

Jamie Huckerby

From: oetech@fccsun27w.fcc.gov
Sent: 02 October 2009 20:30
To: Jamie Huckerby
Subject: Response to Inquiry to FCC (Tracking Number 210233)



Office of Engineering and Technology

Inquiry:

I'm testing a WiMAX OFDM base station to Part 90 subpart Z and have a question pertaining to peak power spectral density test. The EIRP limit for the radio in a 5 MHz channel bandwidth is 5W or 37 dBm. The limit for peak power spectral density is 30 dBm / 1 MHz EIRP. My question to you is, as OFDM has a high peak-to-average ratio, and EIRP is measured using an RMS detector, is the 30 dBm / 1 MHz EIRP PSD limit using a peak detector still applicable?

In practice, following these guidelines, the PSD EIRP is approximately 20 dB higher than the measured EIRP. This technically means that the base station would require a 20 dB lower EIRP which makes the BS max EIRP approx 17 dBm max. I can't see how it would be possible to allow an WiMAX type device to be near the EIRP limit following these normal guidelines? Is there any relaxation or use of a measurement detector other than a peak detector allowed for this equipment type? Is the PSD limit supposed to be a conducted limit rather than an EIRP?

If you could please clarify this matter for me, it would be greatly appreciated.

Cheers

Jamie

Response:

The RMS detector can be used for the PSD if it is also used for the RF Power.

The PSD limit is EIRP, not conducted

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