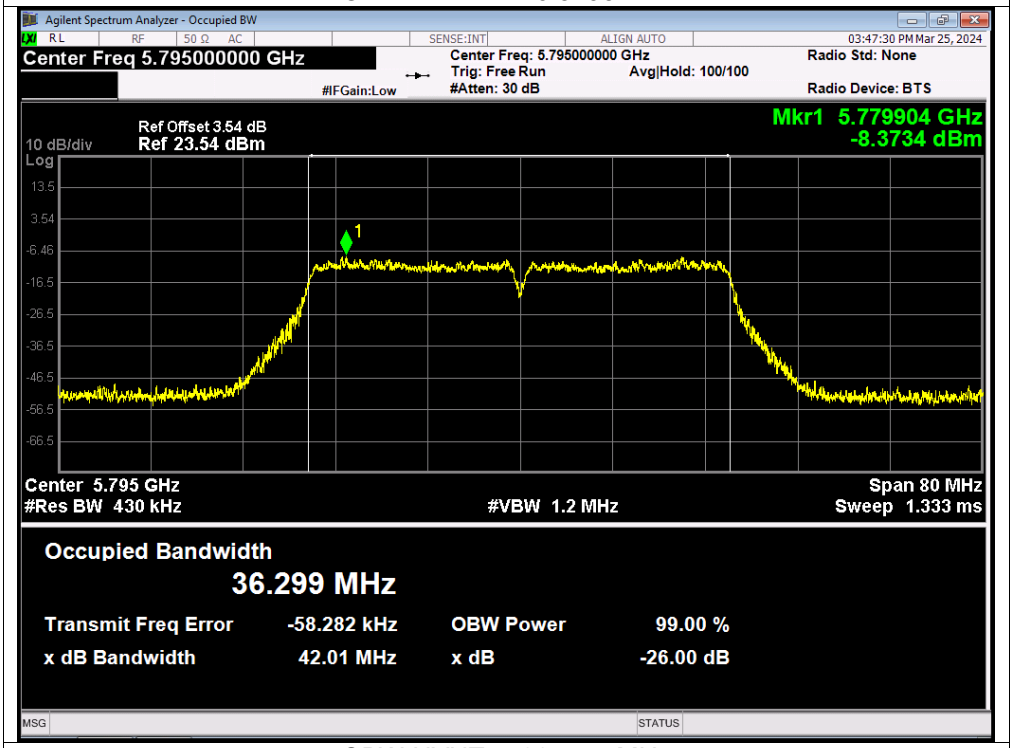
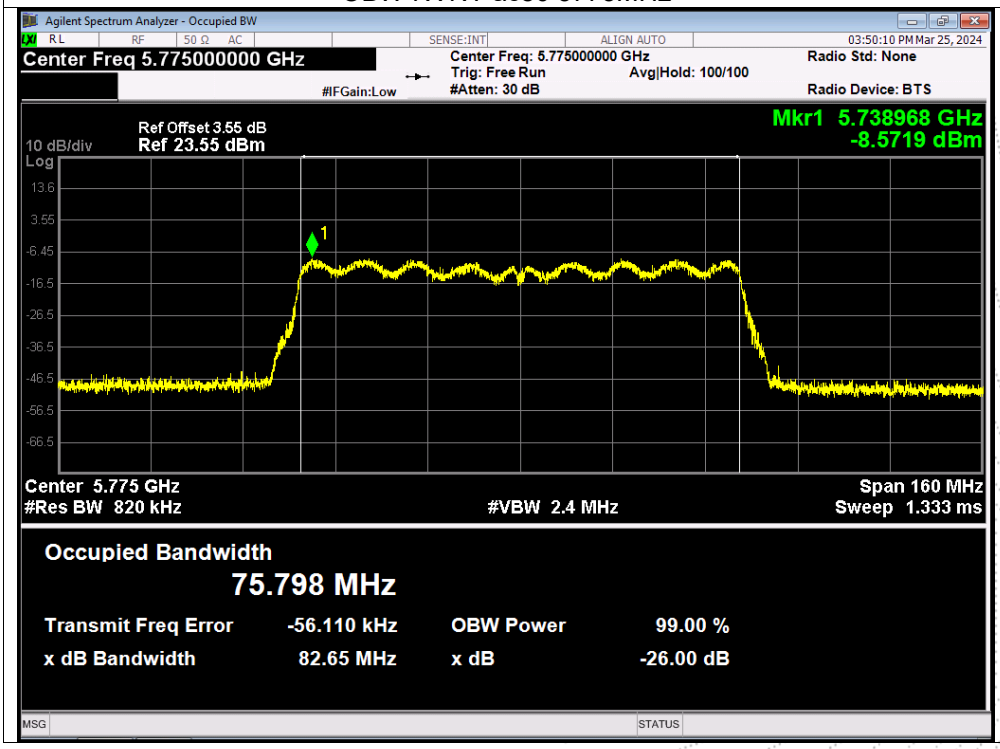
OBW NVNT ac40 5795MHz

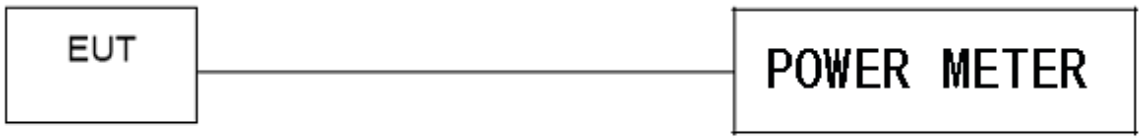


OBW NVNT ac80 5775MHz



10. Maximum Conducted Output Power

10.1 Block Diagram Of Test Setup



10.2 Limit

According to FCC §15.407
The maximum conduced output power should not exceed:

Frequency Band(MHz)	Limit
5150~5250	250mW
5725~5850	1W

10.3 Test Procedure

Maximum conducted output power may be measured using a spectrum analyzer/EMI receiver or an RF power meter.
1. Device Configuration
If possible, configure or modify the operation of the EUT so that it transmits continuously at its maximum power control level (see section II.B.).
a) The intent is to test at 100 percent duty cycle; however a small reduction in duty cycle (to no lower than 98 percent) is permitted if required by the EUT for amplitude control purposes. Manufacturers are expected to provide software to the test lab to permit such continuous operation.
b) If continuous transmission (or at least 98 percent duty cycle) cannot be achieved due to hardware limitations (e.g., overheating), the EUT shall be operated at its maximum power control level with the transmit duration as long as possible and the duty cycle as high as possible.

2. Measurement using a Spectrum Analyzer or EMI Receiver (SA)
Measurement of maximum conducted output power using a spectrum analyzer requires integrating the spectrum across a frequency span that encompasses, at a minimum, either the EBW or the 99-percent occupied bandwidth of the signal.1 However, the EBW must be used to determine bandwidth dependent limits on maximum conducted output power in accordance with § 15.407(a).
a) The test method shall be selected as follows: (i) Method SA-1 or SA-1 Alternative (averaging with the EUT transmitting at full power throughout each sweep) shall be applied if either of the following conditions can be satisfied:
• The EUT transmits continuously (or with a duty cycle ≥ 98 percent).
• Sweep triggering or gating can be implemented in a way that the device transmits at the maximum power control level throughout the duration of each of the instrument sweeps to be averaged. This condition can generally be achieved by triggering the instrument's sweep if the duration of the sweep (with the analyzer configured as in Method SA-1, below) is equal to or shorter than the duration T of each transmission from the EUT and if those transmissions exhibit full power throughout their durations.
(ii) Method SA-2 or SA-2 Alternative (averaging across on and off times of the EUT transmissions, followed by duty cycle correction) shall be applied if the conditions of (i) cannot be achieved and the transmissions exhibit a constant duty cycle during the measurement duration. Duty cycle will be considered to be constant if variations are less than ± 2 percent.

(iii) Method SA-3 (RMS detection with max hold) or SA-3 Alternative (reduced VBW with max hold) shall be applied if the conditions of (i) and (ii) cannot be achieved.

b) Method SA-1 (trace averaging with the EUT transmitting at full power throughout each sweep): (i) Set span to encompass the entire emission bandwidth (EBW) (or, alternatively, the entire 99% occupied bandwidth) of the signal.
(ii) Set RBW = 1 MHz.
(iii) Set VBW ≥ 3 MHz.
(iv) Number of points in sweep ≥ 2 Span / RBW. (This ensures that bin-to-bin spacing is ≤ RBW/2, so that narrowband signals are not lost between frequency bins.)
(v) Sweep time = auto.
(vi) Detector = RMS (i.e., power averaging), if available. Otherwise, use sample detector mode.
(vii) If transmit duty cycle < 98 percent, use a video trigger with the trigger level set to enable triggering only on full power pulses. Transmitter must operate at maximum power control level for the entire duration of every sweep. If the EUT transmits continuously (i.e., with no off intervals) or at duty cycle ≥ 98 percent, and if each transmission is entirely at the maximum power control level, then the trigger shall be set to “free run”.
(viii) Trace average at least 100 traces in power averaging (i.e., RMS) mode.
(ix) Compute power by integrating the spectrum across the EBW (or, alternatively, the entire 99% occupied bandwidth) of the signal using the instrument’s band power measurement function with band limits set equal to the EBW (or occupied bandwidth) band edges. If the instrument does not have a band power function, sum the spectrum

10.4 EUT Operating Conditions

The EUT was configured for testing in a typical fashion (as a customer would normally use it). The EUT has been programmed to continuously transmit during test. This operating condition was tested and used to collect the included data.

10.5 Test Result

Temperature:	26 ℃	Relative Humidity:	54%
Pressure:	101KPa	Test Voltage:	DC 12V
Test Mode:	5180-5240MHz		

Condition	Mode	Frequency (MHz)	Conducted Power (dBm)		Total(dBm)	Limit (dBm)	Verdict
			Ant A	Ant B			
NVNT	a	5180	4.73	4.99	/	24	Pass
NVNT	a	5200	4.43	4.88	/	24	Pass
NVNT	a	5240	3.93	4.85	/	24	Pass
NVNT	n20	5180	3.58	3.73	6.67	24	Pass
NVNT	n20	5200	3.28	3.92	6.62	24	Pass
NVNT	n20	5240	2.6	2.66	5.64	24	Pass
NVNT	n40	5190	2.73	2.72	5.74	24	Pass
NVNT	n40	5230	2.07	1.66	4.88	24	Pass
NVNT	ac20	5180	3.41	3.61	6.52	24	Pass
NVNT	ac20	5200	3.29	3.49	6.40	24	Pass
NVNT	ac20	5240	2.96	2.58	5.78	24	Pass
NVNT	ac40	5190	2.81	2.44	5.64	24	Pass
NVNT	ac40	5230	2.15	1.58	4.88	24	Pass
NVNT	ac80	5210	2.12	1.71	4.93	24	Pass

Note:
For power measurements.
The Array gain=0 for NANT≤4
So the directional gain foe Power measurements is 2.92dBi

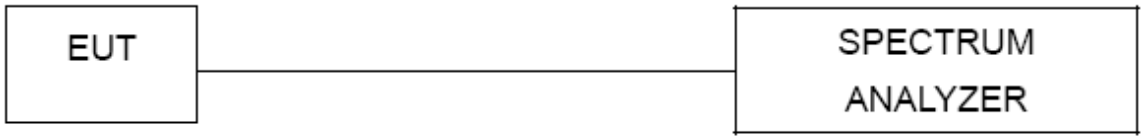
Temperature:	26 ℃	Relative Humidity:	54%
Pressure:	101KPa	Test Voltage:	DC 12V
Test Mode:	(5745-5825MHz)		

Condition	Mode	Frequency (MHz)	Conducted Power (dBm)		Total(dBm)	Limit (dBm)	Verdict
			Ant A	Ant B			
NVNT	a	5745	5.51	4.49	/	30	Pass
NVNT	a	5785	5.19	4.11	/	30	Pass
NVNT	a	5825	4.61	3.49	/	30	Pass
NVNT	n20	5745	4.64	3.47	7.10	30	Pass
NVNT	n20	5785	4.04	3.21	6.66	30	Pass
NVNT	n20	5825	3.49	2.43	6.00	30	Pass
NVNT	n40	5755	3.08	2.19	5.67	30	Pass
NVNT	n40	5795	3.1	2	5.60	30	Pass
NVNT	ac20	5745	4.06	3.24	6.68	30	Pass
NVNT	ac20	5785	3.91	2.84	6.42	30	Pass
NVNT	ac20	5825	3.59	2.54	6.11	30	Pass
NVNT	ac40	5755	2.29	1.42	4.89	30	Pass
NVNT	ac40	5795	2.19	1.04	4.66	30	Pass
NVNT	ac80	5775	1.42	0.49	3.99	30	Pass

Note:
For power measurements.
The Array gain=0 for NANT≤4
So the directional gain foe Power measurements is 2.92 dBi

11. Out Of Band Emissions

11.1 Block Diagram Of Test Setup



11.2 Limit

According to FCC §15.407(b)
Undesirable emission limits. Except as shown in paragraph (b)(7) of this section, the maximum emissions outside of the frequency bands of operation shall be attenuated in accordance with the following 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 e.i.r.p. of −27 dBm/MHz.
(2) 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.

11.3 Test Procedure

1. Check the calibration of the measuring instrument using either an internal calibrator or a known signal from an external generator.
2. Position the EUT without connection to measurement instrument. Turn on the EUT and connect its antenna terminal to measurement instrument via a low loss cable. Then set it to any one measured frequency within its operating range, and make sure the instrument is operated in its linear range.
3. Set RBW of spectrum analyzer to 1 MHz with a convenient frequency span.
4. Measure the highest amplitude appearing on spectral display and set it as a reference level. Plot the graph with marking the highest point and edge frequency.
5. Repeat above procedures until all measured frequencies were complete.

11.4 EUT Operating Conditions

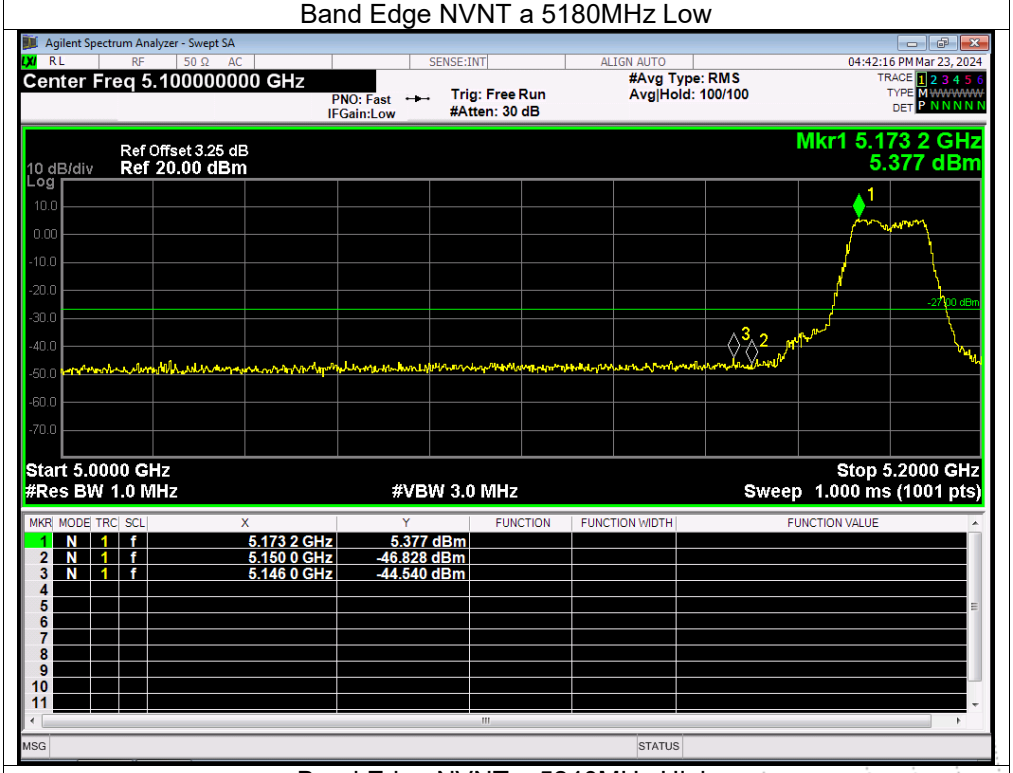
The EUT was configured for testing in a typical fashion (as a customer would normally use it). The EUT has been programmed to continuously transmit during test. This operating condition was tested and used to collect the included data

11.5 Test Result

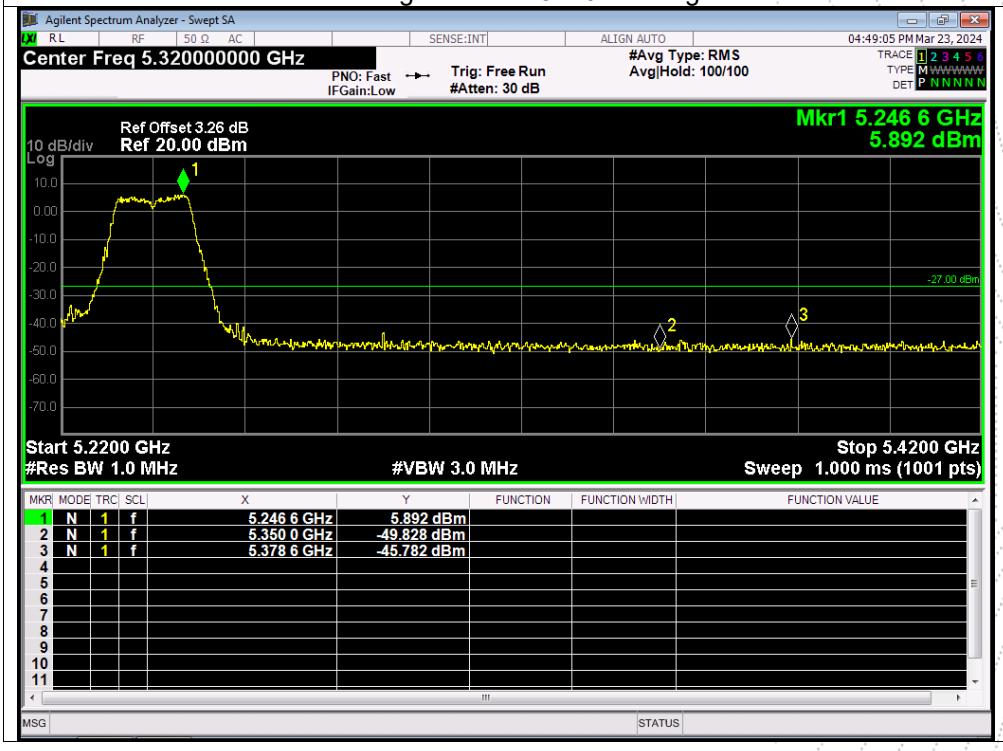
Note: A(B) Represent the value of antenna A and B, The worst data is Antenna A, only shown Antenna A Plot.

Test Graphs

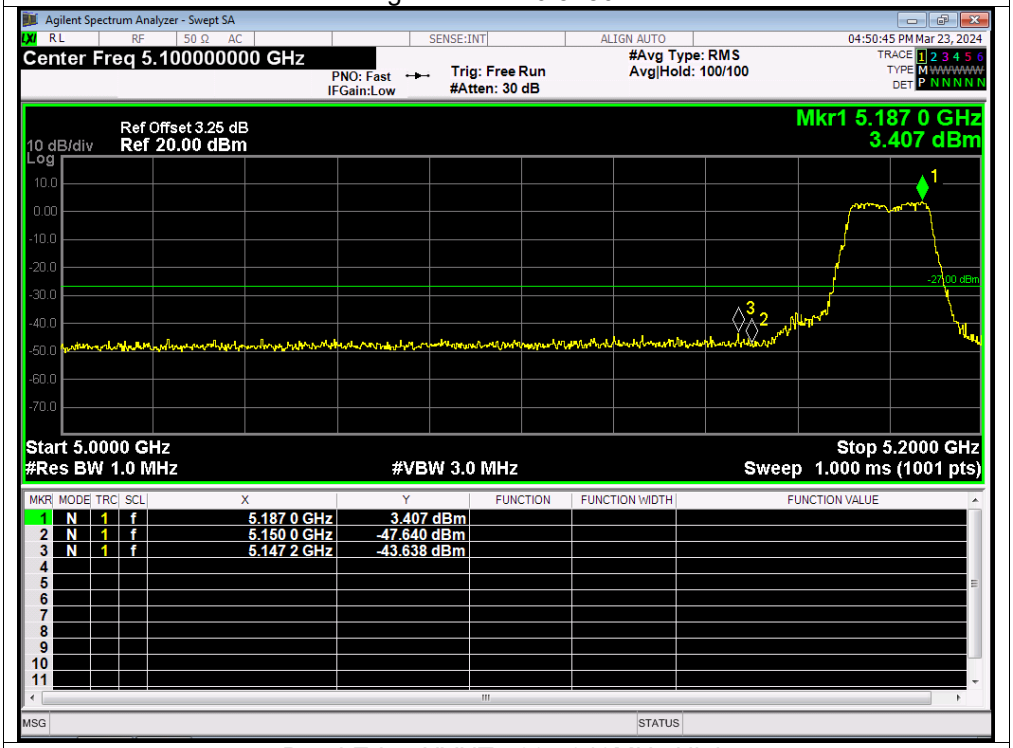
Band Edge NVNT a 5180MHz Low



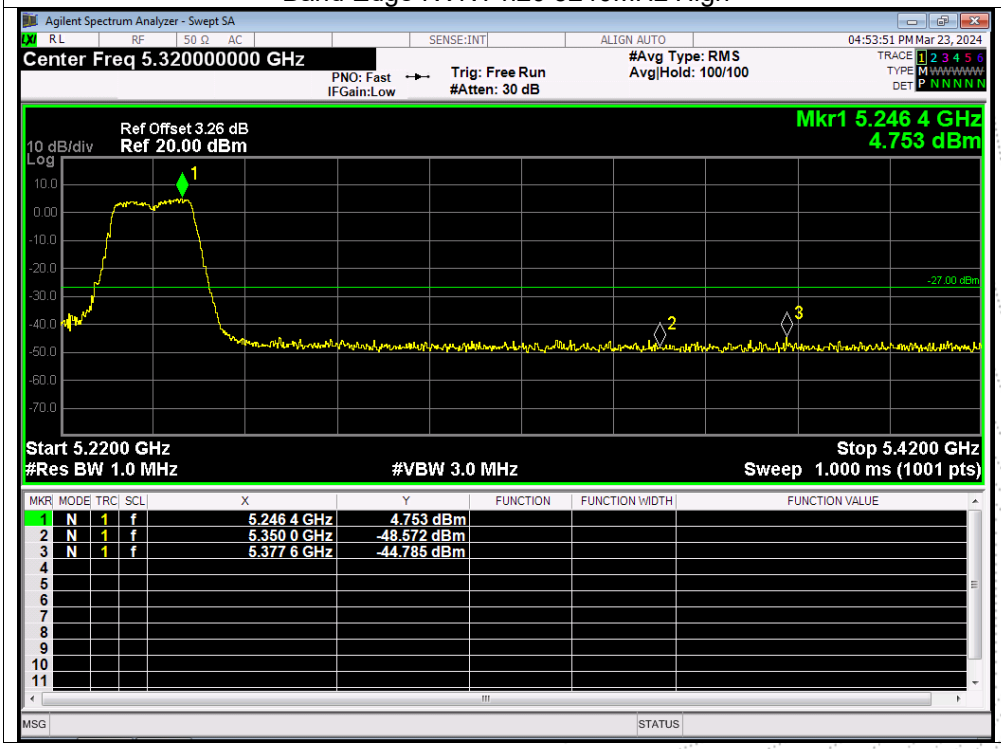
Band Edge NVNT a 5240MHz High



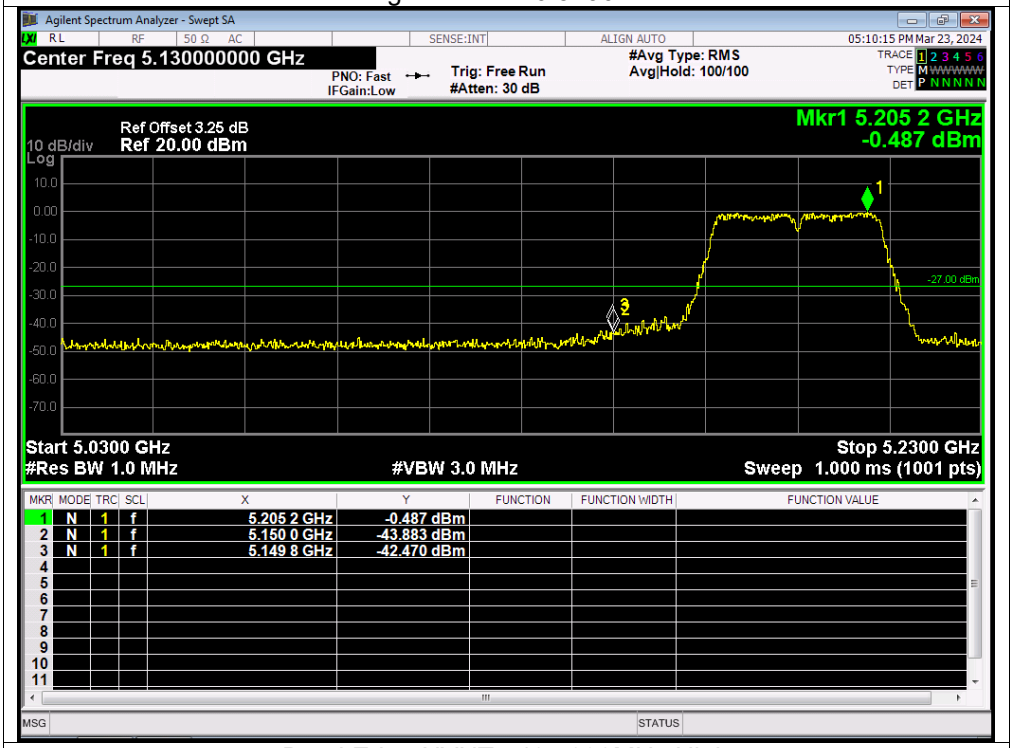
Band Edge NVNT n20 5180MHz Low



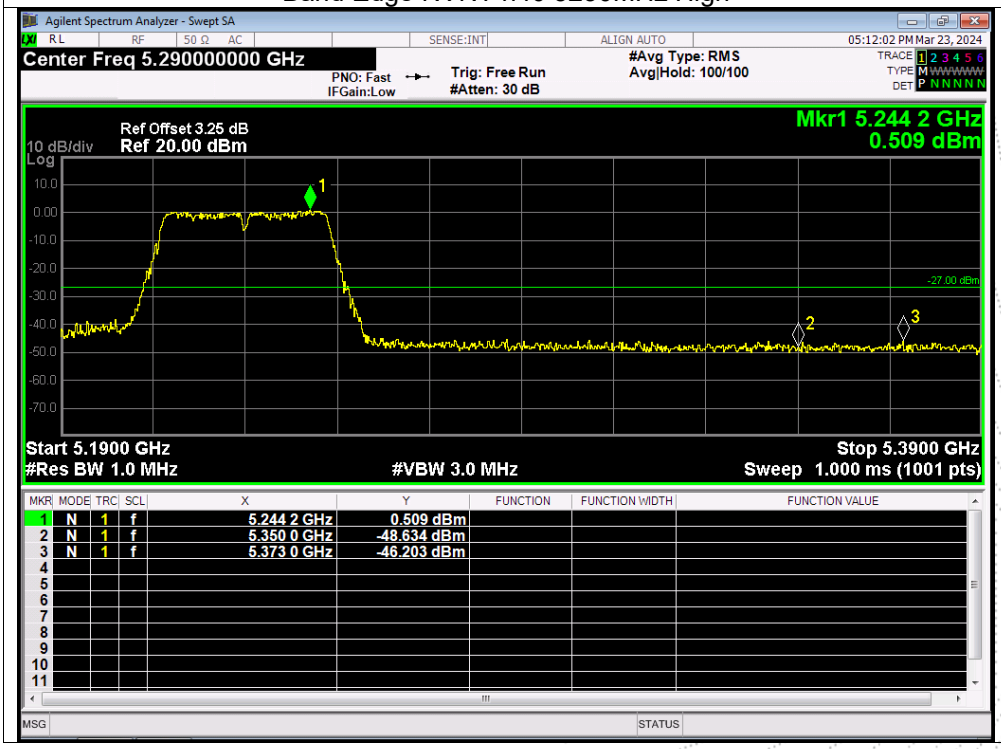
Band Edge NVNT n20 5240MHz High



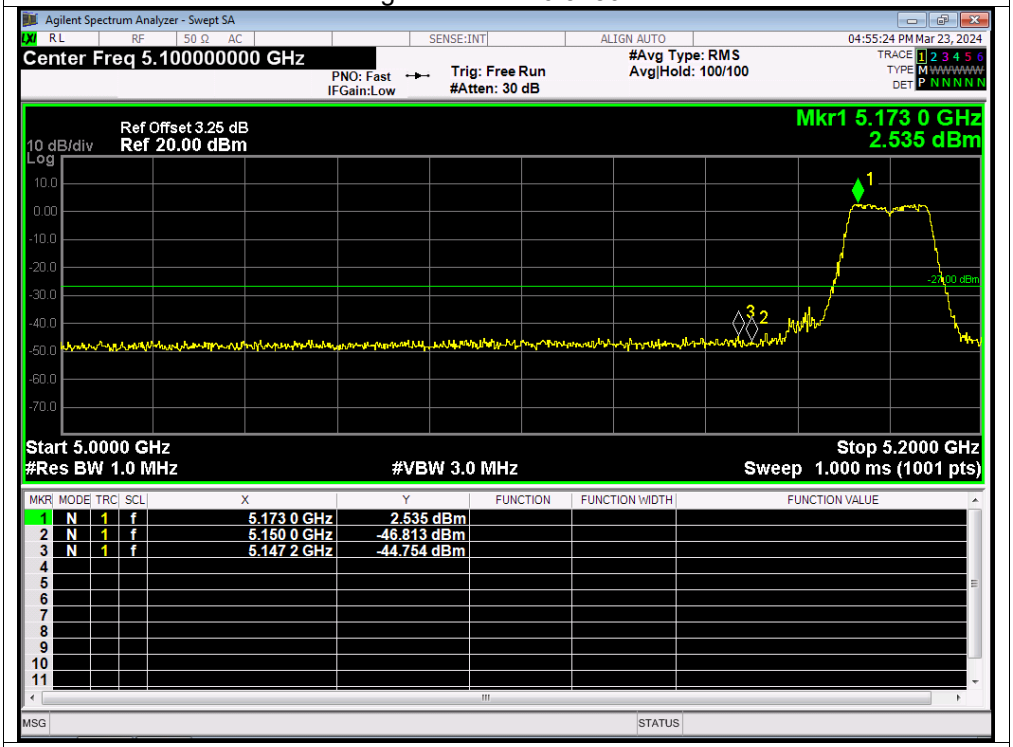
Band Edge NVNT n40 5190MHz Low



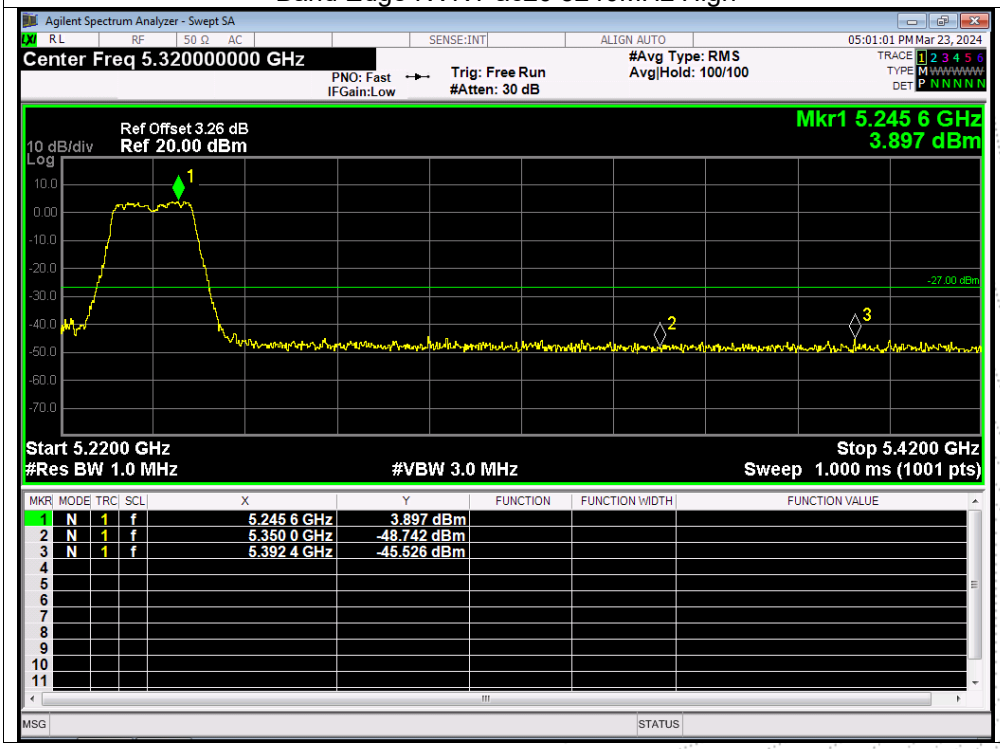
Band Edge NVNT n40 5230MHz High



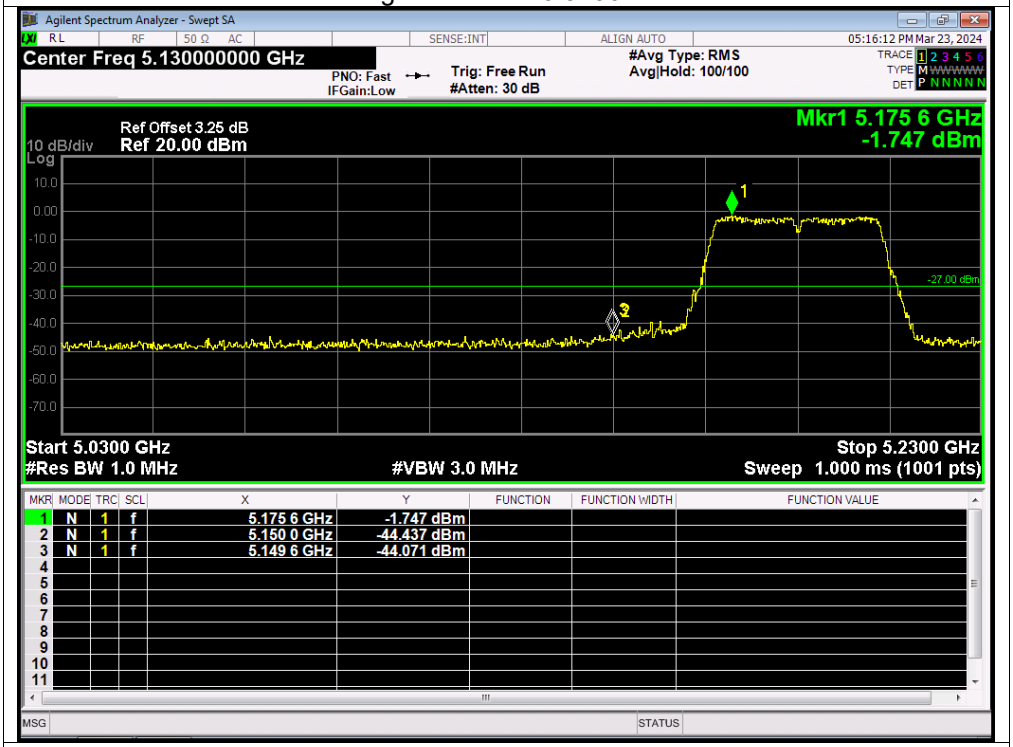
Band Edge NVNT ac20 5180MHz Low



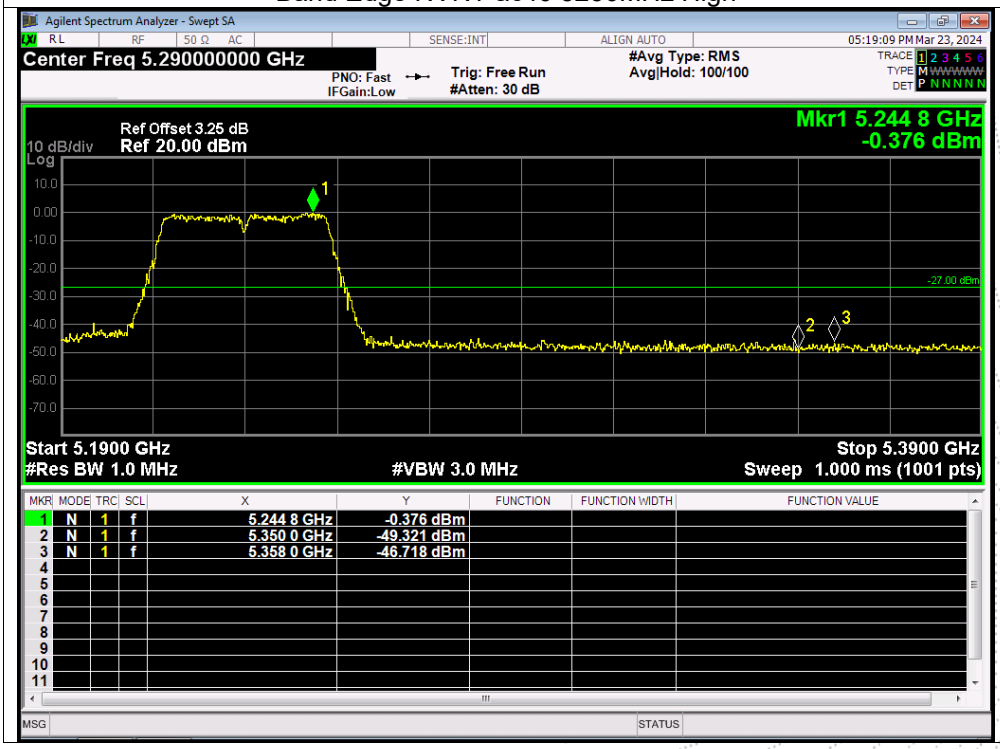
Band Edge NVNT ac20 5240MHz High



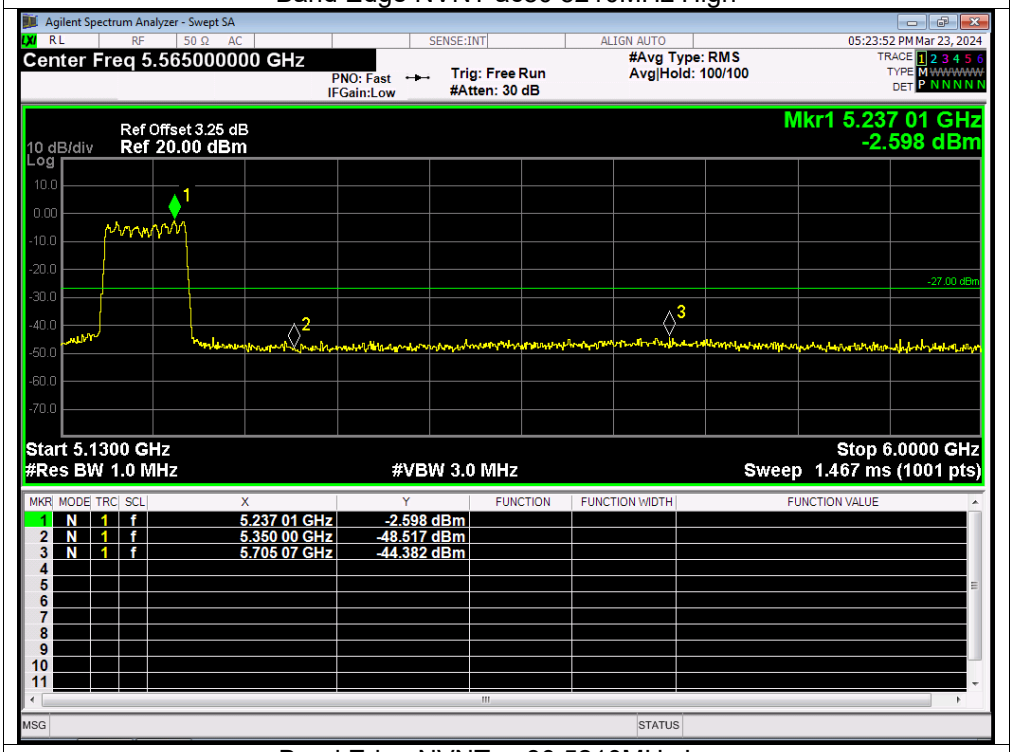
Band Edge NVNT ac40 5190MHz Low



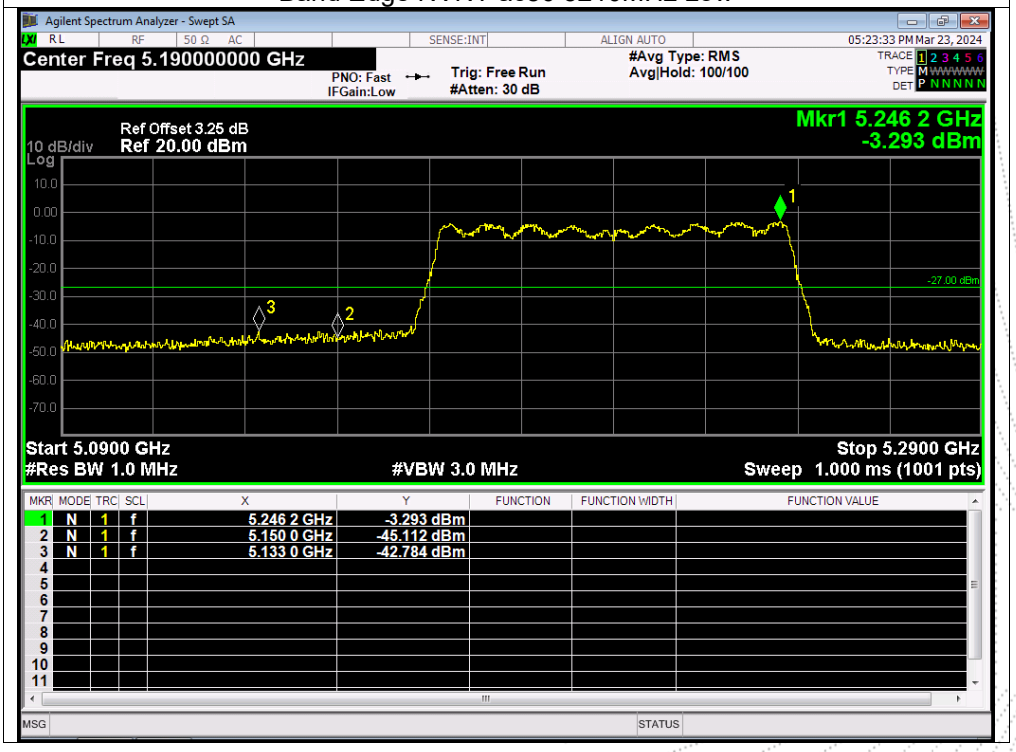
Band Edge NVNT ac40 5230MHz High



Band Edge NVNT ac80 5210MHz High

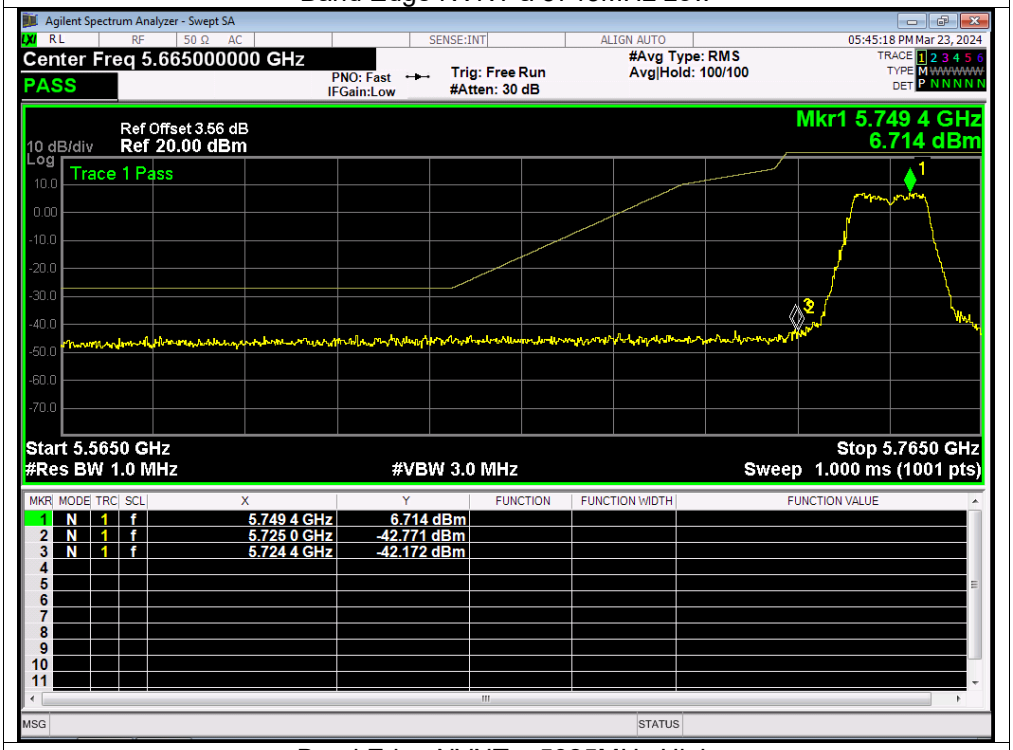


Band Edge NVNT ac80 5210MHz Low

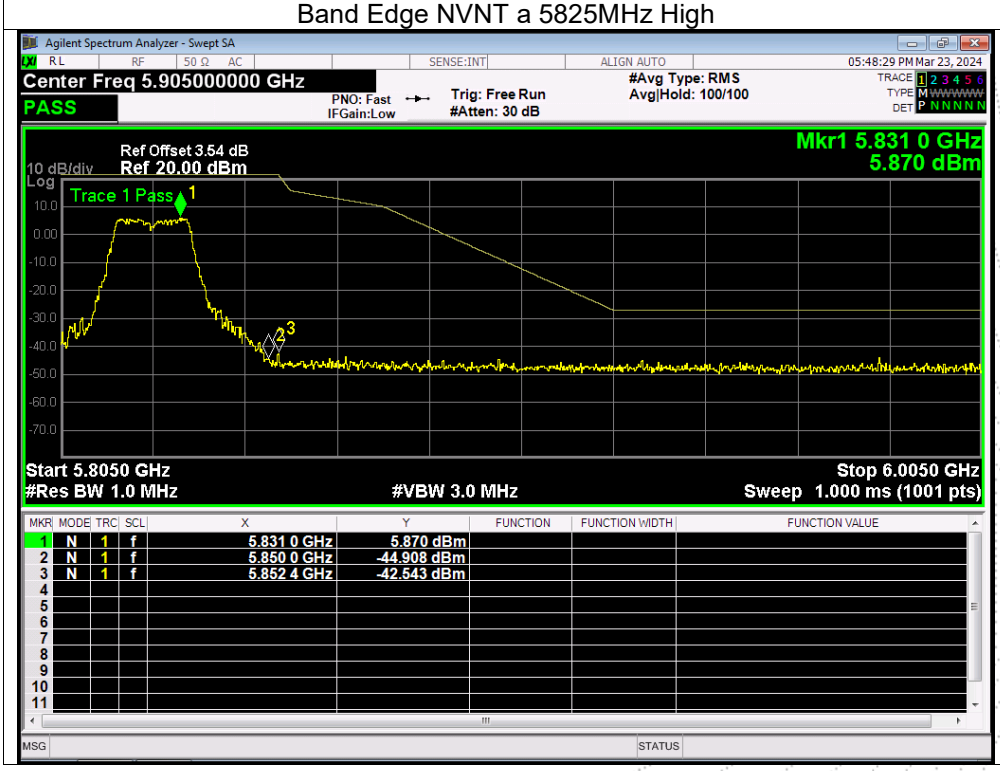


Test Graphs

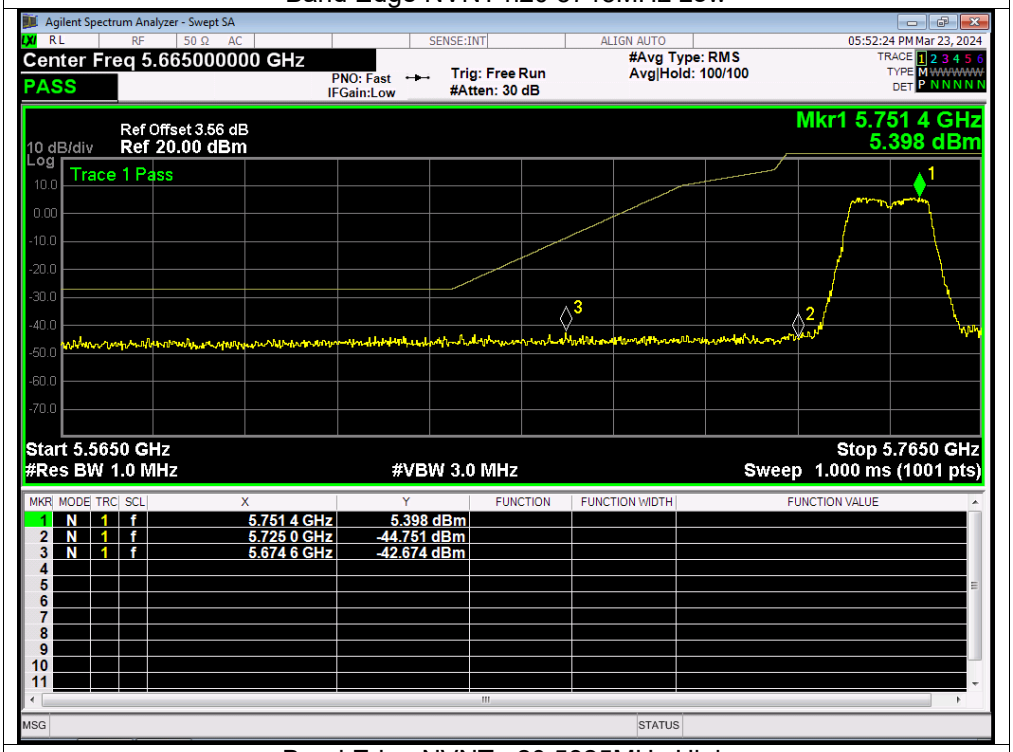
Band Edge NVNT a 5745MHz Low



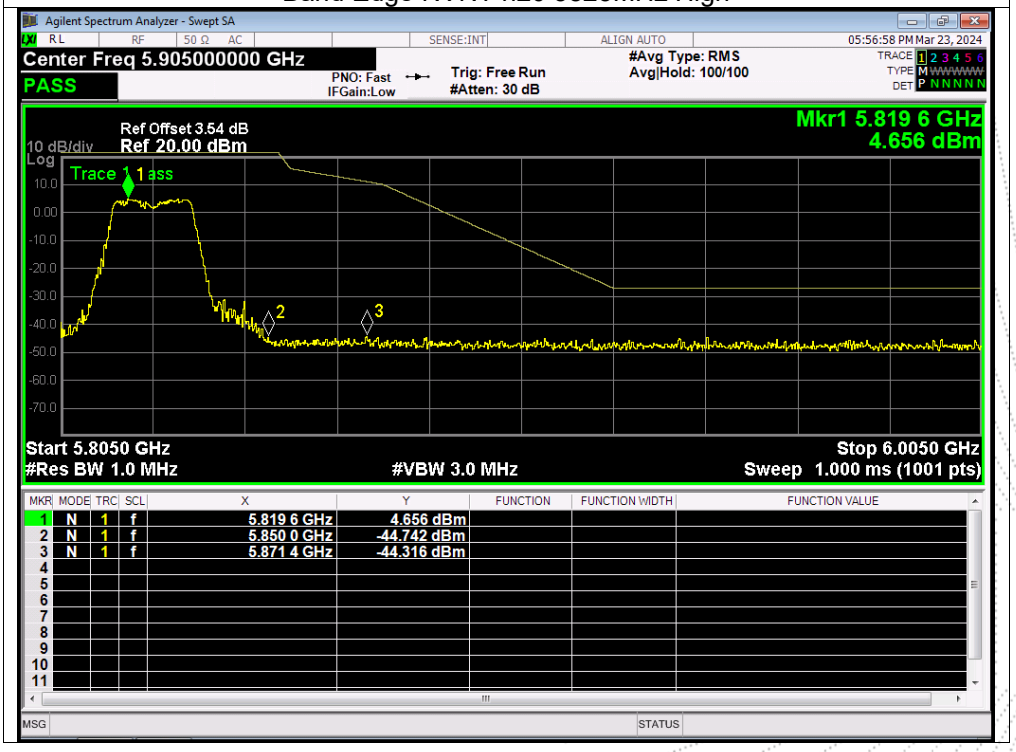
Band Edge NVNT a 5825MHz High



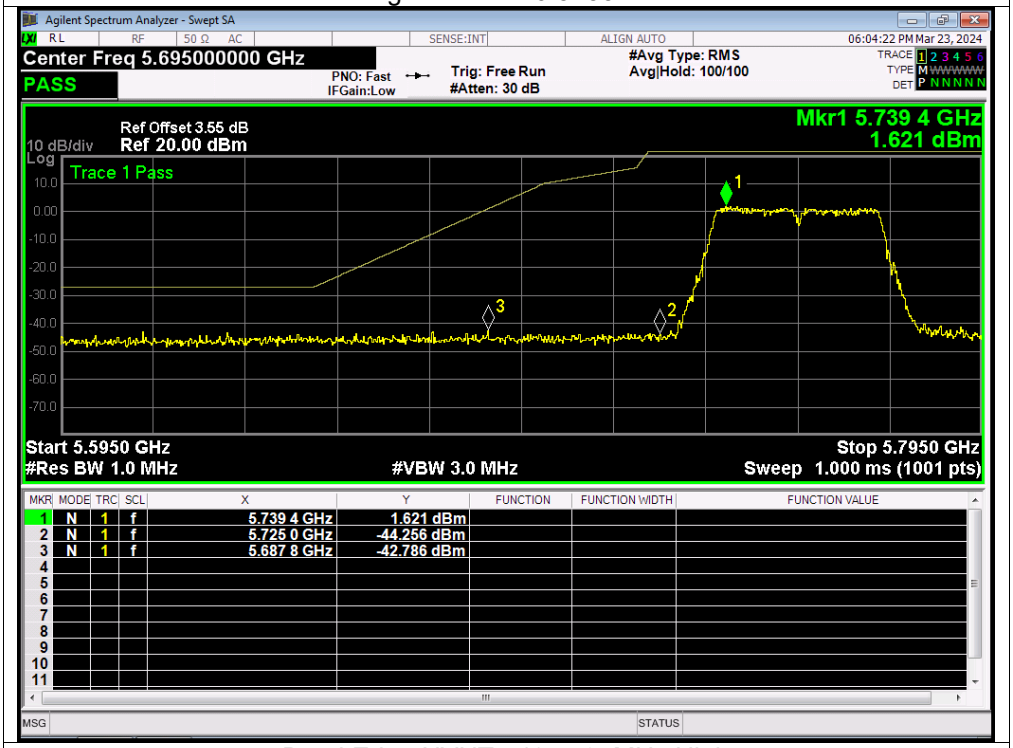
Band Edge NVNT n20 5745MHz Low



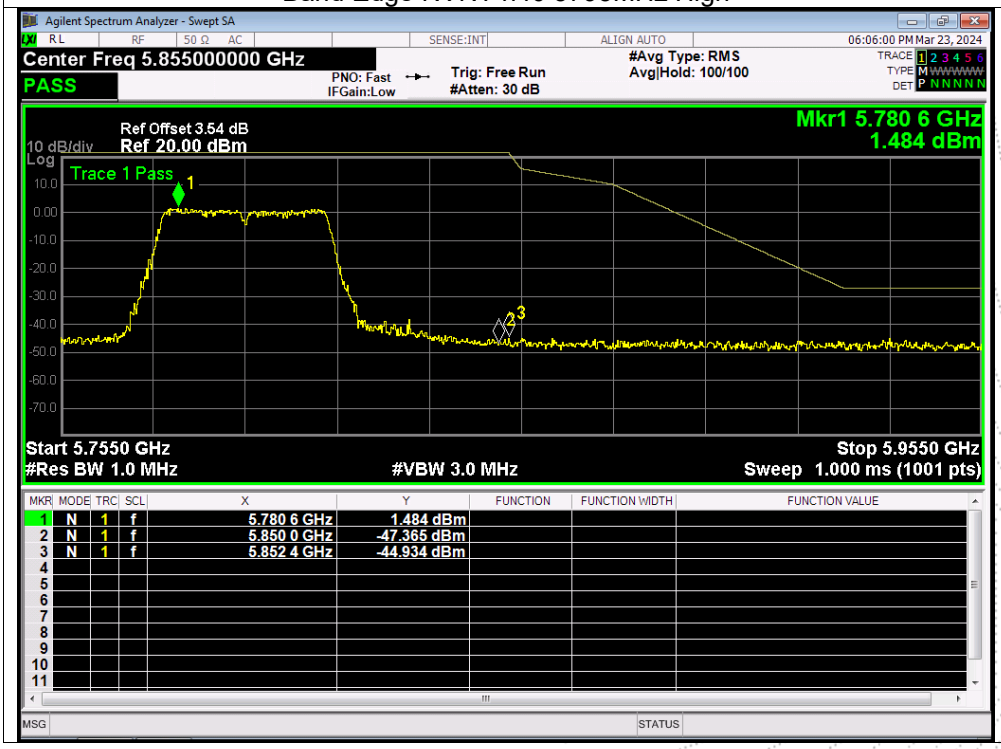
Band Edge NVNT n20 5825MHz High



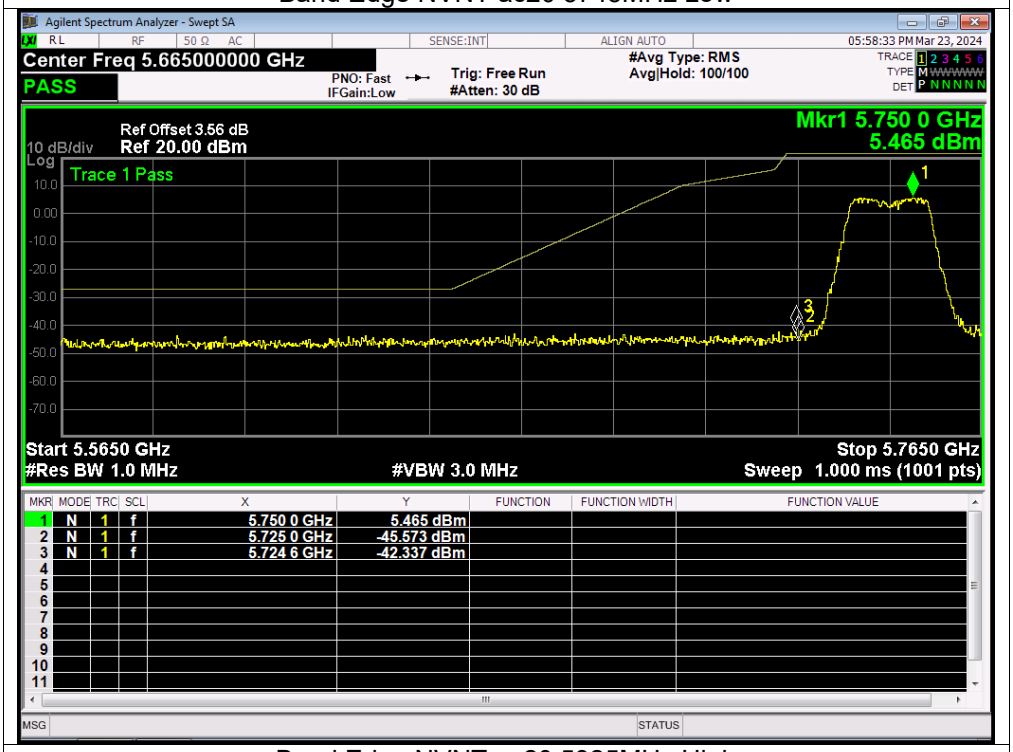
Band Edge NVNT n40 5755MHz Low



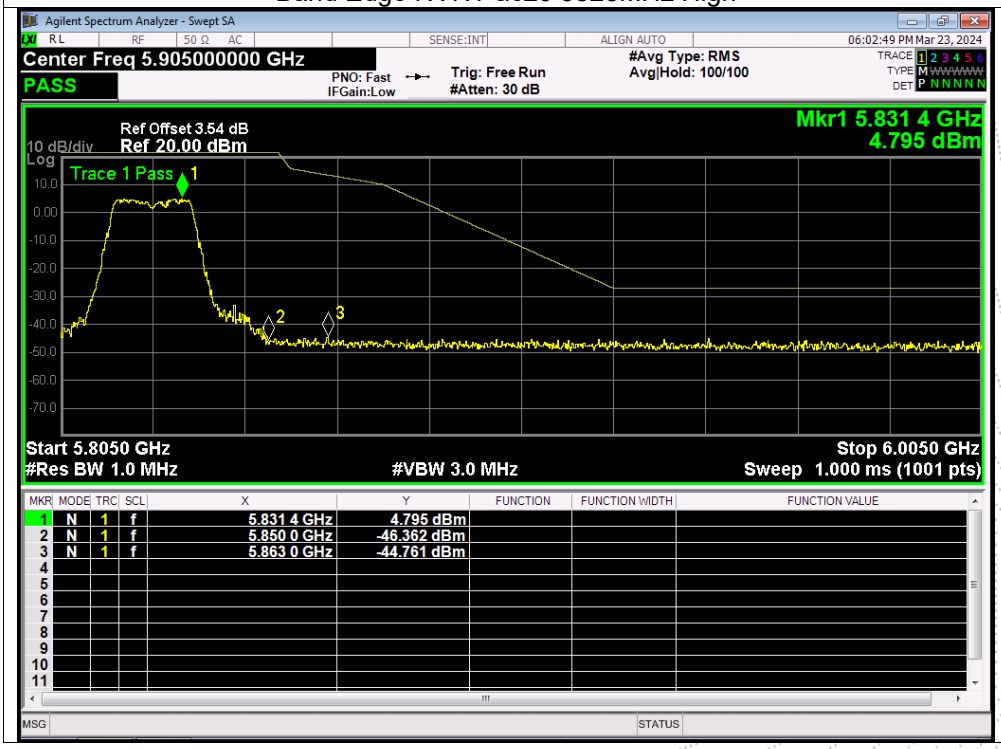
Band Edge NVNT n40 5795MHz High



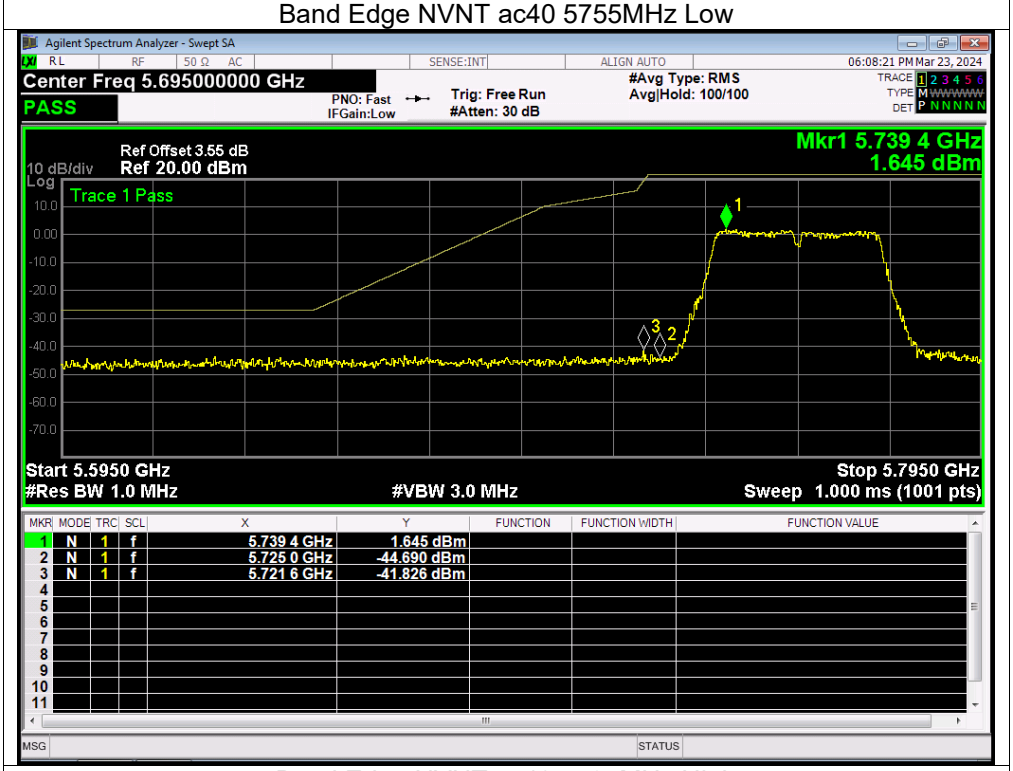
Band Edge NVNT ac20 5745MHz Low



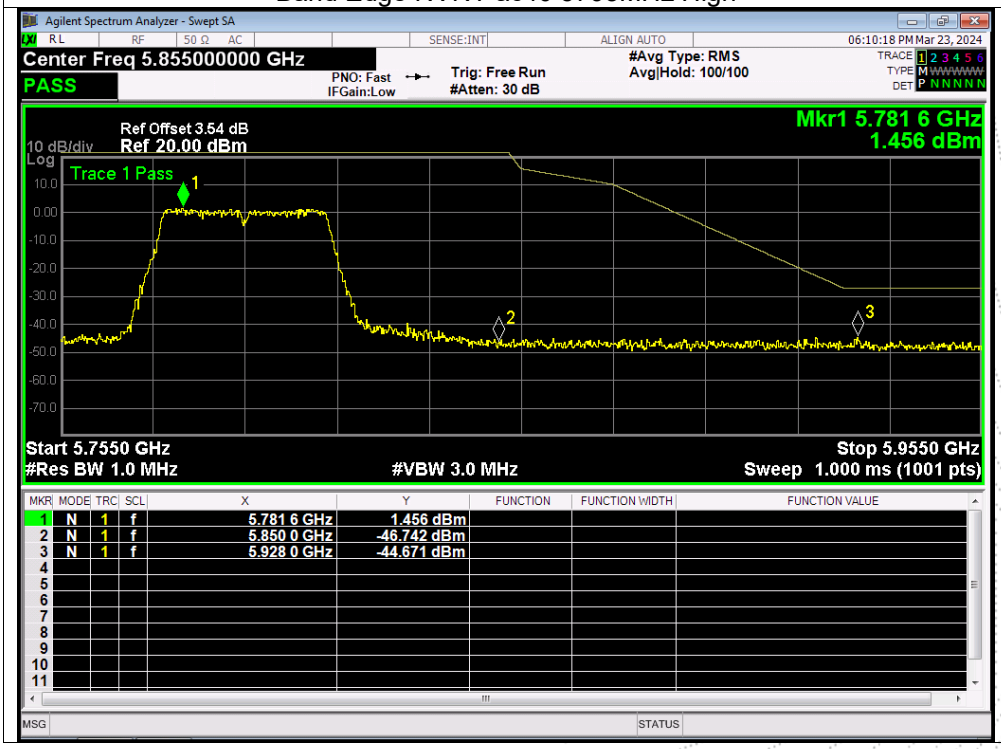
Band Edge NVNT ac20 5825MHz High



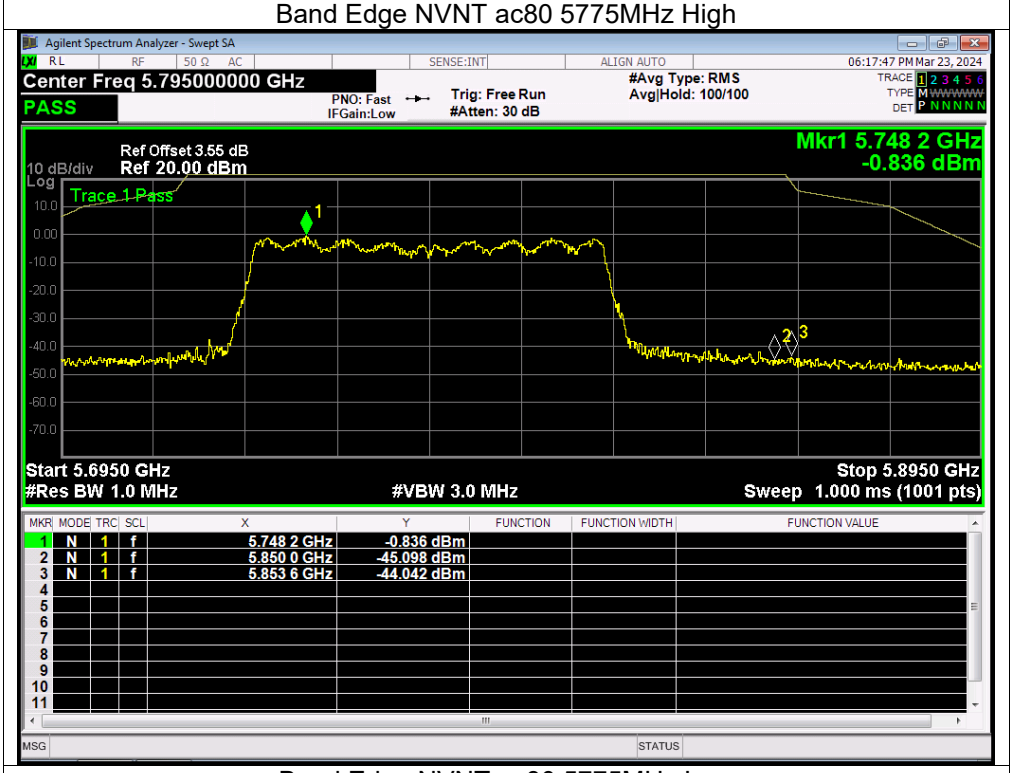
Band Edge NVNT ac40 5755MHz Low



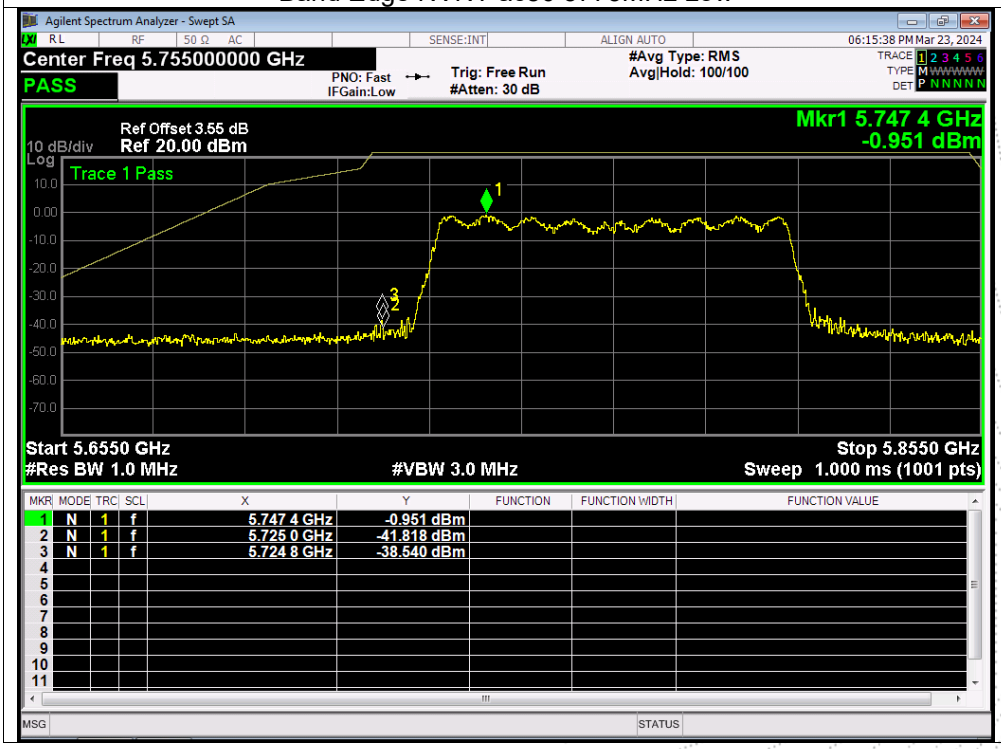
Band Edge NVNT ac40 5795MHz High



Band Edge NVNT ac80 5775MHz High

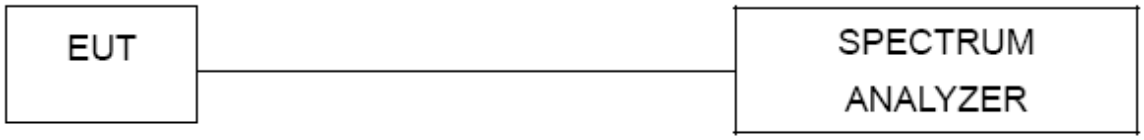


Band Edge NVNT ac80 5775MHz Low



12. Spurious RF Conducted Emissions

12.1 Block Diagram Of Test Setup



12.2 Limit

Undesirable emission limits. Except as shown in paragraph (b)(7) of this section, the maximum emissions outside of the frequency bands of operation shall be attenuated in accordance with the following 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 e.i.r.p. of −27 dBm/MHz.
(2)For transmitters operating in the 5.725-5.85 GHz band(i) All emissions shall be limited to a level of −27 dBm/MHz at 75 MHz or more above or below the band edge increasing linearly to 10 dBm/MHz at 25 MHz above or below the band edge, and from 25 MHz above or below the band edge increasing linearly to a level of 15.6 dBm/MHz at 5 MHz above or below the band edge, and from 5 MHz above or below the band edge increasing linearly to a level of 27 dBm/MHz at the band edge..

12.3 Test Procedure

1. Check the calibration of the measuring instrument using either an internal calibrator or a known signal from an external generator.
2. Position the EUT without connection to measurement instrument. Turn on the EUT and connect its antenna terminal to measurement instrument via a low loss cable. Then set it to any one measured frequency within its operating range, and make sure the instrument is operated in its linear range.
3. Set RBW of spectrum analyzer to 1 MHz with a convenient frequency span.
4. Measure the highest amplitude appearing on spectral display and set it as a reference level. Plot the graph with marking the highest point and edge frequency.
5. Repeat above procedures until all measured frequencies were complete.

12.4 Test Result

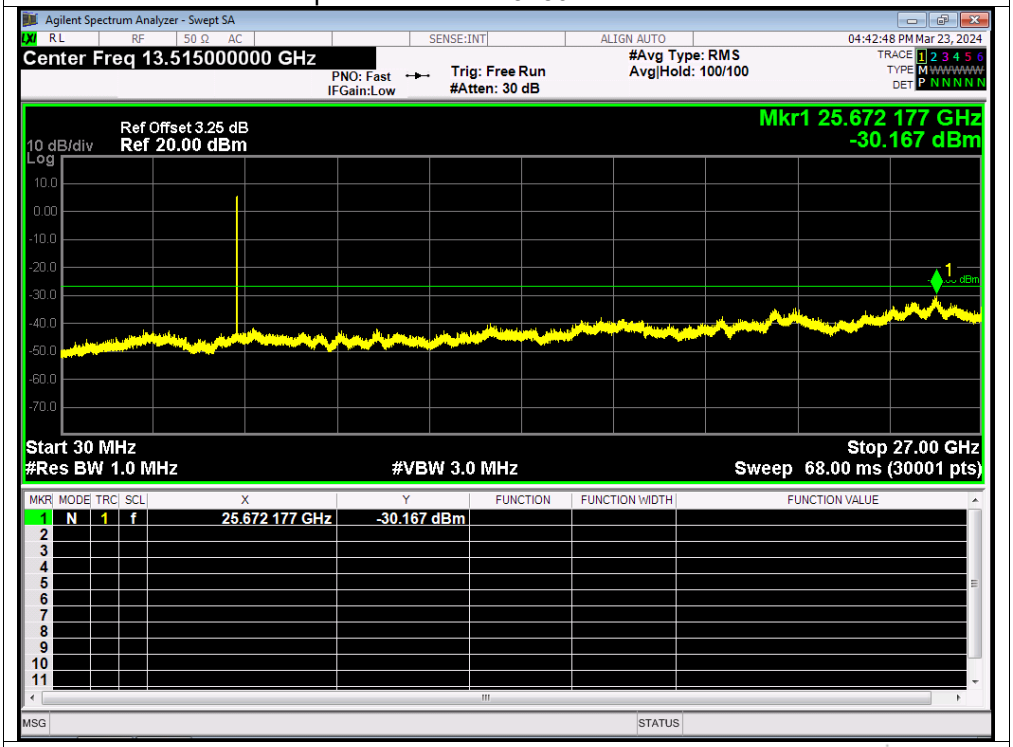
Remark: The measurement frequency range is from 9KHz to the 10th harmonic of the fundamental frequency. The lowest, middle and highest channels are tested to verify the spurious emissions and bandege measurement data.

About:26.5GHz-40GHz, The amplitude of spurious emissions which are attenuated by more than 20dB below the permissible value has no need to be reported.

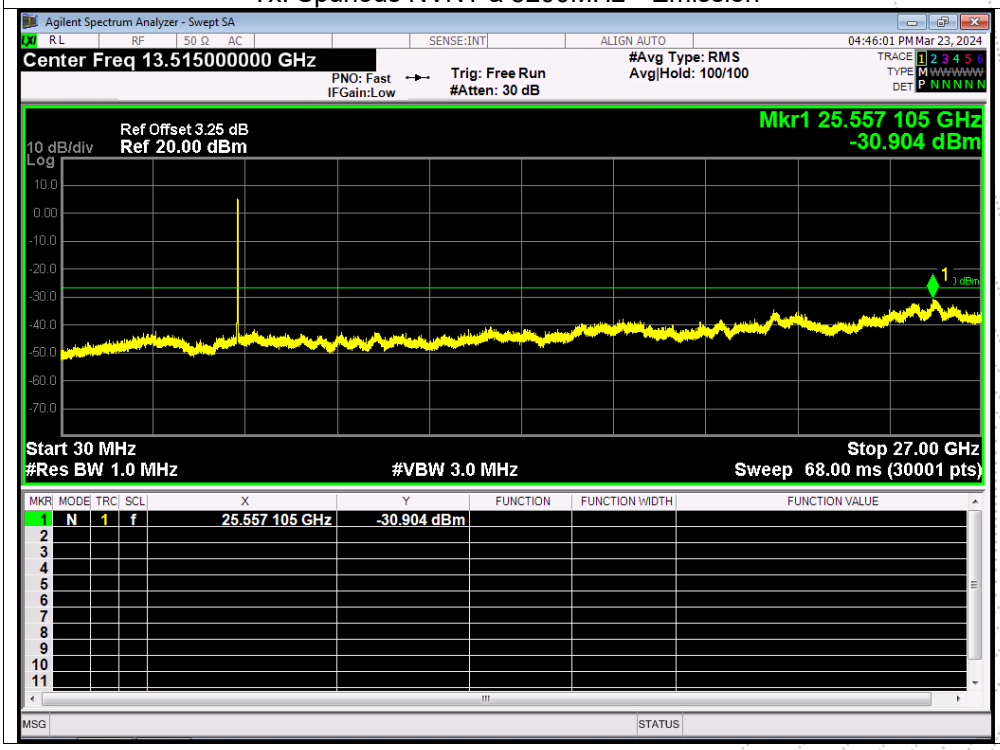
Note: A(B) Represent the value of antenna A and B, The worst data is Antenna A, only shown Antenna A Plot.

Test Graphs

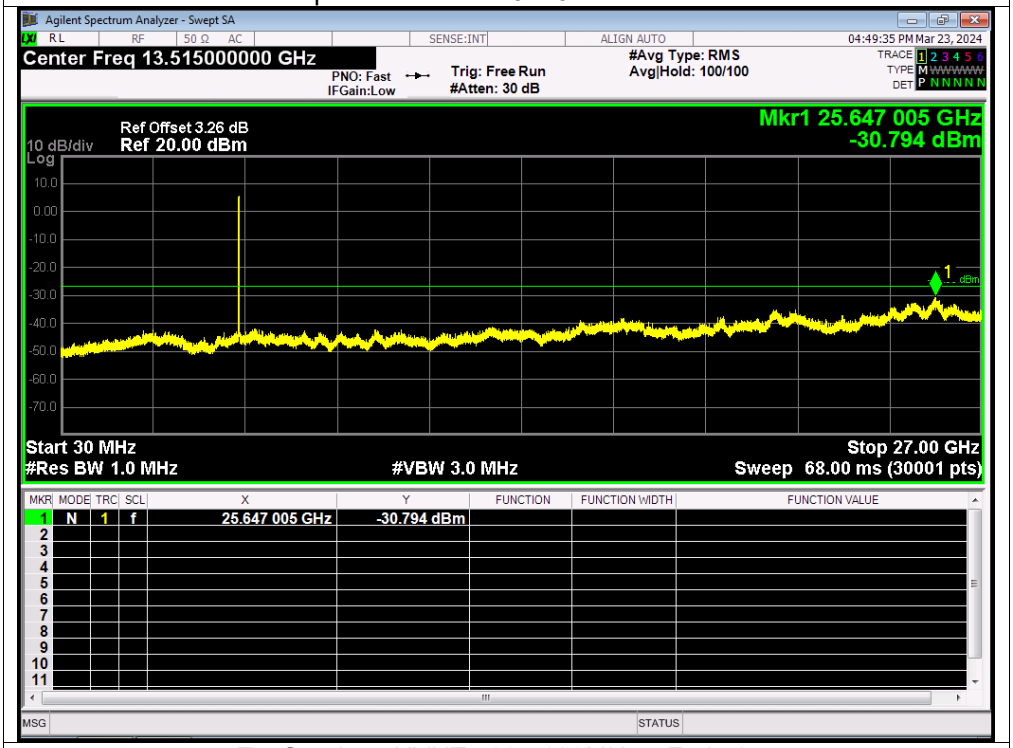
Tx. Spurious NVNT a 5180MHz Emission



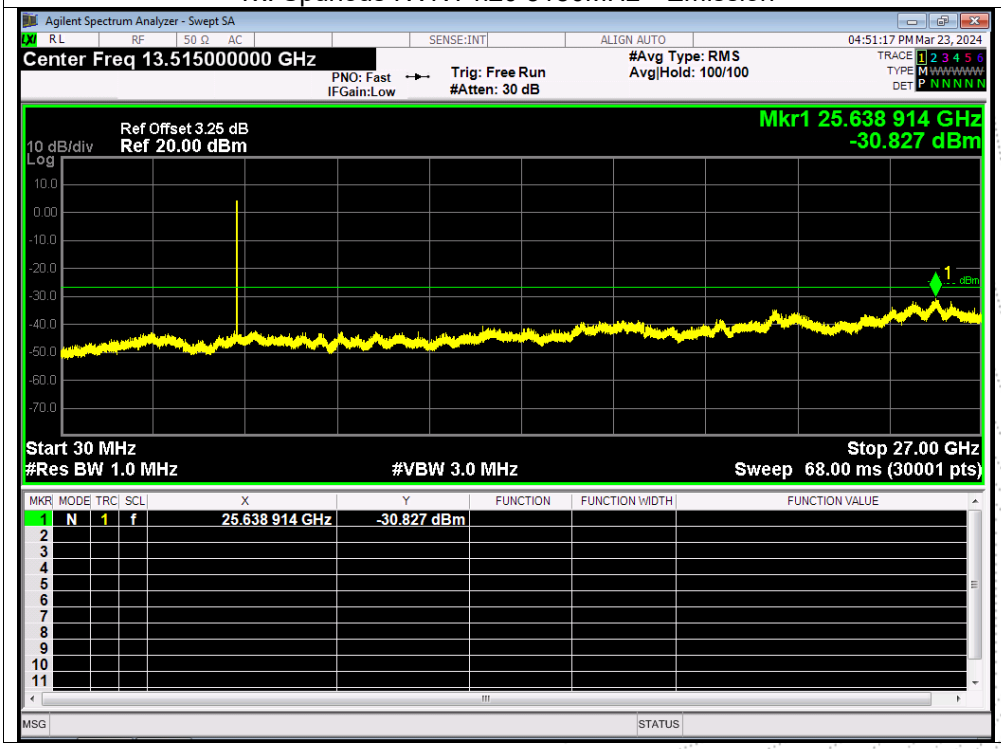
Tx. Spurious NVNT a 5200MHz Emission



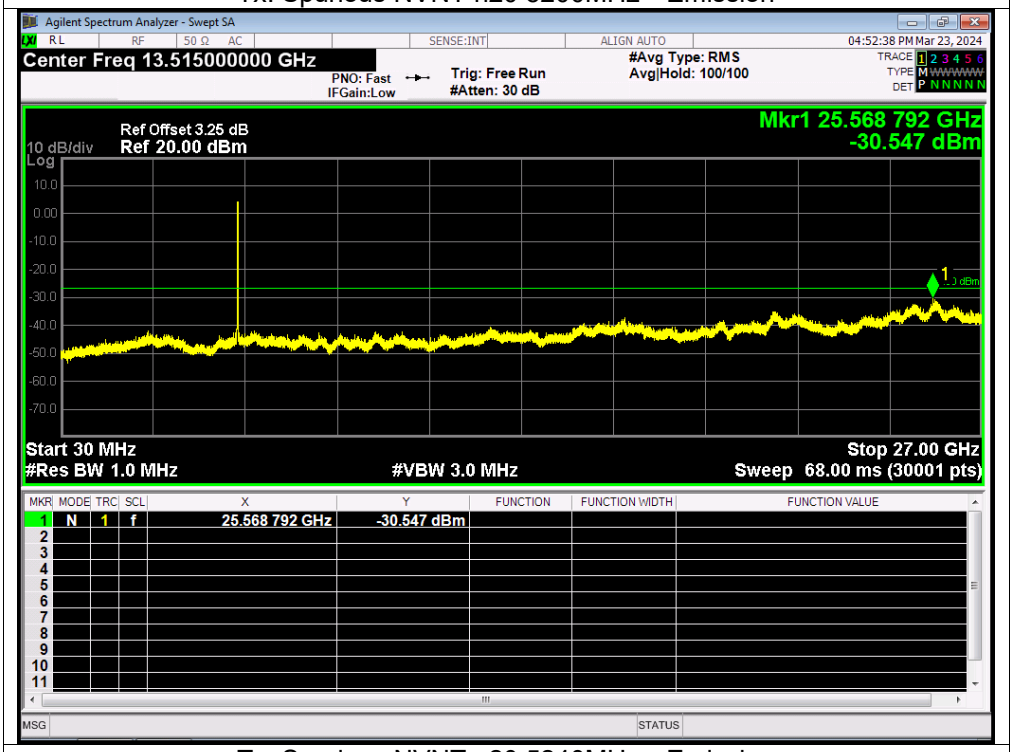
Tx. Spurious NVNT a 5240MHz Emission



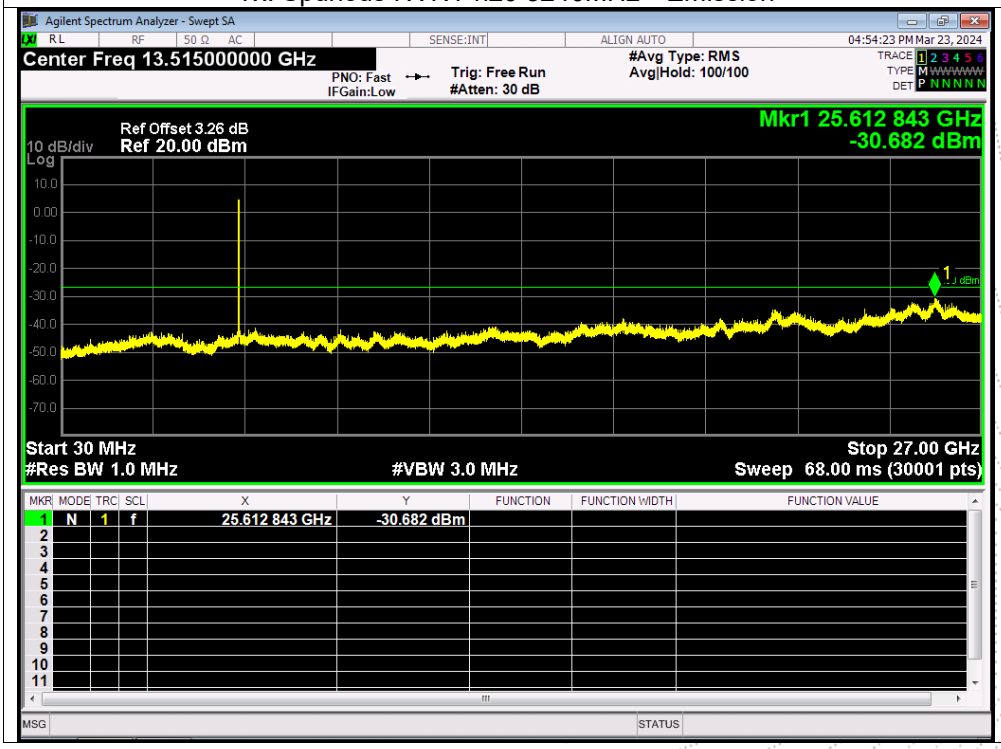
Tx. Spurious NVNT n20 5180MHz Emission



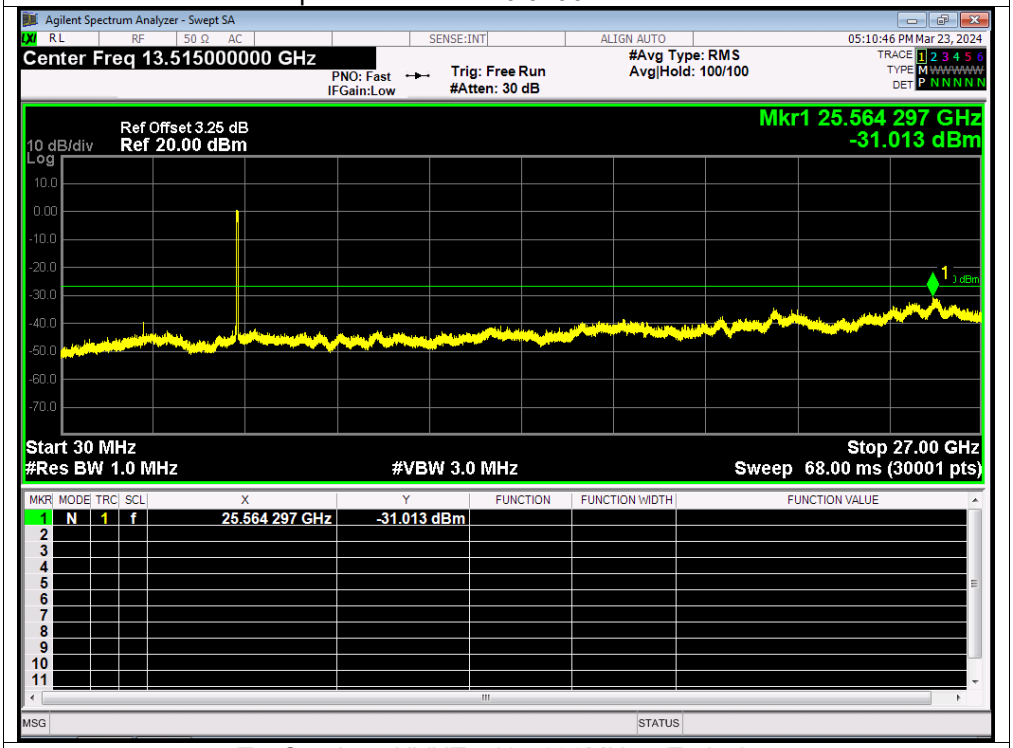
Tx. Spurious NVNT n20 5200MHz Emission



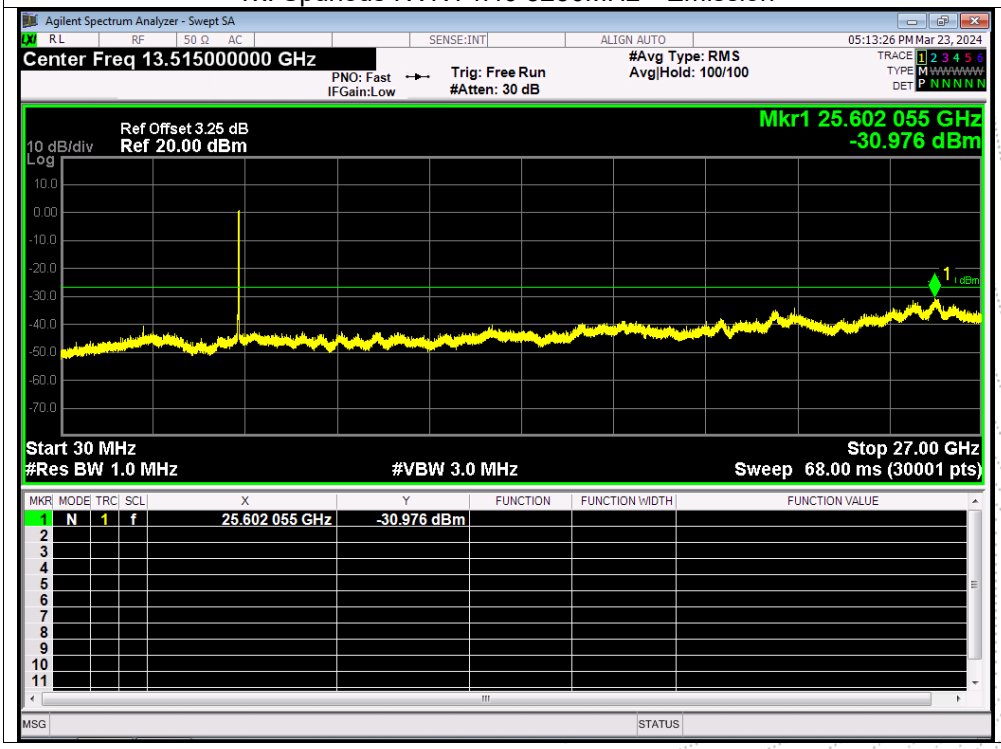
Tx. Spurious NVNT n20 5240MHz Emission



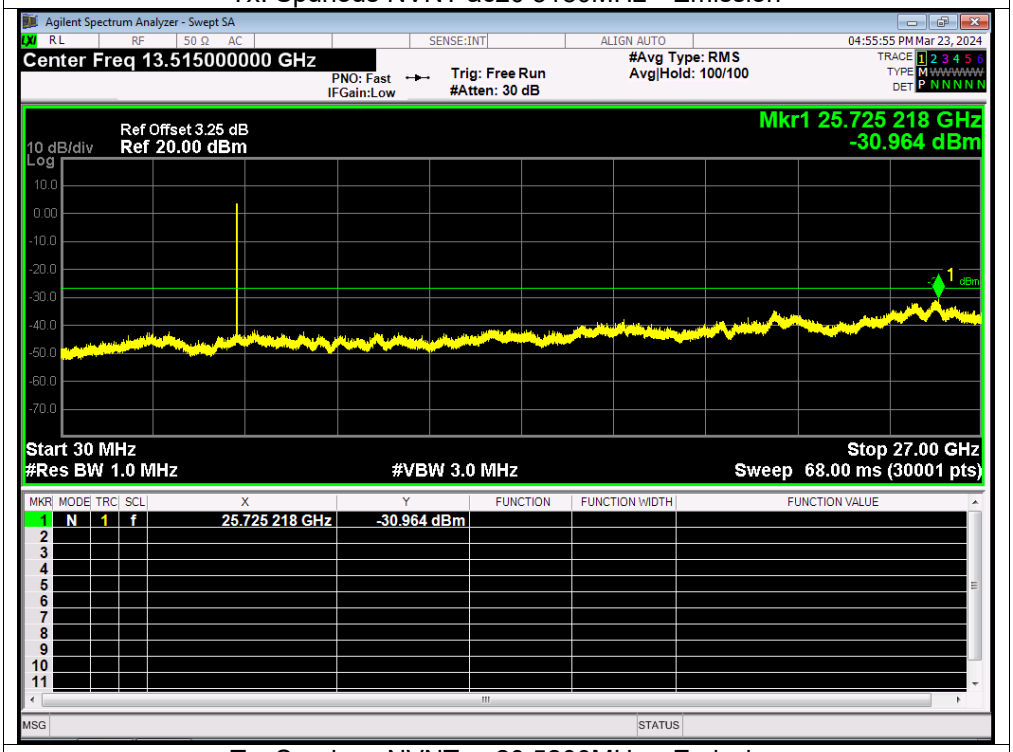
Tx. Spurious NVNT n40 5190MHz Emission



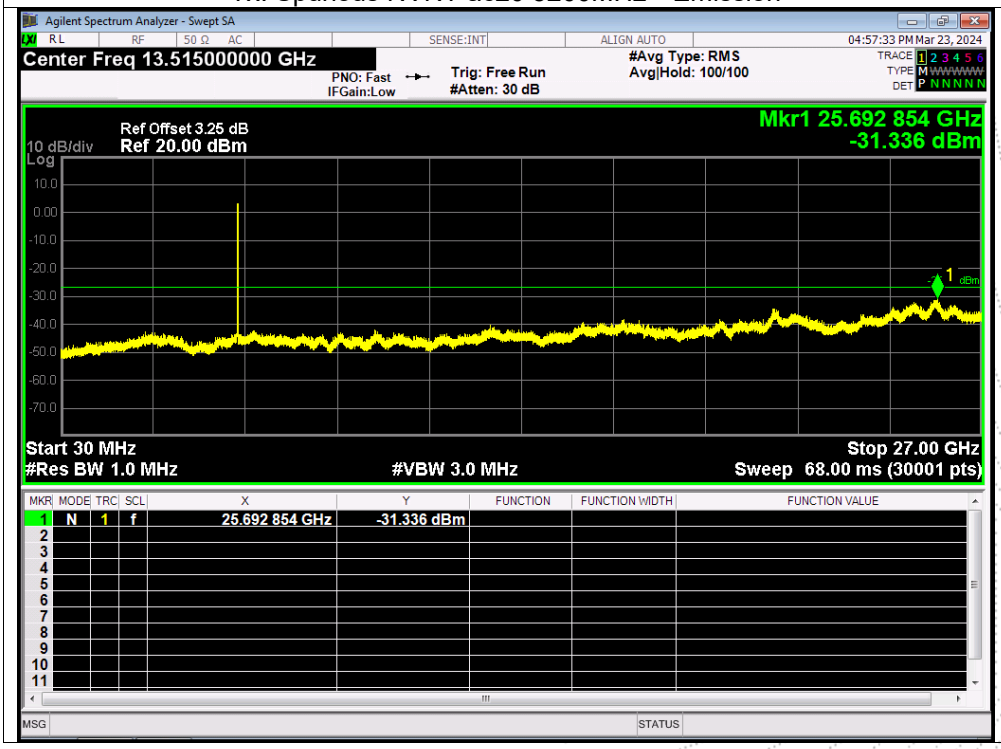
Tx. Spurious NVNT n40 5230MHz Emission



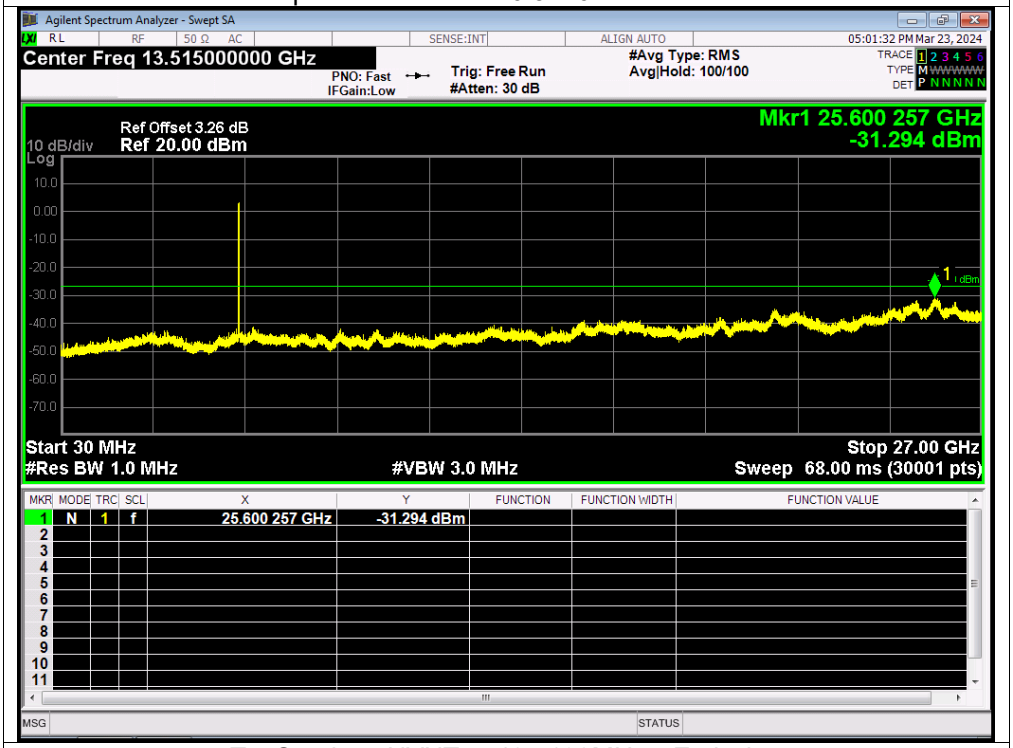
Tx. Spurious NVNT ac20 5180MHz Emission



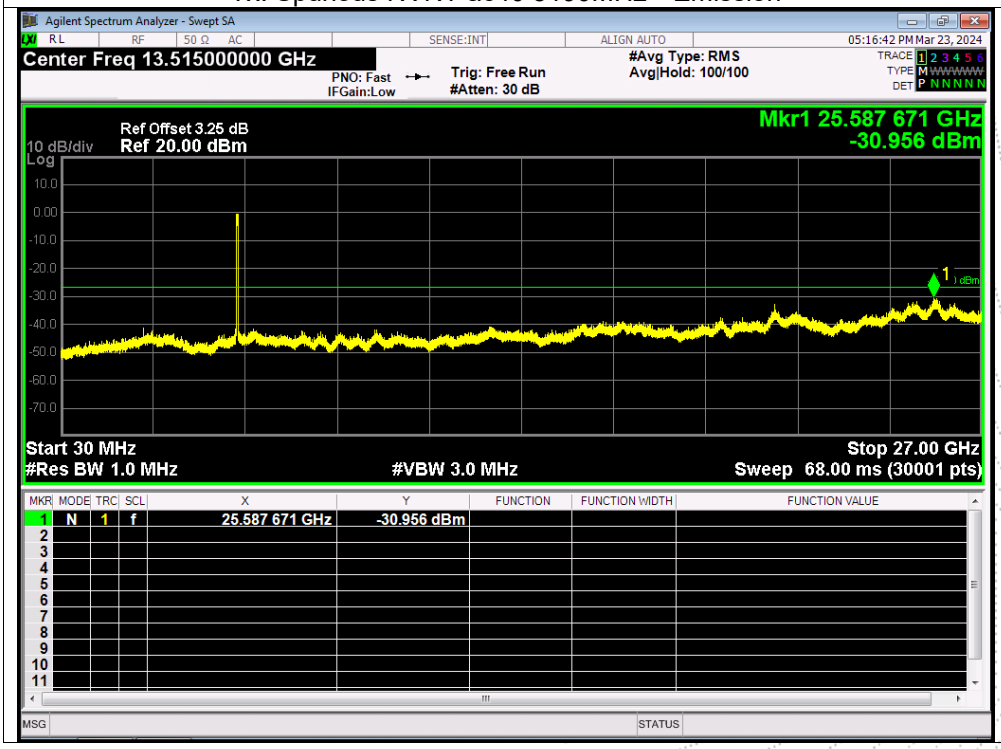
Tx. Spurious NVNT ac20 5200MHz Emission



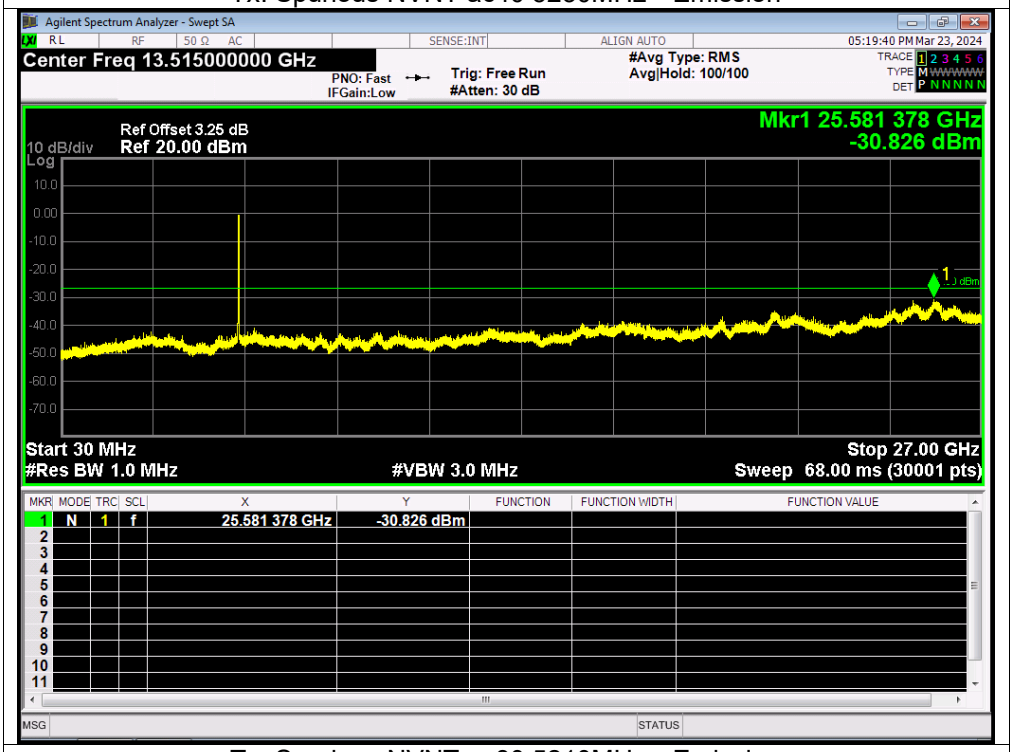
Tx. Spurious NVNT ac20 5240MHz Emission



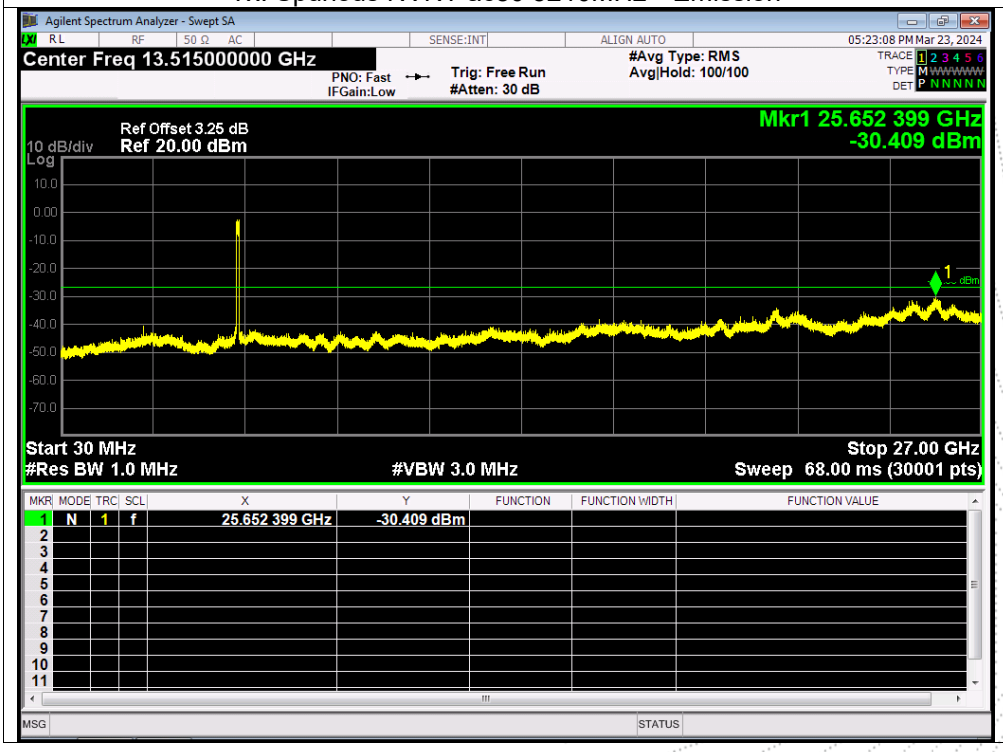
Tx. Spurious NVNT ac40 5190MHz Emission



Tx. Spurious NVNT ac40 5230MHz Emission

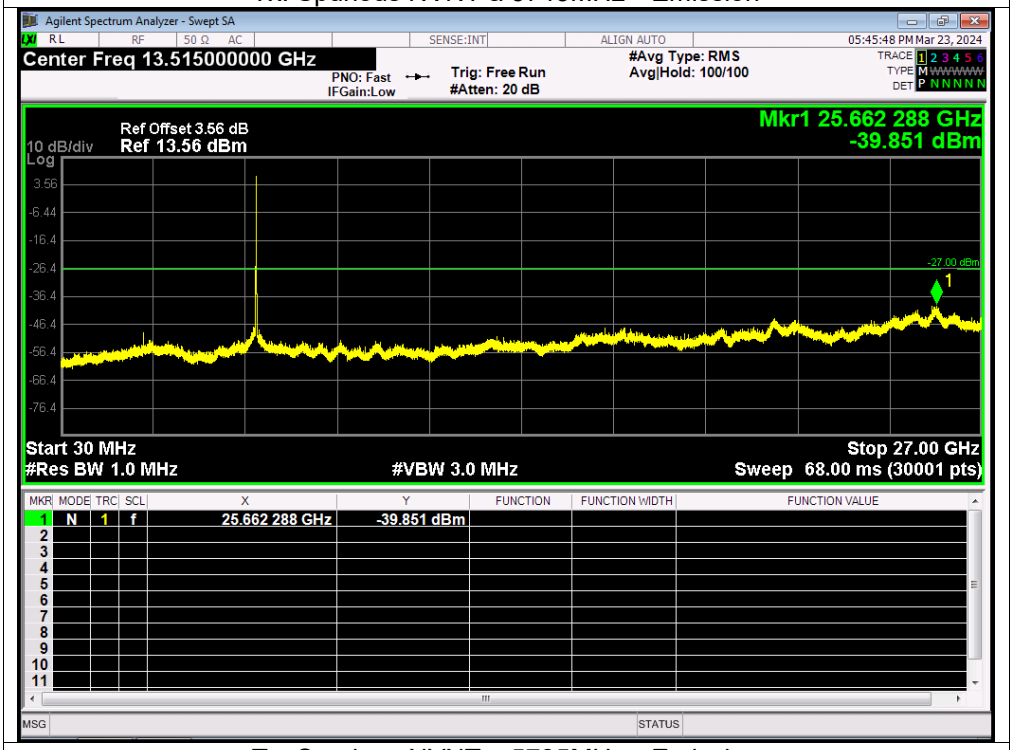


Tx. Spurious NVNT ac80 5210MHz Emission

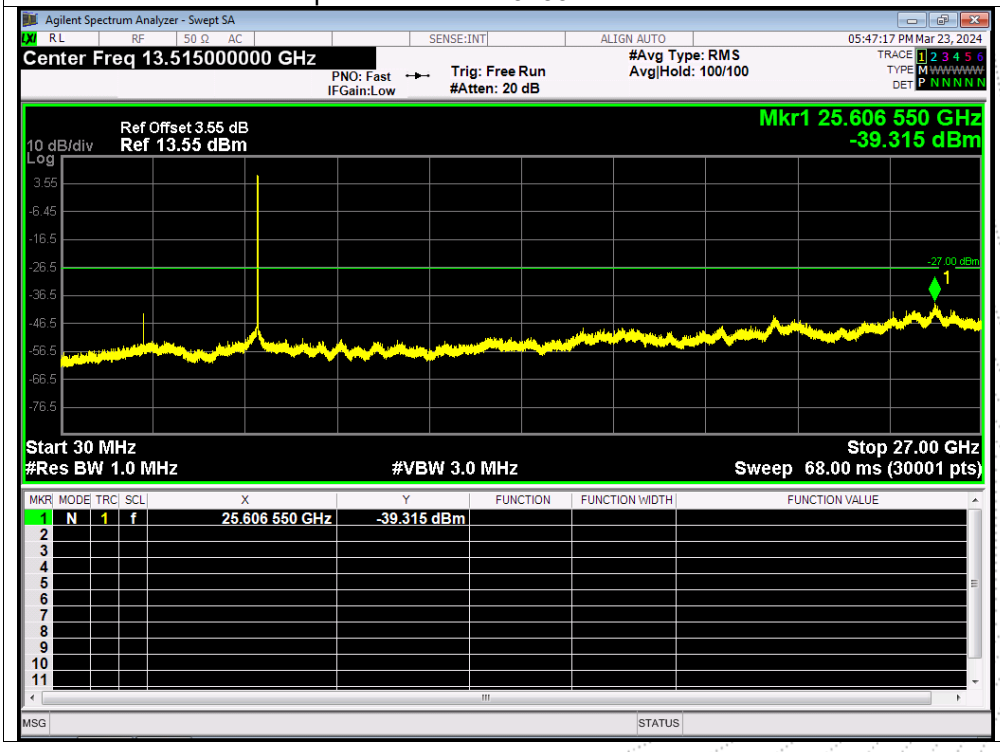


Test Graphs

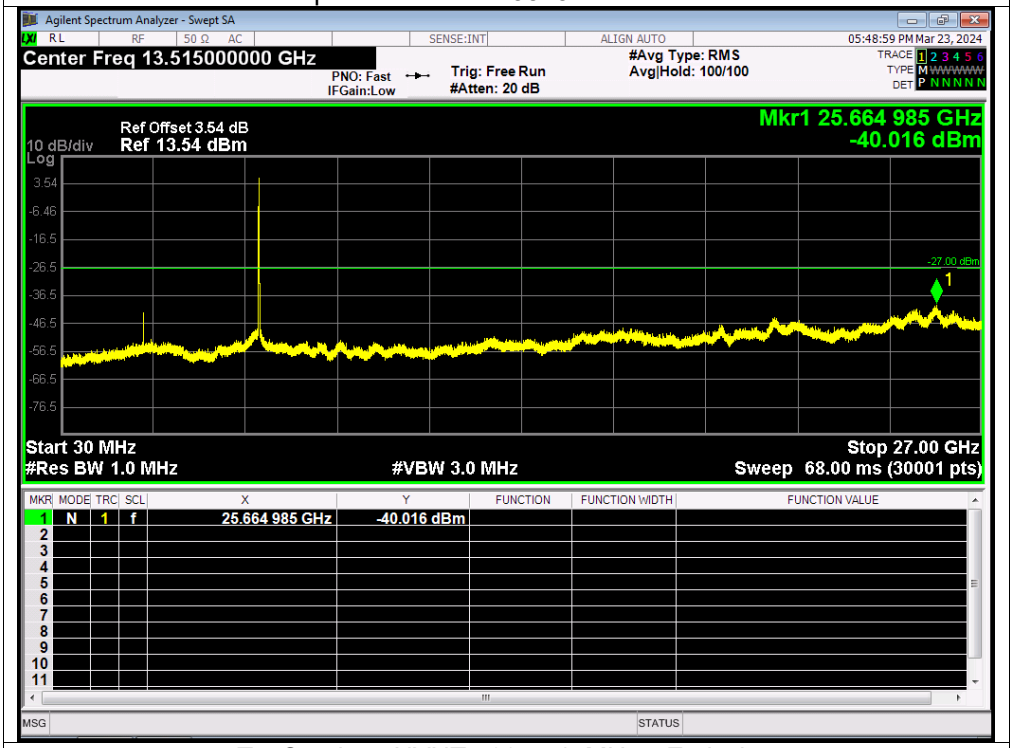
Tx. Spurious NVNT a 5745MHz Emission



Tx. Spurious NVNT a 5785MHz Emission



Tx. Spurious NVNT a 5825MHz Emission



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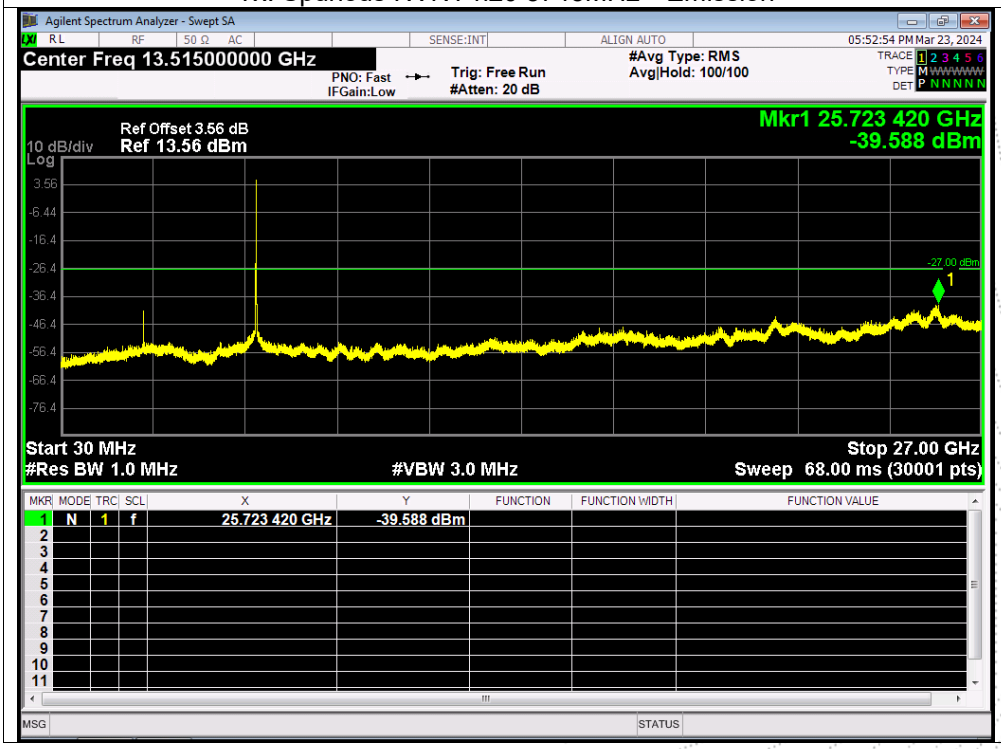
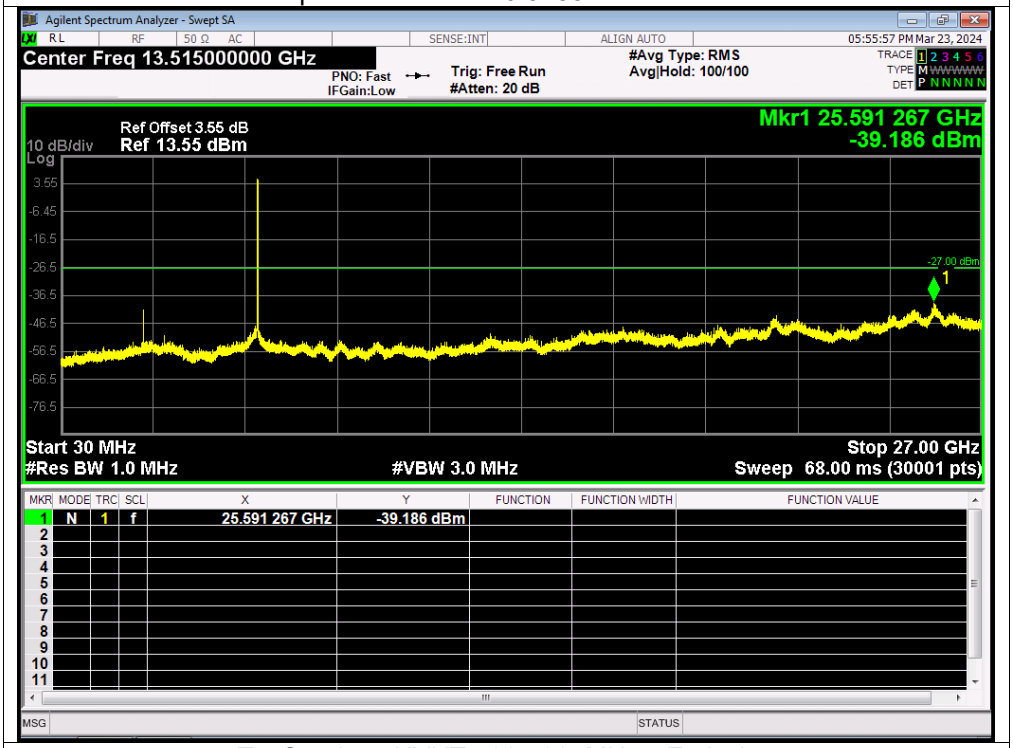
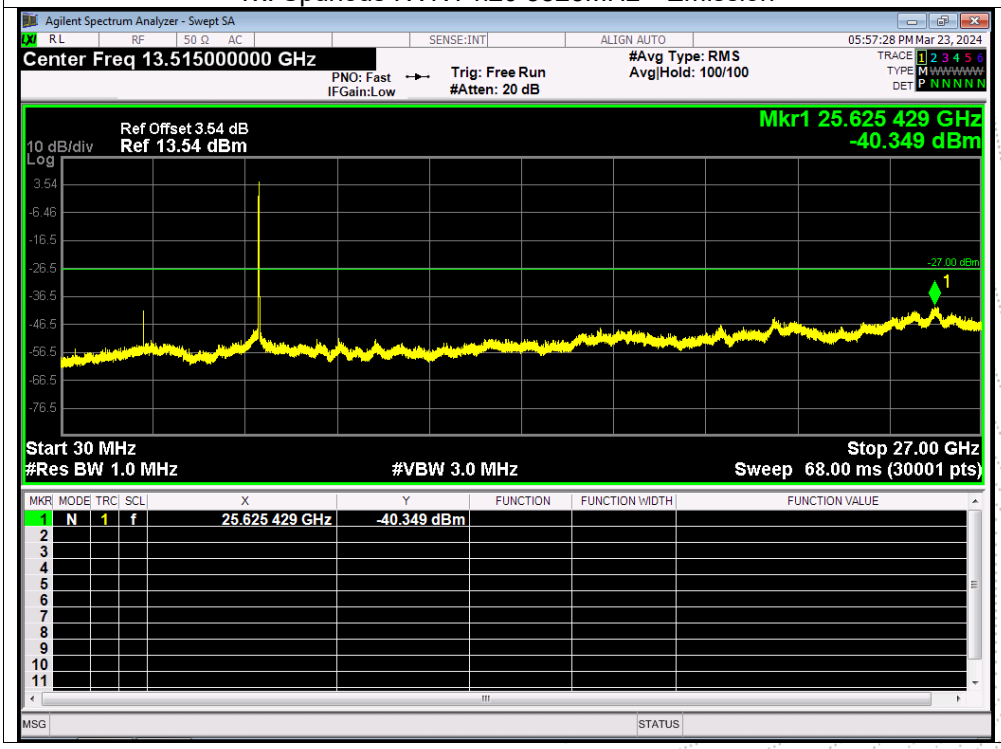


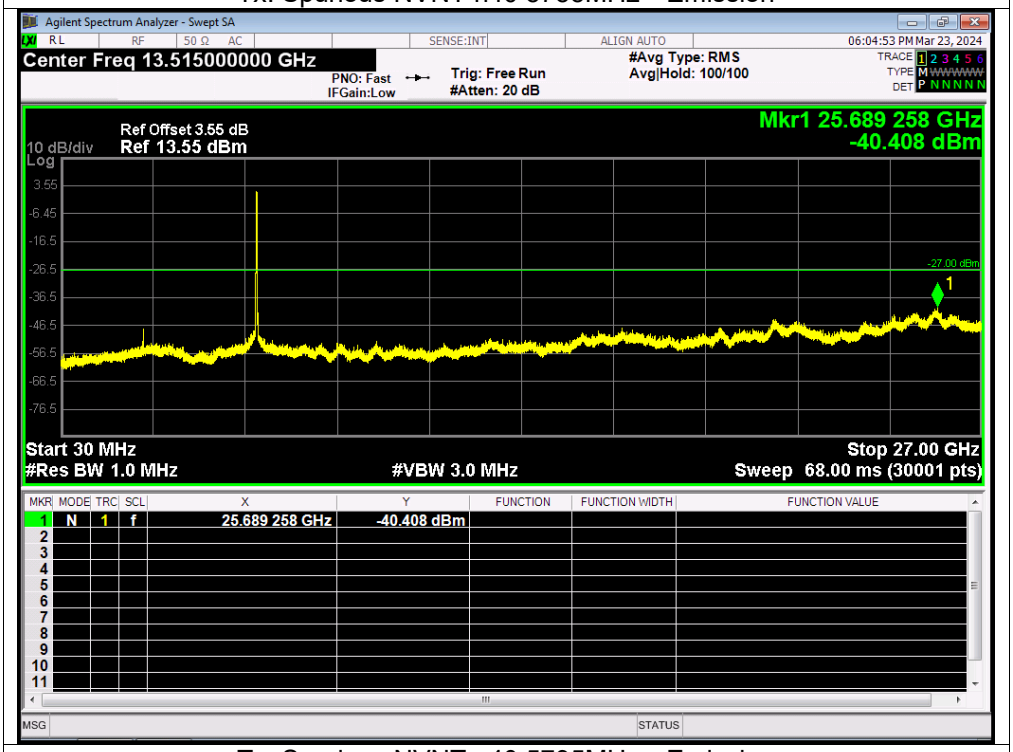
Tx. Spurious NVNT n20 5785MHz Emission



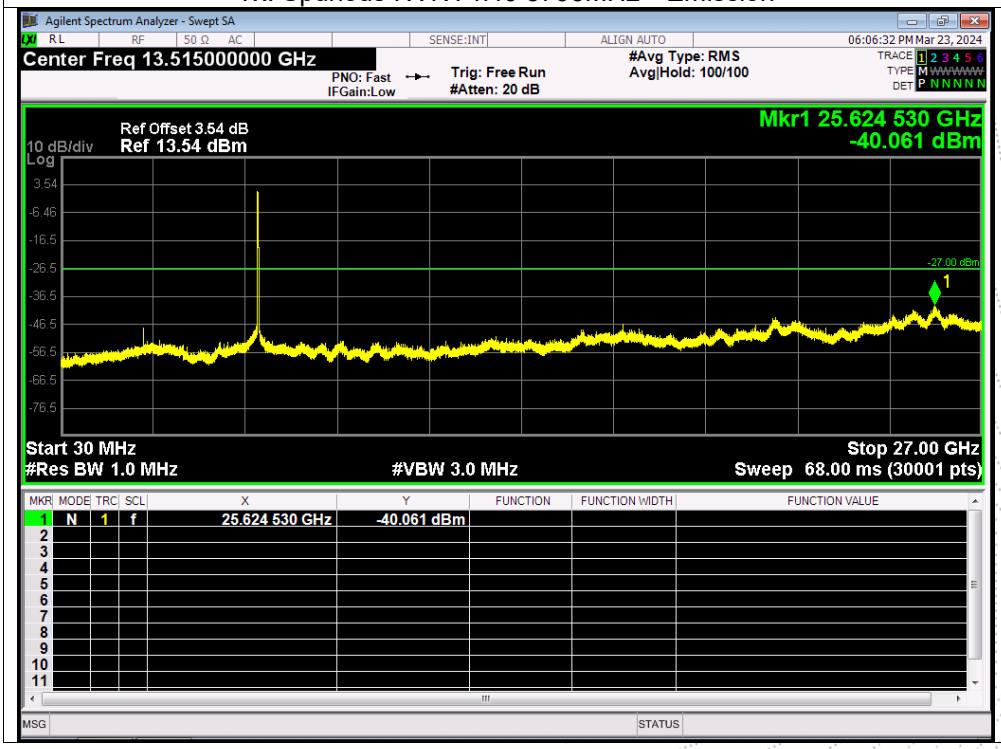
Tx. Spurious NVNT n20 5825MHz Emission



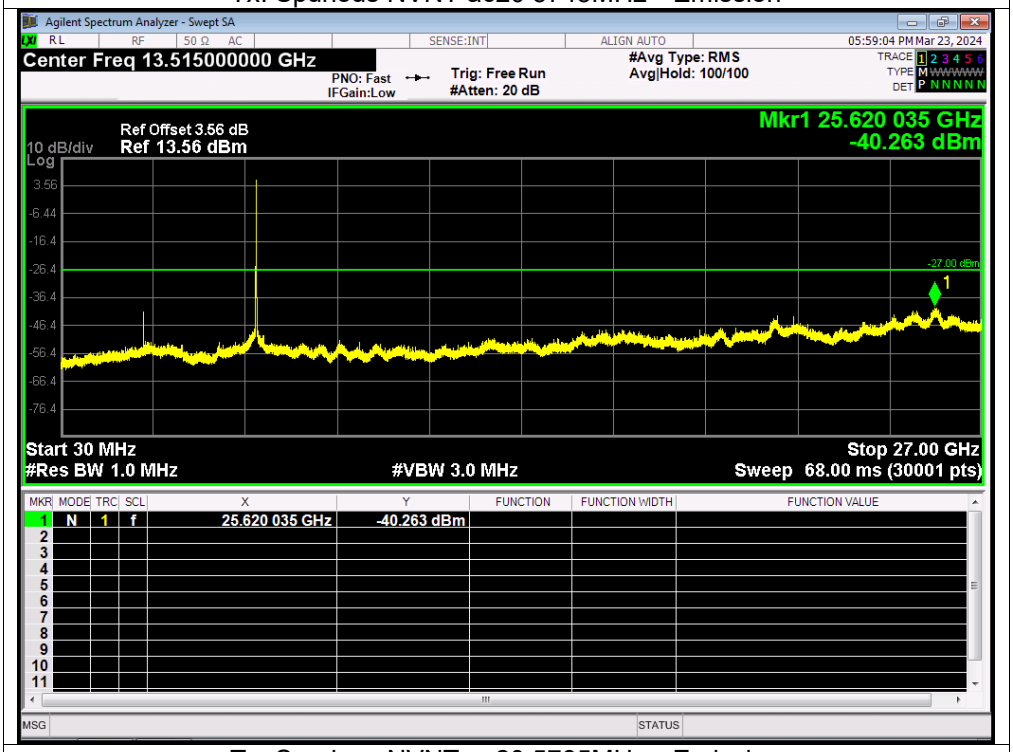
Tx. Spurious NVNT n40 5755MHz Emission



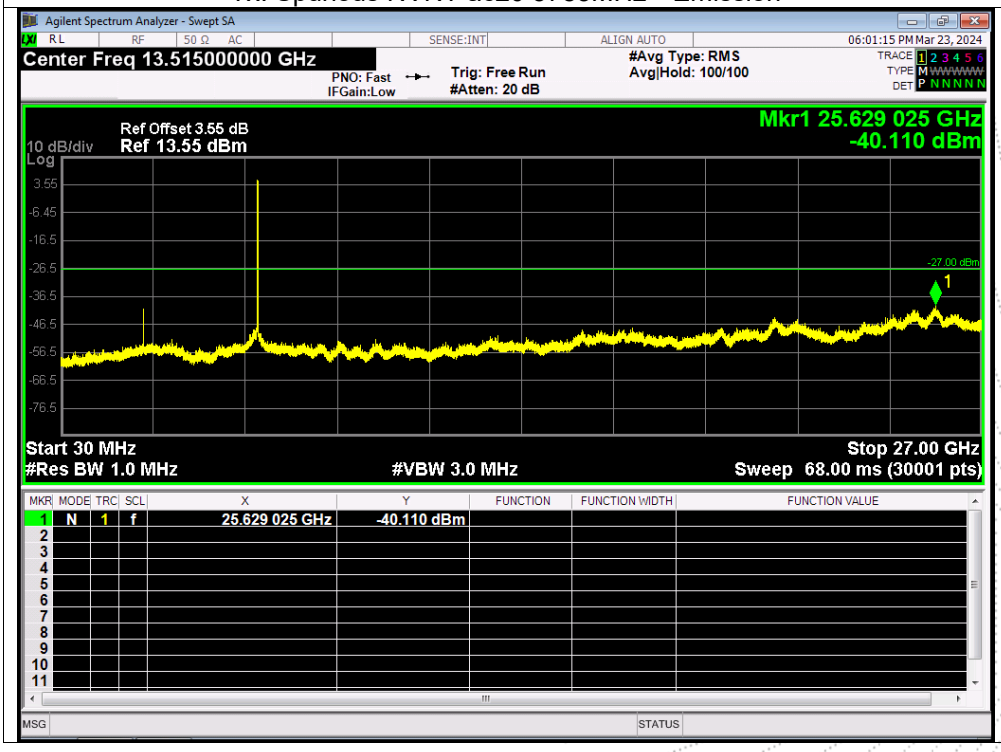
Tx. Spurious NVNT n40 5795MHz Emission



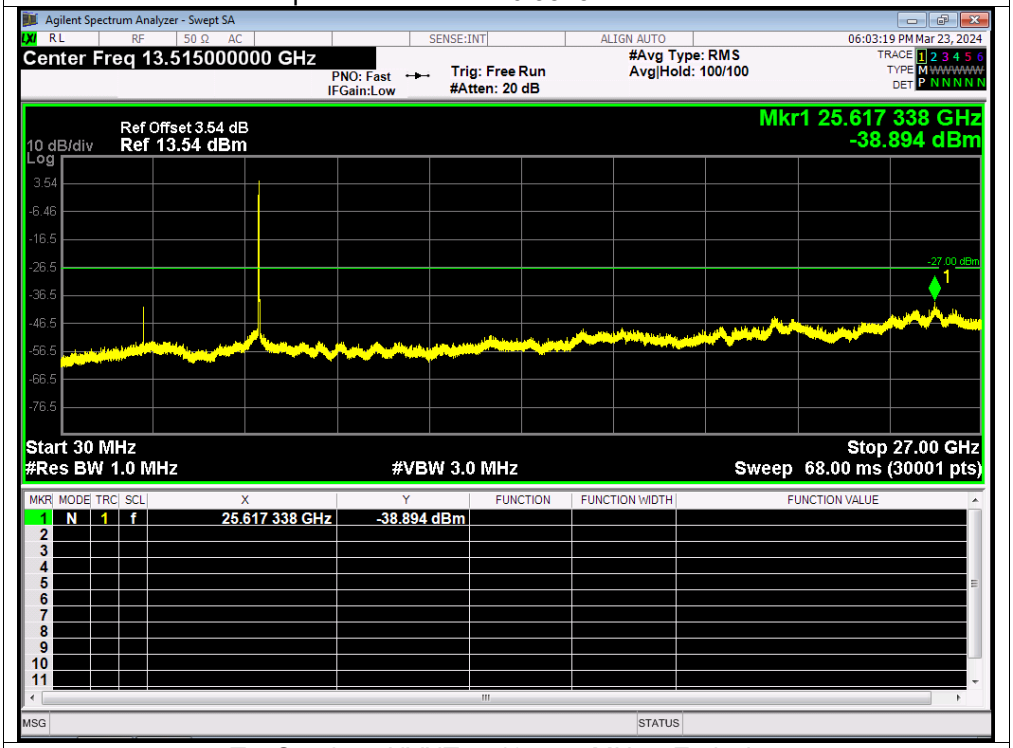
Tx. Spurious NVNT ac20 5745MHz Emission



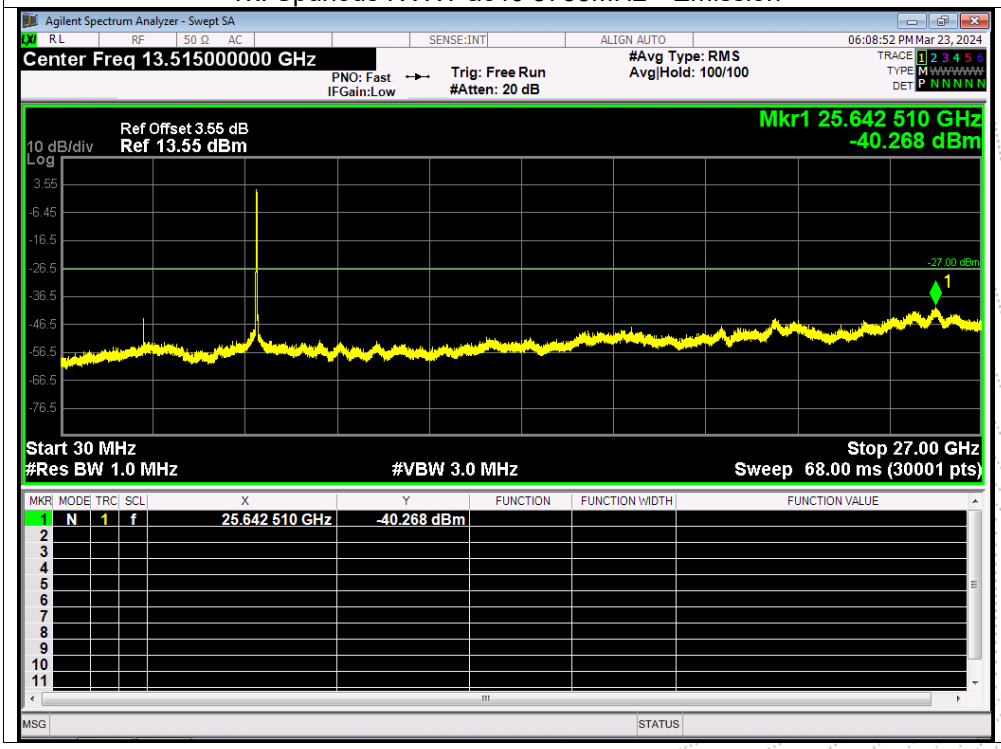
Tx. Spurious NVNT ac20 5785MHz Emission



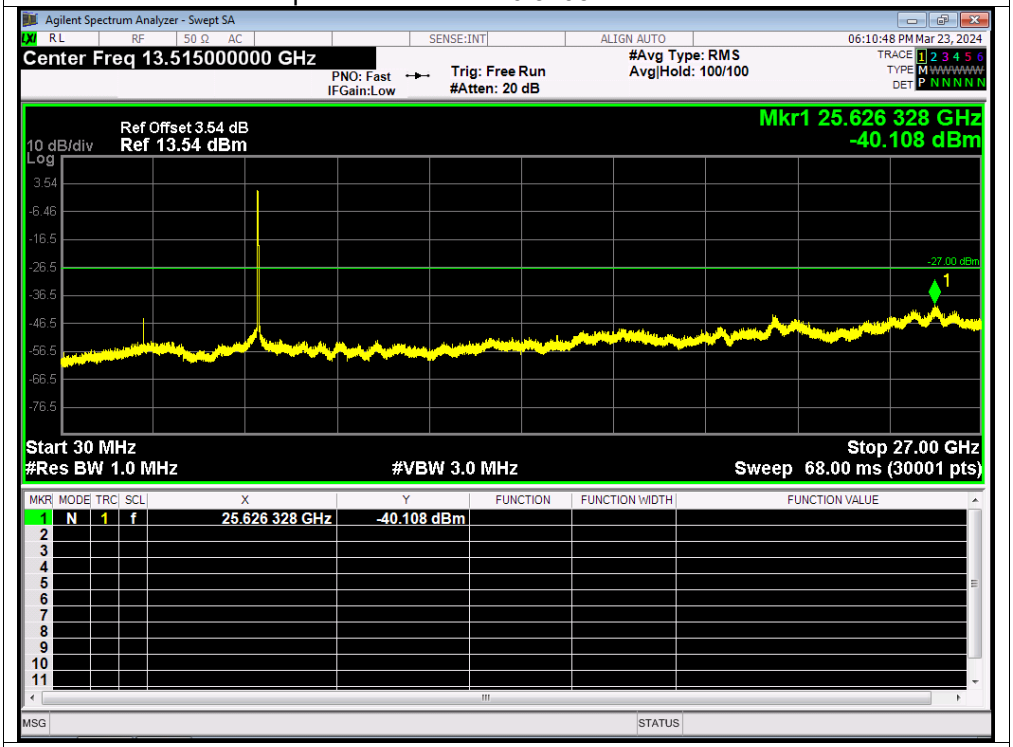
Tx. Spurious NVNT ac20 5825MHz Emission



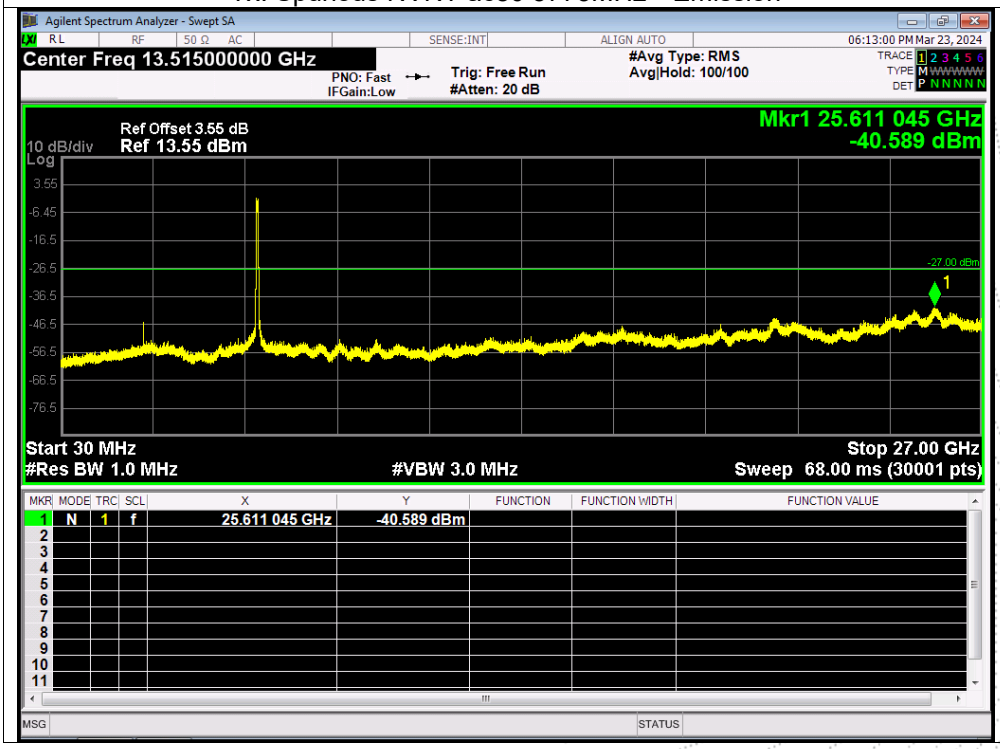
Tx. Spurious NVNT ac40 5755MHz Emission



Tx. Spurious NVNT ac40 5795MHz Emission

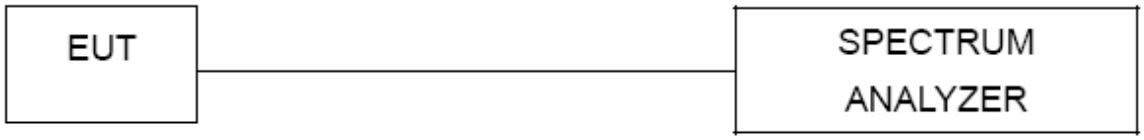


Tx. Spurious NVNT ac80 5775MHz Emission



13. Frequency Stability Measurement

13.1 Block Diagram Of Test Setup



13.2 Limit

Manufactures 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.
The transmitter center frequency tolerance shall be ± 20 ppm maximum for the 5 GHz band (IEEE 802.11n specification)..

13.3 Test Procedure

1. The transmitter output (antenna port) was connected to the spectrum analyzer.
2. EUT have transmitted absence of modulation signal and fixed channelize.
3. Set the spectrum analyzer span to view the entire absence of modulation emissions bandwidth.
4. Set RBW = 10 kHz, VBW = 10 kHz with peak detector and maxhold settings.
5. fc is declaring of channel frequency. Then the frequency error formula is (fc-f)/fc × 106 ppm and he limit is less than ±20ppm (IEEE 802.11nspecification).
6. The test extreme voltage is to change the primary supply voltage from 85 to 115 percent of the nominal value
7. Extreme temperature is -20°C~70°C.

13.4 Test Result

Temperature:	26 ℃	Relative Humidity:	54%
Pressure:	101KPa	Test Voltage:	DC 12V
Test Mode:	TX (5.1G) Mode Frequency U-NII-1 (5180-5240MHz)		

Voltage vs. Frequency Stability

TEST CONDITIONS				Reference Frequency: 5180MHz			
				f	fc	Max. Deviation (MHz)	Max. Deviation (ppm)
T nom (°C)	20	V nom (V)	12.00	5180.0122	5180	0.0122	2.3552
		V max (V)	13.80	5180.0096	5180	0.0096	1.8533
		V min (V)	10.20	5180.0076	5180	0.0076	1.4672
Limits				5150-5250 MHz			
Result				Complies			

Temperature vs. Frequency Stability

TEST CONDITIONS				Reference Frequency: 5180MHz			
				f	fc	Max. Deviation (MHz)	Max. Deviation (ppm)
V nom (V)	12	T (°C)	-20	5180.0070	5180	0.0070	1.3514
		T (°C)	-10	5180.0033	5180	0.0033	0.6371
		T (°C)	0	5180.0051	5180	0.0051	0.9846
		T (°C)	10	5180.0067	5180	0.0067	1.2934
		T (°C)	20	5180.0131	5180	0.0131	2.5290
		T (°C)	30	5180.0124	5180	0.0124	2.3938
		T (°C)	40	5180.0061	5180	0.0061	1.1776
		T (°C)	50	5180.0021	5180	0.0021	0.4054
		T (°C)	60	5180.0129	5180	0.0129	2.4903
		T (°C)	70	5180.0000	5180	0.0000	0.0000
Limits				5150-5250 MHz			
Result				Complies			

Voltage vs. Frequency Stability

TEST CONDITIONS				Reference Frequency: 5200MHz			
				f	fc	Max. Deviation (MHz)	Max. Deviation (ppm)
T nom (°C)	20	V nom (V)	12.00	5200.0134	5200	0.0134	2.5769
		V max (V)	13.80	5200.0039	5200	0.0039	0.7500
		V min (V)	10.20	5200.0123	5200	0.0123	2.3654
Limits				5725-5850 MHz			
Result				Complies			

Temperature vs. Frequency Stability

TEST CONDITIONS				Reference Frequency: 5200MHz			
				f	fc	Max. Deviation (MHz)	Max. Deviation (ppm)
V nom (V)	12	T (°C)	-20	5200.00600	5200	0.00600	1.1538
		T (°C)	-10	5200.00480	5200	0.00480	0.9231
		T (°C)	0	5200.00910	5200	0.00910	1.7500
		T (°C)	10	5200.01350	5200	0.01350	2.5962
		T (°C)	20	5200.00760	5200	0.00760	1.4615
		T (°C)	30	5200.00750	5200	0.00750	1.4423
		T (°C)	40	5200.00420	5200	0.00420	0.8077
		T (°C)	50	5200.01340	5200	0.01340	2.5769
		T (°C)	60	5200.00250	5200	0.00250	0.4808
		T (°C)	70	5200.00910	5200	0.00910	1.7500
Limits				5150-5250 MHz			
Result				Complies			

Voltage vs. Frequency Stability

TEST CONDITIONS				Reference Frequency: 5240MHz			
				f	fc	Max. Deviation (MHz)	Max. Deviation (ppm)
T nom (°C)	20	V nom (V)	12.00	5240.0052	5240	0.0052	0.9924
		V max (V)	13.80	5240.0120	5240	0.0120	2.2901
		V min (V)	10.20	5240.0049	5240	0.0049	0.9351
Limits				5150-5250 MHz			
Result				Complies			

Temperature vs. Frequency Stability

TEST CONDITIONS				Reference Frequency: 5240MHz			
				f	fc	Max. Deviation (MHz)	Max. Deviation (ppm)
V nom (V)	12	T (°C)	-20	5240.0110	5240	0.0110	2.0992
		T (°C)	-10	5240.0114	5240	0.0114	2.1756
		T (°C)	0	5240.0101	5240	0.0101	1.9275
		T (°C)	10	5240.0099	5240	0.0099	1.8893
		T (°C)	20	5240.0049	5240	0.0049	0.9351
		T (°C)	30	5240.0019	5240	0.0019	0.3626
		T (°C)	40	5240.0045	5240	0.0045	0.8588
		T (°C)	50	5240.0021	5240	0.0021	0.4008
		T (°C)	60	5240.0039	5240	0.0039	0.7443
		T (°C)	70	5240.0019	5240	0.0019	0.3626
Limits				5150-5250 MHz			
Result				Complies			

Temperature:	26 ℃	Relative Humidity:	54%
Pressure:	101KPa	Test Voltage:	DC 12V
Test Mode:	TX (5.8G) Mode Frequency U-NII-3 (5745-5825MHz)		

Voltage vs. Frequency Stabilit

TEST CONDITIONS				Reference Frequency: 5745MHz			
				f	fc	Max. Deviation (MHz)	Max. Deviation (ppm)
T nom (°C)	20	V nom (V)	12.00	5745.00290	5745	0.00290	0.5048
		V max (V)	13.80	5745.01200	5745	0.01200	2.0888
		V min (V)	10.20	5745.00190	5745	0.00190	0.3307
Limits				5725-5850 MHz			
Result				Complies			

Temperature vs. Frequency Stability

TEST CONDITIONS				Reference Frequency: 5745MHz			
				f	fc	Max. Deviation (MHz)	Max. Deviation (ppm)
V nom (V)	12	T (°C)	-20	5745.00220	5745	0.00220	0.3829
		T (°C)	-10	5745.01260	5745	0.01260	2.1932
		T (°C)	0	5745.00420	5745	0.00420	0.7311
		T (°C)	10	5745.00910	5745	0.00910	1.5840
		T (°C)	20	5745.00800	5745	0.00800	1.3925
		T (°C)	30	5745.00270	5745	0.00270	0.4700
		T (°C)	40	5745.00280	5745	0.00280	0.4874
		T (°C)	50	5745.00200	5745	0.00200	0.3481
		T (°C)	60	5745.00860	5745	0.00860	1.4970
		T (°C)	70	5745.00300	5745	0.00300	0.5222
Limits				5725-5850 MHz			
Result				Complies			

Voltage vs. Frequency Stability

TEST CONDITIONS				Reference Frequency: 5785MHz			
				f	fc	Max. Deviation (MHz)	Max. Deviation (ppm)
T nom (°C)	20	V nom (V)	12.00	5785.00190	5785	0.00190	0.3284
		V max (V)	13.80	5785.00390	5785	0.00390	0.6742
		V min (V)	10.20	5785.01240	5785	0.01240	2.1435
Limits				5725-5850 MHz			
Result				Complies			

Temperature vs. Frequency Stability

TEST CONDITIONS				Reference Frequency: 5785MHz			
				f	fc	Max. Deviation (MHz)	Max. Deviation (ppm)
V nom (V)	12	T (°C)	-20	5785.00950	5785	0.00950	1.6422
		T (°C)	-10	5785.00960	5785	0.00960	1.6595
		T (°C)	0	5785.01270	5785	0.01270	2.1953
		T (°C)	10	5785.00880	5785	0.00880	1.5212
		T (°C)	20	5785.00040	5785	0.00040	0.0691
		T (°C)	30	5785.00500	5785	0.00500	0.8643
		T (°C)	40	5785.01150	5785	0.01150	1.9879
		T (°C)	50	5785.00590	5785	0.00590	1.0199
		T (°C)	60	5785.00020	5785	0.00020	0.0346
		T (°C)	70	5785.00430	5785	0.00430	0.7433
Limits				5725-5850 MHz			
Result				Complies			

Voltage vs. Frequency Stability

TEST CONDITIONS				Reference Frequency: 5825MHz			
				f	fc	Max. Deviation (MHz)	Max. Deviation (ppm)
T nom (°C)	20	V nom (V)	12.00	5825.01090	5825	0.01090	1.8712
		V max (V)	13.80	5825.01150	5825	0.01150	1.9742
		V min (V)	10.20	5825.01260	5825	0.01260	2.1631
Limits				5725-5850 MHz			
Result				Complies			

Temperature vs. Frequency Stability

TEST CONDITIONS				Reference Frequency: 5825MHz			
				f	fc	Max. Deviation (MHz)	Max. Deviation (ppm)
V nom (V)	12	T (°C)	-20	5825.01160	5825	0.01160	1.9914
		T (°C)	-10	5825.00550	5825	0.00550	0.9442
		T (°C)	0	5825.00010	5825	0.00010	0.0172
		T (°C)	10	5825.01190	5825	0.01190	2.0429
		T (°C)	20	5825.00520	5825	0.00520	0.8927
		T (°C)	30	5825.01100	5825	0.01100	1.8884
		T (°C)	40	5825.00250	5825	0.00250	0.4292
		T (°C)	50	5825.00280	5825	0.00280	0.4807
		T (°C)	60	5825.00870	5825	0.00870	1.4936
		T (°C)	70	5825.00140	5825	0.00140	0.2403
Limits				5725-5850 MHz			
Result				Complies			

14. Antenna Requirement

14.1 Limit

15.203 requirement: For intentional device, according to 15.203: an intentional radiator shall be designed to ensure that no antenna other than that furnished by the responsible party shall be used with the device.

14.2 Test Result

The EUT antenna is Internal antenna (antenna gain: 2.92 dBi). It comply with the standard requirement.

15. Duty Cycle Of Test Signal

15.1 Standard Requirement

Pre-analysis Check: While conducting average power measurement, duty cycle of each mode shall be checked to ensure its duty cycle in order to compensate for the loss due to insufficient ratio of duty cycle. All duty cycle is pre-scanned, and result as obtained below shows only the most representative ones where duty cycle is conducted as the given transmission with given virtual operation that expresses the percentage.

15.2 Formula

Duty Cycle = Ton / (Ton+Toff)

15.3 Test Procedure

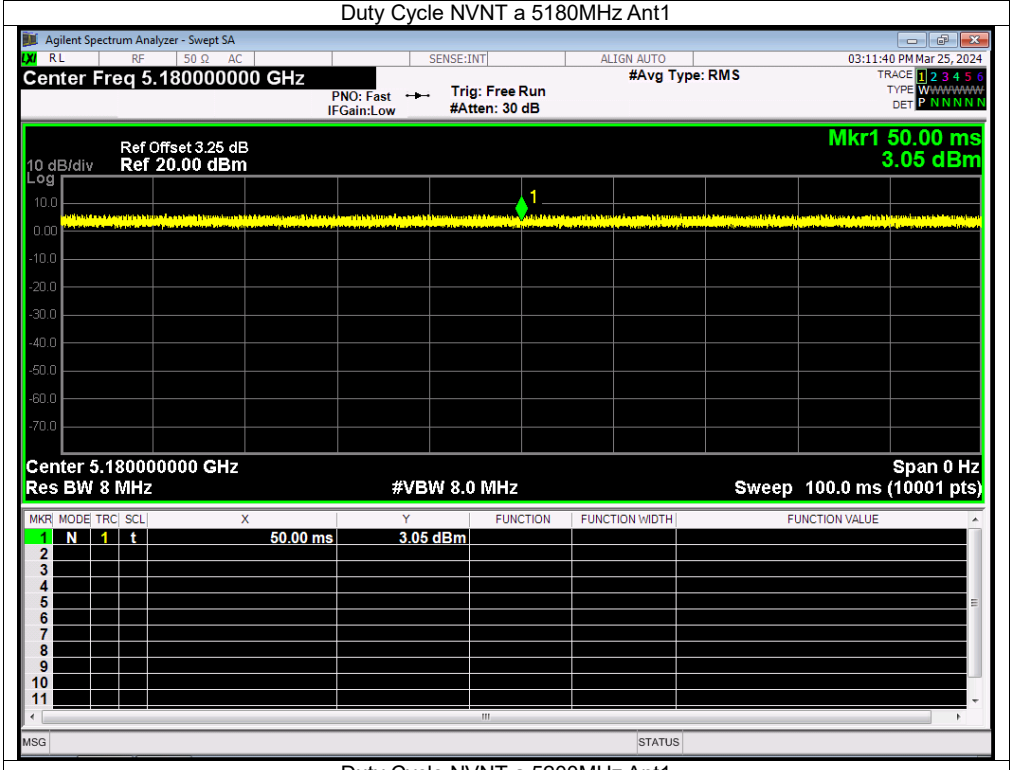
1.Set span = Zero
2. RBW = 8MHz
3. VBW = 8MHz,
4. Detector = Peak

15.4 Test Result

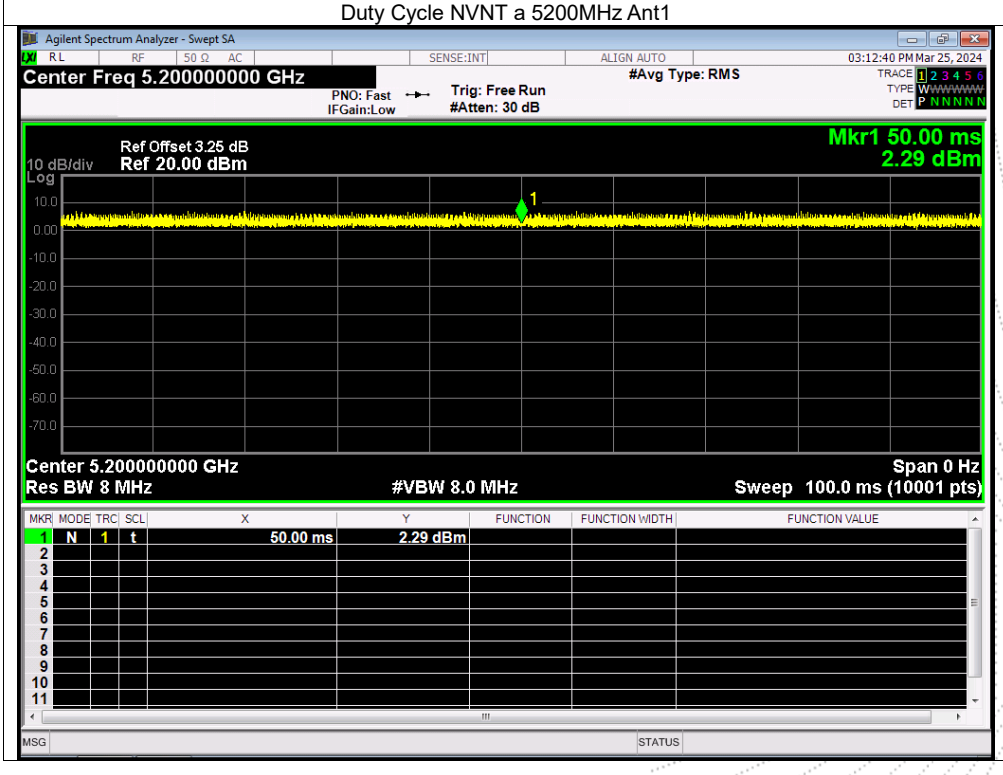
Condition	Mode	Frequency (MHz)	Antenna	Duty Cycle (%)	Correction Factor (dB)	1/T (kHz)
NVNT	a	5180	AntA	100	0	0
NVNT	a	5200	AntA	100	0	0
NVNT	a	5240	AntA	100	0	0
NVNT	n20	5180	AntA	100	0	0
NVNT	n20	5200	AntA	100	0	0
NVNT	n20	5240	AntA	100	0	0
NVNT	n40	5190	AntA	100	0	0
NVNT	n40	5230	AntA	100	0	0
NVNT	ac20	5180	AntA	100	0	0
NVNT	ac20	5200	AntA	100	0	0
NVNT	ac20	5240	AntA	100	0	0
NVNT	ac40	5190	AntA	100	0	0
NVNT	ac40	5230	AntA	100	0	0
NVNT	ac80	5210	AntA	100	0	0

Test Graphs

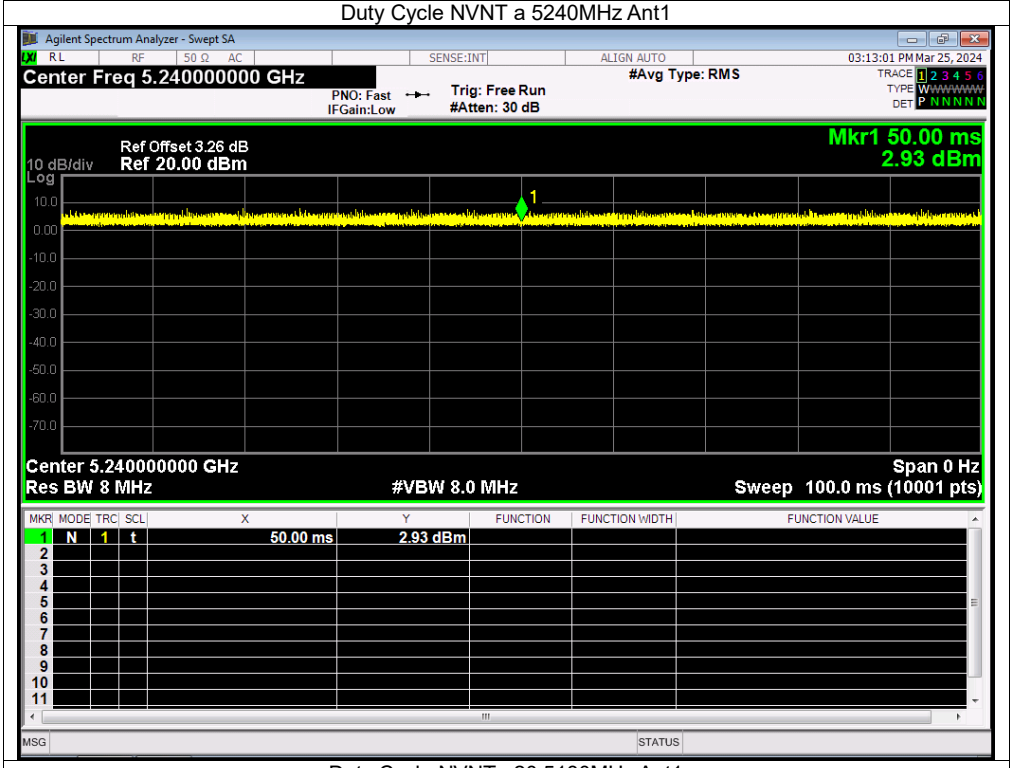
Duty Cycle NVNT a 5180MHz Ant1



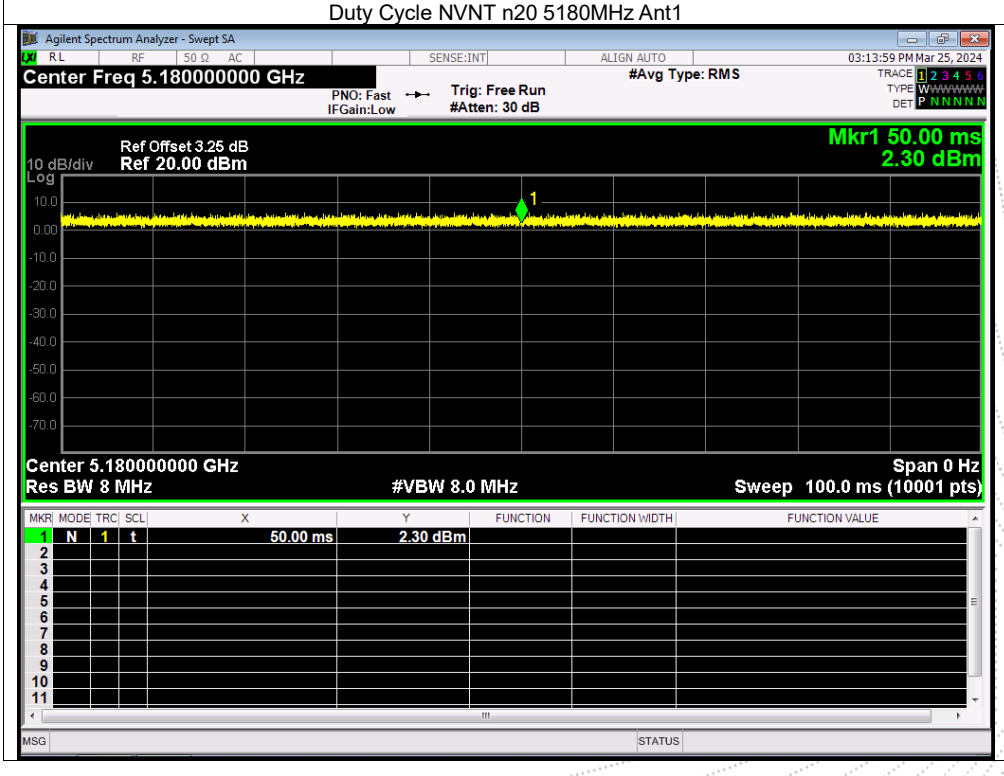
Duty Cycle NVNT a 5200MHz Ant1



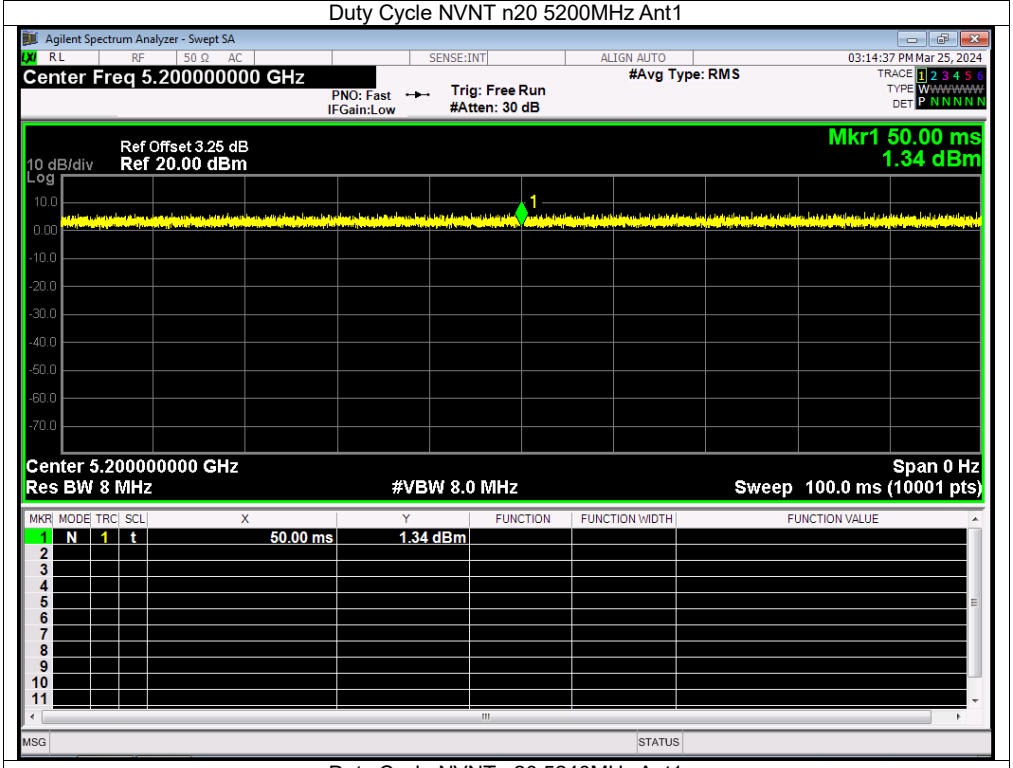
Duty Cycle NVNT a 5240MHz Ant1



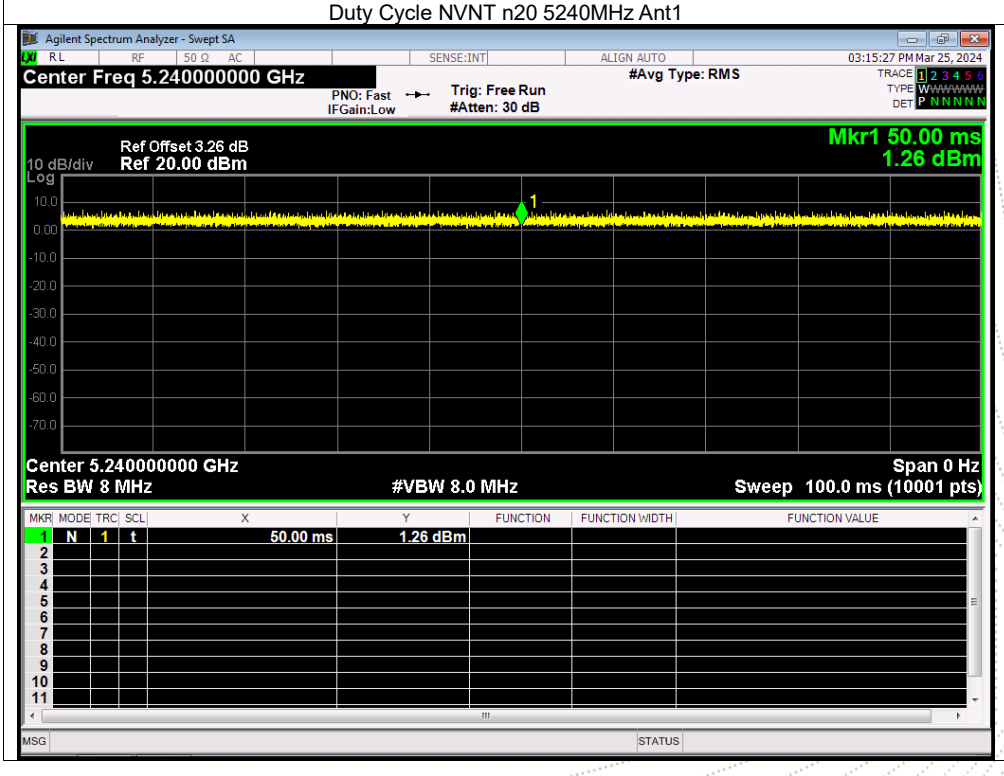
Duty Cycle NVNT n20 5180MHz Ant1



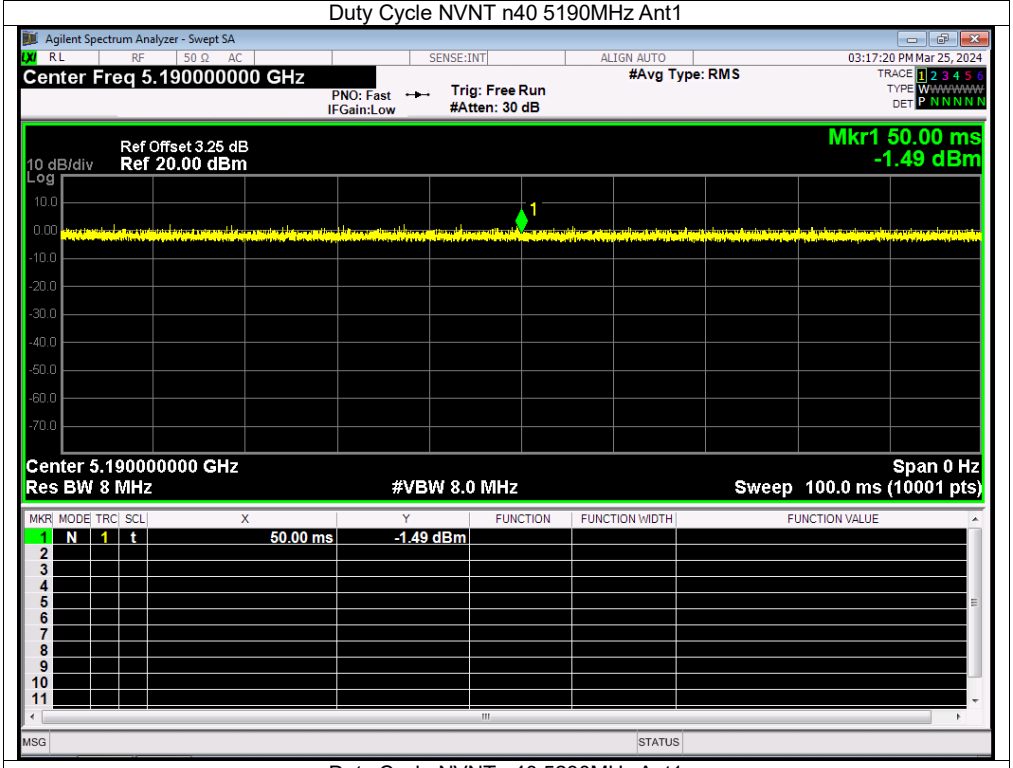
Duty Cycle NVNT n20 5200MHz Ant1



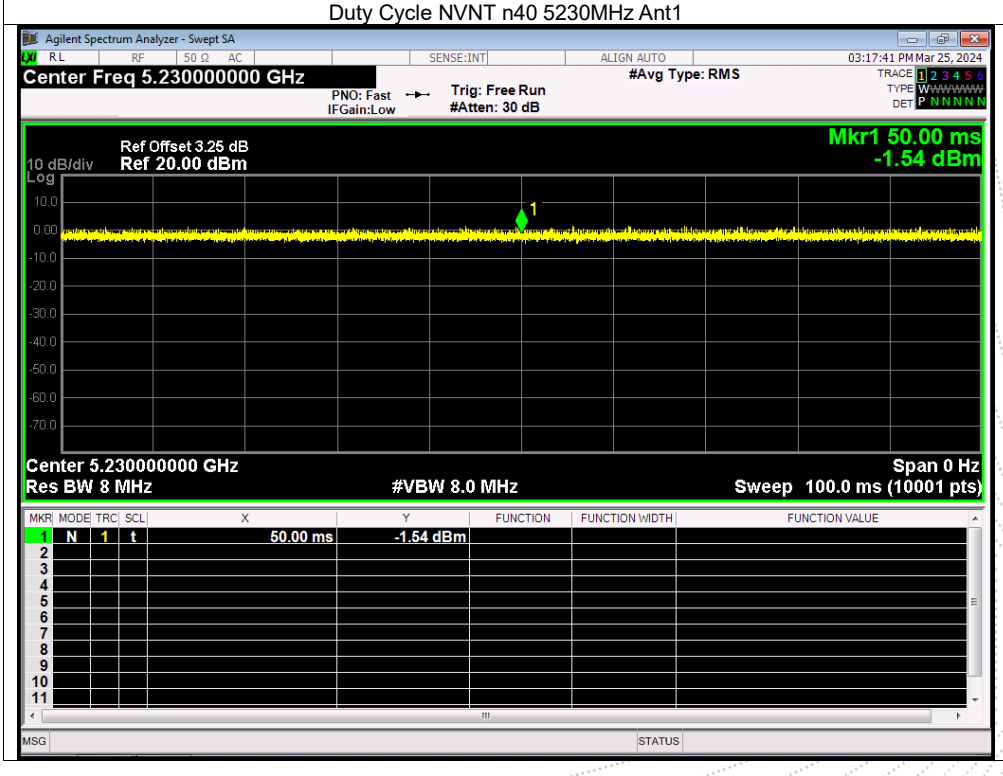
Duty Cycle NVNT n20 5240MHz Ant1



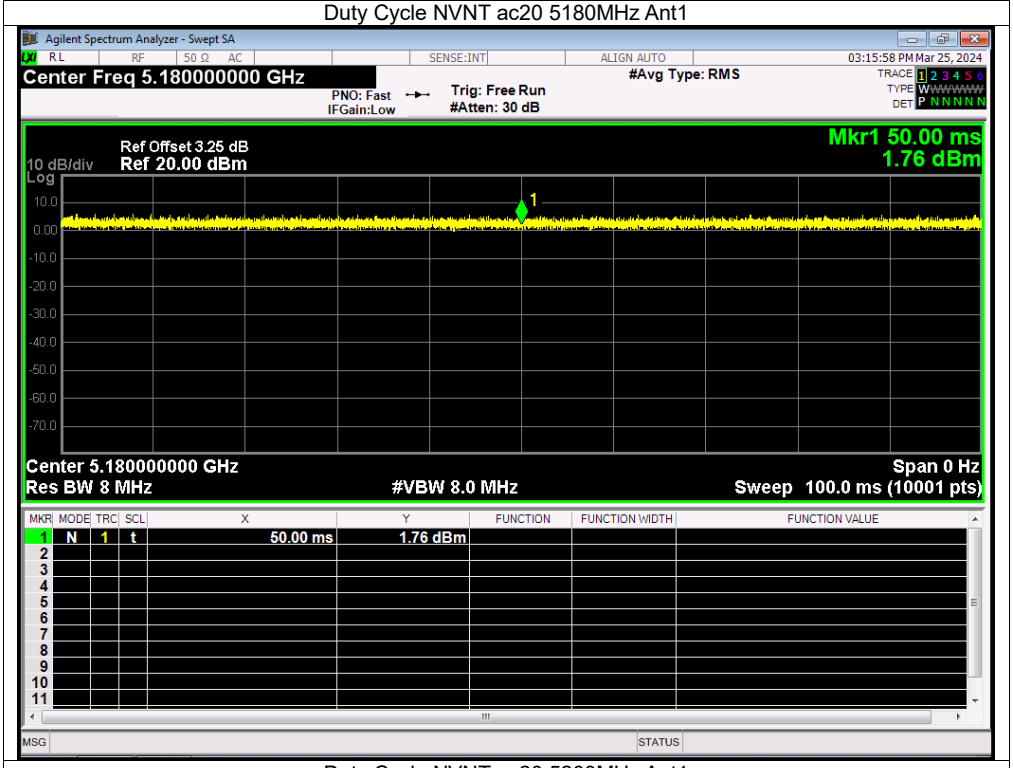
Duty Cycle NVNT n40 5190MHz Ant1



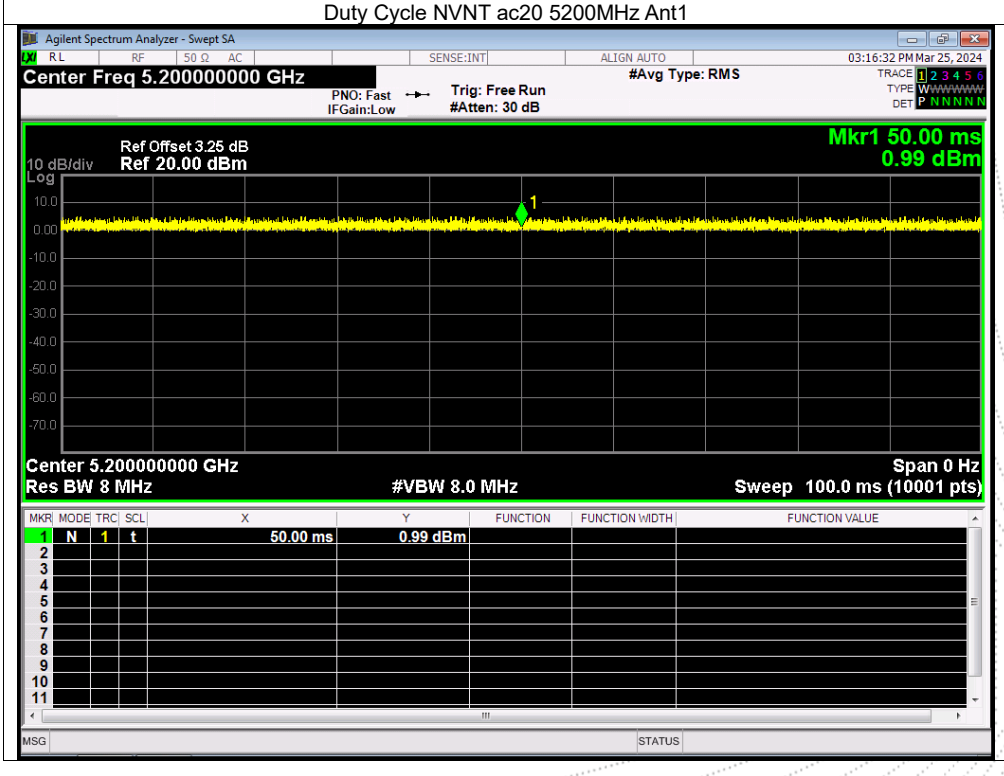
Duty Cycle NVNT n40 5230MHz Ant1



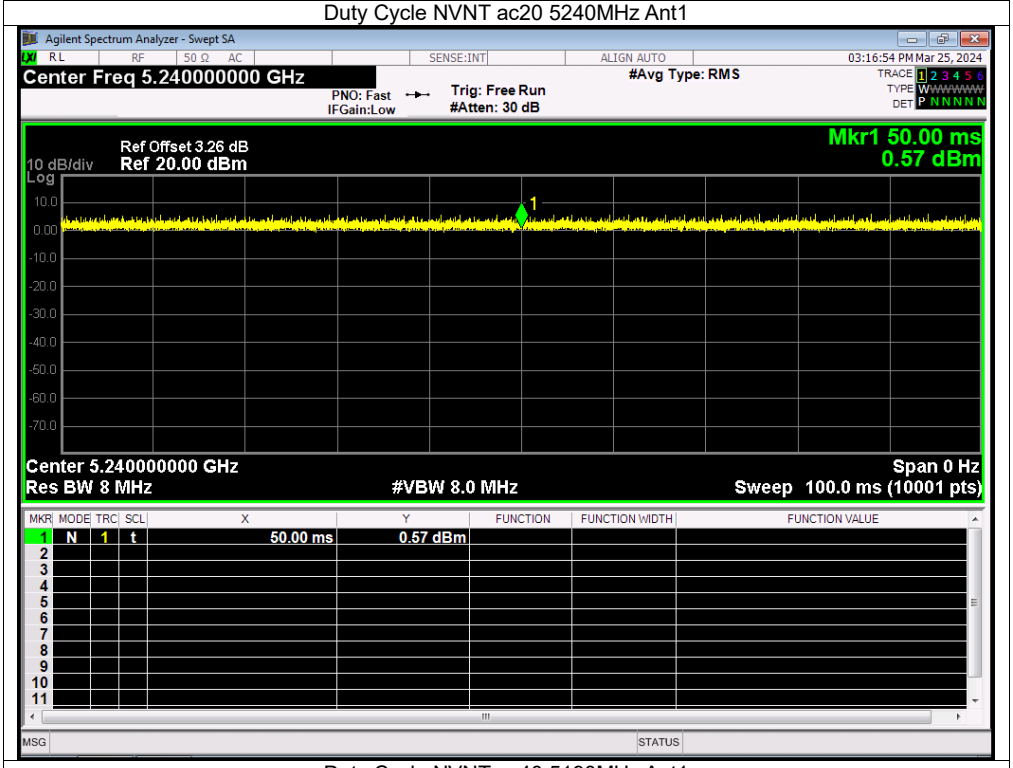
Duty Cycle NVNT ac20 5180MHz Ant1



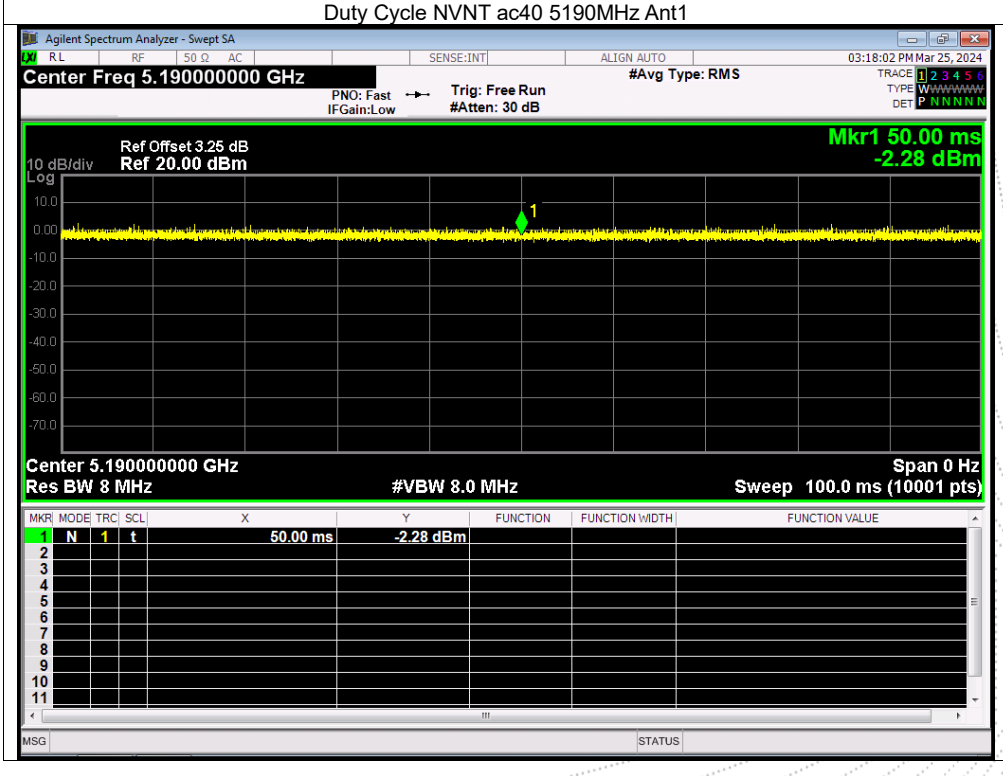
Duty Cycle NVNT ac20 5200MHz Ant1



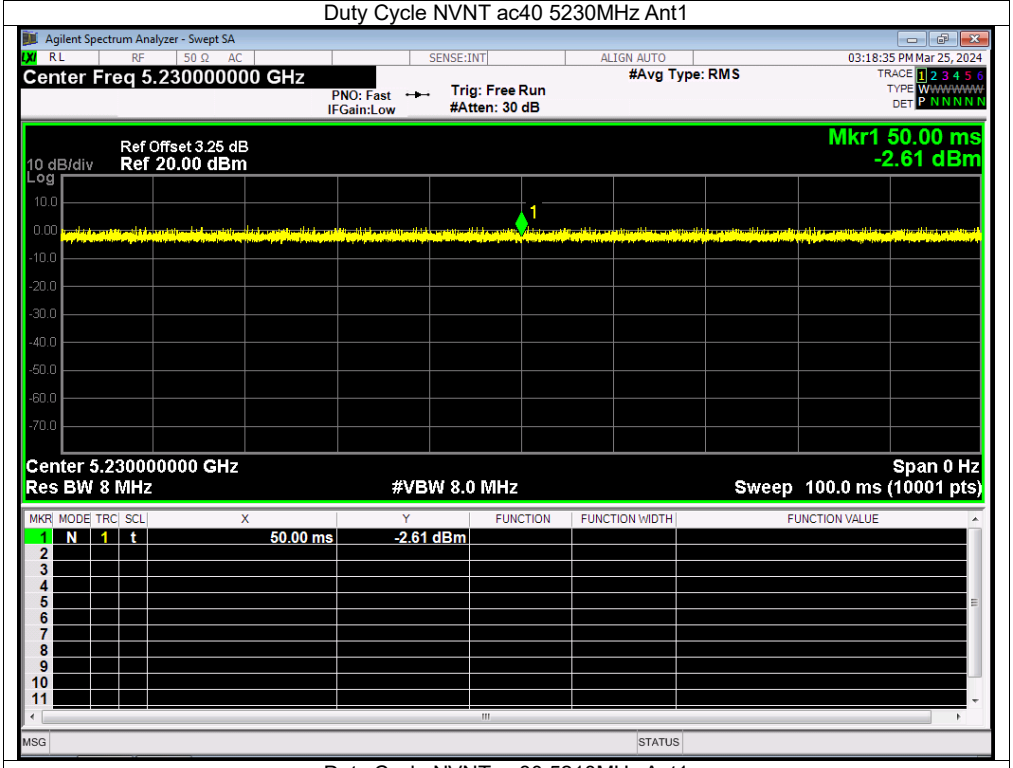
Duty Cycle NVNT ac20 5240MHz Ant1



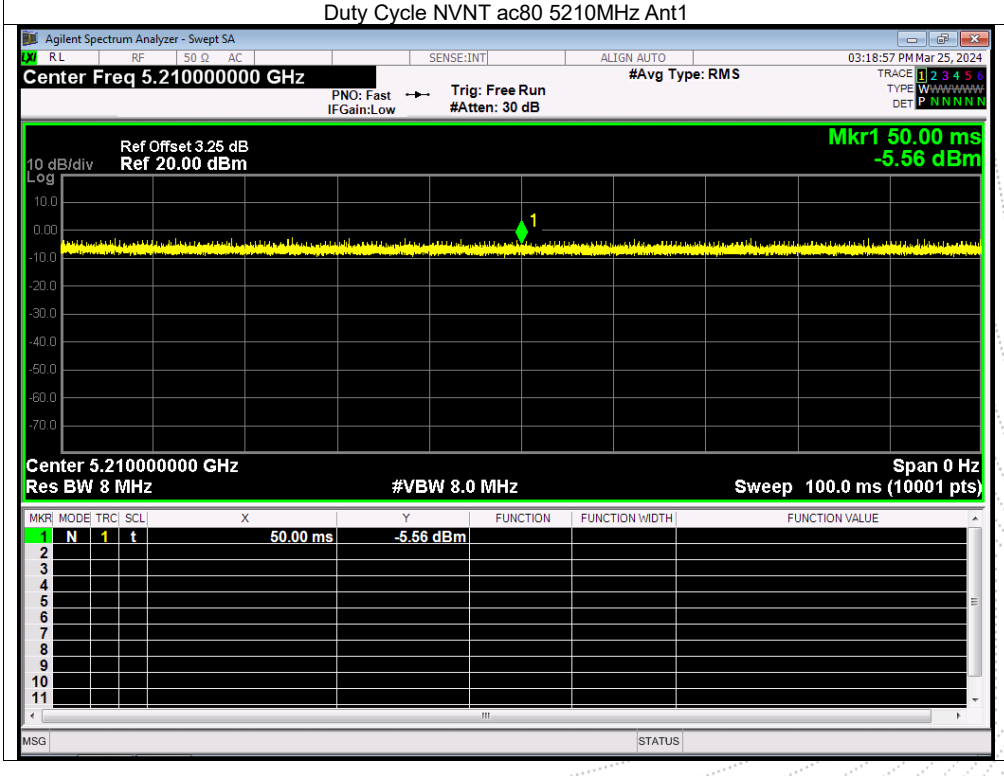
Duty Cycle NVNT ac40 5190MHz Ant1



Duty Cycle NVNT ac40 5230MHz Ant1



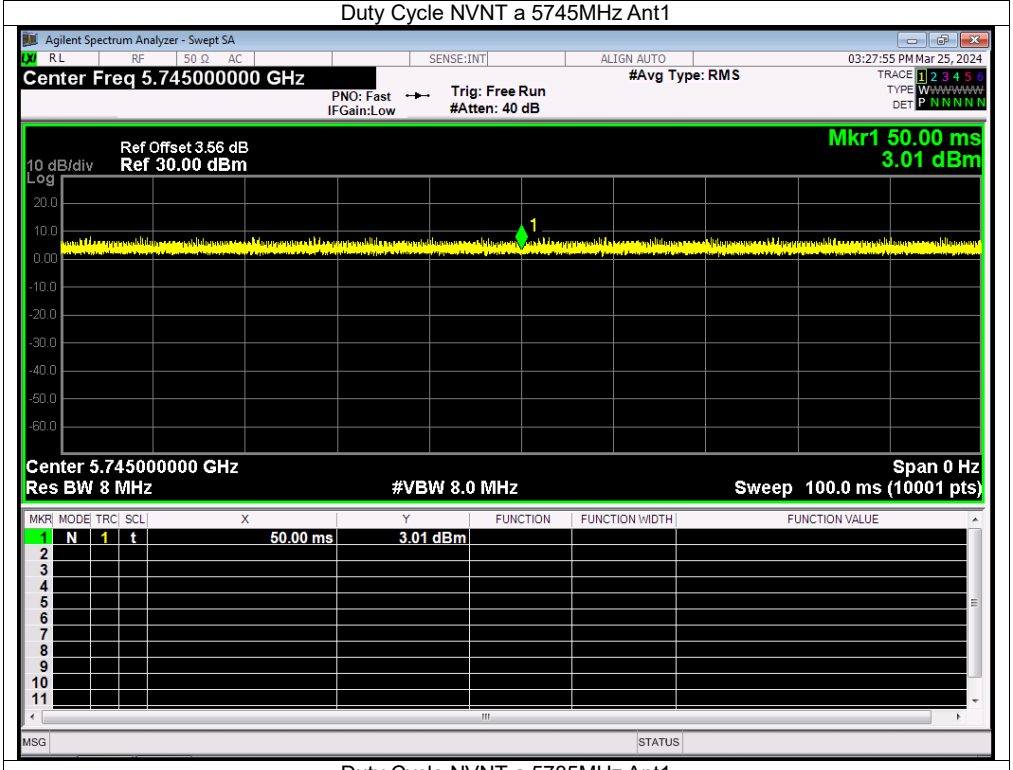
Duty Cycle NVNT ac80 5210MHz Ant1



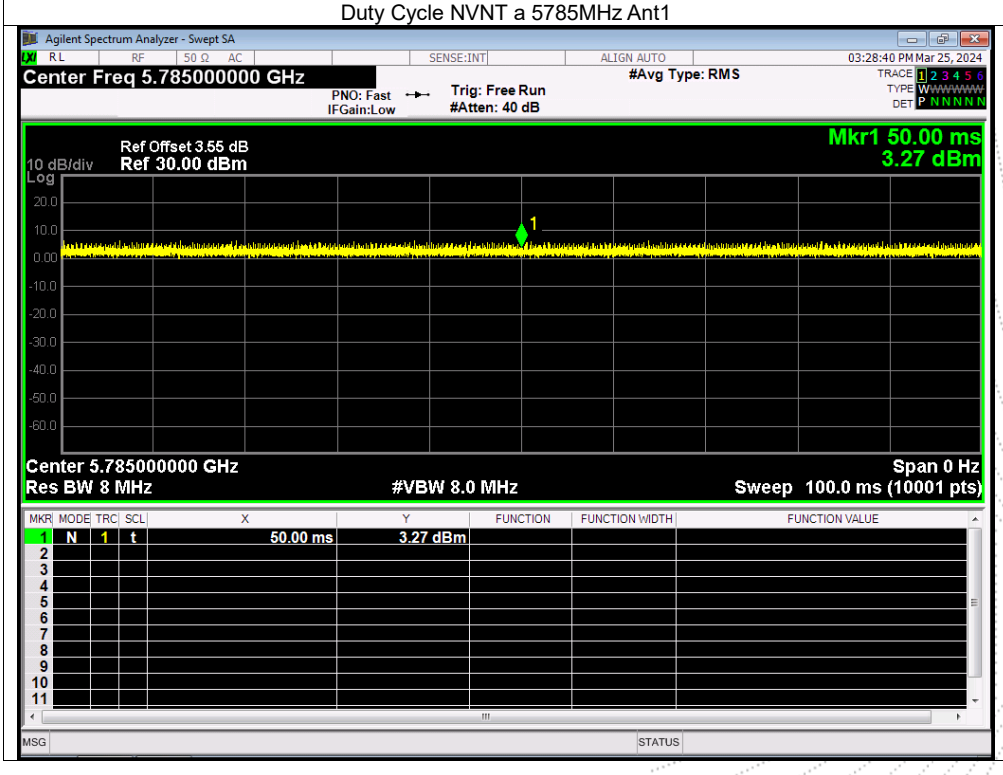
Condition	Mode	Frequency (MHz)	Antenna	Duty Cycle (%)	Correction Factor (dB)	1/T (kHz)
NVNT	a	5745	AntA	100	0	0
NVNT	a	5785	AntA	100	0	0
NVNT	a	5825	AntA	100	0	0
NVNT	n20	5745	AntA	100	0	0
NVNT	n20	5785	AntA	100	0	0
NVNT	n20	5825	AntA	100	0	0
NVNT	n40	5755	AntA	100	0	0
NVNT	n40	5795	AntA	100	0	0
NVNT	ac20	5745	AntA	100	0	0
NVNT	ac20	5785	AntA	100	0	0
NVNT	ac20	5825	AntA	100	0	0
NVNT	ac40	5755	AntA	100	0	0
NVNT	ac40	5795	AntA	100	0	0
NVNT	ac80	5775	AntA	100	0	0

Test Graphs

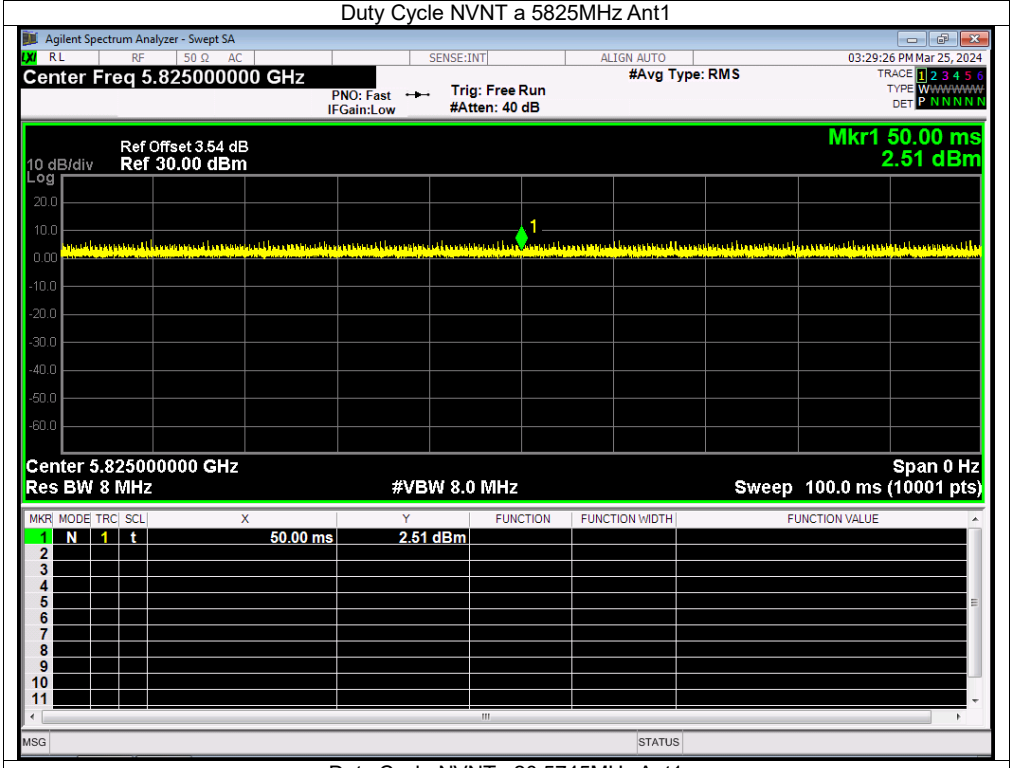
Duty Cycle NVNT a 5745MHz Ant1



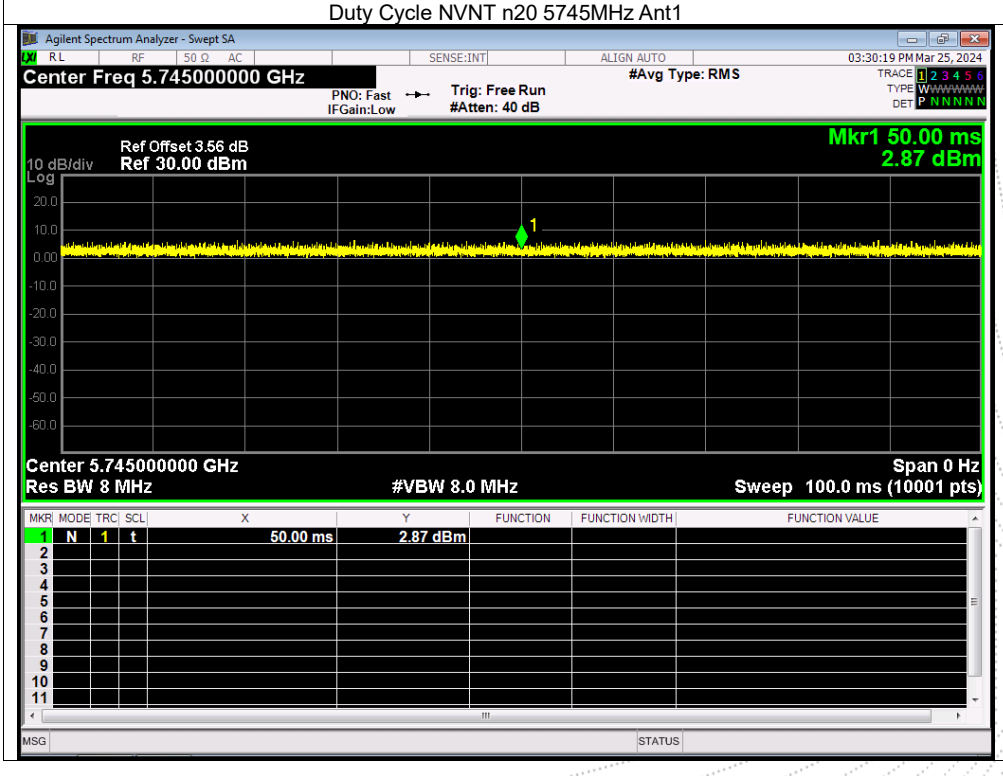
Duty Cycle NVNT a 5785MHz Ant1



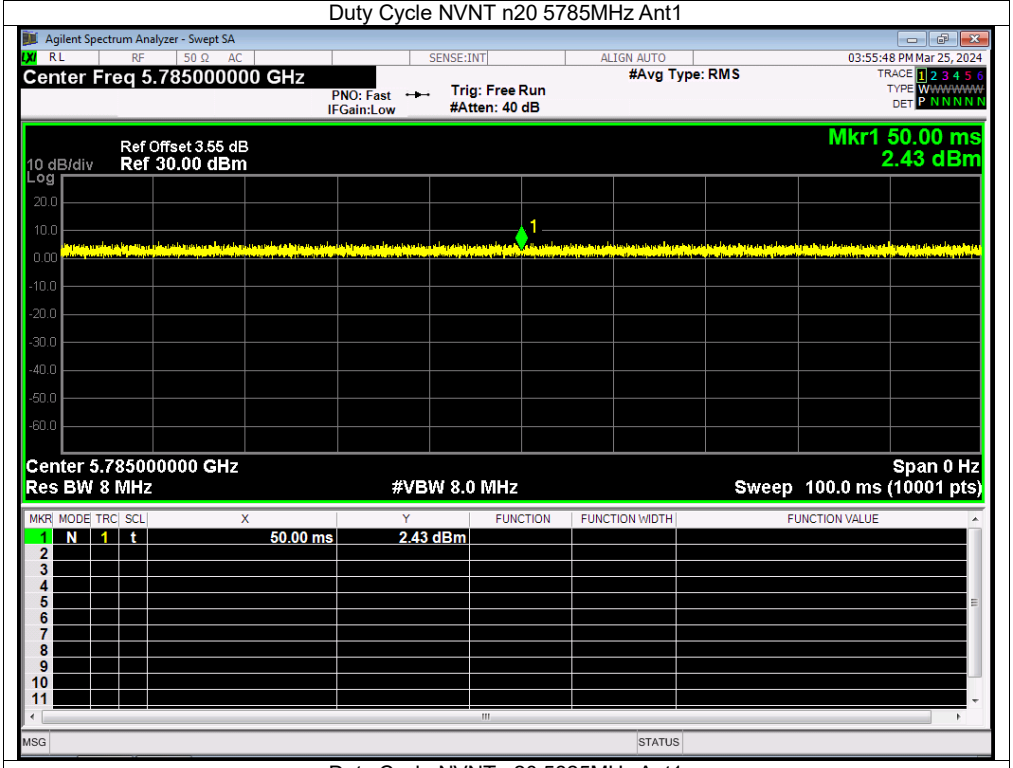
Duty Cycle NVNT a 5825MHz Ant1



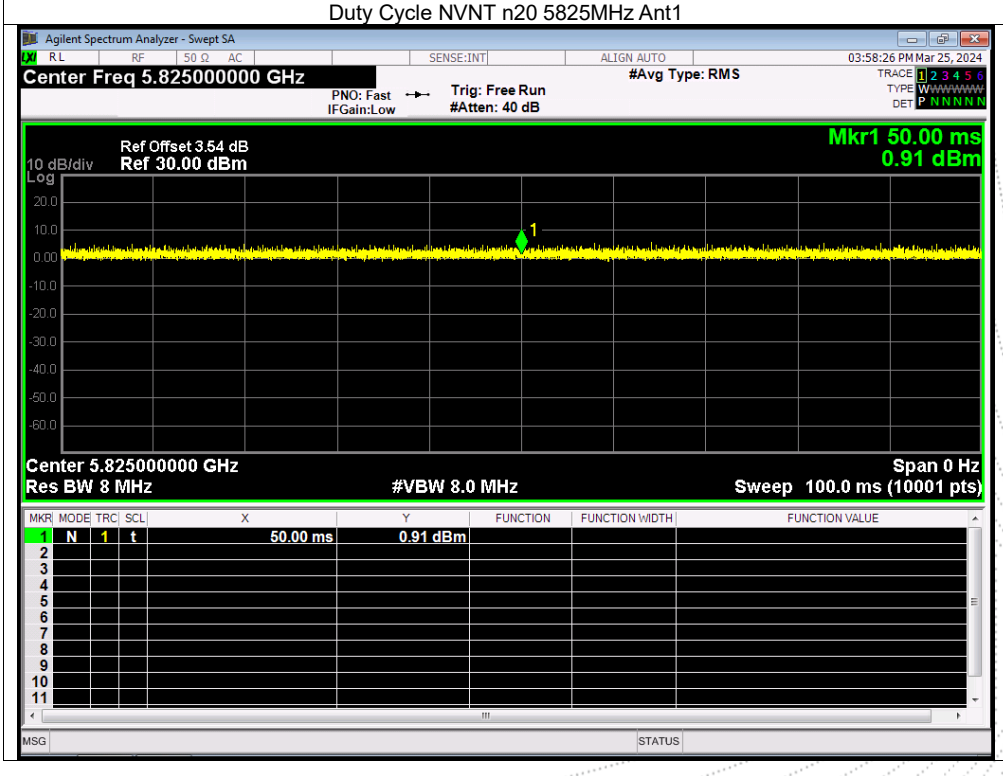
Duty Cycle NVNT n20 5745MHz Ant1



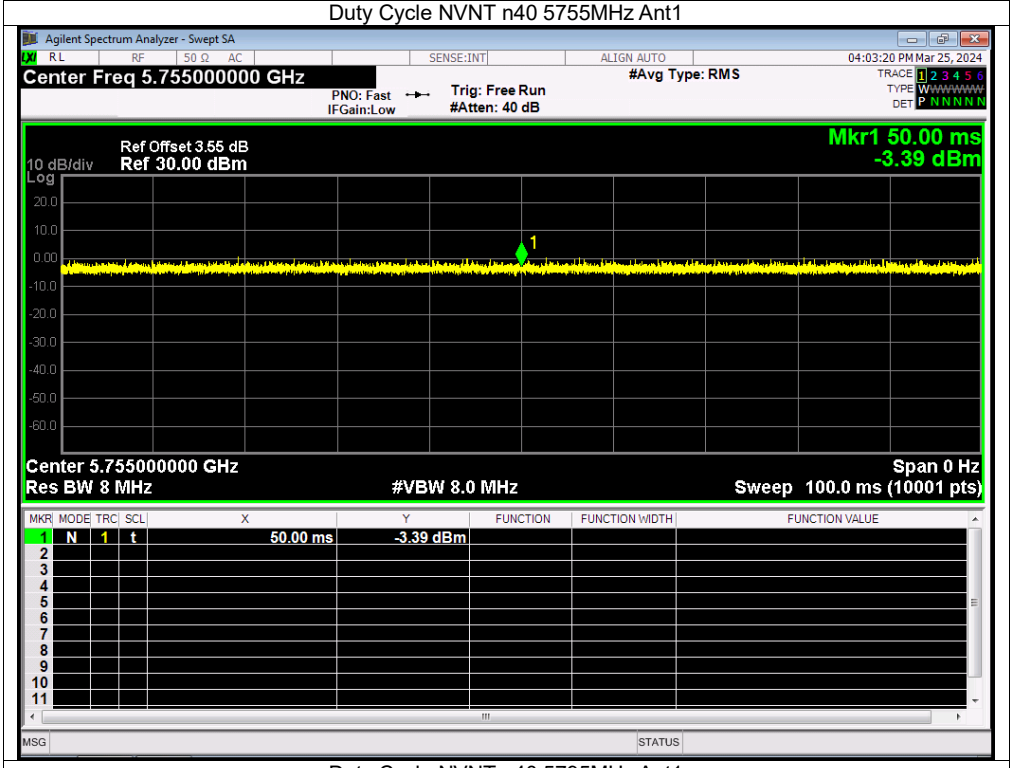
Duty Cycle NVNT n20 5785MHz Ant1



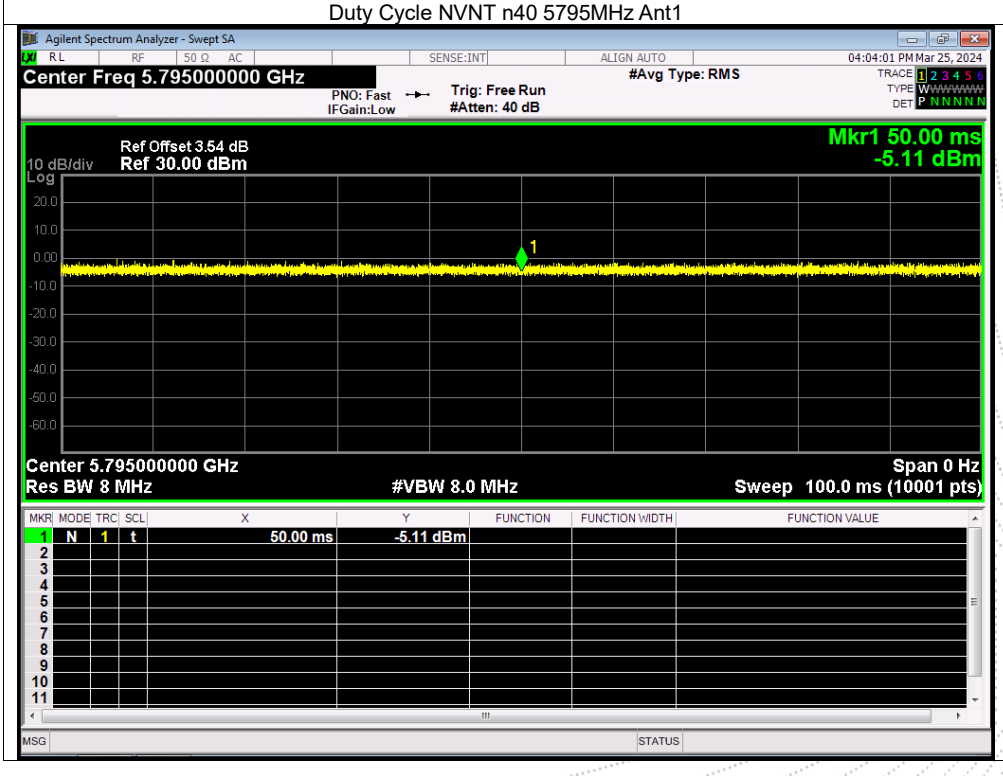
Duty Cycle NVNT n20 5825MHz Ant1



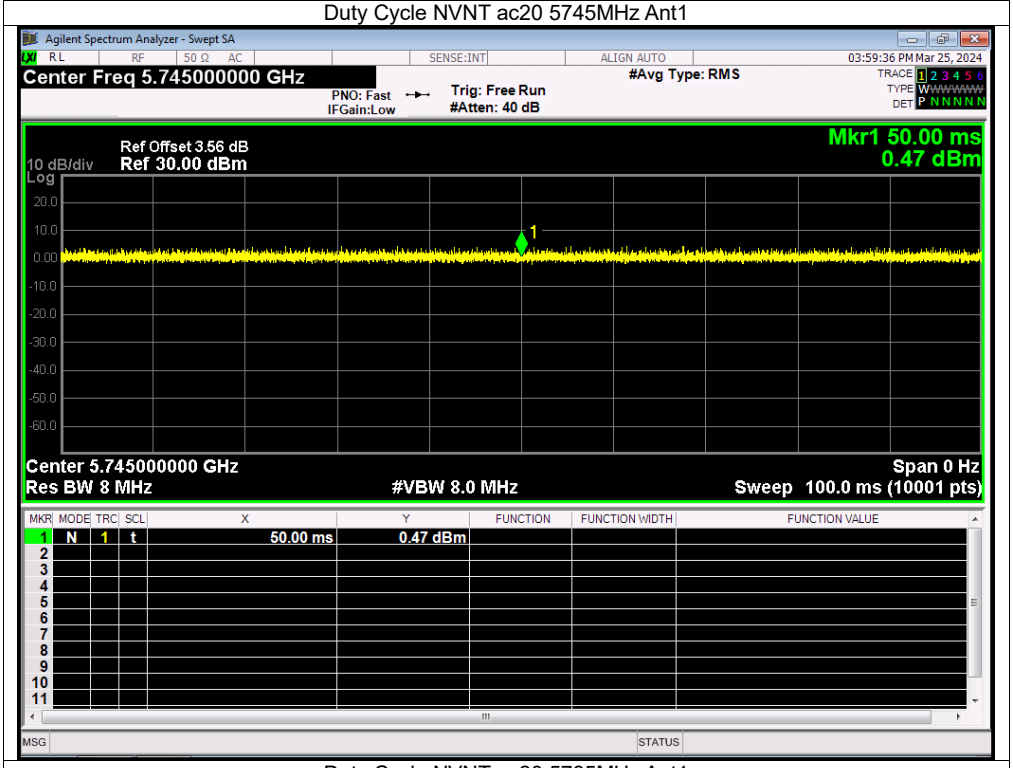
Duty Cycle NVNT n40 5755MHz Ant1



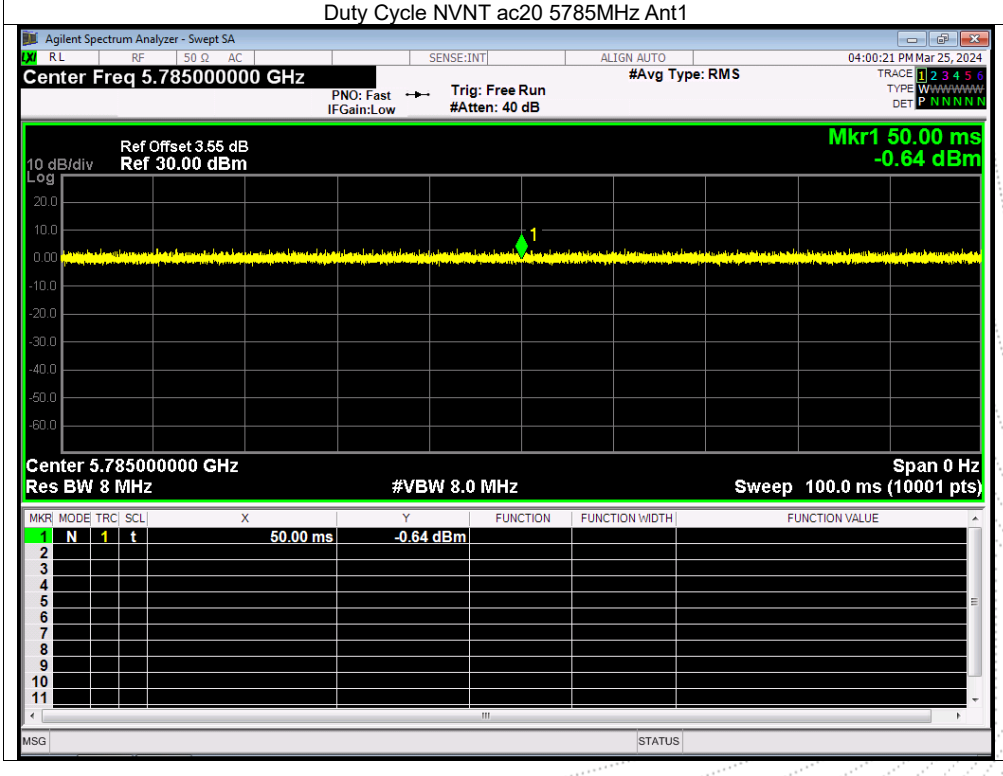
Duty Cycle NVNT n40 5795MHz Ant1



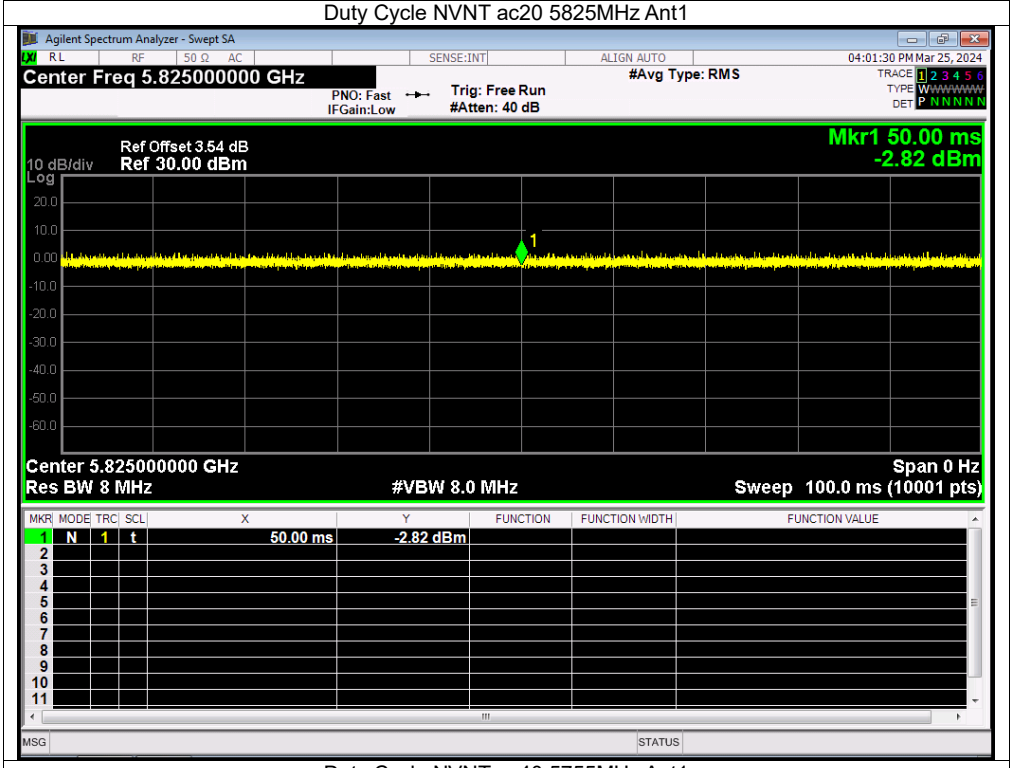
Duty Cycle NVNT ac20 5745MHz Ant1



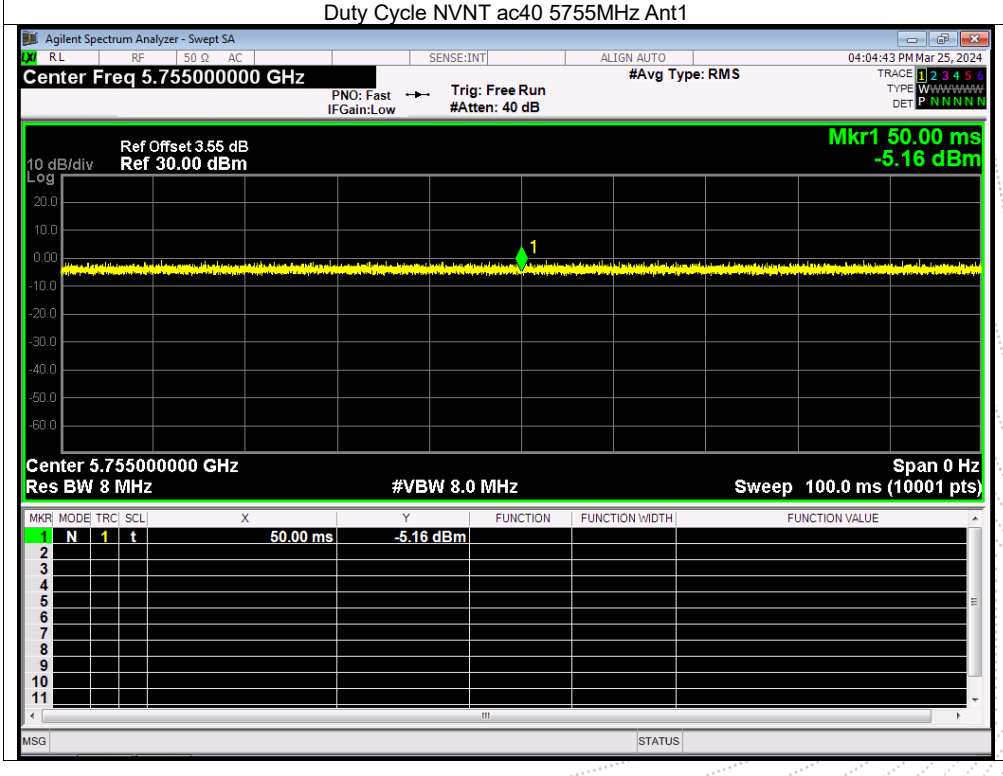
Duty Cycle NVNT ac20 5785MHz Ant1



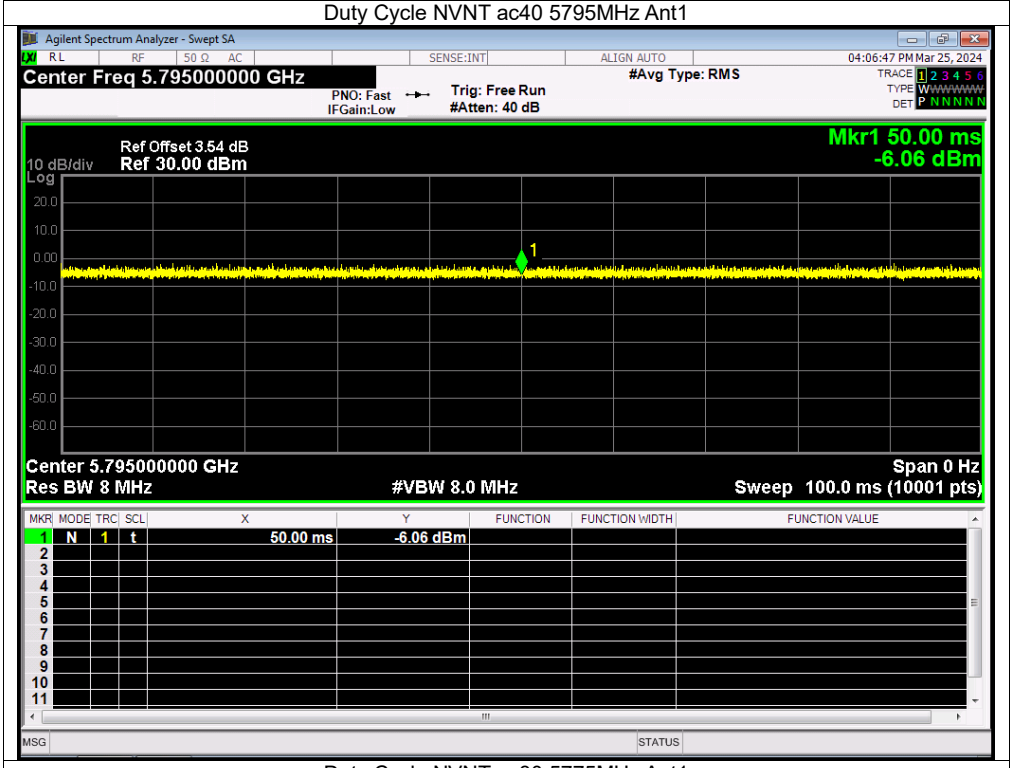
Duty Cycle NVNT ac20 5825MHz Ant1



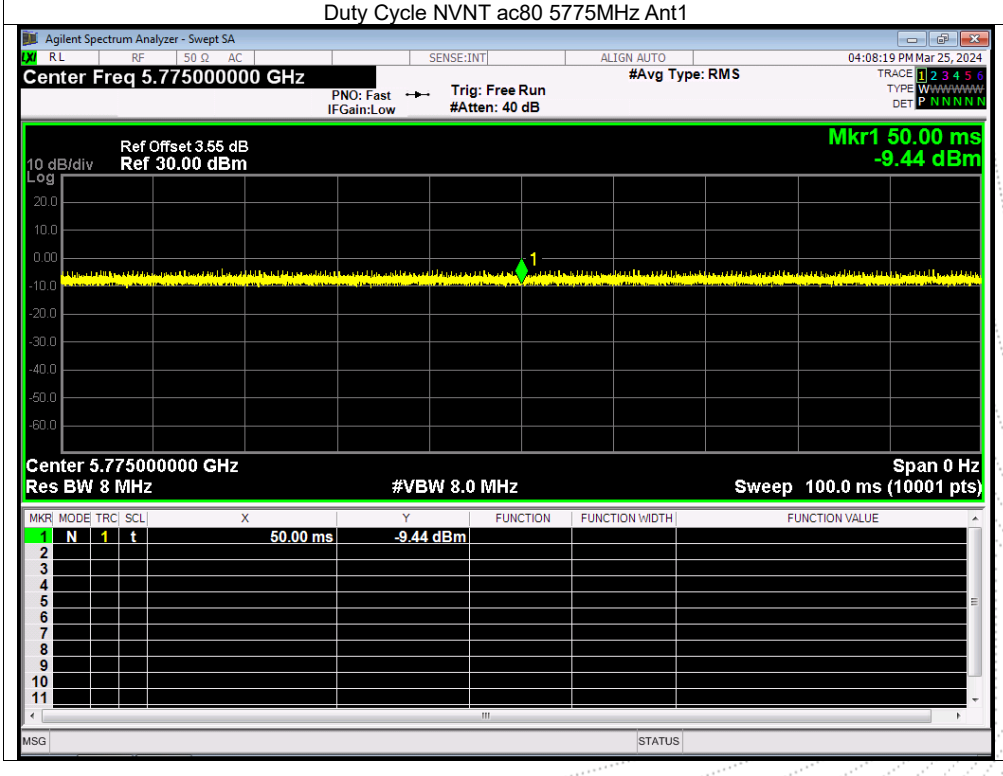
Duty Cycle NVNT ac40 5755MHz Ant1



Duty Cycle NVNT ac40 5795MHz Ant1

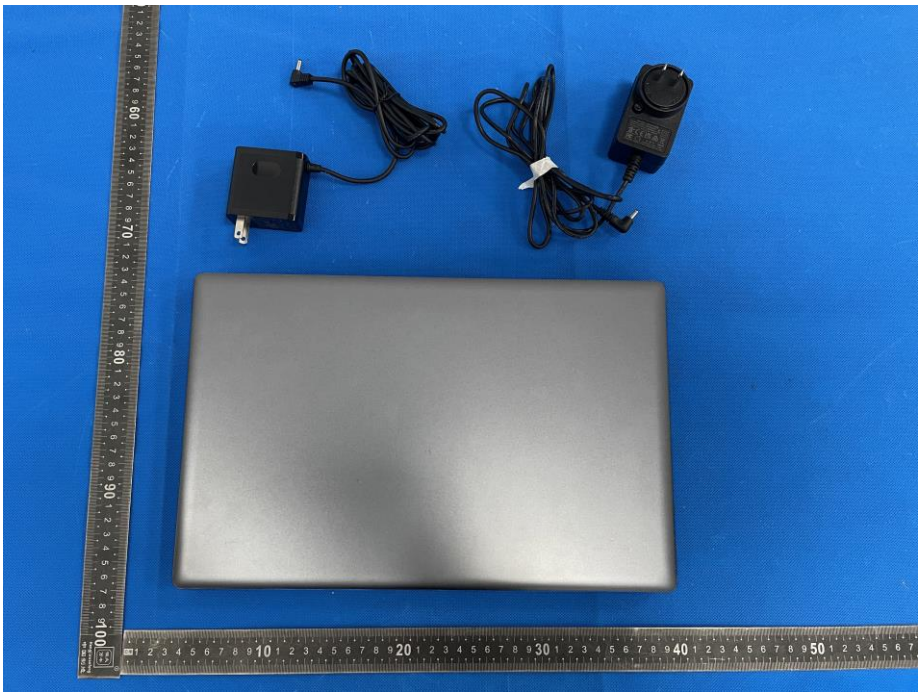


Duty Cycle NVNT ac80 5775MHz Ant1



16. EUT Photographs

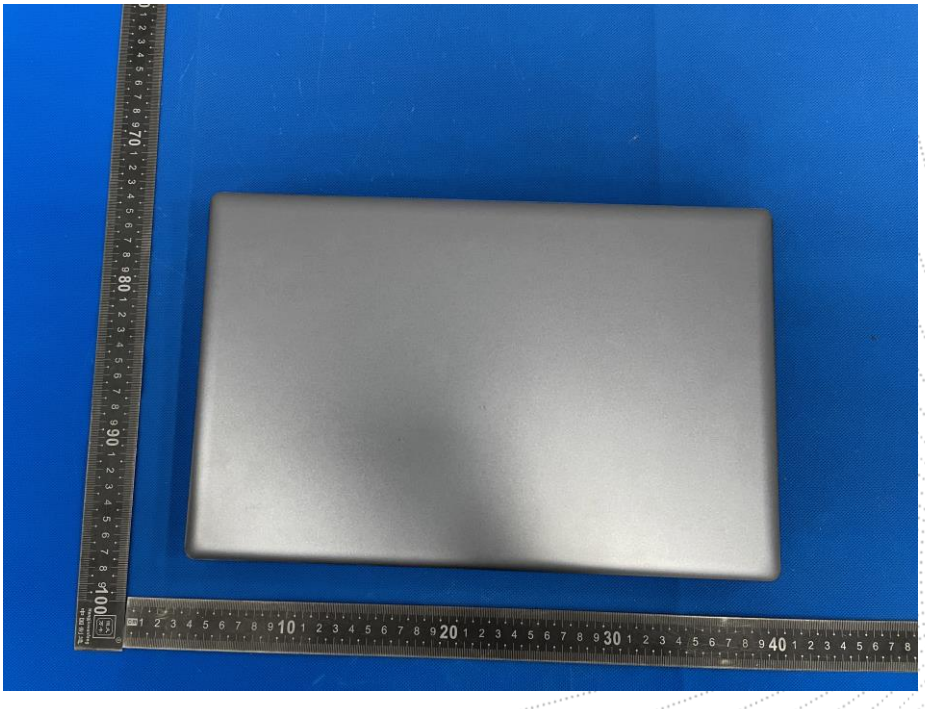
EUT Photo 1



EUT Photo 2

EUT Photo 3

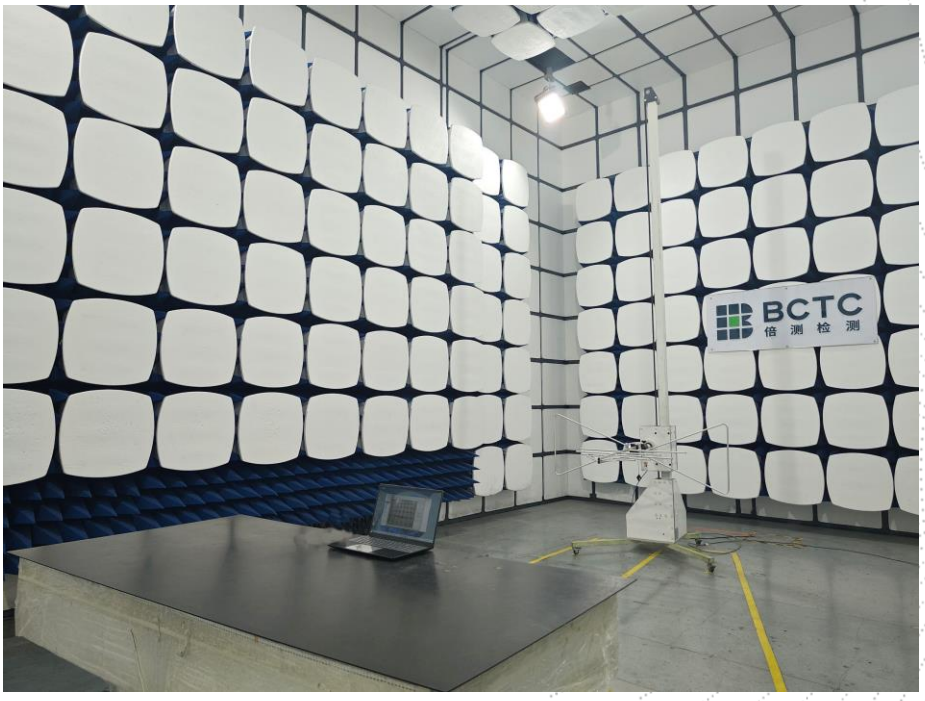
EUT Photo 4

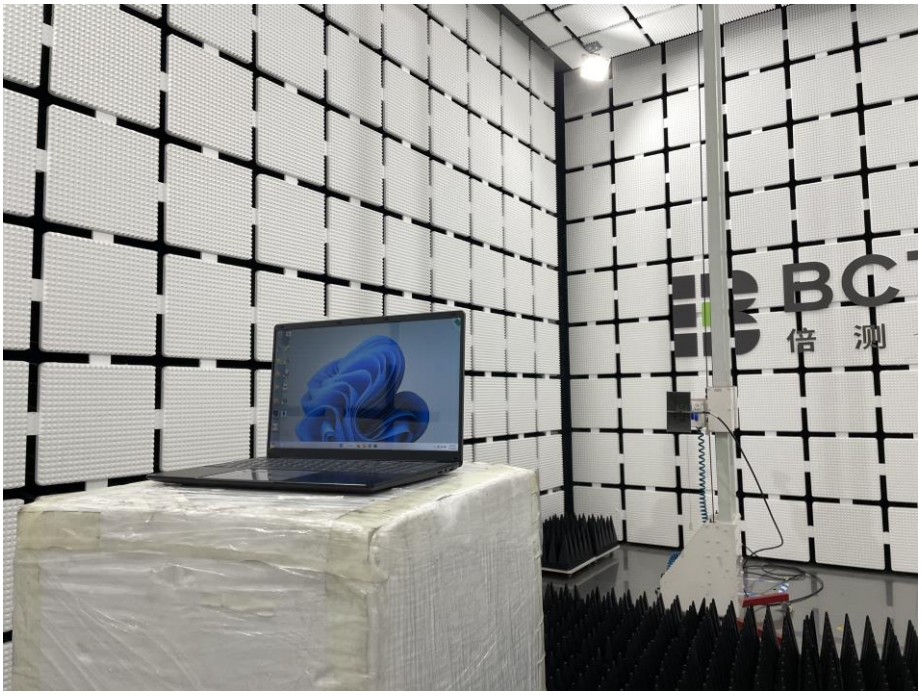


17. EUT Test Setup Photographs

Conducted Emissions Photo

Radiated Measurement Photos





STATEMENT

1. The equipment lists are traceable to the national reference standards.

2. The test report can not be partially copied unless prior written approval is issued from our lab.

3. The test report is invalid without the "special seal for inspection and testing".

4. The test report is invalid without the signature of the approver.

5. The test process and test result is only related to the Unit Under Test.

6. Sample information is provided by the client and the laboratory is not responsible for its authenticity.

7. The quality system of our laboratory is in accordance with ISO/IEC17025.

8. If there is any objection to this test report, the client should inform issuing laboratory within 15 days from the date of receiving test report.

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P.C.: 518103

FAX: 0755-33229357

Website: http://www.chnbctc.com

E-Mail: bctc@bctc-lab.com.cn

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