table 300).

2 Proposed Text Change: Equation (100)

Section 8.4.5.3.11:

[Replace equation (100) with the following equation]

$$s(t) = \mathrm{Re}\left\{ e^{j2\pi f_c t} \sum_{m=-(Nused-1)/2}^{(Nused-1)/2} c_m \times e^{j2\pi m\Delta f\left(t - T_g - K/F_s\right)} \right\} \quad (100)$$

3 Proposed Text Change: PHY_MOD_DL_IE

[Replace Table 284 with the following:]

Table 284—OFDMA DL-MAP Physical Modifier IE format

PHY_MOD_DL_IE() {		
Extended DIUC	4 bits	PHYMOD = 0x08
Length	4 bits	Length = 0x03
Preamble Modifier Type	1 bit	0 – Randomized preamble 1 – Cyclically shifted Preamble
if (Preamble Modifier Type == 0) {		
Preamble Frequency Shift Index	4bits	Indicates the value of K in equation (101)
} else {		

Preamble Time Shift Index	4 bits	Derived from the value of *K* in equation (100) as follows: Preamble Time Shift Index = *K mod* 14 (PUSC) = *K mod* 9 (AMC) For PUSC, 0 – 0 sample cyclic shift 1 – Nfft/14 sample cyclic shift …. 13 – Nfft/14*13 sample cyclic shift 14-15 – reserved For AMC permutation, 0 – 0 sample cyclic shift 1 – Nfft/9 sample cyclic shift …. 8 – Nfft/9*8 sample cyclic shift 9-15 – reserved
}		
Reserved	3 bits	
}		

4 Proposed Text Change: PHY_MOD_UL_IE

Section 8.4.5.4.14:

[Replace Table 300 with the following:]

Table 300—OFDMA UL-MAP Physical Modifier IE format

PHY_MOD_UL_IE() {		
Extended UIUC	4 bits	PHYMOD = 0x05
Length	4 bits	Length = 0x03
Preamble Modifier Type	1 bit	0 – Randomized preamble 1 – Cyclically shifted Preamble
if (Preamble Modifier Type == 0) {		
Preamble Frequency Shift Index	4bits	Indicates the value of *K* in equation (101)
} else {		
Preamble Time Shift Index	4 bits	Derived from the value of *K* in equation (100) as follows: Preamble Time Shift Index = *K mod* 4 (PUSC) = *K mod* 3 (Opt-PUSC) = *K mod* 9 (AMC) For PUSC, 0 – 0 sample cyclic shift 1 – Nfft/4 sample cyclic shift …. 3 – Nfft/4*3 sample cyclic shift 4-15 – reserved

		For optional PUSC, 0 – 0 sample cyclic shift 1 – Nfft/3 sample cyclic shift 2 – Nfft/3*2 sample cyclic shift 3-15 – reserved For AMC permutation, 0 – 0 sample cyclic shift 1 – Nfft/9 sample cyclic shift …. 8 – Nfft/9*8 sample cyclic shift 9-15 – reserved
}		
Reserved	3 bits	
}		