

1279 Quarry Lane, Ste. A, Pleasanton, CA 95466
Tel: (925) 249-9123, Fax: (925) 249-9124



PK+_MAXH PK+_CLRWR FCC 15.407 Peak

Figure 49: UNII-1 Low Band Edge for 802.11a No HT 6Mbps at 5180 MHz-Peak

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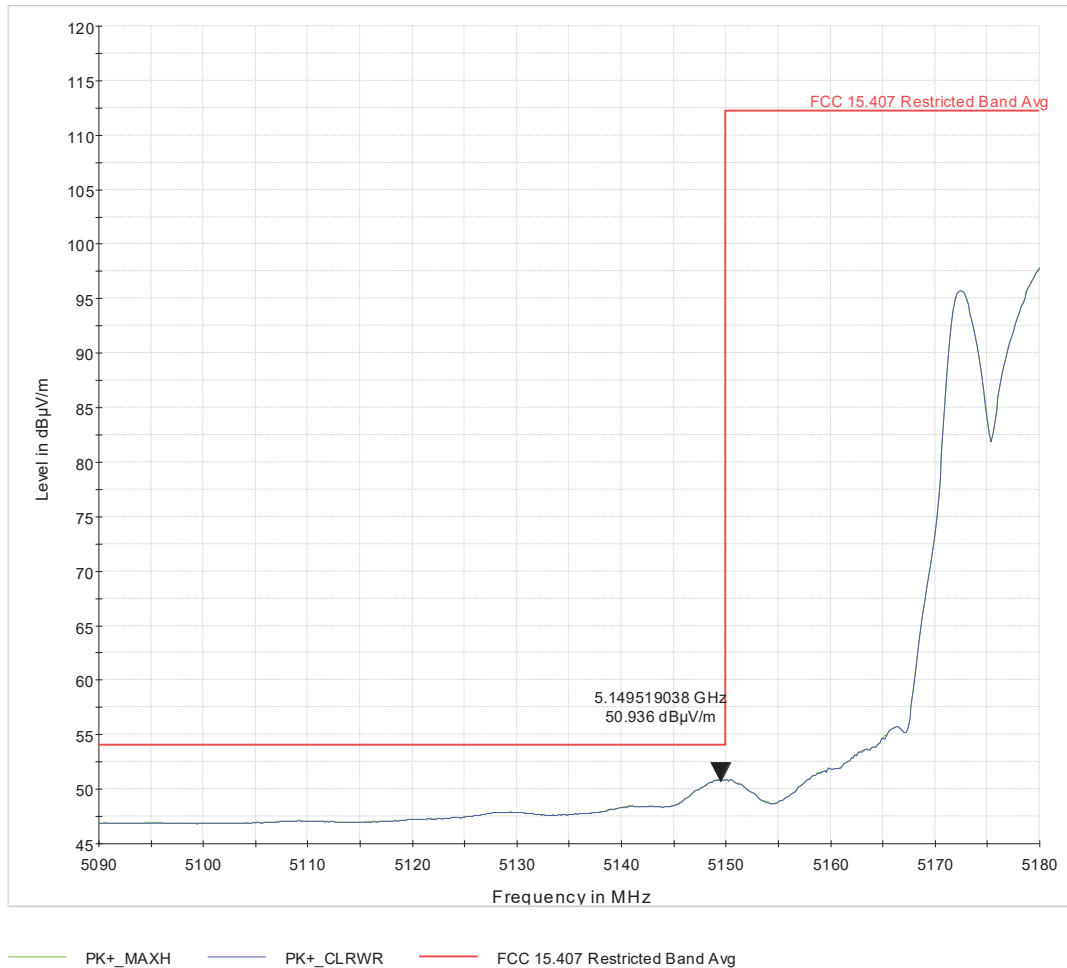


Figure 50: UNII-1 Low Band Edge for 802.11n HT40 MCS0 at 5190 MHz-Average

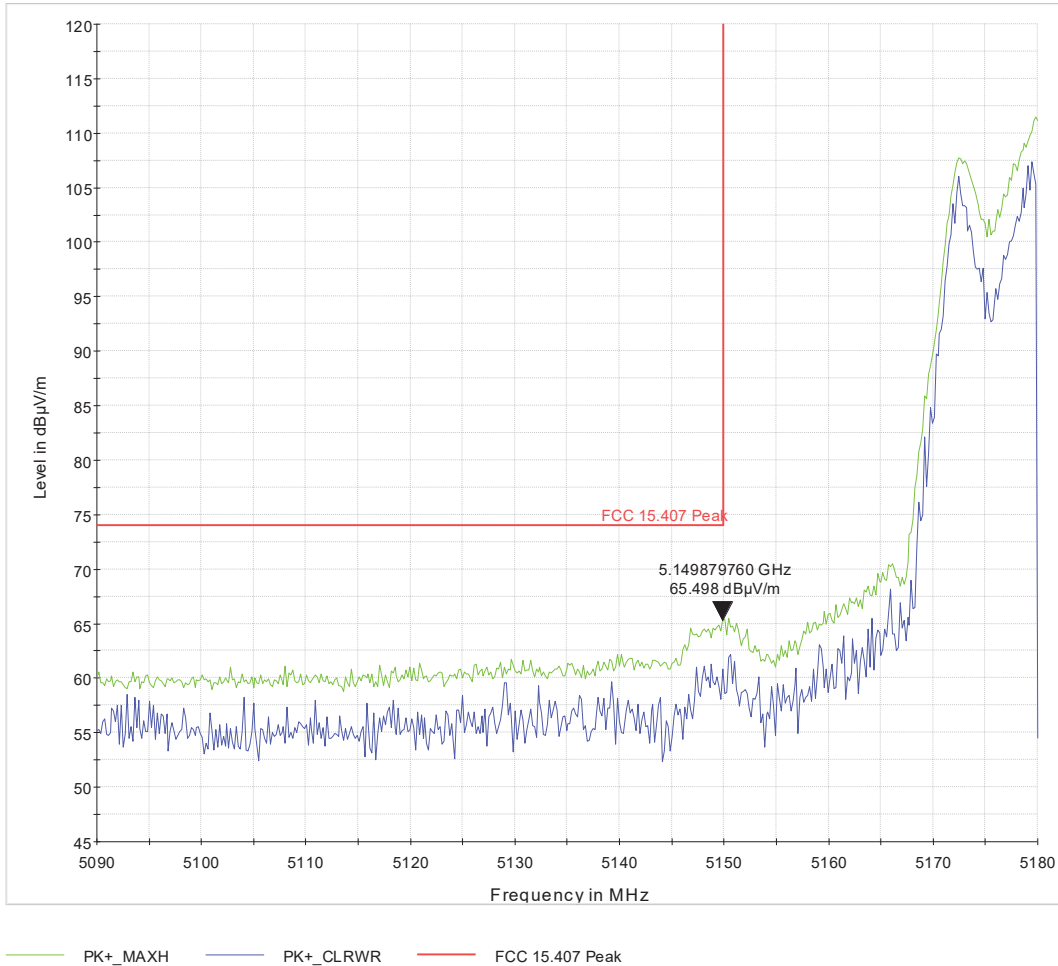
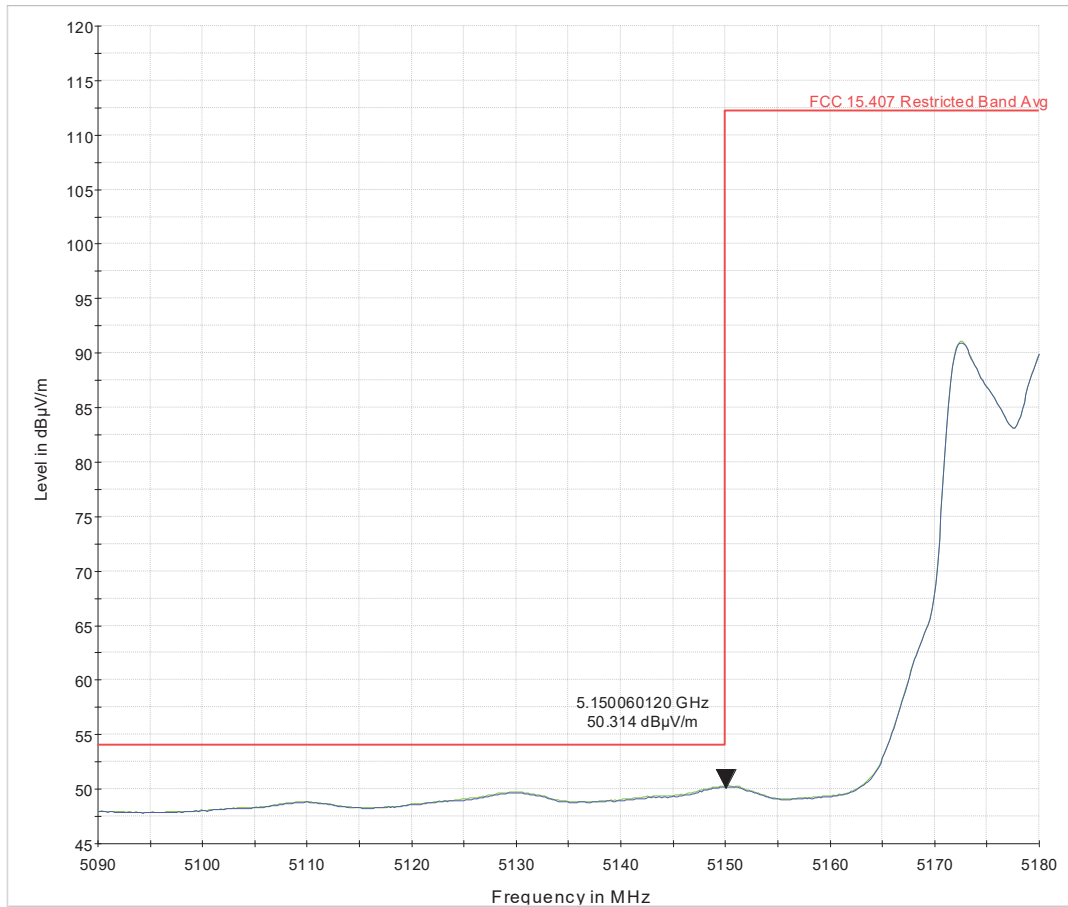


Figure 51: UNII-1 Low Band Edge for 802.11n HT40 MCS0 at 5190 MHz-Peak

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PK+_MAXH PK+_CLRWR FCC 15.407 Restricted Band Avg

Figure 52: UNII-1 Low Band Edge for 802.11ac VHT80 MCS0 at 5210 MHz-Average

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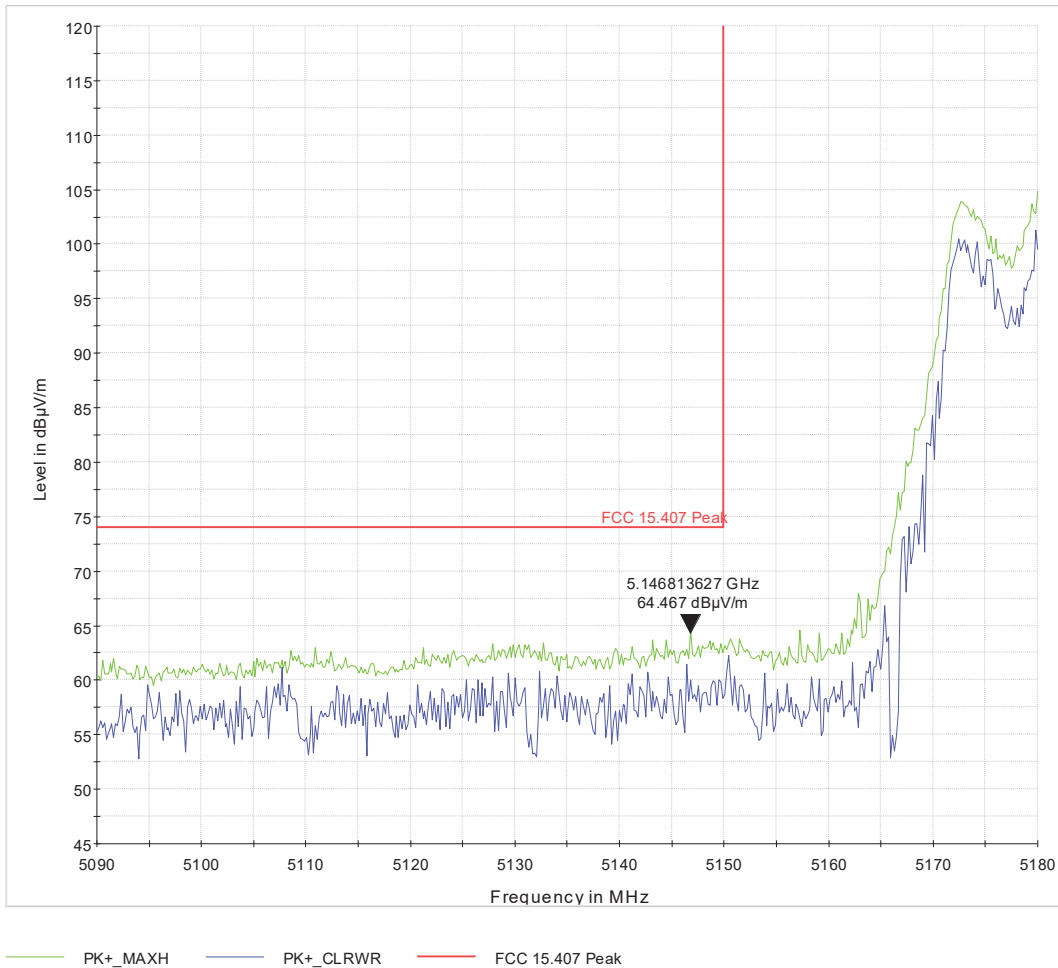
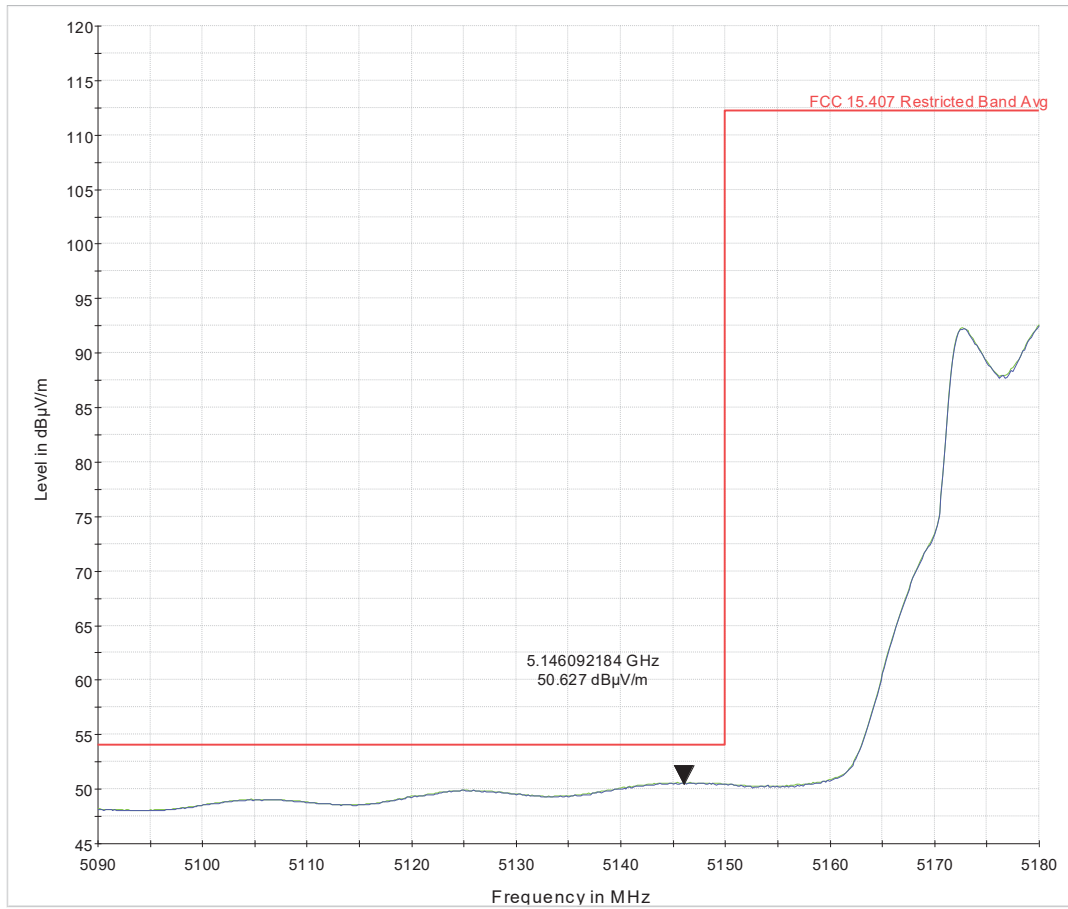


Figure 53: UNII-1 Low Band Edge for 802.11ac VHT80 MCS0 at 5210 MHz-Peak

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PK+_MAXH PK+_CLRWR FCC 15.407 Restricted Band Avg

Figure 54: UNII-1 Low Band Edge for 802.11ac VHT80+80 MCS0 at 5210 & 5775 MHz-Average

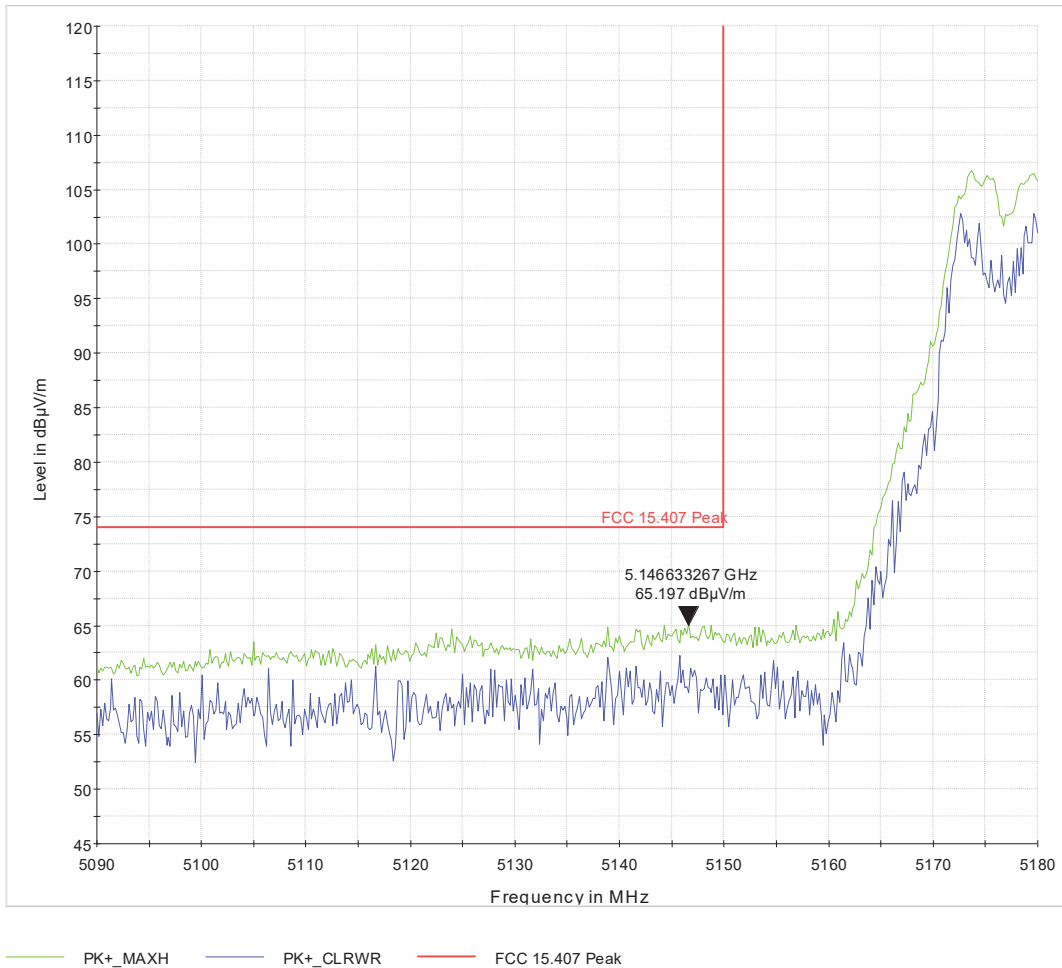
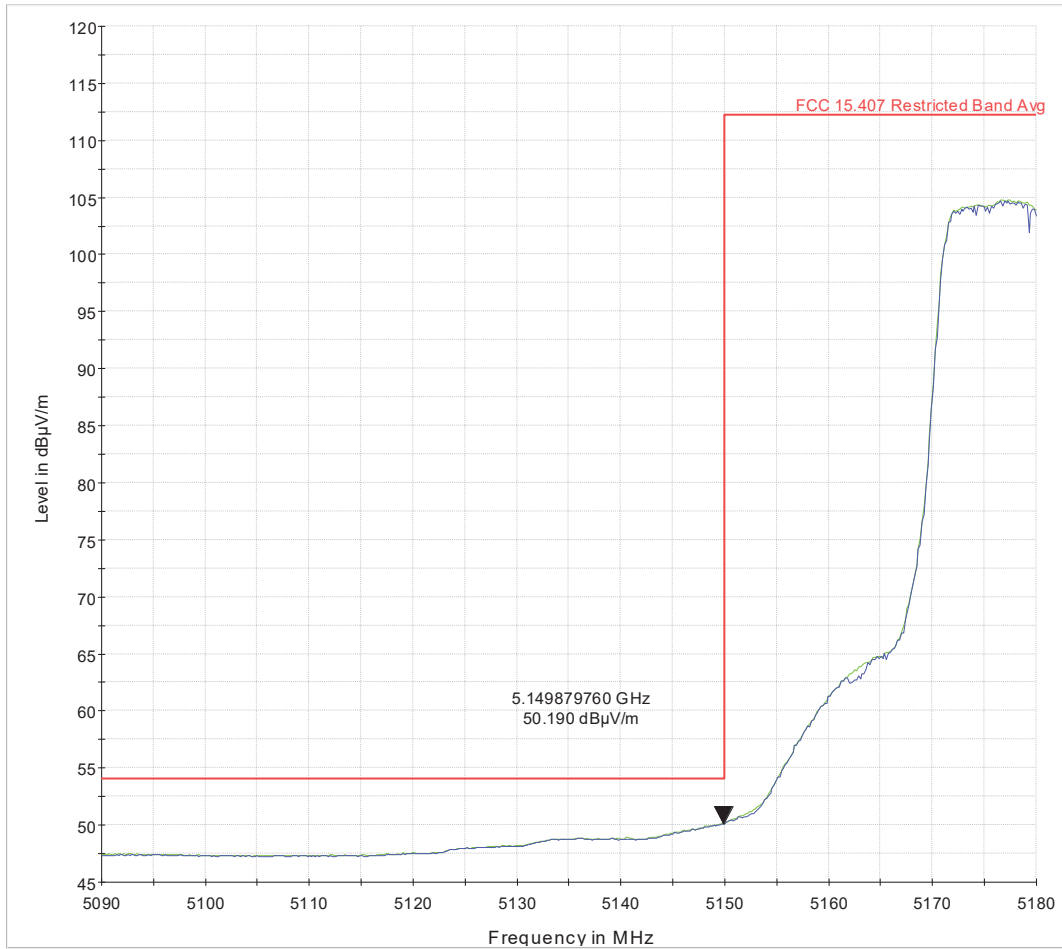


Figure 55: UNII-1 Low Band Edge for 802.11ac VHT80+80 MCS0 at 5210 & 5775 MHz-Peak

4.4.5.2 Plots: UNII-1 Low Band Edge Beamforming Mode



PK+_MAXH PK+_CLRWR FCC 15.407 Restricted Band Avg

Figure 56: UNII-1 Low Band Edge for 802.11ac VHT20 MCS0 at 5180 MHz-Average

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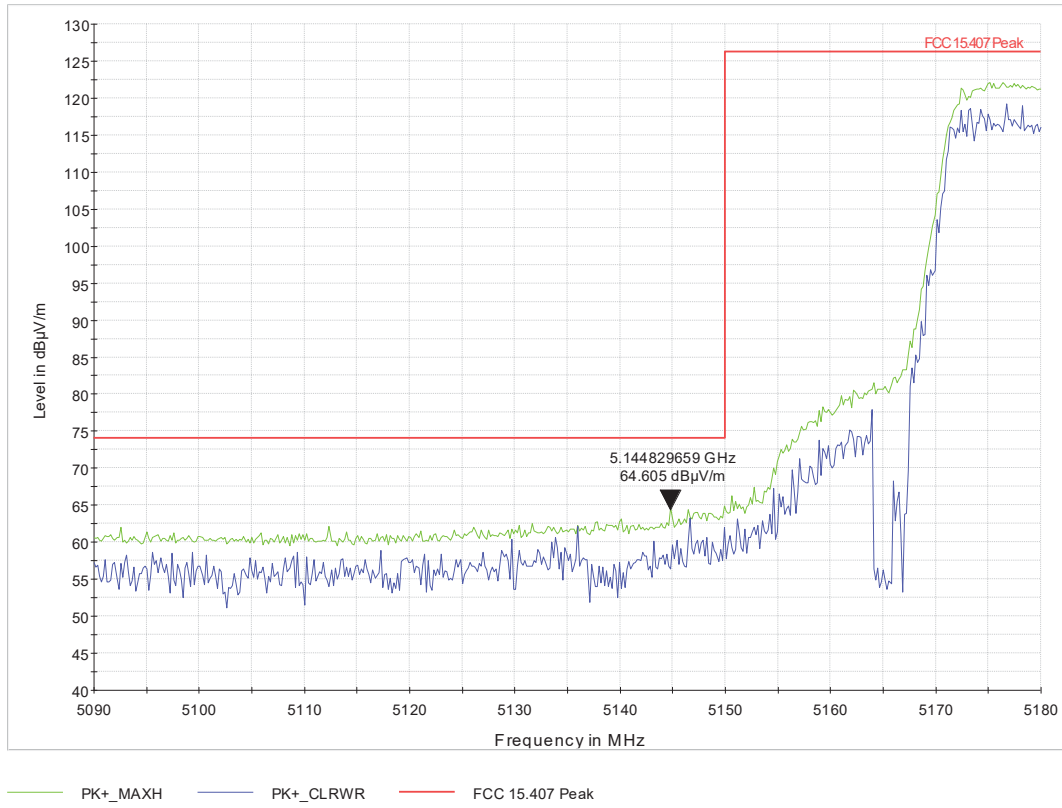


Figure 57: UNII-1 Low Band Edge for 802.11ac VHT20 MCS0 at 5180 MHz-Peak

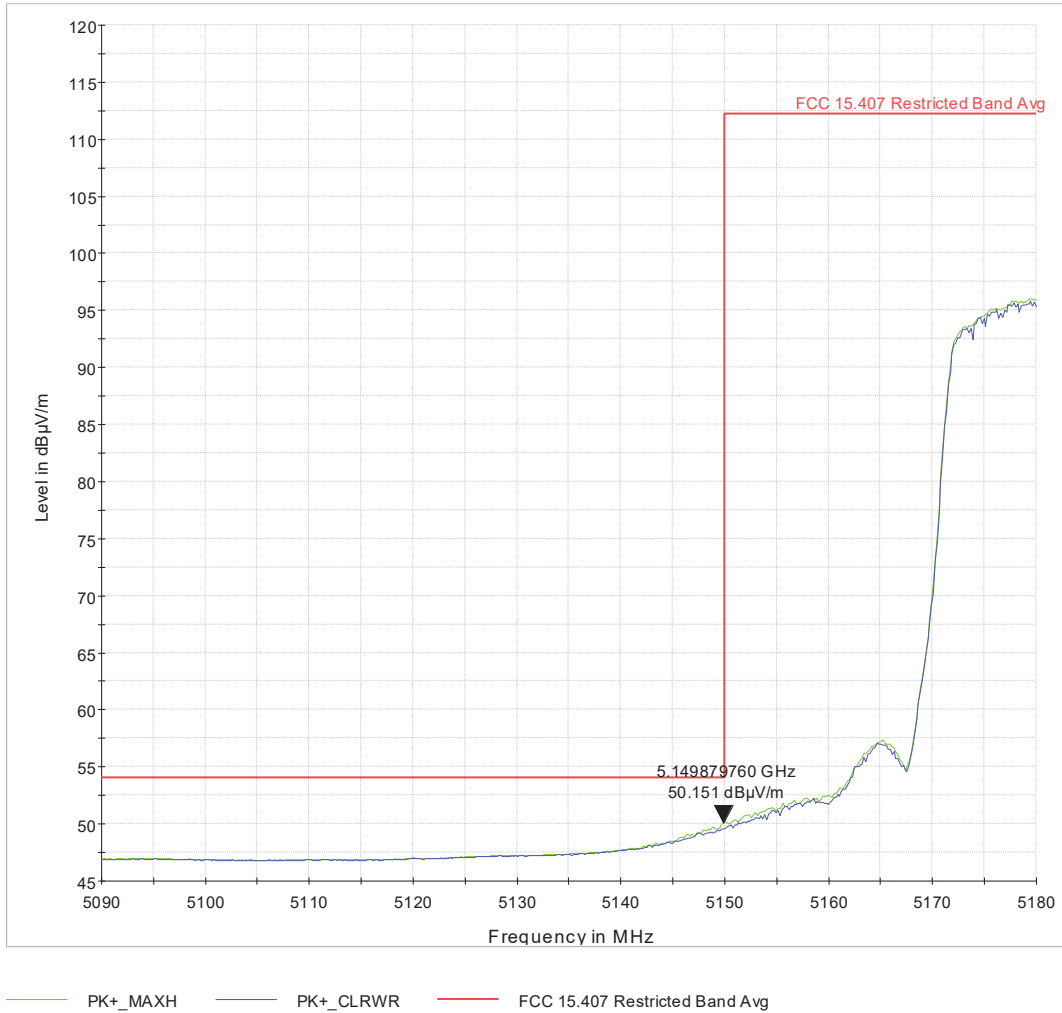


Figure 58: UNII-1 Low Band Edge for 802.11ac VHT40 MCS0 at 5190 MHz-Average

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Tel: (925) 249-9123, Fax: (925) 249-9124

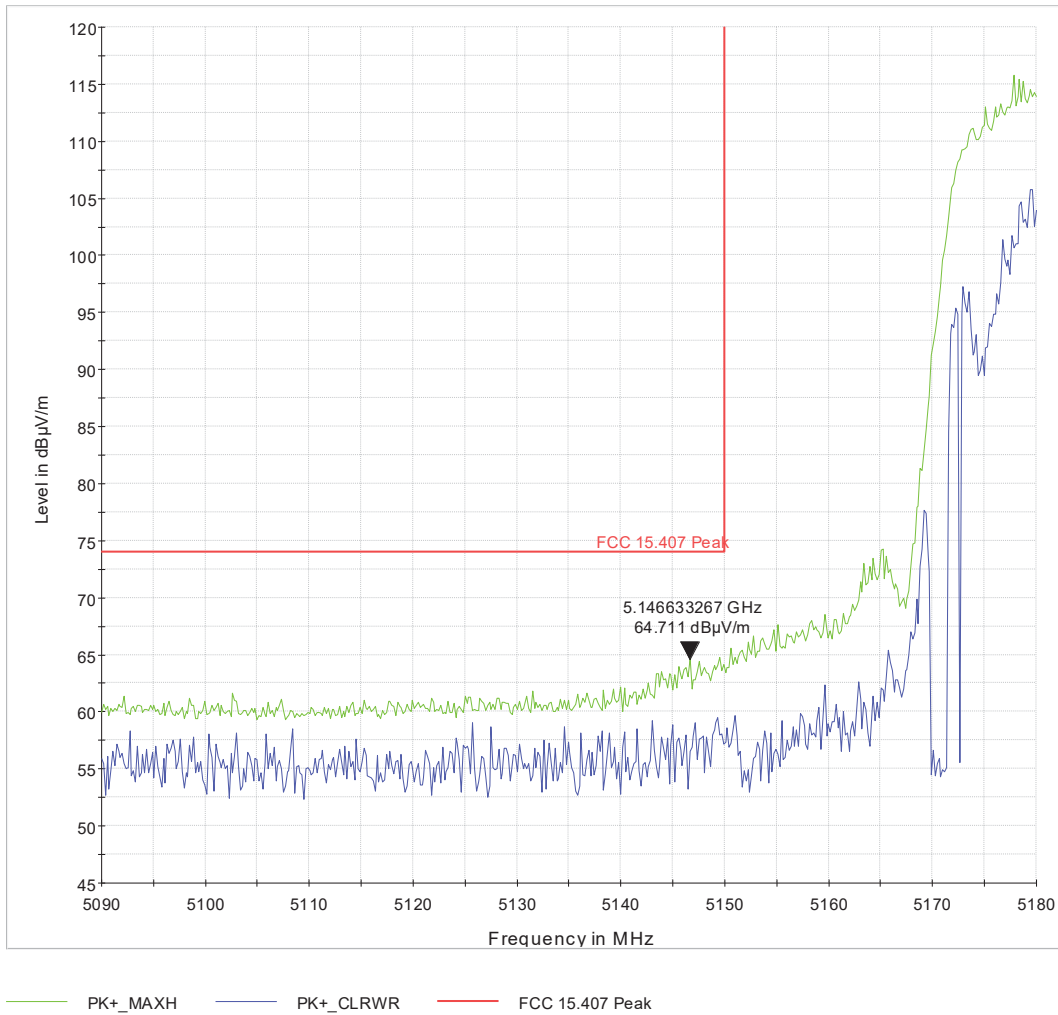


Figure 59: UNII-1 Low Band Edge for 802.11ac VHT40 MCS0 at 5190 MHz-Peak

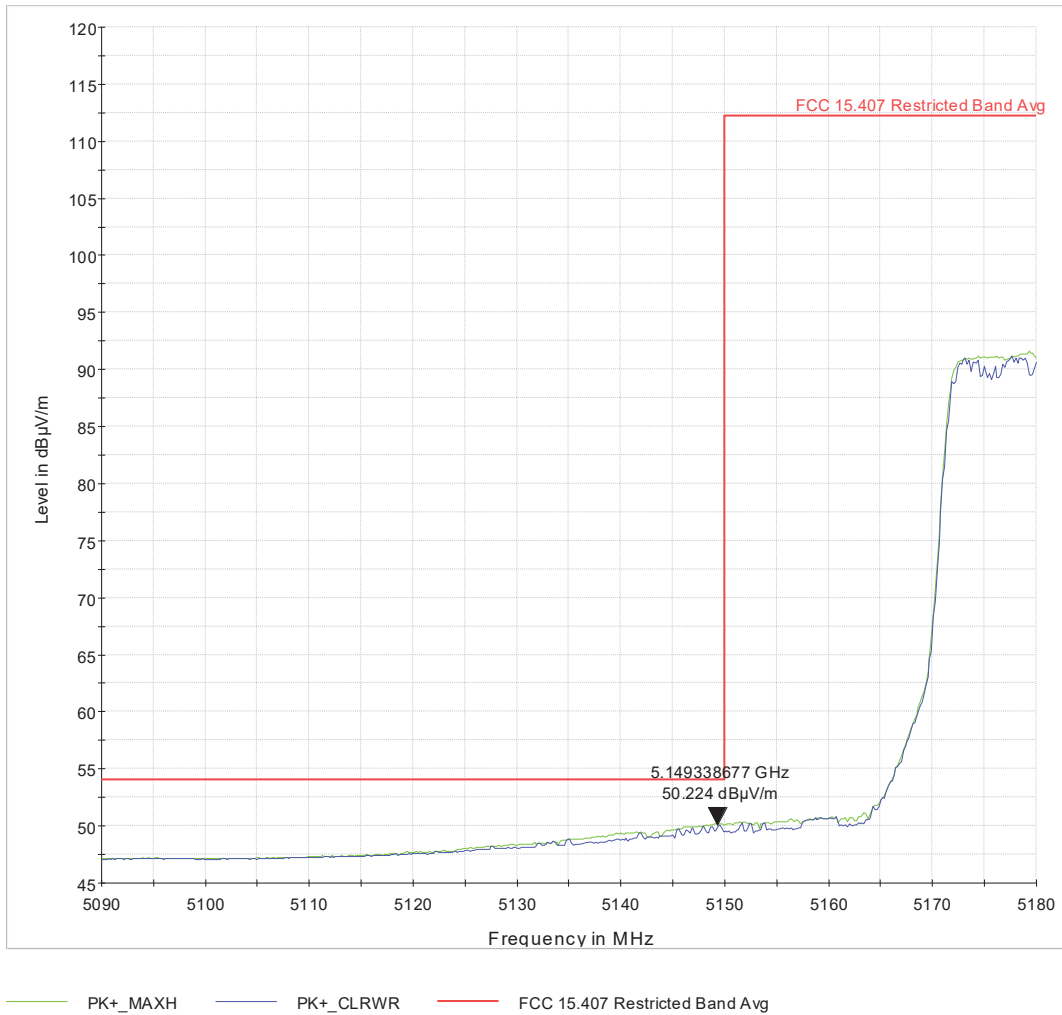


Figure 60: UNII-1 Low Band Edge for 802.11ac VHT80 MCS0 at 5210 MHz-Average

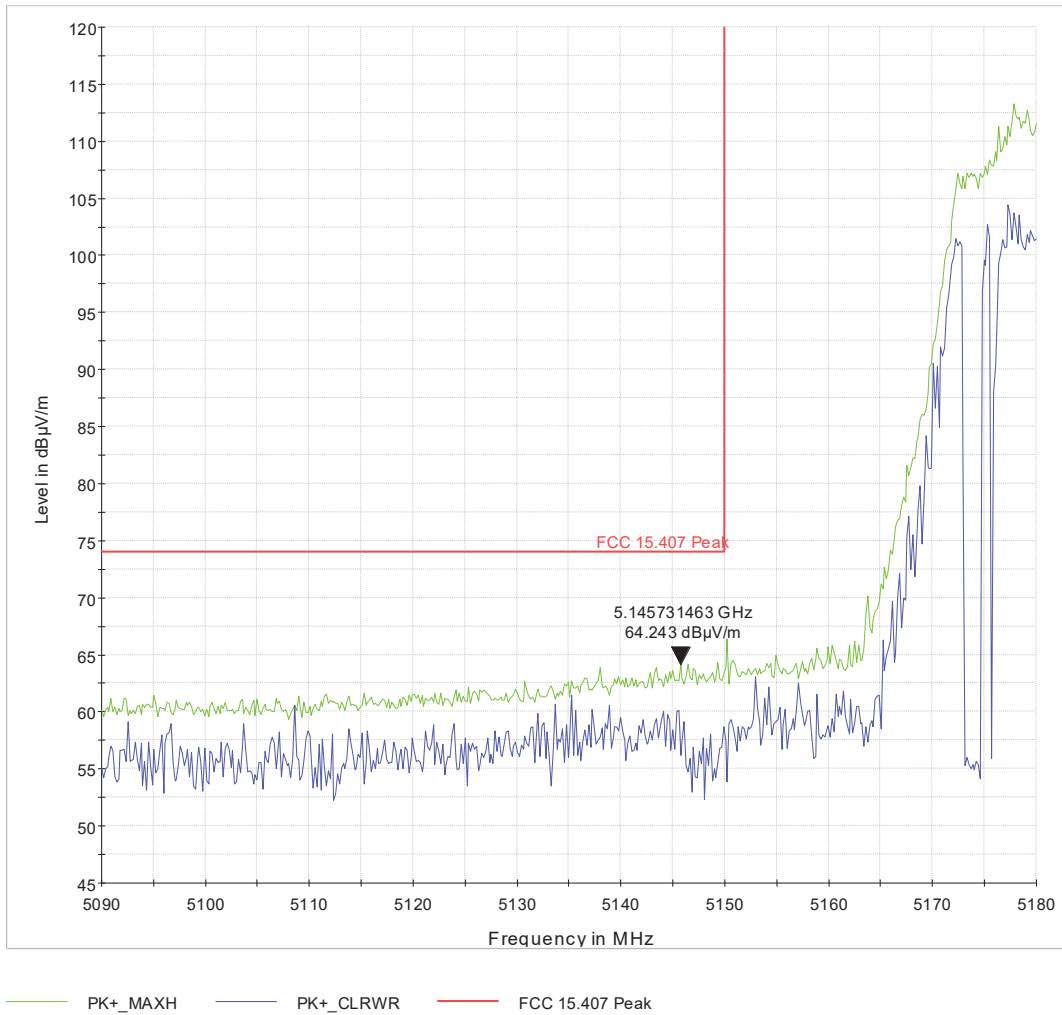
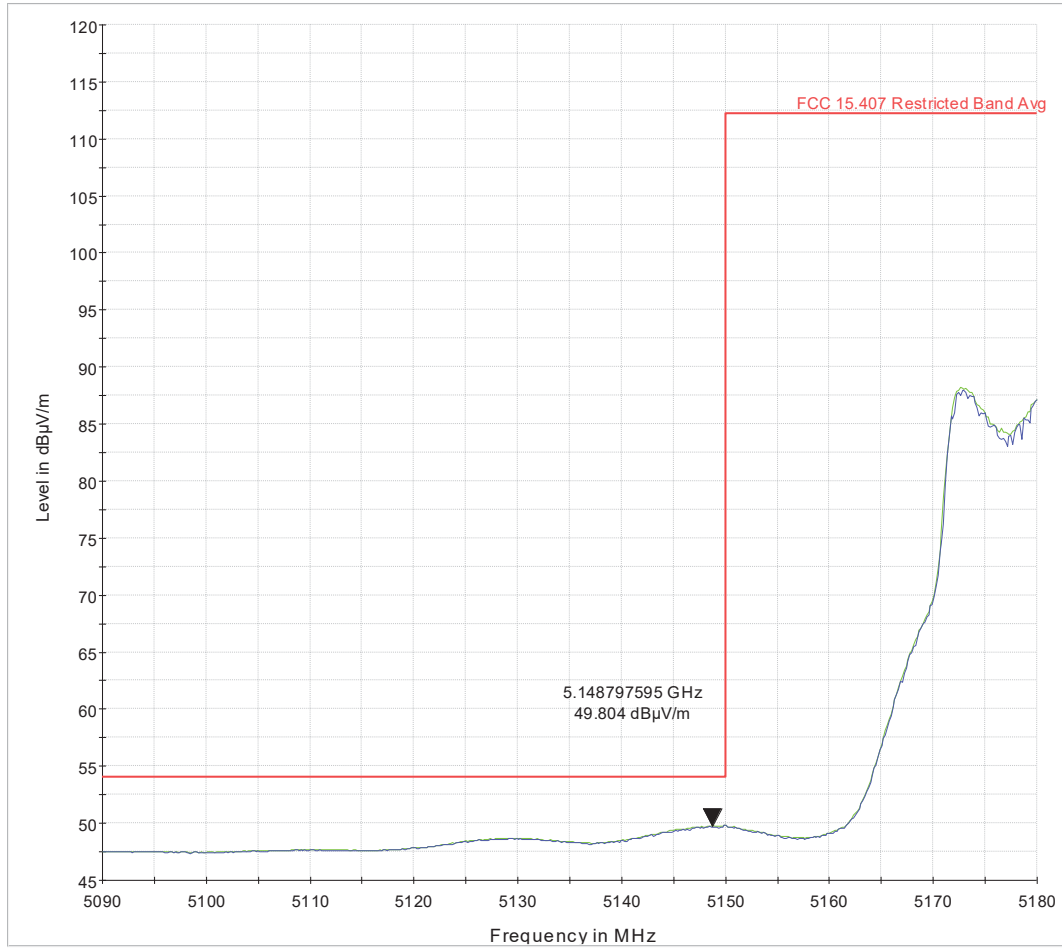


Figure 61: UNII-1 Low Band Edge for 802.11ac VHT80 MCS0 at 5210 MHz-Peak

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PK+_MAXH PK+_CLRWR FCC 15.407 Restricted Band Avg

Figure 62: UNII-1 Low Band Edge for 802.11ac VHT80+80 MCS0 at 5210 & 5775 MHz-A verage

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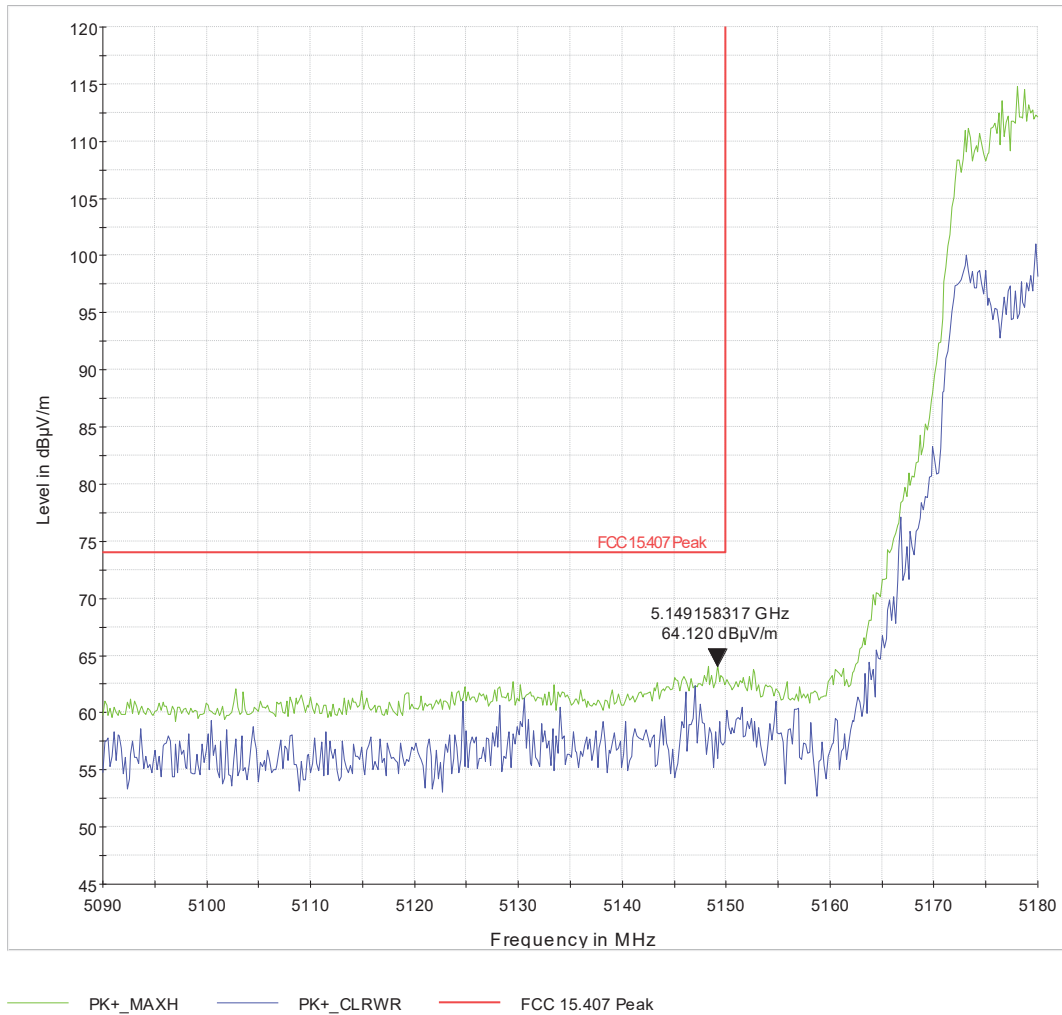


Figure 63: UNII-1 Low Band Edge for 802.11ac VHT80+80 MCS0 at 5210 & 5775 MHz-Peak

4.5 Out of Band Emissions: UNII-3 Unrestricted Band Edge

4.5.1 Limit(s)

CFR47 15.407 (b)(4)(i) and RSS 247 Sect.6.2.1.2: The maximum emissions outside of the frequency bands of operation shall be attenuated in accordance with the following limits:

(4) For transmitters operating in the 5.725-5.85 GHz band:

(i) All emissions shall be limited to a level of -27 dBm/MHz at 75 MHz or more above or below the band edge increasing linearly to 10 dBm/MHz at 25 MHz above or below the band edge, and from 25 MHz above or below the band edge increasing linearly to a level of 15.6 dBm/MHz at 5 MHz above or below the band edge, and from 5 MHz above or below the band edge increasing linearly to a level of 27 dBm/MHz at the band edge.

4.5.2 Test Method

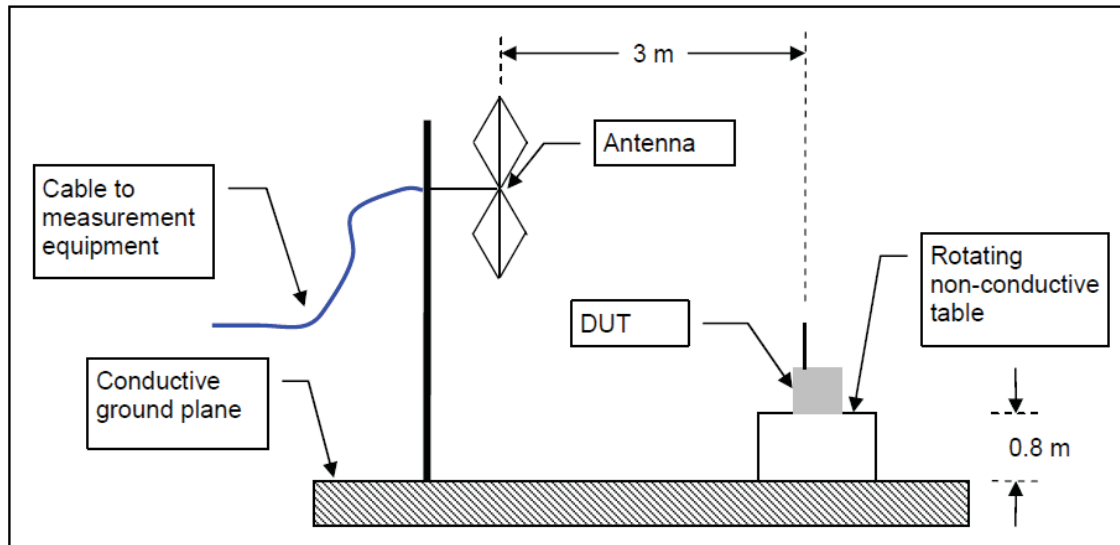
Radiated measurements per ANSI C63.10-2013 Section 12.7.7.3 were used to measure the undesirable emission requirement in restricted bands. The measurement was performed with modulation. This test was conducted on the low channel for the low bandedge and the high channel for the high bandedge, in each applicable mode on the EUT. Preliminary tests were done to find the worse case modes (section 3.5.2 of this report). The power settings that were implemented are in section 4.1.4.1 of this report.

4.5.3 Test Setup

Spectrum Analyzer Settings:

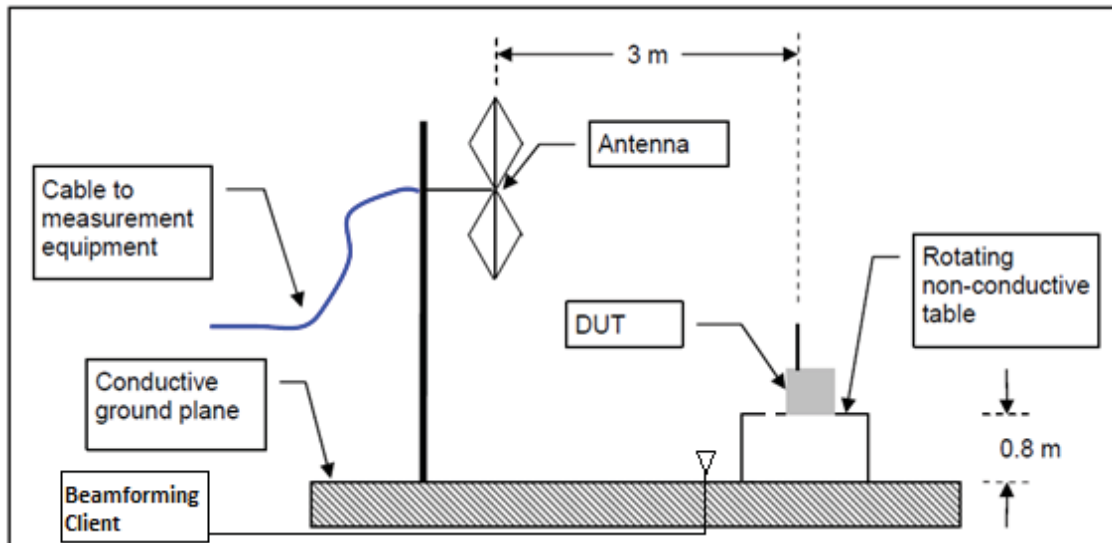
	Peak Measurement
Detector	Peak
Trace	Max Hold
RBW	1 MHz
VBW	3 MHz
Sweep Points	501
Sweep Time	Coupled
Span	See Plots

CDD Mode



The DUT was stimulated by manufacturer provided test software that is not available to the end user.

Beamforming (BF) Mode



A conducted 4x4 MIMO client that supports beamforming was used to lock the beam. The client's antenna was routed in the chamber and put on the turntable outside the measuring antenna's beamwidth for the fundamental frequency. The EUT uses circular beamforming with a lockable beam as defined in ANSI C63.10-2013 Section 13. Network throughput software tool, iperf3, was used to stimulate the DUT's transmissions with a high duty cycle.

A customized software tool developed by the manufacturer was used to associate the DUT and the Client to any required data rates, channels and power settings before transmissions were initiated.

Iperf3 Command Line for DUT:

```
iperf -c 192.168.16.1 -p 5021 -i 10 -t 4200 -w 320k -u -b 300M -P 4 -l 24000
```

Iperf3 Command Line for Client (Support Equipment):

```
iperf3 -s
```

4.5.4 Results

As originally tested, the EUT was found to be compliant to the requirements of the test standard(s).

4.5.5 Measurement Plots

4.5.5.1 CDD Mode (Non-Beamforming)

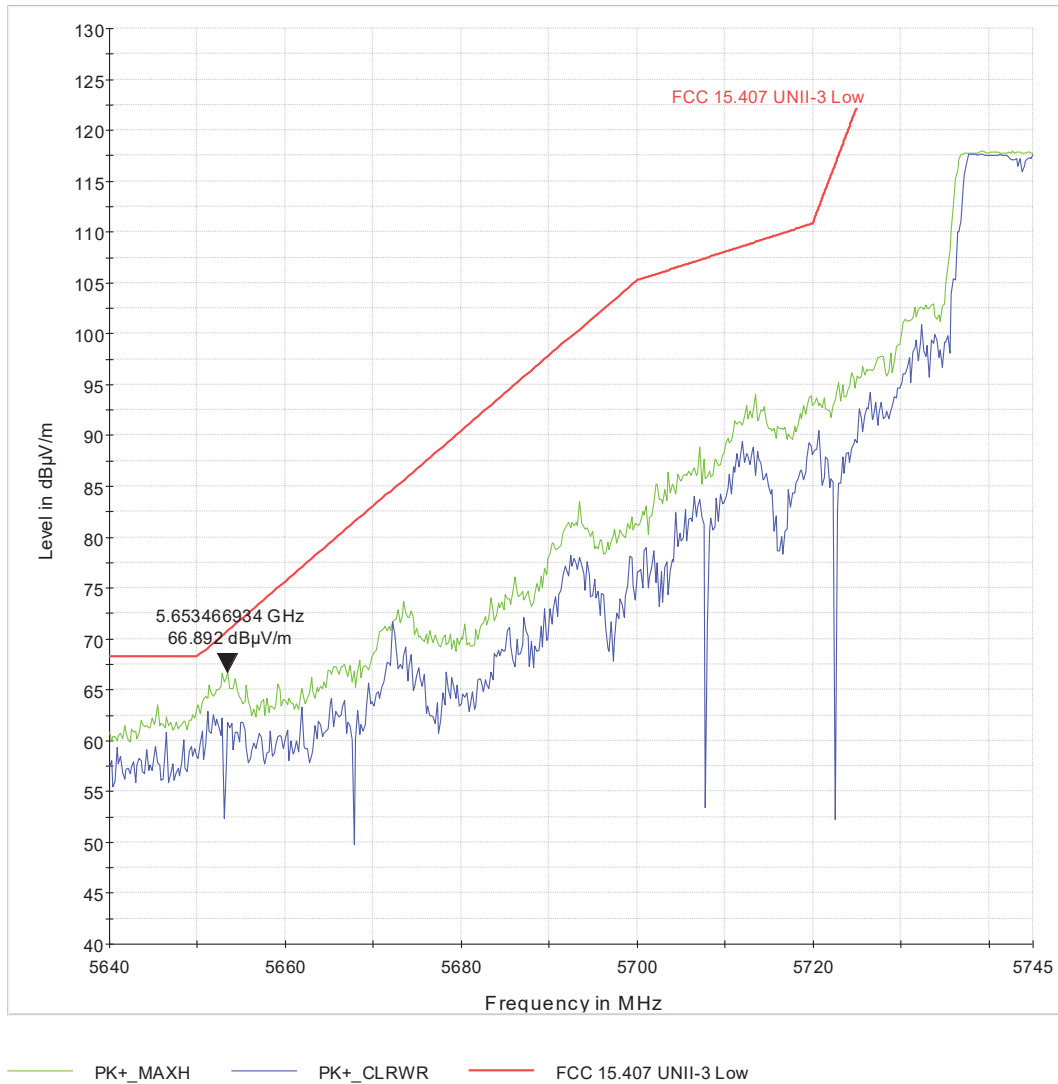


Figure 64: Low U-NII-3 band edge for 802.11a NoHT 6Mbps at Channel 149

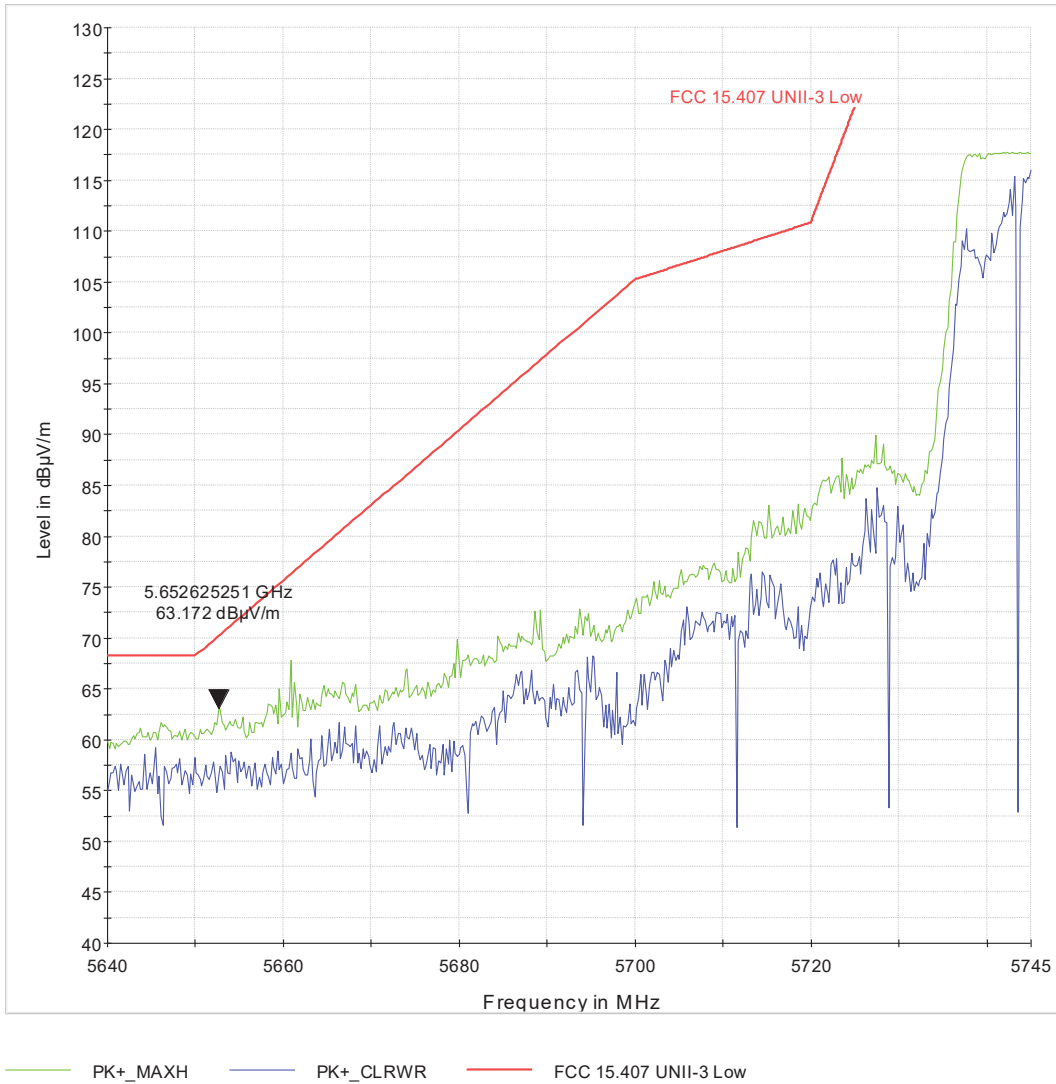


Figure 65: Low U-NII-3 band edge for 802.11n HT40+ MCS0 at Channel 151

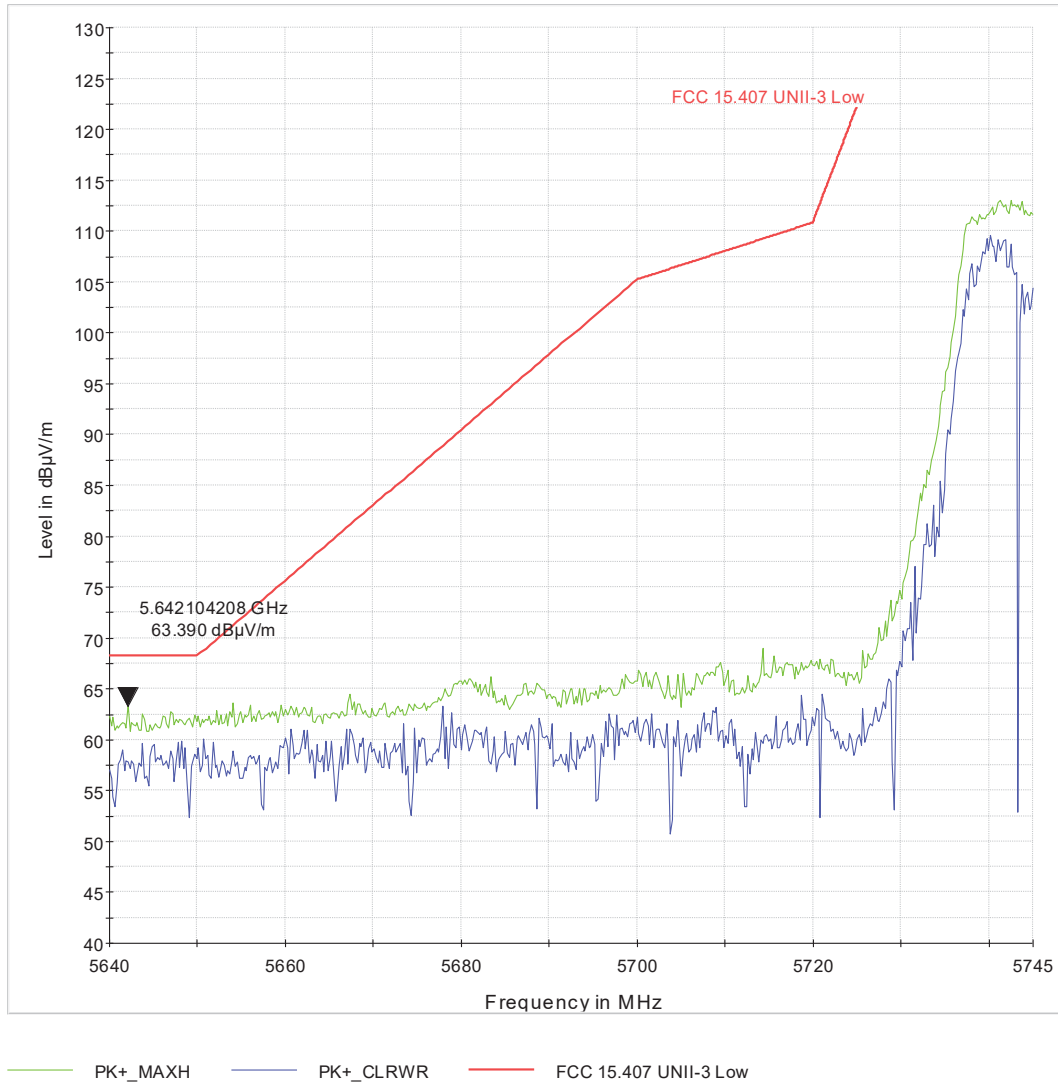


Figure 66: Low U-NII-3 band edge for 802.11ac VHT80 MCS0 at Channel 155

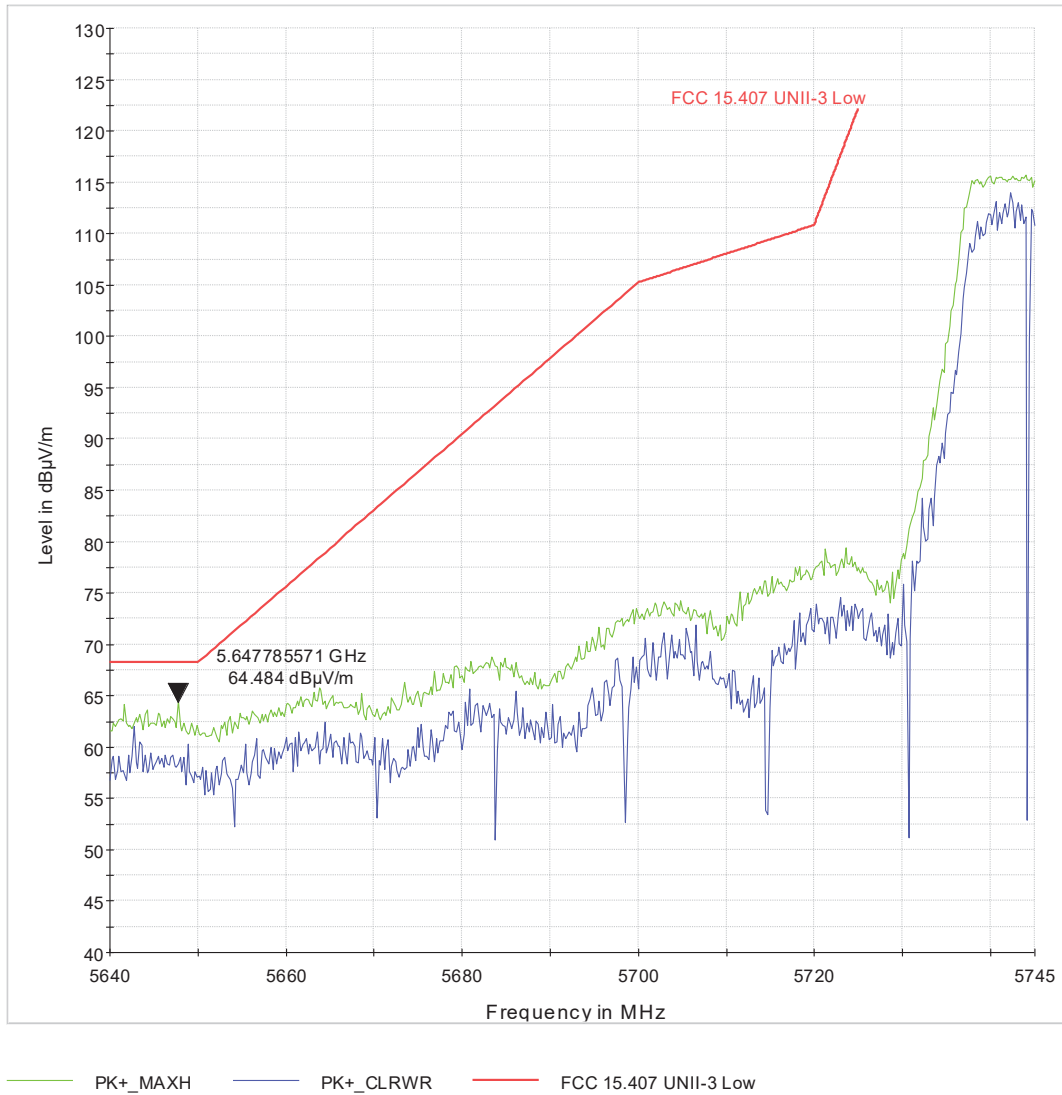


Figure 67: Low U-NII-3 band edge for 802.11ac VHT80+80 MCS0 at Channel 155

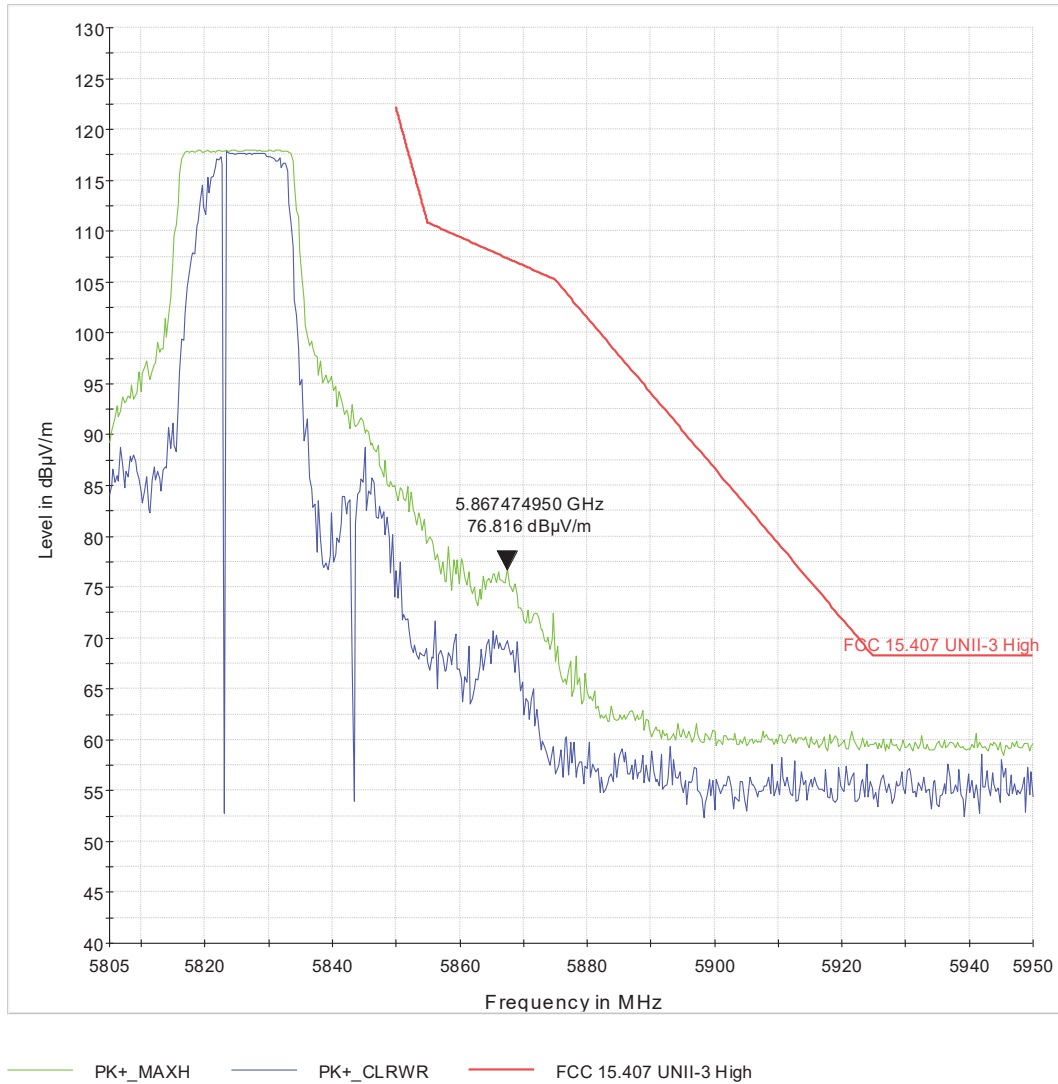


Figure 68: High U-NII-3 band edge for 802.11a NoHT 6Mbps at Channel 165

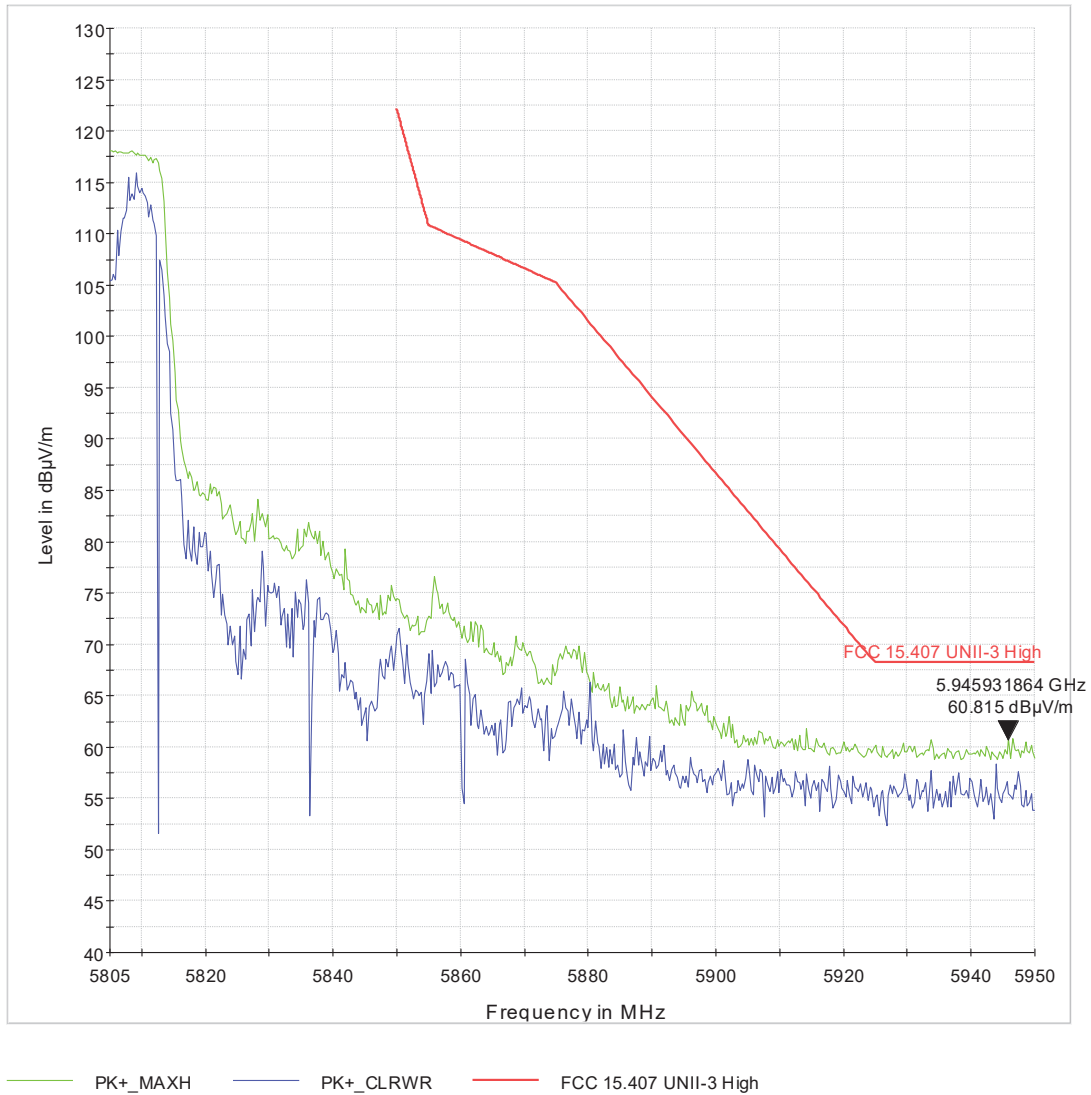


Figure 69: High U-NII-3 band edge for 802.11n HT40+ MCS0 at Channel 159

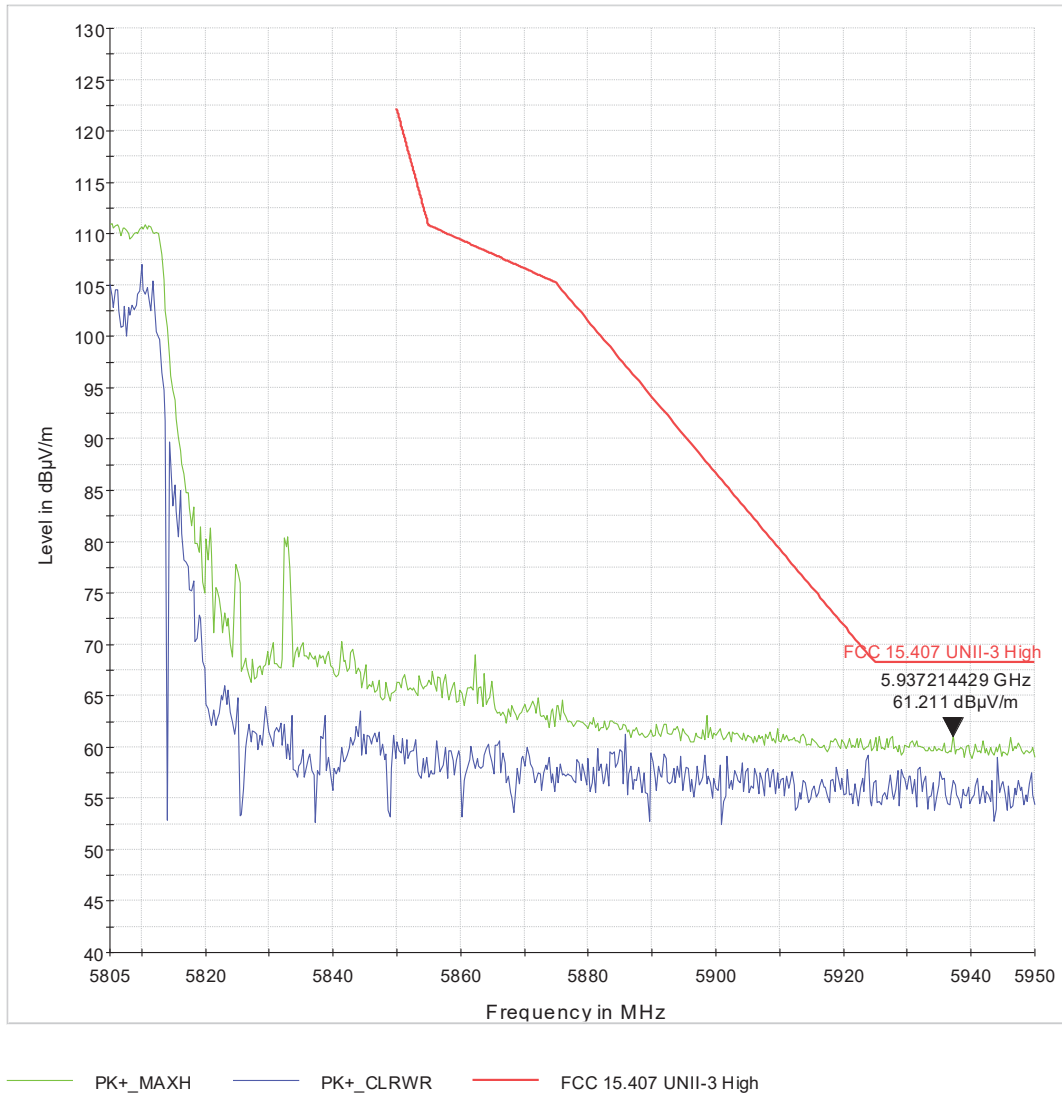


Figure 70: High U-NII-3 band edge for 802.11ac VHT80 MCS0 at Channel 155

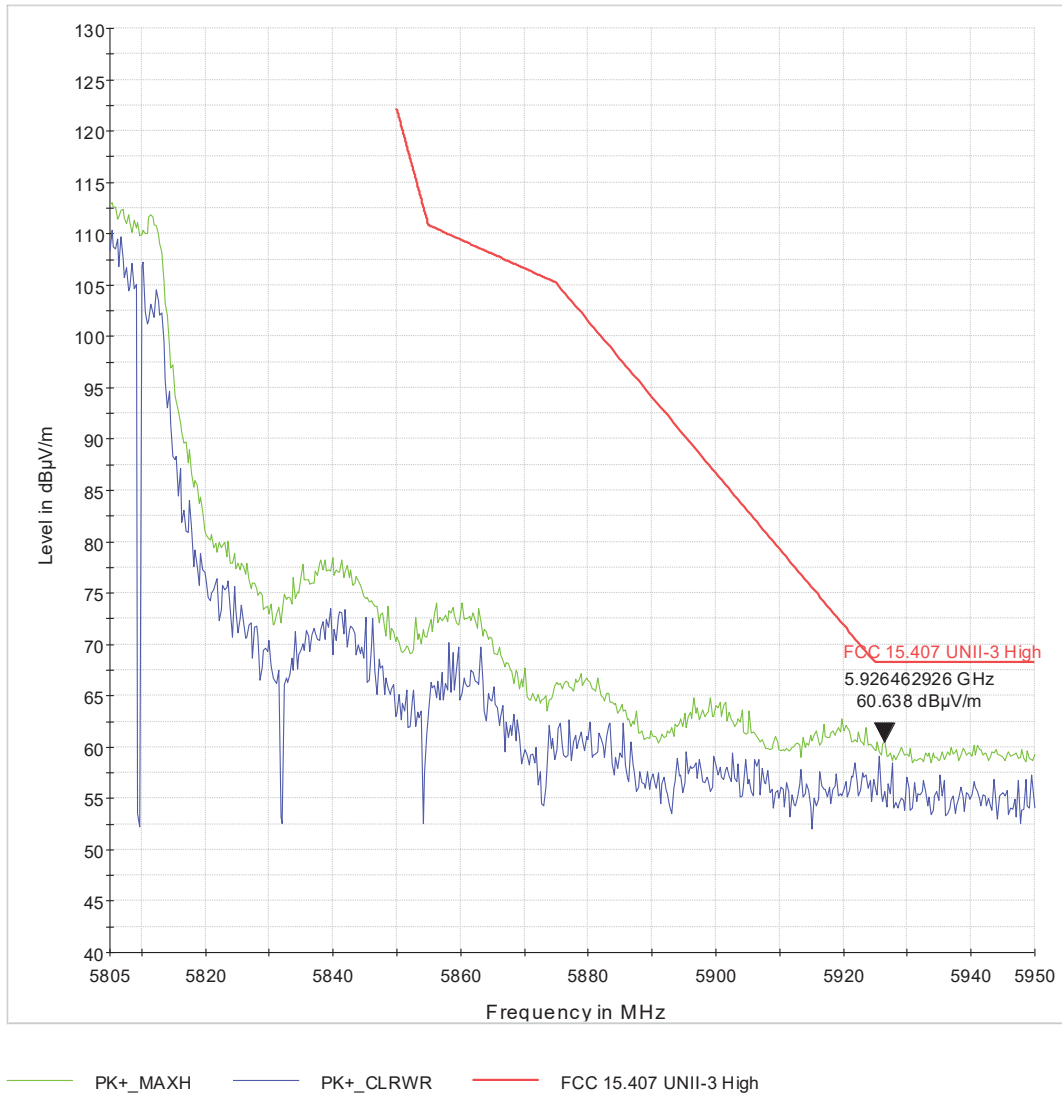


Figure 71: High U-NII-3 band edge for 802.11ac VHT80+80 MCS0 at Channel 155

4.5.5.2 Beamforming Mode

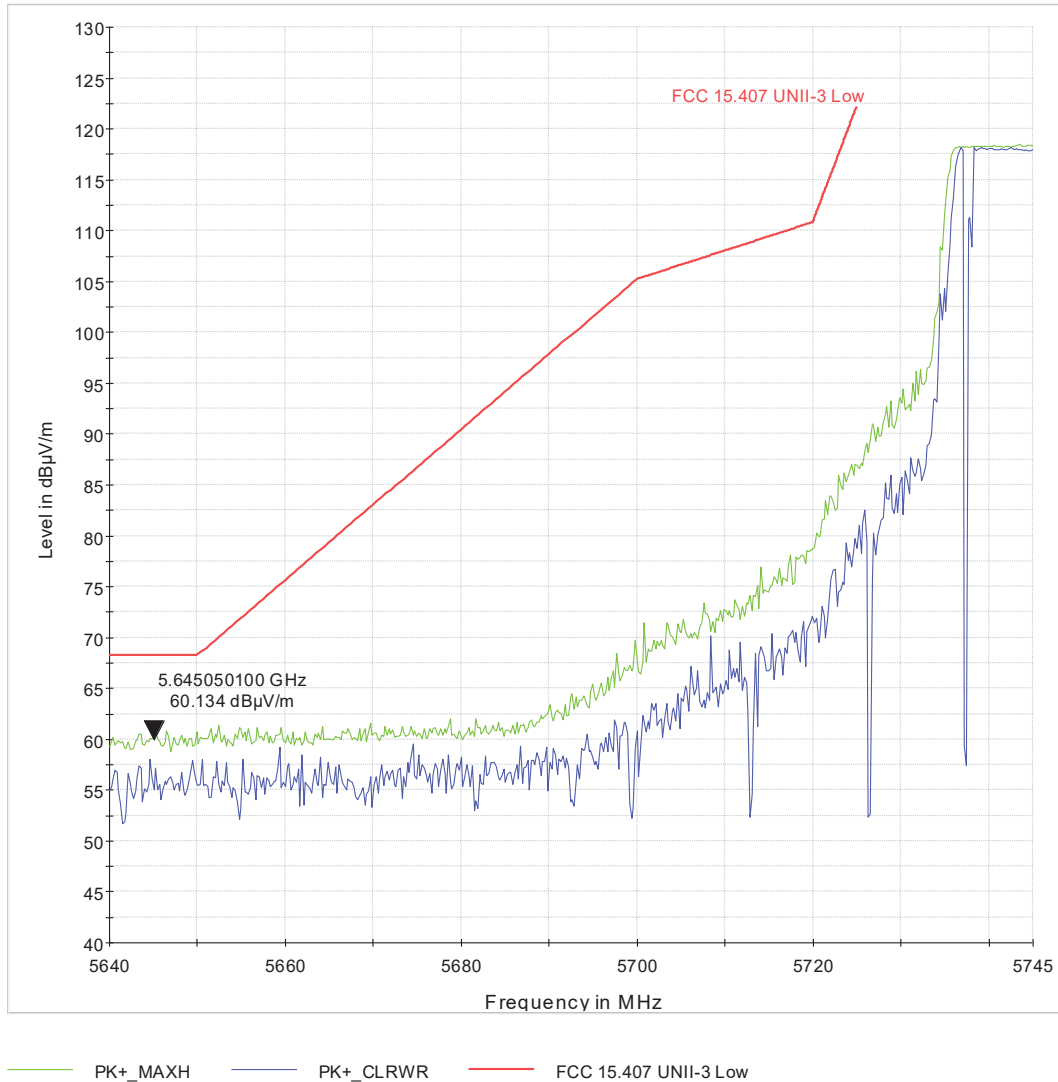


Figure 72: Low U-NII-3 band edge for 802.11ac VHT20 MCS0 at Channel 149

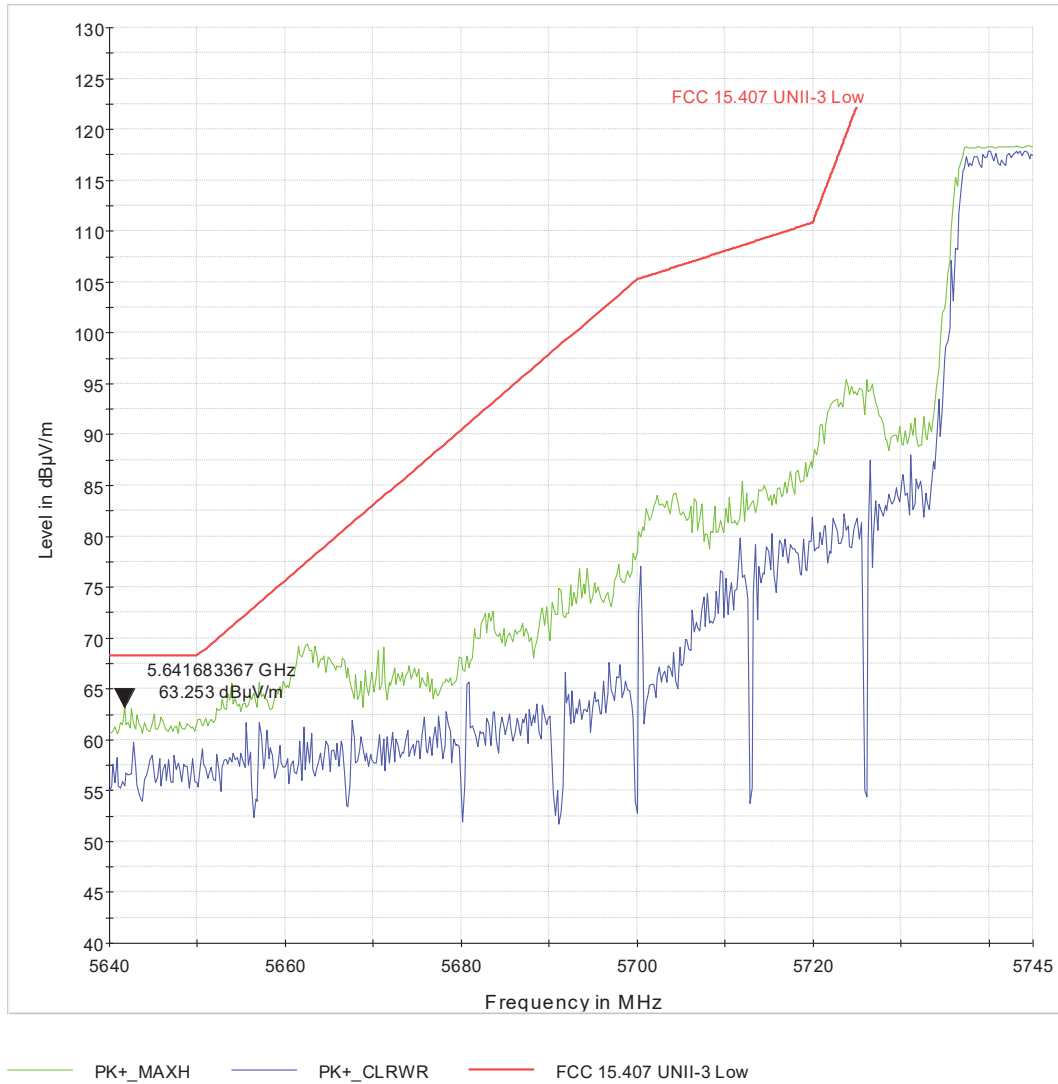


Figure 73: Low U-NII-3 band edge for 802.11ac VHT40 MCS0 at Channel 151

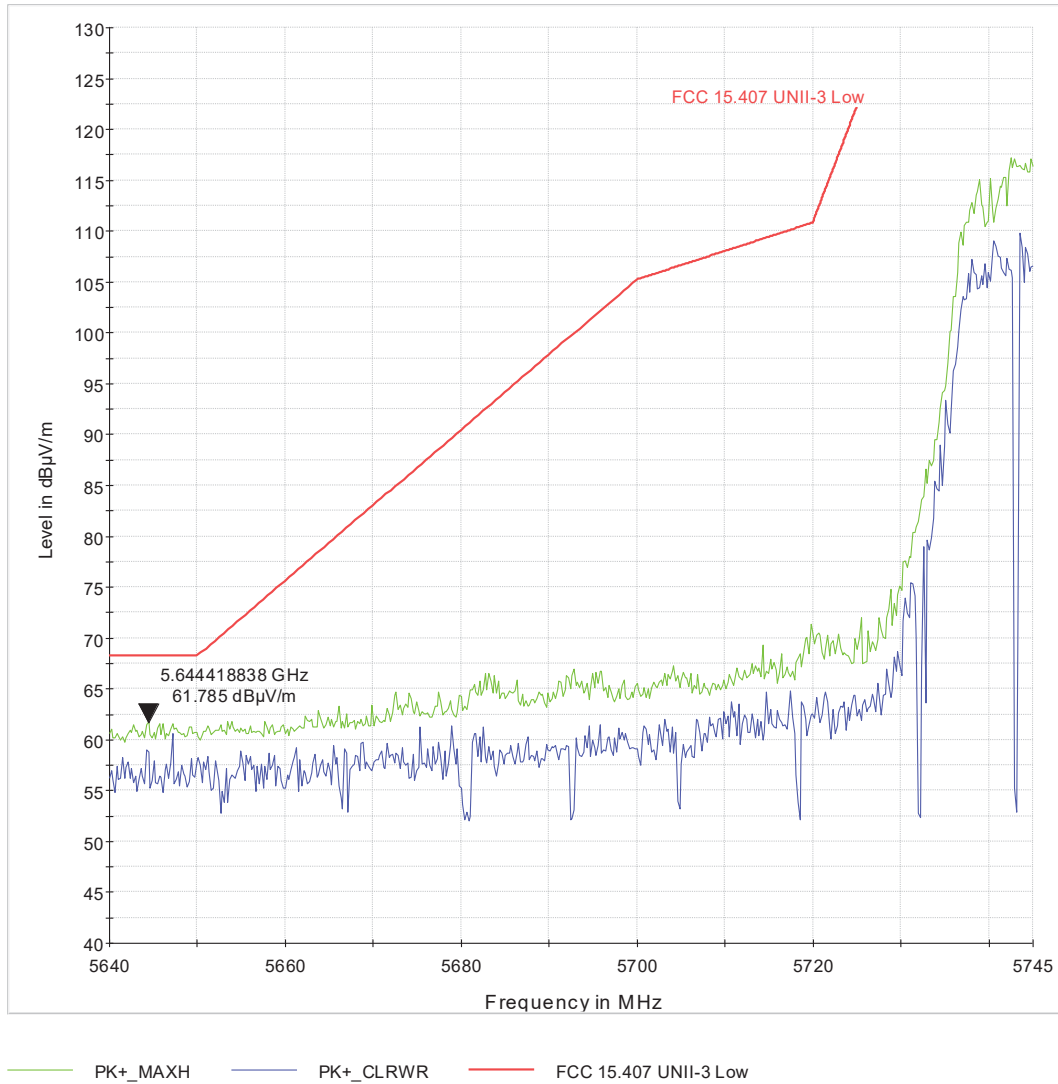


Figure 74: Low U-NII-3 band edge for 802.11ac VHT80 MCS0 at Channel 155

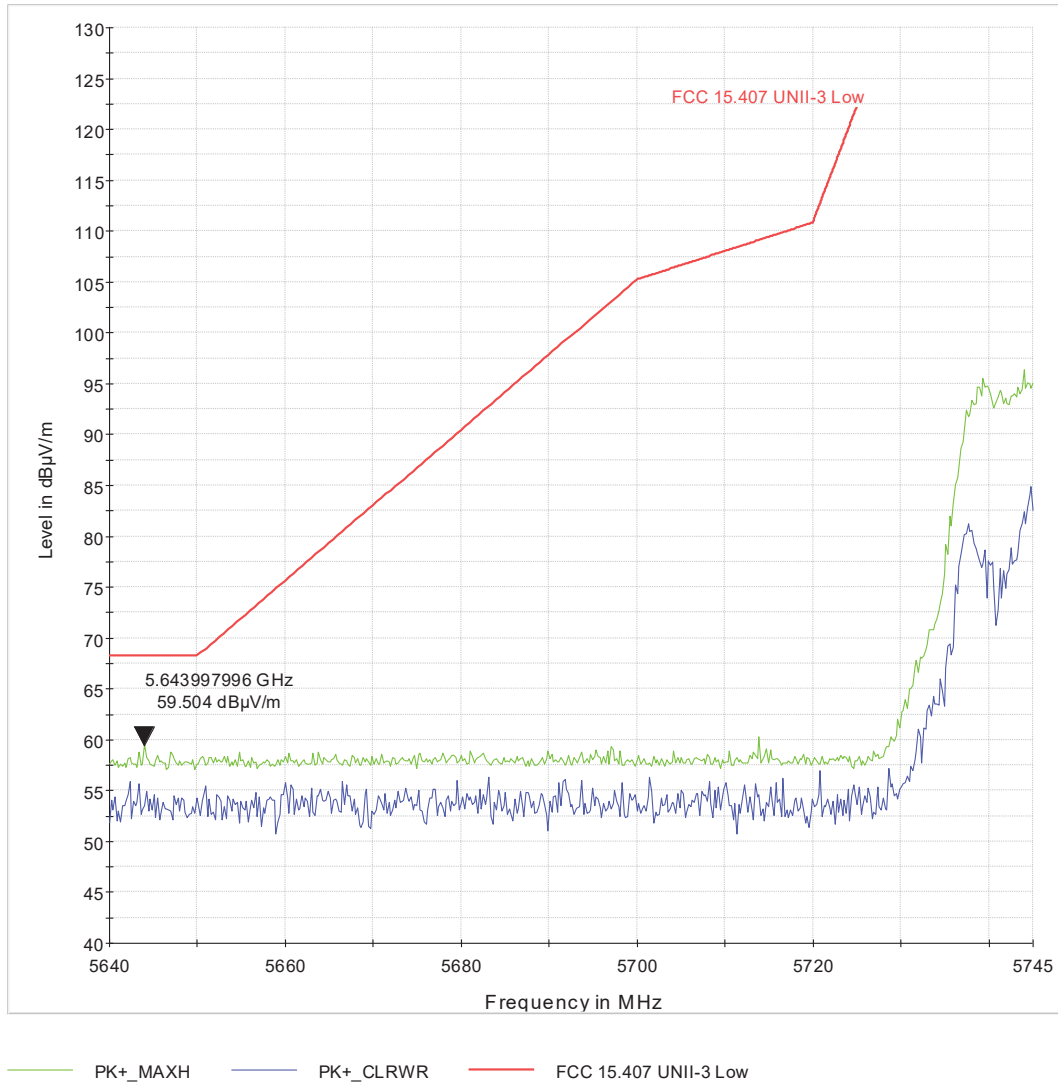


Figure 75: Low U-NII-3 band edge for 802.11ac VHT80+80 MCS0 at Channel 155

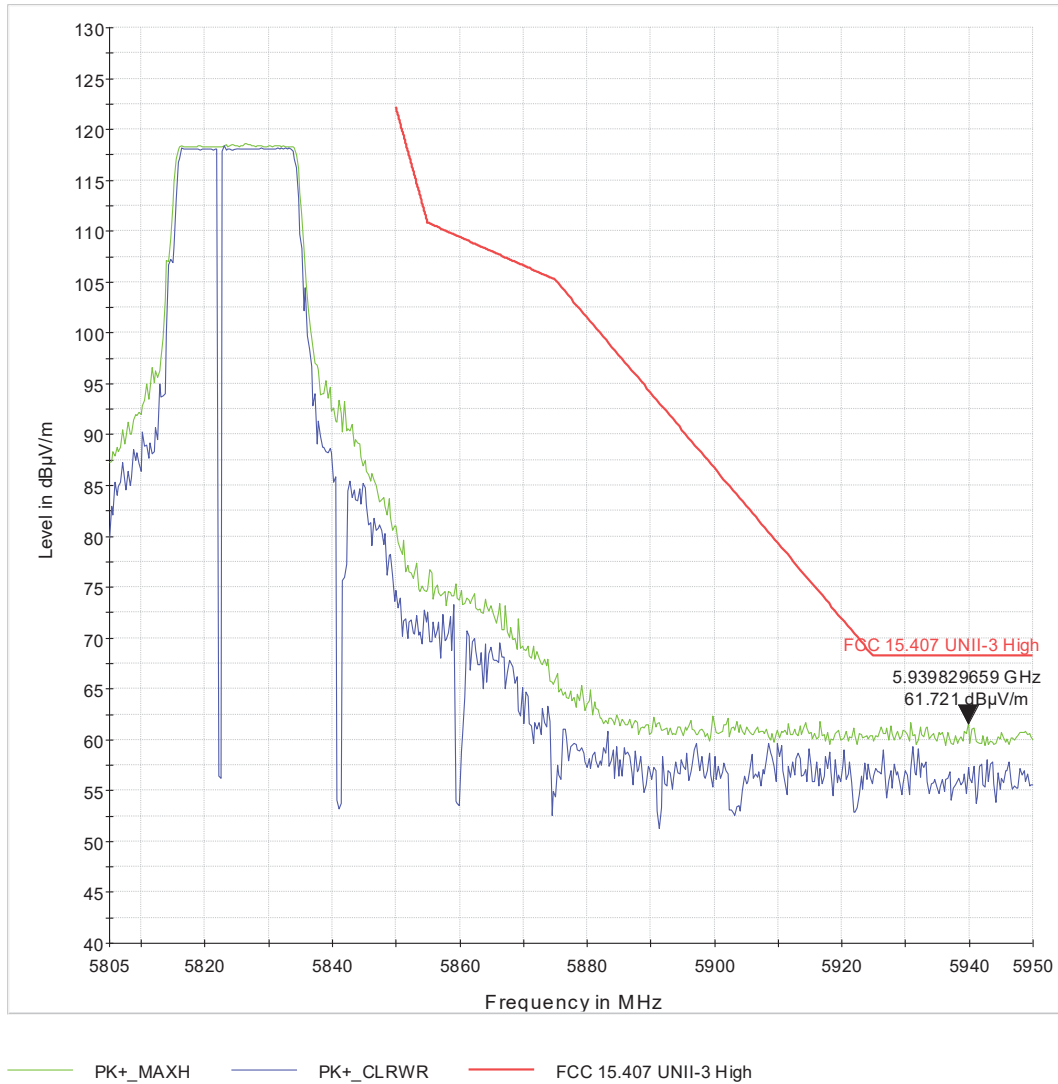


Figure 76: High U-NII-3 band edge for 802.11ac VHT20 MCS0 at Channel 165

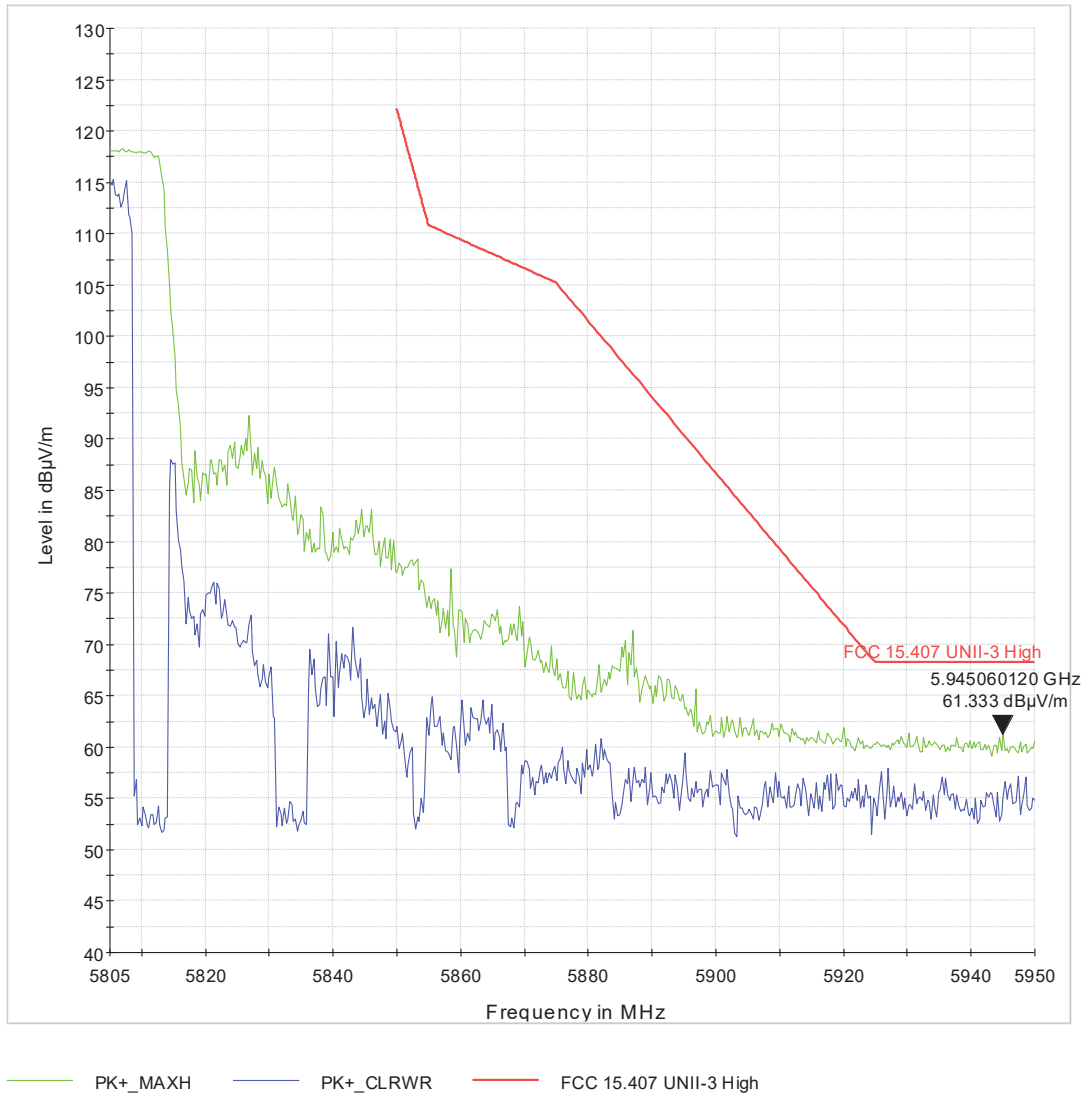


Figure 77: High U-NII-3 band edge for 802.11ac VHT40 MCS0 at Channel 159

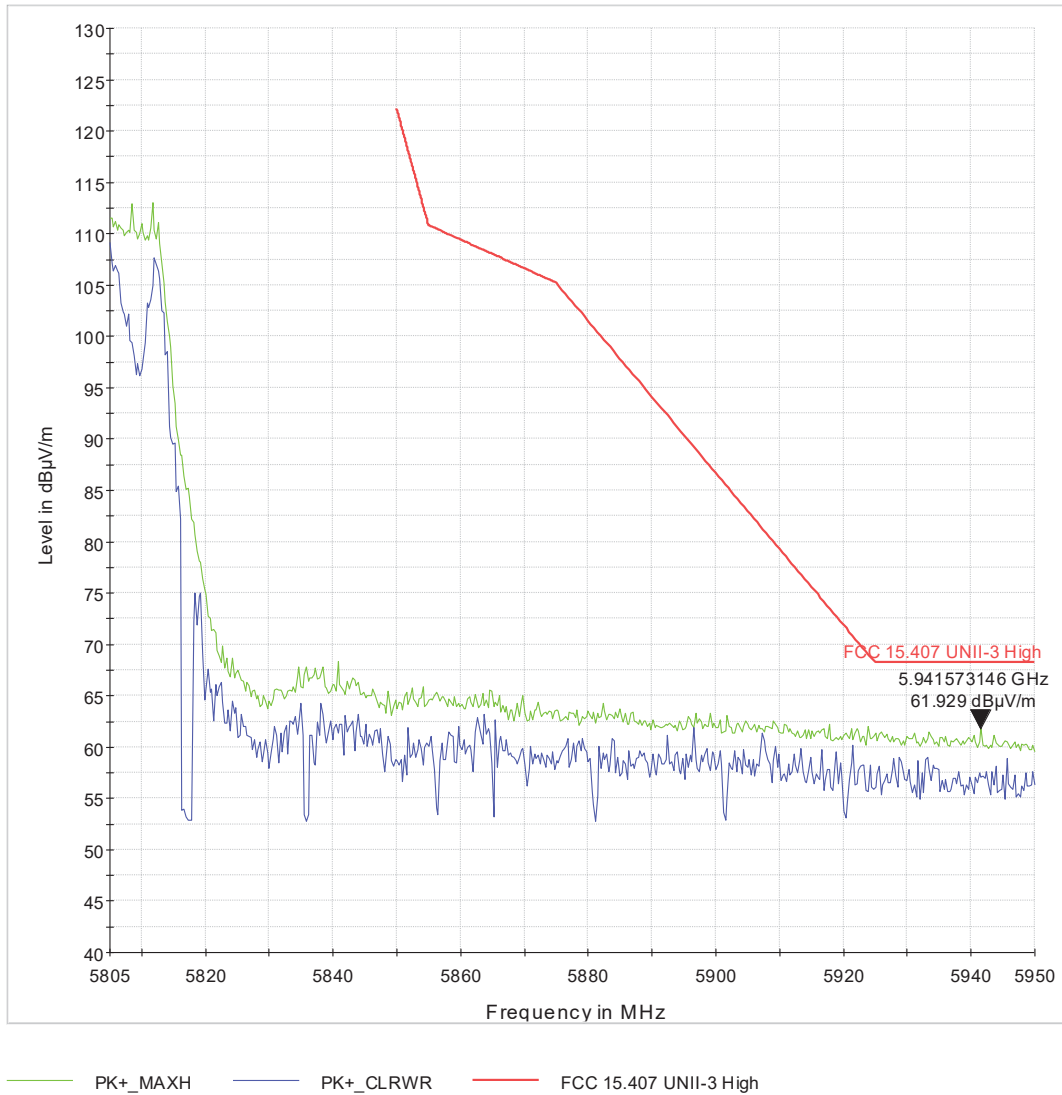


Figure 78: High U-NII-3 band edge for 802.11ac VHT80 MCS0 at Channel 155

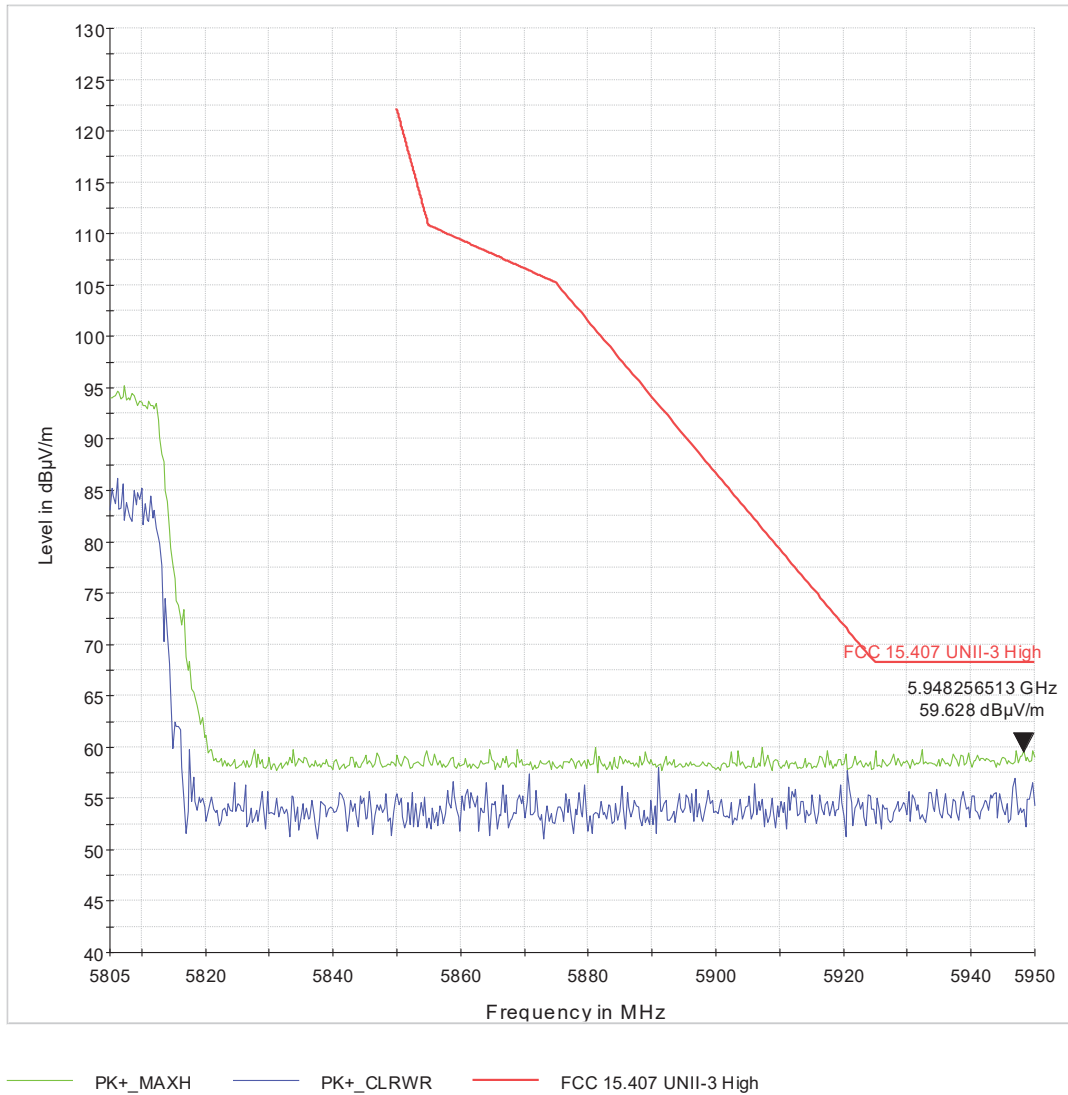


Figure 79: High U-NII-3 band edge for 802.11ac VHT80+80 MCS0 at Channel 155

4.6 Transmitter Spurious Emissions

Transmitter spurious emissions are emissions outside the frequency range of the equipment when the equipment is in transmit mode; per requirement of CFR47 15.205:2016, 15.209:2016, 15.407(b:2016), RSS 247 Sect. 6:2017, RSS GEN Sect.8.9 and 8.10:2014

4.6.1 Transmitter Spurious Emission Limit

The spurious emissions of the transmitter shall not exceed the values in CFR47 Part 15.205, 15.209, RSS 247 Sect. 6, RSS GEN Sect. 8.9 and 8.10

Frequency (MHz)	Field strength (microvolts/meter)	Measurement distance (meters)
0.009-0.490	2400/F (kHz)	300
0.490-1.705	24000/F (kHz)	30
1.705-30.0	30	30
30-88	100 **	3
88-216	150 **	3
216-960	200 **	3
Above 960	500	3

According to CFR47 15.407 (b) and RSS 247 Sect. 6.2.1.2, all harmonics and spurious emissions which are outside the 5150 MHz - 5250 MHz, 5250 MHz – 5350 MHz, or 5470 MHz – 5725 MHz shall not exceed -27 dBm/MHz. This is equivalent to 68.2 dBuV/m at 3 meter distance.

4.6.2 Test Methodology

4.6.2.1 Preliminary Test

A test program that controls instrumentation and data logging was used to automate the preliminary RF emission test procedure. The frequency range of interest was divided into sub-ranges to yield a frequency resolution of approximately 120 kHz and provide a reading at each frequency for no more than 12° of turntable rotation. For each frequency sub-range the turntable was rotated 360° while peak emission data was recorded and plotted over the frequency range of interest in horizontal and vertical antenna polarization's.

Preliminary emission profile testing was performed inside the anechoic chamber. The EUT was placed on a 1.0m x 1.5m non-conductive table 80cm (<1 GHz) and 150cm (>1 GHz) above the floor. The EUT was positioned as shown in the setup photographs. The receiving antenna was placed at a distance of 3m at a fixed height of 1m. Measurement equipment was located outside of the chamber. A video camera was placed inside the chamber to view the EUT.

Pres-scans were performed to determine the worst, data rate/ chains (section 3.5.2 of this report).

4.6.2.2 Final Test

For each frequency measured, the peak emission was maximized by manipulating the receiving antenna from 1 to 4 meters above the ground plane and placing it at the position that produced the maximum signal strength reading. The turntable was then rotated through 360° while observing the peak signal and placing the EUT at the position that produced maximum radiation. The six highest emissions relative to the limit were measured unless such emissions were more than 20 dB below the limit. If less than six emissions are within 20 dB of the limit, then the noise level of the receiver is measured at frequencies where emissions are expected. Multiples of all oscillator and microprocessor frequencies were also checked.

Final testing was performed on an NSA compliant test site. The EUT was placed on a 1.0m x 1.5m non-conductive table 80cm (<1 GHz) and 150cm (>1 GHz) above the ground plane. The placement of EUT and cables were the same as for preliminary testing and is shown in the setup photographs.

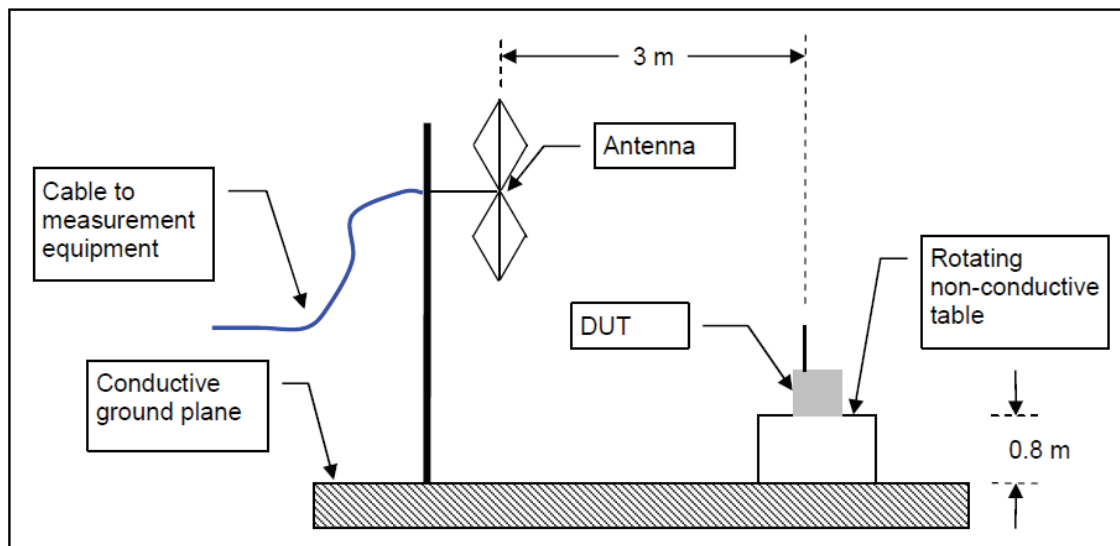
4.6.2.3 Deviations

None.

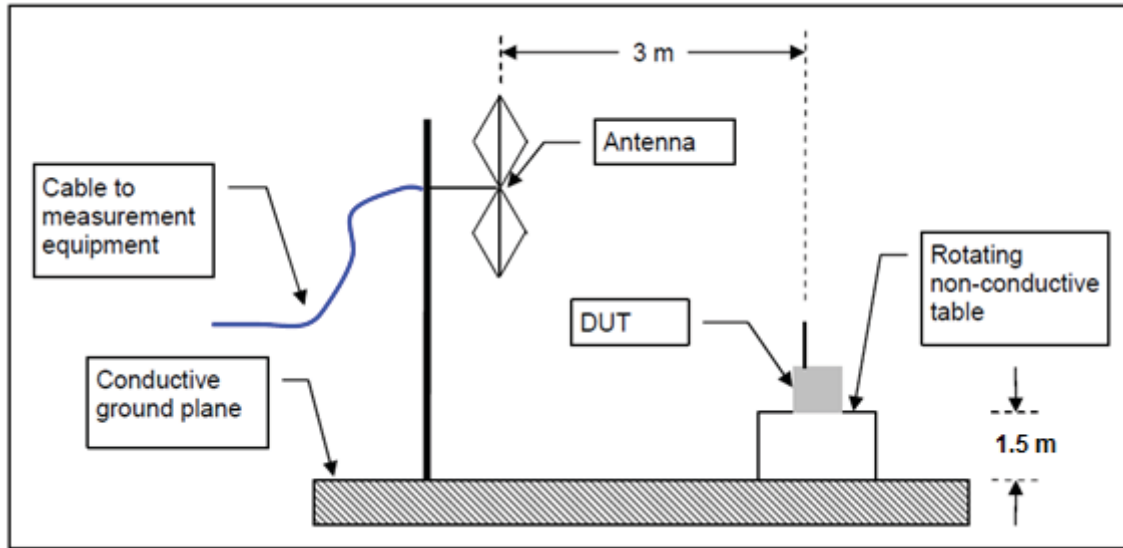
4.6.3 Test Setup:

4.6.3.1 CDD Mode

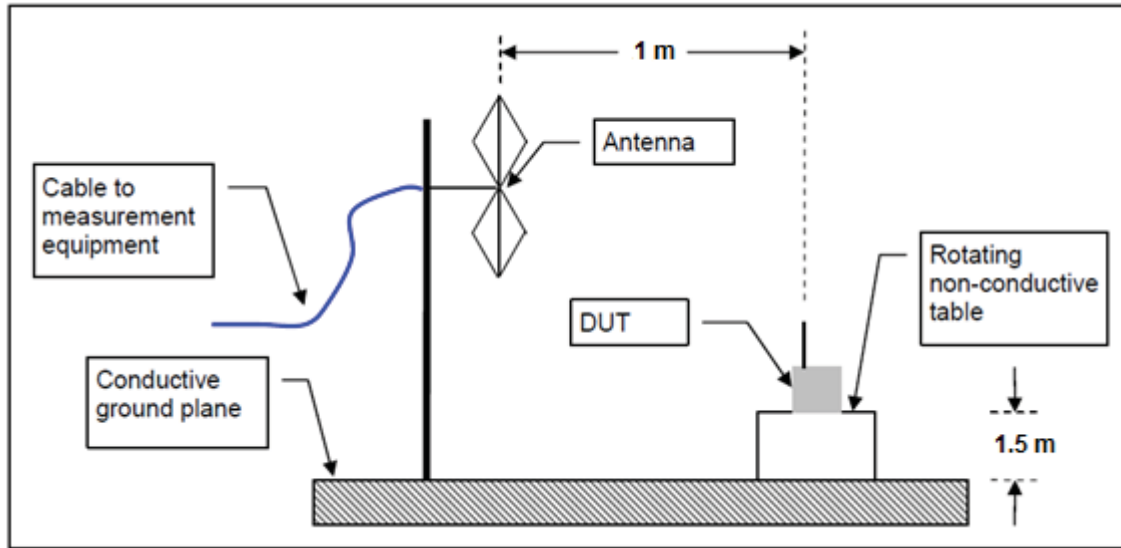
9KHz-1GHz



1-18GHz



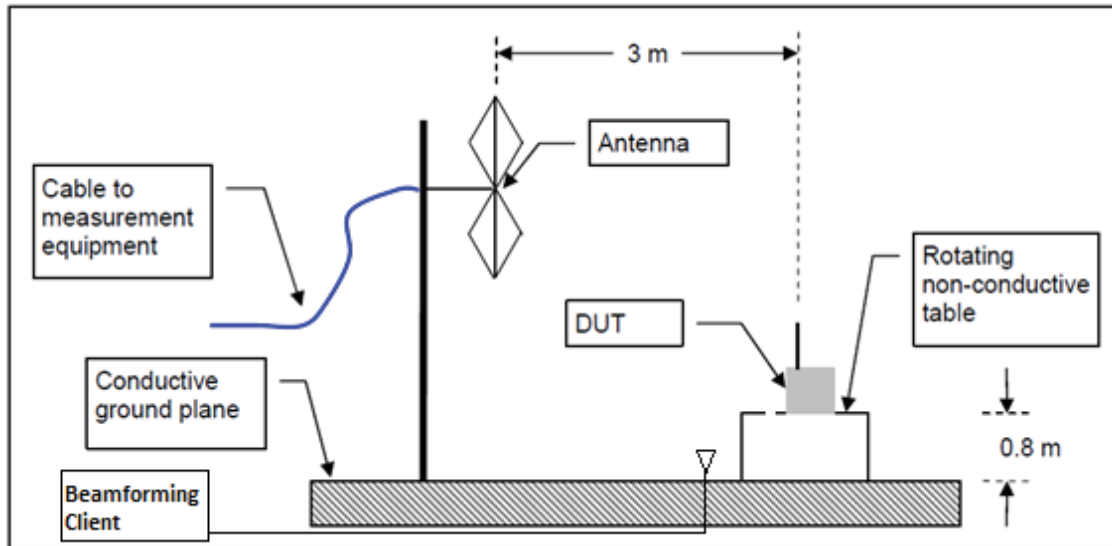
18-40GHz



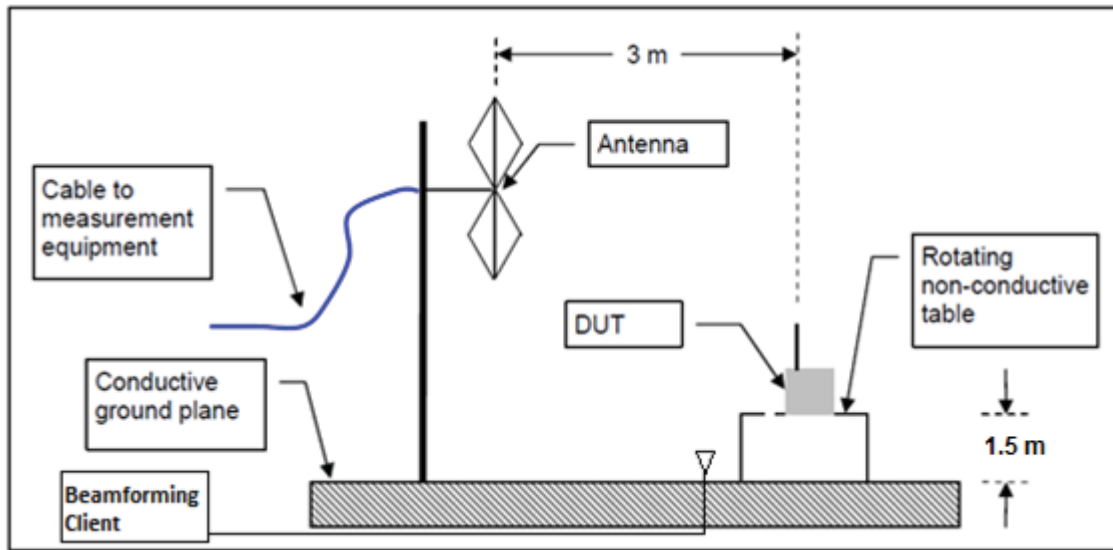
The DUT was stimulated by manufacturer provided test software that is not available to the end user.

4.6.3.2 Beamforming (BF) Mode

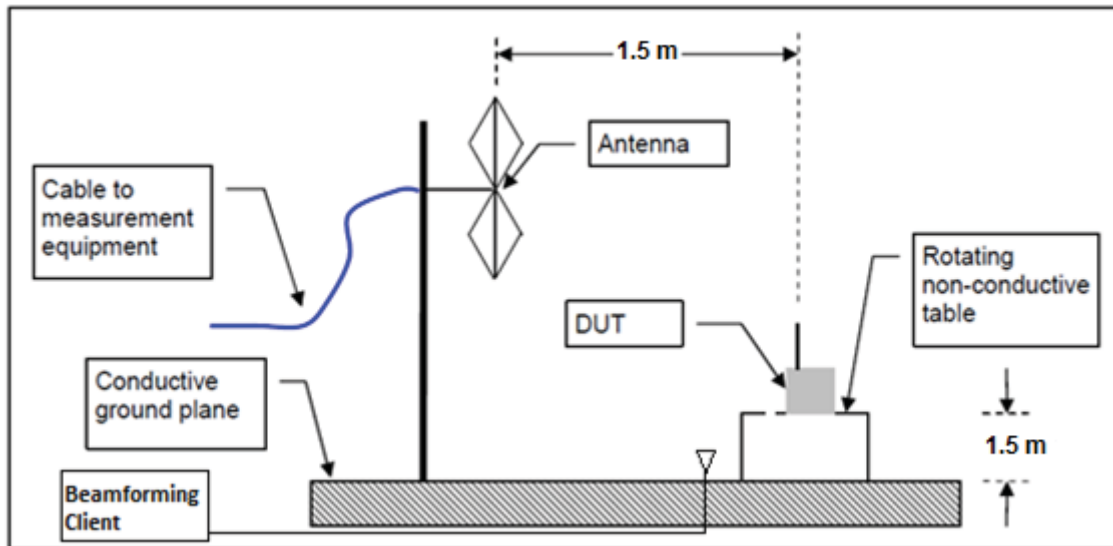
9KHz-1GHz



1-18GHz



18-40GHz



A conducted 4x4 MIMO client that supports beamforming was used to lock the beam. The client's antenna was routed in the chamber and put on the turntable outside the measuring antenna's beamwidth for the fundamental frequency. The EUT uses circular beamforming with a lockable beam as defined in ANSI C63.10-2013 Section 13. Network throughput software tool, iperf3, was used to stimulate the DUT's transmissions with a high duty cycle. A customized software tool developed by the manufacturer was used to associate the DUT and the Client to any required data rates, channels and power settings before transmissions were initiated.

It was verified that there were no off times longer than 50% of the time spent on each sweep point during the pre-scans.

All modes were tested in 4x4 configuration

The same power settings and modulations that are used for 802.11n mode are used for Beamforming mode (802.11ac). Since beamforming is a spatially dependent phenomenon at the fundamental frequency, frequency ranges at the fundamental and higher were investigated.

Iperf3 Command Line for DUT:

```
iperf -c 192.168.16.1 -p 5021 -i 10 -t 4200 -w 320k -u -b 300M -P 4 -l 24000
```

Iperf3 Command Line for Client (Support Equipment):

```
iperf3 -s
```

4.6.4 Results

The final measurement data was taken under the worst case operating modes, configurations, and/or cable positions. It also reflects the results including any modifications and/or special accessories listed in Sections 1.4 and test plan.

As originally tested, the EUT was found to be compliant to the requirements of the test standard(s).

4.6.5 Test Results

The final measurement data was taken under the worst case operating modes, configurations, and/or cable positions. It also reflects the results including any modifications and/or special accessories listed in Sections 1.4 and test plan.

As originally tested, the EUT was found to be compliant to the requirements of the test standard(s).

4.6.5.1 Plots: CDD Mode

4.6.5.1.1 UNII-1

4.6.5.1.1.1 802.11a Mode (No HT)

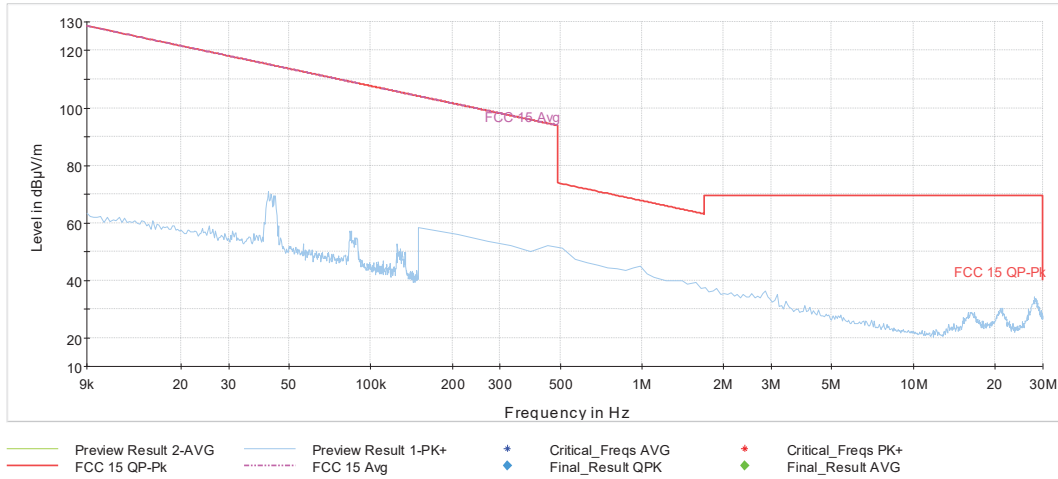


Figure 80: 9KHz-30MHz 802.11a Mode Channel 36

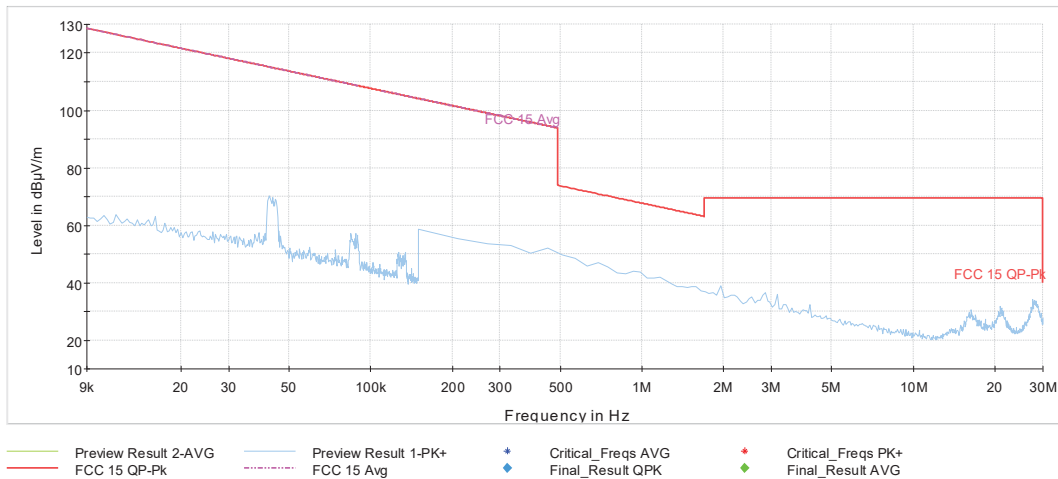


Figure 81: 9KHz-30MHz 802.11a Mode Channel 44

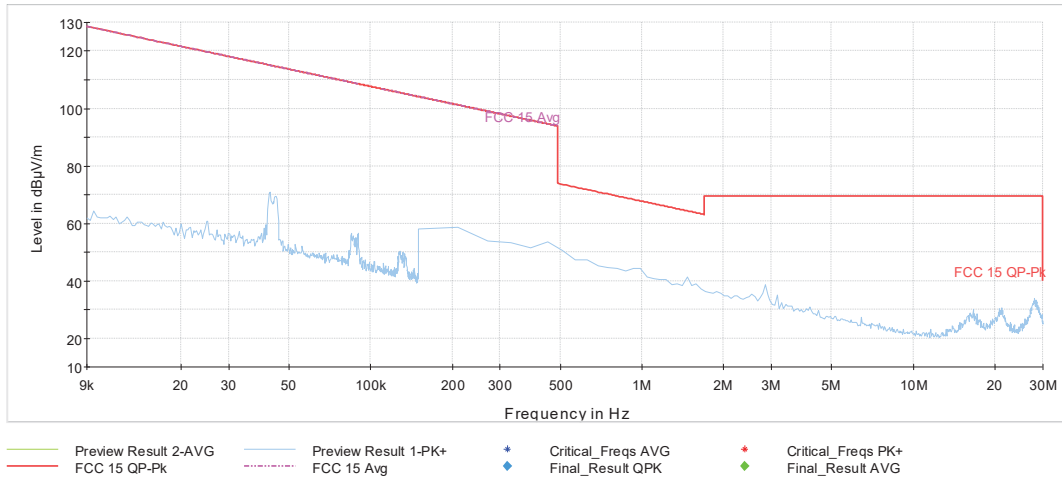


Figure 82: 9KHz-30MHz 802.11a Mode Channel 48

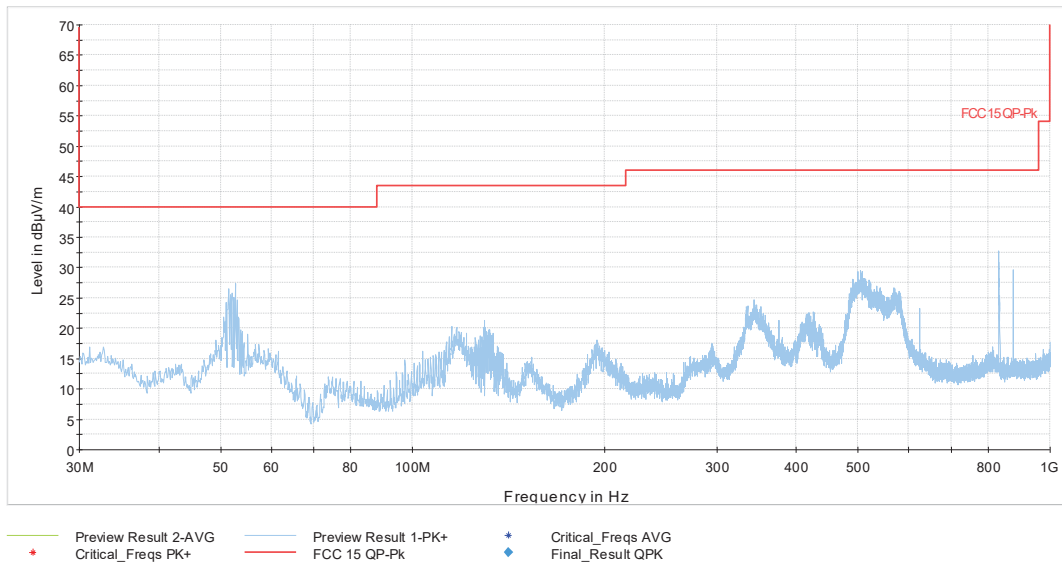


Figure 83: 30MHz-1GHz 802.11a Mode Channel 36

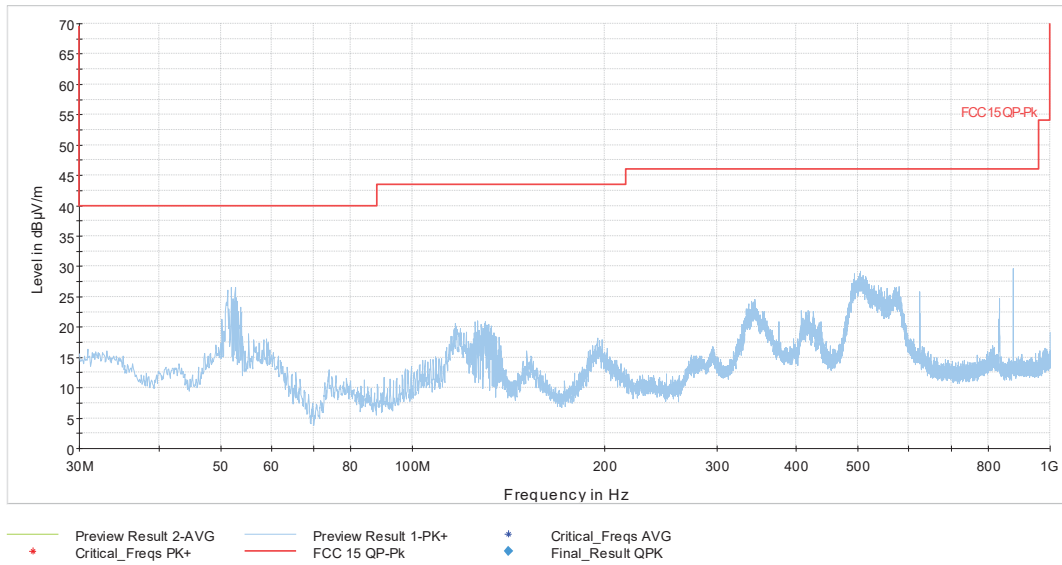


Figure 84: 30MHz-1GHz 802.11a Mode Channel 44

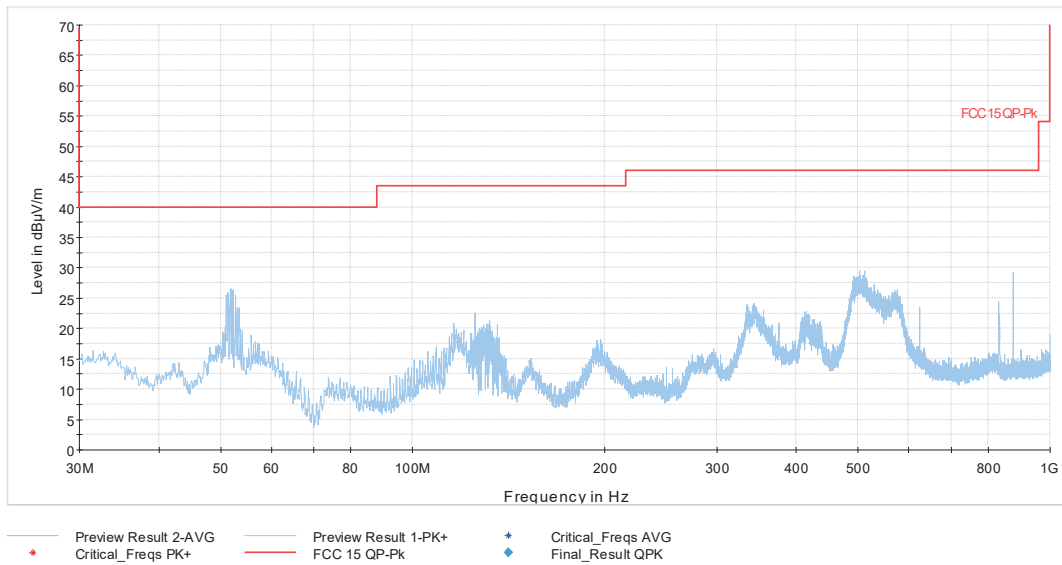
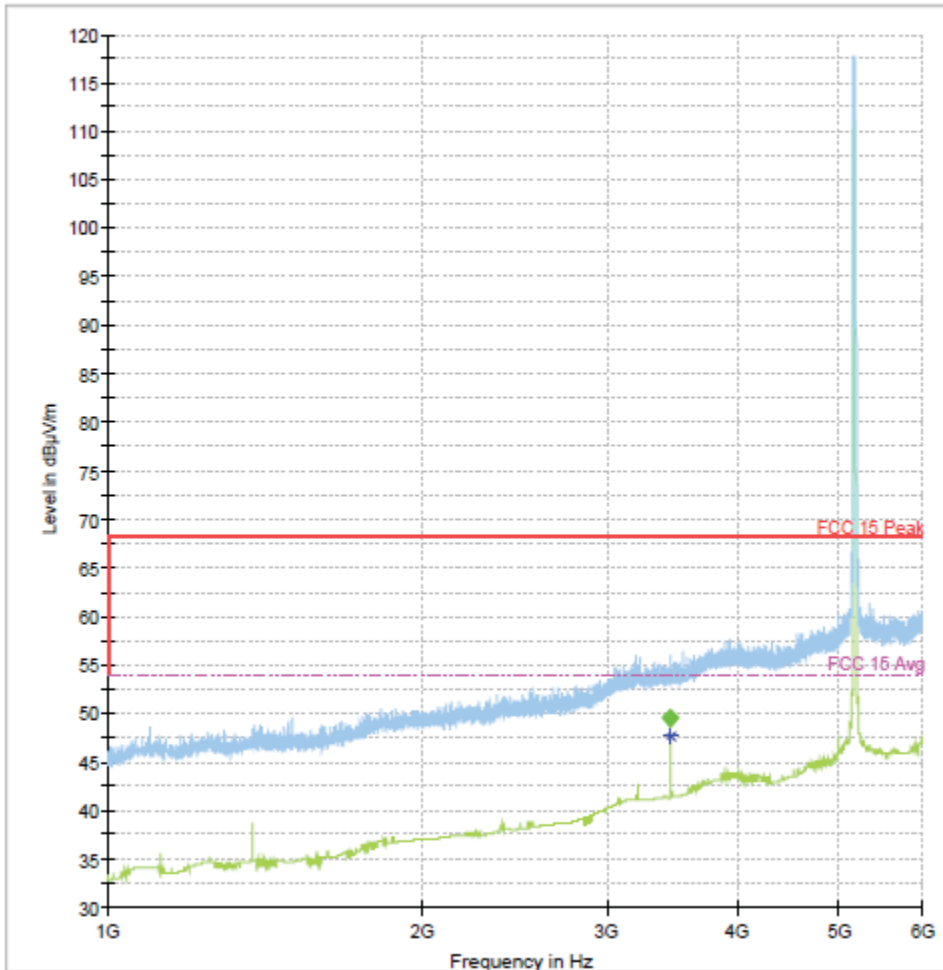


Figure 85: 30MHz-1GHz 802.11a Mode Channel 48

Final Result

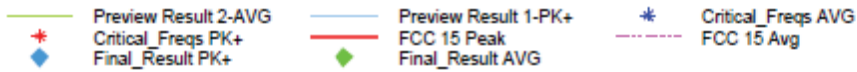
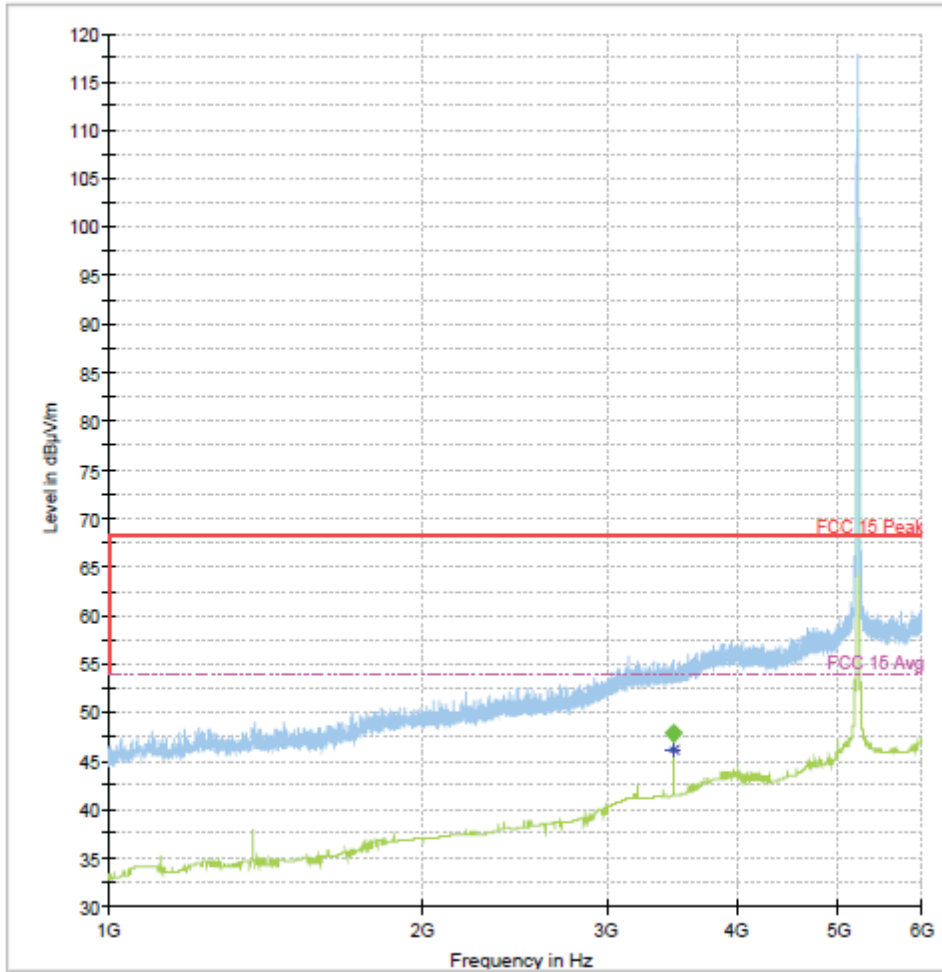
Frequency (MHz)	MaxPeak (dBµV/m)	Average (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Meas. Time (ms)	Bandwidth (kHz)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB)
3453.436874	---	49.47	54.00	4.53	200.0	1000.000	268.5	H	0.0	11.4



Note: Emission above limit is the Fundamental.

Figure 86: 1-6GHz 802.11a Mode Channel 36

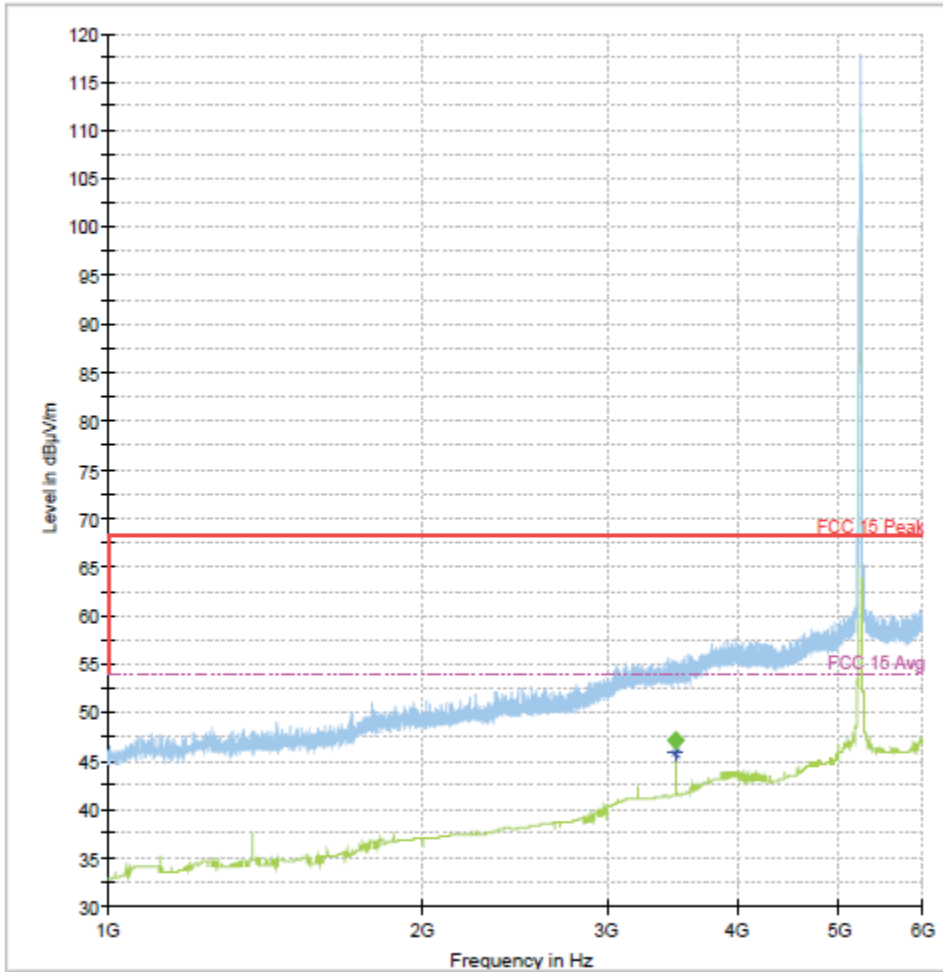
Frequency (MHz)	MaxPeak (dBµV/m)	Average (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Meas. Time (ms)	Bandwidth (kHz)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB)
3480.090181	---	47.83	54.00	6.17	200.0	1000.000	106.7	H	353.0	11.5



Note: Emission above limit is the Fundamental.

Figure 87: 1-6GHz 802.11a Mode Channel 44

Frequency (MHz)	MaxPeak (dBμV/m)	Average (dBμV/m)	Limit (dBμV/m)	Margin (dB)	Meas. Time (ms)	Bandwidth (kHz)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB)
3493.436874	—	47.15	54.00	6.85	200.0	1000.000	107.7	H	254.0	11.5

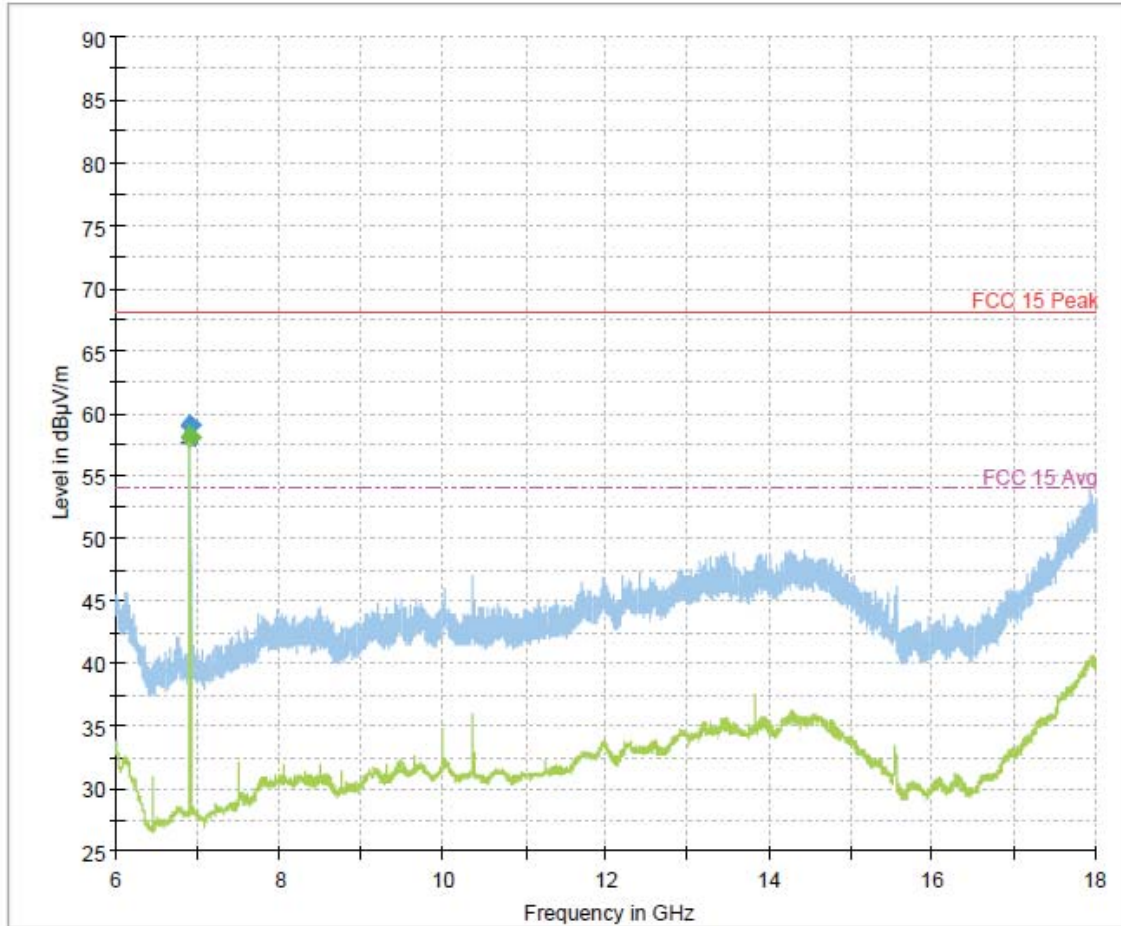


— Preview Result 2-AVG — Preview Result 1-PK+ * Critical_Freqs AVG
* Critical_Freqs PK+ — FCC 15 Peak - - - FCC 15 Avg
◆ Final_Result PK+ ◆ Final_Result AVG

Note: Emission above limit is the Fundamental.

Figure 88: 1-6GHz 802.11a Mode Channel 48

Frequency (MHz)	MaxPeak (dBµV/m)	Average (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Meas. Time (ms)	Bandwidth (kHz)	Height (cm)	Pol	Azimuth (deg)
6906.600000	---	58.06	54.00	-4.06	200.0	1000.000	113.1	H	92.0
6906.600000	59.03	---	68.20	9.17	200.0	1000.000	115.2	H	93.0

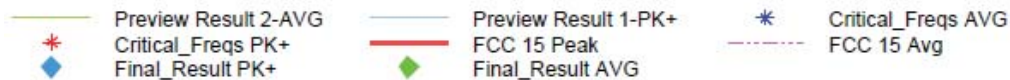
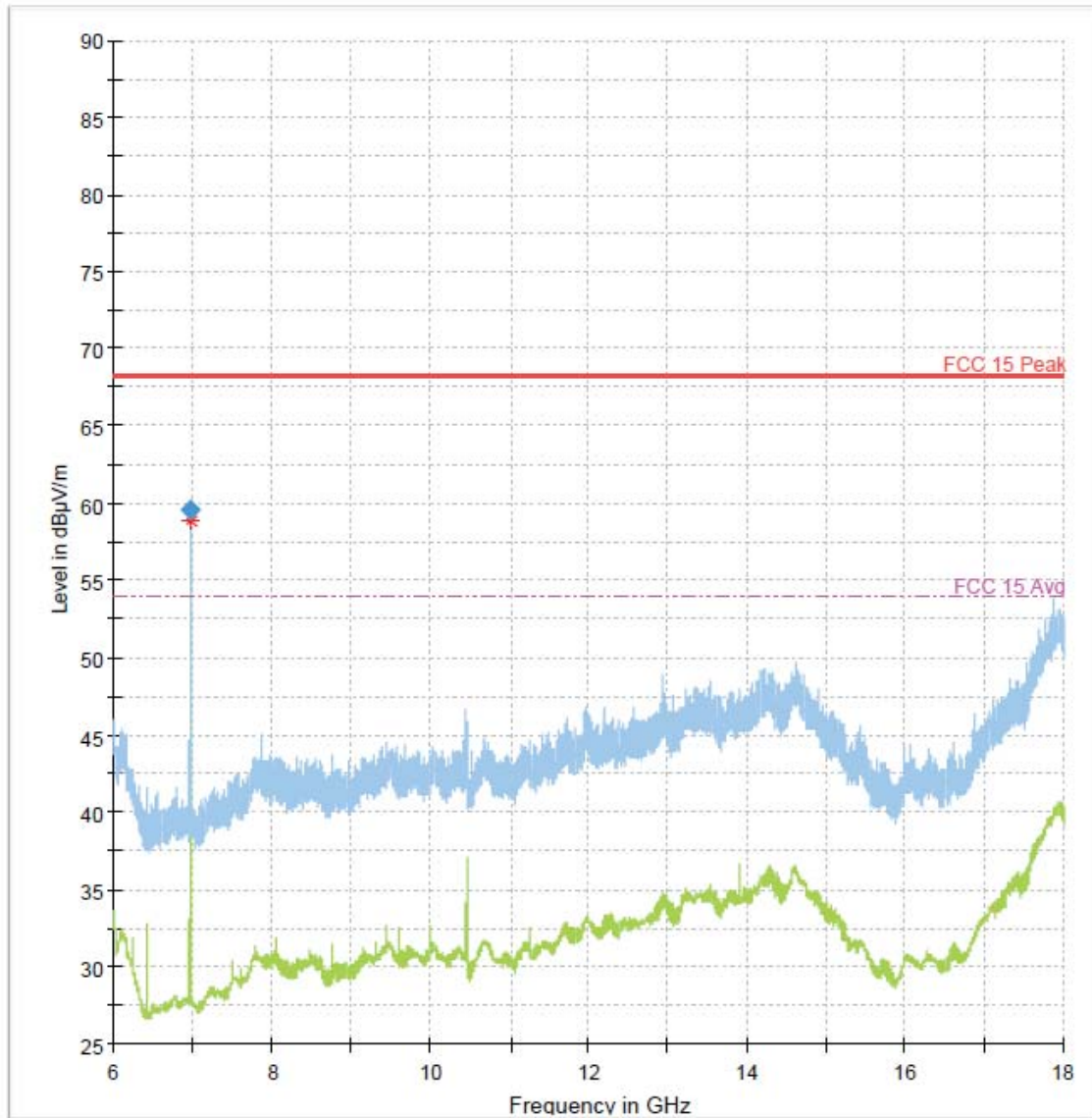


- Preview Result 1-PK+
- FCC 15 Peak
- ◆ Final_Result AVG
- * Critical_Freqs AVG
- - - FCC 15 Avg
- Preview Result 2-AVG
- * Critical_Freqs PK+
- ◆ Final_Result PK+

Note: Emission above limit is in a non-restricted band. The non-restricted band emission is to be evaluated at a Peak limit of 68.2 dBuV/m.

Figure 89: 6-18GHz 802.11a Mode Channel 36

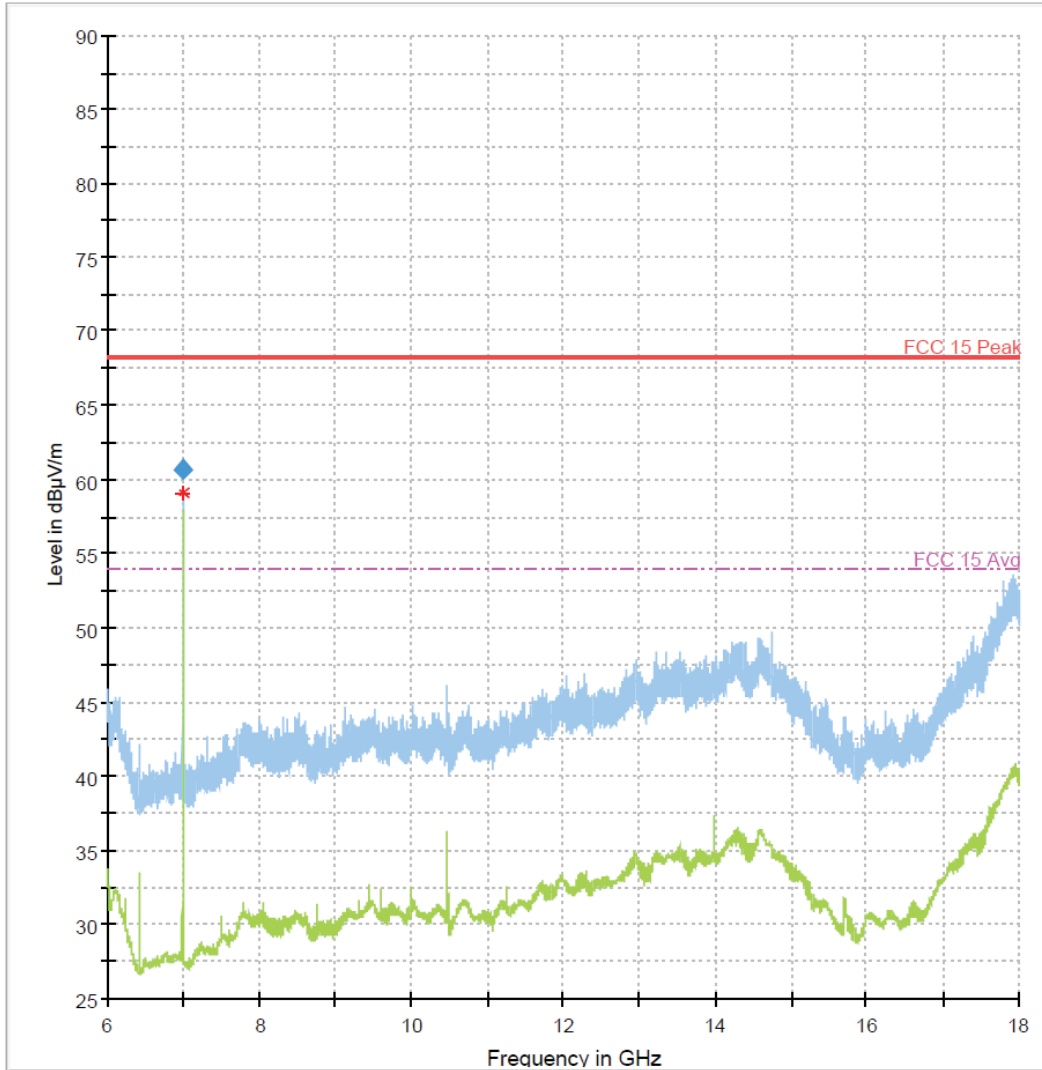
Frequency (MHz)	MaxPeak (dBµV/m)	Average (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Meas. Time (ms)	Bandwidth (kHz)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB)
6960.200000	59.65	---	68.20	8.55	200.0	1000.000	170.9	H	301.0	-11.8



Note: Emission above limit is in a non-restricted band. The non-restricted band emission is to be evaluated at a Peak limit of 68.2 dBuV/m.

Figure 90: 6-18GHz 802.11a Mode Channel 44

Frequency (MHz)	MaxPeak (dBμV/m)	Average (dBμV/m)	Limit (dBμV/m)	Margin (dB)	Meas. Time (ms)	Bandwidth (kHz)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB)
6986.600000	60.70	---	68.20	7.50	200.0	1000.000	128.8	V	64.0	-11.8



Note: Emission above limit is in a non-restricted band. The non-restricted band emission is to be evaluated at a Peak limit of 68.2 dBuV/m.

Figure 91: 6-18GHz 802.11a Mode Channel 48

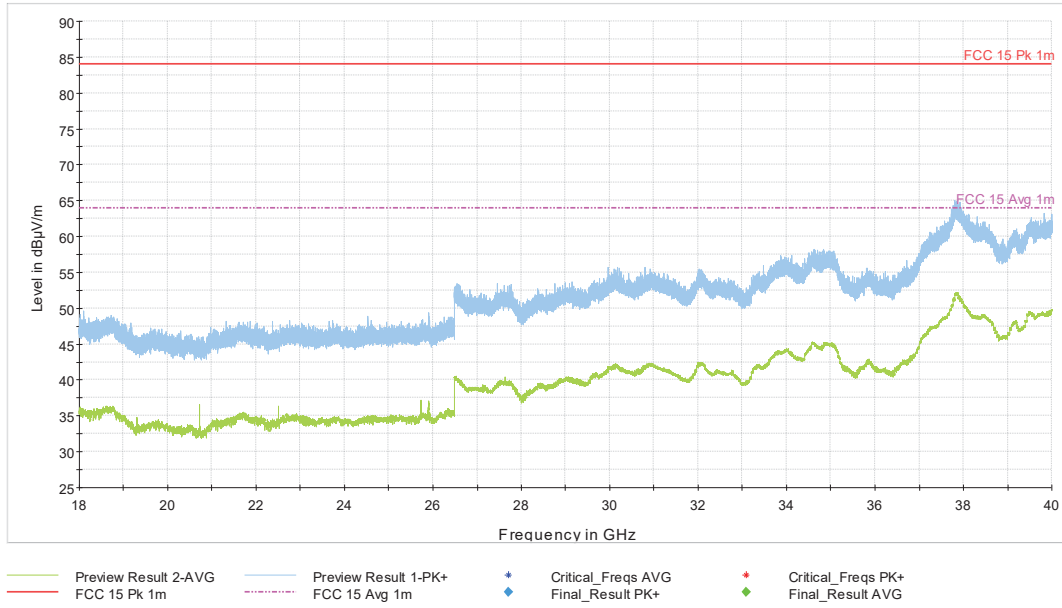


Figure 92: 18-40GHz 802.11a Mode Channel 36

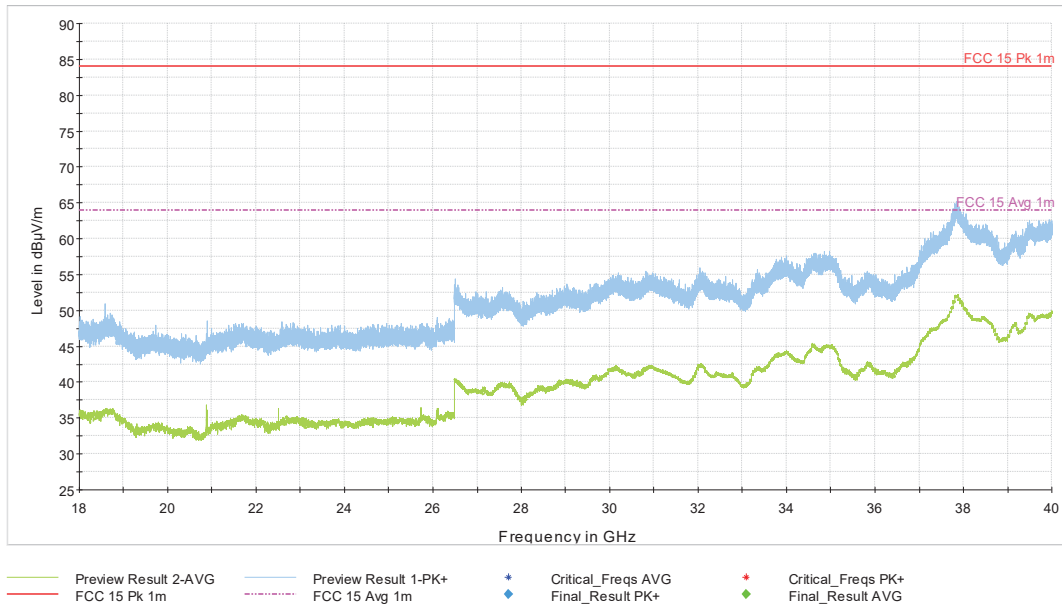


Figure 93: 18-40GHz 802.11a Mode Channel 44

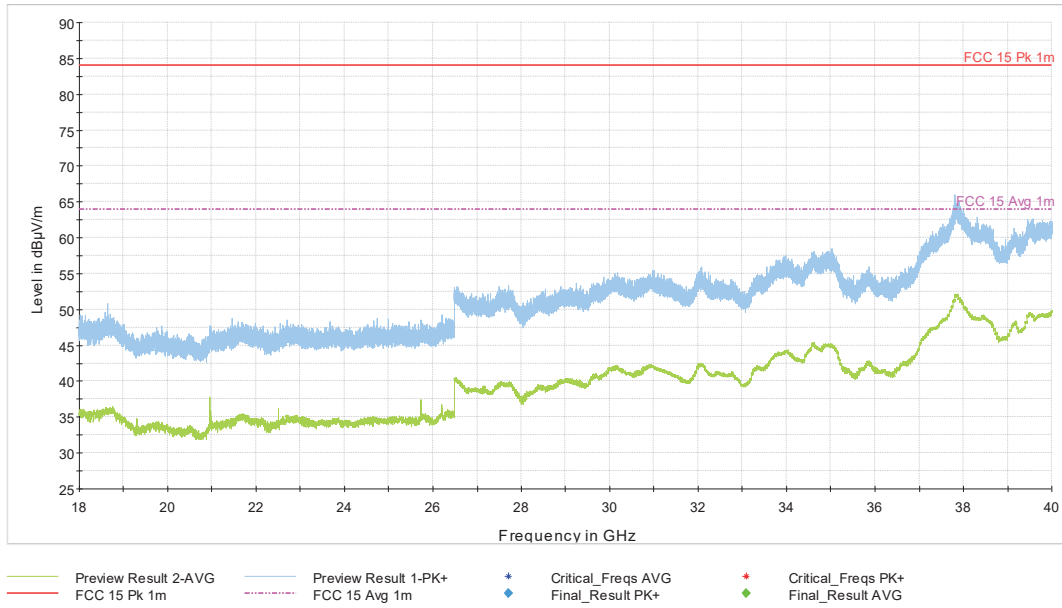


Figure 94: 18-40GHz 802.11a Mode Channel 48

4.6.5.1.1.2 802.11n HT40 Mode



Figure 95: 9KHz-30MHz 802.11n HT40 Mode Channel 38

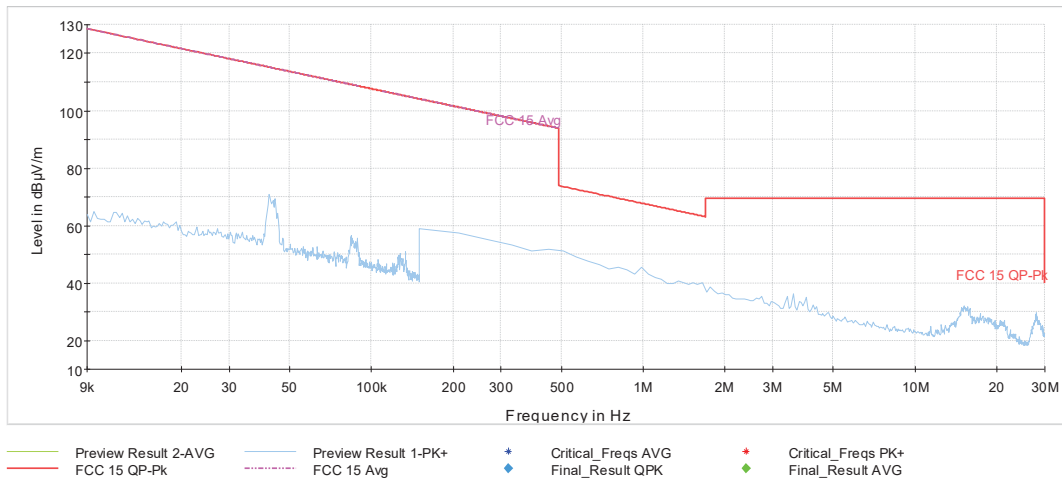


Figure 96: 9KHz-30MHz 802.11n HT40 Mode Channel 46

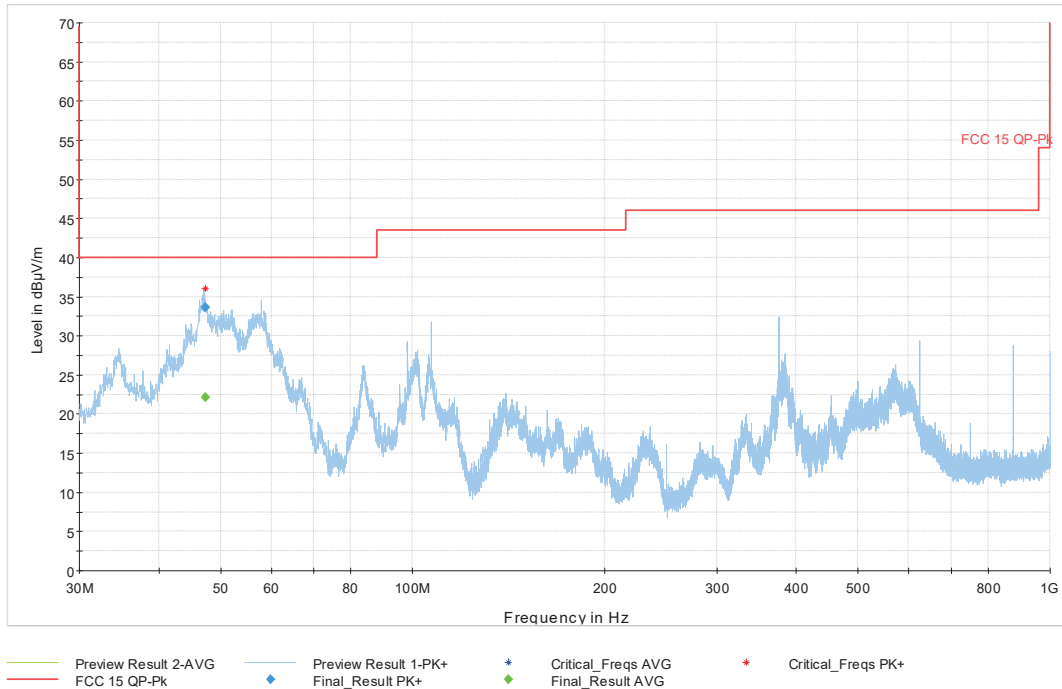


Figure 97: 30MHz-1GHz 802.11n HT40 Mode Channel 38

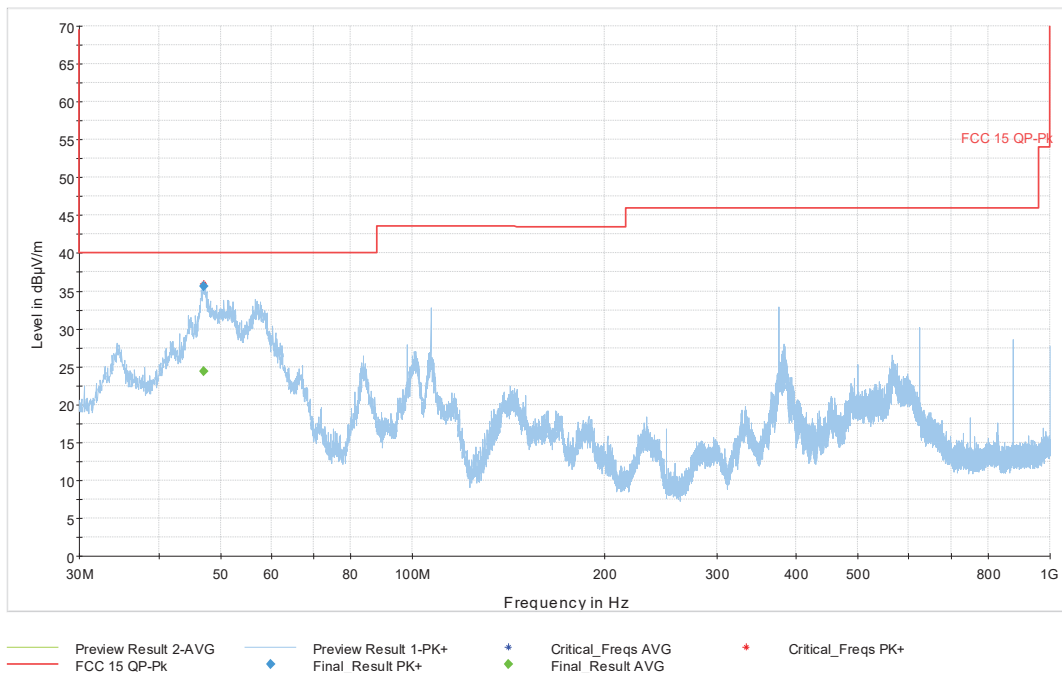
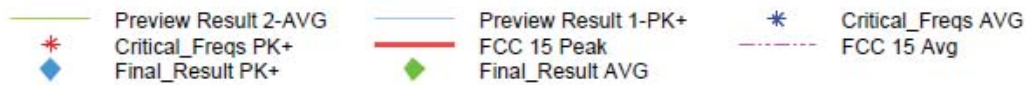
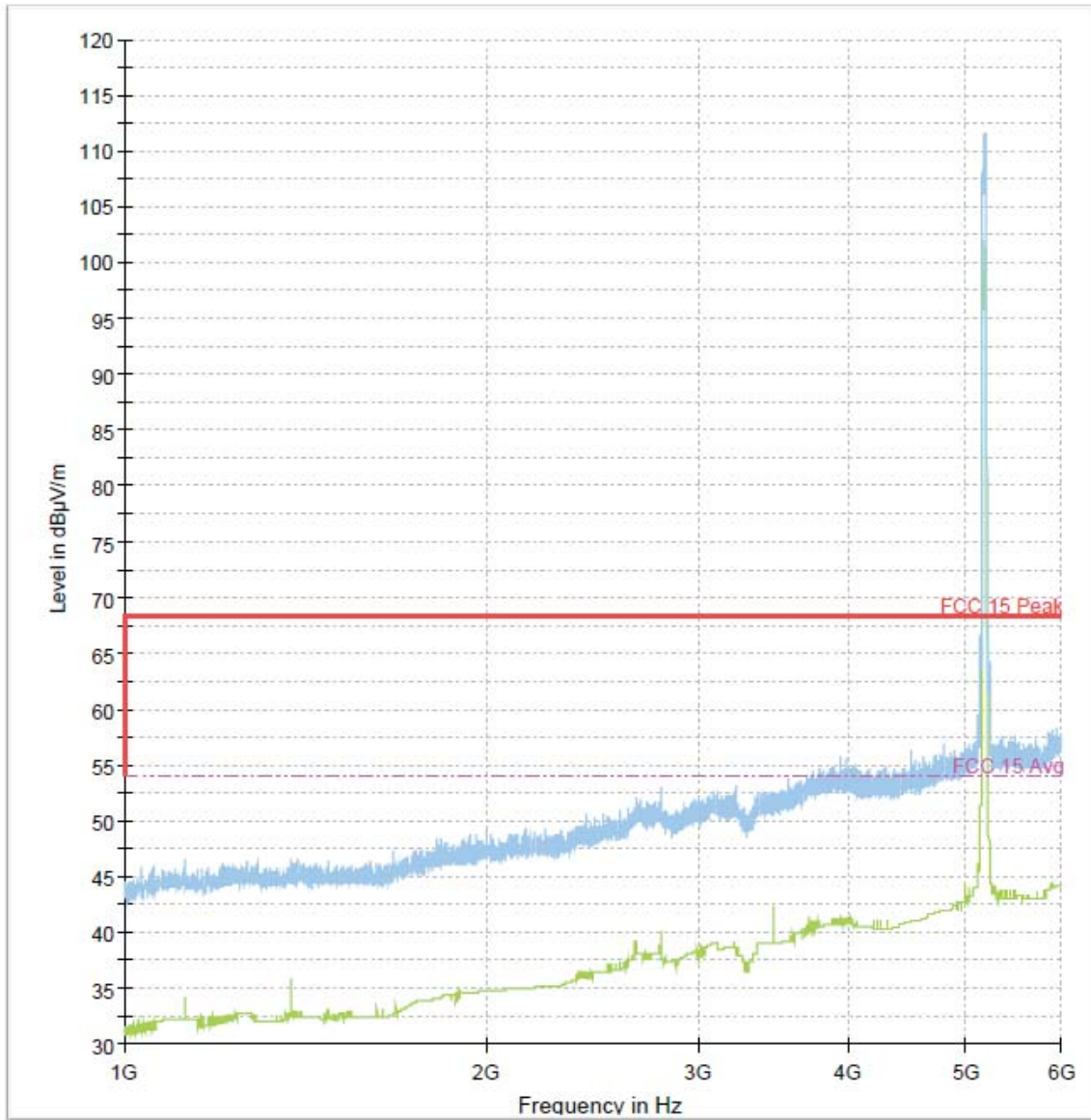
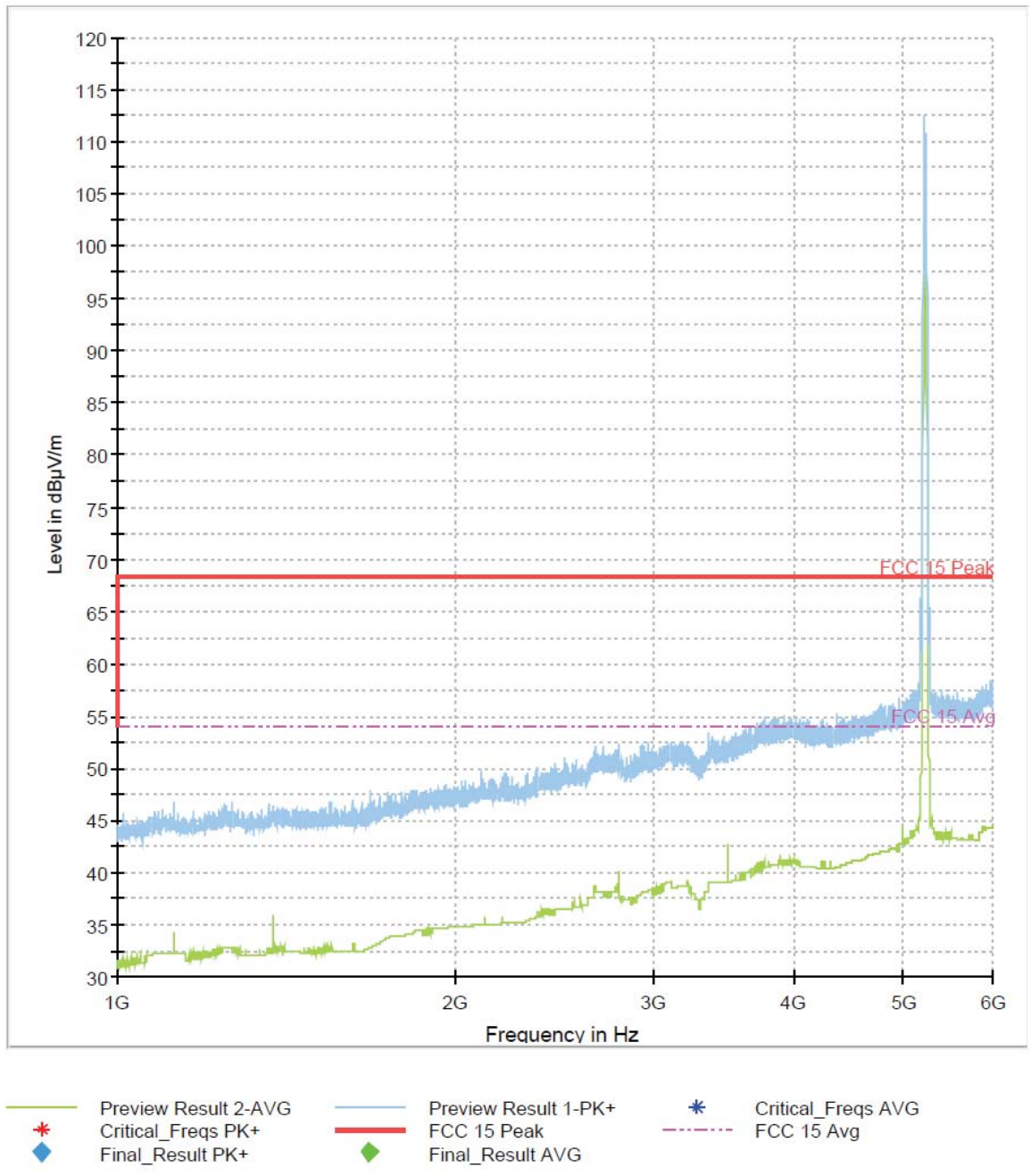


Figure 98: 30MHz-1GHz 802.11n HT40 Mode Channel 46



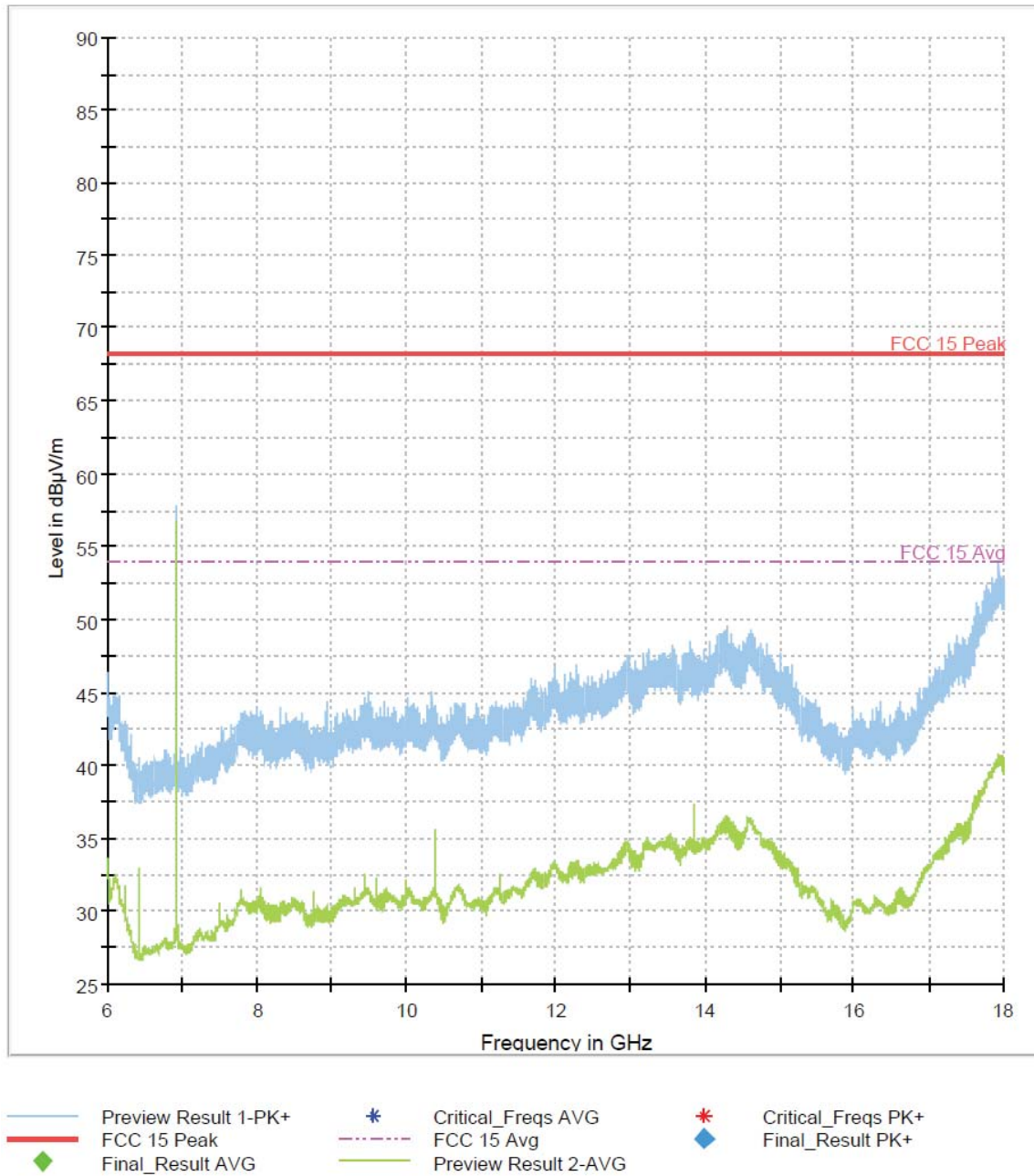
Note: Emission above limit is the fundamental transmission.

Figure 99: 1-6GHz 802.11n HT40 Mode Channel 38



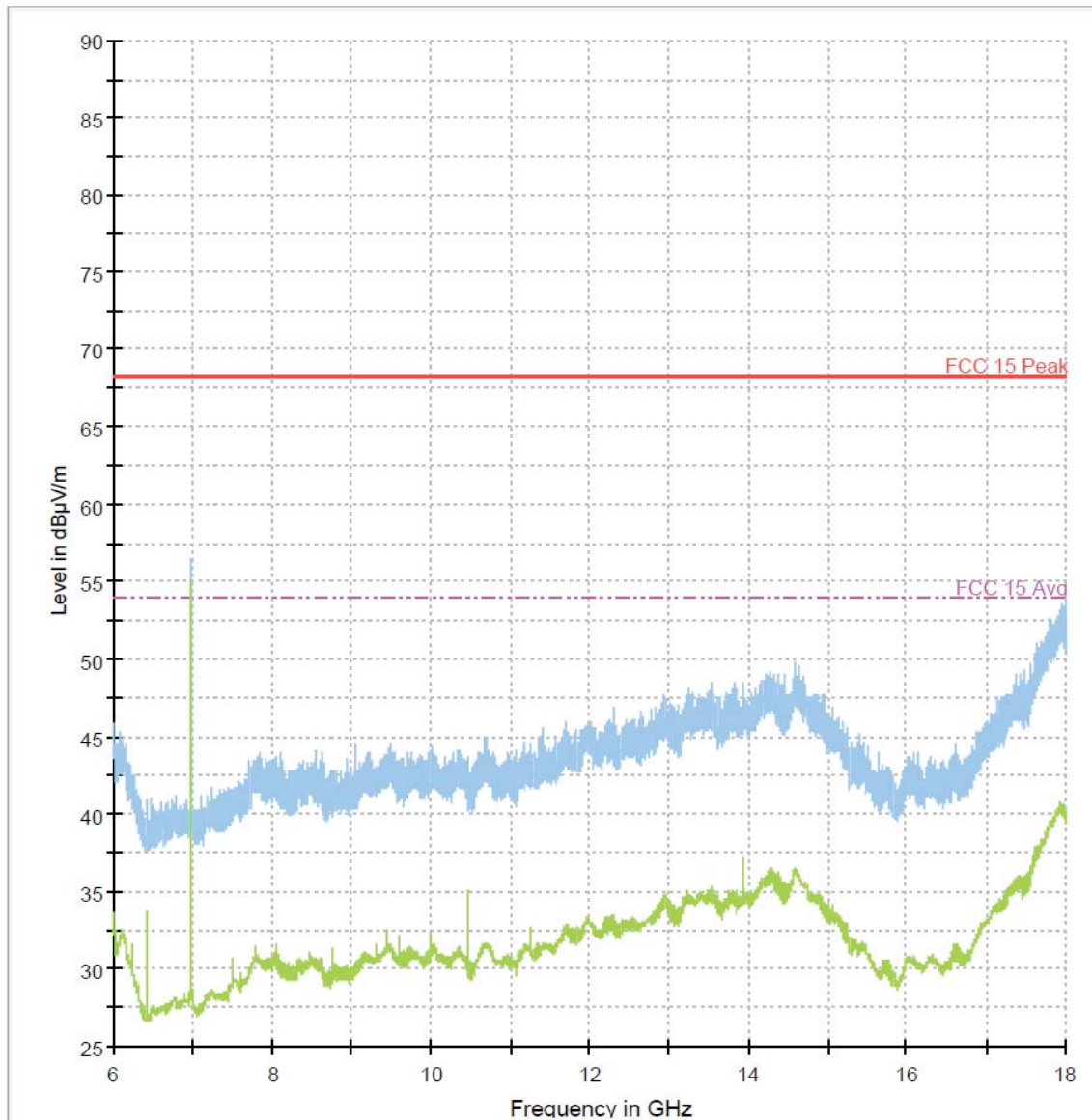
Note: Emission above limit is the fundamental transmission.

Figure 100: 1-6GHz 802.11n HT40 Mode Channel 46



Note: Emission above limit is in a non-restricted band. The non-restricted band emission is to be evaluated at a Peak limit of 68.2 dBu V/m.

Figure 101: 6-18GHz 802.11n HT40 Mode Channel 38



- Preview Result 1-PK+
- FCC 15 Peak
- ◆ Final Result AVG
- * Critical_Freqs AVG
- - - FCC 15 Avg
- Preview Result 2-AVG
- * Critical_Freqs PK+
- ◆ Final Result PK+

Note: Emission above limit is in a non-restricted band. The non-restricted band emission is to be evaluated at a Peak limit of 68.2 dBuV/m.

Figure 102: 6-18GHz 802.11n HT40 Mode Channel 46

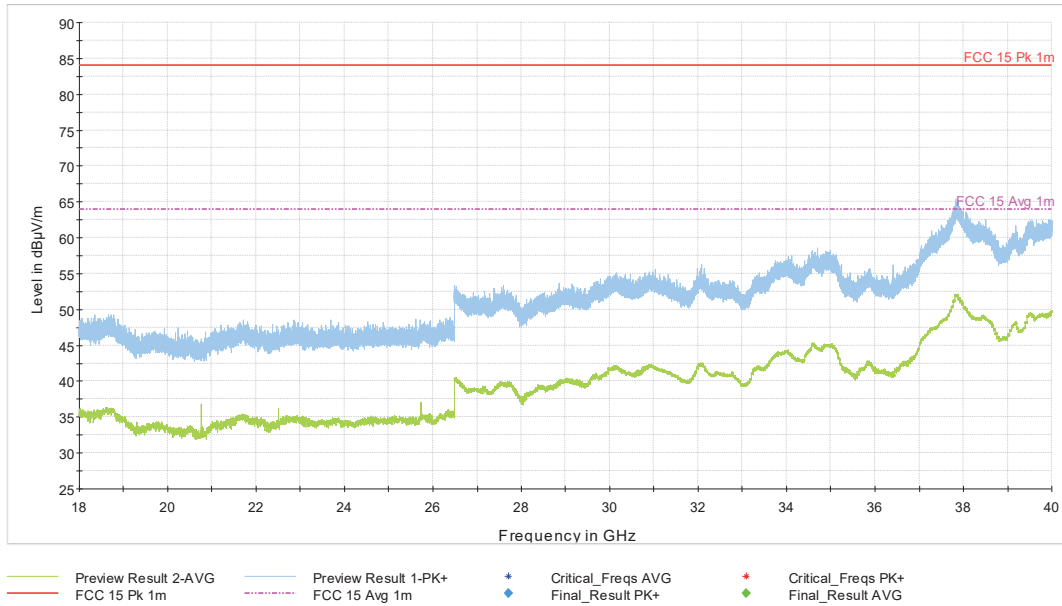


Figure 103: 18-40GHz 802.11n HT40 Mode Channel 38

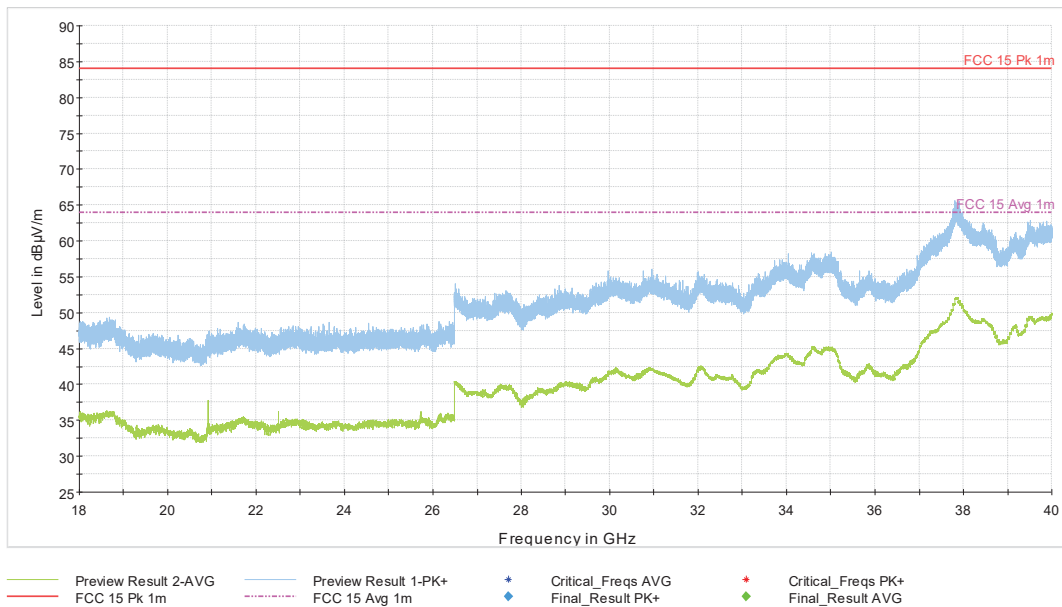


Figure 104: 18-40GHz 802.11n HT40 Mode Channel 46

4.6.5.1.1.3 802.11ac VHT80 Mode

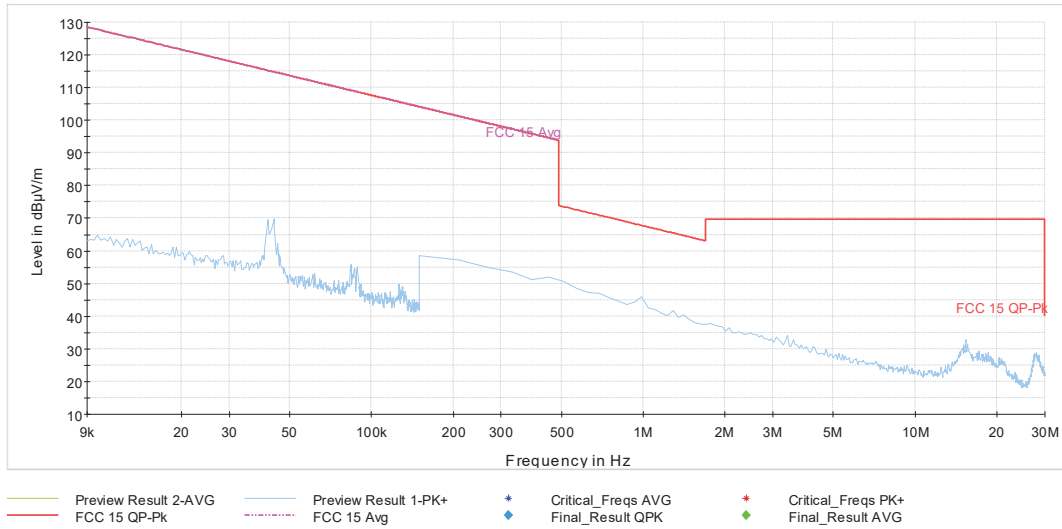


Figure 105: 9KHz-30MHz 802.11ac VHT80 Mode Channel 42

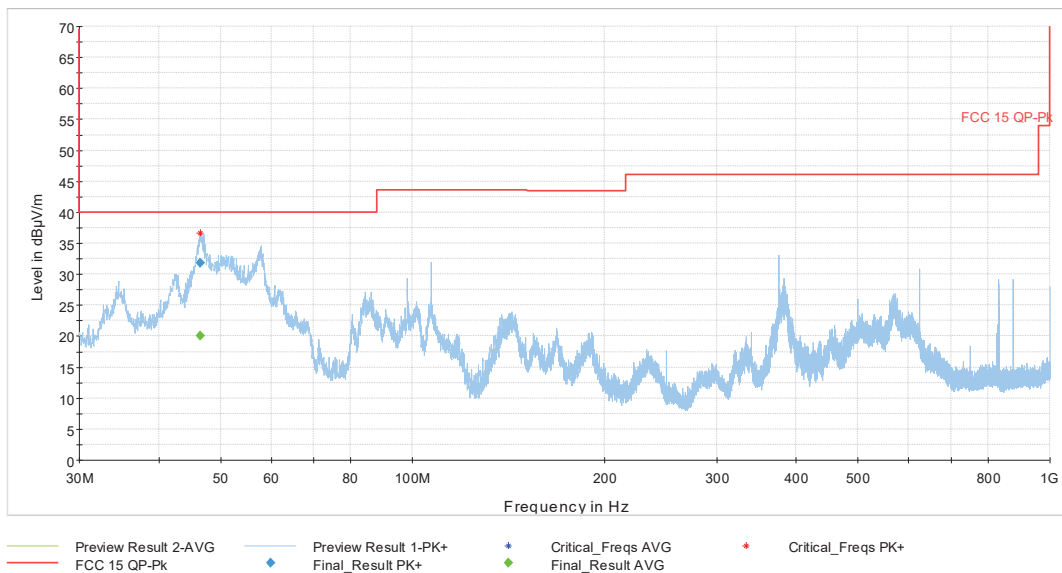
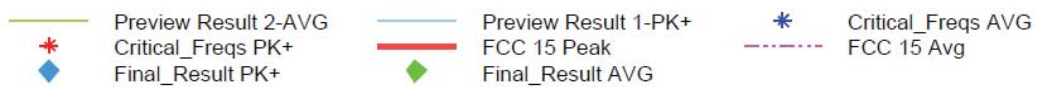
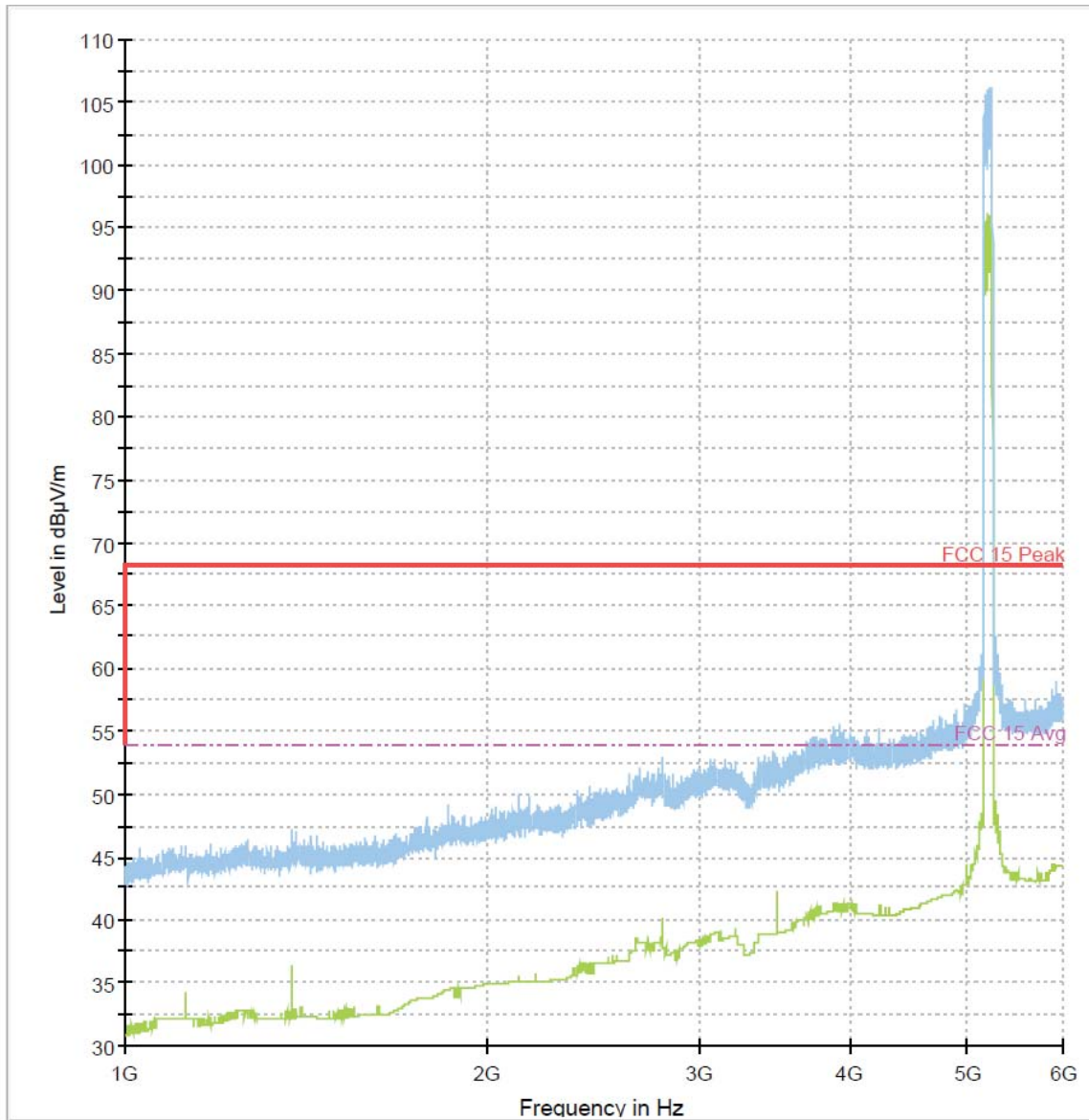
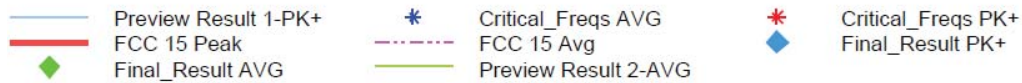
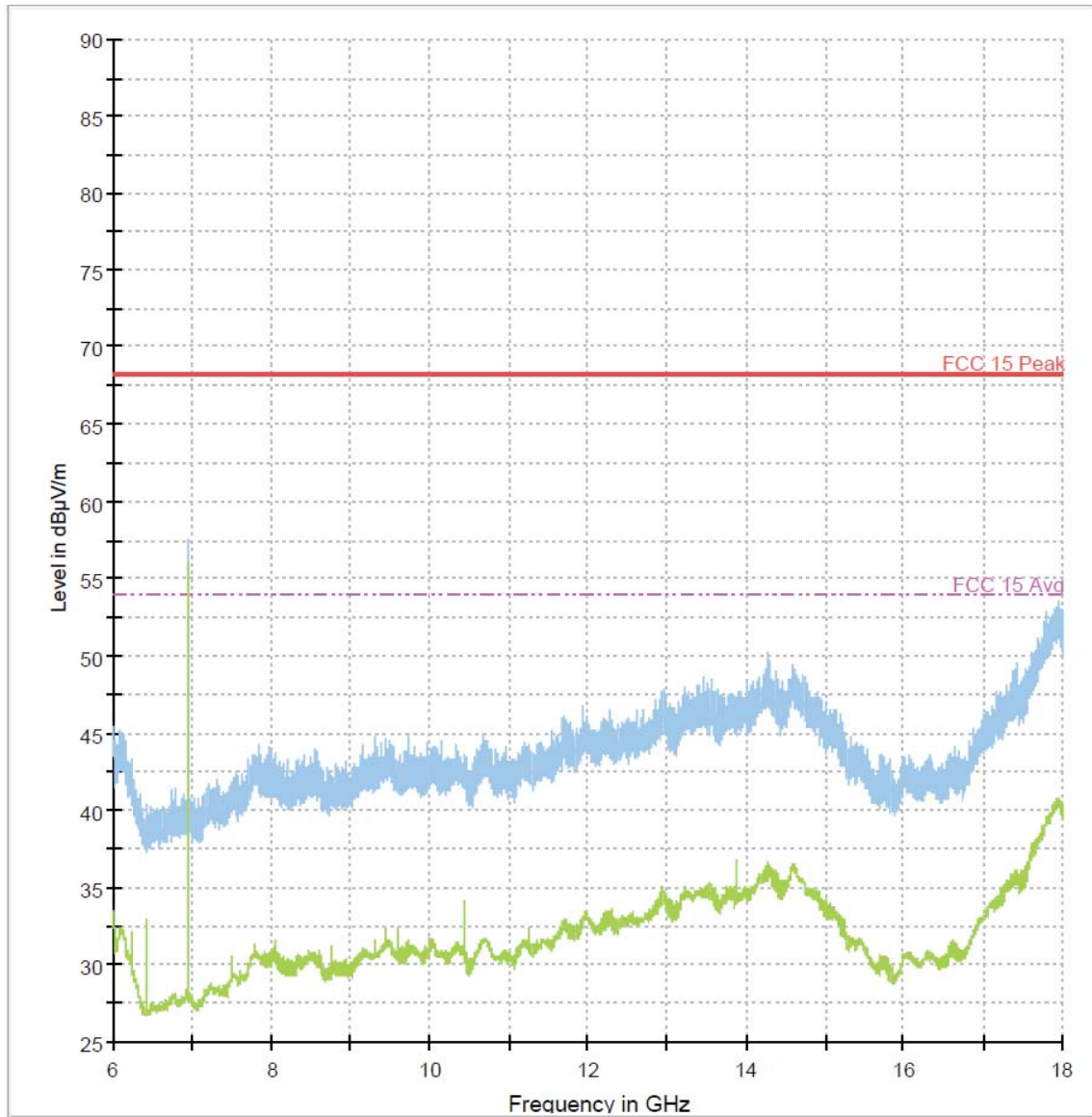


Figure 106: 30MHz-1GHz 802.11ac VHT80 Mode Channel 42



Note: Emission above limit is the fundamental transmission.

Figure 107: 1-6GHz 802.11ac VHT80 Mode Channel 42



Note: Emission above limit is in a non-restricted band. The non-restricted band emission is to be evaluated at a Peak limit of 68.2 dBuV/m.

Figure 108: 6-18GHz 802.11ac VHT80 Mode Channel 42

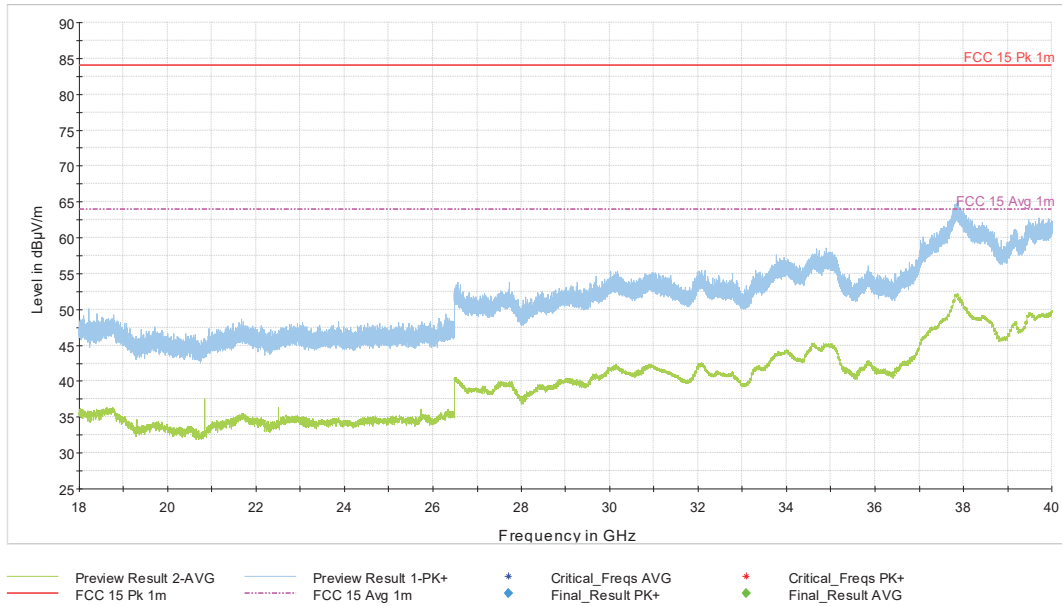


Figure 109: 18-40GHz 802.11ac VHT80 Mode Channel 42

4.6.5.1.2 UNII-3

4.6.5.1.2.1 802.11a Mode (No HT)

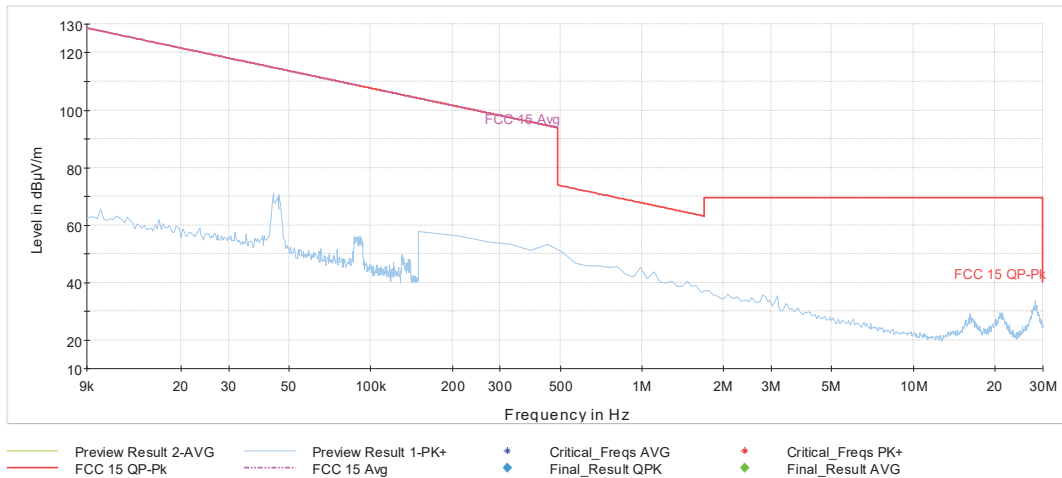


Figure 110: 9KHz-30MHz 802.11a Mode Channel 149

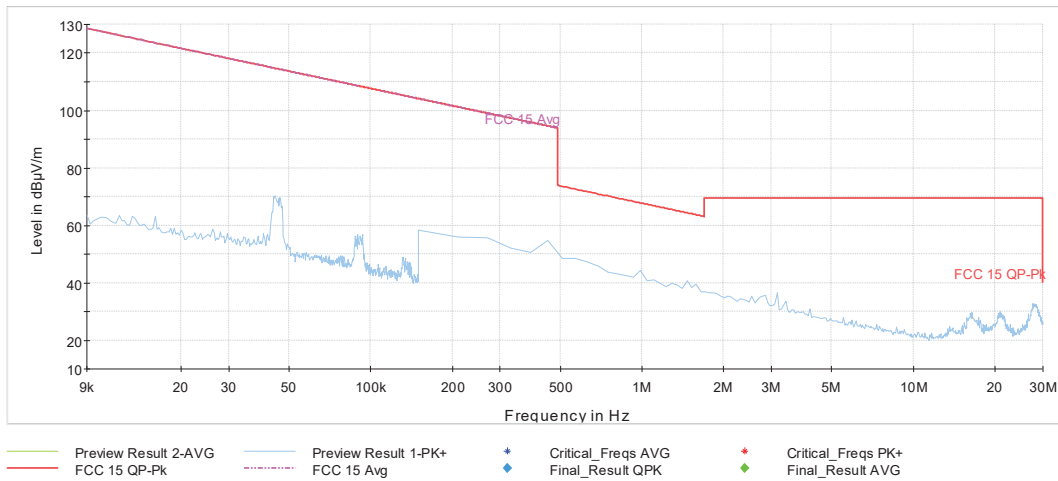


Figure 111: 9KHz-30MHz 802.11a Mode Channel 157

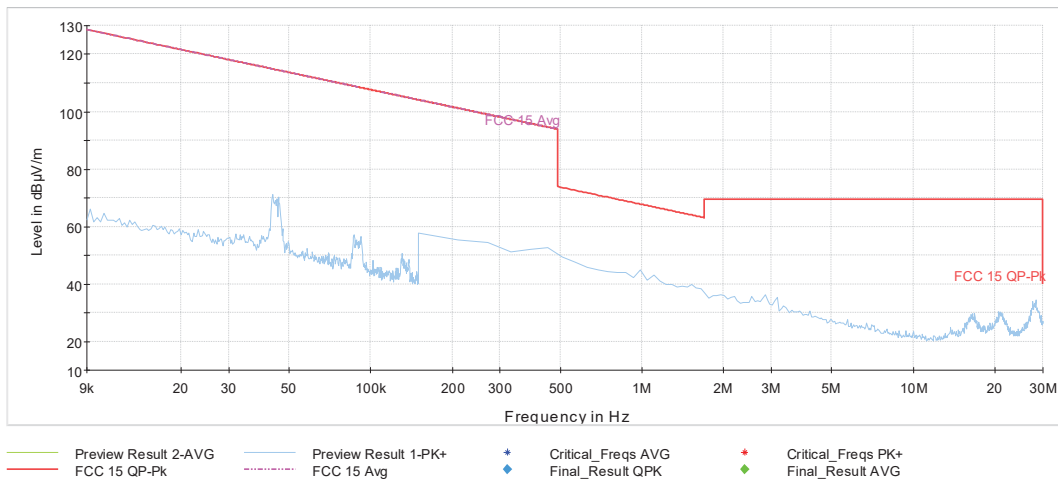


Figure 112: 9KHz-30MHz 802.11a Mode Channel 165

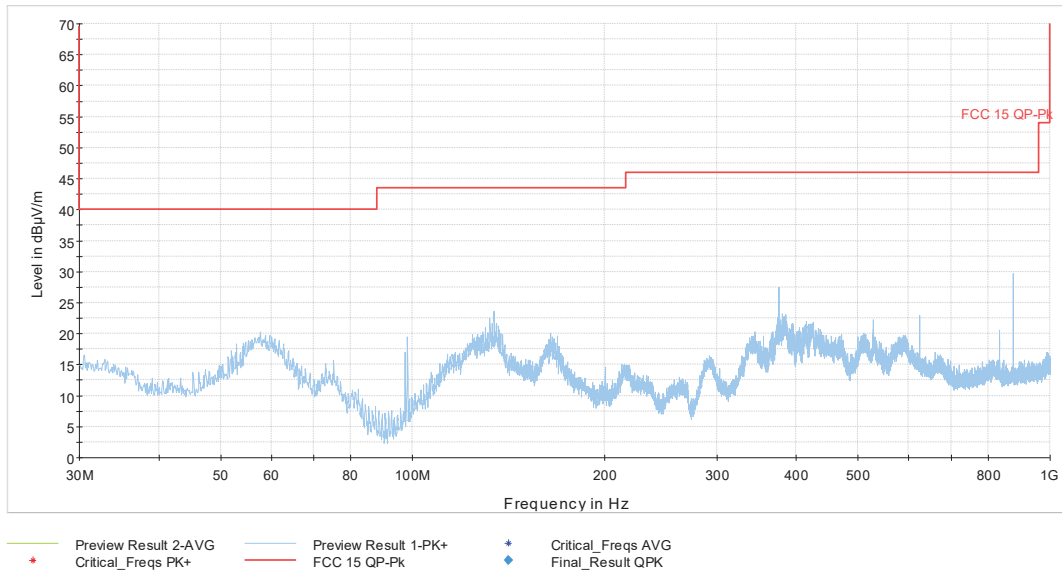


Figure 113: 30MHz-1GHz 802.11a Mode Channel 149

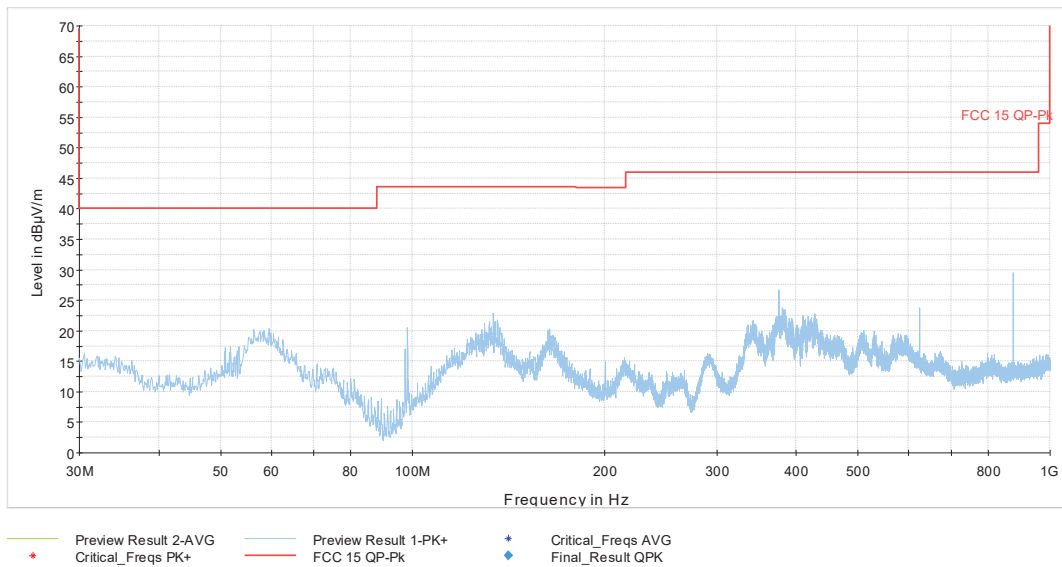


Figure 114: 30MHz-1GHz 802.11a Mode Channel 157

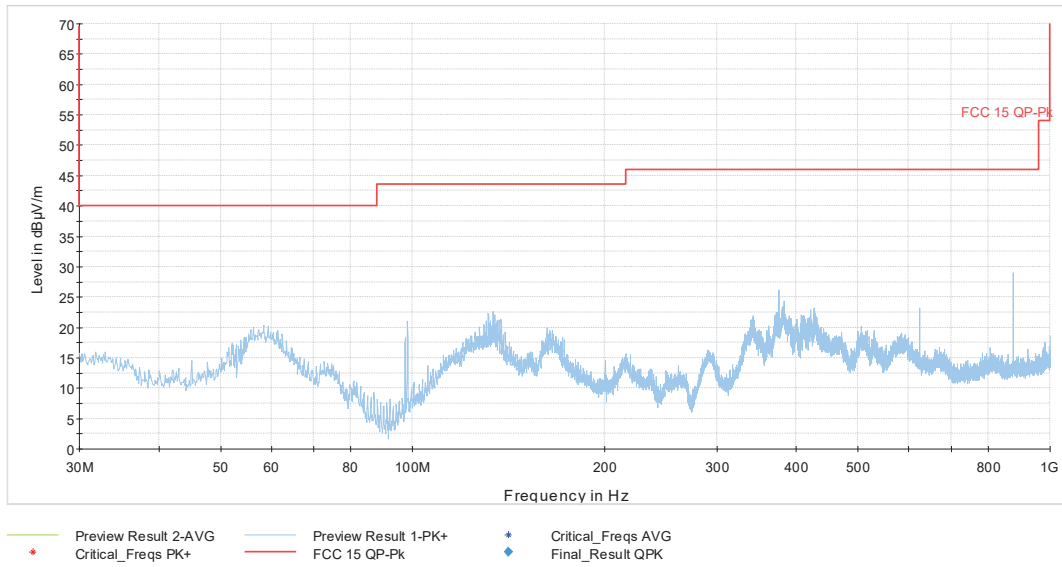
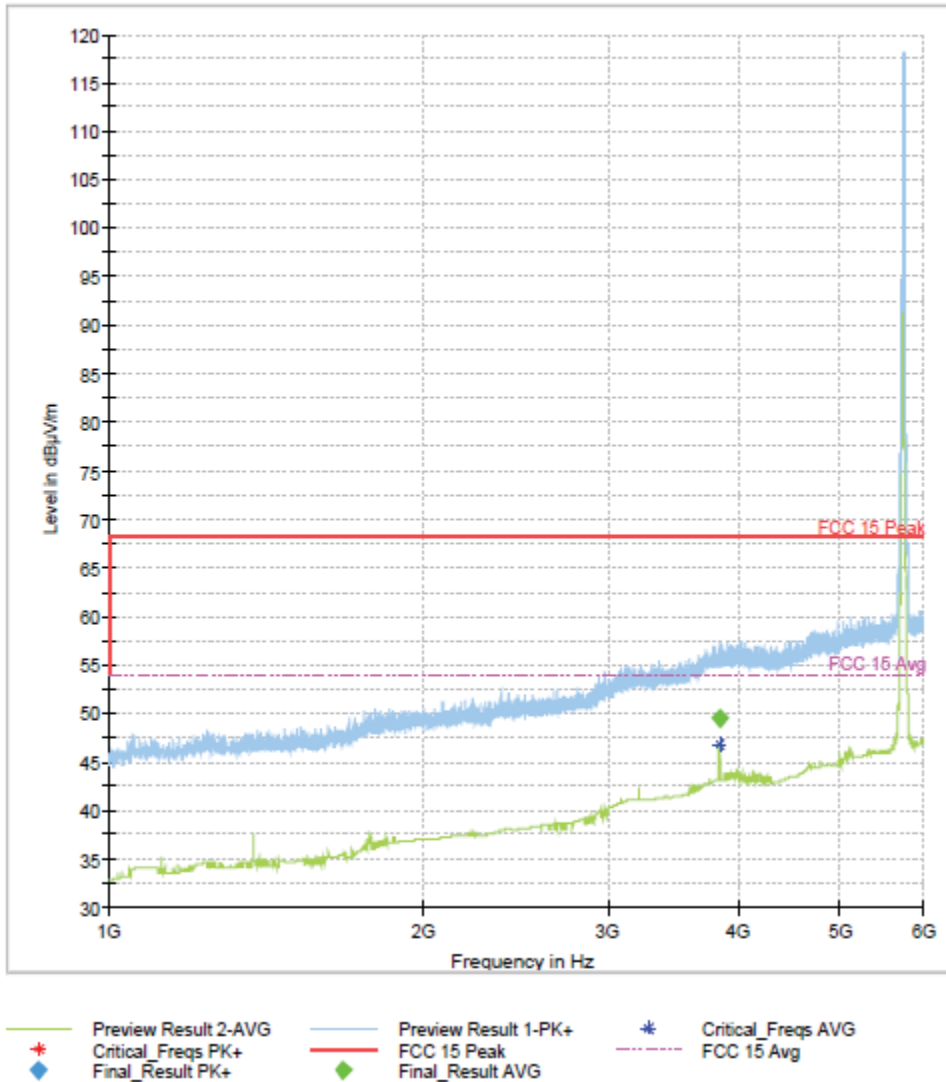


Figure 115: 30MHz-1GHz 802.11a Mode Channel 165

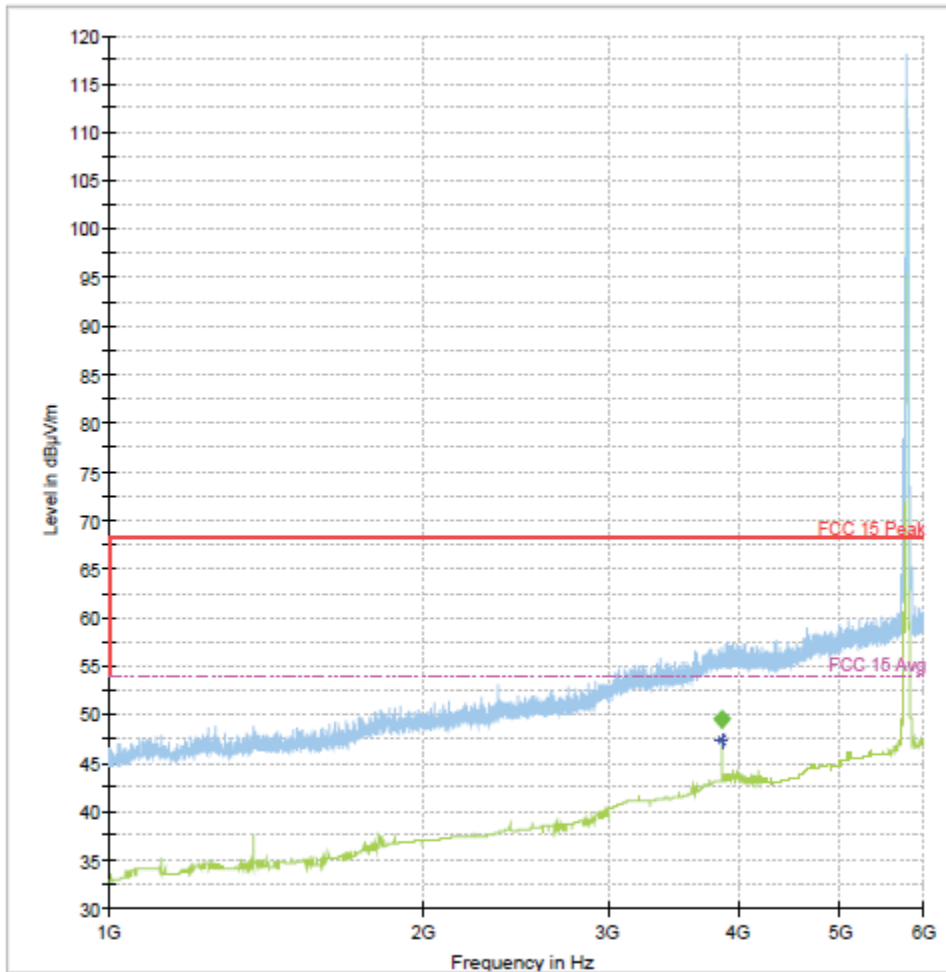
Frequency (MHz)	MaxPeak (dBμV/m)	Average (dBμV/m)	Limit (dBμV/m)	Margin (dB)	Meas. Time (ms)	Bandwidth (kHz)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB)
3830.150300	---	49.48	54.00	4.52	200.0	1000.000	245.4	V	85.0	13.2



Note: Emission above limit is fundamental

Figure 116: 1-6GHz 802.11a Mode Channel 149

Frequency (MHz)	Max Peak (dB μ V/m)	Average (dB μ V/m)	Limit (dB μ V/m)	Margin (dB)	Meas. Time (ms)	Bandwidth (kHz)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB)
3856.983968	---	49.40	54.00	4.60	200.0	1000.000	227.2	V	86.0	13.2

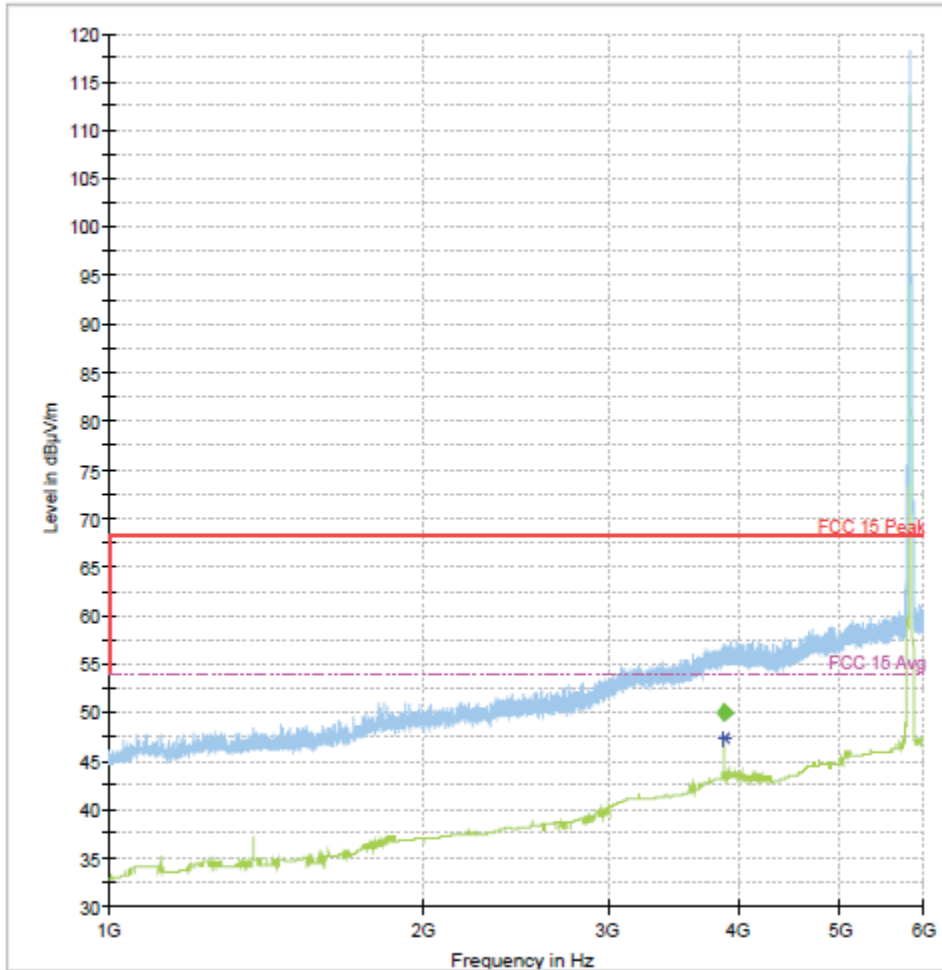


- Preview Result 2-AVG
- Preview Result 1-PK+
- * Critical_Freqs AVG
- + Critical_Freqs PK+
- FCC 15 Peak
- ◆ Final_Result AVG
- ◆ Final_Result PK+

Note: Emission above limit is fundamental

Figure 117: 1-6GHz 802.11a Mode Channel 157

Frequency (MHz)	MaxPeak (dBµV/m)	Average (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Meas. Time (ms)	Bandwidth (kHz)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB)
3883.737475	—	50.04	54.00	3.96	200.0	1000.000	267.0	V	82.0	13.2



— Preview Result 2-AVG — Preview Result 1-PK+ * Critical_Freqs AVG
— Critical_Freqs PK+ — FCC 15 Peak - - - FCC 15 Avg
◆ Final_Result PK+ ◆ Final_Result AVG

Note: Emission above limit is fundamental

Figure 118: 1-6GHz 802.11a Mode Channel 165

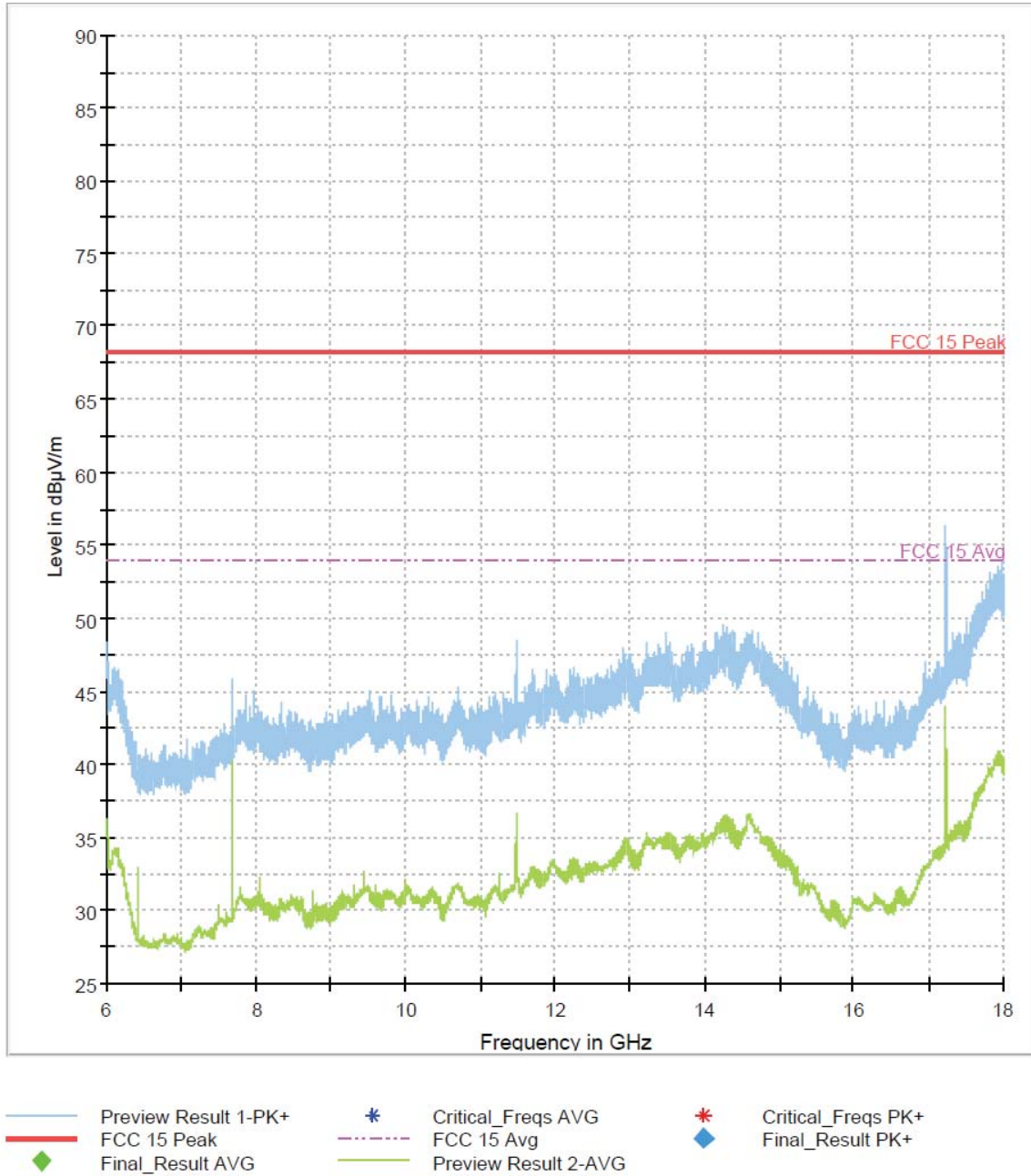


Figure 119: 6-18GHz 802.11a Mode Channel 149

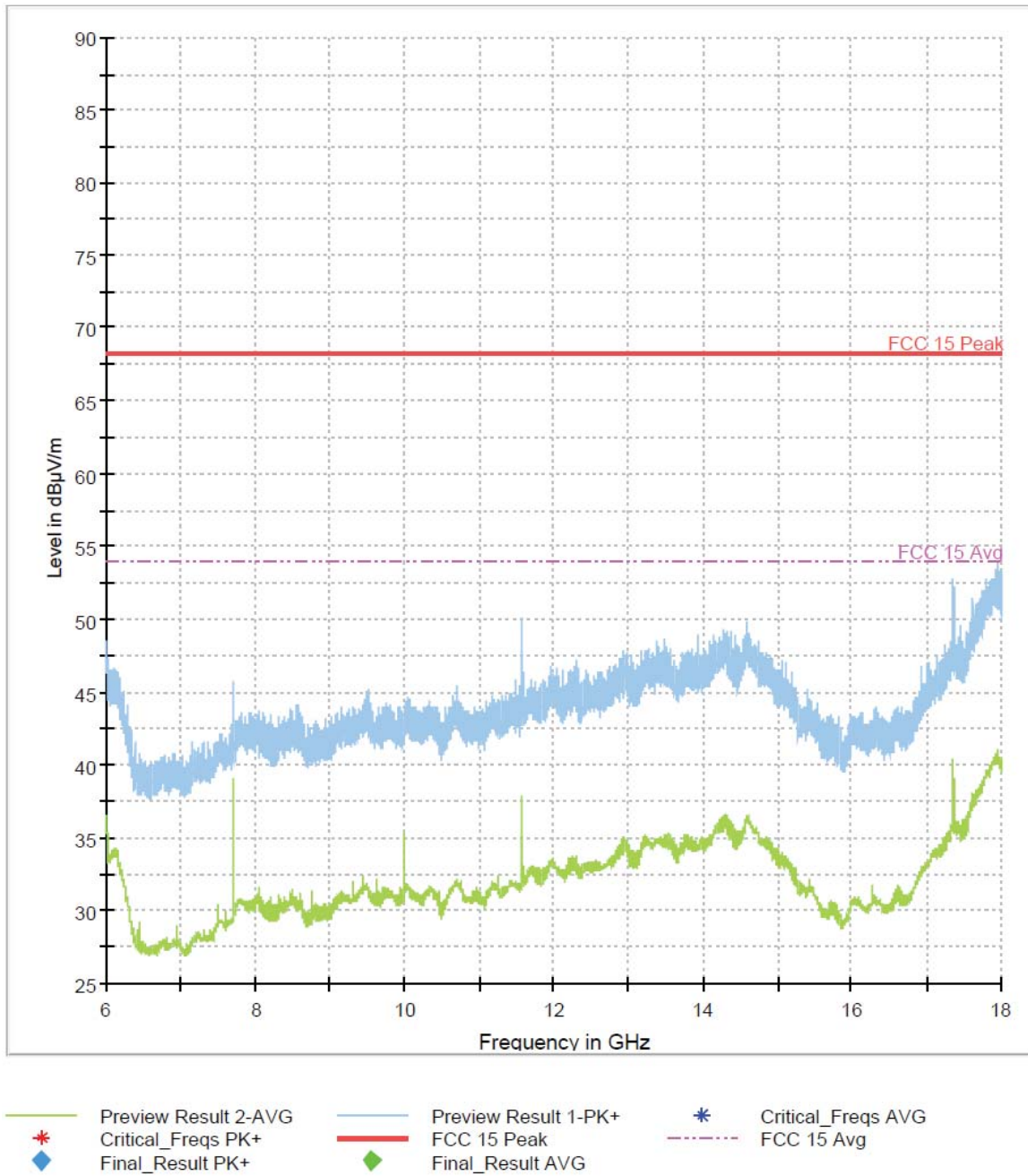


Figure 120: 6-18GHz 802.11a Mode Channel 157

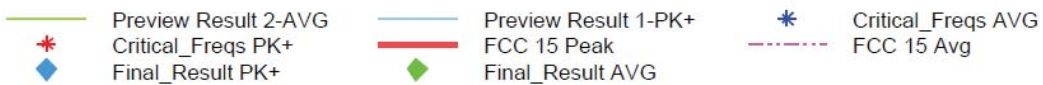
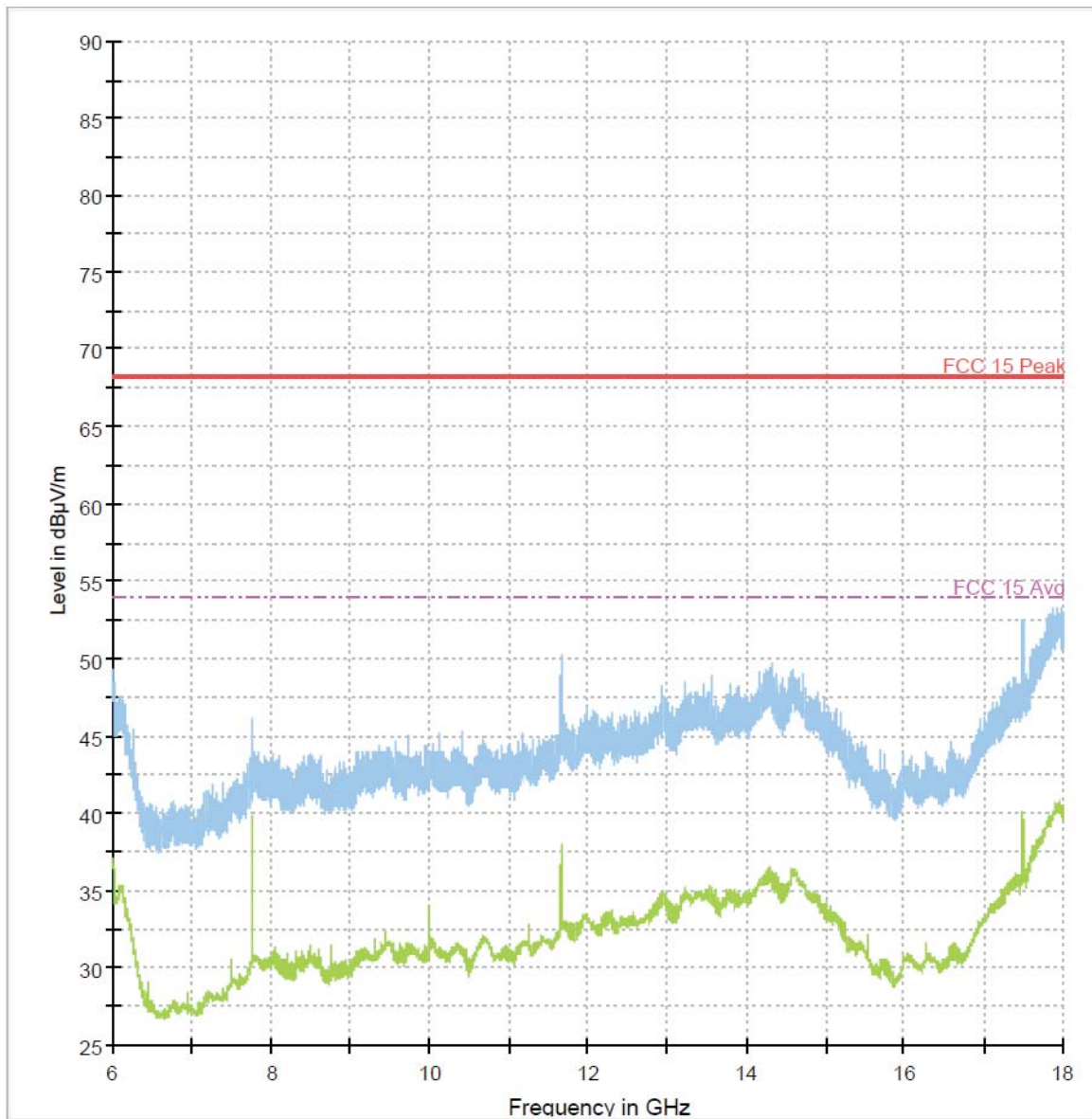


Figure 121: 6-18GHz 802.11a Mode Channel 165

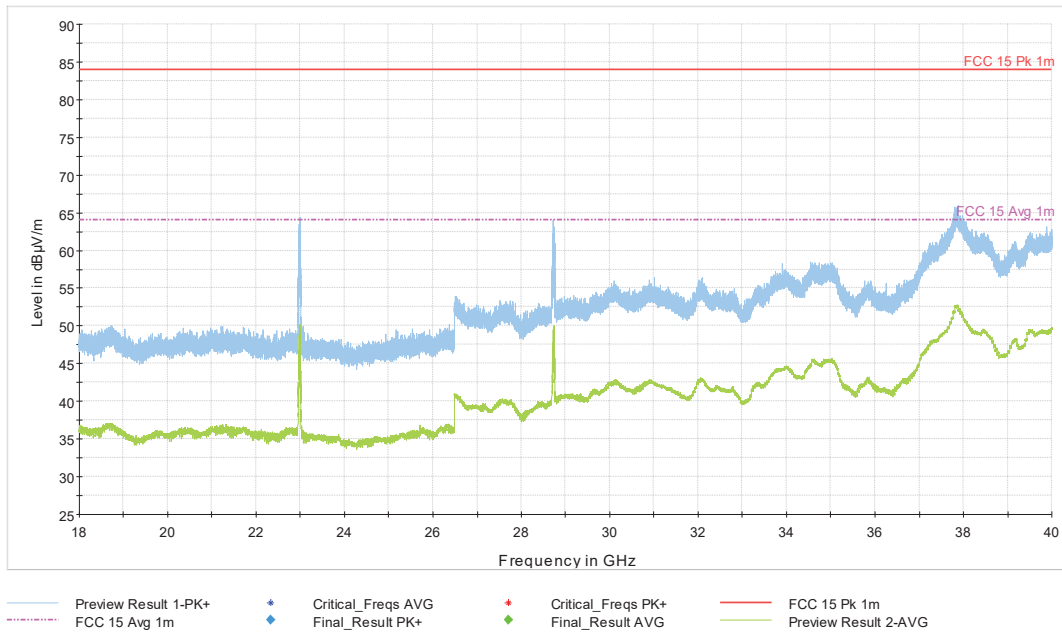


Figure 122: 18-40GHz 802.11a Mode Channel 149

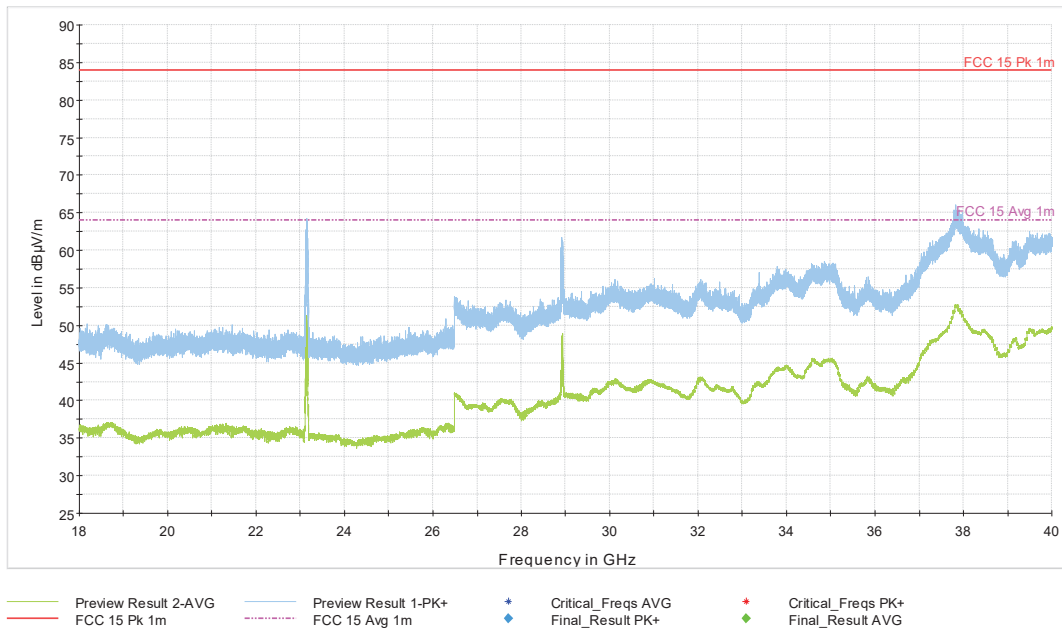


Figure 123: 18-40GHz 802.11a Mode Channel 157

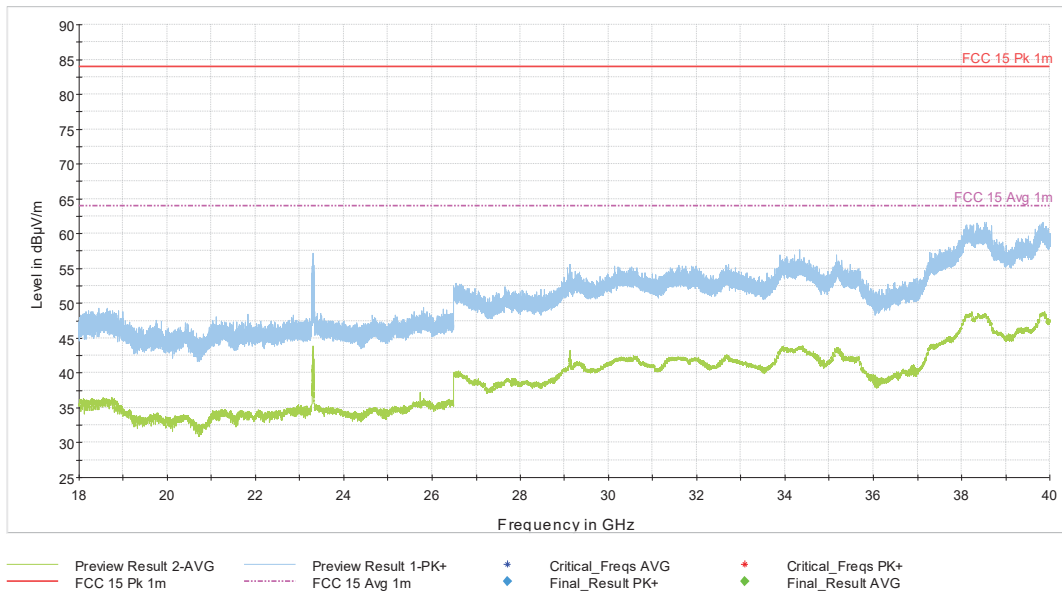


Figure 124: 18-40GHz 802.11a Mode Channel 165

4.6.5.1.2.2 802.11n HT40 Mode

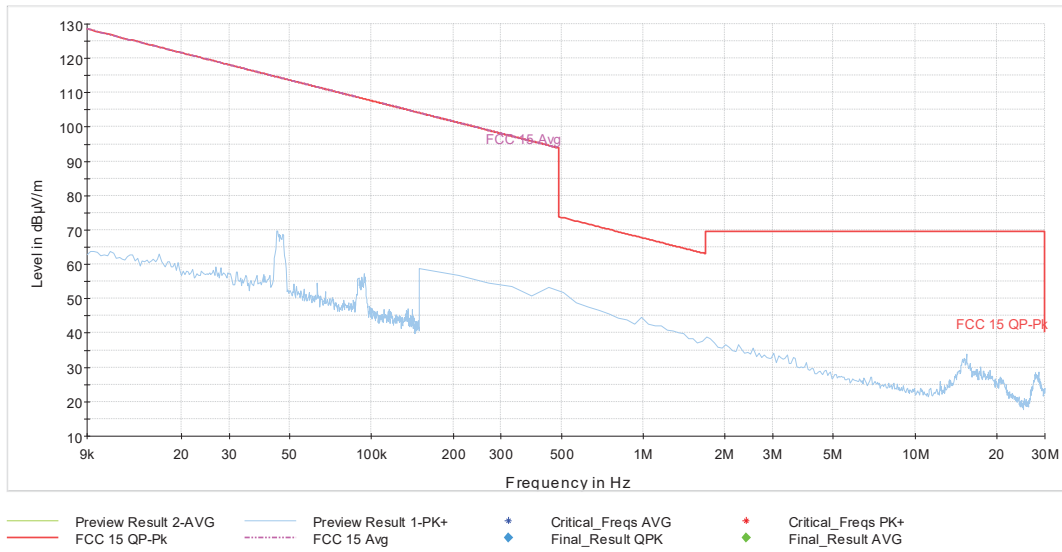


Figure 125: 9KHz-30MHz 802.11n HT40 Mode Channel 151

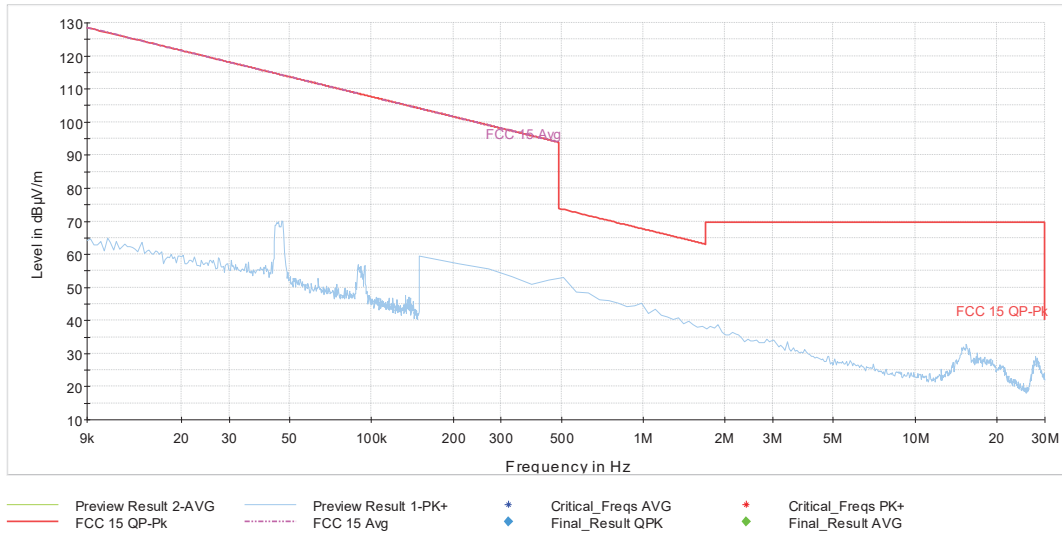


Figure 126: 9KHz-30MHz 802.11n HT40 Mode Channel 159

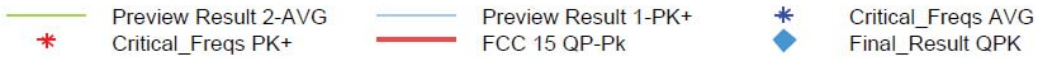
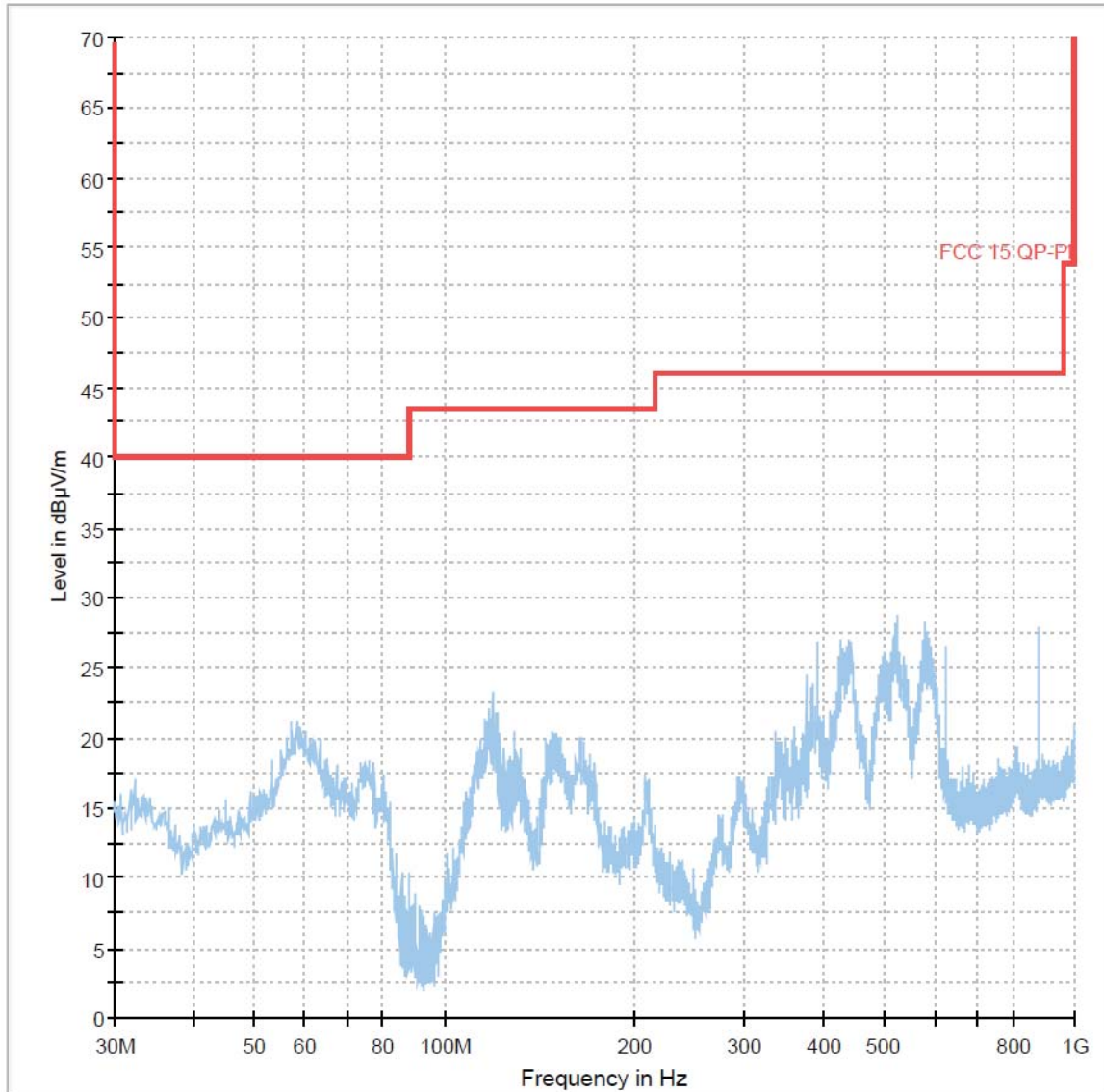


Figure 127: 30MHz-1GHz 802.11n HT40 Mode Channel 151

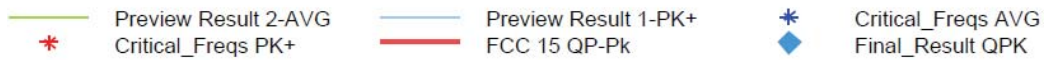
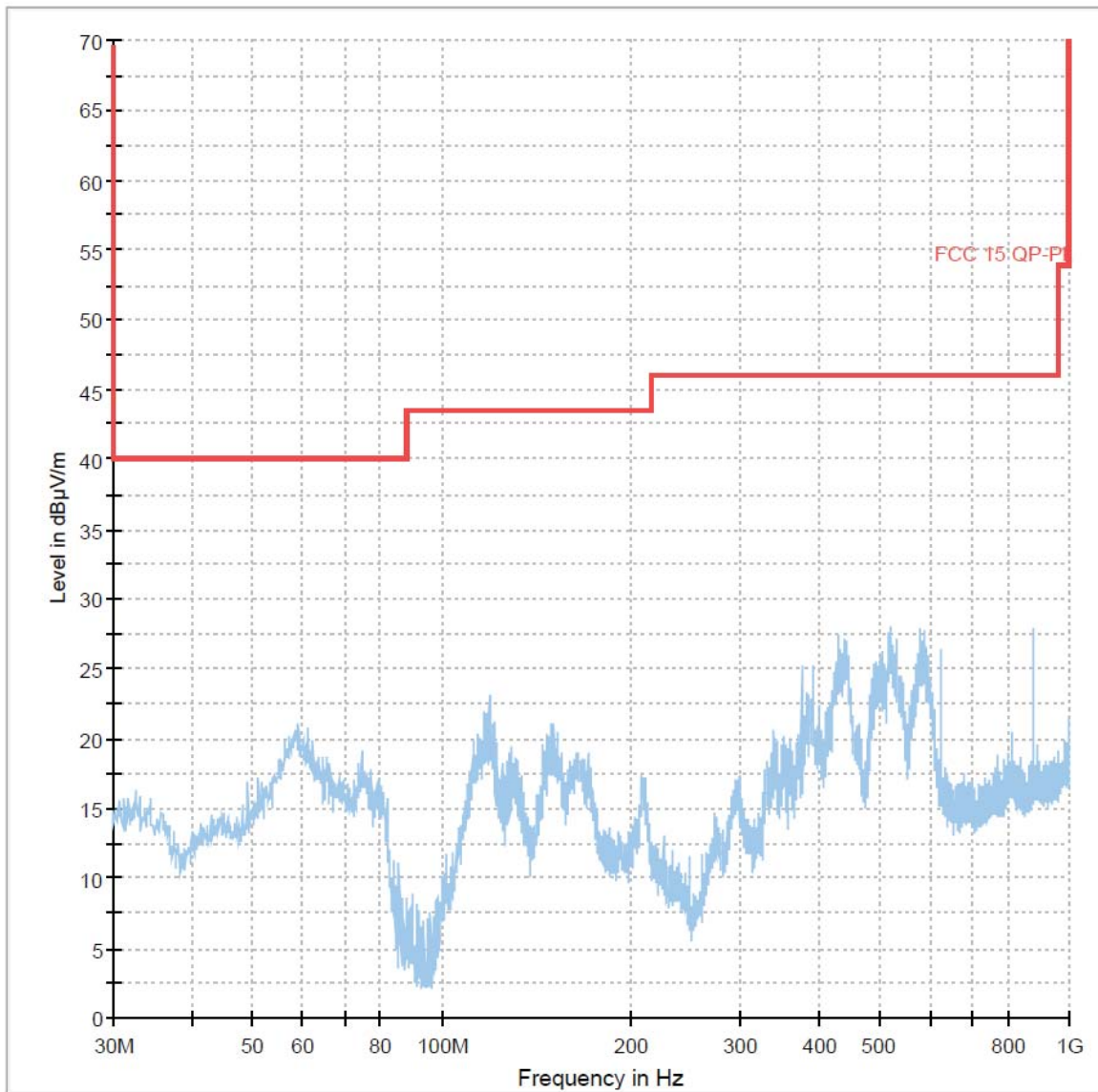
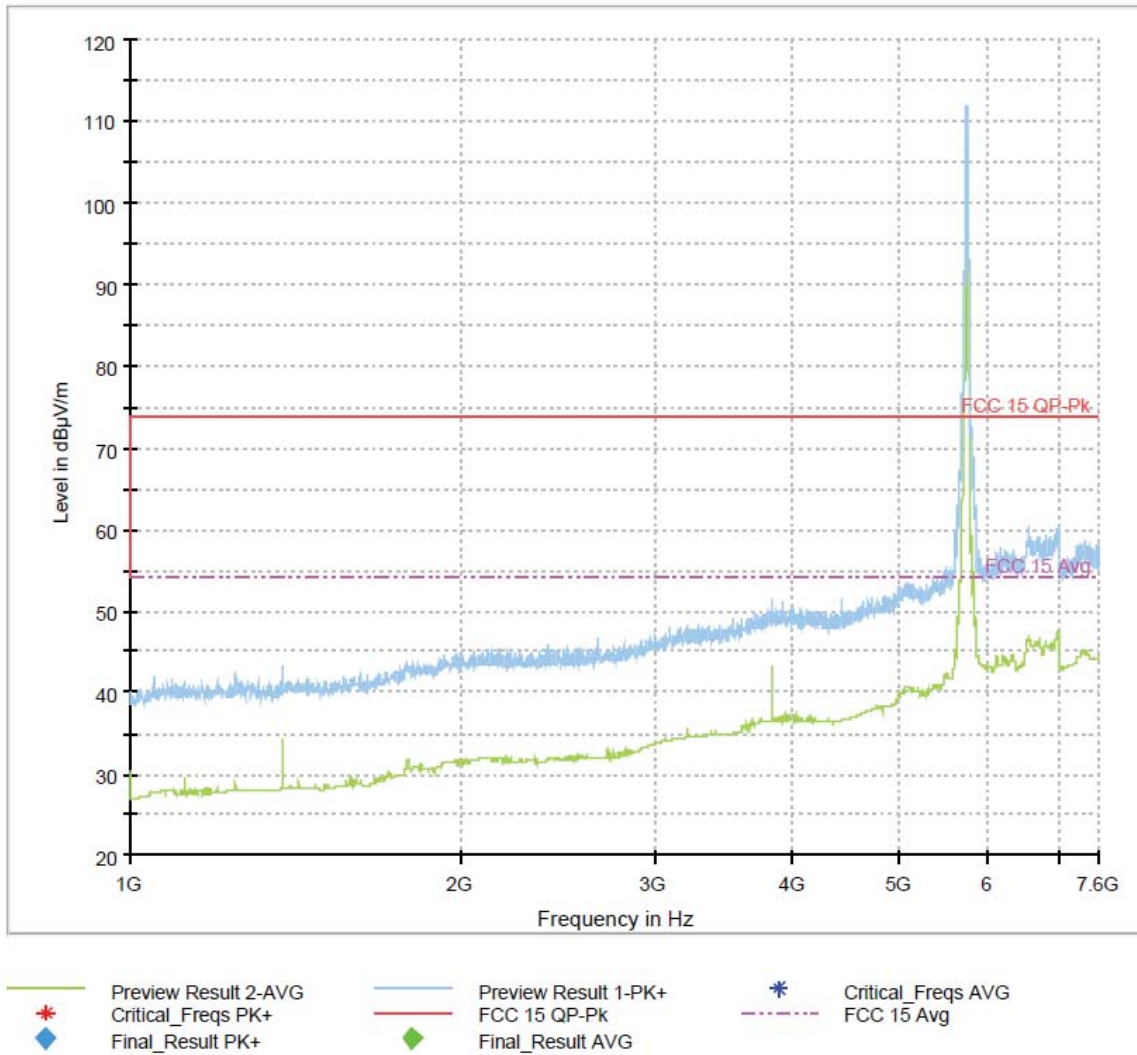


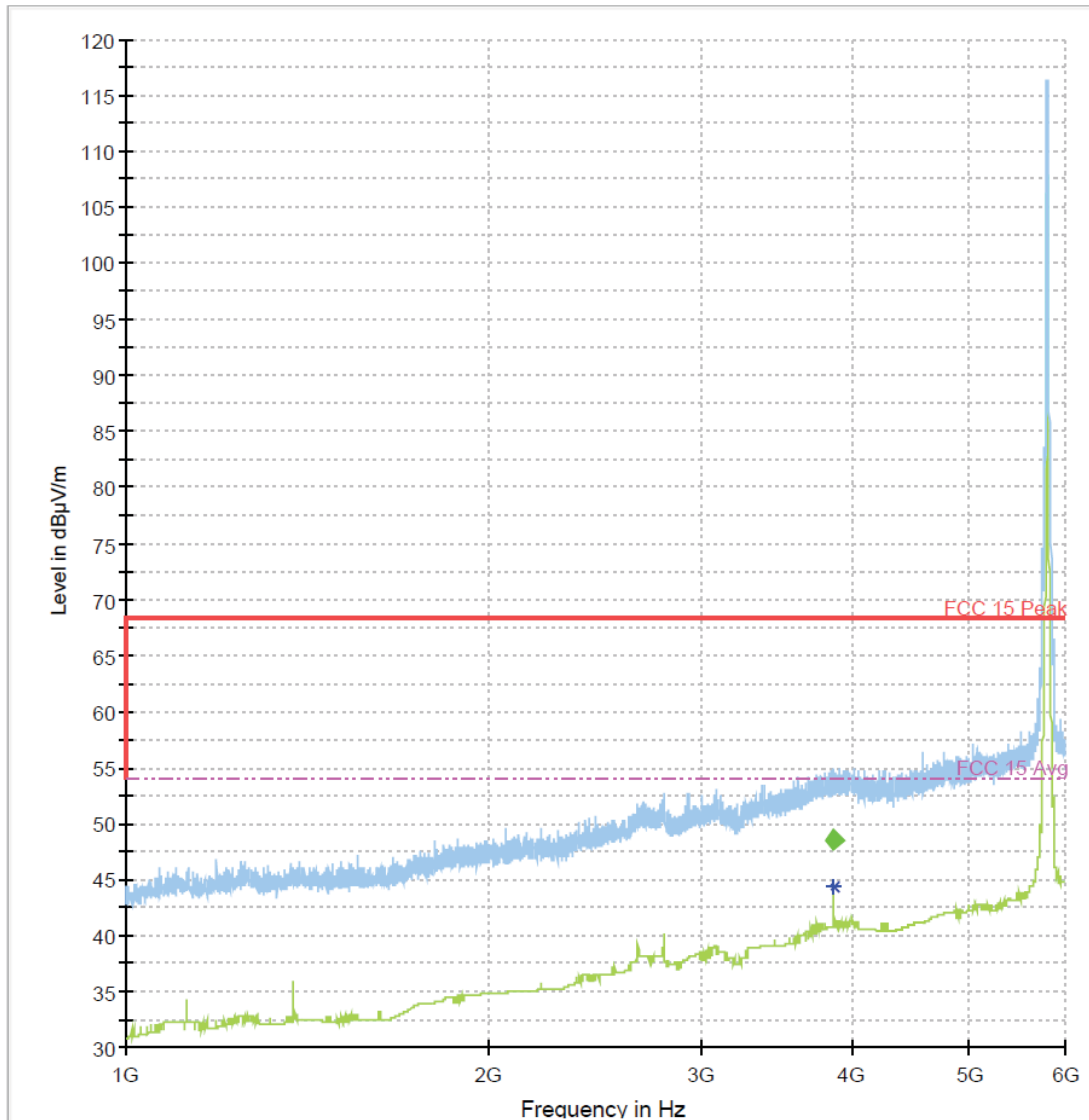
Figure 128: 30MHz-1GHz 802.11n HT40 Mode Channel 159



Note: Emission above limit is fundamental

Figure 129: 1-6GHz 802.11n HT40 Mode Channel 151

Frequency (MHz)	MaxPeak (dBμV/m)	Average (dBμV/m)	Limit (dBμV/m)	Margin (dB)	Meas. Time (ms)	Bandwidth (kHz)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB)
3863.476954	---	48.45	54.00	5.55	200.0	1000.000	216.4	V	144.0	11.9



- Preview Result 2-AVG
- Preview Result 1-PK+
- FCC 15 Peak
- - - FCC 15 Avg
- * Critical_Freqs AVG
- ◆ Final_Result PK+
- ◆ Final_Result AVG

Note: Emission above limit is fundamental

Figure 130: 1-6GHz 802.11n HT40 Mode Channel 159

Frequency (MHz)	Max Peak (dBµV/m)	Average (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Meas. Time (ms)	Bandwidth (kHz)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB)
17262.600000	---	45.79	54.00	8.21	200.0	1000.000	162.4	H	317.0	-2.0

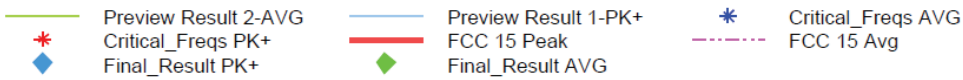
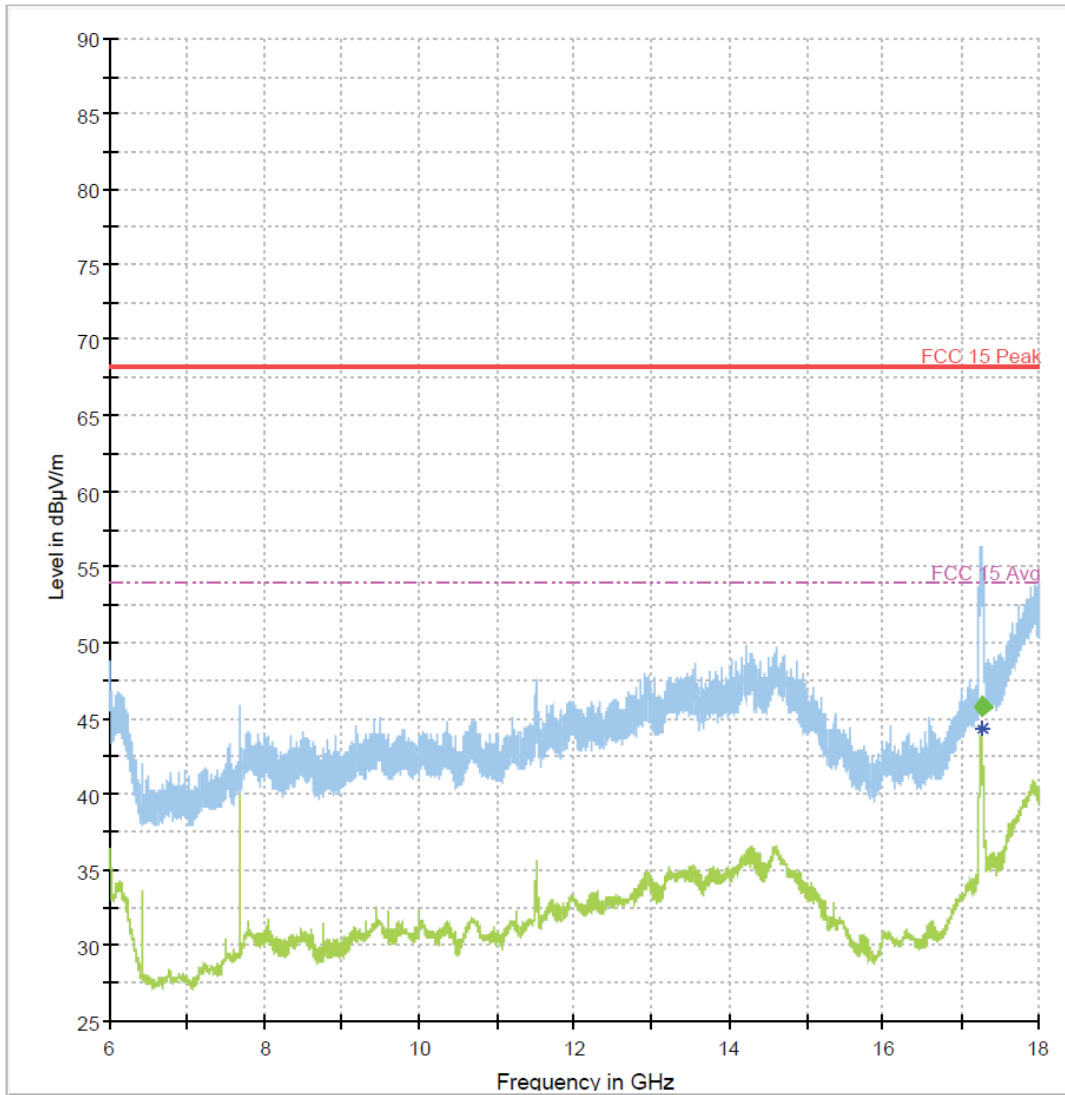
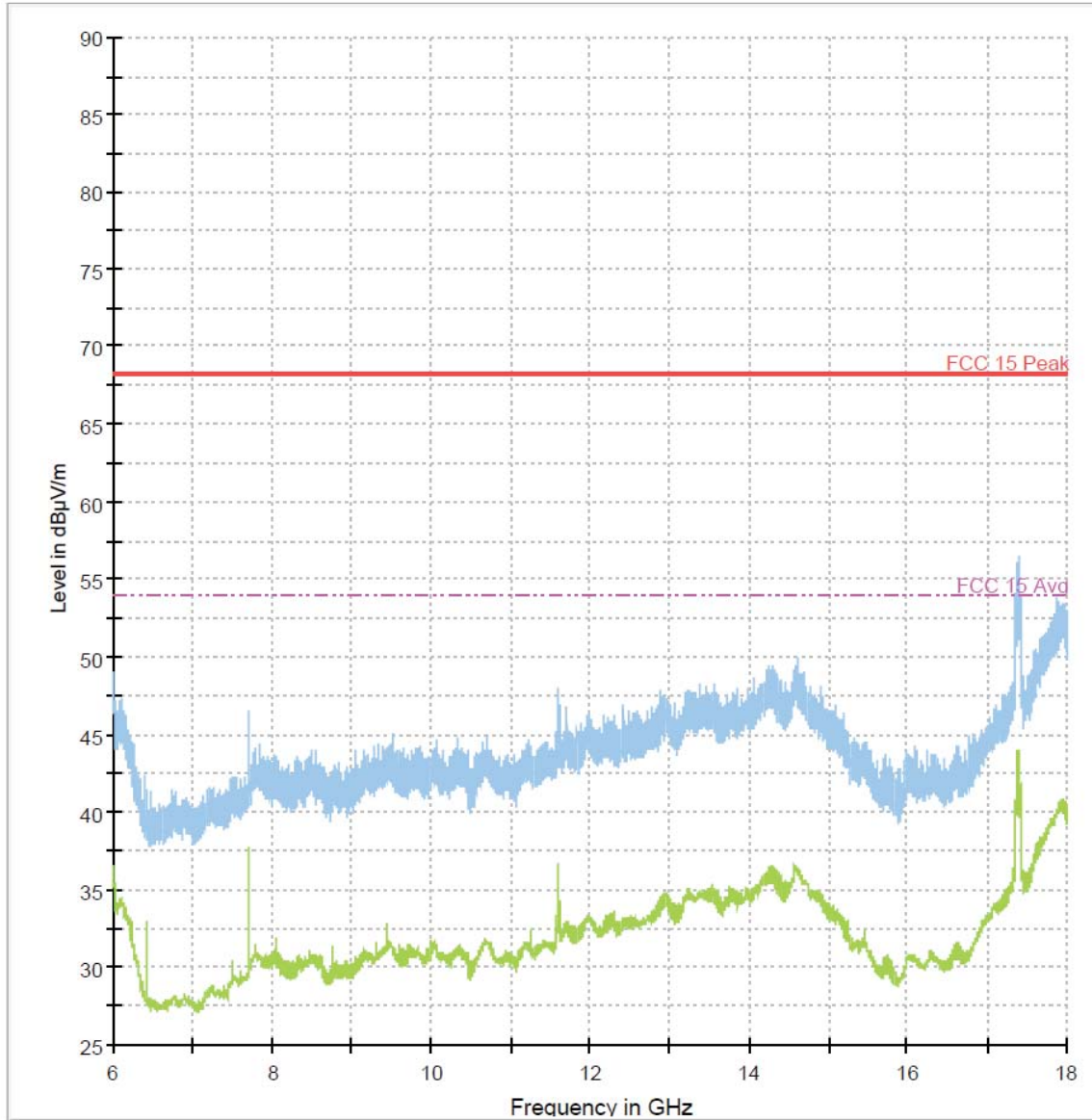


Figure 131: 6-18GHz 802.11n HT40 Mode Channel 151



- Preview Result 2-AVG
- Preview Result 1-PK+
- * Critical_Freqs AVG
- * Critical_Freqs PK+
- FCC 15 Peak
- FCC 15 Avg
- ◆ Final_Result PK+
- ◆ Final_Result AVG

Figure 132: 6-18GHz 802.11n HT40 Mode Channel 159

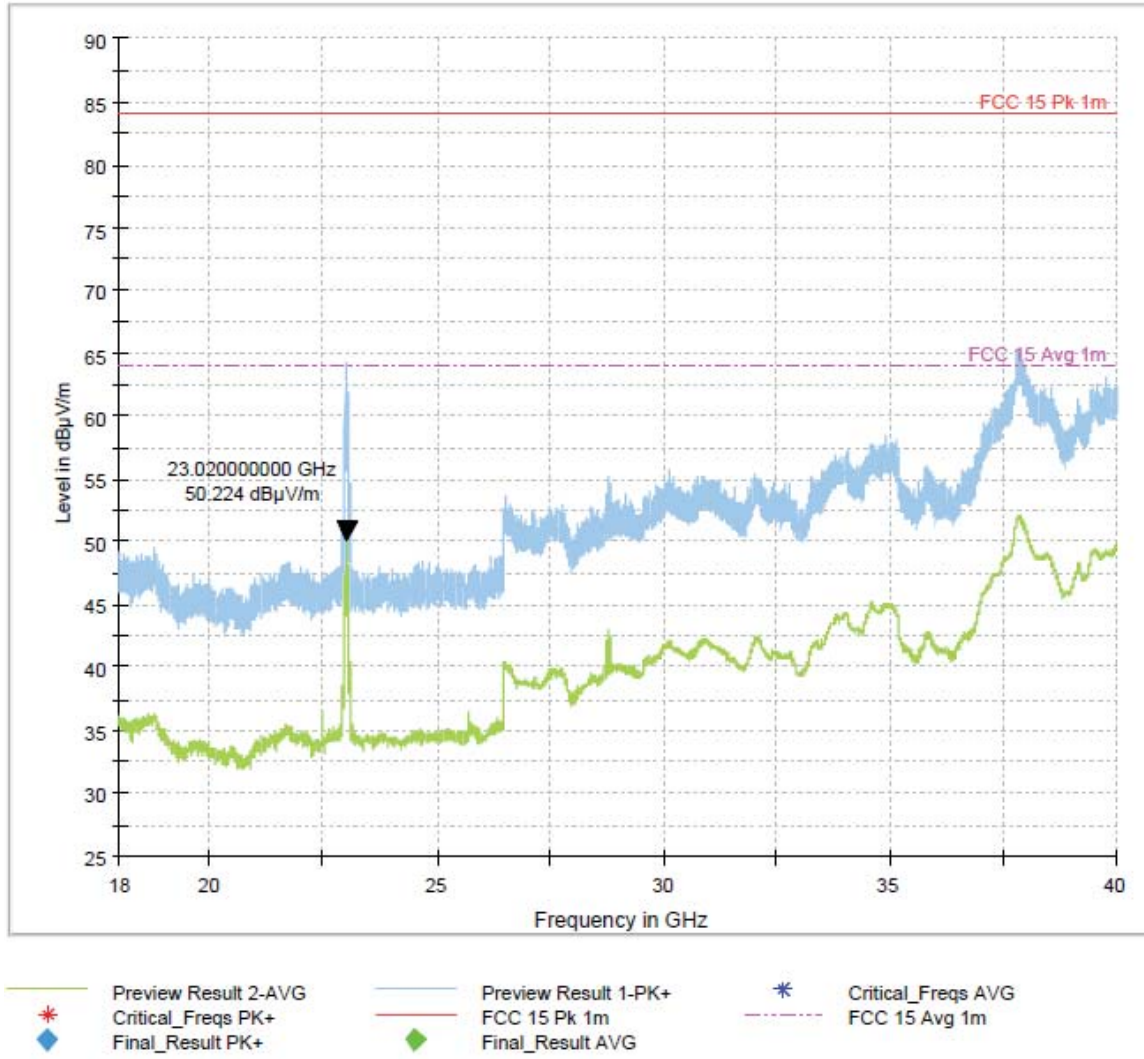


Figure 133: 18-40GHz 802.11n HT40 Mode Channel 151

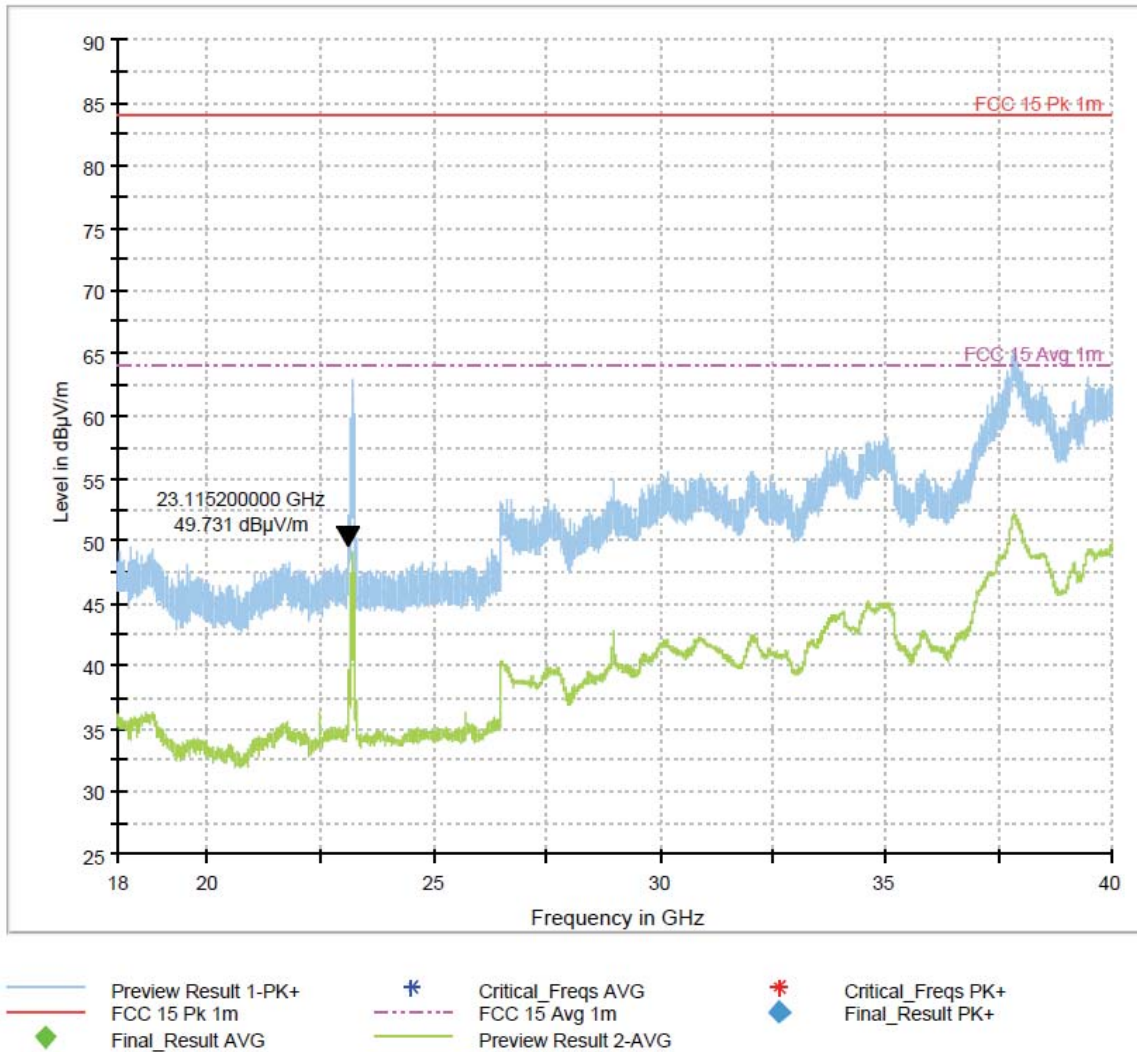


Figure 134: 18-40GHz 802.11n HT40 Mode Channel 159

4.6.5.1.2.3 802.11ac VHT80 Mode

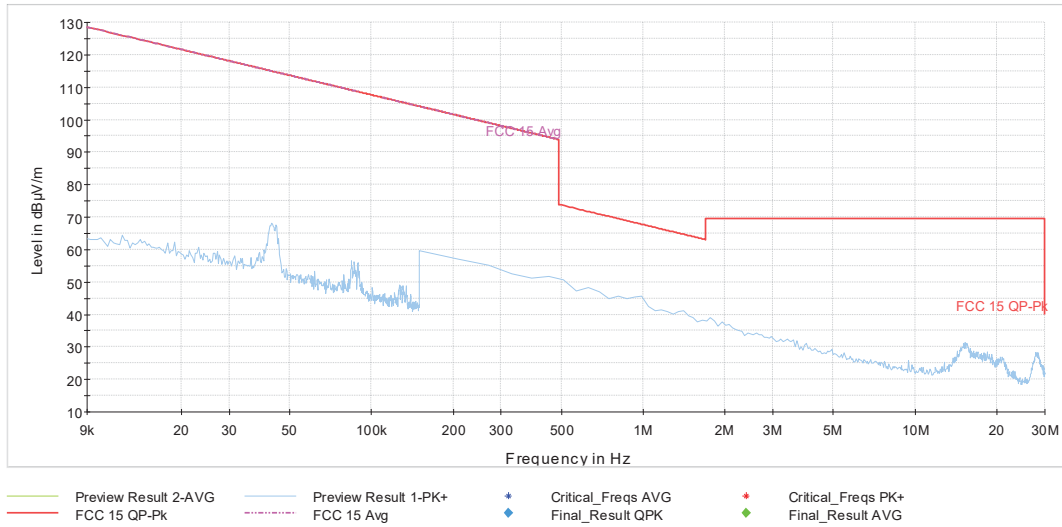


Figure 135: 9KHz-30MHz 802.11ac VHT80 Mode Channel 155

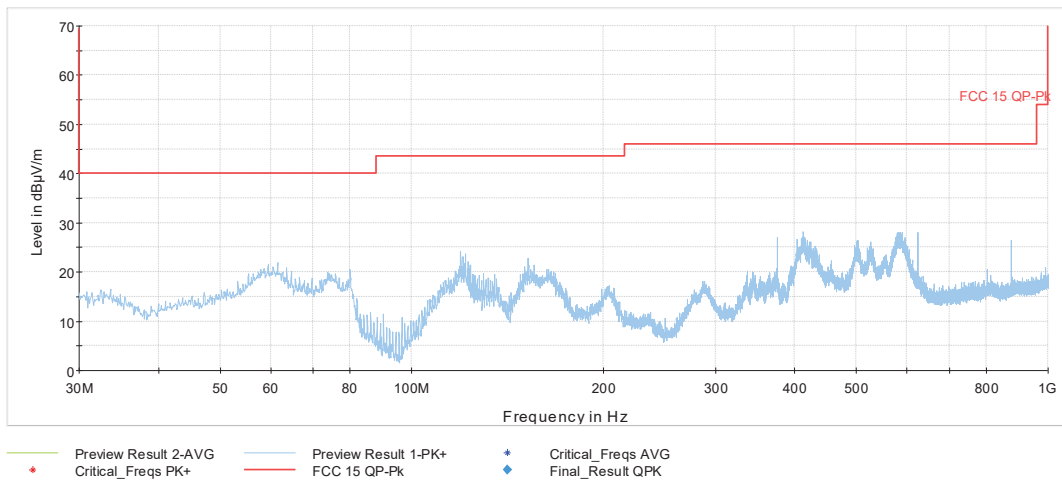
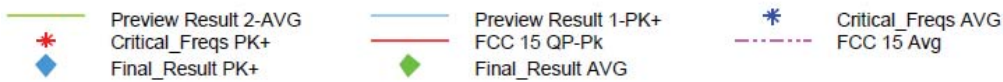
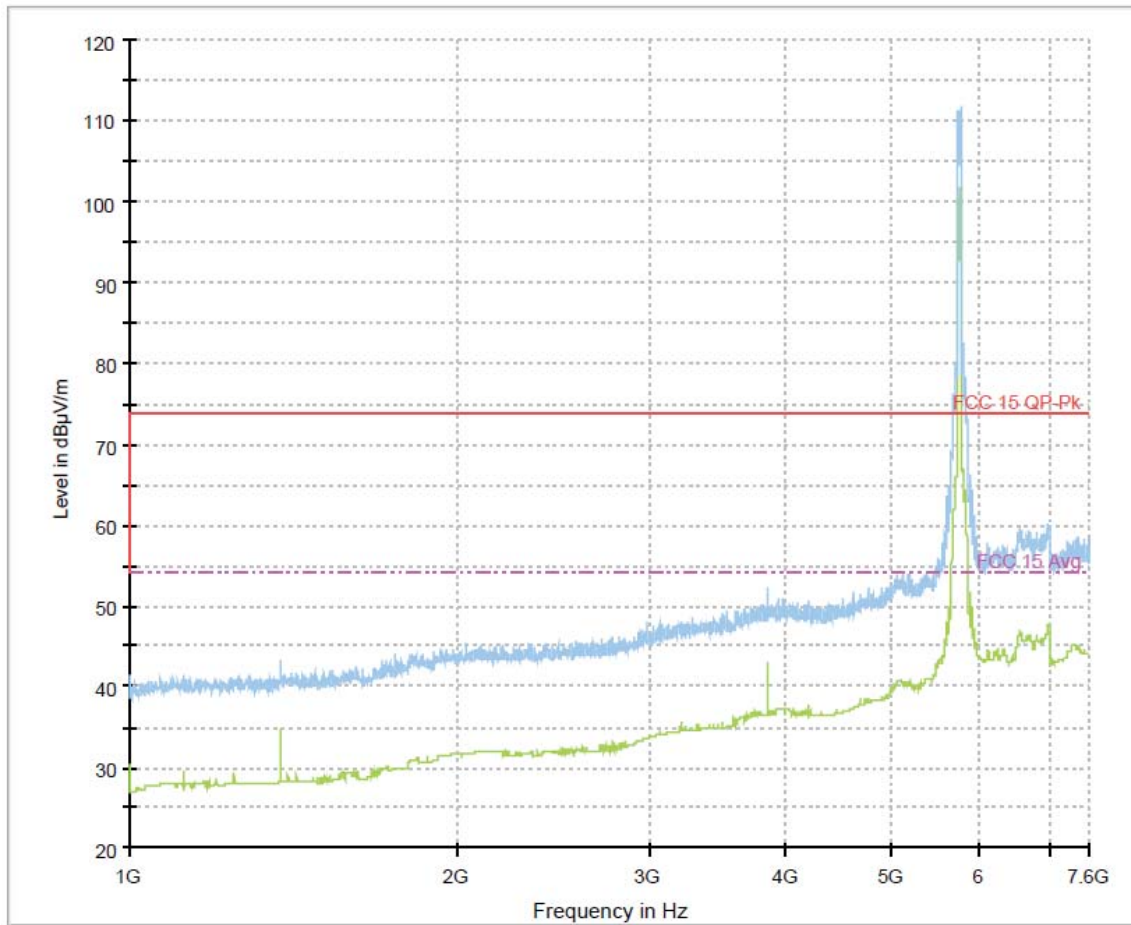


Figure 136: 30MHz-1GHz 802.11ac VHT80 Mode Channel 155



Note: Emission Above limit is the Fundamental Transmission.

Figure 137: 1-7.6GHz 802.11ac VHT80 Mode Channel 155

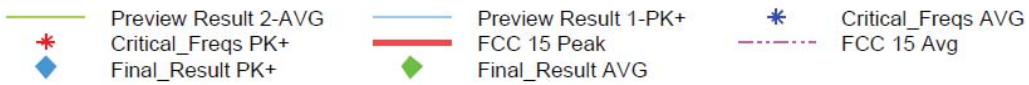
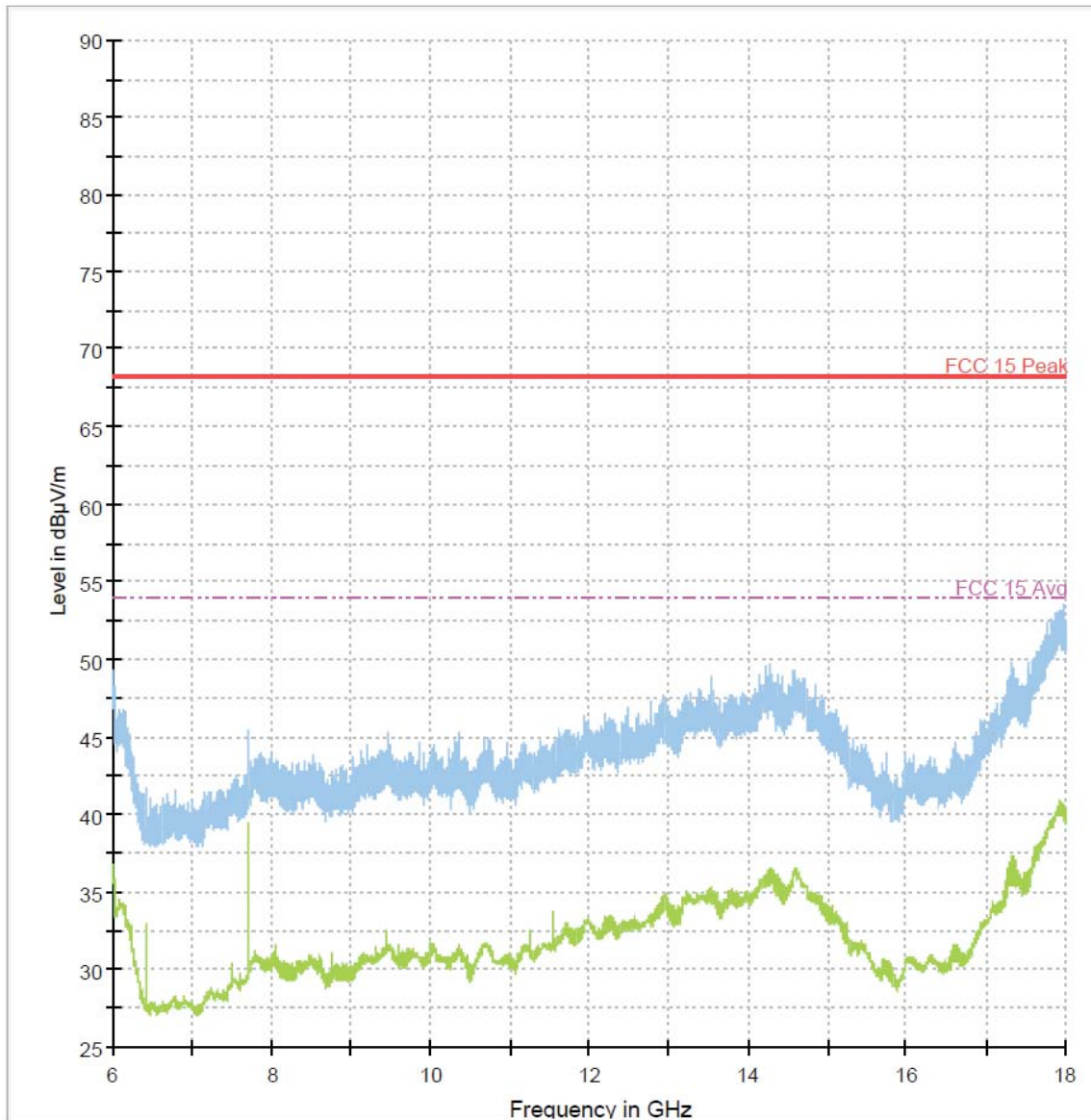


Figure 138: 6-18GHz 802.11ac VHT80 Mode Channel 155

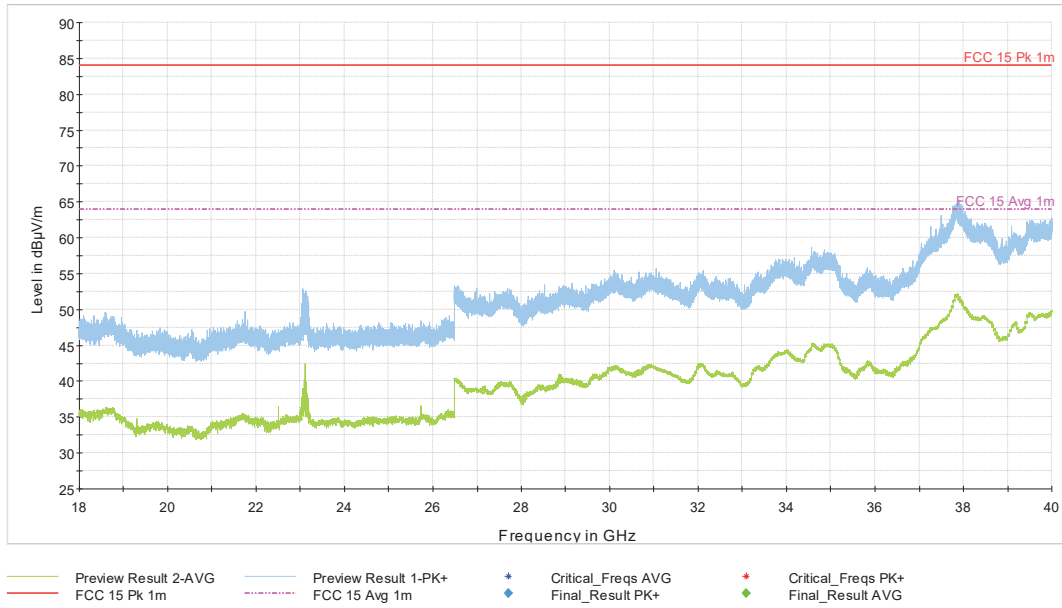


Figure 139: 18-40GHz 802.11ac VHT80 Mode Channel 155

4.6.5.1.3 UNII-1 & UNII-3

4.6.5.1.3.1 802.11ac VHT80+80 Mode

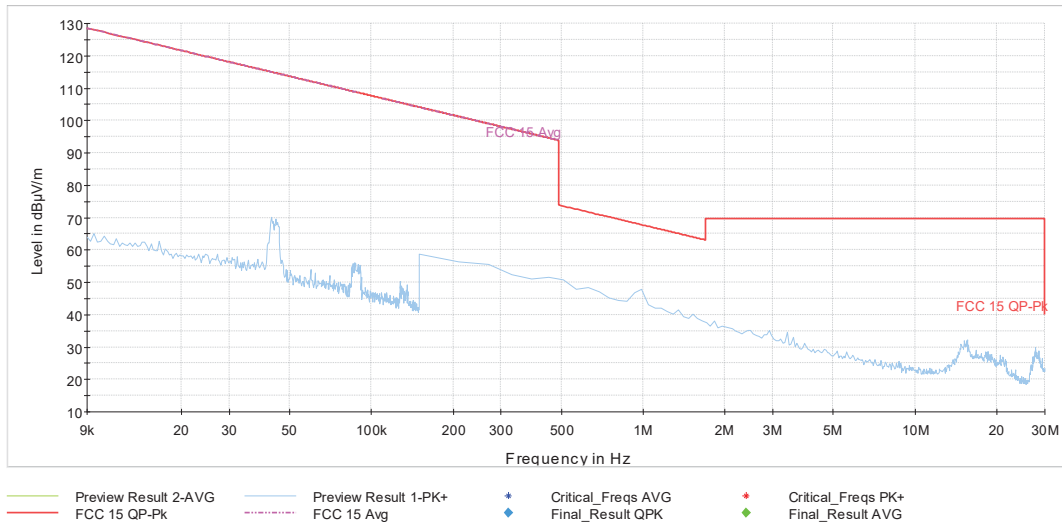


Figure 140: 9KHz-30MHz 802.11ac VHT80+80 Mode Channel 42 & 155

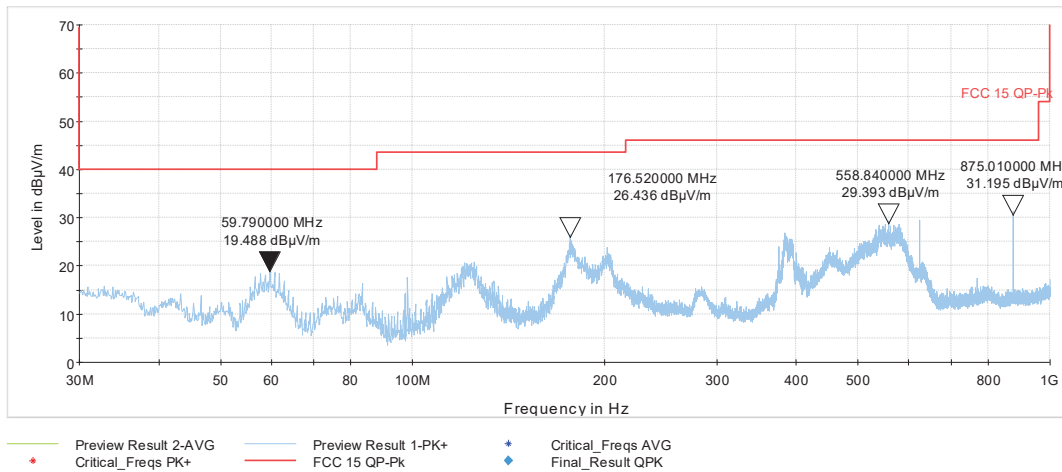
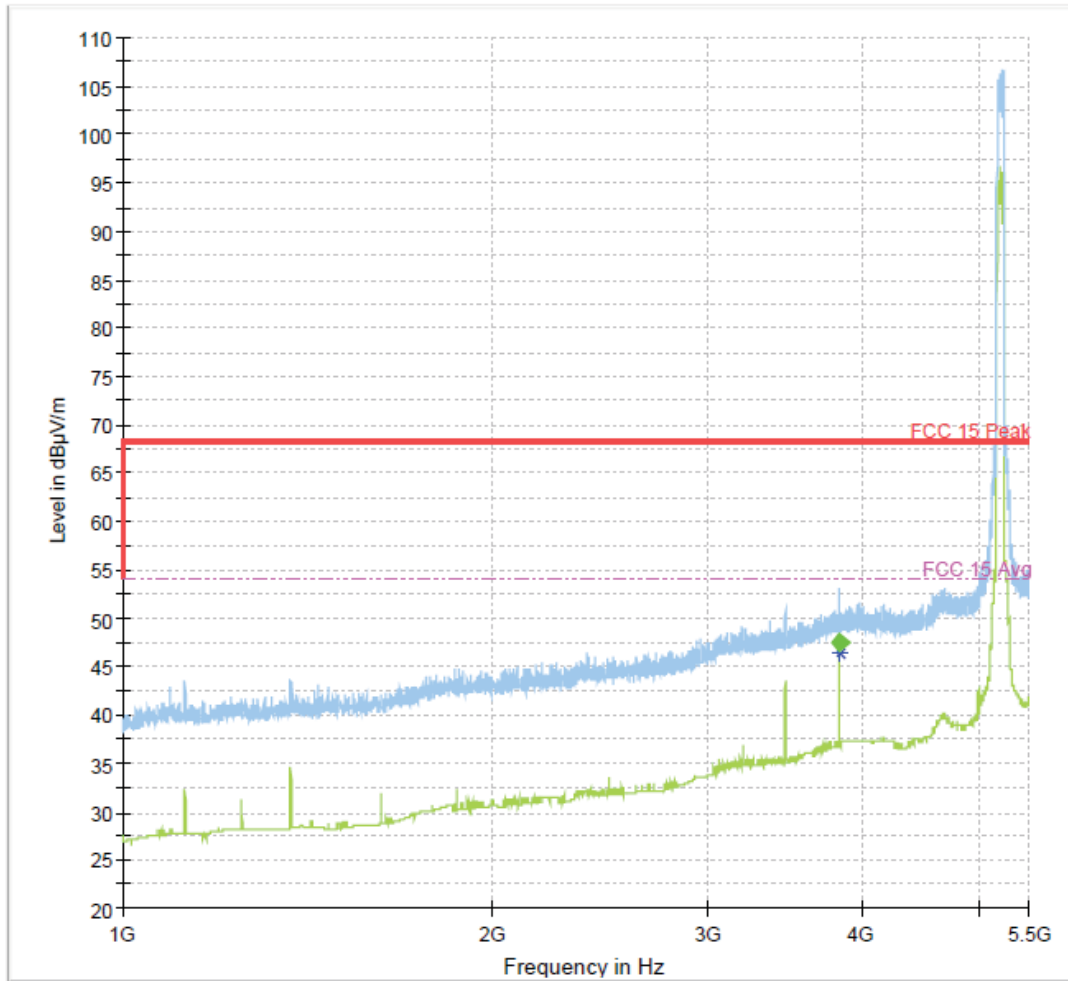


Figure 141: 30MHz-1GHz 802.11ac VHT80+80 Mode Channel 42 & 155

Frequency (MHz)	MaxPeak (dBµV/m)	Average (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Meas. Time (ms)	Bandwidth (kHz)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB)
3849.929859	---	47.44	54.00	6.56	200.0	1000.000	149.2	H	177.0	7.3

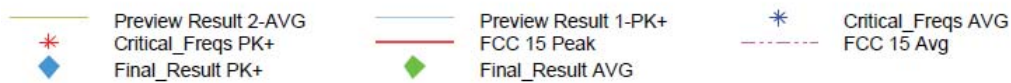
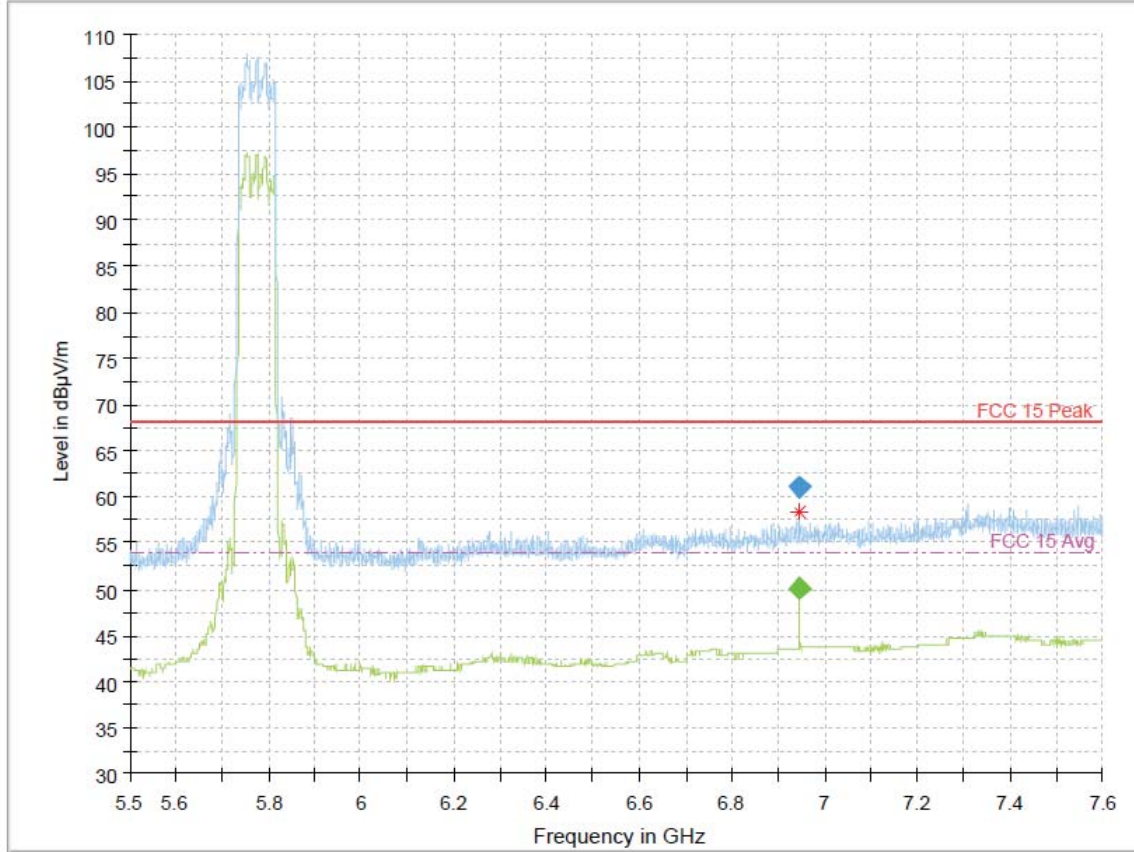


- Preview Result 2-AVG
- Preview Result 1-PK+
- Critical_Freqs AVG
- Critical_Freqs PK+
- FCC 15 Peak
- FCC 15 Avg
- Final_Result PK+
- Final_Result AVG

Note: Emission above Limit is the Fundamental Transmission.

Figure 142: 1-5.5GHz 802.11ac VHT80+80 Mode Channel 42 & 155

Frequency (MHz)	MaxPeak (dBμV/m)	Average (dBμV/m)	Limit (dBμV/m)	Margin (dB)	Meas. Time (ms)	Bandwidth (kHz)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB)
6946.583167	61.06	---	68.20	7.14	200.0	1000.000	119.0	V	72.0	11.6
6946.703407	---	50.07	54.00	3.93	200.0	1000.000	150.0	V	91.0	11.6



Note: Emission above limit is the fundamental transmission.

Figure 143: 5.5-7.6GHz 802.11ac VHT80+80 Mode Channel 42 & 155