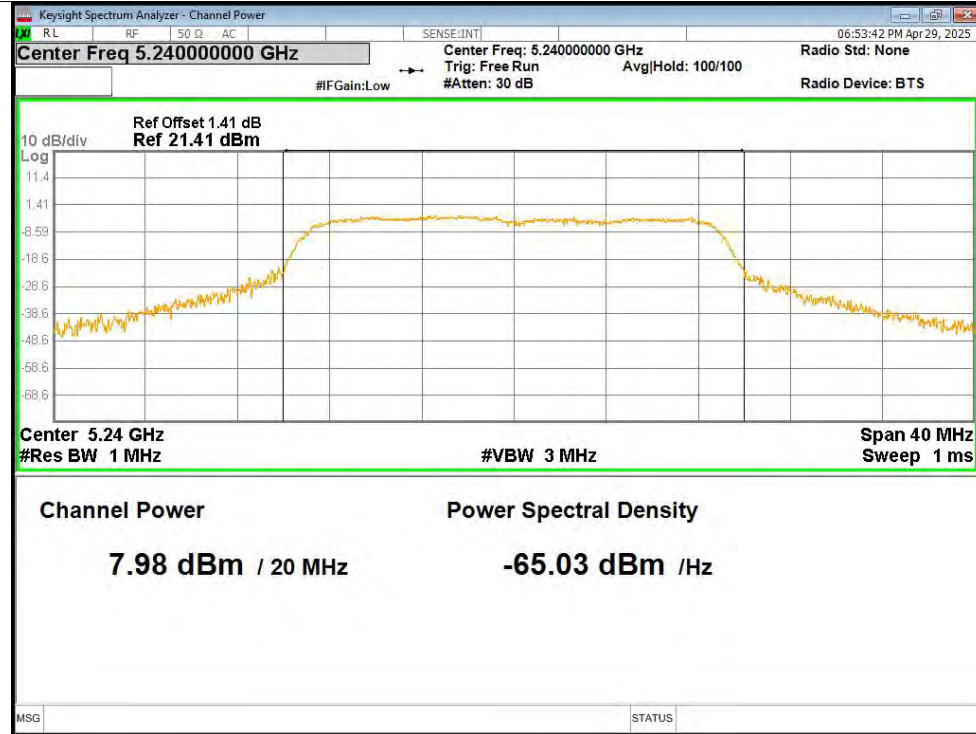
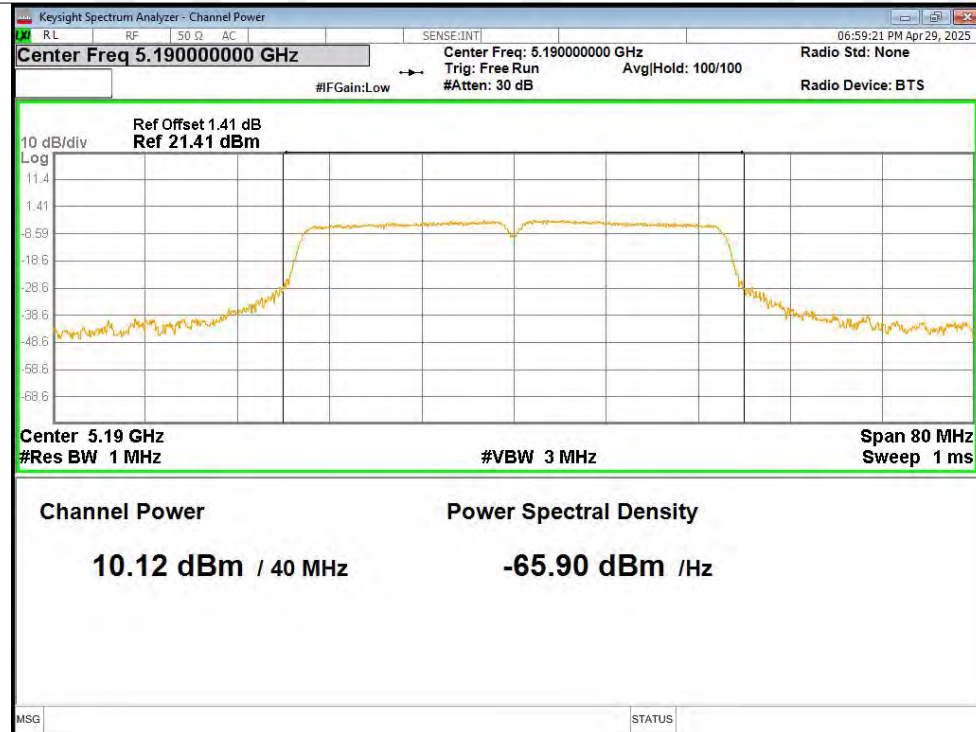


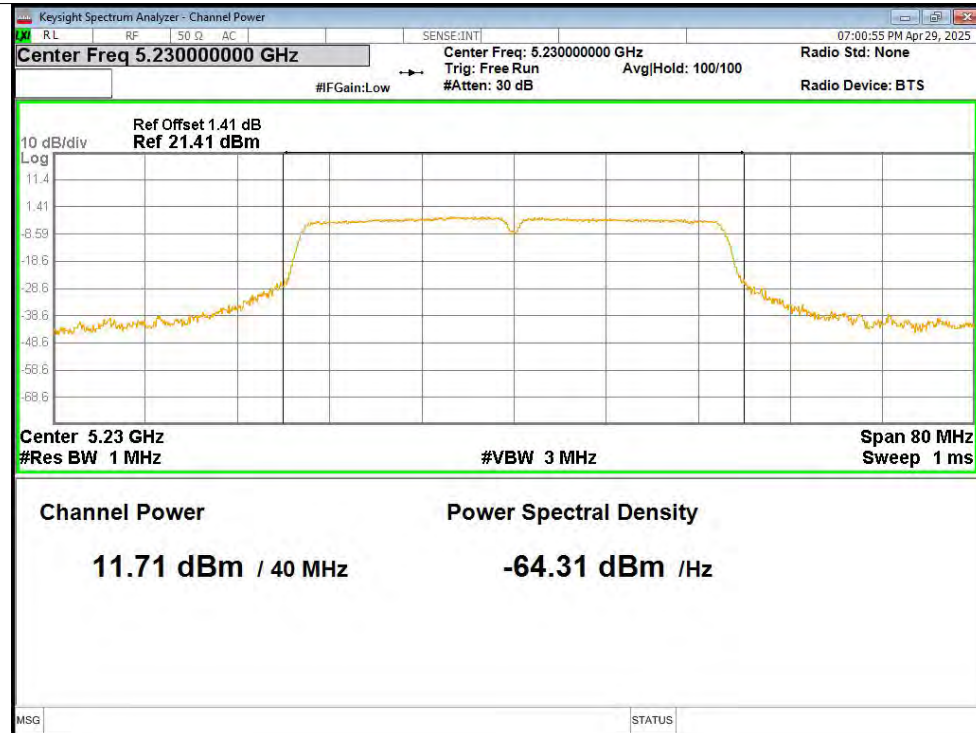
Power NVNT ac20 5240MHz Ant1



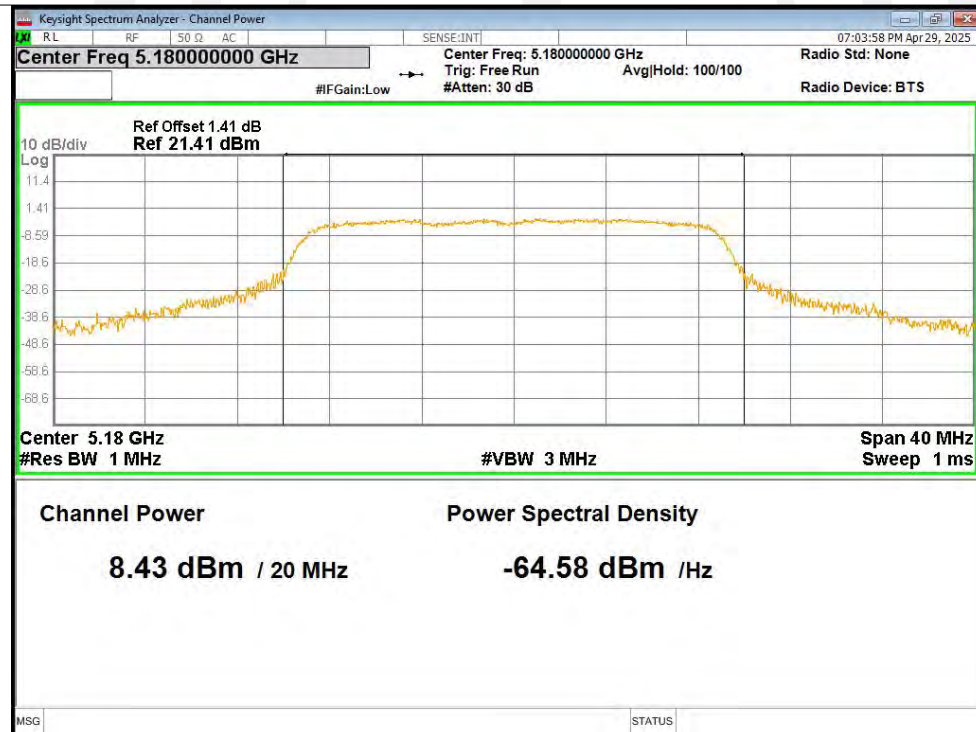
Power NVNT ac40 5190MHz Ant1



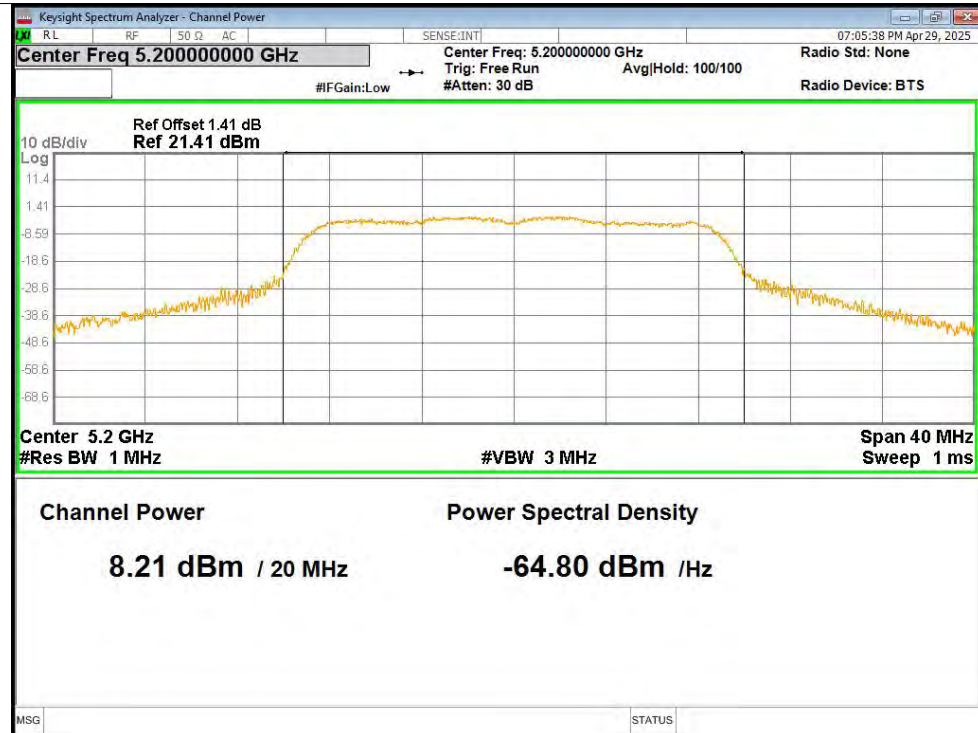
Power NVNT ac40 5230MHz Ant1



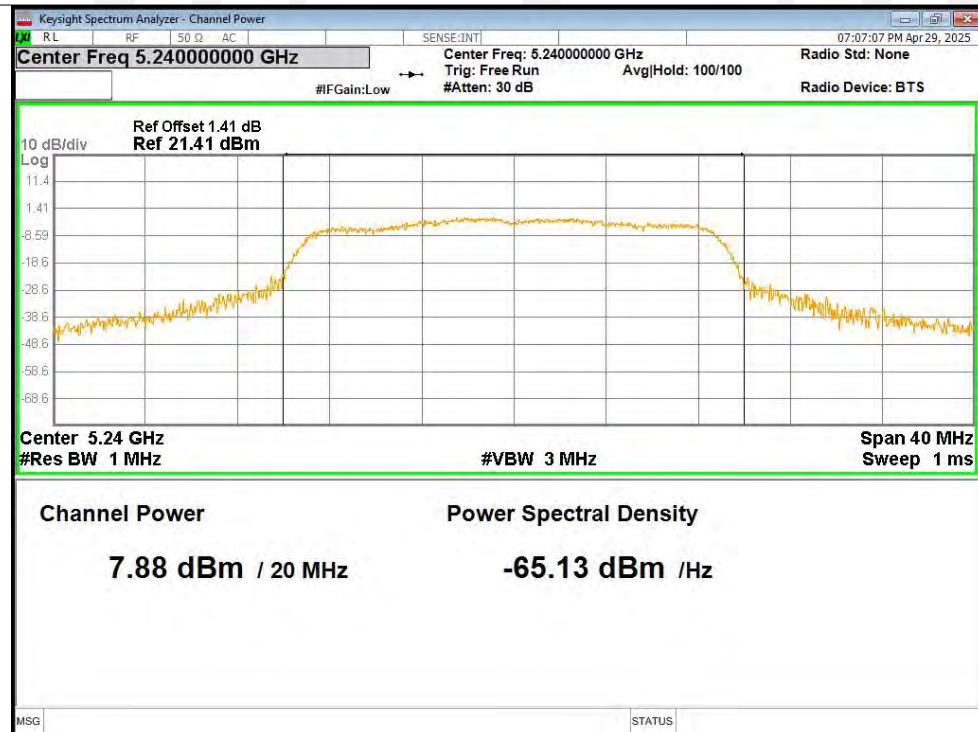
Power NVNT ax20 5180MHz Ant1



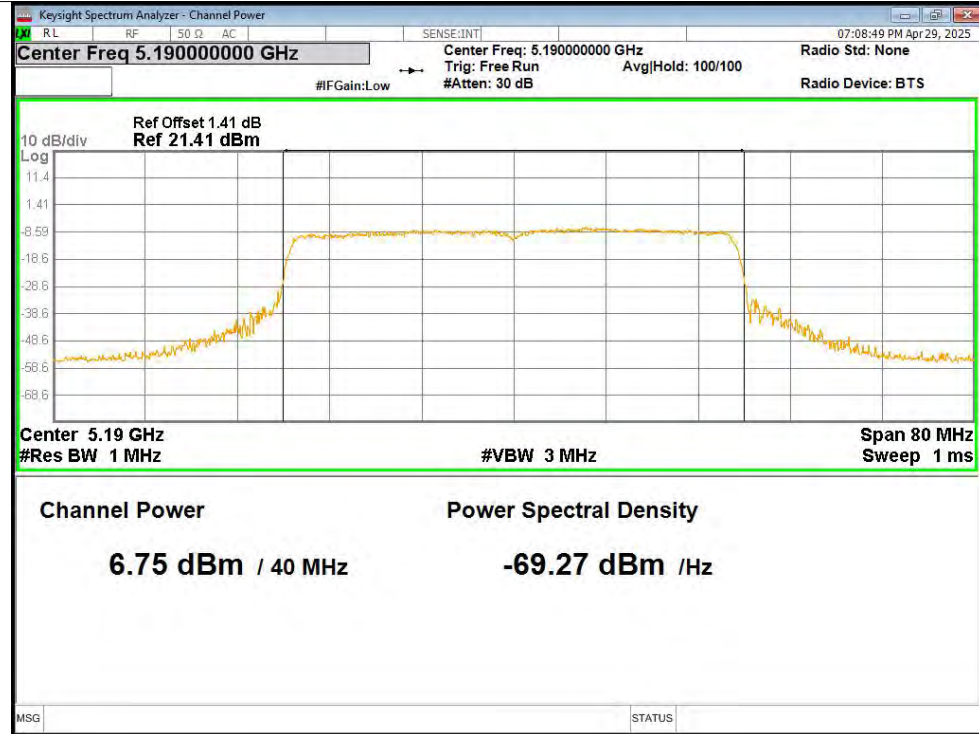
Power NVNT ax20 5200MHz Ant1



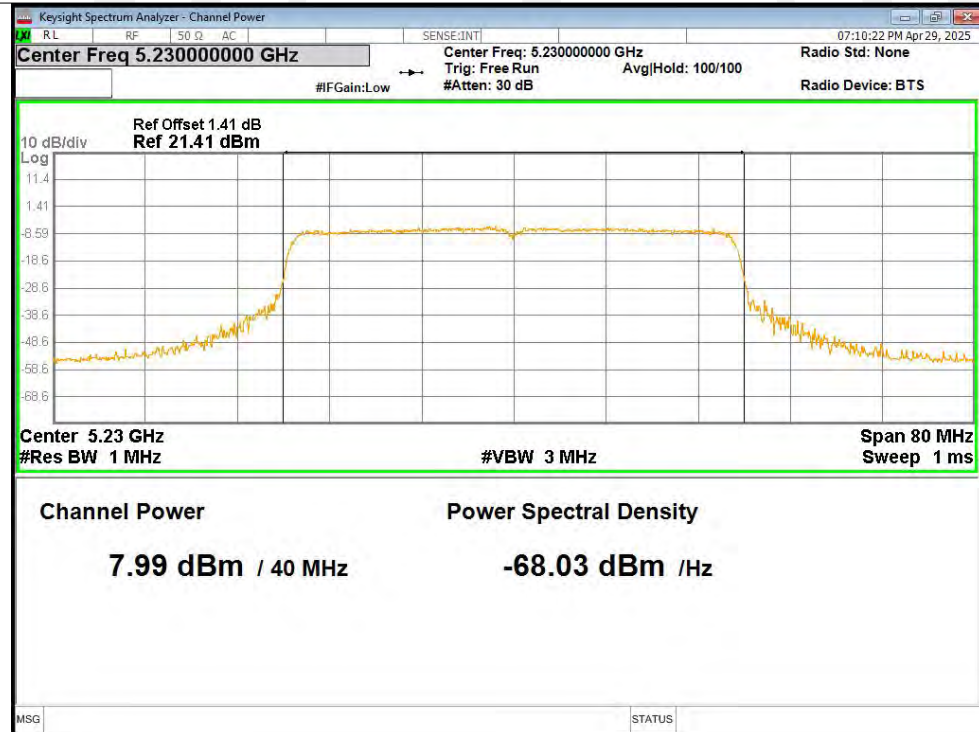
Power NVNT ax20 5240MHz Ant1



Power NVNT ax40 5190MHz Ant1



Power NVNT ax40 5230MHz Ant1

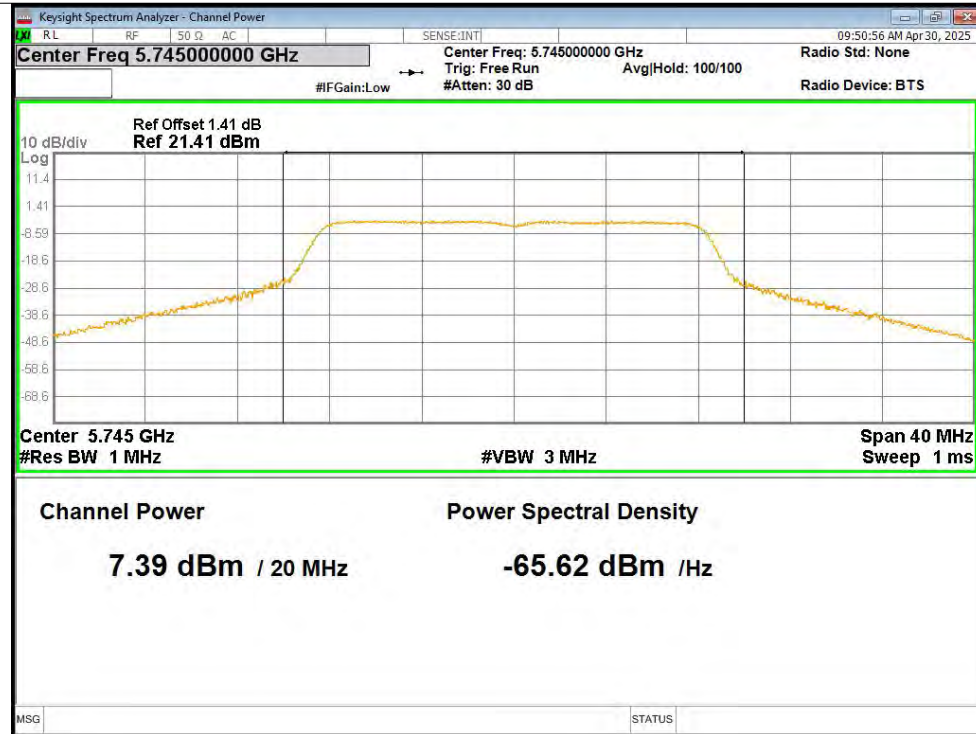


5.8GWIFI (5745MHz-5825 MHz)

Condition	Mode	Frequency (MHz)	Antenna	Conducted Power (dBm)	Duty Factor (dB)	Total Power (dBm)	Limit (dBm)	Verdict
NVNT	a	5745	Ant1	7.39	0.09	7.48	30	Pass
NVNT	a	5785	Ant1	6.91	0.09	7	30	Pass
NVNT	a	5825	Ant1	6	0.3	6.3	30	Pass
NVNT	n20	5745	Ant1	10.66	3.61	14.27	30	Pass
NVNT	n20	5785	Ant1	10.54	3.49	14.03	30	Pass
NVNT	n20	5825	Ant1	10.16	3.76	13.92	30	Pass
NVNT	n40	5755	Ant1	13.94	0.24	14.18	30	Pass
NVNT	n40	5795	Ant1	13.23	0.32	13.55	30	Pass
NVNT	ac20	5745	Ant1	12.44	0.71	13.15	30	Pass
NVNT	ac20	5785	Ant1	12.13	0.67	12.8	30	Pass
NVNT	ac20	5825	Ant1	11.44	2.01	13.45	30	Pass
NVNT	ac40	5755	Ant1	13.4	0.24	13.64	30	Pass
NVNT	ac40	5795	Ant1	13.2	0.32	13.52	30	Pass
NVNT	ax20	5745	Ant1	10.77	3.49	14.26	30	Pass
NVNT	ax20	5785	Ant1	10.39	3.76	14.15	30	Pass
NVNT	ax20	5825	Ant1	9.9	3.61	13.51	30	Pass
NVNT	ax40	5755	Ant1	10.83	0.43	11.26	30	Pass
NVNT	ax40	5795	Ant1	10.14	0.58	10.72	30	Pass

Test Graphs

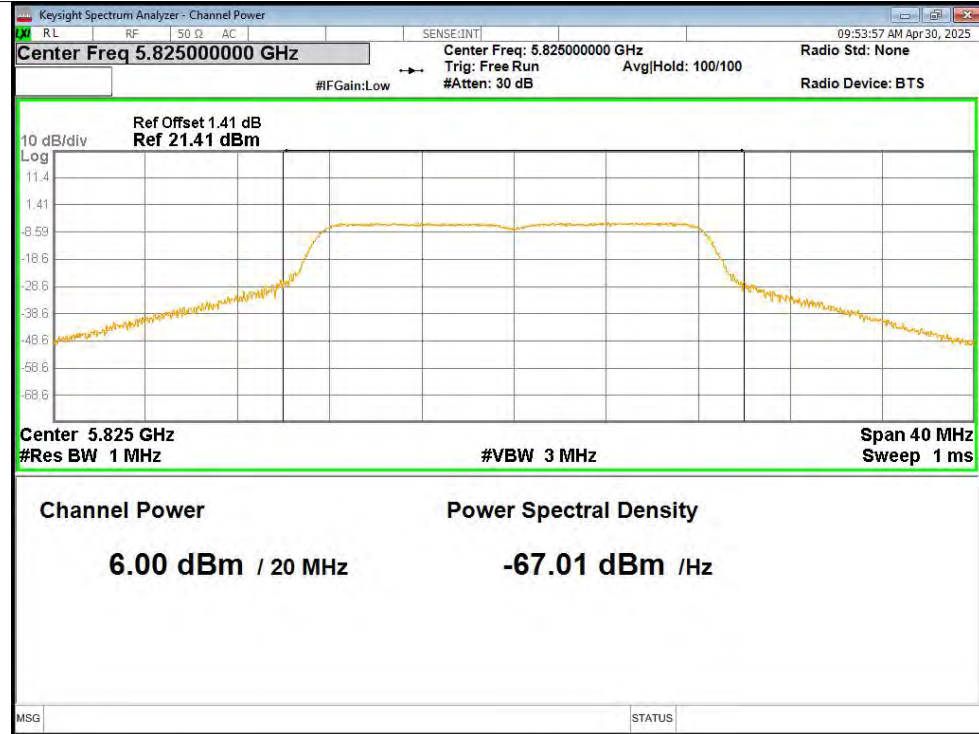
Power NVNT a 5745MHz Ant1



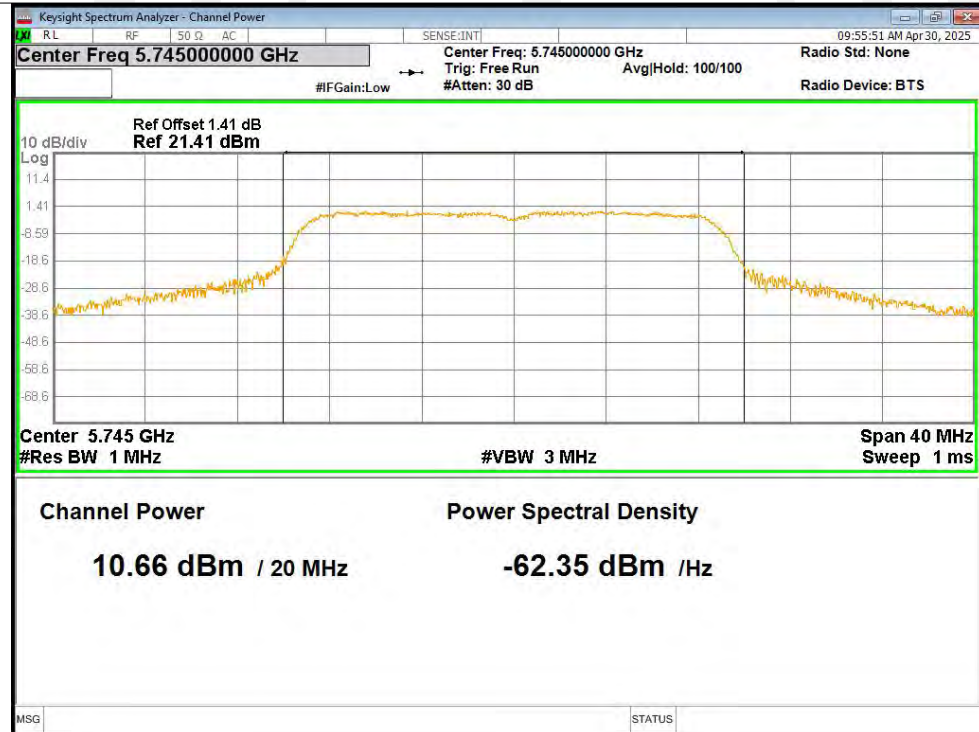
Power NVNT a 5785MHz Ant1



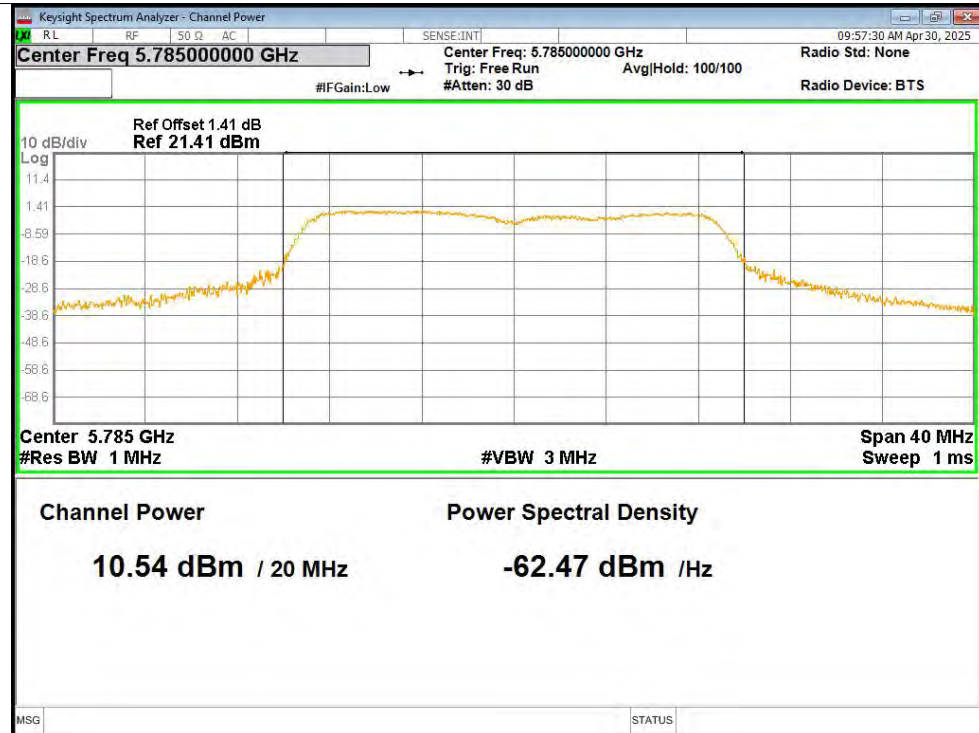
Power NVNT a 5825MHz Ant1



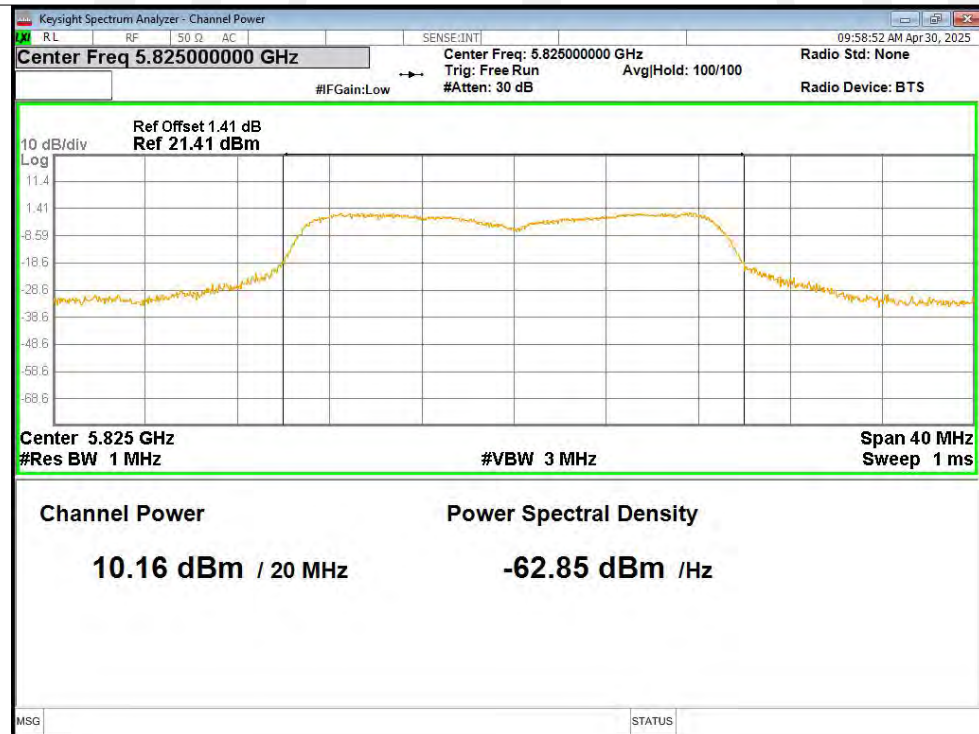
Power NVNT n20 5745MHz Ant1



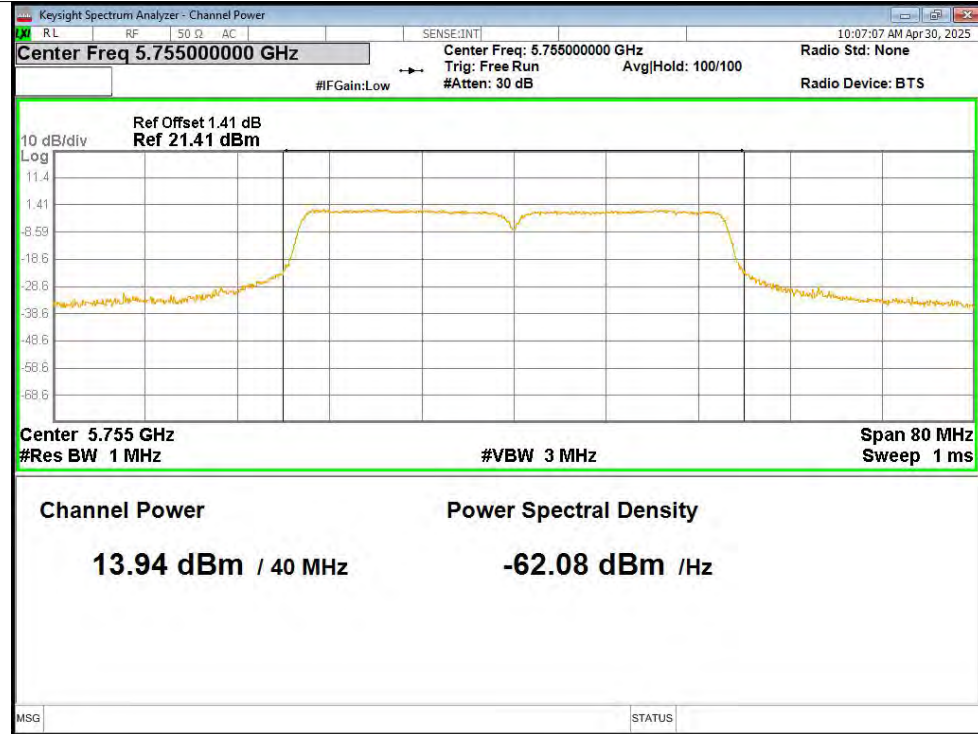
Power NVNT n20 5785MHz Ant1



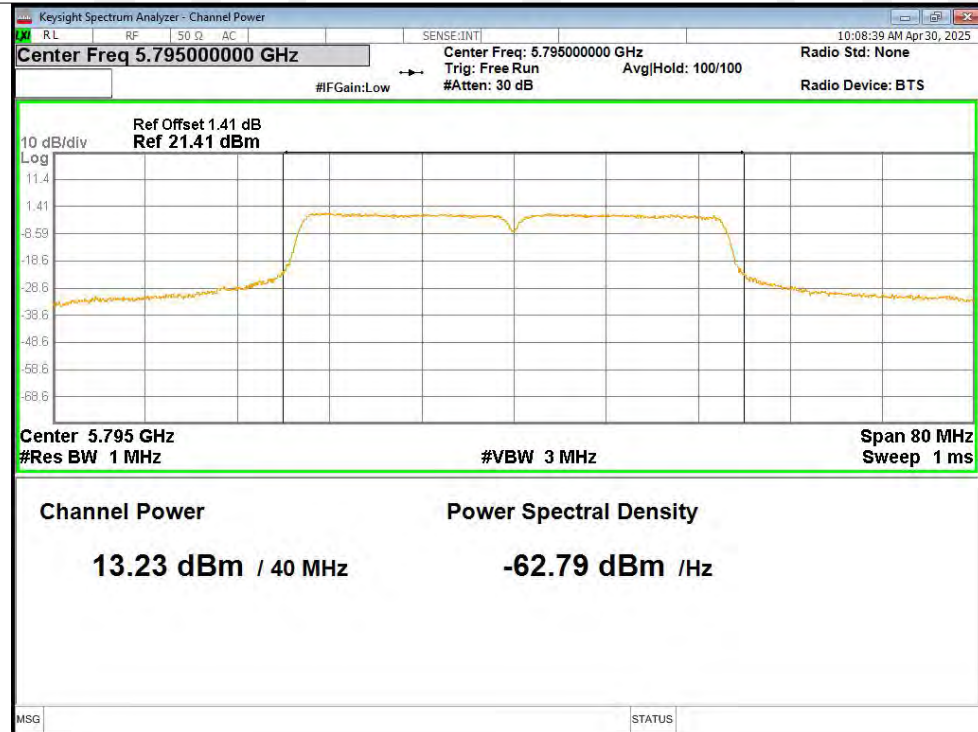
Power NVNT n20 5825MHz Ant1



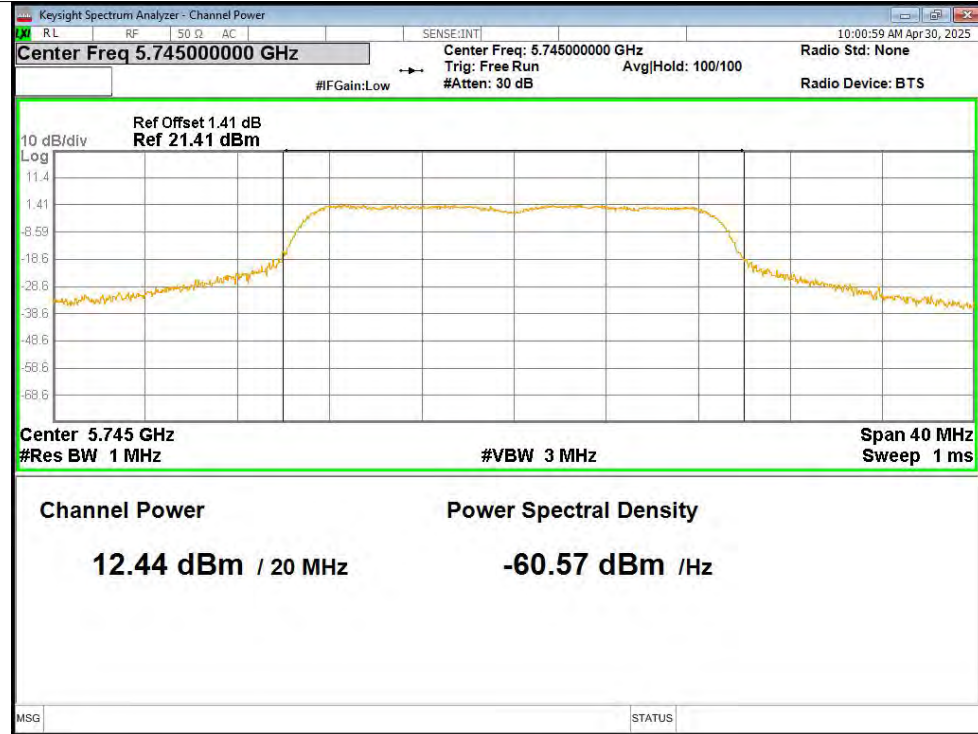
Power NVNT n40 5755MHz Ant1



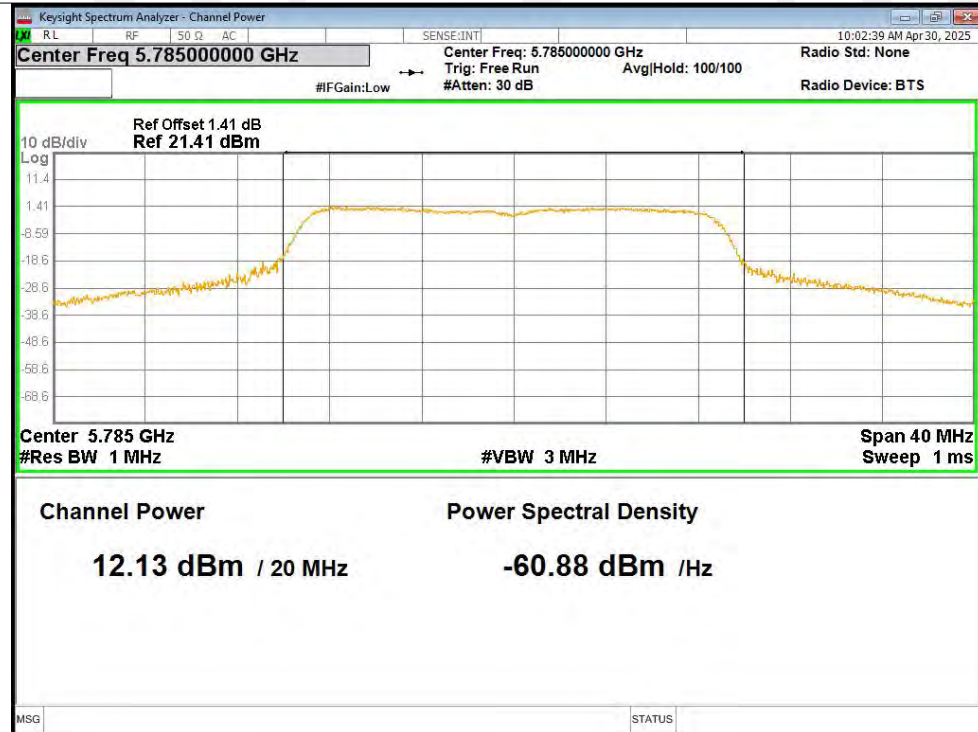
Power NVNT n40 5795MHz Ant1



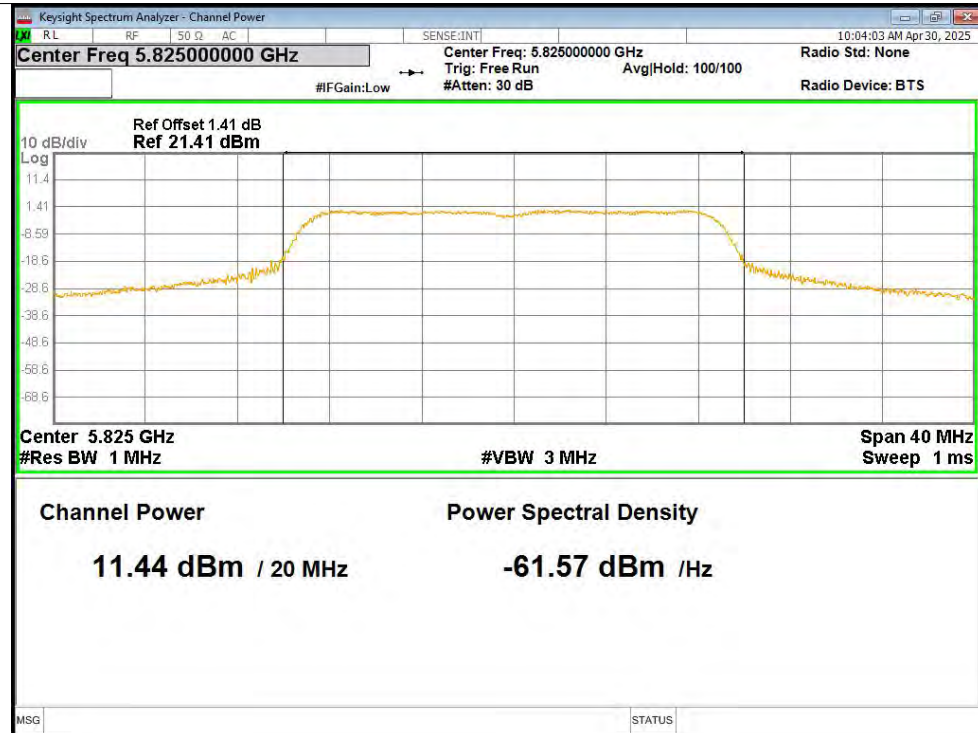
Power NVNT ac20 5745MHz Ant1



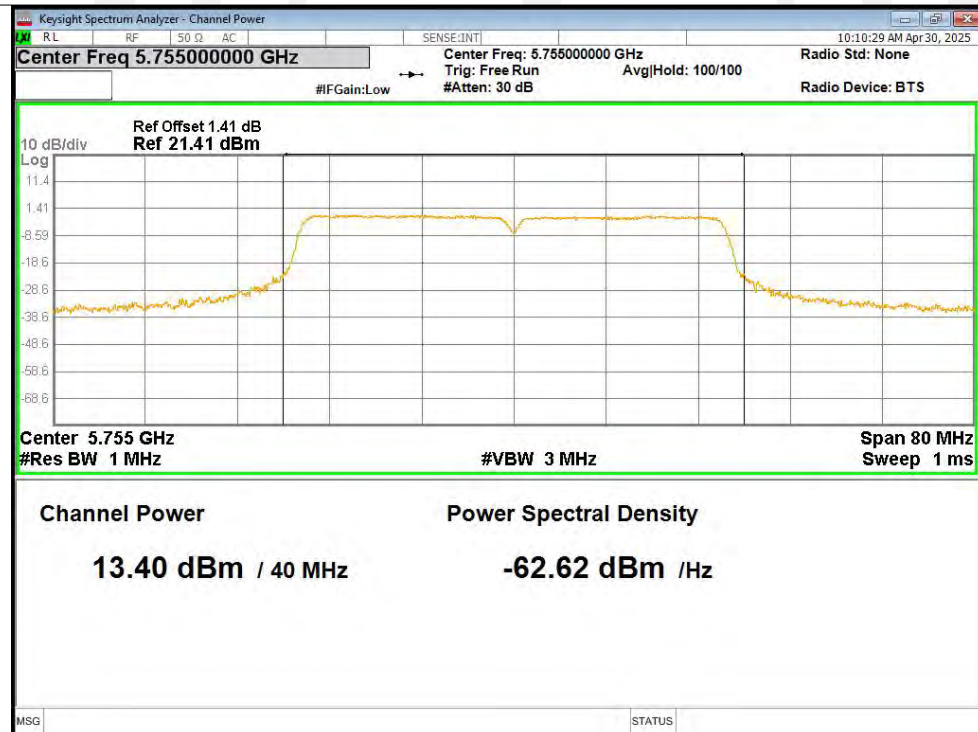
Power NVNT ac20 5785MHz Ant1



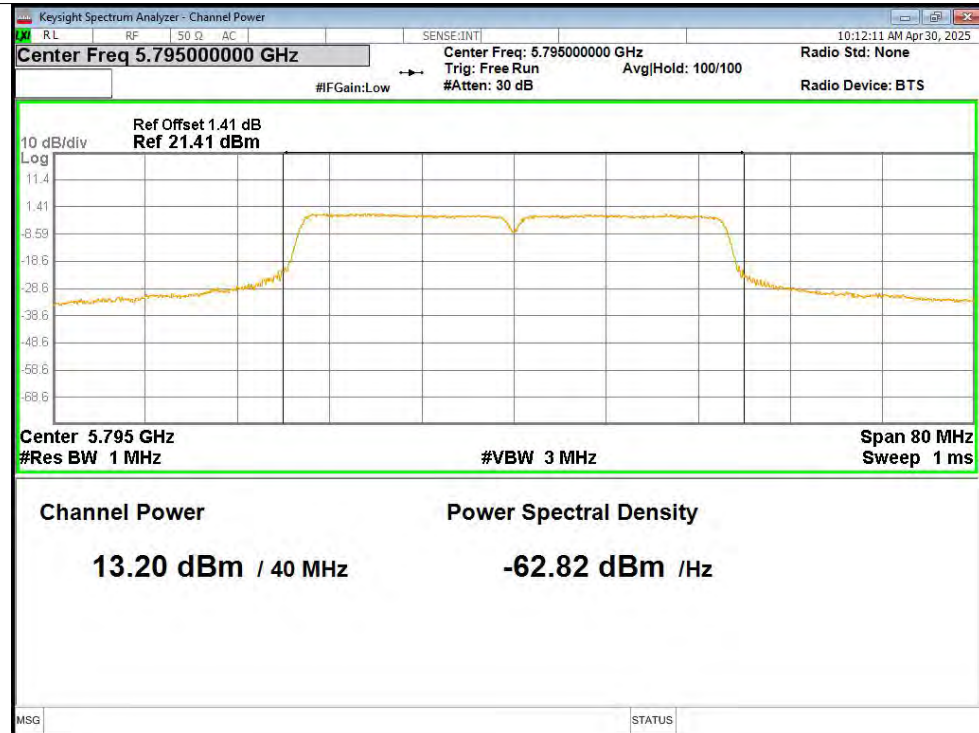
Power NVNT ac20 5825MHz Ant1



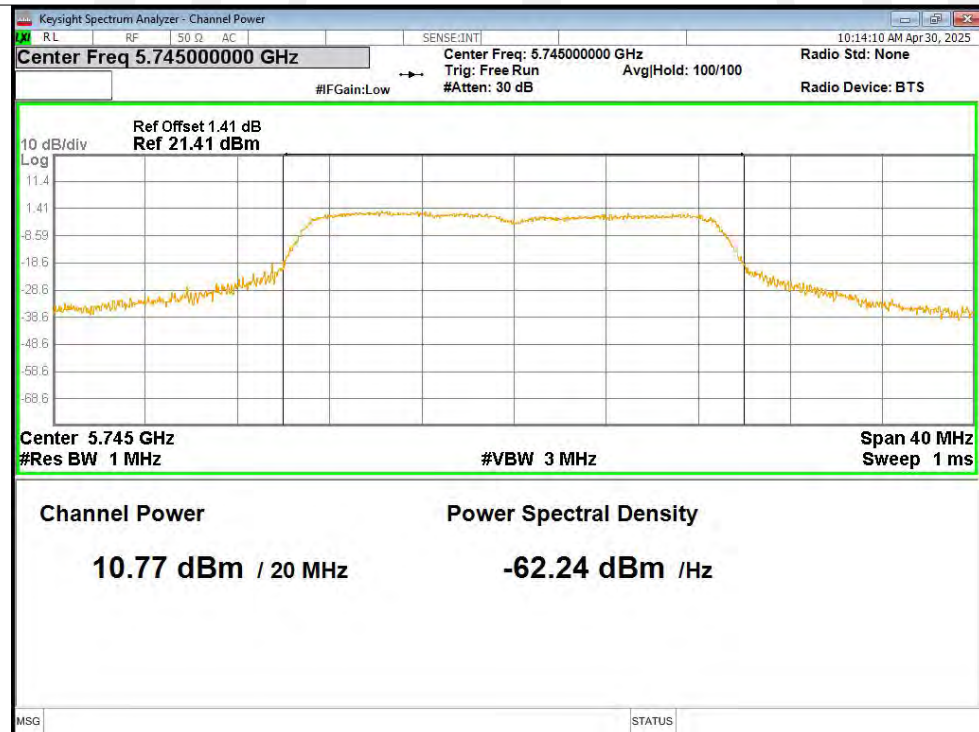
Power NVNT ac40 5755MHz Ant1



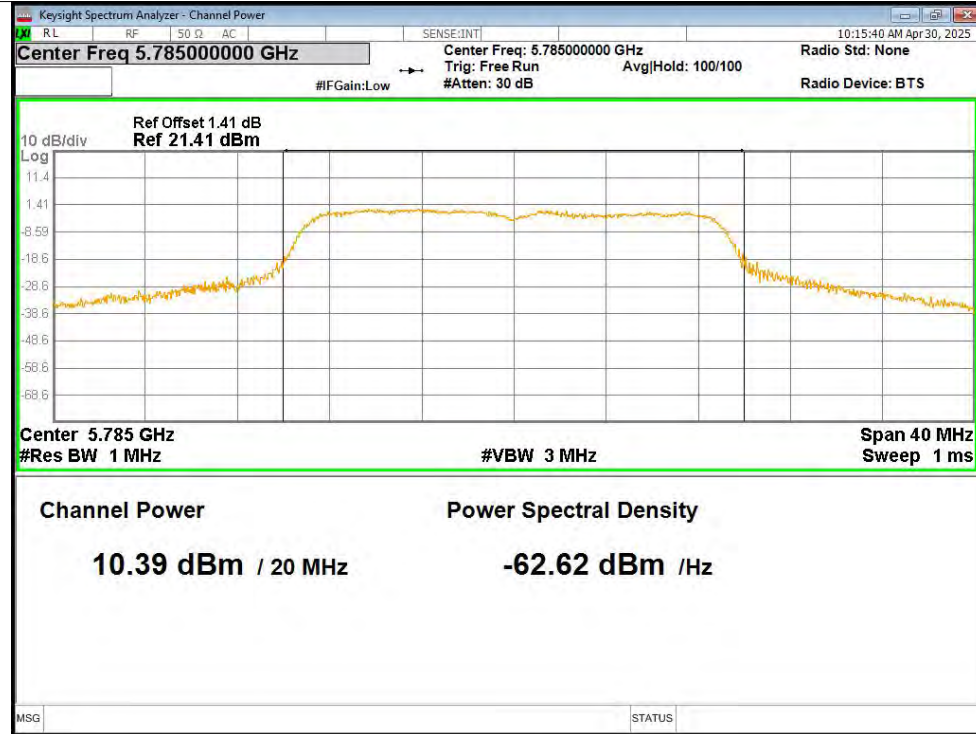
Power NVNT ac40 5795MHz Ant1



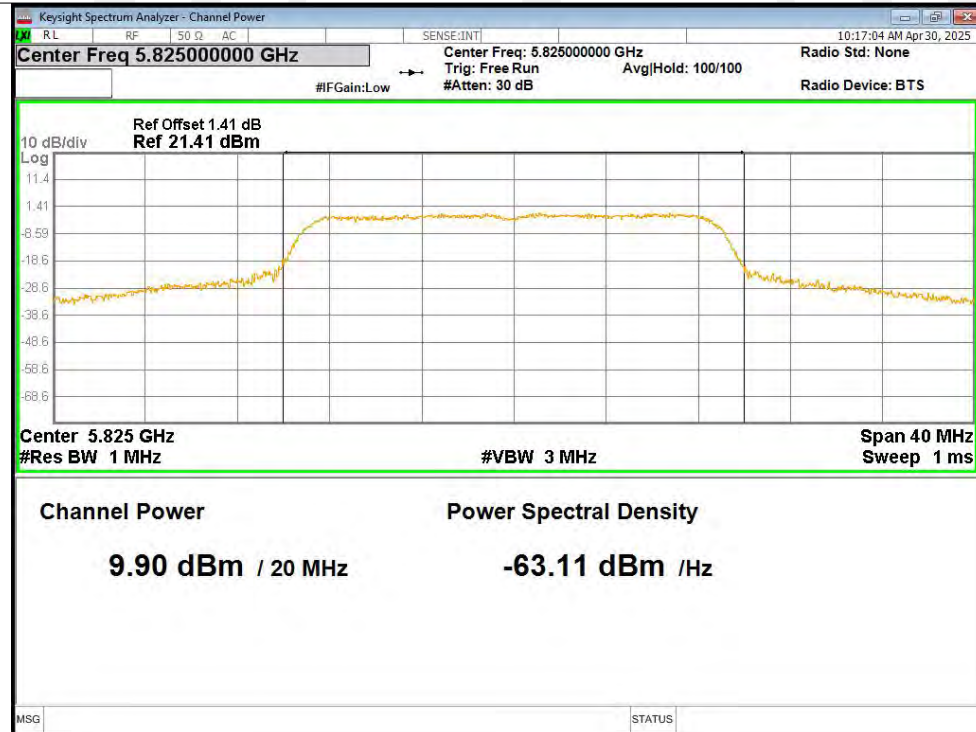
Power NVNT ax20 5745MHz Ant1



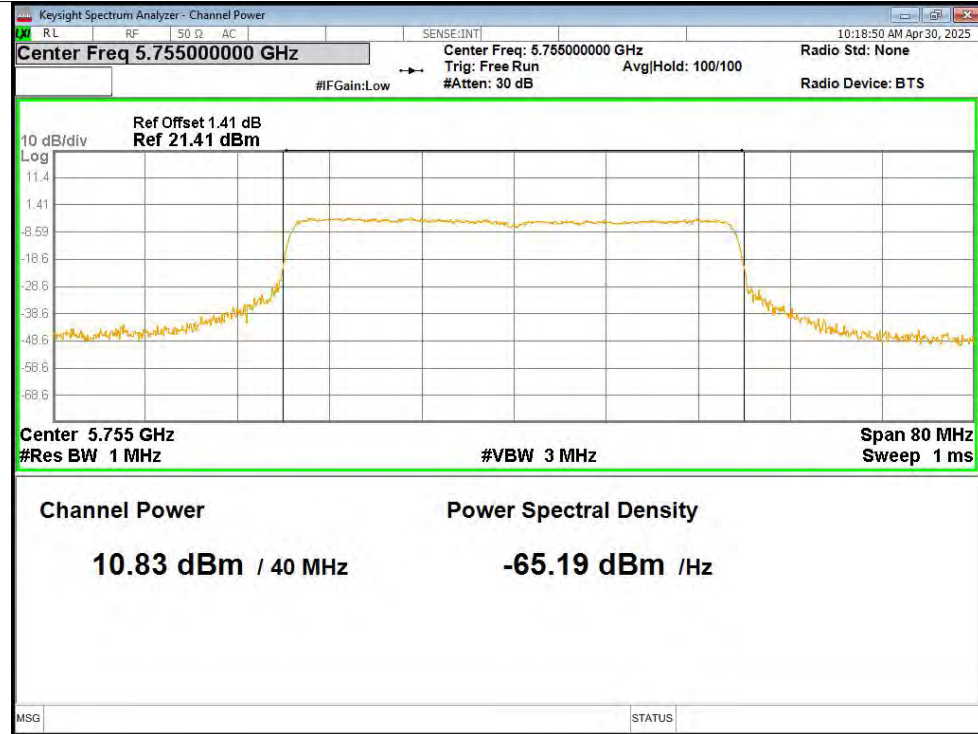
Power NVNT ax20 5785MHz Ant1



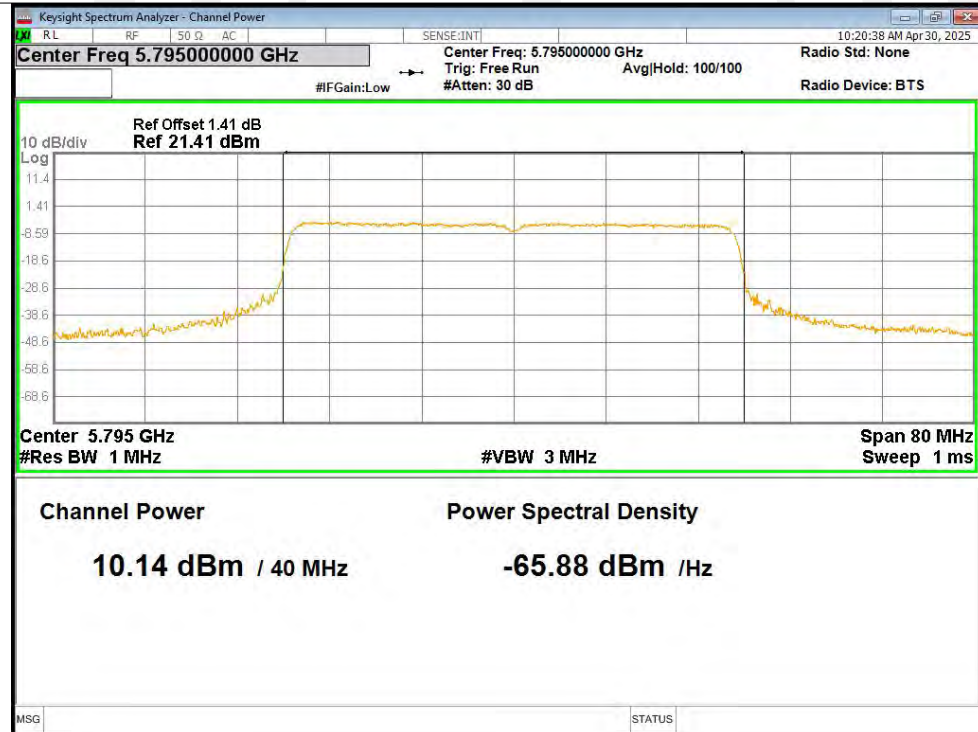
Power NVNT ax20 5825MHz Ant1



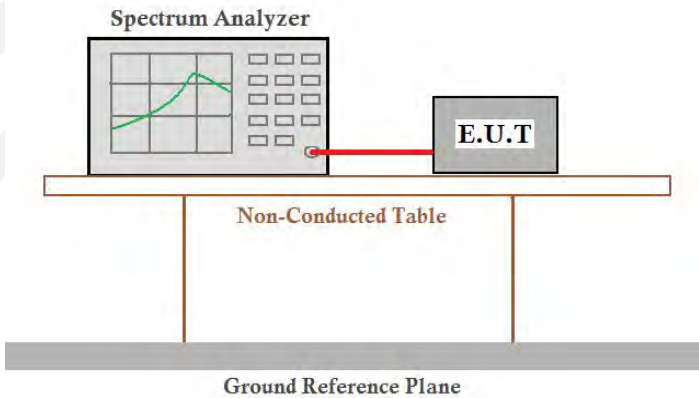
Power NVNT ax40 5755MHz Ant1



Power NVNT ax40 5795MHz Ant1



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. $\leq 11.00 \text{ dBm/MHz}$ for 5150MHz-5250MHz, 5250-5350MHz and 5470-5725 MHz 2. $\leq 30.00 \text{ dBm/500KHz}$ 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:	 The diagram illustrates the test setup. A Spectrum Analyzer is connected to an E.U.T. (Equipment Under Test) via a red cable. Both the Spectrum Analyzer and the E.U.T. are placed on a Non-Conducted Table. Below the table is a Ground Reference Plane.
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

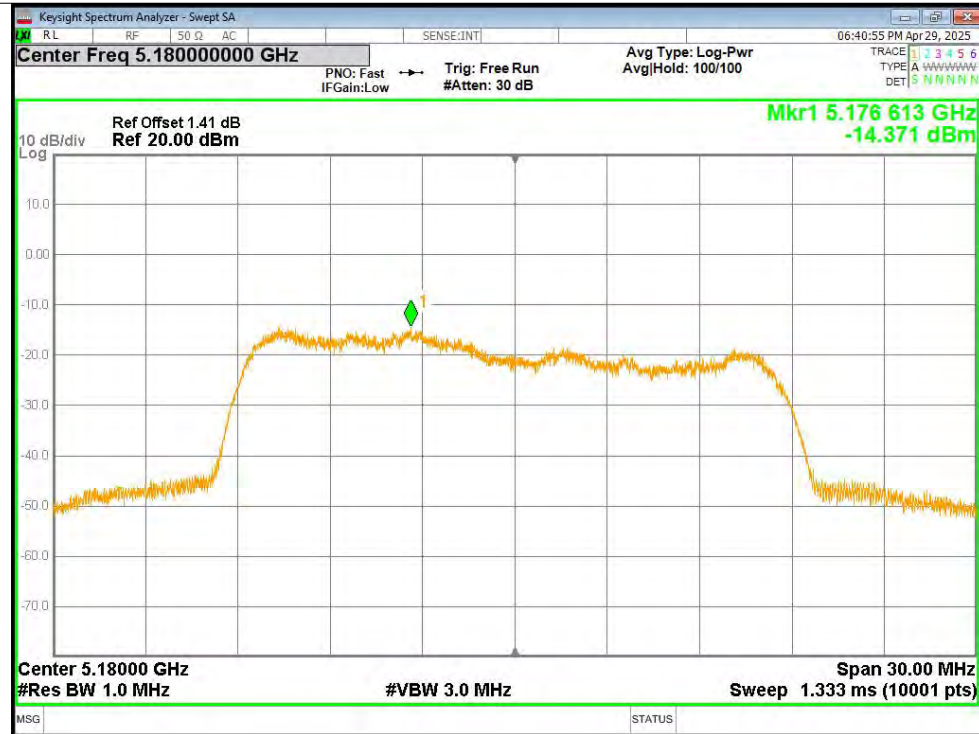
Measurement Data:

5.2GWIFI (5180-5240 MHz)

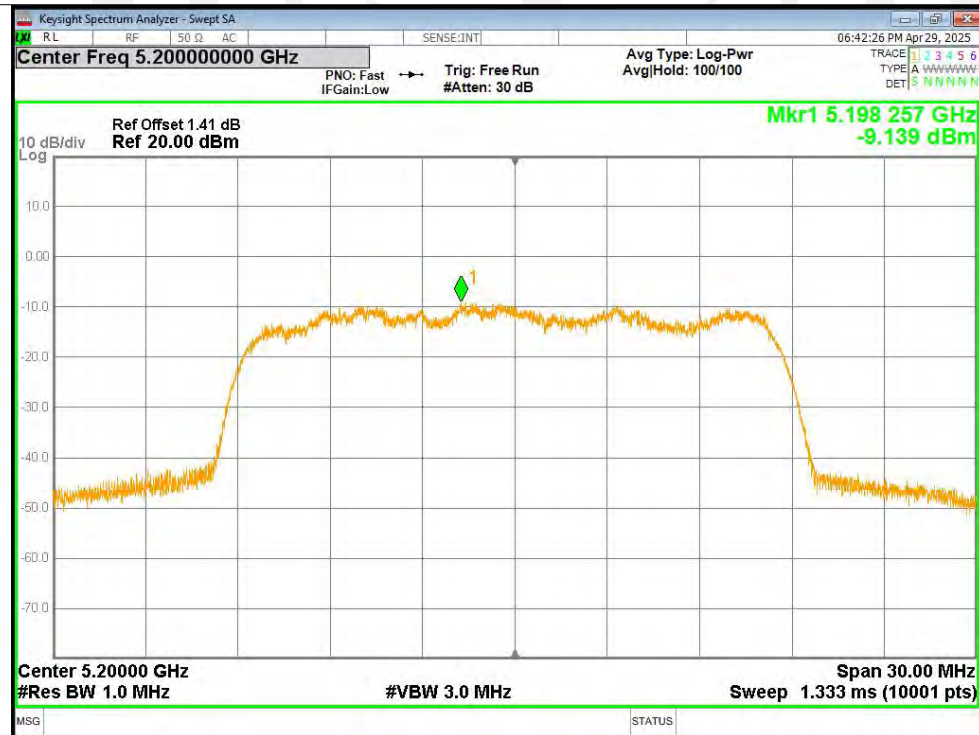
Condition	Mode	Frequency (MHz)	Antenna	Conducted PSD (dBm/MHz)	Duty Factor (dB)	Total PSD (dBm/MHz)	Limit (dBm/MHz)	Verdict
NVNT	a	5180	Ant1	-14.37	0.3	-14.07	11	Pass
NVNT	a	5200	Ant1	-9.14	0.09	-9.05	11	Pass
NVNT	a	5240	Ant1	-8.98	0.12	-8.86	11	Pass
NVNT	n20	5180	Ant1	-31.76	3.61	-28.15	11	Pass
NVNT	n20	5200	Ant1	-31.58	3.76	-27.82	11	Pass
NVNT	n20	5240	Ant1	-28.84	4.94	-23.9	11	Pass
NVNT	n40	5190	Ant1	-4.92	0.75	-4.17	11	Pass
NVNT	n40	5230	Ant1	-9.71	2.28	-7.43	11	Pass
NVNT	ac20	5180	Ant1	-24.44	4.94	-19.5	11	Pass
NVNT	ac20	5200	Ant1	-30.68	3.72	-26.96	11	Pass
NVNT	ac20	5240	Ant1	-6.08	0.92	-5.16	11	Pass
NVNT	ac40	5190	Ant1	-10.82	0.75	-10.07	11	Pass
NVNT	ac40	5230	Ant1	-10.32	0.83	-9.49	11	Pass
NVNT	ax20	5180	Ant1	-21.95	4.86	-17.09	11	Pass
NVNT	ax20	5200	Ant1	-31.81	3.61	-28.2	11	Pass
NVNT	ax20	5240	Ant1	-38.56	3.76	-34.8	11	Pass
NVNT	ax40	5190	Ant1	-30.06	3.44	-26.62	11	Pass
NVNT	ax40	5230	Ant1	-17.18	0.56	-16.62	11	Pass

Test Graphs

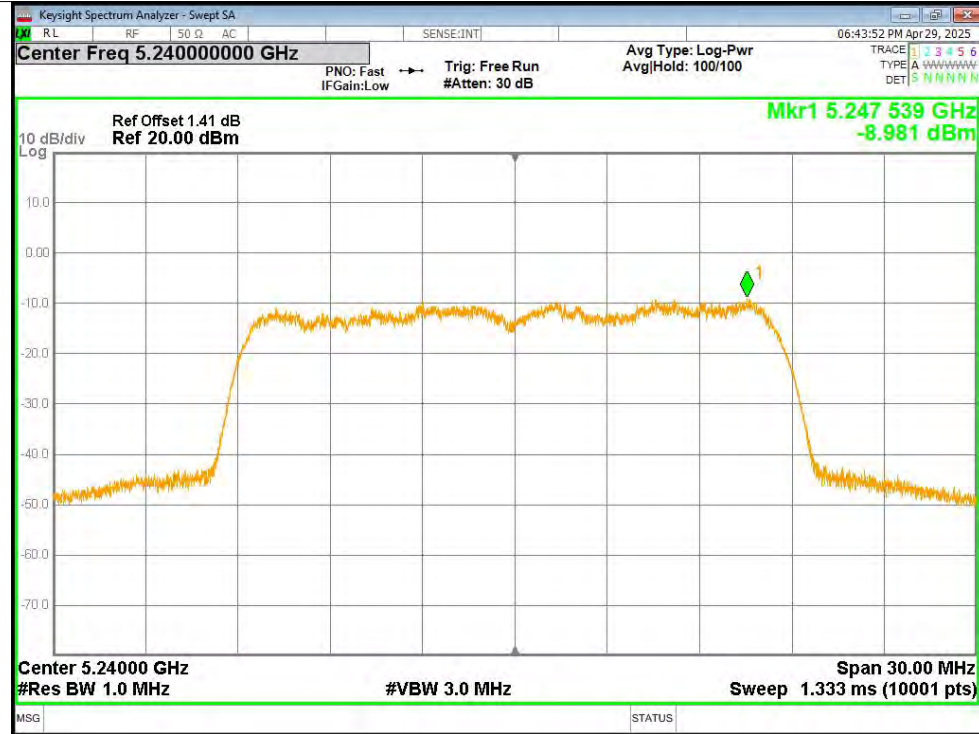
PSD NVNT a 5180MHz Ant1



PSD NVNT a 5200MHz Ant1



PSD NVNT a 5240MHz Ant1



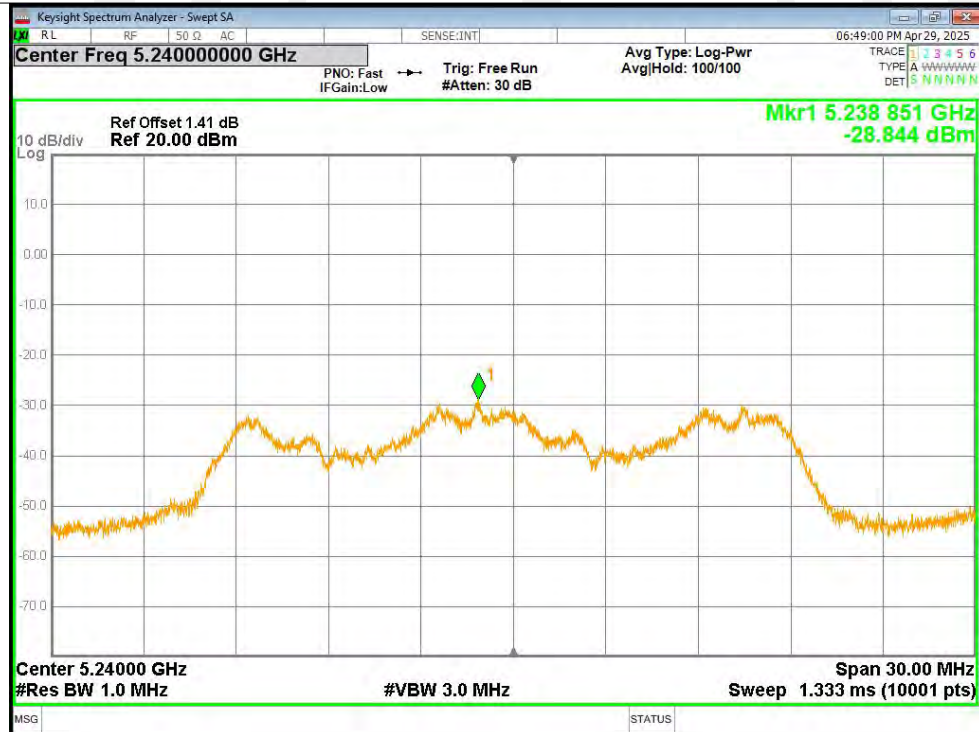
PSD NVNT n20 5180MHz Ant1

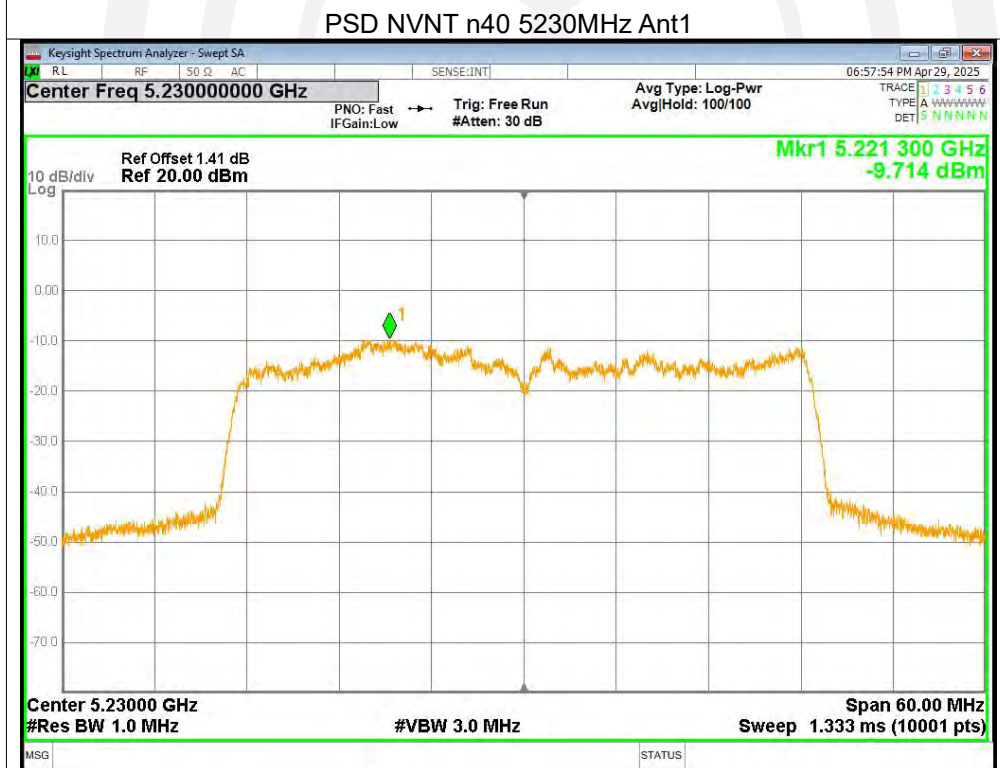
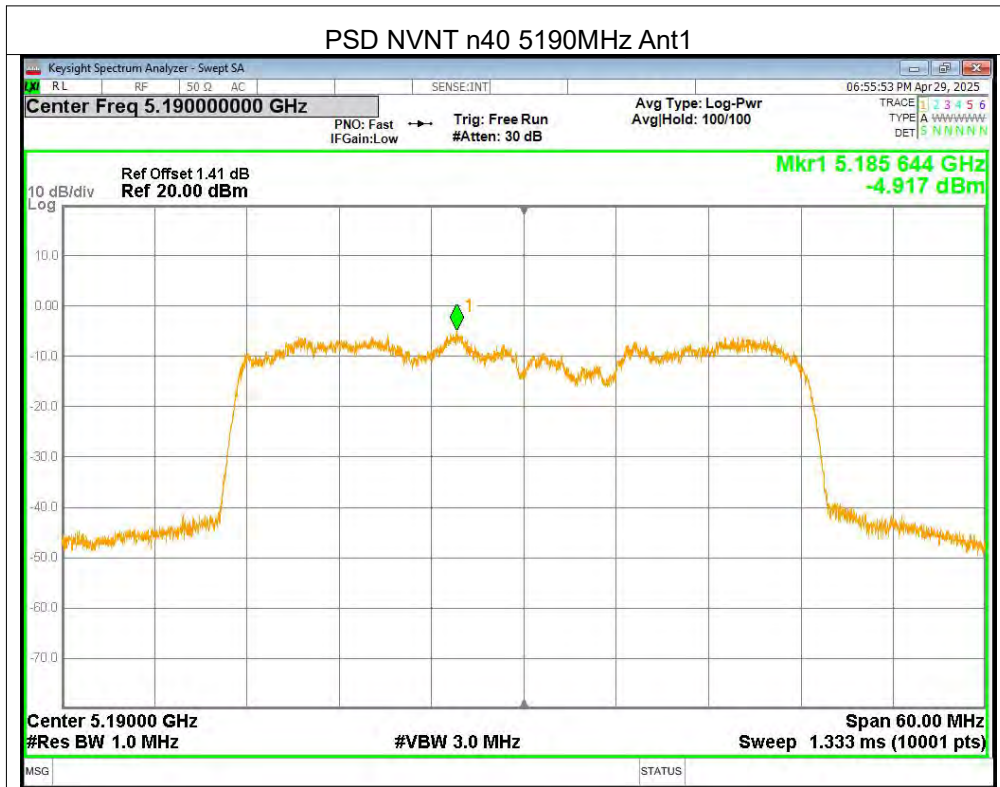


PSD NVNT n20 5200MHz Ant1



PSD NVNT n20 5240MHz Ant1

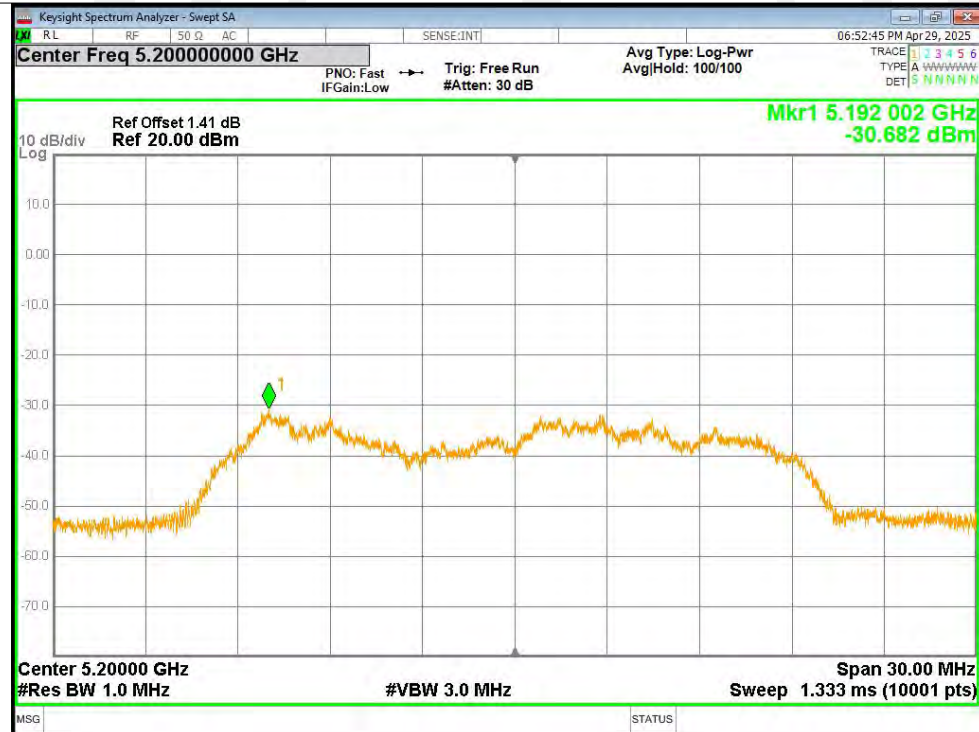




PSD NVNT ac20 5180MHz Ant1



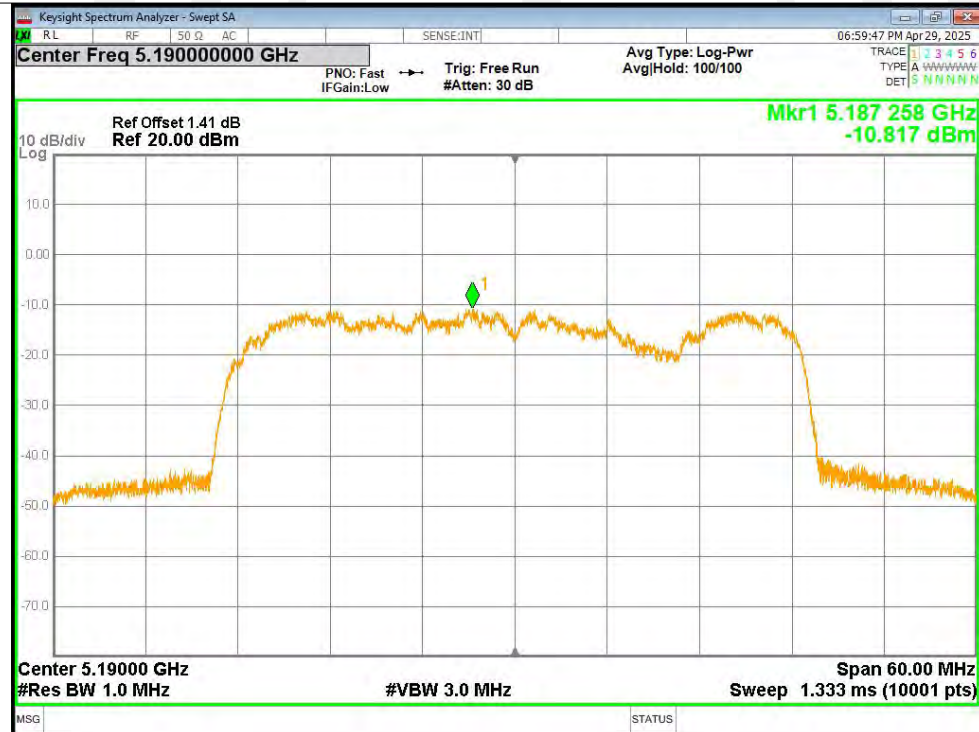
PSD NVNT ac20 5200MHz Ant1



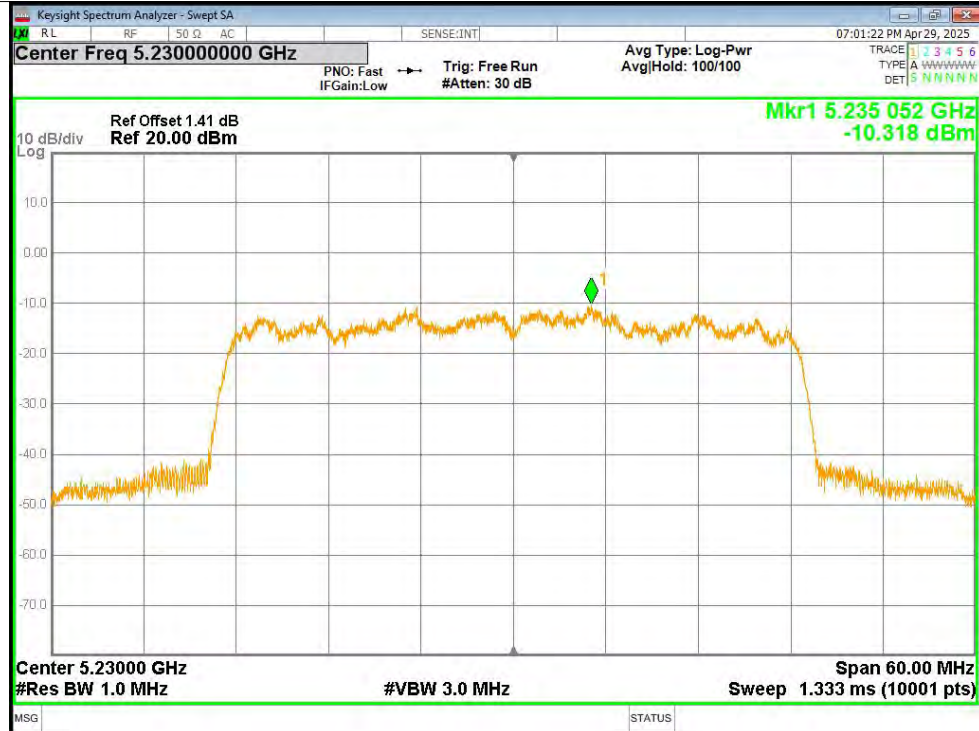
PSD NVNT ac20 5240MHz Ant1



PSD NVNT ac40 5190MHz Ant1



PSD NVNT ac40 5230MHz Ant1



PSD NVNT ax20 5180MHz Ant1



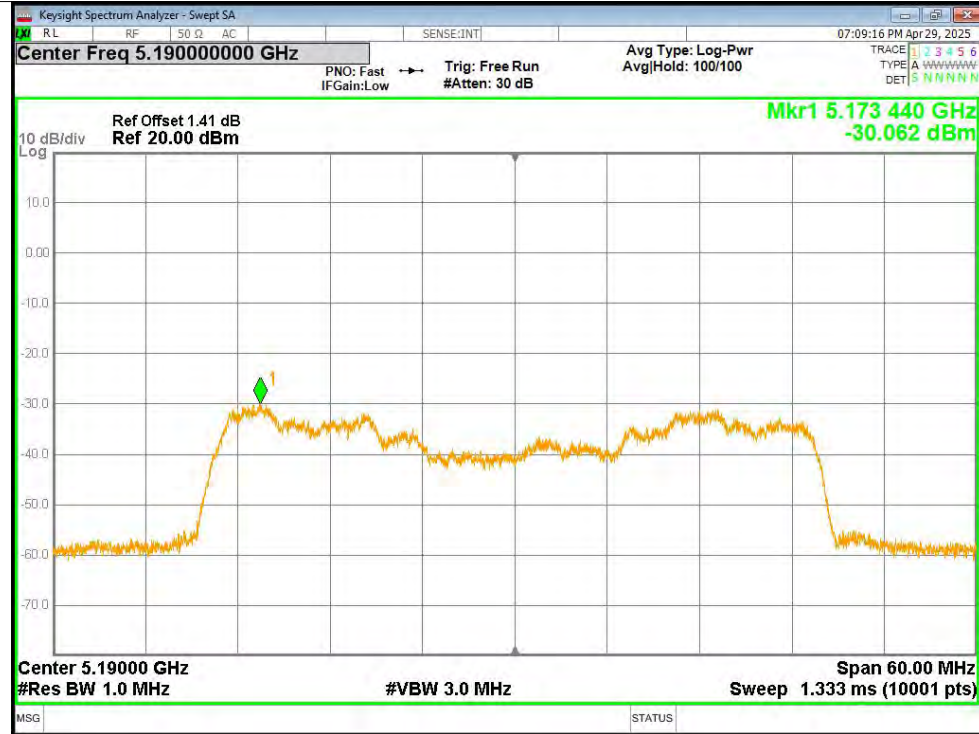
PSD NVNT ax20 5200MHz Ant1



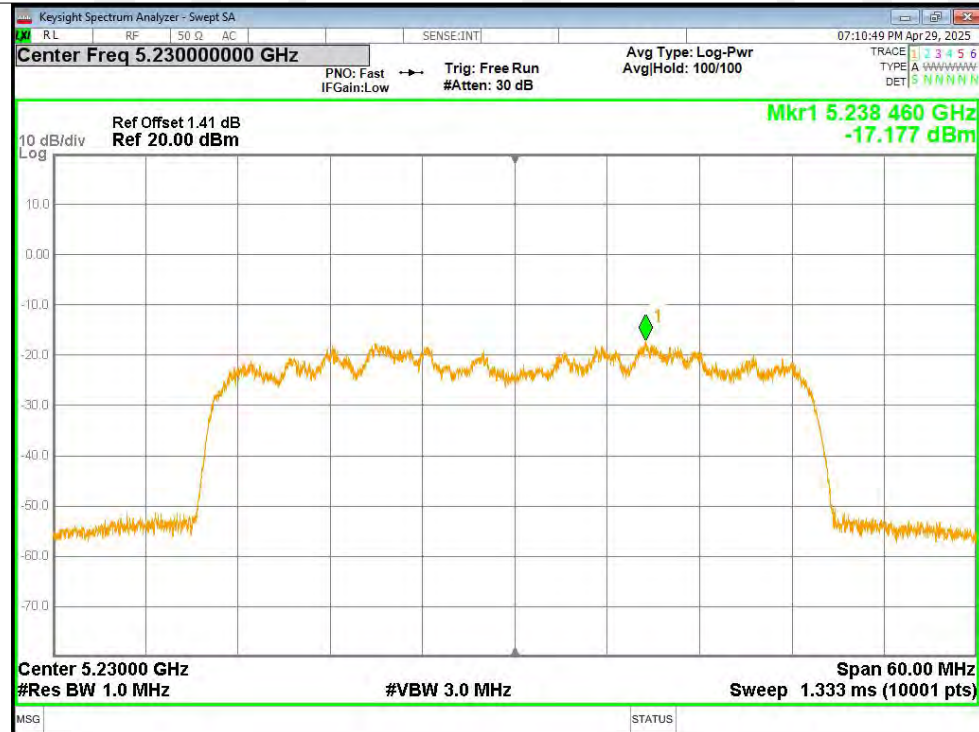
PSD NVNT ax20 5240MHz Ant1



PSD NVNT ax40 5190MHz Ant1



PSD NVNT ax40 5230MHz Ant1



5.8GWIFI (5745MHz-5825 MHz)

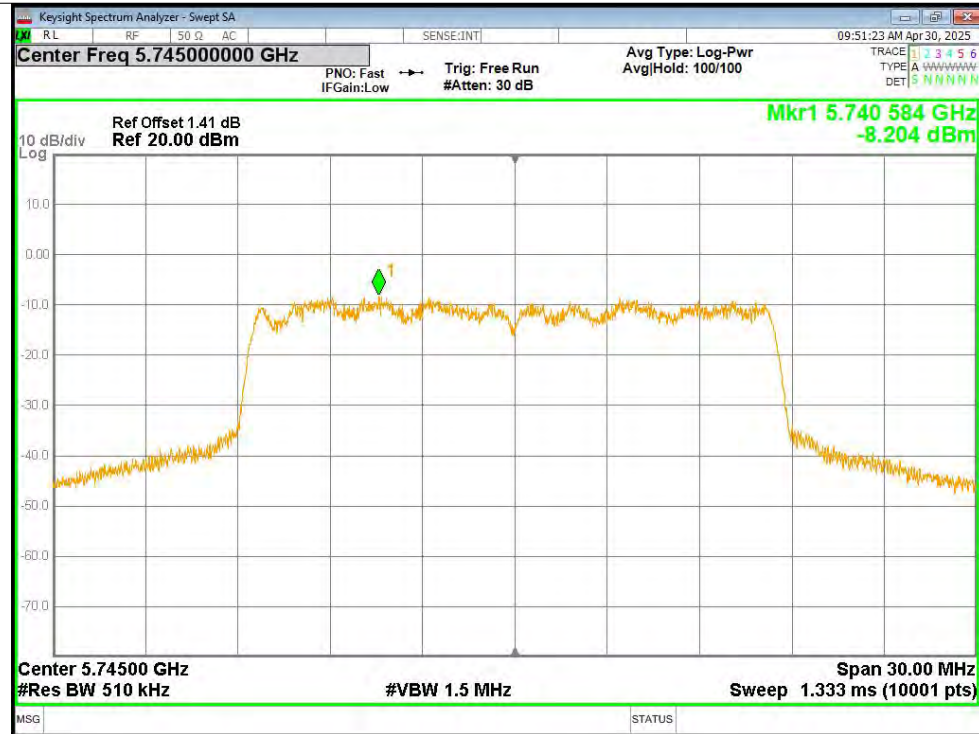
Condition	Mode	Frequency (MHz)	Antenna	Conducted PSD (dBm)	Duty Factor (dB)	RB factor (dB)	Total PSD (dBm)	Limit (dBm)	Verdict
NVNT	a	5745	Ant1	-8.2	0.09	-0.086	-8.20	30	Pass
NVNT	a	5785	Ant1	-10.28	0.09	-0.086	-10.28	30	Pass
NVNT	a	5825	Ant1	-10.99	0.3	-0.086	-10.78	30	Pass
NVNT	n20	5745	Ant1	-31.47	3.61	-0.086	-27.95	30	Pass
NVNT	n20	5785	Ant1	-33.74	3.49	-0.086	-30.34	30	Pass
NVNT	n20	5825	Ant1	-30.57	3.76	-0.086	-26.90	30	Pass
NVNT	n40	5755	Ant1	-6.08	0.24	-0.086	-5.93	30	Pass
NVNT	n40	5795	Ant1	-8.16	0.32	-0.086	-7.93	30	Pass
NVNT	ac20	5745	Ant1	-19.45	0.71	-0.086	-18.83	30	Pass
NVNT	ac20	5785	Ant1	-11.22	0.67	-0.086	-10.64	30	Pass
NVNT	ac20	5825	Ant1	-19.18	2.01	-0.086	-17.26	30	Pass
NVNT	ac40	5755	Ant1	-6.44	0.24	-0.086	-6.29	30	Pass
NVNT	ac40	5795	Ant1	-6.14	0.32	-0.086	-5.91	30	Pass
NVNT	ax20	5745	Ant1	-33.8	3.49	-0.086	-30.40	30	Pass
NVNT	ax20	5785	Ant1	-31.92	3.76	-0.086	-28.25	30	Pass
NVNT	ax20	5825	Ant1	-32.9	3.61	-0.086	-29.38	30	Pass
NVNT	ax40	5755	Ant1	-18.19	0.43	-0.086	-17.85	30	Pass
NVNT	ax40	5795	Ant1	-11.34	0.58	-0.086	-10.85	30	Pass

RB factor = $10 \lg (\text{Measure RB} / 500)$, Measure RB = 510 kHz

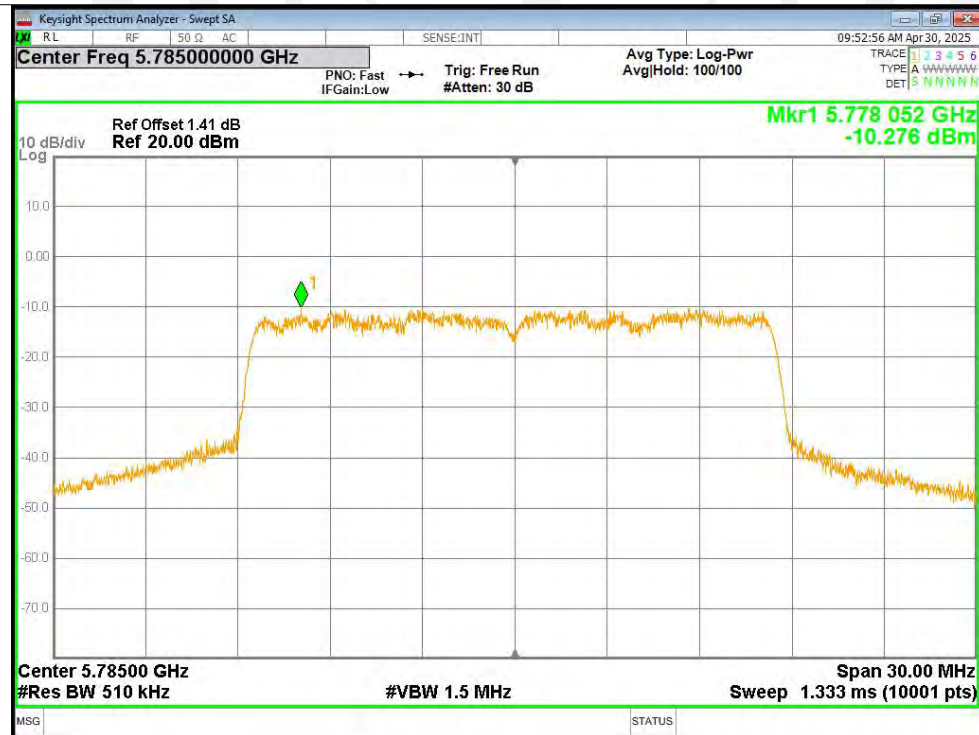
Total PSD = Conducted PSD + Duty factor(dB) + RB factor(dB)

Test Graphs

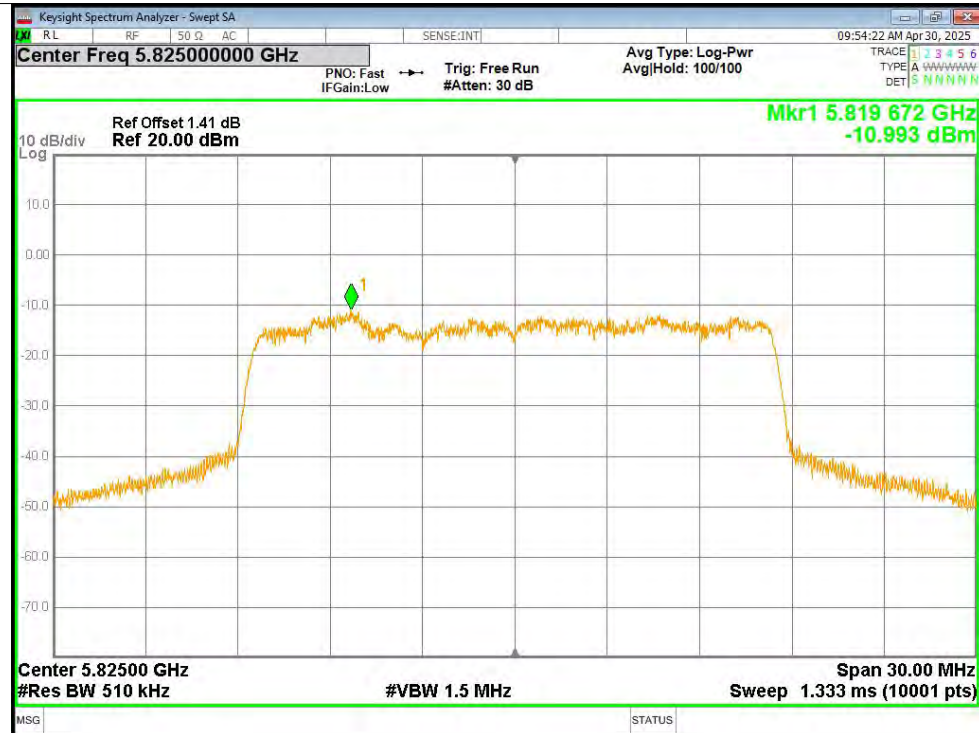
PSD NVNT a 5745MHz Ant1



PSD NVNT a 5785MHz Ant1

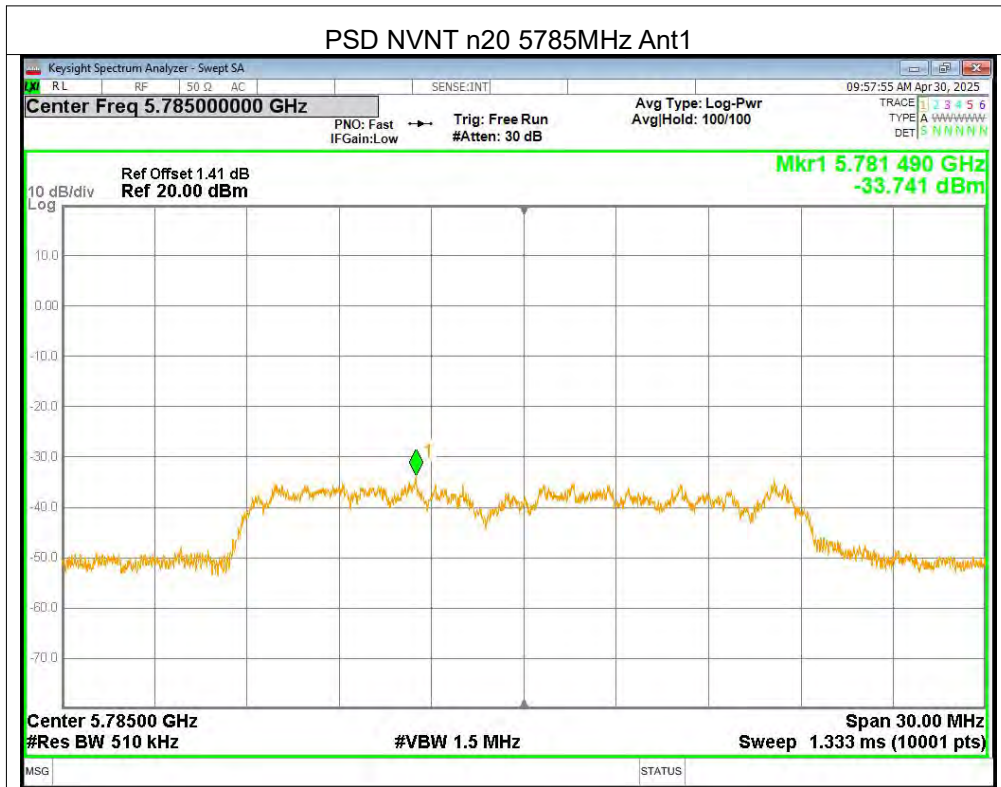


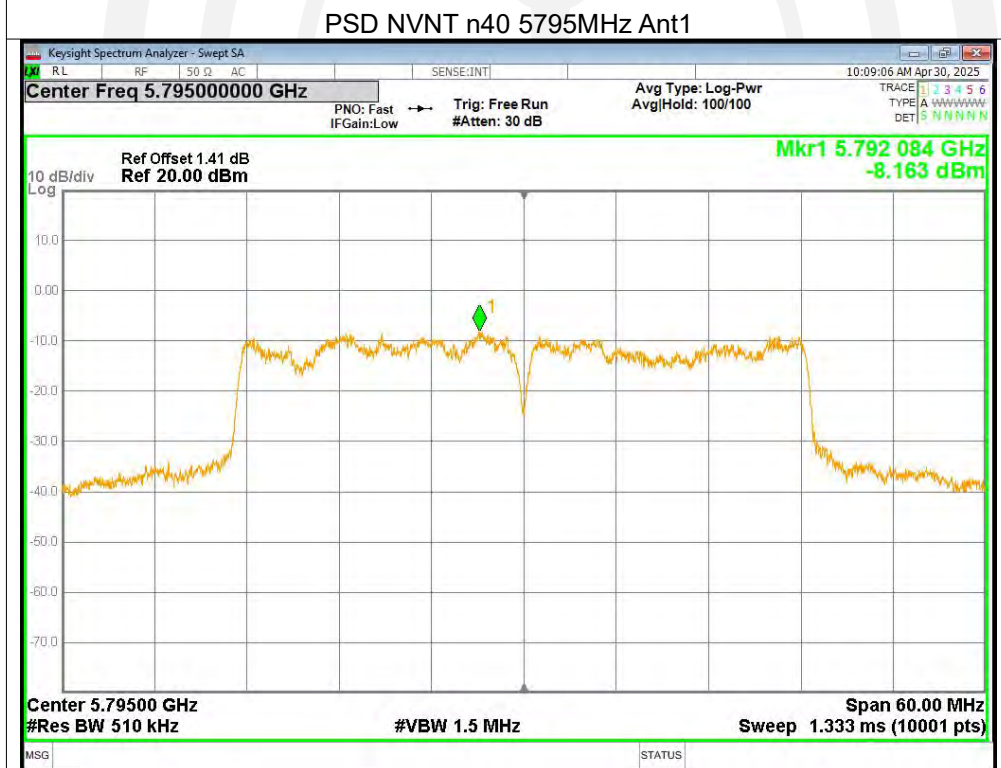
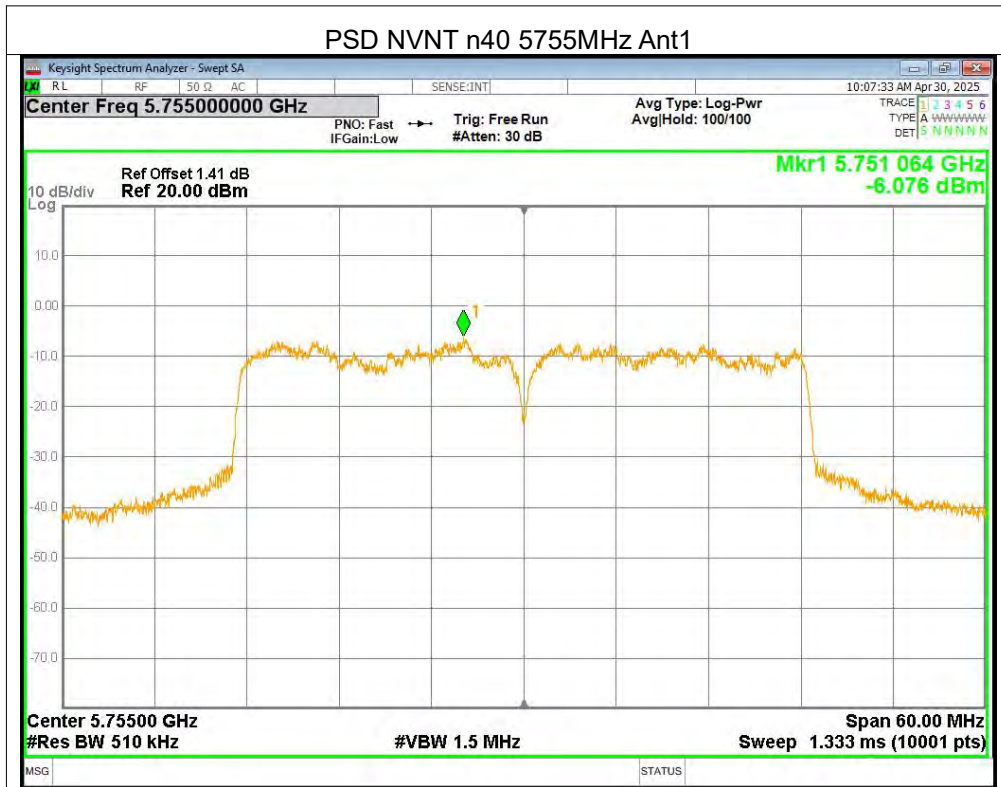
PSD NVNT a 5825MHz Ant1



PSD NVNT n20 5745MHz Ant1



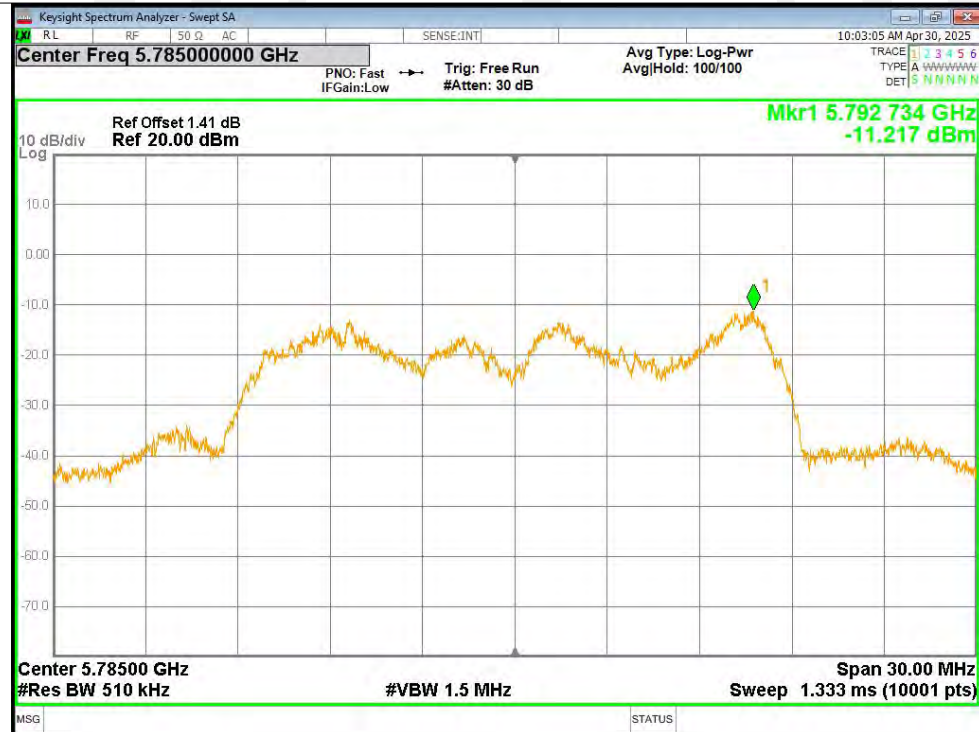




PSD NVNT ac20 5745MHz Ant1



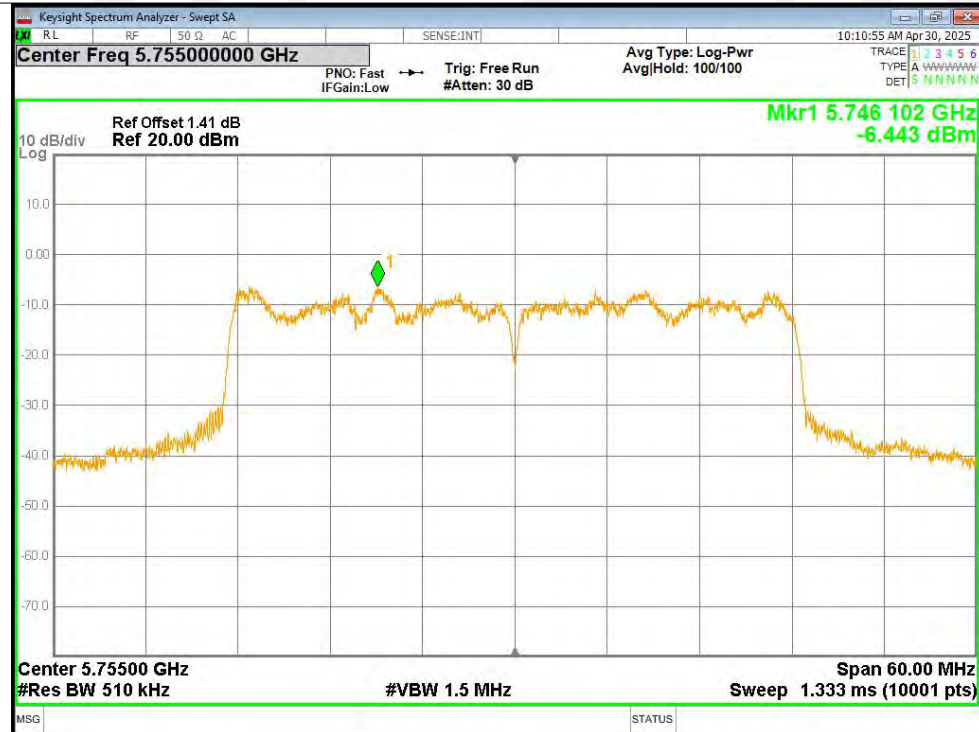
PSD NVNT ac20 5785MHz Ant1



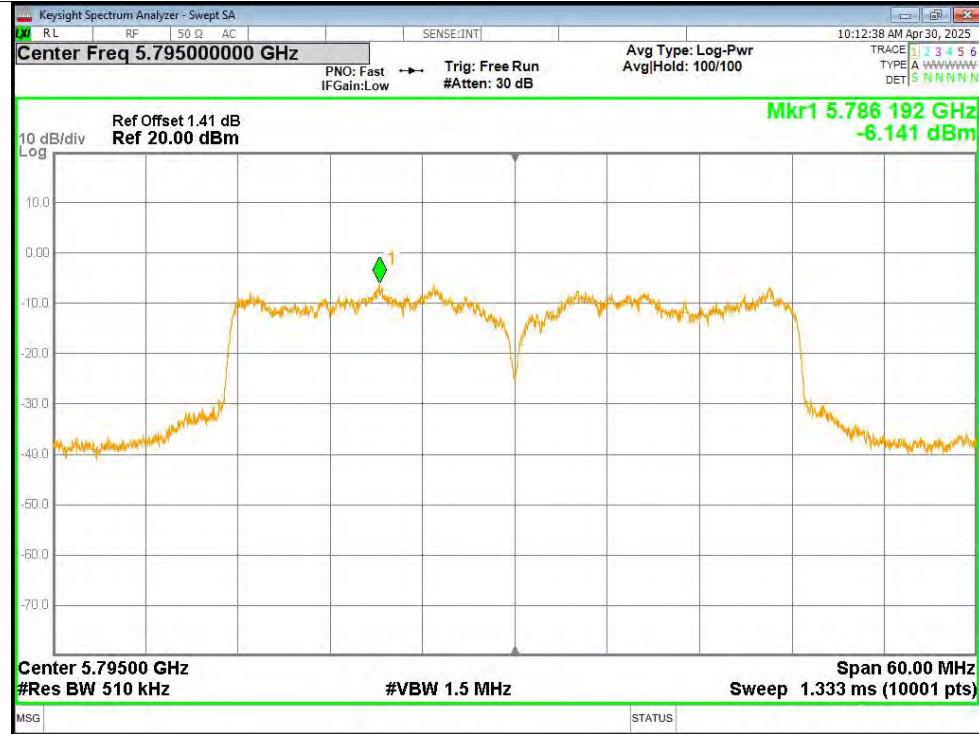
PSD NVNT ac20 5825MHz Ant1



PSD NVNT ac40 5755MHz Ant1



PSD NVNT ac40 5795MHz Ant1



PSD NVNT ax20 5745MHz Ant1



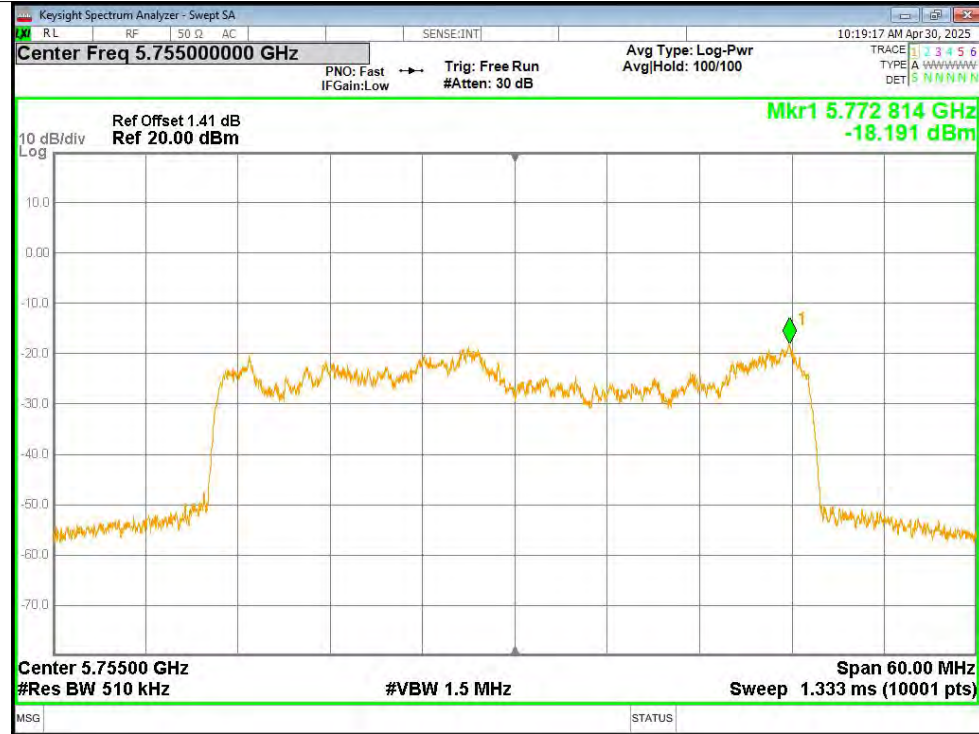
PSD NVNT ax20 5785MHz Ant1



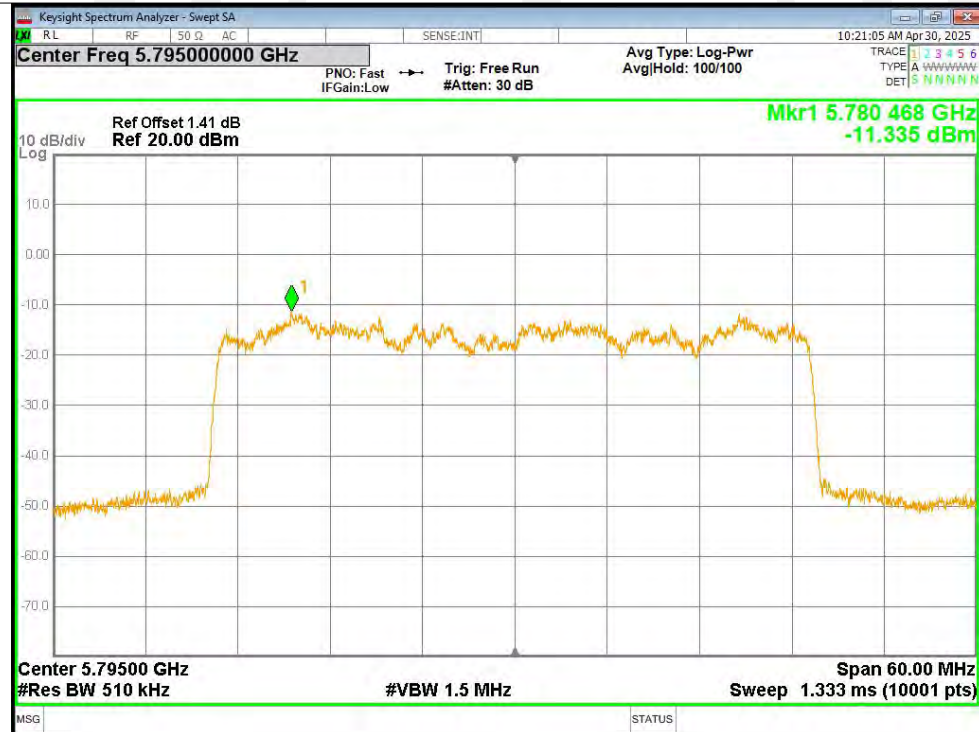
PSD NVNT ax20 5825MHz Ant1



PSD NVNT ax40 5755MHz Ant1

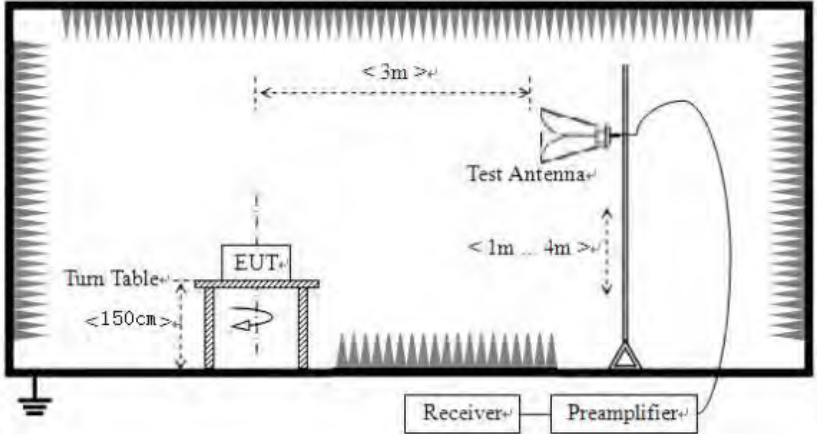


PSD NVNT ax40 5795MHz Ant1



4.5 Band Edge

Test Requirement:	FCC Part15 E Section 15.407 and 15.205, RSS-Gen §8.9																								
Test Method:	ANSI C63.10:2013																								
Test site:	Measurement Distance: 3m (Semi-Anechoic Chamber)																								
Receiver setup:	<table><tr><td>Frequency</td><td>Detector</td><td>RBW</td><td>VBW</td><td>Remark</td></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>					Frequency	Detector	RBW	VBW	Remark	30MHz-1GHz	Quasi-peak	100KHz	300KHz	Quasi-peak Value	Above 1GHz	Peak	1MHz	3MHz	Peak Value	AV	1MHz	3MHz	Average Value	
Frequency	Detector	RBW	VBW	Remark																					
30MHz-1GHz	Quasi-peak	100KHz	300KHz	Quasi-peak Value																					
Above 1GHz	Peak	1MHz	3MHz	Peak Value																					
	AV	1MHz	3MHz	Average Value																					
Limit:	<table><tr><td>Frequency</td><td>Limit (dBuV/m @3m)</td><td>Remark</td></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.					Frequency	Limit (dBuV/m @3m)	Remark	30MHz-88MHz	40.0	Quasi-peak Value	88MHz-216MHz	43.5	Quasi-peak Value	216MHz-960MHz	46.0	Quasi-peak Value	960MHz-1GHz	54.0	Quasi-peak Value	Above 1GHz	54.0	Average Value	68.2	Peak Value
Frequency	Limit (dBuV/m @3m)	Remark																							
30MHz-88MHz	40.0	Quasi-peak Value																							
88MHz-216MHz	43.5	Quasi-peak Value																							
216MHz-960MHz	46.0	Quasi-peak Value																							
960MHz-1GHz	54.0	Quasi-peak Value																							
Above 1GHz	54.0	Average Value																							
	68.2	Peak Value																							
Test Procedure:	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 rotatable 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																								

	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:

$$E[\text{dBuV/m}] = \text{EIRP}[\text{dBm}] + 95.2,$$

For example, if EIRP = -27dBm

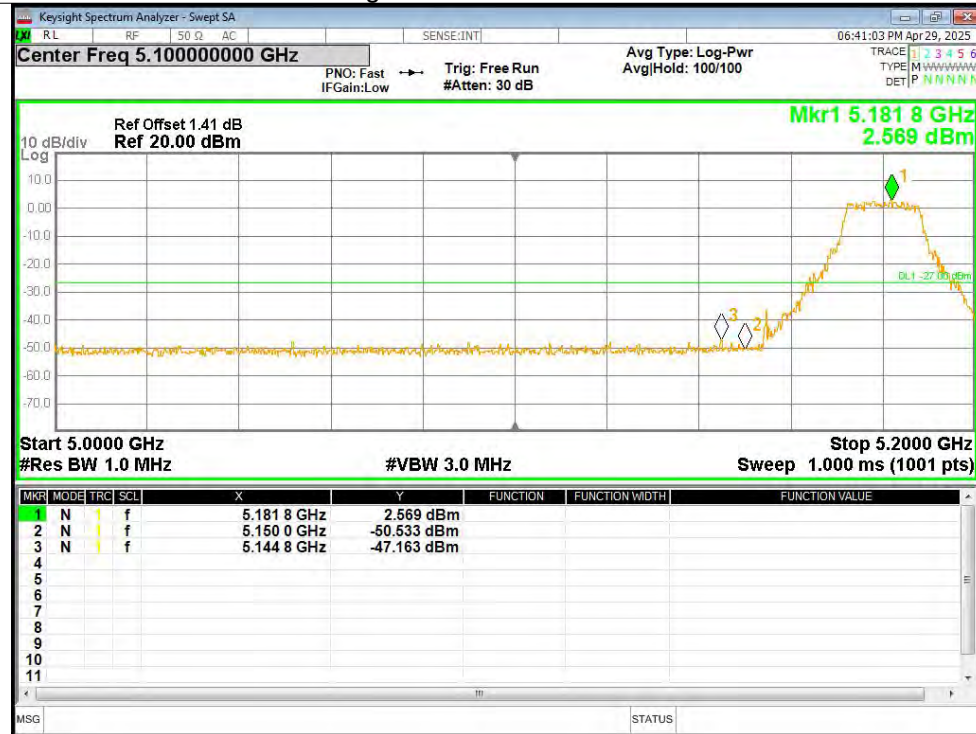
$$E[\text{dBuV/m}] = -27 + 95.2 = 68.2\text{dBuV/m}.$$

Measurement Data:**5.2GWIFI (5180-5240 MHz)**

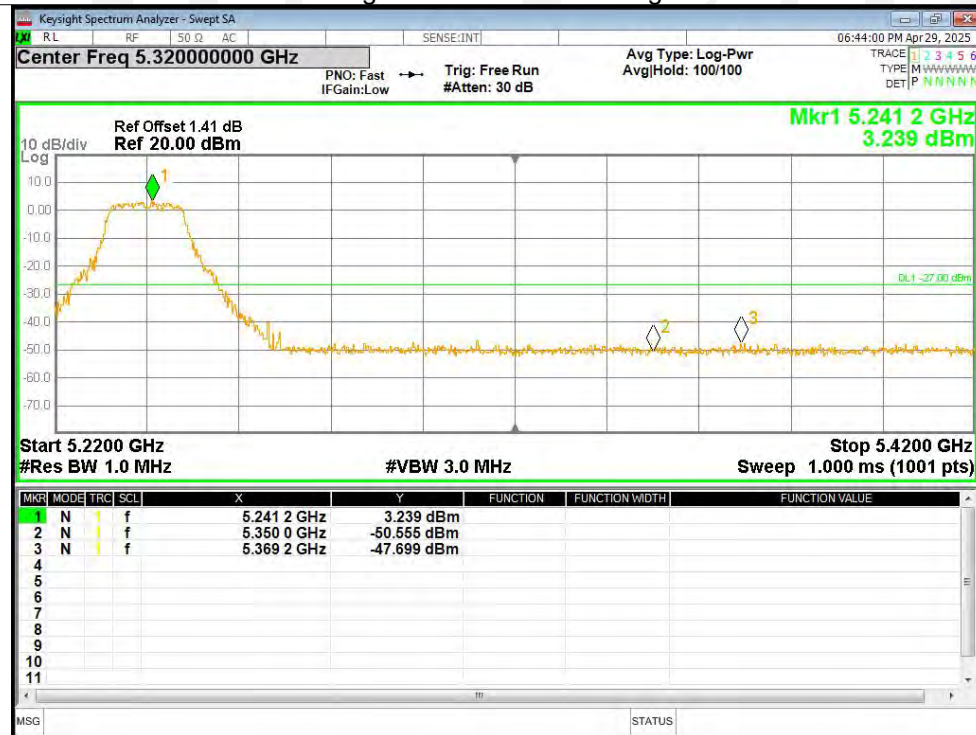
Condition	Mode	Frequency (MHz)	Antenna	Max Value (dBm)	Limit (dBm)	Verdict
NVNT	a	5180	Ant1	-47.16	-27	Pass
NVNT	a	5240	Ant1	-47.69	-27	Pass
NVNT	n20	5180	Ant1	-29.44	-27	Pass
NVNT	n20	5240	Ant1	-47.24	-27	Pass
NVNT	n40	5190	Ant1	-27.91	-27	Pass
NVNT	n40	5230	Ant1	-47.43	-27	Pass
NVNT	ac20	5180	Ant1	-30.44	-27	Pass
NVNT	ac20	5240	Ant1	-47.27	-27	Pass
NVNT	ac40	5190	Ant1	-27.21	-27	Pass
NVNT	ac40	5230	Ant1	-46.4	-27	Pass
NVNT	ax20	5180	Ant1	-30.19	-27	Pass
NVNT	ax20	5240	Ant1	-47.84	-27	Pass
NVNT	ax40	5190	Ant1	-38.94	-27	Pass
NVNT	ax40	5230	Ant1	-40.85	-27	Pass

Test Graphs

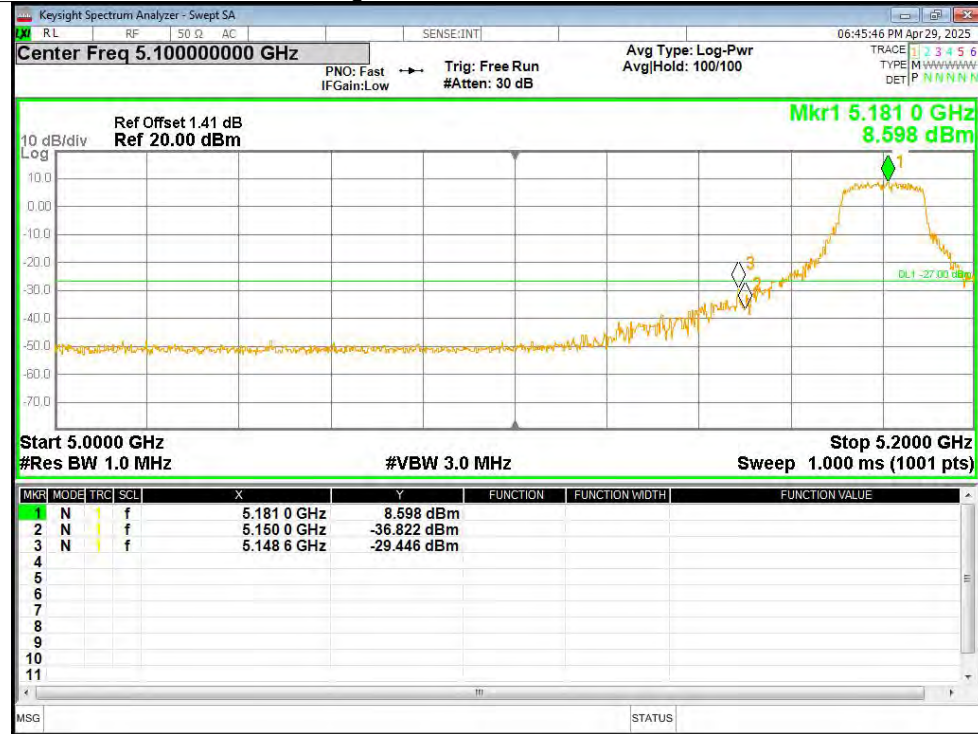
Band Edge NVNT a 5180MHz Low Ant1



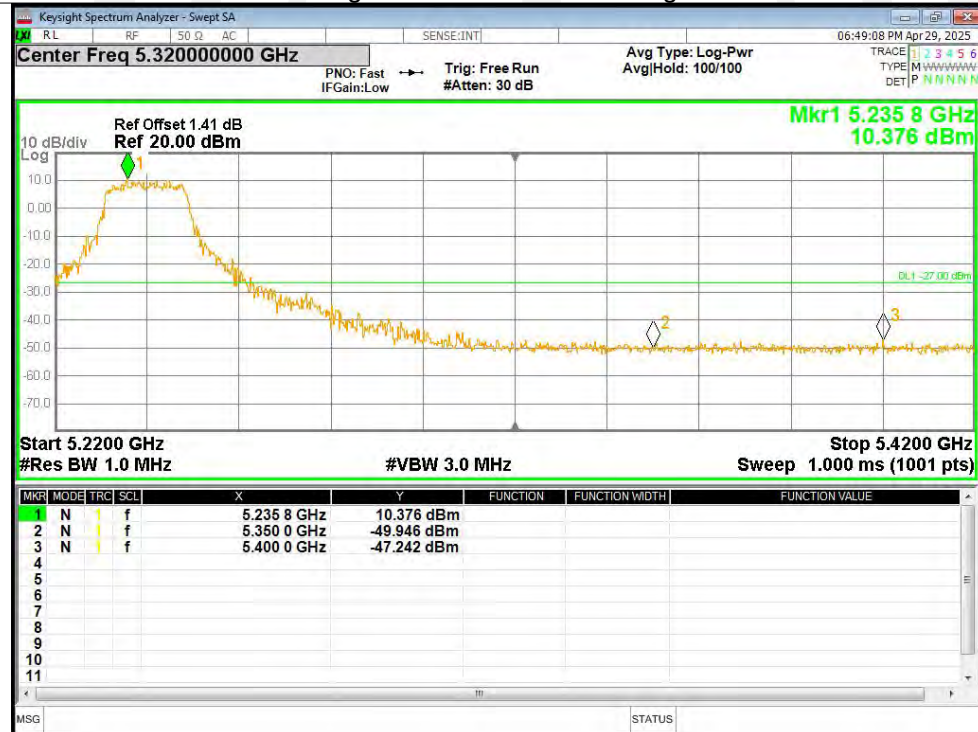
Band Edge NVNT a 5240MHz High Ant1



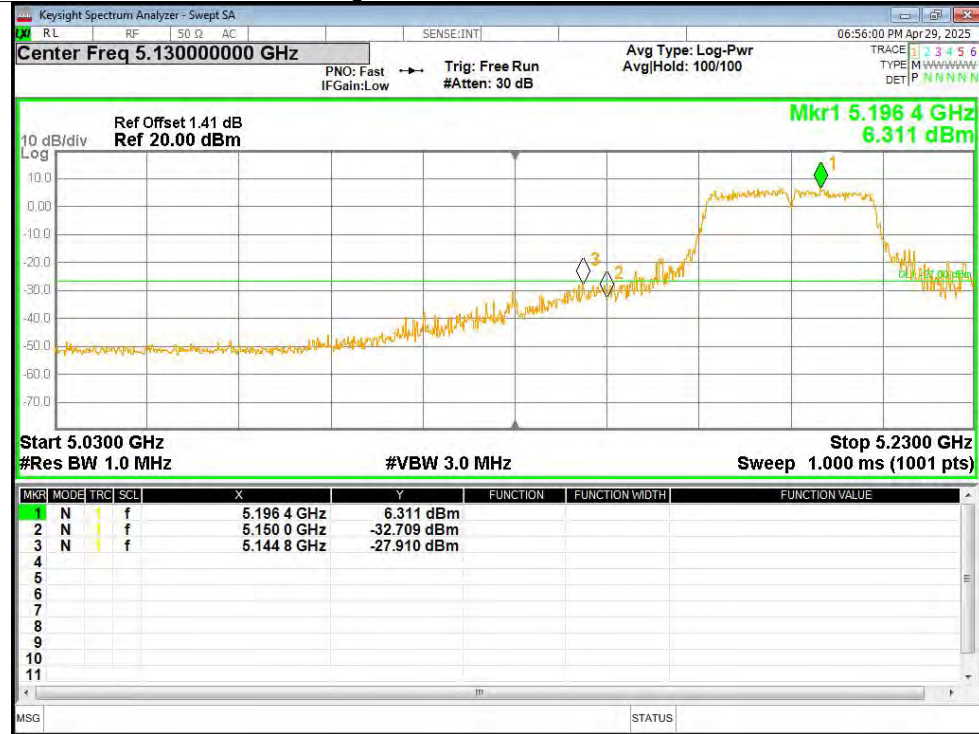
Band Edge NVNT n20 5180MHz Low Ant1



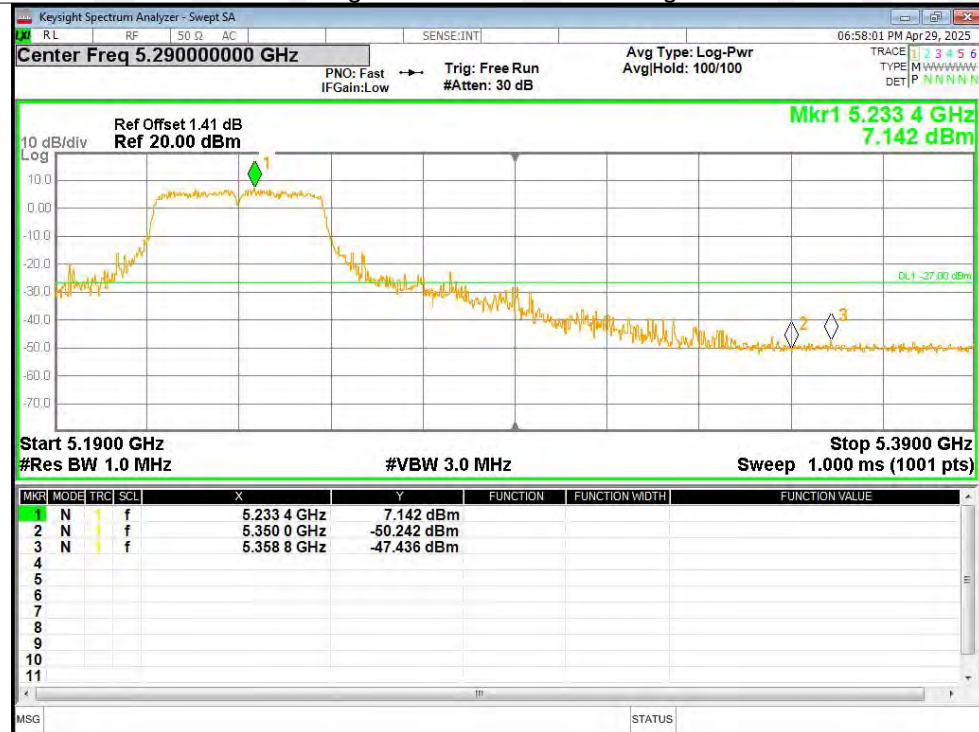
Band Edge NVNT n20 5240MHz High Ant1



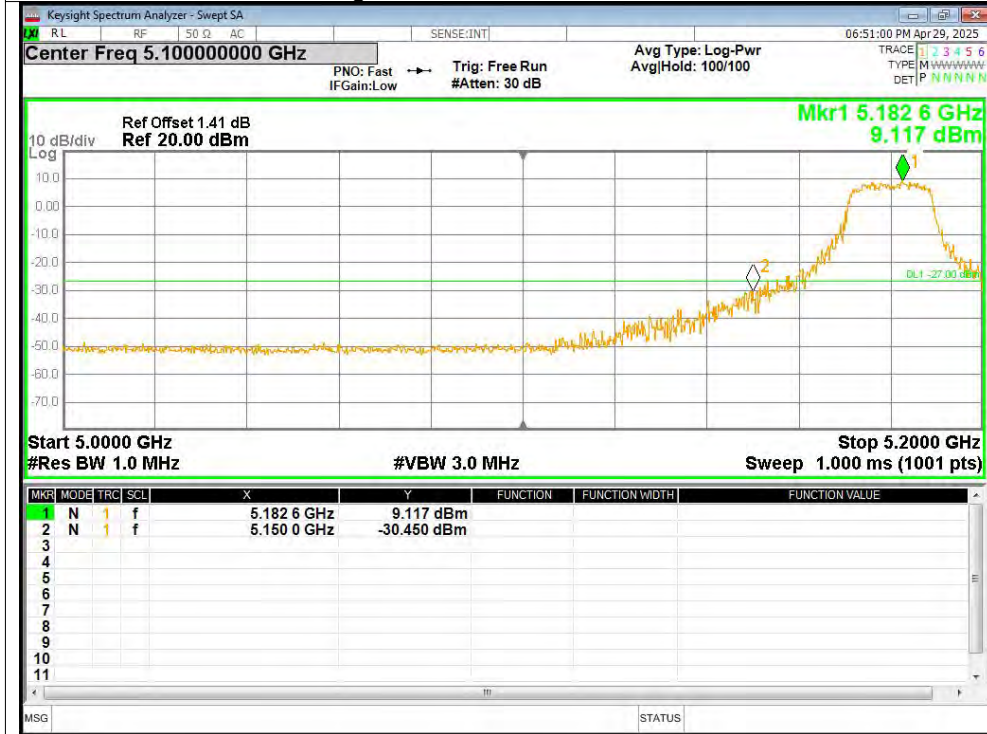
Band Edge NVNT n40 5190MHz Low Ant1



Band Edge NVNT n40 5230MHz High Ant1



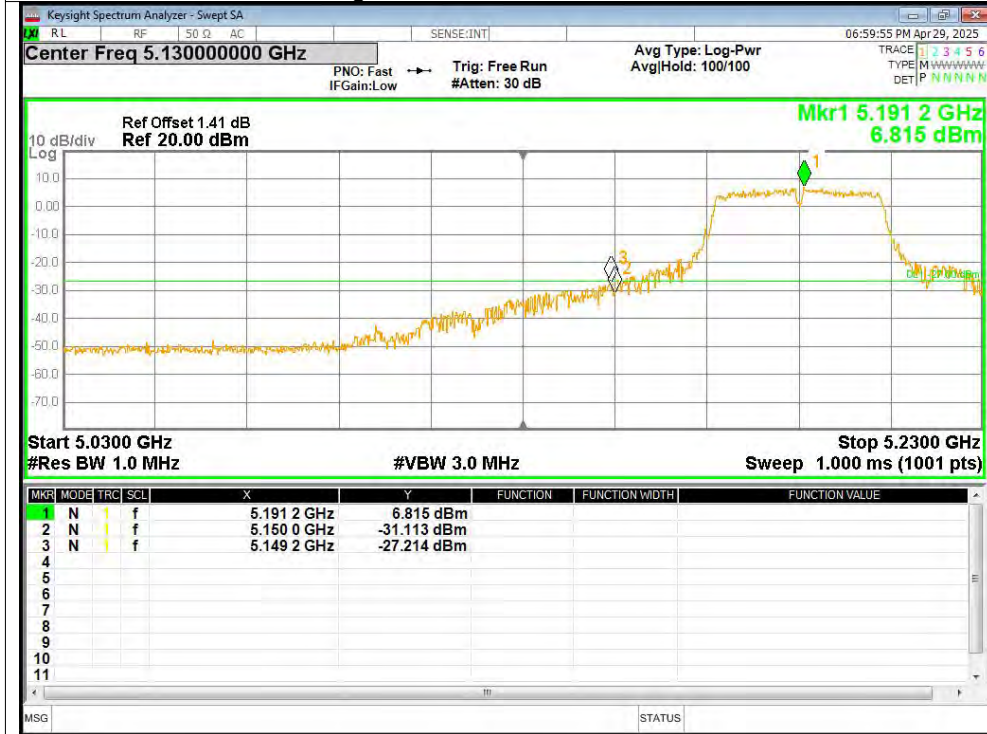
Band Edge NVNT ac20 5180MHz Low Ant1



Band Edge NVNT ac20 5240MHz High Ant1



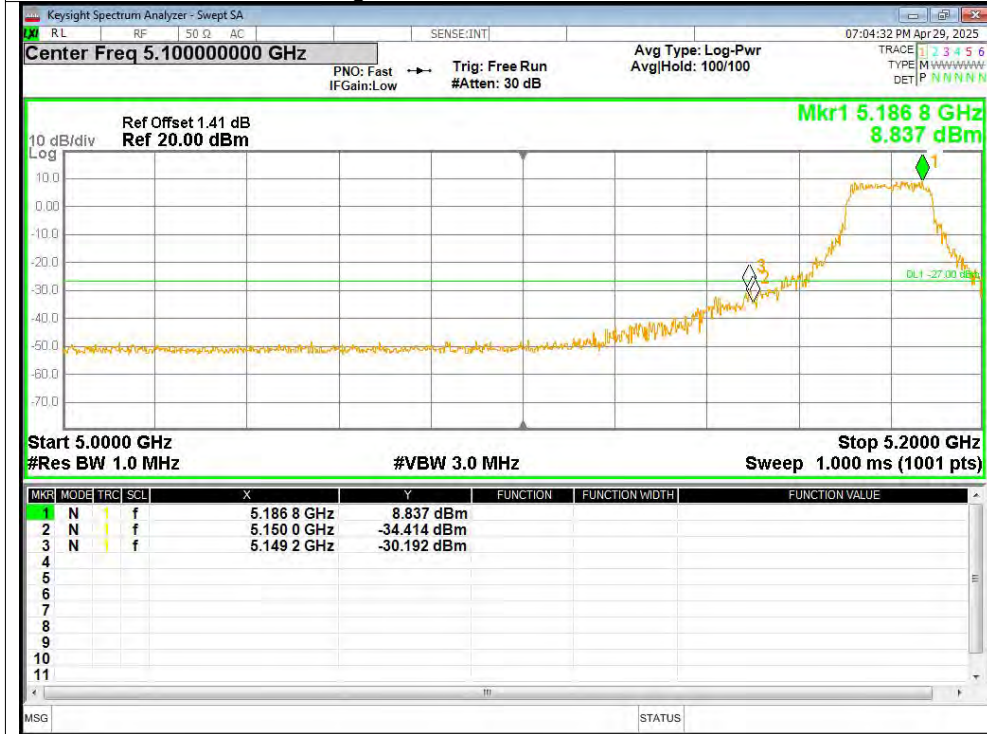
Band Edge NVNT ac40 5190MHz Low Ant1



Band Edge NVNT ac40 5230MHz High Ant1



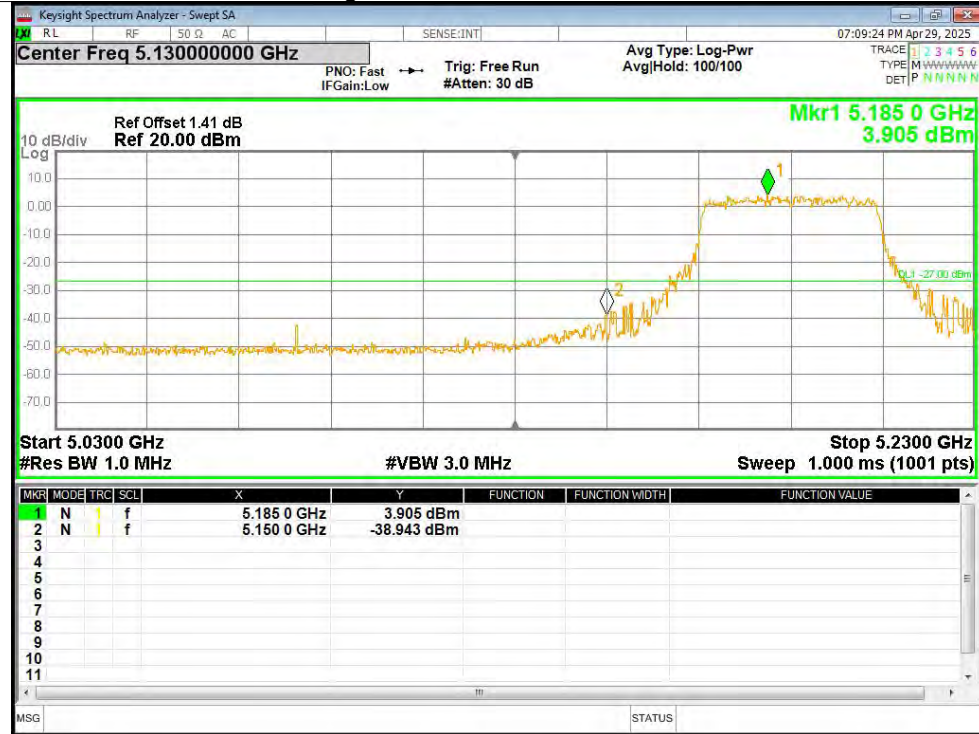
Band Edge NVNT ax20 5180MHz Low Ant1



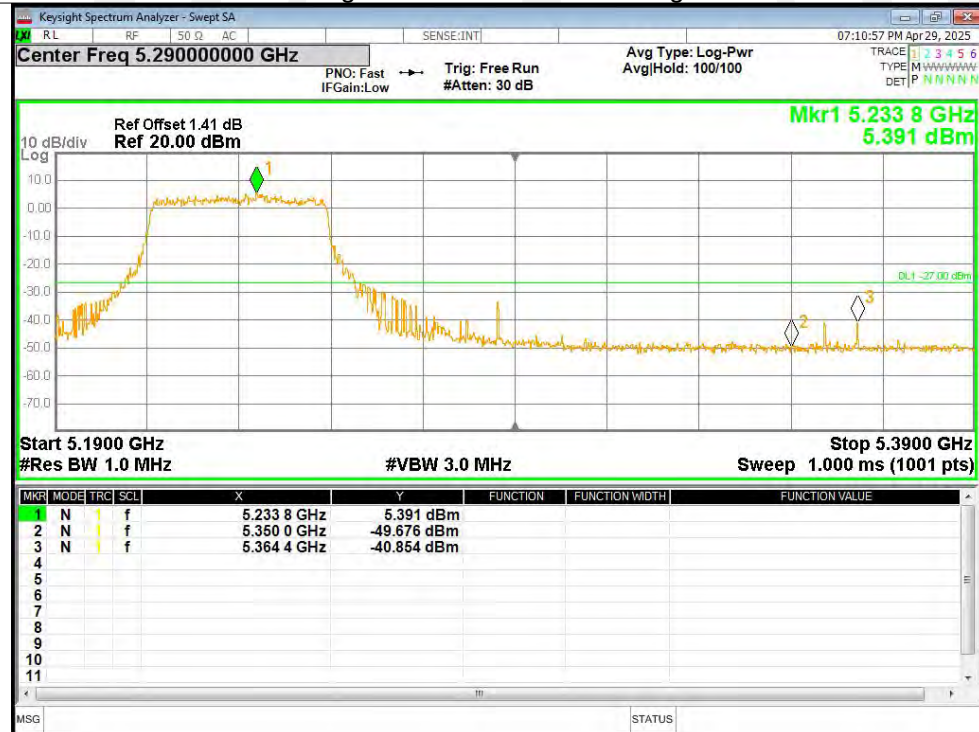
Band Edge NVNT ax20 5240MHz High Ant1



Band Edge NVNT ax40 5190MHz Low Ant1



Band Edge NVNT ax40 5230MHz High Ant1

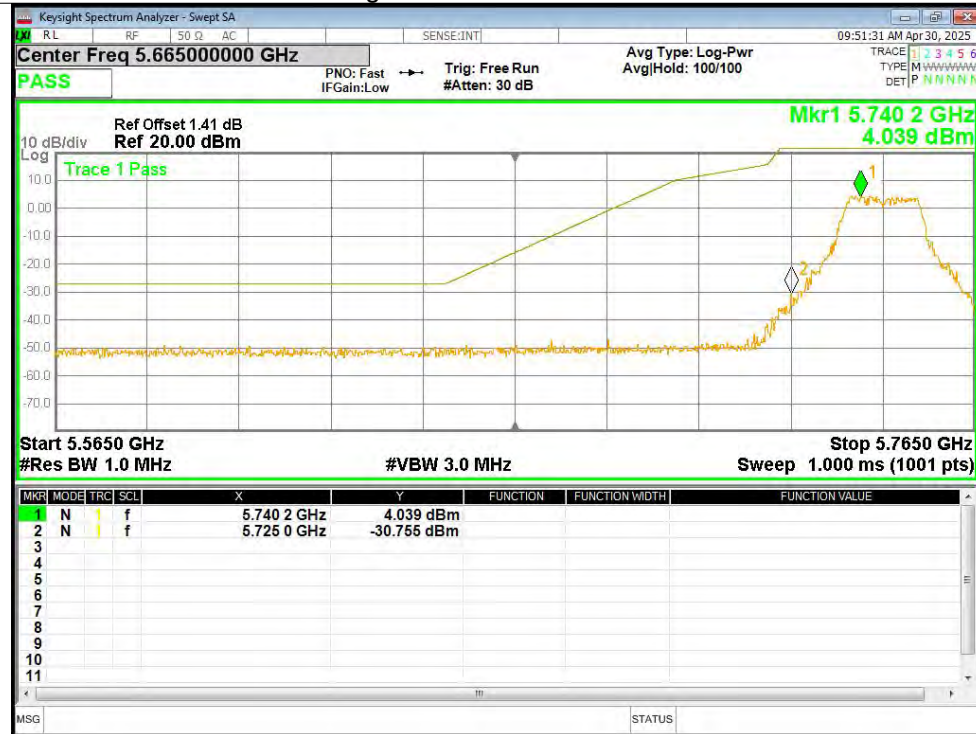


5.8GWIFI (5745-5825 MHz)

Condition	Mode	Frequency (MHz)	Antenna	Max Value (dBm)	Limit (dBm)	Verdict
NVNT	a	5745	Ant1	-30.75	See the test diagram	Pass
NVNT	a	5825	Ant1	-46.32	See the test diagram	Pass
NVNT	n20	5745	Ant1	-17.88	See the test diagram	Pass
NVNT	n20	5825	Ant1	-21.18	See the test diagram	Pass
NVNT	n40	5755	Ant1	-14.35	See the test diagram	Pass
NVNT	n40	5795	Ant1	-23.95	See the test diagram	Pass
NVNT	ac20	5745	Ant1	-18.03	See the test diagram	Pass
NVNT	ac20	5825	Ant1	-20.75	See the test diagram	Pass
NVNT	ac40	5755	Ant1	-17.14	See the test diagram	Pass
NVNT	ac40	5795	Ant1	-24.96	See the test diagram	Pass
NVNT	ax20	5745	Ant1	-19.43	See the test diagram	Pass
NVNT	ax20	5825	Ant1	-19.99	See the test diagram	Pass
NVNT	ax40	5755	Ant1	-24.25	See the test diagram	Pass
NVNT	ax40	5795	Ant1	-32.55	See the test diagram	Pass

Test Graphs

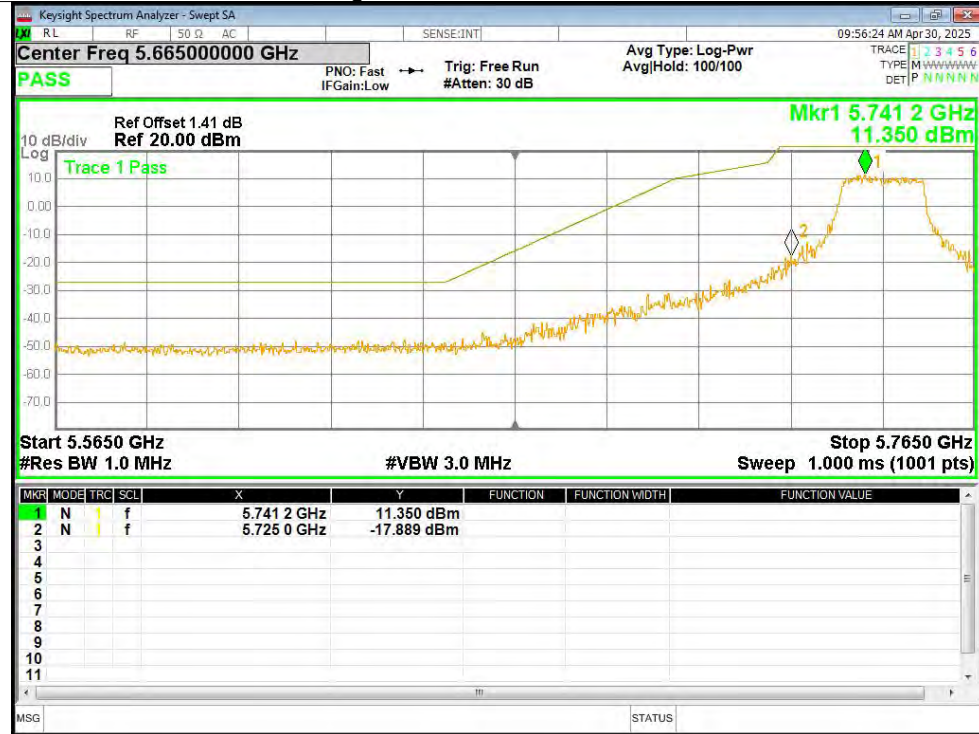
Band Edge NVNT a 5745MHz Low Ant1



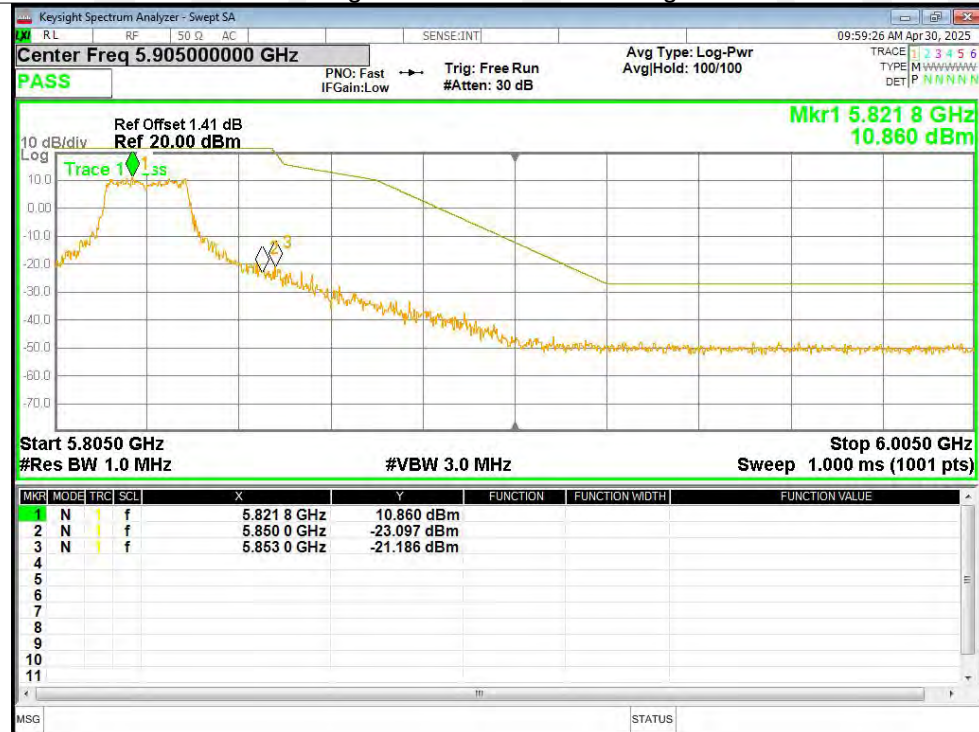
Band Edge NVNT a 5825MHz High Ant1



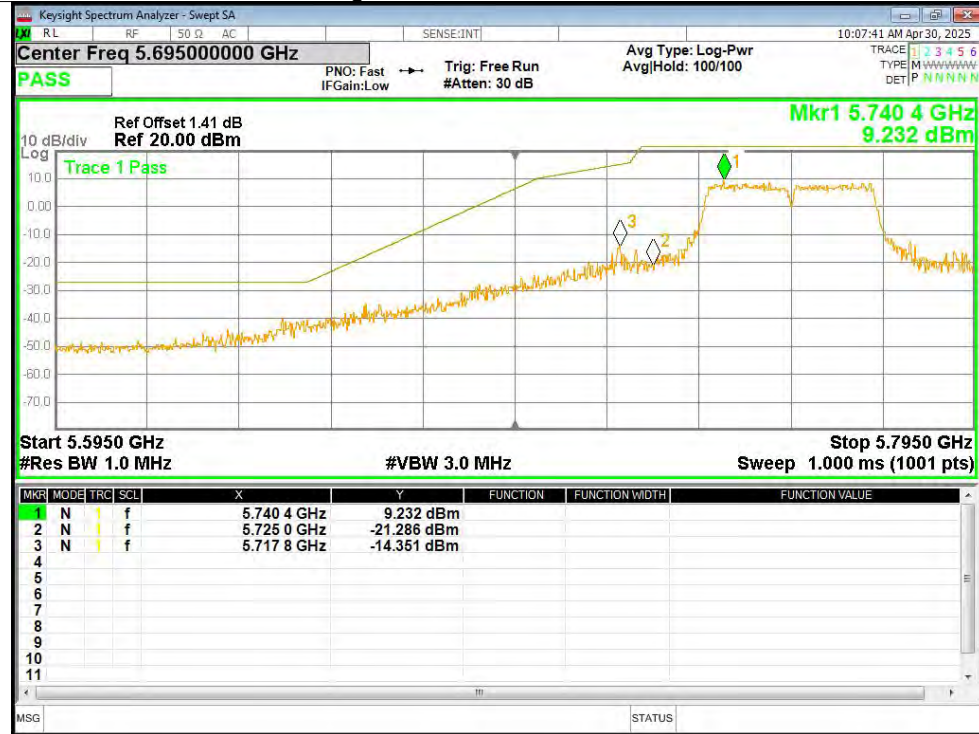
Band Edge NVNT n20 5745MHz Low Ant1



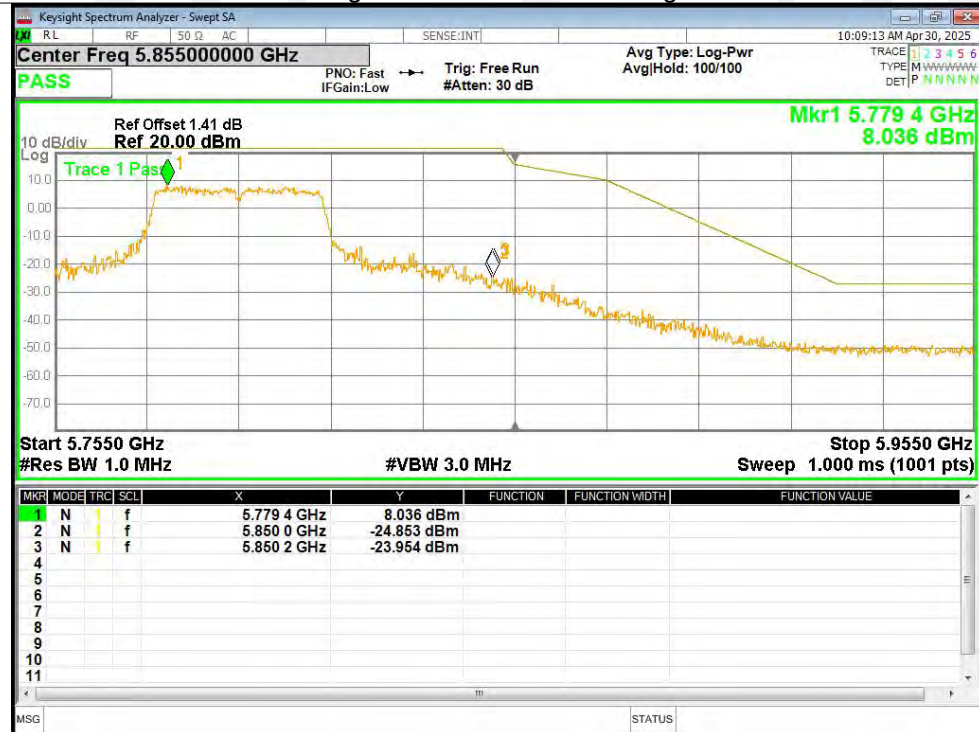
Band Edge NVNT n20 5825MHz High Ant1



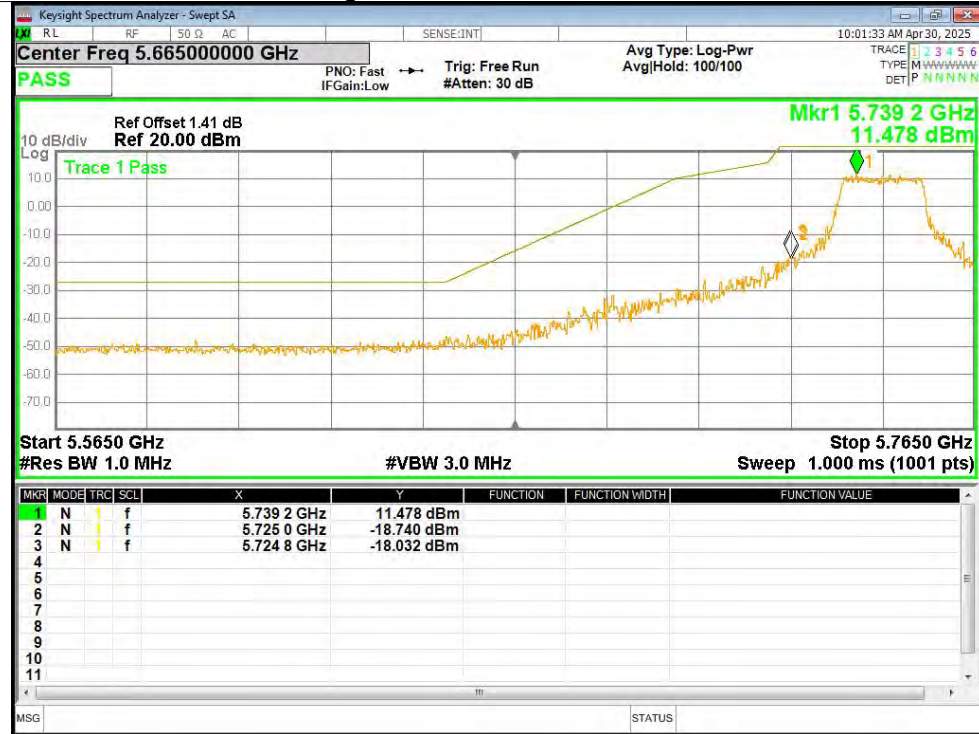
Band Edge NVNT n40 5755MHz Low Ant1



Band Edge NVNT n40 5795MHz High Ant1



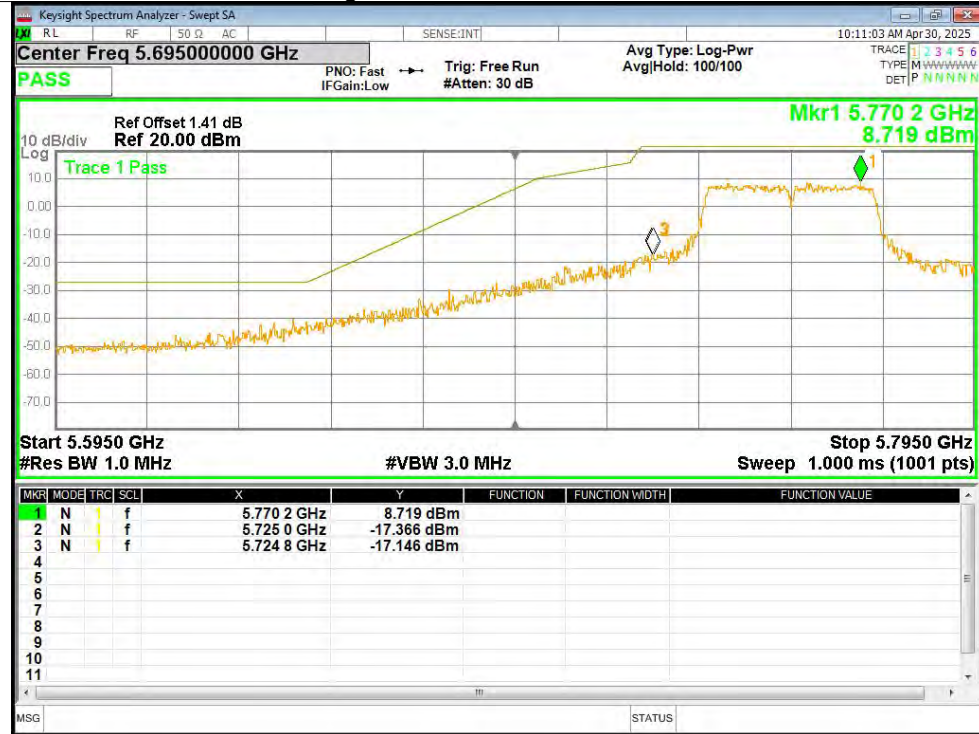
Band Edge NVNT ac20 5745MHz Low Ant1



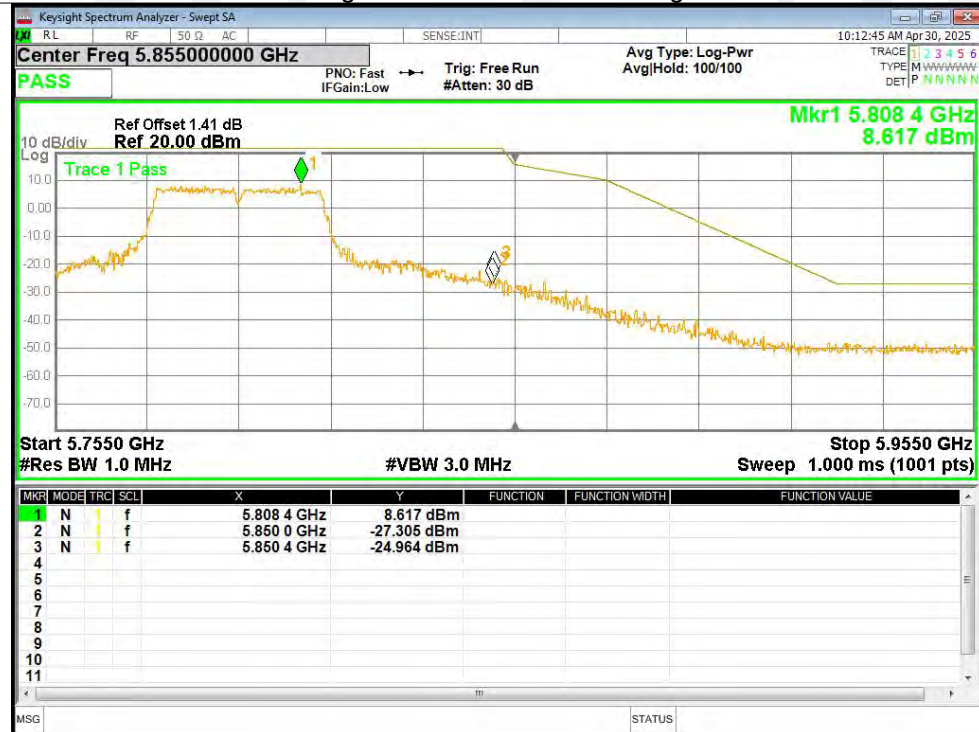
Band Edge NVNT ac20 5825MHz High Ant1



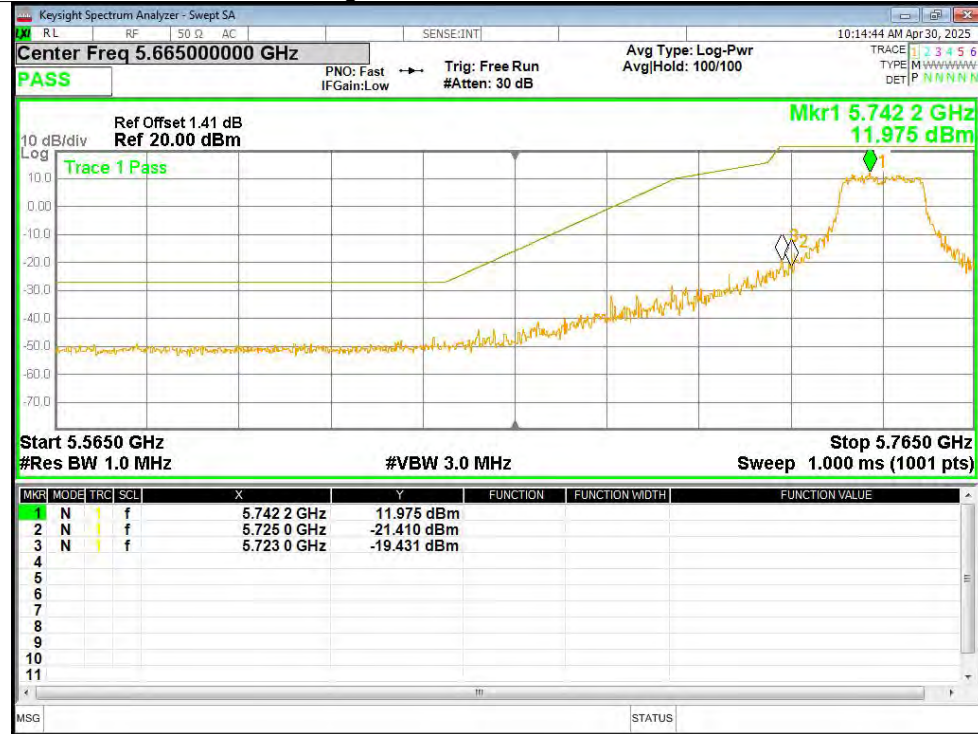
Band Edge NVNT ac40 5755MHz Low Ant1



Band Edge NVNT ac40 5795MHz High Ant1



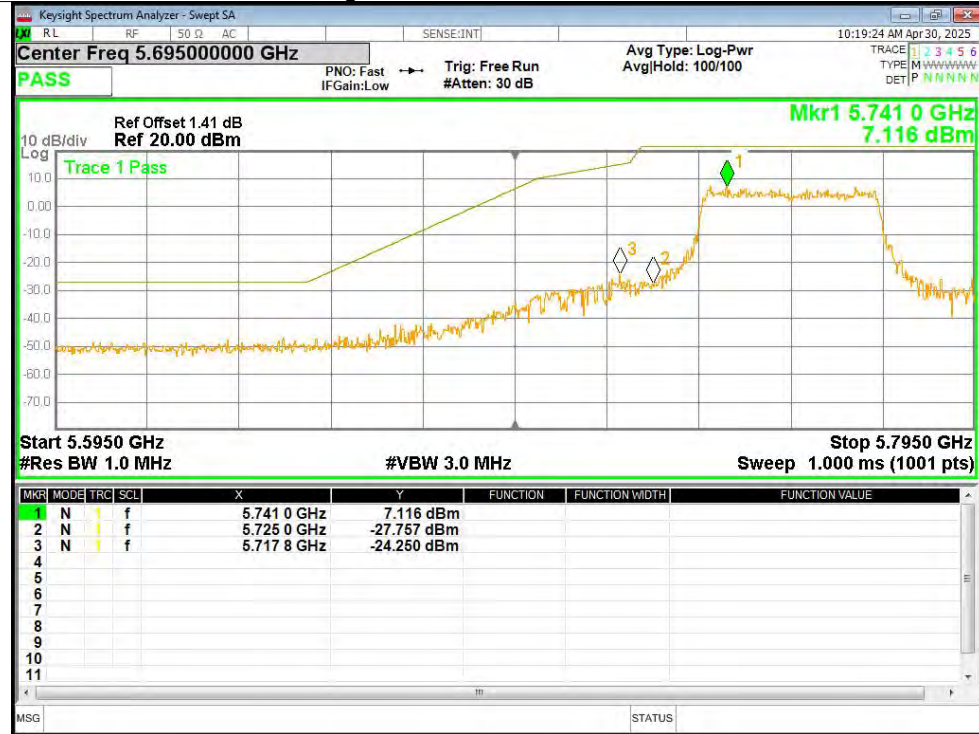
Band Edge NVNT ax20 5745MHz Low Ant1



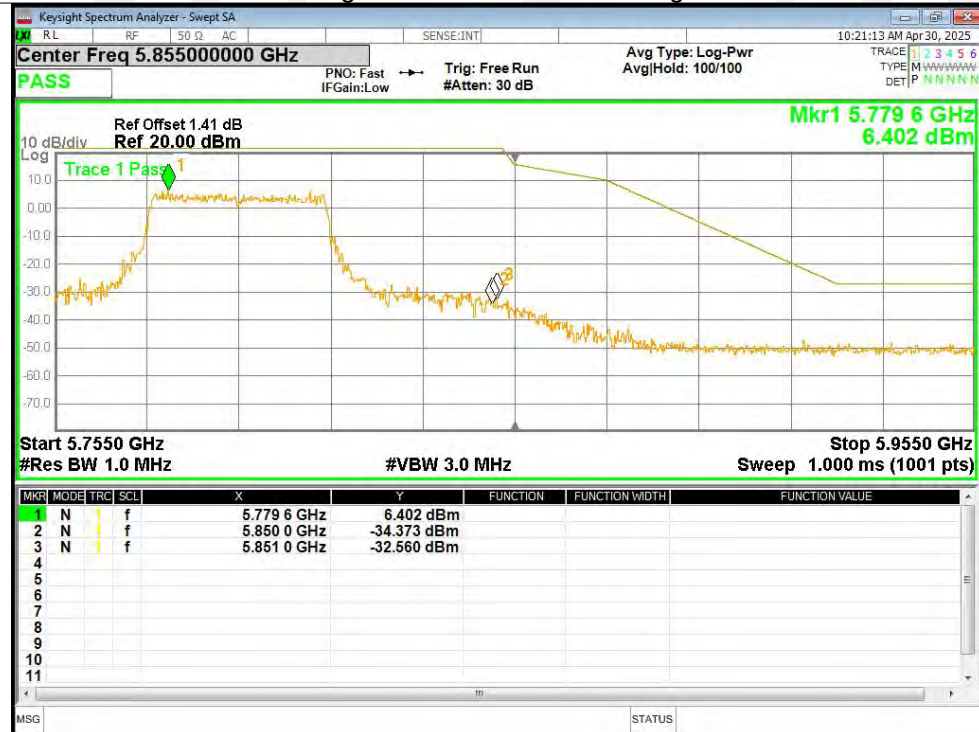
Band Edge NVNT ax20 5825MHz High Ant1



Band Edge NVNT ax40 5755MHz Low Ant1

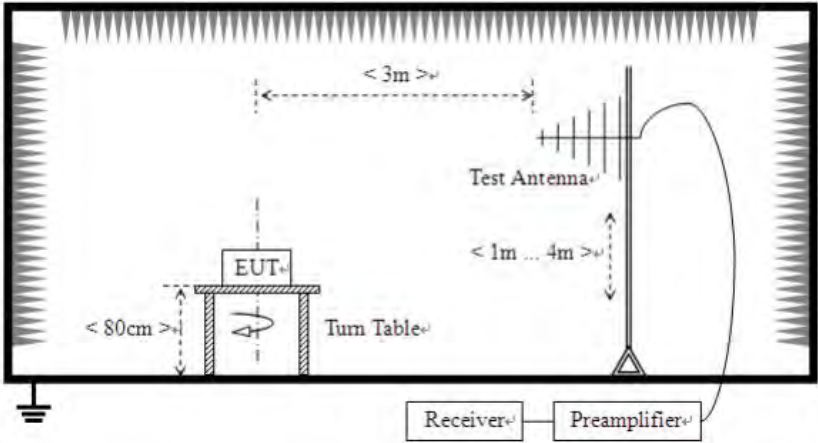


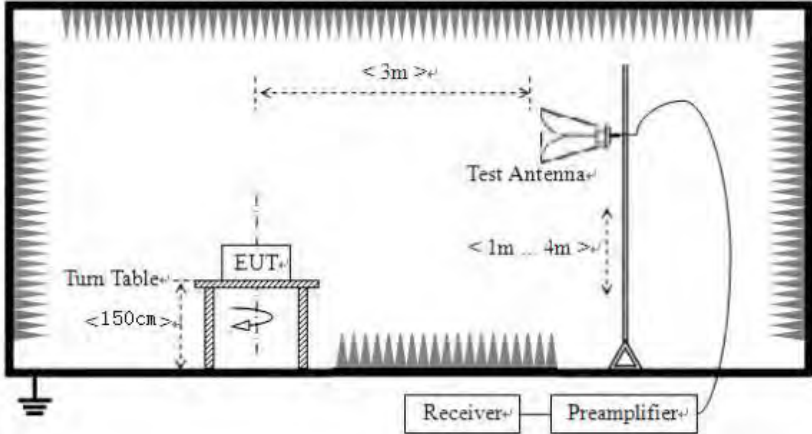
Band Edge NVNT ax40 5795MHz High Ant1

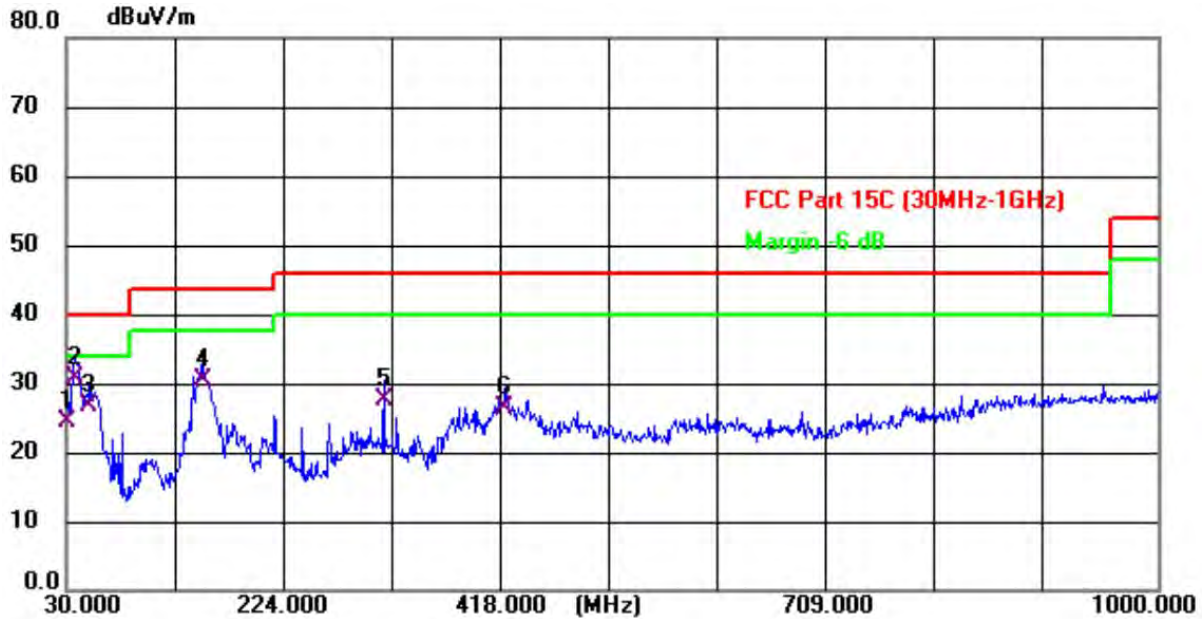


4.6 Radiated Emission

Test Requirement:	FCC Part15 C Section 15.209 and 15.205, RSS-Gen §8.9				
Test Method:	ANSI C63.10:2013				
Test Frequency Range:	30MHz to 40GHz				
Test site:	Measurement Distance: 3m (Semi-Anechoic Chamber)				
Receiver setup:	Frequency	Detector	RBW	VBW	Value
	30MHz-1GHz	Quasi-peak	100KHz	300KHz	Quasi-peak Value
	Above 1GHz	Peak	1MHz	3MHz	Peak Value
		AV	1MHz	3MHz	Average Value
Limit:	Frequency		Limit (dBuV/m @3m)		Remark
	30MHz-88MHz		40.0		Quasi-peak Value
	88MHz-216MHz		43.5		Quasi-peak Value
	216MHz-960MHz		46.0		Quasi-peak Value
	960MHz-1GHz		54.0		Quasi-peak Value
	Above 1GHz		74.0		Peak Value
			54.0		Average Value
Test Procedure:	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 rotatable 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				

	transmitter under test. - 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. - Repeat step 4 for test frequency with the test antenna polarized horizontally. - Remove the transmitter and replace it with a substitution antenna - 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. - Repeat step 7 with both antennas horizontally polarized for each test frequency. - 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: $\text{EIRP(dBm)} = \text{Pg(dBm)} - \text{cable loss (dB)} + \text{antenna gain (dBi)}$ where: Pg is the generator output power into the substitution antenna.
Test setup:	Below 1GHz  Above 1GHz

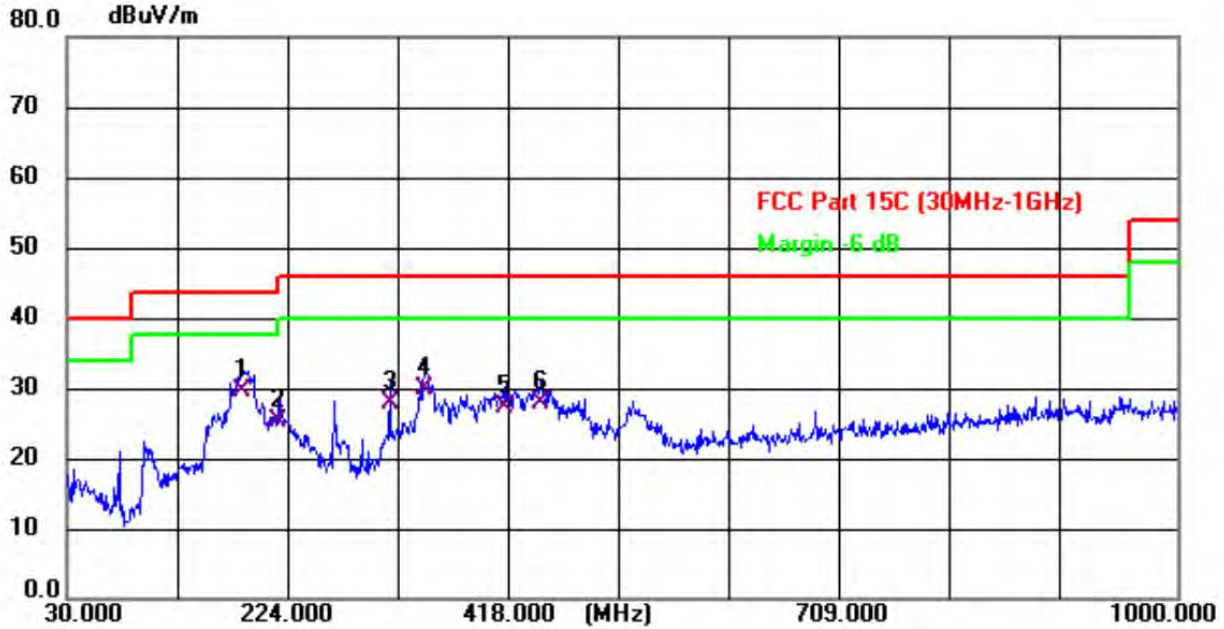
	
Test Instruments:	Refer to section 3.0 for details
Test mode:	Refer to section 2.2 for details
Test results:	Pass

Measurement Data:**Below 1GHz****Polarization: Vertical**

No.	Frequency (MHz)	Reading (dBuV)	Factor (dB/m)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Azimuth (deg.)	P/F
1	30.000	38.69	-14.34	24.35	40.00	-15.65	QP	-	-	P
2 *	38.730	45.09	-14.26	30.83	40.00	-9.17	QP	-	-	P
3	50.370	41.85	-15.11	26.74	40.00	-13.26	QP	-	-	P
4	151.250	50.01	-19.67	30.34	43.50	-13.16	QP	-	-	P
5	312.270	41.68	-14.06	27.62	46.00	-18.38	QP	-	-	P
6	419.940	37.98	-11.59	26.39	46.00	-19.61	QP	-	-	P

Note: 1. Level = Reading + Factor Margin = Level - Limit

2. '-' Means the test Degree and Height are not recorded by the test software and only show the worstcase in the test report.

Polarization: Horizontal

No.	Frequency (MHz)	Reading (dBuV)	Factor (dB/m)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Azimuth (deg.)	P/F
1 *	183.260	48.12	-18.47	29.65	43.50	-13.85	QP	-	-	P
2	215.270	41.84	-16.42	25.42	43.50	-18.08	QP	-	-	P
3	312.270	42.02	-14.06	27.96	46.00	-18.04	QP	-	-	P
4	343.310	43.31	-13.31	30.00	46.00	-16.00	QP	-	-	P
5	413.150	38.98	-11.71	27.27	46.00	-18.73	QP	-	-	P
6	444.190	39.10	-11.15	27.95	46.00	-18.05	QP	-	-	P

Note: 1. Level = Reading + Factor Margin = Level - Limit

2. '-' Means the test Degree and Height are not recorded by the test software and only show the worstcase in the test report.

All modes and channels have been tested and only the 5.2GWIFI ac20 5180MHz mode with the worst data is listed.

Above 1GHz:**802.11a 5180MHz**

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
10360.94	50.6	11.54	14.97	32.78	44.33	68.2	-23.87	Vertical
15540.50	51.44	12.3	17.82	34.54	47.02	74	-26.98	Vertical
10360.68	52.77	9.47	14.71	33.04	43.91	68.2	-24.29	Horizontal
15540.86	53.11	8.98	18.14	34.61	45.62	74	-28.38	Horizontal

802.11a 5200MHz

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
10360.91	50.28	11.7	14.83	33.03	43.78	68.2	-24.42	Vertical
15540.58	51.39	12.28	17.89	34.89	46.67	74	-27.33	Vertical
10360.04	52.8	9.64	14.79	32.82	44.41	68.2	-23.79	Horizontal
15540.90	52.39	8.57	18.11	34.57	44.5	74	-29.5	Horizontal

802.11a 5240MHz

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
10360.54	50.23	11.43	14.99	33.15	43.5	68.2	-24.7	Vertical
15540.06	51.19	12.17	18.04	34.93	46.47	74	-27.53	Vertical
10360.16	52.08	9.51	14.72	32.95	43.36	68.2	-24.84	Horizontal
15540.89	53.28	8.55	17.93	34.47	45.29	74	-28.71	Horizontal

802.11n(HT20) 5180MHz

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
10360.81	50.15	11.52	14.81	33.06	43.42	68.2	-24.78	Vertical
15540.69	51.16	12.17	17.83	34.58	46.58	74	-27.42	Vertical
10360.74	52.28	9.41	14.91	32.92	43.68	68.2	-24.52	Horizontal
15540.02	53.44	8.82	17.99	34.69	45.56	74	-28.44	Horizontal

802.11n(HT20) 5200MHz

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
10360.32	50.93	11.69	15.05	32.93	44.74	68.2	-23.46	Vertical
15540.15	51.98	11.98	17.71	34.78	46.89	74	-27.11	Vertical
10360.86	52.74	9.68	14.73	32.87	44.28	68.2	-23.92	Horizontal
15540.34	52.23	8.59	17.71	34.9	43.63	74	-30.37	Horizontal

802.11n(HT20) 5240MHz

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
10360.32	50.31	11.72	15.08	32.98	44.13	68.2	-24.07	Vertical
15540.73	51.59	12.12	17.88	34.67	46.92	74	-27.08	Vertical
10360.46	52.26	9.63	14.84	32.78	43.95	68.2	-24.25	Horizontal
15540.15	52.03	8.6	17.99	34.75	43.87	74	-30.13	Horizontal

802.11ac(HT20) 5180MHz

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
10360.69	50.81	11.63	14.87	33.08	44.23	68.2	-23.97	Vertical
15540.83	51.44	12.37	17.66	34.95	46.52	74	-27.48	Vertical
10360.11	52.52	9.88	14.77	33.05	44.12	68.2	-24.08	Horizontal
15540.74	53.04	8.6	18.14	34.72	45.06	74	-28.94	Horizontal

802.11ac(HT20) 5200MHz

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
10360.12	50.71	11.52	14.86	32.86	44.23	68.2	-23.97	Vertical
15540.73	51.39	12.13	17.81	34.8	46.53	74	-27.47	Vertical
10360.04	52.64	9.67	15.12	33.09	44.34	68.2	-23.86	Horizontal
15540.80	52.66	8.8	18.03	34.96	44.53	74	-29.47	Horizontal

802.11ac(HT20) 5240MHz

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	50.43	11.42	14.92	33.01	43.76	68.2	-24.44	Vertical
15540.86	51.88	12.19	18.09	34.67	47.49	74	-26.51	Vertical
10360.70	52.58	9.51	15.08	32.97	44.2	68.2	-24	Horizontal
15540.13	52.03	8.53	17.81	34.59	43.78	74	-30.22	Horizontal

802.11n(HT40) 5190MHz

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
10360.77	50.24	11.52	15	32.75	44.01	68.2	-24.19	Vertical
15540.62	51.99	11.97	17.84	34.91	46.89	74	-27.11	Vertical
10360.65	52.07	9.62	14.65	32.68	43.66	68.2	-24.54	Horizontal
15540.98	53.25	8.56	18.15	34.88	45.08	74	-28.92	Horizontal

802.11n(HT40) 5230MHz

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
10360.38	50.08	11.36	14.78	33.08	43.14	68.2	-25.06	Vertical
15540.58	51.87	12.03	18.06	34.9	47.06	74	-26.94	Vertical
10360.11	52.1	9.61	15.09	32.73	44.07	68.2	-24.13	Horizontal
15540.61	52.92	8.57	18.08	34.94	44.63	74	-29.37	Horizontal

802.11ac(HT40) 5190MHz

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
10360.08	50.62	11.52	15.04	33.1	44.08	68.2	-24.12	Vertical
15540.22	51.52	12.09	17.89	34.82	46.81	74	-27.19	Vertical
10360.38	52.7	9.71	14.65	32.82	43.55	68.2	-24.65	Horizontal
15540.38	52.38	8.73	17.71	34.74	44.95	74	-29.05	Horizontal

802.11ac(HT40) 5230MHz

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
10360.88	50.07	11.73	14.77	32.92	43.65	68.2	-24.55	Vertical
15540.08	51.91	12.29	17.99	34.78	47.41	74	-26.59	Vertical
10360.84	52.79	9.83	15.08	33.15	44.55	68.2	-23.65	Horizontal
15540.44	52.73	8.76	17.67	34.68	44.48	74	-29.52	Horizontal

802.11ax(HT20) 5180MHz

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
10360.69	50.37	11.5	15.04	32.98	43.93	68.2	-24.27	Vertical
15540.83	51.77	12.36	17.89	34.75	47.27	74	-26.73	Vertical
10360.11	52.44	9.88	14.95	32.96	44.31	68.2	-23.89	Horizontal
15540.74	52.94	8.66	17.76	34.48	44.88	74	-29.12	Horizontal

802.11ax(HT20) 5200MHz

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
10360.12	50.55	11.54	14.97	32.78	44.28	68.2	-23.92	Vertical
15540.73	51.13	12.3	17.82	34.54	46.71	74	-27.29	Vertical
10360.04	52.05	9.47	14.71	33.04	43.19	68.2	-25.01	Horizontal
15540.80	52.89	8.98	18.14	34.61	45.4	74	-28.6	Horizontal

802.11axHT20) 5240MHz

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	50.37	11.7	14.83	33.03	43.87	68.2	-24.33	Vertical
15540.86	51.71	12.28	17.89	34.89	46.99	74	-27.01	Vertical
10360.70	52.83	9.64	14.79	32.82	44.44	68.2	-23.76	Horizontal
15540.13	53.28	8.57	18.11	34.57	45.39	74	-28.61	Horizontal

802.11ax(HT40) 5190MHz

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
10360.08	50.06	11.43	14.99	33.15	43.33	68.2	-24.87	Vertical
15540.22	51.71	12.17	18.04	34.93	46.99	74	-27.01	Vertical
10360.38	52.65	9.51	14.72	32.95	43.93	68.2	-24.27	Horizontal
15540.38	53	8.55	17.93	34.47	45.01	74	-28.99	Horizontal

802.11ax(HT40) 5230MHz

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
10360.88	50.28	11.52	14.81	33.06	43.55	68.2	-24.65	Vertical
15540.08	51.23	12.17	17.83	34.58	46.65	74	-27.35	Vertical
10360.84	52.7	9.41	14.91	32.92	44.1	68.2	-24.1	Horizontal
15540.44	52.29	8.82	17.99	34.69	44.41	74	-29.59	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.

4.7 Frequency stability

Test Standard	15.407(g), 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

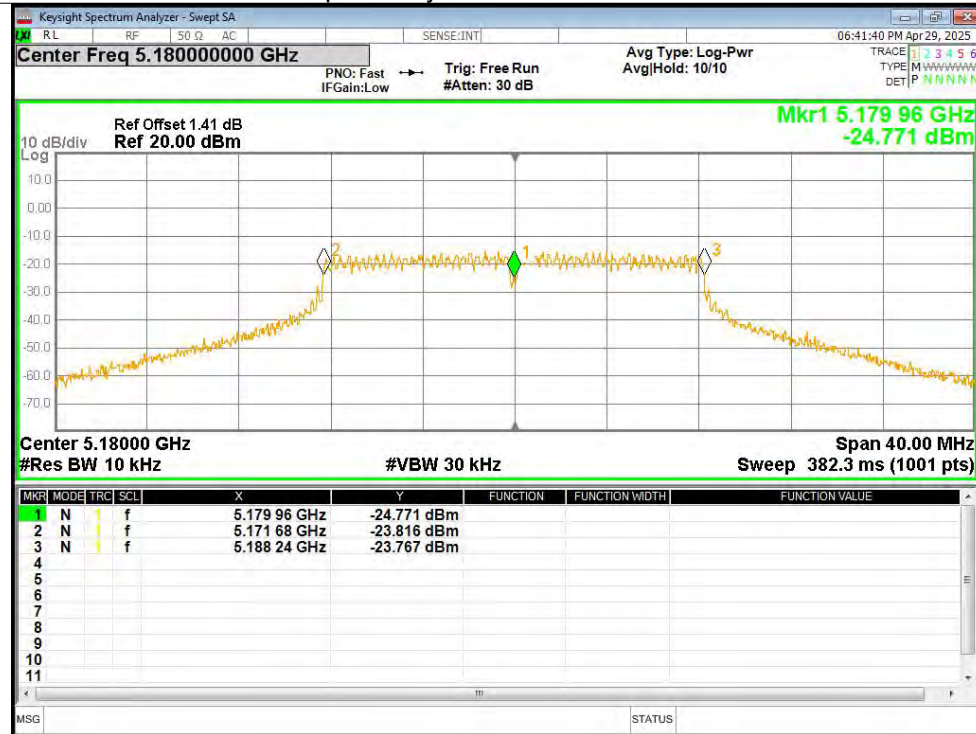
Measurement Data:

5.2GWIFI (5180-5240 MHz)

Condition	Mode	Frequency (MHz)	Antenna	Measured Frequency (MHz)	Frequency Error (Hz)	Deviation (ppm)	Limit (ppm)	Verdict
NVNT	a	5180	Ant1	5179.96	-40000	-7.72	25	Pass
NVNT	a	5200	Ant1	5199.96	-40000	-7.69	25	Pass
NVNT	a	5240	Ant1	5239.94	-60000	-11.45	25	Pass
NVNT	n20	5180	Ant1	5179.96	-40000	-7.72	25	Pass
NVNT	n20	5200	Ant1	5199.98	-20000	-3.85	25	Pass
NVNT	n20	5240	Ant1	5239.94	-60000	-11.45	25	Pass
NVNT	n40	5190	Ant1	5189.96	-40000	-7.71	25	Pass
NVNT	n40	5230	Ant1	5229.92	-80000	-15.3	25	Pass
NVNT	ac20	5180	Ant1	5179.96	-40000	-7.72	25	Pass
NVNT	ac20	5200	Ant1	5199.94	-60000	-11.54	25	Pass
NVNT	ac20	5240	Ant1	5239.96	-40000	-7.63	25	Pass
NVNT	ac40	5190	Ant1	5189.92	-80000	-15.41	25	Pass
NVNT	ac40	5230	Ant1	5229.92	-80000	-15.3	25	Pass
NVNT	ax20	5180	Ant1	5179.94	-60000	-11.58	25	Pass
NVNT	ax20	5200	Ant1	5199.94	-60000	-11.54	25	Pass
NVNT	ax20	5240	Ant1	5239.94	-60000	-11.45	25	Pass
NVNT	ax40	5190	Ant1	5189.96	-40000	-7.71	25	Pass
NVNT	ax40	5230	Ant1	5229.96	-40000	-7.65	25	Pass

Test Graphs

Freq. Stability NVNT a 5180MHz Ant1



Freq. Stability NVNT a 5200MHz Ant1

