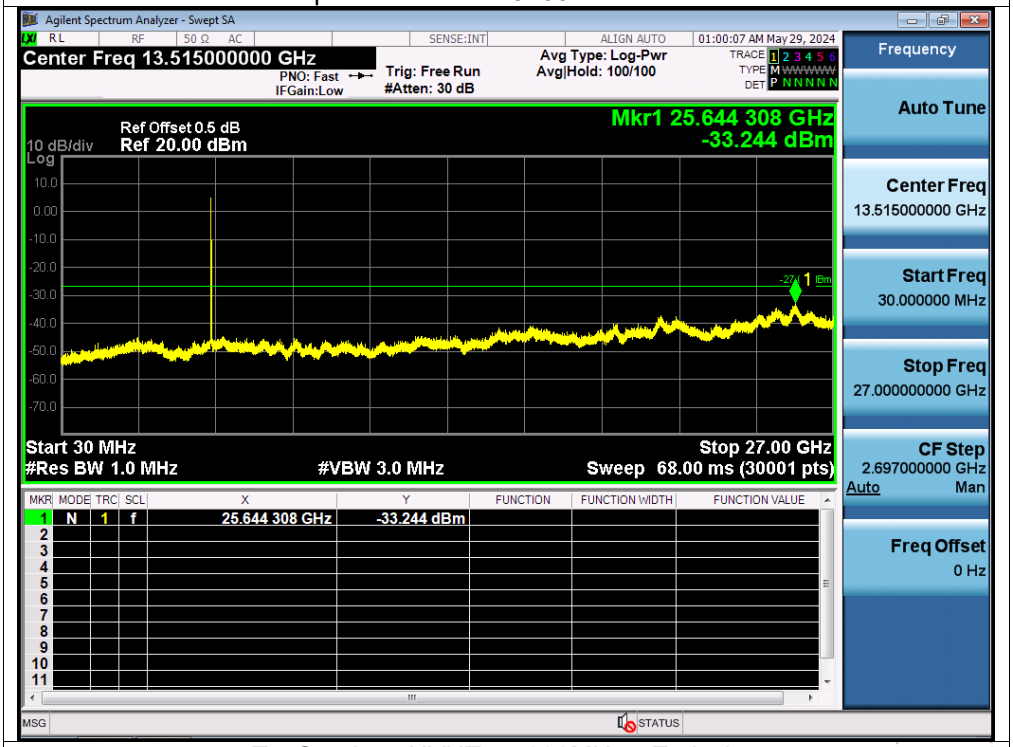
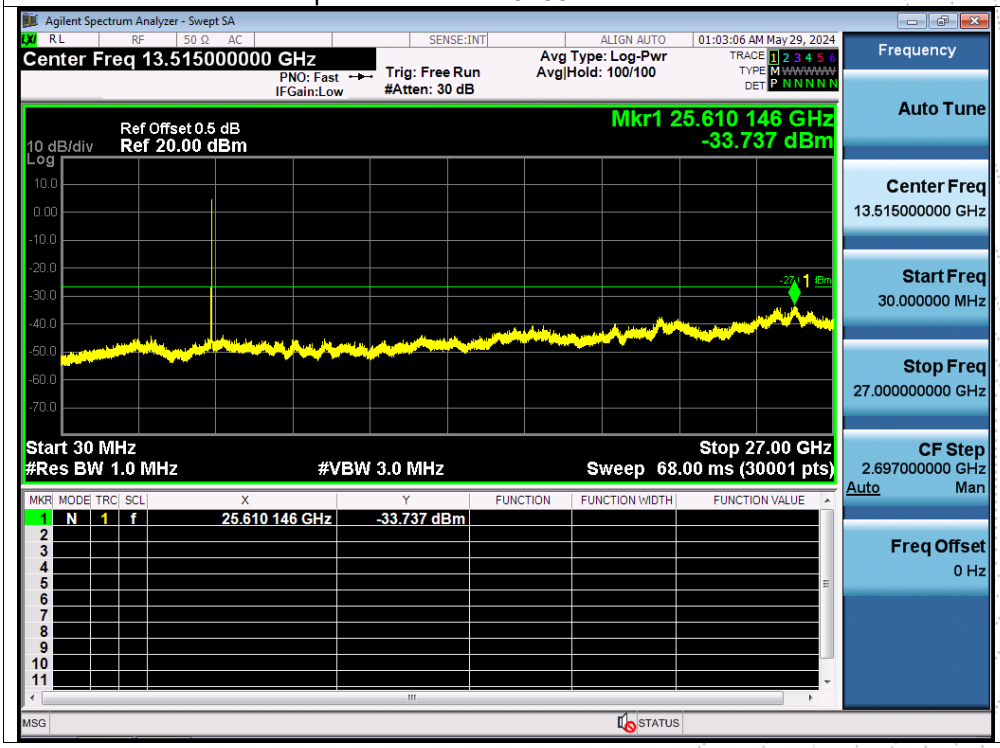
Note: A(B) Represent the value of antenna A and B, The worst data is Antenna A, only shown Antenna A.
Antenna A: 5260-5320MHz

Test Graphs

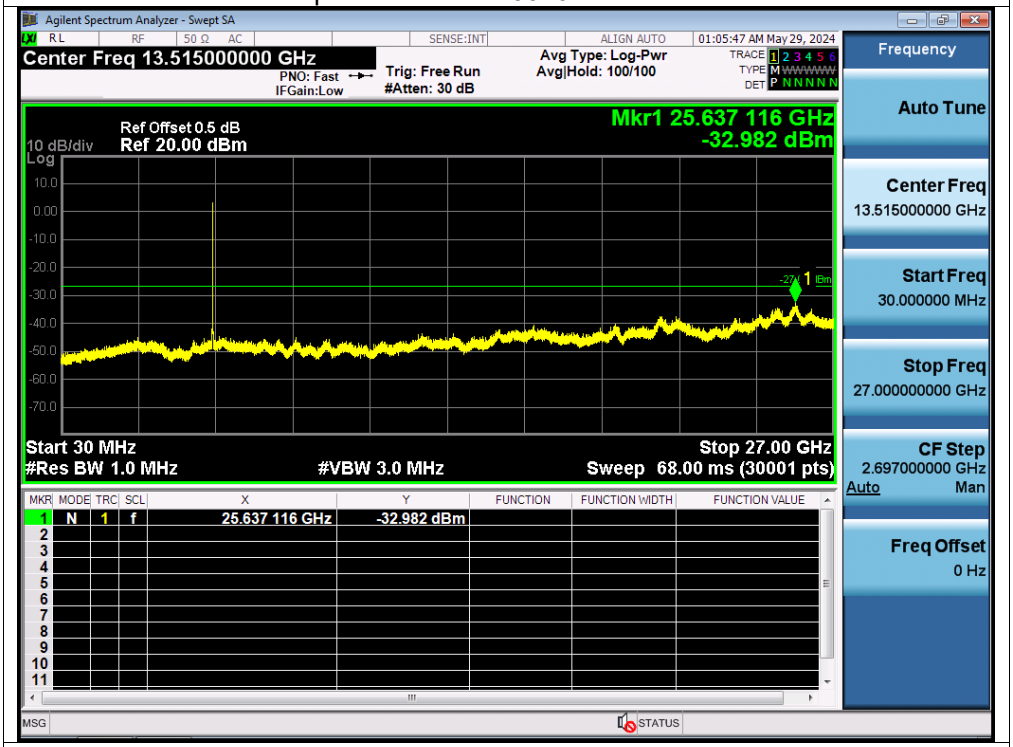
Tx. Spurious NVNT a 5260MHz Emission



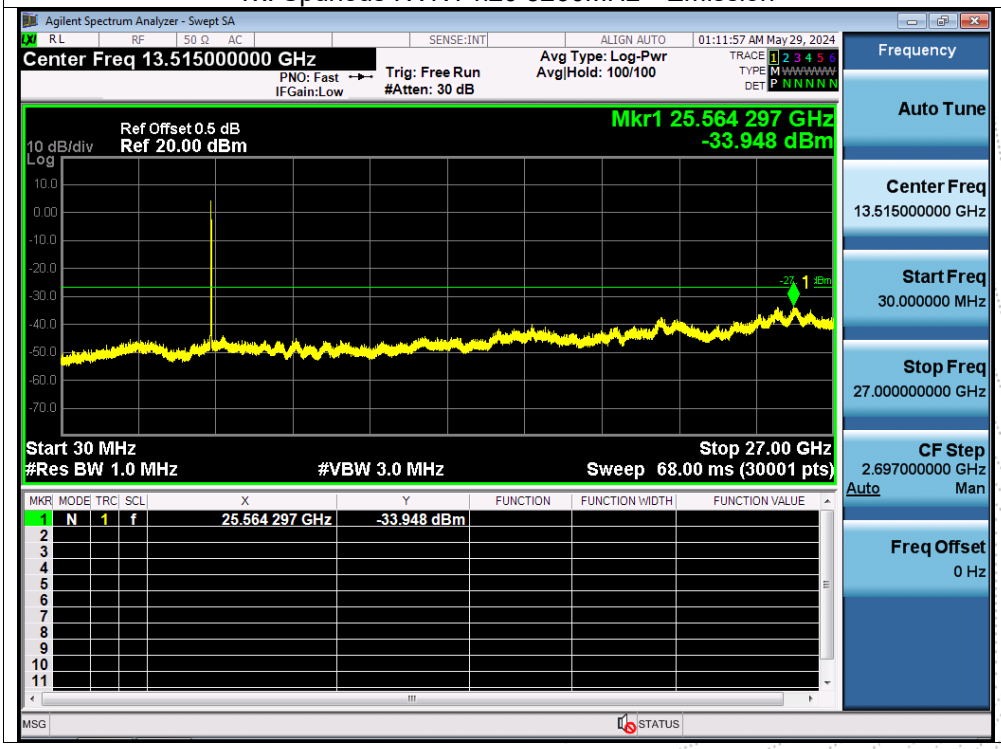
Tx. Spurious NVNT a 5280MHz Emission



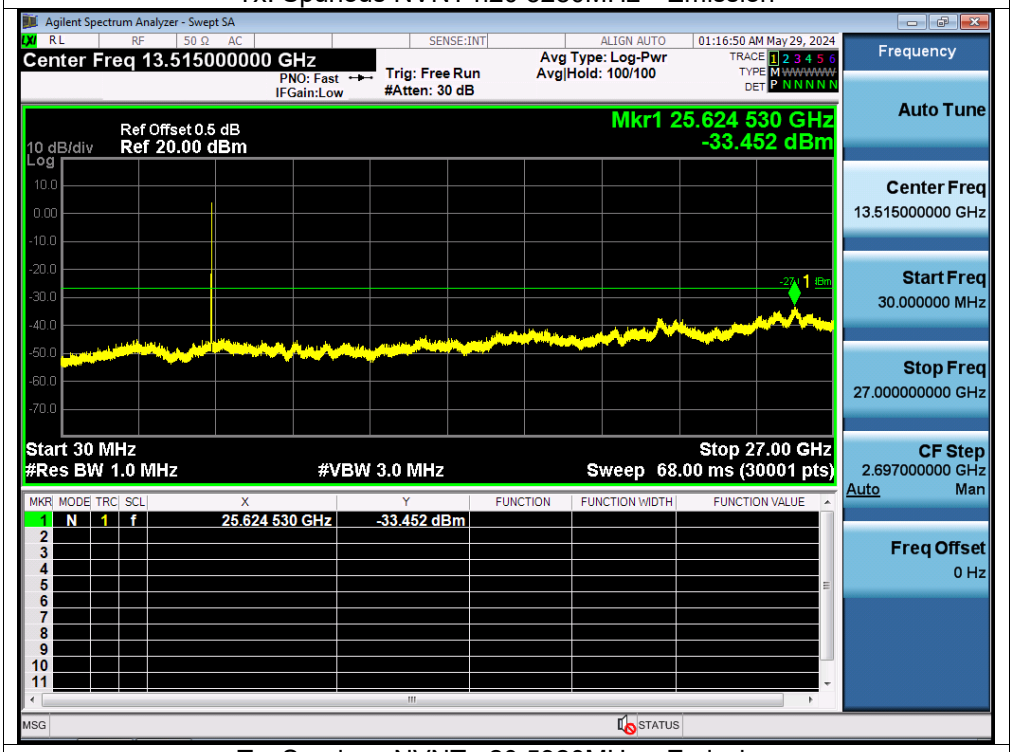
Tx. Spurious NVNT a 5320MHz Emission



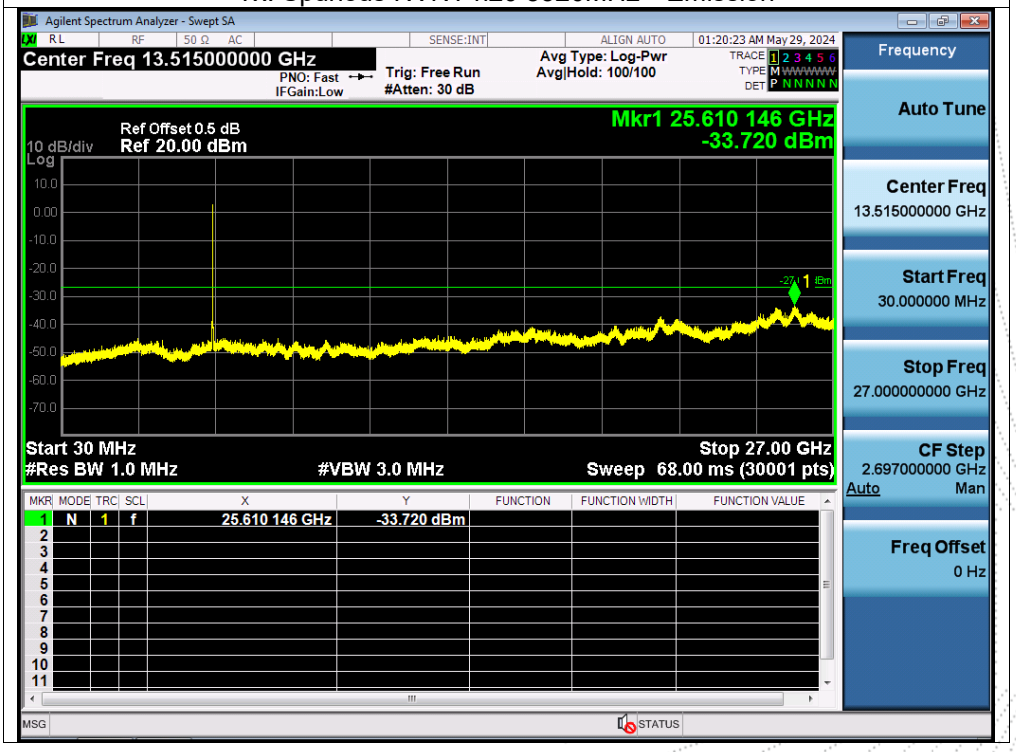
Tx. Spurious NVNT n20 5260MHz Emission



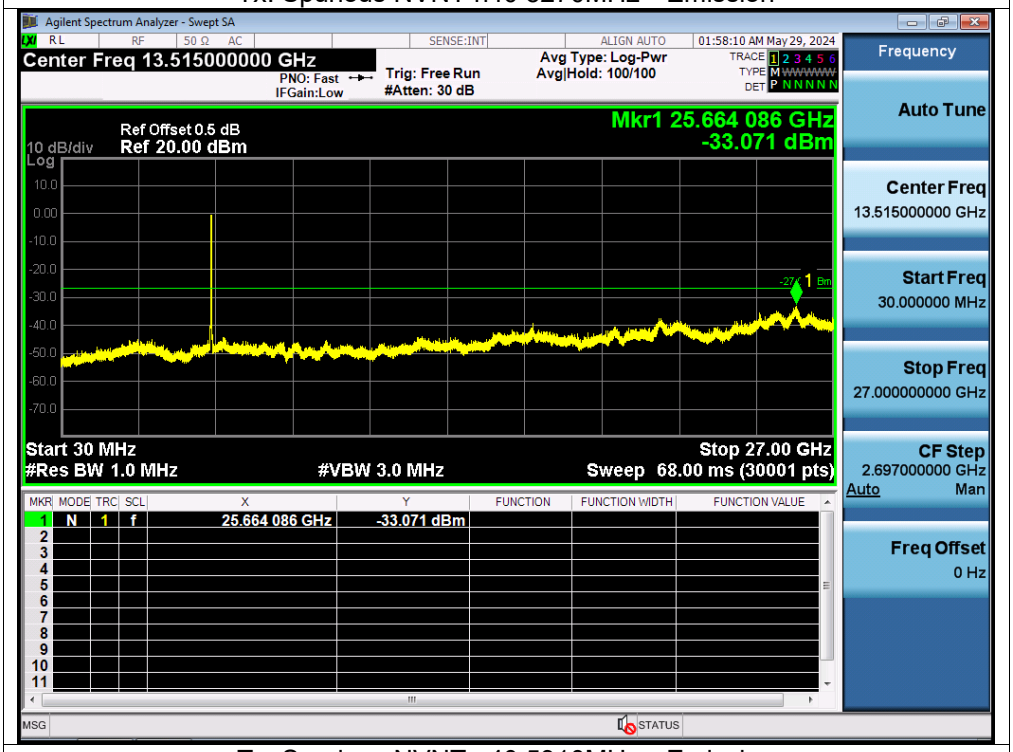
Tx. Spurious NVNT n20 5280MHz Emission



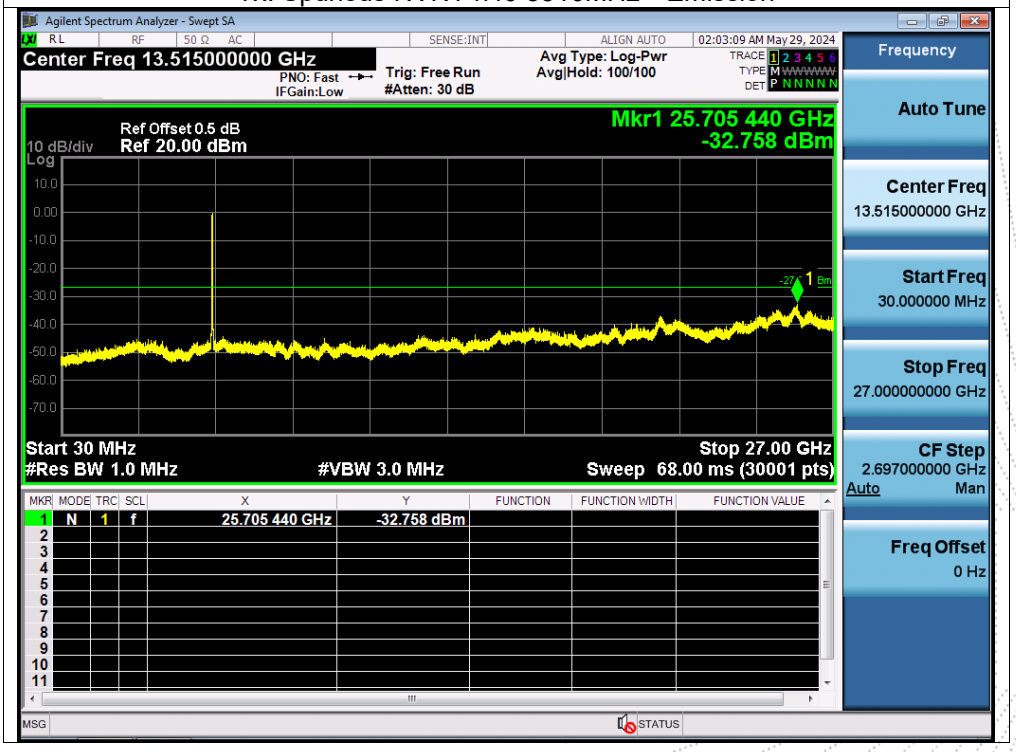
Tx. Spurious NVNT n20 5320MHz Emission



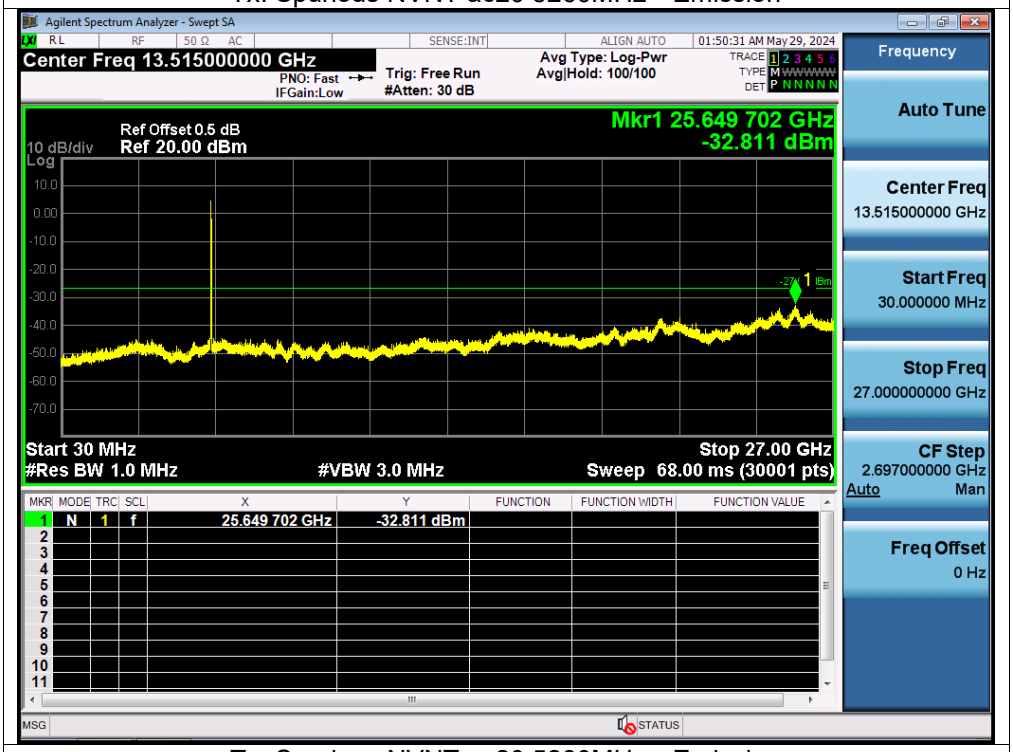
Tx. Spurious NVNT n40 5270MHz Emission



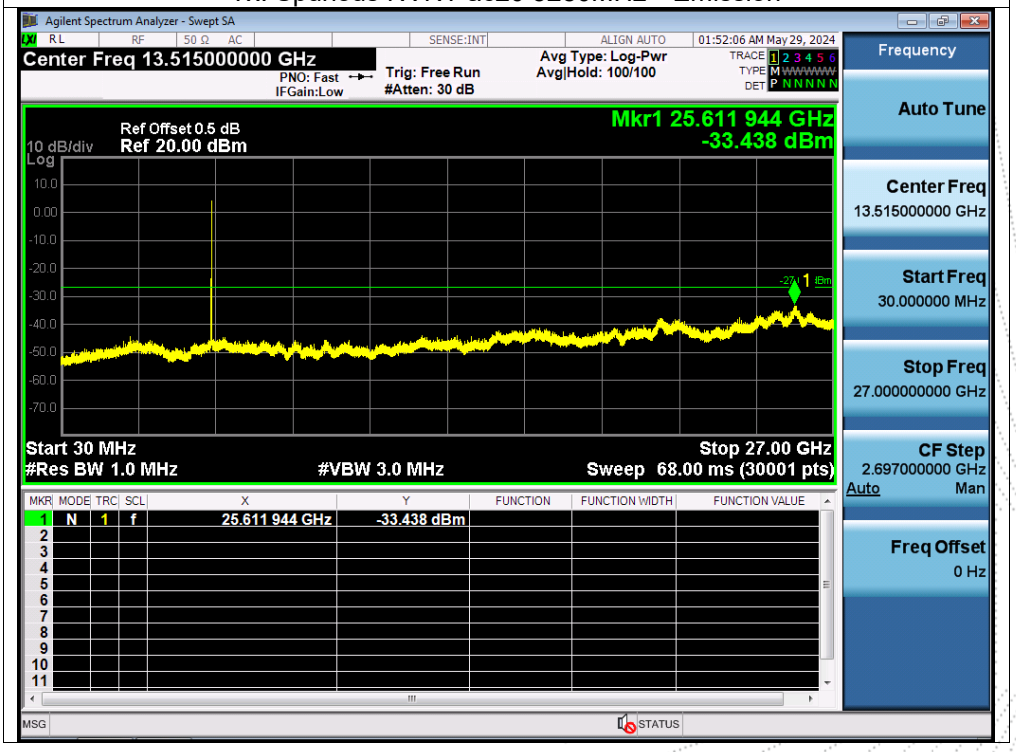
Tx. Spurious NVNT n40 5310MHz Emission



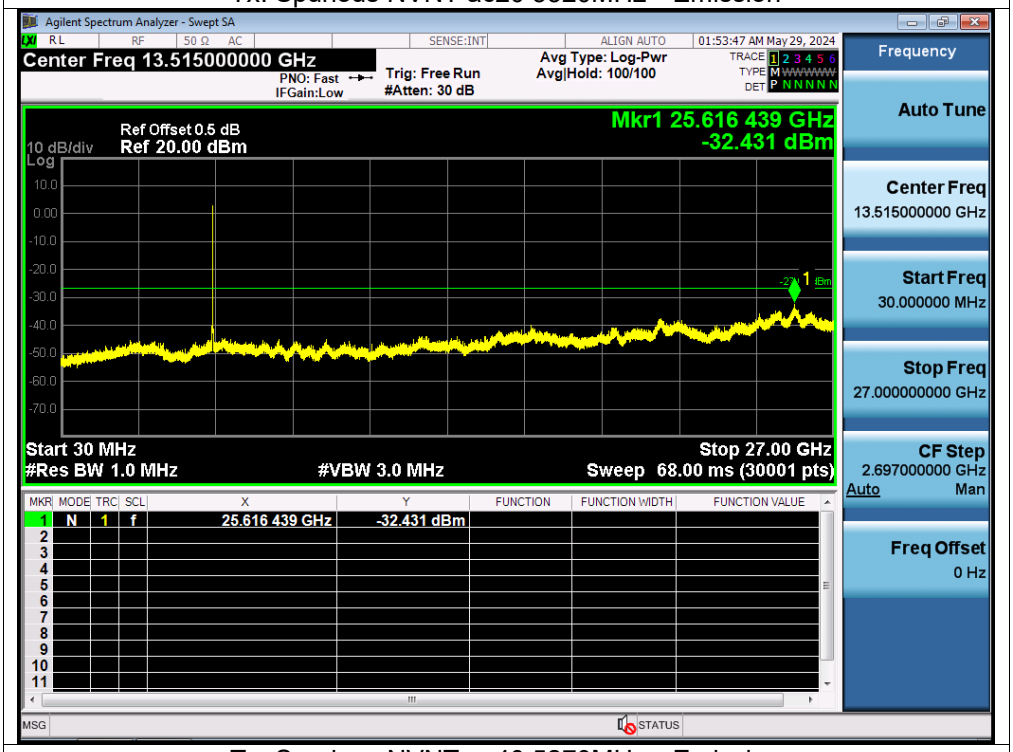
Tx. Spurious NVNT ac20 5260MHz Emission



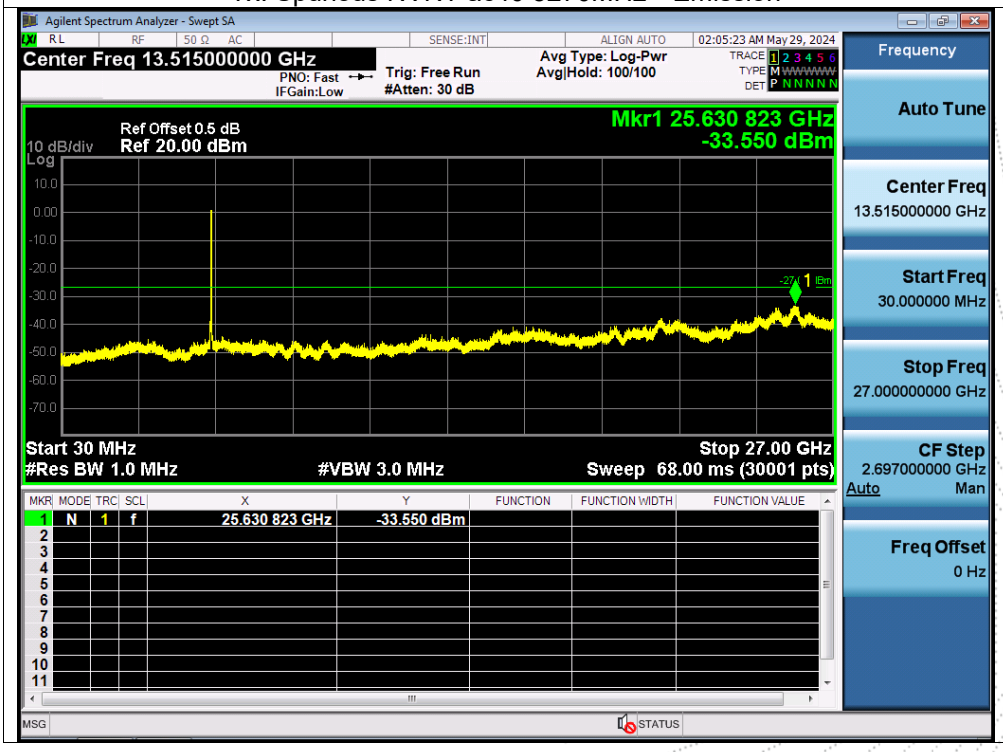
Tx. Spurious NVNT ac20 5280MHz Emission



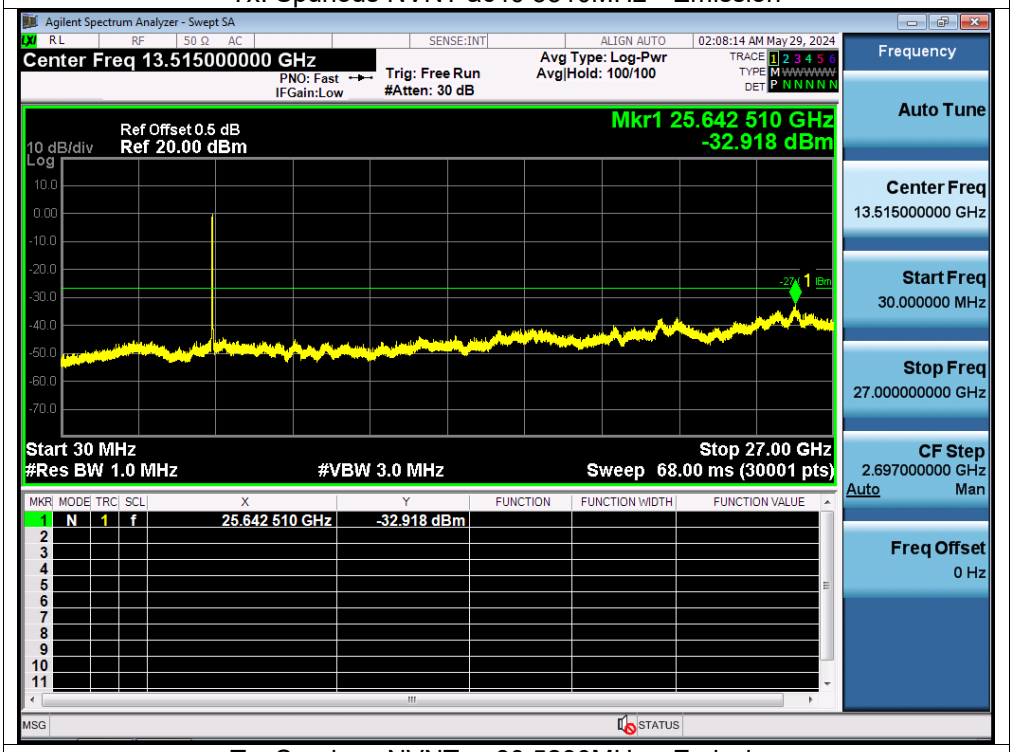
Tx. Spurious NVNT ac20 5320MHz Emission



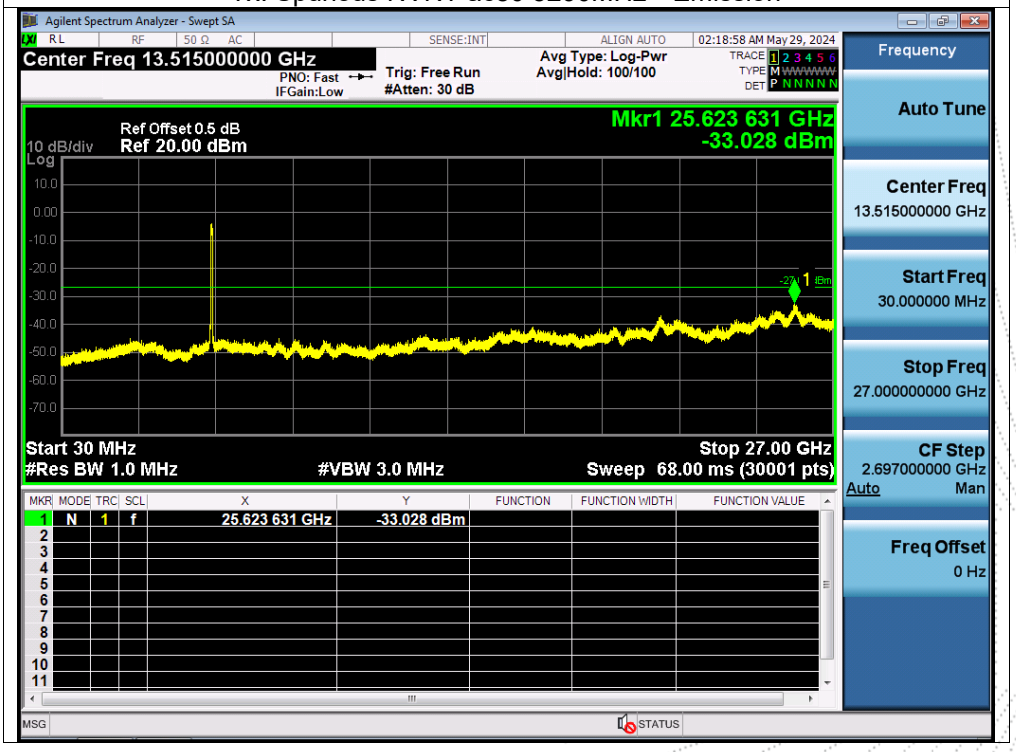
Tx. Spurious NVNT ac40 5270MHz Emission



Tx. Spurious NVNT ac40 5310MHz Emission



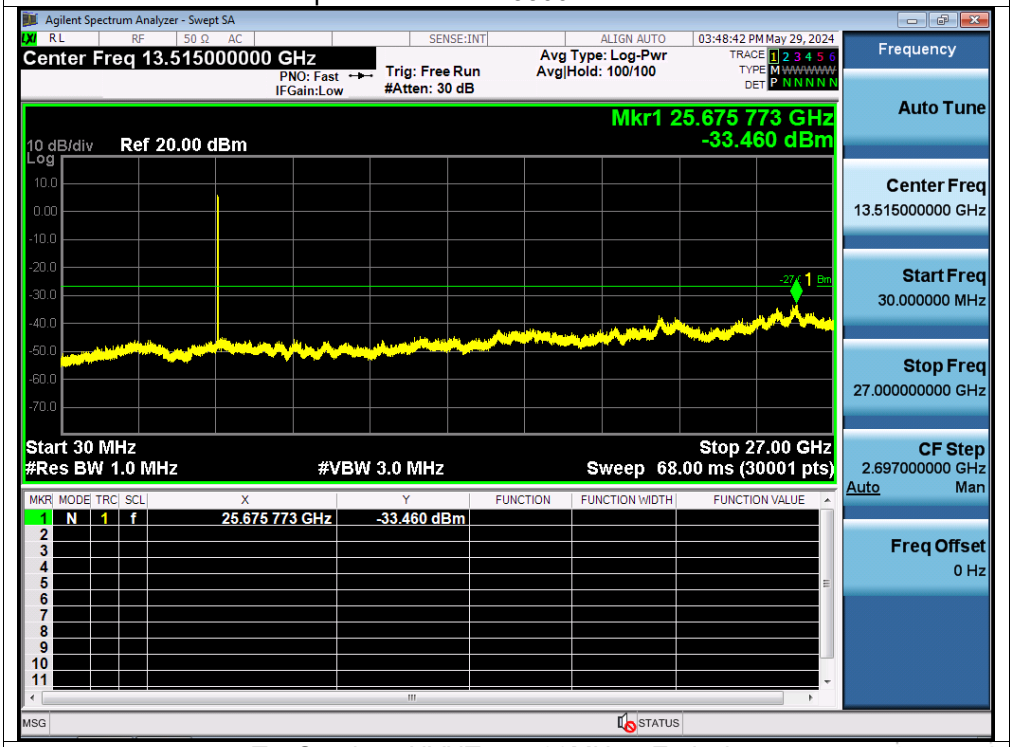
Tx. Spurious NVNT ac80 5290MHz Emission



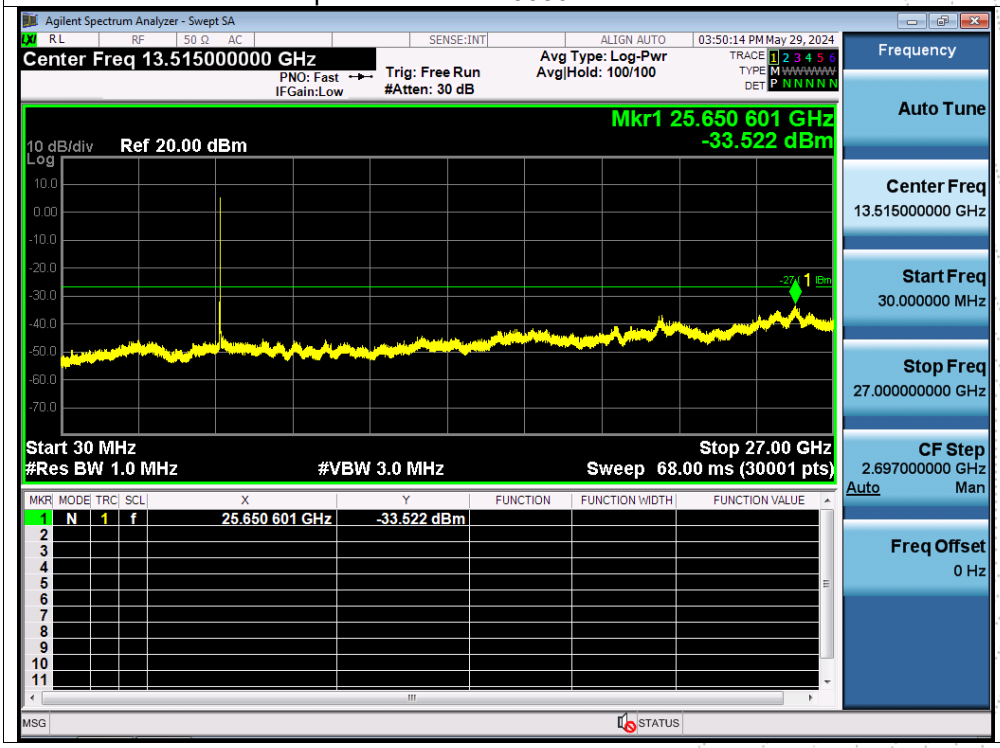
Note: A(B) Represent the value of antenna A and B, The worst data is Antenna A, only shown Antenna A.
Antenna A: 5500-5700MHz

Test Graphs

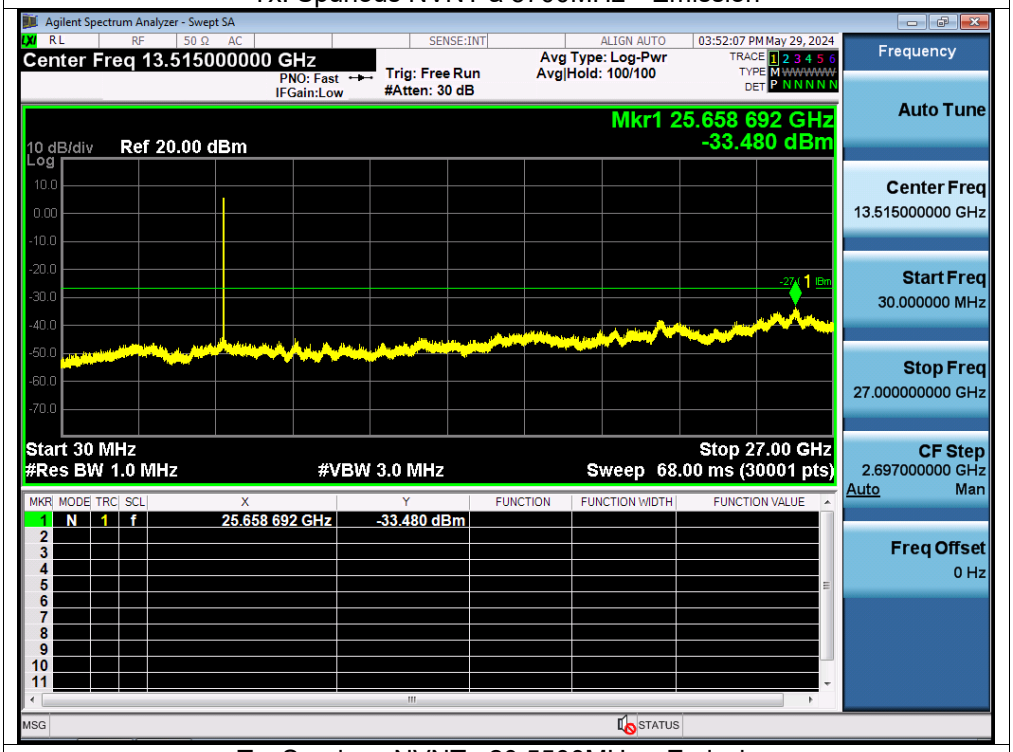
Tx. Spurious NVNT a 5500MHz Emission



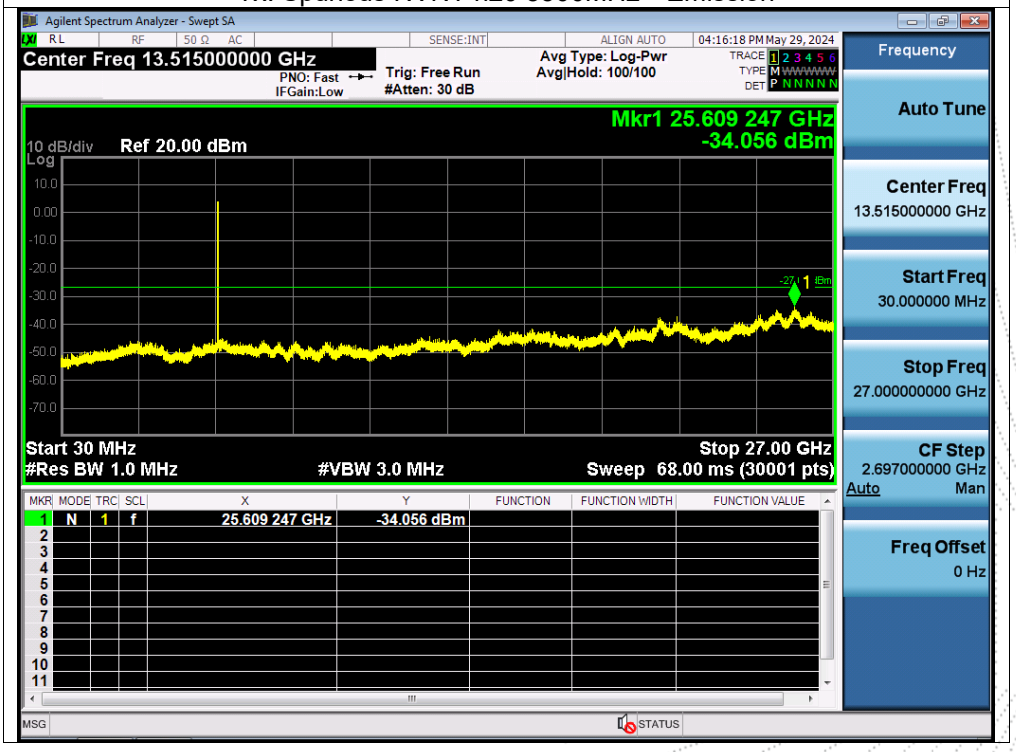
Tx. Spurious NVNT a 5580MHz Emission



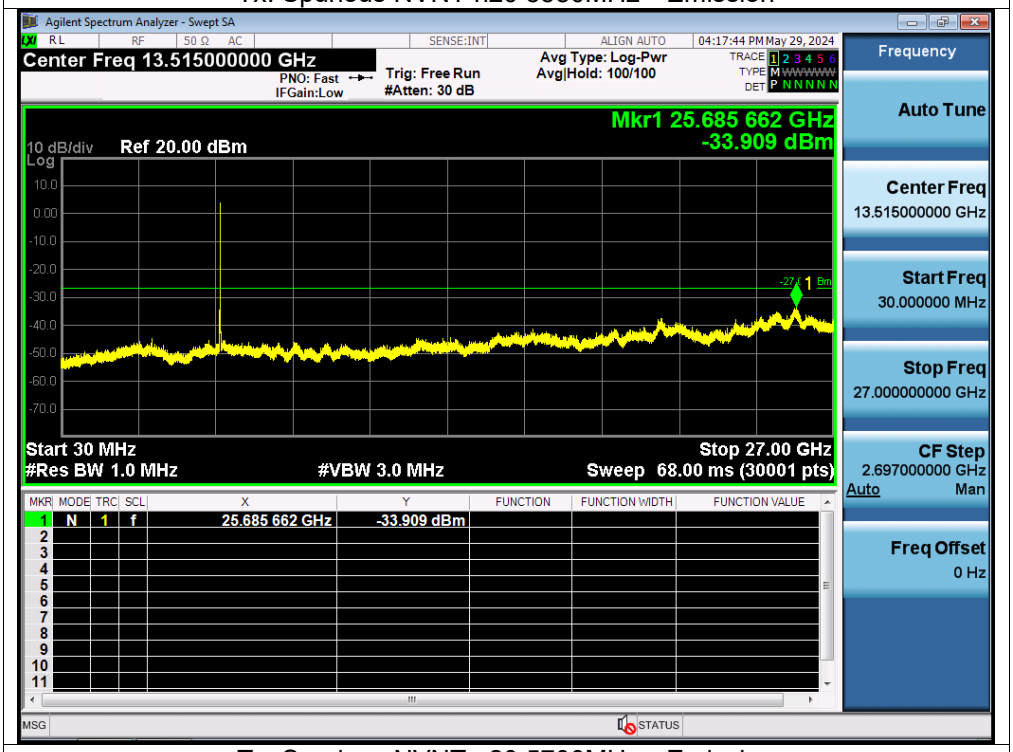
Tx. Spurious NVNT a 5700MHz Emission



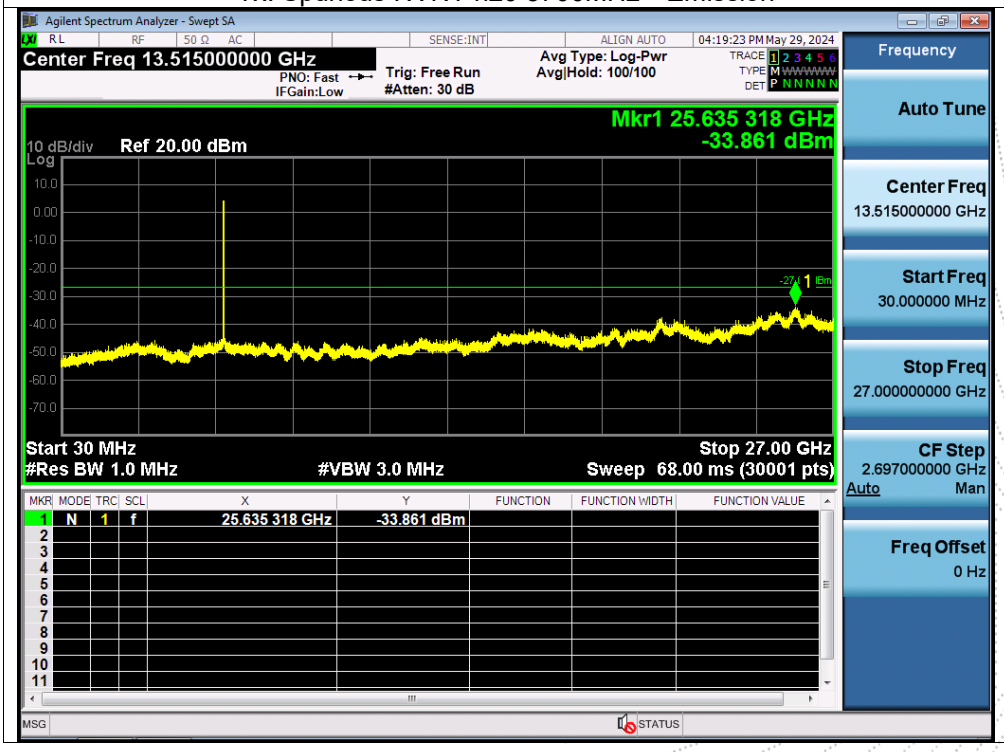
Tx. Spurious NVNT n20 5500MHz Emission



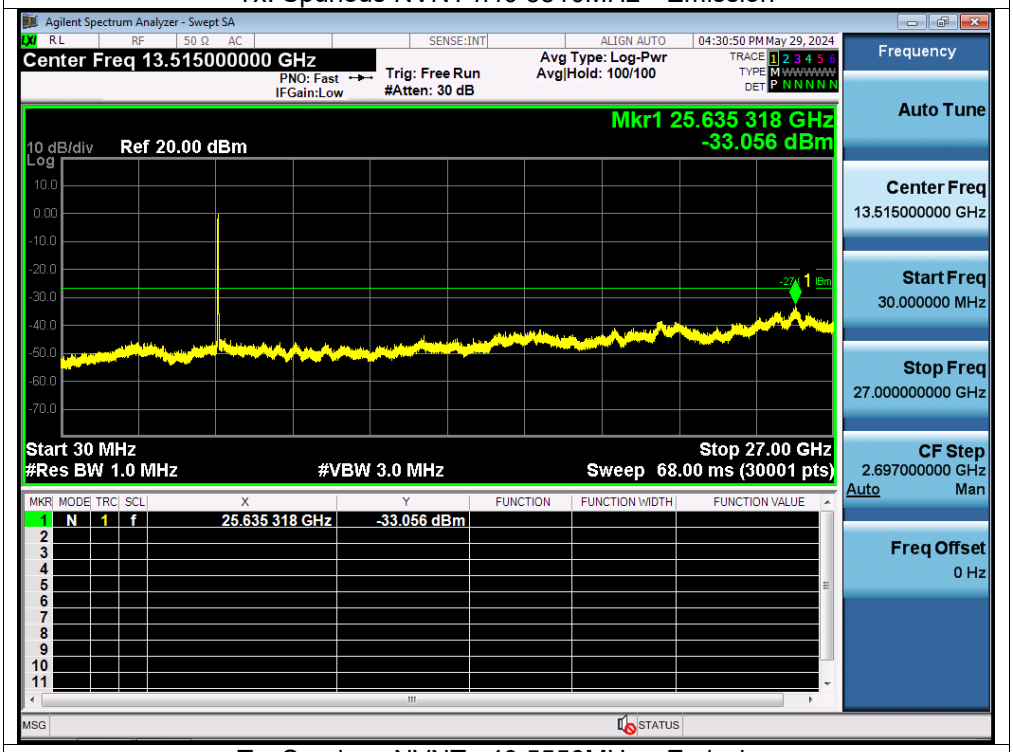
Tx. Spurious NVNT n20 5580MHz Emission



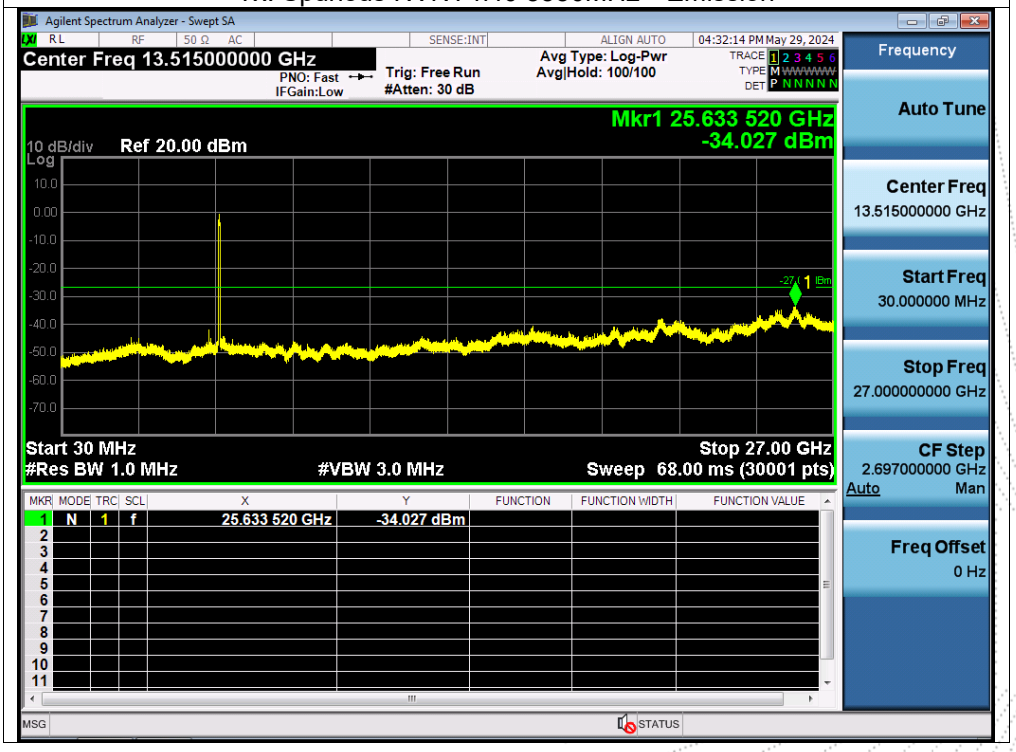
Tx. Spurious NVNT n20 5700MHz Emission



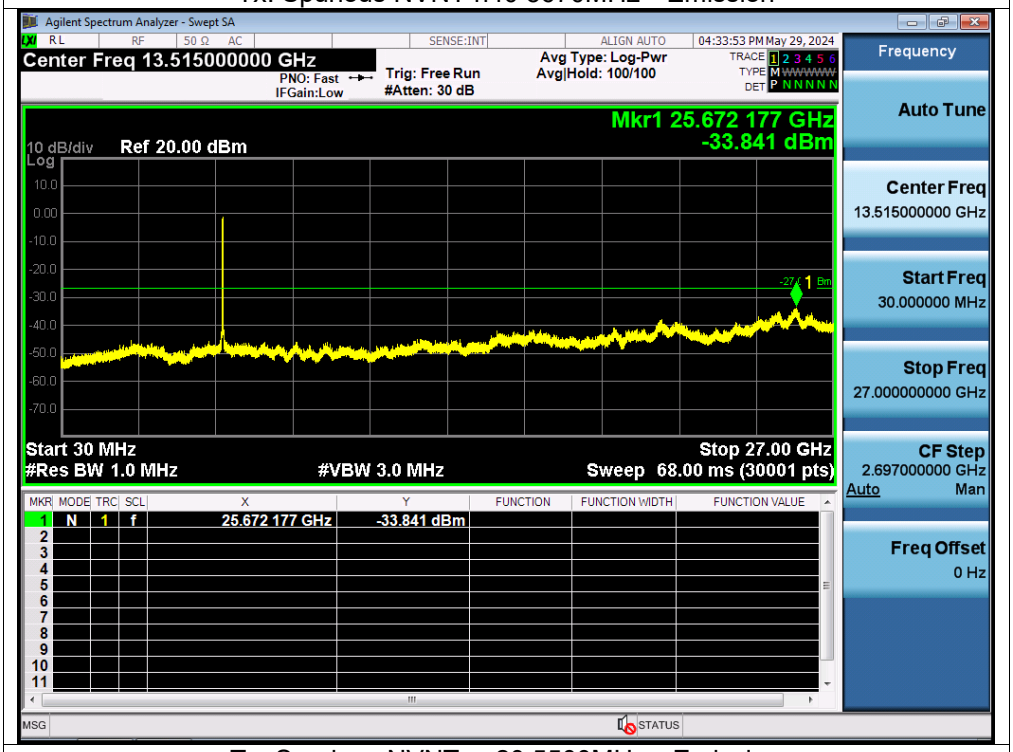
Tx. Spurious NVNT n40 5510MHz Emission



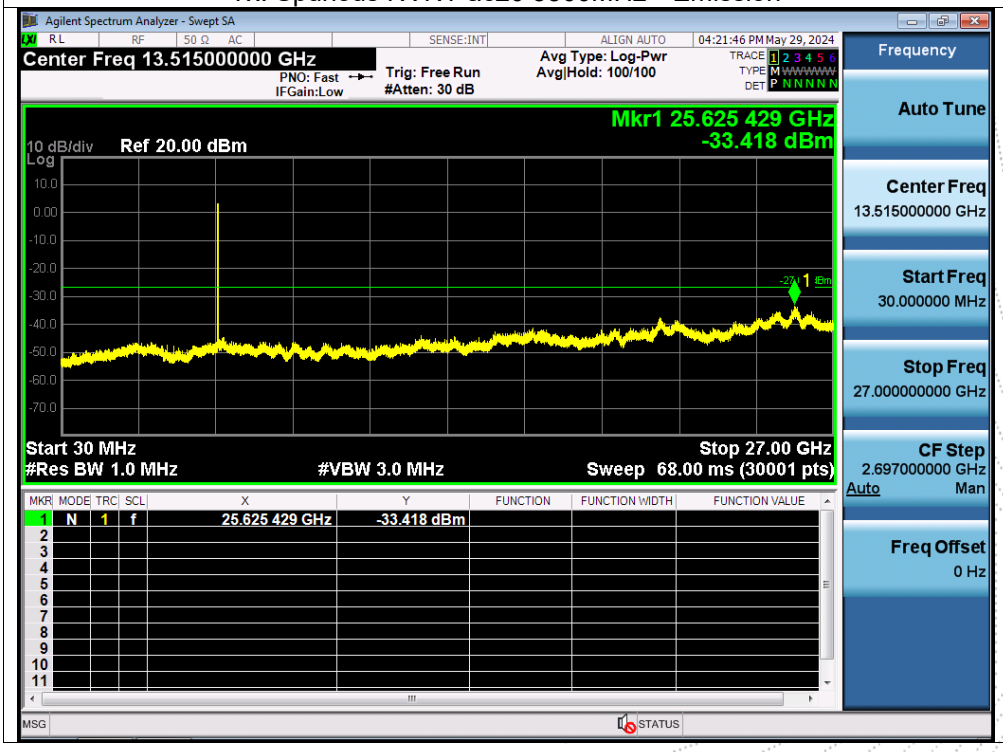
Tx. Spurious NVNT n40 5550MHz Emission



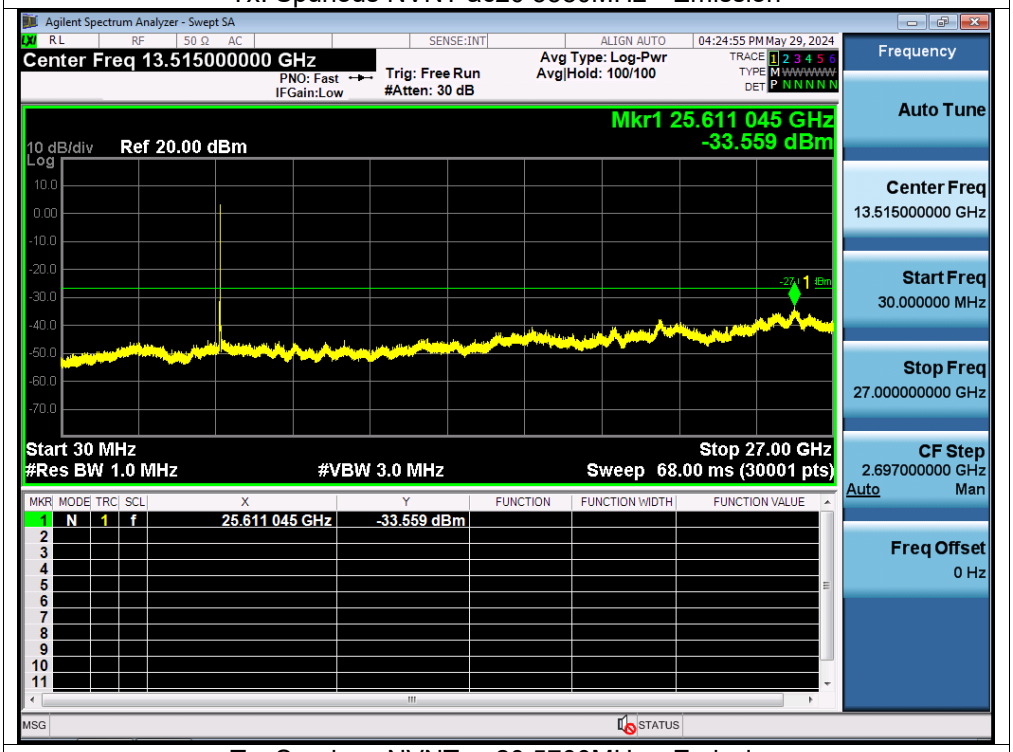
Tx. Spurious NVNT n40 5670MHz Emission



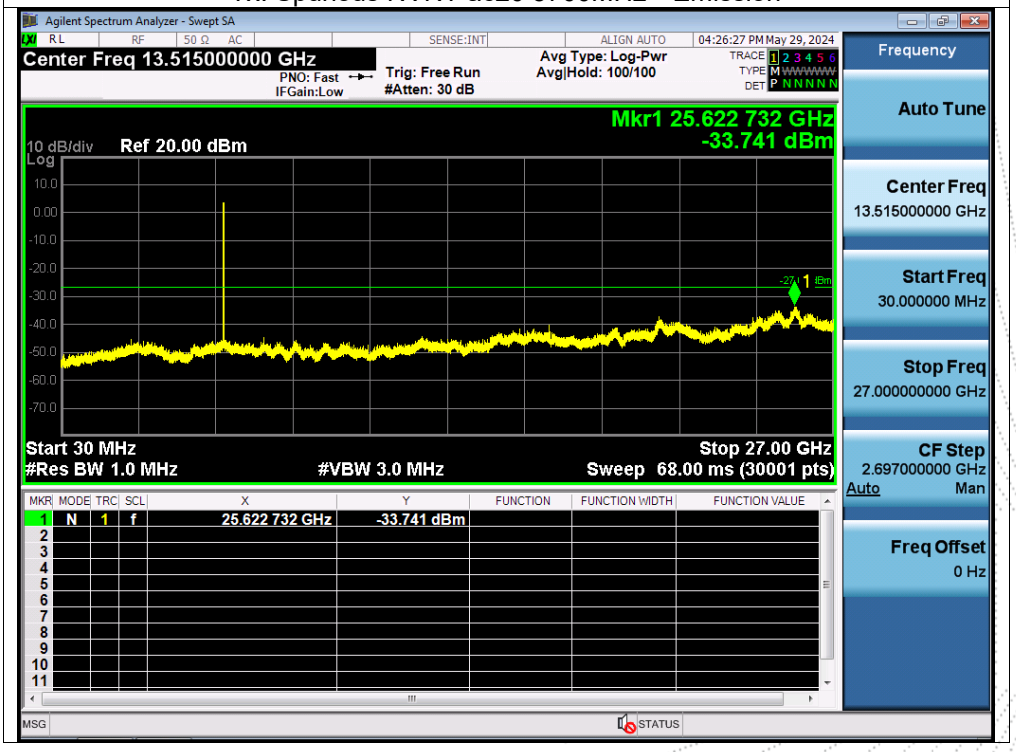
Tx. Spurious NVNT ac20 5500MHz Emission



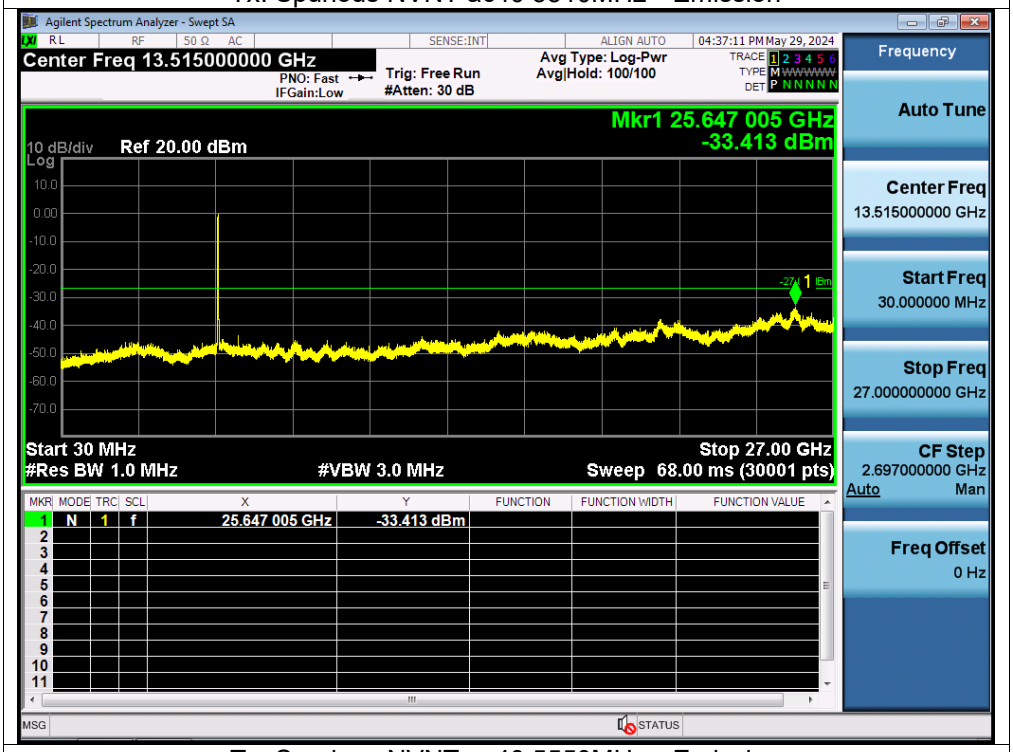
Tx. Spurious NVNT ac20 5580MHz Emission



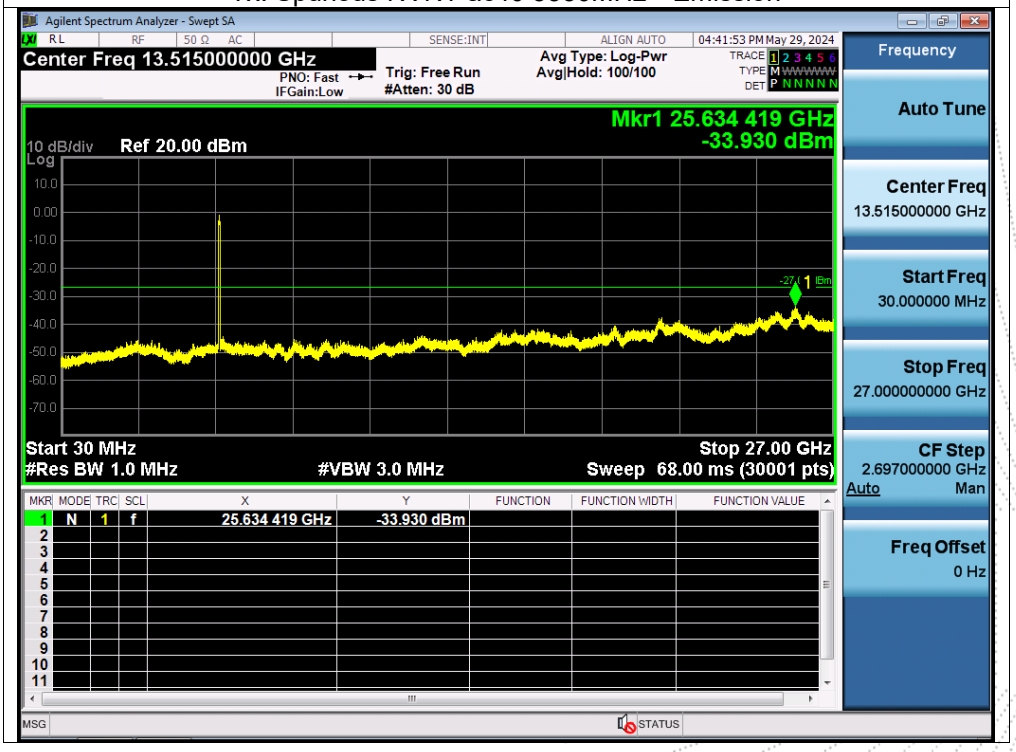
Tx. Spurious NVNT ac20 5700MHz Emission



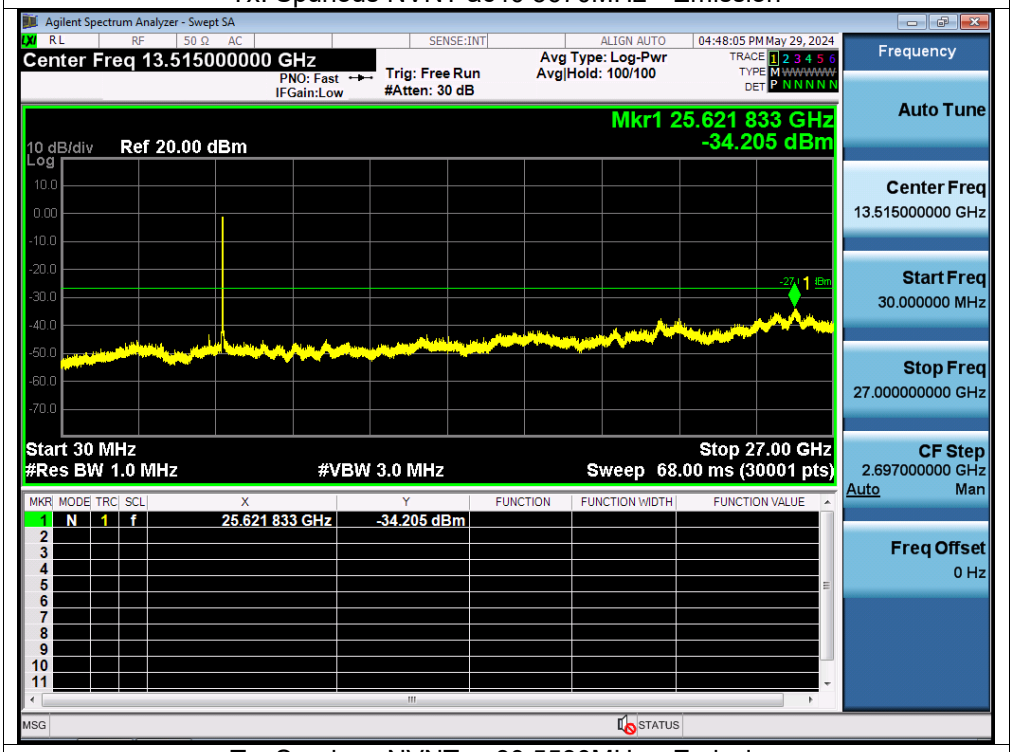
Tx. Spurious NVNT ac40 5510MHz Emission



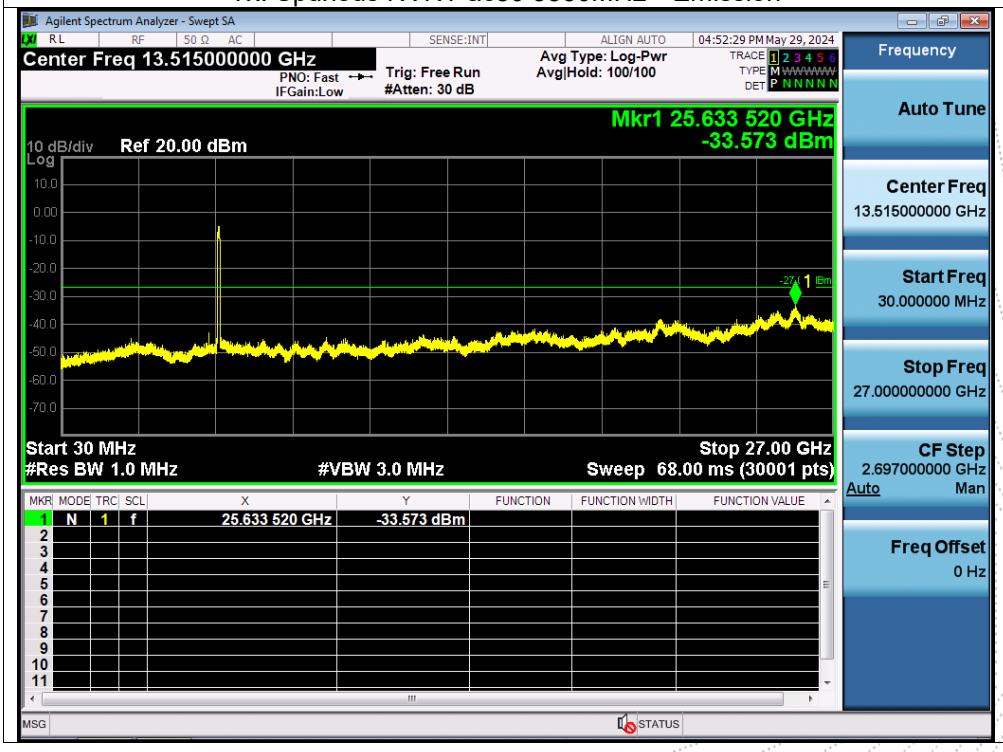
Tx. Spurious NVNT ac40 5550MHz Emission



Tx. Spurious NVNT ac40 5670MHz Emission



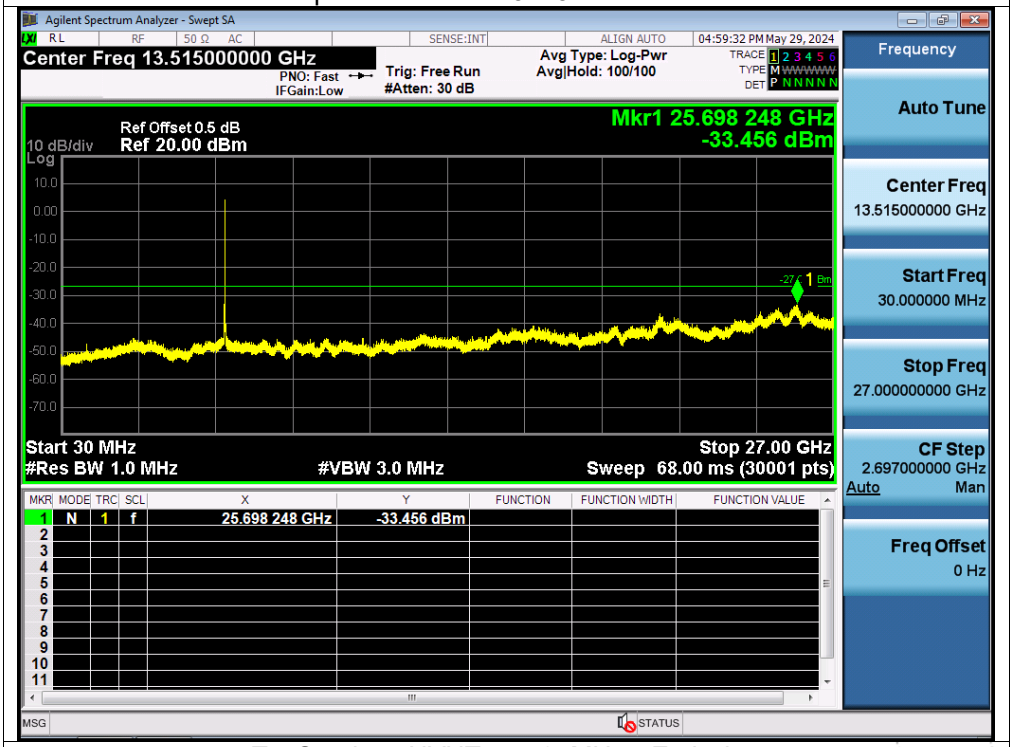
Tx. Spurious NVNT ac80 5530MHz Emission



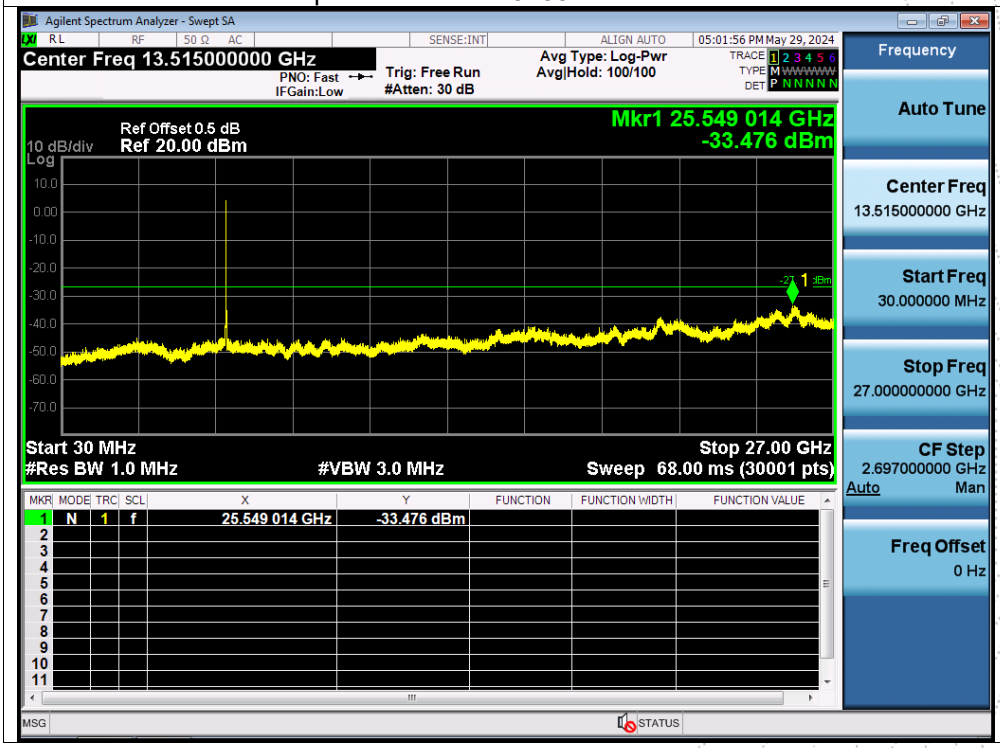
Note: A(B) Represent the value of antenna A and B, The worst data is Antenna A, only shown Antenna A Plot. Antenna A: 5745-5825 MHz

Test Graphs

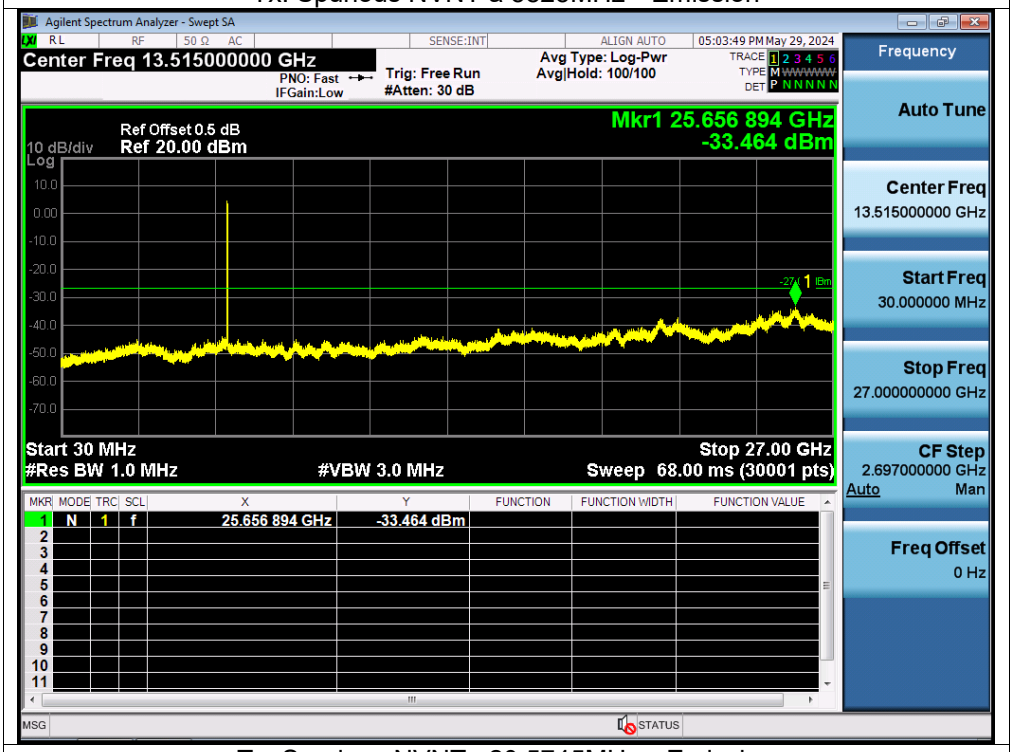
Tx. Spurious NVNT a 5745MHz Emission



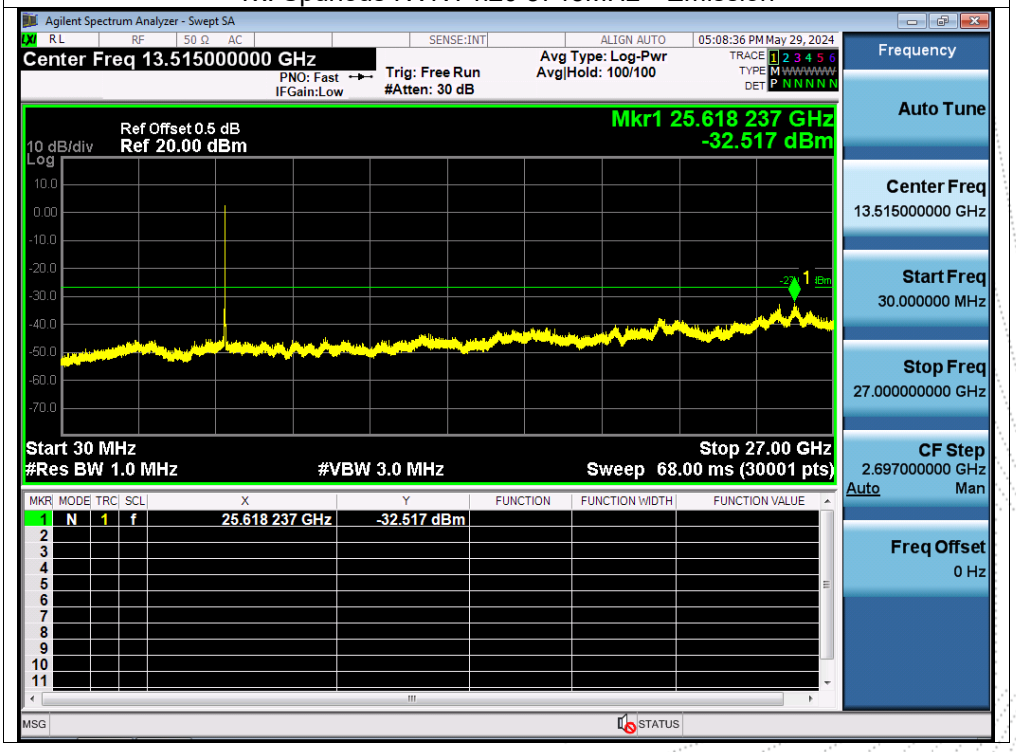
Tx. Spurious NVNT a 5785MHz Emission



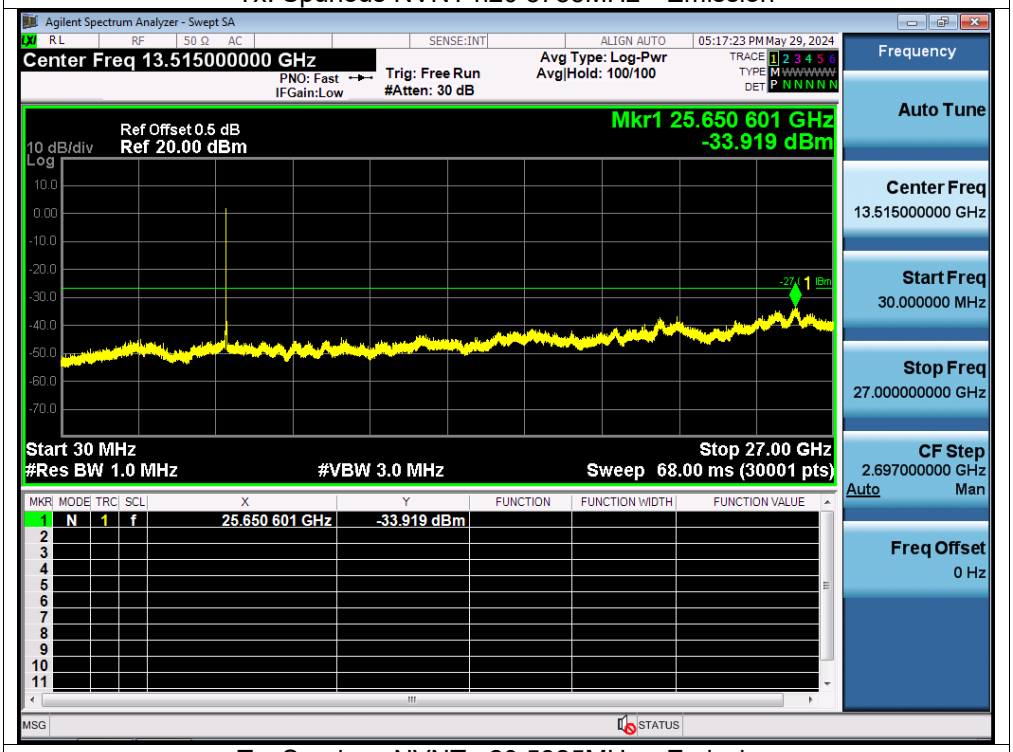
Tx. Spurious NVNT a 5825MHz Emission



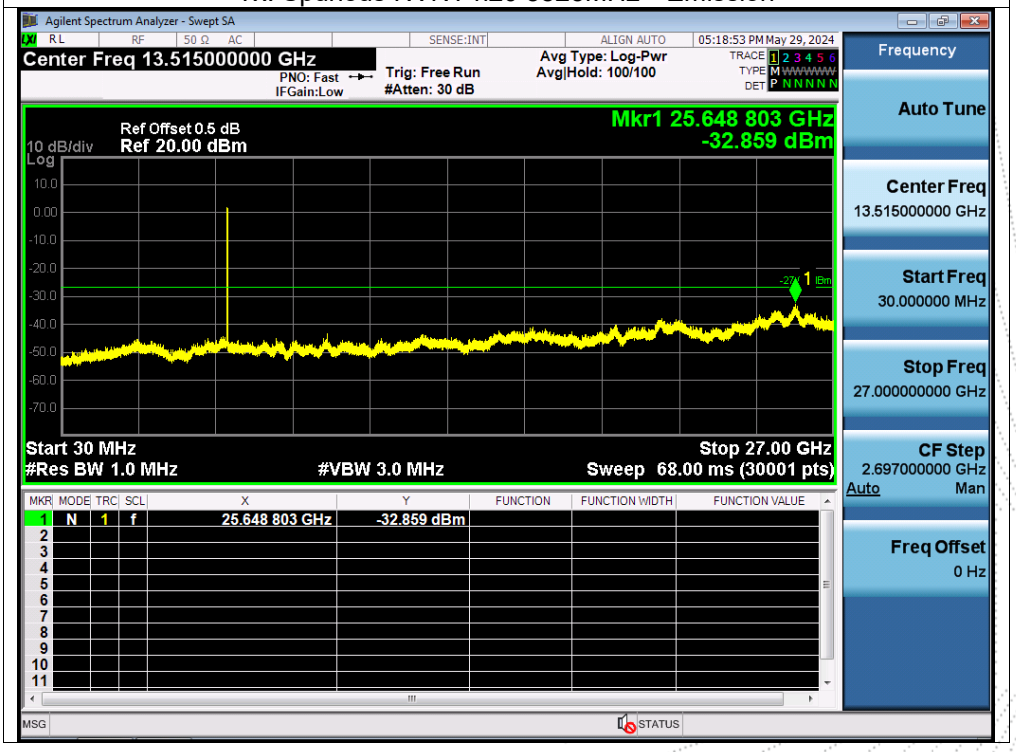
Tx. Spurious NVNT n20 5745MHz Emission



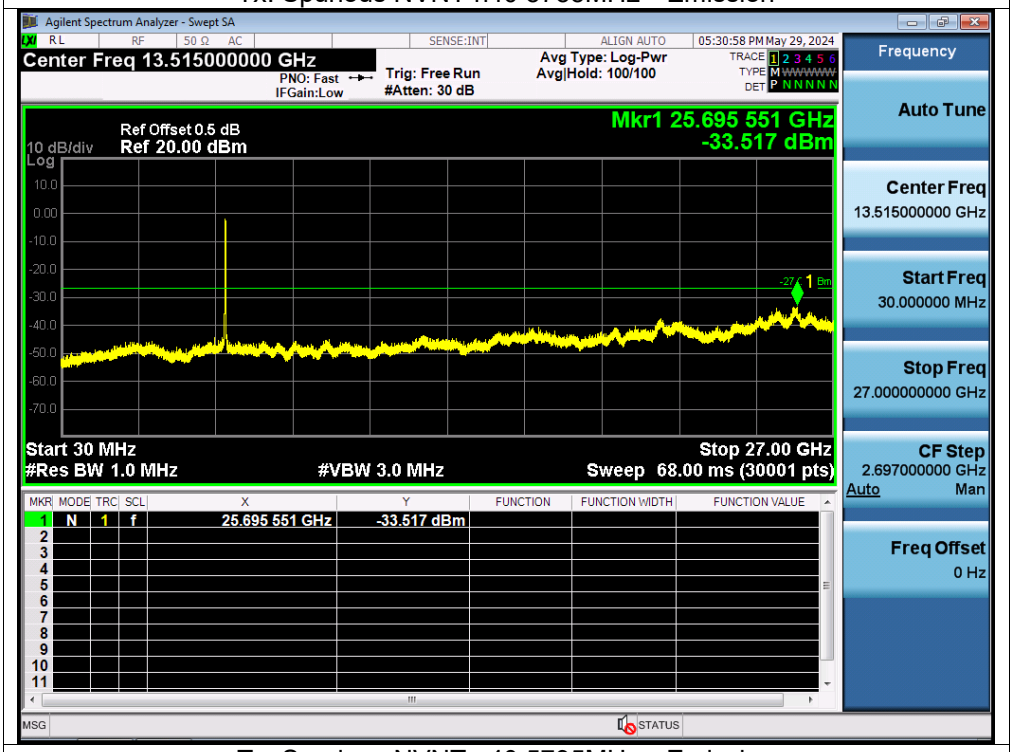
Tx. Spurious NVNT n20 5785MHz Emission



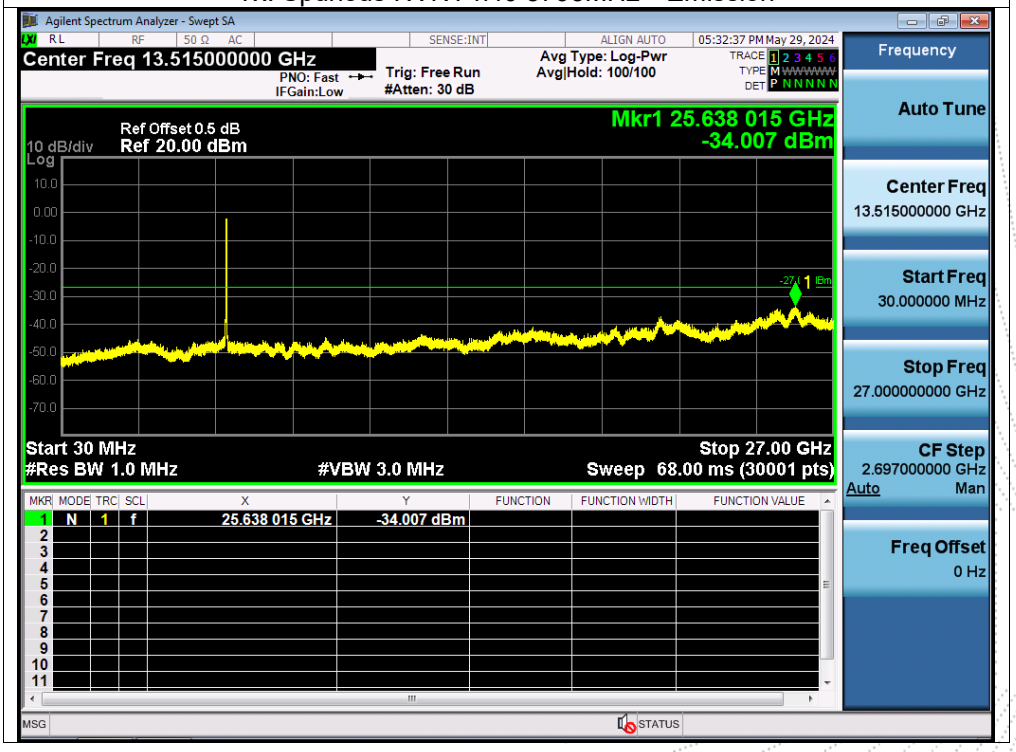
Tx. Spurious NVNT n20 5825MHz Emission



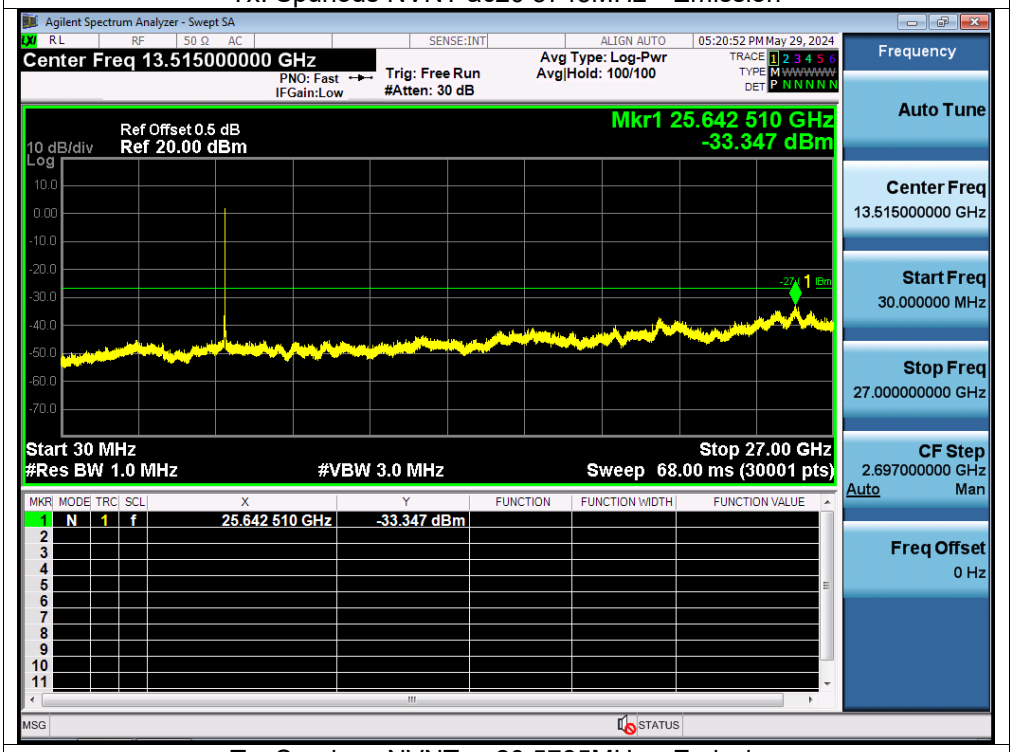
Tx. Spurious NVNT n40 5755MHz Emission



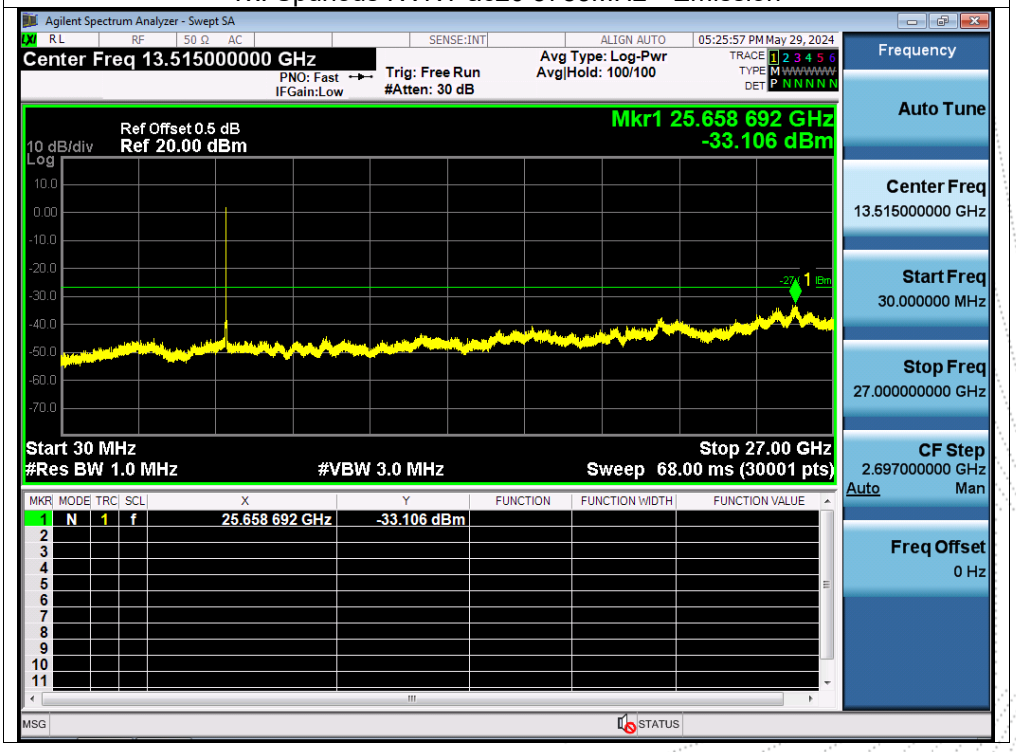
Tx. Spurious NVNT n40 5795MHz Emission



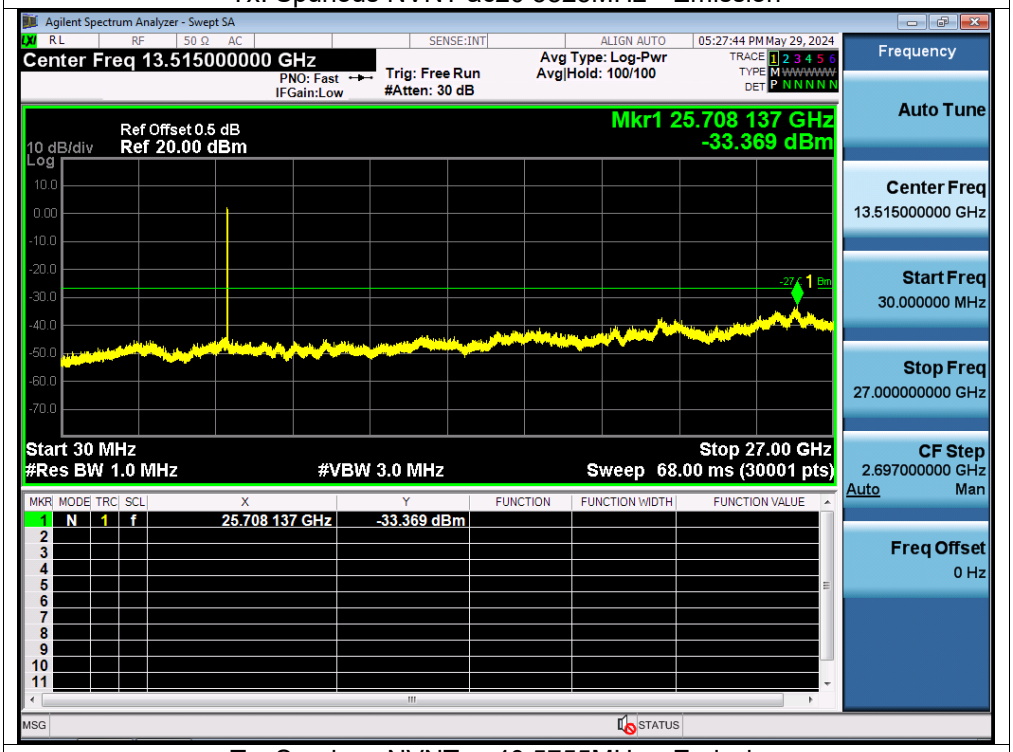
Tx. Spurious NVNT ac20 5745MHz Emission



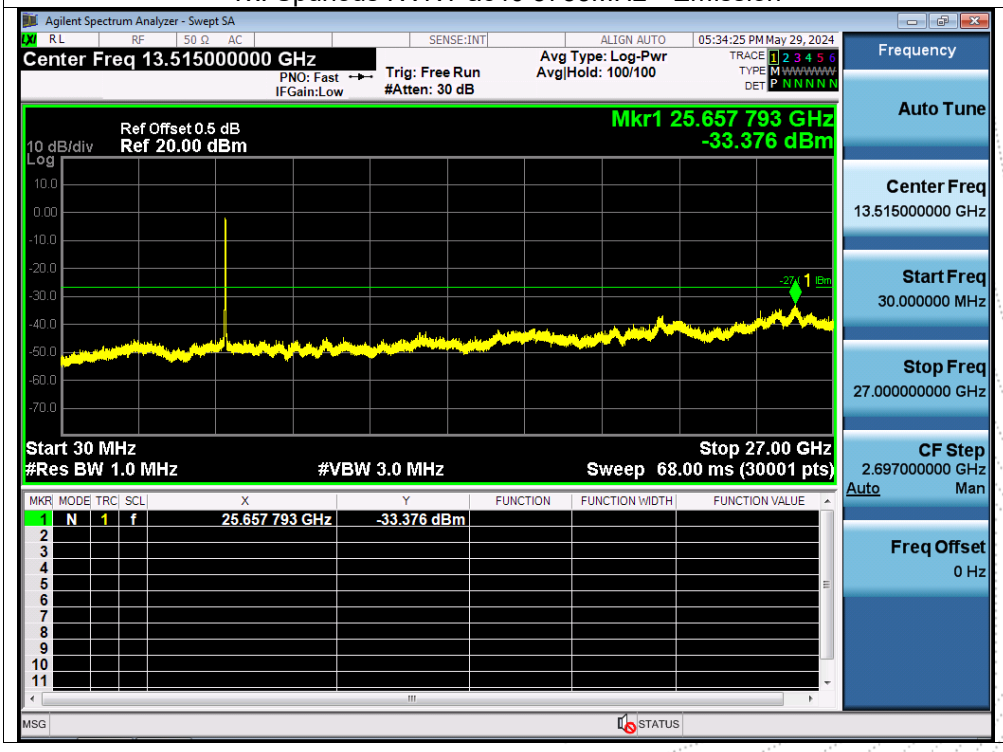
Tx. Spurious NVNT ac20 5785MHz Emission



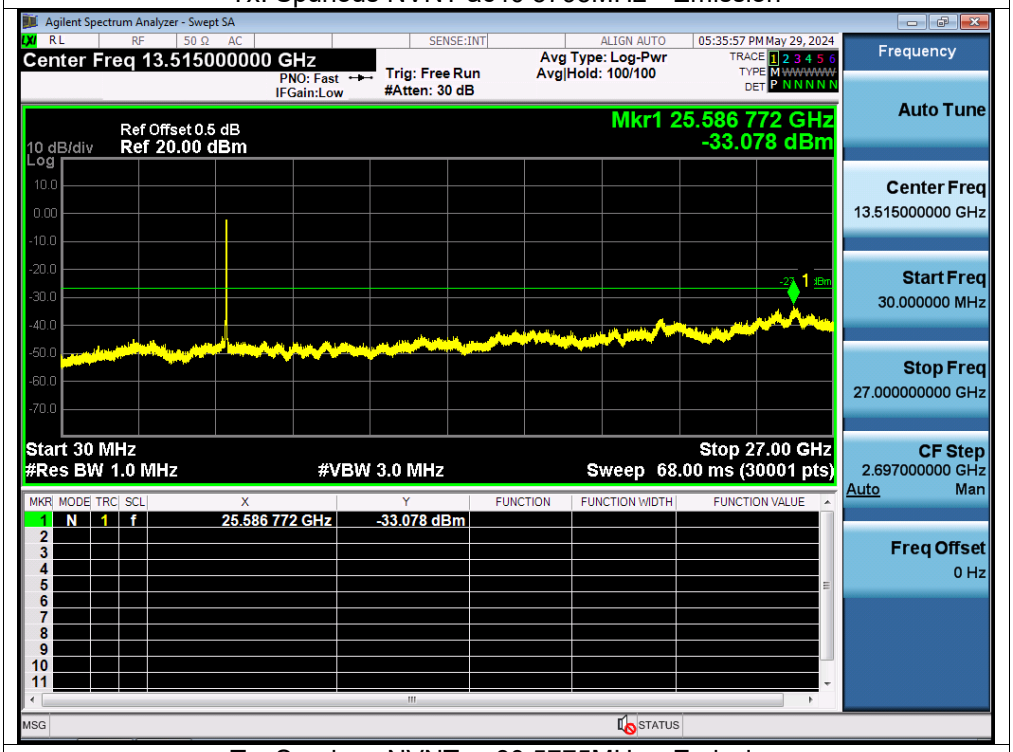
Tx. Spurious NVNT ac20 5825MHz Emission



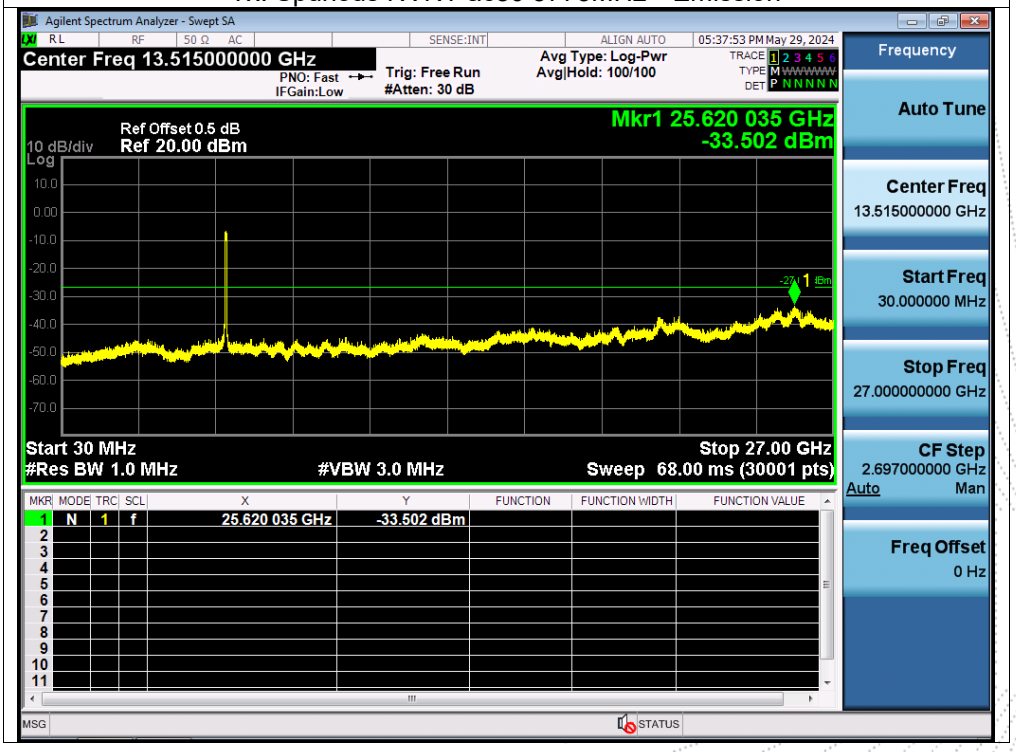
Tx. Spurious NVNT ac40 5755MHz Emission



Tx. Spurious NVNT ac40 5795MHz Emission

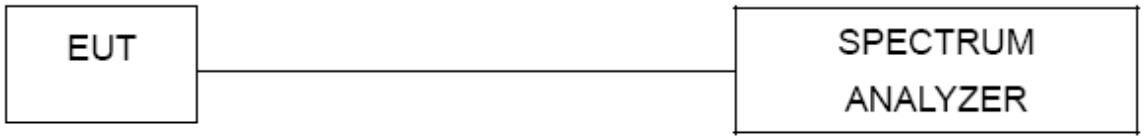


Tx. Spurious NVNT ac80 5775MHz Emission



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:	DC 3.3V
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)	3.30	5180.0091	5180	0.0091	1.7568
		V max (V)	3.80	5180.0005	5180	0.0005	0.0965
		V min (V)	2.81	5180.0035	5180	0.0035	0.6757
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)	3.3	T (°C)	-20	5180.0065	5180	0.0065	1.2548
		T (°C)	-10	5180.0063	5180	0.0063	1.2162
		T (°C)	0	5180.0003	5180	0.0003	0.0579
		T (°C)	10	5180.0106	5180	0.0106	2.0463
		T (°C)	20	5180.0007	5180	0.0007	0.1351
		T (°C)	30	5180.0099	5180	0.0099	1.9112
		T (°C)	40	5180.0074	5180	0.0074	1.4286
		T (°C)	50	5180.0045	5180	0.0045	0.8687
		T (°C)	60	5180.0083	5180	0.0083	1.6023
		T (°C)	70	5180.0002	5180	0.0002	0.0386
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)	3.30	5200.0092	5200	0.0092	1.7692
		V max (V)	3.80	5200.0090	5200	0.0090	1.7308
		V min (V)	2.81	5200.0009	5200	0.0009	0.1731
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)	3.3	T (°C)	-20	5200.01060	5200	0.01060	2.0385
		T (°C)	-10	5200.00790	5200	0.00790	1.5192
		T (°C)	0	5200.01110	5200	0.01110	2.1346
		T (°C)	10	5200.00970	5200	0.00970	1.8654
		T (°C)	20	5200.01200	5200	0.01200	2.3077
		T (°C)	30	5200.01170	5200	0.01170	2.2500
		T (°C)	40	5200.00310	5200	0.00310	0.5962
		T (°C)	50	5200.01100	5200	0.01100	2.1154
		T (°C)	60	5200.00850	5200	0.00850	1.6346
		T (°C)	70	5200.00720	5200	0.00720	1.3846
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)	3.30	5240.0125	5240	0.0125	2.3855
		V max (V)	3.80	5240.0007	5240	0.0007	0.1336
		V min (V)	2.81	5240.0080	5240	0.0080	1.5267
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)	3.3	T (°C)	-20	5240.0070	5240	0.0070	1.3359
		T (°C)	-10	5240.0030	5240	0.0030	0.5725
		T (°C)	0	5240.0098	5240	0.0098	1.8702
		T (°C)	10	5240.0033	5240	0.0033	0.6298
		T (°C)	20	5240.0132	5240	0.0132	2.5191
		T (°C)	30	5240.0077	5240	0.0077	1.4695
		T (°C)	40	5240.0060	5240	0.0060	1.1450
		T (°C)	50	5240.0071	5240	0.0071	1.3550
		T (°C)	60	5240.0054	5240	0.0054	1.0305
		T (°C)	70	5240.0119	5240	0.0119	2.2710
Limits				5150-5250 MHz			
Result				Complies			

Temperature:	26 ℃	Relative Humidity:	54%
Pressure:	101KPa	Test Voltage:	DC 3.3V
Test Mode:	TX (5.3G) Mode Frequency U-NII-2A (5260-5320MHz)		

Voltage vs. Frequency Stability

TEST CONDITIONS				Reference Frequency: 5260MHz			
				f	fc	Max. Deviation (MHz)	Max. Deviation (ppm)
T nom (°C)	20	V nom (V)	3.30	5260.0102	5260	0.0102	1.9392
		V max (V)	3.80	5260.0012	5260	0.0012	0.2281
		V min (V)	2.81	5260.0063	5260	0.0063	1.1977
Limits				5260-5320 MHz			
Result				Complies			

Temperature vs. Frequency Stability

TEST CONDITIONS				Reference Frequency: 5260MHz			
				f	fc	Max. Deviation (MHz)	Max. Deviation (ppm)
V nom (V)	3.3	T (°C)	-20	5260.0028	5260	0.0028	0.5323
		T (°C)	-10	5260.0041	5260	0.0041	0.7795
		T (°C)	0	5260.0105	5260	0.0105	1.9962
		T (°C)	10	5260.0077	5260	0.0077	1.4639
		T (°C)	20	5260.0066	5260	0.0066	1.2548
		T (°C)	30	5260.0105	5260	0.0105	1.9962
		T (°C)	40	5260.0078	5260	0.0078	1.4829
		T (°C)	50	5260.0132	5260	0.0132	2.5095
		T (°C)	60	5260.0011	5260	0.0011	0.2091
		T (°C)	70	5260.0122	5260	0.0122	2.3194
Limits				5260-5320 MHz			
Result				Complies			

Voltage vs. Frequency Stability

TEST CONDITIONS				Reference Frequency: 5280MHz			
				f	fc	Max. Deviation (MHz)	Max. Deviation (ppm)
T nom (°C)	20	V nom (V)	3.30	5280.0052	5280	0.0052	0.9848
		V max (V)	3.80	5280.0006	5280	0.0006	0.1136
		V min (V)	2.81	5280.0015	5280	0.0015	0.2841
Limits				5260-5320 MHz			
Result				Complies			

Temperature vs. Frequency Stability

TEST CONDITIONS				Reference Frequency: 5280MHz			
				f	fc	Max. Deviation (MHz)	Max. Deviation (ppm)
V nom (V)	3.3	T (°C)	-20	5280.00230	5280	0.00230	0.4356
		T (°C)	-10	5280.01280	5280	0.01280	2.4242
		T (°C)	0	5280.00690	5280	0.00690	1.3068
		T (°C)	10	5280.00230	5280	0.00230	0.4356
		T (°C)	20	5280.00230	5280	0.00230	0.4356
		T (°C)	30	5280.00350	5280	0.00350	0.6629
		T (°C)	40	5280.00830	5280	0.00830	1.5720
		T (°C)	50	5280.00900	5280	0.00900	1.7045
		T (°C)	60	5280.00050	5280	0.00050	0.0947
		T (°C)	70	5280.01270	5280	0.01270	2.4053
Limits				5260-5320 MHz			
Result				Complies			

Voltage vs. Frequency Stability

TEST CONDITIONS				Reference Frequency: 5320MHz			
				f	fc	Max. Deviation (MHz)	Max. Deviation (ppm)
T nom (°C)	20	V nom (V)	3.30	5320.0055	5320	0.0055	1.0338
		V max (V)	3.80	5320.0003	5320	0.0003	0.0564
		V min (V)	2.81	5320.0046	5320	0.0046	0.8647
Limits				5260-5320 MHz			
Result				Complies			

Temperature vs. Frequency Stability

TEST CONDITIONS				Reference Frequency: 5320MHz			
				f	fc	Max. Deviation (MHz)	Max. Deviation (ppm)
V nom (V)	3.3	T (°C)	-20	5320.0124	5320	0.0124	2.3308
		T (°C)	-10	5320.0015	5320	0.0015	0.2820
		T (°C)	0	5320.0133	5320	0.0133	2.5000
		T (°C)	10	5320.0099	5320	0.0099	1.8609
		T (°C)	20	5320.0057	5320	0.0057	1.0714
		T (°C)	30	5320.0101	5320	0.0101	1.8985
		T (°C)	40	5320.0047	5320	0.0047	0.8835
		T (°C)	50	5320.0034	5320	0.0034	0.6391
		T (°C)	60	5320.0053	5320	0.0053	0.9962
		T (°C)	70	5320.0006	5320	0.0006	0.1128
Limits				5260-5320 MHz			
Result				Complies			

Temperature:	26 ℃	Relative Humidity:	54%
Pressure:	101KPa	Test Voltage:	DC 3.3V
Test Mode:	TX (5.6G) Mode Frequency U-NII-2C (5500-5700MHz)		

Voltage vs. Frequency Stability

TEST CONDITIONS				Reference Frequency: 5500MHz			
				f	fc	Max. Deviation (MHz)	Max. Deviation (ppm)
T nom (°C)	20	V nom (V)	3.30	5500.0075	5500	0.0075	1.3636
		V max (V)	3.80	5500.0061	5500	0.0061	1.1091
		V min (V)	2.81	5500.0099	5500	0.0099	1.8000
Limits				5500-5700 MHz			
Result				Complies			

Temperature vs. Frequency Stability

TEST CONDITIONS				Reference Frequency: 5500MHz			
				f	fc	Max. Deviation (MHz)	Max. Deviation (ppm)
V nom (V)	3.3	T (°C)	-20	5500.0038	5500	0.0038	0.6909
		T (°C)	-10	5500.0016	5500	0.0016	0.2909
		T (°C)	0	5500.0026	5500	0.0026	0.4727
		T (°C)	10	5500.0056	5500	0.0056	1.0182
		T (°C)	20	5500.0084	5500	0.0084	1.5273
		T (°C)	30	5500.0072	5500	0.0072	1.3091
		T (°C)	40	5500.0029	5500	0.0029	0.5273
		T (°C)	50	5500.0000	5500	0.0000	0.0000
		T (°C)	60	5500.0008	5500	0.0008	0.1455
		T (°C)	70	5500.0030	5500	0.0030	0.5455
Limits				5500-5700 MHz			
Result				Complies			

Voltage vs. Frequency Stability

TEST CONDITIONS				Reference Frequency: 5580MHz			
				f	fc	Max. Deviation (MHz)	Max. Deviation (ppm)
T nom (°C)	20	V nom (V)	3.30	5580.0095	5580	0.0095	1.7025
		V max (V)	3.80	5580.0132	5580	0.0132	2.3656
		V min (V)	2.81	5580.0028	5580	0.0028	0.5018
Limits				5500-5700 MHz			
Result				Complies			

Temperature vs. Frequency Stability

TEST CONDITIONS				Reference Frequency: 5580MHz			
				f	fc	Max. Deviation (MHz)	Max. Deviation (ppm)
V nom (V)	3.3	T (°C)	-20	5580.00140	5580	0.00140	0.2509
		T (°C)	-10	5580.01160	5580	0.01160	2.0789
		T (°C)	0	5580.00490	5580	0.00490	0.8781
		T (°C)	10	5580.01200	5580	0.01200	2.1505
		T (°C)	20	5580.01160	5580	0.01160	2.0789
		T (°C)	30	5580.00090	5580	0.00090	0.1613
		T (°C)	40	5580.00180	5580	0.00180	0.3226
		T (°C)	50	5580.01010	5580	0.01010	1.8100
		T (°C)	60	5580.00520	5580	0.00520	0.9319
		T (°C)	70	5580.00630	5580	0.00630	1.1290
Limits				5500-5700 MHz			
Result				Complies			

Voltage vs. Frequency Stability

TEST CONDITIONS				Reference Frequency: 5700MHz			
				f	fc	Max. Deviation (MHz)	Max. Deviation (ppm)
T nom (°C)	20	V nom (V)	3.30	5700.0037	5700	0.0037	0.6491
		V max (V)	3.80	5700.0108	5700	0.0108	1.8947
		V min (V)	2.81	5700.0132	5700	0.0132	2.3158
Limits				5725-5850 MHz			
Result				Complies			

Temperature vs. Frequency Stability

TEST CONDITIONS				Reference Frequency: 5700MHz			
				f	fc	Max. Deviation (MHz)	Max. Deviation (ppm)
V nom (V)	3.3	T (°C)	-20	5700.0049	5700	0.0049	0.8596
		T (°C)	-10	5700.0074	5700	0.0074	1.2982
		T (°C)	0	5700.0063	5700	0.0063	1.1053
		T (°C)	10	5700.0095	5700	0.0095	1.6667
		T (°C)	20	5700.0135	5700	0.0135	2.3684
		T (°C)	30	5700.0128	5700	0.0128	2.2456
		T (°C)	40	5700.0027	5700	0.0027	0.4737
		T (°C)	50	5700.0041	5700	0.0041	0.7193
		T (°C)	60	5700.0020	5700	0.0020	0.3509
		T (°C)	70	5700.0104	5700	0.0104	1.8246
Limits				5725-5850 MHz			
Result				Complies			

Temperature:	26 ℃	Relative Humidity:	54%
Pressure:	101KPa	Test Voltage:	DC 3.3V
Test Mode:	TX (5.8G) Mode 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)	3.30	5745.01200	5745	0.01200	2.0888
		V max (V)	3.80	5745.00450	5745	0.00450	0.7833
		V min (V)	2.81	5745.01200	5745	0.01200	2.0888
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)	3.3	T (°C)	-20	5745.01060	5745	0.01060	1.8451
		T (°C)	-10	5745.00200	5745	0.00200	0.3481
		T (°C)	0	5745.00570	5745	0.00570	0.9922
		T (°C)	10	5745.00150	5745	0.00150	0.2611
		T (°C)	20	5745.00810	5745	0.00810	1.4099
		T (°C)	30	5745.00970	5745	0.00970	1.6884
		T (°C)	40	5745.01080	5745	0.01080	1.8799
		T (°C)	50	5745.01160	5745	0.01160	2.0191
		T (°C)	60	5745.01210	5745	0.01210	2.1062
		T (°C)	70	5745.01130	5745	0.01130	1.9669
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)	3.30	5785.00300	5785	0.00300	0.5186
		V max (V)	3.80	5785.00950	5785	0.00950	1.6422
		V min (V)	2.81	5785.00780	5785	0.00780	1.3483
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)	3.3	T (°C)	-20	5785.00630	5785	0.00630	1.0890
		T (°C)	-10	5785.00300	5785	0.00300	0.5186
		T (°C)	0	5785.00880	5785	0.00880	1.5212
		T (°C)	10	5785.00140	5785	0.00140	0.2420
		T (°C)	20	5785.00220	5785	0.00220	0.3803
		T (°C)	30	5785.00740	5785	0.00740	1.2792
		T (°C)	40	5785.00090	5785	0.00090	0.1556
		T (°C)	50	5785.01040	5785	0.01040	1.7978
		T (°C)	60	5785.00830	5785	0.00830	1.4347
		T (°C)	70	5785.00970	5785	0.00970	1.6768
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)	3.30	5825.00730	5825	0.00730	1.2532
		V max (V)	3.80	5825.01060	5825	0.01060	1.8197
		V min (V)	2.81	5825.00170	5825	0.00170	0.2918
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)	3.3	T (°C)	-20	5825.01270	5825	0.01270	2.1803
		T (°C)	-10	5825.00630	5825	0.00630	1.0815
		T (°C)	0	5825.00720	5825	0.00720	1.2361
		T (°C)	10	5825.00680	5825	0.00680	1.1674
		T (°C)	20	5825.00640	5825	0.00640	1.0987
		T (°C)	30	5825.00740	5825	0.00740	1.2704
		T (°C)	40	5825.01000	5825	0.01000	1.7167
		T (°C)	50	5825.00280	5825	0.00280	0.4807
		T (°C)	60	5825.01280	5825	0.01280	2.1974
		T (°C)	70	5825.00250	5825	0.00250	0.4292
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

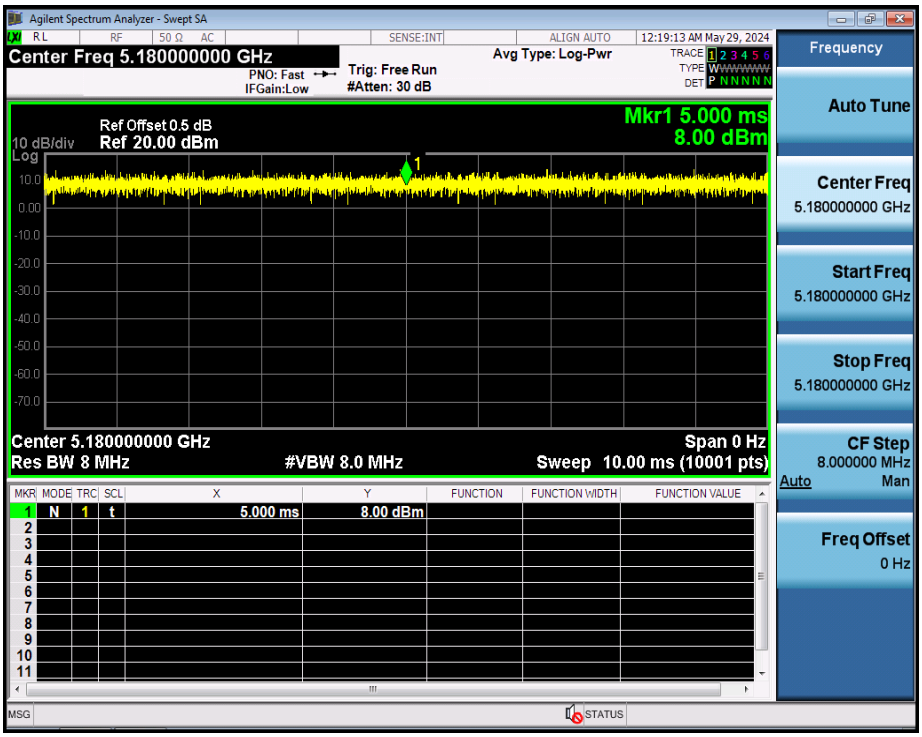
14.4 Test Result

5.1G
ANT A & B

Condition	Mode	Duty Cycle (%)	Correction Factor (dB)	1/T (kHz)
NVNT	a	100	0	0
NVNT	n20	100	0	0
NVNT	n40	100	0	0
NVNT	ac20	100	0	0
NVNT	ac40	100	0	0
NVNT	ac80	100	0	0

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

a



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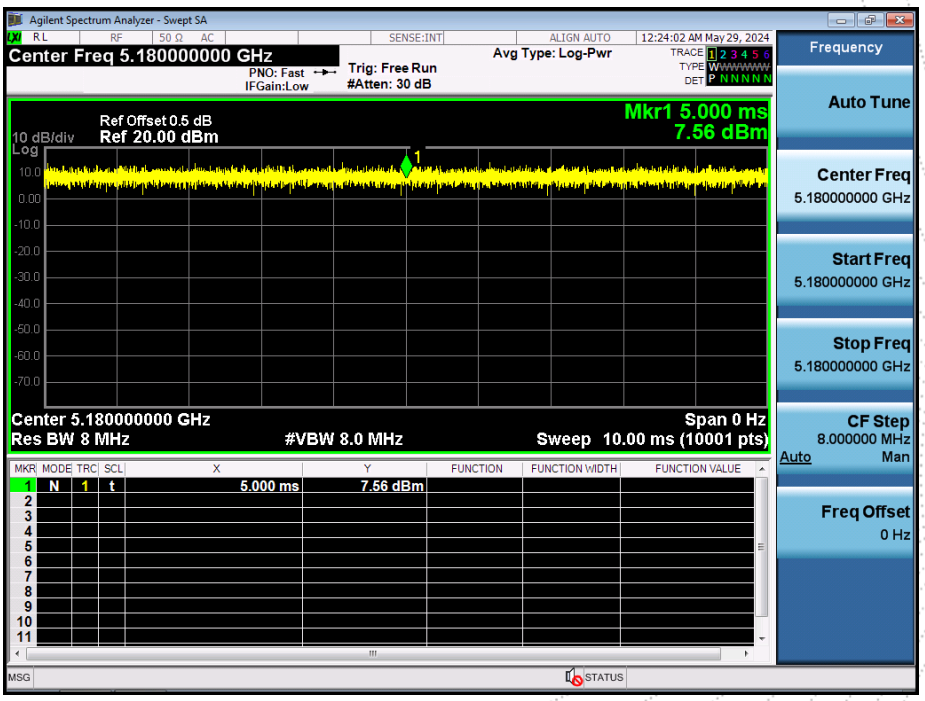
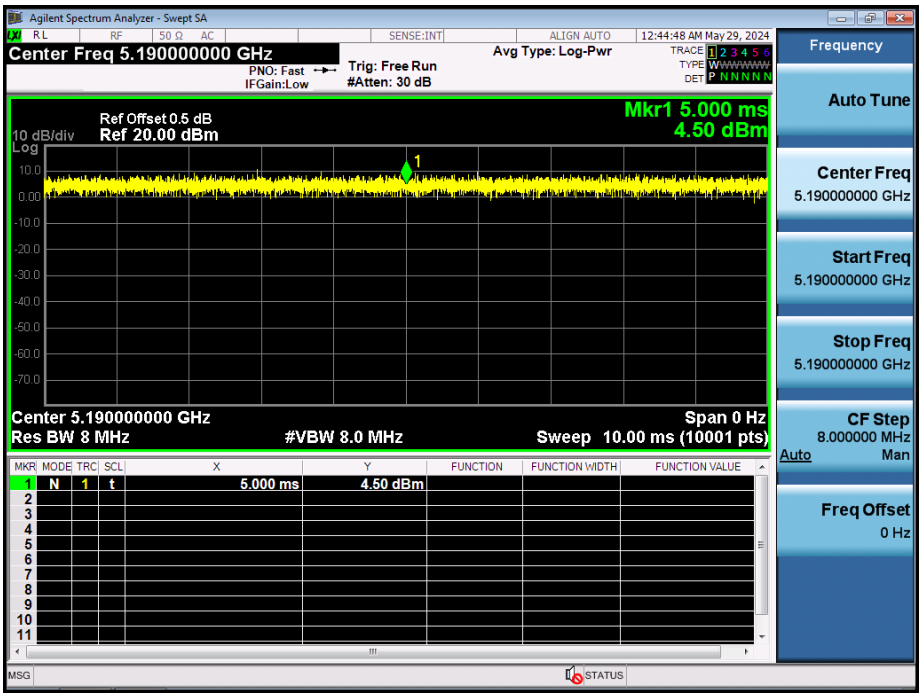
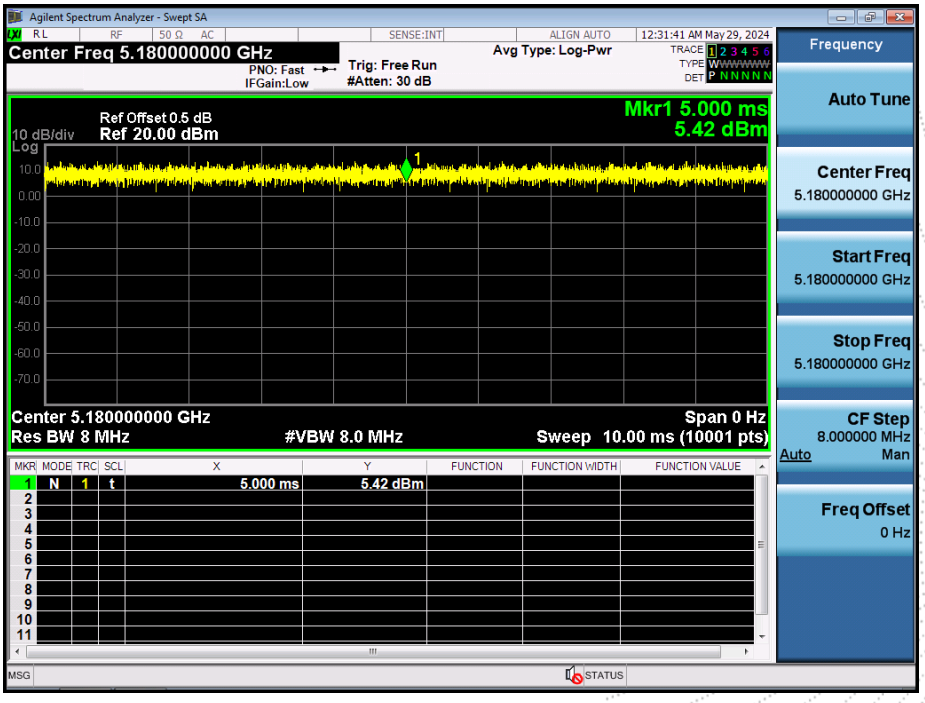


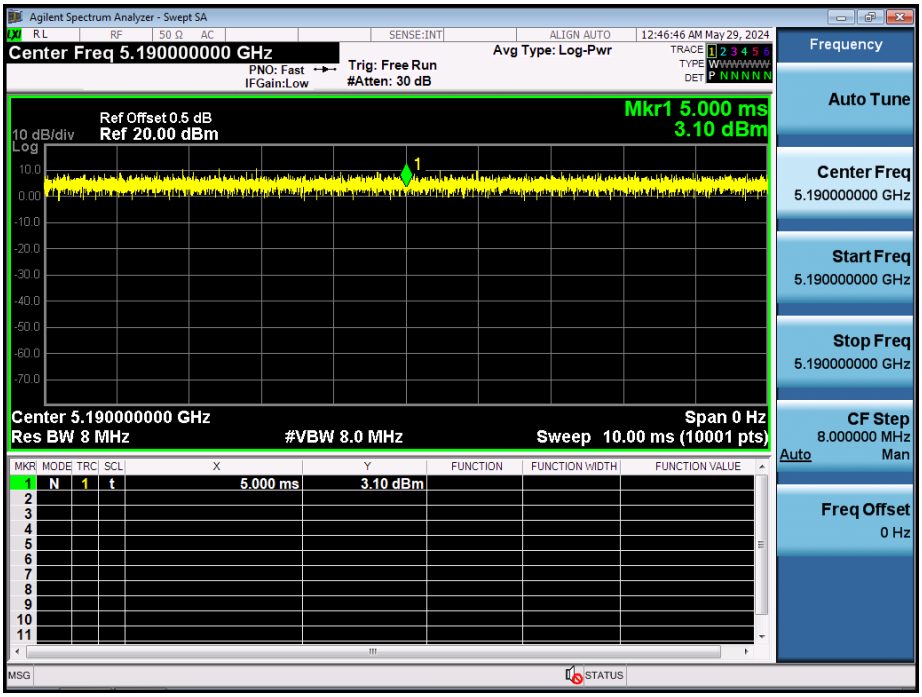
n40


Agilent Spectrum Analyzer - Swept SA
Center Freq 5.190000000 GHz
PNO: Fast
IFGain:Low
Trig: Free Run
#Atten: 30 dB
Avg Type: Log-Pwr
12:44:48 AM May 29, 2024
Ref Offset 0.5 dB
10 dB/div
Ref 20.00 dBm
Mkr1 5.000 ms
4.50 dBm
Center 5.190000000 GHz
Res BW 8 MHz
#VBW 8.0 MHz
Span 0 Hz
Sweep 10.00 ms (10001 pts)
1 N 1 t 5.000 ms 4.50 dBm
Frequency
Auto Tune
Center Freq
5.190000000 GHz
Start Freq
5.190000000 GHz
Stop Freq
5.190000000 GHz
CF Step
8.000000 MHz
Auto
Man
Freq Offset
0 Hz

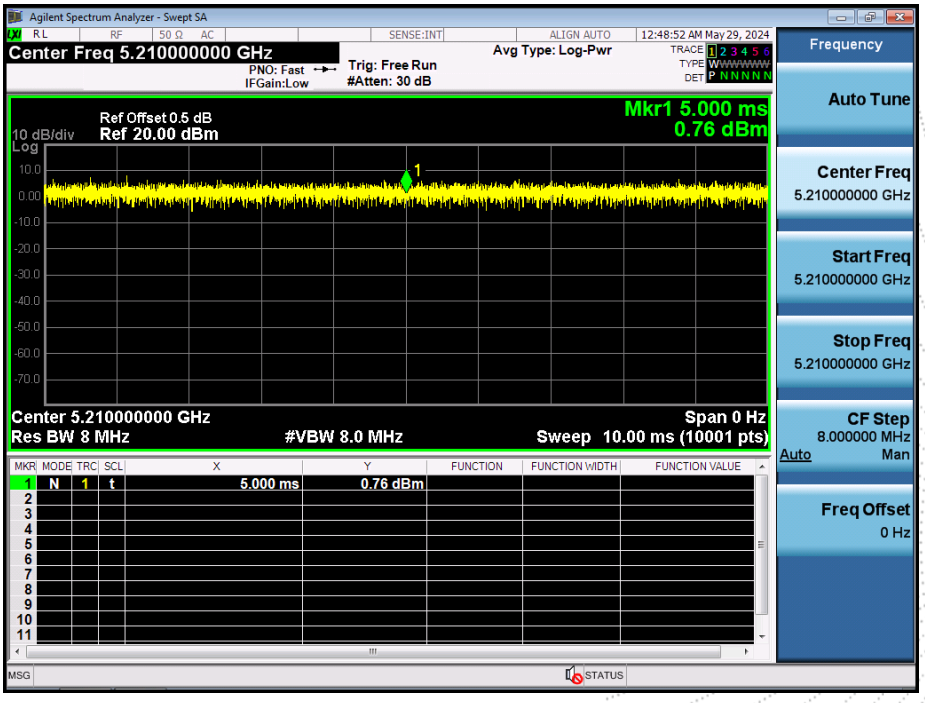
ac20


Agilent Spectrum Analyzer - Swept SA
Center Freq 5.180000000 GHz
PNO: Fast
IFGain:Low
Trig: Free Run
#Atten: 30 dB
Avg Type: Log-Pwr
12:31:41 AM May 29, 2024
Ref Offset 0.5 dB
10 dB/div
Ref 20.00 dBm
Mkr1 5.000 ms
5.42 dBm
Center 5.180000000 GHz
Res BW 8 MHz
#VBW 8.0 MHz
Span 0 Hz
Sweep 10.00 ms (10001 pts)
1 N 1 t 5.000 ms 5.42 dBm
Frequency
Auto Tune
Center Freq
5.180000000 GHz
Start Freq
5.180000000 GHz
Stop Freq
5.180000000 GHz
CF Step
8.000000 MHz
Auto
Man
Freq Offset
0 Hz

ac40


Agilent Spectrum Analyzer - Swept SA
Center Freq 5.190000000 GHz
PNO: Fast
IFGain:Low
Trig: Free Run
#Atten: 30 dB
Avg Type: Log-Pwr
12:46:46 AM May 29, 2024
Ref Offset 0.5 dB
10 dB/div
Ref 20.00 dBm
Log
Mkr1 5.000 ms
3.10 dBm
Center 5.190000000 GHz
Res BW 8 MHz
#VBW 8.0 MHz
Span 0 Hz
Sweep 10.00 ms (10001 pts)
1 N 1 t 5.000 ms 3.10 dBm
Frequency
Auto Tune
Center Freq
5.190000000 GHz
Start Freq
5.190000000 GHz
Stop Freq
5.190000000 GHz
CF Step
8.000000 MHz
Auto
Man
Freq Offset
0 Hz
MSG
STATUS

ac80

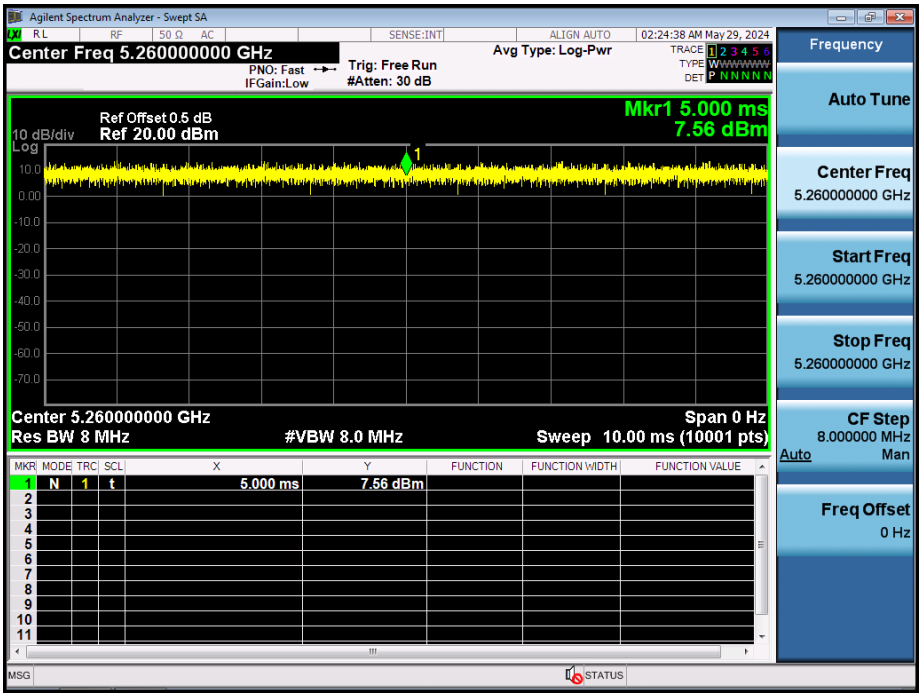

Agilent Spectrum Analyzer - Swept SA
Center Freq 5.210000000 GHz
PNO: Fast
IFGain:Low
Trig: Free Run
#Atten: 30 dB
Avg Type: Log-Pwr
12:48:52 AM May 29, 2024
Ref Offset 0.5 dB
10 dB/div
Ref 20.00 dBm
Log
Mkr1 5.000 ms
0.76 dBm
Center 5.210000000 GHz
Res BW 8 MHz
#VBW 8.0 MHz
Span 0 Hz
Sweep 10.00 ms (10001 pts)
1 N 1 t 5.000 ms 0.76 dBm
Frequency
Auto Tune
Center Freq
5.210000000 GHz
Start Freq
5.210000000 GHz
Stop Freq
5.210000000 GHz
CF Step
8.000000 MHz
Auto
Man
Freq Offset
0 Hz
MSG
STATUS

5.3G
ANT A & B

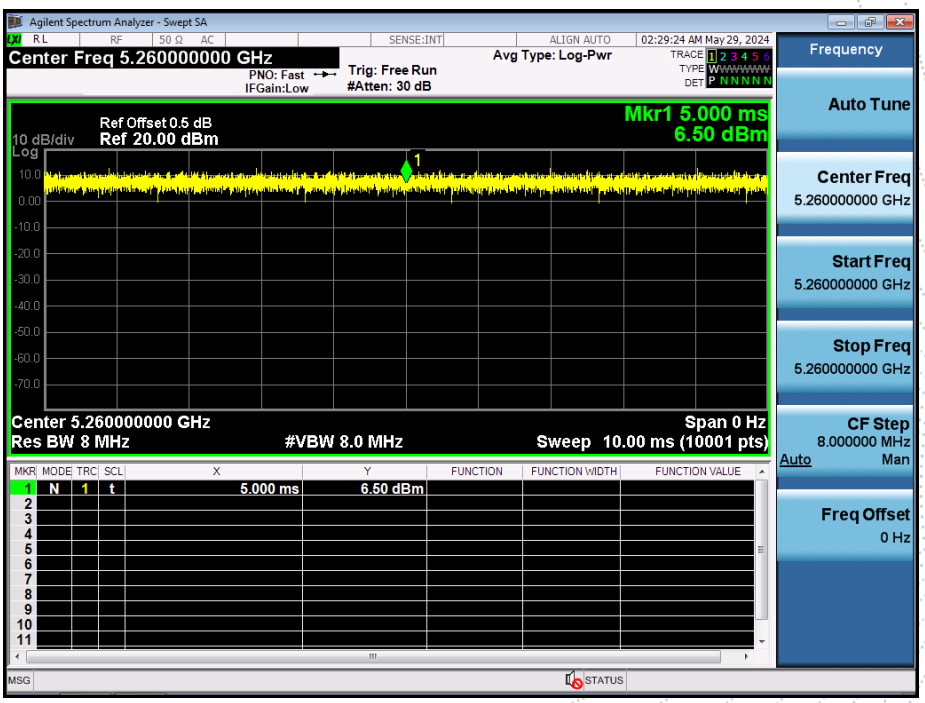
Condition	Mode	Duty Cycle (%)	Correction Factor (dB)	1/T (kHz)
NVNT	a	100	0	0
NVNT	n20	100	0	0
NVNT	n40	100	0	0
NVNT	ac20	100	0	0
NVNT	ac40	100	0	0
NVNT	ac80	100	0	0

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

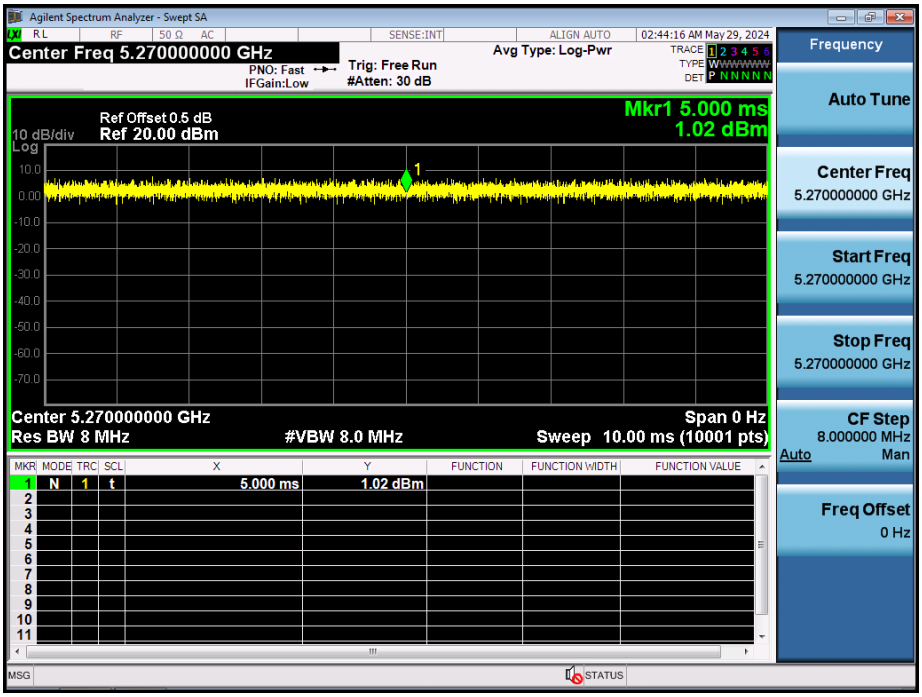
a



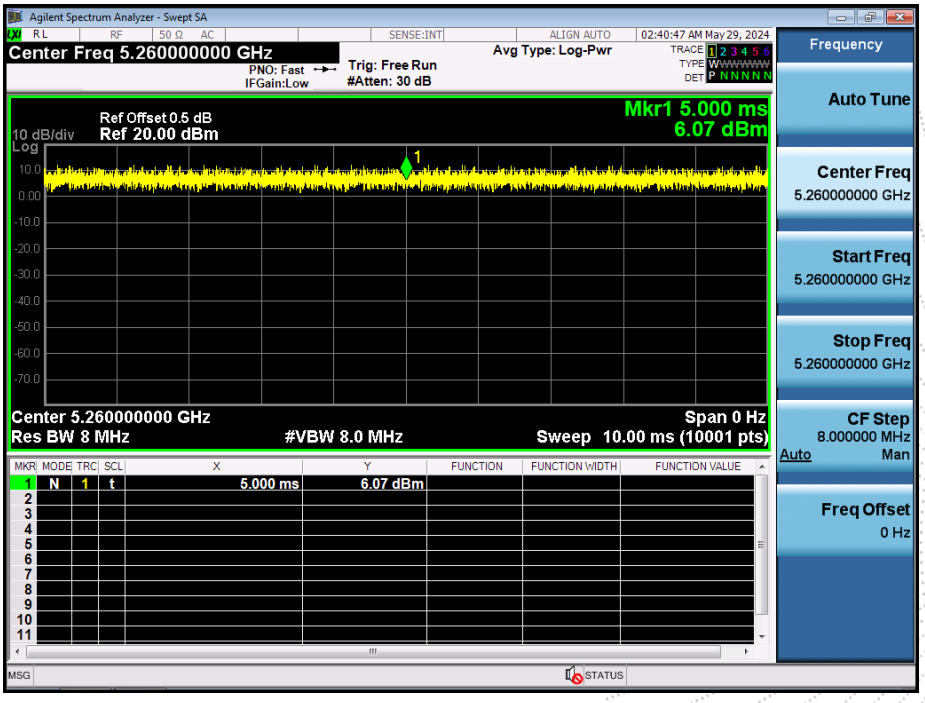
N20



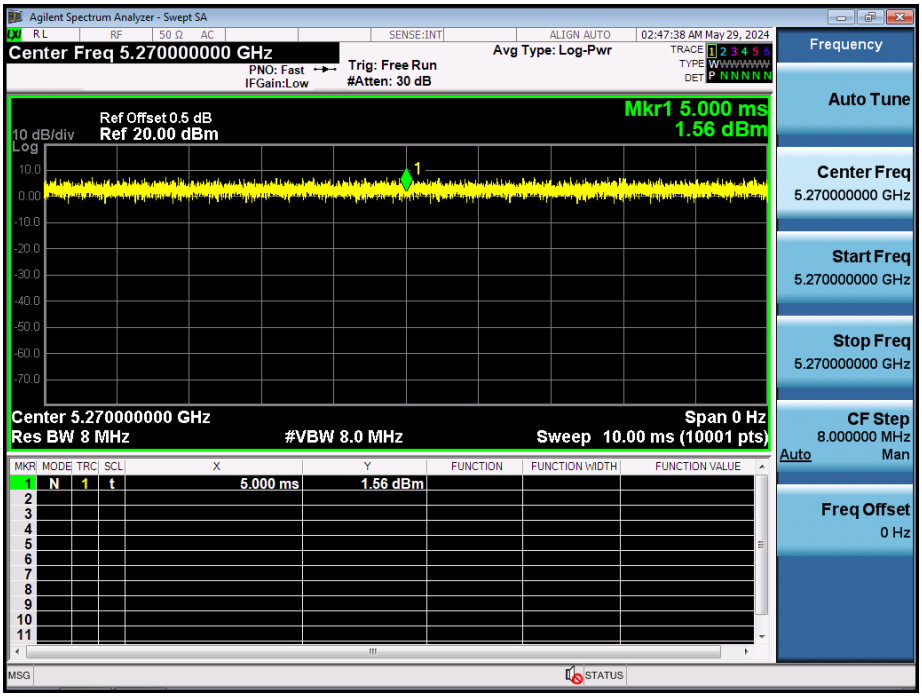
n40


Agilent Spectrum Analyzer - Swept SA
Center Freq 5.270000000 GHz
PNO: Fast
IFGain:Low
Trig: Free Run
#Atten: 30 dB
Avg Type: Log-Pwr
02:44:16 AM May 29, 2024
Ref Offset 0.5 dB
10 dB/div
Ref 20.00 dBm
Log
Mkr1 5.000 ms
1.02 dBm
Center 5.270000000 GHz
Res BW 8 MHz
#VBW 8.0 MHz
Span 0 Hz
Sweep 10.00 ms (10001 pts)
1 N 1 t 5.000 ms 1.02 dBm
Frequency
Auto Tune
Center Freq
5.270000000 GHz
Start Freq
5.270000000 GHz
Stop Freq
5.270000000 GHz
CF Step
8.000000 MHz
Auto
Man
Freq Offset
0 Hz
MSG
STATUS

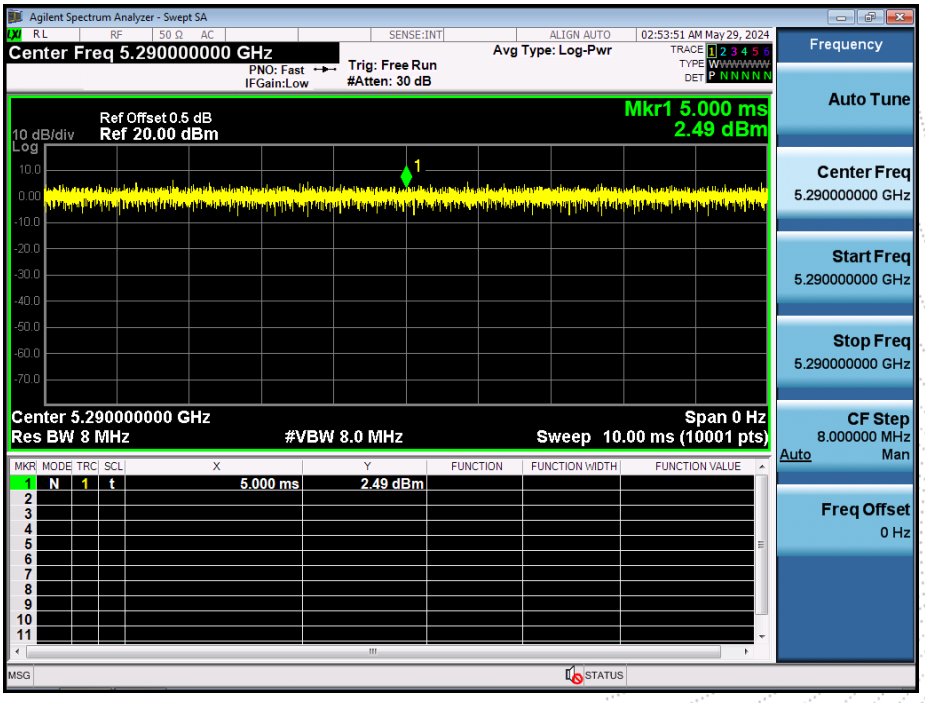
ac20


Agilent Spectrum Analyzer - Swept SA
Center Freq 5.260000000 GHz
PNO: Fast
IFGain:Low
Trig: Free Run
#Atten: 30 dB
Avg Type: Log-Pwr
02:40:47 AM May 29, 2024
Ref Offset 0.5 dB
10 dB/div
Ref 20.00 dBm
Log
Mkr1 5.000 ms
6.07 dBm
Center 5.260000000 GHz
Res BW 8 MHz
#VBW 8.0 MHz
Span 0 Hz
Sweep 10.00 ms (10001 pts)
1 N 1 t 5.000 ms 6.07 dBm
Frequency
Auto Tune
Center Freq
5.260000000 GHz
Start Freq
5.260000000 GHz
Stop Freq
5.260000000 GHz
CF Step
8.000000 MHz
Auto
Man
Freq Offset
0 Hz
MSG
STATUS

ac40


Agilent Spectrum Analyzer - Swept SA
Center Freq 5.270000000 GHz
PNO: Fast
IFGain:Low
Trig: Free Run
#Atten: 30 dB
Avg Type: Log-Pwr
02:47:38 AM May 29, 2024
Ref Offset 0.5 dB
10 dB/div
Ref 20.00 dBm
Log
Mkr1 5.000 ms
1.56 dBm
Center 5.270000000 GHz
Res BW 8 MHz
#VBW 8.0 MHz
Span 0 Hz
Sweep 10.00 ms (10001 pts)
1 N 1 t 5.000 ms 1.56 dBm
Frequency
Auto Tune
Center Freq
5.270000000 GHz
Start Freq
5.270000000 GHz
Stop Freq
5.270000000 GHz
CF Step
8.000000 MHz
Auto
Man
Freq Offset
0 Hz
MSG
STATUS

ac80

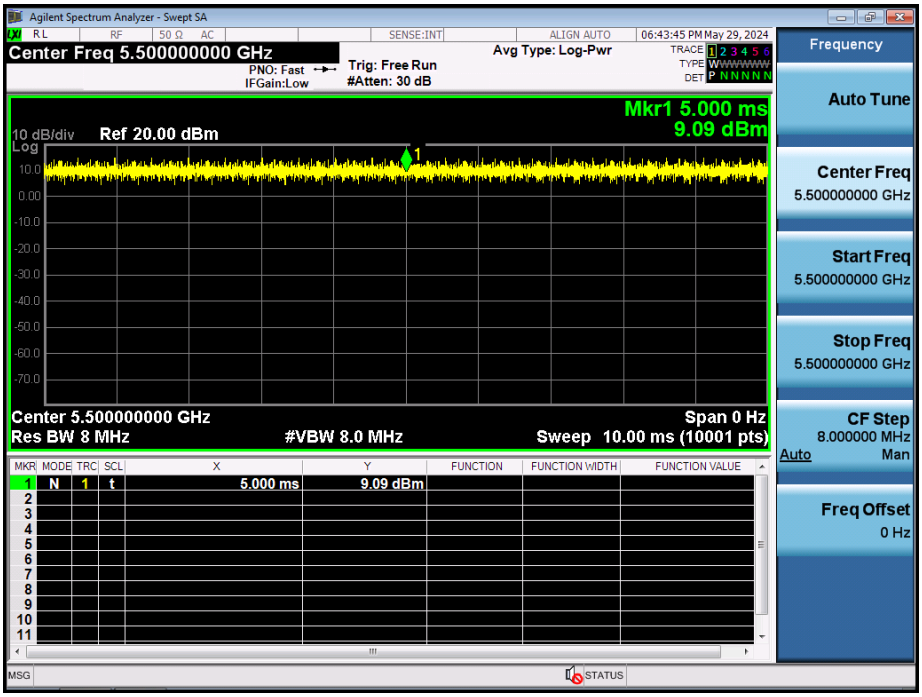

Agilent Spectrum Analyzer - Swept SA
Center Freq 5.290000000 GHz
PNO: Fast
IFGain:Low
Trig: Free Run
#Atten: 30 dB
Avg Type: Log-Pwr
02:53:51 AM May 29, 2024
Ref Offset 0.5 dB
10 dB/div
Ref 20.00 dBm
Log
Mkr1 5.000 ms
2.49 dBm
Center 5.290000000 GHz
Res BW 8 MHz
#VBW 8.0 MHz
Span 0 Hz
Sweep 10.00 ms (10001 pts)
1 N 1 t 5.000 ms 2.49 dBm
Frequency
Auto Tune
Center Freq
5.290000000 GHz
Start Freq
5.290000000 GHz
Stop Freq
5.290000000 GHz
CF Step
8.000000 MHz
Auto
Man
Freq Offset
0 Hz
MSG
STATUS

5.6G
ANT A & B

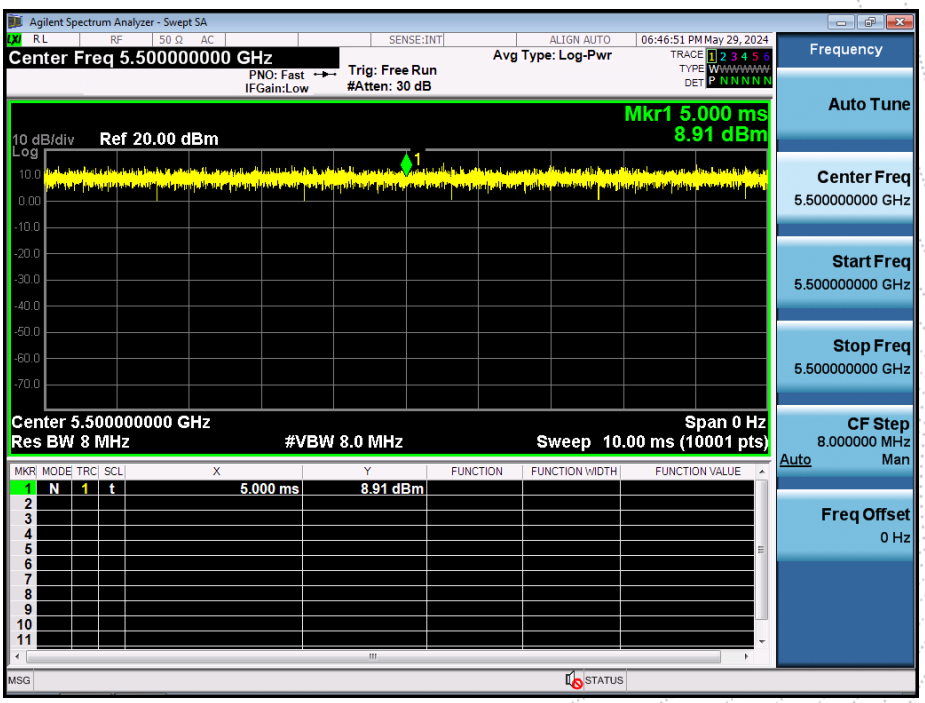
Condition	Mode	Duty Cycle (%)	Correction Factor (dB)	1/T (kHz)
NVNT	a	100	0	0
NVNT	n20	100	0	0
NVNT	n40	100	0	0
NVNT	ac20	100	0	0
NVNT	ac40	100	0	0
NVNT	ac80	100	0	0

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

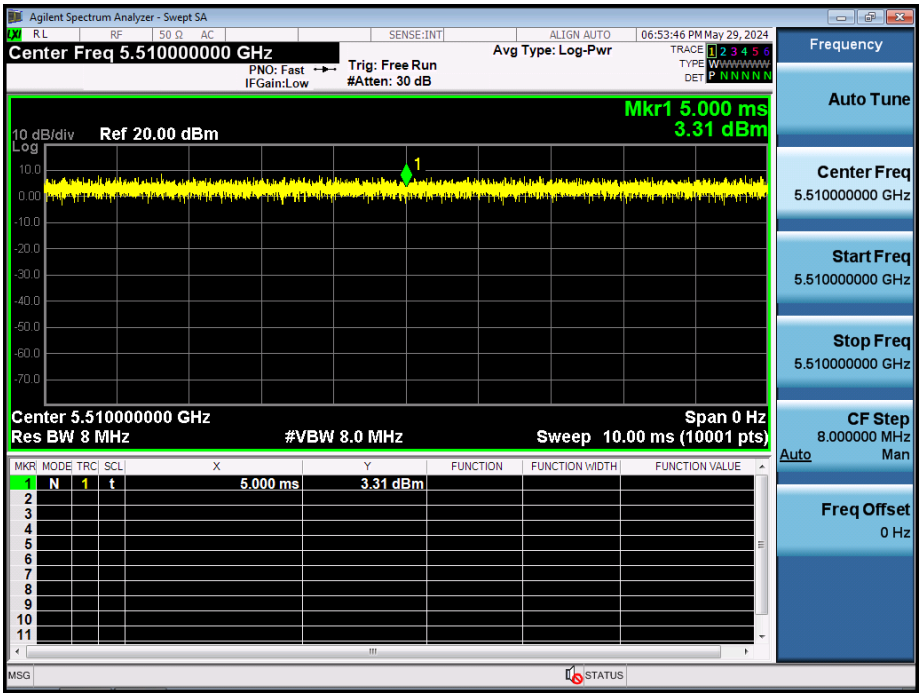
a



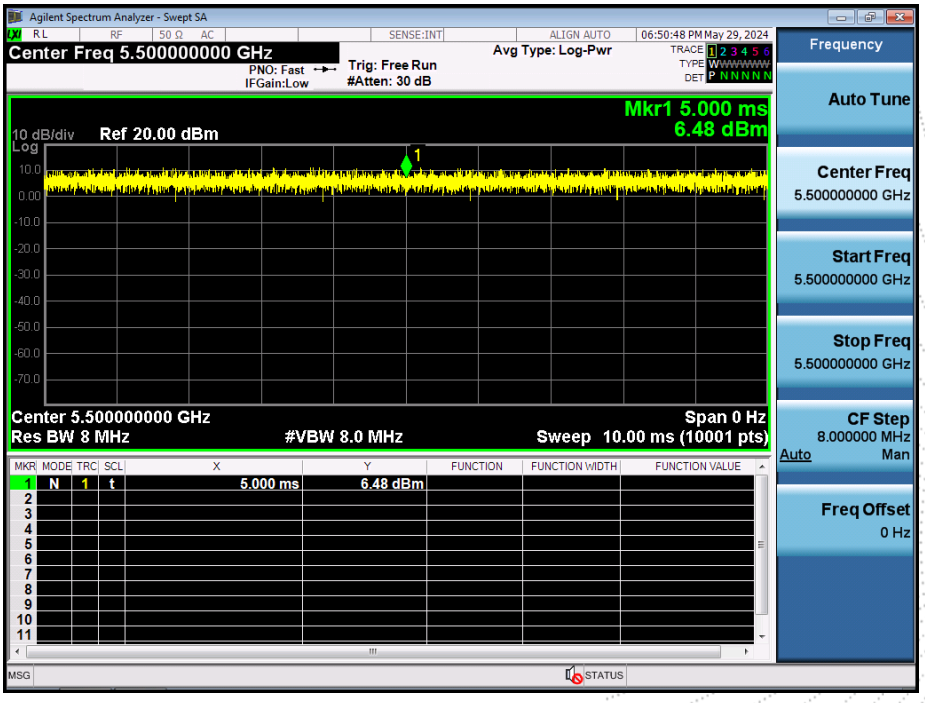
N20



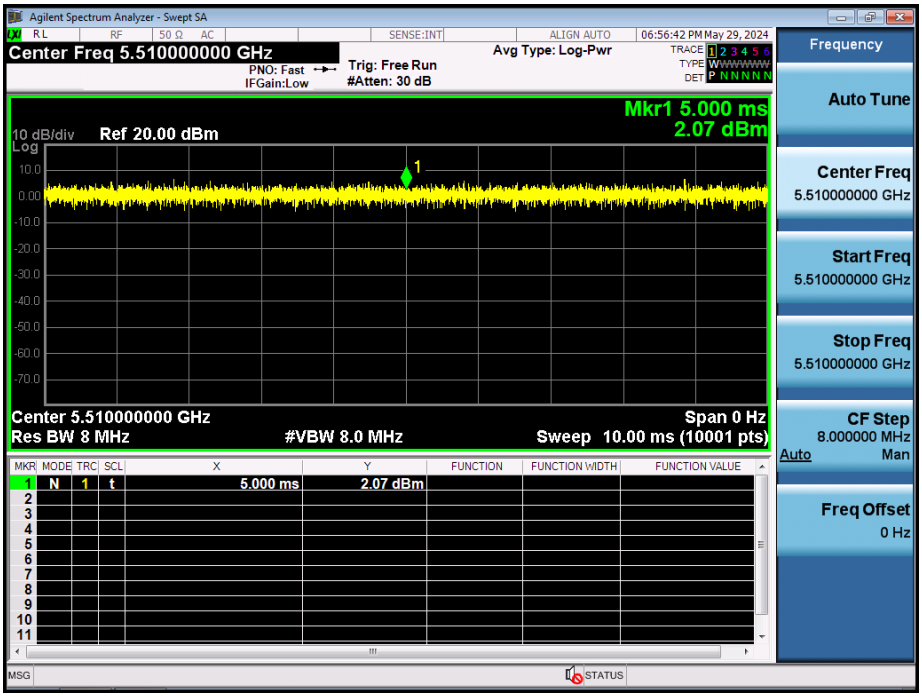
n40


Agilent Spectrum Analyzer - Swept SA
Center Freq 5.510000000 GHz
PNO: Fast
IFGain:Low
Trig: Free Run
#Atten: 30 dB
Avg Type: Log-Pwr
06:53:46 PM May 29, 2024
Mkr1 5.000 ms
3.31 dBm
10 dB/div
Log
Ref 20.00 dBm
Center 5.510000000 GHz
Res BW 8 MHz
#VBW 8.0 MHz
Span 0 Hz
Sweep 10.00 ms (10001 pts)
1 N 1 t 5.000 ms 3.31 dBm
Frequency
Auto Tune
Center Freq
5.510000000 GHz
Start Freq
5.510000000 GHz
Stop Freq
5.510000000 GHz
CF Step
8.000000 MHz
Auto
Man
Freq Offset
0 Hz
MSG
STATUS

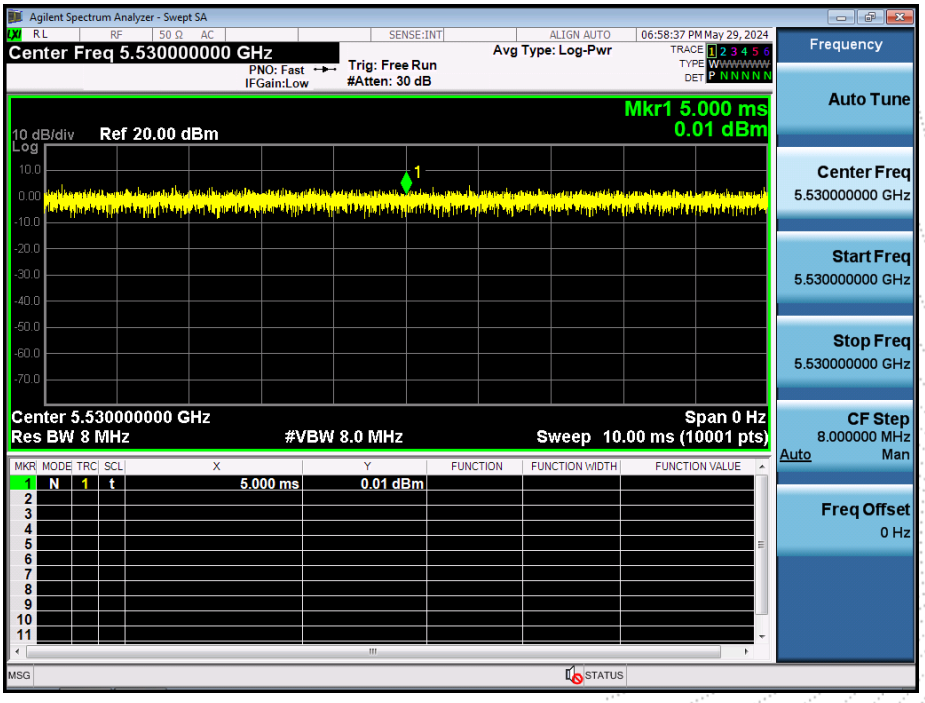
ac20


Agilent Spectrum Analyzer - Swept SA
Center Freq 5.500000000 GHz
PNO: Fast
IFGain:Low
Trig: Free Run
#Atten: 30 dB
Avg Type: Log-Pwr
06:50:48 PM May 29, 2024
Mkr1 5.000 ms
6.48 dBm
10 dB/div
Log
Ref 20.00 dBm
Center 5.500000000 GHz
Res BW 8 MHz
#VBW 8.0 MHz
Span 0 Hz
Sweep 10.00 ms (10001 pts)
1 N 1 t 5.000 ms 6.48 dBm
Frequency
Auto Tune
Center Freq
5.500000000 GHz
Start Freq
5.500000000 GHz
Stop Freq
5.500000000 GHz
CF Step
8.000000 MHz
Auto
Man
Freq Offset
0 Hz
MSG
STATUS

ac40


Agilent Spectrum Analyzer - Swept SA
Center Freq 5.510000000 GHz
PNO: Fast
IFGain:Low
Trig: Free Run
#Atten: 30 dB
Avg Type: Log-Pwr
06:56:42 PM May 29, 2024
Mkr1 5.000 ms
2.07 dBm
10 dB/div
Log
Ref 20.00 dBm
Center 5.510000000 GHz
Res BW 8 MHz
#VBW 8.0 MHz
Span 0 Hz
Sweep 10.00 ms (10001 pts)
1 N 1 t 5.000 ms 2.07 dBm
Frequency
Auto Tune
Center Freq
5.510000000 GHz
Start Freq
5.510000000 GHz
Stop Freq
5.510000000 GHz
CF Step
8.000000 MHz
Auto
Man
Freq Offset
0 Hz
MSG
STATUS

ac80

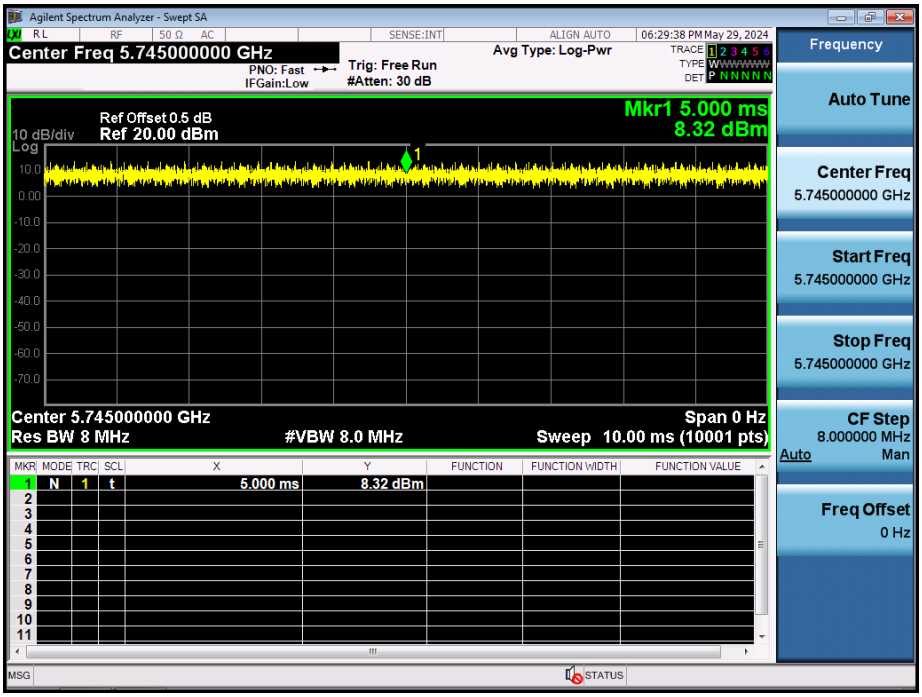

Agilent Spectrum Analyzer - Swept SA
Center Freq 5.530000000 GHz
PNO: Fast
IFGain:Low
Trig: Free Run
#Atten: 30 dB
Avg Type: Log-Pwr
06:58:37 PM May 29, 2024
Mkr1 5.000 ms
0.01 dBm
10 dB/div
Log
Ref 20.00 dBm
Center 5.530000000 GHz
Res BW 8 MHz
#VBW 8.0 MHz
Span 0 Hz
Sweep 10.00 ms (10001 pts)
1 N 1 t 5.000 ms 0.01 dBm
Frequency
Auto Tune
Center Freq
5.530000000 GHz
Start Freq
5.530000000 GHz
Stop Freq
5.530000000 GHz
CF Step
8.000000 MHz
Auto
Man
Freq Offset
0 Hz
MSG
STATUS

5.8G
ANT A & B

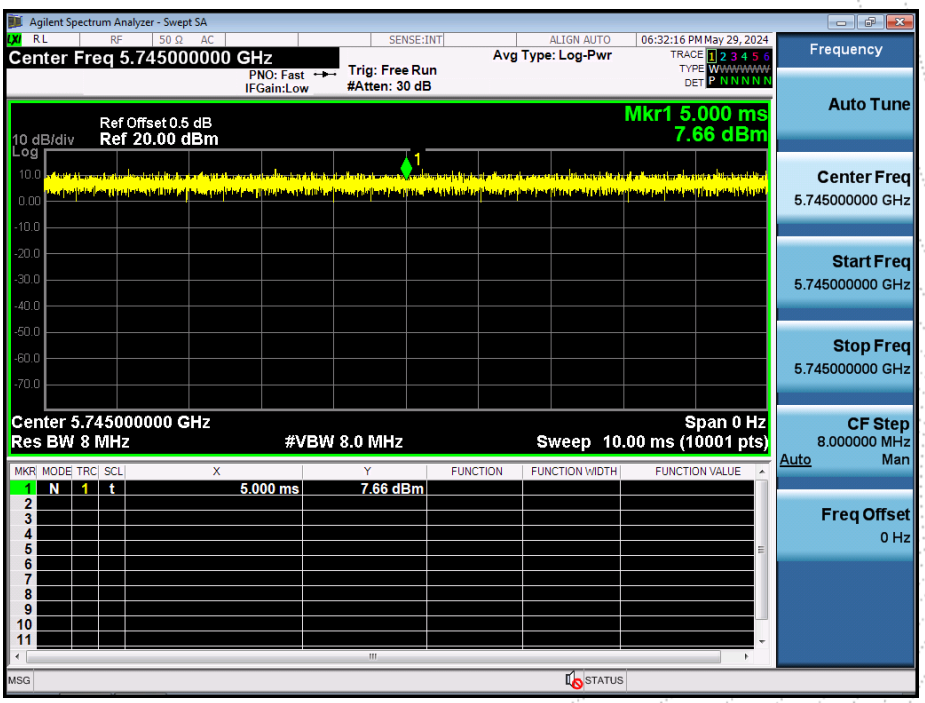
Condition	Mode	Duty Cycle (%)	Correction Factor (dB)	1/T (kHz)
NVNT	a	100	0	0
NVNT	n20	100	0	0
NVNT	n40	100	0	0
NVNT	ac20	100	0	0
NVNT	ac40	100	0	0
NVNT	ac80	100	0	0

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

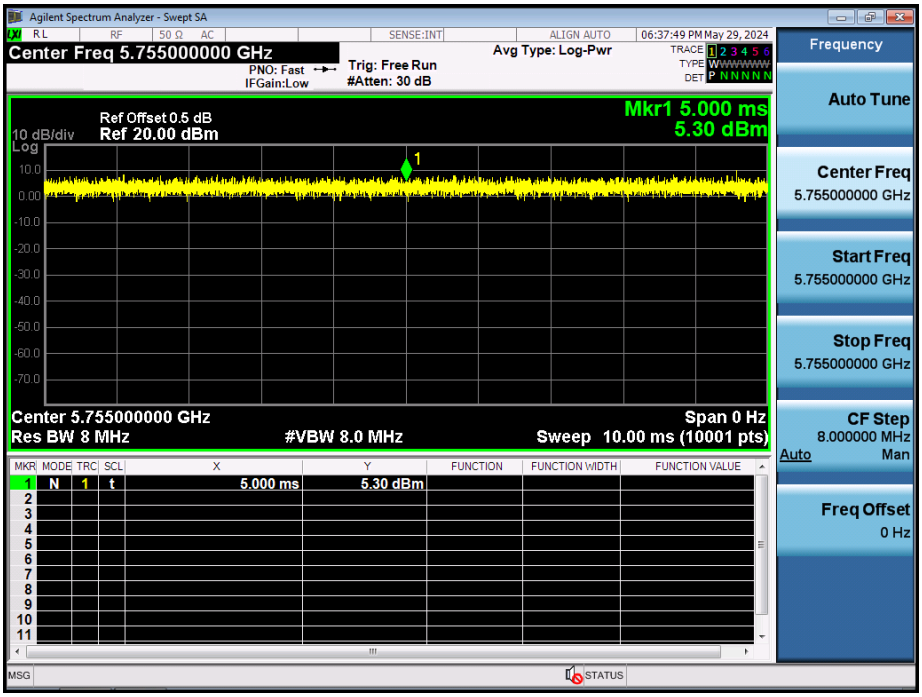
a



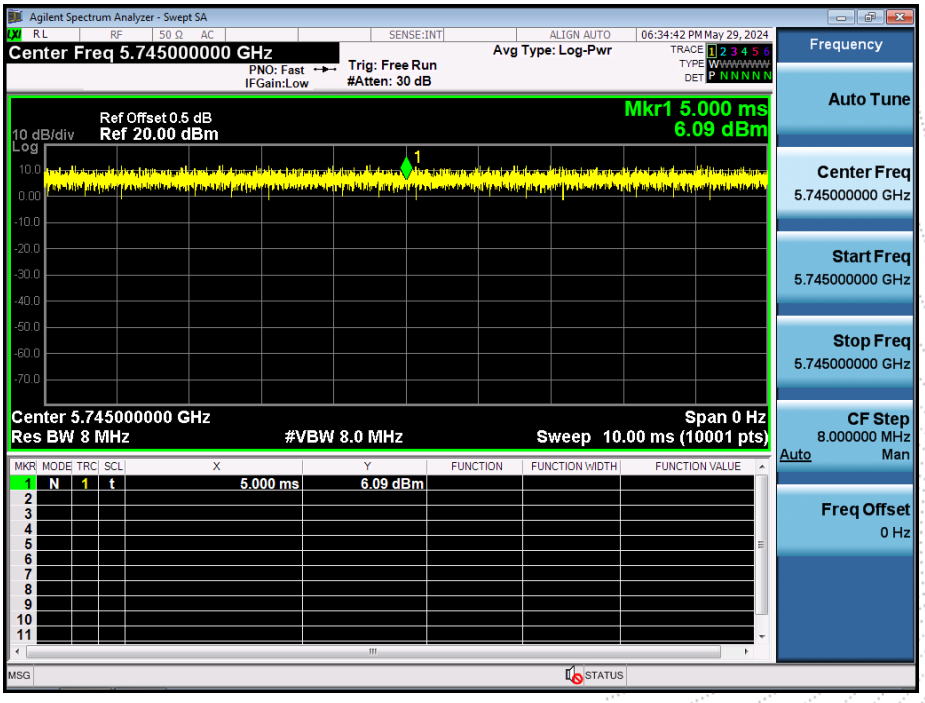
N20



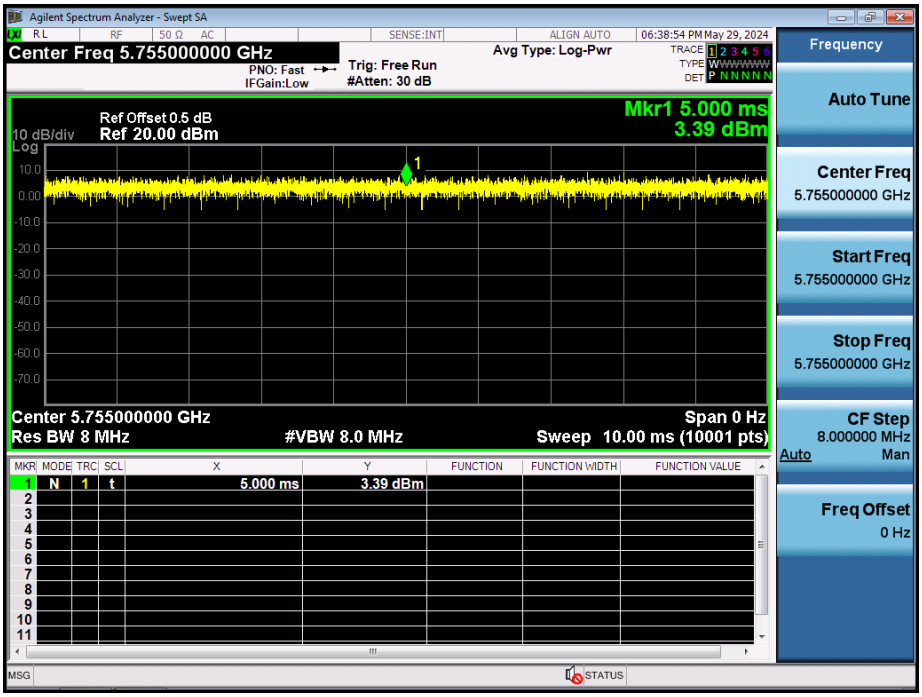
n40


Agilent Spectrum Analyzer - Swept SA
Center Freq 5.755000000 GHz
PNO: Fast
IFGain:Low
Trig: Free Run
#Atten: 30 dB
Avg Type: Log-Pwr
06:37:49 PM May 29, 2024
Ref Offset 0.5 dB
10 dB/div
Ref 20.00 dBm
Mkr1 5.000 ms
5.30 dBm
Center 5.755000000 GHz
Res BW 8 MHz
#VBW 8.0 MHz
Span 0 Hz
Sweep 10.00 ms (10001 pts)
1 N 1 t 5.000 ms 5.30 dBm
Frequency
Auto Tune
Center Freq
5.755000000 GHz
Start Freq
5.755000000 GHz
Stop Freq
5.755000000 GHz
CF Step
8.000000 MHz
Auto
Man
Freq Offset
0 Hz

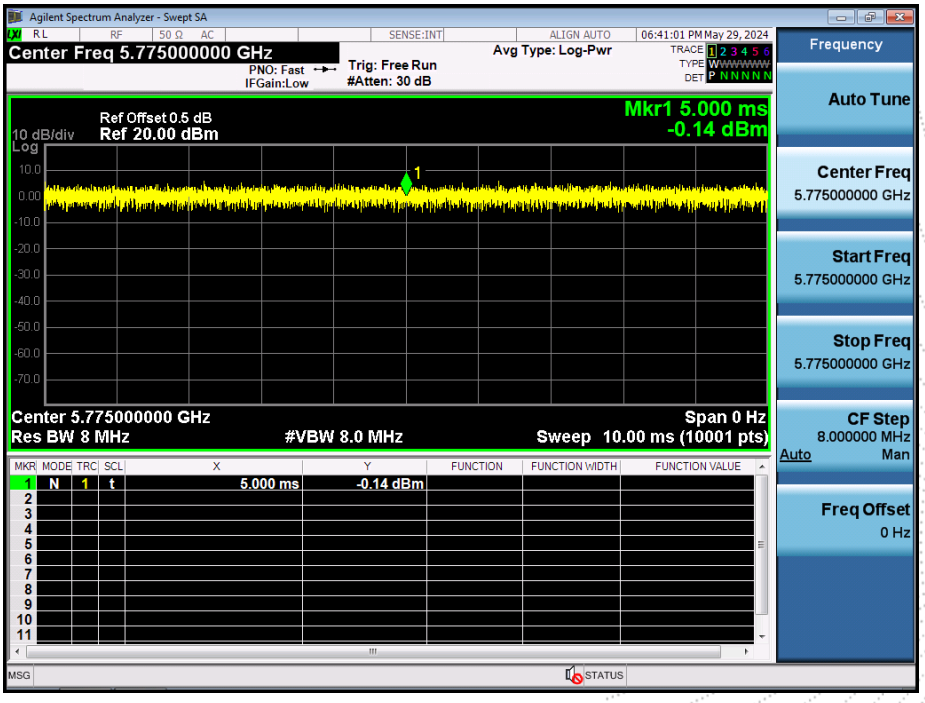
ac20


Agilent Spectrum Analyzer - Swept SA
Center Freq 5.745000000 GHz
PNO: Fast
IFGain:Low
Trig: Free Run
#Atten: 30 dB
Avg Type: Log-Pwr
06:34:42 PM May 29, 2024
Ref Offset 0.5 dB
10 dB/div
Ref 20.00 dBm
Mkr1 5.000 ms
6.09 dBm
Center 5.745000000 GHz
Res BW 8 MHz
#VBW 8.0 MHz
Span 0 Hz
Sweep 10.00 ms (10001 pts)
1 N 1 t 5.000 ms 6.09 dBm
Frequency
Auto Tune
Center Freq
5.745000000 GHz
Start Freq
5.745000000 GHz
Stop Freq
5.745000000 GHz
CF Step
8.000000 MHz
Auto
Man
Freq Offset
0 Hz

ac40


Agilent Spectrum Analyzer - Swept SA
Center Freq 5.755000000 GHz
PNO: Fast
IFGain:Low
Trig: Free Run
#Atten: 30 dB
Avg Type: Log-Pwr
06:38:54 PM May 29, 2024
Ref Offset 0.5 dB
10 dB/div
Ref 20.00 dBm
Mkr1 5.000 ms
3.39 dBm
Center 5.755000000 GHz
Res BW 8 MHz
#VBW 8.0 MHz
Span 0 Hz
Sweep 10.00 ms (10001 pts)
1 N 1 t 5.000 ms 3.39 dBm
Frequency
Auto Tune
Center Freq
5.755000000 GHz
Start Freq
5.755000000 GHz
Stop Freq
5.755000000 GHz
CF Step
8.000000 MHz
Auto
Man
Freq Offset
0 Hz

ac80


Agilent Spectrum Analyzer - Swept SA
Center Freq 5.775000000 GHz
PNO: Fast
IFGain:Low
Trig: Free Run
#Atten: 30 dB
Avg Type: Log-Pwr
06:41:01 PM May 29, 2024
Ref Offset 0.5 dB
10 dB/div
Ref 20.00 dBm
Mkr1 5.000 ms
-0.14 dBm
Center 5.775000000 GHz
Res BW 8 MHz
#VBW 8.0 MHz
Span 0 Hz
Sweep 10.00 ms (10001 pts)
1 N 1 t 5.000 ms -0.14 dBm
Frequency
Auto Tune
Center Freq
5.775000000 GHz
Start Freq
5.775000000 GHz
Stop Freq
5.775000000 GHz
CF Step
8.000000 MHz
Auto
Man
Freq Offset
0 Hz

15. Antenna Requirement

15.1 Limit

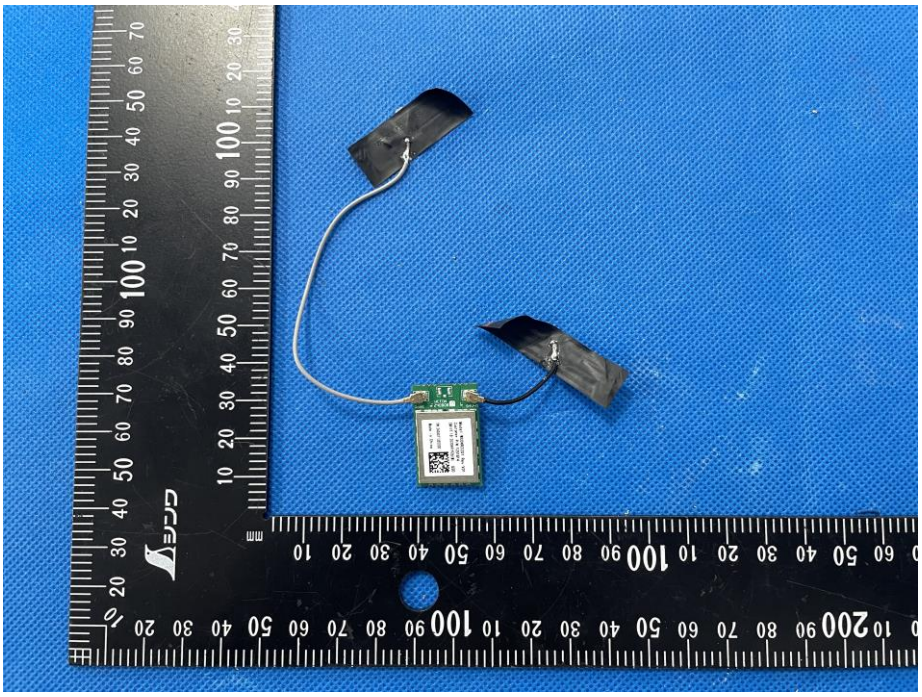
15.203 requirement: For intentional device, according to 15.203: an intentional radiator shall be designed to ensure that no antenna other than that furnished by the responsible party shall be used with the device.

15.2 Test Result

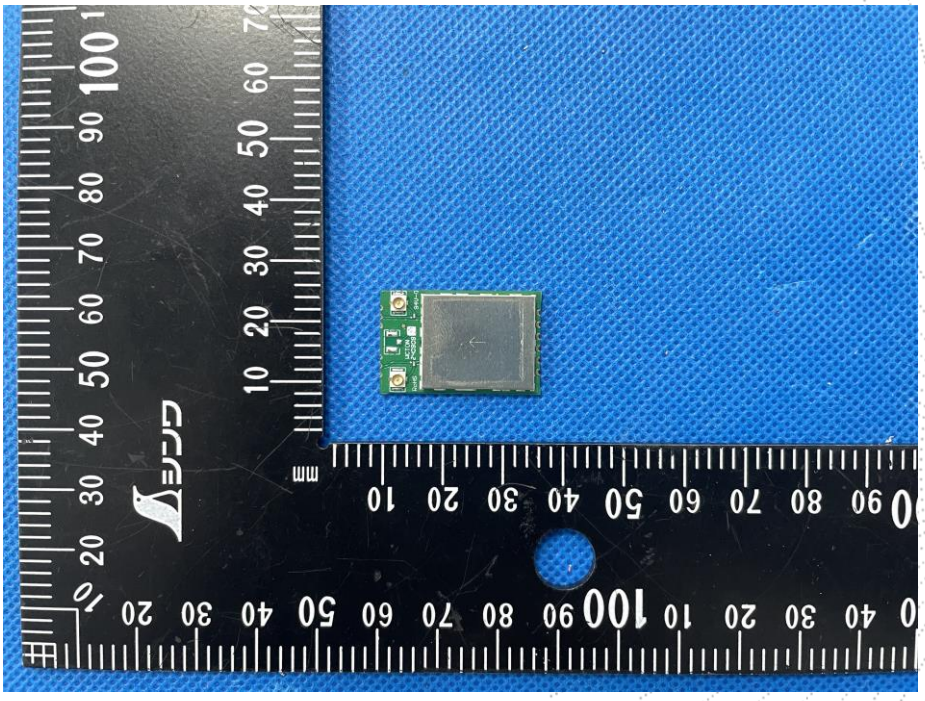
The EUT antenna is FPC antenna (antenna gain (A): 5 dBi; antenna gain (B): 3.9 dBi). It comply with the standard requirement.

16. EUT Photographs

EUT Photo 1



EUT Photo 2



NOTE: Appendix-Photographs Of EUT Constructional Details