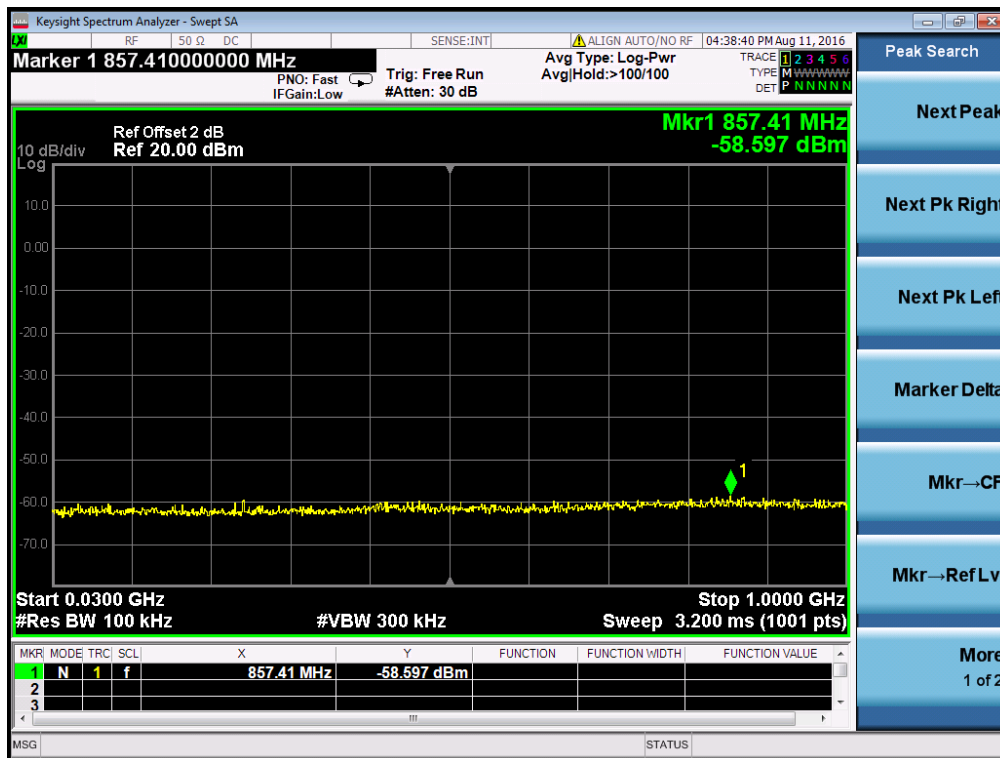
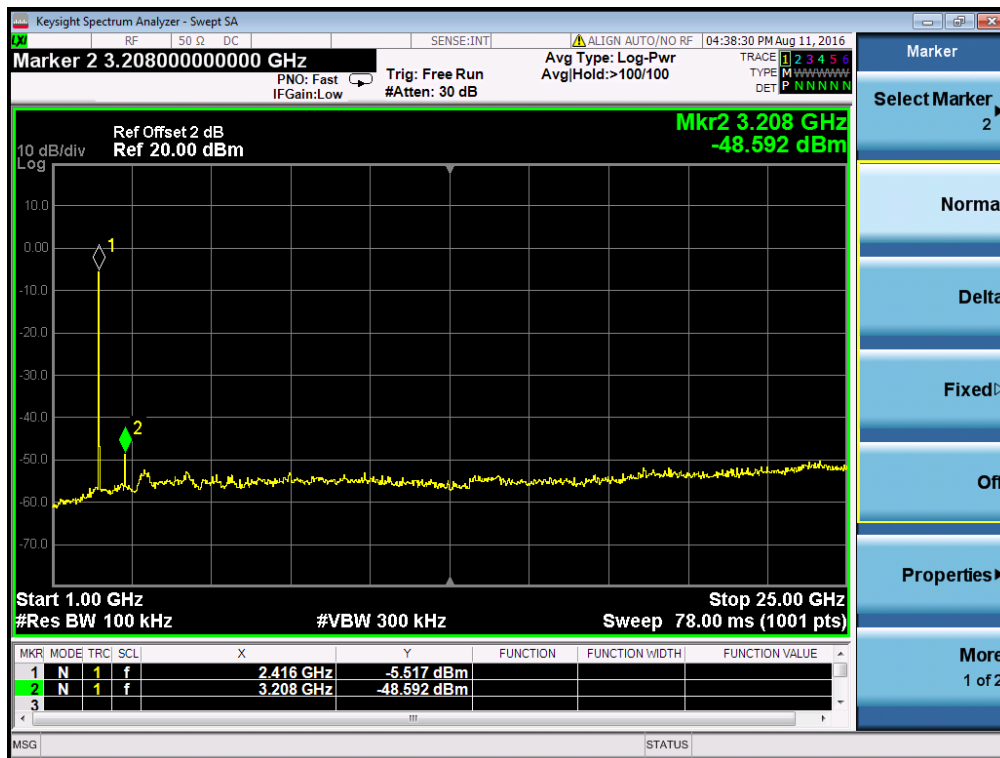


802.11g - Conducted Spurious Emission Plot on channel 1

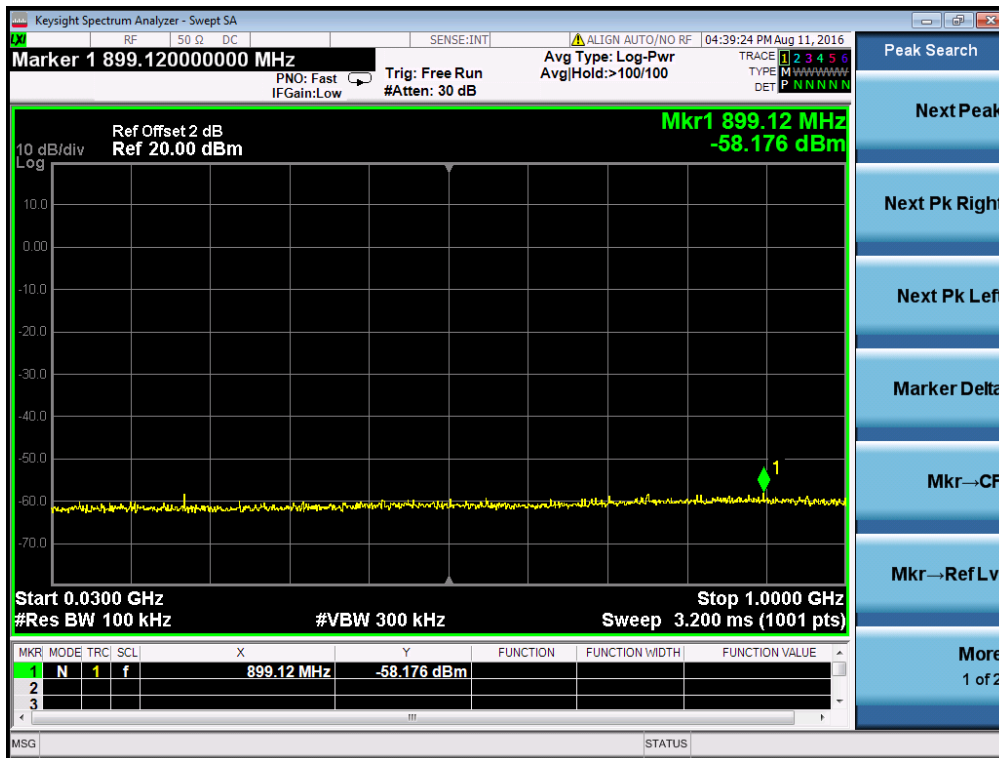


Channel = 1, 30MHz to 1GHz

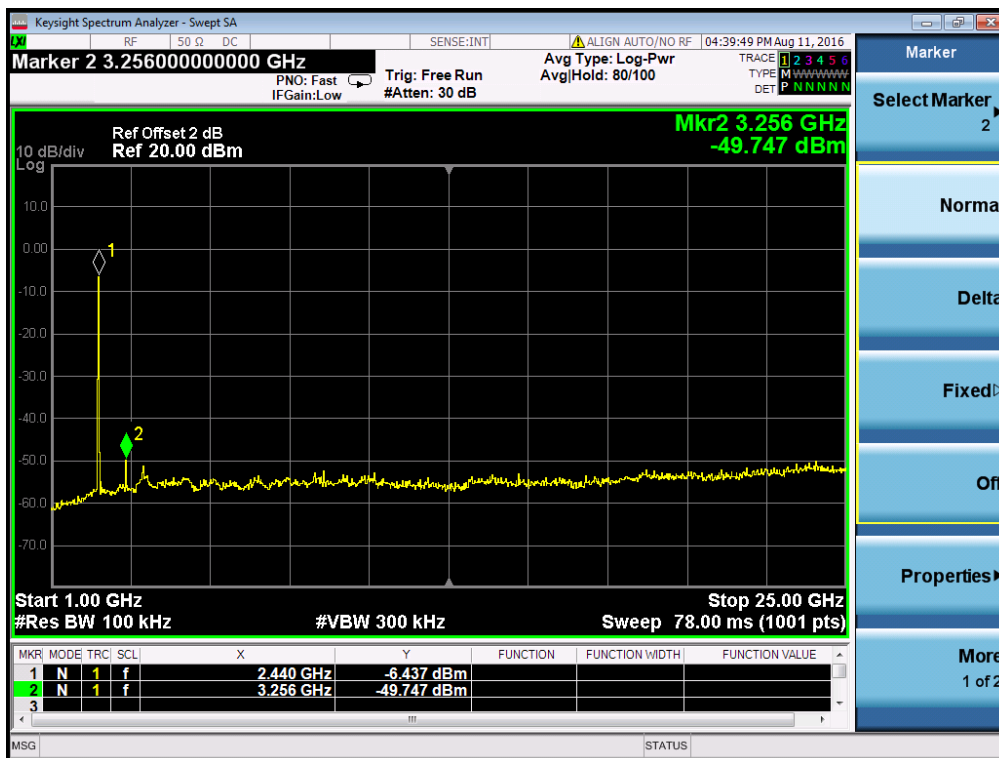


Channel = 1, 1GHz to 25GHz

802.11g - Conducted Spurious Emission Plot on channel 6

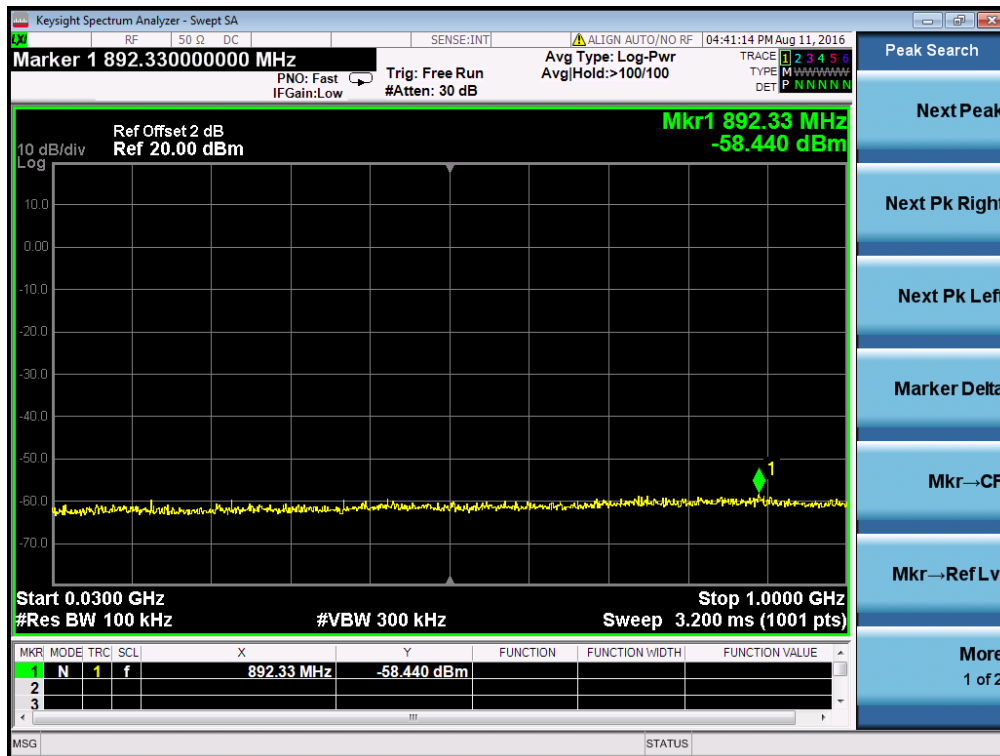


Channel = 6, 30MHz to 1GHz

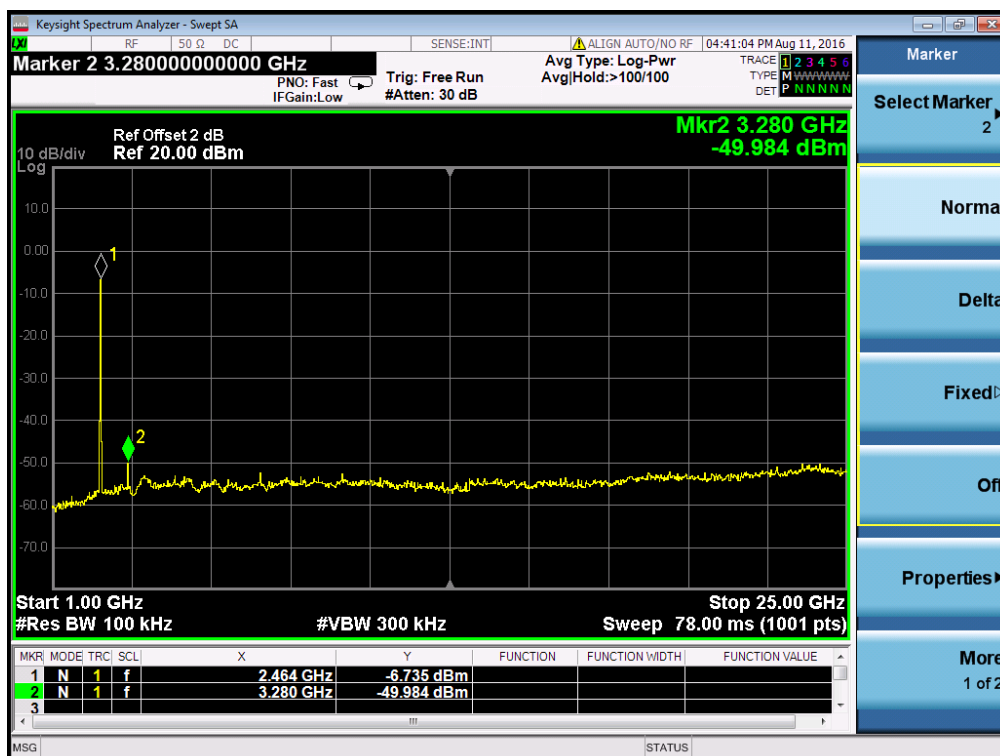


Channel = 6, 1GHz to 25GHz

802.11g - Conducted Spurious Emission Plot on channel 11

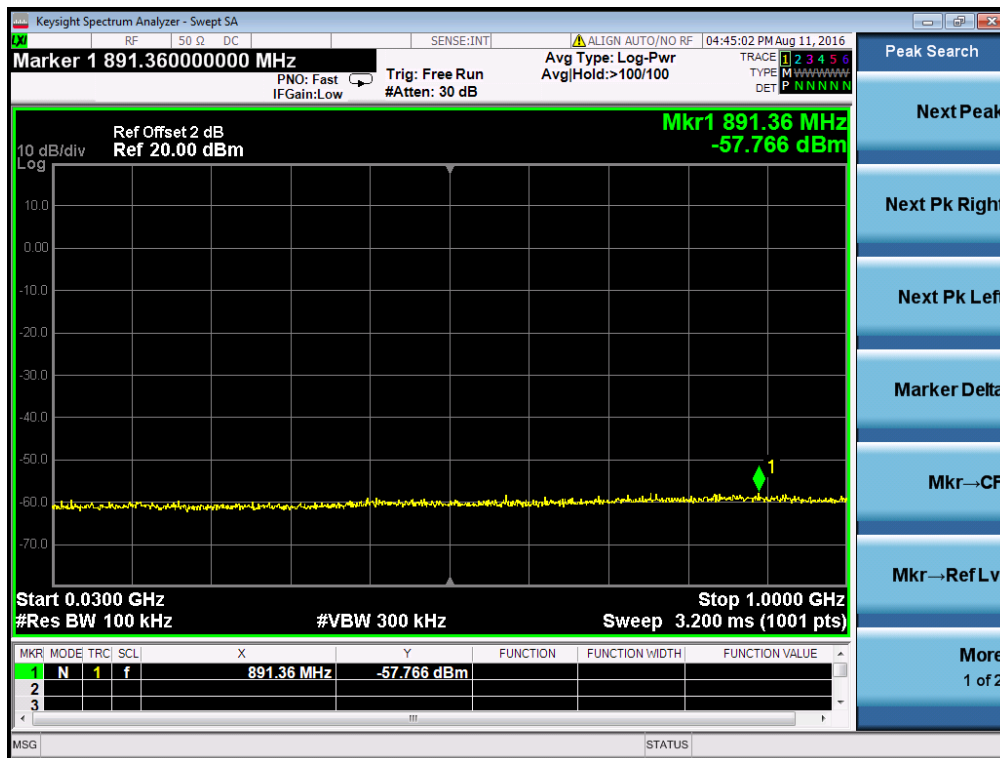


Channel = 11, 30MHz to 25GHz

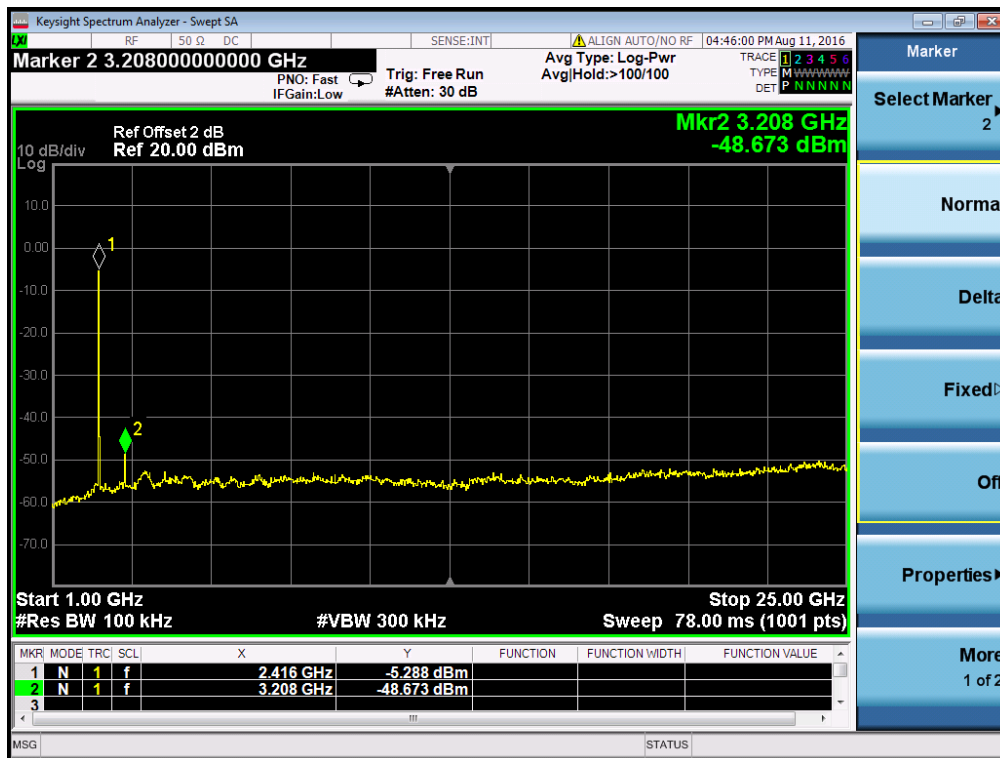


Channel = 11, 30MHz to 25GHz

802.11n20 - Conducted Spurious Emission Plot on channel 1

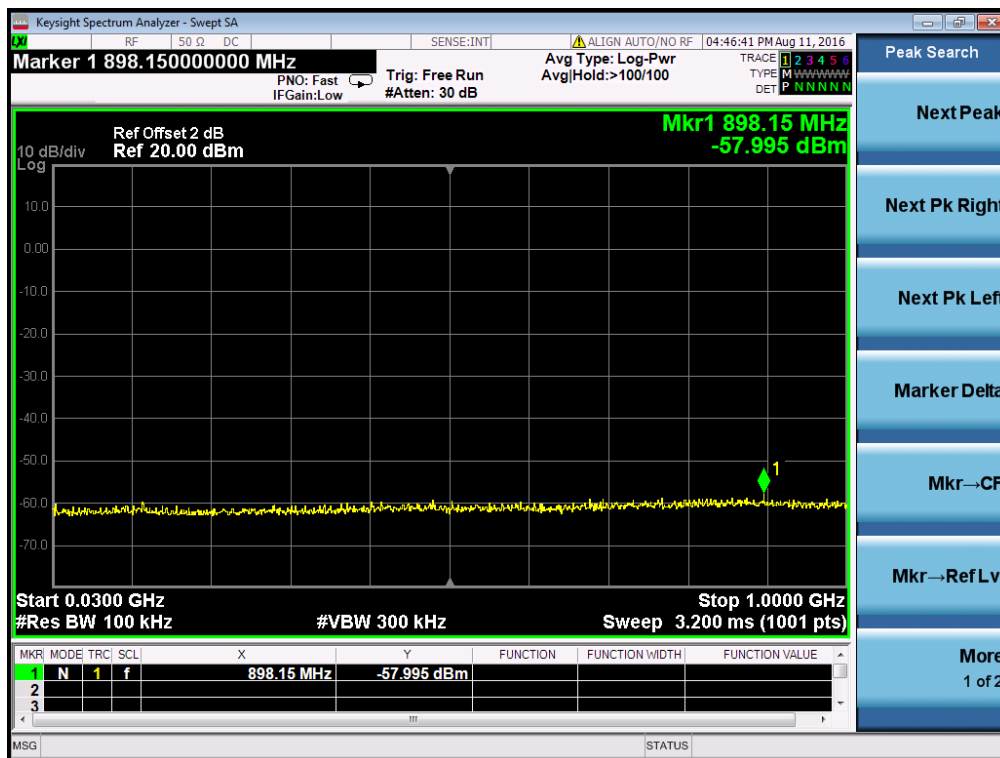


Channel = 1, 30MHz to 1GHz

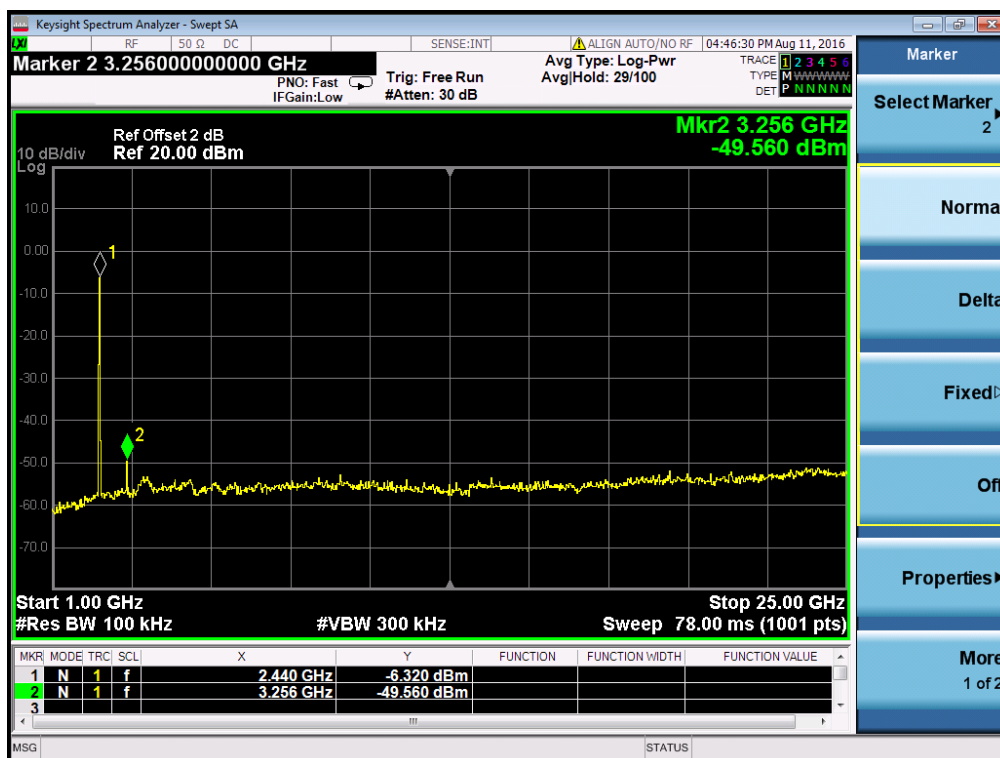


Channel = 1, 1GHz to 25GHz

802.11n20 - Conducted Spurious Emission Plot on channel 6

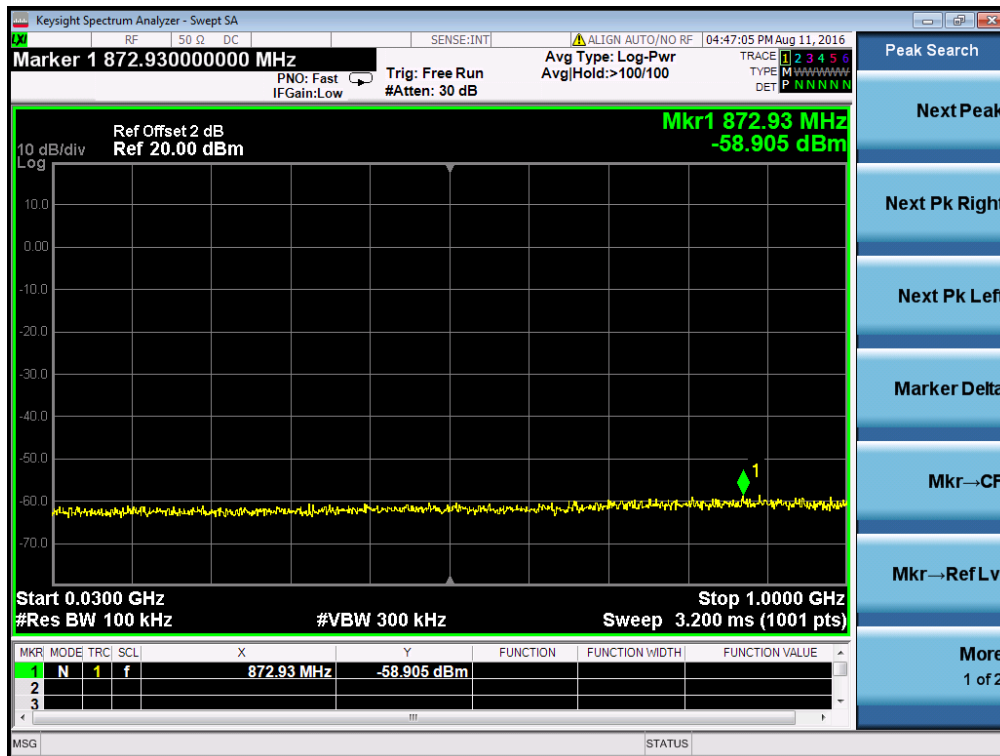


Channel = 6, 30MHz to 1GHz

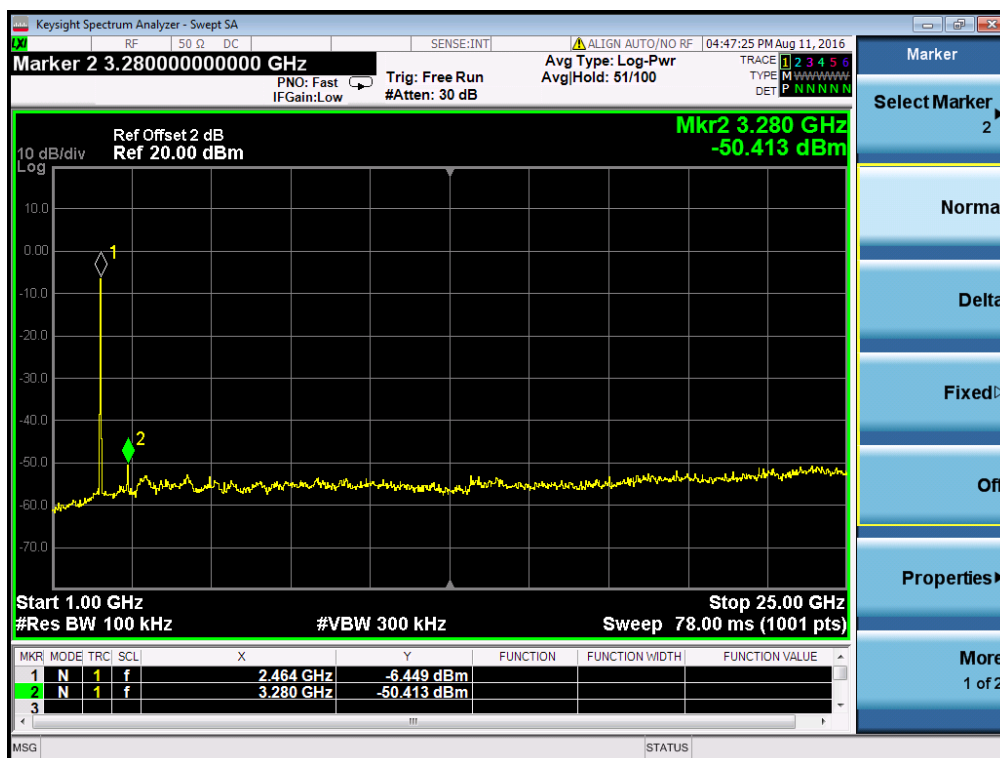


Channel = 6, 1GHz to 25GHz

802.11n20 - Conducted Spurious Emission Plot on channel 11

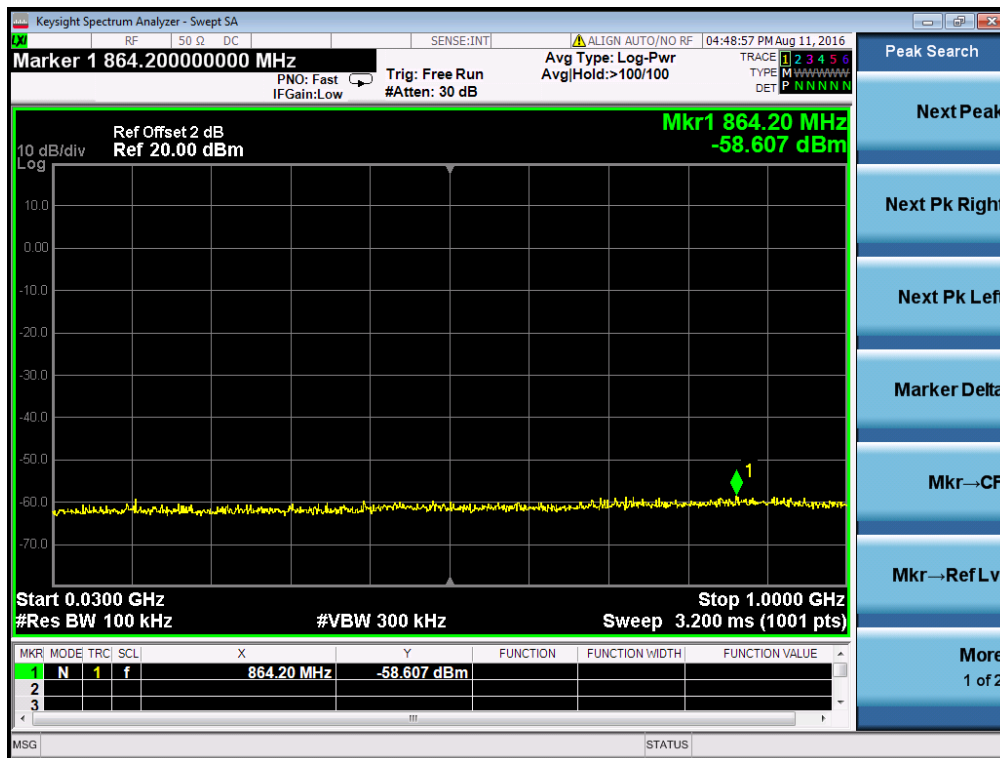


Channel = 11, 30MHz to 25GHz

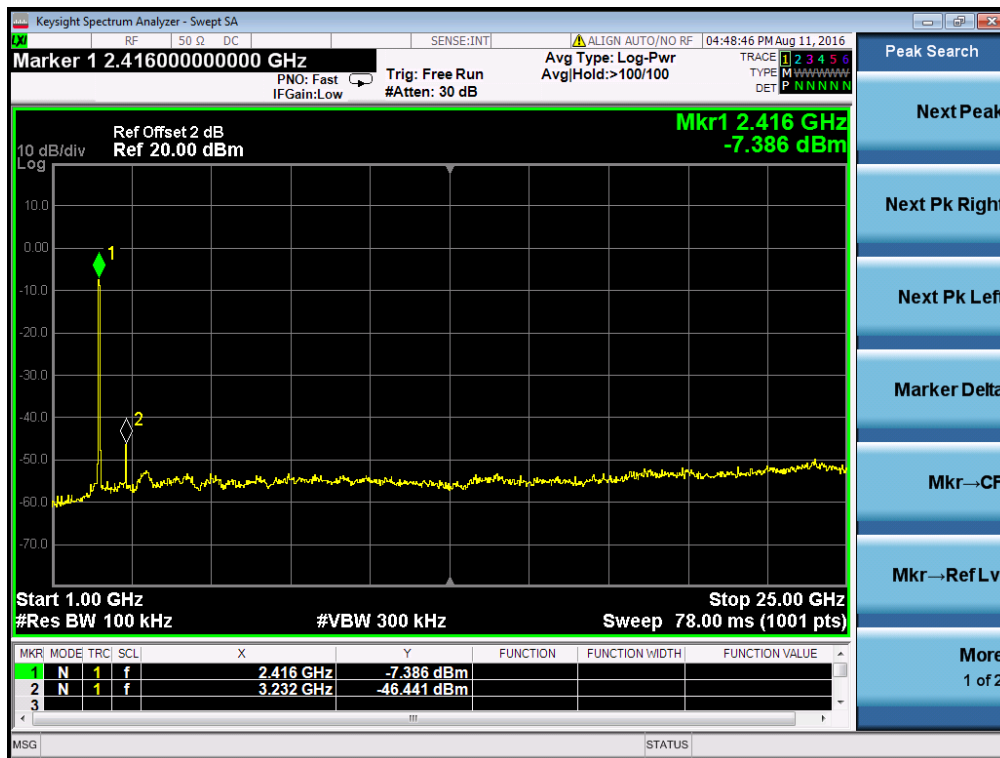


Channel = 11, 30MHz to 25GHz

802.11n40 - Conducted Spurious Emission Plot on channel 3

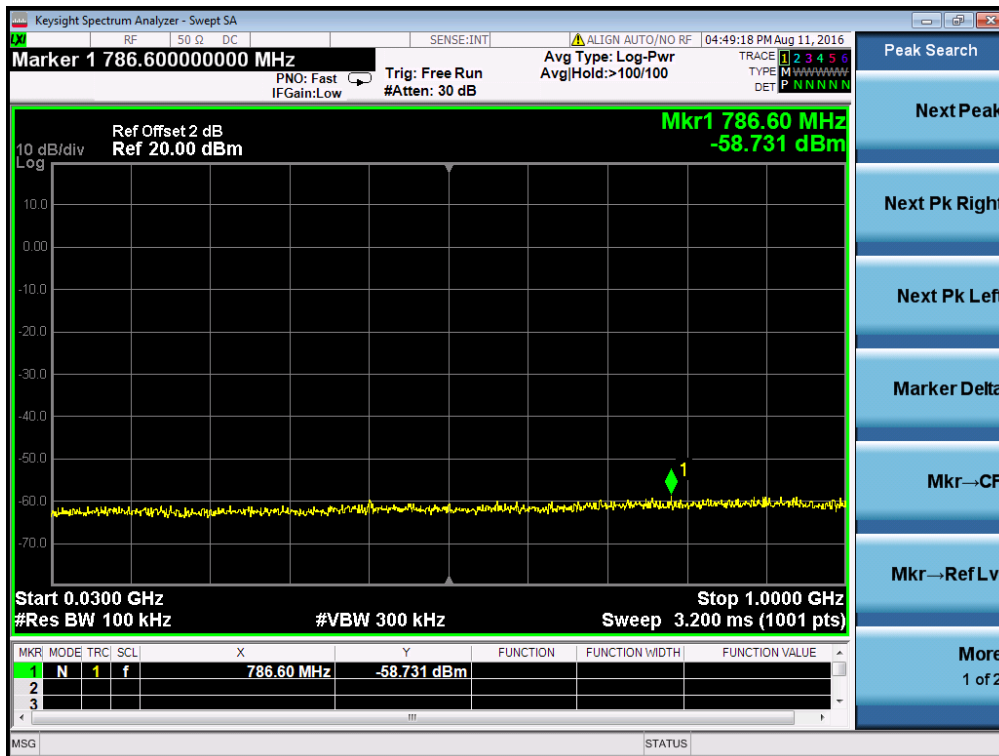


Channel = 3, 30MHz to 1GHz

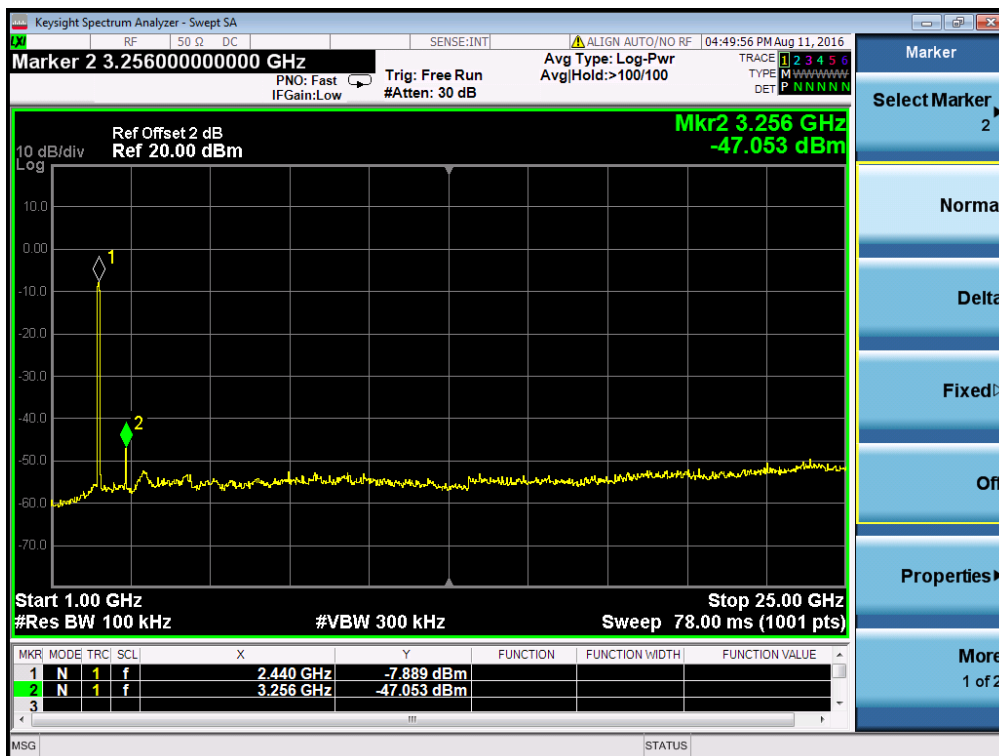


Channel = 3, 1GHz to 25GHz

802.11n40 - Conducted Spurious Emission Plot on channel 6

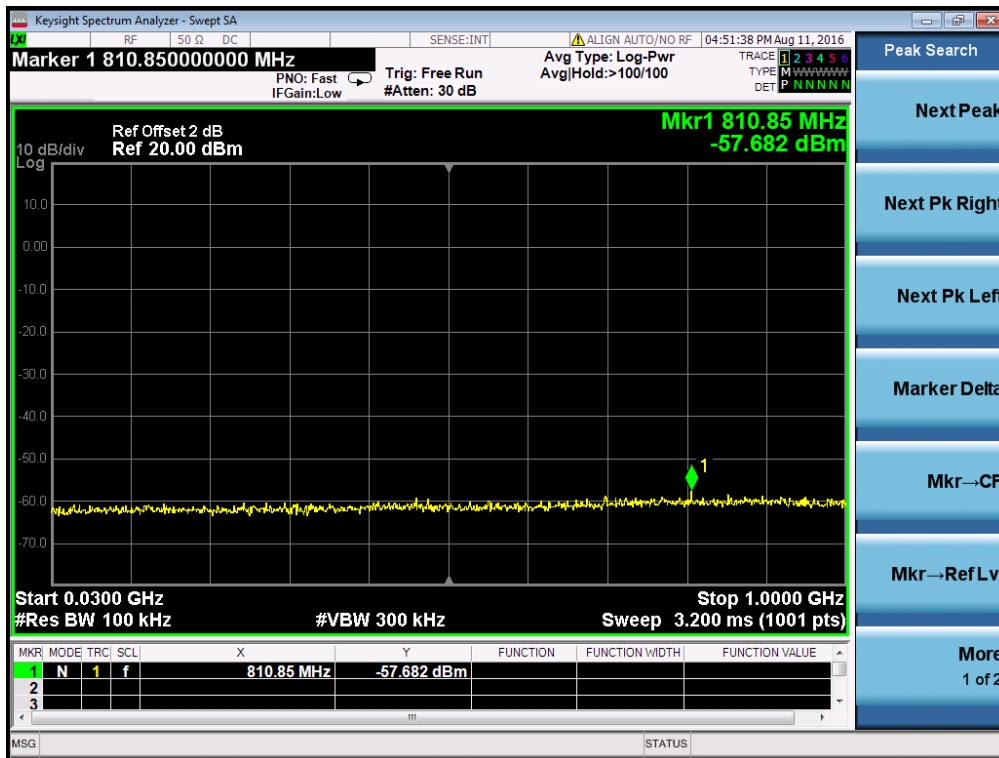


Channel = 6, 30MHz to 1GHz

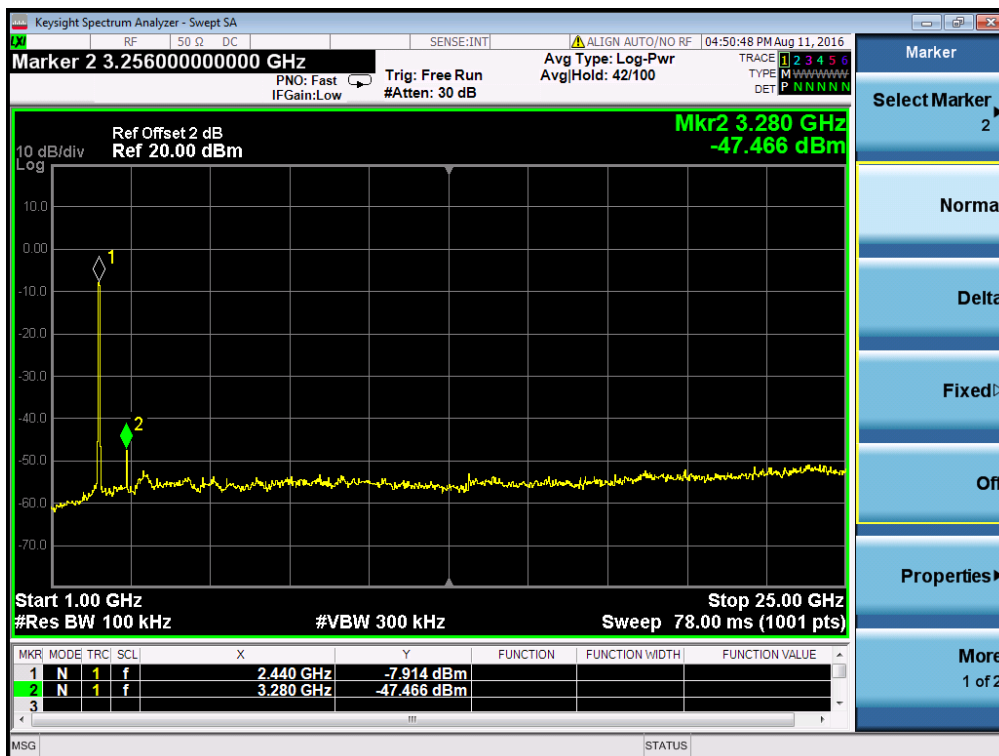


Channel = 6, 1GHz to 25GHz

802.11n40 - Conducted Spurious Emission Plot on channel 9



Channel = 9, 30MHz to 25GHz



Channel = 9, 30MHz to 25GHz

2.5. Power spectral density (PSD)

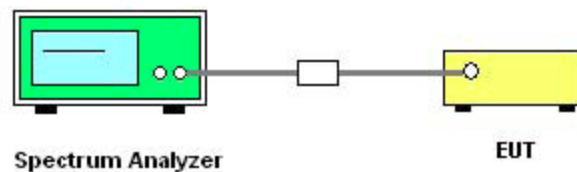
2.5.1. Limit of Power Spectral Density

The peak power spectral density shall not be greater than 8dBm in any 3kHz band at any time interval of continuous transmission.

2.5.2. Measuring Instruments

The measuring equipment is listed in the section 3 of this test report.

2.5.3. Test Setup



2.5.4. Test Procedures

1. The testing follows Measurement Procedure 10.2 Method PKPSD of FCC KDB558074 D01 v03r05.

2. The RF output of EUT was connected to the spectrum analyzer by RF cable and attenuator.

The path loss was compensated to the results for each measurement.

3. Set to the maximum power setting and enable the EUT transmit continuously.

4. Make the measurement with the spectrum analyzer's resolution bandwidth (RBW) = 3 kHz.

Video bandwidth VBW = 10 kHz In order to make an accurate measurement, set the span to 1.5 times DTS Channel Bandwidth. (6dB BW)

5. Detector = peak, Sweep time = auto couple, Trace mode = max hold, Allow trace to fully stabilize. Use the peak marker function to determine the maximum power level.

6. Measure and record the results in the test report.

7. The Measured power density (dBm)/ 100kHz is a reference level and used as 20dBc down limit line for Conducted Band Edges and Conducted Spurious Emission.

2.5.5. Test Results of Power spectral density

| 802.11b mode | | | | |
|-------------------------|-----------------------------------|-----------|---------------------|--------|
| Test Frequency (MHz) | Power Spectral Density (dBm/3kHz) | | Limit (dBm/3kHz) | Result |
| | Antenna 0 | Antenna 1 | | |
| 2412 | -11.098 | -12.895 | 8 | PASS |
| 2437 | -10.651 | -12.949 | 8 | PASS |
| 2462 | -10.557 | -12.680 | 8 | PASS |

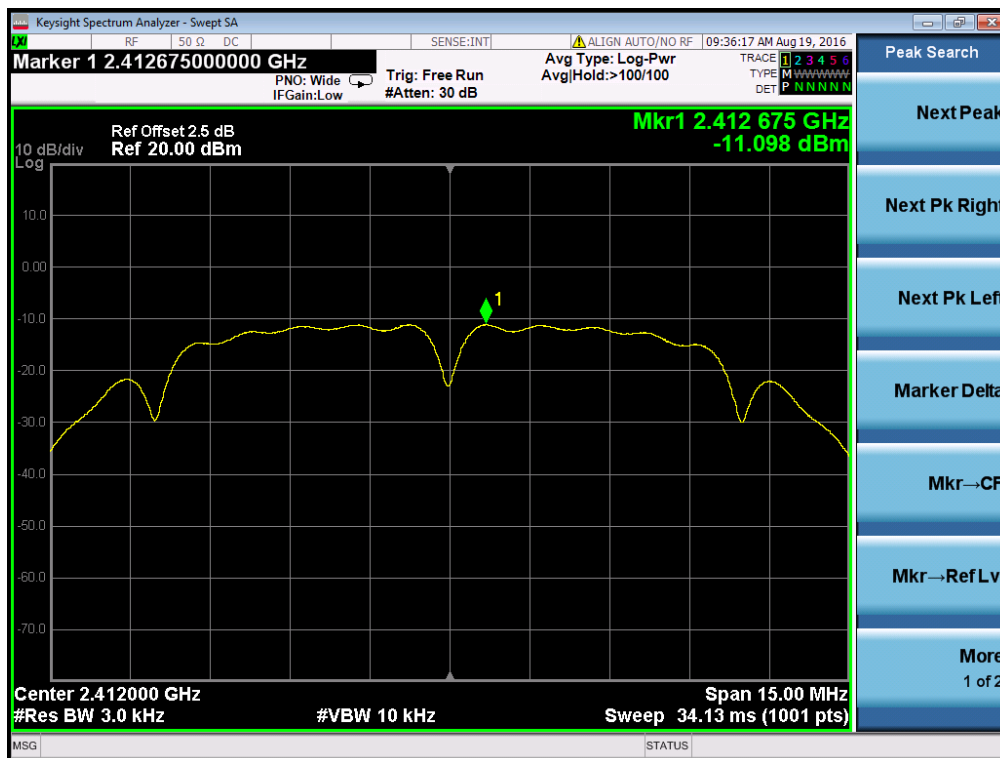
| 802.11g mode | | | | |
|-------------------------|-----------------------------------|-----------|---------------------|--------|
| Test Frequency (MHz) | Power Spectral Density (dBm/3kHz) | | Limit (dBm/3kHz) | Result |
| | Antenna 0 | Antenna 1 | | |
| 2412 | -14.355 | -11.937 | 8 | PASS |
| 2437 | -14.548 | -11.909 | 8 | PASS |
| 2462 | -14.137 | -11.399 | 8 | PASS |

| 802.11n20 mode | | | | | |
|-------------------------|-----------------------------------|-----------|-------|---------------------|--------|
| Test Frequency (MHz) | Power Spectral Density (dBm/3kHz) | | | Limit (dBm/3kHz) | Result |
| | Antenna 0 | Antenna 1 | Total | | |
| 2412 | -14.129 | -11.993 | -9.92 | 8 | PASS |
| 2437 | -13.576 | -10.944 | -9.05 | 8 | PASS |
| 2462 | -14.064 | -11.236 | -9.41 | 8 | PASS |

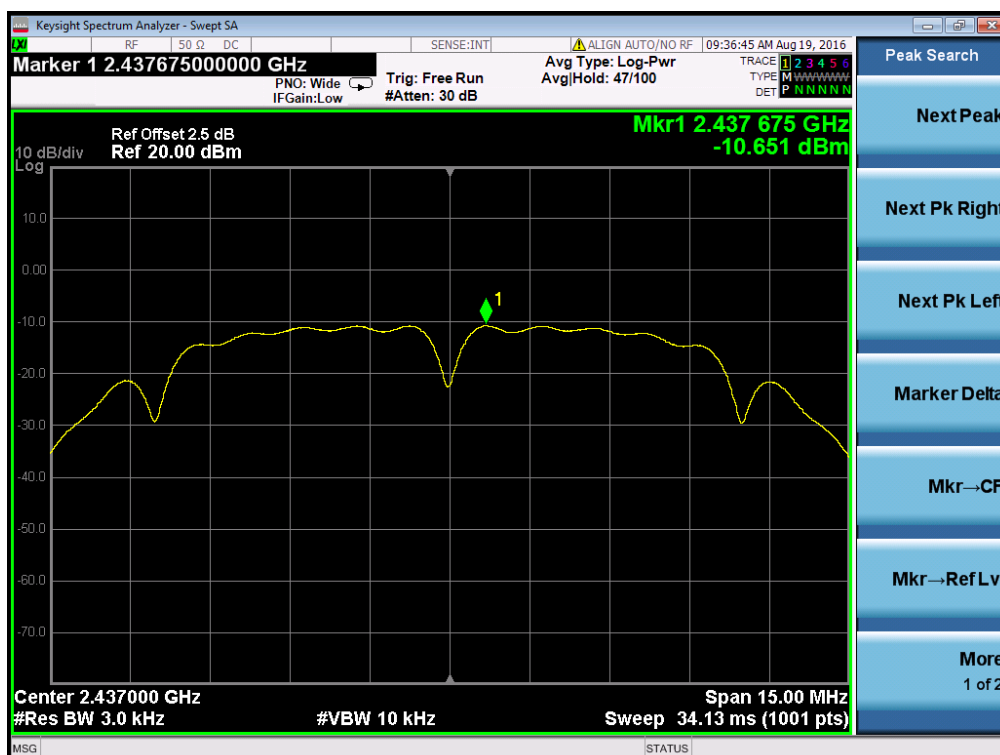
| 802.11n40 mode | | | | | |
|-------------------------|-----------------------------------|-----------|--------|---------------------|--------|
| Test Frequency (MHz) | Power Spectral Density (dBm/3kHz) | | | Limit (dBm/3kHz) | Result |
| | Antenna 0 | Antenna 1 | Total | | |
| 2422 | -14.702 | -12.087 | -10.19 | 8 | PASS |
| 2437 | -16.588 | -12.213 | -10.86 | 8 | PASS |
| 2452 | -14.527 | -12.471 | -10.37 | 8 | PASS |

2.5.6. Test Results (plots) of Power spectral density

Antenna 0 - 802.11b - Channel 1



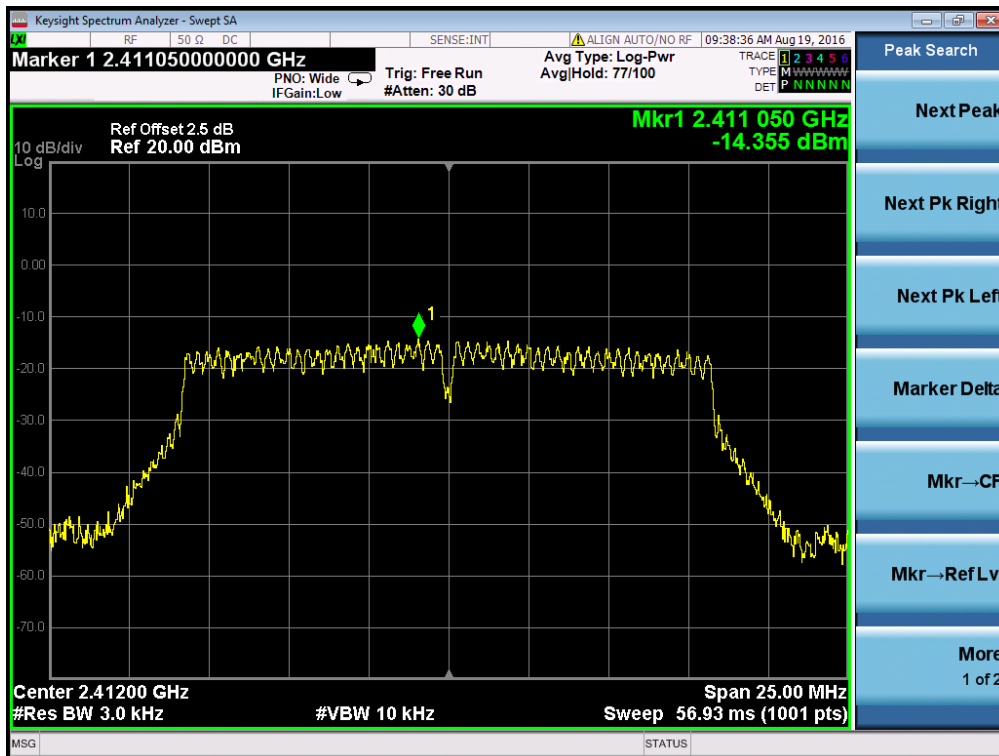
Antenna 0 - 802.11b - Channel 6



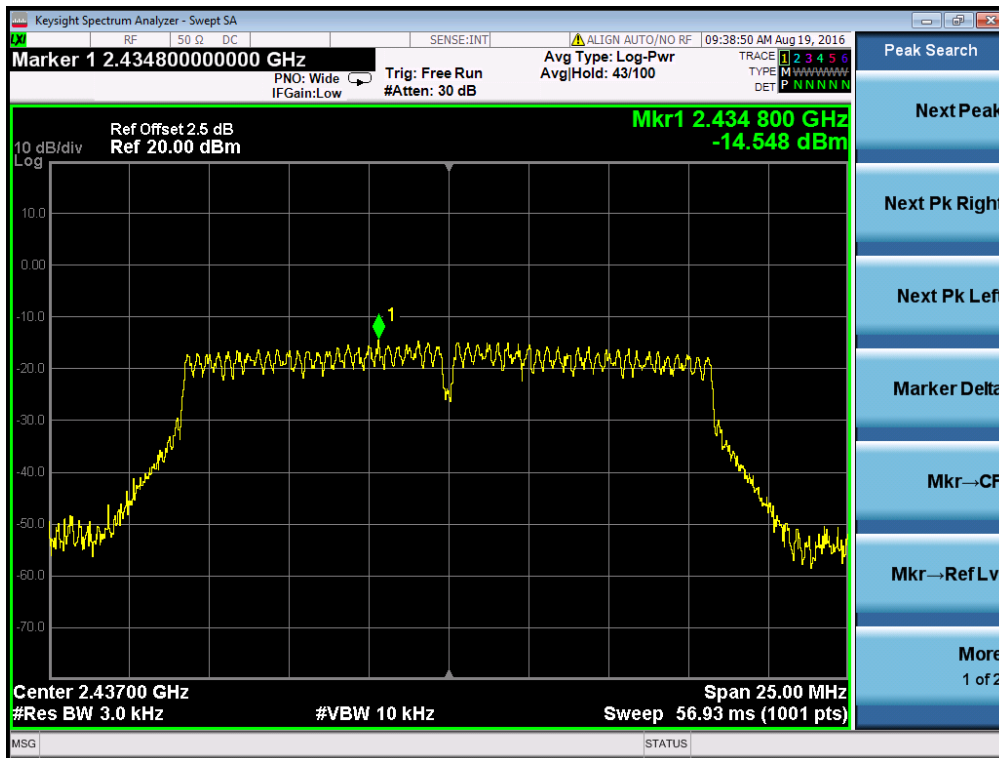
Antenna 0 - 802.11b - Channel 11



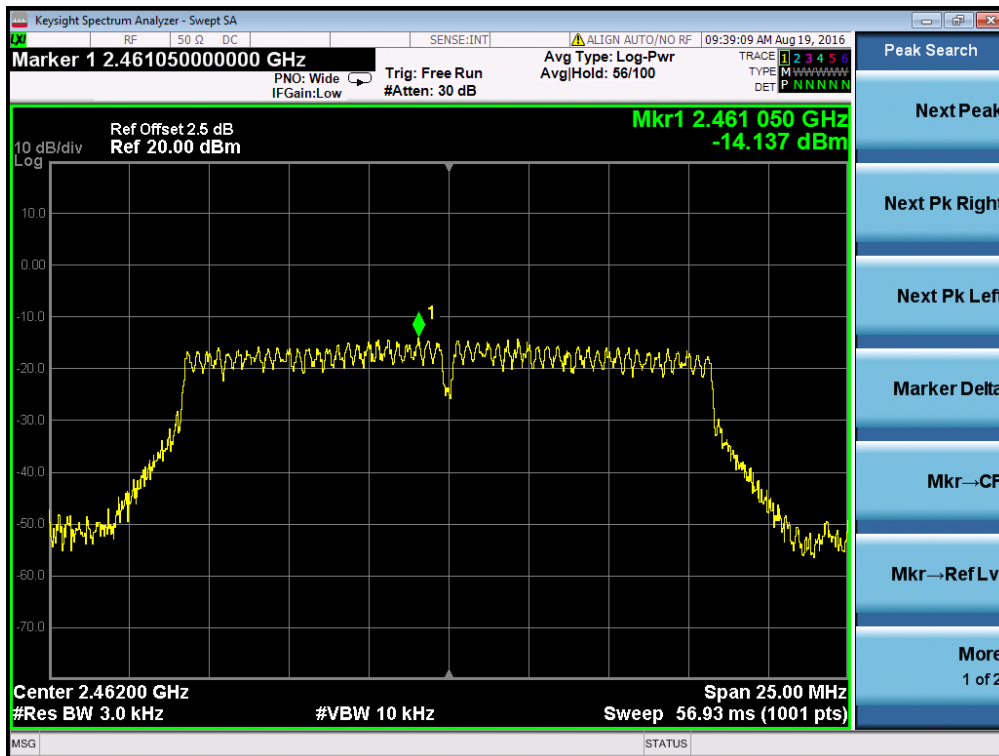
Antenna 0 - 802.11g - Channel 1



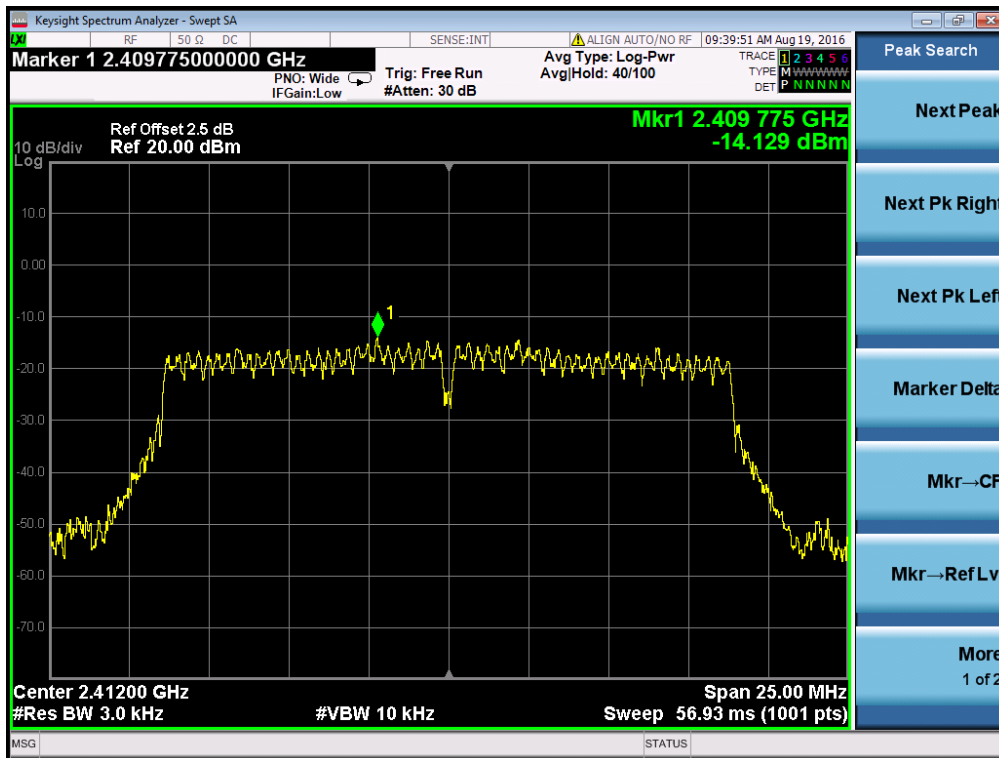
Antenna 0 - 802.11g - Channel 6



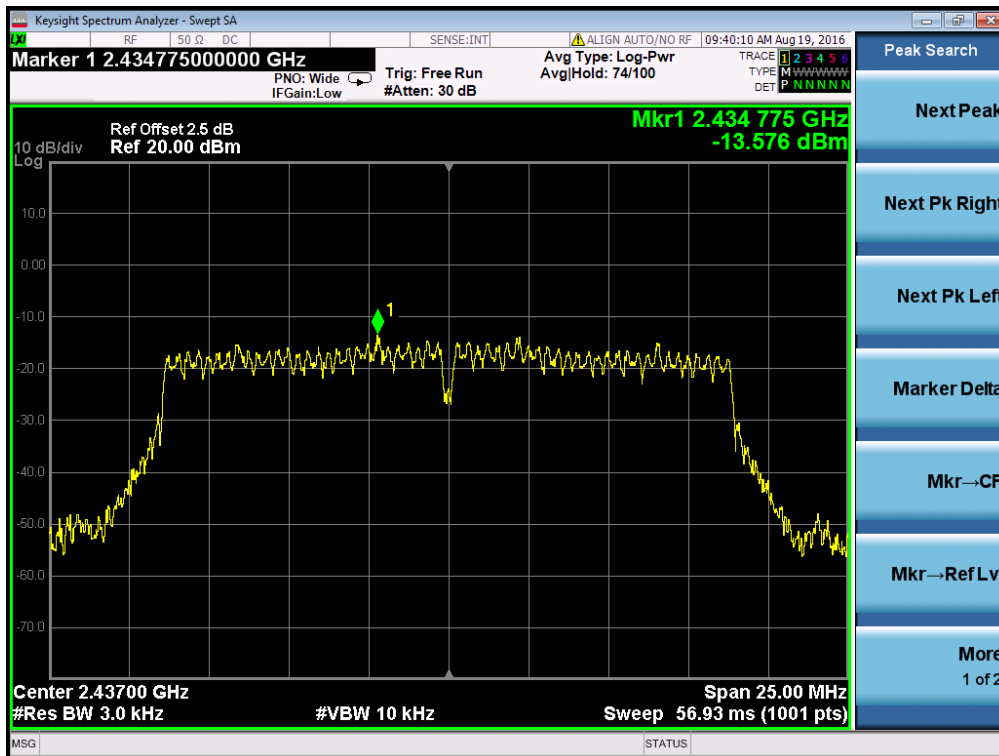
Antenna 0 - 802.11g - Channel 11



Antenna 0 - 802.11n20 - Channel 1



Antenna 0 - 802.11n20 - Channel 6





Keysight Spectrum Analyzer - Swept SA

RF 50 Ω DC SENSE:INT

Marker 1 2.459775000000 GHz

PNO: Wide Trg: Free Run
IFGain:Low #Atten: 30 dB

Avg Type: Log-Pwr
Avg/Hold: 65/100

TRACE 1 2 3 4 5 6
TYPE M
DET P NNNNN

09:40:27 AM Aug 19, 2016

Peak Search

Next Peak

Next Pk Right

Next Pk Left

Marker Delta

Mkr→CF

Mkr→RefLv

More

1 of 2

Ref Offset 2.5 dB
Ref 20.00 dBm

10 dB/div
Log

Mkr1 2.459 775 GHz
-14.064 dBm

Center 2.46200 GHz
#Res BW 3.0 kHz

Span 25.00 MHz
Sweep 56.93 ms (1001 pts)

#VBW 10 kHz

MSG STATUS

Keysight Spectrum Analyzer - Swept SA

RF 50 Ω DC SENSE:INT Δ ALIGN AUTO/NO RF 09:40:51 AM Aug 19, 2016

Marker 1 2.4185000000 GHz PNO: Fast IFGain:Low Trig: Free Run #Atten: 30 dB Avg Type: Log-Pwr Avg/Hold: 38/100 TRACE 1 2 3 4 5 6 TYPE M W W W W W W W W W DET P N N N N N N

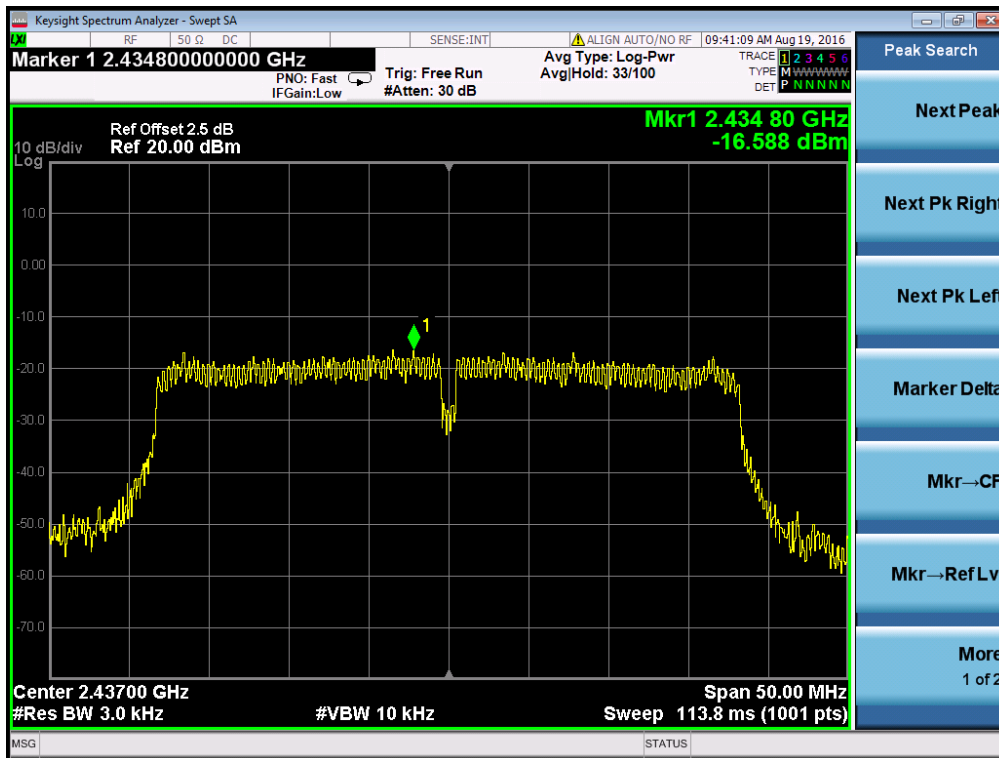
Ref Offset 2.5 dB Ref 20.00 dBm

Mkr1 2.418 55 GHz -14.702 dBm

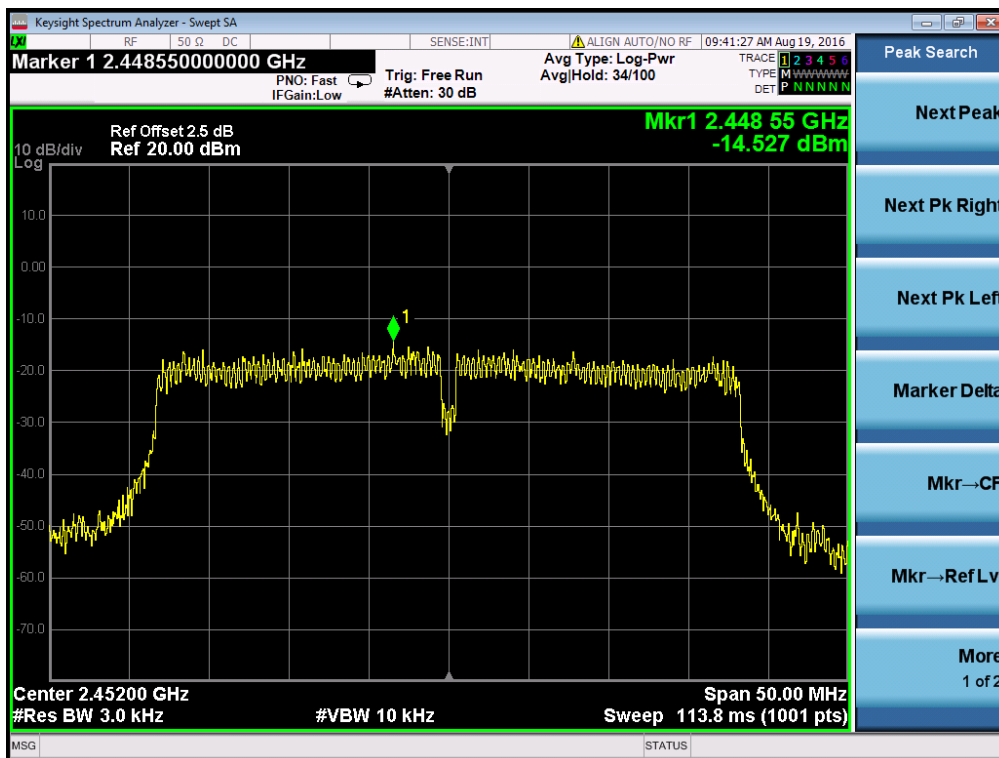
10 dB/div Log

Center 2.42200 GHz Span 50.00 MHz
#Res BW 3.0 kHz #VBW 10 kHz Sweep 113.8 ms (1001 pts)

Antenna 0 - 802.11n40 - Channel 6



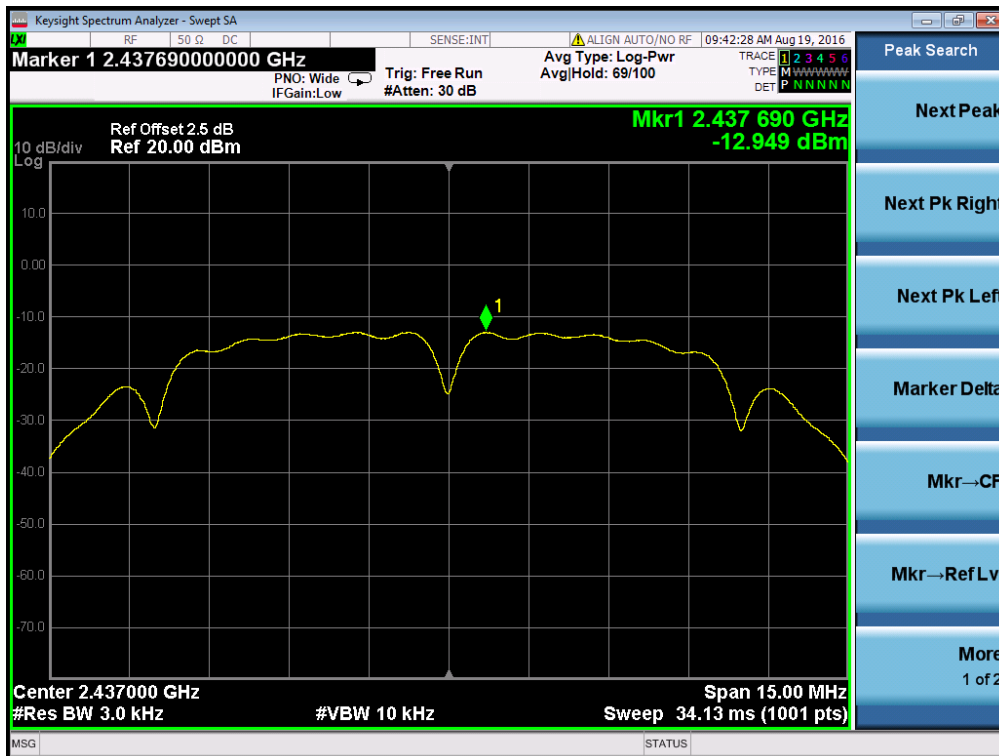
Antenna 0 - 802.11n40 - Channel 9



Antenna 1 - 802.11b - Channel 1



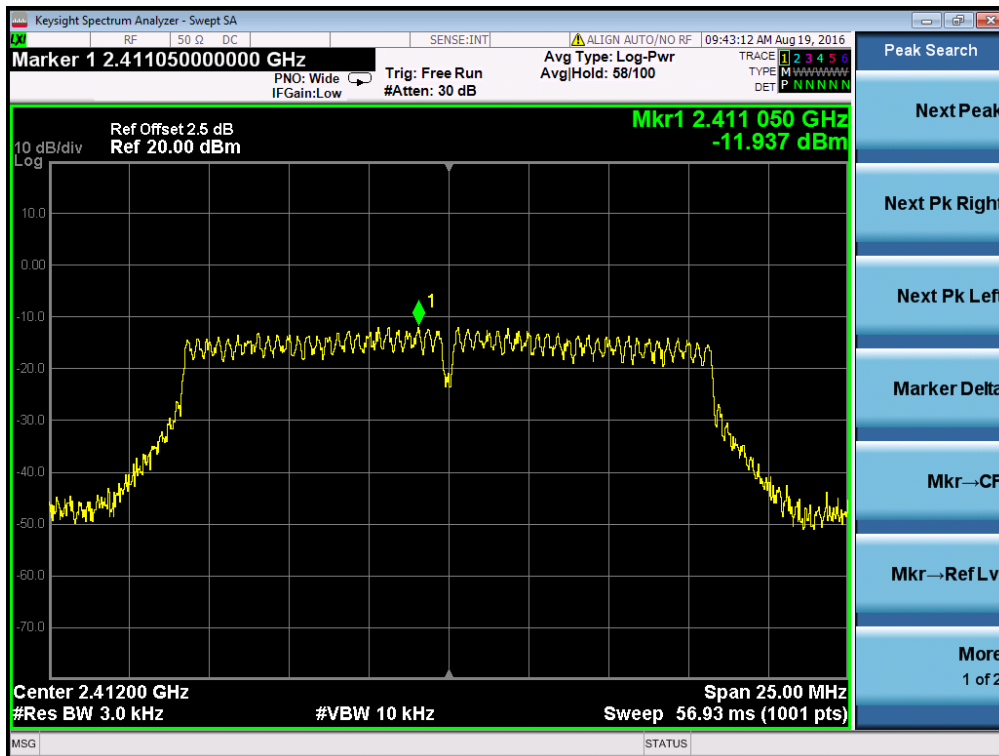
Antenna 1 - 802.11b - Channel 6



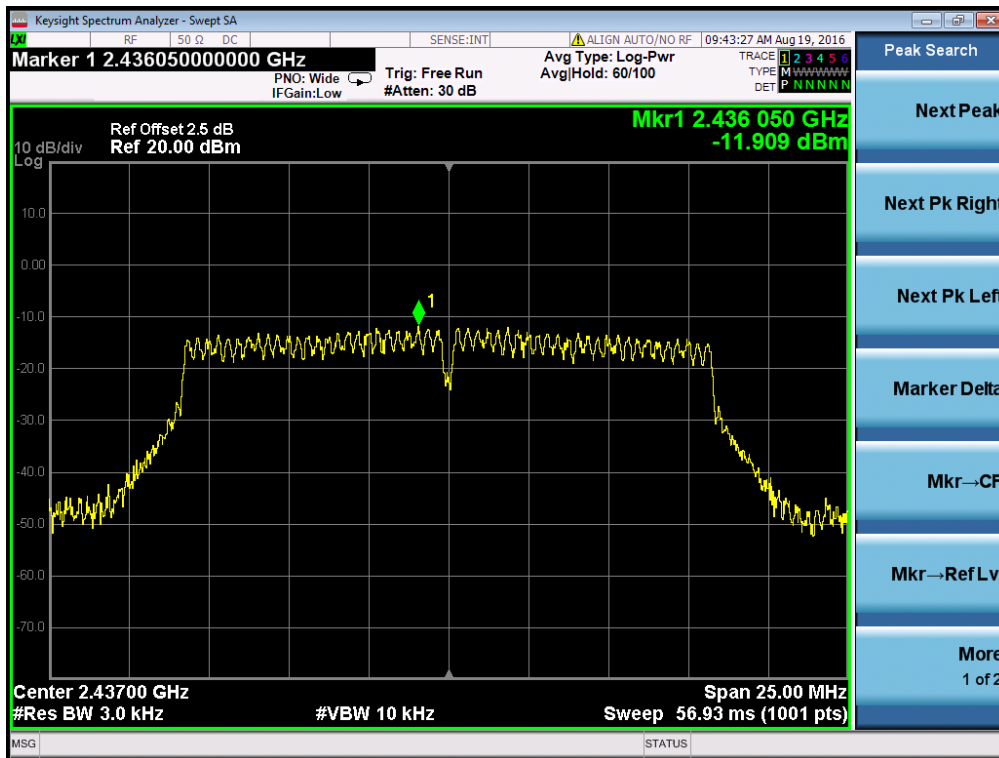
Antenna 1 - 802.11b - Channel 11



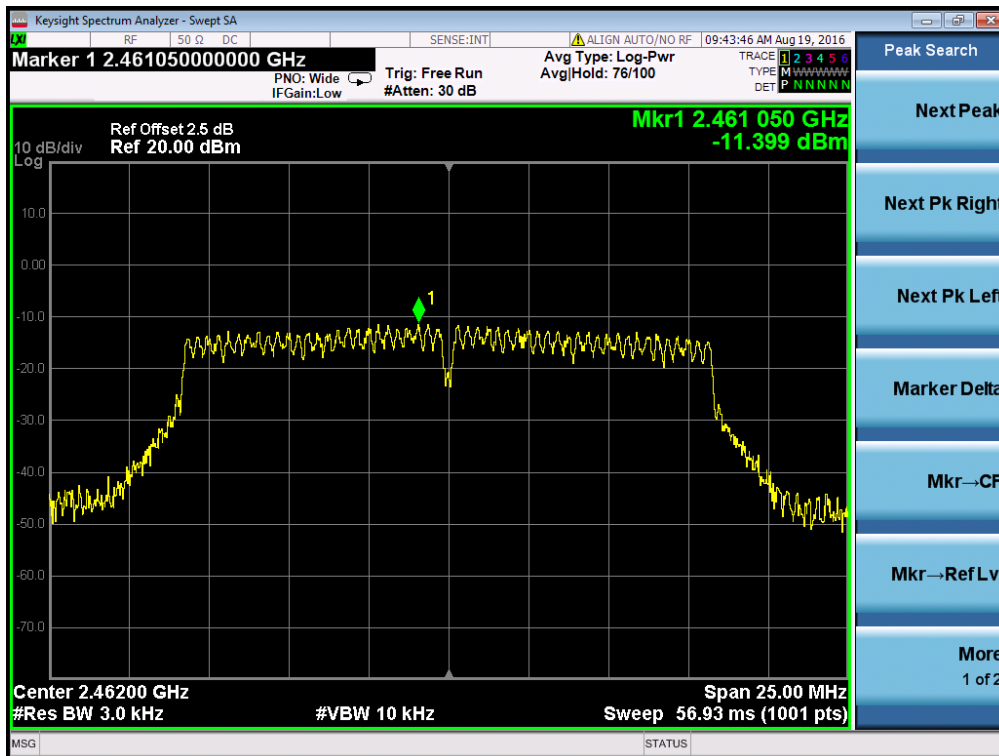
Antenna 1 - 802.11g - Channel 1



Antenna 1 - 802.11g - Channel 6

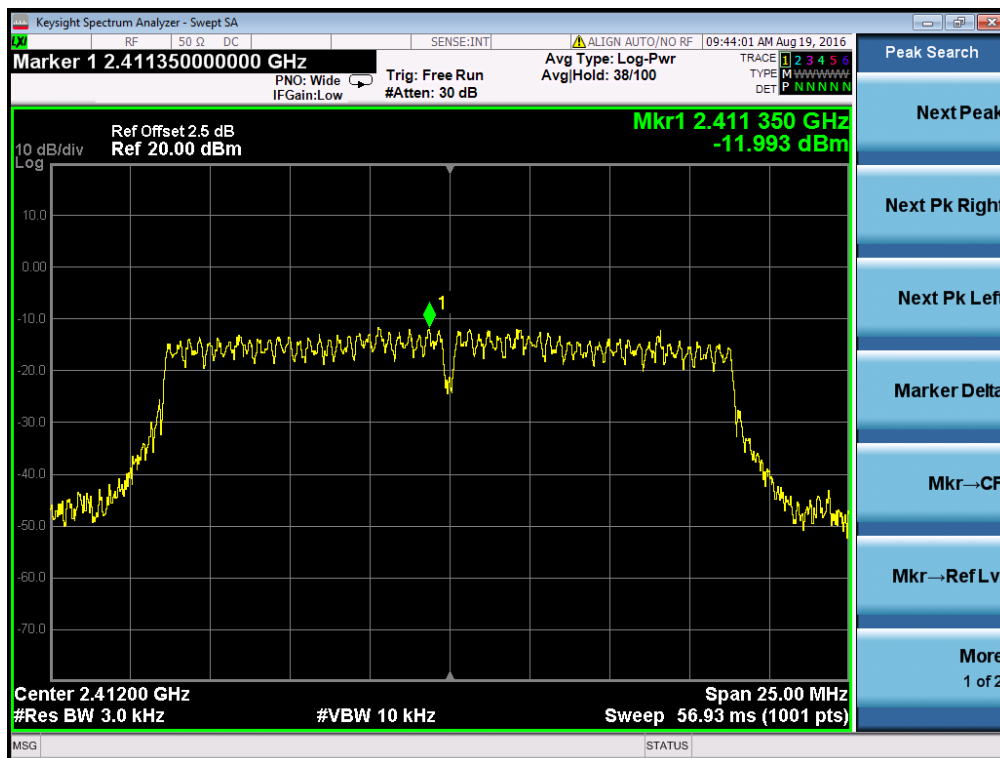


Antenna 1 - 802.11g - Channel 11

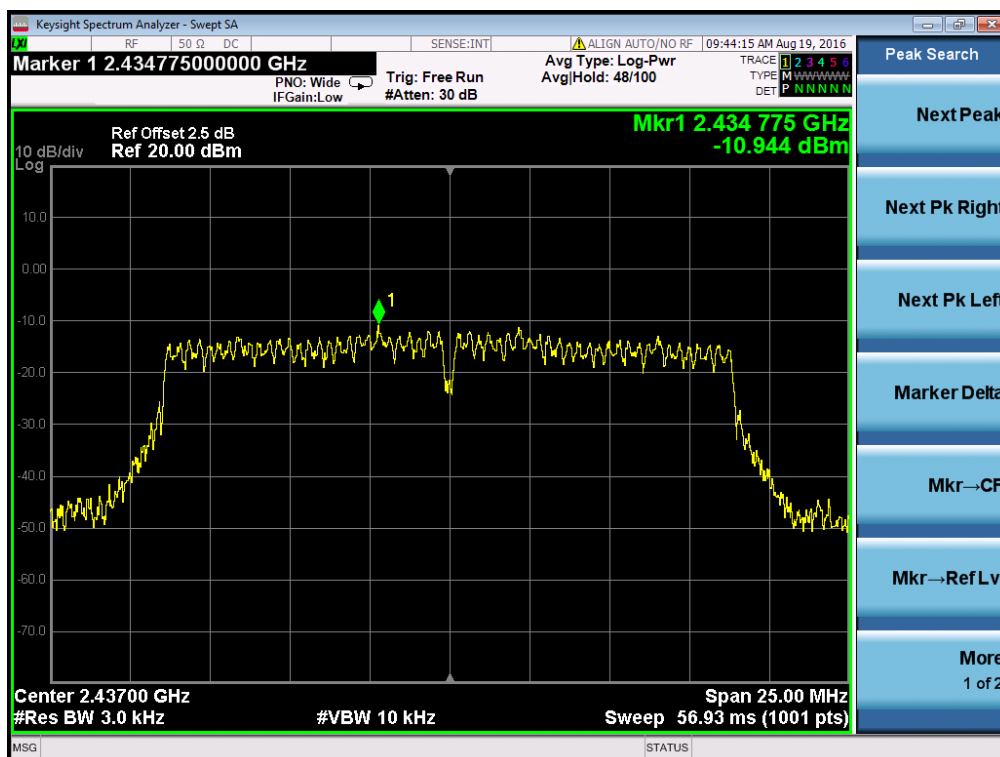




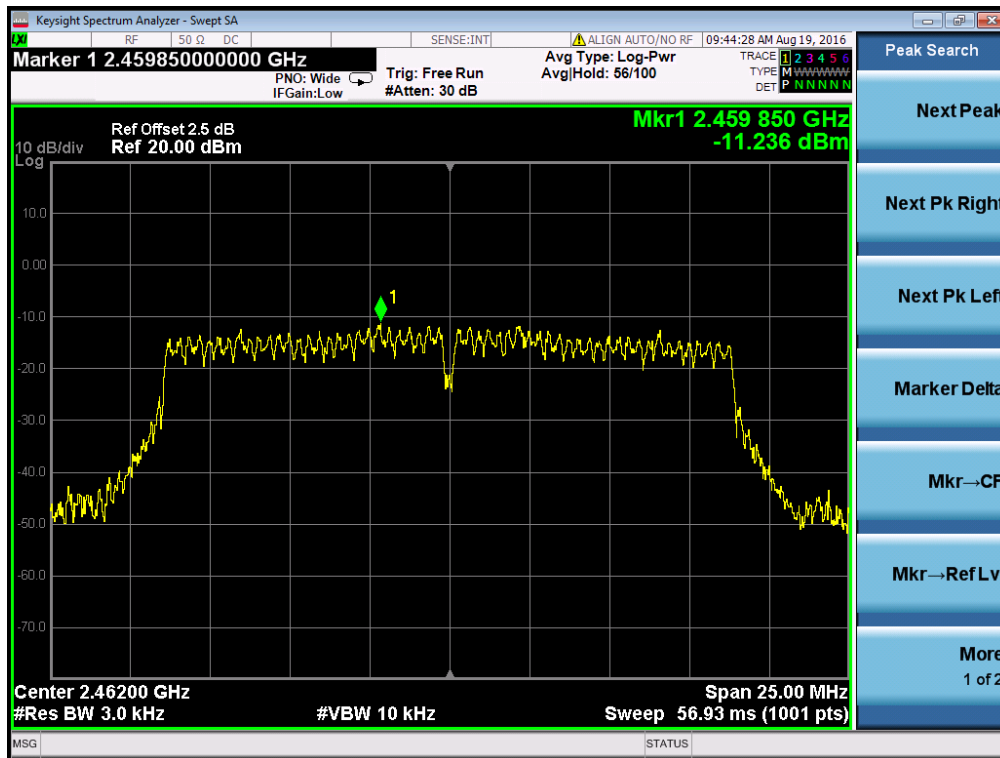
Antenna 1 - 802.11n20 - Channel 1



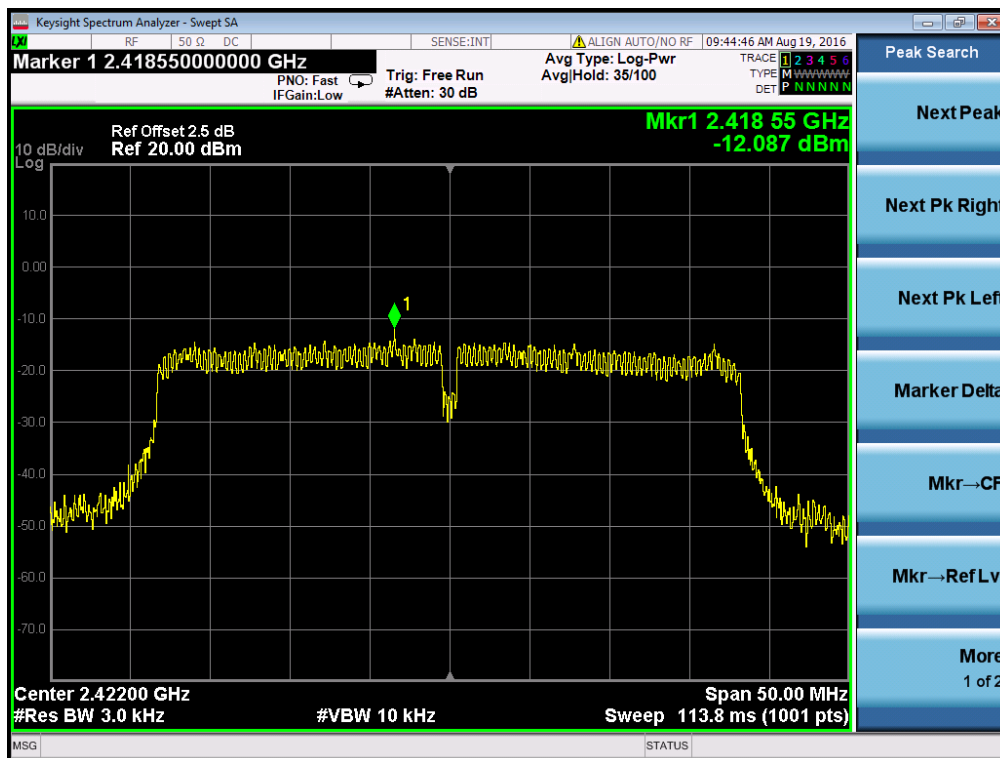
Antenna 1 - 802.11n20 - Channel 6



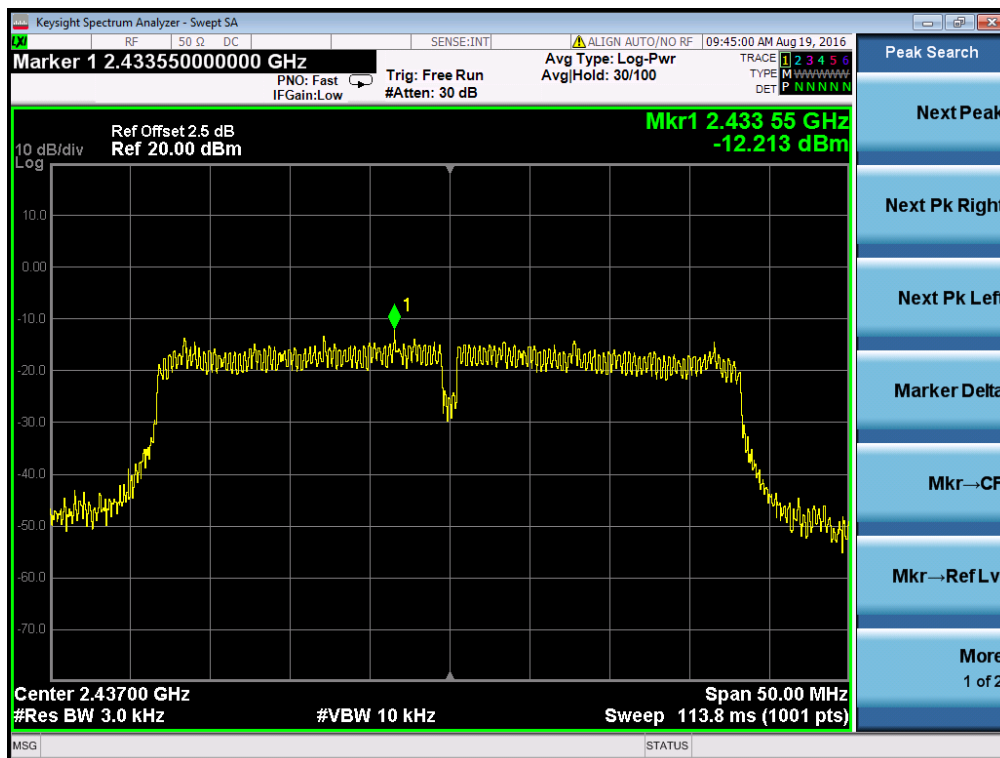
Antenna 1 - 802.11n20 - Channel 11



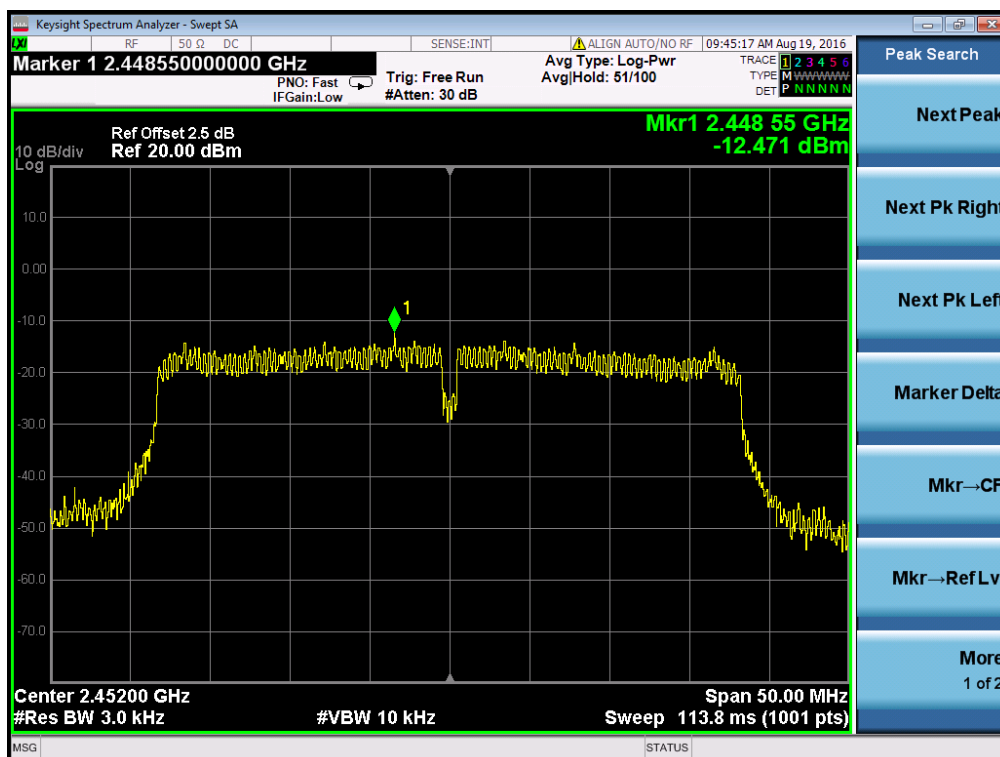
Antenna 1 - 802.11n40 - Channel 3



Antenna 1 - 802.11n40 - Channel 6



Antenna 1 - 802.11n40 - Channel 9



2.6. Radiated Band Edge and Spurious Emission

2.6.1. Limit of Radiated Band Edges and Spurious Emission

In any 100 kHz bandwidth outside the intentional radiator frequency band, all harmonics/spurious must be at least 20 dB below the highest emission level within the authorized band. If the output power of this device was measured by spectrum analyzer, the attenuation under this paragraph shall be 30 dB instead of 20 dB. In addition, radiated emissions which fall in the restricted bands must also comply with the FCC section 15.209 limits as below.

Note: Wireless charger configuration was evaluated.

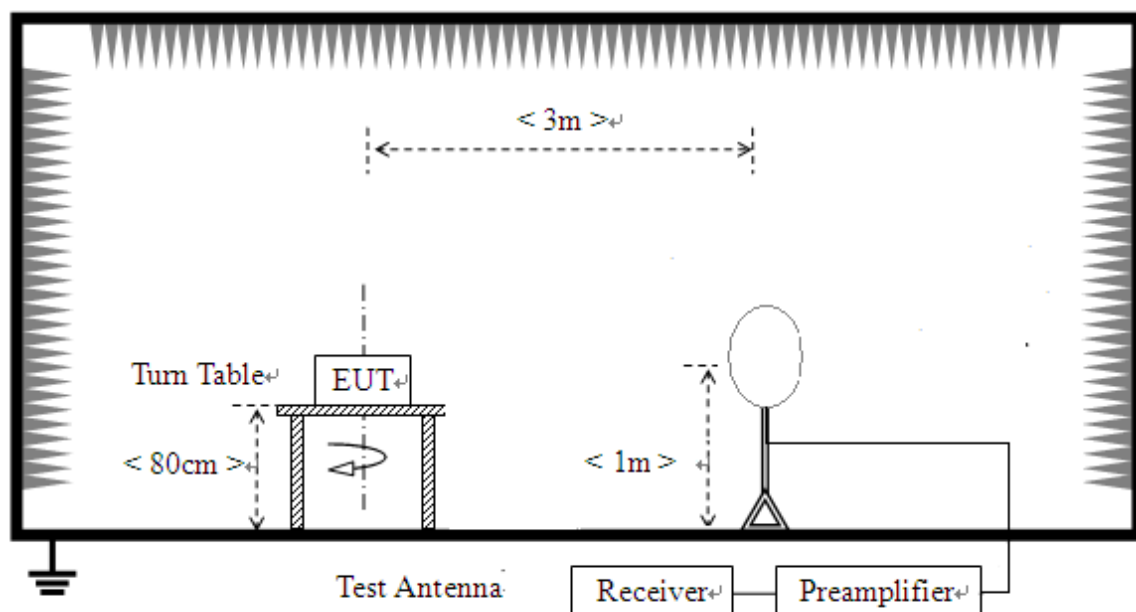
| Frequency (MHz) | Field Strength ($\mu\text{V/m}$) | Measurement Distance (m) |
|-----------------|------------------------------------|--------------------------|
| 0.009 - 0.490 | $2400/F(\text{kHz})$ | 300 |
| 0.490 - 1.705 | $24000/F(\text{kHz})$ | 30 |
| 1.705 - 30.0 | 30 | 30 |
| 30 - 88 | 100 | 3 |
| 88 - 216 | 150 | 3 |
| 216 - 960 | 200 | 3 |
| Above 960 | 500 | 3 |

2.6.2. Measuring Instruments

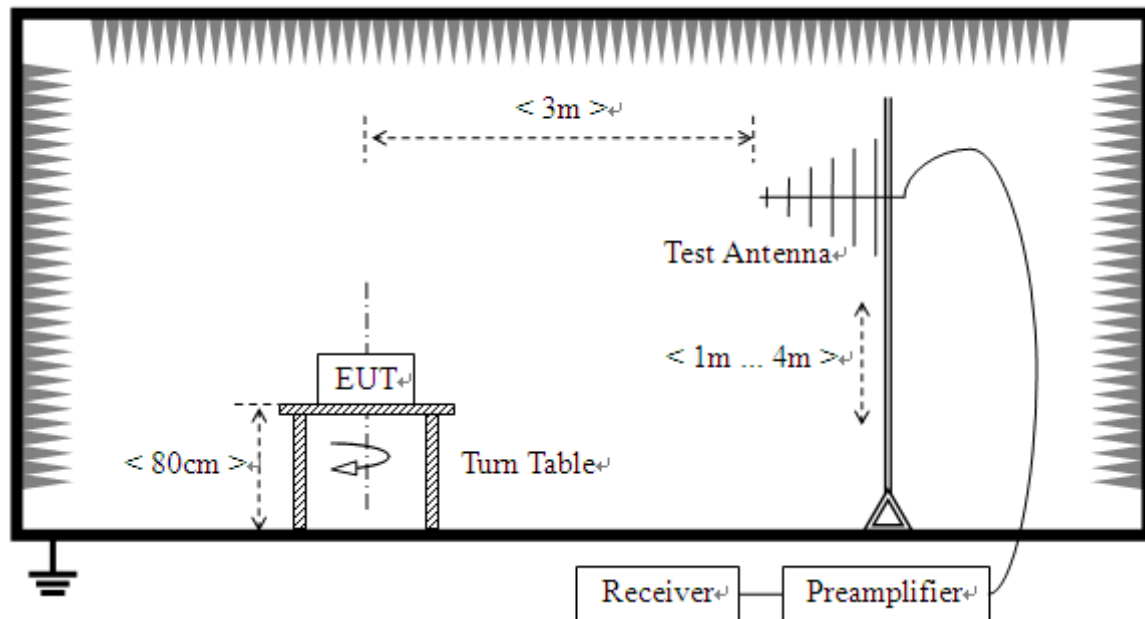
The measuring equipment is listed in the section 3 of this test report.

2.6.3. Test Setup

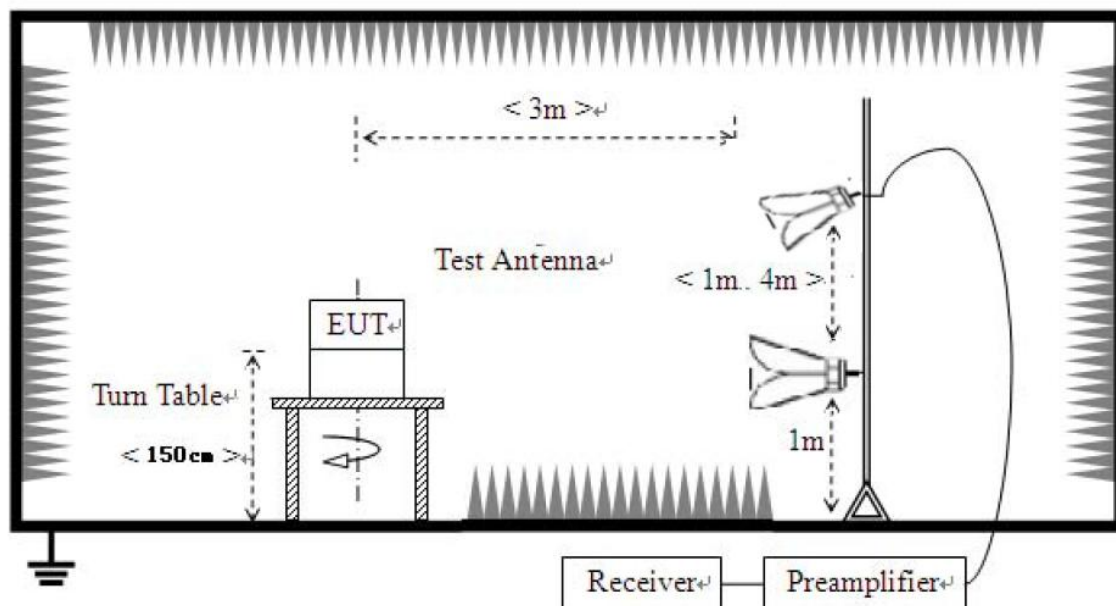
For radiated emissions from 9kHz to 30MHz



For radiated emissions from 30MHz to 1GHz



For radiated emissions above 1GHz



2.6.4. Test Procedures

1. The EUT was placed on the top of a rotating table 0.8 meters (for below 1GHz) / 1.5 meters (for above 1GHz) above the ground at a 3 meters semi-anechoic chamber. The table was rotated 360 degrees to determine the position of the highest radiation.
2. The EUT was set 3 meters away from the interference-receiving antenna, which was mounted on the top of a variable-height antenna tower.
3. Height of receiving antenna is varied from one meter to four meters above the ground to determine the maximum value of the field strength. Both horizontal and vertical polarizations of the antenna are set to make the measurement.
4. For each suspected emission, the EUT was arranged to its worst case and then the antenna was tuned to heights from 1 meter to 4 meters and the rotatable table was turned from 0 degrees to 360 degrees to find the maximum reading.
5. The test-receiver system was set to Peak Detect Function and Specified Bandwidth with Maximum Hold Mode.
6. If the emission level of the EUT in peak mode was lower than the limit specified, then testing could be stopped and the peak values of the EUT would be reported.

Otherwise the emissions would be re-tested one by one using peak, quasi-peak or average method as specified and then reported in a data sheet.

NOTE:

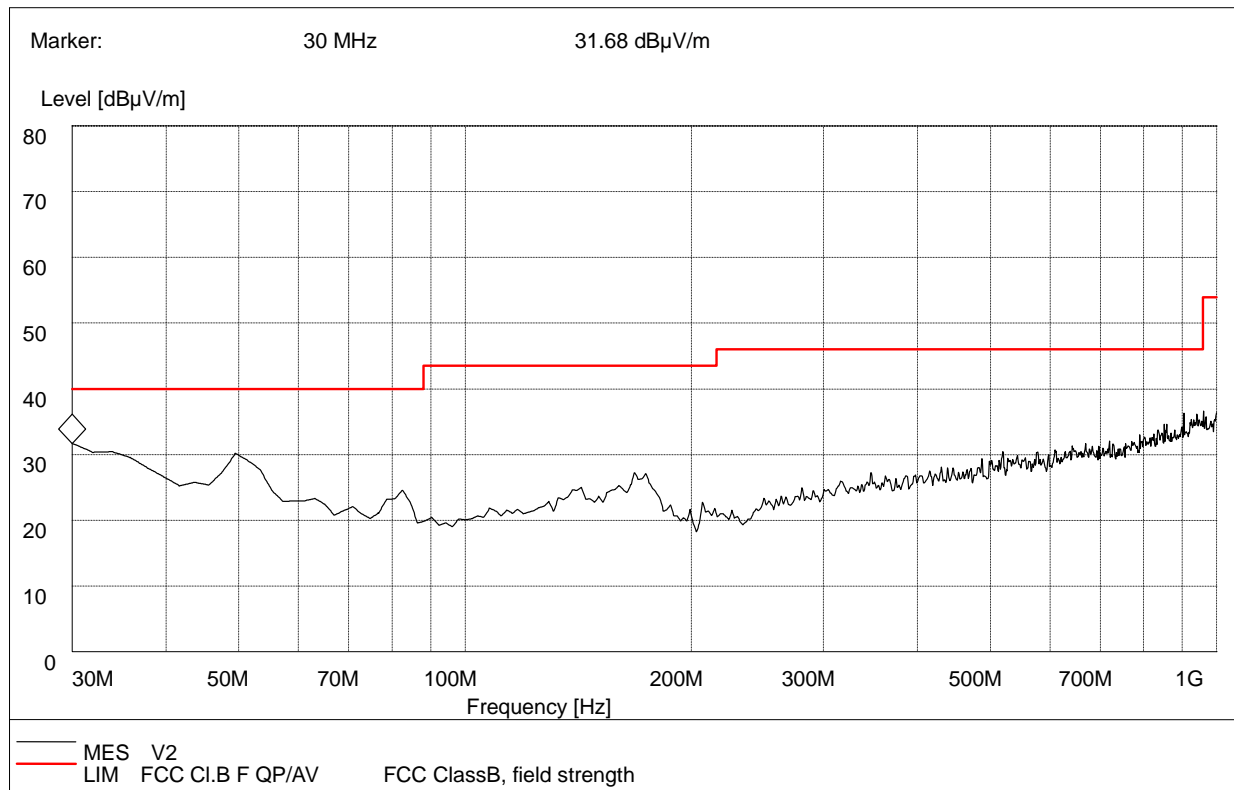
1. The resolution bandwidth and video bandwidth of test receiver/spectrum analyzer is 120kHz for Quasi-peak detection at frequency below 1GHz.
2. The resolution bandwidth of test receiver/spectrum analyzer is 1MHz and video bandwidth is 3MHz for Peak detection at frequency above 1GHz.

2.6.5. Test Results of Radiated Band Edge and Spurious Emission

For 9 kHz to 30MHz

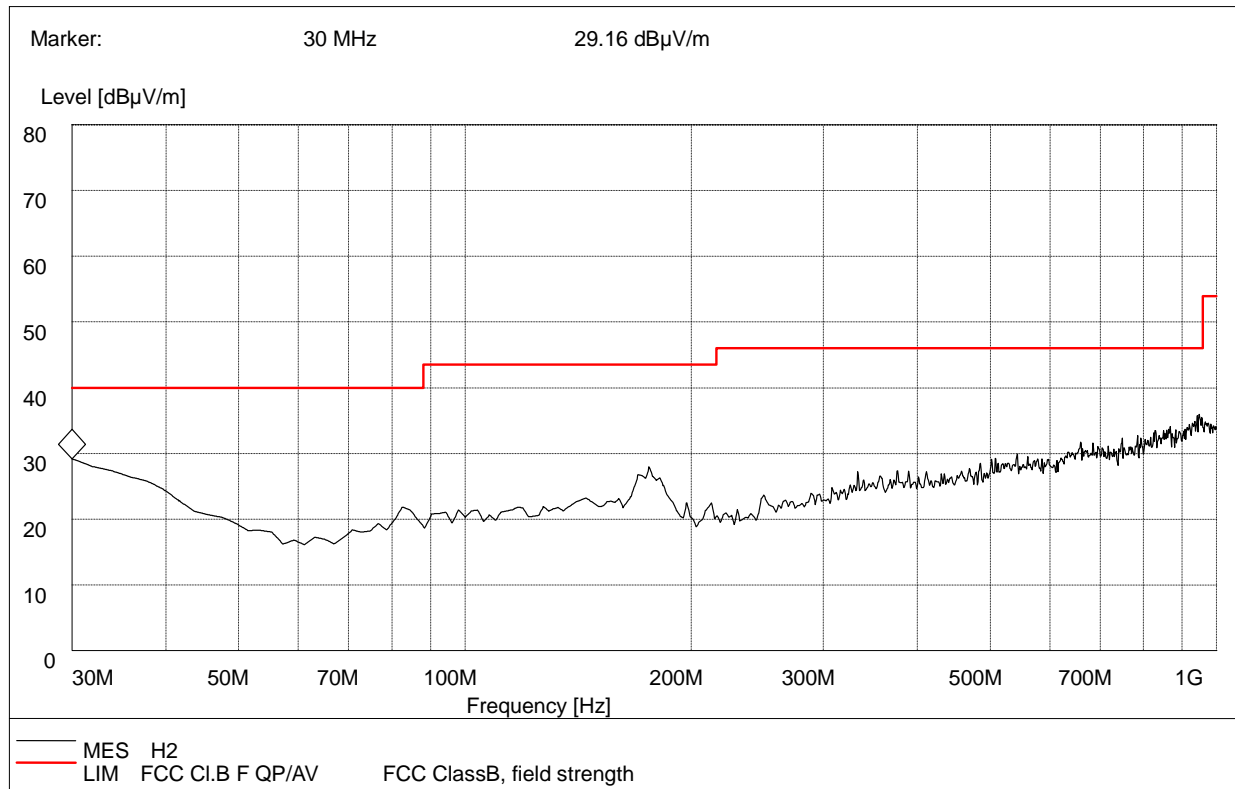
The amplitude of spurious emissions which are attenuated by more than 20dB below the permissible value has no need to be reported.

For 30MHz to 1000 MHz



30MHz to 1GHz, Antenna Vertical

| Frequency (MHz) | QuasiPeak (dBμV/m) | Bandwidth (kHz) | Antenna height (cm) | Limit (dBμV/m) | Antenna | Verdict |
|-----------------|--------------------|-----------------|---------------------|----------------|----------|---------|
| 30.00 | 31.68 | 120.000 | 100.0 | 40.00 | Vertical | Pass |



30MHz to 1GHz, Antenna Horizontal

| Frequency (MHz) | QuasiPeak (dB μ V/m) | Bandwidth (kHz) | Antenna height (cm) | Limit (dB μ V/m) | Antenna | Verdict |
|-----------------|--------------------------|-----------------|---------------------|----------------------|------------|---------|
| 30.00 | 29.16 | 120.000 | 100.0 | 40.00 | Horizontal | Pass |

For 1GHz to 25 GHz

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M (802.11b_2412MHz)

| No. | Frequency (MHz) | Emission Level (dBuV/m) | | Limit (dBuV/m) | Margin (dB) | Antenna Height (m) | Table Angle (Degree) | Raw Value (dBuV/m) | Correction Factor (dB/m) |
|-----|-----------------|-------------------------|----|----------------|-------------|--------------------|----------------------|--------------------|--------------------------|
| 1 | 2390.00 | 48.65 | PK | 74.00 | -25.35 | 1.50 H | 18 | 47.35 | 1.3 |
| 2 | 2390.00 | 37.59 | AV | 54.00 | -16.41 | 1.50 H | 18 | 36.29 | 1.3 |
| 3 | *2412.00 | 105.84 | PK | / | / | 1.50 H | 18 | 103.84 | 2 |
| 4 | *2412.00 | 92.96 | AV | / | / | 1.50 H | 18 | 90.96 | 2 |
| 5 | 4824.00 | 49.26 | PK | 74.00 | -24.74 | 1.50 H | 0 | 42.86 | 6.4 |
| 6 | 4824.00 | 36.83 | AV | 54.00 | -17.17 | 1.50 H | 0 | 30.43 | 6.4 |

ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M (802.11b_2412MHz)

| No. | Frequency (MHz) | Emission Level (dBuV/m) | | Limit (dBuV/m) | Margin (dB) | Antenna Height (m) | Table Angle (Degree) | Raw Value (dBuV/m) | Correction Factor (dB/m) |
|-----|-----------------|-------------------------|----|----------------|-------------|--------------------|----------------------|--------------------|--------------------------|
| 1 | 2390.00 | 49.55 | PK | 74.00 | -24.45 | 1.50 V | 22 | 48.25 | 1.3 |
| 2 | 2390.00 | 38.74 | AV | 54.00 | -15.26 | 1.50 V | 22 | 37.44 | 1.3 |
| 3 | *2412.00 | 106.10 | PK | / | / | 1.50 V | 22 | 104.1 | 2 |
| 4 | *2412.00 | 94.87 | AV | / | / | 1.50 V | 22 | 92.87 | 2 |
| 5 | 4824.00 | 48.75 | PK | 74.00 | -25.25 | 1.50 V | 0 | 42.35 | 6.4 |
| 6 | 4824.00 | 36.84 | AV | 54.00 | -17.16 | 1.50 V | 0 | 30.44 | 6.4 |

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M (802.11b_2437MHz)

| No. | Frequency (MHz) | Emission Level (dBuV/m) | | Limit (dBuV/m) | Margin (dB) | Antenna Height (m) | Table Angle (Degree) | Raw Value (dBuV/m) | Correction Factor (dB/m) |
|-----|-----------------|-------------------------|----|----------------|-------------|--------------------|----------------------|--------------------|--------------------------|
| 1 | *2437.00 | 107.46 | PK | / | / | 1.50 H | 20 | 105.36 | 2.1 |
| 2 | *2437.00 | 96.41 | AV | / | / | 1.50 H | 20 | 94.31 | 2.1 |
| 3 | 4874.00 | 48.23 | PK | 74.00 | -25.77 | 1.50 H | 0 | 41.73 | 6.5 |
| 4 | 4874.00 | 36.91 | AV | 54.00 | -17.09 | 1.50 H | 0 | 30.41 | 6.5 |

ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M (802.11b_2437MHz)

| No. | Frequency (MHz) | Emission Level (dBuV/m) | | Limit (dBuV/m) | Margin (dB) | Antenna Height (m) | Table Angle (Degree) | Raw Value (dBuV/m) | Correction Factor (dB/m) |
|-----|-----------------|-------------------------|----|----------------|-------------|--------------------|----------------------|--------------------|--------------------------|
| 1 | *2437.00 | 108.27 | PK | / | / | 1.50 V | 25 | 106.17 | 2.1 |
| 2 | *2437.00 | 97.24 | AV | / | / | 1.50 V | 25 | 95.14 | 2.1 |
| 3 | 4874.00 | 49.04 | PK | 74.00 | -24.96 | 1.50 V | 0 | 42.54 | 6.5 |
| 4 | 4874.00 | 36.90 | AV | 54.00 | -17.1 | 1.50 V | 0 | 30.4 | 6.5 |

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M (802.11b_2462MHz)

| No. | Frequency (MHz) | Emission Level (dBuV/m) | | Limit (dBuV/m) | Margin (dB) | Antenna Height (m) | Table Angle (Degree) | Raw Value (dBuV/m) | Correction Factor (dB/m) |
|-----|-----------------|-------------------------|----|----------------|-------------|--------------------|----------------------|--------------------|--------------------------|
| 1 | *2462.00 | 108.10 | PK | / | / | 1.50 H | 28 | 105.8 | 2.3 |
| 2 | *2462.00 | 95.23 | AV | / | / | 1.50 H | 28 | 92.93 | 2.3 |
| 3 | 2483.50 | 48.51 | PK | 74.00 | -25.49 | 1.50 H | 28 | 45.91 | 2.6 |
| 4 | 2483.50 | 36.78 | AV | 54.00 | -17.22 | 1.50 H | 28 | 34.18 | 2.6 |
| 5 | 4924.00 | 48.77 | PK | 74.00 | -25.23 | 1.50 H | 0 | 42.07 | 6.7 |
| 6 | 4924.00 | 37.05 | AV | 54.00 | -16.95 | 1.50 H | 0 | 30.35 | 6.7 |

ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M (802.11b_2462MHz)

| No. | Frequency (MHz) | Emission Level (dBuV/m) | | Limit (dBuV/m) | Margin (dB) | Antenna Height (m) | Table Angle (Degree) | Raw Value (dBuV/m) | Correction Factor (dB/m) |
|-----|-----------------|-------------------------|----|----------------|-------------|--------------------|----------------------|--------------------|--------------------------|
| 1 | *2462.00 | 107.96 | PK | / | / | 1.50 V | 30 | 105.66 | 2.3 |
| 2 | *2462.00 | 94.82 | AV | / | / | 1.50 V | 30 | 92.52 | 2.3 |
| 3 | 2483.50 | 49.36 | PK | 74.00 | -24.64 | 1.50 V | 30 | 46.76 | 2.6 |
| 4 | 2483.50 | 37.36 | AV | 54.00 | -16.64 | 1.50 V | 30 | 34.76 | 2.6 |
| 5 | 4924.00 | 49.17 | PK | 74.00 | -24.83 | 1.50 V | 0 | 42.47 | 6.7 |
| 6 | 4924.00 | 37.43 | AV | 54.00 | -16.57 | 1.50 V | 0 | 30.73 | 6.7 |

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M (802.11g_2412MHz)

| No. | Frequency (MHz) | Emission Level (dBuV/m) | | Limit (dBuV/m) | Margin (dB) | Antenna Height (m) | Table Angle (Degree) | Raw Value (dBuV/m) | Correction Factor (dB/m) |
|-----|-----------------|-------------------------|----|----------------|-------------|--------------------|----------------------|--------------------|--------------------------|
| 1 | 2390.00 | 49.82 | PK | 74.0 | -24.18 | 1.50 H | 32 | 48.52 | 1.3 |
| 2 | 2390.00 | 38.74 | AV | 54.0 | -15.26 | 1.50 H | 32 | 37.44 | 1.3 |
| 3 | *2412.00 | 105.87 | PK | / | / | 1.50 H | 32 | 103.87 | 2 |
| 4 | *2412.00 | 94.82 | AV | / | / | 1.50 H | 32 | 92.82 | 2 |
| 5 | 4824.00 | 50.77 | PK | 74.00 | -23.23 | 1.50 H | 0 | 44.37 | 6.4 |
| 6 | 4824.00 | 38.83 | AV | 54.00 | -15.17 | 1.50 H | 0 | 32.43 | 6.4 |

ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M (802.11g_2412MHz)

| No. | Frequency (MHz) | Emission Level (dBuV/m) | | Limit (dBuV/m) | Margin (dB) | Antenna Height (m) | Table Angle (Degree) | Raw Value (dBuV/m) | Correction Factor (dB/m) |
|-----|-----------------|-------------------------|----|----------------|-------------|--------------------|----------------------|--------------------|--------------------------|
| 1 | 2390.00 | 47.07 | PK | 74.0 | -26.93 | 1.50 V | 35 | 45.77 | 1.3 |
| 2 | 2390.00 | 37.76 | AV | 54.0 | -16.24 | 1.50 V | 35 | 36.46 | 1.3 |
| 3 | *2412.00 | 106.80 | PK | / | / | 1.50 V | 35 | 104.8 | 2 |
| 4 | *2412.00 | 93.66 | AV | / | / | 1.50 V | 35 | 91.66 | 2 |
| 5 | 4824.00 | 51.16 | PK | 74.00 | -22.84 | 1.50 V | 0 | 44.76 | 6.4 |
| 6 | 4824.00 | 38.95 | AV | 54.00 | -15.05 | 1.50 V | 0 | 32.55 | 6.4 |

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M (802.11g_2437MHz)

| No. | Frequency (MHz) | Emission Level (dBuV/m) | | Limit (dBuV/m) | Margin (dB) | Antenna Height (m) | Table Angle (Degree) | Raw Value (dBuV/m) | Correction Factor (dB/m) |
|-----|-----------------|-------------------------|----|----------------|-------------|--------------------|----------------------|--------------------|--------------------------|
| 1 | *2437.00 | 105.41 | PK | / | / | 1.50 H | 21 | 103.31 | 2.1 |
| 2 | *2437.00 | 93.33 | AV | / | / | 1.50 H | 21 | 91.23 | 2.1 |
| 3 | 4874.00 | 50.64 | PK | 74.00 | -23.36 | 1.50 H | 0 | 44.14 | 6.5 |
| 4 | 4874.00 | 38.89 | AV | 54.00 | -15.11 | 1.50 H | 0 | 32.39 | 6.5 |

ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M (802.11g_2437MHz)

| No. | Frequency (MHz) | Emission Level (dBuV/m) | | Limit (dBuV/m) | Margin (dB) | Antenna Height (m) | Table Angle (Degree) | Raw Value (dBuV/m) | Correction Factor (dB/m) |
|-----|-----------------|-------------------------|----|----------------|-------------|--------------------|----------------------|--------------------|--------------------------|
| 1 | *2437.00 | 106.34 | PK | / | / | 1.50 V | 17 | 104.24 | 2.1 |
| 2 | *2437.00 | 95.26 | AV | / | / | 1.50 V | 17 | 93.16 | 2.1 |
| 3 | 4874.00 | 49.33 | PK | 74.00 | -24.67 | 1.50 V | 0 | 42.83 | 6.5 |
| 4 | 4874.00 | 38.21 | AV | 54.00 | -15.79 | 1.50 V | 0 | 31.71 | 6.5 |

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M (802.11g 2462MHz)

| No. | Frequency (MHz) | Emission Level (dBuV/m) | | Limit (dBuV/m) | Margin (dB) | Antenna Height (m) | Table Angle (Degree) | Raw Value (dBuV/m) | Correction Factor (dB/m) |
|-----|-----------------|-------------------------|----|----------------|-------------|--------------------|----------------------|--------------------|--------------------------|
| 1 | *2462.00 | 106.97 | PK | / | / | 1.50 H | 24 | 104.67 | 2.3 |
| 2 | *2462.00 | 94.85 | AV | / | / | 1.50 H | 24 | 92.55 | 2.3 |
| 3 | 2483.50 | 49.07 | PK | 74.0 | -24.93 | 1.50 H | 24 | 46.47 | 2.6 |
| 4 | 2483.50 | 37.36 | AV | 54.0 | -16.64 | 1.50 H | 24 | 34.76 | 2.6 |
| 5 | 4924.00 | 49.79 | PK | 74.0 | -24.21 | 1.50 H | 0 | 43.09 | 6.7 |
| 6 | 4924.00 | 38.05 | AV | 54.0 | -15.95 | 1.50 H | 0 | 31.35 | 6.7 |

ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M (802.11g 2462MHz)

| No. | Frequency (MHz) | Emission Level (dBuV/m) | | Limit (dBuV/m) | Margin (dB) | Antenna Height (m) | Table Angle (Degree) | Raw Value (dBuV/m) | Correction Factor (dB/m) |
|-----|-----------------|-------------------------|----|----------------|-------------|--------------------|----------------------|--------------------|--------------------------|
| 1 | *2462.00 | 104.25 | PK | / | / | 1.50 V | 21 | 101.95 | 2.3 |
| 2 | *2462.00 | 93.42 | AV | / | / | 1.50 V | 21 | 91.12 | 2.3 |
| 3 | 2483.50 | 53.00 | PK | 74.0 | -21.00 | 1.50 V | 21 | 50.40 | 2.6 |
| 4 | 2483.50 | 38.28 | AV | 54.0 | -15.72 | 1.50 V | 21 | 35.68 | 2.6 |
| 5 | 4924.00 | 51.04 | PK | 74.0 | -22.96 | 1.50 V | 0 | 44.34 | 6.7 |
| 6 | 4924.00 | 39.13 | AV | 54.0 | -14.87 | 1.50 V | 0 | 32.43 | 6.7 |

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M (802.11n20_2412MHz)

| No. | Frequency (MHz) | Emission Level (dBuV/m) | | Limit (dBuV/m) | Margin (dB) | Antenna Height (m) | Table Angle (Degree) | Raw Value (dBuV/m) | Correction Factor (dB/m) |
|-----|-----------------|-------------------------|----|----------------|-------------|--------------------|----------------------|--------------------|--------------------------|
| 1 | 2390.00 | 49.76 | PK | 74.00 | -24.24 | 1.50 H | 30 | 48.46 | 1.3 |
| 2 | 2390.00 | 38.65 | AV | 54.00 | -15.35 | 1.50 H | 30 | 37.35 | 1.3 |
| 3 | *2412.00 | 106.62 | PK | / | / | 1.50 H | 30 | 104.62 | 2 |
| 4 | *2412.00 | 95.84 | AV | / | / | 1.50 H | 30 | 93.84 | 2 |
| 5 | 4824.00 | 51.37 | PK | 74.00 | -22.63 | 1.50 H | 0 | 44.97 | 6.4 |
| 6 | 4824.00 | 38.74 | AV | 54.00 | -15.26 | 1.50 H | 0 | 32.34 | 6.4 |

ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M (802.11n20_2412MHz)

| No. | Frequency (MHz) | Emission Level (dBuV/m) | | Limit (dBuV/m) | Margin (dB) | Antenna Height (m) | Table Angle (Degree) | Raw Value (dBuV/m) | Correction Factor (dB/m) |
|-----|-----------------|-------------------------|----|----------------|-------------|--------------------|----------------------|--------------------|--------------------------|
| 1 | 2390.00 | 48.24 | PK | 74.00 | -25.76 | 1.50 V | 28 | 46.94 | 1.3 |
| 2 | 2390.00 | 37.51 | AV | 54.00 | -16.49 | 1.50 V | 28 | 36.21 | 1.3 |
| 3 | *2412.00 | 105.29 | PK | / | / | 1.50 V | 28 | 103.29 | 2 |
| 4 | *2412.00 | 94.68 | AV | / | / | 1.50 V | 28 | 92.68 | 2 |
| 5 | 4824.00 | 50.81 | PK | 74.00 | -23.19 | 1.50 V | 0 | 44.41 | 6.4 |
| 6 | 4824.00 | 38.14 | AV | 54.00 | -15.86 | 1.50 V | 0 | 31.74 | 6.4 |

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M (802.11n20_2437MHz)

| No. | Frequency (MHz) | Emission Level (dBuV/m) | | Limit (dBuV/m) | Margin (dB) | Antenna Height (m) | Table Angle (Degree) | Raw Value (dBuV/m) | Correction Factor (dB/m) |
|-----|-----------------|-------------------------|----|----------------|-------------|--------------------|----------------------|--------------------|--------------------------|
| 1 | *2437.00 | 106.82 | PK | / | / | 1.50 H | 24 | 104.72 | 2.1 |
| 2 | *2437.00 | 94.74 | AV | / | / | 1.50 H | 24 | 92.64 | 2.1 |
| 3 | 4874.00 | 51.63 | PK | 74.00 | -22.37 | 1.50 H | 0 | 45.13 | 6.5 |
| 4 | 4874.00 | 38.85 | AV | 54.00 | -15.15 | 1.50 H | 0 | 32.35 | 6.5 |

ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M (802.11n20_2437MHz)

| No. | Frequency (MHz) | Emission Level (dBuV/m) | | Limit (dBuV/m) | Margin (dB) | Antenna Height (m) | Table Angle (Degree) | Raw Value (dBuV/m) | Correction Factor (dB/m) |
|-----|-----------------|-------------------------|----|----------------|-------------|--------------------|----------------------|--------------------|--------------------------|
| 1 | *2437.00 | 106.75 | PK | / | / | 1.50 V | 28 | 104.65 | 2.1 |
| 2 | *2437.00 | 94.52 | AV | / | / | 1.50 V | 28 | 92.42 | 2.1 |
| 3 | 4874.00 | 50.57 | PK | 74.00 | -23.43 | 1.50 V | 0 | 44.07 | 6.5 |
| 4 | 4874.00 | 37.96 | AV | 54.00 | -16.04 | 1.50V | 0 | 31.46 | 6.5 |

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M (802.11n20_2462MHz)

| No. | Frequency (MHz) | Emission Level (dBuV/m) | | Limit (dBuV/m) | Margin (dB) | Antenna Height (m) | Table Angle (Degree) | Raw Value (dBuV/m) | Correction Factor (dB/m) |
|-----|-----------------|-------------------------|----|----------------|-------------|--------------------|----------------------|--------------------|--------------------------|
| 1 | *2462.00 | 105.73 | PK | / | / | 1.50 H | 31 | 103.43 | 2.3 |
| 2 | *2462.00 | 94.14 | AV | / | / | 1.50 H | 31 | 91.84 | 2.3 |
| 3 | 2483.50 | 48.96 | PK | 74.00 | -25.04 | 1.50 H | 31 | 46.36 | 2.6 |
| 4 | 2483.50 | 37.67 | AV | 54.00 | -16.33 | 1.50 H | 31 | 35.07 | 2.6 |
| 5 | 4924.00 | 51.24 | PK | 74.00 | -22.76 | 1.50 H | 0 | 44.54 | 6.7 |
| 6 | 4924.00 | 38.63 | AV | 54.00 | -15.37 | 1.50 H | 0 | 31.93 | 6.7 |

ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M (802.11n20_2462MHz)

| No. | Frequency (MHz) | Emission Level (dBuV/m) | | Limit (dBuV/m) | Margin (dB) | Antenna Height (m) | Table Angle (Degree) | Raw Value (dBuV/m) | Correction Factor (dB/m) |
|-----|-----------------|-------------------------|----|----------------|-------------|--------------------|----------------------|--------------------|--------------------------|
| 1 | *2462.00 | 106.18 | PK | / | / | 1.50 V | 32 | 103.88 | 2.3 |
| 2 | *2462.00 | 94.26 | AV | / | / | 1.50 V | 32 | 91.96 | 2.3 |
| 3 | 2483.50 | 49.08 | PK | 74.00 | -24.92 | 1.50 V | 32 | 46.48 | 2.6 |
| 4 | 2483.50 | 38.65 | AV | 54.00 | -15.35 | 1.50 V | 32 | 36.05 | 2.6 |
| 5 | 4924.00 | 50.37 | PK | 74.00 | -23.63 | 1.50 V | 0 | 43.67 | 6.7 |
| 6 | 4924.00 | 38.05 | AV | 54.00 | -15.95 | 1.50 V | 0 | 31.35 | 6.7 |

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M (802.11n40_2422MHz)

| No. | Frequency (MHz) | Emission Level (dBuV/m) | | Limit (dBuV/m) | Margin (dB) | Antenna Height (m) | Table Angle (Degree) | Raw Value (dBuV/m) | Correction Factor (dB/m) |
|-----|-----------------|-------------------------|----|----------------|-------------|--------------------|----------------------|--------------------|--------------------------|
| 1 | 2390.00 | 48.34 | PK | 74.0 | -25.66 | 1.50 H | 33 | 47.04 | 1.3 |
| 2 | 2390.00 | 36.29 | AV | 54.0 | -17.71 | 1.50 H | 33 | 34.99 | 1.3 |
| 3 | *2422.00 | 104.07 | PK | / | / | 1.50 H | 33 | 102.07 | 2 |
| 4 | *2422.00 | 89.44 | AV | / | / | 1.50 H | 33 | 87.44 | 2 |
| 5 | 4844.00 | 49.55 | PK | 74.00 | -24.45 | 1.50 H | 0 | 43.15 | 6.4 |
| 6 | 4844.00 | 37.84 | AV | 54.00 | -16.16 | 1.50 H | 0 | 31.44 | 6.4 |

ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M (802.11n40_2422MHz)

| No. | Frequency (MHz) | Emission Level (dBuV/m) | | Limit (dBuV/m) | Margin (dB) | Antenna Height (m) | Table Angle (Degree) | Raw Value (dBuV/m) | Correction Factor (dB/m) |
|-----|-----------------|-------------------------|----|----------------|-------------|--------------------|----------------------|--------------------|--------------------------|
| 1 | 2390.00 | 49.68 | PK | 74.0 | -24.32 | 1.50 V | 28 | 48.38 | 1.3 |
| 2 | 2390.00 | 37.02 | AV | 54.0 | -16.98 | 1.50 V | 28 | 35.72 | 1.3 |
| 3 | *2422.00 | 103.73 | PK | / | / | 1.50 V | 28 | 101.73 | 2 |
| 4 | *2422.00 | 90.32 | AV | / | / | 1.50 V | 28 | 88.32 | 2 |
| 5 | 4844.00 | 49.37 | PK | 74.00 | -24.63 | 1.50 V | 0 | 42.97 | 6.4 |
| 6 | 4844.00 | 39.25 | AV | 54.00 | -14.75 | 1.50 V | 0 | 32.85 | 6.4 |

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M (802.11n40_2437MHz)

| No. | Frequency (MHz) | Emission Level (dBuV/m) | | Limit (dBuV/m) | Margin (dB) | Antenna Height (m) | Table Angle (Degree) | Raw Value (dBuV/m) | Correction Factor (dB/m) |
|-----|-----------------|-------------------------|----|----------------|-------------|--------------------|----------------------|--------------------|--------------------------|
| 1 | *2437.00 | 102.84 | PK | / | / | 1.50 H | 12 | 100.74 | 2.1 |
| 2 | *2437.00 | 89.18 | AV | / | / | 1.50 H | 12 | 87.08 | 2.1 |
| 3 | 4874.00 | 49.64 | PK | 74.00 | -24.36 | 1.50 H | 0 | 43.14 | 6.5 |
| 4 | 4874.00 | 38.29 | AV | 54.00 | -15.71 | 1.50 H | 0 | 31.79 | 6.5 |

ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M (802.11n40_2437MHz)

| No. | Frequency (MHz) | Emission Level (dBuV/m) | | Limit (dBuV/m) | Margin (dB) | Antenna Height (m) | Table Angle (Degree) | Raw Value (dBuV/m) | Correction Factor (dB/m) |
|-----|-----------------|-------------------------|----|----------------|-------------|--------------------|----------------------|--------------------|--------------------------|
| 1 | *2437.00 | 103.29 | PK | / | / | 1.50 V | 16 | 101.19 | 2.1 |
| 2 | *2437.00 | 90.88 | AV | / | / | 1.50 V | 16 | 88.78 | 2.1 |
| 3 | 4874.00 | 48.33 | PK | 74.00 | -25.67 | 1.50 V | 0 | 41.83 | 6.5 |
| 4 | 4874.00 | 37.90 | AV | 54.00 | -16.1 | 1.50 V | 0 | 31.4 | 6.5 |

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M (802.11n40_2452MHz)

| No. | Frequency (MHz) | Emission Level (dBuV/m) | | Limit (dBuV/m) | Margin (dB) | Antenna Height (m) | Table Angle (Degree) | Raw Value (dBuV/m) | Correction Factor (dB/m) |
|-----|-----------------|-------------------------|----|----------------|-------------|--------------------|----------------------|--------------------|--------------------------|
| 1 | *2452.00 | 104.40 | PK | / | / | 1.50 H | 31 | 102.1 | 2.3 |
| 2 | *2452.00 | 90.20 | AV | / | / | 1.50 H | 31 | 87.9 | 2.3 |
| 3 | 2483.50 | 55.31 | PK | 74.0 | -18.69 | 1.50 H | 31 | 52.71 | 2.6 |
| 4 | 2483.50 | 38.71 | AV | 54.0 | -15.29 | 1.50 H | 31 | 36.11 | 2.6 |
| 5 | 4904.00 | 49.17 | PK | 74.0 | -24.83 | 1.50 H | 0 | 42.47 | 6.7 |
| 6 | 4904.00 | 37.42 | AV | 54.0 | -16.58 | 1.50 H | 0 | 30.72 | 6.7 |

ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M (802.11n40_2452MHz)

| No. | Frequency (MHz) | Emission Level (dBuV/m) | | Limit (dBuV/m) | Margin (dB) | Antenna Height (m) | Table Angle (Degree) | Raw Value (dBuV/m) | Correction Factor (dB/m) |
|-----|-----------------|-------------------------|----|----------------|-------------|--------------------|----------------------|--------------------|--------------------------|
| 1 | *2452.00 | 102.71 | PK | / | / | 1.50 V | 35 | 100.41 | 2.3 |
| 2 | *2452.00 | 90.44 | AV | / | / | 1.50 V | 35 | 88.14 | 2.3 |
| 3 | 2483.50 | 56.47 | PK | 74.0 | -17.53 | 1.50 V | 35 | 53.87 | 2.6 |
| 4 | 2483.50 | 39.94 | AV | 54.0 | -14.06 | 1.50 V | 35 | 37.34 | 2.6 |
| 5 | 4904.00 | 48.88 | PK | 74.0 | -25.12 | 1.50 V | 0 | 42.18 | 6.7 |
| 6 | 4904.00 | 37.42 | AV | 54.0 | -16.58 | 1.50 V | 0 | 30.72 | 6.7 |

REMARKS:

1. Emission Level(dBuV/m) = Raw Value(dBuV) + Correction Factor(dB/m)
2. Correction Factor(dB/m) = Antenna Factor(dB/m) + Cable Factor(dB)
- Pre-Amplifier Factor(dB)
3. The other emission levels were very low against the limit.
4. Margin value = Emission Level - Limit value
5. " * ": Fundamental frequency.

2.7. Conducted Emission

2.7.1. Limit of Conducted Emission

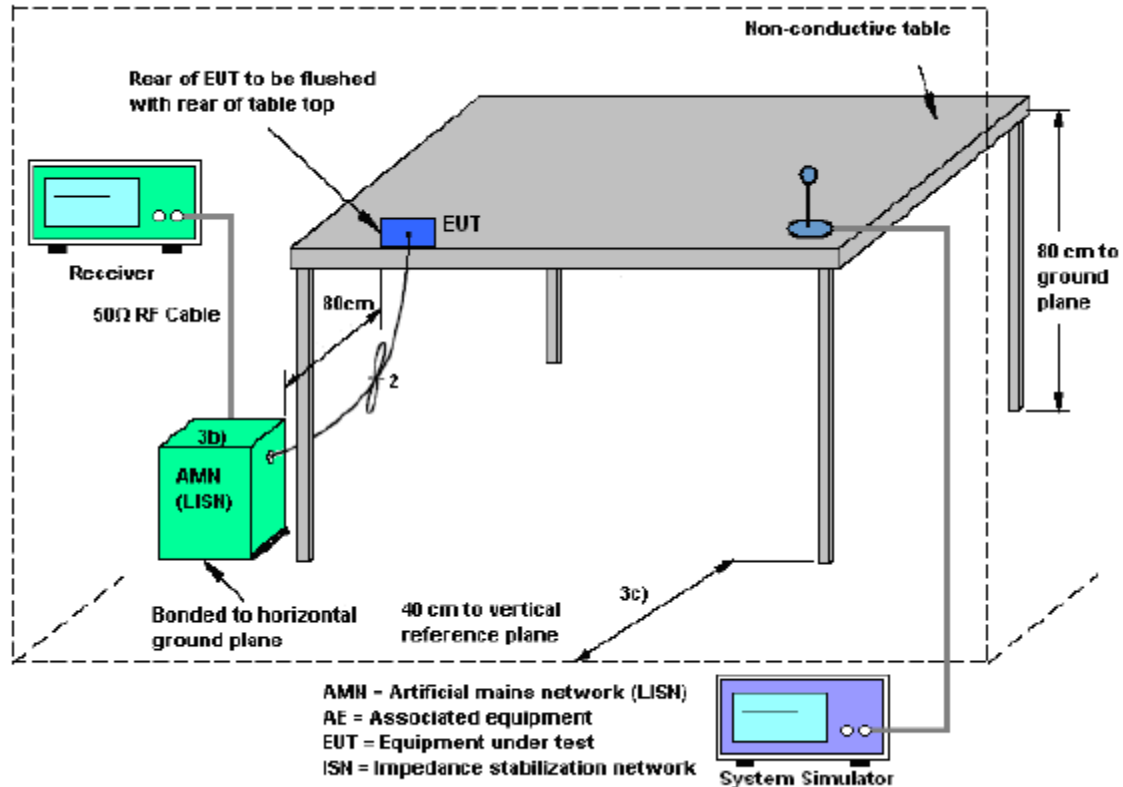
For equipment that is designed to be connected to the public utility (AC) power line, the radio frequency voltage that is conducted back onto the AC power line on any frequency or frequencies within the band 150 kHz to 30 MHz shall not exceed the limits in the following table.

| Frequency range (MHz) | Conducted Limit (dB μ V) | |
|-----------------------|------------------------------|----------|
| | Quai-peak | Average |
| 0.15 - 0.50 | 66 to 56 | 56 to 46 |
| 0.50 - 5 | 56 | 46 |
| 5 - 30 | 60 | 50 |

2.7.2. Measuring Instruments

The measuring equipment is listed in the section 3 of this test report.

2.7.3. Test Setup



2.7.4. Test Procedures

1. The EUT was placed 0.4 meter from the conducting wall of the shielding room was kept at least 80 centimeters from any other grounded conducting surface.
2. Connect EUT to the power mains through a line impedance stabilization network (LISN).
3. All the support units are connecting to the other LISN.
4. The LISN provides 50 ohm coupling impedance for the measuring instrument.
5. The FCC states that a 50 ohm, 50 microhenry LISN should be used.
6. Both sides of AC line were checked for maximum conducted interference.
7. The frequency range from 150 kHz to 30 MHz was searched.
8. Set the test-receiver system to Peak Detect Function and specified bandwidth (IF Bandwidth = 9kHz) with Maximum Hold Mode. Then measurement is also conducted by Average Detector and Quasi-Peak Detector Function respectively.

2.7.5. Test Results of Conducted Emission

The EUT is a module, this test item is not applicable.

3. List of measuring equipment

| Item | Test Equipment | Manufacturer | Model No. | Serial No. | Last Cal. |
|------|-------------------------|-------------------|------------|--------------|------------|
| 1 | EMI TEST RECEIVER | RS | ESI 26 | 100009 | 2015/11/02 |
| 2 | RF TEST PANEL | RS | TS / RSP | 335015/ 0017 | N/A |
| 3 | EMI TEST SOFTWARE | RS | ESK1 | N/A | N/A |
| 4 | Ultra-Broadband Antenna | ShwarzBeck | VULB9163 | 538 | 2015/11/08 |
| 5 | HORN ANTENNA | ShwarzBeck | 9120D | 1011 | 2015/11/08 |
| 6 | Loop Antenna | RS | HZ-9 | 838622\013 | 2015/11/08 |
| 7 | Pre-amplifier | ShwarzBeck | BBV 9743 | 9743-0022 | 2015/11/02 |
| 8 | TURNTABLE | MATURO | TT2.0 | N/A | N/A |
| 9 | ANTENNA MAST | MATURO | TAM-4.0-P | N/A | N/A |
| 10 | EMI TEST SOFTWARE | Audix | E3 | N/A | N/A |
| 11 | Test cable | Siva Cables Italy | RG 58A/U | W14.02 | 2015/12/05 |
| 12 | Climate Chamber | ESPEC | EL-10KA | 05107008 | 2015/11/02 |
| 13 | Spectrum Analyzer | Kysight | N9030A | ATO-67098 | 2016/07/19 |
| 14 | Power Meter | RS | NRP2 | 1020.1809.02 | 2016.06.02 |
| 15 | Power Sensor | RS | NRP-Z81 | 823.3618.03 | 2016.06.02 |
| 16 | SMA Antenna Connector | ARTHUR-YANG | 2244-N1TG1 | N/A | N/A |

4. Uncertainty of Evaluation

Where relevant, the following measurement uncertainty levels have been estimated for tests performed on the EUT as specified in CISPR 16-4-2

| Measurement | Frequency | Uncertainty |
|---------------------|---------------|-------------|
| Conducted emissions | 9kHz~30MHz | 3.39dB |
| Radiated emissions | 30MHz~1000MHz | 4.24dB |
| | 1G~18GHz | 5.16dB |
| | 18G~40GHz | 5.64dB |

This uncertainty represents an expanded uncertainty expressed at approximately the 95% confidence level using a coverage factor of $k=2$.

**** END OF REPORT ****