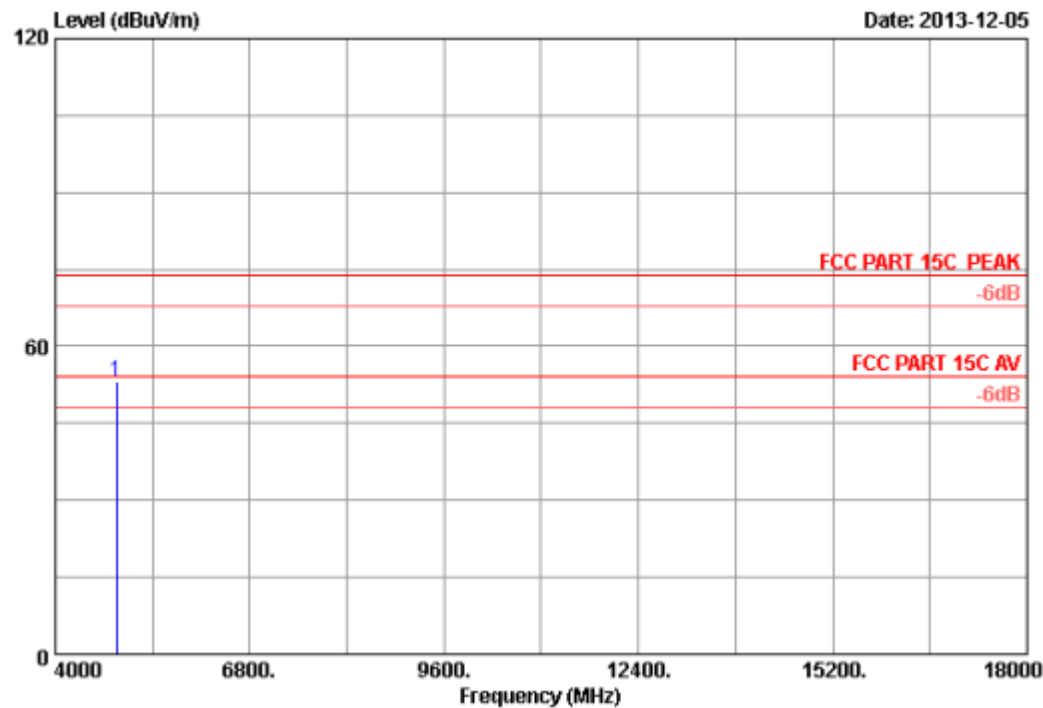
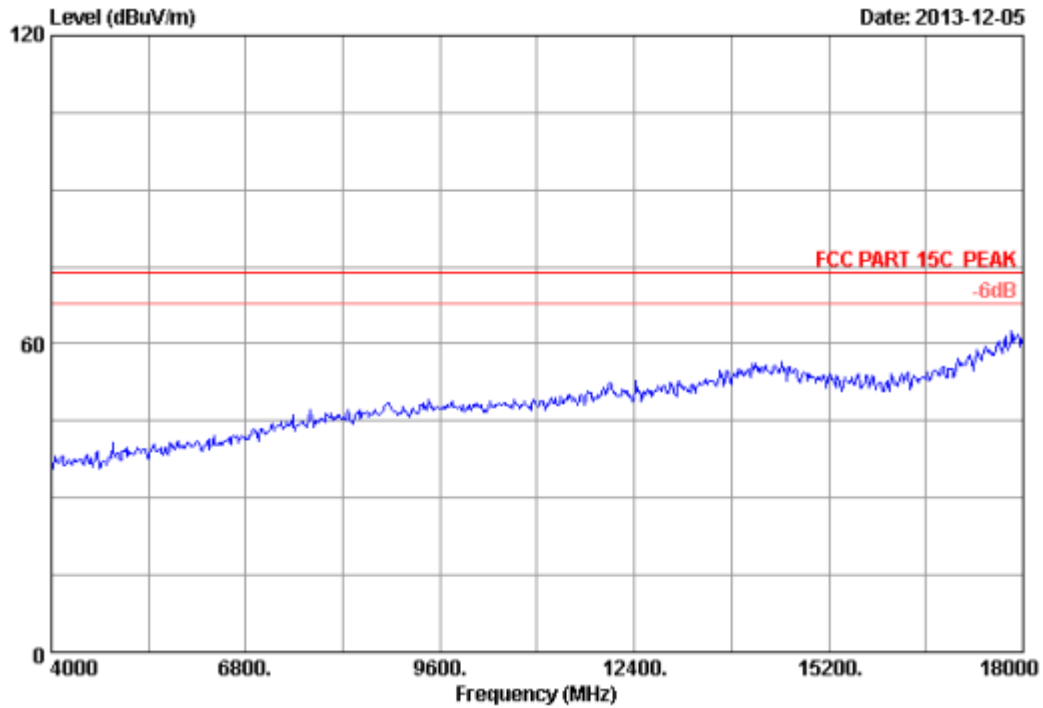
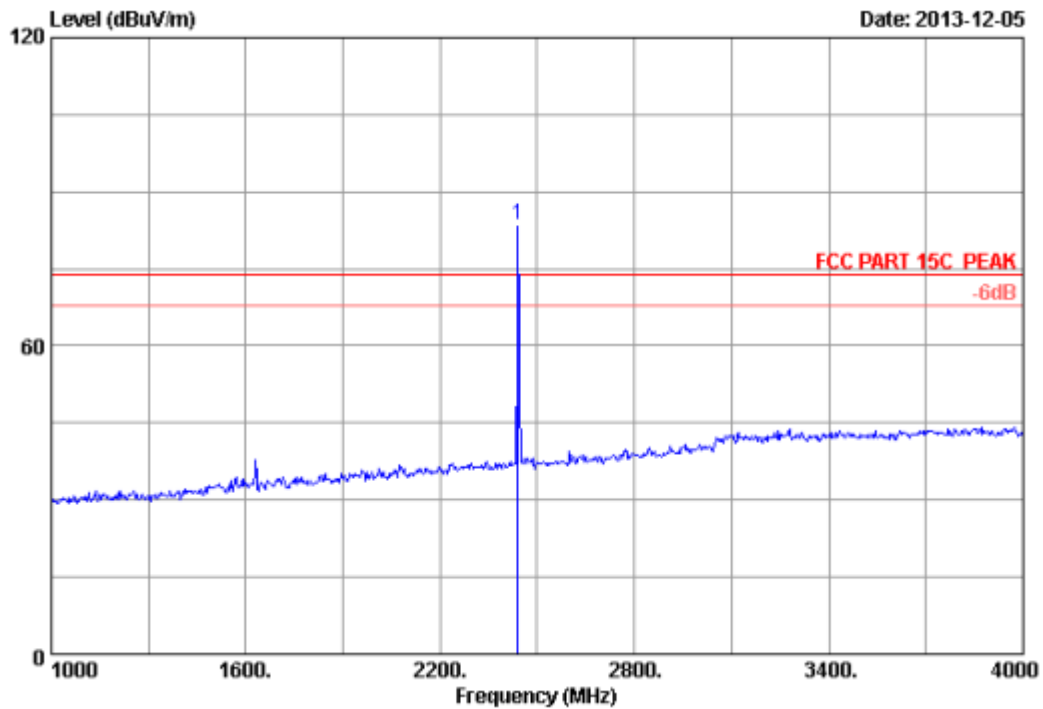


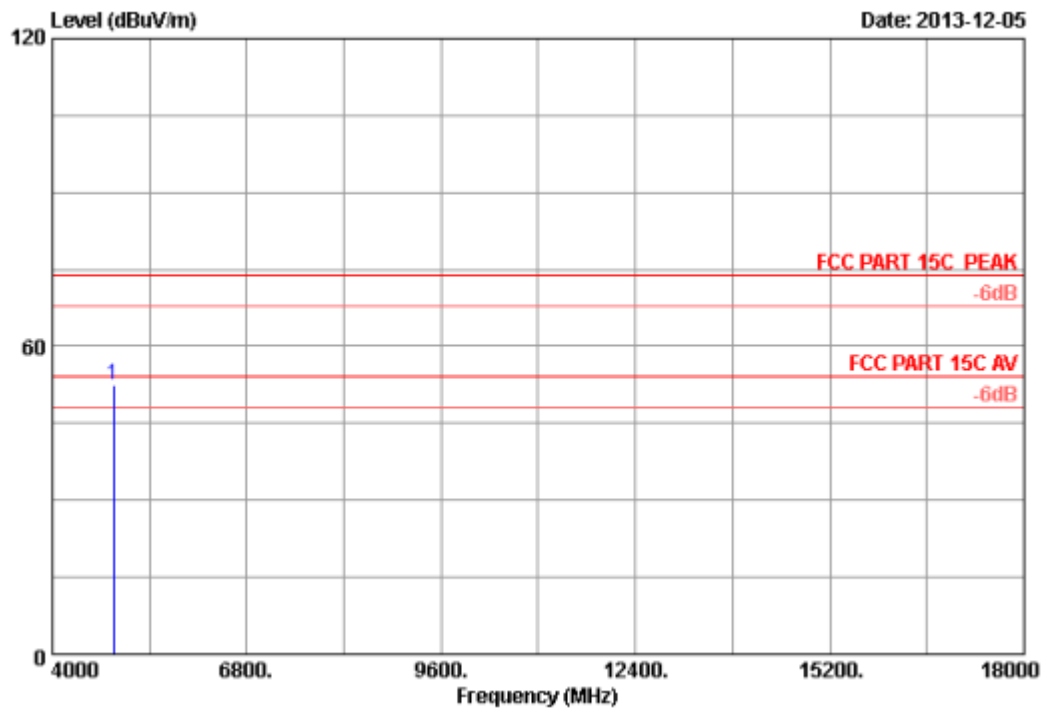
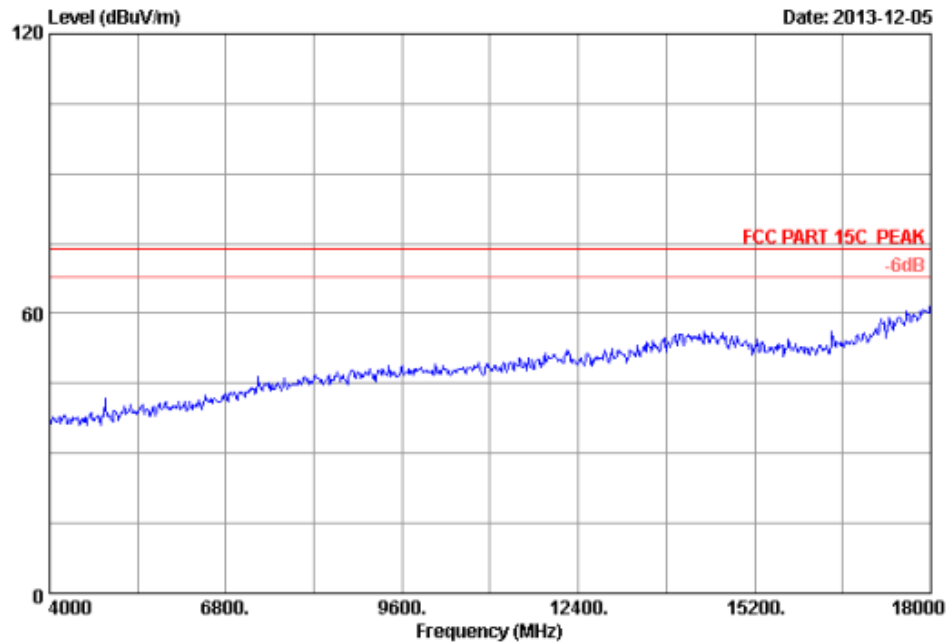


|   | Freq.<br>(MHz) | Ant.<br>Factor<br>(dB/m) | Cable<br>loss<br>(dB) | Amp.<br>Factor<br>(dB) | Reading<br>(dBuV) | Emission<br>Level<br>(dBuV/m) | Limits<br>(dBuV/m) | Margin<br>(dB) | Remark |
|---|----------------|--------------------------|-----------------------|------------------------|-------------------|-------------------------------|--------------------|----------------|--------|
| 1 | 4882.000       | 32.99                    | 8.64                  | 35.70                  | 47.34             | 53.27                         | 74.00              | 20.73          | Peak   |

### 6.3.18 Diagram 6-18

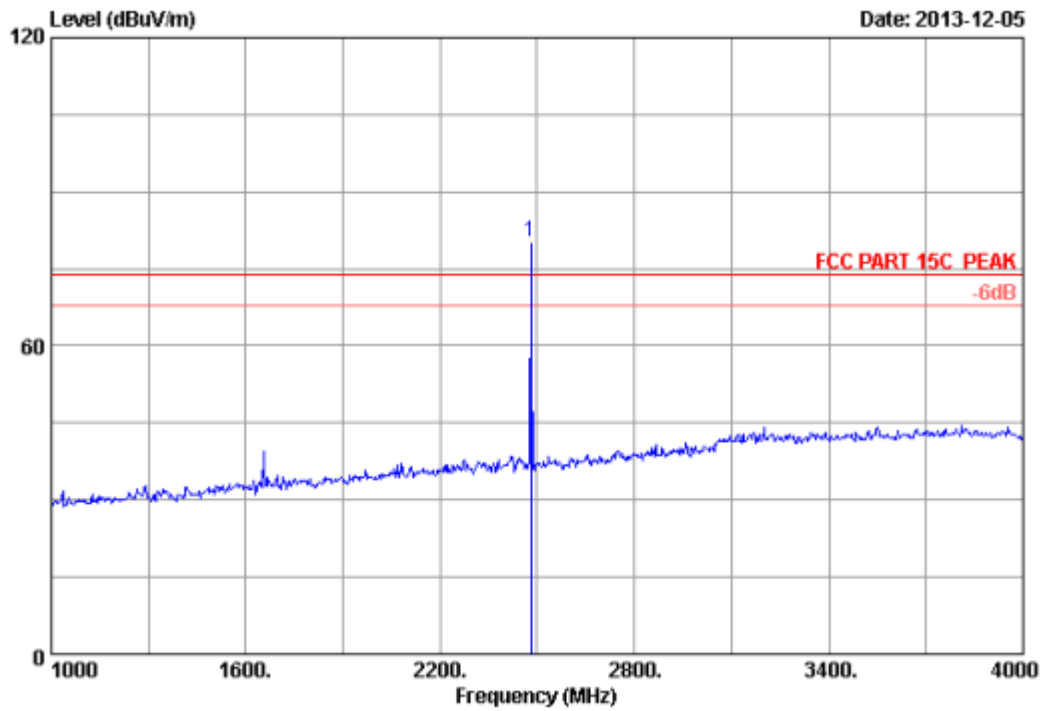


|   | Freq.<br>(MHz) | Ant.<br>Factor<br>(dB/m) | Cable<br>loss<br>(dB) | Amp.<br>Factor<br>(dB) | Reading<br>(dBuV) | Emission<br>Level<br>(dBuV/m) | Limits<br>(dBuV/m) | Margin<br>(dB) | Remark |
|---|----------------|--------------------------|-----------------------|------------------------|-------------------|-------------------------------|--------------------|----------------|--------|
| 1 | 2441.000       | 28.27                    | 5.86                  | 35.70                  | 85.23             | 83.66                         |                    |                | Peak   |

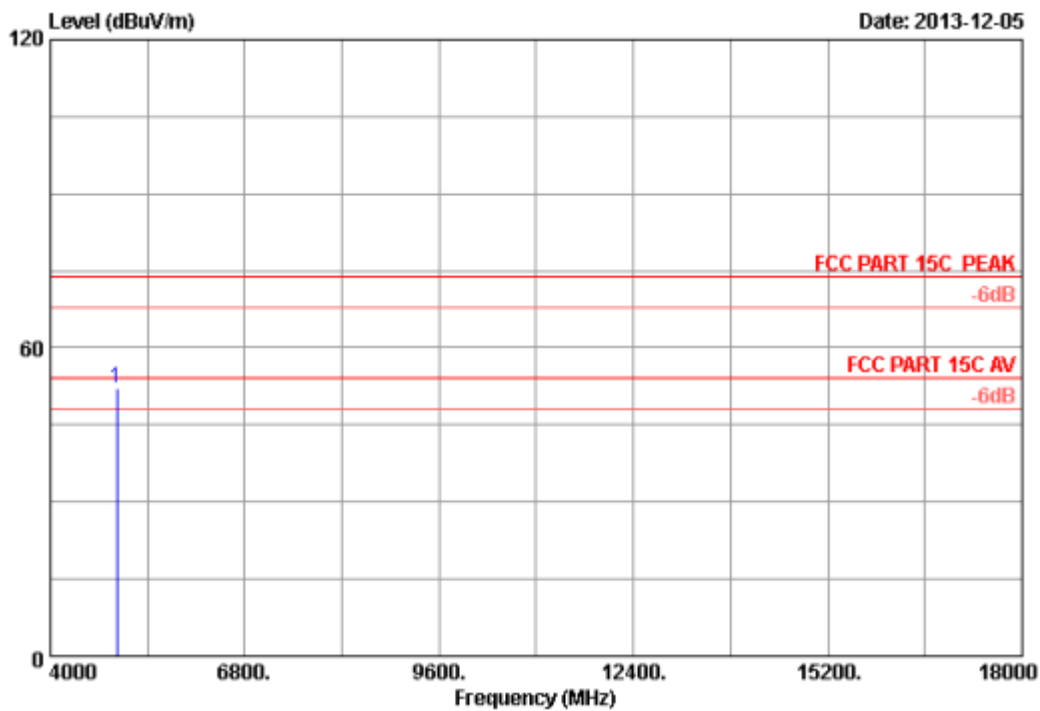
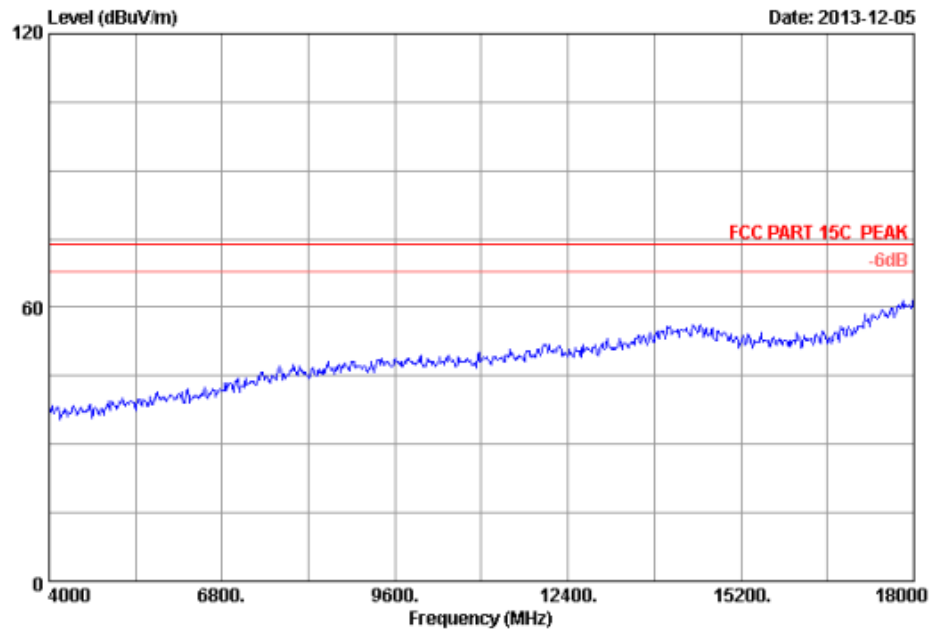


|   | Freq.<br>(MHz) | Ant.<br>Factor<br>(dB/m) | Cable<br>loss<br>(dB) | Amp.<br>Factor<br>(dB) | Reading<br>(dBuV) | Emission<br>Level<br>(dBuV/m) | Limits<br>(dBuV/m) | Margin<br>(dB) | Remark |
|---|----------------|--------------------------|-----------------------|------------------------|-------------------|-------------------------------|--------------------|----------------|--------|
| 1 | 4882.000       | 32.99                    | 8.64                  | 35.70                  | 46.53             | 52.46                         | 74.00              | 21.54          | Peak   |

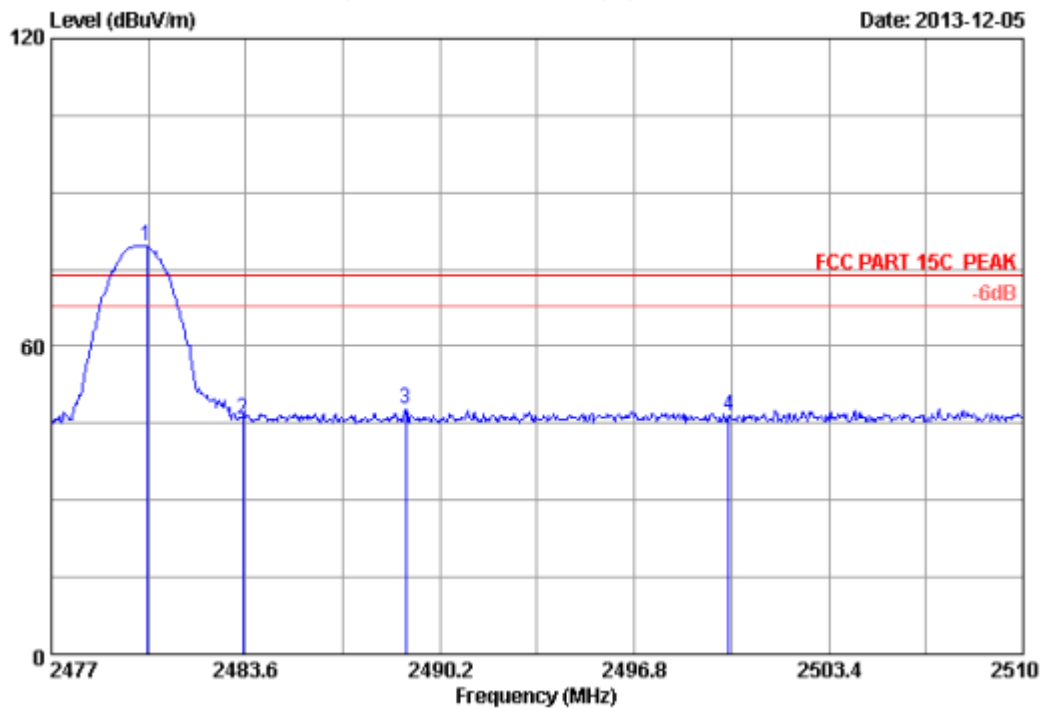
### 6.3.19 Diagram 6-19



|   | Freq.<br>(MHz) | Ant.<br>Factor<br>(dB/m) | Cable<br>loss<br>(dB) | Amp.<br>Factor<br>(dB) | Reading<br>(dBuV) | Emission<br>Level<br>(dBuV/m) | Limits<br>(dBuV/m) | Margin<br>(dB) | Remark |
|---|----------------|--------------------------|-----------------------|------------------------|-------------------|-------------------------------|--------------------|----------------|--------|
| 1 | 2480.000       | 28.36                    | 5.91                  | 35.70                  | 81.76             | 80.33                         | -                  | -              | Peak   |

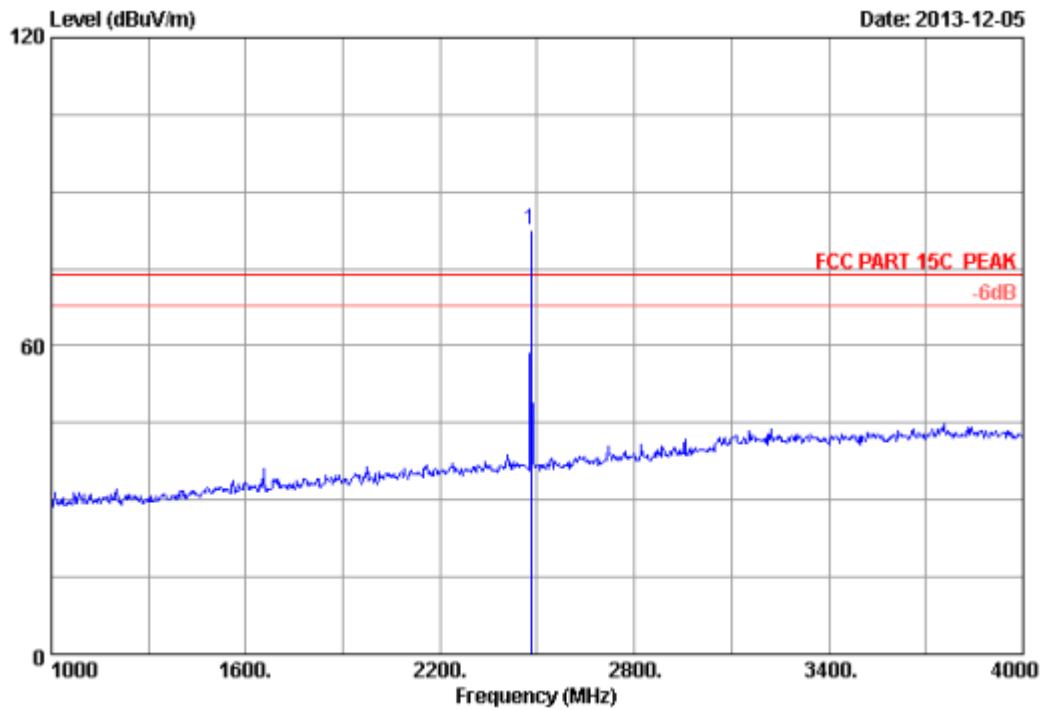


|   | Freq.<br>(MHz) | Ant.<br>Factor<br>(dB/m) | Cable<br>loss<br>(dB) | Amp.<br>Factor<br>(dB) | Reading<br>(dBuV) | Emission<br>Level<br>(dBuV/m) | Limits<br>(dBuV/m) | Margin<br>(dB) | Remark |
|---|----------------|--------------------------|-----------------------|------------------------|-------------------|-------------------------------|--------------------|----------------|--------|
| 1 | 4960.000       | 33.13                    | 8.72                  | 35.70                  | 45.86             | 52.01                         | 74.00              | 21.99          | Peak   |

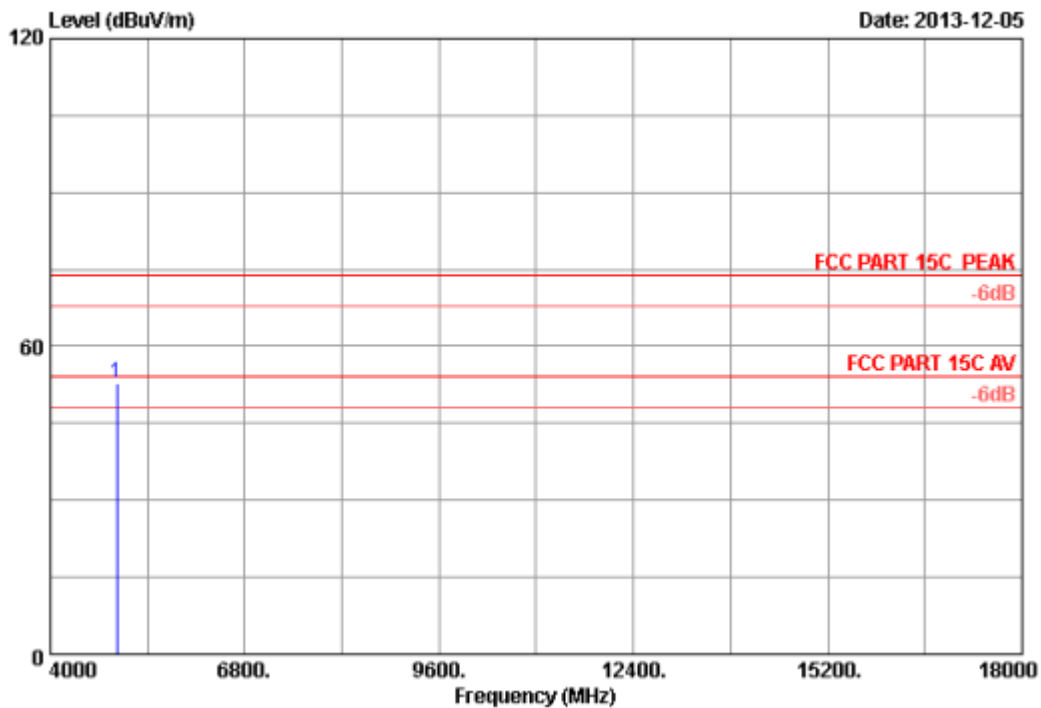
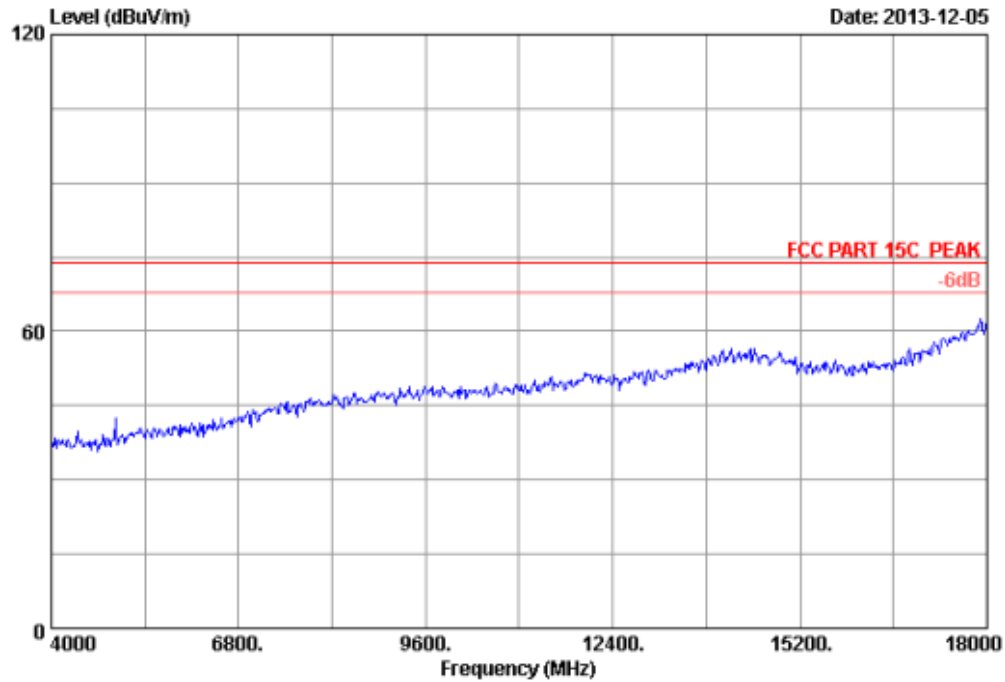


|   | Freq.<br>(MHz) | Ant.<br>Factor<br>(dB/m) | Cable<br>loss<br>(dB) | Amp.<br>Factor<br>(dB) | Reading<br>(dBuV) | Emission<br>Level<br>(dBuV/m) | Limits<br>(dBuV/m) | Margin<br>(dB) | Remark |
|---|----------------|--------------------------|-----------------------|------------------------|-------------------|-------------------------------|--------------------|----------------|--------|
| 1 | 2480.234       | 28.36                    | 5.91                  | 35.70                  | 81.12             | 79.69                         |                    |                | Peak   |
| 2 | 2483.500       | 28.36                    | 5.92                  | 35.70                  | 47.24             | 45.82                         | 74.00              | 28.18          | Peak   |
| 3 | 2489.045       | 28.38                    | 5.93                  | 35.70                  | 49.25             | 47.86                         | 74.00              | 26.14          | Peak   |
| 4 | 2500.000       | 28.40                    | 5.94                  | 35.70                  | 47.93             | 46.57                         | 74.00              | 27.43          | Peak   |

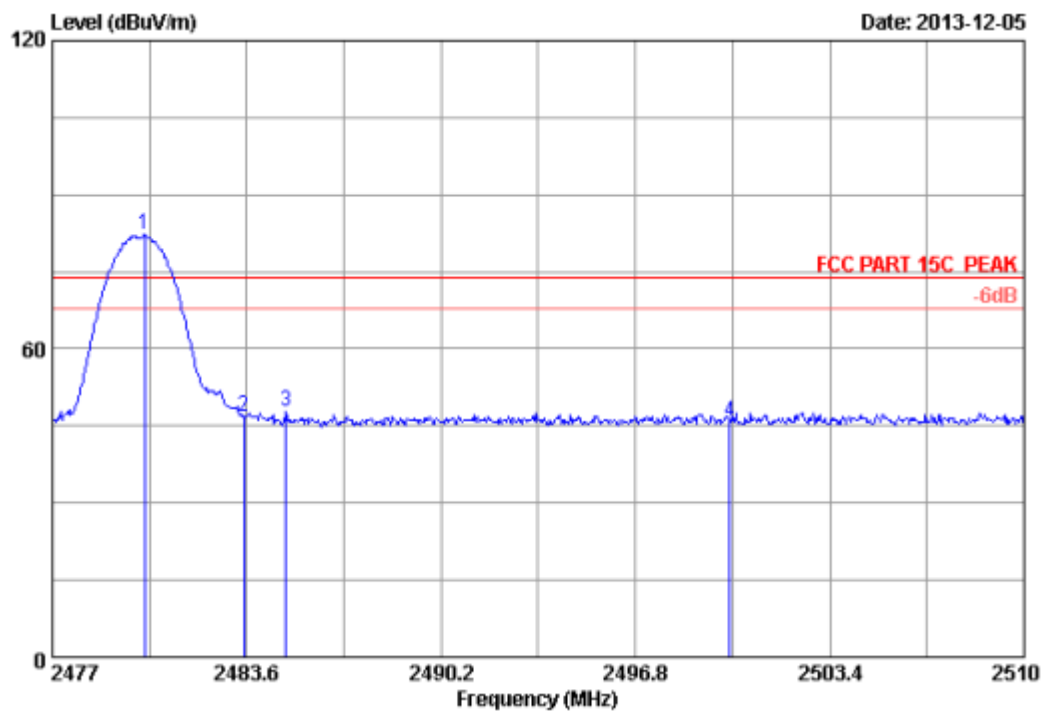
### 6.3.20 Diagram 6-20



|   | Freq.<br>(MHz) | Ant.<br>Factor<br>(dB/m) | Cable<br>loss<br>(dB) | Amp.<br>Factor<br>(dB) | Reading<br>(dBuV) | Emission<br>Level<br>(dBuV/m) | Limits<br>(dBuV/m) | Margin<br>(dB) | Remark |
|---|----------------|--------------------------|-----------------------|------------------------|-------------------|-------------------------------|--------------------|----------------|--------|
| 1 | 2480.000       | 28.36                    | 5.91                  | 35.70                  | 83.95             | 82.52                         |                    |                | Peak   |



|   | Freq.<br>(MHz) | Ant.<br>Factor<br>(dB/m) | Cable<br>loss<br>(dB) | Amp.<br>Factor<br>(dB) | Reading<br>(dBuV) | Emission<br>Level<br>(dBuV/m) | Limits<br>(dBuV/m) | Margin<br>(dB) | Remark |
|---|----------------|--------------------------|-----------------------|------------------------|-------------------|-------------------------------|--------------------|----------------|--------|
| 1 | 4960.000       | 33.13                    | 8.72                  | 35.70                  | 46.60             | 52.75                         | 74.00              | 21.25          | Peak   |



|   | Freq.<br>(MHz) | Ant.<br>Factor<br>(dB/m) | Cable<br>loss<br>(dB) | Amp.<br>Factor<br>(dB) | Reading<br>(dBuV) | Emission<br>Level<br>(dBuV/m) | Limits<br>(dBuV/m) | Margin<br>(dB) | Remark |
|---|----------------|--------------------------|-----------------------|------------------------|-------------------|-------------------------------|--------------------|----------------|--------|
| 1 | 2480.135       | 28.36                    | 5.91                  | 35.70                  | 83.65             | 82.22                         |                    |                | Peak   |
| 2 | 2483.500       | 28.36                    | 5.92                  | 35.70                  | 48.10             | 46.68                         | 74.00              | 27.32          | Peak   |
| 3 | 2484.920       | 28.37                    | 5.92                  | 35.70                  | 49.04             | 47.63                         | 74.00              | 26.37          | Peak   |
| 4 | 2500.000       | 28.40                    | 5.94                  | 35.70                  | 47.04             | 45.68                         | 74.00              | 28.32          | Peak   |

## 7. 20 dB & 99%bandwidth Test

### 7.1 Test Procedure

#### Clause 15.215(c) 20dB Bandwidth:

Intentional radiators operating under the alternative provisions to the general emission limits, as contained in 15.217 through 15.257 and in Subpart E of this part, must be designed to ensure that the 20 dB bandwidth of the emission, or whatever bandwidth may otherwise be specified in the specific rule section under which the equipment operates, is contained within the frequency band designated in the rule section under which the equipment is operated. The requirement to contain the designated bandwidth of the emission within the specified frequency band includes the effects from frequency sweeping, frequency hopping and other modulation techniques that may be employed as well as the frequency stability of the transmitter over expected variations in temperature and supply voltage. If a frequency stability is not specified in the regulations, it is recommended that the fundamental emission be kept within at least the central 80% of the permitted band in order to minimize the possibility of out-of-band operation.

### 7.2 Measurement Equipment

| Item | Equipment | Last Calibration | Type   | Serial No. | Manufacturer |
|------|-----------|------------------|--------|------------|--------------|
| 1    | Spectrum  | May.08, 13       | E4446A | US44300459 | Agilent      |

### 7.3 Test Result:

| Modulation | Channel | 99% bandwidth (kHz) | 20dB bandwidth (kHz) |
|------------|---------|---------------------|----------------------|
| GFSK       | CHL     | 831.49              | 843.6                |
|            | CHM     | 831.09              | 838.2                |
|            | CHH     | 833.17              | 848.1                |

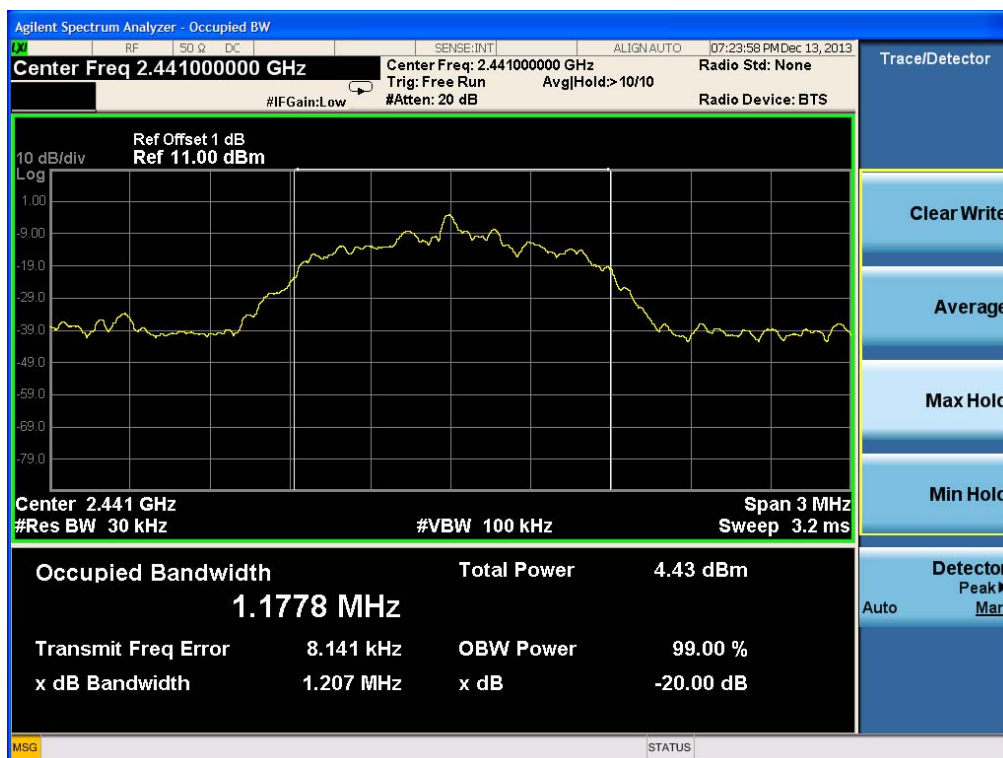
GFSK diagrams are as below:

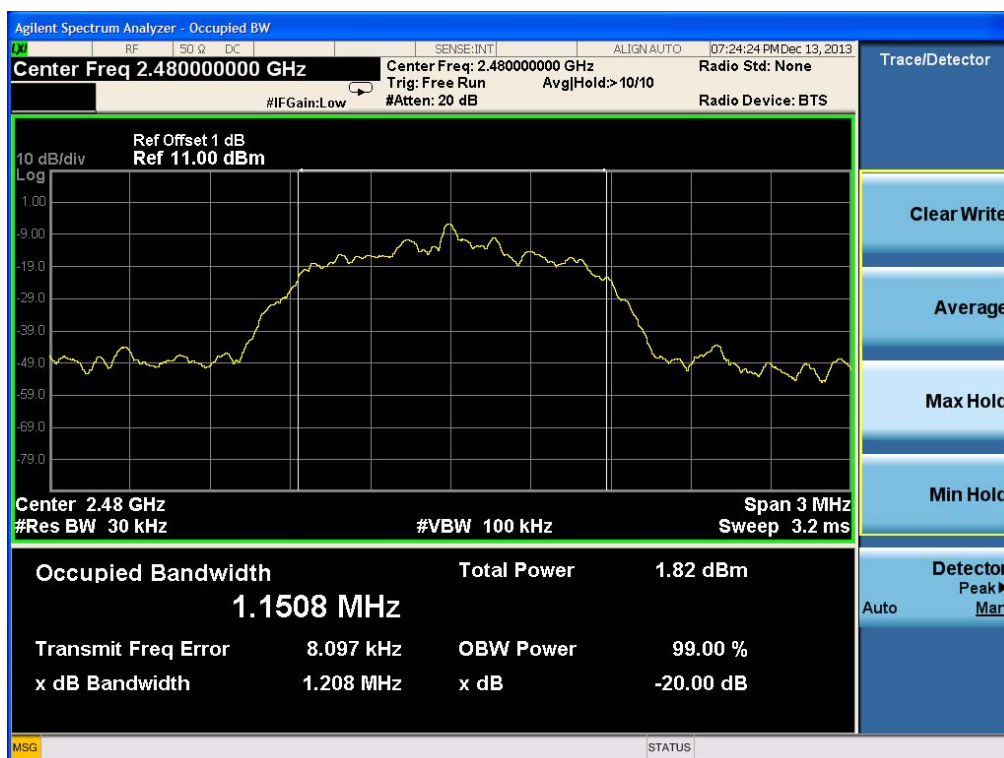




| Modulation | Channel | 99% bandwidth(MHz) | 20dB bandwidth(MHz) |
|------------|---------|--------------------|---------------------|
| 8DPSK      | CHL     | 1.2272             | 1.211               |
|            | CHM     | 1.1778             | 1.207               |
|            | CHH     | 1.1508             | 1.208               |

8DPSK diagrams are as below:

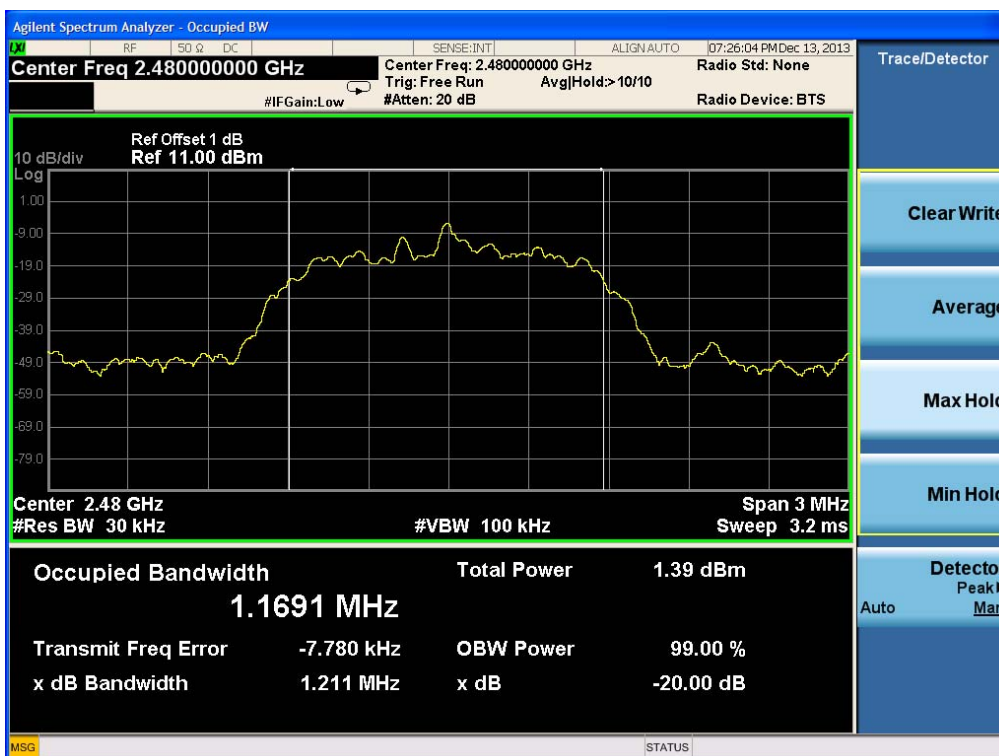




| Modulation    | Channel | 99% bandwidth(MHz) | 20dB bandwidth(MHz) |
|---------------|---------|--------------------|---------------------|
| $\pi/4$ DQPSK | CHL     | 1.2695             | 1.210               |
|               | CHM     | 1.2066             | 1.215               |
|               | CHH     | 1.1691             | 1.211               |

$\pi/4$  DQPSK diagrams are as below:





## 8. Band Edge Compliance Test

### 8.1 Test Procedure

According to §15.247(d), in any 100 kHz bandwidth outside the frequency bands in which the spread spectrum intentional radiator is operating, the radio frequency power that is produced by the intentional radiator shall be at least 20dB below that in the 100kHz bandwidth within the band that contains the highest level of the desired power.

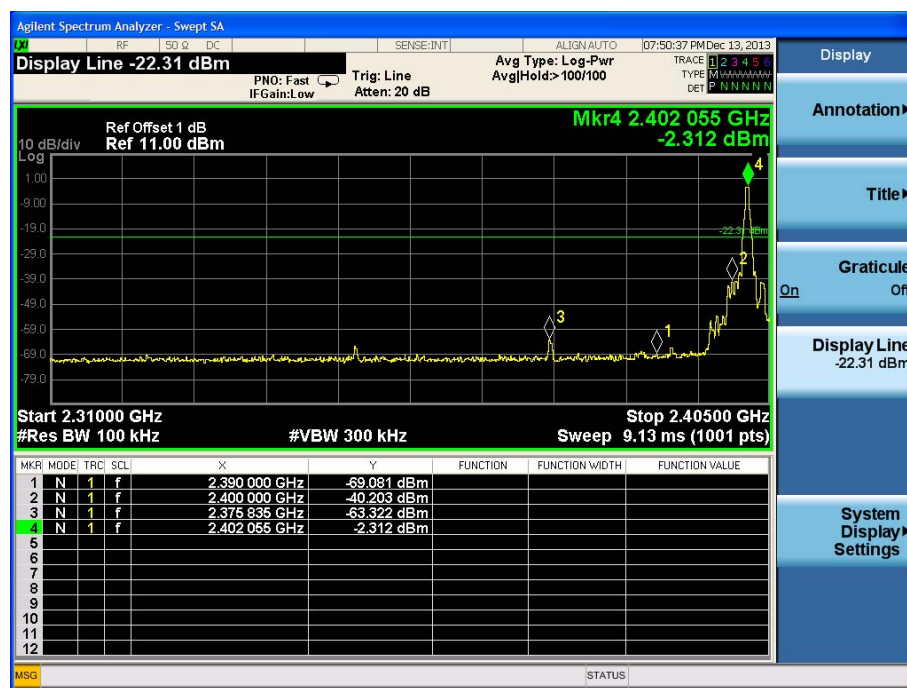
### 8.2 Measurement Equipment

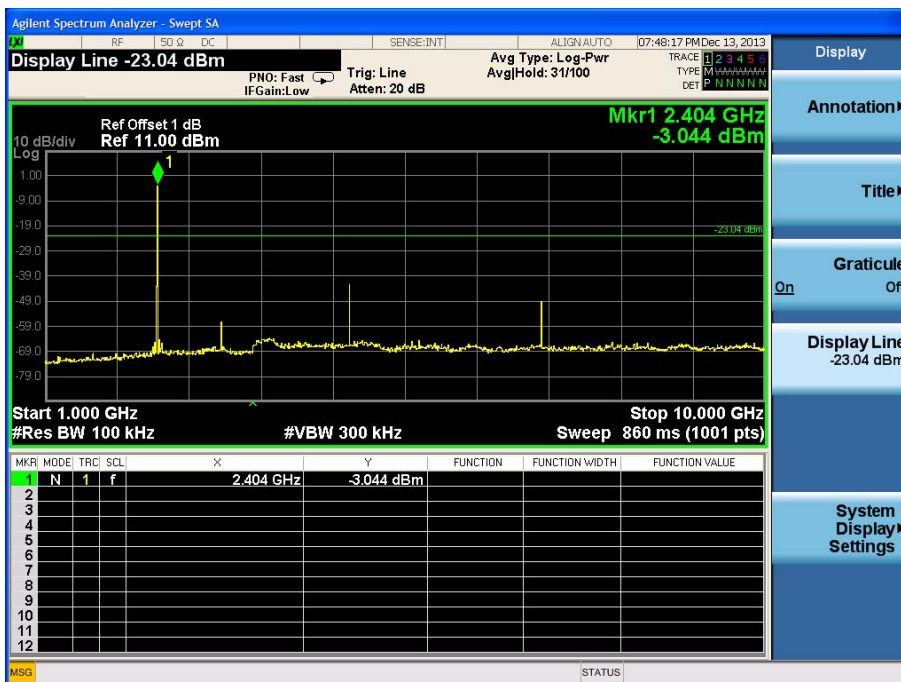
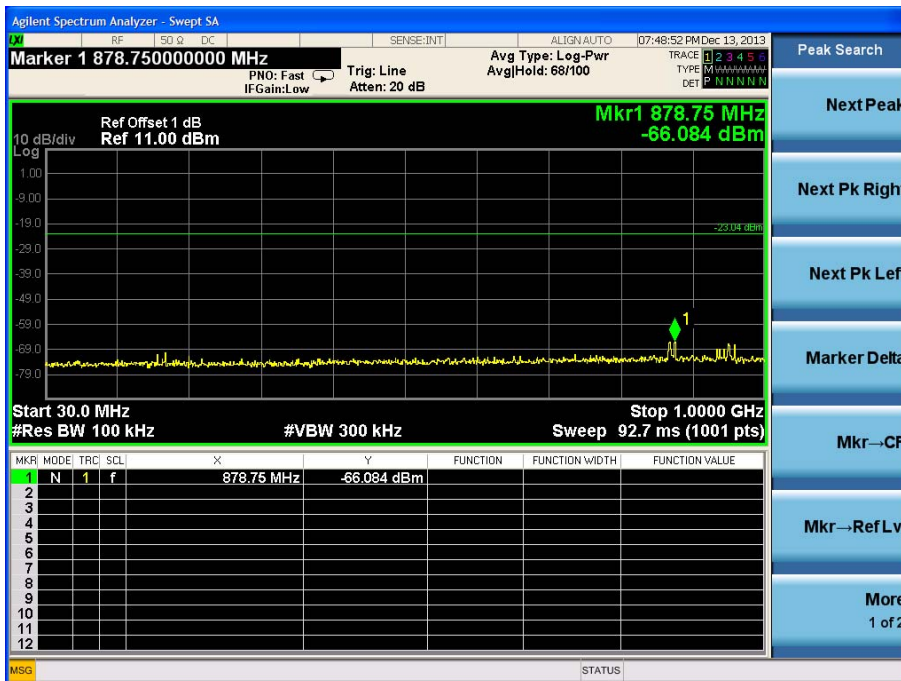
| Item | Equipment | Last Calibration | Type   | Serial No. | Manufacturer |
|------|-----------|------------------|--------|------------|--------------|
| 1    | Spectrum  | May.08, 13       | E4446A | US44300459 | Agilent      |

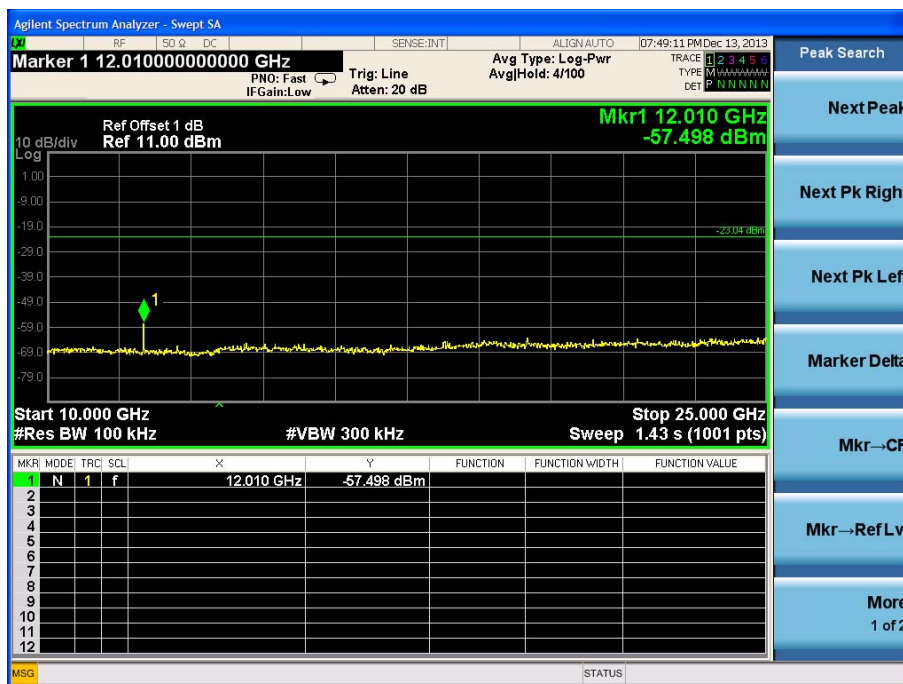
### 8.3 Test Result

**REMARK :** Hopping off and Hopping on modes all have been tested, Hopping off mode is the worse case and recorded as below

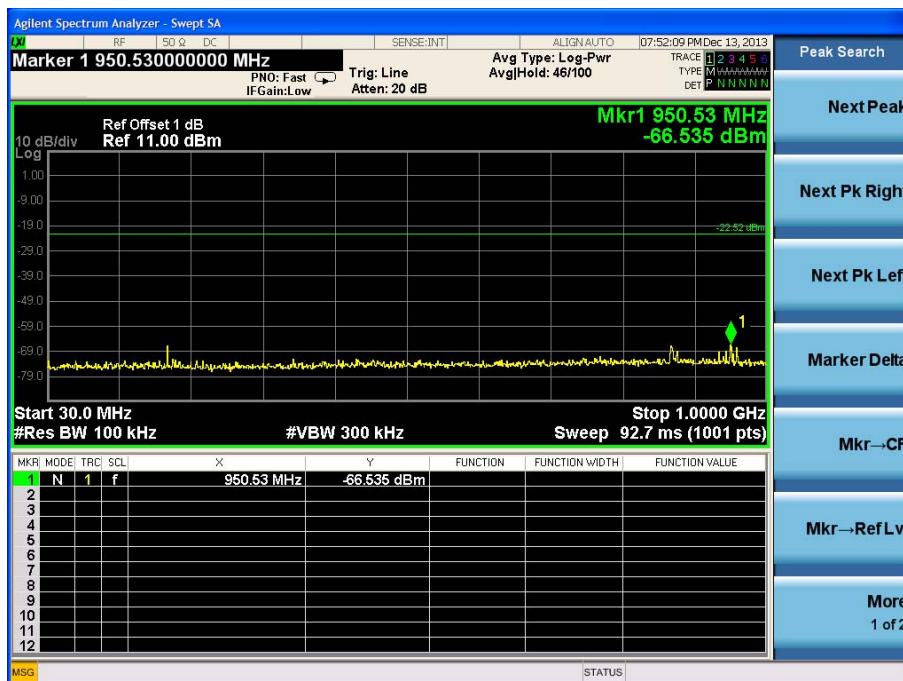
GFSK Hopping off CHL :

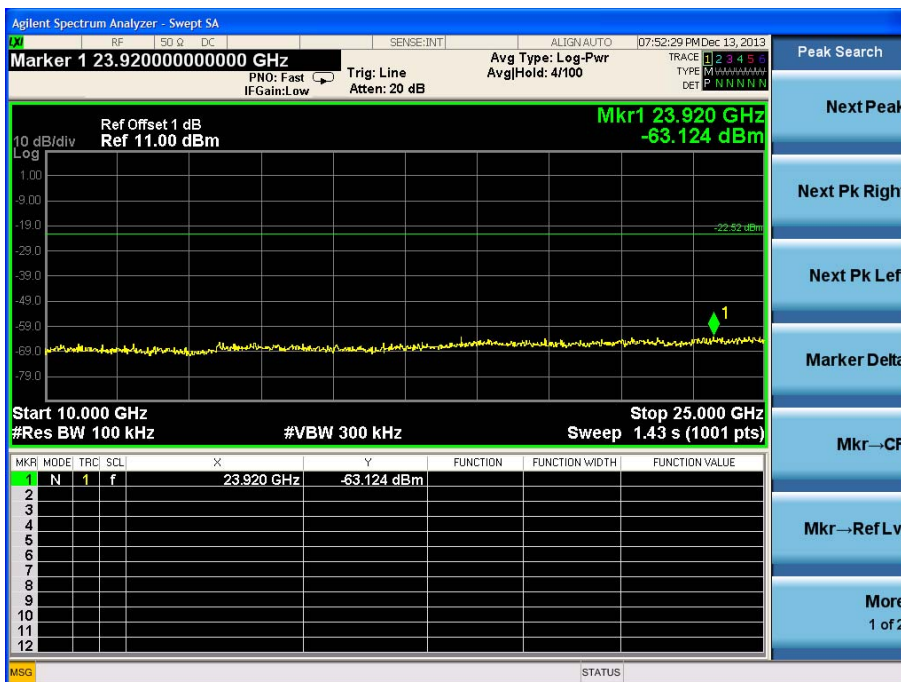
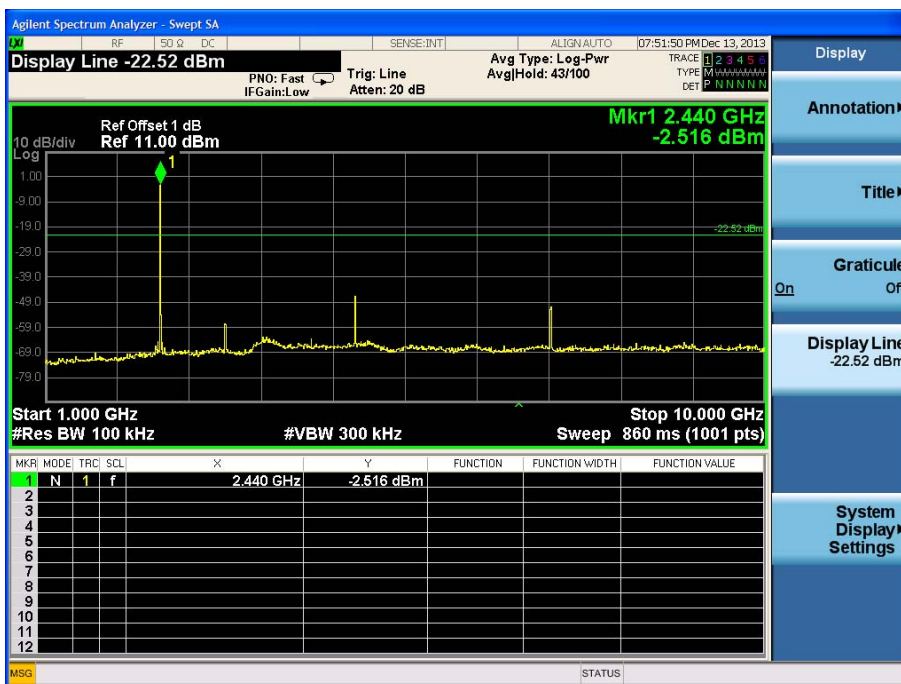






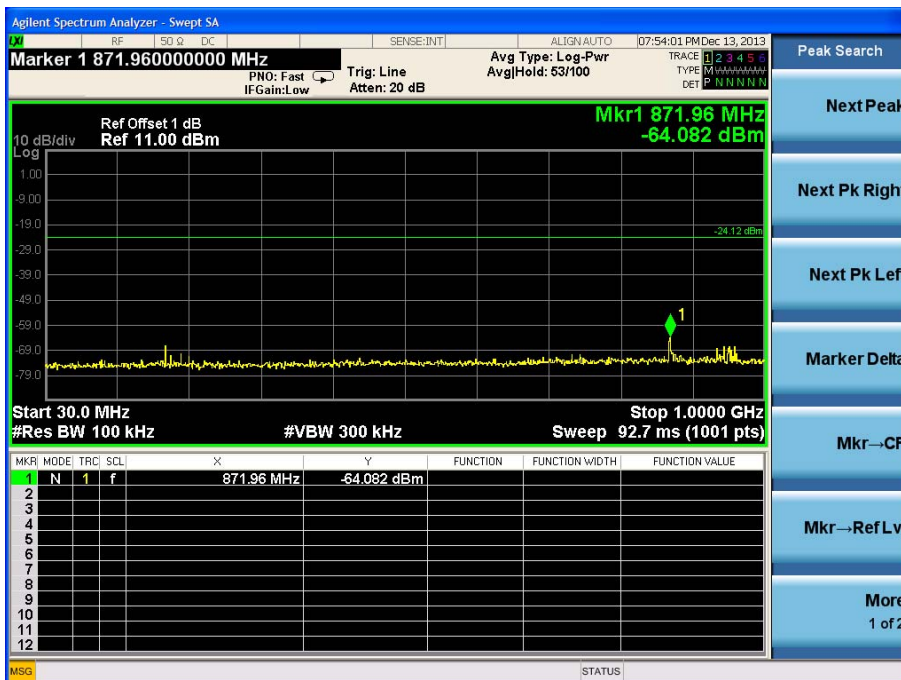
GFSK Hopping off CHM:

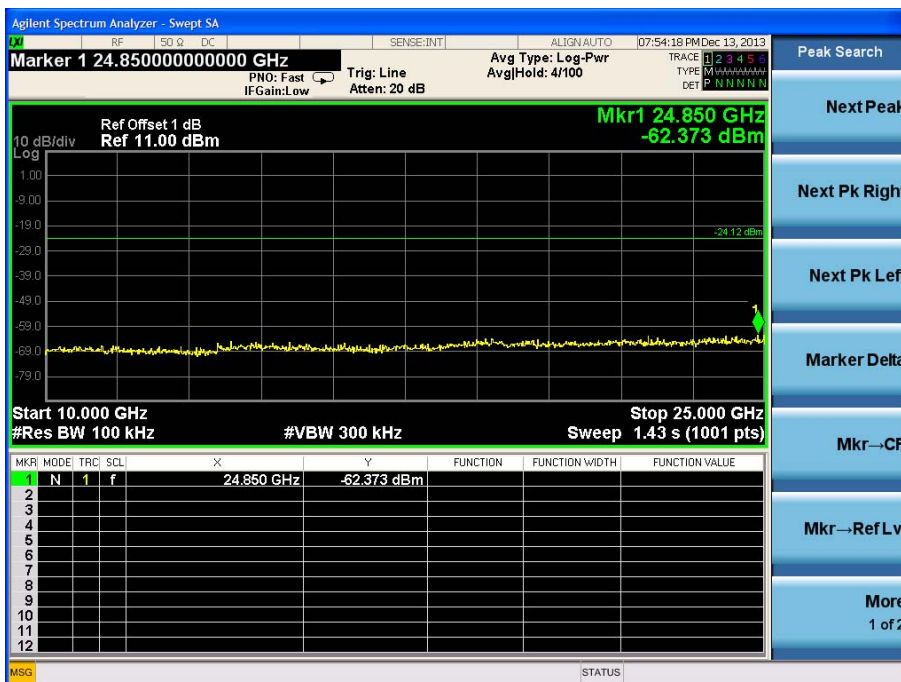
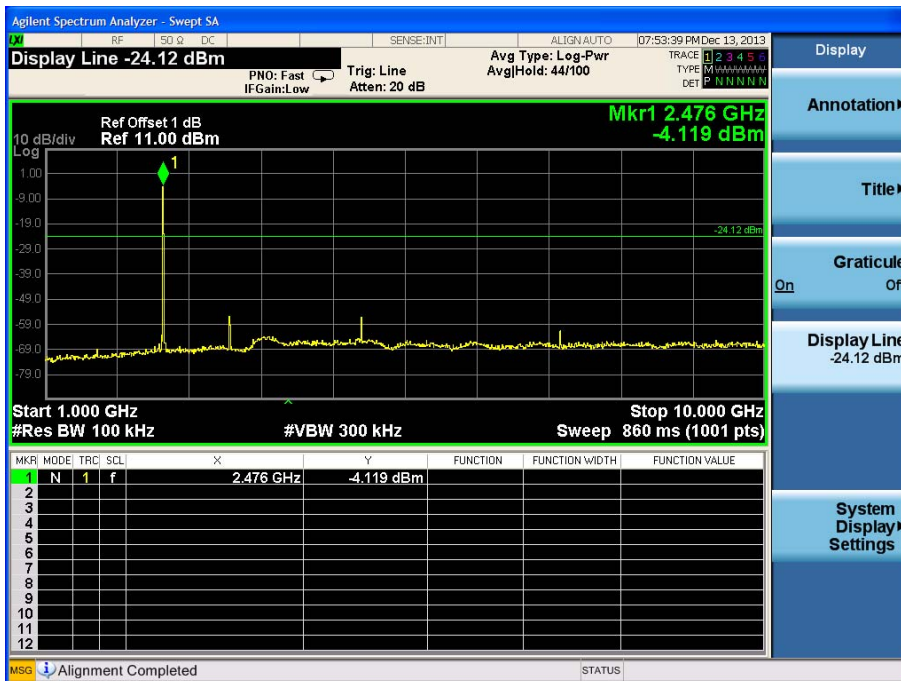




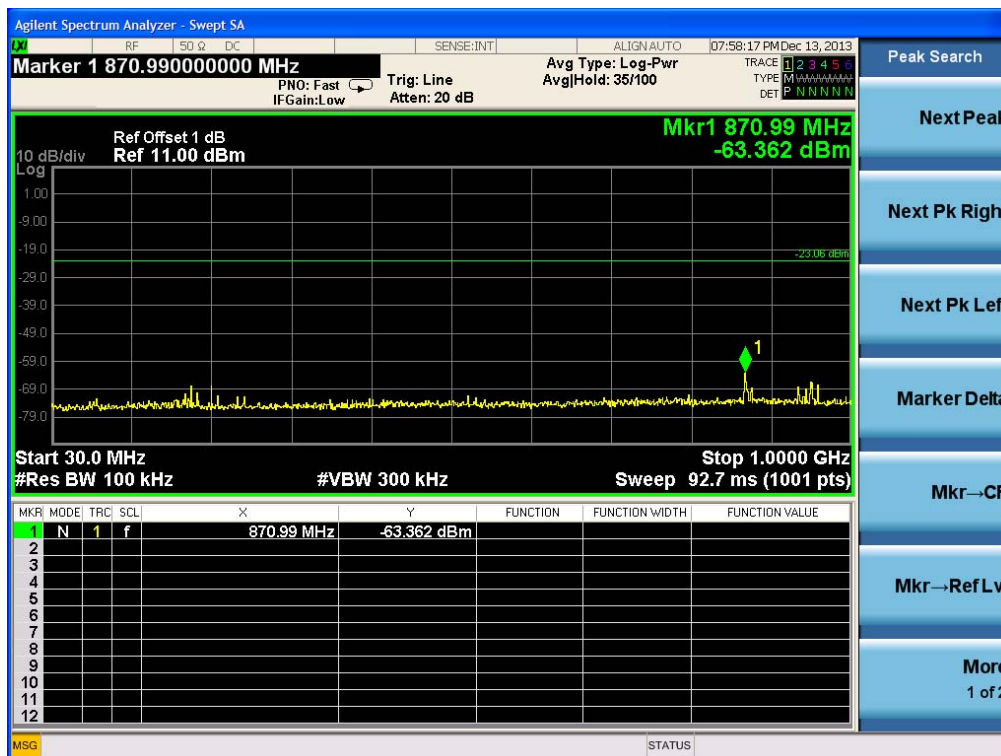
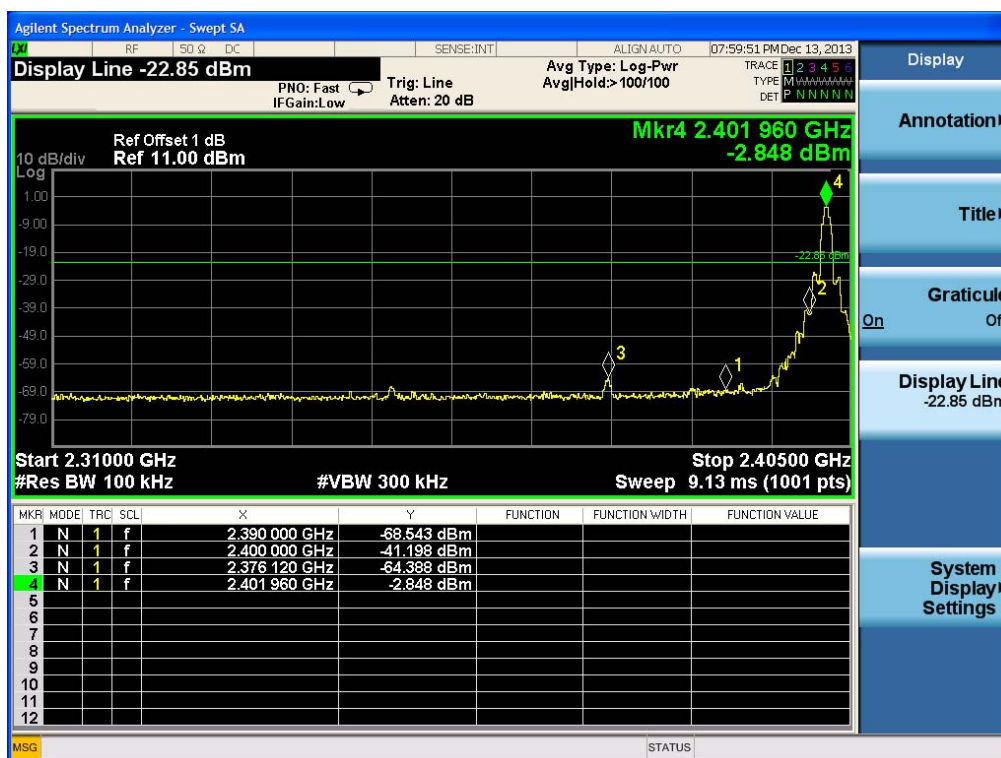


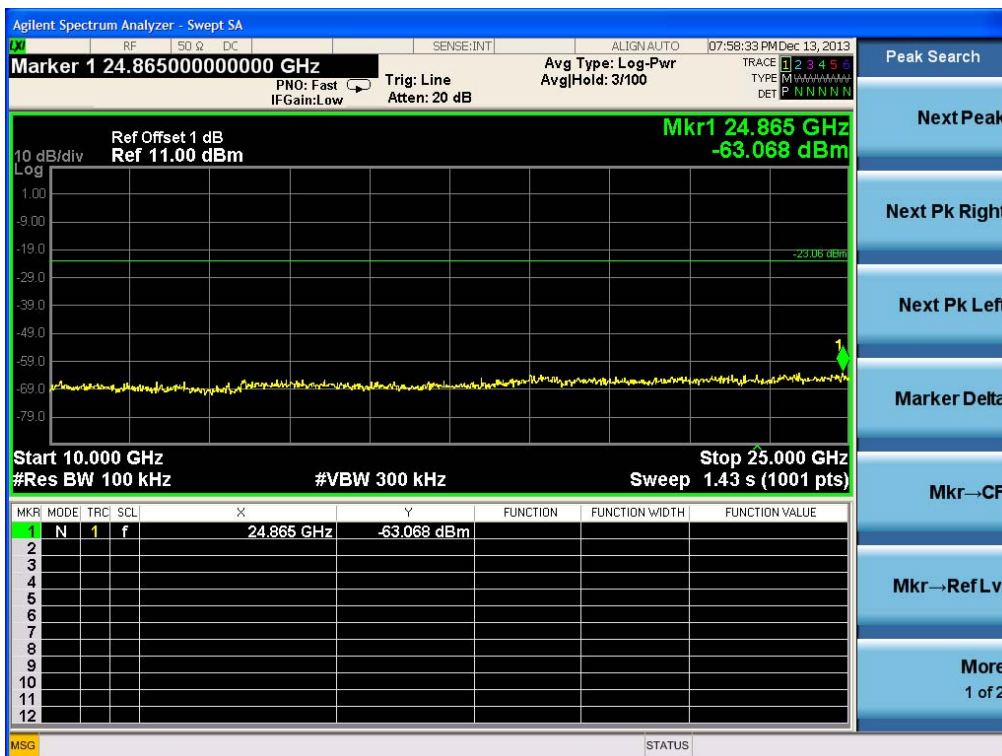
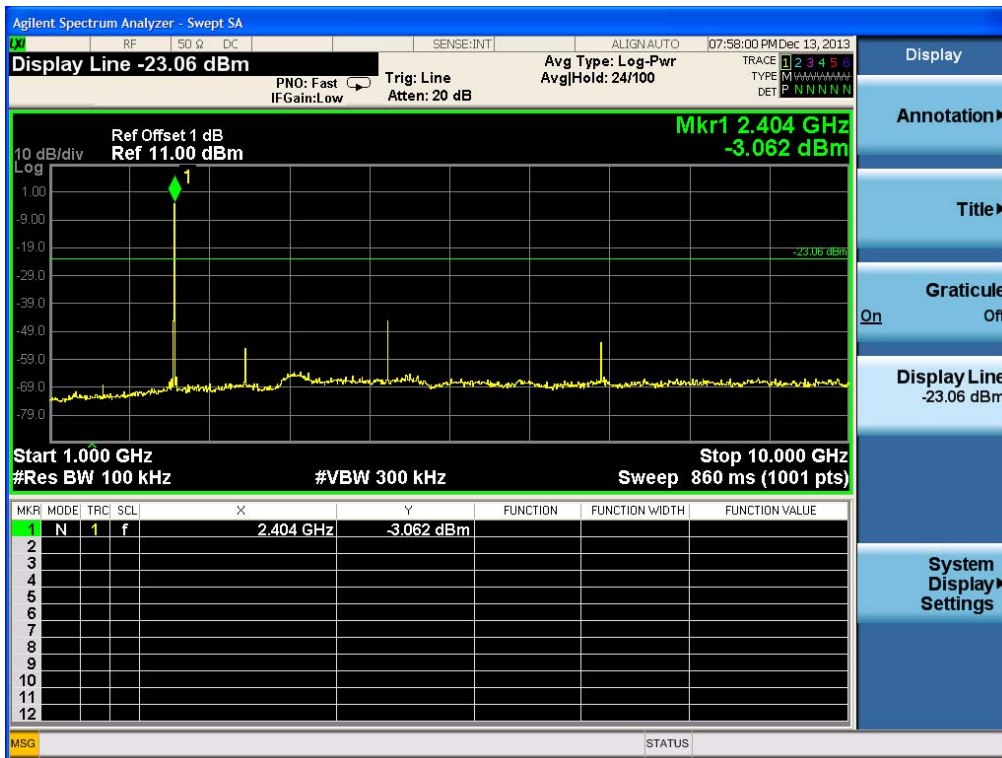
GFSK Hopping off CHH :





8DPSK Hopping off CHL :





8DPSK Hopping off CHM :

