

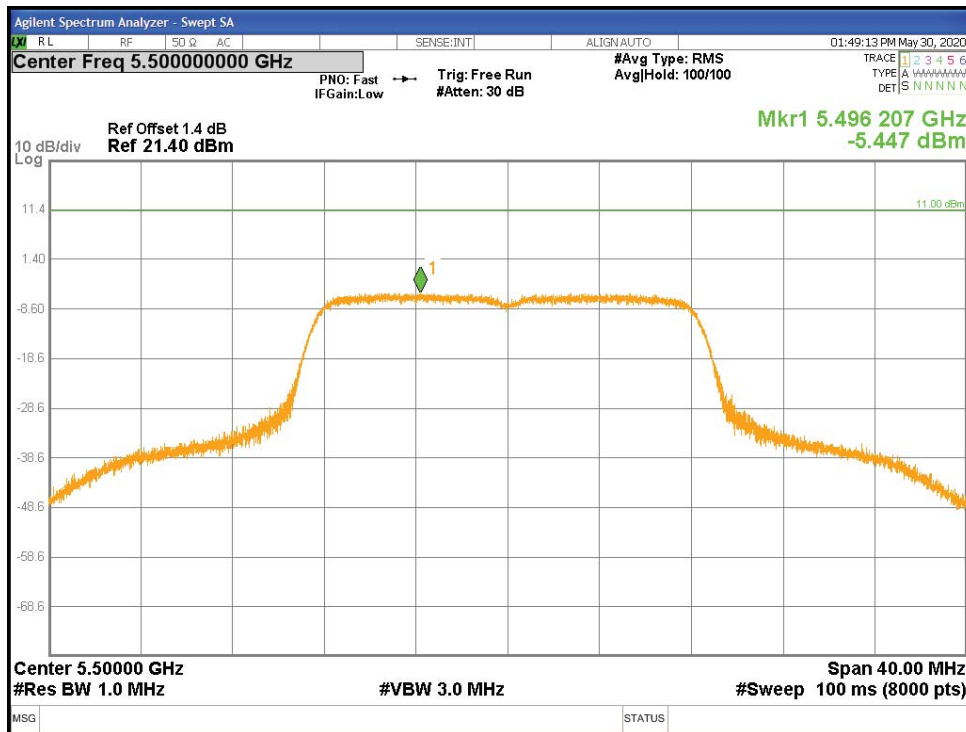


Figure 57: Power Spectral Density-5500 MHz-802.11a-6 Mbps

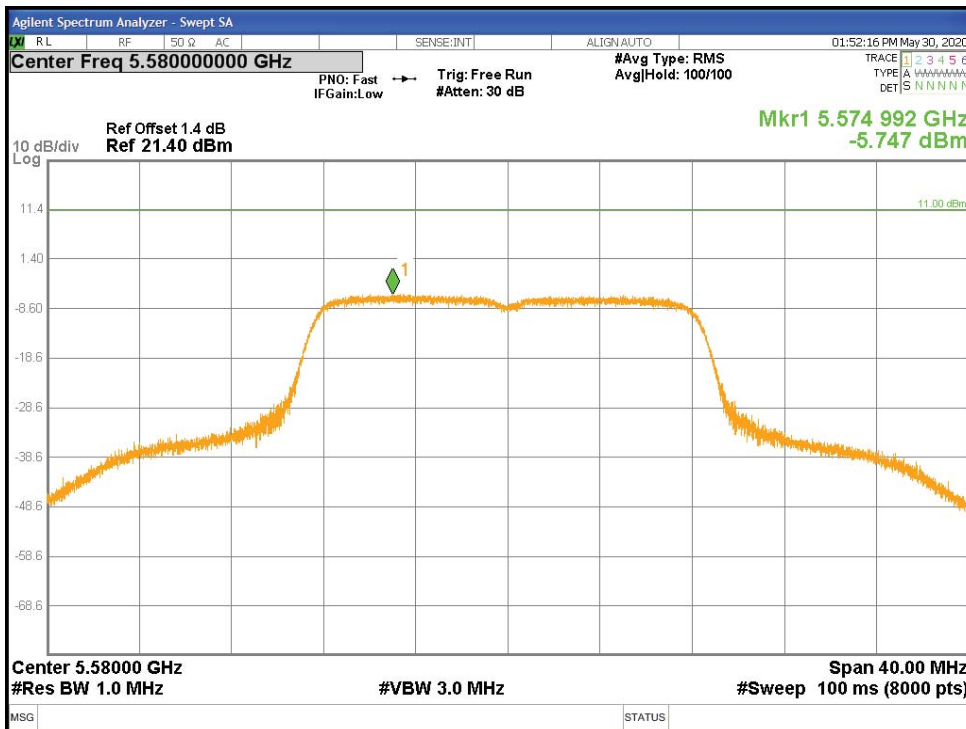


Figure 58: Power Spectral Density-5580 MHz-802.11a-6 Mbps

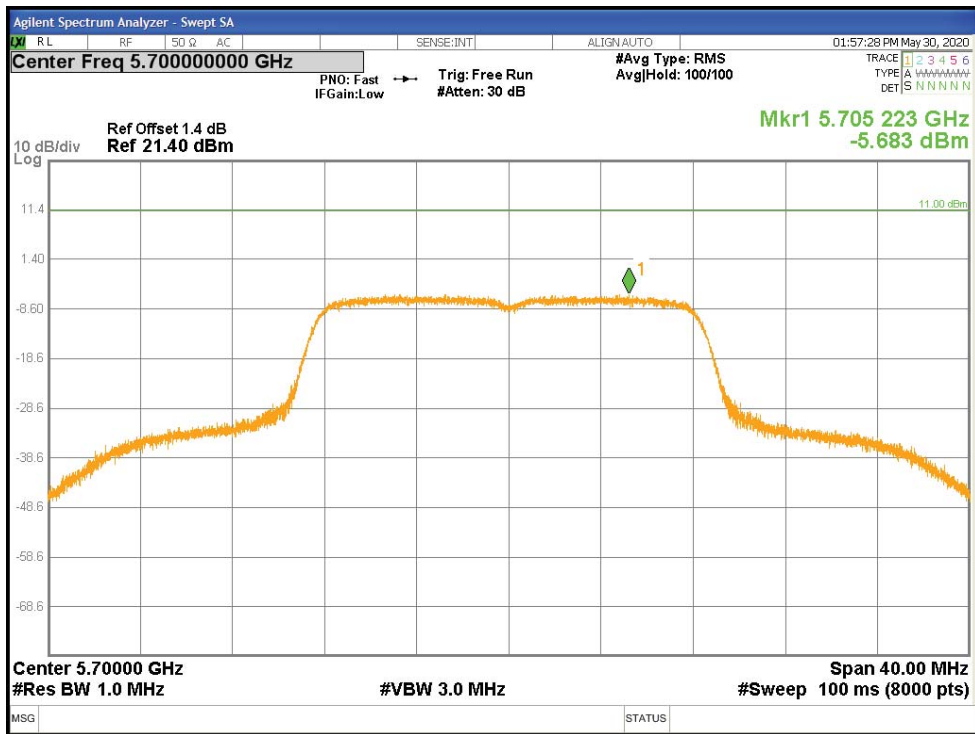


Figure 59: Power Spectral Density-5700 MHz-802.11a-6 Mbps

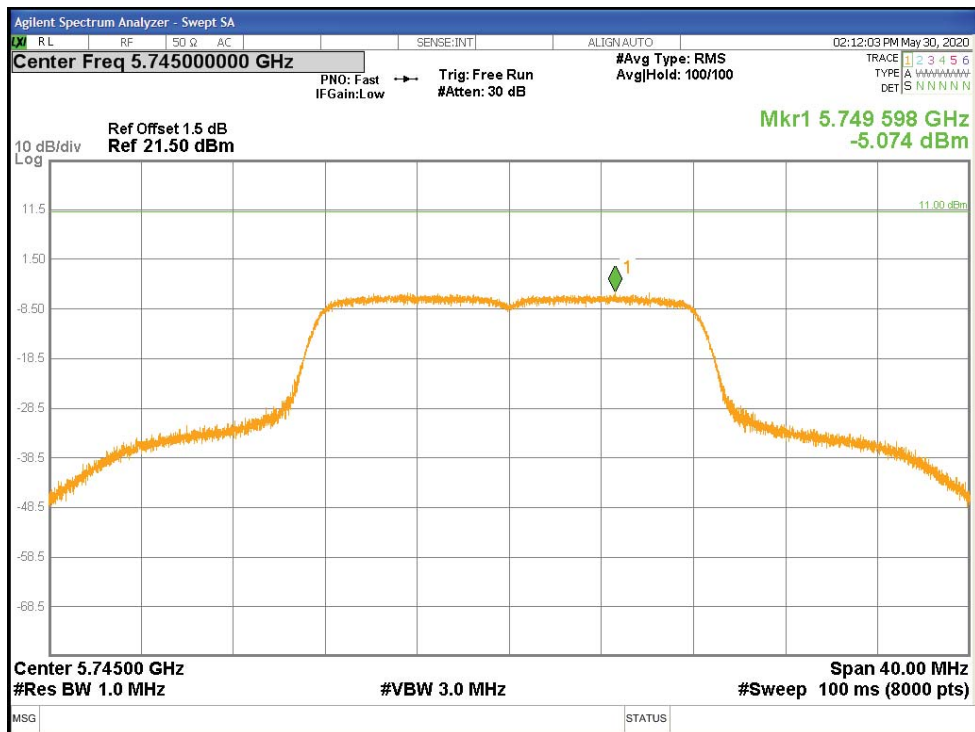


Figure 60: Power Spectral Density-5745 MHz-802.11a-6 Mbps

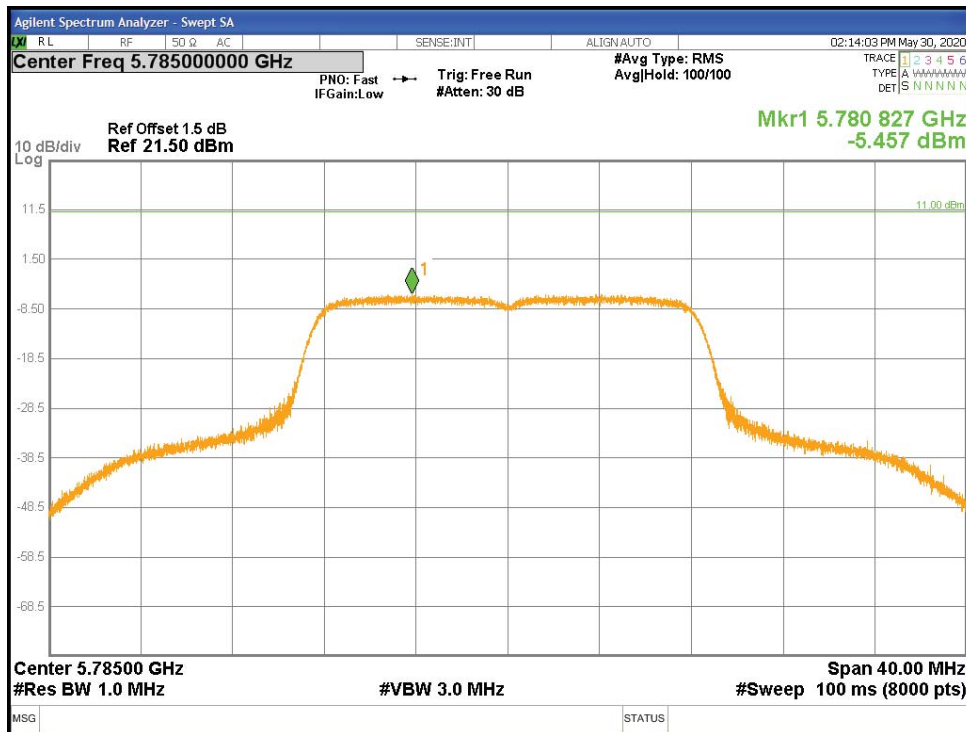


Figure 61: Power Spectral Density-5785 MHz-802.11a-6 Mbps

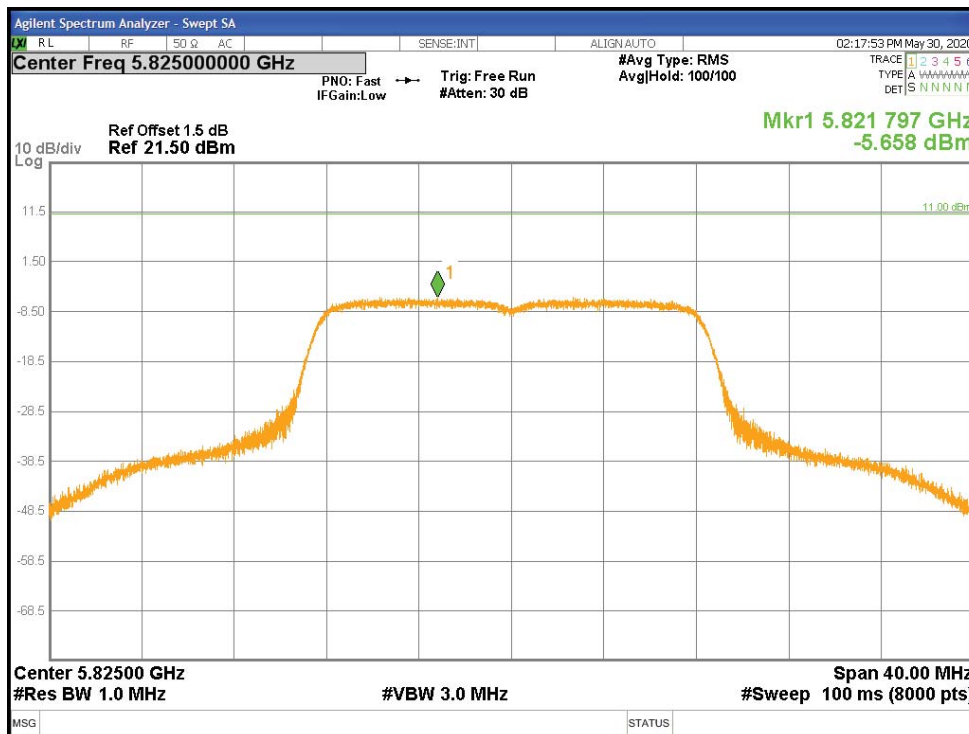


Figure 62: Power Spectral Density-5825 MHz-802.11a-6 Mbps

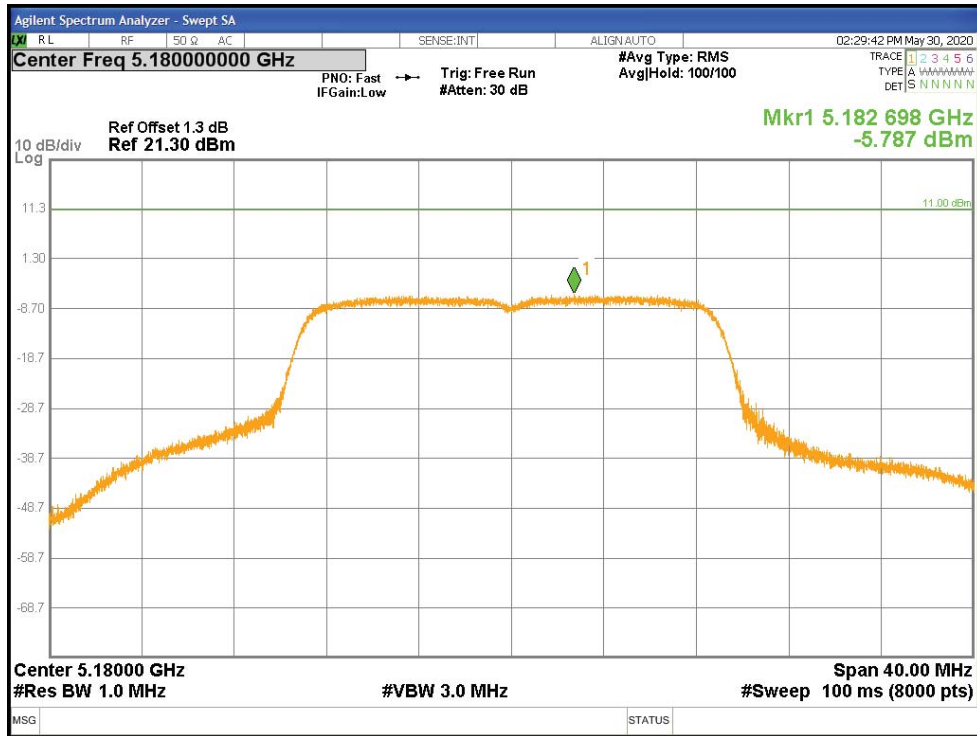


Figure 63: Power Spectral Density-5180 MHz-802.11n HT20-6 Mbps

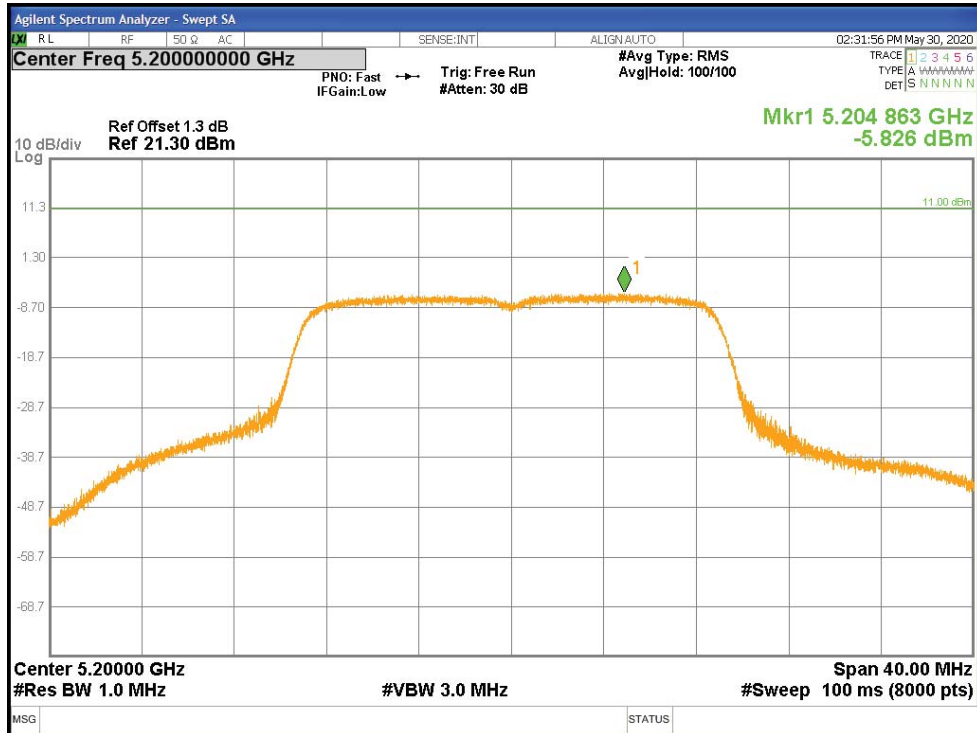


Figure 64: Power Spectral Density-5200 MHz-802.11n HT20-6 Mbps

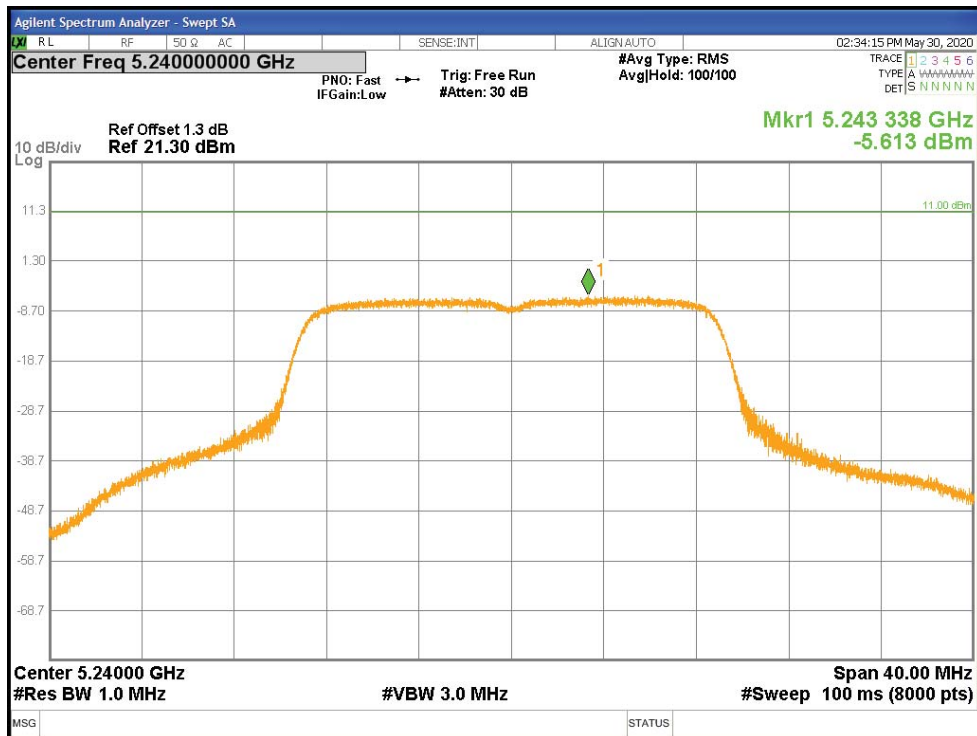


Figure 65: Power Spectral Density-5240 MHz-802.11n HT20-6 Mbps

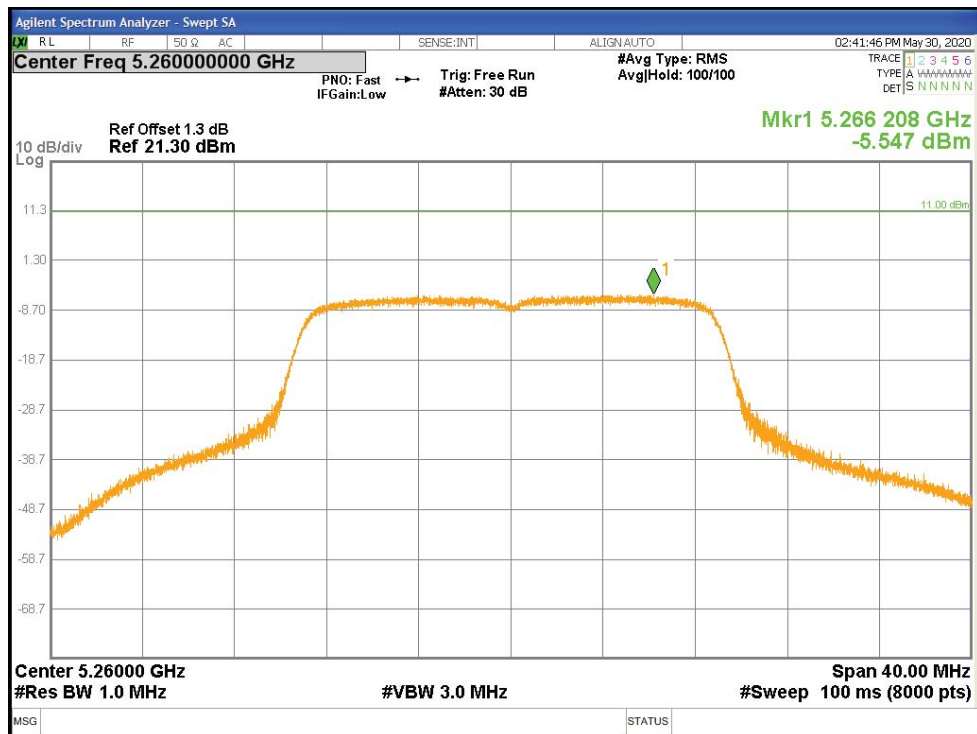


Figure 66: Power Spectral Density-5260 MHz-802.11n HT20-6 Mbps

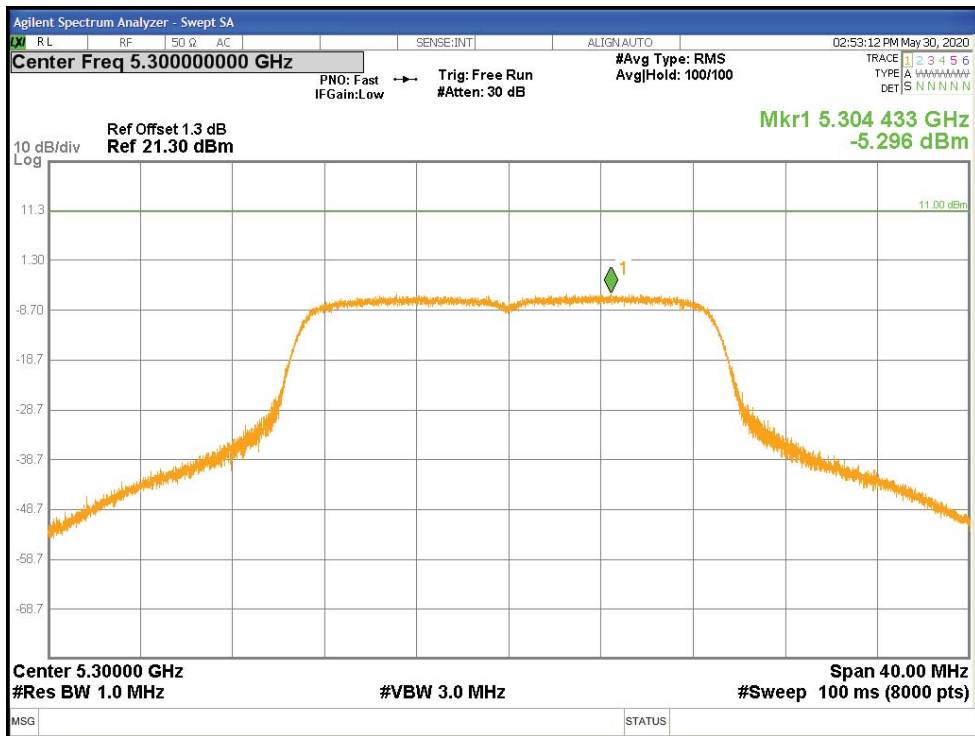


Figure 67: Power Spectral Density-5300 MHz-802.11n HT20-6 Mbps

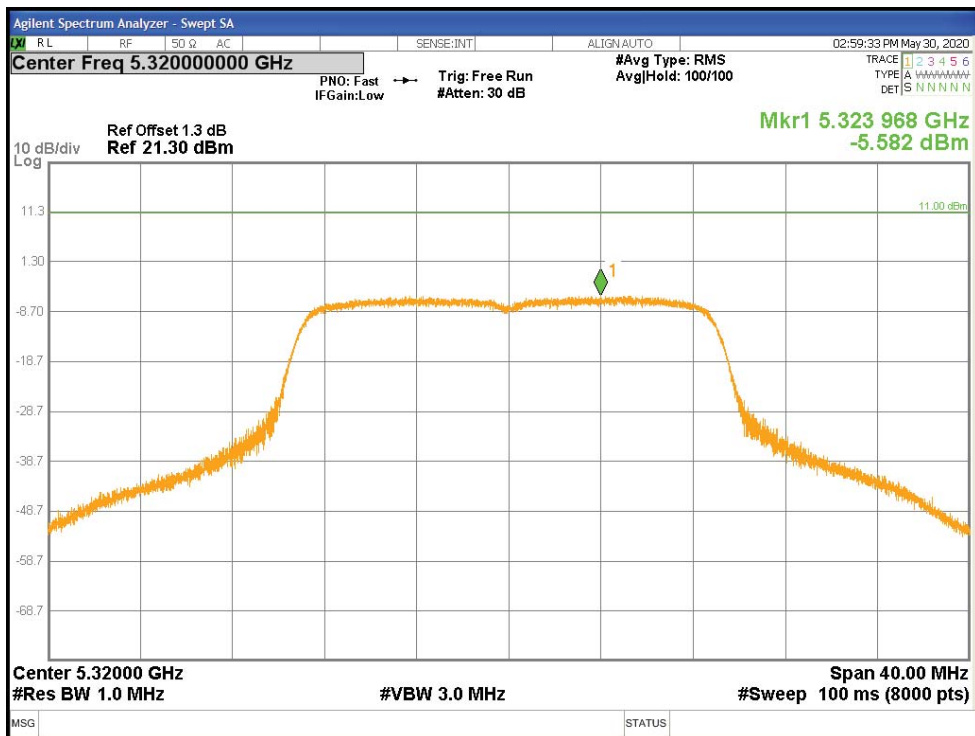


Figure 68: Power Spectral Density-5320 MHz-802.11n HT20-6 Mbps

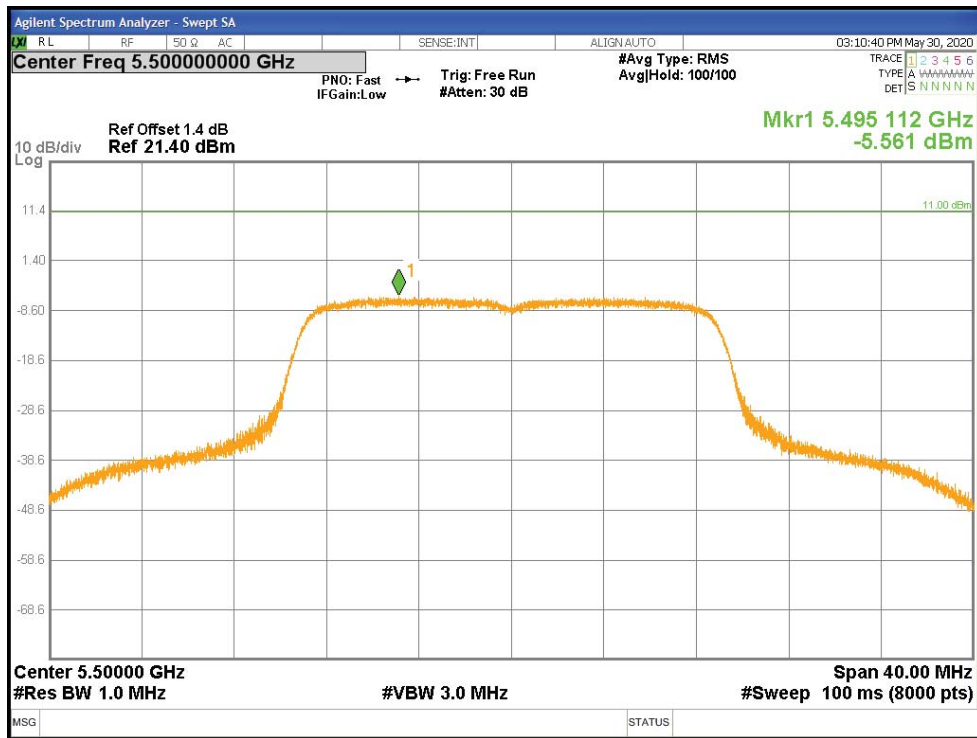


Figure 69: Power Spectral Density-5500 MHz-802.11n HT20-6 Mbps

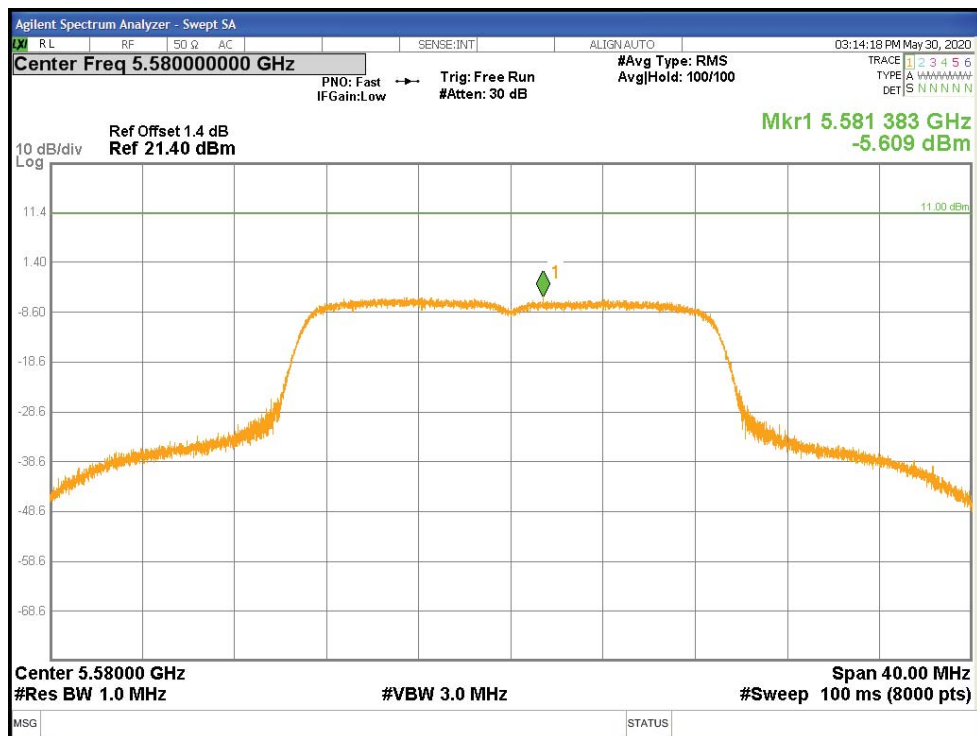


Figure 70: Power Spectral Density-5580 MHz-802.11n HT20-6 Mbps

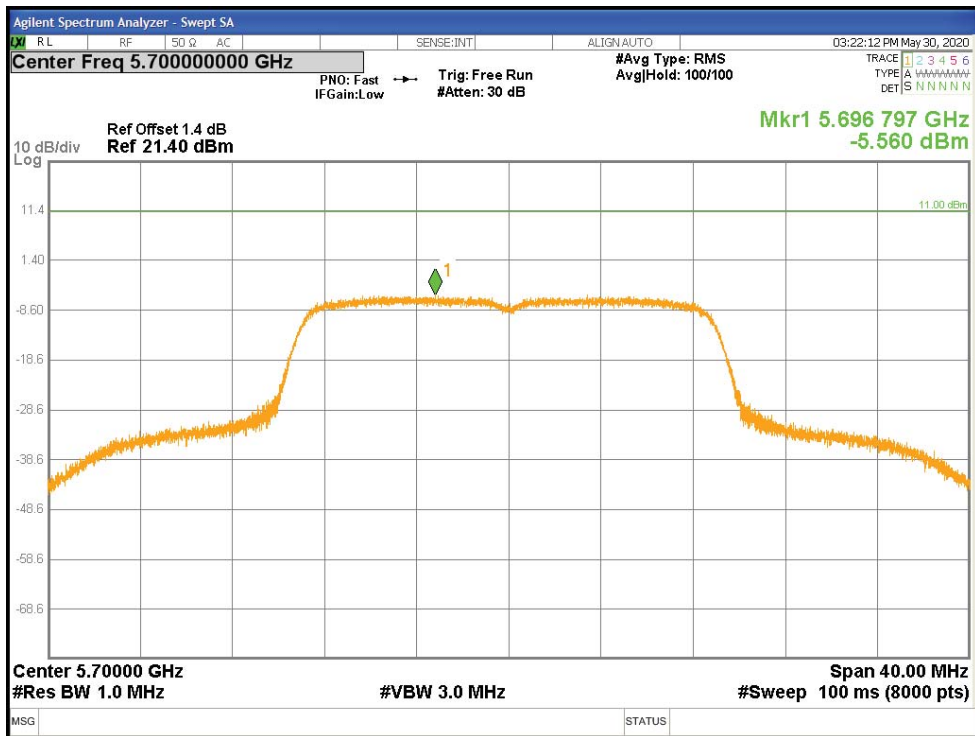


Figure 71: Power Spectral Density-5700 MHz-802.11n HT20-6 Mbps

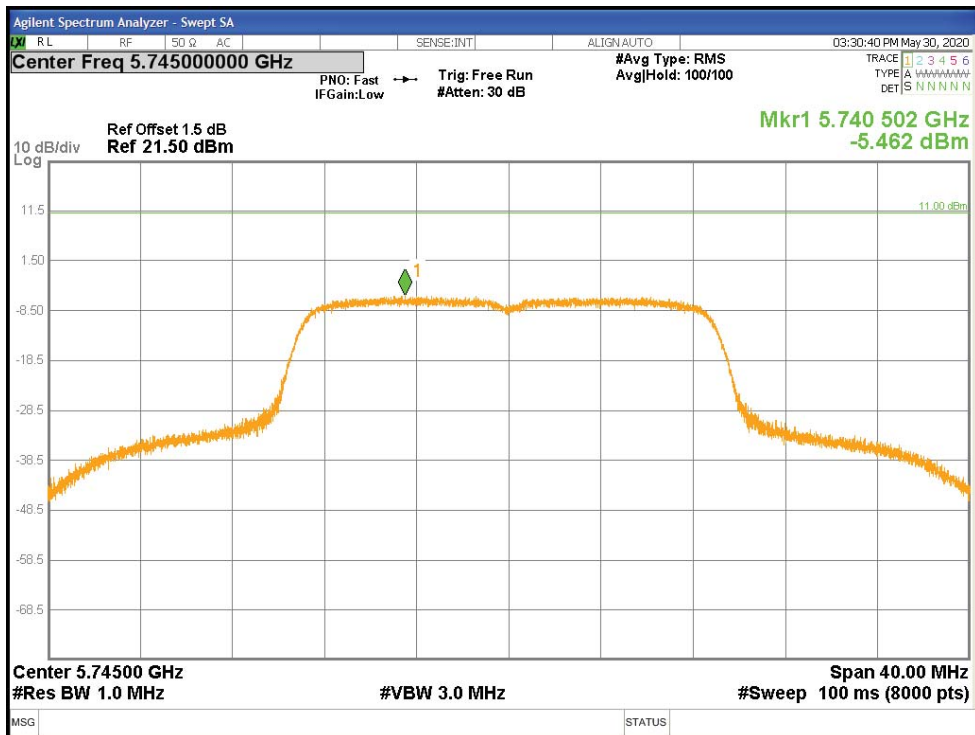
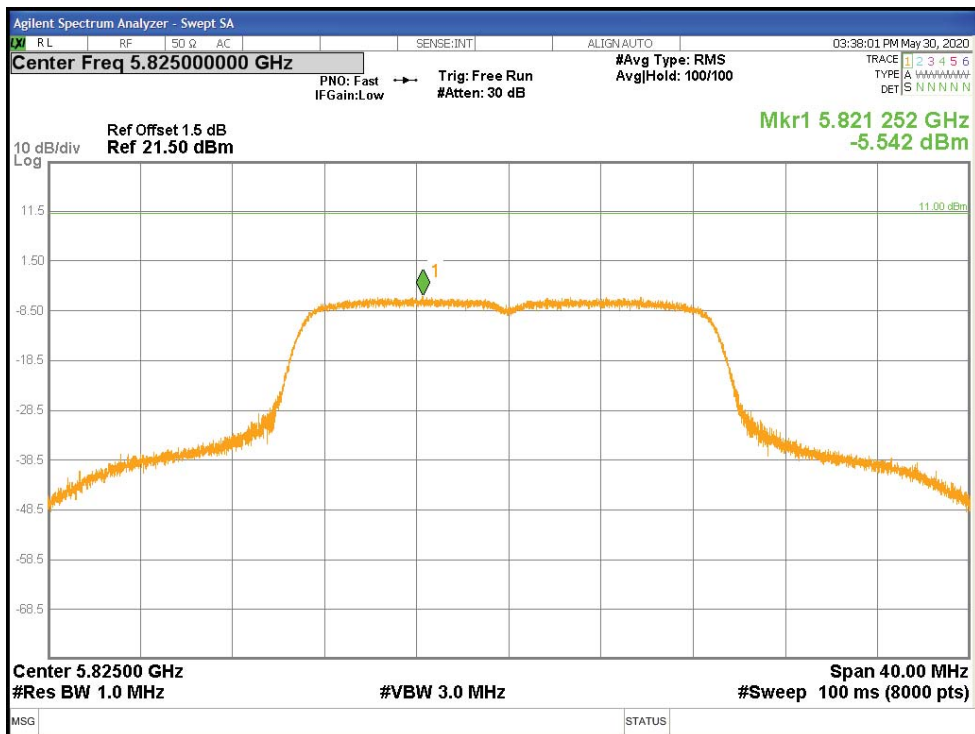
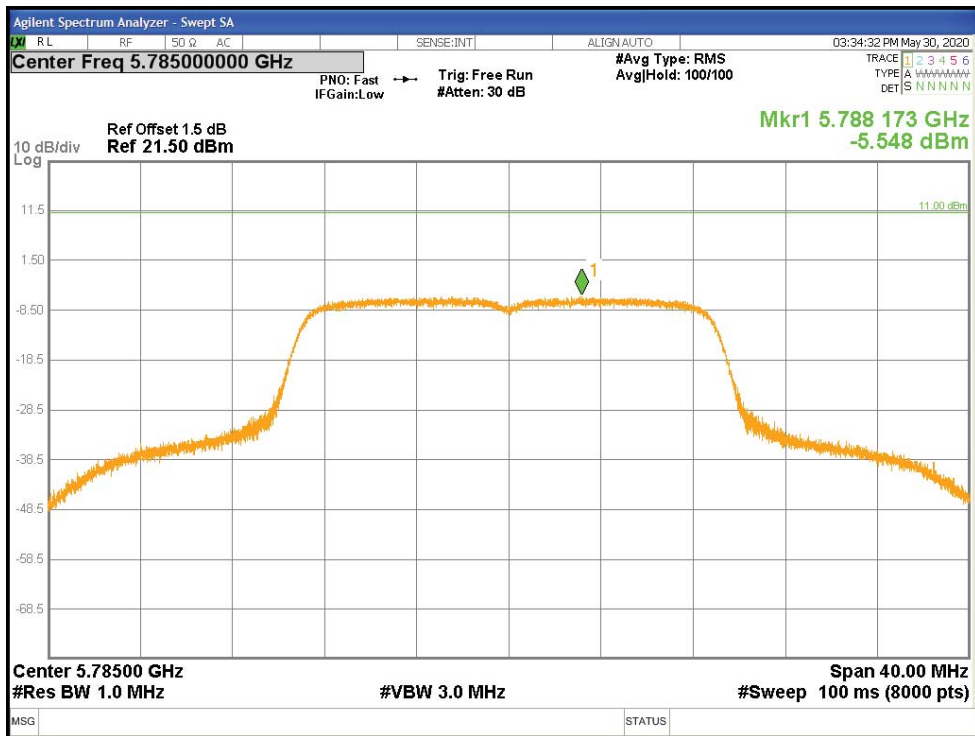


Figure 72: Power Spectral Density-5745 MHz-802.11n HT20-6 Mbps



4.4 Undesirable Emission Limits

CFR47 15.407 (b) and RSS 247 Sect.6.2.1.2, 6.2.2.2, and 6.2.3.2: The maximum emissions outside of the frequency bands of operation shall be attenuated in accordance with the following limits:

For transmitters operating in the 5.15-5.25 GHz band: All emissions outside of the 5.15-5.35 GHz band shall not exceed an e.i.r.p. of -27 dBm/MHz.

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 e.i.r.p. of -27 dBm/MHz.

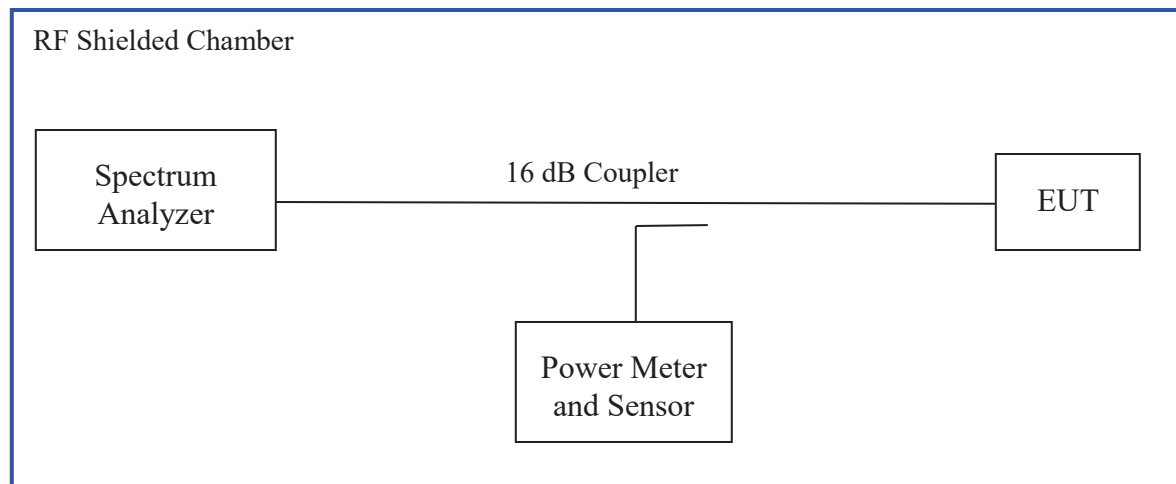
For transmitters operating in the 5.47-5.725 GHz band: All emissions outside of the 5.47-5.725 GHz band shall not exceed an e.i.r.p. of -27 dBm/MHz.

For transmitters operating in the 5.725-5.85 GHz band: 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.

4.4.1 Test Method

The conducted method was used to measure the undesirable emission requirement. The measurement was performed with modulation. This test was conducted on 3 channels of Sample in each mode on Sample. The worst sample result indicated below.

Test Setup:



4.4.2 Results

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

Table 7: Undesired Emissions for 802.11a – Test Results

Date: May 21, 2020						Tested By: Jeremy Luong			
Test Method: Conducted Measurements						Power Setting: See test plan.			
Antenna Type: Integrated Chip						Antenna Gain: +3.7 dBi			
Operating Mode: Uncorrelated						Signal State: Modulated at 100%			
Ambient Temp.: 23 °C						Relative Humidity: 35%			
Undesired Emissions for 802.11a									
Frequency	Raw	Ant. Gain	CF	Level	Det.	Port	Limit	Margin	Comments
MHz	dBuV/m	dBi	dB	dBuV/m			dBm	dB	
1732.22	-45.90	3.70	0.26	-41.94	Pk	RF	-27	-14.94	11a, 5180MHz, 6.0Mbps
2409.66	-45.07	3.70	0.31	-41.06	Pk	RF	-27	-14.06	11a, 5180MHz, 6.0Mbps
1736.97	-44.70	3.70	0.26	-40.74	Pk	RF	-27	-13.74	11a, 5200MHz, 6.0Mbps
2413.44	-44.54	3.70	0.31	-40.53	Pk	RF	-27	-13.53	11a, 5200MHz, 6.0Mbps
6001.48	-46.22	3.70	0.49	-42.03	Pk	RF	-27	-15.03	11a, 5200MHz, 6.0Mbps
1750.14	-45.15	3.70	0.26	-41.19	Pk	RF	-27	-14.19	11a, 5240MHz, 6.0Mbps
2408.71	-45.84	3.70	0.31	-41.83	Pk	RF	-27	-14.83	11a, 5240MHz, 6.0Mbps
1758.04	-44.42	3.70	0.26	-40.46	Pk	RF	-27	-13.46	11a, 5260MHz, 6.0Mbps
2415.28	-45.50	3.70	0.31	-41.49	Pk	RF	-27	-14.49	11a, 5260MHz, 6.0Mbps
713.14	-47.78	3.70	0.16	-43.92	Pk	RF	-27	-16.92	11a, 5260MHz, 6.0Mbps
1769.01	-44.82	3.70	0.26	-40.86	Pk	RF	-27	-13.86	11a, 5300MHz, 6.0Mbps
2416.03	-44.61	3.70	0.31	-40.60	Pk	RF	-27	-13.60	11a, 5300MHz, 6.0Mbps
1771.08	-44.68	3.70	0.26	-40.72	Pk	RF	-27	-13.72	11a, 5320MHz, 6.0Mbps
2410.87	-44.56	3.70	0.31	-40.55	Pk	RF	-27	-13.55	11a, 5320MHz, 6.0Mbps
2409.95	-44.70	3.70	0.31	-40.69	Pk	RF	-27	-13.69	11a, 5500MHz, 6.0Mbps
2411.80	-44.50	3.70	0.31	-40.49	Pk	RF	-27	-13.49	11a, 5580MHz, 6.0Mbps
3720.75	-42.90	3.70	0.39	-38.81	Pk	RF	-27	-11.81	11a, 5580MHz, 6.0Mbps
2409.53	-44.30	3.70	0.31	-40.29	Pk	RF	-27	-13.29	11a, 5700MHz, 6.0Mbps
3801.65	-42.56	3.70	0.39	-38.47	Pk	RF	-27	-11.47	11a, 5700MHz, 6.0Mbps
3828.53	-43.86	3.70	0.39	-39.77	Pk	RF	-27	-12.77	11a, 5745MHz, 6.0Mbps
5935.83	-47.09	3.70	0.50	-42.89	Pk	RF	-27	-15.89	11a, 5745MHz, 6.0Mbps
3827.64	-41.84	3.70	0.39	-37.75	Pk	RF	-27	-10.75	11a, 5785MHz, 6.0Mbps
4813.89	-39.94	3.70	0.44	-35.80	Pk	RF	-27	-8.80	11a, 5785MHz, 6.0Mbps

5501.89	-47.35	3.70	0.47	-43.18	Pk	RF	-27	-16.18	11a, 5785MHz, 6.0Mbps
3848.56	-38.55	3.70	0.39	-34.46	Pk	RF	-27	-7.46	11a, 5825MHz, 6.0Mbps
4832.50	-35.41	3.70	0.44	-31.27	Pk	RF	-27	-4.27	11a, 5825MHz, 6.0Mbps
5535.45	-46.60	3.70	0.48	-42.42	Pk	RF	-27	-15.42	11a, 5825MHz, 6.0Mbps

Note: 1. Worst case observed at 6.0 Mbps.

2. All out of band emissions are lower than the -27dBm level.

3. 99% OBW emission of 5240 MHz operating channel did not leak into 5250 -5350 MHz band. See Fig. 123.

4. Emissions of UNII3 channels met the band-edge spectrum mask.

Table 8: Undesired Emissions for 802.11n HT20 – Test Results

Date: May 21, 2020						Tested By: Jeremy Luong			
Test Method: Conducted Measurements						Power Setting: See test plan.			
Antenna Type: Chip						Antenna Gain: +3.7 dBi			
Operating Mode: Uncorrelated						Signal State: Modulated at 100%			
Ambient Temp.: 23 °C						Relative Humidity: 35%			
Undesired Emissions for 802.11n HT20									
Frequency	Raw	Ant. Gain	CF	Level	Det.	Port	Limit	Margin	Comments
MHz	dBuV/m	dBi	dB	dBuV/m			cm	dB	
1771.16	-45.76	3.70	0.26	-41.80	Pk	RF	-27	-14.80	HT20, 5180MHz, 6.5Mbps
2408.80	-45.45	3.70	0.31	-41.44	Pk	RF	-27	-14.44	HT20, 5180MHz, 6.5Mbps
1739.65	-46.90	3.70	0.26	-42.94	Pk	RF	-27	-15.94	HT20, 5200MHz, 6.5Mbps
2414.50	-45.95	3.70	0.31	-41.94	Pk	RF	-27	-14.94	HT20, 5200MHz, 6.5Mbps
1753.46	-45.00	3.70	0.26	-41.04	Pk	RF	-27	-14.04	HT20, 5240MHz, 6.5Mbps
2411.34	-45.58	3.70	0.31	-41.57	Pk	RF	-27	-14.57	HT20, 5240MHz, 6.5Mbps
709.63	-44.90	3.70	0.16	-41.04	Pk	RF	-27	-14.04	HT20, 5260MHz, 6.5Mbps
1755.76	-44.74	3.70	0.26	-40.78	Pk	RF	-27	-13.78	HT20, 5260MHz, 6.5Mbps
2410.80	-44.59	3.70	0.31	-40.58	Pk	RF	-27	-13.58	HT20, 5260MHz, 6.5Mbps
1773.26	-43.92	3.70	0.26	-39.96	Pk	RF	-27	-12.96	HT20, 5300MHz, 6.5Mbps
2409.57	-43.36	3.70	0.31	-39.35	Pk	RF	-27	-12.35	HT20, 5300MHz, 6.5Mbps
1776.11	-44.29	3.70	0.27	-40.32	Pk	RF	-27	-13.32	HT20, 5320MHz, 6.5Mbps
2408.99	-44.04	3.70	0.31	-40.03	Pk	RF	-27	-13.03	HT20, 5320MHz, 6.5Mbps
1871.02	-44.47	3.70	0.27	-40.50	Pk	RF	-27	-13.50	HT20, 5500MHz, 6.5Mbps
2410.08	-44.57	3.70	0.31	-40.56	Pk	RF	-27	-13.56	HT20, 5500MHz, 6.5Mbps
2410.36	-44.76	3.70	0.31	-40.75	Pk	RF	-27	-13.75	HT20, 5580MHz, 6.5Mbps
3720.50	-43.21	3.70	0.39	-39.12	Pk	RF	-27	-12.12	HT20, 5580MHz, 6.5Mbps
2409.79	-43.97	3.70	0.31	-39.96	Pk	RF	-27	-12.96	HT20, 5700MHz, 6.5Mbps
3798.53	-40.64	3.70	0.39	-36.55	Pk	RF	-27	-9.55	HT20, 5700MHz, 6.5Mbps
3832.61	-45.31	3.70	0.39	-41.22	Pk	RF	-27	-14.22	HT20, 5745MHz, 6.5Mbps
5220.55	-46.34	3.70	0.46	-42.18	Pk	RF	-27	-15.18	HT20, 5745MHz, 6.5Mbps
4802.32	-40.14	3.70	0.44	-36.00	Pk	RF	-27	-9.00	HT20, 5785MHz, 6.5Mbps
3830.53	-42.76	3.70	0.39	-38.67	Pk	RF	-27	-11.67	HT20, 5785MHz, 6.5Mbps
6764.46	-43.98	3.70	0.53	-39.75	Pk	RF	-27	-12.75	HT20, 5785MHz, 6.5Mbps
4837.31	-33.10	3.70	0.45	-28.95	Pk	RF	-27	-1.95	HT20, 5825MHz, 6.5Mbps
3848.60	-40.78	3.70	0.39	-36.69	Pk	RF	-27	-9.69	HT20, 5825MHz, 6.5Mbps

Note: 1. Worst case observed at 6.5 Mbps.
2. All out of band emissions are lower than the -27dBm level.
3. 99% OBW emission of 5240MHz operating channel did not leak into 5250 -5350 MHz band. See Fig. 124.
4. Emissions of UNII3 channels met the band-edge spectrum mask.

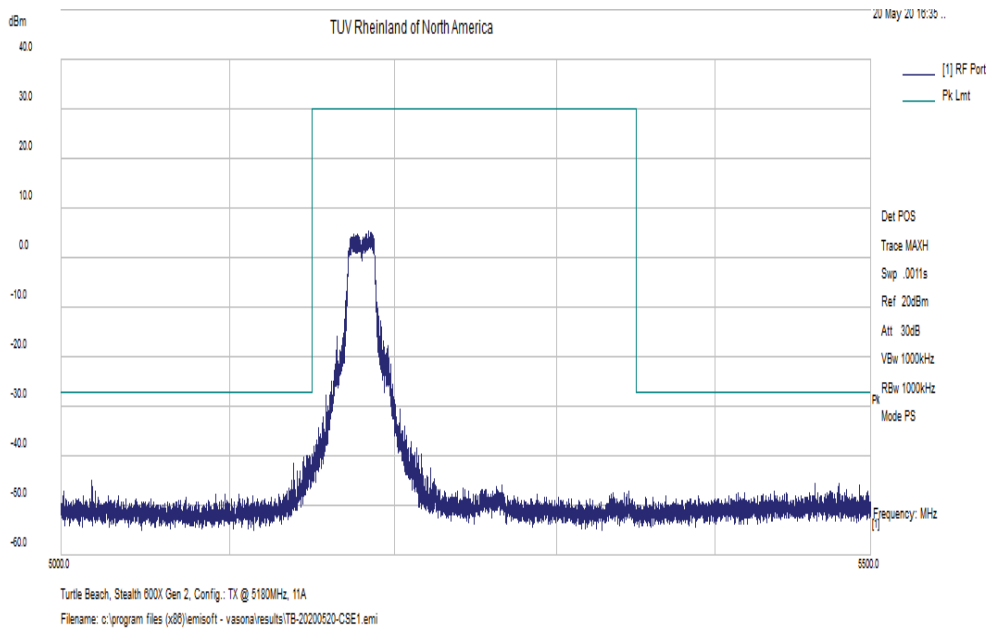


Figure 75: Measured Band-edge for 802.11a-6 Mbps at 5180 MHz

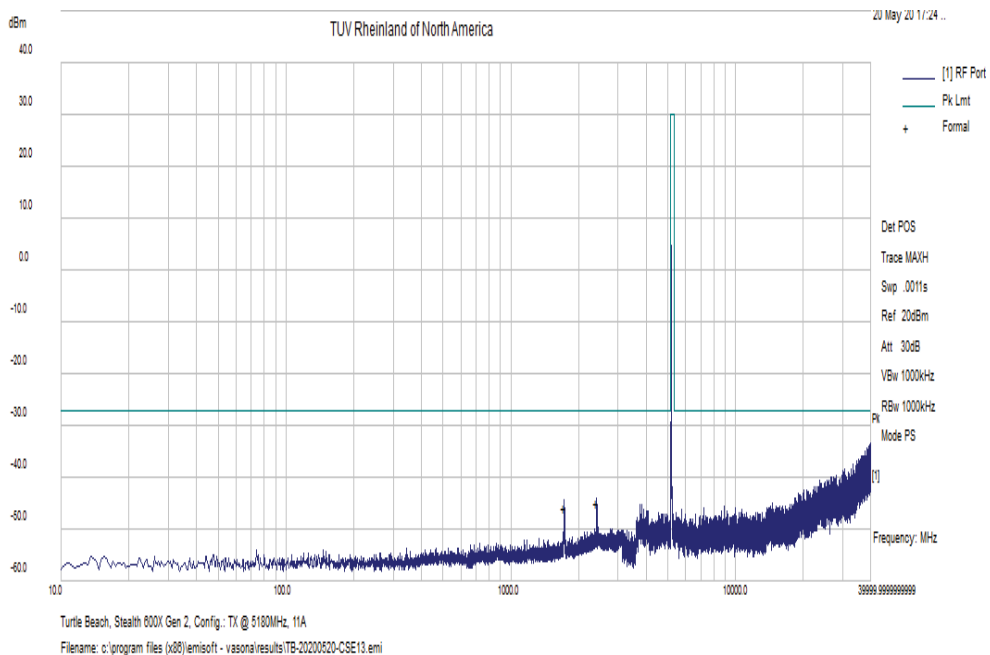


Figure 76: Undesirable Emission for 802.11a-6 Mbps at 5180 MHz

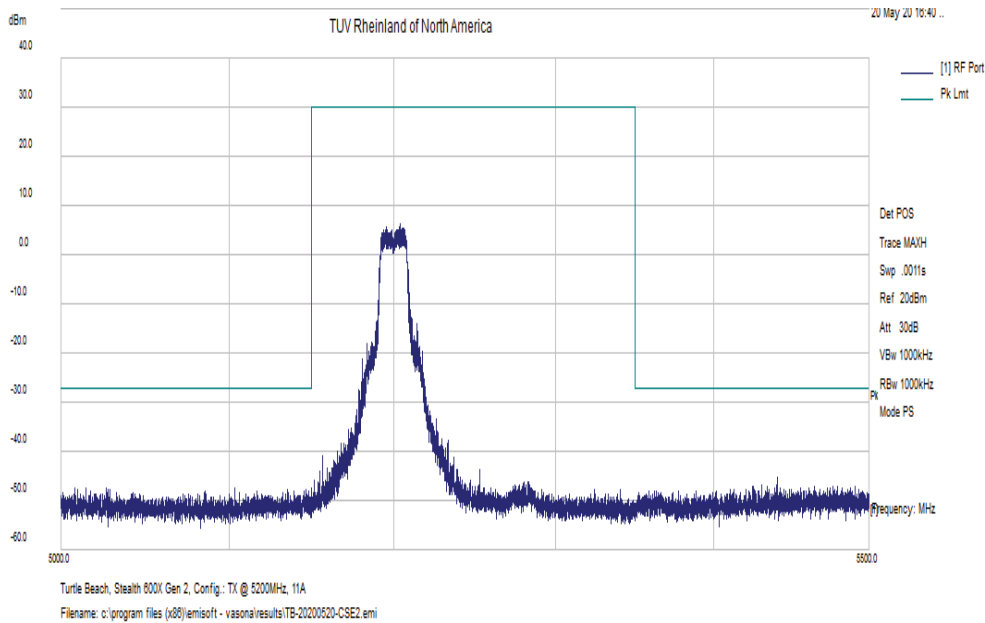


Figure 77: Measured Band-edge for 802.11a-6 Mbps at 5200 MHz

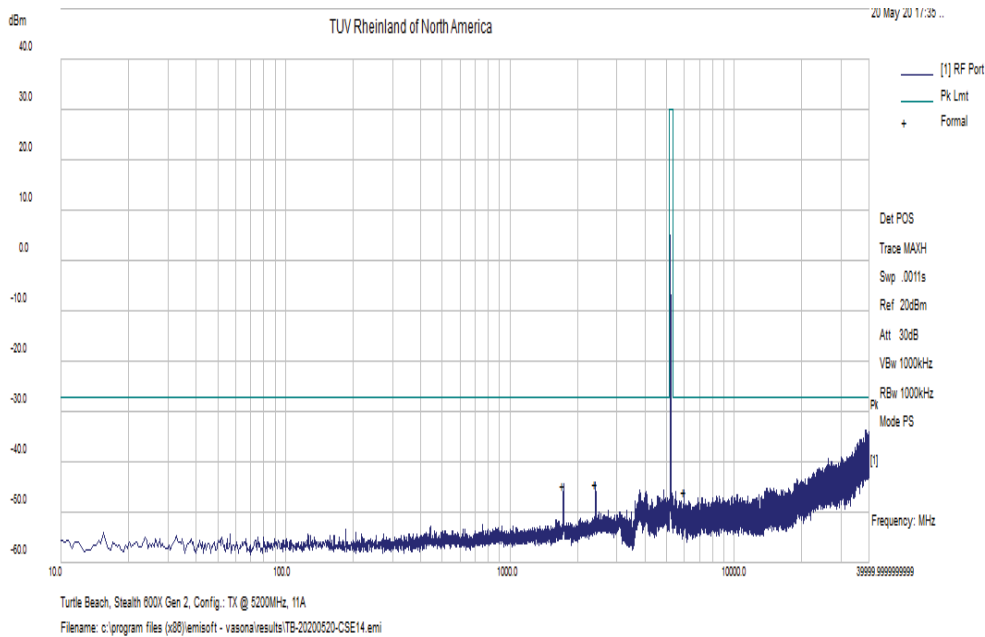


Figure 78: Undesirable Emission for 802.11a-6 Mbps at 5200 MHz

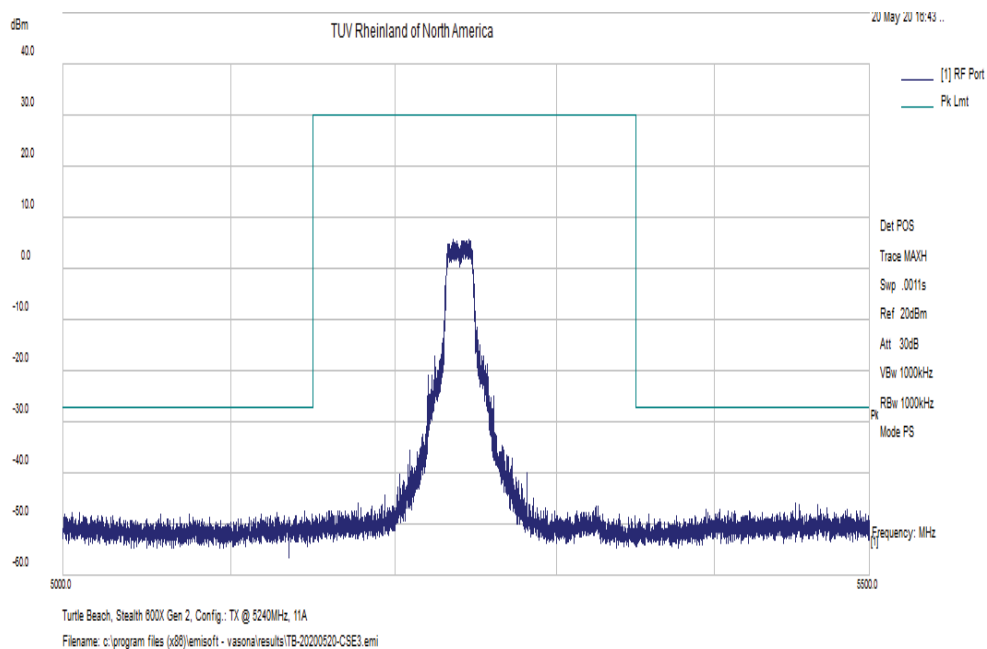


Figure 79: Measured In-Band Band-edge for 802.11a-6 Mbps at 5240 MHz

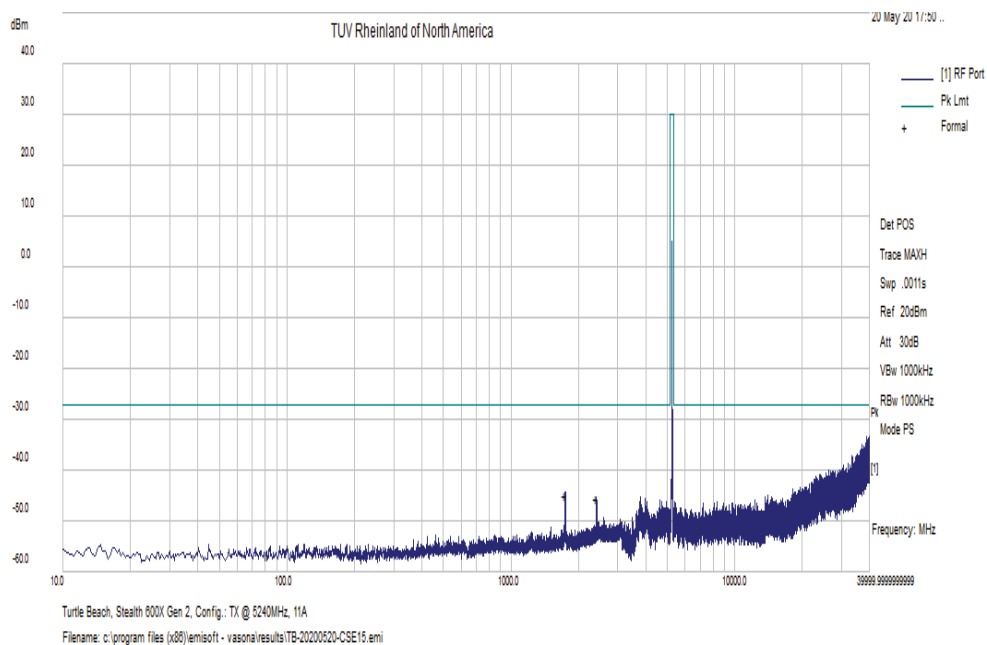


Figure 80: Measured In-Band Band-edge for 802.11a-6 Mbps at 5240 MHz

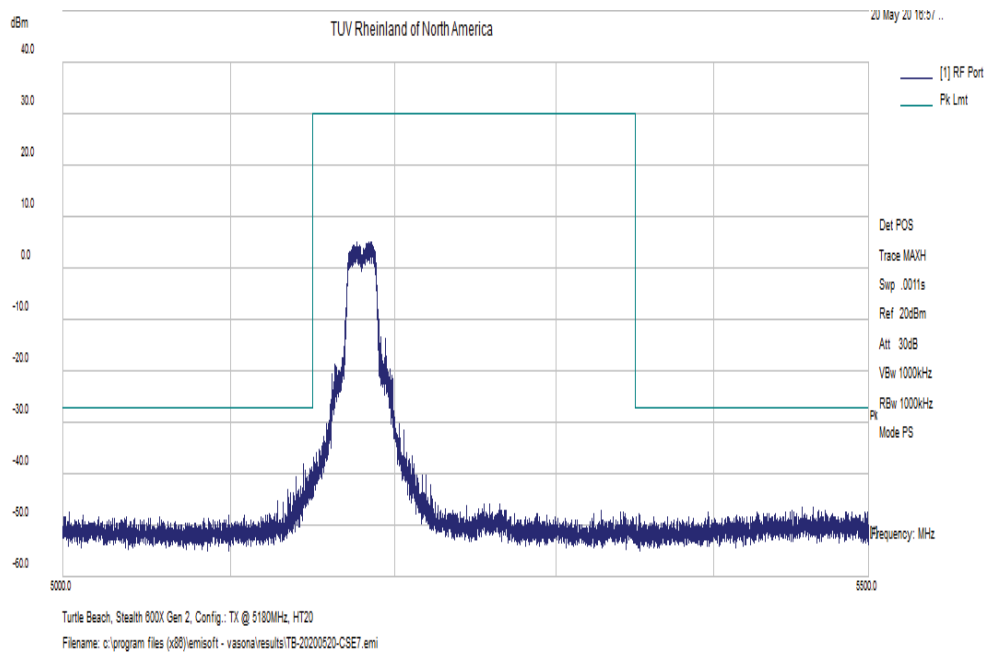


Figure 81: Measured Band-edge for HT20-MCS0 at 5180 MHz

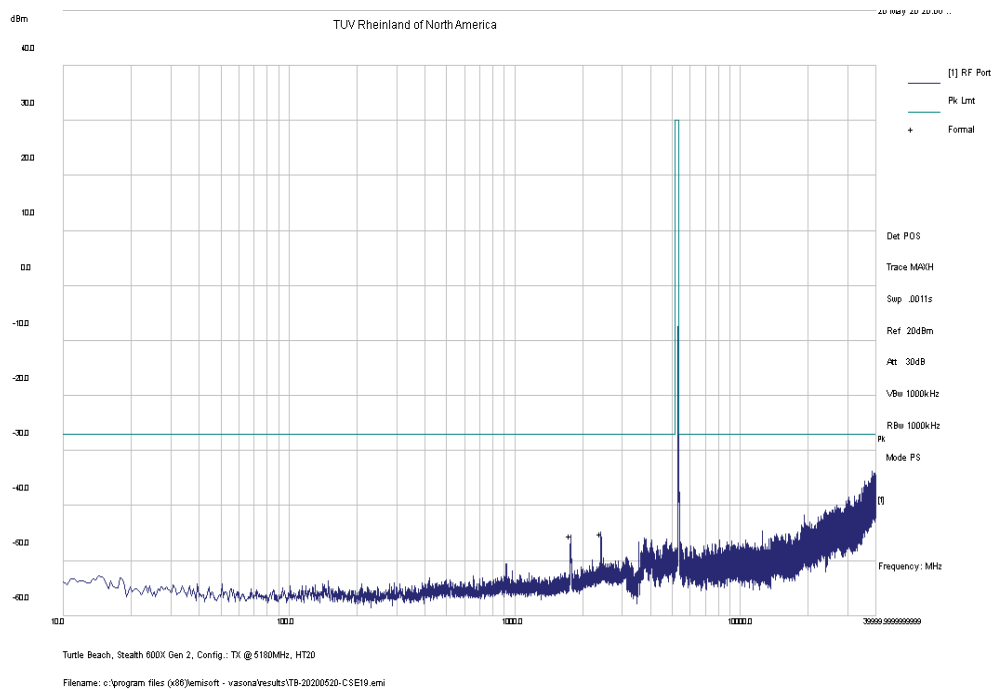


Figure 82: Undesirable Emission for HT20-MCS0 at 5180 MHz

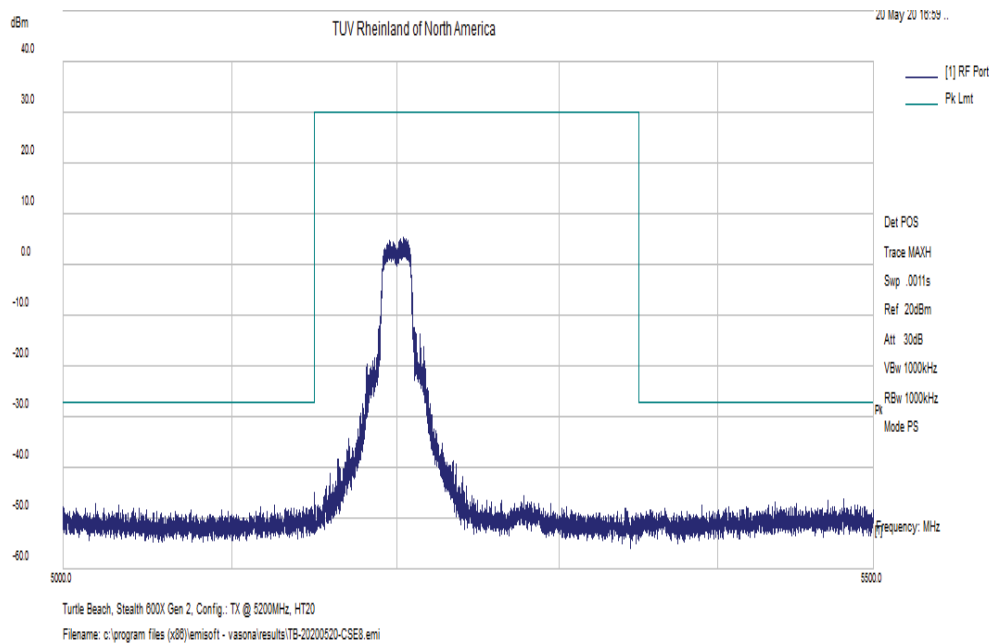


Figure 83: Measured In-Band Band-edge for HT20-MCS0 at 5200 MHz

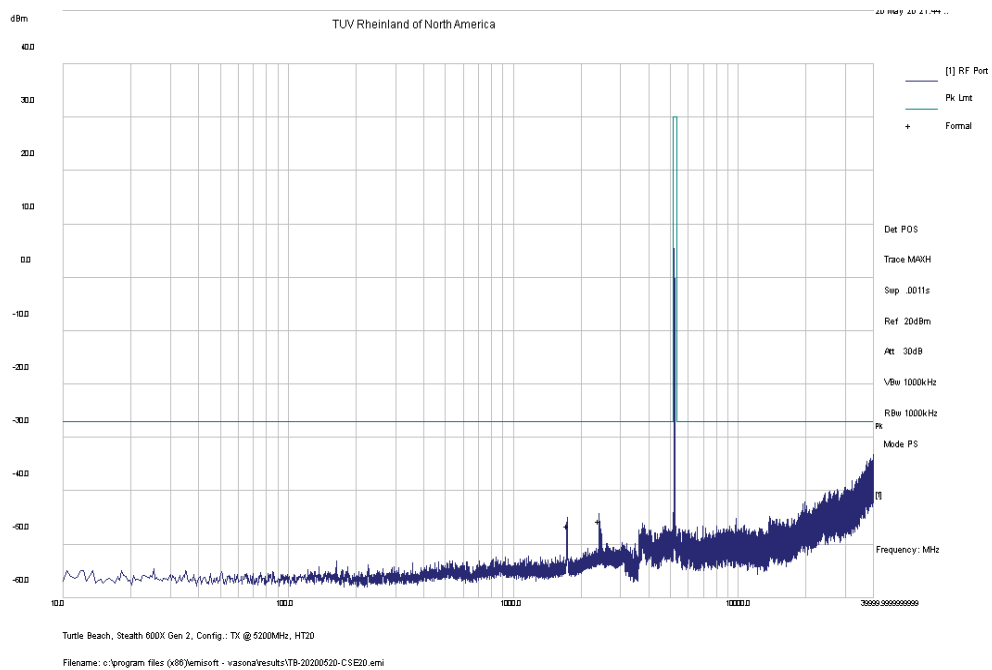


Figure 84: Measured In-Band Band-edge for HT20-MCS0 at 5200 MHz

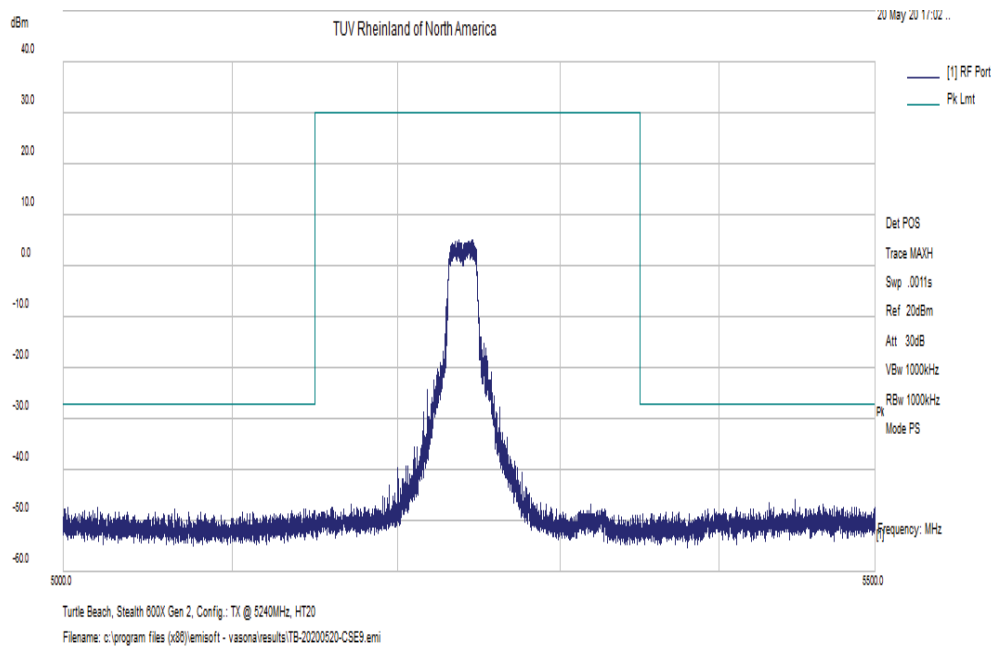


Figure 85: Measured Band-edge for HT20-MCS0 at 5240 MHz

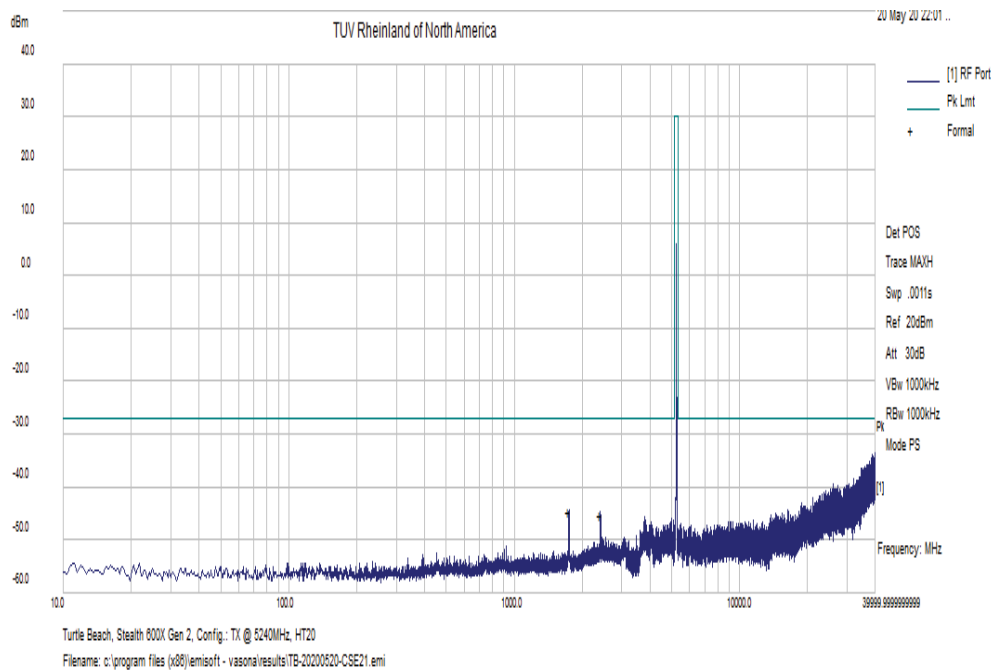


Figure 86: Undesirable Emission for HT20-MCS0 at 5240 MHz

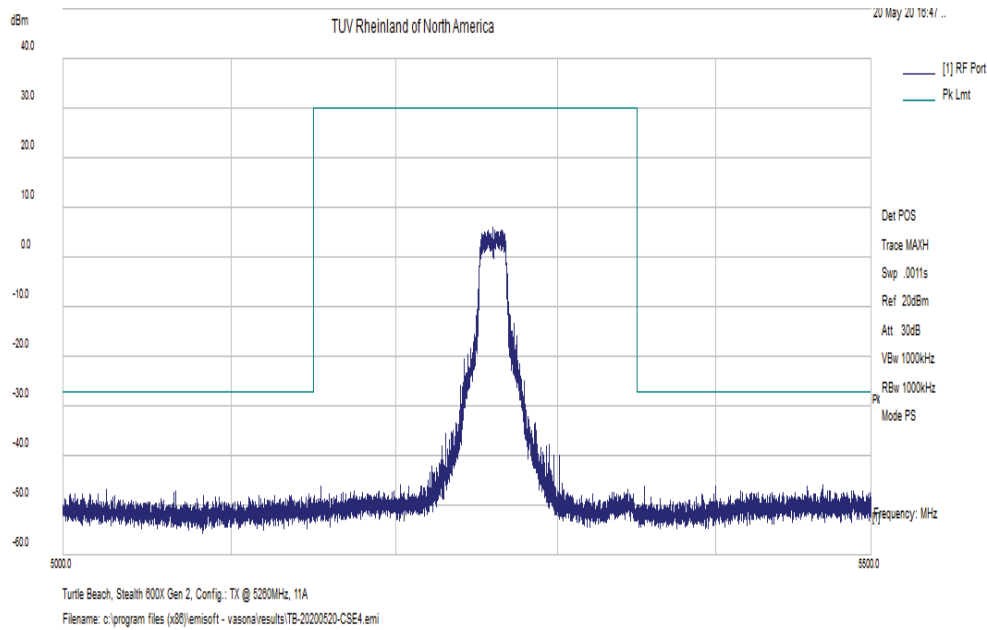


Figure 87: Measured Band-edge for 802.11a-6 Mbps at 5260 MHz

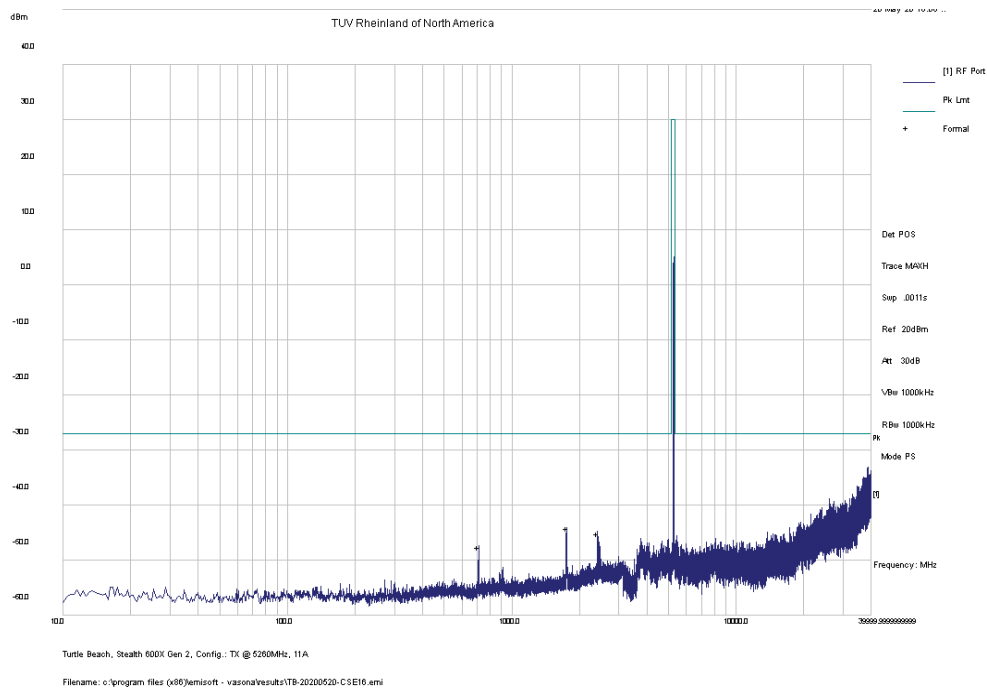


Figure 88: Undesirable Emission for 802.11a-6 Mbps at 5260 MHz

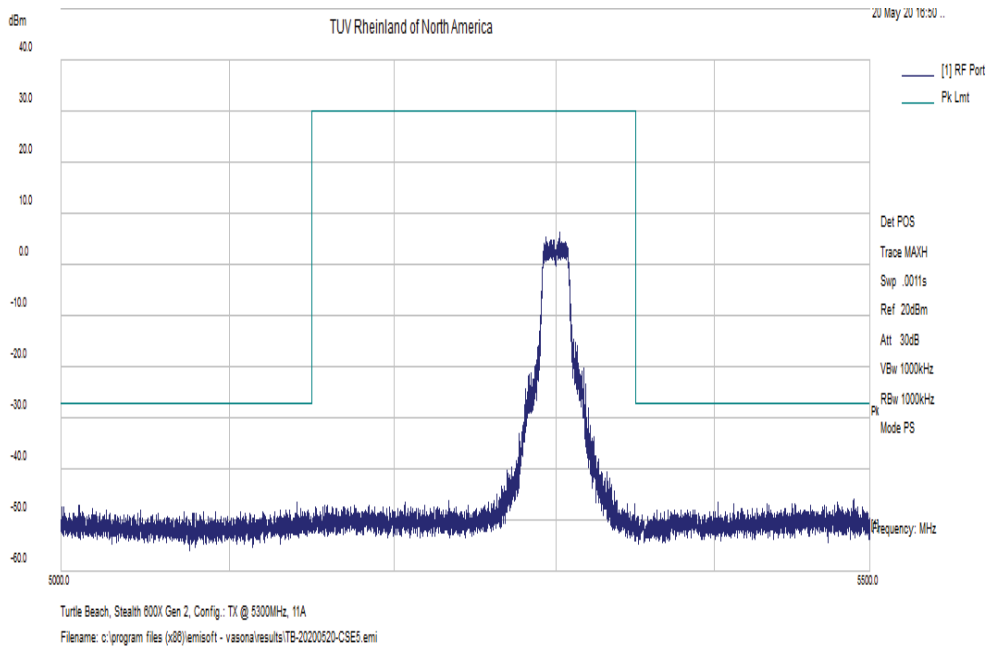


Figure 89: Measured Band-edge for 802.11a-6 Mbps at 5300 MHz

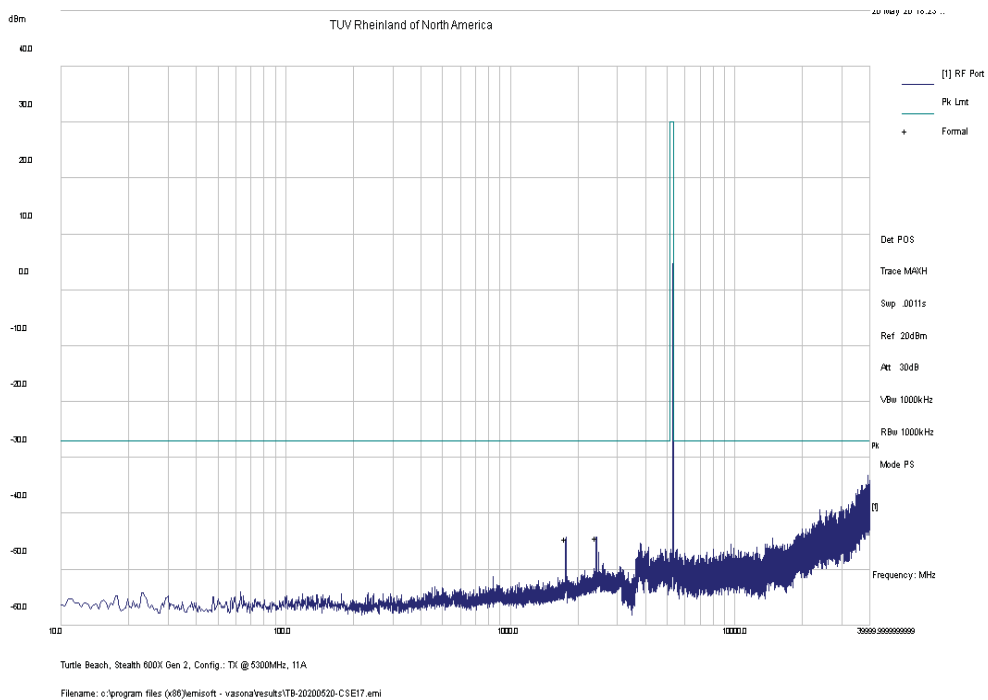


Figure 90: Undesirable Emission for 802.11a-6 Mbps at 5300 MHz

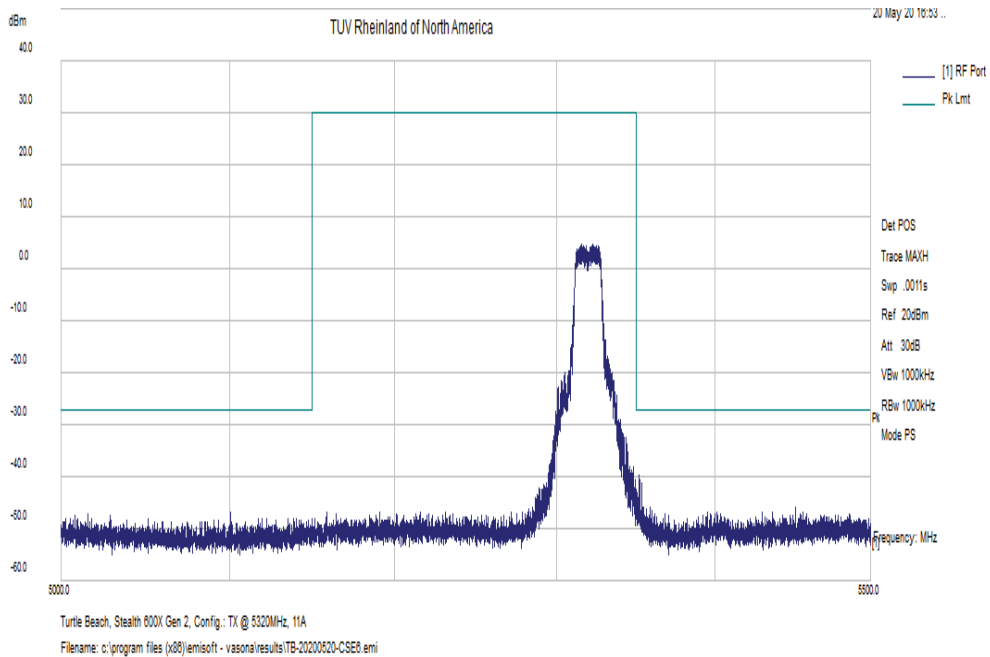


Figure 91: Measured In-Band Band-edge for 802.11a-6 Mbps at 5320 MHz

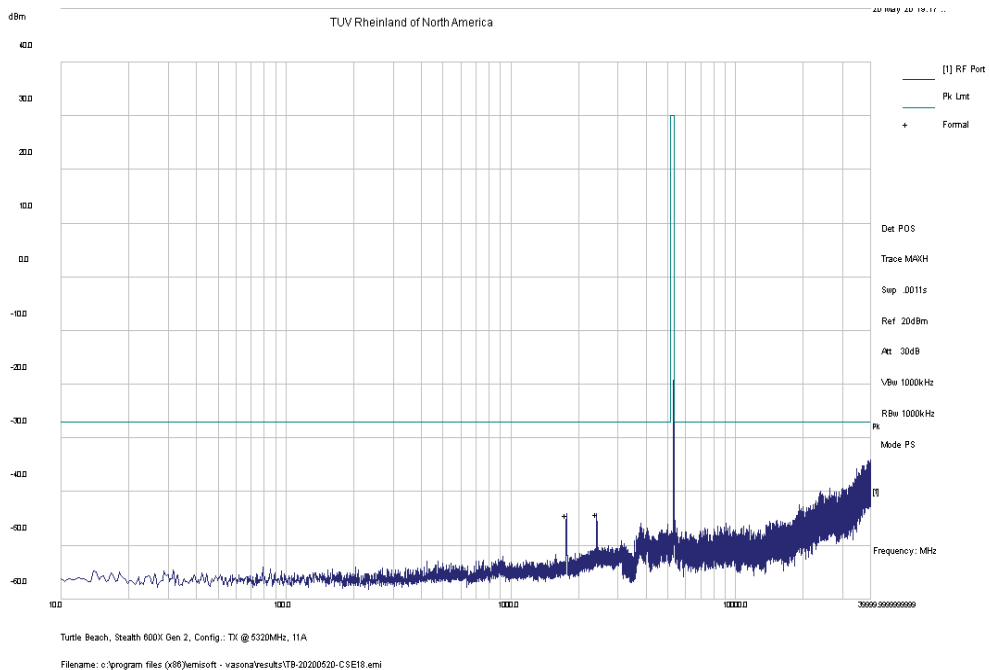


Figure 92: Measured In-Band Band-edge for 802.11a-6 Mbps at 5320 MHz

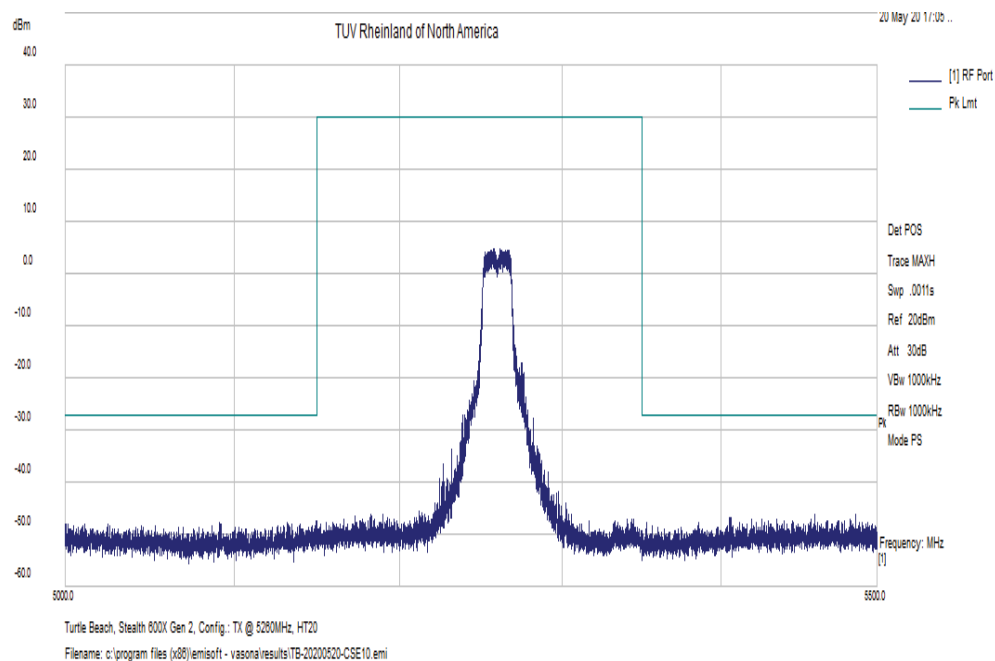


Figure 93: Measured Band-edge for HT20-MCS0 at 5260 MHz

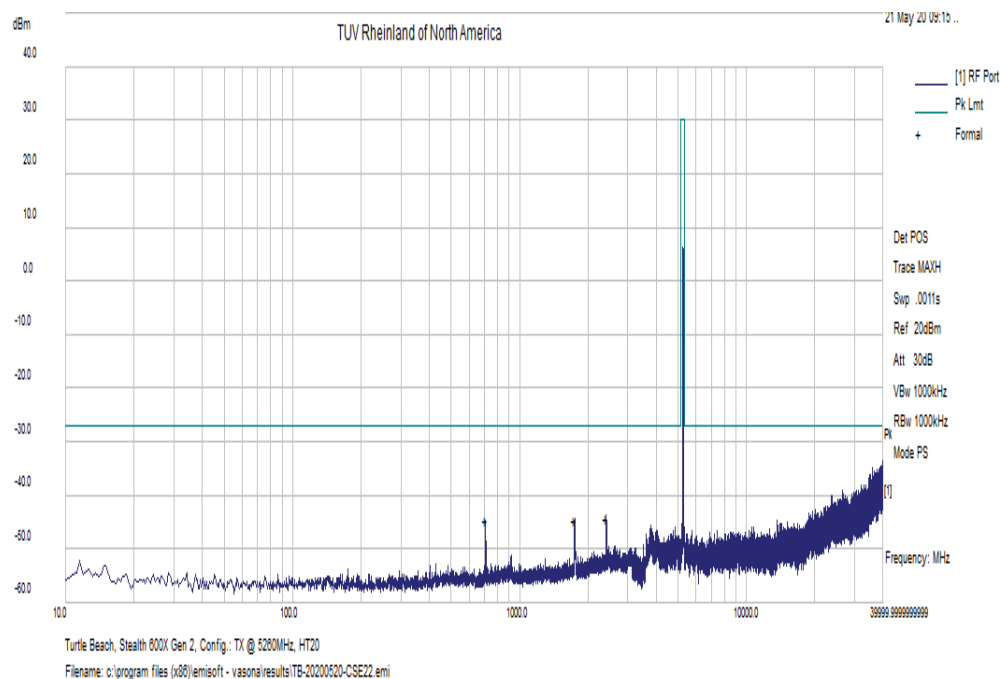


Figure 94: Undesirable Emission for HT20-MCS0 at 5260 MHz

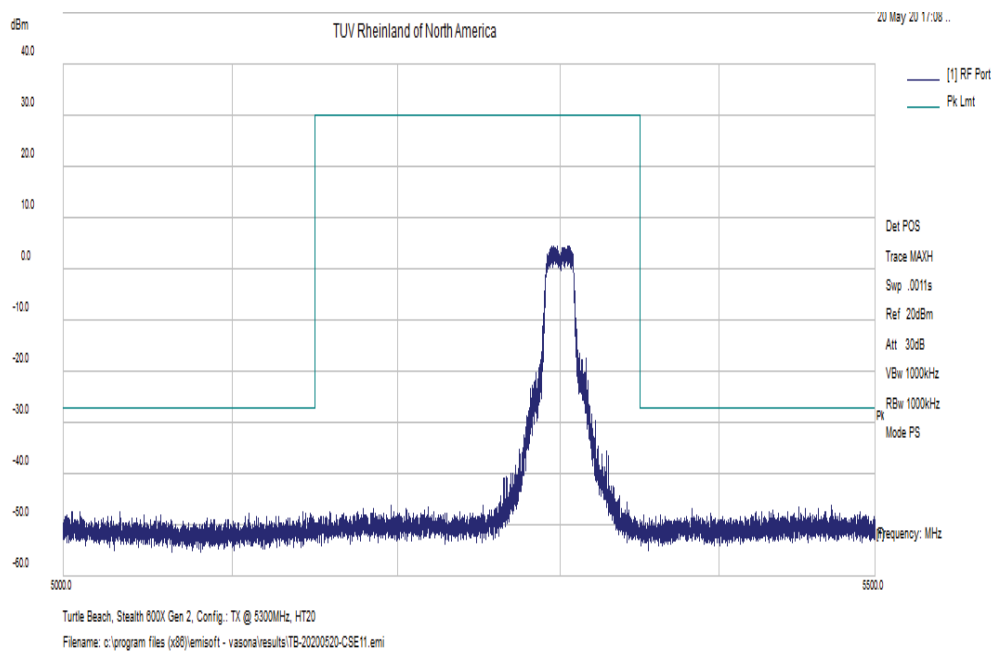


Figure 95: Measured In-Band Band-edge for HT20-MCS0 at 5300 MHz

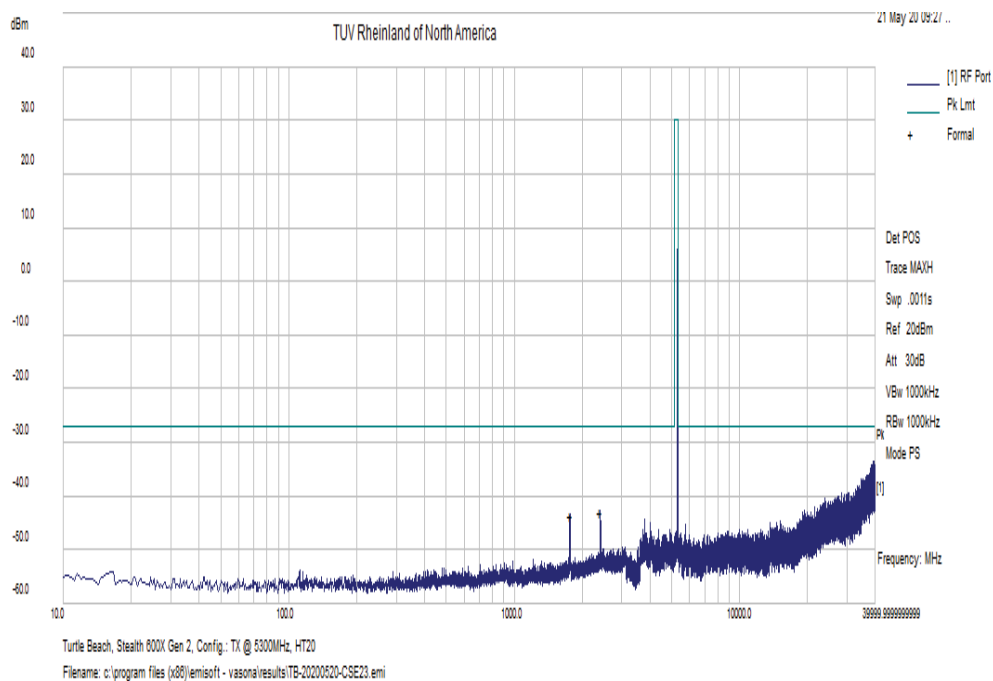


Figure 96: Measured In-Band Band-edge for HT20-MCS0 at 5300 MHz

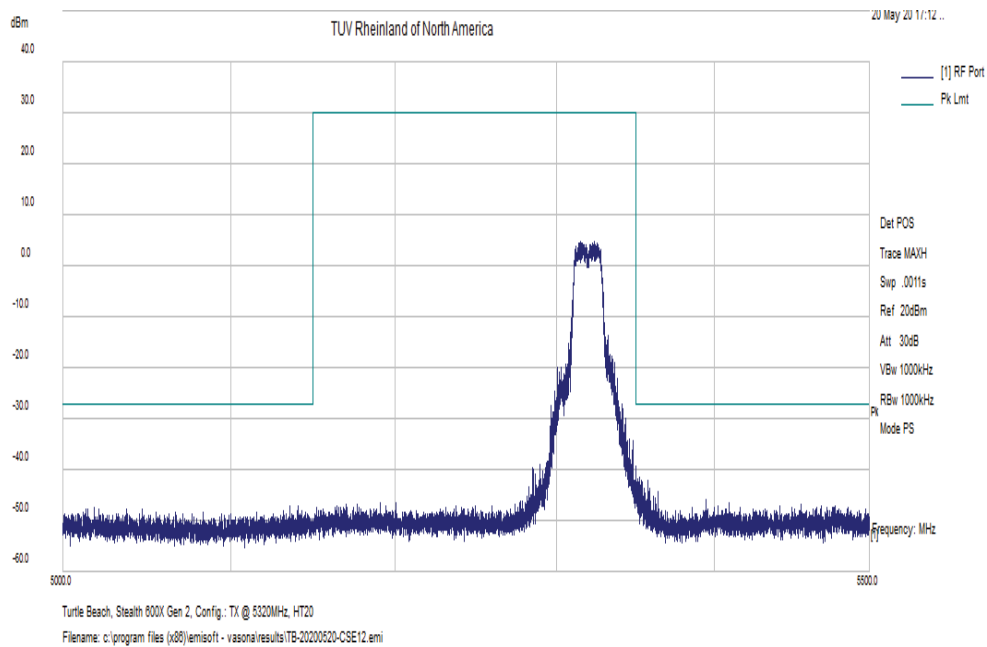


Figure 97: Measured Band-edge for HT20-MCS0 at 5320 MHz

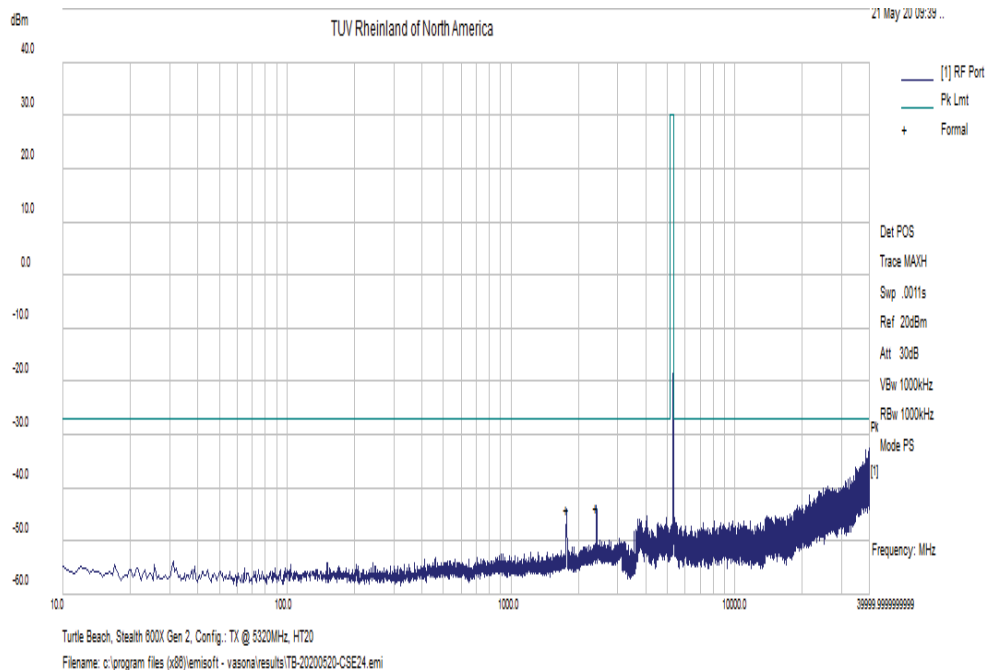


Figure 98: Undesirable Emission for HT20-MCS0 at 5320 MHz

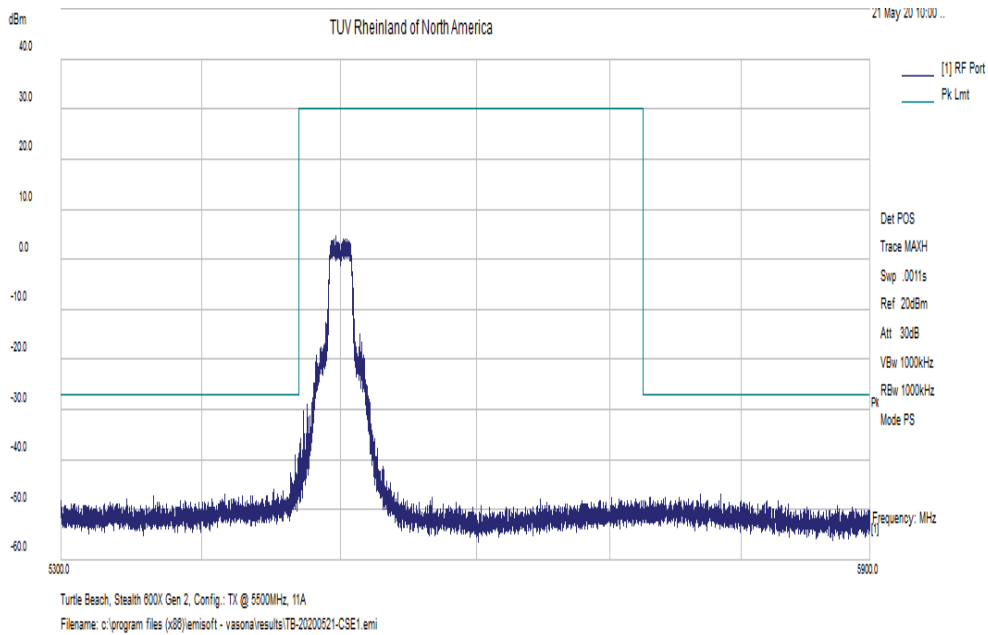


Figure 99: Measured Band-edge for 802.11a-6 Mbps at 5500 MHz

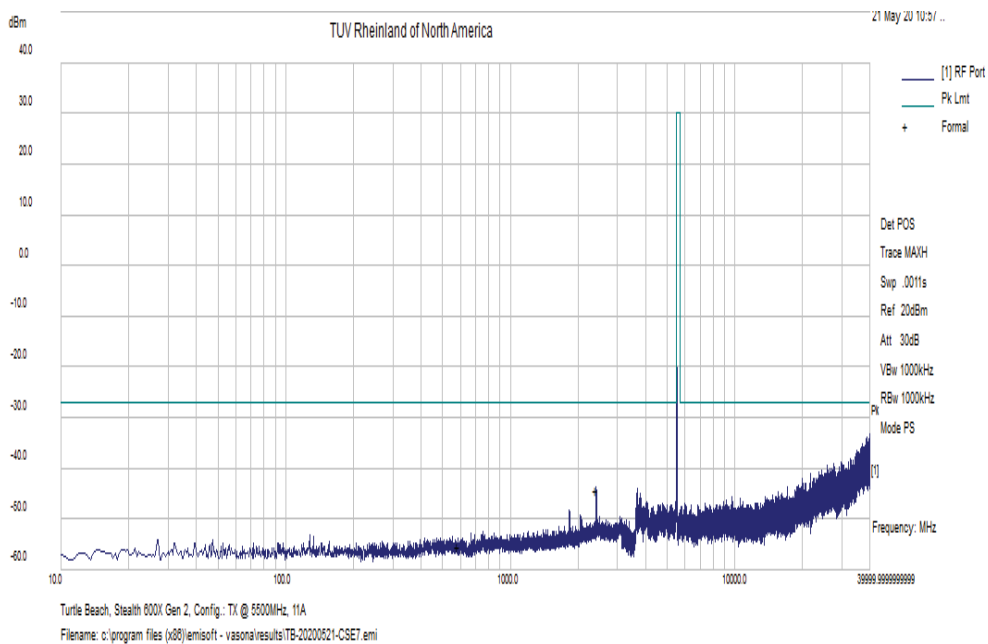


Figure 100: Undesirable Emission for 802.11a-6 Mbps at 5550 MHz

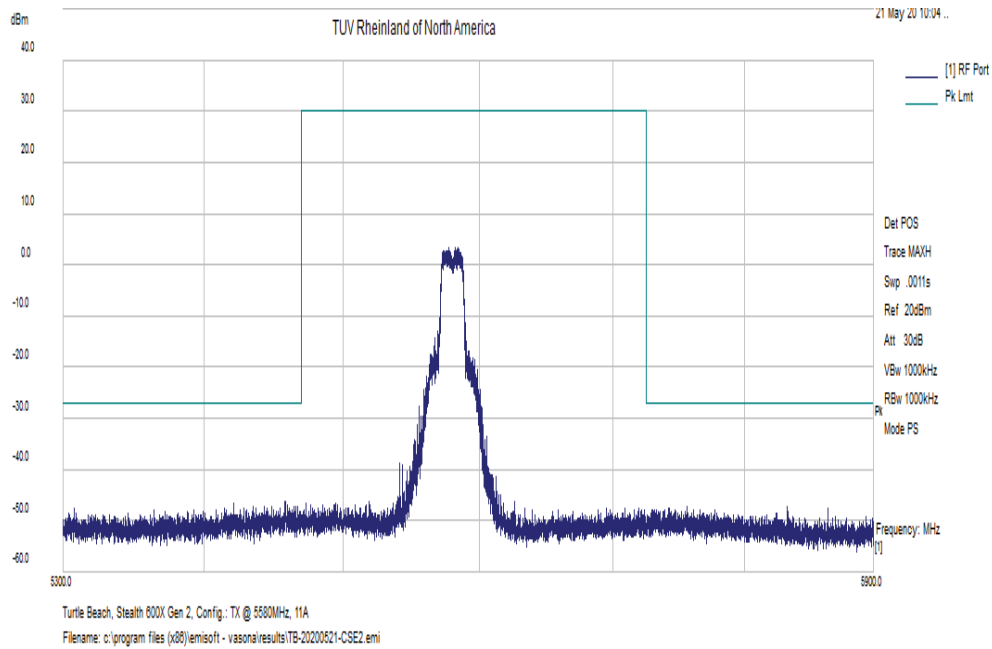


Figure 101: Measured Band-edge for 802.11a-6 Mbps at 5580 MHz

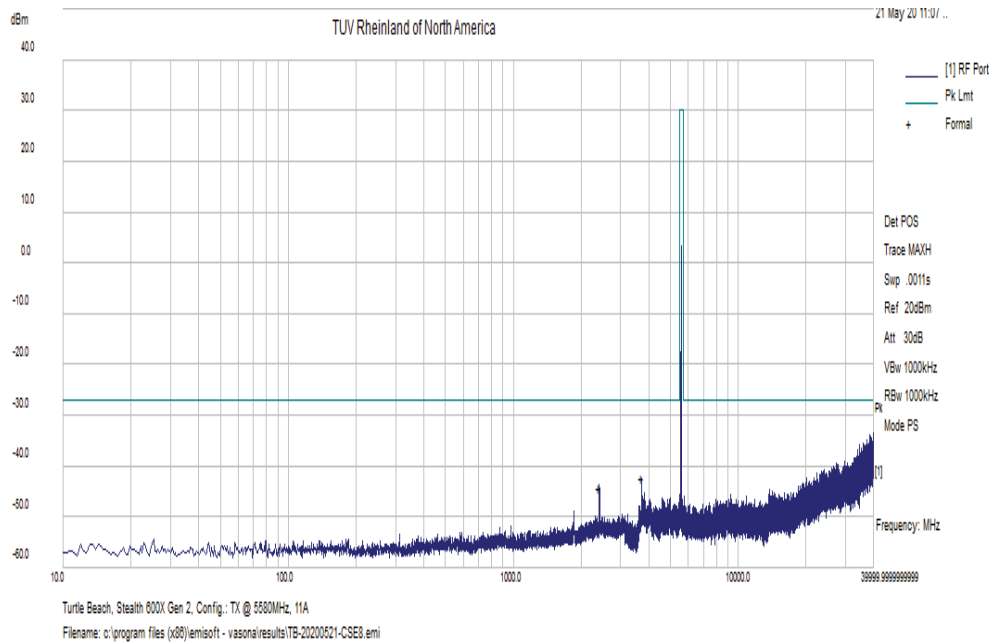


Figure 102: Undesirable Emission for 802.11a-6 Mbps at 5580 MHz

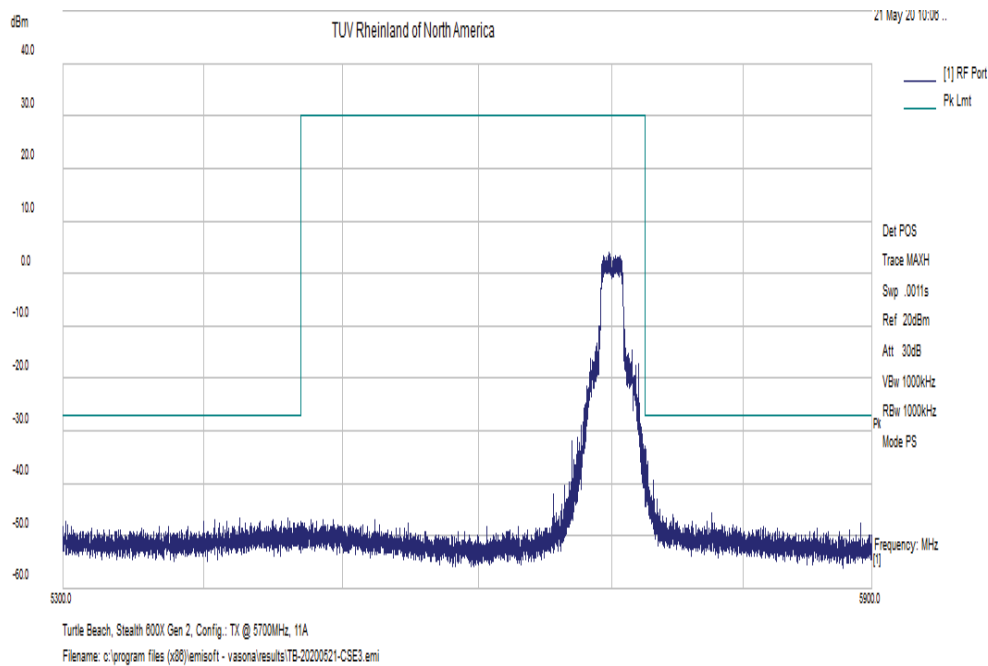


Figure 103: Measured In-Band Band-edge for 802.11a-6 Mbps at 5700 MHz

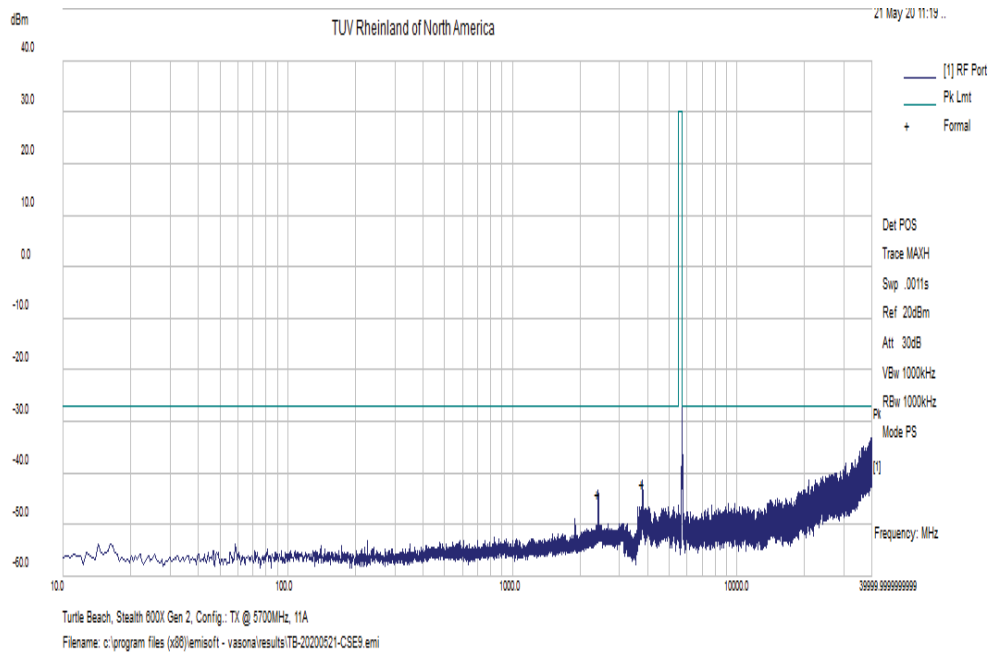


Figure 104: Measured In-Band Band-edge for 802.11a-6 Mbps at 5700 MHz

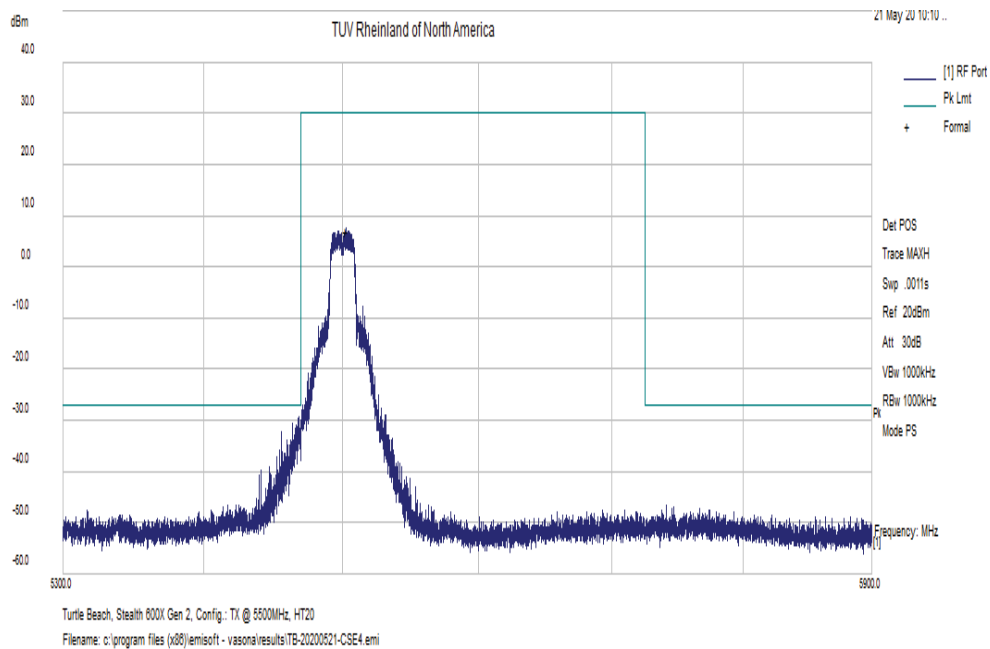


Figure 105: Measured Band-edge for HT20-MCS0 at 5500 MHz

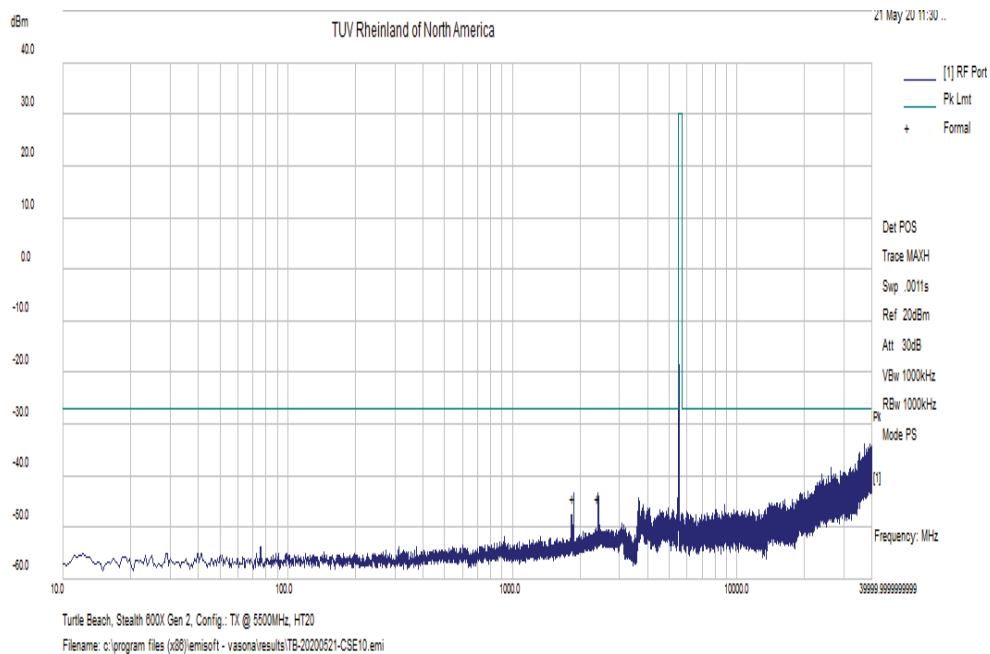


Figure 106: Undesirable Emission for HT20-MCS0 at 5500 MHz

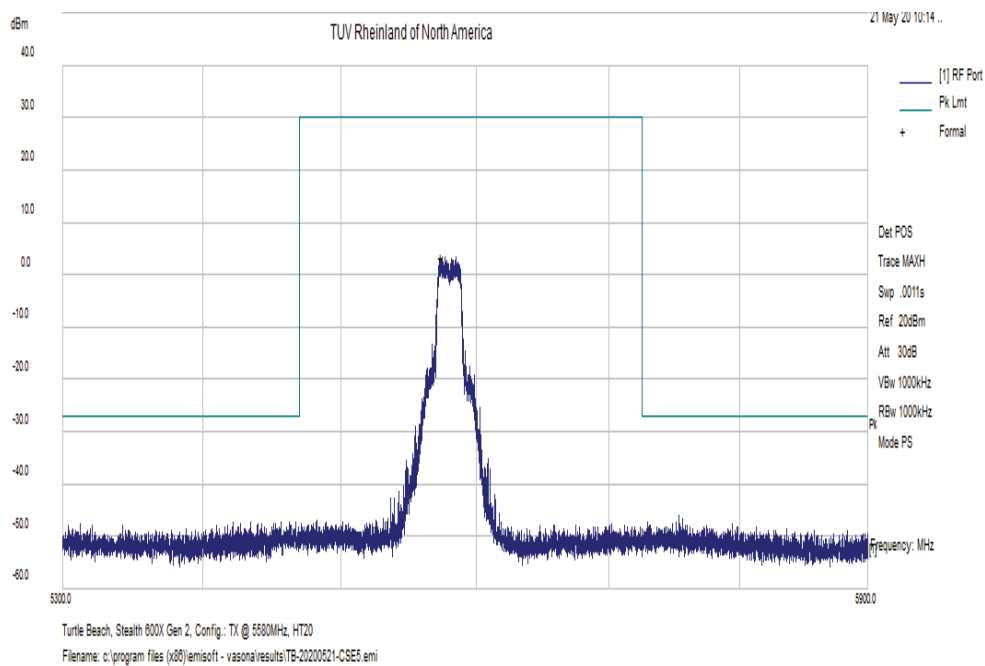


Figure 107: Measured In-Band Band-edge for HT20-MCS0 at 5580 MHz

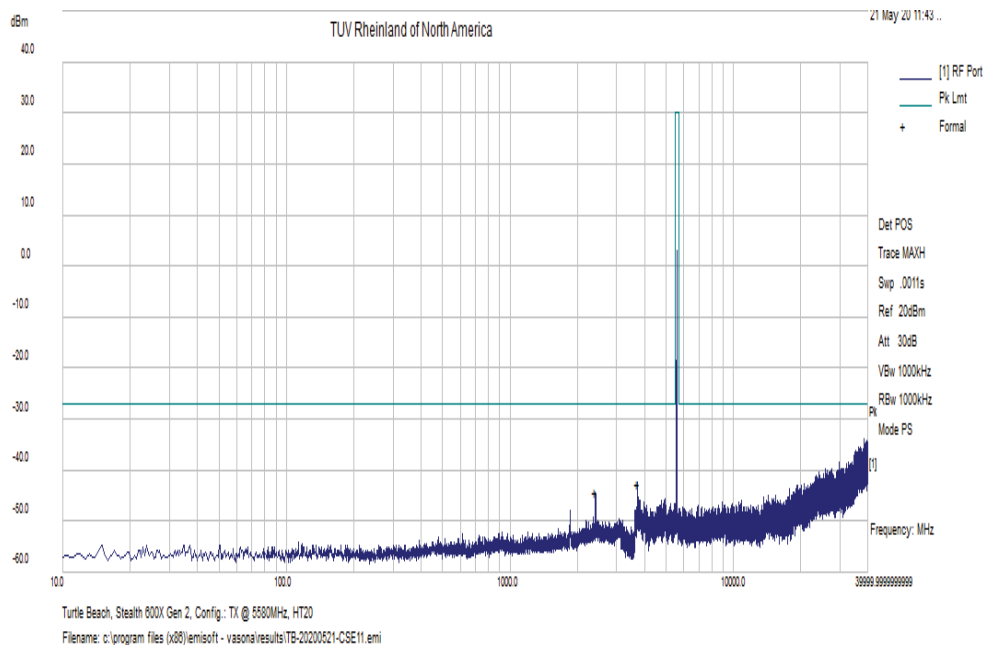


Figure 108: Measured In-Band Band-edge for HT20-MCS0 at 5580 MHz

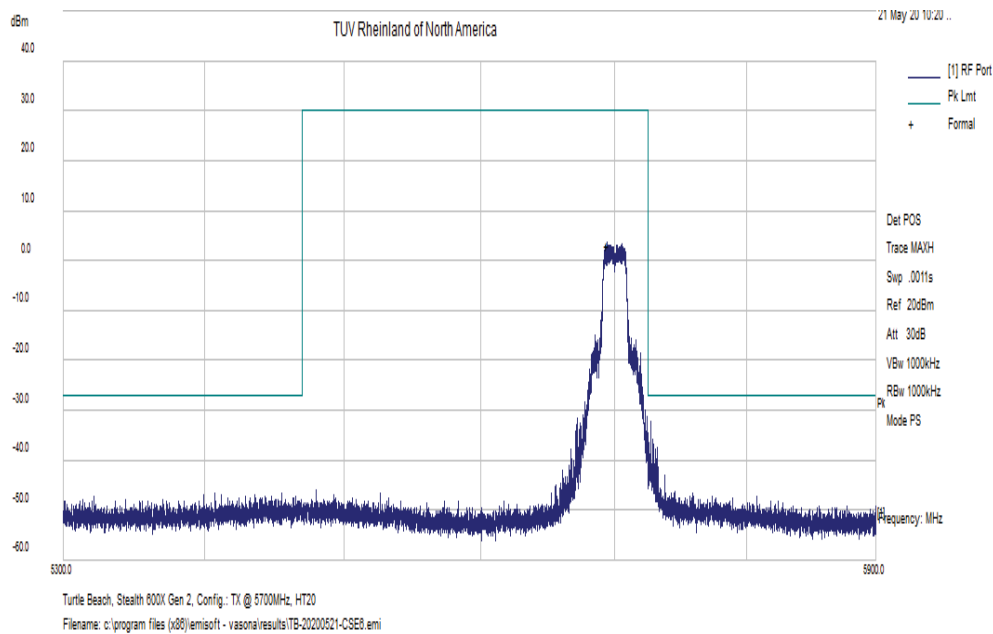


Figure 109: Measured Band-edge for HT20-MCS0 at 5700 MHz

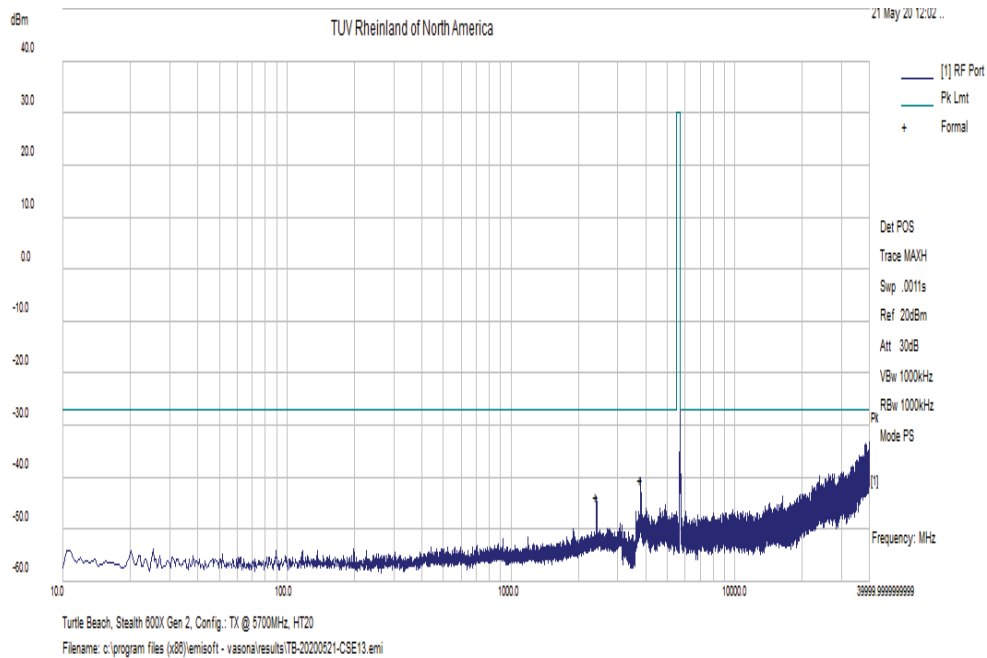


Figure 110: Undesirable Emission for HT20-MCS0 at 5700 MHz

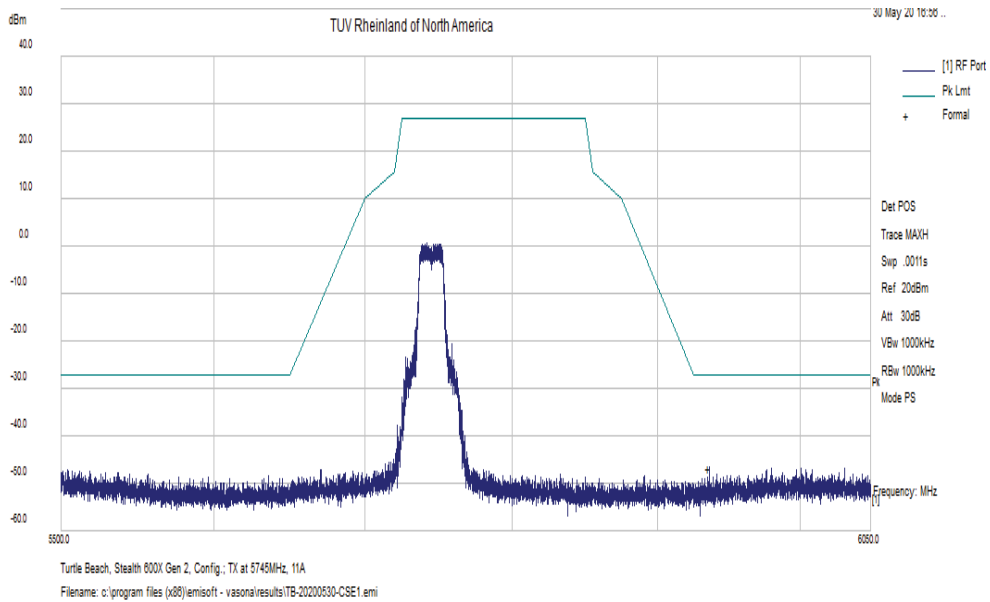


Figure 111: Measured Band-edge for 802.11a-6 Mbps at 5745 MHz

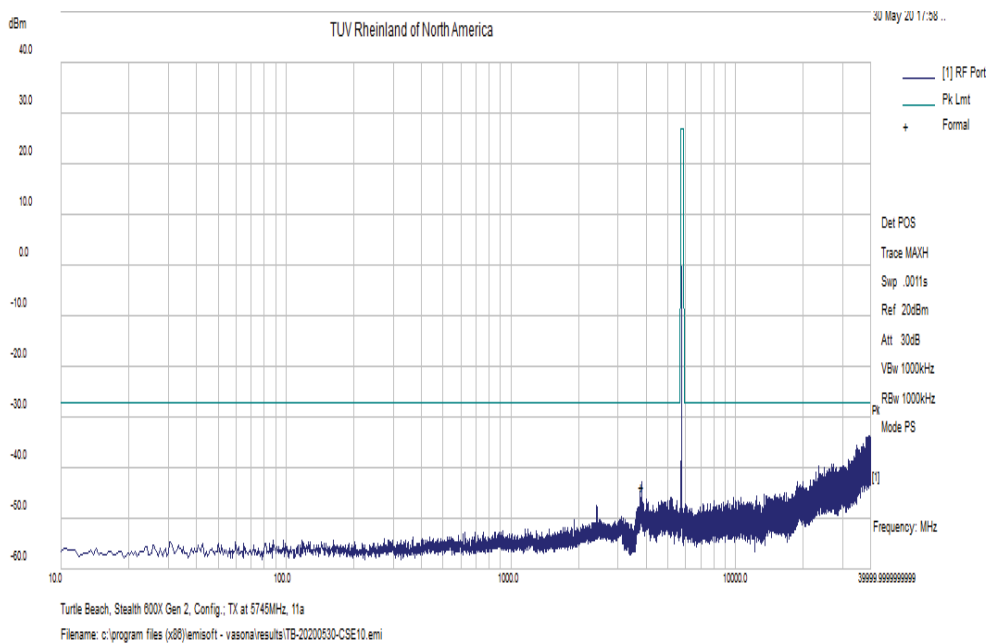


Figure 112: Undesirable Emission for 802.11a-6 Mbps at 5745 MHz

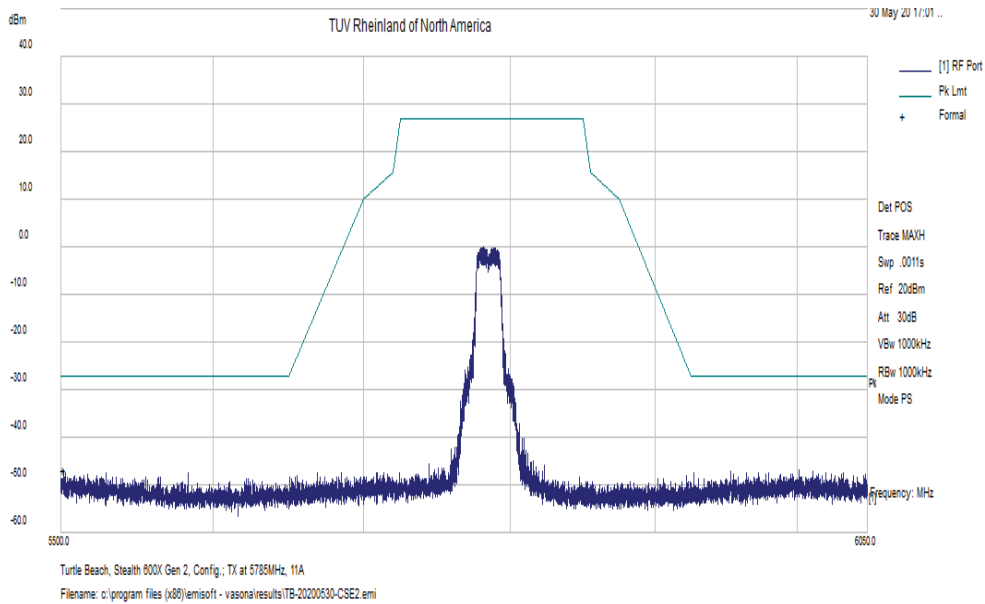


Figure 113: Measured Band-edge for 802.11a-6 Mbps at 5785 MHz

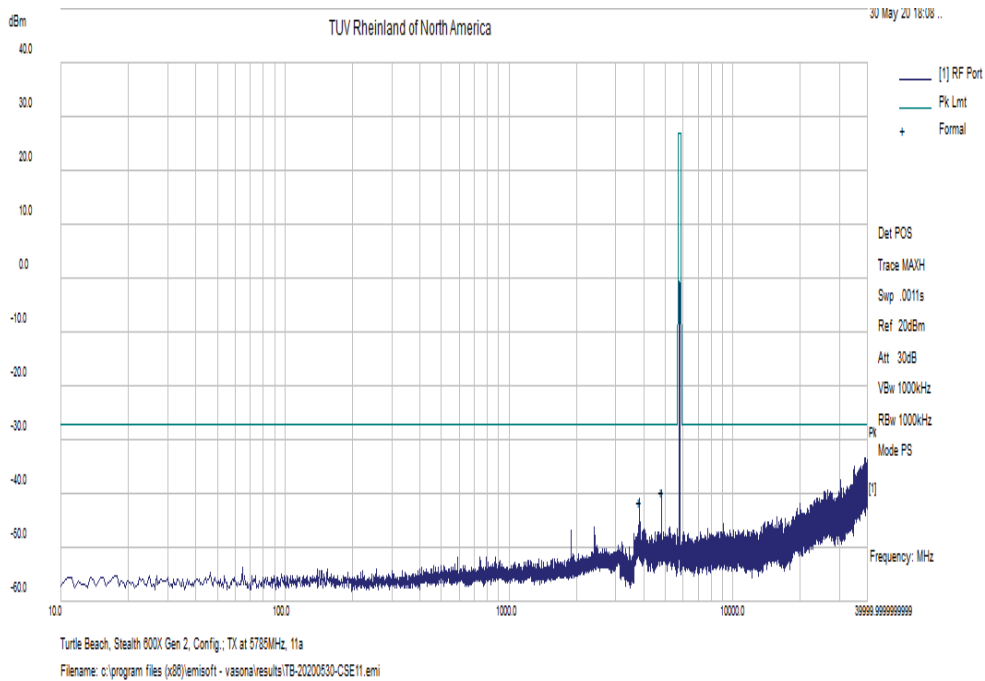


Figure 114: Undesirable Emission for 802.11a-6 Mbps at 5785 MHz

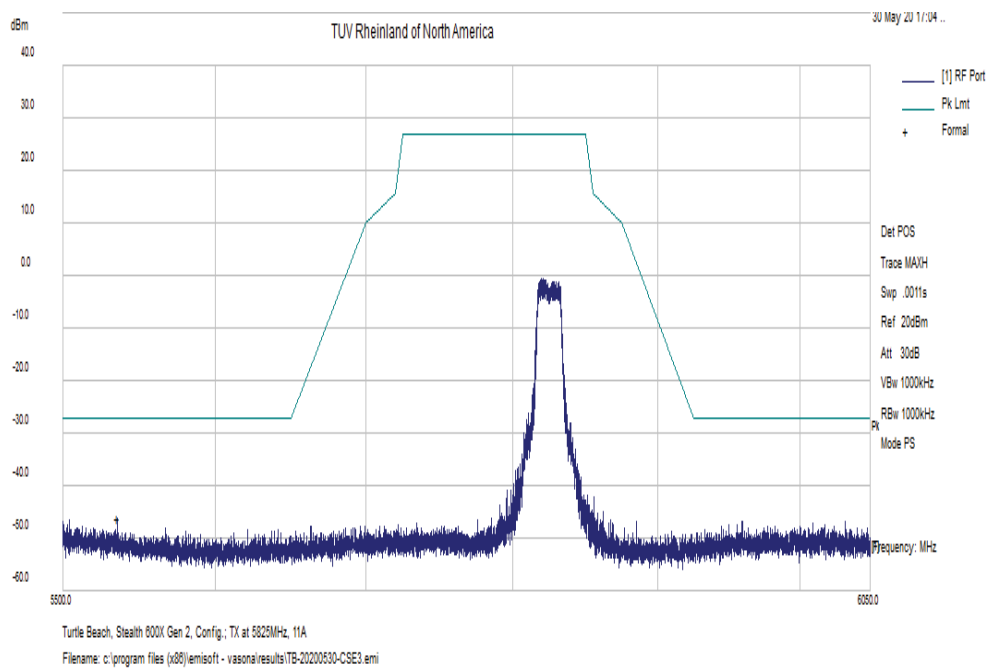


Figure 115: Measured In-Band Band-edge for 802.11a-6 Mbps at 5825 MHz

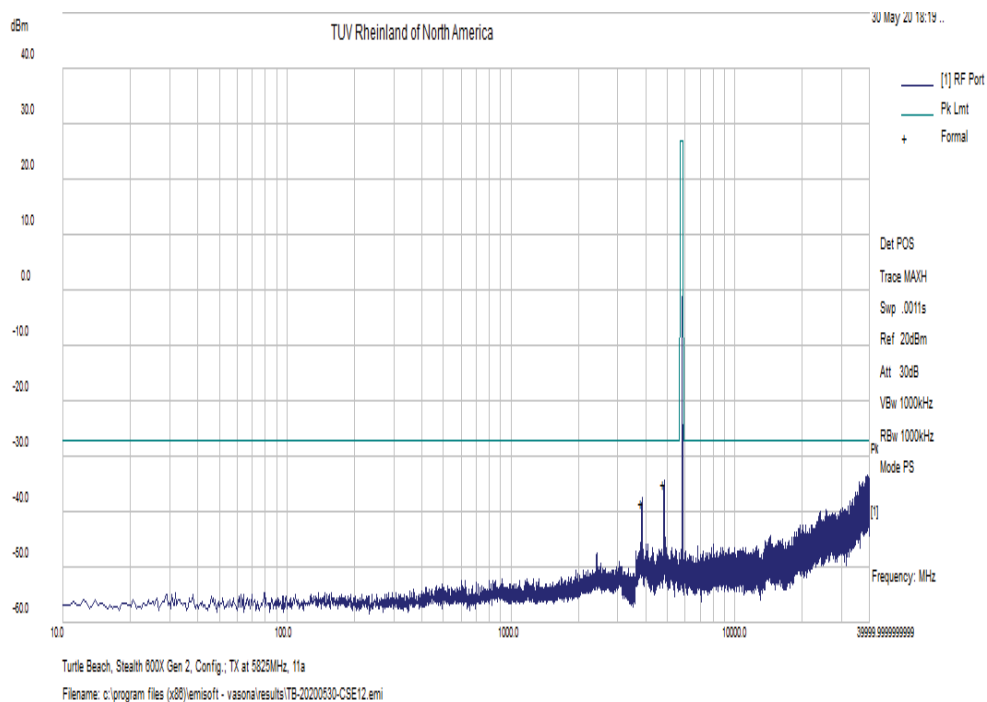


Figure 116: Measured In-Band Band-edge for 802.11a-6 Mbps at 5825 MHz

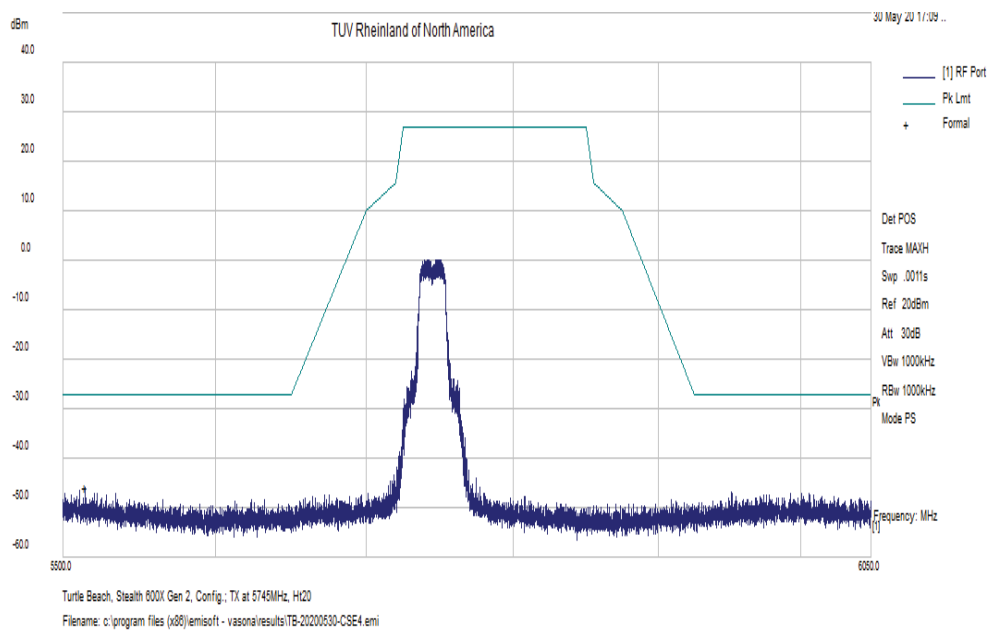


Figure 117: Measured Band-edge for HT20-MCS0 at 5745 MHz

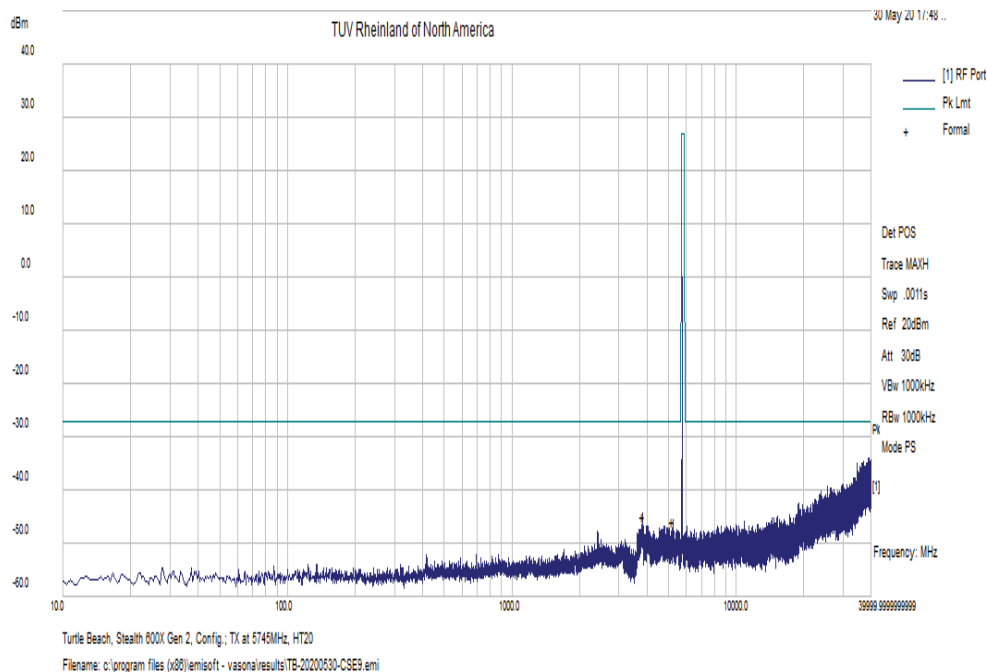


Figure 118: Undesirable Emission for HT20-MCS0 at 5745 MHz

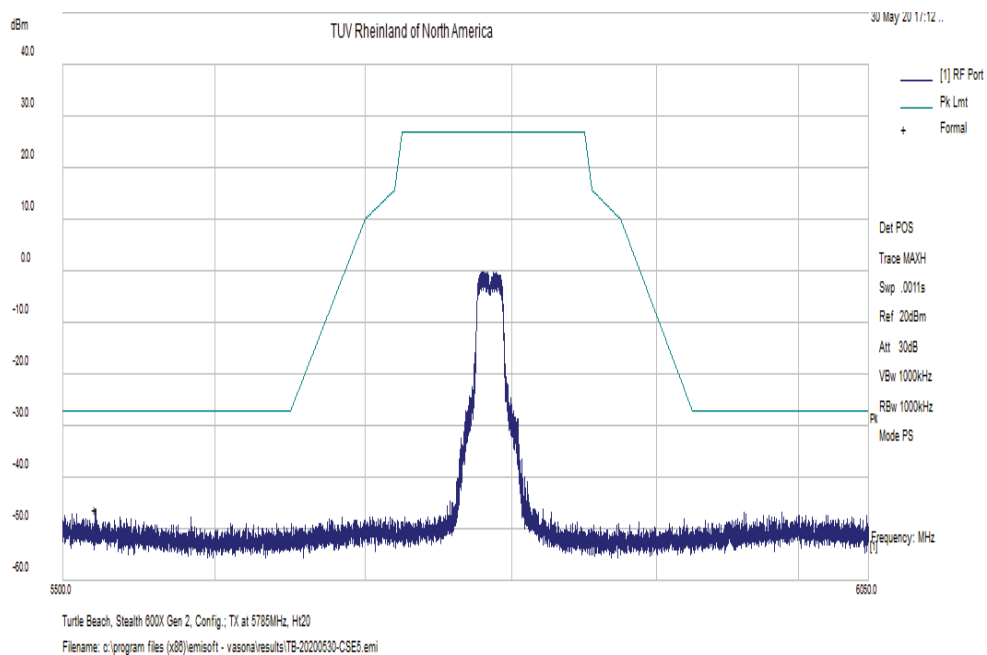


Figure 119: Measured In-Band Band-edge for HT20-MCS0 at 5785 MHz

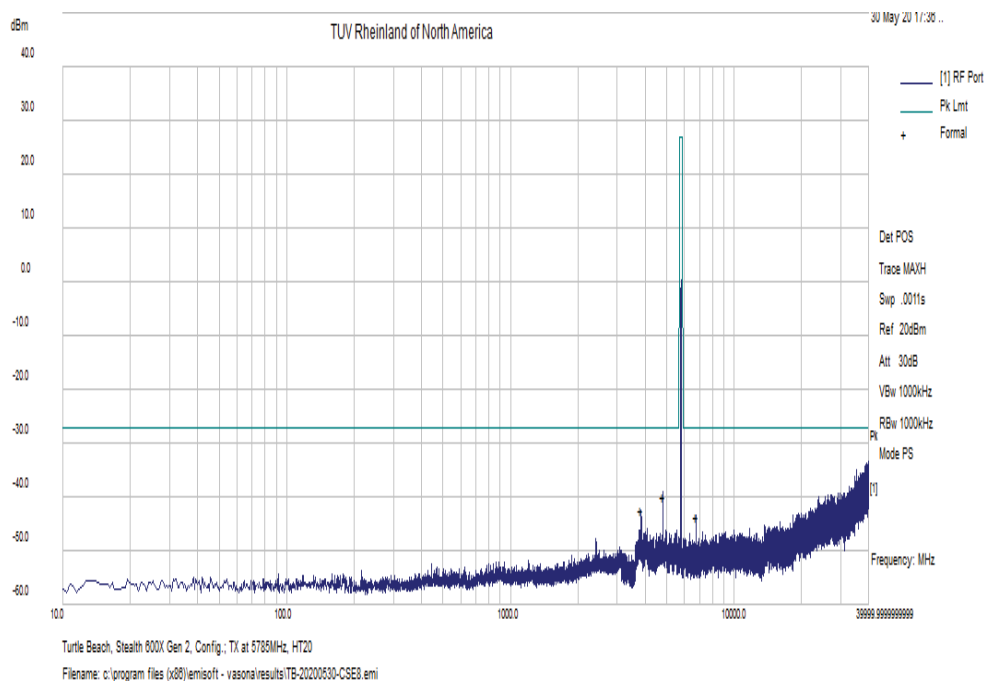


Figure 120: Measured In-Band Band-edge for HT20-MCS0 at 5785 MHz

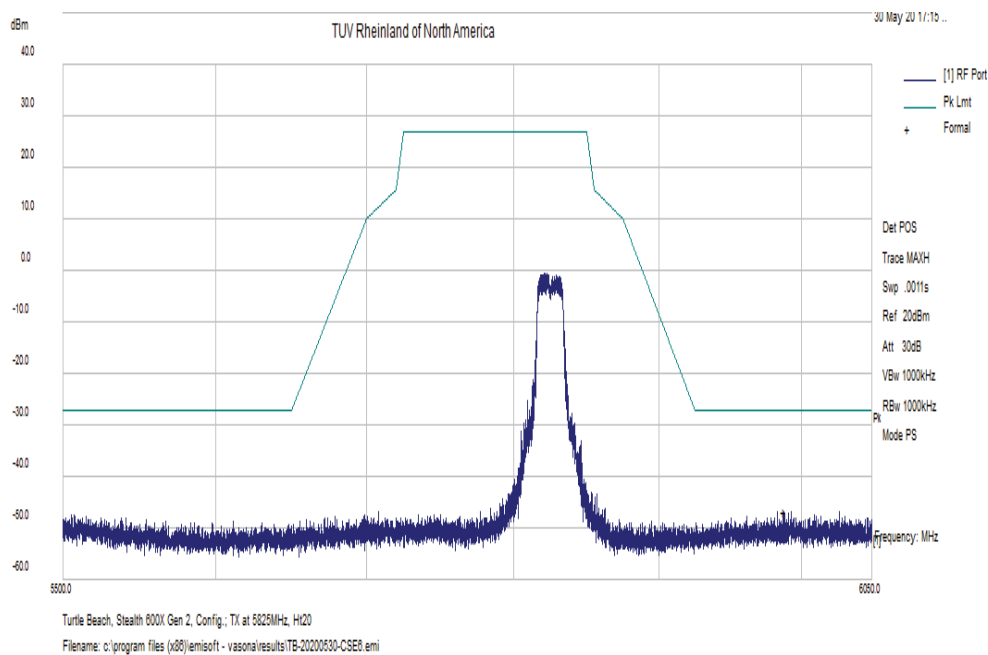


Figure 121: Measured Band-edge for HT20-MCS0 at 5825 MHz

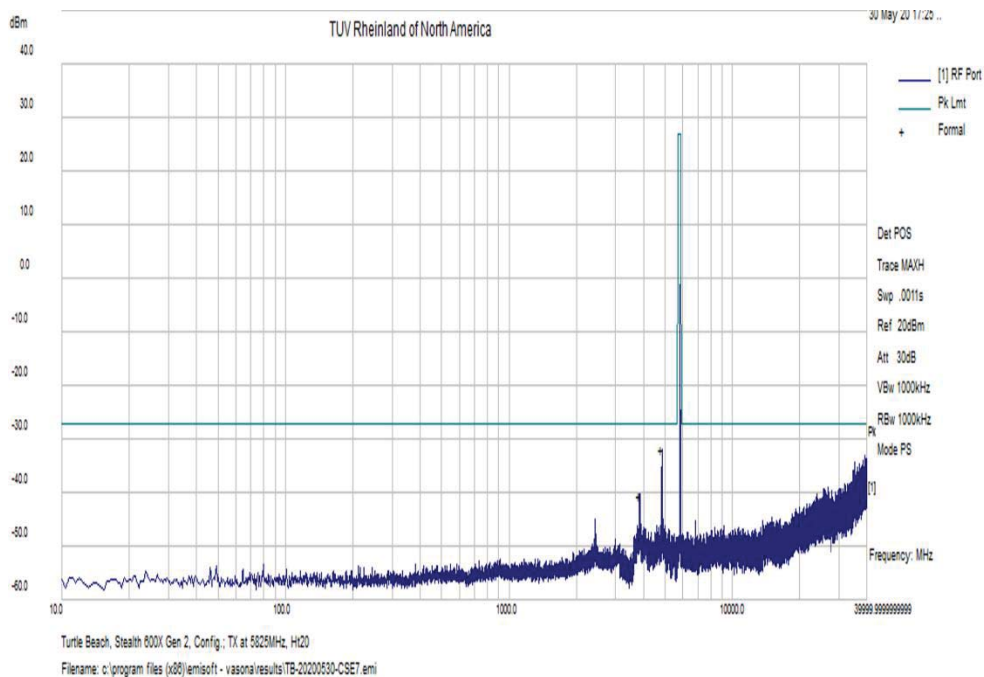


Figure 122: Undesirable Emission for HT20-MCS0 at 5825 MHz

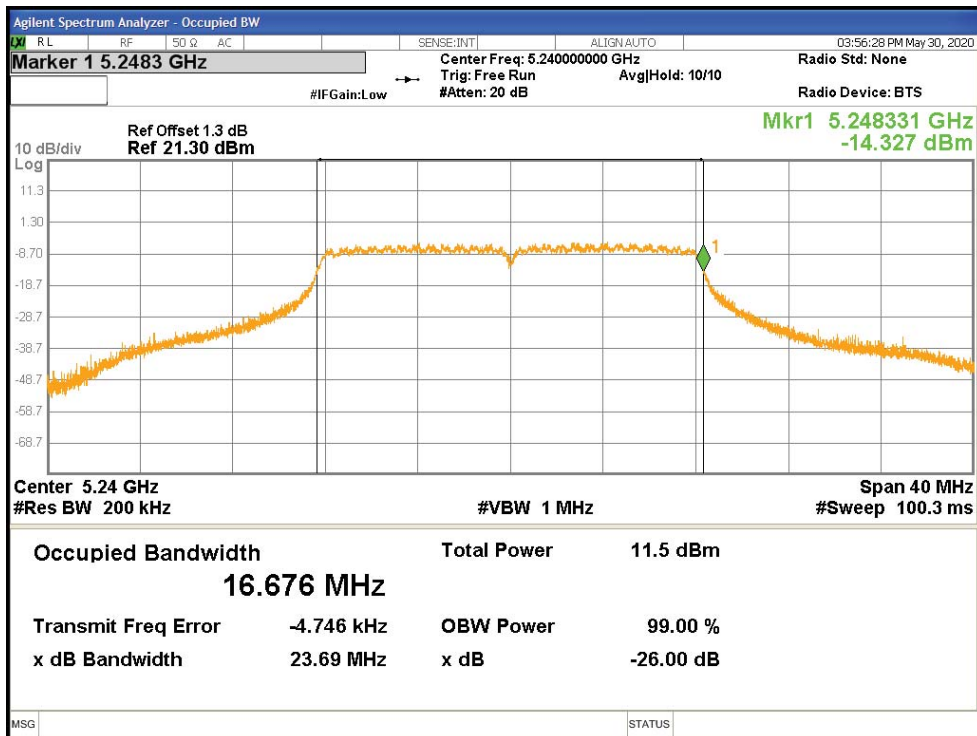


Figure 123: Measured Band-edge for 802.11a-6 Mbps at 5240 MHz

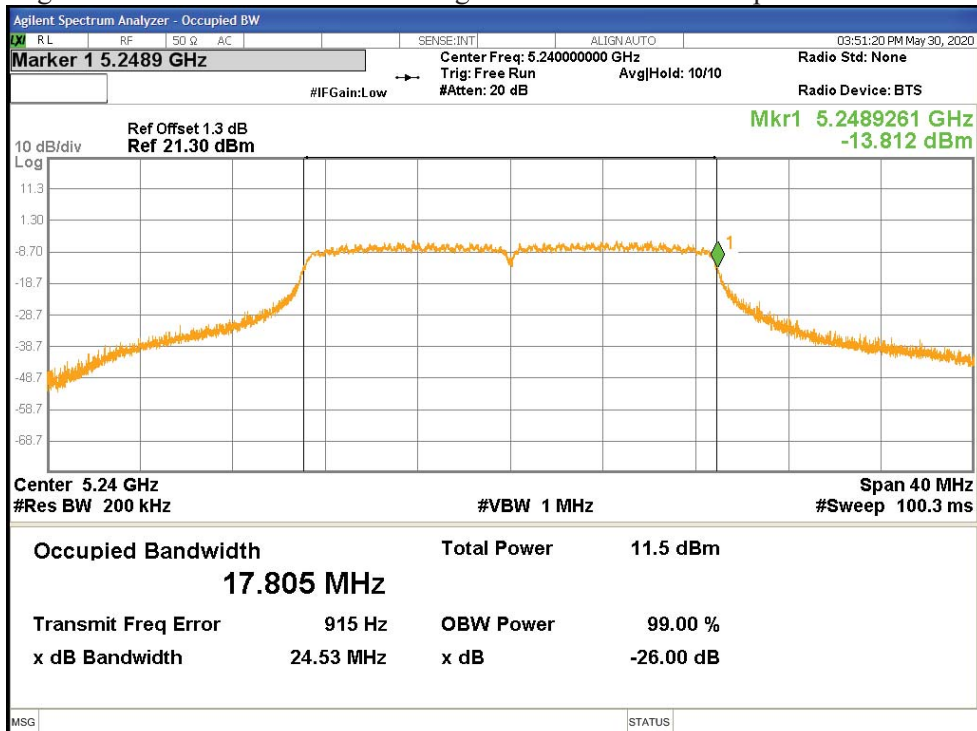


Figure 124: Measured Band-edge for 802.11n HT20-MCS0 at 5240 MHz

Note: Since the 99% bandwidth emission did not cross over into the UNII2a band, DFS is not required for the 5240 MHz operating channel.

4.5 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 15.205:2020, 15.209:2020, 15.407(b):2020, RSS 247 Sect. 6:2017, RSS GEN Sect.8.9 and 8.10:2014

4.5.1 Test Methodology

4.5.1.1 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 for 802.11a and 802.11n (HT20).

4.5.1.2 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.

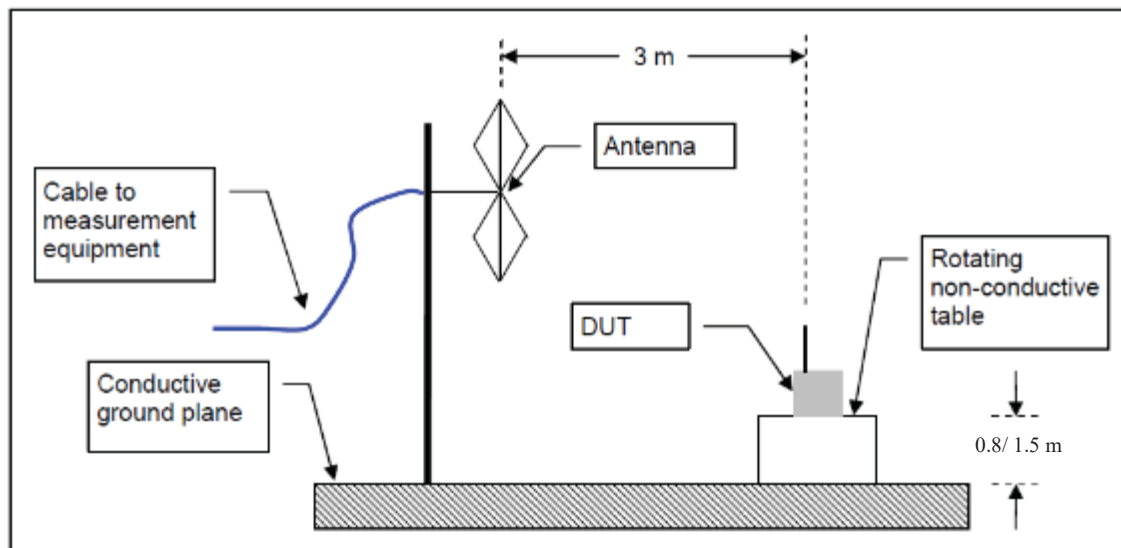
Final results are:

802.11a at 6 Mbps and 802.11n (HT20) at 6.5 Mbps on upright position.

4.5.1.3 Deviations

None.

Test Setup:



4.5.2 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, 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.

4.5.3 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).

Table 9: Transmit Spurious Emissions at Band-Edge Requirements

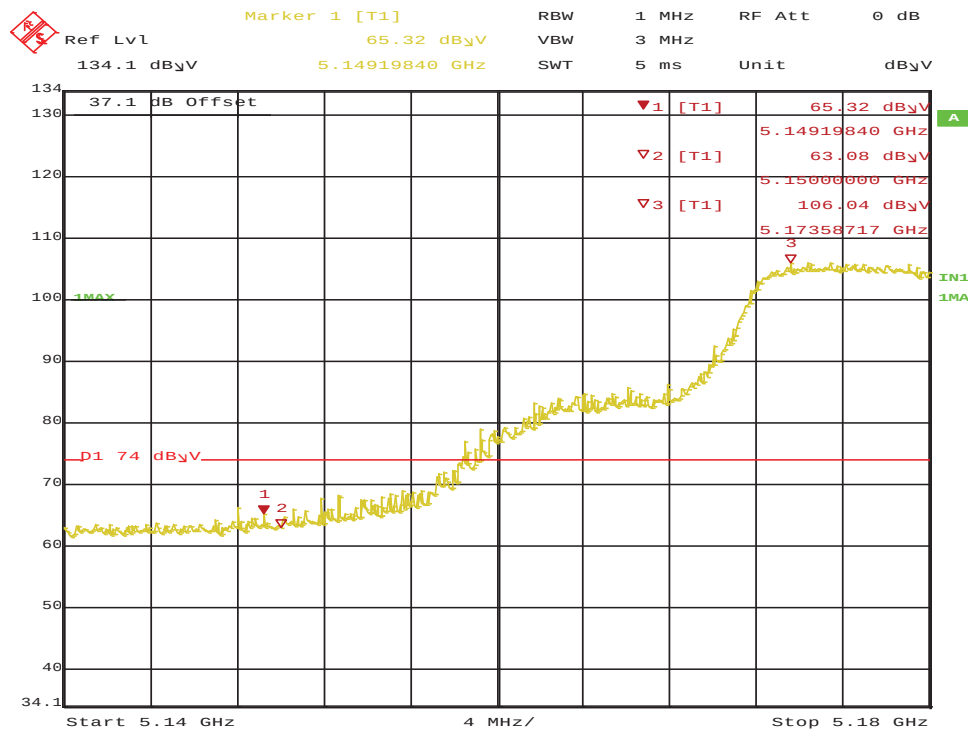
Date: May 22, 2020						Tested By: Jeremy Luong		
Test Method: Radiated Measurements						Power Setting: See test plan.		
Antenna Type: Chip						Antenna Gain: +3.7 dBi		
Operating Mode: Uncorrelated						Signal State: Modulated at 100%		
Ambient Temp.: 23 °C						Relative Humidity: 35%		
Band-Edge Results for 5150 MHz to 5350MHz								
Freq. (MHz)	Level (dBuV/m)	Pol. (H/V)	Limit (dBuV/m)	Margin (dB)	Det.	Table Deg.	Tower (cm)	Note
5149.76	65.25	V	74.00	−8.75	Pk	58	164	11a-5180MHz-6Mbps
5150.00	50.42	V	54.00	−3.58	Ave	58	164	11a-5180MHz-6Mbps
5149.20	65.32	H	0.00	65.32	Pk	294	150	11a-5180MHz-6Mbps
5150.00	50.74	H	0.00	50.74	Ave	294	150	11a-5180MHz-6Mbps
5149.92	64.93	V	74.00	−9.07	Pk	57	165	HT20-5180MHz-6.5Mbps
5150.00	50.72	V	54.00	−3.28	Ave	57	165	HT20-5180MHz-6.5Mbps
5149.20	66.11	H	74.00	−7.89	Pk	297	150	HT20-5180MHz-6.5Mbps
5150.00	51.03	H	54.00	−2.97	Ave	297	150	HT20-5180MHz-6.5Mbps
5350.78	65.35	V	74.00	−8.65	Pk	56	202	11a-5320MHz-6Mbps
5350.78	51.02	V	54.00	−2.98	Ave	56	202	11a-5320MHz-6Mbps
5357.70	65.32	H	74.00	−8.68	Pk	151	102	11a-5320MHz-6Mbps
5350.00	51.06	H	54.00	−2.94	Ave	151	102	11a-5320MHz-6Mbps
5352.71	65.08	V	74.00	−8.92	Pk	48	203	HT20-5320MHz-6.5Mbps
5350.00	51.03	V	54.00	−2.97	Ave	48	203	HT20-5320MHz-6.5Mbps
5359.30	65.86	H	74.00	−8.14	Pk	152	100	HT20-5320MHz-6.5Mbps
5350.00	51.06	H	54.00	−2.94	Ave	152	100	HT20-5320MHz-6.5Mbps
Note: 1. Band-edge frequencies were taken at 5150 MHz and 5350 MHz since these band-edges are adjacent to the restricted bands. 2. All of the band-edge measurements met the restricted band requirements of CFR47 15.205. 3. For 5250 MHz In-band-edge, refer to Section 4.4.2. 4. Since the band-edge measurements have margins in the presence of in-band leakage, the band-edge plots were captured with the spectrum analyzer’s span wider than 2 MHz.								

Table 10: Transmit Spurious Emissions at Band-Edge Requirements Continued

Date: May 22, 2020						Tested By: Jeremy Luong		
Test Method: Radiated Measurements						Power Setting: See test plan.		
Antenna Type: Chip						Antenna Gain: +3.7 dBi		
Operating Mode: Uncorrelated						Signal State: Modulated at 100%		
Ambient Temp.: 23 °C						Relative Humidity: 35%		
Band-Edge Results for 5470 MHz to 5725MHz								
Freq. (MHz)	Level (dBuV/m)	Pol. (H/V)	Limit (dBuV/m)	Margin (dB)	Det.	Table Deg.	Tower (cm)	Note
5467.35	66.50	V	74.00	-7.50	Pk	51	147	11a-5500MHz-6Mbps
5470.00	52.18	V	54.00	-1.82	Ave	51	147	11a-5500MHz-6Mbps
5467.43	66.22	H	74.00	-7.78	Pk	296	141	11a-5500MHz-6Mbps
5470.00	52.32	H	54.00	-1.68	Ave	296	141	11a-5500MHz-6Mbps
5466.15	66.46	V	74.00	-7.54	Pk	48	147	HT20-5500MHz-6.5Mbps
5470.00	52.26	V	54.00	-1.74	Ave	48	147	HT20-5500MHz-6.5Mbps
5469.04	67.18	H	74.00	-6.82	Pk	302	140	HT20-5500MHz-6.5Mbps
5470.00	52.28	H	54.00	-1.72	Ave	302	140	HT20-5500MHz-6.5Mbps
5725.28	71.93	V	74.00	-2.07	Pk	260	110	11a-5700MHz-6Mbps
5725.00	52.47	V	54.00	-1.53	Ave	260	110	11a-5700MHz-6Mbps
5726.12	72.39	H	74.00	-1.61	Pk	300	128	11a-5700MHz-6Mbps
5725.00	53.17	H	54.00	-0.83	Ave	300	128	11a-5700MHz-6Mbps
5725.63	71.10	V	74.00	-2.90	Pk	250	111	HT20-5700MHz-6.5Mbps
5725.00	52.70	V	54.00	-1.30	Ave	250	111	HT20-5700MHz-6.5Mbps
5725.63	72.14	H	74.00	-1.86	Pk	297	143	HT20-5700MHz-6.5Mbps
5725.00	53.55	H	54.00	-0.45	Ave	297	143	HT20-5700MHz-6.5Mbps
Note: 1. Band-edge frequencies were evaluated at 5470 MHz and 5725 MHz. 2. All of the band-edge measurements met the restricted band requirements of CFR47 15.205. 3. Refer to Section 4.4.2 for additional undesired emissions at the band-edge. 4. Since the band-edge measurements have margins in the presence of in-band leakage, the band-edge plots were captured with the spectrum analyzer’s span wider than 2 MHz.								

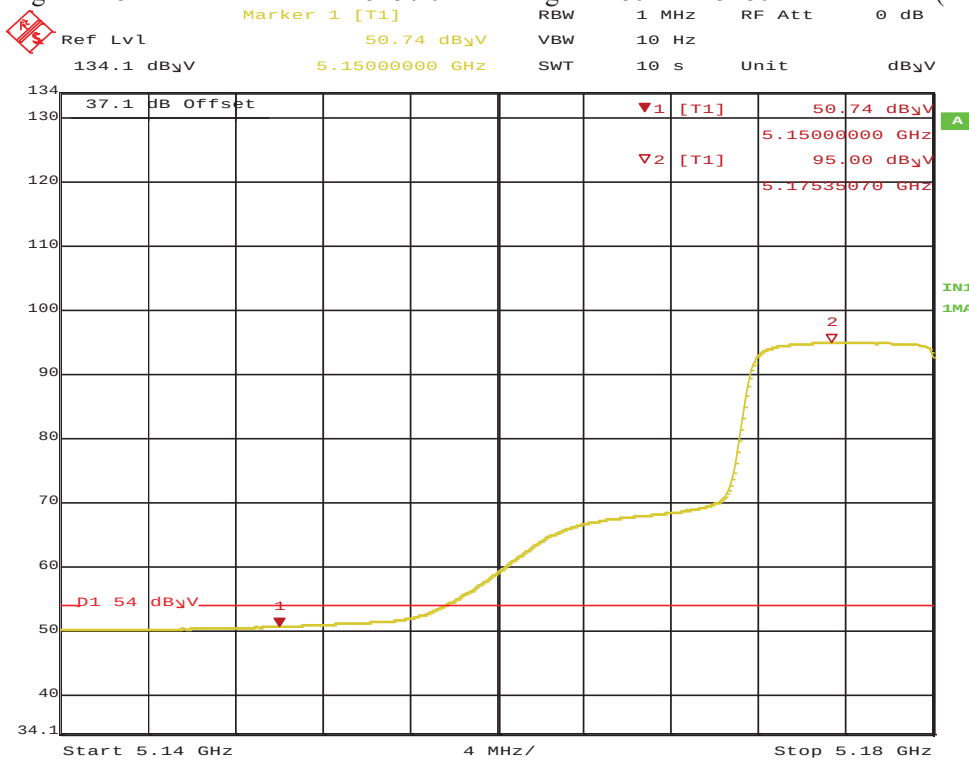
Table 11: Transmit Spurious Emissions at Band-Edge Requirements Continued

Date: May 22, 2020						Tested By: Jeremy Luong		
Test Method: Radiated Measurements						Power Setting: See test plan.		
Antenna Type: Chip						Antenna Gain: +3.7 dBi		
Operating Mode: Uncorrelated						Signal State: Modulated at 100%		
Ambient Temp.: 23 °C						Relative Humidity: 35%		
Band-Edge Results for 5725 MHz to 5850 MHz								
Freq. (MHz)	Level (dBuV/m)	Pol. (H/V)	Limit (dBuV/m)	Margin (dB)	Det.	Table Deg.	Tower (cm)	Note
5937.37	67.40	V	68.20	−0.80	Pk	53	210	11a-5745MHz-6Mbps
5928.96	67.47	H	68.20	−0.73	Pk	298	193	11a-5745MHz-6Mbps
5944.39	67.39	V	68.20	−0.81	Pk	342	118	11a-5825MHz-6Mbps
5939.48	66.68	H	68.20	−1.52	Pk	297	101	11a-5825MHz-6Mbps
5942.28	66.70	V	68.20	−1.50	Pk	50	209	HT20-5745MHz-6.5Mbps
5930.36	66.74	H	68.20	−1.46	Pk	298	202	HT20-5745MHz-6.5Mbps
5926.15	66.82	V	68.20	−1.38	Pk	341	107	HT20-5825MHz-6.5Mbps
5926.15	66.81	H	68.20	−1.39	Pk	294	101	HT20-5825MHz-6.5Mbps
Note: 1. The spectrum mask was evaluated at band-edge frequencies for the lowest and highest operating channels. 2. All of the band-edge measurements met the undesired emission limit, where 27dBm eirp is 68.3 dBuV/m at 3m. 3. Refer to Section 4.4.2 for additional undesired emissions at the band-edge. 4. Figures 157 to 164 show the full spectrum mask for the above configurations.								



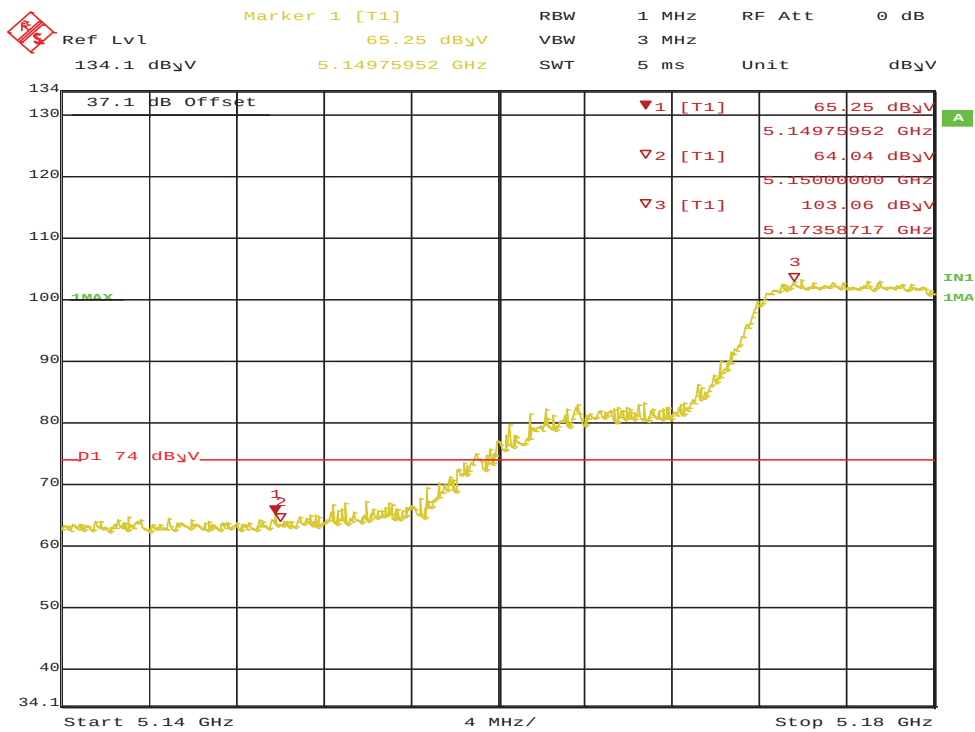
Date: 22.MAY.2020 12:33:33

Figure 125: Radiated Emission 5150.0 MHz Edge for 802.11a 5180 MHz – Horz. (Pk)



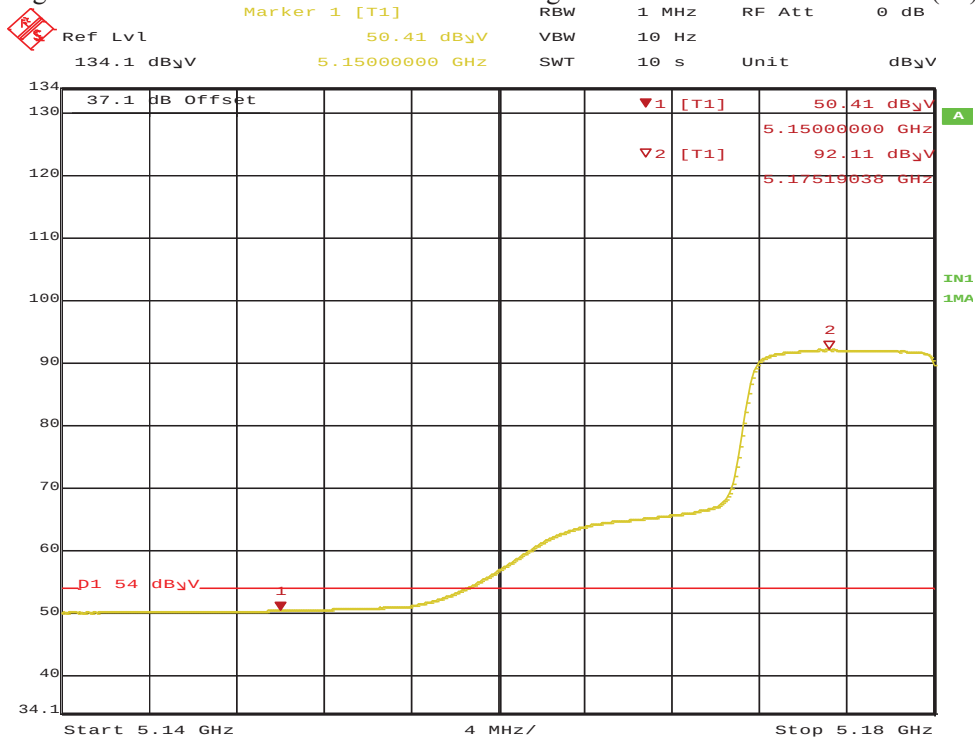
Date: 22.MAY.2020 12:34:53

Figure 126: Radiated Emission 5150.0 MHz Edge for 802.11a 5180 MHz – Horz. (Ave)



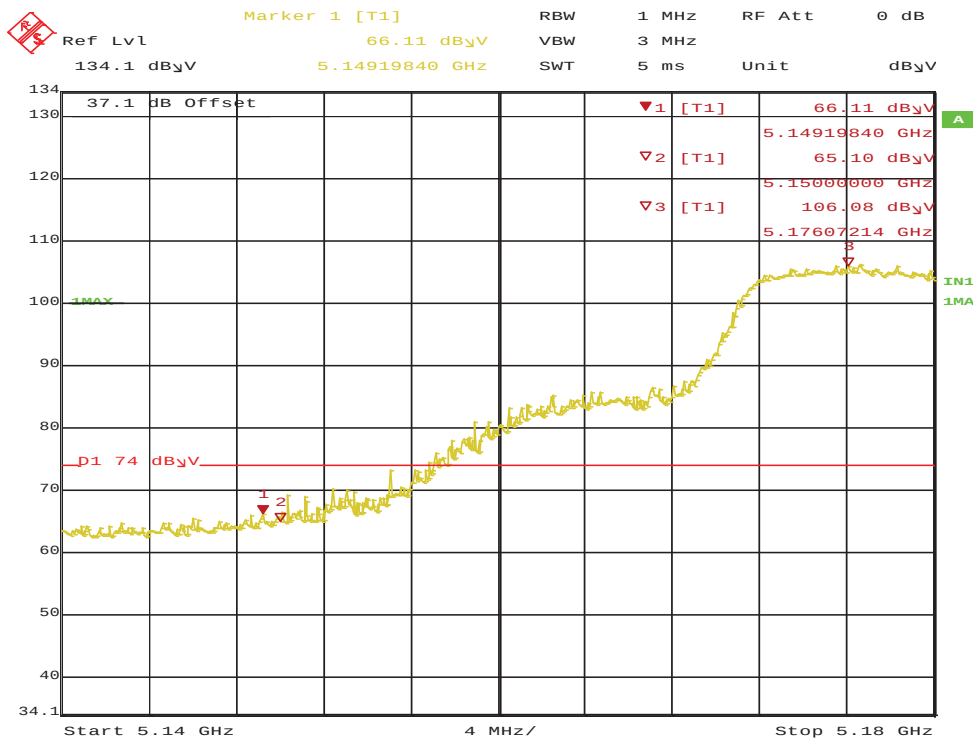
Date: 22.MAY.2020 12:16:04

Figure 127: Radiated Emission 5150.0 MHz Edge for 802.11a 5180 MHz – Vert. (Pk)



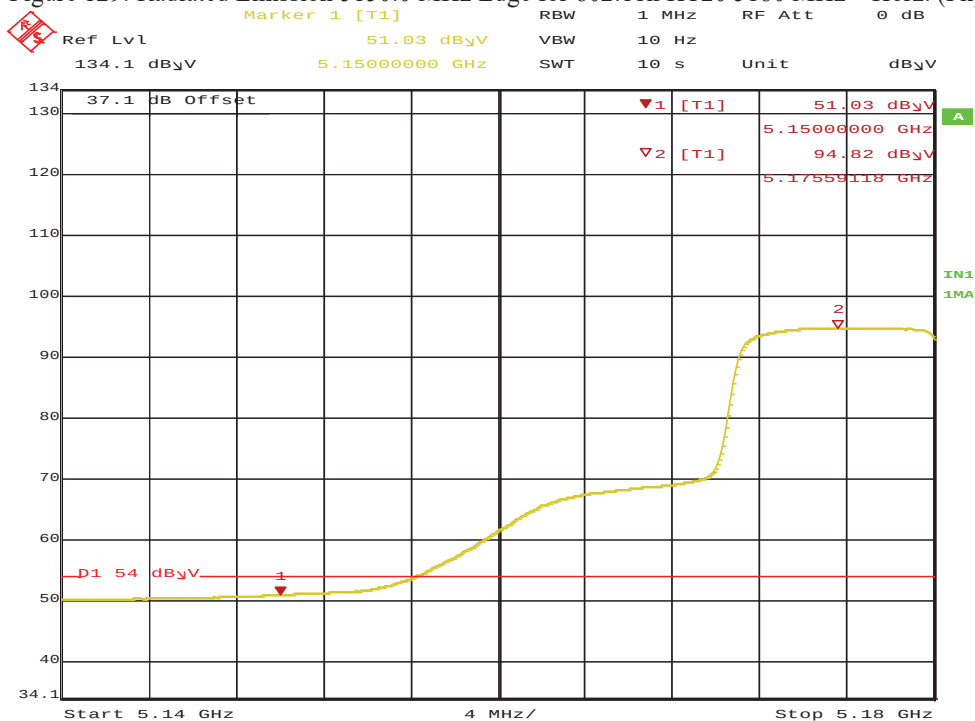
Date: 22.MAY.2020 12:17:37

Figure 128: Radiated Emission 5150.0 MHz Edge for 802.11a 5180 MHz – Vert. (Ave)



Date: 22.MAY.2020 12:28:17

Figure 129: Radiated Emission 5150.0 MHz Edge for 802.11n HT20 5180 MHz – Horz. (Pk)



Date: 22.MAY.2020 12:29:30

Figure 130: Radiated Emission 5150.0 MHz Edge for 802.11n HT20 5180 MHz – Horz. (Ave)

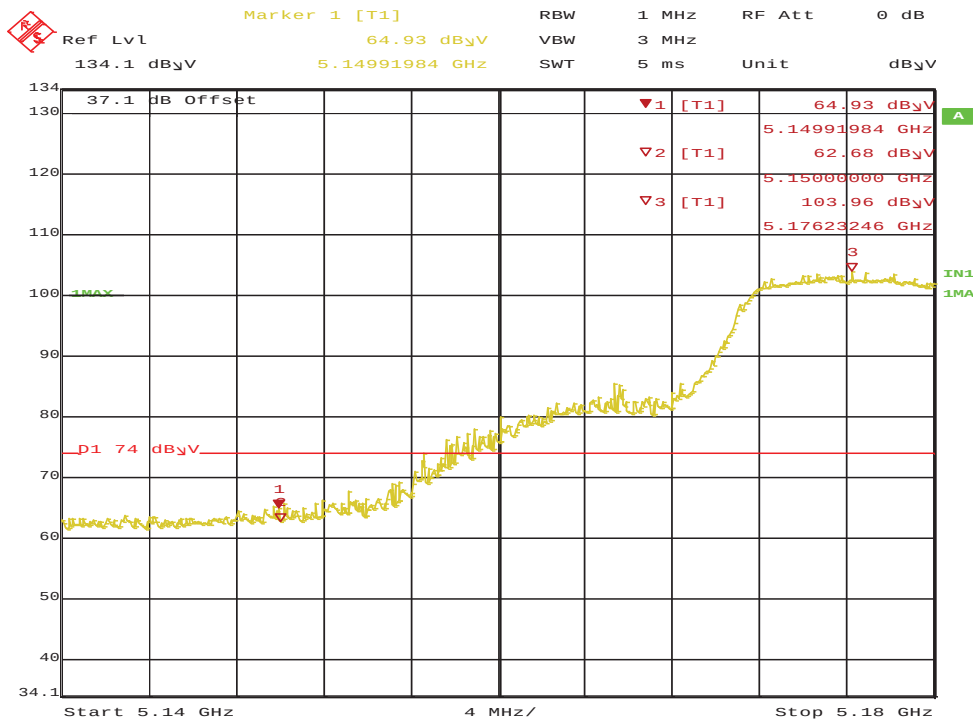


Figure 131: Radiated Emission 5150.0 MHz Edge for 802.11n HT20 5180 MHz – Vert. (Pk)

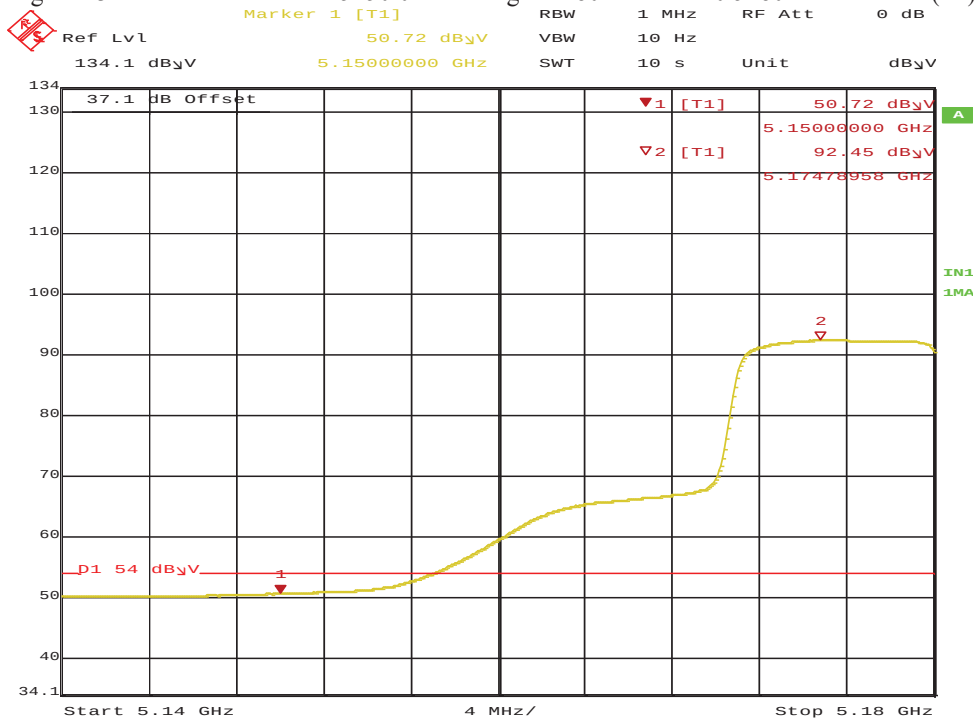
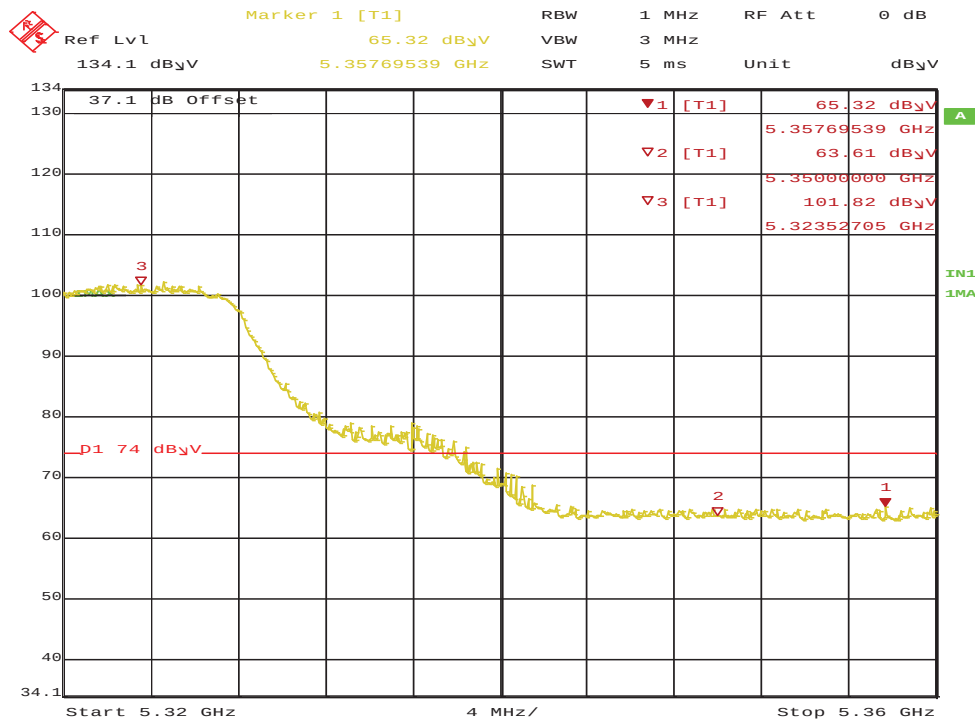
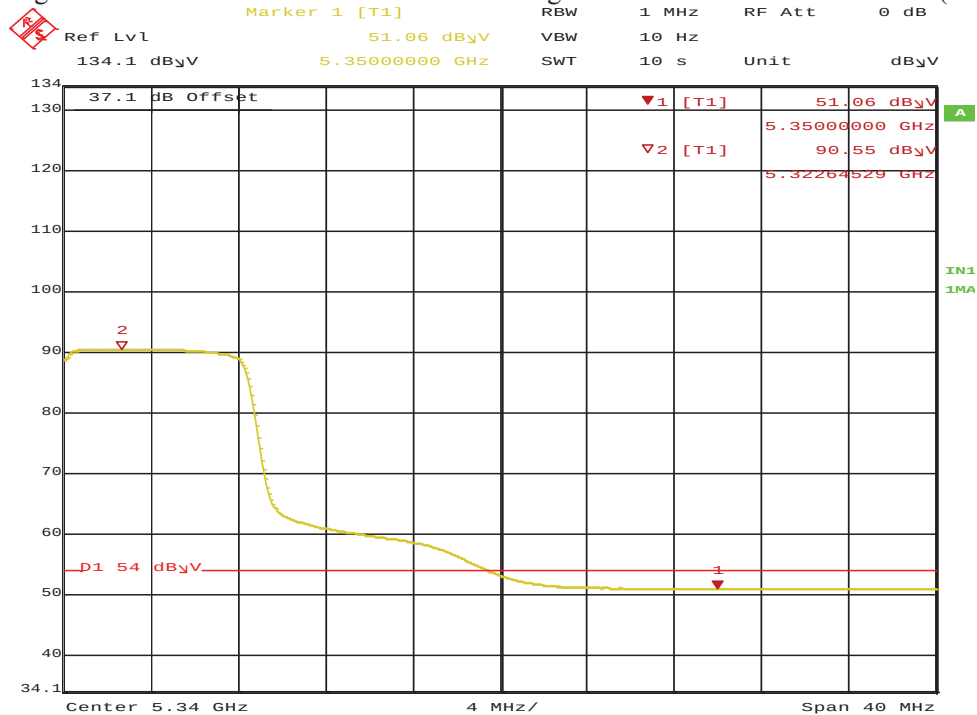


Figure 132: Radiated Emission 5150.0 MHz Edge for 802.11n HT20 5180 MHz – Vert. (Ave)



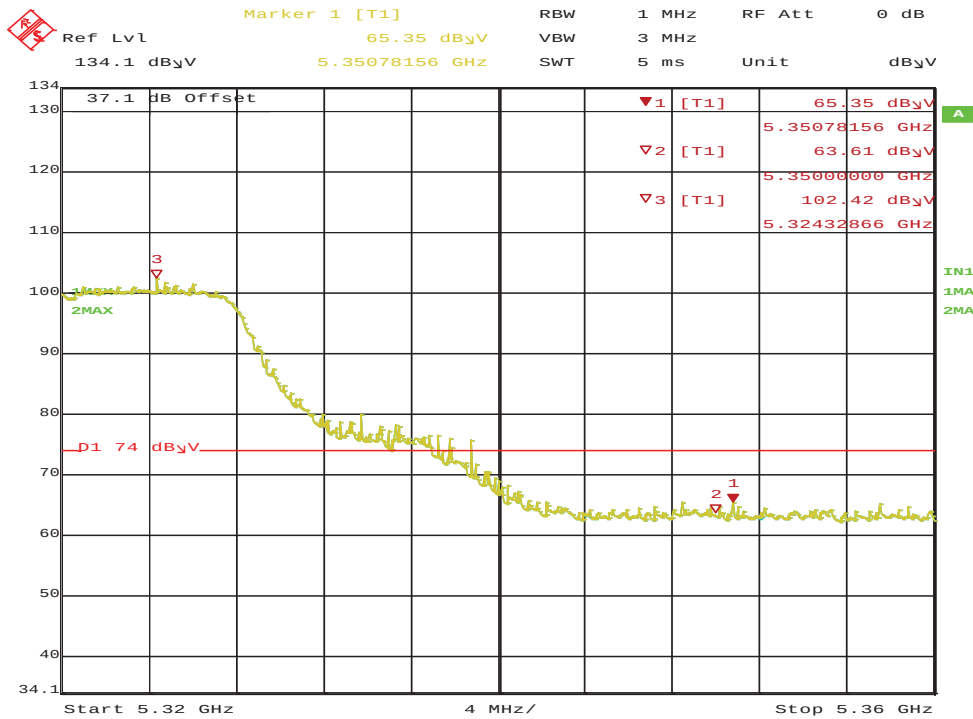
Date: 22.MAY.2020 12:07:47

Figure 133: Radiated Emission 5350.0 MHz Edge for 802.11a 5320 MHz – Horiz. (Pk)



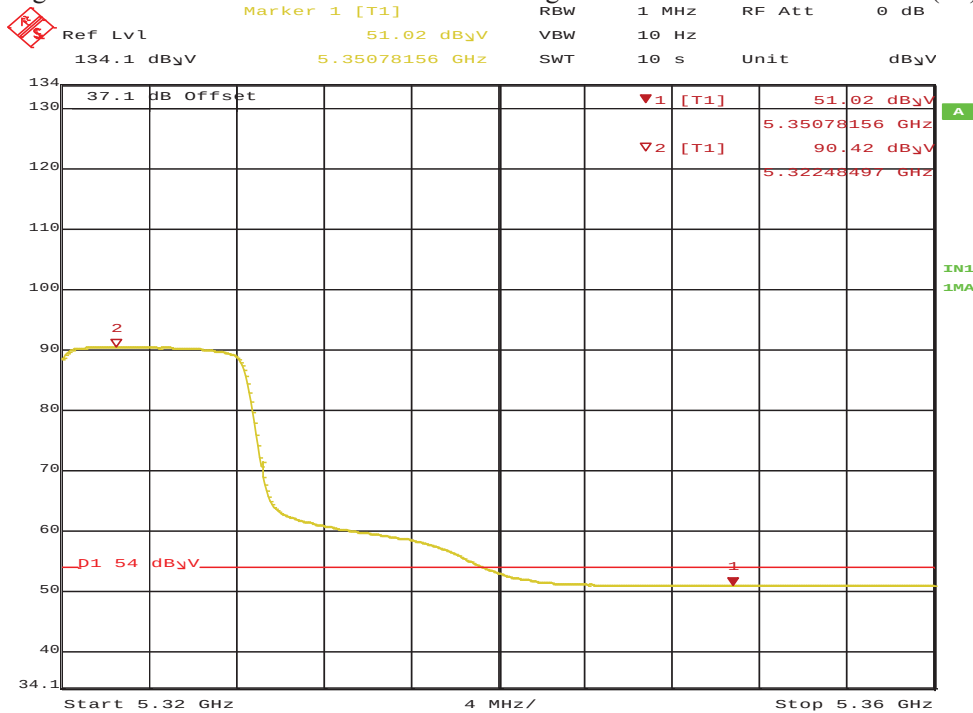
Date: 22.MAY.2020 12:08:44

Figure 134: Radiated Emission 5350.0 MHz Edge for 802.11a 5320 MHz – Horiz. (Ave)



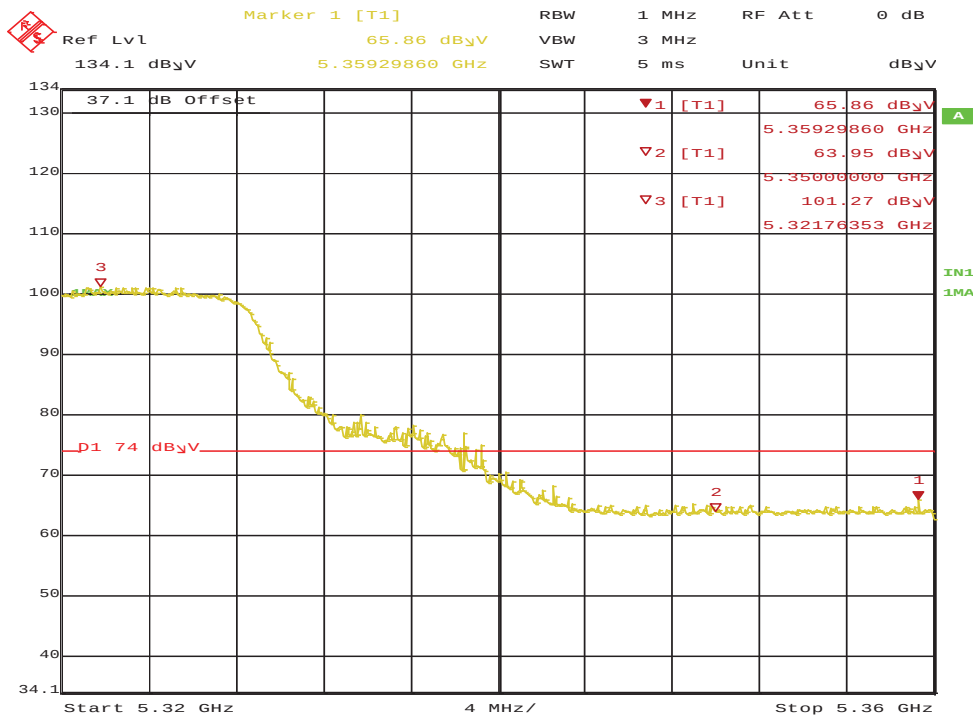
Date: 22.MAY.2020 11:49:54

Figure 135: Radiated Emission 5350.0 MHz Edge for 802.11a 5320 MHz – Vert. (Pk)



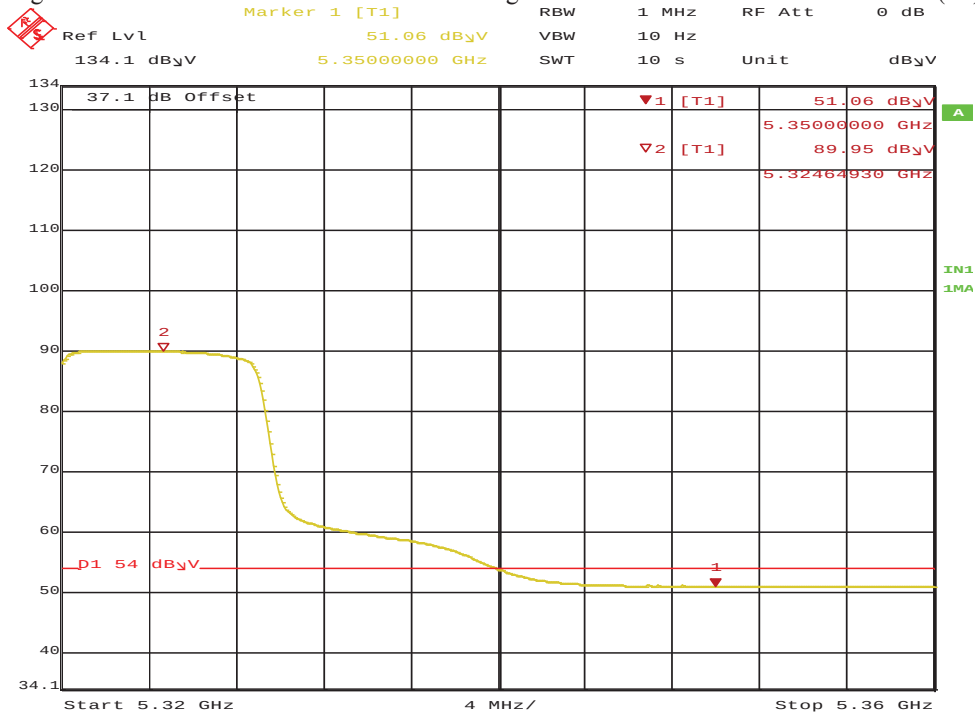
Date: 22.MAY.2020 11:52:16

Figure 136: Radiated Emission 5350.0 MHz Edge for 802.11a 5320 MHz – Vert. (Ave)



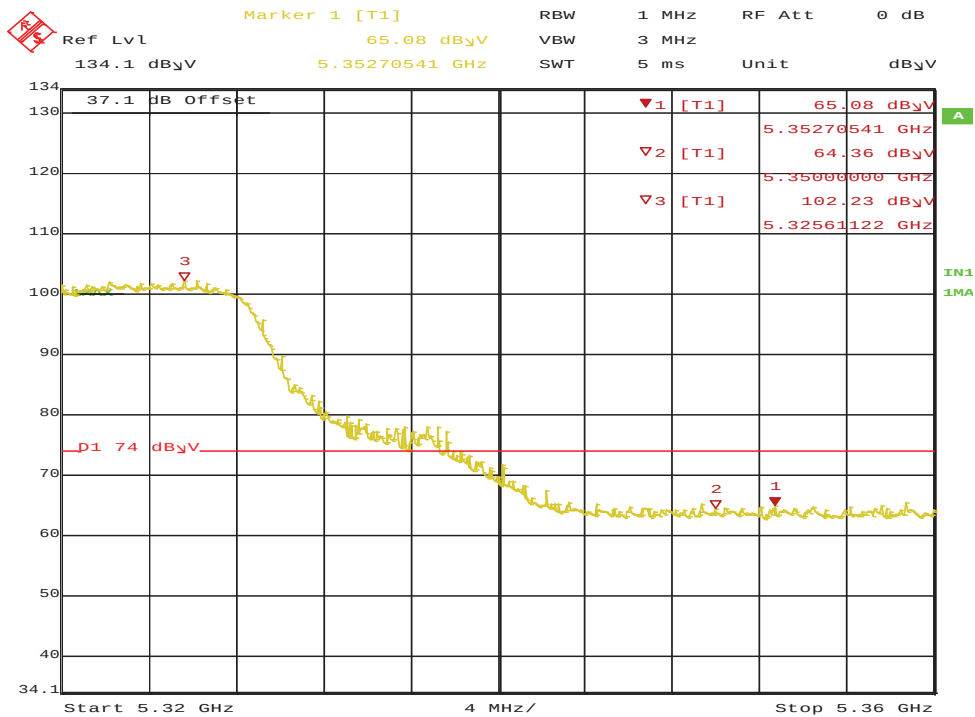
Date: 22.MAY.2020 12:02:48

Figure 137: Radiated Emission 5350.0 MHz Edge for 802.11n HT20 5320 MHz – Horiz. (Pk)



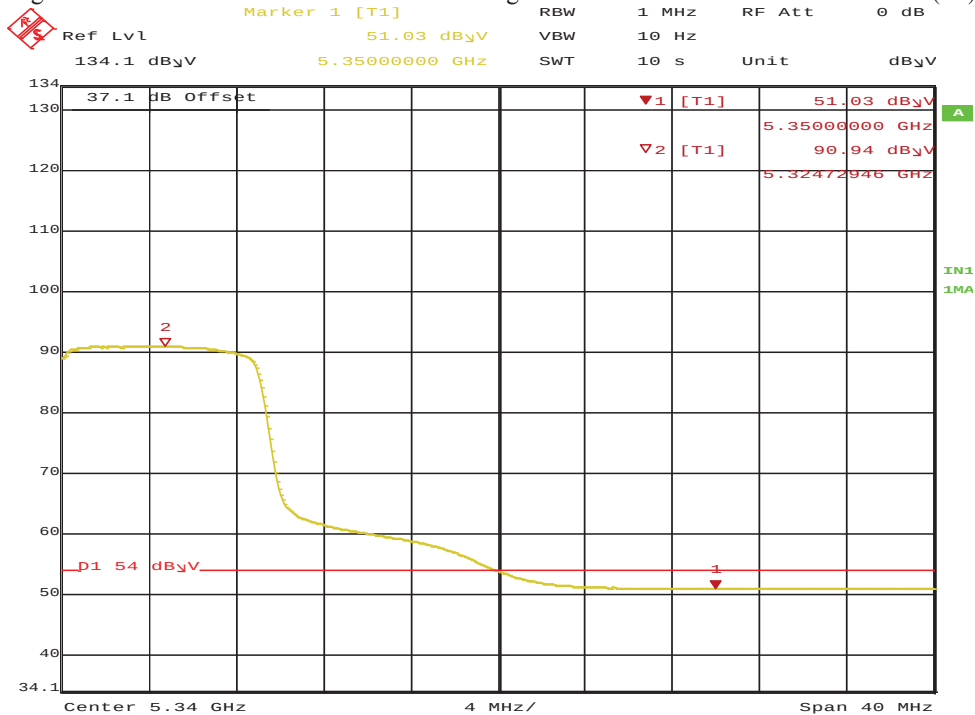
Date: 22.MAY.2020 12:04:08

Figure 138: Radiated Emission 5350.0 MHz Edge for 802.11n HT20 5320 MHz – Horiz. (Ave)



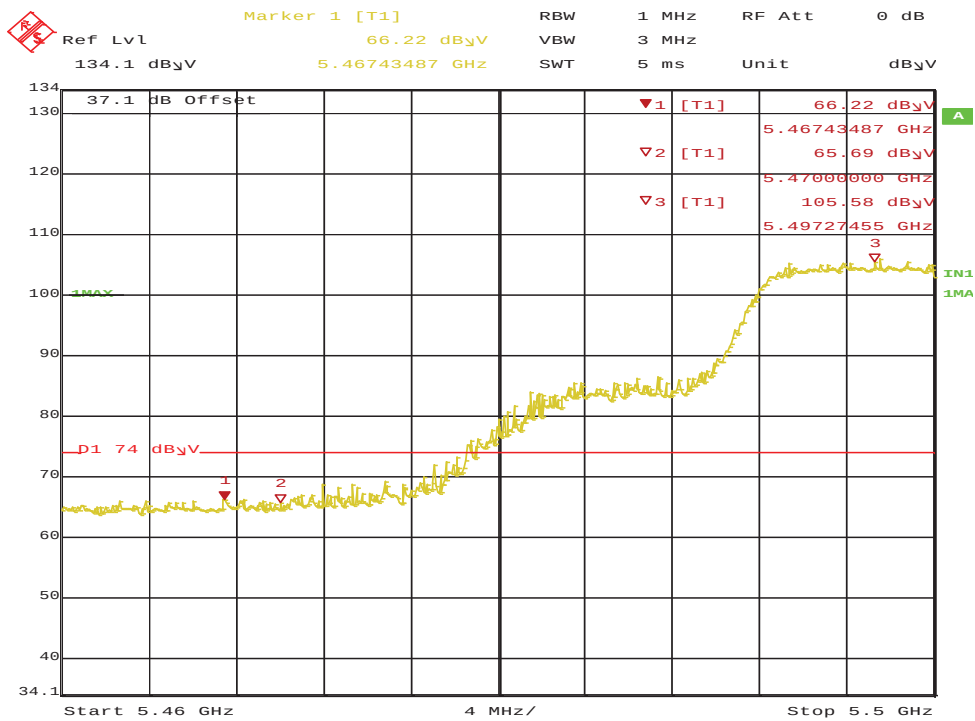
Date: 22.MAY.2020 11:56:02

Figure 139: Radiated Emission 5350.0 MHz Edge for 802.11n HT20 5320 MHz – Vert. (Pk)



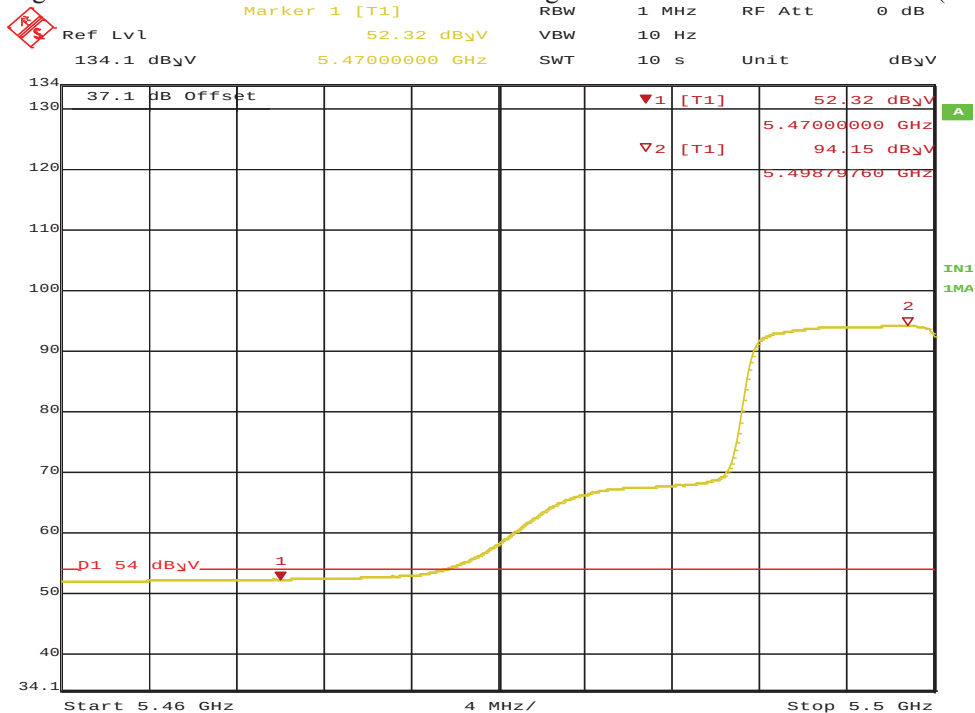
Date: 22.MAY.2020 11:57:22

Figure 140: Radiated Emission 5350.0 MHz Edge for 802.11n HT20 5320 MHz – Vert. (Ave)



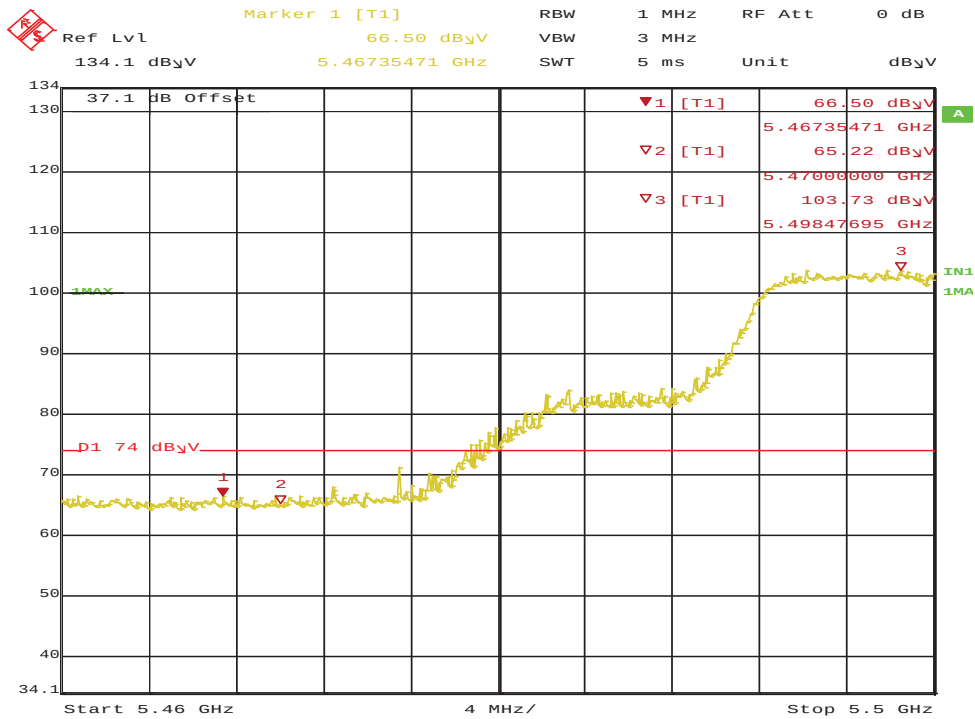
Date: 22.MAY.2020 11:11:31

Figure 141: Radiated Emission 5470.0 MHz Edge for 802.11a 5500 MHz – Horz. (Pk)



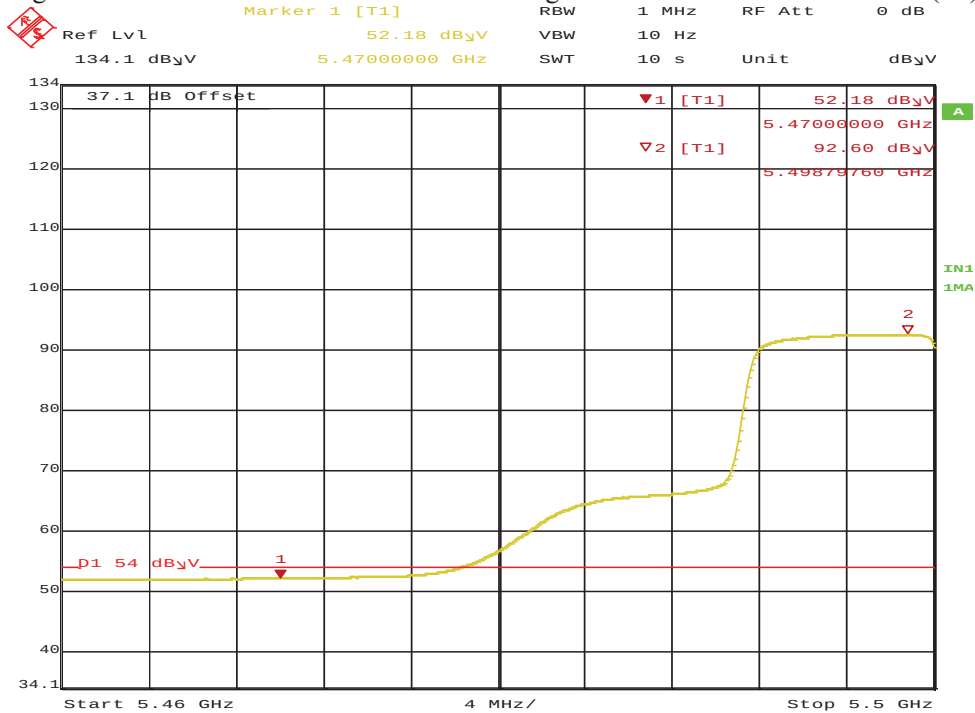
Date: 22.MAY.2020 11:14:26

Figure 142: Radiated Emission 5470.0 MHz Edge for 802.11a 5500 MHz – Horz. (Ave)



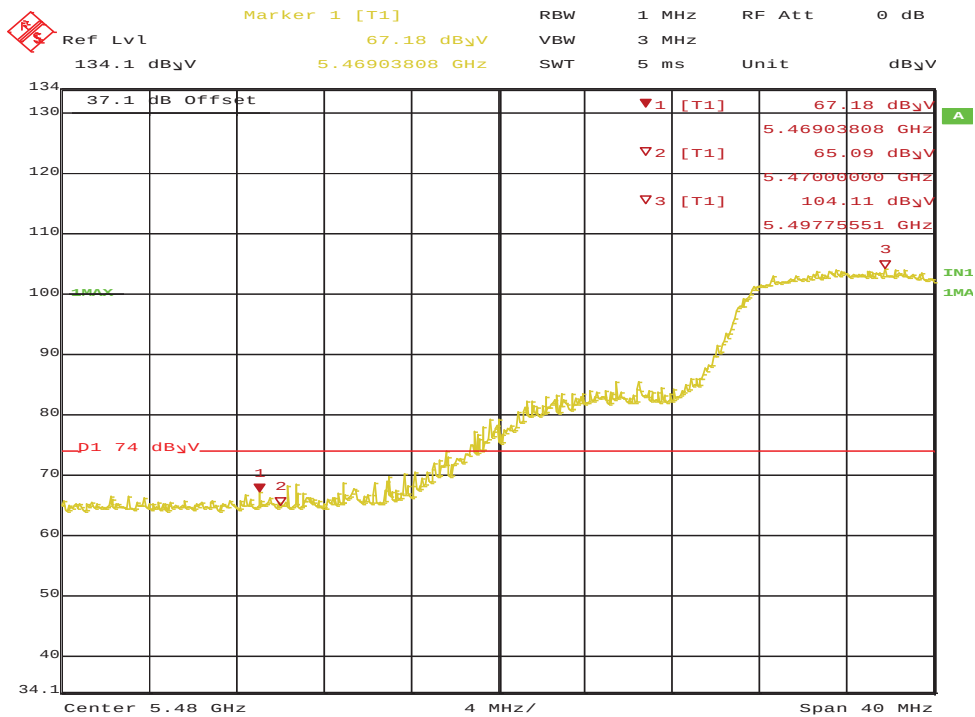
Date: 22.MAY.2020 10:46:51

Figure 143: Radiated Emission 5470.0 MHz Edge for 802.11a 5500 MHz – Vert. (Pk)



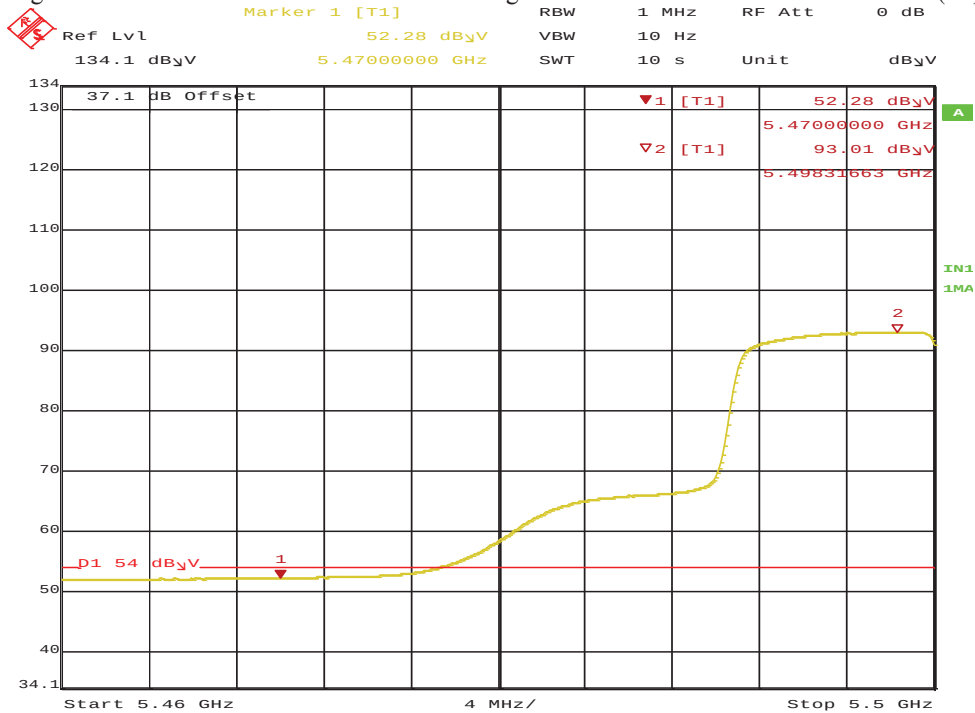
Date: 22.MAY.2020 10:49:34

Figure 144: Radiated Emission 5470.0 MHz Edge for 802.11a 5500 MHz – Vert. (Ave)



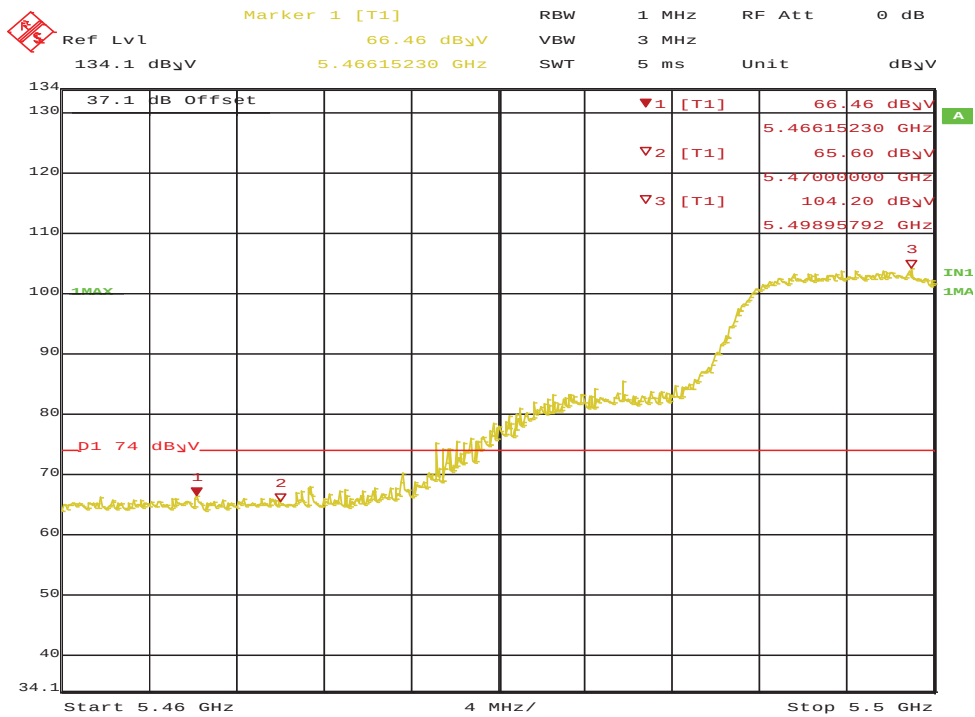
Date: 22.MAY.2020 11:04:06

Figure 145: Radiated Emission 5470.0 MHz Edge for 802.11n HT20 5500 MHz – Horiz. (Pk)



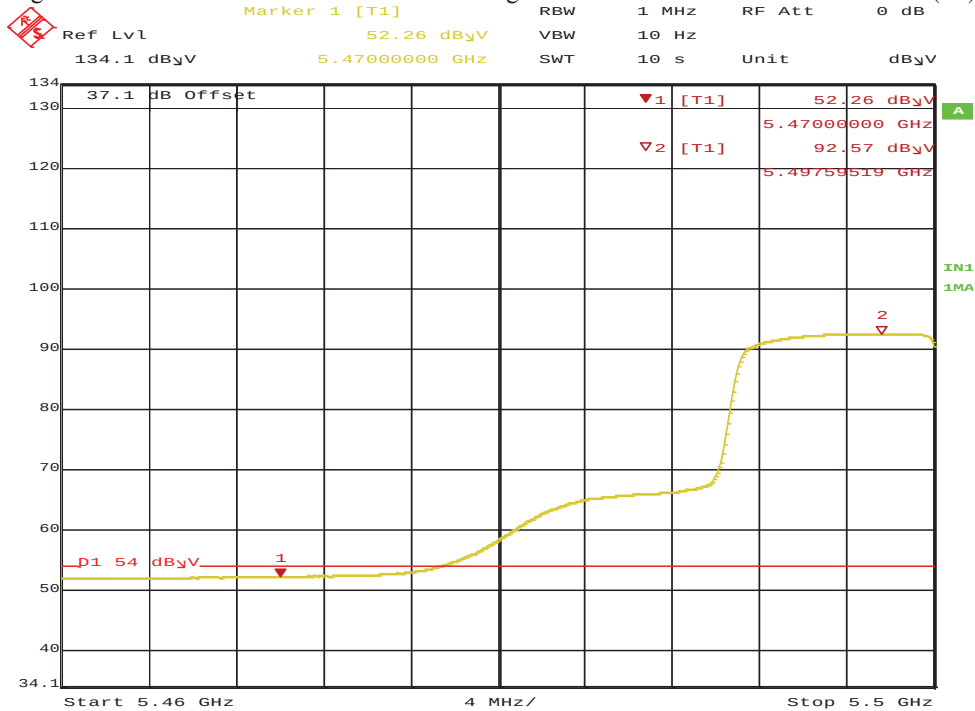
Date: 22.MAY.2020 11:06:01

Figure 146: Radiated Emission 5470.0 MHz Edge for 802.11n HT20 5500 MHz – Horiz. (Ave)



Date: 22.MAY.2020 10:52:52

Figure 147: Radiated Emission 5470.0 MHz Edge for 802.11n HT20 5500 MHz – Vert. (Pk)



Date: 22.MAY.2020 10:54:46

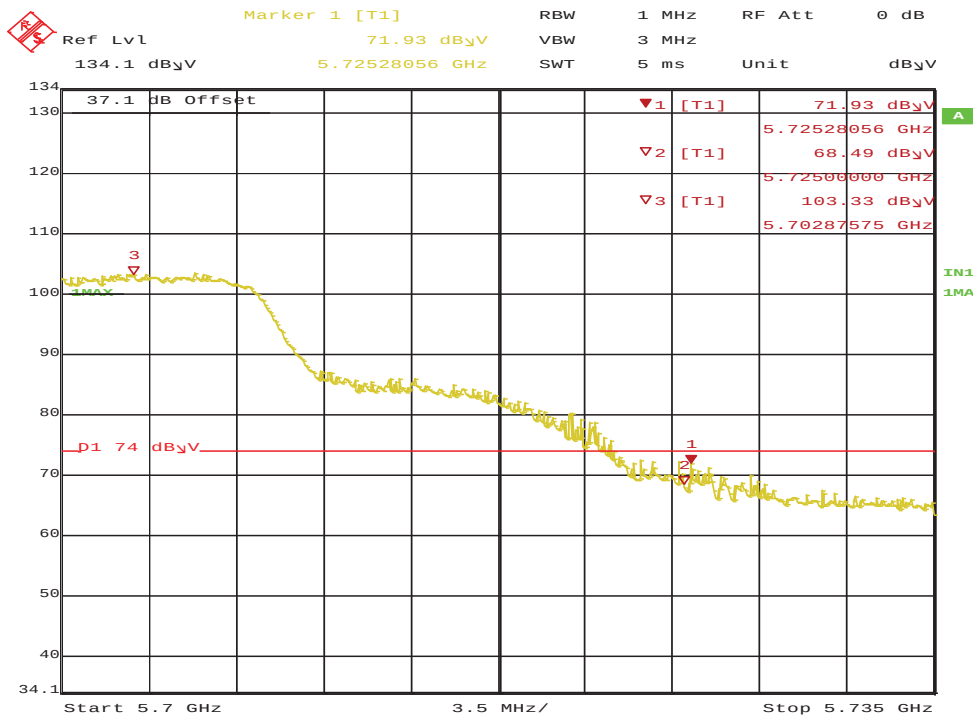
Figure 148: Radiated Emission 5470.0 MHz Edge for 802.11n HT20 5500 MHz – Vert. (Ave)



Figure 149: Radiated Emission 5725.0 MHz Edge for 802.11a 5700 MHz – Horz. (Pk)

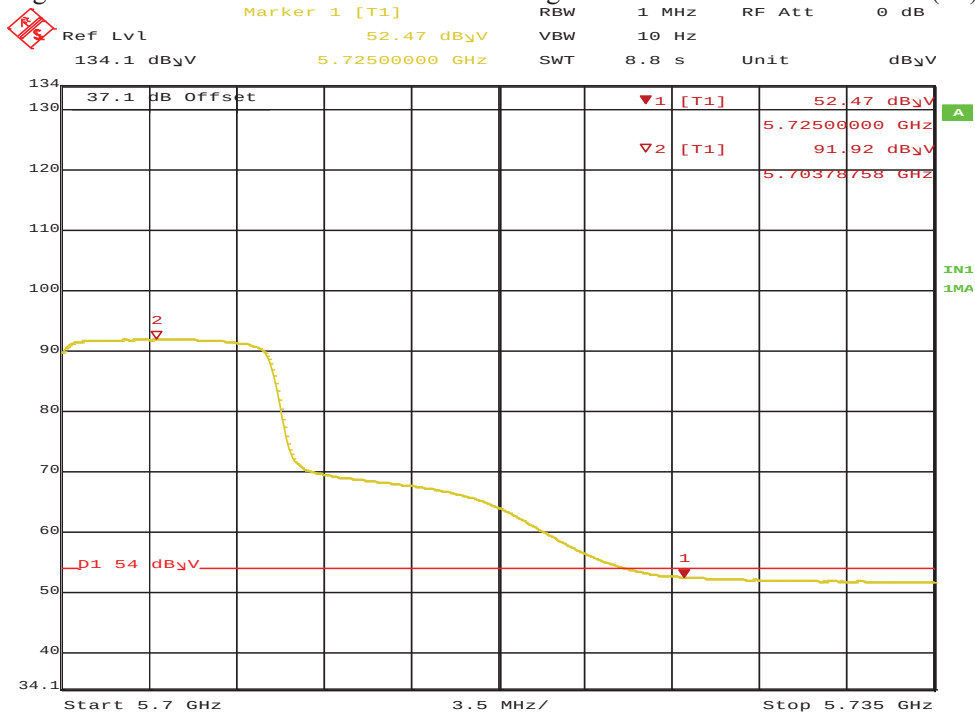


Figure 150: Radiated Emission 5725.0 MHz Edge for 802.11a 5700 MHz – Horz. (Ave)



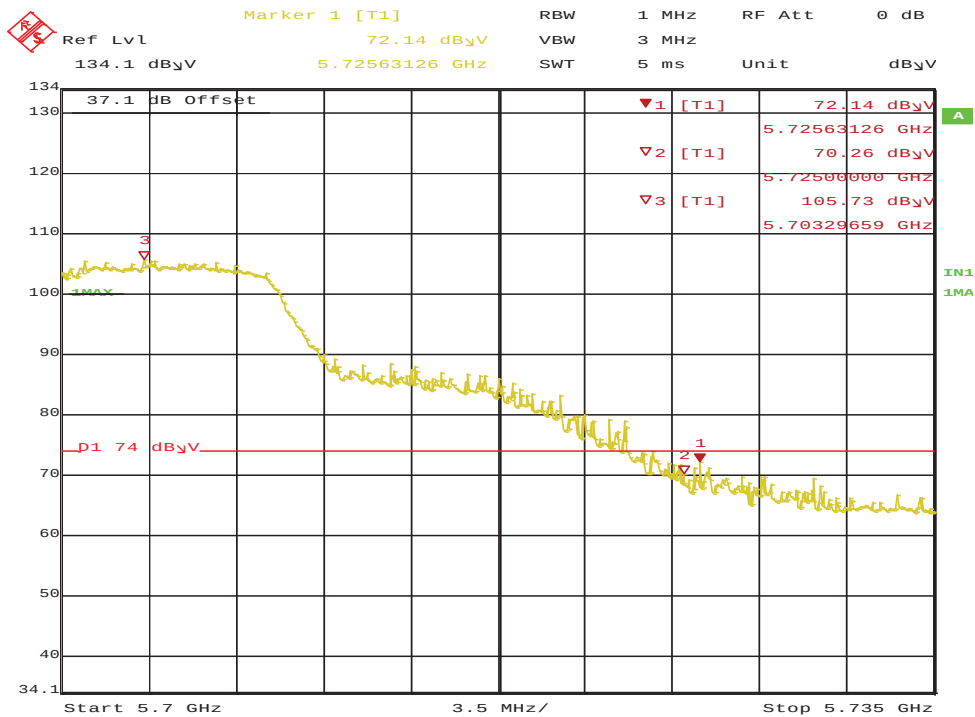
Date: 22.MAY.2020 09:59:15

Figure 151: Radiated Emission 5725.0 MHz Edge for 802.11a 5700 MHz – Vert. (Pk)



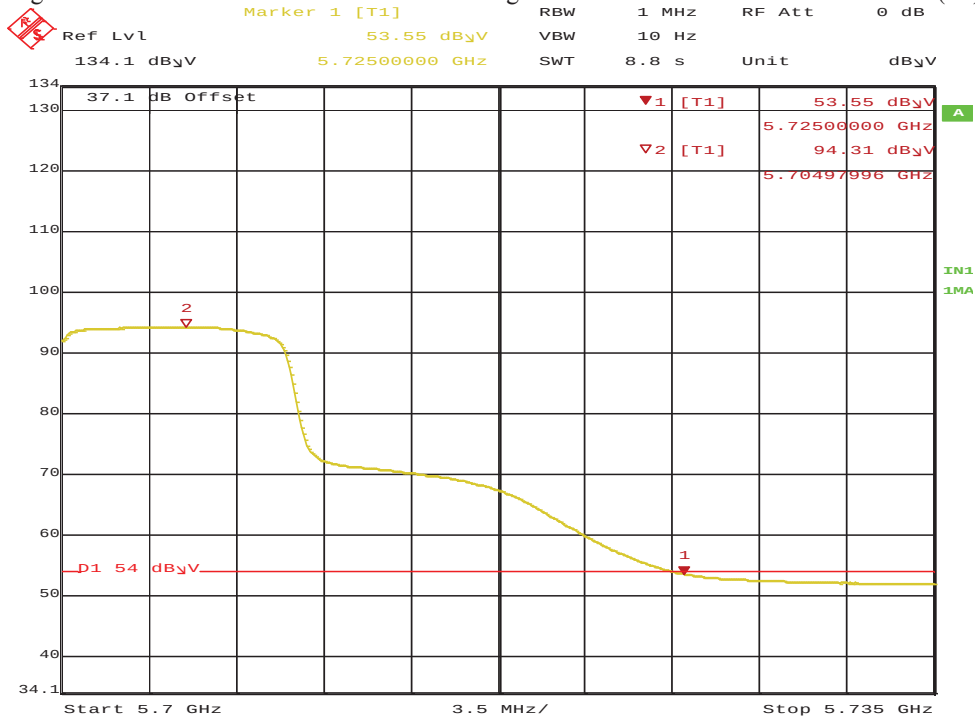
Date: 22.MAY.2020 10:01:03

Figure 152: Radiated Emission 5725.0 MHz Edge for 802.11a 5700 MHz – Vert. (Ave)



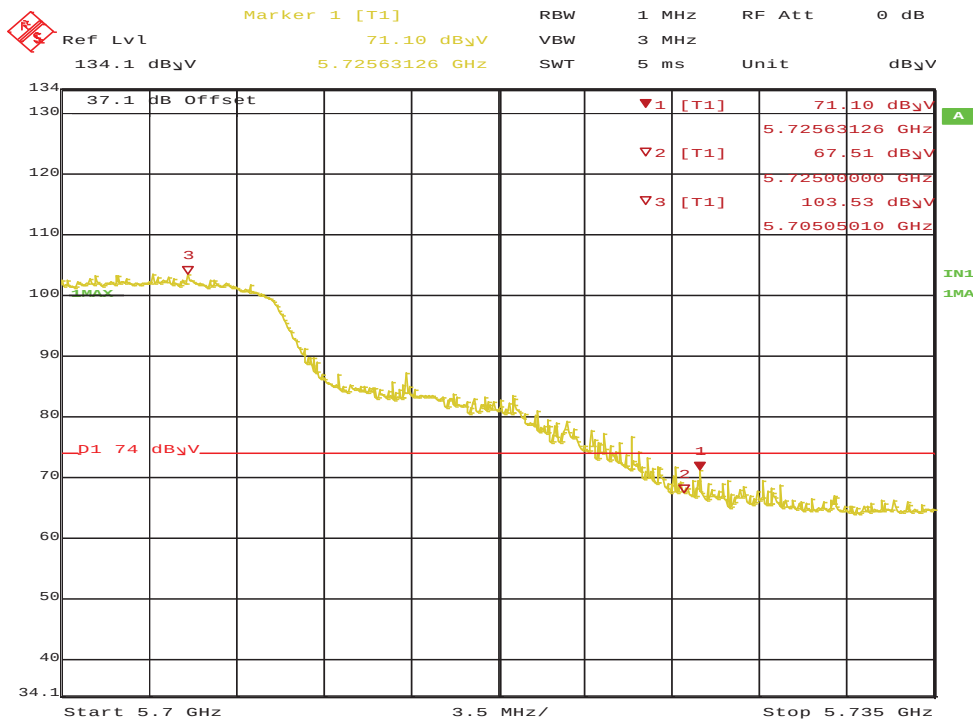
Date: 22.MAY.2020 10:11:24

Figure 153: Radiated Emission 5725.0 MHz Edge for 802.11n HT20 5700 MHz – Horz. (Pk)



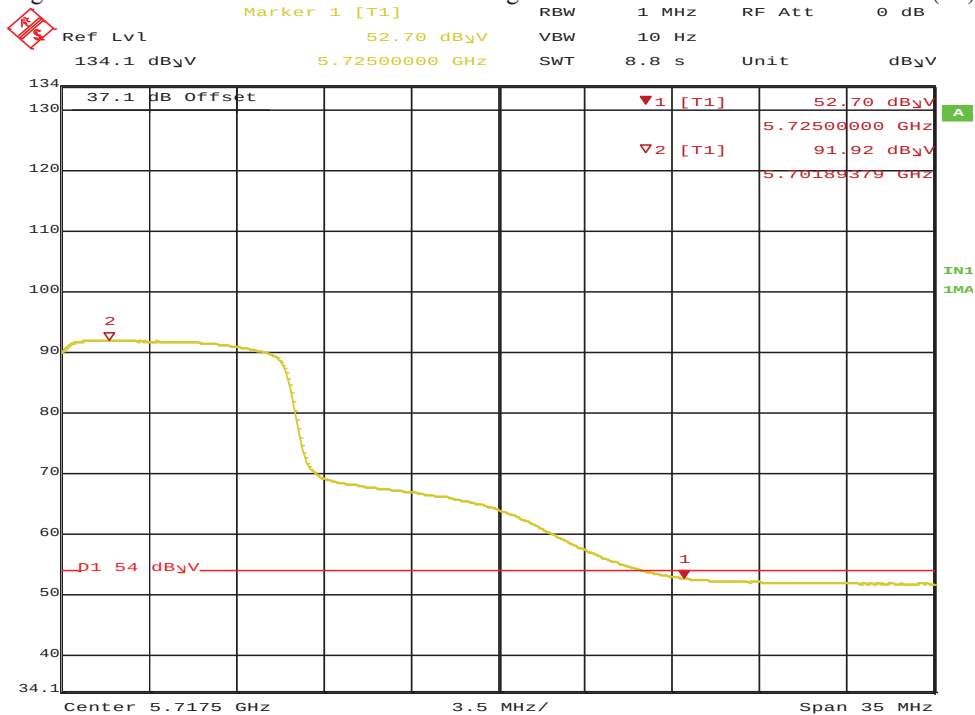
Date: 22.MAY.2020 10:13:34

Figure 154: Radiated Emission 5725.0 MHz Edge for 802.11n HT20 5700 MHz – Horz. (Ave)



Date: 22.MAY.2020 10:04:42

Figure 155: Radiated Emission 5725.0 MHz Edge for 802.11n HT20 5700 MHz – Vert. (Pk)



Date: 22.MAY.2020 10:06:08

Figure 156: Radiated Emission 5725.0 MHz Edge for 802.11n HT20 5700 MHz – Vert. (Ave)

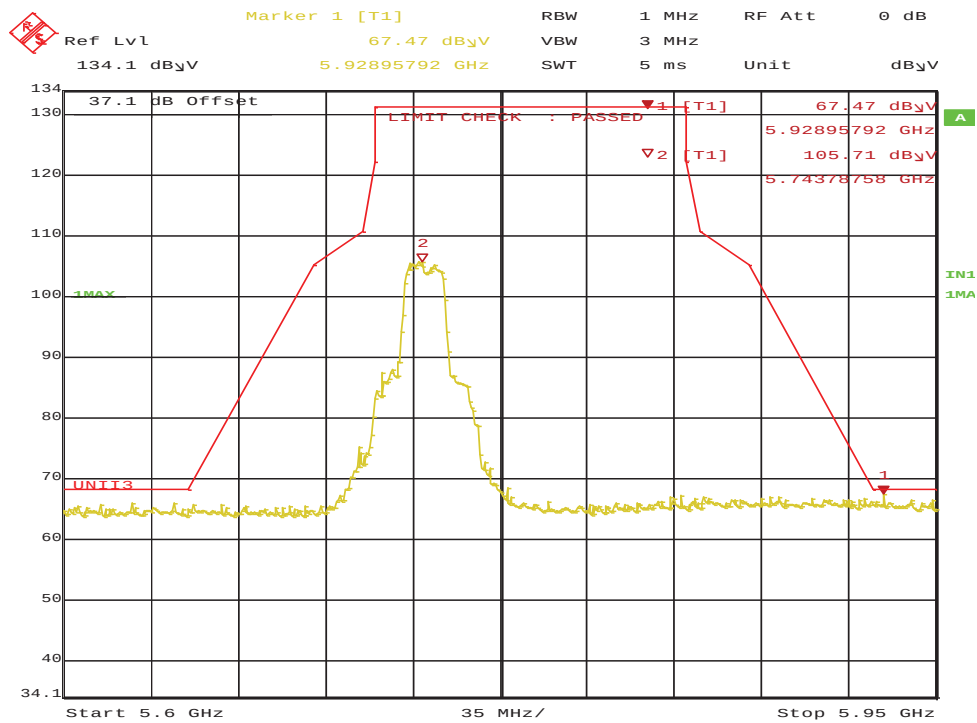


Figure 157: Radiated Emission Mask for 802.11a 5745 MHz – Horiz. (Pk)

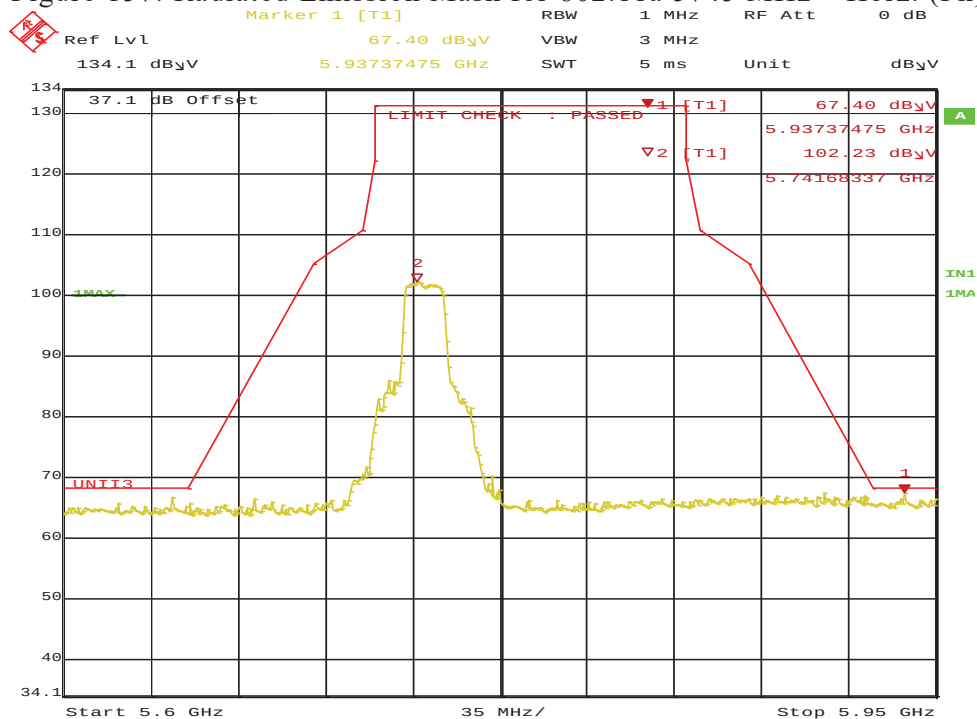
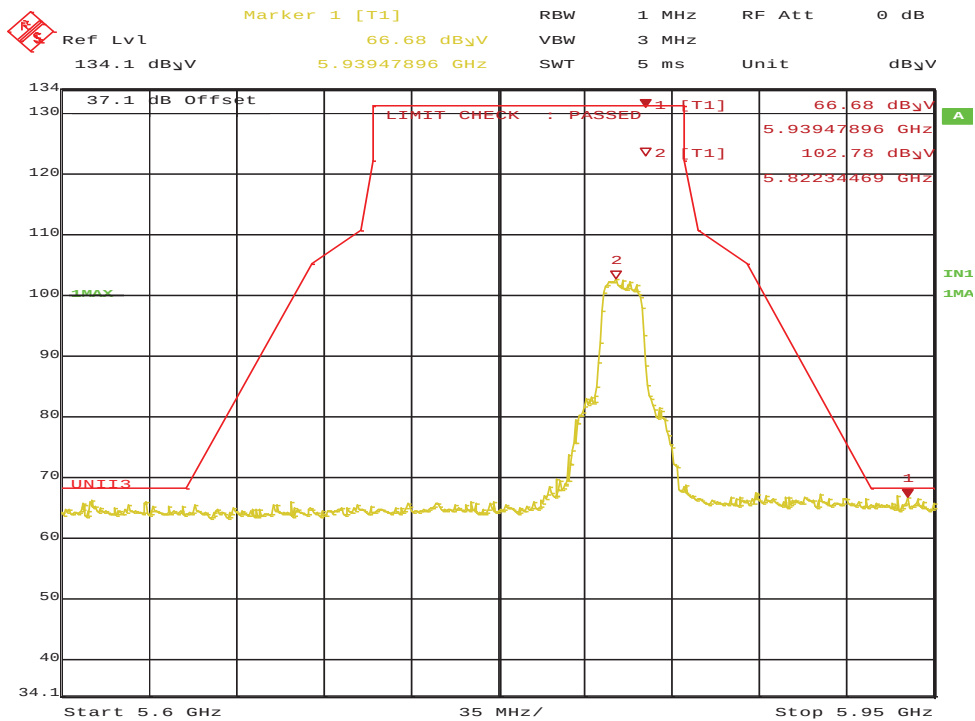
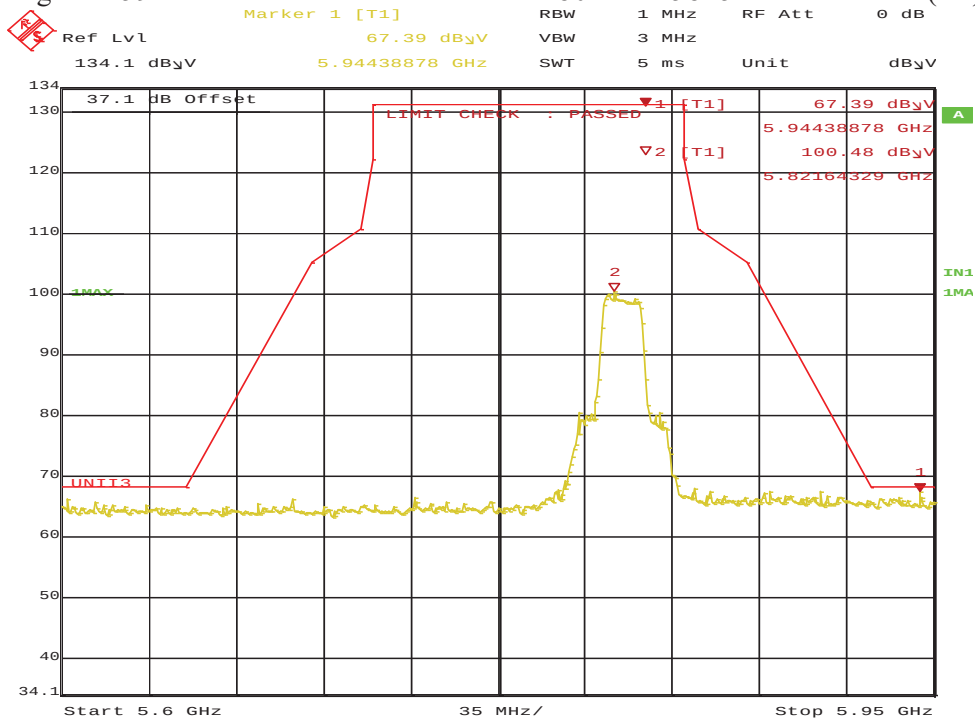


Figure 158: Radiated Emission Mask for 802.11a 5745 MHz – Vert (Pk)



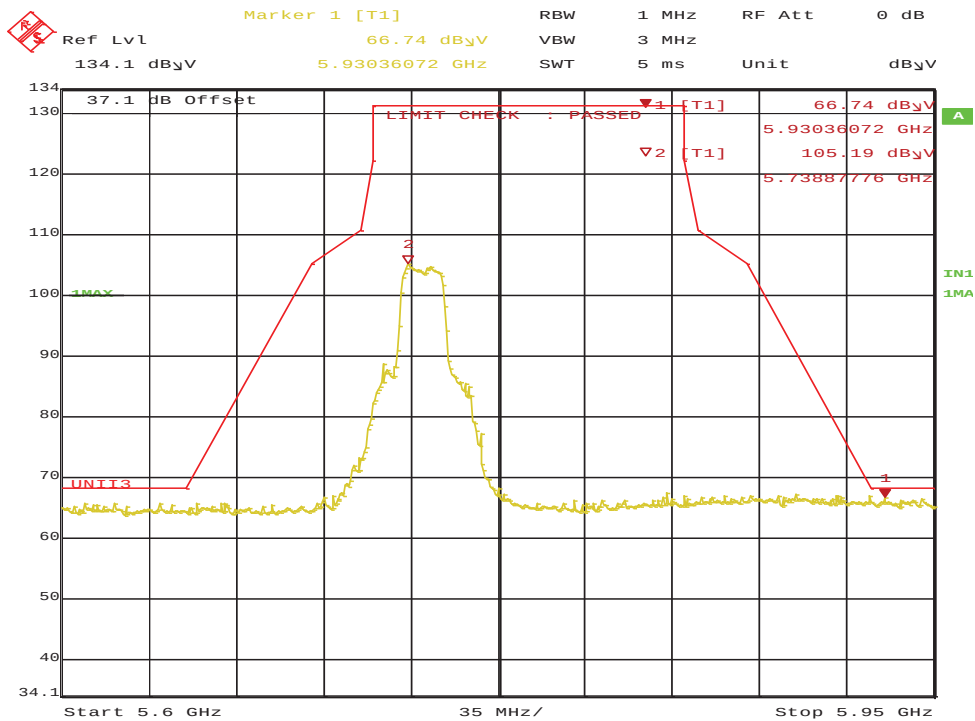
Date: 21.MAY.2020 05:10:45

Figure 159: Radiated Emission Mask for 802.11a 5825 MHz – Horz. (Pk)



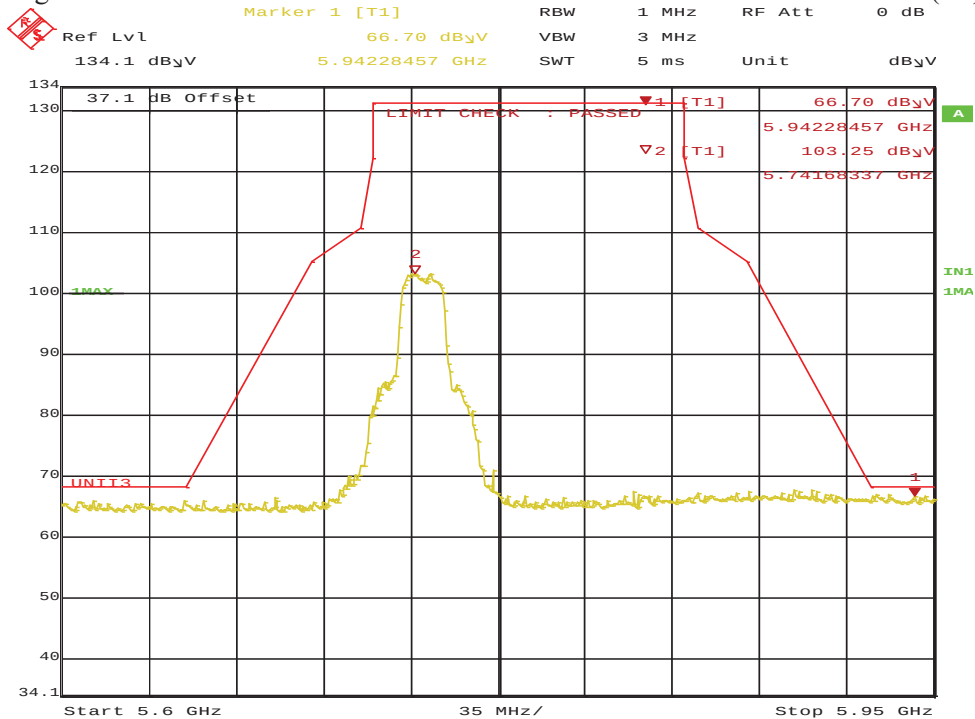
Date: 21.MAY.2020 04:58:54

Figure 160: Radiated Emission Mask for 802.11a 5825 MHz – Vert. (Pk)



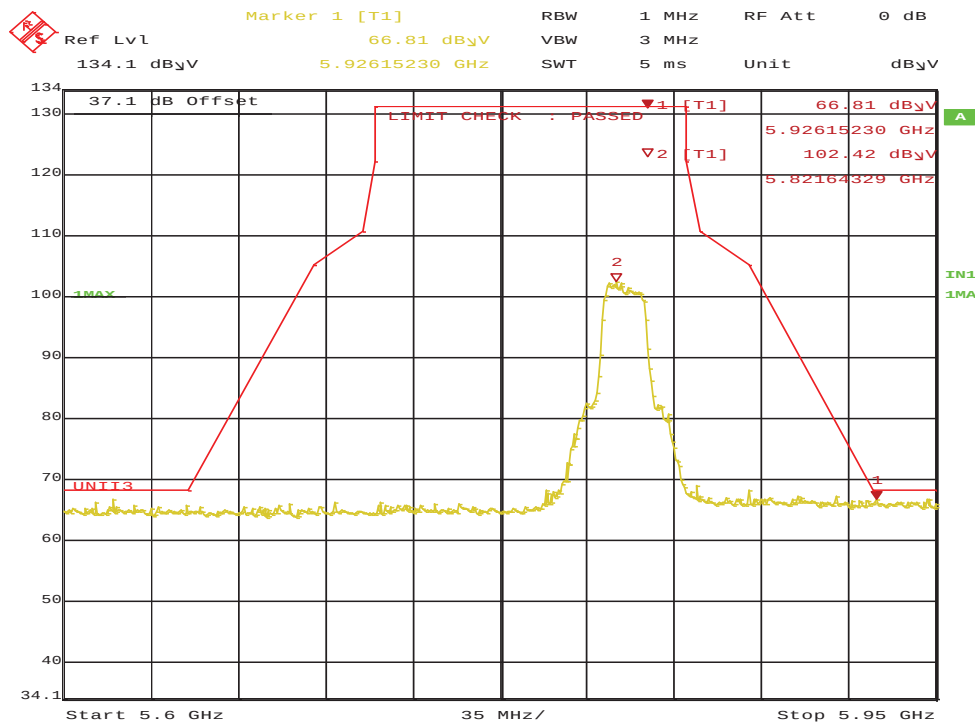
Date: 21.MAY.2020 04:48:24

Figure 161: Radiated Emission Mask for 802.11n HT20 5745 MHz – Horz. (Pk)



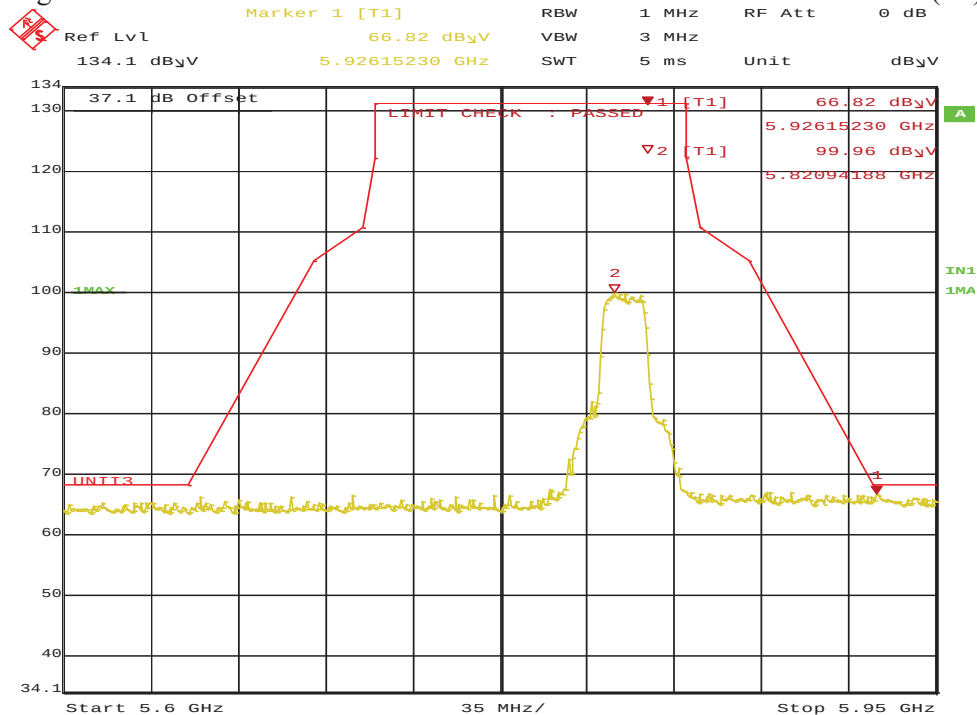
Date: 21.MAY.2020 04:43:52

Figure 162: Radiated Emission Mask for 802.11n HT20 5745 MHz – Vert. (Pk)



Date: 21.MAY.2020 05:06:32

Figure 163: Radiated Emission Mask for 802.11n HT20 5825 MHz – Horz. (Pk)



Date: 21.MAY.2020 05:02:02

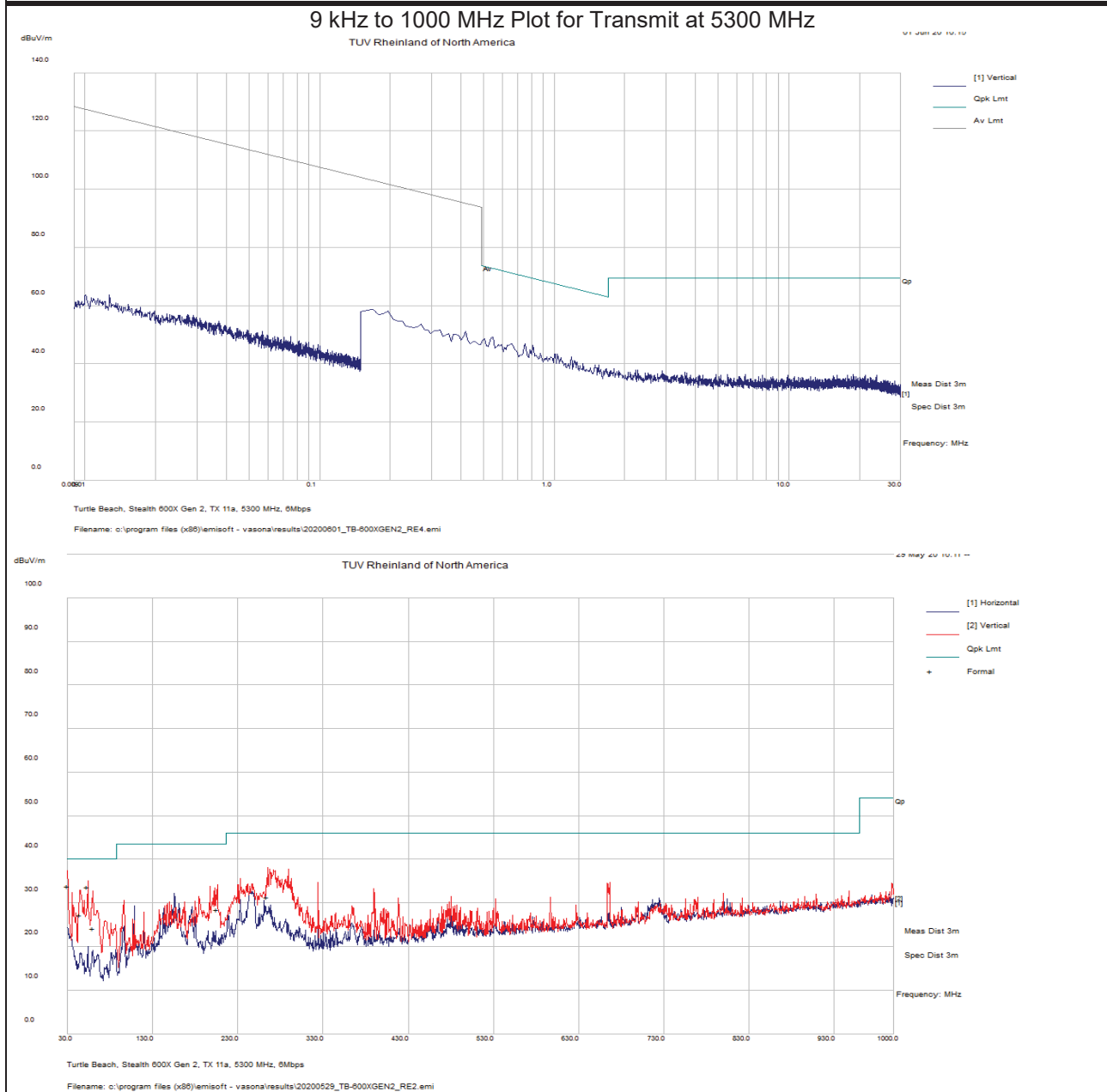
Figure 164: Radiated Emission Mask for 802.11n HT20 5825 MHz – Vert. (Pk)

SOP 1 Radiated Emissions						Tracking # 32062209.001 Page 1 of 34					
EUT Name	Wireless Audio Headset					Date	May 29, 2020				
EUT Model	Stealth 600X Gen 2					Temp / Hum in	23° C / 38%rh				
EUT Serial	PP #2					Temp / Hum out	N/A				
EUT Config.	Headset upright in 802.11a mode at 6 Mbps					Line AC / Freq	3.7Vdc				
Standard	CFR47 Part 15 Subpart C, RSS-247, RSS-GEN					RBW / VBW	Per ANSI C63.10				
Dist/Ant Used	3m / JB3 & 6505					Performed by	Jeremy Luong				
9 kHz – 1 GHz Transmit at 5300 MHz											
Frequency	Raw	Cable Loss	AF	Level	Detector	Polarity	Height	Azimuth	Limit	Margin	
MHz	dBuV/m	dB	dB	dBuV/m		H/V	cm	deg	dBuV/m	dB	
30.00	37.59	2.49	-6.22	33.86	QP	V	125	236	40.00	-6.14	
44.68	41.95	2.59	-17.21	27.33	QP	V	222	62	40.00	-12.67	
54.09	51.63	2.66	-20.60	33.69	QP	V	102	116	40.00	-6.31	
60.06	42.16	2.68	-20.68	24.16	QP	V	124	322	40.00	-15.84	
206.04	42.05	3.31	-16.85	28.51	QP	V	109	197	43.50	-14.99	
264.43	42.73	3.49	-14.86	31.37	QP	V	101	102	46.00	-14.63	
Spec Margin = E-Field QP - Limit, E-Field QP = FIM QP+ Total CF ± Uncertainty											
Total CF= AF+ Cable Loss AF= Antenna factor + Preamp											
Note: 1. Modes tested are 802.11a and 802.11n HT20, (low, mid & high channels).											
2. Worst case emission was observed on 802.11a at 6 Mbps, 5300 MHz mode for 20MHz channel BW.											
3. No significant emission was observed below 30 MHz											

SOP 1 Radiated Emissions

Tracking # 32062209.001 Page 2 of 34

EUT Name	Wireless Audio Headset	Date	May 29, 2020
EUT Model	Stealth 600X Gen 2	Temp / Hum in	23° C / 35%rh
EUT Serial	PP #2	Temp / Hum out	N/A
EUT Config.	Headset upright in 802.11a mode at 6 Mbps	Line AC / Freq	3.7Vdc
Standard	CFR47 Part 15 Subpart C	RBW / VBW	Per ANSI C63.10
Dist/Ant Used	3m / JB3 & 6505	Date	Jeremy Luong



Notes: None.

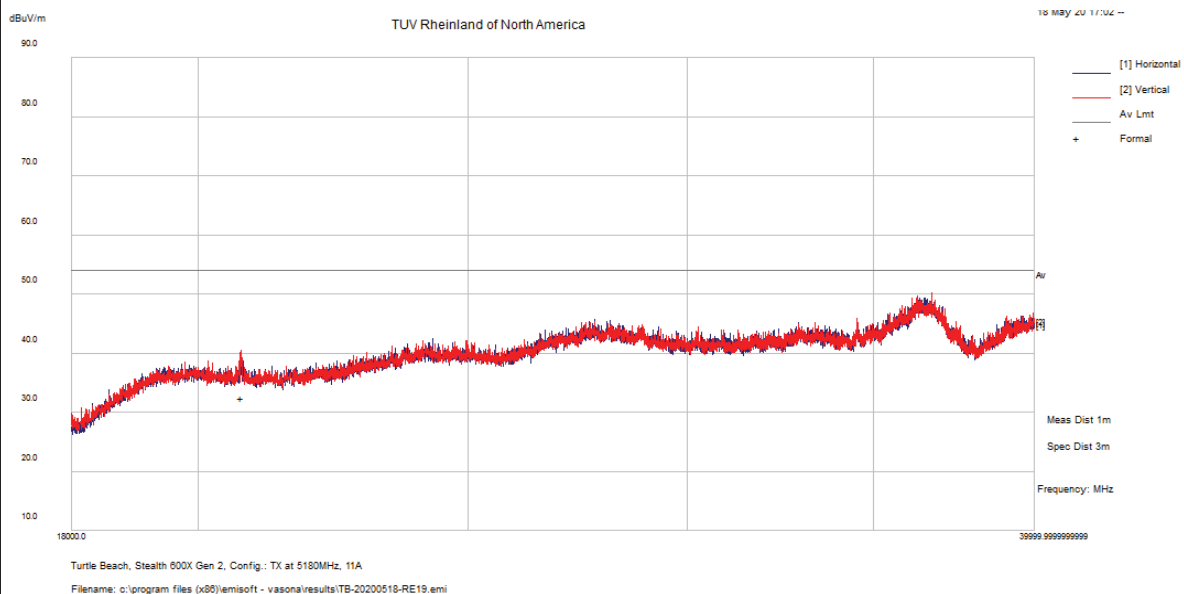
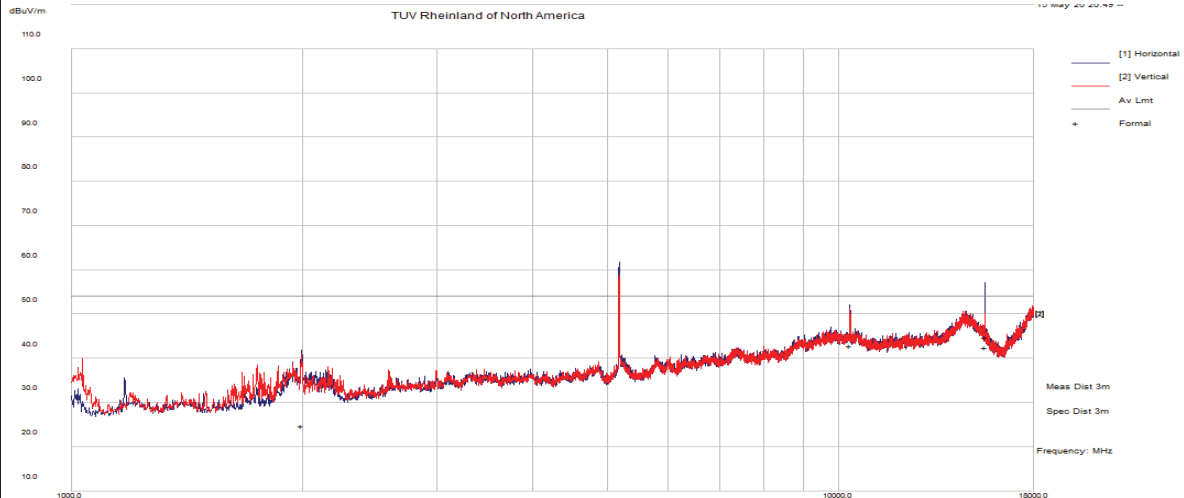
SOP 1 Radiated Emissions						Tracking # 32062209.001 Page 3 of 34					
EUT Name	Wireless Audio Headset					Date	May 15, 2020				
EUT Model	Stealth 600X Gen 2					Temp / Hum in	21° C / 36%rh				
EUT Serial	PP#2					Temp / Hum out	N/A				
EUT Config.	Headset upright in 802.11a mode at 6 Mbps					Line AC / Freq	3.7Vdc				
Standard	CFR47 Part 15 Subpart C, RSS-247, RSS-GEN					RBW / VBW	1 MHz/ 3 MHz				
Dist/Ant Used	3m / EMCO-3115, 1m / COM-POWER AHA-840					Performed by	Jeremy Luong				
1 – 40 GHz Transmit at 5180 MHz (Low Channel)											
Frequency	Raw	Cable Loss	AF	Level	Detector	Polarity	Height	Azimuth	Limit	Margin	
MHz	dBuV/m	dB	dB	dBuV/m		H/V	cm	deg	dBuV/m	dB	
1996.61	53.36	0.89	-29.58	24.67	Ave	H	138	314	54.00	-29.33	
10359.57	56.10	2.80	-16.10	42.80	Ave	H	142	238	54.00	-11.20	
15542.78	56.80	3.80	-15.80	44.80	Ave	H	160	274	54.00	-9.20	
15551.68	54.60	3.80	-15.80	42.50	Ave	H	236	234	54.00	-11.50	
20716.35	36.00	7.60	-9.10	34.50	Ave	V	161	346	54.00	-19.50	
1 – 40 GHz Transmit at 5200 MHz (Middle Channel)											
10401.19	59.50	2.90	-16.10	46.30	Ave	H	210	236	54.00	-7.70	
15600.61	57.50	3.80	-15.90	45.40	Ave	H	174	274	54.00	-8.60	
17991.32	43.26	4.11	-7.74	39.64	Ave	H	249	340	54.00	-14.36	
1055.26	49.66	0.60	-33.16	17.09	Ave	V	236	18	54.00	-36.91	
20801.81	37.80	7.60	-9.00	36.40	Ave	V	191	320	54.00	-17.60	
36393.10	38.70	10.20	-4.90	44.00	Ave	V	181	208	54.00	-10.00	
1 – 40 GHz Transmit at 5240 MHz (High Channel)											
10482.27	57.50	2.90	-16.20	44.20	Ave	H	182	32	54.00	-9.80	
15721.78	55.60	3.80	-16.50	42.90	Ave	H	201	232	54.00	-11.10	
1999.60	53.34	0.90	-29.59	24.65	Ave	V	148	308	54.00	-29.35	
20951.64	35.30	7.60	-9.40	33.50	Ave	V	194	360	54.00	-20.50	
Spec Margin = E-Field AVG - Limit, E-Field AVG = FIM AVG+ Total CF ± Uncertainty											
Total CF= AF+ Cable Loss AF= Antenna factor + Preamp											
Note: Worst case was observed at 6 Mbps for 802.11a mode.											
Headset intended to transmit at about +5 dBm.											

SOP 1 Radiated Emissions

Tracking # 32062209.001 Page 4 of 34

EUT Name	Wireless Audio Headset	Date	May 15, 2020
EUT Model	Stealth 600X Gen 2	Temp / Hum in	21° C / 36%rh
EUT Serial	PP #2	Temp / Hum out	N/A
EUT Config.	Headset upright in 802.11a mode at 6 Mbps	Line AC / Freq	3.7Vdc
Standard	CFR47 Part 15 Subpart C, RSS-247, RSS-GEN	RBW / VBW	1 MHz/ 3 MHz
Dist/Ant Used	3m / EMCO-3115, 1m / COM-POWER AHA-840	Performed by	Jeremy Luong

Above 1 GHz Plots for Transmit Mode at 5180 MHz

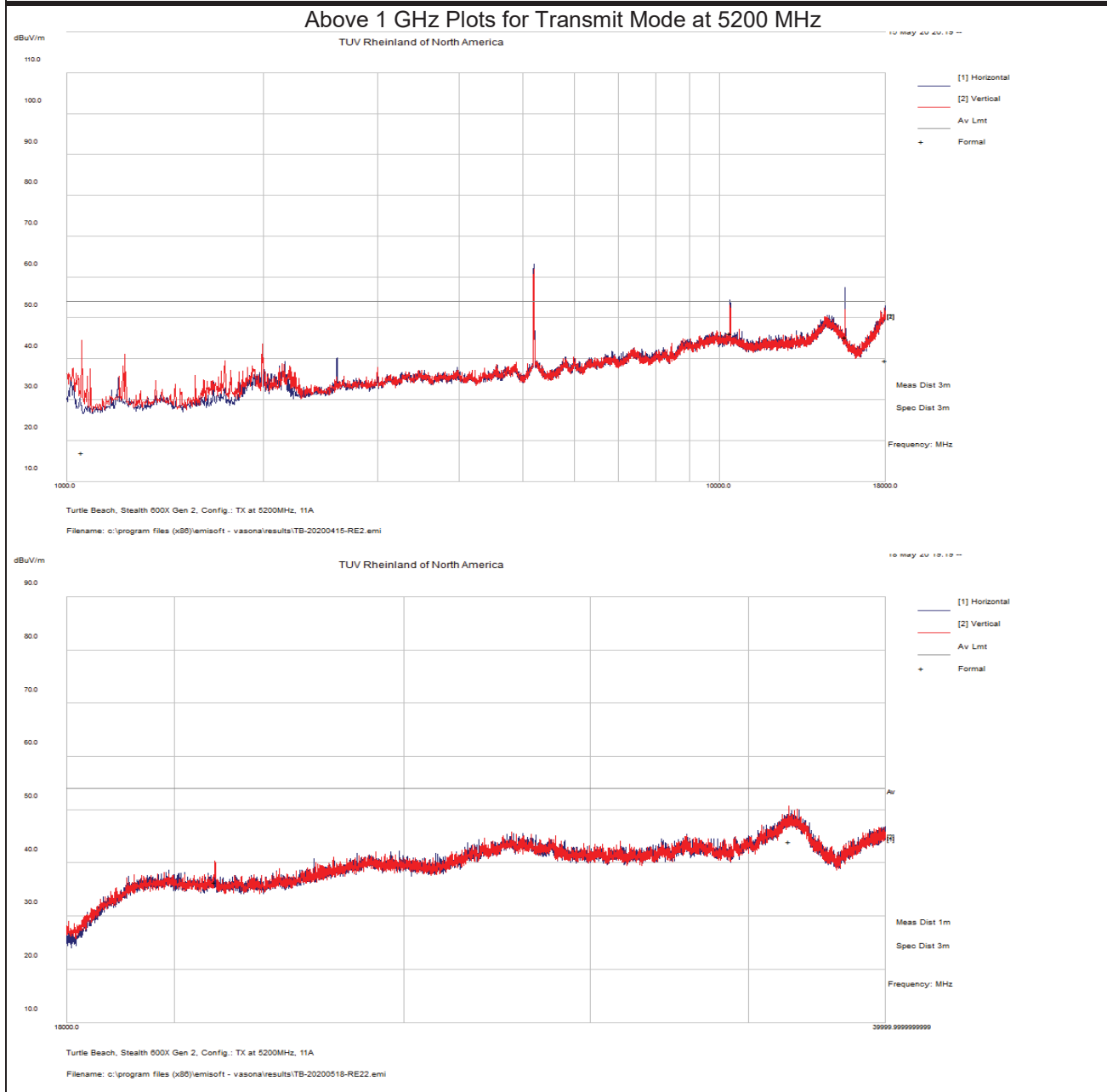


Notes: None.

SOP 1 Radiated Emissions

Tracking # 32062209.001 Page 5 of 34

EUT Name	Wireless Audio Headset	Date	May 15, 2020
EUT Model	Stealth 600X Gen 2	Temp / Hum in	21° C / 36%rh
EUT Serial	PP #2	Temp / Hum out	N/A
EUT Config.	Headset upright in 802.11a mode at 6 Mbps	Line AC / Freq	3.7Vdc
Standard	CFR47 Part 15 Subpart C	RBW / VBW	1 MHz/ 3 MHz
Dist/Ant Used	3m / EMCO-3115, 1m / COM-POWER AHA-840	Performed by	Jeremy Luong



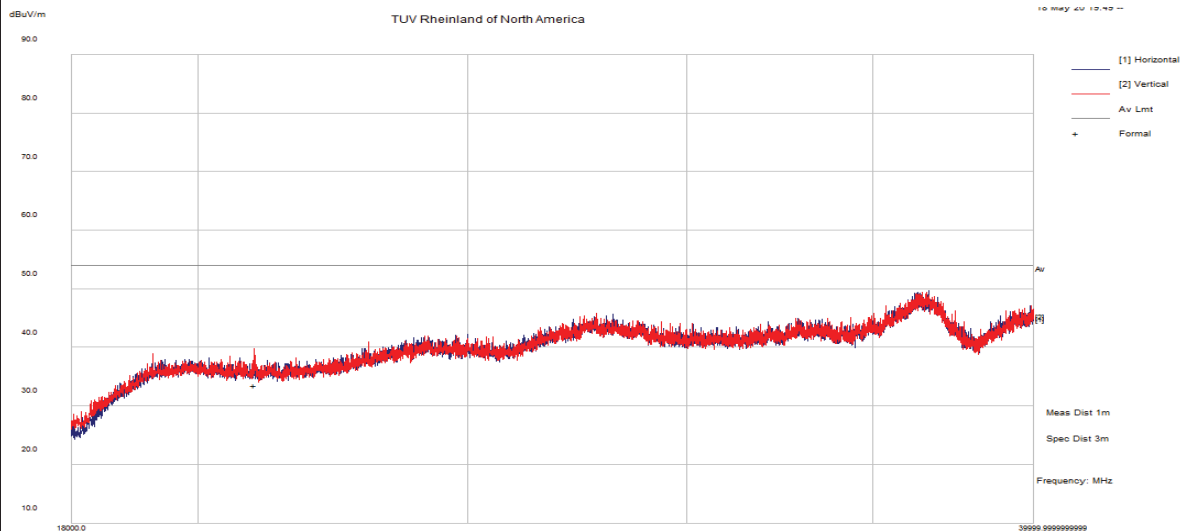
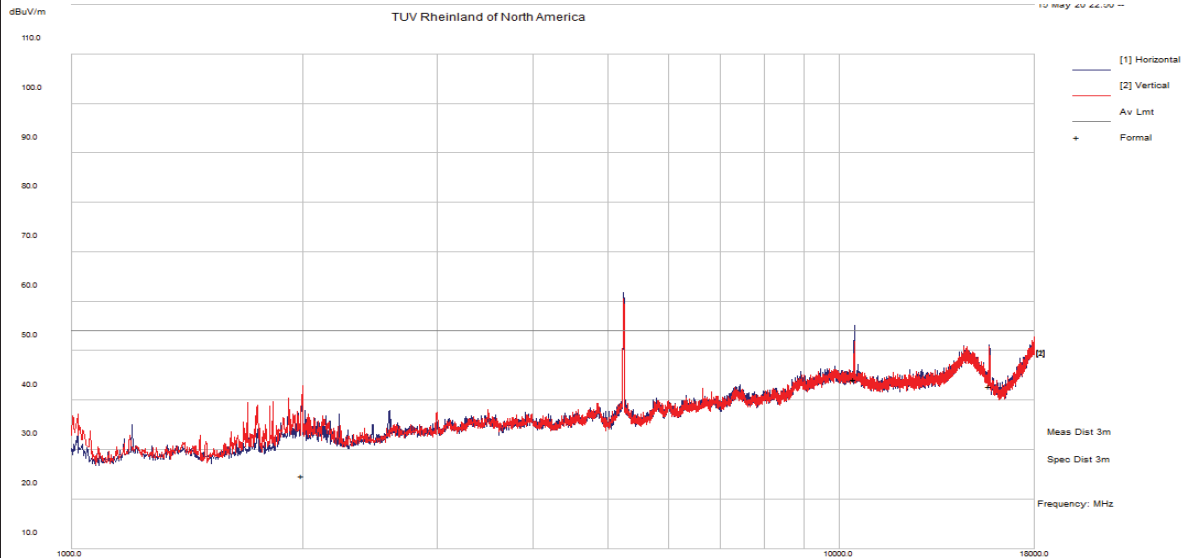
Notes: None.

SOP 1 Radiated Emissions

Tracking # 32062209.001 Page 6 of 34

EUT Name	Wireless Audio Headset	Date	May 15, 2020
EUT Model	Stealth 600X Gen 2	Temp / Hum in	21° C / 36%rh
EUT Serial	PP #2	Temp / Hum out	N/A
EUT Config.	Headset upright in 802.11a mode at 6 Mbps	Line AC / Freq	3.7Vdc
Standard	CFR47 Part 15 Subpart C	RBW / VBW	1 MHz/ 3 MHz
Dist/Ant Used	3m / EMCO-3115, 1m / COM-POWER AHA-840	Performed by	Jeremy Luong

Above 1 GHz Plots for Transmit Mode at 5240 MHz



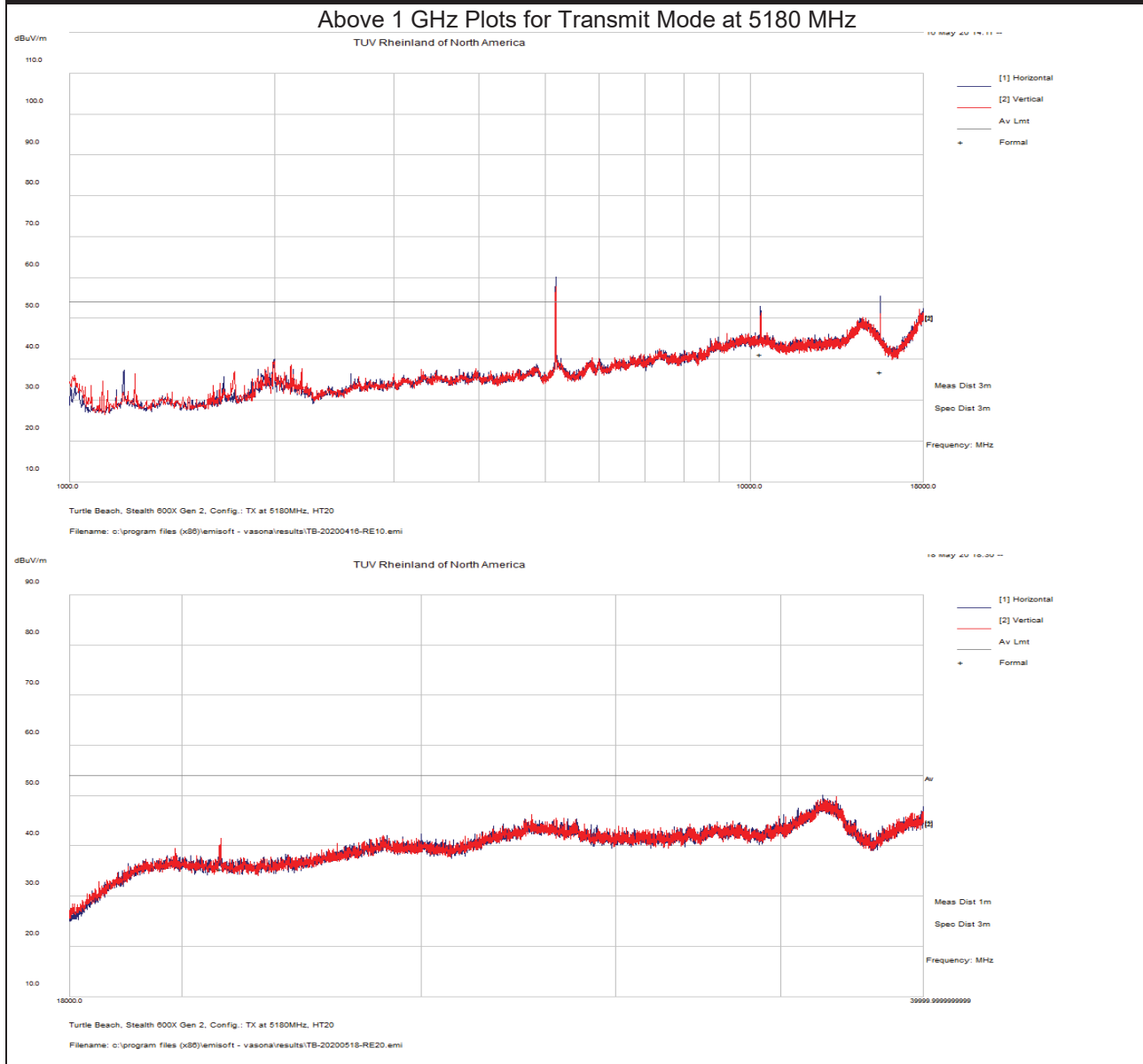
Notes: None.

SOP 1 Radiated Emissions						Tracking # 32062209.001 Page 7 of 34					
EUT Name	Wireless Audio Headset					Date	May 16, 2020				
EUT Model	Stealth 600X Gen 2					Temp / Hum in	23° C / 38%rh				
EUT Serial	PP#2					Temp / Hum out	N/A				
EUT Config.	Headset upright in 802.11n HT20 mode 6.5 Mbps					Line AC / Freq	3.7Vdc				
Standard	CFR47 Part 15 Subpart C, RSS-247, RSS-GEN					RBW / VBW	1 MHz/ 3 MHz				
Dist/Ant Used	3m / EMCO-3115, 1m / COM-POWER AHA-840					Performed by	Jeremy Luong				
1 – 40 GHz Transmit at 5180 MHz (Low Channel)											
Frequency	Raw	Cable Loss	AF	Level	Detector	Polarity	Height	Azimuth	Limit	Margin	
MHz	dBuV/m	dB	dB	dBuV/m		H/V	cm	deg	dBuV/m	dB	
10360.54	54.52	2.77	-16.05	41.24	Ave	H	264	296	54.00	-12.77	
15542.15	48.97	3.79	-15.84	36.92	Ave	H	121	290	54.00	-17.08	
20730.32	36.90	7.60	-9.10	35.40	Ave	V	165	48	54.00	-18.60	
1 – 40 GHz Transmit at 5200 MHz (Middle Channel)											
10402.11	54.36	2.91	-16.09	41.19	Ave	H	241	300	54.00	-12.82	
15595.04	54.19	3.82	-15.90	42.12	Ave	H	194	270	54.00	-11.88	
20791.38	35.50	7.60	-9.00	34.10	Ave	V	197	210	54.00	-19.90	
36454.67	38.60	10.20	-4.90	44.00	Ave	V	150	2	54.00	-10.00	
1 – 40 GHz Transmit at 5240 MHz (High Channel)											
10477.93	55.27	2.95	-16.24	41.98	Ave	H	210	296	54.00	-12.02	
10489.44	51.96	2.87	-16.26	38.57	Ave	H	237	38	54.00	-15.43	
15717.78	52.41	3.80	-16.51	39.71	Ave	H	160	272	54.00	-14.30	
20960.86	34.70	7.60	-9.40	32.90	Ave	V	162	58	54.00	-21.10	
36245.11	39.20	10.30	-5.20	44.20	Ave	V	165	92	54.00	-9.80	
Spec Margin = E-Field AVG - Limit, E-Field AVG = FIM AVG+ Total CF ± Uncertainty											
Total CF= AF+ Cable Loss AF= Antenna factor + Preamp											
Note: Worst case emission was observed at 6.5 Mbps for 802.11n HT20 mode.											
Headset intended to transmit at about +5 dBm.											

SOP 1 Radiated Emissions

Tracking # 32062209.001 Page 8 of 34

EUT Name	Wireless Audio Headset	Date	May 16, 2020
EUT Model	Stealth 600X Gen 2	Temp / Hum in	23° C / 38%rh
EUT Serial	PP #2	Temp / Hum out	N/A
EUT Config.	Headset upright in 802.11n HT20 mode 6.5 Mbps	Line AC / Freq	3.7Vdc
Standard	CFR47 Part 15 Subpart C, RSS-247, RSS-GEN	RBW / VBW	1 MHz/ 3 MHz
Dist/Ant Used	3m / EMCO-3115, 1m / COM-POWER AHA-840	Performed by	Jeremy Luong

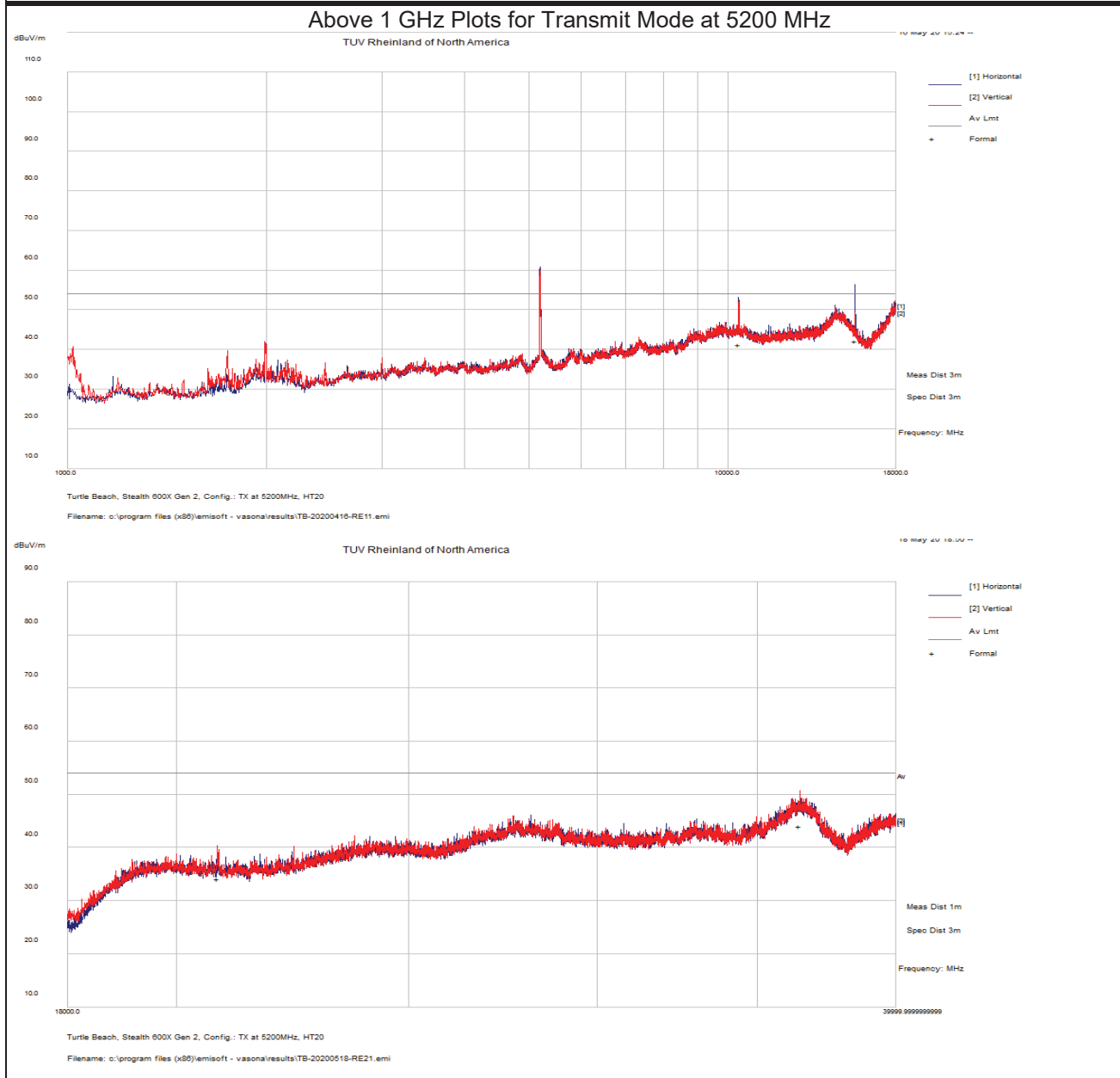


Notes: No significant emission observed above 18 GHz.

SOP 1 Radiated Emissions

Tracking # 32062209.001 Page 9 of 34

EUT Name	Wireless Audio Headset	Date	May 16, 2020
EUT Model	Stealth 600X Gen 2	Temp / Hum in	23° C / 38%rh
EUT Serial	PP #2	Temp / Hum out	N/A
EUT Config.	Headset upright in 802.11n HT20 mode 6.5 Mbps	Line AC / Freq	3.7Vdc
Standard	CFR47 Part 15 Subpart C	RBW / VBW	1 MHz/ 3 MHz
Dist/Ant Used	3m / EMCO-3115, 1m / COM-POWER AHA-840	Performed by	Jeremy Luong



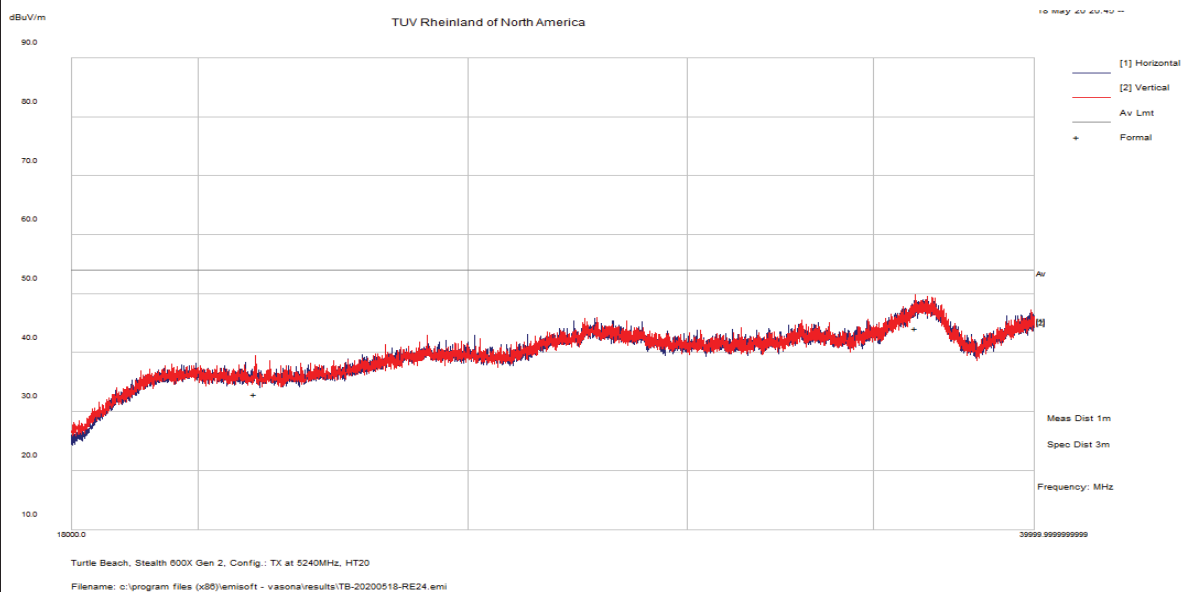
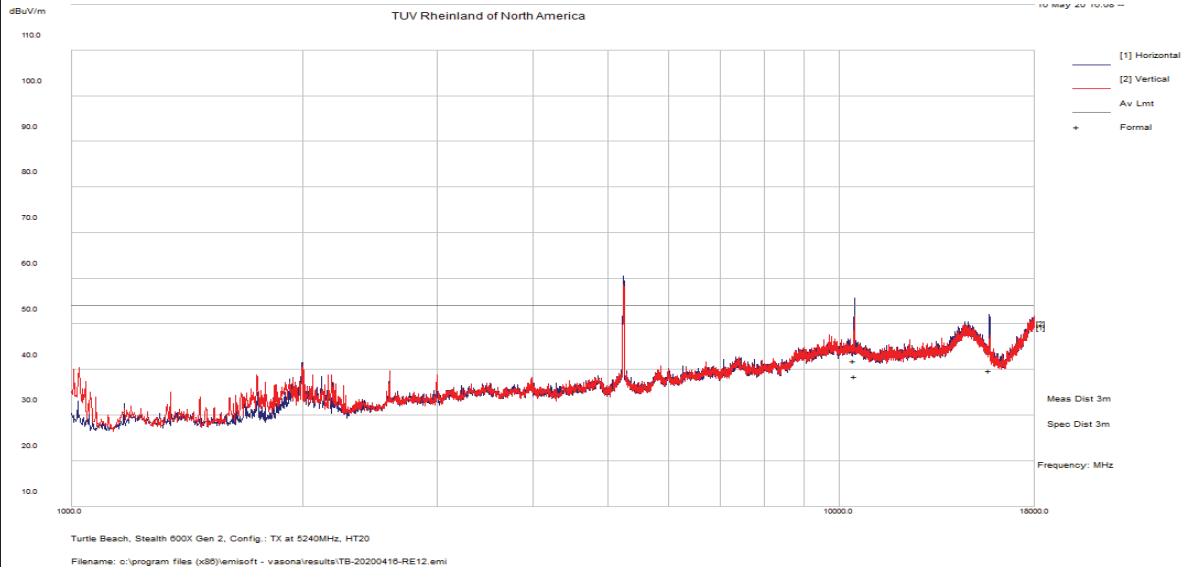
Notes: None.

SOP 1 Radiated Emissions

Tracking # 32062209.001 Page 10 of 34

EUT Name	Wireless Audio Headset	Date	May 16, 2020
EUT Model	Stealth 600X Gen 2	Temp / Hum in	23° C / 38%rh
EUT Serial	PP #2	Temp / Hum out	N/A
EUT Config.	Headset upright in 802.11n HT20 mode 6.5 Mbps	Line AC / Freq	3.7Vdc
Standard	CFR47 Part 15 Subpart C	RBW / VBW	1 MHz/ 3 MHz
Dist/Ant Used	3m / EMCO-3115, 1m / COM-POWER AHA-840	Performed by	Jeremy Luong

Above 1 GHz Plots for Transmit Mode at 5240 MHz



Notes: None.

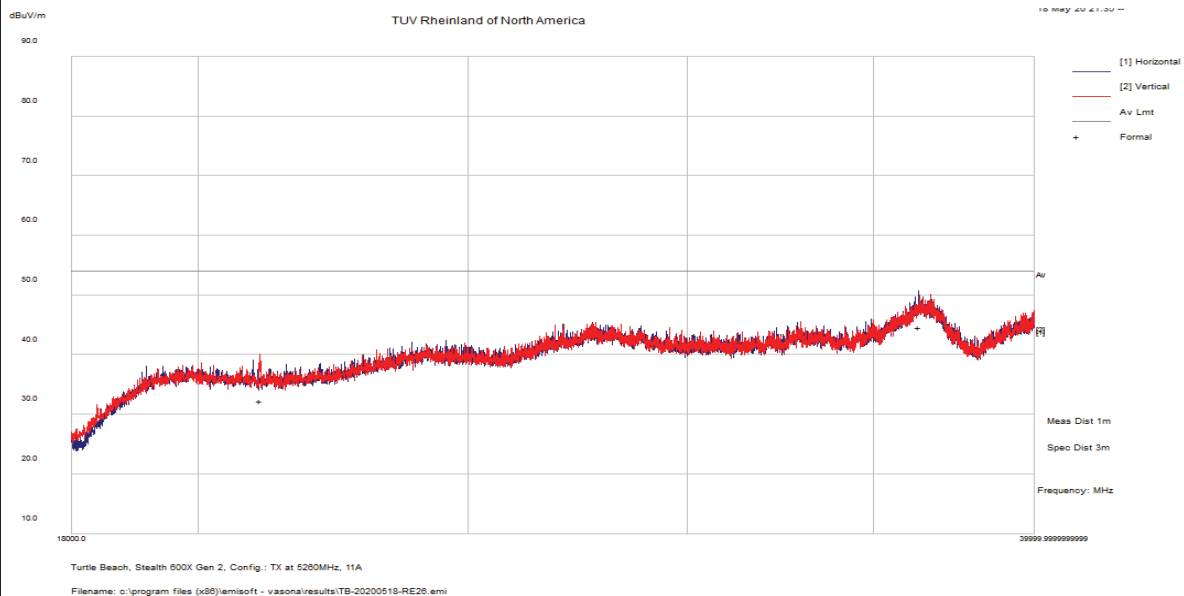
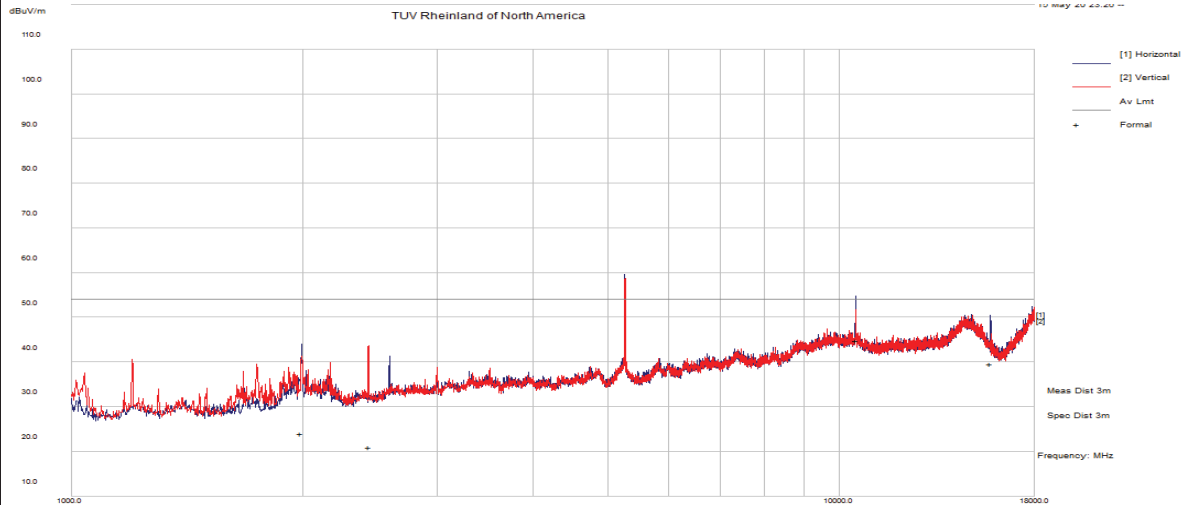
SOP 1 Radiated Emissions						Tracking # 32062209.001 Page 11 of 34					
EUT Name	Wireless Audio Headset					Date	May 15, 2020				
EUT Model	Stealth 600X Gen 2					Temp / Hum in	21° C / 36%rh				
EUT Serial	PP#2					Temp / Hum out	N/A				
EUT Config.	Headset upright in 802.11a mode at 6 Mbps					Line AC / Freq	3.7Vdc				
Standard	CFR47 Part 15 Subpart C, RSS-247, RSS-GEN					RBW / VBW	1 MHz/ 3 MHz				
Dist/Ant Used	3m / EMCO-3115, 1m / COM-POWER AHA-840					Performed by	Jeremy Luong				
1 – 40 GHz Transmit at 5260 MHz (Low Channel)											
Frequency	Raw	Cable Loss	AF	Level	Detector	Polarity	Height	Azimuth	Limit	Margin	
MHz	dBuV/m	dB	dB	dBuV/m		H/V	cm	deg	dBuV/m	dB	
1991.78	52.74	0.89	-29.57	24.06	Ave	H	247	326	54.00	-29.94	
10521.94	58.29	2.91	-16.35	44.84	Ave	H	140	292	54.00	-9.16	
15768.43	52.60	3.80	-16.90	39.50	Ave	H	267	246	54.00	-14.50	
2441.69	48.65	1.15	-28.84	20.96	Ave	V	151	360	54.00	-33.04	
36332.70	39.40	10.20	-5.00	44.60	Ave	H	168	240	54.00	-9.40	
21042.88	34.10	7.60	-9.40	32.30	Ave	V	197	344	54.00	-21.70	
1 – 40 GHz Transmit at 5300 MHz (Middle Channel)											
1994.72	52.66	0.89	-29.58	23.98	Ave	H	204	308	54.00	-30.02	
10600.73	57.78	3.06	-16.38	44.45	Ave	H	181	282	54.00	-9.55	
15902.86	49.20	3.80	-17.60	35.40	Ave	H	158	294	54.00	-18.60	
36260.90	38.40	10.20	-5.20	43.40	Ave	H	168	100	54.00	-10.60	
21206.65	33.10	7.60	-9.10	31.60	Ave	V	181	80	54.00	-22.40	
1 – 40 GHz Transmit at 5320 MHz (High Channel)											
1994.35	53.70	0.89	-29.58	25.02	Ave	H	224	284	54.00	-28.98	
10642.95	56.63	3.03	-16.48	43.17	Ave	H	187	238	54.00	-10.83	
15955.52	46.56	3.77	-17.66	32.67	Ave	H	100	322	54.00	-21.33	
36761.61	39.00	10.30	-5.30	44.00	Ave	H	158	150	54.00	-10.00	
21286.97	36.50	7.60	-9.40	34.70	Ave	V	171	0	54.00	-19.30	
Spec Margin = E-Field AVG - Limit, E-Field AVG = FIM AVG+ Total CF ± Uncertainty											
Total CF= AF+ Cable Loss AF= Antenna factor + Preamp											
Note: Worst case emission was observed at 6 Mbps for 802.11a mode.											
Headset intended to transmit at about +5 dBm.											

SOP 1 Radiated Emissions

Tracking # 32062209.001 Page 12 of 34

EUT Name	Wireless Audio Headset	Date	May 15, 2020
EUT Model	Stealth 600X Gen 2	Temp / Hum in	21° C / 36%rh
EUT Serial	PP #2	Temp / Hum out	N/A
EUT Config.	Headset upright in 802.11a mode at 6 Mbps	Line AC / Freq	3.7Vdc
Standard	CFR47 Part 15 Subpart C, RSS-247, RSS-GEN	RBW / VBW	1 MHz/ 3 MHz
Dist/Ant Used	3m / EMCO-3115, 1m / COM-POWER AHA-840	Performed by	Jeremy Luong

Above 1 GHz Plots for Transmit Mode at 5260 MHz



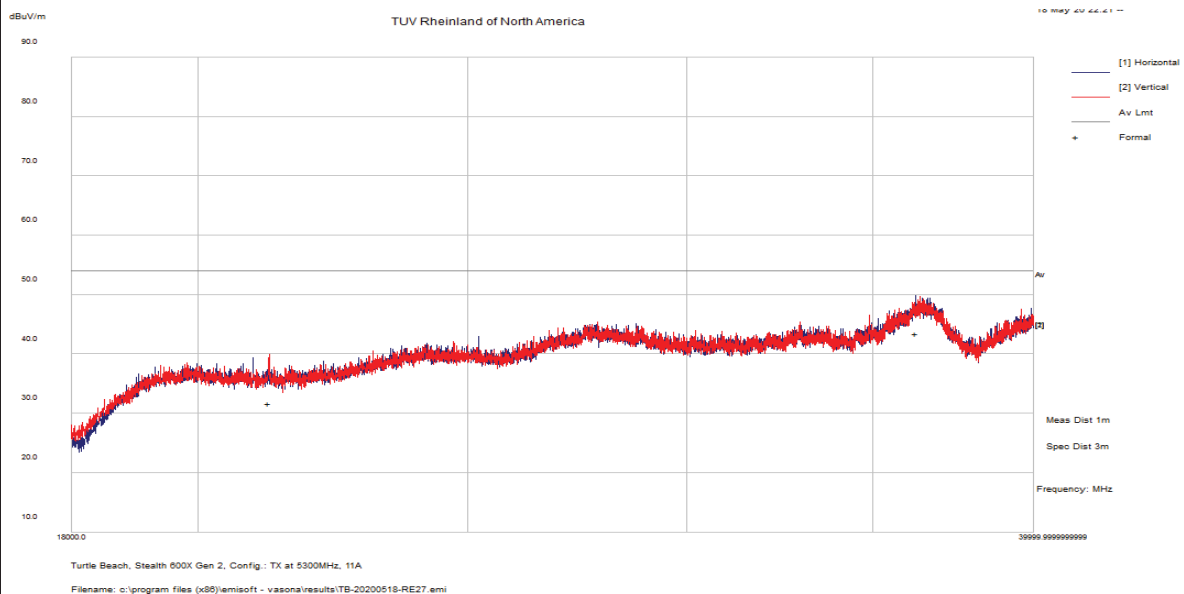
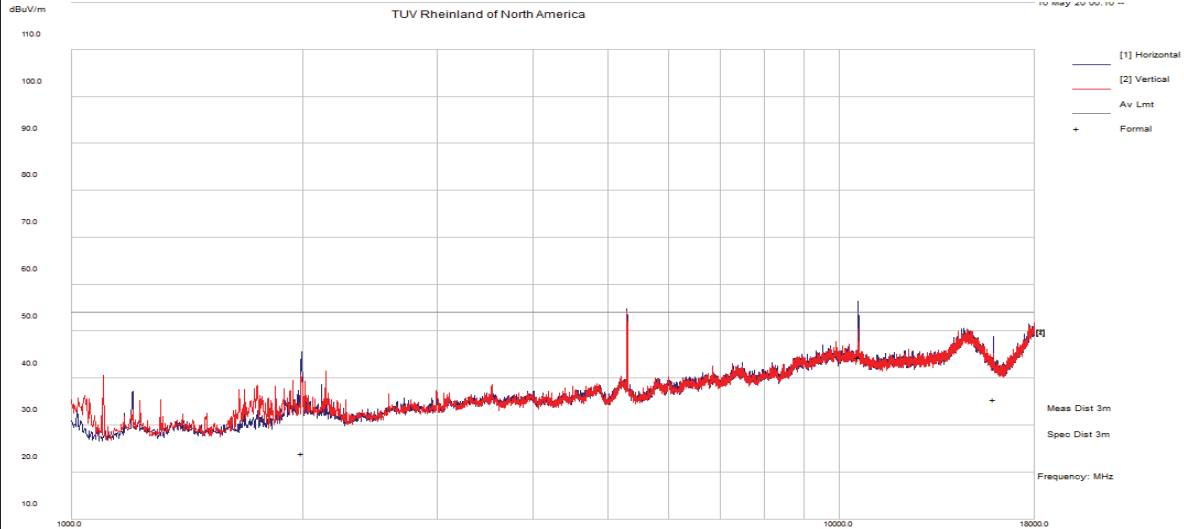
Notes: None.

SOP 1 Radiated Emissions

Tracking # 32062209.001 Page 13 of 34

EUT Name	Wireless Audio Headset	Date	May 15, 2020
EUT Model	Stealth 600X Gen 2	Temp / Hum in	21° C / 36%rh
EUT Serial	PP #2	Temp / Hum out	N/A
EUT Config.	Headset upright in 802.11a mode at 6 Mbps	Line AC / Freq	3.7Vdc
Standard	CFR47 Part 15 Subpart C	RBW / VBW	1 MHz/ 3 MHz
Dist/Ant Used	3m / EMCO-3115, 1m / COM-POWER AHA-840	Performed by	Jeremy Luong

Above 1 GHz Plots for Transmit Mode at 5300 MHz



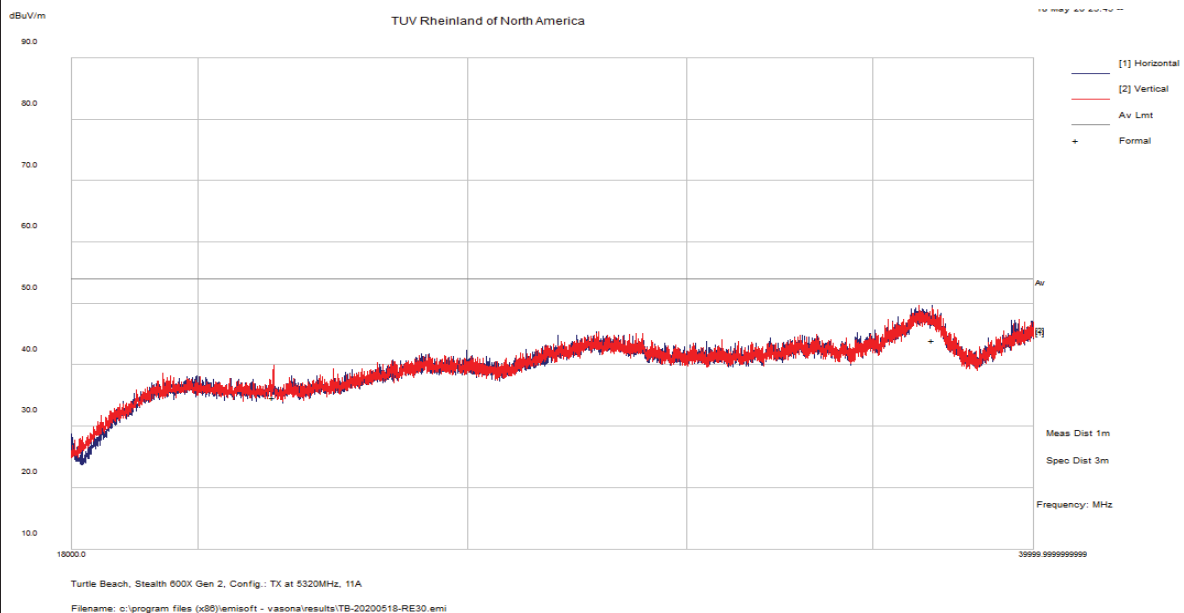
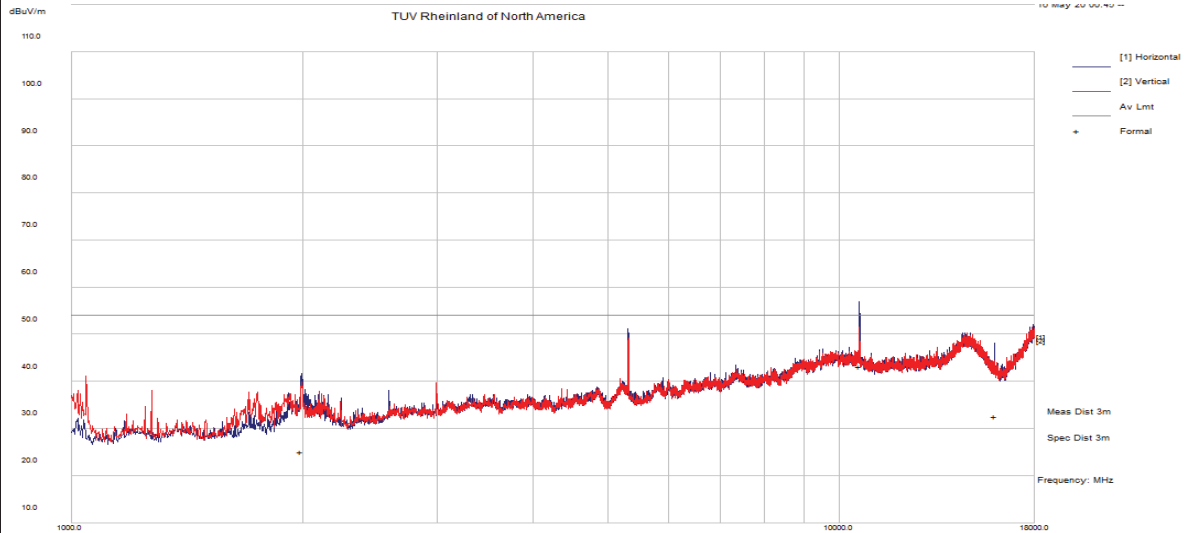
Notes: None.

SOP 1 Radiated Emissions

Tracking # 32062209.001 Page 14 of 34

EUT Name	Wireless Audio Headset	Date	May 15, 2020
EUT Model	Stealth 600X Gen 2	Temp / Hum in	21° C / 36%rh
EUT Serial	PP #2	Temp / Hum out	N/A
EUT Config.	Headset upright in 802.11a mode at 6 Mbps	Line AC / Freq	3.7Vdc
Standard	CFR47 Part 15 Subpart C	RBW / VBW	1 MHz/ 3 MHz
Dist/Ant Used	3m / EMCO-3115, 1m / COM-POWER AHA-840	Performed by	Jeremy Luong

Above 1 GHz Plots for Transmit Mode at 5320 MHz



Notes: None.

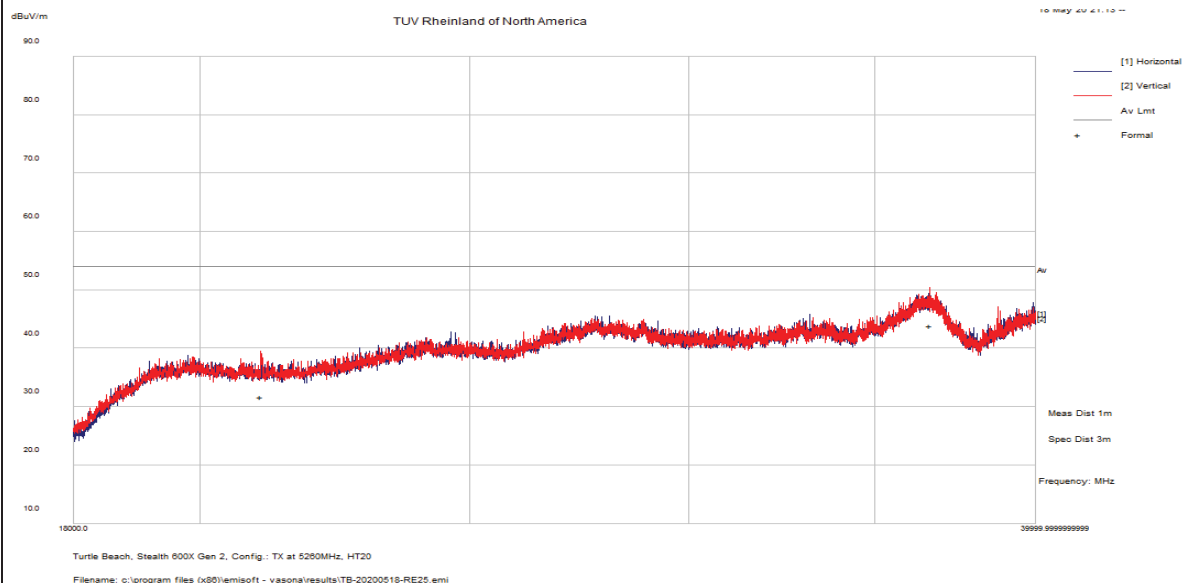
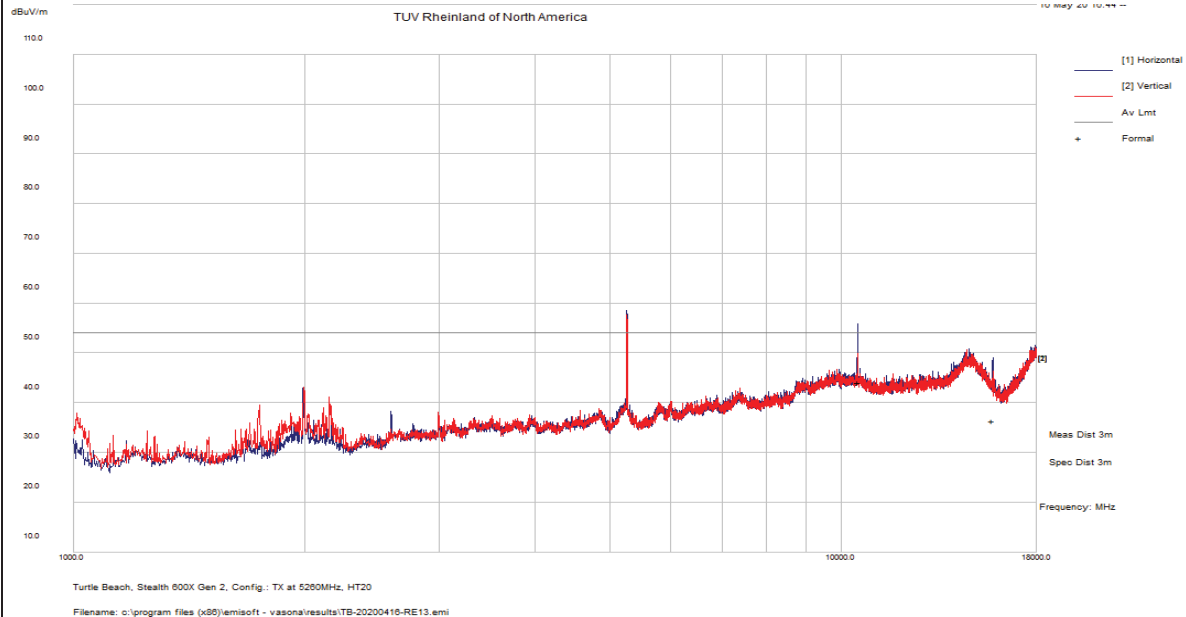
SOP 1 Radiated Emissions						Tracking # 32062209.001 Page 15 of 34					
EUT Name	Wireless Audio Headset					Date	May 16, 2020				
EUT Model	Stealth 600X Gen 2					Temp / Hum in	23° C / 38%rh				
EUT Serial	PP#2					Temp / Hum out	N/A				
EUT Config.	Headset upright in 802.11n HT20 mode 6.5 Mbps					Line AC / Freq	3.7Vdc				
Standard	CFR47 Part 15 Subpart C, RSS-247, RSS-GEN					RBW / VBW	1 MHz/ 3 MHz				
Dist/Ant Used	3m / EMCO-3115, 1m / COM-POWER AHA-840					Performed by	Jeremy Luong				
1 – 40 GHz Transmit at 5260 MHz (Low Channel)											
Frequency	Raw	Cable Loss	AF	Level	Detector	Polarity	Height	Azimuth	Limit	Margin	
MHz	dBuV/m	dB	dB	dBuV/m		H/V	cm	deg	dBuV/m	dB	
10521.31	57.51	2.91	-16.35	44.07	Ave	H	181	246	54.00	-9.93	
15776.20	49.53	3.81	-16.97	36.37	Ave	H	177	236	54.00	-17.63	
21027.27	33.50	7.60	-9.40	31.70	Ave	V	178	212	54.00	-22.30	
36645.59	38.60	10.30	-4.90	43.90	Ave	V	185	18	54.00	-10.10	
1 – 40 GHz Transmit at 5300 MHz (Middle Channel)											
10596.35	55.69	3.06	-16.37	42.38	Ave	H	224	228	54.00	-11.62	
15895.46	48.16	3.77	-17.55	34.38	Ave	H	194	214	54.00	-19.62	
36409.01	38.70	10.20	-4.90	44.10	Ave	H	168	84	54.00	-9.90	
1 – 40 GHz Transmit at 5320 MHz (High Channel)											
1994.09	52.91	0.89	-29.58	24.22	Ave	H	248	312	54.00	-29.78	
10649.03	54.61	3.02	-16.48	41.16	Ave	H	275	0	54.00	-12.85	
2448.91	48.77	1.13	-28.78	21.12	Ave	V	246	298	54.00	-32.88	
36498.81	38.90	10.20	-4.90	44.30	Ave	V	155	308	54.00	-9.70	
Spec Margin = E-Field AVG - Limit, E-Field AVG = FIM AVG+ Total CF ± Uncertainty											
Total CF= AF+ Cable Loss AF= Antenna factor + Preamp											
Note: Worst case emission was observed at 6.5 Mbps for 802.11n HT20 mode.											
Headset intended to transmit at about +5 dBm.											

SOP 1 Radiated Emissions

Tracking # 32062209.001 Page 16 of 34

EUT Name	Wireless Audio Headset	Date	May 16, 2020
EUT Model	Stealth 600X Gen 2	Temp / Hum in	23° C / 38%rh
EUT Serial	PP #2	Temp / Hum out	N/A
EUT Config.	Headset upright in 802.11n HT20 mode 6.5 Mbps	Line AC / Freq	3.7Vdc
Standard	CFR47 Part 15 Subpart C, RSS-247, RSS-GEN	RBW / VBW	1 MHz/ 3 MHz
Dist/Ant Used	3m / EMCO-3115, 1m / COM-POWER AHA-840	Performed by	Jeremy Luong

Above 1 GHz Plots for Transmit Mode at 5260 MHz

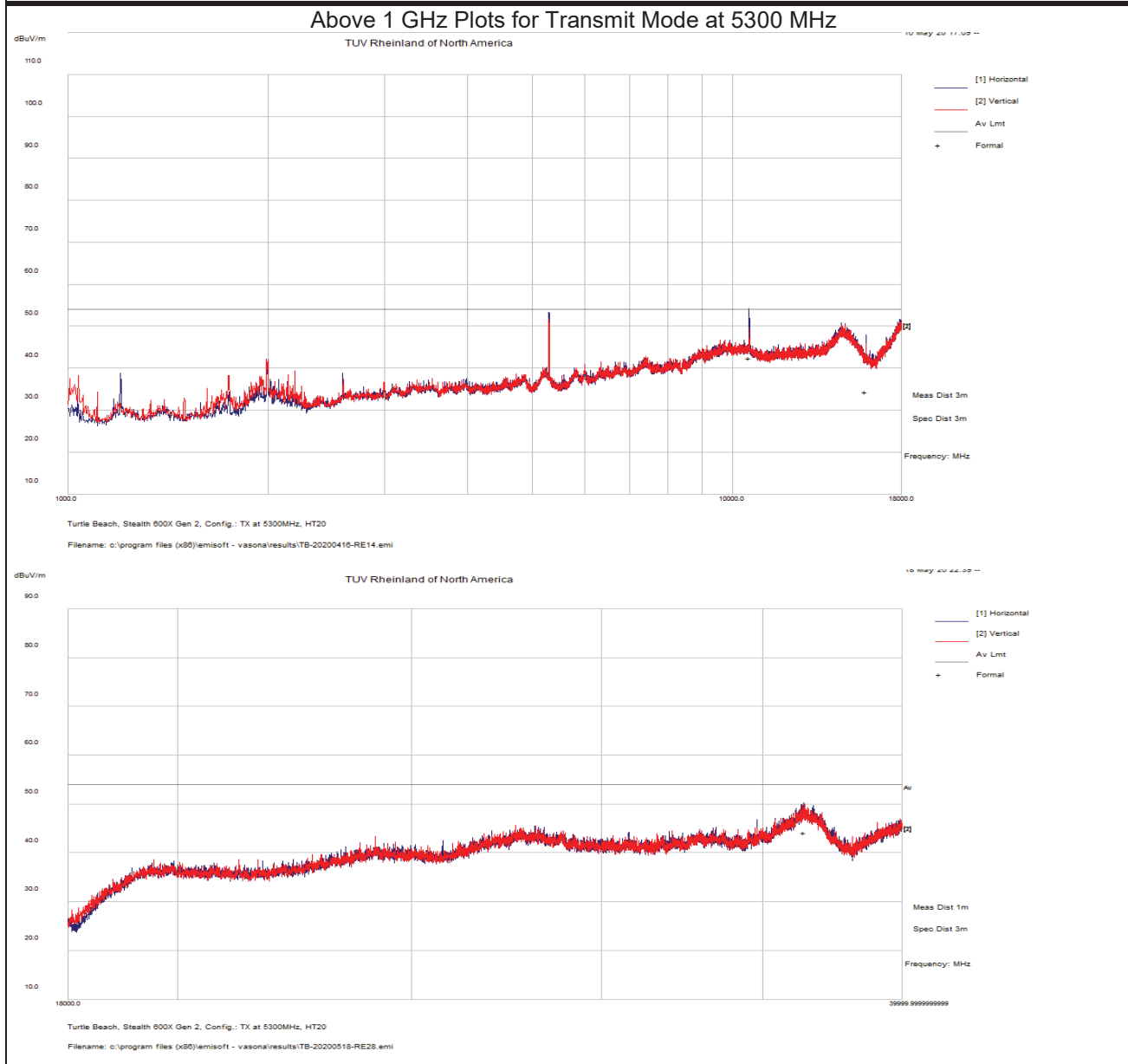


Notes: None.

SOP 1 Radiated Emissions

Tracking # 32062209.001 Page 17 of 34

EUT Name	Wireless Audio Headset	Date	May 16, 2020
EUT Model	Stealth 600X Gen 2	Temp / Hum in	23° C / 38%rh
EUT Serial	PP #2	Temp / Hum out	N/A
EUT Config.	Headset upright in 802.11n HT20 mode 6.5 Mbps	Line AC / Freq	3.7Vdc
Standard	CFR47 Part 15 Subpart C	RBW / VBW	1 MHz/ 3 MHz
Dist/Ant Used	3m / EMCO-3115, 1m / COM-POWER AHA-840	Performed by	Jeremy Luong



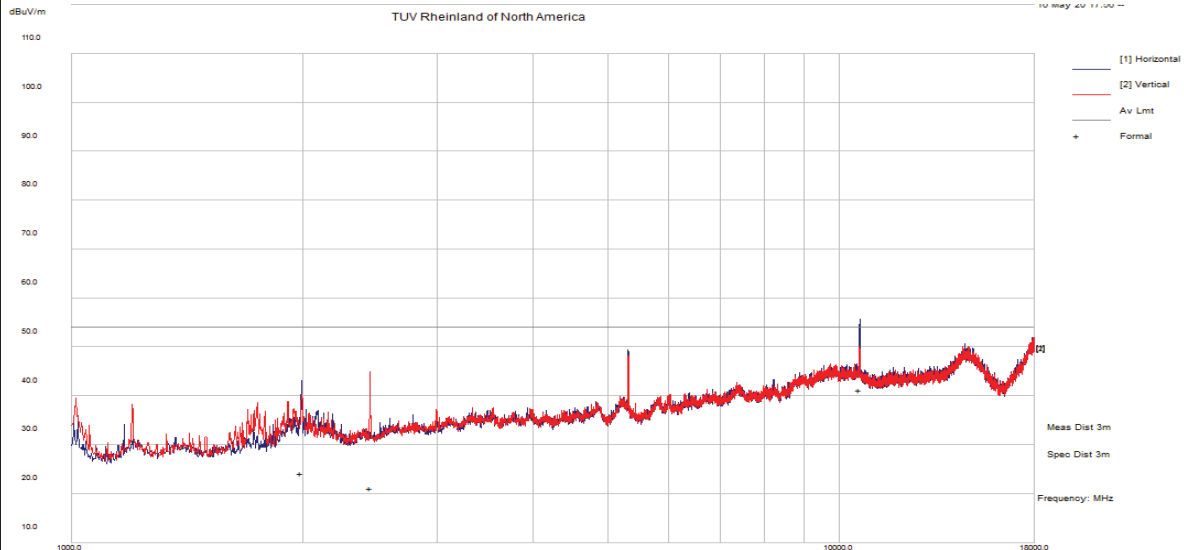
Notes: No significant emission observed above 18 GHz.

SOP 1 Radiated Emissions

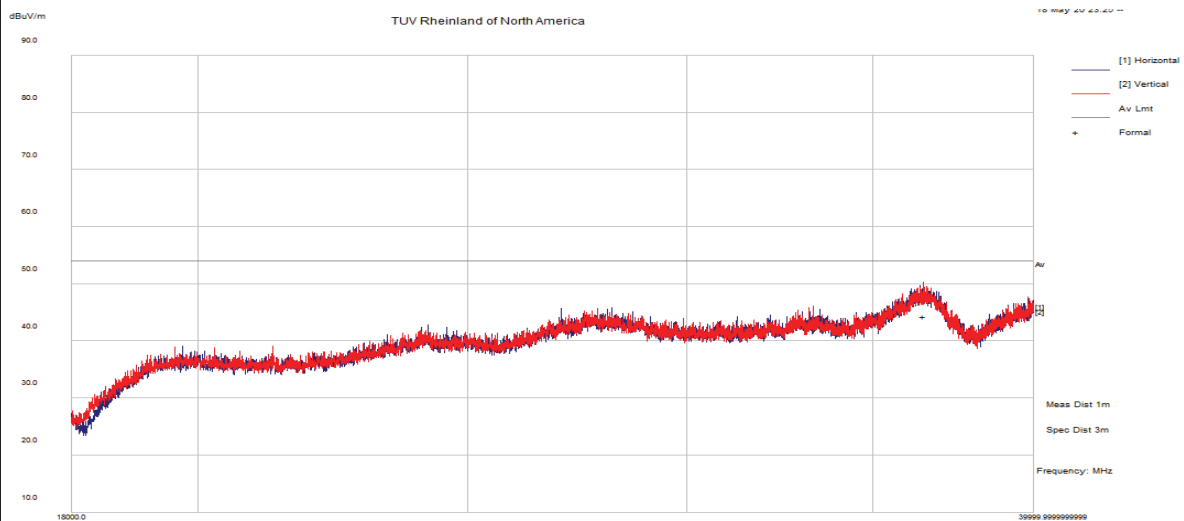
Tracking # 32062209.001 Page 18 of 34

EUT Name	Wireless Audio Headset	Date	May 16, 2020
EUT Model	Stealth 600X Gen 2	Temp / Hum in	23° C / 38%rh
EUT Serial	PP #2	Temp / Hum out	N/A
EUT Config.	Headset upright in 802.11n HT20 mode 6.5 Mbps	Line AC / Freq	3.7Vdc
Standard	CFR47 Part 15 Subpart C	RBW / VBW	1 MHz/ 3 MHz
Dist/Ant Used	3m / EMCO-3115, 1m / COM-POWER AHA-840	Performed by	Jeremy Luong

Above 1 GHz Plots for Transmit Mode at 5320 MHz



Turtle Beach, Stealth 600X Gen 2, Config.: TX at 5320MHz, HT20
Filename: c:\program files (x86)\emisoft - vasonal\results\TB-20200418-RE15.emi



Turtle Beach, Stealth 600X Gen 2, Config.: TX at 5320MHz, HT20
Filename: c:\program files (x86)\emisoft - vasonal\results\TB-20200518-RE29.emi

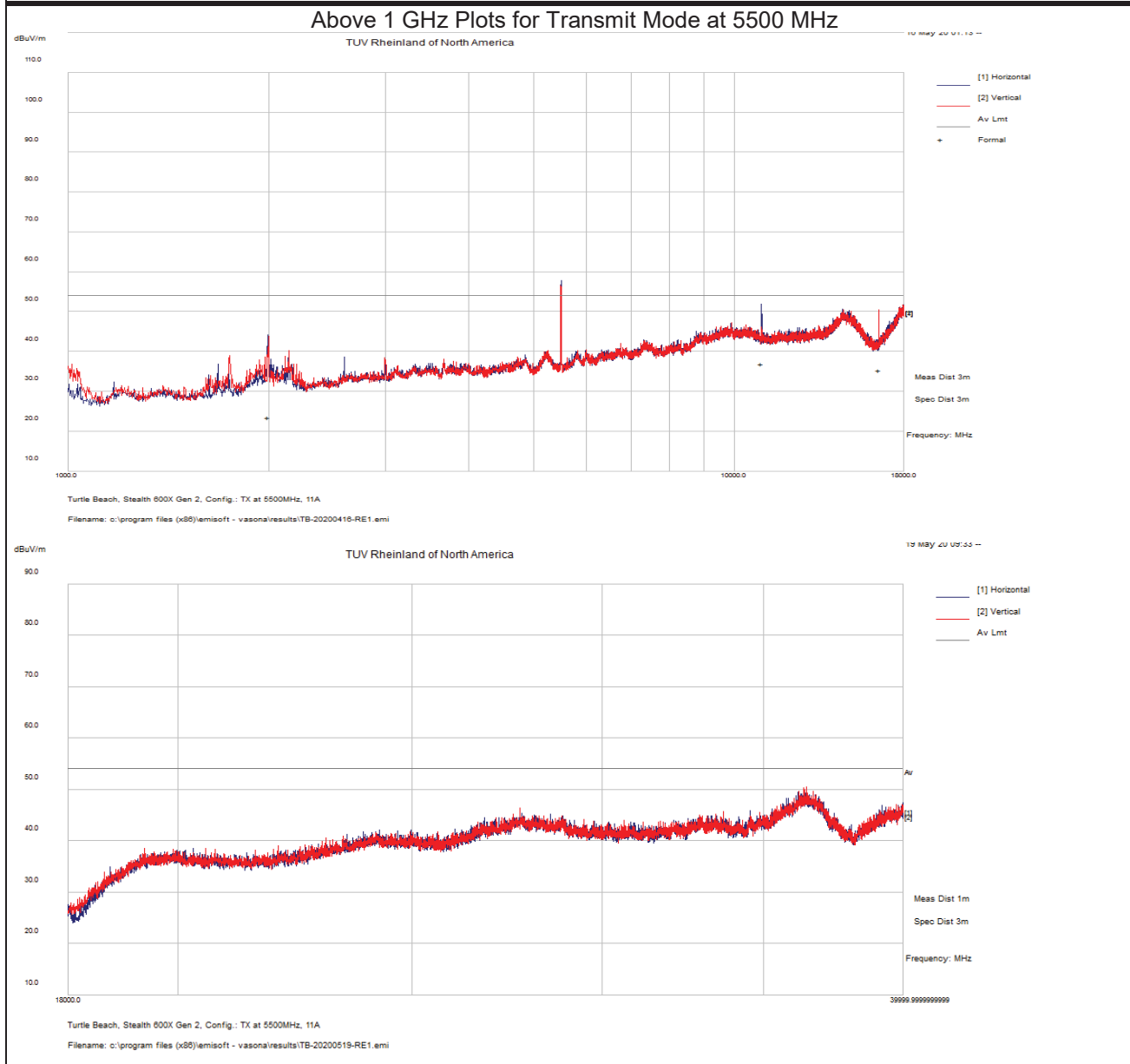
Notes: No significant emission observed above 18 GHz.

SOP 1 Radiated Emissions						Tracking # 32062209.001 Page 19 of 34				
EUT Name	Wireless Audio Headset					Date	May 16, 2020			
EUT Model	Stealth 600X Gen 2					Temp / Hum in	23° C / 38%rh			
EUT Serial	PP#2					Temp / Hum out	N/A			
EUT Config.	Headset upright in 802.11a mode at 6 Mbps					Line AC / Freq	3.7Vdc			
Standard	CFR47 Part 15 Subpart C, RSS-247, RSS-GEN					RBW / VBW	1 MHz/ 3 MHz			
Dist/Ant Used	3m / EMCO-3115, 1m / COM-POWER AHA-840					Performed by	Jeremy Luong			
1 – 40 GHz Transmit at 5500 MHz (Low Channel)										
Frequency	Raw	Cable Loss	AF	Level	Detector	Polarity	Height	Azimuth	Limit	Margin
MHz	dBuV/m	dB	dB	dBuV/m		H/V	cm	deg	dBuV/m	dB
1995.12	52.09	0.89	-29.58	23.41	Ave	H	149	298	54.00	-30.59
10999.45	51.32	3.07	-17.47	36.92	Ave	H	163	256	54.00	-17.08
16510.94	48.94	3.83	-17.57	35.20	Ave	V	102	324	54.00	-18.80
1 – 40 GHz Transmit at 5580 MHz (Middle Channel)										
1997.92	53.12	0.90	-29.58	24.43	Ave	H	199	288	54.00	-29.57
11160.41	55.60	3.17	-17.51	41.26	Ave	H	273	252	54.00	-12.74
1025.67	52.39	0.47	-33.25	19.61	Ave	V	271	222	54.00	-34.39
2410.32	49.44	1.23	-28.87	21.81	Ave	V	213	200	54.00	-32.19
16729.76	48.89	3.87	-16.13	36.64	Ave	V	213	334	54.00	-17.36
16738.33	54.88	3.86	-16.06	42.69	Ave	V	142	326	54.00	-11.31
1 – 40 GHz Transmit at 5700 MHz (High Channel)										
6650.62	50.82	2.35	-21.27	31.90	Ave	H	142	316	54.00	-22.10
11400.11	59.03	3.07	-17.55	44.55	Ave	H	202	252	54.00	-9.45
17097.82	52.95	3.89	-13.45	43.39	Ave	H	141	330	54.00	-10.61
17108.64	50.00	3.90	-13.33	40.58	Ave	H	203	334	54.00	-13.42
2410.83	49.02	1.23	-28.87	21.39	Ave	V	136	192	54.00	-32.61
3794.31	56.69	1.57	-24.72	33.54	Ave	V	130	222	54.00	-20.46
4747.40	65.40	2.00	-23.90	43.40	Ave	V	224	216	54.00	-10.60
22753.44	33.60	7.60	-8.20	33.00	Ave	V	161	350	54.00	-21.00
28547.84	34.80	8.80	-5.50	38.10	Ave	V	151	226	54.00	-15.90
36670.15	39.10	10.30	-5.00	44.40	Ave	V	192	108	54.00	-9.60
Spec Margin = E-Field AVG - Limit, E-Field AVG = FIM AVG+ Total CF ± Uncertainty										
Total CF= AF+ Cable Loss AF= Antenna factor + Preamp										
Note: Worst case emission was observed at 6 Mbps for 802.11a mode.										
Headset intended to transmit at about +5 dBm.										

SOP 1 Radiated Emissions

Tracking # 32062209.001 Page 20 of 34

EUT Name	Wireless Audio Headset	Date	May 16, 2020
EUT Model	Stealth 600X Gen 2	Temp / Hum in	23° C / 38%rh
EUT Serial	PP #2	Temp / Hum out	N/A
EUT Config.	Headset upright in 802.11a mode at 6 Mbps	Line AC / Freq	3.7Vdc
Standard	CFR47 Part 15 Subpart C, RSS-247, RSS-GEN	RBW / VBW	1 MHz/ 3 MHz
Dist/Ant Used	3m / EMCO-3115, 1m / COM-POWER AHA-840	Performed by	Jeremy Luong



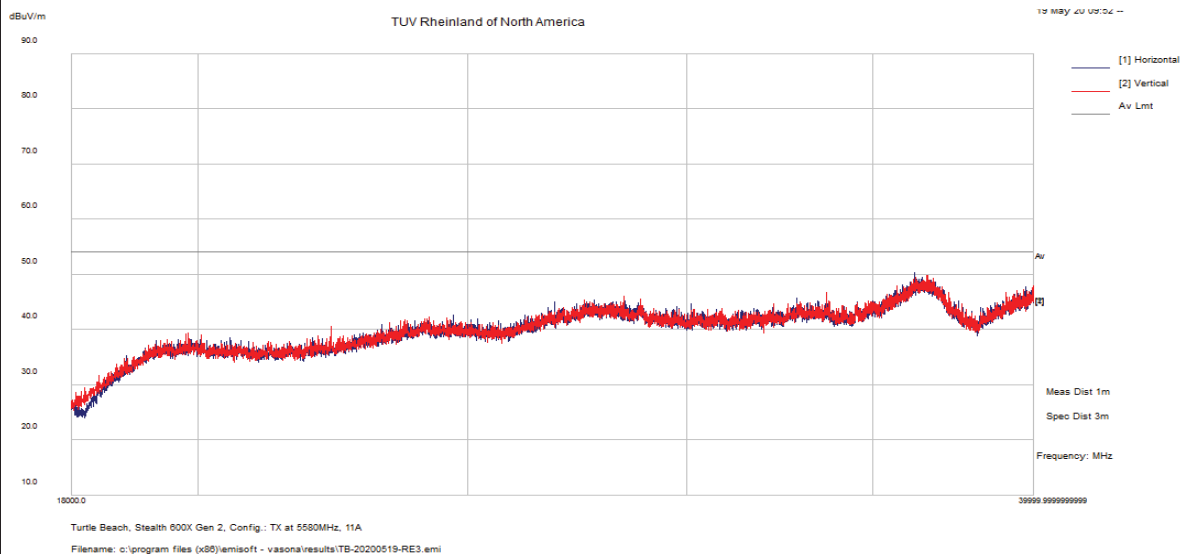
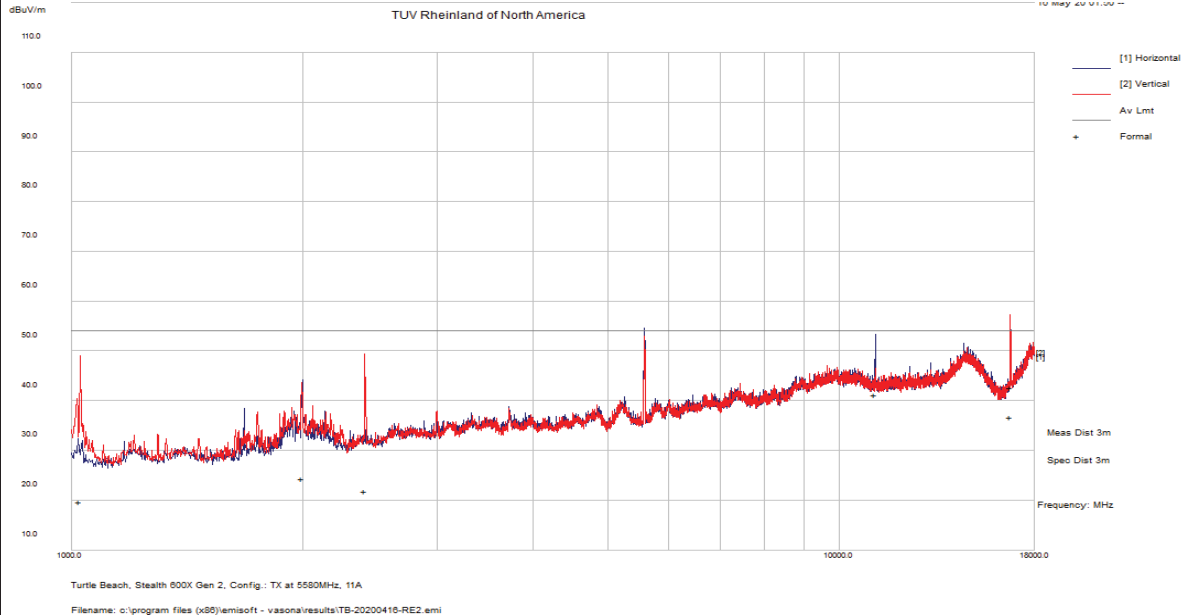
Notes: No significant emission observed above 18 GHz.

SOP 1 Radiated Emissions

Tracking # 32062209.001 Page 21 of 34

EUT Name	Wireless Audio Headset	Date	May 16, 2020
EUT Model	Stealth 600X Gen 2	Temp / Hum in	23° C / 38%rh
EUT Serial	PP #2	Temp / Hum out	N/A
EUT Config.	Headset upright in 802.11a mode at 6 Mbps	Line AC / Freq	3.7Vdc
Standard	CFR47 Part 15 Subpart C	RBW / VBW	1 MHz/ 3 MHz
Dist/Ant Used	3m / EMCO-3115, 1m / COM-POWER AHA-840	Performed by	Jeremy Luong

Above 1 GHz Plots for Transmit Mode at 5580 MHz



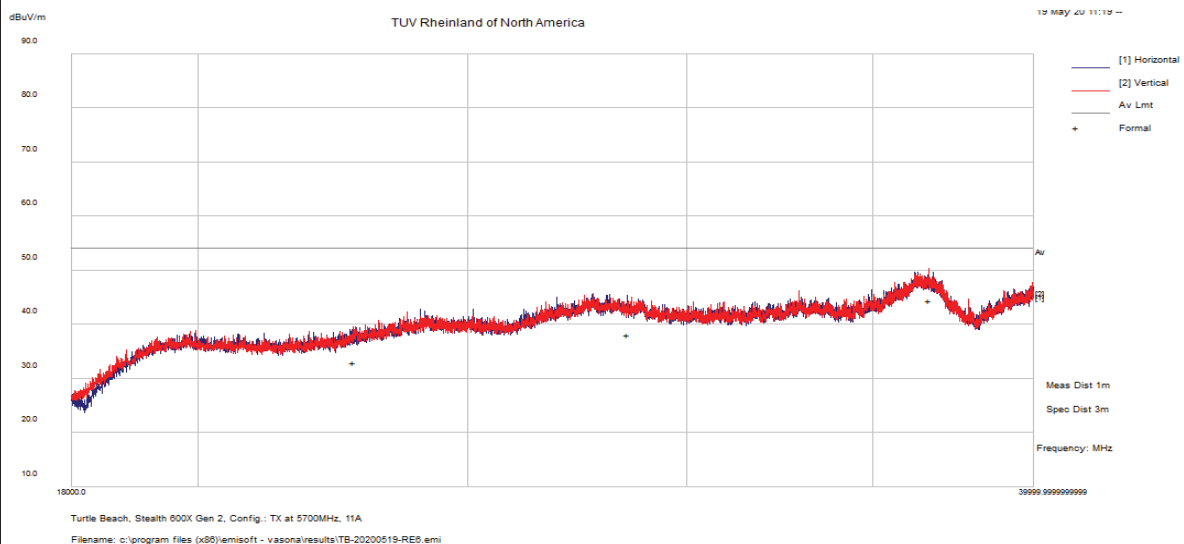
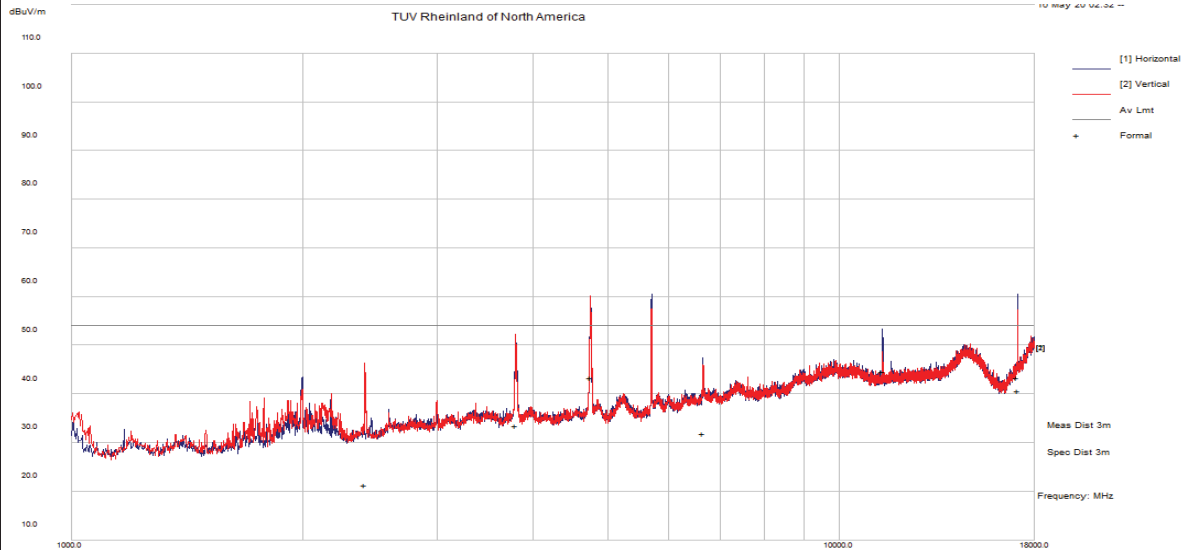
Notes: No significant emission observed above 18 GHz.

SOP 1 Radiated Emissions

Tracking # 32062209.001 Page 22 of 34

EUT Name	Wireless Audio Headset	Date	May 16, 2020
EUT Model	Stealth 600X Gen 2	Temp / Hum in	23° C / 38%rh
EUT Serial	PP #2	Temp / Hum out	N/A
EUT Config.	Headset upright in 802.11a mode at 6 Mbps	Line AC / Freq	3.7Vdc
Standard	CFR47 Part 15 Subpart C	RBW / VBW	1 MHz/ 3 MHz
Dist/Ant Used	3m / EMCO-3115, 1m / COM-POWER AHA-840	Performed by	Jeremy Luong

Above 1 GHz Plots for Transmit Mode at 5700 MHz



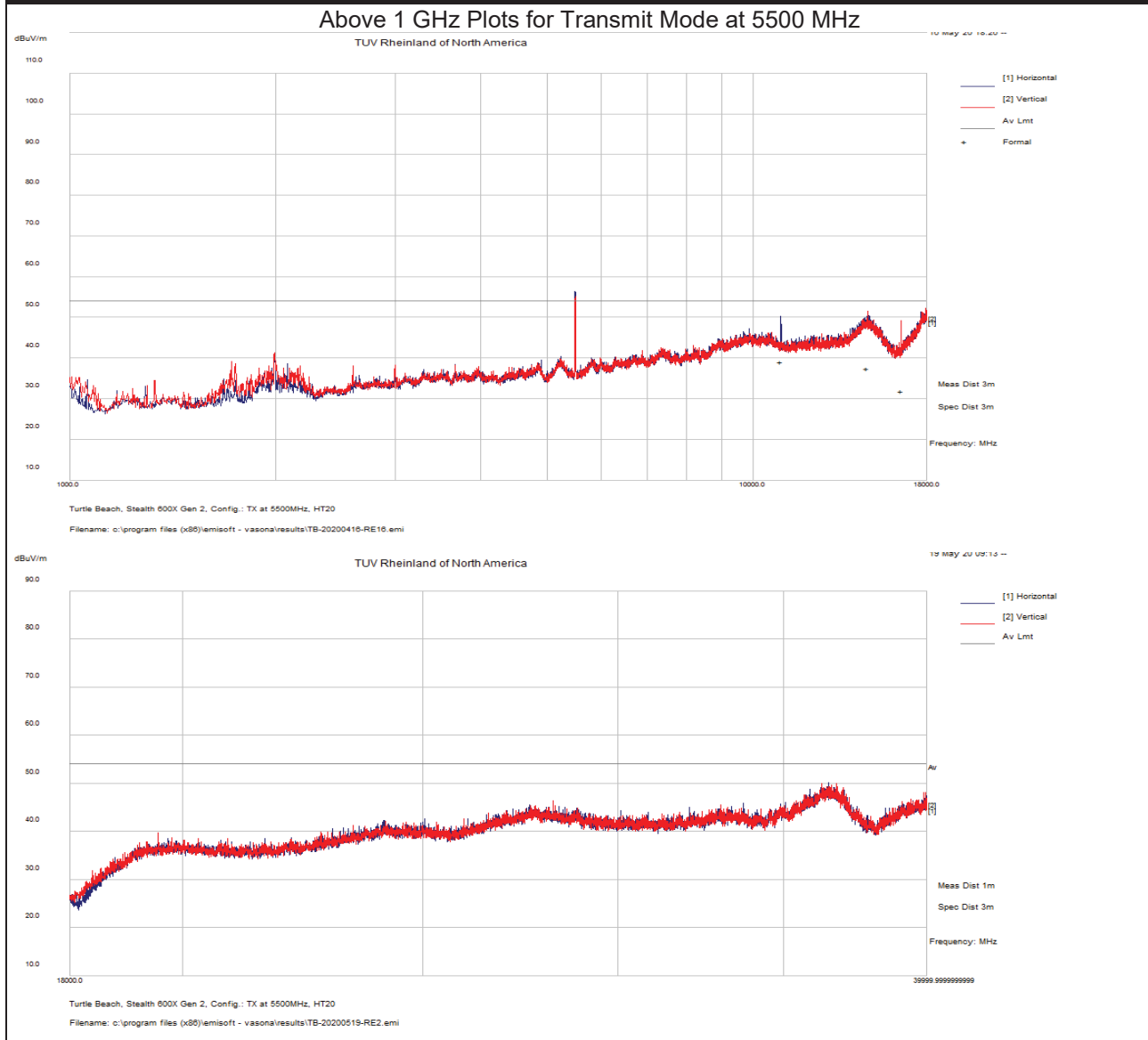
Notes: No significant emission observed above 18 GHz.

SOP 1 Radiated Emissions						Tracking # 32062209.001 Page 23 of 34				
EUT Name	Wireless Audio Headset					Date	May 16, 2020			
EUT Model	Stealth 600X Gen 2					Temp / Hum in	23° C / 38%rh			
EUT Serial	PP#2					Temp / Hum out	N/A			
EUT Config.	Headset upright in 802.11n HT20 mode 6.5 Mbps					Line AC / Freq	3.7Vdc			
Standard	CFR47 Part 15 Subpart C, RSS-247, RSS-GEN					RBW / VBW	1 MHz/ 3 MHz			
Dist/Ant Used	3m / EMCO-3115, 1m / COM-POWER AHA-840					Performed by	Jeremy Luong			
1 – 40 GHz Transmit at 5500 MHz (Low Channel)										
Frequency	Raw	Cable Loss	AF	Level	Detector	Polarity	Height	Azimuth	Limit	Margin
MHz	dBuV/m	dB	dB	dBuV/m		H/V	cm	deg	dBuV/m	dB
10997.85	53.38	3.07	-17.48	38.96	Ave	H	261	258	54.00	-15.04
16494.66	45.70	3.82	-17.58	31.94	Ave	H	194	164	54.00	-22.06
14719.19	46.56	3.58	-12.67	37.46	Ave	V	149	254	54.00	-16.54
1 – 40 GHz Transmit at 5580 MHz (Middle Channel)										
1999.72	51.52	0.90	-29.59	22.83	Ave	H	129	260	54.00	-31.17
11154.23	52.44	3.21	-17.56	38.09	Ave	H	262	360	54.00	-15.91
16740.28	54.43	3.86	-16.04	42.25	Ave	H	149	326	54.00	-11.75
1 – 40 GHz Transmit at 5700 MHz (High Channel)										
3792.53	53.31	1.57	-24.73	30.16	Ave	H	213	70	54.00	-23.84
11404.79	55.40	3.08	-17.59	40.89	Ave	H	267	264	54.00	-13.11
17095.03	54.37	3.89	-13.48	44.77	Ave	H	187	330	54.00	-9.23
4746.77	61.00	2.00	-23.90	39.00	Ave	V	228	32	54.00	-15.00
4753.97	53.04	1.97	-23.87	31.14	Ave	V	114	244	54.00	-22.86
17093.10	51.27	3.89	-13.51	41.65	Ave	V	107	328	54.00	-12.35
Spec Margin = E-Field AVG - Limit, E-Field AVG = FIM AVG+ Total CF ± Uncertainty										
Total CF= AF+ Cable Loss AF= Antenna factor + Preamp										
Note: Worst case emission was observed at 6.5 Mbps for 802.11n HT20 mode.										
Headset intended to transmit at about +5 dBm.										

SOP 1 Radiated Emissions

Tracking # 32062209.001 Page 24 of 34

EUT Name	Wireless Audio Headset	Date	May 16, 2020
EUT Model	Stealth 600X Gen 2	Temp / Hum in	23° C / 38%rh
EUT Serial	PP #2	Temp / Hum out	N/A
EUT Config.	Headset upright in 802.11n HT20 mode 6.5 Mbps	Line AC / Freq	3.7Vdc
Standard	CFR47 Part 15 Subpart C, RSS-247, RSS-GEN	RBW / VBW	1 MHz/ 3 MHz
Dist/Ant Used	3m / EMCO-3115, 1m / COM-POWER AHA-840	Performed by	Jeremy Luong

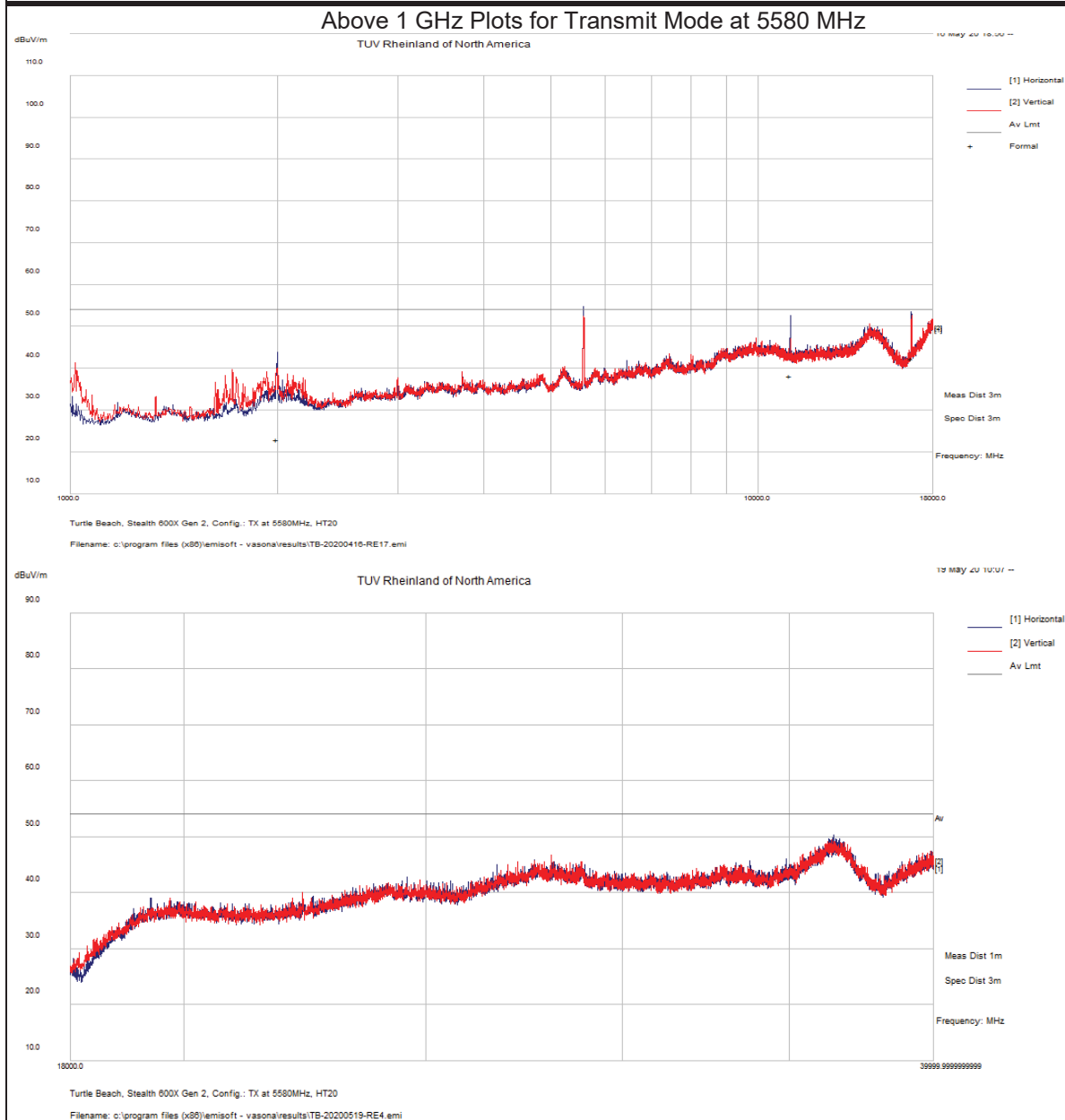


Notes: No significant emission observed above 18 GHz.

SOP 1 Radiated Emissions

Tracking # 32062209.001 Page 25 of 34

EUT Name	Wireless Audio Headset	Date	May 16, 2020
EUT Model	Stealth 600X Gen 2	Temp / Hum in	23° C / 38%rh
EUT Serial	PP #2	Temp / Hum out	N/A
EUT Config.	Headset upright in 802.11n HT20 mode 6.5 Mbps	Line AC / Freq	3.7Vdc
Standard	CFR47 Part 15 Subpart C	RBW / VBW	1 MHz/ 3 MHz
Dist/Ant Used	3m / EMCO-3115, 1m / COM-POWER AHA-840	Performed by	Jeremy Luong



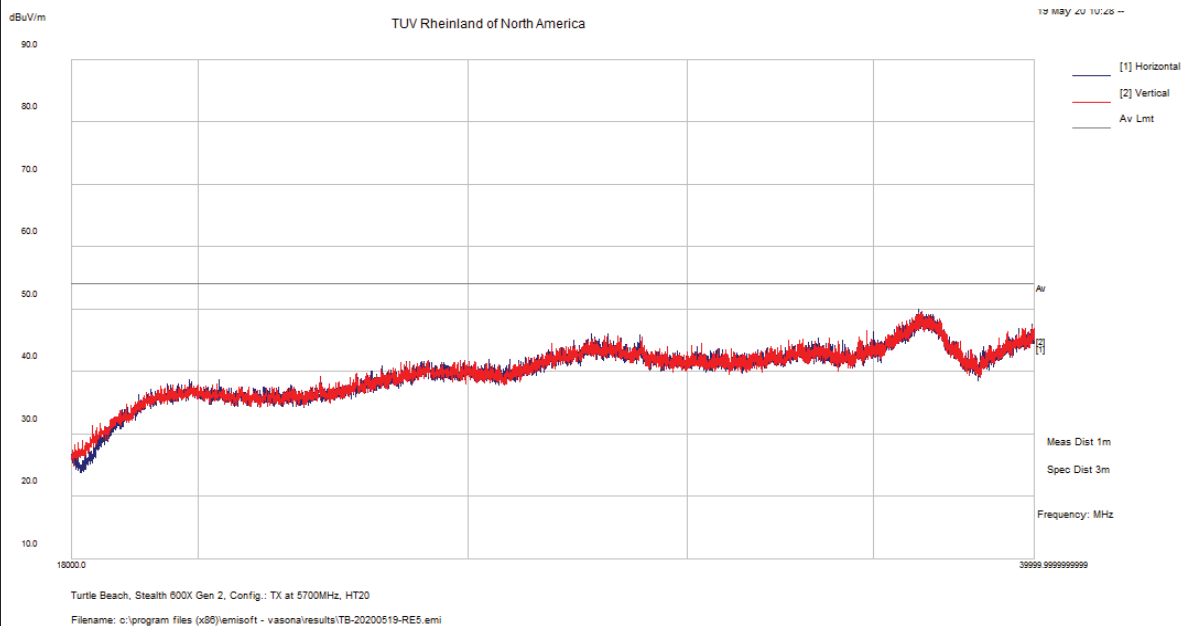
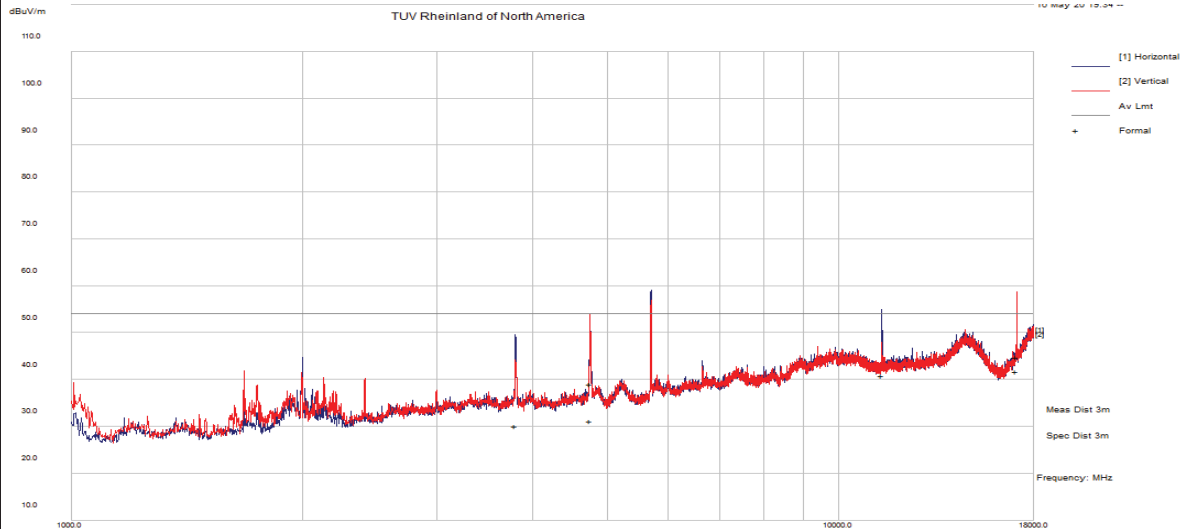
Notes: No significant emission observed above 18 GHz.

SOP 1 Radiated Emissions

Tracking # 32062209.001 Page 26 of 34

EUT Name	Wireless Audio Headset	Date	May 16, 2020
EUT Model	Stealth 600X Gen 2	Temp / Hum in	23° C / 38%rh
EUT Serial	PP #2	Temp / Hum out	N/A
EUT Config.	Headset upright in 802.11n HT20 mode 6.5 Mbps	Line AC / Freq	3.7Vdc
Standard	CFR47 Part 15 Subpart C	RBW / VBW	1 MHz/ 3 MHz
Dist/Ant Used	3m / EMCO-3115, 1m / COM-POWER AHA-840	Performed by	Jeremy Luong

Above 1 GHz Plots for Transmit Mode at 5700 MHz



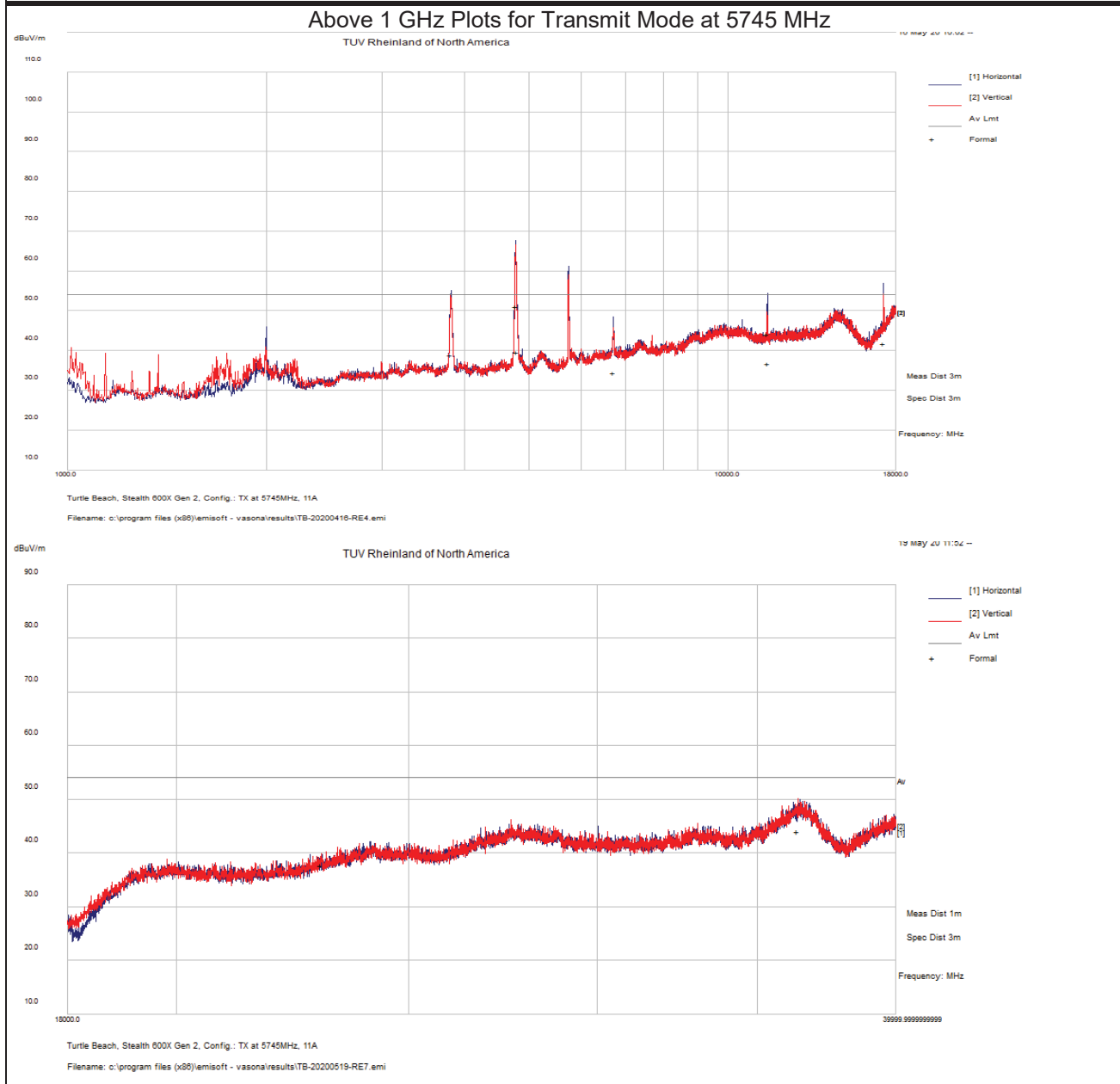
Notes: No significant emission observed above 18 GHz.

SOP 1 Radiated Emissions						Tracking # 32062209.001 Page 27 of 34				
EUT Name	Wireless Audio Headset					Date	May 16, 2020			
EUT Model	Stealth 600X Gen 2					Temp / Hum in	23° C / 38%rh			
EUT Serial	PP#2					Temp / Hum out	N/A			
EUT Config.	Headset upright in 802.11a mode at 6 Mbps					Line AC / Freq	3.7Vdc			
Standard	CFR47 Part 15 Subpart C, RSS-247, RSS-GEN					RBW / VBW	1 MHz/ 3 MHz			
Dist/Ant Used	3m / EMCO-3115, 1m / COM-POWER AHA-840					Performed by	Jeremy Luong			
1 – 40 GHz Transmit at 5745 MHz (Low Channel)										
Frequency	Raw	Cable Loss	AF	Level	Detector	Polarity	Height	Azimuth	Limit	Margin
MHz	dBuV/m	dB	dB	dBuV/m		H/V	cm	deg	dBuV/m	dB
3811.21	61.92	1.54	-24.63	38.83	Ave	H	163	78	54.00	-15.17
4776.50	72.86	1.93	-23.68	51.11	Ave	H	137	322	54.00	-2.89
4797.10	61.24	1.90	-23.61	39.53	Ave	H	151	282	54.00	-14.47
6716.96	53.23	2.23	-21.02	34.44	Ave	H	205	96	54.00	-19.56
11490.51	58.19	3.15	-17.31	44.03	Ave	H	172	252	54.00	-9.97
11503.58	50.80	3.15	-17.24	36.71	Ave	H	257	258	54.00	-17.29
17226.90	50.30	4.00	-12.54	41.76	Ave	H	263	270	54.00	-12.25
22984.09	38.10	7.60	-7.90	37.80	Ave	V	156	0	54.00	-16.20
36388.98	38.80	10.20	-4.90	44.10	Ave	V	184	32	54.00	-9.90
1 – 40 GHz Transmit at 5785 MHz (Middle Channel)										
3815.37	62.88	1.54	-24.61	39.81	Ave	H	102	96	54.00	-14.19
4815.30	69.64	1.89	-23.56	47.97	Ave	H	151	138	54.00	-6.03
4824.66	64.37	1.89	-23.53	42.73	Ave	H	122	294	54.00	-11.27
11573.83	55.27	3.12	-17.68	40.71	Ave	H	255	256	54.00	-13.29
17362.88	49.73	3.96	-11.58	42.11	Ave	H	203	318	54.00	-11.89
4796.66	73.66	1.90	-23.61	51.95	Ave	V	167	262	54.00	-2.05
36890.58	38.80	10.20	-6.00	43.00	Ave	H	169	166	54.00	-11.00
28921.43	35.10	8.70	-5.50	38.30	Ave	V	187	62	54.00	-15.70
1 – 40 GHz Transmit at 5825 MHz (High Channel)										
3816.55	52.93	1.54	-24.61	29.87	Ave	H	207	278	54.00	-24.14
4819.22	73.21	1.89	-23.55	51.56	Ave	H	129	306	54.00	-2.45
4845.58	65.59	1.90	-23.37	44.12	Ave	H	224	132	54.00	-9.88
11650.17	53.94	3.27	-17.31	39.90	Ave	H	224	325	54.00	-14.10
17470.09	48.87	3.90	-10.65	42.11	Ave	H	257	268	54.00	-11.89
27754.32	36.40	8.60	-5.50	39.60	Ave	H	175	136	54.00	-14.40
28915.54	35.20	8.70	-5.40	38.50	Ave	V	191	2	54.00	-15.50
Spec Margin = E-Field AVG - Limit, E-Field AVG = FIM AVG+ Total CF ± Uncertainty										
Total CF= AF+ Cable Loss AF= Antenna factor + Preamp										
Note: Worst case emission was observed at 6 Mbps for 802.11a mode.										
Headset intended to transmit at about +5 dBm.										

SOP 1 Radiated Emissions

Tracking # 32062209.001 Page 28 of 34

EUT Name	Wireless Audio Headset	Date	May 16, 2020
EUT Model	Stealth 600X Gen 2	Temp / Hum in	23° C / 38%rh
EUT Serial	PP #2	Temp / Hum out	N/A
EUT Config.	Headset upright in 802.11a mode at 6 Mbps	Line AC / Freq	3.7Vdc
Standard	CFR47 Part 15 Subpart C, RSS-247, RSS-GEN	RBW / VBW	1 MHz/ 3 MHz
Dist/Ant Used	3m / EMCO-3115, 1m / COM-POWER AHA-840	Performed by	Jeremy Luong

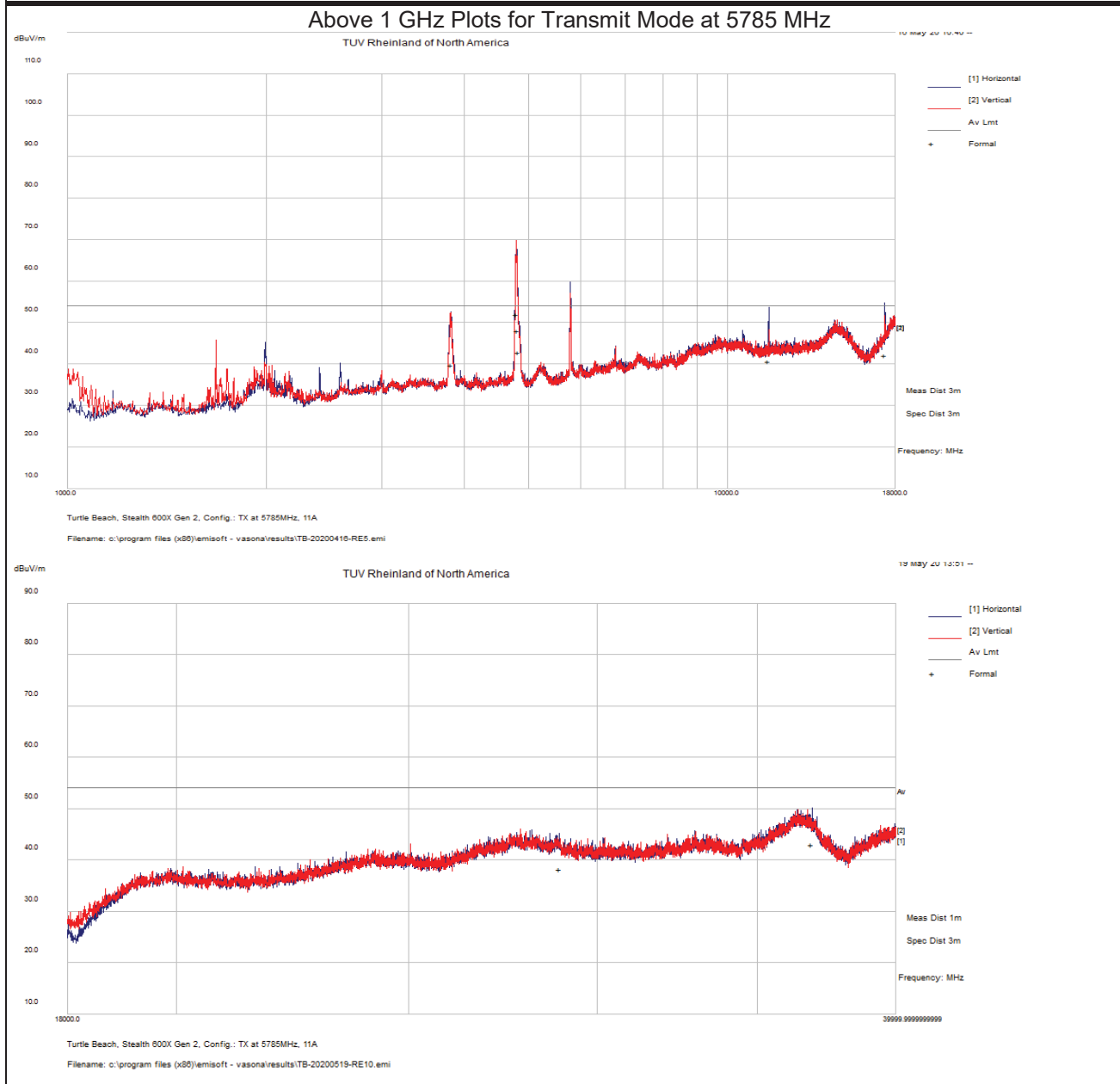


Notes: No significant emission observed above 18 GHz.

SOP 1 Radiated Emissions

Tracking # 32062209.001 Page 29 of 34

EUT Name	Wireless Audio Headset	Date	May 16, 2020
EUT Model	Stealth 600X Gen 2	Temp / Hum in	23° C / 38%rh
EUT Serial	PP #2	Temp / Hum out	N/A
EUT Config.	Headset upright in 802.11a mode at 6 Mbps	Line AC / Freq	3.7Vdc
Standard	CFR47 Part 15 Subpart C	RBW / VBW	1 MHz/ 3 MHz
Dist/Ant Used	3m / EMCO-3115, 1m / COM-POWER AHA-840	Performed by	Jeremy Luong



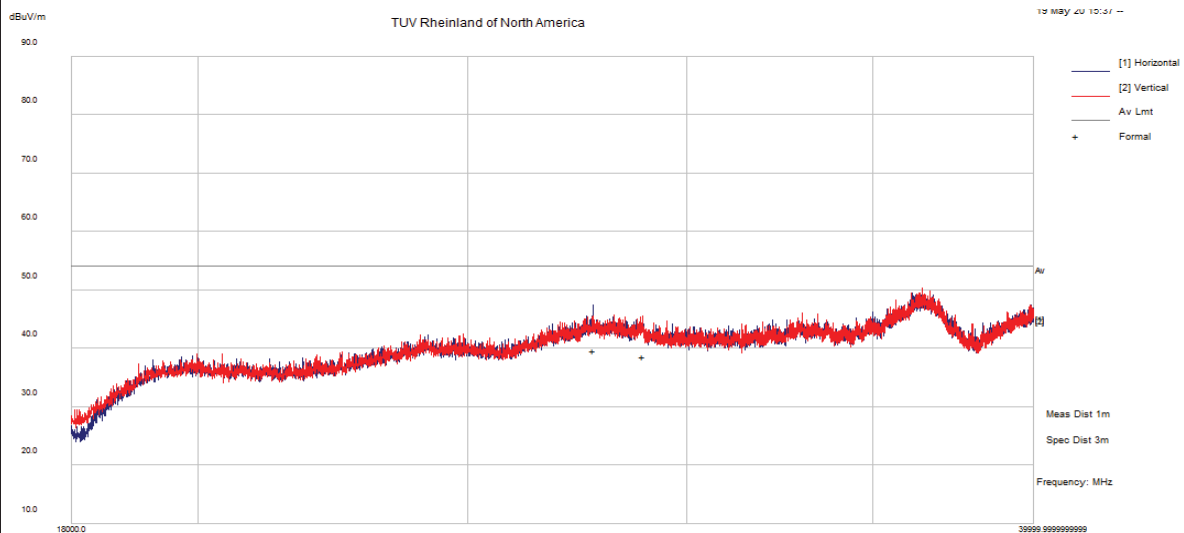
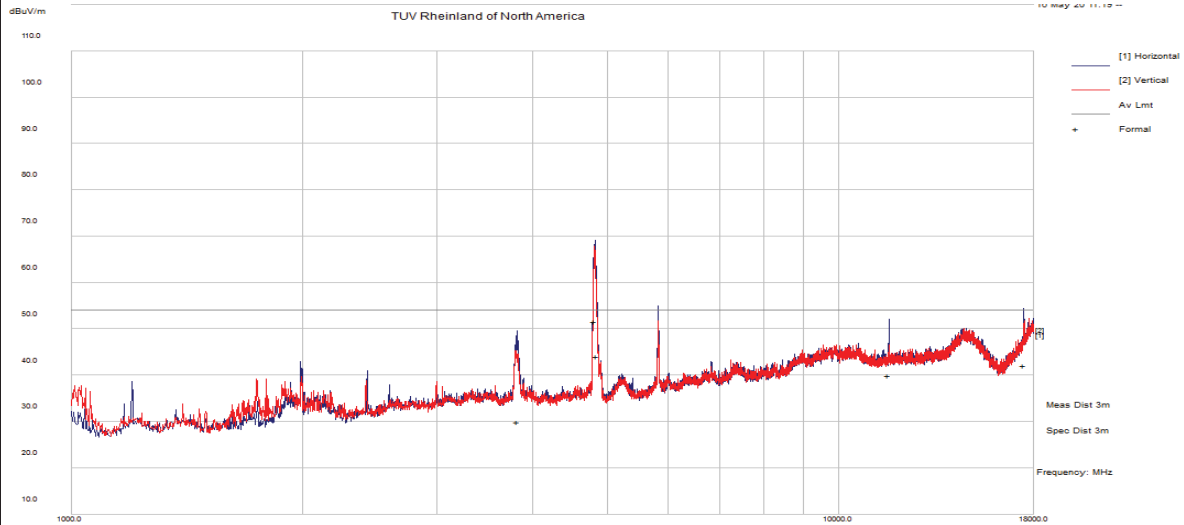
Notes: No significant emission observed above 18 GHz.

SOP 1 Radiated Emissions

Tracking # 32062209.001 Page 30 of 34

EUT Name	Wireless Audio Headset	Date	May 16, 2020
EUT Model	Stealth 600X Gen 2	Temp / Hum in	23° C / 38%rh
EUT Serial	PP #2	Temp / Hum out	N/A
EUT Config.	Headset upright in 802.11a mode at 6 Mbps	Line AC / Freq	3.7Vdc
Standard	CFR47 Part 15 Subpart C	RBW / VBW	1 MHz/ 3 MHz
Dist/Ant Used	3m / EMCO-3115, 1m / COM-POWER AHA-840	Performed by	Jeremy Luong

Above 1 GHz Plots for Transmit Mode at 5825 MHz



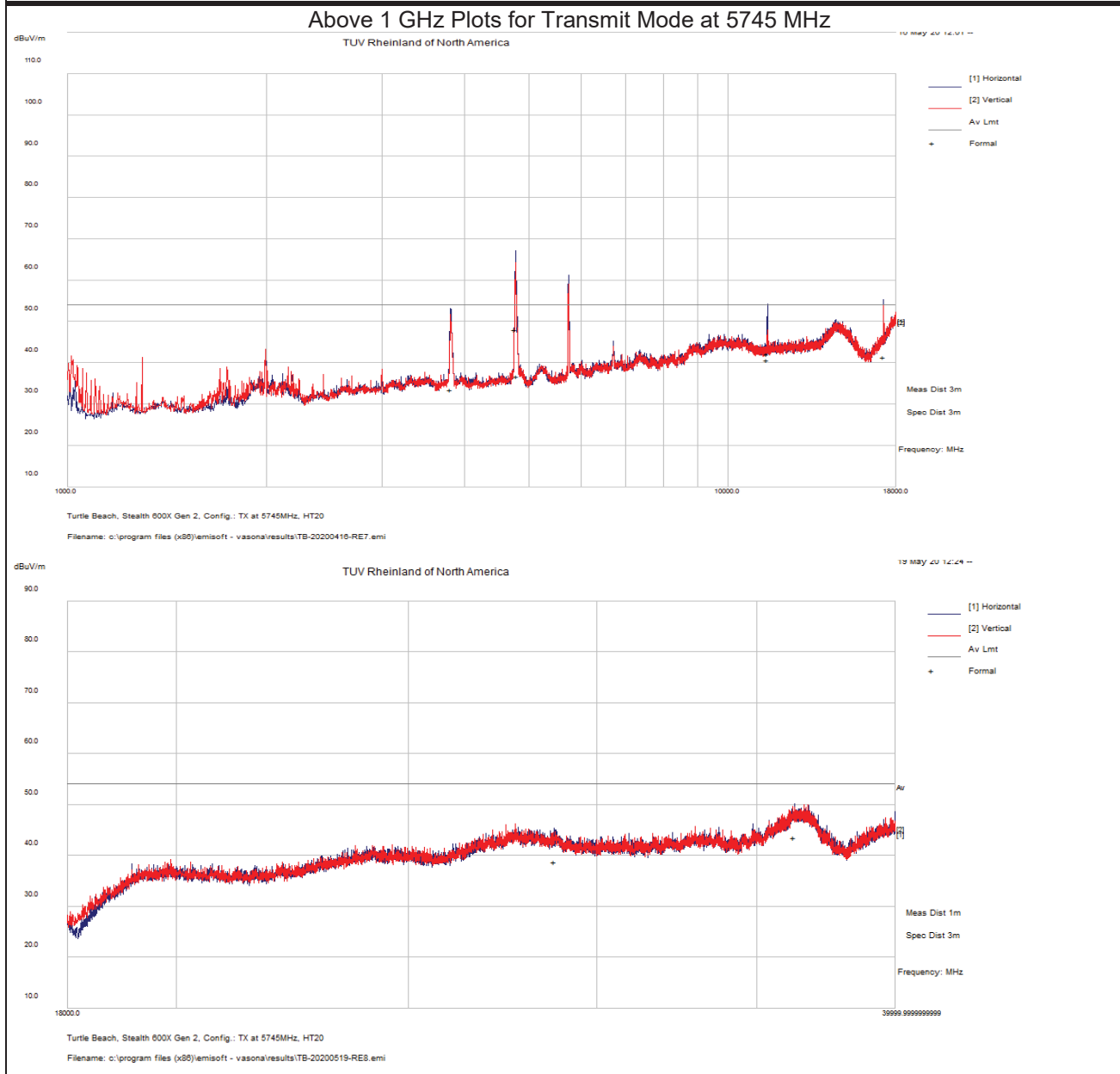
Notes: No significant emission observed above 18 GHz.

SOP 1 Radiated Emissions						Tracking # 32062209.001 Page 31 of 34				
EUT Name	Wireless Audio Headset					Date	May 16, 2020			
EUT Model	Stealth 600X Gen 2					Temp / Hum in	23° C / 38%rh			
EUT Serial	PP#2					Temp / Hum out	N/A			
EUT Config.	Headset upright in 802.11n HT20 mode 6.5 Mbps					Line AC / Freq	3.7Vdc			
Standard	CFR47 Part 15 Subpart C, RSS-247, RSS-GEN					RBW / VBW	1 MHz/ 3 MHz			
Dist/Ant Used	3m / EMCO-3115, 1m / COM-POWER AHA-840					Performed by	Jeremy Luong			
1 – 40 GHz Transmit at 5745 MHz (Low Channel)										
Frequency	Raw	Cable Loss	AF	Level	Detector	Polarity	Height	Azimuth	Limit	Margin
MHz	dBuV/m	dB	dB	dBuV/m		H/V	cm	deg	dBuV/m	dB
3809.30	56.58	1.54	-24.64	33.49	Ave	H	191	2	54.00	-20.51
4773.17	69.76	1.94	-23.71	47.99	Ave	H	261	118	54.00	-6.01
4802.68	58.36	1.89	-23.59	36.66	Ave	H	177	140	54.00	-17.34
11491.04	56.21	3.15	-17.30	42.06	Ave	H	151	246	54.00	-11.95
11497.25	54.84	3.15	-17.27	40.72	Ave	H	183	256	54.00	-13.28
17239.40	49.89	3.99	-12.42	41.47	Ave	H	194	314	54.00	-12.53
36291.20	38.40	10.20	-5.10	43.50	Ave	H	191	214	54.00	-10.50
28794.65	35.50	8.80	-5.60	38.70	Ave	V	164	148	54.00	-15.30
1 – 40 GHz Transmit at 5785 MHz (Middle Channel)										
2417.67	48.68	1.21	-28.89	21.00	Ave	H	176	0	54.00	-33.00
3811.46	59.63	1.54	-24.63	36.54	Ave	H	180	82	54.00	-17.46
4831.83	59.42	1.90	-23.50	37.82	Ave	H	155	284	54.00	-16.19
11570.53	56.79	3.12	-17.64	42.27	Ave	H	185	252	54.00	-11.73
17357.79	49.83	3.96	-11.65	42.13	Ave	H	230	316	54.00	-11.87
17365.13	47.21	3.96	-11.55	39.63	Ave	H	233	272	54.00	-14.37
4796.17	72.62	1.90	-23.61	50.91	Ave	V	261	360	54.00	-3.09
28913.06	35.60	8.70	-5.40	38.90	Ave	V	200	196	54.00	-15.10
36630.83	38.40	10.30	-4.90	43.70	Ave	V	161	66	54.00	-10.30
1 – 40 GHz Transmit at 5825 MHz (High Channel)										
3807.13	51.97	1.55	-24.65	28.87	Ave	H	272	126	54.00	-25.13
4844.29	61.77	1.90	-23.38	40.29	Ave	H	196	338	54.00	-13.71
4849.60	61.77	1.90	-23.33	40.35	Ave	H	124	326	54.00	-13.65
11650.67	54.98	3.27	-17.31	40.94	Ave	H	193	250	54.00	-13.06
17475.60	49.05	3.92	-10.59	42.38	Ave	H	237	270	54.00	-11.62
4820.65	72.40	1.90	-23.50	50.80	Ave	V	272	6	54.00	-3.20
23298.56	34.20	7.70	-7.70	34.10	Ave	V	168	228	54.00	-19.90
36461.14	38.70	10.20	-4.90	44.10	Ave	V	158	132	54.00	-9.90
Spec Margin = E-Field AVG - Limit, E-Field AVG = FIM AVG+ Total CF ± Uncertainty										
Total CF= AF+ Cable Loss AF= Antenna factor + Preamp										
Note: Worst case emission was observed at 6.5 Mbps for 802.11n HT20 mode.										
Headset intended to transmit at about +5 dBm										

SOP 1 Radiated Emissions

Tracking # 32062209.001 Page 32 of 34

EUT Name	Wireless Audio Headset	Date	May 16, 2020
EUT Model	Stealth 600X Gen 2	Temp / Hum in	23° C / 38%rh
EUT Serial	PP #2	Temp / Hum out	N/A
EUT Config.	Headset upright in 802.11n HT20 mode 6.5 Mbps	Line AC / Freq	3.7Vdc
Standard	CFR47 Part 15 Subpart C, RSS-247, RSS-GEN	RBW / VBW	1 MHz/ 3 MHz
Dist/Ant Used	3m / EMCO-3115, 1m / COM-POWER AHA-840	Performed by	Jeremy Luong

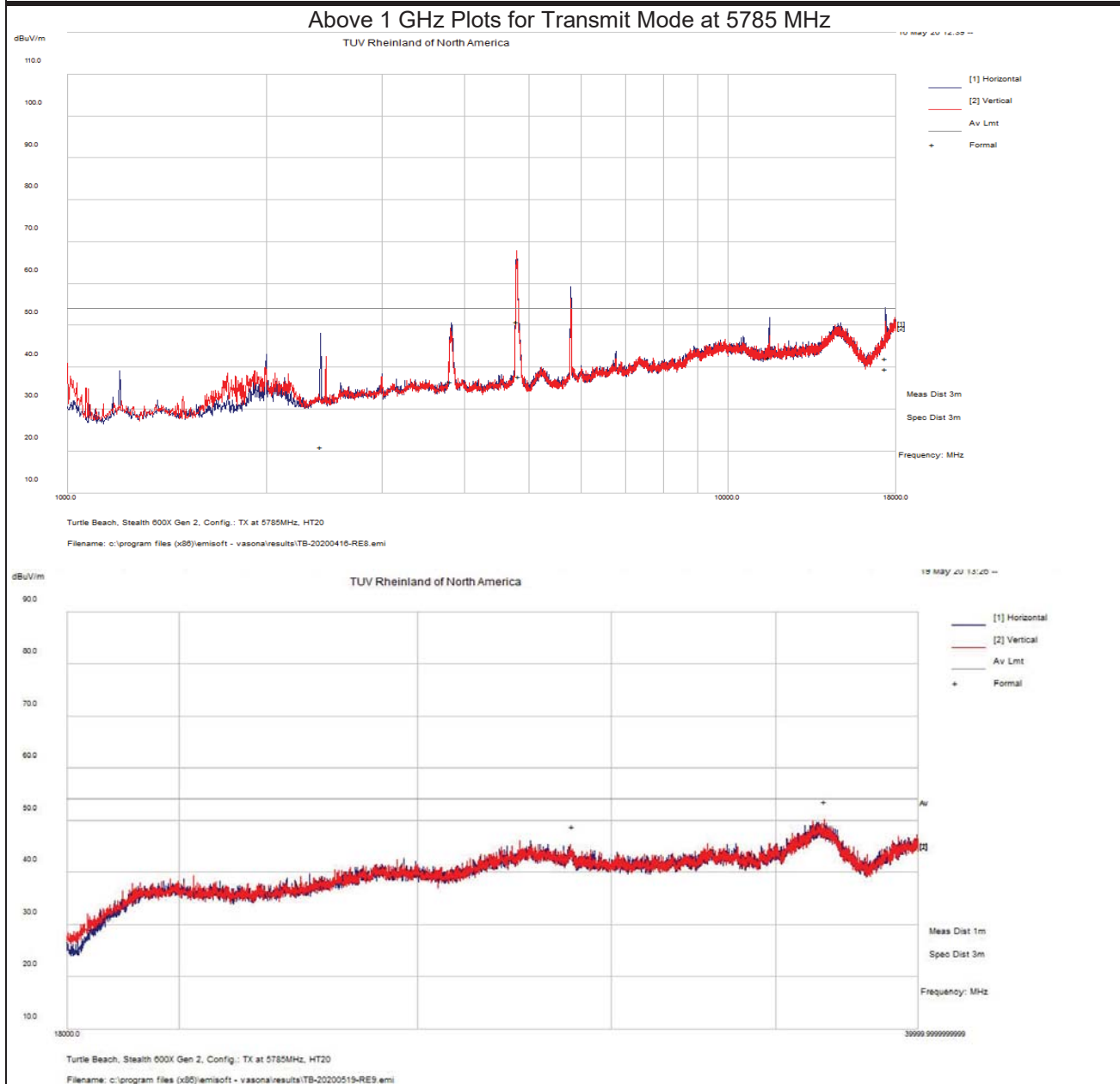


Notes: No significant emission observed above 18 GHz.

SOP 1 Radiated Emissions

Tracking # 32062209.001 Page 33 of 34

EUT Name	Wireless Audio Headset	Date	May 16, 2020
EUT Model	Stealth 600X Gen 2	Temp / Hum in	23° C / 38%rh
EUT Serial	PP #2	Temp / Hum out	N/A
EUT Config.	Headset upright in 802.11n HT20 mode 6.5 Mbps	Line AC / Freq	3.7Vdc
Standard	CFR47 Part 15 Subpart C	RBW / VBW	1 MHz/ 3 MHz
Dist/Ant Used	3m / EMCO-3115, 1m / COM-POWER AHA-840	Performed by	Jeremy Luong



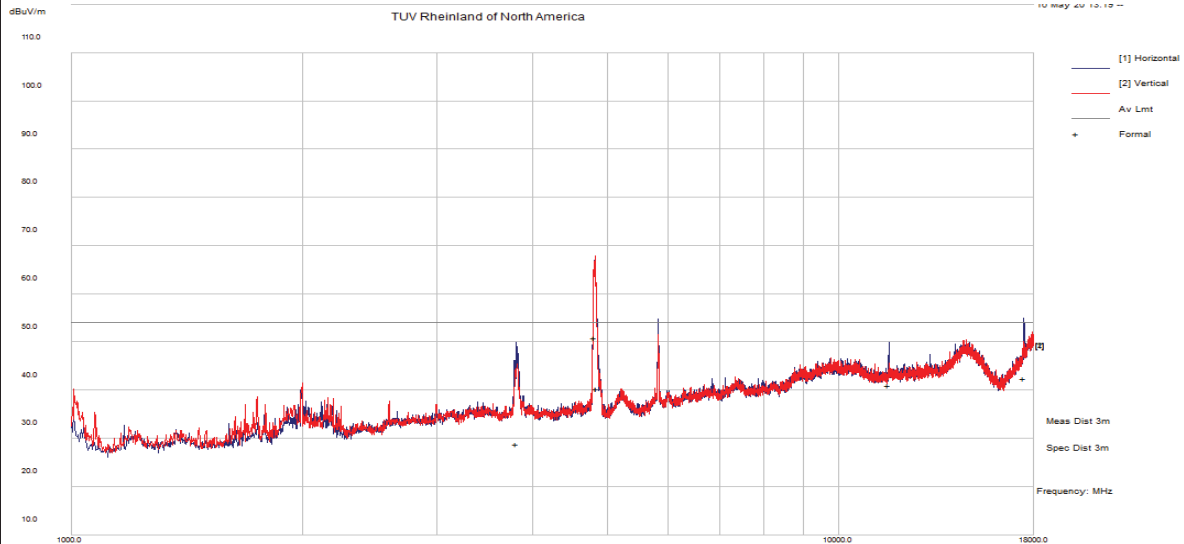
Notes: No significant emission observed above 18 GHz.

SOP 1 Radiated Emissions

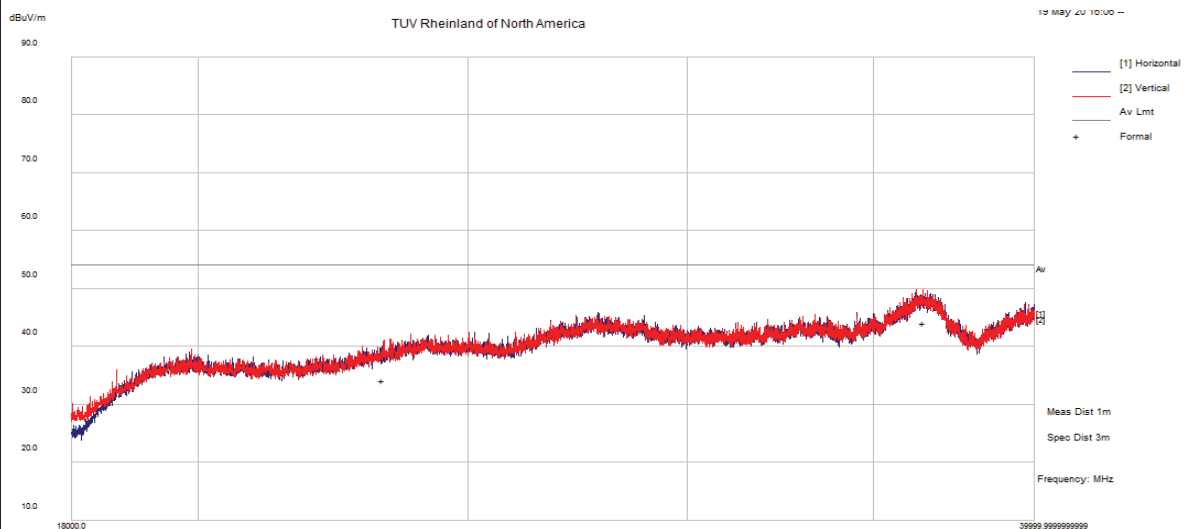
Tracking # 32062209.001 Page 34 of 34

EUT Name	Wireless Audio Headset	Date	May 16, 2020
EUT Model	Stealth 600X Gen 2	Temp / Hum in	23° C / 38%rh
EUT Serial	PP #2	Temp / Hum out	N/A
EUT Config.	Headset upright in 802.11n HT20 mode 6.5 Mbps	Line AC / Freq	3.7Vdc
Standard	CFR47 Part 15 Subpart C	RBW / VBW	1 MHz/ 3 MHz
Dist/Ant Used	3m / EMCO-3115, 1m / COM-POWER AHA-840	Performed by	Jeremy Luong

Above 1 GHz Plots for Transmit Mode at 5825 MHz



Turtle Beach, Stealth 600X Gen 2, Config.: TX at 5825MHz, HT20
Filename: c:\program files (x86)\emisoft - vasona\results\TB-20200415-RE9.emi



Turtle Beach, Stealth 600X Gen 2, Config.: TX at 5825MHz, HT20
Filename: c:\program files (x86)\emisoft - vasona\results\TB-20200519-RE12.emi

Notes: No significant emission observed above 18 GHz.

4.6 AC Conducted Emissions

Testing was performed in accordance with ANSI C63.4: 2014. These test methods are listed under the laboratory's A2LA Scope of Accreditation.

This test measures the levels emanating from the EUT's AC input port, thus evaluating the potential for the EUT to cause radio frequency interference to other electronic devices.

The AC conducted emissions of equipment under test shall not exceed the values in CFR47 Part 15.207: 2020 and RSS GEN: 2019.

4.6.1 Test Methodology

A test program that controls instrumentation and data logging was used to automate the AC Power Line Conducted emission test procedure. The frequency range of interest was divided into sub-ranges such as to yield a frequency resolution of 9 kHz. Each phase and neutral of the AC power line were measured with respect to ground. Measurements were performed using a set of 50 μ H / 50 Ω LISNs.

Testing is performed in Lab 5. The setup photographs clearly identify which site was used. The vertical ground plane used in the semi-anechoic chamber is a 2m x 2m solid aluminum frame and panel, and it is bonded to the horizontal ground plane.

In the case of tabletop equipment, the EUT is placed on a 1.0m x 1.5m non-conductive table 80cm above the ground plane and 40cm from a vertical ground reference plane. The rear of the EUT was positioned flush with the backside of the table and directly over the LISNs. The power and I/O cables were routed over the edge of the table and bundled approximately 40cm from the ground plane. Support equipment was powered from a separate LISN.

4.6.1.1 Deviations

There were no deviations from this test methodology.

4.6.2 Test Results

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

Table 12: AC Conducted Emissions – Test Results

Test Conditions: Conducted Measurement at Normal Conditions only		Date: May 12, 2017
Antenna Type: Chip		Power Level: See Test Plan
AC Power: 110 Vac/60 Hz at host device		Configuration: Tabletop
Ambient Temperature: 23° C		Relative Humidity: 34% RH
Configuration	Frequency Range	Test Result
Line 1 (Hot)	0.15 to 30 MHz	Pass
Line 2 (Neutral)	0.15 to 30 MHz	Pass

SOP 2 Conducted Emissions

Tracking # 32062209.001 Page 1 of 4

EUT Name	Wireless Audio Headset	Date	May 27, 2020
EUT Model	Stealth 600X Gen 2	Temp / Hum in	22° C / 36% rh
EUT Serial	PP#2	Temp / Hum out	N/A
EUT Config.	TX mode: 802.11a mode at 6 Mbps, 5500 MHz	Line AC / Freq	110Vac / 60Hz (host)
Standard	CFR47 Part 15.207 and RSS Gen	RBW / VBW	9 kHz / 30 kHz
Lab/LISN	Lab #5 /Com-Power, Line 1	Performed by	Jeremy Luong

Frequency	Raw	Limiter	Ins. Loss	Level	Detector	Line	Limit	Margin	Result
MHz	dBuV	dB	dB	dBuV			dBuV	dB	
0.150	40.63	9.95	0.10	50.68	QP	Live	66.00	-15.32	Pass
0.150	23.32	9.95	0.10	33.37	Ave	Live	56.00	-22.63	Pass
0.202	34.78	9.95	0.07	44.80	QP	Live	63.51	-18.71	Pass
0.202	26.40	9.95	0.07	36.42	Ave	Live	53.51	-17.09	Pass
0.305	34.60	9.96	0.05	44.61	QP	Live	60.10	-15.49	Pass
0.305	27.00	9.96	0.05	37.01	Ave	Live	50.10	-13.09	Pass
0.450	29.23	9.98	0.04	39.25	QP	Live	56.87	-17.62	Pass
0.450	14.39	9.98	0.04	24.41	Ave	Live	46.87	-22.46	Pass
0.572	31.70	9.98	0.04	41.72	QP	Live	56.00	-14.28	Pass
0.572	23.05	9.98	0.04	33.07	Ave	Live	46.00	-12.93	Pass
0.714	27.54	9.98	0.04	37.56	QP	Live	56.00	-18.44	Pass
0.714	11.66	9.98	0.04	21.68	Ave	Live	46.00	-24.32	Pass
0.862	24.23	9.99	0.04	34.26	QP	Live	56.00	-21.74	Pass
0.862	12.11	9.99	0.04	22.14	Ave	Live	46.00	-23.86	Pass

Spec Margin = QP./Ave. - Limit, ± Uncertainty

Combined Standard Uncertainty $U_c(y) = \pm 1.2$ dB Expanded Uncertainty $U = kU_c(y)$ $k = 2$ for 95% confidence

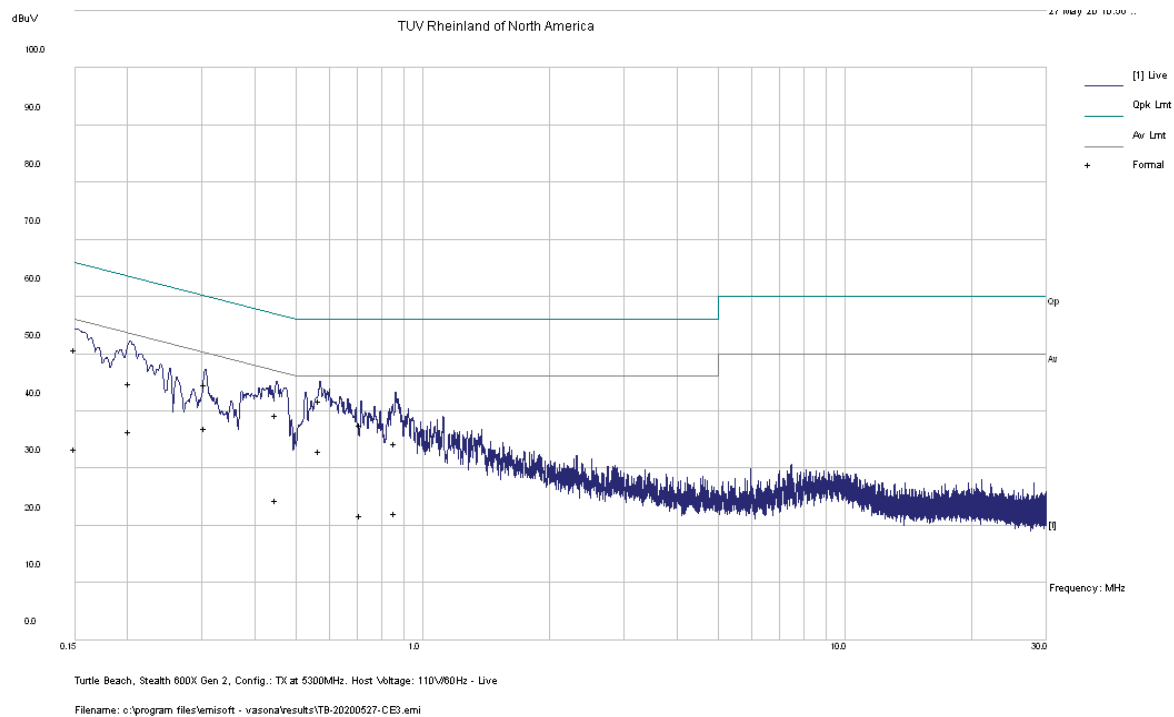
Notes: EUT was setup as table top equipment and transmitted at 5500 MHz in 802.11a mode at 6 Mbps (worse case configuration).

SOP 2 Conducted Emissions

Tracking # 32062209.001 Page 2 of 4

EUT Name	Wireless Audio Headset	Date	May 27, 2020
EUT Model	Stealth 600X Gen 2	Temp / Hum in	22° C / 36% rh
EUT Serial	PP#2	Temp / Hum out	N/A
EUT Config.	TX mode: 802.11a mode at 6 Mbps, 5500 MHz	Line AC	110Vac / 60Hz (host)
Standard	CFR47 Part 15.207 and RSS Gen	RBW / VBW	9 kHz / 30 kHz
Lab/LISN	Lab #5 /Com-Power, Line 1	Performed by	Jeremy Luong

150 kHz to 30 MHz Plot for Line 1 (Live)



Note: Met FCC Class B limit.

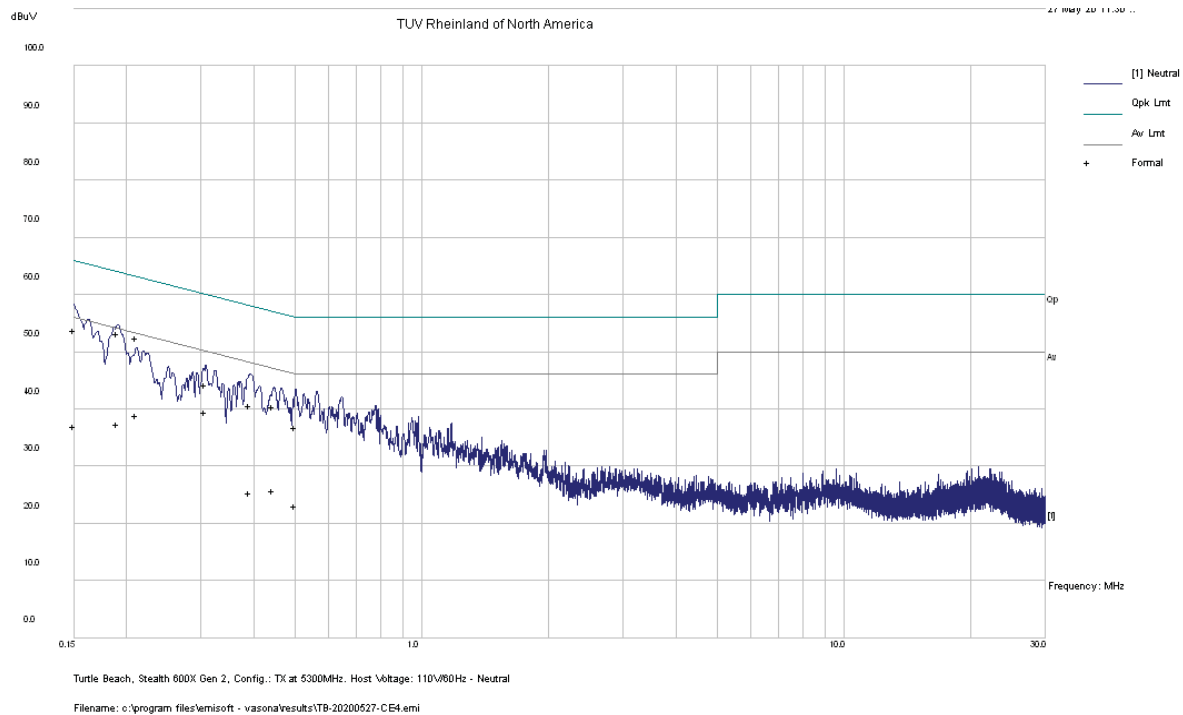
SOP 2 Conducted Emissions						Tracking # 32062209.001 Page 3 of 4			
EUT Name	Wireless Audio Headset					Date	May 27, 2020		
EUT Model	Stealth 600X Gen 2					Temp / Hum in	22° C / 36% rh		
EUT Serial	PP#2					Temp / Hum out	N/A		
EUT Config.	TX mode: 802.11a mode at 6 Mbps, 5500 MHz					Line AC / Freq	110Vac / 60Hz (host)		
Standard	CFR47 Part 15.207 and RSS Gen					RBW / VBW	9 kHz / 30 kHz		
Lab/LISN	Lab #5 /Com-Power, Line 2					Performed by	Jeremy Luong		
Frequency	Raw	Limiter	Ins. Loss	Level	Detector	Line	Limit	Margin	Result
MHz	dBuV	dB	dB	dBuV			dBuV	dB	
0.150	43.75	9.95	0.10	53.80	QP	Neutral	66.00	-12.20	Pass
0.150	27.03	9.95	0.10	37.08	Ave	Neutral	56.00	-18.92	Pass
0.191	43.13	9.95	0.07	53.15	QP	Neutral	64.00	-10.85	Pass
0.191	27.46	9.95	0.07	37.48	Ave	Neutral	54.00	-16.52	Pass
0.211	42.52	9.95	0.07	52.54	QP	Neutral	63.16	-10.62	Pass
0.211	29.00	9.95	0.07	39.02	Ave	Neutral	53.16	-14.14	Pass
0.308	34.33	9.96	0.05	44.34	QP	Neutral	60.02	-15.68	Pass
0.308	29.41	9.96	0.05	39.42	Ave	Neutral	50.02	-10.61	Pass
0.392	30.61	9.97	0.04	40.62	QP	Neutral	58.02	-17.40	Pass
0.392	15.33	9.97	0.04	25.34	Ave	Neutral	48.02	-22.68	Pass
0.446	30.51	9.97	0.04	40.52	QP	Neutral	56.96	-16.43	Pass
0.446	15.69	9.97	0.04	25.71	Ave	Neutral	46.96	-21.25	Pass
0.502	26.80	9.98	0.04	36.82	QP	Neutral	56.00	-19.18	Pass
0.502	13.04	9.98	0.04	23.06	Ave	Neutral	46.00	-22.94	Pass
Spec Margin = QP./Ave. - Limit, ± Uncertainty									
Combined Standard Uncertainty $u_c(y) = \pm 1.2$ dB Expanded Uncertainty $U = ku_c(y)$ $k = 2$ for 95% confidence									
Notes: EUT was setup as table top equipment and transmitted at 5500 MHz in 802.11a mode at 6 Mbps (worse case configuration).									

SOP 2 Conducted Emissions

Tracking # 32062209.001 Page 4 of 4

EUT Name	Wireless Audio Headset	Date	May 27, 2020
EUT Model	Stealth 600X Gen 2	Temp / Hum in	22° C / 36% rh
EUT Serial	PP#2	Temp / Hum out	N/A
EUT Config.	TX mode: 802.11a mode at 6 Mbps, 5500 MHz	Line AC	110Vac / 60Hz (host)
Standard	CFR47 Part 15.207 and RSS Gen	RBW / VBW	9 kHz / 30 kHz
Lab/LISN	Lab #5 /Com-Power, Line 2	Performed by	Jeremy Luong

150 kHz to 30 MHz Plot for Line 2 (Neutral)



Note: Met FCC Class B Limit.

4.7 Frequency Stability

In accordance with 47 CFR Part 15.407(g) and RSS GEN Sect. 6.11 the frequency stability of U-NII devices must be such that an emission is maintained within the band of operation under all conditions of normal operation as specified in the user's manual. The Manufacturer calls out operating temperature ranges of +0° to +50° C

4.7.1 Test Methodology

The manufacturer of the equipment is responsible for ensuring that the frequency stability is such that emissions are always maintained within the band of operation under all conditions. This test performs according to ANSI C63.10-2013 Section 6.8

4.7.2 Manufacturer Declaration

The frequency stability of the reference oscillator sets the frequency stability of the RF transceiver signals. Therefore all of the RF signal should have ± 20 ppm stability.

This stability accounts for room temp tolerance of the crystal oscillator circuit, frequency variation across temperature, and crystal ageing.

Worst case:

5.30 GHz - ± 20 ppm/106 kHz

± 20 ppm at 5.30 GHz translates to a maximum frequency shift of ± 106 kHz. As the edge of the channels are at least one MHz from either of the band edges, ± 106 kHz is more than sufficient to guarantee that the intentional emission will remain in the band over the entire operating range of the radio.

4.7.3 Limit

CFR47 Part 15.407(g) and RSS GEN Sect. 6.11 - Manufacturers of U-NII devices are responsible for ensuring frequency stability such that an emission is maintained within the band of operation under all conditions of normal operation as specified in the user's manual.

4.7.4 Test results:

As originally tested, the EUT was found to be compliant to the requirements of the test standard(s) since the maximum frequency drift was 5.42 ppm.

Table 13: Frequency Stability – Test Results

Date: May 23, 2020		Tested By: Jeremy Luong
Test Method: Radiated Measurements		Power Setting: See test plan.
Antenna Type: Chip		Antenna Gain: +3.7 dBi
Operating Mode: Uncorrelated		Signal State: Modulated at 100%
Ambient Temp.: 23 °C		Relative Humidity: 33%
Temperature	Time	PPM
0° C	Start	2.71
	2 Min.	3.02
	5 Min	2.10
	10 min	2.64
10° C	Start	1.65
	2 Min.	1.82
	5 Min	1.08
	10 min	1.82
20° C	Start	0.83
	2 Min.	0.21
	5 Min	0.12
	10 min	0.28
30° C	Start	1.65
	2 Min.	2.48
	5 Min	1.63
	10 min	2.29
40° C	Start	3.14
	2 Min.	3.92
	5 Min	3.28
	10 min	4.53
50° C	Start	5.42
	2 Min.	4.76
	5 Min	4.41
	10 min	4.43
Note: All frequency drifts were less than ± 20 ppm. The worst frequency drift was 5.42 ppm		

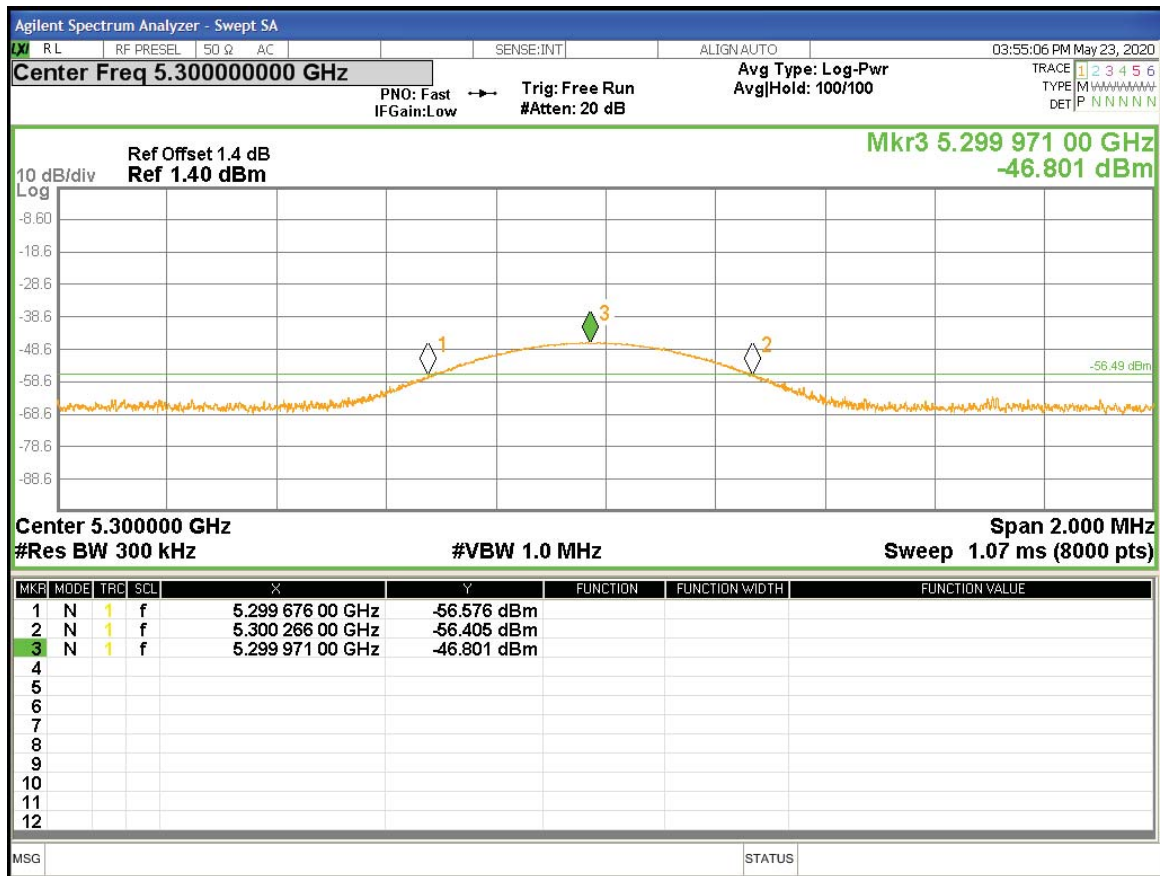


Figure 165: Frequency Stability – Worst Case

4.8 Voltage Variation

In accordance with 47 CFR Part 15.31 (e) intentional radiators, measurements of the variation of the input power or the radiated signal level of the fundamental frequency component of the emission, as appropriate, shall be performed with the supply voltage varied between 85% and 115% of the nominal rated supply voltage. For battery operated equipment, the equipment tests shall be performed using a new battery.

4.8.1 Test Methodology

The supply voltage was varied between 85% and 115% of the nominal rated supply voltage. The fundamental frequency was observed during the variation. The EUT was powered 3.7 Vdc by programmable power supply. The voltage was varied from 3.15 Vdc to 4.26 Vdc mean while the fundamental frequencies were observed and recorded for the maximum drift in ppm; part per millions.

4.8.2 Test results

As originally tested, the EUT was found to be compliant to the requirements of the test standard(s). The fundamental frequencies drifted less than ± 20 ppm.

Table 14: Voltage Variation – Test Results

Date: May 23, 2020			Tested By: Jeremy Luong	
Test Method: Radiated Measurements			Power Setting: See test plan.	
Antenna Type: Chip			Antenna Gain: +3.7 dBi	
Operating Mode: Uncorrelated			Signal State: Modulated at 100%	
Ambient Temp.: 23 °C			Relative Humidity: 33%	
Frequency	Nominal (3.7 Vdc)	Lo Voltage (3.15Vdc)	Hi Voltage (4.26Vdc)	Max Drift
MHz	ppm	ppm	ppm	ppm
5300	3.28	3.87	3.25	3.87
Note: EUT has operating voltage of 3.3 Vdc to 4.07 Vdc.				

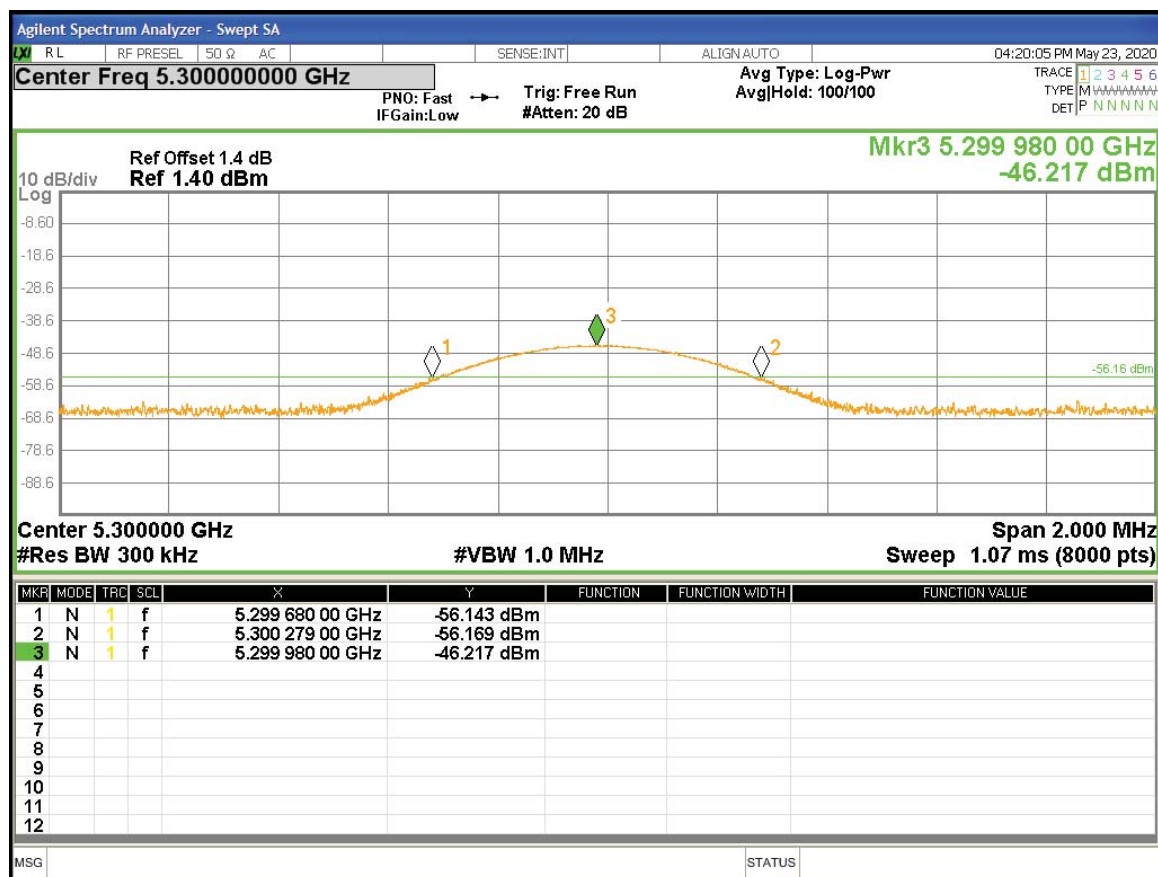


Figure 166: Voltage Variation – Worst Case

5 Test Equipment List

5.1 Equipment List

Equipment	Manufacturer	Model #	Serial/Inst #	Last Cal mm/dd/yyyy	Next Cal mm/dd/yyyy
LISN	Com-Power	LI-200	12100	02/21/2020	02/21/2021
Loop Antenna	EMCO	6502	62531	07/01/2019	07/01/2021
Bilog Antenna	Sunol Sciences	JB3	A102606	08/01/2018	08/01/2020
Horn Ant. (1-18GHz)	EMCO	3115	9211-3969	06/20/2019	06/20/2021
Horn Ant. w/ Pre-Amp	Com-Power	AHA-840	105005	08/26/2019	08/26/2020
EMI Receiver	Agilent	N9038A	MY52260210	02/15/2020	02/15/2021
Spectrum Analyzer	Agilent	N9030A	MY52350885	10/26/2019	10/26/2020
EMI Receiver	Rohde & Schwarz	ESIB40	100180	09/20/2019	09/20/2020
Preamplifier	Sonoma Inst.	310	185516	02/12/2020	02/12/2021
Preamplifier	Miteq	TTA1800-30-HG	184252	02/12/2020	02/12/2021
RF Power Meter	Agilent	E4418A	MY45103902	02/13/2020	02/13/2021
Power Sensor	Agilent	8481A	US37295801	02/13/2020	02/13/2021
Thermometer	Extech Instruments	SD700	A095319	03/18/2020	03/18/2021
Thermo Chamber	Espec	BTZ-133	0613436	12/20/2019	12/20/2020
DC Power Supply	Agilent	E3634A	MY400004331	02/15/2020	02/15/2021
Signal Generator	Anritsu	MG3694A	042803	02/13/2020	02/13/2021
Notch Filter	Micro-Tronics	BRM50716	003	VBV	VBV

* Calibration of equipment past due for re-calibration will be performed expeditiously. If any equipment is found to be out of tolerance at that time, affected customers will be notified accordingly.

6 EMC Test Plan

6.1 Introduction

This section provides a description of the Equipment Under Test (EUT), configurations, operating conditions, and performance acceptance criteria. It is an overview of information provided by the manufacturer so that the test laboratory may perform the requested testing.

6.2 Customer

Table 15: Customer Information

Company Name	Voyetra Turtle Beach, Inc.
Address	100 Summit Lake Drive, Suite 100
City, State, Zip	Valhalla, New York 10595 USA
Country	USA
Phone	(530) 277-3482

Table 16: Technical Contact Information

Name	Tim Blaney
E-mail	tim@commcepts.net
Phone	(530) 277-3482

6.3 Equipment Under Test (EUT)

Table 17: EUT Specifications

EUT Specifications	
Dimensions	217 mm (8.5") x 171 mm (6.75") x 89 mm (3.5")
DC Input	Headset Input Voltage: 3.7 Vdc (battery)
Environment	Indoor
Operating Temperature Range:	0 to 50 degrees C
Multiple Feeds:	☐ Yes and how many ☒ No
Product Marketing Name (PMN)	Stealth 600X Gen 2
Hardware Version Identification Number (HVIN)	600X Gen 2
Firmware Version Identification Number (FVIN)	1.2.6
802.11-radio modules	
Operating Mode	802.11a, 802.11b, 802.11g, 802.11n HT20
Transmitter Frequency Band	2.4 – 2.4835 GHz, 5.15– 5.25 GHz, 5.25– 5.35 GHz, 5.47– 5.7 GHz, and 5.725– 5.85 GHz
Max. Rated Power Output	5.18 dBm
Power Setting @ Operating Channel	See Channel Planning Table.
Antenna Type	PCB Chip
Max. Peak Antenna Gain	+3.3 dBi at 2.4GHz, +3.7 dBi at 5 GHz
Modulation Type	☐ Thread (Zigbee) ☐ BLE ☒ DSSS ☒ OFDM ☒ Other describe: 16QAM
Data Rate	802.11b: 1, 2, 5.5, and 11 Mbps 802.11g: 6, 9, 12, 18, 24, 36, 48, 54 Mbps 802.11a: 6, 9, 12, 18, 24, 36, 48, 54 Mbps 802.11n HT20: 6.5, 13, 19.5, 26, 39, 52, 58.5, 65 Mbps
TX/RX Chain (s)	1
Directional Gain Type	☐ Correlated ☐ Beam-Forming ☒ Other describe: No beam-forming or correlated.
Type of Equipment	☐ Table Top ☐ Wall-mount ☐ Floor standing cabinet ☒ Other: Head wear device.
Note: The radio can only operate in one band and on one channel at a time. The Stealth 600X Gen 2 has two versions that are 100% identical electrically and mechanically except for the color of their exterior plastics. The two model color variations are black and white.	

Table 18: Antenna Information

Number	Antenna Type	Description	Max Gain (dBi)
Antenna 1	Chip	Max. peak gain at 2.4 GHz	+3.3
		Max. peak gain at 5 GHz	+3.7

Table 19: EUT Channel Power Specifications

No.	Frequency (MHz)	Target Power Level in ART2					
		802.11b	802.11g	802.11a	802.11n HT20	802.11n HT40	
1	2412	6.0	5.5		5.5		
2	2417						
3	2422						
4	2427						
5	2432						
6	2437	7.0	7.0		7.0		
7	2442						
8	2447						
9	2452						
10	2457						
11	2462	7.5	7.0		7.0		
36	5180			9.0	9.0		
40	5200			8.5	8.5		
44	5220						
48	5240			7.5	7.5		
52	5260			7.5	7.5		
56	5280						
60	5300			6.5	6.5		
64	5320			5.5	6.0		
100	5500			6.0	5.5		
104	5520						
108	5540						
112	5560						
116	5580			6.5	6.5		
120	5600						
124	5620						
128	5640						
132	5660						
136	5680						
140	5700			9.0	9.5		
144	5720						
149	5745			9.0	9.5		
153	5765						
157	5785			9.0	9.5		
161	5805						
165	5825			7.5	8.0		
Note: Power outputs are set using the TX Power Level in the ART2 and follow by power measurement for FCC in dBm.							

Table 20: Interface Specifications

Interface Type	Cabled with what type of cable?	Is the cable shielded?	Maximum potential length of the cable?	Metallic (M), Coax (C), Fiber (F), or Not Applicable?
USB	Laptop	☒ Yes	☒ Metric:3m	☒ M

Table 21: Supported Equipment

Equipment	Manufacturer	Model	Serial	Used for
Laptop	Dell	Latitude	35521341769	Setup EUT operating channel
Note: None.				

Table 22: Description of Sample used for Testing

Device	Serial	RF Connection	CFR47 Part 15.407
Stealth 600X Gen 2	PP#2	Radiated Sample	TX Emissions, AC Conducted Emission
	PP#1	Conducted Sample	Output Power, Power Spectral Density, Occupied Bandwidth Band-Edge Out-of-Band Emission Frequency Stability Voltage Variation
Note: N/A			

Table 23: Description of Test Configuration used for Radiated Measurement.

Device	Antenna	Mode	Setup Photo (X-Axis)	Setup Photo (Y-Axis)	Setup Photo (Z-Axis)
Stealth 600X Gen 2	Chip (Murata)	Transmit	EUT laid flat	Normal usage. Up right.	On the side
Note: The Y-Axis setup configuration used for final testing.					

6.4 Test Specifications

Table 24: Test Specifications

Emissions	
Regulation Rules / Standards	Requirement
CFR 47 Part 15.407: 2020	All
RSS 247 Issue 2, 2017	All

END OF REPORT