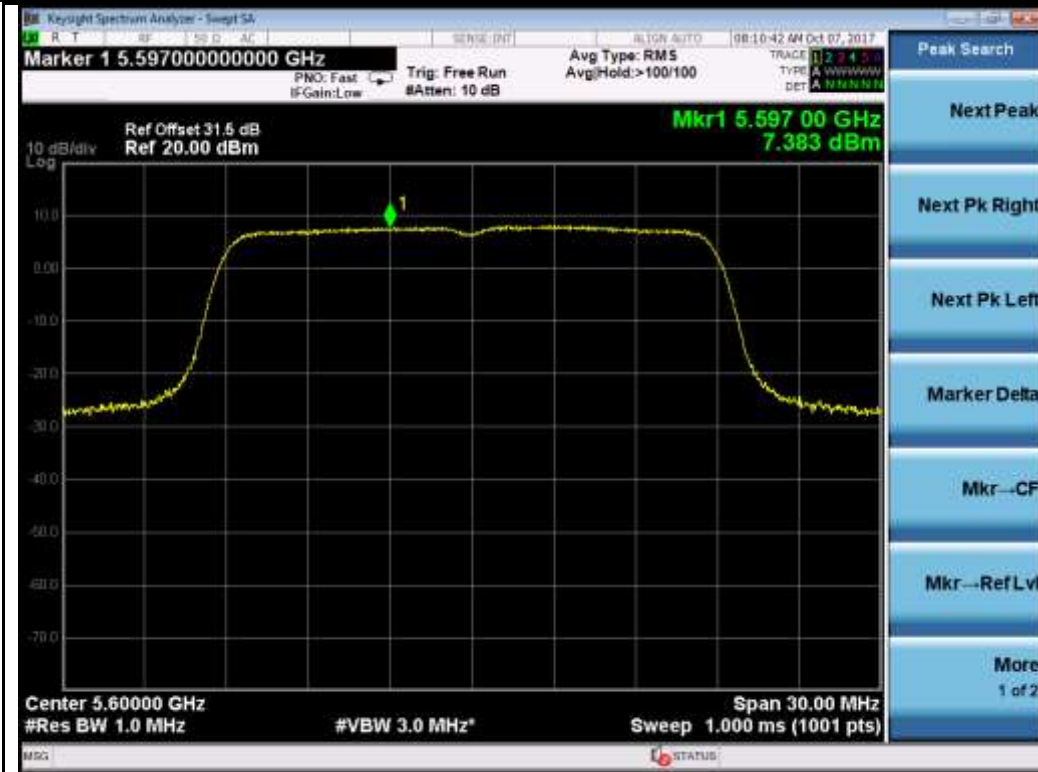


802.11a-5700M



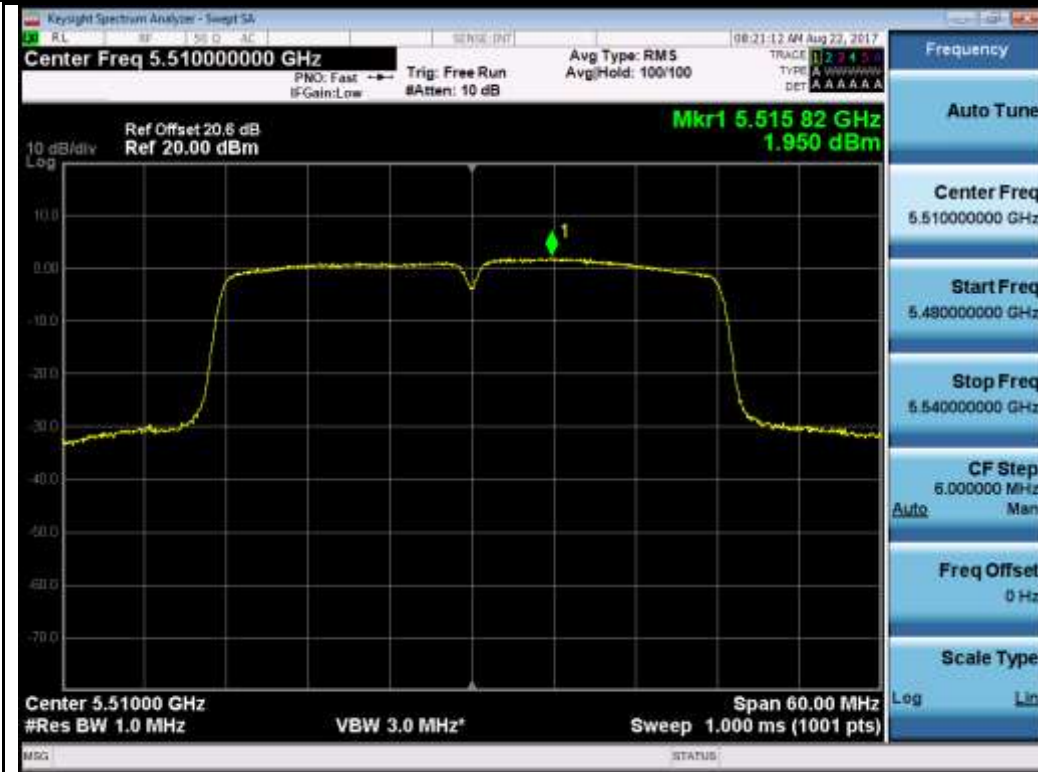
802.11n-HT20 5500M



802.11n-HT20 5580M



802.11n-HT20 5700M



802.11n-HT40 5510M



802.11n-HT40 5550M





Chain 1:



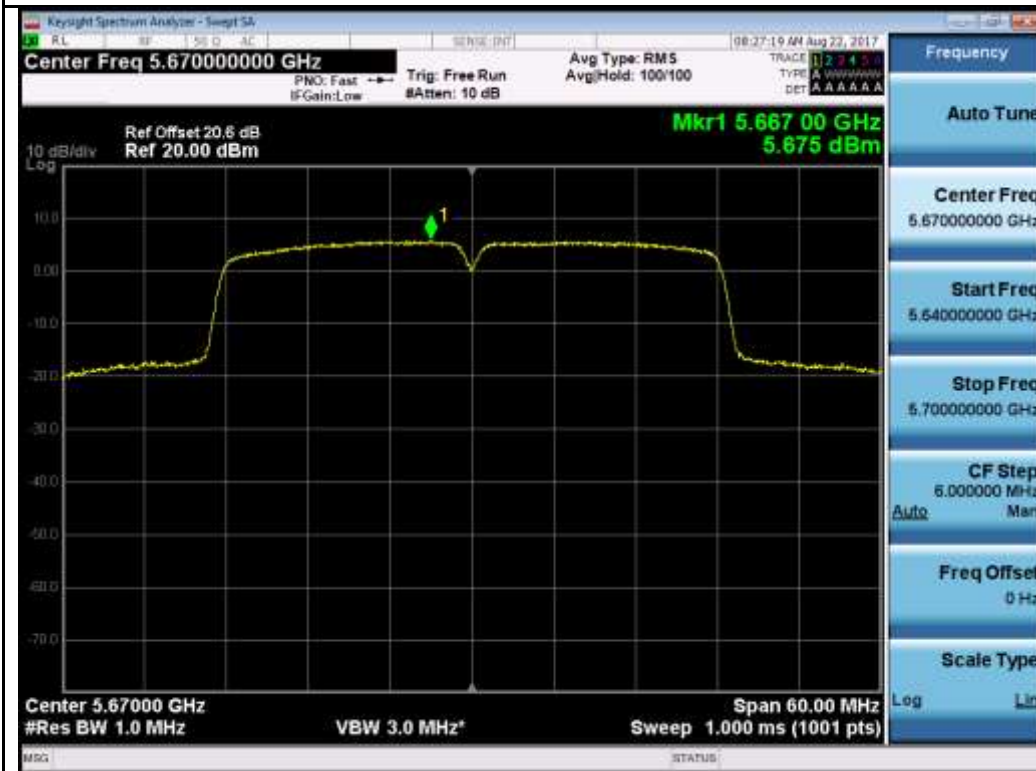




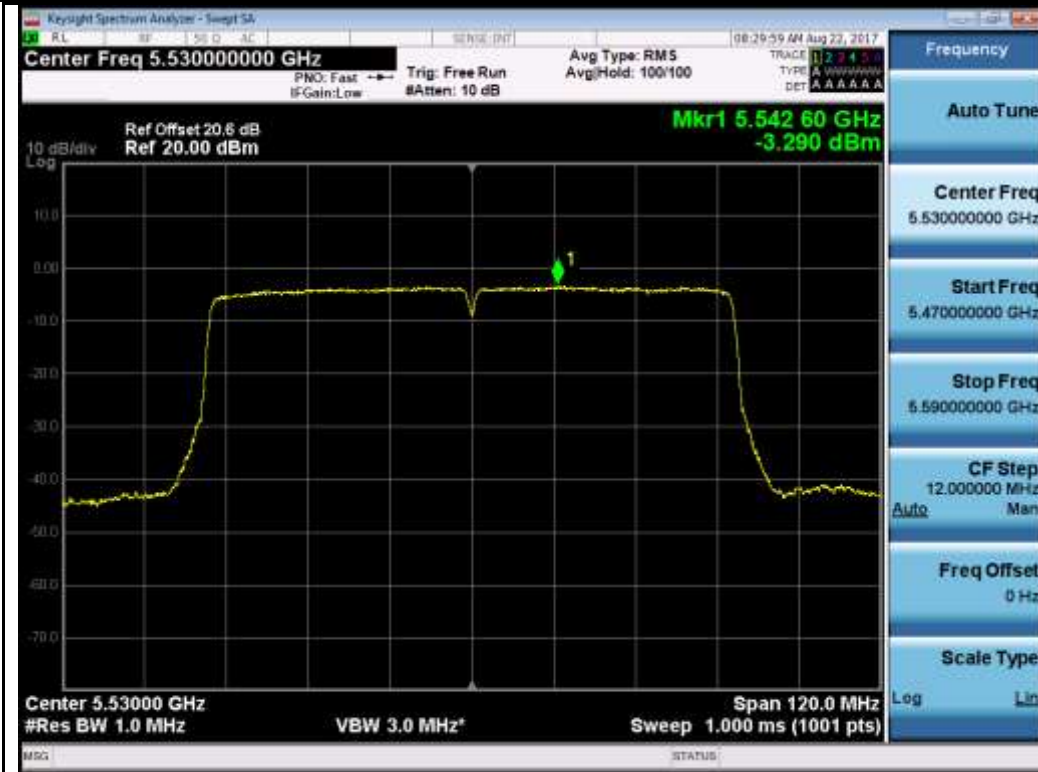




802.11n-HT40 5550M

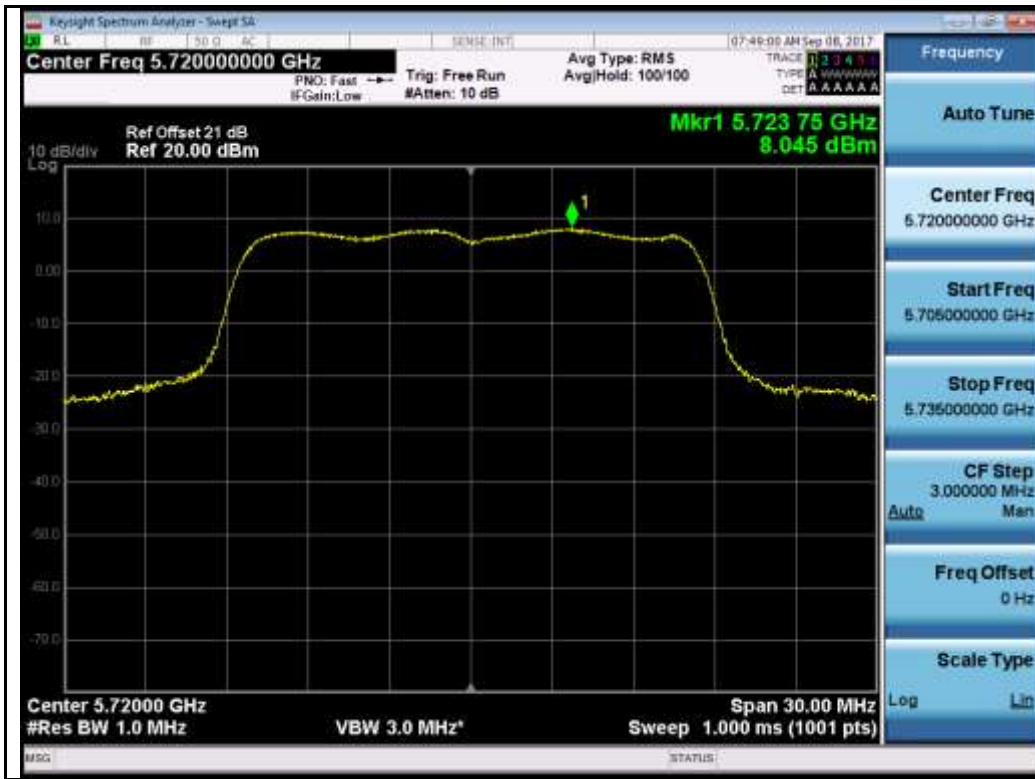


802.11n-HT40 5670M



Test Plot for Crossband (W56 procedure):

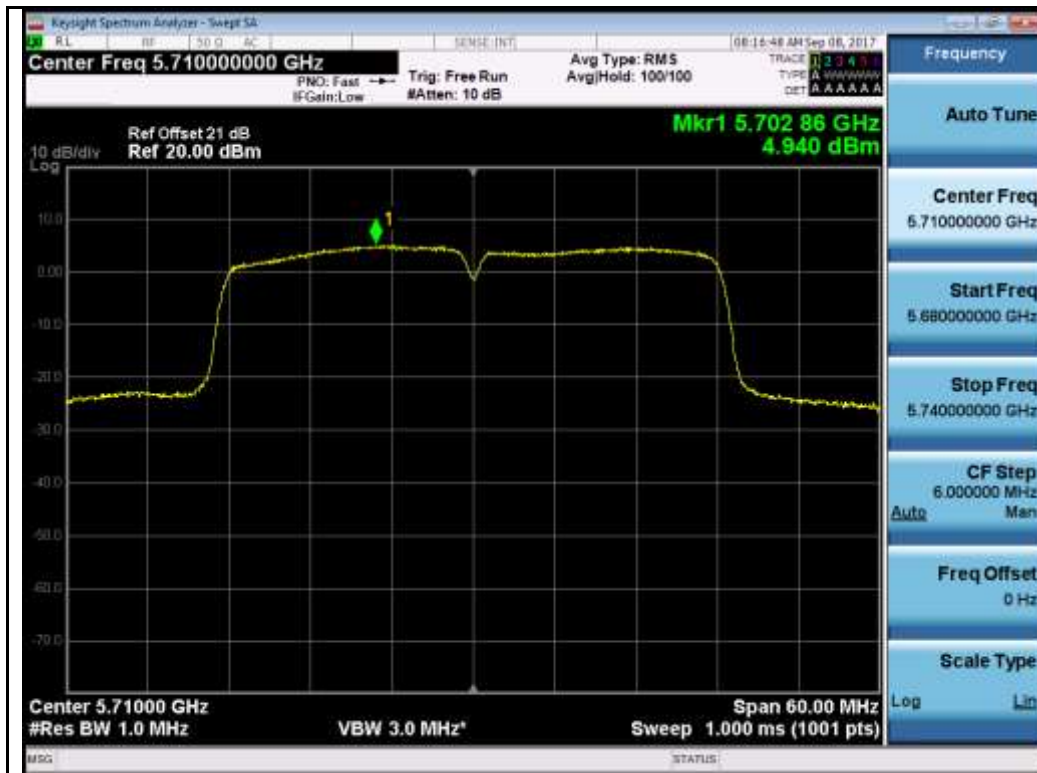
Chain 0:



802.11a-5720M



802.11n-HT20 5720M

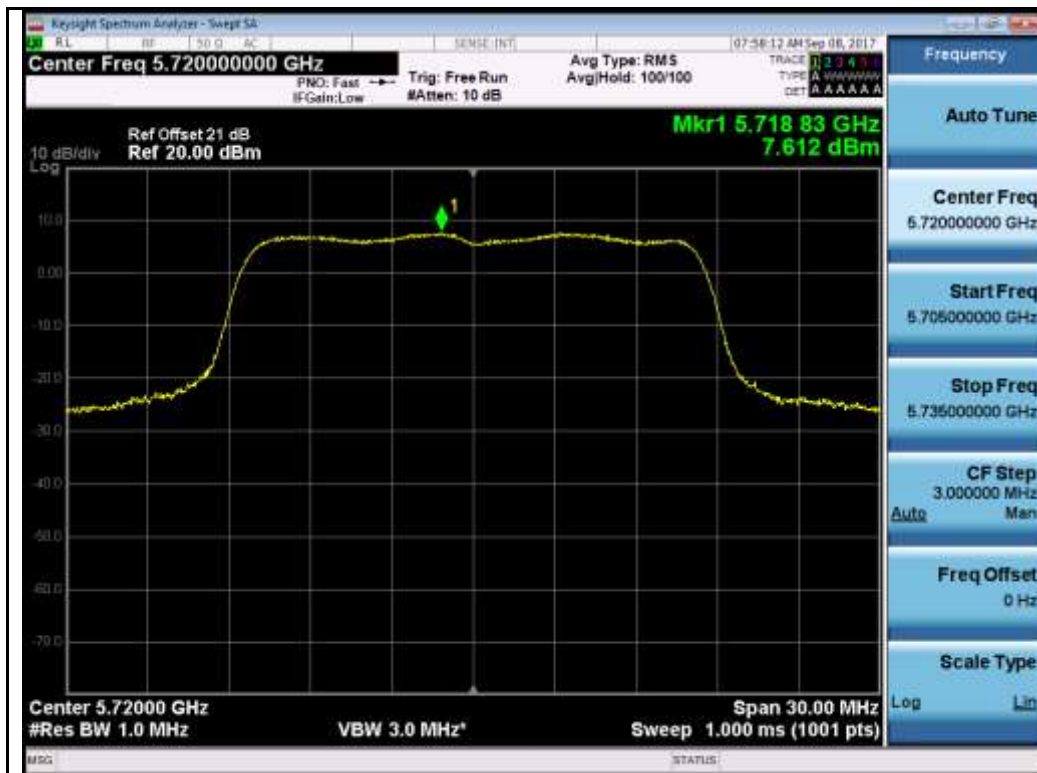


802.11n-HT40 5710M

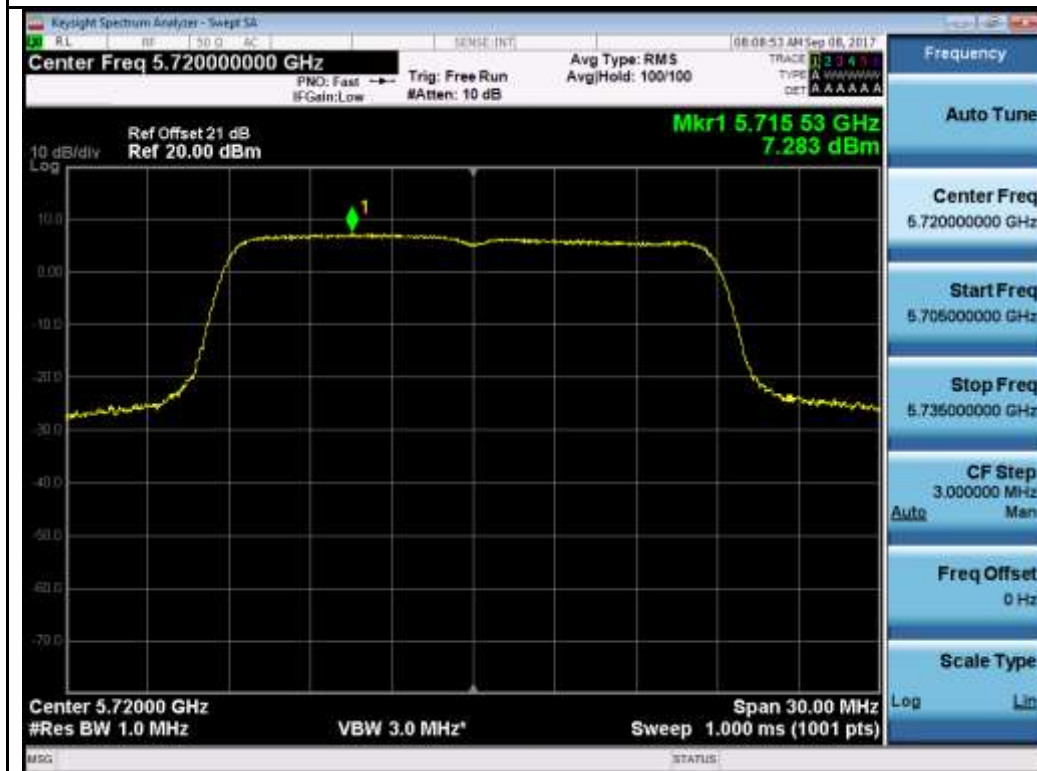


802.11ac-VHT80 5690M

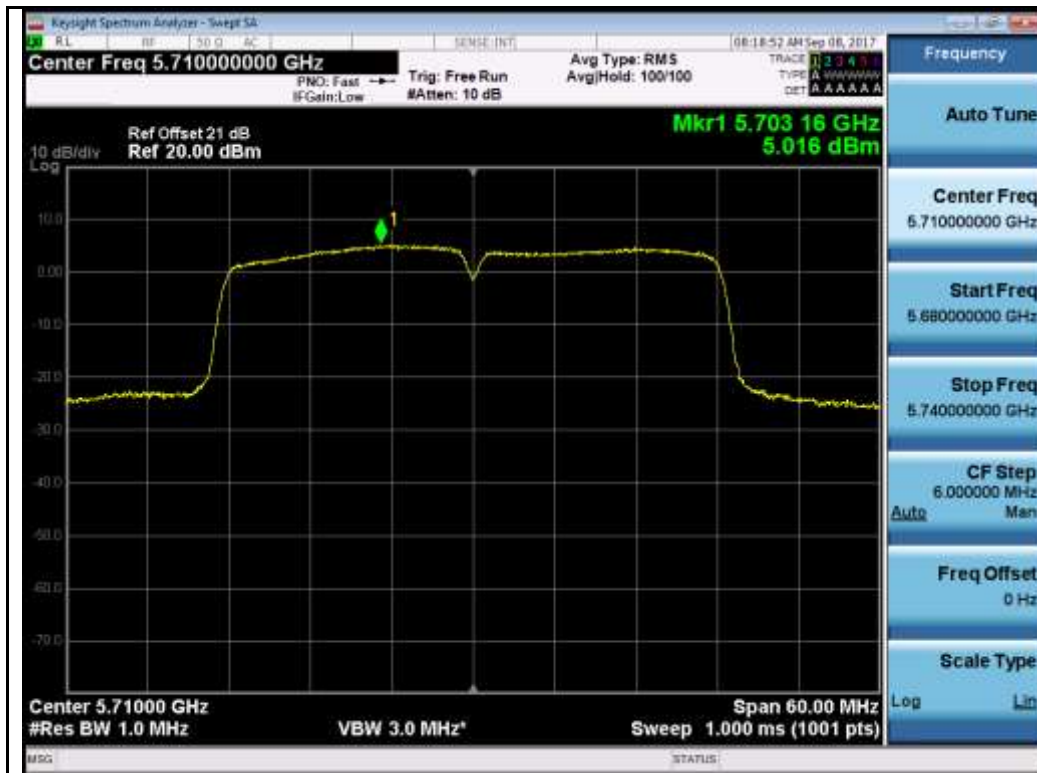
Chain 1:



802.11a-5720M



802.11n-HT20 5720M



802.11n-HT40 5710M



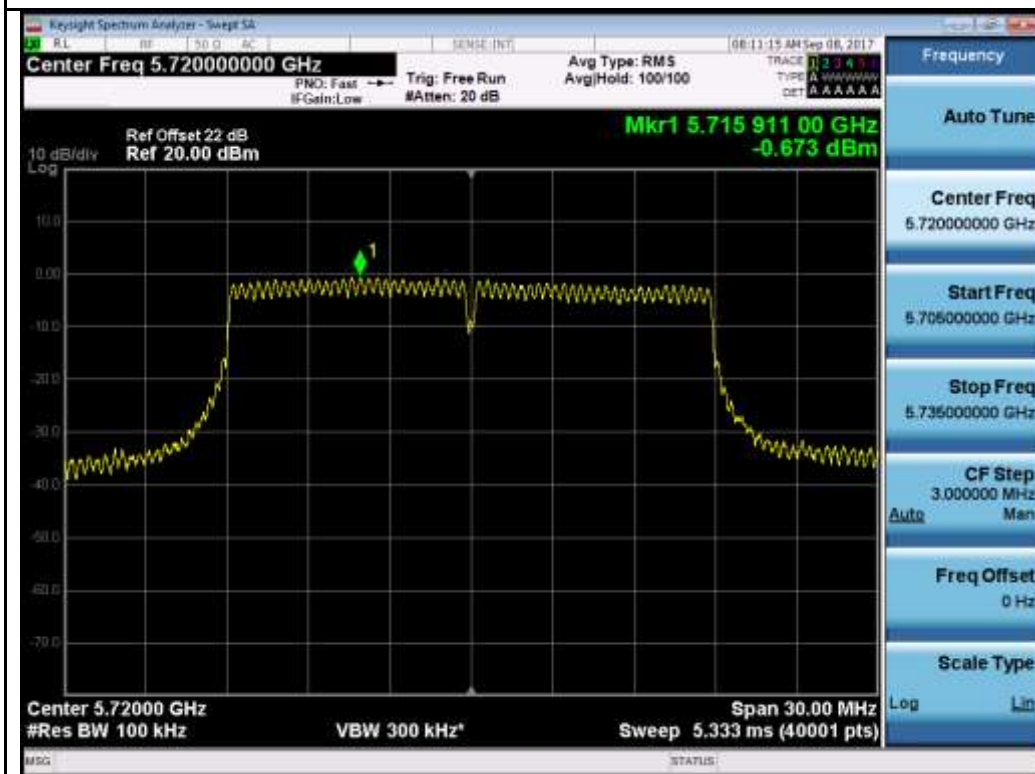
802.11ac-VHT80 5690M

Test Plot for Crossband (W58 procedure):

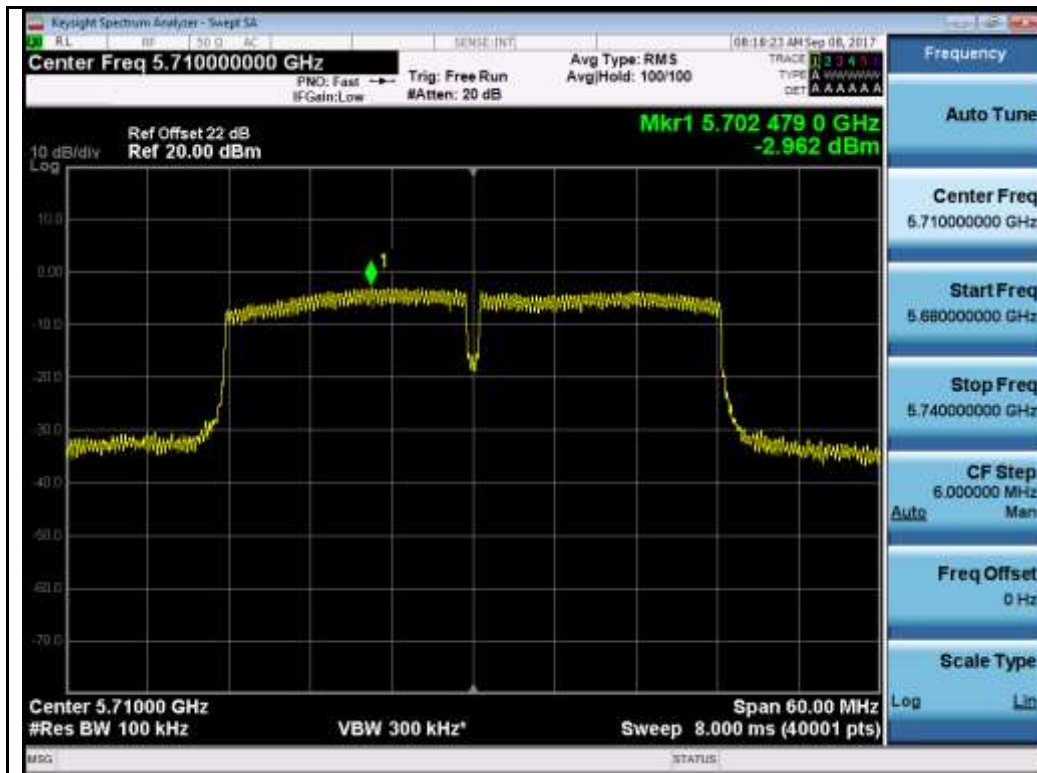
Chain 0:



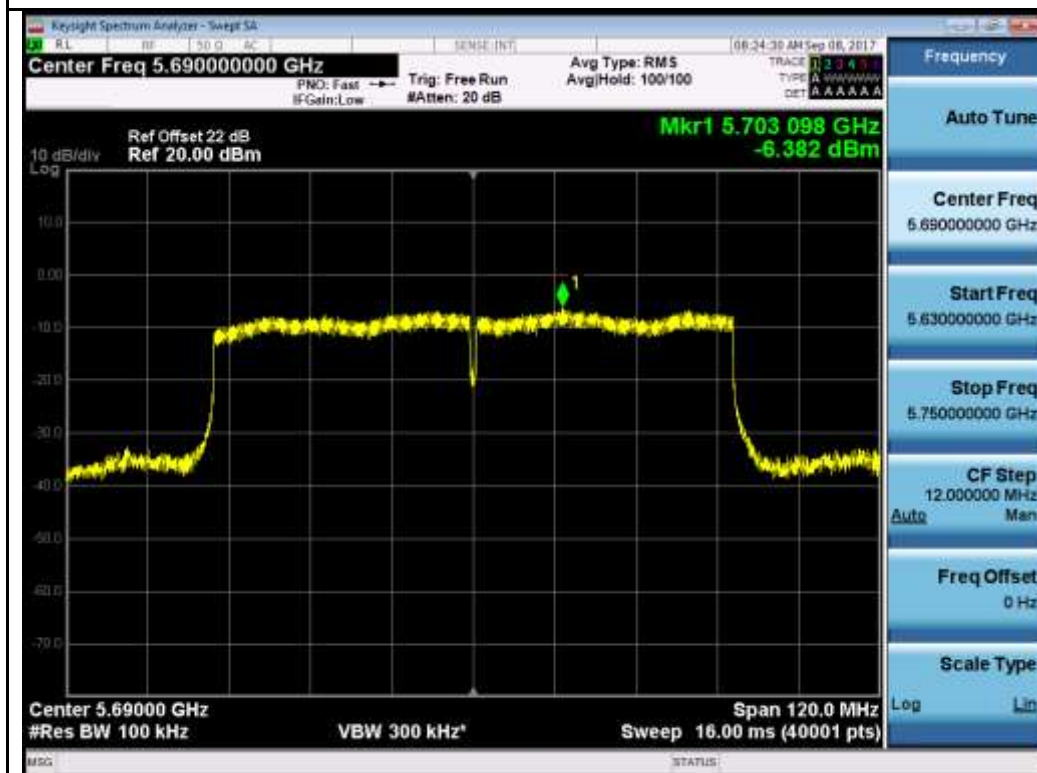
802.11a-5720M



802.11n-HT20 5720M

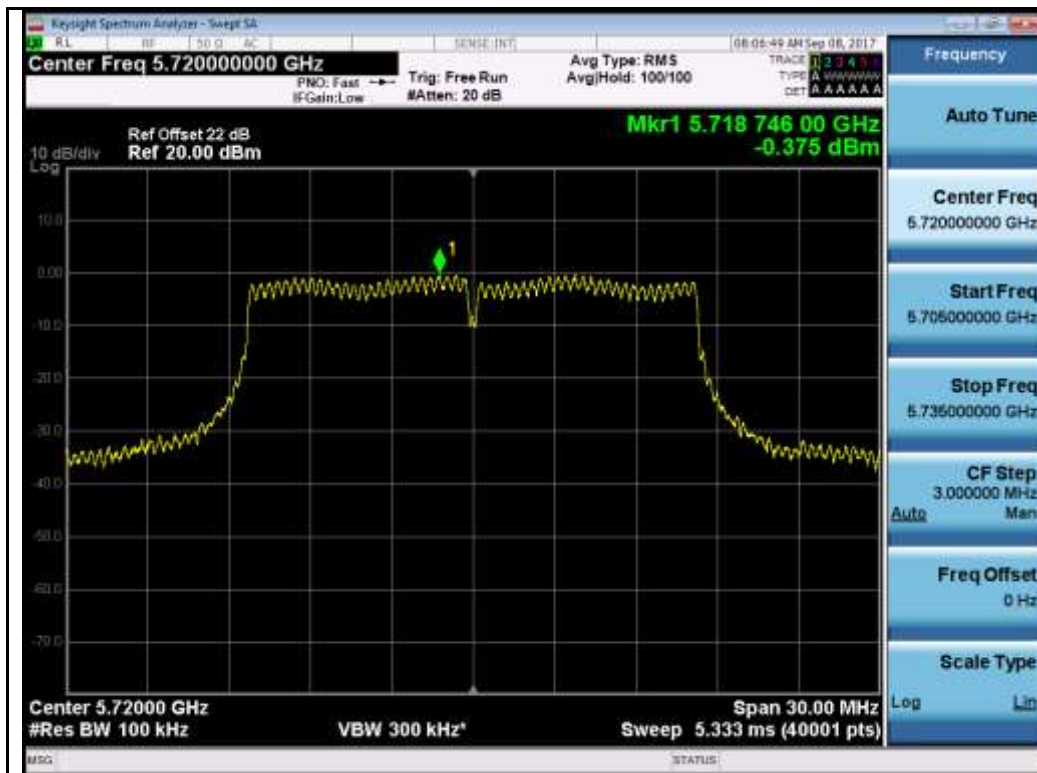


802.11n-HT40 5710M

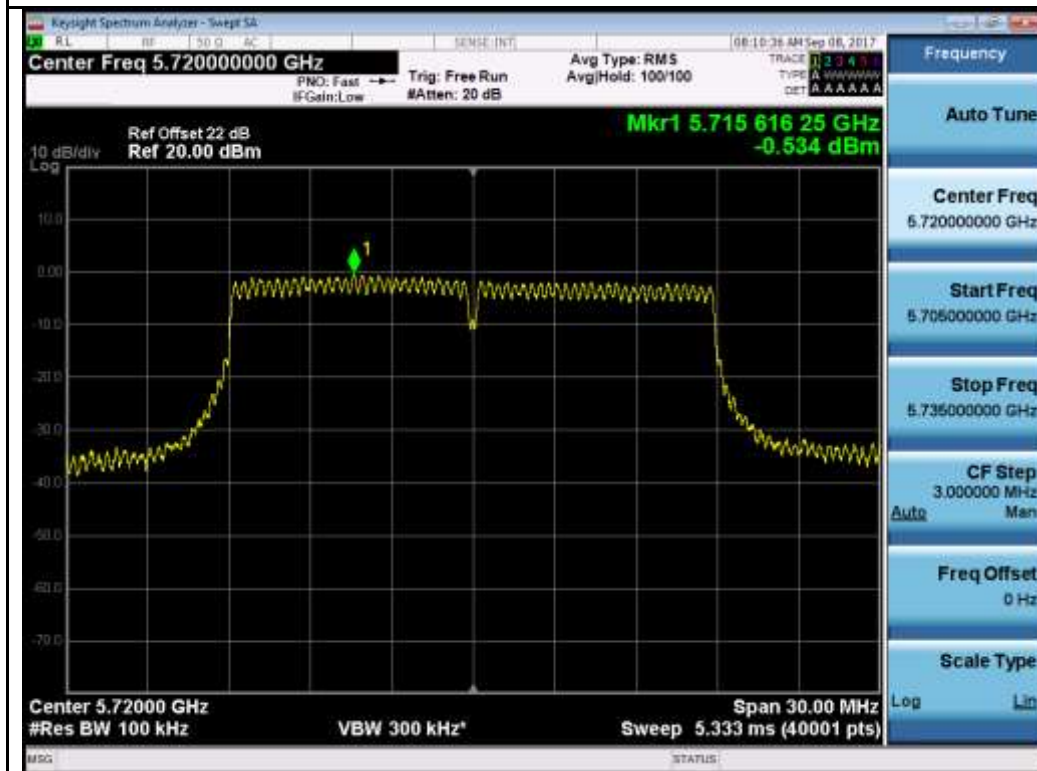


802.11ac-VHT80 5690M

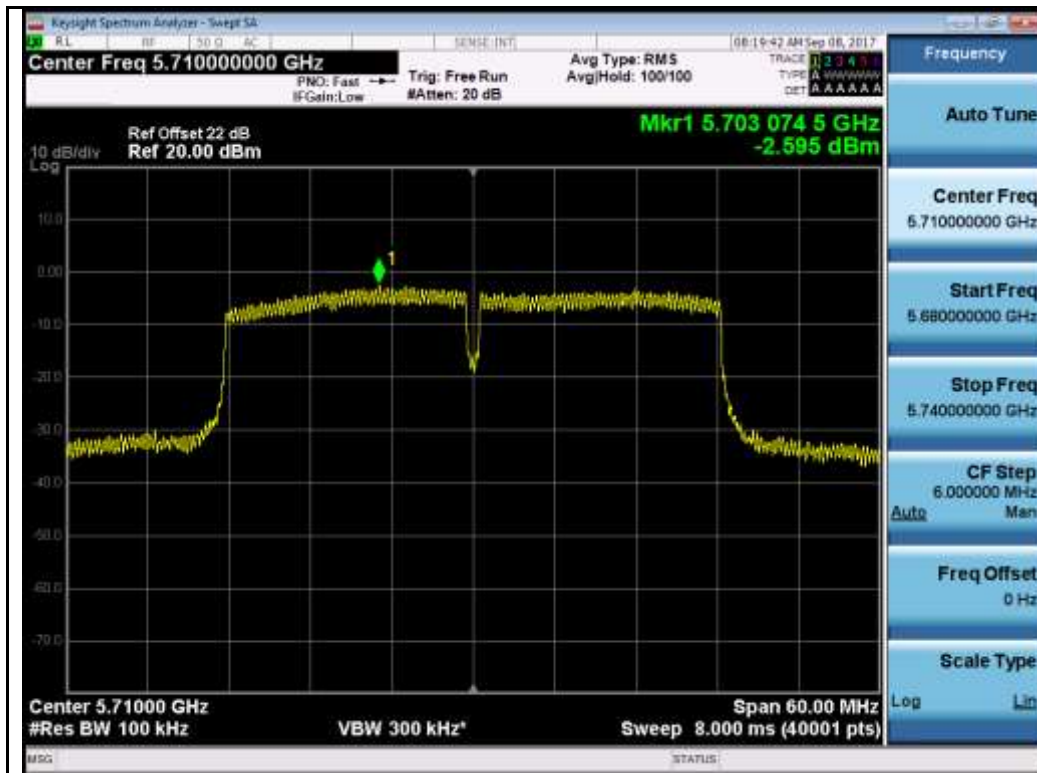
Chain 1:



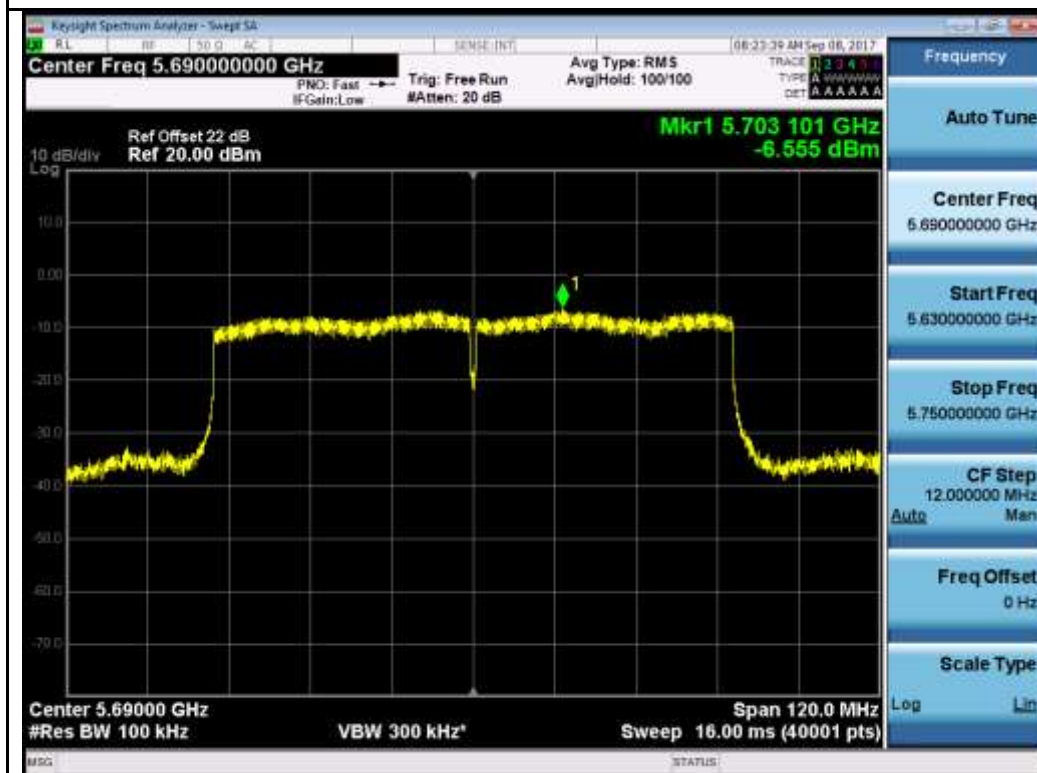
802.11a-5720M



802.11n-HT20 5720M



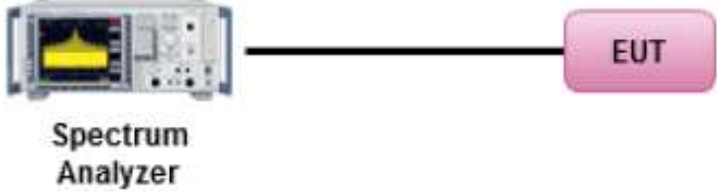
802.11n-HT40 5710M



802.11ac-VHT80 5690M

10.5 Band Edge Measurement

Requirement(s):

| Spec | Item | Requirement | Applicable |
|---|---|--|-------------------------------------|
| 47CFR§ 15.407(b)(2), 15.407(b)(6) | (1) | 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 -27 dBm/MHz. | <input type="checkbox"/> |
| | (2) | For transmitters operating in the 5.25-5.35 GHz band: all emissions outside of the 5.15-5.35 GHz band shall not exceed an EIRP of -27 dBm/MHz. Devices operating in the 5.25-5.35 GHz band that generate emissions in the 5.15-5.25 GHz band must meet all applicable technical requirements for operation in the 5.15-5.25 GHz band (including indoor use) or alternatively meet an out-of-band emission EIRP limit of -27 dBm/MHz in the 5.15-5.25 GHz band. | <input checked="" type="checkbox"/> |
| | (3) | For transmitters operating in the 5.47-5.725 GHz band: all emissions outside of the 5.47-5.725 GHz band shall not exceed an EIRP of -27 dBm/MHz. | <input checked="" type="checkbox"/> |
| | (4) | For transmitters operating in the 5.725-5.825 GHz band: all emissions within the frequency range from the band edge to 10 MHz above or below the band edge shall not exceed an EIRP of -17 dBm/MHz; for frequencies 10 MHz or greater above or below the band edge, emissions shall not exceed an EIRP of -27 dBm/MHz. | <input type="checkbox"/> |
| Test Setup |  <p style="text-align: center;">Spectrum Analyzer EUT</p> | | |
| Procedure | <p>789033 D02 General UNII Test Procedures New Rules v01, II.F. Method SA-1</p> <p><u>Band Edge measurement:</u></p> <ul style="list-style-type: none"> - For average emissions measurements, follow the procedures described in section II.G.6., "Procedures for Average Unwanted Emissions Measurements above 1000 MHz", except for the following changes: - Set RBW=100kHz - Set VBW=300kHz - Perform a band-power integration across the 1 MHz bandwidth in which the band-edge emission level is to be measured. | | |
| Remark | Antenna gain was added to the offset. | | |
| Result | <input checked="" type="checkbox"/> Pass <input type="checkbox"/> Fail | | |

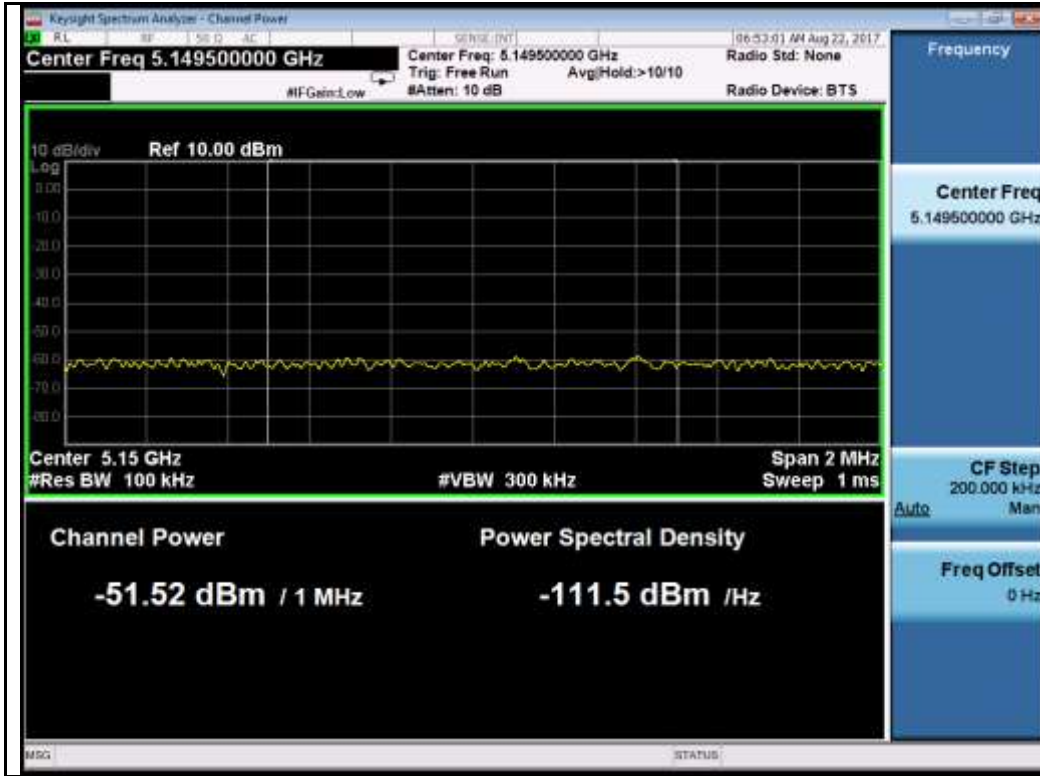
Test Data Yes (See below) N/A

Test Plot Yes (See below) N/A

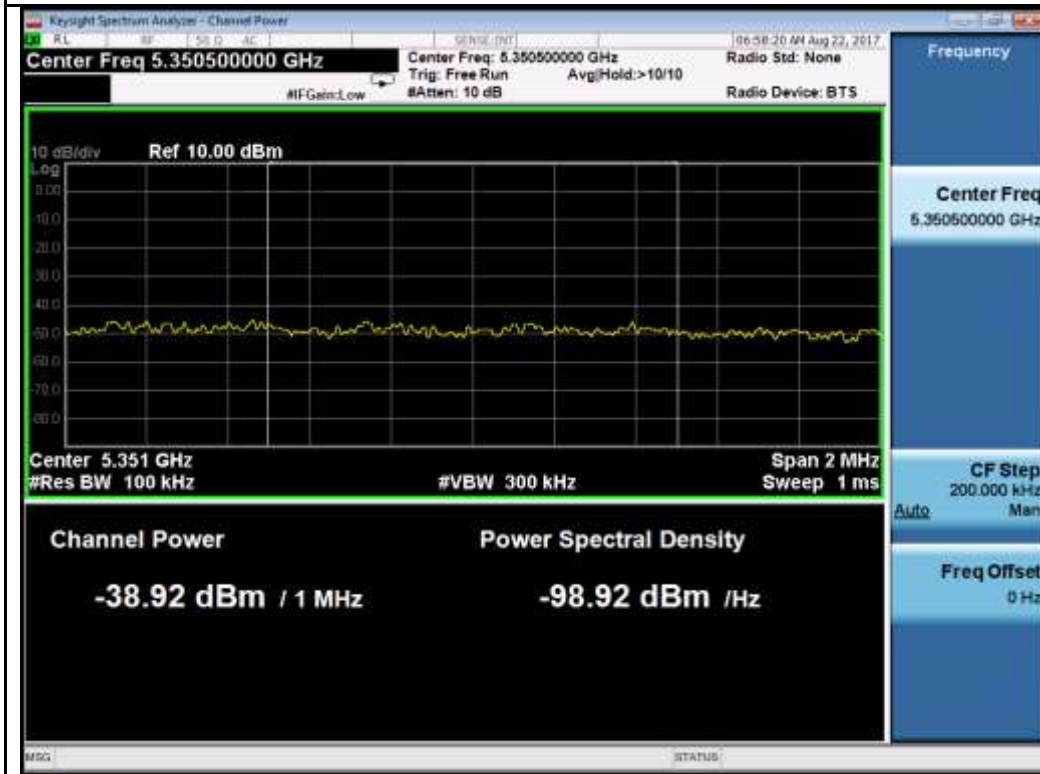
Test was done by Cipher at RF test site.

Test Plots for W53:

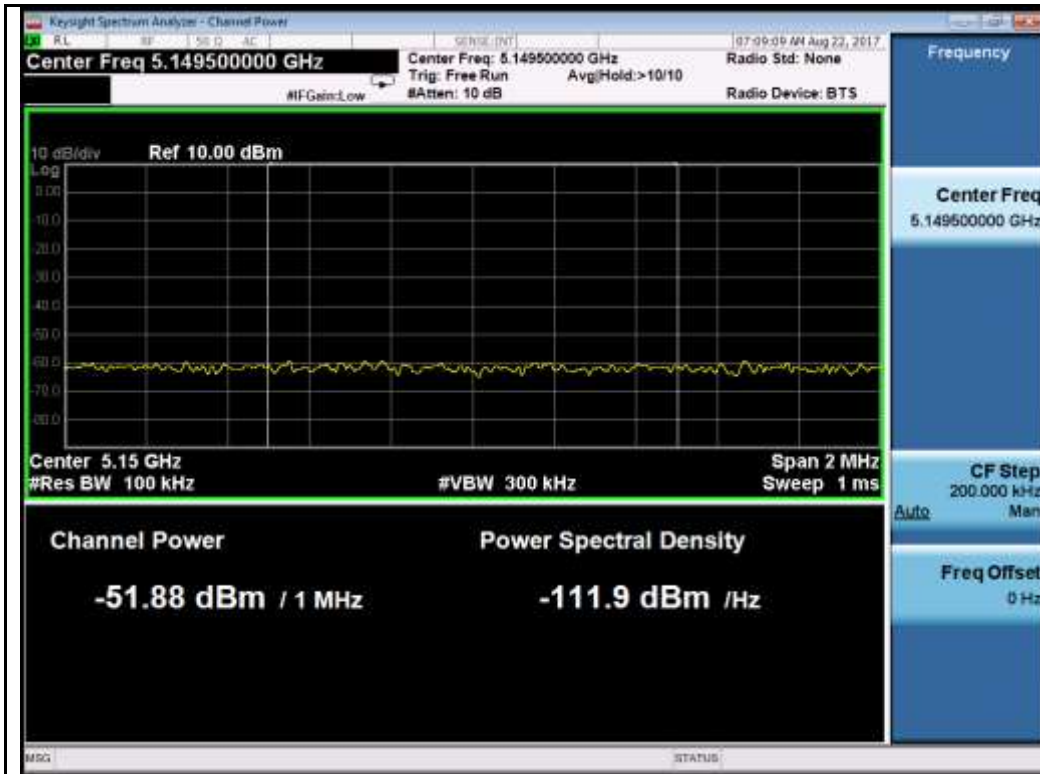
Chain 0:



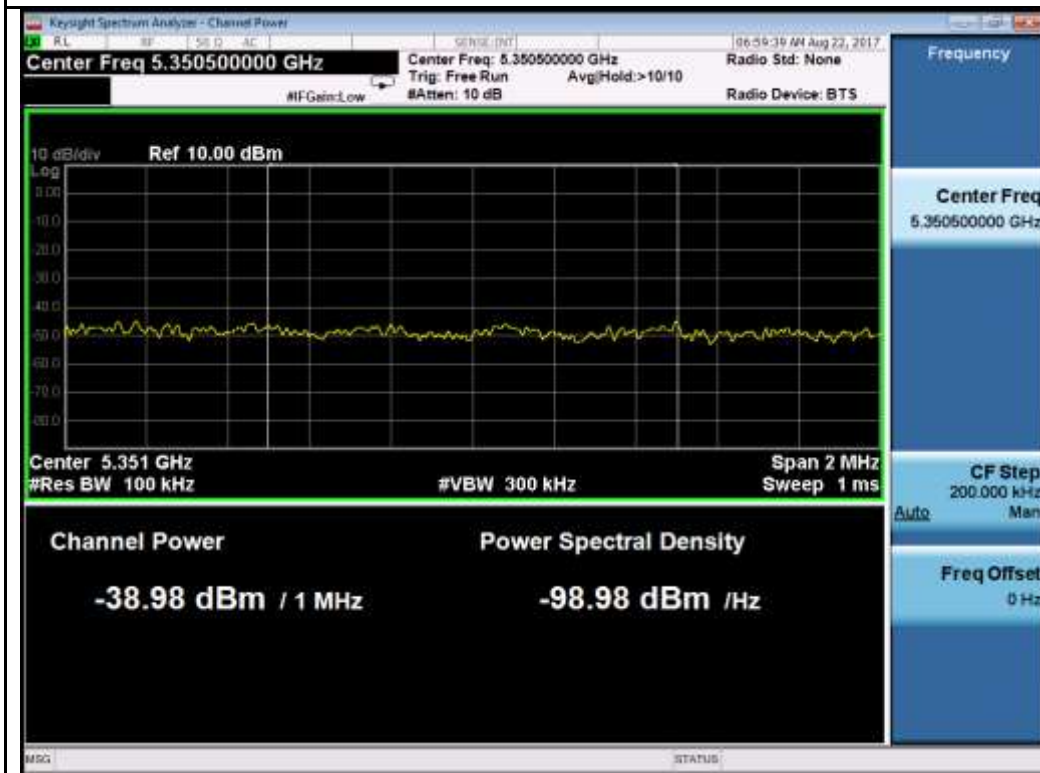
802.11a-5260MHz



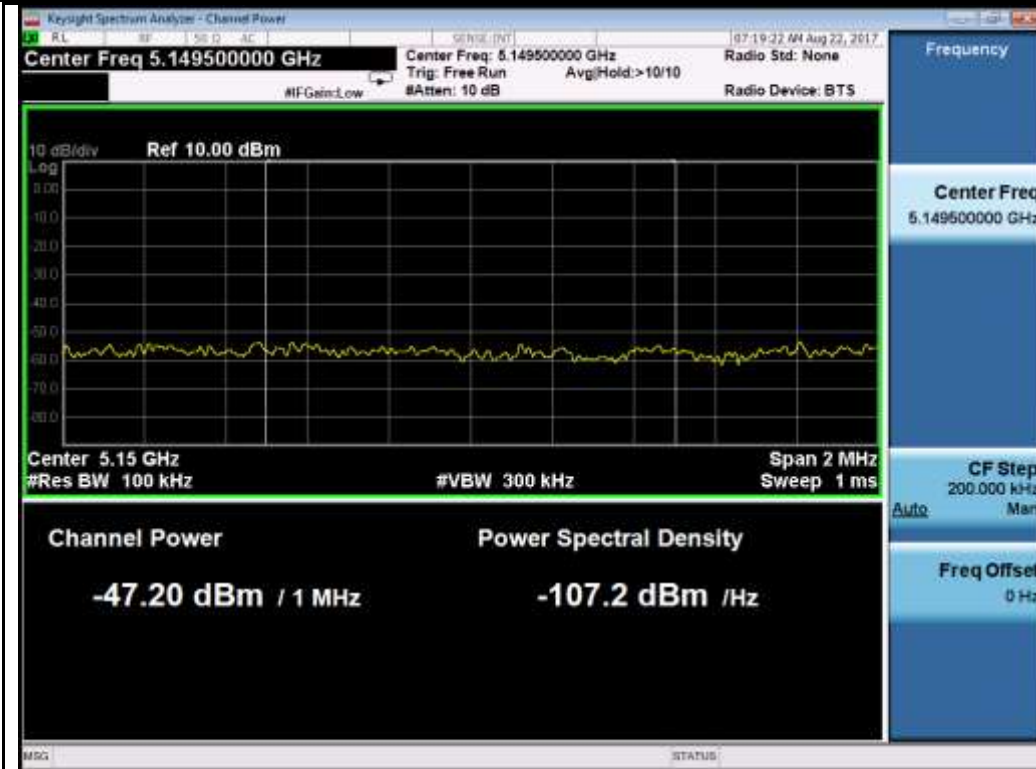
802.11a-5320MHz



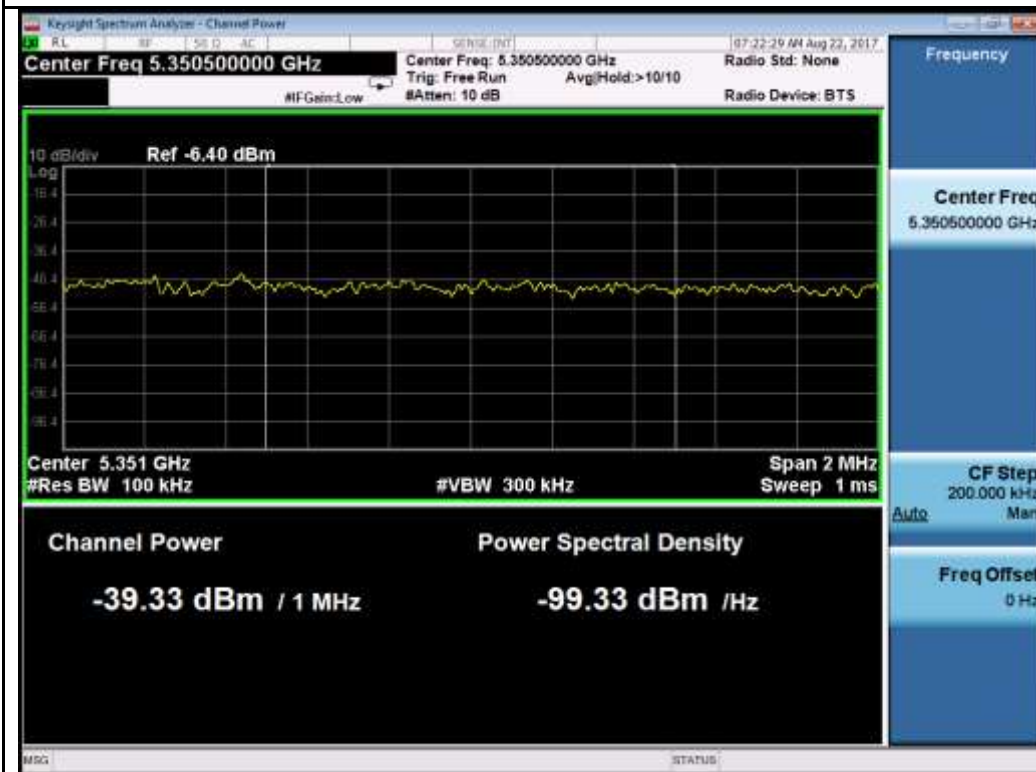
802.11n-HT20-5260MHz



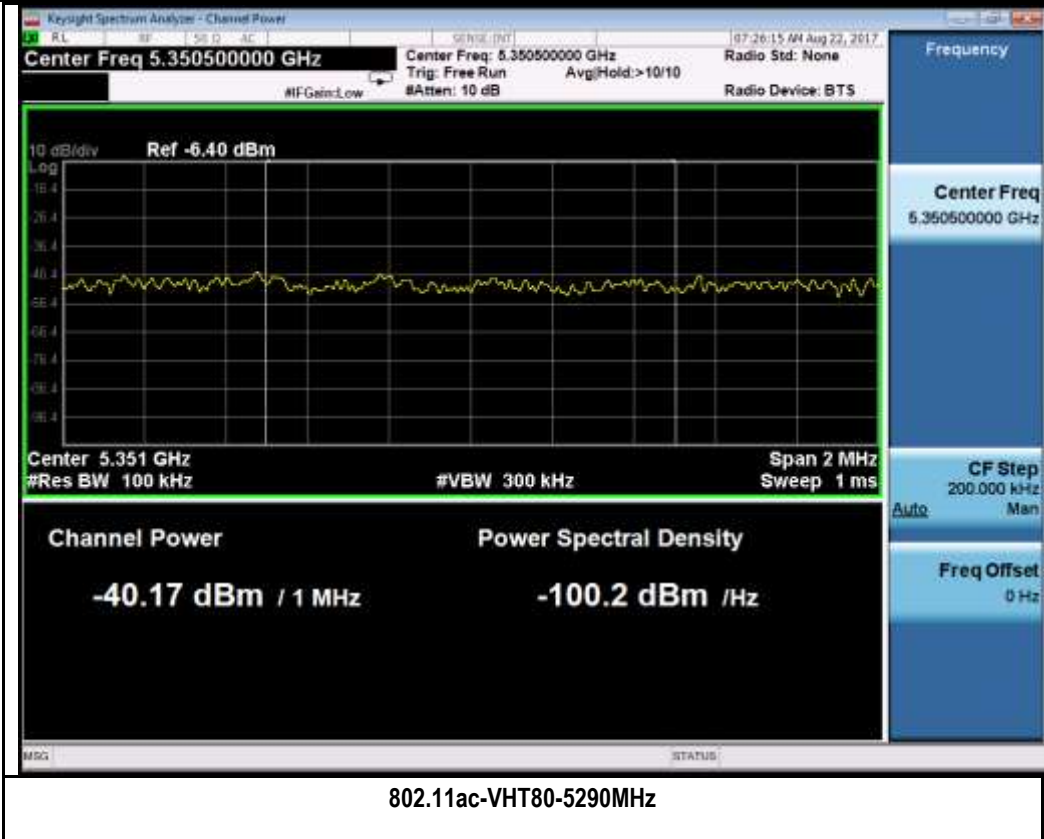
802.11n-HT20-5320MHz



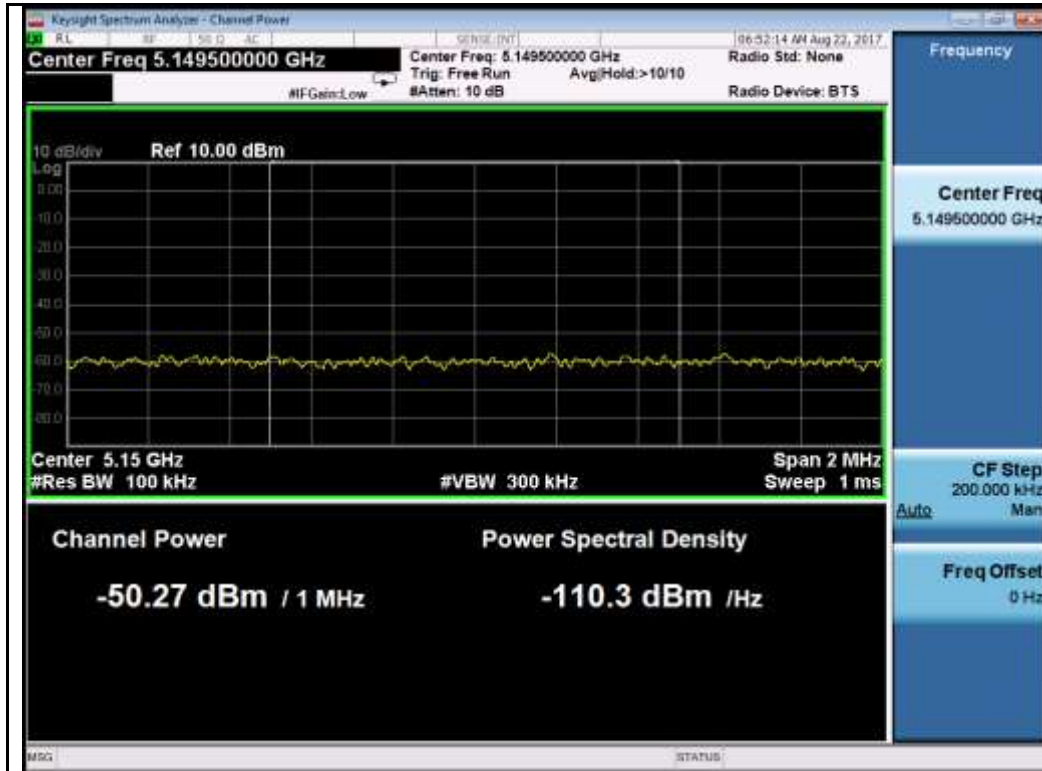
802.11n-HT40-5270MHz



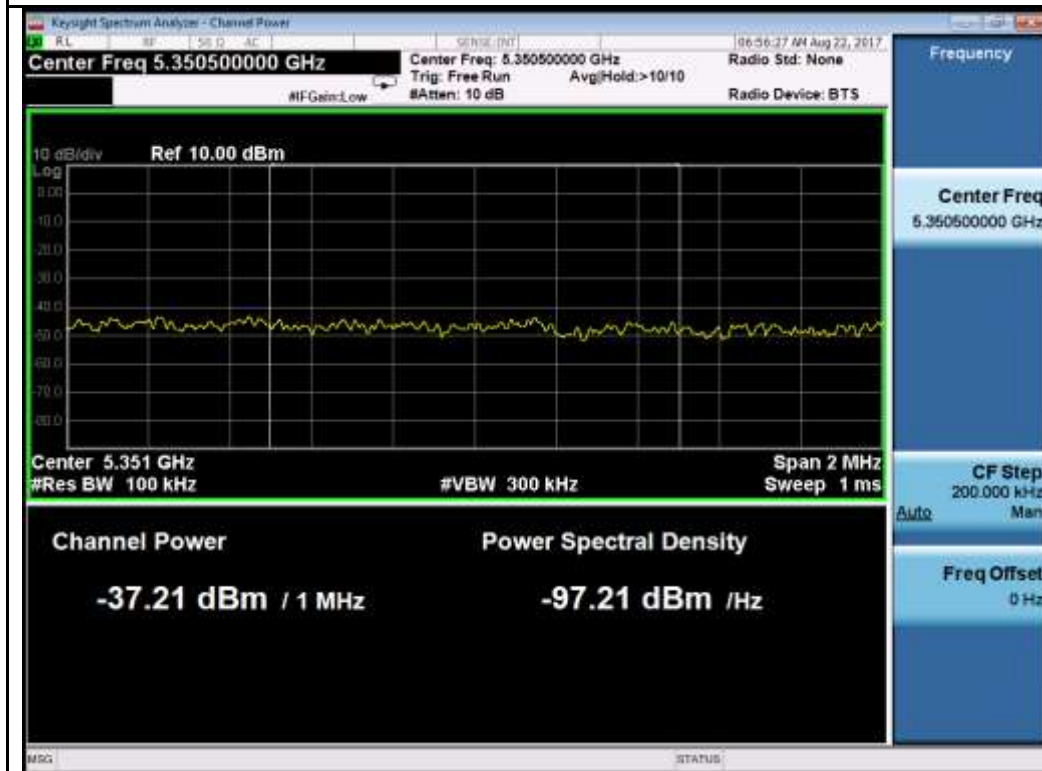
802.11n-HT40-5310MHz



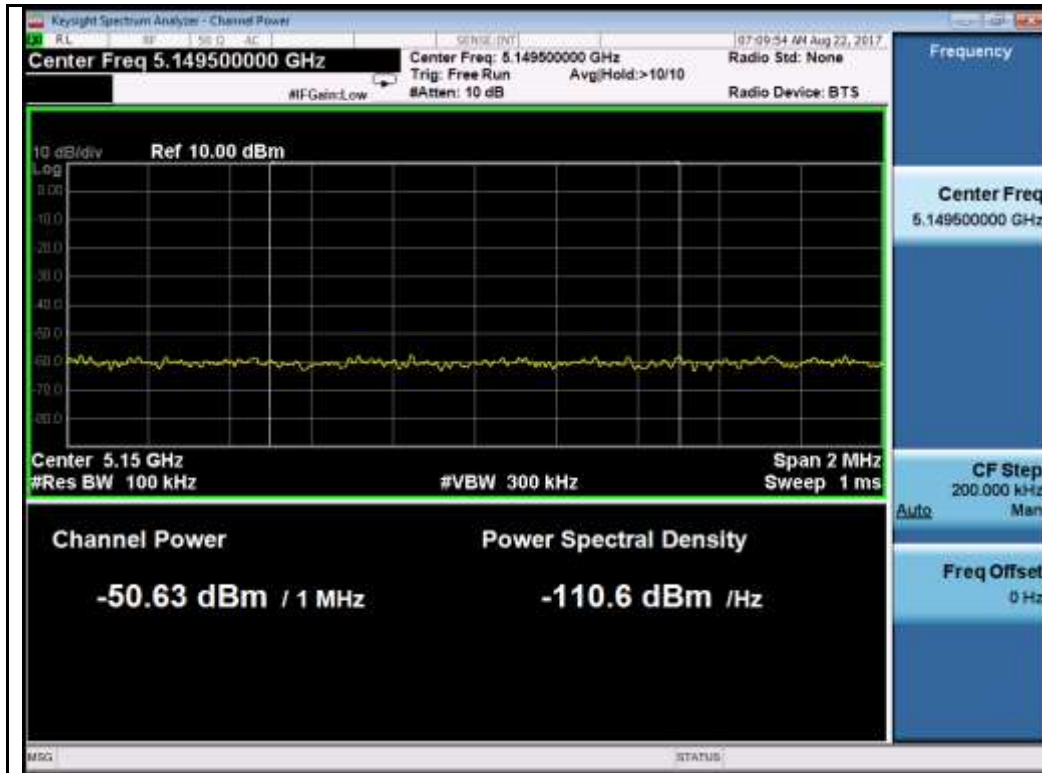
Chain 1:



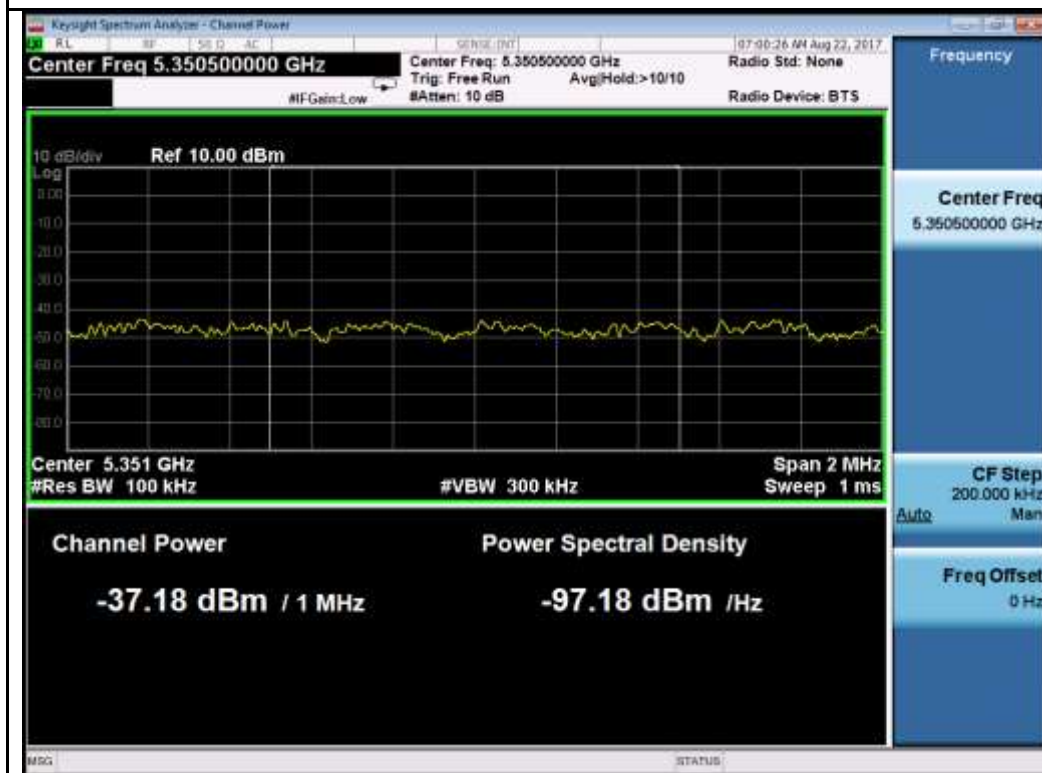
802.11a-5260MHz



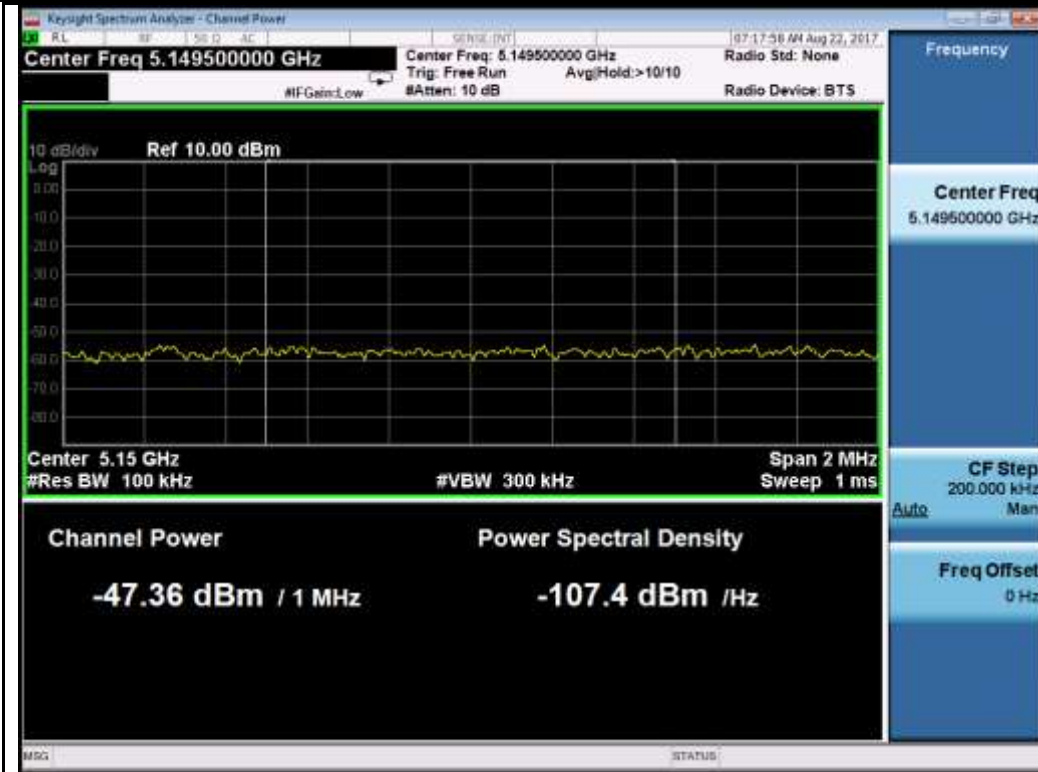
802.11a-5320MHz



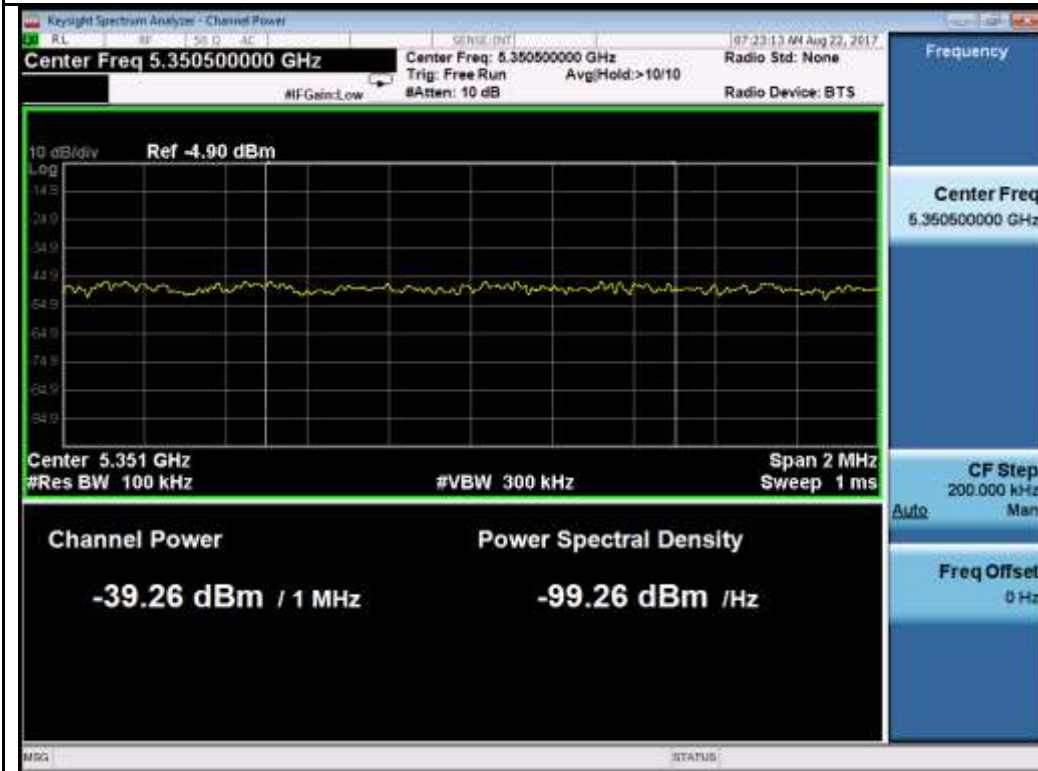
802.11n-HT20-5260MHz



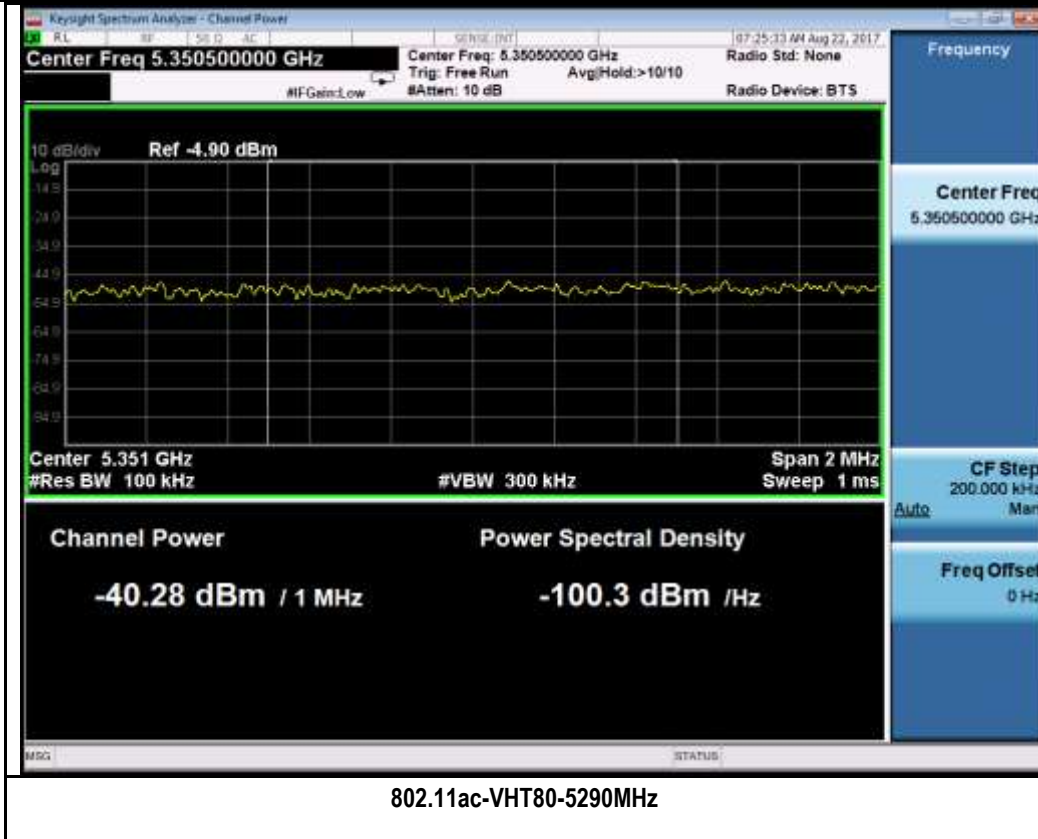
802.11n-HT20-5320MHz



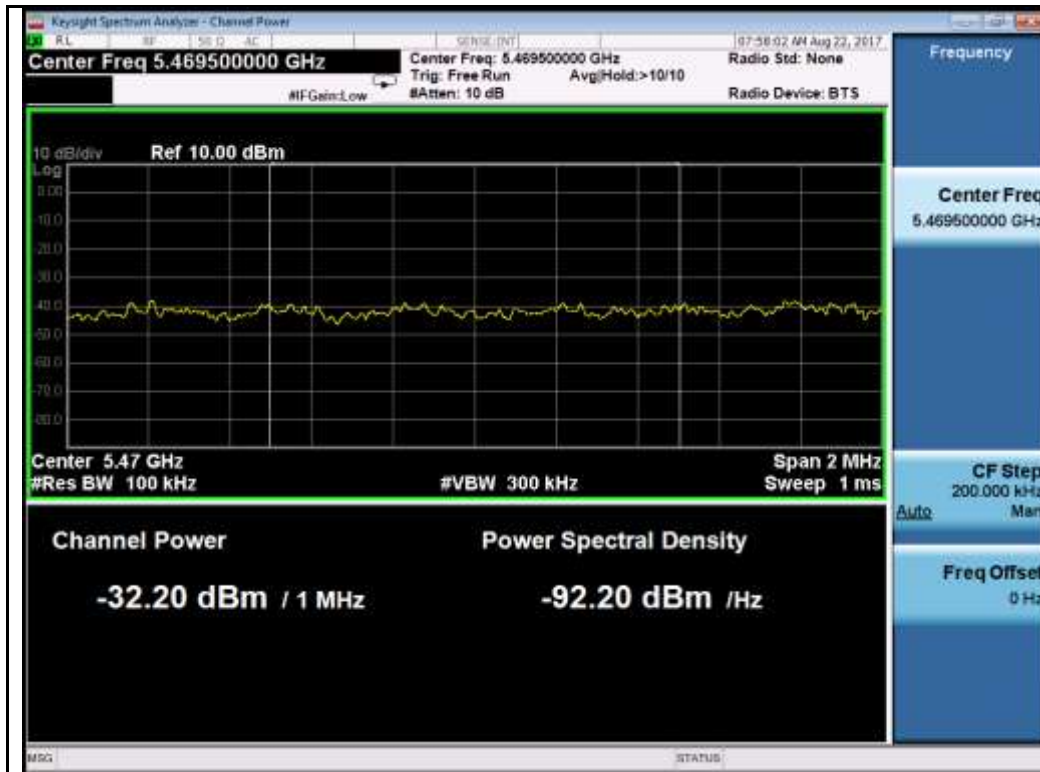
802.11n-HT40-5270MHz



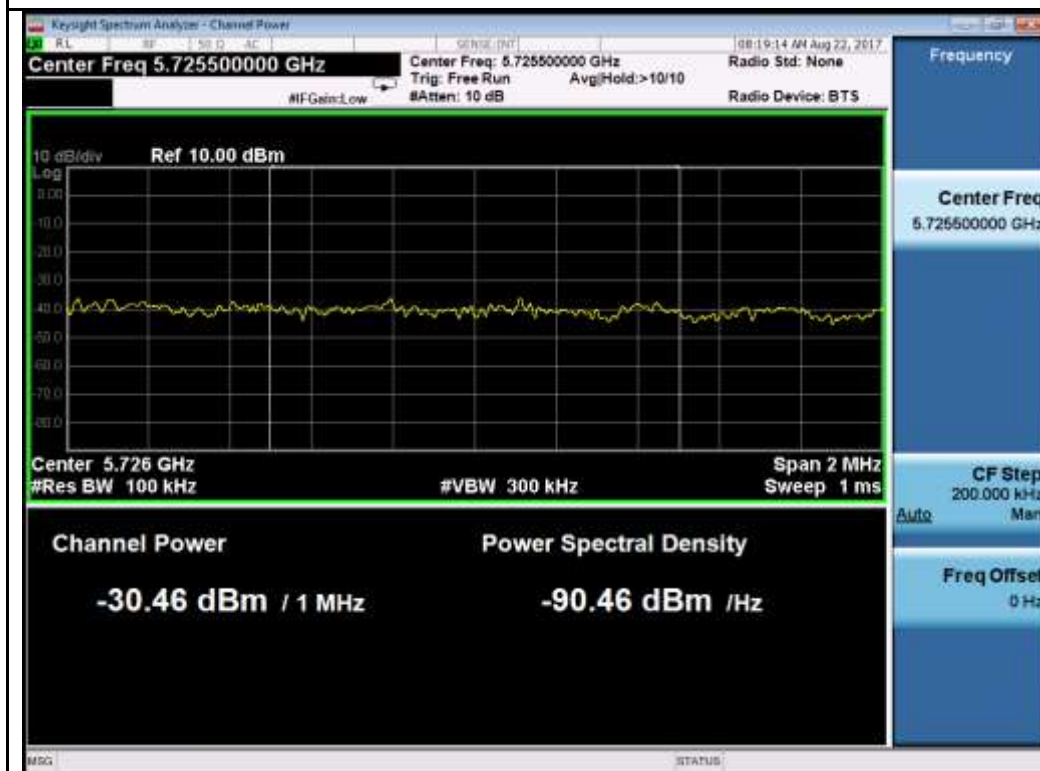
802.11n-HT40-5310MHz



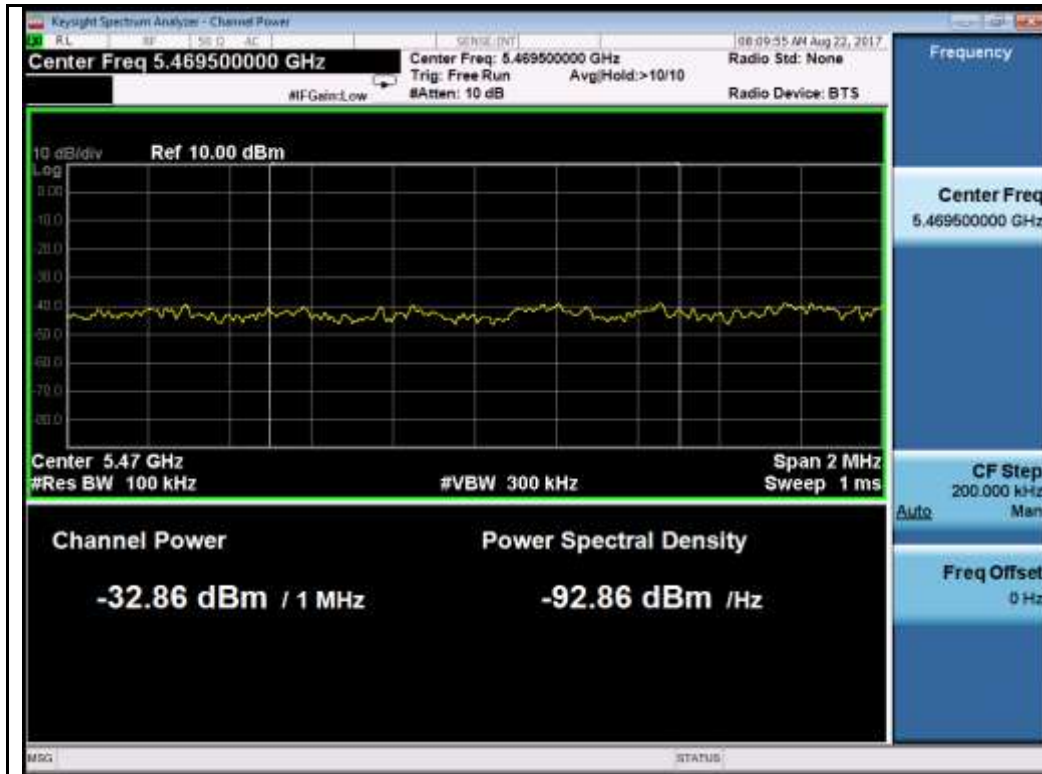
**Test Plots for W56:
Chain 0:**



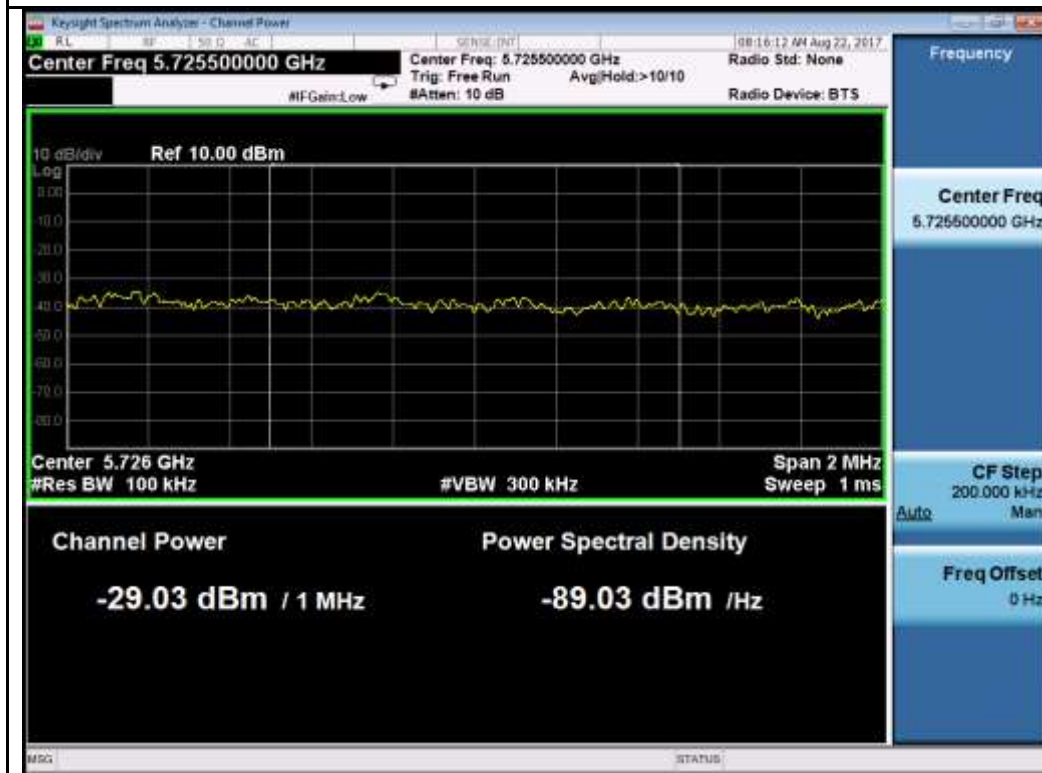
802.11a-5500MHz



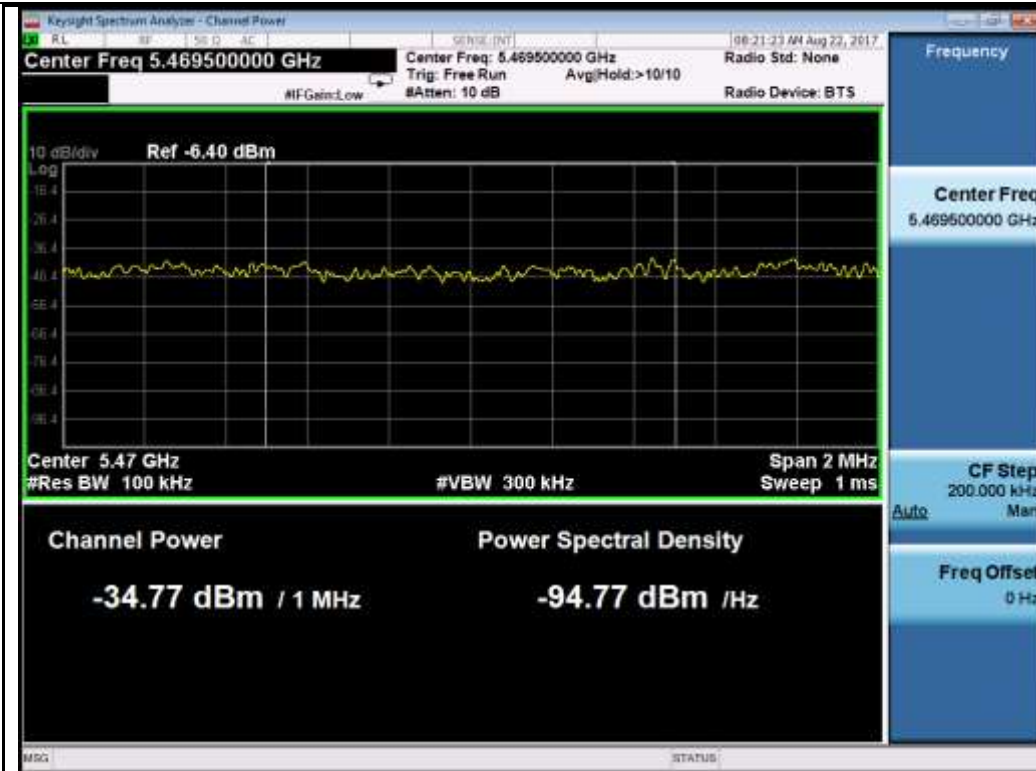
802.11a-5700MHz



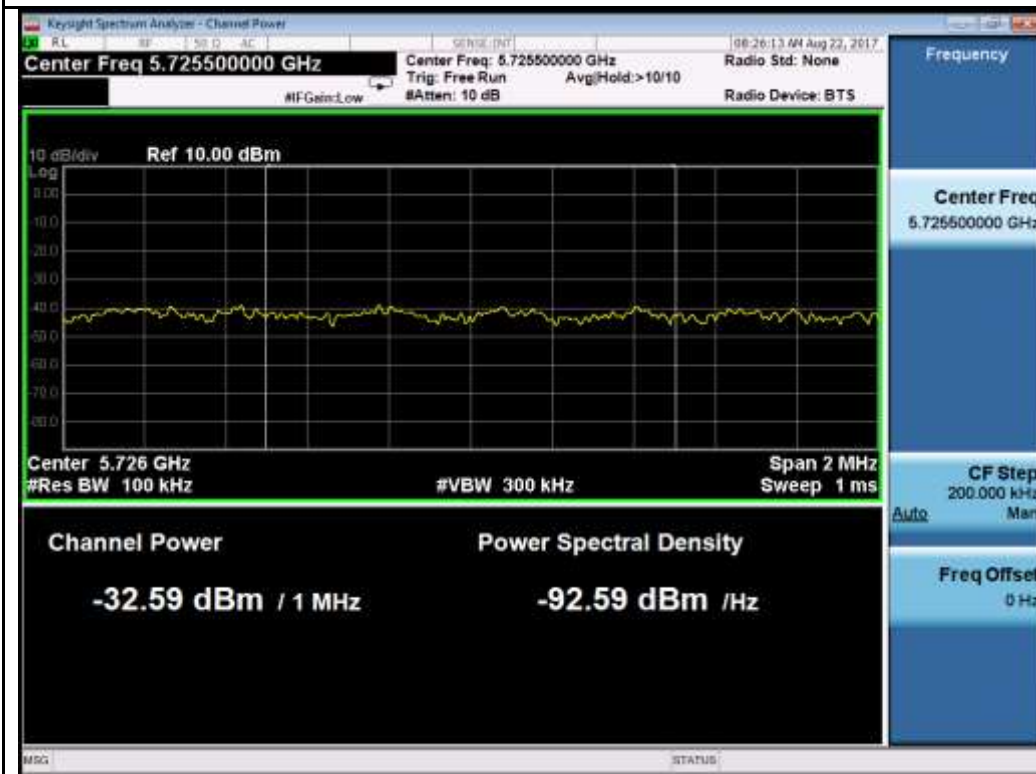
802.11n-HT20-5500MHz



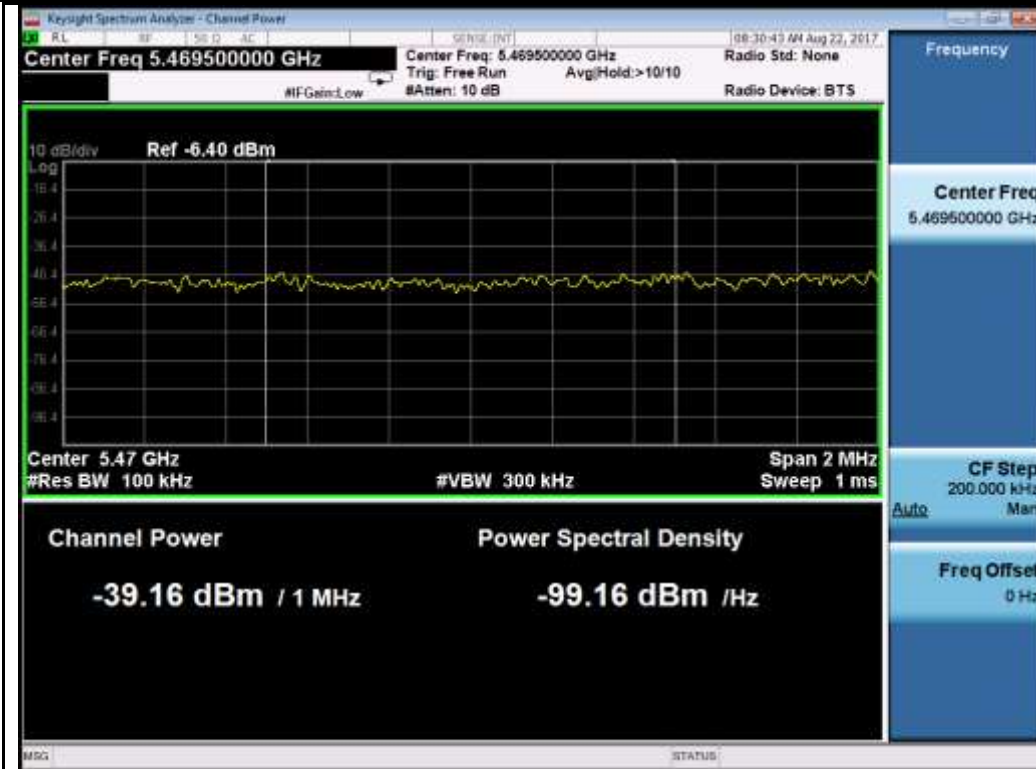
802.11n-HT20-5700MHz



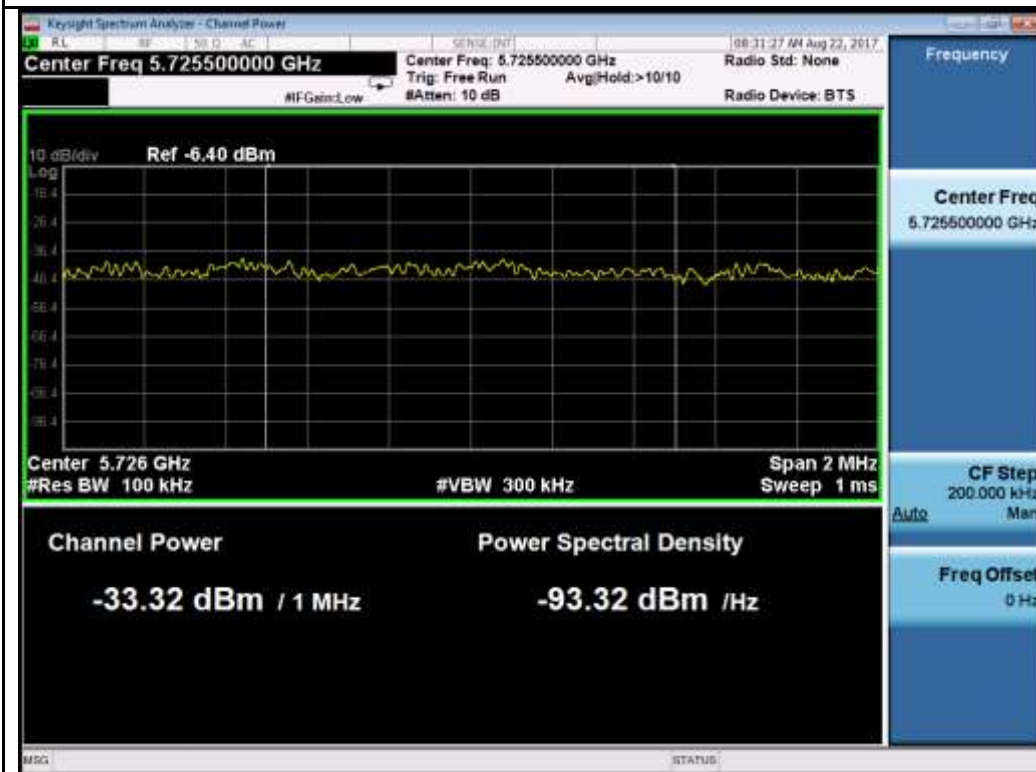
802.11n-HT40-5510MHz



802.11n-HT40-5670MHz

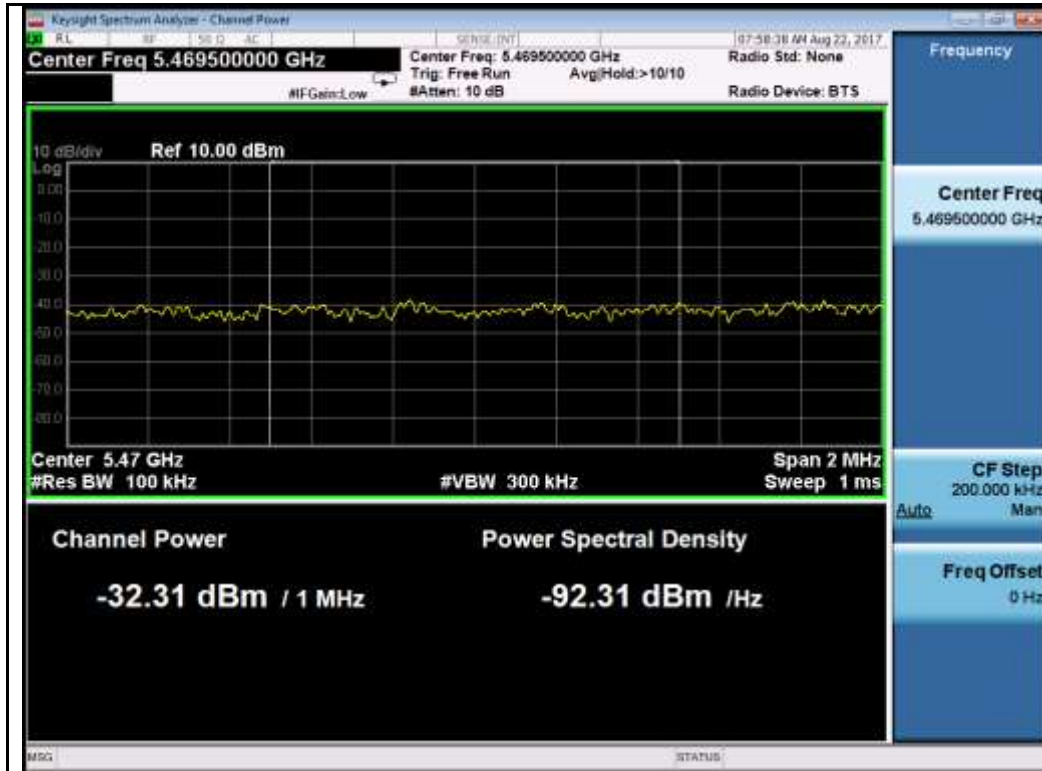


802.11ac-VHT80-5530MHz

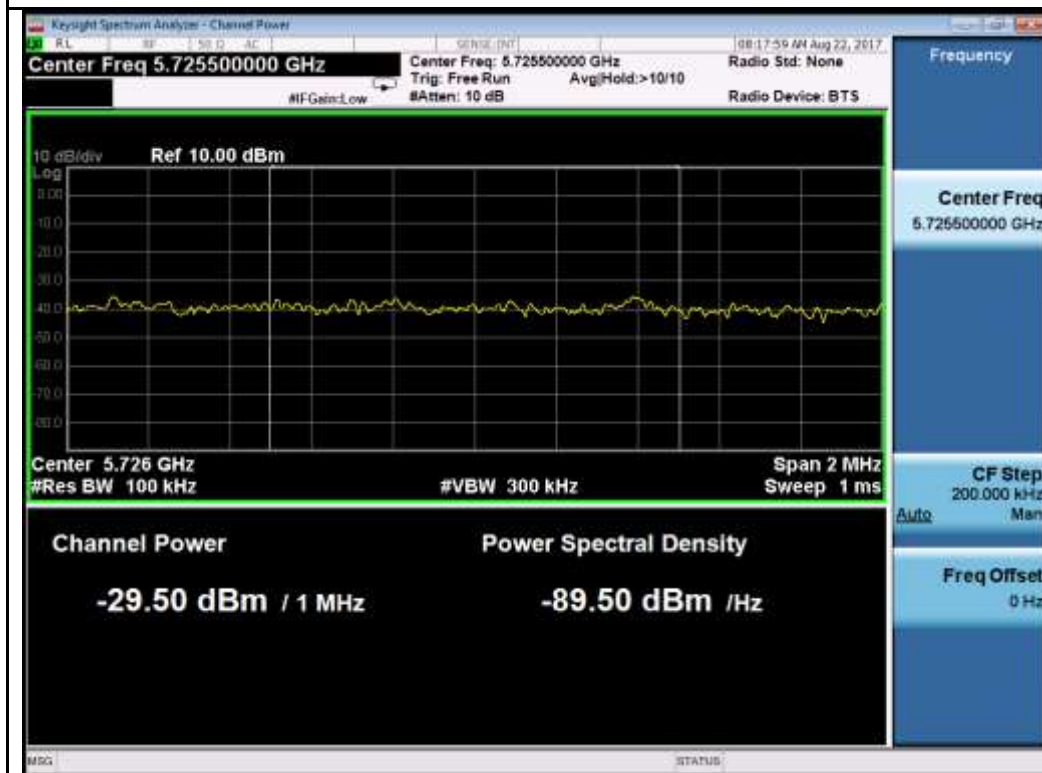


802.11ac-VHT80-5610MHz

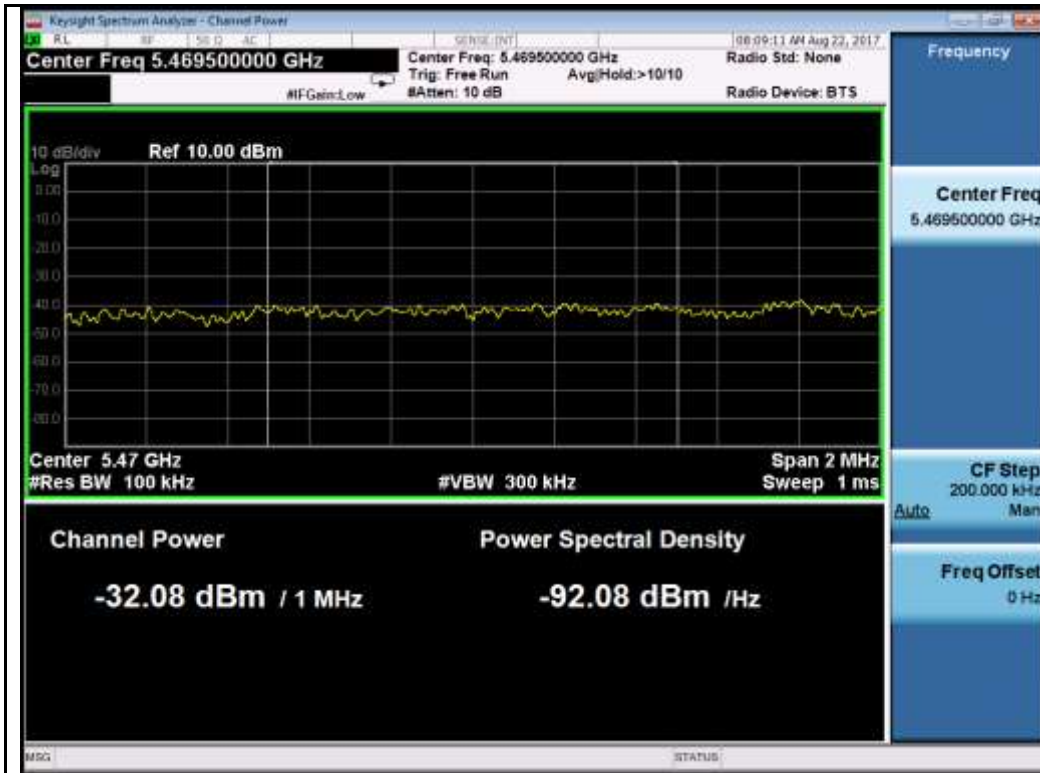
Chain 1:



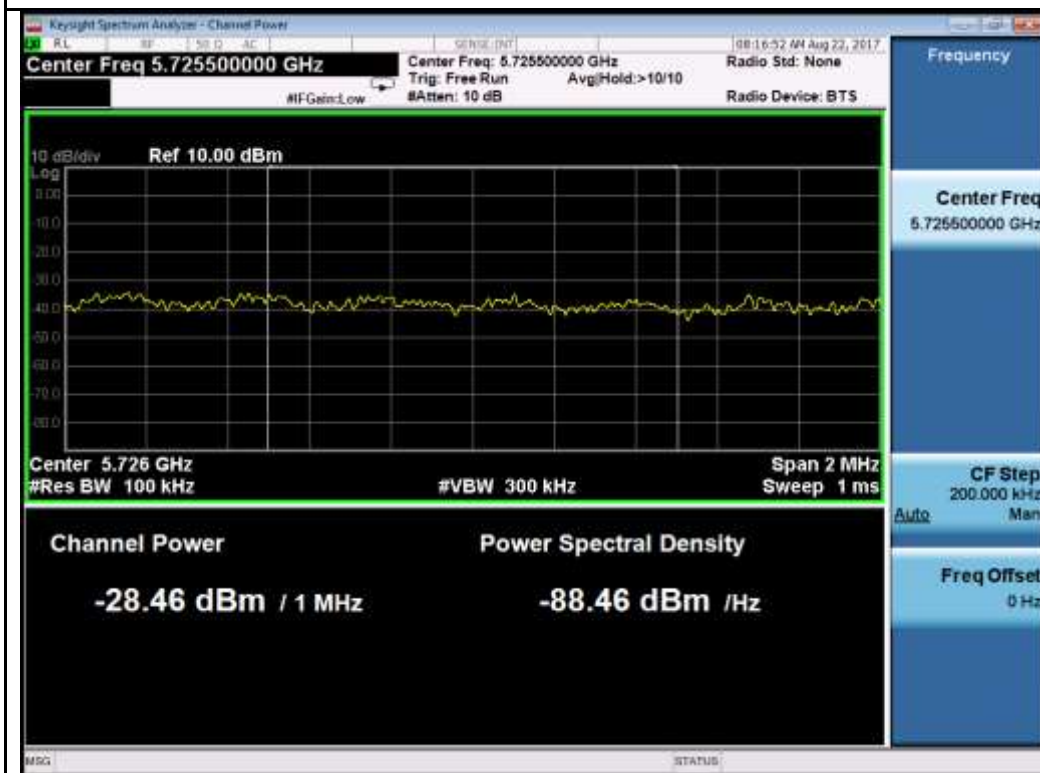
802.11a-5500MHz



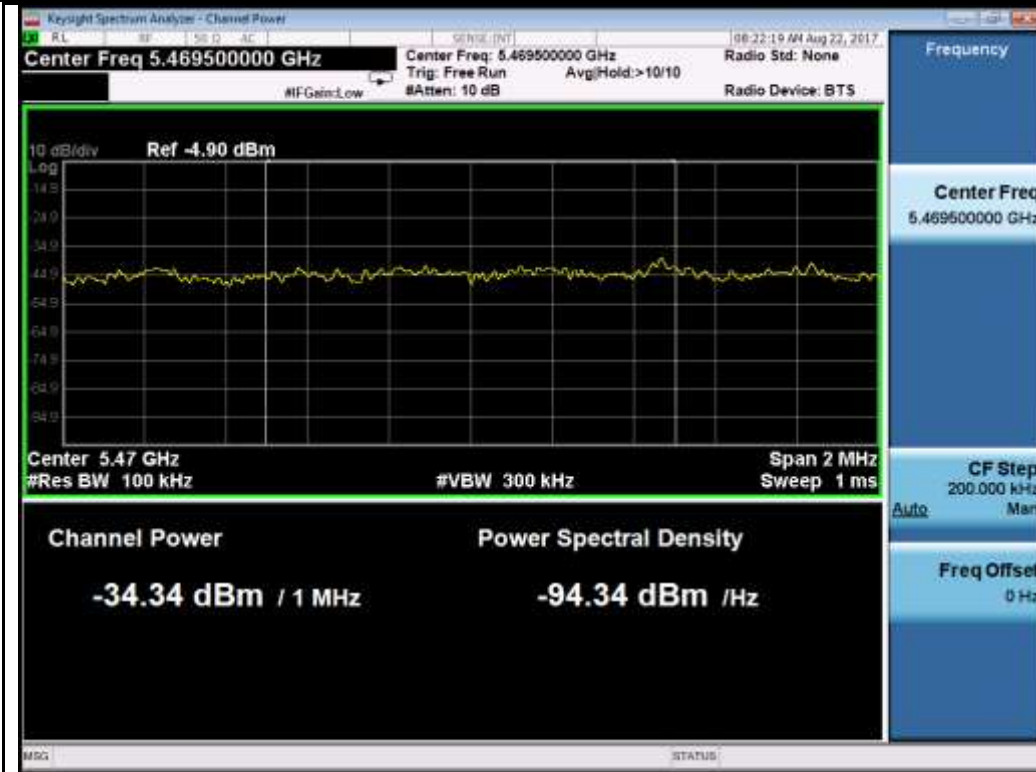
802.11a-5700MHz



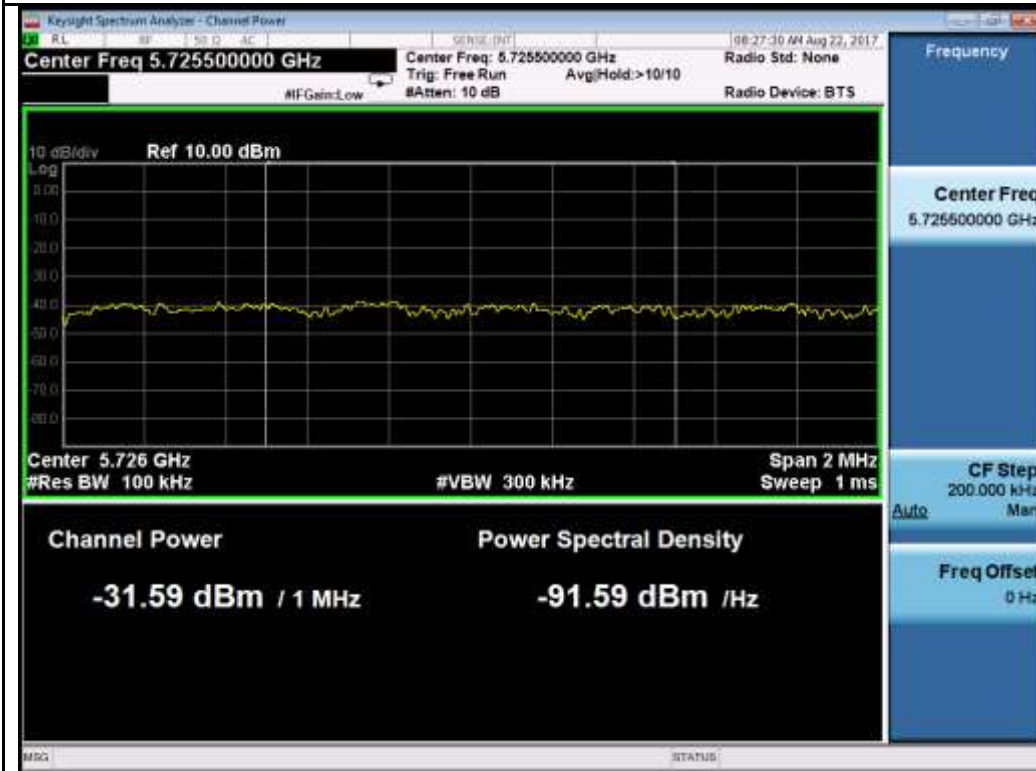
802.11n-HT20-5500MHz



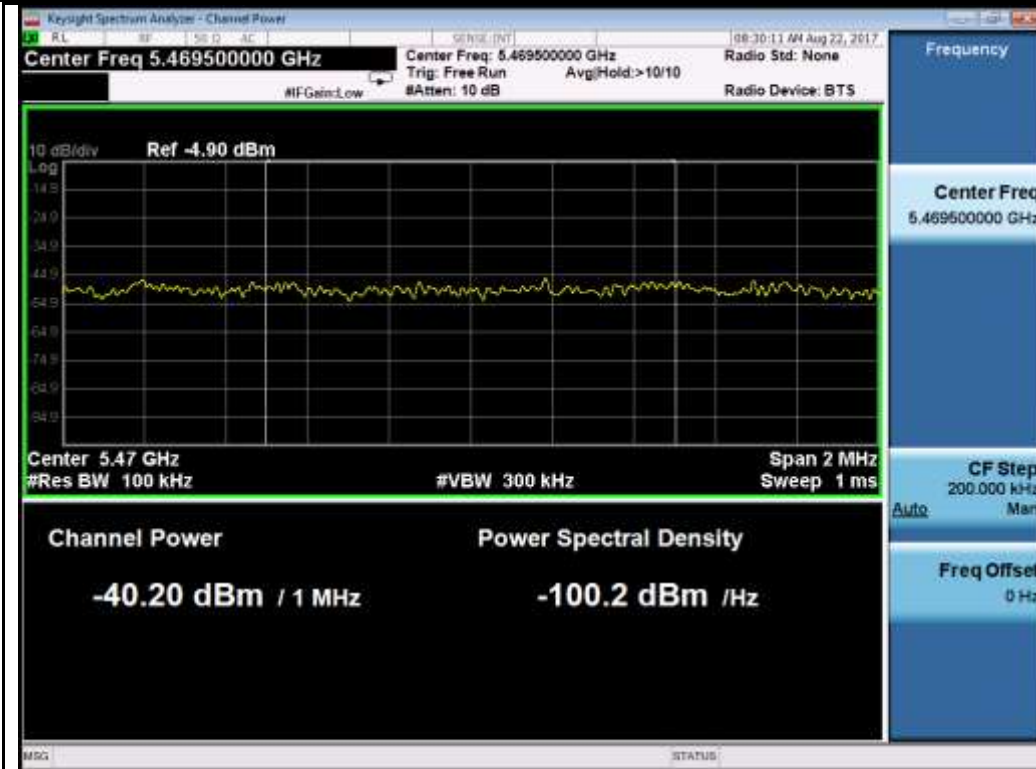
802.11n-HT20-5700MHz



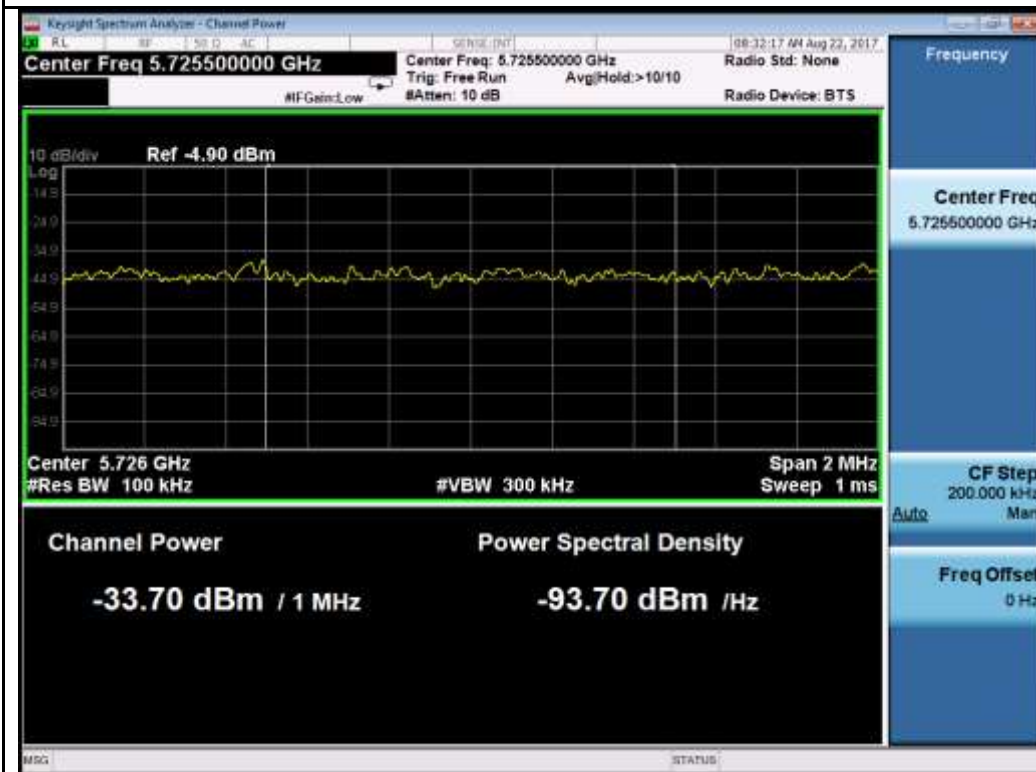
802.11n-HT40-5510MHz



802.11n-HT40-5670MHz



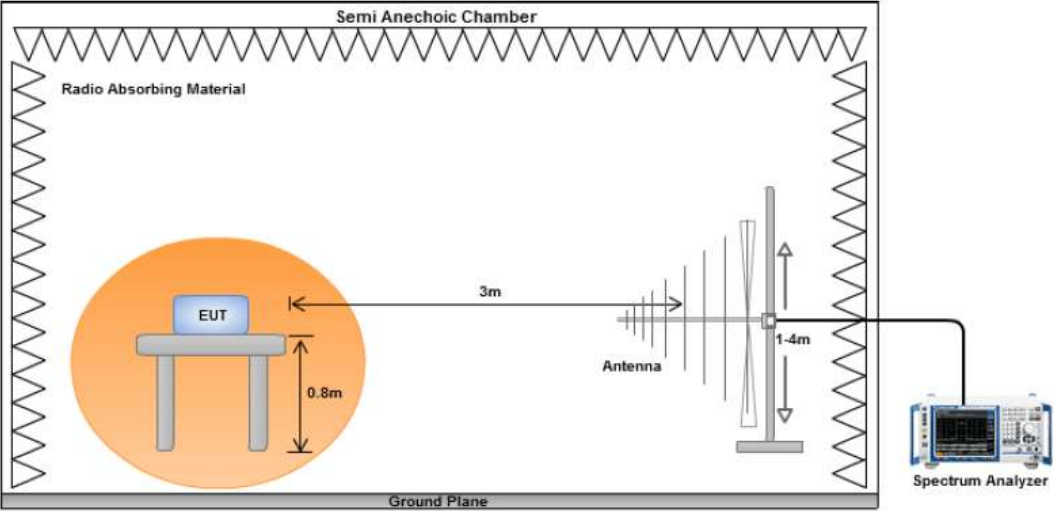
802.11ac-VHT80-5530MHz



802.11ac-VHT80-5610MHz

10.6 Radiated Spurious Emissions below 1GHz

Requirement(s):

| Spec | Requirement | Applicable | | | | | | | | | | |
|-----------------------------------|--|-----------------------|-----------------------|---------|-----|----------|-----|---------|-----|-----------|-----|---|
| 47CFR§ 15.407(b) 15.209 (a) | <p>Except higher limit as specified elsewhere in other section, the emissions from the low-power radio-frequency devices shall not exceed the field strength levels specified in the following table and the level of any unwanted emissions shall not exceed the level of the fundamental emission. The tighter limit applies at the band edges</p> <table border="1"> <thead> <tr> <th>Frequency range (MHz)</th> <th>Field Strength (uV/m)</th> </tr> </thead> <tbody> <tr> <td>30 – 88</td> <td>100</td> </tr> <tr> <td>88 – 216</td> <td>150</td> </tr> <tr> <td>216 960</td> <td>200</td> </tr> <tr> <td>Above 960</td> <td>500</td> </tr> </tbody> </table> | Frequency range (MHz) | Field Strength (uV/m) | 30 – 88 | 100 | 88 – 216 | 150 | 216 960 | 200 | Above 960 | 500 | ☒ |
| Frequency range (MHz) | Field Strength (uV/m) | | | | | | | | | | | |
| 30 – 88 | 100 | | | | | | | | | | | |
| 88 – 216 | 150 | | | | | | | | | | | |
| 216 960 | 200 | | | | | | | | | | | |
| Above 960 | 500 | | | | | | | | | | | |
| Test Setup |  | | | | | | | | | | | |
| Procedure | <ol style="list-style-type: none"> The EUT was switched on and allowed to warm up to its normal operating condition. The test was carried out at the selected frequency points obtained from the EUT characterisation. Maximization of the emissions, was carried out by rotating the EUT, changing the antenna polarization, and adjusting the antenna height in the following manner: <ol style="list-style-type: none"> Vertical or horizontal polarisation (whichever gave the higher emission level over a full rotation of the EUT) was chosen. The EUT was then rotated to the direction that gave the maximum emission. Finally, the antenna height was adjusted to the height that gave the maximum emission. A Quasi-peak measurement was then made for that frequency point. Steps 2 and 3 were repeated for the next frequency point, until all selected frequency points were measured. | | | | | | | | | | | |
| Remark | The EUT was scanned up to 1GHz. Both horizontal and vertical polarities were investigated. The results show only the worst case. | | | | | | | | | | | |
| Result | ☒ Pass ☐ Fail | | | | | | | | | | | |

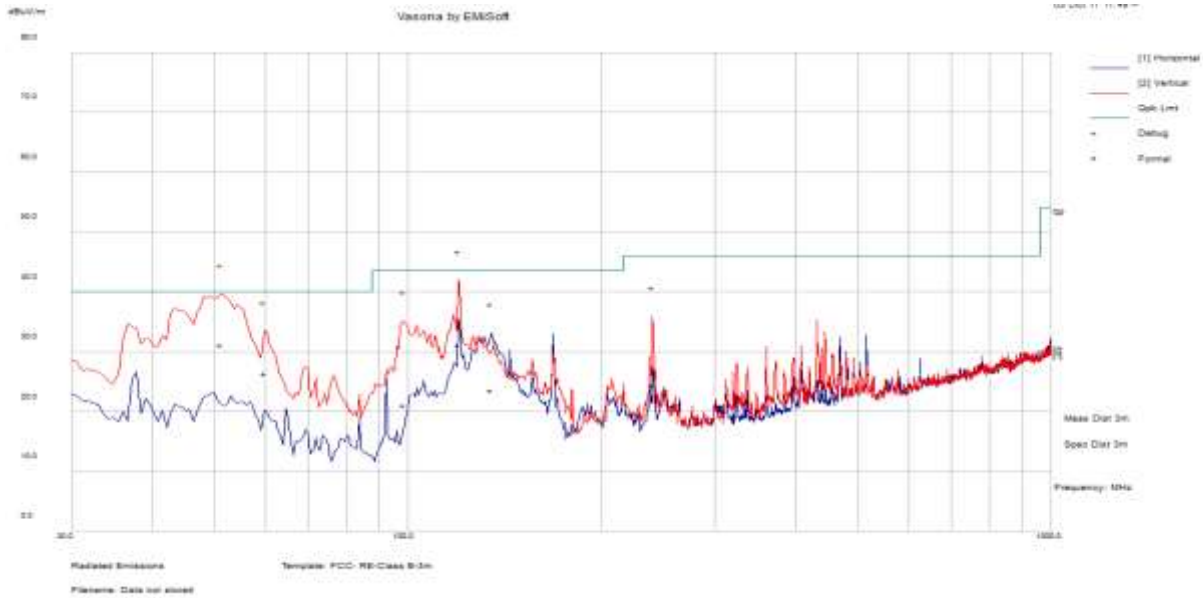
Test Data ☒ Yes (See below) ☐ N/A

Test Plot ☒ Yes (See below) ☐ N/A

Test was done by Shuo Zhang at 10m chamber.

Radiated Emission Test Results (Below 1GHz)

| | | | | | |
|---------------------------|-----------------------|------|--|--------|------|
| Test specification | below 1GHz | | | Result | Pass |
| Environmental Conditions: | Temp (°C): | 23 | | | |
| | Humidity (%) | 46 | | | |
| | Atmospheric (mbar): | 1017 | | | |
| Mains Power: | 120VAC, 60Hz | | | | |
| Tested by: | Shuo Zhang | | | | |
| Test Date: | 08/21/2017-10/05/2017 | | | | |
| Remarks: | 802.11a – 5320MHz | | | | |

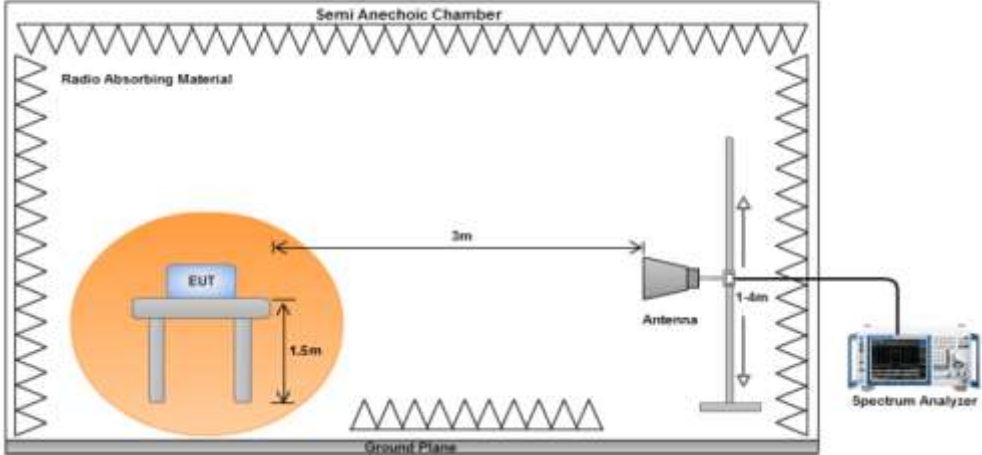


| Frequency MHz | Raw dBuV | Cable Loss | AF dB | Level dBuV/m | Measurement Type | Pol | Hgt cm | Azt Deg | Limit dBuV/m | Margin dB | Pass /Fail |
|---------------|----------|------------|--------|--------------|------------------|-----|--------|---------|--------------|-----------|------------|
| 51.25 | 46.89 | 11.59 | -27.26 | 31.22 | Quasi Max | V | 111 | 112 | 40 | -8.78 | Pass |
| 119.9734 | 41.83 | 12.25 | -22.86 | 31.23 | Quasi Max | V | 136 | 110 | 43.5 | -12.27 | Pass |
| 59.95094 | 43.15 | 11.66 | -28.35 | 26.46 | Quasi Max | V | 218 | 220 | 40 | -13.54 | Pass |
| 98.63781 | 35.47 | 12.02 | -26.41 | 21.09 | Quasi Max | V | 130 | 330 | 43.5 | -22.41 | Pass |
| 239.9888 | 36.23 | 13.08 | -24.87 | 24.44 | Quasi Max | V | 131 | 162 | 46 | -21.56 | Pass |
| 134.7913 | 34.3 | 12.34 | -23.1 | 23.55 | Quasi Max | H | 239 | 111 | 43.5 | -19.96 | Pass |

Note: Both horizontal and vertical polarities were investigated. The results above show only the worst case.

10.7 Radiated Spurious Emissions above 1GHz

Requirement(s):

| Spec | Item | Requirement | Applicable |
|---|--|--|-------------------------------------|
| 47CFR§ 15.407(b)(2), 15.407(b)(6) | (1) | 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 -27 dBm/MHz. | <input type="checkbox"/> |
| | (2) | For transmitters operating in the 5.25-5.35 GHz band: all emissions outside of the 5.15-5.35 GHz band shall not exceed an EIRP of -27 dBm/MHz. Devices operating in the 5.25-5.35 GHz band that generate emissions in the 5.15-5.25 GHz band must meet all applicable technical requirements for operation in the 5.15-5.25 GHz band (including indoor use) or alternatively meet an out-of-band emission EIRP limit of -27 dBm/MHz in the 5.15-5.25 GHz band. | <input checked="" type="checkbox"/> |
| | (3) | For transmitters operating in the 5.47-5.725 GHz band: all emissions outside of the 5.47-5.725 GHz band shall not exceed an EIRP of -27 dBm/MHz. | <input checked="" type="checkbox"/> |
| | (4) | For transmitters operating in the 5.725-5.825 GHz band: all emissions within the frequency range from the band edge to 10 MHz above or below the band edge shall not exceed an EIRP of -17 dBm/MHz; for frequencies 10 MHz or greater above or below the band edge, emissions shall not exceed an EIRP of -27 dBm/MHz. | <input type="checkbox"/> |
| | (5) | Restricted band, emission must also comply with the radiated emission limits specified in 15.209 | <input checked="" type="checkbox"/> |
| Test Setup |  | | |
| Procedure | <ol style="list-style-type: none"> The EUT was switched on and allowed to warm up to its normal operating condition. The test was carried out at the selected frequency points obtained from the EUT characterisation. Maximization of the emissions, was carried out by rotating the EUT, changing the antenna polarization, and adjusting the antenna height in the following manner: <ol style="list-style-type: none"> Vertical or horizontal polarisation (whichever gave the higher emission level over a full rotation of the EUT) was chosen. The EUT was then rotated to the direction that gave the maximum emission. Finally, the antenna height was adjusted to the height that gave the maximum emission. An average measurement was then made for that frequency point. Steps 2 and 3 were repeated for the next frequency point, until all selected frequency points were measured. | | |
| Remark | The EUT was scanned up to 40GHz. Both horizontal and vertical polarities were investigated. The results show only the worst case. | | |
| Result | <input checked="" type="checkbox"/> Pass <input type="checkbox"/> Fail | | |

Test Data Yes (See below) N/A

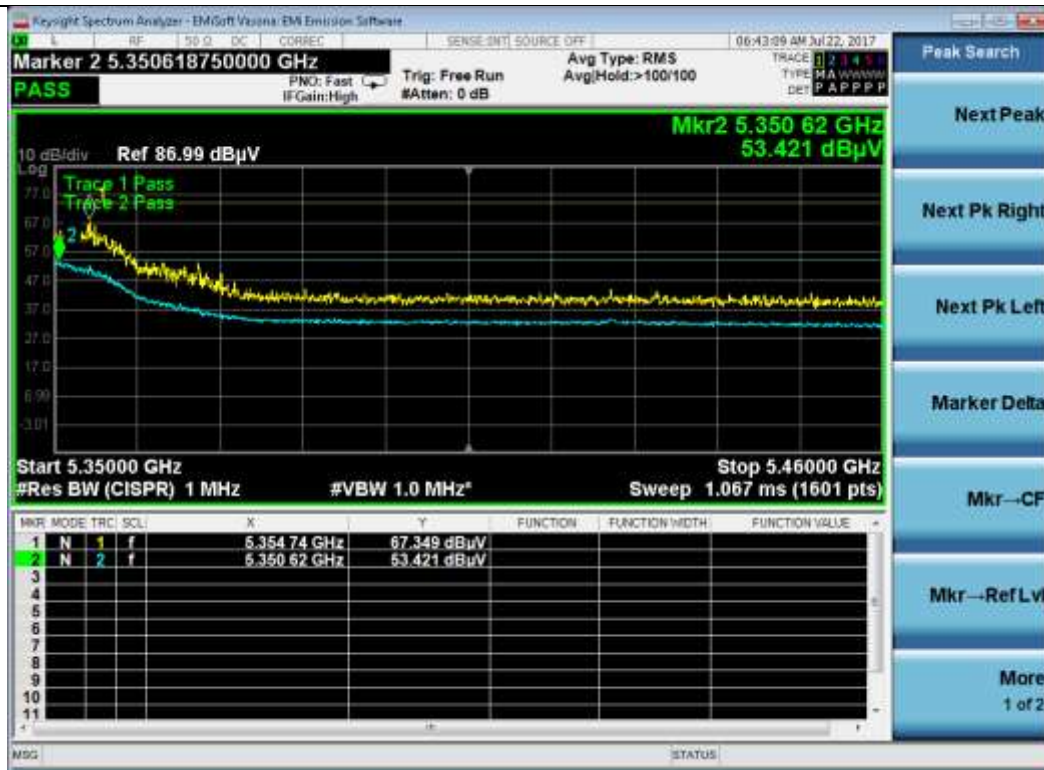
Test Plot Yes (See below) N/A

Test was done by Shuo Zhang at 10m chamber.

Radiated Restricted band and Band Edge Measurement Plots:



802.11a 5320M(5350-5460MHz)



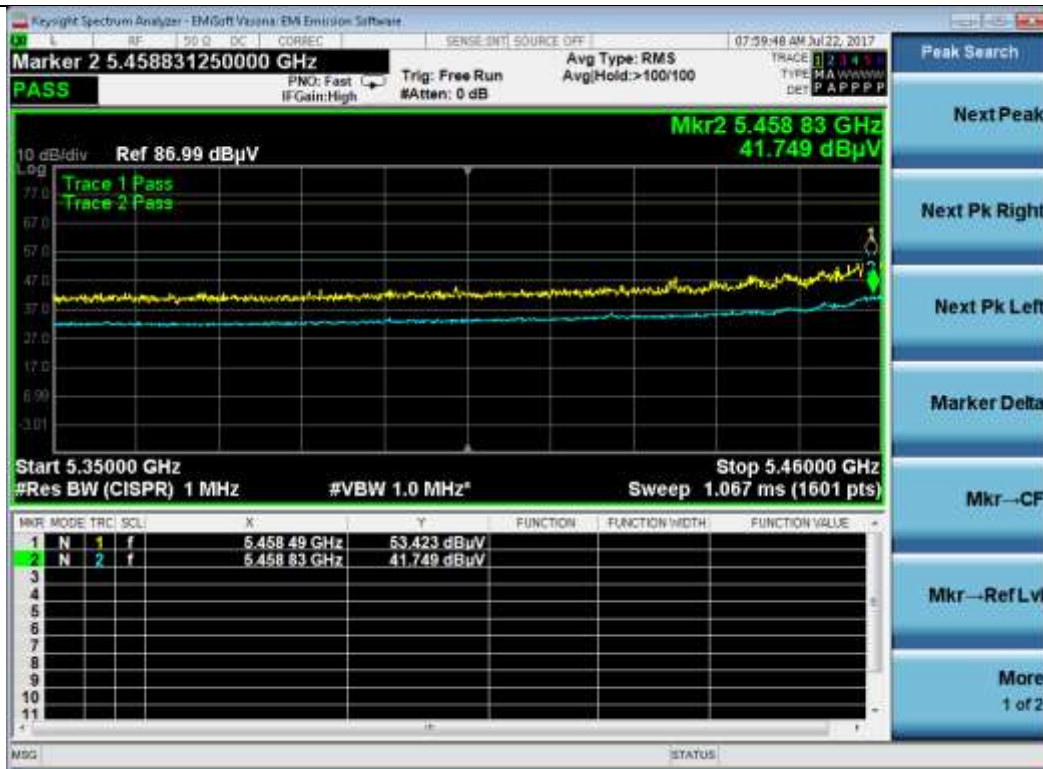
802.11n-HT20 5320M(5350-5460MHz)



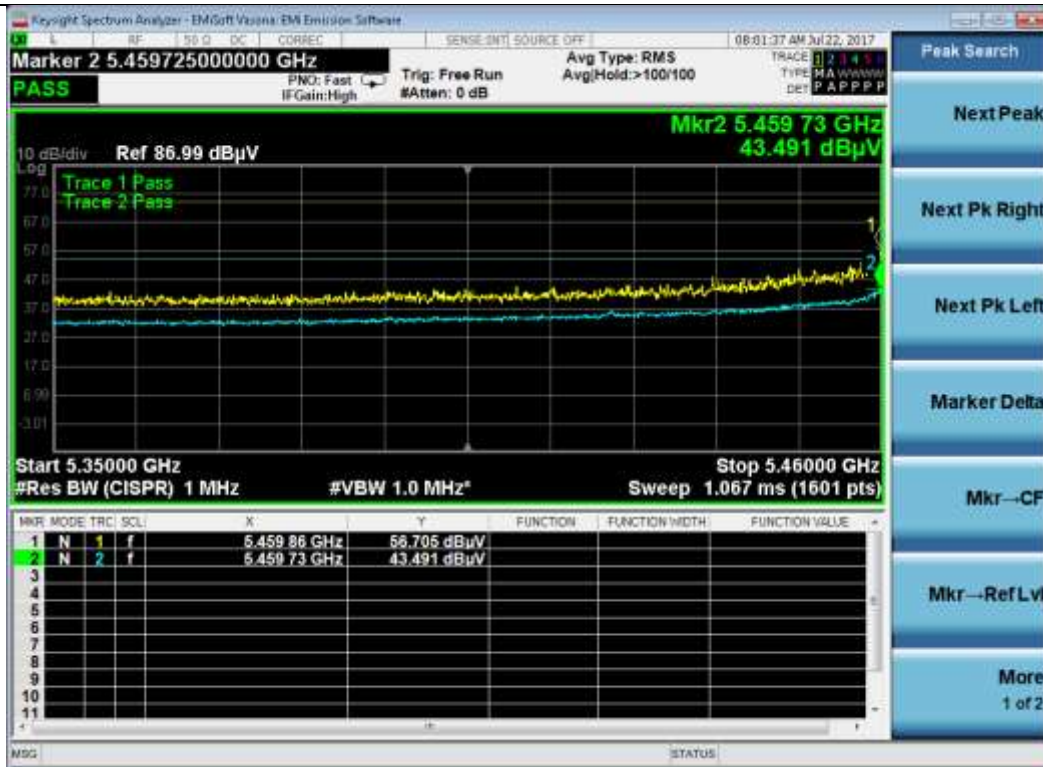
802.11n-HT40 5310M(5350-5460MHz)



802.11ac 5290M(5350-5460MHz)



802.11a 5500M(5350-5460MHz)



802.11n-HT20 5500M(5350-5460MHz)



802.11n-HT40 5510M(5350-5460MHz)



802.11ac 5530M(5350-5460MHz)

Radiated Emission Test Results (Above 1GHz)

W53 band:

Above 1GHz-40GHz – 802.11a – 5260MHz

| 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 |
|---------------|----------|------------|-------|--------------|------------------|-----|--------|---------|--------------|-----------|------------|
| 10525.92 | 46.78 | 6.77 | 2.4 | 55.96 | Peak Max | V | 189 | 88 | 74 | -18.04 | Pass |
| 7013.33 | 48.48 | 5.24 | 0.93 | 54.65 | Peak Max | H | 278 | 231 | 74 | -19.35 | Pass |
| 13827.61 | 37.89 | 8.36 | 6.54 | 52.79 | Peak Max | H | 278 | 92 | 74 | -21.21 | Pass |
| 10525.92 | 33.2 | 6.77 | 2.4 | 42.38 | Average Max | V | 189 | 88 | 54 | -11.62 | Pass |
| 7013.33 | 43.31 | 5.24 | 0.93 | 49.48 | Average Max | H | 278 | 231 | 54 | -4.52 | Pass |
| 13827.61 | 25.25 | 8.36 | 6.54 | 40.15 | Average Max | H | 278 | 92 | 54 | -13.85 | Pass |

Above 1GHz-40GHz – 802.11a – 5280MHz

| 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 |
|---------------|----------|------------|-------|--------------|------------------|-----|--------|---------|--------------|-----------|------------|
| 10571.23 | 48.05 | 6.8 | 2.19 | 57.05 | Peak Max | V | 141 | 262 | 74 | -16.95 | Pass |
| 7040.01 | 48.66 | 5.25 | 0.77 | 54.68 | Peak Max | H | 269 | 232 | 74 | -19.32 | Pass |
| 13375.95 | 37.18 | 8.34 | 6.04 | 51.56 | Peak Max | V | 298 | 137 | 74 | -22.44 | Pass |
| 10571.23 | 29.24 | 6.8 | 2.19 | 38.24 | Average Max | V | 141 | 262 | 54 | -15.76 | Pass |
| 7040.01 | 44 | 5.25 | 0.77 | 50.01 | Average Max | H | 269 | 232 | 54 | -3.99 | Pass |
| 13375.95 | 24.92 | 8.34 | 6.04 | 39.3 | Average Max | V | 298 | 137 | 54 | -14.71 | Pass |

Above 1GHz-40GHz – 802.11a – 5320MHz

| 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 |
|---------------|----------|------------|-------|--------------|------------------|-----|--------|---------|--------------|-----------|------------|
| 10641.34 | 48.7 | 6.84 | 2.13 | 57.67 | Peak Max | V | 214 | 262 | 74 | -16.34 | Pass |
| 7093.21 | 52.03 | 5.27 | 0.45 | 57.74 | Peak Max | H | 287 | 223 | 74 | -16.26 | Pass |
| 13555.67 | 36.73 | 8.82 | 6.25 | 51.8 | Peak Max | H | 342 | 159 | 74 | -22.2 | Pass |
| 10641.34 | 29.84 | 6.84 | 2.13 | 38.8 | Average Max | V | 214 | 262 | 54 | -15.2 | Pass |
| 7093.21 | 43.64 | 5.27 | 0.45 | 49.36 | Average Max | H | 287 | 223 | 54 | -4.64 | Pass |
| 13555.67 | 24.82 | 8.82 | 6.25 | 39.89 | Average Max | H | 342 | 159 | 54 | -14.11 | Pass |

Above 1GHz-40GHz – 802.11n-20M – 5260MHz

| 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 |
|---------------|----------|------------|-------|--------------|------------------|-----|--------|---------|--------------|-----------|------------|
| 10521.29 | 48.92 | 6.77 | 2.42 | 58.12 | Peak Max | V | 116 | 238 | 74 | -15.88 | Pass |
| 13926.98 | 37.28 | 8.19 | 6.32 | 51.79 | Peak Max | H | 119 | 335 | 74 | -22.21 | Pass |
| 7013.34 | 46.7 | 5.24 | 0.93 | 52.86 | Peak Max | H | 220 | 263 | 74 | -21.14 | Pass |
| 10521.29 | 28.07 | 6.77 | 2.42 | 37.26 | Average Max | V | 116 | 238 | 54 | -16.74 | Pass |
| 13926.98 | 25.78 | 8.19 | 6.32 | 40.29 | Average Max | H | 119 | 335 | 54 | -13.71 | Pass |
| 7013.34 | 40.84 | 5.24 | 0.93 | 47.01 | Average Max | H | 220 | 263 | 54 | -6.99 | Pass |

Above 1GHz-40GHz – 802.11n-20M – 5280MHz

| 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 |
|---------------|----------|------------|-------|--------------|------------------|-----|--------|---------|--------------|-----------|------------|
| 7096.64 | 54.25 | 5.34 | 0.46 | 60.05 | Peak Max | H | 272 | 226 | 74 | -13.95 | Pass |
| 10635.59 | 41.12 | 6.93 | 2.12 | 50.17 | Peak Max | V | 158 | 236 | 74 | -23.83 | Pass |
| 13648.18 | 40.21 | 8.74 | 6.08 | 55.04 | Peak Max | H | 144 | 349 | 74 | -18.96 | Pass |
| 7096.64 | 42.92 | 5.28 | 0.46 | 48.66 | Average Max | H | 274 | 225 | 54 | -5.34 | Pass |
| 10635.59 | 28.47 | 6.93 | 2.12 | 37.51 | Average Max | V | 159 | 236 | 54 | -16.49 | Pass |
| 13648.18 | 26.73 | 8.77 | 6.07 | 41.57 | Average Max | H | 145 | 347 | 54 | -12.43 | Pass |

Above 1GHz-40GHz – 802.11n-20M – 5320MHz

| 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 |
|---------------|----------|------------|-------|--------------|------------------|-----|--------|---------|--------------|-----------|------------|
| 7093.29 | 52.27 | 5.27 | 0.45 | 57.99 | Peak Max | H | 272 | 225 | 74 | -16.01 | Pass |
| 10632.80 | 41.1 | 6.84 | 2.11 | 50.05 | Peak Max | V | 157 | 234 | 74 | -23.95 | Pass |
| 13638.29 | 38.56 | 8.68 | 6.07 | 53.31 | Peak Max | H | 143 | 347 | 74 | -20.69 | Pass |
| 7093.29 | 45.31 | 5.27 | 0.45 | 51.03 | Average Max | H | 272 | 225 | 54 | -2.97 | Pass |
| 10632.80 | 28.22 | 6.84 | 2.11 | 37.17 | Average Max | V | 157 | 234 | 54 | -16.83 | Pass |
| 13638.29 | 25.7 | 8.68 | 6.07 | 40.46 | Average Max | H | 143 | 347 | 54 | -13.54 | Pass |

Above 1GHz-40GHz – 802.11n-40M – 5270MHz

| 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 |
|---------------|----------|------------|-------|--------------|------------------|-----|--------|---------|--------------|-----------|------------|
| 7102.84 | 52.29 | 5.35 | 0.46 | 58.10 | Peak Max | H | 272 | 226 | 74 | -15.90 | Pass |
| 10637.10 | 42.98 | 6.84 | 2.12 | 51.95 | Peak Max | V | 158 | 235 | 74 | -22.05 | Pass |
| 13642.81 | 38.96 | 8.78 | 6.08 | 53.82 | Peak Max | H | 144 | 349 | 74 | -20.18 | Pass |
| 7102.84 | 44.02 | 5.31 | 0.45 | 49.78 | Average Max | H | 272 | 226 | 54 | -4.22 | Pass |
| 10637.10 | 29.55 | 6.86 | 2.12 | 38.52 | Average Max | V | 158 | 235 | 54 | -15.48 | Pass |
| 13642.81 | 27.54 | 8.70 | 6.08 | 42.32 | Average Max | H | 144 | 347 | 54 | -11.68 | Pass |

Above 1GHz-40GHz – 802.11n-40M – 5310MHz

| 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 |
|---------------|----------|------------|-------|--------------|------------------|-----|--------|---------|--------------|-----------|------------|
| 7099.12 | 53.72 | 5.35 | 0.45 | 59.53 | Peak Max | H | 274 | 226 | 74 | -14.47 | Pass |
| 10637.98 | 42.27 | 6.88 | 2.11 | 51.26 | Peak Max | V | 158 | 235 | 74 | -22.74 | Pass |
| 13639.96 | 39.80 | 8.70 | 6.07 | 54.57 | Peak Max | H | 144 | 348 | 74 | -19.43 | Pass |
| 7099.12 | 43.31 | 5.36 | 0.46 | 49.13 | Average Max | H | 272 | 226 | 54 | -4.87 | Pass |
| 10637.98 | 29.93 | 6.84 | 2.12 | 38.89 | Average Max | V | 159 | 235 | 54 | -15.11 | Pass |
| 13639.96 | 25.78 | 8.71 | 6.08 | 40.57 | Average Max | H | 143 | 349 | 54 | -13.43 | Pass |

Above 1GHz-40GHz – 802.11ac-80M – 5290MHz

| 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 |
|---------------|----------|------------|-------|--------------|------------------|-----|--------|---------|--------------|-----------|------------|
| 7100.53 | 53.91 | 5.27 | 0.45 | 59.64 | Peak Max | H | 273 | 227 | 74 | -14.36 | Pass |
| 10642.71 | 42.58 | 6.93 | 2.12 | 51.63 | Peak Max | V | 159 | 234 | 74 | -22.37 | Pass |
| 13640.27 | 39.15 | 8.74 | 6.07 | 53.96 | Peak Max | H | 144 | 348 | 74 | -20.04 | Pass |
| 7100.53 | 43.06 | 5.36 | 0.45 | 48.88 | Average Max | H | 274 | 226 | 54 | -5.12 | Pass |
| 10642.71 | 29.49 | 6.85 | 2.11 | 38.46 | Average Max | V | 159 | 235 | 54 | -15.54 | Pass |
| 13640.27 | 26.32 | 8.72 | 6.08 | 41.12 | Average Max | H | 143 | 348 | 54 | -12.88 | Pass |

**W56 band:
Above 1GHz-40GHz – 802.11a – 5500MHz**

| 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 |
|---------------|----------|------------|-------|--------------|------------------|-----|--------|---------|--------------|-----------|------------|
| 7095.55 | 54.04 | 5.35 | 0.46 | 59.85 | Peak Max | H | 274 | 227 | 74 | -14.15 | Pass |
| 10637.54 | 42.35 | 6.92 | 2.12 | 51.39 | Peak Max | V | 159 | 234 | 74 | -22.61 | Pass |
| 13643.12 | 38.58 | 8.72 | 6.07 | 53.37 | Peak Max | H | 145 | 348 | 74 | -20.63 | Pass |
| 7095.55 | 43.68 | 5.29 | 0.45 | 49.42 | Average Max | H | 274 | 227 | 54 | -4.58 | Pass |
| 10637.54 | 29.47 | 6.92 | 2.12 | 38.51 | Average Max | V | 158 | 234 | 54 | -15.49 | Pass |
| 13643.12 | 27.28 | 8.76 | 6.07 | 42.11 | Average Max | H | 143 | 348 | 54 | -11.89 | Pass |

Above 1GHz-40GHz – 802.11a – 5580MHz

| 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 |
|---------------|----------|------------|-------|--------------|------------------|-----|--------|---------|--------------|-----------|------------|
| 7101.85 | 53.72 | 5.36 | 0.46 | 59.54 | Peak Max | H | 273 | 226 | 74 | -14.46 | Pass |
| 10640.43 | 42.46 | 6.85 | 2.11 | 51.42 | Peak Max | V | 158 | 235 | 74 | -22.58 | Pass |
| 13643.43 | 40.30 | 8.76 | 6.07 | 55.13 | Peak Max | H | 145 | 347 | 74 | -18.87 | Pass |
| 7101.85 | 43.71 | 5.32 | 0.46 | 49.49 | Average Max | H | 273 | 226 | 54 | -4.51 | Pass |
| 10640.43 | 30.17 | 6.85 | 2.12 | 39.14 | Average Max | V | 158 | 235 | 54 | -14.86 | Pass |
| 13643.43 | 26.38 | 8.72 | 6.08 | 41.17 | Average Max | H | 145 | 347 | 54 | -12.83 | Pass |

Above 1GHz-40GHz – 802.11a – 5700MHz

| 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 |
|---------------|----------|------------|-------|--------------|------------------|-----|--------|---------|--------------|-----------|------------|
| 7095.11 | 53.76 | 5.32 | 0.46 | 59.54 | Peak Max | H | 273 | 226 | 74 | -14.46 | Pass |
| 10636.06 | 41.47 | 6.93 | 2.12 | 50.52 | Peak Max | V | 159 | 235 | 74 | -23.48 | Pass |
| 13648.21 | 39.20 | 8.78 | 6.08 | 54.06 | Peak Max | H | 143 | 347 | 74 | -19.94 | Pass |
| 7095.11 | 44.02 | 5.35 | 0.45 | 49.83 | Average Max | H | 273 | 226 | 54 | -4.17 | Pass |
| 10636.06 | 29.97 | 6.88 | 2.11 | 38.96 | Average Max | V | 159 | 235 | 54 | -15.04 | Pass |
| 13648.21 | 26.22 | 8.74 | 6.07 | 41.03 | Average Max | H | 143 | 347 | 54 | -12.97 | Pass |

Above 1GHz-40GHz – 802.11n-20M – 5500MHz

| 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 |
|---------------|----------|------------|-------|--------------|------------------|-----|--------|---------|--------------|-----------|------------|
| 7093.35 | 54.14 | 5.33 | 0.46 | 59.93 | Peak Max | H | 273 | 227 | 74 | -14.07 | Pass |
| 10636.44 | 42.01 | 6.89 | 2.11 | 51.01 | Peak Max | V | 158 | 235 | 74 | -22.99 | Pass |
| 13642.42 | 39.67 | 8.75 | 6.08 | 54.49 | Peak Max | H | 145 | 349 | 74 | -19.51 | Pass |
| 7093.35 | 43.01 | 5.28 | 0.45 | 48.74 | Average Max | H | 273 | 227 | 54 | -5.26 | Pass |
| 10636.44 | 29.56 | 6.92 | 2.12 | 38.59 | Average Max | V | 158 | 235 | 54 | -15.41 | Pass |
| 13642.42 | 26.93 | 8.76 | 6.07 | 41.76 | Average Max | H | 145 | 349 | 54 | -12.24 | Pass |

Above 1GHz-40GHz – 802.11n-20M – 5580MHz

| 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 |
|---------------|----------|------------|-------|--------------|------------------|-----|--------|---------|--------------|-----------|------------|
| 7096.09 | 54.21 | 5.29 | 0.45 | 59.95 | Peak Max | H | 273 | 226 | 74 | -14.05 | Pass |
| 10636.44 | 41.72 | 6.87 | 2.12 | 50.71 | Peak Max | V | 159 | 235 | 74 | -23.29 | Pass |
| 13642.00 | 38.78 | 8.73 | 6.07 | 53.58 | Peak Max | H | 145 | 349 | 74 | -20.42 | Pass |
| 7096.09 | 43.37 | 5.33 | 0.45 | 49.15 | Average Max | H | 273 | 226 | 54 | -4.85 | Pass |
| 10636.44 | 29.12 | 6.85 | 2.11 | 38.09 | Average Max | V | 159 | 235 | 54 | -15.91 | Pass |
| 13642.00 | 27.30 | 8.76 | 6.07 | 42.14 | Average Max | H | 145 | 349 | 54 | -11.86 | Pass |

Above 1GHz-40GHz – 802.11n-20M – 5700MHz

| 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 |
|---------------|----------|------------|-------|--------------|------------------|-----|--------|---------|--------------|-----------|------------|
| 7098.11 | 53.67 | 5.29 | 0.46 | 59.42 | Peak Max | H | 272 | 226 | 74 | -14.58 | Pass |
| 10638.49 | 41.19 | 6.85 | 2.12 | 50.15 | Peak Max | V | 159 | 235 | 74 | -23.85 | Pass |
| 13646.18 | 38.92 | 8.70 | 6.08 | 53.70 | Peak Max | H | 145 | 349 | 74 | -20.30 | Pass |
| 7098.11 | 42.90 | 5.34 | 0.45 | 48.69 | Average Max | H | 272 | 226 | 54 | -5.31 | Pass |
| 10638.49 | 29.80 | 6.89 | 2.12 | 38.81 | Average Max | V | 159 | 235 | 54 | -15.19 | Pass |
| 13646.18 | 26.33 | 8.68 | 6.07 | 41.08 | Average Max | H | 145 | 349 | 54 | -12.92 | Pass |

Above 1GHz-40GHz – 802.11n-40M – 5510MHz

| 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 |
|---------------|----------|------------|-------|--------------|------------------|-----|--------|---------|--------------|-----------|------------|
| 7094.04 | 52.91 | 5.35 | 0.46 | 58.71 | Peak Max | H | 273 | 227 | 74 | -15.29 | Pass |
| 10635.58 | 42.55 | 6.89 | 2.12 | 51.56 | Peak Max | V | 159 | 235 | 74 | -22.44 | Pass |
| 13645.39 | 40.03 | 8.77 | 6.08 | 54.88 | Peak Max | H | 145 | 348 | 74 | -19.12 | Pass |
| 7094.04 | 42.59 | 5.32 | 0.46 | 48.36 | Average Max | H | 273 | 227 | 54 | -5.64 | Pass |
| 10635.58 | 28.53 | 6.86 | 2.12 | 37.51 | Average Max | V | 159 | 235 | 54 | -16.49 | Pass |
| 13645.39 | 27.34 | 8.76 | 6.08 | 42.18 | Average Max | H | 145 | 348 | 54 | -11.82 | Pass |

Above 1GHz-40GHz – 802.11n-40M – 5550MHz

| 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 |
|---------------|----------|------------|-------|--------------|------------------|-----|--------|---------|--------------|-----------|------------|
| 7100.02 | 53.10 | 5.35 | 0.45 | 58.90 | Peak Max | H | 272 | 226 | 74 | -15.10 | Pass |
| 10641.68 | 41.56 | 6.90 | 2.11 | 50.57 | Peak Max | V | 158 | 234 | 74 | -23.43 | Pass |
| 13644.70 | 39.44 | 8.73 | 6.08 | 54.24 | Peak Max | H | 144 | 347 | 74 | -19.76 | Pass |
| 7100.02 | 42.72 | 5.28 | 0.46 | 48.46 | Average Max | H | 272 | 226 | 54 | -5.54 | Pass |
| 10641.68 | 29.62 | 6.89 | 2.12 | 38.62 | Average Max | V | 158 | 234 | 54 | -15.38 | Pass |
| 13644.70 | 27.23 | 8.71 | 6.07 | 42.02 | Average Max | H | 144 | 347 | 54 | -11.98 | Pass |

Above 1GHz-40GHz – 802.11n-40M – 5670MHz

| 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 |
|---------------|----------|------------|-------|--------------|------------------|-----|--------|---------|--------------|-----------|------------|
| 7100.28 | 53.31 | 5.32 | 0.46 | 59.08 | Peak Max | H | 272 | 226 | 74 | -14.92 | Pass |
| 10633.35 | 41.62 | 6.90 | 2.12 | 50.64 | Peak Max | V | 158 | 235 | 74 | -23.36 | Pass |
| 13646.76 | 39.71 | 8.72 | 6.07 | 54.50 | Peak Max | H | 144 | 349 | 74 | -19.50 | Pass |
| 7100.28 | 42.87 | 5.36 | 0.45 | 48.69 | Average Max | H | 272 | 226 | 54 | -5.31 | Pass |
| 10633.35 | 29.68 | 6.86 | 2.11 | 38.65 | Average Max | V | 158 | 235 | 54 | -15.35 | Pass |
| 13646.76 | 26.17 | 8.72 | 6.08 | 40.96 | Average Max | H | 144 | 349 | 54 | -13.04 | Pass |

Above 1GHz-40GHz – 802.11ac-80M – 5530MHz

| 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 |
|---------------|----------|------------|-------|--------------|------------------|-----|--------|---------|--------------|-----------|------------|
| 7096.03 | 52.76 | 5.33 | 0.46 | 58.54 | Peak Max | H | 273 | 225 | 74 | -15.46 | Pass |
| 10639.95 | 42.44 | 6.86 | 2.12 | 51.42 | Peak Max | V | 158 | 235 | 74 | -22.58 | Pass |
| 13645.68 | 39.38 | 8.69 | 6.08 | 54.15 | Peak Max | H | 144 | 349 | 74 | -19.85 | Pass |
| 7096.03 | 42.76 | 5.34 | 0.45 | 48.56 | Average Max | H | 273 | 225 | 54 | -5.44 | Pass |
| 10639.95 | 30.03 | 6.92 | 2.12 | 39.06 | Average Max | V | 158 | 235 | 54 | -14.94 | Pass |
| 13645.68 | 26.77 | 8.72 | 6.07 | 41.56 | Average Max | H | 144 | 349 | 54 | -12.44 | Pass |

















Above 1GHz-40GHz – 802.11ac-80M – 5610MHz







| 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 |
|---------------|----------|------------|-------|--------------|------------------|-----|--------|---------|--------------|-----------|------------|
| 7102.52 | 53.33 | 5.31 | 0.45 | 59.10 | Peak Max | H | 272 | 226 | 74 | -14.90 | Pass |
| 10638.66 | 41.56 | 6.88 | 2.12 | 50.56 | Peak Max | V | 159 | 235 | 74 | -23.44 | Pass |
| 13643.97 | 39.61 | 8.77 | 6.08 | 54.46 | Peak Max | H | 144 | 348 | 74 | -19.54 | Pass |
| 7102.52 | 42.79 | 5.33 | 0.45 | 48.57 | Average Max | H | 272 | 226 | 54 | -5.43 | Pass |
| 10638.66 | 28.66 | 6.87 | 2.11 | 37.65 | Average Max | V | 159 | 235 | 54 | -16.35 | Pass |
| 13643.97 | 26.20 | 8.76 | 6.08 | 41.04 | Average Max | H | 144 | 348 | 54 | -12.96 | Pass |

Annex A. TEST INSTRUMENT

| Instrument | Model | Serial # | Cal Date | Cal Cycle | Cal Due | In use |
|------------------------------------|----------|----------|------------|-----------|------------|-------------------------------------|
| Conducted Emissions | | | | | | |
| R & S Receiver | ESIB 40 | 100179 | 06/08/2017 | 1 Year | 06/08/2018 | <input checked="" type="checkbox"/> |
| CHASE LISN | MN2050B | 1018 | 08/07/2017 | 1 Year | 08/07/2018 | <input checked="" type="checkbox"/> |
| Radiated Emissions | | | | | | |
| R & S Receiver | ESIB 40 | 1018 | 08/07/2017 | 1 Year | 08/07/2018 | <input checked="" type="checkbox"/> |
| Bi-Log antenna (30MHz~2GHz) | JB1 | A030702 | 08/12/2017 | 1 Year | 08/12/2018 | <input checked="" type="checkbox"/> |
| Horn Antenna (1GHz~26GHz) | 3115 | 100059 | 08/25/2017 | 1 Year | 08/25/2018 | <input checked="" type="checkbox"/> |
| 3 Meters SAC | 3M | N/A | 08/08/2017 | 1 Year | 08/08/2018 | <input checked="" type="checkbox"/> |
| 10 Meters SAC | 10M | N/A | 09/05/2017 | 1 Year | 09/05/2018 | <input checked="" type="checkbox"/> |
| RF Conducted Measurement | | | | | | |
| Spectrum Analyzer | N9010A | 10SL0219 | 08/20/2017 | 1 Year | 08/20/2018 | <input checked="" type="checkbox"/> |
| R & S Receiver | ESIB 40 | 100179 | 06/08/2017 | 1 Year | 06/08/2018 | <input checked="" type="checkbox"/> |
| ETS-Lingren USB RF Power Sensor | 7002-006 | 10SL0190 | 09/03/2017 | 1 Year | 09/03/2018 | <input checked="" type="checkbox"/> |

Annex B. SIEMIC Accreditation

| Accreditations | Document | Scope / Remark |
|---|---|---|
| ISO 17025 (A2LA) |  | Please see the documents for the detailed scope |
| ISO Guide 65 (A2LA) |  | Please see the documents for the detailed scope |
| TCB Designation | | A1, A2, A3, A4, B1, B2, B3, B4, C |
| FCC DoC Accreditation |  | FCC Declaration of Conformity Accreditation |
| FCC Site Registration |  | 3 meter site |
| FCC Site Registration |  | 10 meter site |
| IC Site Registration |  | 3 meter site |
| IC Site Registration |  | 10 meter site |
| EU NB |  | Radio & Telecommunications Terminal Equipment: EN45001 – EN ISO/IEC 17025 |
| |  | Electromagnetic Compatibility: EN45001 – EN ISO/IEC 17025 |
| Singapore iDA CB(Certification Body) |   | Phase I, Phase II |
| Vietnam MIC CAB Accreditation |  | Please see the document for the detailed scope |
| Hong Kong OFCA |  | (Phase II) OFCA Foreign Certification Body for Radio and Telecom |
| |  | (Phase I) Conformity Assessment Body for Radio and Telecom |
| Industry Canada CAB |  | Radio: Scope A – All Radio Standard Specification in Category I |
| |  | Telecom: CS-03 Part I, II, V, VI, VII, VIII |

| | | |
|---|---|--|
| Japan Recognized Certification Body Designation |  | <p>Radio: A1. Terminal equipment for purpose of calling</p> <p>Telecom: B1. Specified radio equipment specified in Article 38-2, Paragraph 1, Item 1 of the Radio Law</p> |
| Korea CAB Accreditation |  | <p>EMI: KCC Notice 2008-39, RRL Notice 2008-3: CA Procedures for EMI KN22: Test Method for EMI</p> <p>EMS: KCC Notice 2008-38, RRL Notice 2008-4: CA Procedures for EMS KN24, KN61000-4-2, -4-3, -4-4, -4-5, -4-6, -4-8, -4-11: Test Method for EMS</p> |
| | | <p>Radio: RRL Notice 2008-26, RRL Notice 2008-2, RRL Notice 2008-10, RRL Notice 2007-49, RRL Notice 2007-20, RRL Notice 2007-21, RRL Notice 2007-80, RRL Notice 2004-68</p> <p>Telecom: President Notice 20664, RRL Notice 2007-30, RRL Notice 2008-7 with attachments 1, 3, 5, 6; President Notice 20664, RRL Notice 2008-7 with attachment 4</p> |
| Taiwan NCC CAB Recognition |  | LP0002, PSTN01, ADSL01, ID0002, IS6100, CNS14336, PLMN07, PLMN01, PLMN08 |
| Taiwan BSMI CAB Recognition |  | CNS 13438 |
| Japan VCCI |  | R-3083: Radiation 3 meter site |
| | | <p>C-3421: Main Ports Conducted Interference Measurement</p> <p>T-1597: Telecommunication Ports Conducted Interference Measurement</p> |
| Australia CAB Recognition |  | <p>EMC: AS/NZS CISPR 11, AS/NZS CISPR 14.1, AS/NZS CISPR22, AS/NZS 61000.6.3, AS/NZS 61000.6.4</p> |
| | | <p>Radio communications: AS/NZS 4281, AS/NZS 4268, AS/NZS 4280.1, AS/NZS 4280.2, AS/NZS 4295, AS/NZS 4582, AS/NZS 4583, AS/NZS 4769.1, AS/NZS 4769.2, AS/NZS 4770, AS/NZS 4771</p> |
| | | <p>Telecommunications: AS/ACIF S002:05, AS/ACIF S003:06, AS/ACIF S004:06 AS/ACIF S006:01, AS/ACIF S016:01, AS/ACIF S031:01, AS/ACIF S038:01, AS/ACIF S040:01, AS/ACIF S041:05, AS/ACIF S043.2:06, AS/ACIF S60950.1</p> |
| Australia NATA Recognition |  | AS/ACIF S002, AS/ACIF S003, AS/ACIF S004, AS/ACIF S006, AS/ACIF S016, AS/ACIF S031, AS/ACIF S038, AS/ACIF S040, AS/ACIF S041, AS/ACIF S043.2 |