

**Table 4d. PEAK RADIATED SPURIOUS EMISSIONS Low Channel****Fractal Antenna**

| Freq.<br>(MHz) | Test Data<br>(dBm)<br>@ 3m | AF + CA -<br>AMP<br>(dB) | Results<br>(uV/m)<br>3m | FCC Limits<br>(uV/m) | MARGIN BELOW<br>FCC Limits<br>(dB) |
|----------------|----------------------------|--------------------------|-------------------------|----------------------|------------------------------------|
| 910.47         | -25.0                      | 30.7                     | 429654.5                | -                    | -                                  |
| 1820.98        | -24.1                      | -6.9                     | 6332.6                  | 42965.5              | 16.6                               |
| 2731.48        | -53.5                      | -2.4                     | 357.4                   | 5000.0               | 22.9                               |
| 3641.98        | -53.4                      | 1.0                      | 539.8                   | 5000.0               | 19.3                               |
| 4552.5         | -61.6                      | 4.8                      | 322.9                   | 5000.0               | 23.8                               |
| 5462.93        | -64.8**                    | 6.8                      | 282.1                   | 42965.5              | 43.7                               |
| 6372.2         | -73.6**                    | 8.1                      | 118.7                   | 42965.5              | 51.2                               |
| 7284.05        | -69.0**                    | 9.9                      | 249.1                   | 5000.0               | 26.1                               |

Data corrected by 1 dB for loss of high pass filter except for fundamental frequency

\*\* Data conversion from 1 meter to 3 meters = -9.54

SAMPLE CALCULATION:

RESULTS (uV/m @ 3m) = Antilog  $((-24.1 + -6.9 + 107)/20)$  = 42965.5

CONVERSION FROM dBm TO dBuV = 107 dB

**Tester**

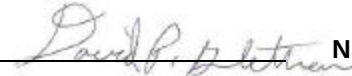
**Signature:**  **Name:** David Blethen

Figure 5d-1  
Peak Radiated Spurious Emission 15.247(c) Low –  
Fractal Fundamental

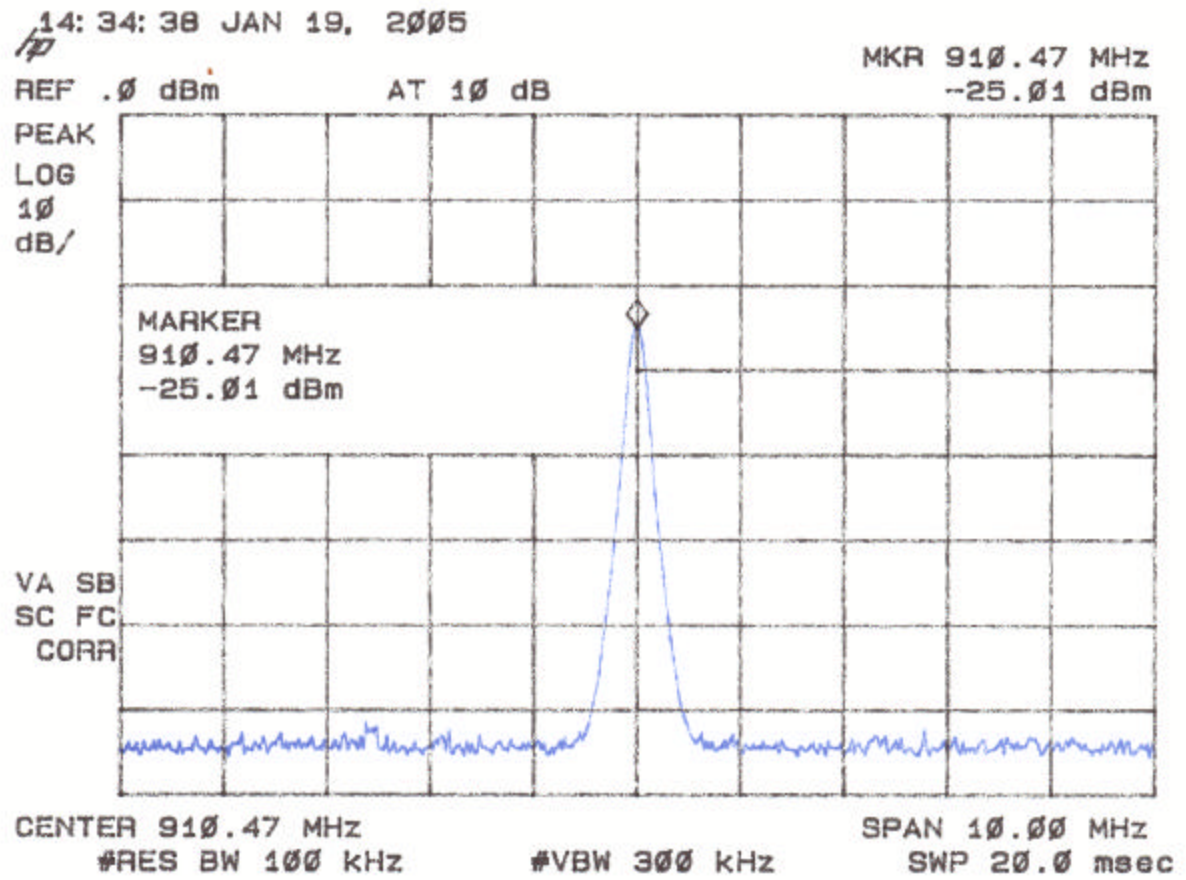


Figure 5d-2  
Peak Radiated Spurious Emission 15.247(c) Low –  
Fractal 2<sup>nd</sup> Harmonic

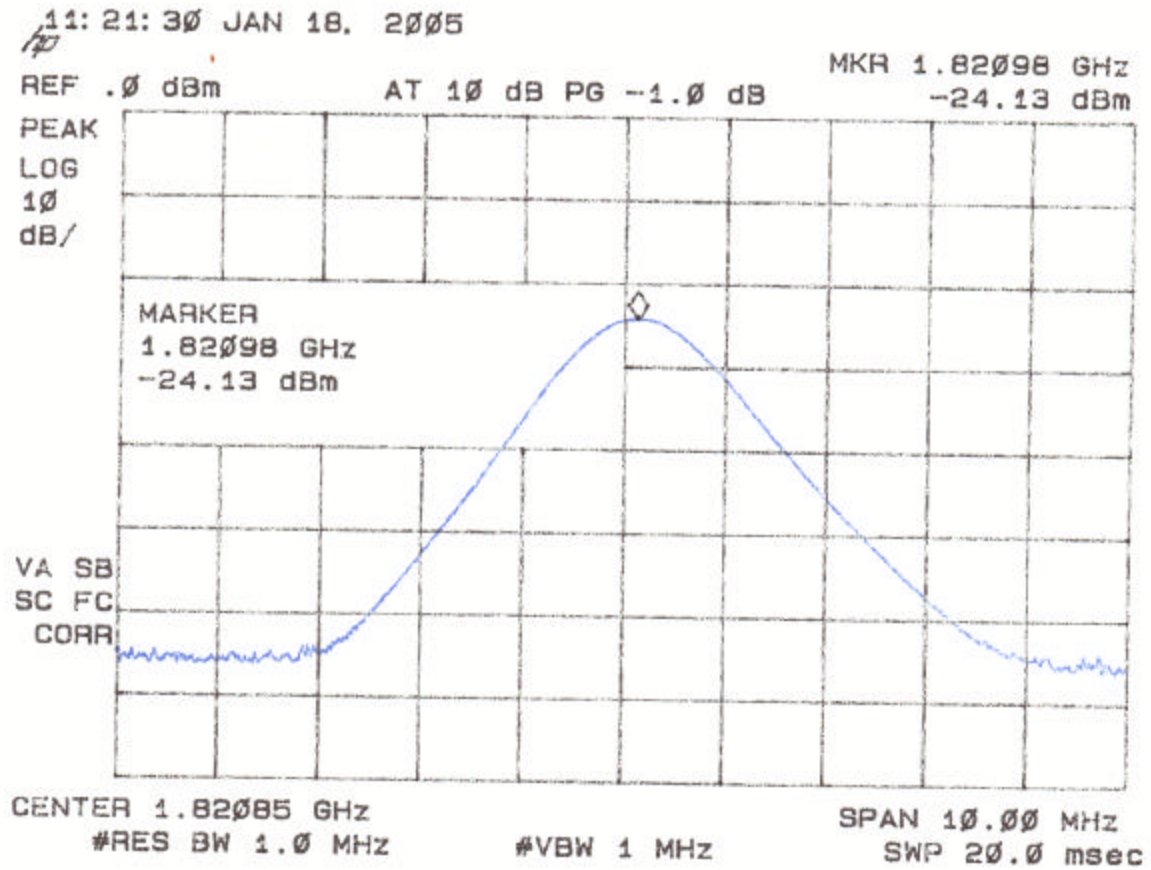


Figure 5d-3  
Peak Radiated Spurious Emission 15.247(c) Low –  
Fractal 3<sup>rd</sup> Harmonic

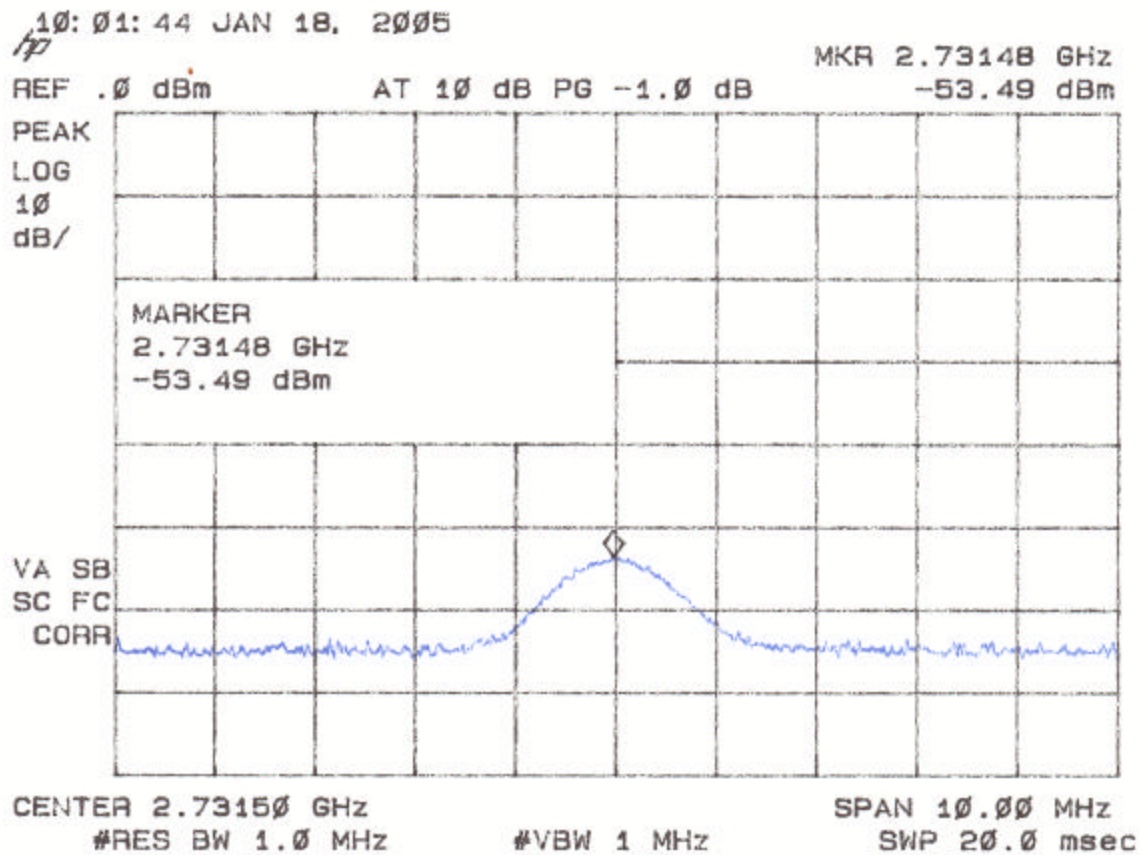


Figure 5d-4  
Peak Radiated Spurious Emission 15.247(c) Low –  
Fractal 4<sup>th</sup> Harmonic

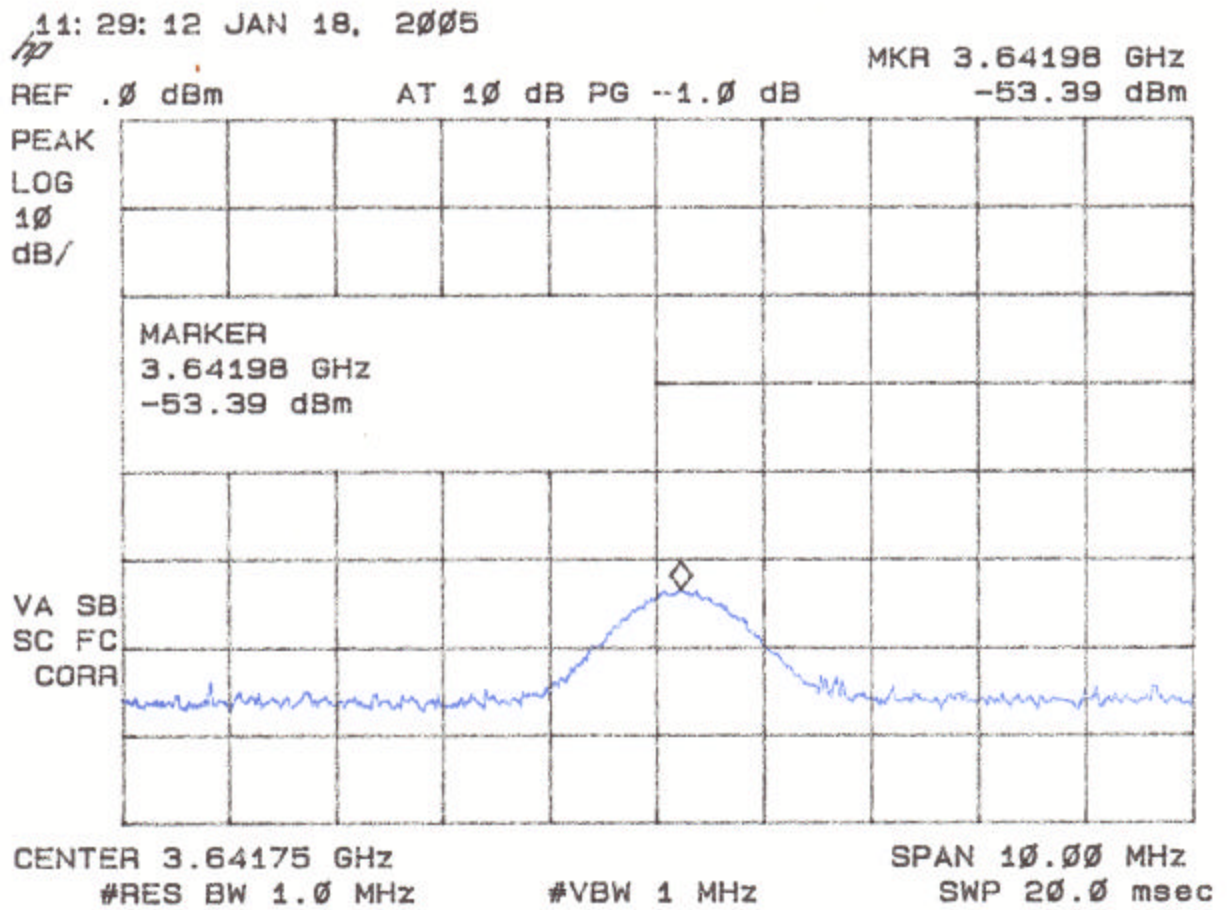


Figure 5d-5  
Peak Radiated Spurious Emission 15.247(c) Low –  
Fractal 5<sup>th</sup> Harmonic

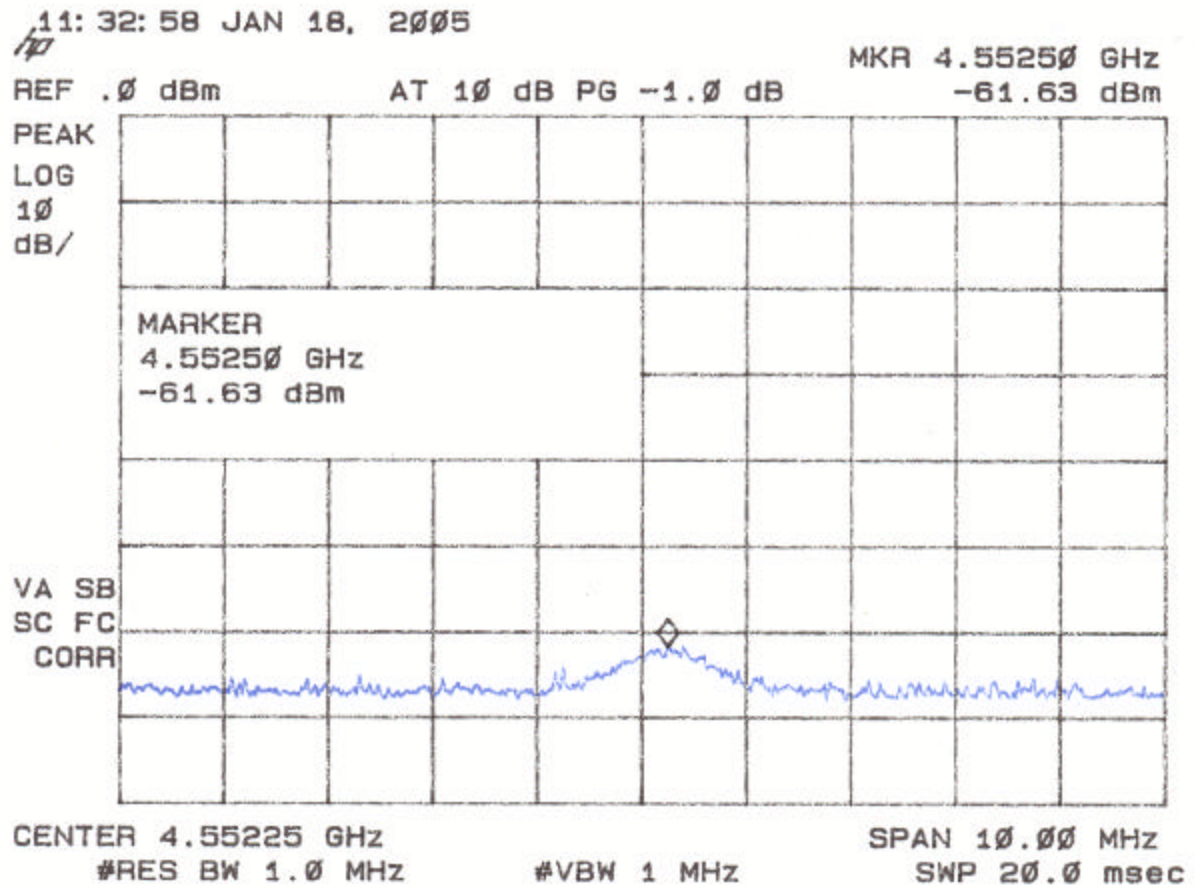


Figure 5d-6  
Peak Radiated Spurious Emission 15.247(c) Low –  
Fractal 6<sup>th</sup> Harmonic

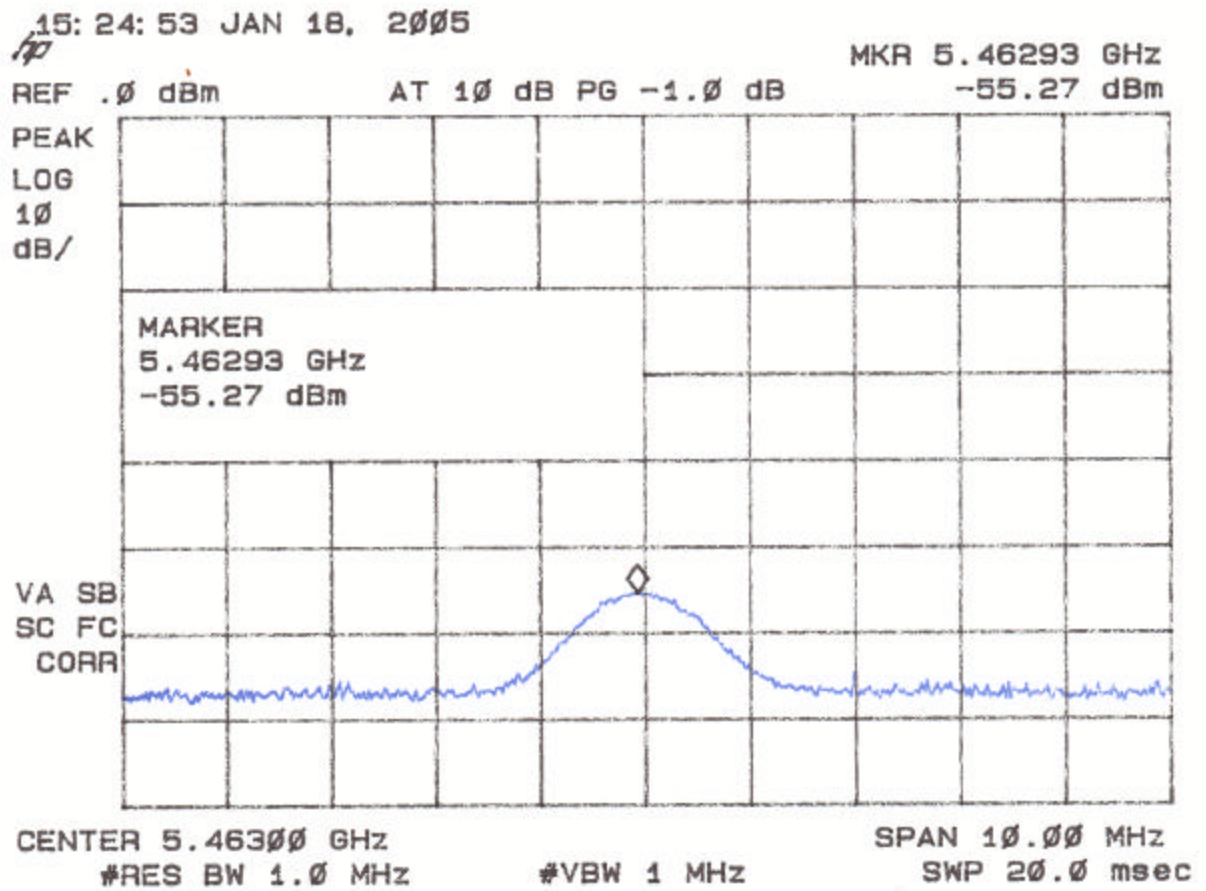


Figure 5d-7  
Peak Radiated Spurious Emission 15.247(c) Low –  
Fractal 7<sup>th</sup> Harmonic

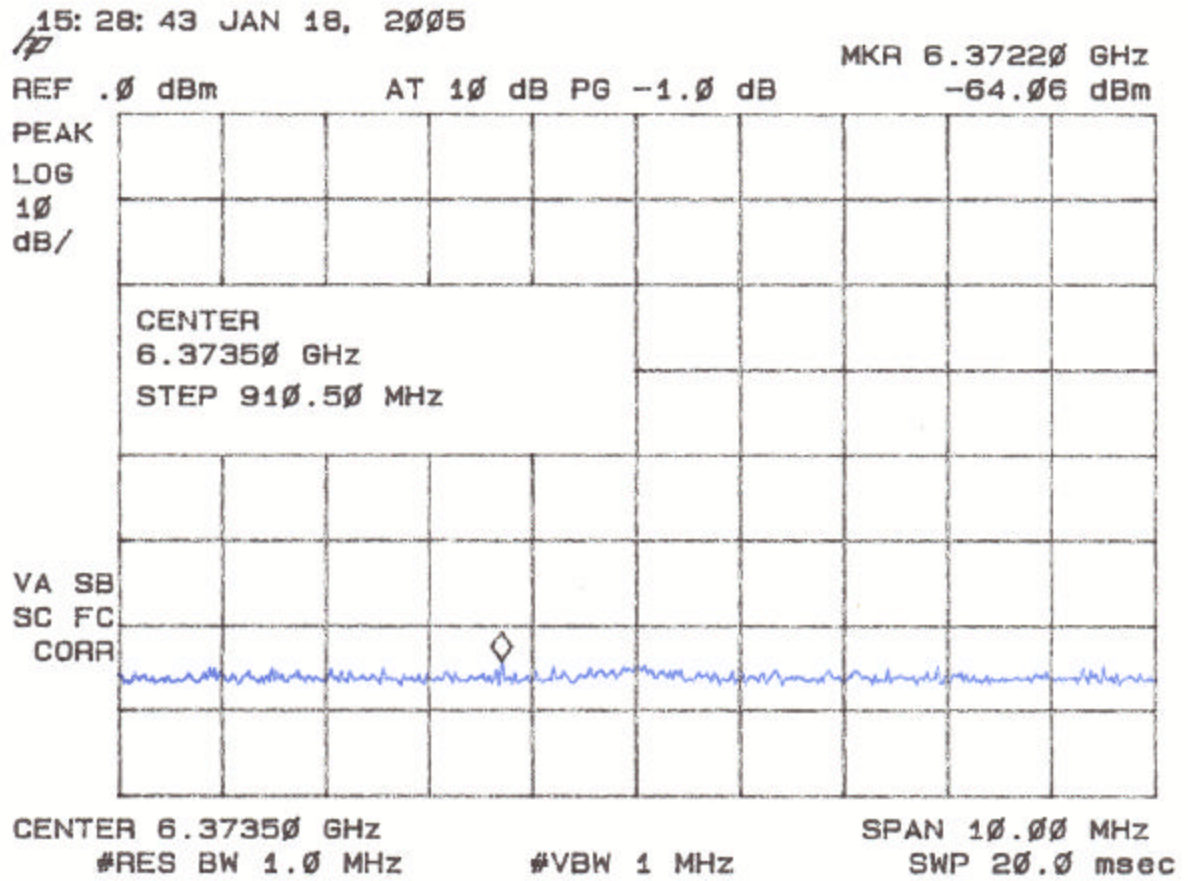
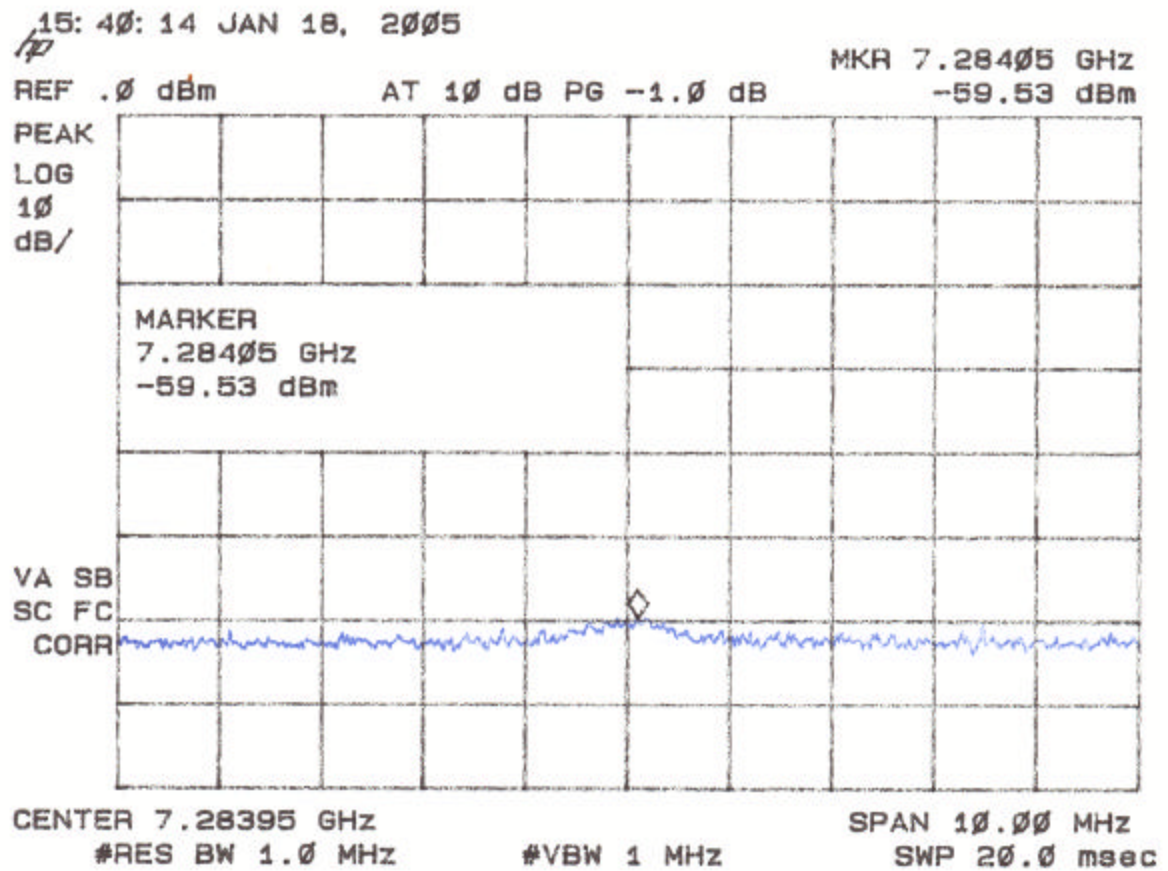


Figure 5d-8  
Peak Radiated Spurious Emission 15.247(c) Low –  
Fractal 8<sup>th</sup> Harmonic



**Table 4e. PEAK RADIATED SPURIOUS EMISSIONS Mid Channel**

**Fractal Antenna**

| Freq.<br>(MHz) | Test Data<br>(dBm)<br>@ 3m | AF + CA -<br>AMP<br>(dB) | Results<br>(uV/m)<br>3m | FCC Limits<br>(uV/m) | MARGIN BELOW<br>FCC Limits<br>(dB) |
|----------------|----------------------------|--------------------------|-------------------------|----------------------|------------------------------------|
| 918.97         | -25.1                      | 30.7                     | 427921.8                | -                    | -                                  |
| 1837.93        | -29.1                      | -6.6                     | 3675.4                  | 42792.2              | 21.3                               |
| 2756.9         | -56.7                      | -2.4                     | 249.6                   | 5000.0               | 26.0                               |
| 3675.93        | -56.9                      | 1.2                      | 368.6                   | 5000.0               | 22.6                               |
| 4595.05        | -63.2                      | 4.9                      | 273.8                   | 5000.0               | 25.2                               |
| 5514.05        | -65.6**                    | 6.9                      | 259.0                   | 42792.2              | 44.4                               |
| 6430.75        | -74.1**                    | 8.1                      | 112.0                   | 42792.2              | 51.6                               |
| 7351.95        | -67.7**                    | 9.9                      | 290.1                   | 5000.0               | 24.7                               |

Data corrected by 1 dB for loss of high pass filter except for fundamental frequency

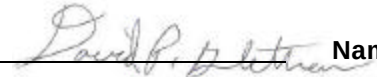
\*\* Data conversion from 1 meter to 3 meters = -9.54

SAMPLE CALCULATION:

RESULTS (uV/m @ 3m) = Antilog  $((-29.1 + -6.6 + 107)/20)$  = 3675.4

CONVERSION FROM dBm TO dBuV = 107 dB

**Tester**

**Signature:**  **Name:** David Blethen

**Figure 5e-1**  
Peak Radiated Spurious Emission 15.247(c) Mid -  
Fractal Fundamental

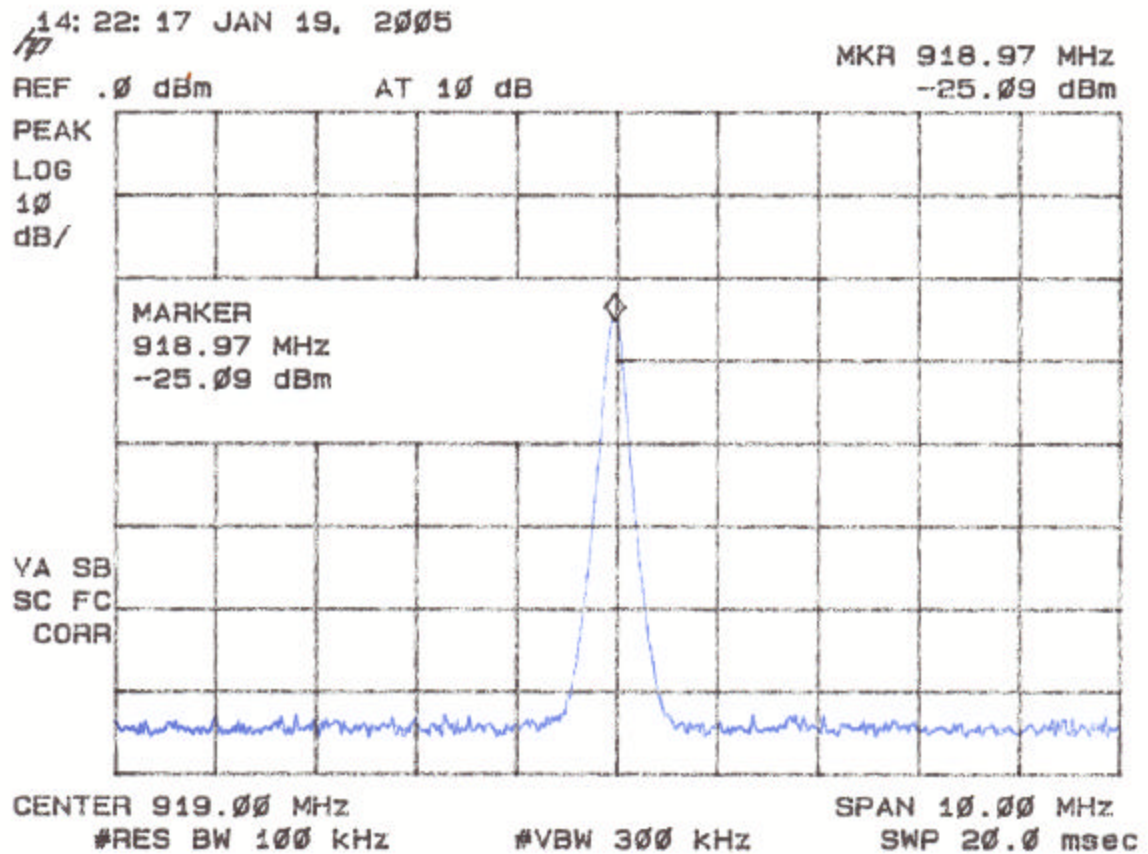


Figure 5e-2  
Peak Radiated Spurious Emission 15.247(c) Mid –  
Fractal 2<sup>nd</sup> Harmonic

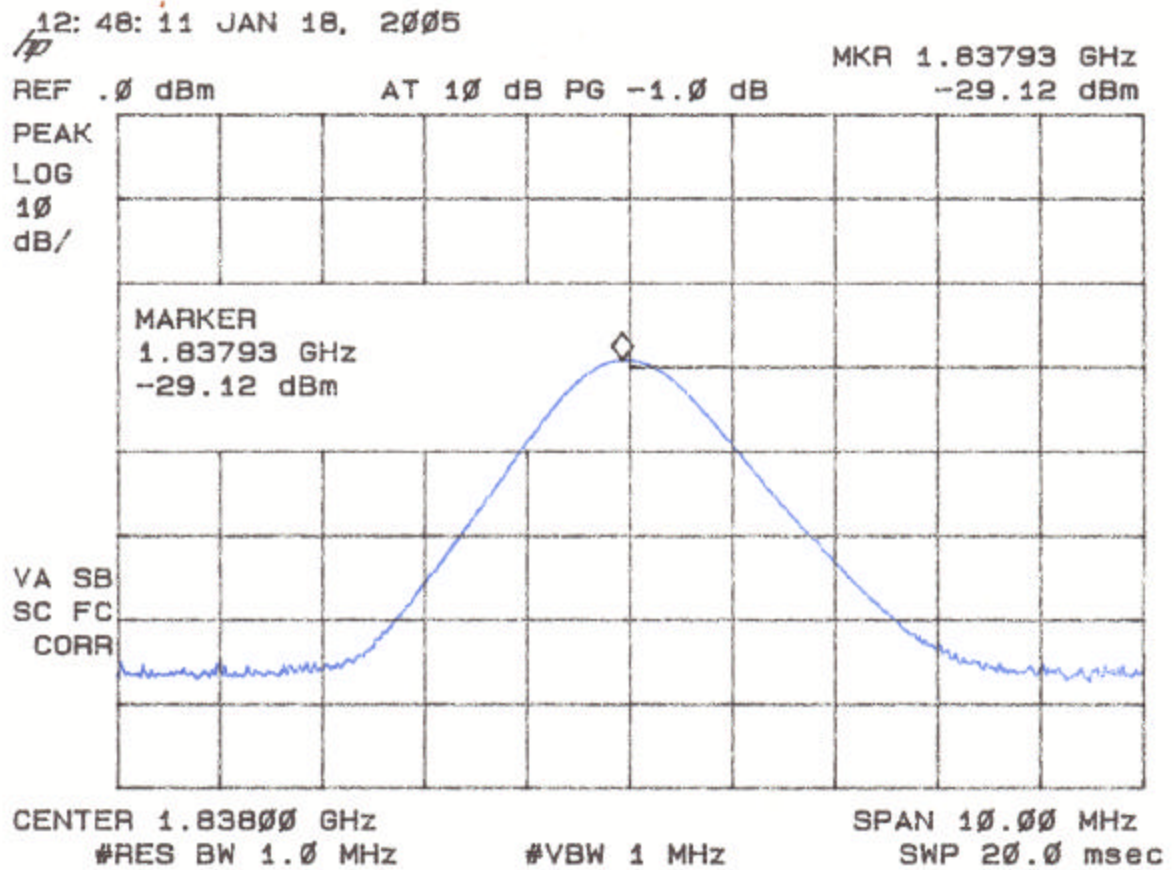
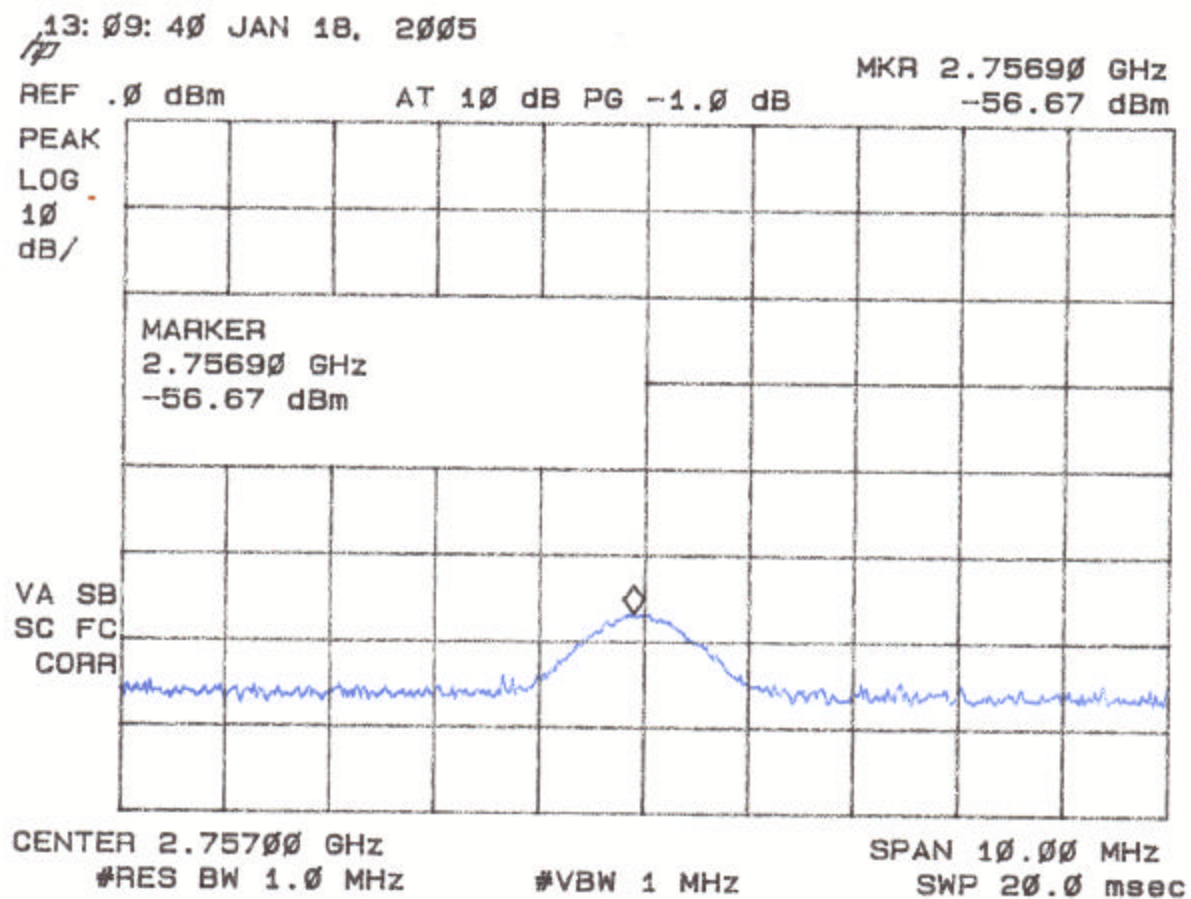


Figure 5e-3  
Peak Radiated Spurious Emission 15.247(c) Mid –  
Fractal 3<sup>rd</sup> Harmonic



**Figure 5e-4**  
**Peak Radiated Spurious Emission 15.247(c) Mid –**  
**Fractal 4<sup>th</sup> Harmonic**

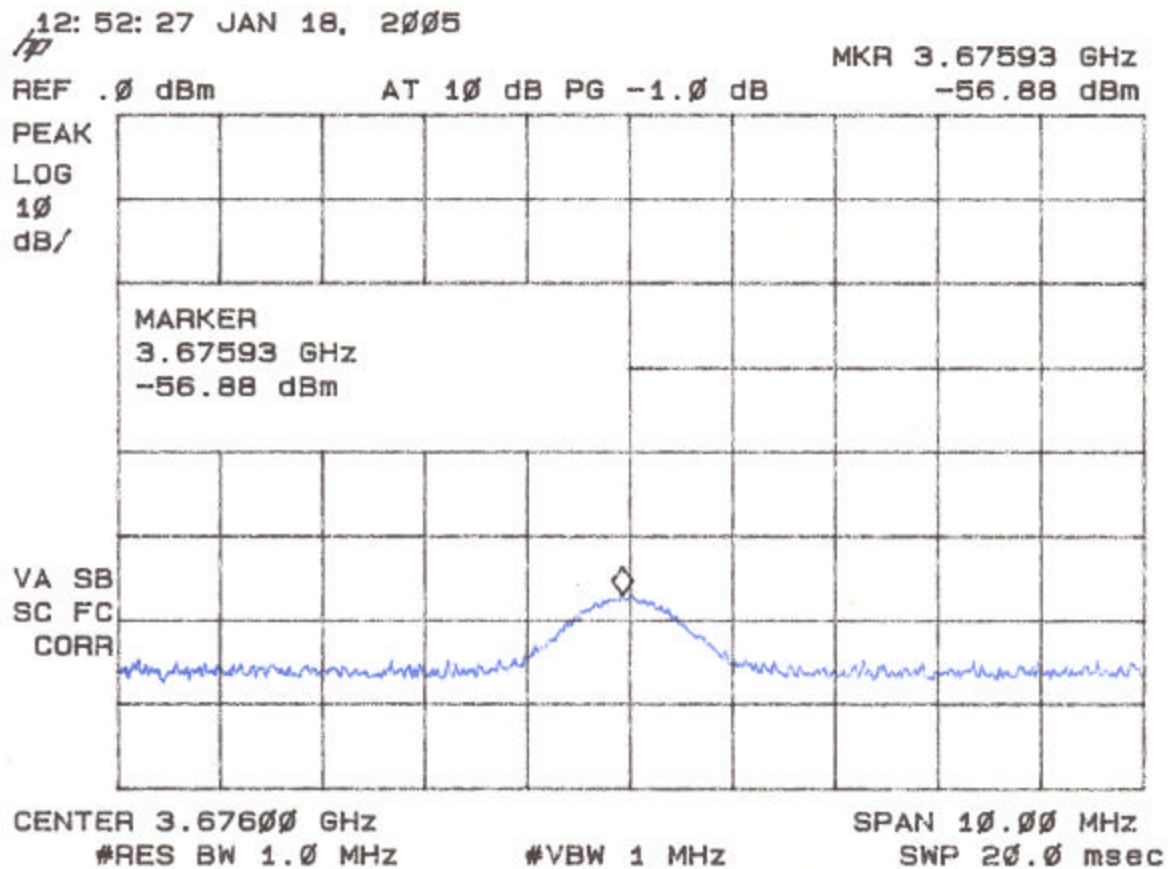
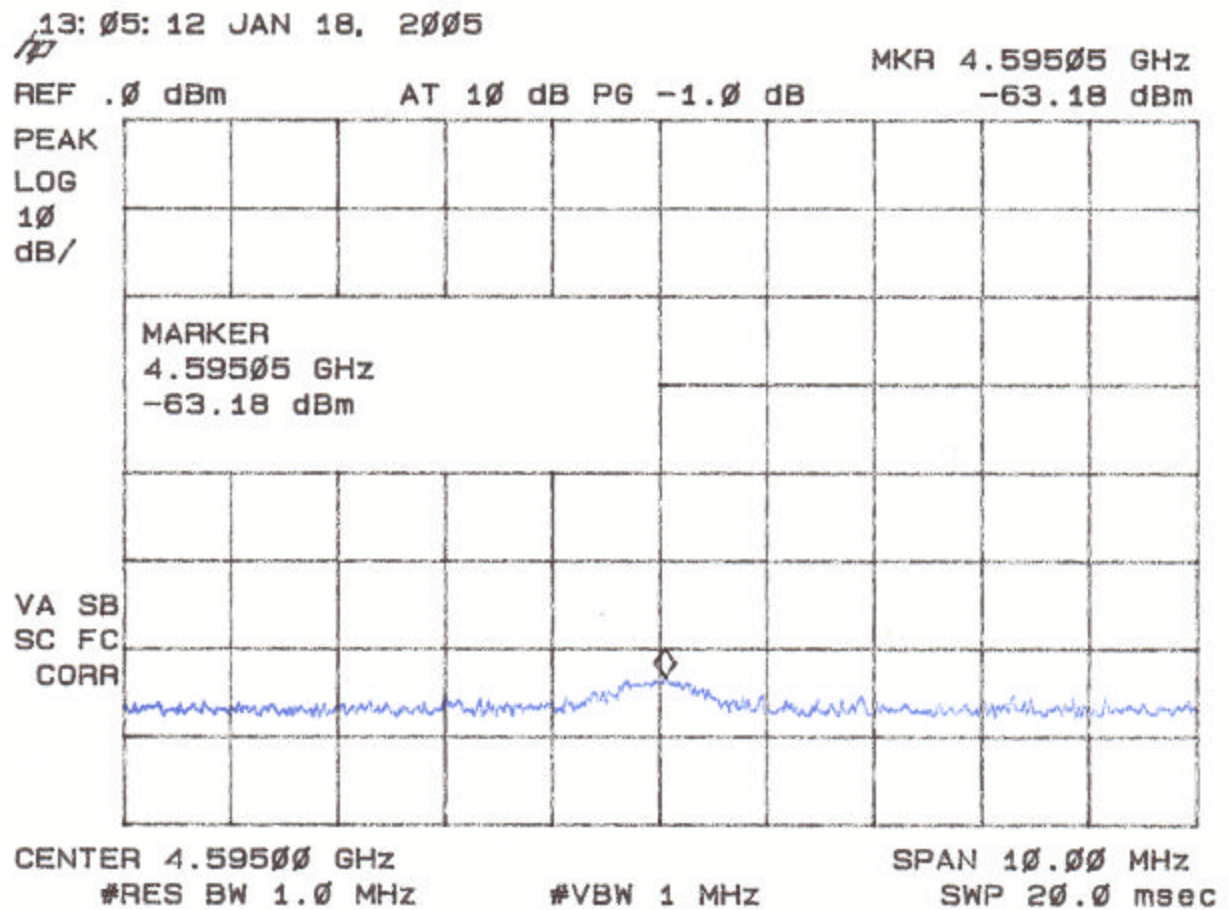


Figure 5e-5  
Peak Radiated Spurious Emission 15.247(c) Mid –  
Fractal 5<sup>th</sup> Harmonic



**Figure 5e-6**  
**Peak Radiated Spurious Emission 15.247(c) Mid –**  
**Fractal 6<sup>th</sup> Harmonic**

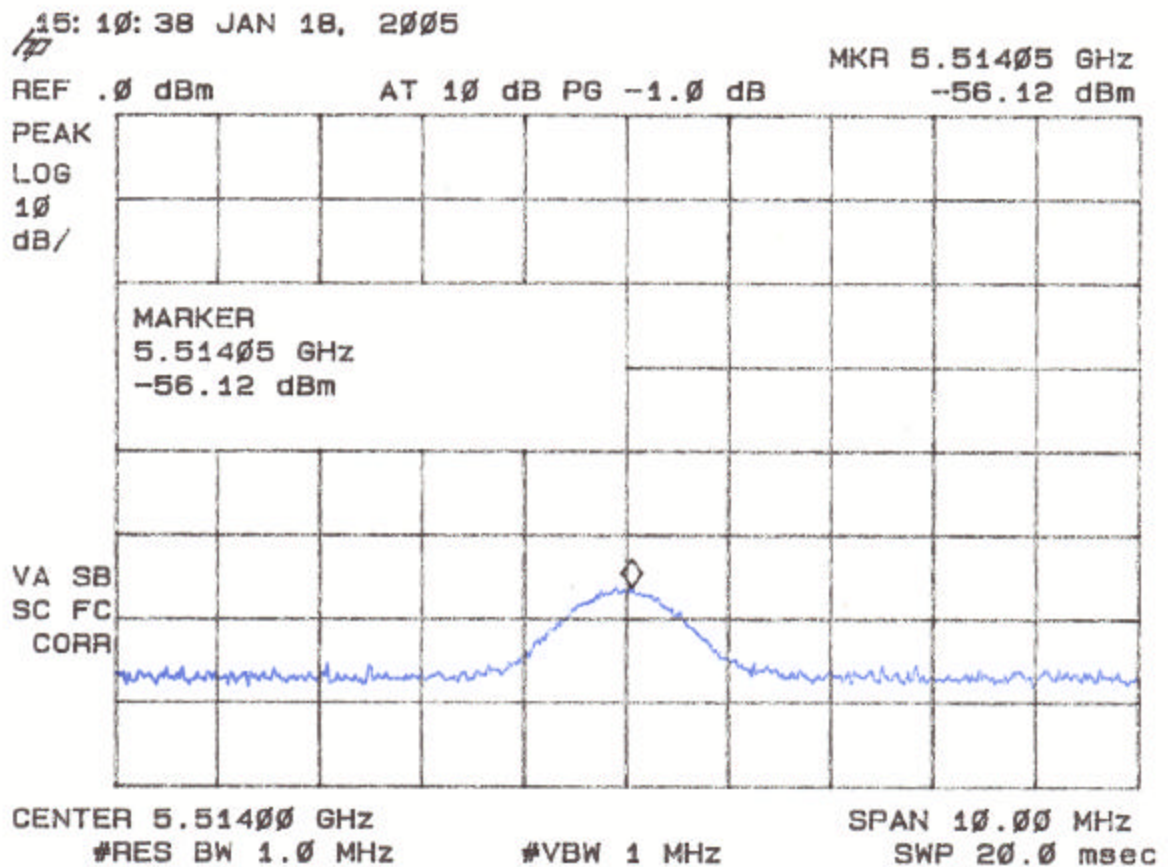


Figure 5e-7  
Peak Radiated Spurious Emission 15.247(c) Mid –  
Fractal 7<sup>th</sup> Harmonic

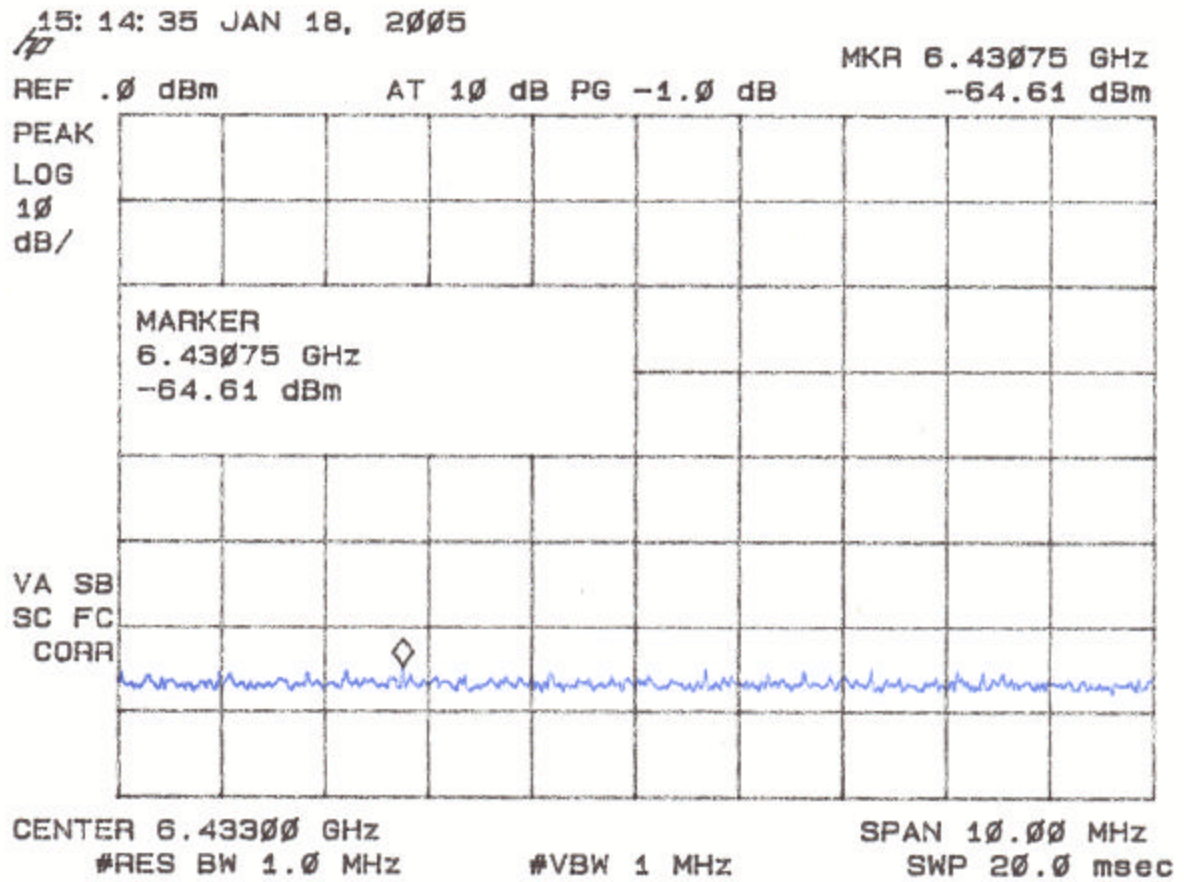
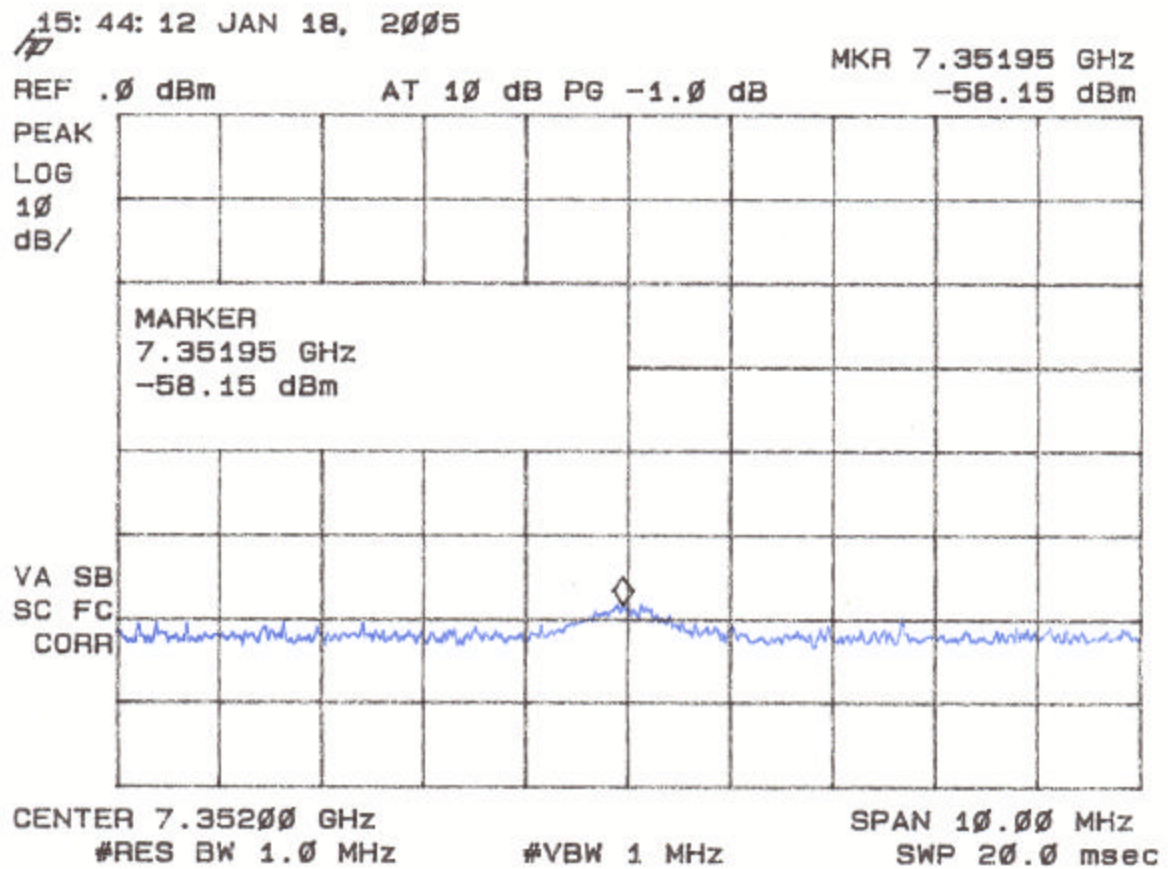


Figure 5e-8  
Peak Radiated Spurious Emission 15.247(c) Mid –  
Fractal 8<sup>th</sup> Harmonic



**Table 4f. PEAK RADIATED SPURIOUS EMISSIONS High Channel**

**Fractal Antenna**

| Freq.<br>(MHz) | Test Data<br>(dBm)<br>@ 3m | AF + CA -<br>AMP<br>(dB) | Results<br>(uV/m)<br>3m | FCC Limits<br>(uV/m) | MARGIN BELOW<br>FCC Limits<br>(dB) |
|----------------|----------------------------|--------------------------|-------------------------|----------------------|------------------------------------|
| 927.47         | -24.4                      | 30.7                     | 464896.7                | -                    | -                                  |
| 1854.95        | -29.9                      | -6.3                     | 3460.0                  | 46489.7              | 22.6                               |
| 2782.3         | -58.2                      | -2.3                     | 212.0                   | 5000.0               | 27.5                               |
| 3709.93        | -57.5                      | 1.4                      | 351.5                   | 5000.0               | 23.1                               |
| 4637.2         | -63.2                      | 5.1                      | 279.1                   | 5000.0               | 25.1                               |
| 5565.0         | -66.6**                    | 7.0                      | 234.4                   | 46489.7              | 45.9                               |
| 6493.0         | -73.4**                    | 8.1                      | 121.3                   | 46489.7              | 51.7                               |
| 7420.08        | -65.7**                    | 10.0                     | 366.1                   | 5000.0               | 22.7                               |

Data corrected by 1 dB for loss of high pass filter except for fundamental frequency

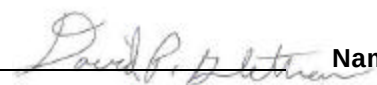
\*\* Data conversion from 1 meter to 3 meters = -9.54

SAMPLE CALCULATION:

RESULTS (uV/m @ 3m) = Antilog  $((-29.9 + -6.3 + 107)/20)$  = 3460.0

CONVERSION FROM dBm TO dBuV = 107 dB

**Tester**

**Signature:**  **Name:** David Blethen

**Figure 5f-1**  
**Peak Radiated Spurious Emission 15.247(c) High –**  
**Fractal Fundamental**

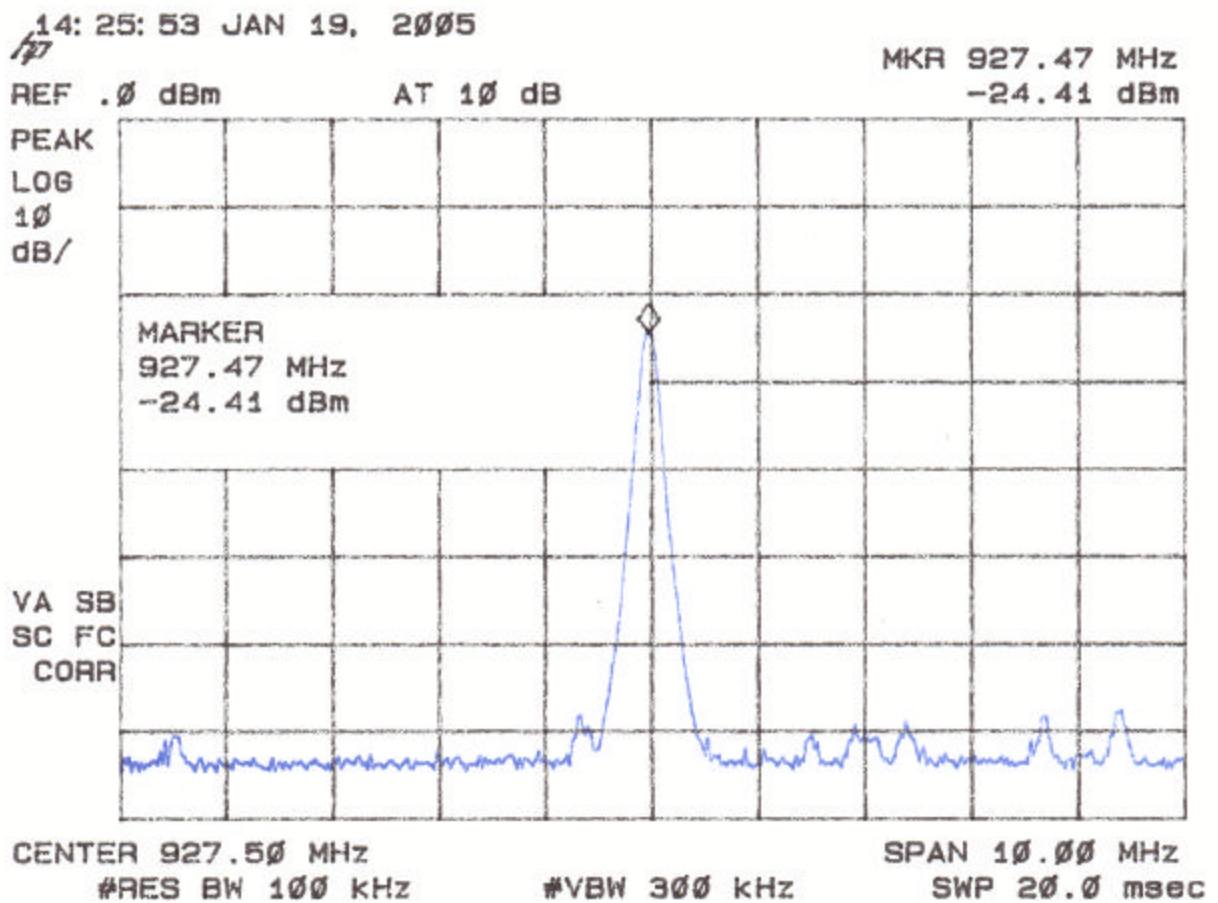


Figure 5f-2  
Peak Radiated Spurious Emission 15.247(c) High –  
Fractal 2<sup>nd</sup> Harmonic

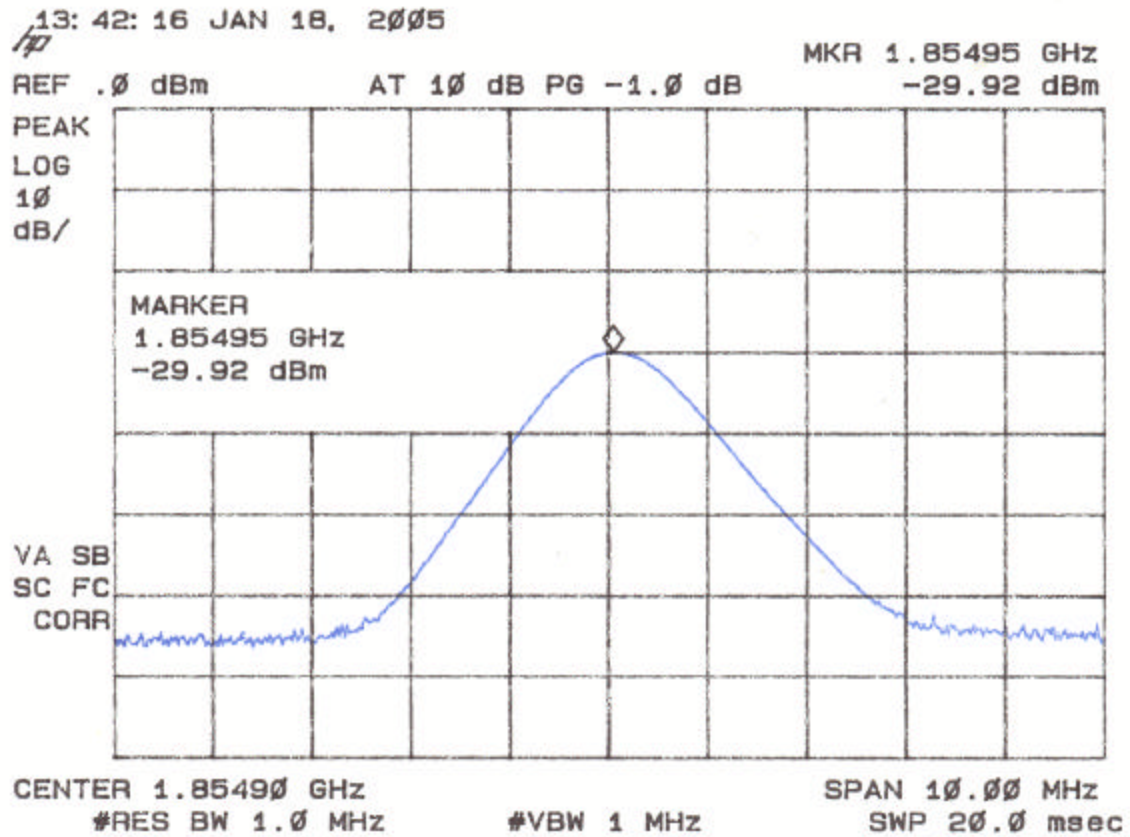


Figure 5f-3  
Peak Radiated Spurious Emission 15.247(c) High –  
Fractal 3<sup>rd</sup> Harmonic

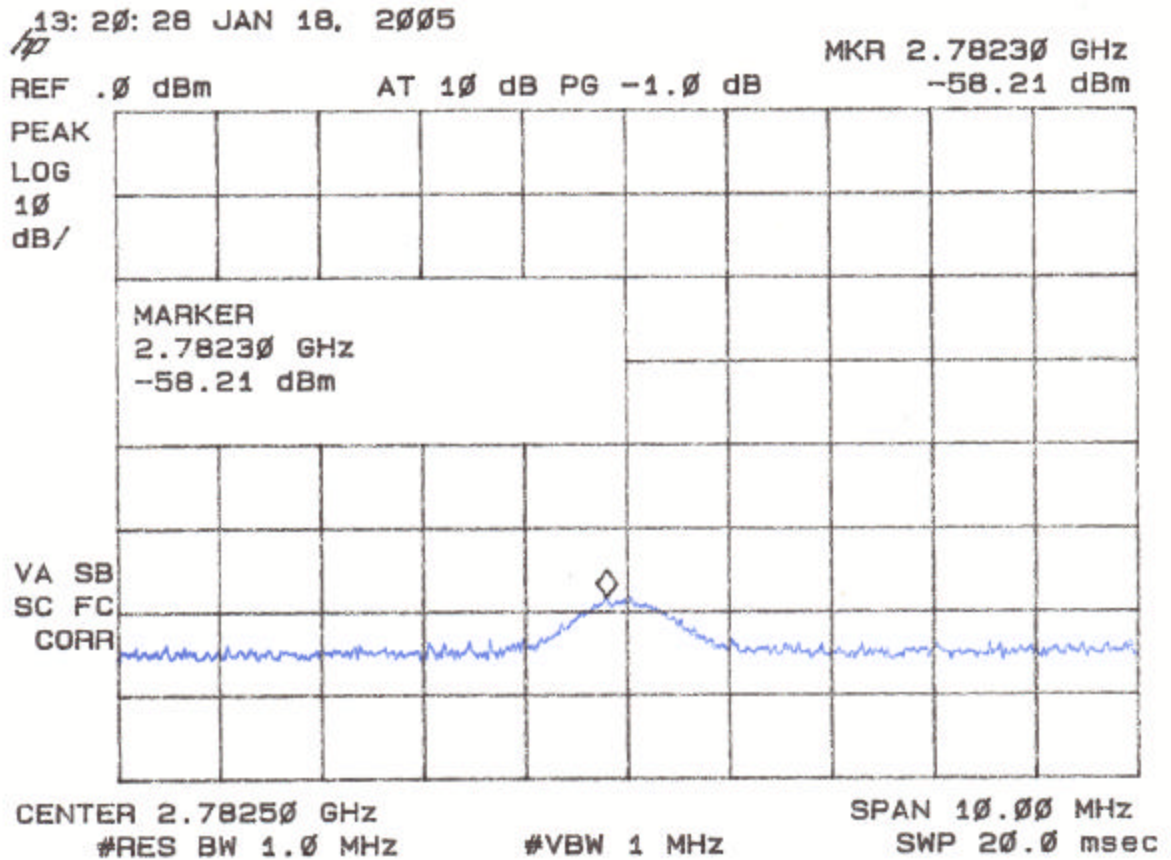


Figure 5f-4  
Peak Radiated Spurious Emission 15.247(c) High –  
Fractal 4<sup>th</sup> Harmonic

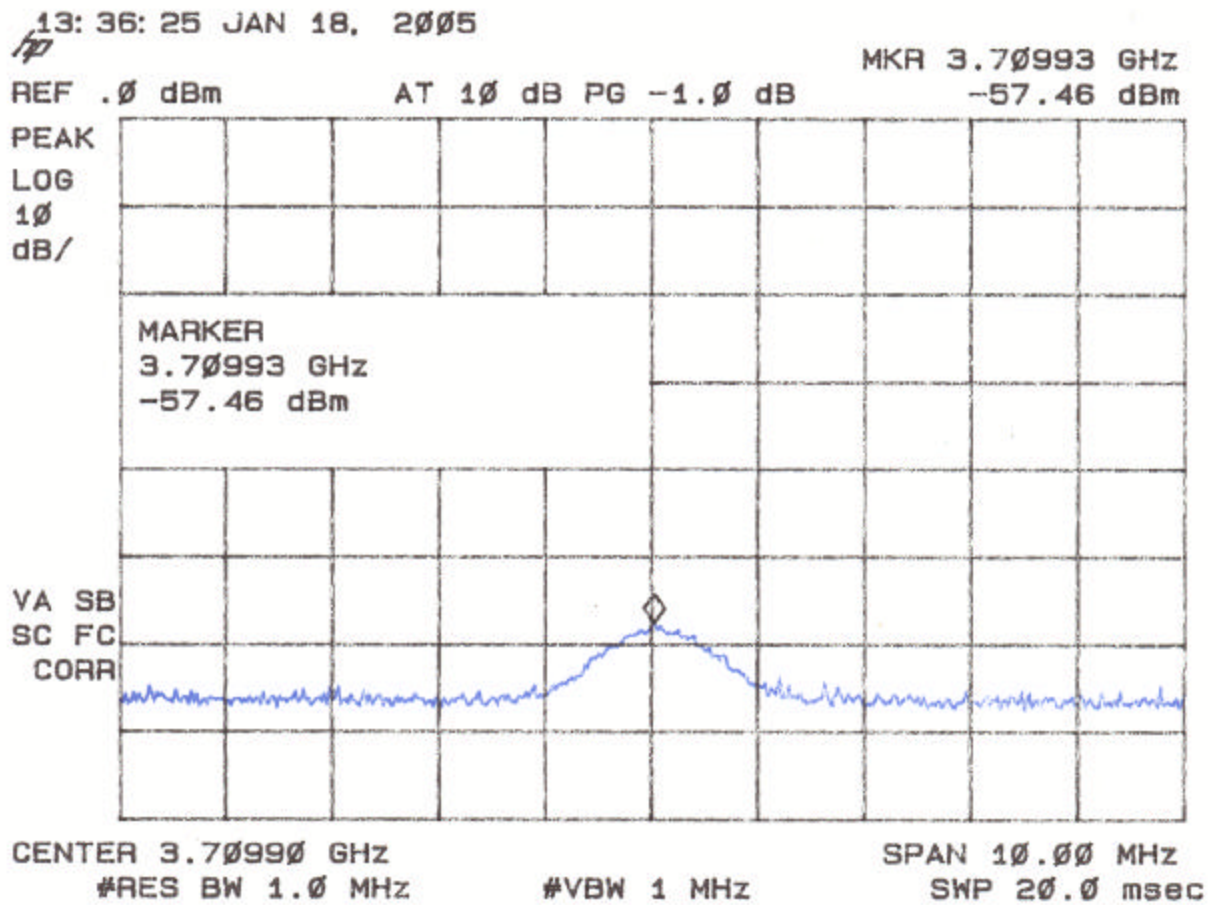


Figure 5f-5  
Peak Radiated Spurious Emission 15.247(c) High –  
Fractal 5<sup>th</sup> Harmonic

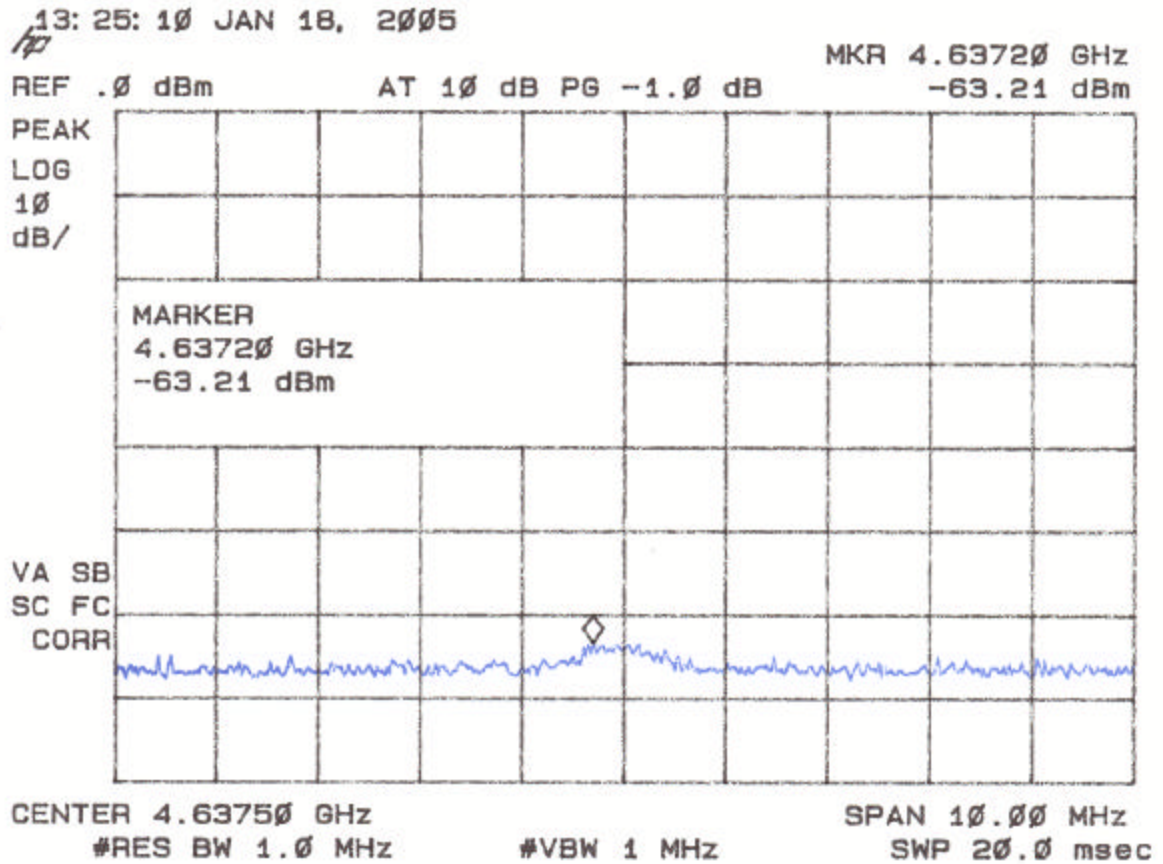


Figure 5f-6  
Peak Radiated Spurious Emission 15.247(c) High –  
Fractal 6<sup>th</sup> Harmonic

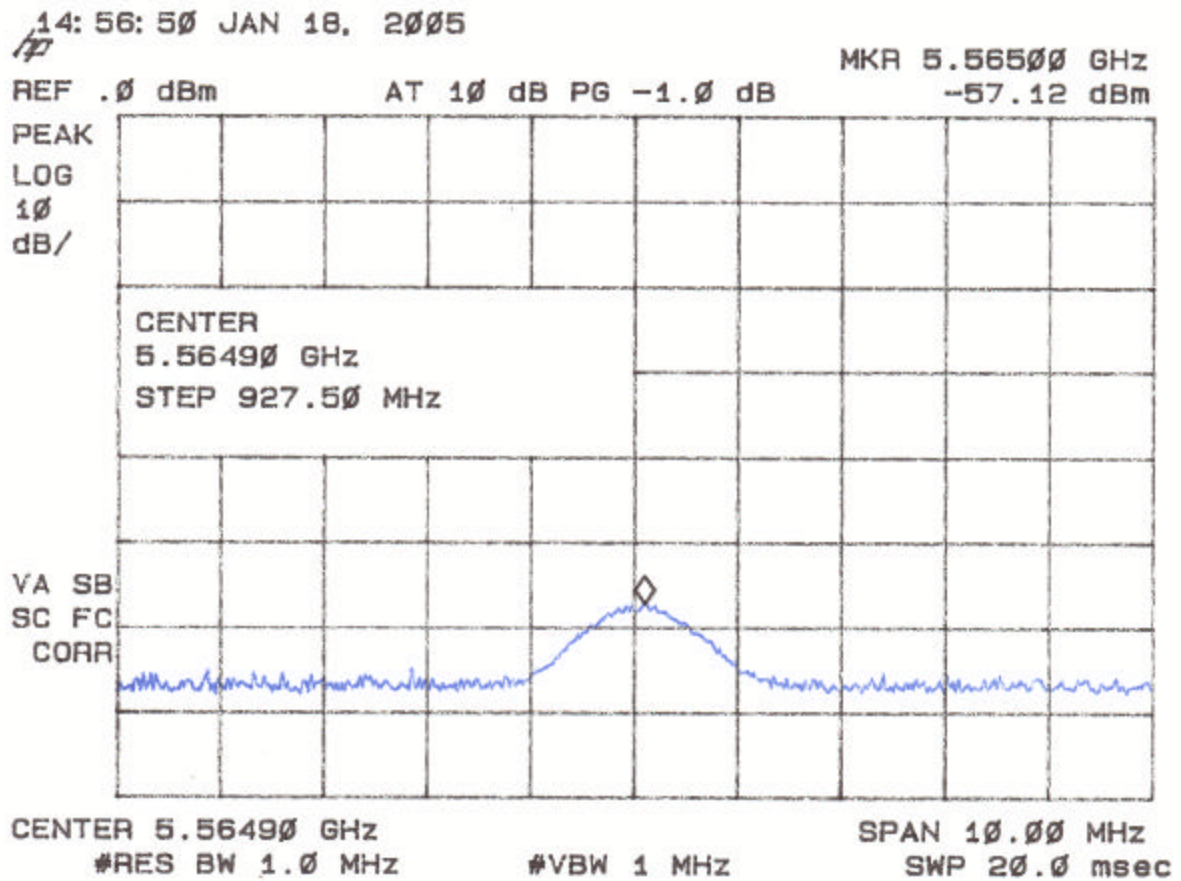


Figure 5f-7  
Peak Radiated Spurious Emission 15.247(c) High –  
Fractal 7<sup>th</sup> Harmonic

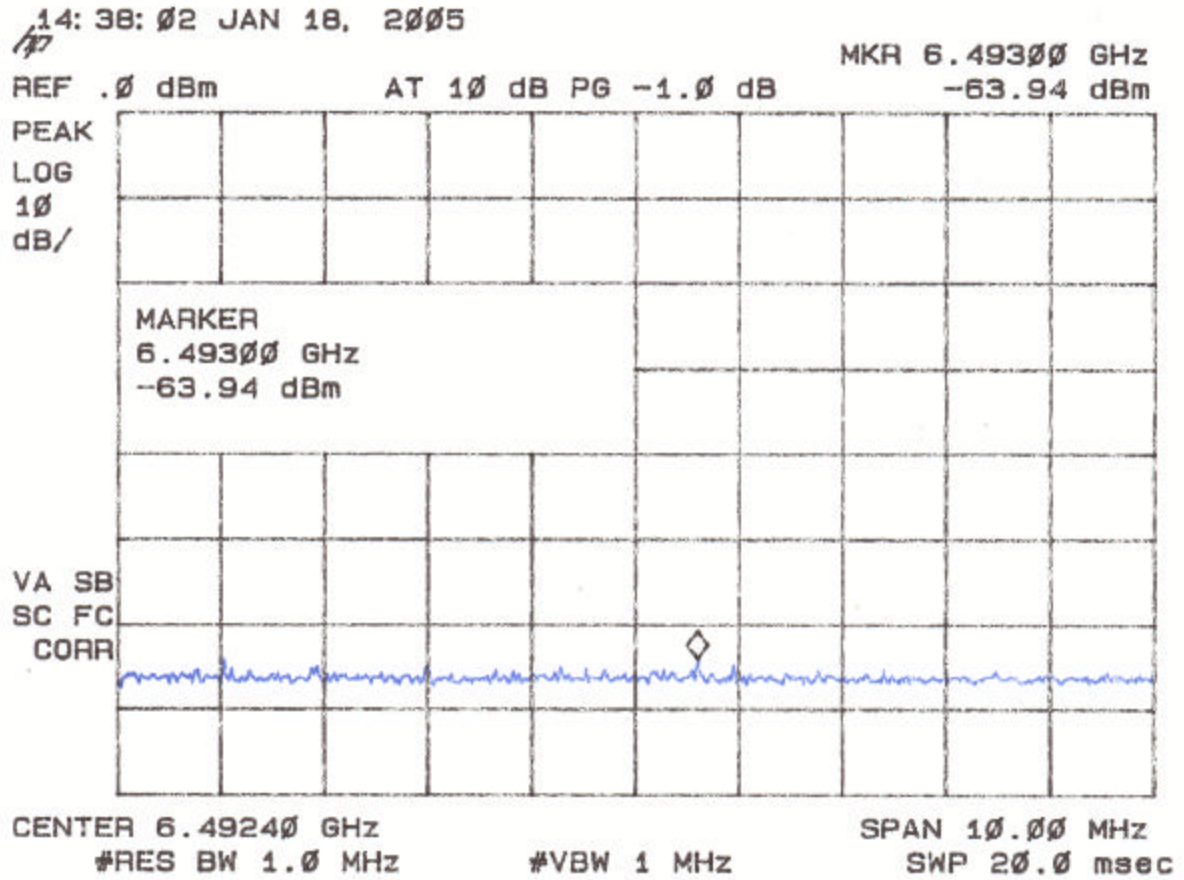


Figure 5f-8  
Peak Radiated Spurious Emission 15.247(c) High –  
Fractal 8<sup>th</sup> Harmonic

