Project	**IEEE 802.16 Broadband Wireless Access Working Group <http://ieee802.org/16>**
Title	**Corrections to OFDMA Profiles**
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Re:	Supporting document for call for contribution for corrigendum document
Abstract	In Sections 12.4.3.3-12.4.3.10, the values for "BS Reference frequency Accuracy" is -/+ 4 ppm while the spec value in Section 8.4.14.1 is only -/+ 2 ppm. To resolve the inconsistency, it is recommended to adopt -/+ 4 ppm as the requirement. Also, in the same sections, the "SS to BS Synchronization Tolerance" is based on 1% of subcarrier spacing while the spec requirement is 2%. To resolve the inconsistency, it is recommended to adopt the 1% value as the requirement.
Purpose	Adoption in P802.16-2004/Cor 1
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1 Introduction

In Section 8.4.14.1, the requirement for BS Reference Frequency Accuracy is -/+2 ppm while the corresponding values in Sections 12.4.3.3-12.4.3.10 OFDMA PHY profiles are -/+ 4 ppm which is non compliance with the spec. For low cost system deployments where the Base Station reference is not synchronized and/or locked to GPS-derived frequency reference, there is no reason to levy a tighter spec. The -/+ ppm be accurate enough so systems don't drift into allocated channels. Also standard crystals age 0.5 to 1 ppm per year. So if -/+2 ppm were used, then potentially within 2-4 years, the clocks should be serviced to stay compliant.

Also, Table 409—Profile Definitions is not up to date. The PHY 8.75 and 17.5 profiles are missing.

2 Outline of Proposed Solution

To resolve the issue, we recommend to adopt -/+ 4 ppm as the requirement.

Table 409 is updated and provided here.

3 Proposed Text Changes

Proposed Text Change 1:

In Section 8.4.14.1 of 802.16REVe/D5, change the text of the first paragraph as follows:

"At the BS, the transmitted center frequency, receive center frequency and the symbol clock frequency shall be derived from the same reference oscillator. At the BS, the reference frequency accuracy shall be better than ~~±2~~ 4*10-6."

Proposed Text Change 2:

Update the Table 411- Profile Definitions as follows:

Table 411- Profile Definitions

Identifier	Description
OFDMA-profM1	WirelessMAN-OFDMA basic packet PMP MAC profile
OFDMA-profP1	WirelessMAN-OFDMA 1.25 MHz channel basic PHY profile
OFDMA-profP2	WirelessMAN-OFDMA 3.5 MHz channel basic PHY profile
OFDMA-profP3	WirelessMAN-OFDMA 7 MHz channel basic PHY profile
OFDMA-profP4	WirelessMAN-OFDMA 8.75 MHz channel basic PHY profile
OFDMA-profP5	WirelessMAN-OFDMA 14 MHz channel basic PHY profile
OFDMA-profP6	WirelessMAN-OFDMA 17.5 MHz channel basic PHY profile
OFDMA-profP7	WirelessMAN-OFDMA 28 MHz channel basic PHY profile
OFDMA-profP8	WirelessHUMAN(-OFDMA) 10 MHz channel basic PHY profile
OFDMA-profP9	WirelessHUMAN(-OFDMA) 20 MHz channel basic PHY profile

4 References

[1] IEEE P802.16-REVd/D5-2004 Standard for Local and metropolitan area networks Part 16: Air Interface for Fixed Broadband Wireless Access Systems

[2] IEEE P802.16-REVe/D5-2004 Standard for Local and metropolitan area networks Part 16: Air Interface for Fixed Amendment for Physical and Medium Access Control Layers for Combined Fixed and Mobile Operation in Licensed Bands