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Title	<b>Corrections for Power control</b>
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Source(s)	<p>Jaehee Cho, Seungjoo Maeng, Jaeho Jeon, Soonyoung Yoon, Jeong-Heon Kim, Jaehyok Lee, Myungkwang Byun, Inseok Hwang, Panyuh Joo, Jiho Jang, Sanghoon Sung, Hoon Huh, janghoon yang, ByoungHa Yi Samsung Electronics Co. Ltd.</p> <p><a href="mailto:jaehee1.cho@samsung.com">jaehee1.cho@samsung.com</a></p> <p>Ran Yaniv Alvarion Ltd.</p> <p><a href="mailto:ran.yaniv@alvarion.com">ran.yaniv@alvarion.com</a></p>
Re:	IEEE P802.16e/D7
Abstract	Corrections for CINR measurement.
Purpose	Adoption of suggested changes into IEEE P802.16e/D7
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## Introduction

For the open loop power control, the definition of the path loss shall be clarified. In this contribution, we propose the text for this purpose.

## Motivations

1. For the open loop power control, UL path loss shall be estimated based on DL path loss.
  - A. The path loss shall include DL/UL antenna gains in the sense that the both gains shall be included in the open loop power control formula in any form.
2. Path loss can be estimated based on the DL Tx power and DL RSSI.
3. Currently, only DCD TLV encoding related with DL Tx power is DL EIRP that includes Tx antenna gain.
4. The result of the estimation is:
  - A.  $DL\ EIRP - RSSI = P_{tx} + G_{tx} - (P_{tx} + G_{tx} - PL_{dl} + G_{rx}) = PD_{dl} - G_{rx}$
  - B. It does not include BS station related antenna gain

## Propose solution

1. The simple solution is to add new DCD TLV encoding for  $P_{tx}$ .
  - A. It increases DCD overhead.
2. Another one is to define `Offset_BSperSS` to include BS Rx antenna gain.
  - A. There are two kinds of MAC messages to send `Offset_BSperSS`.
  - B. Fixed form:
    - i. Fixed form is used when the parameter is obtained from a `PMC_RSP` message. In this case, the SS should replace the old `Offset_BSperSS` value by the new `Offset_BSperSS` sent by the BS.
  - C. Relative form:
    - i. With all other messages mentioned in the previous paragraph, relative form is used. In this case, MS should increase and decrease the `Offset_BSperSS` according to the offset value sent by BS.
  - D. We propose to mandate `Offset_BSperSS` to include BS Rx antenna gain.

## Detailed Text Changes

[Change the text as follows in 8.4.10.3.2 at page 488, line 16]

`L` is the estimated average current UL propagation loss, ~~not including Tx/Rx antenna gains.~~ It shall include SS Tx antenna gain, and path loss but exclude the BS Rx antenna gain.

[Change the text as follows in 8.4.10.3.2 at page 488, line 26]

`Offset_BSperSS` ~~is~~ is the correction term for SS-specific power offset. It is controlled by BS with power control messages. When `Offset_BSperSS` is set through the `PMC_RSP` message, it shall include BS Rx antenna gain.