

## Appendix C

### RF Test Data for 2.4G WIFI (Conducted Measurement)

Product Name: smart media player

Trade Mark: ZIDOO

Test Model: Z9S

#### Environmental Conditions

|                    |             |
|--------------------|-------------|
| Temperature:       | 24.3° C     |
| Relative Humidity: | 54.2%       |
| ATM Pressure:      | 100.0 kPa   |
| Test Engineer:     | Tom.Liu     |
| Supervised by:     | Jayden.Zhuo |

#### C.1 Duty Cycle

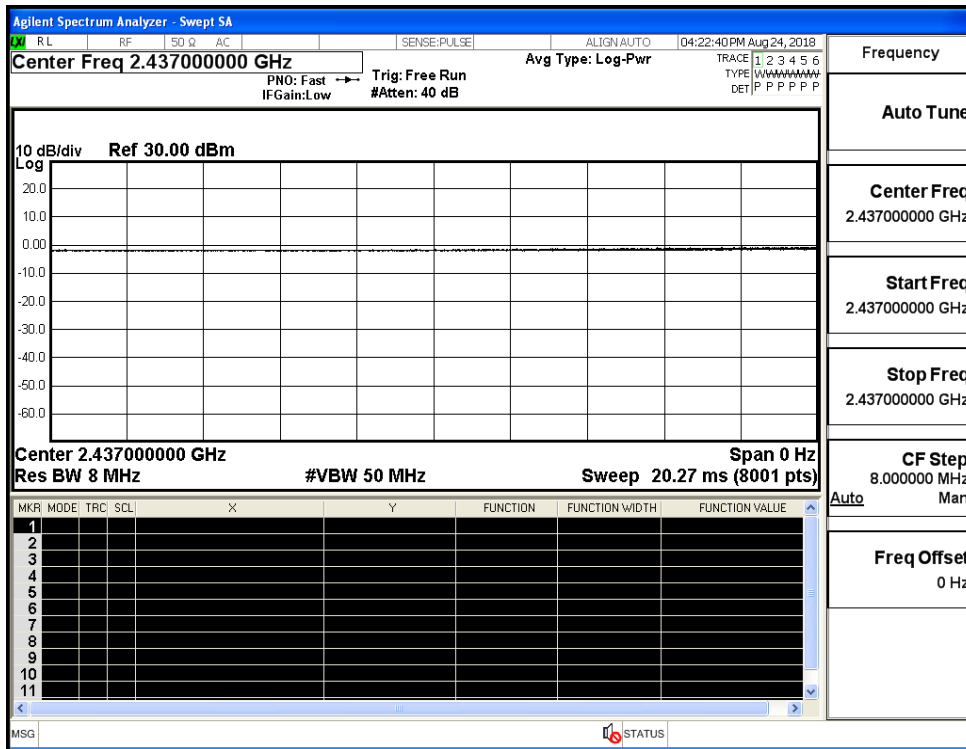
##### Antenna 0

| Test Mode | Test Channel | Ant  | Duty Cycle[%] | Verdict |
|-----------|--------------|------|---------------|---------|
| 11B       | 2437         | Ant0 | 100           | PASS    |
| 11G       | 2437         | Ant0 | 100           | PASS    |
| 11N20SISO | 2437         | Ant0 | 100           | PASS    |
| 11N40SISO | 2437         | Ant0 | 100           | PASS    |

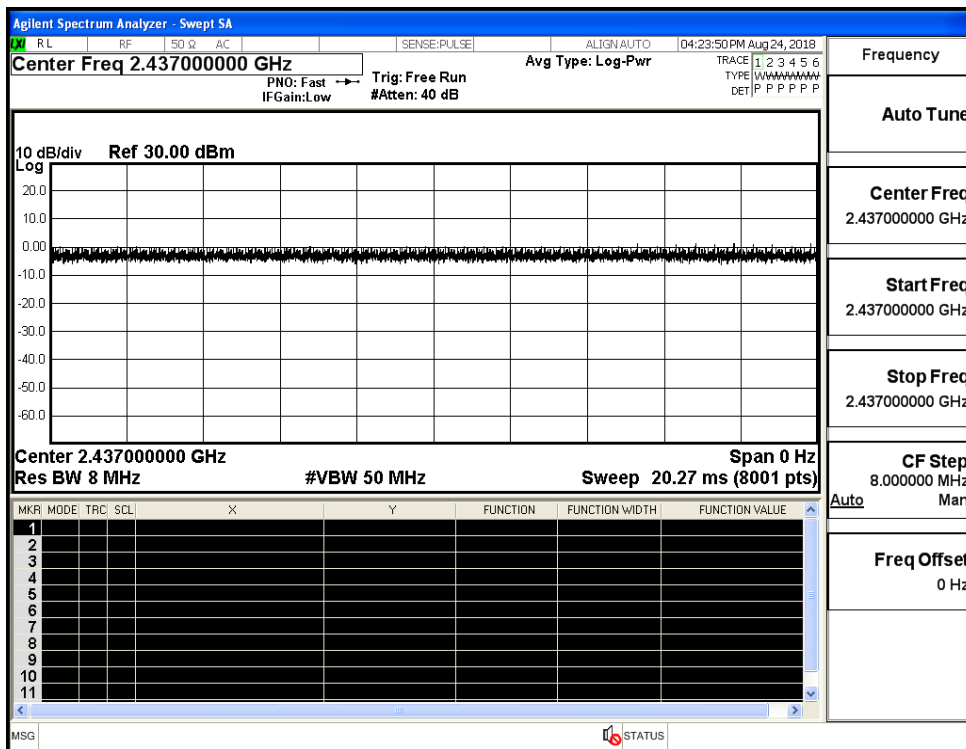
##### Antenna 1

| Test Mode | Test Channel | Ant  | Duty Cycle[%] | Verdict |
|-----------|--------------|------|---------------|---------|
| 11B       | 2437         | Ant0 | 100           | PASS    |
| 11G       | 2437         | Ant0 | 100           | PASS    |
| 11N20SISO | 2437         | Ant0 | 100           | PASS    |
| 11N40SISO | 2437         | Ant0 | 100           | PASS    |

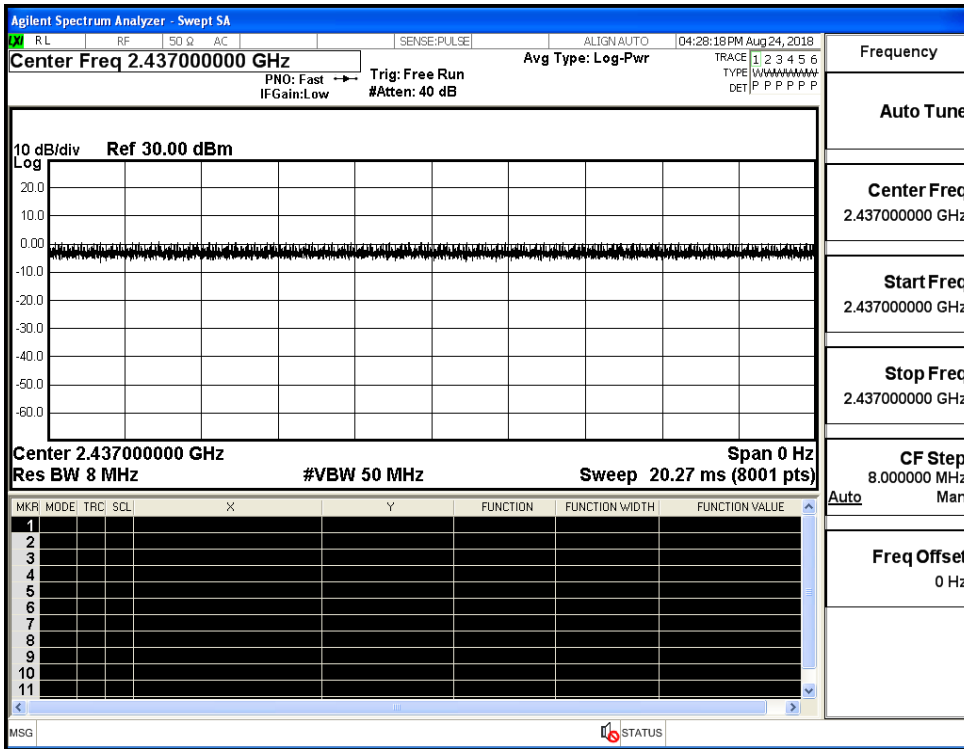
Duty Cycle\_11B\_2437\_Ant0



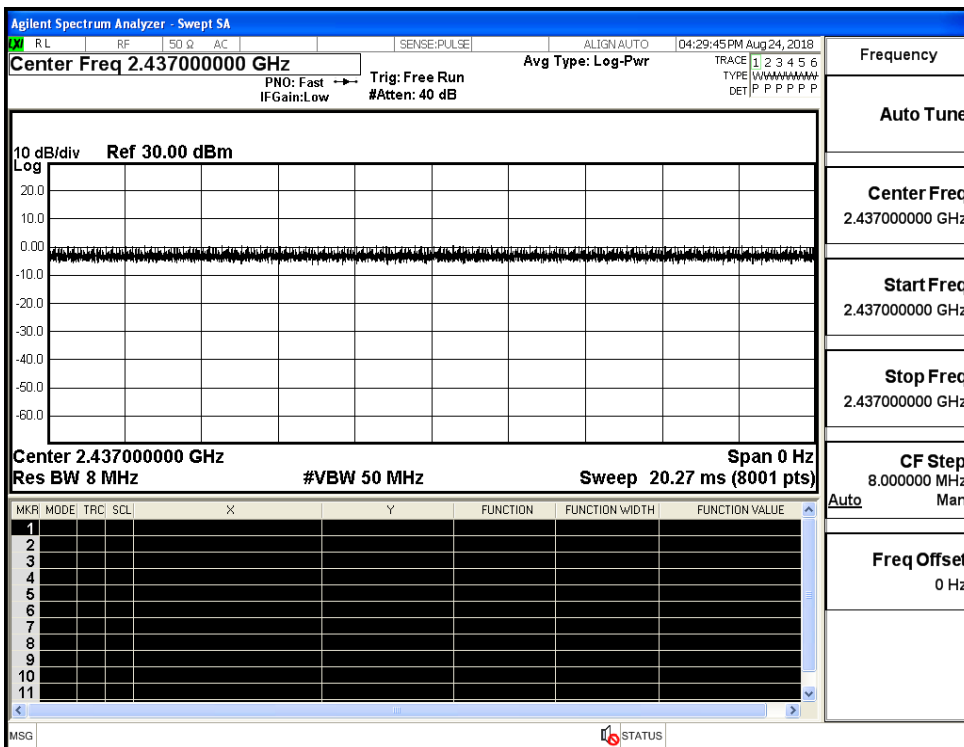
Duty Cycle\_11G\_2437\_Ant0



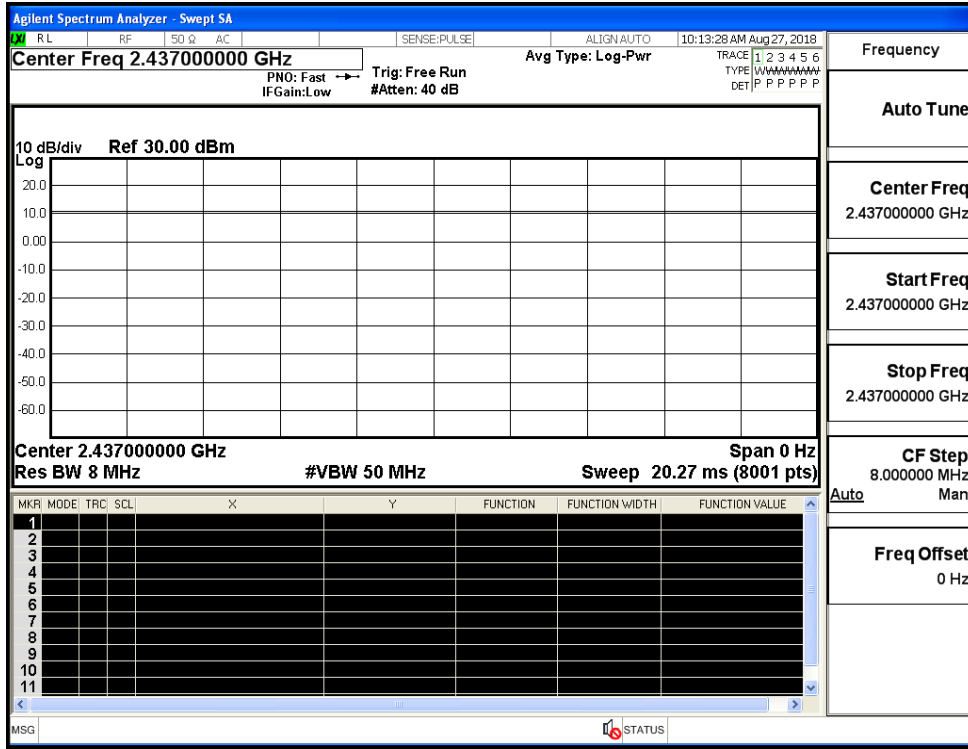
Duty Cycle\_11N20SISO\_2437\_Ant0



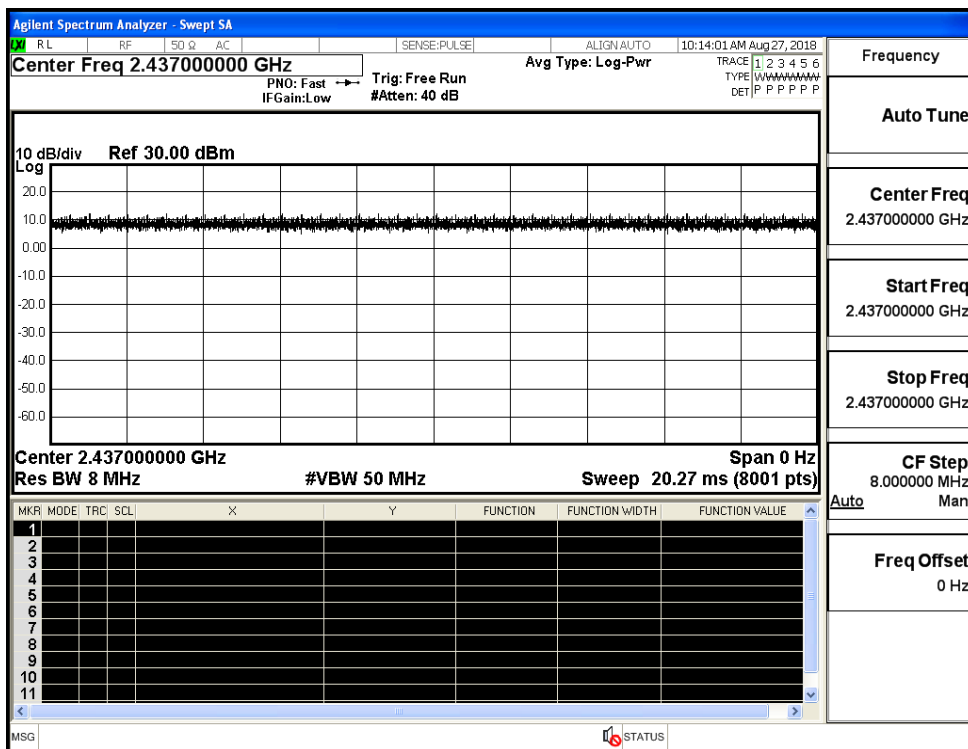
Duty Cycle\_11N40SISO\_2437\_Ant0



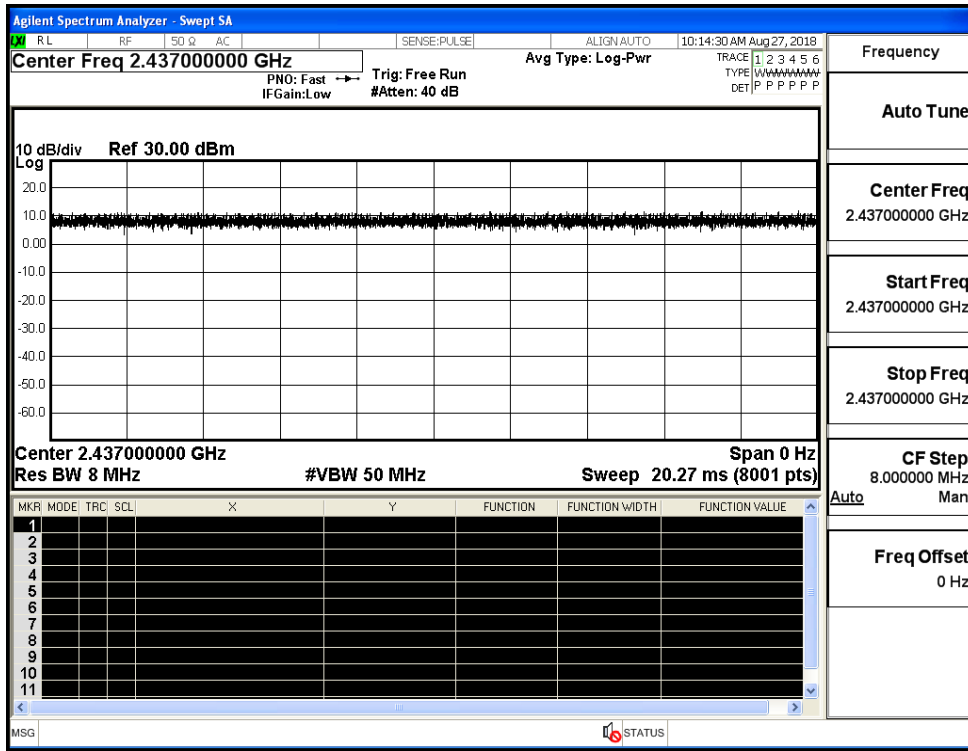
Duty Cycle\_11B\_2437\_Ant0



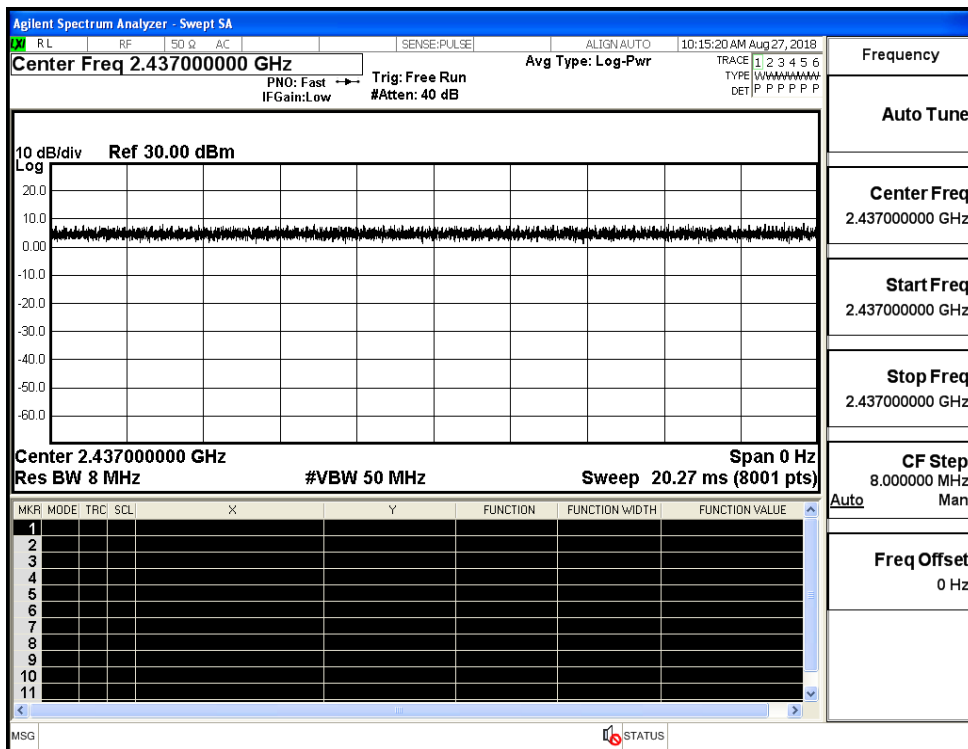
Duty Cycle\_11G\_2437\_Ant0



Duty Cycle\_11N20SISO\_2437\_Ant0



Duty Cycle\_11N40SISO\_2437\_Ant0



## C.2 Maximum Conducted Output Peak Power

### Antenna 0

| Mode      | Channel | Meas.Level [dBm] | Limit [dBm] | Verdict |
|-----------|---------|------------------|-------------|---------|
| 11B       | LCH     | 17.73            | 30          | PASS    |
|           | MCH     | 17.74            | 30          | PASS    |
|           | HCH     | 17.18            | 30          | PASS    |
| 11G       | LCH     | 16.99            | 30          | PASS    |
|           | MCH     | 16.53            | 30          | PASS    |
|           | HCH     | 16.23            | 30          | PASS    |
| 11N20SISO | LCH     | 15.78            | 30          | PASS    |
|           | MCH     | 15.69            | 30          | PASS    |
|           | HCH     | 15.36            | 30          | PASS    |
| 11N40SISO | LCH     | 14.30            | 30          | PASS    |
|           | MCH     | 14.29            | 30          | PASS    |
|           | HCH     | 14.73            | 30          | PASS    |

### Antenna 1

| Mode      | Channel | Meas.Level [dBm] | Limit [dBm] | Verdict |
|-----------|---------|------------------|-------------|---------|
| 11B       | LCH     | 17.38            | 30          | PASS    |
|           | MCH     | 17.56            | 30          | PASS    |
|           | HCH     | 17.42            | 30          | PASS    |
| 11G       | LCH     | 16.59            | 30          | PASS    |
|           | MCH     | 16.45            | 30          | PASS    |
|           | HCH     | 16.93            | 30          | PASS    |
| 11N20SISO | LCH     | 15.81            | 30          | PASS    |
|           | MCH     | 15.69            | 30          | PASS    |
|           | HCH     | 15.10            | 30          | PASS    |
| 11N40SISO | LCH     | 14.94            | 30          | PASS    |
|           | MCH     | 14.59            | 30          | PASS    |
|           | HCH     | 14.69            | 30          | PASS    |

**Antenna 0+ Antenna 1**

| Mode      | Channel | Meas.Level<br>at Antenna 0<br>[dBm] | Meas.Level<br>at Antenna 1<br>[dBm] | Sum Antenna 0 and<br>Antenna 1<br>[dBm] | Limit<br>[dBm] | Verdict |
|-----------|---------|-------------------------------------|-------------------------------------|---|----------------|---------|
| 11N20MIMO | LCH     | 15.78                               | 15.81                               | 18.81                                   | 30             | PASS    |
|           | MCH     | 15.69                               | 15.69                               | 18.70                                   | 30             | PASS    |
|           | HCH     | 15.36                               | 15.10                               | 18.24                                   | 30             | PASS    |
| 11N40MIMO | LCH     | 14.30                               | 14.94                               | 17.64                                   | 30             | PASS    |
|           | MCH     | 14.29                               | 14.59                               | 17.45                                   | 30             | PASS    |
|           | HCH     | 14.73                               | 14.69                               | 17.72                                   | 30             | PASS    |

### C.3 Maximum Power Spectral Density

#### Antenna 0

| Mode      | Channel | Meas.Level [dBm/30KHz] | Limit [dBm/3KHz] | Verdict |
|-----------|---------|------------------------|------------------|---------|
| 11B       | LCH     | -10.132                | 8                | PASS    |
|           | MCH     | -10.136                | 8                | PASS    |
|           | HCH     | -8.725                 | 8                | PASS    |
| 11G       | LCH     | -13.977                | 8                | PASS    |
|           | MCH     | -14.307                | 8                | PASS    |
|           | HCH     | -14.669                | 8                | PASS    |
| 11N20SISO | LCH     | -13.918                | 8                | PASS    |
|           | MCH     | -13.772                | 8                | PASS    |
|           | HCH     | -14.151                | 8                | PASS    |
| 11N40SISO | LCH     | -16.538                | 8                | PASS    |
|           | MCH     | -17.718                | 8                | PASS    |
|           | HCH     | -18.195                | 8                | PASS    |

#### Antenna 1

| Mode      | Channel | Meas.Level [dBm/30KHz] | Limit [dBm/3KHz] | Verdict |
|-----------|---------|------------------------|------------------|---------|
| 11B       | LCH     | -5.567                 | 8                | PASS    |
|           | MCH     | -9.721                 | 8                | PASS    |
|           | HCH     | -9.837                 | 8                | PASS    |
| 11G       | LCH     | -13.084                | 8                | PASS    |
|           | MCH     | -13.370                | 8                | PASS    |
|           | HCH     | -13.955                | 8                | PASS    |
| 11N20SISO | LCH     | -13.725                | 8                | PASS    |
|           | MCH     | -10.597                | 8                | PASS    |
|           | HCH     | -14.323                | 8                | PASS    |
| 11N40SISO | LCH     | -17.295                | 8                | PASS    |
|           | MCH     | -17.785                | 8                | PASS    |
|           | HCH     | -17.373                | 8                | PASS    |

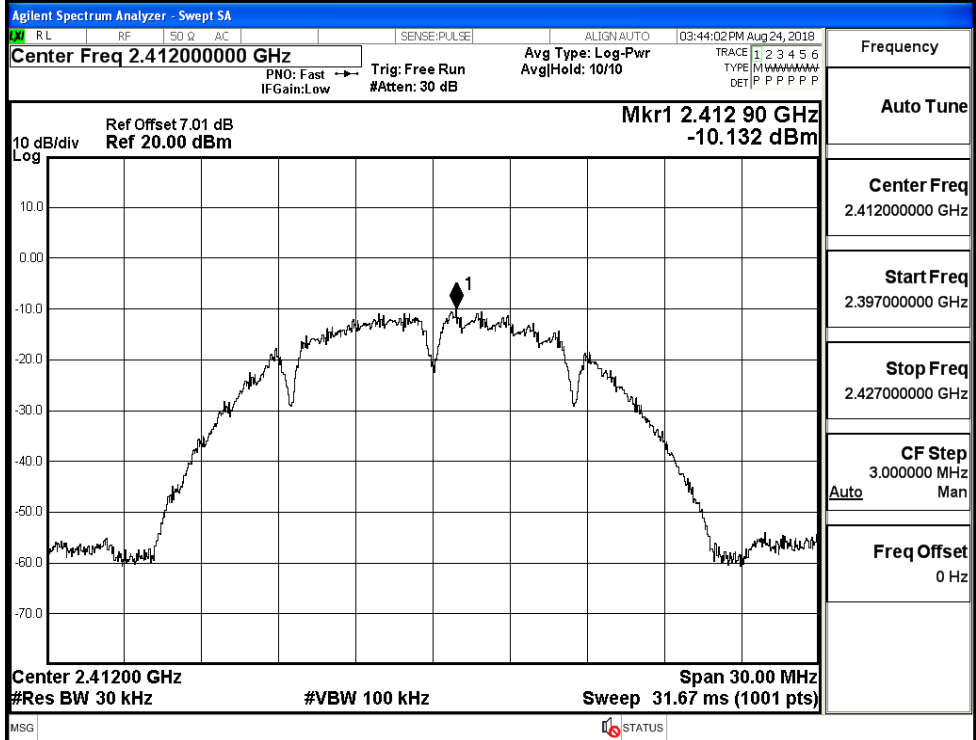


**Antenna 0 + Antenna 1**

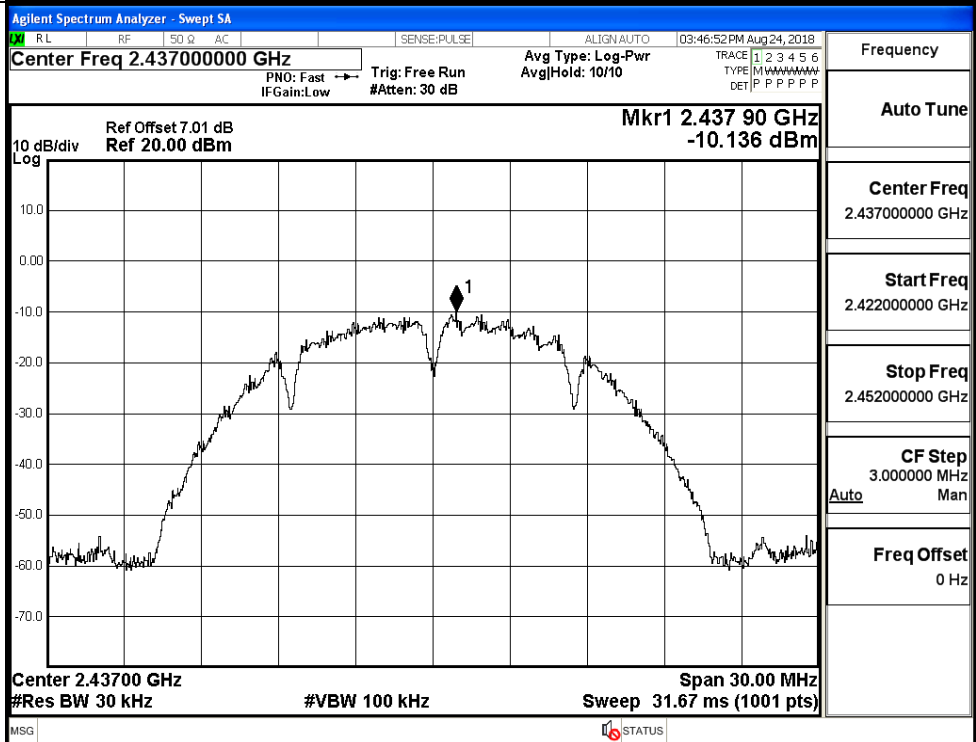
| Mode      | Channel | Meas.Level<br>at Antenna 0<br>[dBm/30KHz] | Meas.Level<br>at Antenna 1<br>[dBm/30Kz] | Sum Antenna 0<br>and Antenna 1<br>[dBm/30KHz] | Limit<br>[dBm/30KHz] | Verdict |
|-----------|---------|---|--|---|----------------------|---------|
| 11N20MIMO | LCH     | -13.918                                   | -13.725                                  | -10.810                                       | 7.99                 | PASS    |
|           | MCH     | -13.772                                   | -10.597                                  | -8.890  | 7.99                 | PASS    |
|           | HCH     | -14.151                                   | -14.323                                  | -11.226                                       | 7.99                 | PASS    |
| 11N40MIMO | LCH     | -16.538                                   | -17.295                                  | -13.890                                       | 7.99                 | PASS    |
|           | MCH     | -17.718                                   | -17.785                                  | -14.741                                       | 7.99                 | PASS    |
|           | HCH     | -18.195                                   | -17.373                                  | -14.754                                       | 7.99                 | PASS    |

Test Graphs\_Ant 0

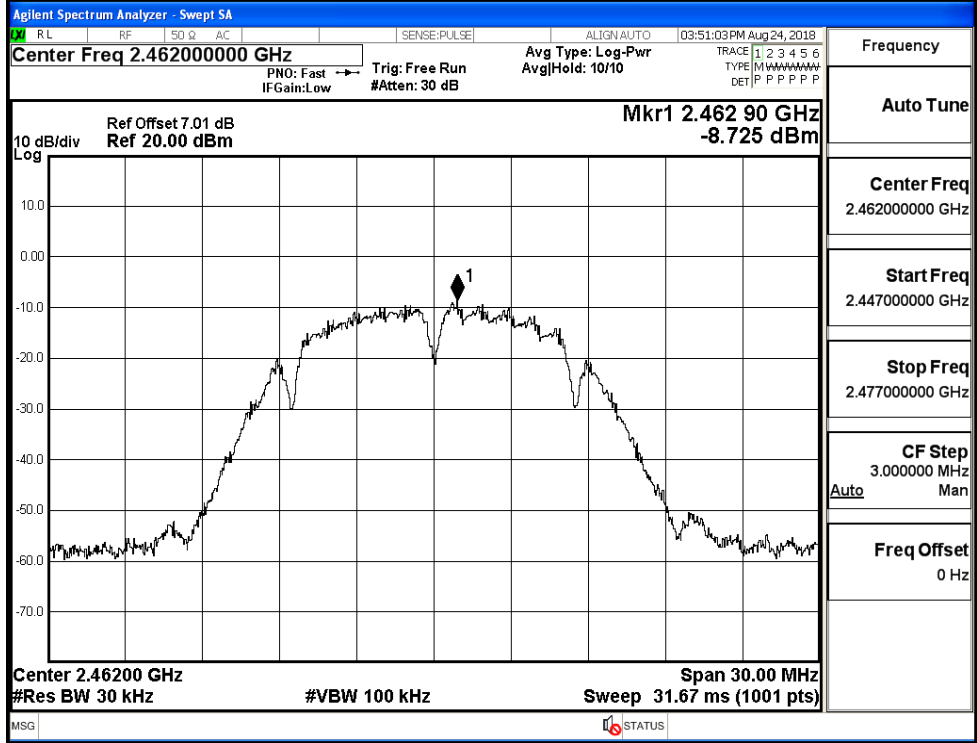
11B/LCH



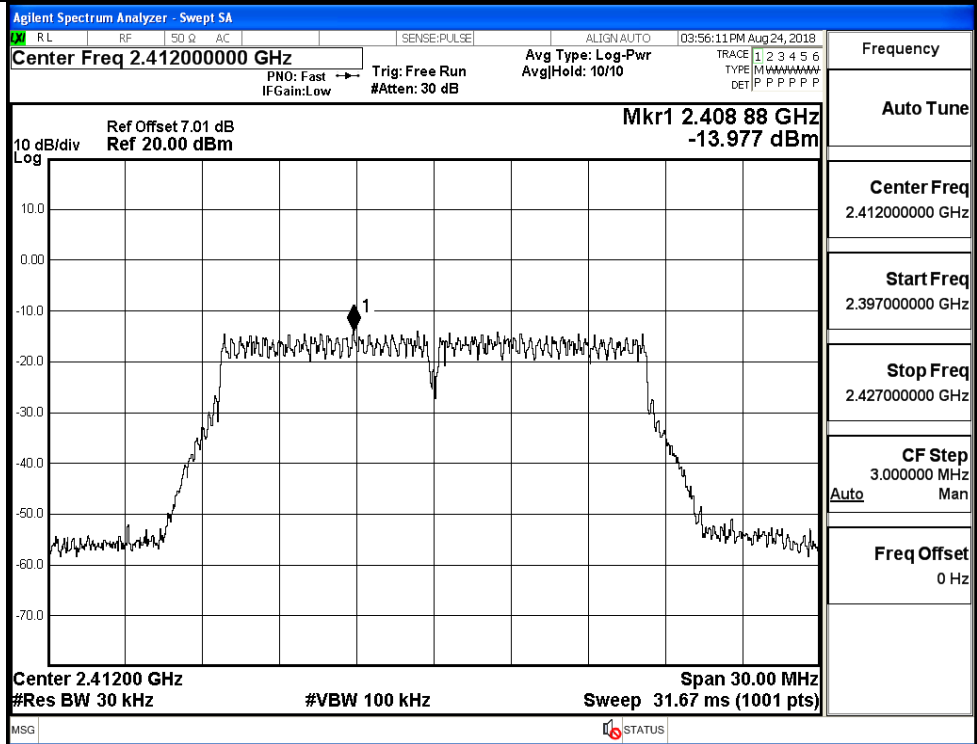
11B/MCH



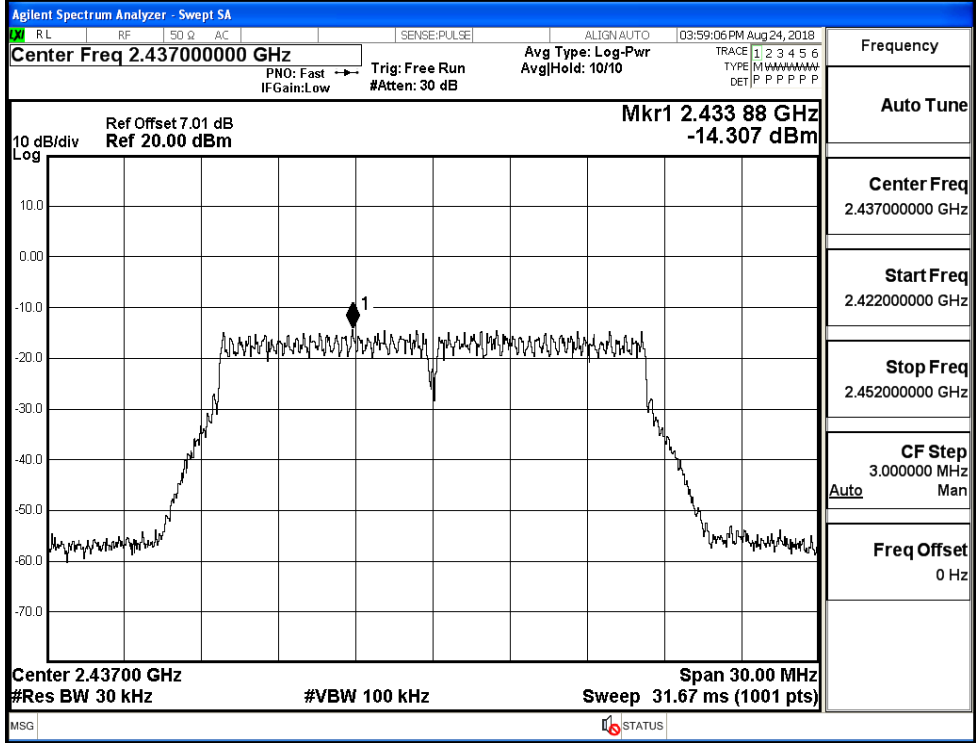
11B/HCH



11G/LCH

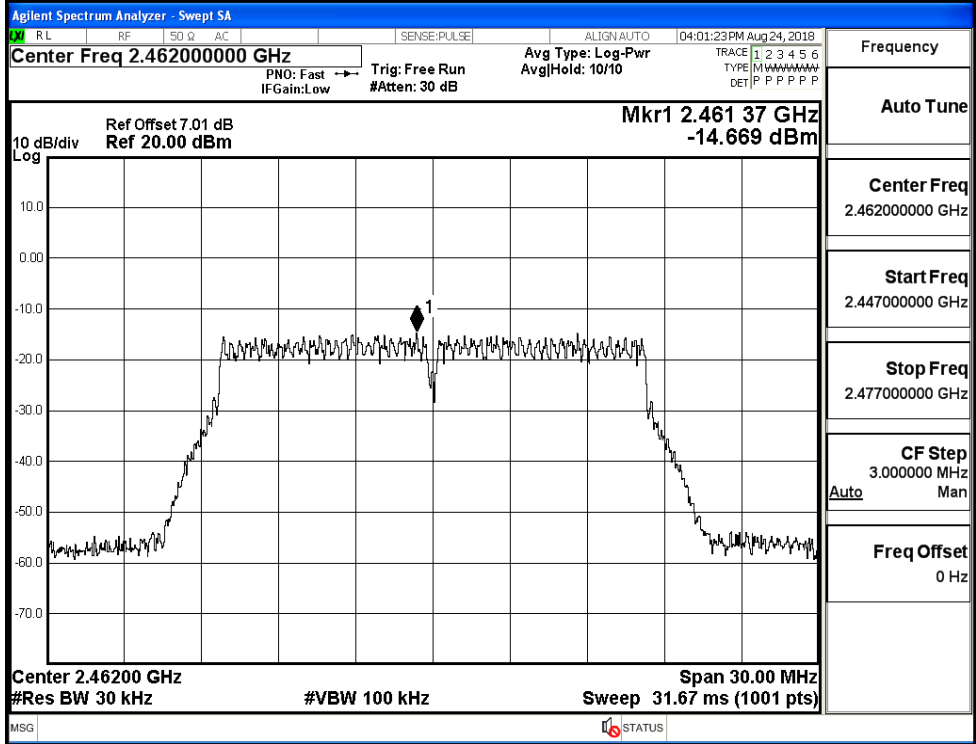


11G/MCH



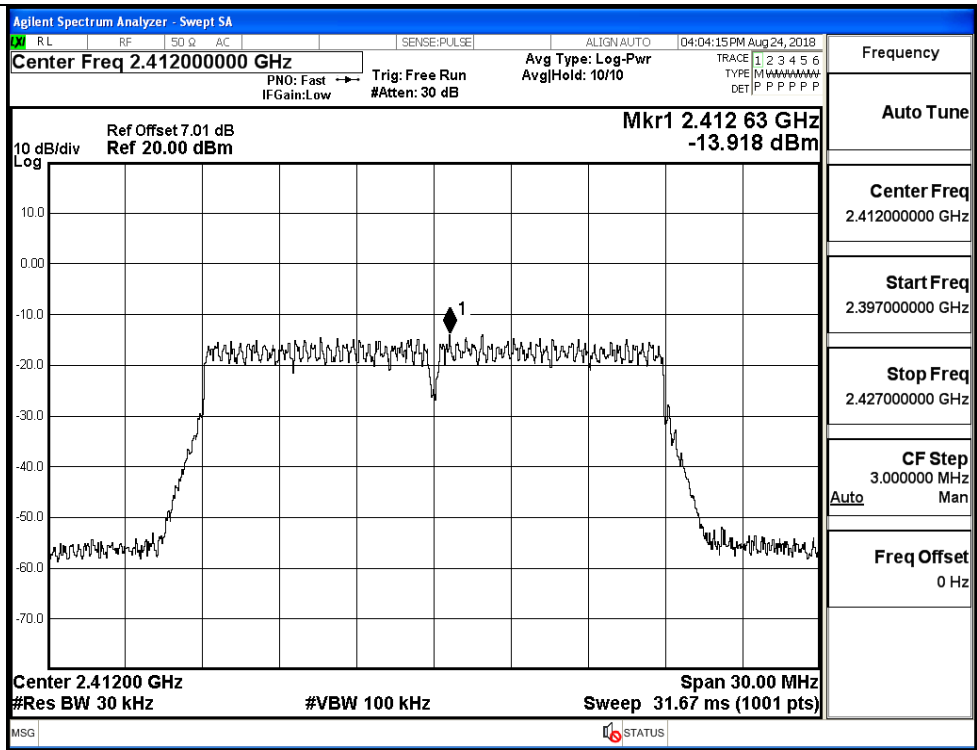
|                                     |
|-------------------------------------|
| Frequency                           |
| Auto Tune                           |
| Center Freq<br>2.43700000 GHz       |
| Start Freq<br>2.422000000 GHz       |
| Stop Freq<br>2.452000000 GHz        |
| CF Step<br>3.000000 MHz<br>Auto Man |
| Freq Offset<br>0 Hz                 |

11G/HCH

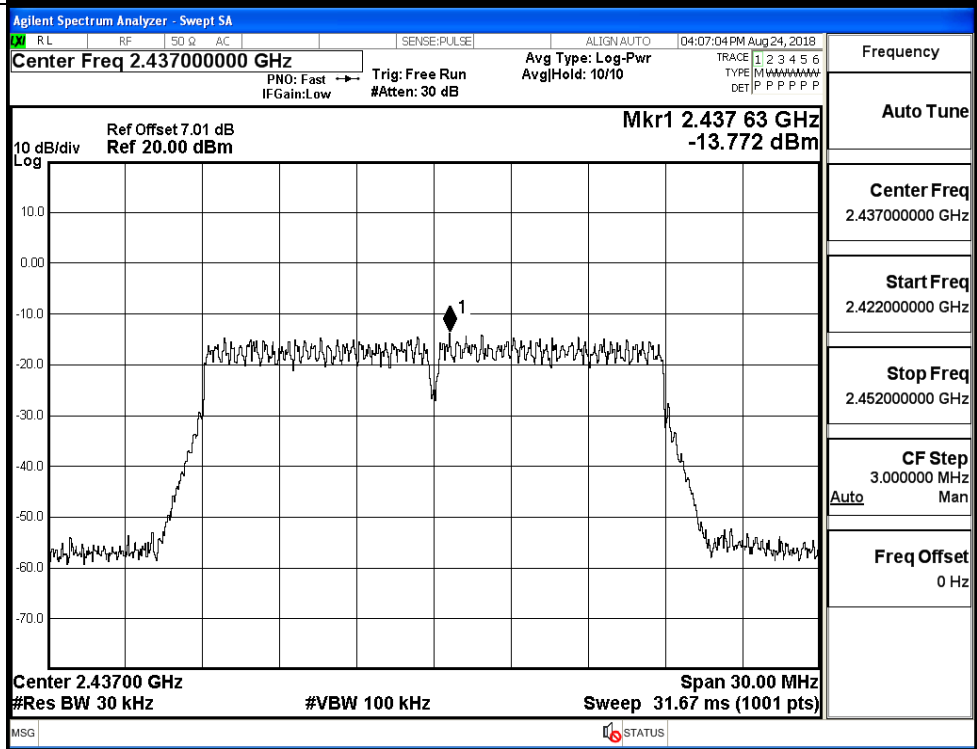


|                                     |
|-------------------------------------|
| Frequency                           |
| Auto Tune                           |
| Center Freq<br>2.46200000 GHz       |
| Start Freq<br>2.447000000 GHz       |
| Stop Freq<br>2.477000000 GHz        |
| CF Step<br>3.000000 MHz<br>Auto Man |
| Freq Offset<br>0 Hz                 |

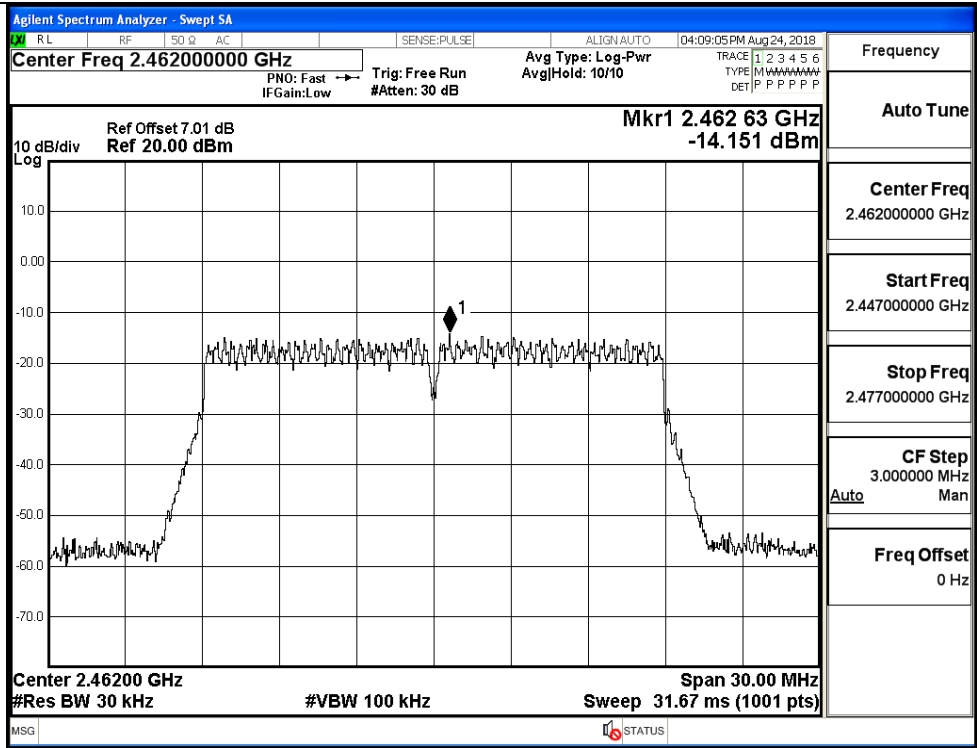
11N20SISO/LCH



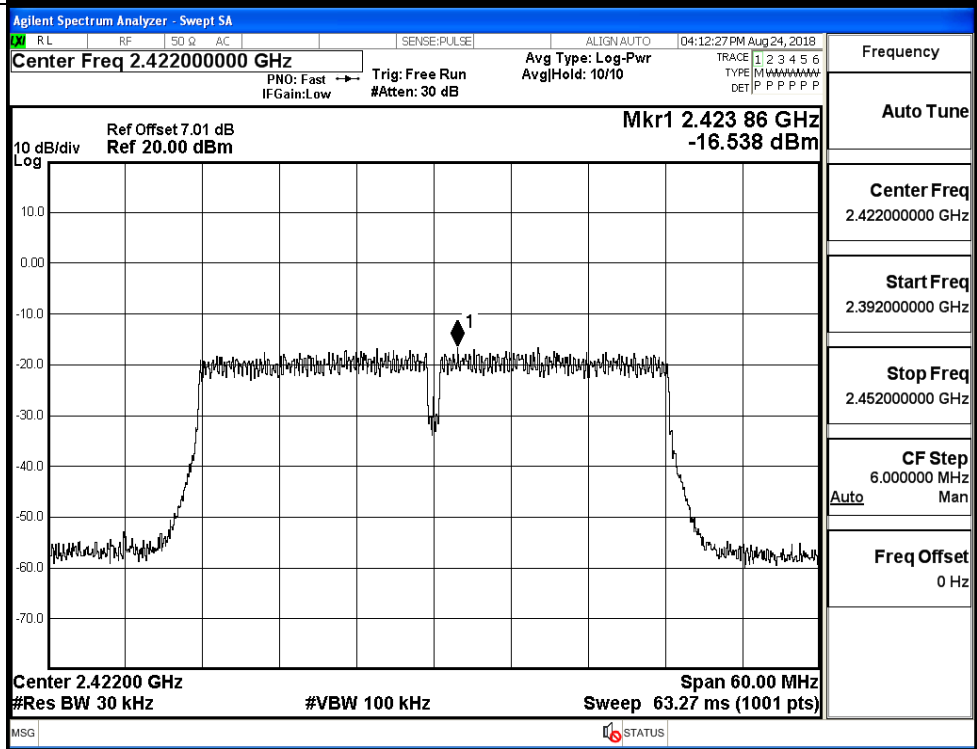
11N20SISO/MCH



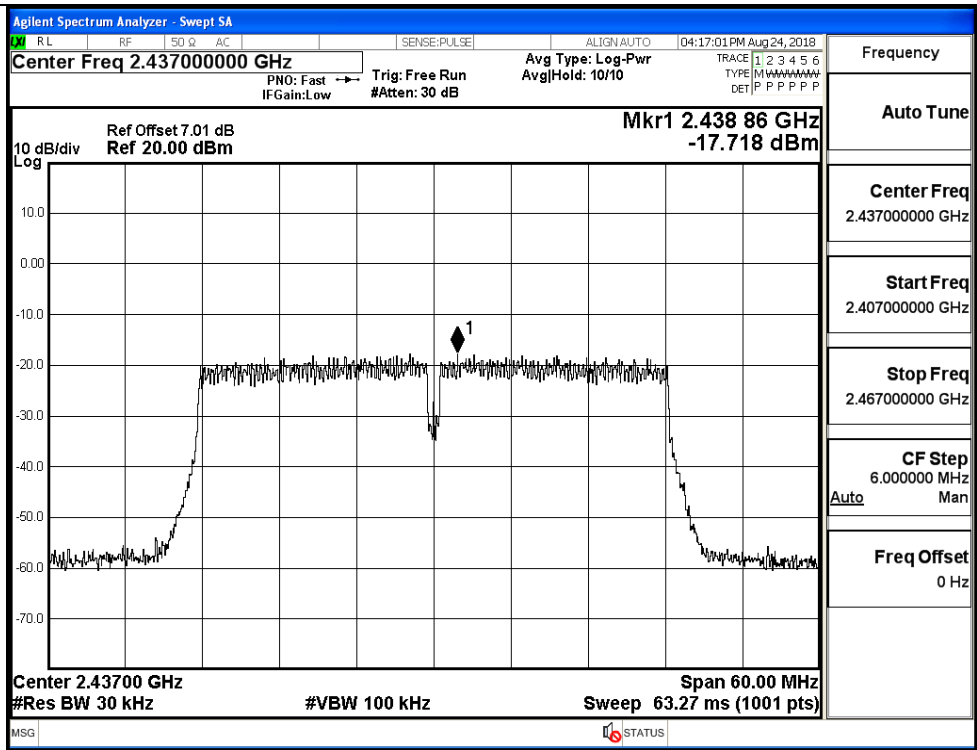
11N20SISO/HCH



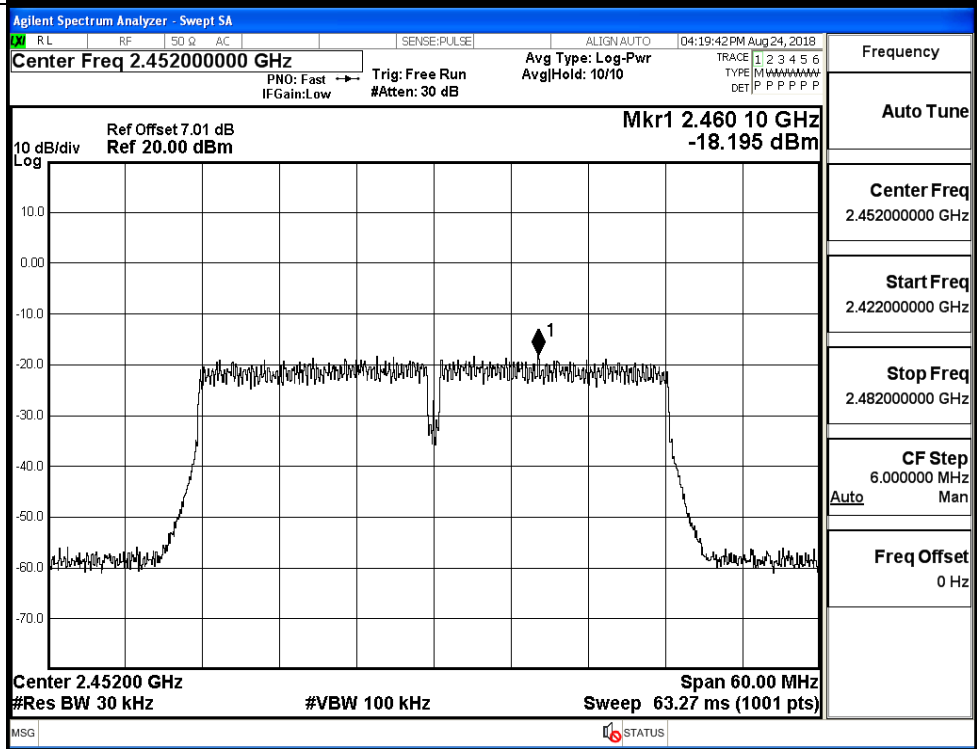
11N40SISO/LCH



11N40SISO/MCH

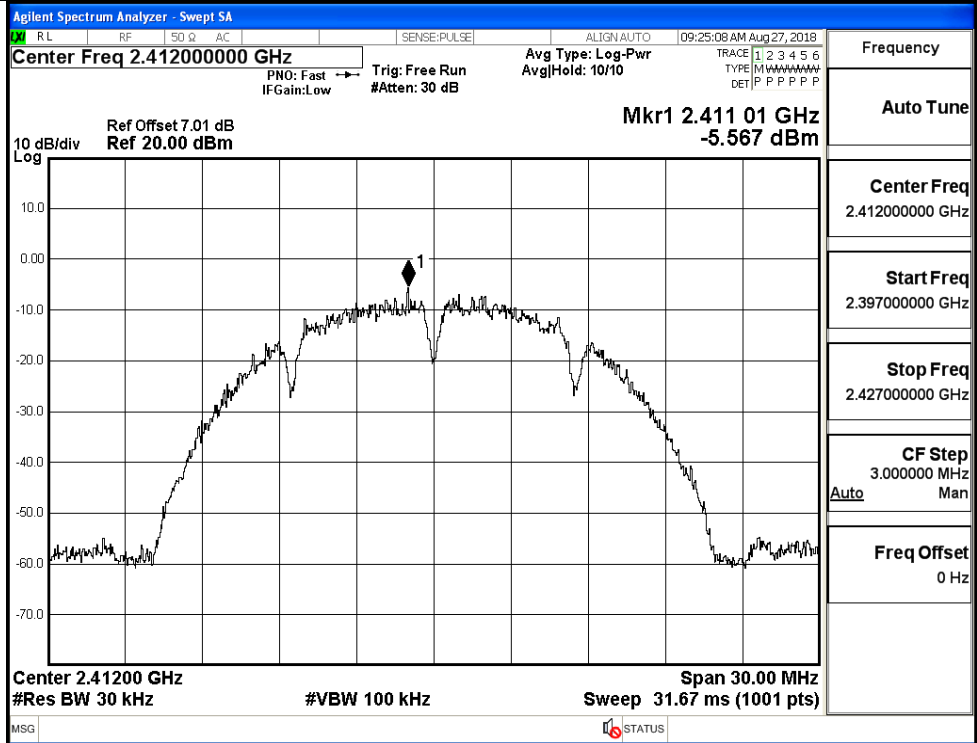


11N40SISO/HCH



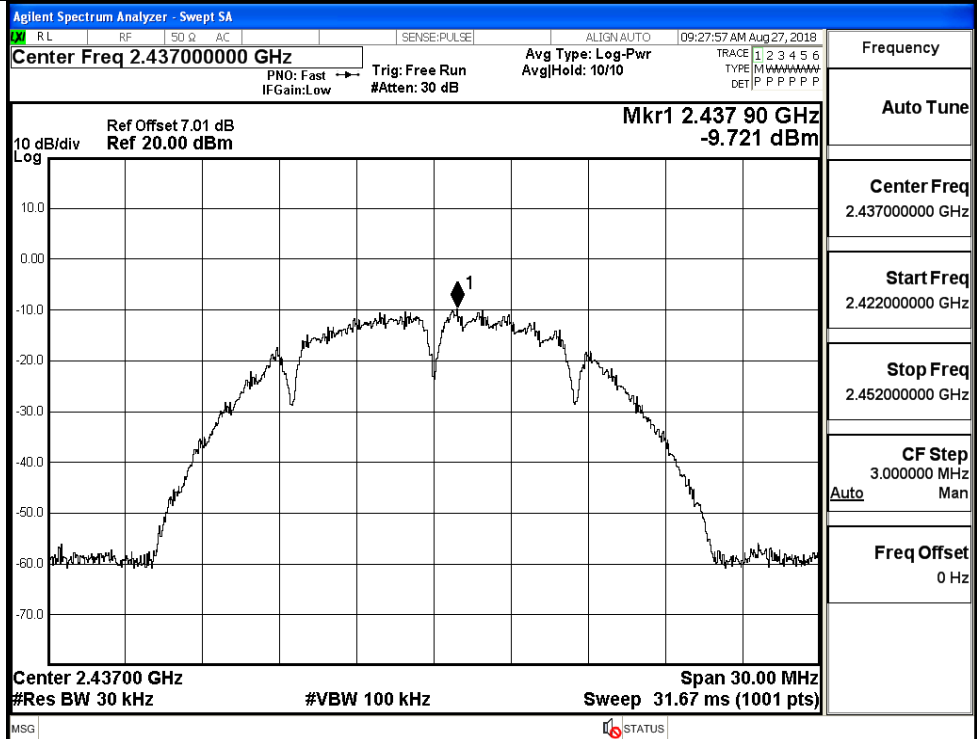
Test Graphs\_Ant 1

11B/LCH



|             |                 |
|-------------|-----------------|
| Frequency   | 2.41200000 GHz  |
| Auto Tune   |                 |
| Center Freq | 2.41200000 GHz  |
| Start Freq  | 2.397000000 GHz |
| Stop Freq   | 2.427000000 GHz |
| CF Step     | 3.000000 MHz    |
| Auto        | Man             |
| Freq Offset | 0 Hz            |

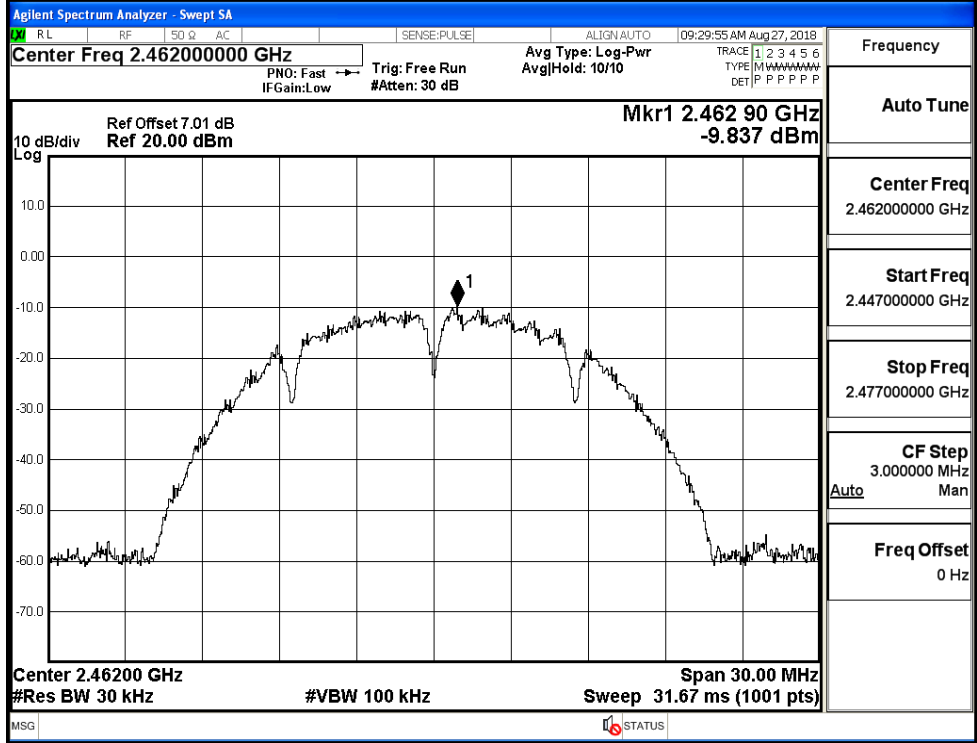
11B/MCH



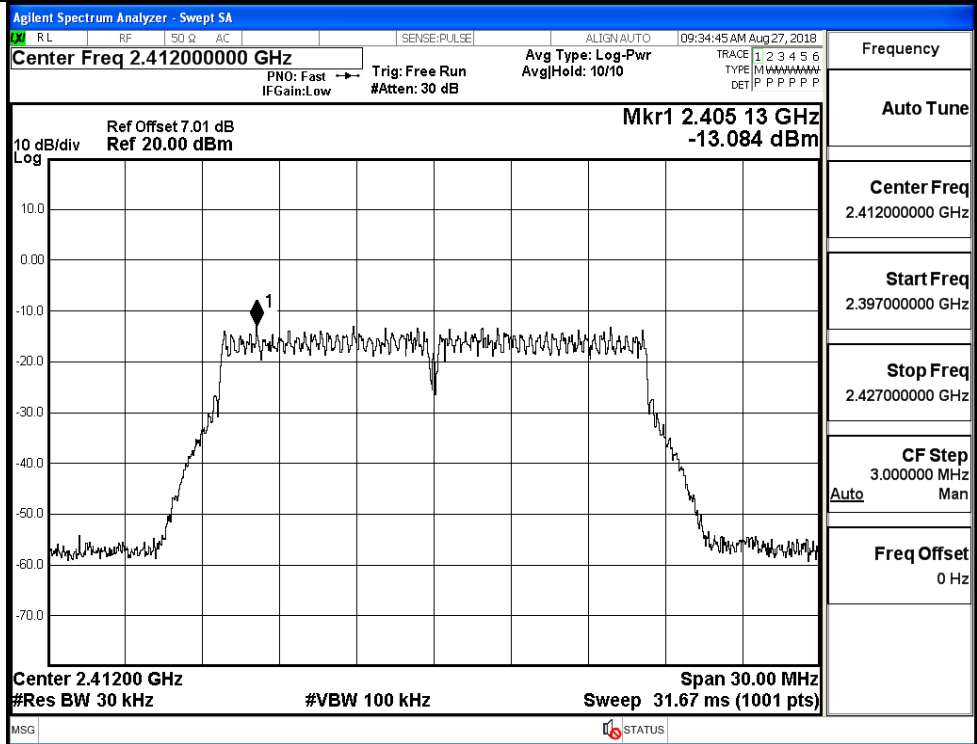
|             |                 |
|-------------|-----------------|
| Frequency   | 2.43700000 GHz  |
| Auto Tune   |                 |
| Center Freq | 2.43700000 GHz  |
| Start Freq  | 2.422000000 GHz |
| Stop Freq   | 2.452000000 GHz |
| CF Step     | 3.000000 MHz    |
| Auto        | Man             |
| Freq Offset | 0 Hz            |



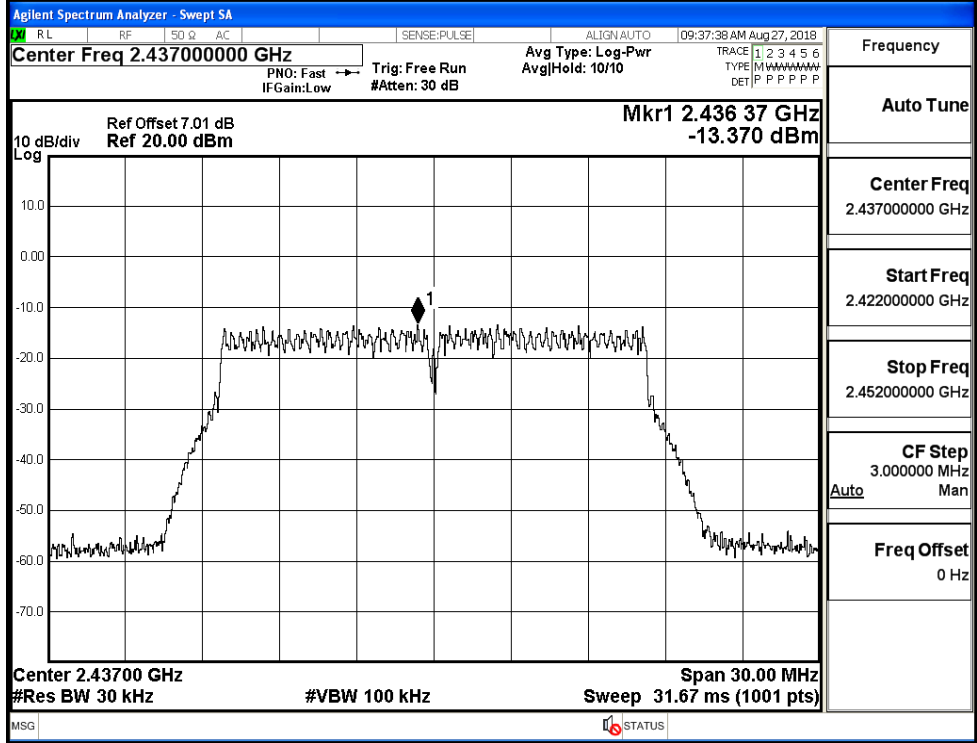
11B/HCH



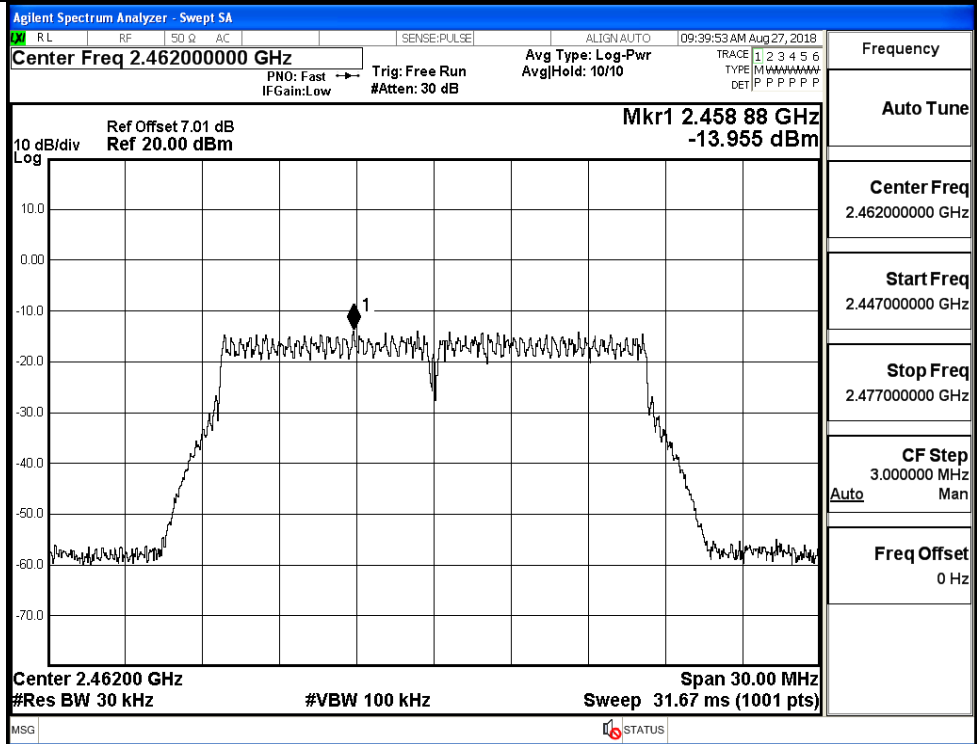
11G/LCH



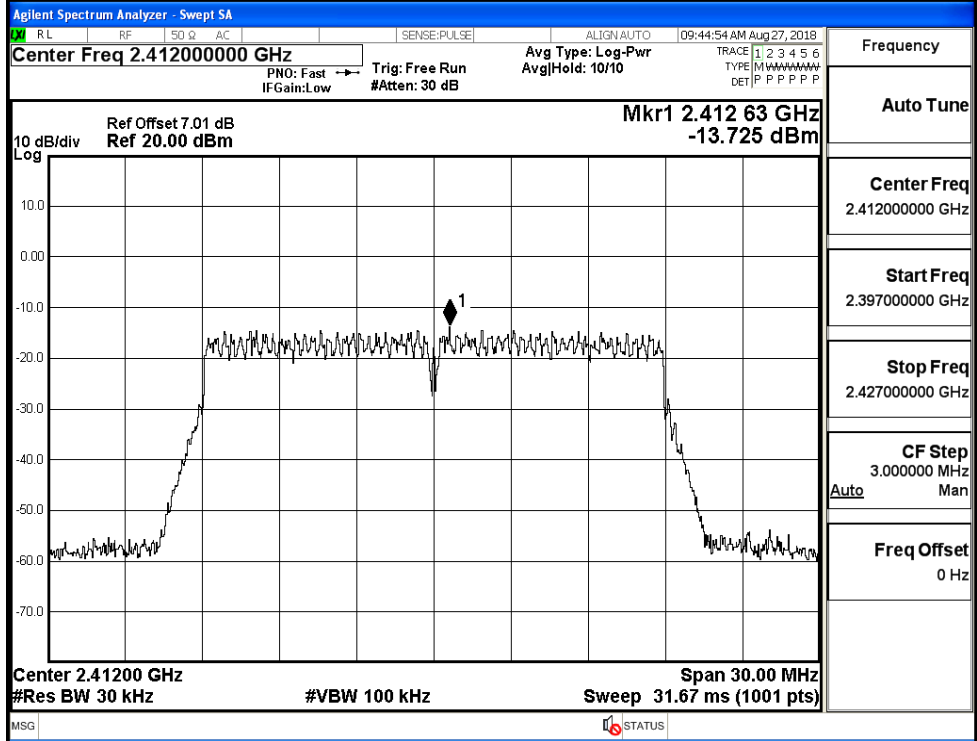
11G/MCH



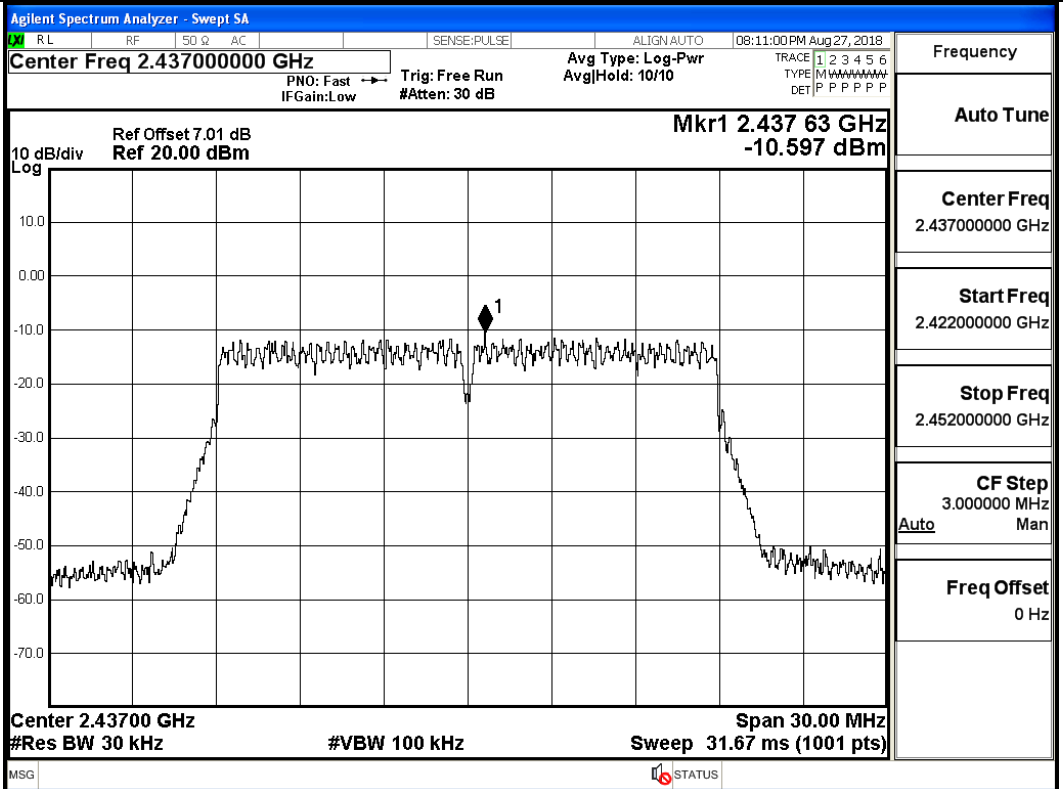
11G/HCH



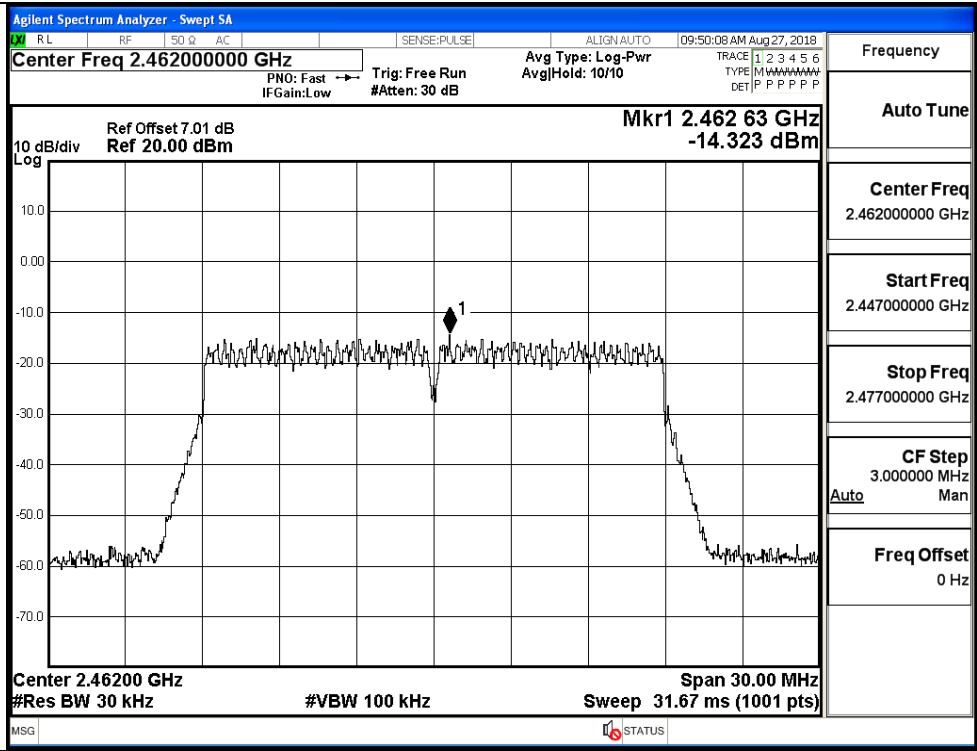
11N20SISO/LCH



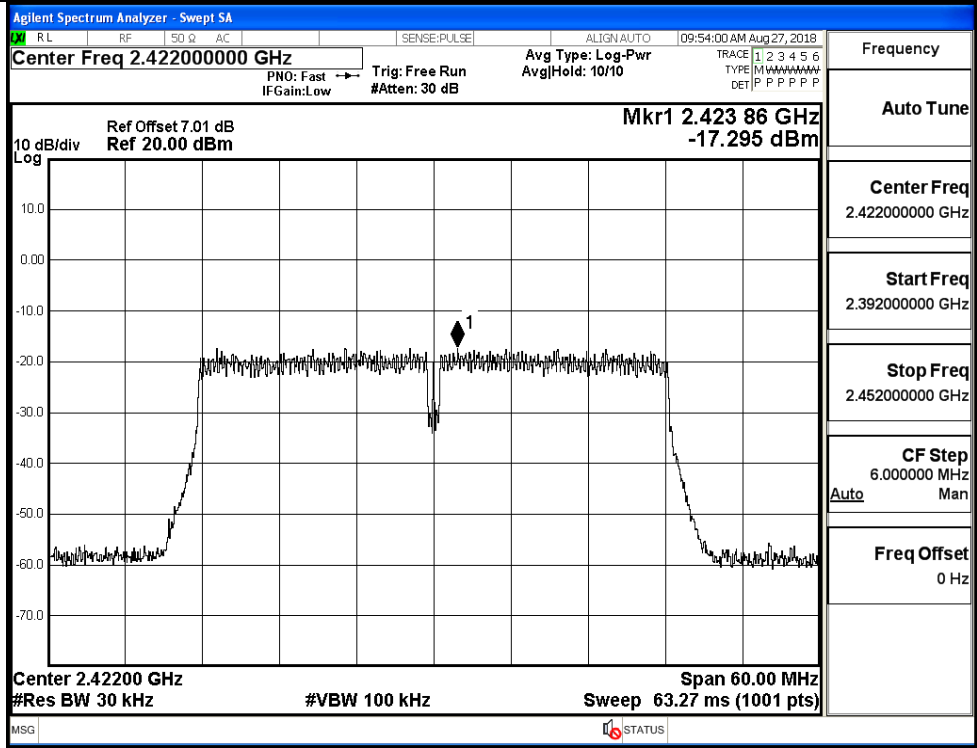
11N20SISO/MCH



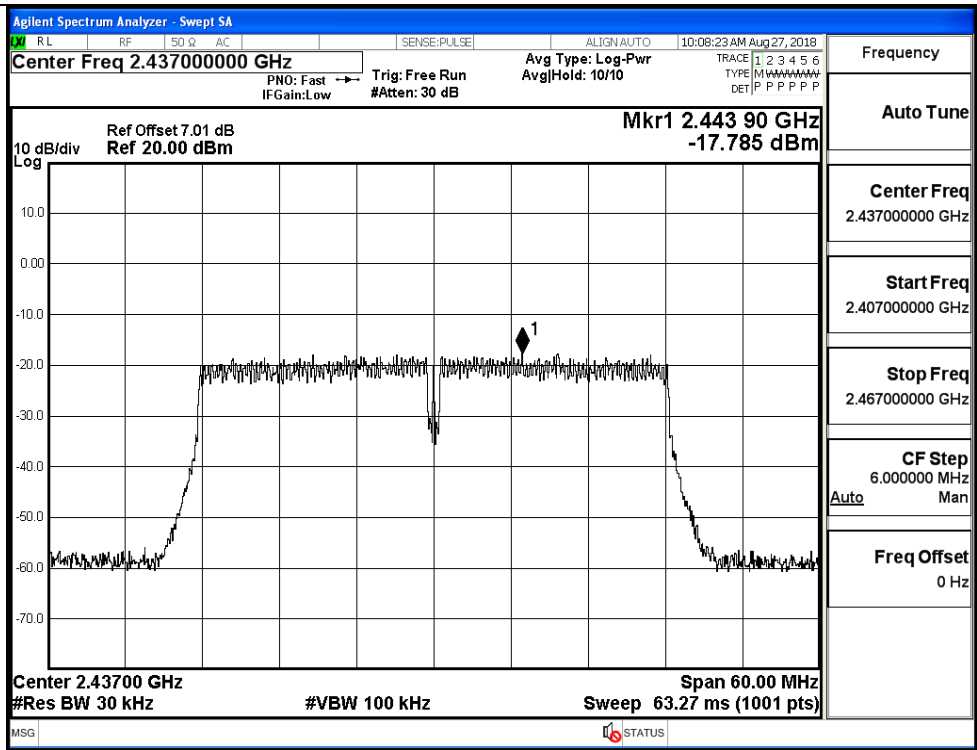
11N20SISO/HCH



11N40SISO/LCH

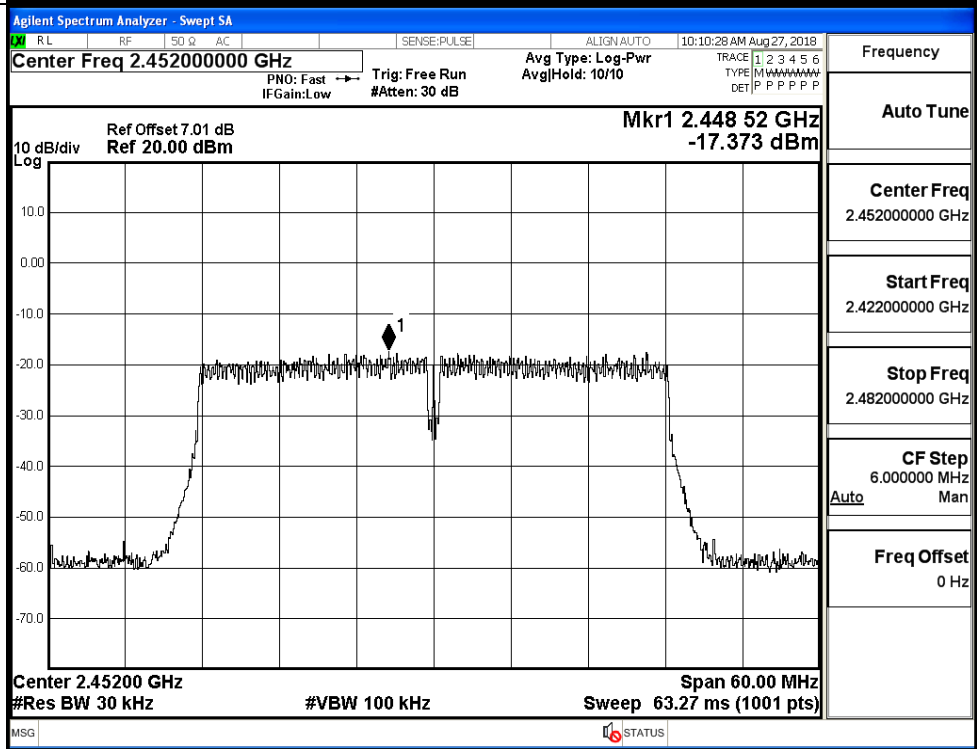


11N40SISO/MCH



|                                     |
|-------------------------------------|
| Frequency                           |
| Auto Tune                           |
| Center Freq<br>2.43700000 GHz       |
| Start Freq<br>2.40700000 GHz        |
| Stop Freq<br>2.46700000 GHz         |
| CF Step<br>6.000000 MHz<br>Auto Man |
| Freq Offset<br>0 Hz                 |

11N40SISO/HCH



|                                     |
|-------------------------------------|
| Frequency                           |
| Auto Tune                           |
| Center Freq<br>2.45200000 GHz       |
| Start Freq<br>2.42200000 GHz        |
| Stop Freq<br>2.48200000 GHz         |
| CF Step<br>6.000000 MHz<br>Auto Man |
| Freq Offset<br>0 Hz                 |

## C.4 6dB Bandwidth

### Antenna 0

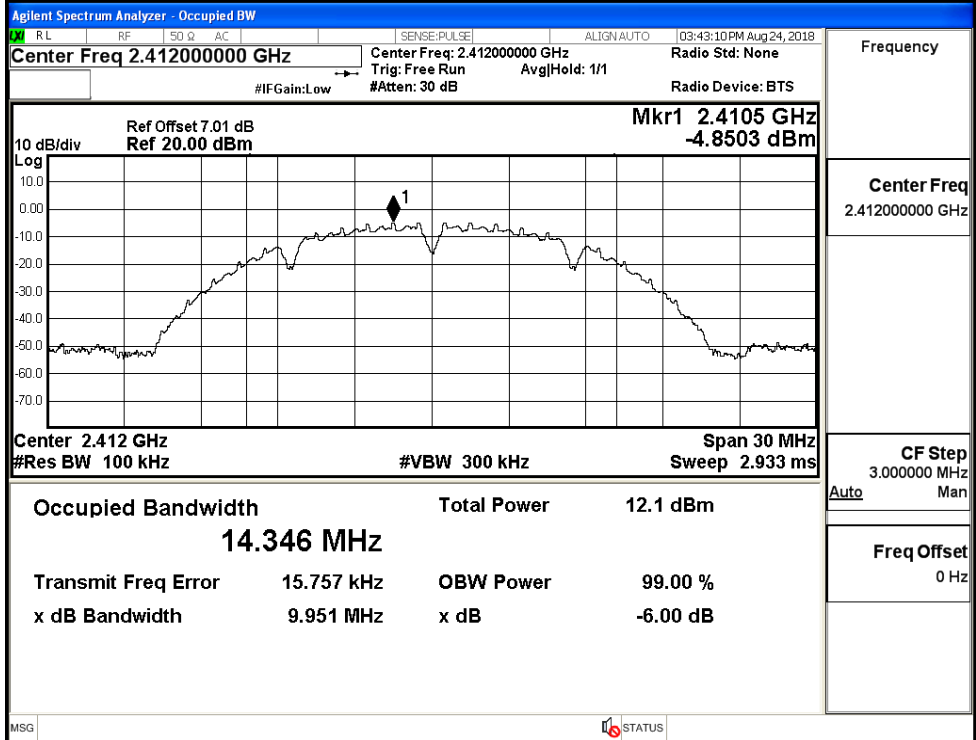
| Mode      | Channel | 6dB Bandwidth [MHz] | Limit [MHz] | Verdict |
|-----------|---------|---------------------|-------------|---------|
| 11B       | LCH     | 9.951               | ≥0.5        | PASS    |
|           | MCH     | 9.990               | ≥0.5        | PASS    |
|           | HCH     | 9.152               | ≥0.5        | PASS    |
| 11G       | LCH     | 16.61               | ≥0.5        | PASS    |
|           | MCH     | 16.61               | ≥0.5        | PASS    |
|           | HCH     | 16.60               | ≥0.5        | PASS    |
| 11N20SISO | LCH     | 17.82               | ≥0.5        | PASS    |
|           | MCH     | 17.82               | ≥0.5        | PASS    |
|           | HCH     | 17.83               | ≥0.5        | PASS    |
| 11N40SISO | LCH     | 36.48               | ≥0.5        | PASS    |
|           | MCH     | 36.47               | ≥0.5        | PASS    |
|           | HCH     | 36.47               | ≥0.5        | PASS    |

### Antenna 1

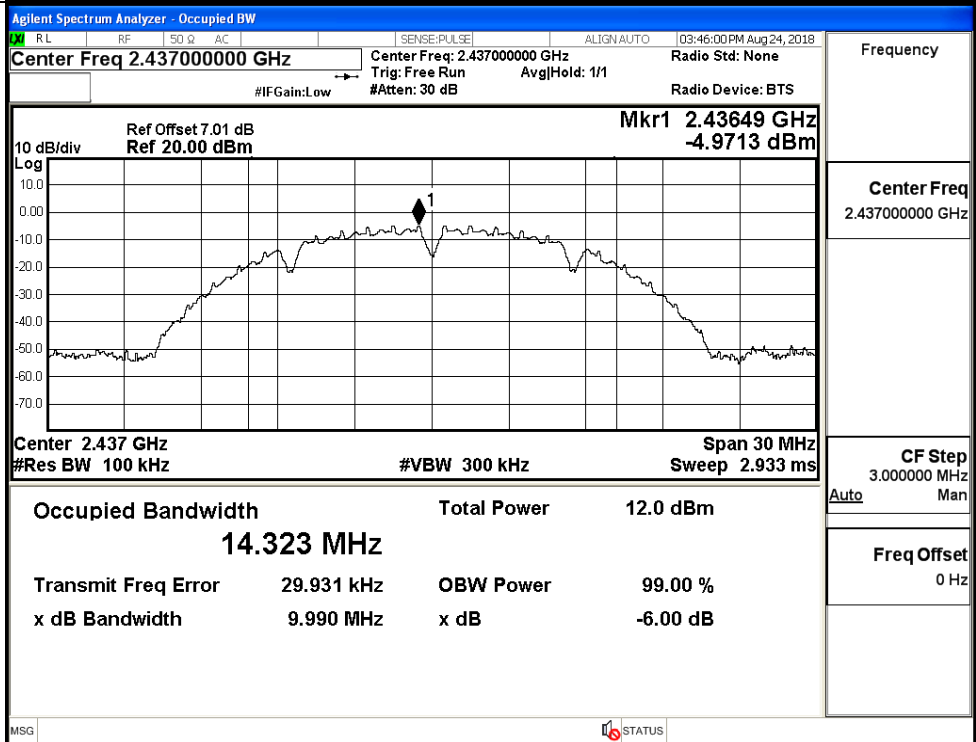
| Mode      | Channel | 6dB Bandwidth [MHz] | Limit [MHz] | Verdict |
|-----------|---------|---------------------|-------------|---------|
| 11B       | LCH     | 10.09               | ≥0.5        | PASS    |
|           | MCH     | 9.986               | ≥0.5        | PASS    |
|           | HCH     | 9.986               | ≥0.5        | PASS    |
| 11G       | LCH     | 16.61               | ≥0.5        | PASS    |
|           | MCH     | 16.61               | ≥0.5        | PASS    |
|           | HCH     | 16.62               | ≥0.5        | PASS    |
| 11N20SISO | LCH     | 17.84               | ≥0.5        | PASS    |
|           | MCH     | 17.82               | ≥0.5        | PASS    |
|           | HCH     | 17.82               | ≥0.5        | PASS    |
| 11N40SISO | LCH     | 36.50               | ≥0.5        | PASS    |
|           | MCH     | 36.48               | ≥0.5        | PASS    |
|           | HCH     | 36.50               | ≥0.5        | PASS    |

Test Graphs\_Ant 0

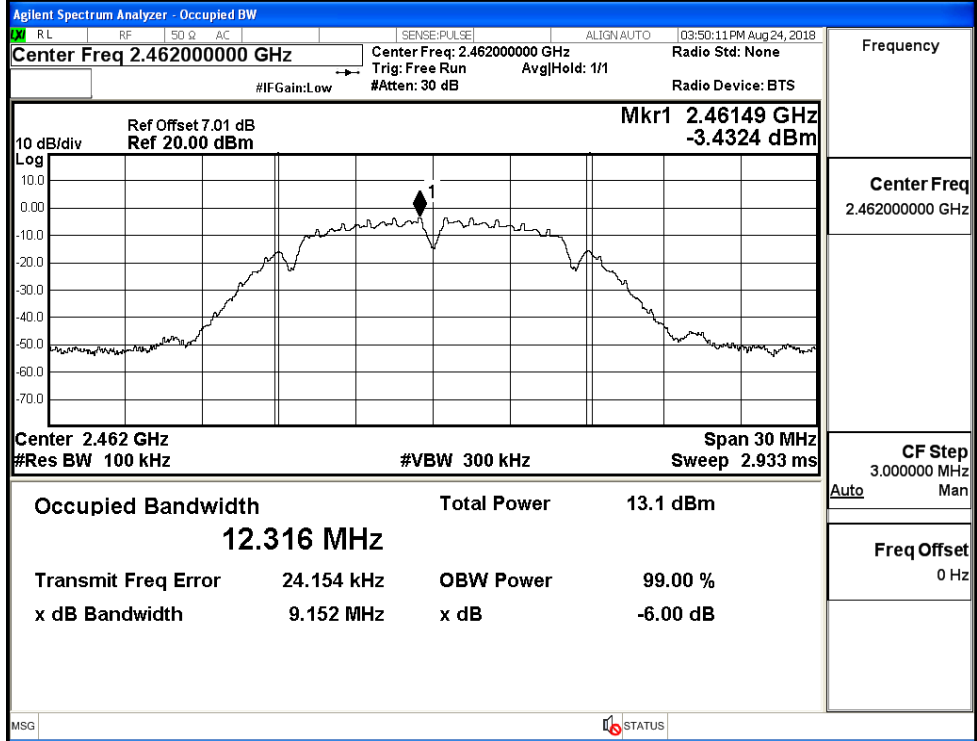
11B/LCH



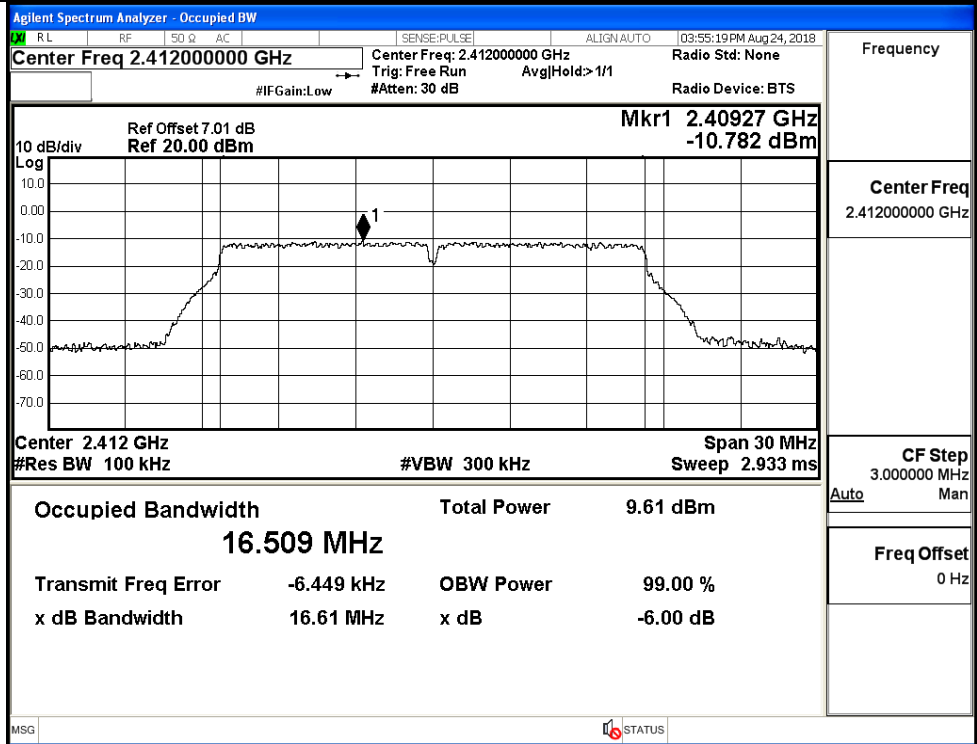
11B/MCH



11B/HCH

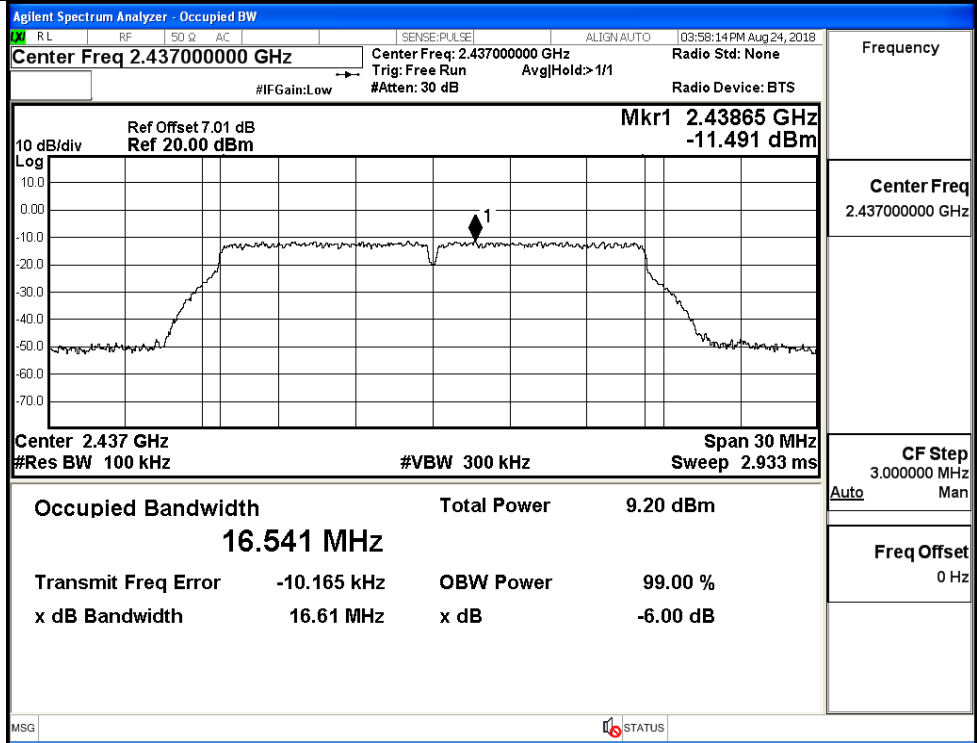


11G/LCH



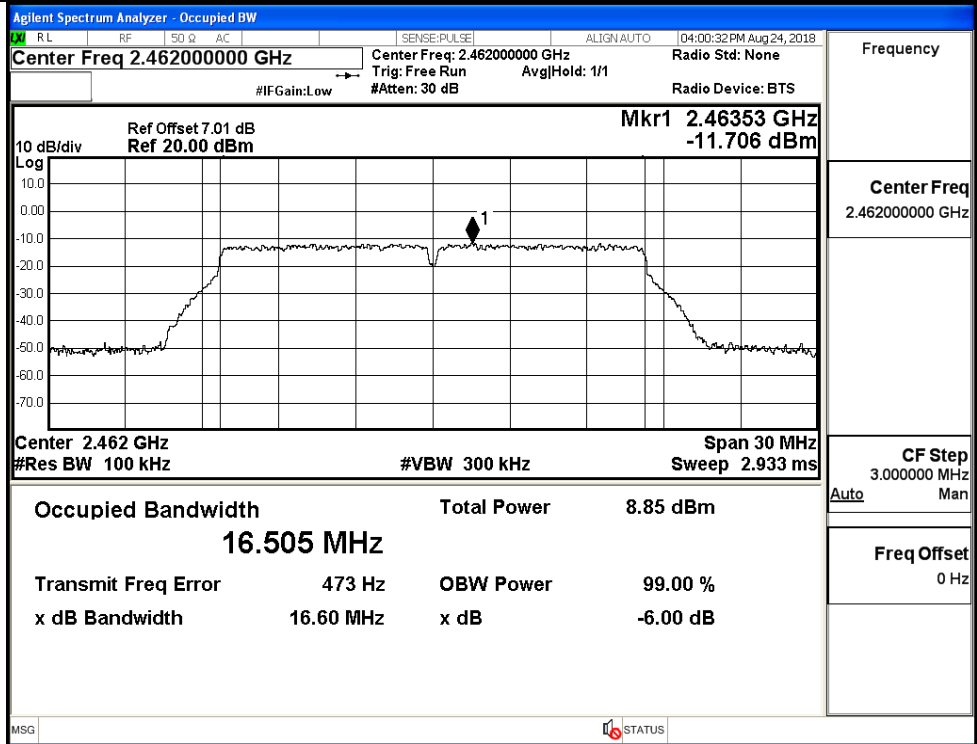


11G/MCH



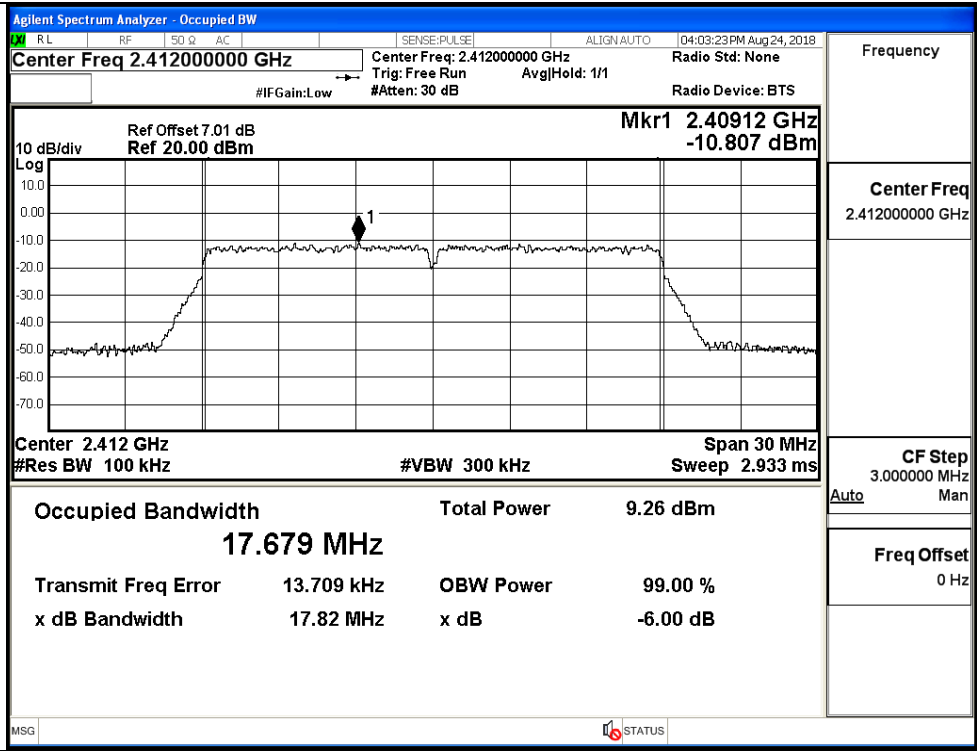
|             |                |
|-------------|----------------|
| Frequency   | 2.43700000 GHz |
| Center Freq | 2.43700000 GHz |
| CF Step     | 3.000000 MHz   |
| Auto        | Man            |
| Freq Offset | 0 Hz           |

11G/HCH

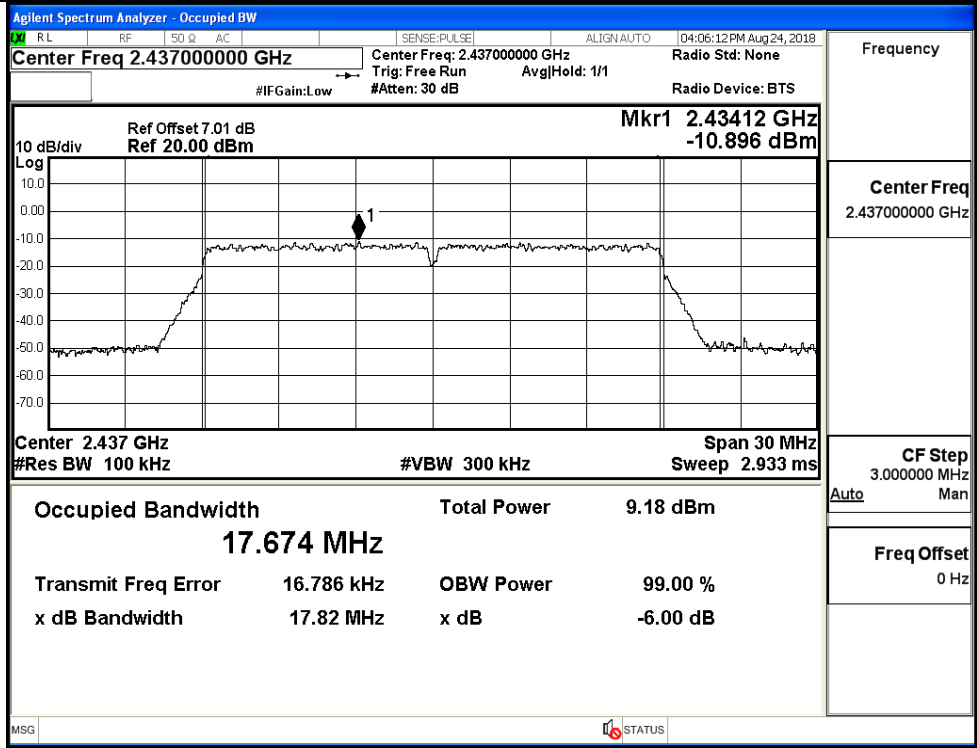


|             |                |
|-------------|----------------|
| Frequency   | 2.46200000 GHz |
| Center Freq | 2.46200000 GHz |
| CF Step     | 3.000000 MHz   |
| Auto        | Man            |
| Freq Offset | 0 Hz           |

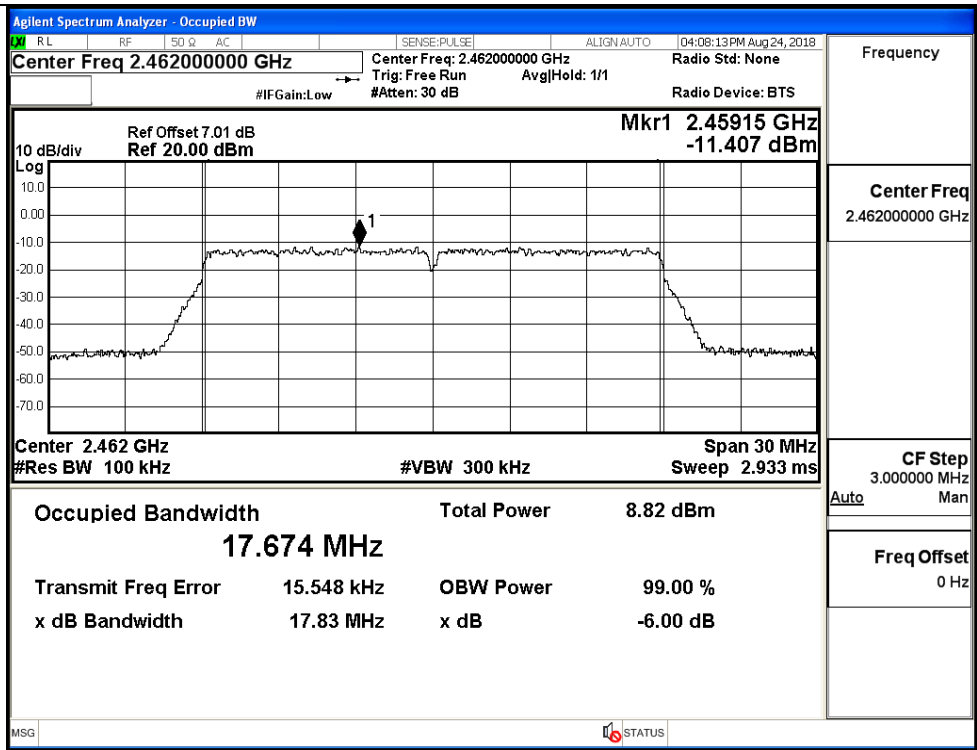
11N20SISO/LCH



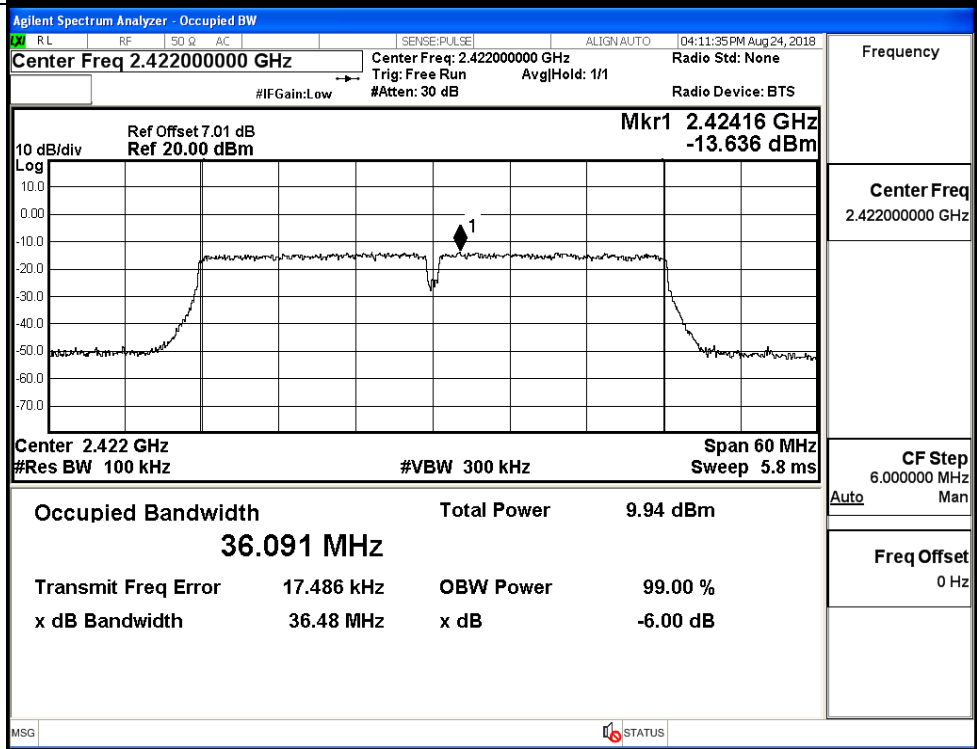
11N20SISO/MCH



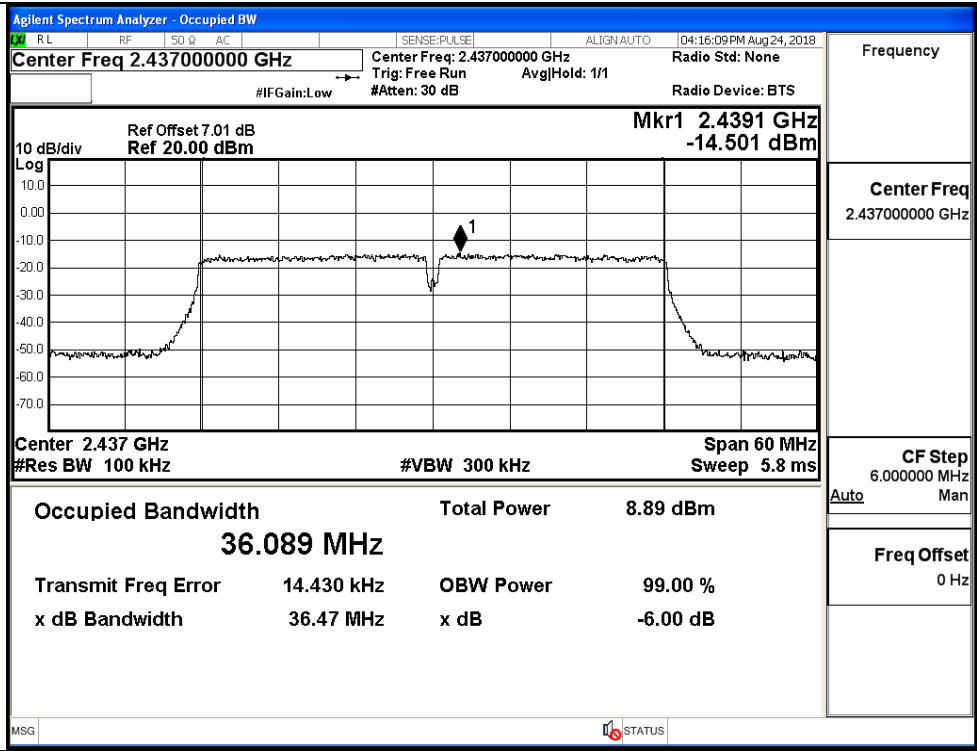
11N20SISO/HCH



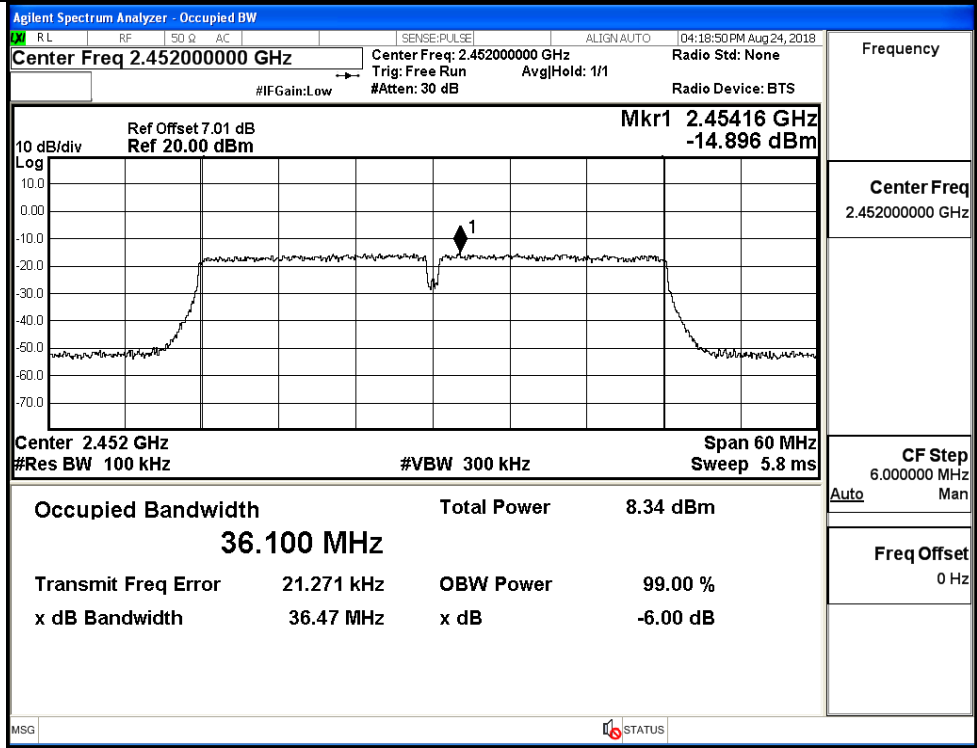
11N40SISO/LCH



11N40SISO/MCH

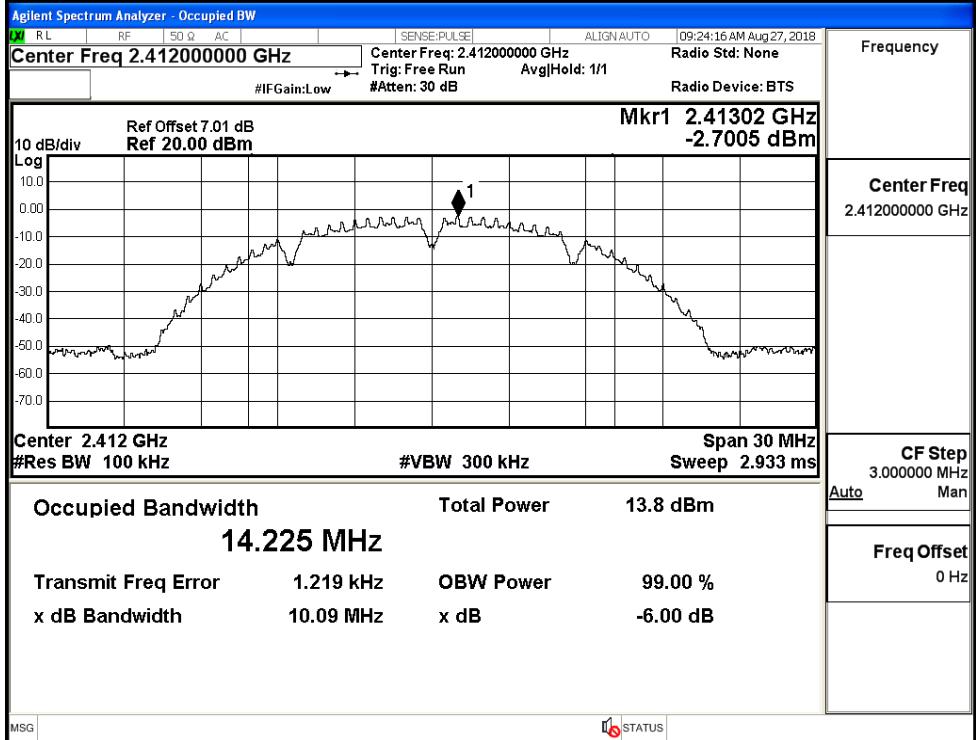


11N40SISO/HCH



Test Graphs\_Ant 1

11B/LCH



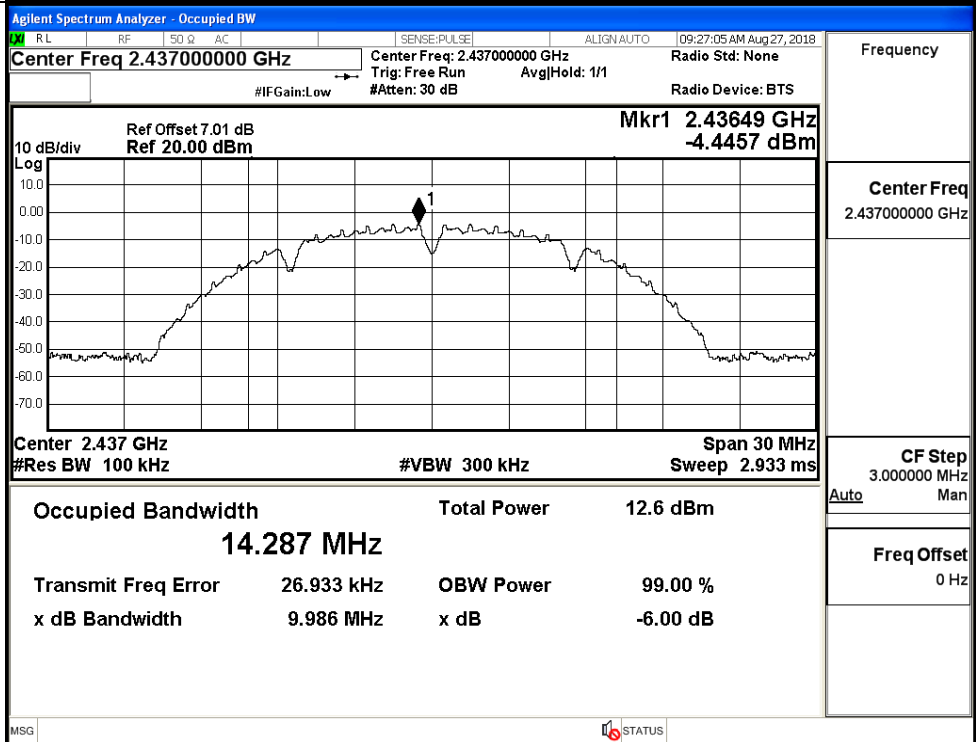
Frequency

Center Freq  
2.41200000 GHz

CF Step  
3.000000 MHz

Freq Offset  
0 Hz

11B/MCH



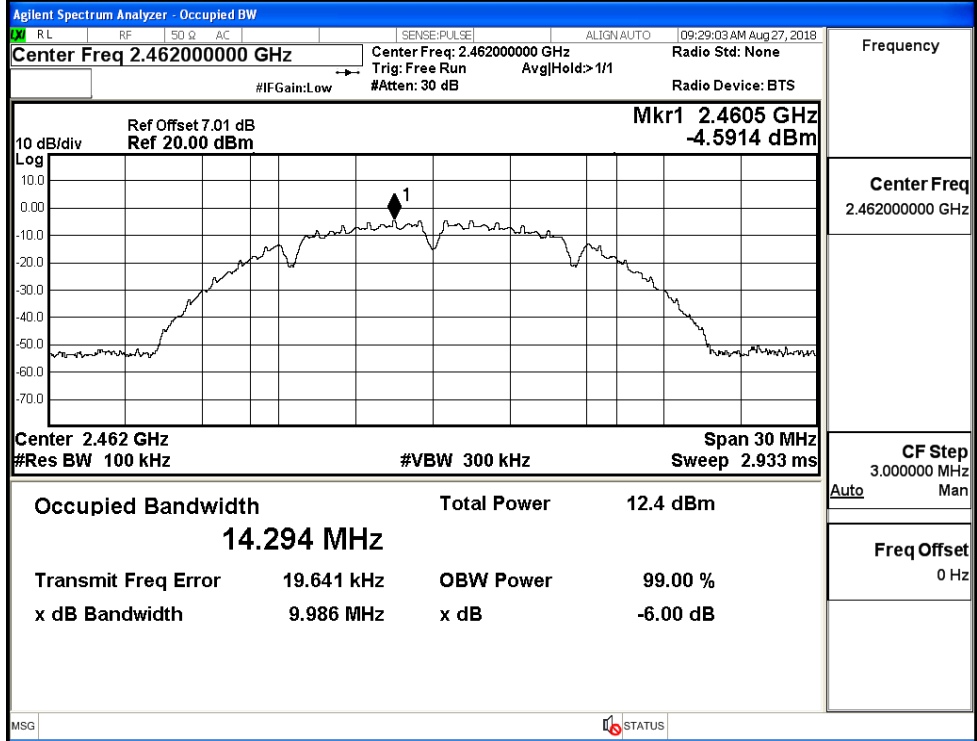
Frequency

Center Freq  
2.43700000 GHz

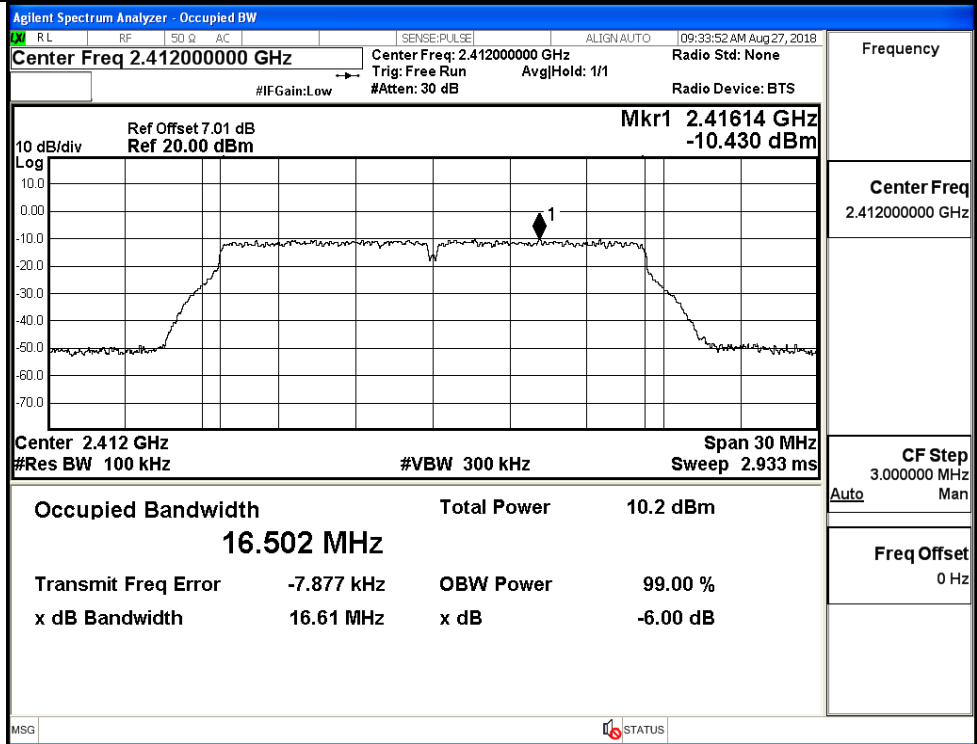
CF Step  
3.000000 MHz

Freq Offset  
0 Hz

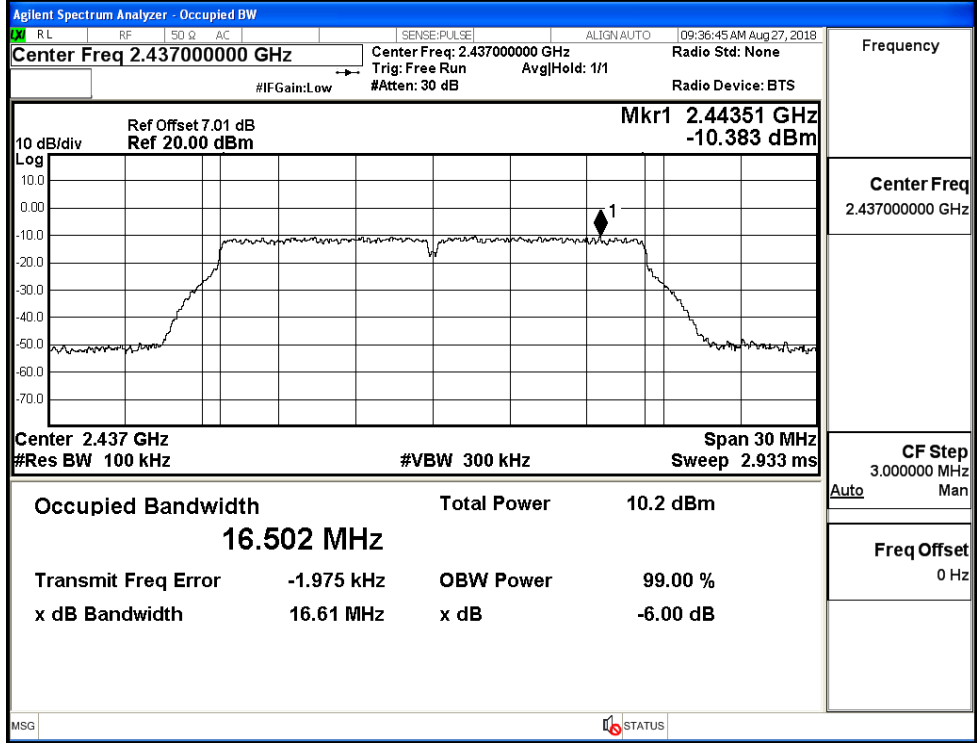
11B/HCH



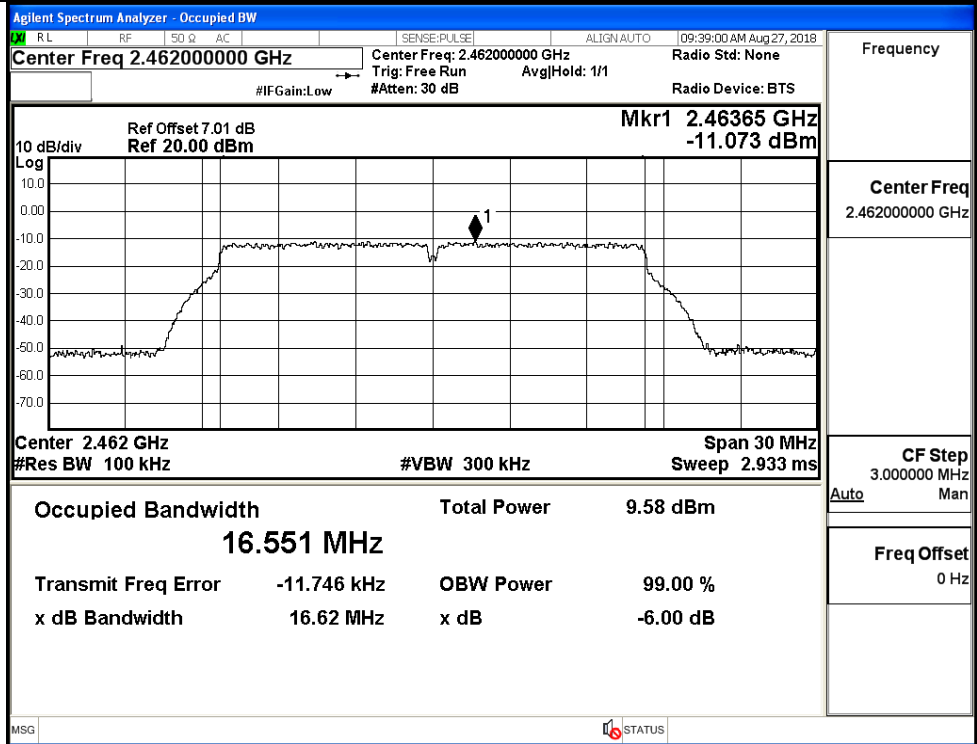
11G/LCH



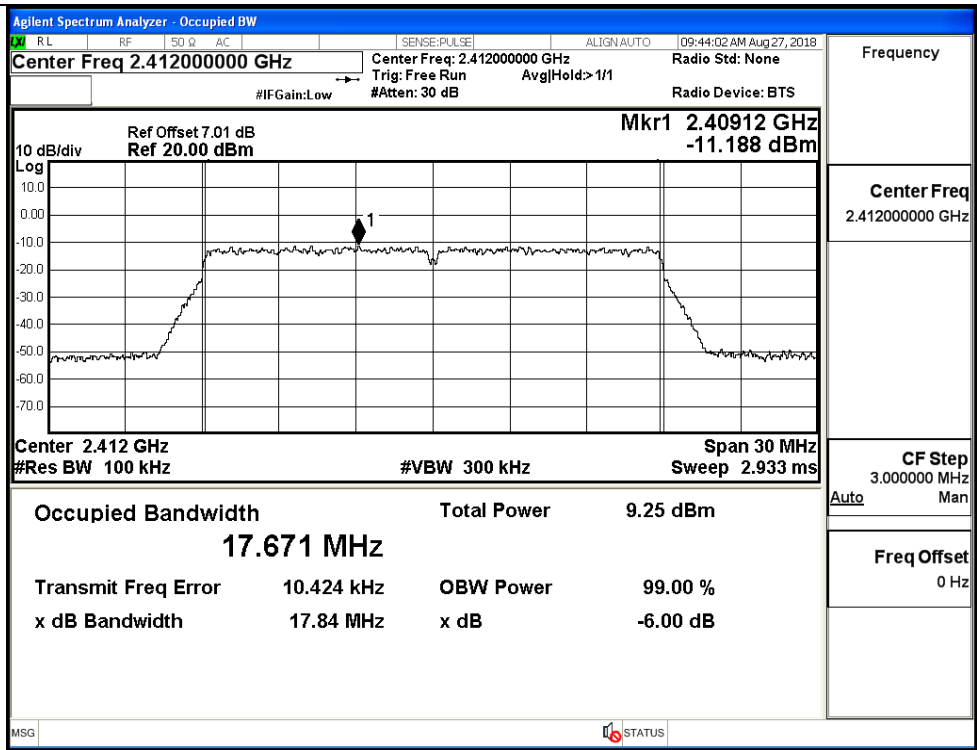
11G/MCH



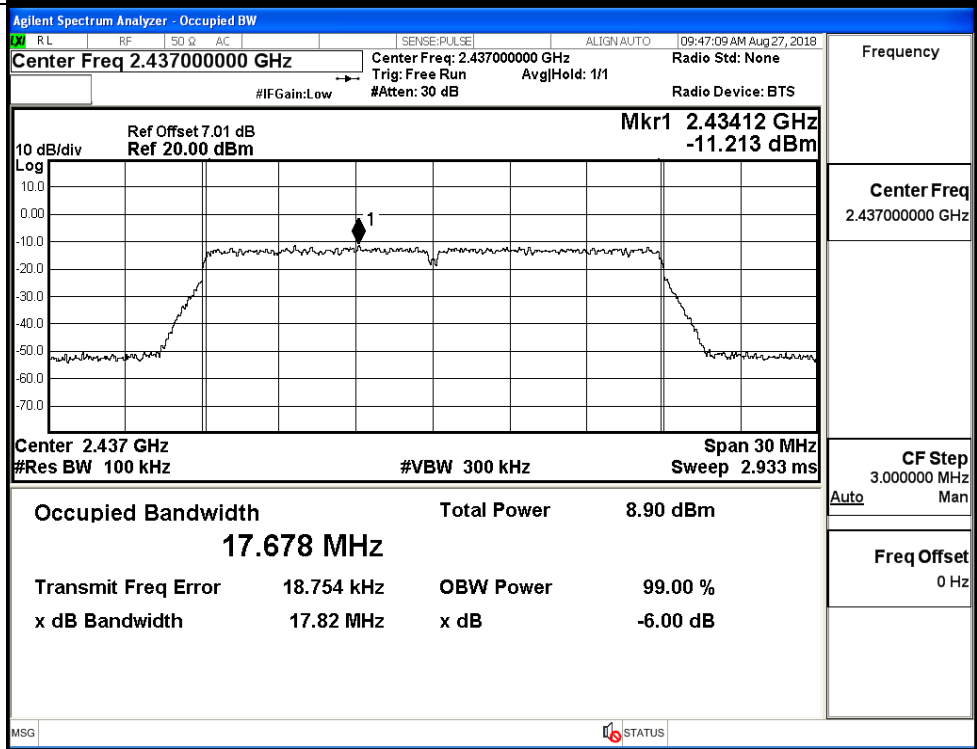
11G/HCH



11N20SISO/LCH

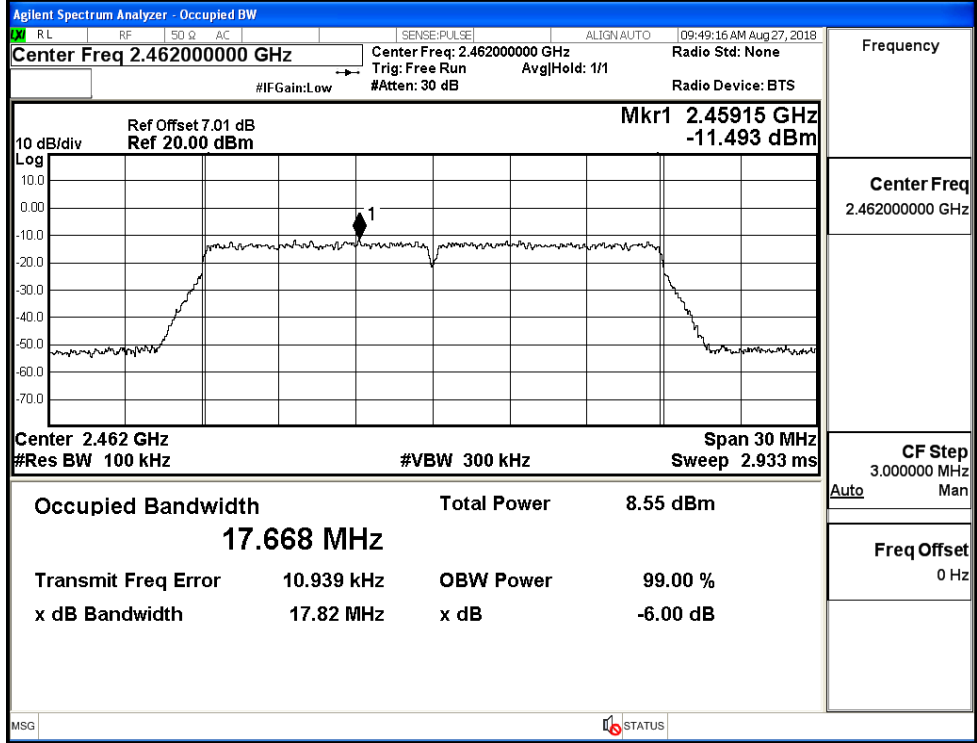


11N20SISO/MCH

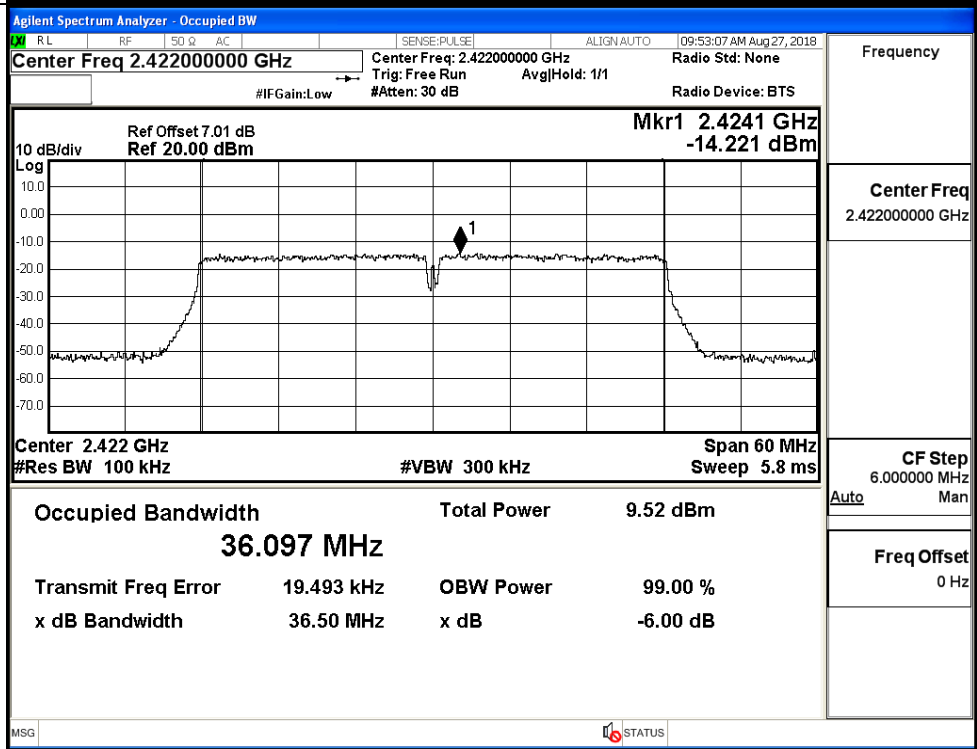




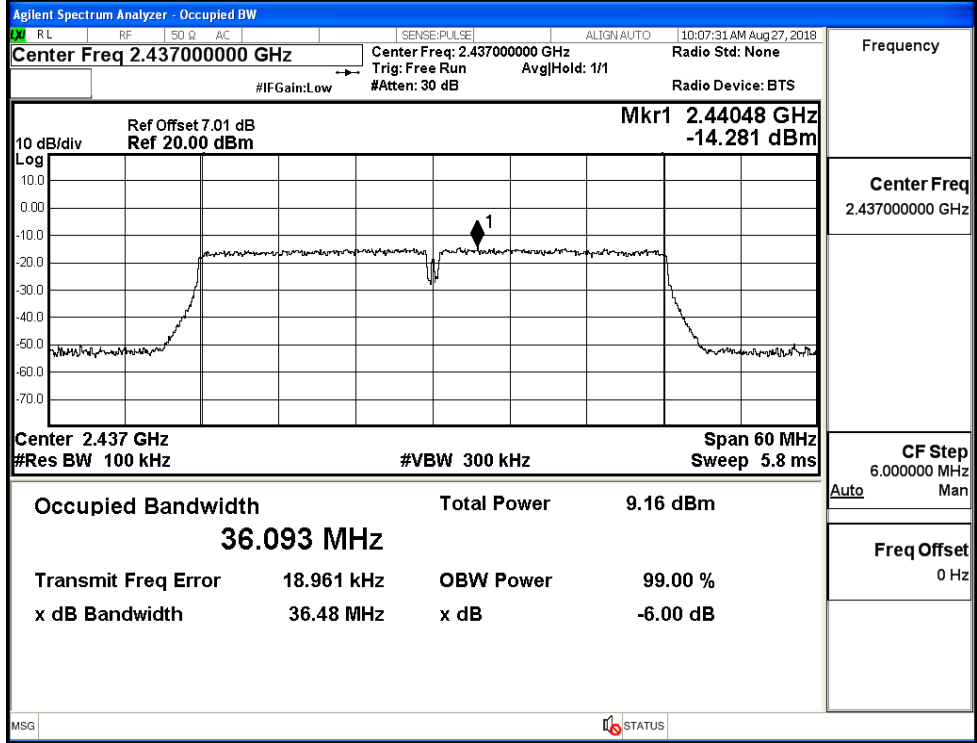
11N20SISO/HCH



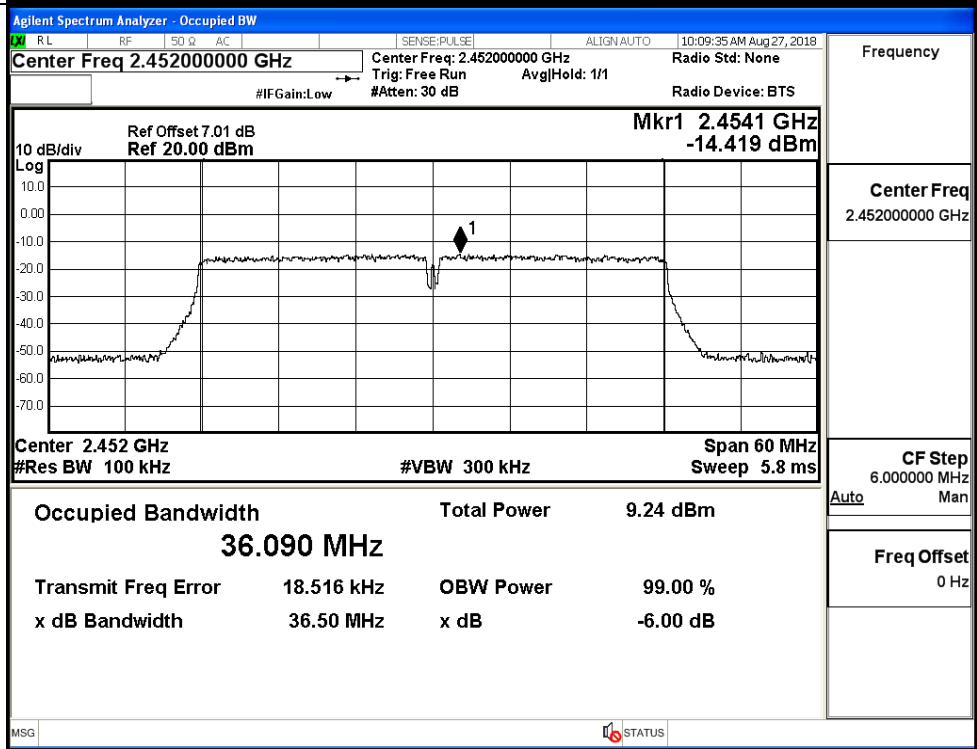
11N40SISO/LCH



11N40SISO/MCH



11N40SISO/HCH



## C.5 RF Conducted Spurious Emissions

### Antenna 0

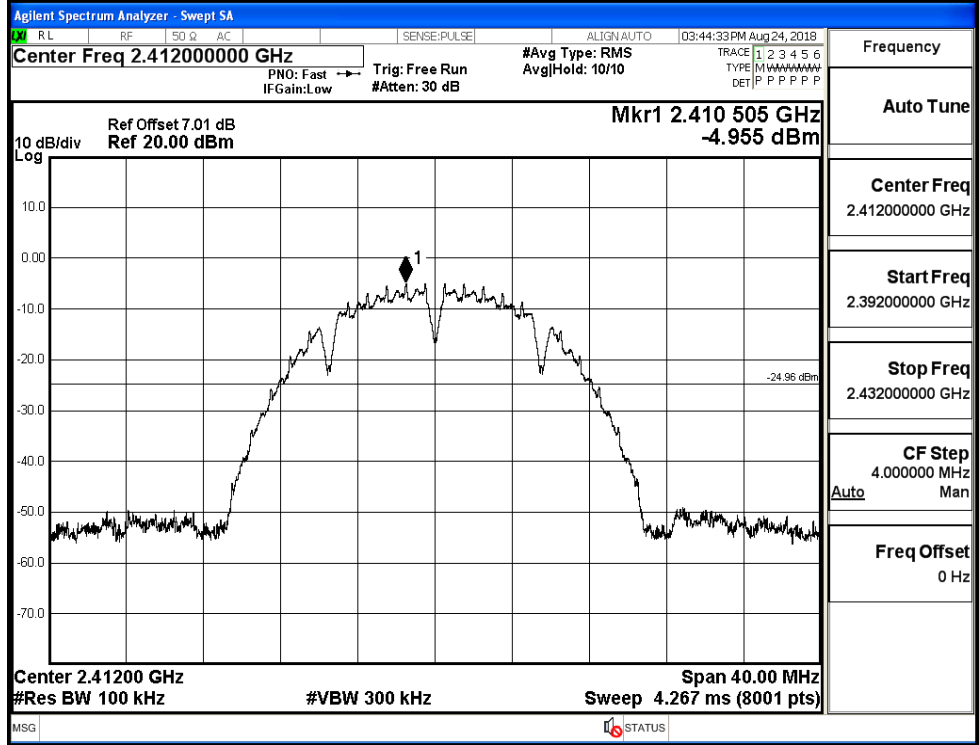
| Mode          | Channel | Pref [dBm] | Max. Level [dBm] | Limit [dBm] | Verdict |
|---------------|---------|------------|------------------|-------------|---------|
| 11B           | LCH     | -4.955     | -44.308          | -24.955     | PASS    |
|               | MCH     | -5.009     | -43.086          | -25.009     | PASS    |
|               | HCH     | -3.495     | -44.980          | -23.495     | PASS    |
| 11G           | LCH     | -10.902    | -44.130          | -30.902     | PASS    |
|               | MCH     | -11.557    | -45.248          | -31.557     | PASS    |
|               | HCH     | -11.835    | -45.084          | -31.835     | PASS    |
| 11N20<br>SISO | LCH     | -11.111    | -44.928          | -31.111     | PASS    |
|               | MCH     | -11.018    | -44.802          | -31.018     | PASS    |
|               | HCH     | -11.6      | -45.284          | -31.600     | PASS    |
| 11N40<br>SISO | LCH     | -13.973    | -43.932          | -33.973     | PASS    |
|               | MCH     | -14.986    | -44.810          | -34.986     | PASS    |
|               | HCH     | -15.659    | -44.236          | -35.659     | PASS    |

### Antenna 1

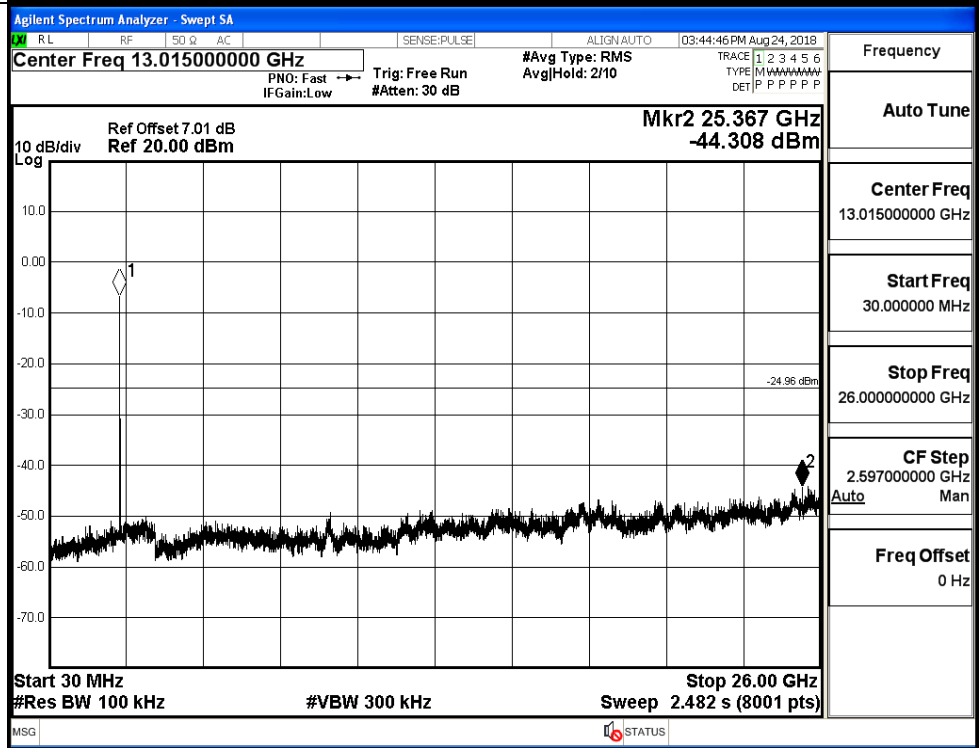
| Mode          | Channel | Pref [dBm] | Max. Level [dBm] | Limit [dBm] | Verdict |
|---------------|---------|------------|------------------|-------------|---------|
| 11B           | LCH     | -3.101     | -46.068          | -23.101     | PASS    |
|               | MCH     | -4.538     | -44.294          | -24.538     | PASS    |
|               | HCH     | -4.655     | -45.458          | -24.655     | PASS    |
| 11G           | LCH     | -10.477    | -44.516          | -30.477     | PASS    |
|               | MCH     | -10.458    | -45.032          | -30.458     | PASS    |
|               | HCH     | -11.178    | -45.129          | -31.178     | PASS    |
| 11N20<br>SISO | LCH     | -11.391    | -44.873          | -31.391     | PASS    |
|               | MCH     | -8.353     | -45.730          | -34.300     | PASS    |
|               | HCH     | -11.438    | -44.525          | -31.438     | PASS    |
| 11N40<br>SISO | LCH     | -14.154    | -45.494          | -34.154     | PASS    |
|               | MCH     | -14.910    | -44.666          | -34.910     | PASS    |
|               | HCH     | -14.635    | -44.551          | -34.635     | PASS    |

11B\_LCH\_Graphs\_Ant 0

Pref/11B/LCH

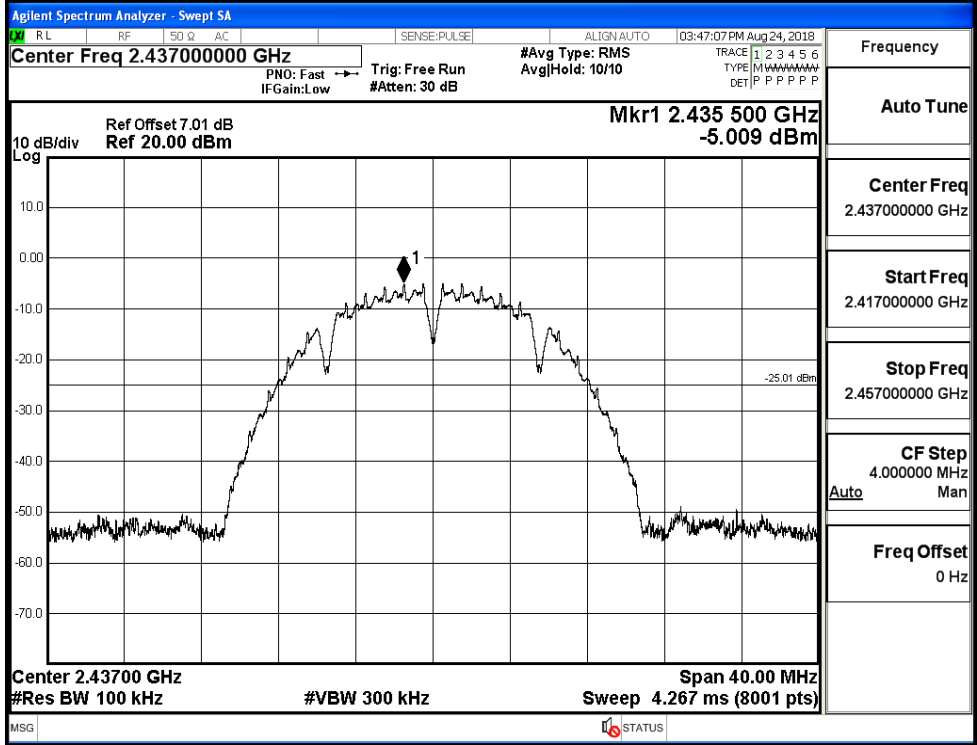


Puw/11B/LCH

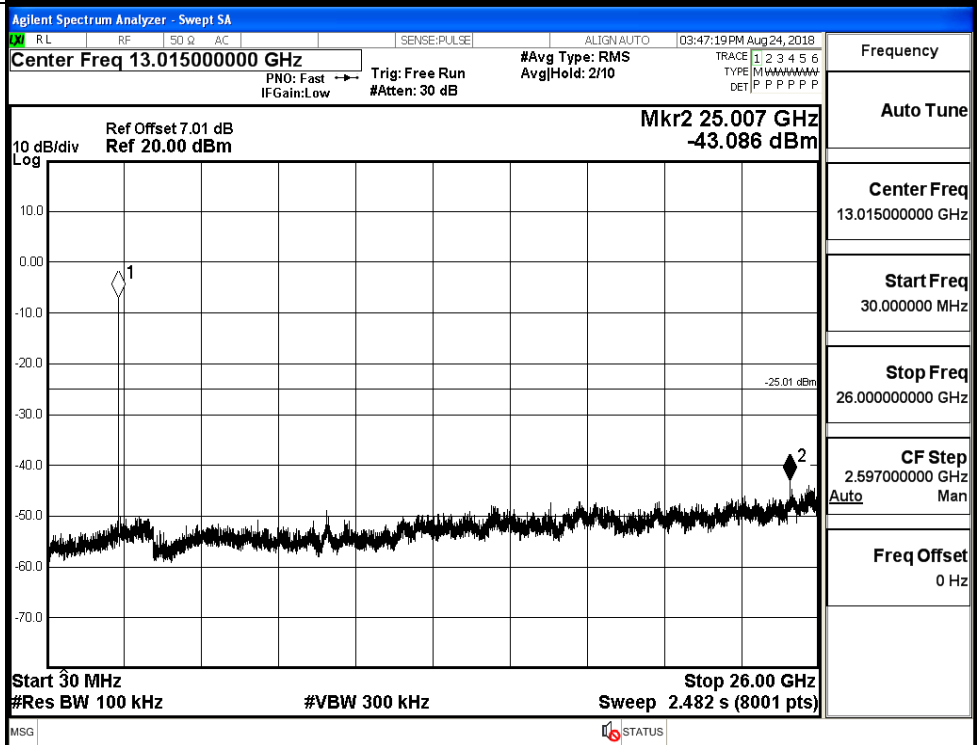


11B\_MCH\_Graphs\_Ant 0

Pref/11B/MCH

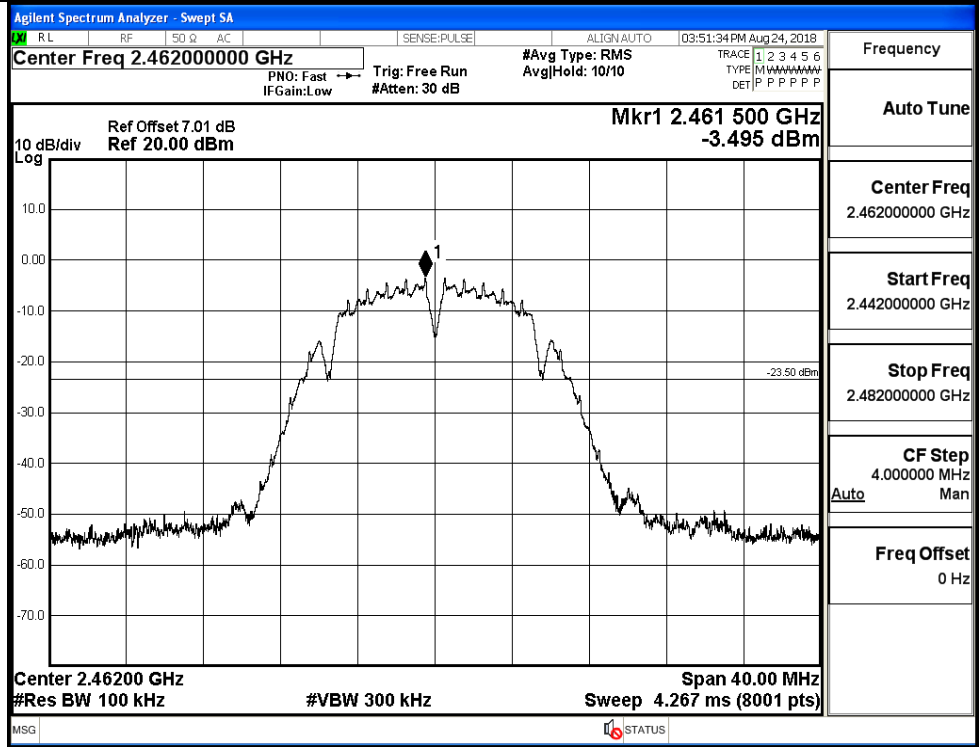


Puw/11B/MCH

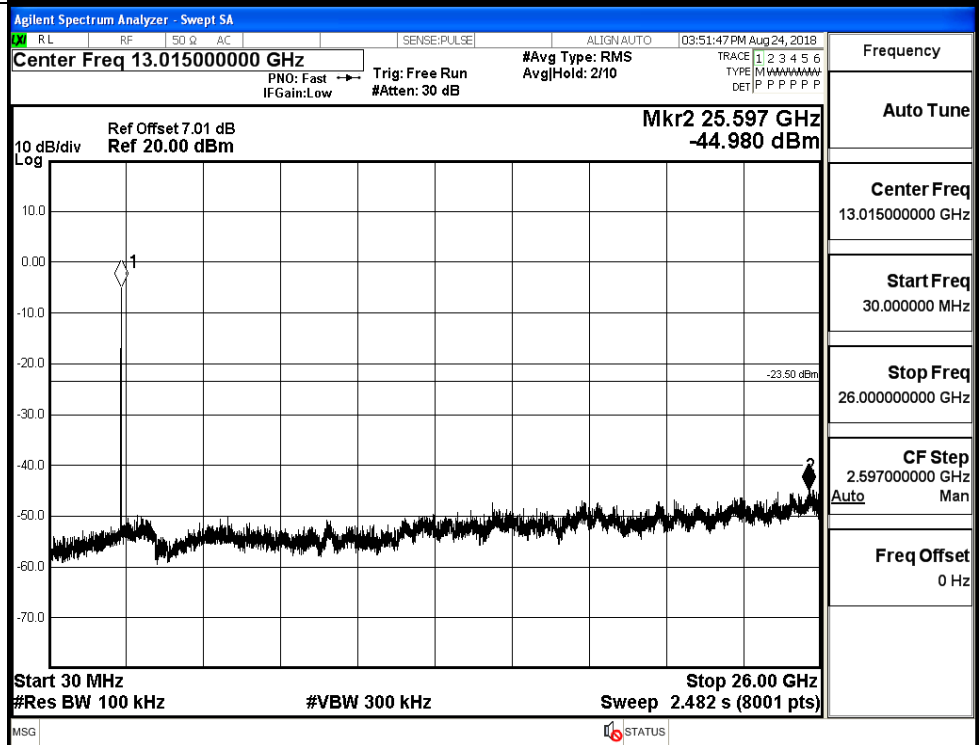


11B\_HCH\_Graphs\_Ant 0

Pref/11B/HCH

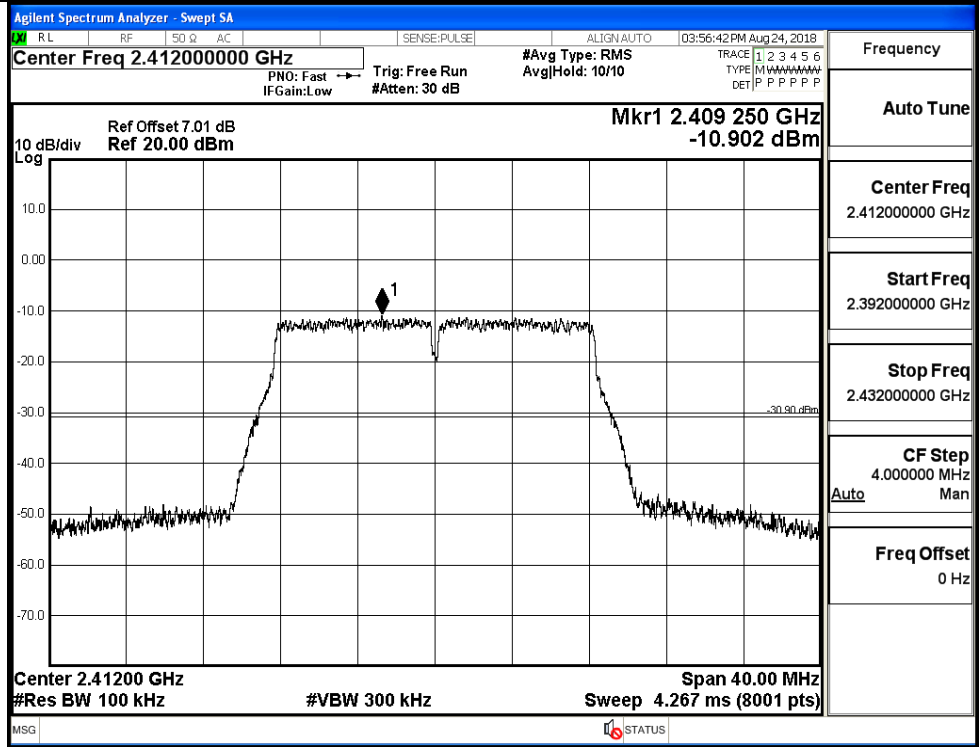


Puw/11B/HCH

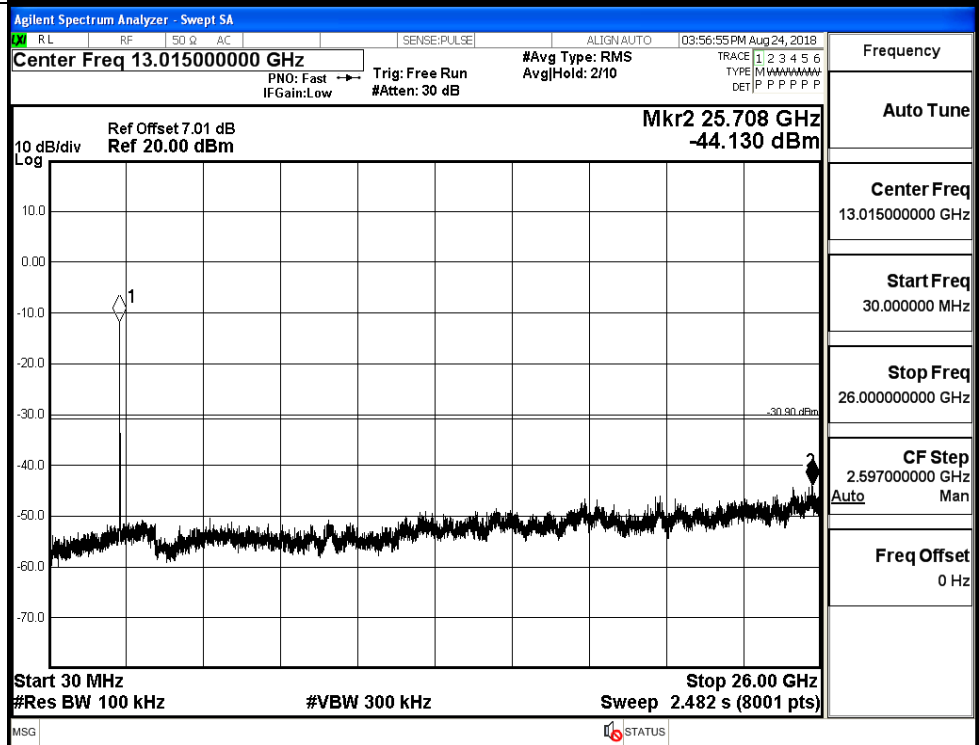


11G\_LCH\_Graphs\_Ant 0

Pref/11G/LCH

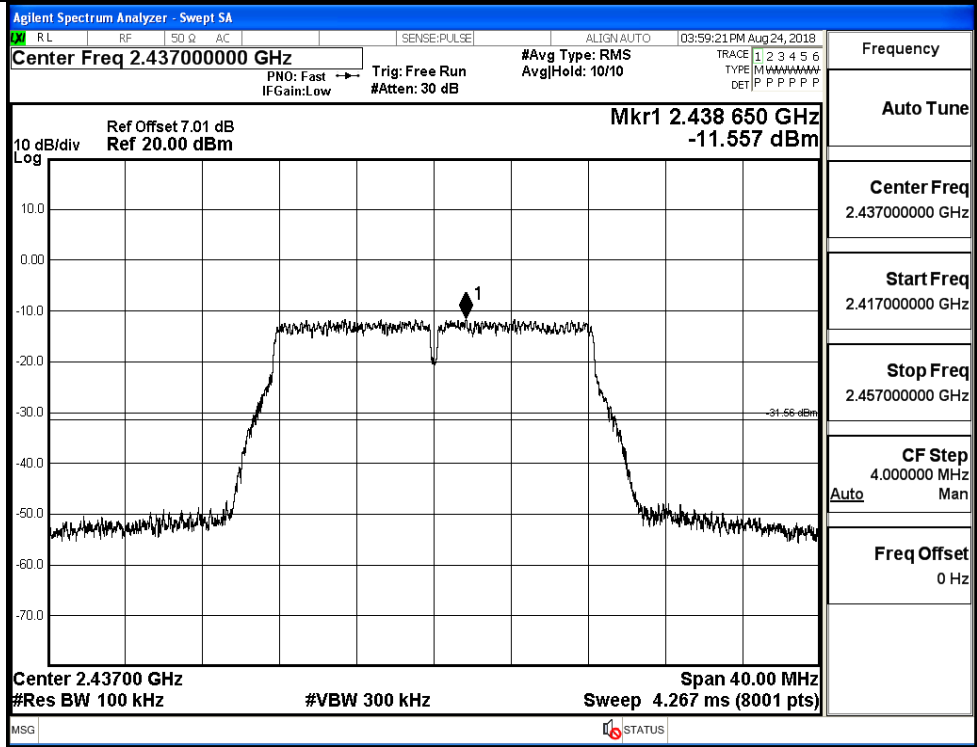


Puw/11G/LCH

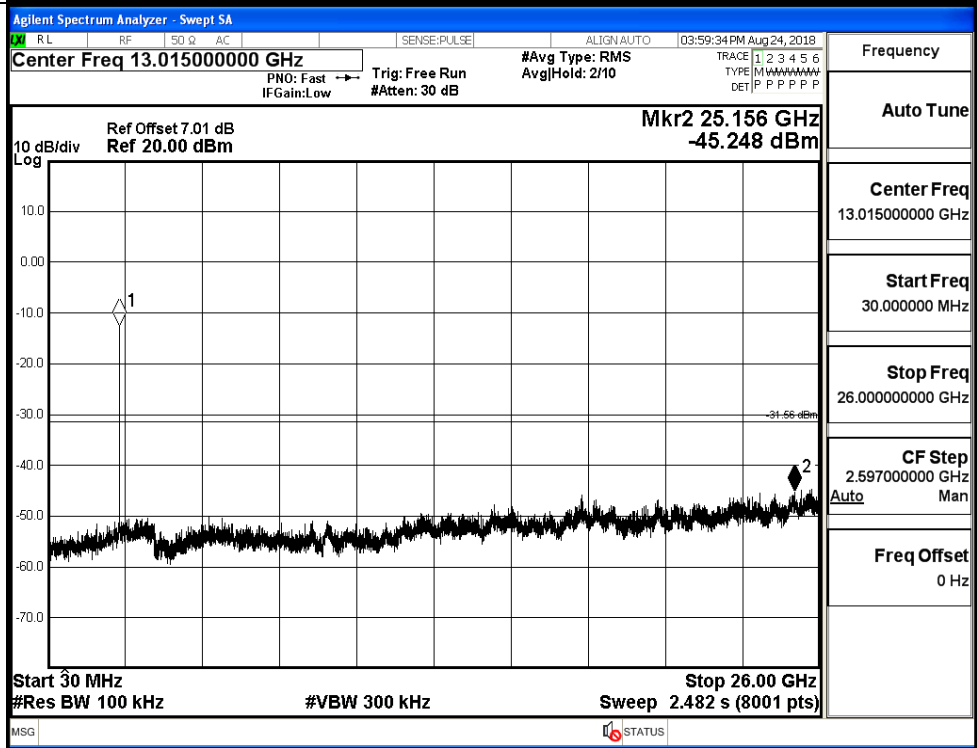


11G\_MCH\_Graphs\_Ant 0

Pref/11G/MCH



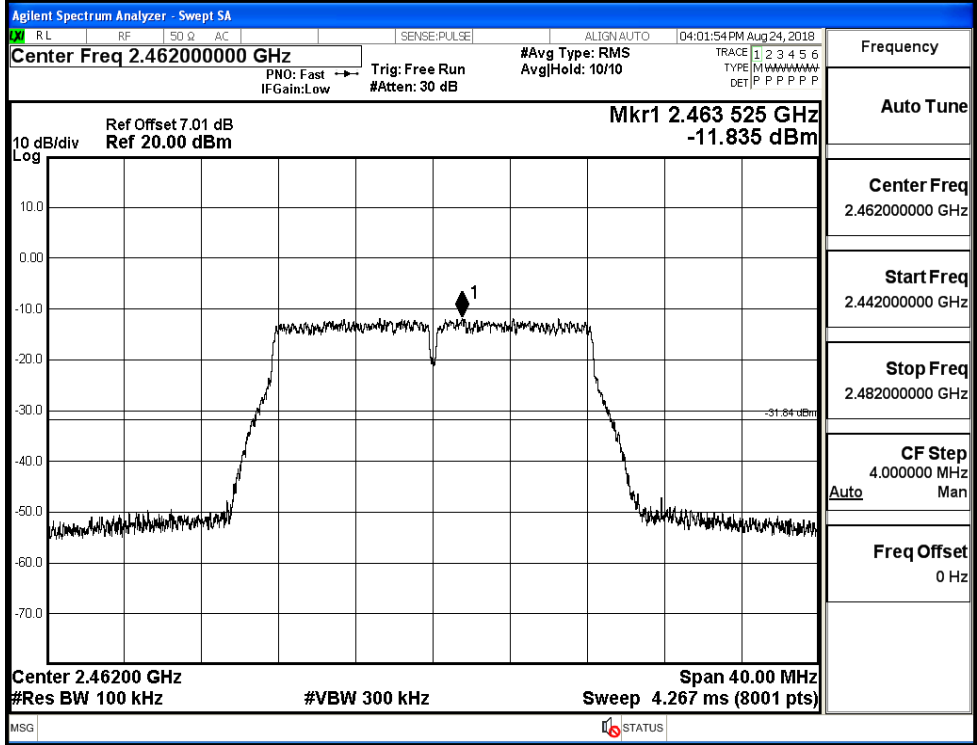
Puw/11G/MCH



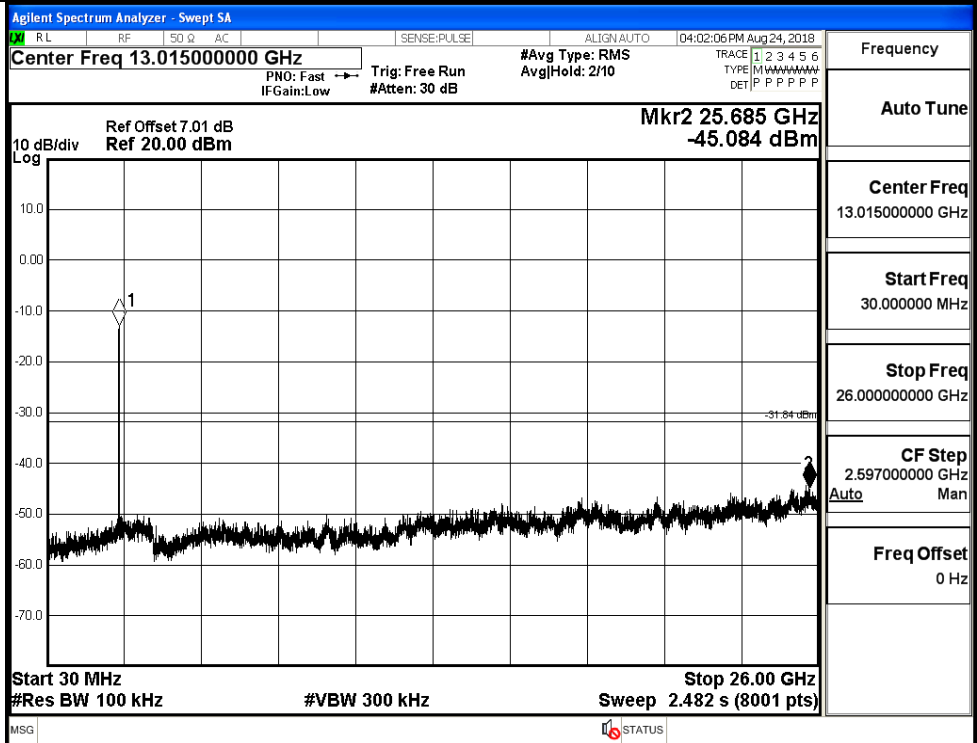


11G\_HCH\_Graphs\_Ant 0

Pref/11G/HCH

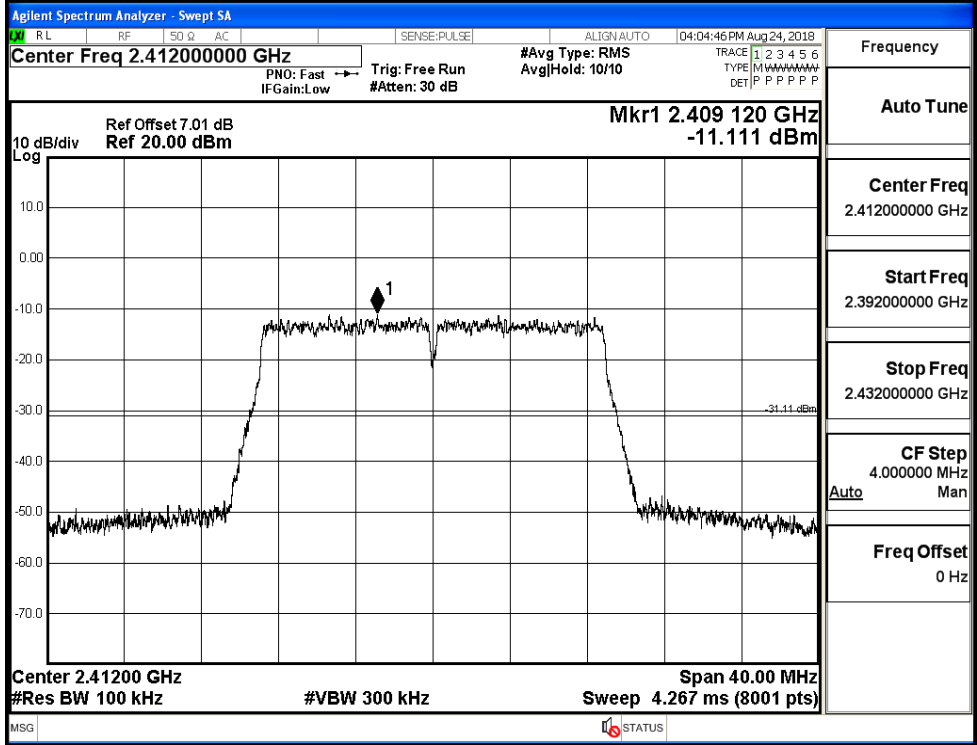


Puw/11G/HCH

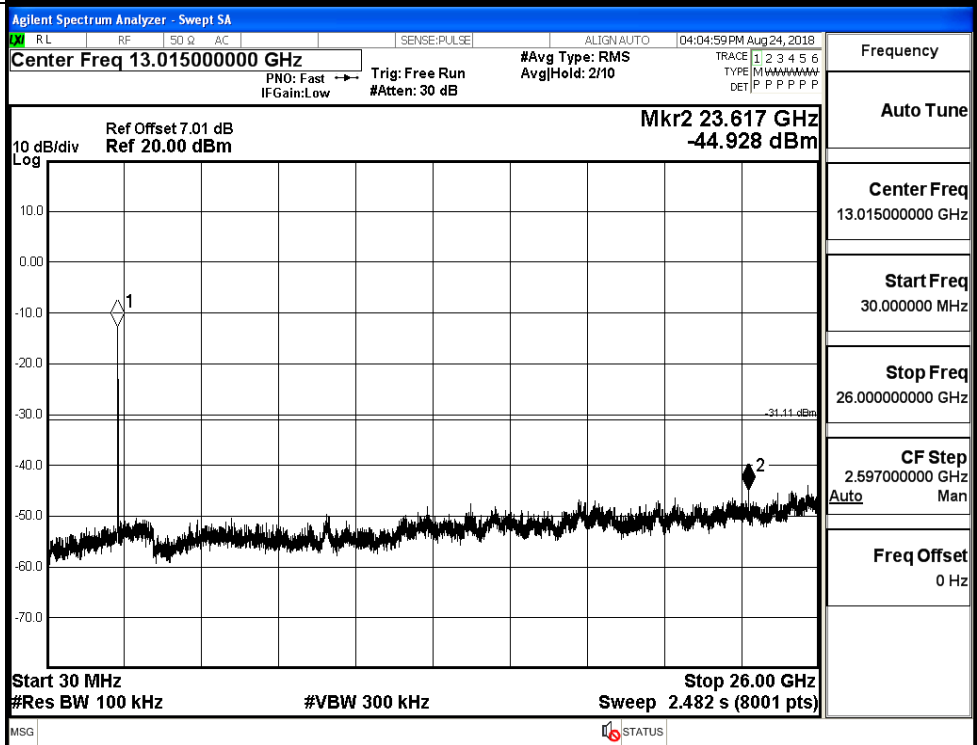


11N20SISO\_LCH\_Graphs\_Ant 0

Pref/11N20SIS  
O/LCH

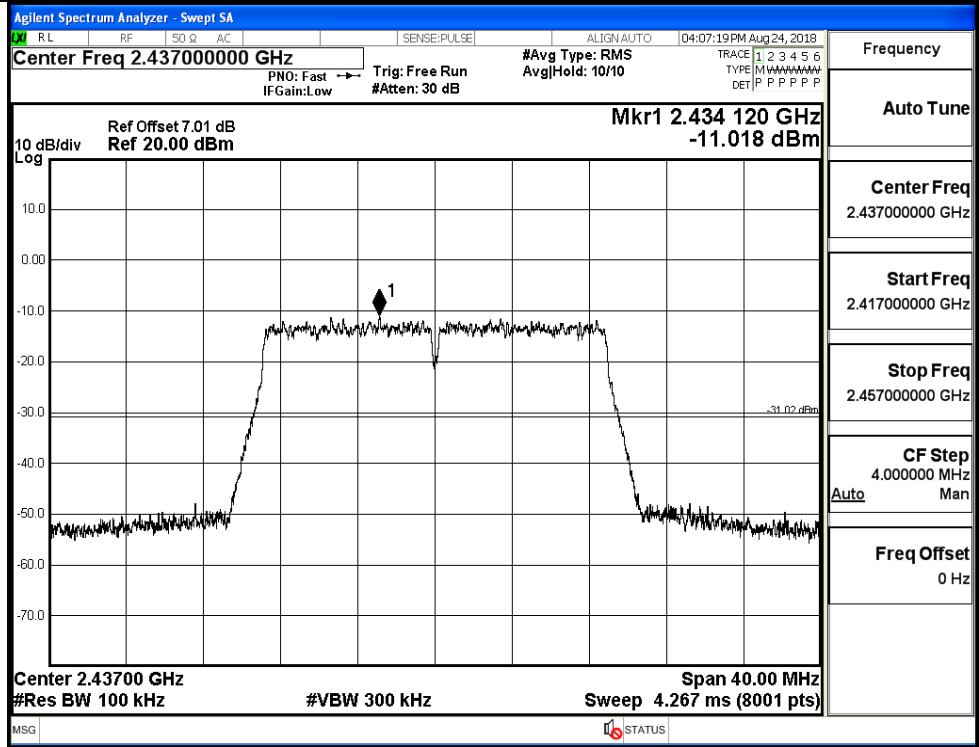


Puw/11N20  
SISO/LCH

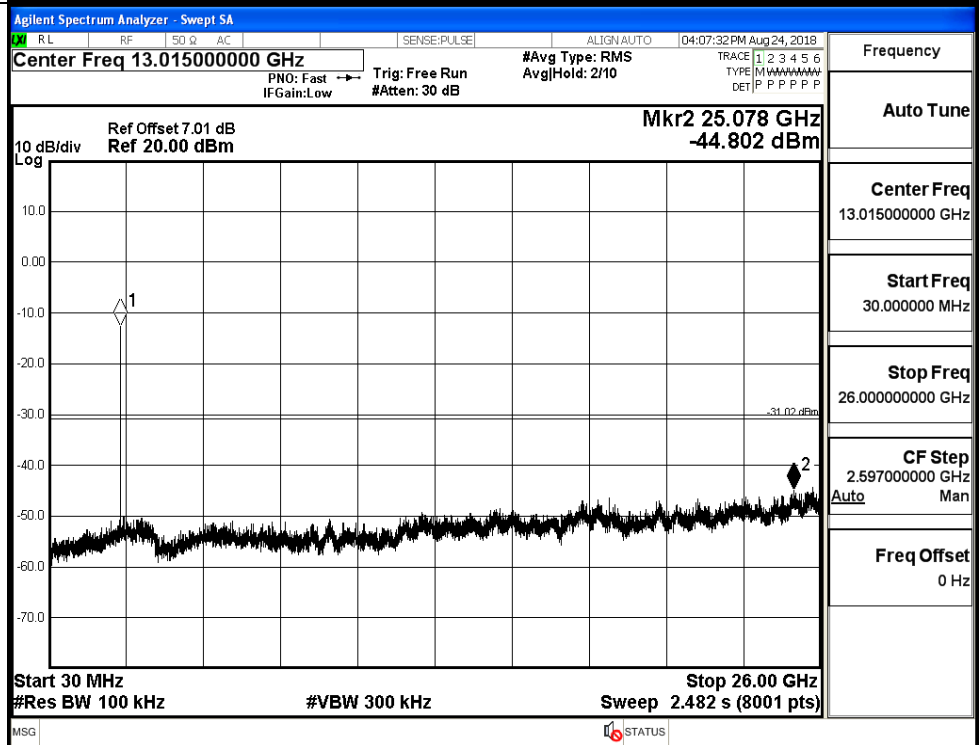


11N20SISO\_MCH\_Graphs\_Ant 0

Pref/11N20  
SISO/MCH

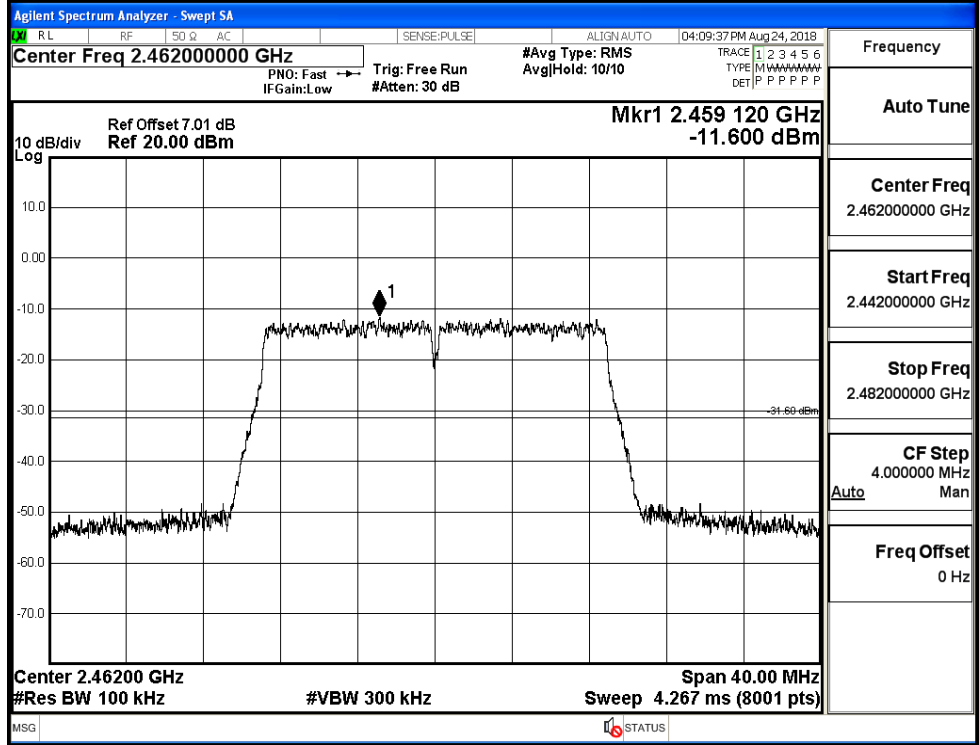


Puw/11N20  
SISO/MCH

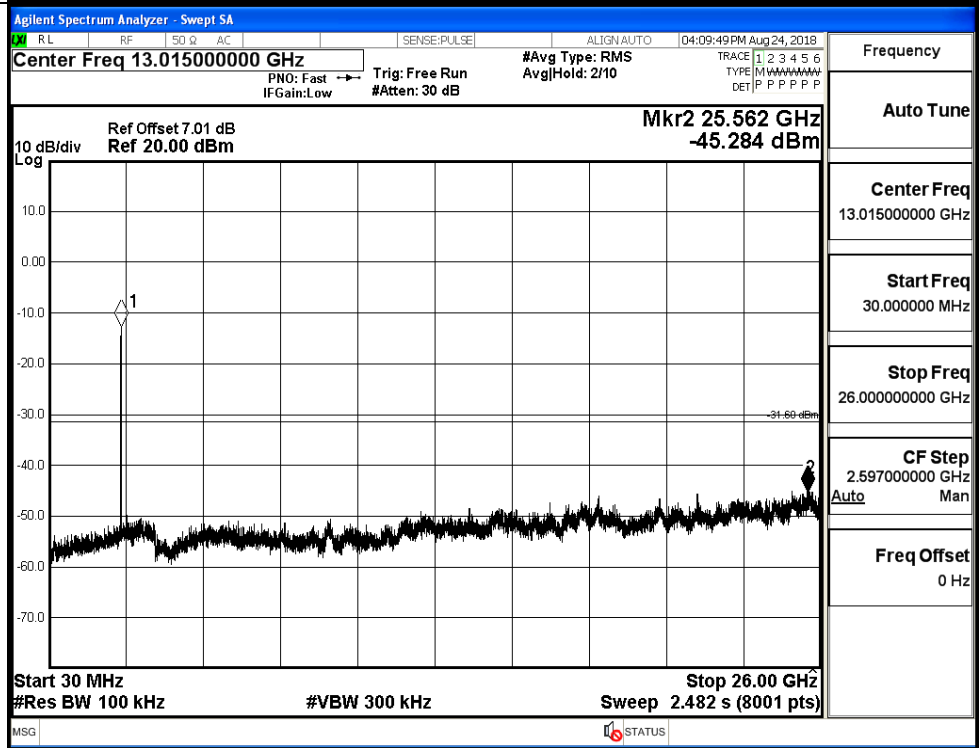


11N20SISO\_HCH\_Graphs\_Ant 0

Pref/11N20  
SISO/HCH

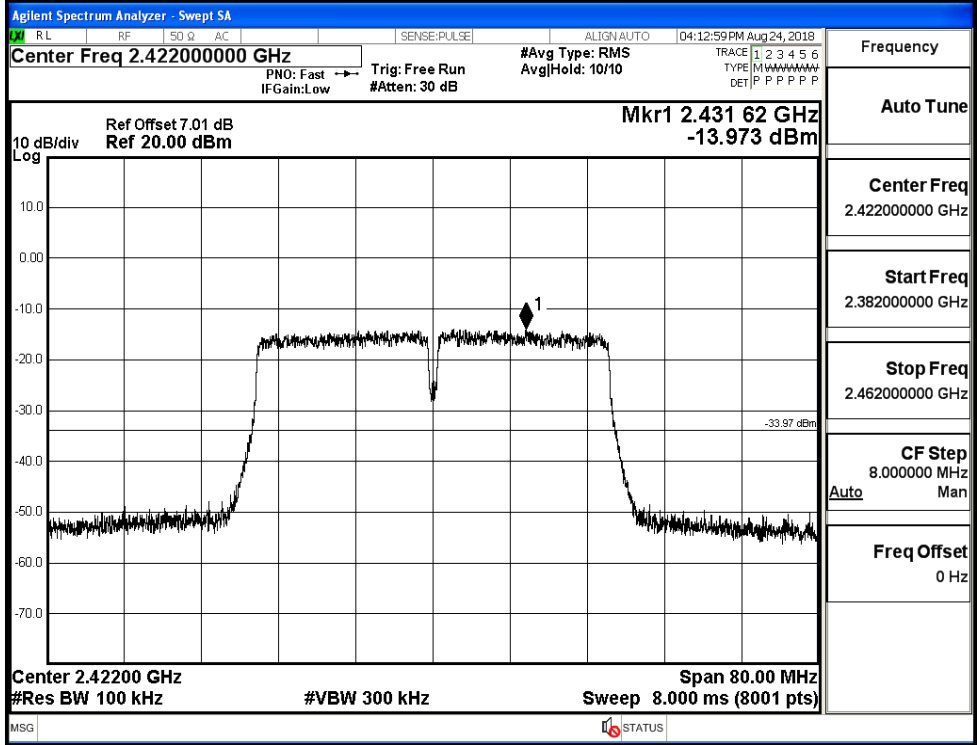


Puw/11N20  
SISO/HCH

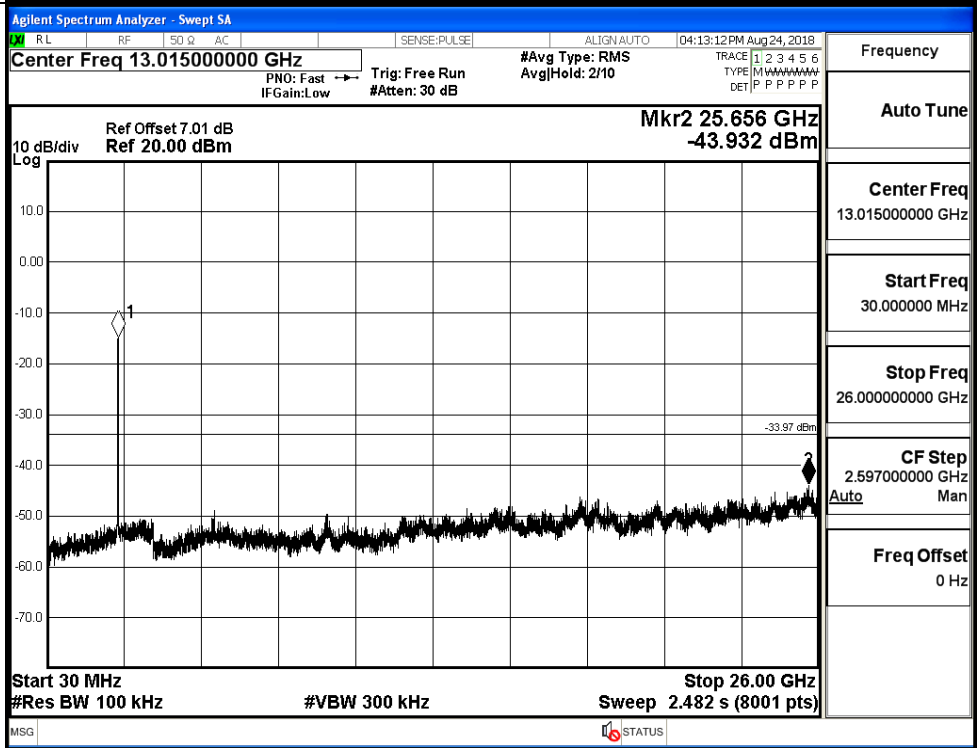


11N40SISO\_LCH\_Graphs\_Ant 0

Pref/11N40  
SISO/LCH

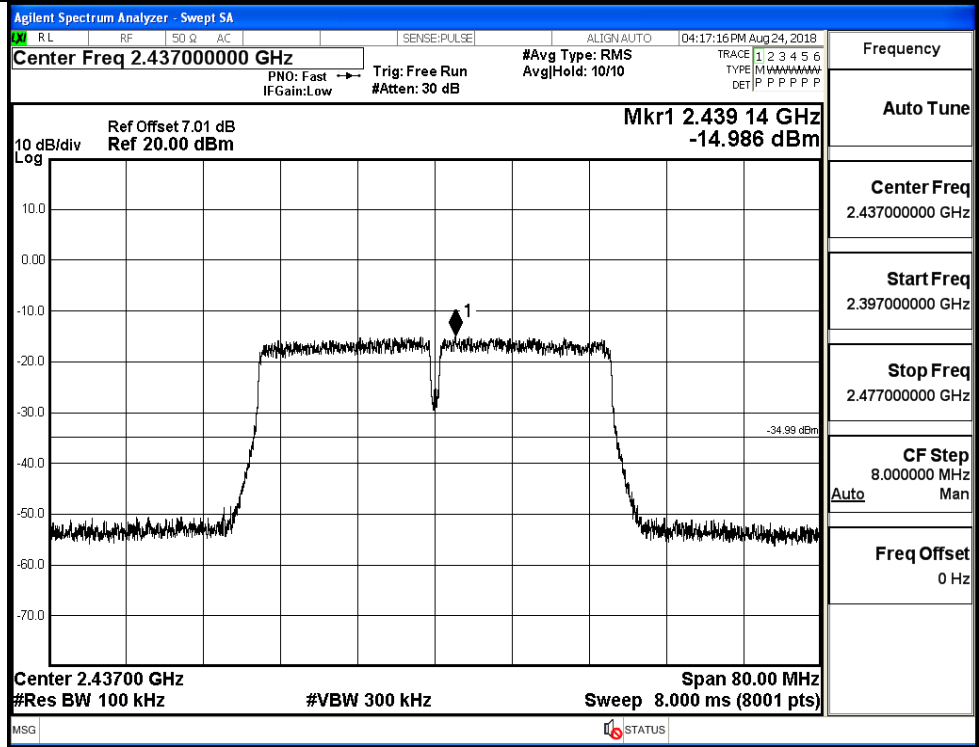


Puw/11N40  
SISO/LCH

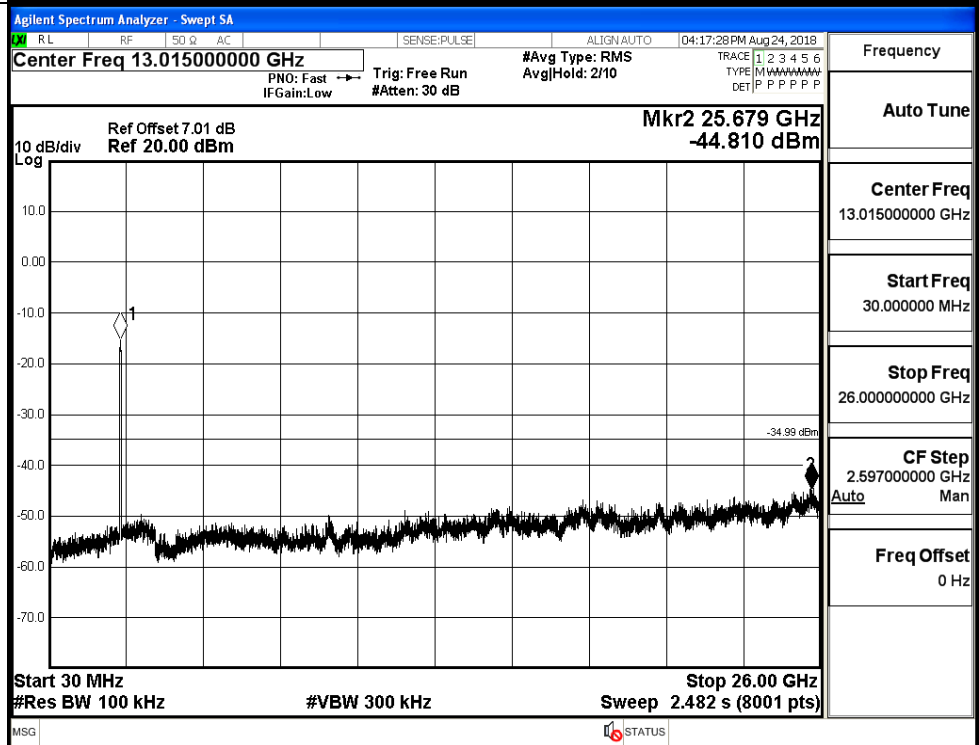


11N40SISO\_MCH\_Graphs\_Ant 0

Pref/11N40  
SISO/MCH

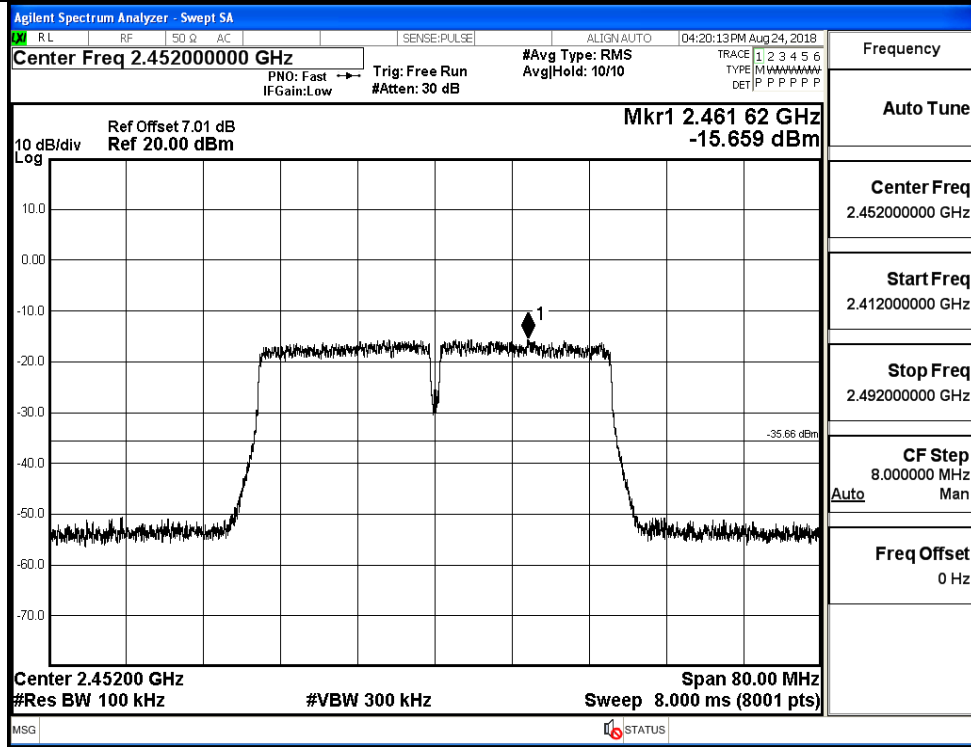


Puw/11N40  
SISO/MCH

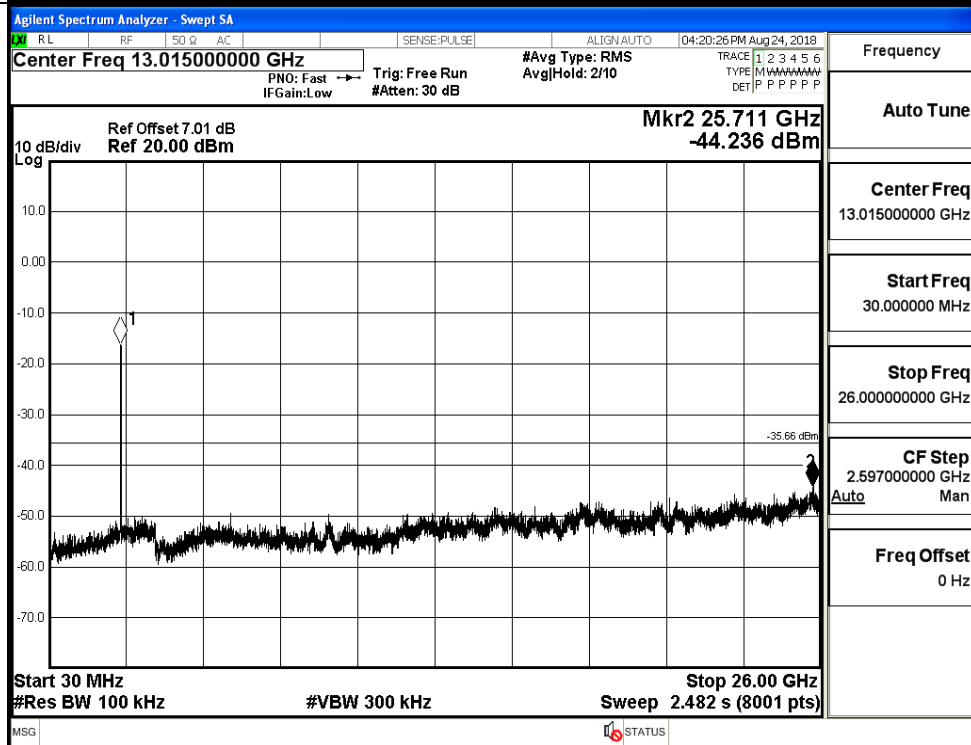


11N40SISO\_HCH\_Graphs\_Ant 0

Pref/11N40  
SISO/HCH

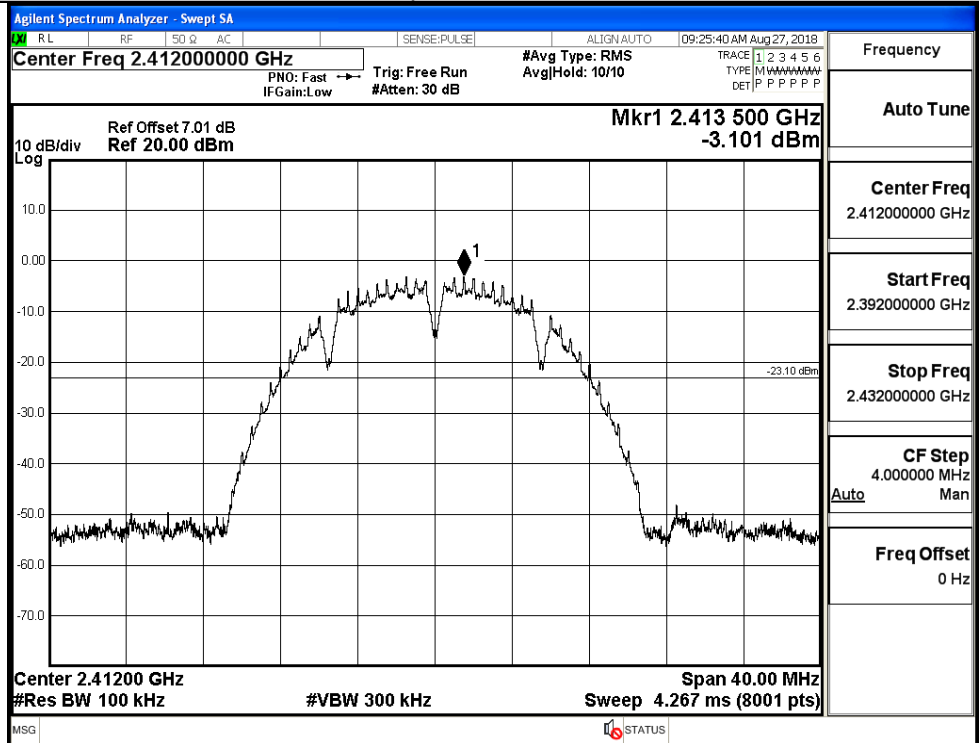


Puw/11N40  
SISO/HCH

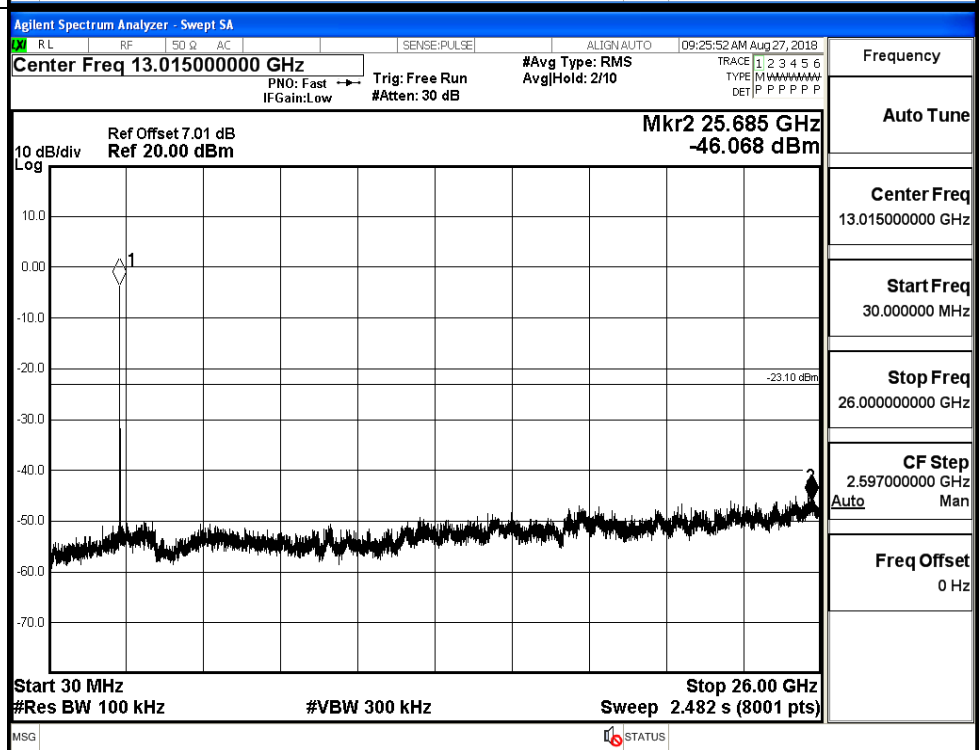


11B\_LCH\_Graphs\_Ant 1

Pref/11B/LCH



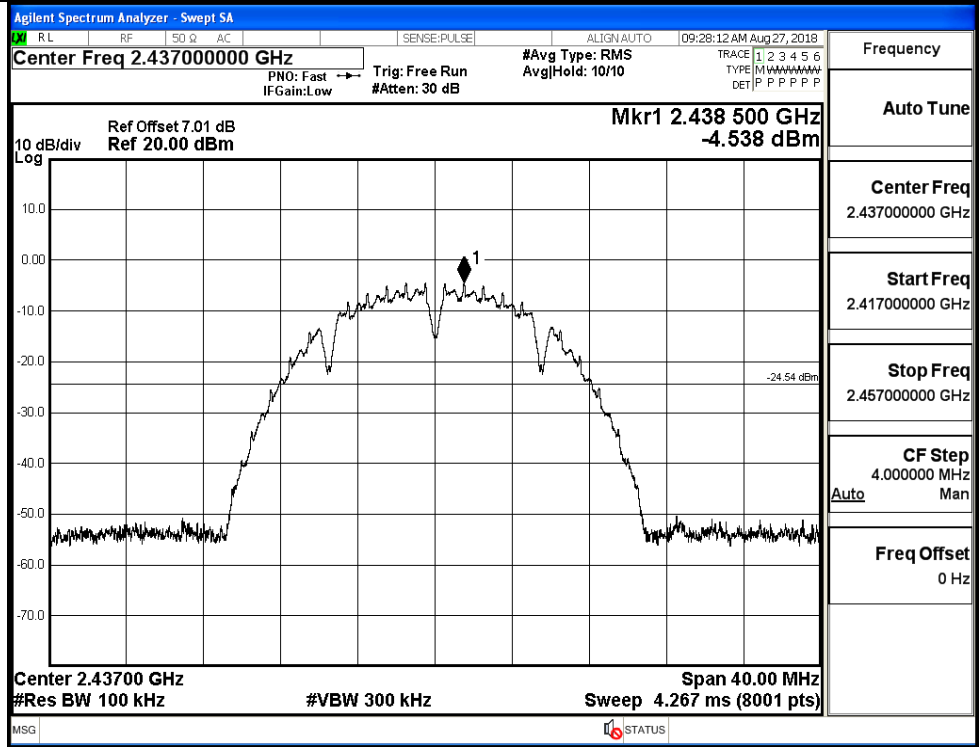
Puw/11B/LCH



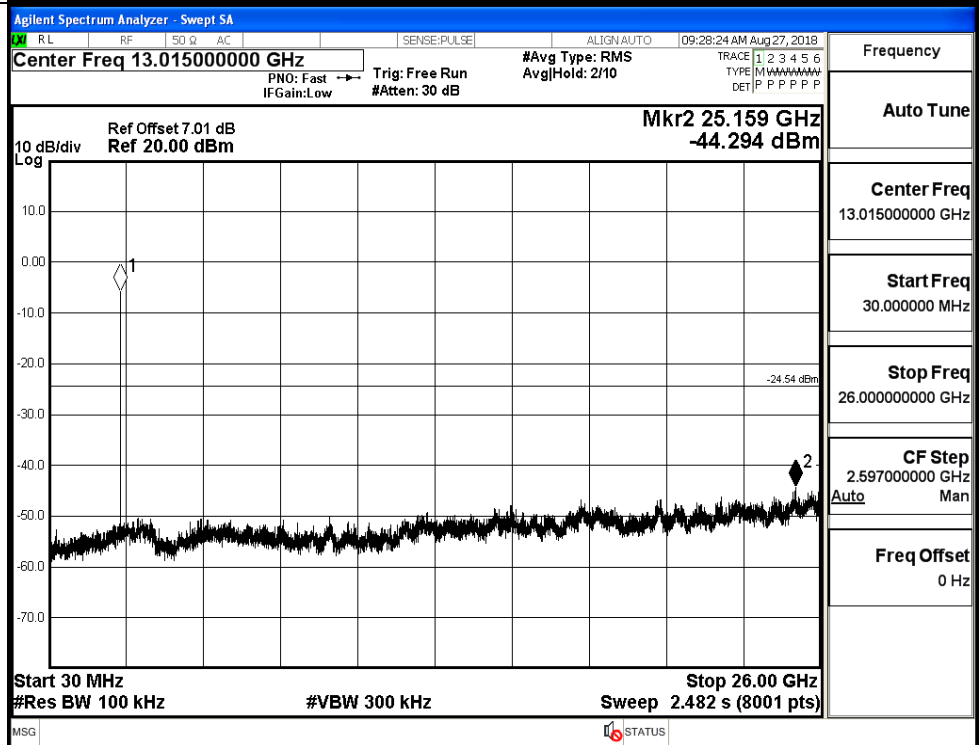


11B\_MCH\_Graphs\_Ant 1

Pref/11B/MCH

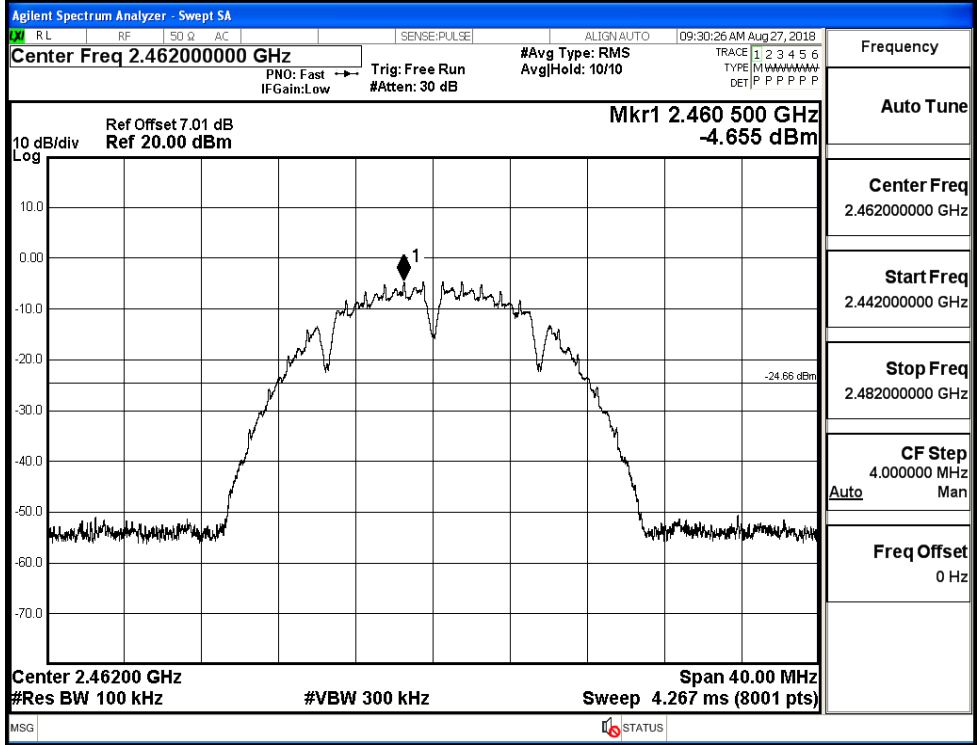


Puw/11B/MCH



11B\_HCH\_Graphs\_Ant 1

Pref/11B/HCH



Puw/11B/HCH

