

## 2.1051 EMISSIONS AT ANTENNA PORT CONTINUED

Agilent 09:34:50 Oct 6, 2005

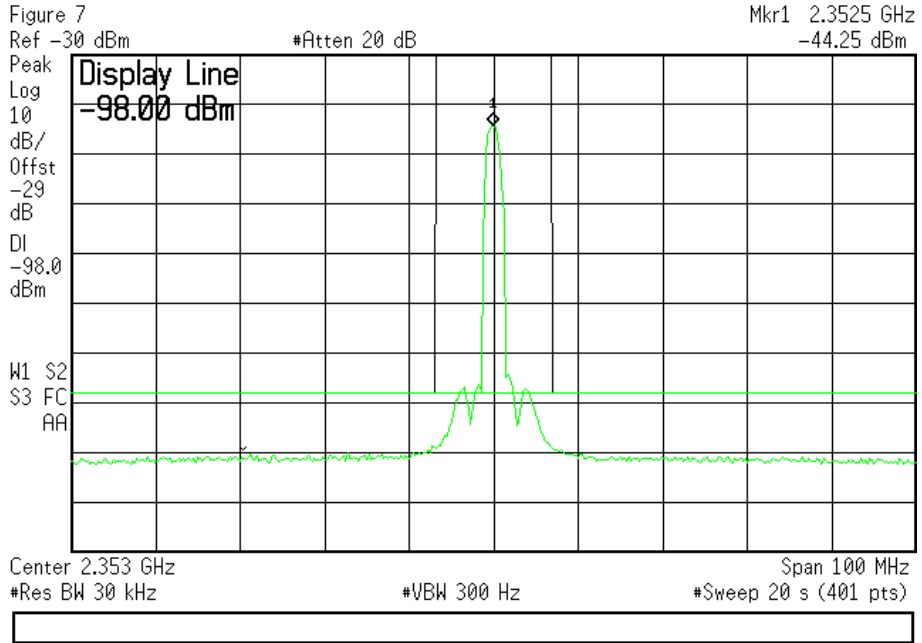


FIGURE 7

Agilent 11:54:08 Sep 30, 2005

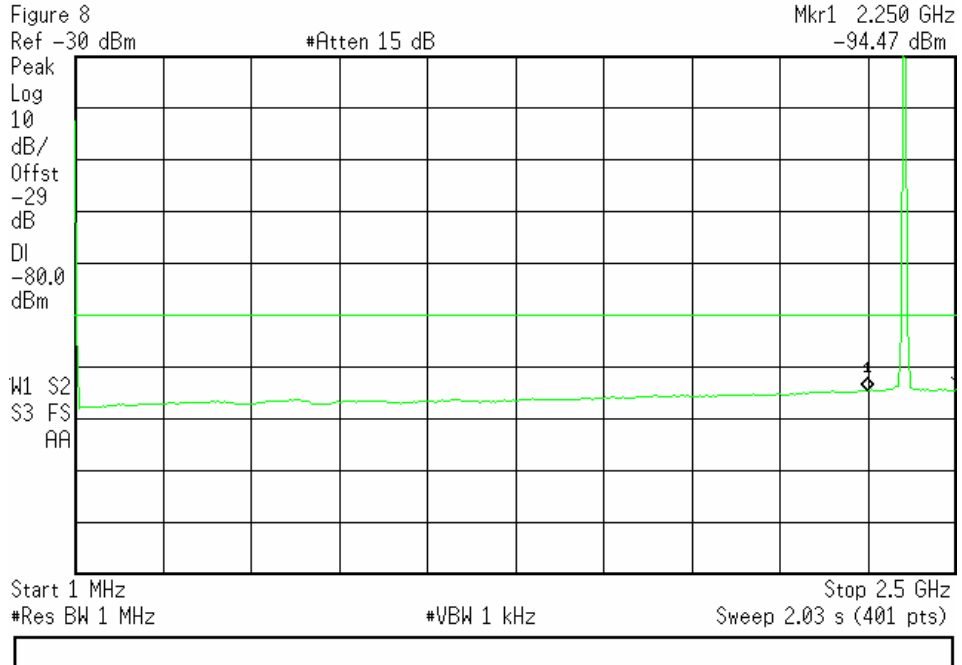


FIGURE 8

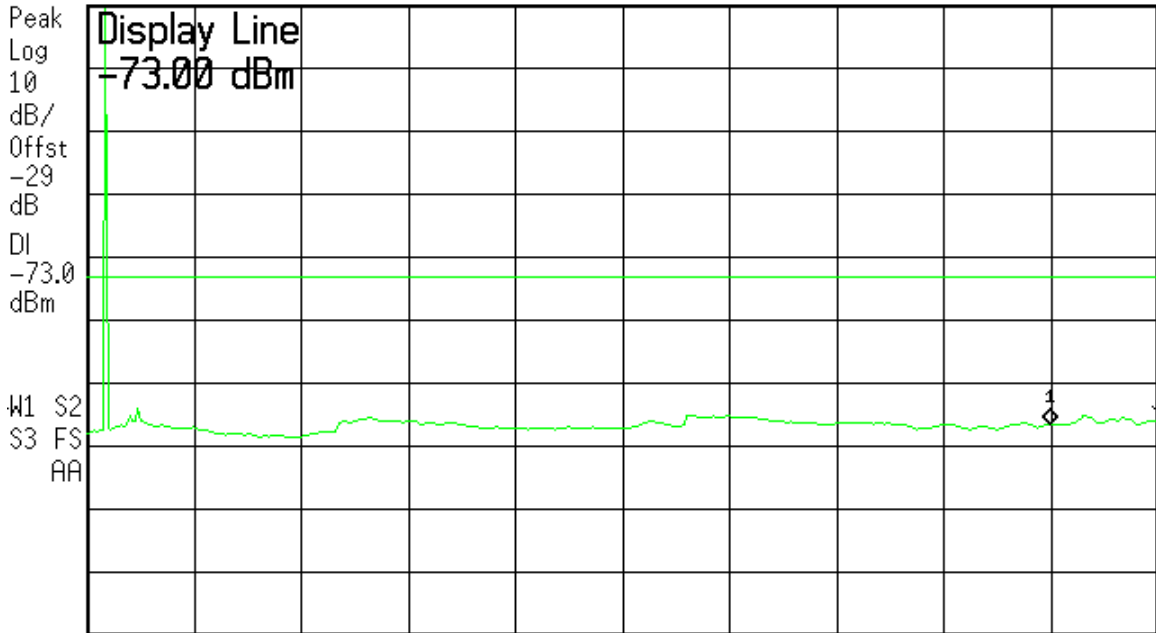
Figure 9

Mkr1 20.00 GHz

Ref -30 dBm

#Atten 15 dB

-96.48 dBm



Start 2 GHz

Stop 22 GHz

#Res BW 1 MHz

#VBW 1 kHz

Sweep 16.25 s (401 pts)

FIGURE 9

## 2.1053 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.

The measurements were made using the "Substitution Method" per TIA-603-C. The dipole equivalent power ( $P_d$ ) was determined using the following formula:

$$P_d(\text{dBm}) = P_g(\text{dBm}) - \text{cable loss (dB)} + \text{antenna gain (dB)}$$

Where  $P_g$  is the generator output power into the substitution antenna.

The radiated spurious emissions (dB) was obtained for each spurious frequency using the following equation:

$$10 \log_{10} (\text{TX power in watts}/0.001) - P_d$$

Measurements were made, using the substitution method, and significant (greater than 75 dB) spurious emissions were recorded.

The significant spurious emissions found are as follows:

**Horizontal**

| <b><u>Freq(MHZ)</u></b> | <b>Radiated<br/>Spurious<br/>Emissions<br/>(dB)</b> |
|-------------------------|---|
| 72.85                   | 70.31   |
| 121                     | 58.41   |
| 145.4                   | 73.1  |
| 148.23                  | 71.4  |
| 169.6                   | 70.0  |
| 218.2                   | 60.7  |
| 266.9                   | 73.7  |
| 274.9                   | 66.0  |
| 290.85                  | 72.8  |
| 296.4                   | 62.0  |
| 315.1                   | 74.0  |
| 336.07                  | 73.0  |
| 339.175                 | 69.5  |
| 345.675                 | 62.5  |
| 363.875                 | 61.5  |
| 395.2                   | 60.7  |
| 411.95                  | 64.7  |
| 436.32                  | 72.2  |
| 509.12                  | 74.2  |
| 592.33                  | 67.3  |
| 630.7                   | 79.3  |
| 655                     | 71.3  |
| 825                     | 70.0  |
| 2036                    | 62.0  |

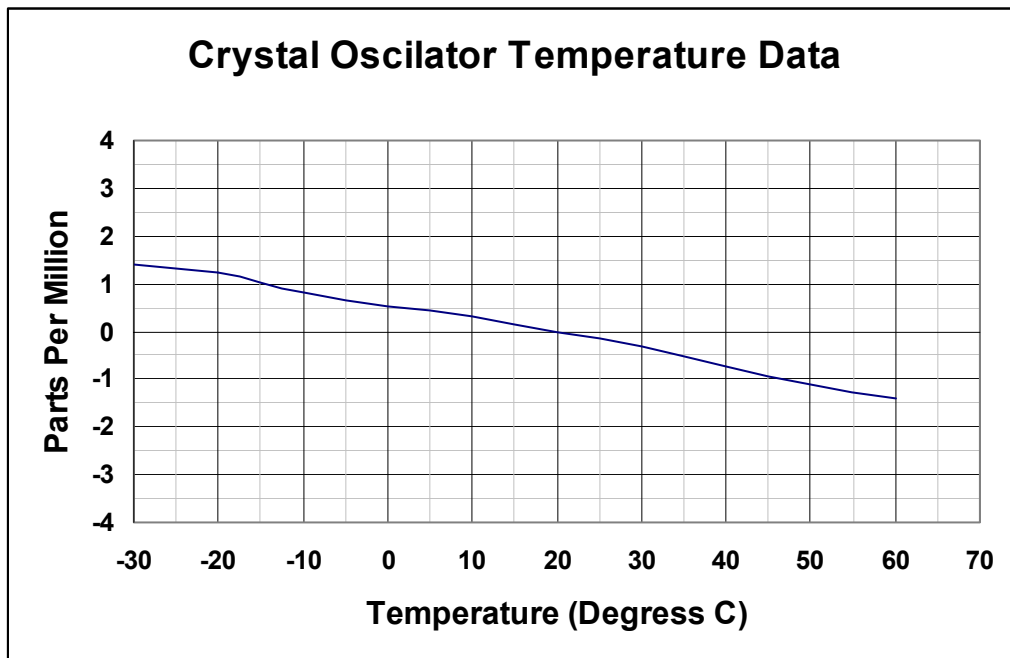
No significant spurious emissions were found above 2.37 GHz with the antenna mounted horizontally.

No significant spurious emissions were found with the antenna mounted vertically.

## 2.1055 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 -30 to + 50 degrees C and the largest deviation over the specified temperature range was +/- 1.5 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 (+/- 15%) and no significant variation in the frequency was observed.