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Re:	802.16-2005
Abstract	Revised version for C80216j-06_248 by adding proposed text change.
Purpose	To make MMR-BS collectively acquire the current status of all relay links in MMR network
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R-link TLV for MMR relay link monitoring and reporting procedure

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Nortel

1 Introduction

In 802.16-2005, it defined that when BS requires RSSI and CINR channel measurement reports, it shall sends REP-REQ message to MS. The REP-REQ message should be sent by MS to response to channel measurement listed in the received REP-REQ. Where regulation mandates detection of specific signals by the SS, the SS shall also send a REP-RSP in an unsolicited fashion upon detecting such signals on the channels it is operating in. Within MMR network, a RS not only needs to monitor the downlink (R-DL) situation from its parent nodes, but also needs to monitor the uplink (R-UL) conditions from its children node. RS shall report the measured channel conditions (both R-DL and R-UL) to MMR BS via either polling way (REP-REQ/RSP) or unsolicited way (REP-RSP). This contribution proposes Link-source and Link-direction TLV where Link-source indicates which link has being measured, and Link-direction to indicate whether the measured link is a R-DL or R-UL. This TLV will be added into REP-RSP such that MMR BS can associate the measured results with the given links. With the collectively acquired link status, MMR BS would effectively schedule the radio resource, select the optimized path for the relay, and route the traffic to an alternative path when a failure case occurred.

2 Link-source and Link-direction TLV format

Link-source and Link-direction is defined as one-byte TLV. Link-source is the source end of the measured link, which is represented by IDcell code of the source node. In 802.16-2005, ID cell is defined as 5-bit integer. Here Link-direction is defined as 2-bit size.

Name	Type	Length	Value
R-Link	**T.B.D**	**1 byte**	**8-bit Integer**

Syntax	Size	Notes
R-link {		
Direction	**2 bits**	**0b00 = Reserved** **0b01 = Uplink** **0b10 = Downlink** **0b11 = Reserved**
Reserved	**1 bit**	
Source	**5 bits**	**IDcell code of the source end**
}		

3. Proposed text change

[Add the following text in Page 79, 6.3.2.3.33 Channel measurement Report Request/Response (REP-REQ/RSP)]

The REP-RSP message should contain the following TLV encoded parameters:

R-Link

The R-Link TLV should be used in REP-RSP message to indicate the type of relay link (i.e., relay up-link or relay down-link) to be measured and which link is measured (from which RS the link source is located)

[Add the following text in Page 728, 11.12 REP-RSP management message encodings]

Name	Type	Length	Value
R-Link	T.B.D	1 byte	8-bit Integer

Syntax	Size	Notes
R-link {		
Direction	2 bits	0b00 = Reserved 0b01 = Uplink 0b10 = Downlink 0b11 = Reserved
Reserved	1 bit	
Source	5 bits	IDcell code of the source end
}		