January 27, 2015

Ms. Marlene H. Dortch, Secretary
Federal Communications Commission
445 12th Street SW
Washington, DC 20554

Re: Notice of Ex Parte Communication: Amendment of the Commission's Rules with Regard to Commercial Operations in the 3550-3650 MHz Band, GN Docket No. 12-354

As an aid to the planned implementation of a Spectrum Access System (SAS) that will monitor and manage spectrum use and mitigate harmful interference in the 3550-3650 MHz band and potentially the 3650-3700 MHz band, the WiMAX forum submits the spectrum emission mask specification for WiMAX solutions certified for the above mentioned frequency bands. The spectrum emission masks for 5 MHz and 10 MHz channel bandwidths respectively are summarized in the following tables.

WiMAX Band Class 5: 3400 MHz to 3800 MHz

The Spectrum Emission Mask for 5 MHz bandwidth is specified in Table 1.

Table 1. Spectrum Emission Mask for 5 MHz Bandwidth

Frequency offset Δf (MHz)	Maximum Emission Level (dBc)	Integration Bandwidth
2.5 to < 3.5	-33.5-15(Δf-2.5)	30 kHz
3.5 to < 7.5	-33.5-1(Δf-3.5)	1 MHz
7.5 to < 8.5	-37.5-10(Δf-7.5)	1 MHz
8.5 to ≤ 12.5	-47.5	1 MHz

Notes:

1. Δf is the absolute value of separation in MHz between the carrier frequency and the center of the measuring filter.
2. The first measurement position with a 30 kHz filter is at Δf equal to 2.515 MHz; the last is at Δf equal to 3.485 MHz.
3. The first measurement position with a 1 MHz filter is at Δf equal to 4 MHz; the last is at Δf equal to 12 MHz. As a general rule, the resolution bandwidth of the measuring equipment should be equal to the Integration Bandwidth. To improve measurement accuracy, sensitivity and efficiency, the resolution bandwidth can be different from the Integration Bandwidth. When the resolution bandwidth is smaller than the Integration Bandwidth, the result should be integrated over the Integration Bandwidth in order to obtain the equivalent noise bandwidth of the Integration Bandwidth.
4. In addition, for carrier center frequencies within the 3650-3700 MHz band, all emission levels shall not exceed -13 dBm/MHz.
5. Equivalent PSD type mask can be derived by applying 10*log ((5 MHz)/(30 kHz)) = 22.2 dB and 10*log((5 MHz)/(1 MHz)) = 7 dB scaling factor for 30 kHz and 1 MHz Integration Bandwidth respectively.

The Spectrum Emission Mask for 10 MHz bandwidth is specified in Table 2.

Table 2. Spectrum Emission Mask for 10 MHz Bandwidth

Frequency offset Δf (MHz)	Maximum Emission Level (dBc)	Integration Bandwidth
5.0 to <7.0	-33.5-9(Δf-5.0)	30 kHz
7.0 to <15.0	-36.5-0.5(Δf-7.0)	1 MHz
15.0 to <17.0	-40.5-5(Δf-15.0)	1 MHz
17.0 to ≤25.0	-50.5	1 MHz

Notes:

1. Δf is the absolute value of separation in MHz between the carrier frequency and the centre of the measuring filter.
2. The first measurement position with a 30 kHz filter is at Δf equals to 510.015 MHz; the last is at Δf equals to 6.985 MHz.
3. The first measurement position with a 1 MHz filter is at Δf equals to 7.5 MHz; the last is at Δf equals to 24.5 MHz. As a general rule, the resolution bandwidth of the measuring equipment should be equal to the Integration Bandwidth. To improve measurement accuracy, sensitivity and efficiency, the resolution bandwidth can be different from the Integration Bandwidth. When the resolution bandwidth is smaller than the Integration Bandwidth, the result should be integrated over the Integration Bandwidth in order to obtain the equivalent noise bandwidth of the Integration Bandwidth.
4. In addition, for carrier center frequencies within the 3650-3700 MHz band, all emission levels shall not exceed -13 dBm/MHz.
5. Equivalent PSD type mask can be derived by applying 10*log ((10 MHz)/(30 kHz)) = 25.2 dB and 10*log((10 MHz)/(1 MHz)) = 10 dB scaling factor for 30 kHz and 1 MHz Integration Bandwidth respectively.

References:

[1] WMF-T23-005-R020v01, WiMAX Forum® Mobile Radio Specifications Release 2
http://resources.wimaxforum.org/sites/wimaxforum.org/files/technical_document/2012/05/WMF-T23-005-R020v01_RSP.pdf

[2] IEEE L802.16-09/0085r1

Respectively submitted,

The WiMAX Forum

By: /s/

Douglas A Gray
9009 SE Adams Street, Suite 2259
Clackamas, OR 97015-2259
http://www.wimaxforum.org