PSD NVNT n40 5190MHz Ant1

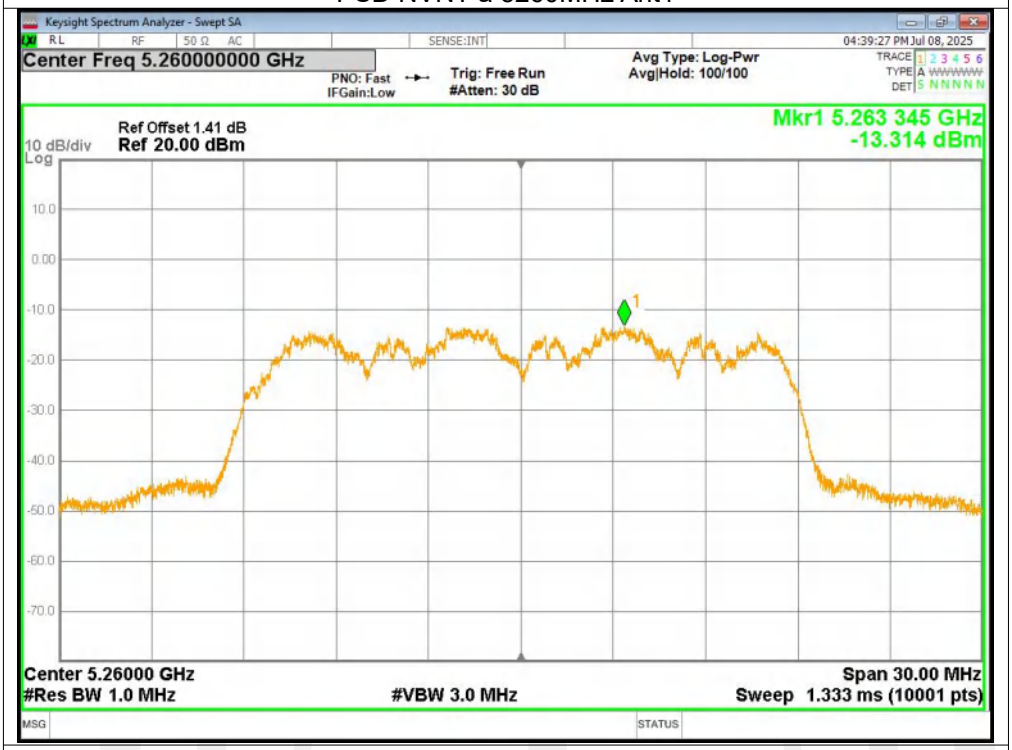
PSD NVNT n40 5230MHz Ant1

5.3GWIFI (5260MHz-5320 MHz)

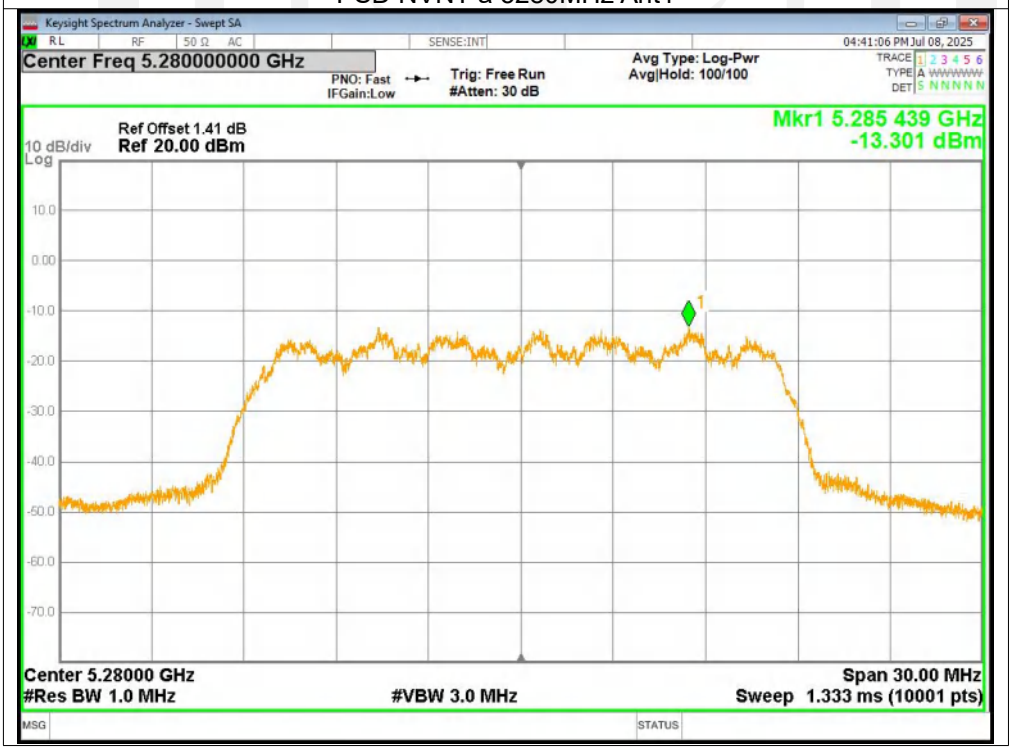
Condition	Mode	Frequency (MHz)	Antenna	Conducted PSD (dBm/MHz)	Duty Factor (dB)	Total PSD (dBm/MHz)	Limit (dBm/MHz	Verdict
NVNT	a	5260	Ant1	-13.31	1.12	-12.19	11	Pass
NVNT	a	5280	Ant1	-13.3	1.12	-12.18	11	Pass
NVNT	a	5320	Ant1	-12.21	1.12	-11.09	11	Pass
NVNT	n20	5260	Ant1	-11.8	1.18	-10.62	11	Pass
NVNT	n20	5280	Ant1	-14.99	1.18	-13.81	11	Pass
NVNT	n20	5320	Ant1	-12.04	1.18	-10.86	11	Pass
NVNT	n40	5270	Ant1	-19.47	2.22	-17.25	11	Pass
NVNT	n40	5310	Ant1	-20.57	1.76	-18.81	11	Pass

Test Graphs

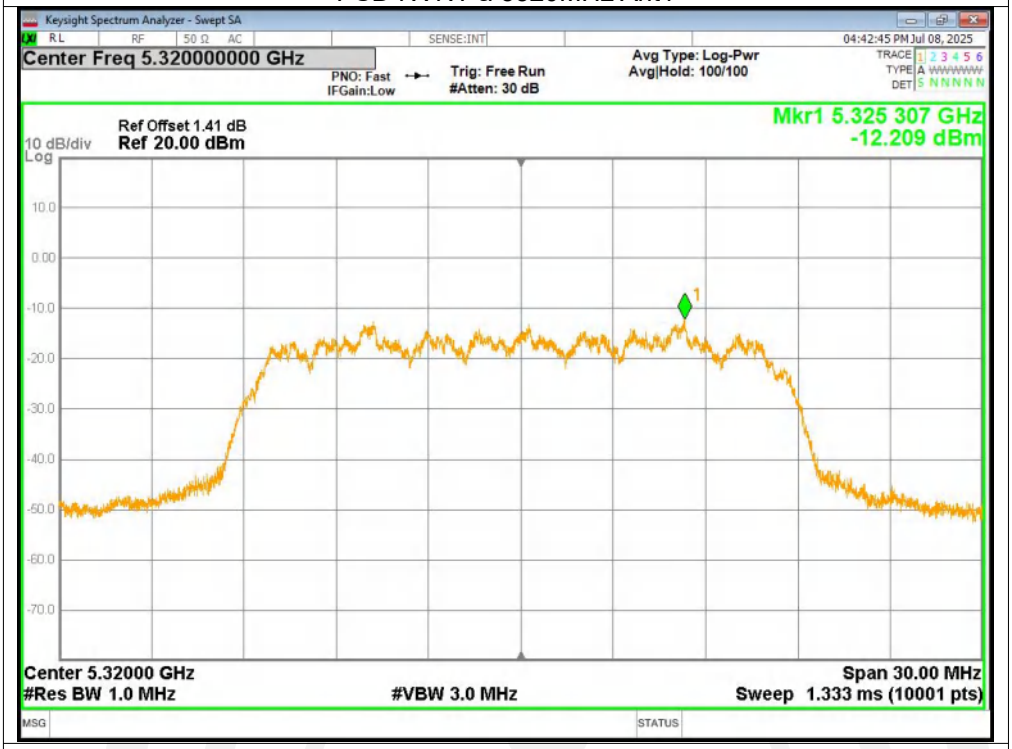
PSD NVNT a 5260MHz Ant1



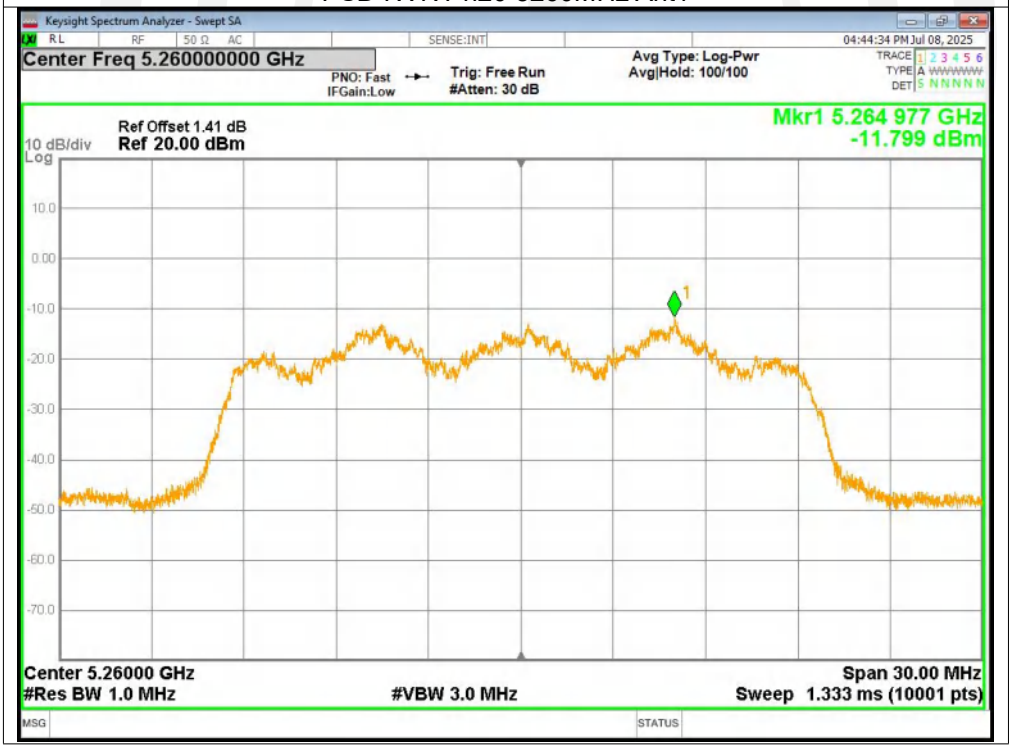
PSD NVNT a 5280MHz Ant1



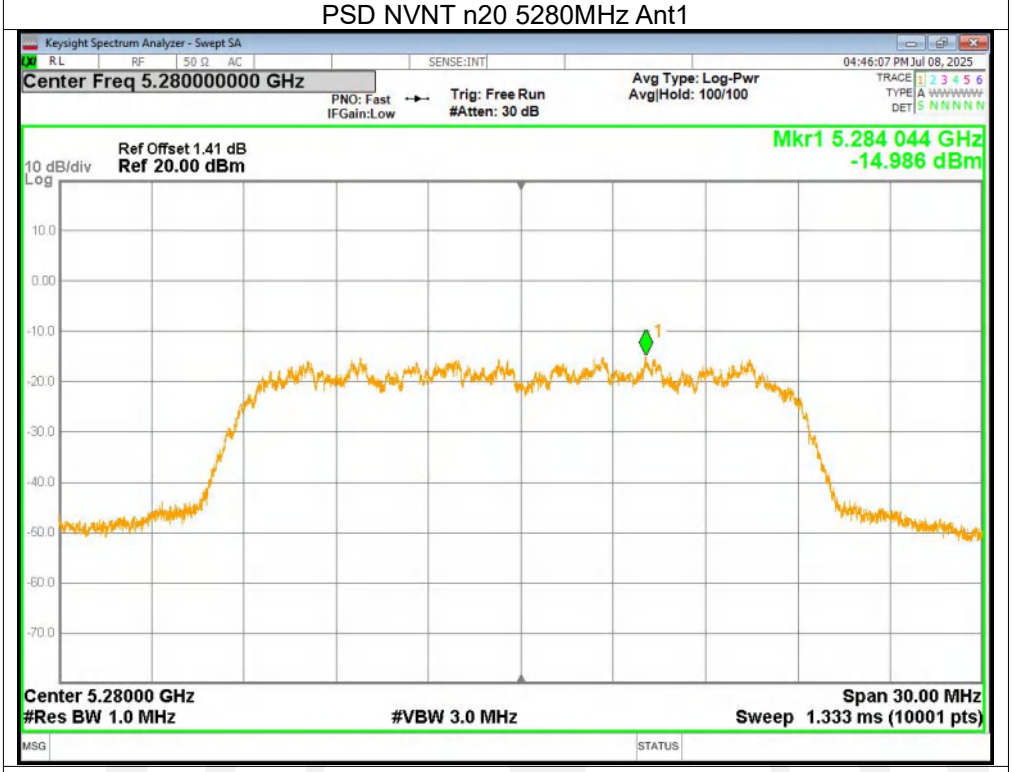
PSD NVNT a 5320MHz Ant1



PSD NVNT n20 5260MHz Ant1



PSD NVNT n20 5280MHz Ant1



PSD NVNT n20 5320MHz Ant1

PSD NVNT n40 5270MHz Ant1

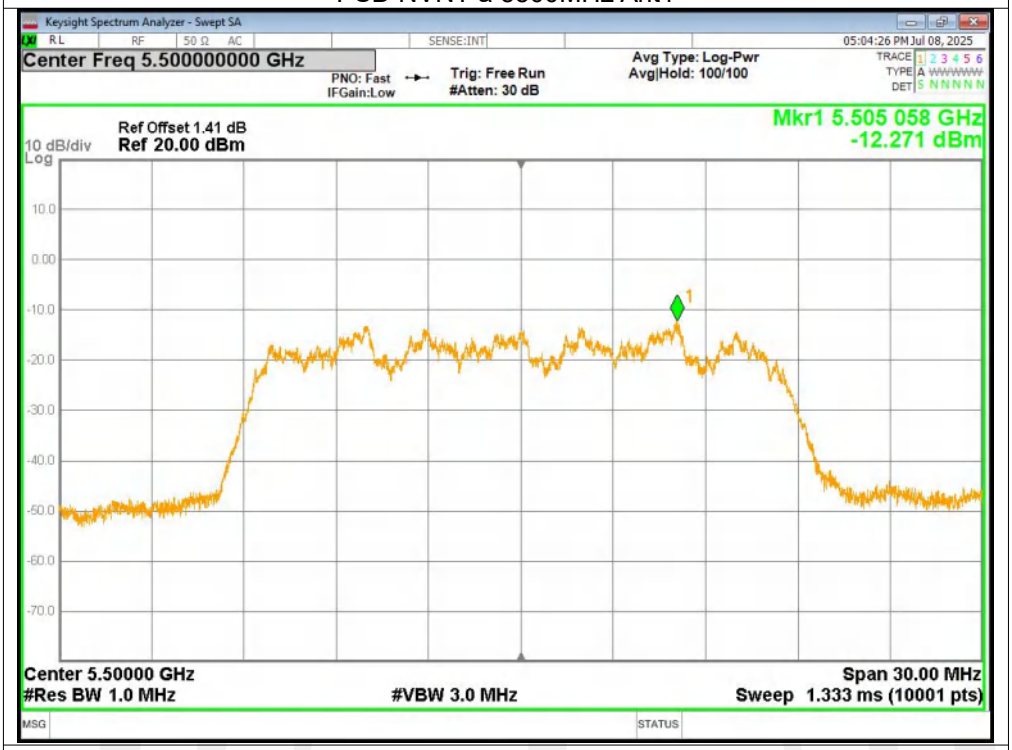
PSD NVNT n40 5310MHz Ant1

5.6GWIFI (5500MHz-5700MHz)

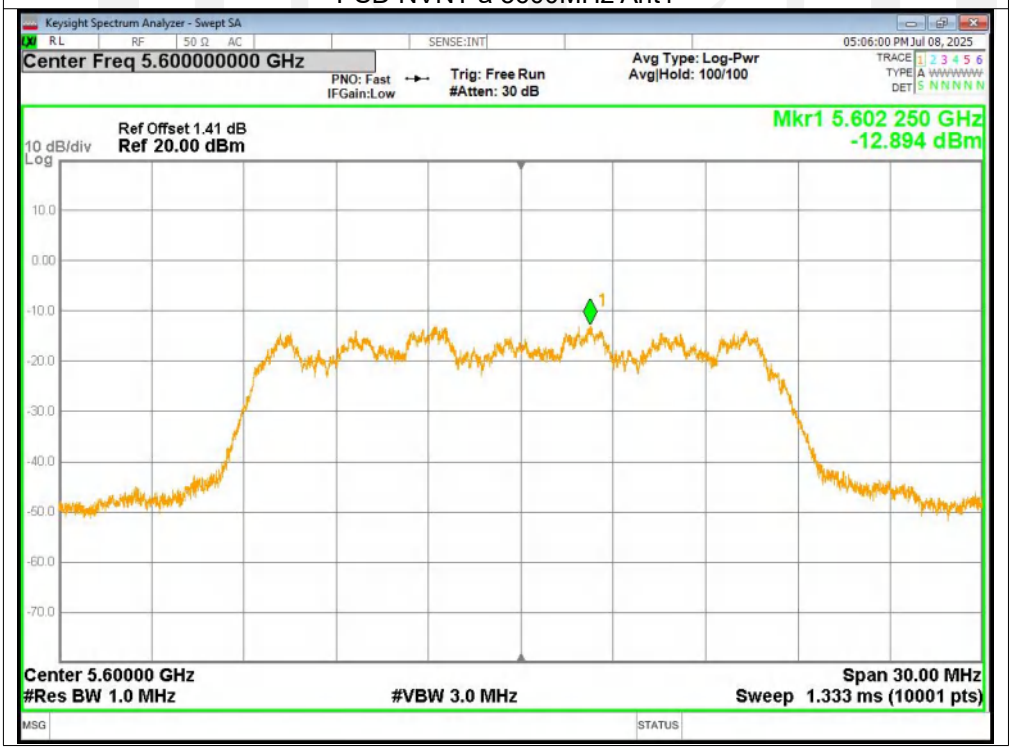
Condition	Mode	Frequency (MHz)	Antenna	Conducted PSD (dBm/MHz)	Duty Factor (dB)	Total PSD (dBm/MHz)	Limit (dBm/MHz)	Verdict
NVNT	a	5500	Ant1	-12.27	1.12	-11.15	11	Pass
NVNT	a	5600	Ant1	-12.89	1.12	-11.77	11	Pass
NVNT	a	5700	Ant1	-10.36	1.31	-9.05	11	Pass
NVNT	n20	5500	Ant1	-13.45	1.18	-12.27	11	Pass
NVNT	n20	5600	Ant1	-12.48	1.18	-11.3	11	Pass
NVNT	n20	5700	Ant1	-12.21	1.18	-11.03	11	Pass
NVNT	n40	5510	Ant1	-20.67	1.76	-18.91	11	Pass
NVNT	n40	5550	Ant1	-21.92	1.76	-20.16	11	Pass
NVNT	n40	5670	Ant1	-20.41	1.76	-18.65	11	Pass

Test Graphs

PSD NVNT a 5500MHz Ant1

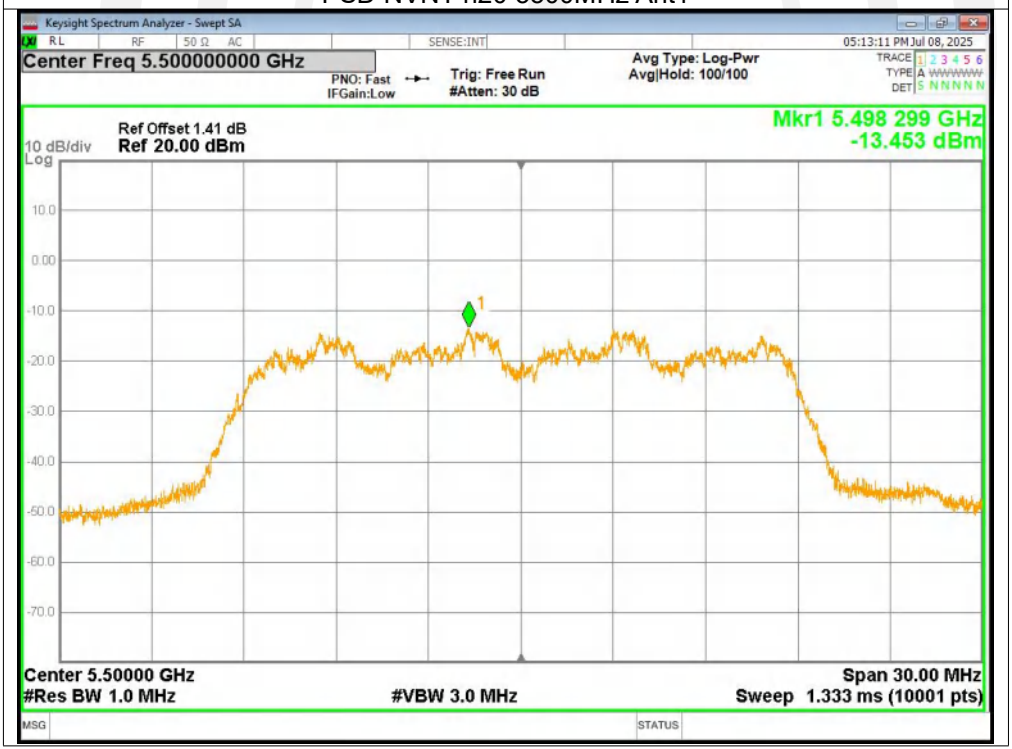


PSD NVNT a 5600MHz Ant1

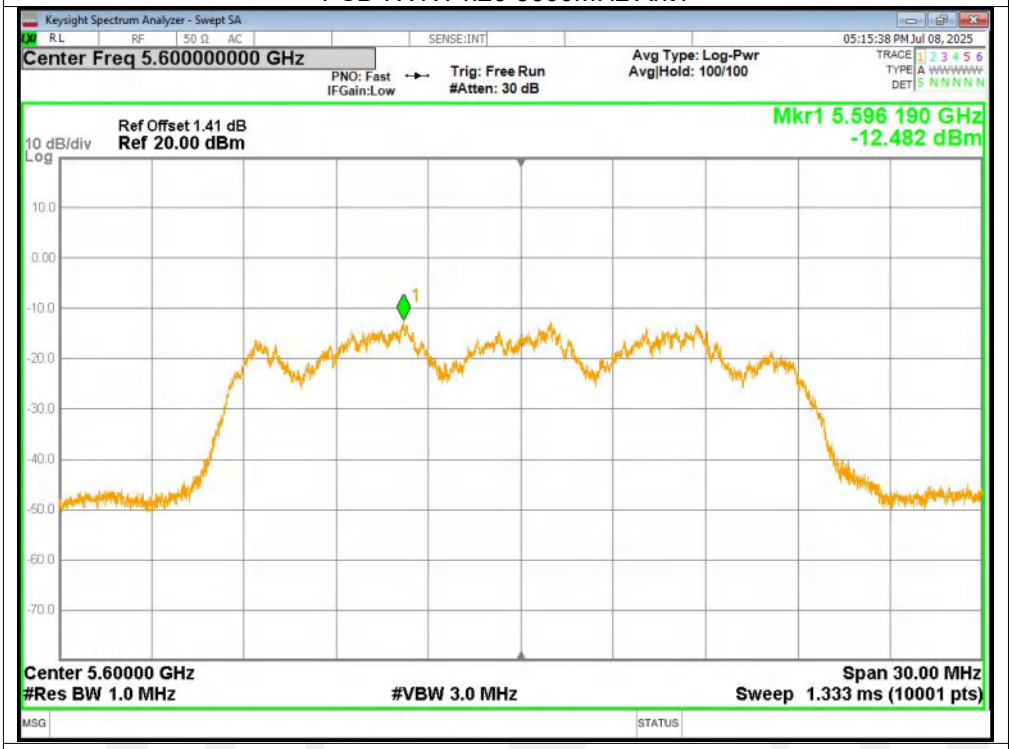


PSD NVNT a 5700MHz Ant1

PSD NVNT n20 5500MHz Ant1



PSD NVNT n20 5600MHz Ant1



PSD NVNT n20 5700MHz Ant1

PSD NVNT n40 5510MHz Ant1

PSD NVNT n40 5550MHz Ant1

PSD NVNT n40 5670MHz Ant1

5.8GWIFI (5745MHz-5825 MHz)

Condition	Mode	Frequency (MHz)	Antenna	Conducted PSD (dBm/510kHz)	Duty Factor (dB)	RB factor(dB)	Total PSD (dBm/510kHz)	Limit (dBm/510kHz)	Verdict
NVNT	a	5745	Ant1	-14.88	1.31	-0.086	-13.656	30	Pass
NVNT	a	5785	Ant1	-15.05	1.06	-0.086	-14.076	30	Pass
NVNT	a	5825	Ant1	-15.24	1.12	-0.086	-14.206	30	Pass
NVNT	n20	5745	Ant1	-15.24	1.18	-0.086	-14.146	30	Pass
NVNT	n20	5785	Ant1	-16.51	1.18	-0.086	-15.416	30	Pass
NVNT	n20	5825	Ant1	-15.82	1.38	-0.086	-14.526	30	Pass
NVNT	n40	5755	Ant1	-24.84	1.76	-0.086	-23.166	30	Pass
NVNT	n40	5795	Ant1	-24.43	1.86	-0.086	-22.656	30	Pass

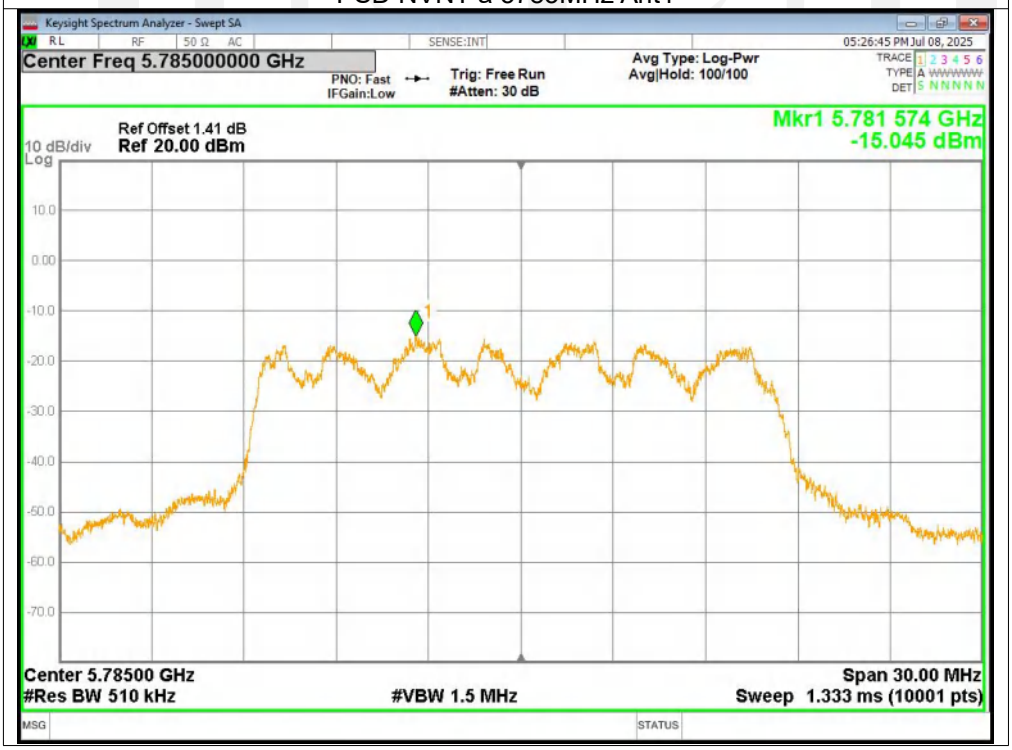
RB factor =10 lg (Measure RB/ 500), Measure RB =510 kHz

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

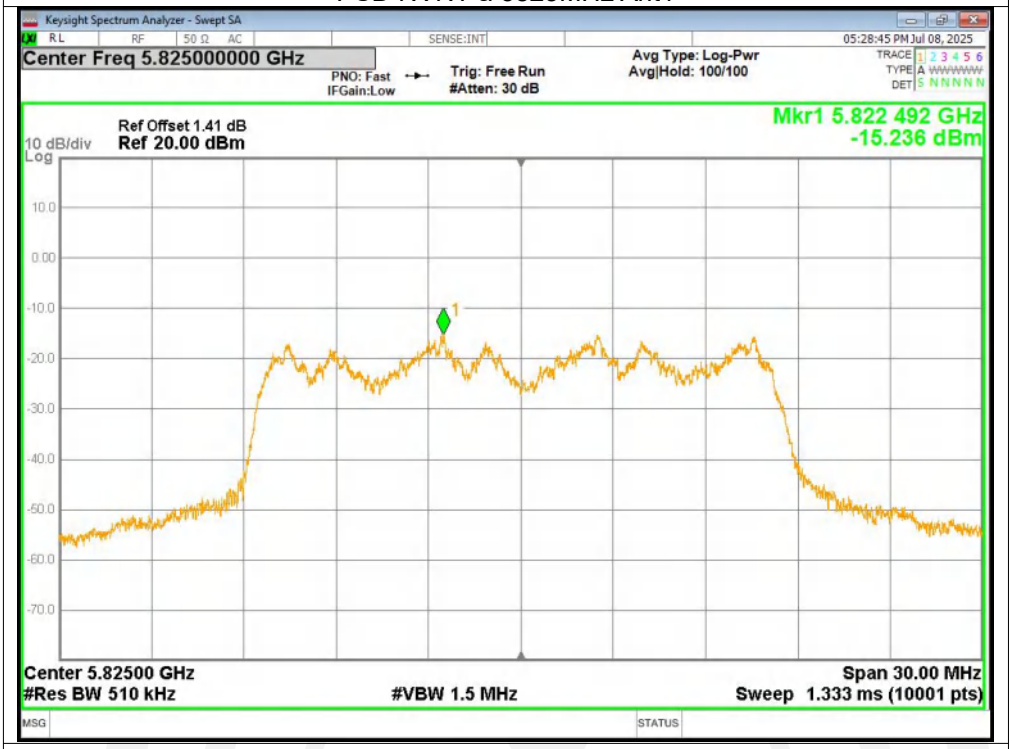
Test Graphs

PSD NVNT a 5745MHz Ant1

PSD NVNT a 5785MHz Ant1



PSD NVNT a 5825MHz Ant1

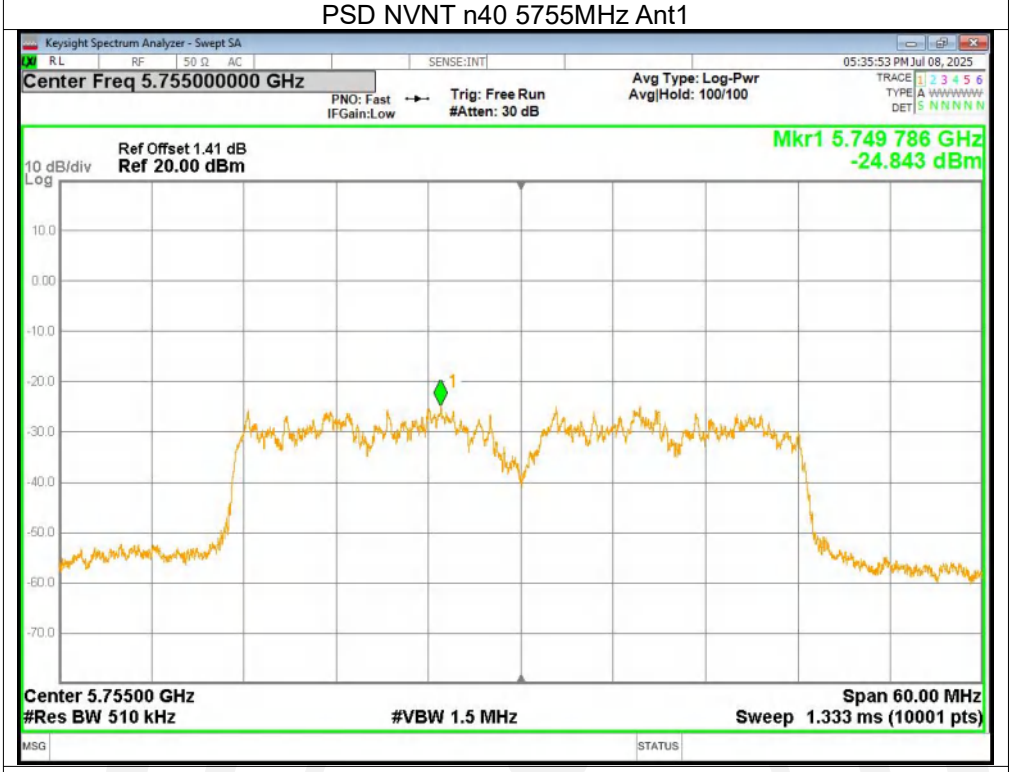


PSD NVNT n20 5745MHz Ant1

PSD NVNT n20 5785MHz Ant1

PSD NVNT n20 5825MHz Ant1

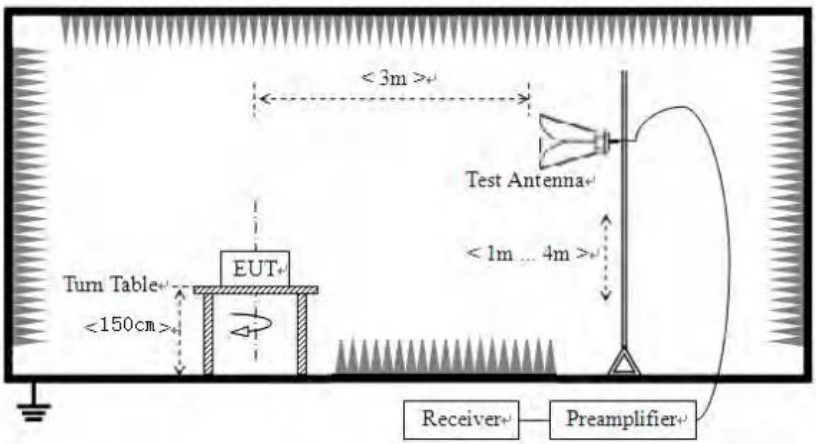
PSD NVNT n40 5755MHz Ant1



PSD NVNT n40 5795MHz Ant1

4.5 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.

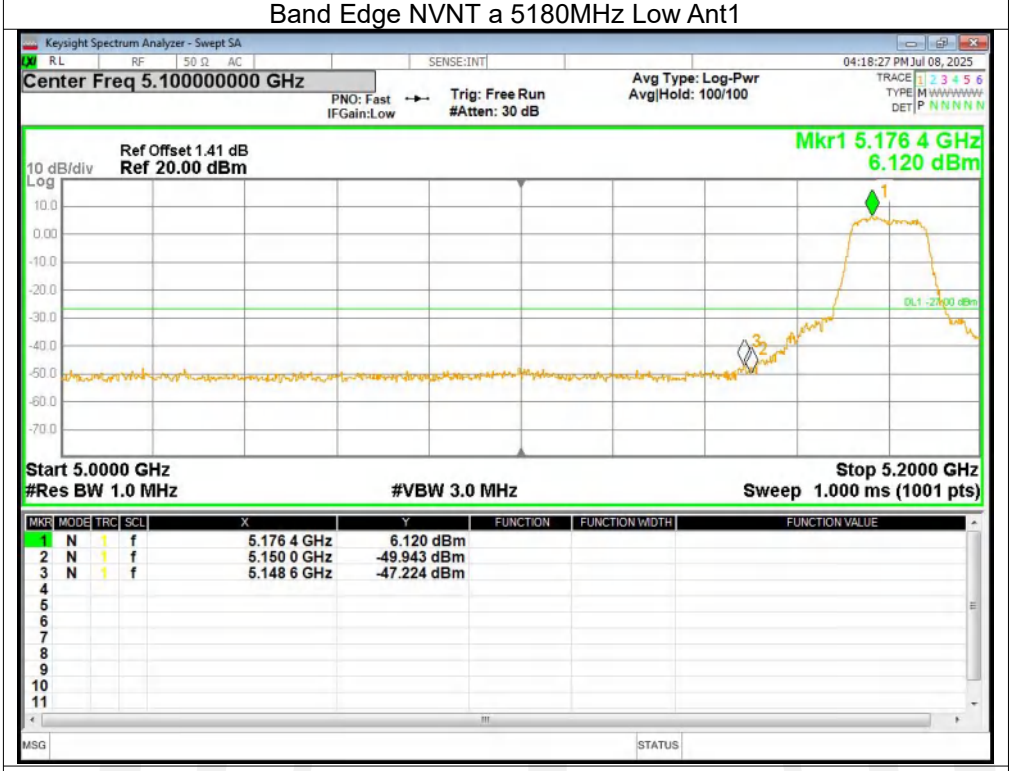
Measurement Data:

5.2GWIFI (5180-5240 MHz)

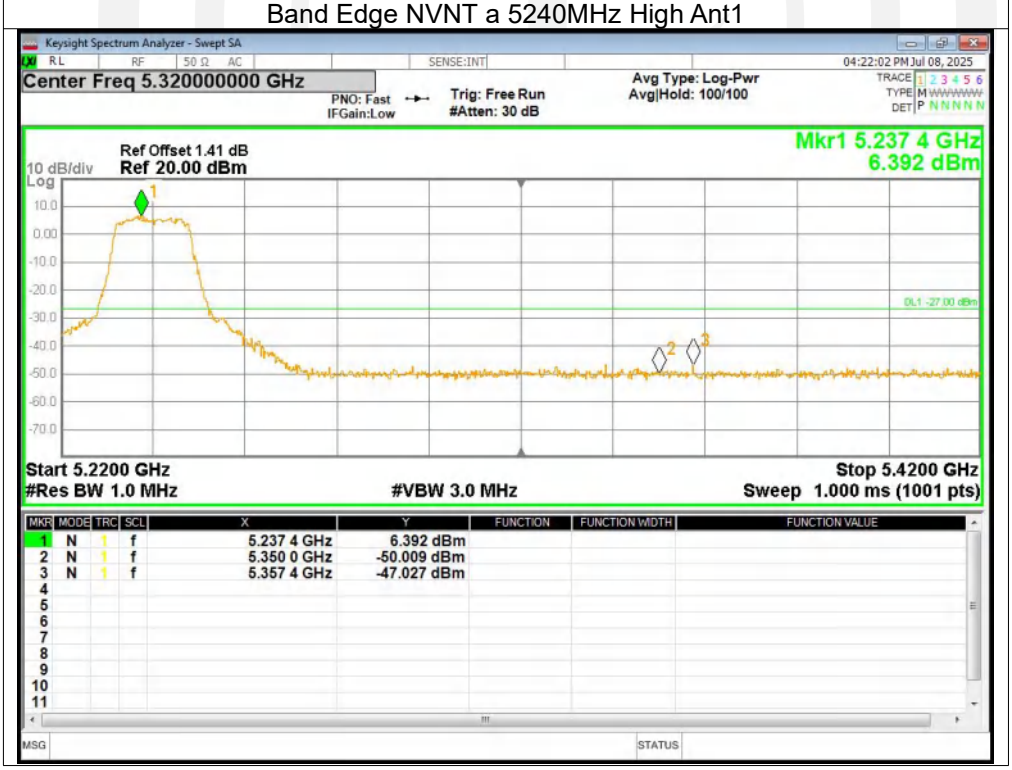
Condition	Mode	Frequency (MHz)	Antenna	Max Value (dBc)	Limit (dBc)	Verdict
NVNT	a	5180	Ant1	-47.22	-27	Pass
NVNT	a	5240	Ant1	-47.02	-27	Pass
NVNT	n20	5180	Ant1	-46.46	-27	Pass
NVNT	n20	5240	Ant1	-47.53	-27	Pass
NVNT	n40	5190	Ant1	-35.85	-27	Pass
NVNT	n40	5230	Ant1	-47.17	-27	Pass

Test Graphs

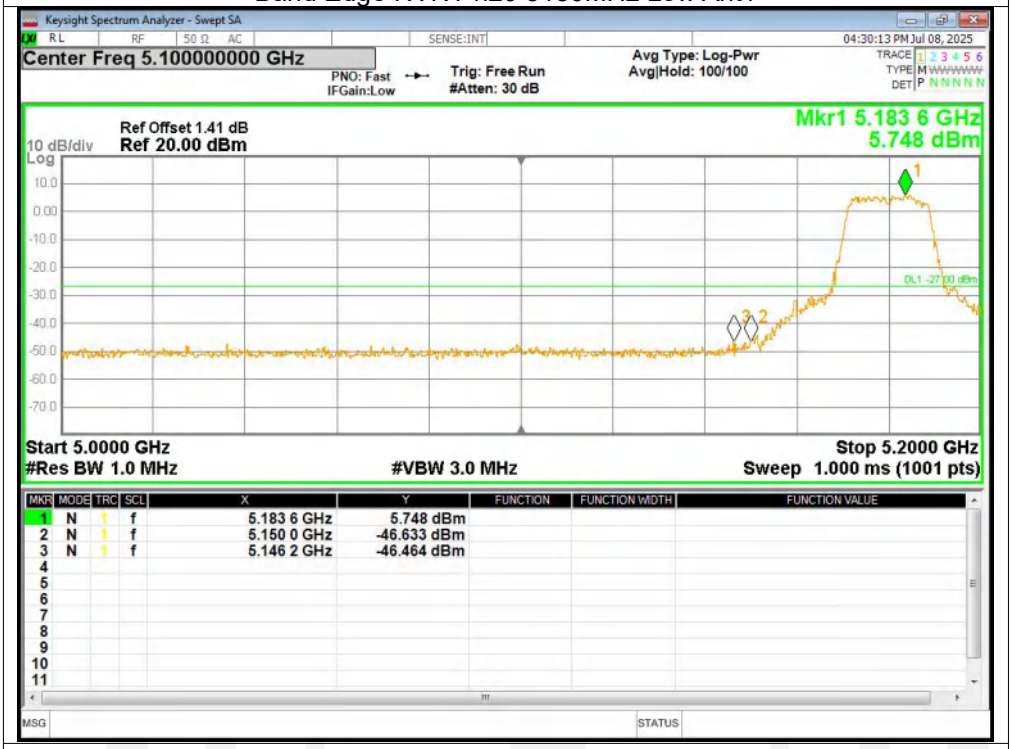
Band Edge NVNT a 5180MHz Low Ant1



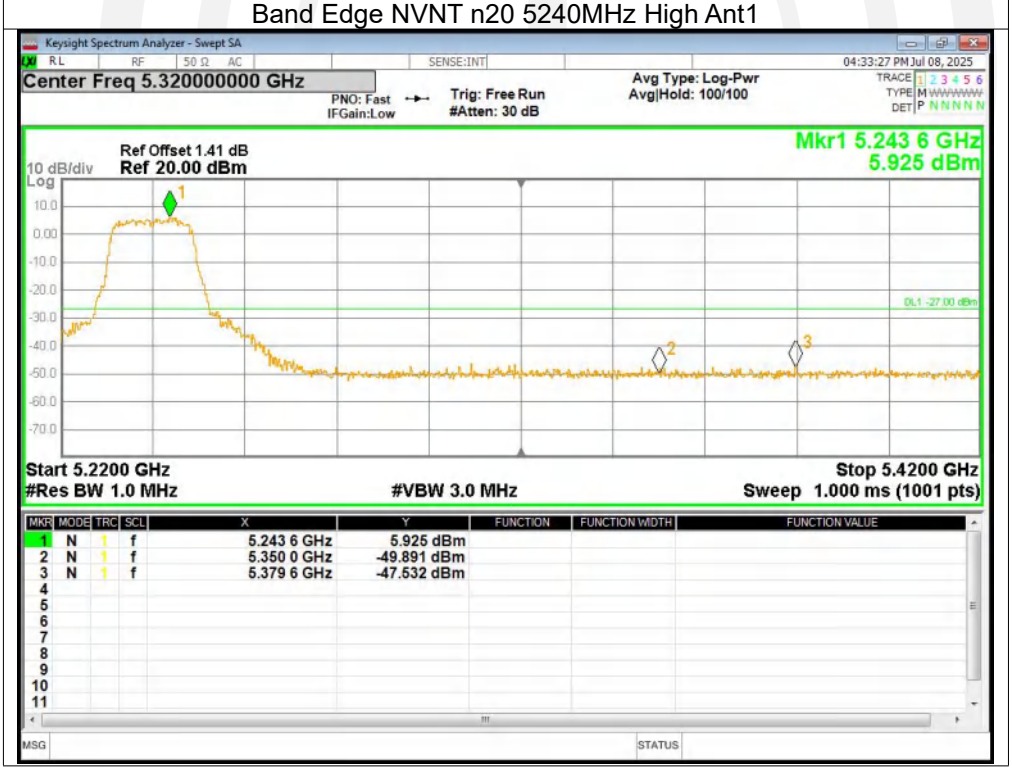
Band Edge NVNT a 5240MHz High Ant1



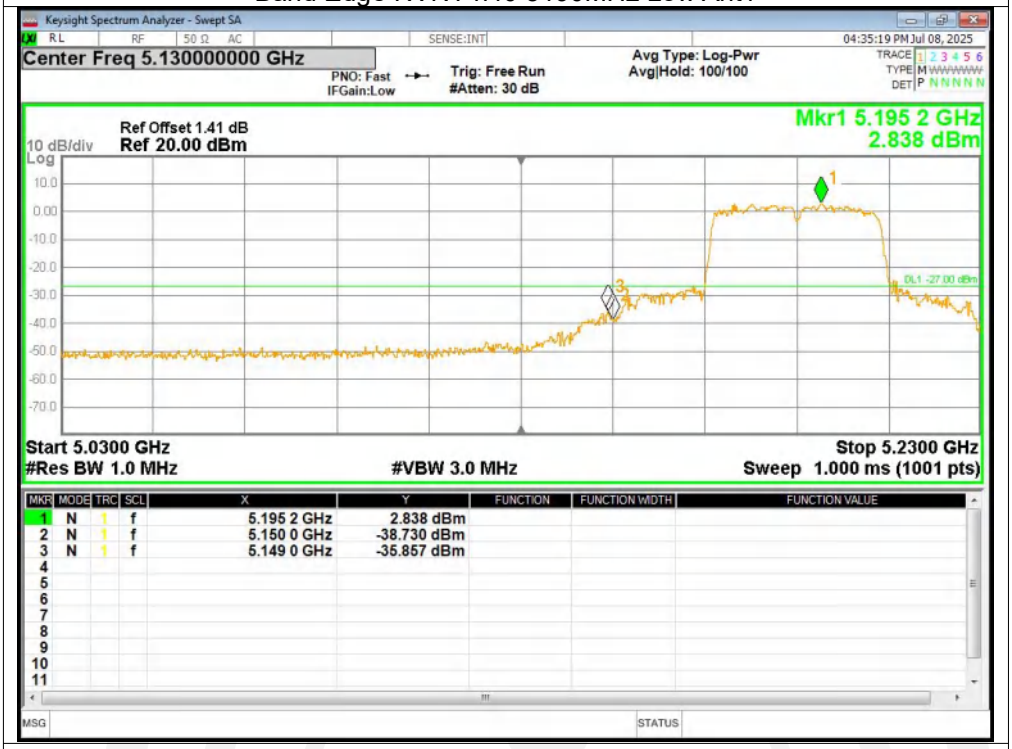
Band Edge NVNT n20 5180MHz Low Ant1



Band Edge NVNT n20 5240MHz High Ant1



Band Edge NVNT n40 5190MHz Low Ant1



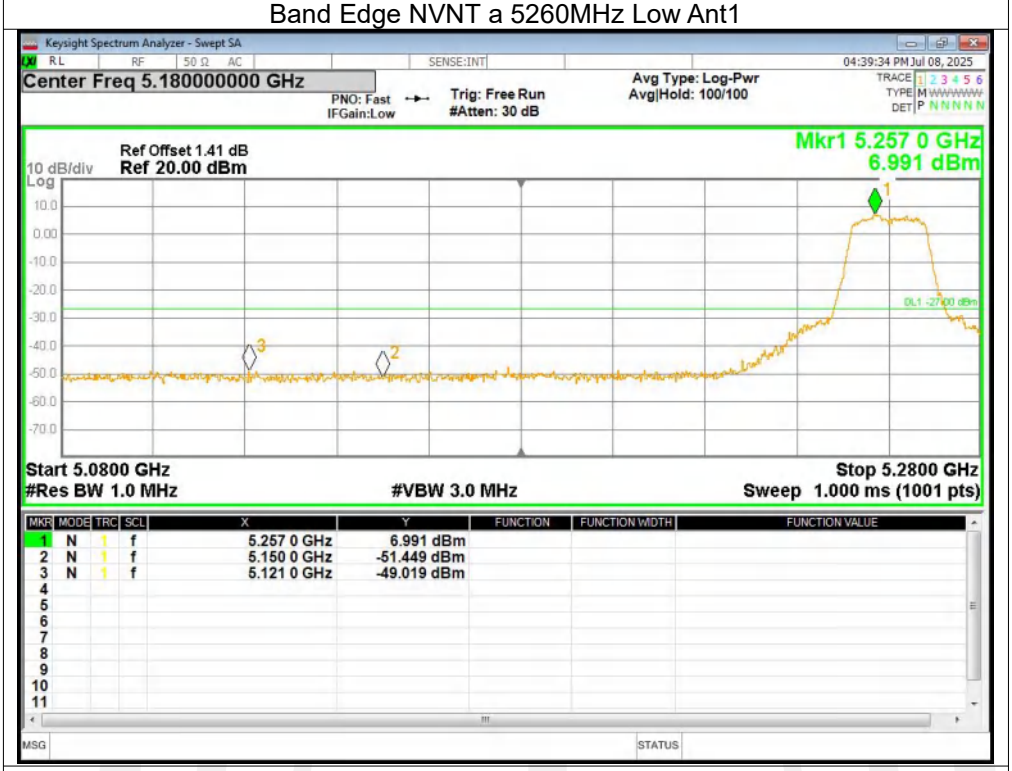
Band Edge NVNT n40 5230MHz High Ant1

5.3GWIFI (5260MHz-5320 MHz)

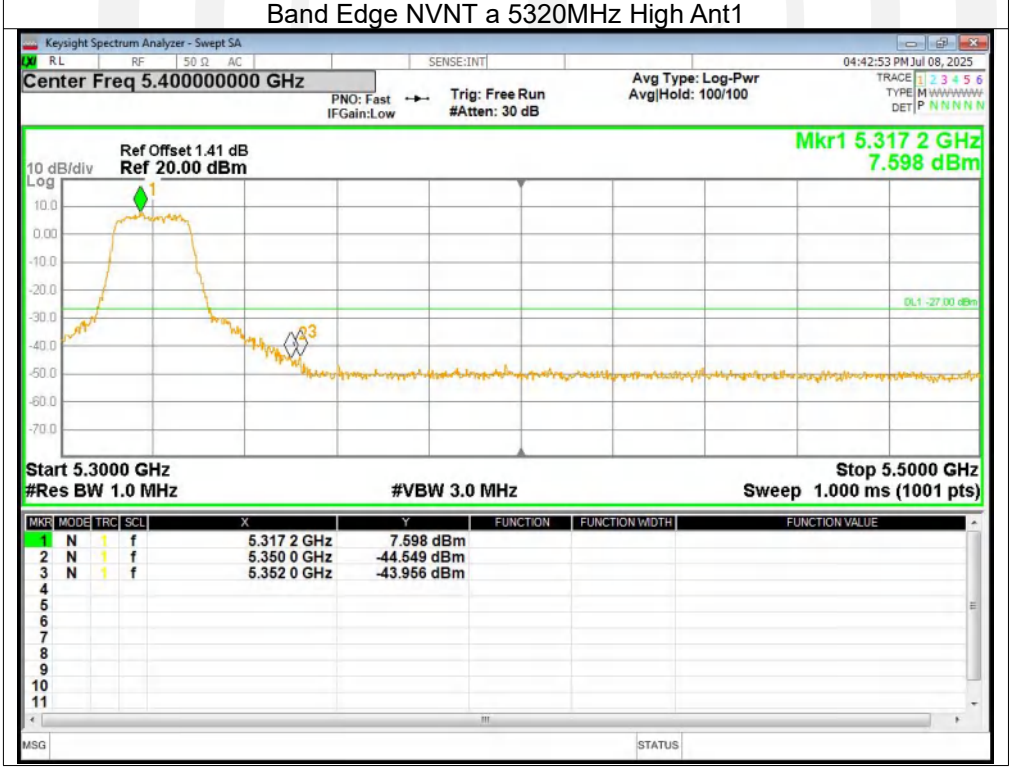
Condition	Mode	Frequency (MHz)	Antenna	Max Value (dBc)	Limit (dBc)	Verdict
NVNT	a	5260	Ant1	-49.01	-27	Pass
NVNT	a	5320	Ant1	-43.95	-27	Pass
NVNT	n20	5260	Ant1	-48.38	-27	Pass
NVNT	n20	5320	Ant1	-44.25	-27	Pass
NVNT	n40	5270	Ant1	-49.22	-27	Pass
NVNT	n40	5310	Ant1	-33.47	-27	Pass

Test Graphs

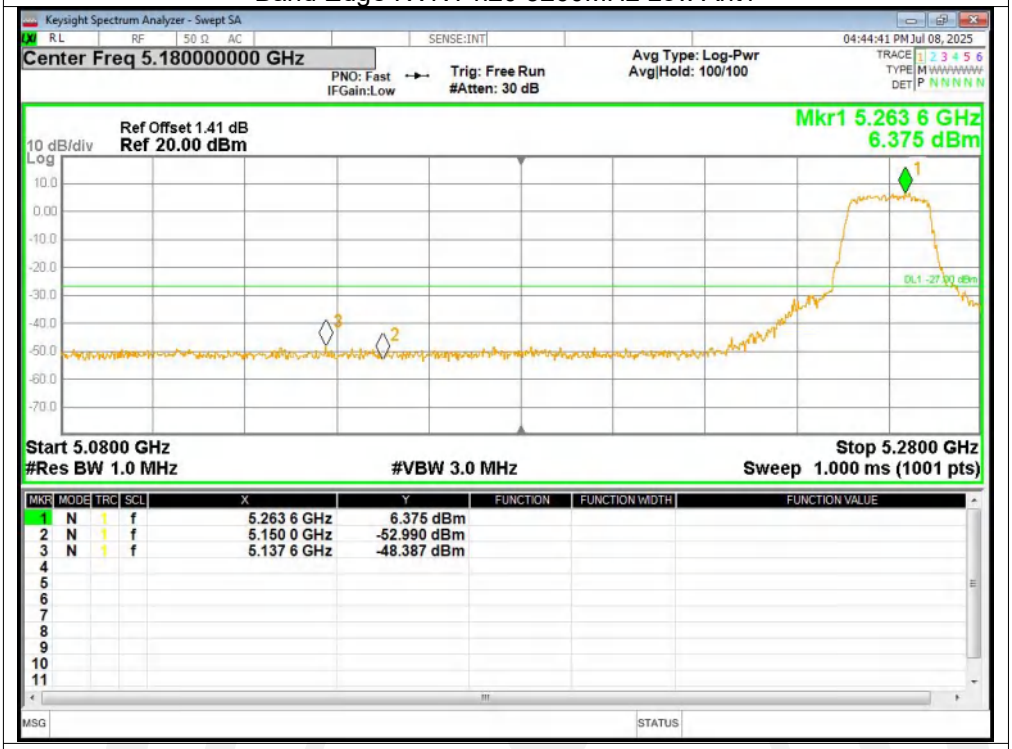
Band Edge NVNT a 5260MHz Low Ant1



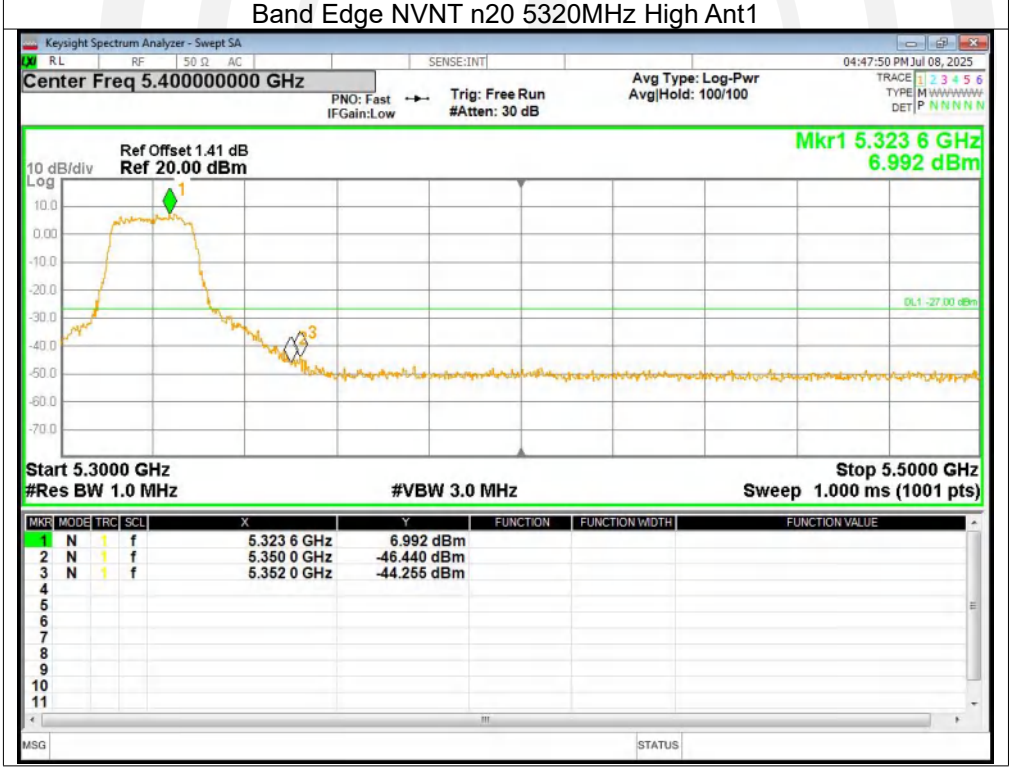
Band Edge NVNT a 5320MHz High Ant1



Band Edge NVNT n20 5260MHz Low Ant1

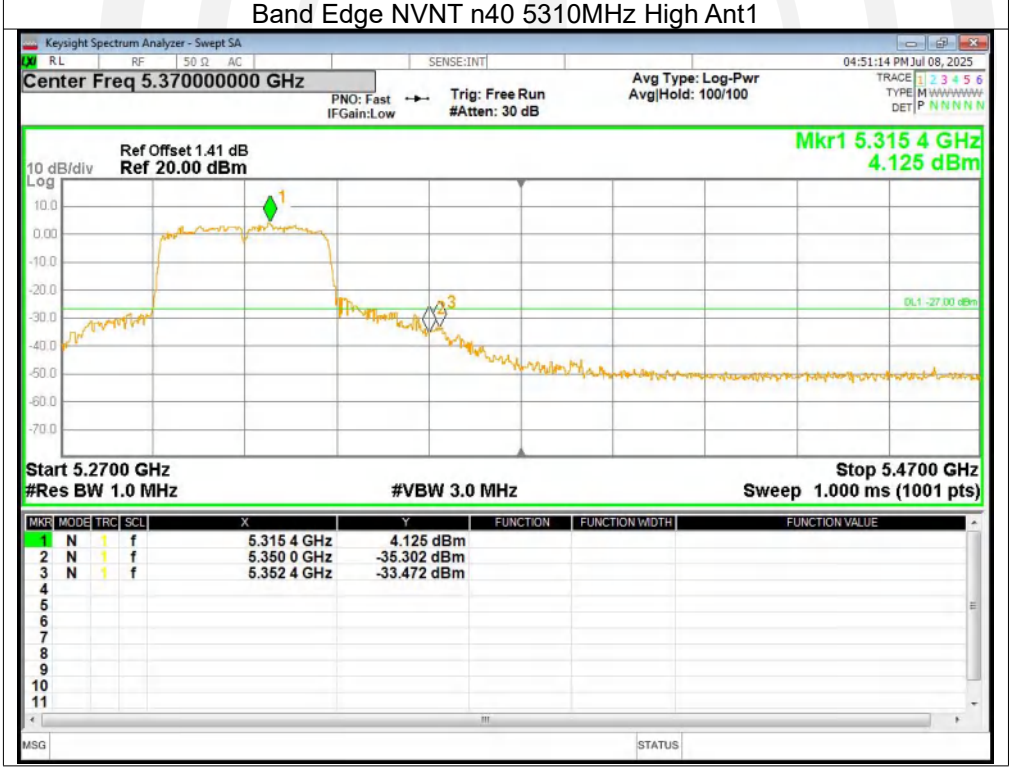


Band Edge NVNT n20 5320MHz High Ant1



Band Edge NVNT n40 5270MHz Low Ant1

Band Edge NVNT n40 5310MHz High Ant1

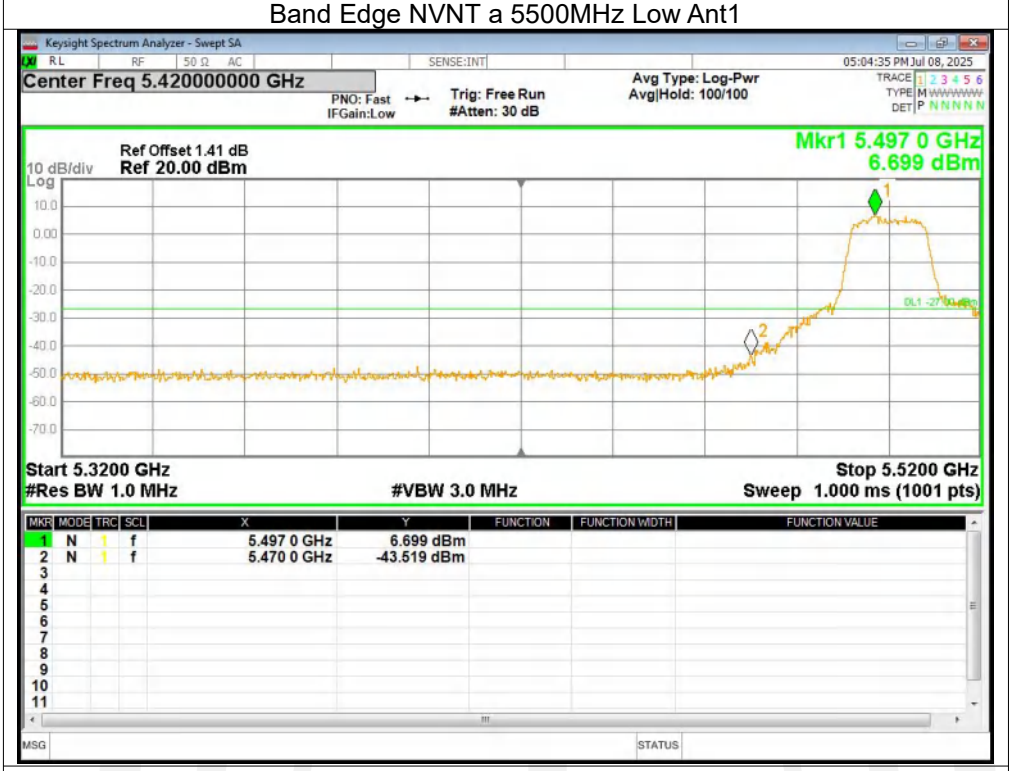


5.6GWIFI (5500MHz-5700MHz)

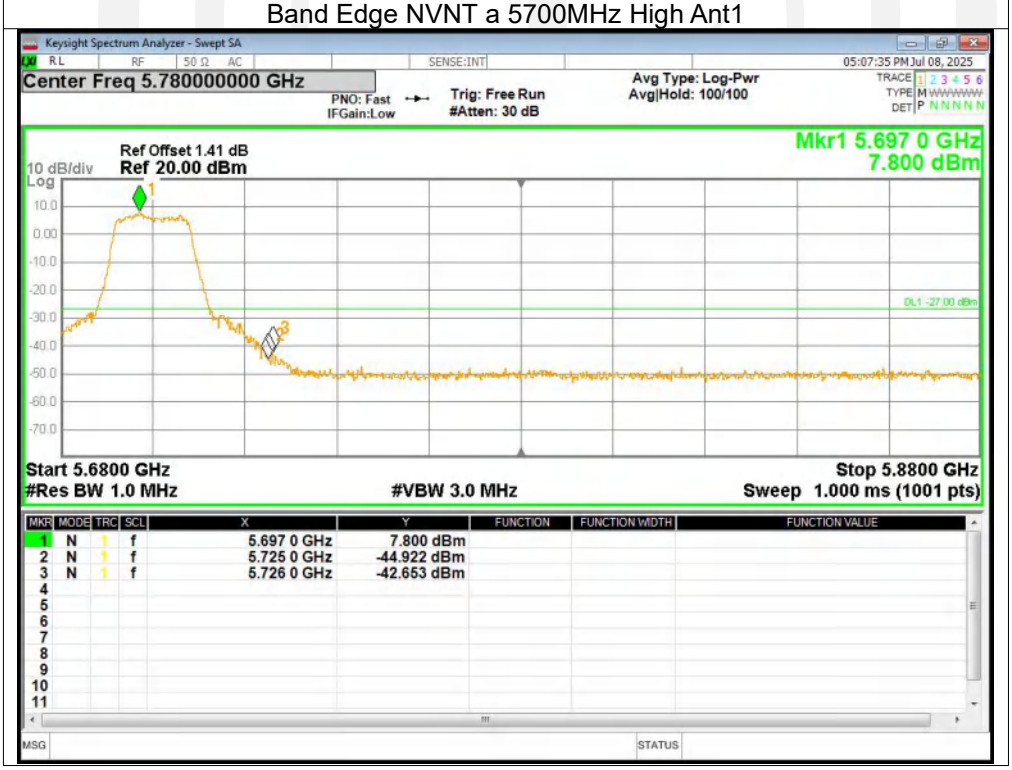
Condition	Mode	Frequency (MHz)	Antenna	Max Value (dBc)	Limit (dBc)	Verdict
NVNT	a	5500	Ant1	-43.51	-27	Pass
NVNT	a	5700	Ant1	-42.65	-27	Pass
NVNT	n20	5500	Ant1	-42.75	-27	Pass
NVNT	n20	5700	Ant1	-39.71	-27	Pass
NVNT	n40	5510	Ant1	-33.09	-27	Pass
NVNT	n40	5670	Ant1	-46.12	-27	Pass

Test Graphs

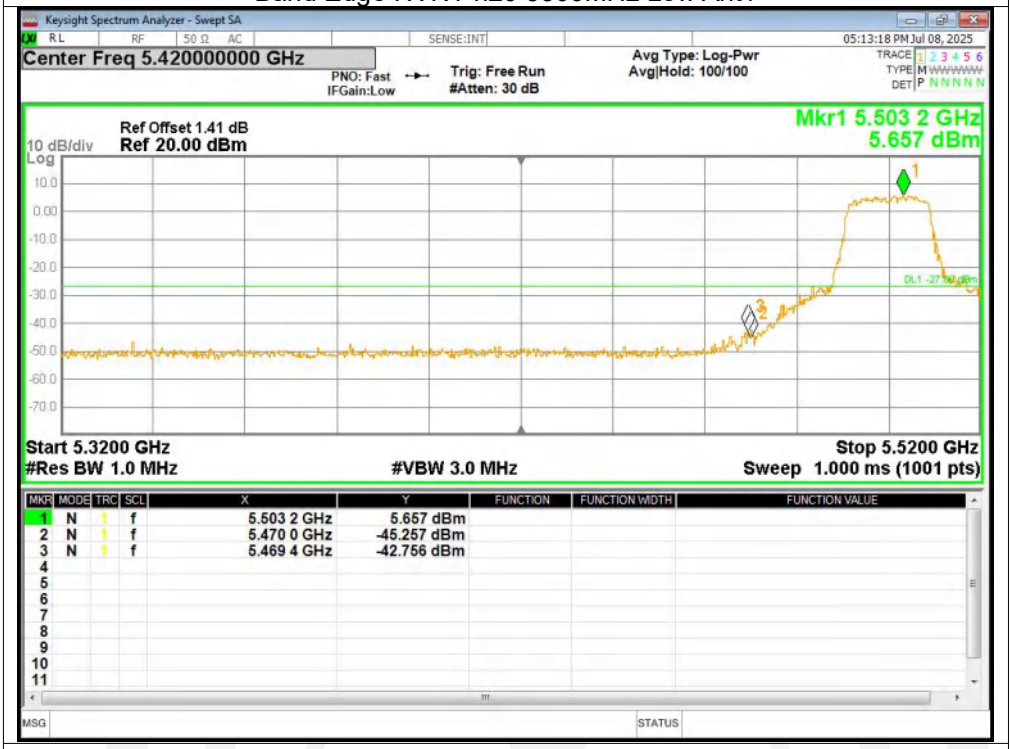
Band Edge NVNT a 5500MHz Low Ant1



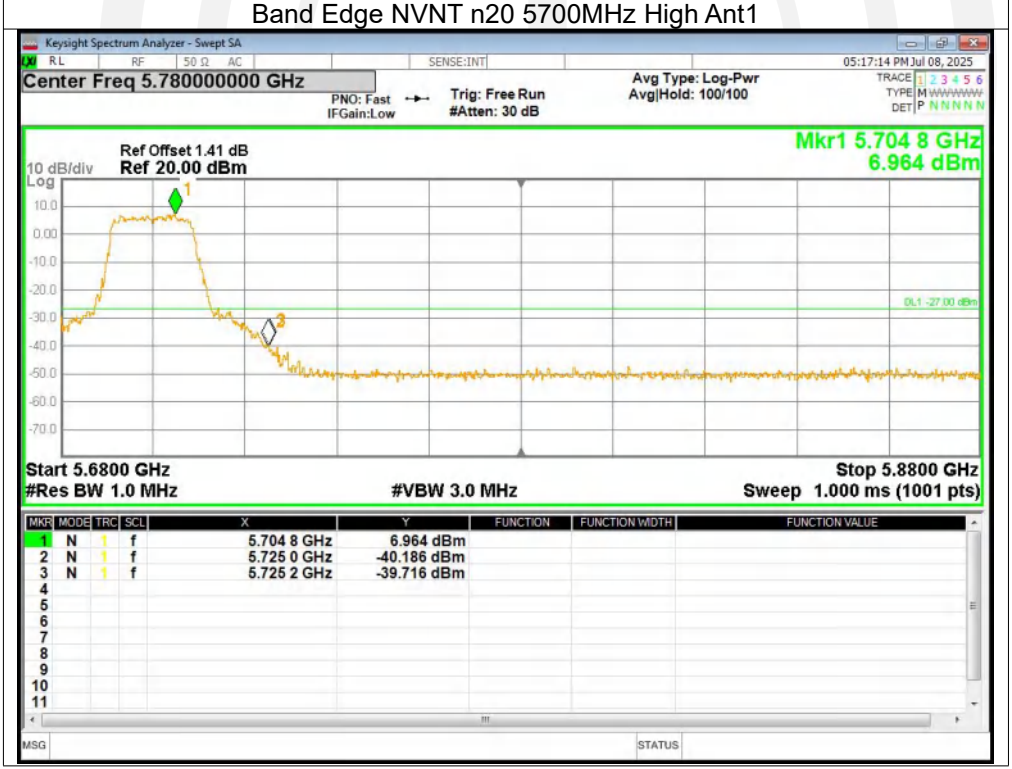
Band Edge NVNT a 5700MHz High Ant1



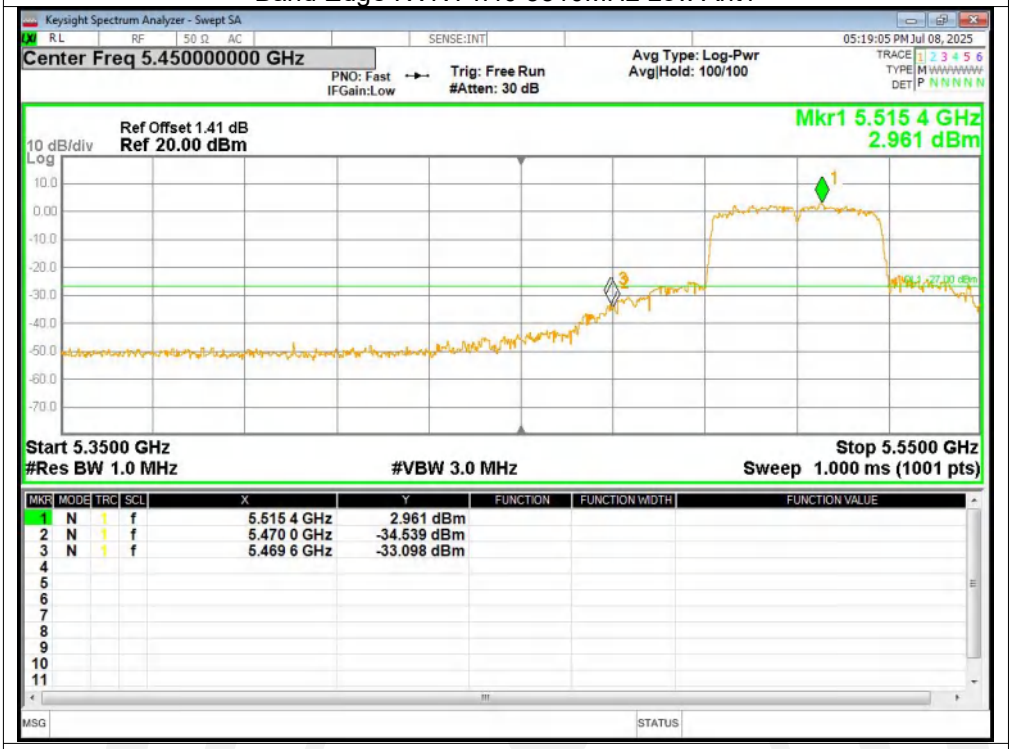
Band Edge NVNT n20 5500MHz Low Ant1



Band Edge NVNT n20 5700MHz High Ant1



Band Edge NVNT n40 5510MHz Low Ant1



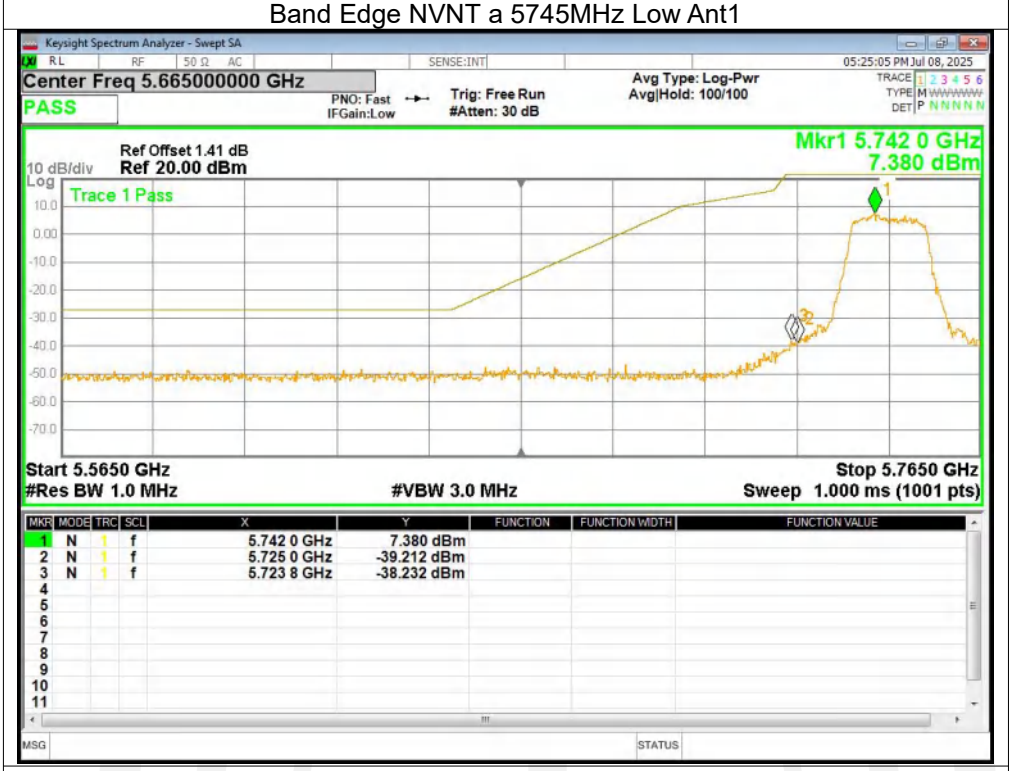
Band Edge NVNT n40 5670MHz High Ant1

5.8GWIFI (5745-5825 MHz)

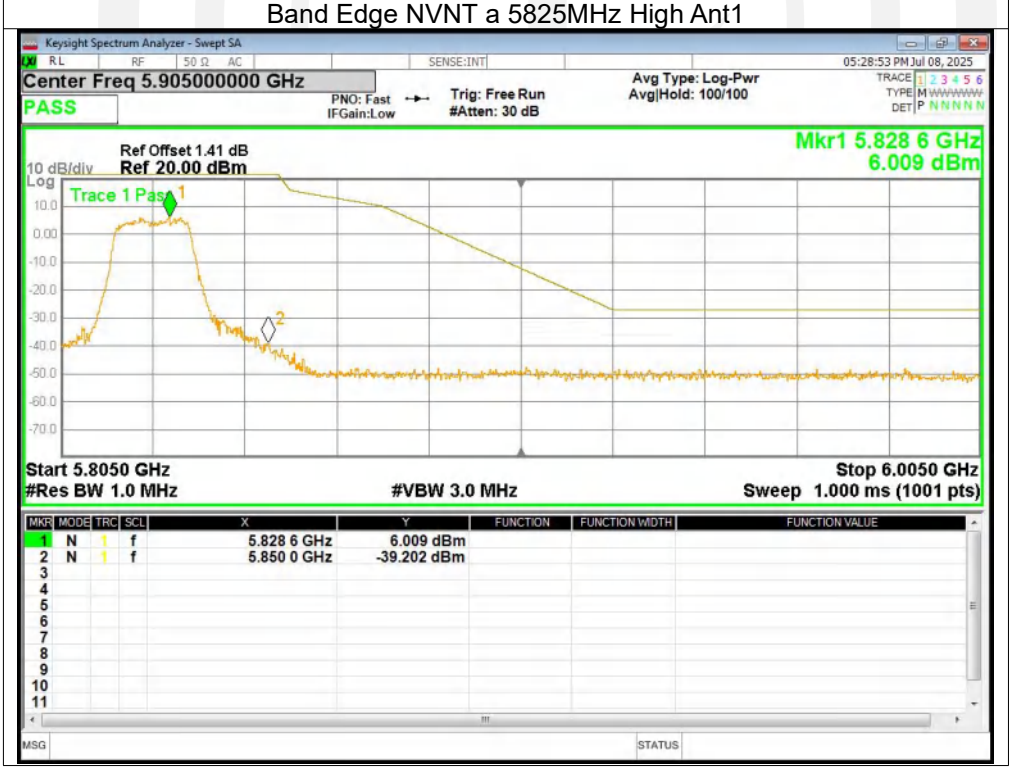
Condition	Mode	Frequency (MHz)	Antenna	Max Value (dBm)	Limit (dBm)	Verdict
NVNT	a	5745	Ant1	-38.23	See the test diagram	Pass
NVNT	a	5825	Ant1	-39.2	See the test diagram	Pass
NVNT	n20	5745	Ant1	-34.01	See the test diagram	Pass
NVNT	n20	5825	Ant1	-38.31	See the test diagram	Pass
NVNT	n40	5755	Ant1	-29.64	See the test diagram	Pass
NVNT	n40	5795	Ant1	-43.99	See the test diagram	Pass

Test Graphs

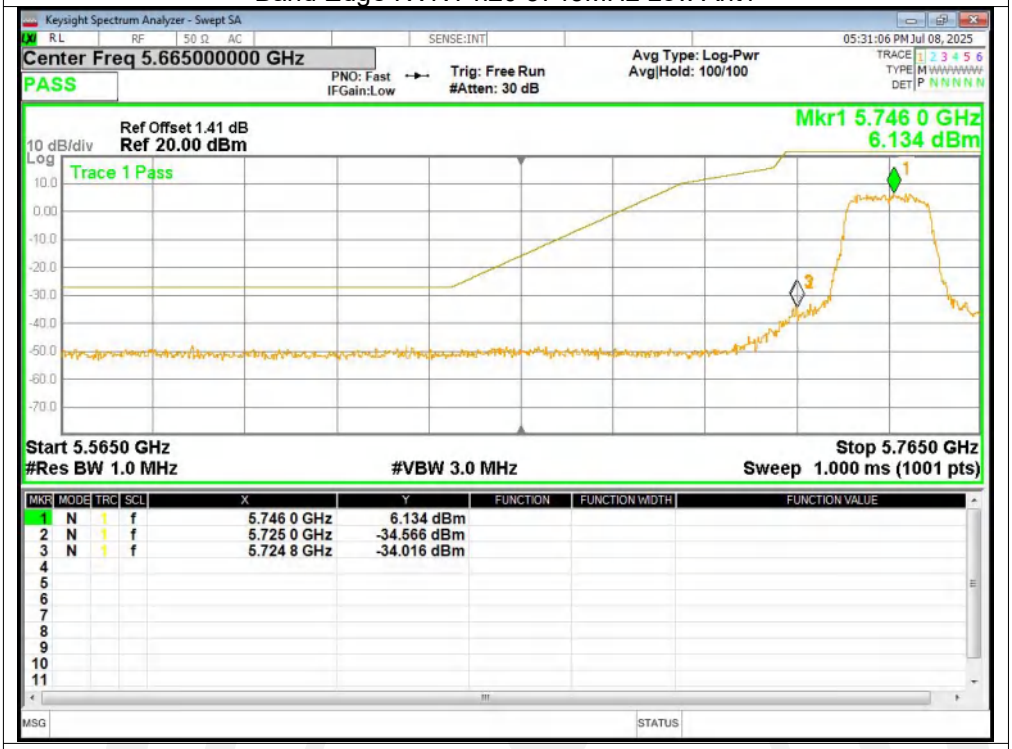
Band Edge NVNT a 5745MHz Low Ant1



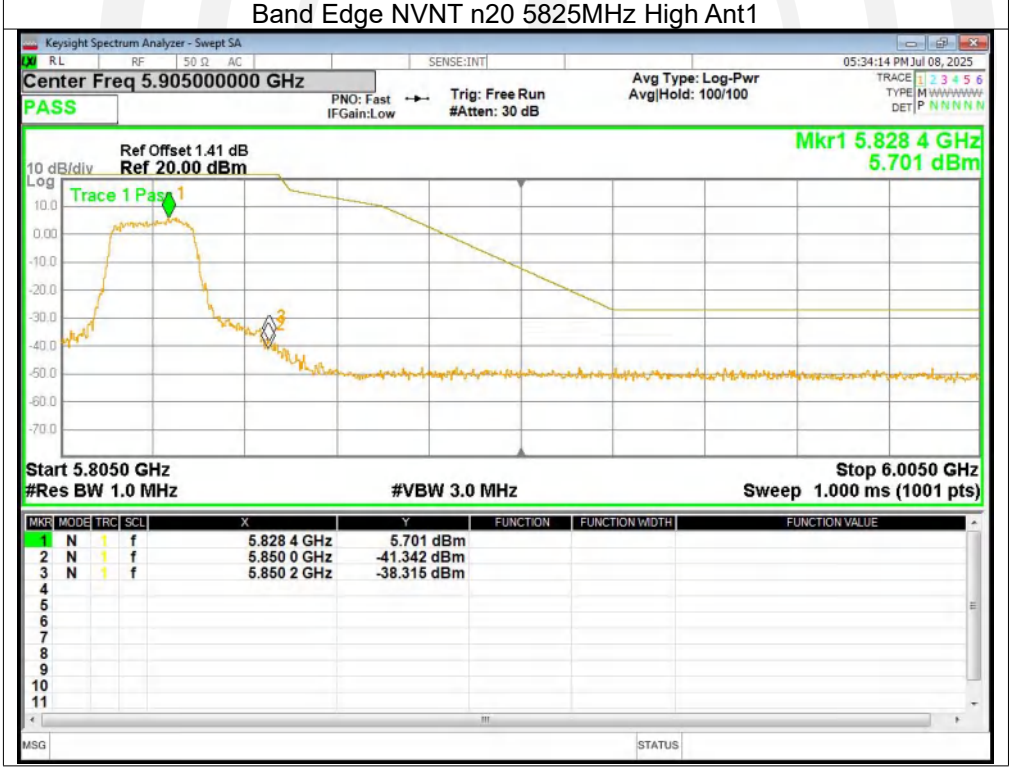
Band Edge NVNT a 5825MHz High Ant1



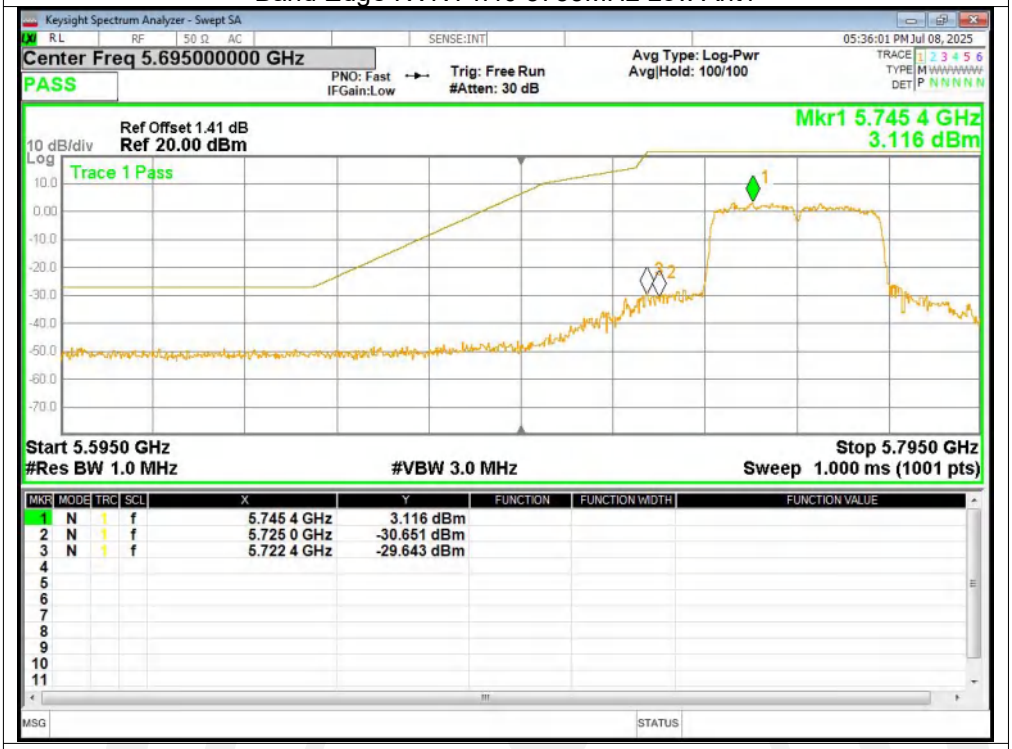
Band Edge NVNT n20 5745MHz Low Ant1



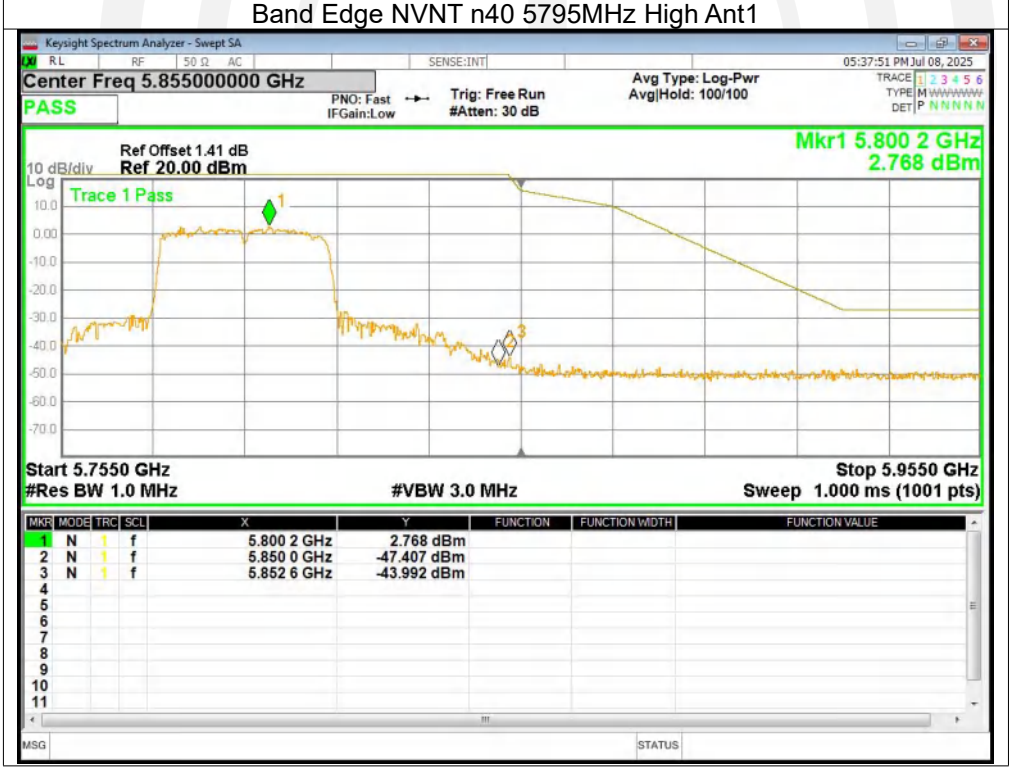
Band Edge NVNT n20 5825MHz High Ant1



Band Edge NVNT n40 5755MHz Low Ant1



Band Edge NVNT n40 5795MHz High Ant1

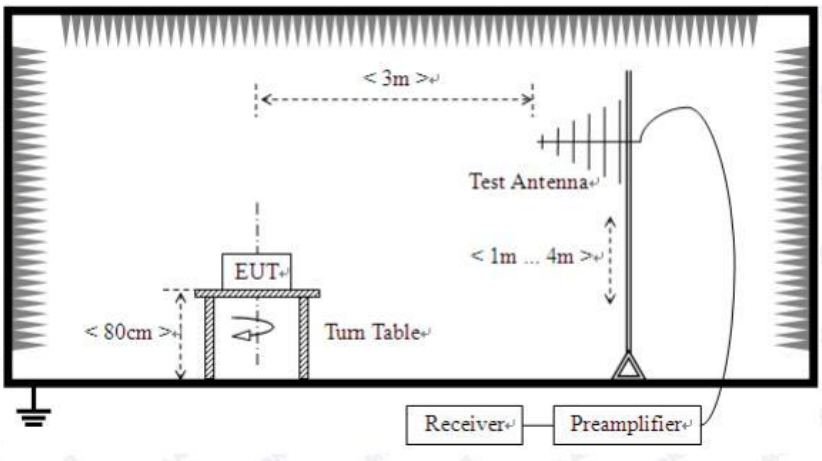


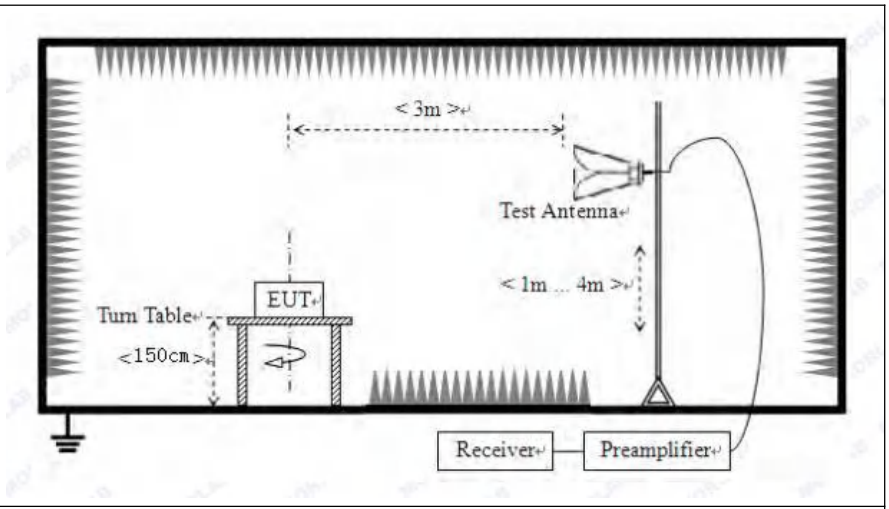
4.6 Radiated Emission

<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>

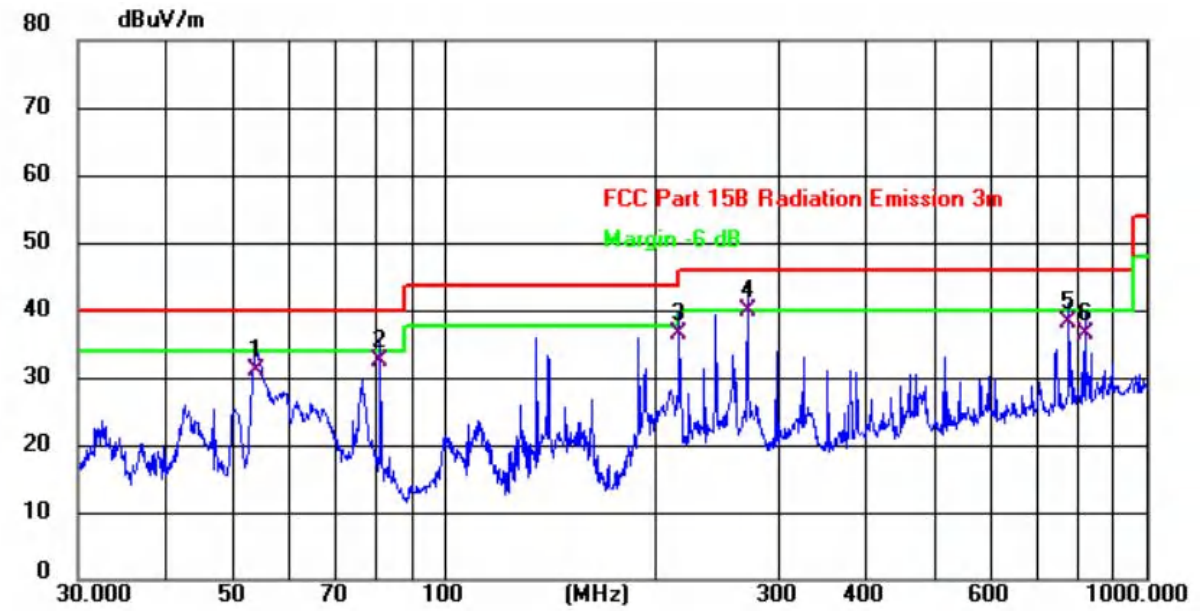
	transmitter under test. 4. The test antenna shall be raised and lowered from 1m to 4m until a maximum signal level is detected by the measuring receiver. Then the turntable should be rotated through 360° in the horizontal plane, until the maximum signal level is detected by the measuring receiver. 5. 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

Polarization: Vertical

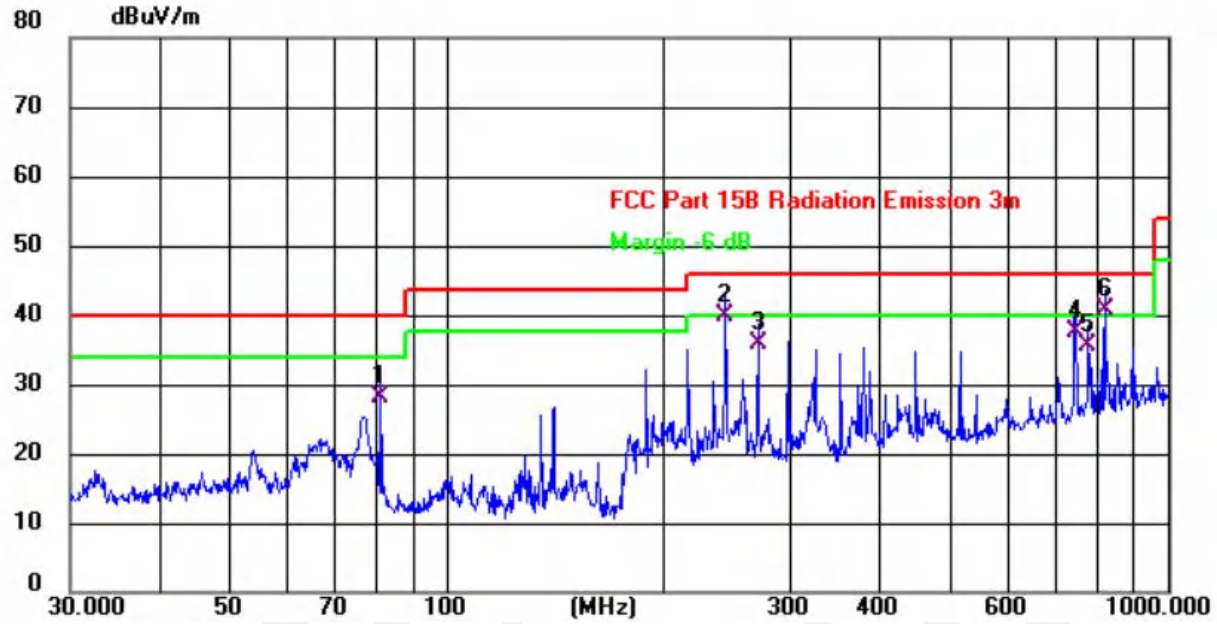


No.	Frequency (MHz)	Reading (dBuV)	Factor (dB/m)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Azimuth (deg.)	P/F
1	53.8817	40.90	-9.78	31.12	40.00	-8.88	QP	-	-	P
2	80.9274	46.55	-14.18	32.37	40.00	-7.63	QP	-	-	P
3	216.0240	47.03	-10.54	36.49	46.00	-9.51	QP	-	-	P
4 *	270.3747	48.79	-8.84	39.95	46.00	-6.05	QP	-	-	P
5	774.1584	37.57	0.52	38.09	46.00	-7.91	QP	-	-	P
6	818.8340	35.39	1.16	36.55	46.00	-9.45	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 worst case 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	80.9274	42.28	-14.18	28.10	40.00	-11.90	QP	-	-	P
2	243.3771	49.40	-9.50	39.90	46.00	-6.10	QP	-	-	P
3	270.3748	44.58	-8.84	35.74	46.00	-10.26	QP	-	-	P
4	744.8660	37.46	0.11	37.57	46.00	-8.43	QP	-	-	P
5	774.1584	35.00	0.52	35.52	46.00	-10.48	QP	-	-	P
6 *	818.8340	39.53	1.16	40.69	46.00	-5.31	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 worst case in the test report.

All modes and channels have been tested and only the 5.2GWIFI a 5200MHz 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	50.67	11.54	14.97	32.78	44.4	68.2	-23.8	Vertical
15540.50	51.56	12.3	17.82	34.54	47.14	74	-26.86	Vertical
10360.68	52.94	9.47	14.71	33.04	44.08	68.2	-24.12	Horizontal
15540.86	52.67	8.98	18.14	34.61	45.18	74	-28.82	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	50.58	11.7	14.83	33.03	44.08	68.2	-24.12	Vertical
15540.58	51.98	12.28	17.89	34.89	47.26	74	-26.74	Vertical
10360.04	52.79	9.64	14.79	32.82	44.4	68.2	-23.8	Horizontal
15540.90	53.32	8.57	18.11	34.57	45.43	74	-28.57	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	50.75	11.43	14.99	33.15	44.02	68.2	-24.18	Vertical
15540.06	51.56	12.17	18.04	34.93	46.84	74	-27.16	Vertical
10360.16	52.35	9.51	14.72	32.95	43.63	68.2	-24.57	Horizontal
15540.89	52.12	8.55	17.93	34.47	44.13	74	-29.87	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	50.54	11.52	14.81	33.06	43.81	68.2	-24.39	Vertical
15540.69	51.37	12.17	17.83	34.58	46.79	74	-27.21	Vertical
10360.74	52.86	9.41	14.91	32.92	44.26	68.2	-23.94	Horizontal
15540.02	52.56	8.82	17.99	34.69	44.68	74	-29.32	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	50.46	11.69	15.05	32.93	44.27	68.2	-23.93	Vertical
15540.15	51.41	11.98	17.71	34.78	46.32	74	-27.68	Vertical
10360.86	52.29	9.68	14.73	32.87	43.83	68.2	-24.37	Horizontal
15540.34	52.55	8.59	17.71	34.9	43.95	74	-30.05	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	50.69	11.72	15.08	32.98	44.51	68.2	-23.69	Vertical
15540.73	51.41	12.12	17.88	34.67	46.74	74	-27.26	Vertical
10360.46	52.01	9.63	14.84	32.78	43.7	68.2	-24.5	Horizontal
15540.15	52.65	8.6	17.99	34.75	44.49	74	-29.51	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	50.82	11.52	15	32.75	44.59	68.2	-23.61	Vertical
15540.62	51.19	11.97	17.84	34.91	46.09	74	-27.91	Vertical
10360.65	52.17	9.62	14.65	32.68	43.76	68.2	-24.44	Horizontal
15540.98	53.27	8.56	18.15	34.88	45.1	74	-28.9	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	50.82	11.36	14.78	33.08	43.88	68.2	-24.32	Vertical
15540.58	51.18	12.03	18.06	34.9	46.37	74	-27.63	Vertical
10360.11	52.29	9.61	15.09	32.73	44.26	68.2	-23.94	Horizontal
15540.61	52.19	8.57	18.08	34.94	43.9	74	-30.1	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	50.09	11.52	15.04	33.1	43.55	68.2	-24.65	Vertical
15540.22	51.89	12.09	17.89	34.82	46.81	74	-27.19	Vertical
10360.38	52.24	9.71	14.65	32.82	43.55	68.2	-24.65	Horizontal
15540.38	53.35	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	50.2	11.73	14.77	32.92	43.78	68.2	-24.42	Vertical
15540.08	51.11	12.29	17.99	34.78	46.61	74	-27.39	Vertical
10360.84	52.29	9.83	15.08	33.15	44.05	68.2	-24.15	Horizontal
15540.44	52.66	8.76	17.67	34.68	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. All modes and channels have been tested and only the 5.2GWIFI a mode with the worst data is listed.

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

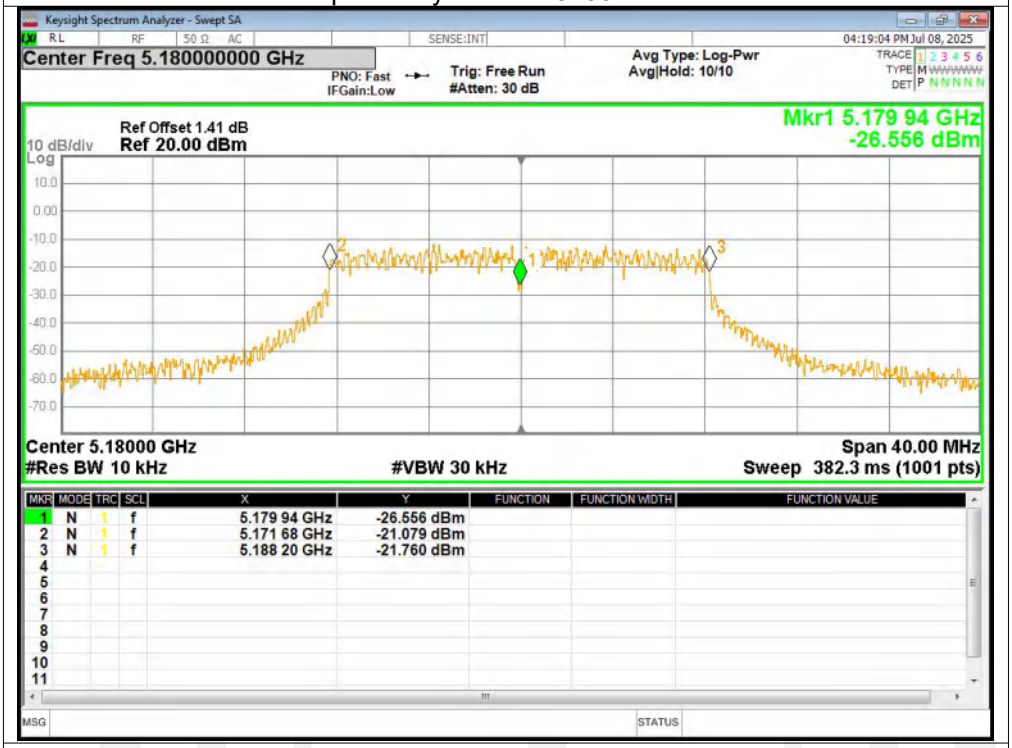
Measurement Data:

5.2GWIFI (5180-5240 MHz)

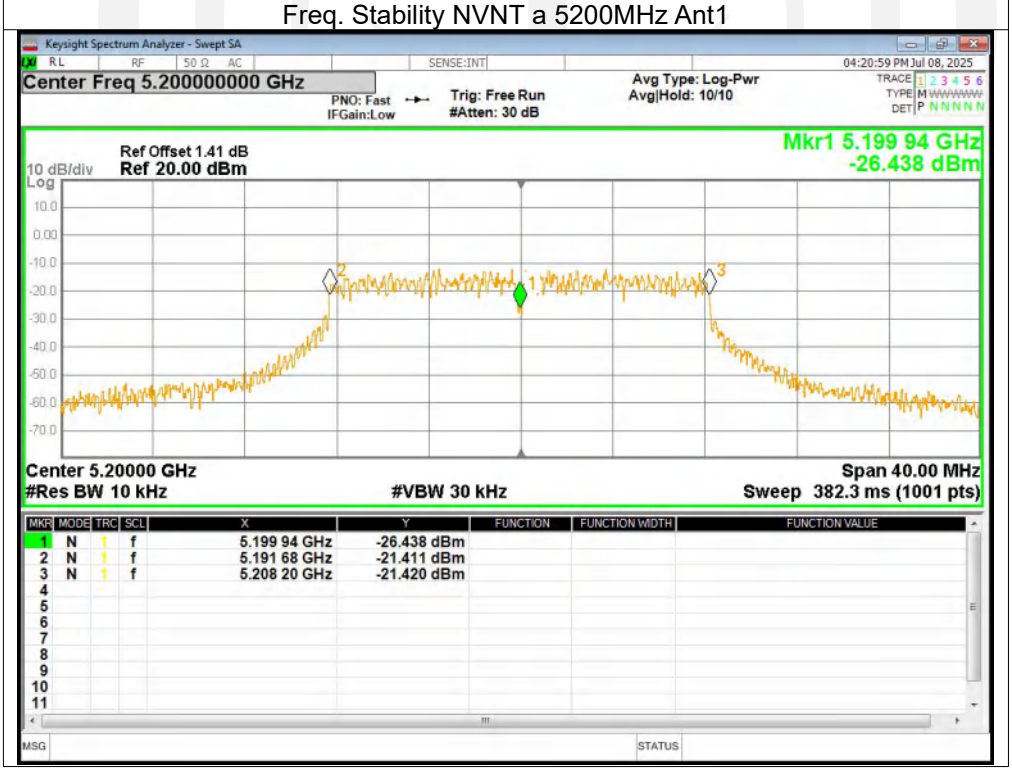
Condition	Mode	Frequency (MHz)	Antenna	Measured Frequency (MHz)	Frequency Error (Hz)	Deviation (ppm)	Limit (ppm)	Verdict
NVNT	a	5180	Ant1	5179.94	-60000	-11.58	25	Pass
NVNT	a	5200	Ant1	5199.94	-60000	-11.54	25	Pass
NVNT	a	5240	Ant1	5239.94	-60000	-11.45	25	Pass
NVNT	n20	5180	Ant1	5179.96	-40000	-7.72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

Test Graphs

Freq. Stability NVNT a 5180MHz Ant1

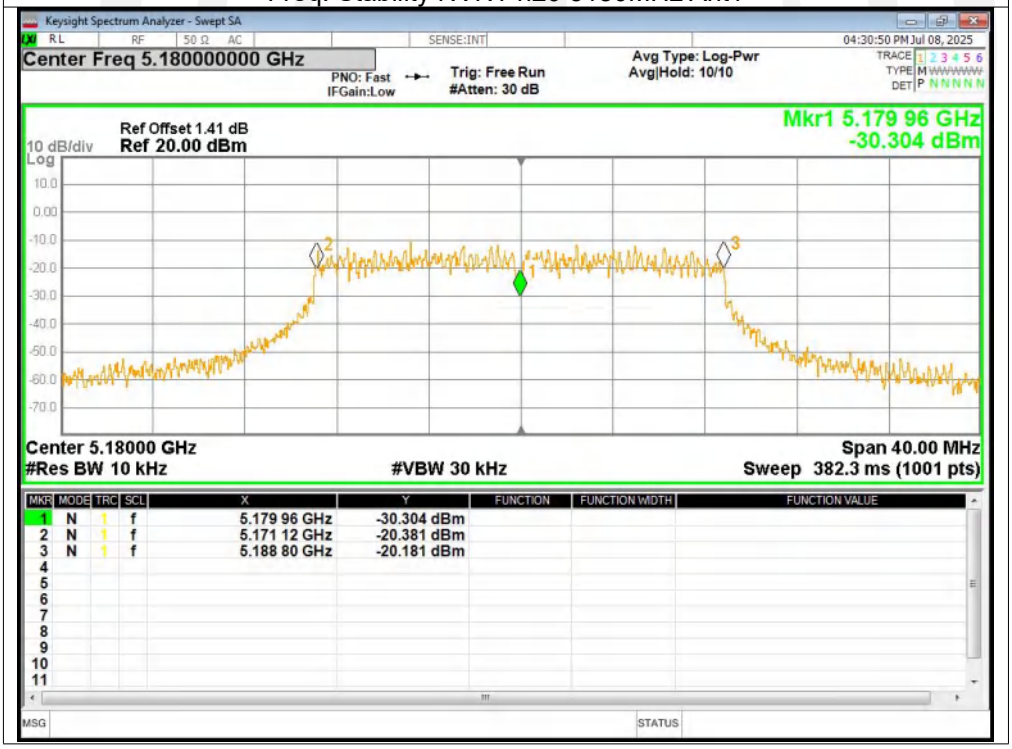


Freq. Stability NVNT a 5200MHz Ant1

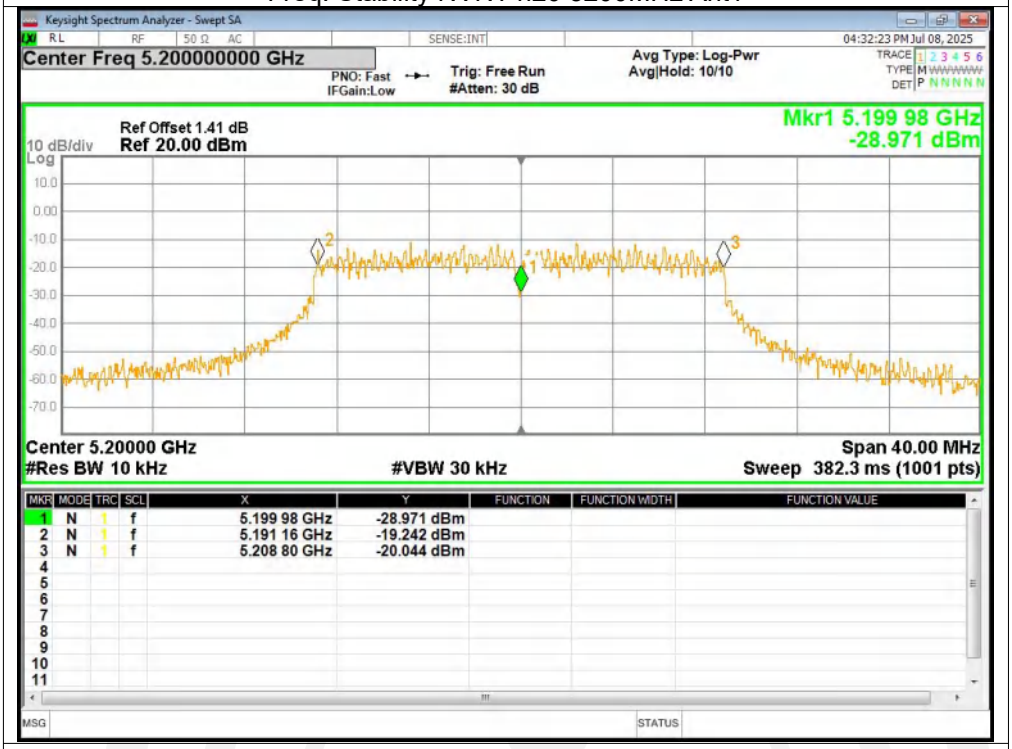


Freq. Stability NVNT a 5240MHz Ant1

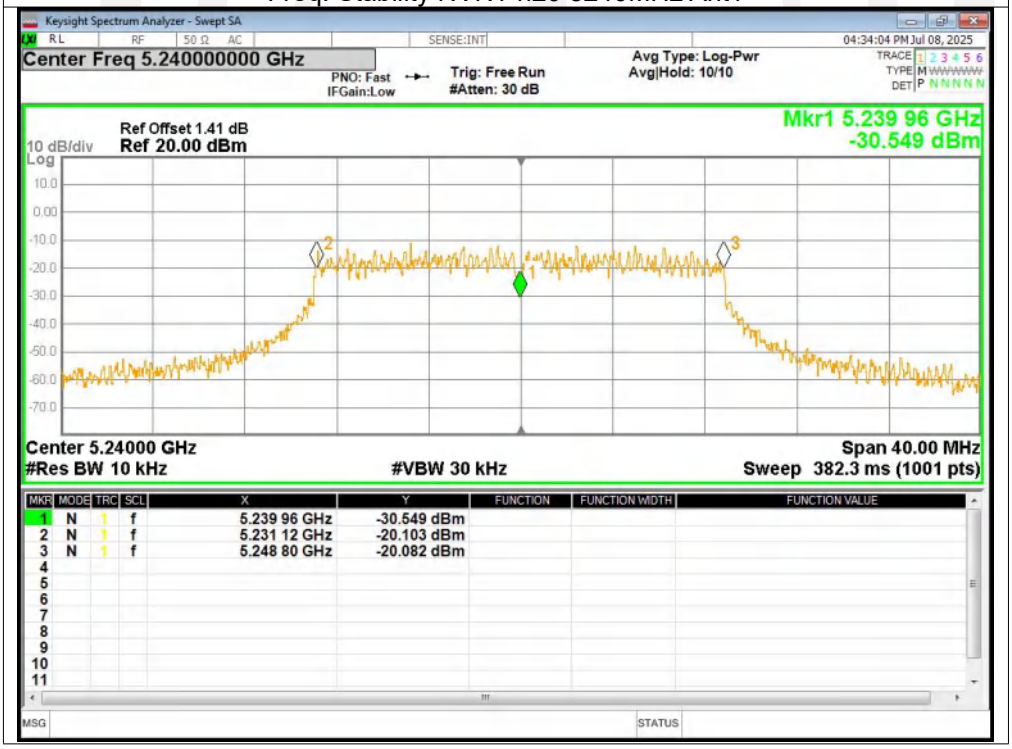
Freq. Stability NVNT n20 5180MHz Ant1



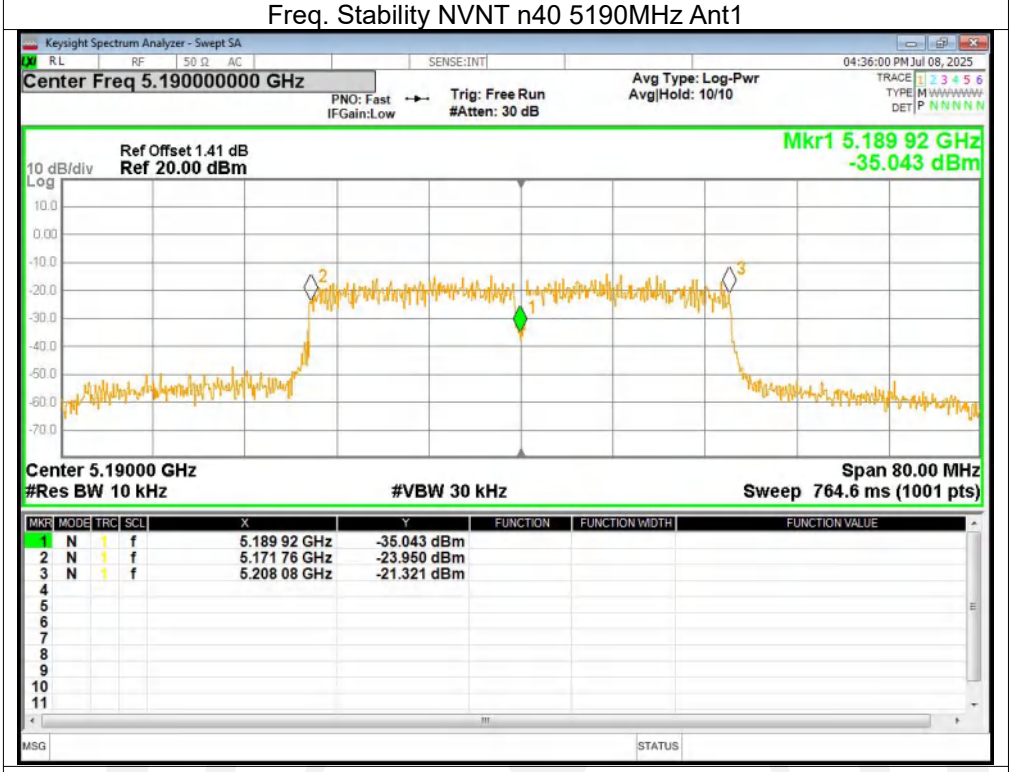
Freq. Stability NVNT n20 5200MHz Ant1



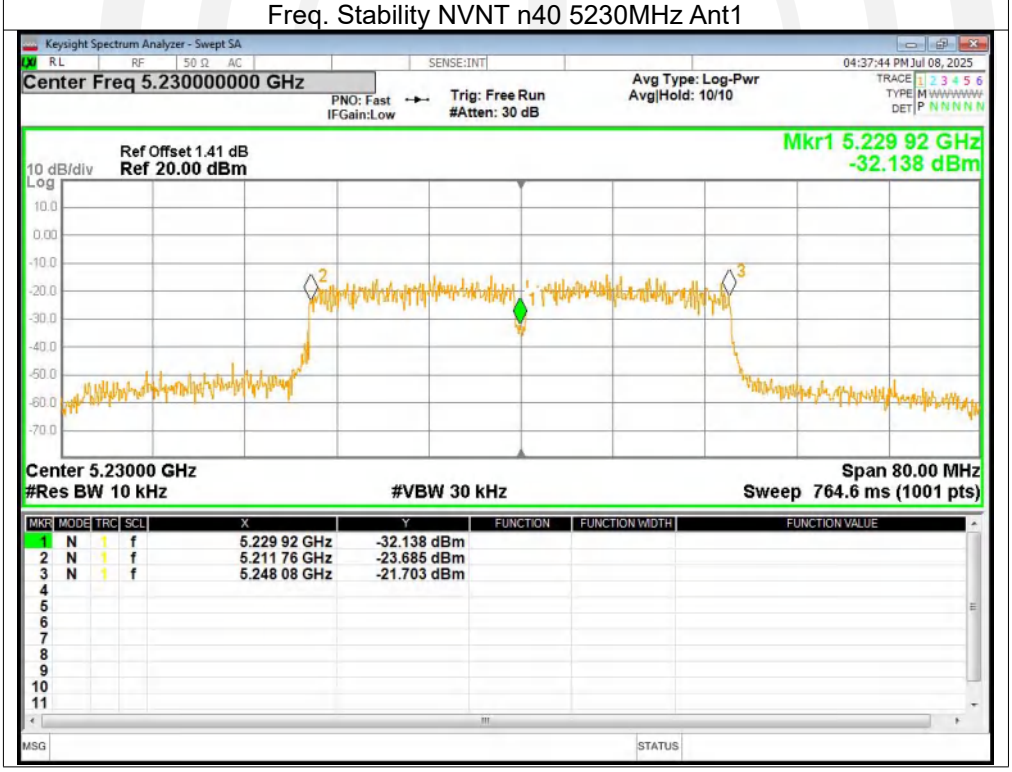
Freq. Stability NVNT n20 5240MHz Ant1



Freq. Stability NVNT n40 5190MHz Ant1



Freq. Stability NVNT n40 5230MHz Ant1

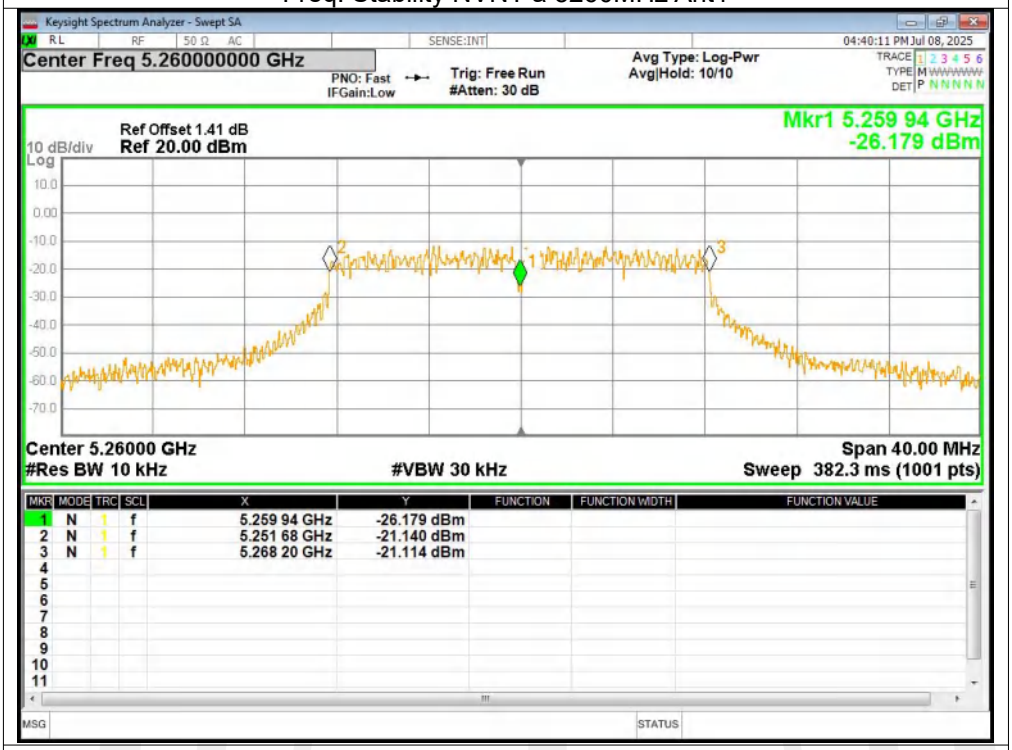


5.3G WIFI:

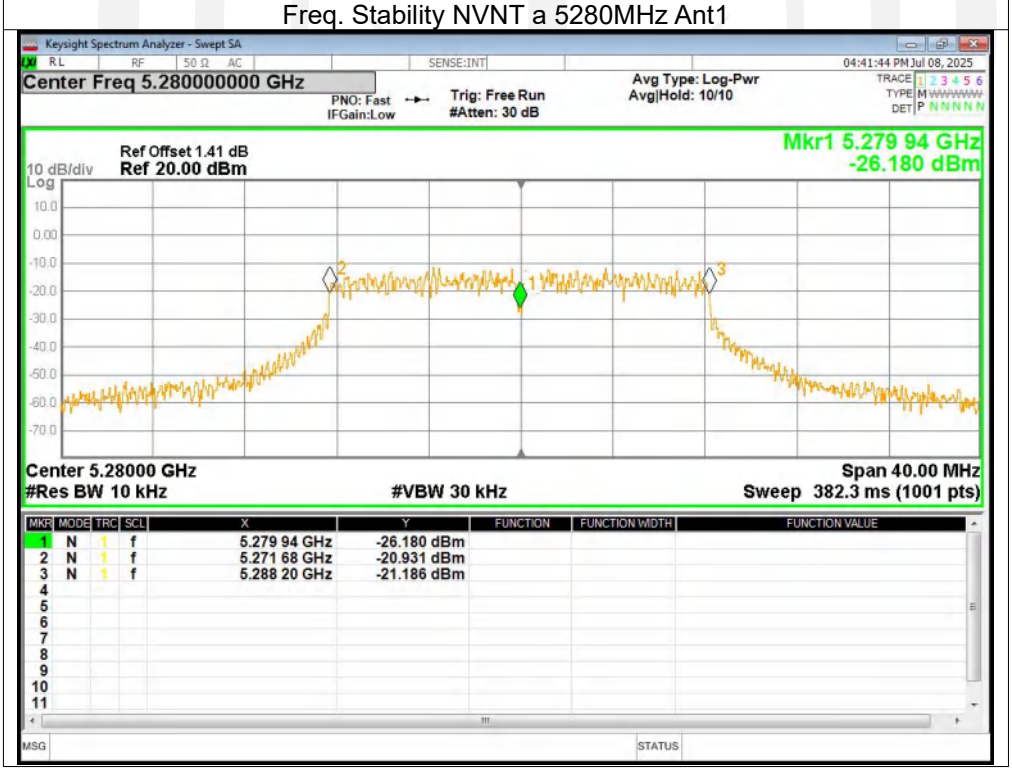
Condition	Mode	Frequency (MHz)	Antenna	Measured Frequency (MHz)	Frequency Error (Hz)	Deviation (ppm)	Limit (ppm)	Verdict
NVNT	a	5260	Ant1	5259.94	-60000	-11.41	25	Pass
NVNT	a	5280	Ant1	5279.94	-60000	-11.36	25	Pass
NVNT	a	5320	Ant1	5319.94	-60000	-11.28	25	Pass
NVNT	n20	5260	Ant1	5259.96	-40000	-7.6	25	Pass
NVNT	n20	5280	Ant1	5279.96	-40000	-7.58	25	Pass
NVNT	n20	5320	Ant1	5319.96	-40000	-7.52	25	Pass
NVNT	n40	5270	Ant1	5270	0	0	25	Pass
NVNT	n40	5310	Ant1	5310	0	0	25	Pass

Test Graphs

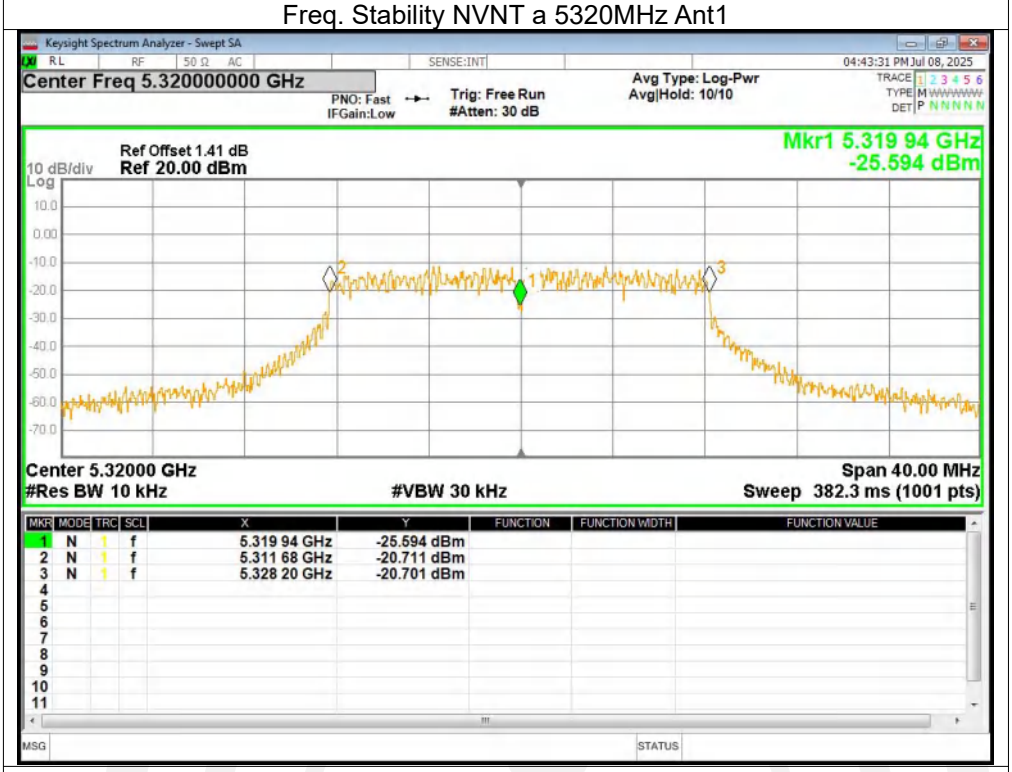
Freq. Stability NVNT a 5260MHz Ant1



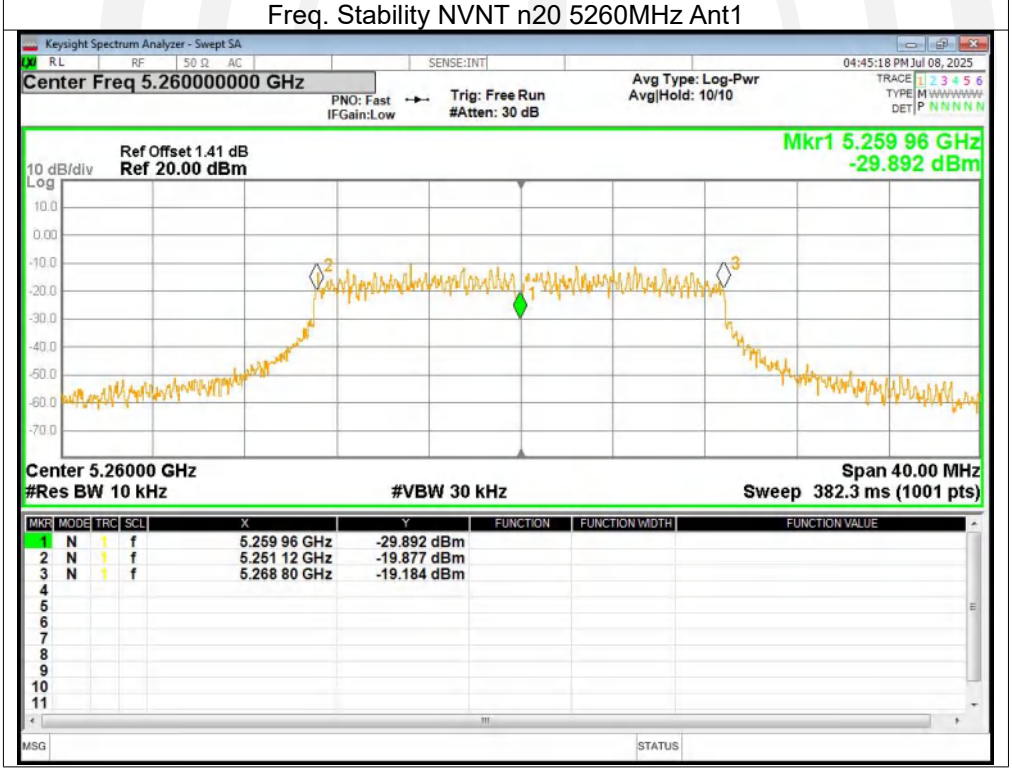
Freq. Stability NVNT a 5280MHz Ant1



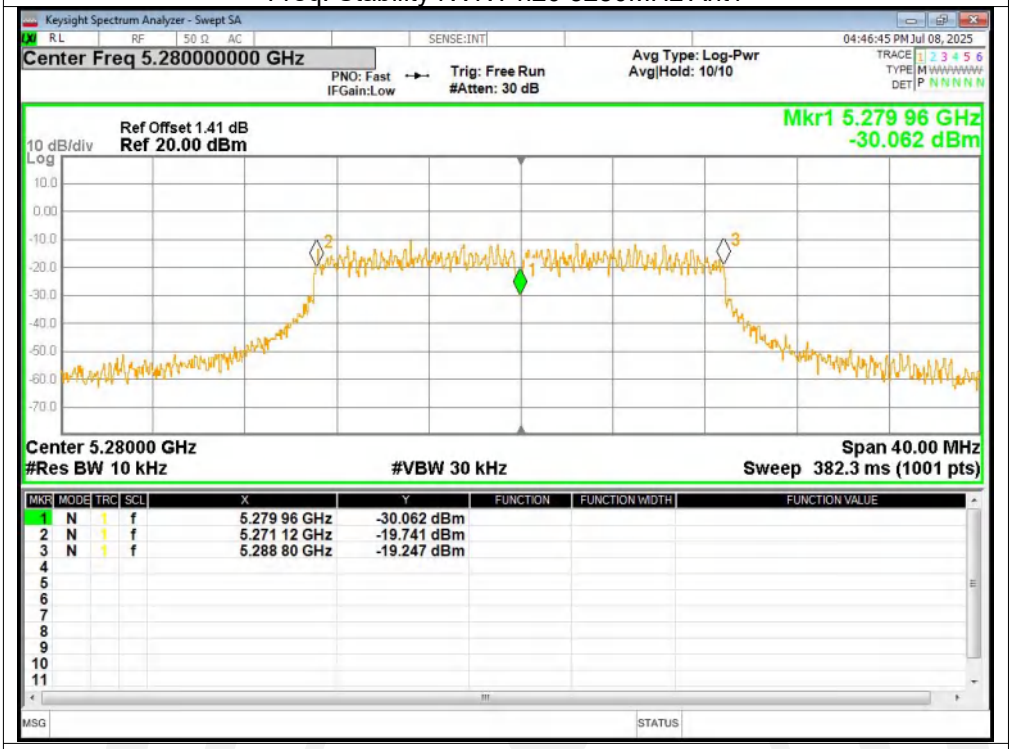
Freq. Stability NVNT a 5320MHz Ant1



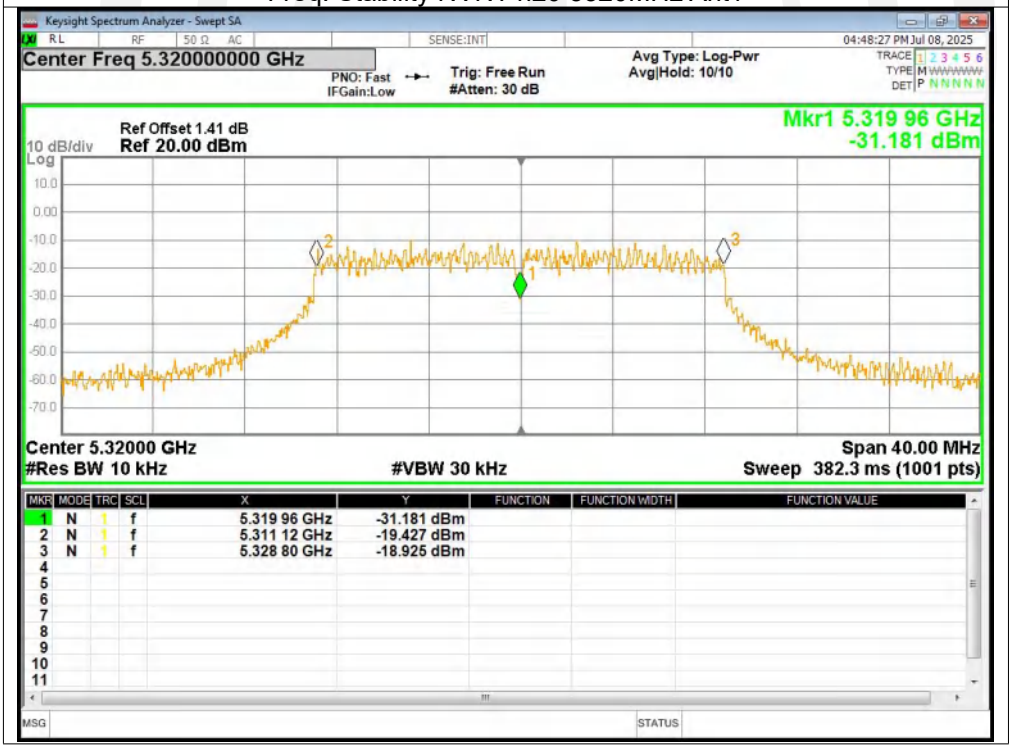
Freq. Stability NVNT n20 5260MHz Ant1



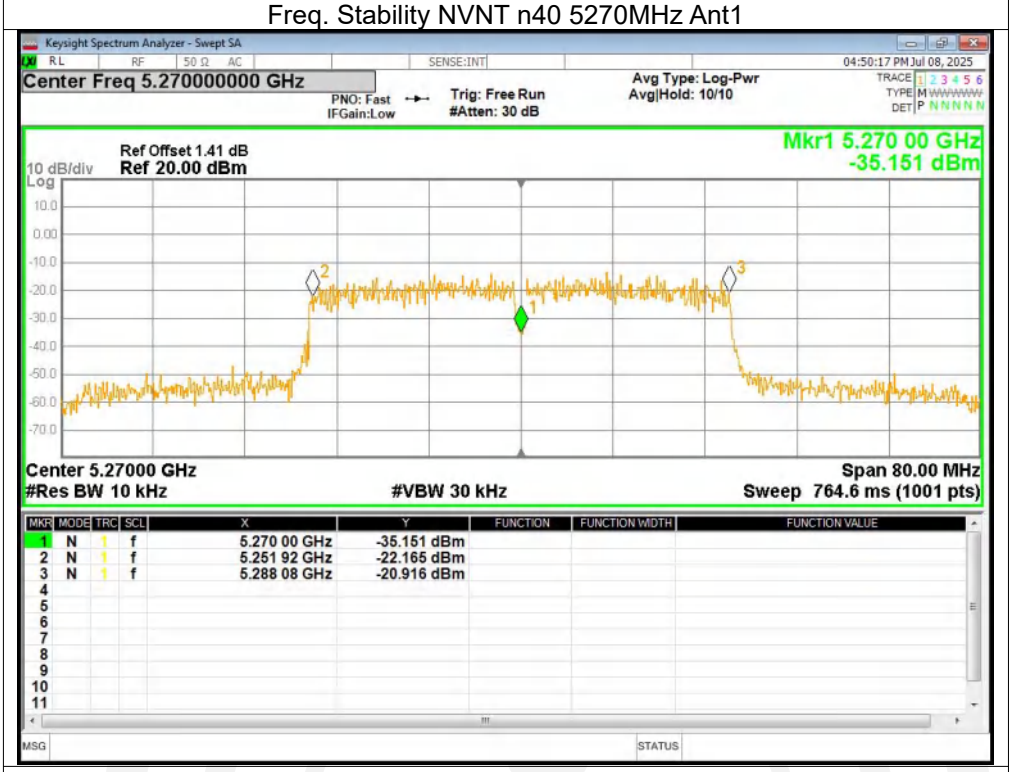
Freq. Stability NVNT n20 5280MHz Ant1



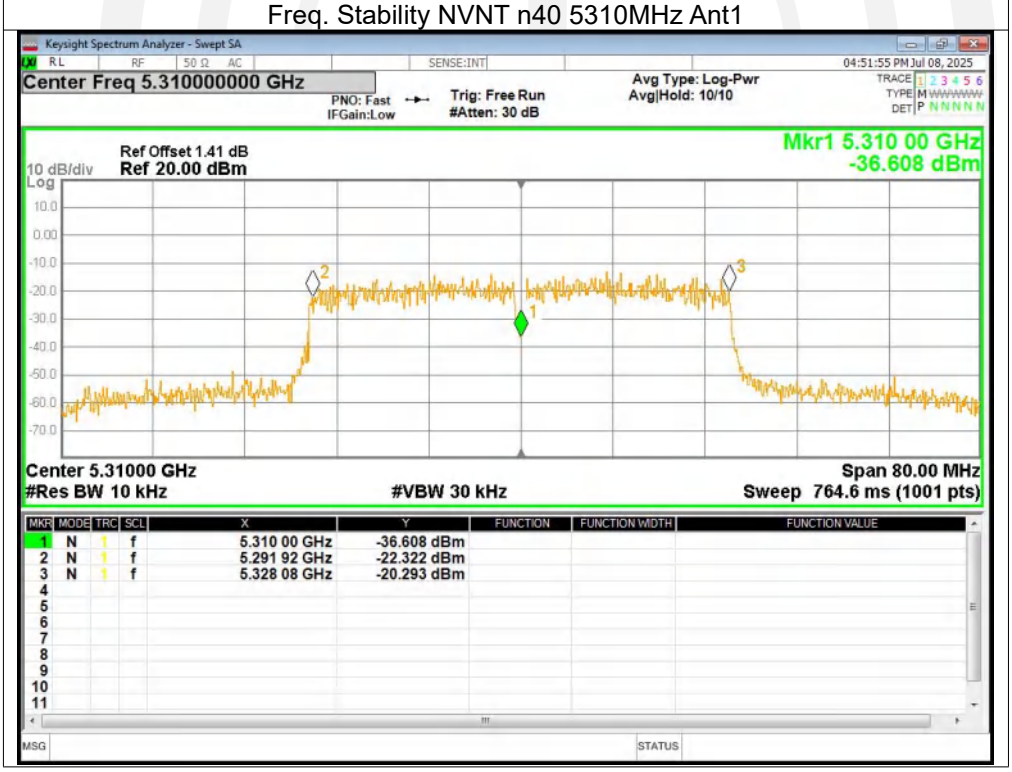
Freq. Stability NVNT n20 5320MHz Ant1



Freq. Stability NVNT n40 5270MHz Ant1



Freq. Stability NVNT n40 5310MHz Ant1

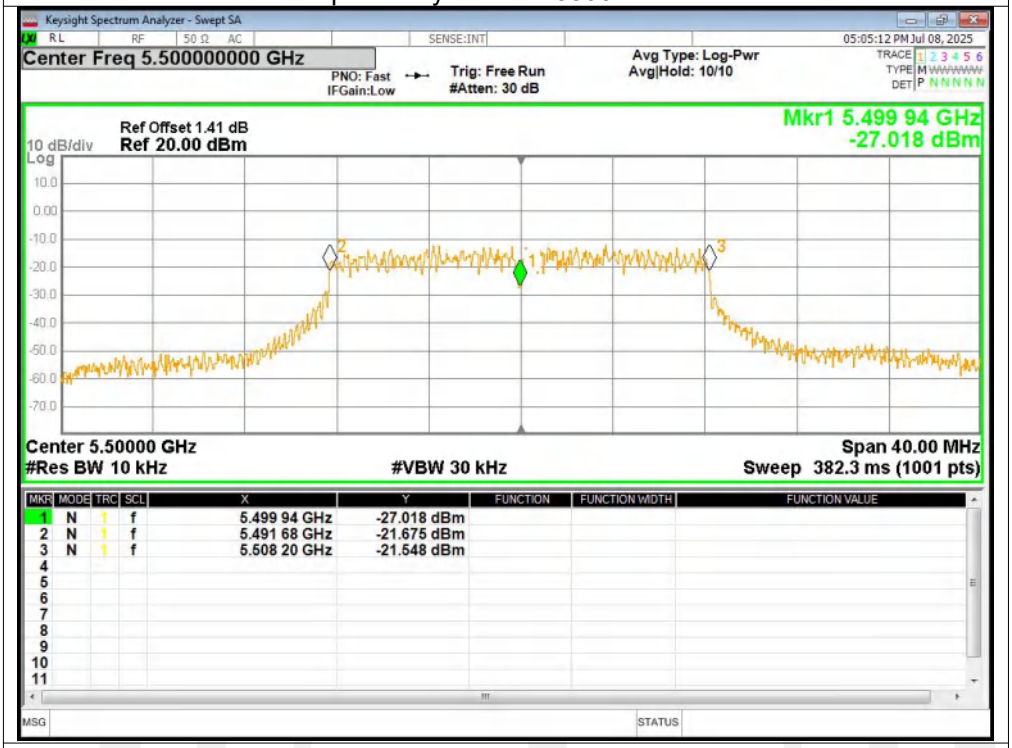


5.6G WIFI:

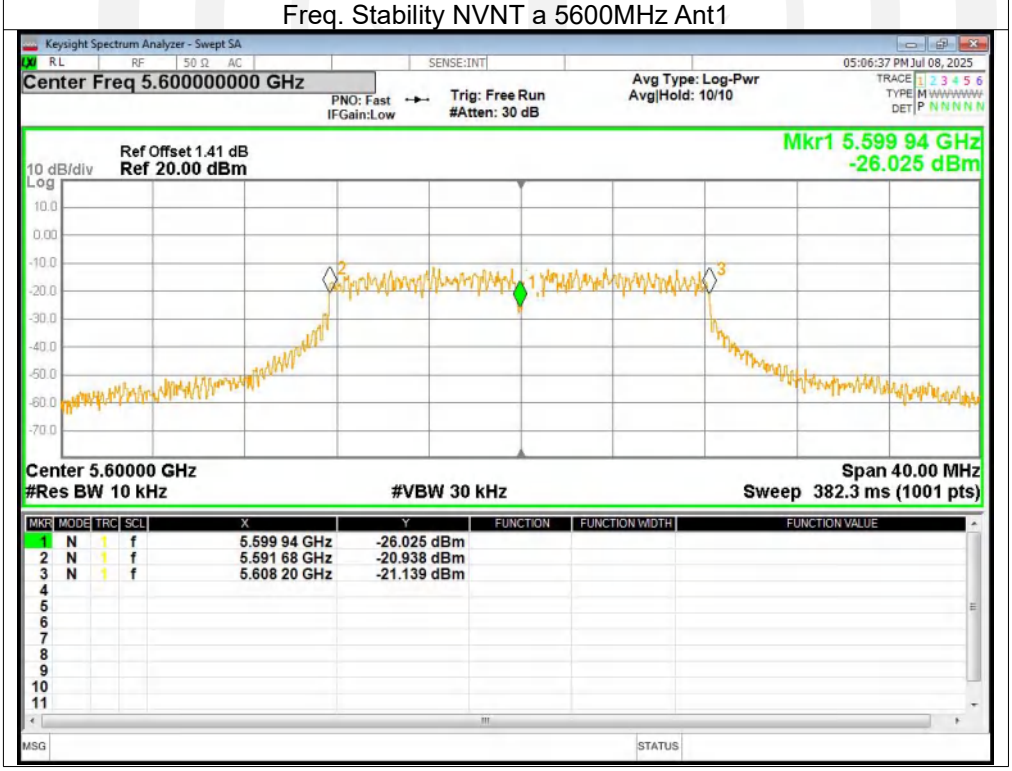
Condition	Mode	Frequency (MHz)	Antenna	Measured Frequency (MHz)	Frequency Error (Hz)	Deviation (ppm)	Limit (ppm)	Verdict
NVNT	a	5500	Ant1	5499.94	-60000	-10.91	25	Pass
NVNT	a	5600	Ant1	5599.94	-60000	-10.71	25	Pass
NVNT	a	5700	Ant1	5699.94	-60000	-10.53	25	Pass
NVNT	n20	5500	Ant1	5499.96	-40000	-7.27	25	Pass
NVNT	n20	5600	Ant1	5599.96	-40000	-7.14	25	Pass
NVNT	n20	5700	Ant1	5699.96	-40000	-7.02	25	Pass
NVNT	n40	5510	Ant1	5510	0	0	25	Pass
NVNT	n40	5550	Ant1	5550	0	0	25	Pass
NVNT	n40	5670	Ant1	5669.92	-80000	-14.11	25	Pass

Test Graphs

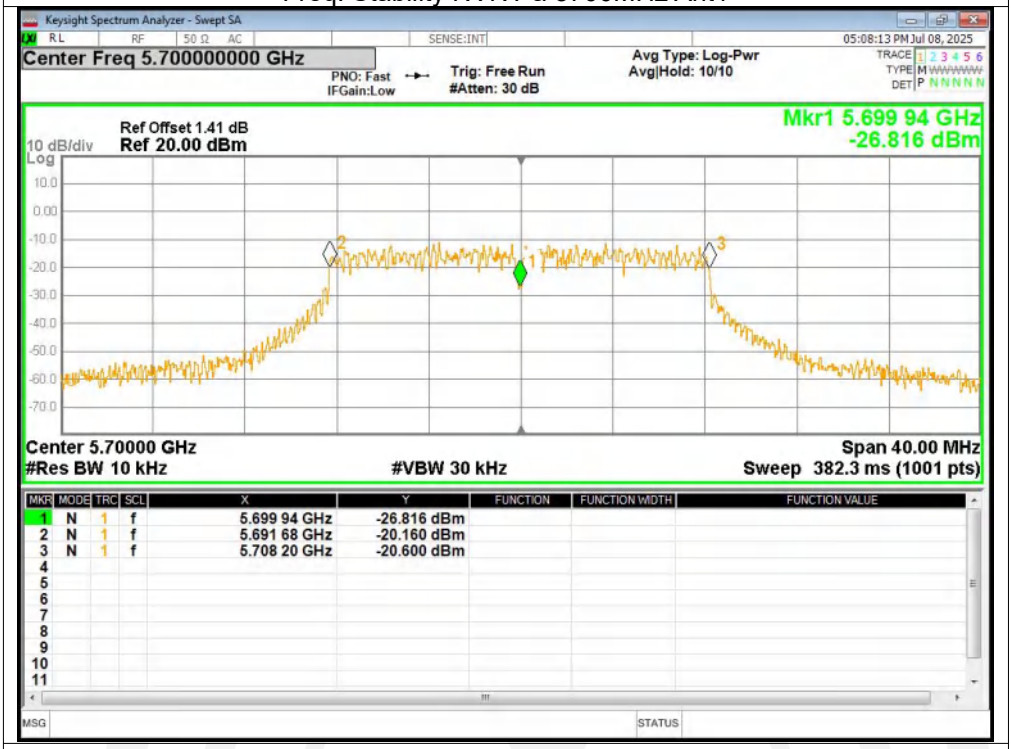
Freq. Stability NVNT a 5500MHz Ant1



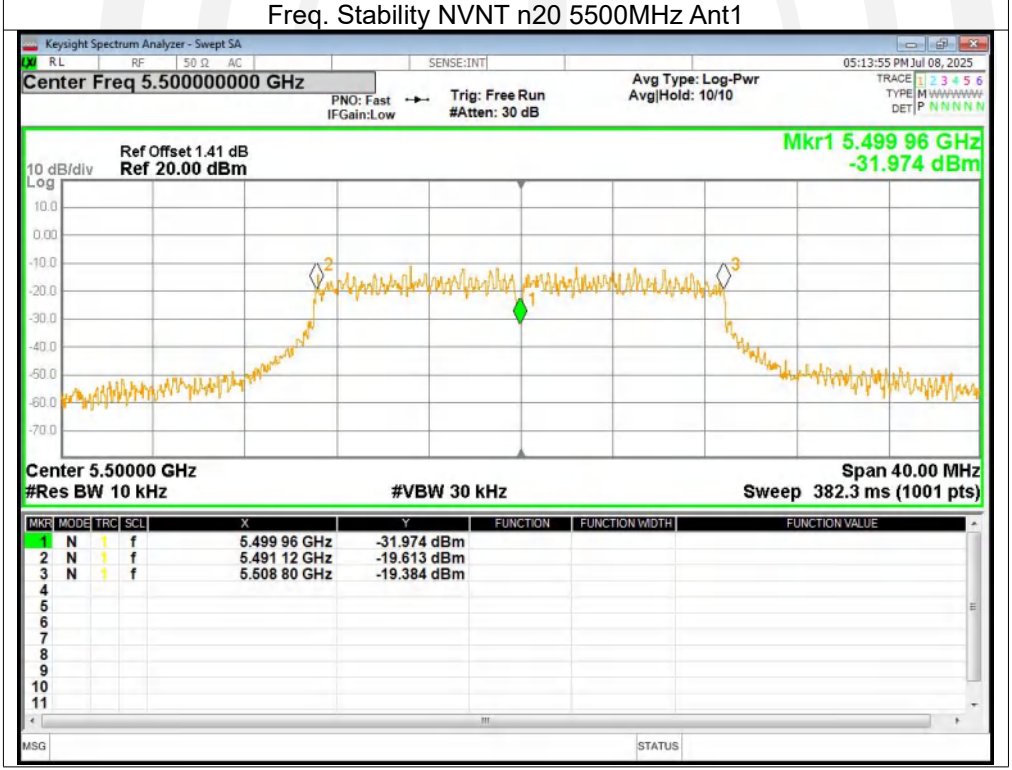
Freq. Stability NVNT a 5600MHz Ant1



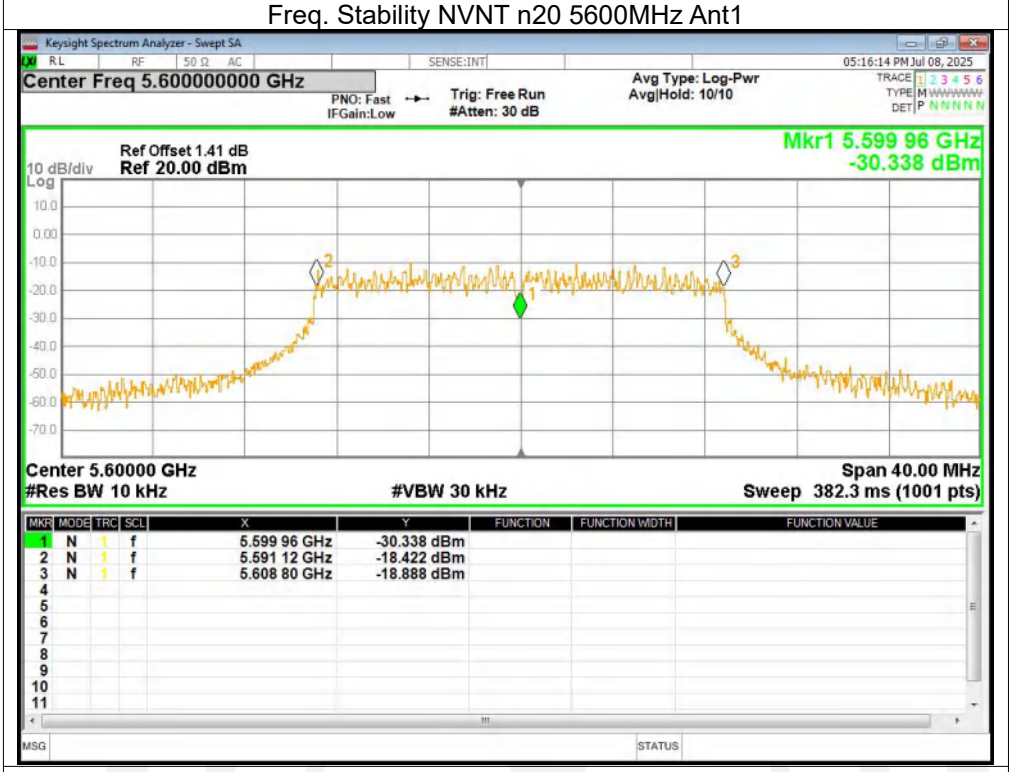
Freq. Stability NVNT a 5700MHz Ant1



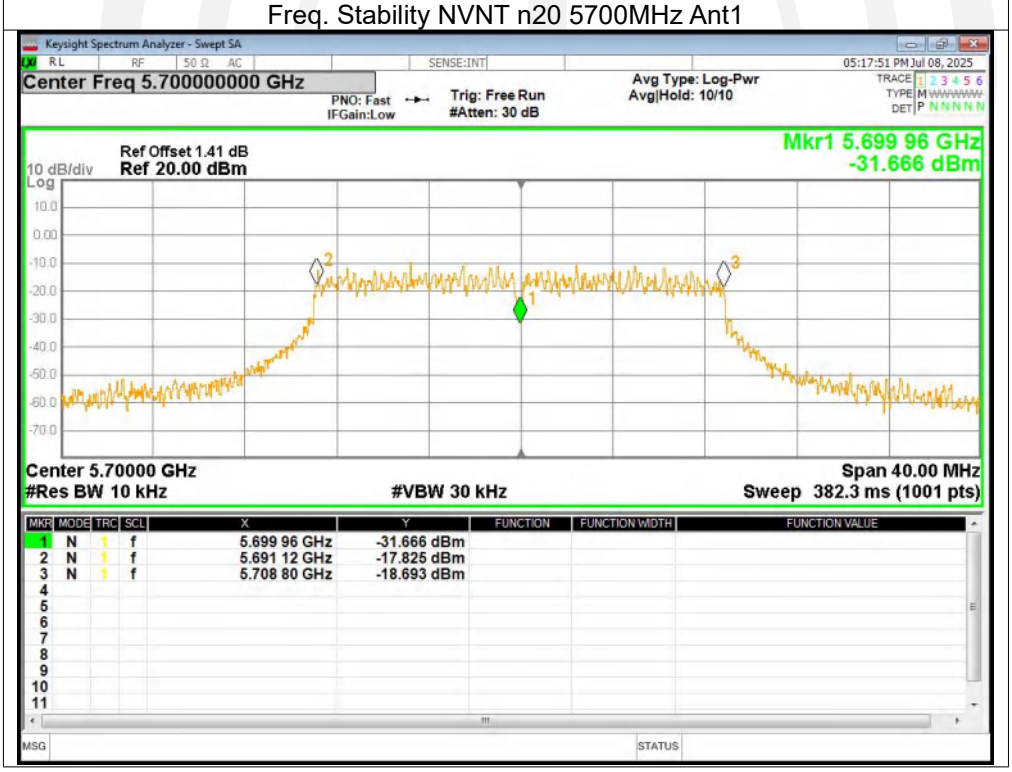
Freq. Stability NVNT n20 5500MHz Ant1



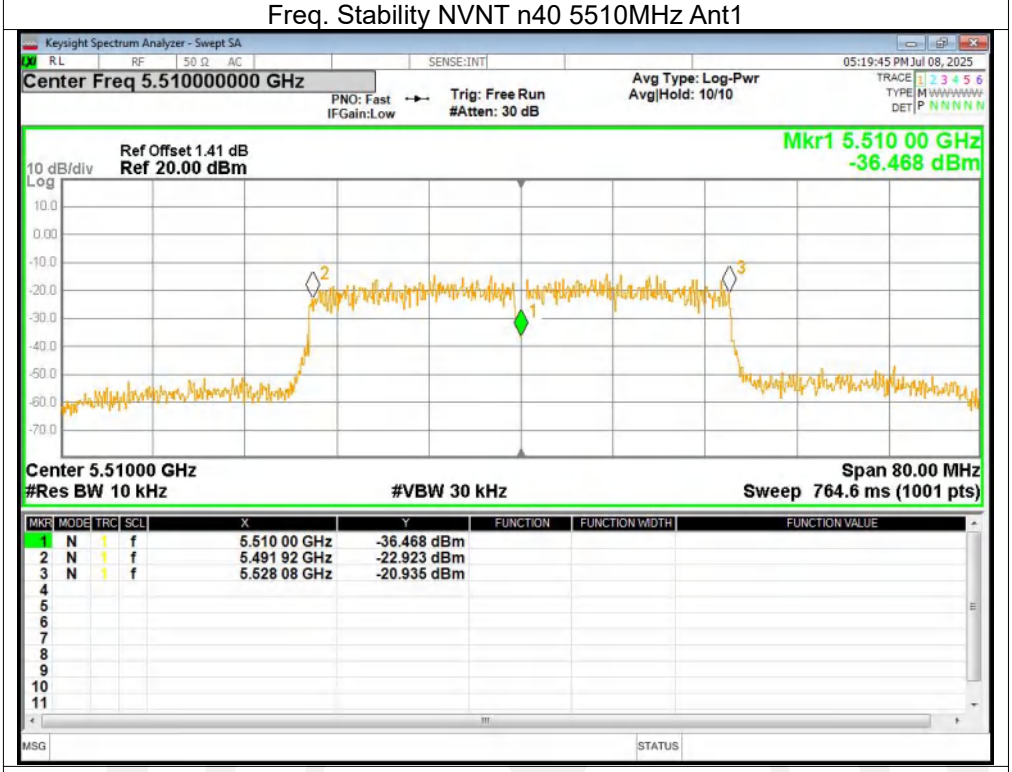
Freq. Stability NVNT n20 5600MHz Ant1



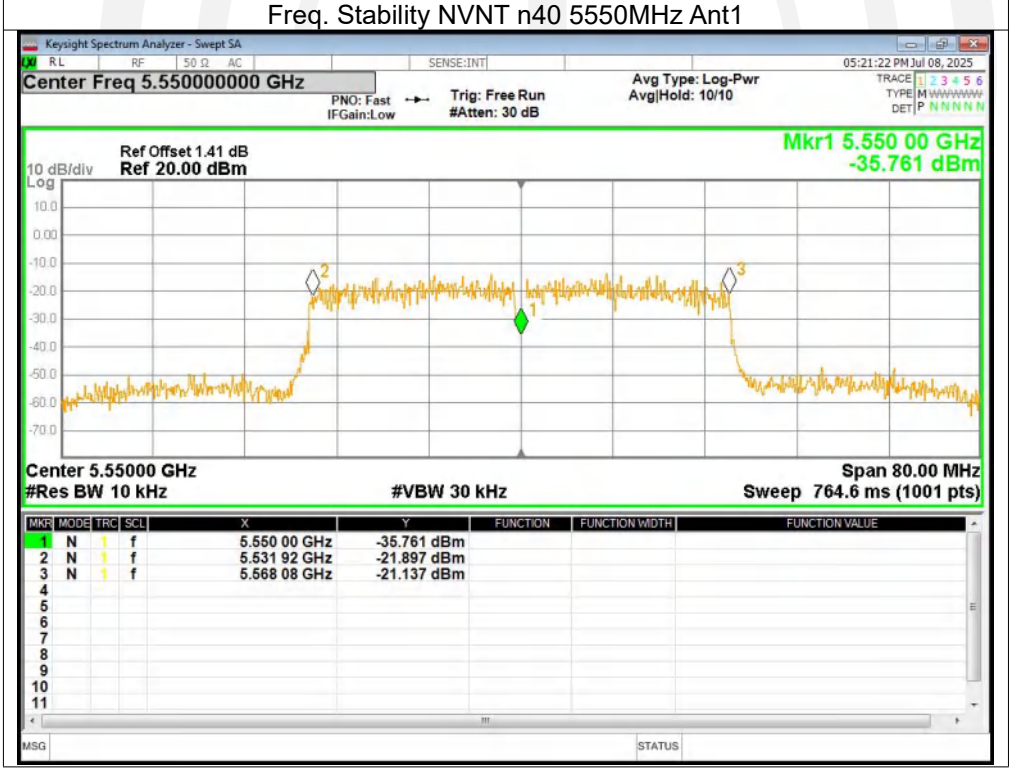
Freq. Stability NVNT n20 5700MHz Ant1



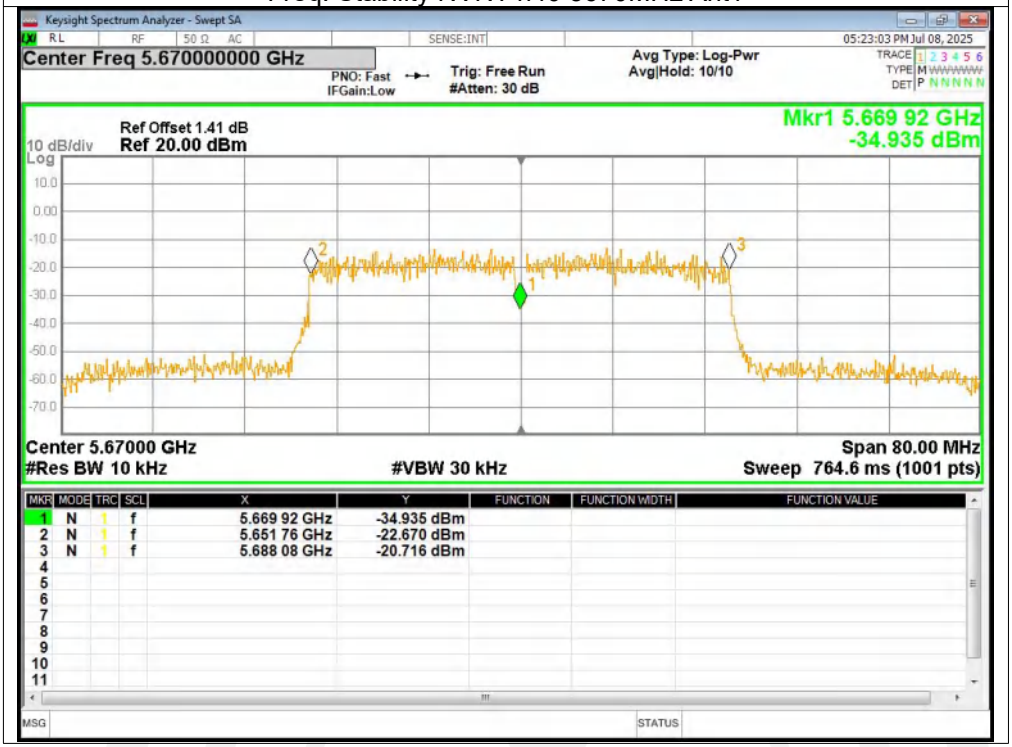
Freq. Stability NVNT n40 5510MHz Ant1



Freq. Stability NVNT n40 5550MHz Ant1



Freq. Stability NVNT n40 5670MHz Ant1



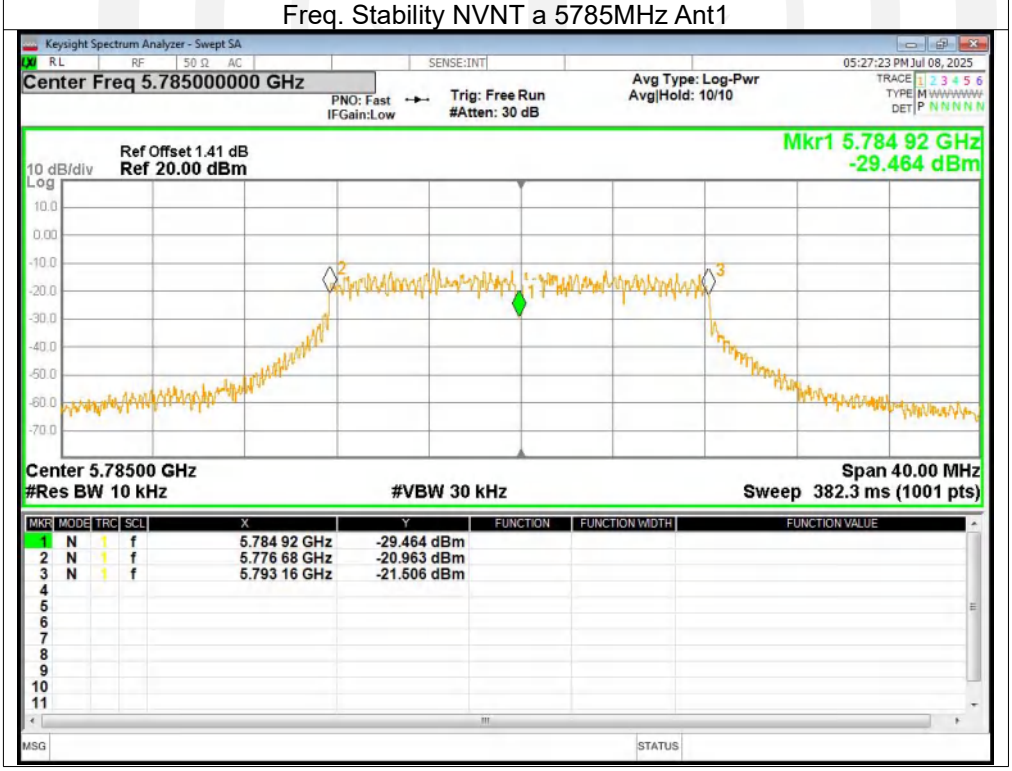
5.8GWIFI (5745MHz-5825 MHz)

Condition	Mode	Frequency (MHz)	Antenna	Measured Frequency (MHz)	Frequency Error (Hz)	Deviation (ppm)	Limit (ppm)	Verdict
NVNT	a	5745	Ant1	5744.92	-80000	-13.93	25	Pass
NVNT	a	5785	Ant1	5784.92	-80000	-13.83	25	Pass
NVNT	a	5825	Ant1	5824.94	-60000	-10.3	25	Pass
NVNT	n20	5745	Ant1	5744.96	-40000	-6.96	25	Pass
NVNT	n20	5785	Ant1	5784.96	-40000	-6.91	25	Pass
NVNT	n20	5825	Ant1	5824.98	-20000	-3.43	25	Pass
NVNT	n40	5755	Ant1	5754.92	-80000	-13.9	25	Pass
NVNT	n40	5795	Ant1	5794.92	-80000	-13.81	25	Pass

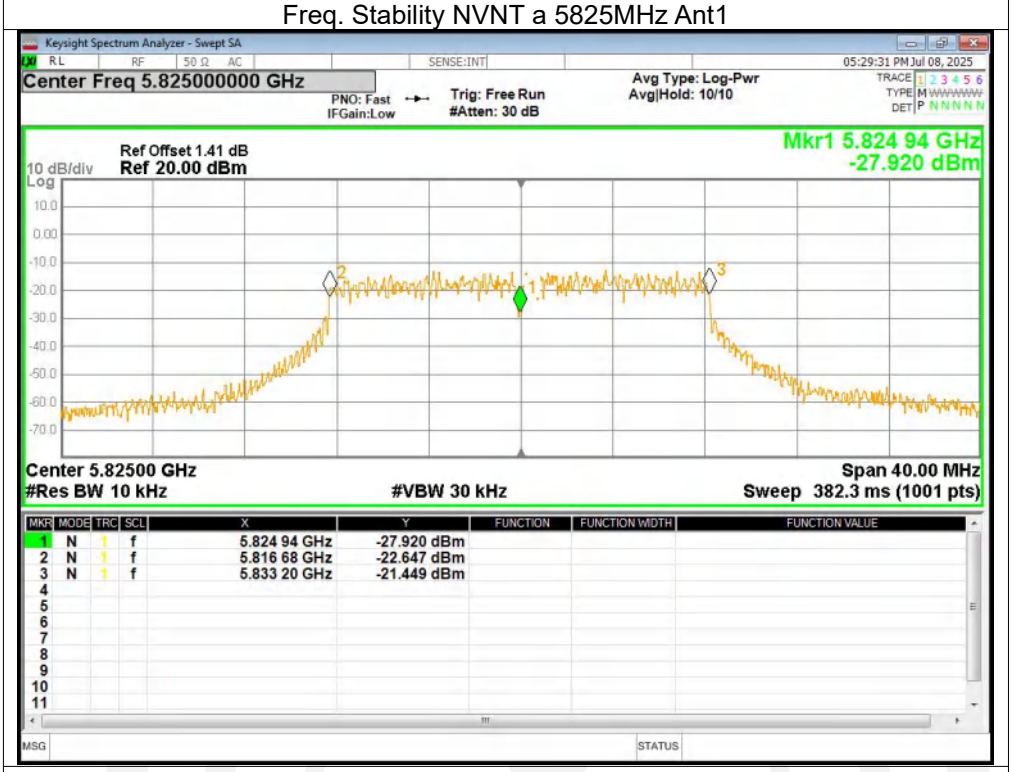
Test Graphs

Freq. Stability NVNT a 5745MHz Ant1

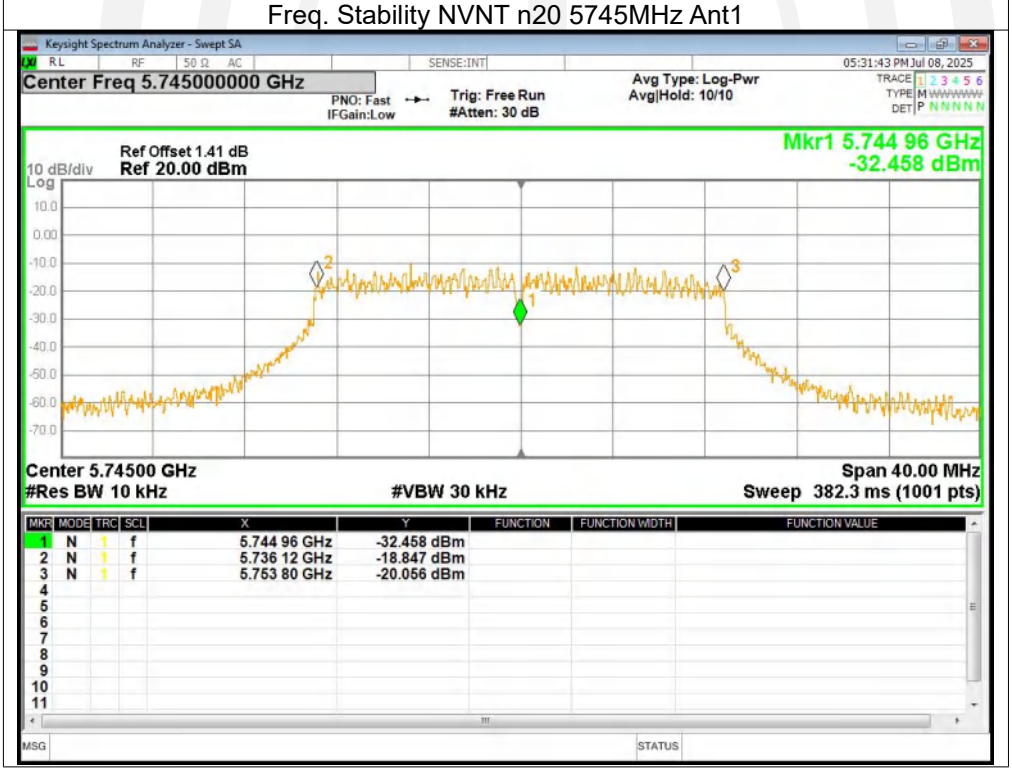
Freq. Stability NVNT a 5785MHz Ant1



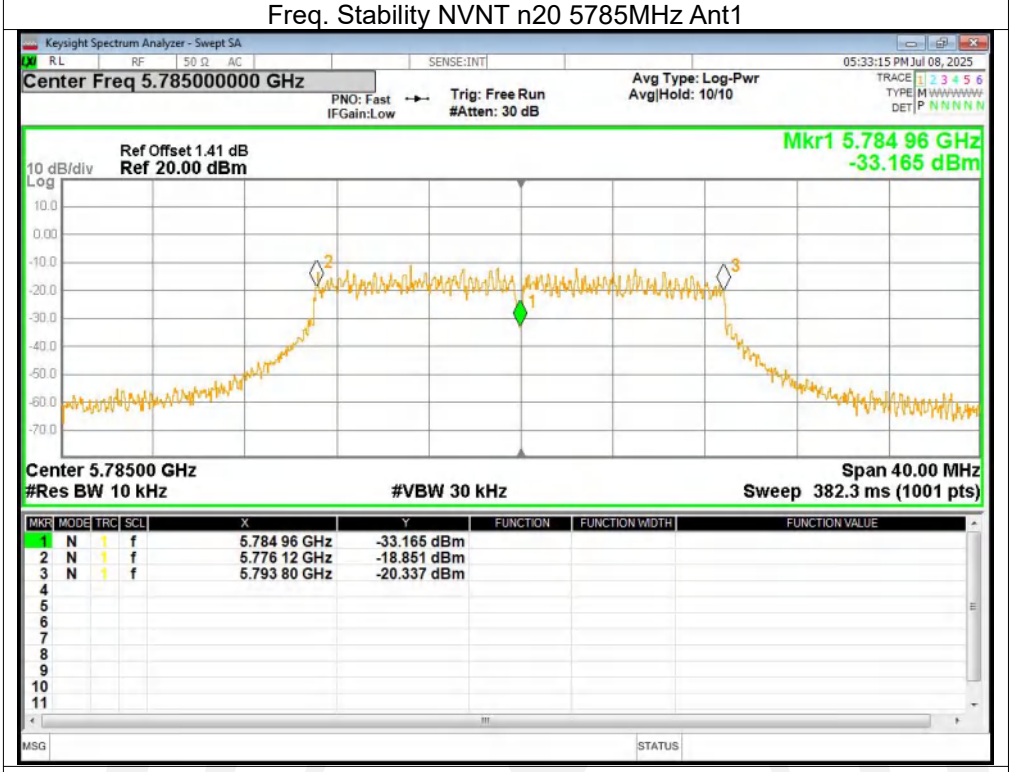
Freq. Stability NVNT a 5825MHz Ant1



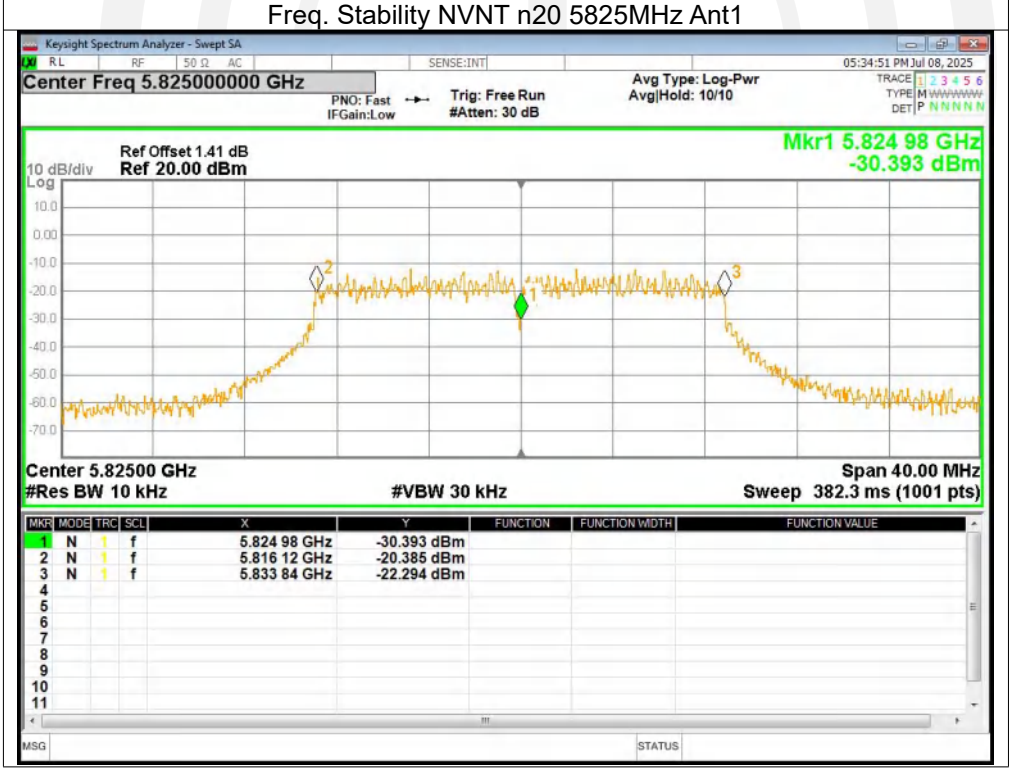
Freq. Stability NVNT n20 5745MHz Ant1



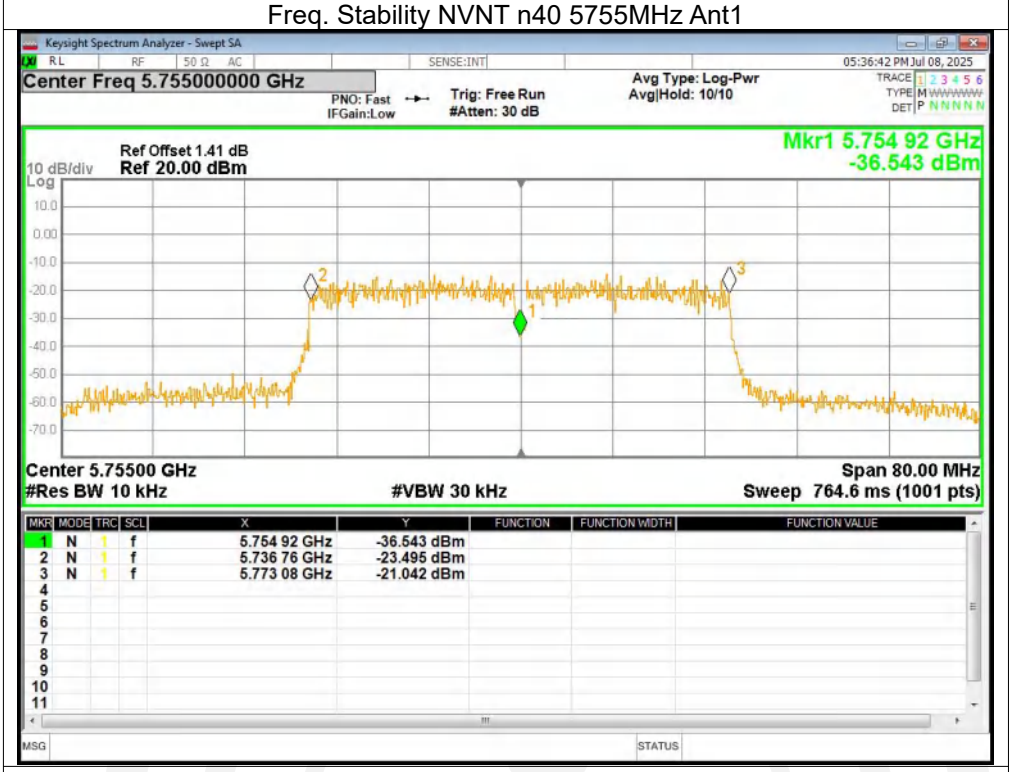
Freq. Stability NVNT n20 5785MHz Ant1



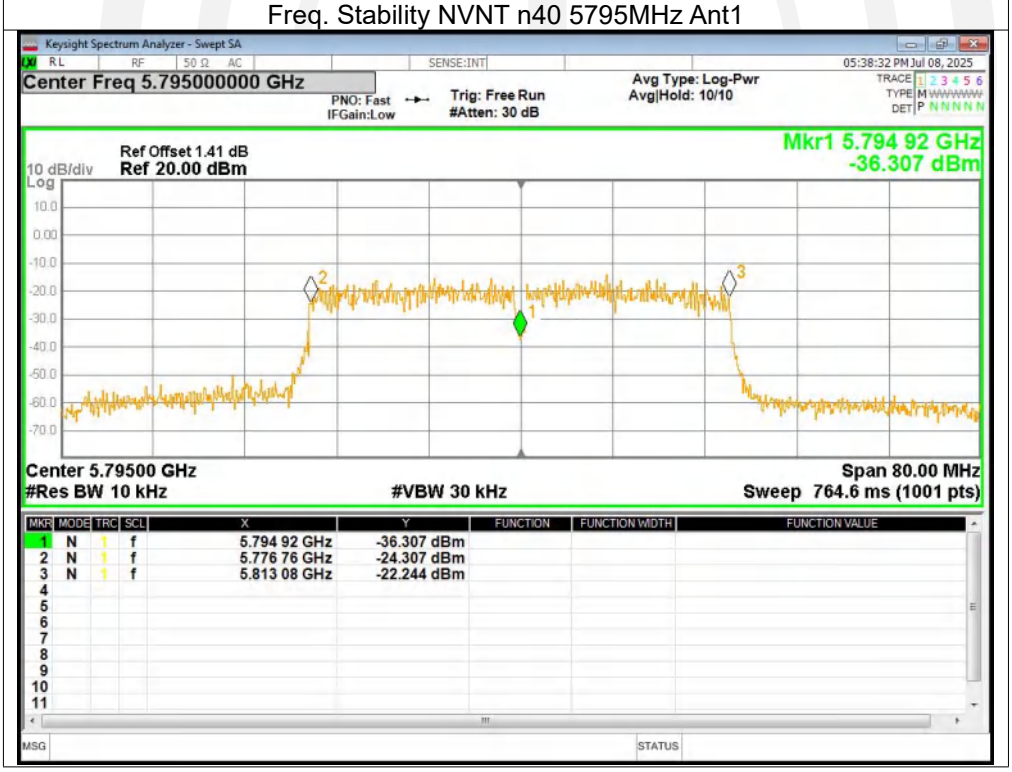
Freq. Stability NVNT n20 5825MHz Ant1



Freq. Stability NVNT n40 5755MHz Ant1



Freq. Stability NVNT n40 5795MHz Ant1



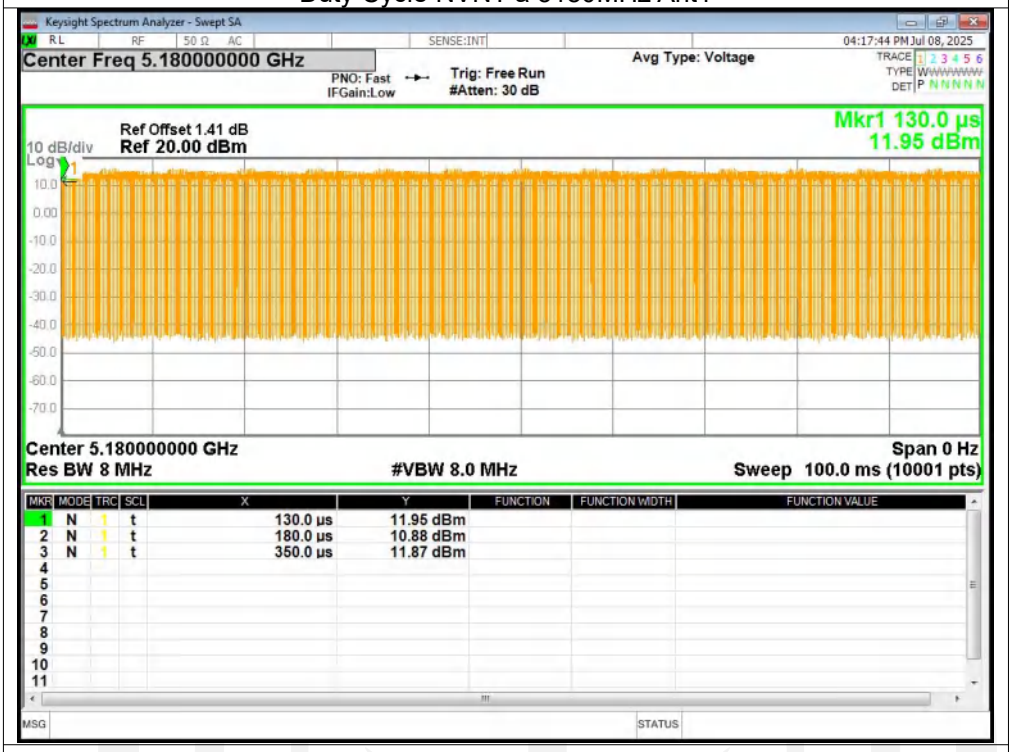
4.8 Duty Cycle

Mode	Frequency (MHz)	Tonms	Total ms	Duty Cycle (%)	Correction Factor (dB)	1/T (kHz)
a	5180	0.17	0.22	77.27	1.12	5.88
a	5200	0.17	0.23	73.91	1.31	5.88
a	5240	0.18	0.23	78.26	1.06	5.56
n20	5180	0.16	0.21	76.19	1.18	6.25
n20	5200	0.16	0.21	76.19	1.18	6.25
n20	5240	0.16	0.22	72.73	1.38	6.25
n40	5190	0.10	0.15	66.67	1.76	10
n40	5230	0.10	0.15	66.67	1.76	10
a	5260	0.17	0.22	77.27	1.12	5.88
a	5280	0.17	0.22	77.27	1.12	5.88
a	5320	0.17	0.22	77.27	1.12	5.88
n20	5260	0.16	0.21	76.19	1.18	6.25
n20	5280	0.16	0.21	76.19	1.18	6.25
n20	5320	0.16	0.21	76.19	1.18	6.25
n40	5270	0.09	0.15	60	2.22	11.11
n40	5310	0.10	0.15	66.67	1.76	10
a	5500	0.17	0.22	77.27	1.12	5.88
a	5600	0.17	0.22	77.27	1.12	5.88
a	5700	0.17	0.23	73.91	1.31	5.88
n20	5500	0.16	0.21	76.19	1.18	6.25
n20	5600	0.16	0.21	76.19	1.18	6.25
n20	5700	0.16	0.21	76.19	1.18	6.25
n40	5510	0.10	0.15	66.67	1.76	10
n40	5550	0.10	0.15	66.67	1.76	10
n40	5670	0.10	0.15	66.67	1.76	10
a	5745	0.17	0.23	73.91	1.31	5.88
a	5785	0.18	0.23	78.26	1.06	5.56
a	5825	0.17	0.22	77.27	1.12	5.88
n20	5745	0.16	0.21	76.19	1.18	6.25
n20	5785	0.16	0.21	76.19	1.18	6.25
n20	5825	0.16	0.22	72.73	1.38	6.25
n40	5755	0.10	0.15	66.67	1.76	10
n40	5795	0.10	0.15	65.1	1.86	10.31

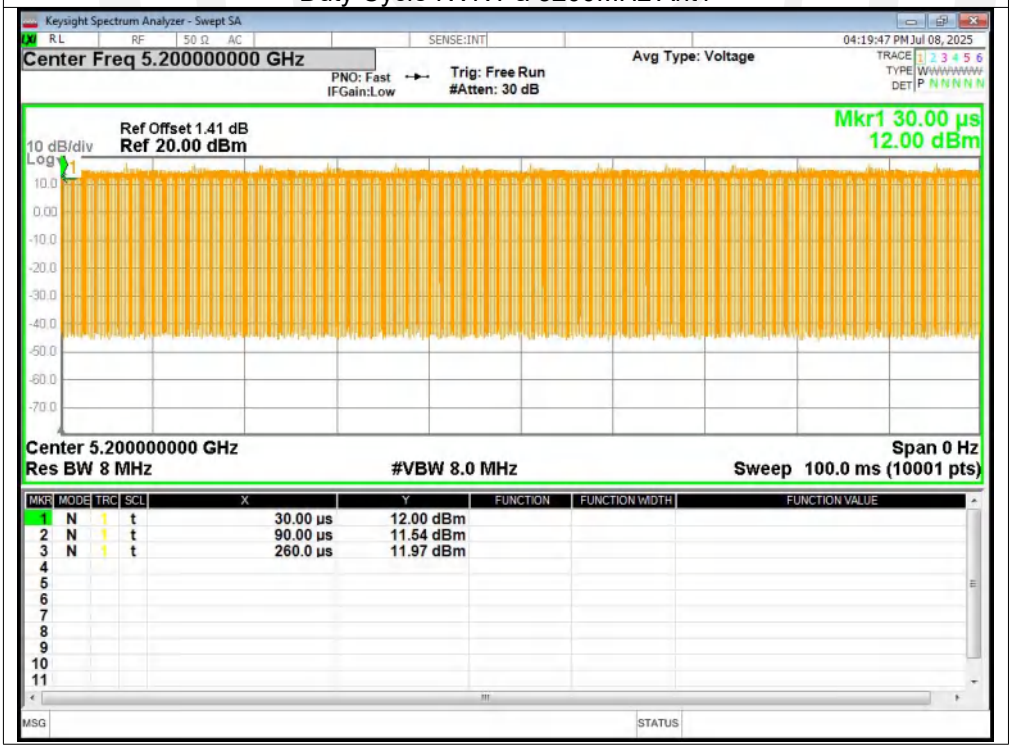
Note:1. Duty Cycle = T_{on} / T_{otal}, 2.Correction Factor = 10 log (1/ Duty Cycle), 3.1/T=1/T_{on}

Test Graphs

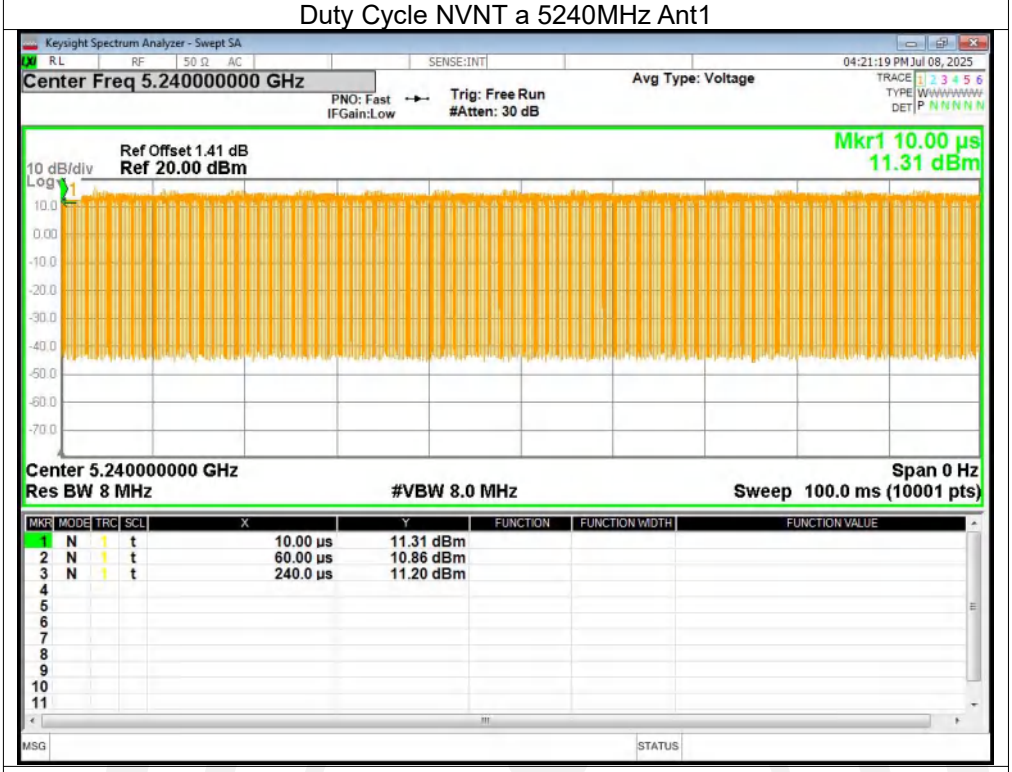
Duty Cycle NVNT a 5180MHz Ant1



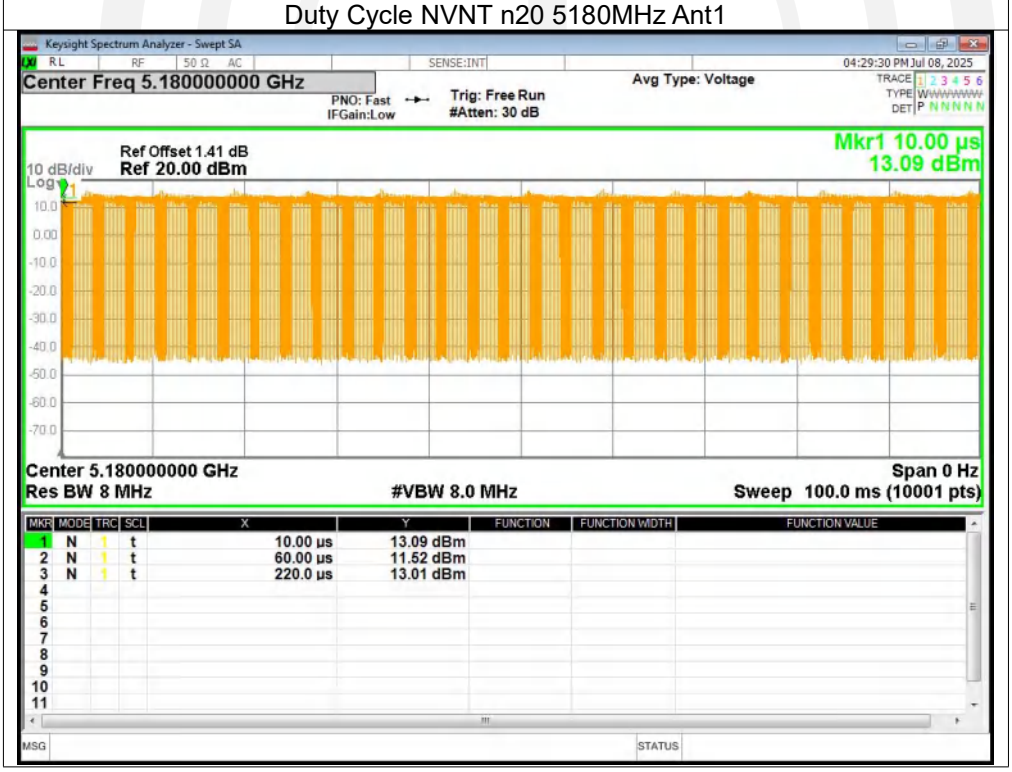
Duty Cycle NVNT a 5200MHz Ant1



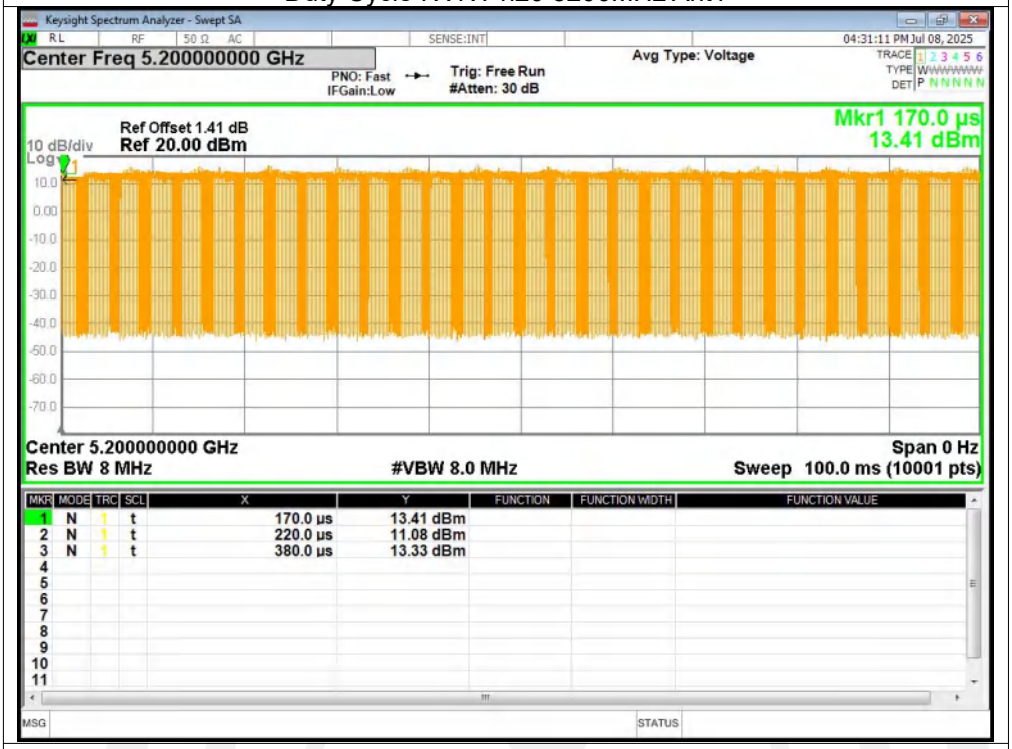
Duty Cycle NVNT a 5240MHz Ant1



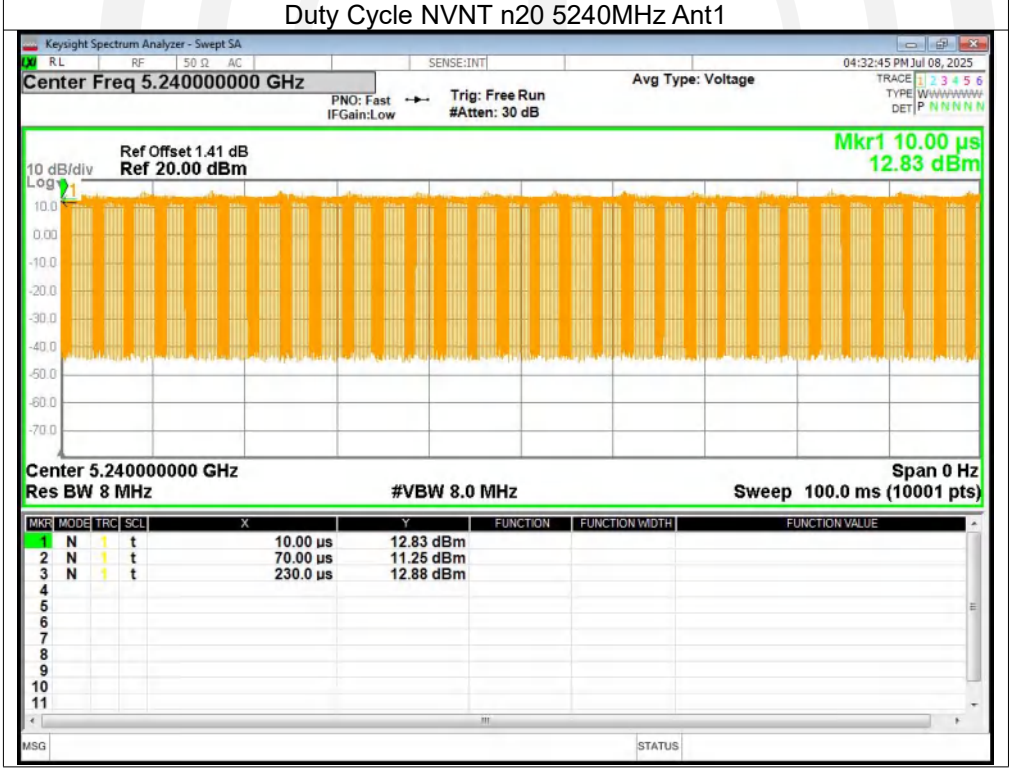
Duty Cycle NVNT n20 5180MHz Ant1



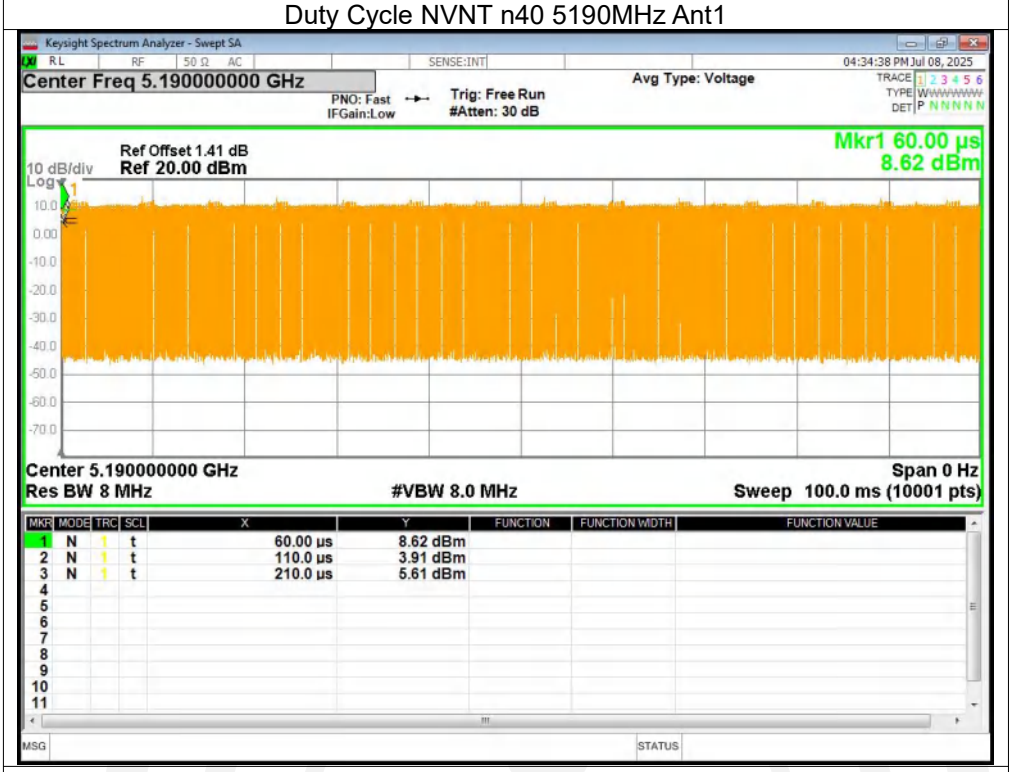
Duty Cycle NVNT n20 5200MHz Ant1



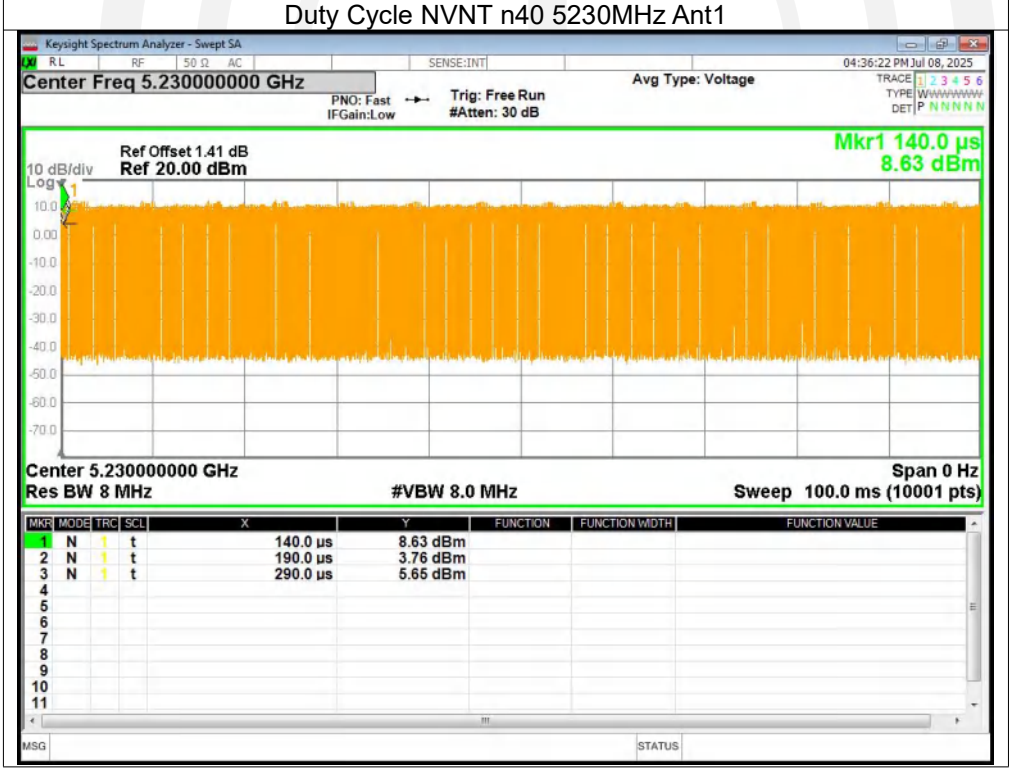
Duty Cycle NVNT n20 5240MHz Ant1



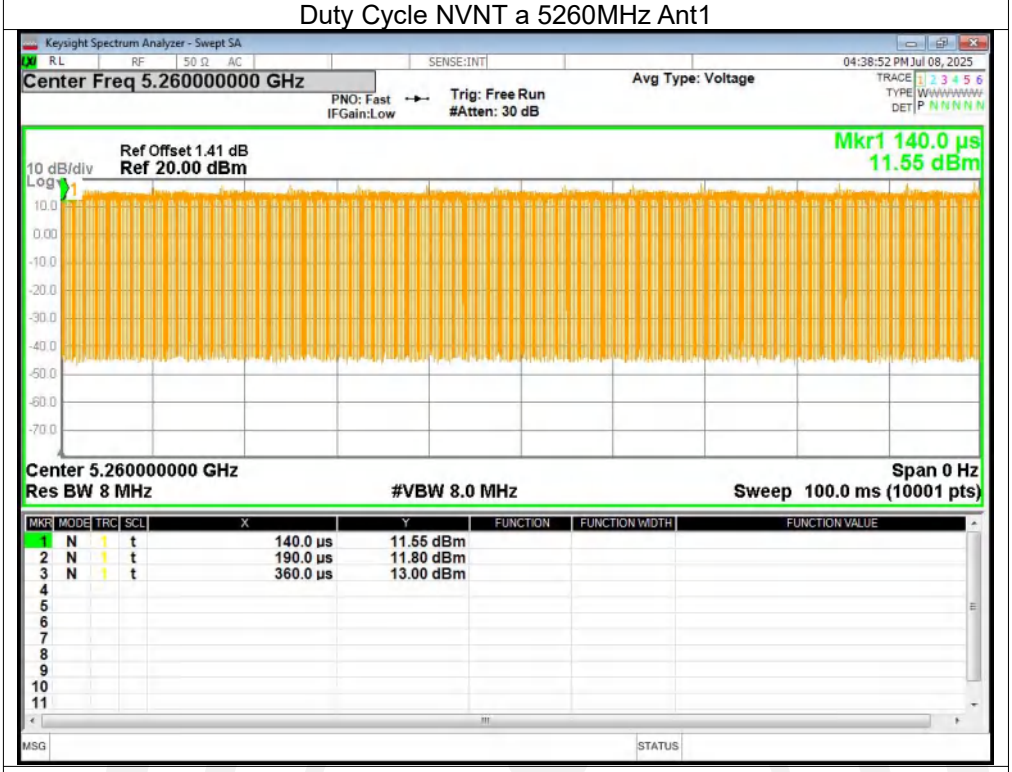
Duty Cycle NVNT n40 5190MHz Ant1



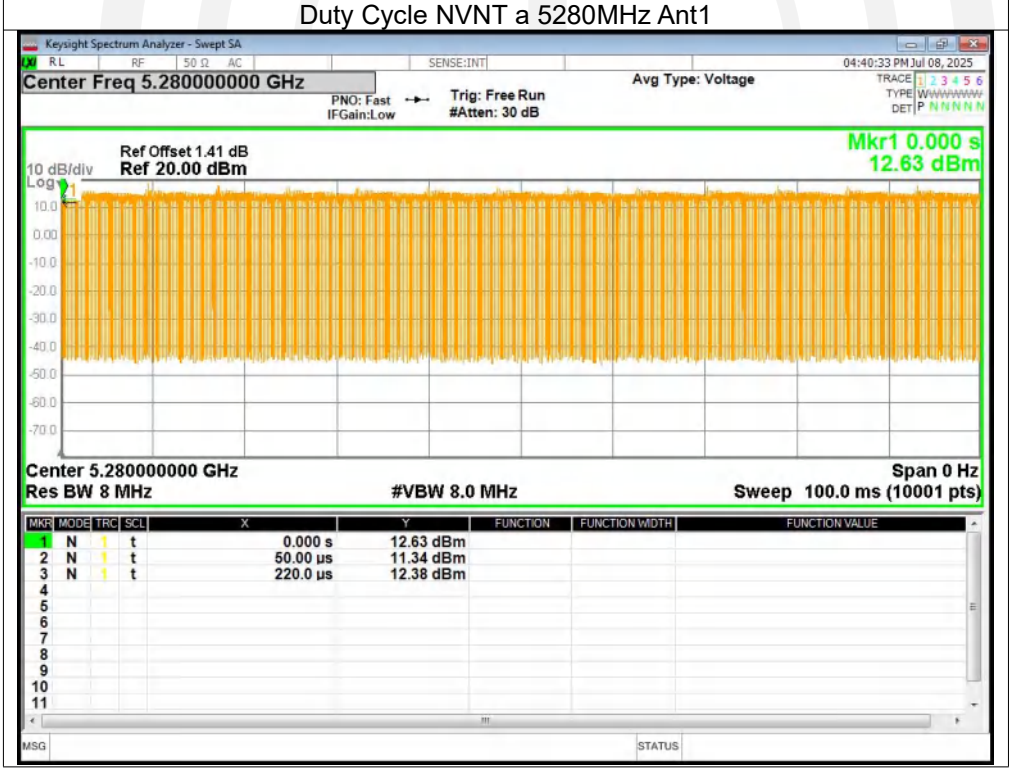
Duty Cycle NVNT n40 5230MHz Ant1



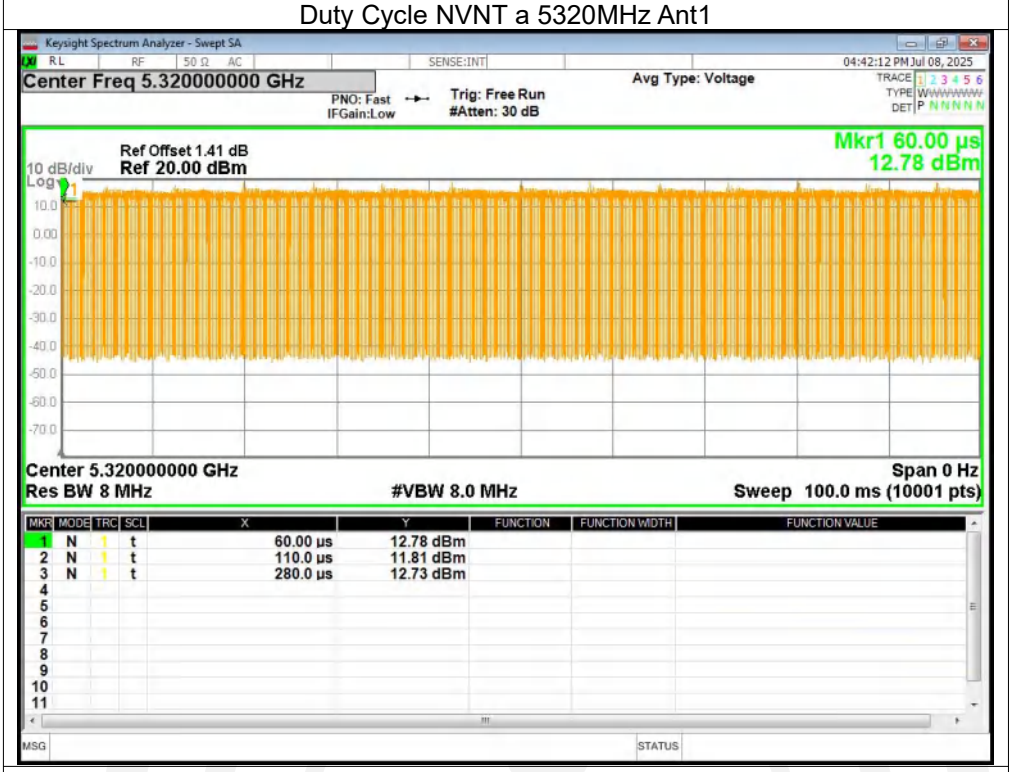
Duty Cycle NVNT a 5260MHz Ant1



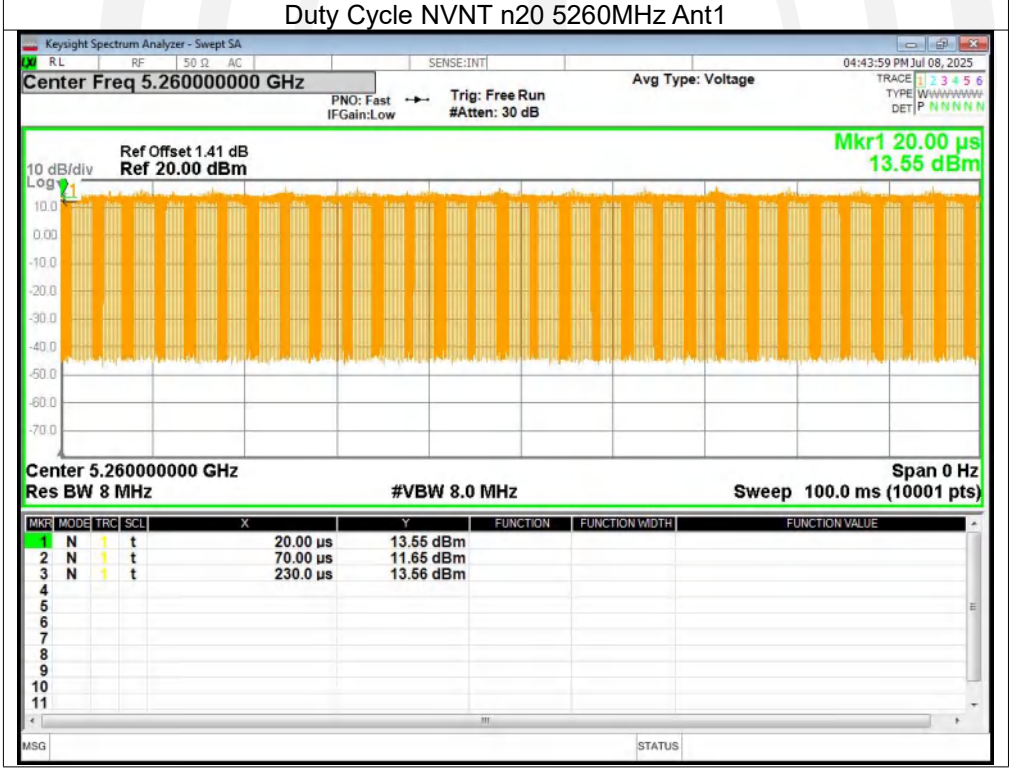
Duty Cycle NVNT a 5280MHz Ant1



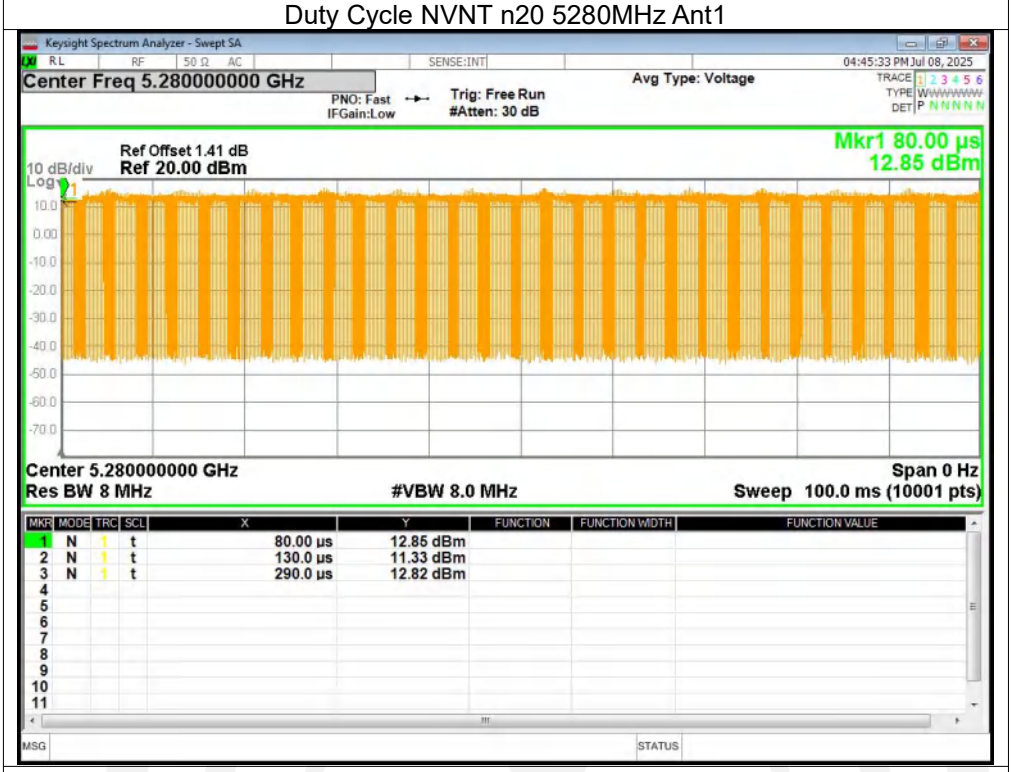
Duty Cycle NVNT a 5320MHz Ant1



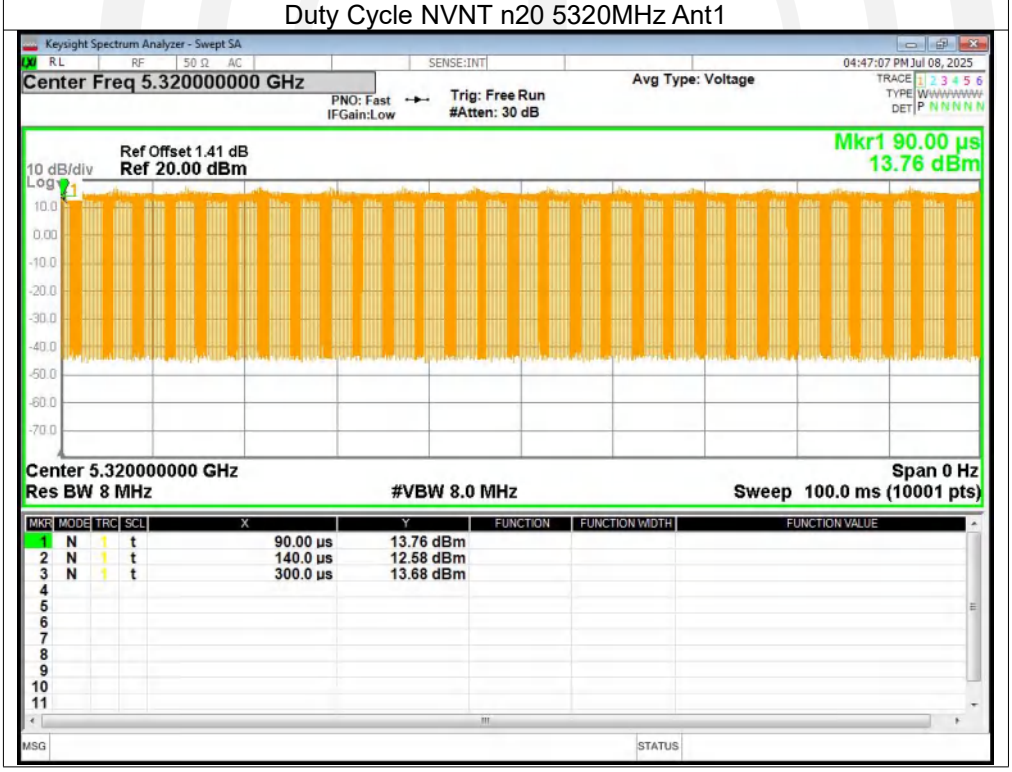
Duty Cycle NVNT n20 5260MHz Ant1



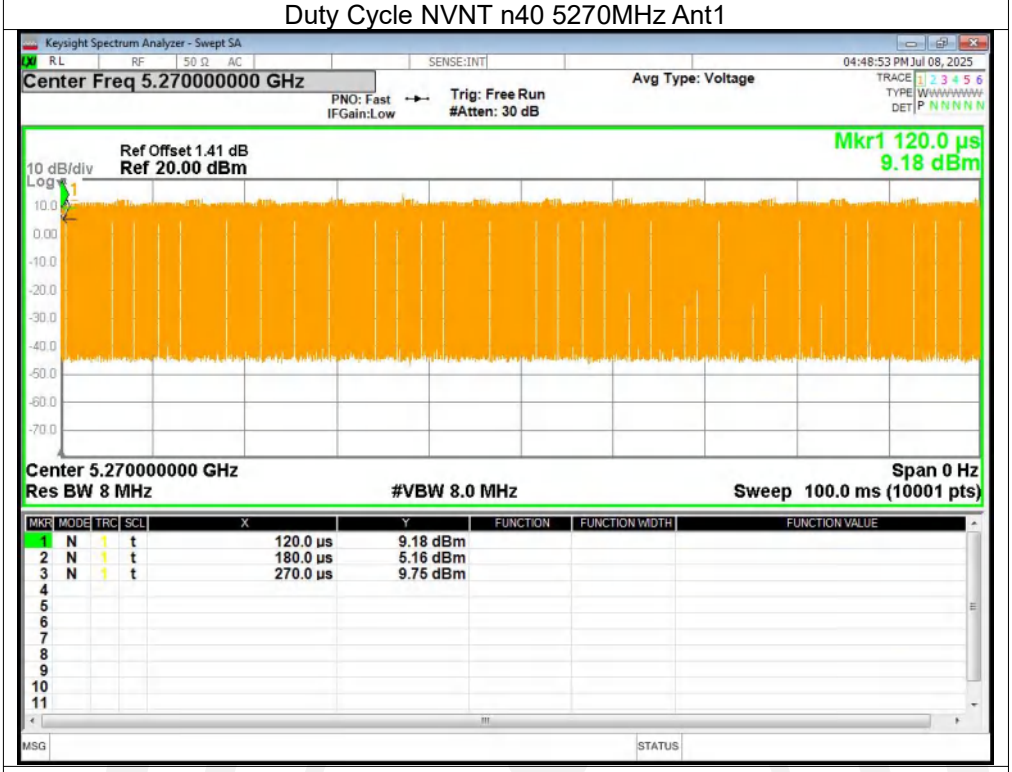
Duty Cycle NVNT n20 5280MHz Ant1



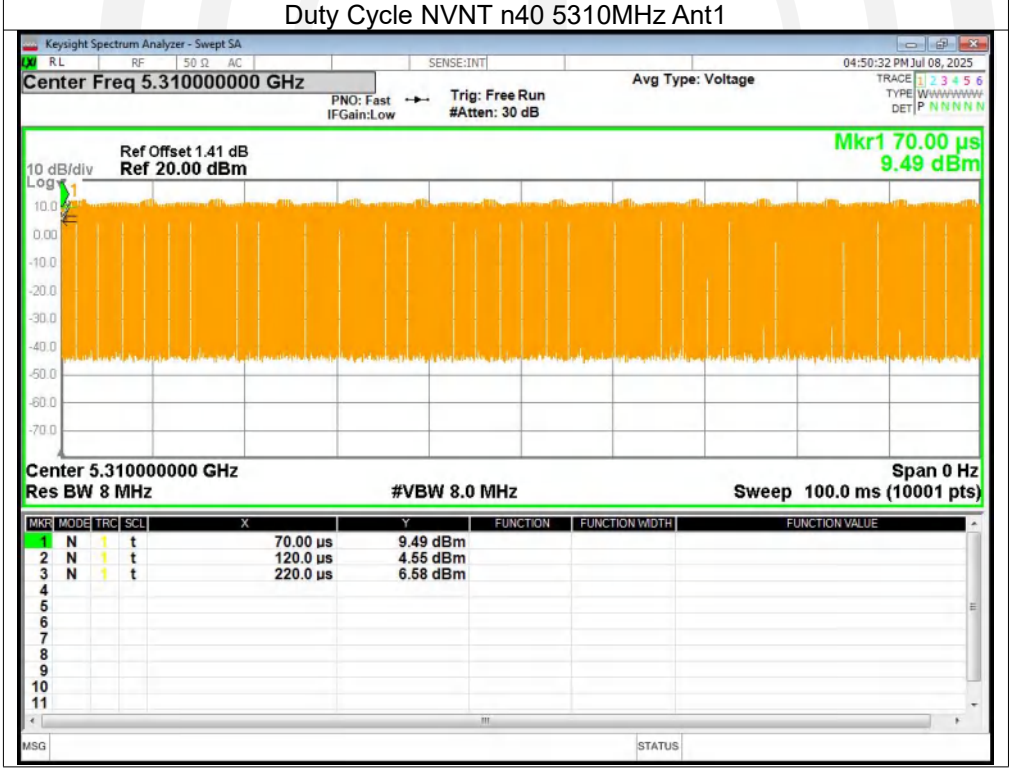
Duty Cycle NVNT n20 5320MHz Ant1



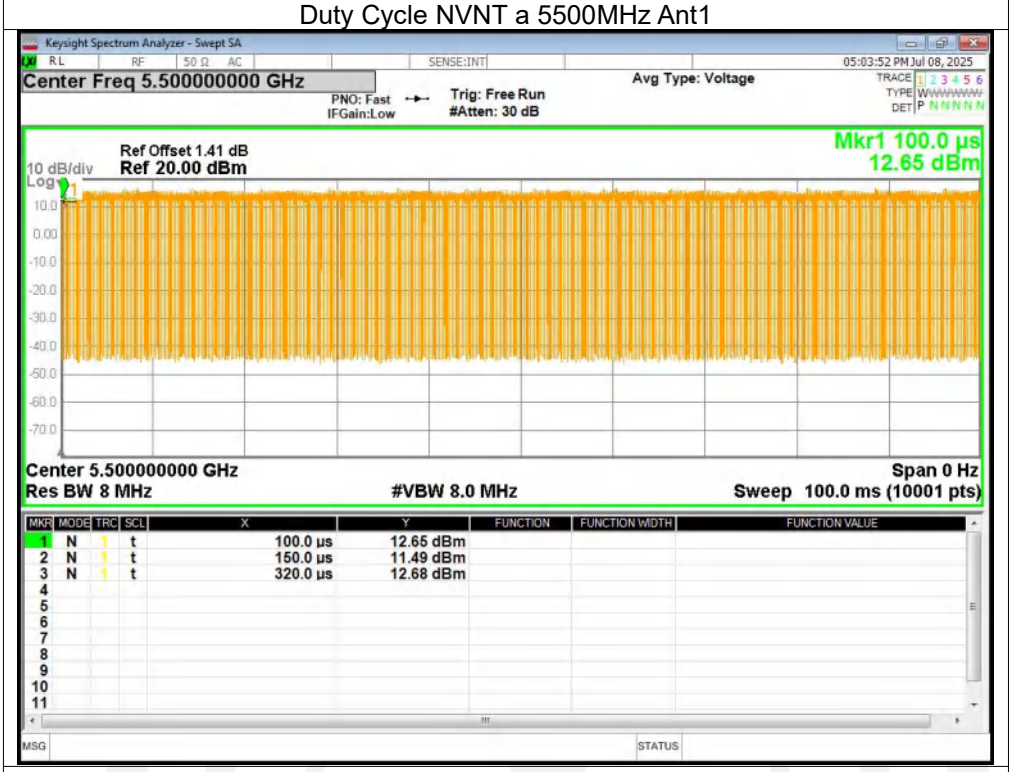
Duty Cycle NVNT n40 5270MHz Ant1



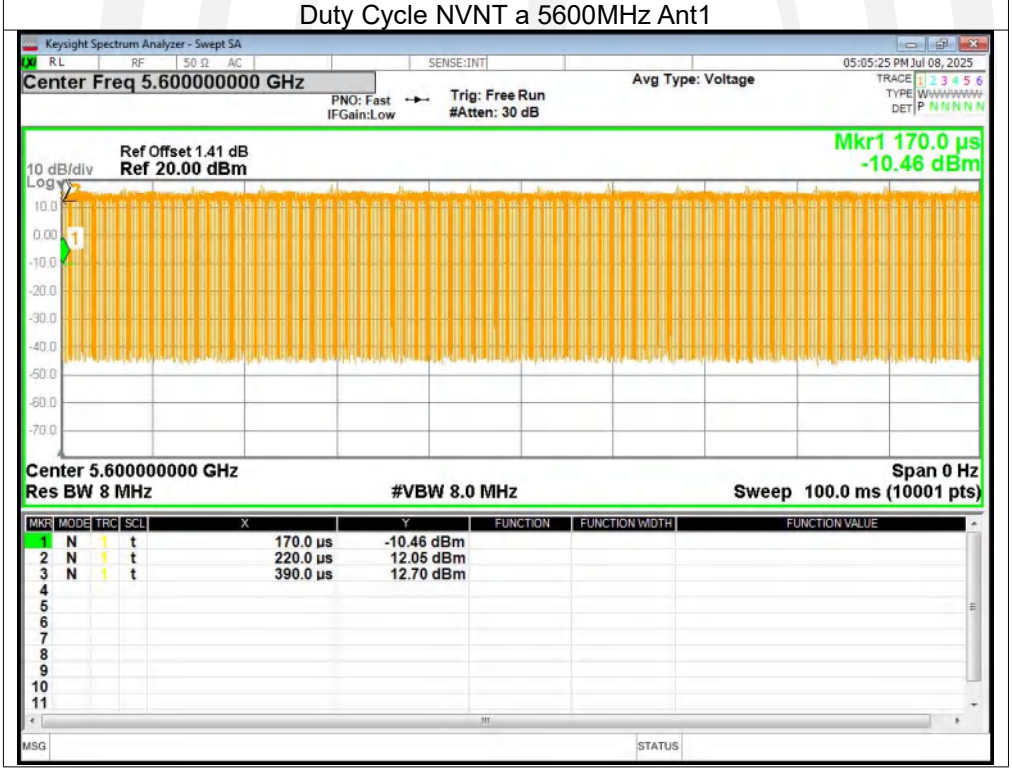
Duty Cycle NVNT n40 5310MHz Ant1



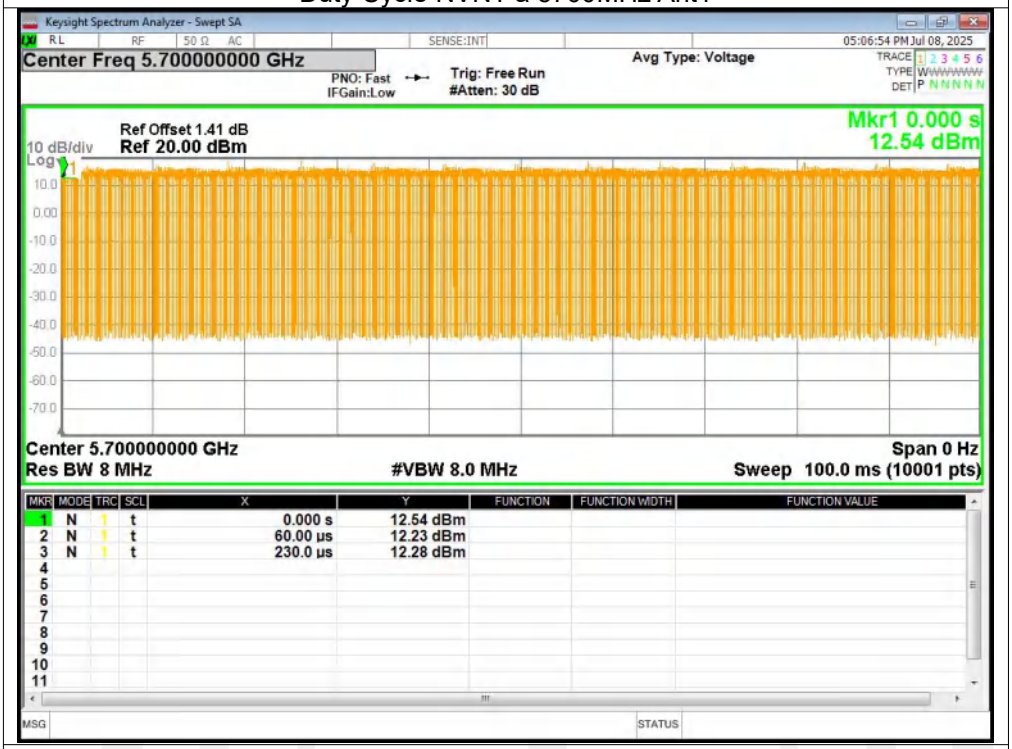
Duty Cycle NVNT a 5500MHz Ant1



Duty Cycle NVNT a 5600MHz Ant1



Duty Cycle NVNT a 5700MHz Ant1



Duty Cycle NVNT n20 5500MHz Ant1