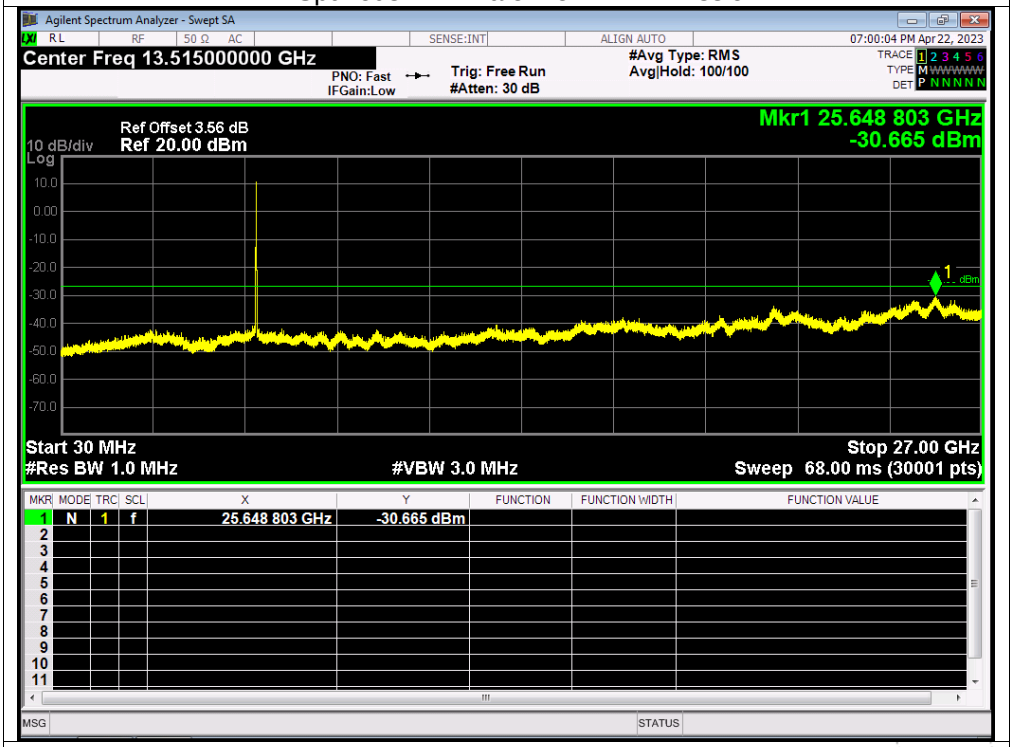
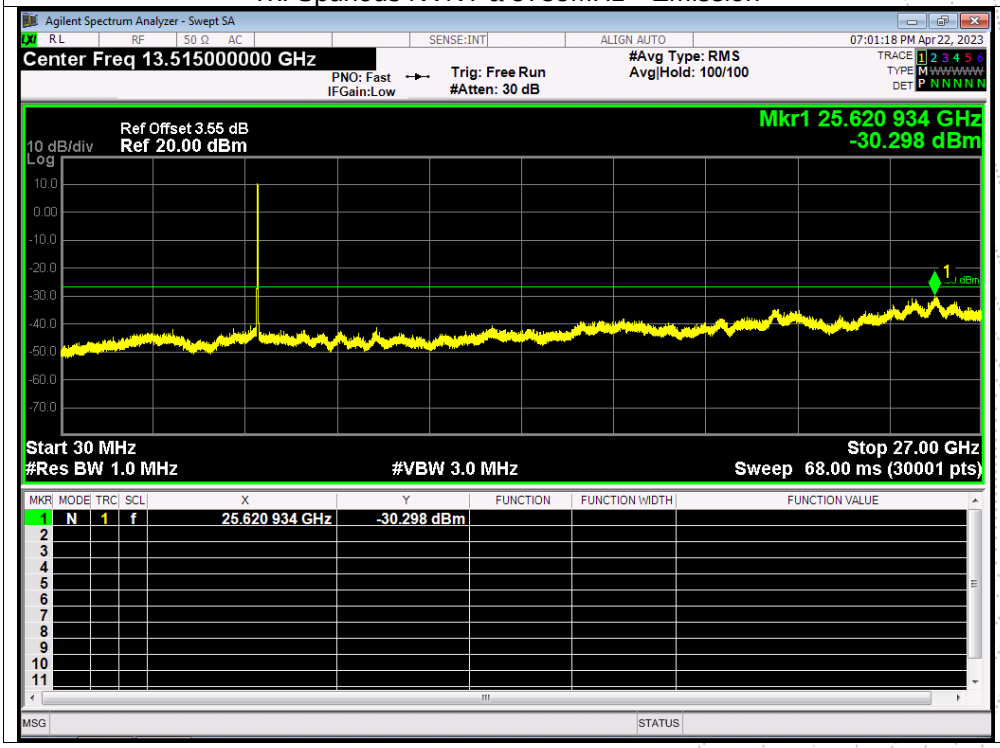
Note: A(B) Represent the value of antenna A and B, The worst data is Antenna A, only shown Antenna A Plot. 5745-58250MHz

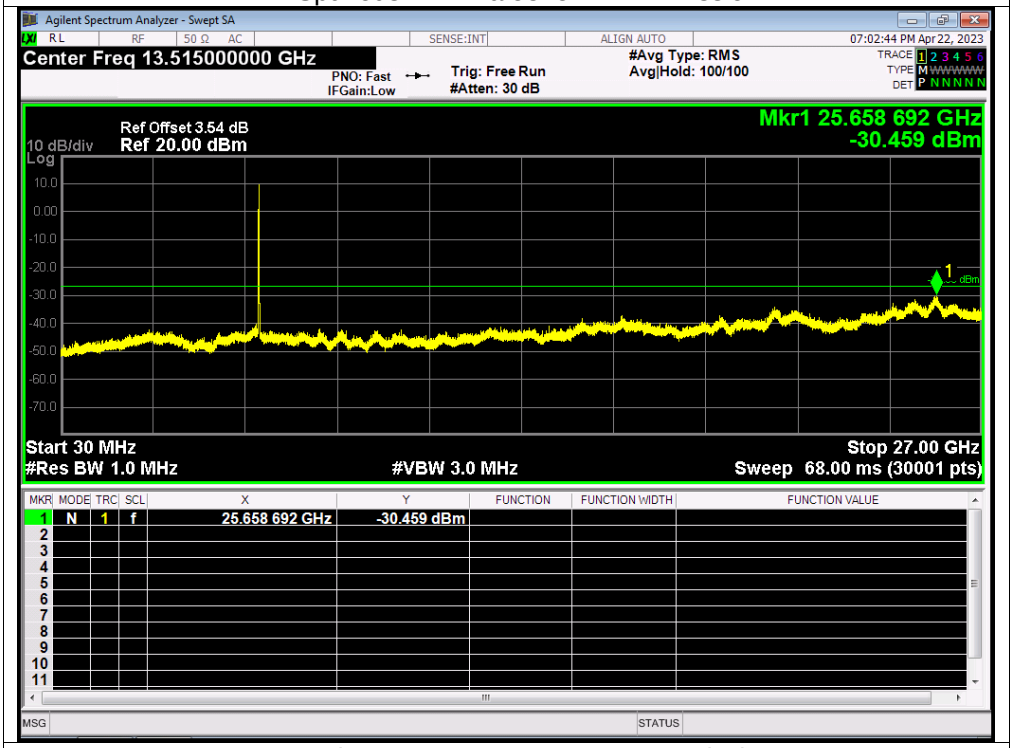
Test Graphs
Tx. Spurious NVNT a 5745MHz Emission



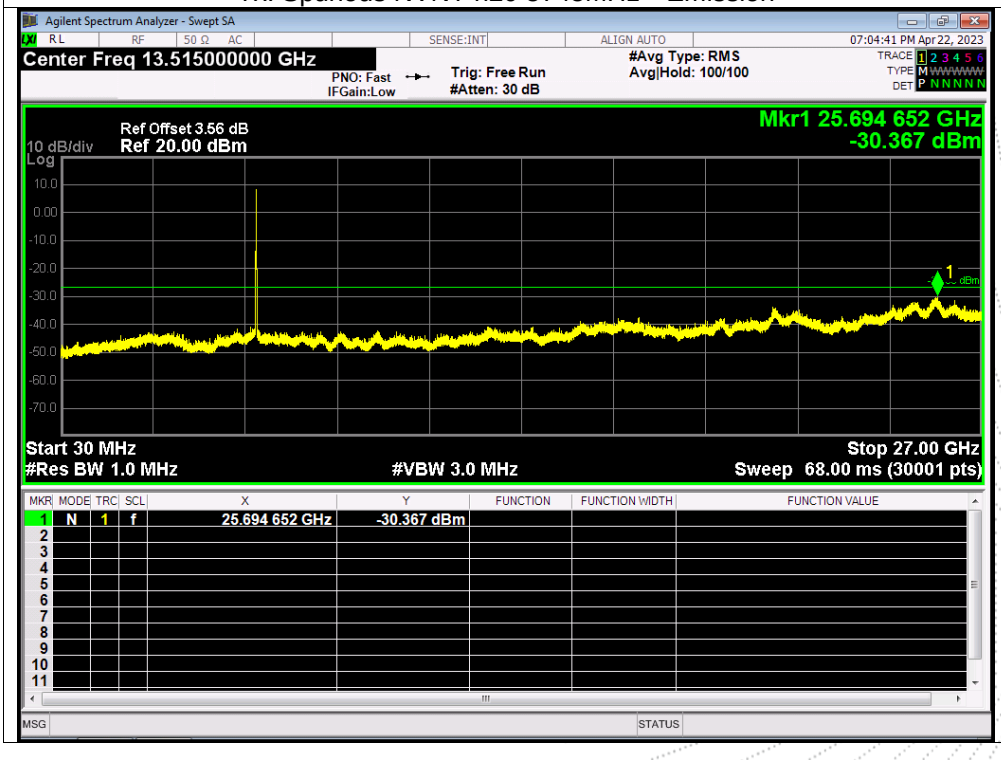
Tx. Spurious NVNT a 5785MHz Emission



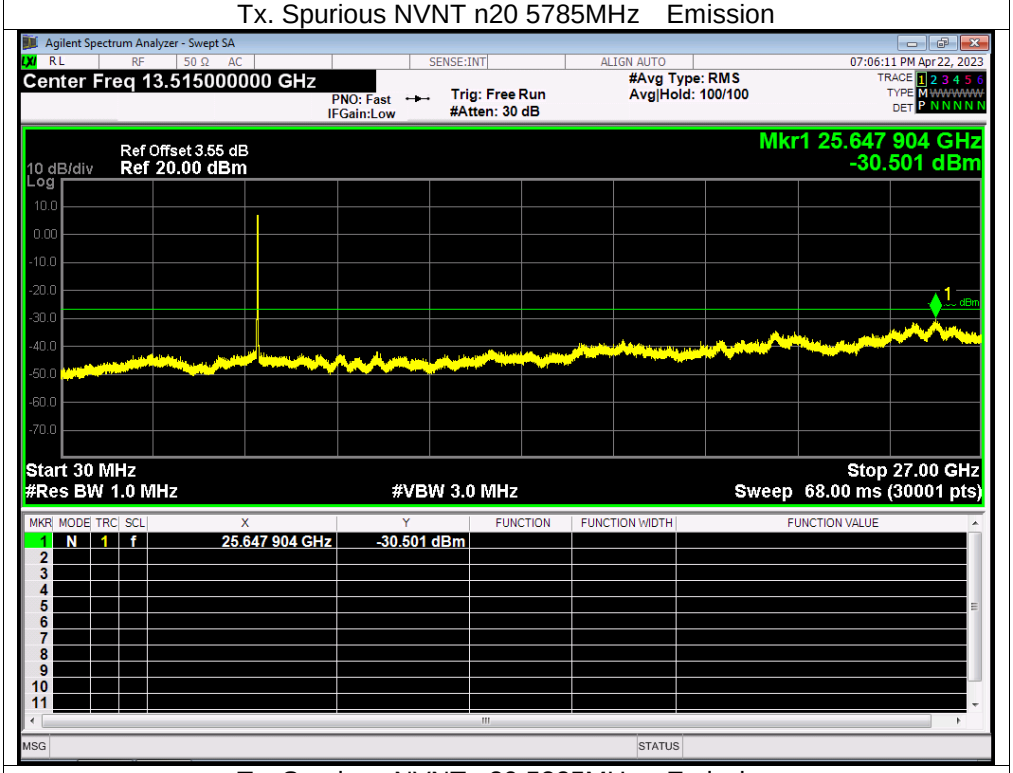
Tx. Spurious NVNT a 5825MHz Emission



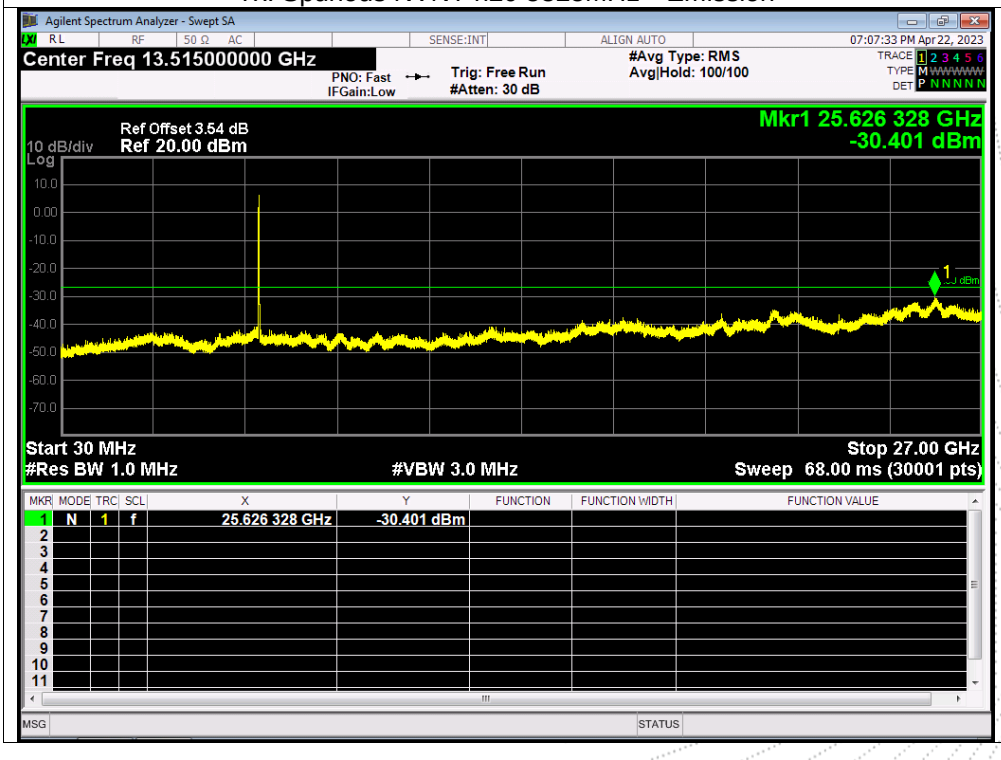
Tx. Spurious NVNT n20 5745MHz Emission



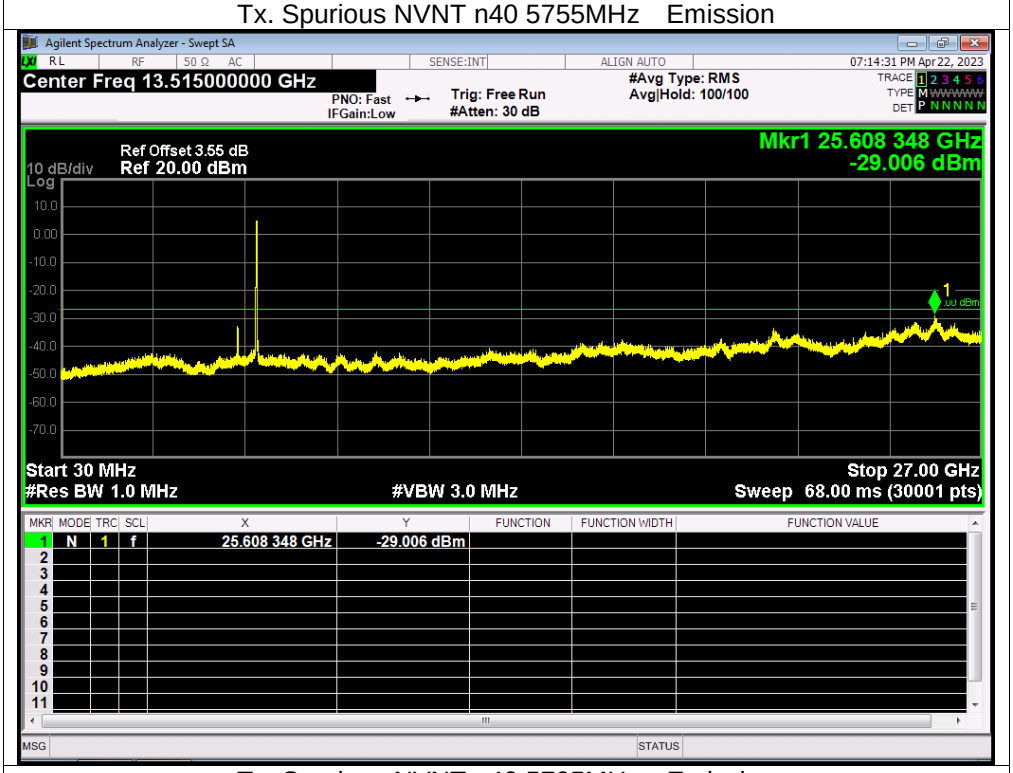
Tx. Spurious NVNT n20 5785MHz Emission



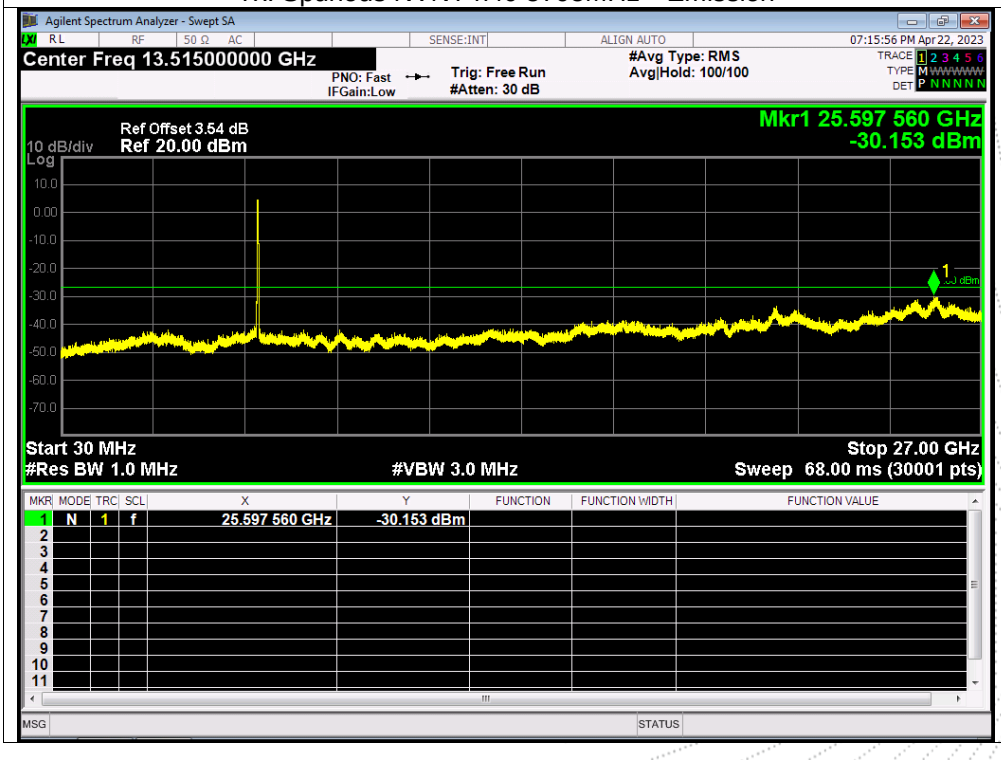
Tx. Spurious NVNT n20 5825MHz Emission



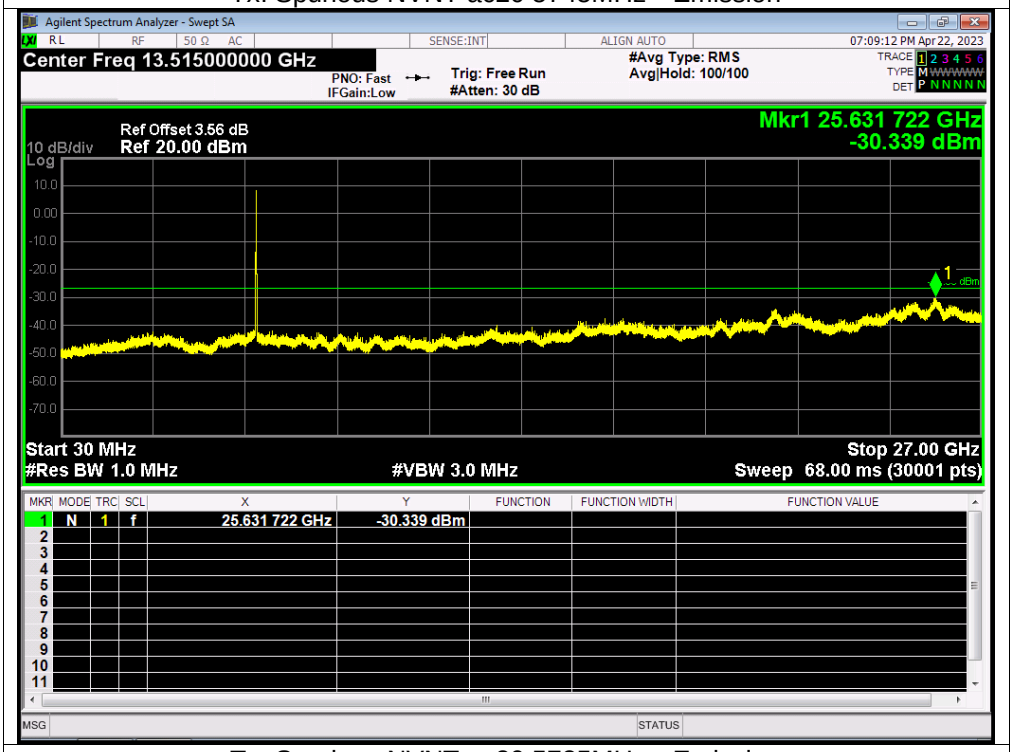
Tx. Spurious NVNT n40 5755MHz Emission



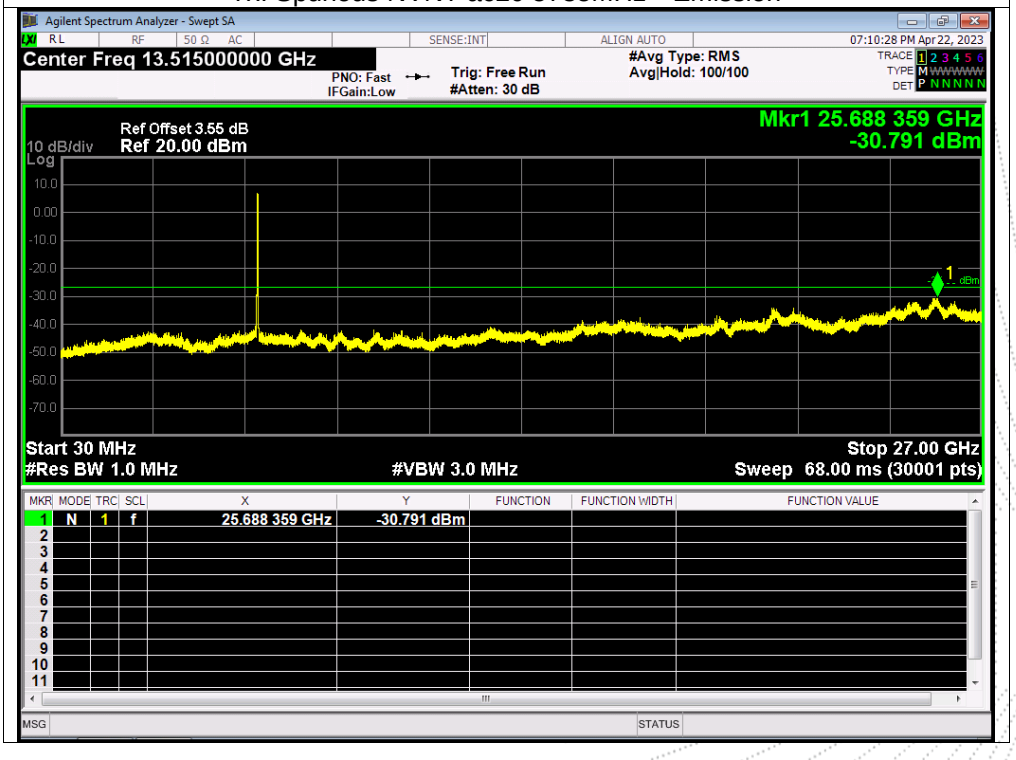
Tx. Spurious NVNT n40 5795MHz Emission



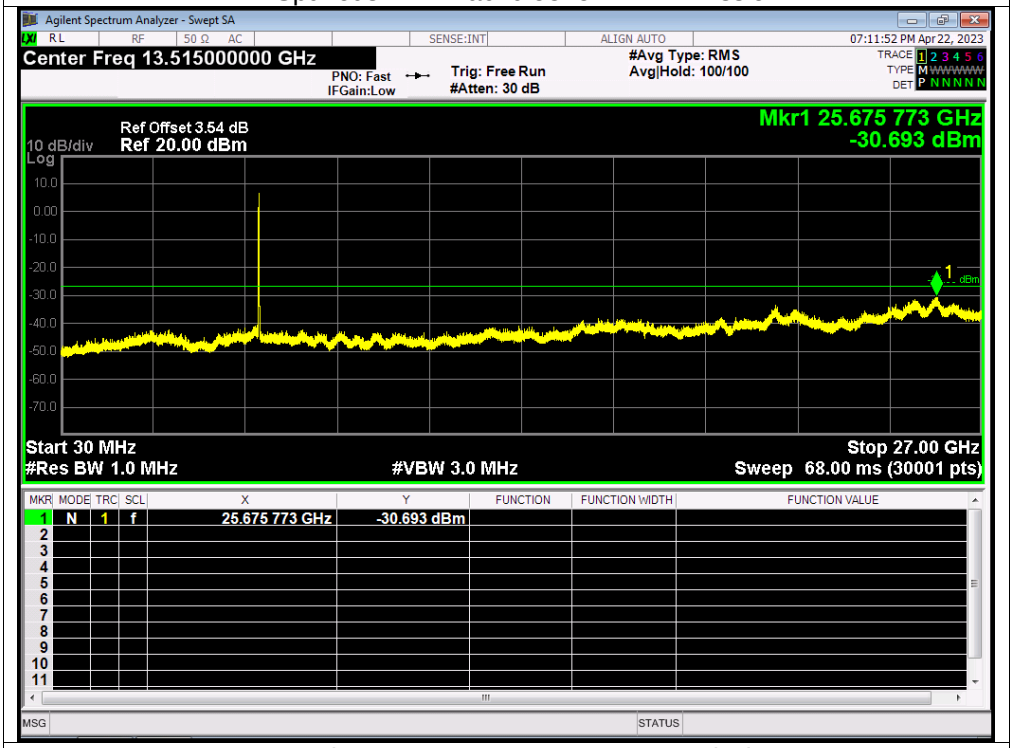
Tx. Spurious NVNT ac20 5745MHz Emission



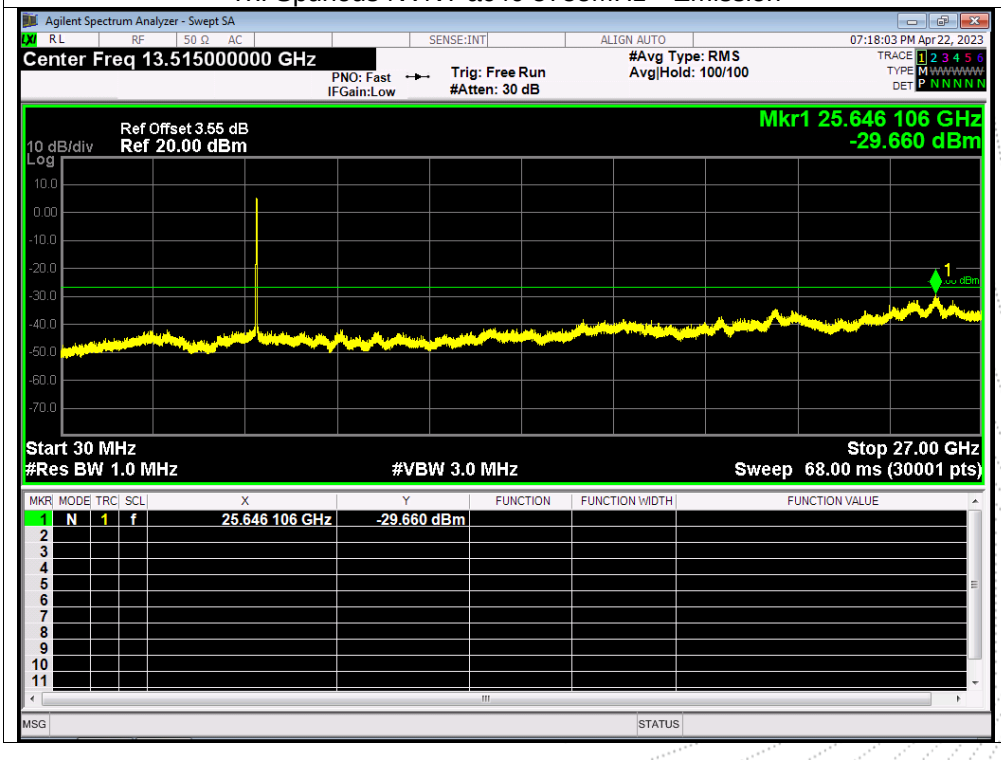
Tx. Spurious NVNT ac20 5785MHz Emission



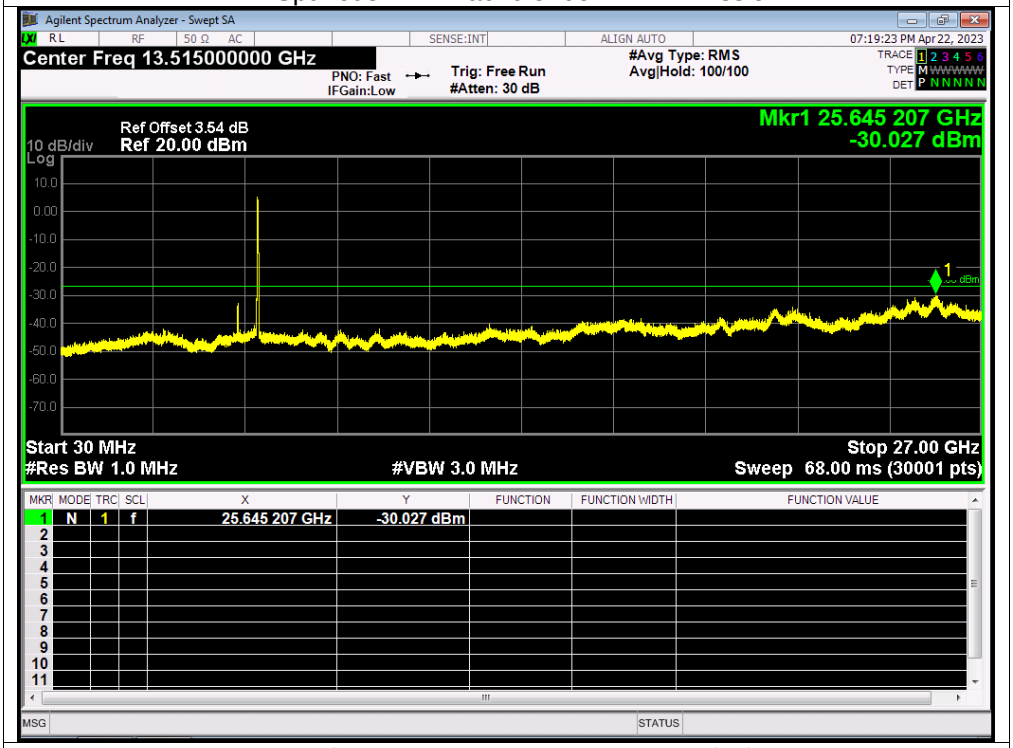
Tx. Spurious NVNT ac20 5825MHz Emission



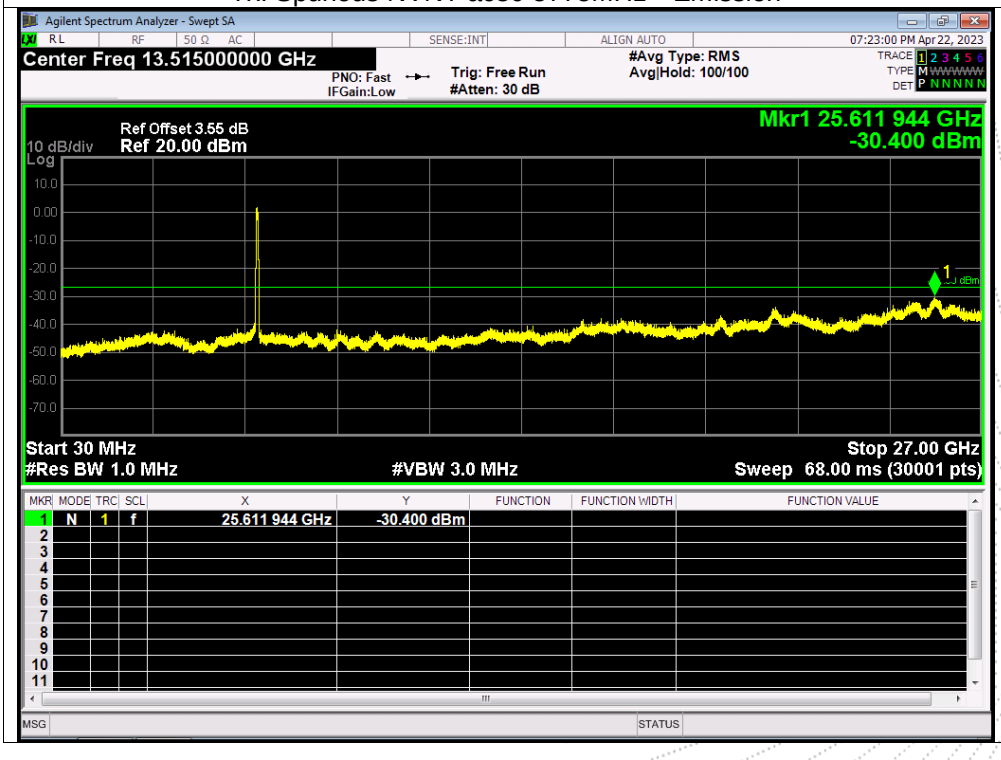
Tx. Spurious NVNT ac40 5755MHz Emission



Tx. Spurious NVNT ac40 5795MHz Emission

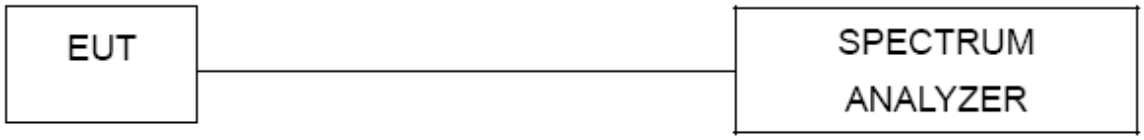


Tx. Spurious NVNT ac80 5775MHz Emission



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**:**	AC 120V
Test Mode:	TX 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)	120	5180.0127	5180	0.0127	2.4517
		V max (V)	138	5180.0058	5180	0.0058	1.1197
		V min (V)	102	5180.0102	5180	0.0102	1.9691
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)	AC 120V	T (°C)	-20	5180.0055	5180	0.0055	1.0618
		T (°C)	-10	5180.0127	5180	0.0127	2.4517
		T (°C)	0	5180.0059	5180	0.0059	1.1390
		T (°C)	10	5180.0105	5180	0.0105	2.0270
		T (°C)	20	5180.0080	5180	0.0080	1.5444
		T (°C)	30	5180.0056	5180	0.0056	1.0811
		T (°C)	40	5180.0080	5180	0.0080	1.5444
		T (°C)	50	5180.0024	5180	0.0024	0.4633
		T (°C)	60	5180.0008	5180	0.0008	0.1544
		T (°C)	70	5180.0076	5180	0.0076	1.4672
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)	120	5200.0037	5200	0.0037	0.7115
		V max (V)	138	5200.0012	5200	0.0012	0.2308
		V min (V)	102	5200.0065	5200	0.0065	1.2500
Limits				5150-5250 MHz			
Result				Complies			

Temperature vs. Frequency Stability

TEST CONDITIONS				Reference Frequency: 5200MHz			
				f	fc	Max. Deviation (MHz)	Max. Deviation (ppm)
V nom (V)	AC 120V	T (°C)	-20	5200.00220	5200	0.00220	0.4231
		T (°C)	-10	5200.01150	5200	0.01150	2.2115
		T (°C)	0	5200.00880	5200	0.00880	1.6923
		T (°C)	10	5200.01310	5200	0.01310	2.5192
		T (°C)	20	5200.00980	5200	0.00980	1.8846
		T (°C)	30	5200.00220	5200	0.00220	0.4231
		T (°C)	40	5200.00710	5200	0.00710	1.3654
		T (°C)	50	5200.01310	5200	0.01310	2.5192
		T (°C)	60	5200.00830	5200	0.00830	1.5962
		T (°C)	70	5200.00850	5200	0.00850	1.6346
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)	120	5240.0096	5240	0.0096	1.8321
		V max (V)	138	5240.0105	5240	0.0105	2.0038
		V min (V)	102	5240.0060	5240	0.0060	1.1450
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)	AC 120V	T (°C)	-20	5240.0073	5240	0.0073	1.3931
		T (°C)	-10	5240.0087	5240	0.0087	1.6603
		T (°C)	0	5240.0117	5240	0.0117	2.2328
		T (°C)	10	5240.0049	5240	0.0049	0.9351
		T (°C)	20	5240.0035	5240	0.0035	0.6679
		T (°C)	30	5240.0078	5240	0.0078	1.4885
		T (°C)	40	5240.0106	5240	0.0106	2.0229
		T (°C)	50	5240.0104	5240	0.0104	1.9847
		T (°C)	60	5240.0041	5240	0.0041	0.7824
		T (°C)	70	5240.0060	5240	0.0060	1.1450
Limits				5150-5250 MHz			
Result				Complies			

Temperature:	26 ℃	Relative Humidity:	54%
Pressure:	101kPa	Test Voltage**:**	AC 120V
Test Mode:	TX Frequency U-NII-3 (5745-5825MHz)		

Voltage vs. Frequency Stability

TEST CONDITIONS				**Reference Frequency: 5745MHz**			
				f	**fc**	**Max. Deviation (MHz)**	**Max. Deviation (ppm)**
T nom (°C)	20	V nom (V)	120	5745.00720	5745	0.00720	1.2533
		V max (V)	138	5745.00320	5745	0.00320	0.5570
		V min (V)	102	5745.00170	5745	0.00170	0.2959
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)	AC 120V	T (°C)	-20	5745.00420	5745	0.00420	0.7311
		T (°C)	-10	5745.01200	5745	0.01200	2.0888
		T (°C)	0	5745.00060	5745	0.00060	0.1044
		T (°C)	10	5745.00080	5745	0.00080	0.1393
		T (°C)	20	5745.01060	5745	0.01060	1.8451
		T (°C)	30	5745.00890	5745	0.00890	1.5492
		T (°C)	40	5745.00630	5745	0.00630	1.0966
		T (°C)	50	5745.00540	5745	0.00540	0.9399
		T (°C)	60	5745.00290	5745	0.00290	0.5048
		T (°C)	70	5745.01290	5745	0.01290	2.2454
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)	120	5785.00450	5785	0.00450	0.7779
		V max (V)	138	5785.01030	5785	0.01030	1.7805
		V min (V)	102	5785.00040	5785	0.00040	0.0691
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)	AC 120V	T (°C)	-20	5785.00290	5785	0.00290	0.5013
		T (°C)	-10	5785.00100	5785	0.00100	0.1729
		T (°C)	0	5785.00990	5785	0.00990	1.7113
		T (°C)	10	5785.01010	5785	0.01010	1.7459
		T (°C)	20	5785.01080	5785	0.01080	1.8669
		T (°C)	30	5785.00840	5785	0.00840	1.4520
		T (°C)	40	5785.00970	5785	0.00970	1.6768
		T (°C)	50	5785.00770	5785	0.00770	1.3310
		T (°C)	60	5785.01220	5785	0.01220	2.1089
		T (°C)	70	5785.01180	5785	0.01180	2.0398
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)	120	5825.00830	5825	0.00830	1.4249
		V max (V)	138	5825.00230	5825	0.00230	0.3948
		V min (V)	102	5825.00830	5825	0.00830	1.4249
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)	AC 120V	T (°C)	-20	5825.00120	5825	0.00120	0.2060
		T (°C)	-10	5825.00660	5825	0.00660	1.1330
		T (°C)	0	5825.01170	5825	0.01170	2.0086
		T (°C)	10	5825.00520	5825	0.00520	0.8927
		T (°C)	20	5825.00240	5825	0.00240	0.4120
		T (°C)	30	5825.00140	5825	0.00140	0.2403
		T (°C)	40	5825.00470	5825	0.00470	0.8069
		T (°C)	50	5825.01350	5825	0.01350	2.3176
		T (°C)	60	5825.01340	5825	0.01340	2.3004
		T (°C)	70	5825.01230	5825	0.01230	2.1116
Limits				5725-5850 MHz			
Result				Complies			

14. Duty Cycle Of Test Signal

14.1 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.

14.2 Formula

Duty Cycle = Ton / (Ton+Toff)

14.3 Test Procedure

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

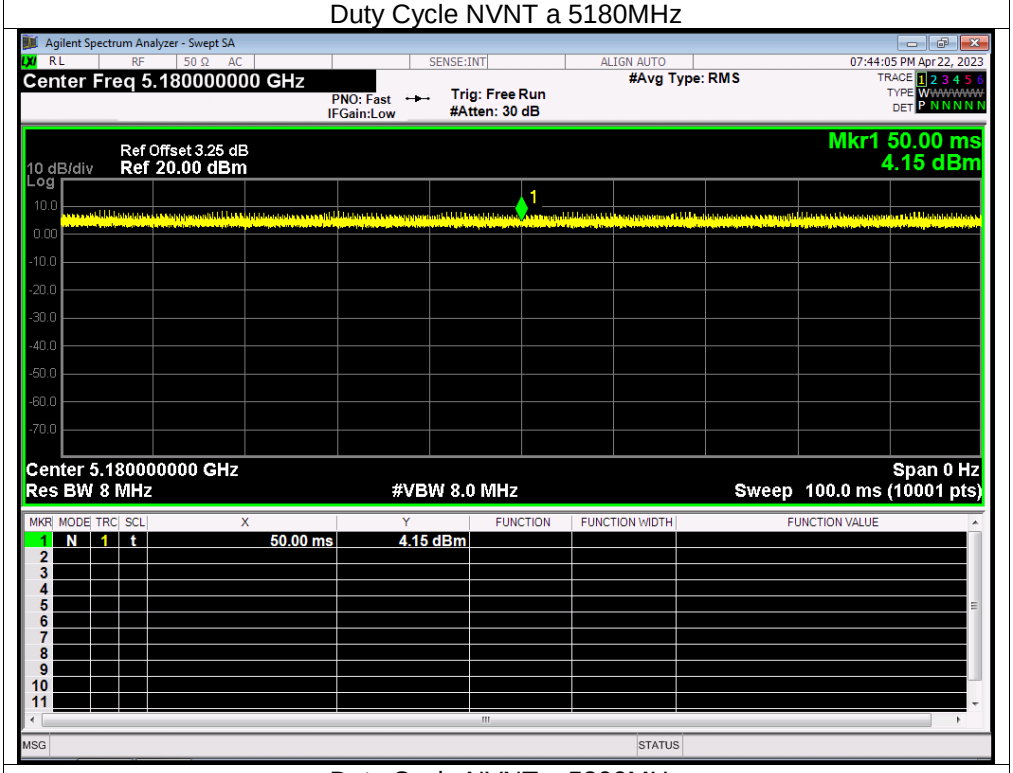
14.4 Test Result

ANT A

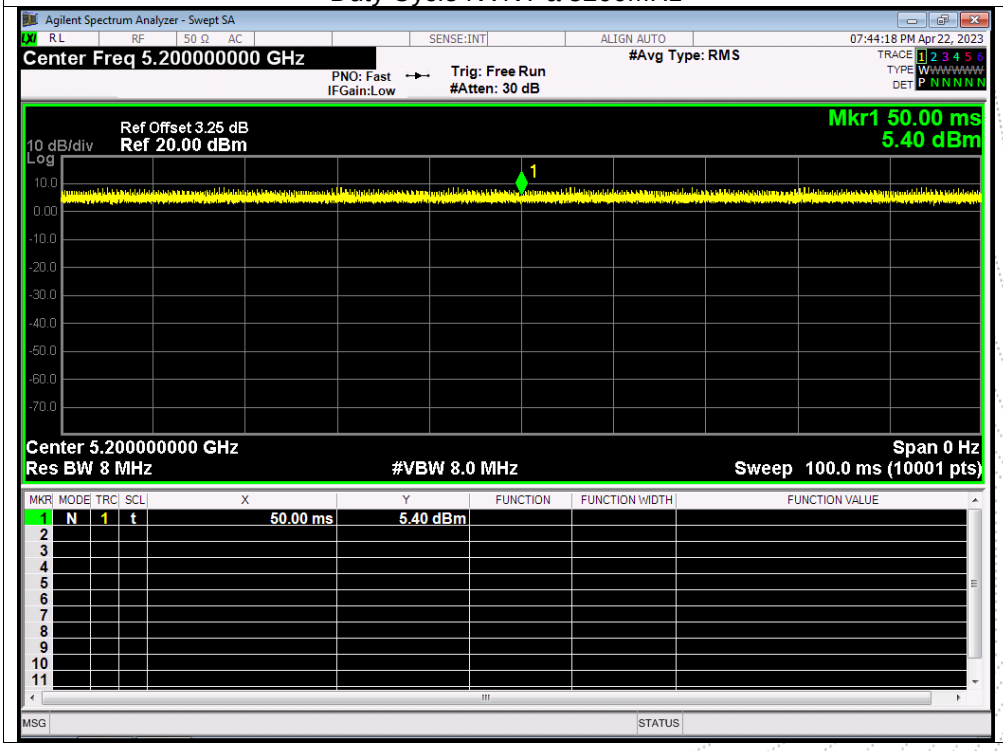
Condition	Mode	Frequency (MHz)	Duty Cycle (%)	Correction Factor (dB)	1/T (kHz)
NVNT	a	5180	100	0	0
NVNT	a	5200	100	0	0
NVNT	a	5240	100	0	0
NVNT	n20	5180	100	0	0
NVNT	n20	5200	100	0	0
NVNT	n20	5240	100	0	0
NVNT	n40	5190	100	0	0
NVNT	n40	5230	100	0	0
NVNT	ac20	5180	100	0	0
NVNT	ac20	5200	100	0	0
NVNT	ac20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

Test Graphs

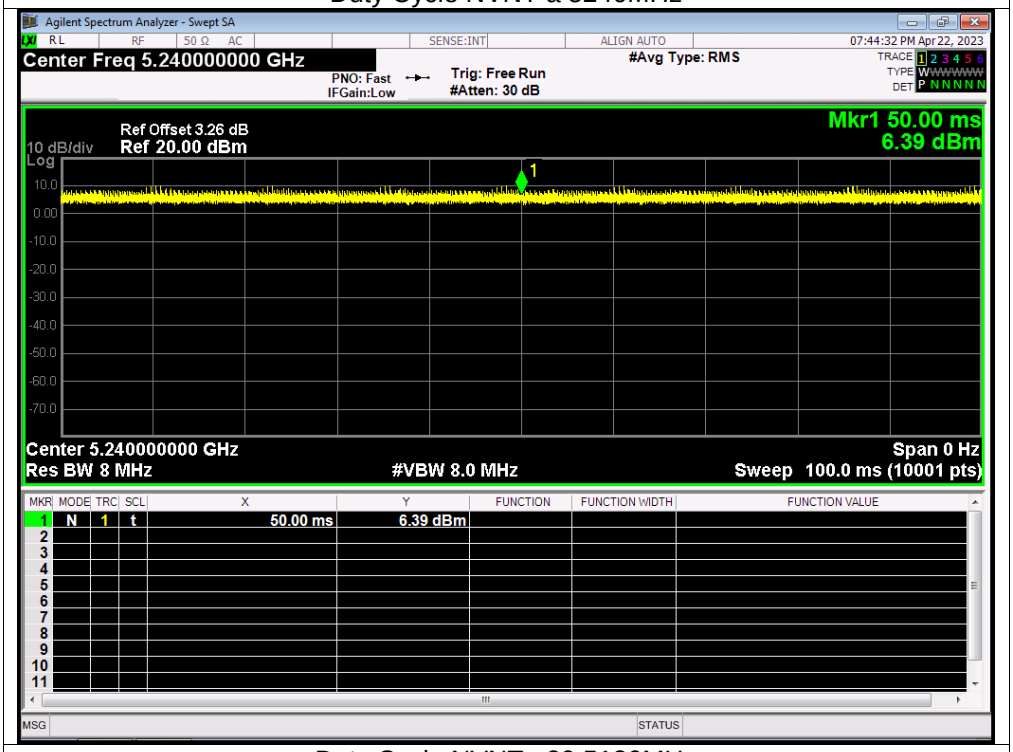
Duty Cycle NVNT a 5180MHz



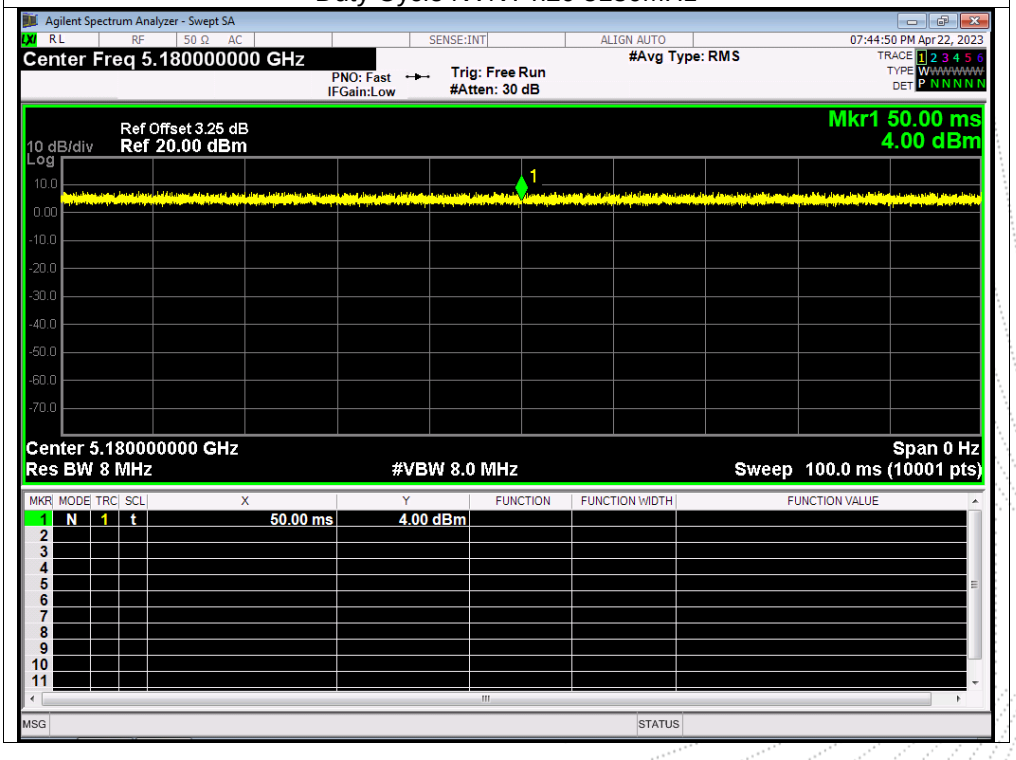
Duty Cycle NVNT a 5200MHz



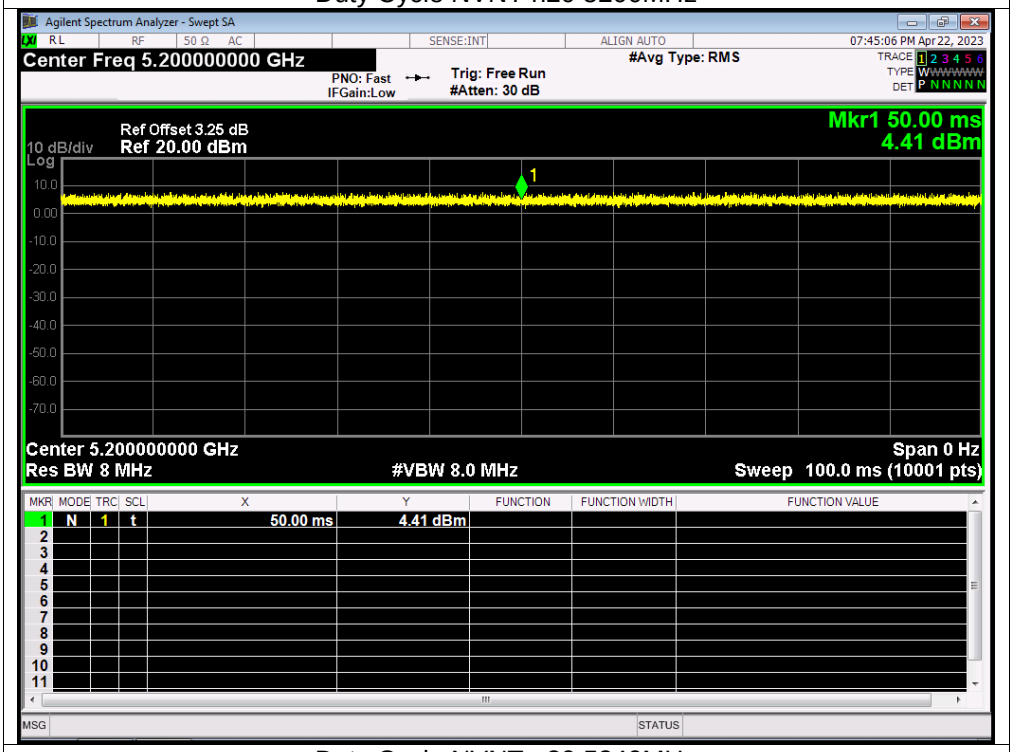
Duty Cycle NVNT a 5240MHz



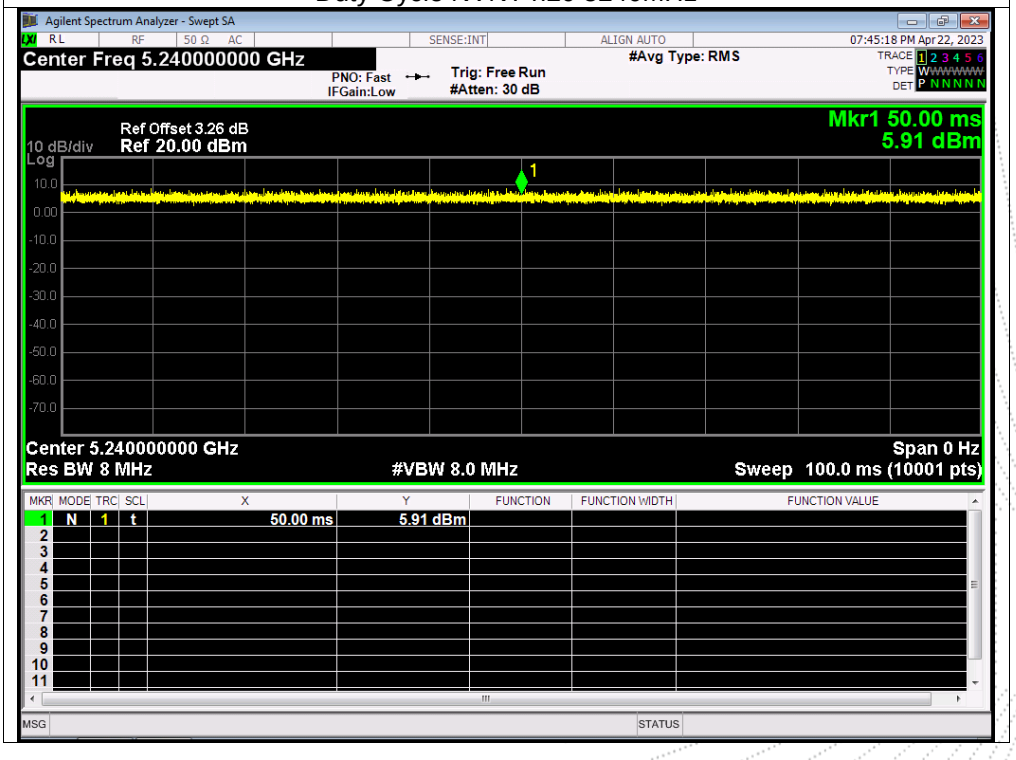
Duty Cycle NVNT n20 5180MHz



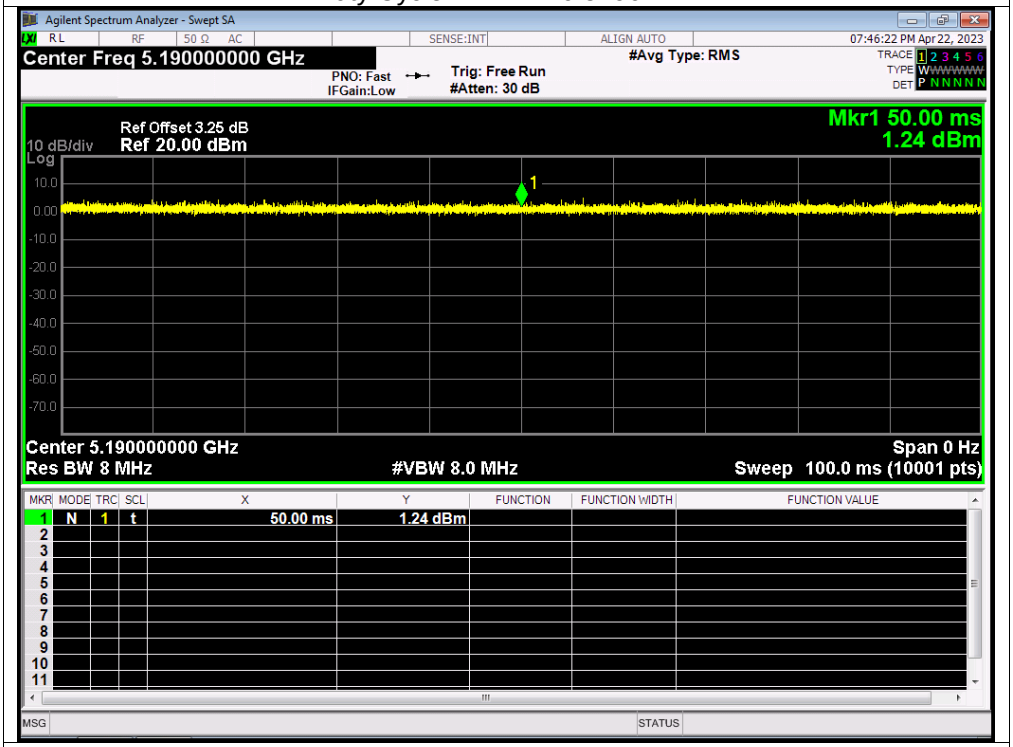
Duty Cycle NVNT n20 5200MHz



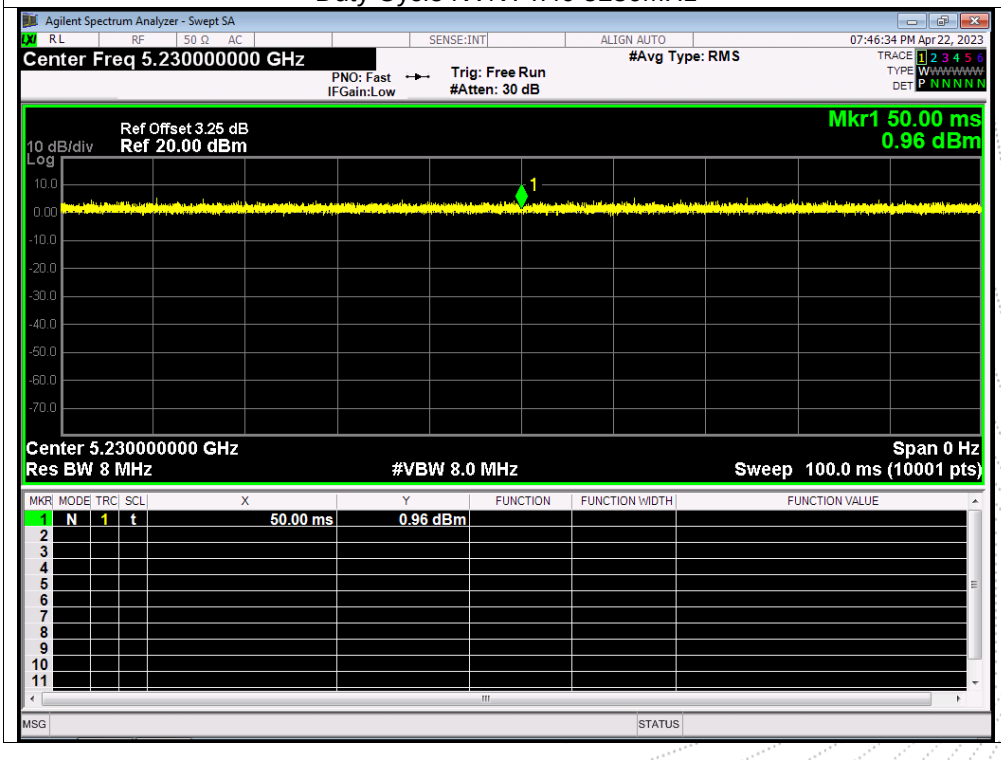
Duty Cycle NVNT n20 5240MHz



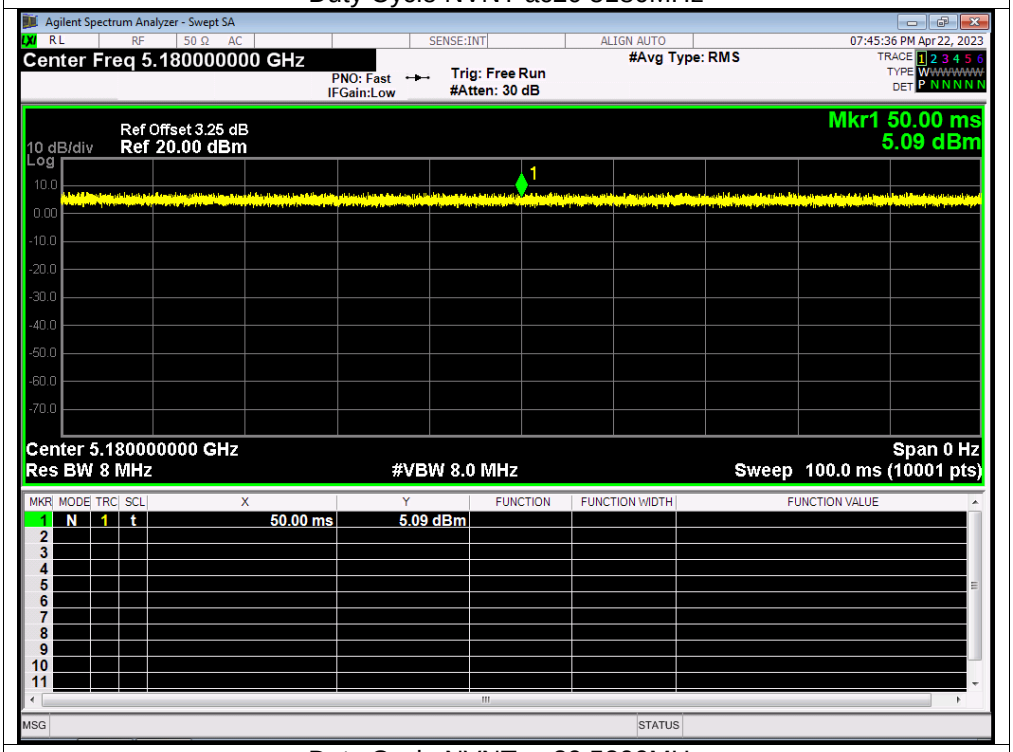
Duty Cycle NVNT n40 5190MHz



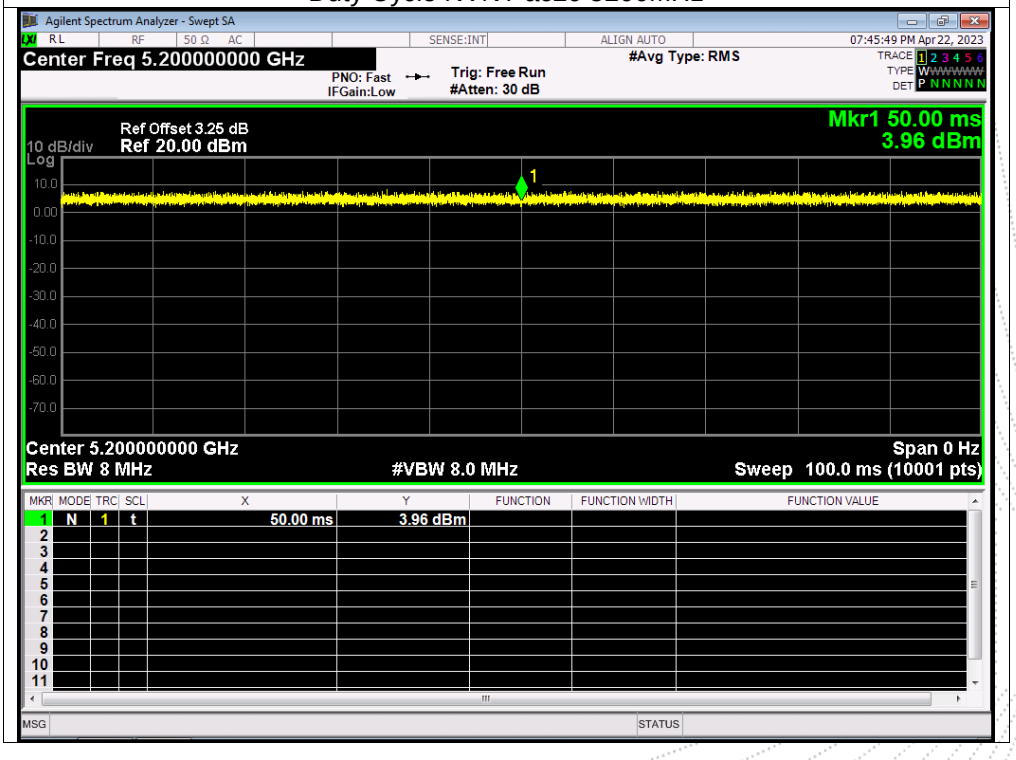
Duty Cycle NVNT n40 5230MHz



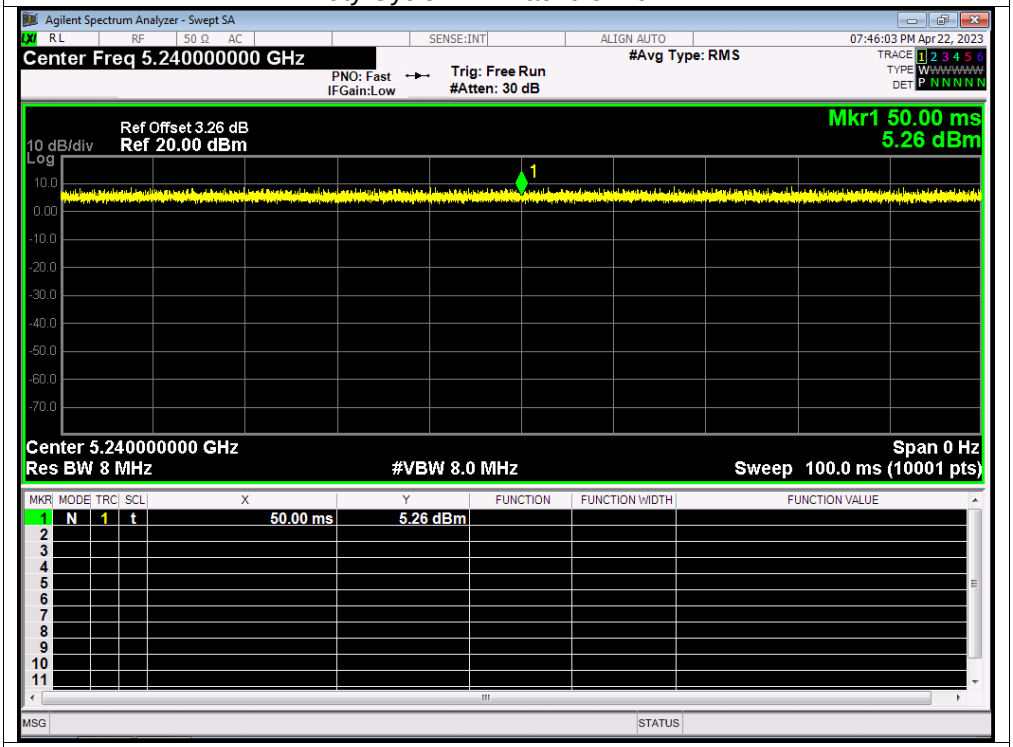
Duty Cycle NVNT ac20 5180MHz



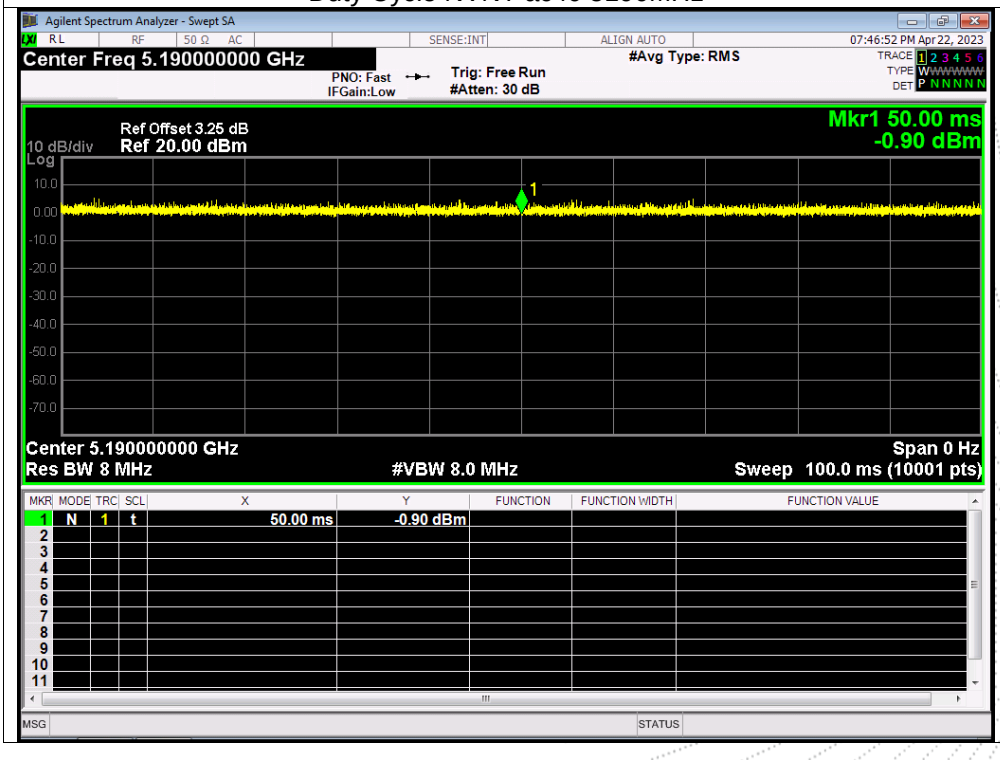
Duty Cycle NVNT ac20 5200MHz



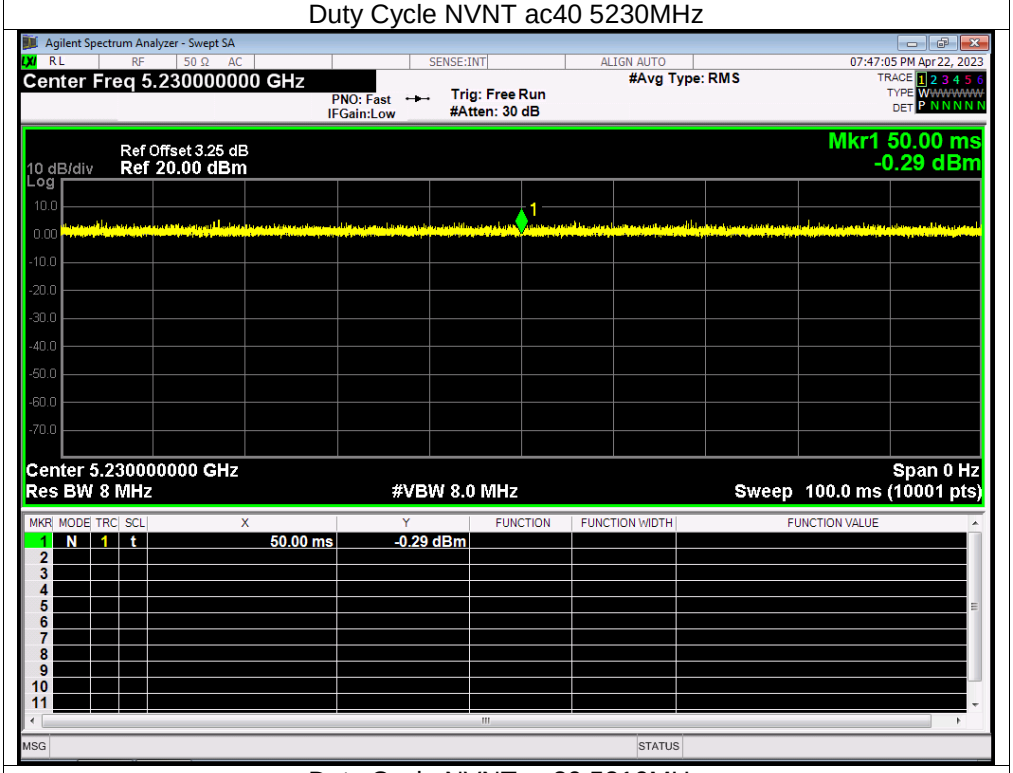
Duty Cycle NVNT ac20 5240MHz



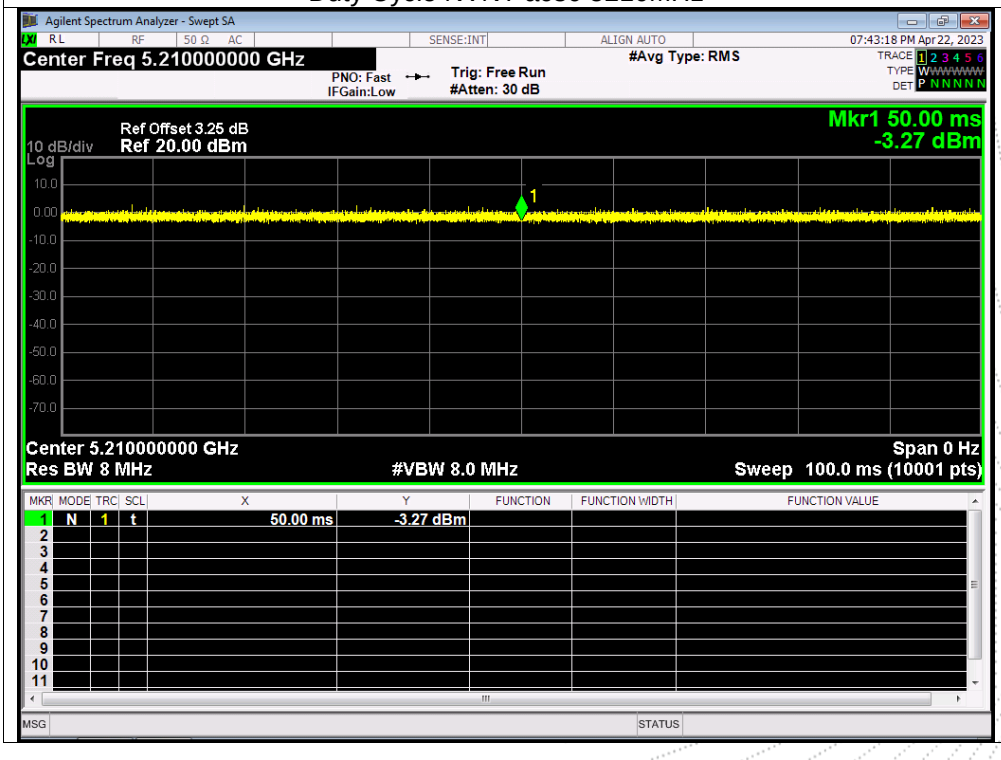
Duty Cycle NVNT ac40 5190MHz



Duty Cycle NVNT ac40 5230MHz



Duty Cycle NVNT ac80 5210MHz

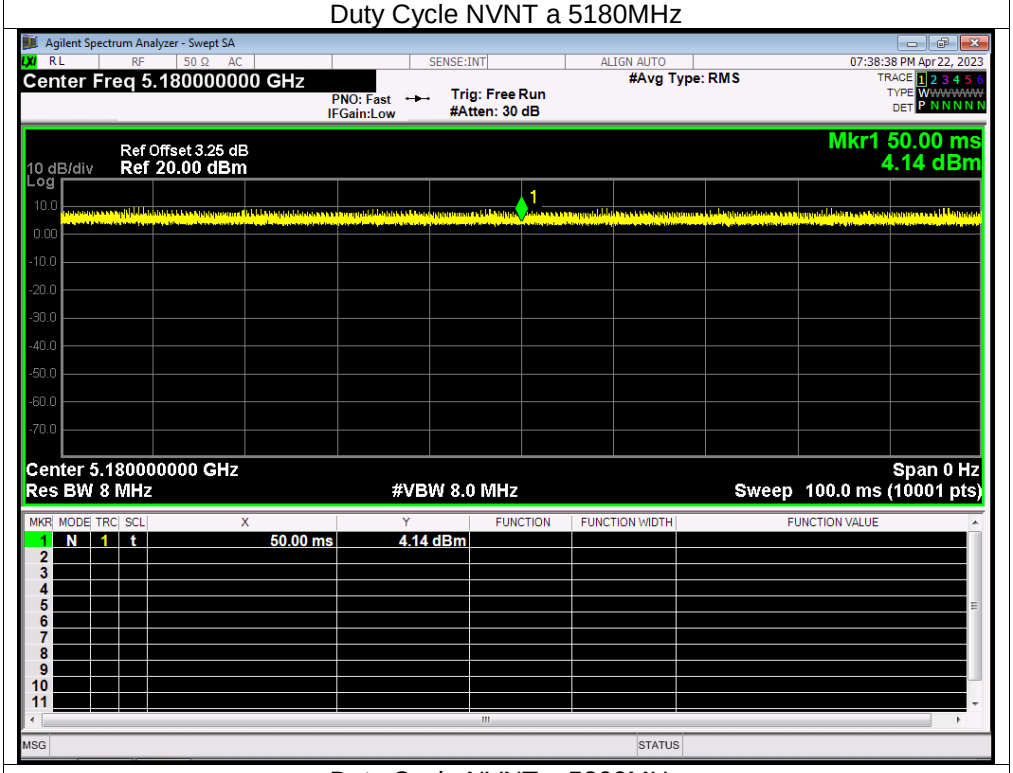


ANT B

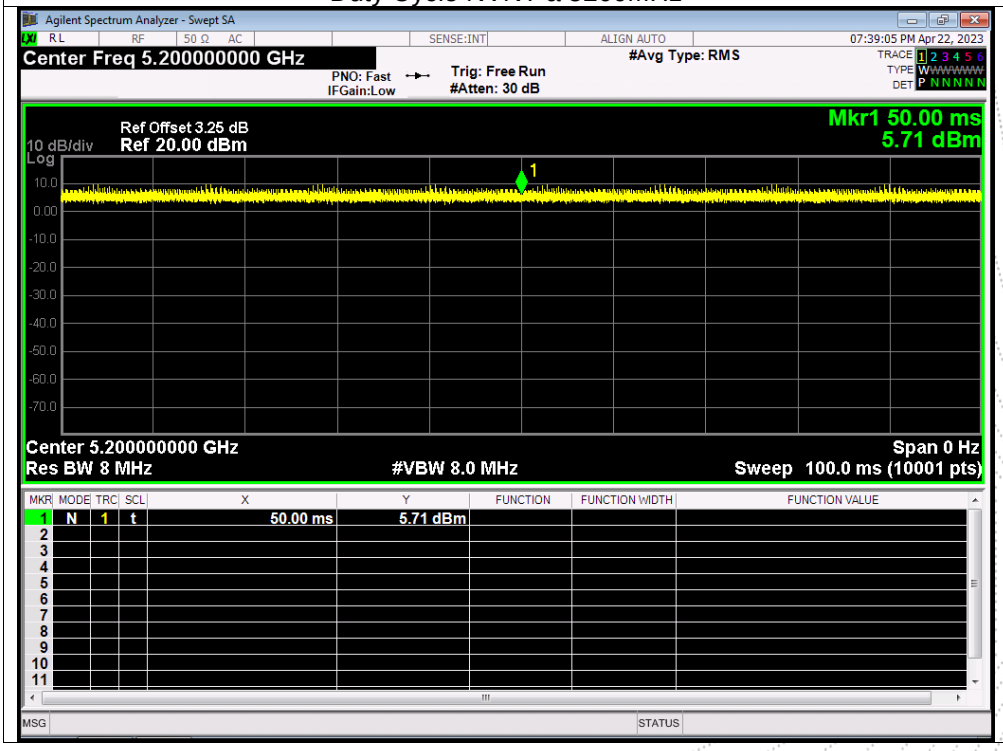
Condition	Mode	Frequency (MHz)	Duty Cycle (%)	Correction Factor (dB)	1/T (kHz)
NVNT	a	5180	100	0	0
NVNT	a	5200	100	0	0
NVNT	a	5240	100	0	0
NVNT	n20	5180	100	0	0
NVNT	n20	5200	100	0	0
NVNT	n20	5240	100	0	0
NVNT	n40	5190	100	0	0
NVNT	n40	5230	100	0	0
NVNT	ac20	5180	100	0	0
NVNT	ac20	5200	100	0	0
NVNT	ac20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

Test Graphs

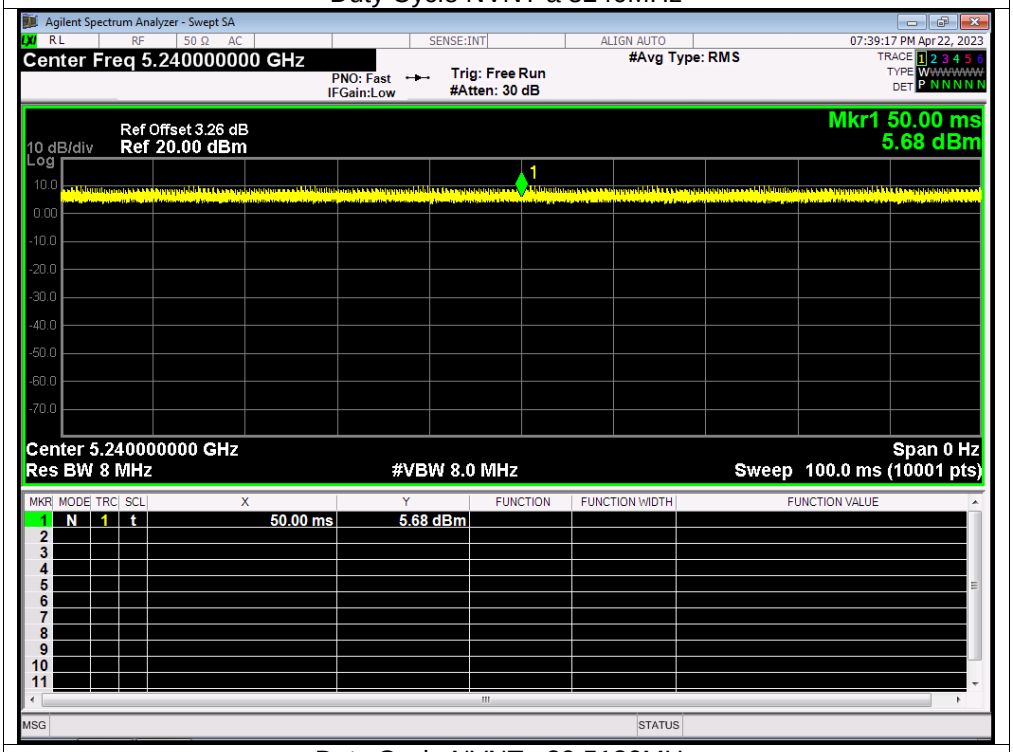
Duty Cycle NVNT a 5180MHz



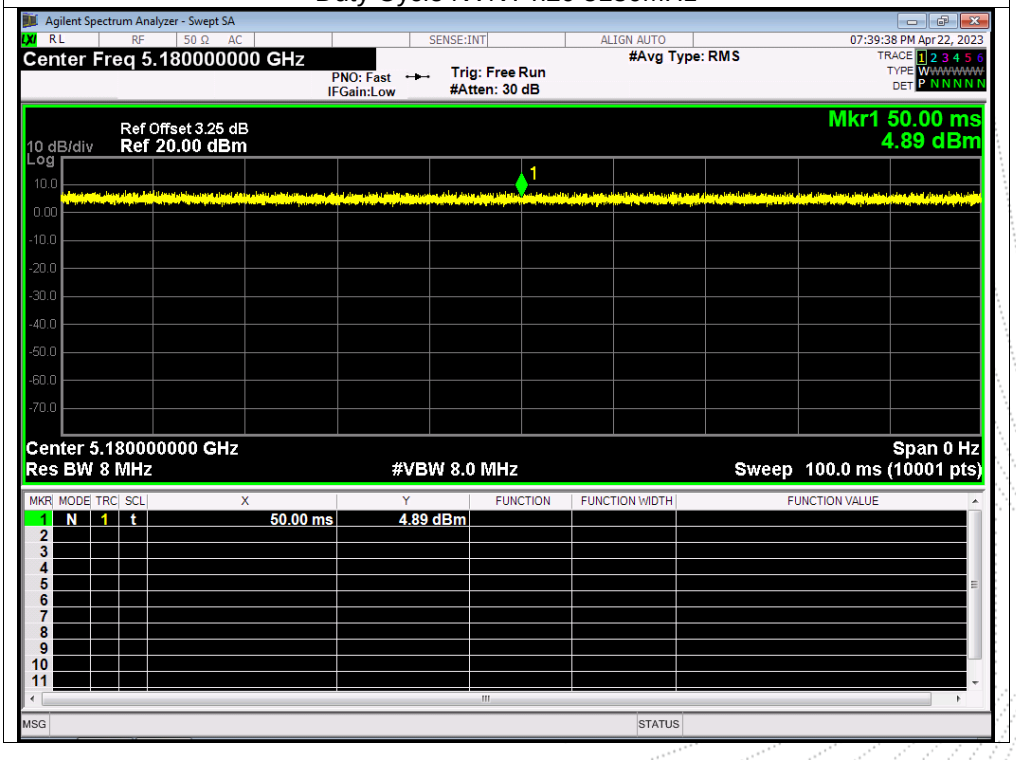
Duty Cycle NVNT a 5200MHz



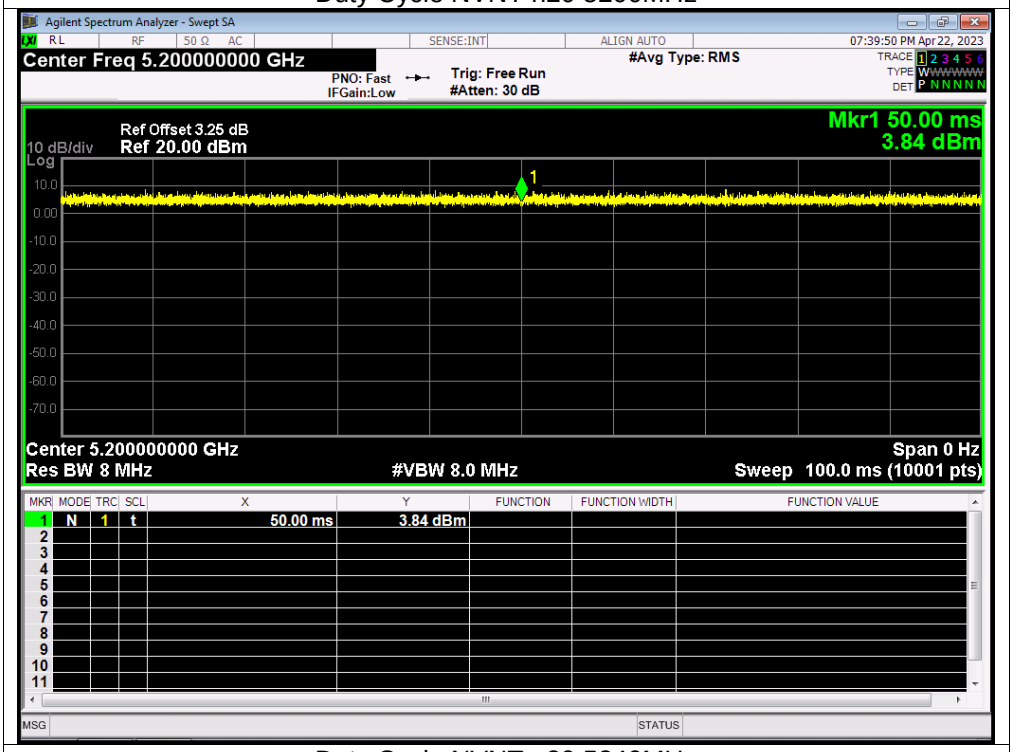
Duty Cycle NVNT a 5240MHz



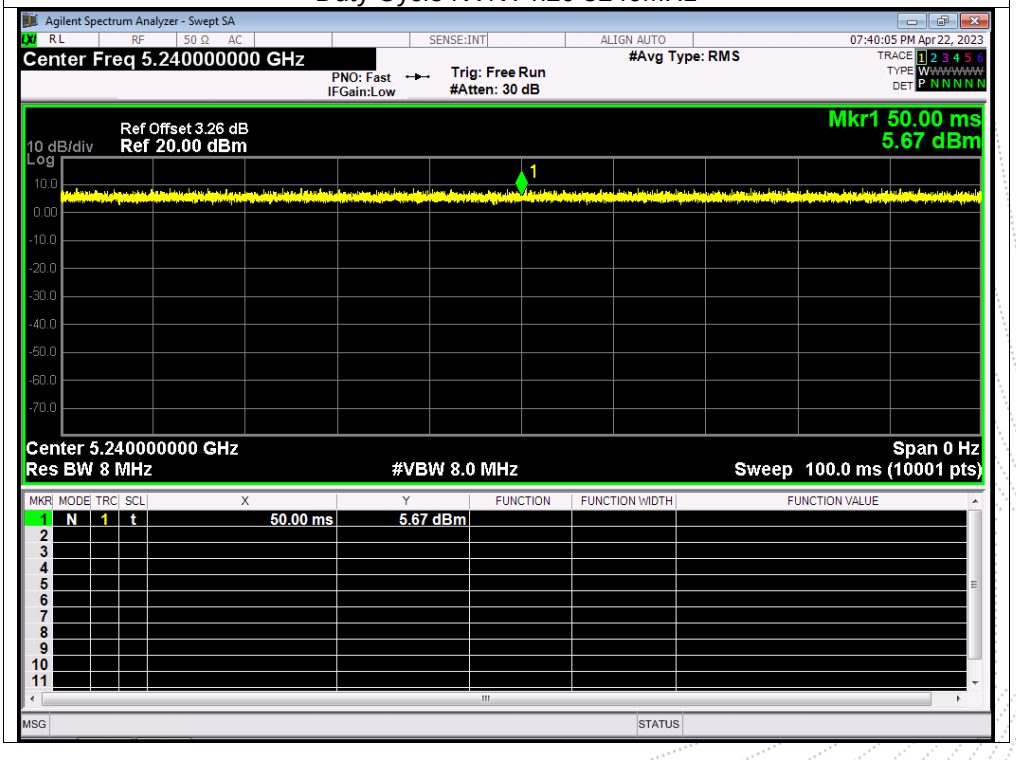
Duty Cycle NVNT n20 5180MHz



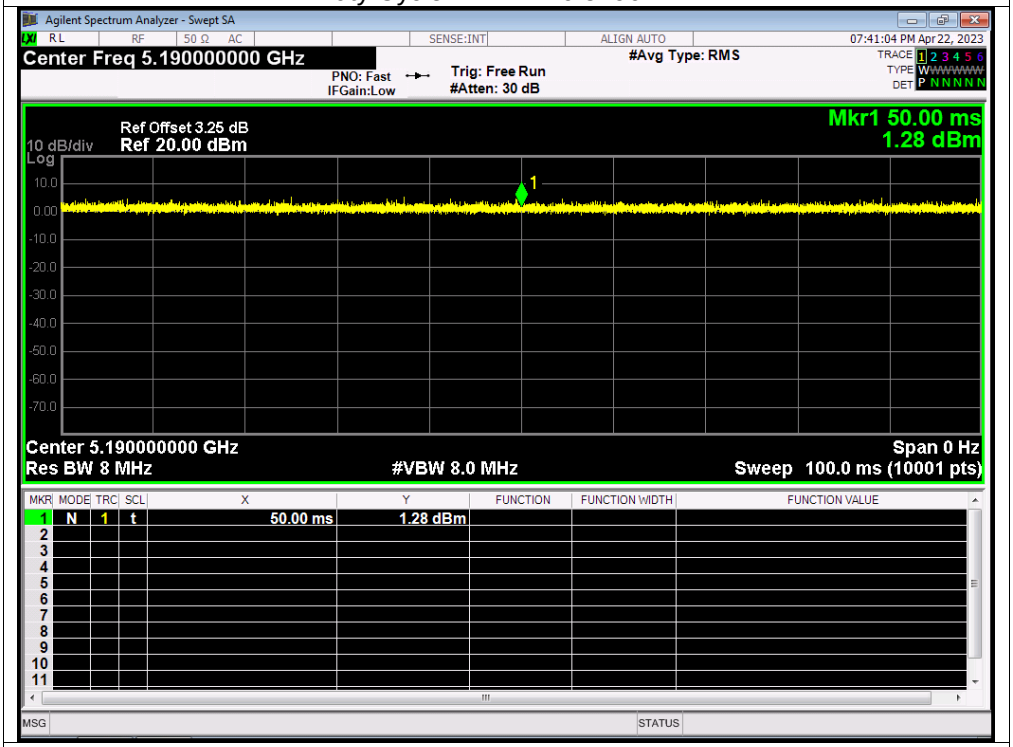
Duty Cycle NVNT n20 5200MHz



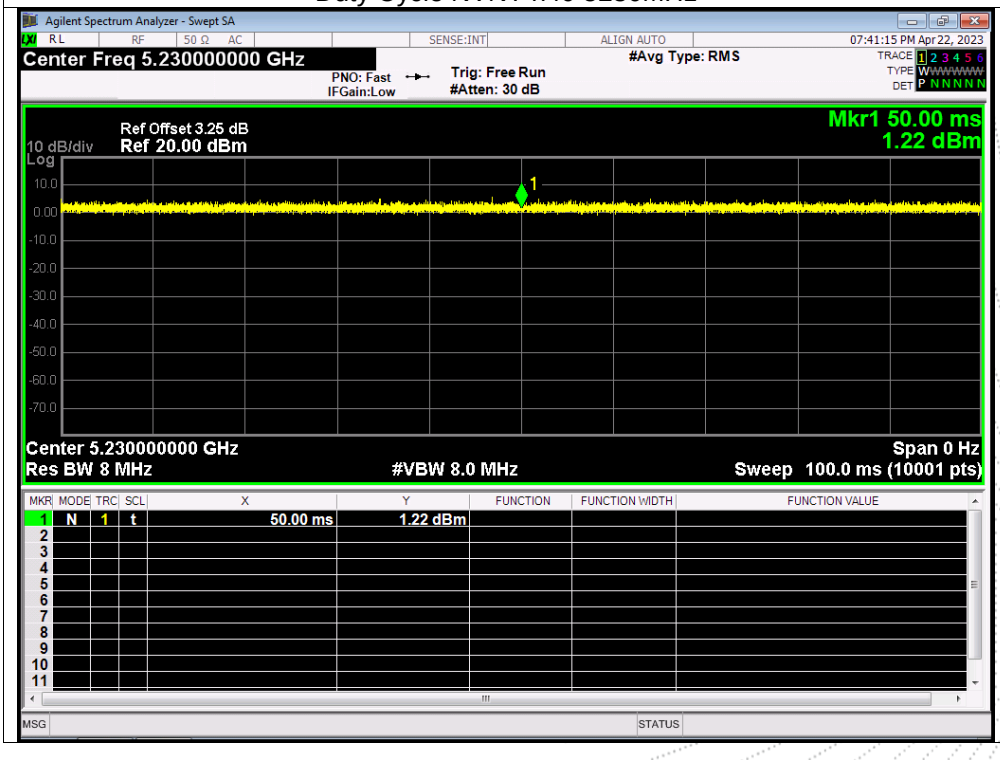
Duty Cycle NVNT n20 5240MHz



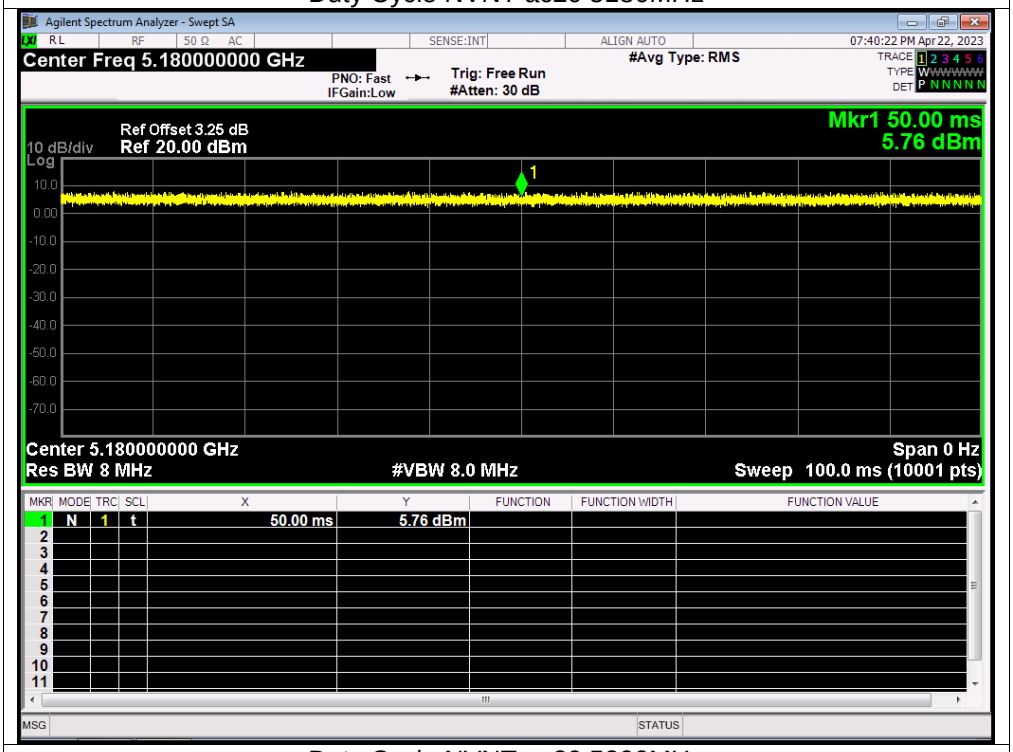
Duty Cycle NVNT n40 5190MHz



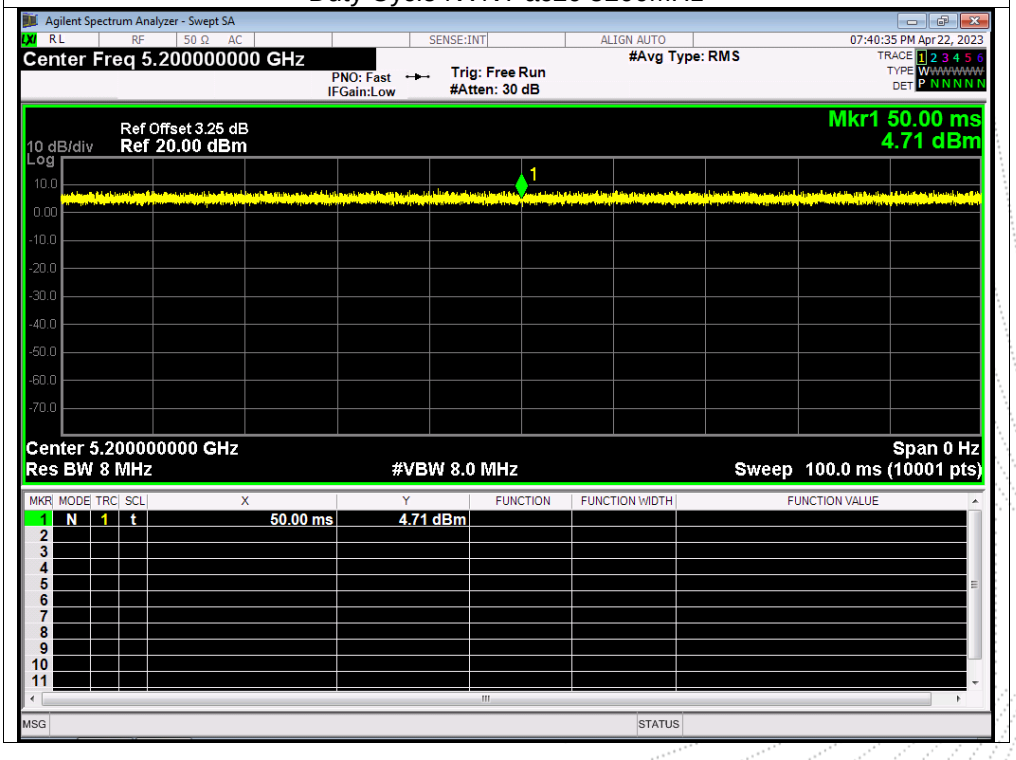
Duty Cycle NVNT n40 5230MHz



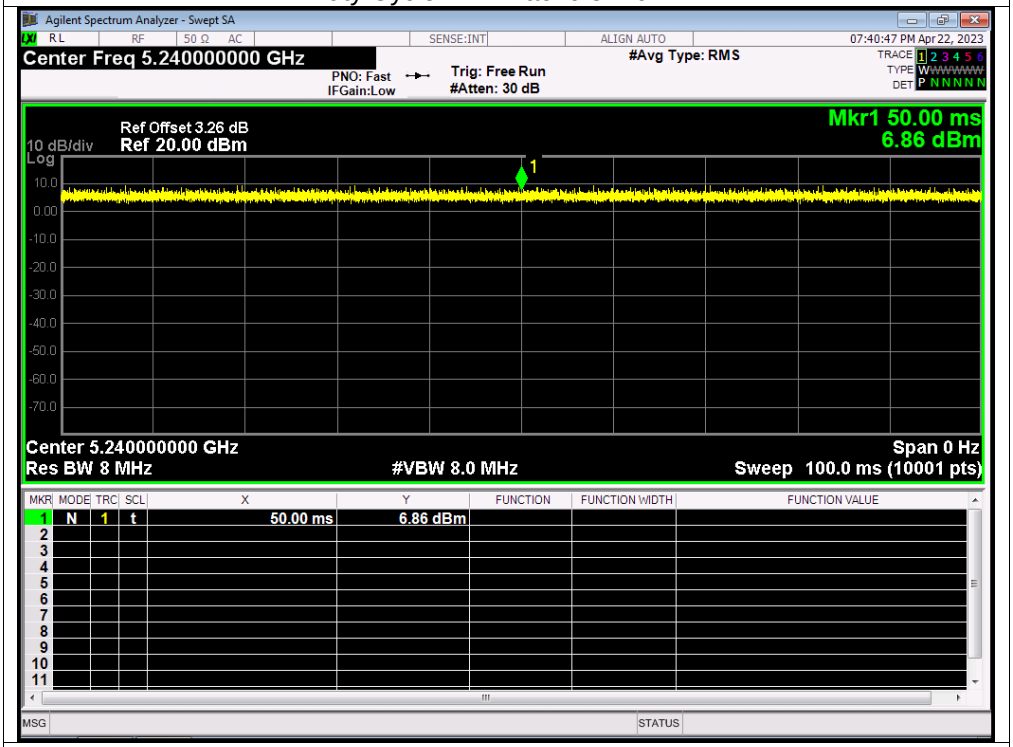
Duty Cycle NVNT ac20 5180MHz



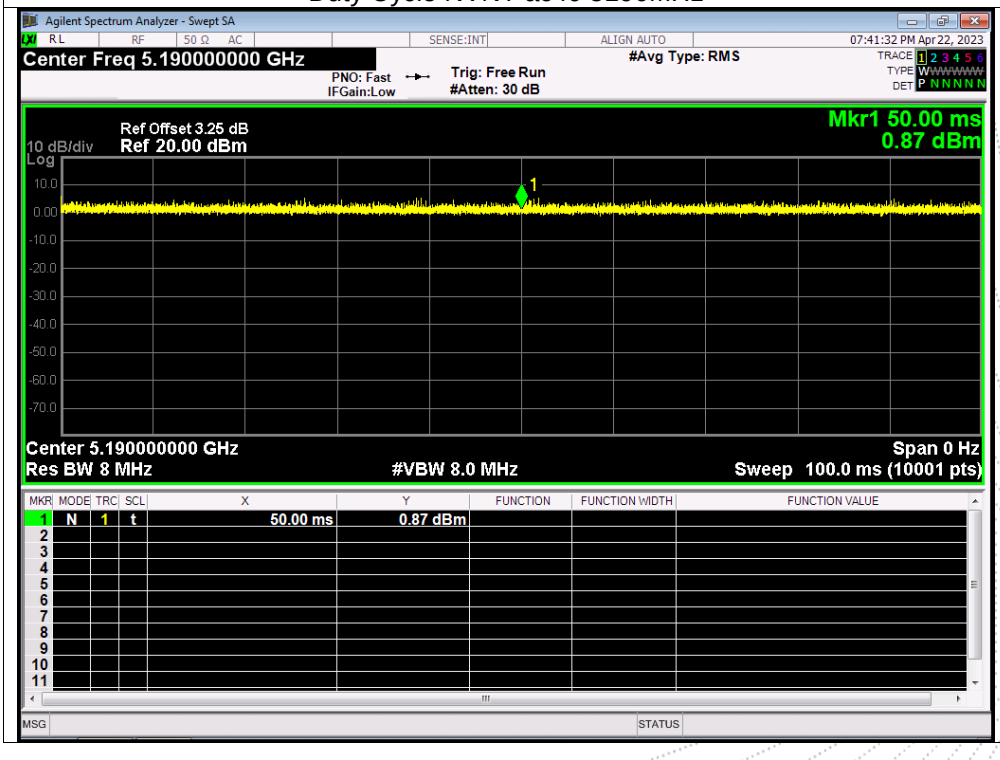
Duty Cycle NVNT ac20 5200MHz



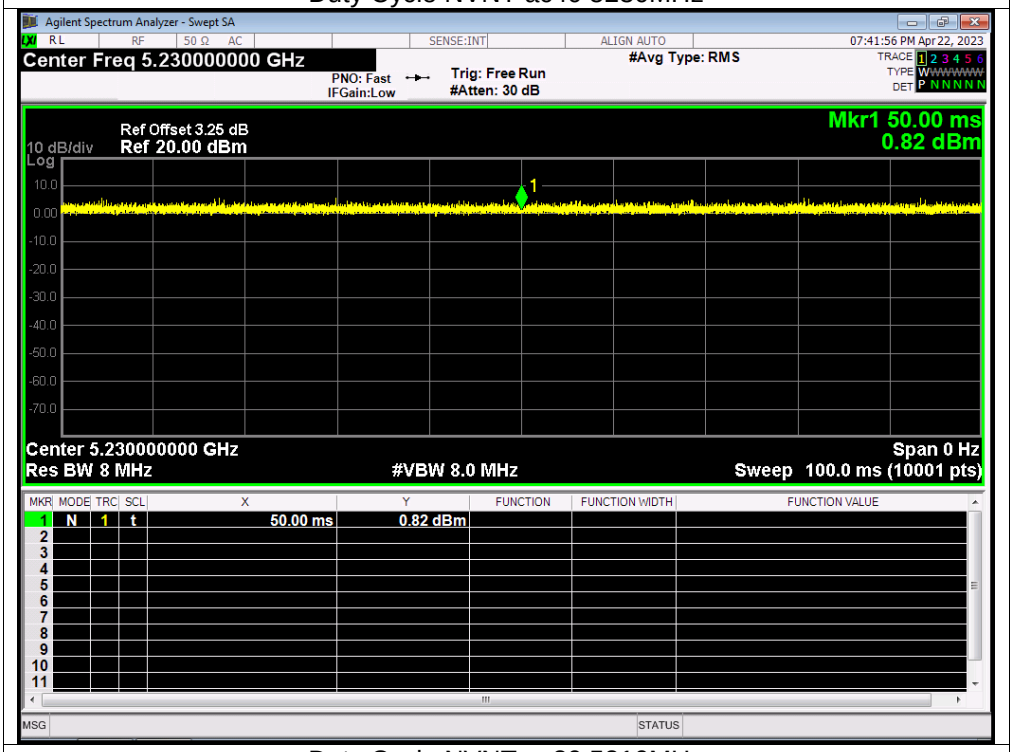
Duty Cycle NVNT ac20 5240MHz



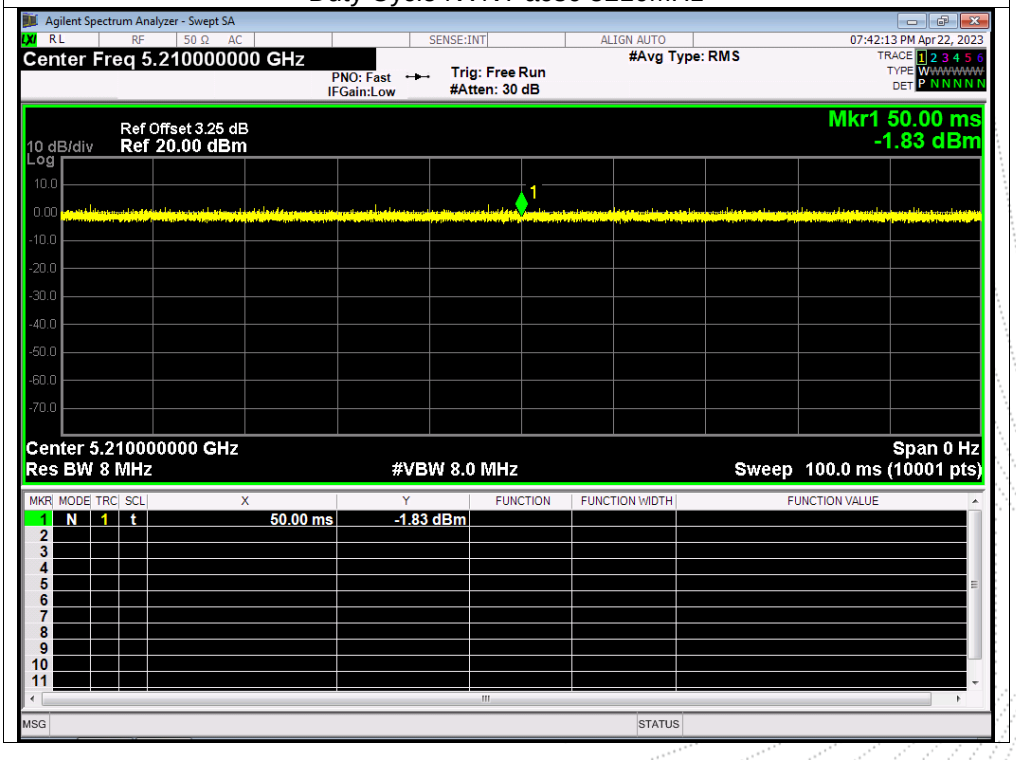
Duty Cycle NVNT ac40 5190MHz



Duty Cycle NVNT ac40 5230MHz



Duty Cycle NVNT ac80 5210MHz

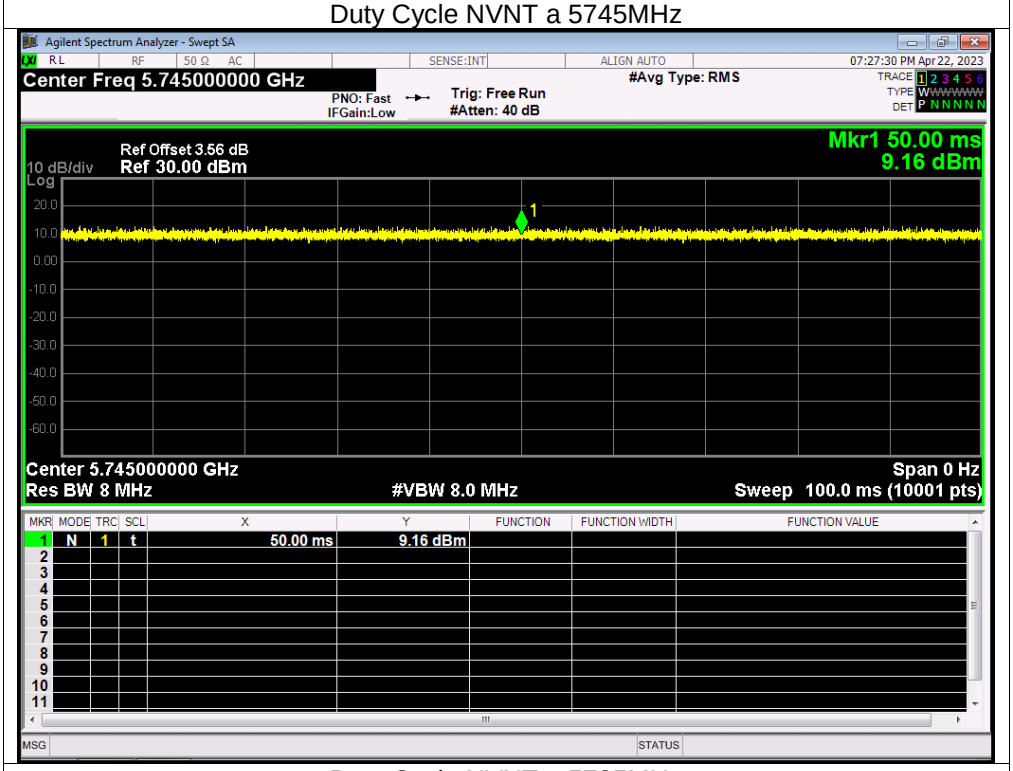


5.8G
ANT A

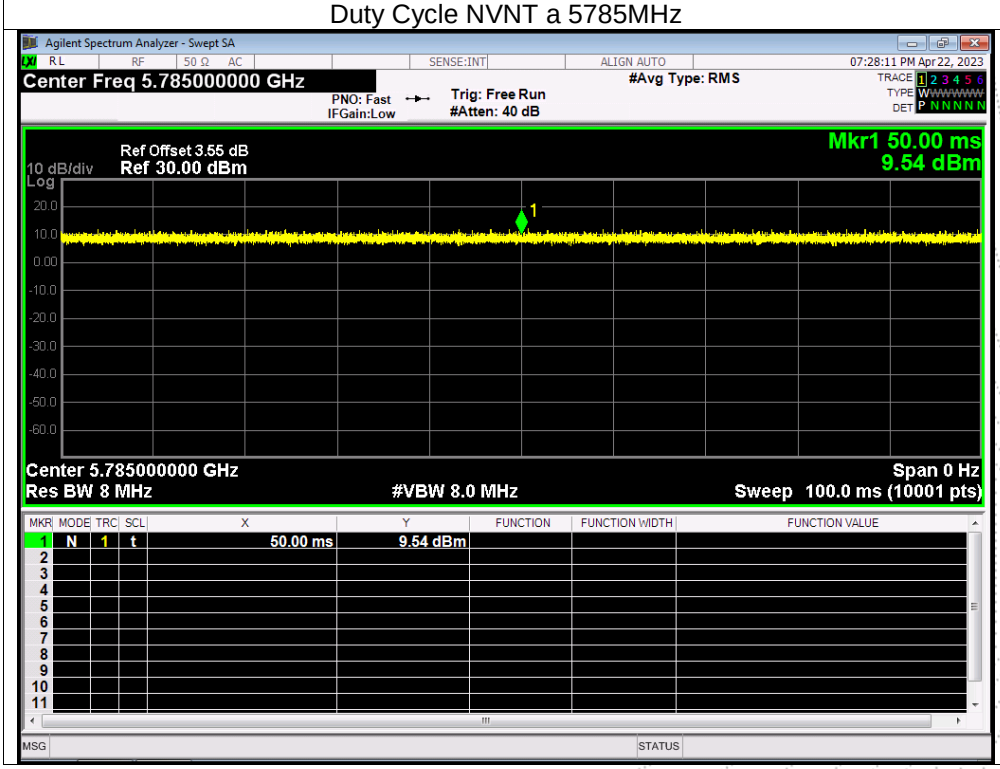
Condition	Mode	Frequency (MHz)	Duty Cycle (%)	Correction Factor (dB)	1/T (kHz)
NVNT	a	5745	100	0	0
NVNT	a	5785	100	0	0
NVNT	a	5825	100	0	0
NVNT	n20	5745	100	0	0
NVNT	n20	5785	100	0	0
NVNT	n20	5825	100	0	0
NVNT	n40	5755	100	0	0
NVNT	n40	5795	100	0	0
NVNT	ac20	5745	100	0	0
NVNT	ac20	5785	100	0	0
NVNT	ac20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

Test Graphs

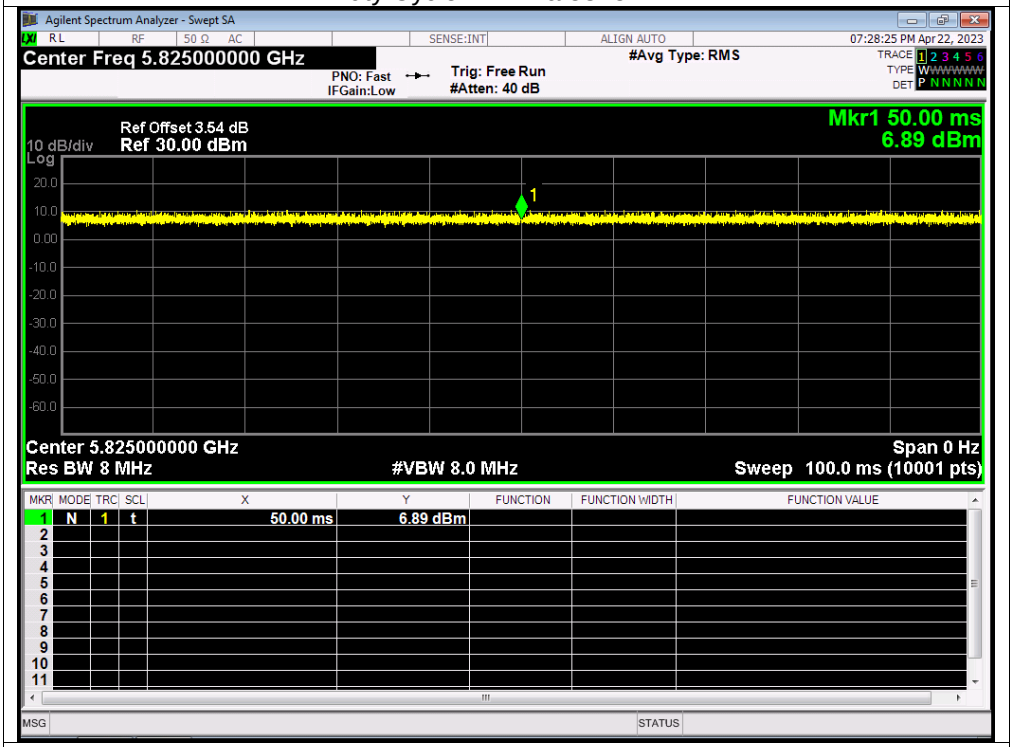
Duty Cycle NVNT a 5745MHz



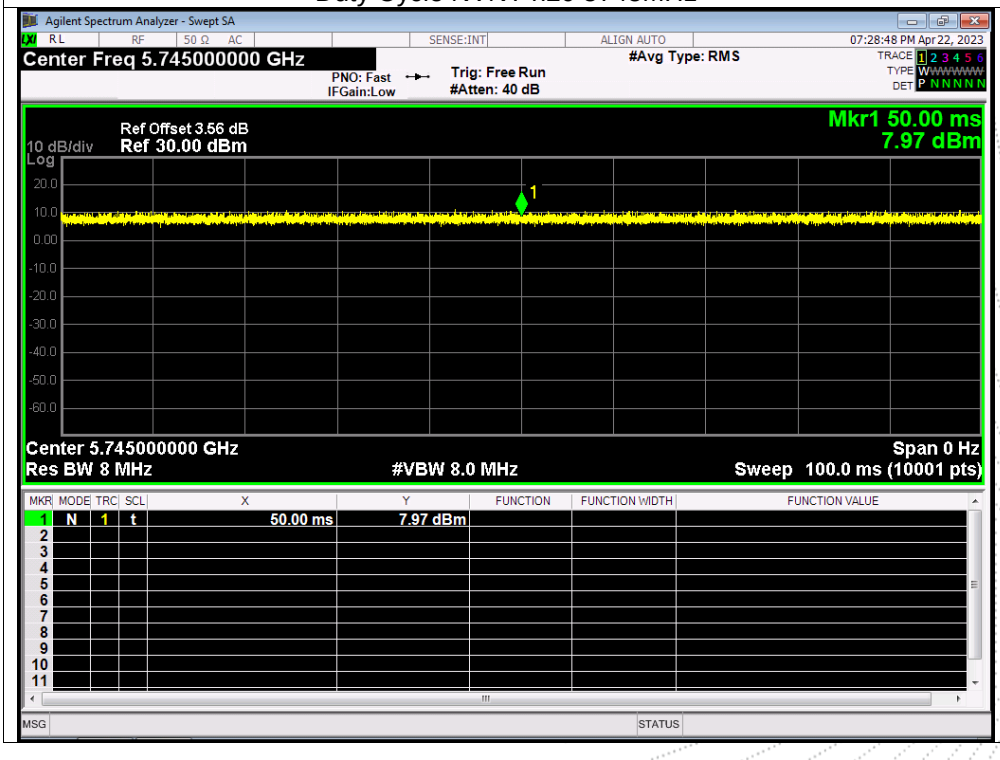
Duty Cycle NVNT a 5785MHz



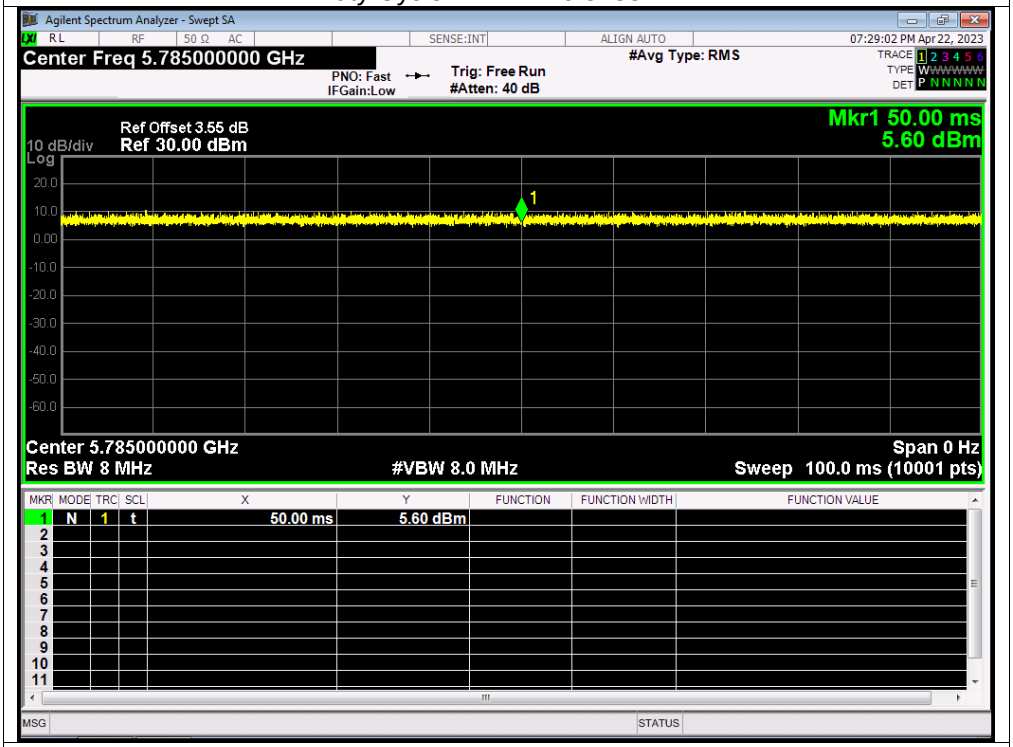
Duty Cycle NVNT a 5825MHz



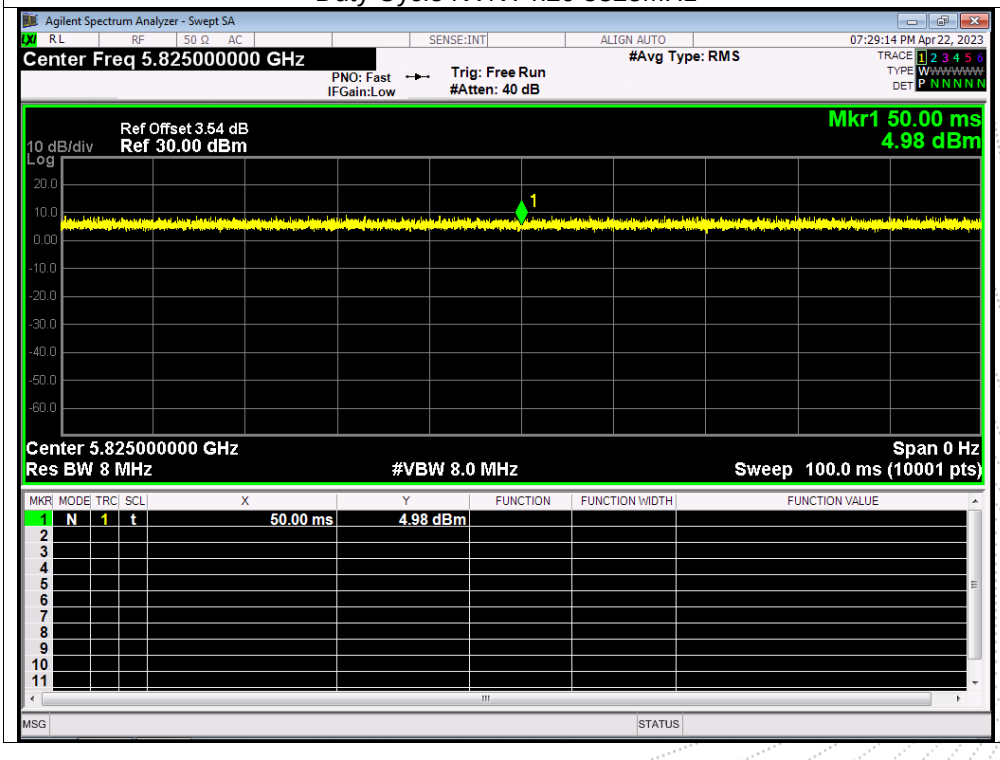
Duty Cycle NVNT n20 5745MHz



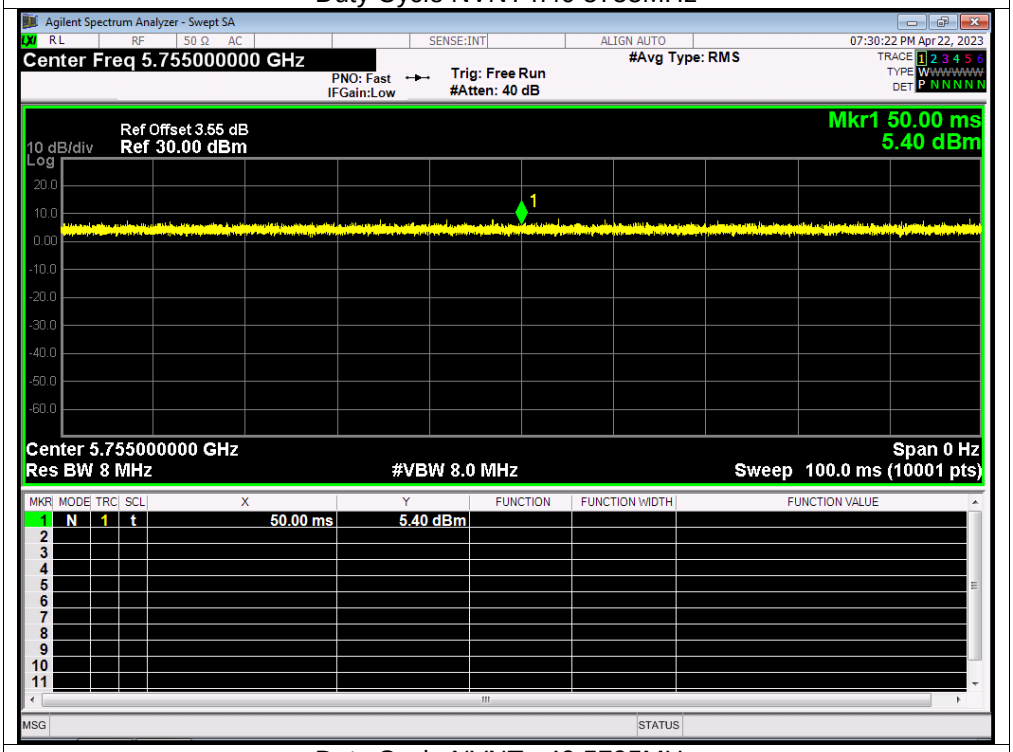
Duty Cycle NVNT n20 5785MHz



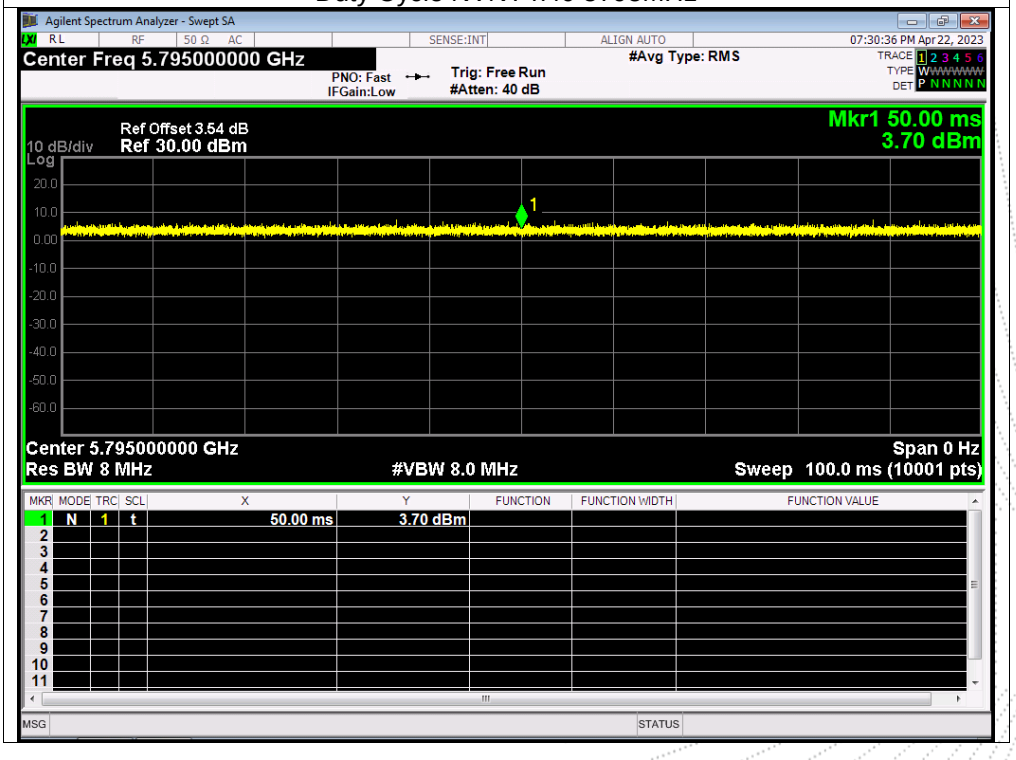
Duty Cycle NVNT n20 5825MHz



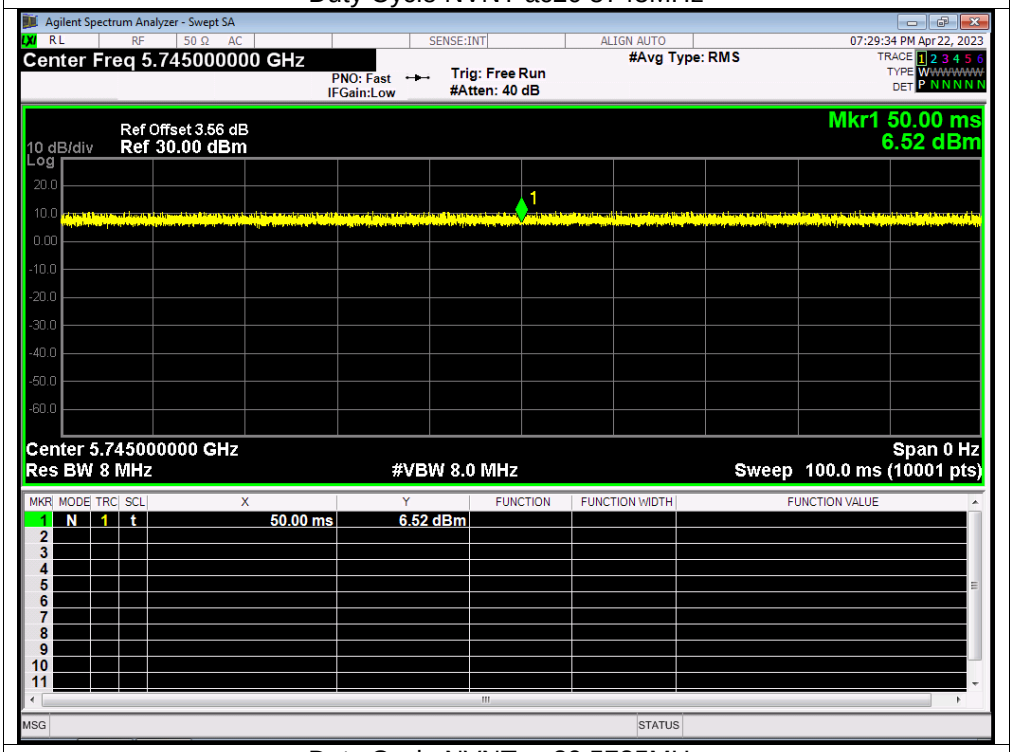
Duty Cycle NVNT n40 5755MHz



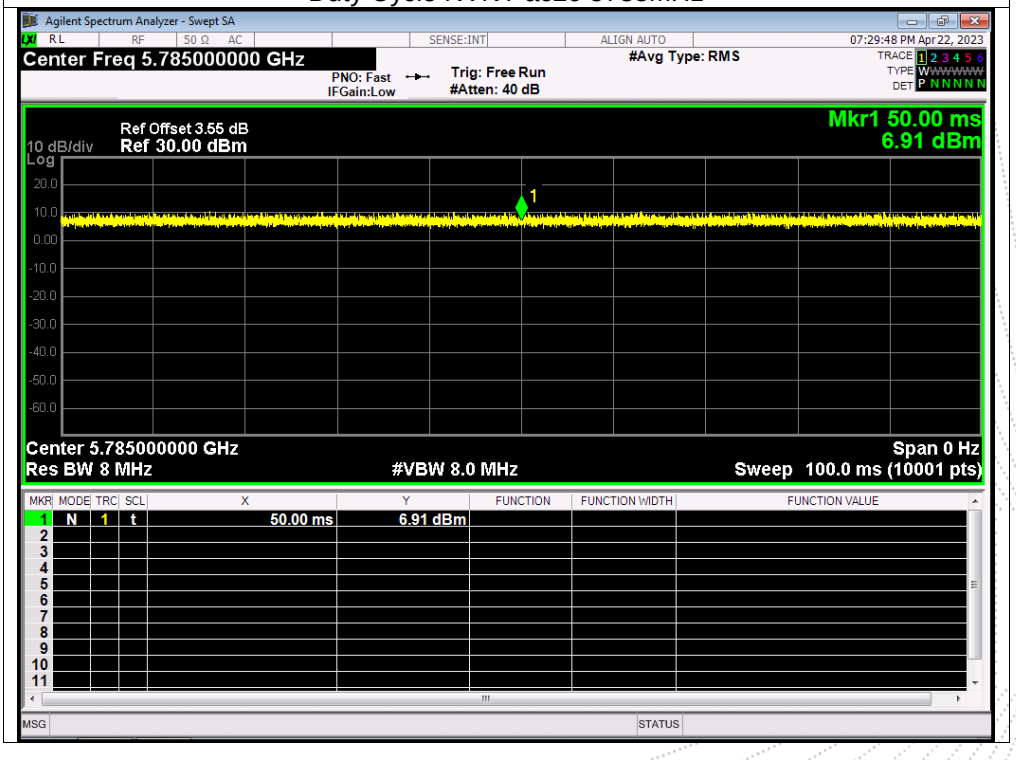
Duty Cycle NVNT n40 5795MHz



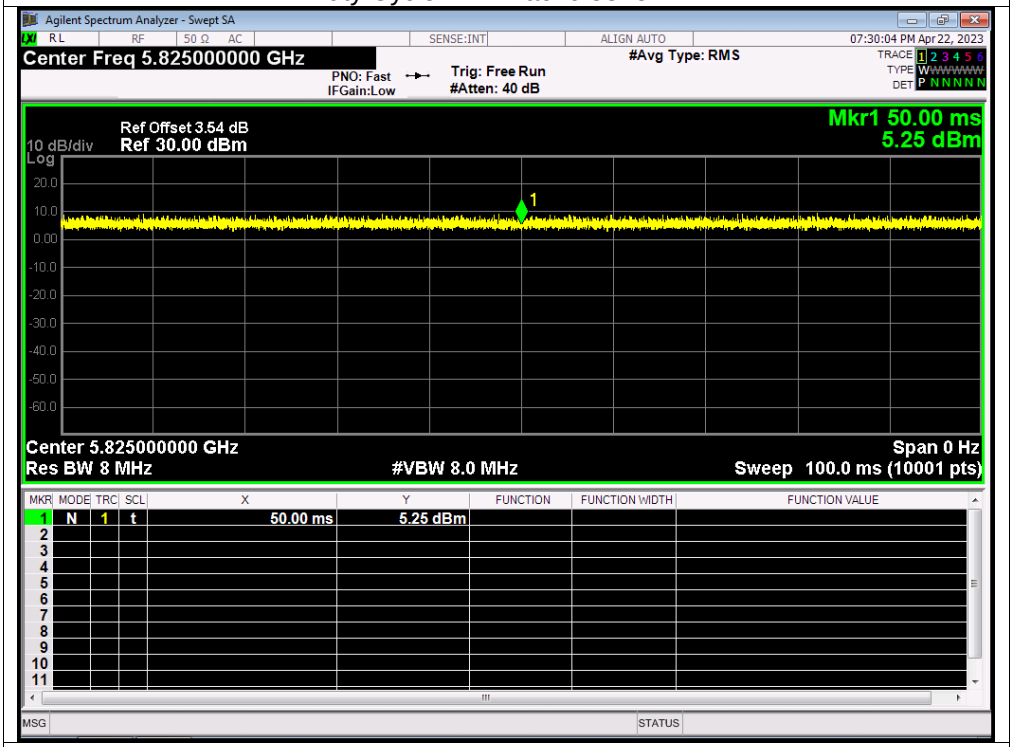
Duty Cycle NVNT ac20 5745MHz



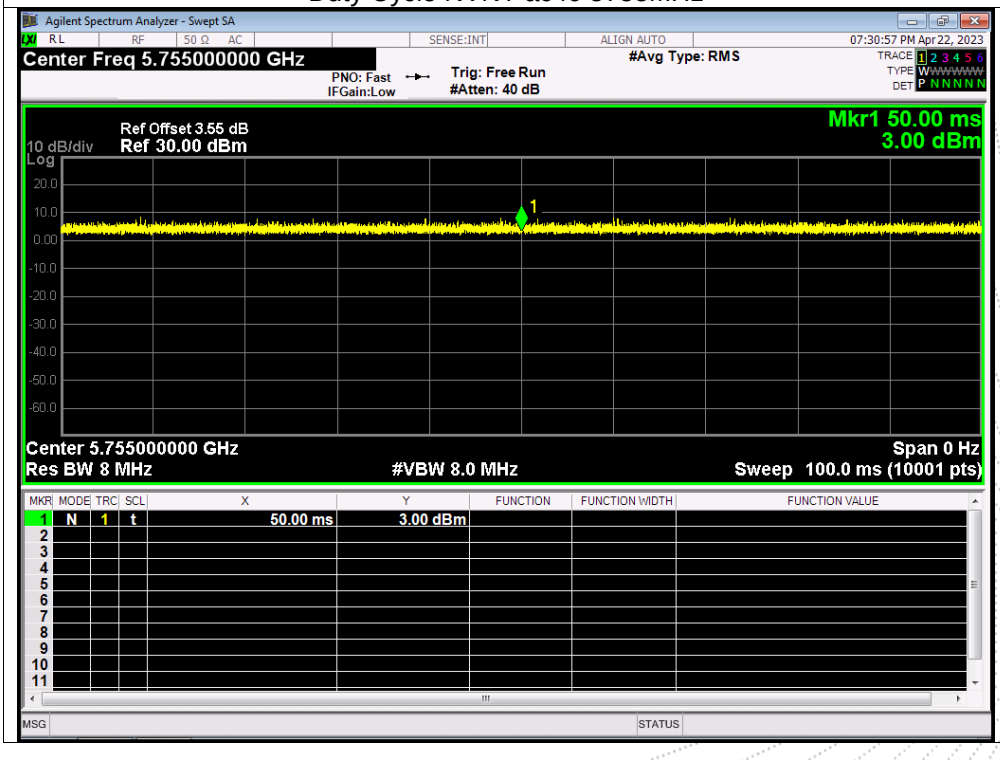
Duty Cycle NVNT ac20 5785MHz



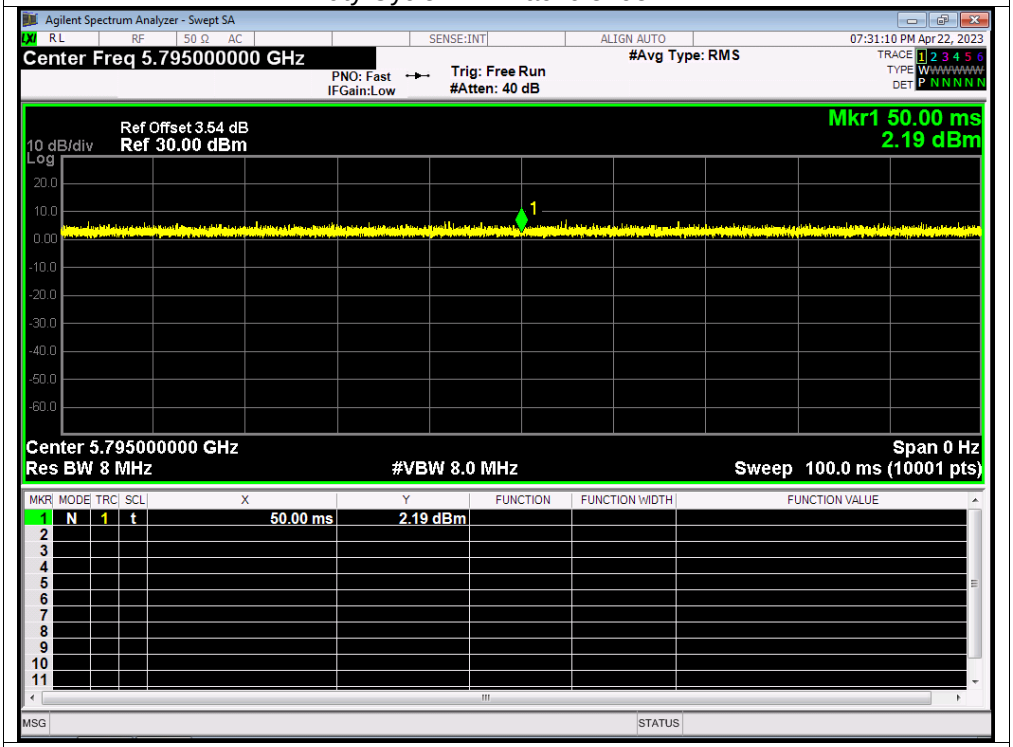
Duty Cycle NVNT ac20 5825MHz



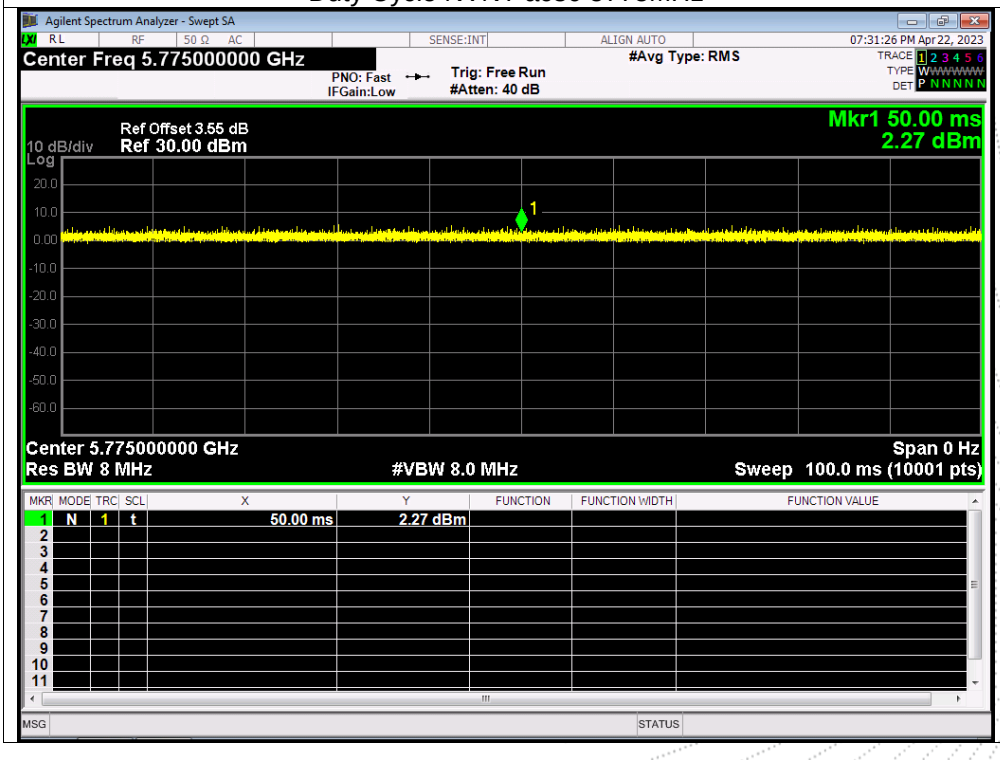
Duty Cycle NVNT ac40 5755MHz



Duty Cycle NVNT ac40 5795MHz



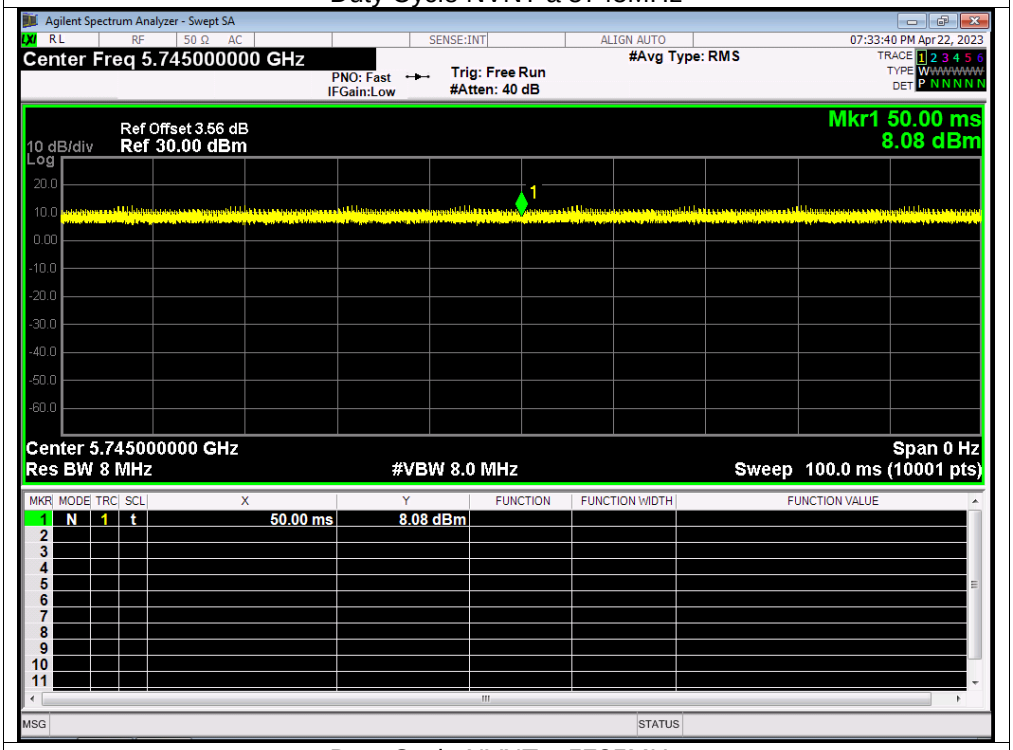
Duty Cycle NVNT ac80 5775MHz



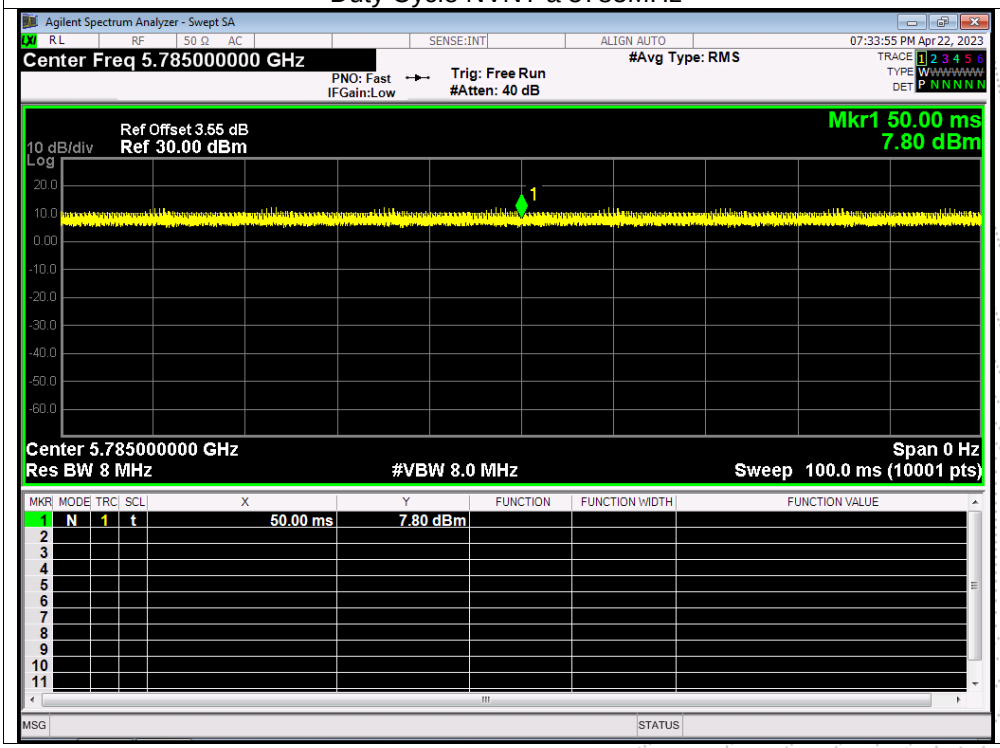
ANT B

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

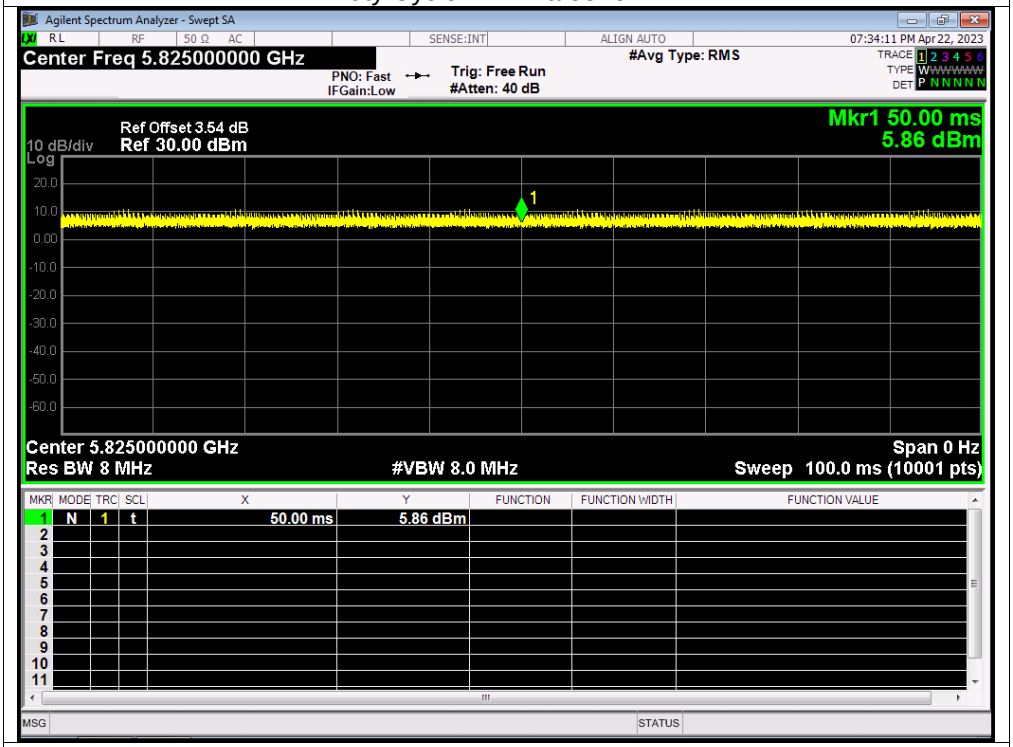
Test Graphs
Duty Cycle NVNT a 5745MHz



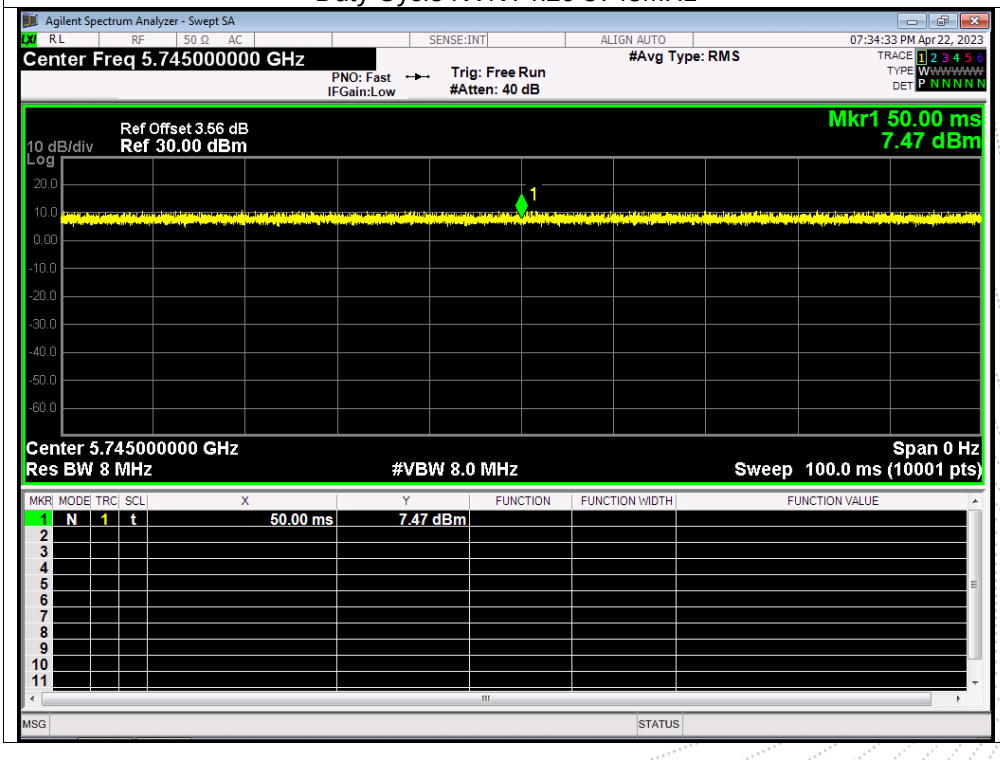
Duty Cycle NVNT a 5785MHz



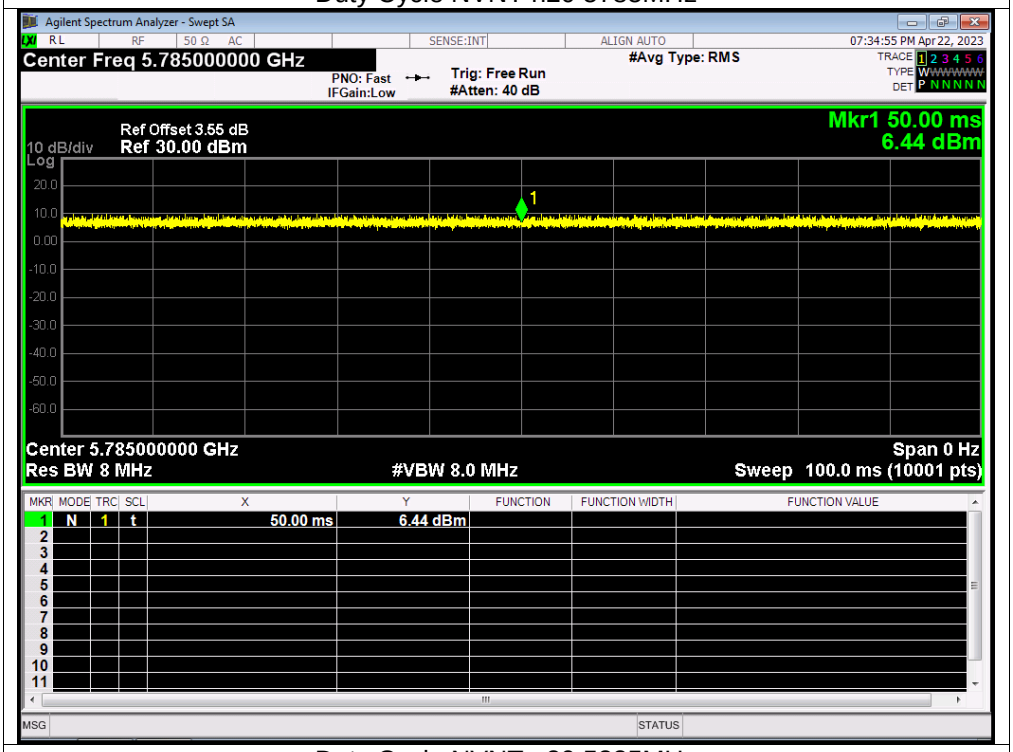
Duty Cycle NVNT a 5825MHz



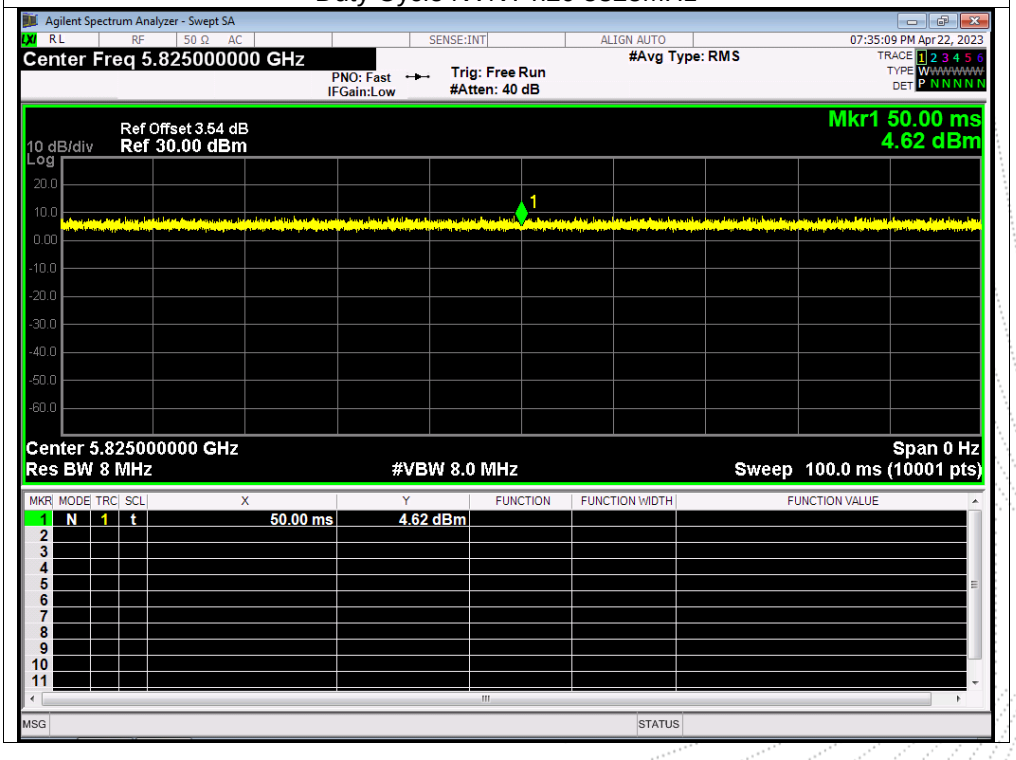
Duty Cycle NVNT n20 5745MHz



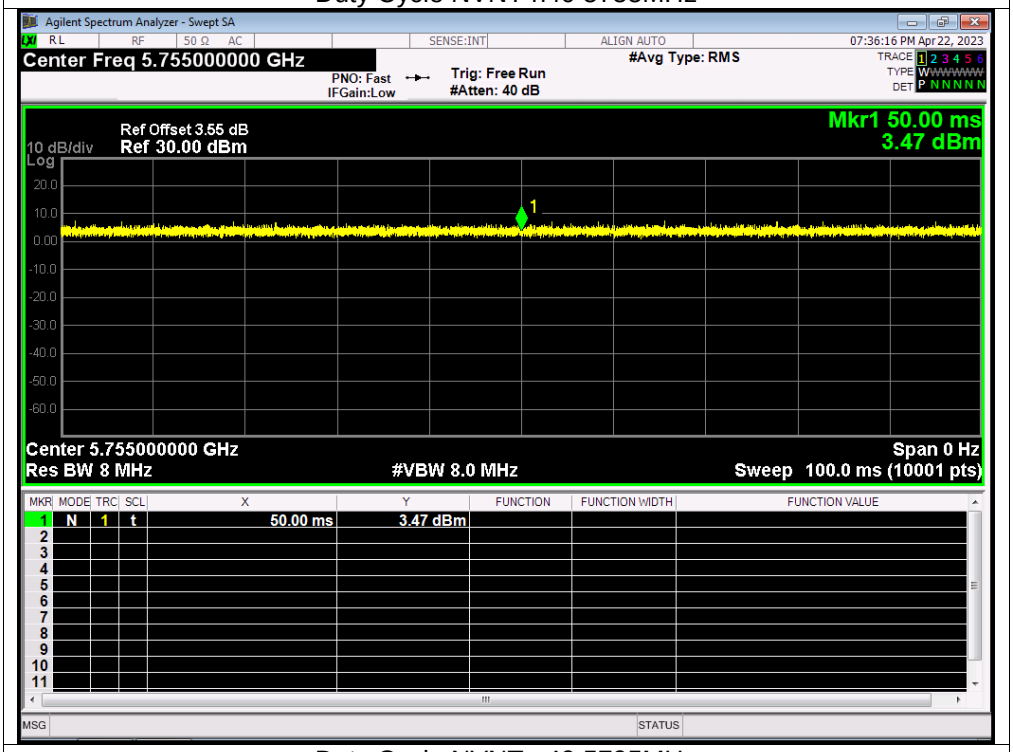
Duty Cycle NVNT n20 5785MHz



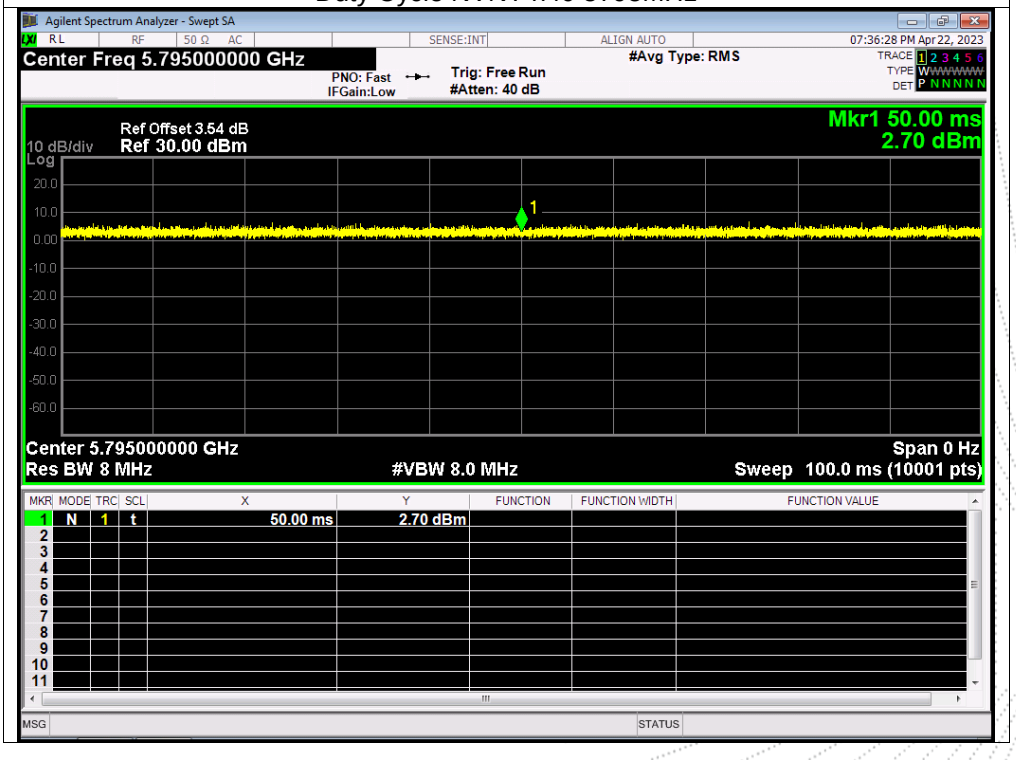
Duty Cycle NVNT n20 5825MHz



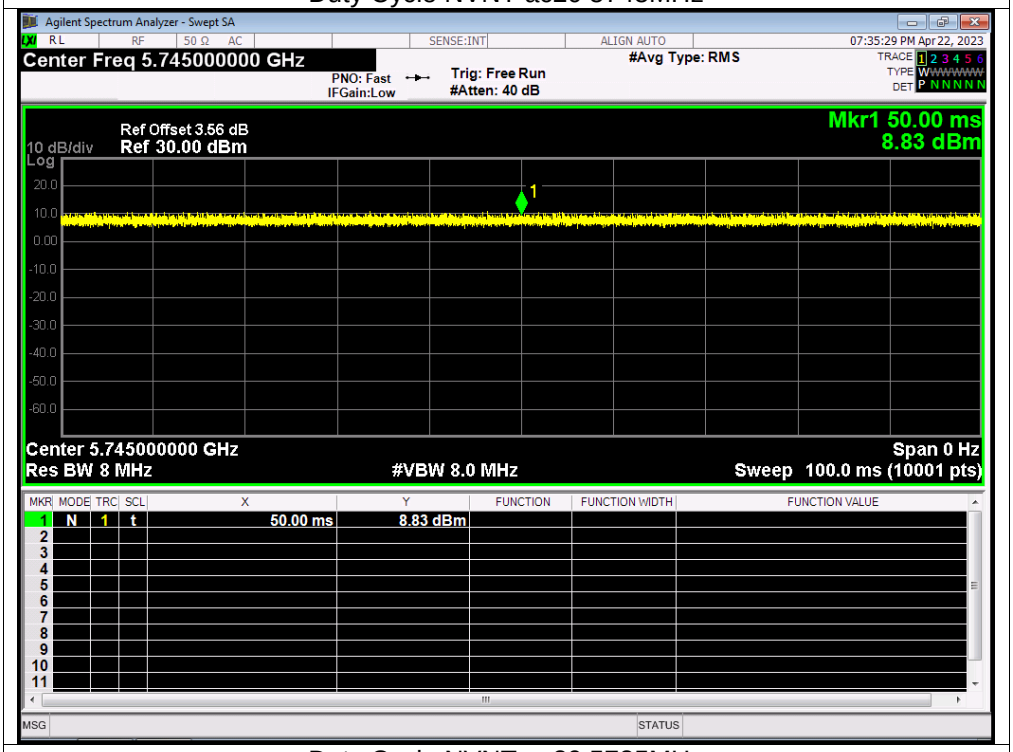
Duty Cycle NVNT n40 5755MHz



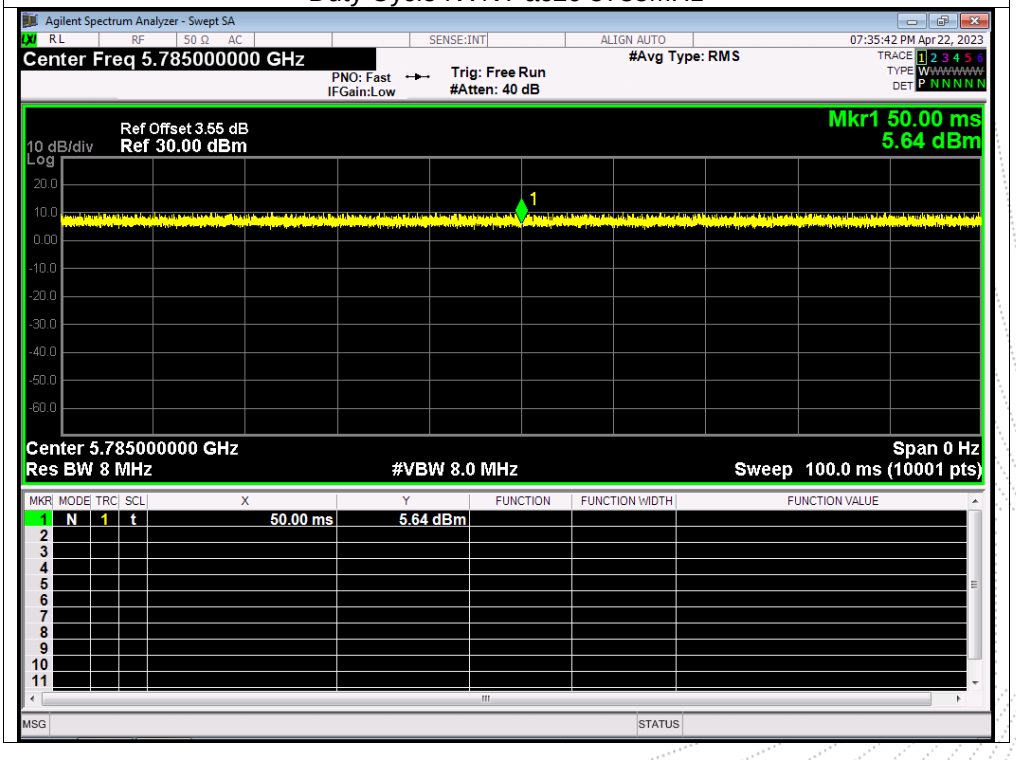
Duty Cycle NVNT n40 5795MHz



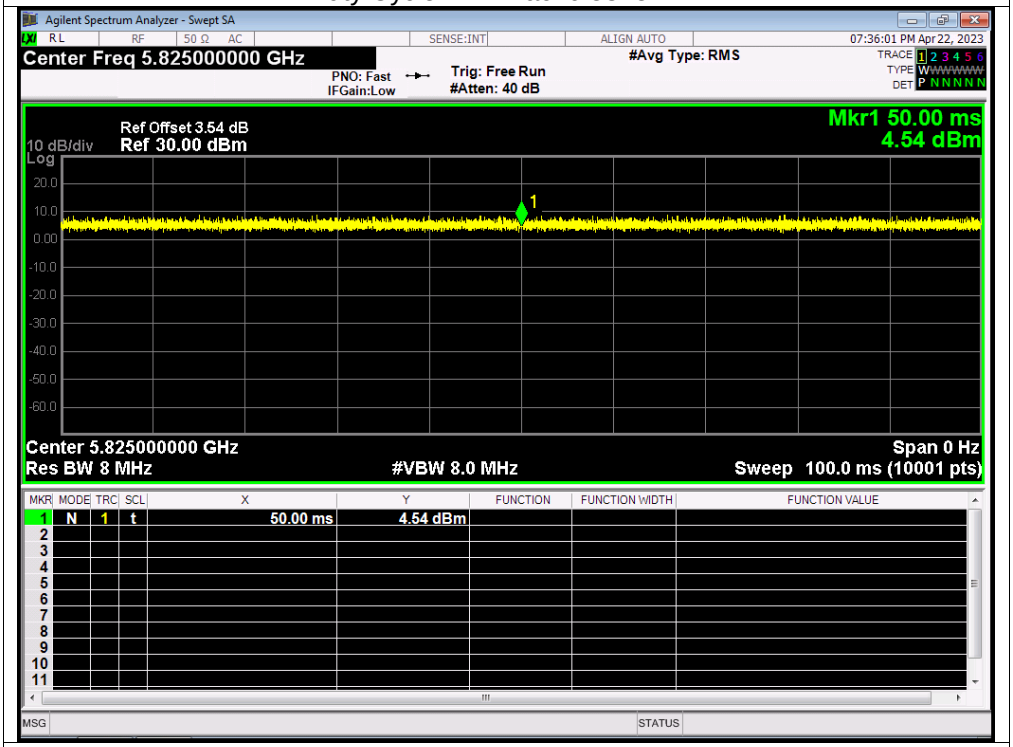
Duty Cycle NVNT ac20 5745MHz



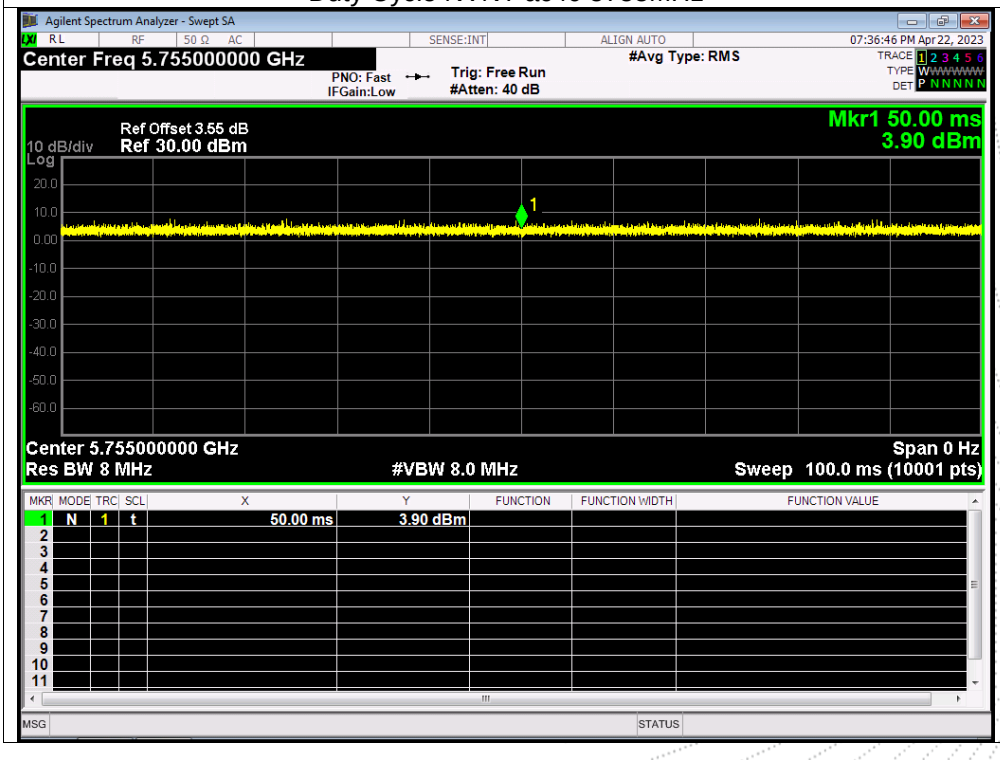
Duty Cycle NVNT ac20 5785MHz



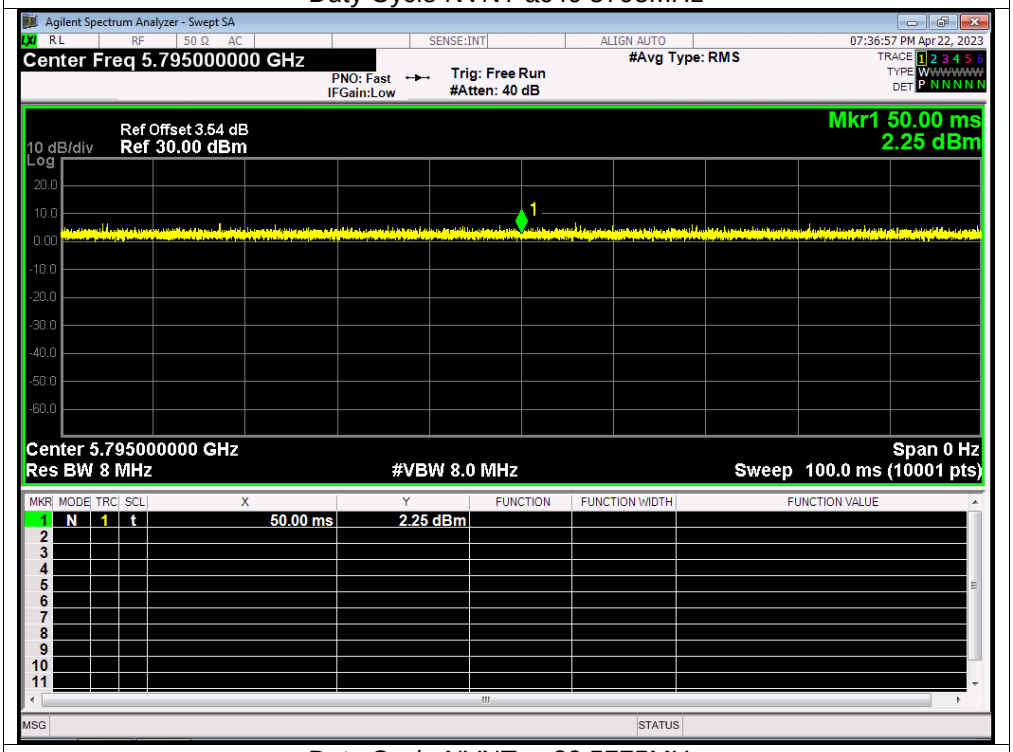
Duty Cycle NVNT ac20 5825MHz



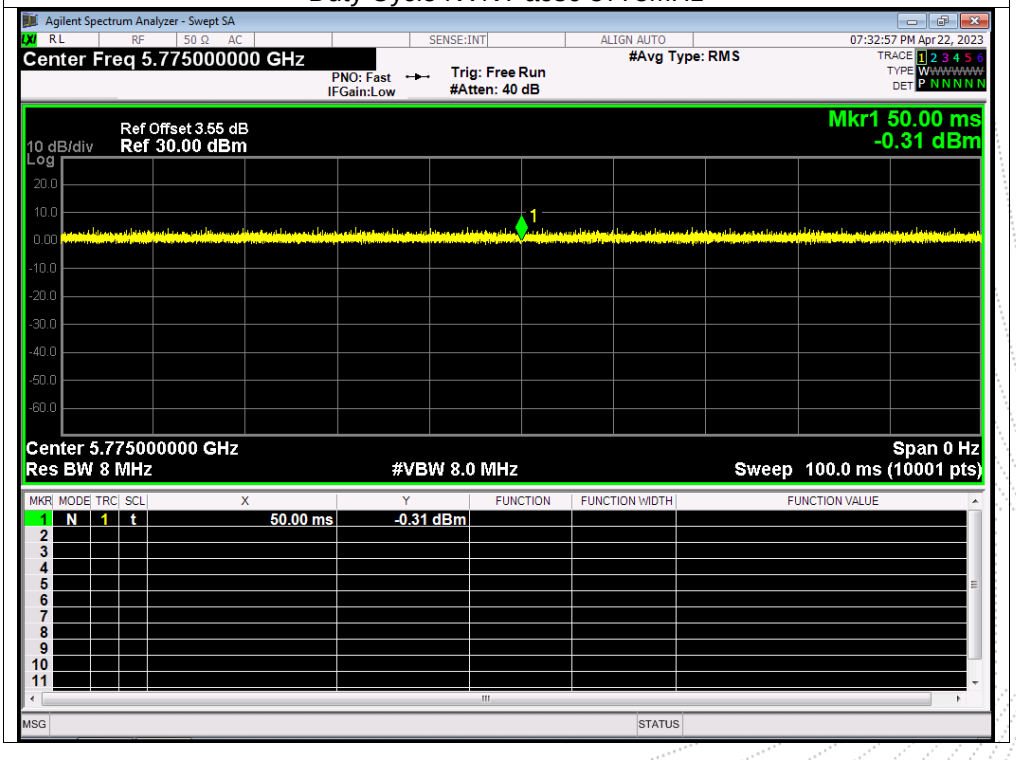
Duty Cycle NVNT ac40 5755MHz



Duty Cycle NVNT ac40 5795MHz



Duty Cycle NVNT ac80 5775MHz



15. Antenna Requirement

15.1 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.

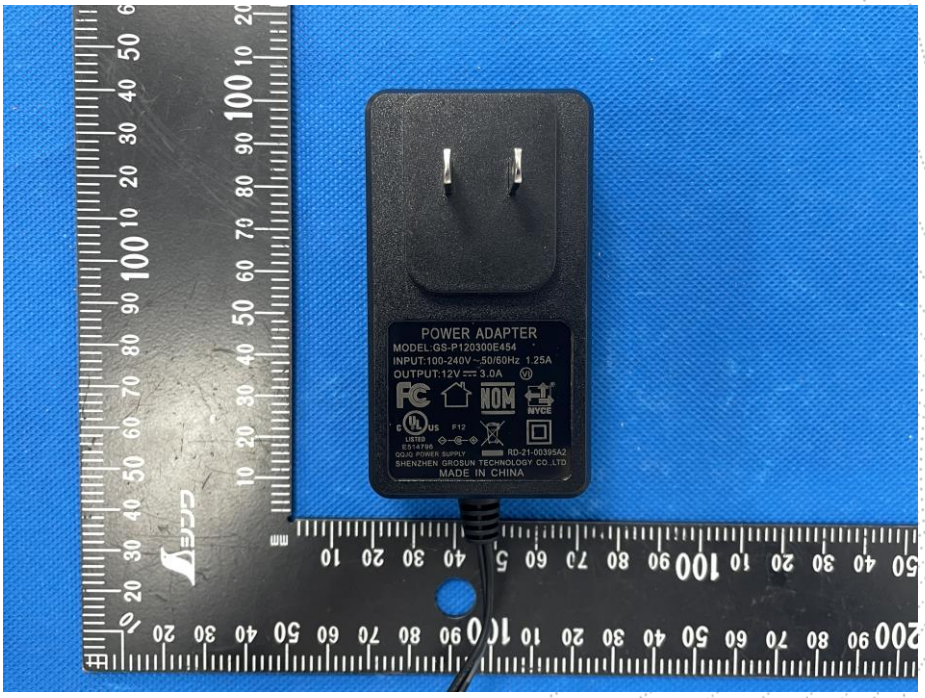
15.2 Test Result

The EUT antenna is Internal antenna (Antenna A gain:3.05 dBi, Antenna B gain: 2.59 dBi). It comply with the standard requirement.

16. EUT Photographs

EUT Photo 1

EUT Photo 2

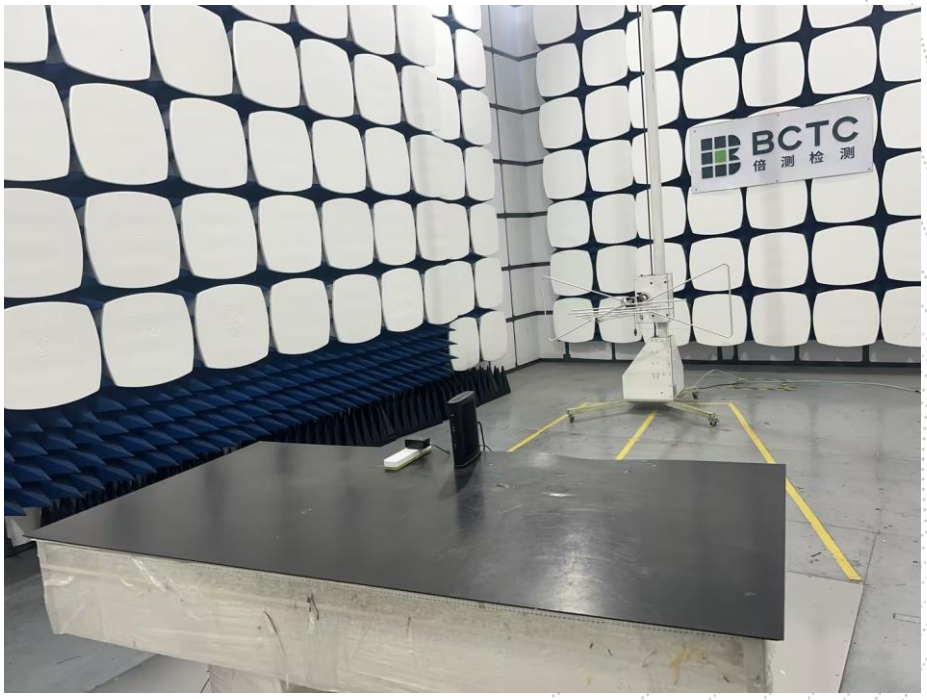


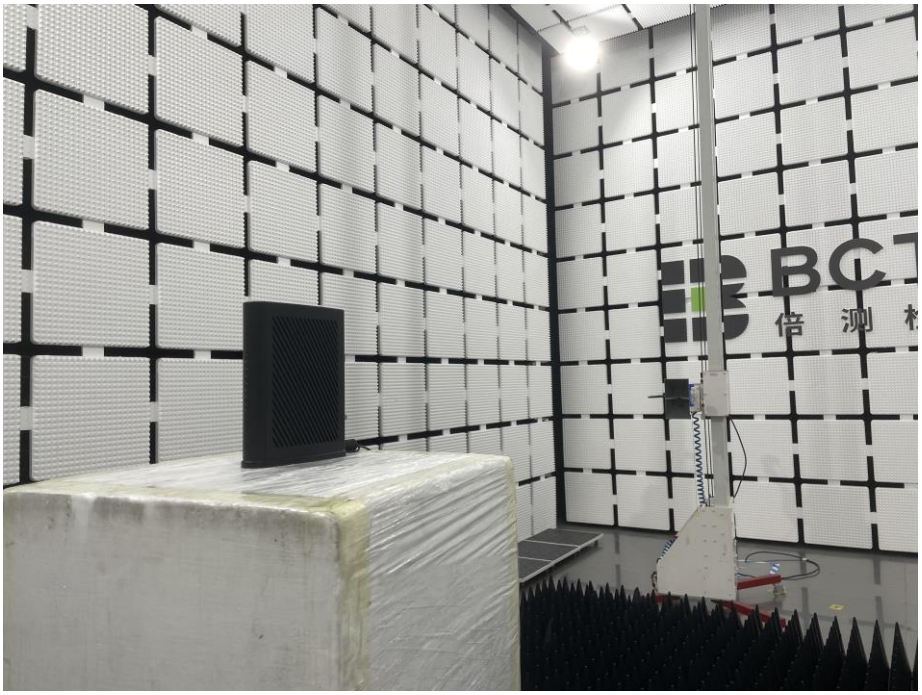
NOTE: Appendix-Photographs Of EUT Constructional Details.

17. EUT Test Setup Photographs

Conducted Measurement 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.

Address:
1-2/F., Building B, Pengzhou Industrial Park, No.158, Fuyuan 1st Road, Zhancheng, Fuhai Subdistrict, Bao'an District, Shenzhen, Guangdong, China

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P.C.: 518103

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Website: http://www.chnbctc.com

Consultation E-mail: bctc@bctc-lab.com.cn

Complaint/Advice E-mail: advice@bctc-lab.com.cn

※※※※※ END ※※※※※