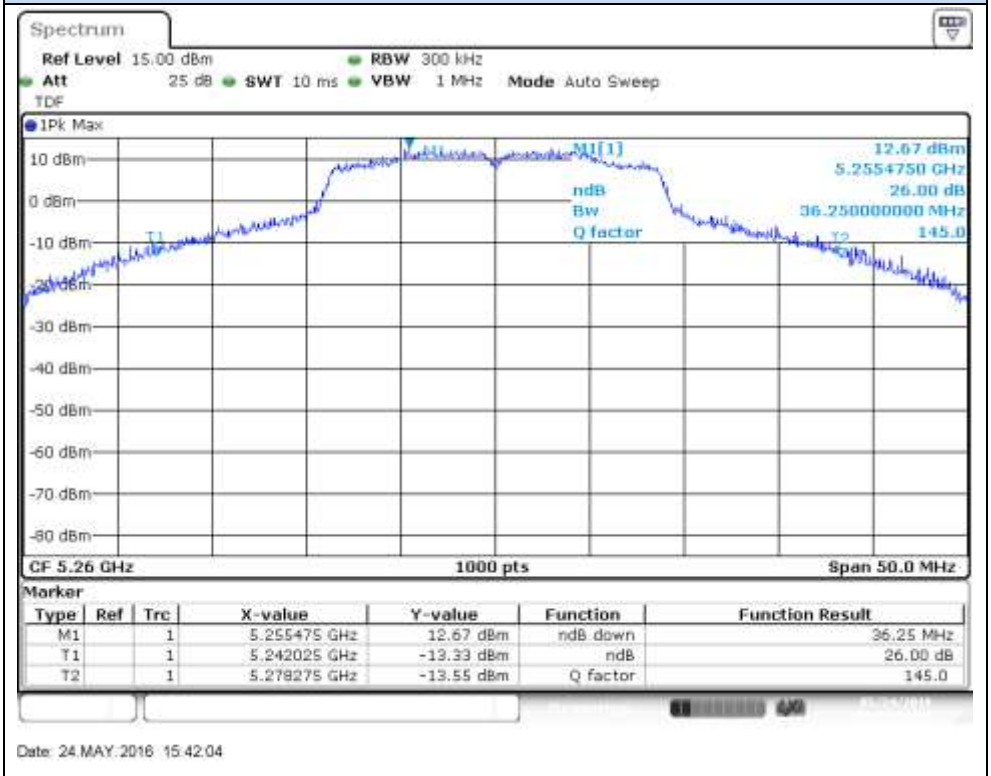
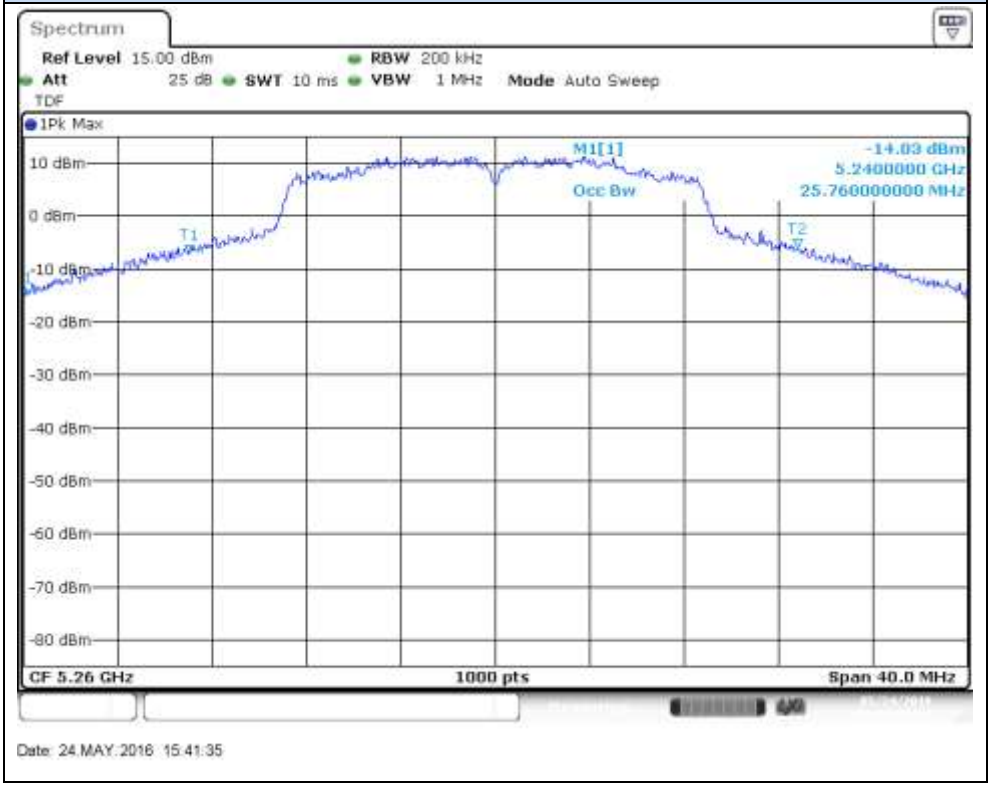
# 802.11n20, HT0 (SISO) – Chain A

## 26dB BW – CH52



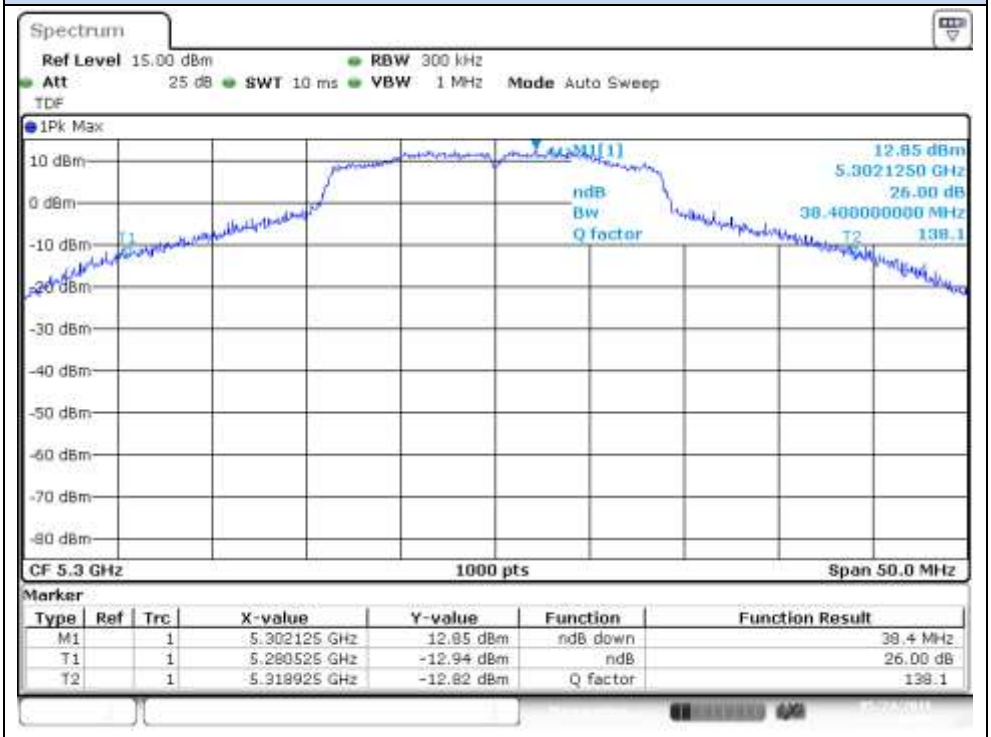

## 99% BW – CH52



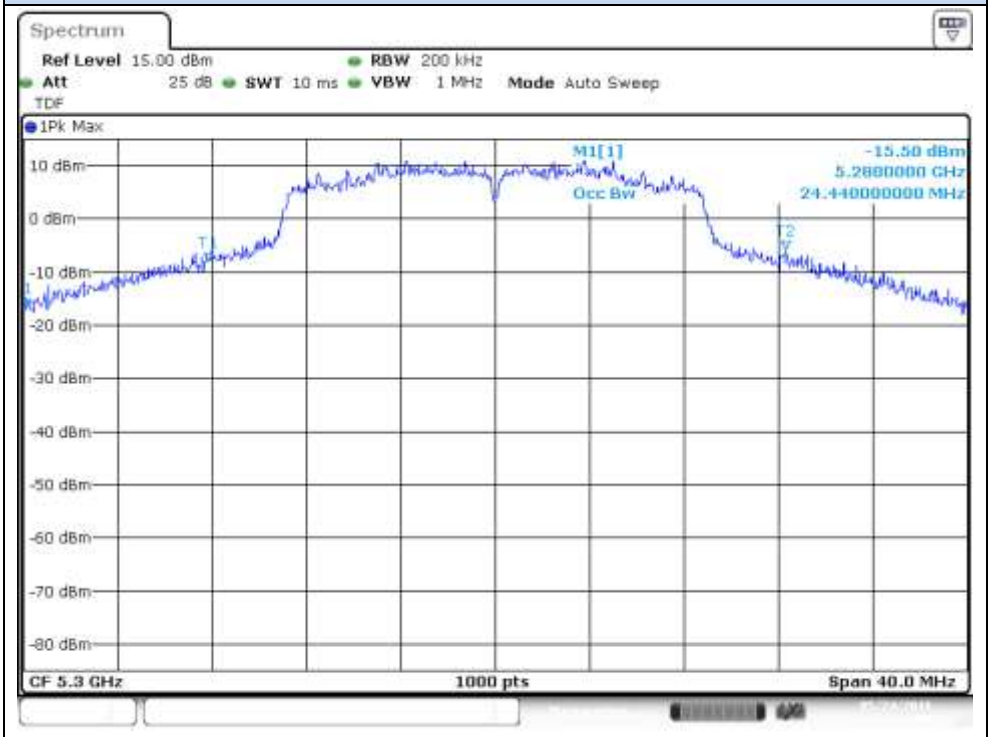



Printed copies are not controlled documents

## 26dB BW – CH60




## 99% BW – CH60



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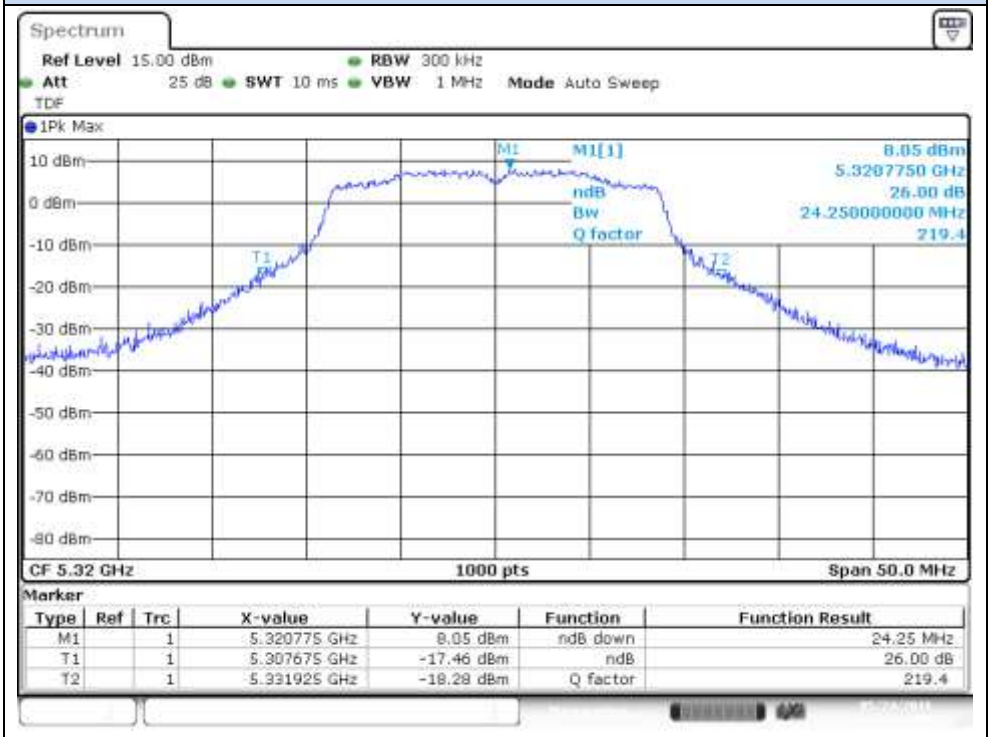
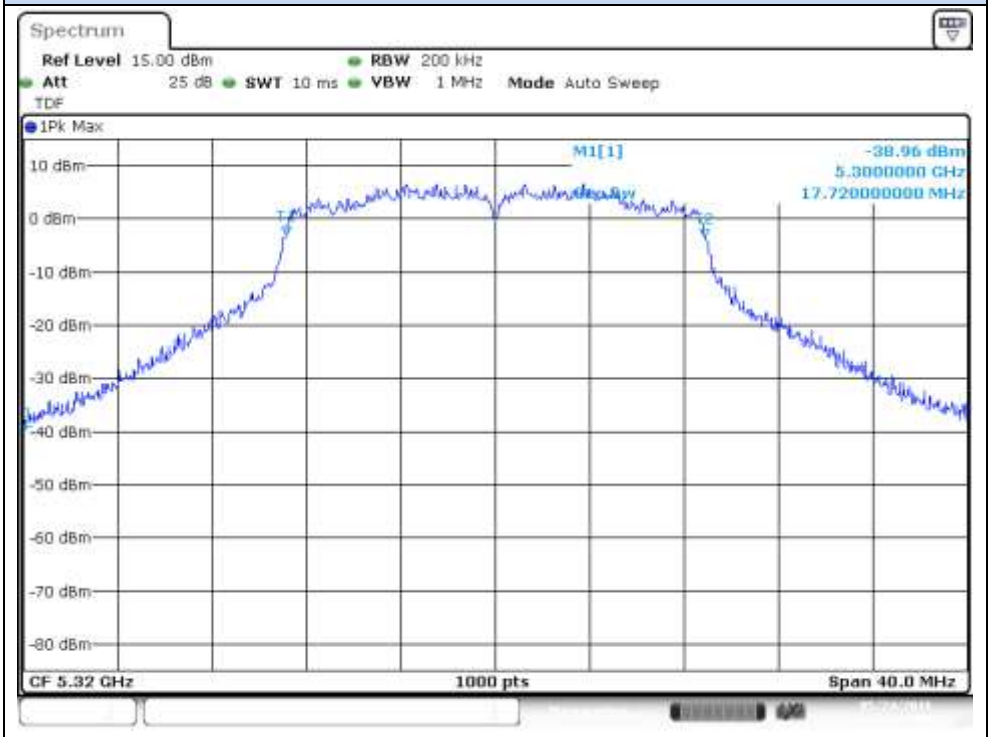
## 26dB BW – CH64




Date: 24.MAY.2016 15:58:23

## 99% BW – CH64




Date: 24.MAY.2016 15:58:48



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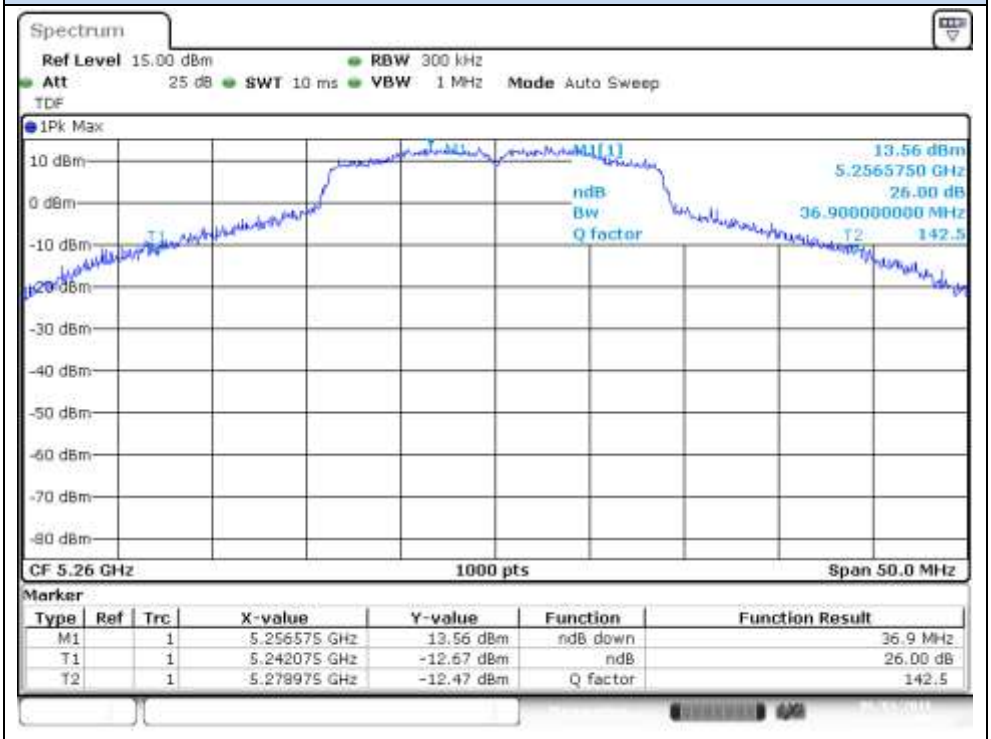
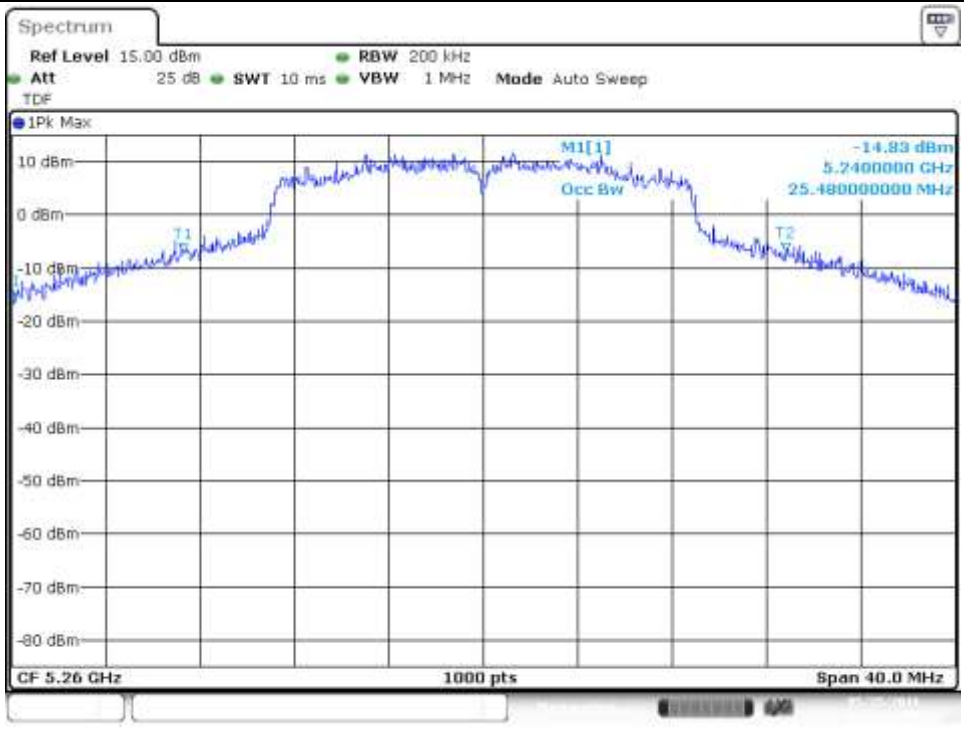
# 802.11n20, HT0 (SISO) – Chain B

## 26dB BW – CH52



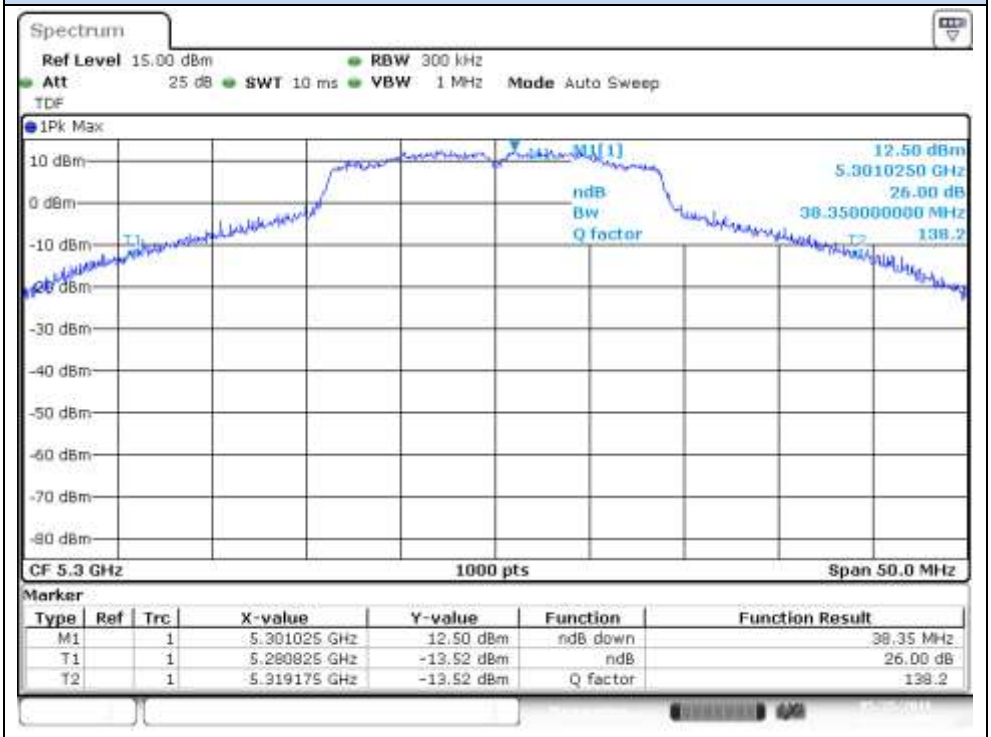

## 99% BW – CH52



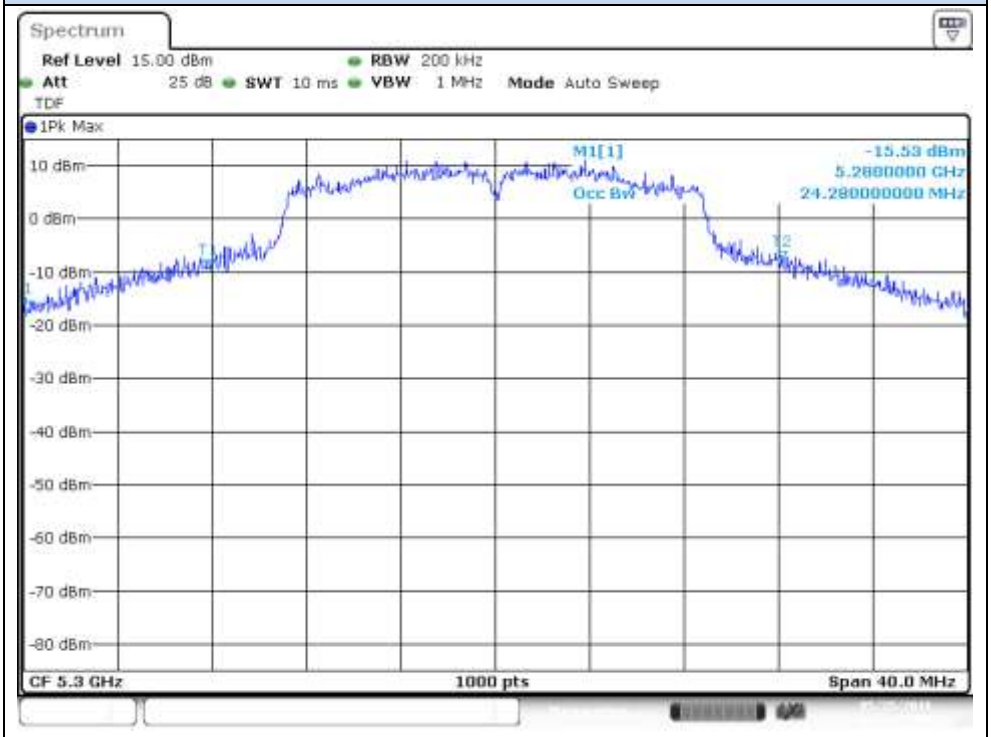



Printed copies are not controlled documents

## 26dB BW – CH60



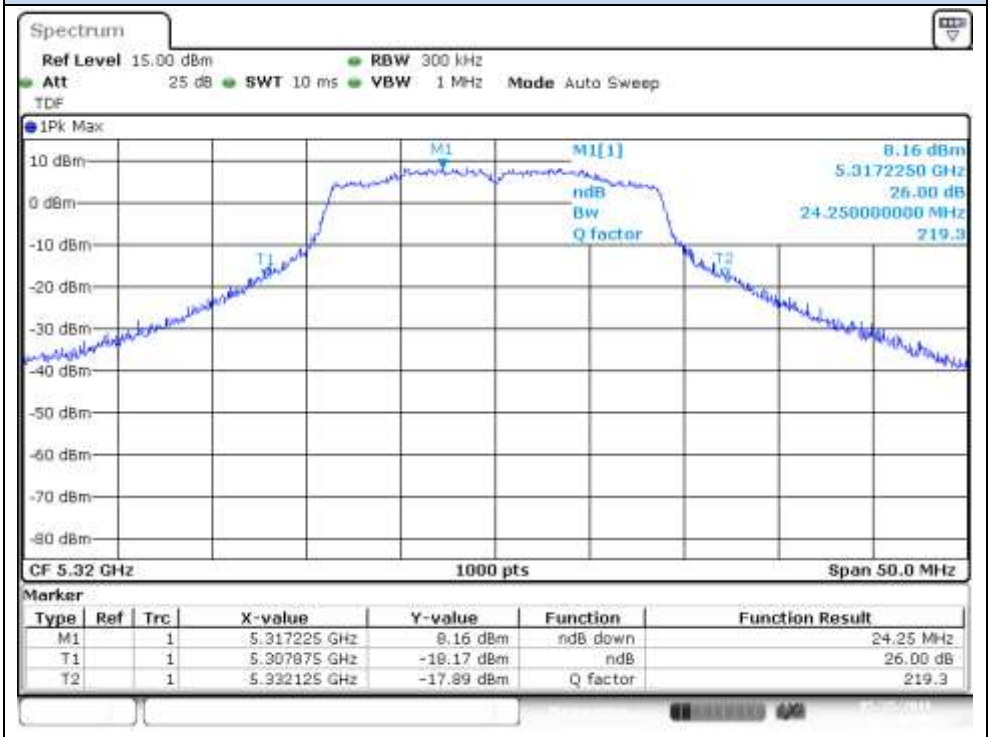

## 99% BW – CH60



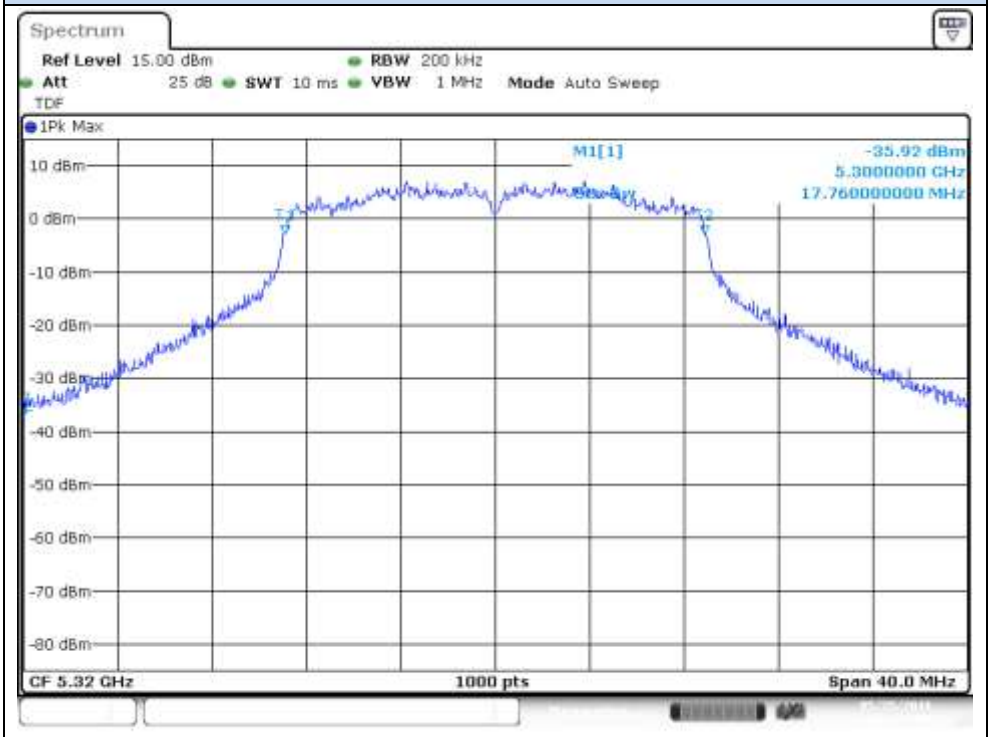



Printed copies are not controlled documents

## 26dB BW – CH64




## 99% BW – CH64





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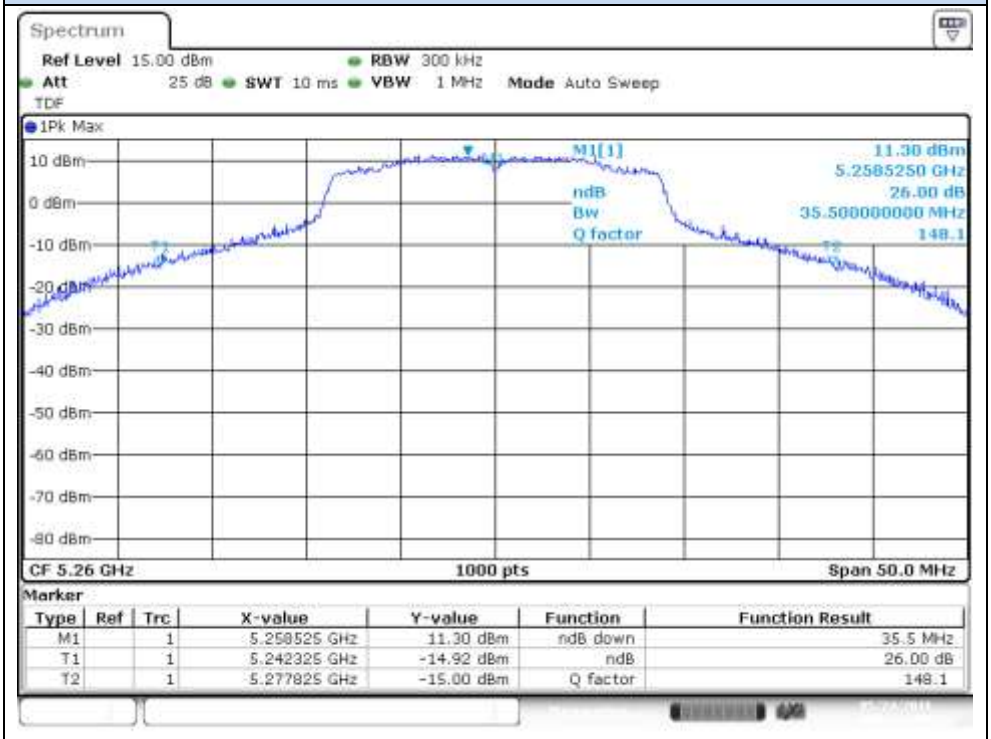
# 802.11n20, HT8 (MIMO) – Chain A

## 26dB BW – CH52




## 99% BW – CH52

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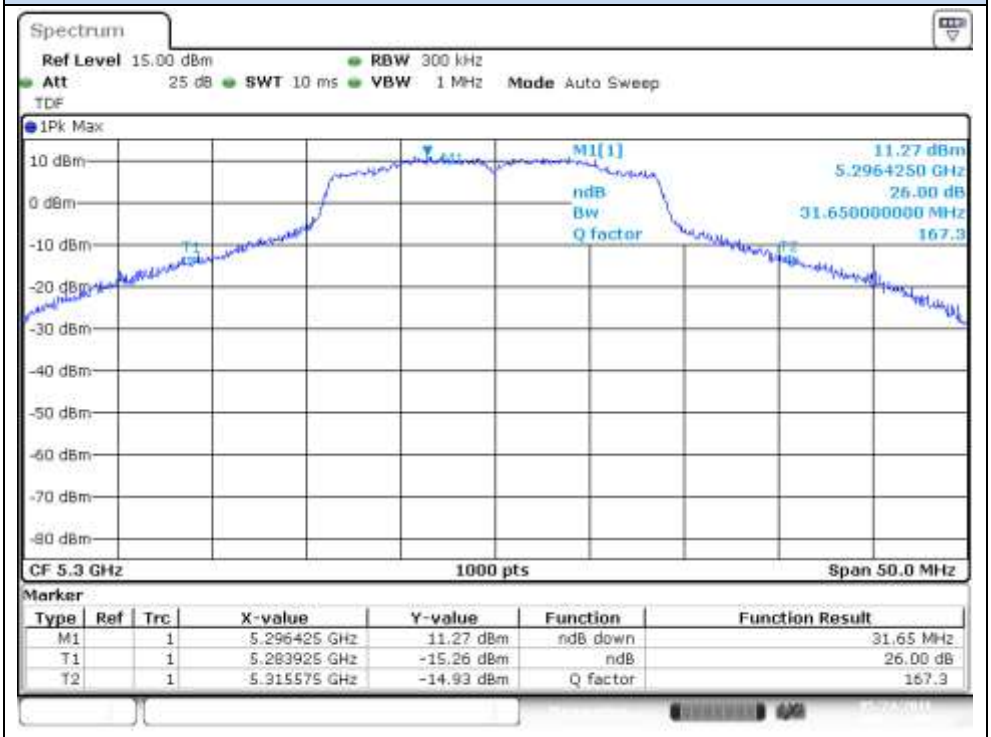
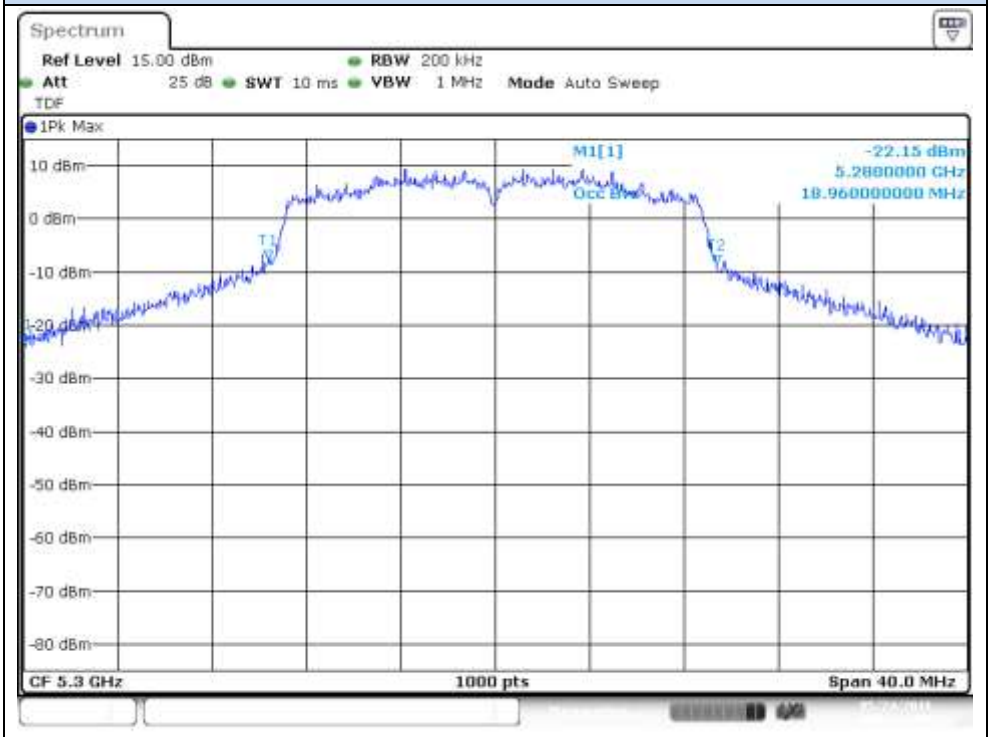
## 26dB BW – CH60



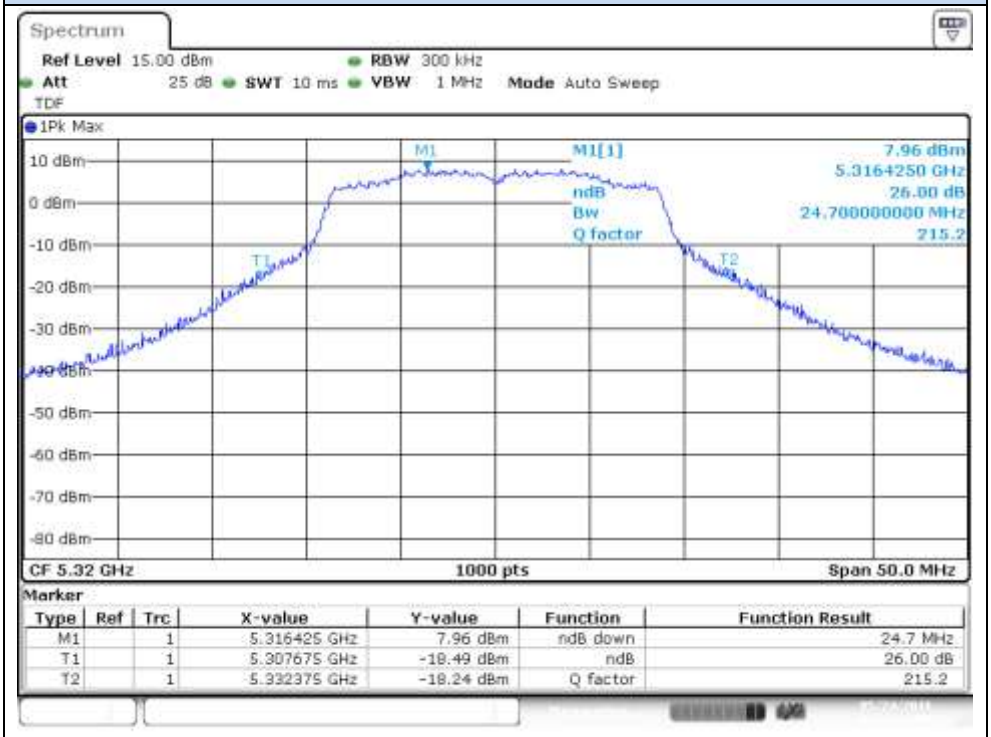

## 99% BW – CH60



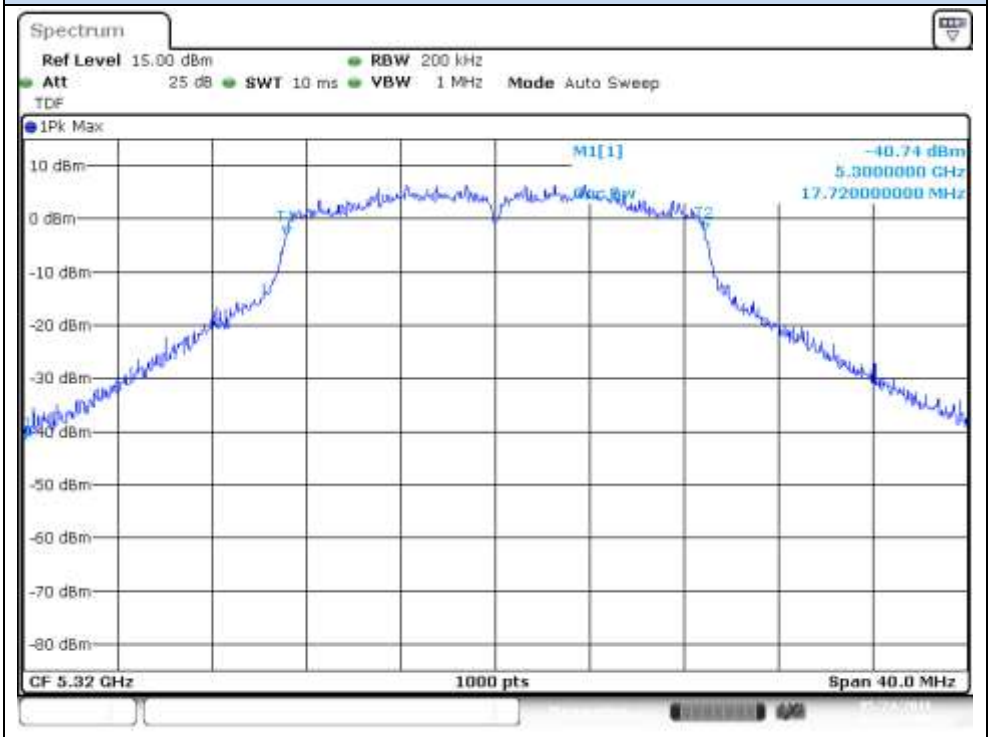



Printed copies are not controlled documents

## 26dB BW – CH64




## 99% BW – CH64



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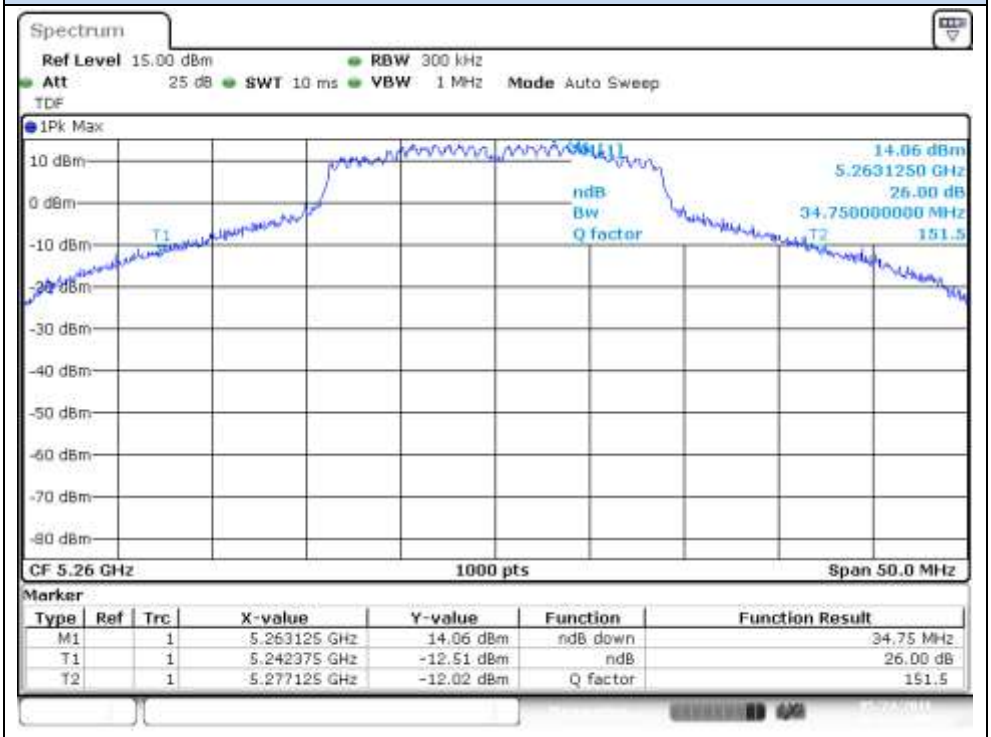
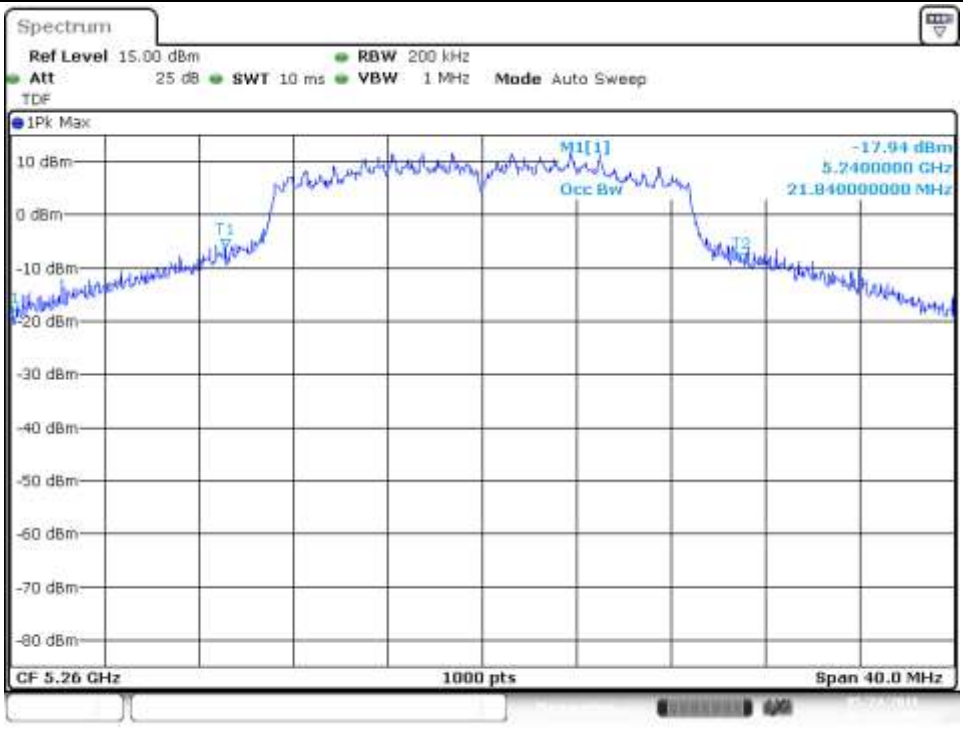
# 802.11n20, HT8 (MIMO) – Chain B

## 26dB BW – CH52




Date: 24.MAY.2016 18:11:33

## 99% BW – CH52

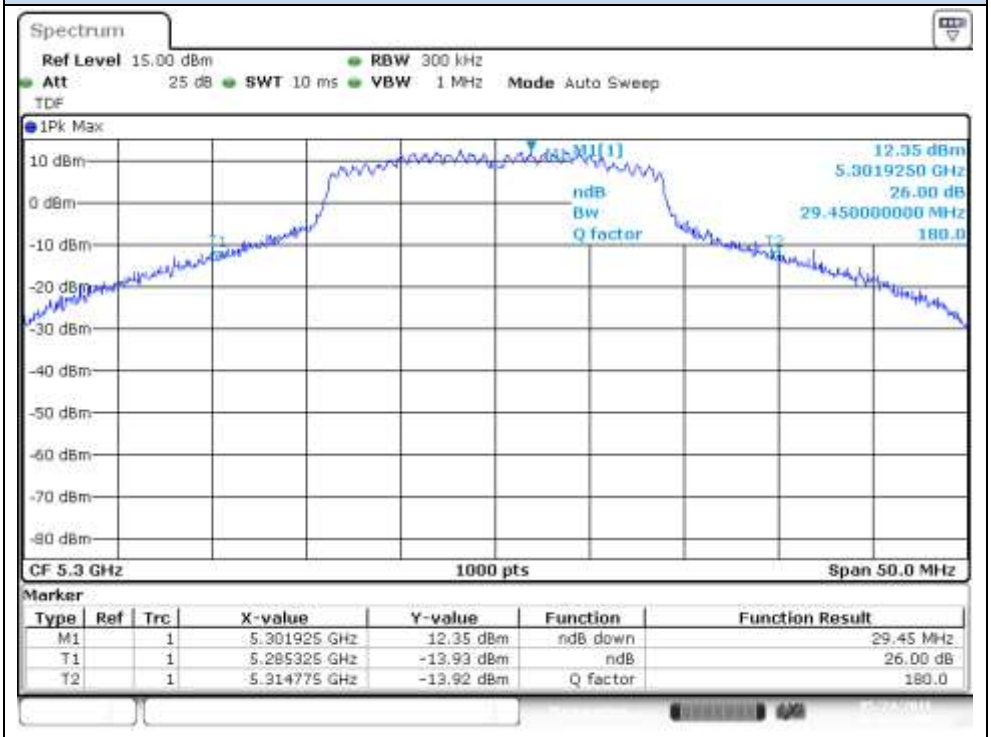



Date: 24.MAY.2016 18:11:51

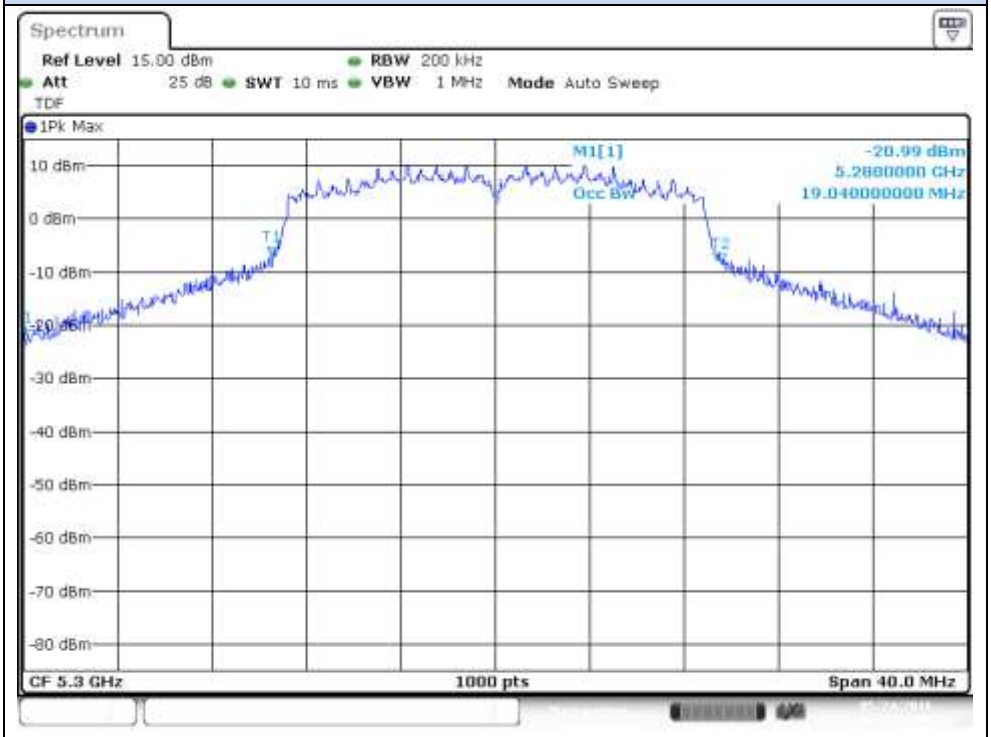


Printed copies are not controlled documents

## 26dB BW – CH60




## 99% BW – CH60



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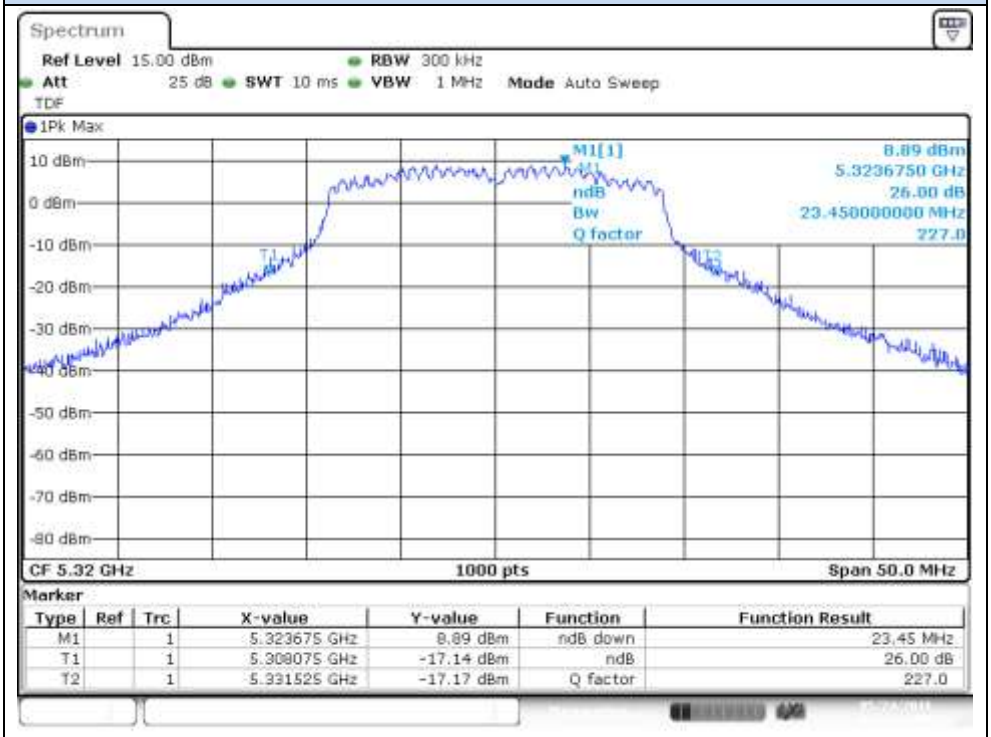
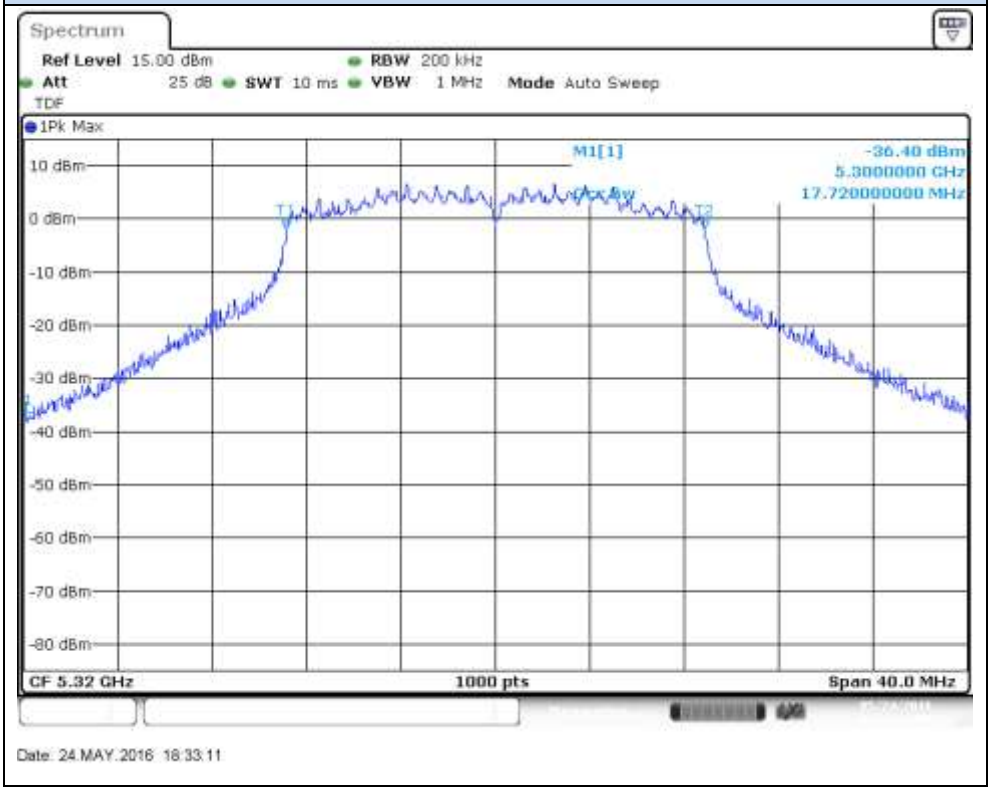
## 26dB BW – CH64




## 99% BW – CH64



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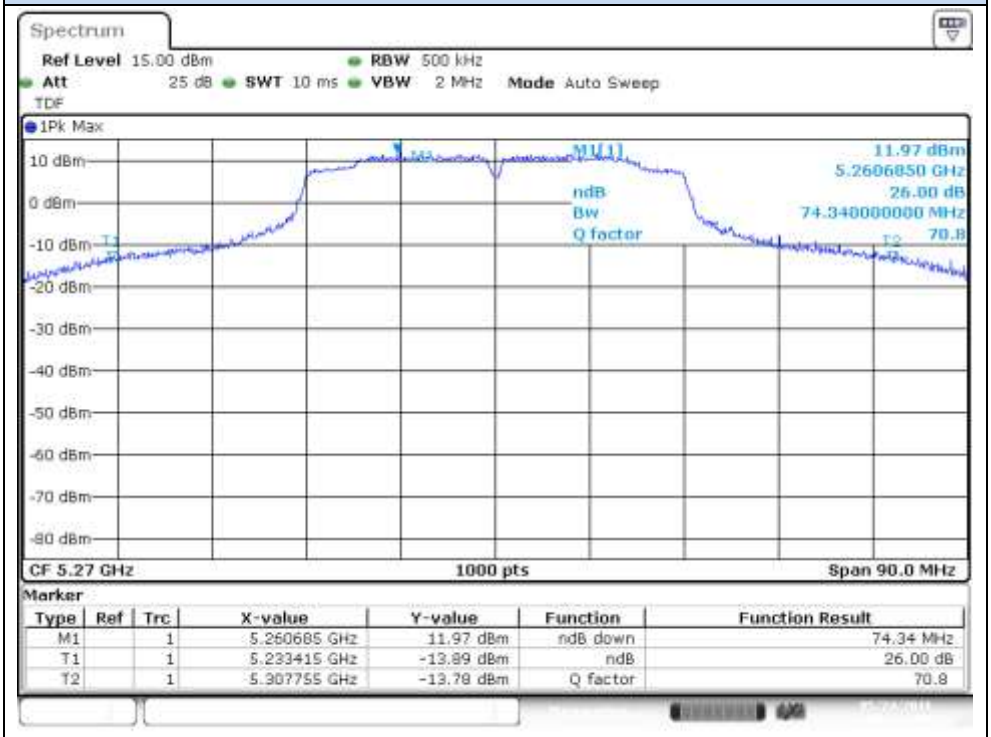
# 802.11n40, HT0 (SISO) – Chain A

## 26dB BW – CH54F




## 99% BW – CH54F

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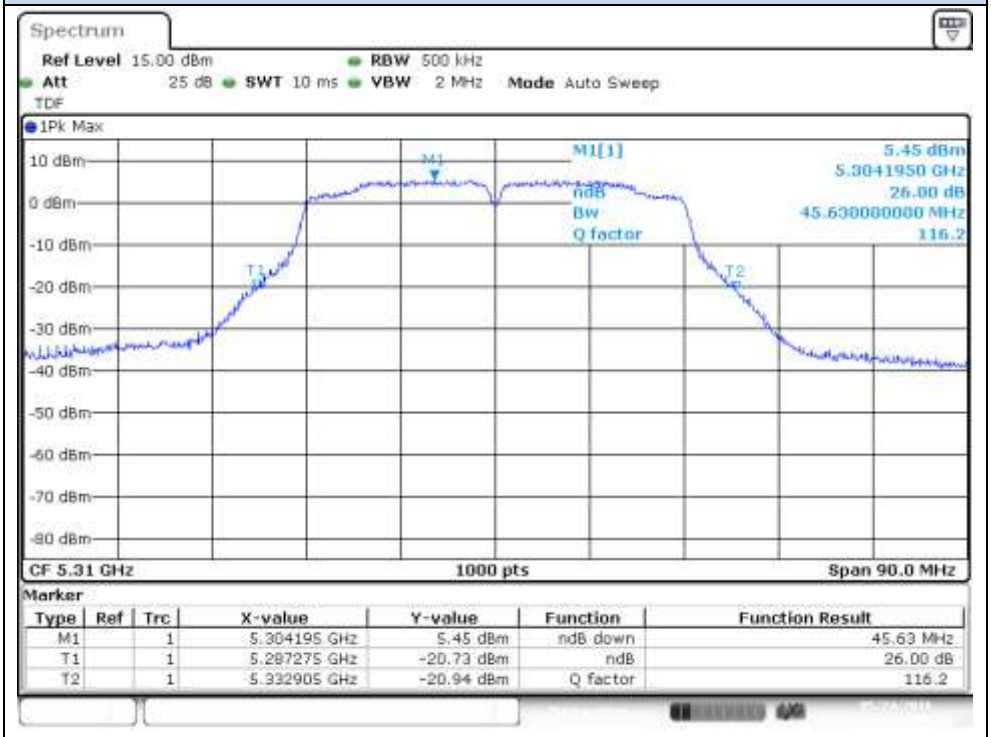
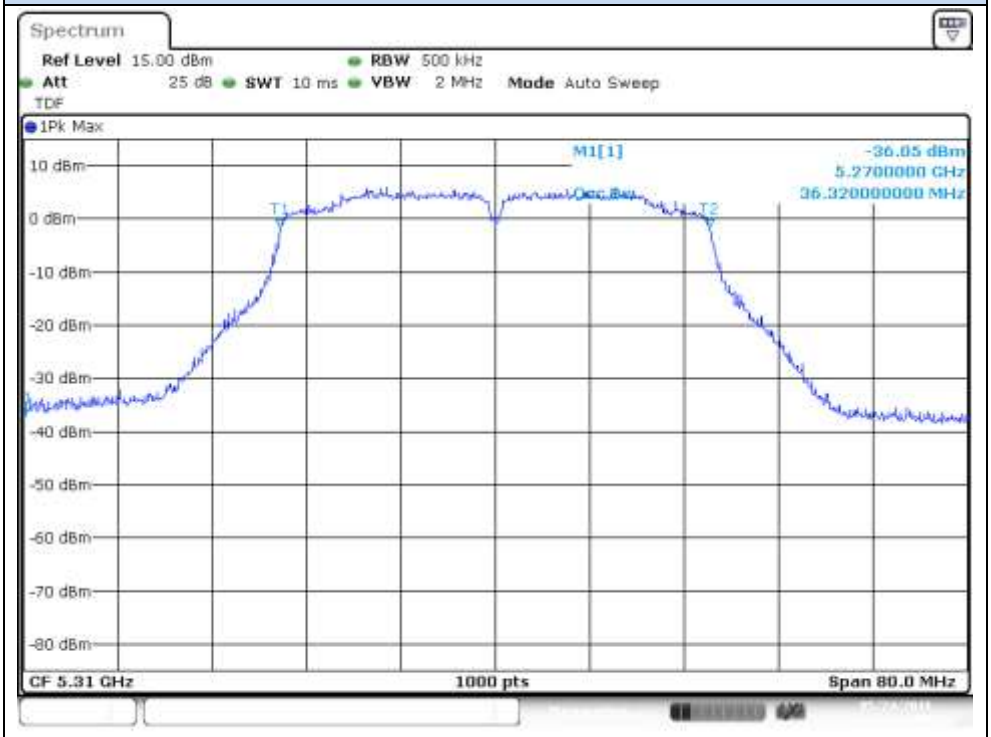
## 26dB BW – CH62F




## 99% BW – CH62F

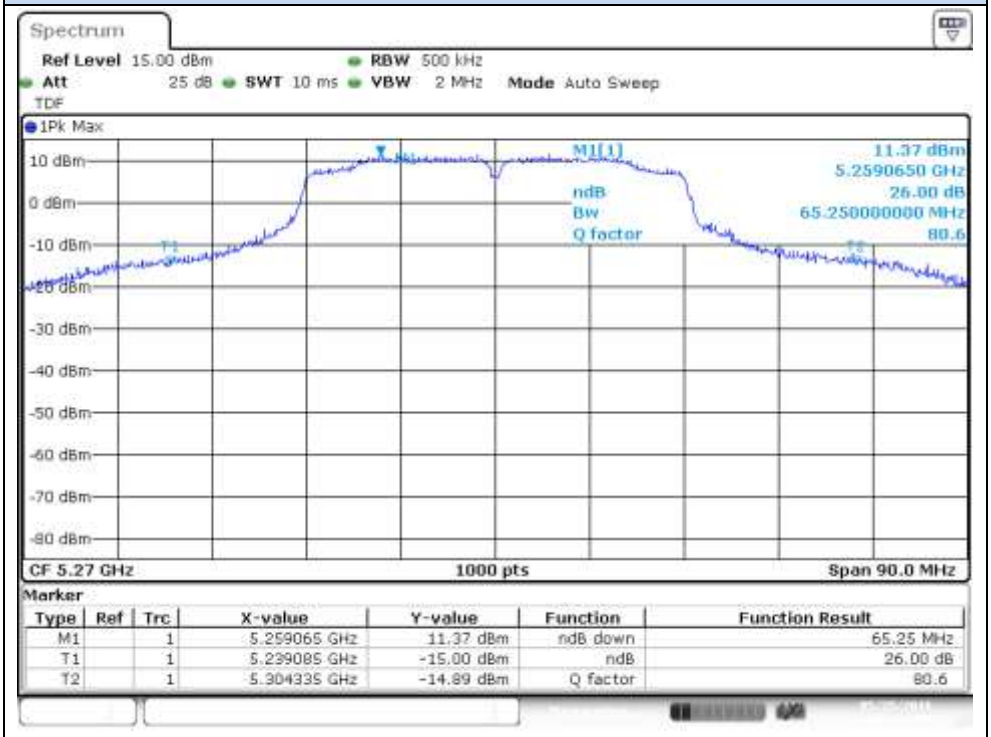





Printed copies are not controlled documents

# 802.11n40, HT0 (SISO) – Chain B

## 26dB BW – CH54F




## 99% BW – CH54F

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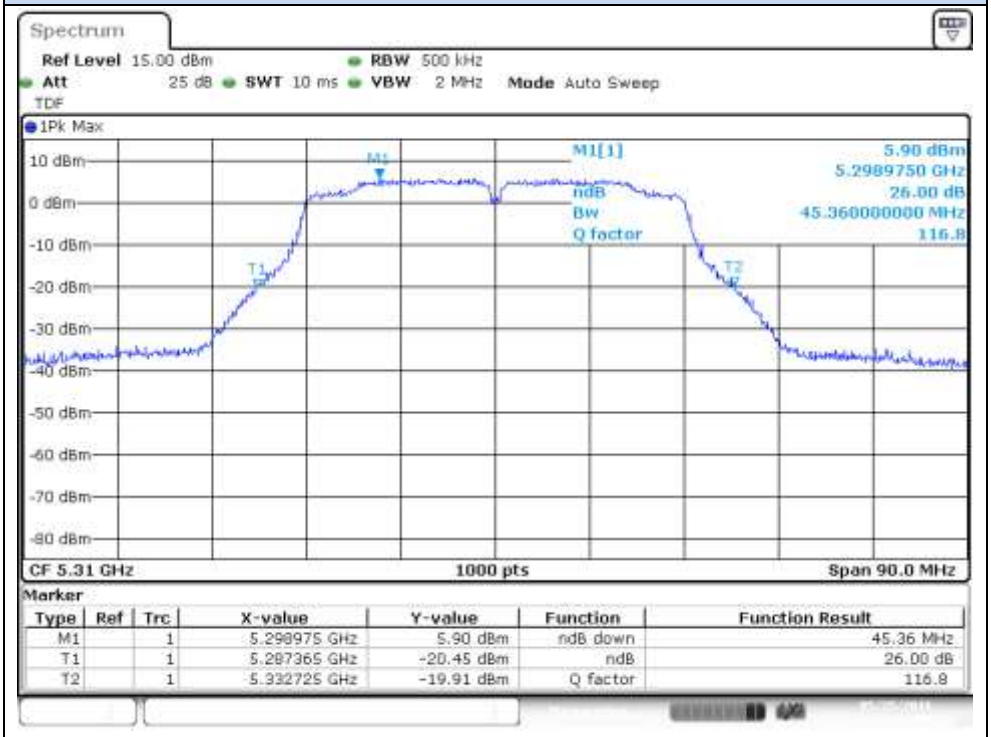
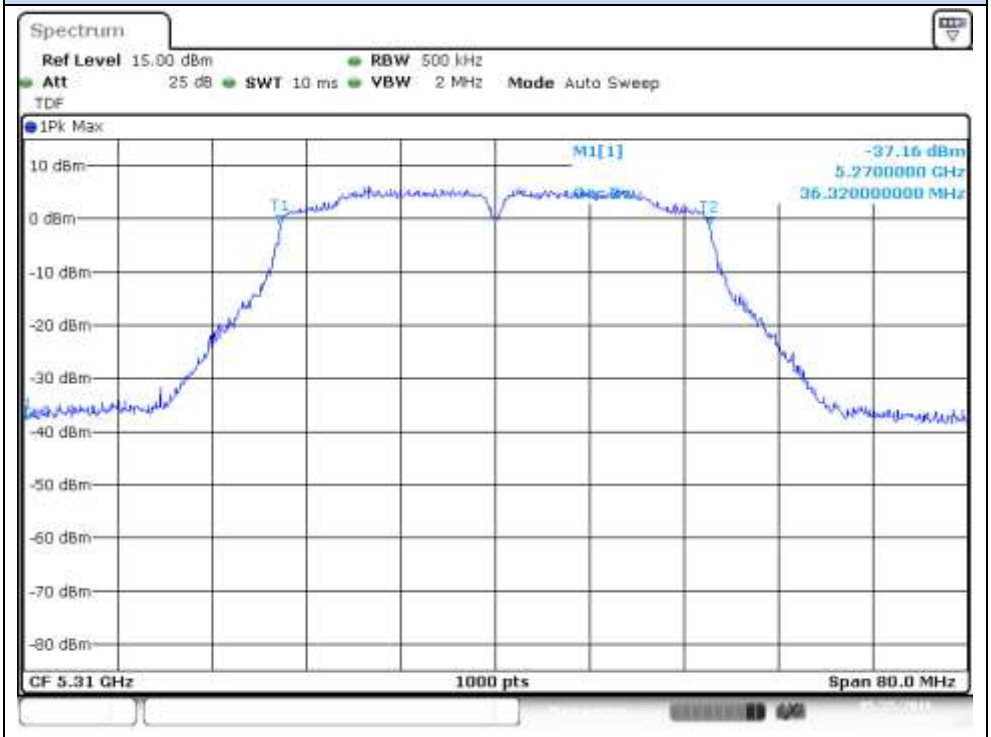
## 26dB BW – CH62F




Date: 25.MAY.2016 15:12:32

## 99% BW – CH62F




Date: 25.MAY.2016 15:12:49



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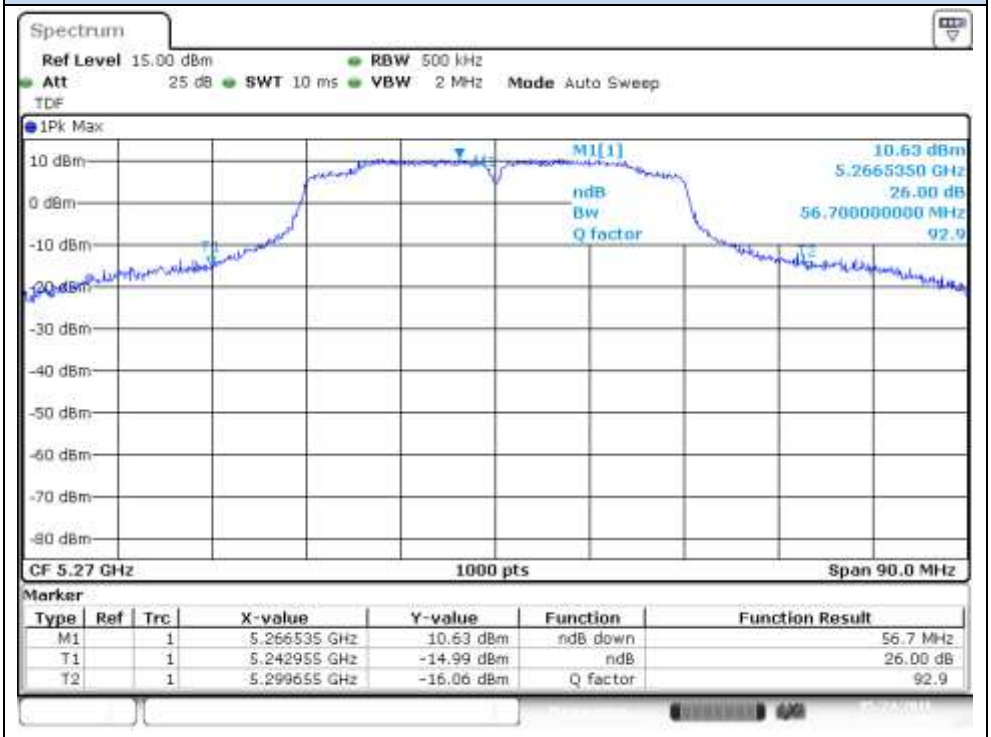
# 802.11n40, HT8 (MIMO) – Chain A

## 26dB BW – CH54F




## 99% BW – CH54F

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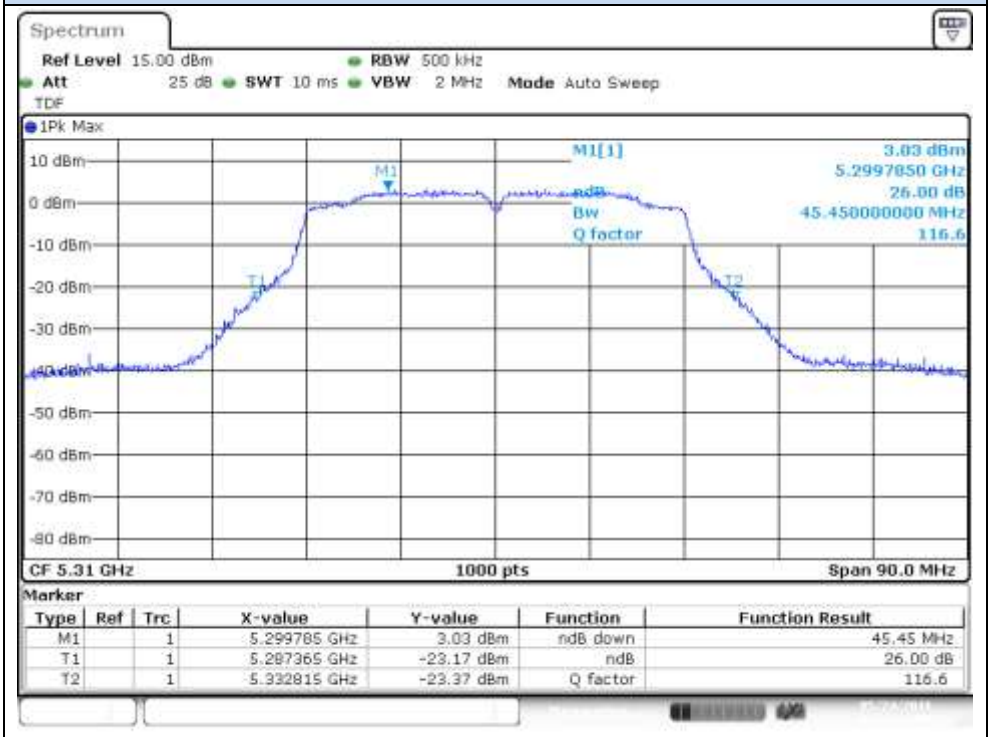
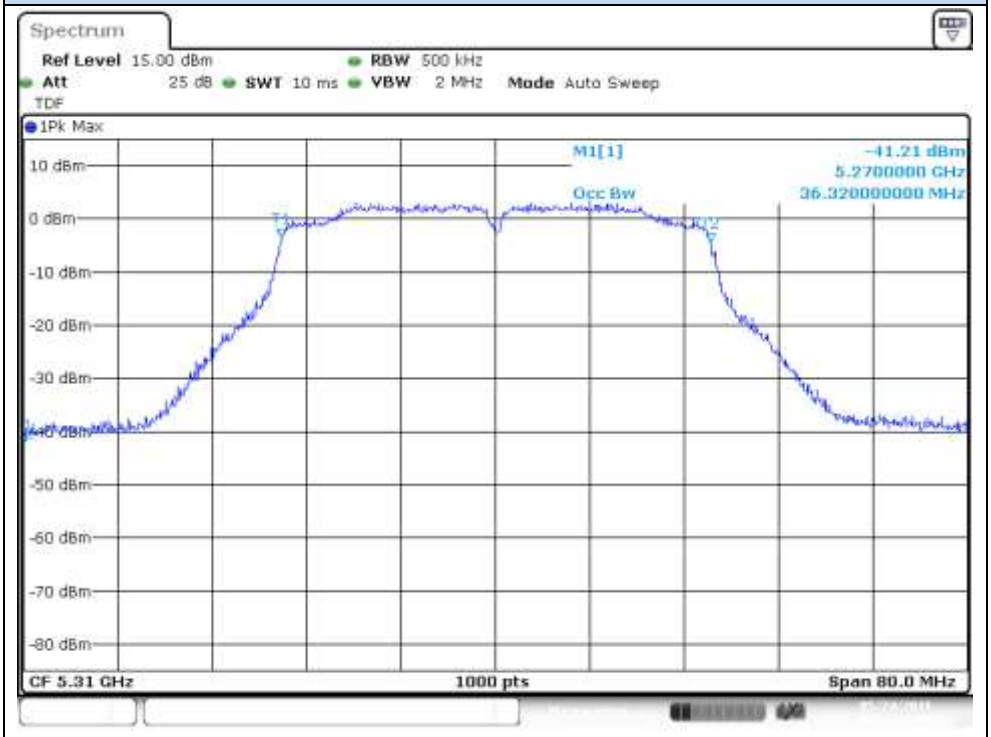
## 26dB BW – CH62F




## 99% BW – CH62F



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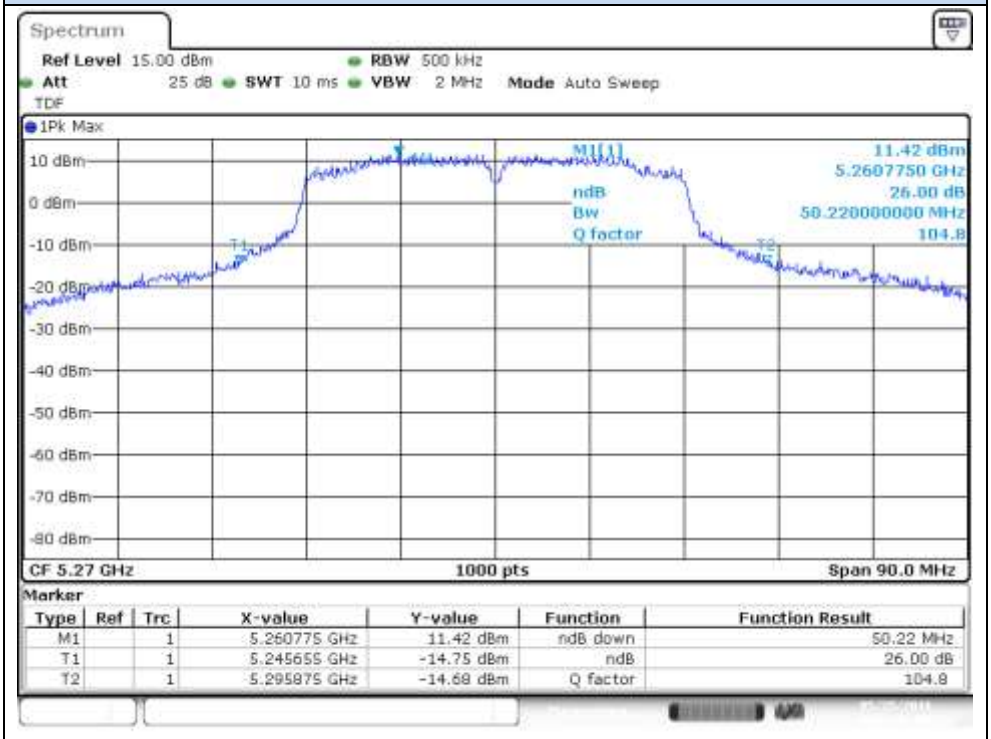
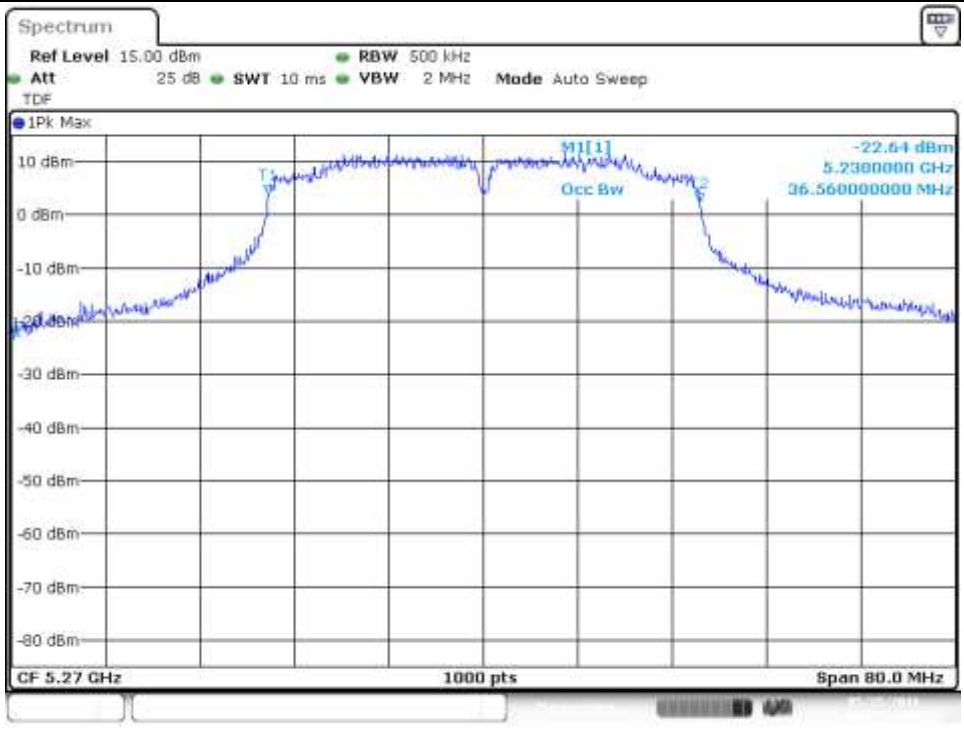
# 802.11n40, HT8 (MIMO) – Chain B

## 26dB BW – CH54F




Date: 25.MAY.2016 10:05:31

## 99% BW – CH54F




Date: 25.MAY.2016 10:05:50



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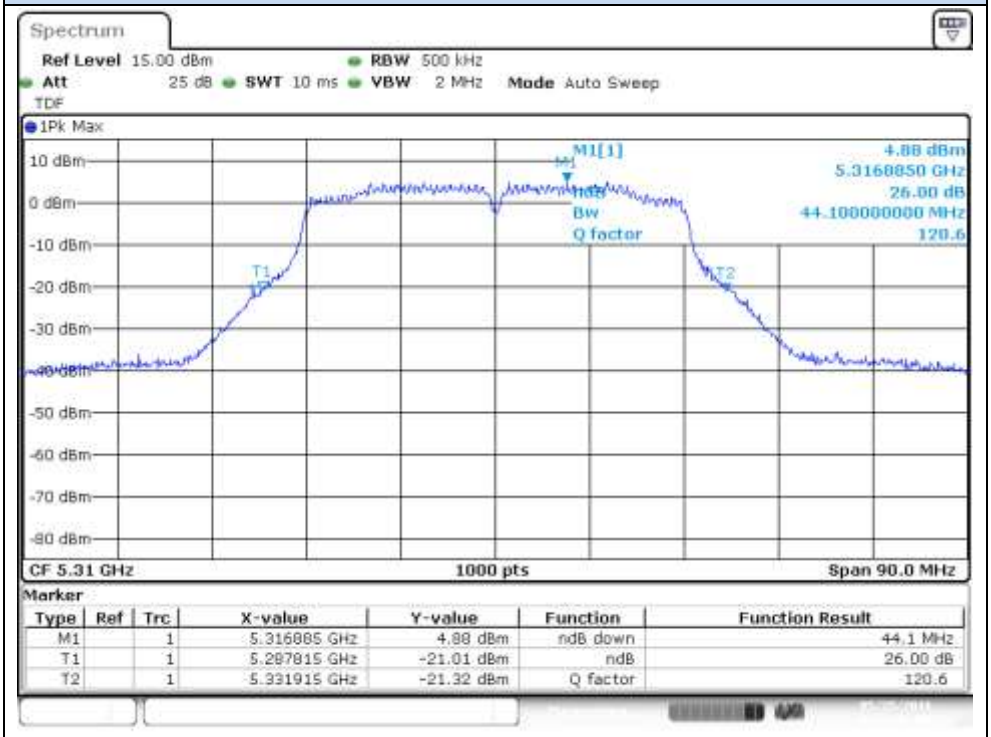
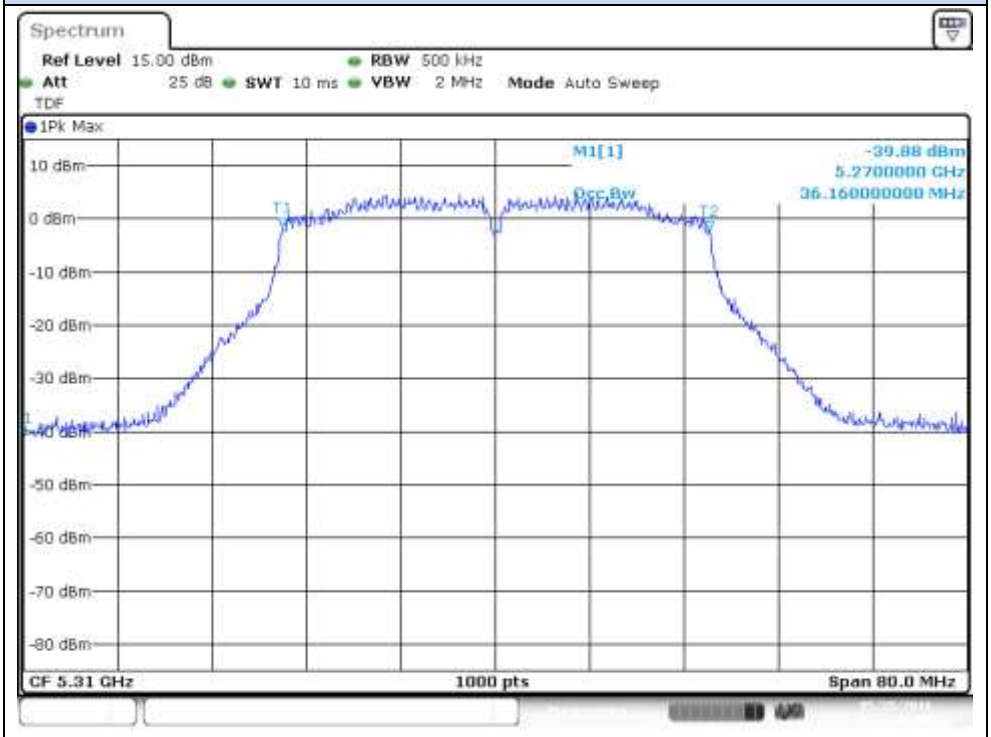
## 26dB BW – CH62F




Date: 25.MAY.2016 10:12:48

## 99% BW – CH62F




Date: 25.MAY.2016 10:13:05



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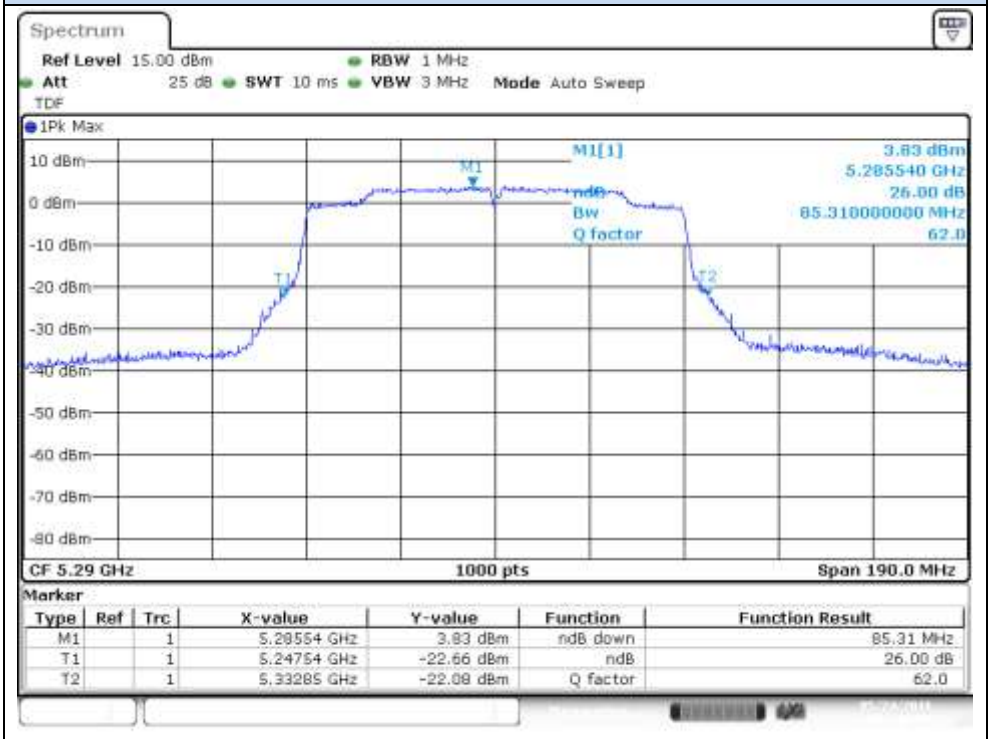
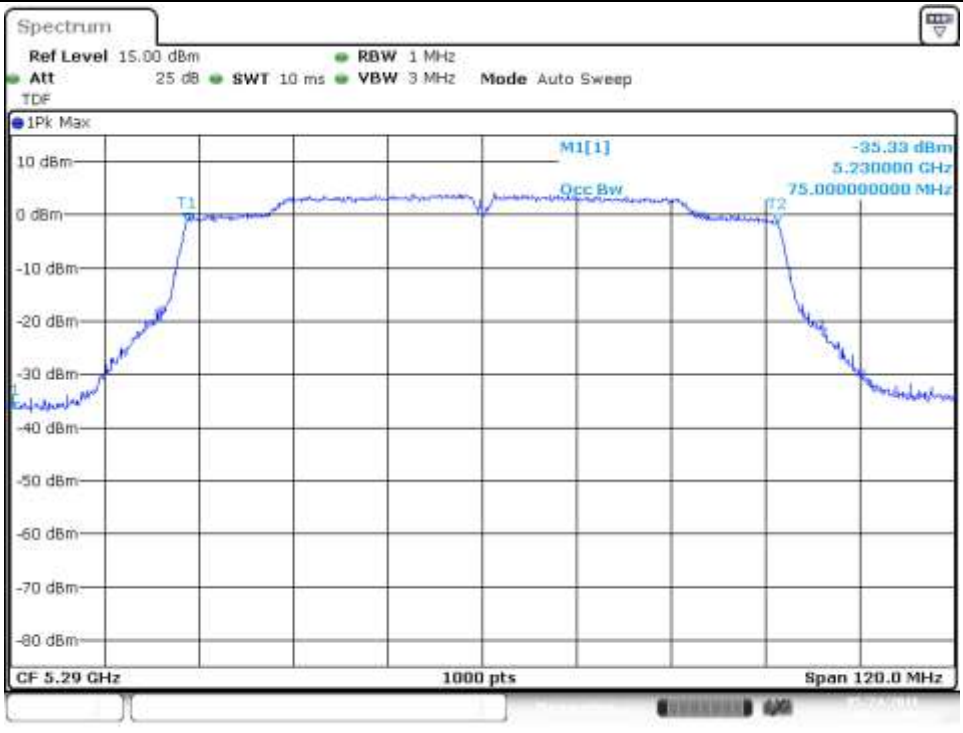
# 802.11ac80, VHT0 (SISO) – Chain A

## 26dB BW – CH58ac80




## 99% BW – CH58ac80



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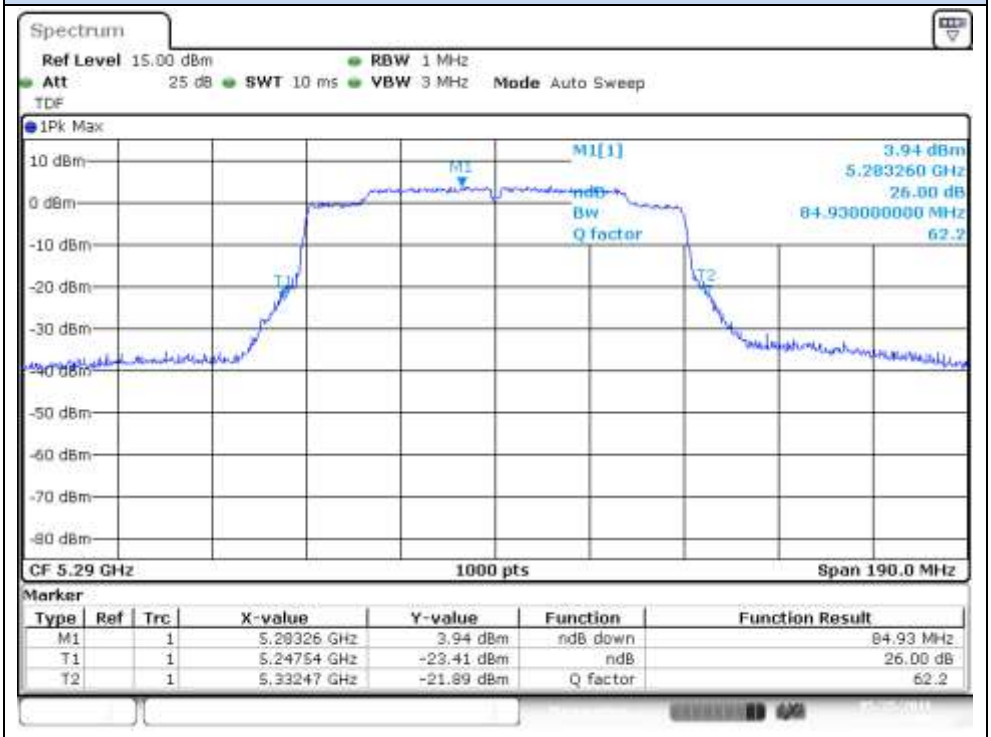
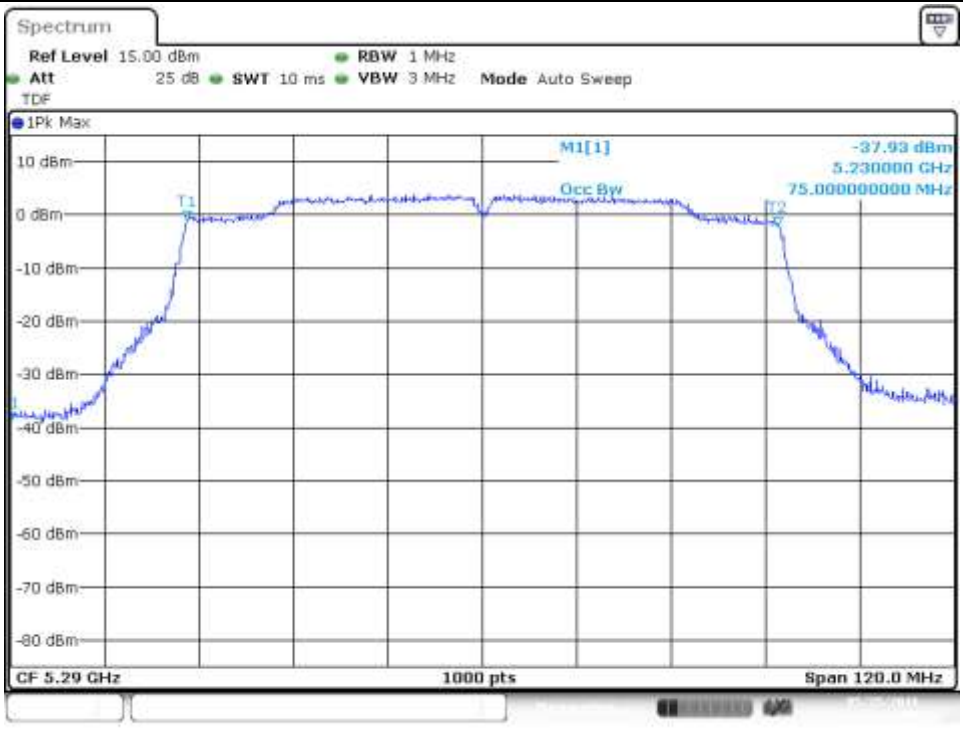
# 802.11ac80, VHT0 (SISO) – Chain B

## 26dB BW – CH58ac80




## 99% BW – CH58ac80



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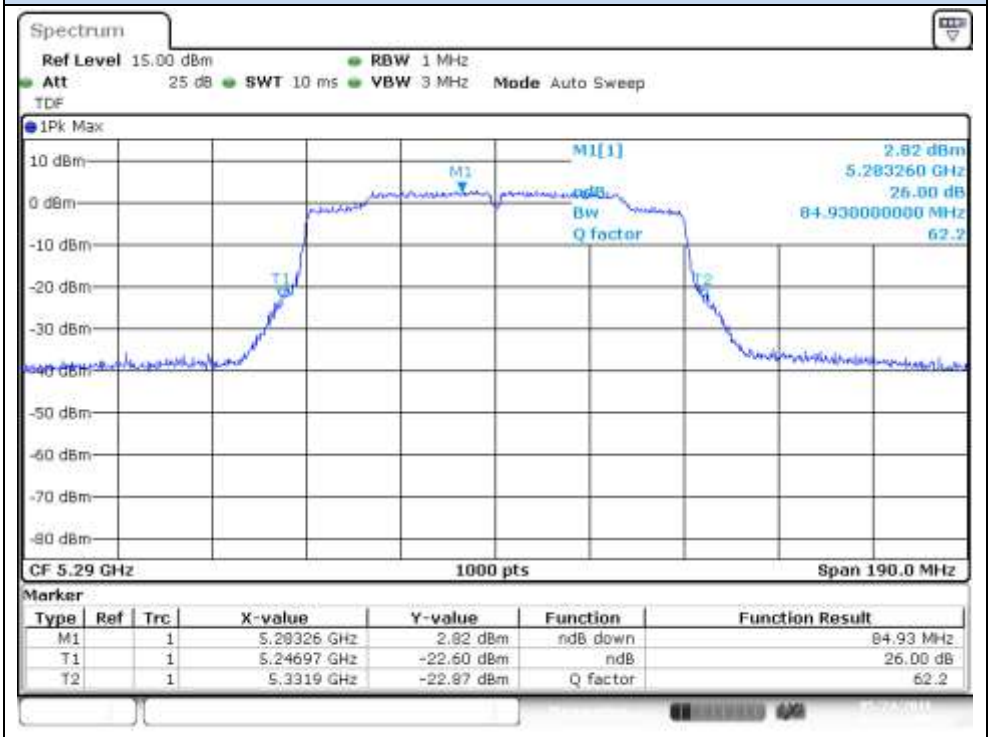
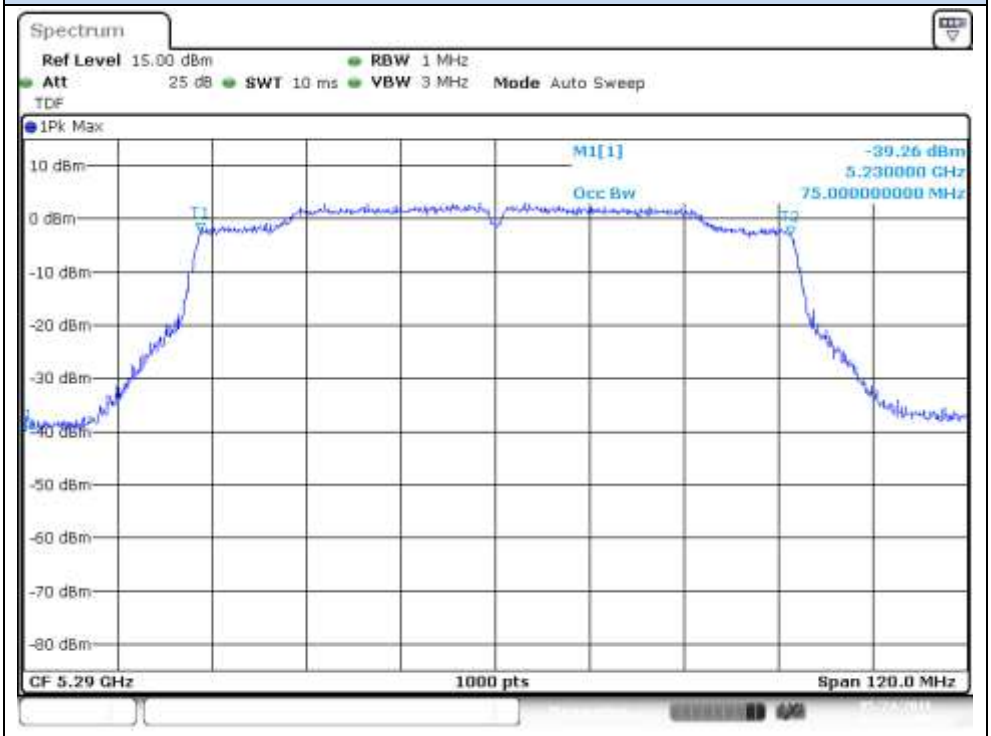
# 802.11ac80, VHT0 (MIMO) – Chain A

## 26dB BW – CH58ac80




## 99% BW – CH58ac80



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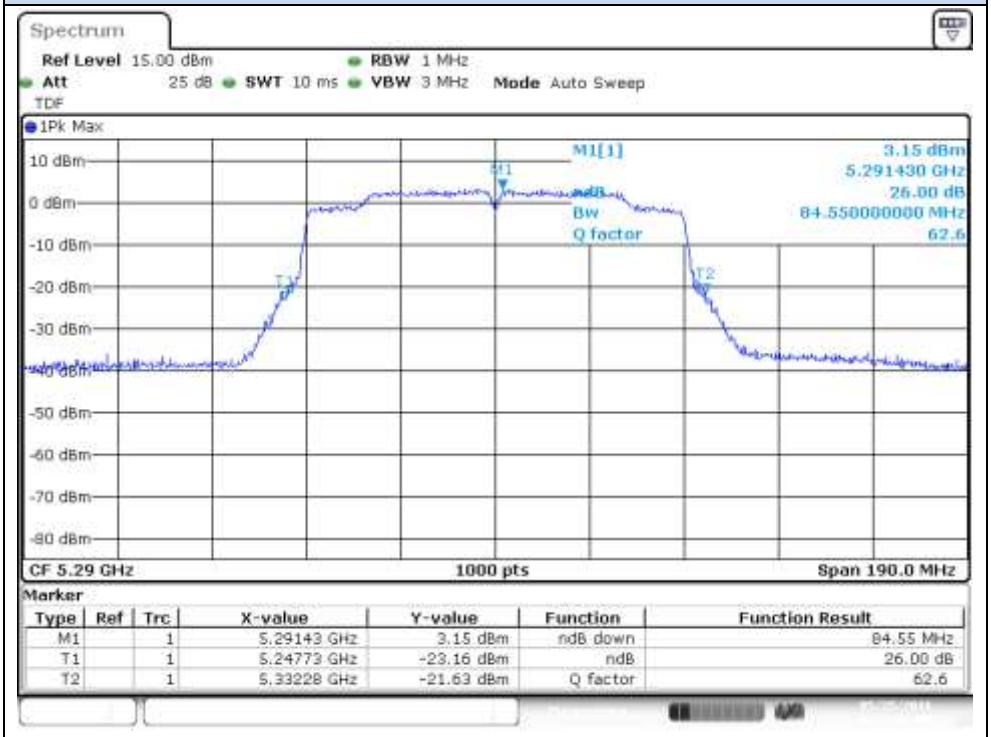
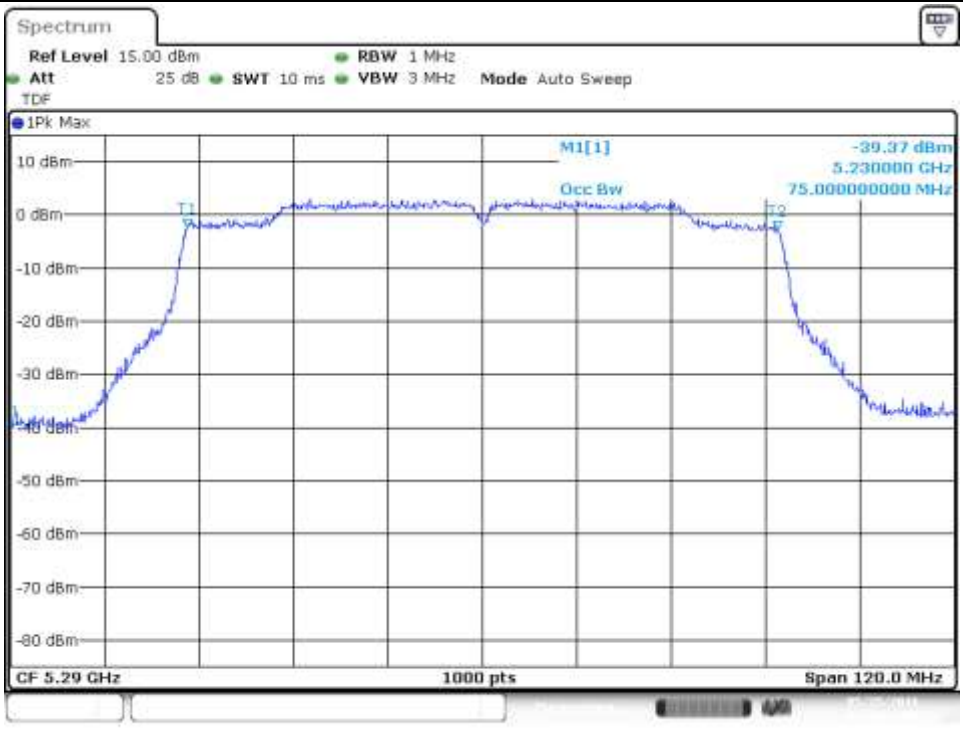
# 802.11ac80, VHT0 (MIMO) – Chain B

## 26dB BW – CH58ac80




## 99% BW – CH58ac80



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## C.2 Power Limits. Maximum Output power & Peak power spectral density

**Test limits:**

| FCC part | Limits |
|---|---|
| 15.407 (a) (2) | For the 5.25–5.35 GHz and 5.47–5.725 GHz bands, the maximum conducted output power over the frequency bands of operation shall not exceed the lesser of 250 mW or 11 dBm + 10 log B, where B is the 26 dB emission bandwidth in megahertz. In addition, the peak power spectral density shall not exceed 11 dBm in any 1 megahertz band. |

**Test procedure:**

The Maximum Conducted Output Power was measured using the channel integration method according to point E) 2) e) (Method SA-2 Alternative) of KDB 789033 D02.

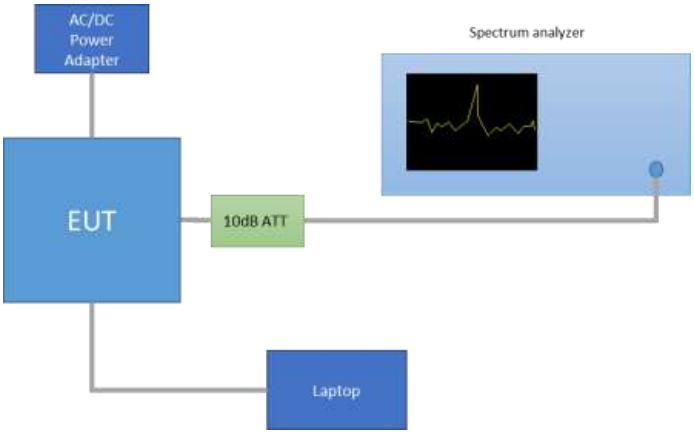
The maximum power spectral density (PSD) was measured using the method according to point F) (Method SA-2 Alternative) of KDB 789033 D02.

In the measure-and-sum approach for MIMO mode, the conducted emission level (e.g., transmit power or power in specified bandwidth) is measured at each antenna port. The measured results at the various antenna ports are then summed mathematically in linear power units to determine the total emission level from the device.

The EIRP power (dBm) is calculated by adding the declared maximum antenna gain to the measured conducted power.

The setup below was used to measure the maximum conducted output power and power spectral density. The antenna terminal of the EUT is connected to the spectrum analyzer through an attenuator, and the spectrum analyzer reading is compensated to include the RF path loss.

The declared maximum antenna gain is 5dBi.





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**Results tables:**

**Duty cycle**

| Mode | Rate | Antenna | Transmission Duration [ms] | Transmission Period [ms] | Duty Cycle [%] |
|---|---|---|---|---|---|
| 802.11a | 6Mbps | SISO-A | 1.45 | 1.48 | 98.2 |
| | | SISO-B | 1.45 | 1.48 | 98.2 |
| 802.11n20 | HT0 | SISO-A | 1.47 | 1.50 | 97.6 |
| | | SISO-B | 1.47 | 1.50 | 97.6 |
| | HT8 | MIMO-A | 1.47 | 1.51 | 97.5 |
| | | MIMO-B | 1.47 | 1.51 | 97.5 |
| 802.11n40 | HT0 | SISO-A | 1.46 | 1.49 | 98.1 |
| | | SISO-B | 1.46 | 1.49 | 98.1 |
| | HT8 | MIMO-A | 1.48 | 1.52 | 97.3 |
| | | MIMO-B | 1.48 | 1.52 | 97.3 |
| 802.11ac80 | VHT0 | SISO-A | 1.46 | 1.49 | 98.1 |
| | | SISO-B | 1.46 | 1.49 | 98.1 |
| | | MIMO-A | 1.48 | 1.52 | 97.2 |
| | | MIMO-B | 1.48 | 1.52 | 97.2 |



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**Maximum output power**

| Mode | Rate | Channel | Freq. [MHz] | Antenna | Average Conducted Output Power [dBm] | Maximum* Conducted Output Power [dBm] | Maximum* Conducted Output Power [mW] | Maximum* EIRP [dBm] |
|---|---|---|---|---|---|---|---|---|
| 802.11a | 6Mbps | 52 | 5260 | SISO CHAIN A | 20.06 | 20.14 | 103.24 | 25.14 |
| | | | | SISO CHAIN B | 20.71 | 20.79 | **119.91** | 25.79 |
| | | 60 | 5300 | SISO CHAIN A | 20.21 | 20.29 | 106.87 | 25.29 |
| | | | | SISO CHAIN B | 20.28 | 20.36 | 108.61 | 25.36 |
| | | 64 | 5320 | SISO CHAIN A | 16.16 | 16.24 | 42.06 | 21.24 |
| | | | | SISO CHAIN B | 16.14 | 16.22 | **41.87** | 21.22 |
| 802.11n20 | HT0 | 52 | 5260 | SISO CHAIN A | 20.23 | 20.33 | 108.00 | 25.33 |
| | | | | SISO CHAIN B | 20.78 | 20.88 | 122.58 | 25.88 |
| | | 60 | 5300 | SISO CHAIN A | 20.20 | 20.30 | 107.26 | 25.30 |
| | | | | SISO CHAIN B | 20.32 | 20.42 | 110.26 | 25.42 |
| | | 64 | 5320 | SISO CHAIN A | 15.84 | 15.94 | **39.30** | 20.94 |
| | | | | SISO CHAIN B | 16.35 | 16.45 | 44.20 | 21.45 |
| | HT8 | 52 | 5260 | MIMO CHAIN A | 18.87 | 18.98 | 79.05 | 23.98 |
| | | | | MIMO CHAIN B | 19.08 | 19.19 | 82.97 | 24.19 |
| | | | | Combined A+B | 21.99 | 22.10 | **162.01** | 27.10 |
| | | 60 | 5300 | MIMO CHAIN A | 18.55 | 18.66 | 73.43 | 23.66 |
| | | | | MIMO CHAIN B | 18.76 | 18.87 | 77.07 | 23.87 |
| | | | | Combined A+B | 21.67 | 21.78 | 150.51 | 26.78 |
| | | 64 | 5320 | MIMO CHAIN A | 15.59 | 15.70 | 37.14 | 20.70 |
| | | | | MIMO CHAIN B | 15.80 | 15.91 | 38.99 | 20.91 |
| | | | | Combined A+B | 18.71 | 18.82 | 76.13 | 23.82 |
| 802.11n40 | HT0 | 54F | 5270 | SISO CHAIN A | 19.95 | 20.03 | 100.76 | 25.03 |
| | | | | SISO CHAIN B | 19.68 | 19.76 | 94.68 | 24.76 |
| | | 62F | 5310 | SISO CHAIN A | 14.44 | 14.52 | **28.33** | 19.52 |
| | | | | SISO CHAIN B | 14.67 | 14.75 | 29.87 | 19.75 |
| | HT8 | 54F | 5270 | MIMO CHAIN A | 19.18 | 19.30 | 85.07 | 24.30 |
| | | | | MIMO CHAIN B | 18.75 | 18.87 | 77.05 | 23.87 |
| | | | | Combined A+B | 21.98 | 22.10 | **162.13** | 27.10 |
| | | 62F | 5310 | MIMO CHAIN A | 11.89 | 12.01 | 15.88 | 17.01 |
| | | | | MIMO CHAIN B | 11.63 | 11.75 | 14.96 | 16.75 |
| | | | | Combined A+B | 14.77 | 14.89 | 30.83 | 19.89 |
| 802.11ac80 | VHT0 | 58ac80 | 5290 | SISO CHAIN A | 11.75 | 11.83 | 15.25 | 16.83 |
| | | | | SISO CHAIN B | 11.64 | 11.72 | **14.87** | 16.72 |
| | | | | MIMO CHAIN A | 10.57 | 10.69 | 11.74 | 15.69 |
| | | | | MIMO CHAIN B | 10.42 | 10.54 | 11.34 | 15.54 |
| | | | | Combined A+B | 13.51 | 13.63 | **23.07** | 18.63 |

* Maximum values are the duty cycle compensated values calculated from the average (measured) values

**Max Value**

**Min Value**



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**Maximum Power Spectral Density (PSD)**

| Mode | Rate | Channel | Freq. [MHz] | Antenna | Average conducted PSD [dBm/MHz] | Maximum* conducted PSD [dBm/MHz] |
|---|---|---|---|---|---|---|
| 802.11a | 6Mbps | 52 | 5260 | SISO CHAIN A | 9.10 | 9.18 |
| | | | | SISO CHAIN B | 9.72 | 9.80 |
| | | 60 | 5300 | SISO CHAIN A | 9.24 | 9.32 |
| | | | | SISO CHAIN B | 9.30 | 9.38 |
| | | 64 | 5320 | SISO CHAIN A | 5.29 | 5.37 |
| | | | | SISO CHAIN B | 5.28 | 5.36 |
| 802.11n20 | HT0 | 52 | 5260 | SISO CHAIN A | 9.07 | 9.17 |
| | | | | SISO CHAIN B | 9.58 | 9.68 |
| | | 60 | 5300 | SISO CHAIN A | 9.05 | 9.15 |
| | | | | SISO CHAIN B | 9.15 | 9.25 |
| | | 64 | 5320 | SISO CHAIN A | 4.77 | 4.87 |
| | | | | SISO CHAIN B | 5.28 | 5.38 |
| | HT8 | 52 | 5260 | MIMO CHAIN A | 7.71 | 7.82 |
| | | | | MIMO CHAIN B | 7.95 | 8.06 |
| | | | | Combined A+B | 10.84 | 10.95 |
| | | 60 | 5300 | MIMO CHAIN A | 7.39 | 7.50 |
| | | | | MIMO CHAIN B | 7.65 | 7.76 |
| | | | | Combined A+B | 10.53 | 10.64 |
| | | 64 | 5320 | MIMO CHAIN A | 4.52 | 4.63 |
| | | | | MIMO CHAIN B | 4.76 | 4.87 |
| | | | | Combined A+B | 7.65 | 7.76 |
| 802.11n40 | HT0 | 54F | 5270 | SISO CHAIN A | 5.50 | 5.58 |
| | | | | SISO CHAIN B | 5.25 | 5.33 |
| | | 62F | 5310 | SISO CHAIN A | 0.01 | 0.09 |
| | | | | SISO CHAIN B | 0.26 | 0.34 |
| | HT8 | 54F | 5270 | MIMO CHAIN A | 4.75 | 4.87 |
| | | | | MIMO CHAIN B | 4.34 | 4.46 |
| | | | | Combined A+B | 7.56 | 7.68 |
| | | 62F | 5310 | MIMO CHAIN A | -2.48 | -2.36 |
| | | | | MIMO CHAIN B | -2.76 | -2.64 |
| | | | | Combined A+B | 0.39 | 0.51 |
| 802.11ac80 | VHT0 | 58ac80 | 5290 | SISO CHAIN A | -5.49 | -5.41 |
| | | | | SISO CHAIN B | -5.60 | -5.52 |
| | | | | MIMO CHAIN A | -6.70 | -6.58 |
| | | | | MIMO CHAIN B | -6.83 | -6.71 |
| | | | | Combined A+B | -3.75 | -3.63 |

* Maximum values are the duty cycle compensated values calculated from the measured average values



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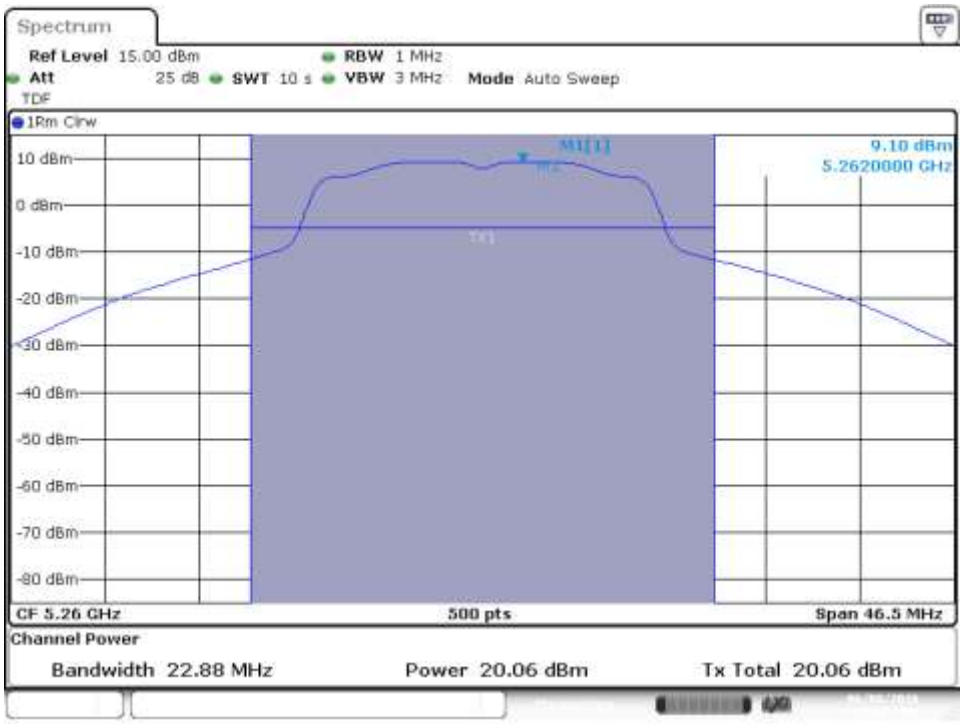
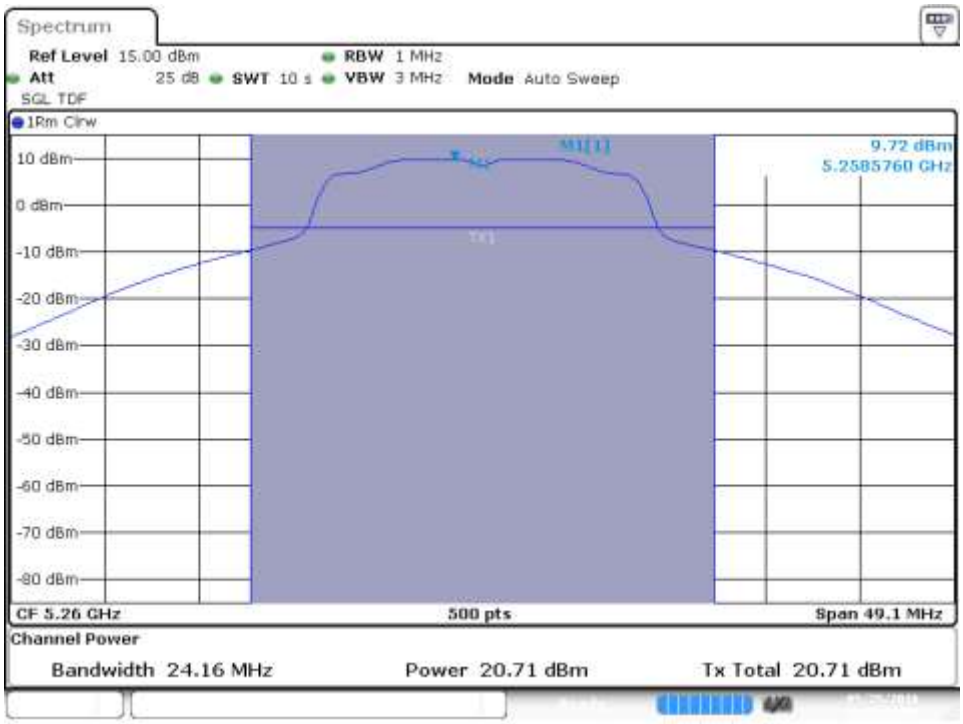
**Results screenshot:**

## 802.11a, 6Mbps

### Max Power & PSD, Chain A – CH52




### Max Power & PSD, Chain B – CH52



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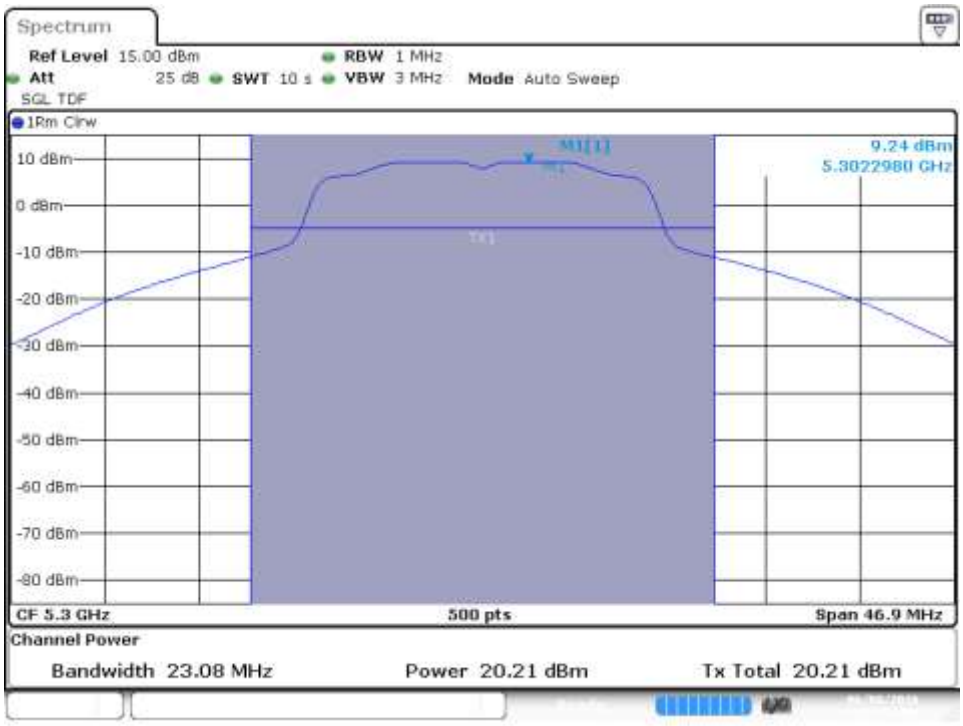
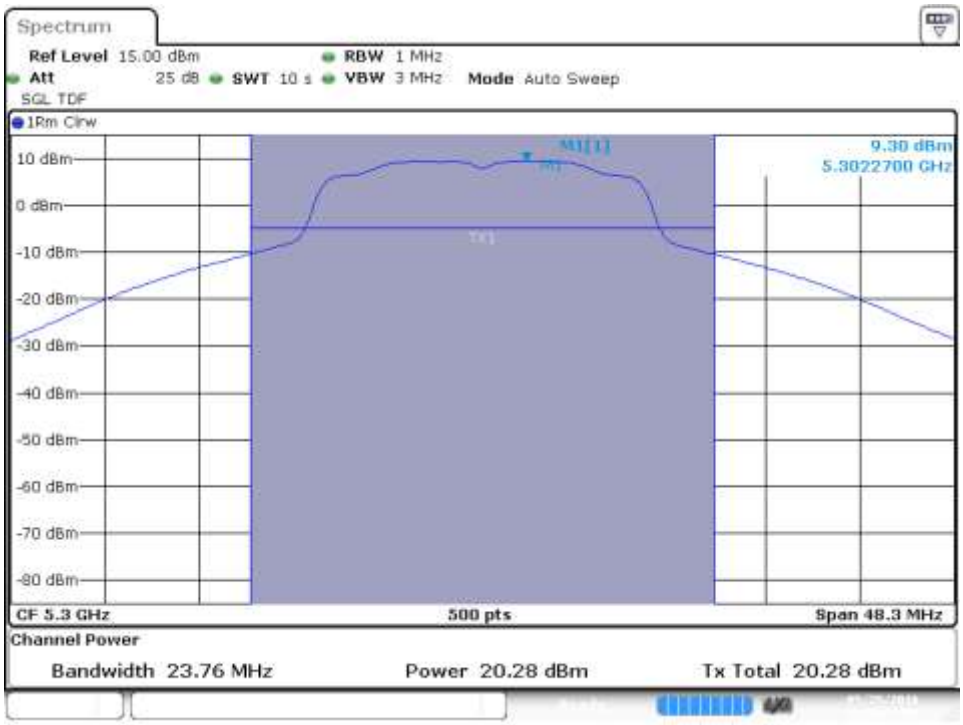
## Max Power & PSD, Chain A – CH60




## Max Power & PSD, Chain B – CH60



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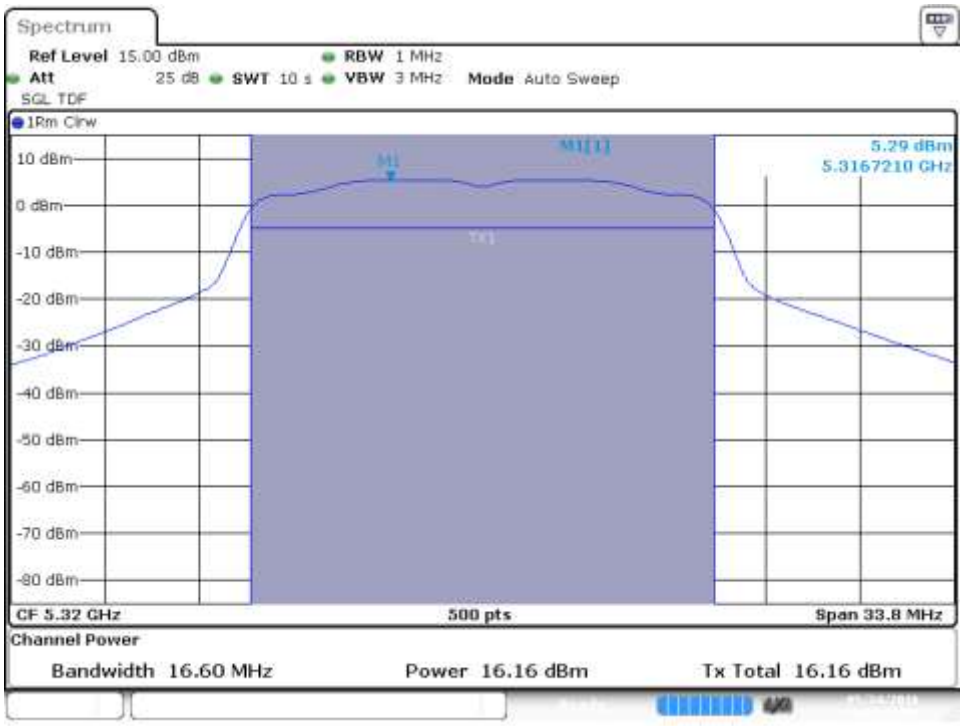
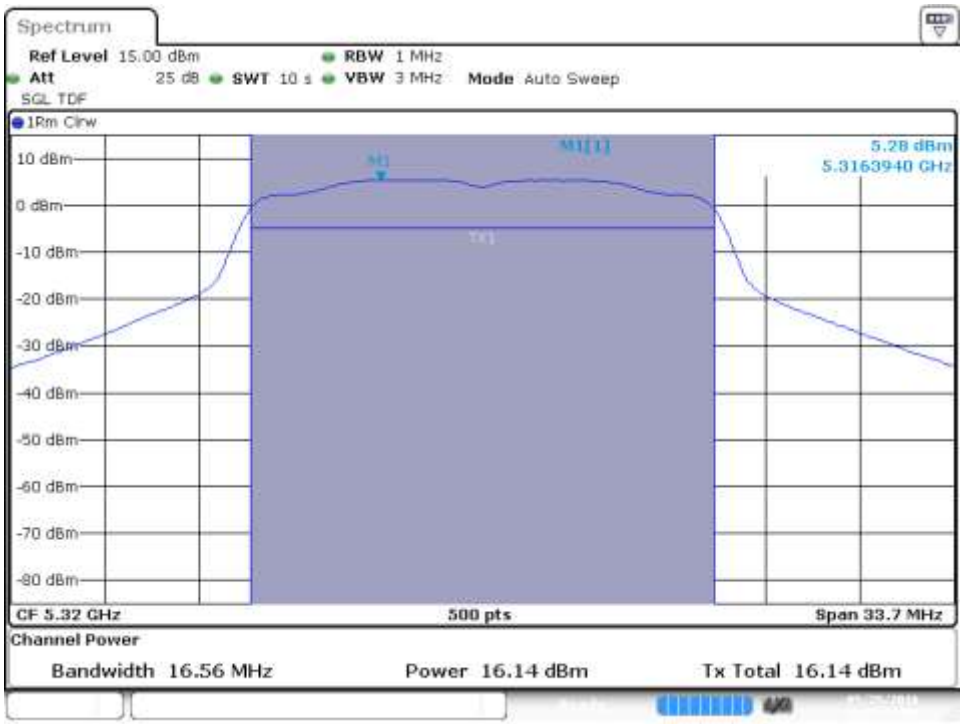
## Max Power & PSD, Chain A – CH64




## Max Power & PSD, Chain B – CH64



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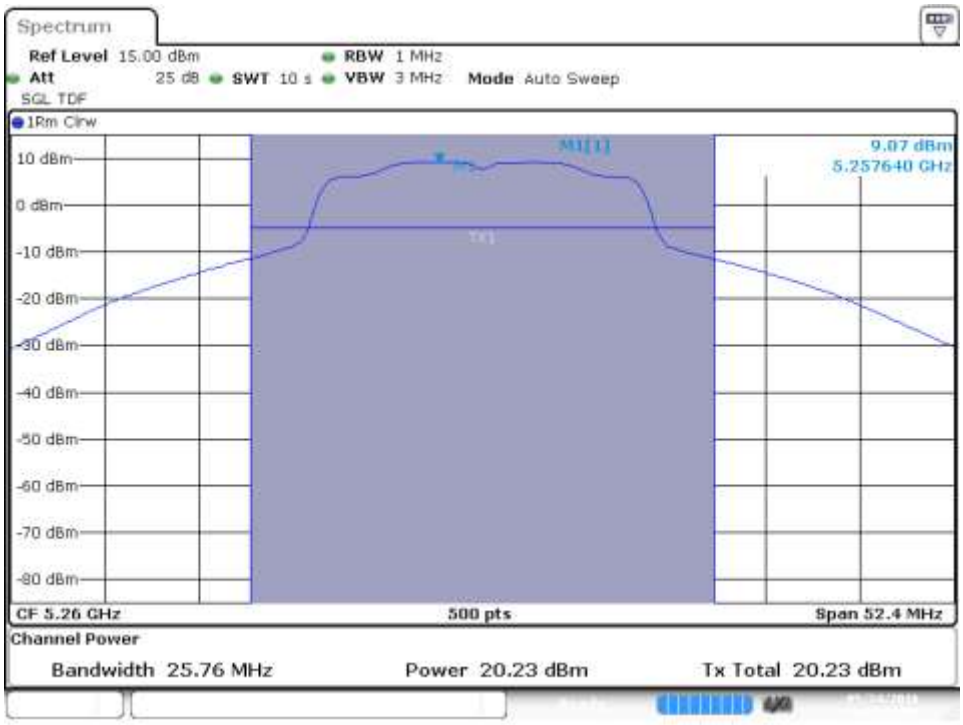
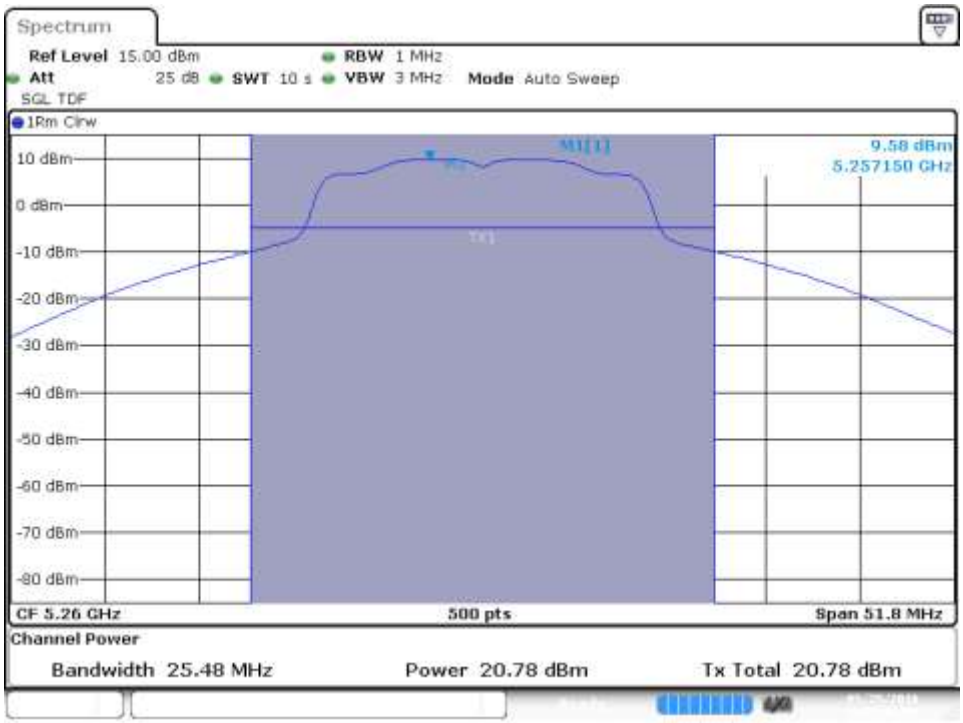
# 802.11n20, HT0 (SISO)

## Max Power & PSD, Chain A – CH52




## Max Power & PSD, Chain B – CH52



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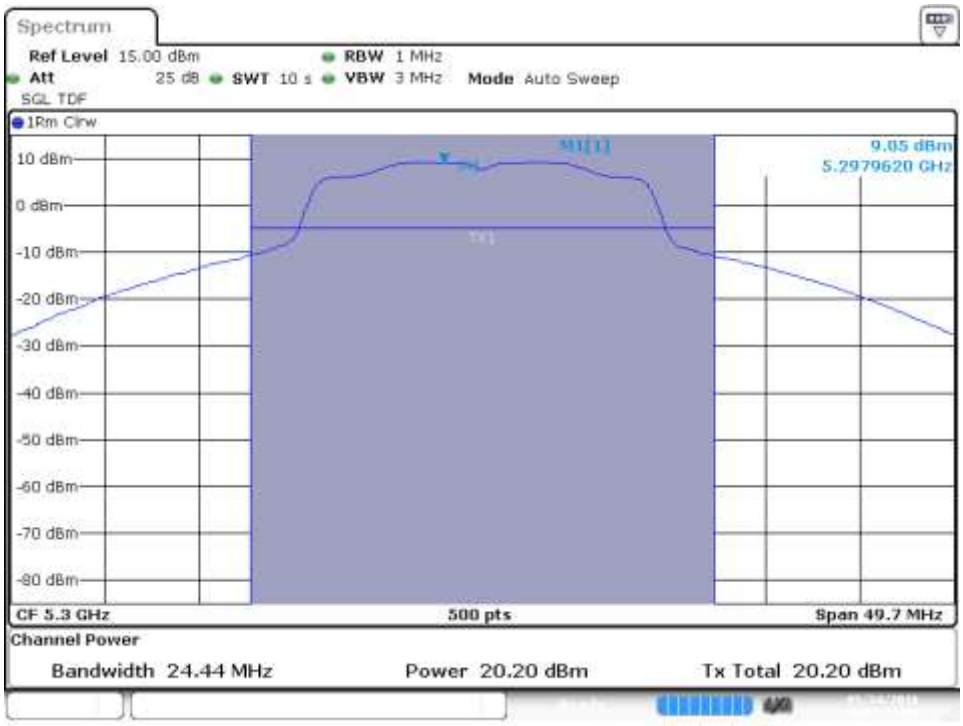
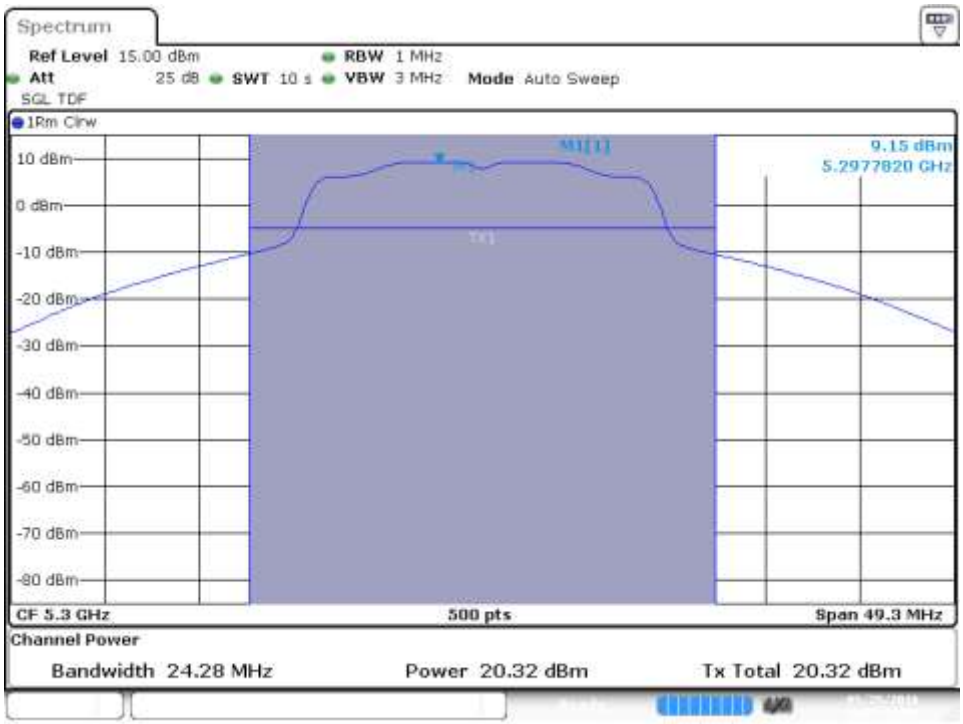
## Max Power & PSD, Chain A – CH60




## Max Power & PSD, Chain B – CH60



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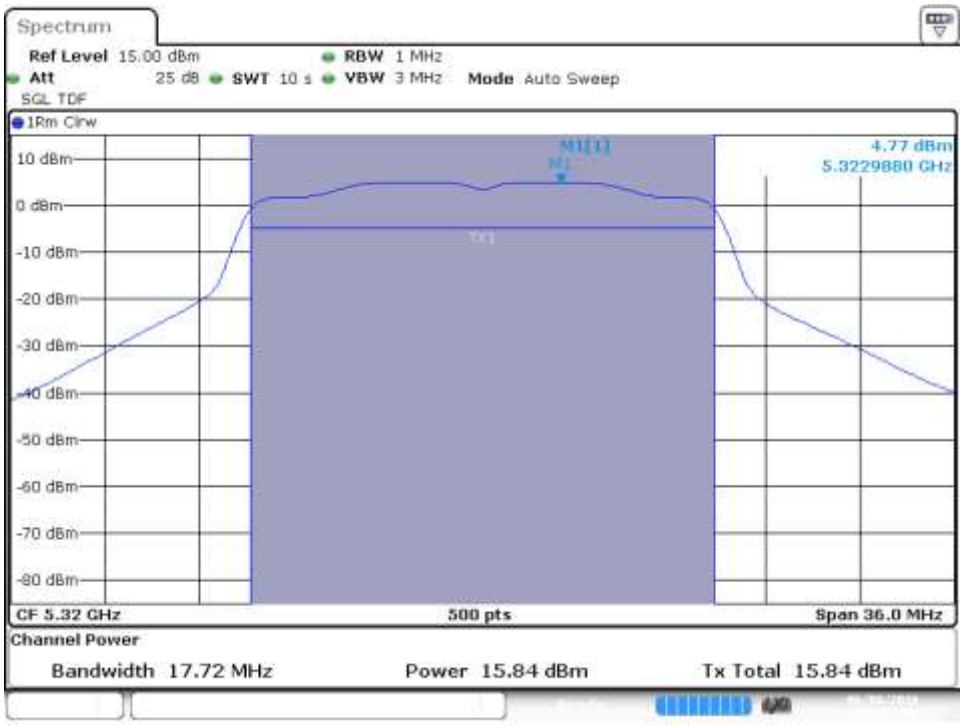
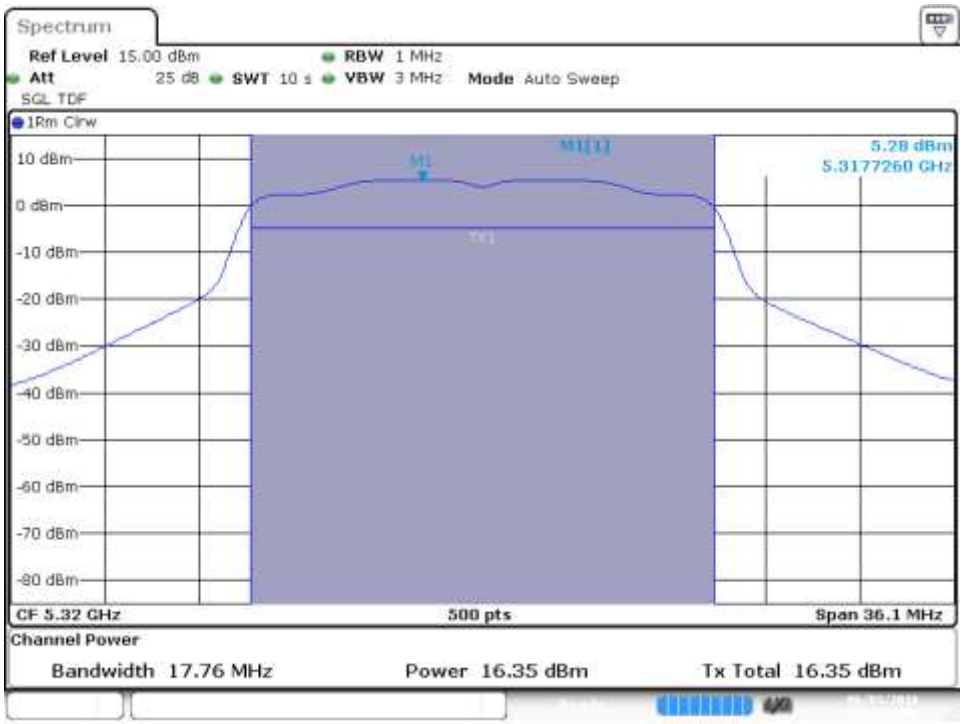
## Max Power & PSD, Chain A – CH64




## Max Power & PSD, Chain B – CH64



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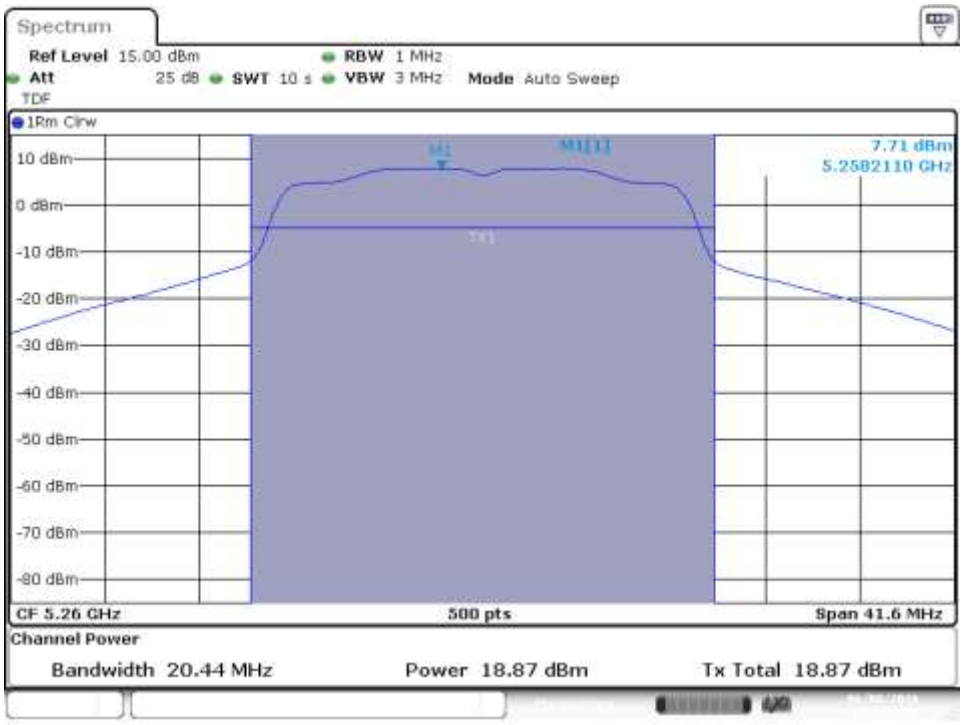
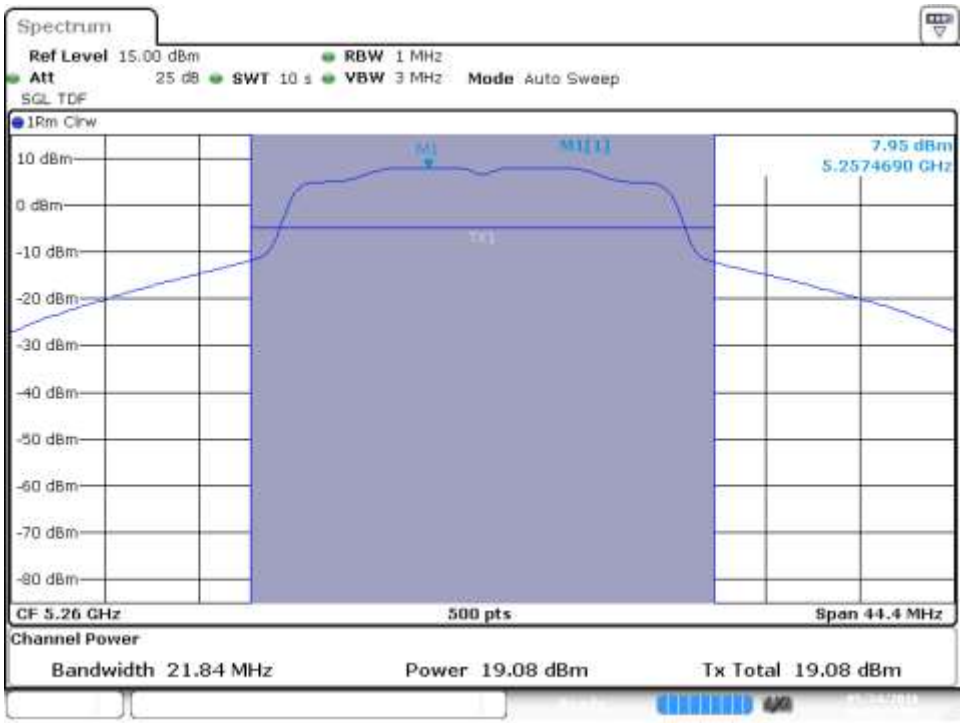
# 802.11n20, HT8 (MIMO)

## Max Power & PSD, Chain A – CH52




## Max Power & PSD, Chain B – CH52



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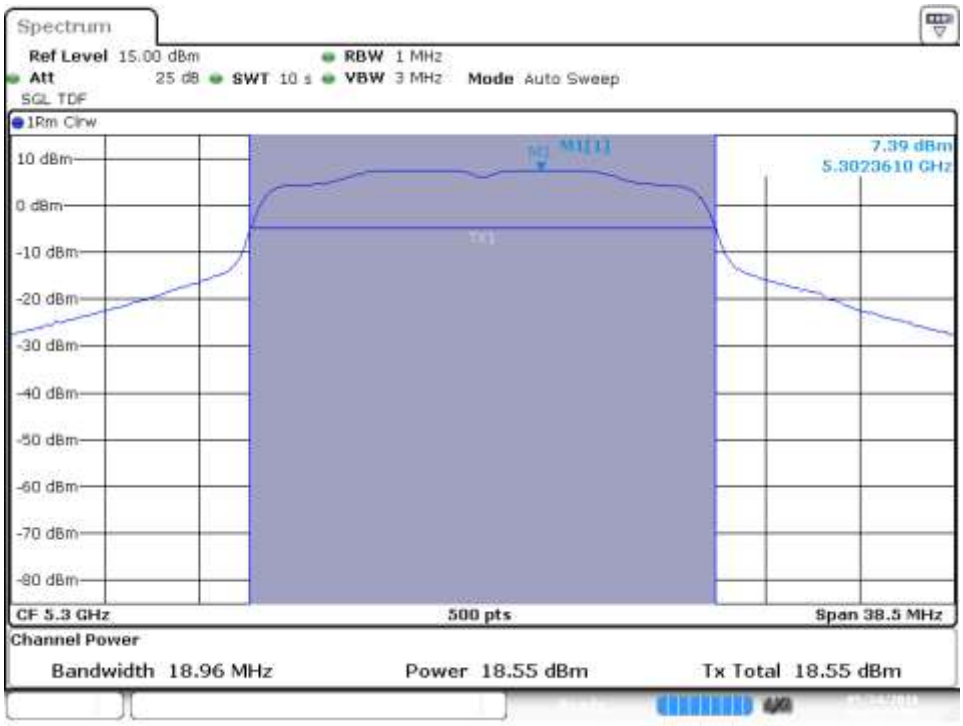
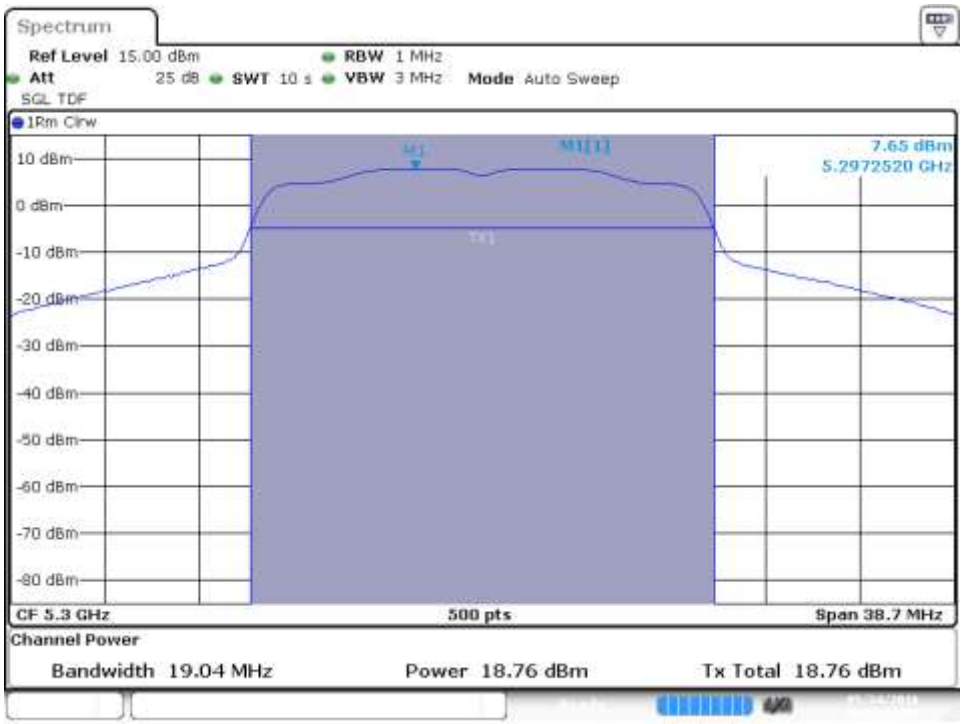
## Max Power & PSD, Chain A – CH60




## Max Power & PSD, Chain B – CH60



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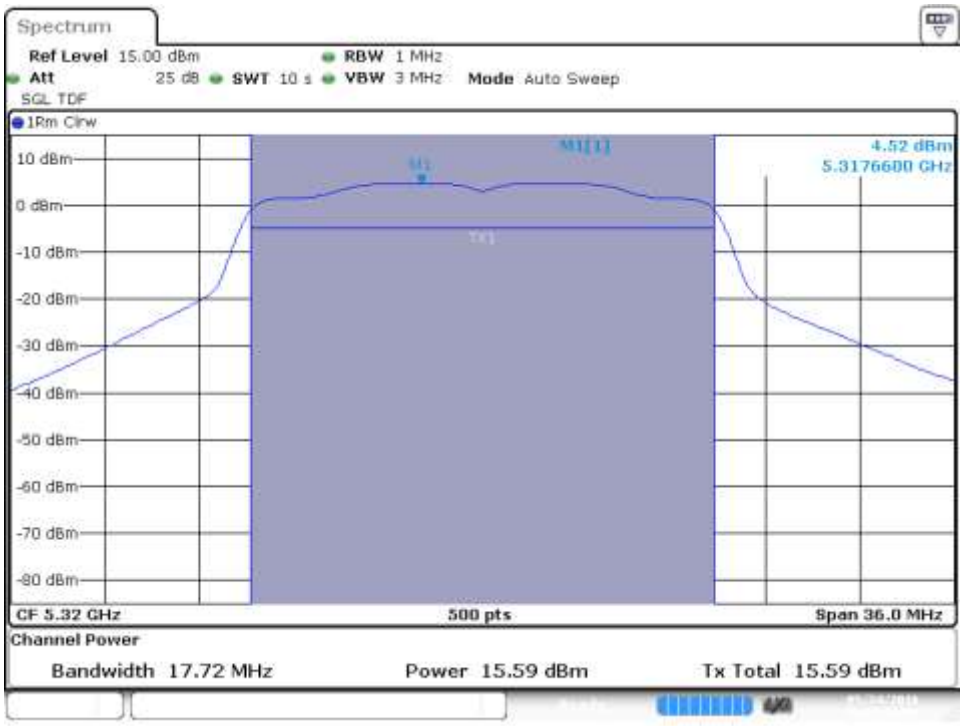
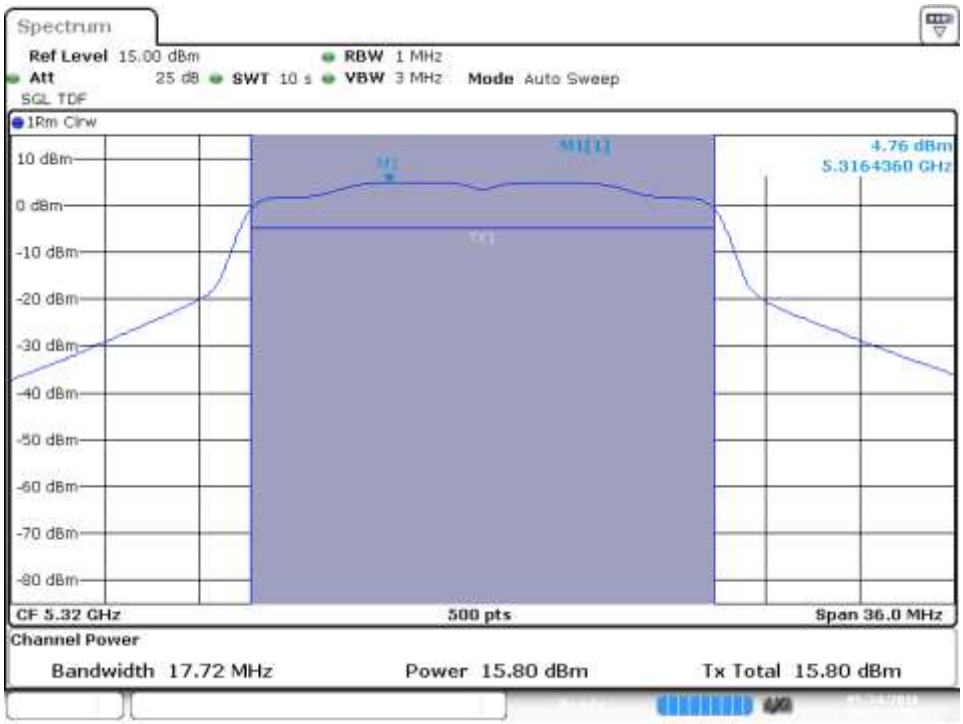
## Max Power & PSD, Chain A – CH64




## Max Power & PSD, Chain B – CH64



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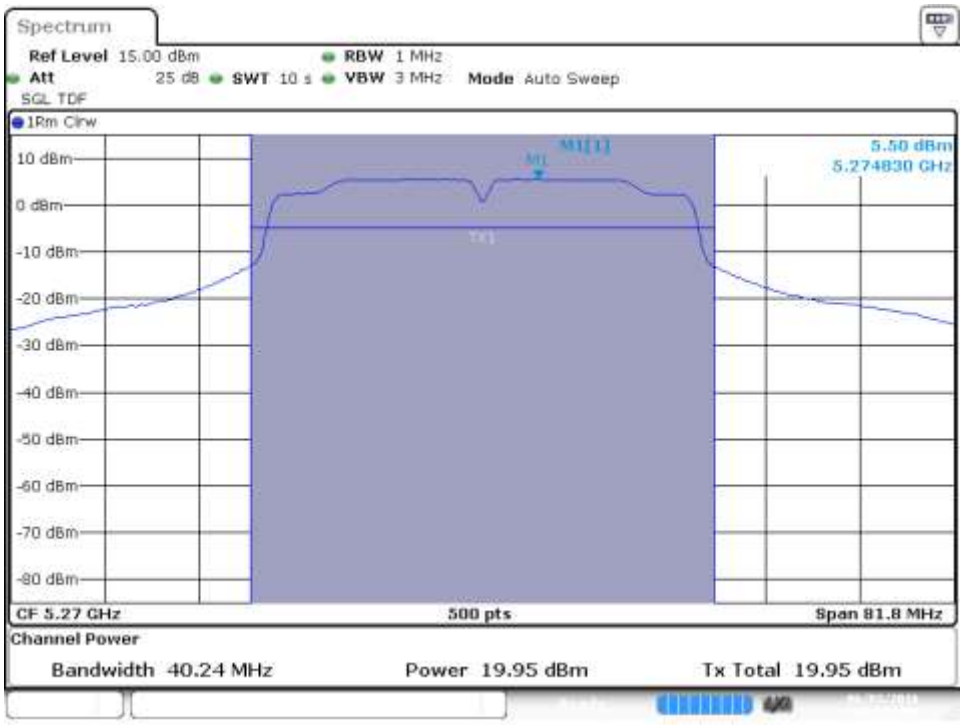
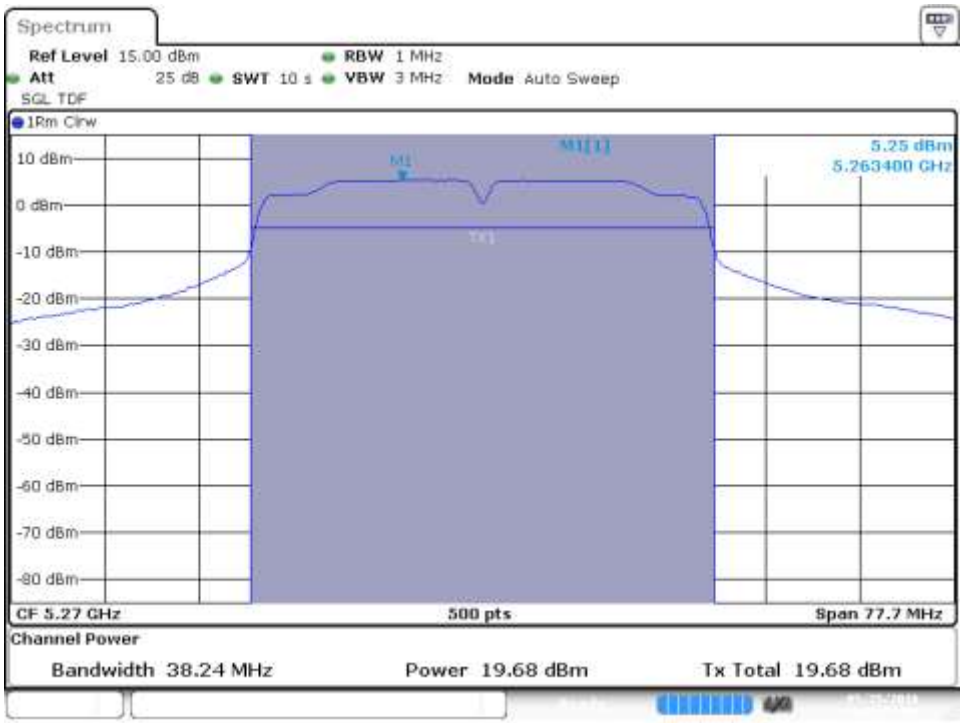
# 802.11n40, HT0 (SISO)

## Max Power & PSD, Chain A – CH54F




## Max Power & PSD, Chain B – CH54F



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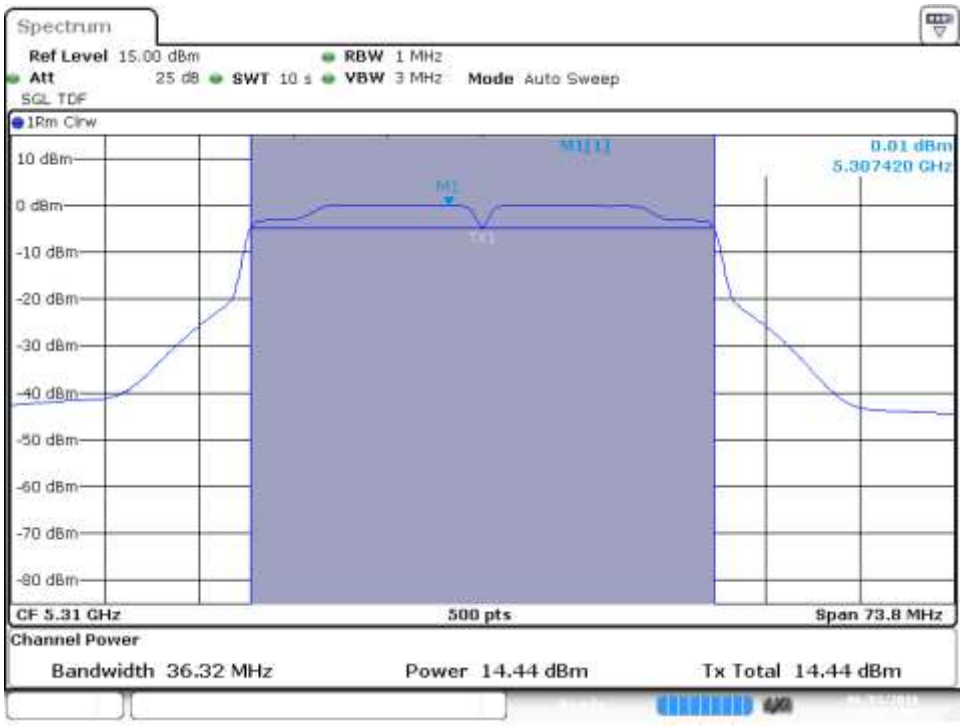
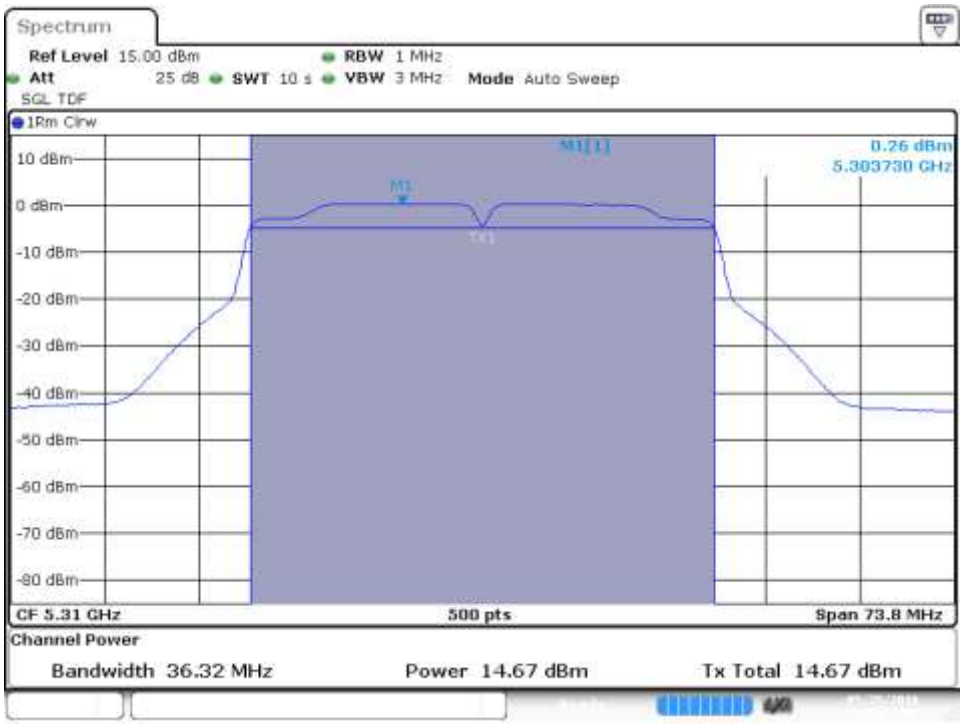
## Max Power & PSD, Chain A – CH62F




## Max Power & PSD, Chain B – CH62F



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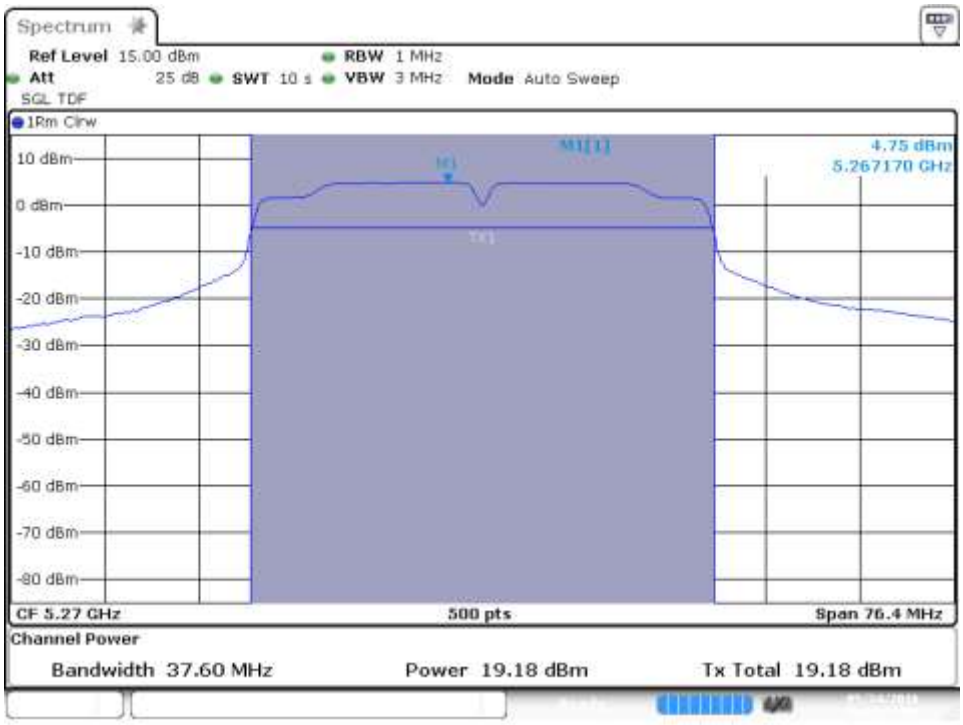
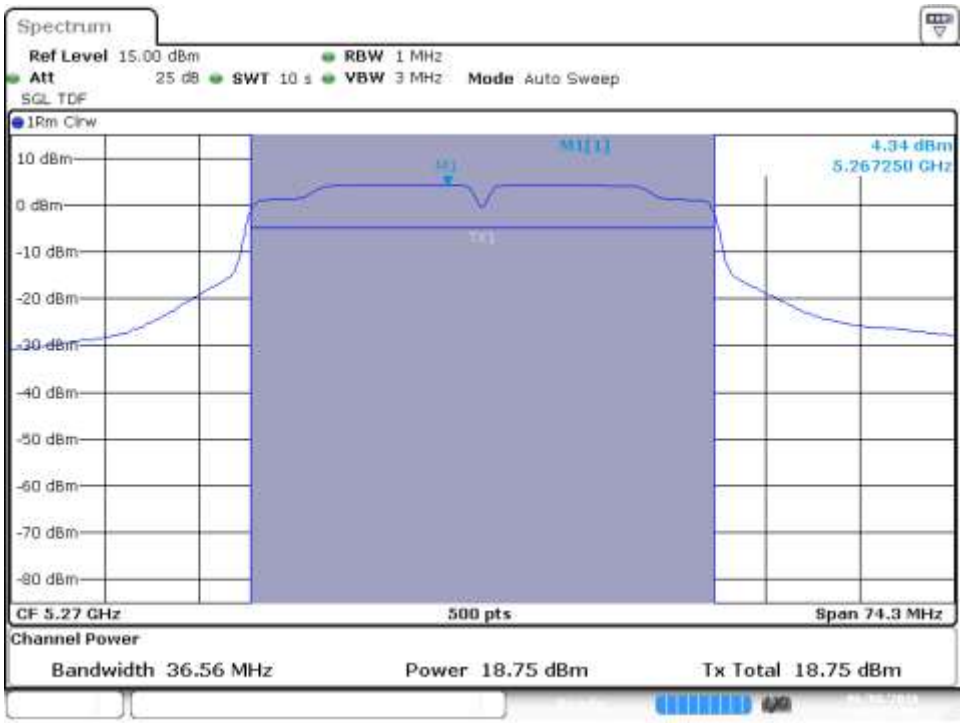
# 802.11n40, HT8 (MIMO)

## Max Power & PSD, Chain A – CH54F




## Max Power & PSD, Chain B – CH54F



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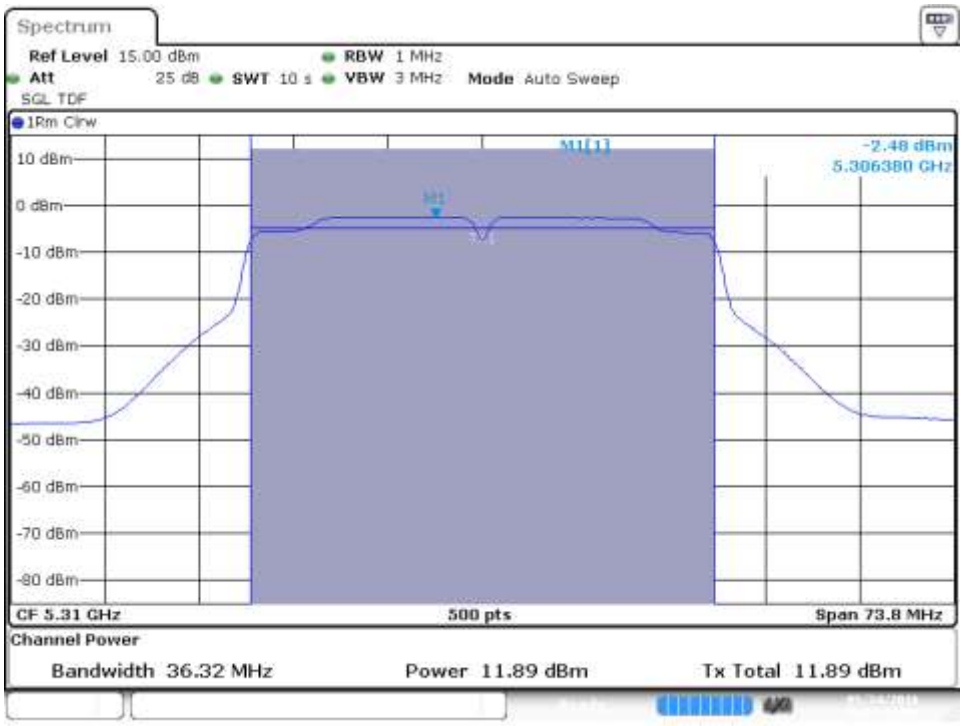
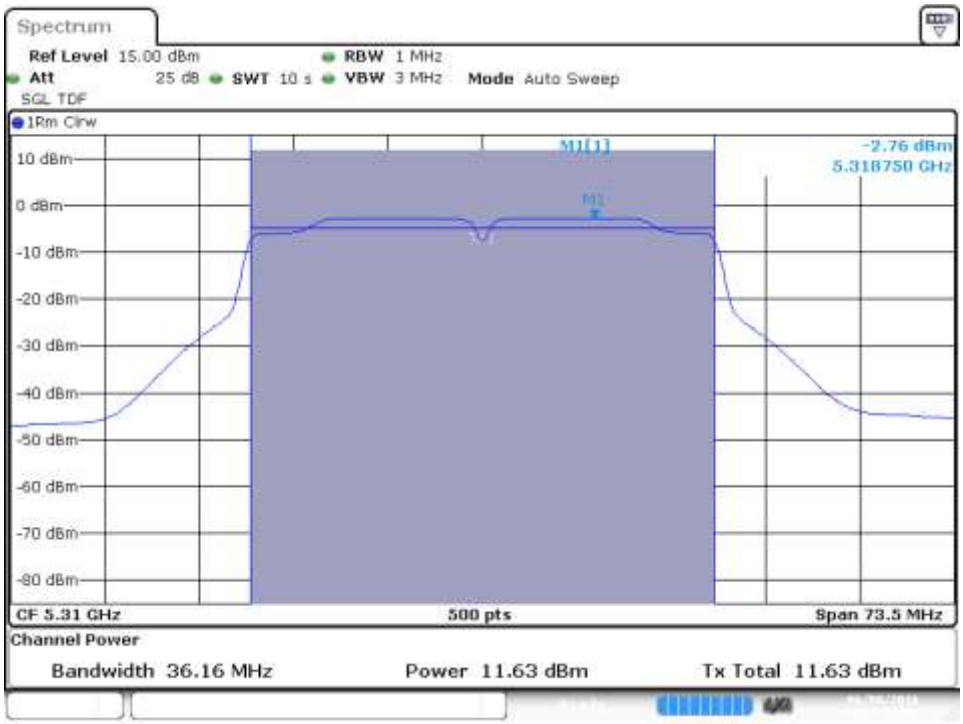
## Max Power & PSD, Chain A – CH62F




## Max Power & PSD, Chain B – CH62F



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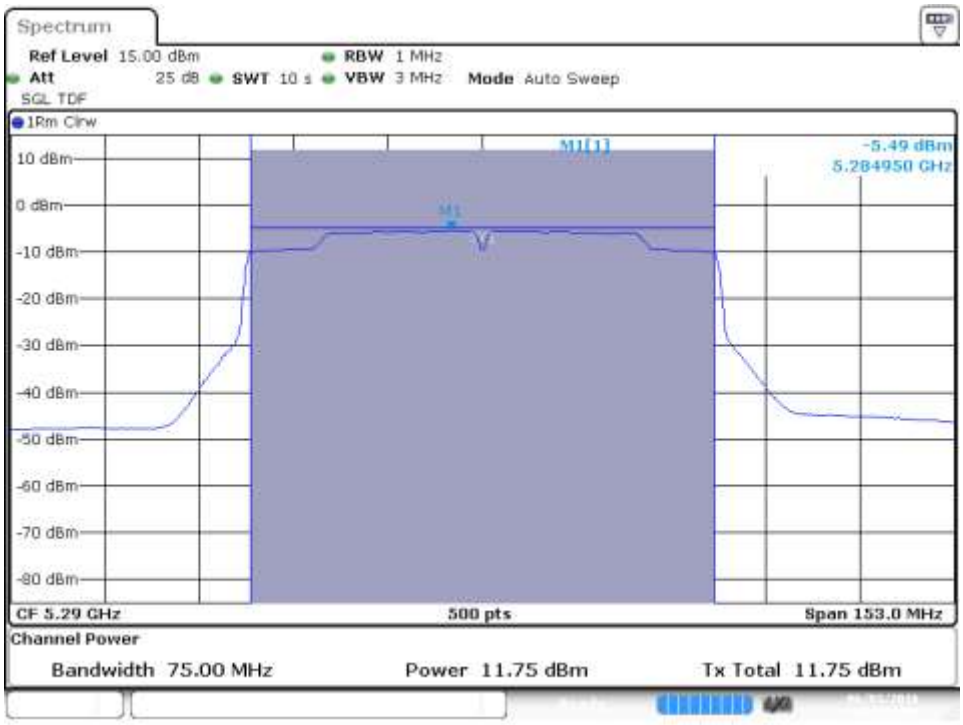
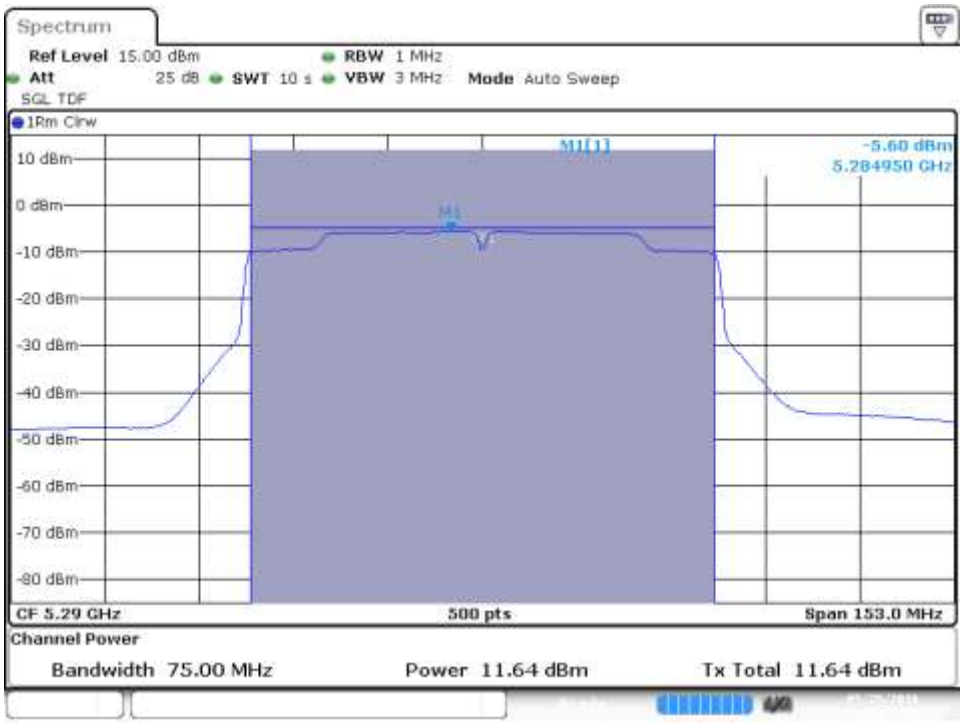
# 802.11ac80, VHT0 (SISO)

## Max Power & PSD, Chain A – CH58ac80




## Max Power & PSD, Chain B – CH58ac80



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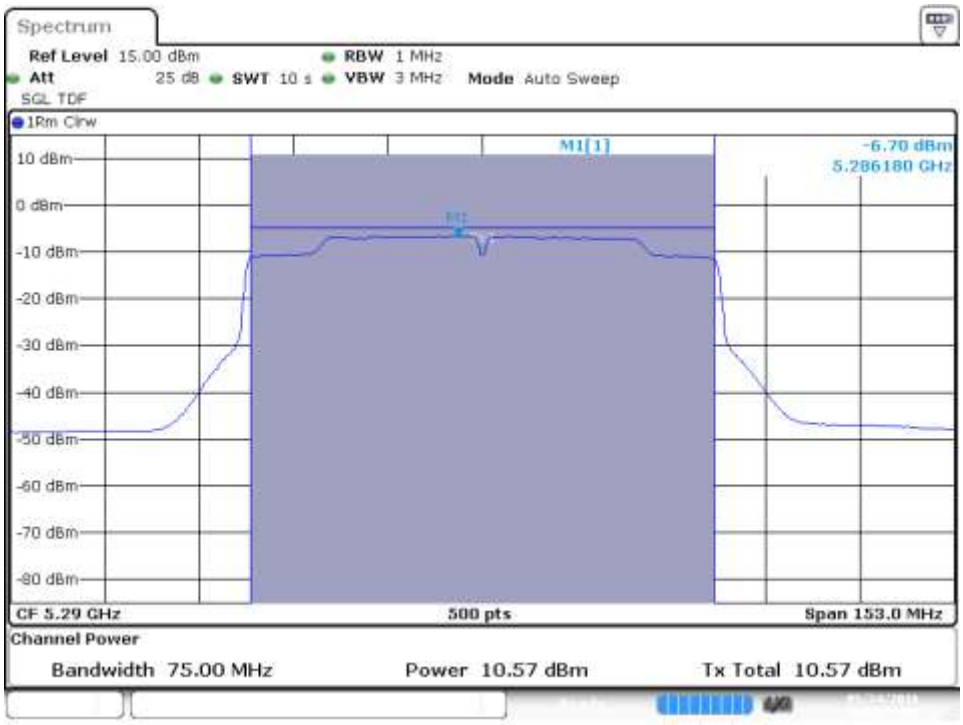
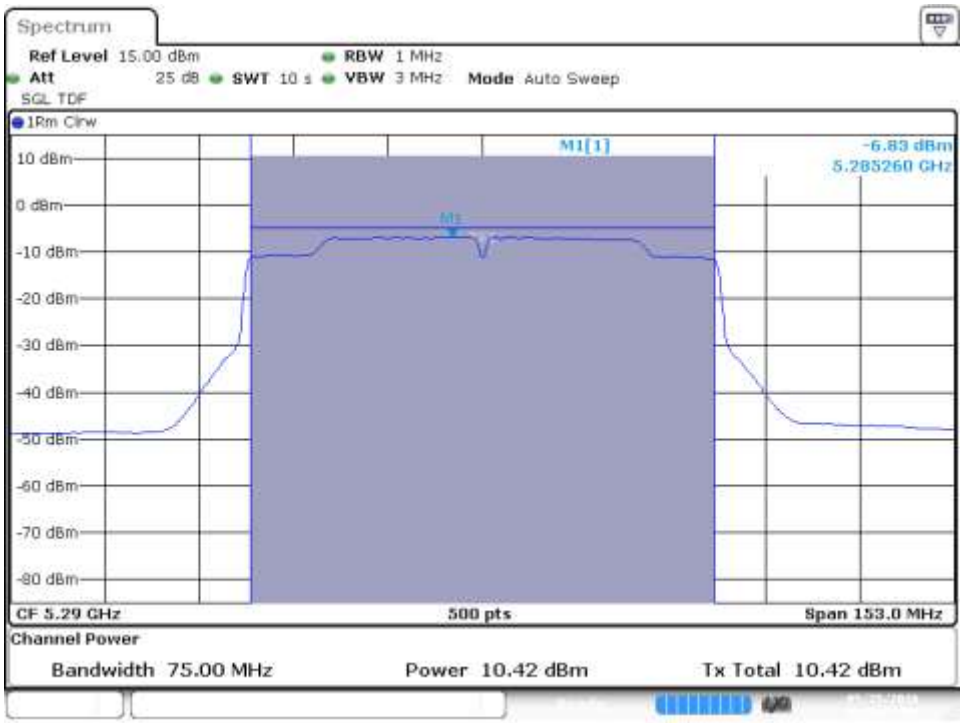
# 802.11ac80, VHT0 (MIMO)

## Max Power & PSD, Chain A – CH58ac80




## Max Power & PSD, Chain B – CH58ac80



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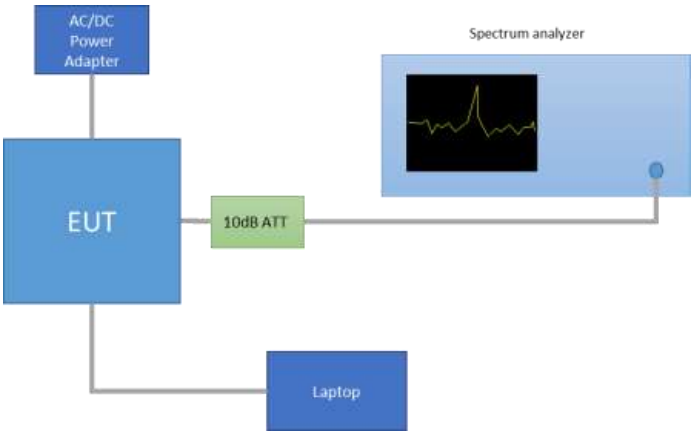
## C.3 Undesirable emissions limits: Band Edge (conducted)

**Test limits:**

<table>
<tr><th>FCC part</th><th>Limits</th></tr>
<tr><td>15.407 (b) (2)</td><td>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.</td></tr>
<tr><td>15.209</td><td>Radiated emissions which fall in the restricted bands, as defined in §15.205(a), must also comply with the radiated emission limits specified in §15.209(a):
<table>
<tr><th>Freq Range (MHz)</th><th>Field Strength (µV/m)</th><th>Field Strength (dBµV/m)</th><th>Meas. Distance (m)</th></tr>
<tr><td>0.009-0.490</td><td>2400/f(kHz)</td><td>-</td><td>300</td></tr>
<tr><td>0.490-1.705</td><td>24000/f(kHz)</td><td>-</td><td>300</td></tr>
<tr><td>1.705-30.0</td><td>30</td><td>-</td><td>30</td></tr>
<tr><td>30-88</td><td>100</td><td>40</td><td>3</td></tr>
<tr><td>88-216</td><td>150</td><td>43.5</td><td>3</td></tr>
<tr><td>216-960</td><td>200</td><td>46</td><td>3</td></tr>
<tr><td>Above 960</td><td>500</td><td>54</td><td>3</td></tr>
</table>
The emission limits shown in the above table are based on measurements employing CISPR quasi-peak detector except for the frequency bands 9-90 kHz, 110-490 kHz and above 1000 MHz. Radiated emission limits in these three bands are based on measurements employing an average detector.<br>For average radiated emission measurements above 1000 MHz, there is also a limit specified when measuring with peak detector function, corresponding to 20 dB above the indicated values in the table.</td></tr>
</table>

**Test procedure:**

The setup below was used to measure undesirable emissions on the Band Edge domain. The antenna terminal of the EUT is connected to the spectrum analyzer through an attenuator, and the spectrum analyzer reading is compensated to include the RF path loss and the declared Antenna Gain.





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The Band Edge High, was measured using the method according to point G) 3) d) (ii) (Integration Method) of KDB 789033 D02. This measurement performs a band-power integration across the 1MHz in which the band-edge emission level has to be measured

In case of Band Edge measurements falling in restricted bands, the declared Antenna Gain is also compensated in the graph. The declared maximum antenna gain is 5dBi.

The following limits in dBm were applied for the average detector after the conversion from the limits detailed above in dBµV/m, according to FCC 47 CFR part 15 - Subpart C – §15.209(a). The limits in dBm for peak detector are 20dB above the indicated values in the table.

| §15.209(a) | | | Converted values | |
|---|---|---|---|---|
| Freq Range (MHz) | Distance (m) | Field strength (microvolts/meter) | Field strength (dB microvolts/meter) | Power (dBm) |
| 960-25000 | 3 | 500 | 53.98 | -41.2 |



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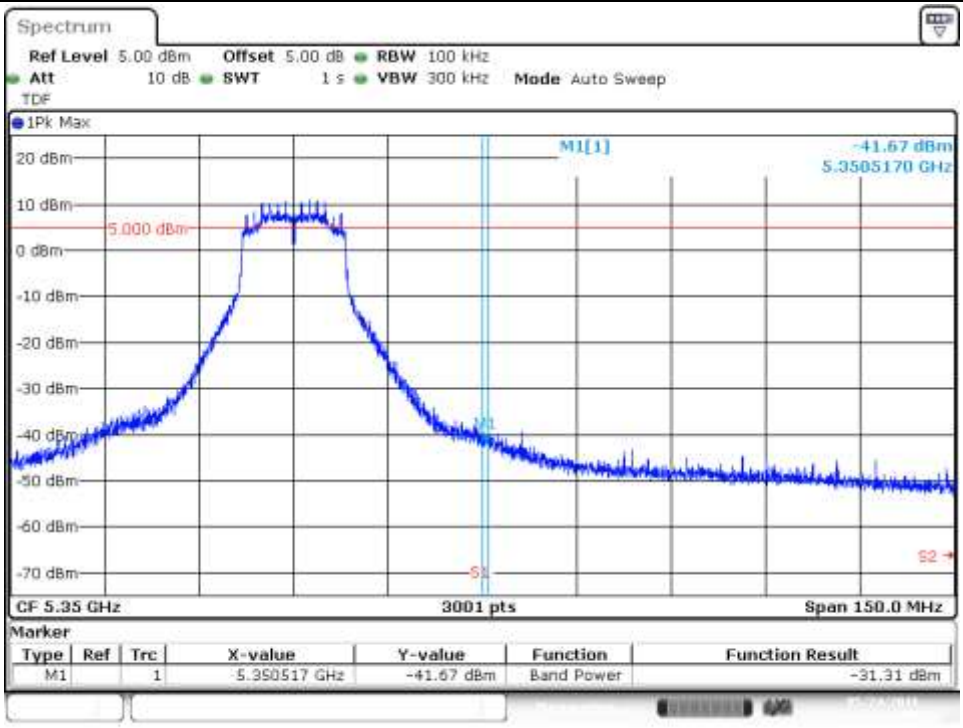
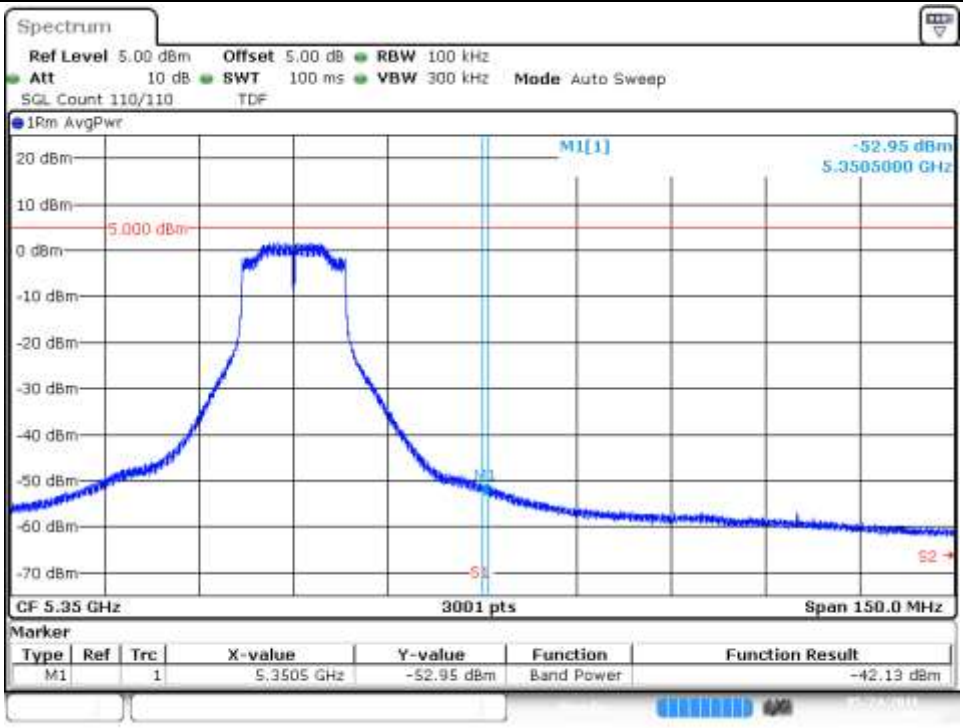
**Results Screenshot:**

## 802.11a, 6Mbps – Chain A

### BE High Freq Section, Peak – CH64




### BE High Freq Section, RMS – CH64



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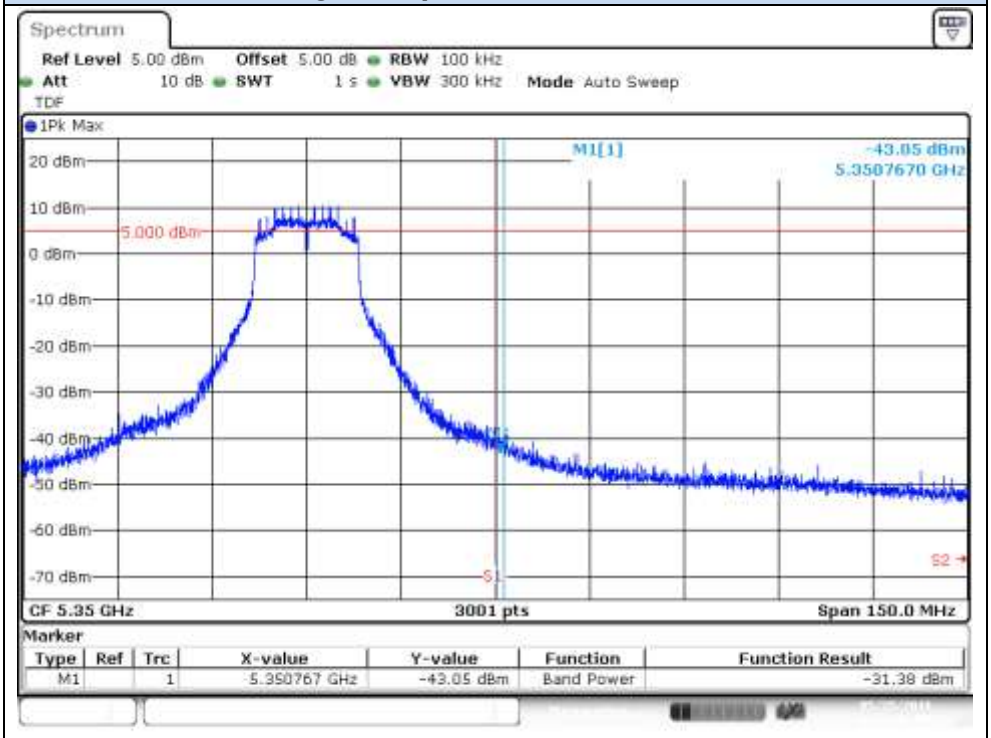
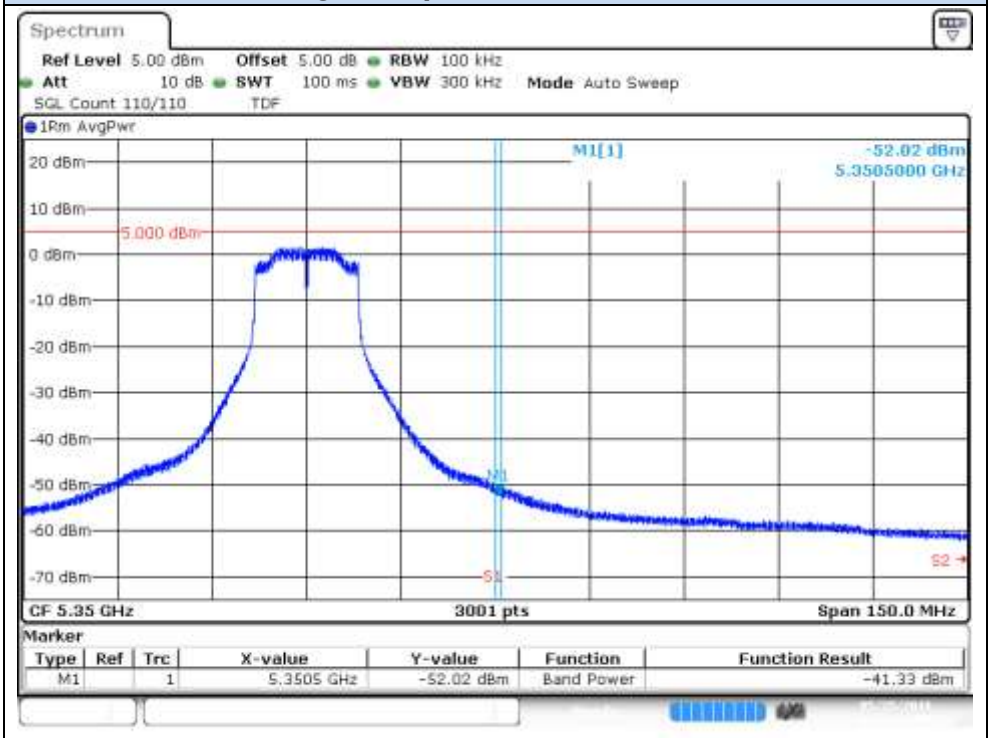
# 802.11a, 6Mbps – Chain B

## BE High Freq Section, Peak – CH64




## BE High Freq Section, RMS – CH64



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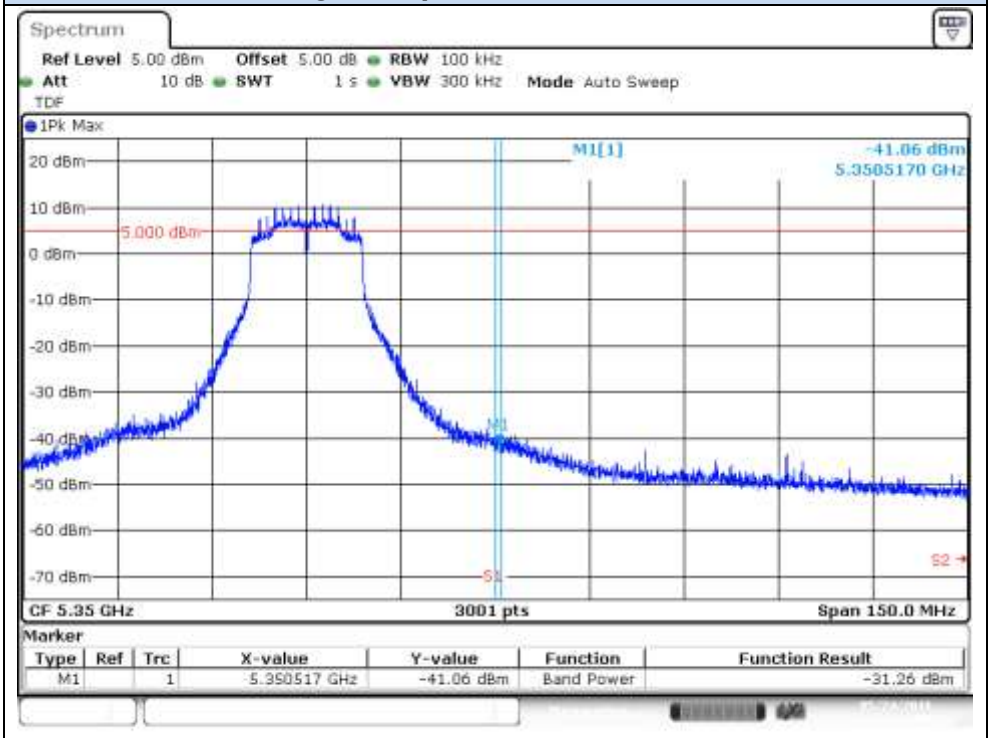
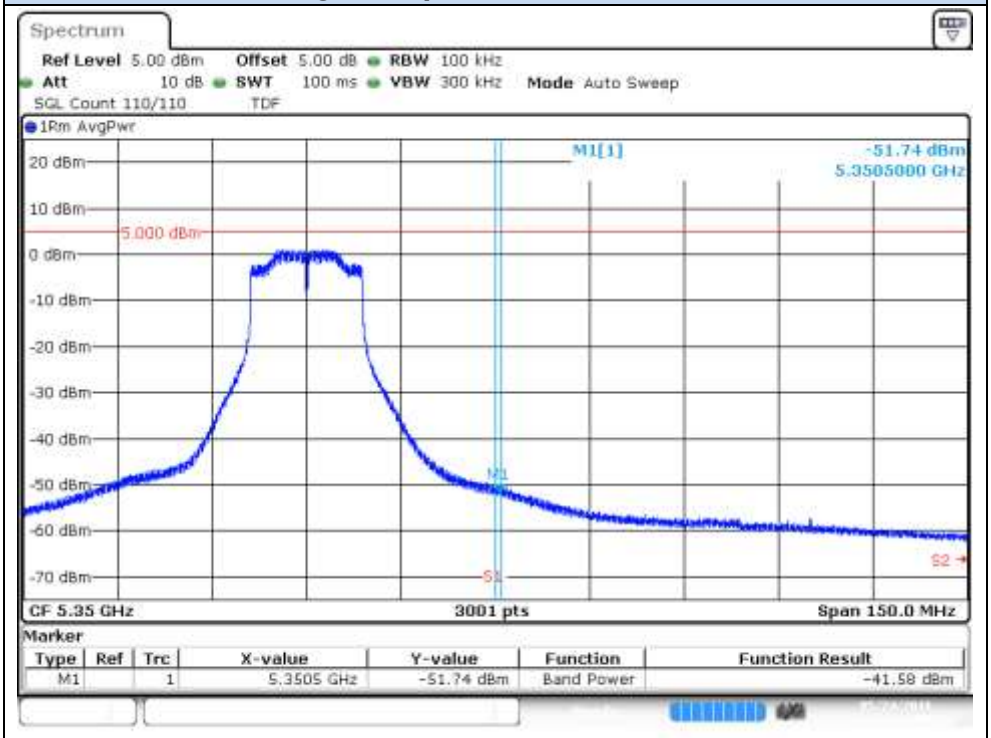
# 802.11n20, HT0 (SISO) – Chain A

## BE High Freq Section, Peak – CH64




## BE High Freq Section, RMS – CH64



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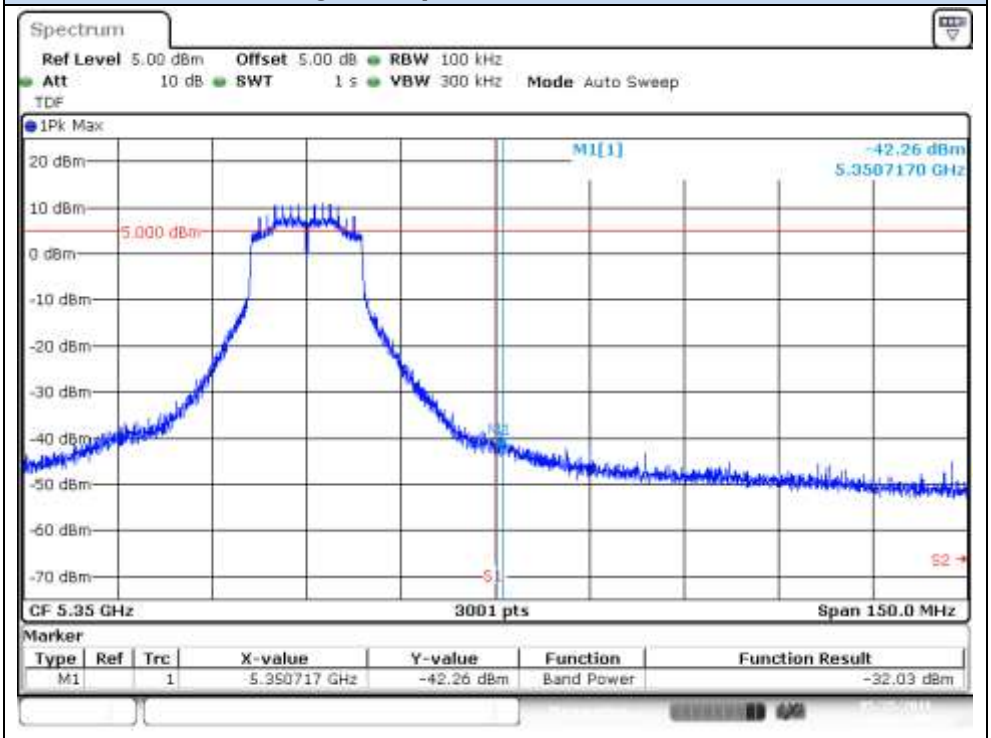
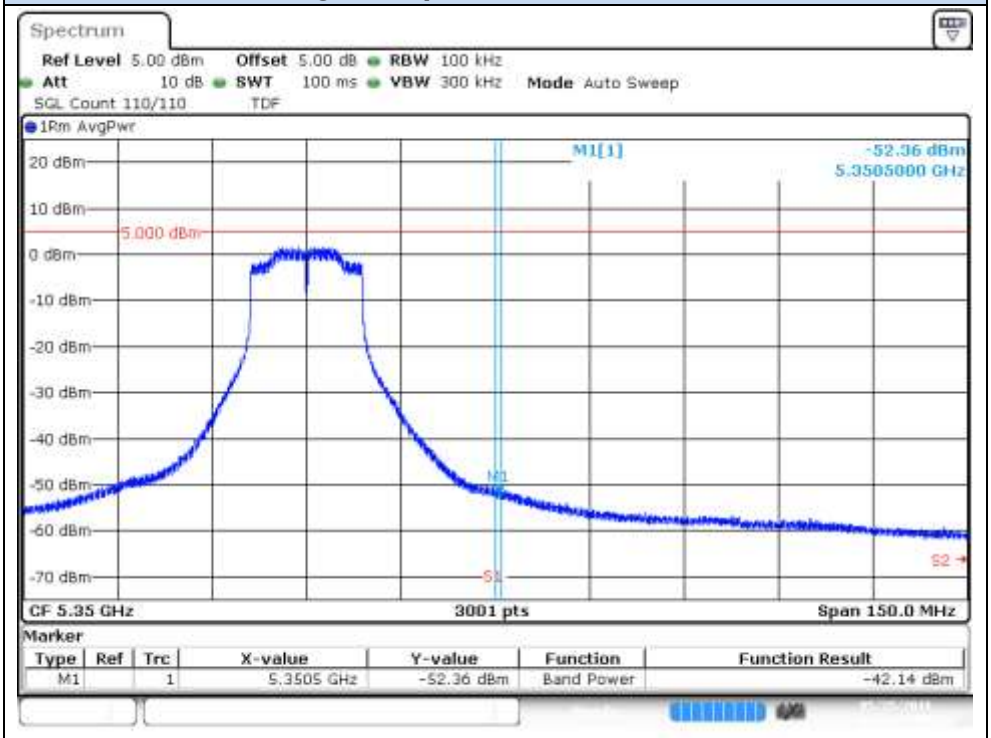
# 802.11n20, HT0 (SISO) – Chain B

## BE High Freq Section, Peak – CH64




## BE High Freq Section, RMS – CH64



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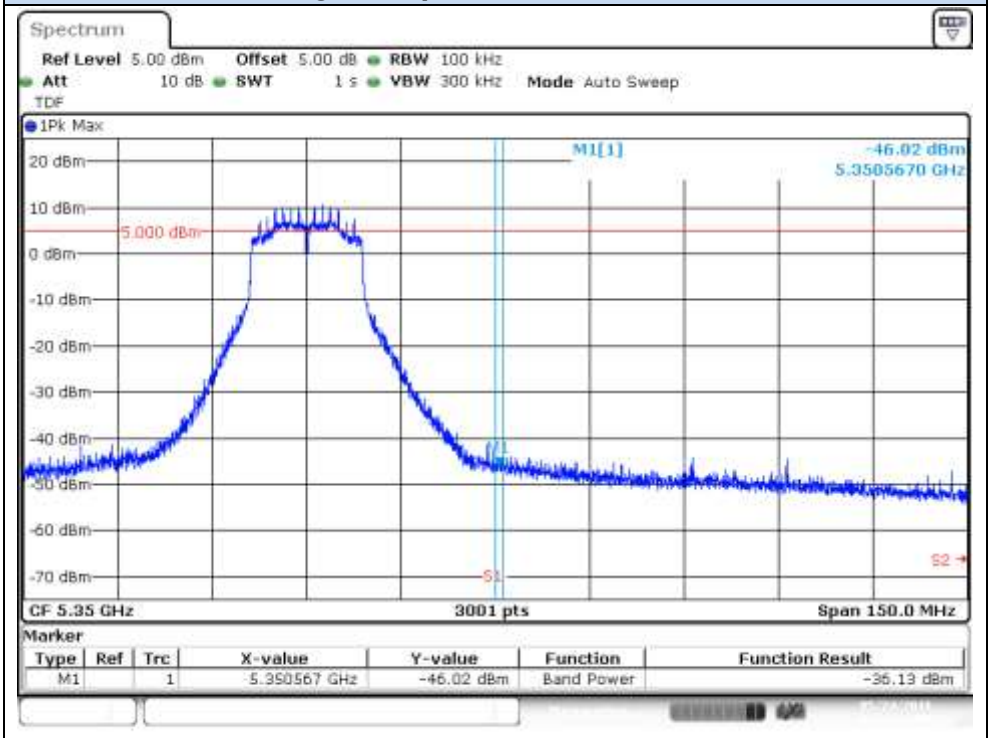
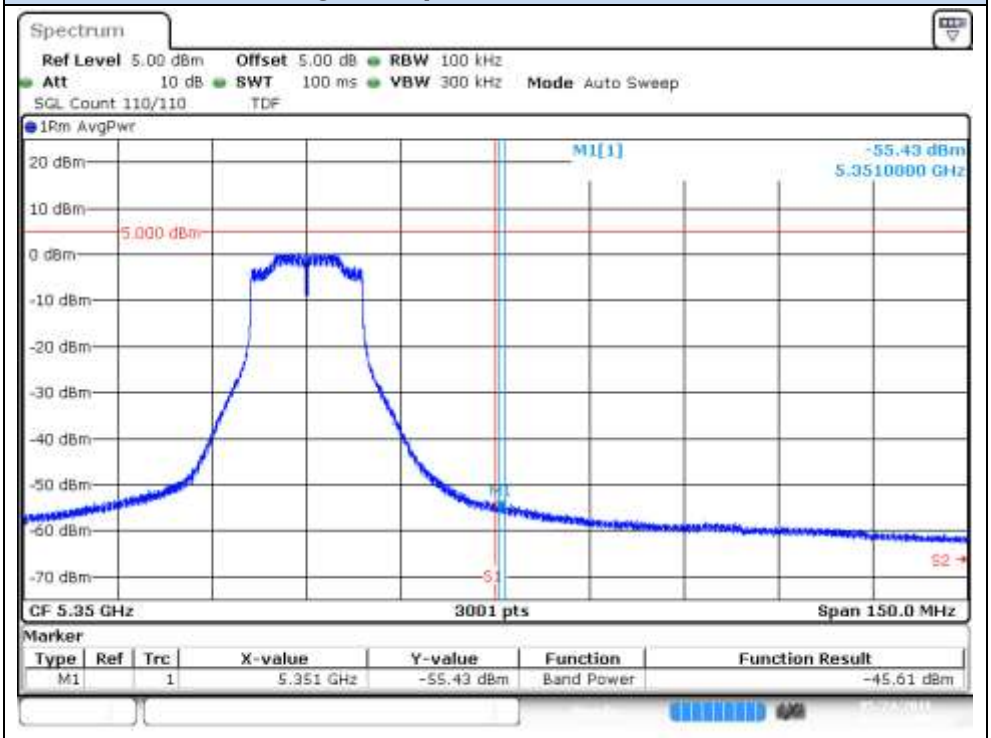
# 802.11n20, HT8 (MIMO) – Chain A

## BE High Freq Section, Peak – CH64




Date: 24.MAY.2016 17:24:54

## BE High Freq Section, RMS – CH64




Date: 24.MAY.2016 18:29:34



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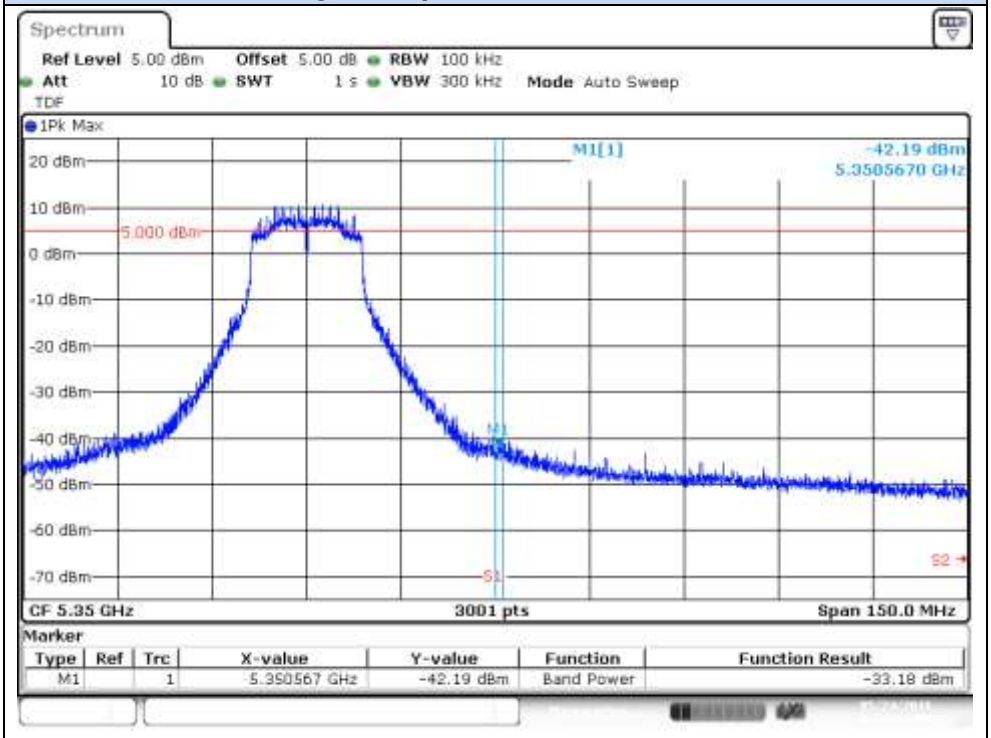
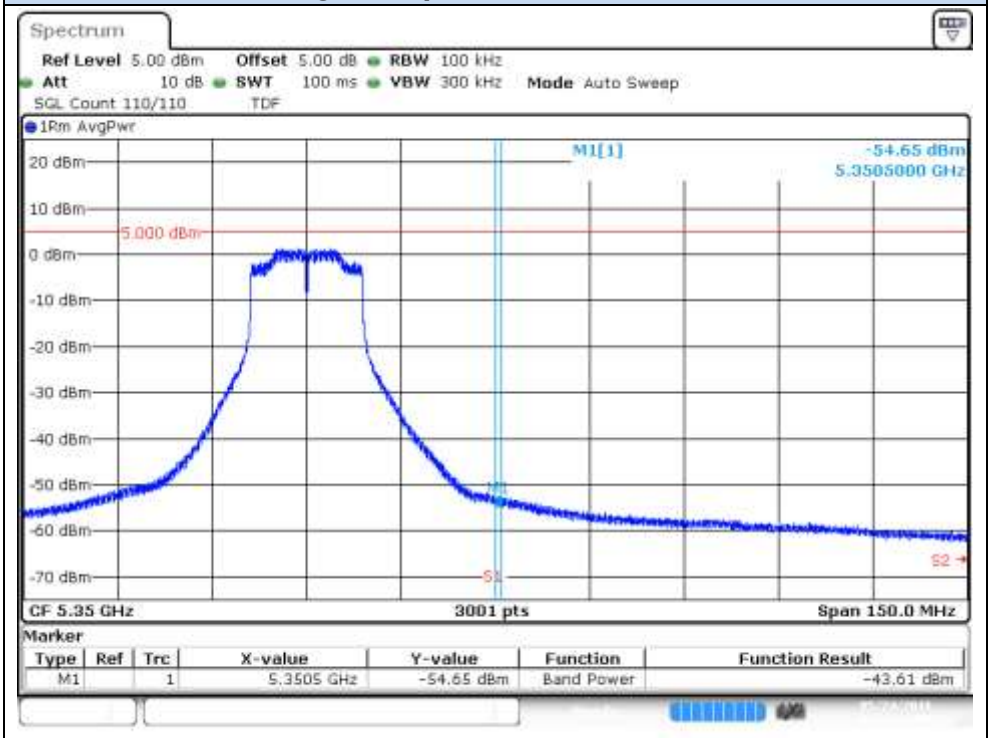
# 802.11n20, HT8 (MIMO) – Chain B

## BE High Freq Section, Peak – CH64




## BE High Freq Section, RMS – CH64



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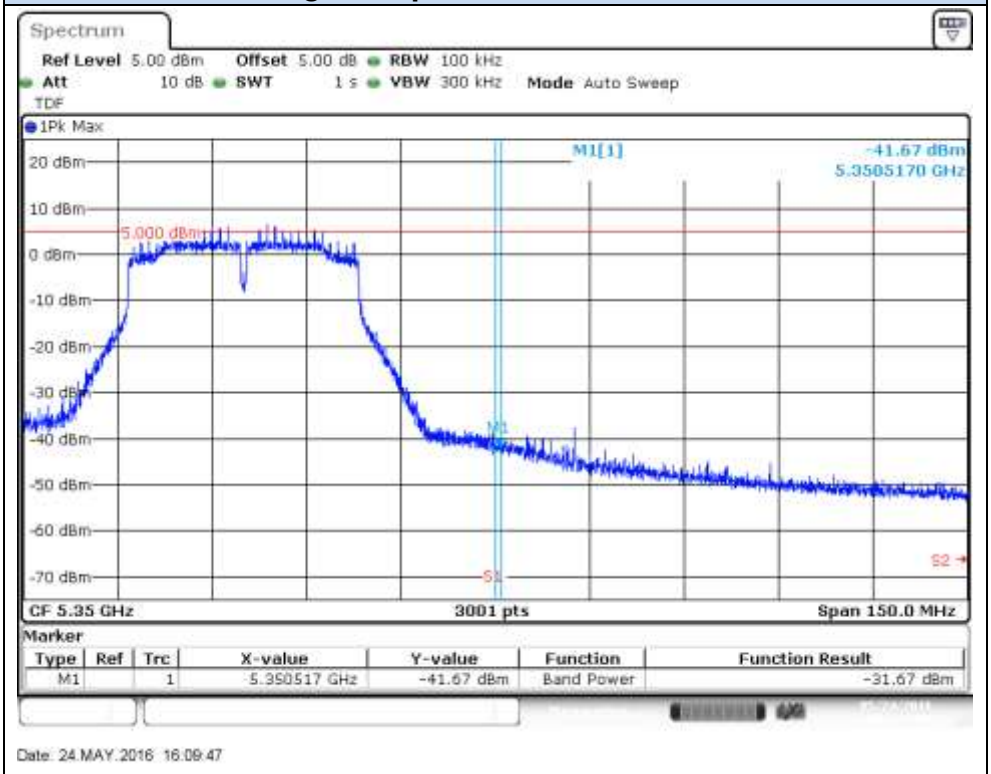
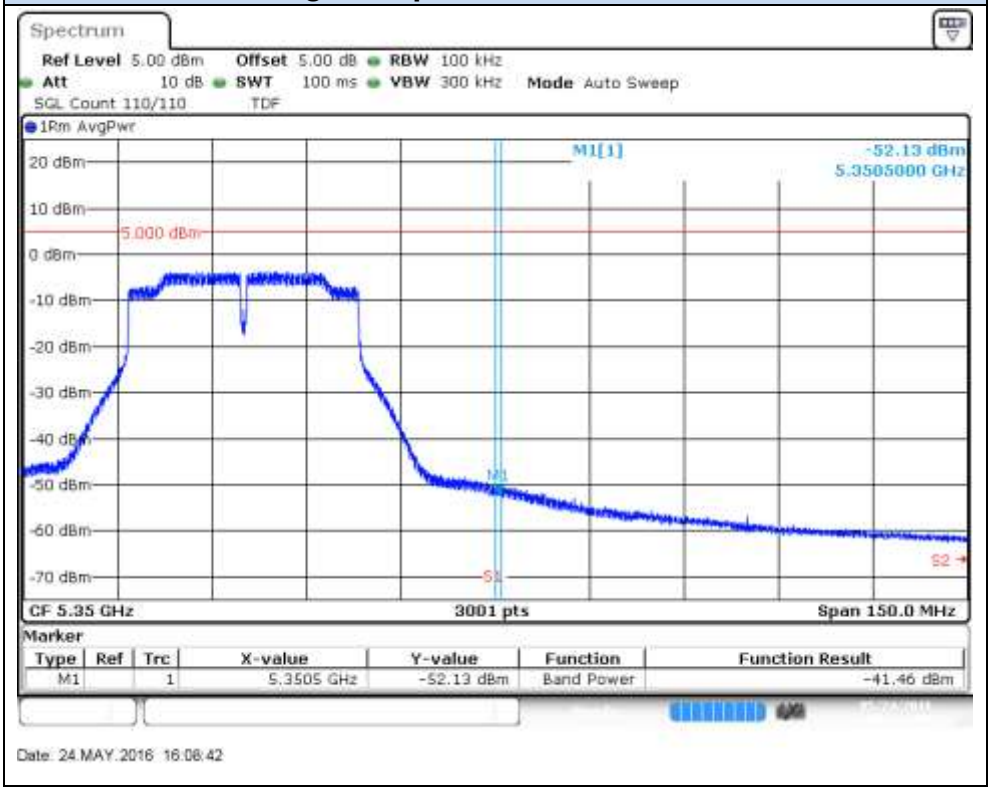
# 802.11n40, HT0 (SISO) – Chain A

## BE High Freq Section, Peak – CH62F




## BE High Freq Section, RMS – CH62F



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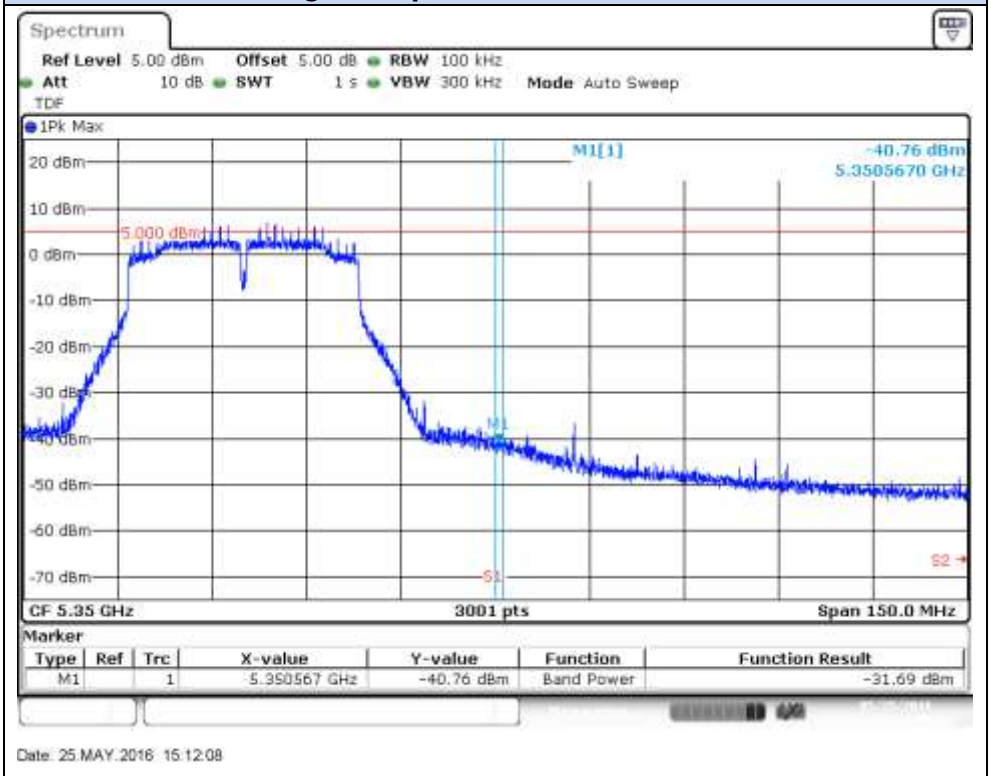
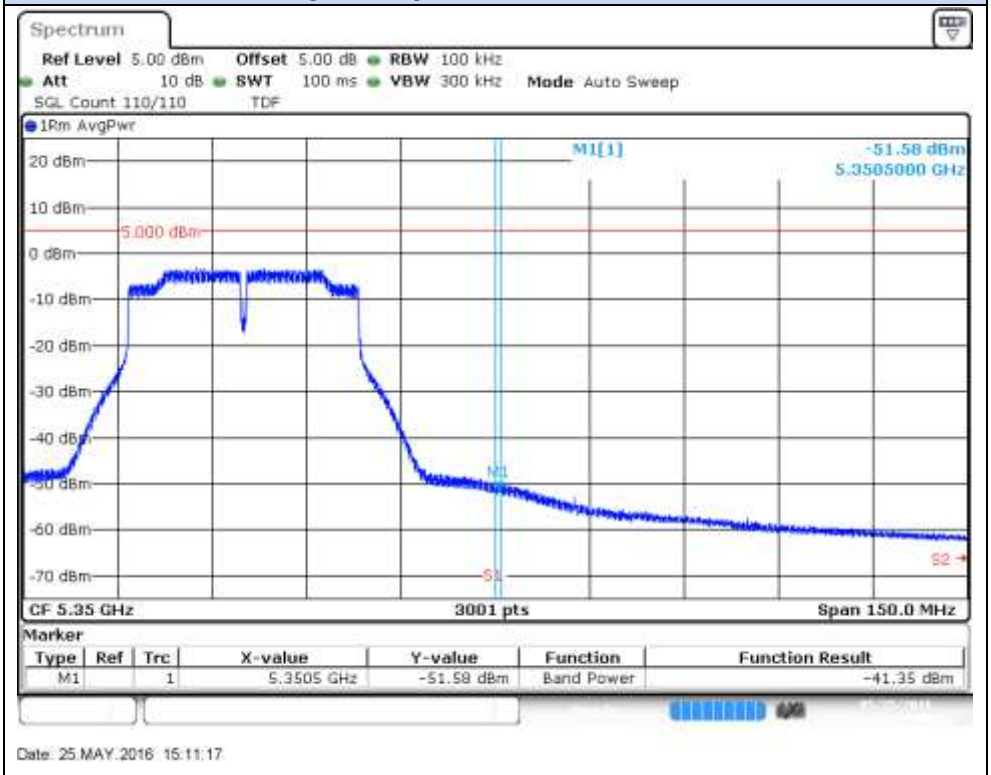
# 802.11n40, HT0 (SISO) – Chain B

## BE High Freq Section, Peak – CH62F




## BE High Freq Section, RMS – CH62F



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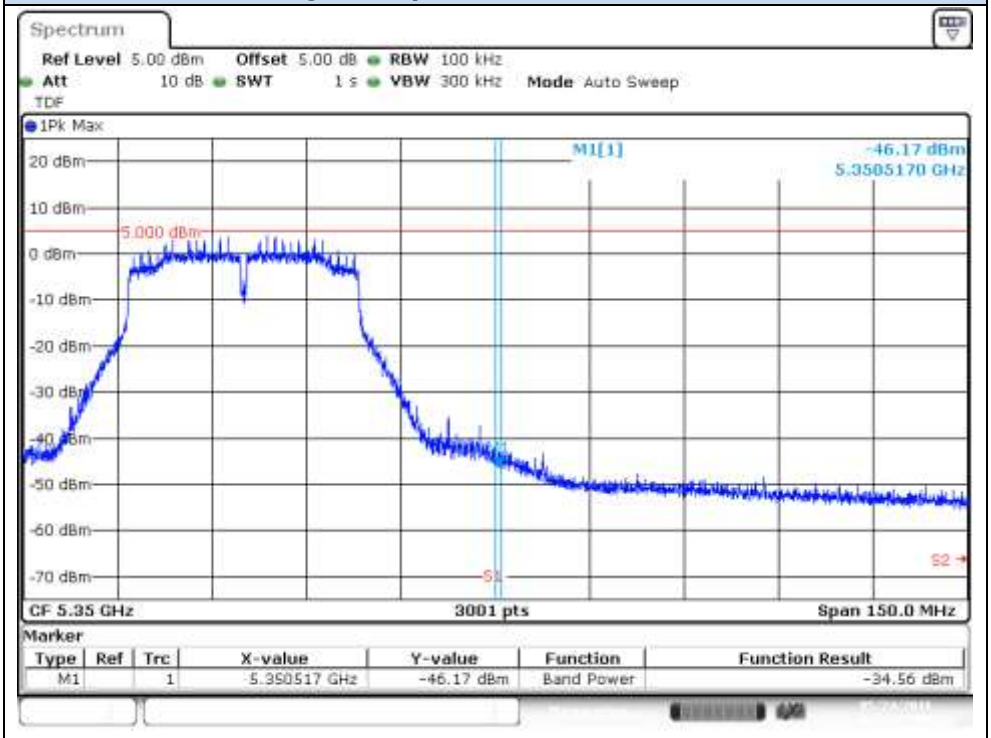
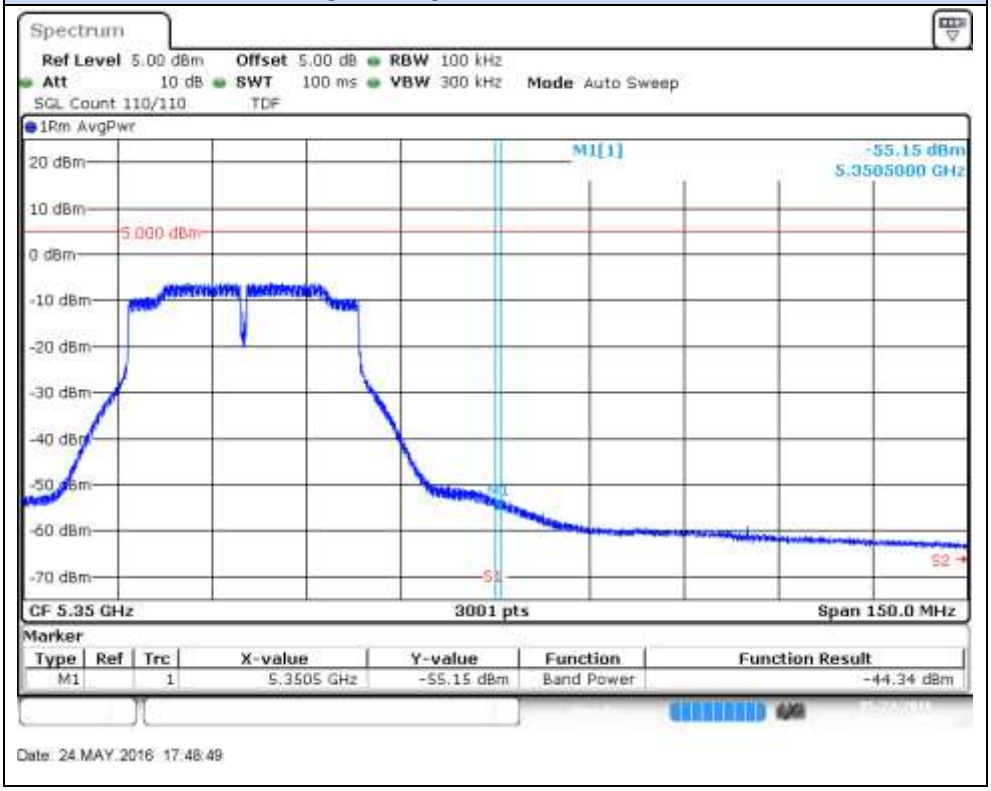
# 802.11n40, HT8 (MIMO) – Chain A

## BE High Freq Section, Peak – CH62F




## BE 00High Freq Section, RMS – CH62F



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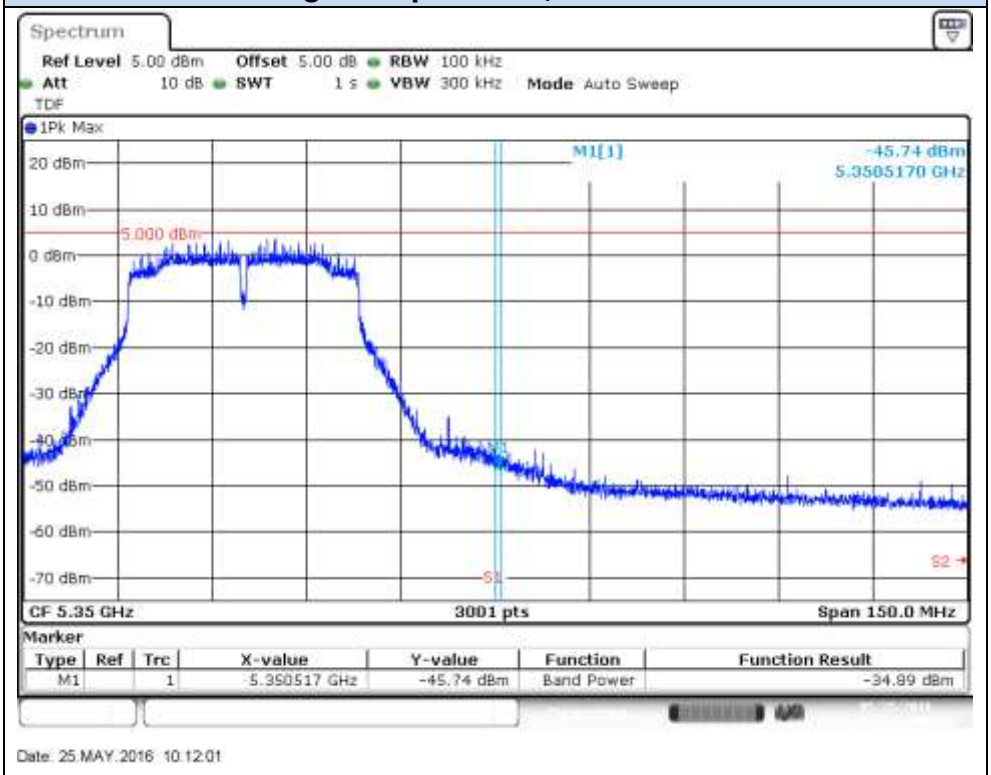
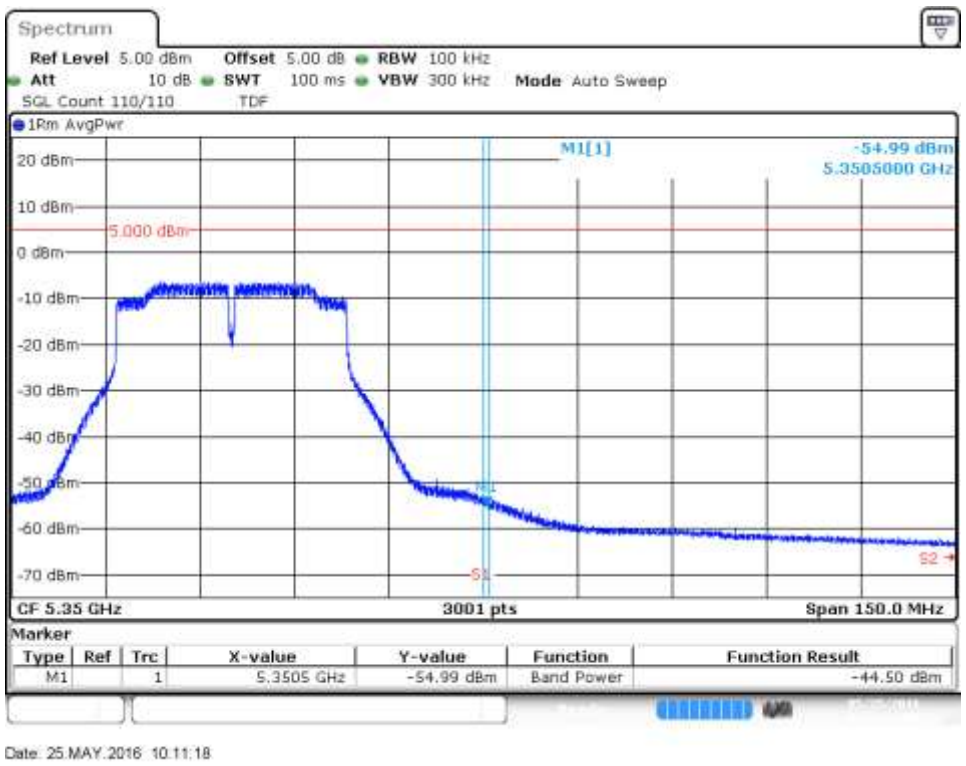
# 802.11n40, HT8 (MIMO) – Chain B

## BE High Freq Section, Peak – CH62F




## BE High Freq Section, RMS – CH62F



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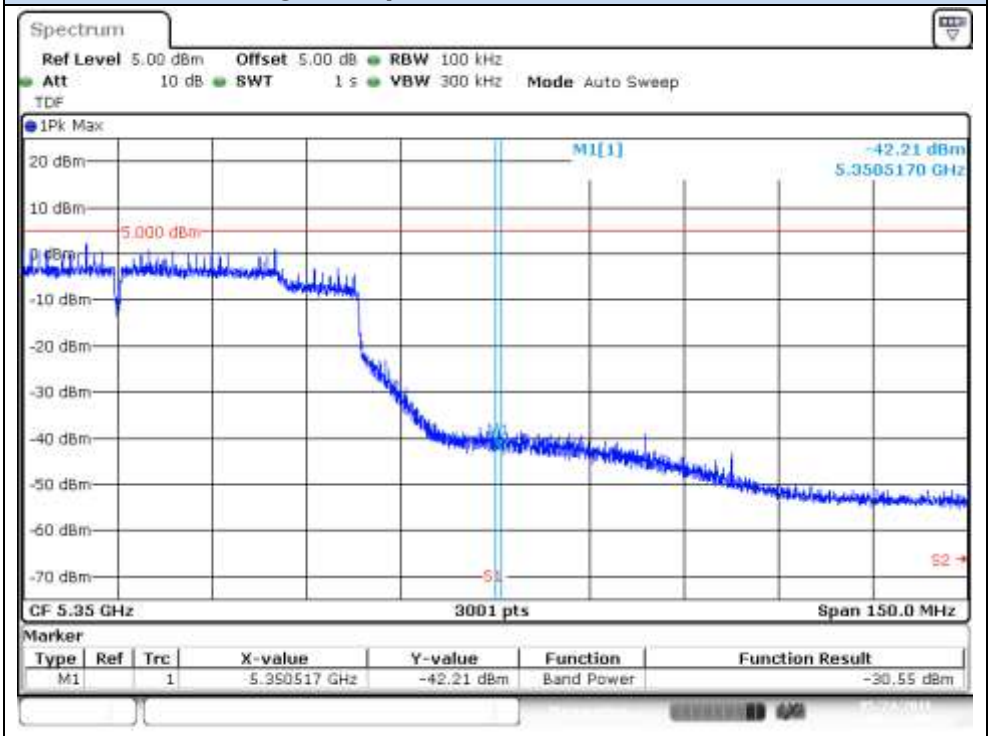
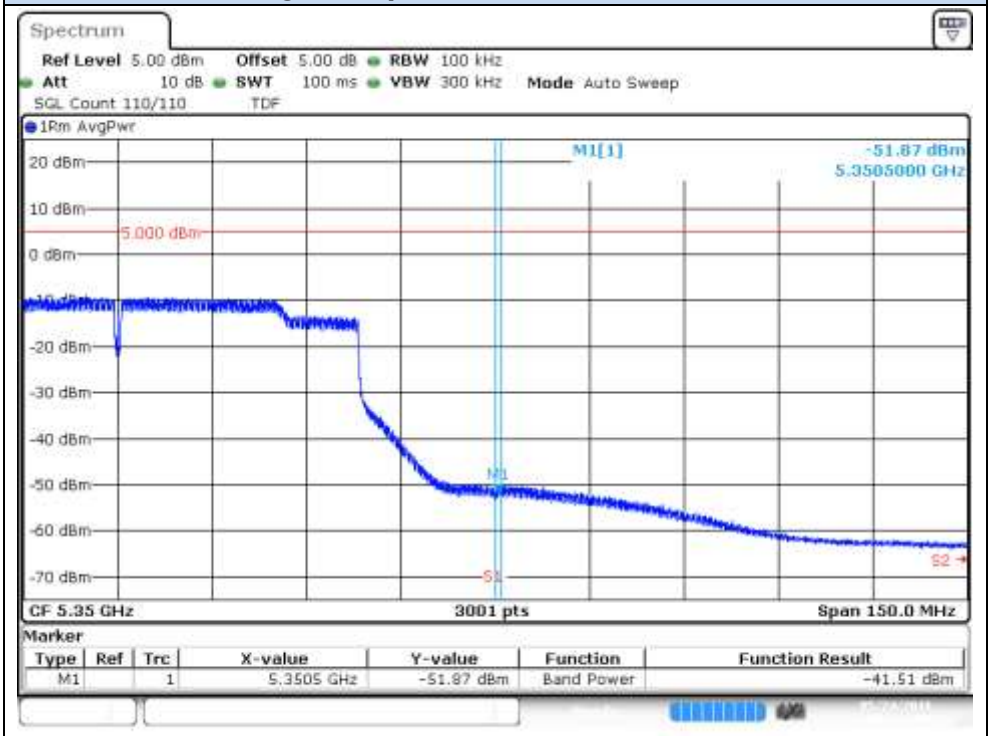
# 802.11ac80, VHT0 (SISO)- Chain A

## BE High Freq Section, Peak – CH58ac80




## BE High Freq Section, RMS – CH58ac80



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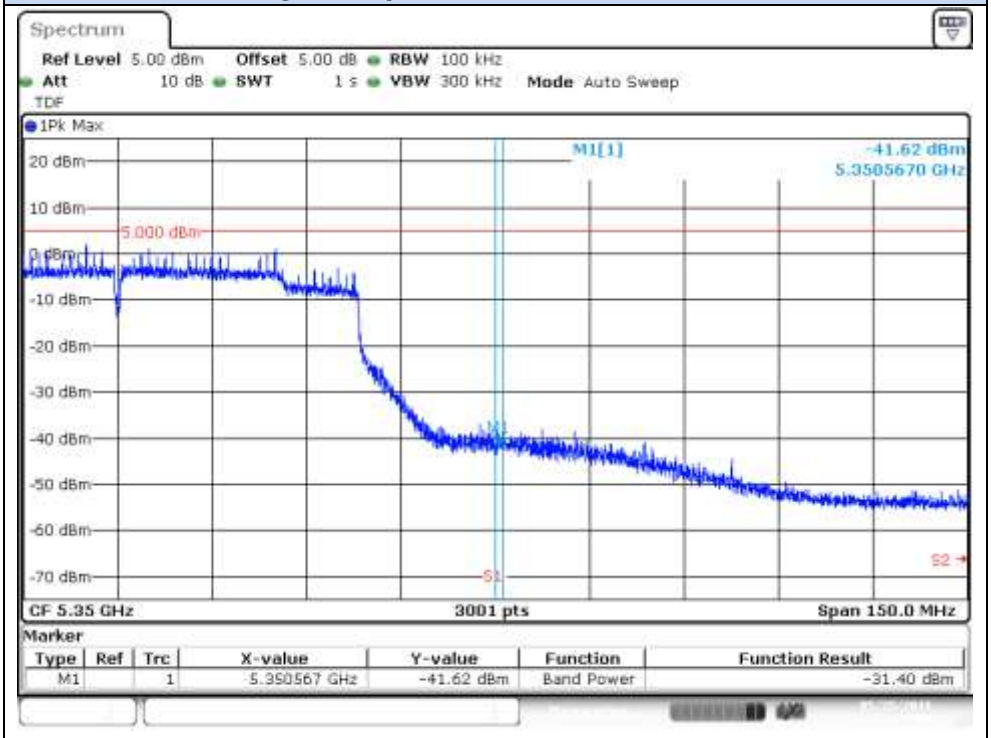
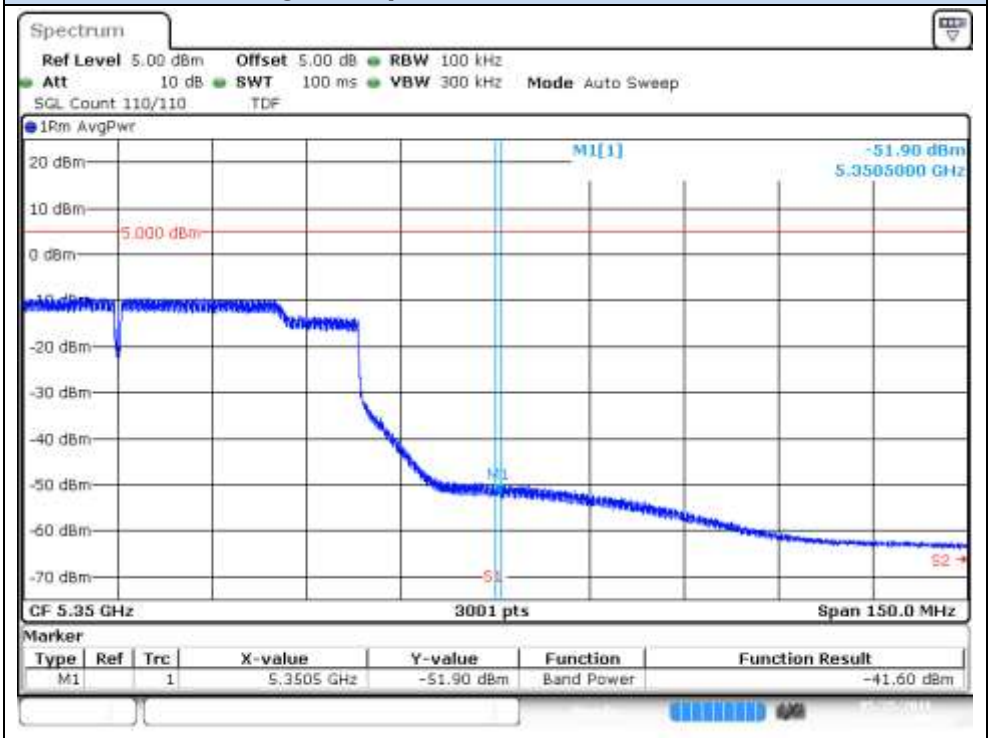
# 802.11ac80, VHT0 (SISO)- Chain B

## BE High Freq Section, Peak – CH58ac80




## BE High Freq Section, RMS – CH58ac80



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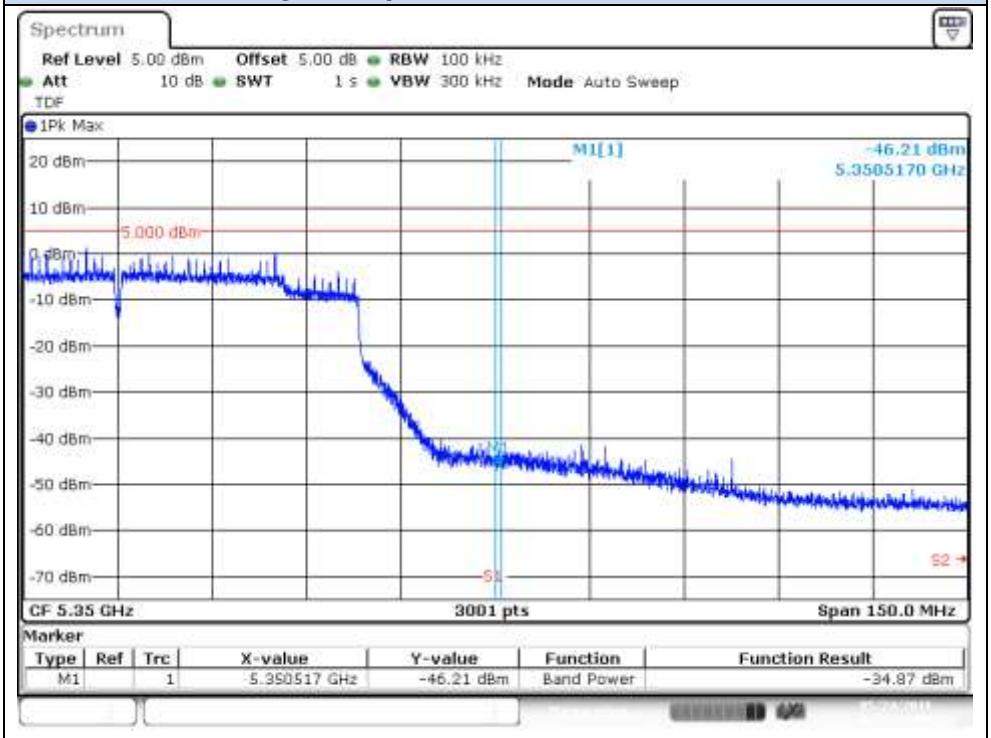
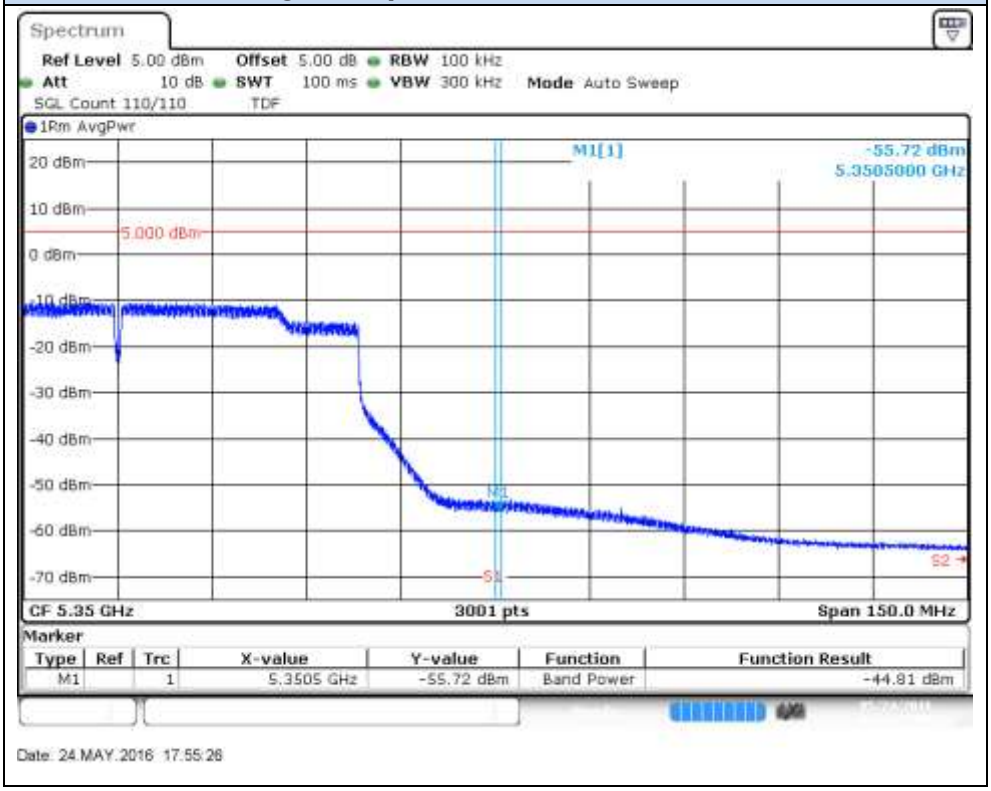
# 802.11ac80, VHT0 (MIMO)- Chain A

## BE High Freq Section, Peak – CH58ac80




## BE High Freq Section, RMS – CH58ac80



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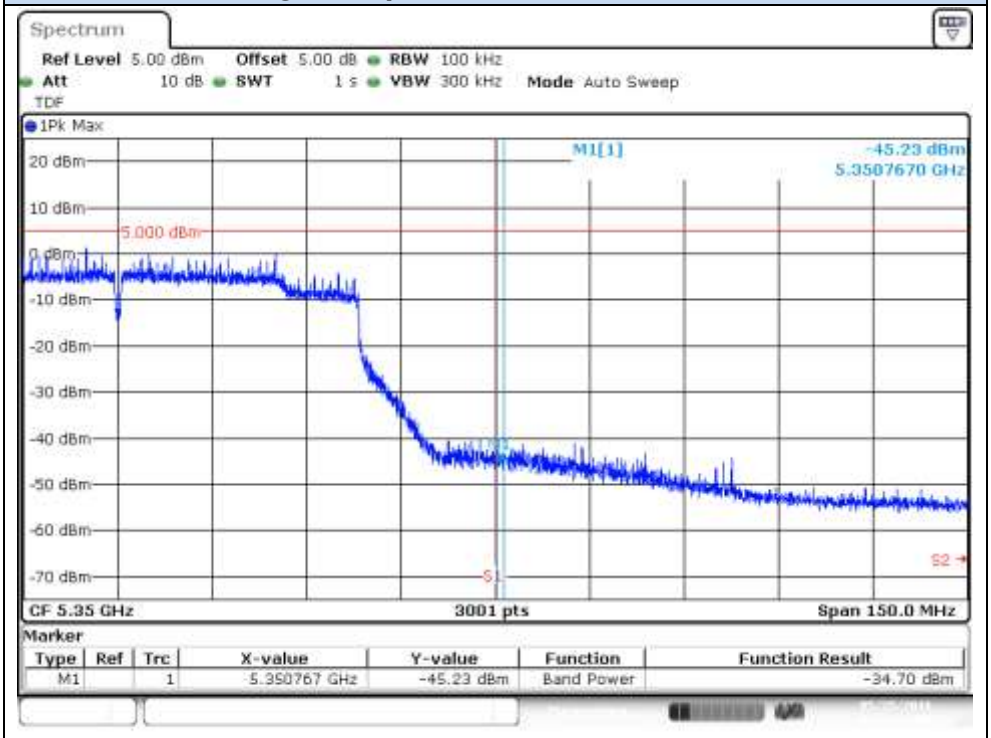
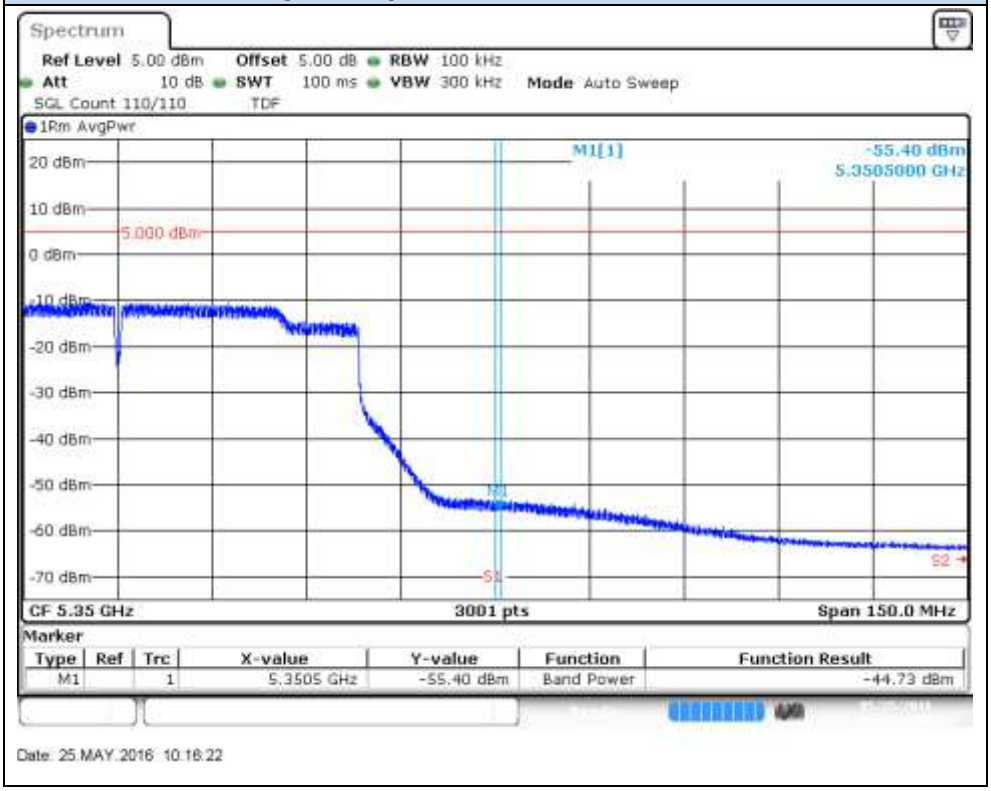
# 802.11ac80, VHT0 (MIMO)- Chain B

## BE High Freq Section, Peak – CH58ac80




## BE High Freq Section, RMS – CH58ac80



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## C.4 Radiated spurious emission

**Standard references:**

<table>
<tr><th>FCC part</th><th>Limits</th></tr>
<tr><td>15.407 (a) (2)</td><td>For the 5.25–5.35 GHz and 5.47–5.725 GHz bands, the maximum conducted output power over the frequency bands of operation shall not exceed the lesser of 250 mW or 11 dBm + 10 log B, where B is the 26 dB emission bandwidth in megahertz. In addition, the peak power spectral density shall not exceed 11 dBm in any 1 megahertz band.</td></tr>
<tr><td>15.209</td><td>Radiated emissions which fall in the restricted bands, as defined in §15.205(a), must also comply with the radiated emission limits specified in §15.209(a):
<table>
<tr><th>Freq Range (MHz)</th><th>Field Strength (µV/m)</th><th>Field Strength (dBµV/m)</th><th>Meas. Distance (m)</th></tr>
<tr><td>0.009-0.490</td><td>2400/f(kHz)</td><td>-</td><td>300</td></tr>
<tr><td>0.490-1.705</td><td>24000/f(kHz)</td><td>-</td><td>300</td></tr>
<tr><td>1.705-30.0</td><td>30</td><td>-</td><td>30</td></tr>
<tr><td>30-88</td><td>100</td><td>40</td><td>3</td></tr>
<tr><td>88-216</td><td>150</td><td>43.5</td><td>3</td></tr>
<tr><td>216-960</td><td>200</td><td>46</td><td>3</td></tr>
<tr><td>Above 960</td><td>500</td><td>54</td><td>3</td></tr>
</table>
The emission limits shown in the above table are based on measurements employing CISPR quasi-peak detector except for the frequency bands 9-90 kHz, 110-490 kHz and above 1000 MHz. Radiated emission limits in these three bands are based on measurements employing an average detector.<br>For average radiated emission measurements above 1000 MHz, there is also a limit specified when measuring with peak detector function, corresponding to 20 dB above the indicated values in the table.</td></tr>
</table>

**Test procedure:**

The below setups were used to measure the radiated spurious emissions.
Depending of the frequency range and bands being tested, different antennas and filters were used.
The final measurement is done by varying the antenna height, the EUT azimuth over 360º and for both Vertical and Horizontal polarizations.
The radiated spurious emissions were measured on the worst case configuration selected from the chapter C.2 and using the lowest, middle and highest channels.


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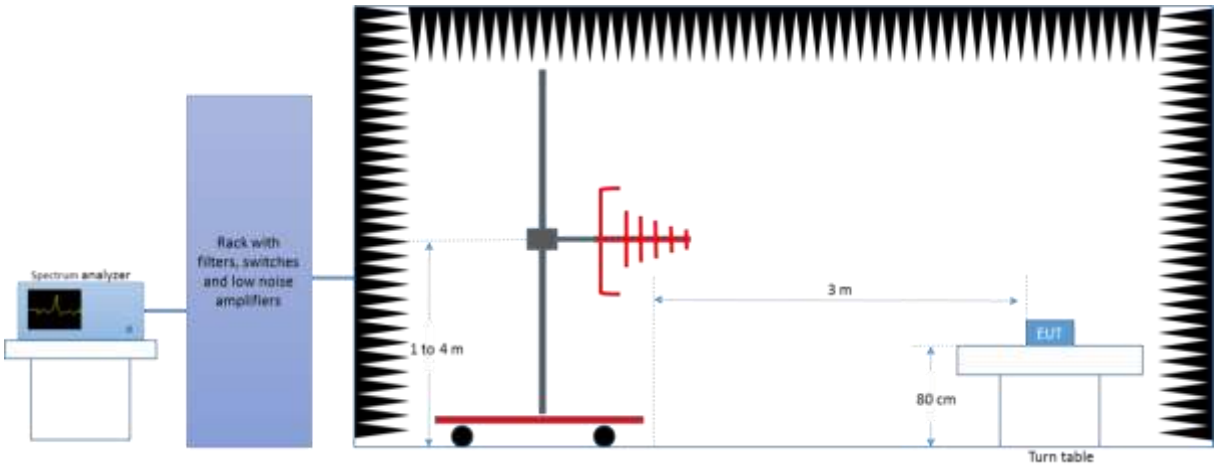
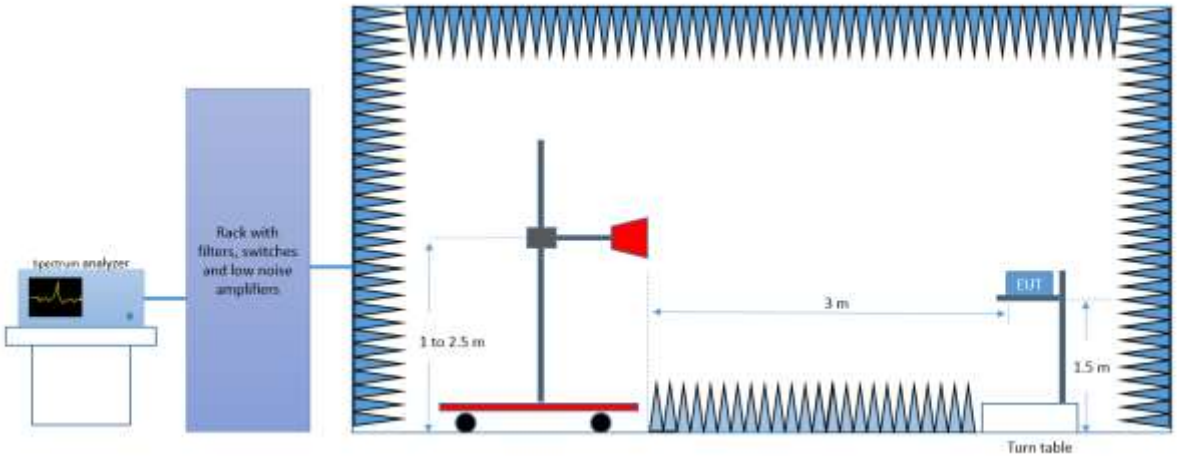
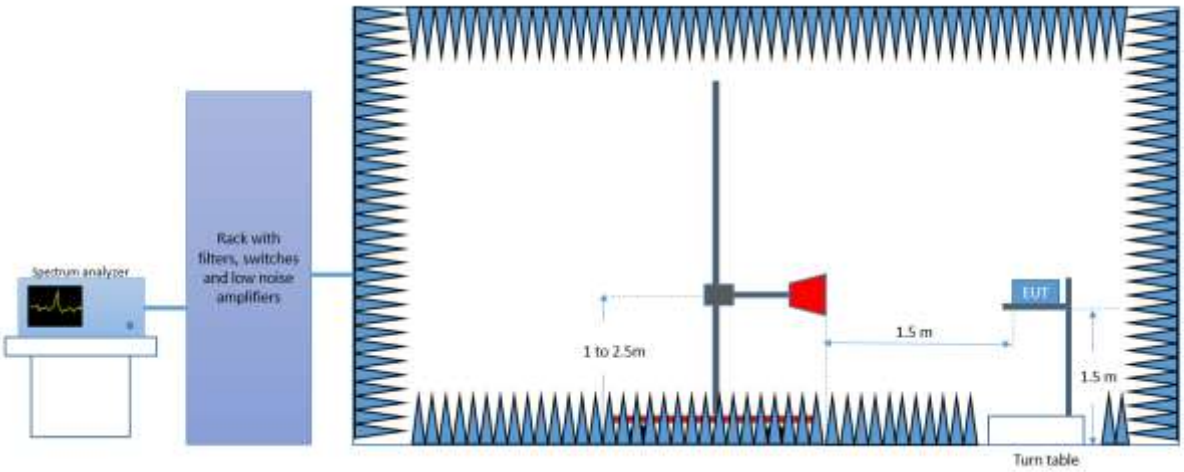
*Radiated Setup < 1GHz*




*Radiated Setup 1 GHz - 18 GHz*




*Radiated Setup 18 GHz - 26.5 GHz*



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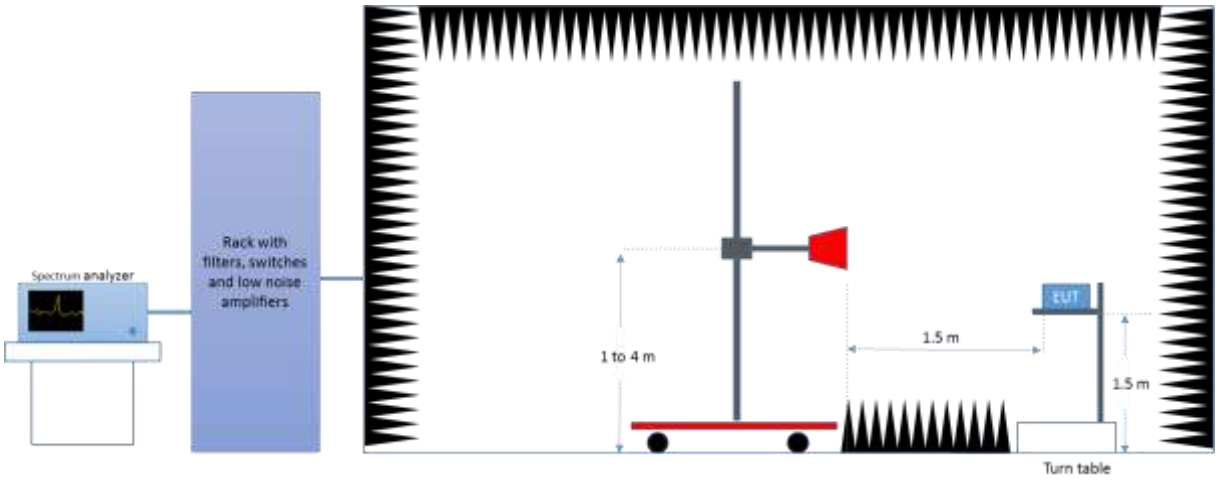
*Radiated Setup > 26.5 GHz*



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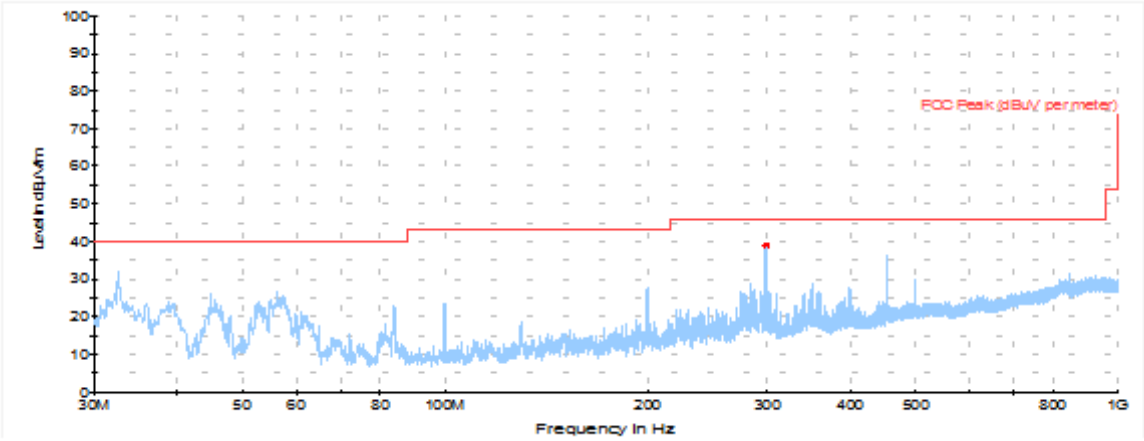
**Test Results:**

# Radiated Spurious – 30MHz to 1GHz

## Radiated Spurious – All modes




| Frequency | MaxPeak | Limit | Margin |
|---|---|---|---|
| MHz | dBuV/m | dBuV/m | dB |
| 299 | 38.9 | 46 | 7.1 |

Note 1: The spurious signals detected do not depend on either the operating channel or the modulation mode.



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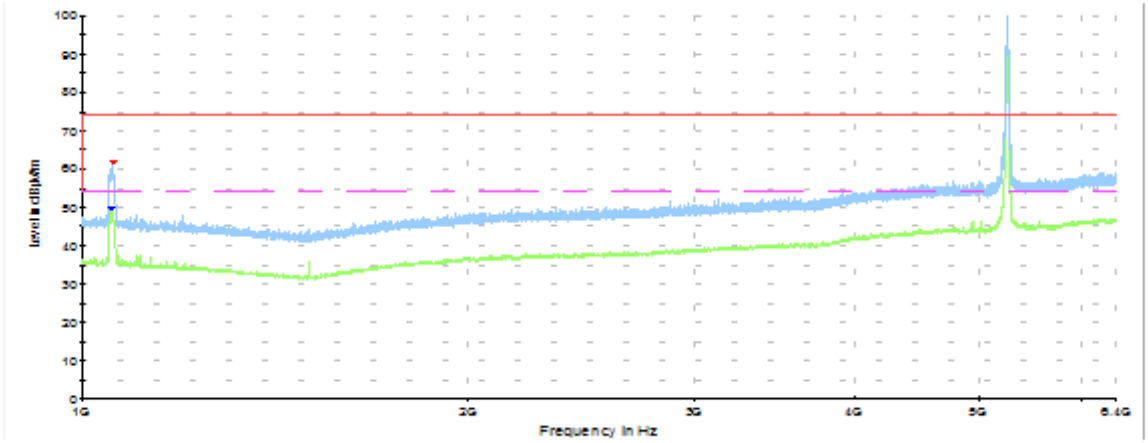
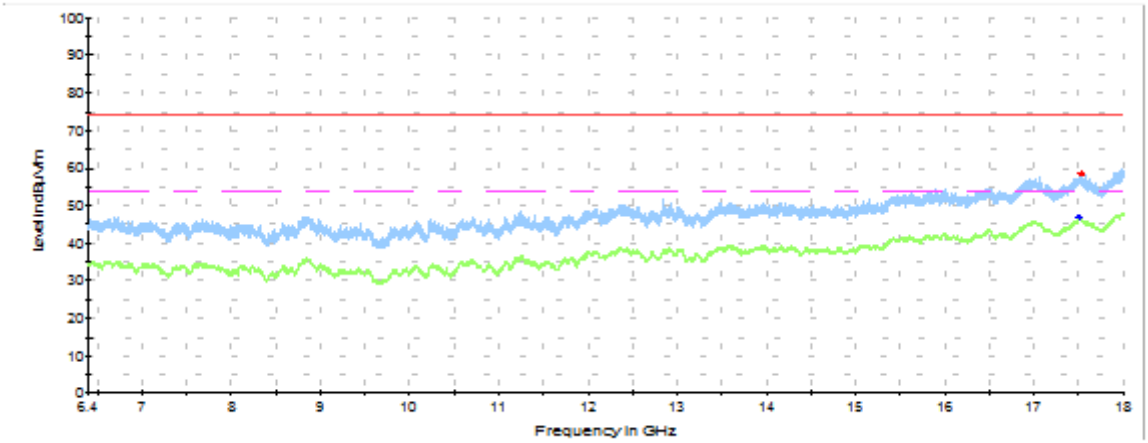
# 1 GHz – 18GHz, 802.11a, 6Mbps, Chain A

## Radiated Spurious – CH52




Peak measurements  Avg measurements  Limit FCC Peak  Limit FCC Avg

| Frequency | MaxPeak | Avg | Limit | Margin |
|---|---|---|---|---|
| MHz | dBuV/m | dBuV/m | dBuV/m | dB |
| 1054 | - | 52.1 | 54 | **1.9** |
| 1057 | 62.8 | - | 74 | 11.2 |
| 17507 | - | 46.9 | 54 | 7.1 |
| 17524 | 58.3 | - | 74 | 15.7 |



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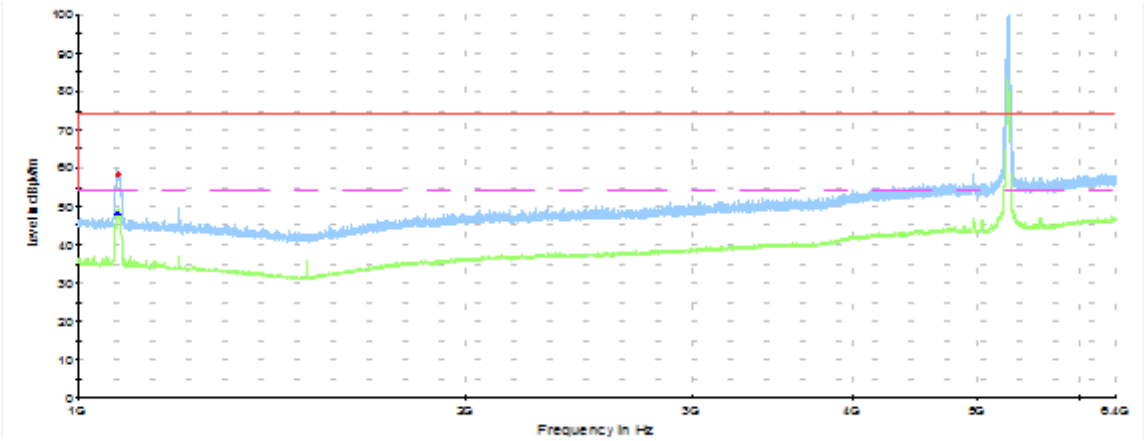
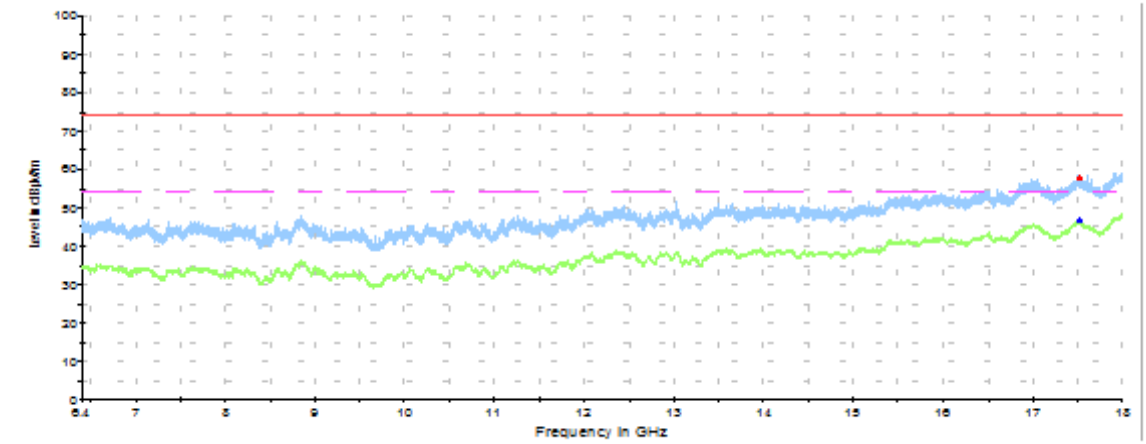
## Radiated Spurious – CH56




Peak measurements  Avg measurements  Limit FCC Peak  Limit FCC Avg

| Frequency | MaxPeak | Avg | Limit | Margin |
|---|---|---|---|---|
| MHz | dBuV/m | dBuV/m | dBuV/m | dB |
| 1075 | - | 51.4 | 54 | **2.7** |
| 1075 | 62.9 | - | 74 | 11.2 |
| 17518 | 57.8 | - | 74 | 16.3 |
| 17521 | - | 46.6 | 54 | 7.4 |



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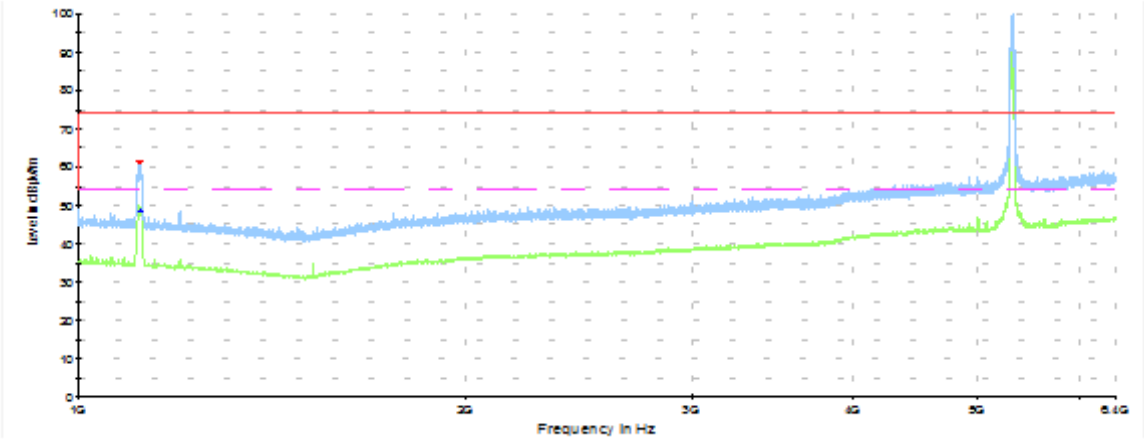
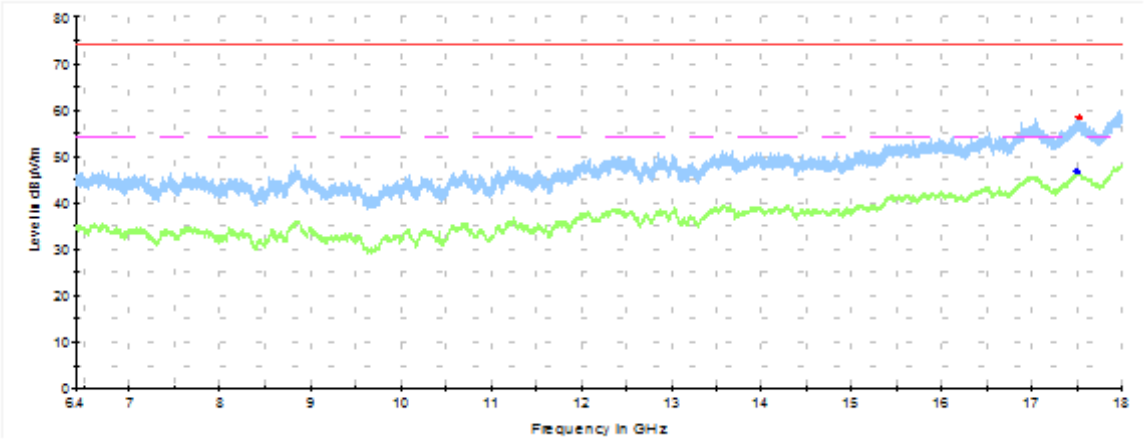
## Radiated Spurious – CH64




Peak measurements  Avg measurements  Limit FCC Peak  Limit FCC Avg

| Frequency | MaxPeak | Avg | Limit | Margin |
|---|---|---|---|---|
| MHz | dBuV/m | dBuV/m | dBuV/m | dB |
| 1115 | 61.8 | - | 74 | 12.3 |
| 1117 | - | 49.1 | 54 | 5.0 |
| 17499 | - | 46.8 | 54 | 7.3 |
| 17519 | 58.3 | - | 74 | 15.7 |



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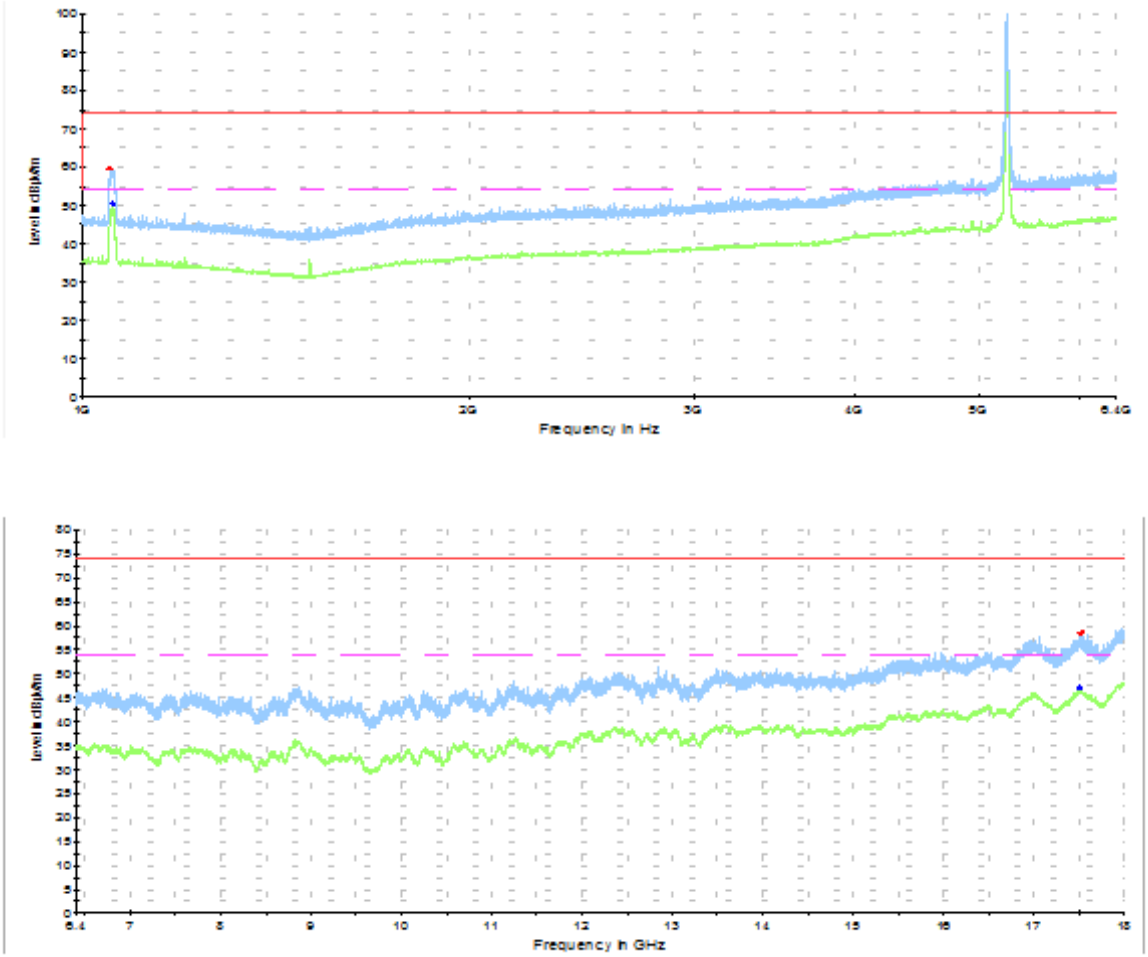
# 1 GHz – 18GHz, 802.11a, 6Mbps, Chain B

## Radiated Spurious – CH52




| Frequency | MaxPeak | Avg | Limit | Margin |
|---|---|---|---|---|
| MHz | dBuV/m | dBuV/m | dBuV/m | dB |
| 1050 | 61.3 | - | 74 | 12.8 |
| 1055 | - | 52.1 | 54 | **2.0** |
| 17507 | - | 46.9 | 54 | 7.1 |
| 17524 | 58.3 | - | 74 | 15.7 |



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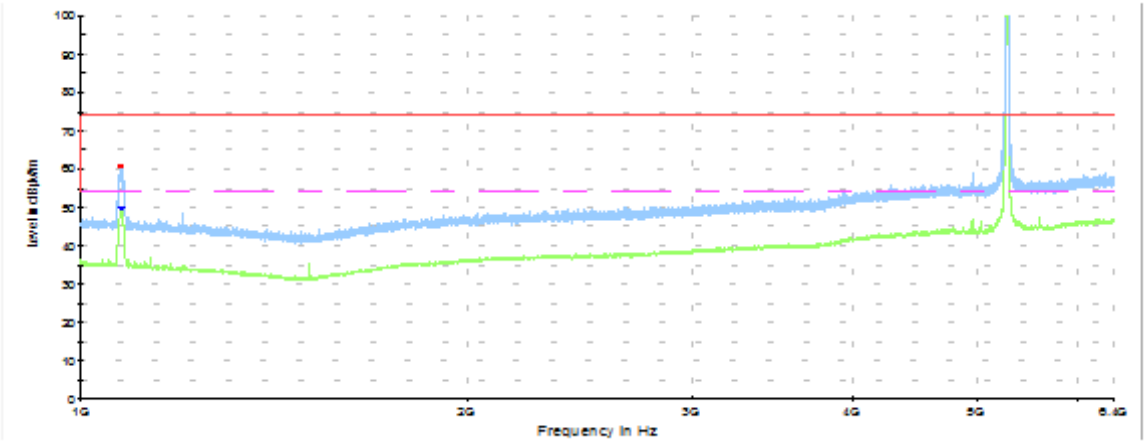
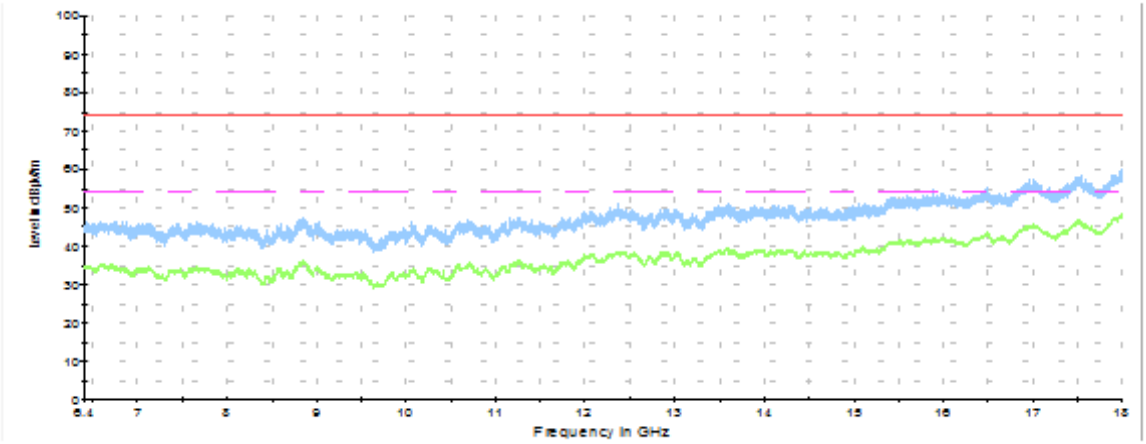
## Radiated Spurious – CH56




Peak measurements  Avg measurements  Limit FCC Peak  Limit FCC Avg

| Frequency | MaxPeak | Avg | Limit | Margin |
|---|---|---|---|---|
| MHz | dBuV/m | dBuV/m | dBuV/m | dB |
| 1073 | 63.1 | - | 74 | 11.0 |
| 1075 | - | 49.7 | 54 | 4.3 |
| 17974 | - | 48.0 | 54 | 6.1 |
| 17981 | 60.0 | - | 74 | 14.1 |



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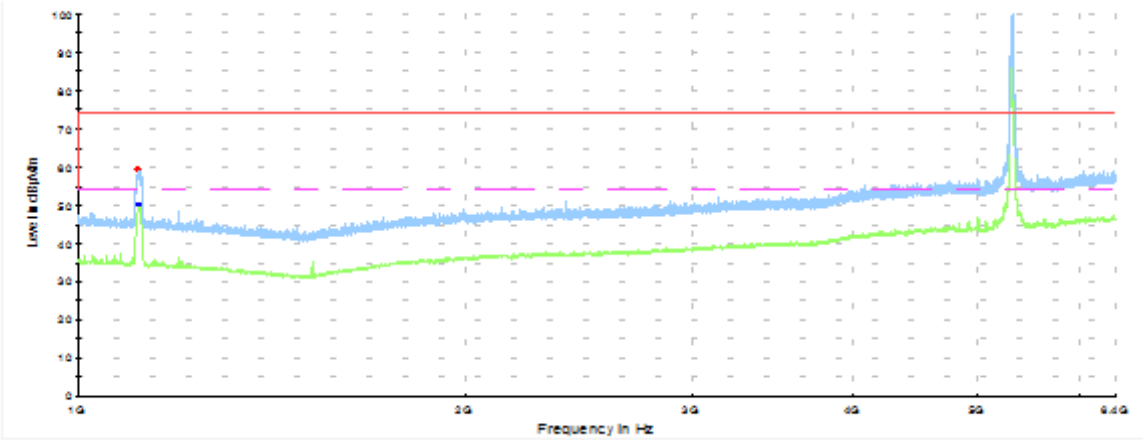
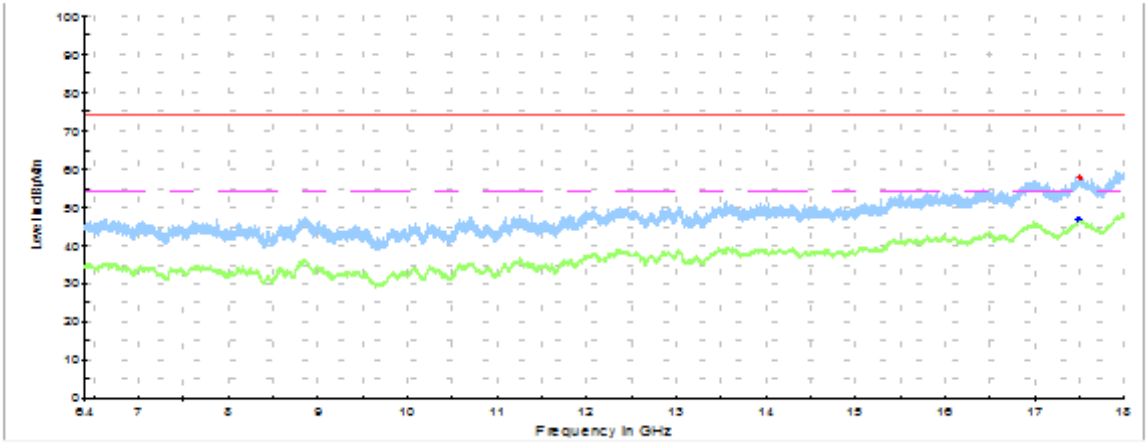
## Radiated Spurious – CH64




Peak measurements  Avg measurements  Limit FCC Peak  Limit FCC Avg

| Frequency | MaxPeak | Avg | Limit | Margin |
|---|---|---|---|---|
| MHz | dBuV/m | dBuV/m | dBuV/m | dB |
| 1112 | 61.4 | - | 74 | 12.7 |
| 1114 | - | 50.2 | 54 | 3.8 |
| 17500 | - | 46.8 | 54 | 7.2 |
| 17513 | 57.9 | - | 74 | 16.2 |



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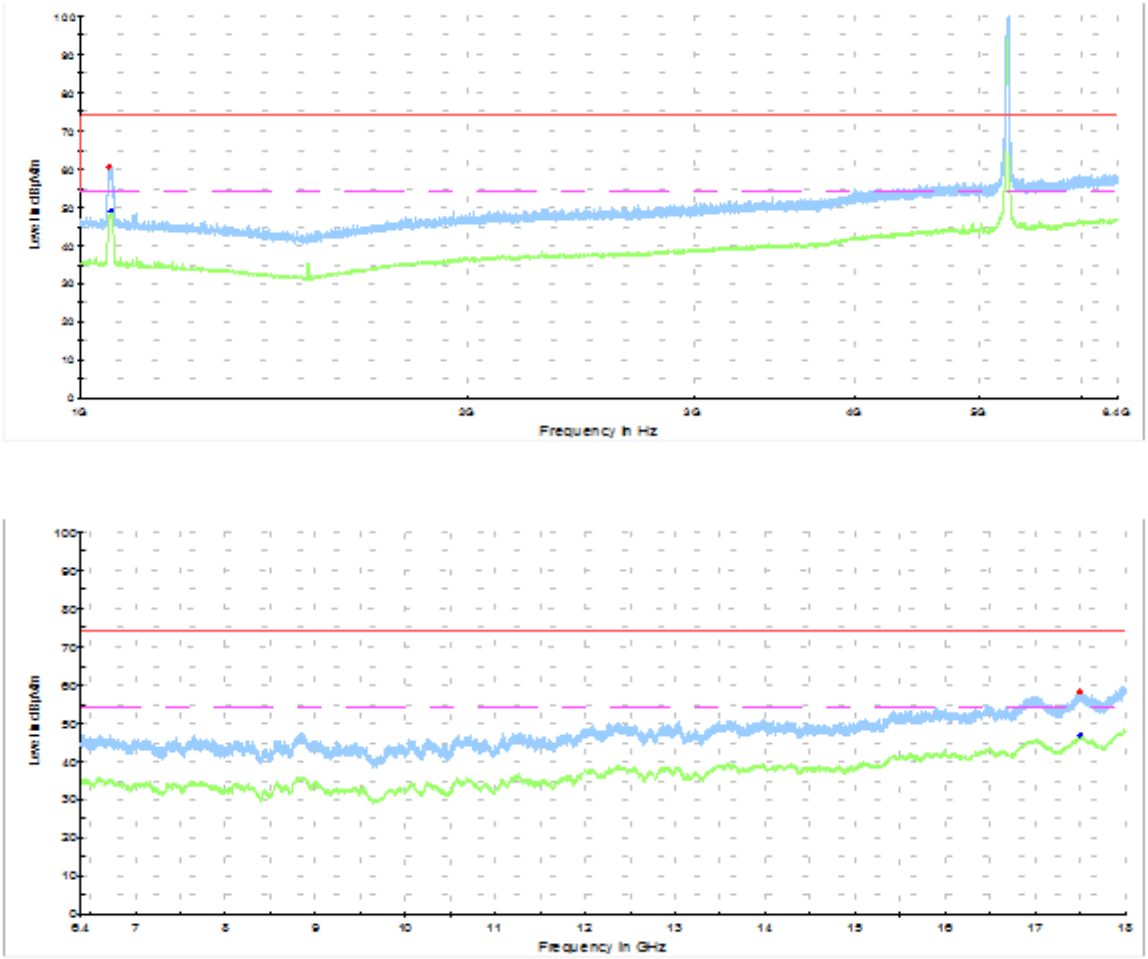
# 1 GHz – 18GHz, 802.11n20, HT0, Chain A

## Radiated Spurious – CH52




| Frequency | MaxPeak | Avg | Limit | Margin |
|---|---|---|---|---|
| MHz | dBuV/m | dBuV/m | dBuV/m | dB |
| 1054 | 63.9 | - | 74 | 10.2 |
| 1055 | - | 50.6 | 54 | 3.5 |
| 17494 | - | 46.8 | 54 | 7.2 |
| 17496 | 58.1 | - | 74 | 16.0 |



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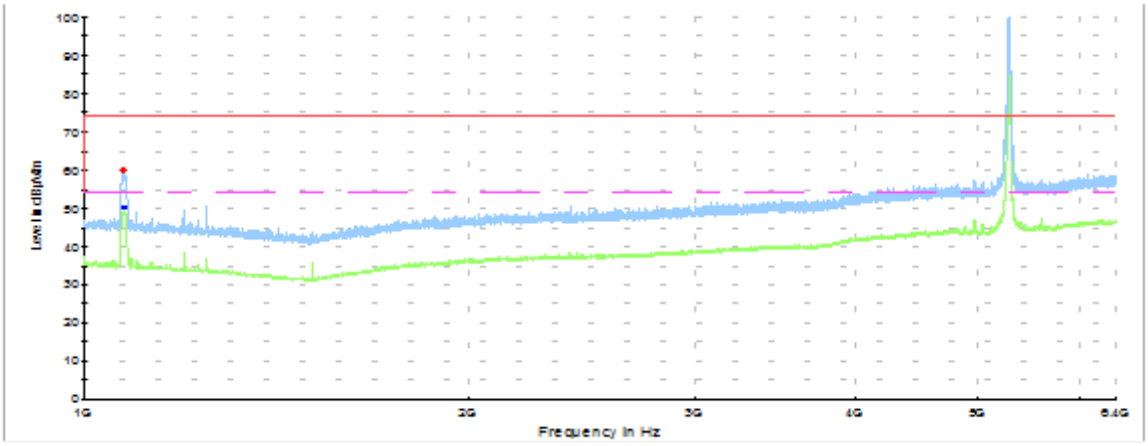
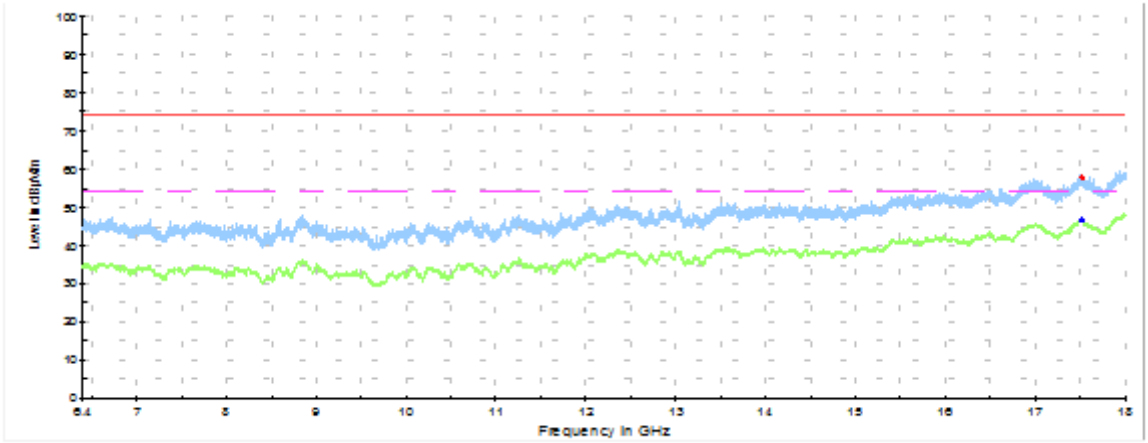
## Radiated Spurious – CH56




Peak measurements  Avg measurements  Limit FCC Peak  Limit FCC Avg

| Frequency | MaxPeak | Avg | Limit | Margin |
|---|---|---|---|---|
| MHz | dBuV/m | dBuV/m | dBuV/m | dB |
| 1075 | - | 51.4 | 54 | **2.7** |
| 1075 | 62.9 | - | 74 | 11.2 |
| 17518 | 57.8 | - | 74 | 16.3 |
| 17521 | - | 46.6 | 54 | 7.4 |



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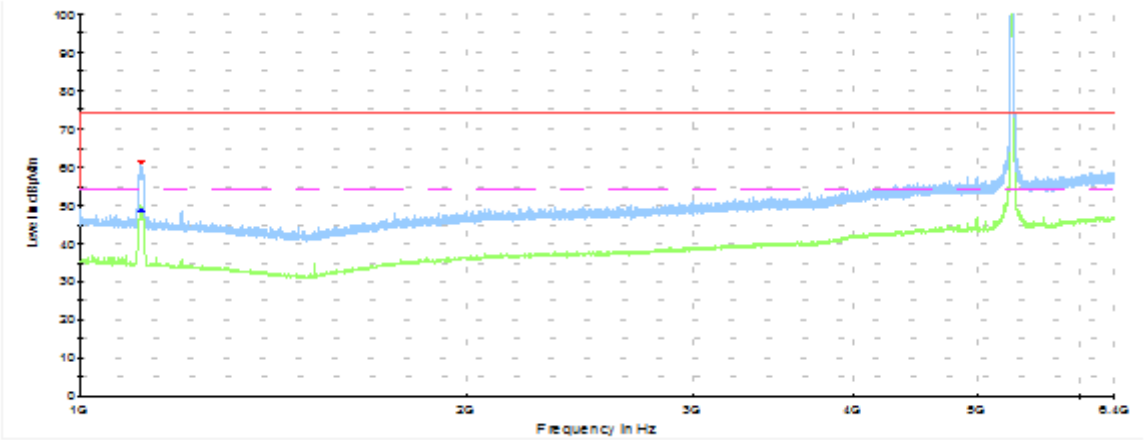
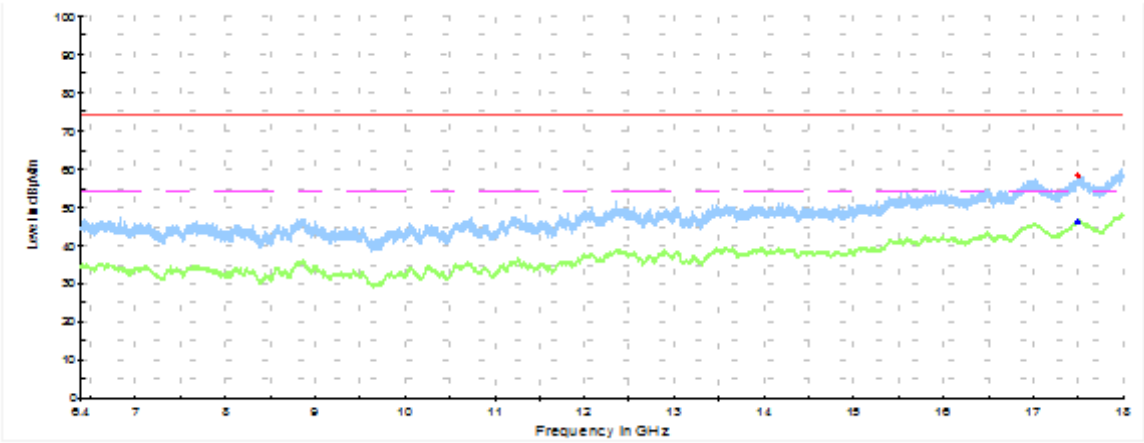
## Radiated Spurious – CH64




Peak measurements  Avg measurements  Limit FCC Peak  Limit FCC Avg

| Frequency | MaxPeak | Avg | Limit | Margin |
|---|---|---|---|---|
| MHz | dBuV/m | dBuV/m | dBuV/m | dB |
| 1115 | 61.8 | - | 74 | 12.3 |
| 1117 | - | 49.1 | 54 | 5.0 |
| 17499 | - | 46.1 | 54 | 8.0 |
| 17501 | 58.2 | - | 74 | 15.9 |



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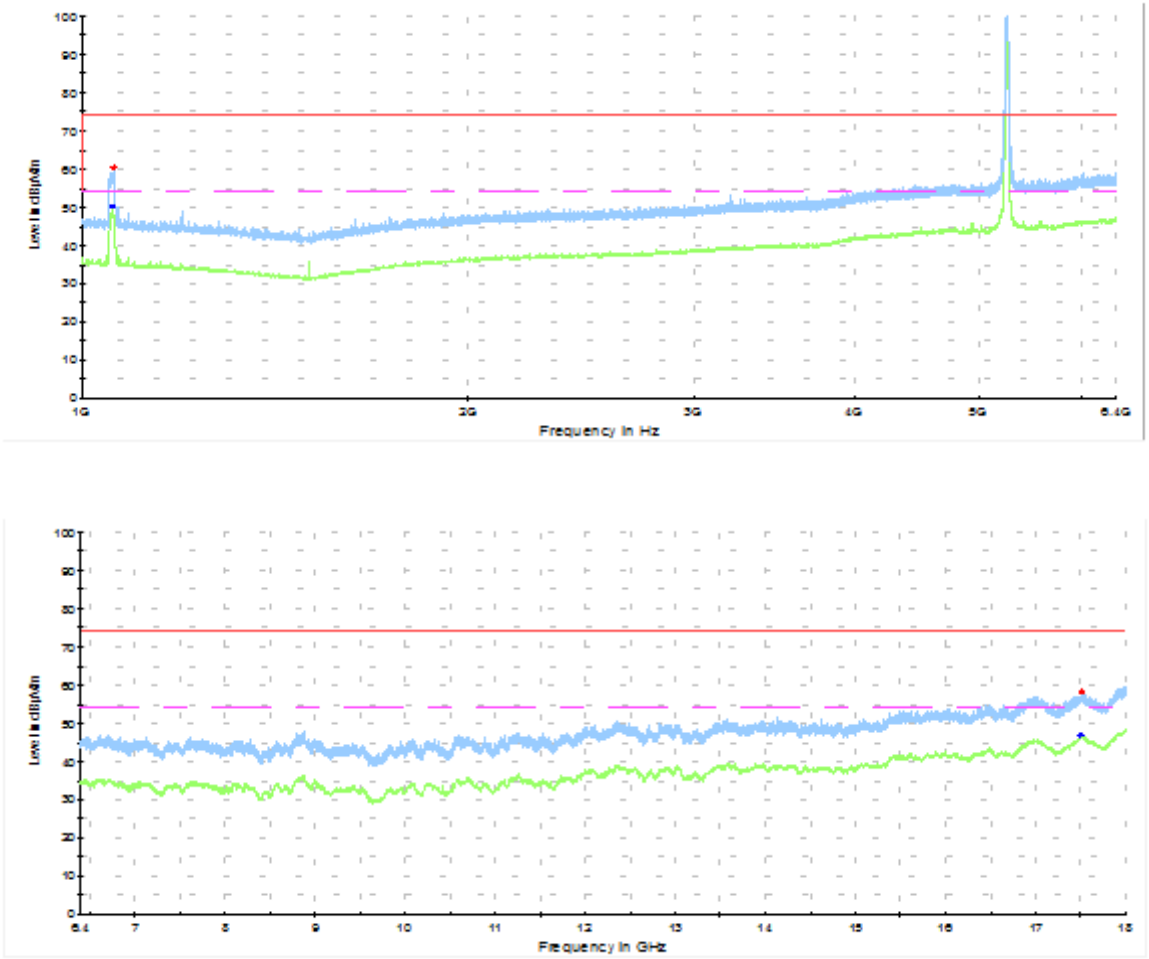
# 1 GHz – 18GHz, 802.11n20, HT0, Chain B

## Radiated Spurious – CH52




| Frequency | MaxPeak | Avg | Limit | Margin |
|---|---|---|---|---|
| MHz | dBuV/m | dBuV/m | dBuV/m | dB |
| 1056 | - | 50.2 | 54 | 3.8 |
| 1057 | 62.8 | - | 74 | 11.3 |
| 17503 | 58.1 | - | 74 | 16.0 |
| 17510 | - | 46.7 | 54 | 7.4 |



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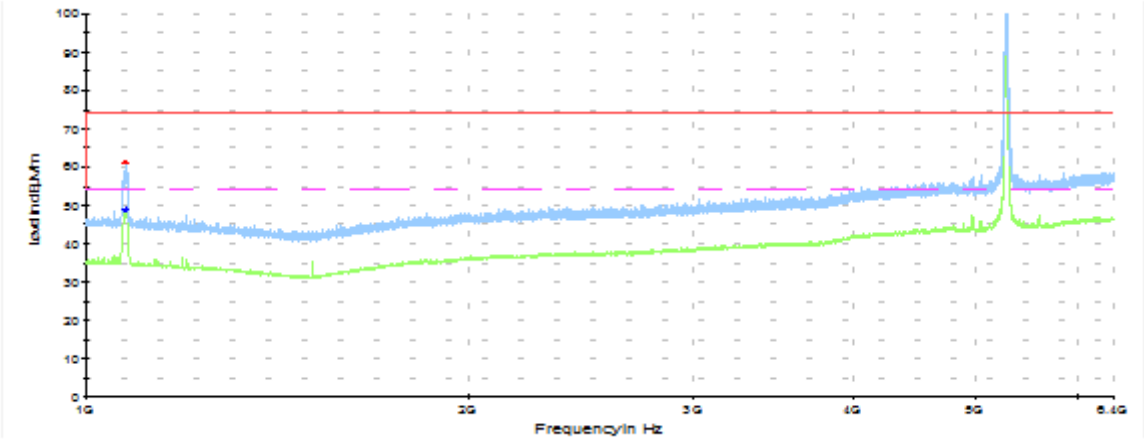
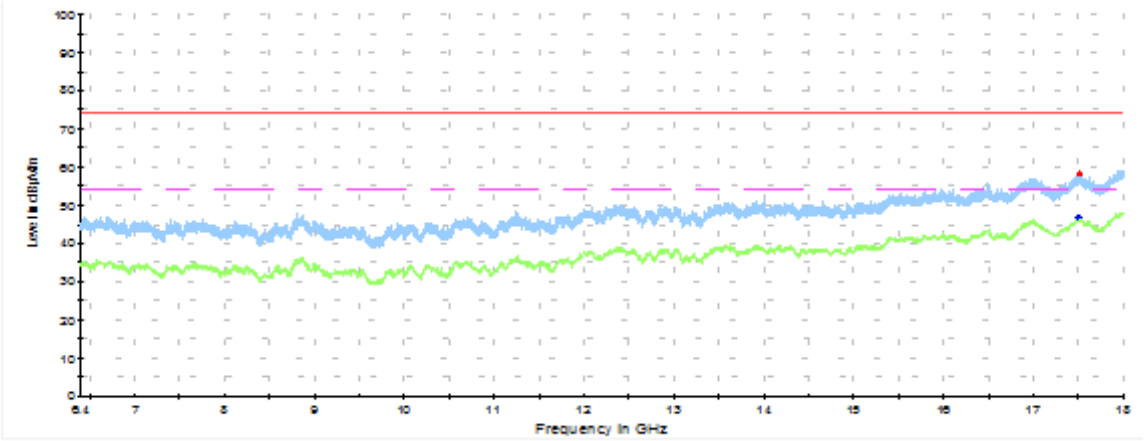
## Radiated Spurious – CH56




Peak measurements  Avg measurements  Limit FCC Peak  Limit FCC Avg

| Frequency | MaxPeak | Avg | Limit | Margin |
|---|---|---|---|---|
| MHz | dBuV/m | dBuV/m | dBuV/m | dB |
| 1075 | - | 50.2 | 54 | 3.8 |
| 1075 | 62.6 | - | 74 | 11.5 |
| 17509 | - | 46.8 | 54 | 7.3 |
| 17517 | 58.2 | - | 74 | 15.9 |



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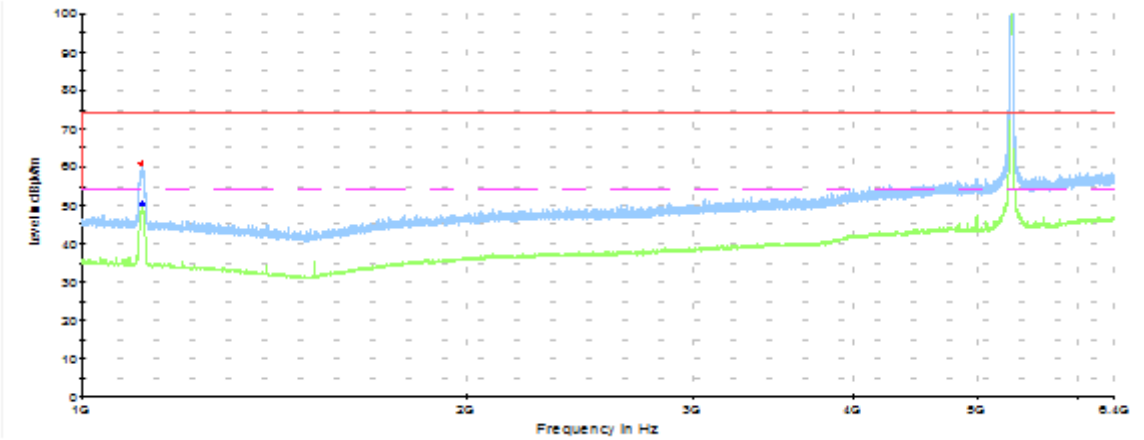
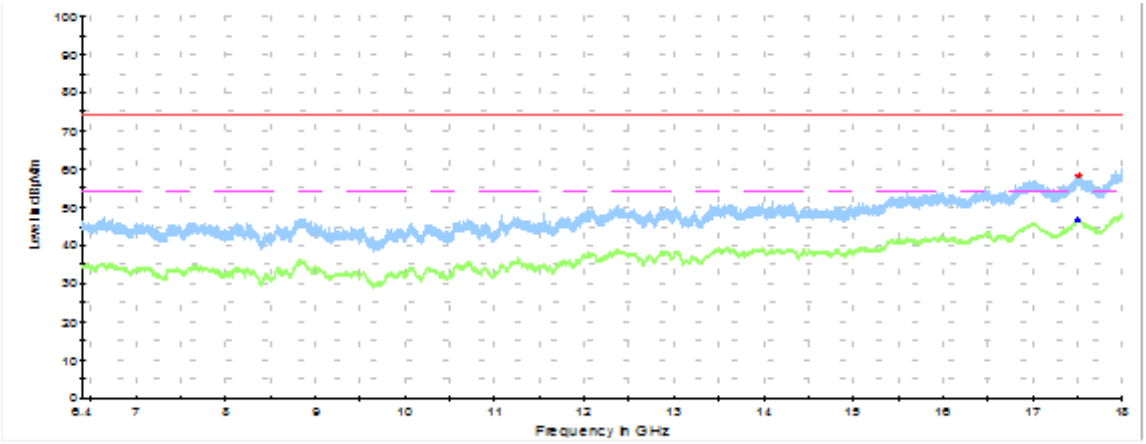
## Radiated Spurious – CH64




Peak measurements  Avg measurements  Limit FCC Peak  Limit FCC Avg

| Frequency | MaxPeak | Avg | Limit | Margin |
|---|---|---|---|---|
| MHz | dBuV/m | dBuV/m | dBuV/m | dB |
| 1113 | 61.8 | - | 74 | 12.3 |
| 1114 | - | 50.8 | 54 | 3.3 |
| 17499 | - | 46.6 | 54 | 7.5 |
| 17512 | 58.2 | - | 74 | 15.9 |



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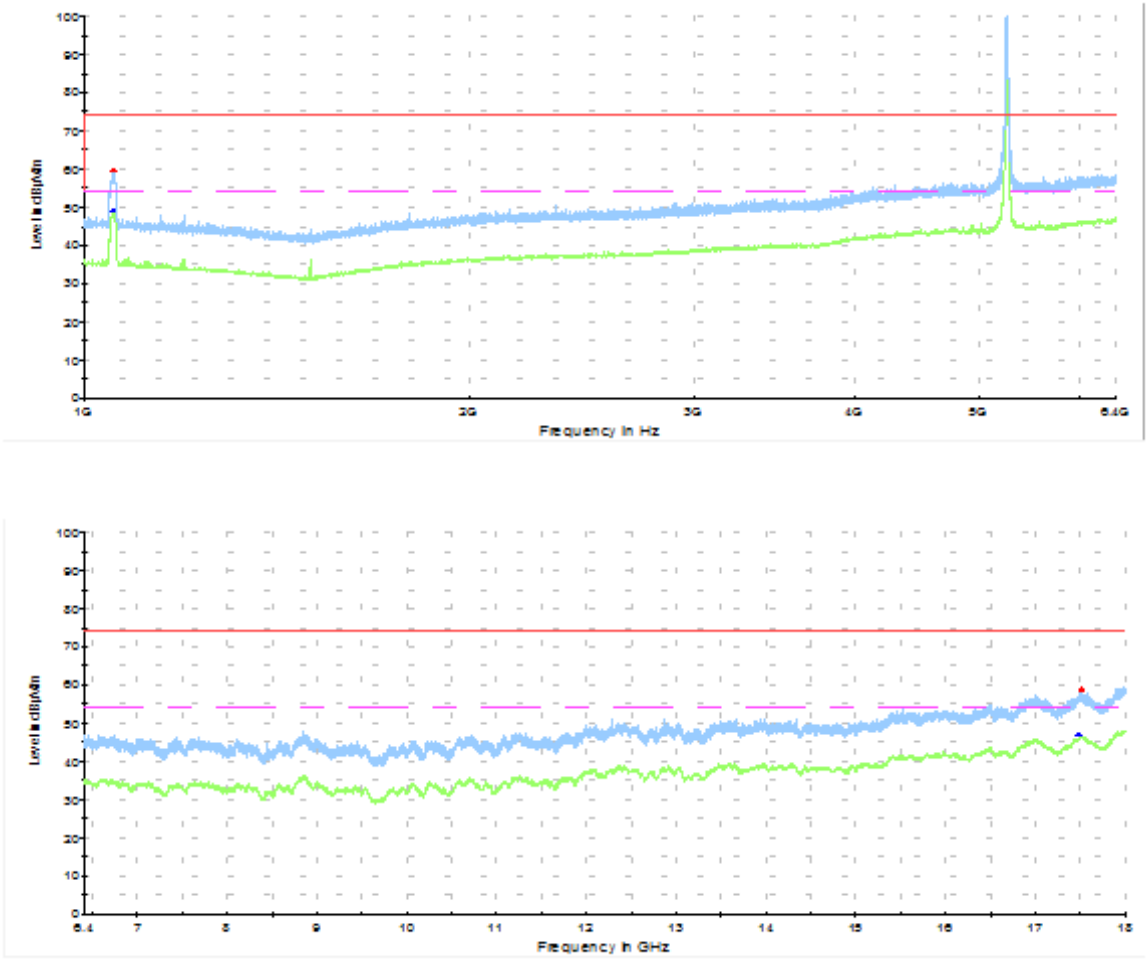
# 1 GHz – 18GHz, 802.11n20, HT8, Chain A+B

## Radiated Spurious – CH52




| Frequency | MaxPeak | Avg | Limit | Margin |
|---|---|---|---|---|
| MHz | dBuV/m | dBuV/m | dBuV/m | dB |
| 1054 | - | 51.3 | 54 | **2.7** |
| 1055 | 61.9 | - | 74 | 12.1 |
| 17490 | - | 47.0 | 54 | 7.1 |
| 17514 | 58.6 | - | 74 | 15.4 |



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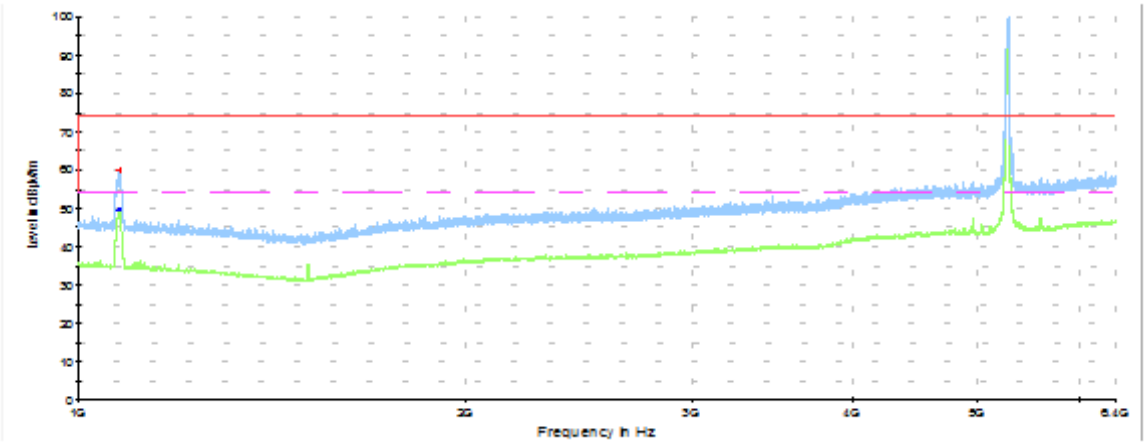
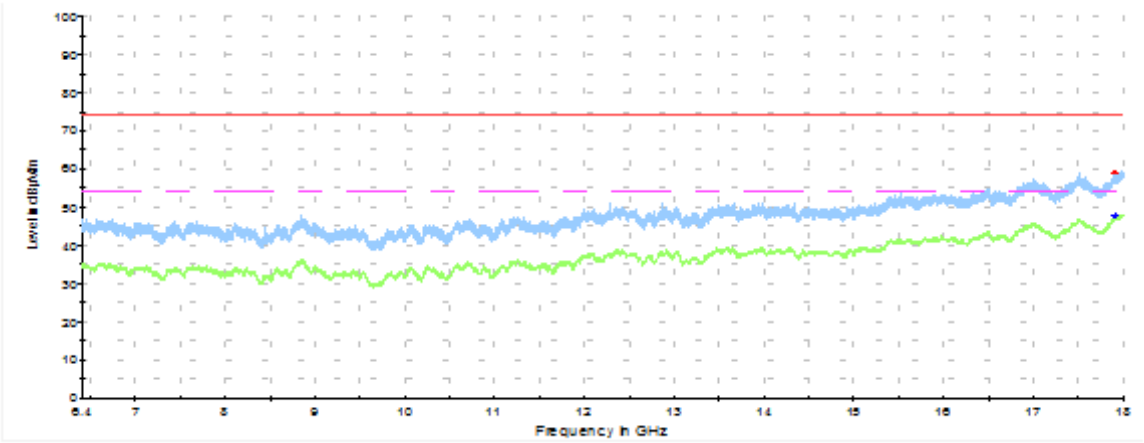
## Radiated Spurious – CH56




Peak measurements  Avg measurements  Limit FCC Peak  Limit FCC Avg

| Frequency | MaxPeak | Avg | Limit | Margin |
|---|---|---|---|---|
| MHz | dBuV/m | dBuV/m | dBuV/m | dB |
| 1074 | - | 51.2 | 54 | **2.8** |
| 1075 | 62.4 | - | 74 | 11.7 |
| 17915 | 59.1 | - | 74 | 15.0 |
| 17917 | - | 47.7 | 54 | 6.3 |



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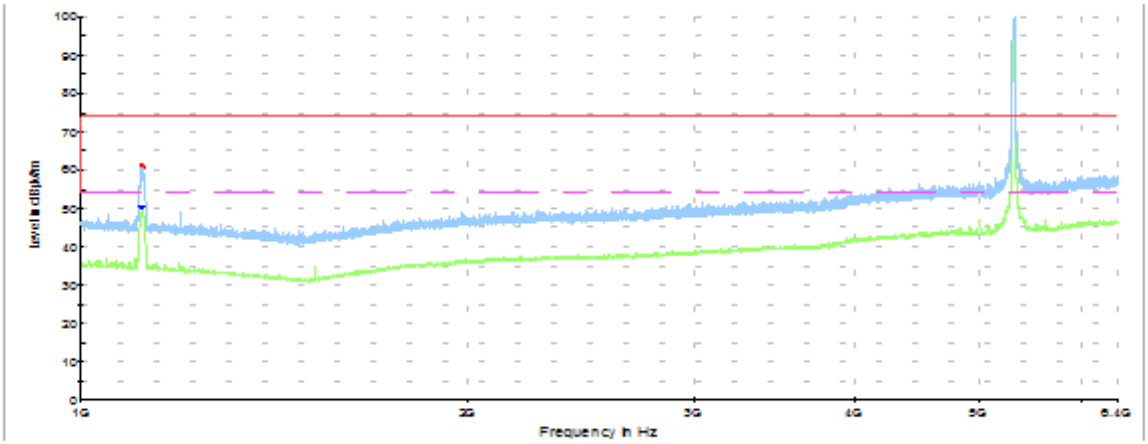
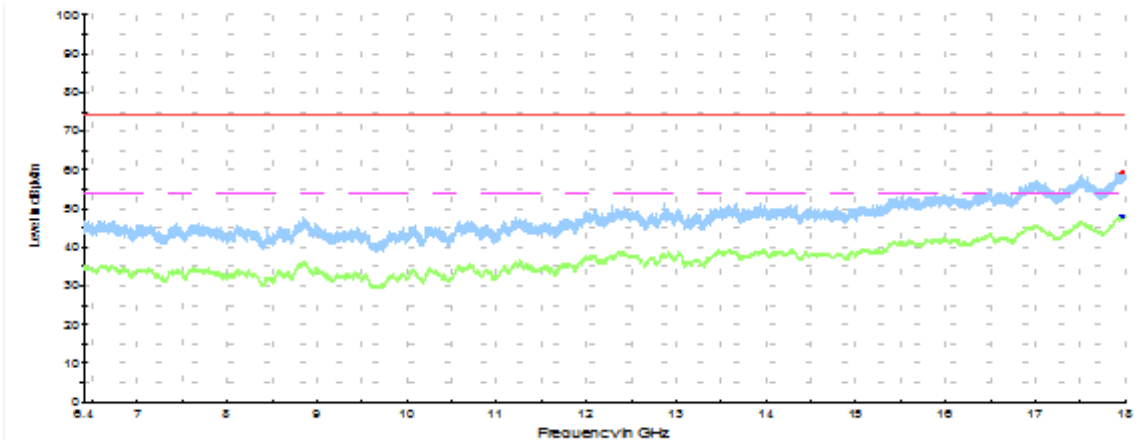
## Radiated Spurious – CH64




Peak measurements  Avg measurements  Limit FCC Peak  Limit FCC Avg

| Frequency | MaxPeak | Avg | Limit | Margin |
|---|---|---|---|---|
| MHz | dBuV/m | dBuV/m | dBuV/m | dB |
| 1114 | - | 50.3 | 54 | 3.8 |
| 1115 | 62.5 | - | 74 | 11.6 |
| 17969 | 59.1 | - | 74 | 14.9 |
| 17972 | - | 48.1 | 54 | 6.0 |



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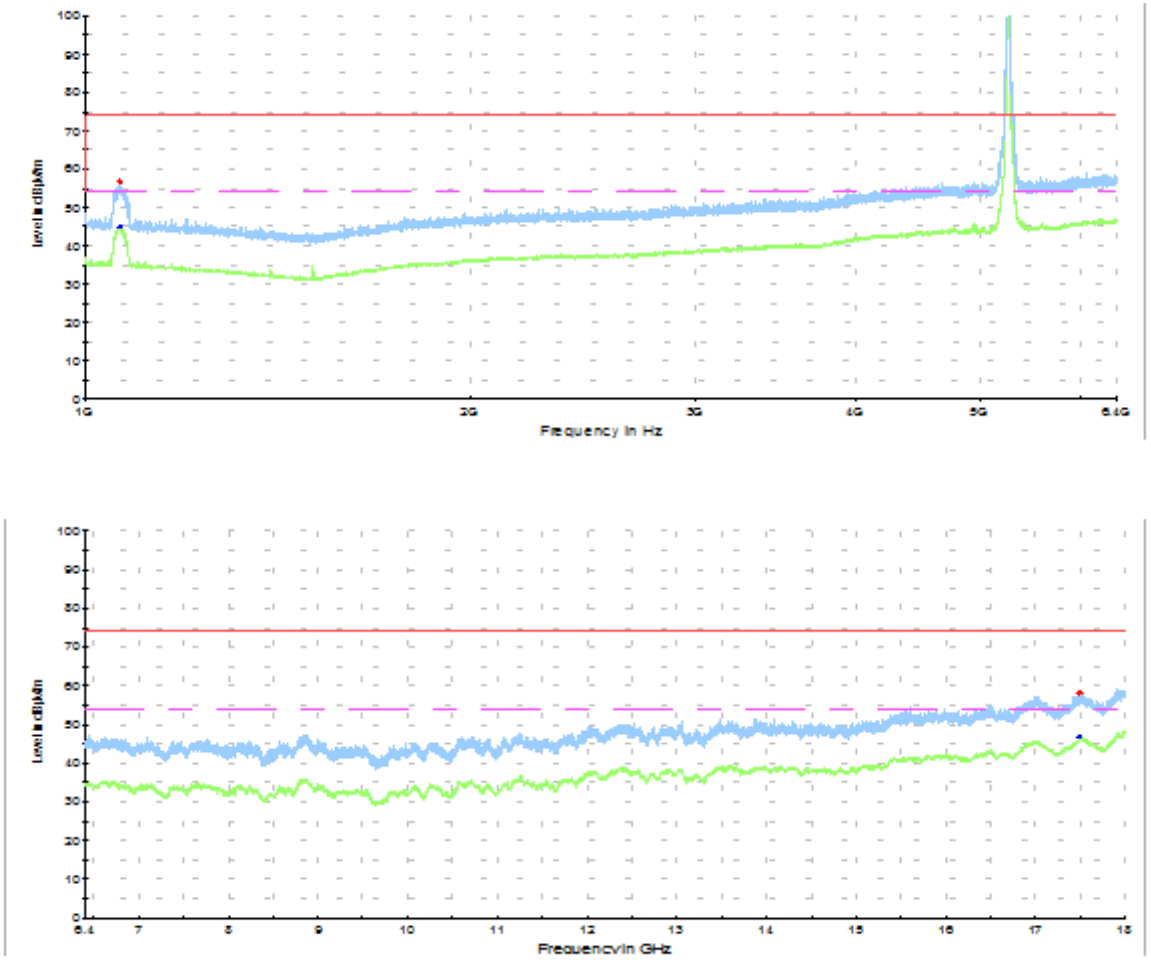
# 1 GHz – 18GHz, 802.11n40, HT0, Chain A

## Radiated Spurious – CH54F




| Frequency | MaxPeak | Avg | Limit | Margin |
|---|---|---|---|---|
| MHz | dBuV/m | dBuV/m | dBuV/m | dB |
| 1063 | 60.0 | - | 74 | 14.1 |
| 1064 | - | 45.7 | 54 | 8.3 |
| 17489 | - | 46.8 | 54 | 7.3 |
| 17499 | 58.2 | - | 74 | 15.9 |



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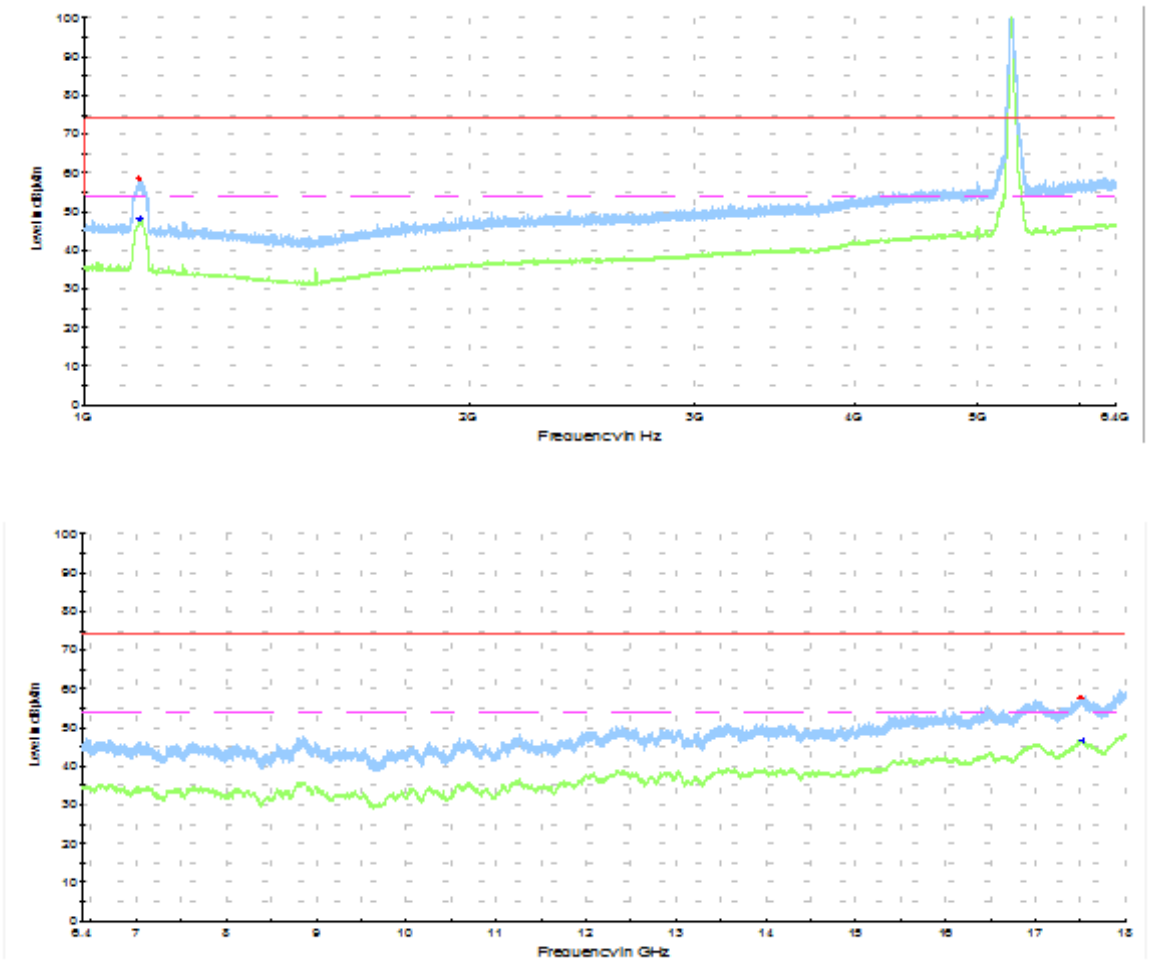
## Radiated Spurious – CH62F




| Frequency | MaxPeak | Avg | Limit | Margin |
|---|---|---|---|---|
| MHz | dBuV/m | dBuV/m | dBuV/m | dB |
| 1102 | 58.4 | - | 74 | 15.6 |
| 1105 | - | 48.2 | 54 | 5.9 |
| 17508 | 57.6 | - | 74 | 16.5 |
| 17527 | - | 46.6 | 54 | 7.5 |



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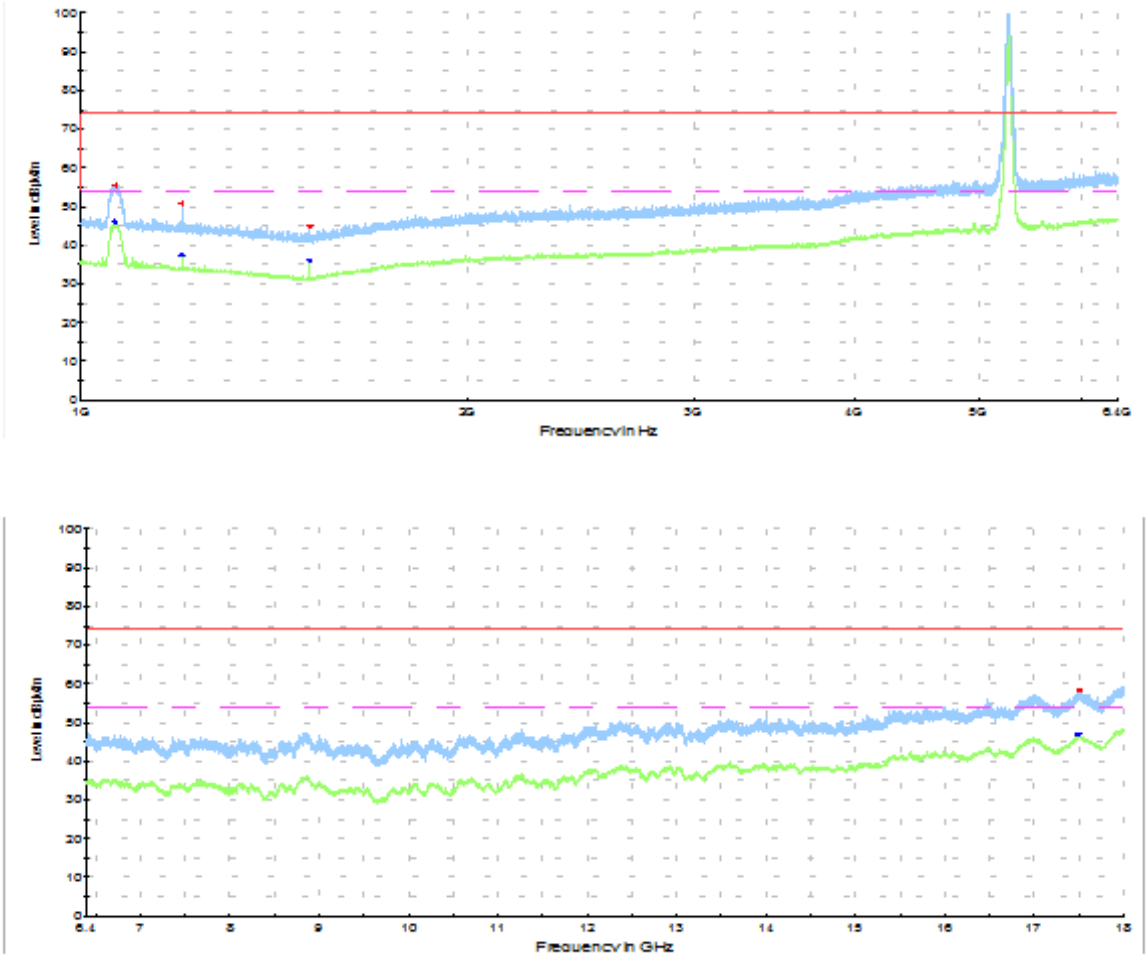
# 1 GHz – 18GHz, 802.11n40, HT0, Chain B

## Radiated Spurious – CH54F




| Frequency | MaxPeak | Avg | Limit | Margin |
|---|---|---|---|---|
| MHz | dBuV/m | dBuV/m | dBuV/m | dB |
| 1062 | - | 47.4 | 54 | 6.7 |
| 1063 | 58.3 | - | 74 | 15.8 |
| 1199 | - | 38.0 | 54 | 16.1 |
| 1199 | 51.5 | - | 74 | 22.6 |
| 1505 | - | 36.5 | 54 | 17.6 |
| 1505 | 44.9 | - | 74 | 29.2 |
| 17492 | - | 46.9 | 54 | 7.2 |
| 17514 | 58.2 | - | 74 | 15.9 |



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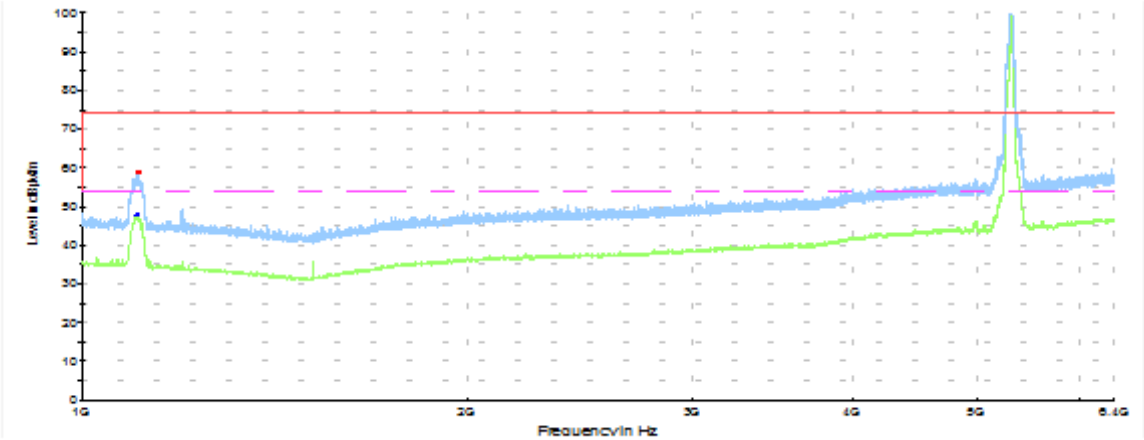
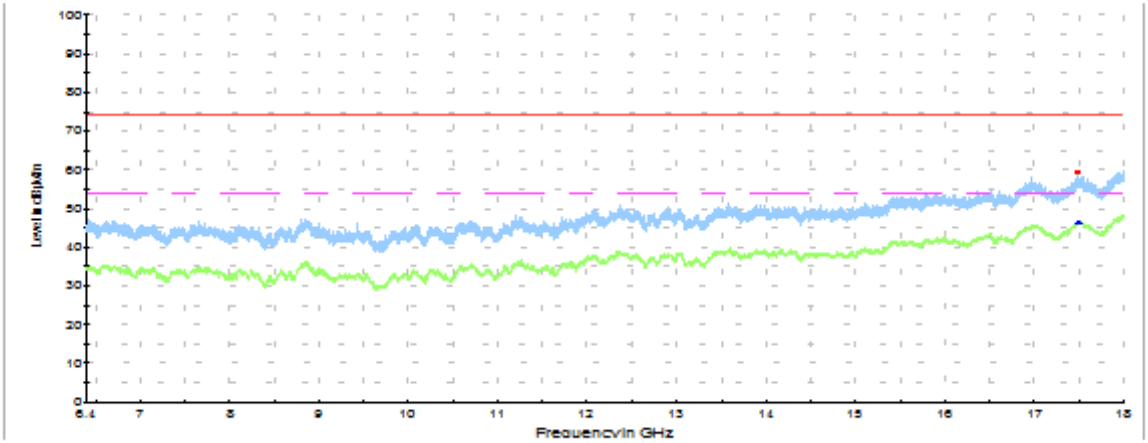
## Radiated Spurious – CH62F




Peak measurements  Avg measurements  Limit FCC Peak  Limit FCC Avg

| Frequency | MaxPeak | Avg | Limit | Margin |
|---|---|---|---|---|
| MHz | dBuV/m | dBuV/m | dBuV/m | dB |
| 1104 | - | 48.6 | 54 | 5.5 |
| 1107 | 59.1 | - | 74 | 15.0 |
| 17484 | 59.3 | - | 74 | 14.8 |
| 17498 | - | 46.2 | 54 | 7.9 |



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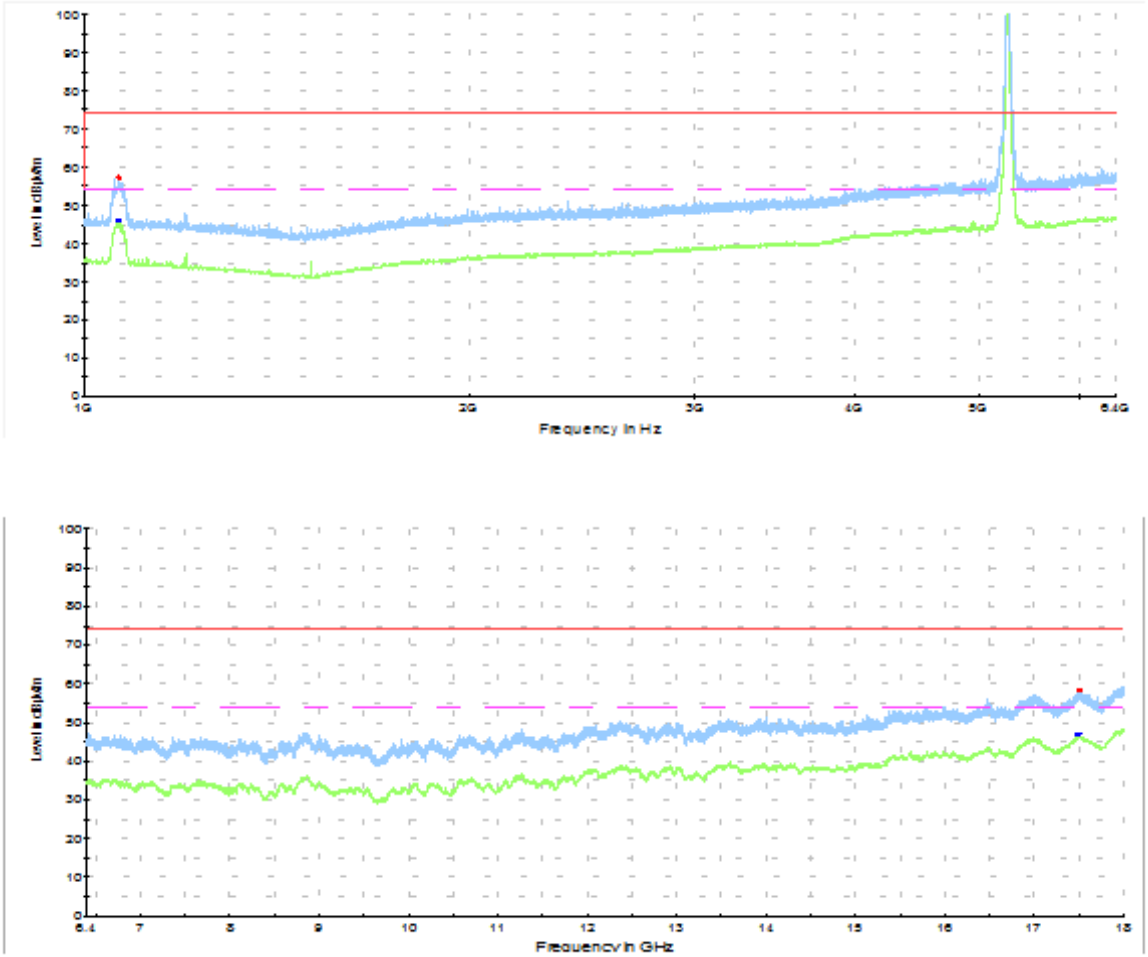
# 1 GHz – 18GHz, 802.11n40, HT8, Chain A+B

## Radiated Spurious – CH54F




| Frequency | MaxPeak | Avg | Limit | Margin |
|---|---|---|---|---|
| MHz | dBuV/m | dBuV/m | dBuV/m | dB |
| 1064 | 58.6 | - | 74 | 15.4 |
| 1065 | - | 47.0 | 54 | 7.1 |
| 17492 | - | 46.9 | 54 | 7.2 |
| 17514 | 58.2 | - | 74 | 15.9 |



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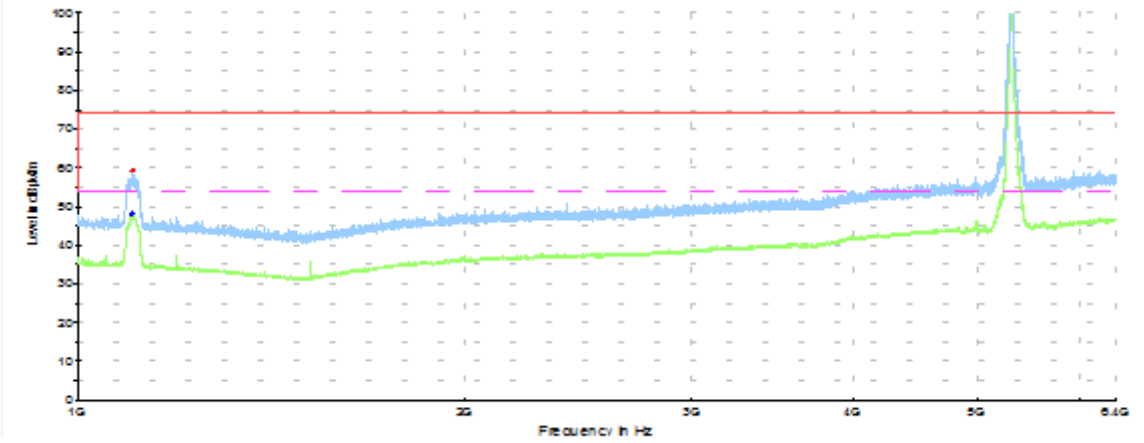
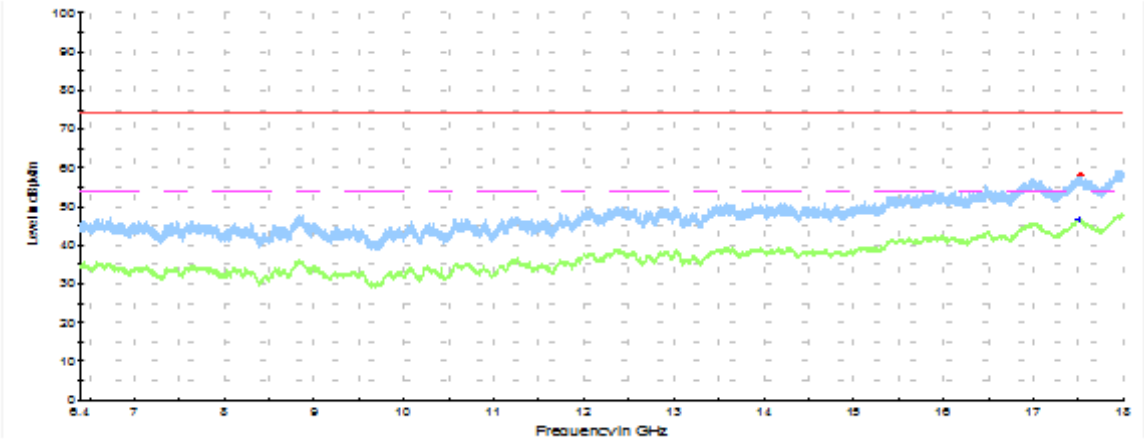
## Radiated Spurious – CH62F




Peak measurements  Avg measurements  Limit FCC Peak  Limit FCC Avg

| Frequency | MaxPeak | Avg | Limit | Margin |
|---|---|---|---|---|
| MHz | dBuV/m | dBuV/m | dBuV/m | dB |
| 1103 | - | 47.0 | 54 | 7.1 |
| 1105 | 60.4 | - | 74 | 13.7 |
| 17504 | - | 46.6 | 54 | 7.5 |
| 17526 | 58.2 | - | 74 | 15.8 |



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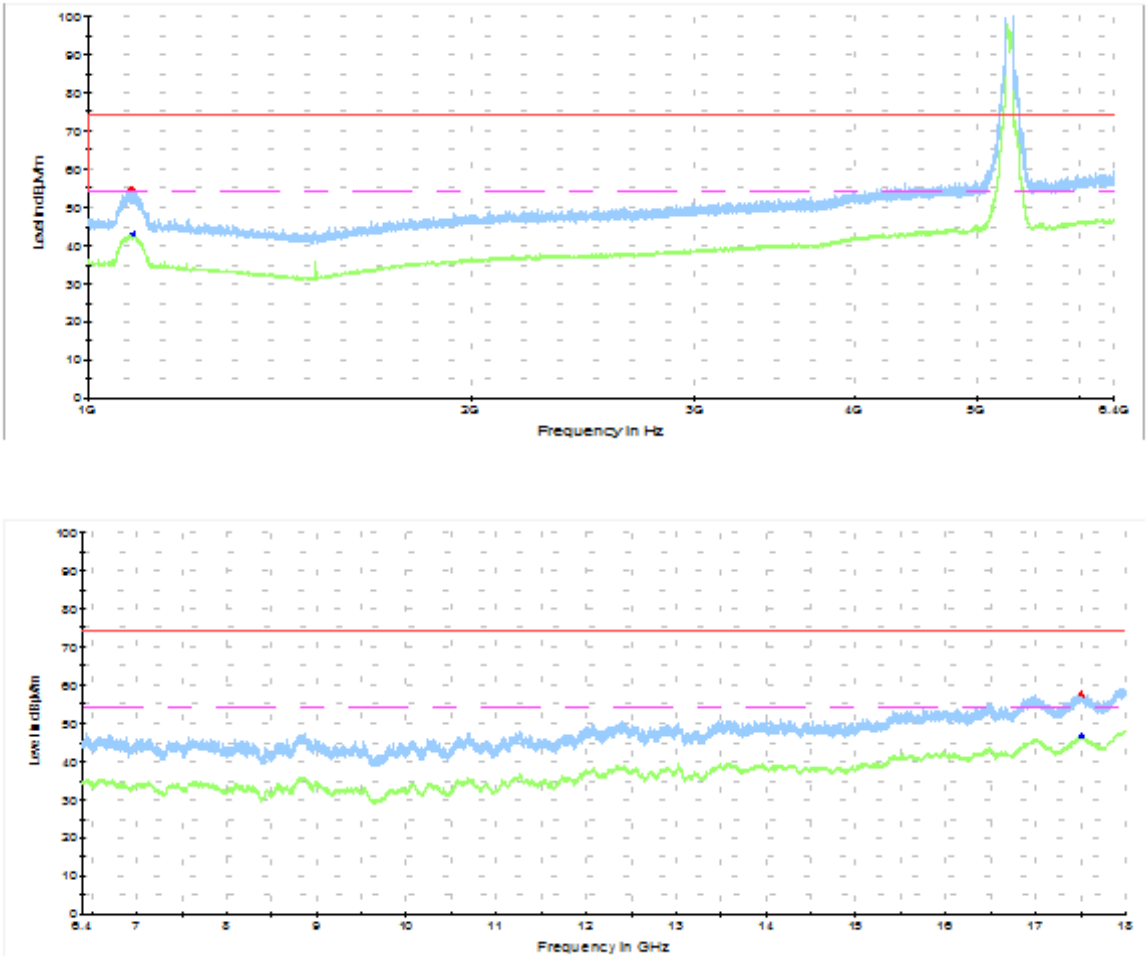
# 1 GHz – 18GHz, 802.11ac80, HT0, Chain A

## Radiated Spurious – CH58ac80




| Frequency | MaxPeak | Avg | Limit | Margin |
|---|---|---|---|---|
| MHz | dBuV/m | dBuV/m | dBuV/m | dB |
| 1082 | 55.9 | - | 74.1 | 18.2 |
| 1087 | - | 42.2 | 54.1 | 11.8 |
| 17517 | - | 46.7 | 54.1 | 7.4 |
| 17518 | 57.5 | - | 74.1 | 16.6 |



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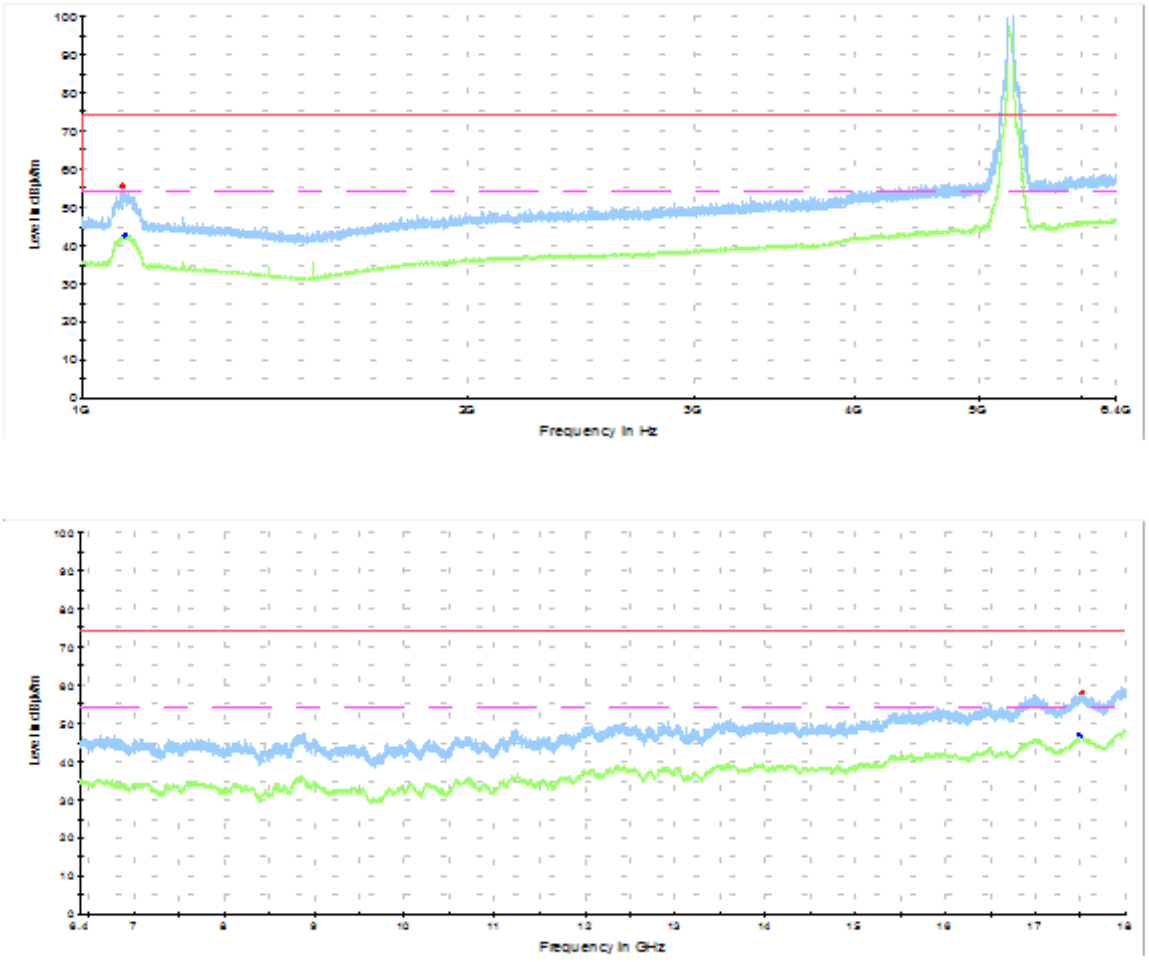
# 1 GHz – 18GHz, 802.11ac80, HT0, Chain B

## Radiated Spurious – CH58ac80




| Frequency | MaxPeak | Avg | Limit | Margin |
|---|---|---|---|---|
| MHz | dBuV/m | dBuV/m | dBuV/m | dB |
| 1075 | 56.0 | - | 74 | 18.1 |
| 1080 | - | 42.1 | 54 | 12.0 |
| 17492 | - | 47.1 | 54 | 7.0 |
| 17524 | 58.1 | - | 74 | 15.9 |



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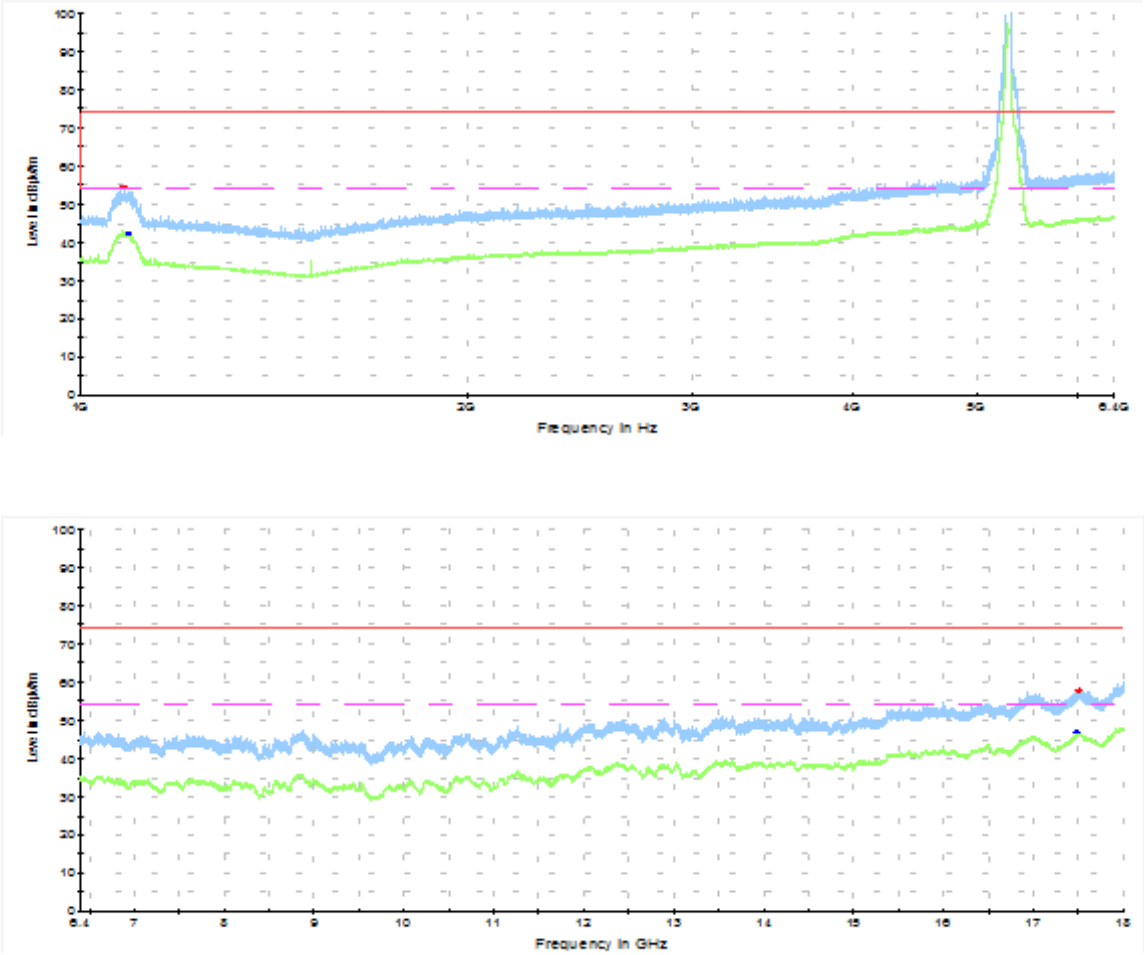
# 1 GHz – 18GHz, 802.11ac80, HT8, Chain A+B

## Radiated Spurious – CH58ac80




| Frequency | MaxPeak | Avg | Limit | Margin |
|---|---|---|---|---|
| MHz | dBuV/m | dBuV/m | dBuV/m | dB |
| 1080 | 56.5 | - | 74 | 17.6 |
| 1089 | - | 40.7 | 54 | 13.4 |
| 17491 | - | 47.1 | 54 | 7.0 |
| 17507 | 57.9 | - | 74 | 16.1 |



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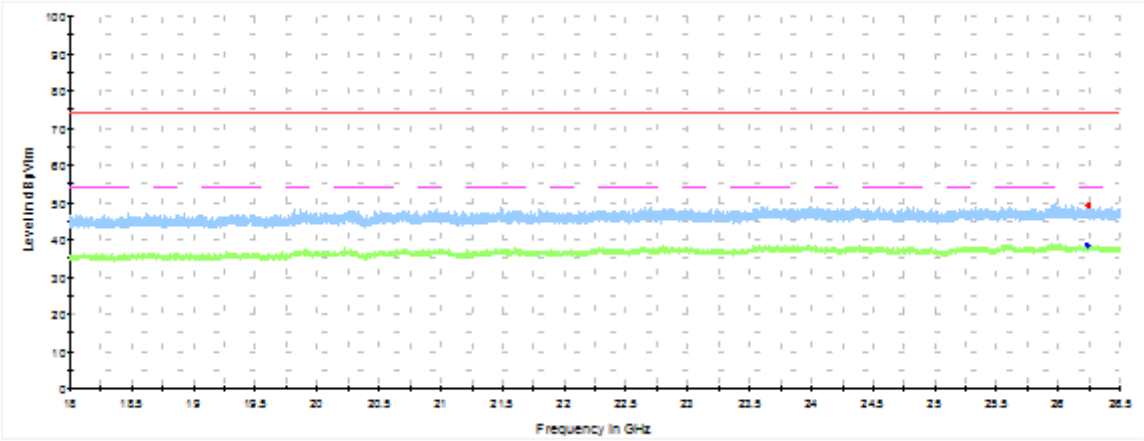
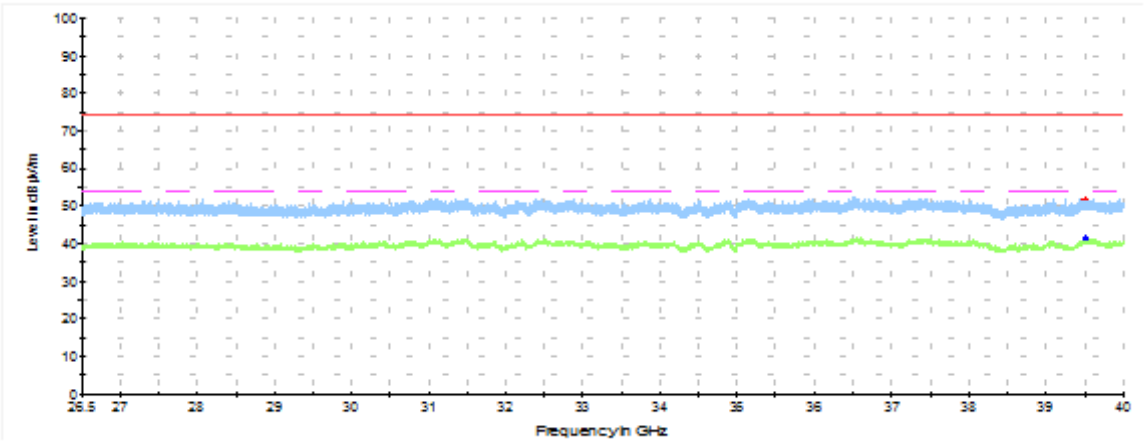
# 18GHz – 40GHz

## Radiated Spurious – All modes




Peak measurements  Avg measurements  Limit FCC Peak  Limit FCC Avg

| Frequency | MaxPeak | Avg | Limit | Margin |
|---|---|---|---|---|
| MHz | dBuV/m | dBuV/m | dBuV/m | dB |
| 26235 | 49.3 | - | 74 | 24.7 |
| 26250 | - | 38.5 | 54 | 15.5 |
| 39514 | 51.7 | - | 74 | 22.3 |
| 39514 | - | 41.4 | 54 | 12.6 |

Note 1: The spurious signals detected do not depend on either the operating channel or the modulation mode.



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