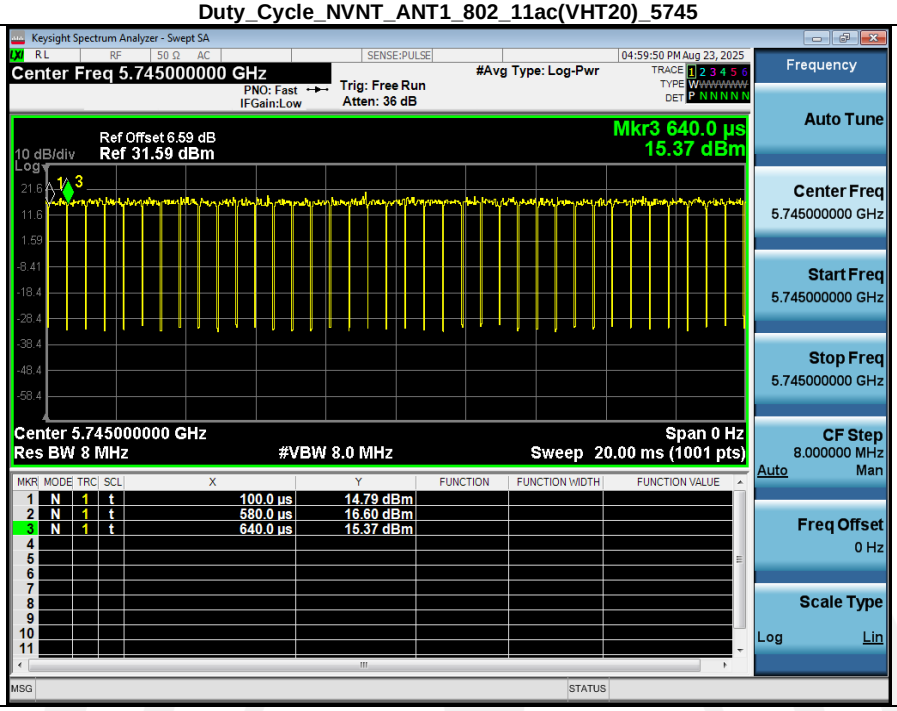
Duty_Cycle_NVNT_ANT1_802_11ac(VHT20)_5745



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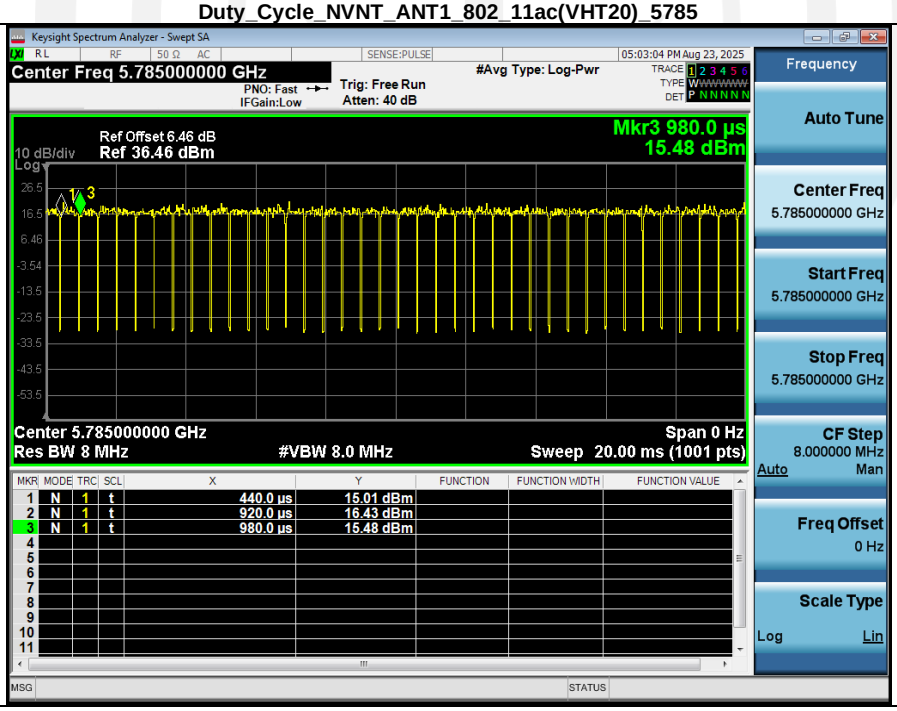

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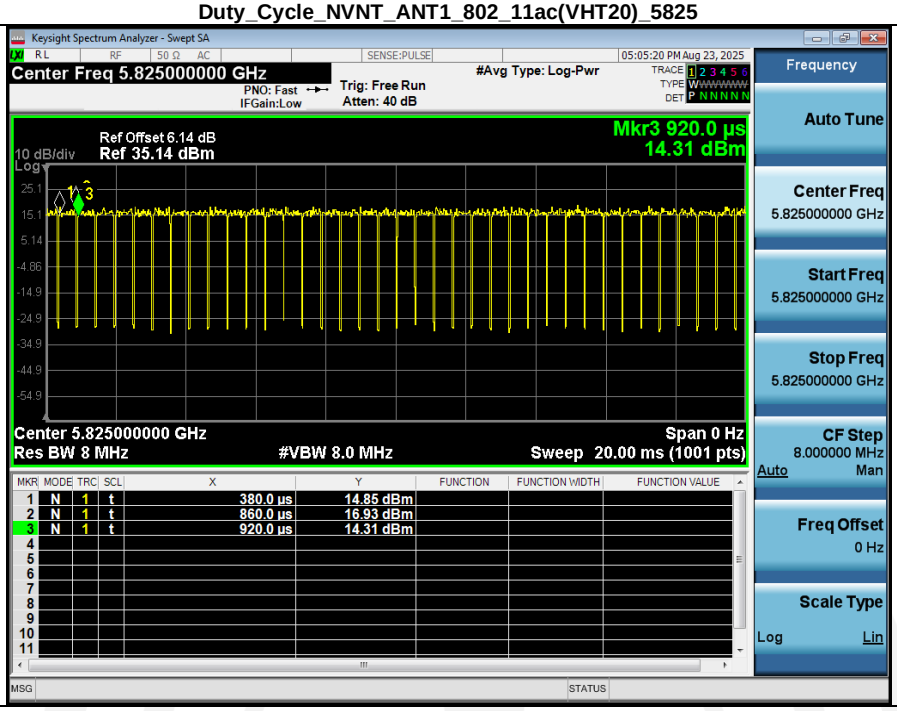
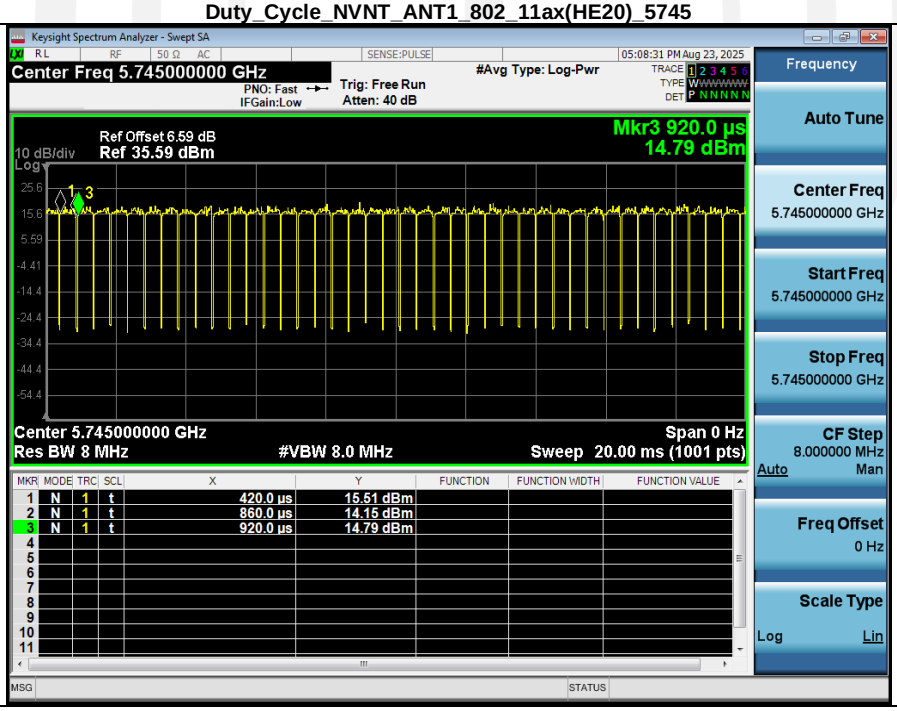


Duty_Cycle_NVNT_ANT1_802_11ax(HE20)_5745



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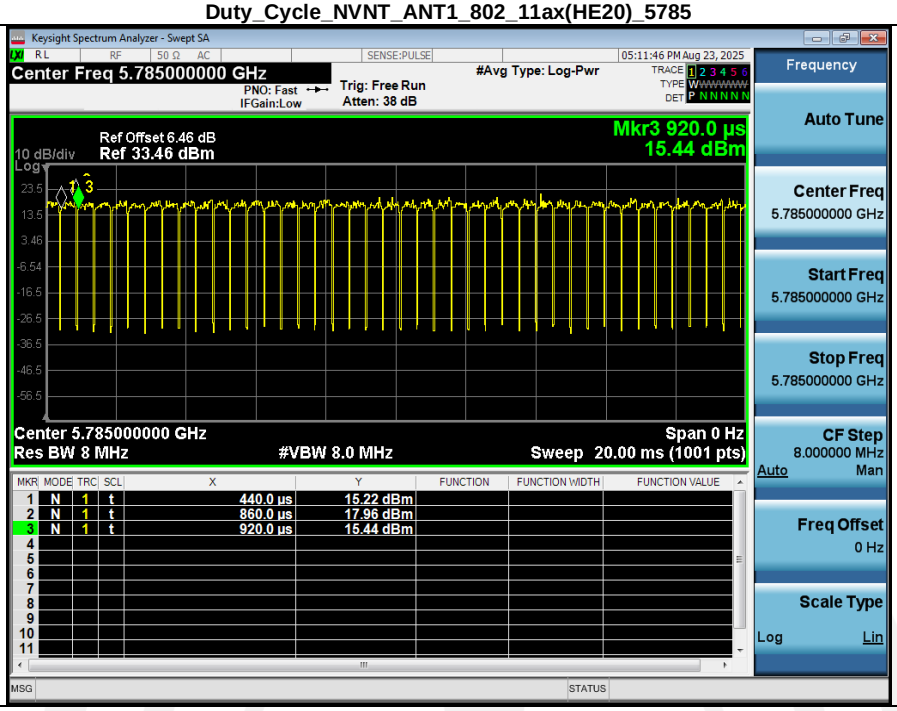

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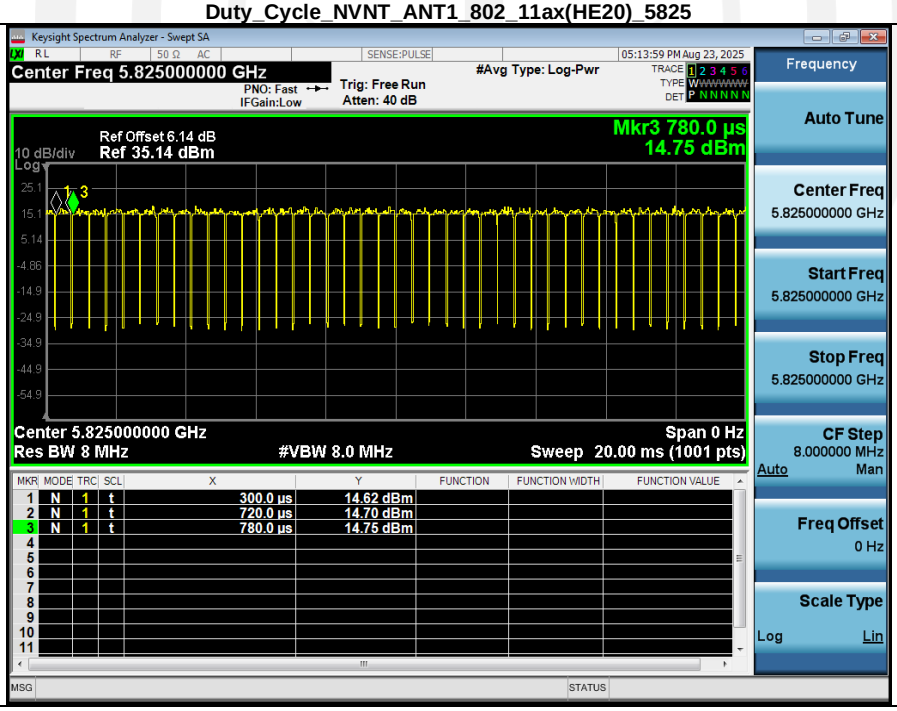
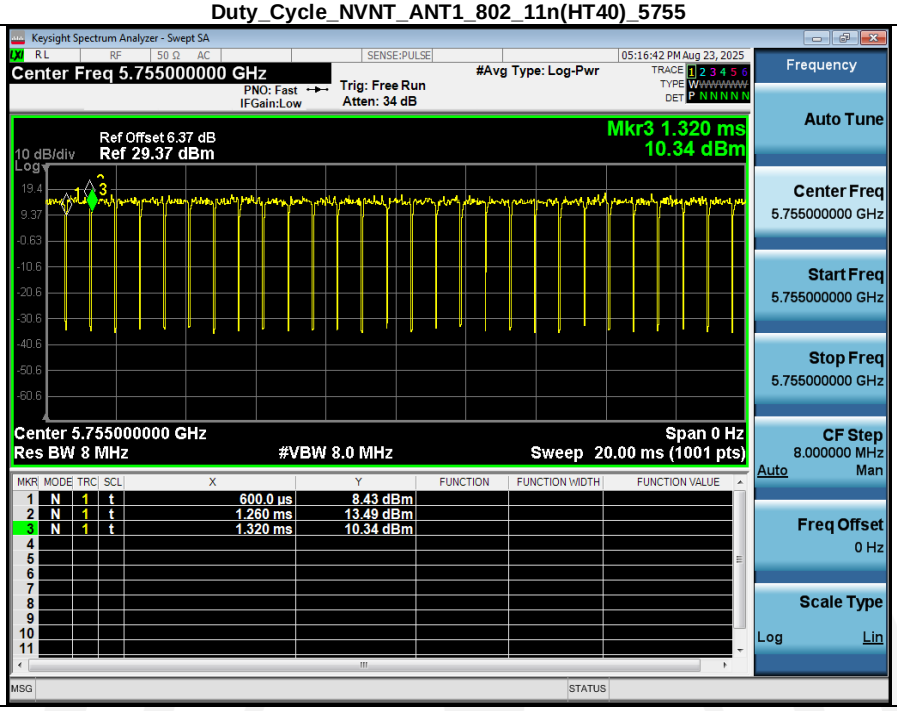


Duty_Cycle_NVNT_ANT1_802_11n(HT40)_5755



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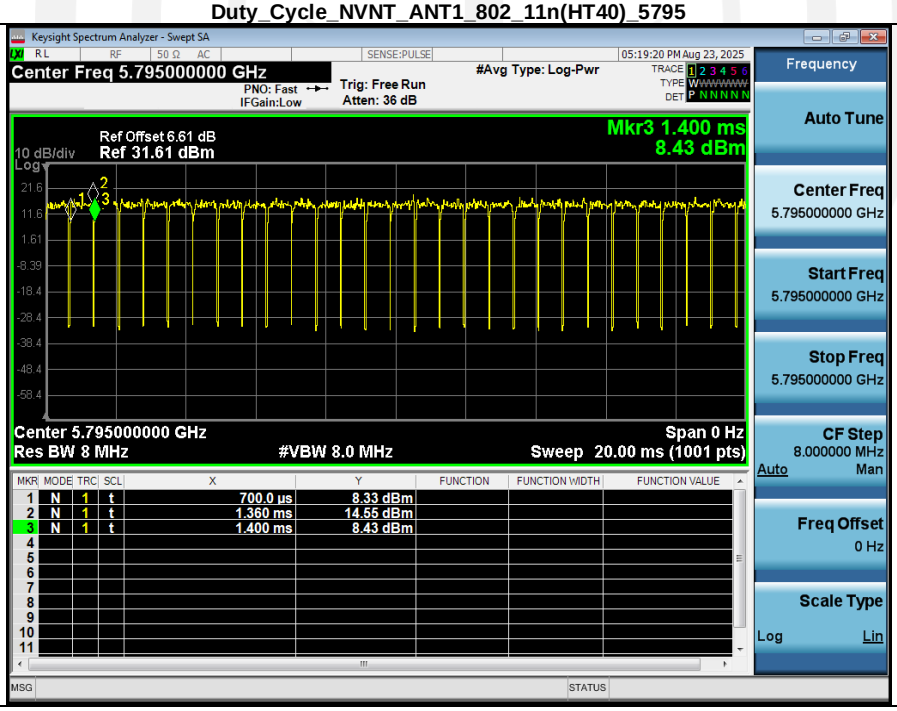
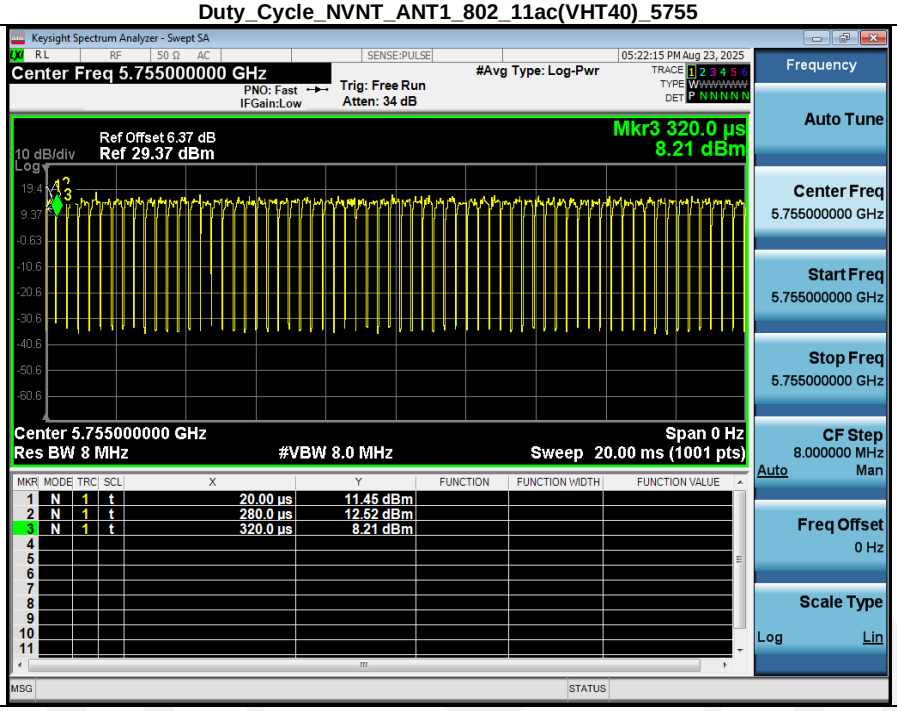
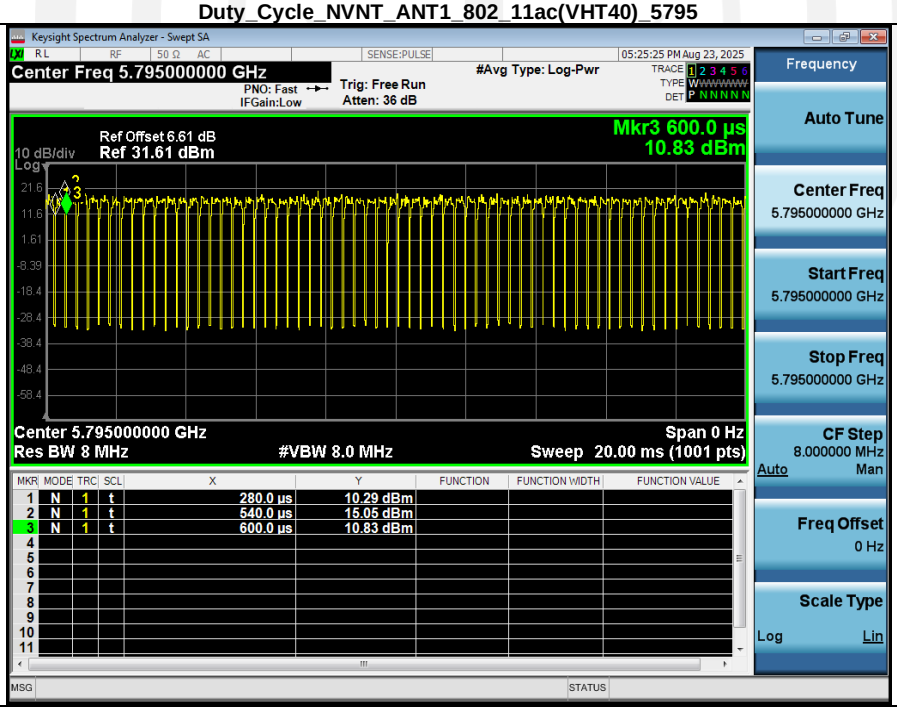


Duty_Cycle_NVNT_ANT1_802_11ac(VHT40)_5755



Duty_Cycle_NVNT_ANT1_802_11ac(VHT40)_5795



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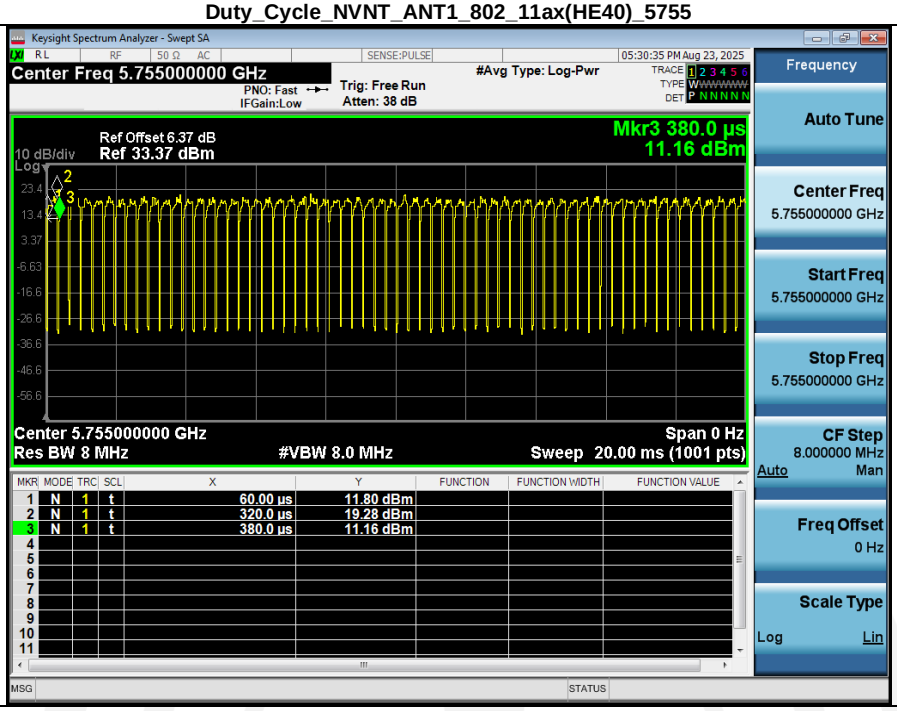

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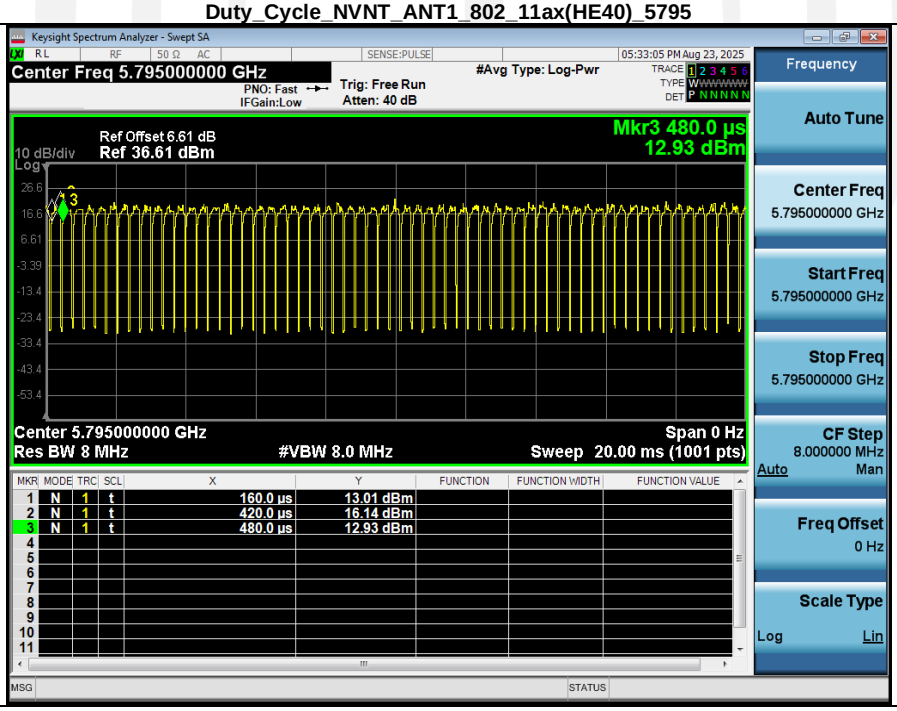
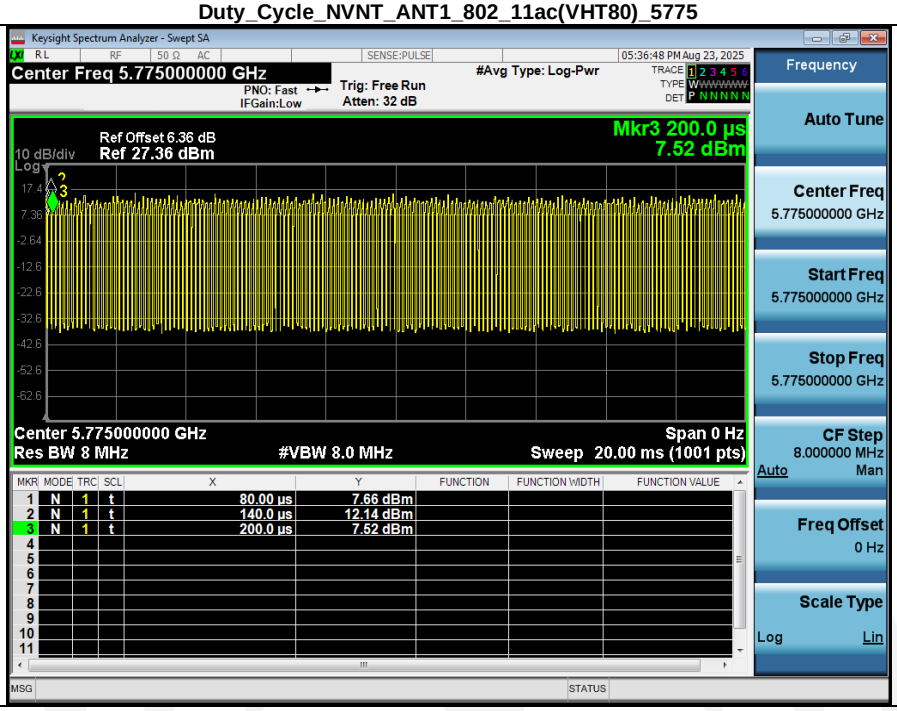
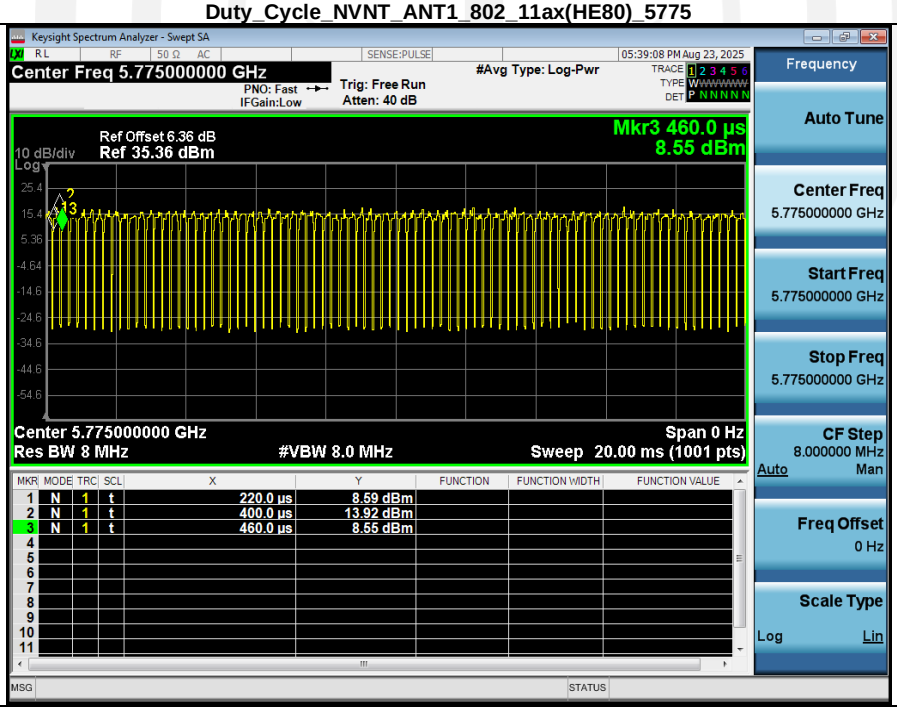


Duty_Cycle_NVNT_ANT1_802_11ac(VHT80)_5775

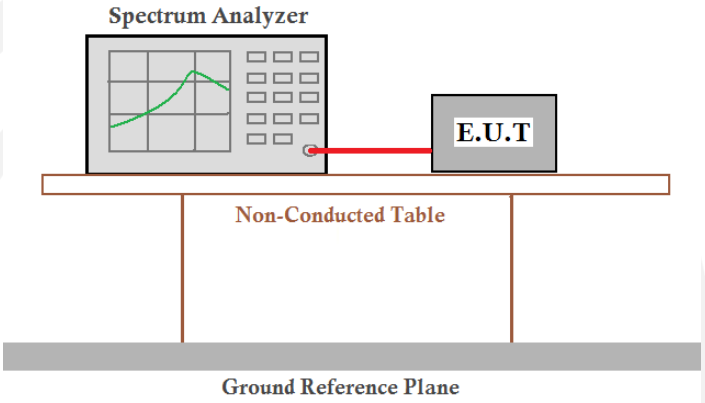


Duty_Cycle_NVNT_ANT1_802_11ax(HE80)_5775



Note: The measure-and-sum technique shall be used for measuring in-band transmit power of a device. Total power is the sum of the conducted power levels measured at the various output ports.

4.5 Power Spectral Density

Test Requirement:	FCC Part15 E Section 15.407, RSS-247 §6.2
Test Method:	KDB 789033 D02 General UNII Test Procedures New Rules v02r01
Limit:	FCC: 1.≤11.00dBm/MHz for 5150MHz-5250MHz, 5250-5350MHz and 5470-5725 MHz 2.≤30.00dBm/500KHz for 5725MHz-5850MHz IC: 1.For the 5.15-5.25 GHz, The e.i.r.p. spectral density shall not exceed 10 dBm in any 1.0 MHz band. 2. For the 5.25-5.35 GHz and 5.47-5.725 GHz bands, The power spectral density shall not exceed 11 dBm in any 1.0 MHz band.
Test setup:	
Test procedure:	1) Create an average power spectrum for the EUT operating mode being tested by following the instructions in section E)2) for measuring maximum conducted output power using a spectrum analyzer or EMI receiver: select the appropriate test method (SA-1, SA-2, SA-3, or alternatives to each) and apply it up to, but not including, the step labeled, “Compute power…”. 2) Use the peak search function on the instrument to find the peak of the spectrum. 3) Make the following adjustments to the peak value of the spectrum, if applicable: a) If Method SA-2 or SA-2 Alternative was used, add 10 log(1/x), where x is the duty cycle, to the peak of the spectrum. b) If Method SA-3 Alternative was used and the linear mode was used in step E)2)g)(viii), add 1 dB to the final result to compensate for the difference between linear averaging and power averaging. 4) The result is the PSD.
Test Instruments:	Refer to section 3.0 for details
Test mode:	Refer to section 2.2 for details
Test results:	Pass

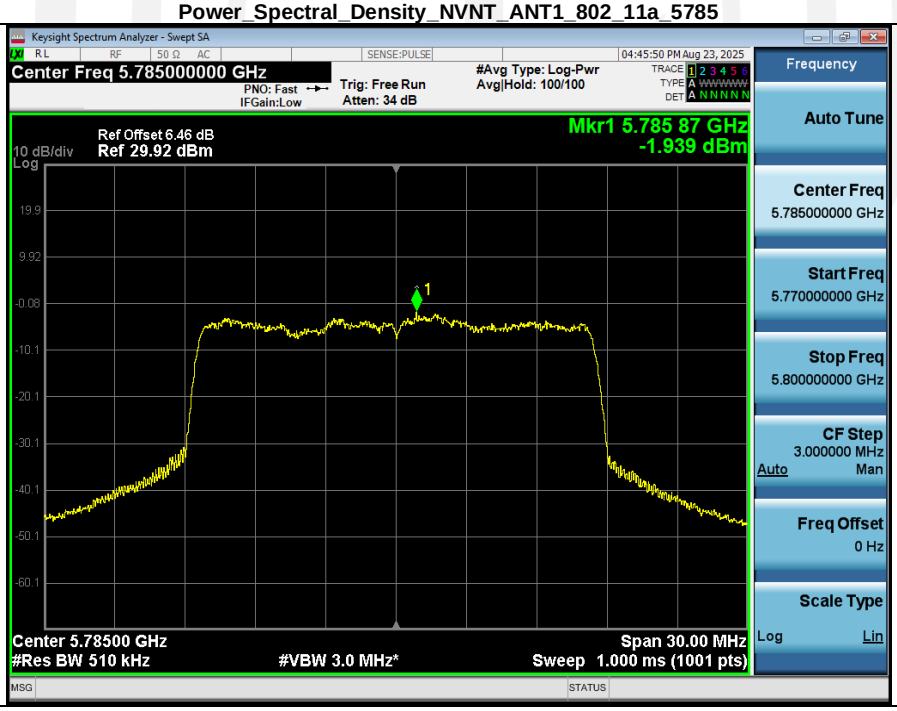
Measurement Data

Band 4 (5725 – 5850 MHz) SISO:

Condition	Antenna	Modulation	Frequency (MHz)	PSD_SA (dBm/RBW)	Duty factor(dB)	RB factor(dB)	PSD (dBm/500kHz)	Limit (dBm/500kHz)	Result
NVNT	ANT1	802.11a	5745.00	-2.64	0.18	-0	-2.54	30	Pass
NVNT	ANT1	802.11a	5785.00	-1.94	0.18	-0	-1.85	30	Pass
NVNT	ANT1	802.11a	5825.00	-3.48	0.18	-0	-3.39	30	Pass
NVNT	ANT1	802.11n(HT20)	5745.00	-4.33	0.19	-0	-4.23	30	Pass
NVNT	ANT1	802.11n(HT20)	5785.00	-4.31	0.19	-0	-4.20	30	Pass
NVNT	ANT1	802.11n(HT20)	5825.00	-5.87	0.20	-0	-5.75	30	Pass
NVNT	ANT1	802.11ac(VHT20)	5745.00	-6.96	0.51	-0	-6.53	30	Pass
NVNT	ANT1	802.11ac(VHT20)	5785.00	-7.78	0.51	-0	-7.35	30	Pass
NVNT	ANT1	802.11ac(VHT20)	5825.00	-8.66	0.51	-0	-8.23	30	Pass
NVNT	ANT1	802.11ax(HE20)	5745.00	-7.58	0.56	-0	-7.11	30	Pass
NVNT	ANT1	802.11ax(HE20)	5785.00	-7.62	0.58	-0	-7.13	30	Pass
NVNT	ANT1	802.11ax(HE20)	5825.00	-8.03	0.58	-0	-7.53	30	Pass
NVNT	ANT1	802.11n(HT40)	5755.00	-8.64	0.38	-0	-8.34	30	Pass
NVNT	ANT1	802.11n(HT40)	5795.00	-7.88	0.26	-0	-7.71	30	Pass
NVNT	ANT1	802.11ac(VHT40)	5755.00	-11.77	0.62	-0	-11.24	30	Pass
NVNT	ANT1	802.11ac(VHT40)	5795.00	-10.47	0.90	-0	-9.66	30	Pass
NVNT	ANT1	802.11ax(HE40)	5755.00	-10.82	0.90	-0	-10.01	30	Pass
NVNT	ANT1	802.11ax(HE40)	5795.00	-8.43	0.90	-0	-7.61	30	Pass
NVNT	ANT1	802.11ac(VHT80)	5775.00	-28.65	3.01	-0	-25.72	30	Pass
NVNT	ANT1	802.11ax(HE80)	5775.00	-15.00	1.25	-0	-13.83	30	Pass

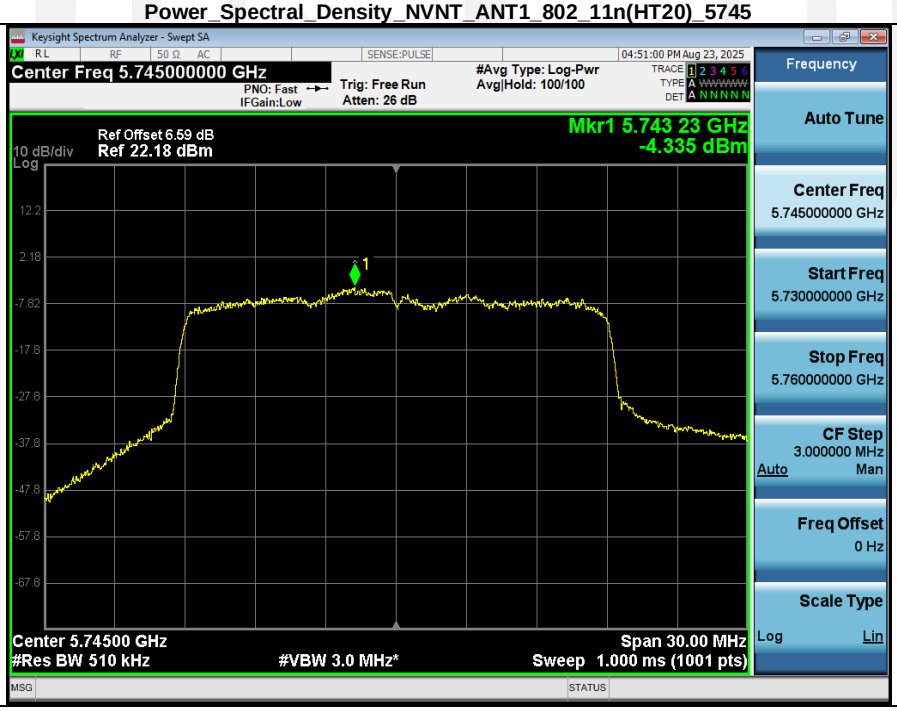
Power_Spectral_Density_NVNT_ANT1_802_11a_5745

Power_Spectral_Density_NVNT_ANT1_802_11a_5785

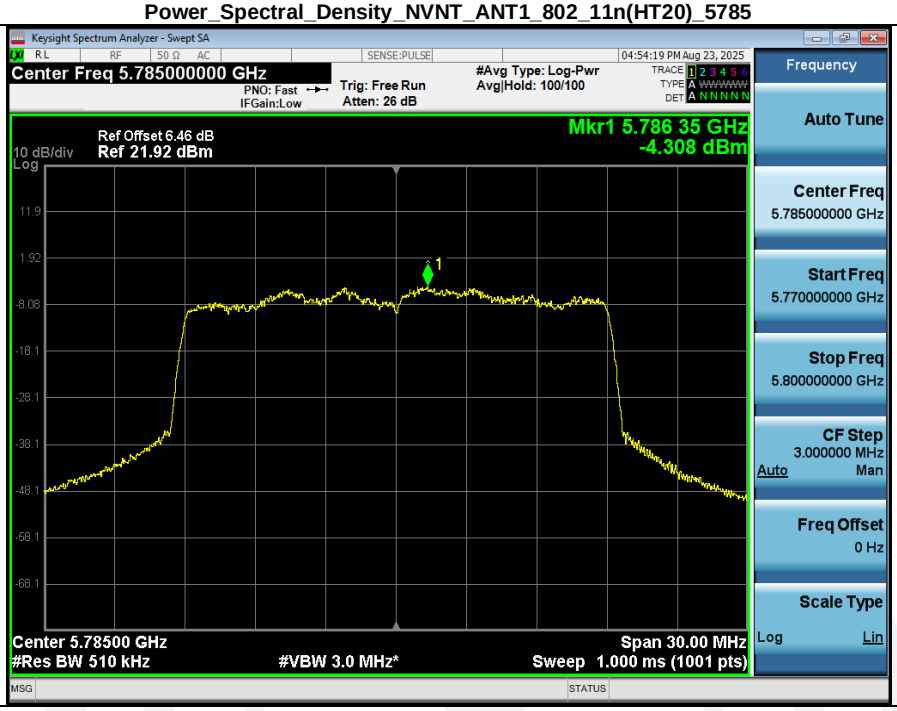


Power_Spectral_Density_NVNT_ANT1_802_11a_5825

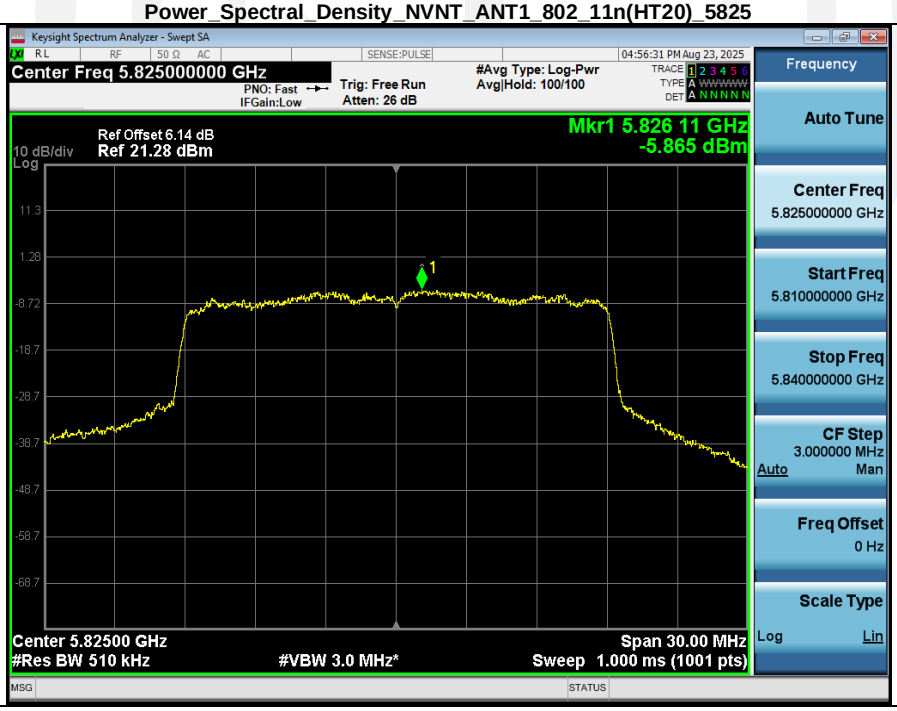
Power_Spectral_Density_NVNT_ANT1_802_11n(HT20)_5745



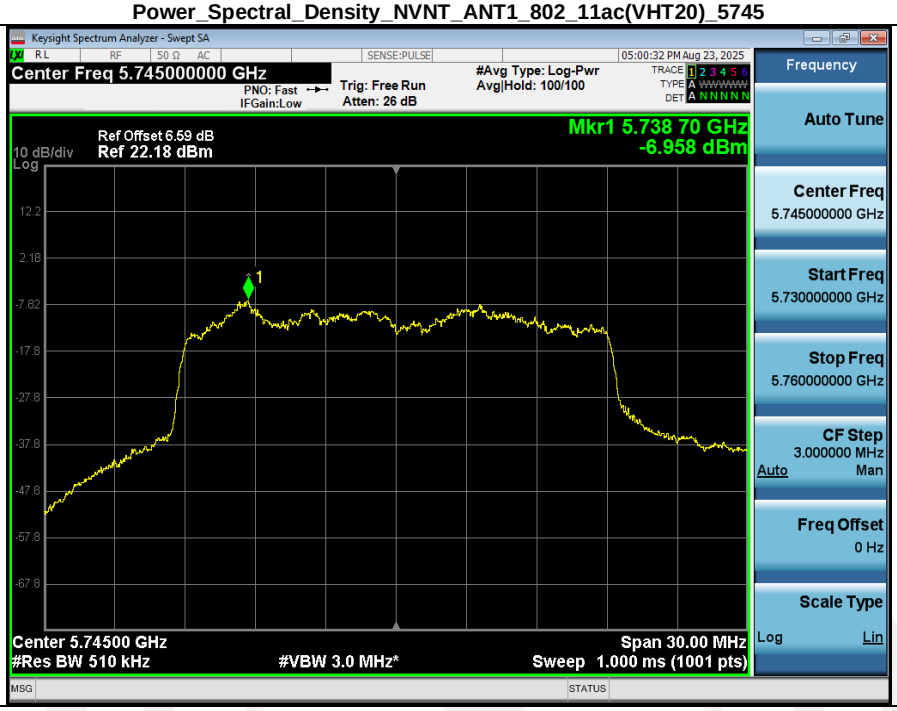
Power_Spectral_Density_NVNT_ANT1_802_11n(HT20)_5785



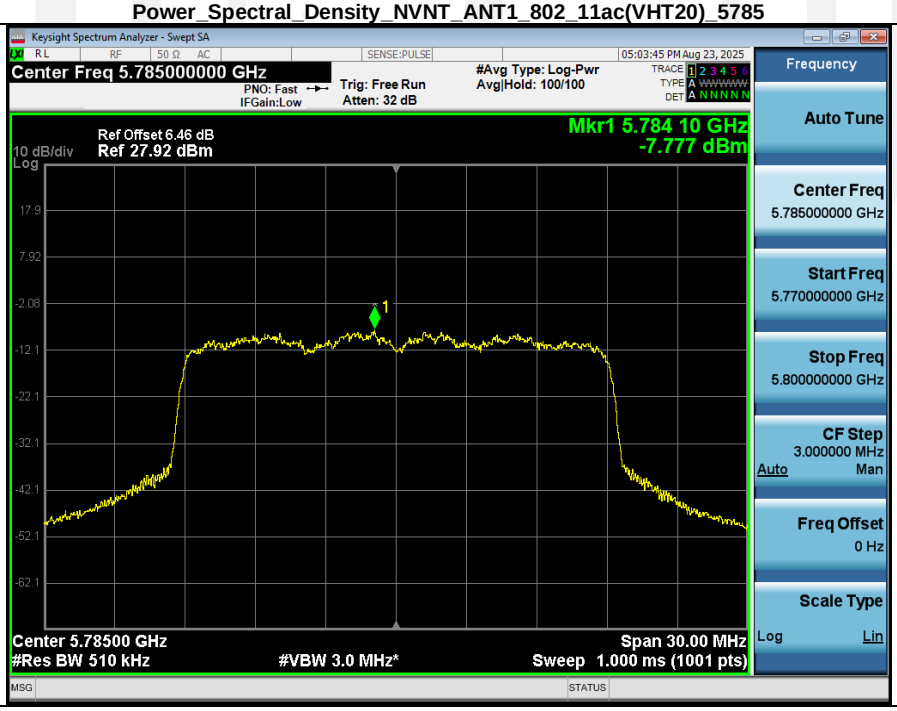
Power_Spectral_Density_NVNT_ANT1_802_11n(HT20)_5825



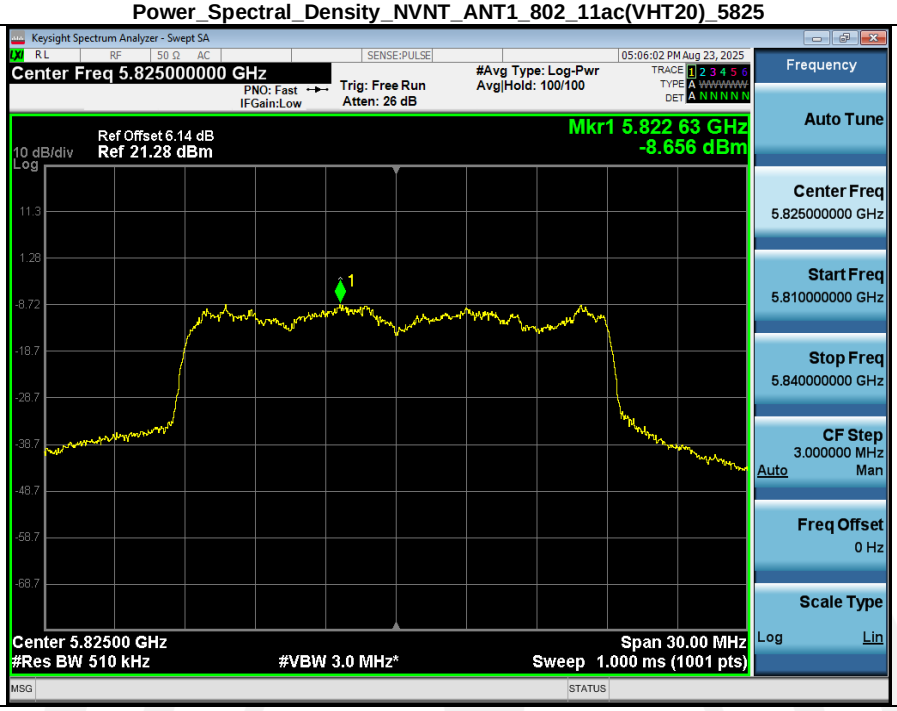
Power_Spectral_Density_NVNT_ANT1_802_11ac(VHT20)_5745



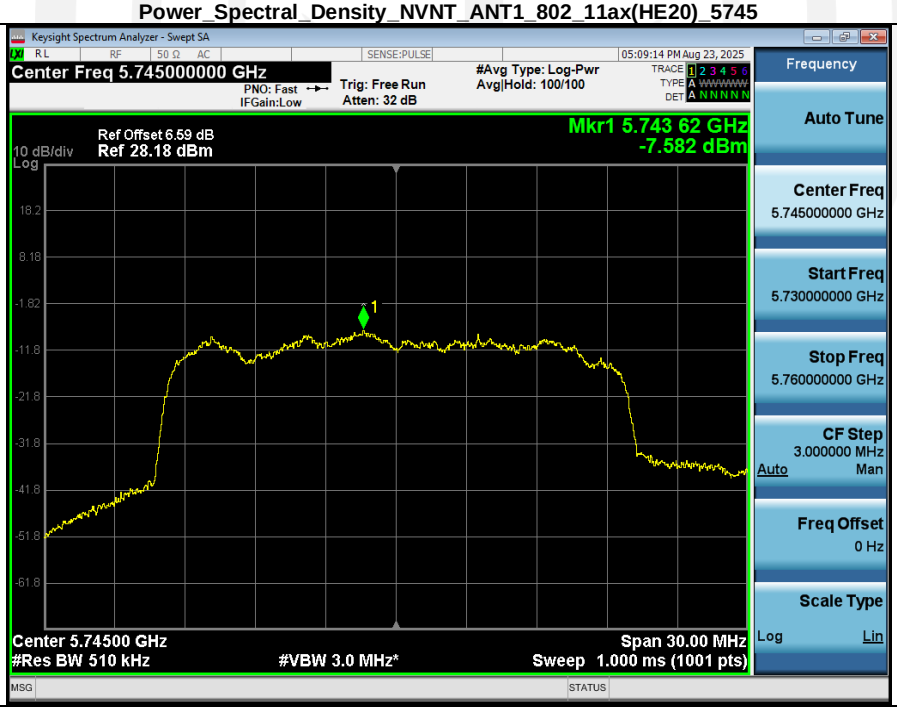
Power_Spectral_Density_NVNT_ANT1_802_11ac(VHT20)_5785



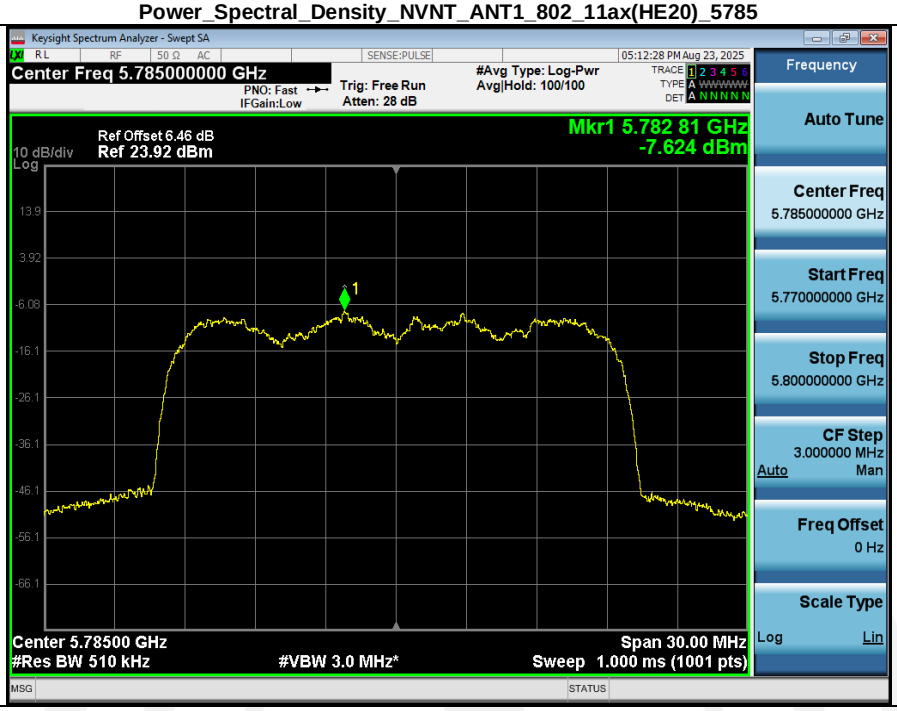
Power_Spectral_Density_NVNT_ANT1_802_11ac(VHT20)_5825



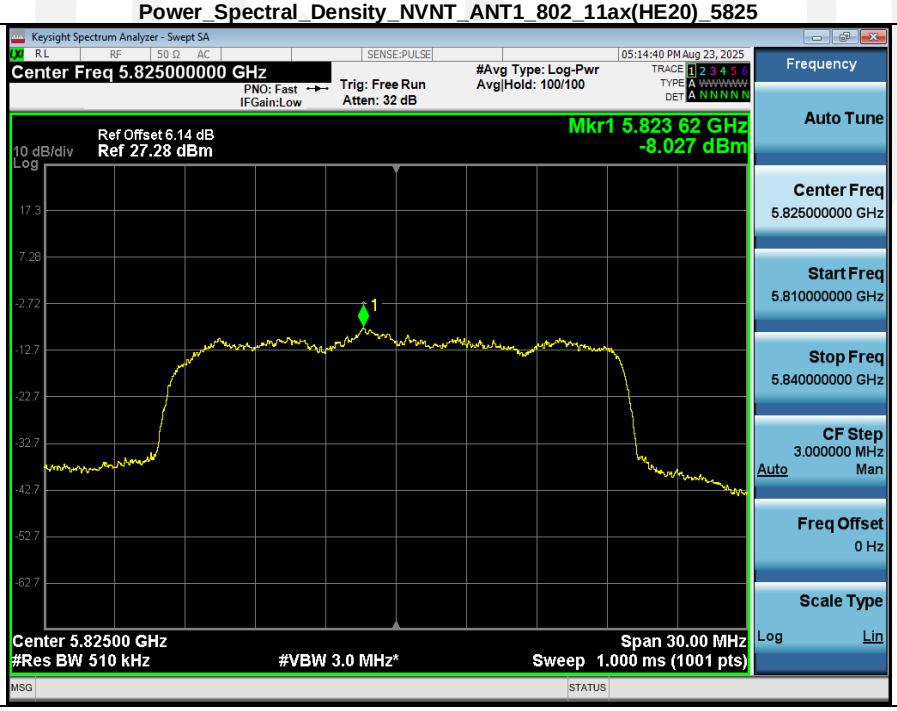
Power_Spectral_Density_NVNT_ANT1_802_11ax(HE20)_5745



Power_Spectral_Density_NVNT_ANT1_802_11ax(HE20)_5785



Power_Spectral_Density_NVNT_ANT1_802_11ax(HE20)_5825



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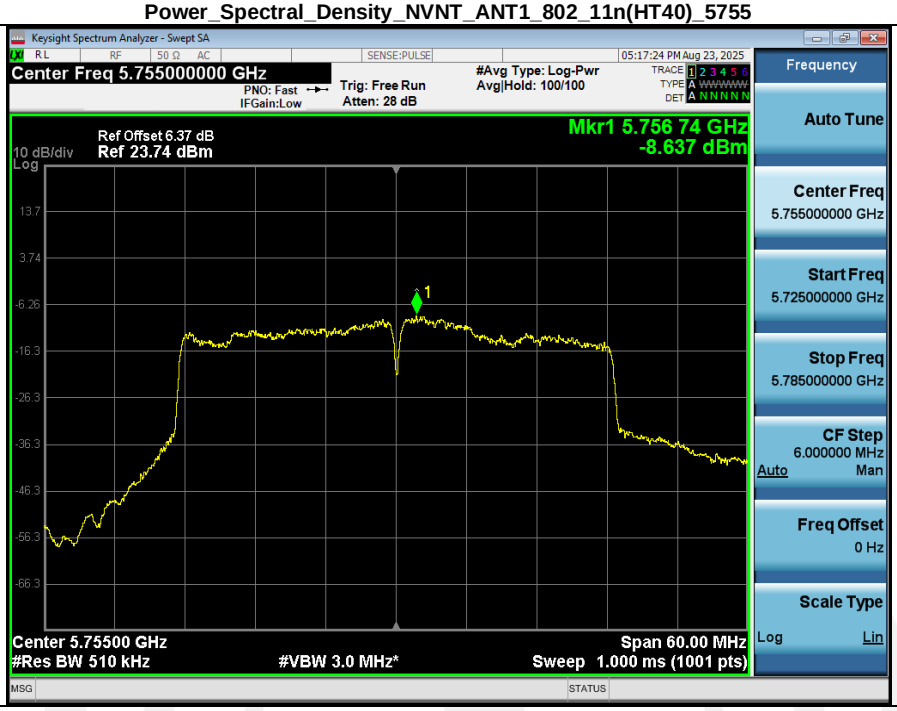

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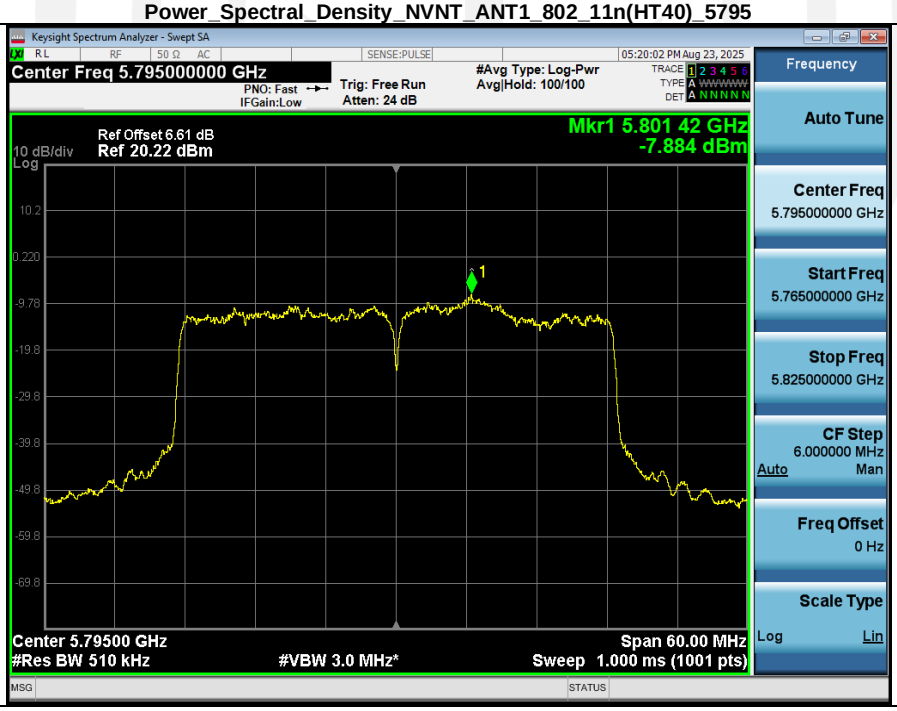

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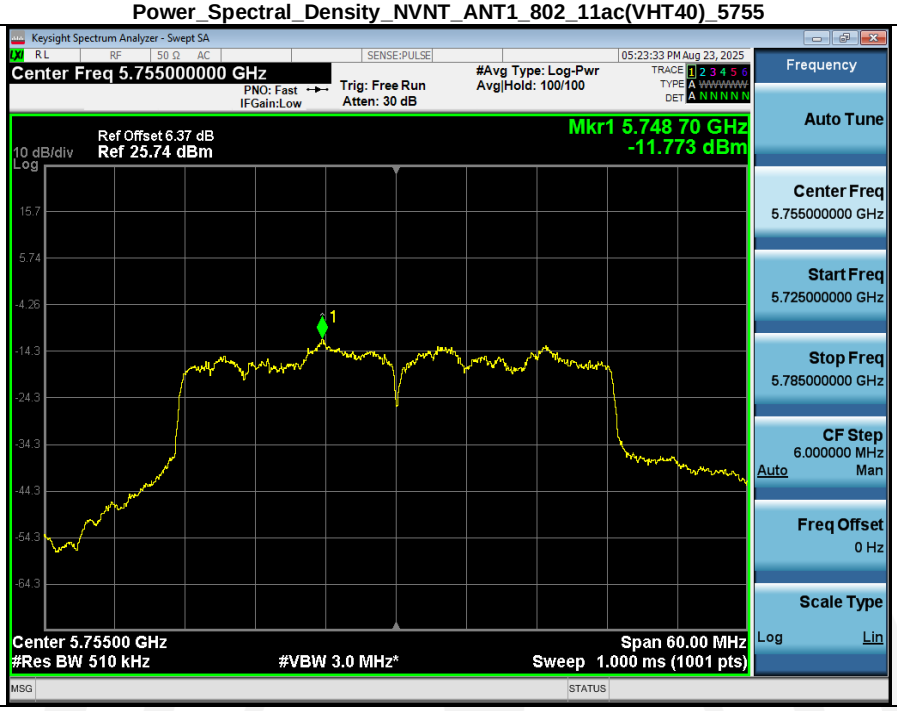
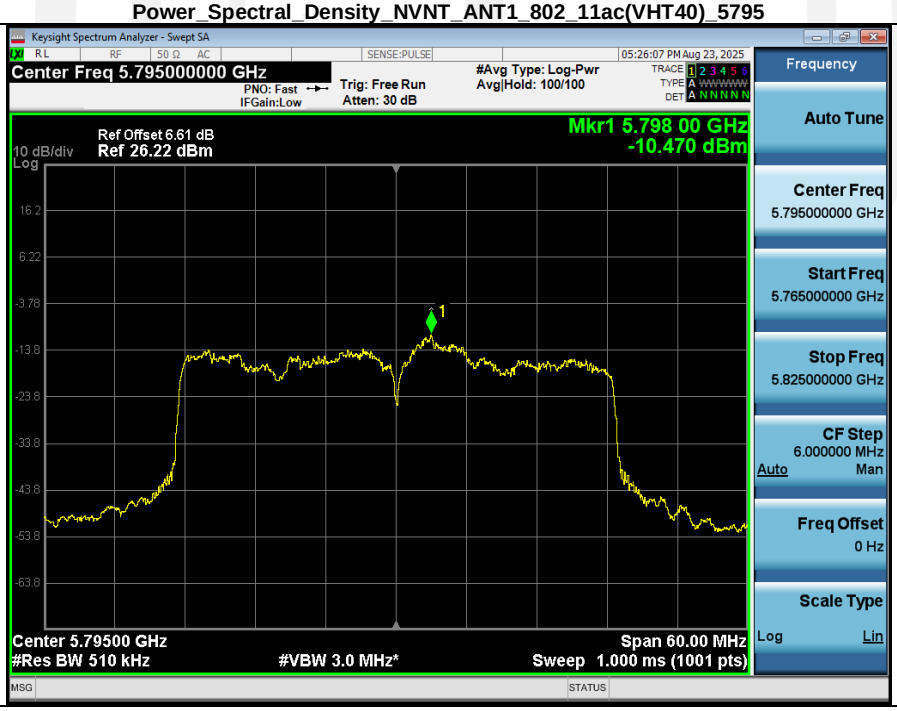


Power_Spectral_Density_NVNT_ANT1_802_11ac(VHT40)_5795



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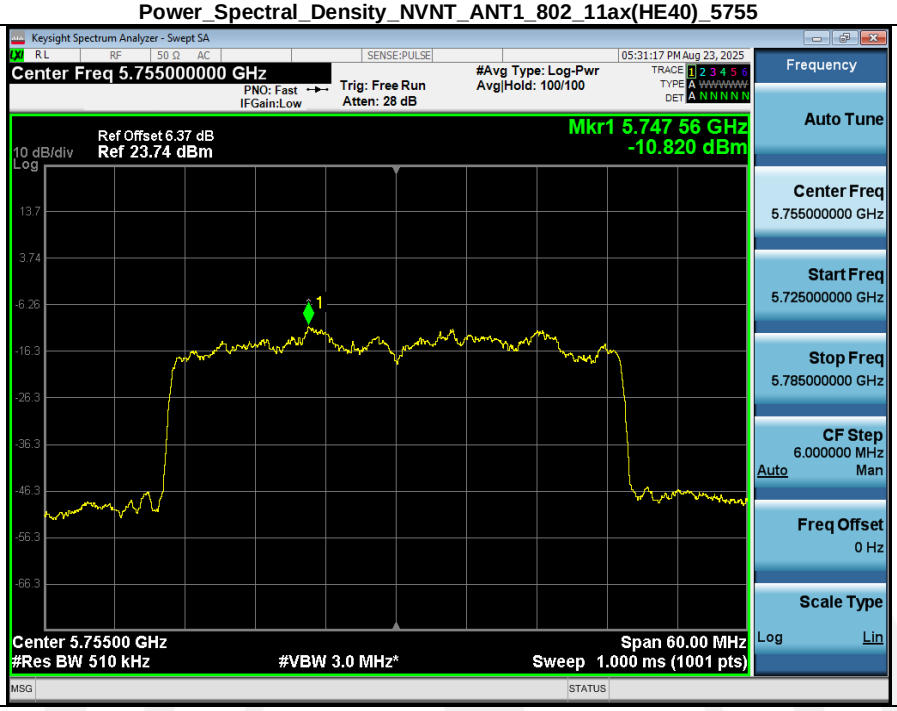

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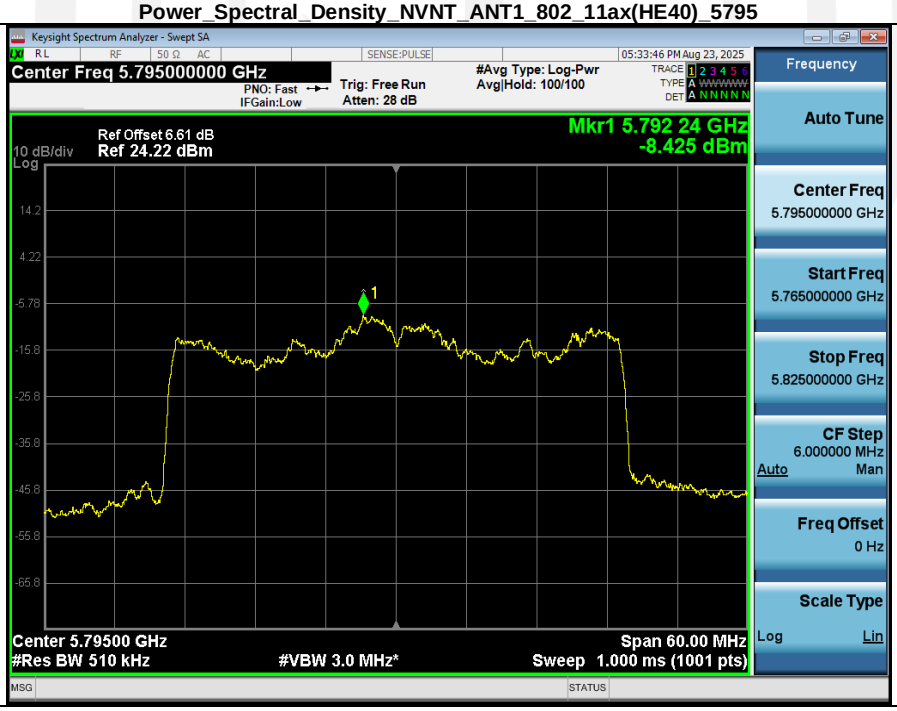
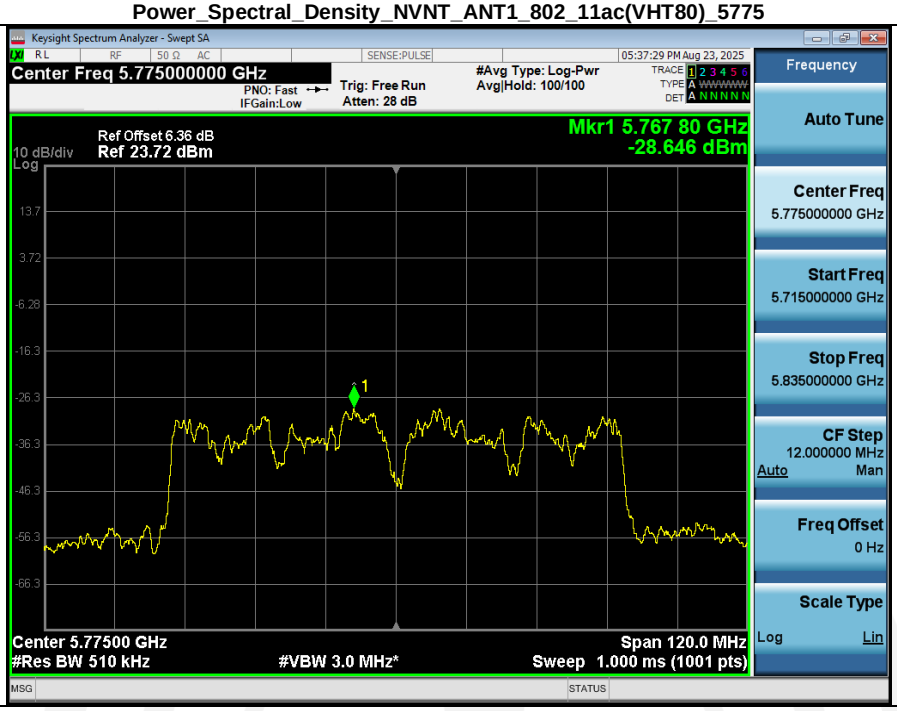
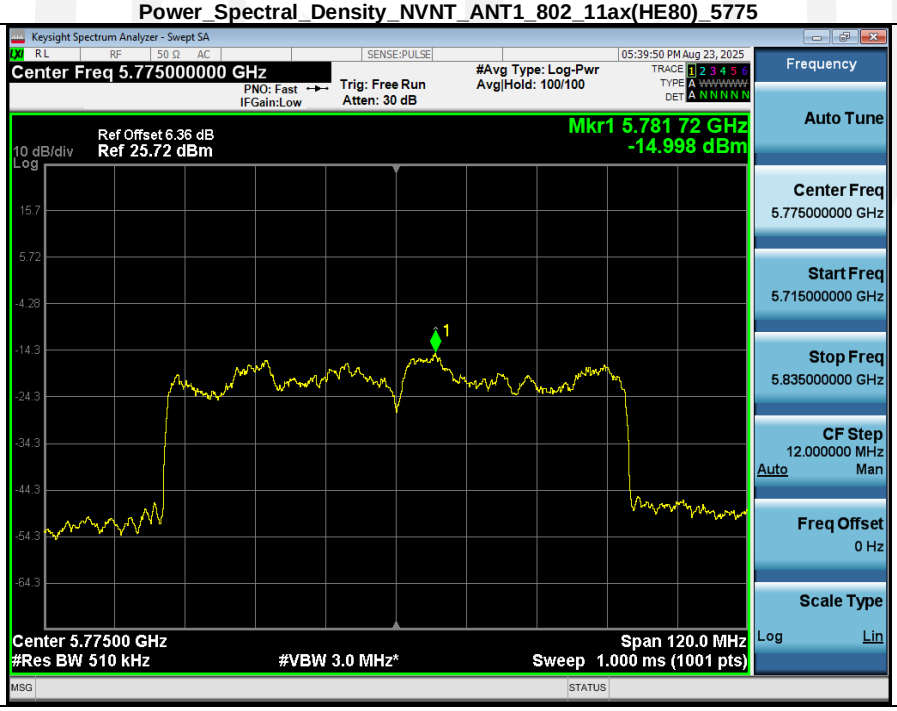


Power_Spectral_Density_NVNT_ANT1_802_11ac(VHT80)_5775

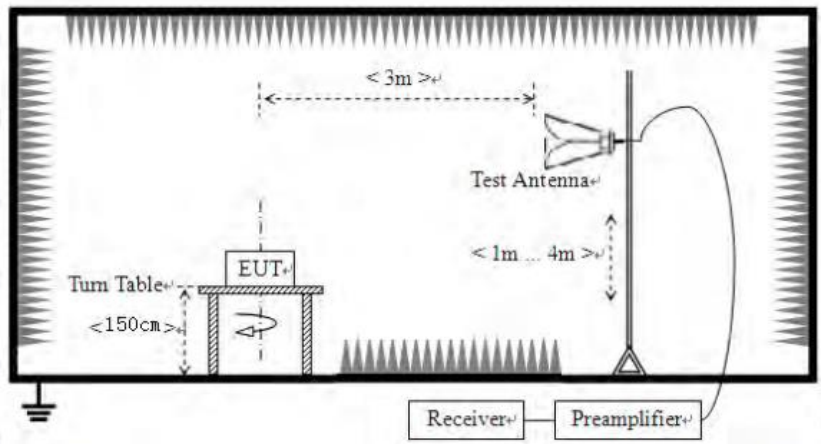


Power_Spectral_Density_NVNT_ANT1_802_11ax(HE80)_5775



4.6 Band Edge

<table>
<tr><td>Test Requirement:</td><td>FCC Part15 E Section 15.407 and 15.205, RSS-Gen §8.9</td></tr>
<tr><td>Test Method:</td><td>ANSI C63.10:2013</td></tr>
<tr><td>Test site:</td><td>Measurement Distance: 3m (Semi-Anechoic Chamber)</td></tr>
<tr><td>Receiver setup:</td><td>
<table>
<tr><th>Frequency</th><th>Detector</th><th>RBW</th><th>VBW</th><th>Remark</th></tr>
<tr><td>30MHz-1GHz</td><td>Quasi-peak</td><td>100KHz</td><td>300KHz</td><td>Quasi-peak Value</td></tr>
<tr><td rowspan="2">Above 1GHz</td><td>Peak</td><td>1MHz</td><td>3MHz</td><td>Peak Value</td></tr>
<tr><td>AV</td><td>1MHz</td><td>3MHz</td><td>Average Value</td></tr>
</table>
</td></tr>
<tr><td>Limit:</td><td>
<table>
<tr><th>Frequency</th><th>Limit (dBuV/m @3m)</th><th>Remark</th></tr>
<tr><td>30MHz-88MHz</td><td>40.0</td><td>Quasi-peak Value</td></tr>
<tr><td>88MHz-216MHz</td><td>43.5</td><td>Quasi-peak Value</td></tr>
<tr><td>216MHz-960MHz</td><td>46.0</td><td>Quasi-peak Value</td></tr>
<tr><td>960MHz-1GHz</td><td>54.0</td><td>Quasi-peak Value</td></tr>
<tr><td rowspan="2">Above 1GHz</td><td>54.0</td><td>Average Value</td></tr>
<tr><td>68.2</td><td>Peak Value</td></tr>
</table>
Undesirable emission limits:
(1) For transmitters operating in the 5.15-5.25 GHz band: all emissions outside of the 5.15-5.35 GHz band shall not exceed an EIRP of -27 dBm/MHz.
(2) For transmitters operating in the 5.25-5.35 GHz band: all emissions outside of the 5.15-5.35 GHz band shall not exceed an EIRP of -27 dBm/MHz. Devices operating in the 5.25-5.35 GHz band that generate emissions in the 5.15-5.25 GHz band must meet all applicable technical requirements for operation in the 5.15-5.25 GHz band (including indoor use) or alternatively meet an out-of-band emission EIRP limit of -27 dBm/MHz in the 5.15-5.25 GHz band.
(3) For transmitters operating in the 5.47-5.725 GHz band: all emissions outside of the 5.47-5.725 GHz band shall not exceed an EIRP of −27 dBm/MHz.
(4) 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.
</td></tr>
<tr><td>Test Procedure:</td><td>
a. The EUT was placed on the top of a rotating table 1.5 m above the ground at a 3 meter camber. The table was rotated 360 degrees to determine the position of the highest radiation.
b. The EUT was set 3 meters away from the interference-receiving antenna, which was mounted on the top of a variable-height antenna tower.
c. The antenna height is varied from one meter to four meters above the ground to determine the maximum value of the field strength. Both horizontal and vertical polarizations of the antenna are set to make the measurement.
d. For each suspected emission, the EUT was arranged to its worst case and then the antenna was tuned to heights from 1 meter to 4 meters and the rotable table was turned from 0 degrees to 360 degrees to find the maximum reading.
e. The test-receiver system was set to Peak Detect Function and Specified Bandwidth with Maximum Hold Mode.
f. If the emission level of the EUT in peak mode was 10dB lower than the limit specified, then testing could be stopped and the peak values
</td></tr>
</table>

	of the EUT would be reported. Otherwise the emissions that did not have 10dB margin would be re-tested one by one using peak, quasi-peak or average method as specified and then reported in a data sheet.
Test setup:	Above 1GHz 
Test Instruments:	Refer to section 3.0 for details
Test mode:	Refer to section 2.2 for details
Test results:	Pass

Remark:

According to KDB 789033 D02 v02r01 section G) 1) (d), for For measurements above 1000 MHz @ 3m distance, the limit of field strength is computed as follows:

E[dBuV/m] = EIRP[dBm] + 95.2,

For example, if EIRP = -27dBm

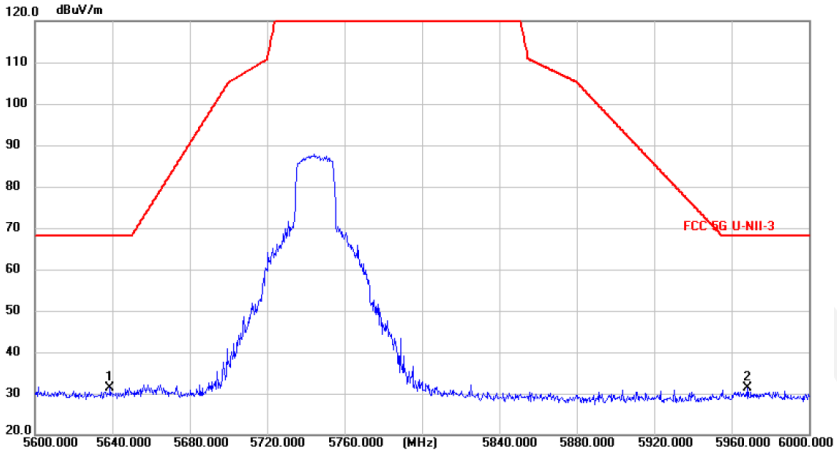
E[dBuV/m] = -27 + 95.2 = 68.2dBuV/m.

Measurement Data:

This Report only show the test plots of the worst case (802.11ac).

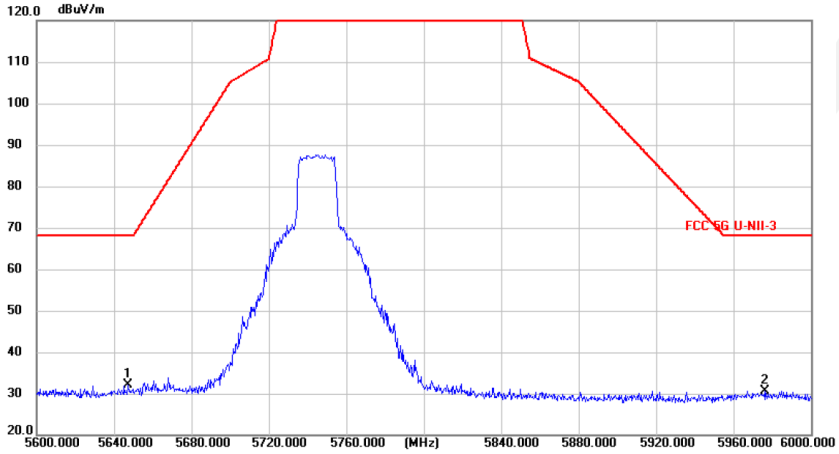
IEEE 802.11ax BW: 20 / L

Polarization: Vertical



No.	Frequency (MHz)	Reading (dBuV)	Factor (dB/m)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector
1 *	5639.000	49.36	-17.86	31.50	68.20	-36.70	peak
2	5968.600	48.32	-16.98	31.34	68.20	-36.86	peak

Polarization: Horizontal

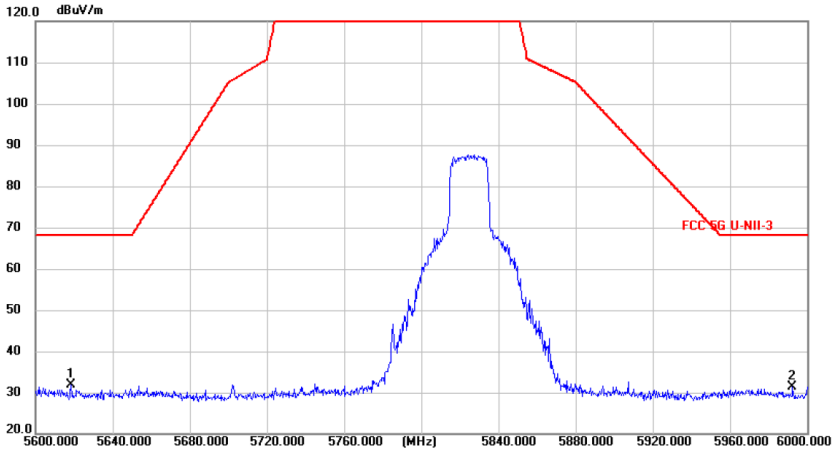


No.	Frequency (MHz)	Reading (dBuV)	Factor (dB/m)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector
1 *	5647.500	49.70	-17.49	32.21	68.20	-35.99	peak
2	5976.650	47.54	-16.94	30.60	68.20	-37.60	peak

Level = Read Level + Factor. (Factor=Antenna Factor+ Cable loss- Preamp Factor)

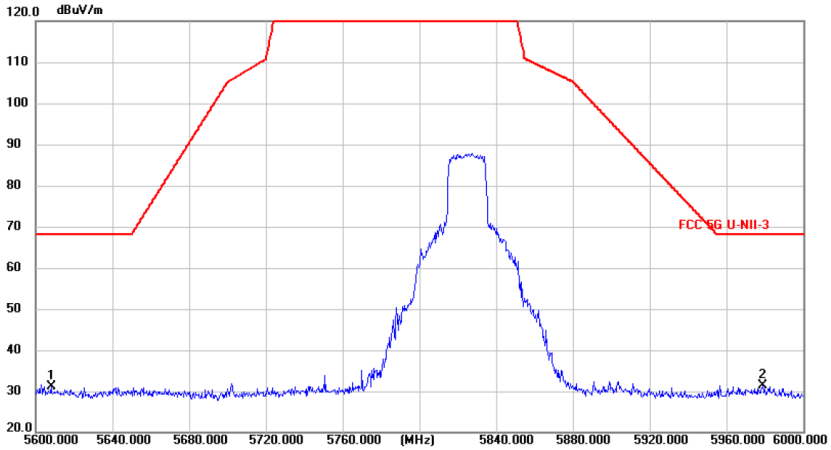
IEEE 802.11ax BW: 20 / H

Polarization: Vertical



No.	Frequency (MHz)	Reading (dBuV)	Factor (dB/m)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector
1 *	5618.550	49.72	-17.90	31.82	68.20	-36.38	peak
2	5992.650	48.33	-16.91	31.42	68.20	-36.78	peak

Polarization: Horizontal

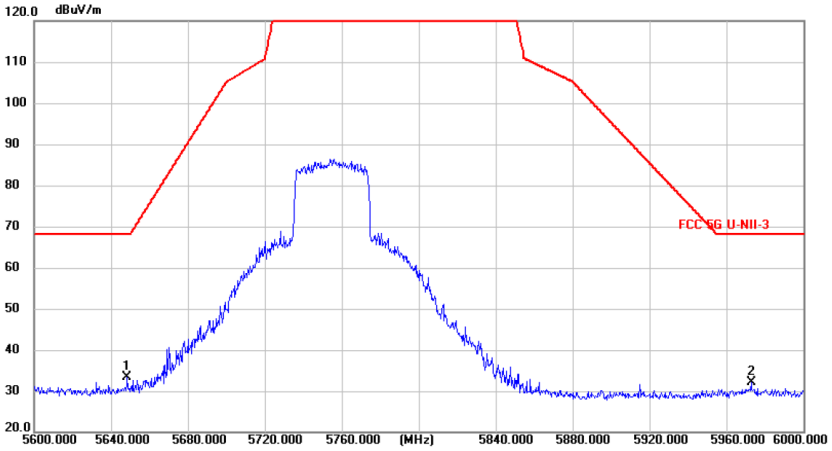


No.	Frequency (MHz)	Reading (dBuV)	Factor (dB/m)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector
1	5608.300	48.67	-17.55	31.12	68.20	-37.08	peak
2 *	5978.950	48.39	-16.93	31.46	68.20	-36.74	peak

Level = Read Level + Factor. (Factor=Antenna Factor+ Cable loss- Preamp Factor)

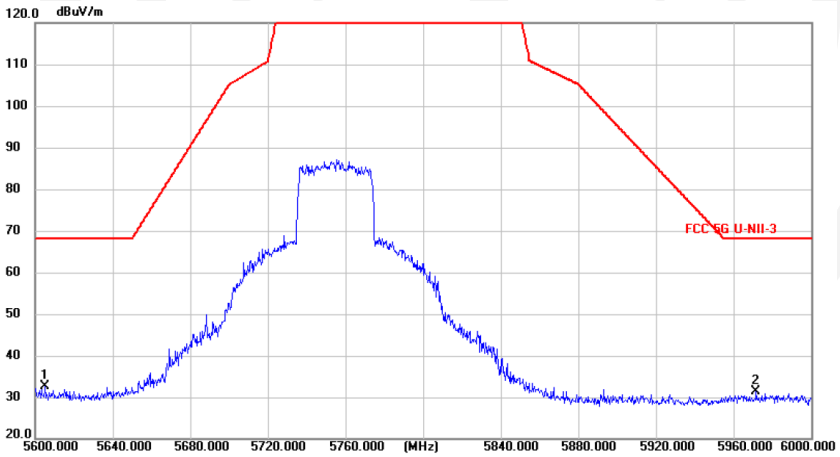
IEEE 802.11ax BW: 40 / L

Polarization: Vertical



No.	Frequency (MHz)	Reading (dBuV)	Factor (dB/m)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector
1 *	5648.750	51.10	-17.83	33.27	68.20	-34.93	peak
2	5972.800	49.13	-16.97	32.16	68.20	-36.04	peak

Polarization: Horizontal

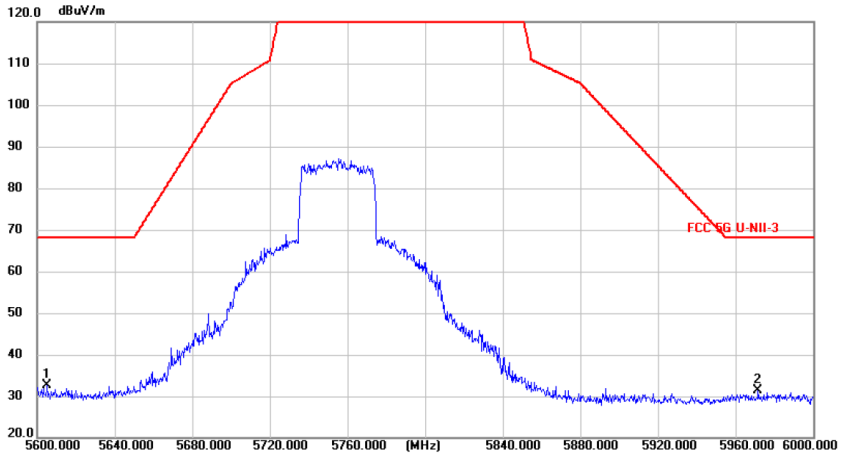


No.	Frequency (MHz)	Reading (dBuV)	Factor (dB/m)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector
1	150.0108	15.40	14.13	29.53	43.50	-13.97	QP
2	178.1327	18.48	12.59	31.07	43.50	-12.43	QP
3	297.2240	25.46	14.85	40.31	46.00	-5.69	QP
4 *	595.1327	20.49	22.75	43.24	46.00	-2.76	QP
5	744.8660	16.24	25.34	41.58	46.00	-4.42	QP
6	890.7277	15.22	27.91	43.13	46.00	-2.87	QP

Level = Read Level + Factor. (Factor=Antenna Factor+ Cable loss- Preamp Factor)

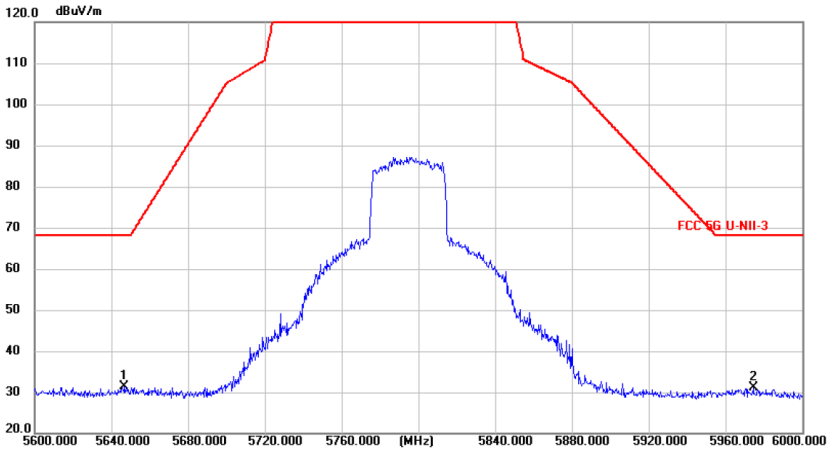
IEEE 802.11ax BW: 40 / H

Polarization: Vertical



No.	Frequency (MHz)	Reading (dBuV)	Factor (dB/m)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector
1	5640.300	48.75	-17.86	30.89	68.20	-37.31	peak
2 *	5977.000	48.28	-16.96	31.32	68.20	-36.88	peak

Polarization: Horizontal

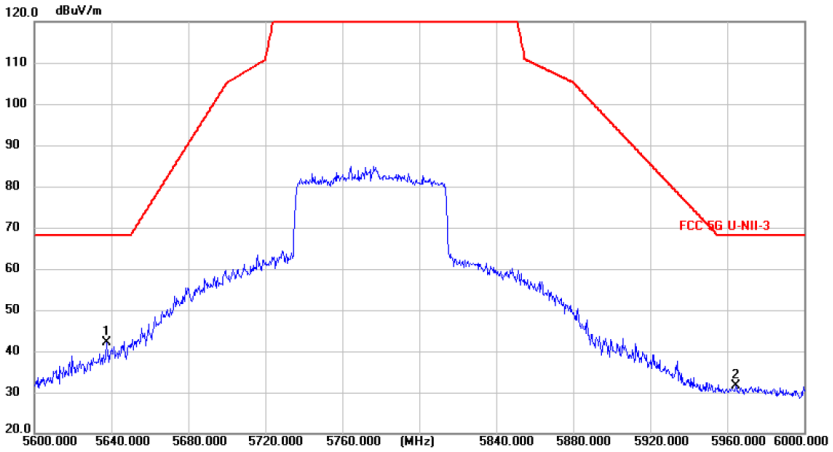


No.	Frequency (MHz)	Reading (dBuV)	Factor (dB/m)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector
1 *	5647.150	48.80	-17.49	31.31	68.20	-36.89	peak
2	5974.450	47.97	-16.94	31.03	68.20	-37.17	peak

Level = Read Level + Factor. (Factor=Antenna Factor+ Cable loss- Preamp Factor)

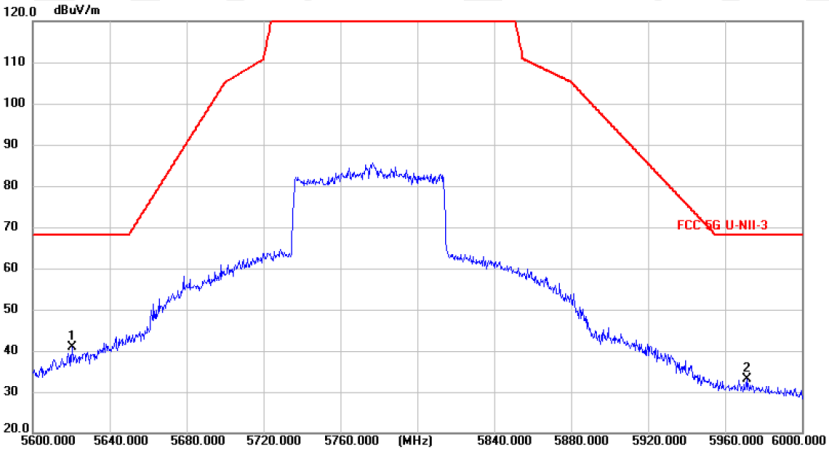
IEEE 802.11ax BW: 80

Polarization: Vertical



No.	Frequency (MHz)	Reading (dBuV)	Factor (dB/m)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector
1 *	5637.750	59.95	-17.86	42.09	68.20	-26.11	peak
2	5964.700	48.66	-16.98	31.68	68.20	-36.52	peak

Polarization: Horizontal



No.	Frequency (MHz)	Reading (dBuV)	Factor (dB/m)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector
1 *	5620.500	58.49	-17.52	40.97	68.20	-27.23	peak
2	5971.350	49.96	-16.94	33.02	68.20	-35.18	peak

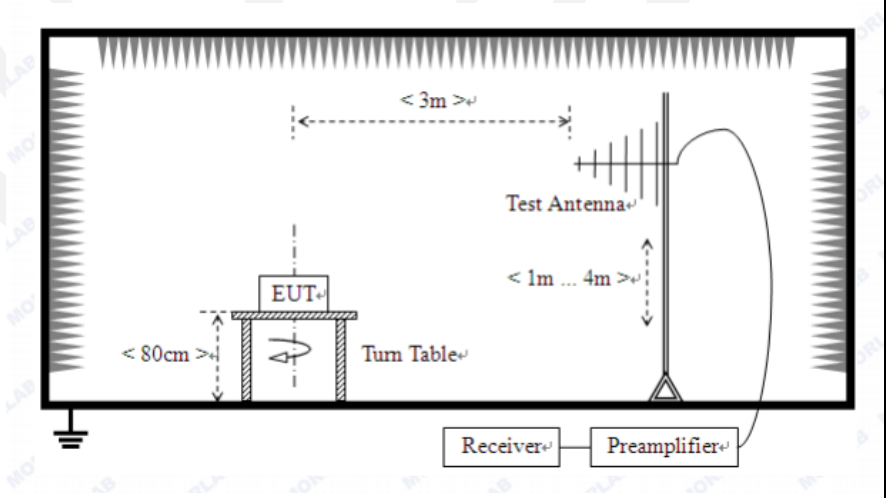
Level = Read Level + Factor. (Factor=Antenna Factor+ Cable loss- Preamp Factor)

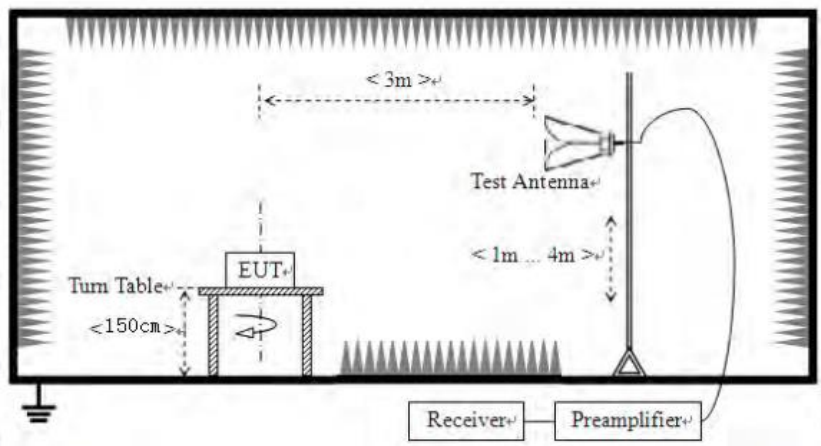
4.7 Radiated Emission

<table>
<tr><td>Test Requirement:</td><td>FCC Part15 C Section 15.209 and 15.205, RSS-Gen §8.9</td></tr>
<tr><td>Test Method:</td><td>ANSI C63.10:2013</td></tr>
<tr><td>Test Frequency Range:</td><td>30MHz to 40GHz</td></tr>
<tr><td>Test site:</td><td>Measurement Distance: 3m (Semi-Anechoic Chamber)</td></tr>
<tr><td>Receiver setup:</td><td>
<table>
<tr><th>Frequency</th><th>Detector</th><th>RBW</th><th>VBW</th><th>Value</th></tr>
<tr><td>30MHz-1GHz</td><td>Quasi-peak</td><td>100KHz</td><td>300KHz</td><td>Quasi-peak Value</td></tr>
<tr><td rowspan="2">Above 1GHz</td><td>Peak</td><td>1MHz</td><td>3MHz</td><td>Peak Value</td></tr>
<tr><td>AV</td><td>1MHz</td><td>3MHz</td><td>Average Value</td></tr>
</table>
</td></tr>
<tr><td>Limit:</td><td>
<table>
<tr><th>Frequency</th><th>Limit (dBuV/m @3m)</th><th>Remark</th></tr>
<tr><td>30MHz-88MHz</td><td>40.0</td><td>Quasi-peak Value</td></tr>
<tr><td>88MHz-216MHz</td><td>43.5</td><td>Quasi-peak Value</td></tr>
<tr><td>216MHz-960MHz</td><td>46.0</td><td>Quasi-peak Value</td></tr>
<tr><td>960MHz-1GHz</td><td>54.0</td><td>Quasi-peak Value</td></tr>
<tr><td rowspan="2">Above 1GHz</td><td>74.0</td><td>Peak Value</td></tr>
<tr><td>54.0</td><td>Average Value</td></tr>
</table>
</td></tr>
<tr><td>Test Procedure:</td><td>
Substitution method was performed to determine the actual ERP emission levels of the EUT.
The following test procedure as below:

1>.Below 1GHz test procedure:
1. The EUT was placed on the top of a rotating table (0.8m for below 1GHz and 1.5 meters for above 1GHz) above the ground at a 3 meter camber. The table was rotated 360 degrees to determine the position of the highest radiation.
2. The EUT was set 3 meters away from the interference-receiving antenna, which was mounted on the top of a variable-height antenna tower.
3. The antenna height is varied from one meter to four meters above the ground to determine the maximum value of the field strength. Both horizontal and vertical polarizations of the antenna are set to make the measurement.
4. For each suspected emission, the EUT was arranged to its worst case and then the antenna was tuned to heights from 1 meter to 4 meters and the rotable table was turned from 0 degrees to 360 degrees to find the maximum reading.
5. The test-receiver system was set to Peak Detect Function and Specified Bandwidth with Maximum Hold Mode.
6. If the emission level of the EUT in peak mode was 10dB lower than the limit specified, then testing could be stopped and the peak values of the EUT would be reported. Otherwise the emissions that did not have 10dB margin would be re-tested one by one using peak, quasi-peak or average method as specified and then reported in a data sheet.

2>.Above 1GHz test procedure:
1. On the test site as test setup graph above,the EUT shall be placed at the 1.5m support on the turntable and in the position closest to normal use as declared by the provider.
2. The test antenna shall be oriented initially for vertical polarization and shall be chosen to correspond to the frequency of the transmitter.The output of the test antenna shall be connected to the measuring receiver.
3. The transmitter shall be switched on, if possible, without modulation and the measuring receiver shall be tuned to the frequency of the
</td></tr>
</table>

	transmitter under test. 4. The test antenna shall be raised and lowered from 1m to 4m until a maximum signal level is detected by the measuring receiver. Then the turntable should be rotated through 360° in the horizontal plane, until the maximum signal level is detected by the measuring receiver. 5. Repeat step 4 for test frequency with the test antenna polarized horizontally. 6. Remove the transmitter and replace it with a substitution antenna 7. Feed the substitution antenna at the transmitter end with a signal generator connected to the antenna by means of a nonradiating cable. With the antennas at both ends vertically polarized, and with the signal generator tuned to a particular test frequency, raise and lower the test antenna to obtain a maximum reading at the spectrum analyzer. Adjust the level of the signal generator output until the previously recorded maximum reading for this set of conditions is obtained. This should be done carefully repeating the adjustment of the test antenna and generator output. 8. Repeat step 7 with both antennas horizontally polarized for each test frequency. 9. Calculate power in dBm into a reference ideal half-wave dipole antenna by reducing the readings obtained in steps 7 and 8 by the power loss in the cable between the generator and the antenna, and further corrected for the gain of the substitution antenna used relative to an ideal half-wave dipole antenna by the following formula: EIRP(dBm) = Pg(dBm) – cable loss (dB) + antenna gain (dBi) where: Pg is the generator output power into the substitution antenna.
Test setup:	Below 1GHz  Above 1GHz

	
Test Instruments:	Refer to section 3.0 for details
Test mode:	Refer to section 2.2 for details
Test results:	Pass

Measurement Data:

Below 1GHz

Frequency (MHz)	Read Level (dBuV)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Level (dBuV/m)	Limit Line (dBuV/m)	Over Limit (dB)	polarization
33.84	47.90	11.70	1.04	30.53	30.11	40	-9.89	Vertical
54.74	40.80	12.42	1.30	30.45	24.06	40	-15.94	Vertical
120.75	46.58	9.63	1.59	29.80	28.00	43.5	-15.50	Vertical
172.73	43.04	8.58	1.78	29.39	24.01	43.5	-19.49	Vertical
440.65	37.36	16.72	3.48	29.84	27.72	46	-18.28	Vertical
860.48	33.08	22.09	4.95	29.40	30.72	46	-15.28	Vertical
65.14	36.36	9.22	1.39	30.38	16.59	40	-23.41	Horizontal
99.56	34.25	11.91	1.37	29.88	17.65	43.5	-25.85	Horizontal
269.49	45.13	12.82	2.51	30.08	30.37	46	-15.63	Horizontal
350.76	36.42	14.94	3.06	30.17	24.24	46	-21.76	Horizontal
628.07	35.81	19.65	4.05	29.49	30.02	46	-15.98	Horizontal
955.98	41.24	22.81	5.33	29.37	40.00	46	-6.00	Horizontal

Above 1GHz:

802.11a 5745MHz

Frequency (MHz)	Read Level (dBuV)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Level (dBuV/m)	Limit Line (dBuV/m)	Over Limit (dB)	polarization
10360.03	50.25	11.33	14.97	32.81	43.75	68.2	-24.45	Vertical
15540.26	51.51	12.00	17.87	34.91	46.47	74	-27.53	Vertical
10360.62	52.06	9.84	14.71	32.99	43.63	68.2	-24.57	Horizontal
15540.27	53.98	8.76	18.11	34.95	45.91	74	-28.09	Horizontal

802.11a 5785MHz

Frequency (MHz)	Read Level (dBuV)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Level (dBuV/m)	Limit Line (dBuV/m)	Over Limit (dB)	polarization
10360.39	50.73	11.71	14.76	32.67	44.54	68.2	-23.66	Vertical
15540.44	51.07	12.12	17.79	34.55	46.43	74	-27.57	Vertical
10360.90	52.10	9.44	14.89	33.08	43.35	68.2	-24.85	Horizontal
15540.08	53.50	8.74	18.04	34.90	45.38	74	-28.62	Horizontal

802.11a 5825MHz

Frequency (MHz)	Read Level (dBuV)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Level (dBuV/m)	Limit Line (dBuV/m)	Over Limit (dB)	polarization
10360.99	50.42	11.65	14.86	33.09	43.83	68.2	-24.37	Vertical
15540.42	51.48	12.28	17.80	34.79	46.77	74	-27.23	Vertical
10360.59	52.45	9.88	14.81	32.93	44.22	68.2	-23.98	Horizontal
15540.13	53.73	8.73	18.11	34.66	45.92	74	-28.08	Horizontal

802.11n(HT20) 5745MHz

Frequency (MHz)	Read Level (dBuV)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Level (dBuV/m)	Limit Line (dBuV/m)	Over Limit (dB)	polarization
10360.53	50.19	11.65	14.85	32.81	43.88	68.2	-24.32	Vertical
15540.92	51.94	12.04	18.14	34.85	47.27	74	-26.73	Vertical
10360.24	52.44	9.83	14.62	33.08	43.81	68.2	-24.39	Horizontal
15540.57	53.50	8.66	17.92	34.73	45.34	74	-28.66	Horizontal

802.11n(HT20) 5785MHz

Frequency (MHz)	Read Level (dBuV)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Level (dBuV/m)	Limit Line (dBuV/m)	Over Limit (dB)	polarization
10360.47	50.98	11.67	15.10	32.97	44.79	68.2	-23.41	Vertical
15540.85	51.98	12.12	17.72	34.65	47.18	74	-26.82	Vertical
10360.36	52.91	9.46	15.07	32.96	44.48	68.2	-23.72	Horizontal
15540.39	53.12	8.86	17.90	34.80	45.08	74	-28.92	Horizontal

802.11n(HT20) 5825MHz

Frequency (MHz)	Read Level (dBuV)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Level (dBuV/m)	Limit Line (dBuV/m)	Over Limit (dB)	polarization
10360.48	50.20	11.52	14.73	32.92	43.52	68.2	-24.68	Vertical
15540.98	51.23	12.36	18.11	34.84	46.85	74	-27.15	Vertical
10360.76	52.07	9.89	14.91	32.67	44.21	68.2	-23.99	Horizontal
15540.26	53.64	8.57	18.04	34.63	45.62	74	-28.38	Horizontal

802.11ac(HT20) 5745MHz

Frequency (MHz)	Read Level (dBuV)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Level (dBuV/m)	Limit Line (dBuV/m)	Over Limit (dB)	polarization
10360.46	50.43	11.73	14.85	33.07	43.94	68.2	-24.26	Vertical
15540.36	51.05	12.21	18.10	34.58	46.79	74	-27.21	Vertical
10360.43	52.06	9.70	15.08	32.94	43.90	68.2	-24.30	Horizontal
15540.05	53.78	8.82	17.94	34.64	45.91	74	-28.09	Horizontal

802.11ac(HT20) 5785MHz

Frequency (MHz)	Read Level (dBuV)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Level (dBuV/m)	Limit Line (dBuV/m)	Over Limit (dB)	polarization
10360.51	50.91	11.29	14.76	32.81	44.15	68.2	-24.05	Vertical
15540.51	51.99	12.12	17.92	34.48	47.56	74	-26.44	Vertical
10360.14	52.71	9.76	14.78	32.93	44.32	68.2	-23.88	Horizontal
15540.64	53.87	8.64	17.76	34.77	45.50	74	-28.50	Horizontal

802.11ac(HT20) 5825MHz

Frequency (MHz)	Read Level (dBuV)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Level (dBuV/m)	Limit Line (dBuV/m)	Over Limit (dB)	polarization
10360.62	50.57	11.31	15.00	32.90	43.99	68.2	-24.21	Vertical
15540.15	51.78	12.00	17.90	34.67	47.01	74	-26.99	Vertical
10360.23	52.23	9.64	14.64	32.66	43.84	68.2	-24.36	Horizontal
15540.43	53.13	8.74	18.04	34.82	45.08	74	-28.92	Horizontal

802.11n(HT40) 5755MHz

Frequency (MHz)	Read Level (dBuV)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Level (dBuV/m)	Limit Line (dBuV/m)	Over Limit (dB)	polarization
10360.24	50.52	11.67	14.67	32.91	43.94	68.2	-24.26	Vertical
15540.66	51.67	12.26	17.76	34.78	46.91	74	-27.09	Vertical
10360.99	52.33	9.53	14.80	32.74	43.92	68.2	-24.28	Horizontal
15540.32	53.68	8.83	17.72	34.96	45.26	74	-28.74	Horizontal

802.11n(HT40) 5795MHz

Frequency (MHz)	Read Level (dBuV)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Level (dBuV/m)	Limit Line (dBuV/m)	Over Limit (dB)	polarization
10360.59	50.04	11.57	14.80	33.09	43.32	68.2	-24.88	Vertical
15540.04	51.12	12.23	17.85	34.72	46.48	74	-27.52	Vertical
10360.78	52.71	9.48	14.76	32.82	44.13	68.2	-24.07	Horizontal
15540.05	53.80	8.69	17.91	34.52	45.87	74	-28.13	Horizontal

802.11ac(HT40) 5755MHz

Frequency (MHz)	Read Level (dBuV)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Level (dBuV/m)	Limit Line (dBuV/m)	Over Limit (dB)	polarization
10360.87	50.15	11.61	15.08	32.88	43.96	68.2	-24.24	Vertical
15540.50	51.01	11.98	18.02	34.48	46.53	74	-27.47	Vertical
10360.44	52.44	9.76	14.68	32.81	44.08	68.2	-24.12	Horizontal
15540.40	53.27	8.86	17.92	34.62	45.43	74	-28.57	Horizontal

802.11ac(HT40) 5795MHz

Frequency (MHz)	Read Level (dBuV)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Level (dBuV/m)	Limit Line (dBuV/m)	Over Limit (dB)	polarization
10360.64	50.46	11.59	15.01	33.08	43.99	68.2	-24.21	Vertical
15540.11	51.89	12.17	18.15	34.83	47.38	74	-26.62	Vertical
10360.23	52.23	9.88	15.11	32.84	44.38	68.2	-23.82	Horizontal
15540.26	53.11	8.90	18.11	34.57	45.55	74	-28.45	Horizontal

802.11ac(HT80) 5775MHz

Frequency (MHz)	Read Level (dBuV)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Level (dBuV/m)	Limit Line (dBuV/m)	Over Limit (dB)	polarization
10360.67	50.35	11.59	14.65	32.97	43.62	68.2	-24.58	Vertical
15540.81	51.38	12.19	17.73	34.57	46.74	74	-27.26	Vertical
10360.31	52.25	9.88	14.99	32.70	44.41	68.2	-23.79	Horizontal
15540.41	53.03	8.67	17.76	34.89	44.57	74	-29.43	Horizontal

802.11ax20 5745MHz

Frequency (MHz)	Read Level (dBuV)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Level (dBuV/m)	Limit Line (dBuV/m)	Over Limit (dB)	polarization
10360.10	50.95	11.51	14.68	33.00	44.15	68.2	-24.05	Vertical
15540.20	51.62	11.99	17.90	34.93	46.57	74	-27.43	Vertical
10360.17	52.63	9.67	14.77	32.88	44.18	68.2	-24.02	Horizontal
15540.98	53.67	8.94	17.86	34.86	45.61	74	-28.39	Horizontal

802.11 ax20 5785MHz

Frequency (MHz)	Read Level (dBuV)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Level (dBuV/m)	Limit Line (dBuV/m)	Over Limit (dB)	polarization
10360.71	50.69	11.56	14.73	33.03	43.95	68.2	-24.25	Vertical
15540.16	51.81	12.18	17.92	34.88	47.02	74	-26.98	Vertical
10360.23	52.48	9.60	15.02	33.11	43.99	68.2	-24.21	Horizontal
15540.40	53.91	8.79	17.98	34.56	46.12	74	-27.88	Horizontal

802.11 ax20 5825MHz

Frequency (MHz)	Read Level (dBuV)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Level (dBuV/m)	Limit Line (dBuV/m)	Over Limit (dB)	polarization
10360.86	50.65	11.58	14.67	33.05	43.85	68.2	-24.35	Vertical
15540.48	51.49	12.01	17.91	34.90	46.52	74	-27.48	Vertical
10360.19	52.72	9.85	15.06	33.08	44.55	68.2	-23.65	Horizontal
15540.44	53.28	8.71	17.82	34.66	45.15	74	-28.85	Horizontal

802.11 ax40 5755MHz

Frequency (MHz)	Read Level (dBuV)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Level (dBuV/m)	Limit Line (dBuV/m)	Over Limit (dB)	polarization
10360.78	50.69	11.64	14.64	32.77	44.20	68.2	-24.00	Vertical
15540.74	51.22	12.31	17.93	34.60	46.86	74	-27.14	Vertical
10360.97	52.36	9.52	15.06	32.93	44.01	68.2	-24.19	Horizontal
15540.99	53.62	8.80	17.91	34.75	45.59	74	-28.41	Horizontal

802.11 ax40 5795MHz

Frequency (MHz)	Read Level (dBuV)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Level (dBuV/m)	Limit Line (dBuV/m)	Over Limit (dB)	polarization
10360.16	50.77	11.41	14.87	33.14	43.92	68.2	-24.28	Vertical
15540.73	51.21	12.34	17.70	34.92	46.33	74	-27.67	Vertical
10360.18	52.30	9.51	14.94	32.76	43.98	68.2	-24.22	Horizontal
15540.55	53.90	8.90	17.79	34.81	45.77	74	-28.23	Horizontal

802.11ax80 5775MHz

Frequency (MHz)	Read Level (dBuV)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Level (dBuV/m)	Limit Line (dBuV/m)	Over Limit (dB)	polarization
10360.75	50.55	11.23	14.75	33.05	43.48	68.2	-24.72	Vertical
15540.42	51.24	12.21	17.95	34.78	46.62	74	-27.38	Vertical
10360.28	52.54	9.70	15.08	32.88	44.44	68.2	-23.76	Horizontal
15540.24	53.34	8.76	18.05	34.85	45.31	74	-28.69	Horizontal

Note:

1. Level = Read Level + Antenna Factor+ Cable loss- Preamp Factor.
2. The test trace is same as the ambient noise (the test frequency range: 18GHz~40GHz), therefore no data appear in the report.
3. This limit applies for using average detector, if the test result on peak is lower than average limit, then average measurement needn't be performed.
4. This Report only show the test plots of the worst case (U-NII-3).

4.8 Frequency stability

Test Standard	15.407(f), RSS-Gen §6.11
Test limit	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.
Test results:	Pass

Measurement Data:

Mode	Voltage (V)	FHL (5745MHz)	Deviation (KHz)	FHH (5825MHz)	Deviation (KHz)
Band 4 (5725-5850 MHz)	DC 10.8V	5744.992	8	5824.991	9
	DC 12.0V	5744.995	5	5824.994	6
	DC 13.2V	5744.996	4	5824.993	7

Mode	Temperature (℃)	FHL (5745MHz)	Deviation (KHz)	FHH (5825MHz)	Deviation (KHz)
Band 4 (5725-5850 MHz)	-10℃	5744.999	1	5824.999	1
	0℃	5744.995	5	5824.998	2
	+10℃	5744.997	3	5824.997	3
	+20℃	5744.993	7	5824.992	8
	+30℃	5744.996	4	5824.995	5
	+40℃	5744.995	5	5824.991	9
	+50℃	5744.999	1	5824.999	1

5 Photos Of Test Setup

Reference to the **appendix I Test Setup Photo** for details.

6 Photos Of EUT

Reference to the **appendix II external photos** and **appendix III internal photos** for details.

--------END OF REPORT-------