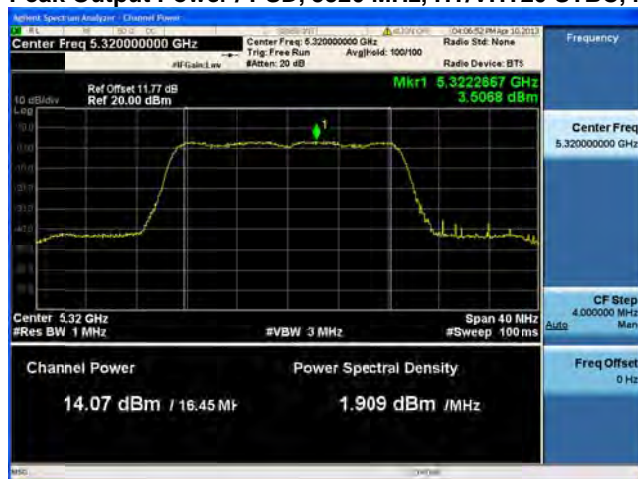


Peak Output Power / PSD, 5320 MHz, HT/VHT20 STBC, M0 to M7, M0.1 to M9.1



Antenna A



Antenna B



Antenna C

Peak Output Power / PSD, 5320 MHz, HT/VHT20 STBC, M0 to M7, M0.1 to M9.1**Antenna A****Antenna B****Antenna C****Antenna D**



Peak Excursion

15.407: The ratio of the peak excursion of the modulation envelope (measured using a peak hold function) to the maximum conducted output power (measured as specified above) shall not exceed 13 dB across any 1 MHz bandwidth or the emission bandwidth whichever is less.

Set the spectrum analyzer span to view the entire emission bandwidth. The largest difference between the following two traces must be ≤ 13 dB for all frequencies across the emission bandwidth.

Set the spectrum analyzer span to view the entire emission bandwidth. The largest difference between the following two traces must be ≤ 13 dB for all frequencies across the emission bandwidth.

1st Trace: (Peak)

Set Span to encompass the entire emission bandwidth of the signal.

RBW = 1 MHz, VBW = 3 MHz

Detector = Peak

Sweep = Auto

Trace 1 = Max-hold

Ref Level Offset = correct for attenuator and cable loss

Ref Level = 20dBm

Atten = 10dBm

2nd Trace: (Average)

Trace 2 = clear right

Detector = Sample

Avg/VBW type = Pwr(RMS)

Average = 100

Sweep = single

Set marker Deltas

Trace 1 & Peak search

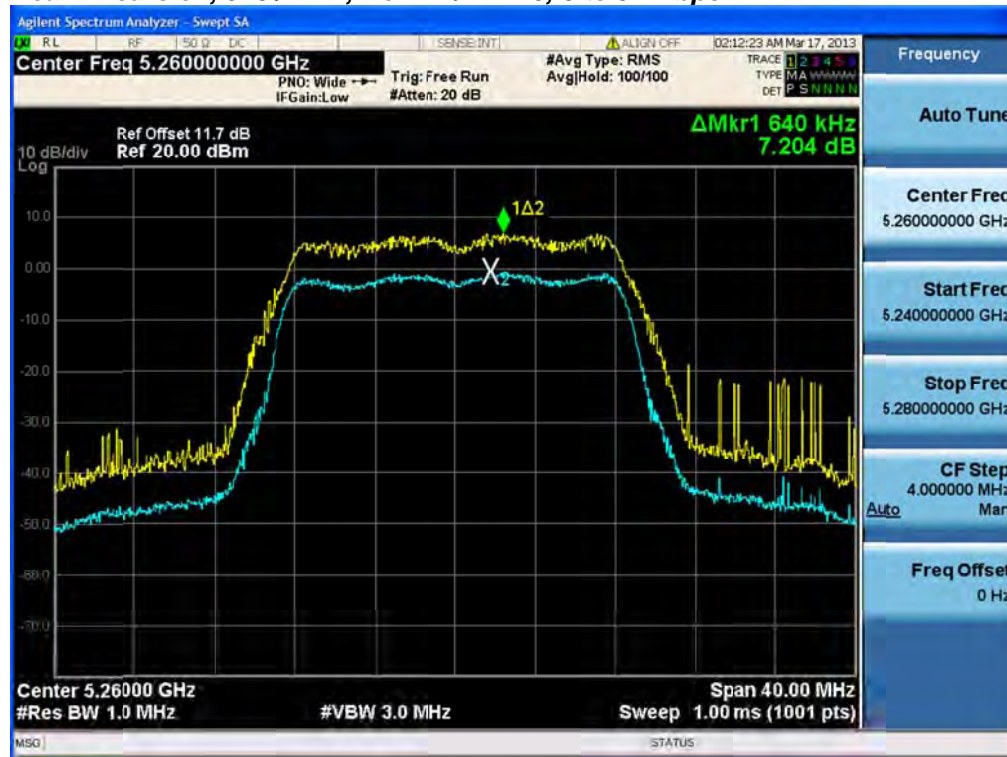
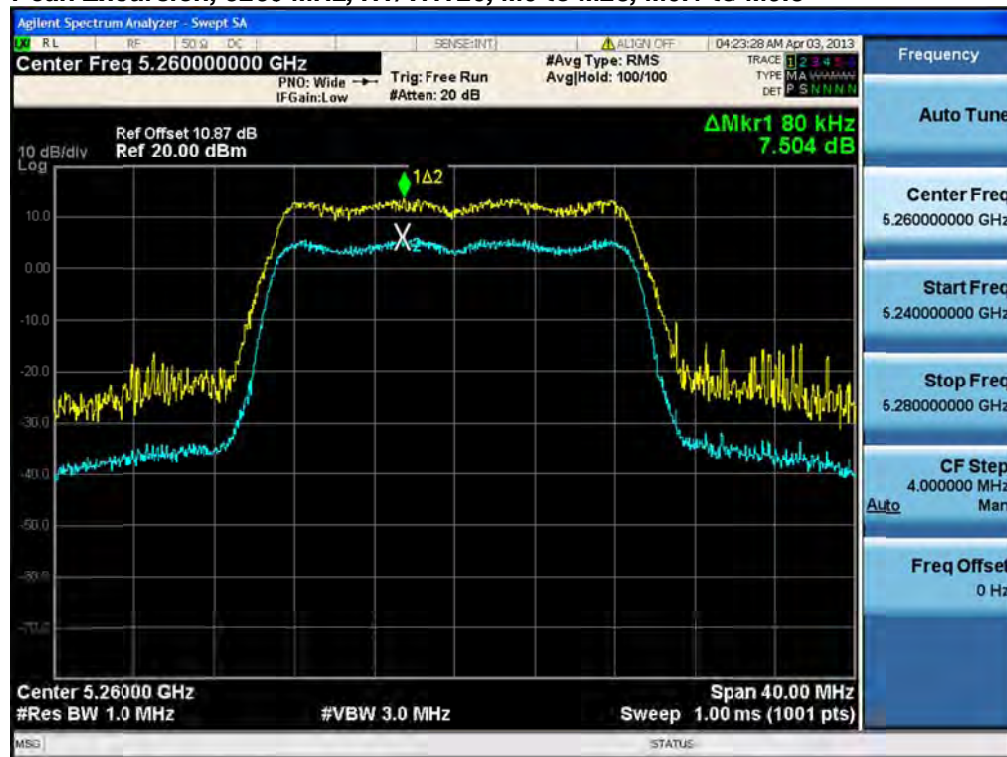
Marker Delta

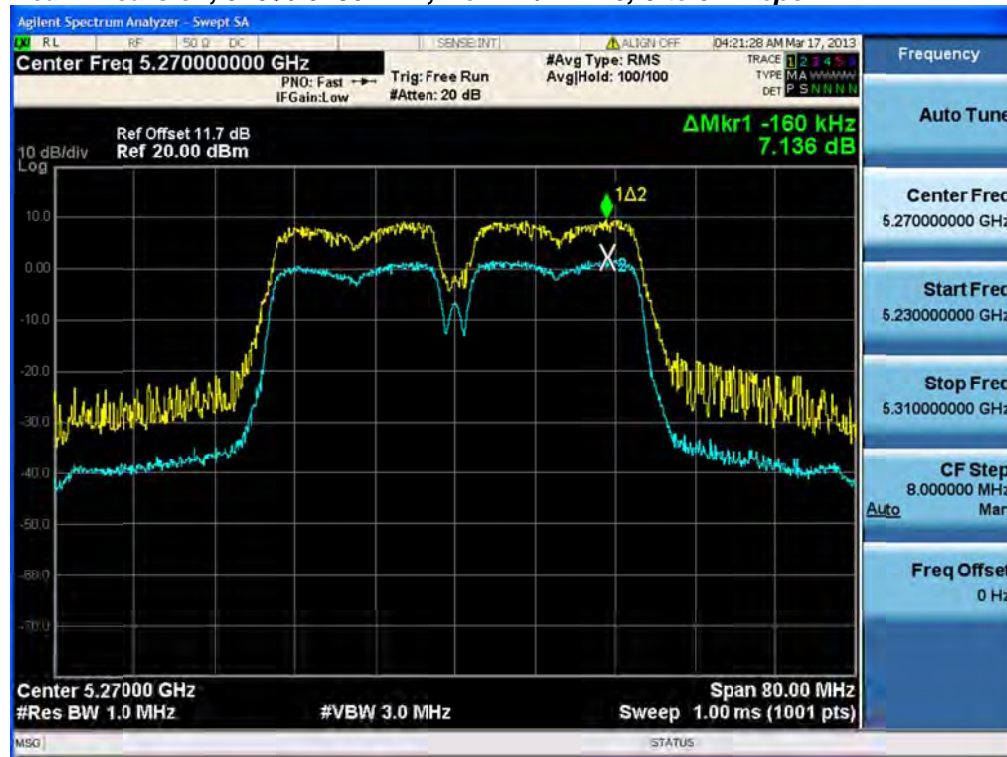
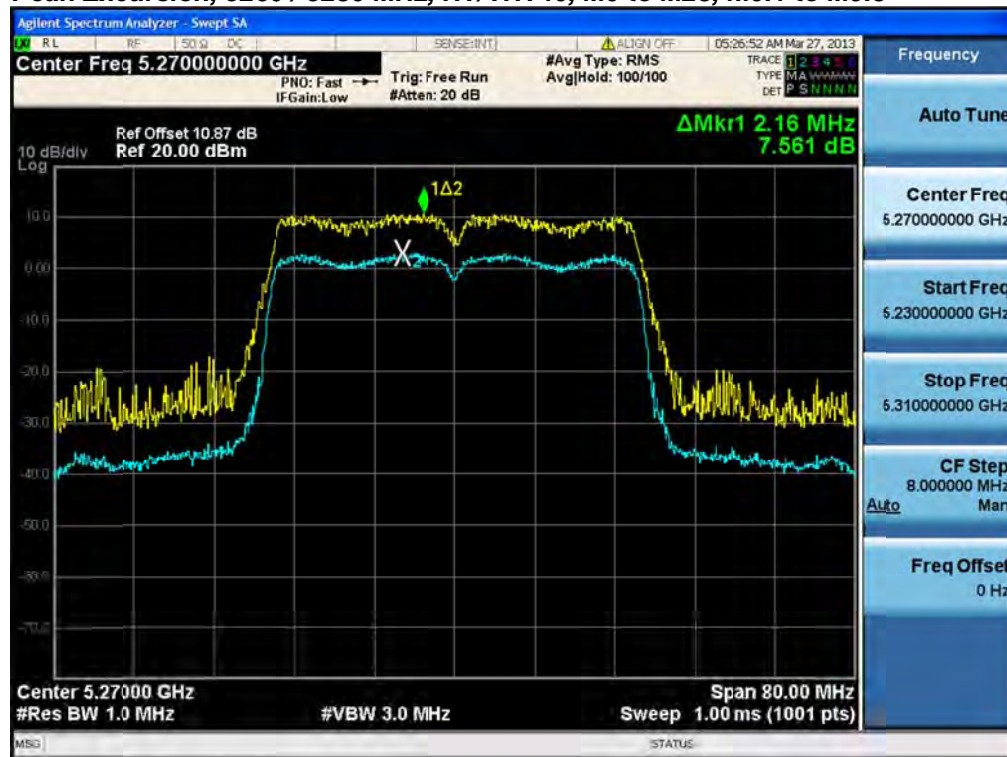
Trace 2 & Peak search

Record the difference between the Peak and Average Markers

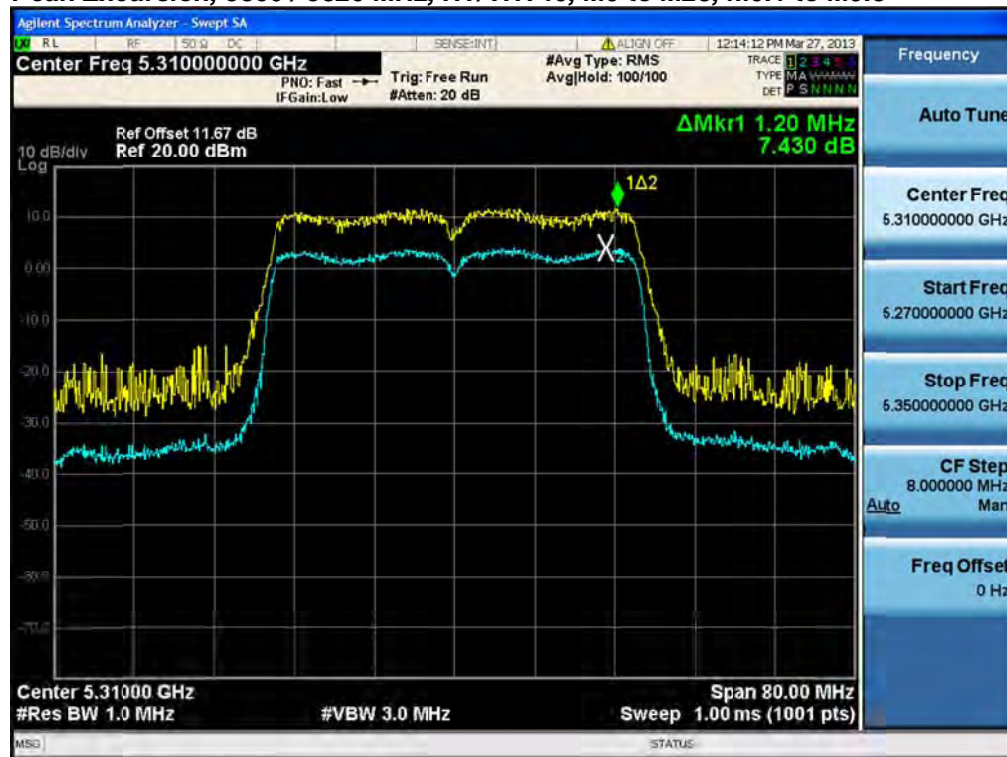


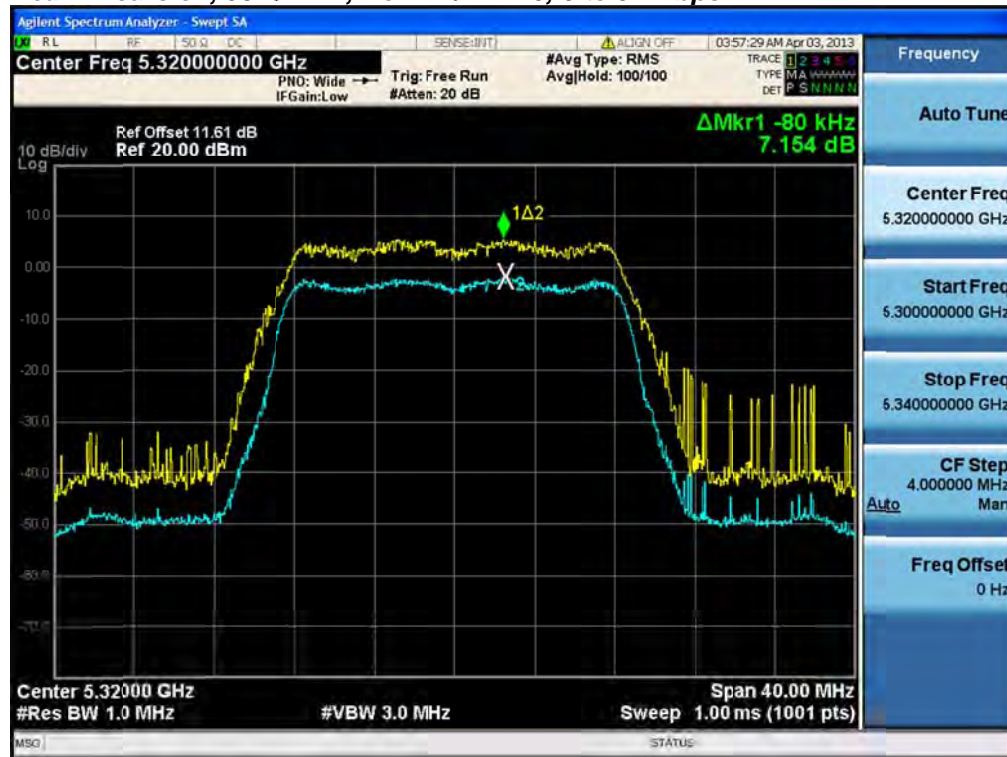
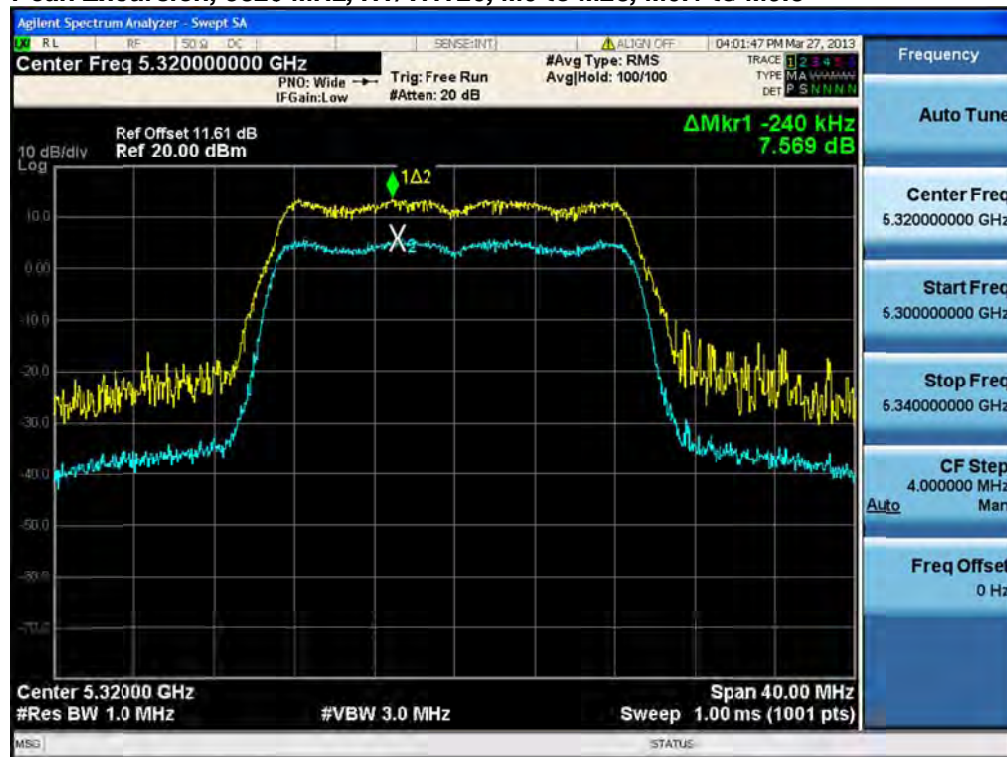
| Frequency (MHz) | Mode | Data Rate (Mbps) | Peak Excursion (dB) | Limit (dBm/MHz) | Margin (dB) |
|------------------------|-----------------------------------|------------------|---------------------|-----------------|-------------|
| 5260 | Non HT/VHT20, 6 to 54 Mbps | 6 | <u>7.2</u> | 13 | 5.8 |
| | HT/VHT20, M0 to M23, M0.1 to M9.3 | m0 | <u>7.5</u> | 13 | 5.5 |
| | | | | | |
| 5260/5280 | Non HT/VHT40, 6 to 54 Mbps | 6 | <u>7.1</u> | 13 | 5.9 |
| | HT/VHT40, M0 to M23, M0.1 to M9.3 | m0 | <u>7.6</u> | 13 | 5.4 |
| | | | | | |
| 5260/5280 5300/5320 | Non HT/VHT80, 6 to 54 Mbps | 6 | <u>7.2</u> | 13 | 5.8 |
| | HT/VHT80, M0 to M23, M0.1 to M9.3 | m0x1 | <u>8.1</u> | 13 | 4.9 |
| | | | | | |
| 5300/5320 | Non HT/VHT40, 6 to 54 Mbps | 6 | <u>7.4</u> | 13 | 5.6 |
| | HT/VHT40, M0 to M23, M0.1 to M9.3 | m0 | <u>7.4</u> | 13 | 5.6 |
| | | | | | |
| 5320 5320 | Non HT/VHT20, 6 to 54 Mbps | 6 | <u>7.2</u> | 13 | 5.8 |
| | HT/VHT20, M0 to M23, M0.1 to M9.3 | m0 | <u>7.6</u> | 13 | 5.4 |

Peak Excursion, 5260 MHz, Non HT/VHT20, 6 to 54 Mbps**Peak Excursion, 5260 MHz, HT/VHT20, M0 to M23, M0.1 to M9.3**

Peak Excursion, 5260 / 5280 MHz, Non HT/VHT40, 6 to 54 Mbps**Peak Excursion, 5260 / 5280 MHz, HT/VHT40, M0 to M23, M0.1 to M9.3**

Peak Excursion, 5260 / 5280 / 5300 / 5320 MHz, Non HT/VHT80, 6 to 54 Mbps**Peak Excursion, 5260 / 5280 / 5300 / 5320 MHz, HT/VHT80, M0 to M23, M0.1 to M9.3**

Peak Excursion, 5300 / 5320 MHz, Non HT/VHT40, 6 to 54 Mbps**Peak Excursion, 5300 / 5320 MHz, HT/VHT40, M0 to M23, M0.1 to M9.3**

Peak Excursion, 5320 MHz, Non HT/VHT20, 6 to 54 Mbps**Peak Excursion, 5320 MHz, HT/VHT20, M0 to M23, M0.1 to M9.3**



Conducted Spurious Emissions

15.407: For transmitters operating in the 5.15-5.25 GHz band: all emissions outside of the 5.15-5.35 GHz band shall not exceed an EIRP of -27dBm/MHz.

Connect the antenna port(s) to the spectrum analyzer input. Place the radio in continuous transmit mode. Configure the spectrum analyzer as shown below (be sure to enter all losses between the transmitter output and the spectrum analyzer).

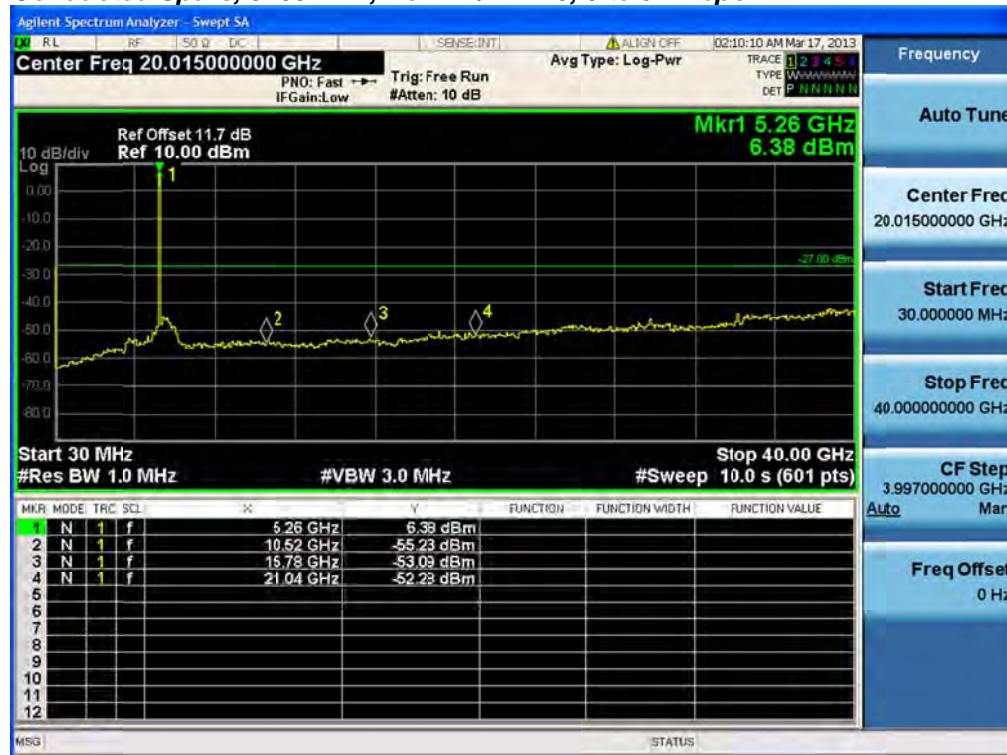
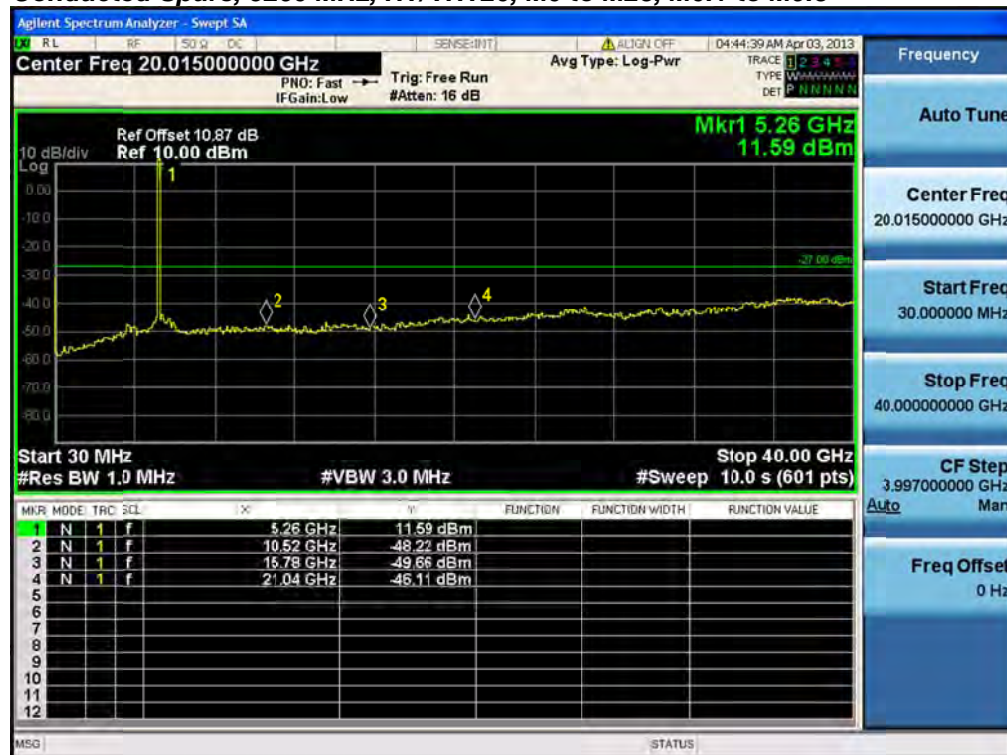
| | |
|-----------------------|---------------|
| Span: | 30 MHz-40 GHz |
| Reference Level: | 20 dBm |
| Attenuation: | 10 dB |
| Sweep Time: | 10 s |
| Resolution Bandwidth: | 1 MHz |
| Video Bandwidth: | 3 MHz |
| Detector: | Peak |
| Trace: | Single |
| Marker: | Peak |

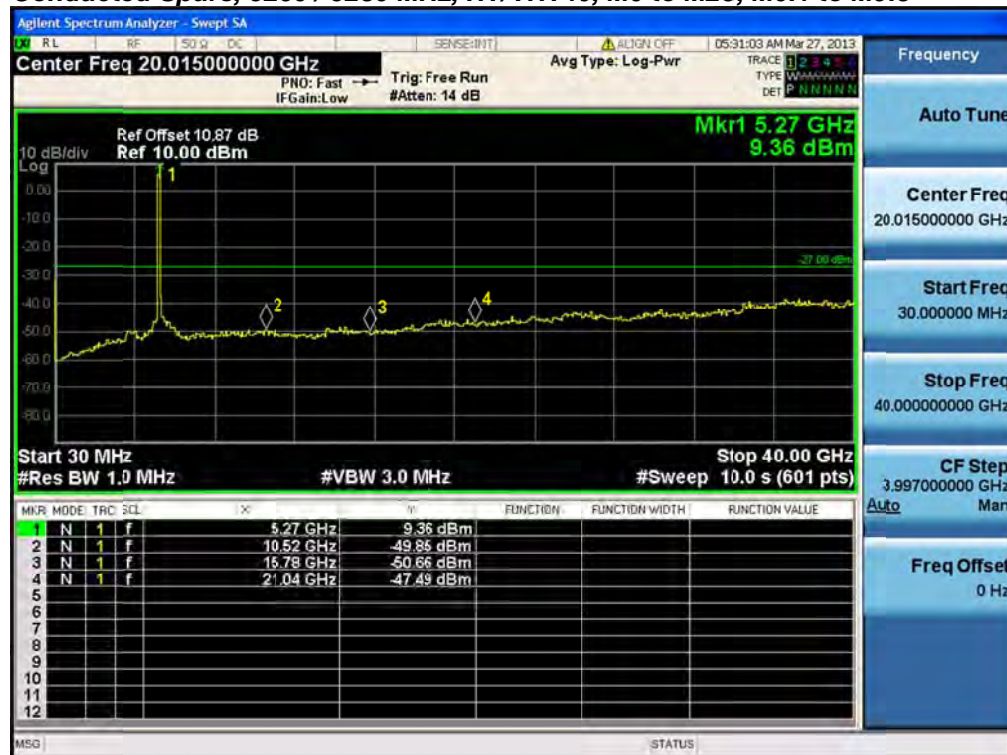
Record the marker waveform peak to spur difference

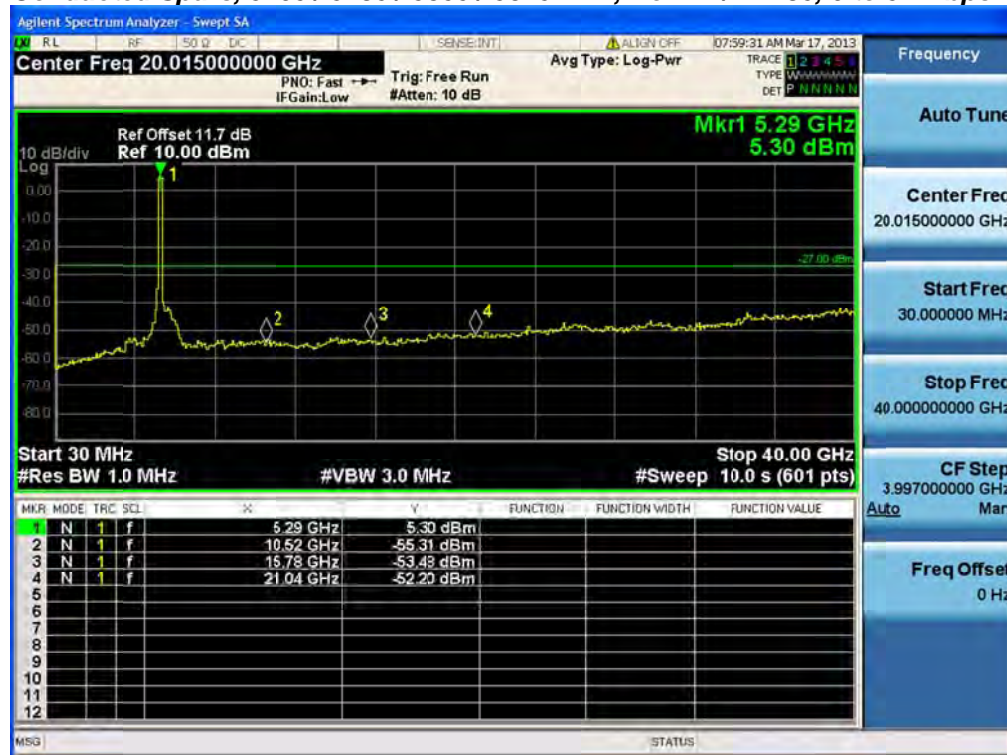
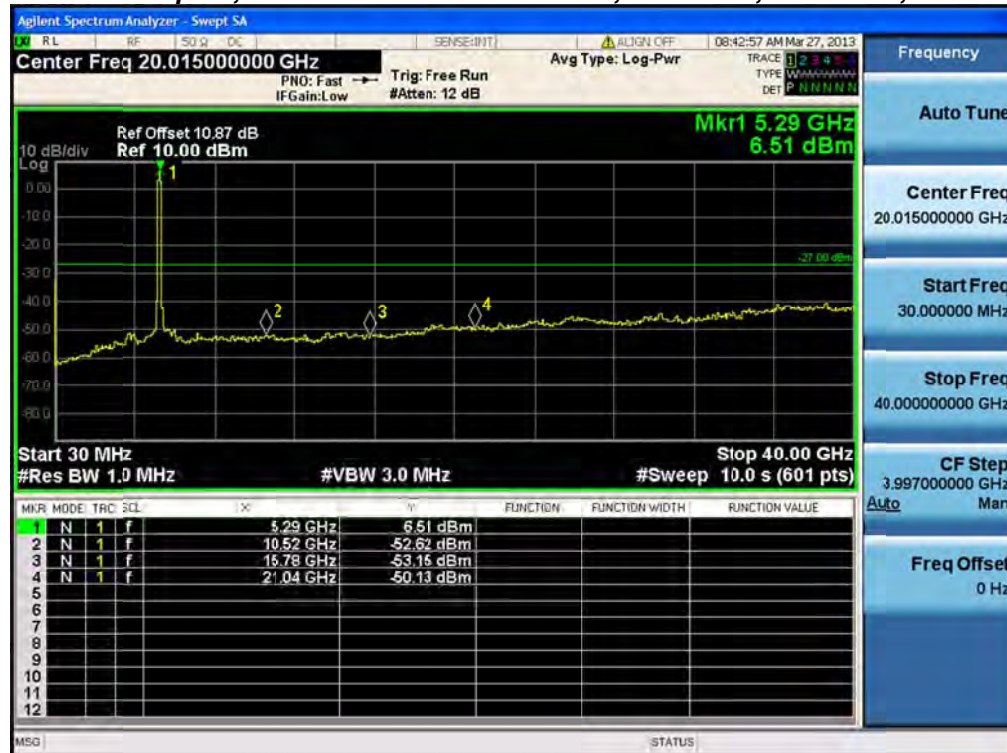
The “Measure and add $10 \log(N)$ dB technique”, where N is the number of outputs, is used for measuring Conducted Spurious Emissions. With this technique, spectrum measurements are performed at each output of the device, and the quantity $10 \log(n)$ is added to the worst case spectrum value before comparing to the emission limit

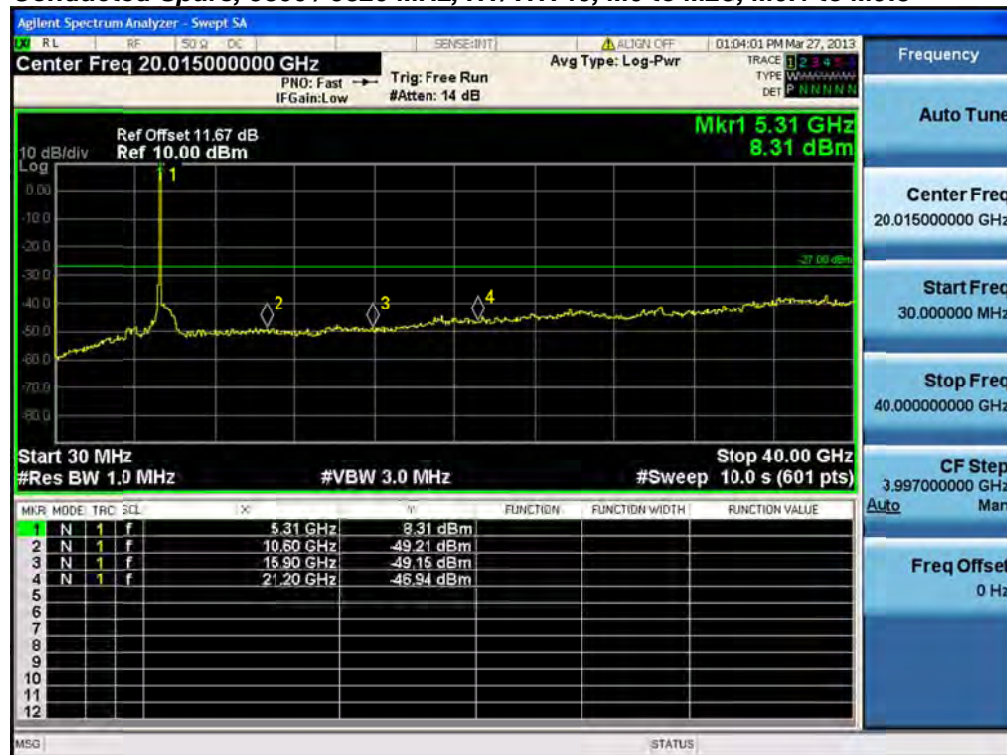


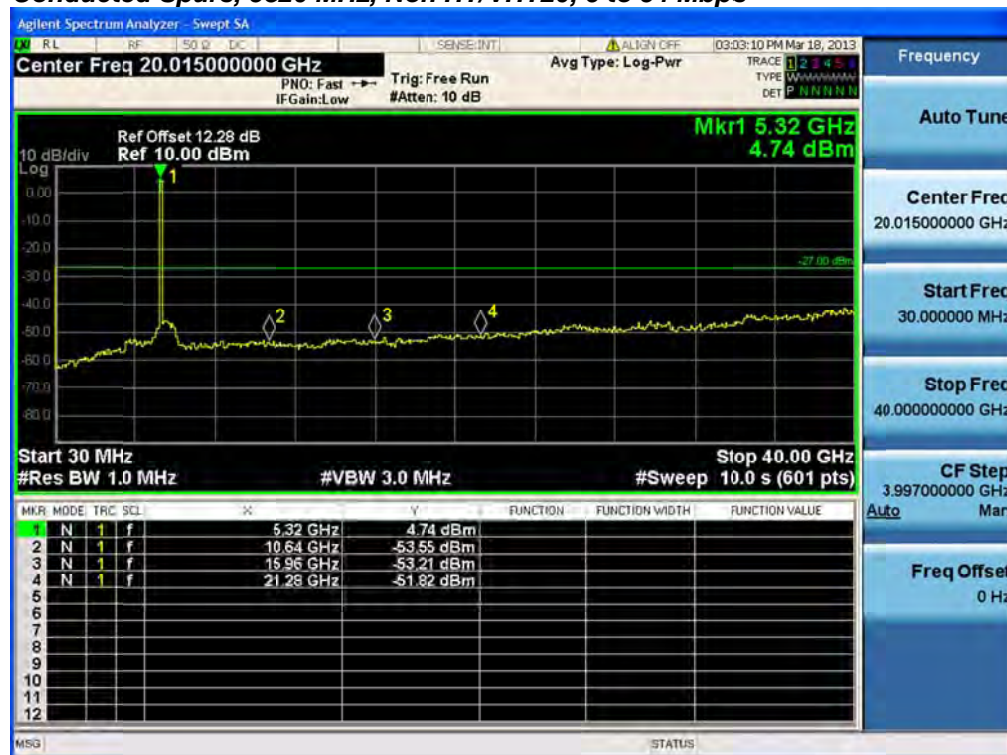
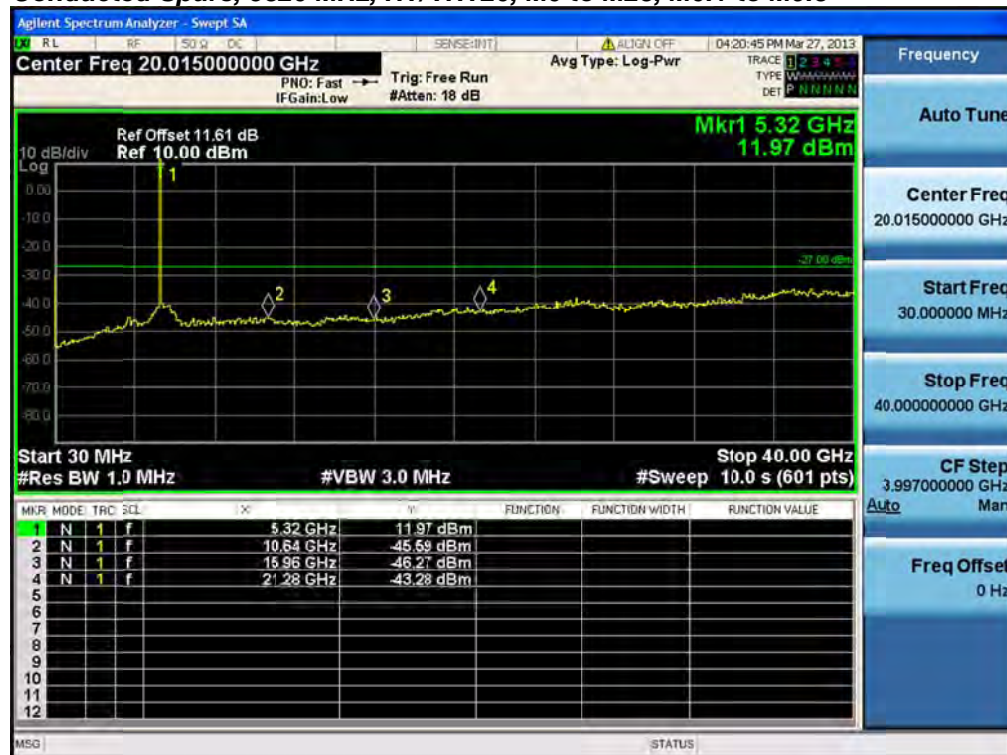
| Frequency (MHz) | Mode | Tx Paths | Correlated Antenna Gain (dBi) | Conducted Spur (dBm/MHz) | Total Conducted Spur (dBm/MHz) | Limit (dBm) | Margin (dB) |
|------------------------|-----------------------------------|----------|-------------------------------|--------------------------|--------------------------------|-------------|-------------|
| 5260 | Non HT/VHT20, 6 to 54 Mbps | 2 | 12 | <u>-52.3</u> | -37.3 | -27 | 10.3 |
| | HT/VHT20, M0 to M23, M0.1 to M9.3 | 3 | 6 | <u>-46.1</u> | -35.3 | -27 | 8.3 |
| 5260/5280 | Non HT/VHT40, 6 to 54 Mbps | 1 | 6 | <u>-50.4</u> | -44.4 | -27 | 17.4 |
| | HT/VHT40, M0 to M23, M0.1 to M9.3 | 3 | 6 | <u>-47.5</u> | -36.7 | -27 | 9.7 |
| 5260/5280 5300/5320 | Non HT/VHT80, 6 to 54 Mbps | 1 | 6 | <u>-52.2</u> | -46.2 | -27 | 19.2 |
| | HT/VHT80, M0 to M23, M0.1 to M9.3 | 3 | 6 | <u>-50.1</u> | -39.3 | -27 | 12.3 |
| 5300/5320 | Non HT/VHT40, 6 to 54 Mbps | 1 | 6 | <u>-50.5</u> | -44.5 | -27 | 17.5 |
| | HT/VHT40, M0 to M23, M0.1 to M9.3 | 4 | 6 | <u>-46.9</u> | -34.9 | -27 | 7.9 |
| 5320 5320 | Non HT/VHT20, 6 to 54 Mbps | 2 | 12 | <u>-51.8</u> | -36.8 | -27 | 9.8 |
| | HT/VHT20, M0 to M23, M0.1 to M9.3 | 3 | 6 | <u>-43.3</u> | -32.5 | -27 | 5.5 |

**Conducted Spurs, 5260 MHz, Non HT/VHT20, 6 to 54 Mbps****Conducted Spurs, 5260 MHz, HT/VHT20, M0 to M23, M0.1 to M9.3**

Conducted Spurs, 5260 / 5280 MHz, Non HT/VHT40, 6 to 54 Mbps**Conducted Spurs, 5260 / 5280 MHz, HT/VHT40, M0 to M23, M0.1 to M9.3**

**Conducted Spurs, 5260 / 5280 / 5300 / 5320 MHz, Non HT/VHT80, 6 to 54 Mbps****Conducted Spurs, 5260 / 5280 / 5300 / 5320 MHz, HT/VHT80, M0 to M23, M0.1 to M9.3**

Conducted Spurs, 5300 / 5320 MHz, Non HT/VHT40, 6 to 54 Mbps**Conducted Spurs, 5300 / 5320 MHz, HT/VHT40, M0 to M23, M0.1 to M9.3**

Conducted Spurs, 5320 MHz, Non HT/VHT20, 6 to 54 Mbps**Conducted Spurs, 5320 MHz, HT/VHT20, M0 to M23, M0.1 to M9.3**



Conducted Bandedge

Radiated emissions which fall in the restricted bands, as defined in Section 15.205(a), must also comply with the emission limits specified in Section 15.209(a) (see Section 15.205(c)).

Use the procedures in 718828 D01 DTS Meas Guidance v01 to substitute conducted measurements in place of radiated measurements. Connect the antenna port(s) to the spectrum analyzer input. Place the radio in continuous transmit mode. Be sure to enter all information between the transmitter output and the spectrum analyzer.

| | |
|-----------------------|------------------------------------|
| Reference Level: | 10 dBm |
| Attenuation: | 4 dB |
| Sweep Time: | Coupled |
| Resolution Bandwidth: | 1MHz |
| Video Bandwidth: | 1 MHz for peak, 100 Hz for average |
| Detector: | Peak |

Save 2 plots: 1) Average Plot (Vertical and Horizontal), Limit= -41.25 dBm eirp (54dBuV @3m)
 2) Peak plot (Vertical and Horizontal), Limit = -21.25 dBm eirp (74dBuV @3m)

Place a marker at the end of the restricted band closest to the transmit frequency to show compliance.
Also measure any emissions in the restricted bands.

The “measure-and-sum technique” is used for measuring in-band transmit power of a device. In the measure-and-sum approach, the conducted emission level is measured at each antenna port. The measured results at the various ports are then summed mathematically to determine the total emission level from the device. Summing is performed in linear power units.

This report represents the worst case data for all supported operating modes and antennas.



| Frequency (MHz) | Mode | Tx Paths | Correlated Antenna Gain (dBi) | Tx 1 Bandedge Level (dBm) | Tx 2 Bandedge Level (dBm) | Tx 3 Bandedge Level (dBm) | Tx 4 Bandedge Level (dBm) | Total Tx Bandedge Level (dBm) | Limit (dBm) | Margin (dB) |
|---------------------|---|----------|-------------------------------|---------------------------|---------------------------|---------------------------|---------------------------|-------------------------------|-------------|-------------|
| 5260/5280/5300/5320 | Non HT/VHT80, 6 to 54 Mbps | 1 | 6 | -56.6 | | | | -50.6 | -41.25 | 9.4 |
| | Non HT/VHT80, 6 to 54 Mbps | 2 | 6 | -56.6 | -49.4 | | | -42.6 | -41.25 | 1.4 |
| | Non HT/VHT80, 6 to 54 Mbps | 3 | 6 | -61.2 | -55.0 | -50.4 | | -42.8 | -41.25 | 1.6 |
| | Non HT/VHT80, 6 to 54 Mbps | 4 | 6 | -61.2 | -55.0 | -50.4 | -56.9 | -42.2 | -41.25 | 1.0 |
| | HT/VHT80, M0 to M7, M0.1 to M9.1 | 1 | 6 | -52.2 | | | | -46.2 | -41.25 | 5.0 |
| | HT/VHT80, M0 to M7, M0.1 to M9.1 | 2 | 6 | -52.2 | -49.2 | | | -41.4 | -41.25 | 0.2 |
| | HT/VHT80, M8 to M15, M0.2 to M9.2 | 2 | 6 | -52.2 | -49.2 | | | -41.4 | -41.25 | 0.2 |
| | HT/VHT80, M0 to M7, M0.1 to M9.1 | 3 | 6 | -55.6 | -52.2 | -56.2 | | -43.5 | -41.25 | 2.3 |
| | HT/VHT80, M8 to M15, M0.2 to M9.2 | 3 | 6 | -55.6 | -52.2 | -56.2 | | -43.5 | -41.25 | 2.3 |
| | HT/VHT80, M16 to M23, M0.3 to M9.3 | 3 | 6 | -55.6 | -52.2 | -56.2 | | -43.5 | -41.25 | 2.3 |
| | HT/VHT80, M0 to M7, M0.1 to M9.1 | 4 | 6 | -58.0 | -55.2 | -59.0 | -58.8 | -45.4 | -41.25 | 4.2 |
| | HT/VHT80, M8 to M15, M0.2 to M9.2 | 4 | 6 | -58.0 | -55.2 | -59.0 | -58.8 | -45.4 | -41.25 | 4.2 |
| | HT/VHT80, M16 to M23, M0.3 to M9.3 | 4 | 6 | -58.0 | -55.2 | -59.0 | -58.8 | -45.4 | -41.25 | 4.2 |
| | HT/VHT80 Beam Forming, M0 to M7, M0.1 to M9.1 | 2 | 9 | -58.0 | -55.2 | | | -44.4 | -41.25 | 3.1 |
| | HT/VHT80 Beam Forming, M8 to M15, M0.2 to M9.2 | 2 | 6 | -52.2 | -49.2 | | | -41.4 | -41.25 | 0.2 |
| | HT/VHT80 Beam Forming, M0 to M7, M0.1 to M9.1 | 3 | 11 | -61.1 | -58.1 | -65.3 | | -45.0 | -41.25 | 3.8 |
| | HT/VHT80 Beam Forming, M8 to M15, M0.2 to M9.2 | 3 | 8 | -60.2 | -57.5 | -61.3 | | -46.8 | -41.25 | 5.5 |
| | HT/VHT80 Beam Forming, M16 to M23, M0.3 to M9.3 | 3 | 6 | -55.6 | -52.2 | -56.2 | | -43.5 | -41.25 | 2.3 |
| | HT/VHT80 Beam Forming, M0 to M7, M0.1 to M9.1 | 4 | 12 | -65.9 | -63.0 | -68.8 | -67.3 | -47.7 | -41.25 | 6.4 |
| | HT/VHT80 Beam Forming, M8 to M15, M0.2 to M9.2 | 4 | 9 | -57.8 | -55.2 | -65.3 | -64.8 | -43.8 | -41.25 | 2.5 |
| | HT/VHT80 Beam Forming, M16 to M23, M0.3 to M9.3 | 4 | 7 | -60.2 | -57.5 | -61.3 | -60.9 | -46.5 | -41.25 | 5.2 |
| | HT/VHT80 STBC, M0 to M7, M0.1 to M9.1 | 2 | 6 | -52.2 | -49.2 | | | -41.4 | -41.25 | 0.2 |
| | HT/VHT80 STBC, M0 to M7, M0.1 to M9.1 | 3 | 6 | -55.6 | -52.2 | -56.2 | | -43.5 | -41.25 | 2.3 |
| | HT/VHT80 STBC, M0 to M7, M0.1 to M9.1 | 4 | 6 | -58.0 | -55.2 | -59.0 | -58.8 | -45.4 | -41.25 | 4.2 |



| | | | | | | | | | | |
|-----------|---|---|----|--------------|--------------|--------------|--------------|-------|--------|------|
| 5300/5320 | Non HT/VHT40, 6 to 54 Mbps | 1 | 6 | <u>-48.9</u> | | | | -42.9 | -41.25 | 1.7 |
| | Non HT/VHT40, 6 to 54 Mbps | 2 | 6 | <u>-48.9</u> | <u>-52.5</u> | | | -41.3 | -41.25 | 0.1 |
| | Non HT/VHT40, 6 to 54 Mbps | 3 | 6 | <u>-54.4</u> | <u>-55.7</u> | <u>-56.6</u> | | -44.7 | -41.25 | 3.5 |
| | Non HT/VHT40, 6 to 54 Mbps | 4 | 6 | <u>-57.4</u> | <u>-59.7</u> | <u>-61.9</u> | <u>-59.1</u> | -47.2 | -41.25 | 6.0 |
| | HT/VHT40, M0 to M7, M0.1 to M9.1 | 1 | 6 | <u>-55.3</u> | | | | -49.3 | -41.25 | 8.1 |
| | HT/VHT40, M0 to M7, M0.1 to M9.1 | 2 | 6 | <u>-55.3</u> | <u>-52.0</u> | | | -44.3 | -41.25 | 3.1 |
| | HT/VHT40, M8 to M15, M0.2 to M9.2 | 2 | 6 | <u>-55.3</u> | <u>-52.0</u> | | | -44.3 | -41.25 | 3.1 |
| | HT/VHT40, M0 to M7, M0.1 to M9.1 | 3 | 6 | <u>-56.7</u> | <u>-53.8</u> | <u>-58.8</u> | | -45.2 | -41.25 | 3.9 |
| | HT/VHT40, M8 to M15, M0.2 to M9.2 | 3 | 6 | <u>-56.7</u> | <u>-53.8</u> | <u>-58.8</u> | | -45.2 | -41.25 | 3.9 |
| | HT/VHT40, M16 to M23, M0.3 to M9.3 | 3 | 6 | <u>-56.7</u> | <u>-53.8</u> | <u>-58.8</u> | | -45.2 | -41.25 | 3.9 |
| | HT/VHT40, M0 to M7, M0.1 to M9.1 | 4 | 6 | <u>-57.9</u> | <u>-56.8</u> | <u>-60.4</u> | <u>-59.6</u> | -46.4 | -41.25 | 5.2 |
| | HT/VHT40, M8 to M15, M0.2 to M9.2 | 4 | 6 | <u>-57.5</u> | <u>-55.4</u> | <u>-59.8</u> | <u>-58.7</u> | -45.5 | -41.25 | 4.3 |
| | HT/VHT40, M16 to M23, M0.3 to M9.3 | 4 | 6 | <u>-57.5</u> | <u>-55.4</u> | <u>-59.8</u> | <u>-58.7</u> | -45.5 | -41.25 | 4.3 |
| | HT/VHT40 Beam Forming, M0 to M7, M0.1 to M9.1 | 2 | 9 | <u>-57.5</u> | <u>-55.4</u> | | | -44.3 | -41.25 | 3.1 |
| | HT/VHT40 Beam Forming, M8 to M15, M0.2 to M9.2 | 2 | 6 | <u>-55.3</u> | <u>-52.0</u> | | | -44.3 | -41.25 | 3.1 |
| | HT/VHT40 Beam Forming, M0 to M7, M0.1 to M9.1 | 3 | 11 | <u>-63.7</u> | <u>-63.4</u> | <u>-63.3</u> | | -47.9 | -41.25 | 6.6 |
| | HT/VHT40 Beam Forming, M8 to M15, M0.2 to M9.2 | 3 | 8 | <u>-57.9</u> | <u>-56.8</u> | <u>-60.4</u> | | -45.6 | -41.25 | 4.3 |
| | HT/VHT40 Beam Forming, M16 to M23, M0.3 to M9.3 | 3 | 6 | <u>-56.7</u> | <u>-53.8</u> | <u>-58.8</u> | | -45.2 | -41.25 | 3.9 |
| | HT/VHT40 Beam Forming, M0 to M7, M0.1 to M9.1 | 4 | 12 | <u>-64.0</u> | <u>-64.1</u> | <u>-66.7</u> | <u>-66.1</u> | -47.0 | -41.25 | 5.8 |
| | HT/VHT40 Beam Forming, M8 to M15, M0.2 to M9.2 | 4 | 9 | <u>-63.4</u> | <u>-62.2</u> | <u>-61.1</u> | <u>-62.6</u> | -47.2 | -41.25 | 6.0 |
| | HT/VHT40 Beam Forming, M16 to M23, M0.3 to M9.3 | 4 | 7 | <u>-57.9</u> | <u>-56.8</u> | <u>-60.4</u> | <u>-59.6</u> | -45.2 | -41.25 | 4.0 |
| | HT/VHT40 STBC, M0 to M7, M0.1 to M9.1 | 2 | 6 | <u>-55.3</u> | <u>-52.0</u> | | | -44.3 | -41.25 | 3.1 |
| | HT/VHT40 STBC, M0 to M7, M0.1 to M9.1 | 3 | 6 | <u>-56.7</u> | <u>-53.8</u> | <u>-58.8</u> | | -45.2 | -41.25 | 3.9 |
| | HT/VHT40 STBC, M0 to M7, M0.1 to M9.1 | 4 | 6 | <u>-57.5</u> | <u>-55.4</u> | <u>-59.8</u> | <u>-58.7</u> | -45.5 | -41.25 | 4.3 |
| 5320 | Non HT/VHT20, 6 to 54 Mbps | 1 | 6 | <u>-63.8</u> | | | | -57.8 | -41.25 | 16.6 |
| | Non HT/VHT20, 6 to 54 Mbps | 2 | 6 | <u>-63.8</u> | <u>-64.3</u> | | | -55.0 | -41.25 | 13.8 |
| | Non HT/VHT20, 6 to 54 Mbps | 3 | 6 | <u>-69.7</u> | <u>-69.8</u> | <u>-68.9</u> | | -58.7 | -41.25 | 17.4 |
| | Non HT/VHT20, 6 to 54 Mbps | 4 | 6 | <u>-71.0</u> | <u>-70.7</u> | <u>-69.6</u> | <u>-71.3</u> | -58.6 | -41.25 | 17.3 |
| | Non HT/VHT20 Beam Forming, 6 to 54 Mbps | 2 | 9 | <u>-65.8</u> | <u>-66.6</u> | | | -54.2 | -41.25 | 12.9 |
| | Non HT/VHT20 Beam Forming, 6 to 54 Mbps | 3 | 11 | <u>-71.0</u> | <u>-70.7</u> | <u>-69.6</u> | | -54.8 | -41.25 | 13.6 |
| | Non HT/VHT20 Beam Forming, 6 to 54 Mbps | 4 | 12 | <u>-71.7</u> | <u>-71.3</u> | <u>-73.1</u> | <u>-71.9</u> | -53.9 | -41.25 | 12.7 |
| | HT/VHT20, M0 to M7, M0.1 to M9.1 | 1 | 6 | <u>-63.7</u> | | | | -57.7 | -41.25 | 16.5 |
| | HT/VHT20, M0 to M7, M0.1 to M9.1 | 2 | 6 | <u>-63.7</u> | <u>-59.5</u> | | | -52.1 | -41.25 | 10.9 |
| | HT/VHT20, M8 to M15, M0.2 to M9.2 | 2 | 6 | <u>-63.7</u> | <u>-59.5</u> | | | -52.1 | -41.25 | 10.9 |
| | HT/VHT20, M0 to M7, M0.1 to M9.1 | 3 | 6 | <u>-69.8</u> | <u>-68.0</u> | <u>-69.5</u> | | -58.3 | -41.25 | 17.0 |
| | HT/VHT20, M8 to M15, M0.2 to M9.2 | 3 | 6 | <u>-64.9</u> | <u>-62.2</u> | <u>-67.0</u> | | -53.5 | -41.25 | 12.2 |
| | HT/VHT20, M16 to M23, M0.3 to M9.3 | 3 | 6 | <u>-64.9</u> | <u>-62.2</u> | <u>-67.0</u> | | -53.5 | -41.25 | 12.2 |
| | HT/VHT20, M0 to M7, M0.1 to M9.1 | 4 | 6 | <u>-70.8</u> | <u>-69.4</u> | <u>-70.5</u> | <u>-71.5</u> | -58.5 | -41.25 | 17.2 |
| | HT/VHT20, M8 to M15, M0.2 to M9.2 | 4 | 6 | <u>-67.5</u> | <u>-65.8</u> | <u>-68.9</u> | <u>-66.8</u> | -55.1 | -41.25 | 13.8 |
| | HT/VHT20, M16 to M23, M0.3 to M9.3 | 4 | 6 | <u>-65.8</u> | <u>-63.3</u> | <u>-68.2</u> | <u>-66.1</u> | -53.5 | -41.25 | 12.2 |



| | | | | | | | | | |
|---|---|----|--------------|--------------|--------------|--------------|-------|--------|------|
| HT/VHT20 Beam Forming, M0 to M7, M0.1 to M9.1 | 2 | 9 | <u>-65.8</u> | <u>-63.3</u> | | | -52.4 | -41.25 | 11.1 |
| HT/VHT20 Beam Forming, M8 to M15, M0.2 to M9.2 | 2 | 6 | <u>-63.7</u> | <u>-59.5</u> | | | -52.1 | -41.25 | 10.9 |
| HT/VHT20 Beam Forming, M0 to M7, M0.1 to M9.1 | 3 | 11 | <u>-70.8</u> | <u>-69.4</u> | <u>-70.5</u> | | -54.6 | -41.25 | 13.4 |
| HT/VHT20 Beam Forming, M8 to M15, M0.2 to M9.2 | 3 | 8 | <u>-67.5</u> | <u>-65.8</u> | <u>-68.9</u> | | -54.6 | -41.25 | 13.4 |
| HT/VHT20 Beam Forming, M16 to M23, M0.3 to M9.3 | 3 | 6 | <u>-64.9</u> | <u>-62.2</u> | <u>-67.0</u> | | -53.5 | -41.25 | 12.2 |
| HT/VHT20 Beam Forming, M0 to M7, M0.1 to M9.1 | 4 | 12 | <u>-71.5</u> | <u>-70.4</u> | <u>-73.6</u> | <u>-72.5</u> | -53.8 | -41.25 | 12.6 |
| HT/VHT20 Beam Forming, M8 to M15, M0.2 to M9.2 | 4 | 9 | <u>-70.3</u> | <u>-68.3</u> | <u>-69.8</u> | <u>-69.9</u> | -54.5 | -41.25 | 13.2 |
| HT/VHT20 Beam Forming, M16 to M23, M0.3 to M9.3 | 4 | 7 | <u>-67.5</u> | <u>-65.8</u> | <u>-68.9</u> | <u>-66.8</u> | -53.9 | -41.25 | 12.6 |
| HT/VHT20 STBC, M0 to M7, M0.1 to M9.1 | 2 | 6 | <u>-63.7</u> | <u>-59.5</u> | | | -52.1 | -41.25 | 10.9 |
| HT/VHT20 STBC, M0 to M7, M0.1 to M9.1 | 3 | 6 | <u>-64.9</u> | <u>-62.2</u> | <u>-67.0</u> | | -53.5 | -41.25 | 12.2 |
| HT/VHT20 STBC, M0 to M7, M0.1 to M9.1 | 4 | 6 | <u>-67.5</u> | <u>-65.8</u> | <u>-68.9</u> | <u>-66.8</u> | -55.1 | -41.25 | 13.8 |



| Frequency (MHz) | Mode | Tx Paths | Correlated Antenna Gain (dBi) | Tx 1 Bandedge Level (dBm) | Tx 2 Bandedge Level (dBm) | Tx 3 Bandedge Level (dBm) | Tx 4 Bandedge Level (dBm) | Total Tx Bandedge Level (dBm) | Limit (dBm) | Margin (dB) |
|---------------------|---|----------|-------------------------------|---------------------------|---------------------------|---------------------------|---------------------------|-------------------------------|-------------|-------------|
| 5260/5280/5300/5320 | Non HT/VHT80, 6 to 54 Mbps | 1 | 6 | -43.5 | | | | -37.5 | -21.25 | 16.3 |
| | Non HT/VHT80, 6 to 54 Mbps | 2 | 6 | -43.5 | -35.0 | | | -28.4 | -21.25 | 7.2 |
| | Non HT/VHT80, 6 to 54 Mbps | 3 | 6 | -47.1 | -39.8 | -39.6 | | -30.3 | -21.25 | 9.1 |
| | Non HT/VHT80, 6 to 54 Mbps | 4 | 6 | -47.1 | -39.8 | -39.6 | -44.0 | -29.6 | -21.25 | 8.4 |
| | HT/VHT80, M0 to M7, M0.1 to M9.1 | 1 | 6 | -36.8 | | | | -30.8 | -21.25 | 9.6 |
| | HT/VHT80, M0 to M7, M0.1 to M9.1 | 2 | 6 | -36.8 | -35.8 | | | -27.3 | -21.25 | 6.0 |
| | HT/VHT80, M8 to M15, M0.2 to M9.2 | 2 | 6 | -36.8 | -35.8 | | | -27.3 | -21.25 | 6.0 |
| | HT/VHT80, M0 to M7, M0.1 to M9.1 | 3 | 6 | -41.6 | -38.6 | -41.3 | | -29.5 | -21.25 | 8.3 |
| | HT/VHT80, M8 to M15, M0.2 to M9.2 | 3 | 6 | -41.6 | -38.6 | -41.3 | | -29.5 | -21.25 | 8.3 |
| | HT/VHT80, M16 to M23, M0.3 to M9.3 | 3 | 6 | -41.6 | -38.6 | -41.3 | | -29.5 | -21.25 | 8.3 |
| | HT/VHT80, M0 to M7, M0.1 to M9.1 | 4 | 6 | -45.1 | -41.5 | -46.5 | -46.1 | -32.3 | -21.25 | 11.0 |
| | HT/VHT80, M8 to M15, M0.2 to M9.2 | 4 | 6 | -45.1 | -41.5 | -46.5 | -46.1 | -32.3 | -21.25 | 11.0 |
| | HT/VHT80, M16 to M23, M0.3 to M9.3 | 4 | 6 | -45.1 | -41.5 | -46.5 | -46.1 | -32.3 | -21.25 | 11.0 |
| | HT/VHT80 Beam Forming, M0 to M7, M0.1 to M9.1 | 2 | 9 | -45.1 | -41.5 | | | -30.9 | -21.25 | 9.7 |
| | HT/VHT80 Beam Forming, M8 to M15, M0.2 to M9.2 | 2 | 6 | -36.8 | -35.8 | | | -27.3 | -21.25 | 6.0 |
| | HT/VHT80 Beam Forming, M0 to M7, M0.1 to M9.1 | 3 | 11 | -47.6 | -44.4 | -52.3 | | -31.4 | -21.25 | 10.2 |
| | HT/VHT80 Beam Forming, M8 to M15, M0.2 to M9.2 | 3 | 8 | -47.5 | -47.2 | -49.5 | | -35.4 | -21.25 | 14.1 |
| | HT/VHT80 Beam Forming, M16 to M23, M0.3 to M9.3 | 3 | 6 | -41.6 | -38.6 | -41.3 | | -29.5 | -21.25 | 8.3 |
| | HT/VHT80 Beam Forming, M0 to M7, M0.1 to M9.1 | 4 | 12 | -51.8 | -50.1 | -55.1 | -51.6 | -33.8 | -21.25 | 12.5 |
| | HT/VHT80 Beam Forming, M8 to M15, M0.2 to M9.2 | 4 | 9 | -43.8 | -41.2 | -52.6 | -50.9 | -29.8 | -21.25 | 8.6 |
| | HT/VHT80 Beam Forming, M16 to M23, M0.3 to M9.3 | 4 | 7 | -47.5 | -47.2 | -49.5 | -49.2 | -35.0 | -21.25 | 13.8 |
| | HT/VHT80 STBC, M0 to M7, M0.1 to M9.1 | 2 | 6 | -36.8 | -35.8 | | | -27.3 | -21.25 | 6.0 |
| | HT/VHT80 STBC, M0 to M7, M0.1 to M9.1 | 3 | 6 | -41.6 | -38.6 | -41.3 | | -29.5 | -21.25 | 8.3 |
| | HT/VHT80 STBC, M0 to M7, M0.1 to M9.1 | 4 | 6 | -45.1 | -41.5 | -46.5 | -46.1 | -32.3 | -21.25 | 11.0 |



| | | | | | | | | | | |
|-----------|---|---|----|--------------|--------------|--------------|--------------|-------|--------|------|
| 5300/5320 | Non HT/VHT40, 6 to 54 Mbps | 1 | 6 | <u>-33.3</u> | | | | -27.3 | -21.25 | 6.1 |
| | Non HT/VHT40, 6 to 54 Mbps | 2 | 6 | <u>-33.3</u> | <u>-37.8</u> | | | -26.0 | -21.25 | 4.7 |
| | Non HT/VHT40, 6 to 54 Mbps | 3 | 6 | <u>-33.9</u> | <u>-38.4</u> | <u>-41.5</u> | | -26.1 | -21.25 | 4.8 |
| | Non HT/VHT40, 6 to 54 Mbps | 4 | 6 | <u>-39.2</u> | <u>-42.3</u> | <u>-50.9</u> | <u>-45.1</u> | -30.6 | -21.25 | 9.4 |
| | HT/VHT40, M0 to M7, M0.1 to M9.1 | 1 | 6 | <u>-39.4</u> | | | | -33.4 | -21.25 | 12.2 |
| | HT/VHT40, M0 to M7, M0.1 to M9.1 | 2 | 6 | <u>-39.4</u> | <u>-35.9</u> | | | -28.3 | -21.25 | 7.0 |
| | HT/VHT40, M8 to M15, M0.2 to M9.2 | 2 | 6 | <u>-39.4</u> | <u>-35.9</u> | | | -28.3 | -21.25 | 7.0 |
| | HT/VHT40, M0 to M7, M0.1 to M9.1 | 3 | 6 | <u>-44.7</u> | <u>-40.3</u> | <u>-49.9</u> | | -32.6 | -21.25 | 11.4 |
| | HT/VHT40, M8 to M15, M0.2 to M9.2 | 3 | 6 | <u>-44.7</u> | <u>-40.3</u> | <u>-49.9</u> | | -32.6 | -21.25 | 11.4 |
| | HT/VHT40, M16 to M23, M0.3 to M9.3 | 3 | 6 | <u>-44.7</u> | <u>-40.3</u> | <u>-49.9</u> | | -32.6 | -21.25 | 11.4 |
| | HT/VHT40, M0 to M7, M0.1 to M9.1 | 4 | 6 | <u>-46.2</u> | <u>-47.3</u> | <u>-46.1</u> | <u>-51.3</u> | -35.3 | -21.25 | 14.0 |
| | HT/VHT40, M8 to M15, M0.2 to M9.2 | 4 | 6 | <u>-47.5</u> | <u>-44.8</u> | <u>-51.9</u> | <u>-47.5</u> | -35.2 | -21.25 | 14.0 |
| | HT/VHT40, M16 to M23, M0.3 to M9.3 | 4 | 6 | <u>-47.5</u> | <u>-44.8</u> | <u>-51.9</u> | <u>-47.5</u> | -35.2 | -21.25 | 14.0 |
| | HT/VHT40 Beam Forming, M0 to M7, M0.1 to M9.1 | 2 | 9 | <u>-47.5</u> | <u>-44.8</u> | | | -33.9 | -21.25 | 12.7 |
| | HT/VHT40 Beam Forming, M8 to M15, M0.2 to M9.2 | 2 | 6 | <u>-39.4</u> | <u>-35.9</u> | | | -28.3 | -21.25 | 7.0 |
| | HT/VHT40 Beam Forming, M0 to M7, M0.1 to M9.1 | 3 | 11 | <u>-54.9</u> | <u>-55.3</u> | <u>-57.5</u> | | -40.2 | -21.25 | 18.9 |
| | HT/VHT40 Beam Forming, M8 to M15, M0.2 to M9.2 | 3 | 8 | <u>-46.2</u> | <u>-47.3</u> | <u>-46.1</u> | | -33.9 | -21.25 | 12.7 |
| | HT/VHT40 Beam Forming, M16 to M23, M0.3 to M9.3 | 3 | 6 | <u>-44.7</u> | <u>-40.3</u> | <u>-49.9</u> | | -32.6 | -21.25 | 11.4 |
| | HT/VHT40 Beam Forming, M0 to M7, M0.1 to M9.1 | 4 | 12 | <u>-56.4</u> | <u>-55.6</u> | <u>-58.2</u> | <u>-57.1</u> | -38.7 | -21.25 | 17.5 |
| | HT/VHT40 Beam Forming, M8 to M15, M0.2 to M9.2 | 4 | 9 | <u>-52.9</u> | <u>-53.0</u> | <u>-53.8</u> | <u>-52.3</u> | -37.9 | -21.25 | 16.7 |
| | HT/VHT40 Beam Forming, M16 to M23, M0.3 to M9.3 | 4 | 7 | <u>-46.2</u> | <u>-47.3</u> | <u>-46.1</u> | <u>-51.3</u> | -34.1 | -21.25 | 12.8 |
| | HT/VHT40 STBC, M0 to M7, M0.1 to M9.1 | 2 | 6 | <u>-39.4</u> | <u>-35.9</u> | | | -28.3 | -21.25 | 7.0 |
| | HT/VHT40 STBC, M0 to M7, M0.1 to M9.1 | 3 | 6 | <u>-44.7</u> | <u>-40.3</u> | <u>-49.9</u> | | -32.6 | -21.25 | 11.4 |
| | HT/VHT40 STBC, M0 to M7, M0.1 to M9.1 | 4 | 6 | <u>-47.5</u> | <u>-44.8</u> | <u>-51.9</u> | <u>-47.5</u> | -35.2 | -21.25 | 14.0 |
| 5320 | Non HT/VHT20, 6 to 54 Mbps | 1 | 6 | <u>-51.9</u> | | | | -45.9 | -21.25 | 24.7 |
| | Non HT/VHT20, 6 to 54 Mbps | 2 | 6 | <u>-51.9</u> | <u>-54.7</u> | | | -44.1 | -21.25 | 22.8 |
| | Non HT/VHT20, 6 to 54 Mbps | 3 | 6 | <u>-60.4</u> | <u>-61.1</u> | <u>-60.7</u> | | -50.0 | -21.25 | 28.7 |
| | Non HT/VHT20, 6 to 54 Mbps | 4 | 6 | <u>-59.2</u> | <u>-63.5</u> | <u>-60.3</u> | <u>-60.9</u> | -48.7 | -21.25 | 27.4 |
| | Non HT/VHT20 Beam Forming, 6 to 54 Mbps | 2 | 9 | <u>-52.7</u> | <u>-55.0</u> | | | -41.7 | -21.25 | 20.4 |
| | Non HT/VHT20 Beam Forming, 6 to 54 Mbps | 3 | 11 | <u>-59.2</u> | <u>-63.5</u> | <u>-60.3</u> | | -45.1 | -21.25 | 23.8 |
| | Non HT/VHT20 Beam Forming, 6 to 54 Mbps | 4 | 12 | <u>-59.8</u> | <u>-60.2</u> | <u>-63.8</u> | <u>-61.6</u> | -43.1 | -21.25 | 21.8 |
| | HT/VHT20, M0 to M7, M0.1 to M9.1 | 1 | 6 | <u>-43.9</u> | | | | -37.9 | -21.25 | 16.7 |
| | HT/VHT20, M0 to M7, M0.1 to M9.1 | 2 | 6 | <u>-43.9</u> | <u>-43.2</u> | | | -34.5 | -21.25 | 13.3 |
| | HT/VHT20, M8 to M15, M0.2 to M9.2 | 2 | 6 | <u>-43.9</u> | <u>-43.2</u> | | | -34.5 | -21.25 | 13.3 |
| | HT/VHT20, M0 to M7, M0.1 to M9.1 | 3 | 6 | <u>-61.1</u> | <u>-57.6</u> | <u>-58.1</u> | | -47.9 | -21.25 | 26.7 |
| | HT/VHT20, M8 to M15, M0.2 to M9.2 | 3 | 6 | <u>-53.5</u> | <u>-45.8</u> | <u>-54.2</u> | | -38.6 | -21.25 | 17.4 |
| | HT/VHT20, M16 to M23, M0.3 to M9.3 | 3 | 6 | <u>-53.5</u> | <u>-45.8</u> | <u>-54.2</u> | | -38.6 | -21.25 | 17.4 |
| | HT/VHT20, M0 to M7, M0.1 to M9.1 | 4 | 6 | <u>-62.5</u> | <u>-61.4</u> | <u>-59.2</u> | <u>-64.1</u> | -49.4 | -21.25 | 28.2 |
| | HT/VHT20, M8 to M15, M0.2 to M9.2 | 4 | 6 | <u>-54.9</u> | <u>-50.5</u> | <u>-57.8</u> | <u>-57.4</u> | -42.1 | -21.25 | 20.8 |
| | HT/VHT20, M16 to M23, M0.3 to M9.3 | 4 | 6 | <u>-53.7</u> | <u>-49.6</u> | <u>-57.3</u> | <u>-55.1</u> | -41.0 | -21.25 | 19.7 |



| | | | | | | | | | |
|---|---|----|--------------|--------------|--------------|--------------|-------|--------|------|
| HT/VHT20 Beam Forming, M0 to M7, M0.1 to M9.1 | 2 | 9 | <u>-53.7</u> | <u>-49.6</u> | | | -39.2 | -21.25 | 17.9 |
| HT/VHT20 Beam Forming, M8 to M15, M0.2 to M9.2 | 2 | 6 | <u>-43.9</u> | <u>-43.2</u> | | | -34.5 | -21.25 | 13.3 |
| HT/VHT20 Beam Forming, M0 to M7, M0.1 to M9.1 | 3 | 11 | <u>-62.5</u> | <u>-61.4</u> | <u>-59.2</u> | | -45.2 | -21.25 | 24.0 |
| HT/VHT20 Beam Forming, M8 to M15, M0.2 to M9.2 | 3 | 8 | <u>-54.9</u> | <u>-50.5</u> | <u>-57.8</u> | | -40.8 | -21.25 | 19.5 |
| HT/VHT20 Beam Forming, M16 to M23, M0.3 to M9.3 | 3 | 6 | <u>-53.5</u> | <u>-45.8</u> | <u>-54.2</u> | | -38.6 | -21.25 | 17.4 |
| HT/VHT20 Beam Forming, M0 to M7, M0.1 to M9.1 | 4 | 12 | <u>-63.0</u> | <u>-59.4</u> | <u>-62.3</u> | <u>-64.3</u> | -43.8 | -21.25 | 22.6 |
| HT/VHT20 Beam Forming, M8 to M15, M0.2 to M9.2 | 4 | 9 | <u>-61.2</u> | <u>-55.7</u> | <u>-61.2</u> | <u>-62.2</u> | -44.2 | -21.25 | 22.9 |
| HT/VHT20 Beam Forming, M16 to M23, M0.3 to M9.3 | 4 | 7 | <u>-54.9</u> | <u>-50.5</u> | <u>-57.8</u> | <u>-57.4</u> | -40.9 | -21.25 | 19.6 |
| HT/VHT20 STBC, M0 to M7, M0.1 to M9.1 | 2 | 6 | <u>-43.9</u> | <u>-43.2</u> | | | -34.5 | -21.25 | 13.3 |
| HT/VHT20 STBC, M0 to M7, M0.1 to M9.1 | 3 | 6 | <u>-53.5</u> | <u>-45.8</u> | <u>-54.2</u> | | -38.6 | -21.25 | 17.4 |
| HT/VHT20 STBC, M0 to M7, M0.1 to M9.1 | 4 | 6 | <u>-54.9</u> | <u>-50.5</u> | <u>-57.8</u> | <u>-57.4</u> | -42.1 | -21.25 | 20.8 |

Conducted Bandedge Average, 5260 / 5280 / 5300 / 5320 MHz, Non HT/VHT80, 6 to 54 Mbps**Antenna A**

Conducted Bandedge Average, 5260 / 5280 / 5300 / 5320 MHz, Non HT/VHT80, 6 to 54 Mbps**Antenna A****Antenna B**

Conducted Bandedge Average, 5260 / 5280 / 5300 / 5320 MHz, Non HT/VHT80, 6 to 54 Mbps

**Antenna A****Antenna B****Antenna C**

[illegible][illegible][illegible]

Auto Spectrum Analyzer - Setup SA

Center Freq 5.405000000 GHz

PRB: Fast Trig: Free Run

IF Gain: 0 dB

Avg Type: Log-Pwr

Trace 1: 5.383 20 GHz -58.28 dBm

Frequency

Auto Tune

Center Freq 5.405000000 GHz

Start Freq 5.350000000 GHz

Stop Freq 5.460000000 GHz

CF Step 11.000000 MHz

Freq Offset 0 Hz

Start 5.350000 GHz

Res BW 1.0 MHz

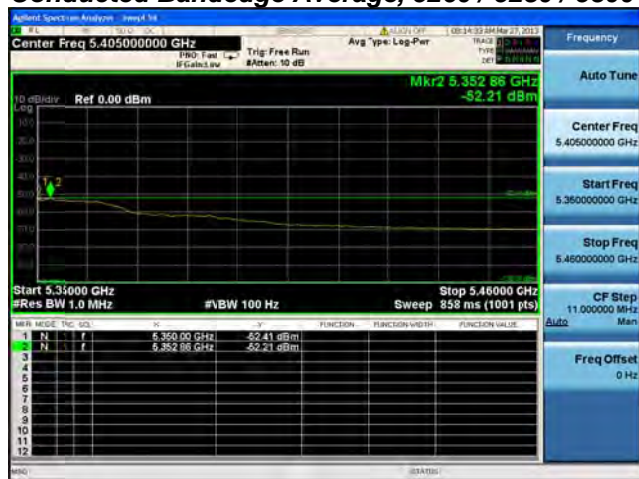
#VBW 100 Hz

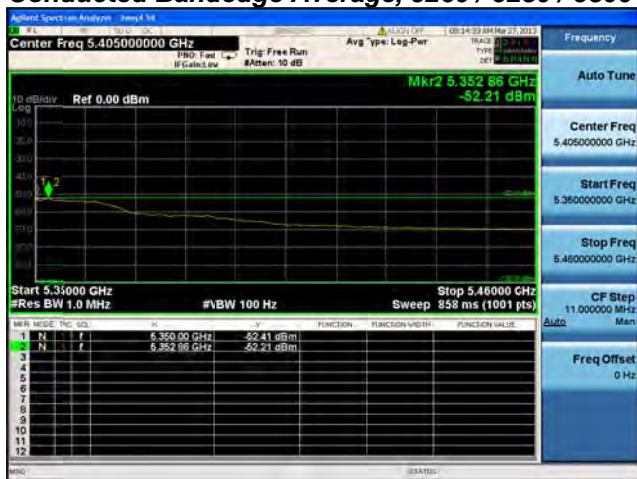
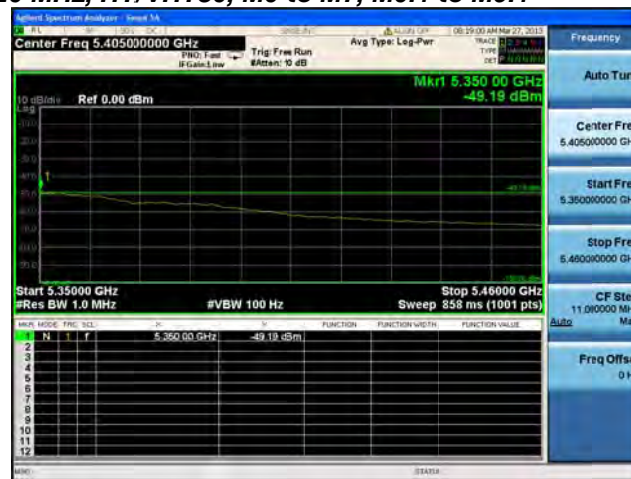
Stop 5.460000 GHz

Sweep 858 ms (1001 pts)

| MARK | FREQ | TYPE | FUNCTION | FUNCTION WIDTH | FUNCTION VALUE |
|------|--------------|------------|----------|----------------|----------------|
| 1 | 5.383 00 GHz | -58.28 dBm | | | |
| 2 | 5.383 20 GHz | -58.28 dBm | | | |

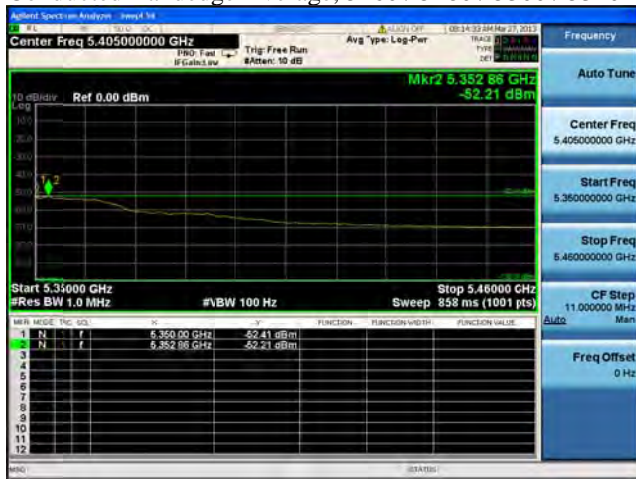
This document is uncontrolled. Please refer to the electronic copy within EDCS for the most up to date version.
Cisco Systems, Inc. Company Confidential

Conducted Bandedge Average, 5260 / 5280 / 5300 / 5320 MHz, HT/VHT80, M0 to M7, M0.1 to M9.1**Antenna A**

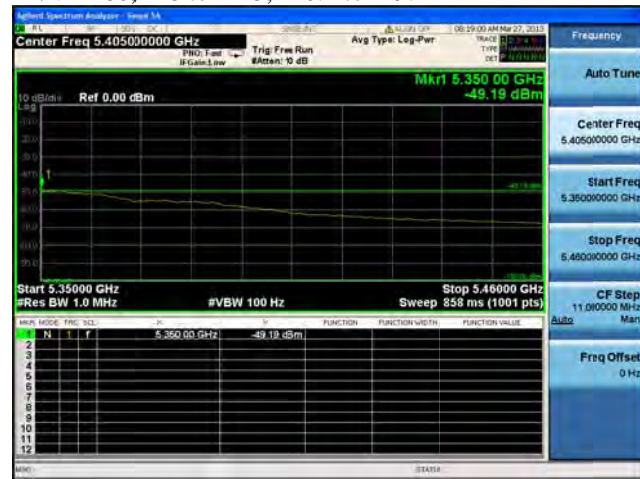
Conducted Bandedge Average, 5260 / 5280 / 5300 / 5320 MHz, HT/VHT80, M0 to M7, M0.1 to M9.1**Antenna A****Antenna B**



Conducted Bandedge Average, 5260 / 5280 / 5300 / 5320 MHz, HT/VHT80, M8 to M15, M0.2 to M9.2

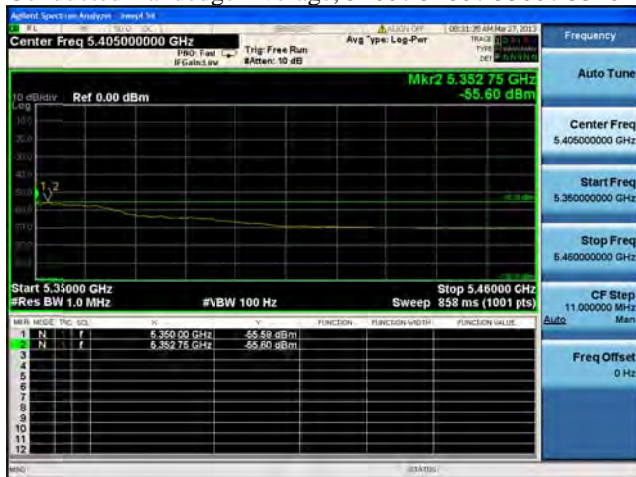


Antenna A

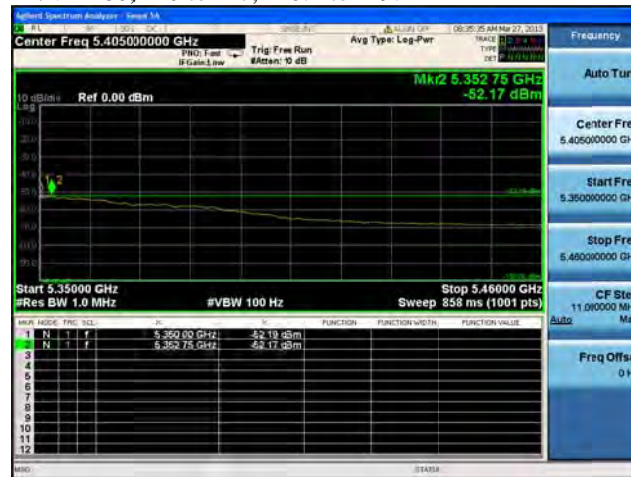


Antenna B

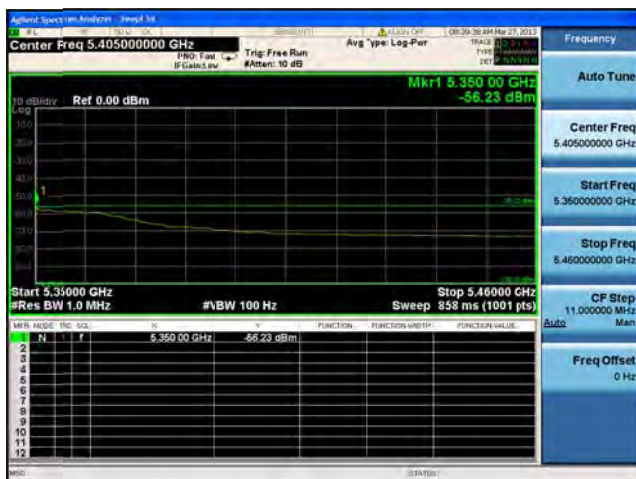
Conducted Bandedge Average, 5260 / 5280 / 5300 / 5320 MHz, HT/VHT80, M0 to M7, M0.1 to M9.1



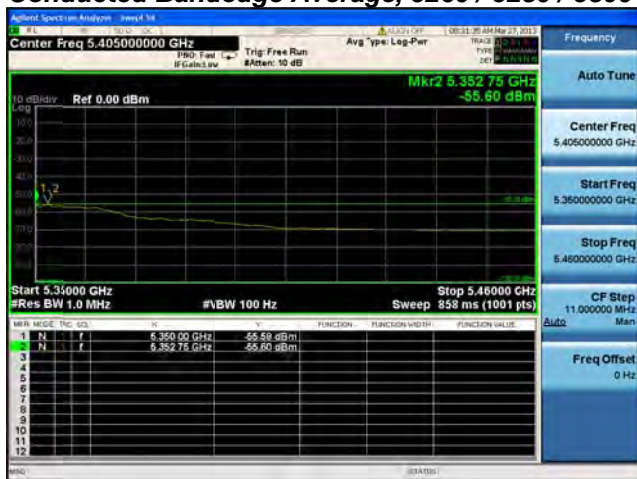
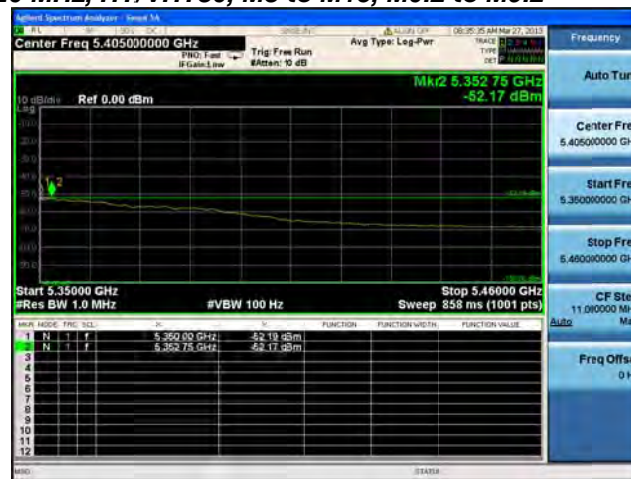
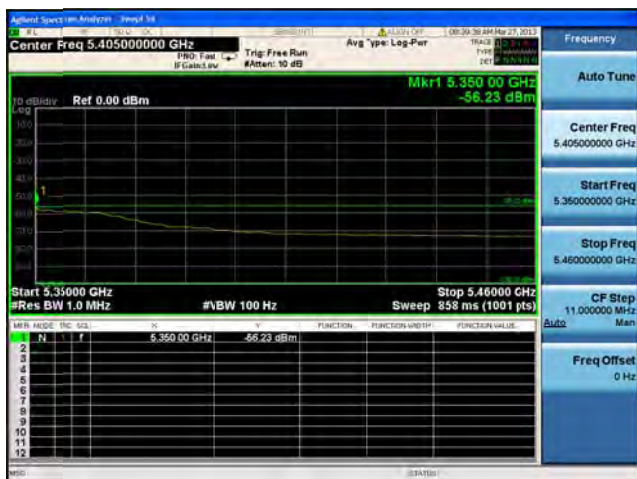
Antenna A

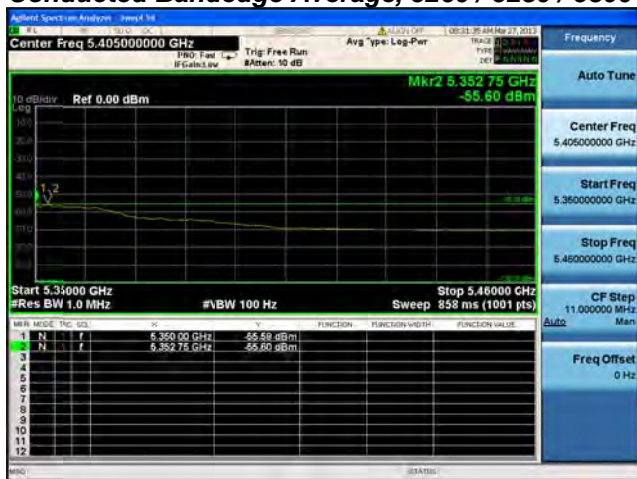
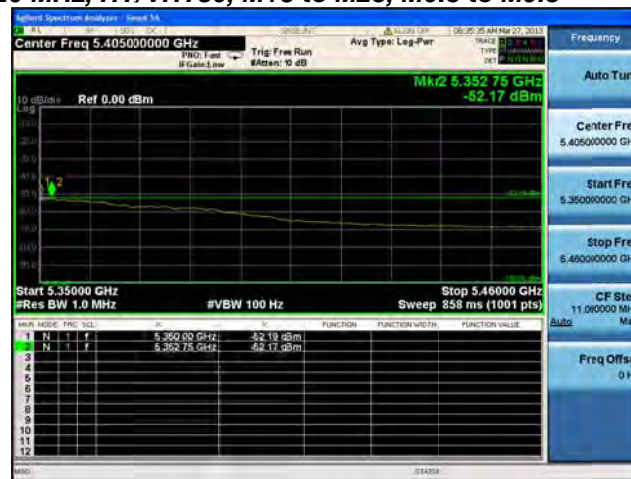
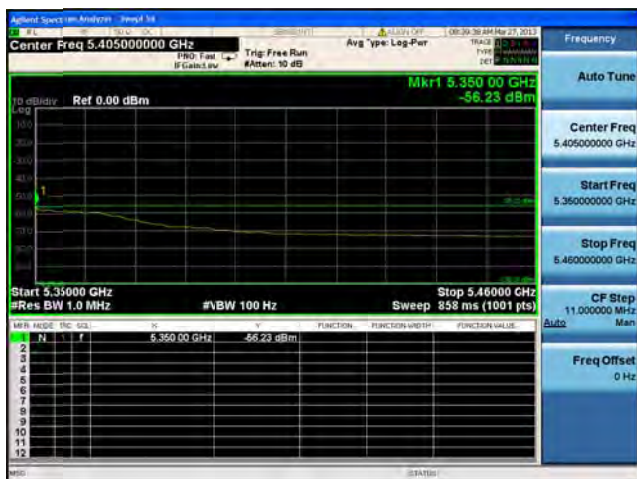


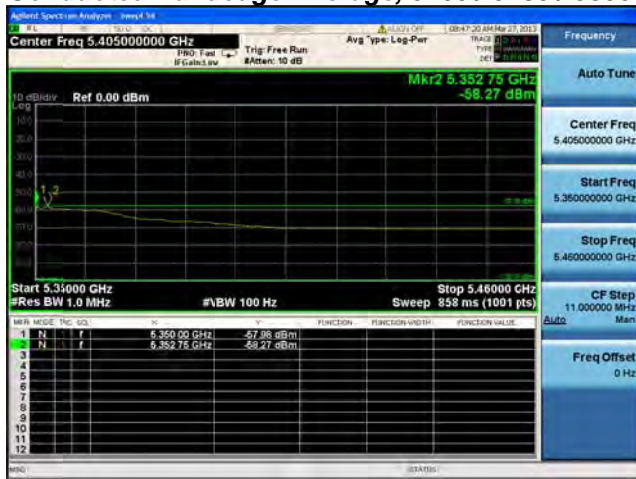
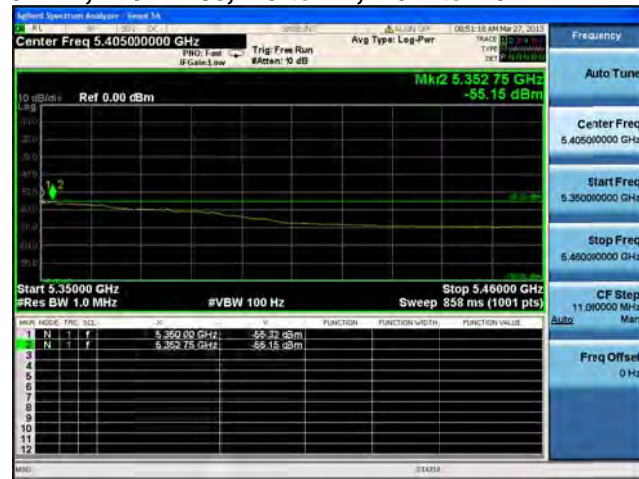
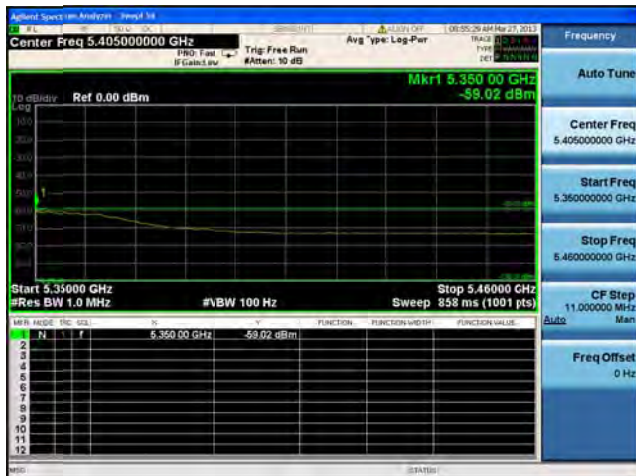
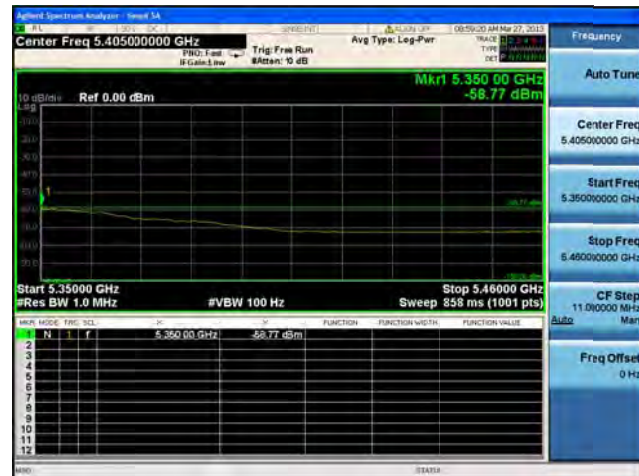
Antenna B

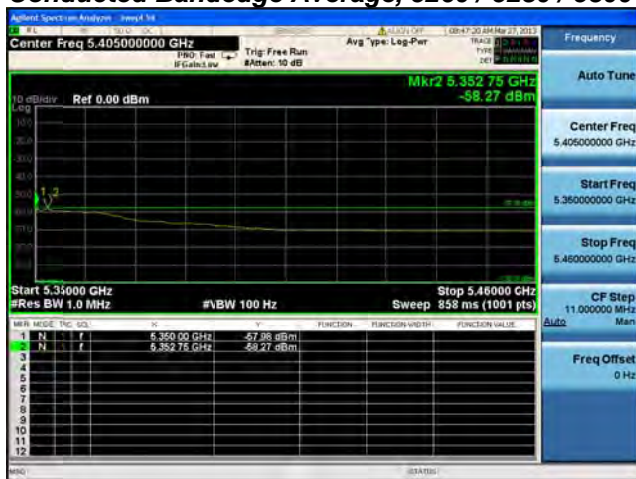
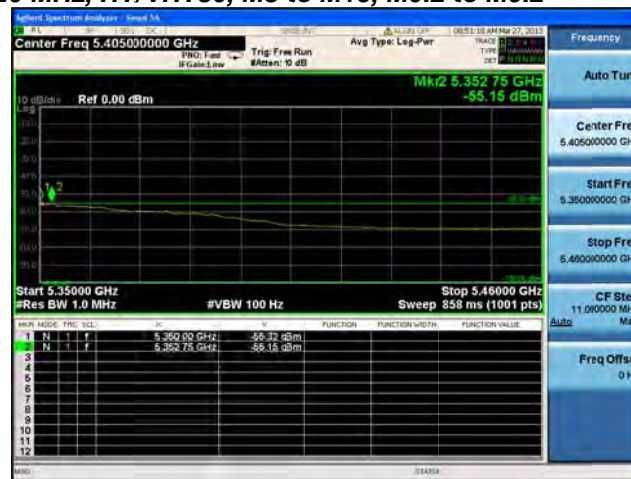
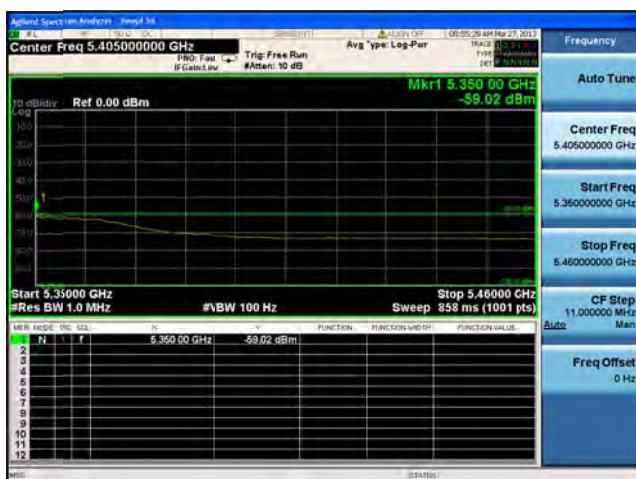
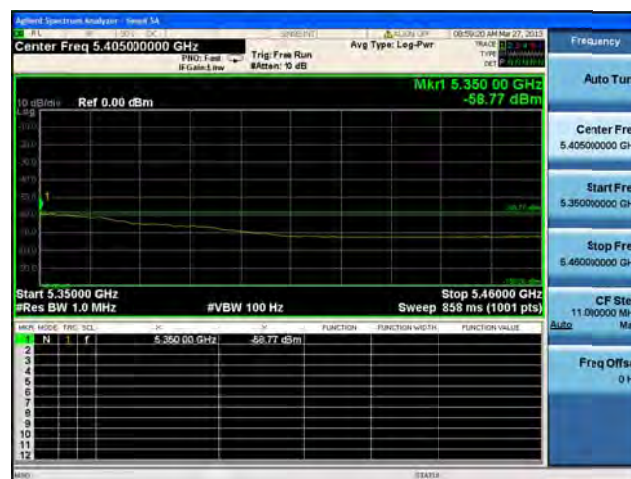


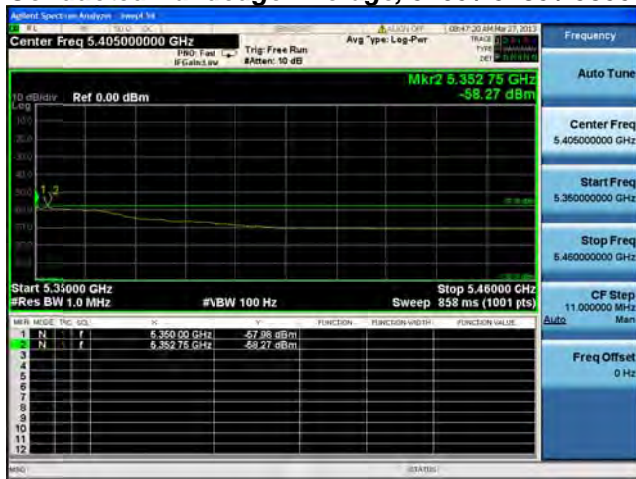
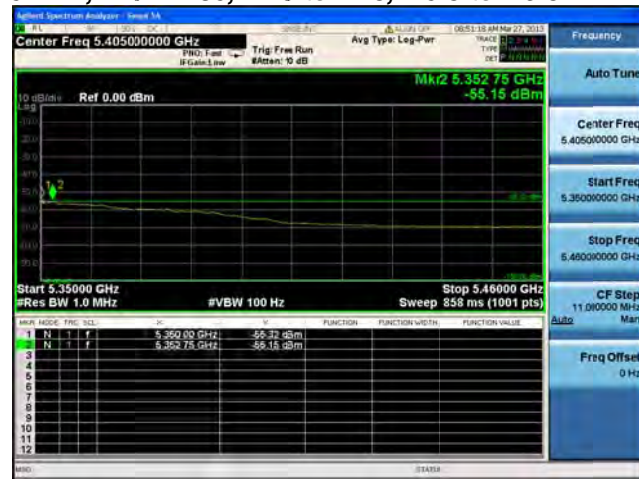
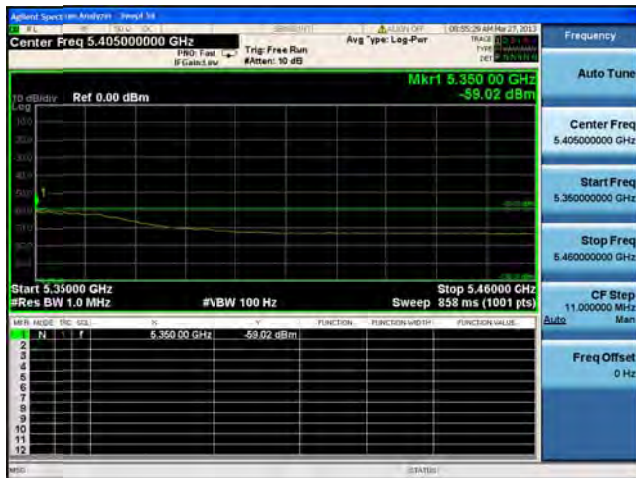
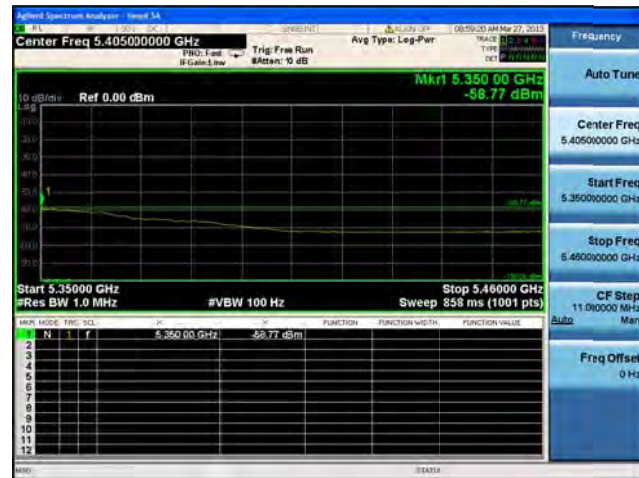
Antenna C

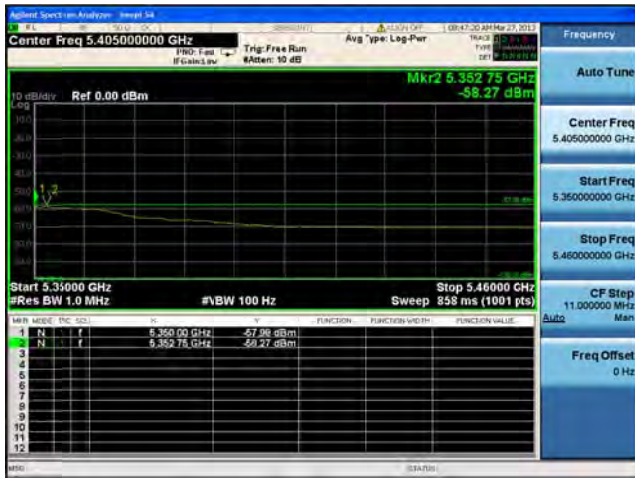
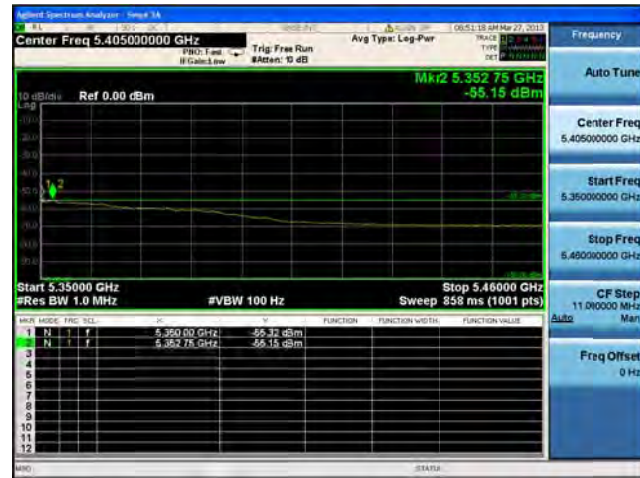
Conducted Bandedge Average, 5260 / 5280 / 5300 / 5320 MHz, HT/VHT80, M8 to M15, M0.2 to M9.2**Antenna A****Antenna B****Antenna C**

Conducted Bandedge Average, 5260 / 5280 / 5300 / 5320 MHz, HT/VHT80, M16 to M23, M0.3 to M9.3**Antenna A****Antenna B****Antenna C**

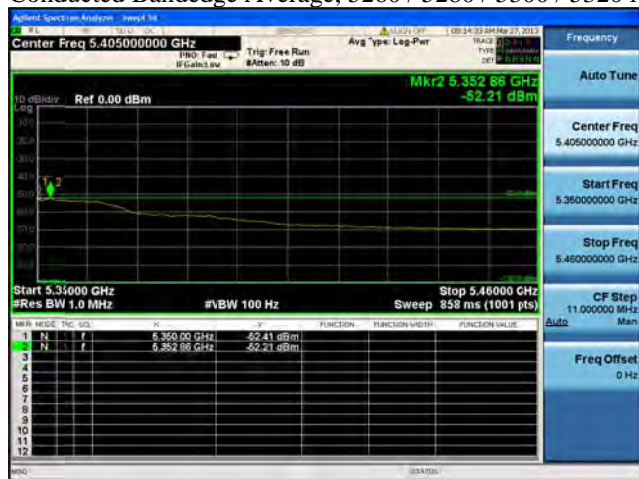
Conducted Bandedge Average, 5260 / 5280 / 5300 / 5320 MHz, HT/VHT80, M0 to M7, M0.1 to M9.1**Antenna A****Antenna B****Antenna C****Antenna D**

Conducted Bandedge Average, 5260 / 5280 / 5300 / 5320 MHz, HT/VHT80, M8 to M15, M0.2 to M9.2**Antenna A****Antenna B****Antenna C****Antenna D**

Conducted Bandedge Average, 5260 / 5280 / 5300 / 5320 MHz, HT/VHT80, M16 to M23, M0.3 to M9.3**Antenna A****Antenna B****Antenna C****Antenna D**

**Conducted Bandedge Average, 5260 / 5280 / 5300 / 5320 MHz, HT/VHT80 Beam Forming, M0 to M7, M0.1 to M9.1****Antenna A****Antenna B**

Conducted Bandedge Average, 5260 / 5280 / 5300 / 5320 MHz, HT/VHT80 Beam Forming, M8 to M15, M0.2 to M9.2



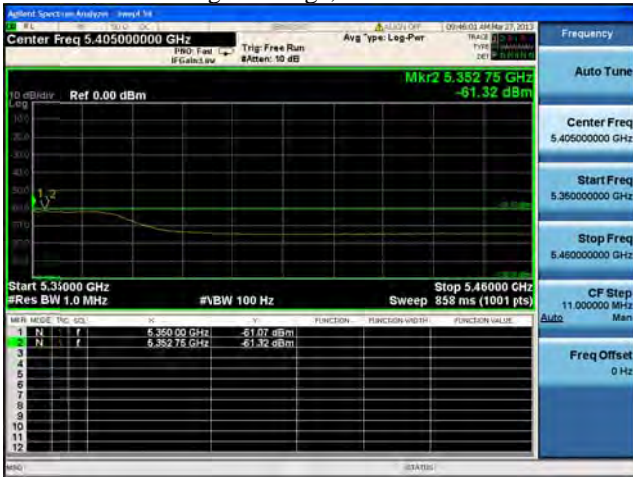
Antenna A



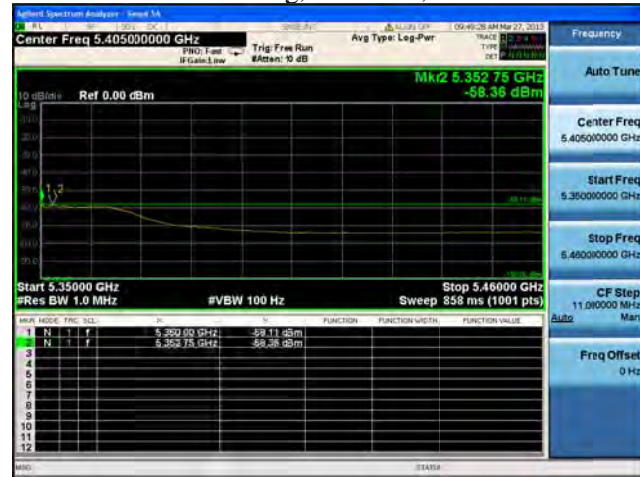
Antenna B



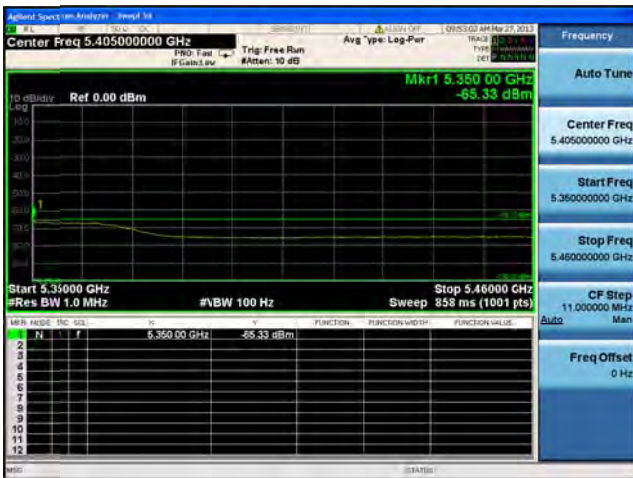
Conducted Bandedge Average, 5260 / 5280 / 5300 / 5320 MHz, HT/VHT80 Beam Forming, M0 to M7, M0.1 to M9.1



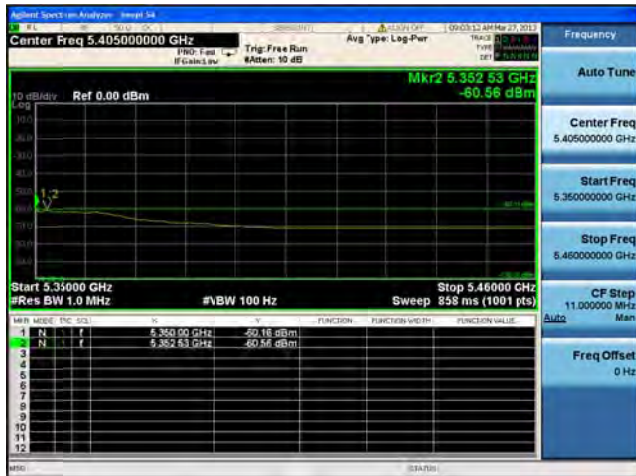
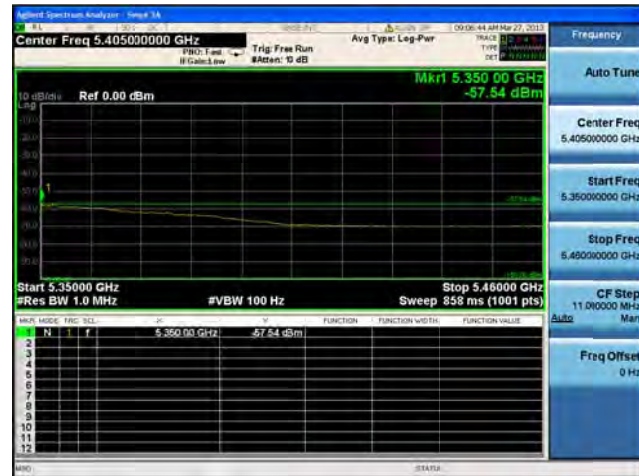
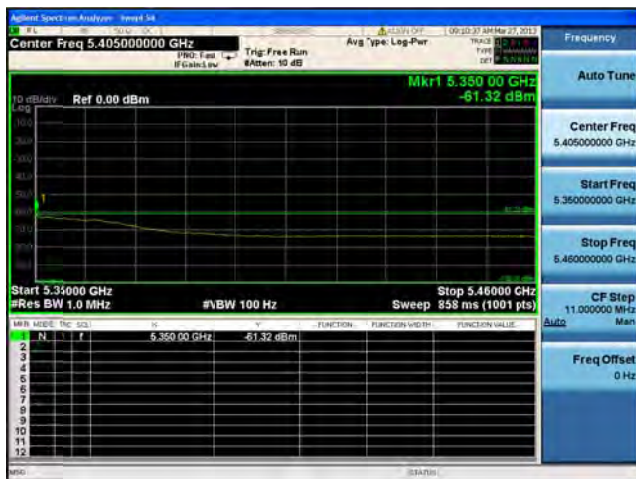
Antenna A

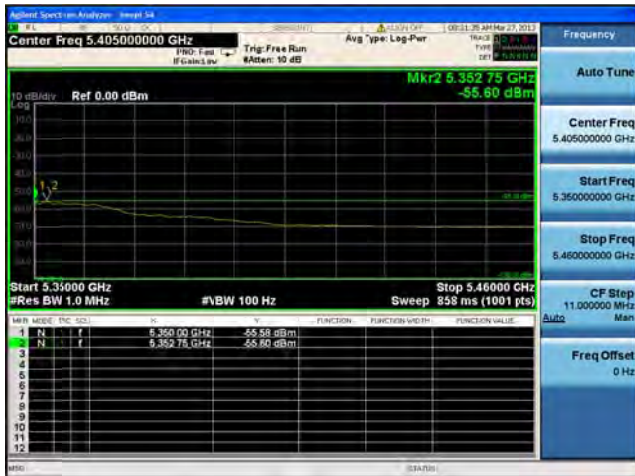
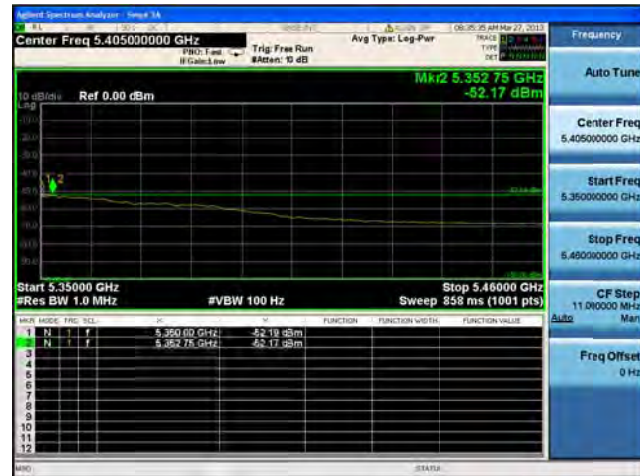
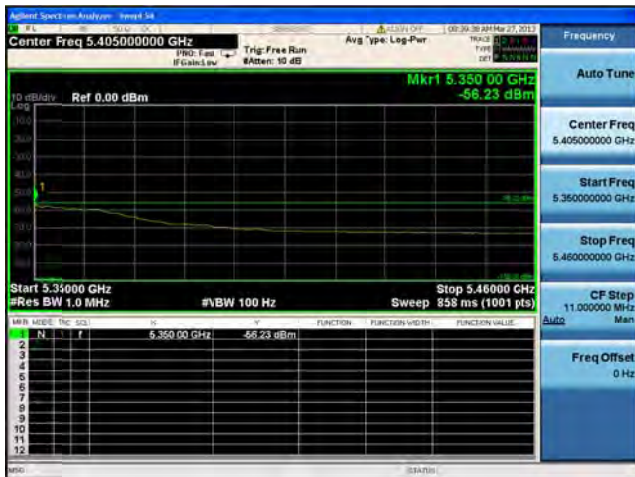


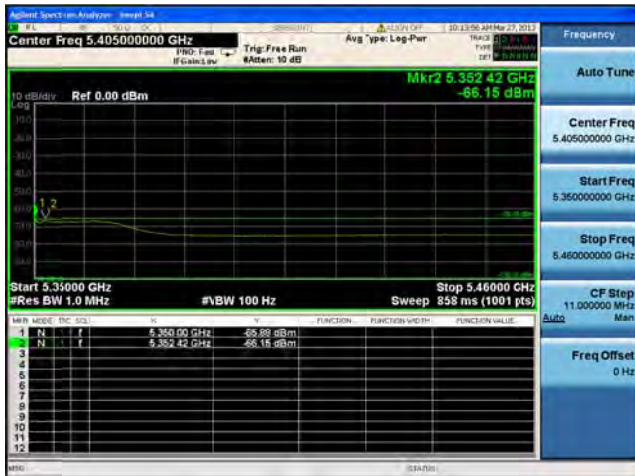
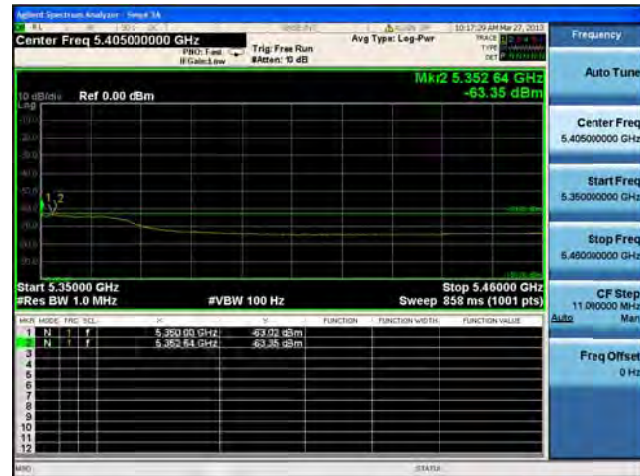
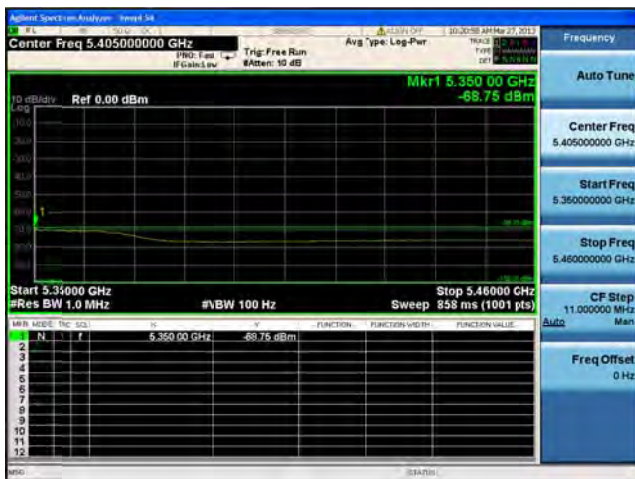
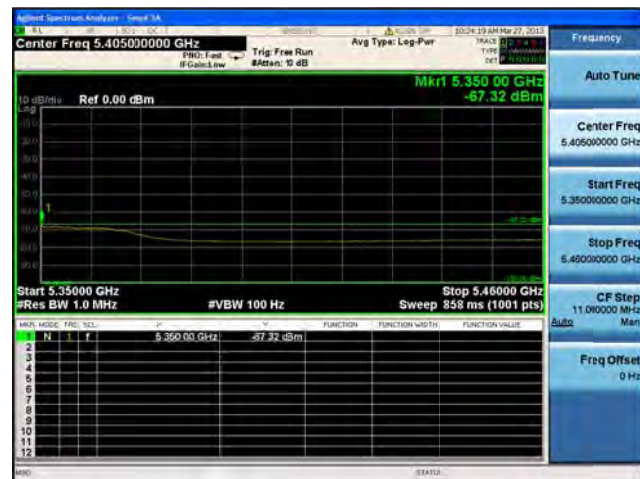
Antenna B

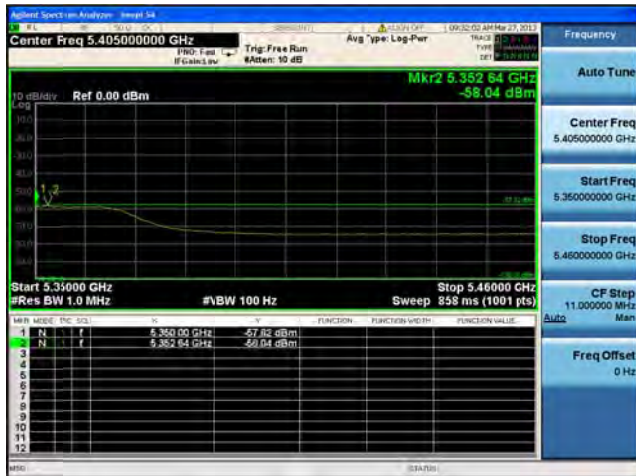
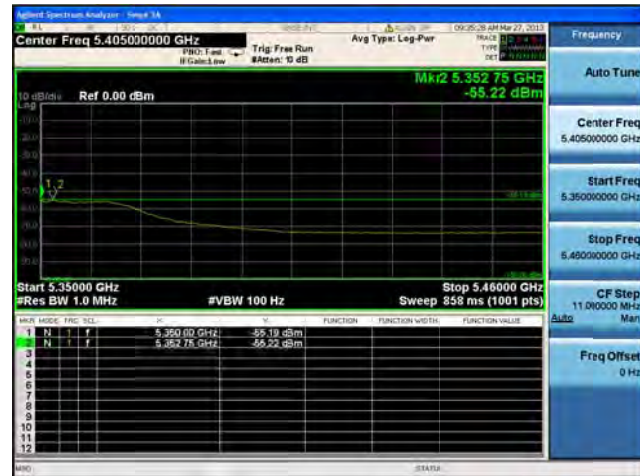
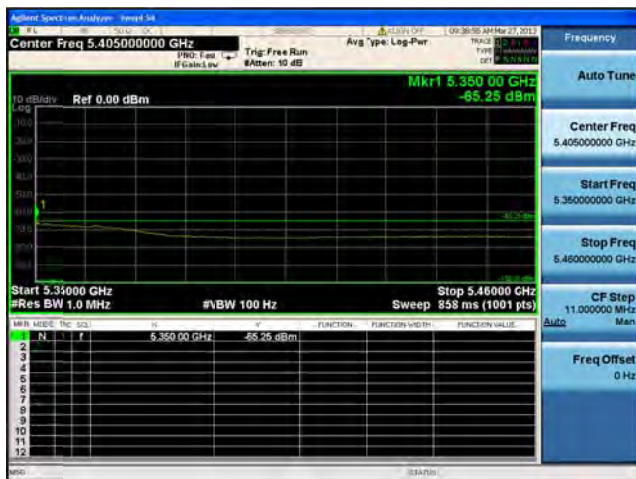
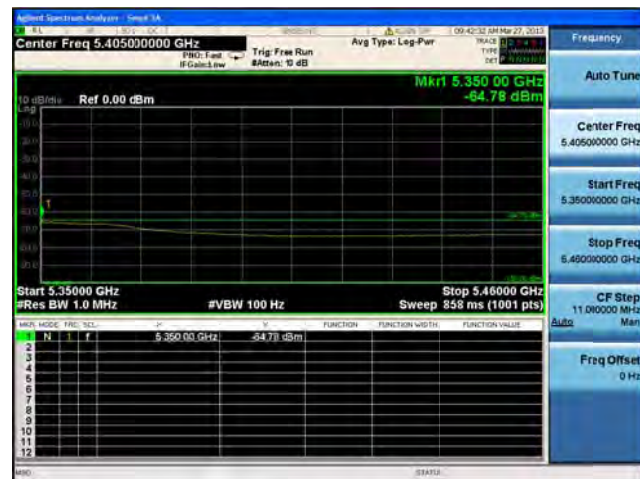


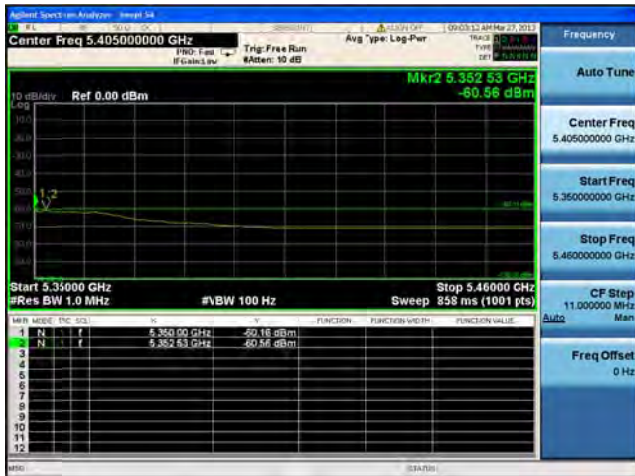
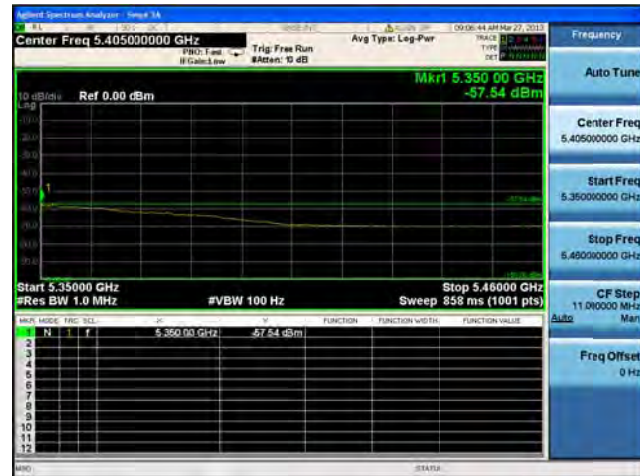
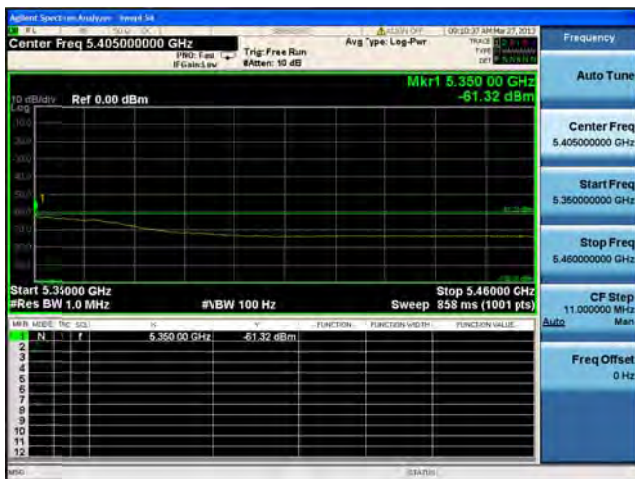
Antenna C

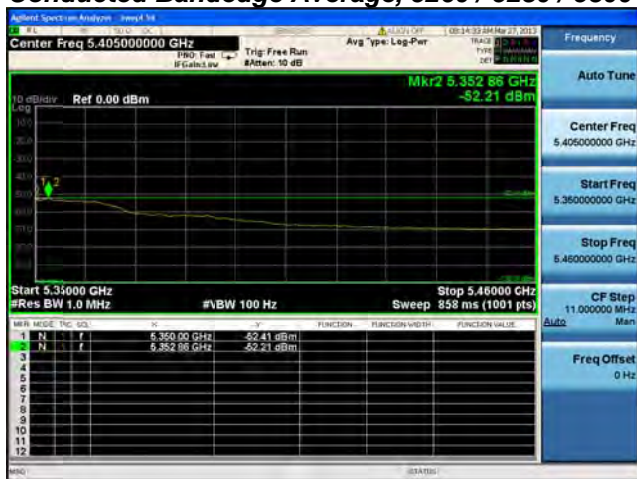
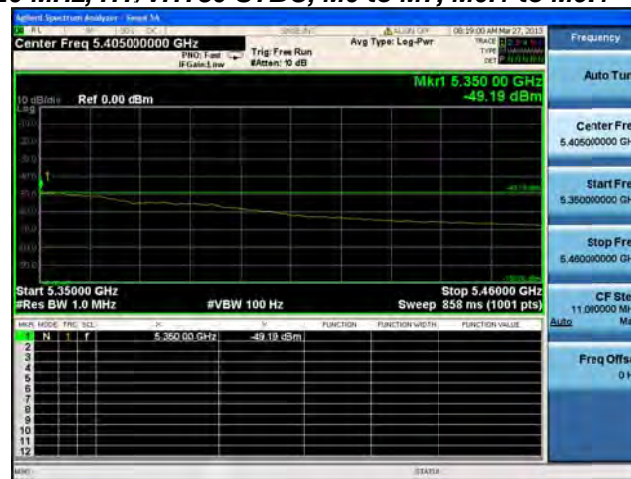
**Conducted Bandedge Average, 5260 / 5280 / 5300 / 5320 MHz, HT/VHT80 Beam Forming, M8 to M15, M0.2 to M9.2****Antenna A****Antenna B****Antenna C**

**Conducted Bandedge Average, 5260 / 5280 / 5300 / 5320 MHz, HT/VHT80 Beam Forming, M16 to M23, M0.3 to M9.3****Antenna A****Antenna B****Antenna C**

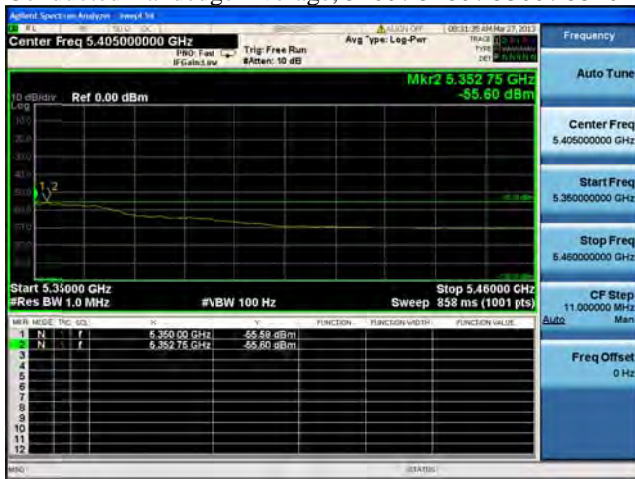
**Conducted Bandedge Average, 5260 / 5280 / 5300 / 5320 MHz, HT/VHT80 Beam Forming, M0 to M7, M0.1 to M9.1****Antenna A****Antenna B****Antenna C****Antenna D**

**Conducted Bandedge Average, 5260 / 5280 / 5300 / 5320 MHz, HT/VHT80 Beam Forming, M8 to M15, M0.2 to M9.2****Antenna A****Antenna B****Antenna C****Antenna D**

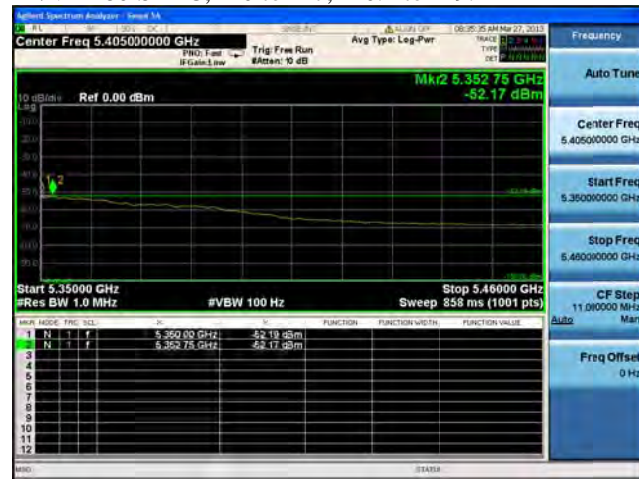
**Conducted Bandedge Average, 5260 / 5280 / 5300 / 5320 MHz, HT/VHT80 Beam Forming, M16 to M23, M0.3 to M9.3****Antenna A****Antenna B****Antenna C****Antenna D**

Conducted Bandedge Average, 5260 / 5280 / 5300 / 5320 MHz, HT/VHT80 STBC, M0 to M7, M0.1 to M9.1**Antenna A****Antenna B**

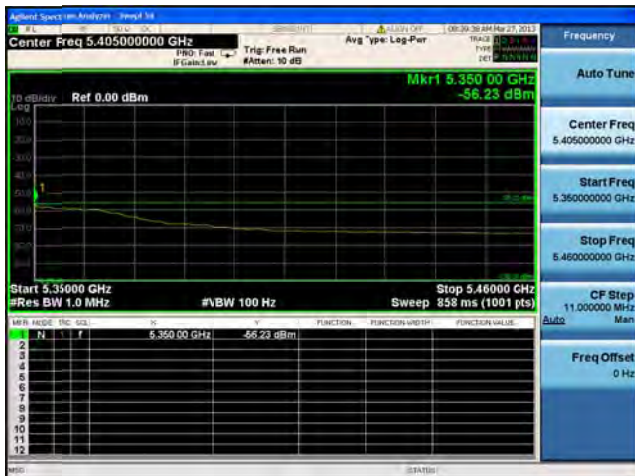
Conducted Bandedge Average, 5260 / 5280 / 5300 / 5320 MHz, HT/VHT80 STBC, M0 to M7, M0.1 to M9.1



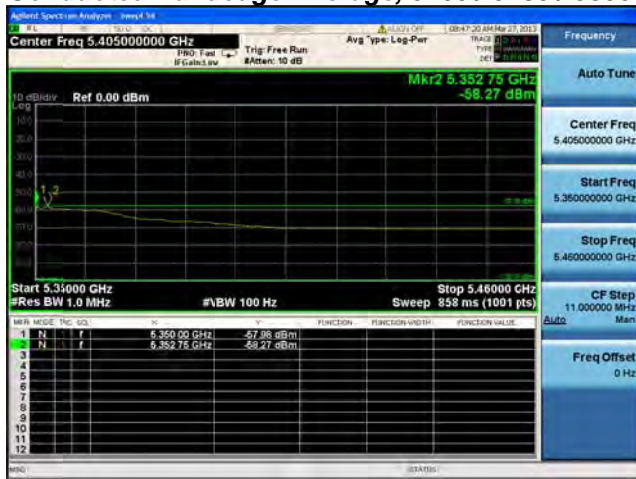
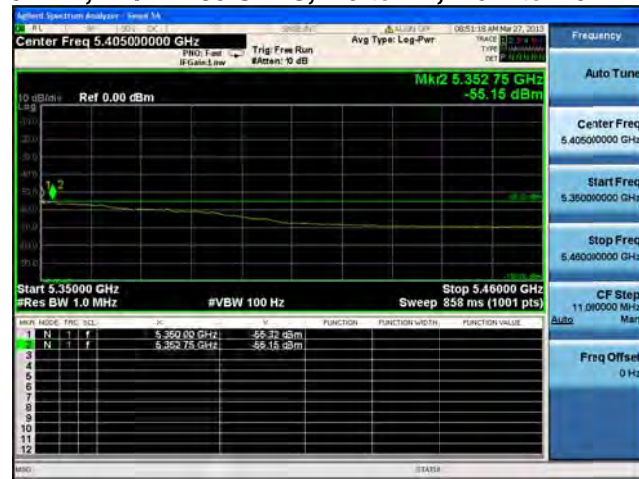
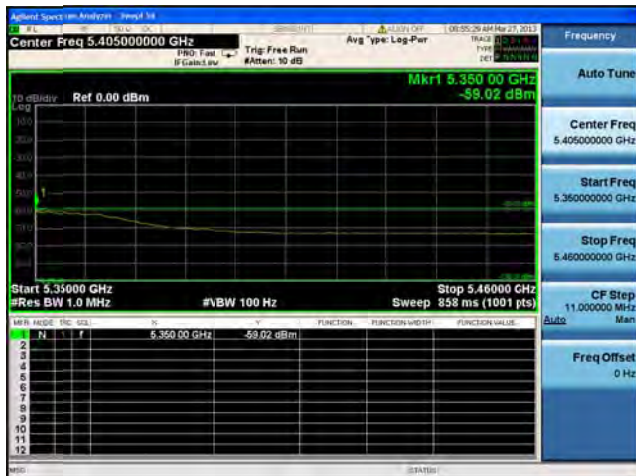
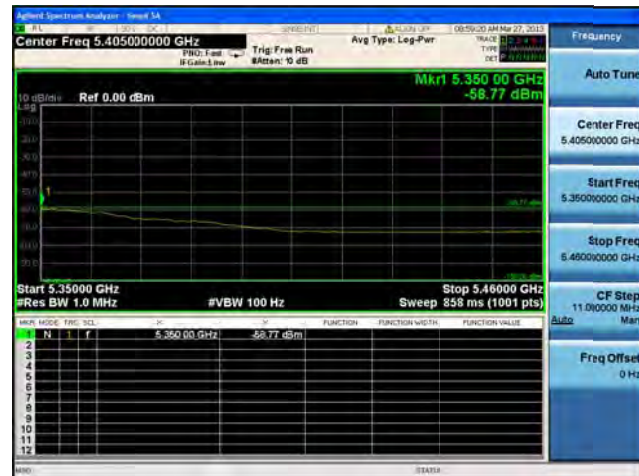
Antenna A

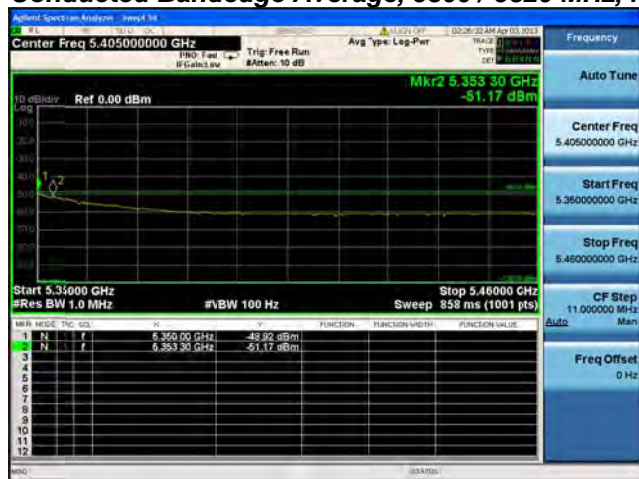


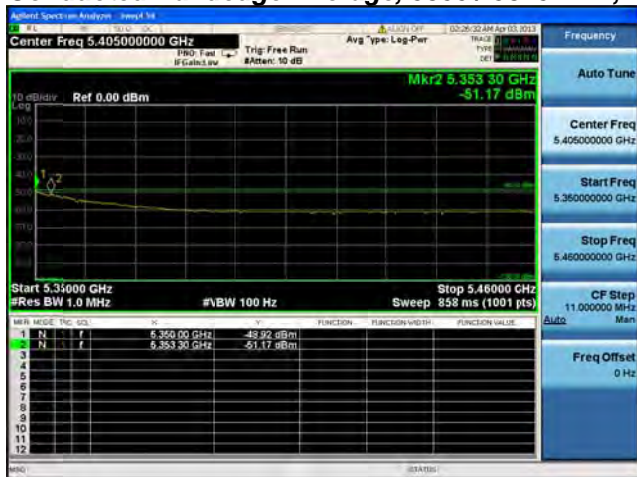
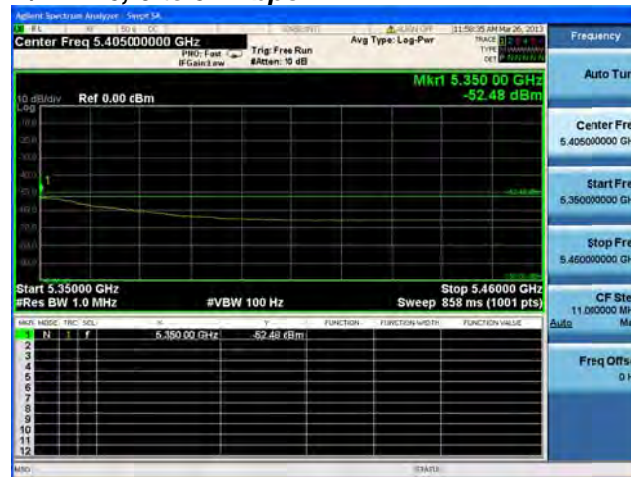
Antenna B



Antenna C

Conducted Bandedge Average, 5260 / 5280 / 5300 / 5320 MHz, HT/VHT80 STBC, M0 to M7, M0.1 to M9.1**Antenna A****Antenna B****Antenna C****Antenna D**

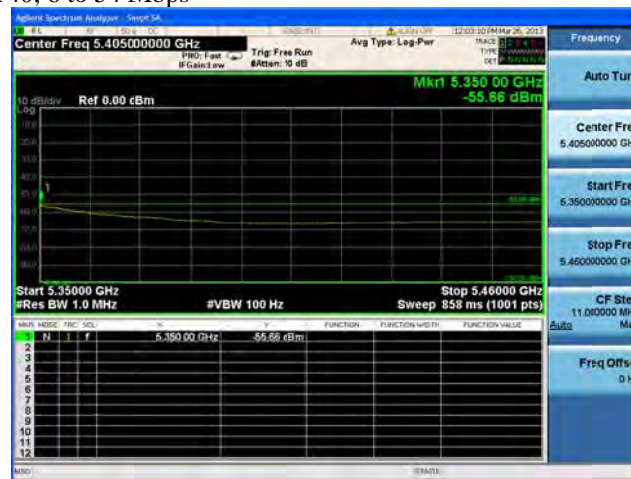
Conducted Bandedge Average, 5300 / 5320 MHz, Non HT/VHT40, 6 to 54 Mbps**Antenna A**

Conducted Bandedge Average, 5300 / 5320 MHz, Non HT/VHT40, 6 to 54 Mbps**Antenna A****Antenna B**

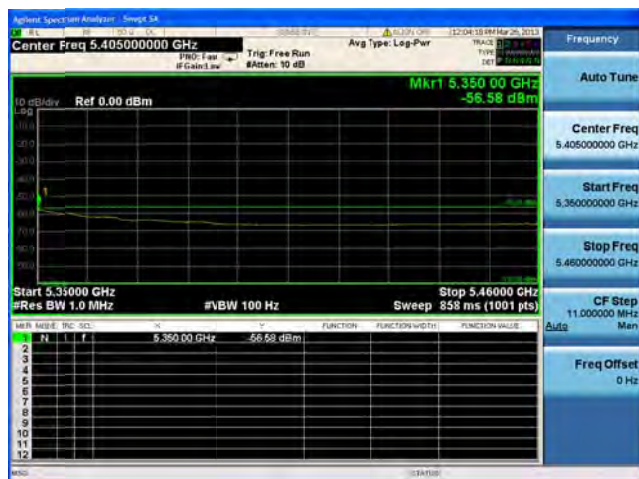
Conducted Bandedge Average, 5300 / 5320 MHz, Non HT/VHT40, 6 to 54 Mbps



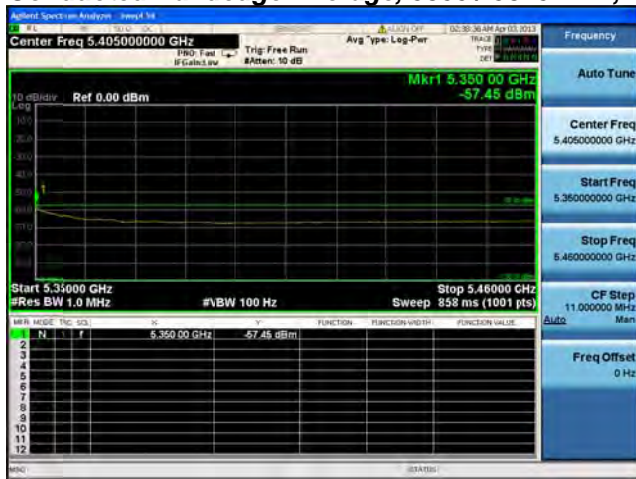
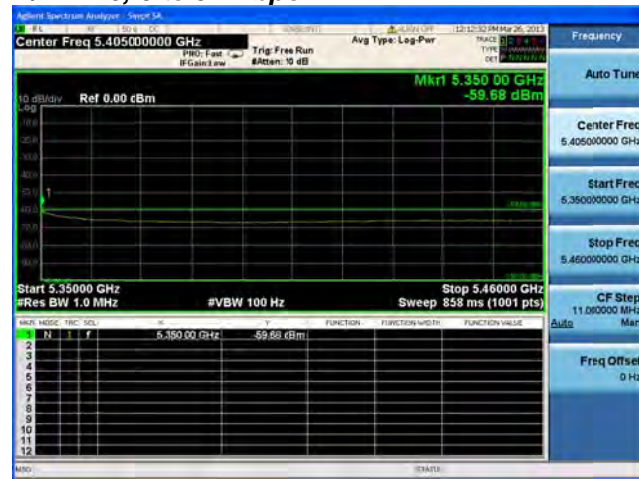
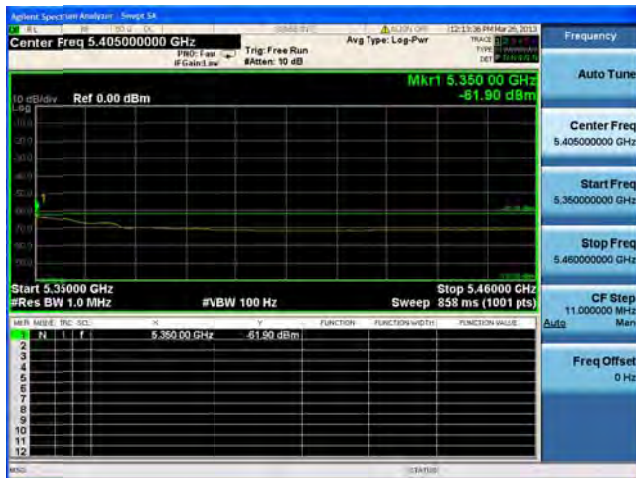
Antenna A

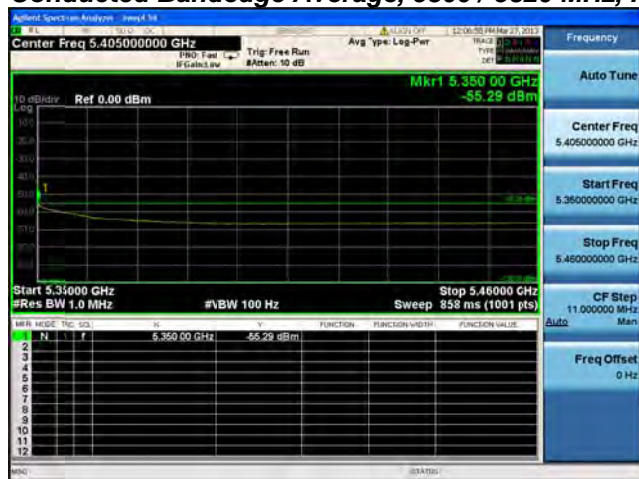


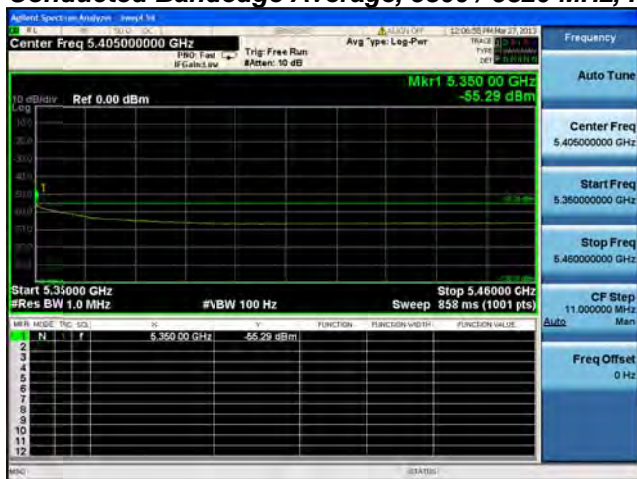
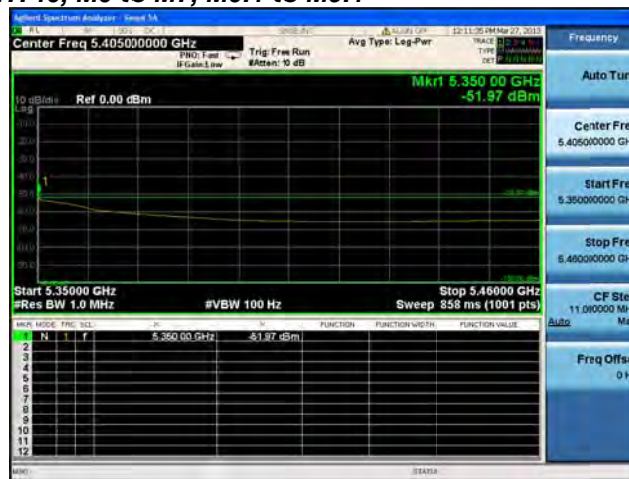
Antenna B



Antenna C

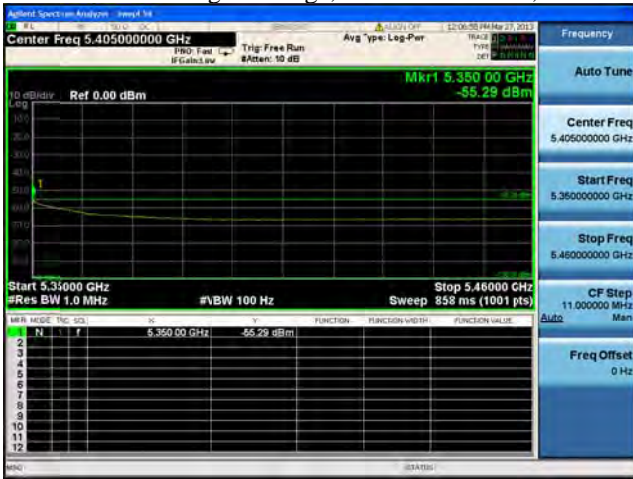
Conducted Bandedge Average, 5300 / 5320 MHz, Non HT/VHT40, 6 to 54 Mbps**Antenna A****Antenna B****Antenna C****Antenna D**

Conducted Bandedge Average, 5300 / 5320 MHz, HT/VHT40, M0 to M7, M0.1 to M9.1**Antenna A**

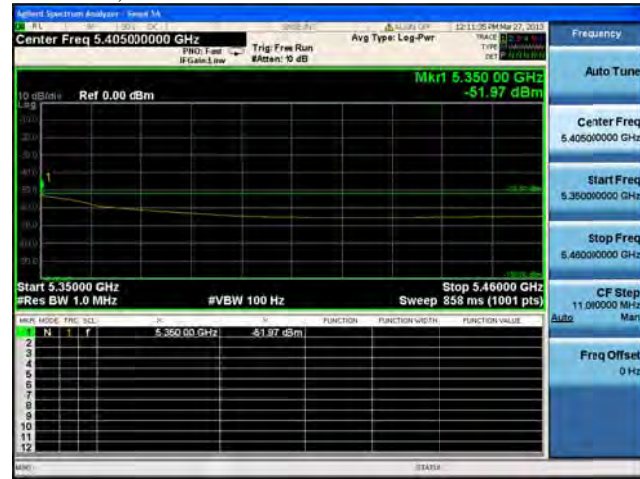
Conducted Bandedge Average, 5300 / 5320 MHz, HT/VHT40, M0 to M7, M0.1 to M9.1**Antenna A****Antenna B**



Conducted Bandedge Average, 5300 / 5320 MHz, HT/VHT40, M8 to M15, M0.2 to M9.2



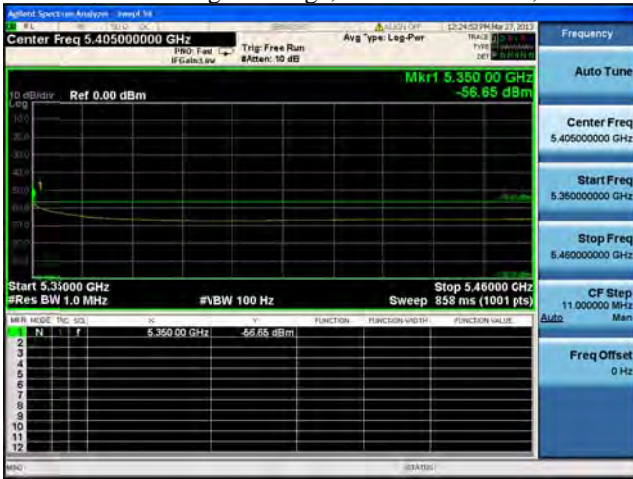
Antenna A



Antenna B



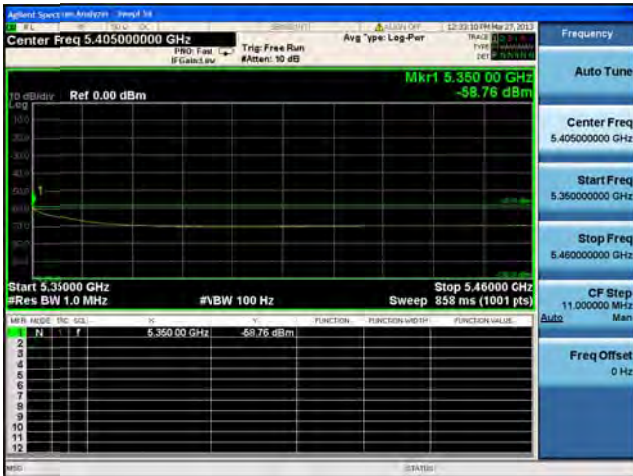
Conducted Bandedge Average, 5300 / 5320 MHz, HT/VHT40, M0 to M7, M0.1 to M9.1



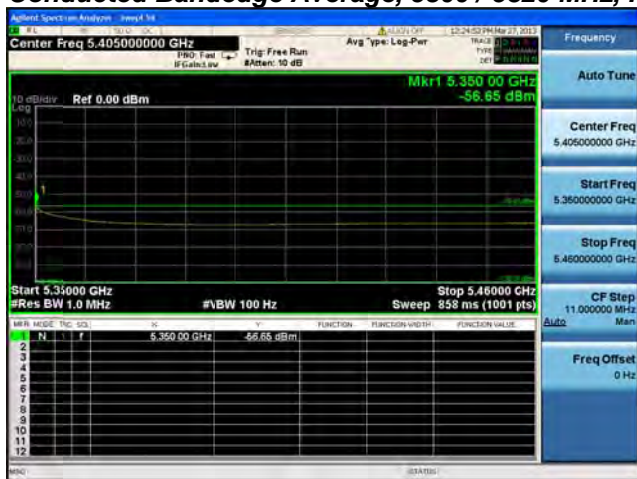
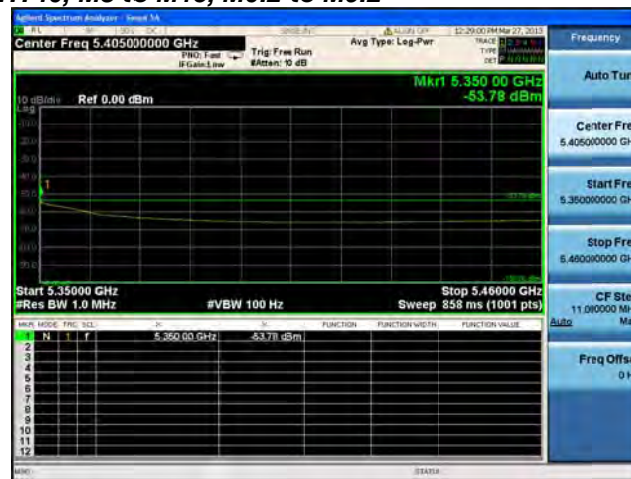
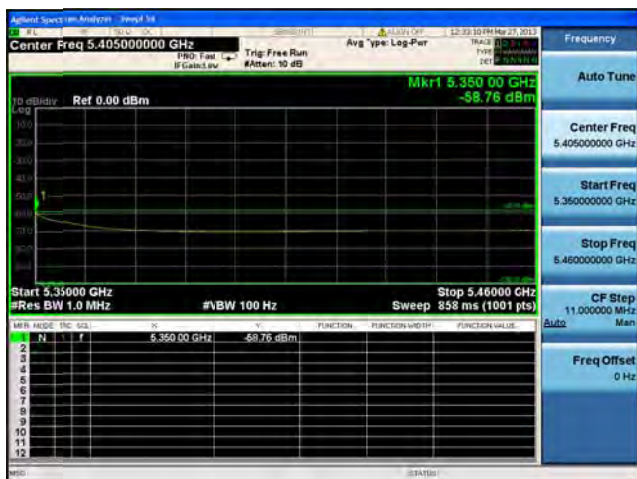
Antenna A

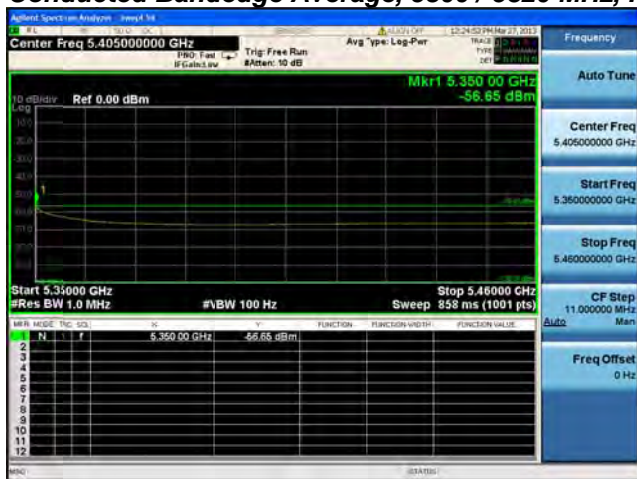
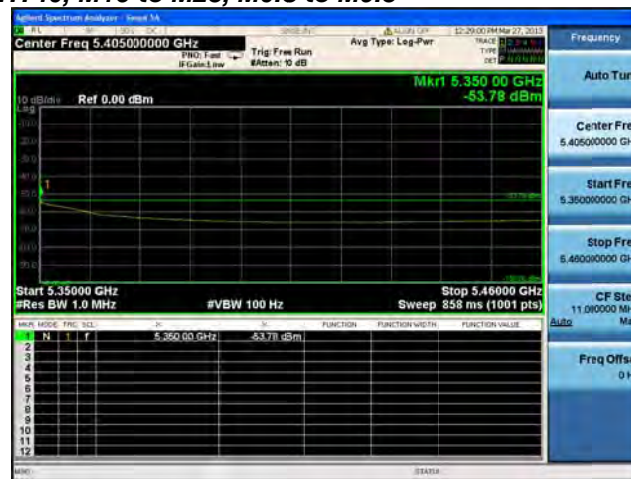
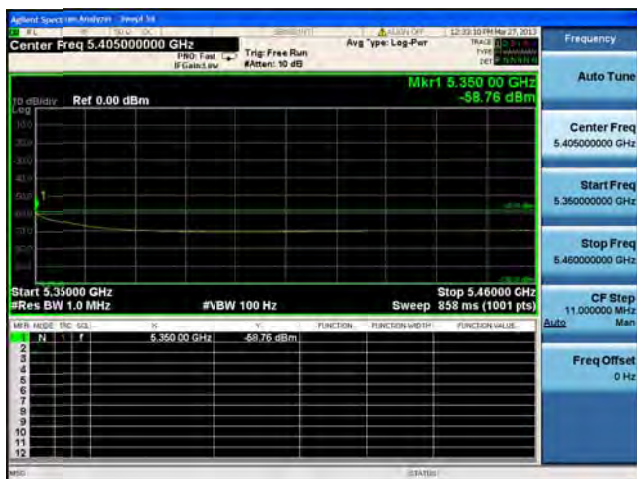


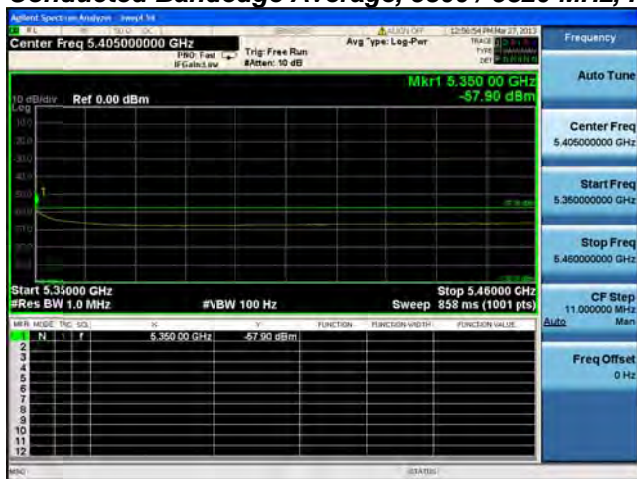
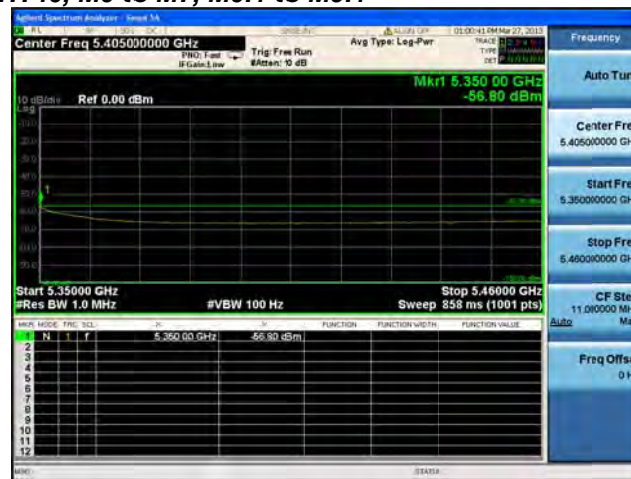
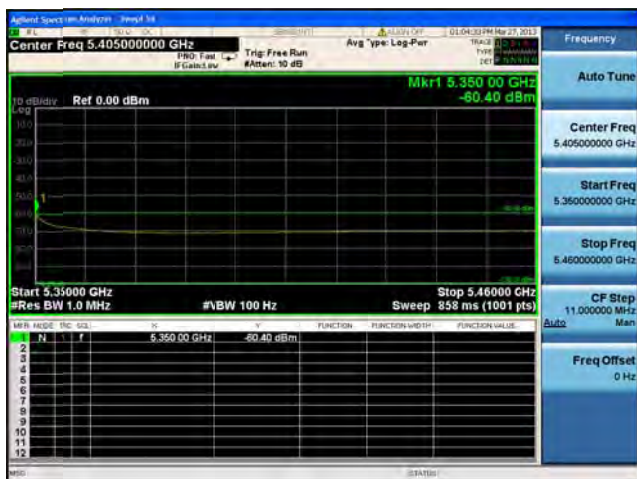
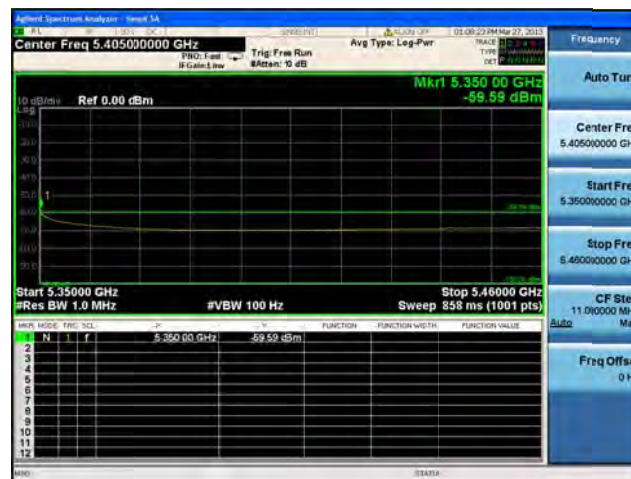
Antenna B

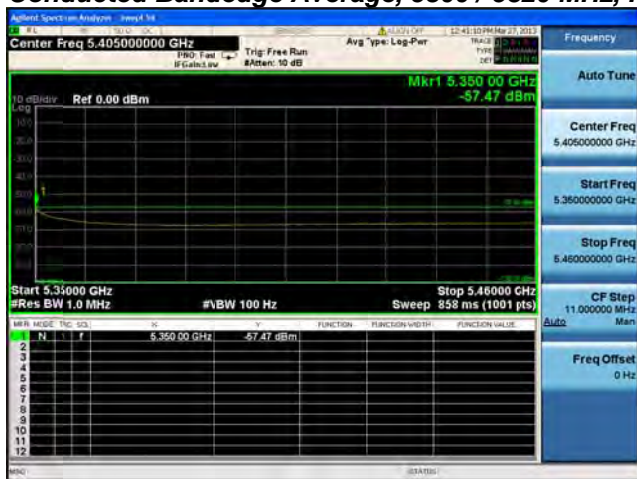
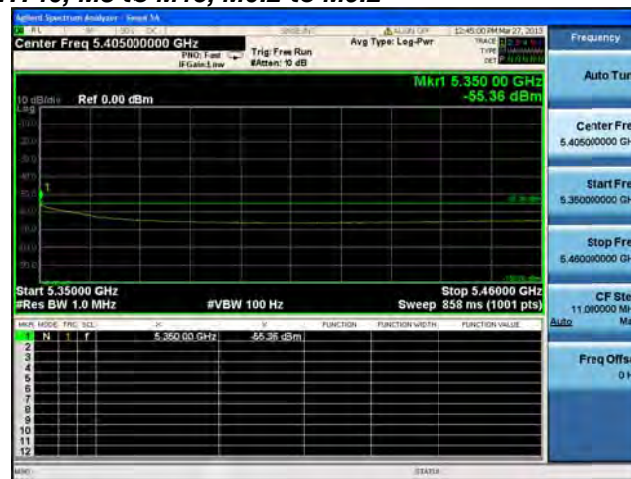
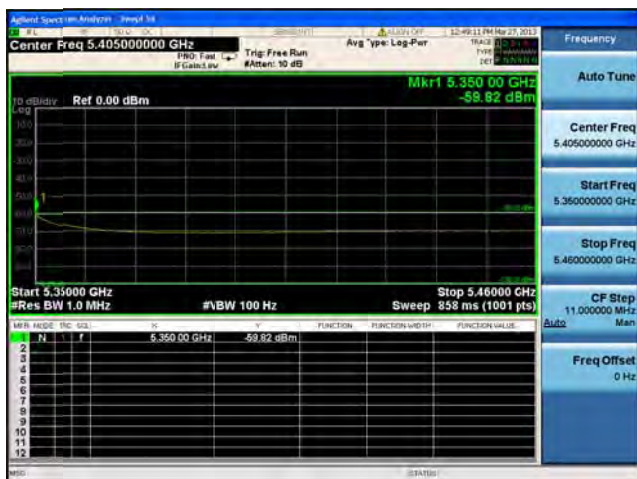
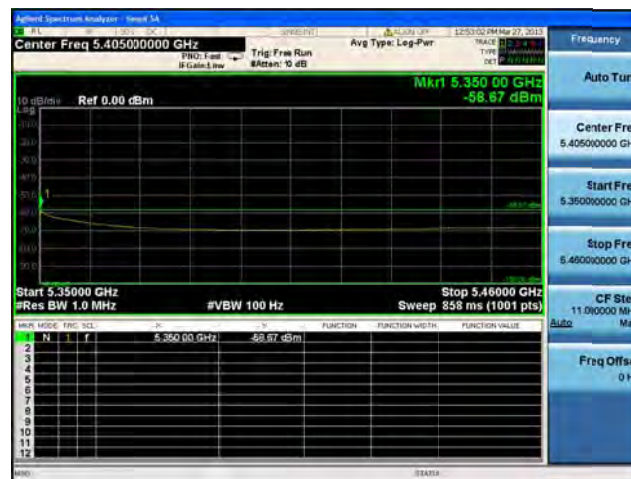


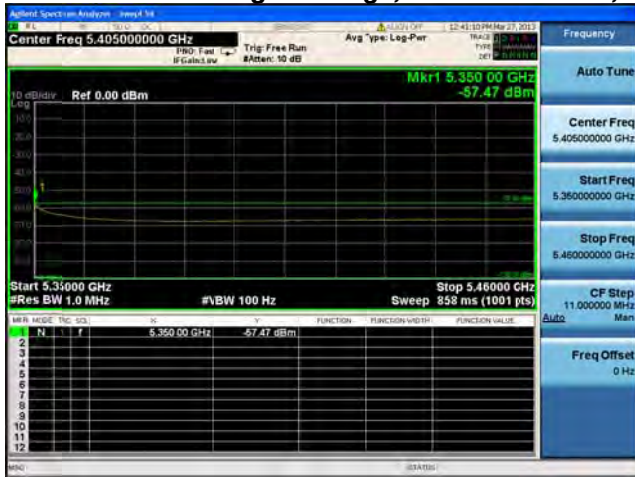
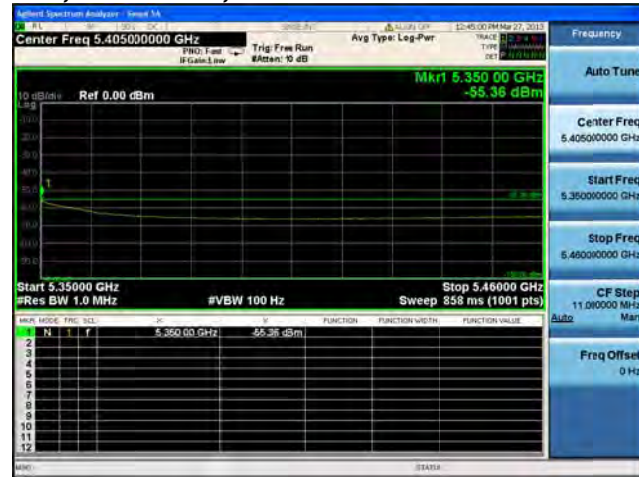
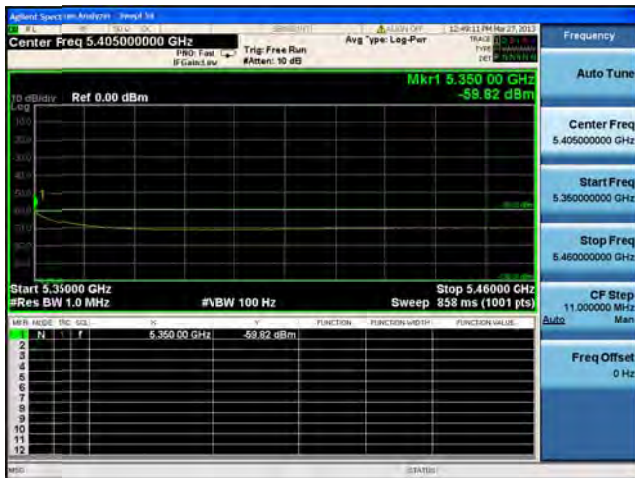
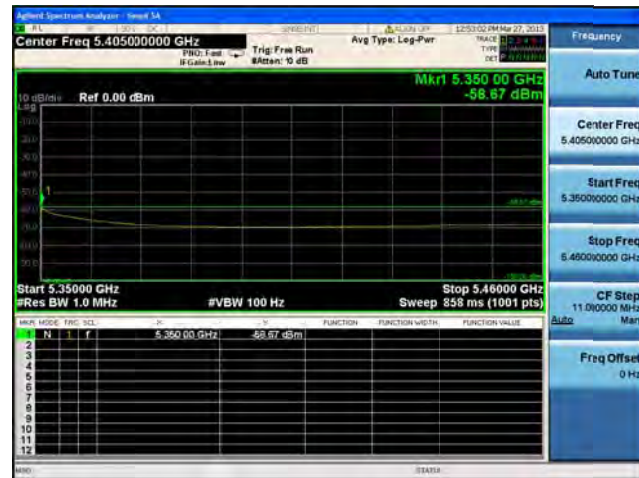
Antenna C

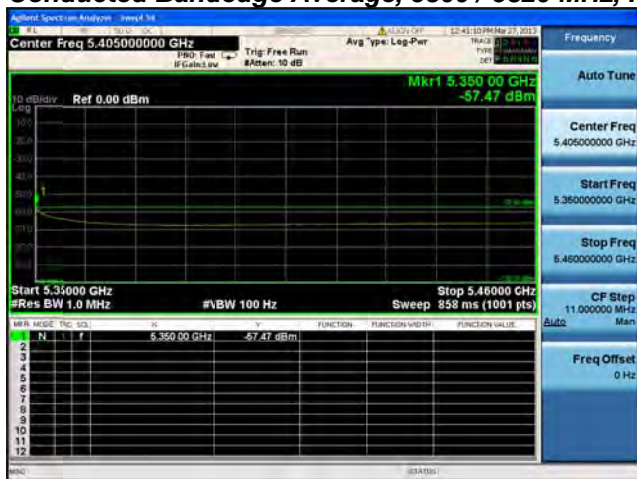
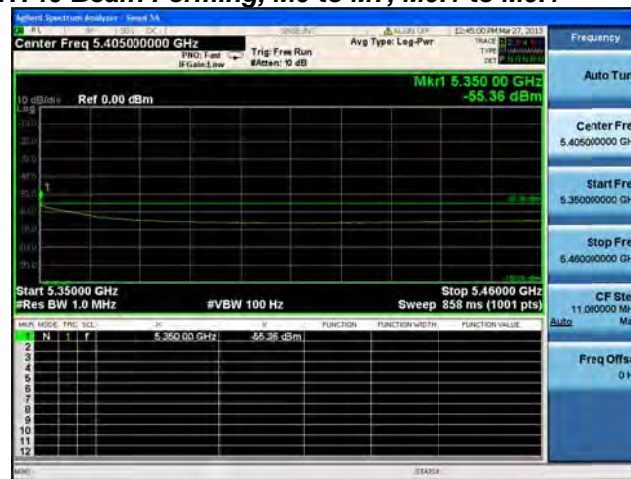
Conducted Bandedge Average, 5300 / 5320 MHz, HT/VHT40, M8 to M15, M0.2 to M9.2**Antenna A****Antenna B****Antenna C**

Conducted Bandedge Average, 5300 / 5320 MHz, HT/VHT40, M16 to M23, M0.3 to M9.3**Antenna A****Antenna B****Antenna C**

Conducted Bandedge Average, 5300 / 5320 MHz, HT/VHT40, M0 to M7, M0.1 to M9.1**Antenna A****Antenna B****Antenna C****Antenna D**

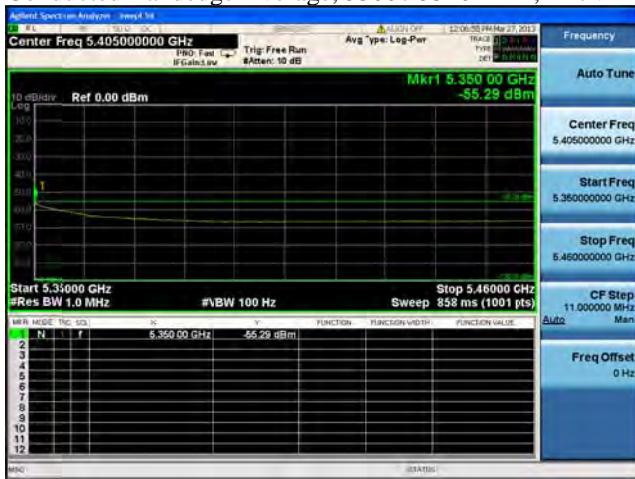
Conducted Bandedge Average, 5300 / 5320 MHz, HT/VHT40, M8 to M15, M0.2 to M9.2**Antenna A****Antenna B****Antenna C****Antenna D**

Conducted Bandedge Average, 5300 / 5320 MHz, HT/VHT40, M16 to M23, M0.3 to M9.3**Antenna A****Antenna B****Antenna C****Antenna D**

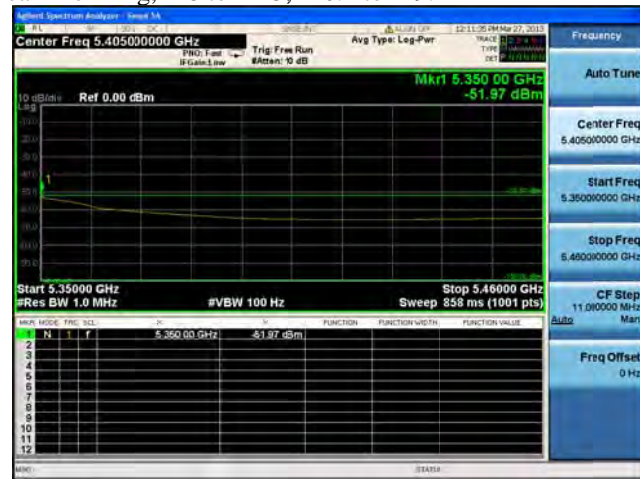
Conducted Bandedge Average, 5300 / 5320 MHz, HT/VHT40 Beam Forming, M0 to M7, M0.1 to M9.1**Antenna A****Antenna B**



Conducted Bandedge Average, 5300 / 5320 MHz, HT/VHT40 Beam Forming, M8 to M15, M0.2 to M9.2

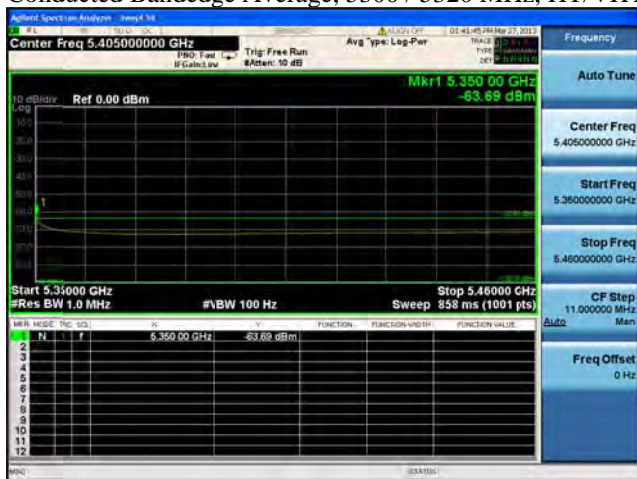
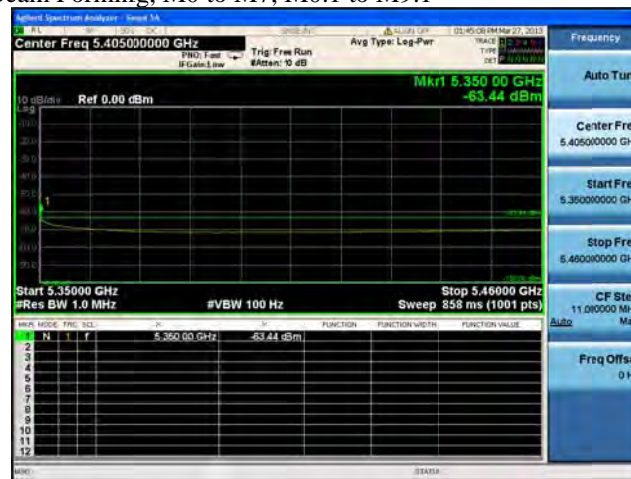
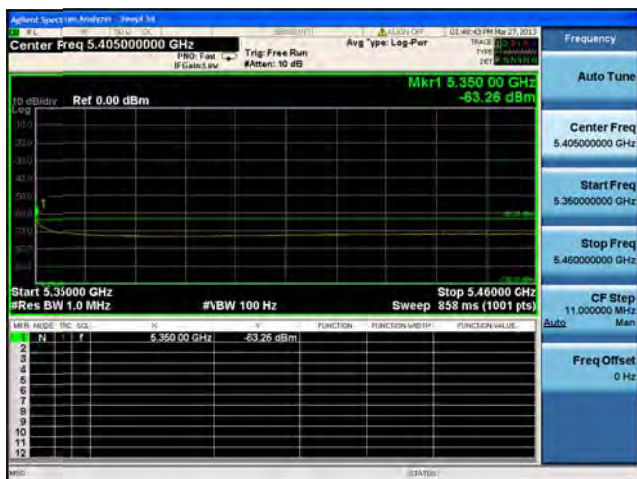


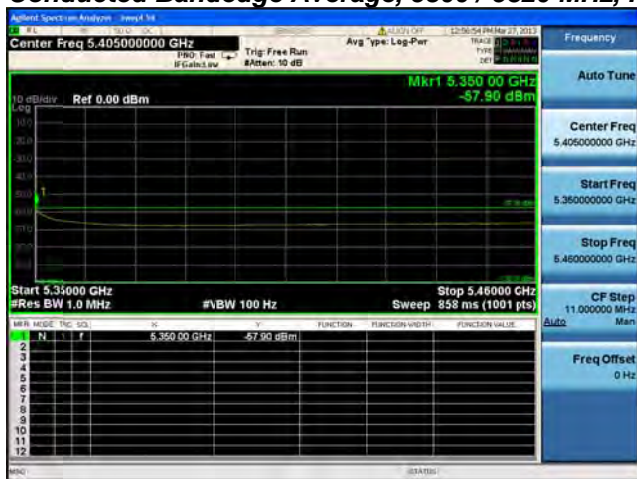
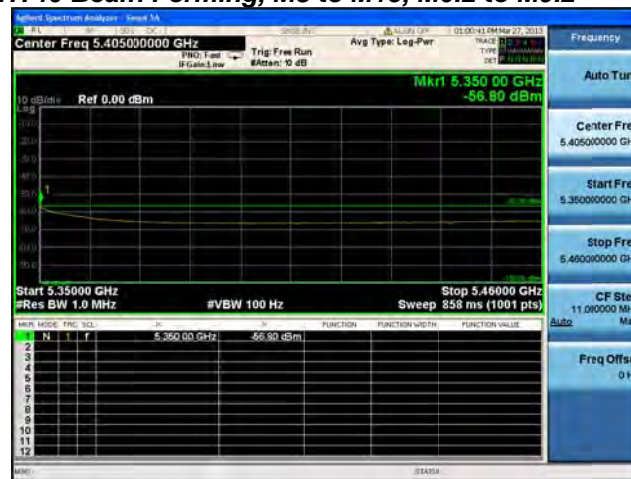
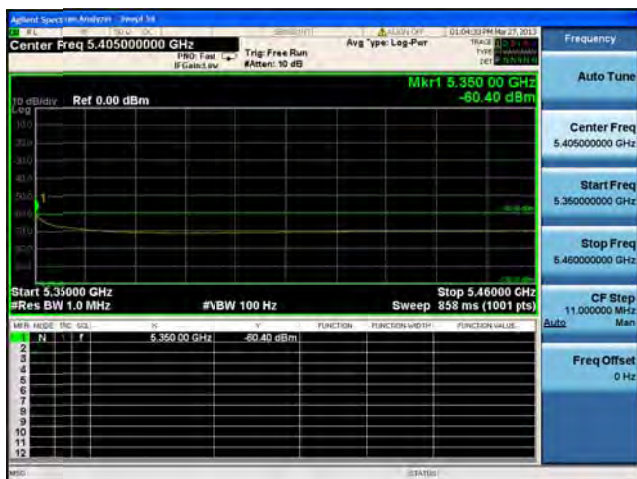
Antenna A



Antenna B

Conducted Bandedge Average, 5300 / 5320 MHz, HT/VHT40 Beam Forming, M0 to M7, M0.1 to M9.1

**Antenna A****Antenna B****Antenna C**

Conducted Bandedge Average, 5300 / 5320 MHz, HT/VHT40 Beam Forming, M8 to M15, M0.2 to M9.2**Antenna A****Antenna B****Antenna C**

Center Freq 5.405000000 GHz
Trig: Free Run
Auto Tune
Auto Tune
Center Freq 5.405000000 GHz
Start Freq 5.360000000 GHz
Stop Freq 5.480000000 GHz
CF Step 11.0000000 MHz
Freq Offset 0 Hz
Start 5.350000 GHz
Stop 5.480000 GHz
Res BW 1.0 MHz
RBW 100 Hz
Sweep 899 ms (1001 pts)
Mkr1 5.350 00 GHz
-56.65 dBm

| MR | Hz | dBm | FUNCTION | FUNCTION VALUE | FUNCTION VALUE |
|----|--------------|------------|----------|----------------|----------------|
| 1 | 5.350 00 GHz | -56.65 dBm | | | |
| 2 | | | | | |
| 3 | | | | | |
| 4 | | | | | |
| 5 | | | | | |
| 6 | | | | | |
| 7 | | | | | |
| 8 | | | | | |
| 9 | | | | | |
| 10 | | | | | |
| 11 | | | | | |
| 12 | | | | | |

[illegible]

Agilent Spectrum Analyzer - Setup 3a

File Edit View Window Help 10:00:00 AM 12:23:10 PM Mar 27, 2013

Center Freq 5.350000000 GHz **Auto Tune**

PRB: Fast Run **Trig: Free Run** **AvG 'Type: Log-Pwr** **Trace 5.3500 GHz**
 IF Control: Off **#Attens: 10 dB** **Stop 5.3600 GHz**
RES BW 1.0 MHz **100 Hz** **Sweep 898 ms (1001 pts)**

Ref 0.00 dBm **Mkr1 5.350 00 GHz** **-88.78 dBm**

Start 5.35000 GHz **Stop 5.36000 GHz**
Res BW 1.0 MHz **#BW 100 Hz** **Sweep 898 ms (1001 pts)**

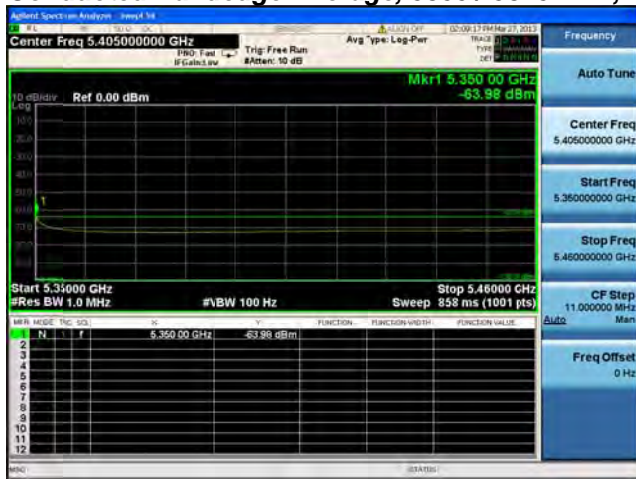
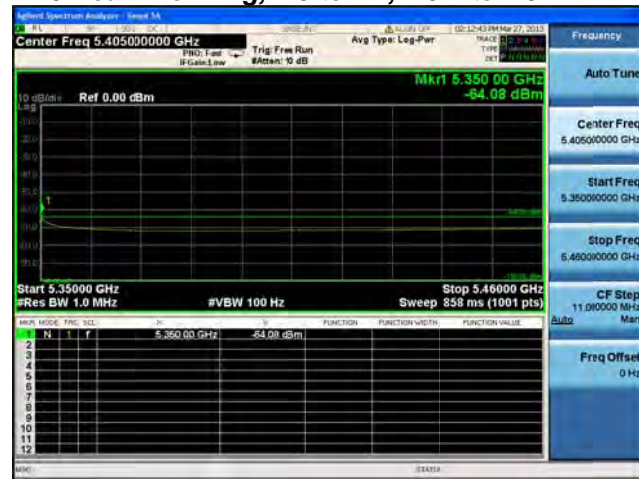
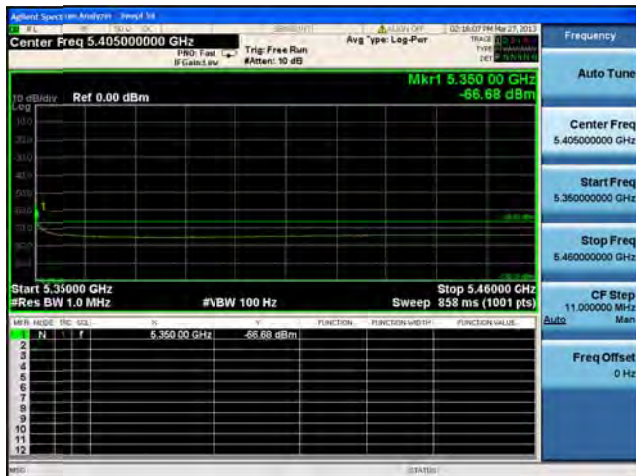
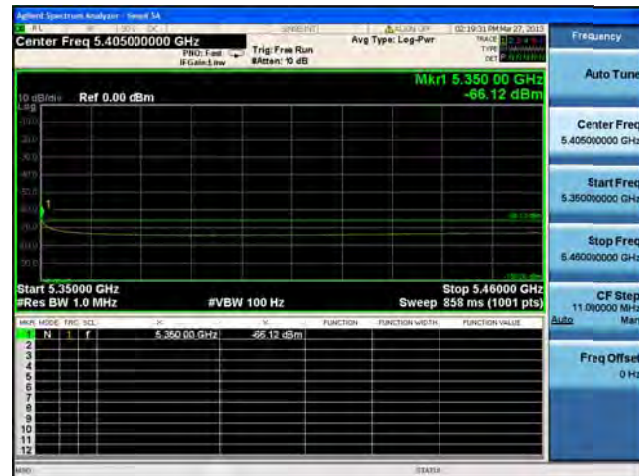
| W | F | P | FUNCTION | FUNCTION W/DF | FUNCTION VALUE |
|----|-------------|------------|----------|---------------|----------------|
| 1 | 5.35000 GHz | -88.78 dBm | | | |
| 2 | | | | | |
| 3 | | | | | |
| 4 | | | | | |
| 5 | | | | | |
| 6 | | | | | |
| 7 | | | | | |
| 8 | | | | | |
| 9 | | | | | |
| 10 | | | | | |
| 11 | | | | | |
| 12 | | | | | |

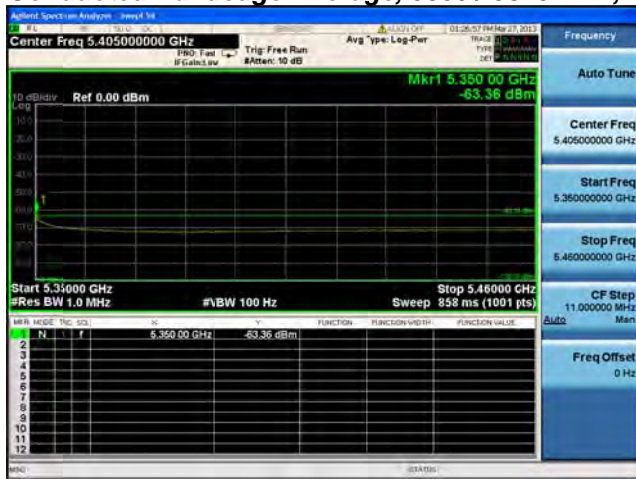
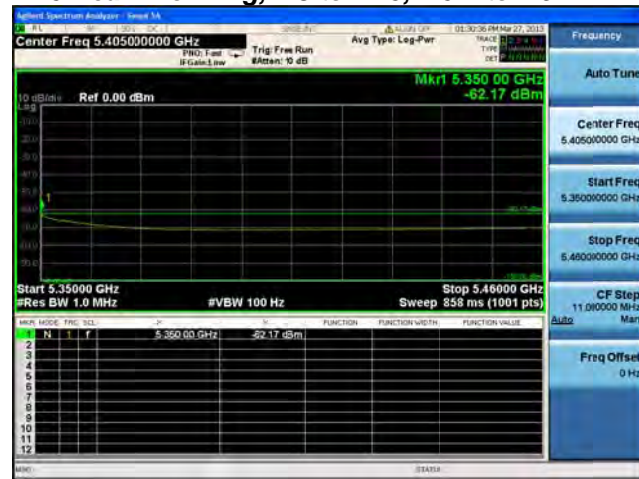
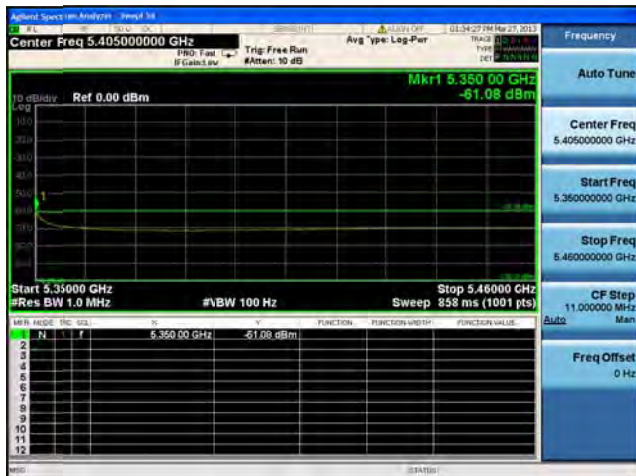
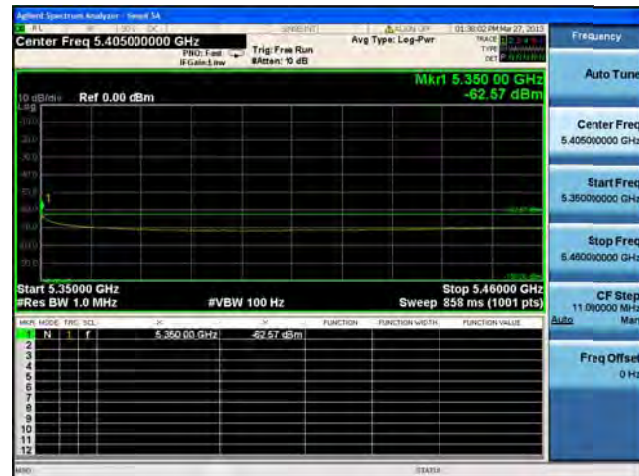
Auto Auto

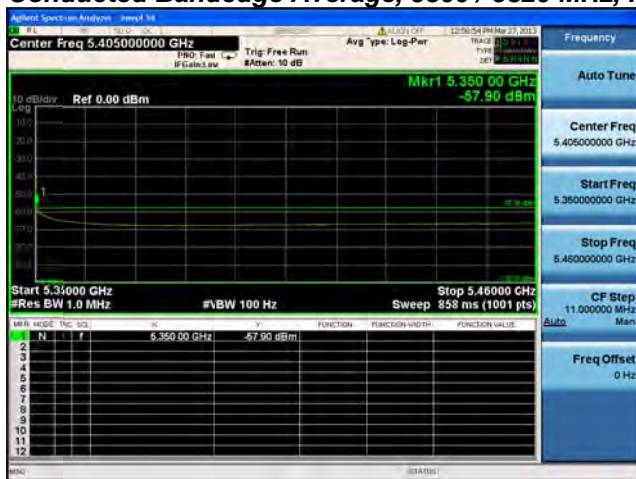
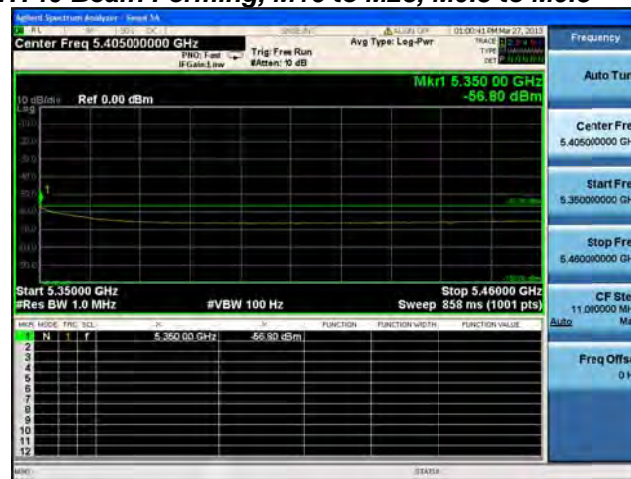
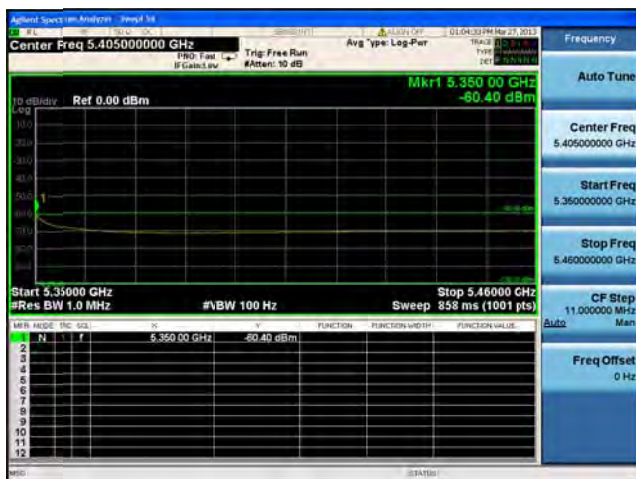
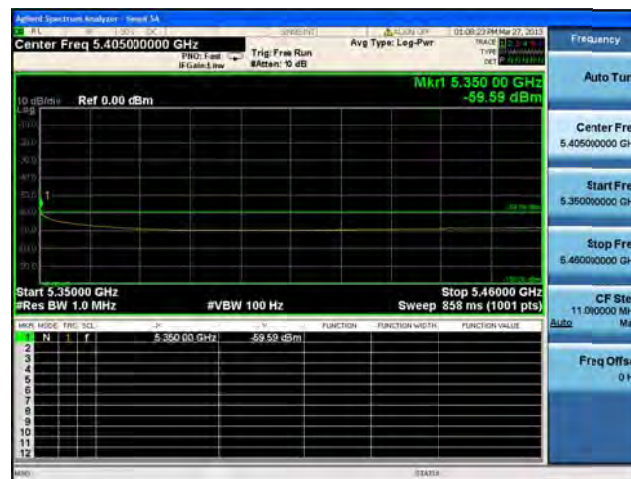
CF Stop
11.000000 MHz

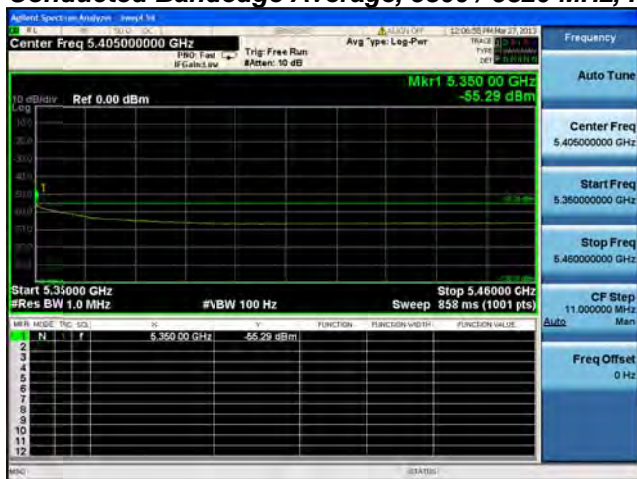
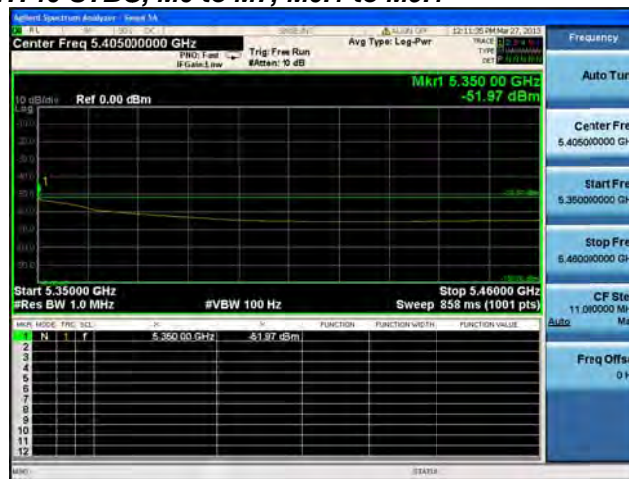
Freq Offset
0 Hz

This document is uncontrolled. Please refer to the electronic copy within EDCS for the most up to date version.
Cisco Systems, Inc. Company Confidential

Conducted Bandedge Average, 5300 / 5320 MHz, HT/VHT40 Beam Forming, M0 to M7, M0.1 to M9.1**Antenna A****Antenna B****Antenna C****Antenna D**

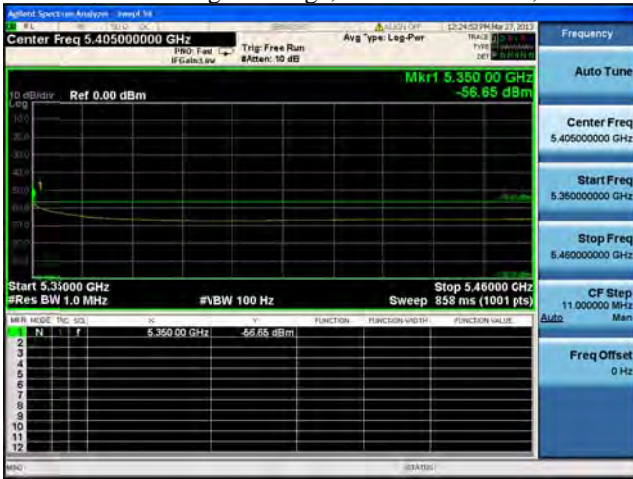
Conducted Bandedge Average, 5300 / 5320 MHz, HT/VHT40 Beam Forming, M8 to M15, M0.2 to M9.2**Antenna A****Antenna B****Antenna C****Antenna D**

Conducted Bandedge Average, 5300 / 5320 MHz, HT/VHT40 Beam Forming, M16 to M23, M0.3 to M9.3**Antenna A****Antenna B****Antenna C****Antenna D**

Conducted Bandedge Average, 5300 / 5320 MHz, HT/VHT40 STBC, M0 to M7, M0.1 to M9.1**Antenna A****Antenna B**



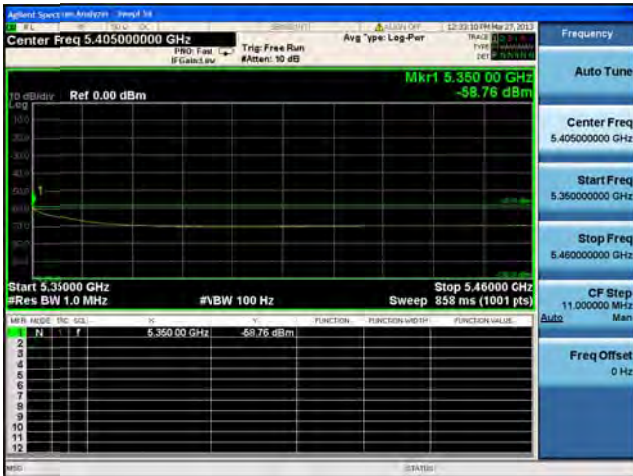
Conducted Bandedge Average, 5300 / 5320 MHz, HT/VHT40 STBC, M0 to M7, M0.1 to M9.1



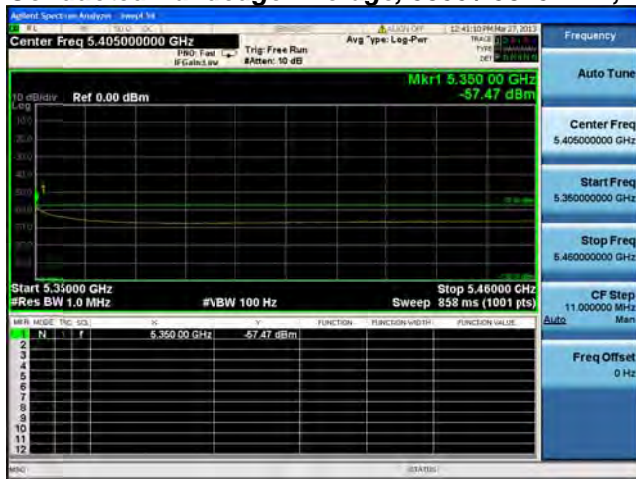
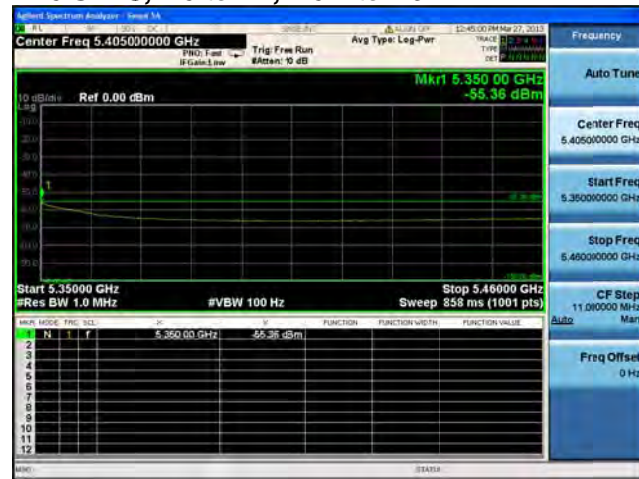
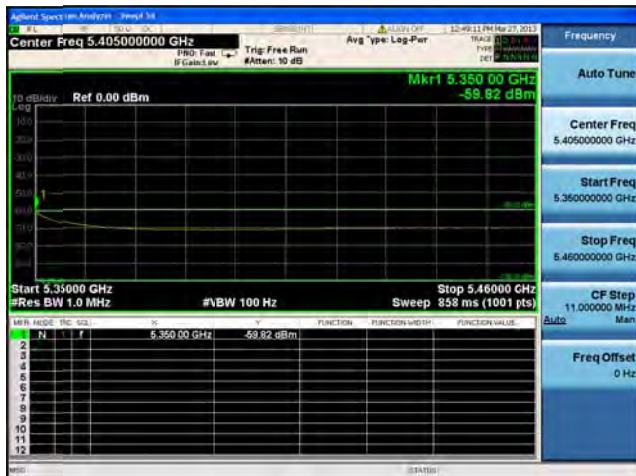
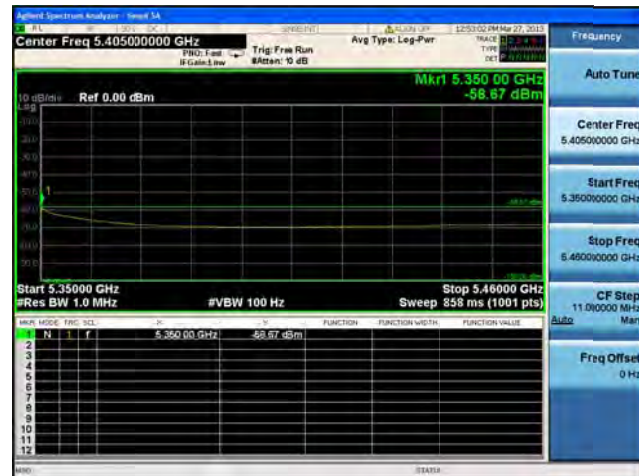
Antenna A

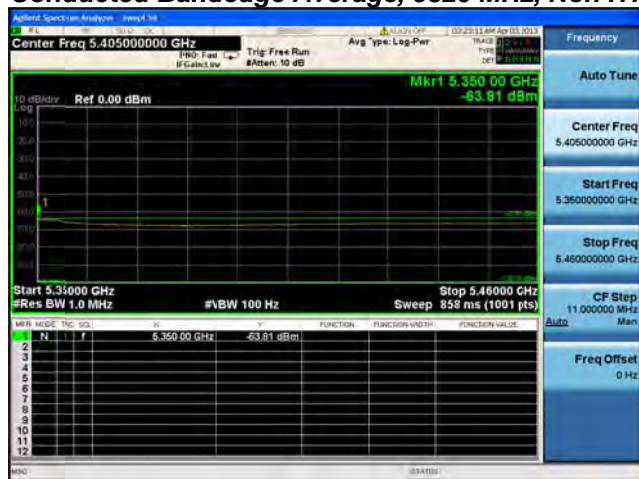


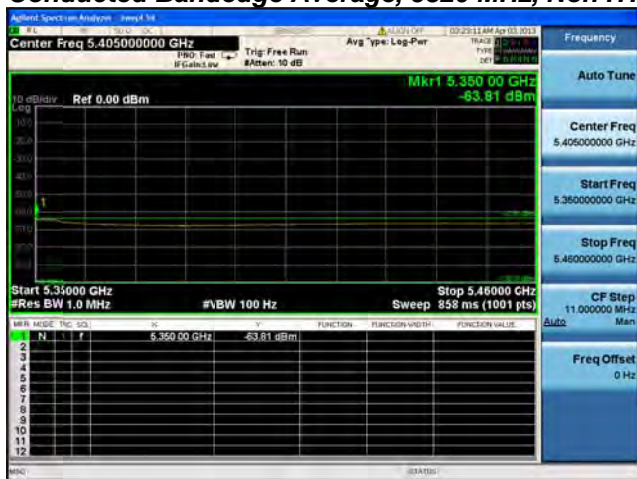
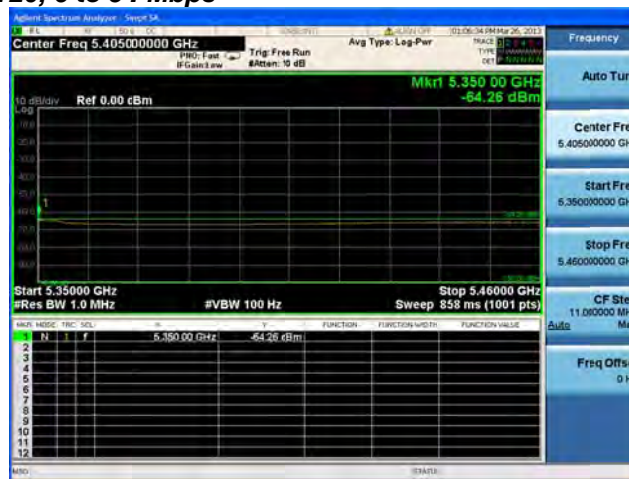
Antenna B



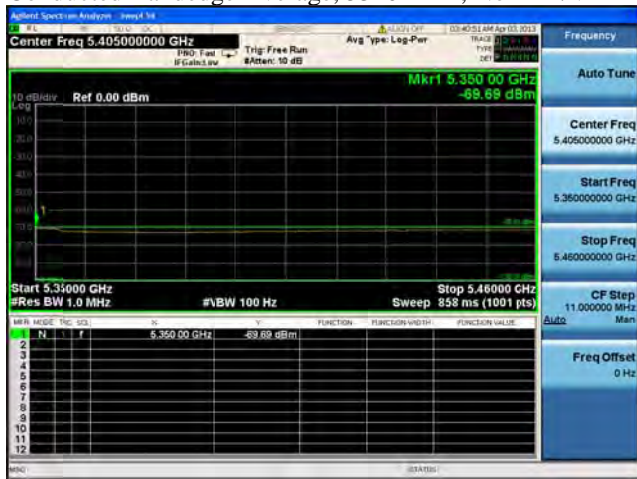
Antenna C

Conducted Bandedge Average, 5300 / 5320 MHz, HT/VHT40 STBC, M0 to M7, M0.1 to M9.1**Antenna A****Antenna B****Antenna C****Antenna D**

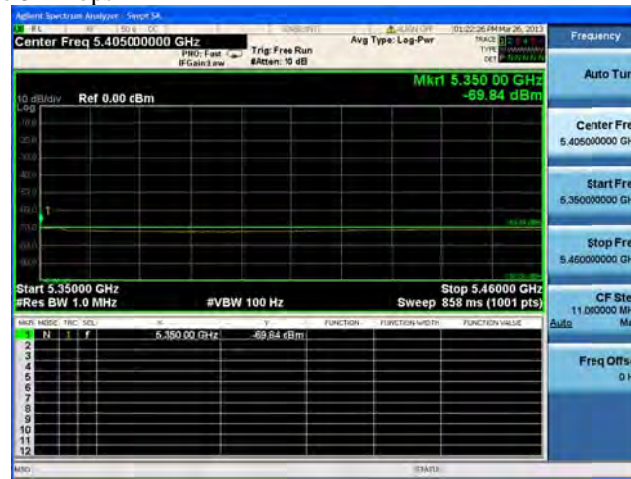
Conducted Bandedge Average, 5320 MHz, Non HT/VHT20, 6 to 54 Mbps**Antenna A**

Conducted Bandedge Average, 5320 MHz, Non HT/VHT20, 6 to 54 Mbps**Antenna A****Antenna B**

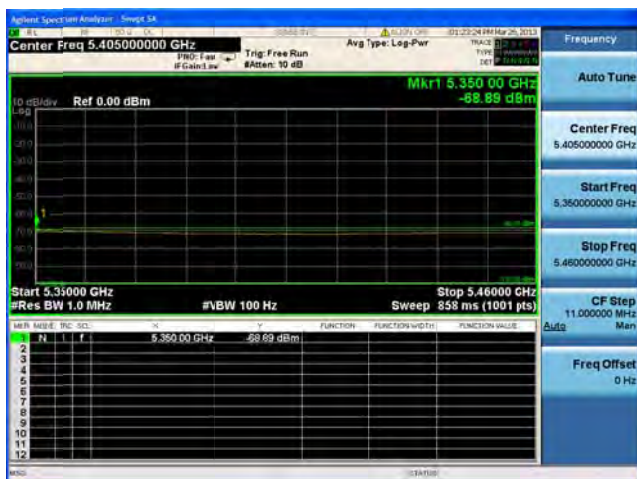
Conducted Bandedge Average, 5320 MHz, Non HT/VHT20, 6 to 54 Mbps



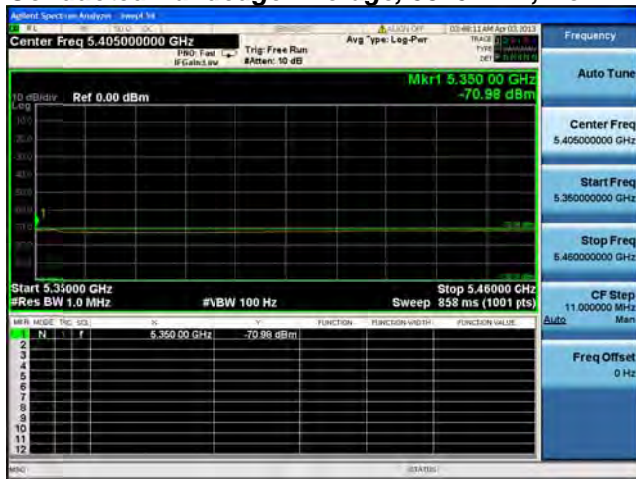
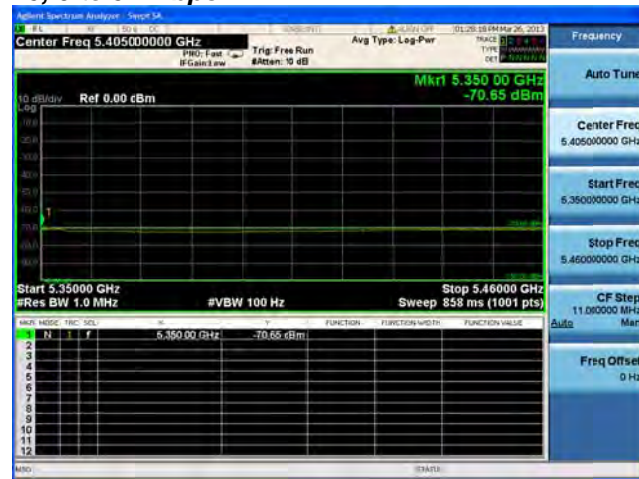
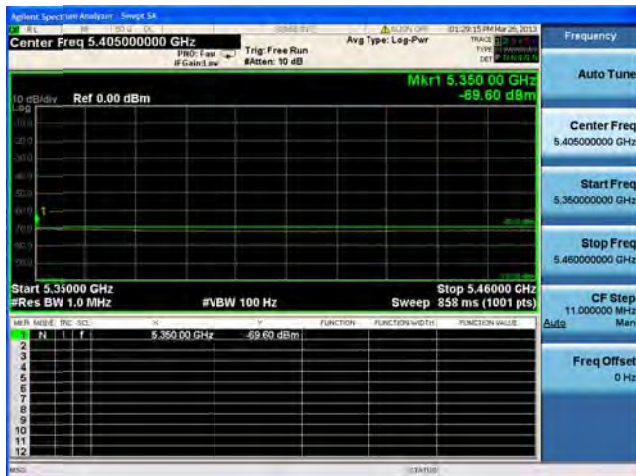
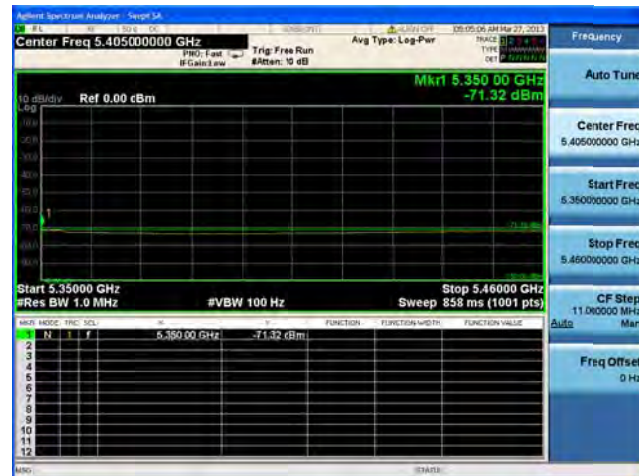
Antenna A

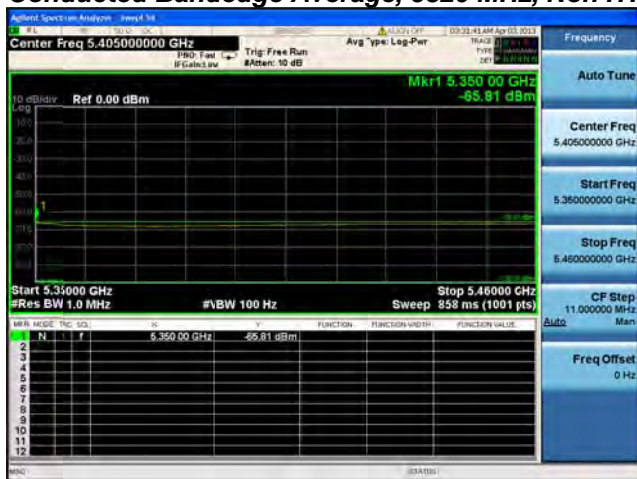
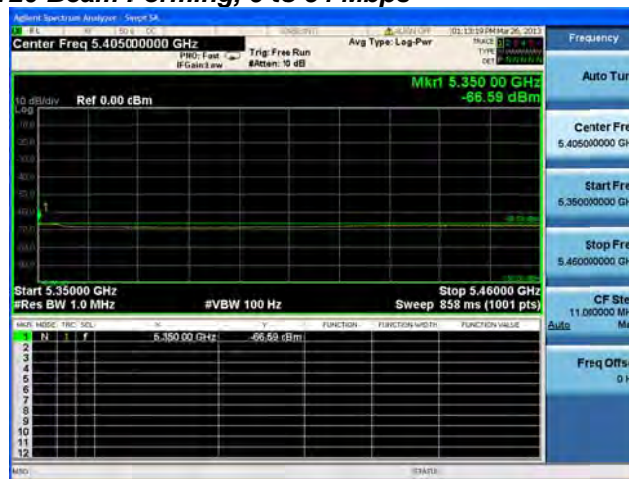


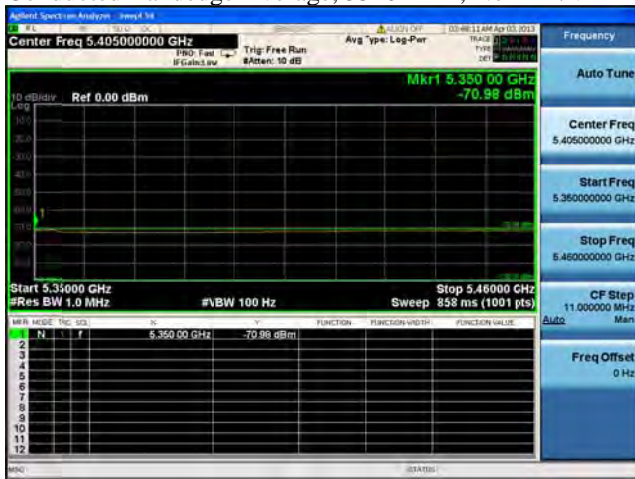
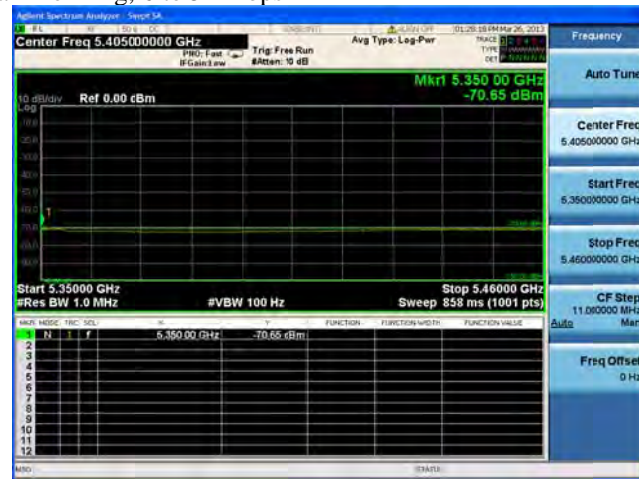
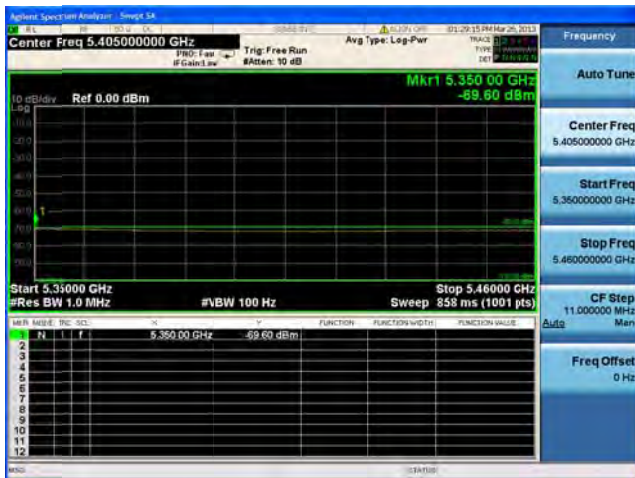
Antenna B

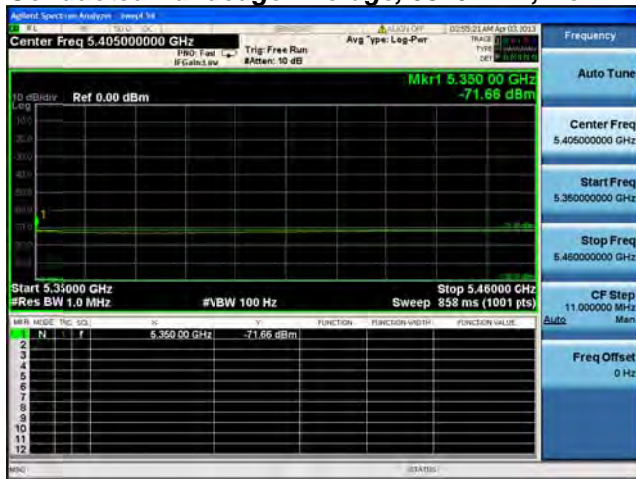
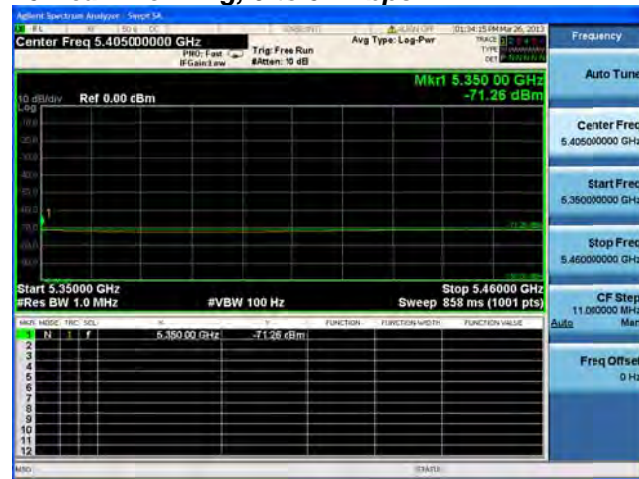
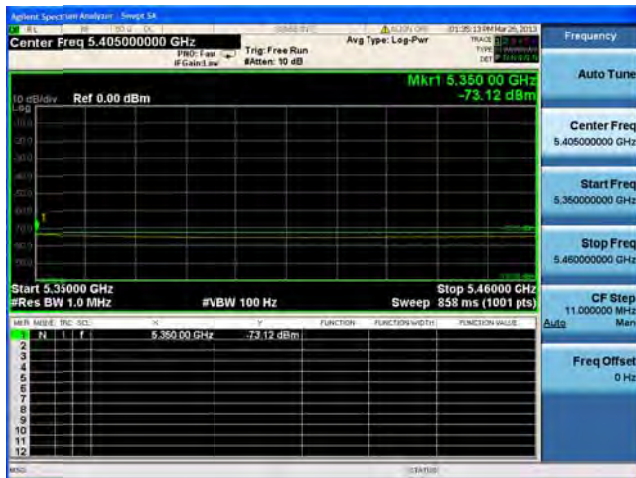


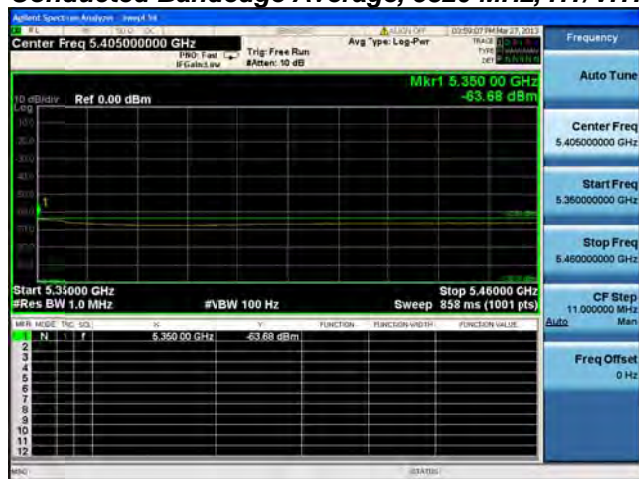
Antenna C

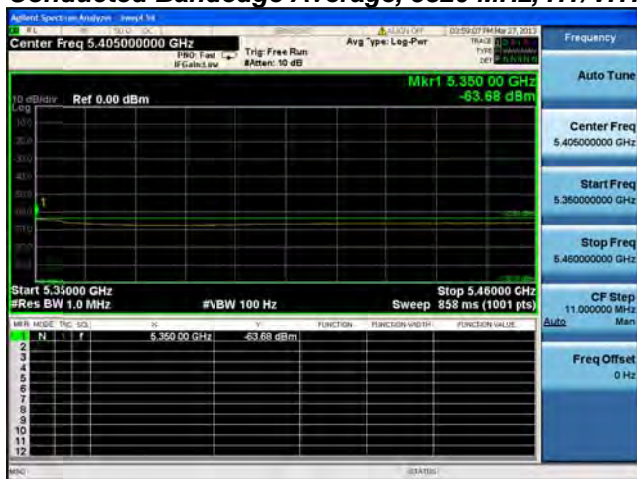
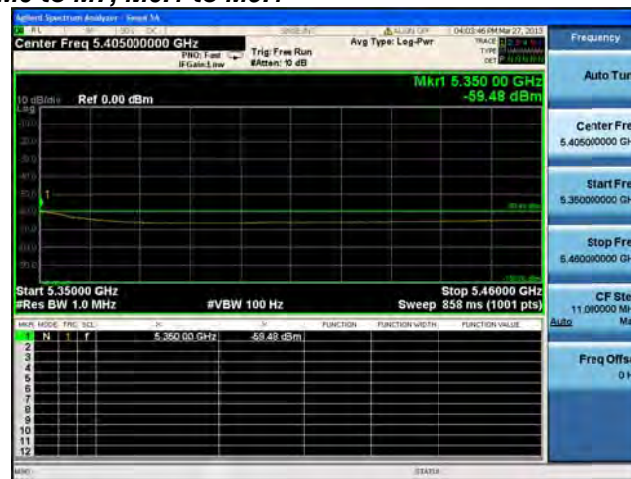
Conducted Bandedge Average, 5320 MHz, Non HT/VHT20, 6 to 54 Mbps**Antenna A****Antenna B****Antenna C****Antenna D**

Conducted Bandedge Average, 5320 MHz, Non HT/VHT20 Beam Forming, 6 to 54 Mbps**Antenna A****Antenna B**

**Conducted Bandedge Average, 5320 MHz, Non HT/VHT20 Beam Forming, 6 to 54 Mbps****Antenna A****Antenna B****Antenna C**

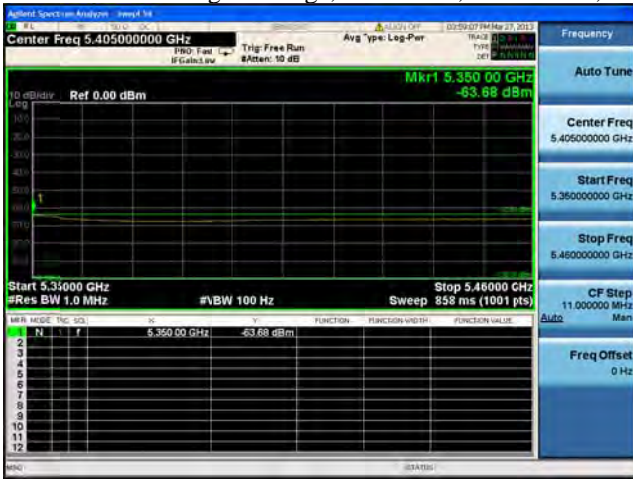
Conducted Bandedge Average, 5320 MHz, Non HT/VHT20 Beam Forming, 6 to 54 Mbps**Antenna A****Antenna B****Antenna C****Antenna D**

Conducted Bandedge Average, 5320 MHz, HT/VHT20, M0 to M7, M0.1 to M9.1**Antenna A**

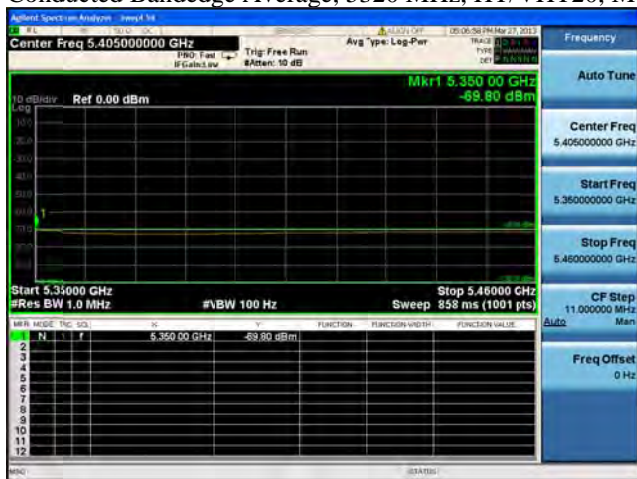
Conducted Bandedge Average, 5320 MHz, HT/VHT20, M0 to M7, M0.1 to M9.1**Antenna A****Antenna B**



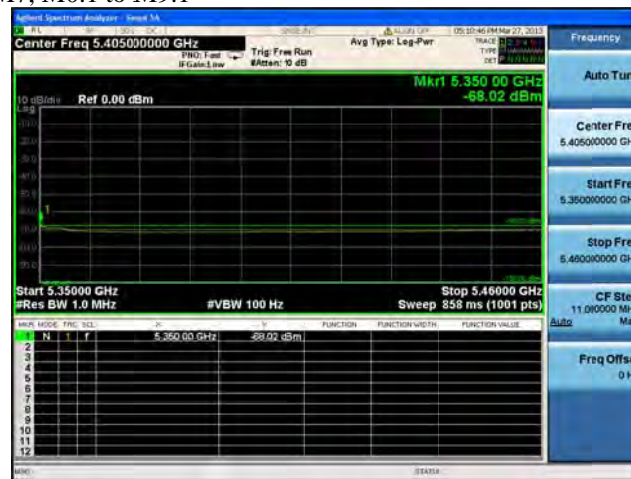
Conducted Bandedge Average, 5320 MHz, HT/VHT20, M8 to M15, M0.2 to M9.2

**Antenna A****Antenna B**

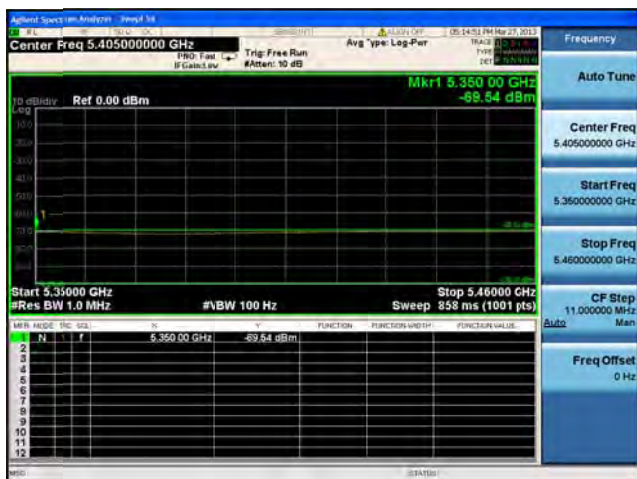
Conducted Bandedge Average, 5320 MHz, HT/VHT20, M0 to M7, M0.1 to M9.1



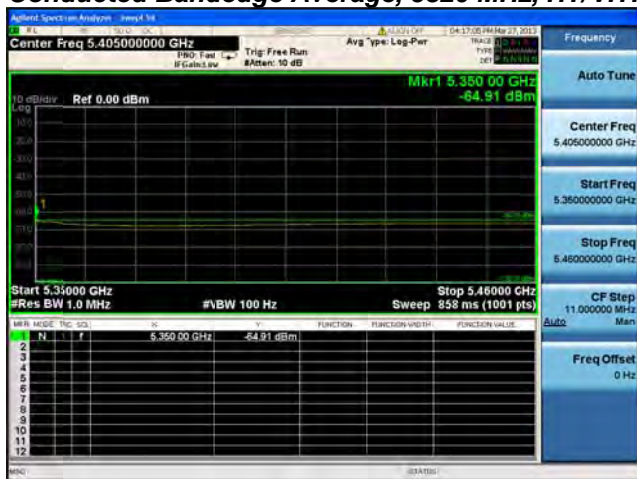
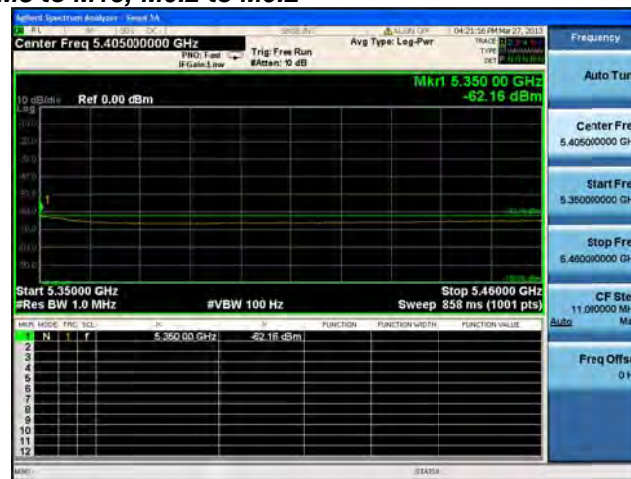
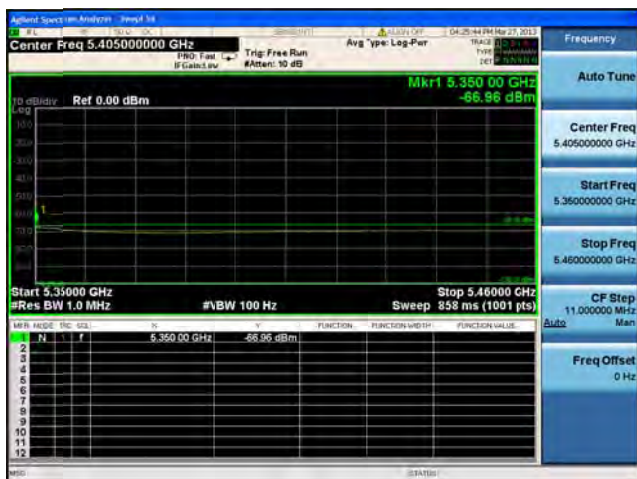
Antenna A

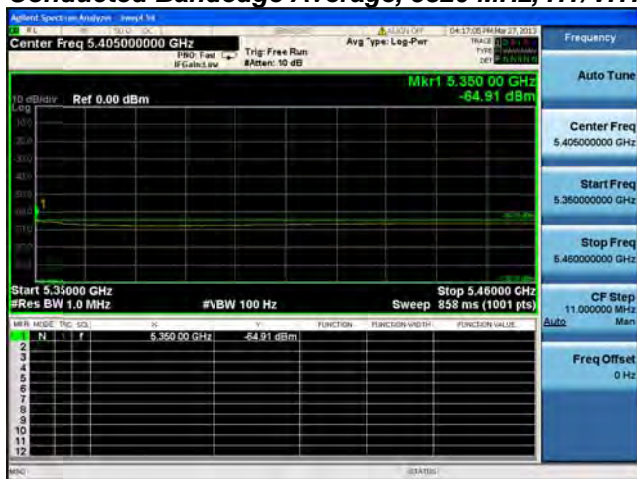
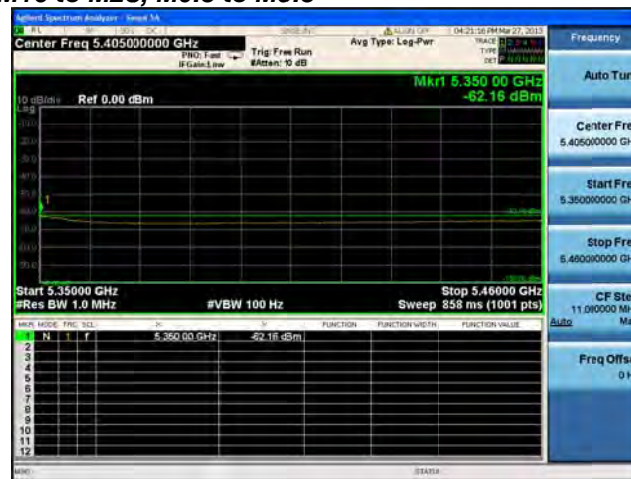
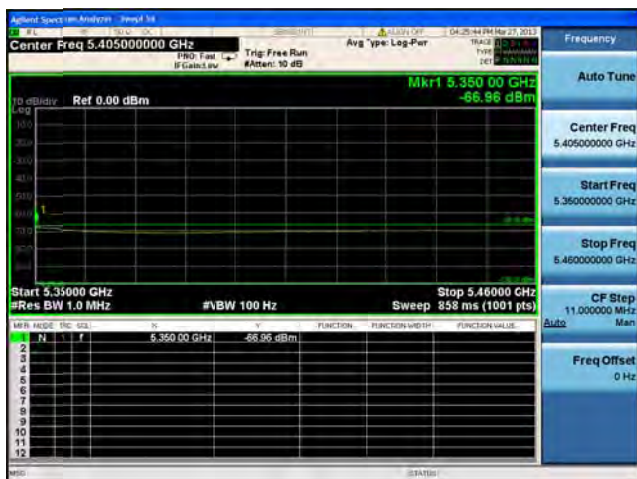


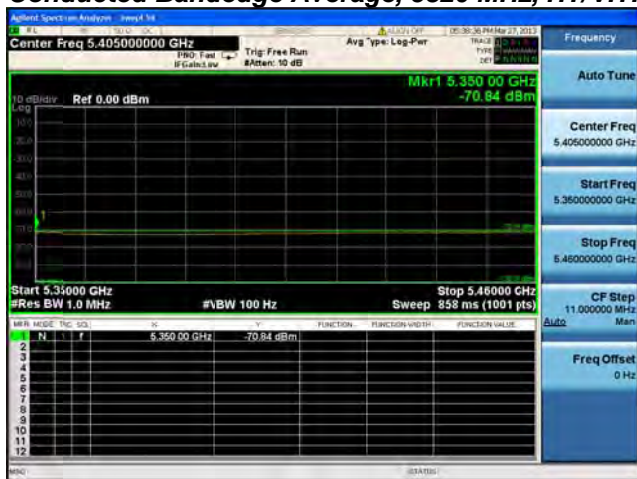
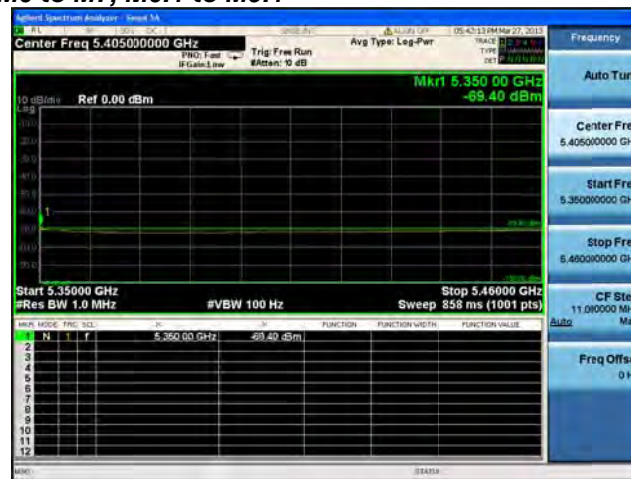
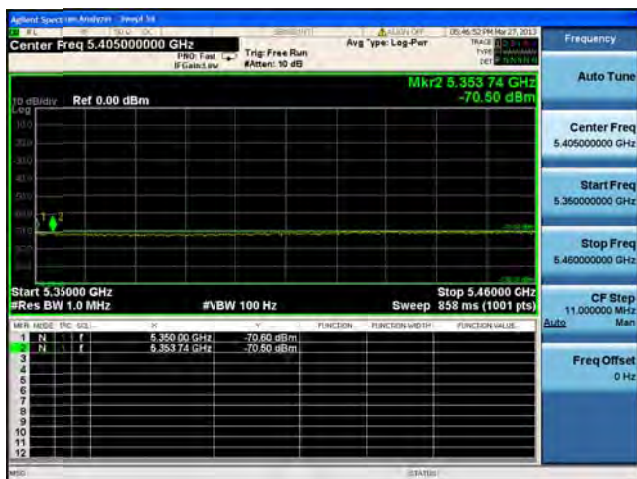
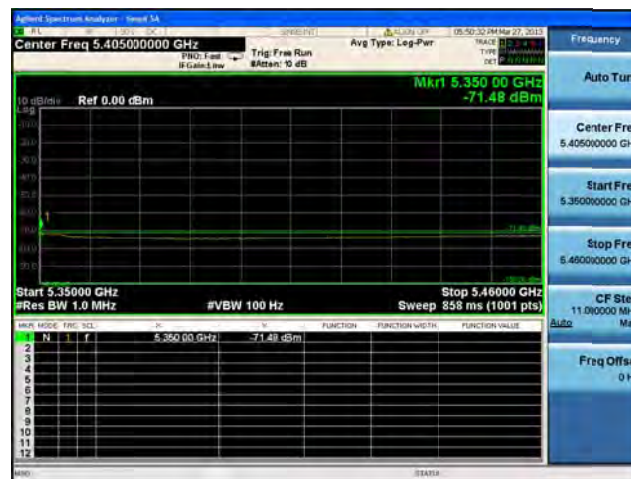
Antenna B

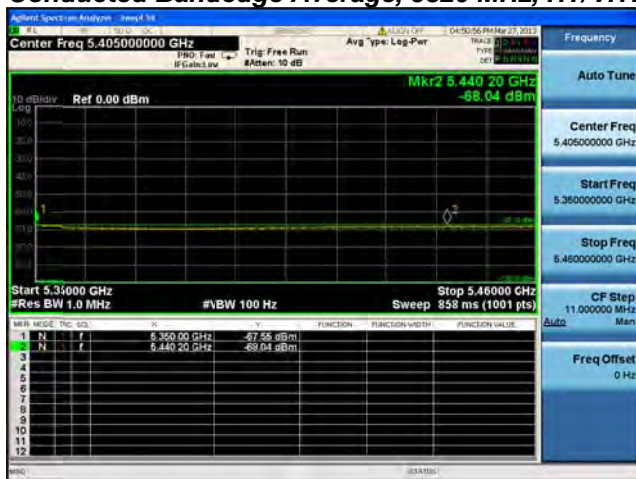
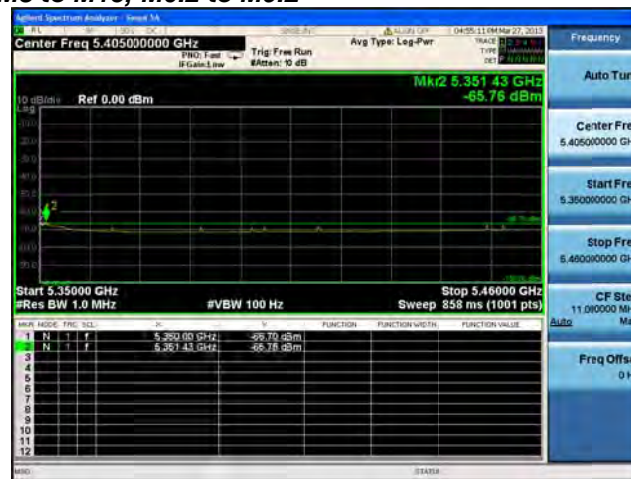
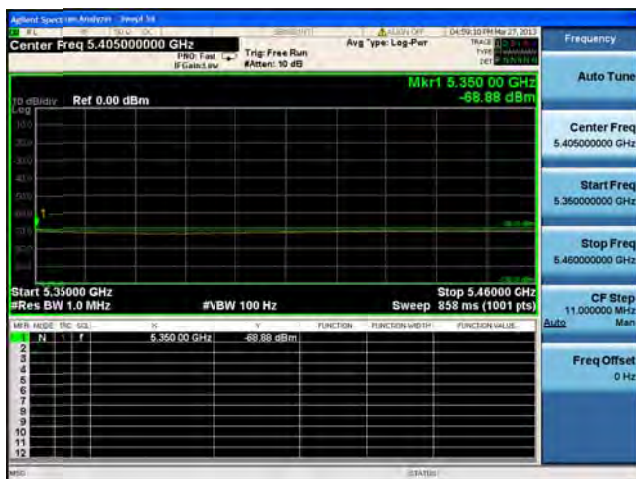
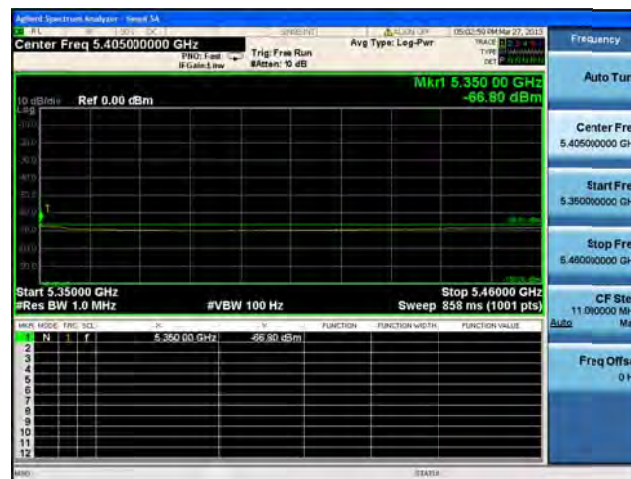


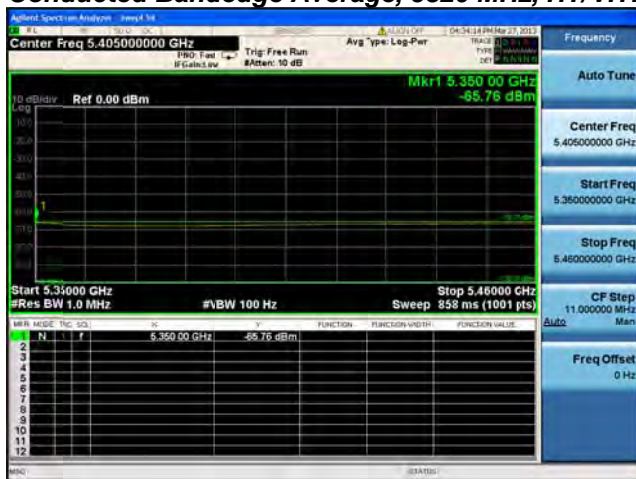
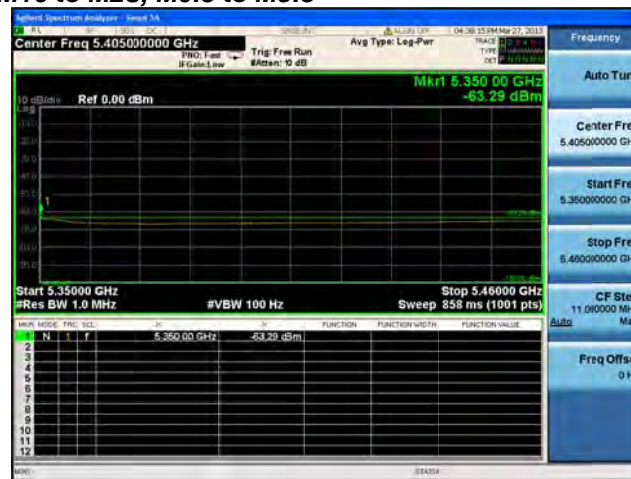
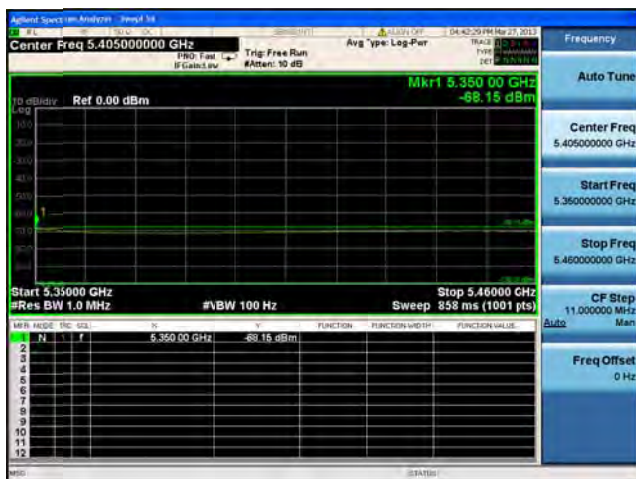
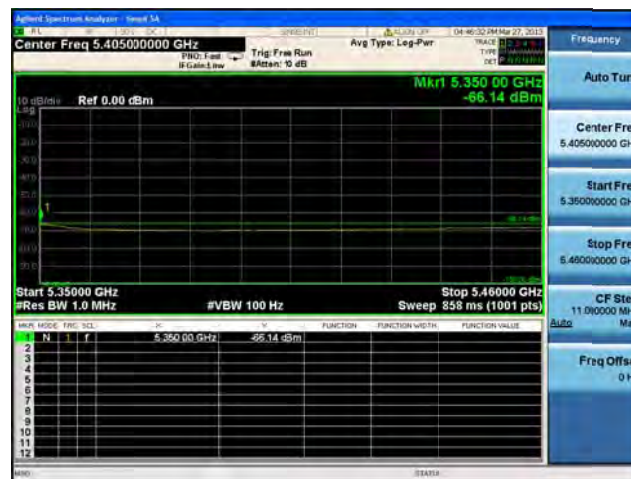
Antenna C

Conducted Bandedge Average, 5320 MHz, HT/VHT20, M8 to M15, M0.2 to M9.2**Antenna A****Antenna B****Antenna C**

Conducted Bandedge Average, 5320 MHz, HT/VHT20, M16 to M23, M0.3 to M9.3**Antenna A****Antenna B****Antenna C**

**Conducted Bandedge Average, 5320 MHz, HT/VHT20, M0 to M7, M0.1 to M9.1****Antenna A****Antenna B****Antenna C****Antenna D**

Conducted Bandedge Average, 5320 MHz, HT/VHT20, M8 to M15, M0.2 to M9.2**Antenna A****Antenna B****Antenna C****Antenna D**

Conducted Bandedge Average, 5320 MHz, HT/VHT20, M16 to M23, M0.3 to M9.3**Antenna A****Antenna B****Antenna C****Antenna D**

Center Freq 5.405000000 GHz
 Span 100 MHz
 Res BW 1.0 MHz
 Sweep 858 ms (1001 pts)
 Mkr1 5.350000 GHz -65.76 dBm
 Start 5.350000 GHz
 Stop 5.400000 GHz
 #BW 100 Hz

[illegible]

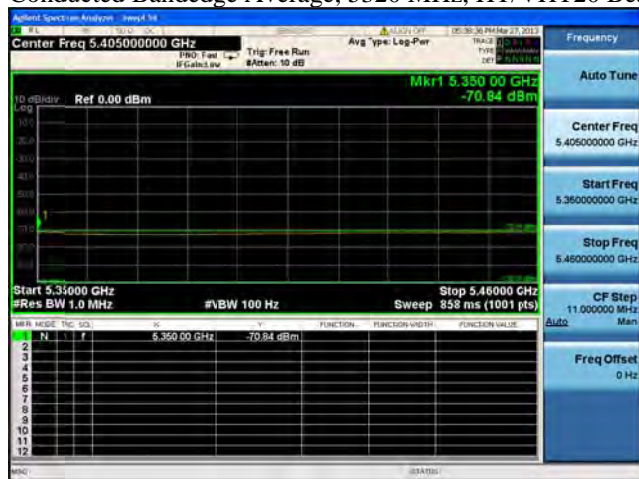
This document is uncontrolled. Please refer to the electronic copy within EDCS for the most up to date version.
Cisco Systems, Inc. Company Confidential

[illegible]

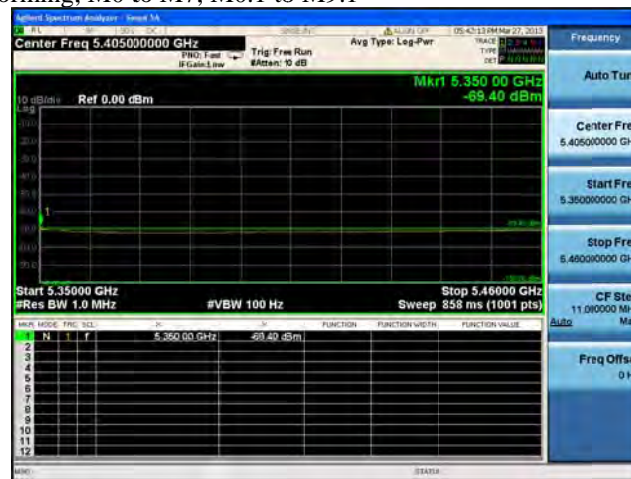
Signal Spectrum Analyzer - View 1A
 Center Freq 5.405000000 GHz
 Avg Type: Log-Pwr
 Mkr1 5.350000 GHz -59.48 dBm
 Start 5.350000 GHz
 Stop 5.460000 GHz
 Res BW 1.0 MHz
 Sweep 858 ms (1001 pts)

This document is uncontrolled. Please refer to the electronic copy within EDCS for the most up to date version.
Cisco Systems, Inc. Company Confidential

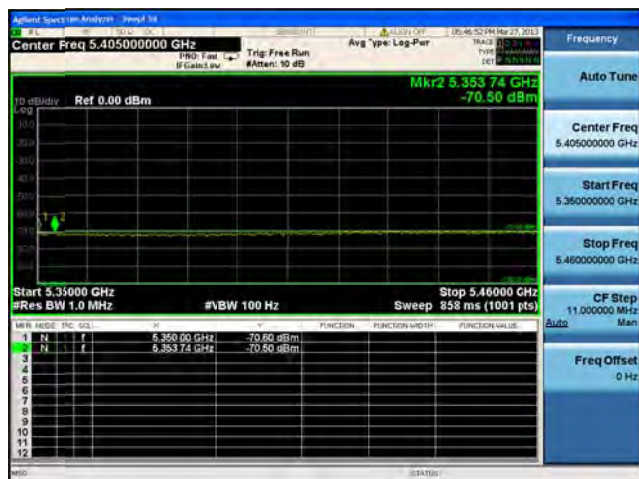
Conducted Bandedge Average, 5320 MHz, HT/VHT20 Beam Forming, M0 to M7, M0.1 to M9.1



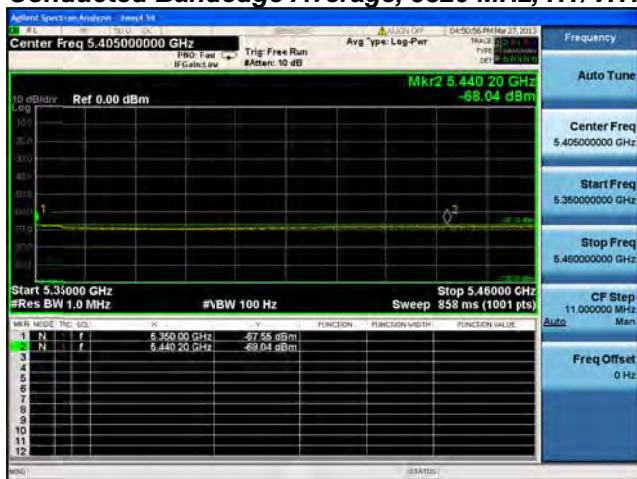
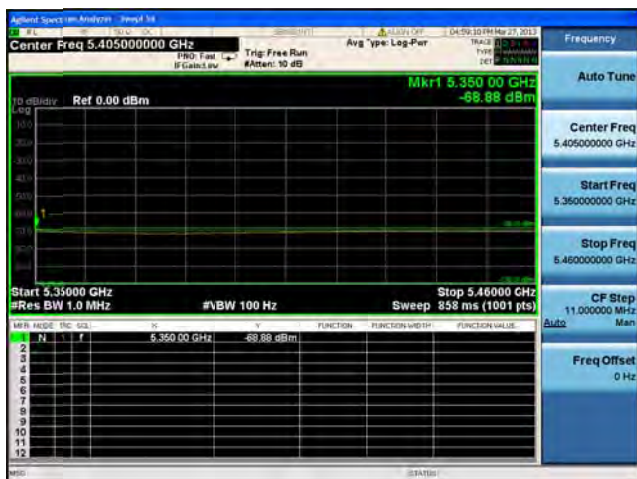
Antenna A

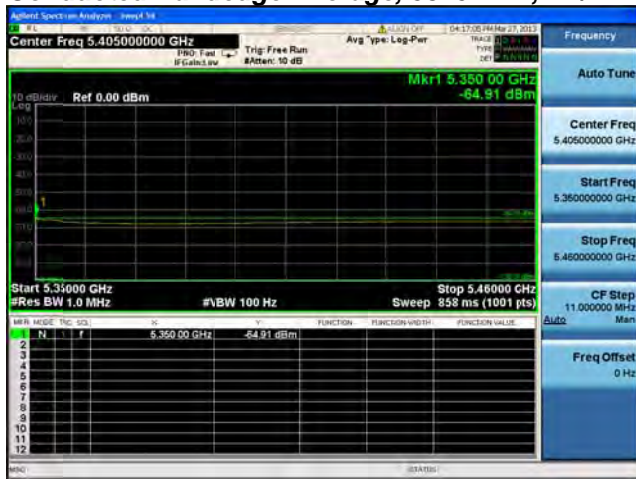
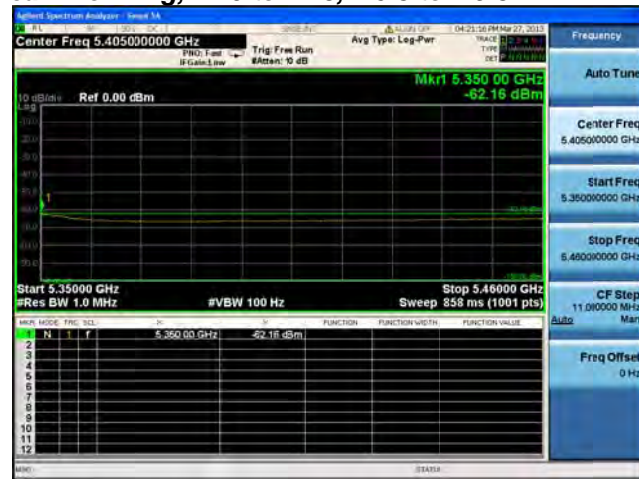
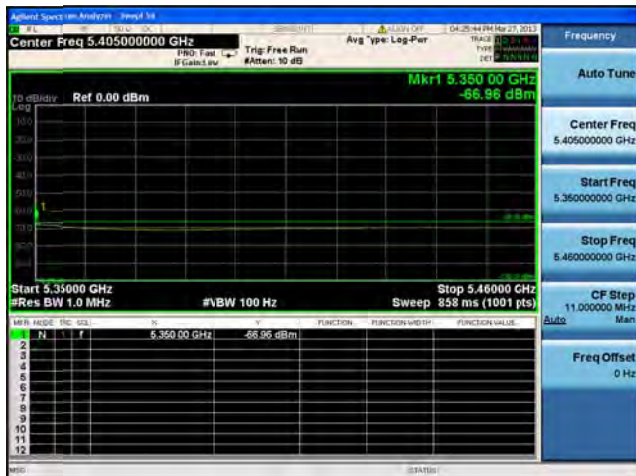


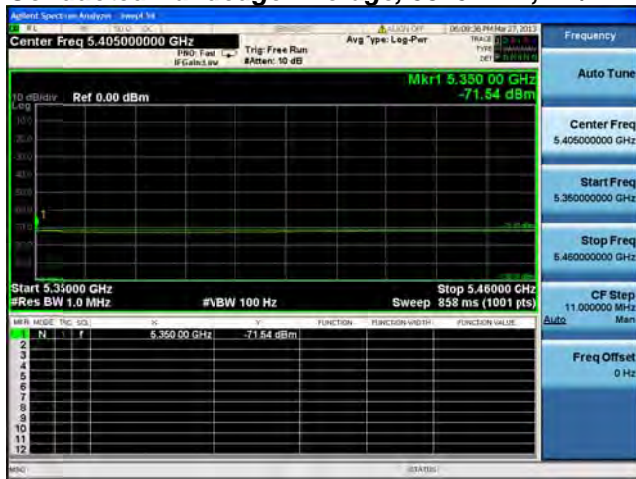
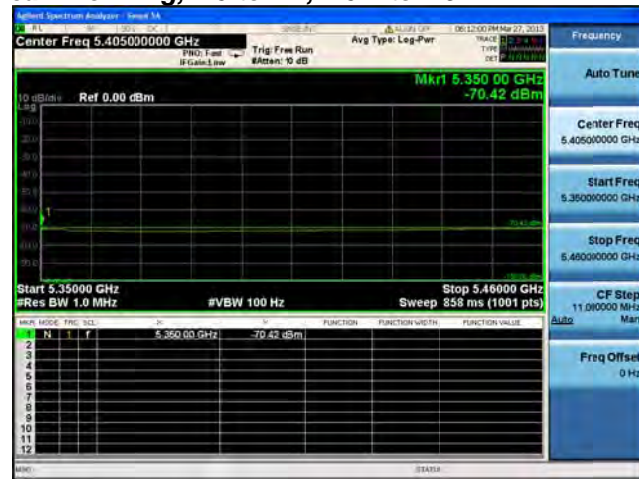
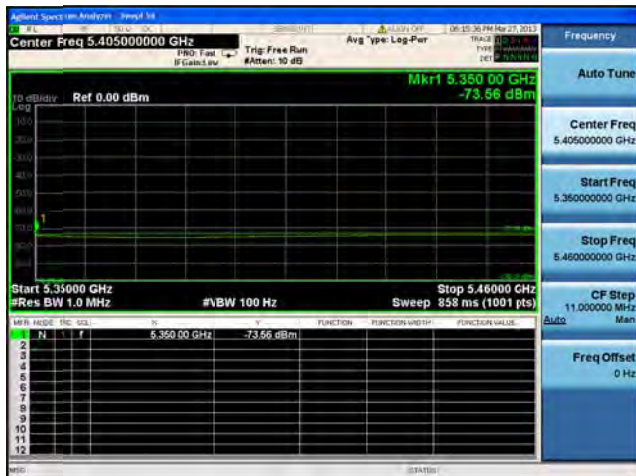
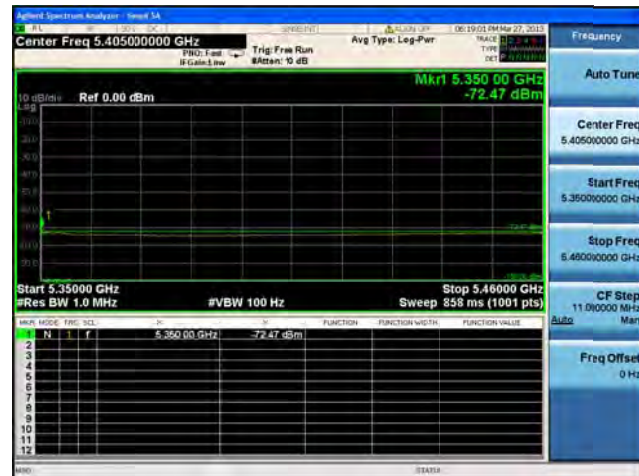
Antenna B

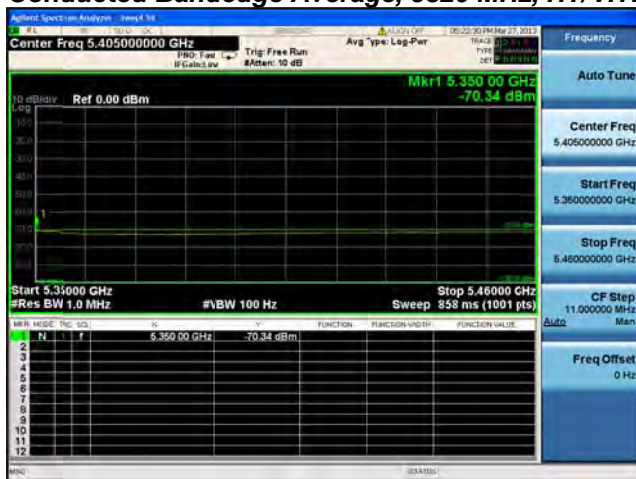
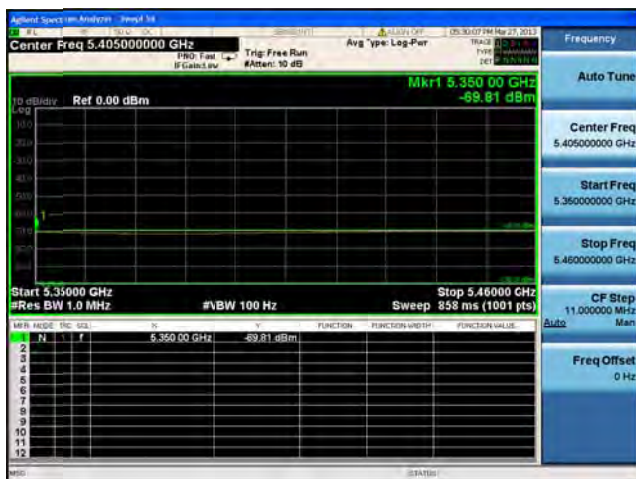
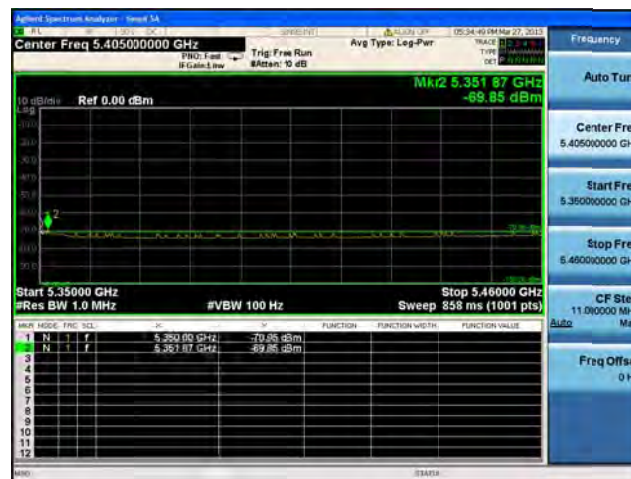


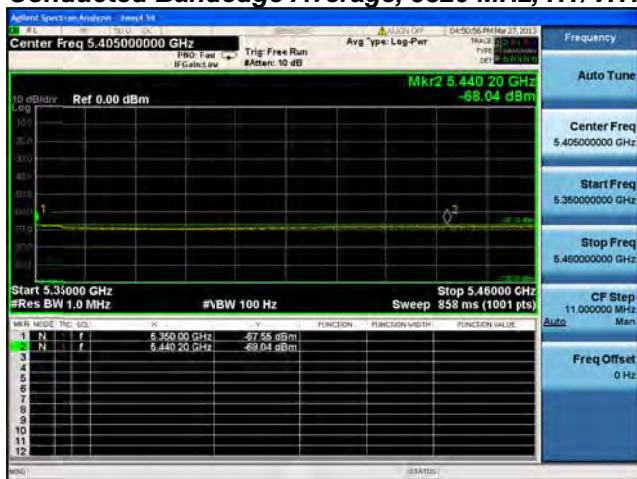
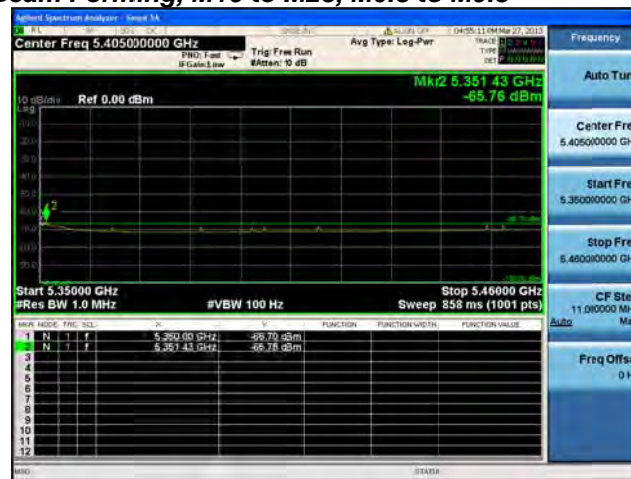
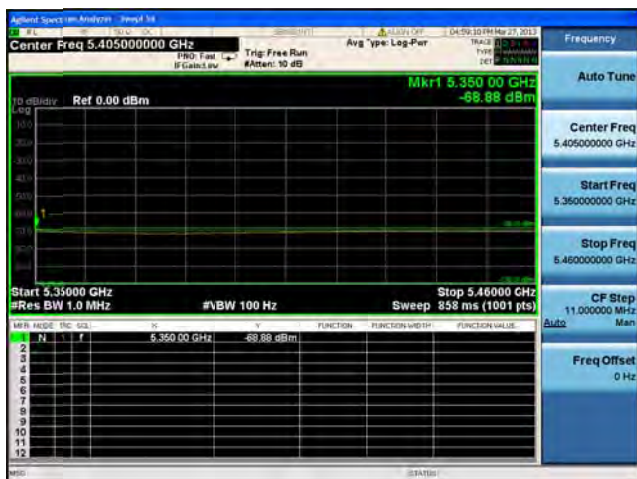
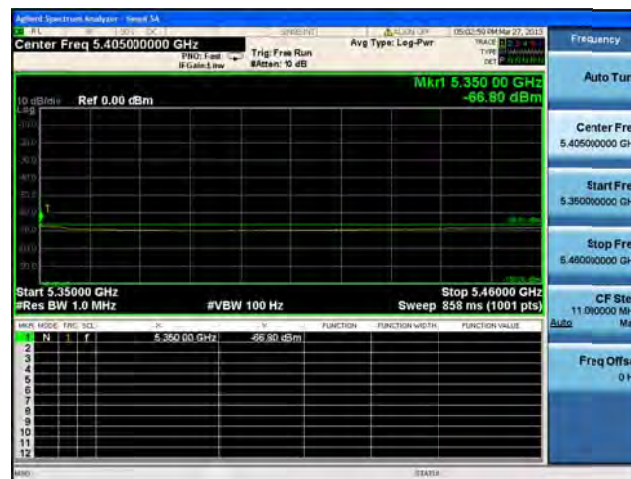
Antenna C

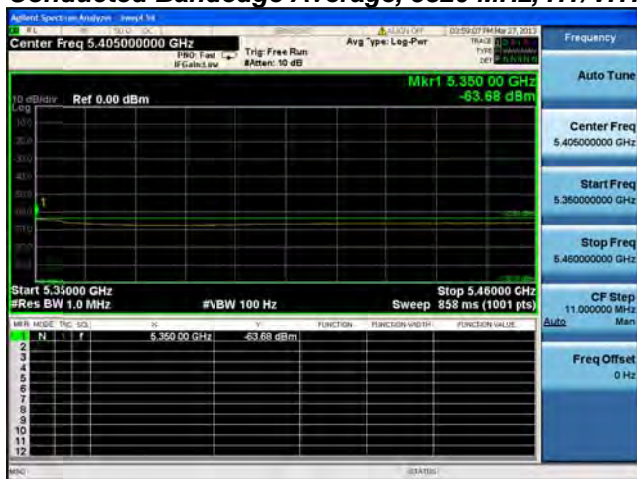
Conducted Bandedge Average, 5320 MHz, HT/VHT20 Beam Forming, M8 to M15, M0.2 to M9.2**Antenna A****Antenna B****Antenna C**

Conducted Bandedge Average, 5320 MHz, HT/VHT20 Beam Forming, M16 to M23, M0.3 to M9.3**Antenna A****Antenna B****Antenna C**

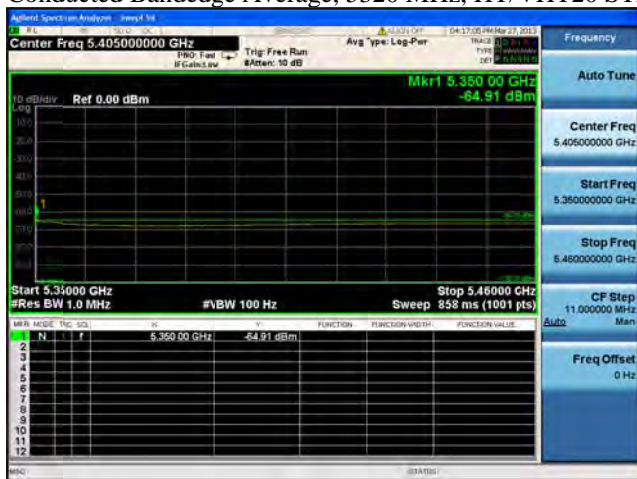
Conducted Bandedge Average, 5320 MHz, HT/VHT20 Beam Forming, M0 to M7, M0.1 to M9.1**Antenna A****Antenna B****Antenna C****Antenna D**

Conducted Bandedge Average, 5320 MHz, HT/VHT20 Beam Forming, M8 to M15, M0.2 to M9.2**Antenna A****Antenna B****Antenna C****Antenna D**

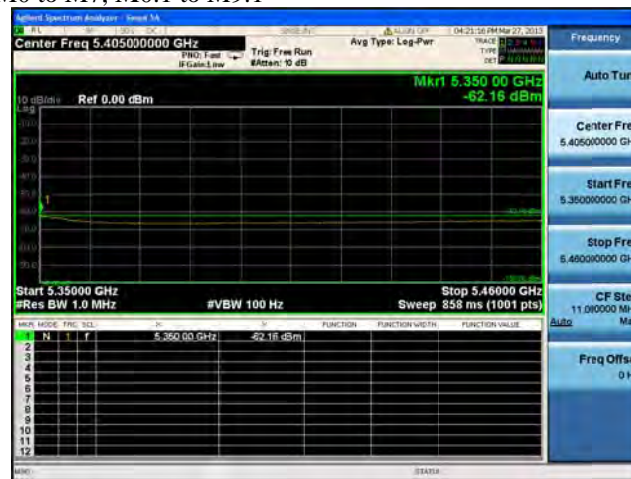
Conducted Bandedge Average, 5320 MHz, HT/VHT20 Beam Forming, M16 to M23, M0.3 to M9.3**Antenna A****Antenna B****Antenna C****Antenna D**

Conducted Bandedge Average, 5320 MHz, HT/VHT20 STBC, M0 to M7, M0.1 to M9.1**Antenna A****Antenna B**

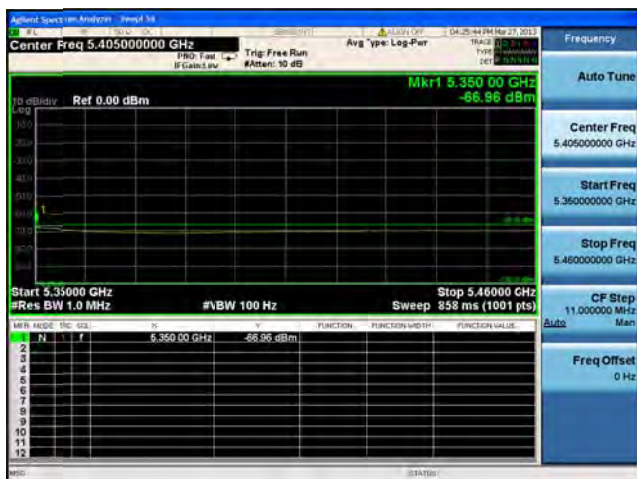
Conducted Bandedge Average, 5320 MHz, HT/VHT20 STBC, M0 to M7, M0.1 to M9.1



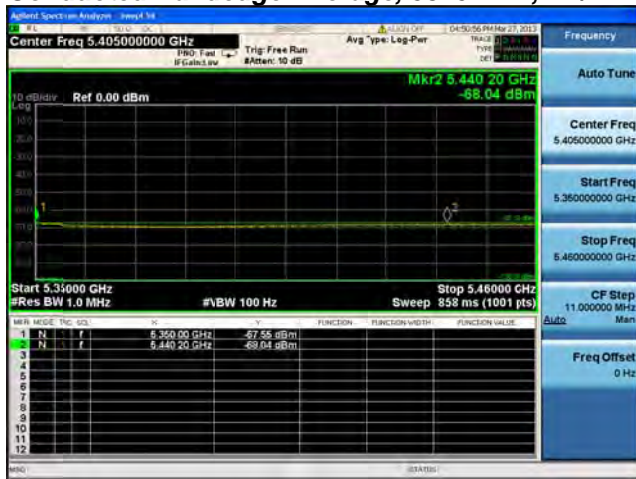
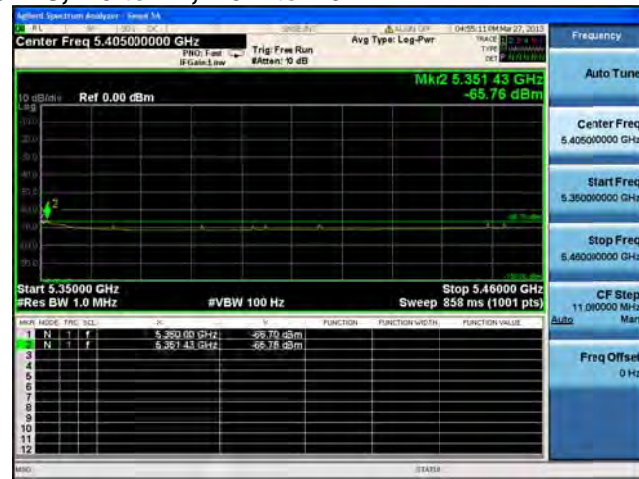
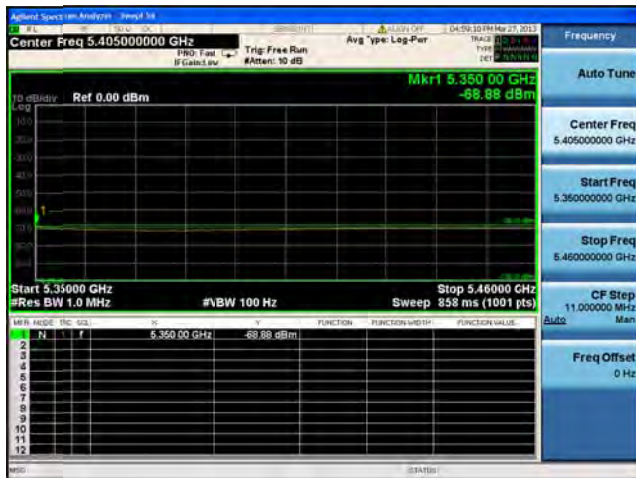
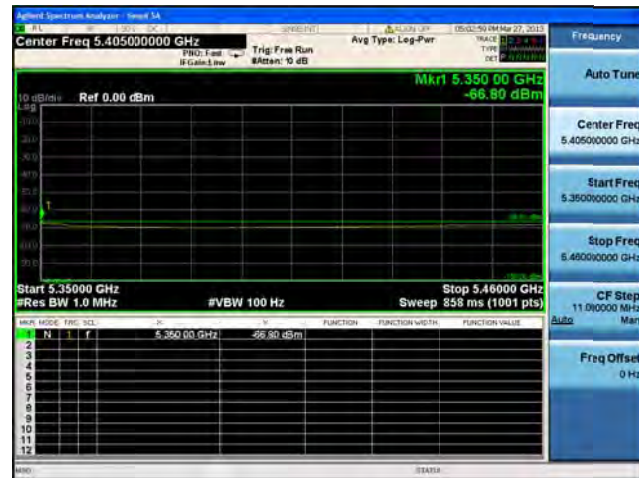
Antenna A



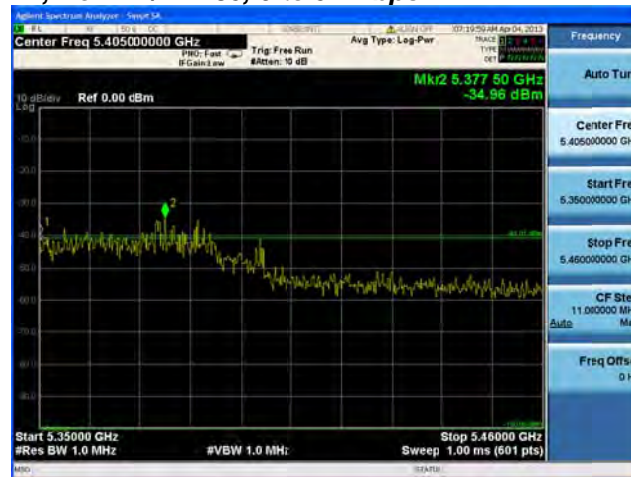
Antenna B

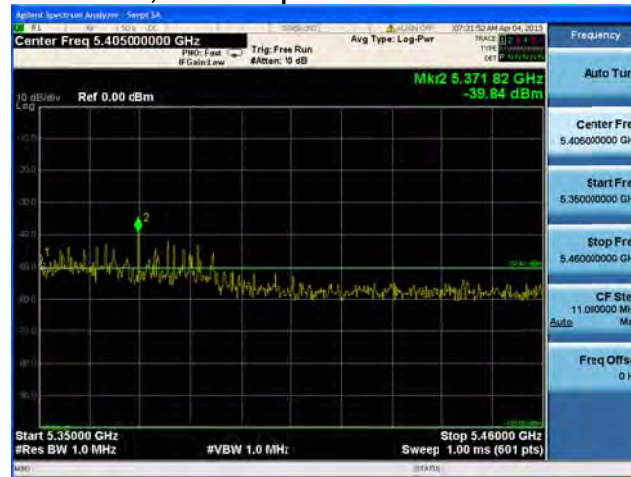
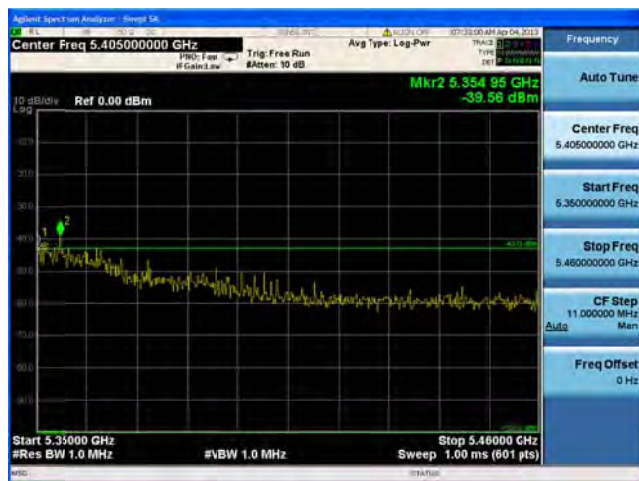


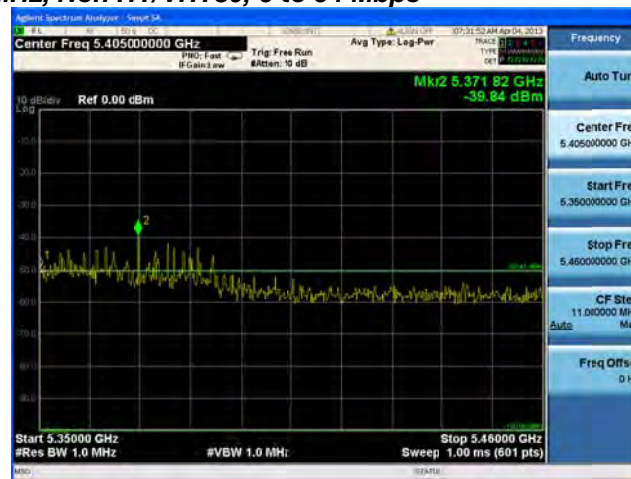
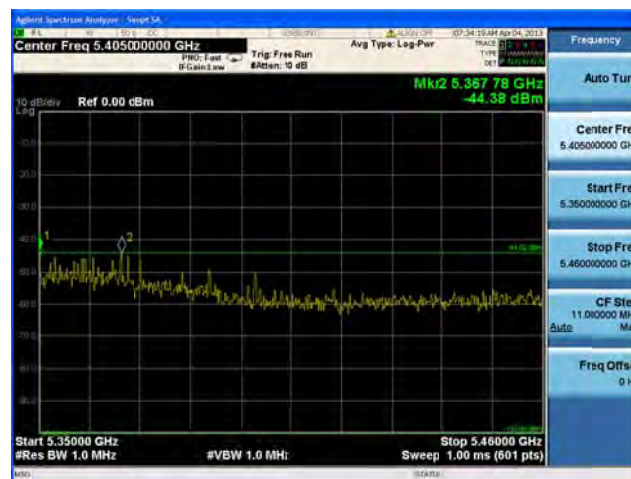
Antenna C

Conducted Bandedge Average, 5320 MHz, HT/VHT20 STBC, M0 to M7, M0.1 to M9.1**Antenna A****Antenna B****Antenna C****Antenna D**

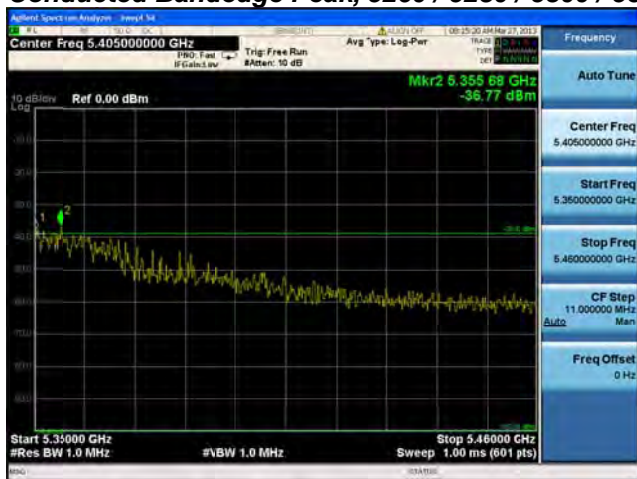
Conducted Bandedge Peak, 5260 / 5280 / 5300 / 5320 MHz, Non HT/VHT80, 6 to 54 Mbps**Antenna A**

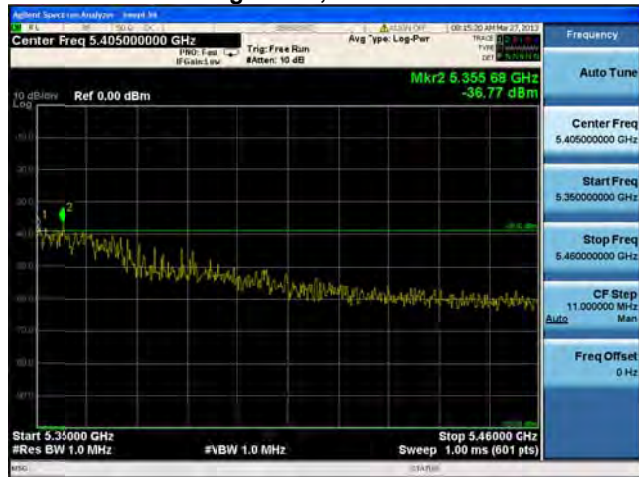
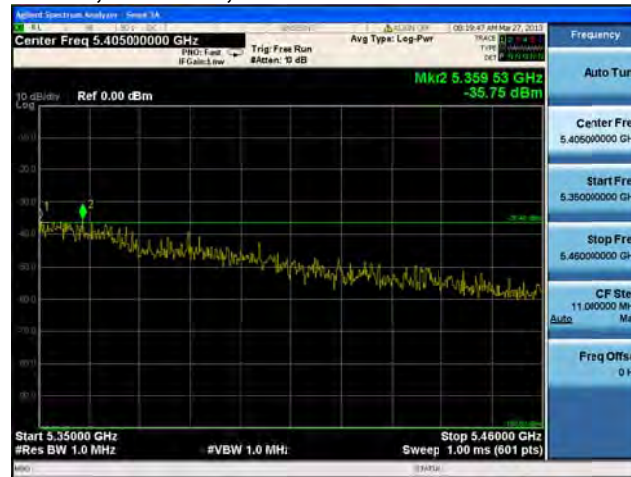
**Conducted Bandedge Peak, 5260 / 5280 / 5300 / 5320 MHz, Non HT/VHT80, 6 to 54 Mbps****Antenna A****Antenna B**

Conducted Bandedge Peak, 5260 / 5280 / 5300 / 5320 MHz, Non HT/VHT80, 6 to 54 Mbps**Antenna A****Antenna B****Antenna C**

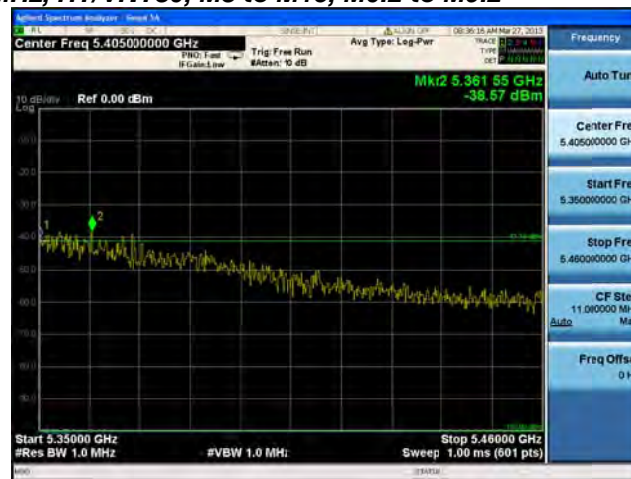
Conducted Bandedge Peak, 5260 / 5280 / 5300 / 5320 MHz, Non HT/VHT80, 6 to 54 Mbps**Antenna A****Antenna B****Antenna C****Antenna D**

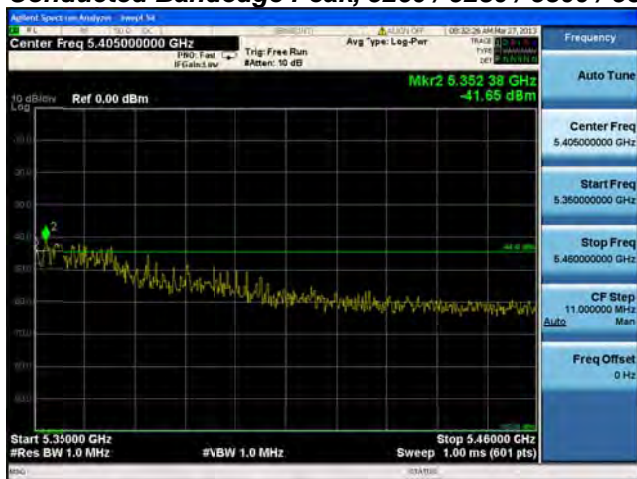
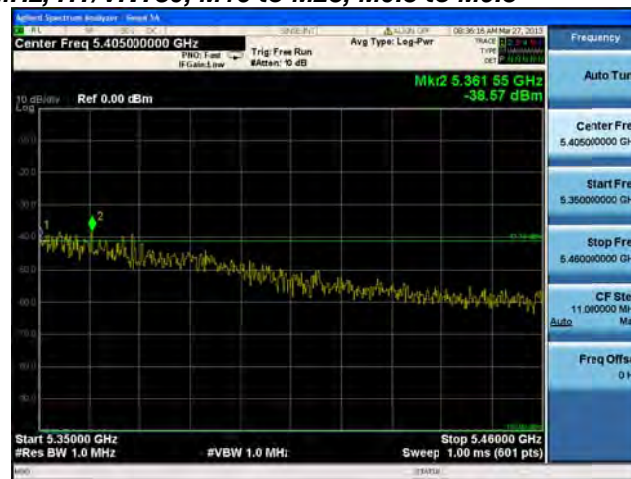
Conducted Bandedge Peak, 5260 / 5280 / 5300 / 5320 MHz, HT/VHT80, M0 to M7, M0.1 to M9.1**Antenna A**

**Conducted Bandedge Peak, 5260 / 5280 / 5300 / 5320 MHz, HT/VHT80, M0 to M7, M0.1 to M9.1****Antenna A****Antenna B**

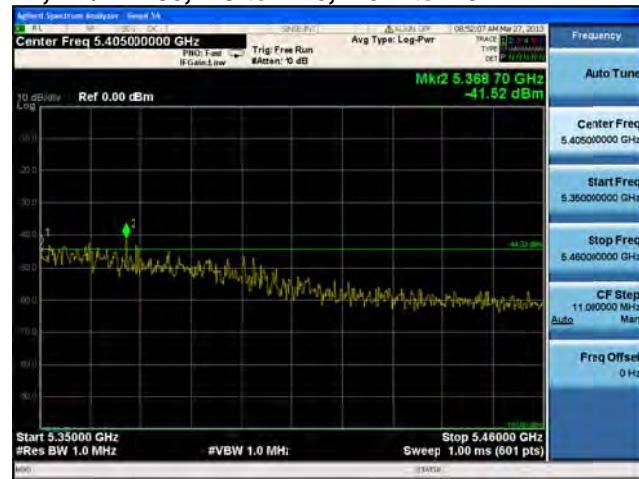
**Conducted Bandedge Peak, 5260 / 5280 / 5300 / 5320 MHz, HT/VHT80, M8 to M15, M0.2 to M9.2****Antenna A****Antenna B**

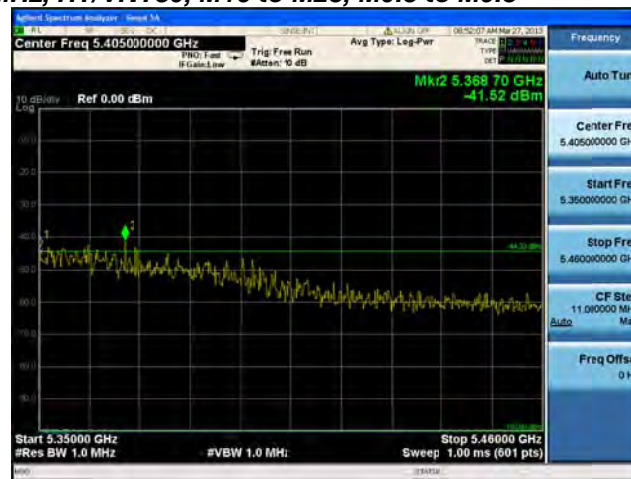
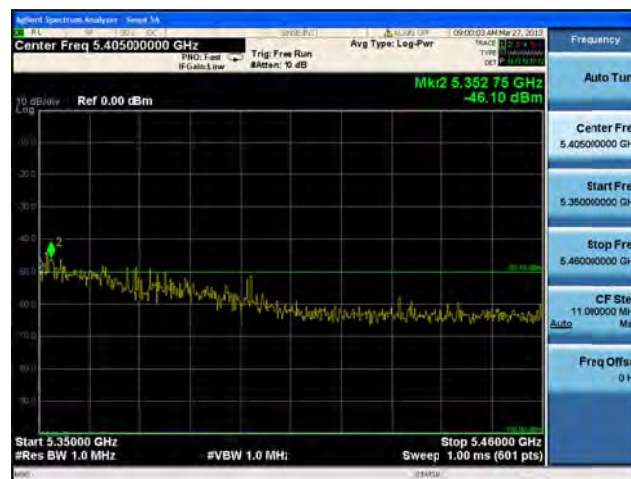
Conducted Bandedge Peak, 5260 / 5280 / 5300 / 5320 MHz, HT/VHT80, M0 to M7, M0.1 to M9.1**Antenna A****Antenna B****Antenna C**

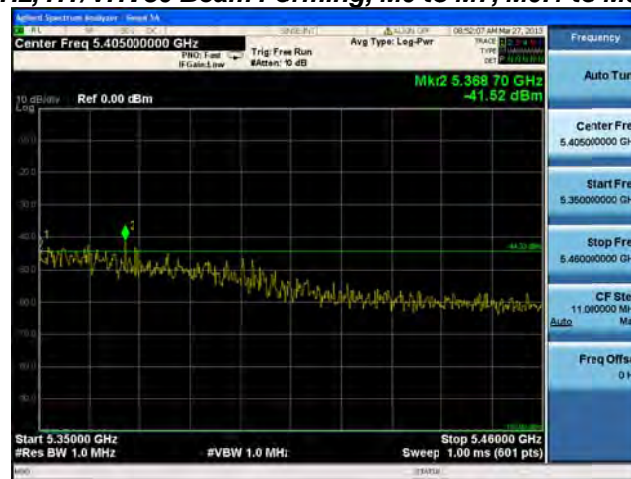
Conducted Bandedge Peak, 5260 / 5280 / 5300 / 5320 MHz, HT/VHT80, M8 to M15, M0.2 to M9.2**Antenna A****Antenna B****Antenna C**

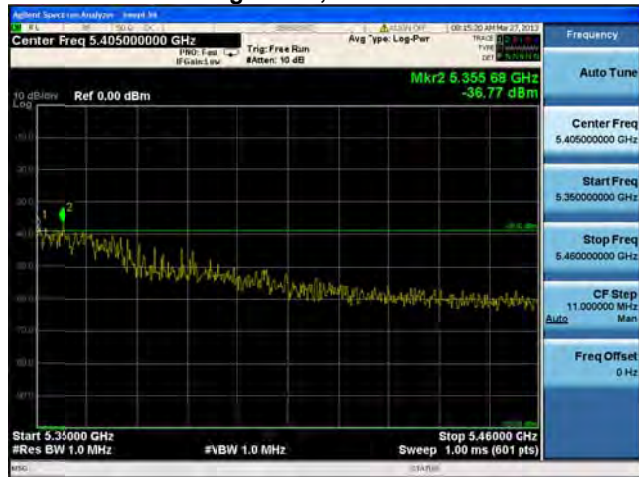
Conducted Bandedge Peak, 5260 / 5280 / 5300 / 5320 MHz, HT/VHT80, M16 to M23, M0.3 to M9.3**Antenna A****Antenna B****Antenna C**

Conducted Bandedge Peak, 5260 / 5280 / 5300 / 5320 MHz, HT/VHT80, M0 to M7, M0.1 to M9.1**Antenna A****Antenna B****Antenna C****Antenna D**

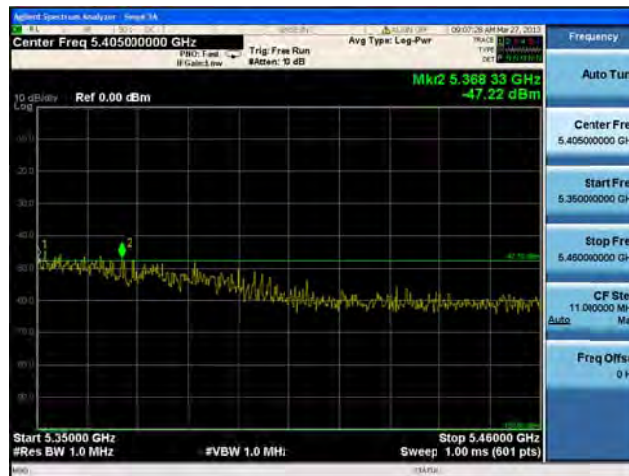
Conducted Bandedge Peak, 5260 / 5280 / 5300 / 5320 MHz, HT/VHT80, M8 to M15, M0.2 to M9.2**Antenna A****Antenna B****Antenna C****Antenna D**

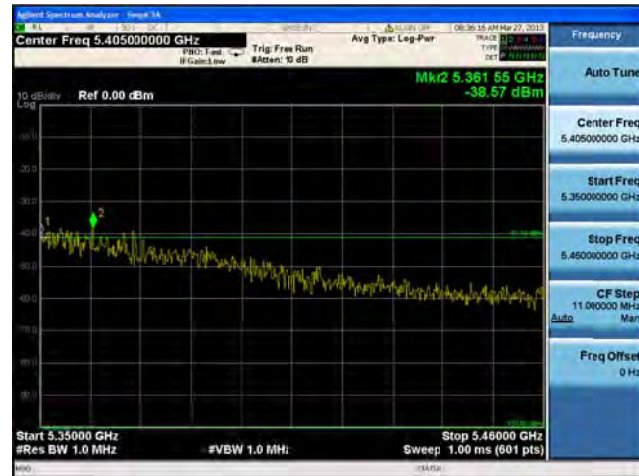
Conducted Bandedge Peak, 5260 / 5280 / 5300 / 5320 MHz, HT/VHT80, M16 to M23, M0.3 to M9.3**Antenna A****Antenna B****Antenna C****Antenna D**

Conducted Bandedge Peak, 5260 / 5280 / 5300 / 5320 MHz, HT/VHT80 Beam Forming, M0 to M7, M0.1 to M9.1**Antenna A****Antenna B**

**Conducted Bandedge Peak, 5260 / 5280 / 5300 / 5320 MHz, HT/VHT80 Beam Forming, M8 to M15, M0.2 to M9.2****Antenna A****Antenna B**

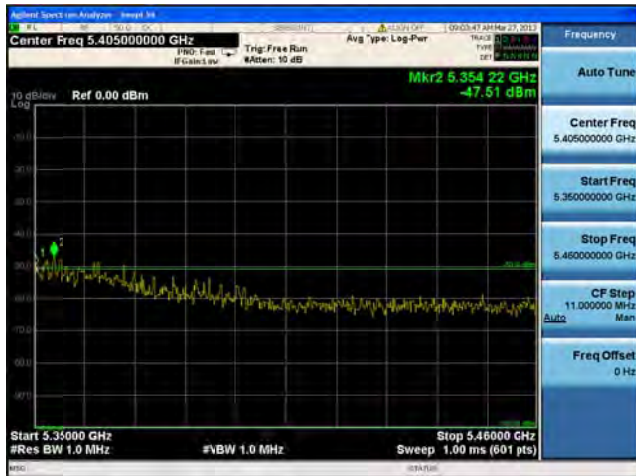
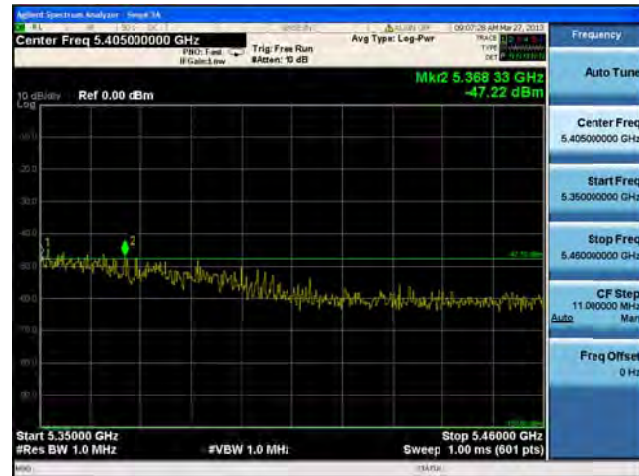
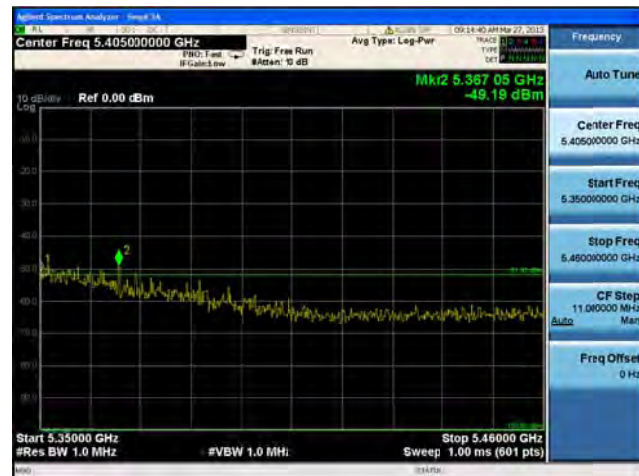
Conducted Bandedge Peak, 5260 / 5280 / 5300 / 5320 MHz, HT/VHT80 Beam Forming, M0 to M7, M0.1 to M9.1**Antenna A****Antenna B****Antenna C**

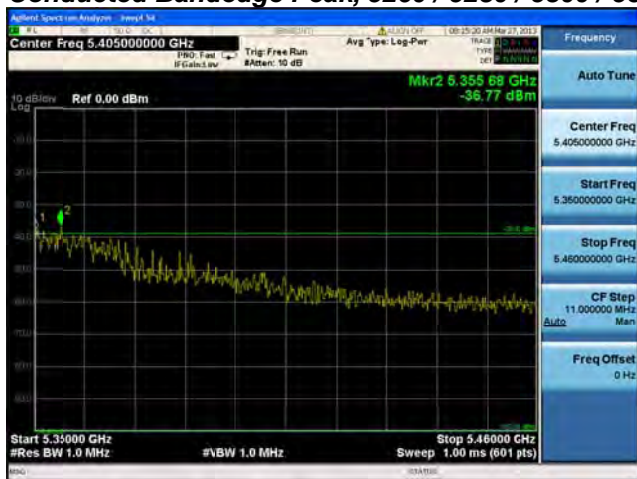
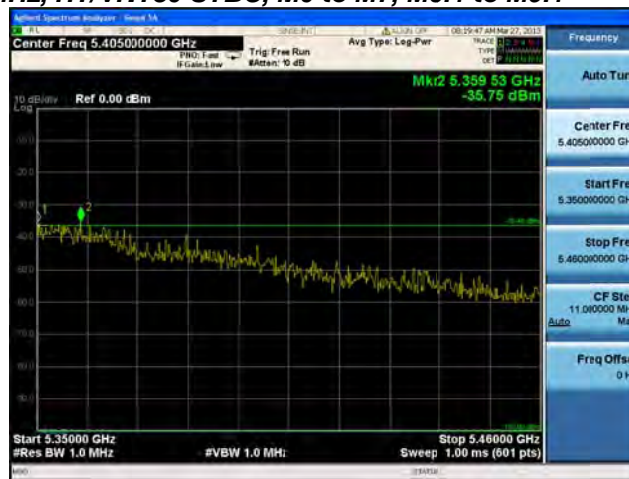
**Conducted Bandedge Peak, 5260 / 5280 / 5300 / 5320 MHz, HT/VHT80 Beam Forming, M8 to M15, M0.2 to M9.2****Antenna A****Antenna B****Antenna C**

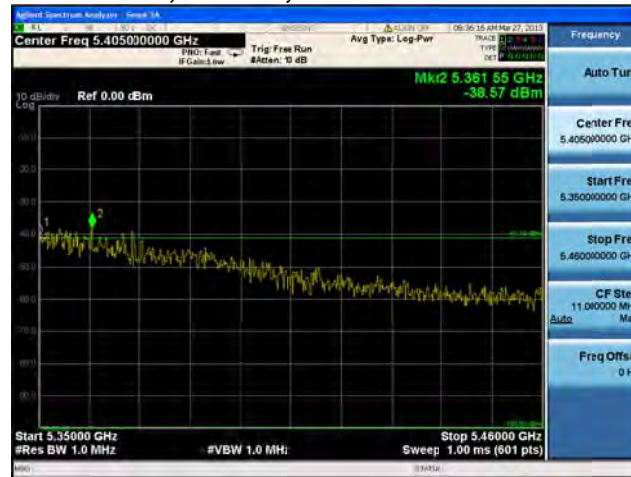
**Conducted Bandedge Peak, 5260 / 5280 / 5300 / 5320 MHz, HT/VHT80 Beam Forming, M16 to M23, M0.3 to M9.3****Antenna A****Antenna B****Antenna C**

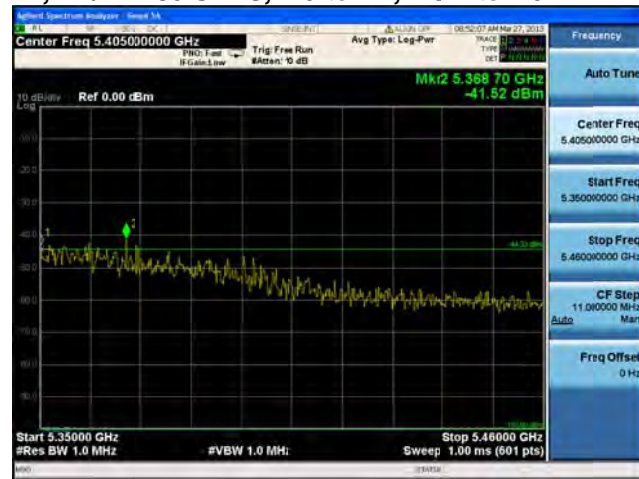
Conducted Bandedge Peak, 5260 / 5280 / 5300 / 5320 MHz, HT/VHT80 Beam Forming, M0 to M7, M0.1 to M9.1**Antenna A****Antenna B****Antenna C****Antenna D**

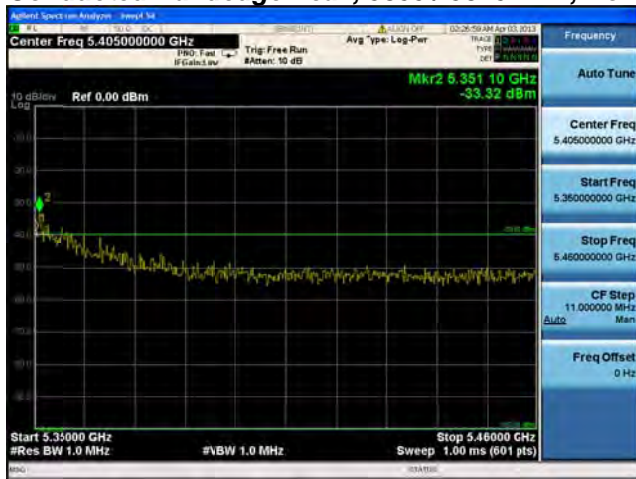
**Conducted Bandedge Peak, 5260 / 5280 / 5300 / 5320 MHz, HT/VHT80 Beam Forming, M8 to M15, M0.2 to M9.2****Antenna A****Antenna B****Antenna C****Antenna D**

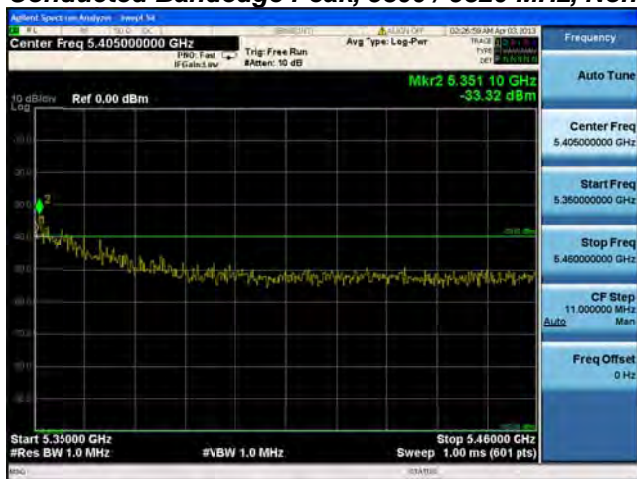
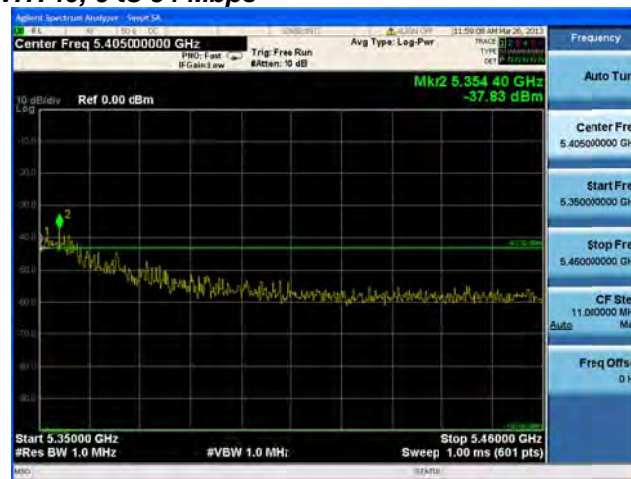
**Conducted Bandedge Peak, 5260 / 5280 / 5300 / 5320 MHz, HT/VHT80 Beam Forming, M16 to M23, M0.3 to M9.3****Antenna A****Antenna B****Antenna C****Antenna D**

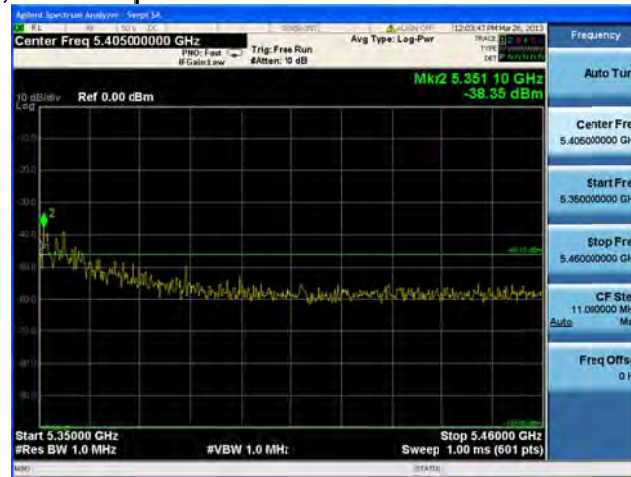
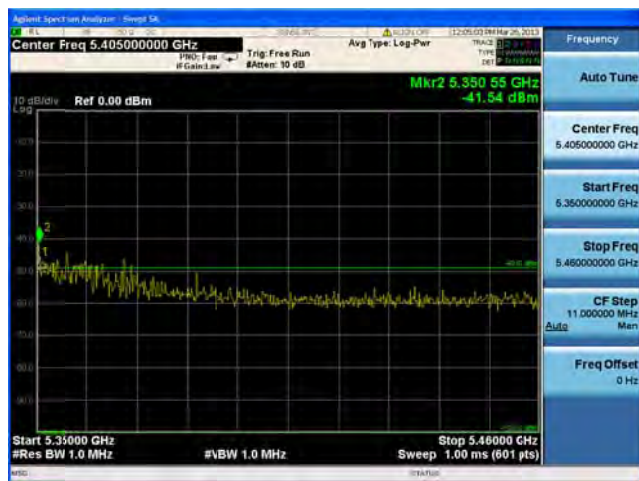
**Conducted Bandedge Peak, 5260 / 5280 / 5300 / 5320 MHz, HT/VHT80 STBC, M0 to M7, M0.1 to M9.1****Antenna A****Antenna B**

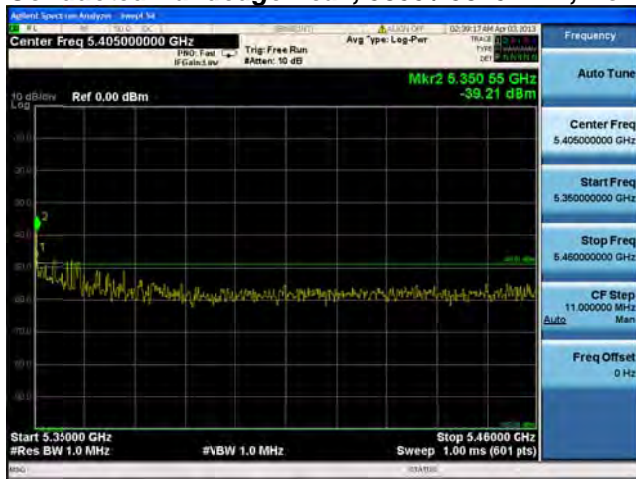
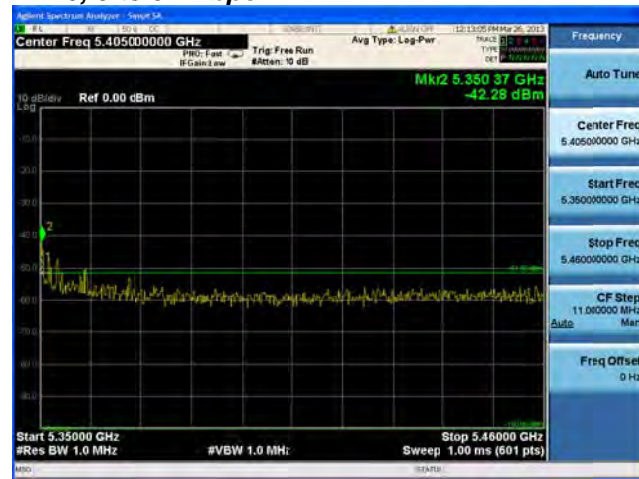
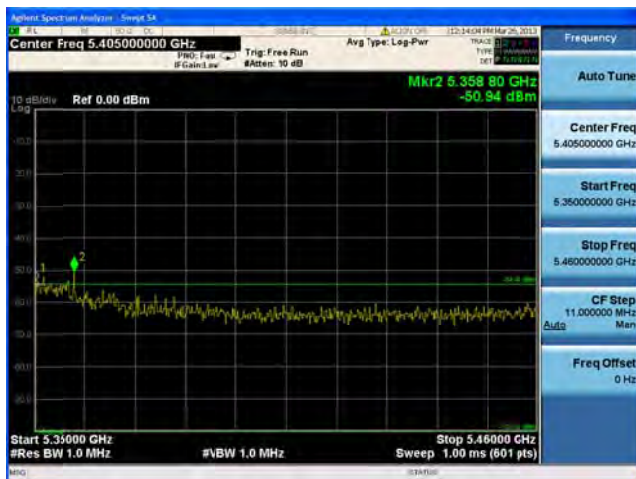
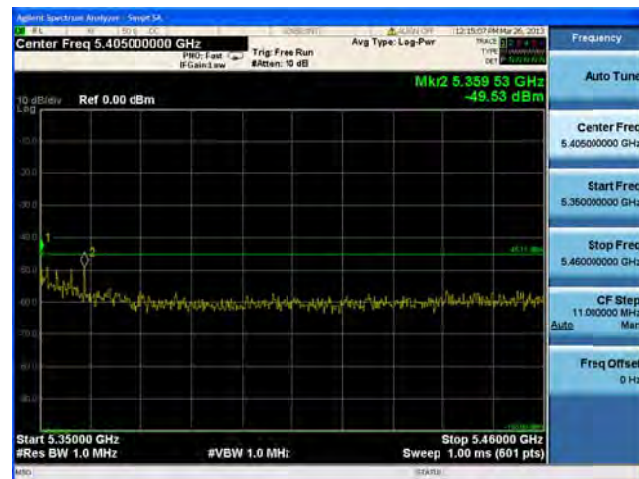
Conducted Bandedge Peak, 5260 / 5280 / 5300 / 5320 MHz, HT/VHT80 STBC, M0 to M7, M0.1 to M9.1**Antenna A****Antenna B****Antenna C**

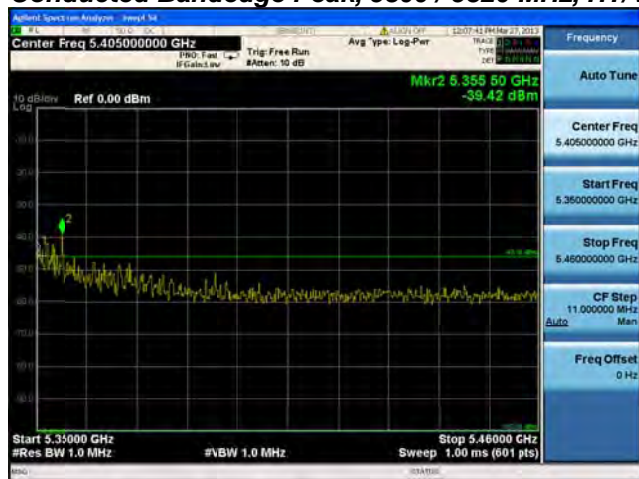
Conducted Bandedge Peak, 5260 / 5280 / 5300 / 5320 MHz, HT/VHT80 STBC, M0 to M7, M0.1 to M9.1**Antenna A****Antenna B****Antenna C****Antenna D**

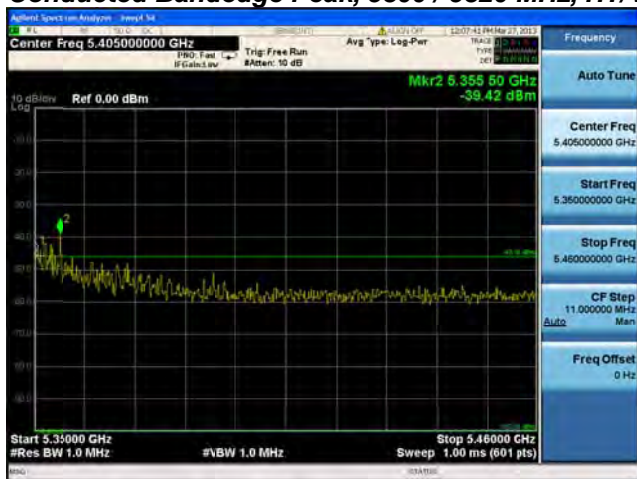
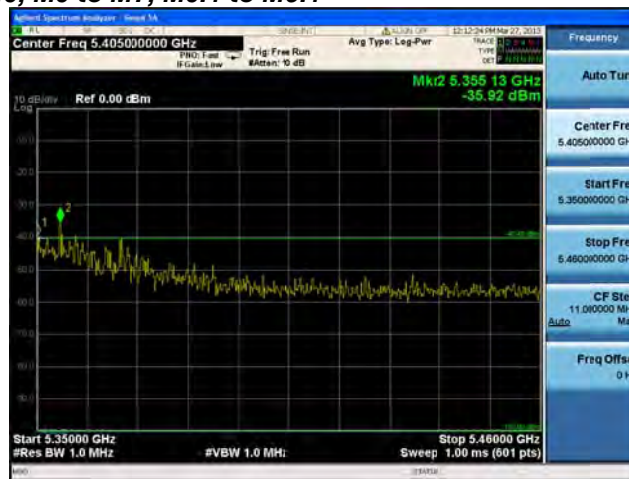
**Conducted Bandedge Peak, 5300 / 5320 MHz, Non HT/VHT40, 6 to 54 Mbps****Antenna A**

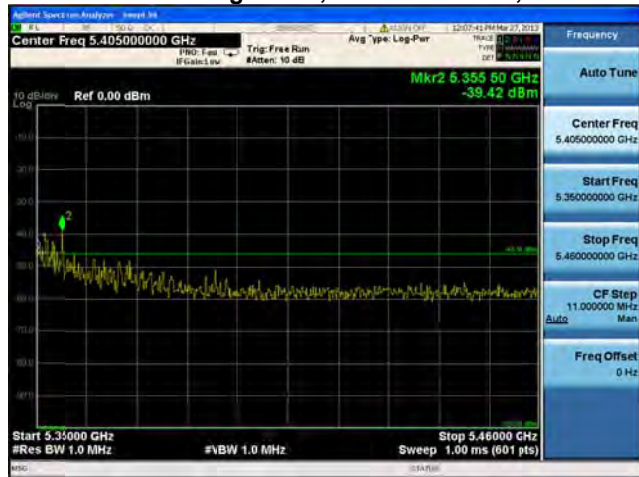
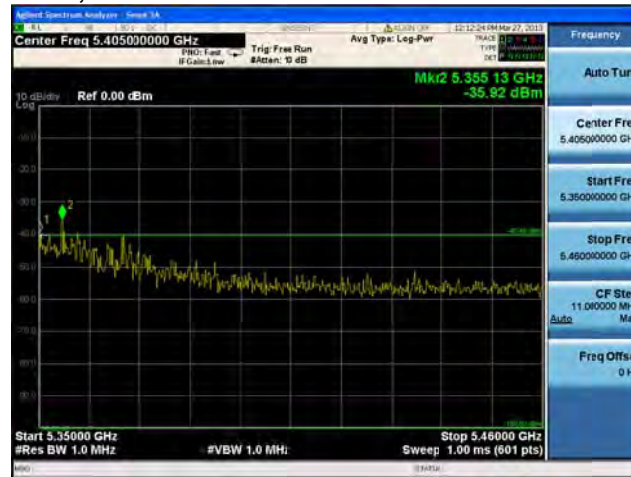
Conducted Bandedge Peak, 5300 / 5320 MHz, Non HT/VHT40, 6 to 54 Mbps**Antenna A****Antenna B**

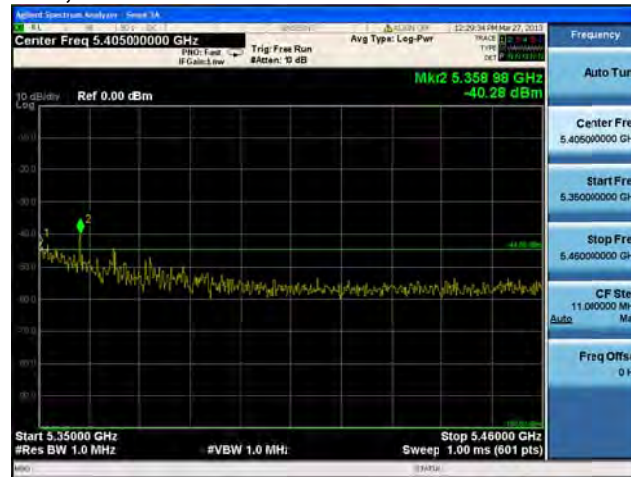
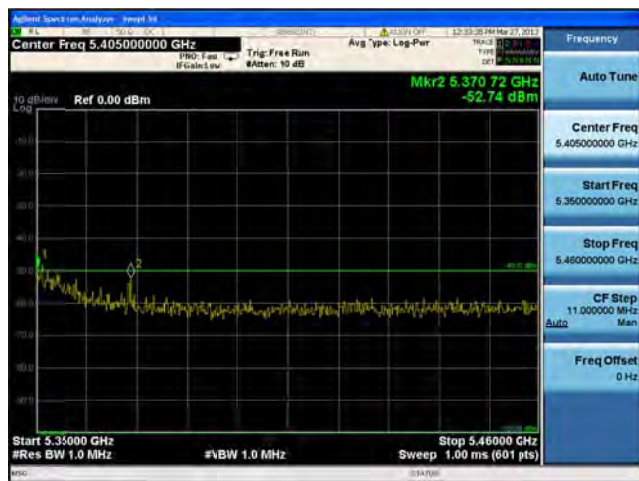
Conducted Bandedge Peak, 5300 / 5320 MHz, Non HT/VHT40, 6 to 54 Mbps**Antenna A****Antenna B****Antenna C**

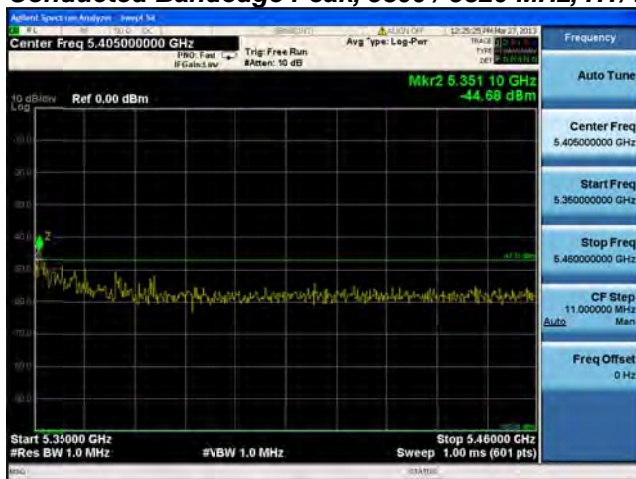
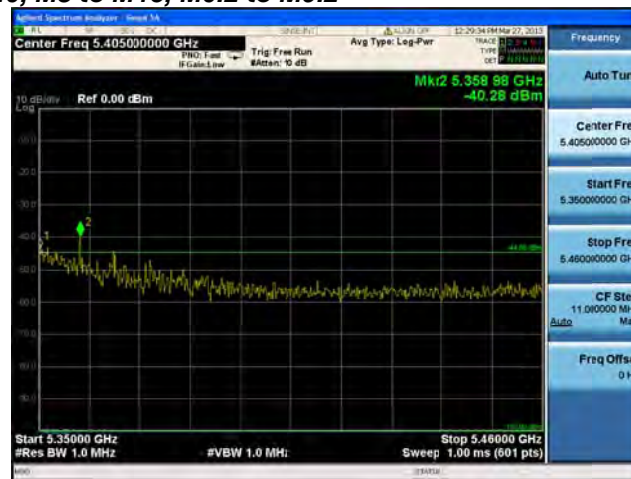
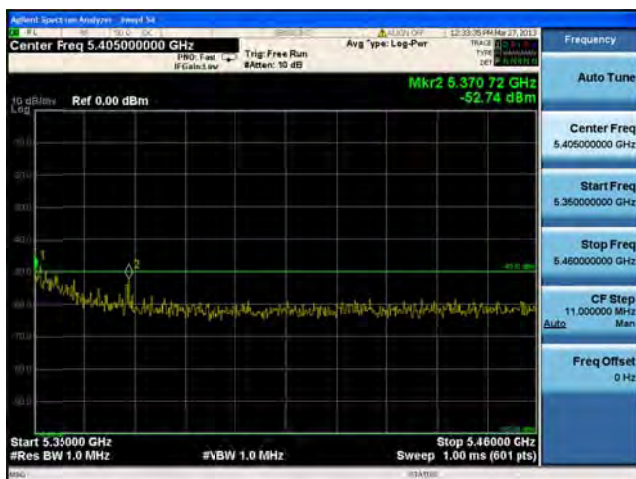
Conducted Bandedge Peak, 5300 / 5320 MHz, Non HT/VHT40, 6 to 54 Mbps**Antenna A****Antenna B****Antenna C****Antenna D**

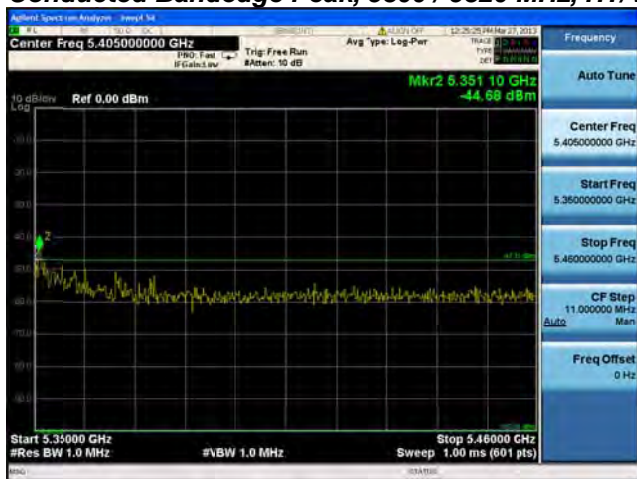
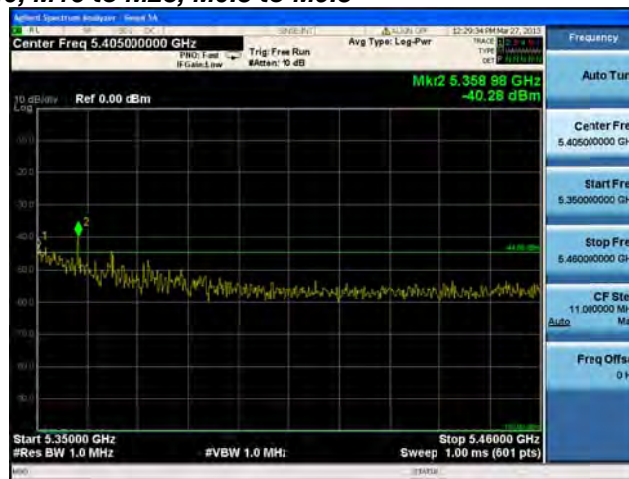
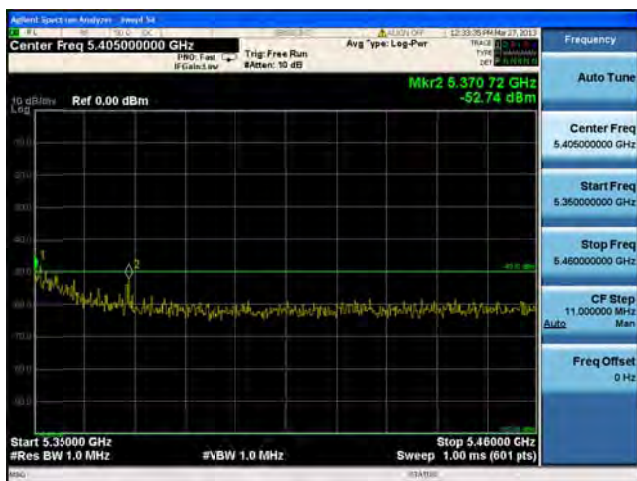
Conducted Bandedge Peak, 5300 / 5320 MHz, HT/VHT40, M0 to M7, M0.1 to M9.1**Antenna A**

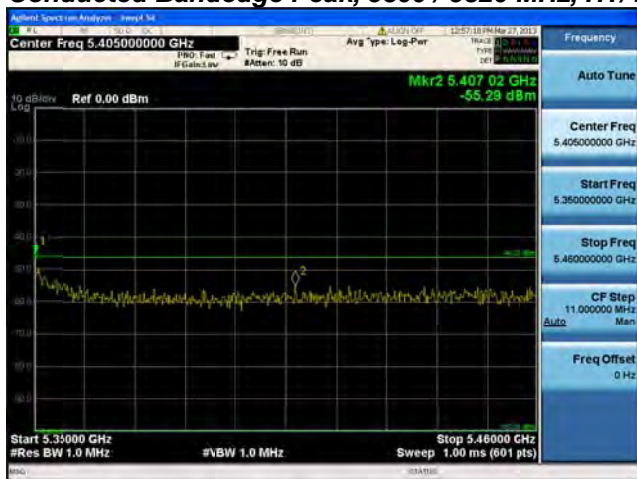
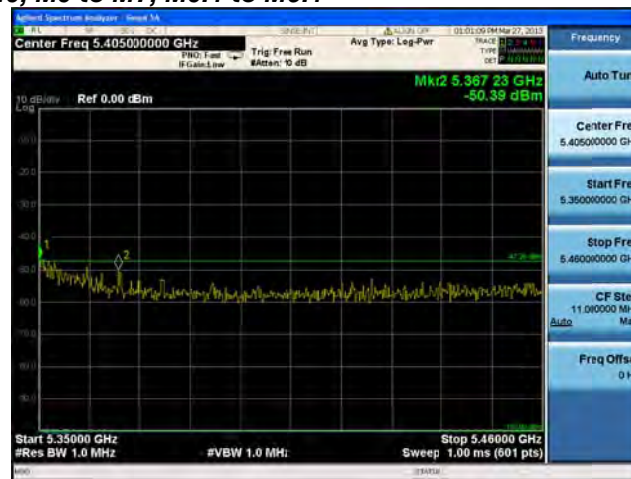
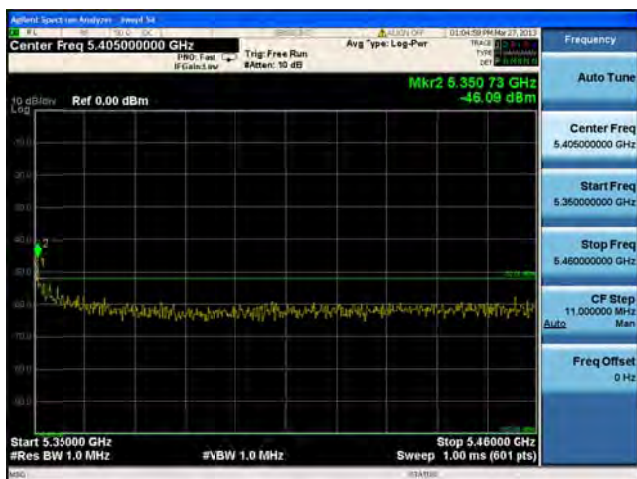
Conducted Bandedge Peak, 5300 / 5320 MHz, HT/VHT40, M0 to M7, M0.1 to M9.1**Antenna A****Antenna B**

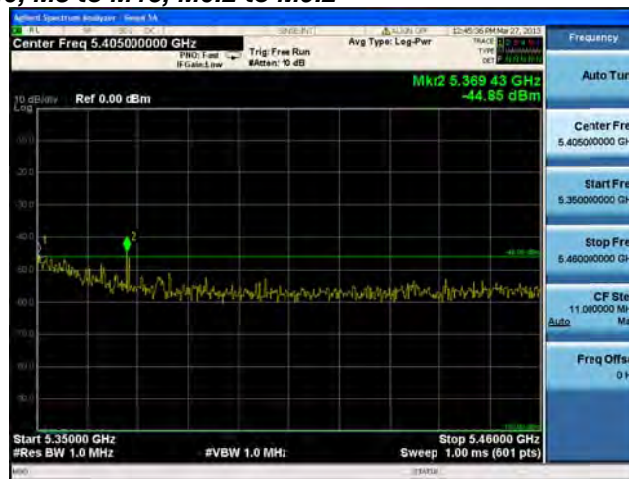
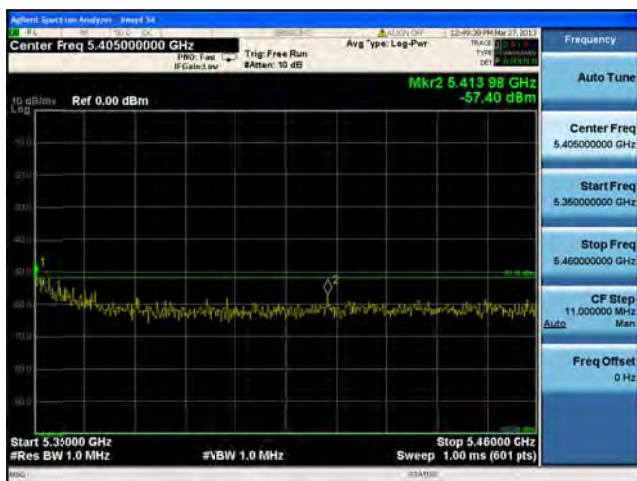
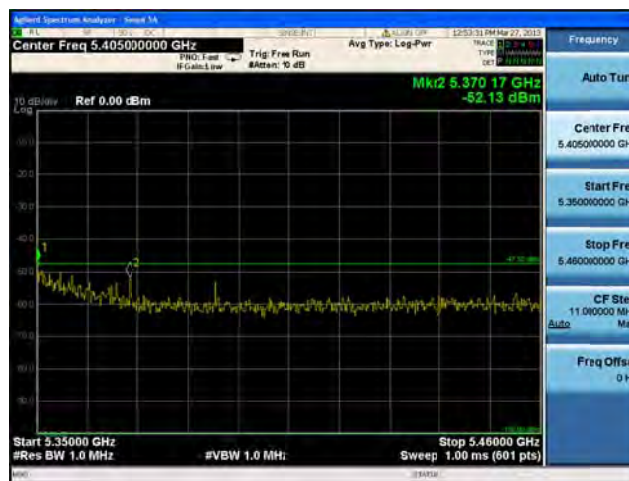
Conducted Bandedge Peak, 5300 / 5320 MHz, HT/VHT40, M8 to M15, M0.2 to M9.2**Antenna A****Antenna B**

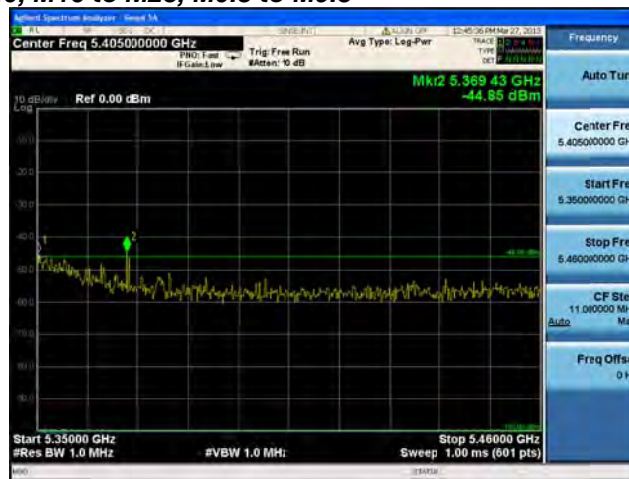
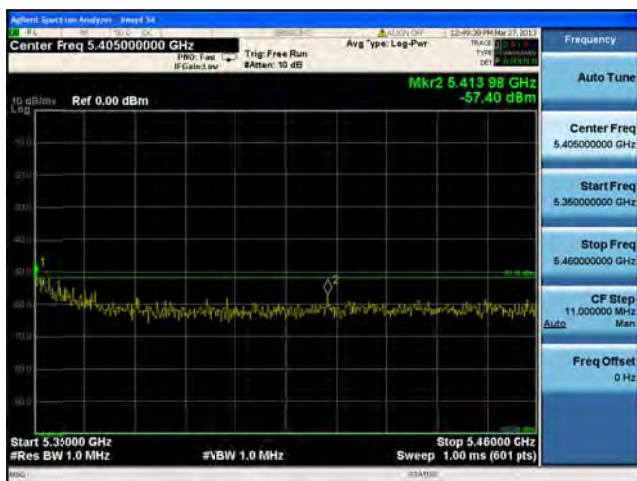
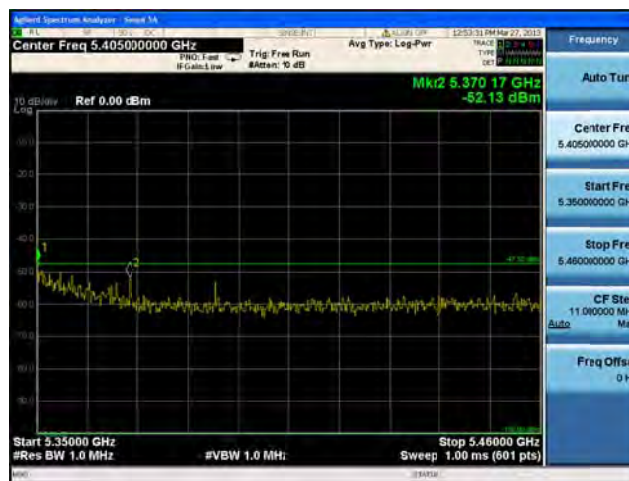
Conducted Bandedge Peak, 5300 / 5320 MHz, HT/VHT40, M0 to M7, M0.1 to M9.1**Antenna A****Antenna B****Antenna C**

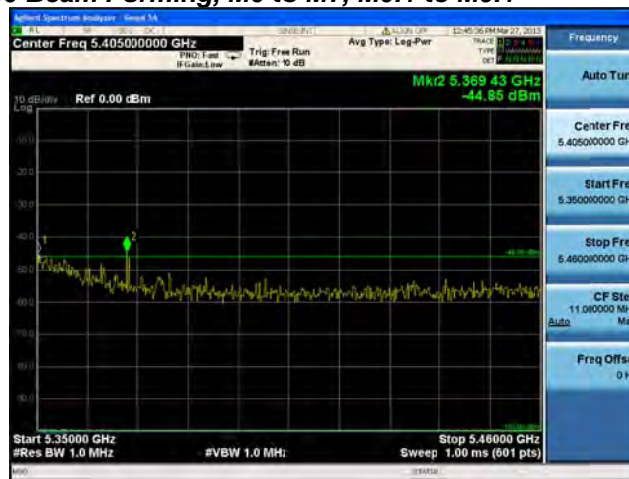
Conducted Bandedge Peak, 5300 / 5320 MHz, HT/VHT40, M8 to M15, M0.2 to M9.2**Antenna A****Antenna B****Antenna C**

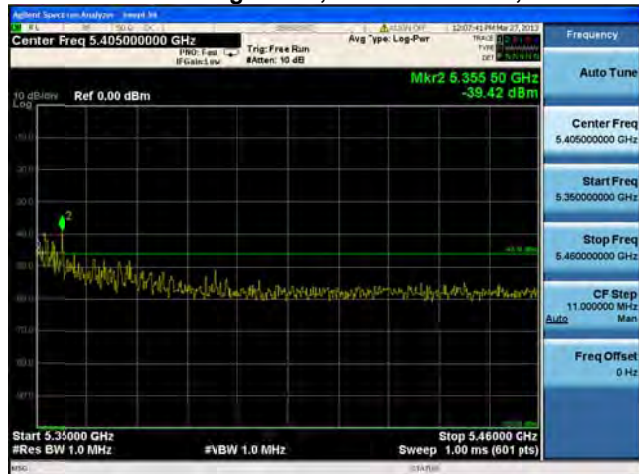
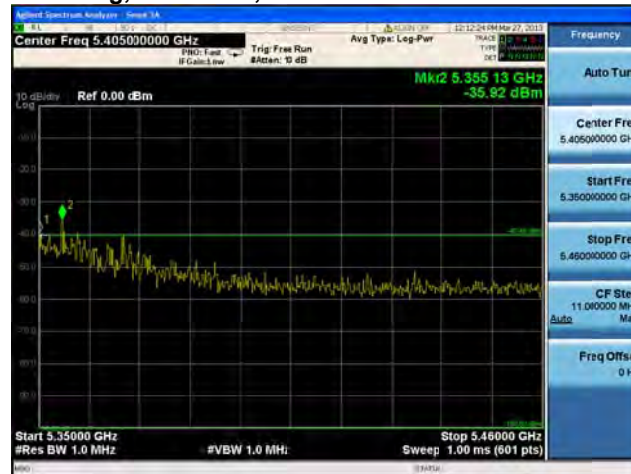
Conducted Bandedge Peak, 5300 / 5320 MHz, HT/VHT40, M16 to M23, M0.3 to M9.3**Antenna A****Antenna B****Antenna C**

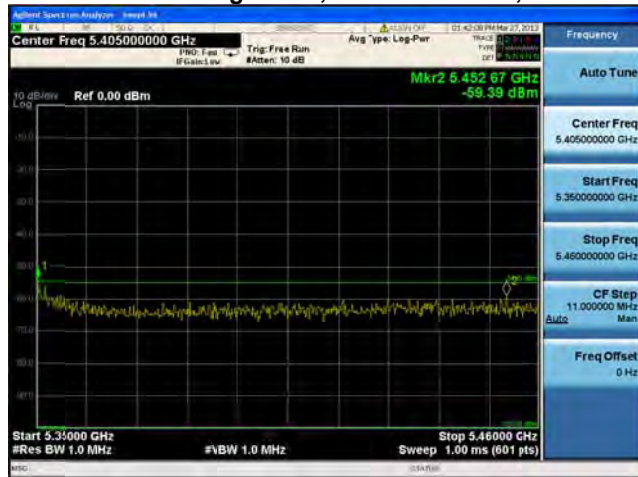
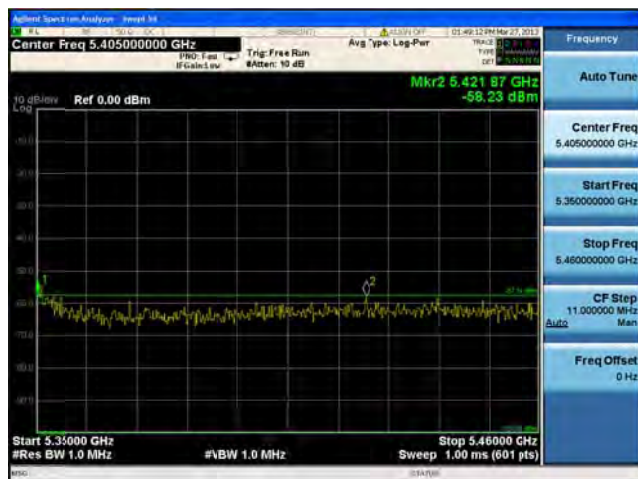
Conducted Bandedge Peak, 5300 / 5320 MHz, HT/VHT40, M0 to M7, M0.1 to M9.1**Antenna A****Antenna B****Antenna C****Antenna D**

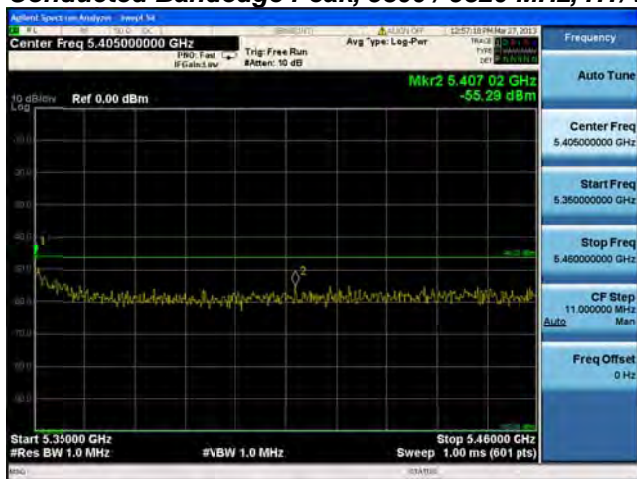
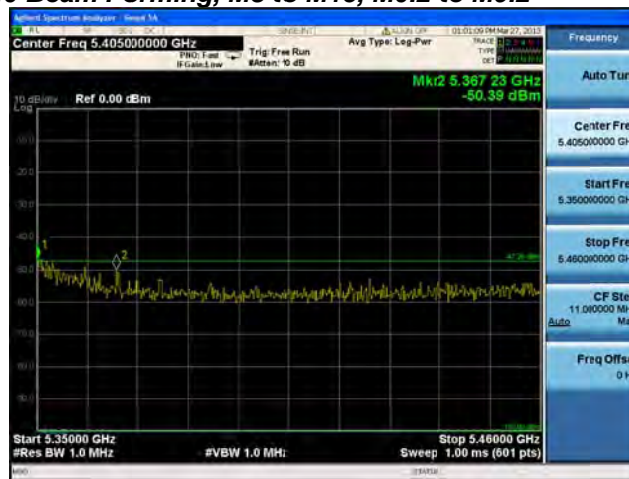
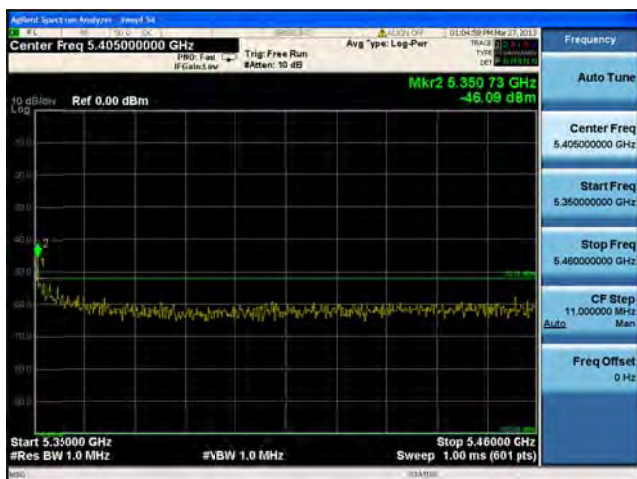
Conducted Bandedge Peak, 5300 / 5320 MHz, HT/VHT40, M8 to M15, M0.2 to M9.2**Antenna A****Antenna B****Antenna C****Antenna D**

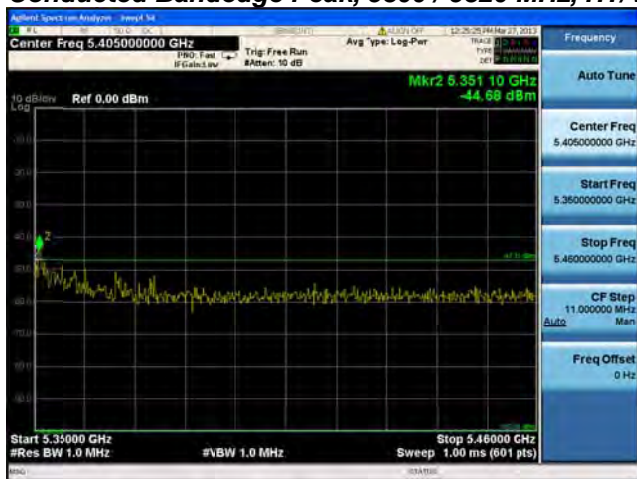
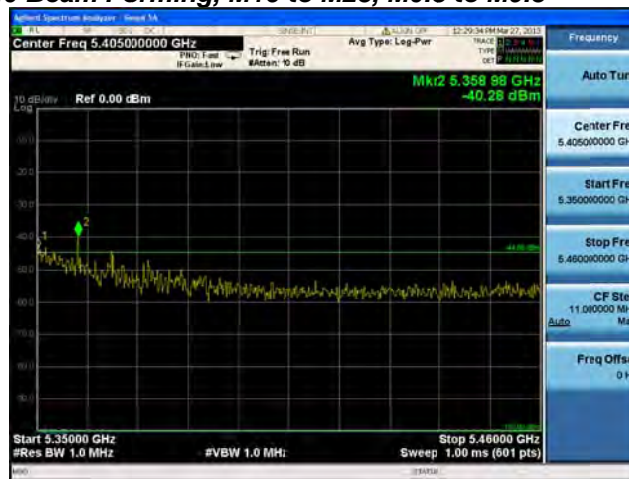
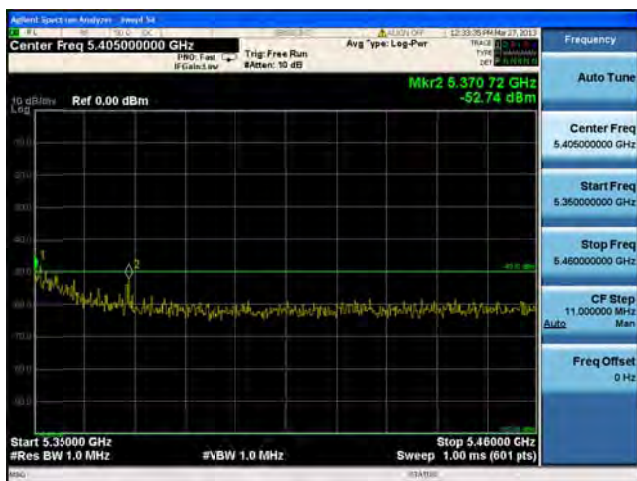
Conducted Bandedge Peak, 5300 / 5320 MHz, HT/VHT40, M16 to M23, M0.3 to M9.3**Antenna A****Antenna B****Antenna C****Antenna D**

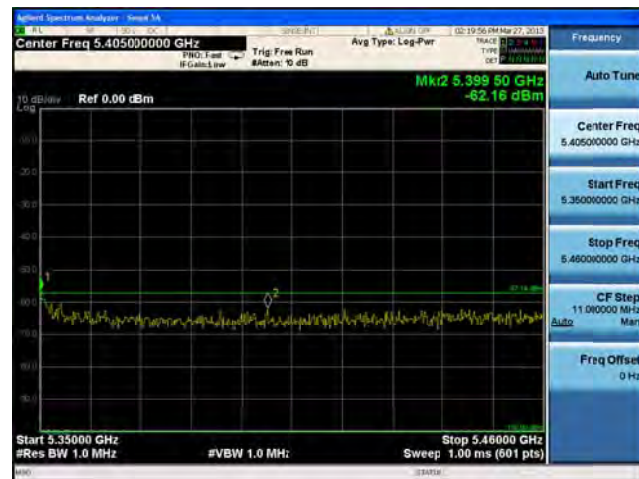
Conducted Bandedge Peak, 5300 / 5320 MHz, HT/VHT40 Beam Forming, M0 to M7, M0.1 to M9.1**Antenna A****Antenna B**

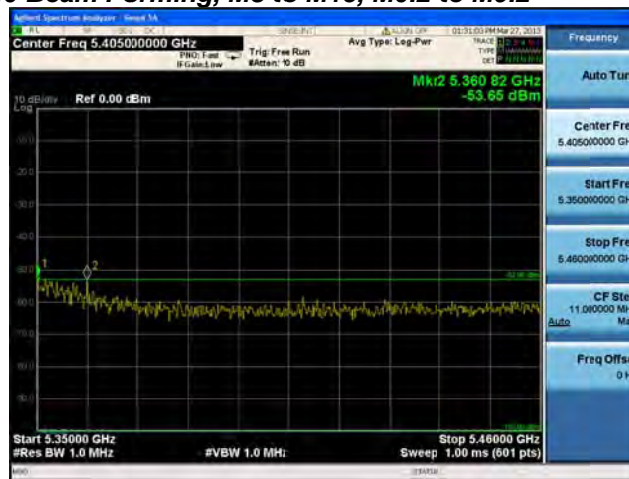
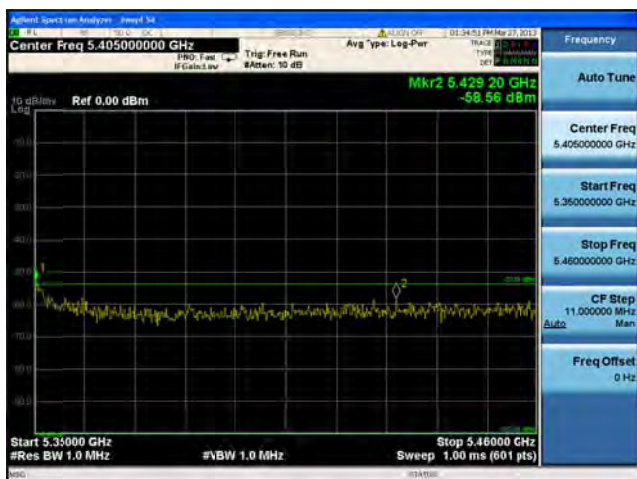
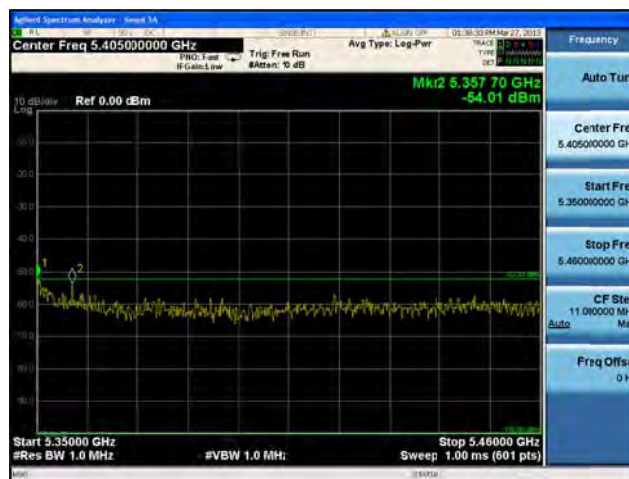
Conducted Bandedge Peak, 5300 / 5320 MHz, HT/VHT40 Beam Forming, M8 to M15, M0.2 to M9.2**Antenna A****Antenna B**

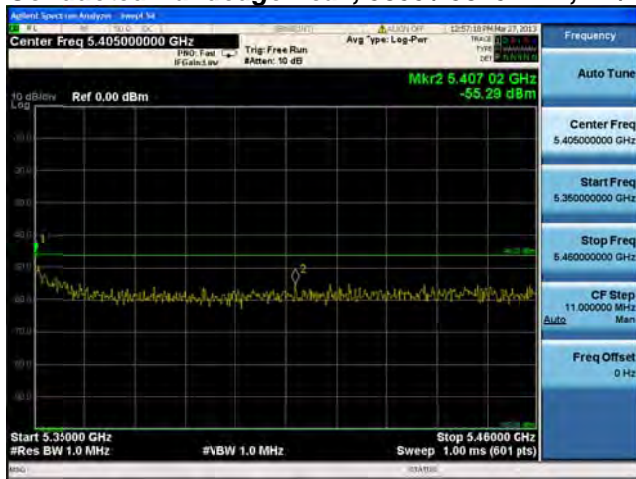
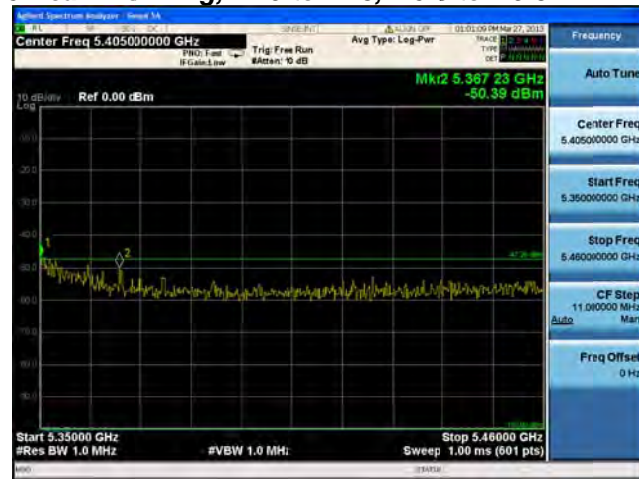
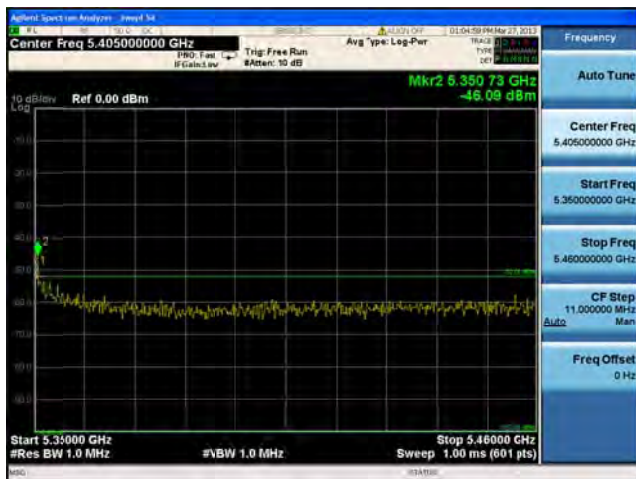
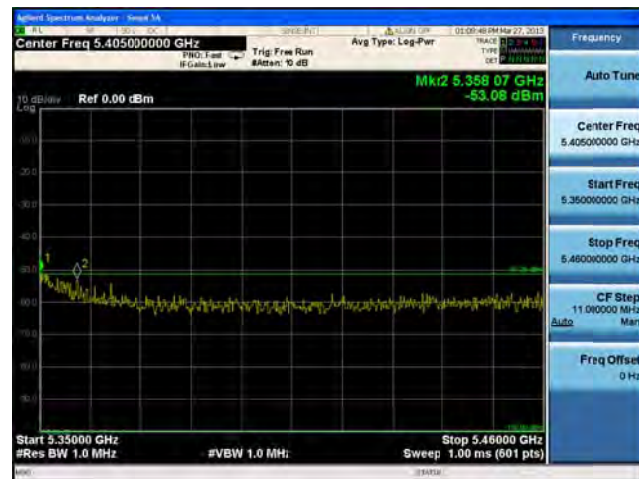
Conducted Bandedge Peak, 5300 / 5320 MHz, HT/VHT40 Beam Forming, M0 to M7, M0.1 to M9.1**Antenna A****Antenna B****Antenna C**

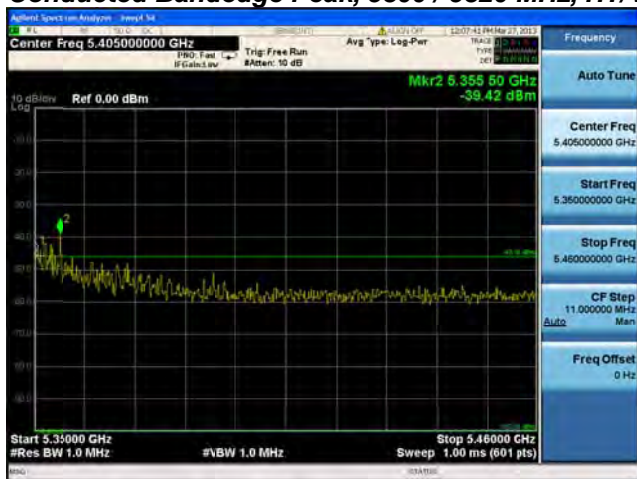
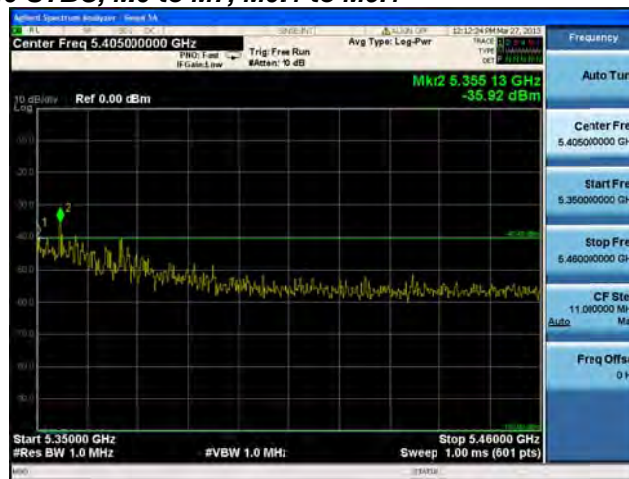
Conducted Bandedge Peak, 5300 / 5320 MHz, HT/VHT40 Beam Forming, M8 to M15, M0.2 to M9.2**Antenna A****Antenna B****Antenna C**

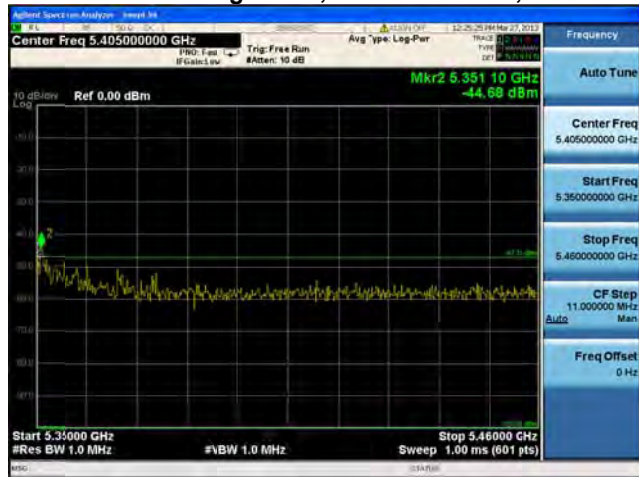
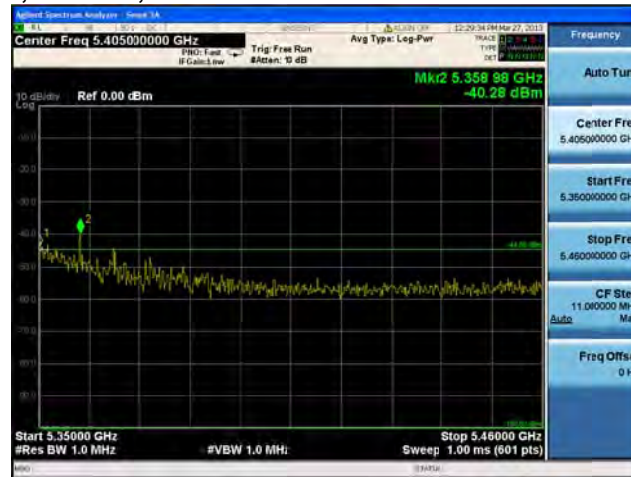
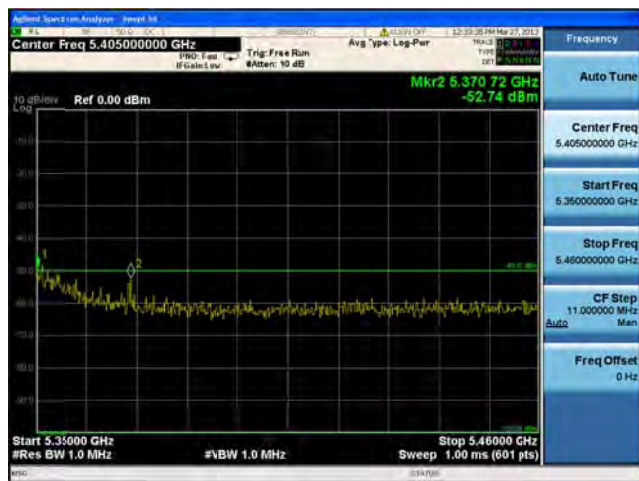
Conducted Bandedge Peak, 5300 / 5320 MHz, HT/VHT40 Beam Forming, M16 to M23, M0.3 to M9.3**Antenna A****Antenna B****Antenna C**

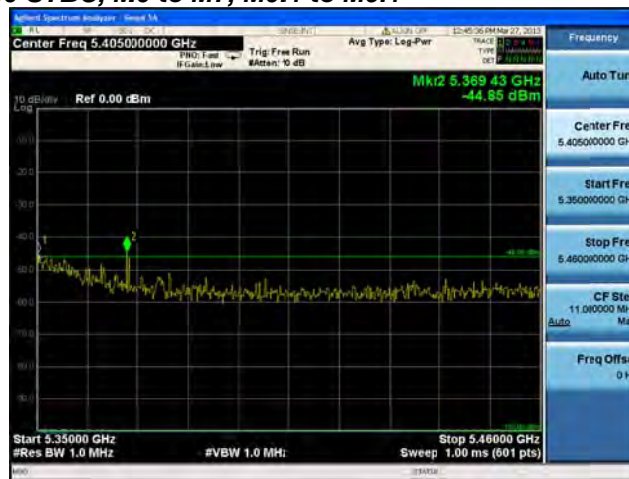
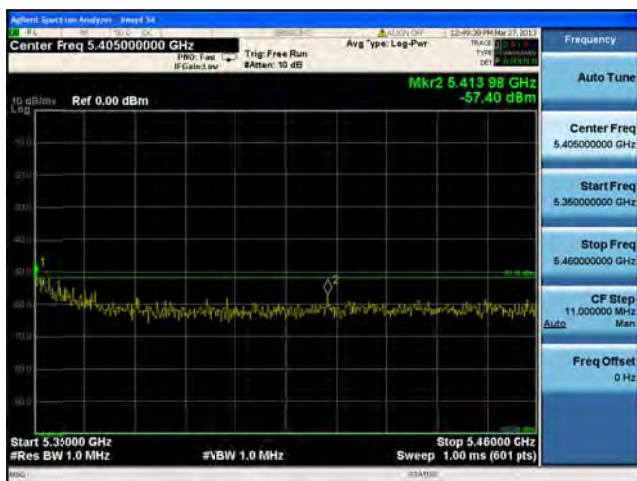
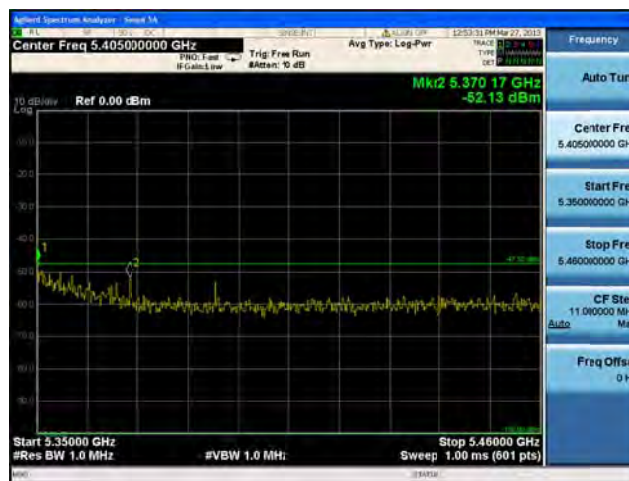
Conducted Bandedge Peak, 5300 / 5320 MHz, HT/VHT40 Beam Forming, M0 to M7, M0.1 to M9.1**Antenna A****Antenna B****Antenna C****Antenna D**

Conducted Bandedge Peak, 5300 / 5320 MHz, HT/VHT40 Beam Forming, M8 to M15, M0.2 to M9.2**Antenna A****Antenna B****Antenna C****Antenna D**

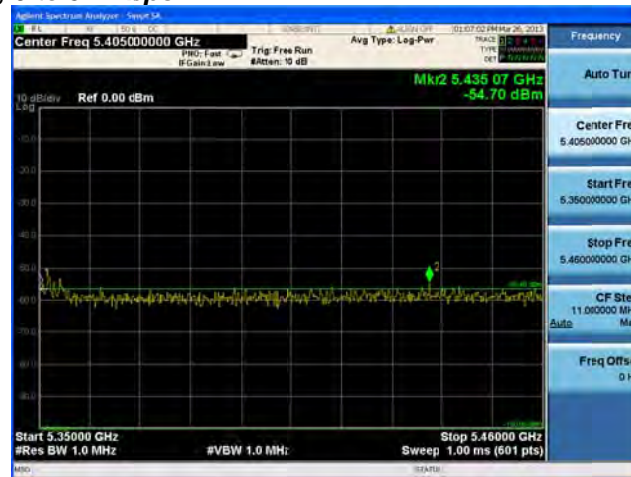
Conducted Bandedge Peak, 5300 / 5320 MHz, HT/VHT40 Beam Forming, M16 to M23, M0.3 to M9.3**Antenna A****Antenna B****Antenna C****Antenna D**

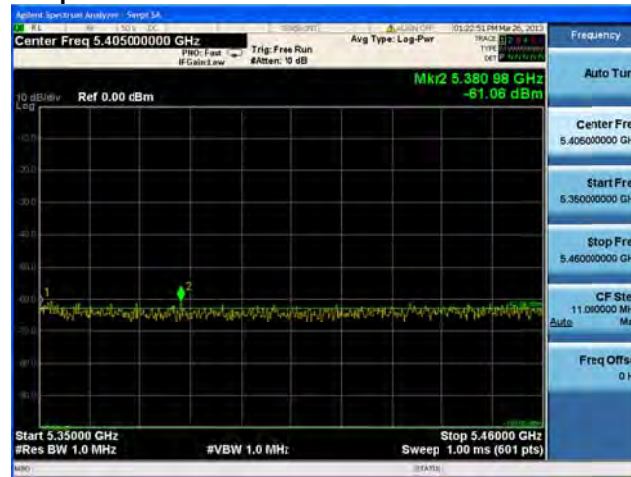
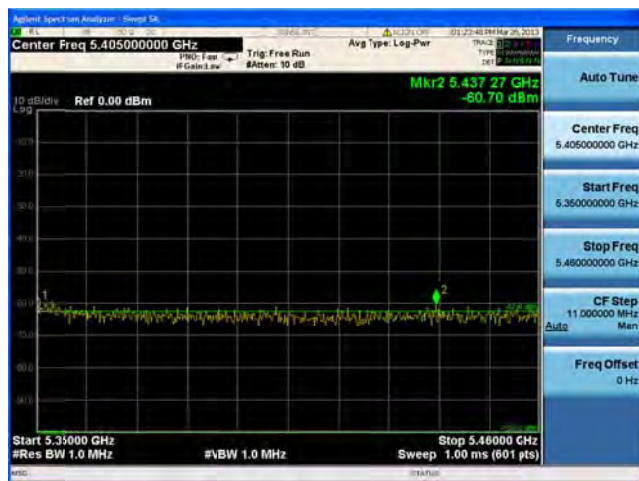
Conducted Bandedge Peak, 5300 / 5320 MHz, HT/VHT40 STBC, M0 to M7, M0.1 to M9.1**Antenna A****Antenna B**

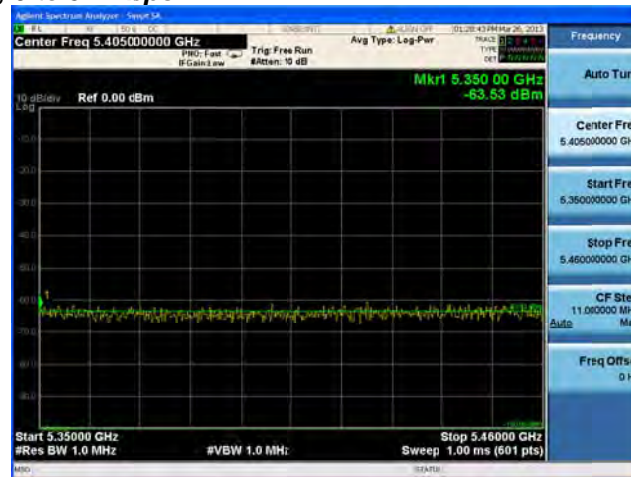
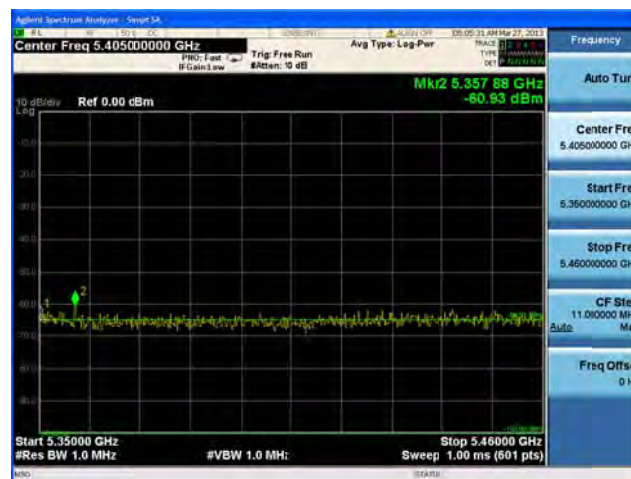
Conducted Bandedge Peak, 5300 / 5320 MHz, HT/VHT40 STBC, M0 to M7, M0.1 to M9.1**Antenna A****Antenna B****Antenna C**

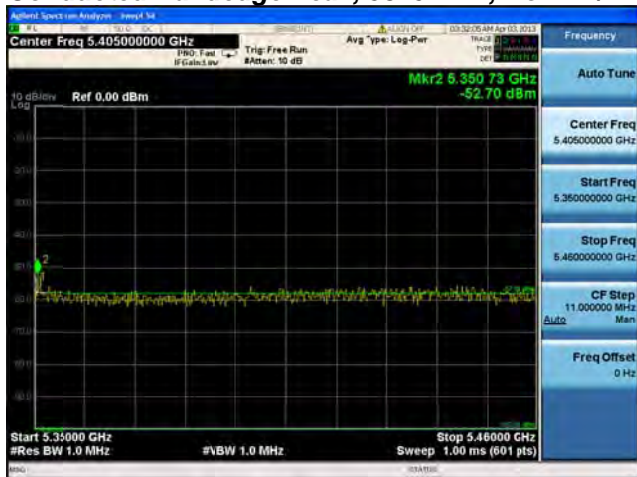
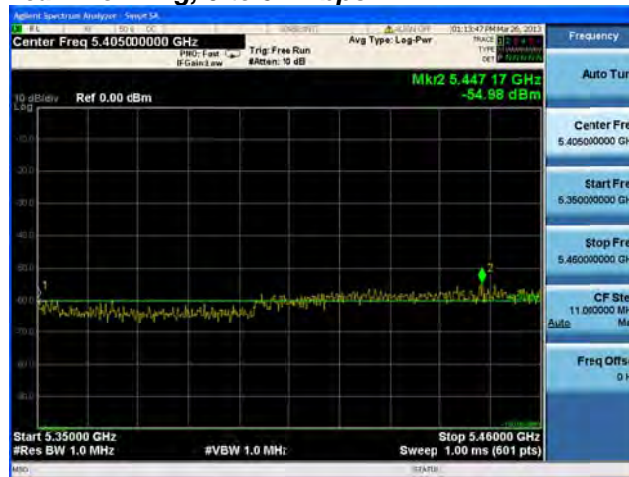
Conducted Bandedge Peak, 5300 / 5320 MHz, HT/VHT40 STBC, M0 to M7, M0.1 to M9.1**Antenna A****Antenna B****Antenna C****Antenna D**

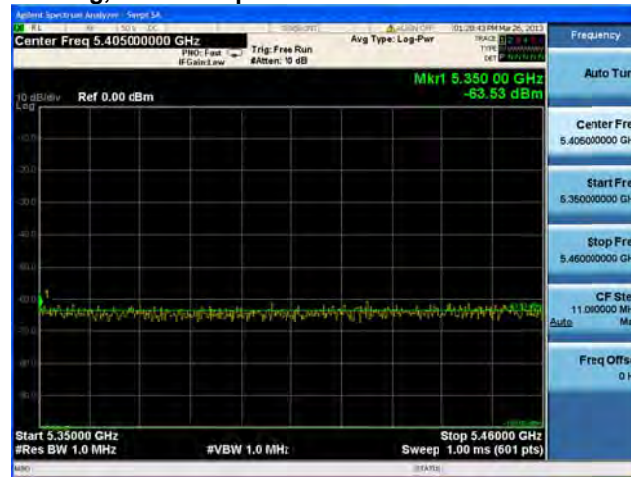
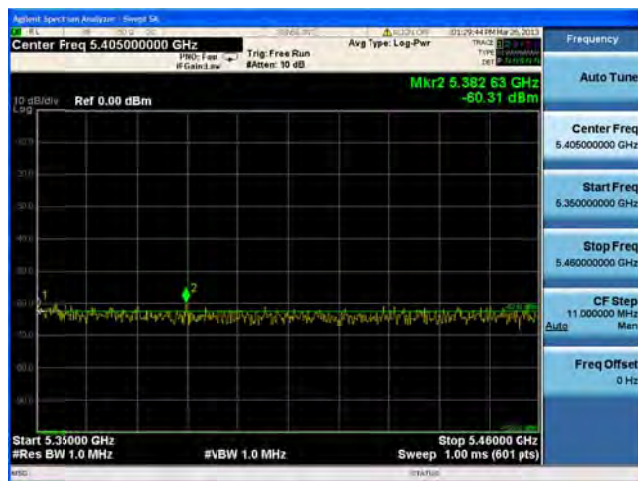
Conducted Bandedge Peak, 5320 MHz, Non HT/VHT20, 6 to 54 Mbps**Antenna A**

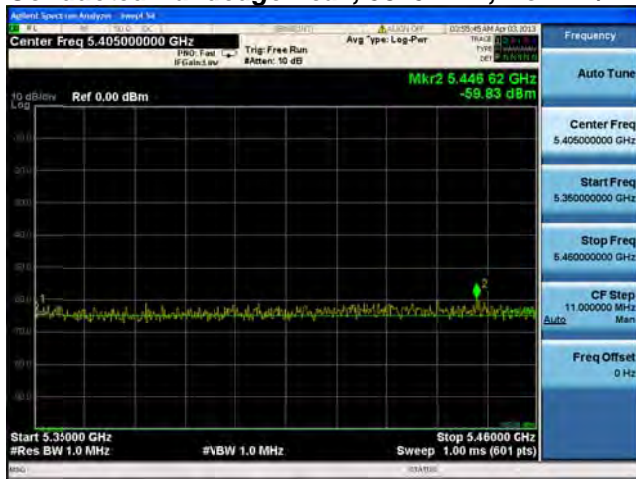
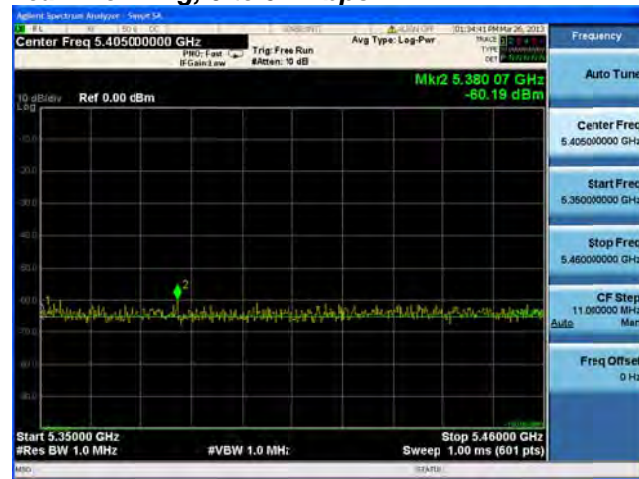
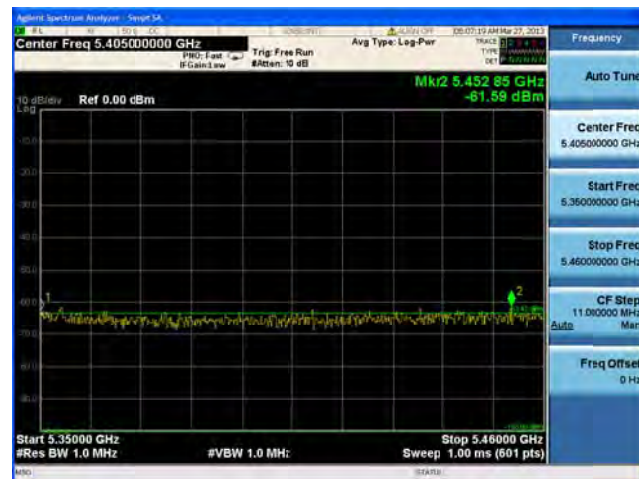
Conducted Bandedge Peak, 5320 MHz, Non HT/VHT20, 6 to 54 Mbps**Antenna A****Antenna B**

Conducted Bandedge Peak, 5320 MHz, Non HT/VHT20, 6 to 54 Mbps**Antenna A****Antenna B****Antenna C**

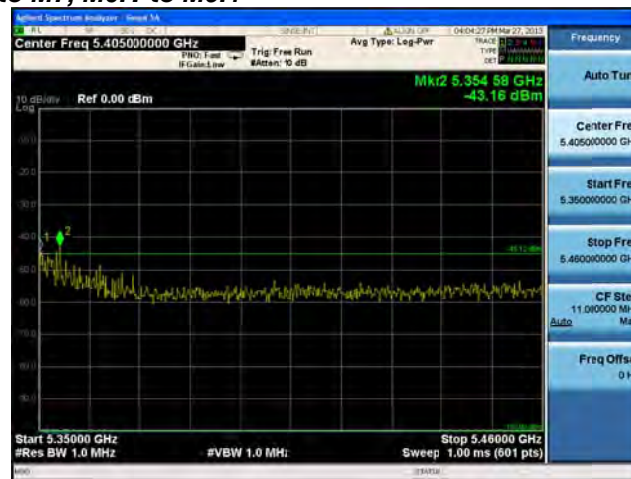
Conducted Bandedge Peak, 5320 MHz, Non HT/VHT20, 6 to 54 Mbps**Antenna A****Antenna B****Antenna C****Antenna D**

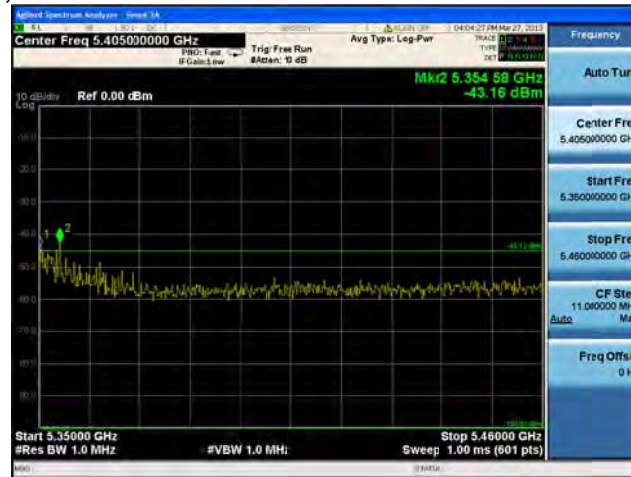
Conducted Bandedge Peak, 5320 MHz, Non HT/VHT20 Beam Forming, 6 to 54 Mbps**Antenna A****Antenna B**

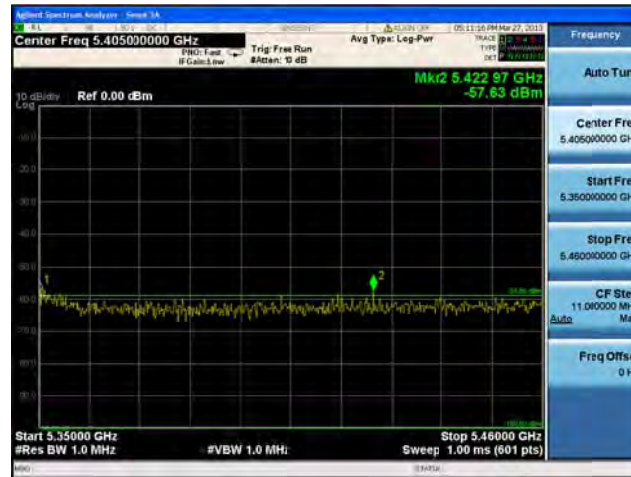
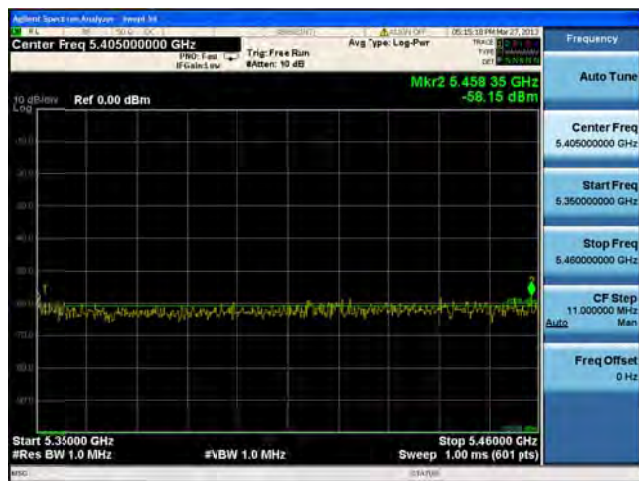
Conducted Bandedge Peak, 5320 MHz, Non HT/VHT20 Beam Forming, 6 to 54 Mbps**Antenna A****Antenna B****Antenna C**

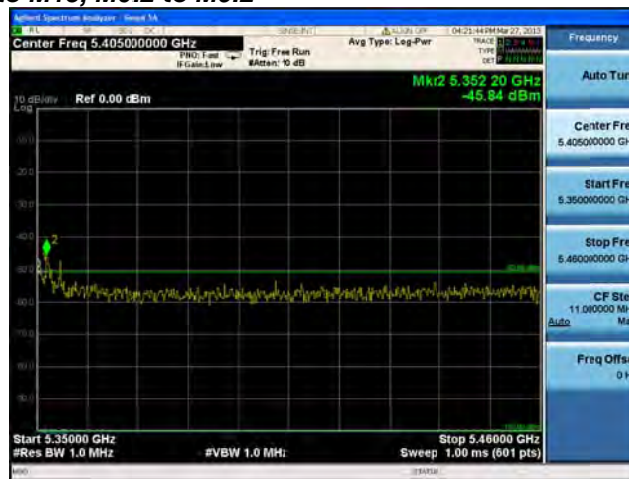
**Conducted Bandedge Peak, 5320 MHz, Non HT/VHT20 Beam Forming, 6 to 54 Mbps****Antenna A****Antenna B****Antenna C****Antenna D**

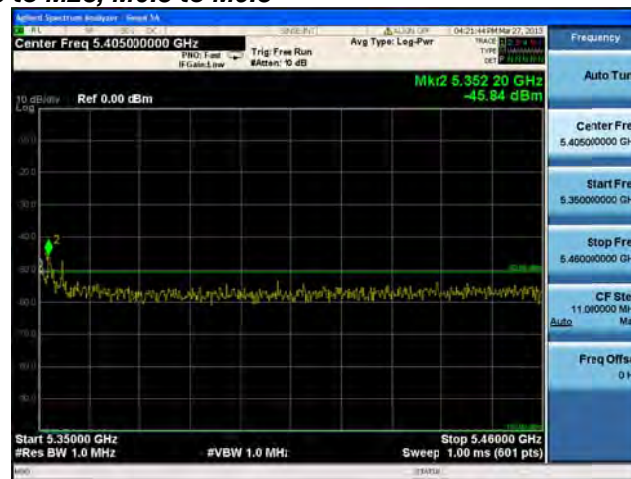
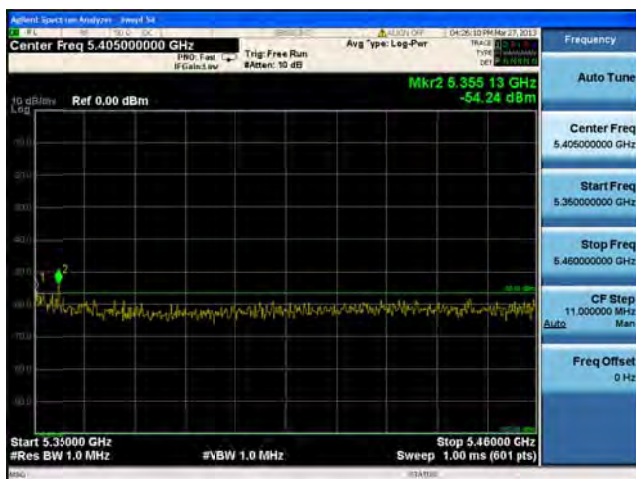
Conducted Bandedge Peak, 5320 MHz, HT/VHT20, M0 to M7, M0.1 to M9.1**Antenna A**

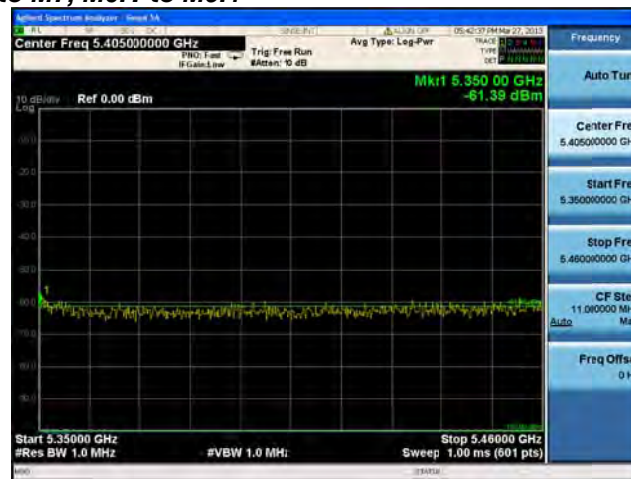
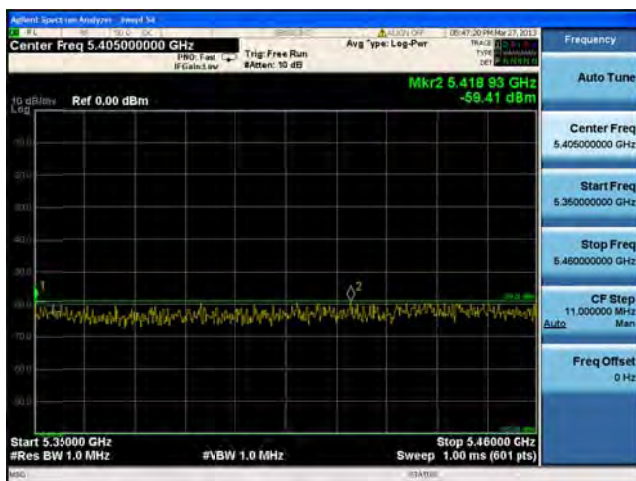
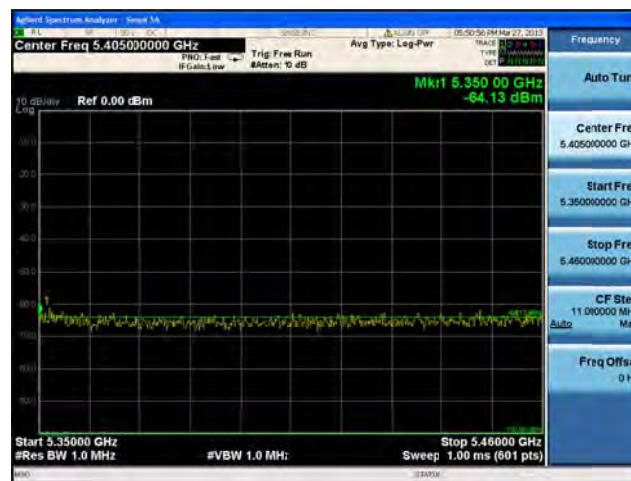
Conducted Bandedge Peak, 5320 MHz, HT/VHT20, M0 to M7, M0.1 to M9.1**Antenna A****Antenna B**

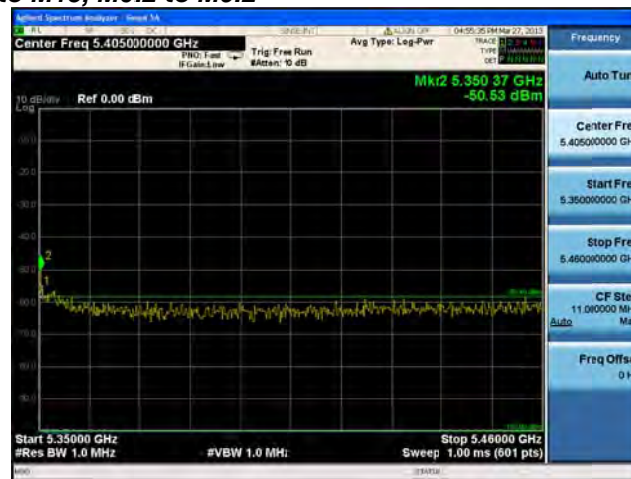
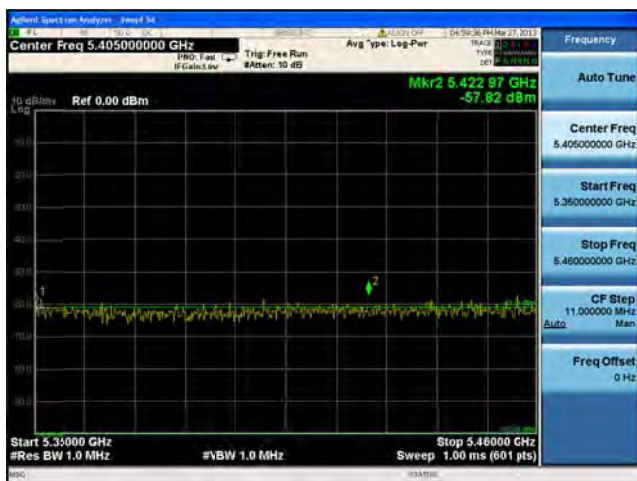
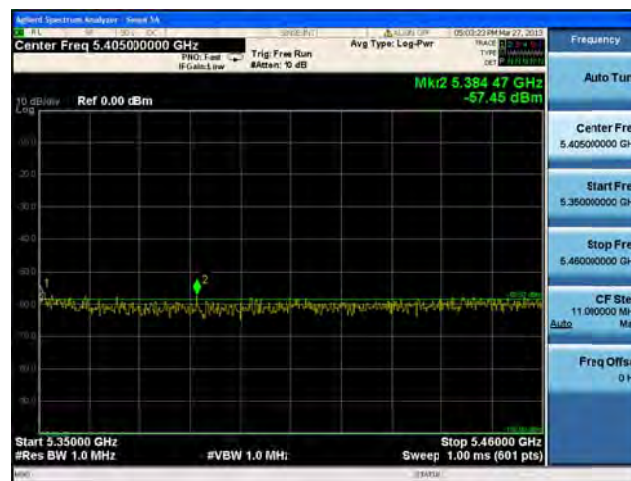
**Conducted Bandedge Peak, 5320 MHz, HT/VHT20, M8 to M15, M0.2 to M9.2****Antenna A****Antenna B**

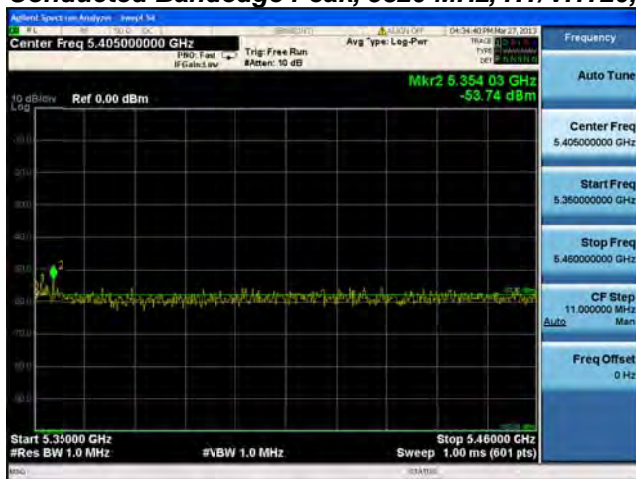
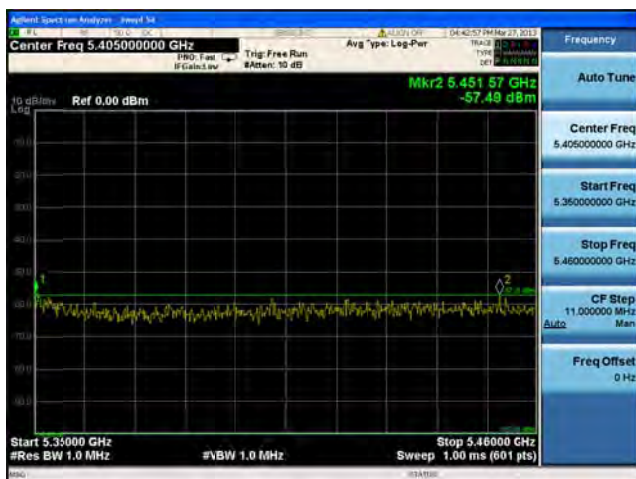
Conducted Bandedge Peak, 5320 MHz, HT/VHT20, M0 to M7, M0.1 to M9.1**Antenna A****Antenna B****Antenna C**

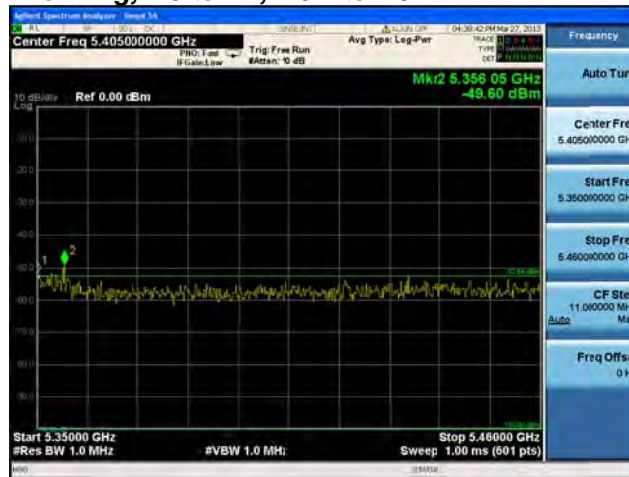
Conducted Bandedge Peak, 5320 MHz, HT/VHT20, M8 to M15, M0.2 to M9.2**Antenna A****Antenna B****Antenna C**

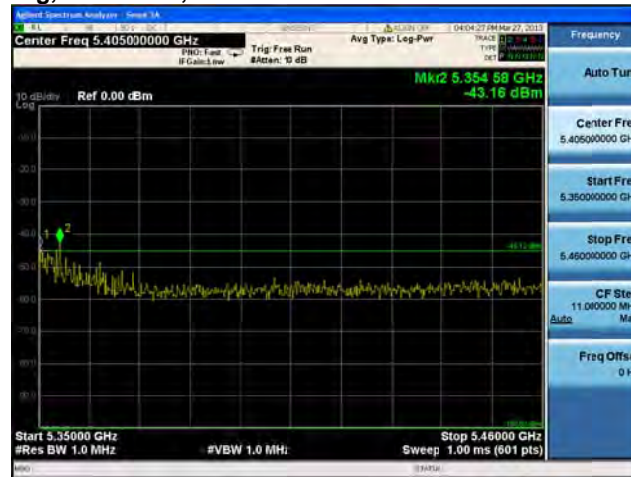
Conducted Bandedge Peak, 5320 MHz, HT/VHT20, M16 to M23, M0.3 to M9.3**Antenna A****Antenna B****Antenna C**

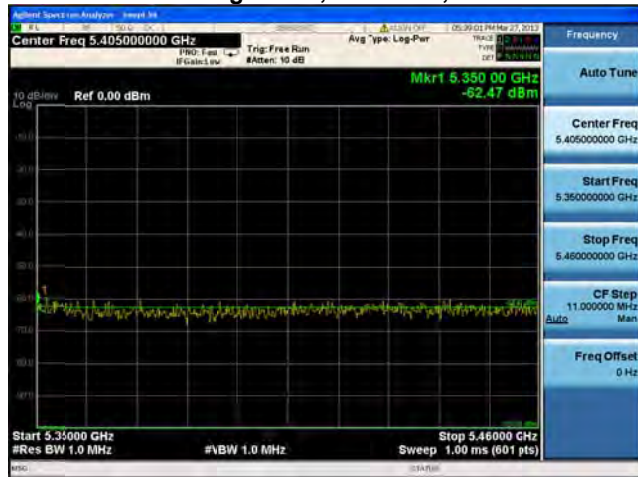
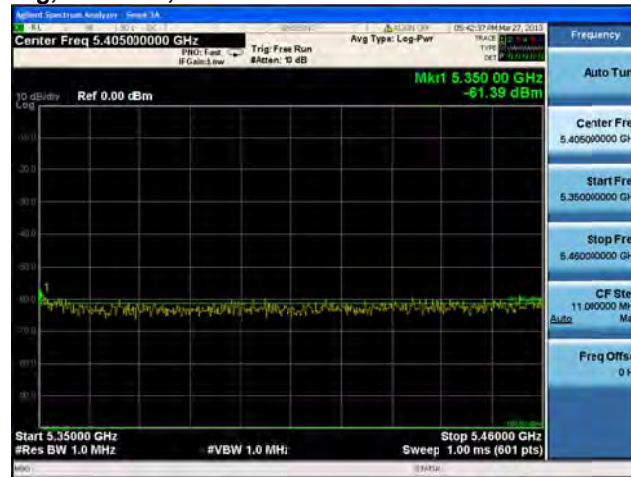
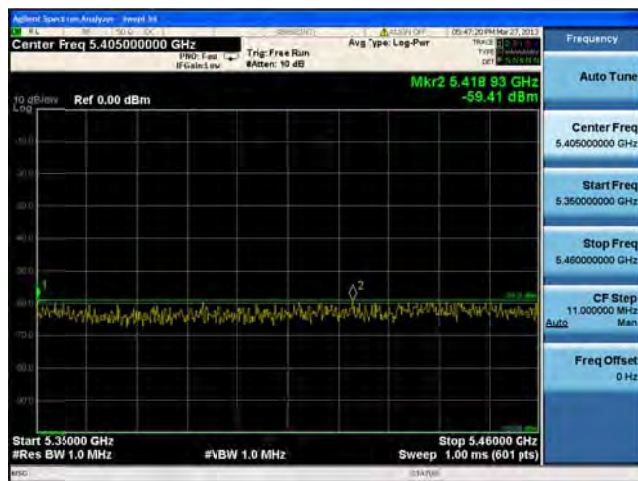
**Conducted Bandedge Peak, 5320 MHz, HT/VHT20, M0 to M7, M0.1 to M9.1****Antenna A****Antenna B****Antenna C****Antenna D**

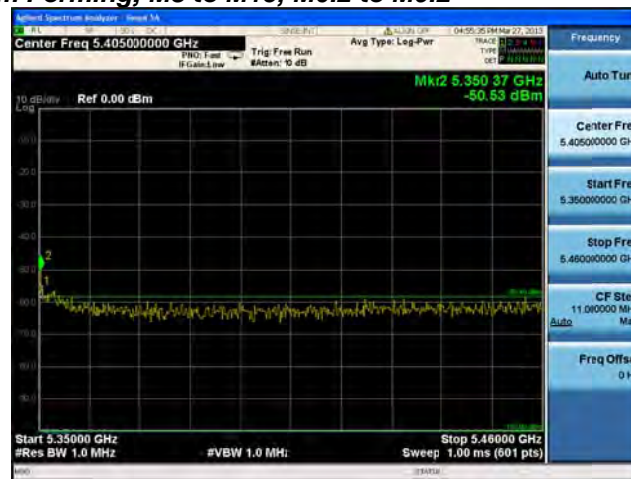
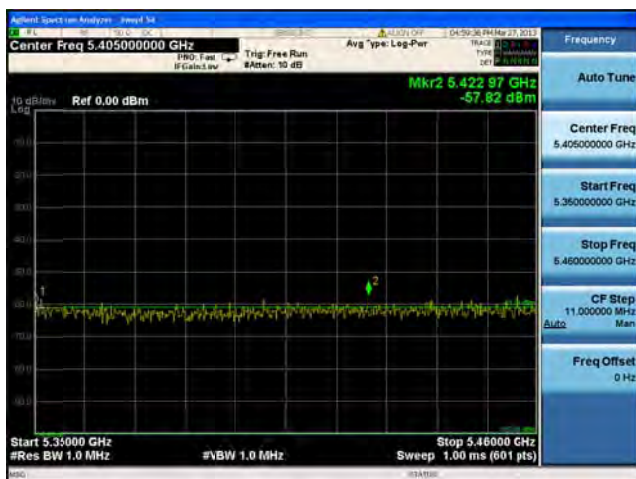
Conducted Bandedge Peak, 5320 MHz, HT/VHT20, M8 to M15, M0.2 to M9.2**Antenna A****Antenna B****Antenna C****Antenna D**

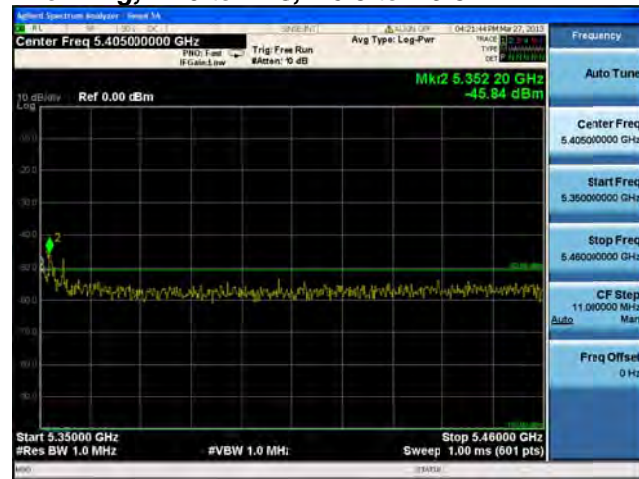
Conducted Bandedge Peak, 5320 MHz, HT/VHT20, M16 to M23, M0.3 to M9.3**Antenna A****Antenna B****Antenna C****Antenna D**

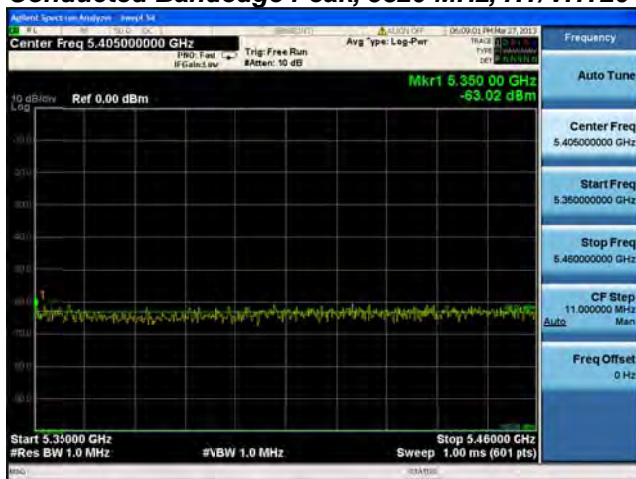
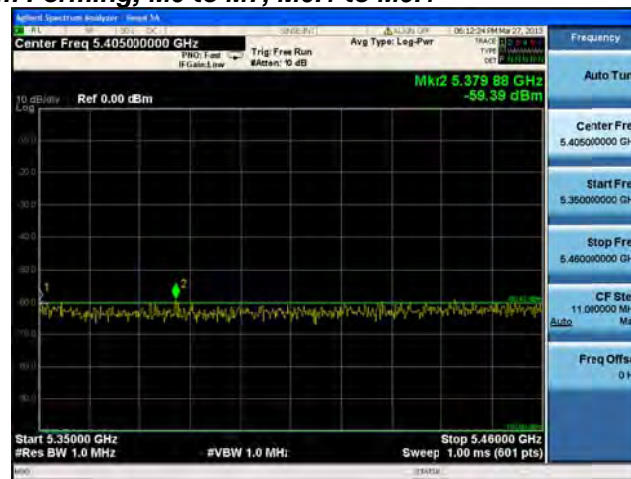
Conducted Bandedge Peak, 5320 MHz, HT/VHT20 Beam Forming, M0 to M7, M0.1 to M9.1**Antenna A****Antenna B**

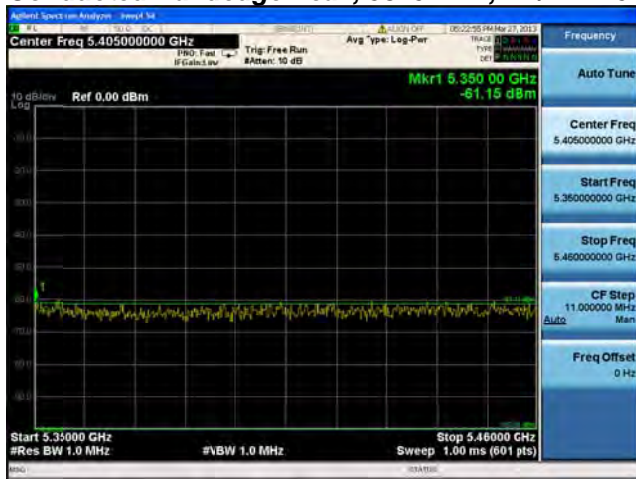
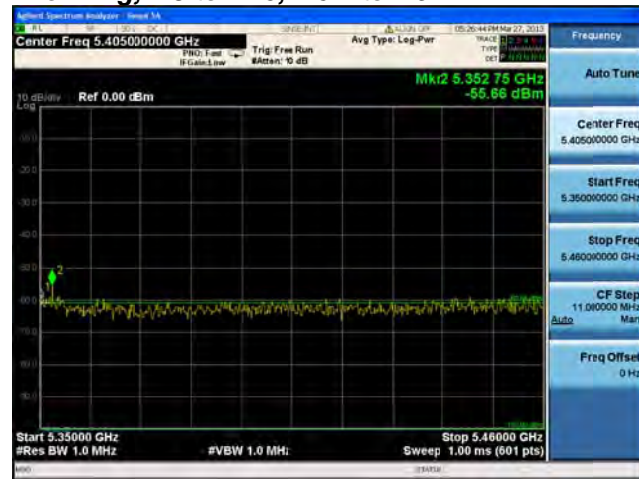
Conducted Bandedge Peak, 5320 MHz, HT/VHT20 Beam Forming, M8 to M15, M0.2 to M9.2**Antenna A****Antenna B**

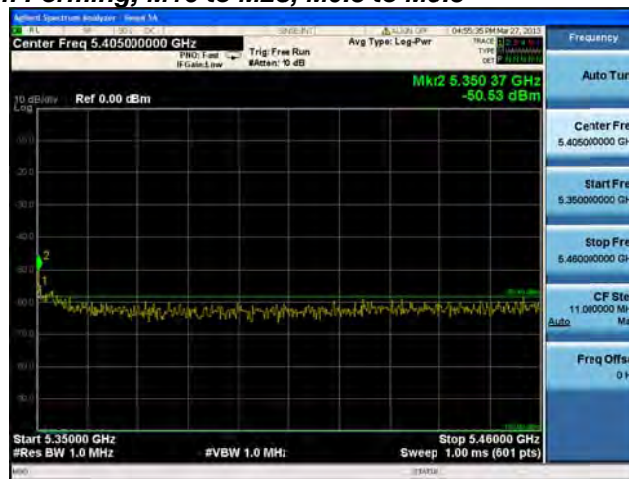
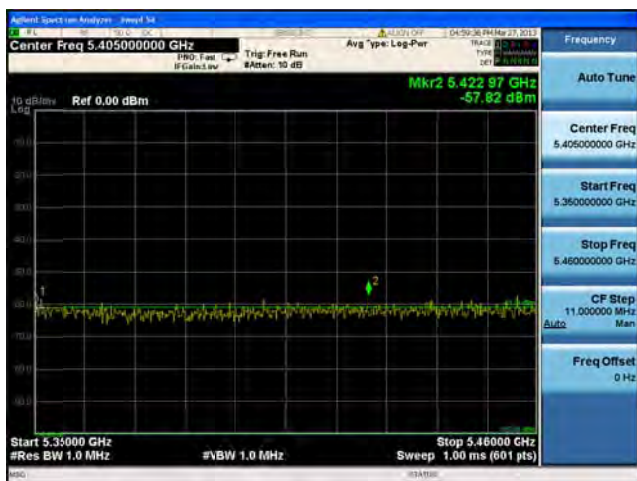
Conducted Bandedge Peak, 5320 MHz, HT/VHT20 Beam Forming, M0 to M7, M0.1 to M9.1**Antenna A****Antenna B****Antenna C**

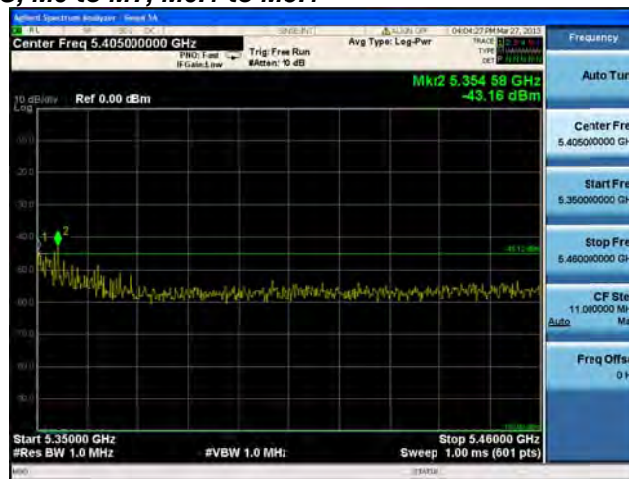
Conducted Bandedge Peak, 5320 MHz, HT/VHT20 Beam Forming, M8 to M15, M0.2 to M9.2**Antenna A****Antenna B****Antenna C**

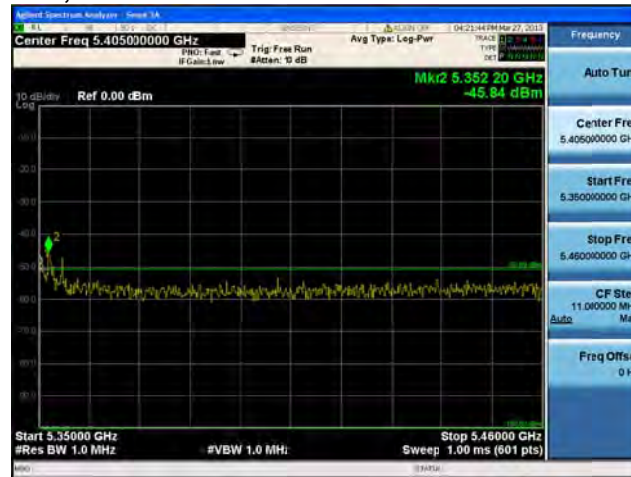
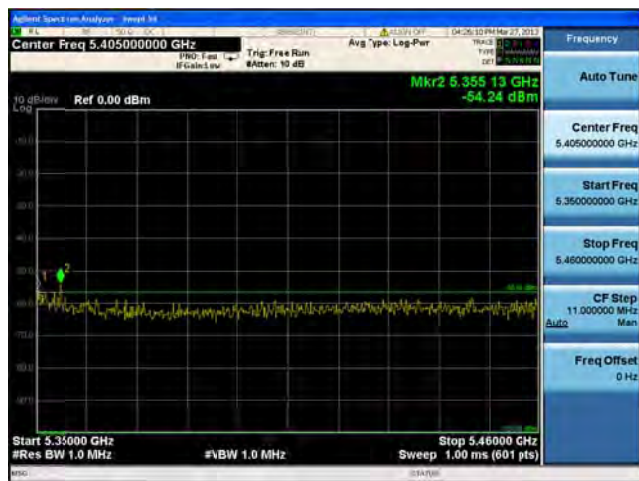
Conducted Bandedge Peak, 5320 MHz, HT/VHT20 Beam Forming, M16 to M23, M0.3 to M9.3**Antenna A****Antenna B****Antenna C**

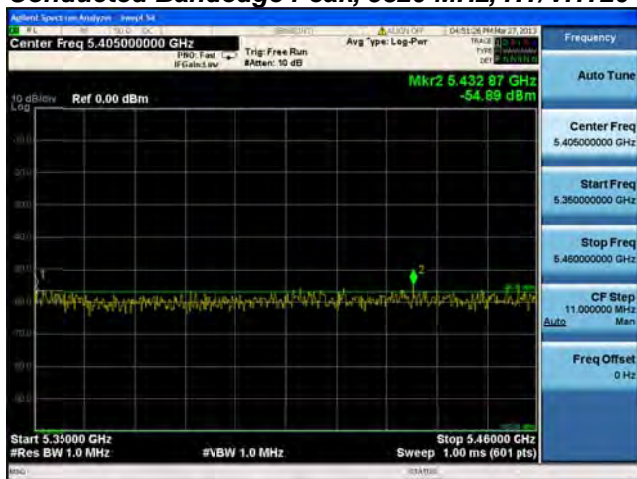
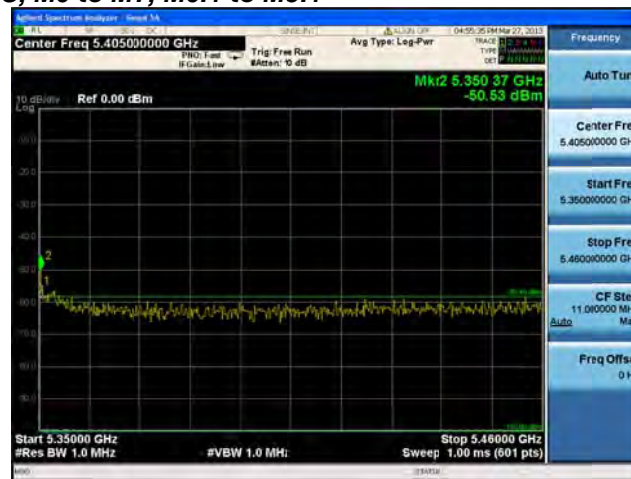
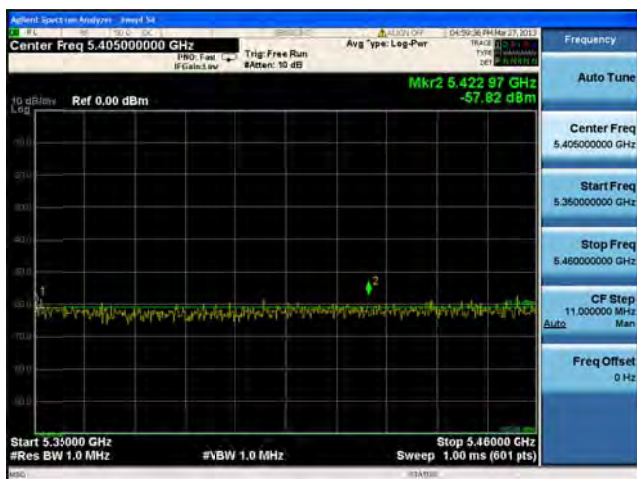
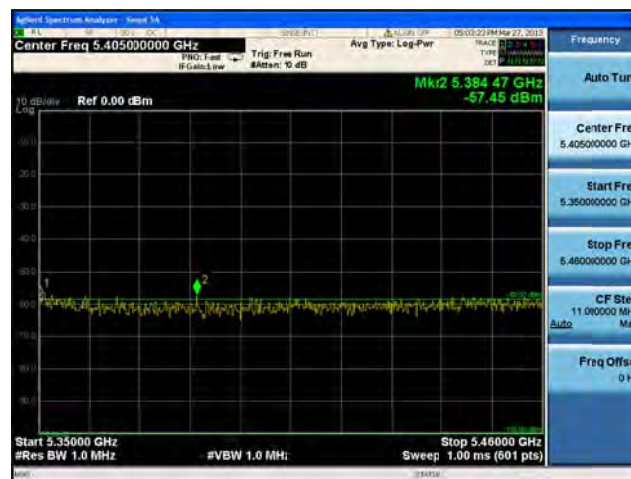
Conducted Bandedge Peak, 5320 MHz, HT/VHT20 Beam Forming, M0 to M7, M0.1 to M9.1**Antenna A****Antenna B****Antenna C****Antenna D**

Conducted Bandedge Peak, 5320 MHz, HT/VHT20 Beam Forming, M8 to M15, M0.2 to M9.2**Antenna A****Antenna B****Antenna C****Antenna D**

Conducted Bandedge Peak, 5320 MHz, HT/VHT20 Beam Forming, M16 to M23, M0.3 to M9.3**Antenna A****Antenna B****Antenna C****Antenna D**

**Conducted Bandedge Peak, 5320 MHz, HT/VHT20 STBC, M0 to M7, M0.1 to M9.1****Antenna A****Antenna B**

Conducted Bandedge Peak, 5320 MHz, HT/VHT20 STBC, M0 to M7, M0.1 to M9.1**Antenna A****Antenna B****Antenna C**

Conducted Bandedge Peak, 5320 MHz, HT/VHT20 STBC, M0 to M7, M0.1 to M9.1**Antenna A****Antenna B****Antenna C****Antenna D**



Conducted Test Setup Photo

**Appendix B: Emission Test Results**

Testing Laboratory: Cisco Systems, Inc., 170 West Tasman Drive, San Jose, CA 95134, USA

Radiated Spurious Emissions

Radiated emissions which fall in the restricted bands, as defined in Section 15.205(a), must also comply with the radiated emission limits specified in Section 15.209(a) (see Section 15.205(c)).

Using Vasona, configure the spectrum analyzer as shown below (be sure to enter all losses between the transmitter output and the spectrum analyzer). Place the radio in continuous transmit mode.

| | |
|-----------------------|-----------------------------------|
| Span: | 1GHz – 18 GHz |
| Reference Level: | 80 dBuV |
| Attenuation: | 10 dB |
| Sweep Time: | Coupled |
| Resolution Bandwidth: | 1MHz |
| Video Bandwidth: | 1 MHz for peak, 10 Hz for average |
| Detector: | Peak |

Maximize Turntable (find worst case table angle), Maximize Antenna (find worst case height)

Save 2 plots: 1) Average Plot (Vertical and Horizontal), Limit= 54dBuV @3m
 2) Peak plot (Vertical and Horizontal), Limit = 74dBuV @3m

Place a marker at the end of the restricted band closest to the transmit frequency to show compliance.
Also measure any emissions in the restricted bands.

This report represents the worst case data for all supported operating modes and antennas.
There are no measurable emissions above 18 GHz.

| Frequency (MHz) | Mode | Data Rate (Mbps) | Spurious Emission Level (dBuV/m) | Limit (dBuV/m) |
|-----------------|--------------------------------------|------------------|----------------------------------|----------------|
| 5260 | Non HT-20, 6 to 54 Mbps | 6 | <54 | <54 |
| | Non HT-20 Beam Forming, 6 to 54 Mbps | 6 | <54 | <54 |
| | HT-20, M0 to M23 | m0 | <54 | <54 |
| | HT-20 STBC, M0 to M7 | m0 | <54 | <54 |
| | HT-20 Beam Forming, M0 to M23 | m0 | <54 | <54 |
| 5320 | Non HT-20, 6 to 54 Mbps | 6 | <54 | <54 |
| | Non HT-20 Beam Forming, 6 to 54 Mbps | 6 | <54 | <54 |
| | HT-20, M0 to M23 | m0 | <54 | <54 |
| | HT-20 STBC, M0 to M7 | m0 | <54 | <54 |
| | HT-20 Beam Forming, M0 to M23 | m0 | <54 | <54 |
| 5260/5280 | Non HT-40 Duplicate, 6-54 Mbps | | <54 | <54 |
| | HT-40, M0 to M23 | 6 | <54 | <54 |
| | HT-40 STBC, M0 to M7 | m0 | <54 | <54 |
| | HT-40 Beam Forming, M0 to M23 | m0 | <54 | <54 |
| 5300/5320 | Non HT-40 Duplicate, 6-54 Mbps | 6 | <54 | <54 |
| | HT-40, M0 to M23 | m0 | <54 | <54 |
| | HT-40 STBC, M0 to M7 | m0 | <54 | <54 |
| | HT-40 Beam Forming, M0 to M23 | m0 | <54 | <54 |

Radiated Transmitter Spurs, 5260 MHz, All Rates, All Modes, Average



Radiated Transmitter Spurs, 5320 MHz, All Rates, All Modes, Average



Radiated Transmitter Spurs, 5260 MHz, All Rates, All Modes, Peak



Radiated Transmitter Spurs, 5320 MHz, All Rates, All Modes, Peak



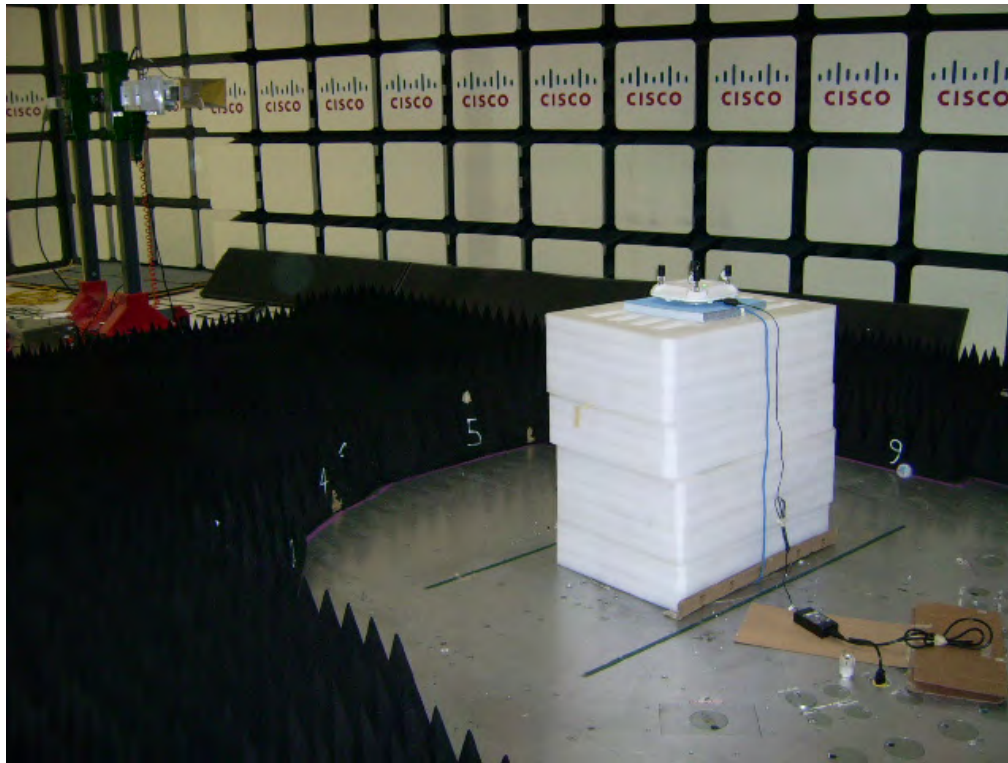
Receiver Radiated Spurious Emissions

Radiated Receiver Spurs, All Rates, All Modes, Average

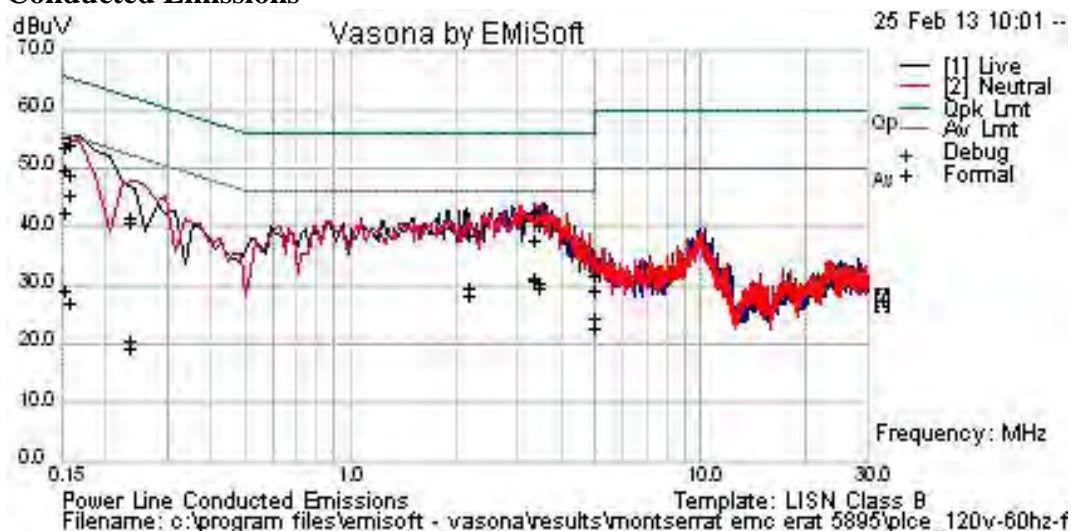


Radiated Receiver Spurs, All Rates, All Modes, Peak





Radiated Test Setup Photo

Conducted Emissions**Test Results Table**

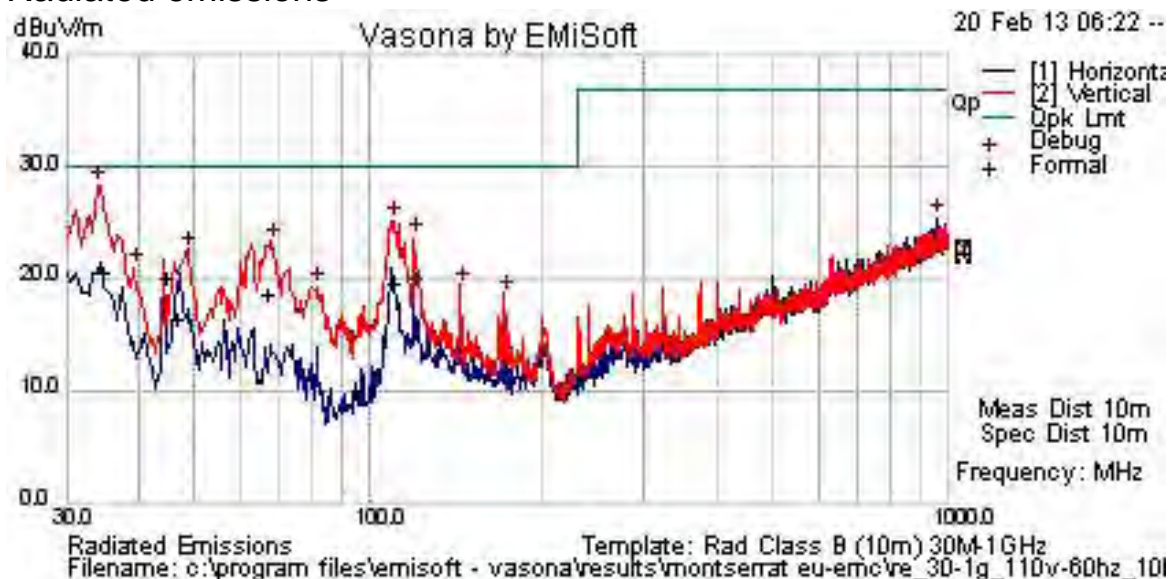
| Frequency MHz | Raw dBuV | Cable Loss | Factors dB | Level dBuV | Measurement Type | Line | Limit dBuV | Margin dB | Pass /Fail | Comments |
|---------------|----------|------------|------------|------------|------------------|------|------------|-----------|------------|----------|
| 0.15736 | 24 | 21.3 | 0.1 | 45.4 | Av | N | 55.6 | -10.2 | Pass | |
| 0.15736 | 32.8 | 21.3 | 0.1 | 54.2 | Qp | N | 65.6 | -11.4 | Pass | |
| 0.15288 | 32 | 21.4 | 0.1 | 53.5 | Qp | N | 65.8 | -12.4 | Pass | |
| 3.424 | 22.7 | 20 | 0 | 42.8 | Qp | N | 56 | -13.2 | Pass | |
| 0.15288 | 21 | 21.4 | 0.1 | 42.4 | Av | L | 55.8 | -13.4 | Pass | |
| 3.351 | 22.5 | 20 | 0.1 | 42.6 | Qp | N | 56 | -13.4 | Pass | |
| 3.351 | 11.1 | 20 | 0.1 | 31.2 | Av | N | 46 | -14.8 | Pass | |
| 3.351 | 10.9 | 20 | 0.1 | 30.9 | Av | L | 46 | -15.1 | Pass | |
| 3.424 | 20.3 | 20 | 0 | 40.3 | Qp | L | 56 | -15.7 | Pass | |
| 3.424 | 10.2 | 20 | 0 | 30.3 | Av | N | 46 | -15.7 | Pass | |
| 0.15288 | 28.1 | 21.4 | 0.1 | 49.6 | Qp | L | 65.8 | -16.3 | Pass | |
| 3.424 | 9.4 | 20 | 0 | 29.5 | Av | L | 46 | -16.5 | Pass | |
| 2.158 | 9.4 | 20 | 0 | 29.5 | Av | N | 46 | -16.5 | Pass | |
| 0.15736 | 27.5 | 21.3 | 0.1 | 48.9 | Qp | L | 65.6 | -16.7 | Pass | |
| 2.158 | 18.6 | 20 | 0 | 38.7 | Qp | N | 56 | -17.3 | Pass | |
| 2.158 | 18.6 | 20 | 0 | 38.6 | Qp | L | 56 | -17.4 | Pass | |
| 2.158 | 8.5 | 20 | 0 | 28.5 | Av | L | 46 | -17.5 | Pass | |
| 3.351 | 17.6 | 20 | 0.1 | 37.6 | Qp | L | 56 | -18.4 | Pass | |
| 0.23346 | 20.6 | 20.9 | 0 | 41.5 | Qp | L | 62.3 | -20.8 | Pass | |
| 0.23346 | 19.8 | 20.9 | 0 | 40.7 | Qp | N | 62.3 | -21.6 | Pass | |
| 4.916 | 4.3 | 20 | 0 | 24.4 | Av | N | 46 | -21.6 | Pass | |
| 4.916 | 2.5 | 20 | 0 | 22.6 | Av | L | 46 | -23.4 | Pass | |
| 4.916 | 11.8 | 20 | 0 | 31.9 | Qp | N | 56 | -24.1 | Pass | |

| Frequency MHz | Raw dBuV | Cable Loss | Factors dB | Level dBuV | Measurement Type | Line | Limit dBuV | Margin dB | Pass /Fail | Comments |
|---------------|----------|------------|------------|------------|------------------|------|------------|-----------|------------|----------|
| 0.15288 | 7.8 | 21.4 | 0.1 | 29.2 | Av | N | 55.8 | -26.6 | Pass | |
| 4.916 | 9 | 20 | 0 | 29.1 | Qp | L | 56 | -26.9 | Pass | |
| 0.15736 | 5.7 | 21.3 | 0.1 | 27.1 | Av | L | 55.6 | -28.5 | Pass | |
| 0.23346 | -0.1 | 20.9 | 0 | 20.8 | Av | N | 52.3 | -31.6 | Pass | |
| 0.23346 | -1.5 | 20.9 | 0 | 19.4 | Av | L | 52.3 | -32.9 | Pass | |

**Title:** Power Line Conducted Emissions Test Setup



Radiated emissions



Test Results Table

| Frequency MHz | Raw dBuV | Cable Loss | AF dB | Level dBuV/m | Measurement Type | Pol | Hgt cm | Azt Deg | Limit dBuV/m | Margin dB | Pass /Fail | Comments |
|---------------|----------|------------|-------|--------------|------------------|-----|--------|---------|--------------|-----------|------------|----------|
| 34.65 | 30.1 | 0.6 | -10.1 | 20.6 | Qp | V | 124 | 218 | 30 | -9.4 | Pass | |
| 44.239 | 36.6 | 0.7 | -17.2 | 20.2 | Qp | V | 198 | 221 | 30 | -9.8 | Pass | |
| 120.013 | 32.5 | 1.2 | -13.6 | 20.2 | Qp | V | 135 | 87 | 30 | -9.8 | Pass | |
| 110.373 | 33.2 | 1.2 | -14.7 | 19.7 | Qp | V | 131 | 175 | 30 | -10.3 | Pass | |
| 66.612 | 37.4 | 1 | -19.7 | 18.6 | Qp | V | 102 | 271 | 30 | -11.4 | Pass | |
| 46.154 | 33.9 | 0.7 | -18.3 | 16.3 | Qp | V | 254 | 195 | 30 | -13.7 | Pass | |



Title: Radiated Emissions 10m Test Distance

Maximum Permissible Exposure (MPE) Calculations

15.407: U-NII devices are subject to the radio frequency radiation exposure requirements specified in Sec. 1.1307(b), Sec. 2.1091 and Sec. 2.1093 of this chapter, as appropriate. All equipment shall be considered to operate in a "general population/uncontrolled" environment. Applications for equipment authorization of devices operating under this section must contain a statement confirming compliance with these requirements for both fundamental emissions and unwanted emissions. Technical information showing the basis for this statement must be submitted to the Commission upon request.

Given

$$E = \sqrt{(30 \cdot P \cdot G)/d} \text{ and } S = E^2/3770$$

where

E=Field Strength in Volts/meter

P=Power in Watts

G=Numeric Antenna Gain

d=Distance in meters

S=Power Density in mW/cm²

Combine equations and rearrange the terms to express the distance as a function of the remaining variables:

$$d = \sqrt{((30 \cdot P \cdot G)/(3770 \cdot S))}$$

Changing to units of power in mW and distance in cm, using:

$$P(\text{mW}) = P(\text{W})/1000 \quad d(\text{cm}) = 100 \cdot d(\text{m})$$

yields

$$d = 100 \cdot \sqrt{((30 \cdot (P/1000) \cdot G)/(3770 \cdot S))}$$

$$d = 0.282 \cdot \sqrt{(P \cdot G/S)}$$

where

d=Distance in cm

P=Power in mW

G=Numerica Antenna Gain

S=Power Density in mW/cm²

Substituting the logarithmic form of power and gain using:

$$P(\text{mW}) = 10^{(P(\text{dBm})/10)} \quad G(\text{numeric}) = 10^{(G(\text{dBi})/10)}$$

yields

$$d = 0.282 \cdot 10^{((P+G)/20)} / \sqrt{S} \quad \text{Equation (1)}$$

and

$$s = ((0.282 \cdot 10^{((P+G)/20)})/d)^2 \quad \text{Equation (2)}$$

where

d=MPE distance in cm

P=Power in dBm

G=Antenna Gain in dBi

S=Power Density in mW/cm²



Equation (1) and the measured peak power are used to calculate the MPE distance. Note that for mobile or fixed location transmitters such as an access point, the minimum separation distance is 20 cm even if the calculations indicate that the MPE distance may be less.

$S=1\text{mW/cm}^2$ maximum. The highest supported antenna gain is 6 dBi (9dBi with beamforming). Using the peak power levels recorded in the test report along with Equation 1 above, the MPE distances are calculated as follows.

| Frequency (MHz) | Power Density (mW/cm ²) | Peak Transmit Power (dBm) | Antenna Gain (dBi) | MPE Distance (cm) | Limit (cm) | Margin (cm) |
|-----------------|-------------------------------------|---------------------------|--------------------|-------------------|------------|-------------|
| 5260 | 1 | 24 | 6 | 8.92 | 20 | 11.08 |
| 5320 | 1 | 24 | 6 | 8.92 | 20 | 11.08 |

MPE Calculations

To maintain compliance, installations will assure a separation distance of at least 20cm.

Using Equation 2, the MPE levels (s) at 20 cm are calculated as follows:

| Frequency (MHz) | MPE Distance (cm) | Peak Transmit Power (dBm) | Antenna Gain (dBi) | Power Density (mW/cm ²) | Limit (mW/cm ²) | Margin (mW/cm ²) |
|-----------------|-------------------|---------------------------|--------------------|-------------------------------------|-----------------------------|------------------------------|
| 5260 | 20 | 24 | 6 | 0.20 | 1 | 0.80 |
| 5320 | 20 | 24 | 6 | 0.20 | 1 | 0.80 |

**Appendix C: Test Equipment/Software Used to perform the test**

| Equip # | Manufacturer | Model | Description | Last Cal | Next Due |
|-----------|------------------|-------------------------|--------------------------------------|-----------|-----------|
| CIS004882 | EMC Test Systems | 3115 | Double Ridged Guide Horn Antenna | 04-Jun-12 | 04-Jun-13 |
| CIS004927 | Miteq | NSP1000-S1 | Broadband Preamplifier | 01-Feb-13 | 01-Feb-14 |
| CIS007704 | Fischer | FCC-LISN-50/250-50-2-01 | LISN | 11-May-12 | 11-May-13 |
| CIS021117 | Micro-Coax | UFB311A-0-2484-520520 | RF Coaxial Cable, to 18GHz, 248.4 in | 24-Aug-12 | 24-Aug-13 |
| CIS030564 | Micro-Coax | UFB311A-1-0950-504504 | RF Coaxial Cable, to 18GHz, 95 in | 24-Aug-12 | 24-Aug-13 |
| CIS030652 | Sunol Sciences | JB1 | Combination Antenna, 30MHz-2GHz | 04-Sep-12 | 04-Sep-13 |
| CIS044940 | Rohde & Schwarz | ESU40 | EMI Test Receiver | 08-May-12 | 08-May-13 |
| CIS018313 | HP | 8447D | RF Preamplifier | 08-Jan-13 | 08-Jan-14 |
| CIS043116 | Huber + Suhner | Sucoflex 104PE | N & SMA RF cable | 14-Dec-12 | 14-Dec-13 |
| CIS049381 | Agilent | N9030A | Spectrum Analyzer | 28-Aug-12 | 28-Aug-13 |