Project	**IEEE 802.16 Broadband Wireless Access Working Group <http://ieee802.org/16>**	
Title	**Clarification TLV for repetition**	
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Re:	Call for comments, maintenance task group	
Abstract	Draft includes Repetition Coding Indication parameter which indicates Repetition Coding Indication to perform proper modulation in the cell edge, as a result to get signaling gain. We propose to correct the RNG-REQ and RNG-RSP message encodings to include repetition for proper modulation.	
Purpose	Correct RNG-REQ and RNG-RSP message encodings for repetition	
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Clarification of TLV for Repetition

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1. Motivation

This draft deal with the repetition issues to perform proper modulation in the cell edge. If we use current specification in some case there is no way to get proper modulation in the cell edge, as a result to get signaling gain. Therefore, we propose to correct the RNG-REQ and RNG-RSP message encodings.

Even though the current specification supports a number of MCS modulation level, the RNG-RREQ and RNG-RSP message contain only DIUC. Therefore, when MS perform handover or initial ranging at the cell edge , there is no way for MS to communicate BS using a certain MCS level. In this Draft, we offer a solution to overcome this problem including the Repetition Coding Indication.

2. Changes summary

[Change the text in the table 364 of section 11.5 as shown below:]

11.5 RNG-REQ management message encodings

Table 364-RNG-REQ message encodings

Name	**Type (1 byte)**	**Length**	**Value (variable-length)**	**PHY Scope**
Requested Downlink Burst Profile	1	variable	The size of this field is dependent on following repetition coding level indication. If repetition coding is requested, the size of this field is 2. Bits 0-3 : DIUS of the downlink burst profile requested by the SS for downlink traffic. Bits 4-7 : 4 LSB of Configuration change count value of DCD defining the burst profile associated with DIUC. The following bits indicate repetition coding level indication requested by the SS for downlink traffic. If these bits are not present in the RNG-REQ, it shall be assumed that repetition coding is not requested. Bit 8 – 9 : Repetition coding level indication: 0b00 - no repetition 0b01 - Repetition coding of 2 0b10 - Repetition coding of 4 0b11 - Repetition coding of 6 The BS shall ignore these bits if the DIUC requested in the 'requested downlink burst profile' TLV refers to modulations higher than QPSK. Bit 10- 15 : reserved	All

[Insert the new text in the table 367 of section 11.6 as shown below:]

11.6 RNG-RSP management message encodings

Table 367-RNG-RSP message encodings

Name	Type (1 byte)	Length	Value (variable-length)	PHY Scope
Downlink Operational Burst Profile	7	2	This parameter is sent in response to the RNG-REQ Requested Downlink Burst Profile parameter. Byte 0: ~~Specifies the least robust DIUS that may be used by the BS for transmissions to the SS.~~ bits 0-3: Specifies Repetition Coding Indication 0b0000 - No repetition coding 0b0001 - Repetition coding of 2 0b0010 - Repetition coding of 4 0b0011 - Repetition coding of 6 0b0100- 0b1111 reserved The repetition coding indication shall be 0b0000 if the DIUC refers to modulations higher than QPSK. bits 4-7: Specifies the least robust DIUC that may be used by the BS for transmissions to the SS. Byte 1: Configuration Change Count value of DCD defining the burst profile associated with DIUC.	All