

## **2.6 Antenna Description (Paragraph 15.203)**

An intentional radiator shall be designed to ensure that no antenna other than that furnished by the responsible party shall be used with the device. The use of a permanently attached antenna or of an antenna that uses a unique coupling to the intentional radiator shall be considered sufficient to comply with the provisions of this section.

The Model Home Wireless Networks, Inc. 95-0016-XXX incorporates an internal antenna only.

**2.7 Peak power within the band 2.4 – 2.4835 GHz per FCC Section 15.247(b)**

Peak power within the band 2.4–2.4835 GHz has been measured with a spectrum analyzer by connecting the spectrum analyzer directly via a short cable to the antenna output terminals or across the antenna leads on the PCB as specified by the manufacturer. The spectrum analyzer was set for a 50  $\Omega$  impedance with the VBW  $\geq$  RBW 6 dB bandwidth. The results of the measurements are given in Table 3 and Figure 3a through Figure 3c.

The spectrum analyzer did not have a RBW greater than the 6 dB bandwidth for the largest fundamental bandwidth, therefore this data was taken using the channel power function of the spectrum analyzer.

The EUT did not incorporate any antennas of directional gain greater than 6 dBi, therefore the output power has not been reduced as required by 15.247(b)(3).

**TABLE 3**  
**PEAK POWER OUTPUT**

**Test Date:** November 2 & 3, 1999  
**UST Project:** 99-867  
**Customer:** Home Wireless Networks, Inc.  
**Model:** 95-0016-XXX

Frequency of Fundamental (GHz)	Measurement (dBm)*	Measurement (Watt)*	FCC Limit (Watt)
2.412	15.0	0.0316	1.0
2.437	14.0	0.0251	1.0
2.462	11.8	0.0151	1.0

\* Measurement includes 0.4 dB cable loss

**Test Results**  
**Reviewed By**  
**Signature:** \_\_\_\_\_

**Name:** Tim R. Johnson

Figure 3a.  
Peak Power per FCC Section 15.247(b) (Low)

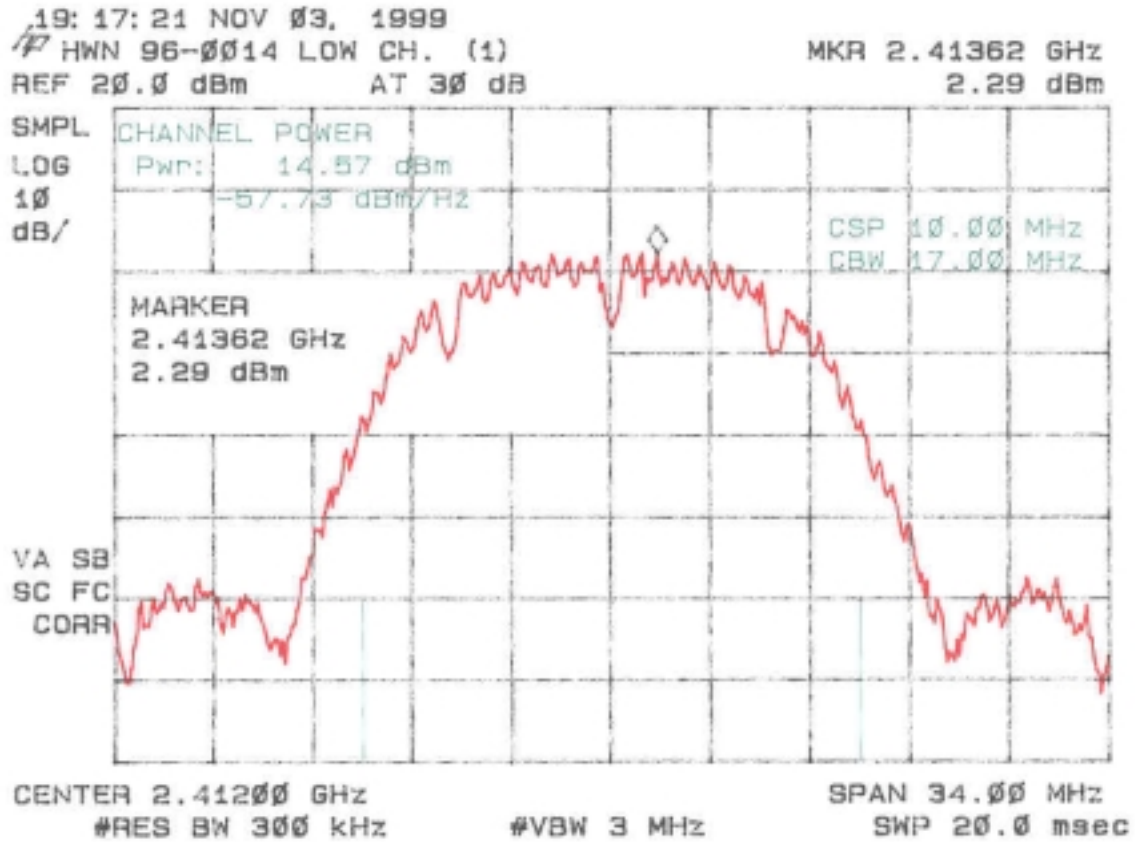


Figure 3b.  
Peak Power per FCC Section 15.247(b) (Mid)

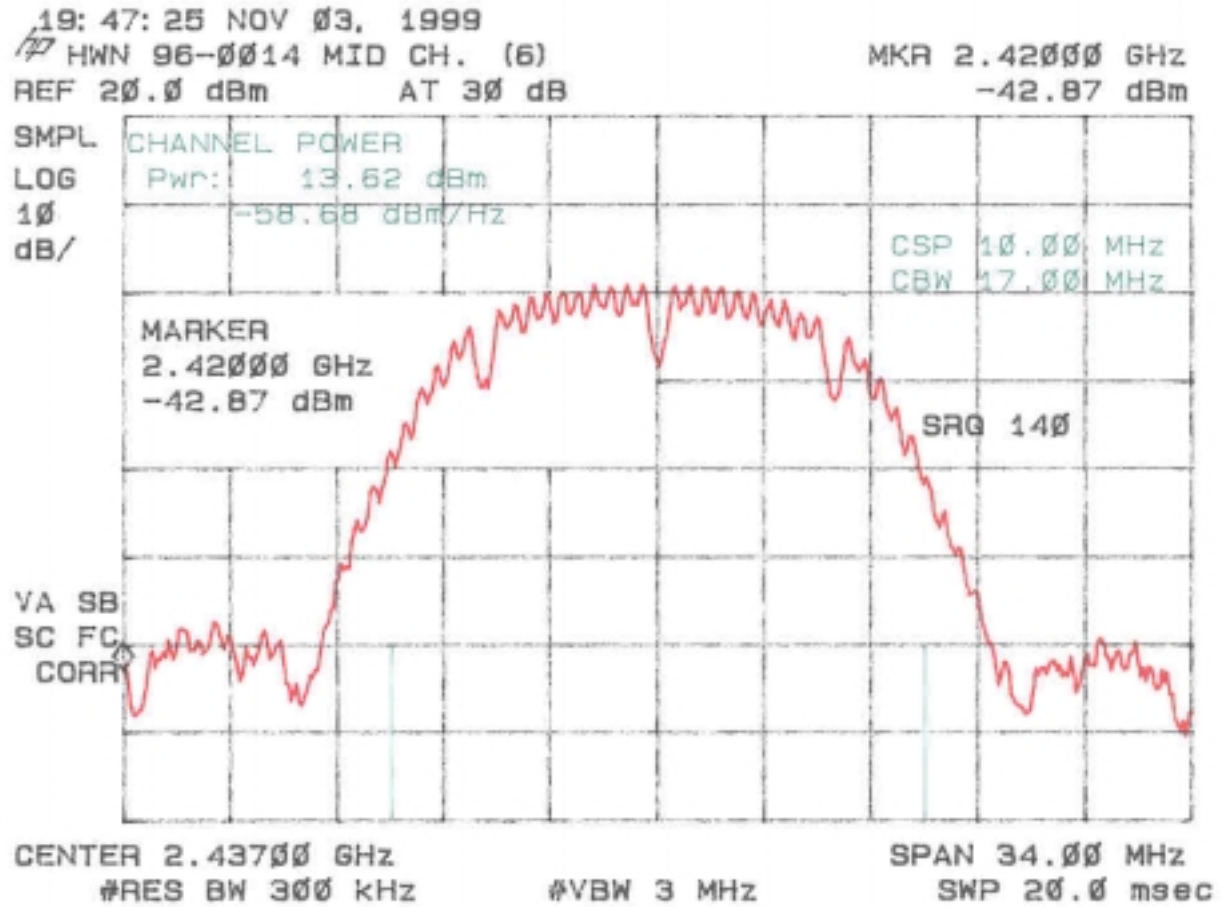
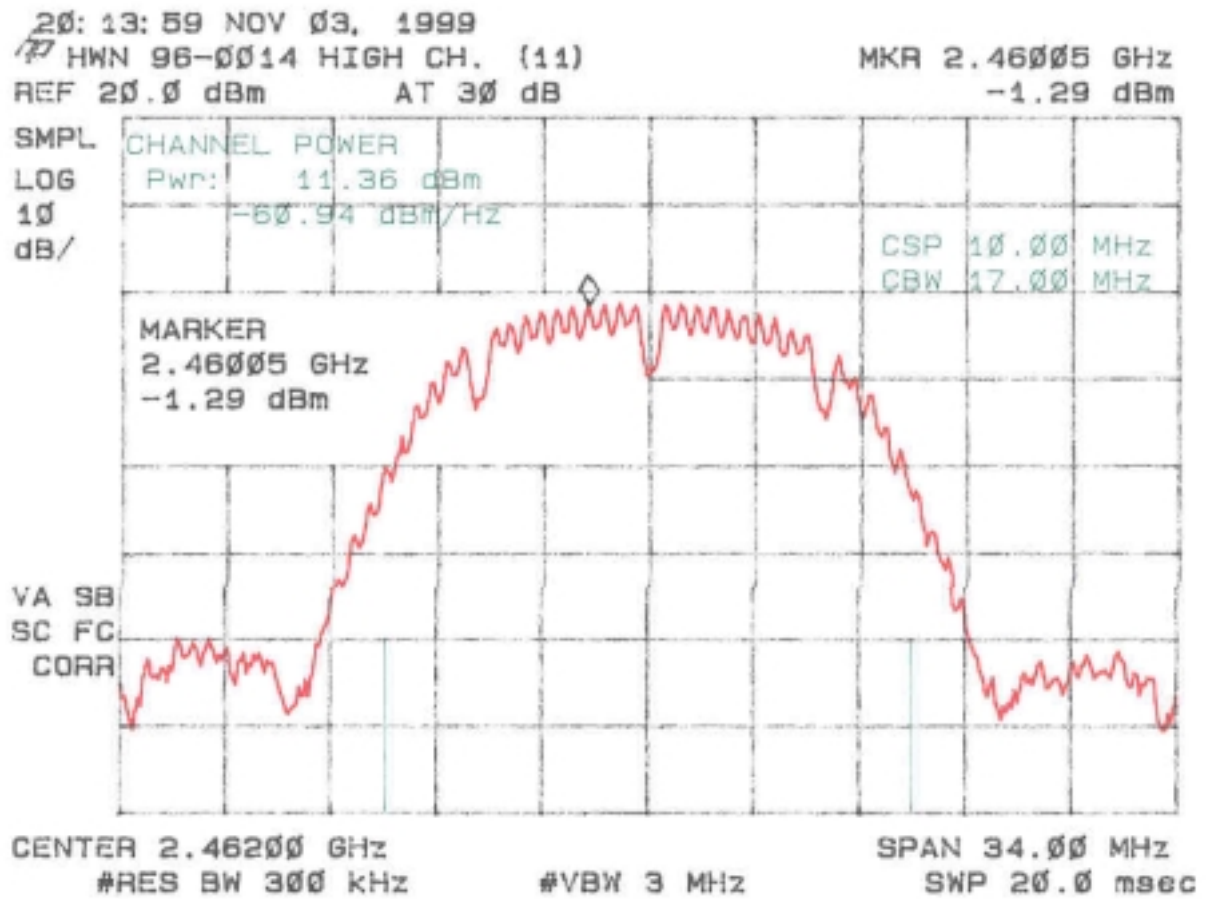


Figure 3c.  
Peak Power per FCC Section 15.247( b) (High)



## **2.8 Antenna Conducted Spurious Emission in the Frequency Range 30 - 25000 MHz (FCC Section 15.247(c))**

Antenna conducted spurious emissions in the frequency range 30-25000 MHz have been measured with a spectrum analyzer by connecting the spectrum analyzer directly via a short cable to the antenna output terminals or across the antenna leads on the PCB as specified by the manufacturer. The spectrum analyzer was set for a 50  $\Omega$  impedance with the RBW = 100 kHz & VBW > RBW. All spurious emissions were measured to be greater than 20 dB down from the fundamental. The results of conducted spurious emissions are given in Figure 4a through Figure 4l.

**Figure 4a**  
**Antenna Conducted Spurious Emissions 15.247(c) Low**

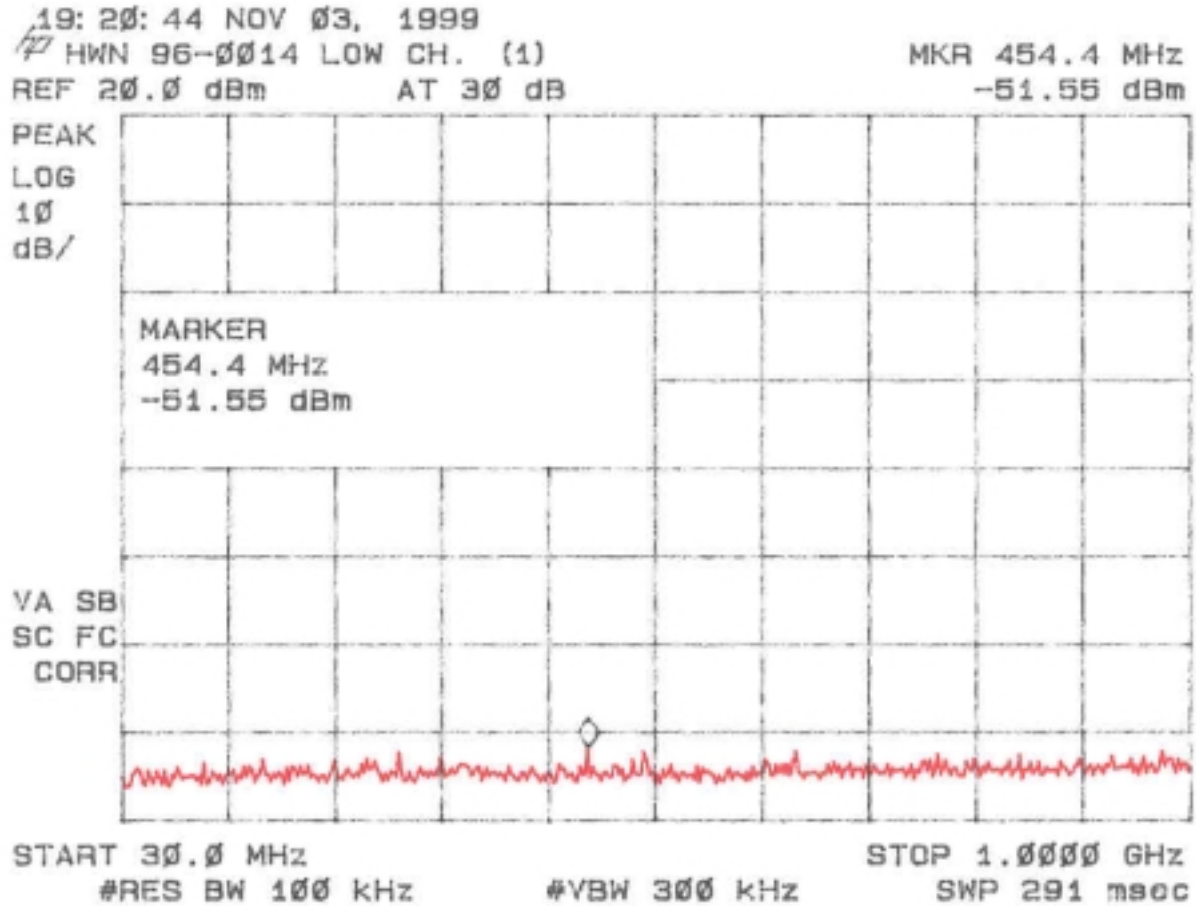




Figure 4b  
Antenna Conducted Spurious Emissions 5.247(c) Low

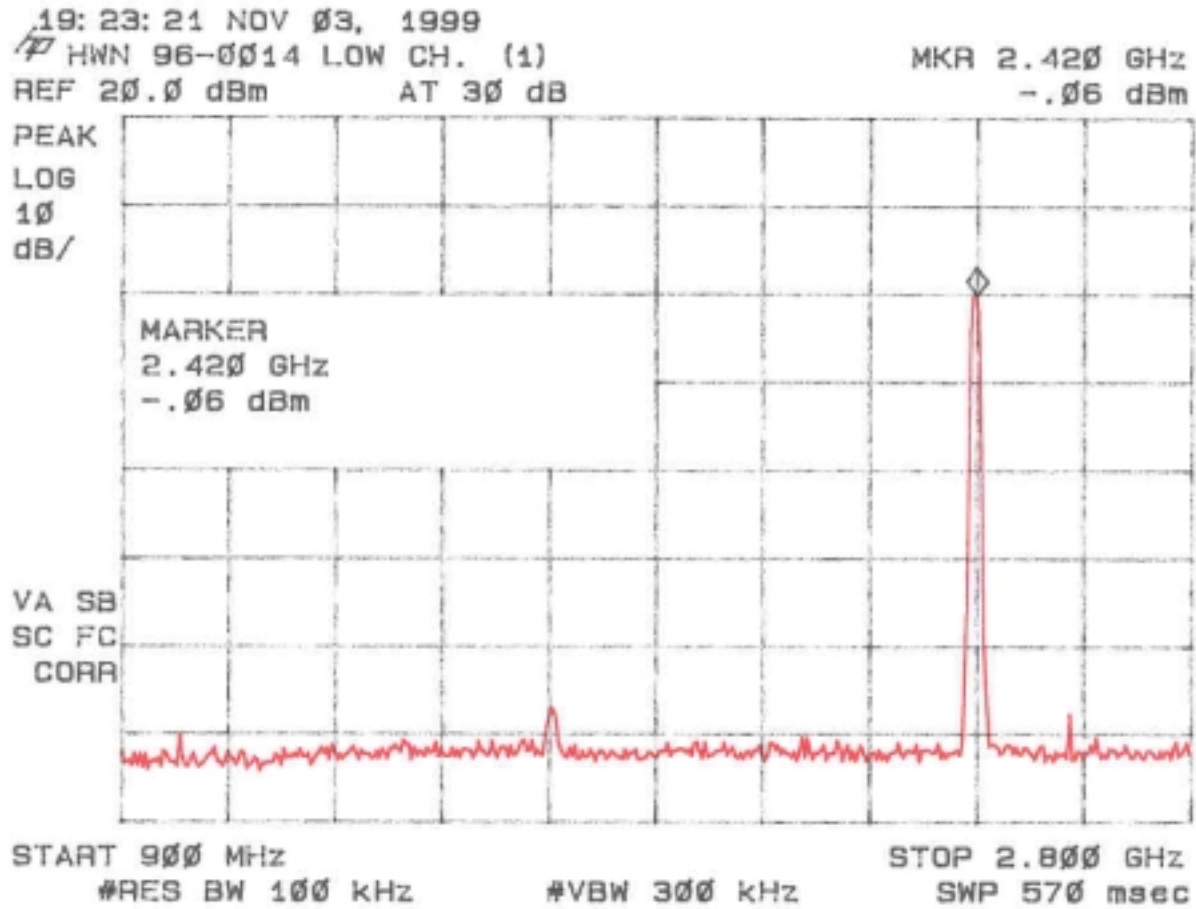


Figure 4c  
Antenna Conducted Spurious Emissions 15.247(c) Low

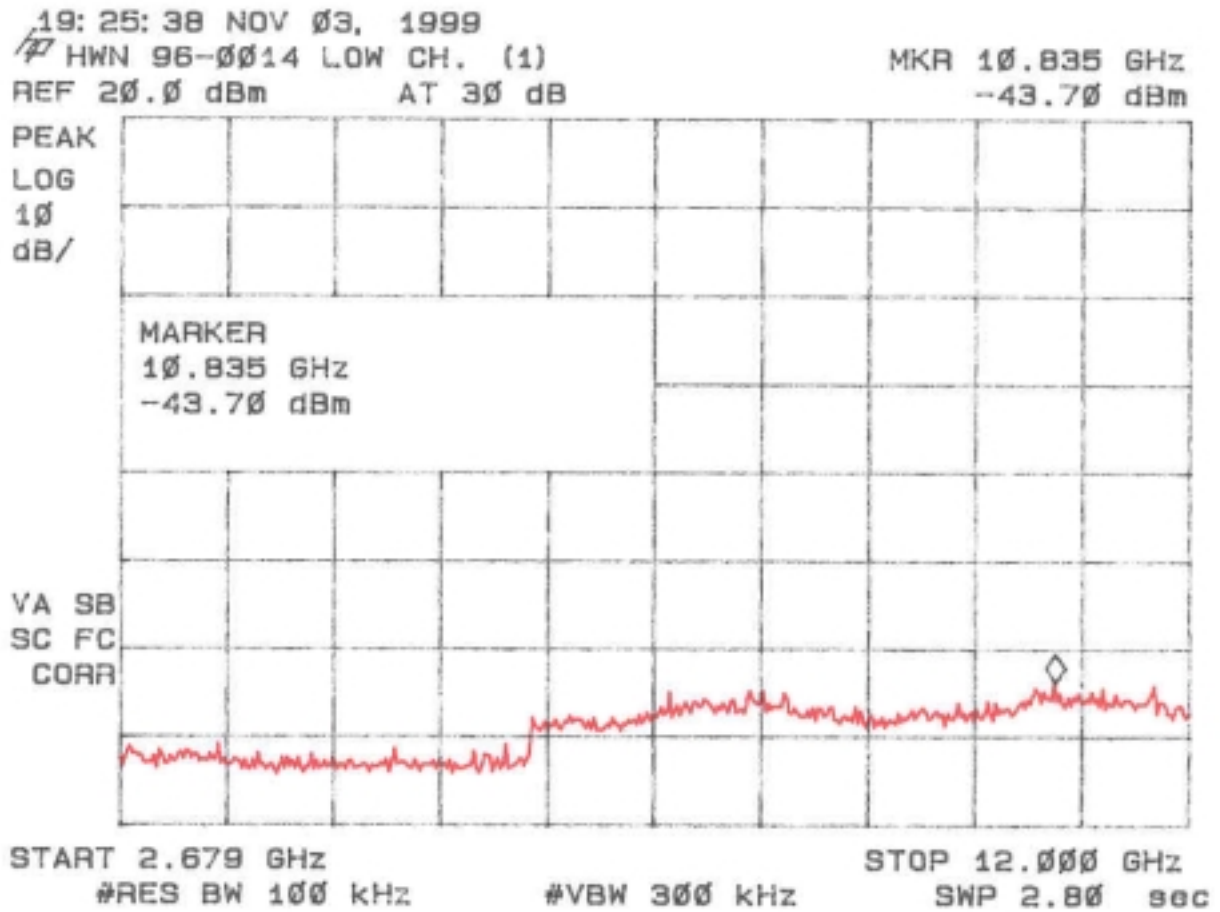


Figure 4d  
Antenna Conducted Spurious Emissions 15.247(c) Low

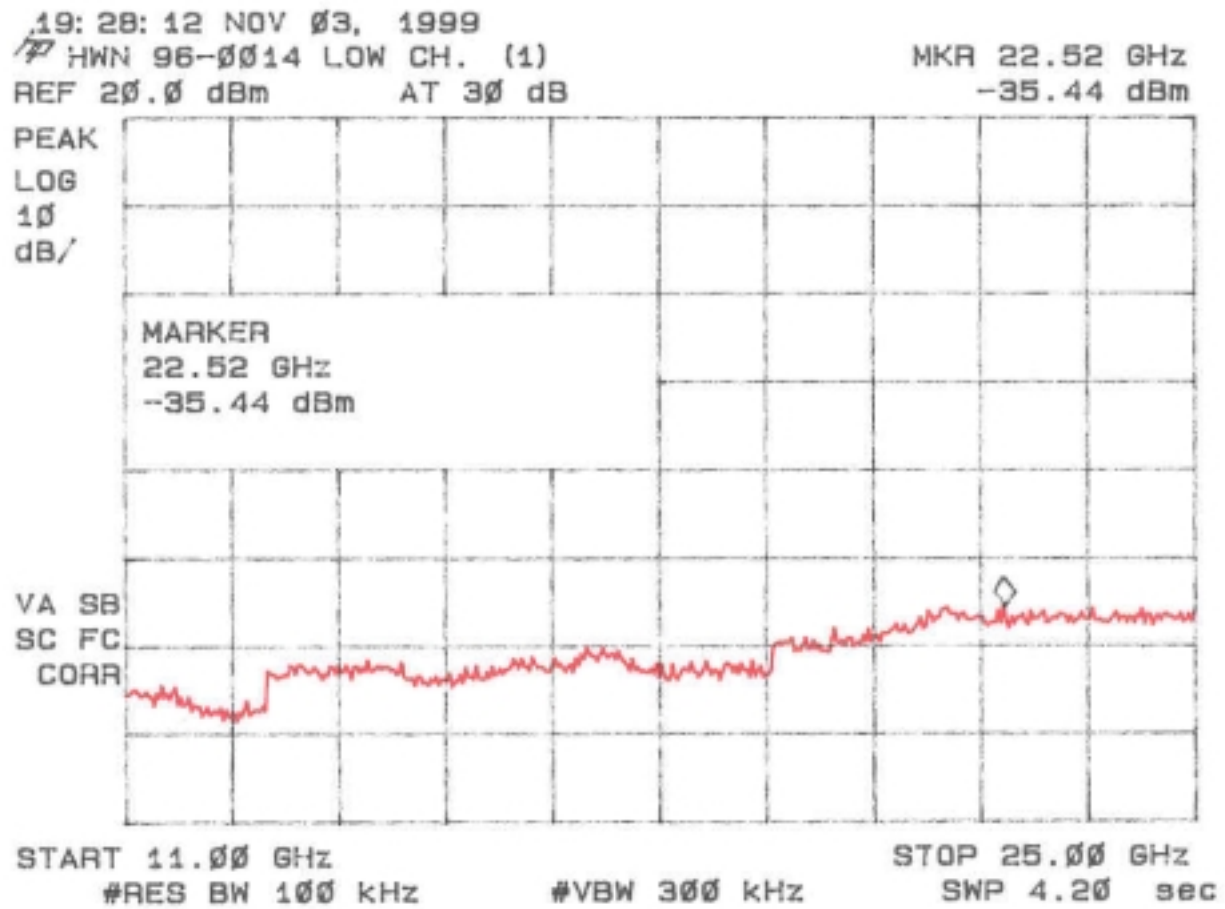


Figure 4e  
Antenna Conducted Spurious Emissions 15.247(c) Mid

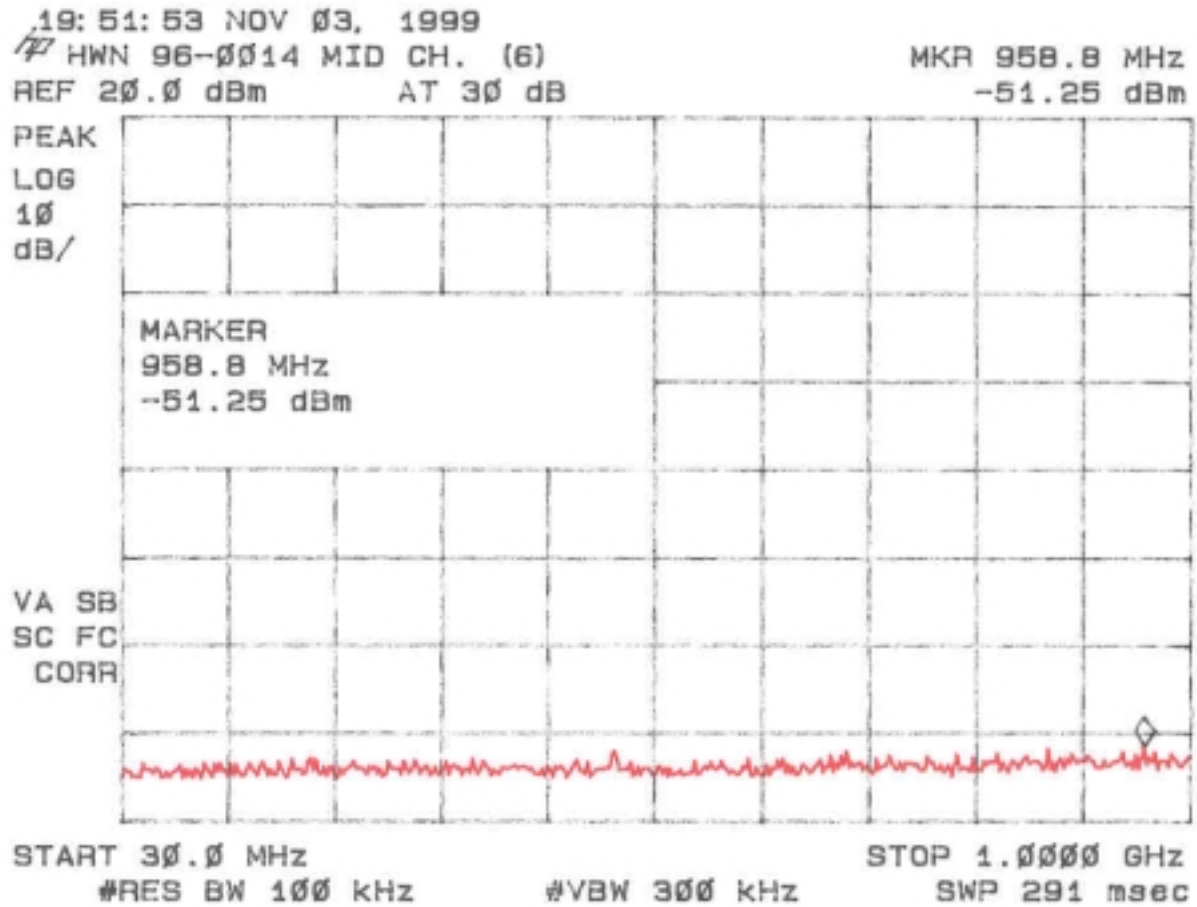


Figure 4f  
Antenna Conducted Spurious Emissions 15.247(c) Mid

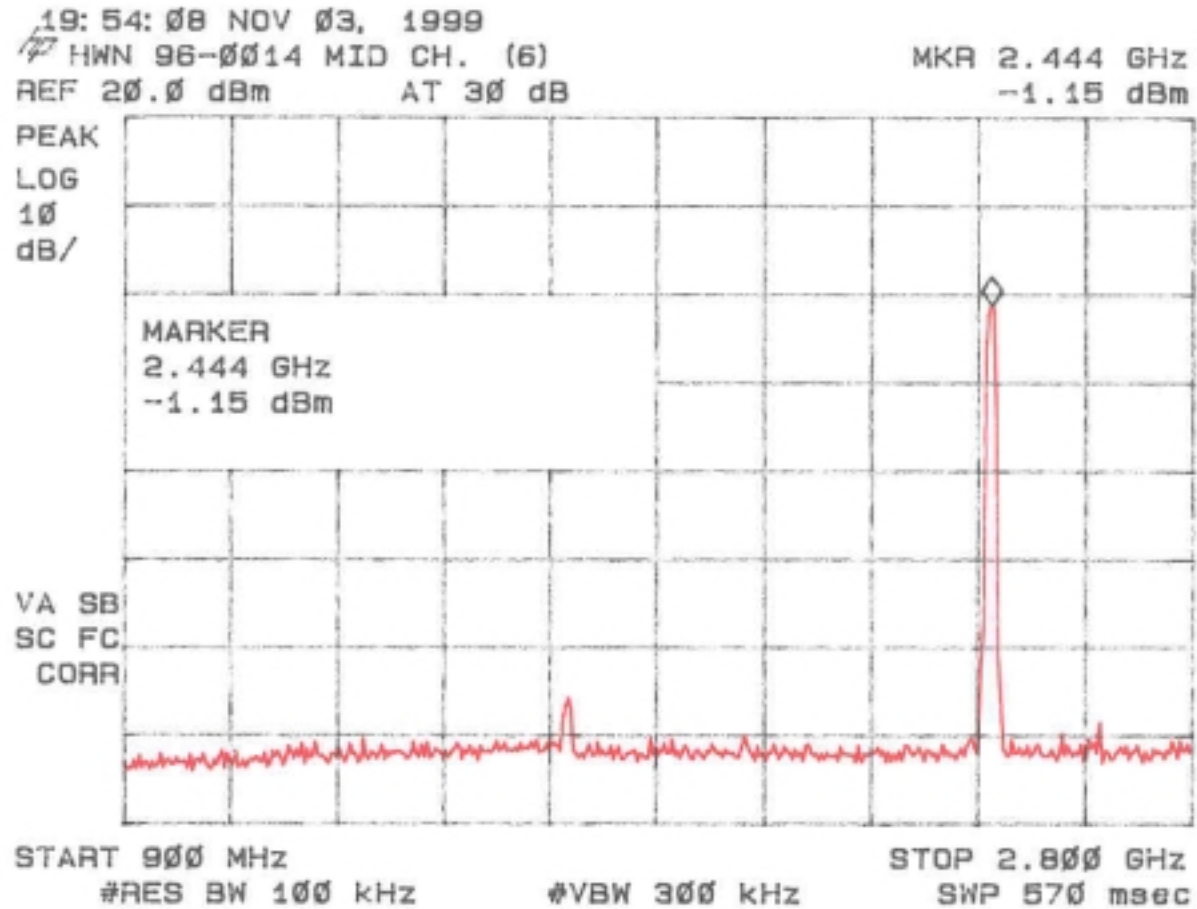


Figure 4g  
Antenna Conducted Spurious Emissions 15.247(c) Mid

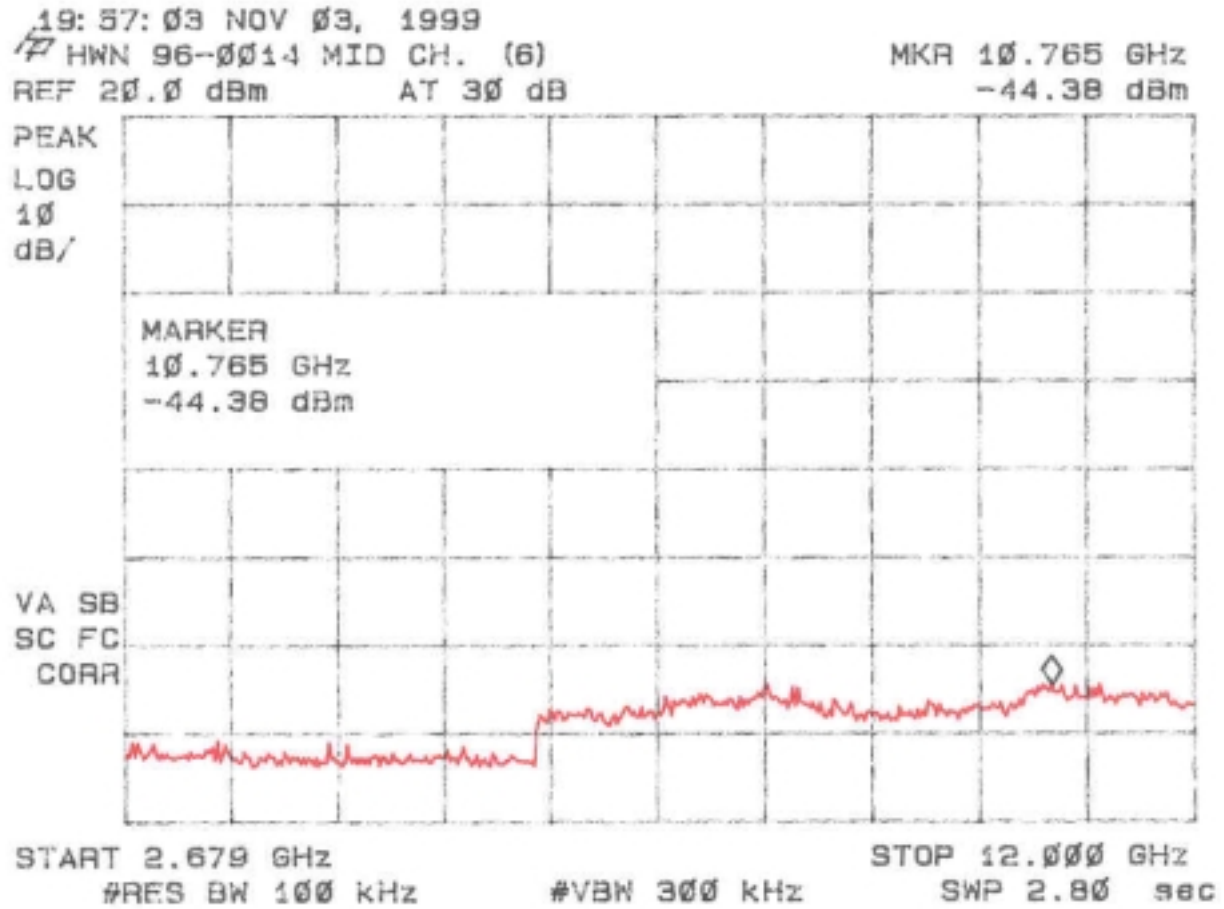


Figure 4h  
Antenna Conducted Spurious Emissions 15.247(c) Mid

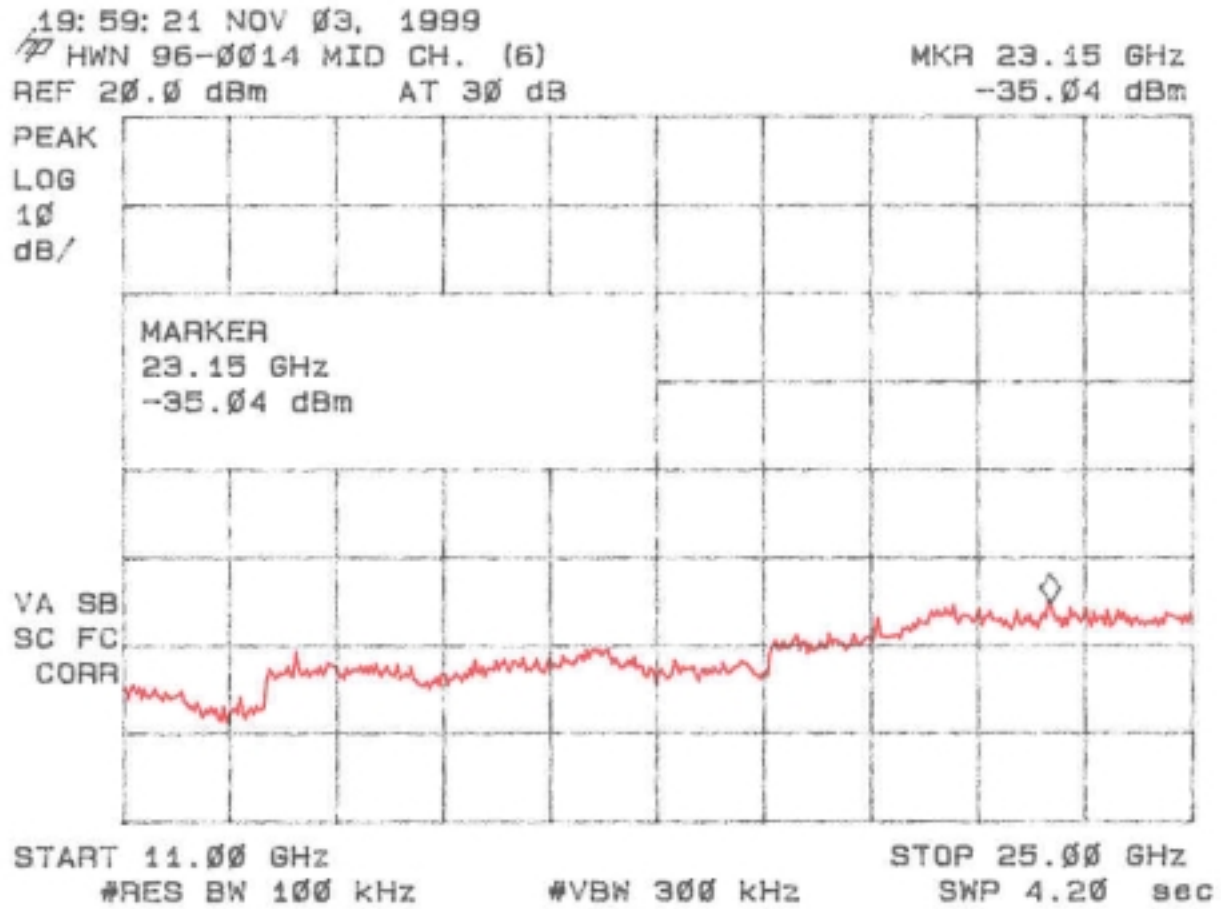


Figure 4i  
Antenna Conducted Spurious Emissions 15.247(c) High

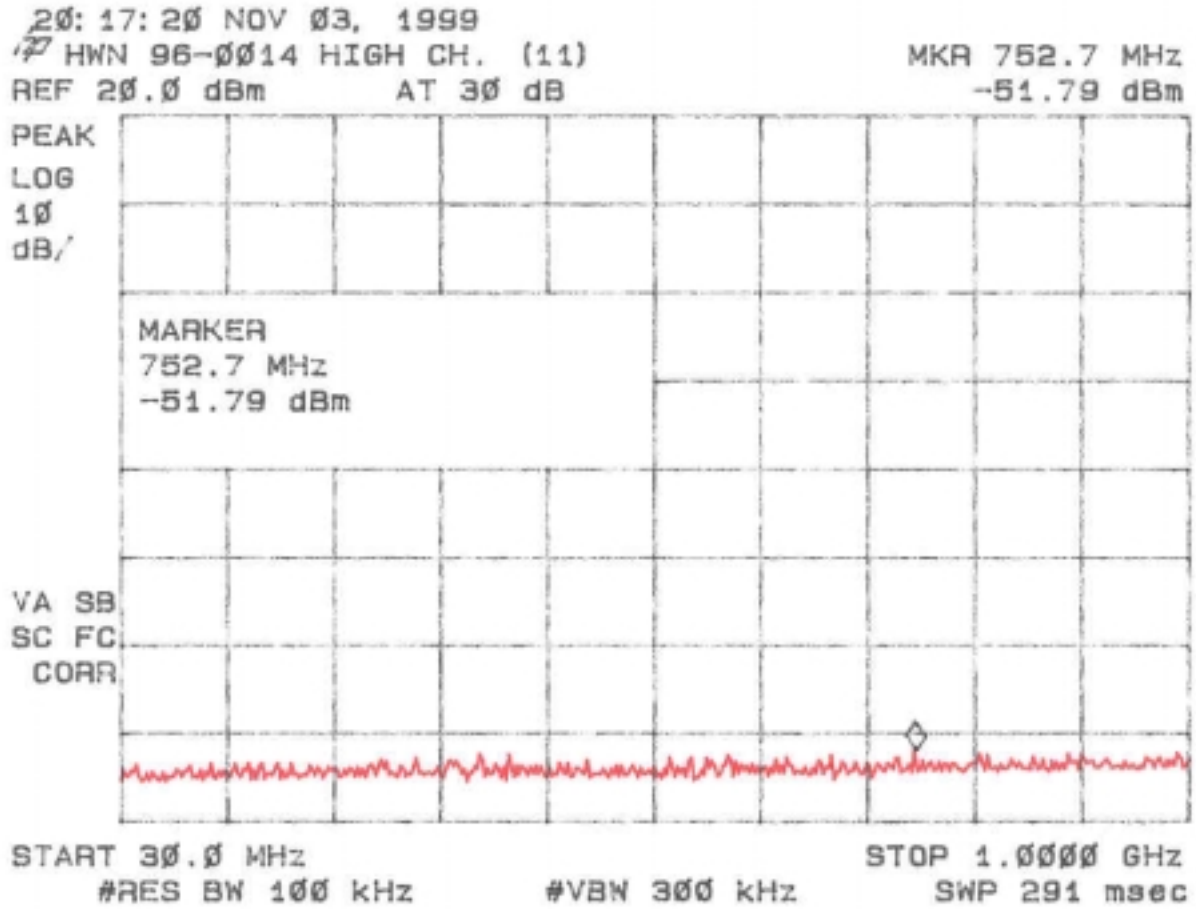




Figure 4j  
Antenna Conducted Spurious Emissions 15.247(c) High

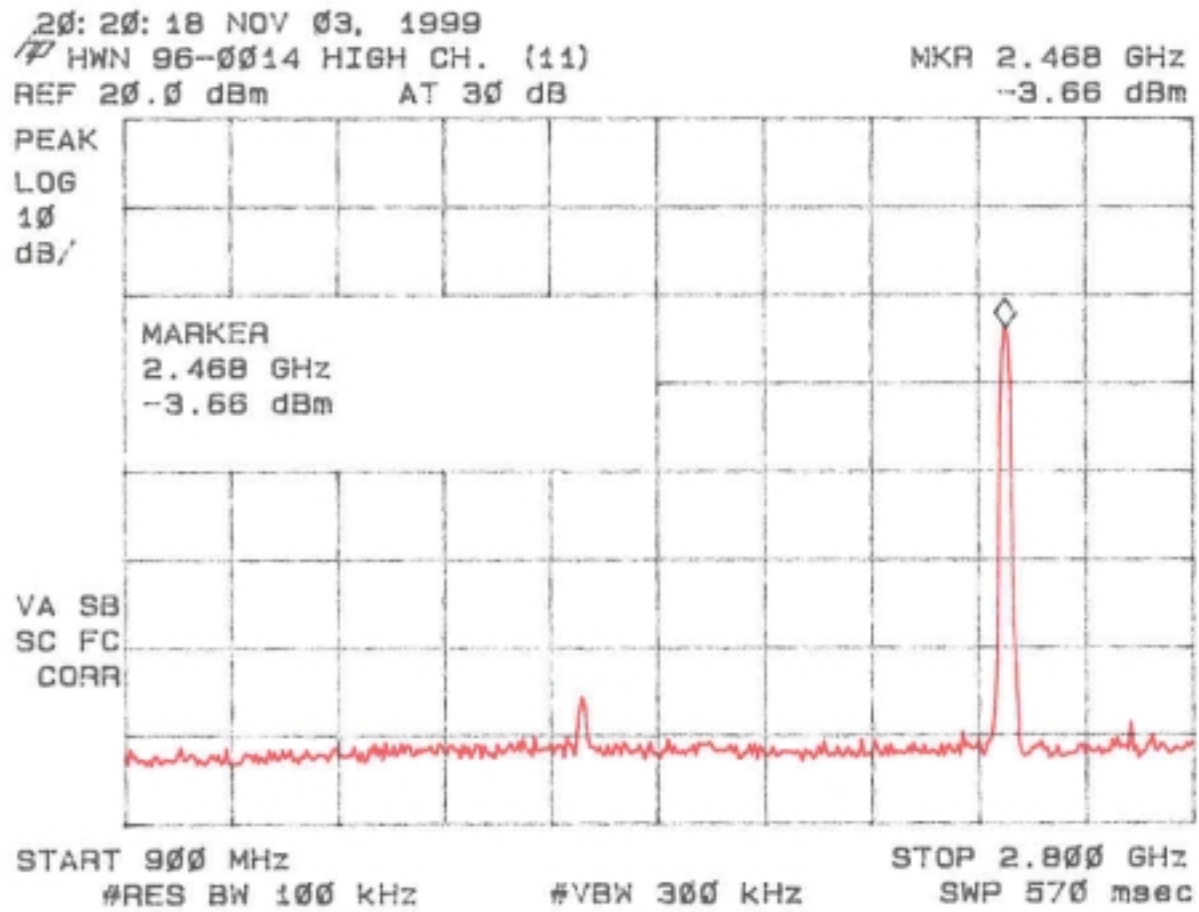


Figure 4k  
Antenna Conducted Spurious Emissions 15.247(c) High

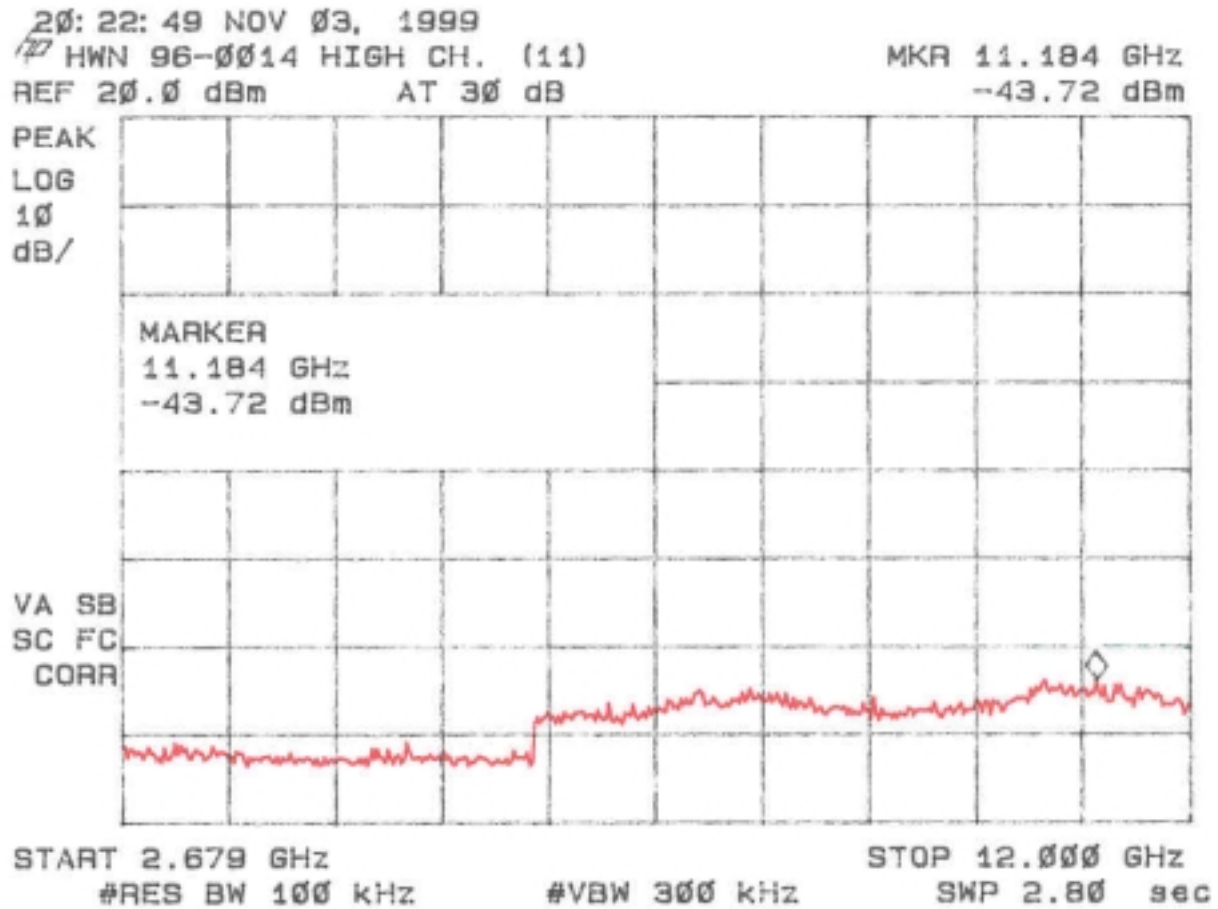


Figure 4I

## Antenna Conducted Spurious Emissions 15.247(c) High

