Measurement Metric for IEEE 802.16m FFR

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Venue:

Re : Interference Mitigation: FFR; in response to the TGm Call for Contributions and Comments 802.16m-08/033 for Session 57

Base Contribution:

IEEE C802.16m-08/1171

Purpose:

To discuss and adopt the proposed text in the next revision of the 802.16m SDD

Introduction

- This contribution addresses the CQI reporting issues for fraction frequency reuse (FFR).
- In particular, we focus on the measurement metrics that can be used to facilitate the fraction frequency reuse.
- We describe the proposed measurement metrics of CQI reporting for FFR.

Discussion

- FFR is a import method in the interference mitigation. One of the key issues for FFR is to make decision on allocating users to difference frequency reuse zones. The decision can be based on the channel quality of the users.
- An effective metric should be defined to classify the noise-limited users or interference-limited users.
- For the FFR systems with frequency reuse 1 zone and frequency reuse 3 zone, the noise-limited users should be allocated in frequency reuse 1 zone, and the interference-limited users should be allocated in frequency reuse 3 zone.
- In 802.16Rev2/D6, CINR is the only measurement metric could be used for FFR, which is not really useful to classify the noise-limited users or interference-limited users.

Summary

- From the discussion above, we believe a metric to classify the interference-limited users and noise-limited measurement users.

Proposed Text

Insert the following text into Interference Mitigation sub-clause (IEEE 802.16m-08/003r4):

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

20 Support for Interference Mitigation

20.1 Interference Mitigation using Fractional Frequency Reuse (FFR)

20.1.1.1 Measurement metric of CQI reporting for FFR

MS can report the measurement to the BS to report its CQI for FFR. The measurement metric can be used to classify the interference-limited users and noise-limited users, thus facilitating to allocate users into difference frequency reuse zones.