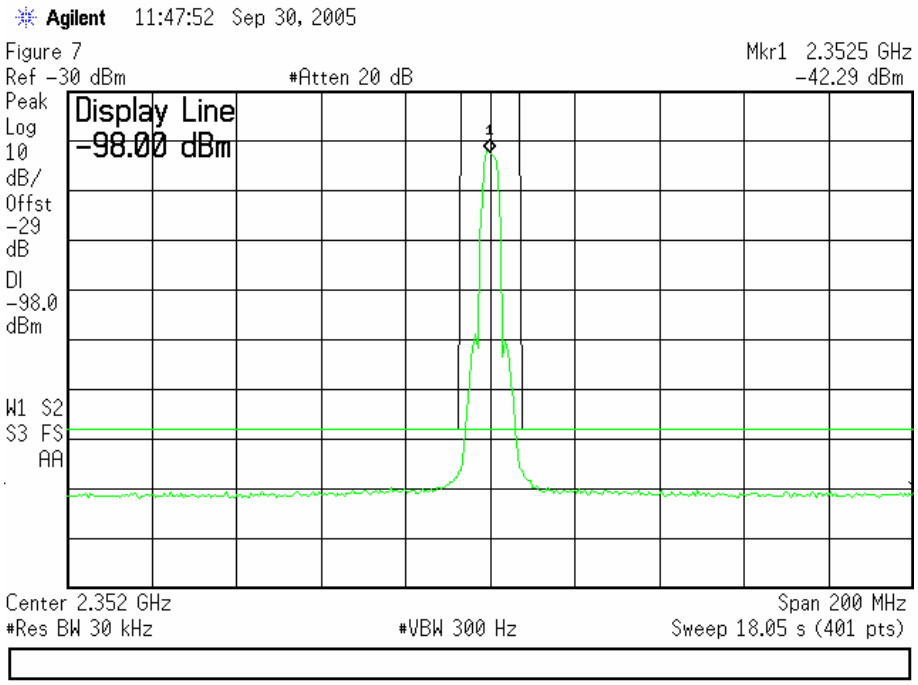


FIGURE 7

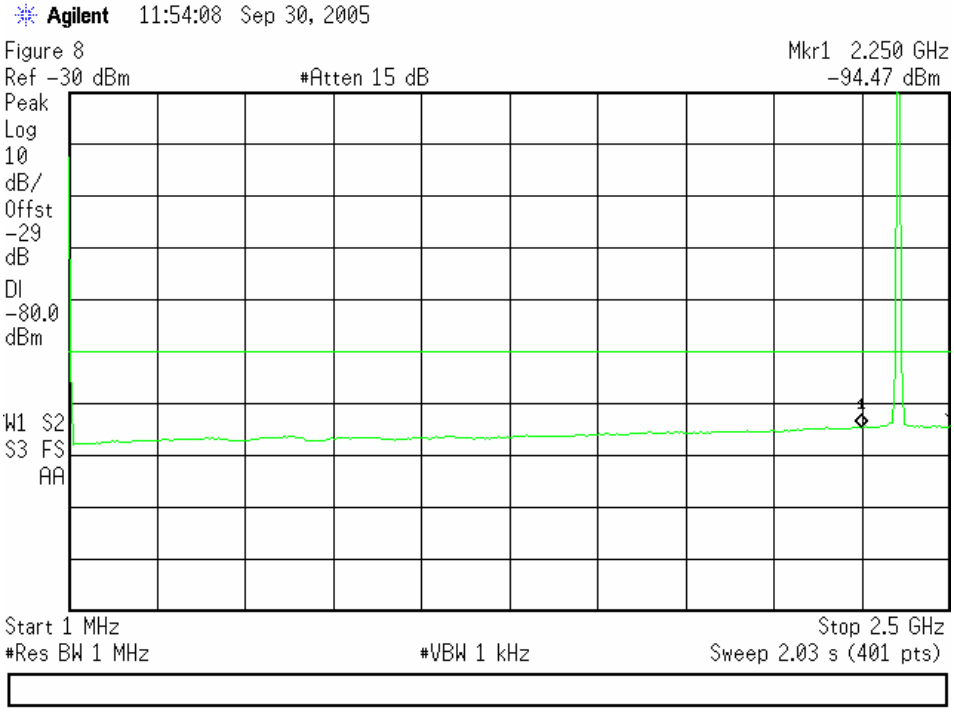


FIGURE 8

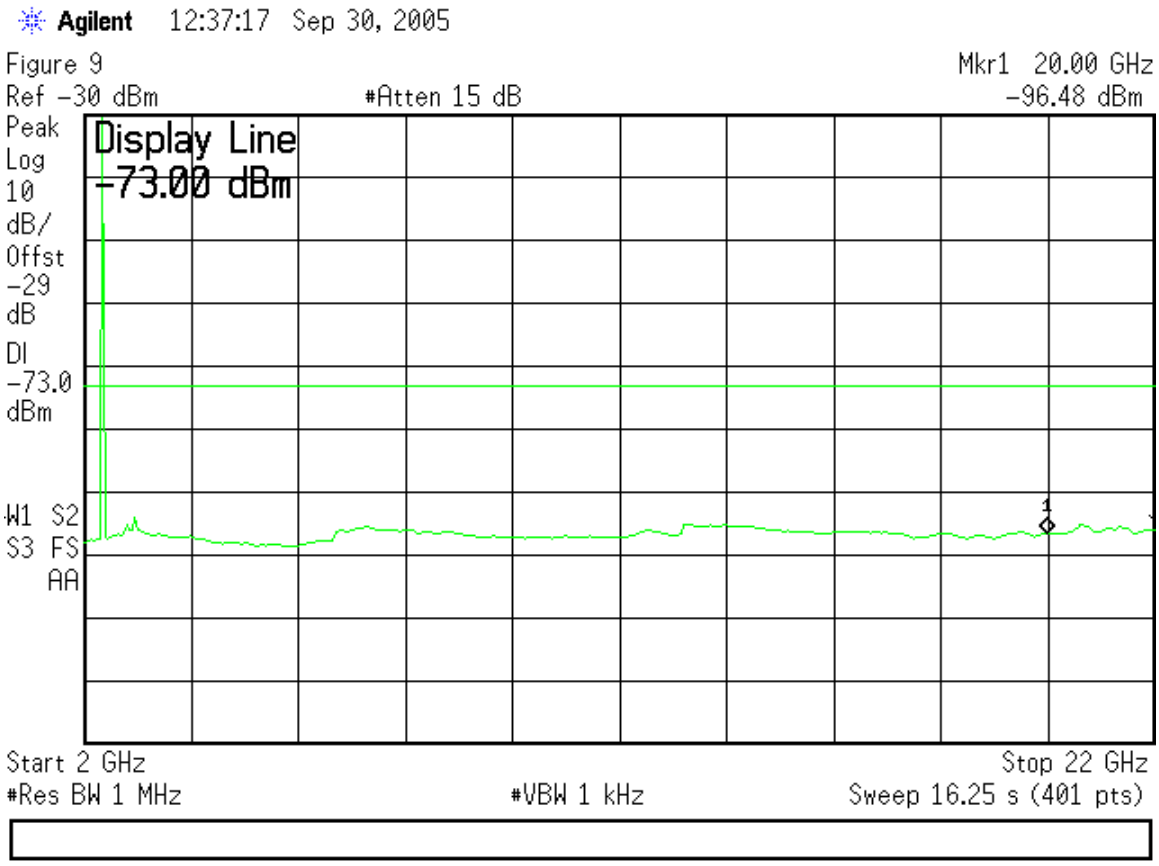

Agilent 12:37:17 Sep 30, 2005
Figure 9
Ref -30 dBm
#Atten 15 dB
Mkr1 20.00 GHz
-96.48 dBm
Peak
Log
10
dB/
Offst
-29
dB
Display Line
-73.00 dBm
Dl
-73.0
dBm
W1 S2
S3 FS
AA
Start 2 GHz
#Res BW 1 MHz
#VBW 1 kHz
Stop 22 GHz
Sweep 16.25 s (401 pts)

FIGURE 9

2.983 FIELD OF SPURIOUS RADIATION

The spectrum emissions of the equipment were measured in an anechoic chamber at a distance of 3 meters. Measurements were made with the receiving antenna mounted both horizontally and vertically.

Considering the transmitter as a dipole radiator, the field intensity for a given power at a given distance can be expressed as:

$$E = 10 \log ((P \times 30 \times G)/R^2)$$

Where: E = field intensity in dBV/m
P = transmitter mean output power (+32 dBm = 2 watts)
G = dipole antenna gain (1.64)
R = radius (3 meters)

$$E = 10 \log ((2 \times 30 \times 1.64)/9) = 10.5 \text{ dBv/m} = 130.5 \text{ dBuV/m}$$

Part 27.53 specifies that emissions below 2300 MHz and above 2370 MHz must be attenuated from the transmitter power by:

$$A = 70 + 10 \text{ LOG } (p) = 70 + 10 \text{ LOG } (2) = 73 \text{ dB}$$

Therefore, the maximum allowable spurious emissions at 3 meters are:

$$E = 130.5 \text{ dBuV/m} - 73 \text{ dB} = 57.5 \text{ dBuV/m}$$

Measurements were made using a 1 MHz resolution bandwidth and the levels of significant (greater than 35 dBuV/m) spurious emissions were recorded.

The significant spurious emissions found are as follows:

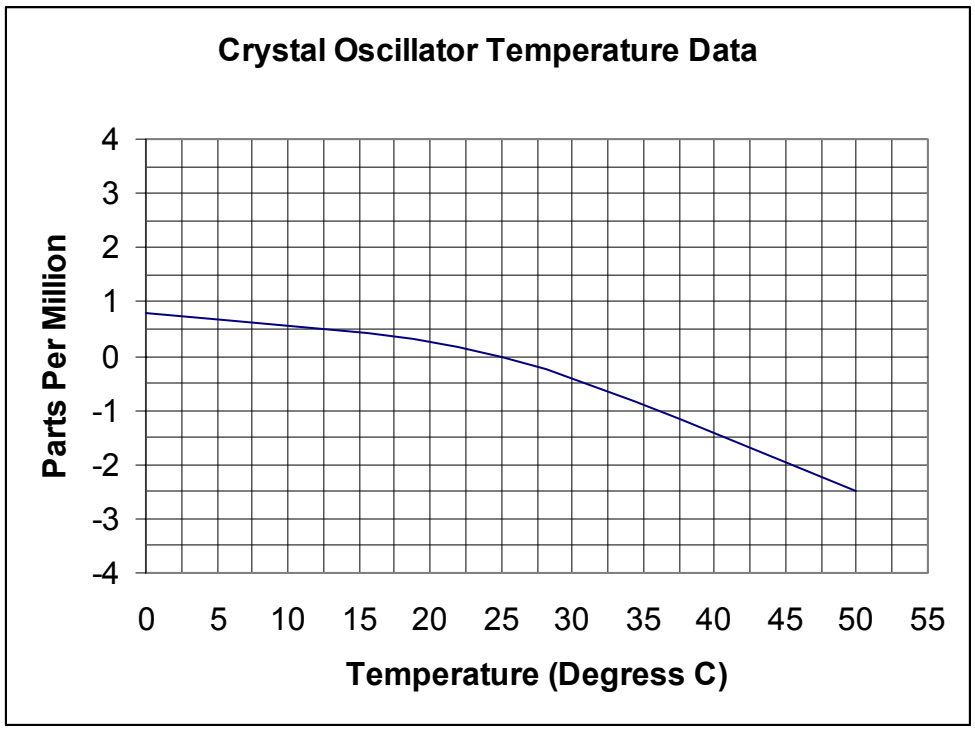
				Horizontial		
Freq	Peak	AF	Gain	Corrected	Limit (3m)	Delta
72.85	52.8	6.9	25	34.7	49.6	14.90
121	45.5	7.9	25	28.4	54	25.60
145.4	51.5	8.5	25	35	54	19.00
148.23	52.1	8.9	25	36	56.9	20.90
169.6	58.1	9.7	25	42.8	56.9	14.10
218.2	56.8	11.3	25	43.1	56.9	13.80
266.9	45.7	12.8	25	33.5	56.9	23.40
274.9	53.4	13.1	25	41.5	56.9	15.40
290.85	46.7	13.6	25	35.3	56.9	21.60
296.4	55.4	14.1	25	44.5	56.9	12.40
315.1	47.2	14.7	25	36.9	56.9	20.00
336.07	50.8	15	25	40.8	56.9	16.10
339.175	54.6	15	25	44.6	56.9	12.30
345.675	60.1	15.4	25	50.5	56.9	6.40
363.875	55.6	15.7	25	46.3	56.9	10.60
395.2	56	16.4	25	47.4	56.9	9.50
411.95	52.8	16.4	25	44.2	56.9	12.70
436.32	48.3	16.4	25	39.7	56.9	17.20
509.12	46.7	18	25	39.7	56.9	17.20
592.33	50.5	19.8	25	45.3	60	14.70
630.7	43.1	21	25	39.1	60	20.90
655	48.9	20.8	25	44.7	60	15.30
825	47.7	22.3	25	45	60	15.00
2036	40.15	21.5	12.5	49.15	60	10.85

No significant spurious emissions were found above 10 GHz.

2.989 FREQUENCY STABILITY

The transmit source that is used is a crystal oscillator operating in the 125 MHz range and multiplied up to the operating frequency.

Two sources were tested over a temperature range of 0 to + 50 degrees C and the largest deviation over the specified temperature range was +/- 4 PPM, which is adequate to maintain the transmit spectrum within the desired band of operation as per FCC Part 27.54.



The sources were also tested over the range of the DC input voltage and no significant variation in the frequency was observed.