Project	IEEE 802.16 Broadband Wireless Access Working Group <http://ieee802.org/16>
Title	Call for Comments: Measurement of RSSI and CCI in the 802.16ab PHY
Date Submitted	2001-09-25
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Re:	During the Session 15 joint PHY/MAC meetings for the IEEE 802.16a/b standard, the issue of RSSI and CCI measurement was raised. The decision of the meeting was to create an ad-hoc committee to solicit comments regarding techniques that could be used to determine meaningful measurements of RSSI/CCI, and have these measurements presented to the upper layers (MAC) where they would be useful for DFS, log-on, channel selection, etc.
Abstract	RSSI and CCI techniques must be developed for OFDM, OFDMA, and SC modulation/access techniques used in FDD/TDD operational environments.
Purpose	Develop PHY layer techniques which will allow the passage of signal strength measurement through the MAC layer.
Notice	
Release	
Patent Policy and Procedures	

Call For Comments

Measurement of RSSI and CCI in the 802.16ab PHY

Deadline: 19 October 2001

This Call for Comments requests PHY layer proposals on how signal strength information can be derived within any of the three families of modulation/access formats that are proposed for the IEEE 802.16ab PHY. These formats are OFDMA, OFDM, and SC based and can be used in FDD and TDD applications.

Signal strength readings are important to the dynamic frequency selection (DFS) and log-on operations of an IEEE 802.16ab compliant terminal. To execute these processes, MAC messages will instruct the PHY layer to undertake statistically meaningful measurements of received signal level (RSSI) and co-channel interference (CCI). Since these levels will vary with time, it is important the any measurement techniques proposed define what constitutes a meaningful measurement. Additionally, it may be useful to provide secondary information that will help in the characterization of the channel, such as the variance of the mean, level crossing rate, fading rate, etc. It has been suggested that BER, CRC/parity check data, etc., and other artifacts of the digital demodulation/decoding process may be provided in lieu of or as an addition to signal strength measurement.

RSSI, CCI, and channel stability information will be useful to the MAC and higher processing layers, especially when there is a choice of several channels or when traffic loading across a number of channels is a consideration.

It is important that the comments address the expected propagation environments. A number of IEEE 802.16 TG3 contributions provide data concerning both LOS and NLOS propagation in the sub-11 GHz bands. One such document is IEEE 802.16.3c-01/29r4.

To submit comments, follow the instructions in IEEE 802.16-01/49 (“Working Group Review of IEEE 802.16ab-01/01r2”).

A conference call will be set up for Thursday, October 4, 2001 to discuss the objectives of this Call for Comments. Details on the conference call will be posted on the TG3 and TG4 email reflector sites. An effort will be made to accommodate the time differences between such widely spaced locations such as Israel and California.

The comments will be resolved during 802.16’s Session #16 in Austin, Texas, USA (November 12-16, 2001).

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