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Re:	IEEE P802.16e/D7	
Abstract	The document contains error correction of nibble-alignment for HARQ MAP IE	
Purpose	Adoption of proposed changes into P802.16e /D5a-2004	
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Nibble-alignment for HARQ MAP IE

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1 Motivation

Each HARQ Map IE and sub-burst IE shall be nibble-aligned. When there is an if-else clause, regardless of whether the 'if' clause or the 'else' clause is executed the resulting Map IE shall be nibble-aligned. When there is a loop, nibblealignment shall be required before the loop starts and inside the loop.

But Some HARQ MAP IEs do not observe the rule of nibble-alignment.

2 Nibble-alignment for HARQ MAP IE

2.1 Problem

Each HARQ MAP IE and sub-burst IE shall be nibble-aligned. When there is a loop, nibble-alignment shall be required inside the loop. But following tables didn't nibble-aligned.

2.2 Remedy & Text change

[Change Ttable 285n in 8.4.5.3.22 HARQ DL MAP IE as follows]

Table 285n—DL HARQ Chase sub-burst IE format

Syntax	Size(bits)	Notes
DL HARQ Chase sub-burst IE() {	—	—
N sub burst[ISI]	5	Number of sub-bursts in the 2D region
Reserved	3	
For (j=0; j< N sub burst; j++){	—	—
RCID_IE()	*variable*	—
Duration	10	Duration in slots
Sub-Burst DIUC Indicator	1	If Sub-Burst DIUC Indicator is 1, it indicates that DIUC is explicitly assigned for this sub-burst. Otherwise, the this sub-burst will use the same DIUC as the previous sub-burst If j is 0 then this indicator shall be 1.
Reserved	1	
If(Sub-Burst DIUC Indicator == 1){		
DIUC	4	
Repetition Coding Indication	2	0b00 – No repetition coding 0b01 – Repetition coding of 2 used 0b10 – Repetition coding of 4 used 0b11 – Repetition coding of 6 used
Reserved	2	
}		
ACID	4	—

AI_SN	1	—
ACK disable	1	When this bit is "1" no ACK channel is allocated and the SS shall not reply with an ACK.
Dedicated DL Control Indicator	~~1~~2	LSB #0 indicates inclusion of CQI control ~~-~~LSB #1 indicates inclusion of Dedicated DL Control IE
If(LSB #0 of Dedicated DL Control Indicator== 1){	—	—
Duration (d)	4	A CQI feedback is transmitted on the CQI channels indexed by the (CQI Channel Index) by the SS for 2(d-1) frames. If d is 0b0000, deallocates all CQI feedback when the current ACID is completed successfully. If d is 0b1111, the MSS should report until the BS command for the MSS to stop
If (Duration != 0b0000){		
Allocation Index	6	Index to the channel in a frame the CQI report should be transmitted by the SS
Period (p)	3	A CQI feedback is transmitted on the CQI channels indexed by the (CQI Channel Index) by the SS in every 2p frames.
Frame offset	3	The MSS starts reporting at the frame of which the number has the same 3 LSB as the specified frame offset. If the current frame is specified, the MSS should start reporting in 8 frames.
}	—	—
ElseIf (LSB #1 of Dedicated DL Control Indicator ==1) {	—	—
Dedicated DL Control IE ()	*variable*	—
}	—	—
}	—	—
}	—	—

[Change table in 8.4.5.3.22 HARQ DL MAP IE as follows]

Table 285o—DL HARQ IR CTC sub-burst IE format

Syntax	Size(bits)	Notes
DL HARQ IR CTC sub-burst IE() {	—	—
N sub burst	5	—
Reserved	3	
For (j=0; j< N sub burst; j++){	—	—
RCID_IE()	*variable*	—
Nep	4	—
Nsch	4	—
SPID	2	—
ACID	4	—
AI_SN	1	—
ACK disable	1	When this bit is 1 no ACK channel is allocated and the SS shall not reply with an ACK.
Reserved	2	
Dedicated DL Control Indicator	~~1~~2	LSB #0 indicates inclusion of CQI control LSB #1 indicates inclusion of Dedicated DL Control IE
If(LSB #0 of Dedicated DL Control Indicator == 1){	—	—
Duration (d)	4	A CQI feedback is transmitted on the CQI channels indexed by the (CQI Channel Index) by the SS for 2(d-1) frames. If d is 0b0000, deallocates all CQI feedback when the current ACID is completed successfully. If d is 0b1111, the MSS should report until the BS command for the MSS to stop

If (Duration != 0b0000){		
Allocation index	6	Index to the channel in a frame the CQI report should be transmitted by the SS
Period(p)	3	A CQI feedback is transmitted on the CQI channels indexed by the (CQI Channel Index) by the SS in every 2p frames.
Frame offset	3	The MSS starts reporting at the frame of which the number has the same 3 LSB as the specified frame offset. If the current frame is specified, the MSS should start reporting in 8 frames.
}		
}	—	—
ElseIf (LSB #1 of Dedicated DL Control Indicator ==1) {	—	—
Dedicated DL Control IE ()	*variable*	—
}	—	—
}	—	—
}	—	—

[Change table in 8.4.5.3.22 HARQ DL MAP IE as follows]

Table 285p—DL HARQ IR CC sub-burst IE format

Syntax	Size(bits)	Notes
DL HARQ IR CTC sub-burst IE() {	—	—
N sub burst	5	—
Reserved	3	
For (j=0; j< N sub burst; j++) {	—	—
RCID_IE()	*variable*	—
Duration	10	—
Sub-Burst DIUC Indicator	1	If Sub-Burst DIUC Indicator is 1, it indicates that DIUC is explicitly assigned for this sub-burst. Otherwise, the this sub-burst will use the same DIUC as the previous sub-burst If j is 0 then this indicator shall be 1.
Reserved	1	
If(Sub-Burst DIUC Indicator == 1){		
DIUC	4	
Repetition Coding Indication	2	0b00 – No repetition coding 0b01 – Repetition coding of 2 used 0b10 – Repetition coding of 4 used 0b11 – Repetition coding of 6 used
Reserved	2	
}		
ACID	4	—
AI_SN	1	—
SPID	2	—
ACK disable	1	When this bit is "1" no ACK channel is allocated and the SS shall not reply with an ACK.
Dedicated DL Control Indicator	~~1~~2	LSB #0 indicates inclusion of CQI control LSB #1 indicates inclusion of Dedicated DL Control IE
Reserved	2	
If(LSB #0 of Dedicated DL Control Indicator == 1) {	—	—
Duration (d)	4	A CQI feedback is transmitted on the CQI channels indexed by the (CQI Channel Index) by the SS for 2(d-1) frames. If d is 0b0000, deallocates all CQI feedback when the current ACID is completed successfully.

		If d is 0b1111, the MSS should report until the BS command for the MSS to stop
If (Duration != 0b0000){		
Allocation index	6	Index to the channel in a frame the CQI report should be transmitted by the SS
Period(p)	3	A CQI feedback is transmitted on the CQI channels indexed by the (CQI Channel Index) by the SS in every 2_p frames.
Frame offset	3	The MSS starts reporting at the frame of which the number has the same 3 LSB as the specified frame offset. If the current frame is specified, the MSS should start reporting in 8 frames.
}	—	—
}	—	—
ElseIf ((LSB #1 of Dedicated DL Control Indicator ==1) {	—	—
Dedicated DL Control IE ()	*variable*	—
}	—	—
}	—	—
}	—	—

[Change table in 8.4.5.3.23 DL HARQ ACK IE as follows]

Table 285q—HARQ _ACK IE

Syntax	Size(bits)	Notes
HARQ_ACK_IE() {	—	—
Extended-2 DIUC	4	HARQ_ACK_IE () = 0x08
Length	8	Length in bytes
Bitmap	*variable*	Bitmap size is determined by Length field
}	—	—

[Change table in 8.4.5.3.24 Enhanced DL MAP IE as follows]

Table 285r—Enhanced DL MAP IE

Syntax	Size(bits)	Notes
Enhanced_DL_MAP_IE() {	—	—
Extended-2 DIUC	4	Enhanced_DL_MAP_IE () = 0x09
Length	8	Length in bytes
Num_Assignment	4	Number of assignments in this IE
For (i=0; i<Num_Assignment;i++) {	—	—
if (INC_CID == 1) {	—	The DL-MAP starts with INC_CID =0. INC_CID is toggled between 0 and 1 by the CID-SWITCH_IE() (8.4.5.3.7)
N_CID	8	Number of CIDs
For (n=0; n<N_CID; n++) {	—	—
CID	16	—
}	—	—
}	—	—
DIUC	4	—
Boosting	3	Refer to Table 273.
Repetition Coding Indication	2	—
Region ID	8	Index to the DL region defined in DL channel definition TLV in DCD
Reserved	3	
}	—	—

}	—	—

[Change table in 8.4.5.4.1 Dedicated UL Control IE as follows]

Table 302o—Dedicated UL control IE format

Syntax	Size(bits)	Notes
Dedicated UL control IE() {	—	—
Length	4	Length of following control information in Nibble.
Control Header	4	Bit #0: SDMA Control Info Bit #1-3: Reserved
If(SDMA Control Info Bit == 1){		
Num SDMA layers	2	This value plus one indicates the total number of SDMA layers associated with the HARQ UL MAP IE
Pilot pattern	2	00 = pattern A 01 = pattern B 10 = pattern C 11 = pattern D
}		
~~Padding bits~~	~~*variable*~~	
}	—	—