

June 21, 2005

RE: Cisco Systems, Inc.

FCC ID: LDKXSCLCR14

1) We have submitted the labeling example to the FCC for final comment. We will let you know the outcome of this correspondence.

**Response: Understood.**

2) You state that you used a different power measurement technique. If RMS equivalent measurements are not possible please specify how your method is equivalent. A presentation of oscilloscope plots showing the EUT fundamental and the reference levels measured and used would be helpful to show RMS equivalence.

**Response: No other method was used other then the procedural methods stated in the UNII Procedure (DA-02-2138). This method is used if the transmitter cannot be set to 100% duty cycle, which was the case for the 4.9Ghz Mini PCI card.**

Method #3

- ☐ Set span to encompass the entire emission bandwidth (EBW) of the signal.
- ☐ Set sweep trigger to "free run".
- ☐ Set RBW = 1 MHz. Set VBW  $\leq 1/T$
- ☐ Use linear display mode.
- ☐ Use **sample detector mode** if bin width (i.e., span/number of points in spectrum)  $< 0.5$  RBW. Otherwise use peak detector mode.
- ☐ Set max hold.
- ☐ Allow max hold to run for 60 seconds.

Below is an explanation for the use of the Sample detector to simulate RMS detection.

#### Using Power Measurement Functions

##### RMS Detection

For most power measurements, it is desirable to respond to signals in an RMS fashion. This means that the power measured is accurately reported, whether the signal contains tones, noise, or other signals. If the spectrum analyzer is not configured for RMS detection (also known as power detection), CW-like signals (tones) will be measured correctly, but noise-like signals (including most digitally-modulated signals) will not be correctly measured.

The power measurement functions compute the RMS of all the applicable measurement cells (display buckets). If the data in those cells is unbiased, RMS detection occurs. To keep the data unbiased requires:

- The detection mode must be SAMPLE. Other modes, such as POSITIVE PEAK, are biased differently for noise-like signals than for CW-like signals.
- The video bandwidth (VBW) should be at least 10 times the resolution bandwidth (RBW). If it is not, video filtering of a noise-like signal on a logarithmic (dB) display scale biases the measurement.



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3) The software (manual page 4-10) appears to show you can configure to non-supported channels. Please explain. The concern is that the device meets the channels specified in 90.1213 only.

**Response: The manual has been revised to state the supported channels. If the non-supported channels are entered into the command line it will return an error stating that no such command exist.**

Regards,

A handwritten signature in black ink that reads "Juan Martinez".

Juan Martinez  
Senior EMC Engineer  
JM/dmg