

**Interim Test Procedure for Determining Radar Detector Compliance**  
**With the Rules Adopted in Report and Order FCC 02-211**  
July 19, 2002

Section 15.101 of the Rules requires Certification for Radar Detectors. The following test procedure is to be used to demonstrate radar detector compliance in the 11.7 to 12.2 GHz VSAT band. This band must comply with the general radiated emissions limits of Section 15.109 of the Rules. No radiated emissions tests need to be performed in other bands other than the specified 11.7 to 12.2 GHz. Section 15.35(b) specifies the use of an average detector in this band. In addition the peak level of an emission shall not exceed the average limit by more than 20 dB using a minimum Resolution Bandwidth (RBW) of 1 MHz and minimum Video Bandwidth (VBW) of 1 MHz. All testing should be done in accordance with ANSI C63.4-2001. (Note: ANSI C63.4-1992 is currently referenced in the FCC Rules but the 2001 version of C63.4 may be used for testing purposes.)

Many radar detectors sweep the local oscillator across a wide band. Typically the local oscillator is the primary spurious emission from radar detectors. The following procedure is designed to determine if there are any spurious emissions from the local oscillator within the band of interest along with any additional spurious emissions caused by other circuitry within the device.

- 1) Determine the frequency of the peak emission:

Start Frequency	11.7 GHz
Stop Frequency	12.2 GHz
RBW	Equal to or greater than 1 MHz
VBW	Equal to or greater than 1 MHz
Detector Function	Peak

Maximize the emissions with regards to device orientation, antenna polarization, and antenna height. Sweep the band using Max Hold for a minimum of 2 minutes. Record this frequency for measuring the peak emission. In addition record the frequency of other spurious emissions noted.

- 2) Determine the peak level of the emission:

Center Frequency	Set to the frequency determined in Step 1
RBW	Equal to or greater than 1 MHz
VBW	Equal to or greater than 1 MHz
Detector Function	Peak

Measure the value of the peak emission using Max Hold for a minimum of 2 minutes. This can be done at zero span or a frequency span where the analyzer does not show a "Measurement Uncalibrated" message. Record the peak value. If the peak measurement is compliant with the average limit an average

measurement is not necessary. If the peak value exceeds the average limit by less than 20 dB proceed to Step 3.

3) Determine the average level of the emission:

Center Frequency	Set to the frequency determined in Step 1
Span	Zero
RBW	Equal to or greater than 1 MHz
VBW	Equal to or greater than 10 Hz
Detector Function	Peak

This measurement uses video averaging and must be done in Linear mode. The analyzer Reference Level will have to be adjusted so that a signal is clearly visible on the screen. Measure the value of the emission using Max Hold for a minimum of 2 minutes. Record this as the average value.

Note: Step 2 and Step 3 should be repeated for other spurious emissions within the band.