Project	**IEEE 802.16 Broadband Wireless Access Working Group <http://ieee802.org/16>**
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Re:	"IEEE 802.16-12-0142," in response to Letter Ballot #37 on P802.16n/D1
Abstract	HR-MG-IND and HR-MT-IND messages on GRIDMAN Draft Standard
Purpose	To discuss and adopt the proposed text in the draft amendment document on GRIDMAN
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Clarification on HR multicast indication messages over IEEE 802.16n

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1. Introduction

This document provides clarification on the HR-MG-IND message in IEEE 802.16n.

2. References

[1] IEEE 802.16-12-0132, GRIDMAN System Requirement Document including SARM annex, January 2012.
[2] IEEE P802.16n[TM]/D1, Air Interface for Broadband Wireless Access Systems - Draft Amendment: Higher Reliability Networks, February 2012.
[3] IEEE P802.16.1a[TM]/D1, WirelessMAN-Advanced Air Interface for Broadband Access Systems - Draft Amendment: Higher Reliability Networks, February 2012.
[4] EEE P802.16Rev3/D4, IEEE Draft Standard for Local and metropolitan area networks; Part 16: Air Interface for Fixed and Mobile Broadband Wireless Access Systems," February 2012.
[5] IEEE P802.16.1[TM]/D4, IEEE Draft for WirelessMAN-Advanced Air Interface for Broadband Wireless Access Systems, February 2012.

3. Proposed Text on the IEEE 802.16n Amendment Draft Standard

[------------------------------------Start of Text Proposal--]

[*Remedy: Change 6.3.2.3.98.24 HR-MG-IND in page 32 on 802.16n/D1 as follows:*]

6.3.2.3.98.24 HR-MG-IND (High Reliable Multicast Group Indication) message

An HR-BS providing multicast service transmits HR-MG-IND message in the beginning of available interval in multicast indication cycle. This message indicates whether there is DL multicast traffic for a specific multicast group. There are two formats for the HR-MG-IND message, indicated by the indication type field. If the indication type is set to "0," this message indicates the multicast traffic transmission offset directly. Otherwise, MGIND bitmap indicates a subgroup of multicast group and further information will be transmitted by HR-MT-IND described in 6.3.2.3.98.25.

Table 229bb - HR-MG-IND message format

Syntax	Size (bit)	Notes
HR-MG-IND message format () {	-	-
Management Message Type = xx	8	-
Indication type	1	0b0: full MGID indication 0b1: MGIND+MTIND indication
if (Indication type == 0b0) {	-	-
Num_MGID	5	Number of multicast group to indicate multicast traffic is transmitted.
for(i=0;i<Num_MGID;i++){	-	-
Multicast Group ID	16	-
Action Code	3	if bit0 = 1, perform network entry or exit sleep mode if bit1 = 1, perform ranging procedure with ranging purpose indication bit#5 set to 1 if bit2 = 1, receiving multicast traffic
if (Action Code bit2 == 1) {		
offset of multicast traffic	4	frame number offset in which the BS transmits multicast traffic
}		
}	-	-
} else if (Indication type == 0b1) {	-	-

Table 229bb - HR-MG-IND message format

Syntax	Size (bit)	Notes
MGIND bitmap	*M*(=256)	Indicates whether a corresponding subgroup of multicast group has multicast data to transmit, where the *N*-th bit of MGIND bitmap [MSB corresponds to $N = 0$] corresponds to MGIDs in a subgroup $$\left(\left(2^{ML} \times \frac{N}{M}\right) \text{ to } \left(2^{ML} \times \frac{N+1}{M}\right) - 1\right)$$, where *ML* is the length of MGID (i.e. 16) and length of *M* is 256(=2^{ML-1}) 0: There is no multicast traffic for any of multicast groups in the corresponding multicast subgroup 1: There is multicast traffic for at least one multicast group in the corresponding multicast subgroup
~~for(i=0;i<*L*;i++){~~	~~-~~	~~*L* equals the number of bits in MGIND bitmap whose bit is set to 1.~~
offset of HR-MT-IND message	2	frame number offset in which the BS transmits HR-MT-IND message 0b00: [current + 1]th frame 0b01: [current + 2]th frame 0b10: [current + 3]th frame 0b11: [current + 4]th frame
~~}~~	~~-~~	~~-~~
}	-	-
reserved	*variable*	padding for byte align
}	-	-

[----------------------------------End of Text Proposal---]