Project	**IEEE 802.16 Broadband Wireless Access Working Group** <http://ieee802.org/16>	
Title	**Proposed text related to Interference Mitigation in Femto ABS for the IEEE802.16m/D2 (15.4.11)**	
Date Submitted	**2009-11-16**	
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Re:	LB comment to 802.16m Amendment Working Document D2	
Abstract	This contribution is to propose detail description on IM	
Purpose	Update P802.16m/D2 by discussion and adoption	
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Proposed text related to Interference Mitigation in Femto ABS for the IEEE802.16m/D2 (15.4.11)

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NEC

1. Introduction

Section 15.4.11 in D2 has defined the procedures for interference avoidance and interference mitigation. The received signaling power from the adjacent cells has been classified as interference, without emphasizing on the need to distinguish the interference sources. However, in the hierarchical and dense deployed femtocell environment, the femtocell BSs must identify each major interference source, and then apply interference mitigation schemes targeting the identified interference sources. This is clearly missed in the current draft.

The measurement metrics CINR and RSSI cannot be used to distinguish the signal from each macro/femtocell base station. For example, if there is only one interference source, the serving femto ABS can calculate CNR from the CINR in the report metric. However, if there are more than two interference sources and an AMS only reports CINR in the report metric, it is impossible for the serving femto ABS to distinguish the interference sources, since all the interference has been combined into the overall interference. If the CNR is used in the report metric, the serving femto ABS can in this case easily distinguish the interference sources and perform related interference mitigation strategies. Therefore, we propose to use CNR as the measurement metric in the scanning messages.

2. Proposed Texts

----------Text Start ----------

Remedy 1 :
[Insert texts as suggested below: Page 551, Line 14]

15.4.11 Interference Avoidance and Interference Mitigation

The serving Femto ABS can request its AMS(s) to report the signal strength measurement of neighbor ABSs, including macro and/or Femto ABSs, via AAI_SCN-RSP, and its AMS(s) should report CNR in the report metric. Based on the CNR values reported by the AMS(s), the serving femto ABS should identify the interfering Femto ABS(s) and/or macro ABS(s), and can mitigate interference by reducing its transmission power, and/or blocking the interference related resource region. Cooperation between multiple ABSs may be applied.

Remedy 2 :
[Modify texts as suggested below: Page 51, Table 682]

15.2.6.12 AAI_SCN-RSP

Table 682—Parameters for AAI_SCN-RSP message

Report metric	Bitmap indicator of trigger metrics that the serving ABS requests the AMS to report. The serving ABS shall indicate only the trigger metrics agreed during AAI_SBC-REQ/RSP negotiation. Each bit indicates whether reports will be initiated by trigger based on the corresponding metric:	
Bit 0: BS CINR mean		
Bit 1: BS RSSI mean		
Bit 2: Relative delay		
Bit 3: BS RTD		
Bits 4: BS CNR mean	The BS CNR Mean parameter indicates the CNR measured by the AMS from the serving ABS. The value shall be interpreted as a signed byte with units of 0.5 dB. The measurement shall be performed on the subcarriers of the frame preamble that are active in the serving ABS's segment and averaged over the measurement period.	
Bit 5: Reserved; shall be set to zero		

Remedy 3 :
[Modify texts as suggested below: Page 54, Table 683]

15.2.6.13 AAI_SCN-REP

Table 683—Parameters for AAI_SCN-REP message

Report metric	Bitmap indicator of trigger metrics that the serving ABS requests the AMS to report. The serving ABS shall indicate only the trigger metrics agreed during AAI_SBC-REQ/RSP negotiation. Each bit indicates whether reports will be initiated by trigger based on the corresponding metric:	
Bit 0: BS CINR mean		

Bit 1: BS RSSI mean		
Bit 2: Relative delay		
Bit 3: BS RTD		
Bits 4: BS CNR mean	The BS CNR Mean parameter indicates the CNR measured by the AMS from the serving ABS. The value shall be interpreted as a signed byte with units of 0.5 dB. The measurement shall be performed on the subcarriers of the frame preamble that are active in the serving ABS's segment and averaged over the measurement period.	
Bit 5: Reserved; shall be set to zero		

----------Text End ----------