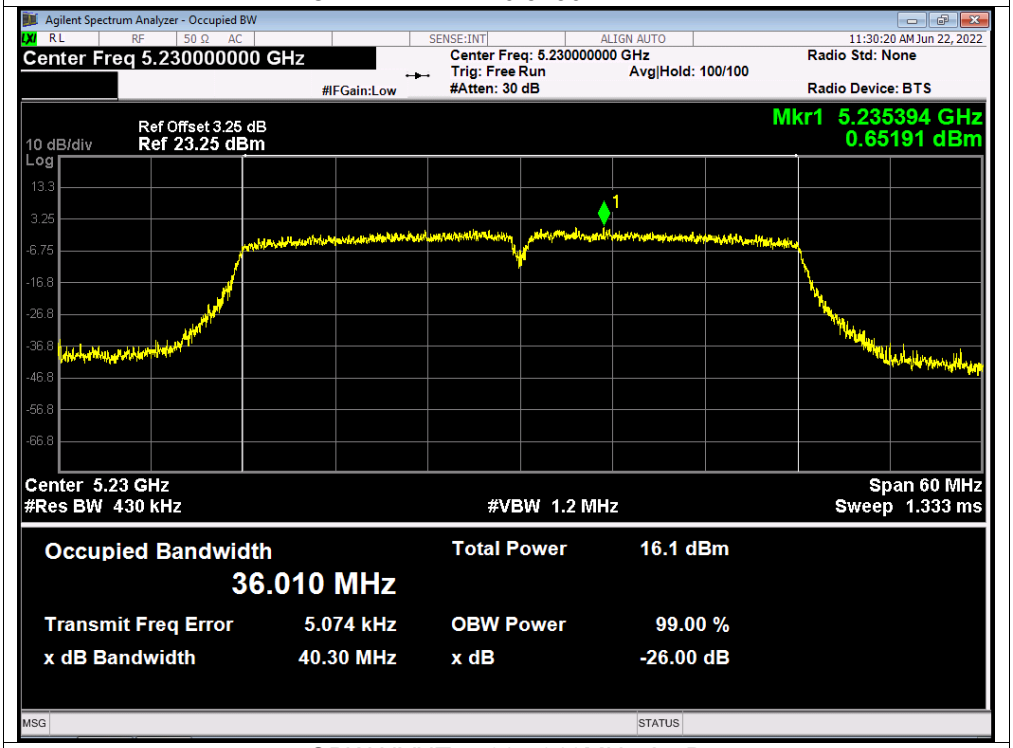
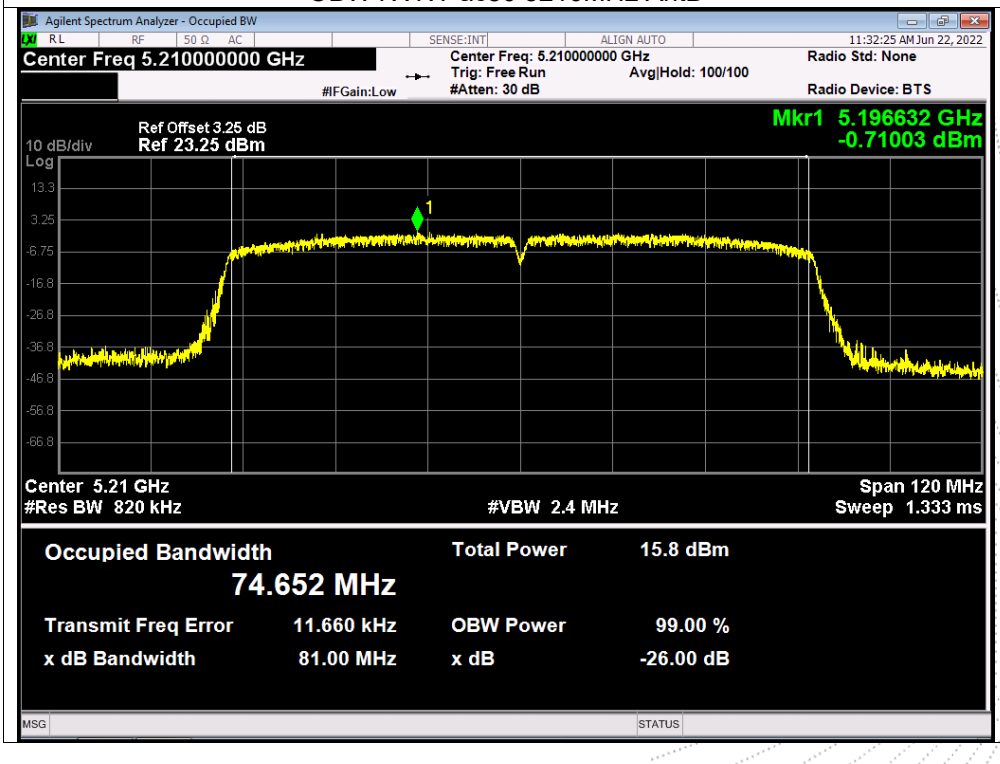
OBW NVNT ac40 5230MHz AntB



OBW NVNT ac80 5210MHz AntB



Temperature:	26 ℃	Relative Humidity:	54%
Pressure:	101KPa	Test Voltage:	AC120V/60Hz
Test Mode:	(5745-5825MHz)		

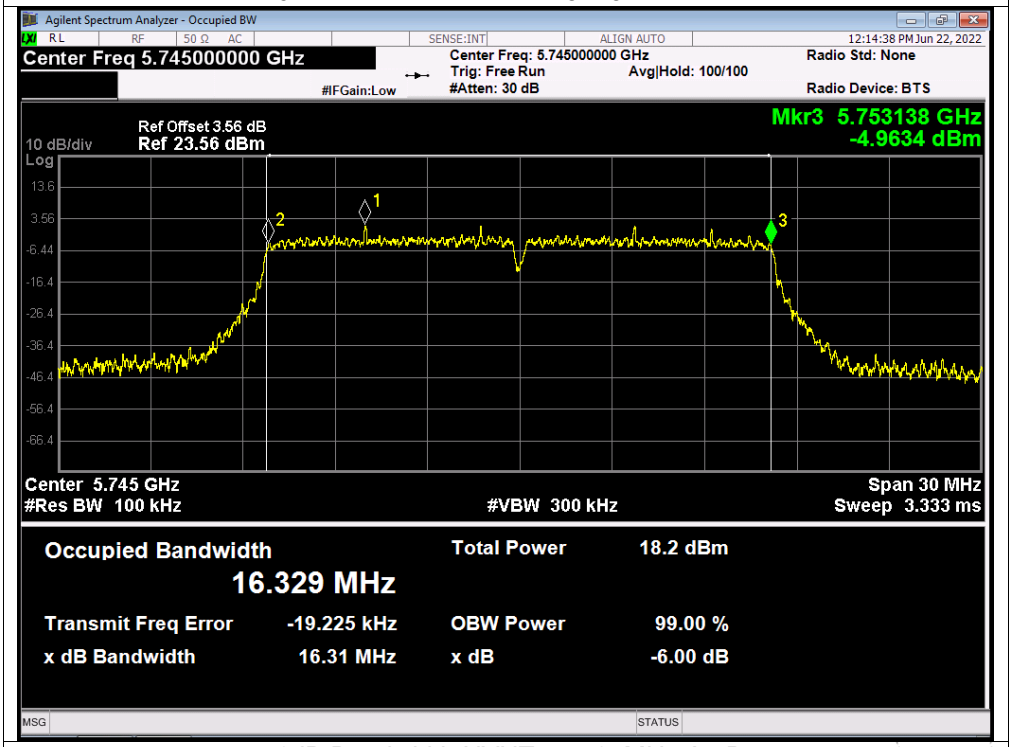
Condition	Mode	Frequency (MHz)	-6 dB Bandwidth (MHz)		Limit -6 dB Bandwidth (MHz)	Verdict
			Ant A	Ant B		
NVNT	a	5745	16.318	16.314	0.5	Pass
NVNT	a	5785	16.312	16.305	0.5	Pass
NVNT	a	5825	16.308	16.318	0.5	Pass
NVNT	n20	5745	17.574	17.552	0.5	Pass
NVNT	n20	5785	17.562	17.562	0.5	Pass
NVNT	n20	5825	17.57	17.175	0.5	Pass
NVNT	n40	5755	35.056	35.114	0.5	Pass
NVNT	n40	5795	34.413	35.008	0.5	Pass
NVNT	ac20	5745	17.537	17.561	0.5	Pass
NVNT	ac20	5785	17.565	17.555	0.5	Pass
NVNT	ac20	5825	17.528	17.277	0.5	Pass
NVNT	ac40	5755	33.699	35.077	0.5	Pass
NVNT	ac40	5795	35.136	35.12	0.5	Pass
NVNT	ac80	5775	73.845	**74.999**	0.5	Pass

Condition	Mode	Frequency (MHz)	99% OBW (MHz)	
			Ant A	Ant B
NVNT	a	5745	16.348	16.339
NVNT	a	5785	16.345	16.355
NVNT	a	5825	16.337	16.332
NVNT	n20	5745	17.538	17.536
NVNT	n20	5785	17.538	17.545
NVNT	n20	5825	17.525	17.528
NVNT	n40	5755	36.035	36.137
NVNT	n40	5795	36.029	36.029
NVNT	ac20	5745	17.53	17.541
NVNT	ac20	5785	17.52	17.533
NVNT	ac20	5825	17.518	17.523
NVNT	ac40	5755	36.037	36.06
NVNT	ac40	5795	36.056	36.025
NVNT	ac80	5775	74.588	**74.639**

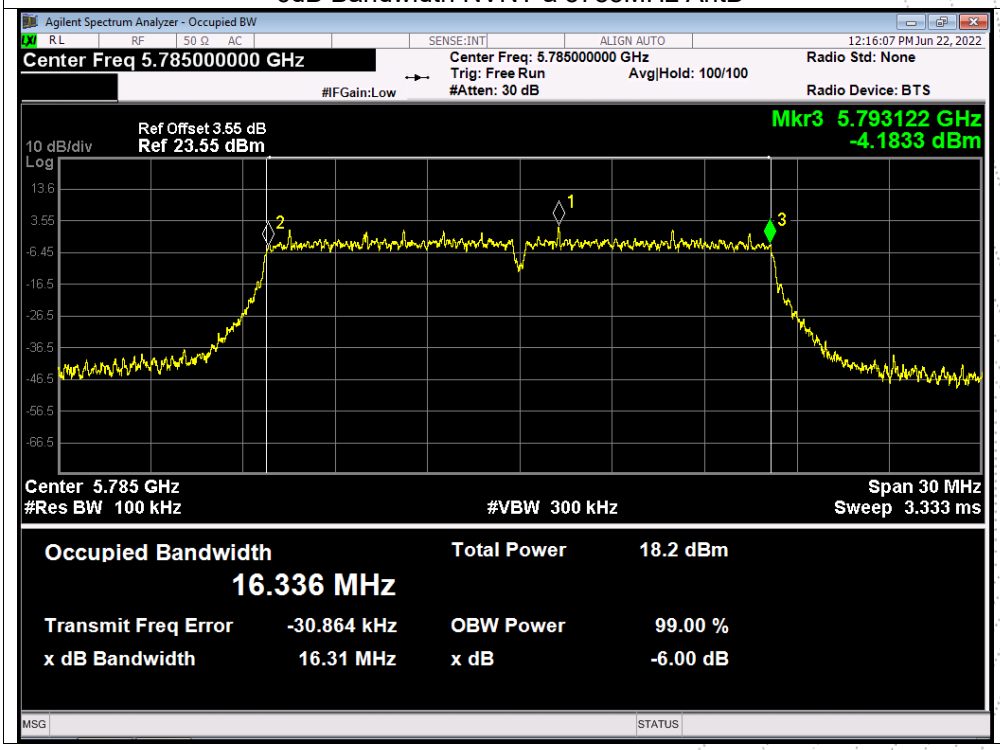
Note: A(B) Represent the value of antenna A and B, The worst data is Antenna B, only shown Antenna B Plot.

Test Graphs

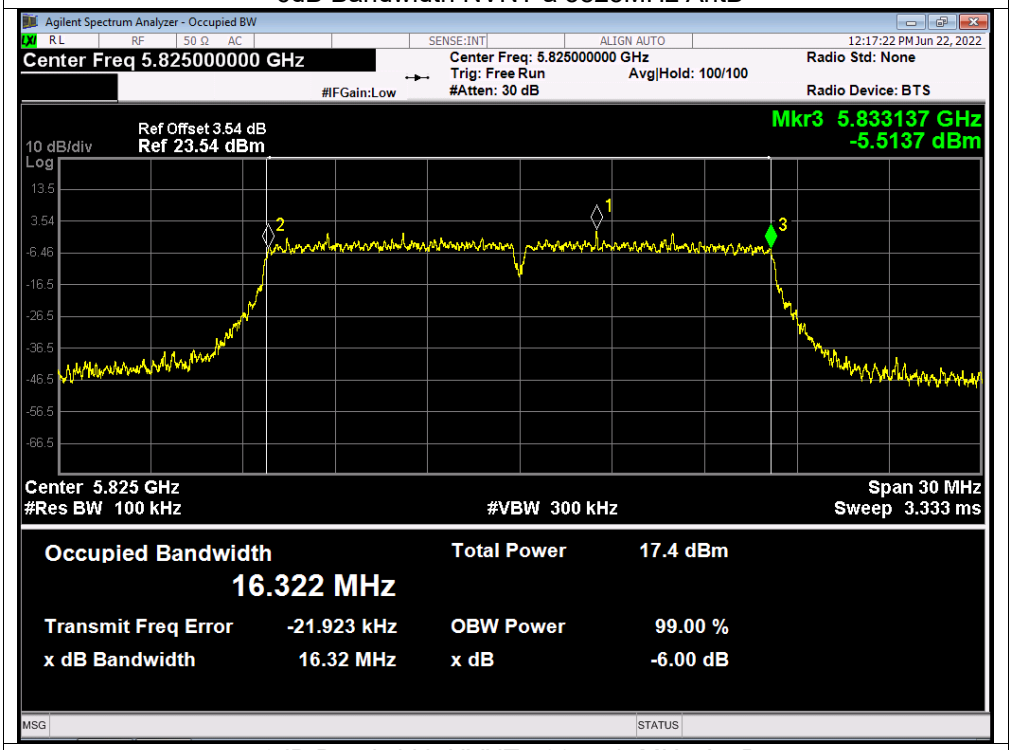
-6dB Bandwidth NVNT a 5745MHz AntB



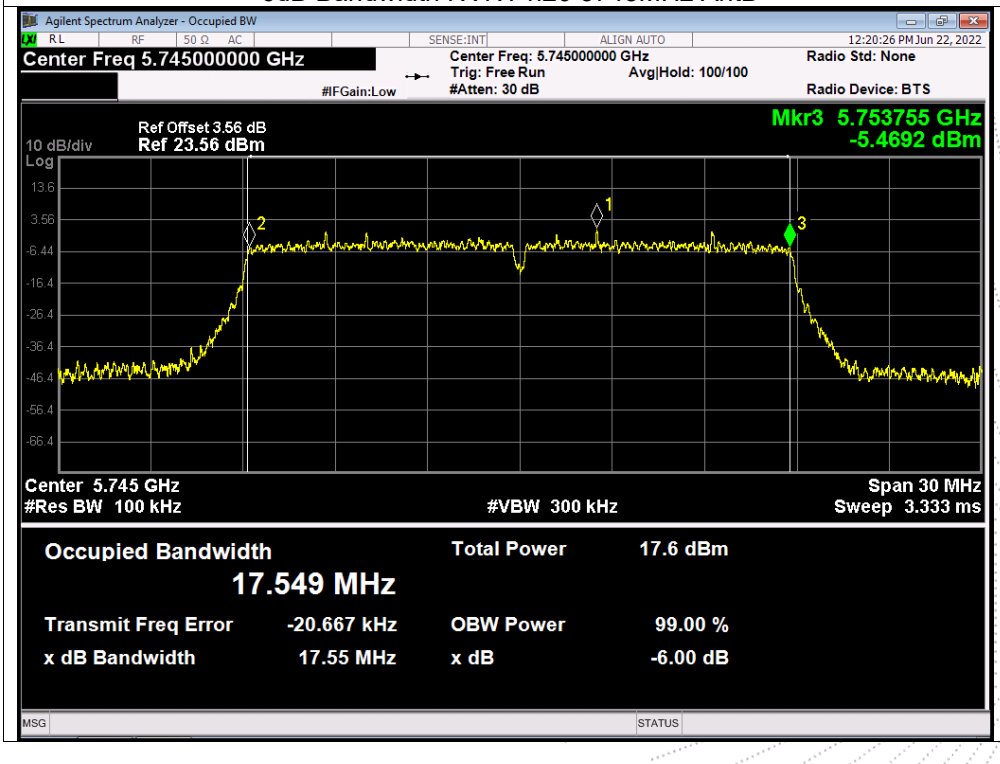
-6dB Bandwidth NVNT a 5785MHz AntB



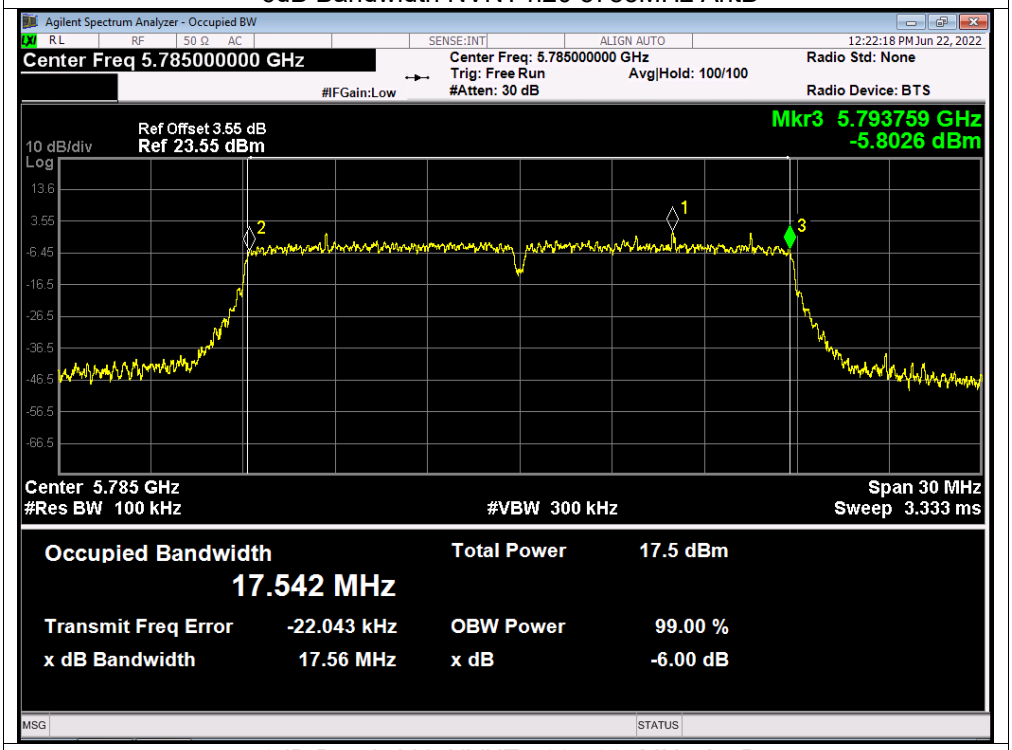
-6dB Bandwidth NVNT a 5825MHz AntB



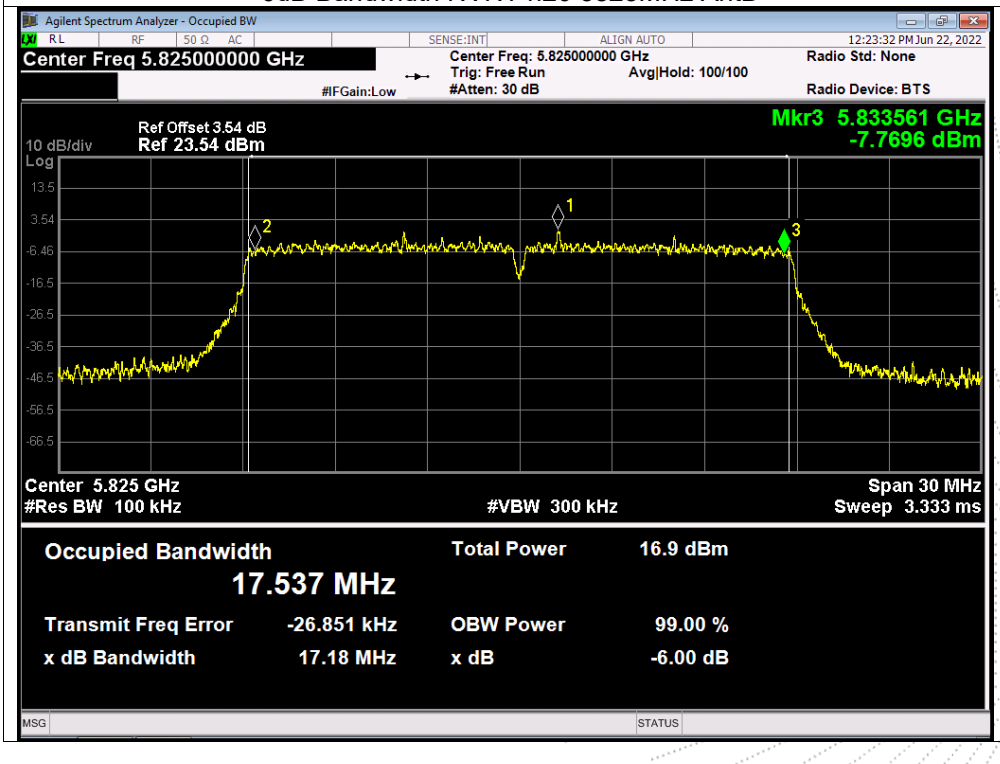
-6dB Bandwidth NVNT n20 5745MHz AntB



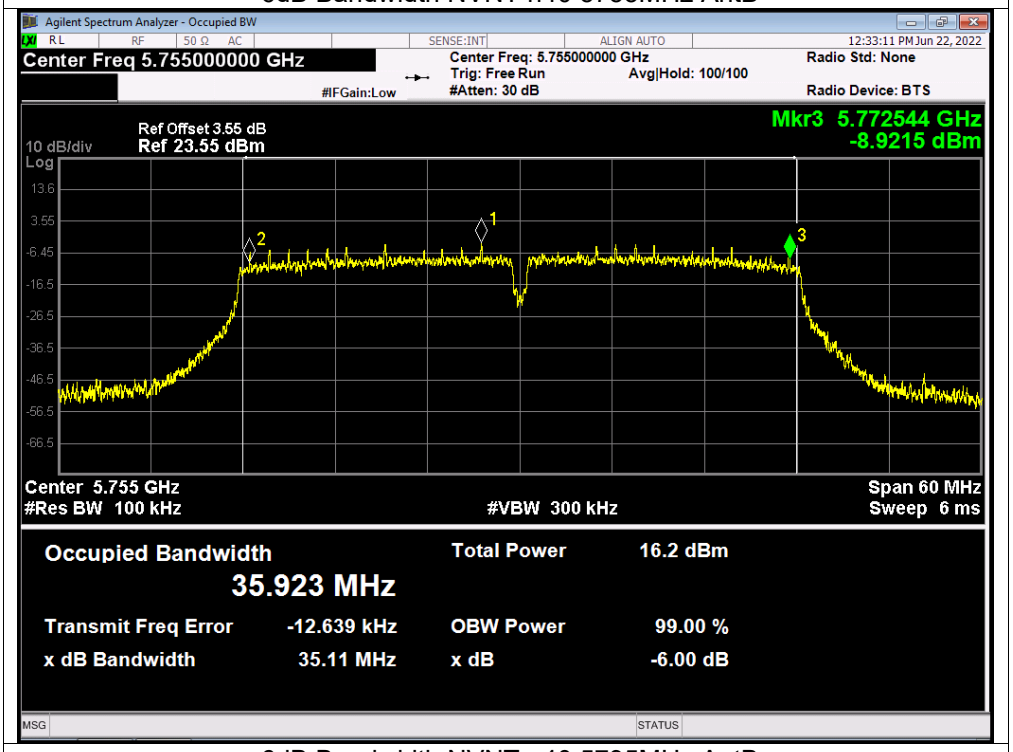
-6dB Bandwidth NVNT n20 5785MHz AntB



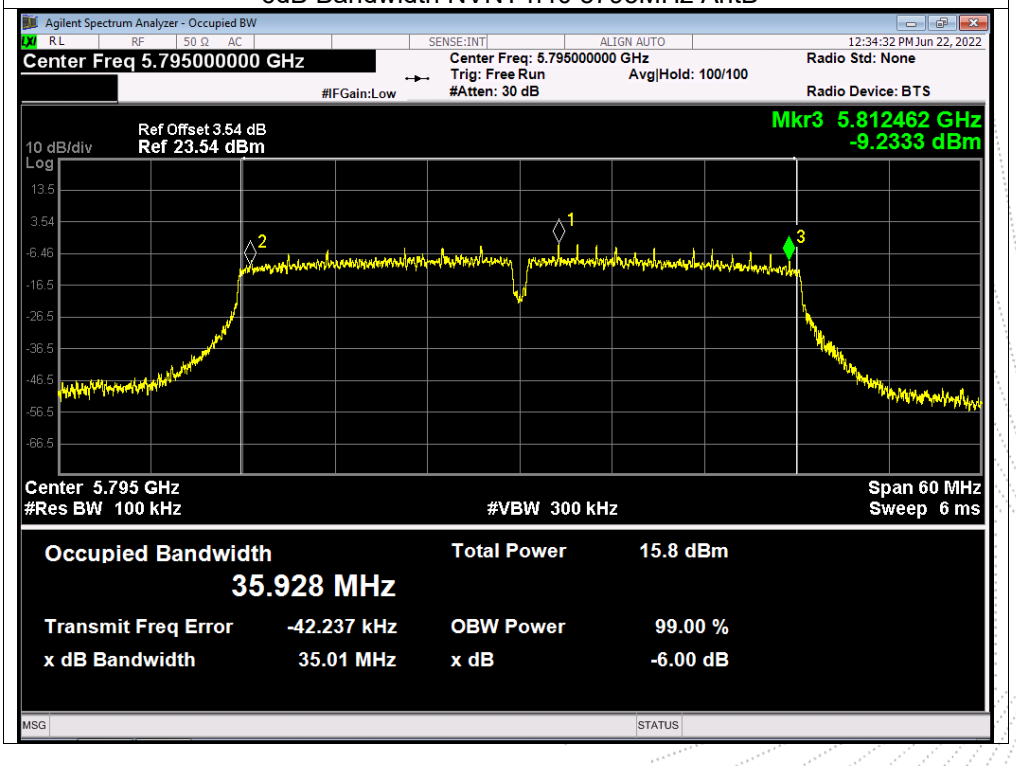
-6dB Bandwidth NVNT n20 5825MHz AntB



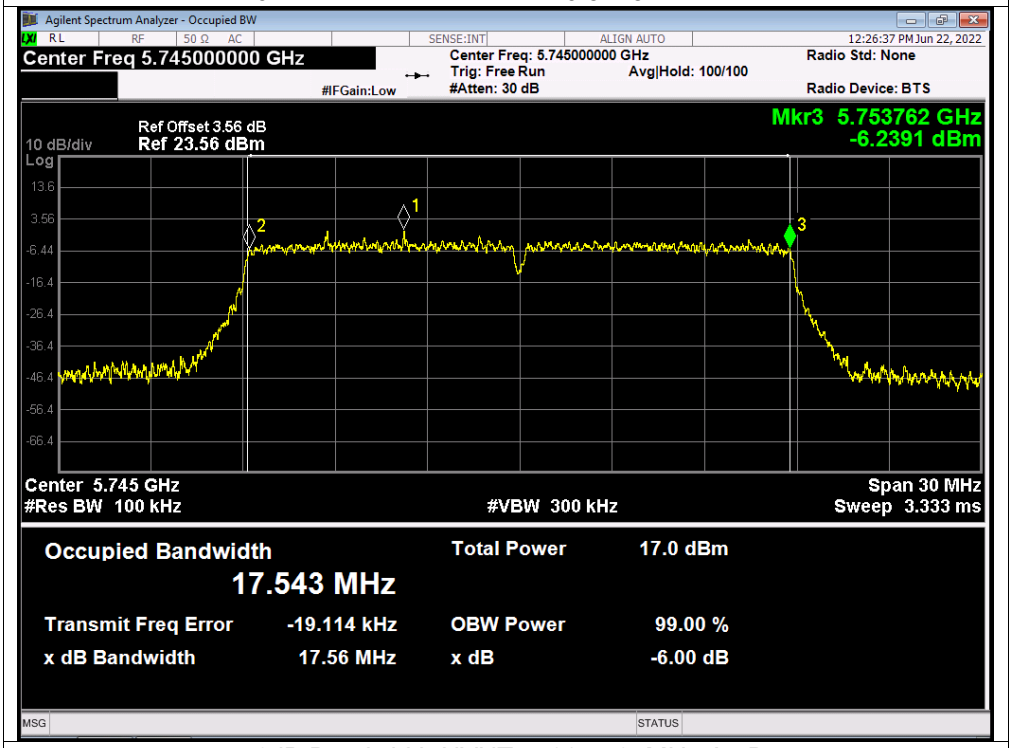
-6dB Bandwidth NVNT n40 5755MHz AntB



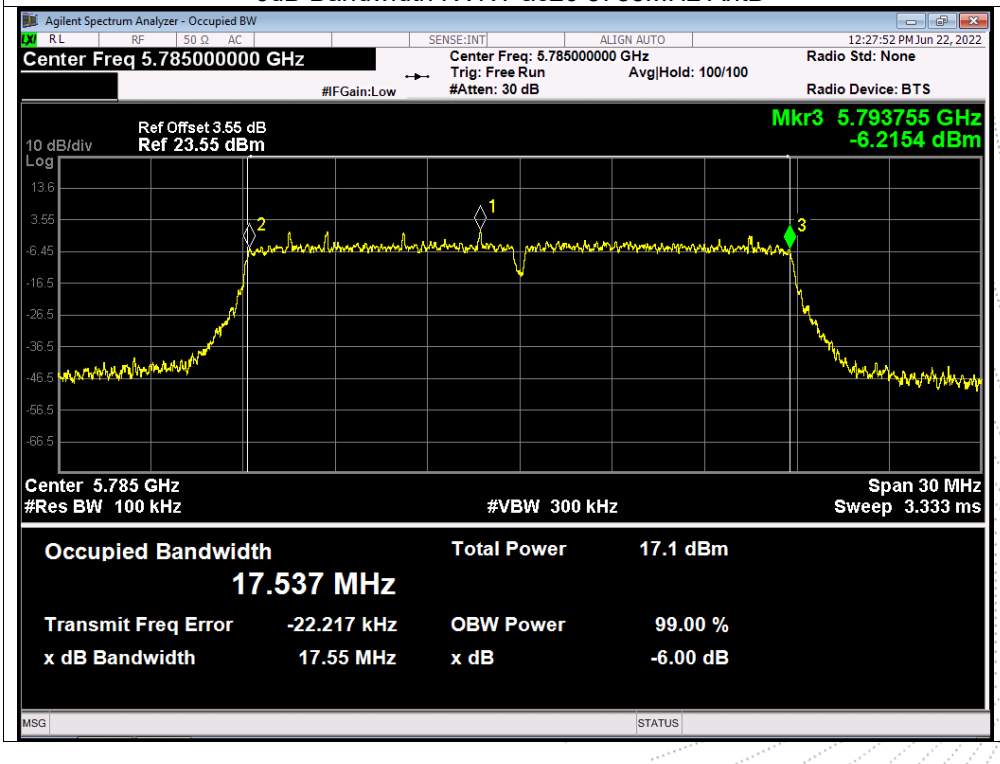
-6dB Bandwidth NVNT n40 5795MHz AntB



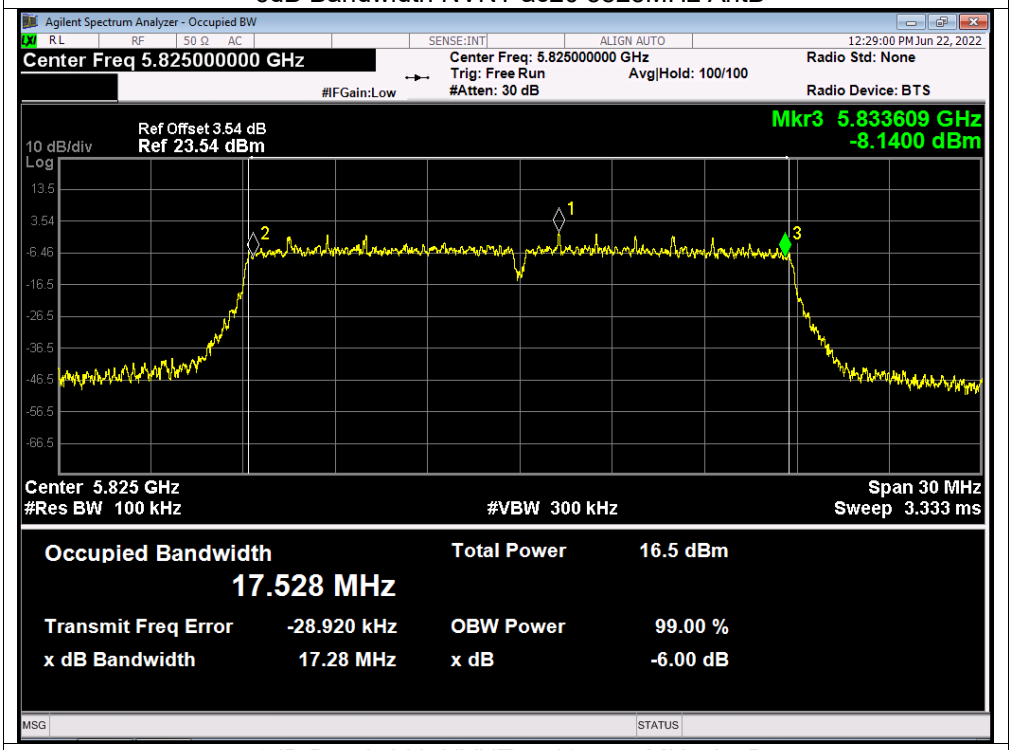
-6dB Bandwidth NVNT ac20 5745MHz AntB



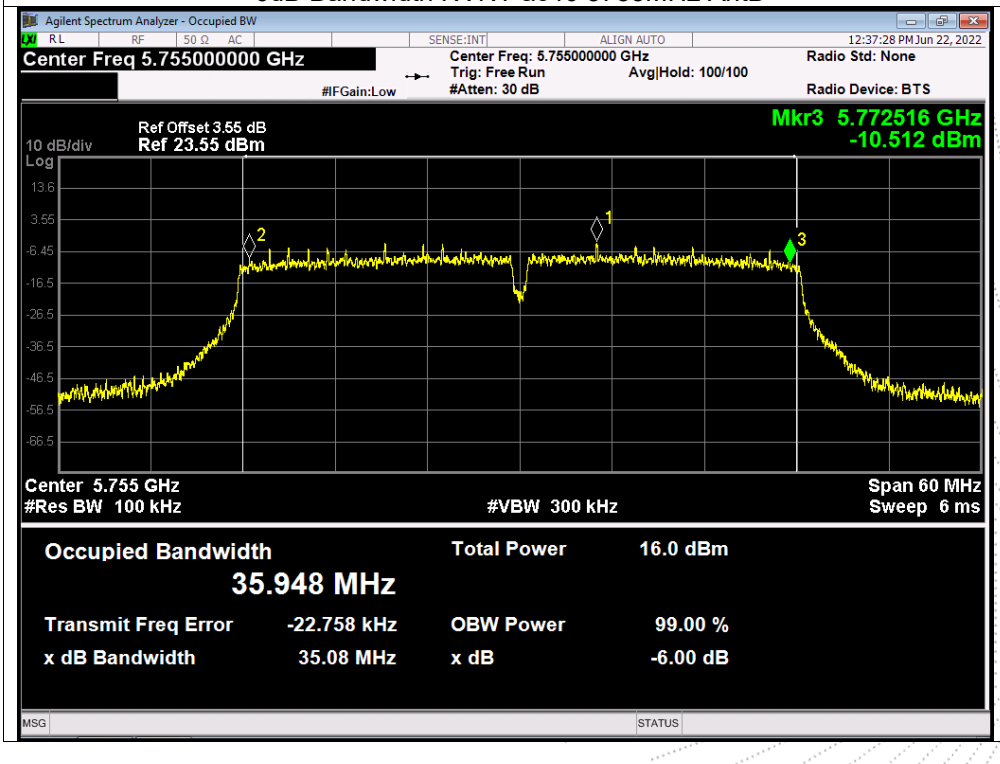
-6dB Bandwidth NVNT ac20 5785MHz AntB



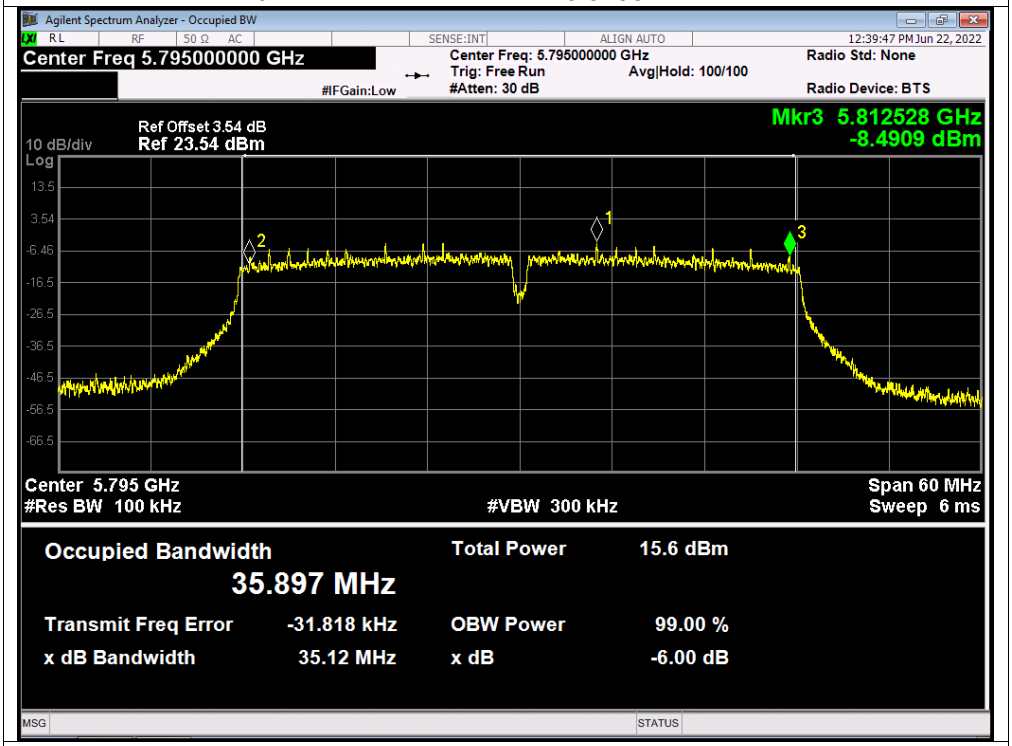
-6dB Bandwidth NVNT ac20 5825MHz AntB



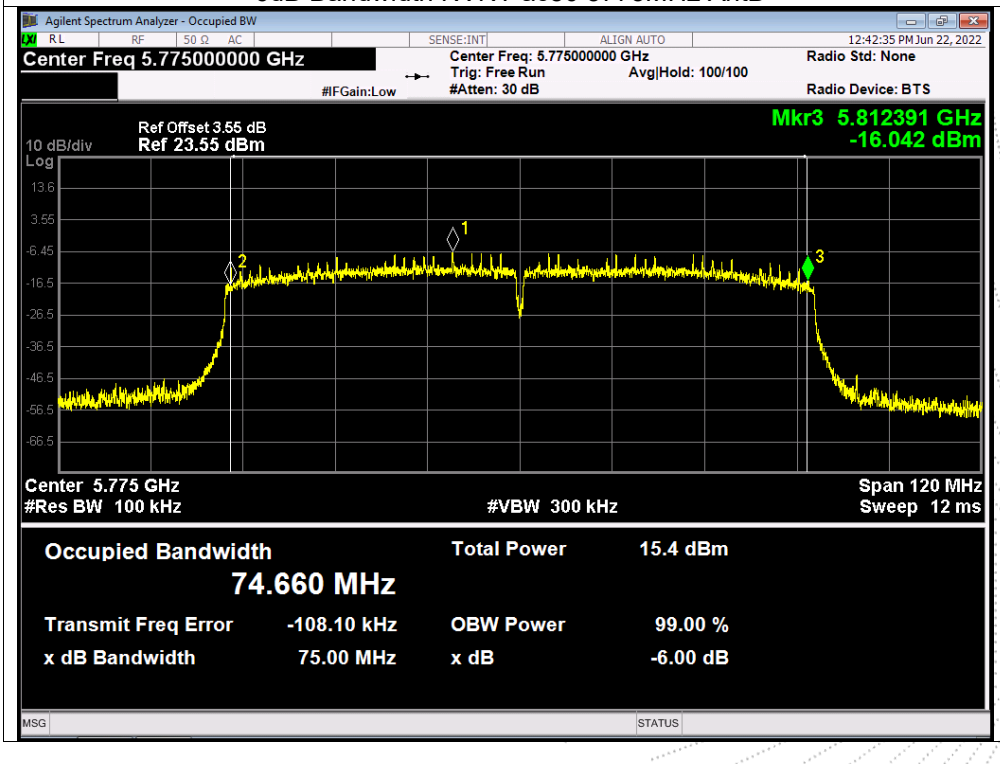
-6dB Bandwidth NVNT ac40 5755MHz AntB



-6dB Bandwidth NVNT ac40 5795MHz AntB



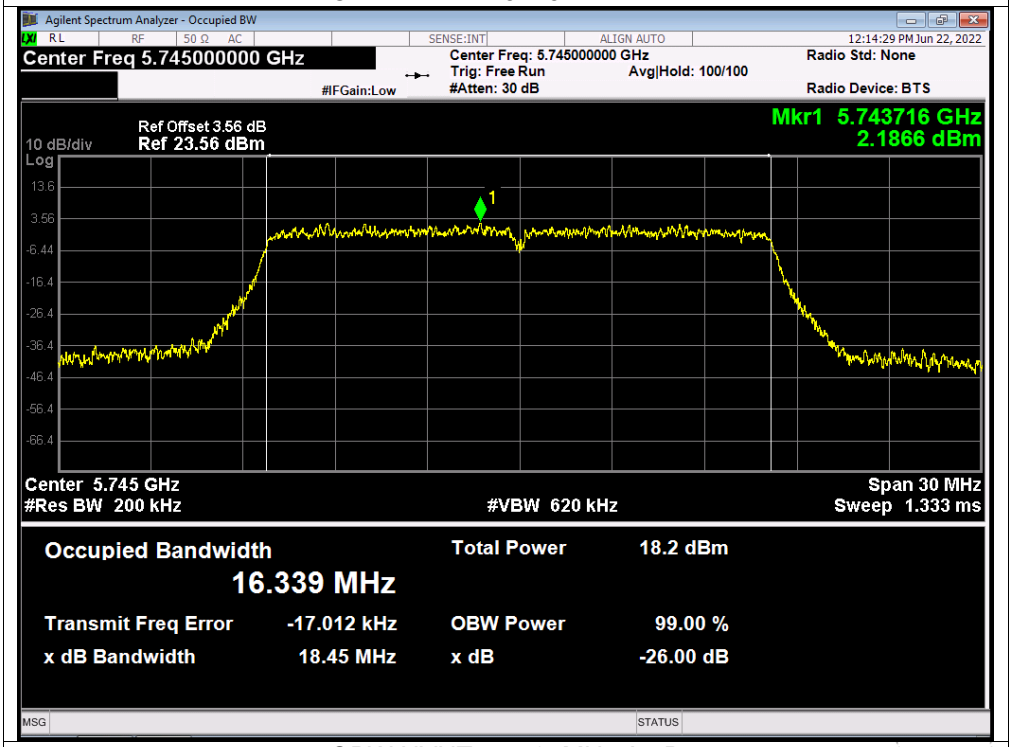
-6dB Bandwidth NVNT ac80 5775MHz AntB



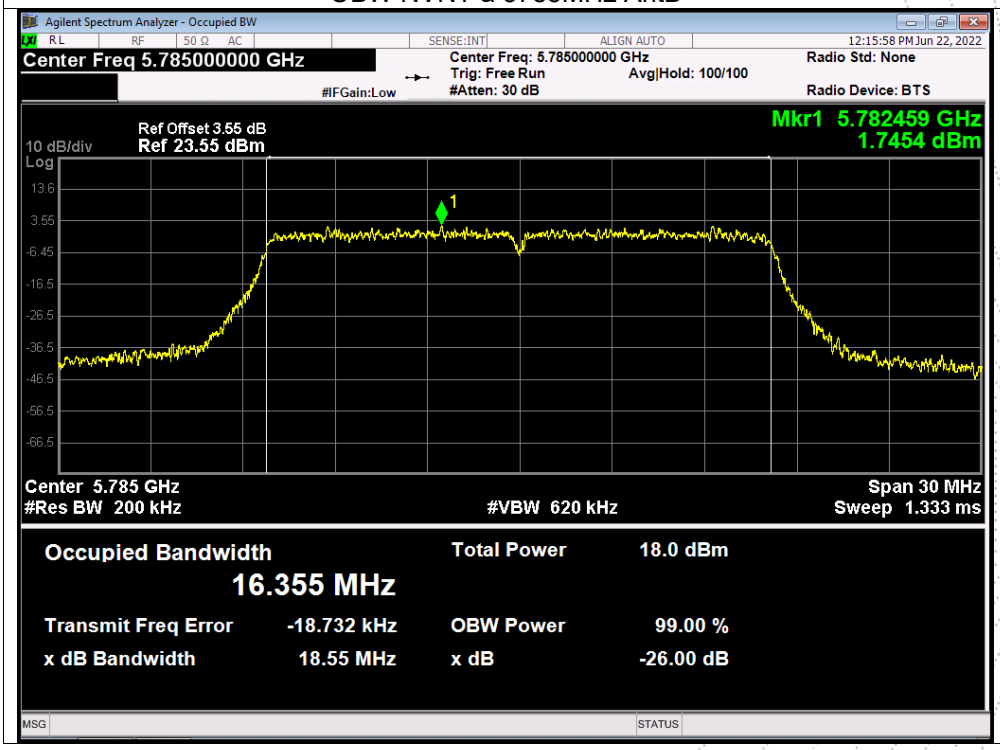
Note: A(B) Represent the value of antenna A and B, The worst data is Antenna B, only shown Antenna B Plot.

Test Graphs

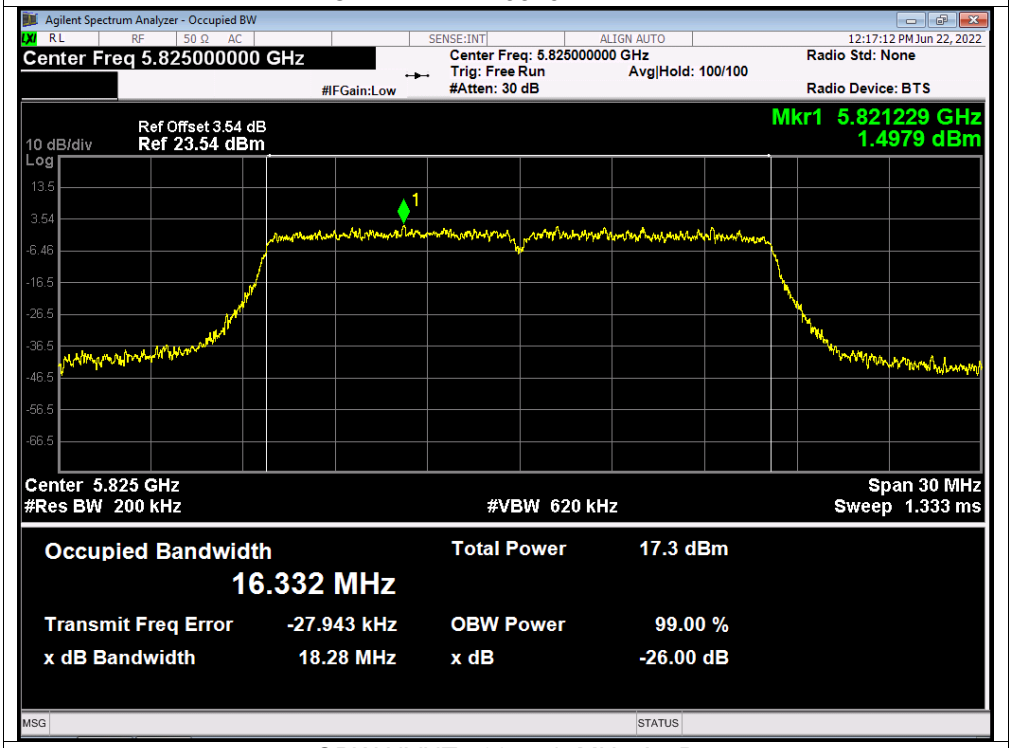
OBW NVNT a 5745MHz AntB



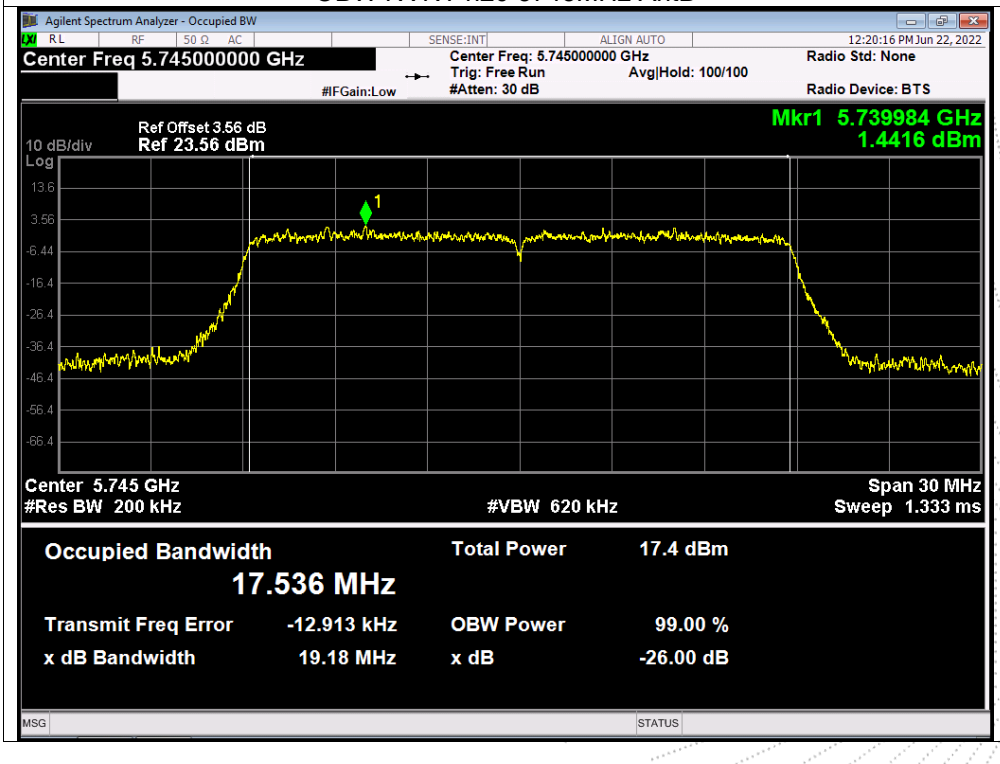
OBW NVNT a 5785MHz AntB



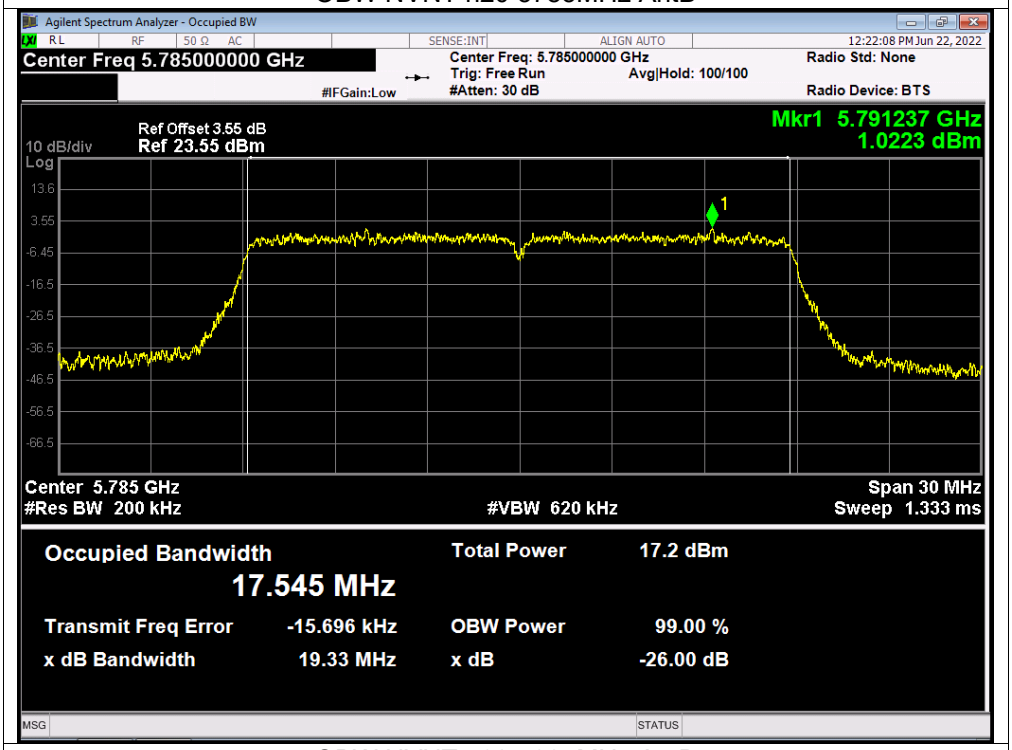
OBW NVNT a 5825MHz AntB



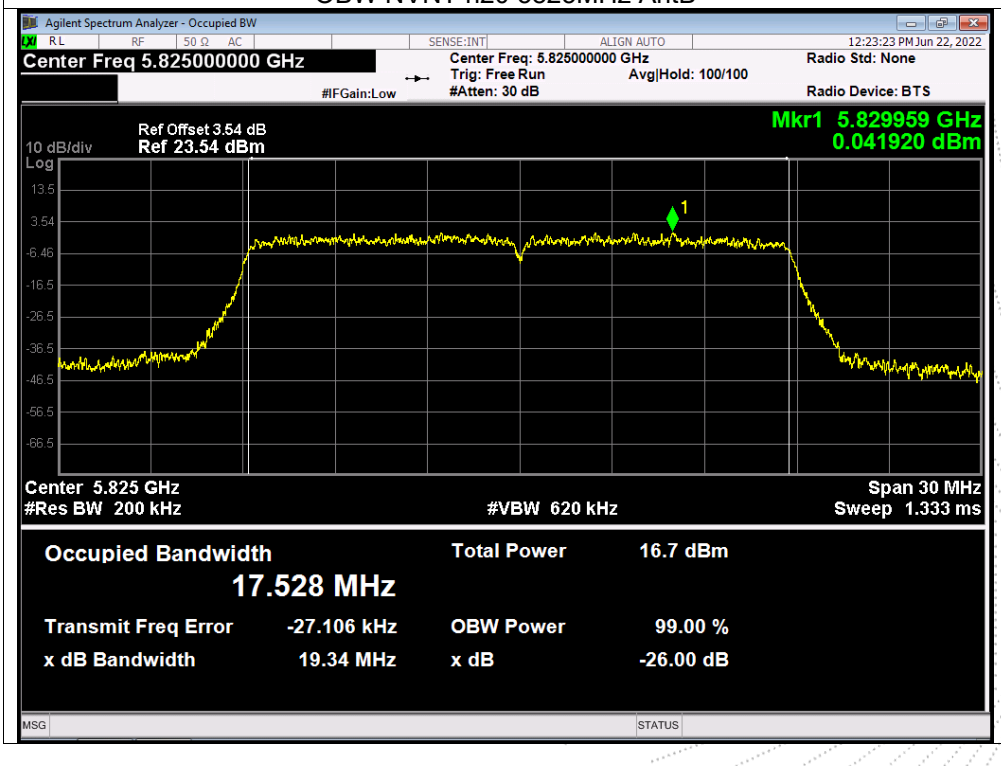
OBW NVNT n20 5745MHz AntB



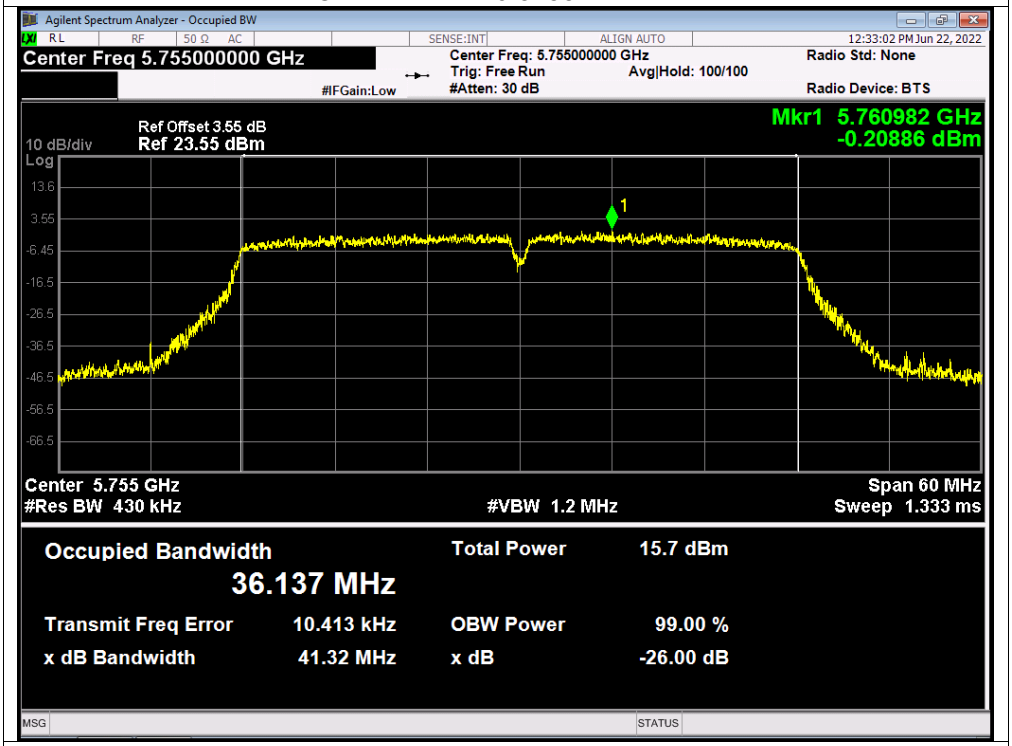
OBW NVNT n20 5785MHz AntB



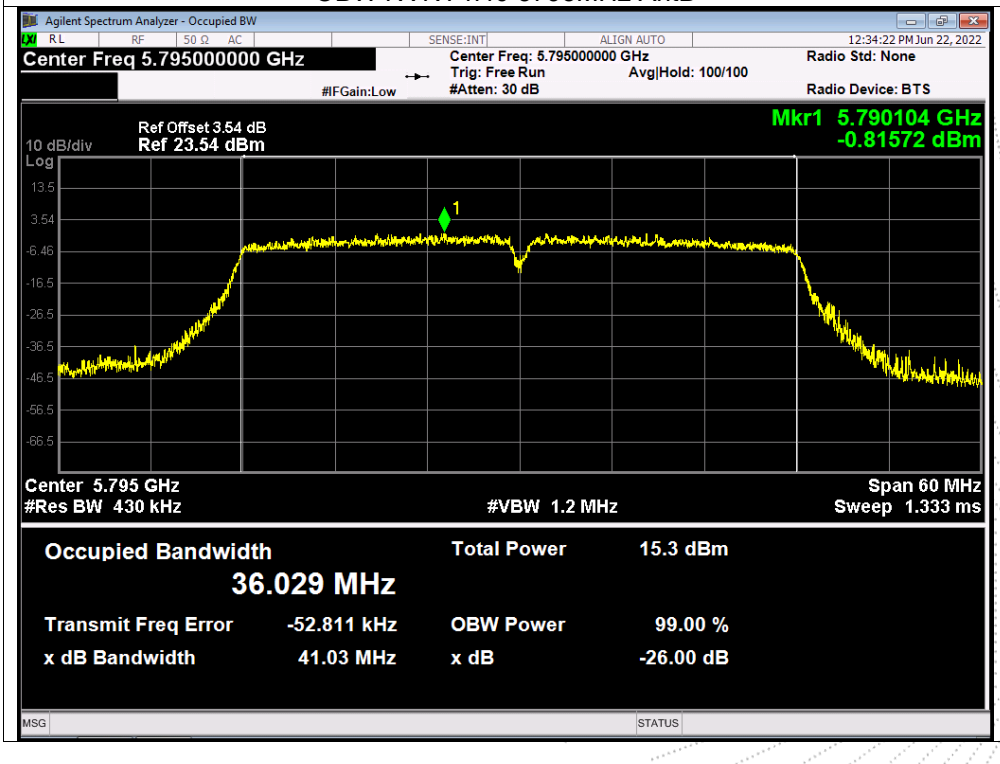
OBW NVNT n20 5825MHz AntB



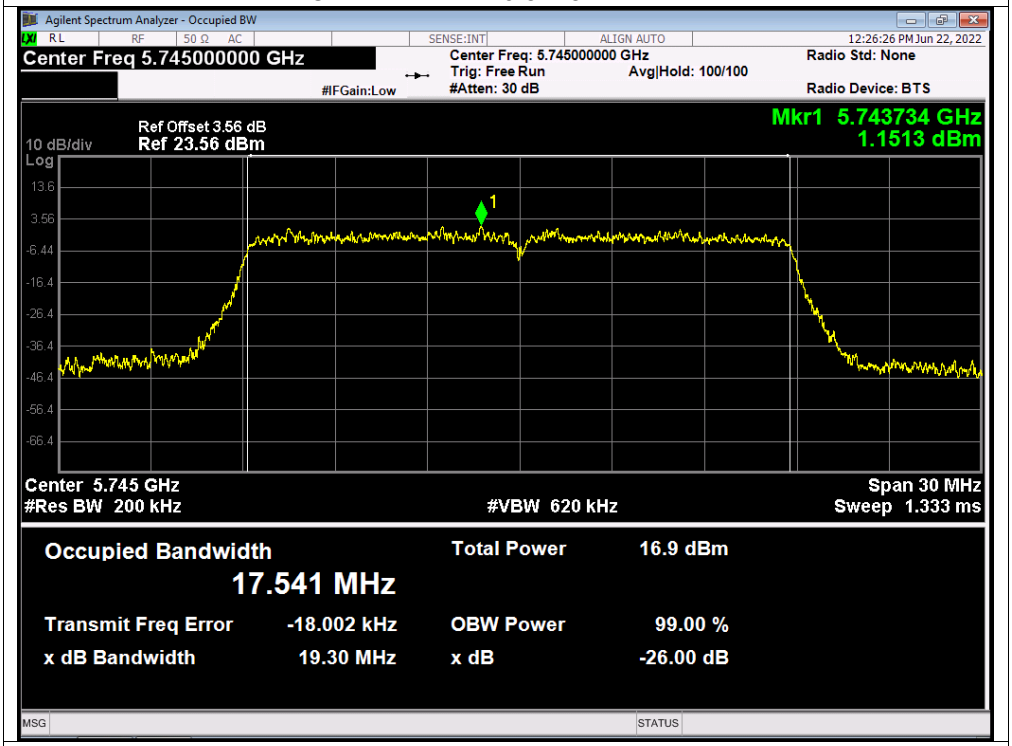
OBW NVNT n40 5755MHz AntB



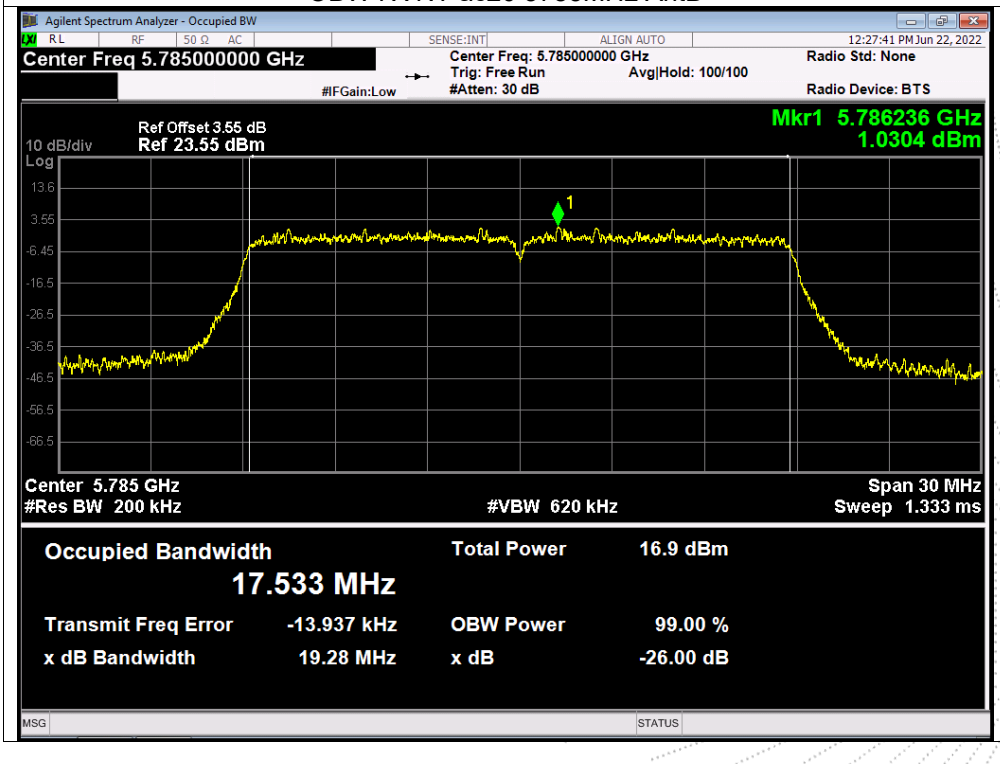
OBW NVNT n40 5795MHz AntB



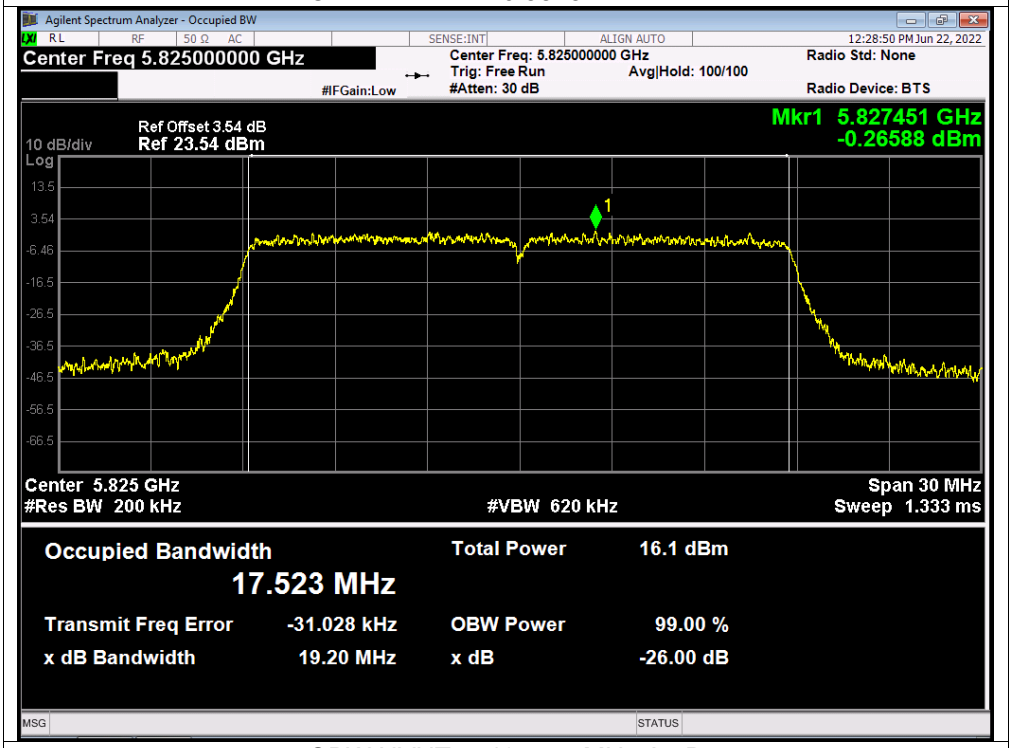
OBW NVNT ac20 5745MHz AntB



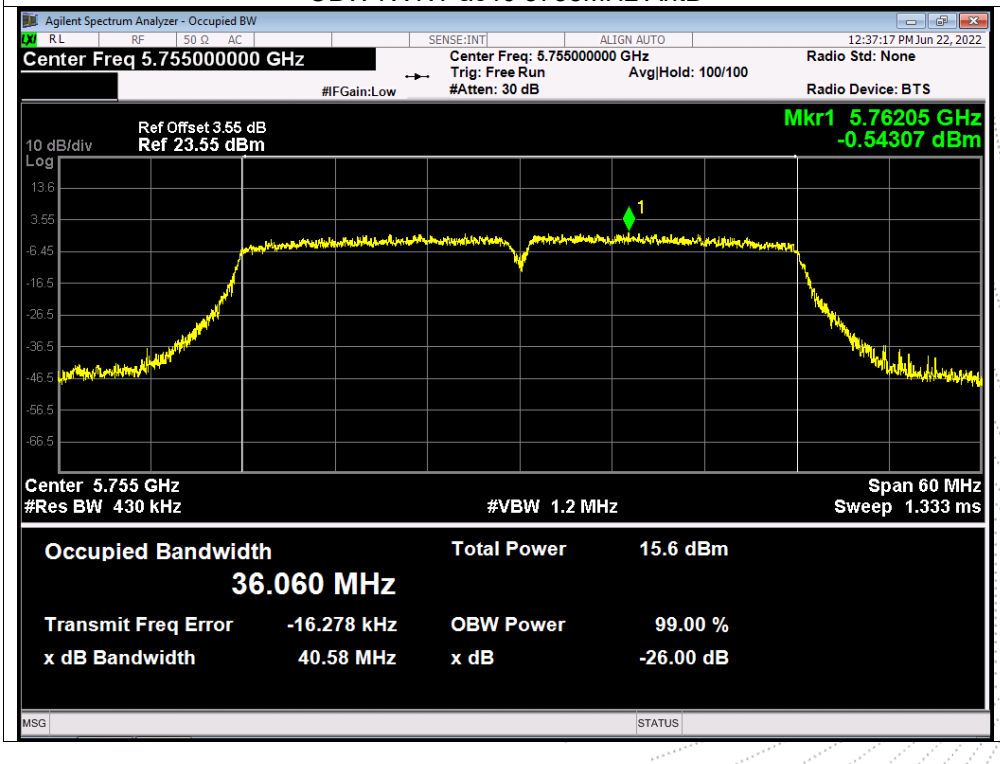
OBW NVNT ac20 5785MHz AntB



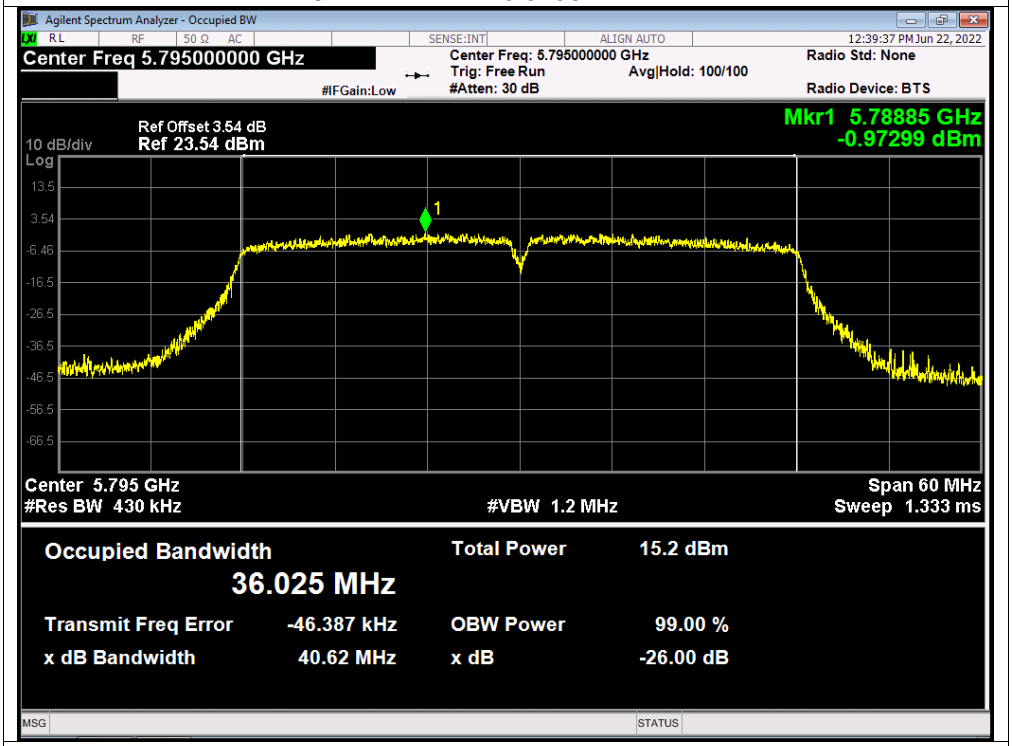
OBW NVNT ac20 5825MHz AntB



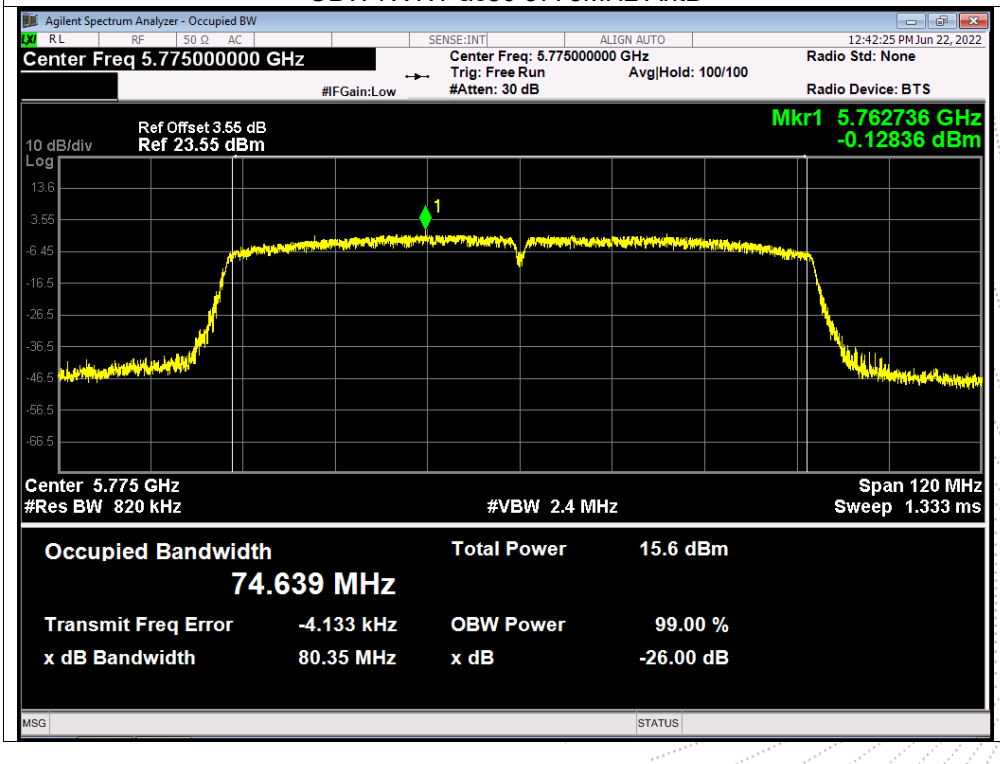
OBW NVNT ac40 5755MHz AntB



OBW NVNT ac40 5795MHz AntB

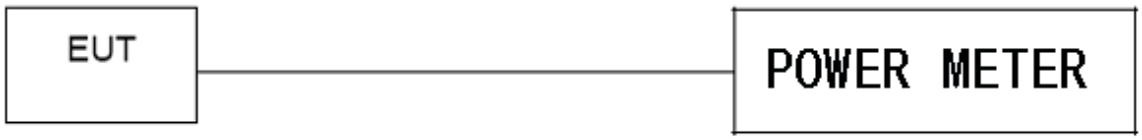


OBW NVNT ac80 5775MHz AntB



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	0.25W
5250~5350	0.25W
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:	AC120V/60Hz
Test Mode:	5180-5240MHz		

Condition	Mode	Frequency (MHz)	Conducted Power (dBm)		Total(dBm)	Limit (dBm)	Verdict
			Ant A	Ant B			
NVNT	a	5180	12.07	11.99	/	24	Pass
NVNT	a	5200	11.63	12.01	/	24	Pass
NVNT	a	5240	10.57	11.12	/	24	Pass
NVNT	n20	5180	11.25	11.08	14.18	24	Pass
NVNT	n20	5200	11.29	10.32	13.84	24	Pass
NVNT	n20	5240	10.49	11.09	13.81	24	Pass
NVNT	n40	5190	9.41	9.17	12.30	24	Pass
NVNT	n40	5230	10.06	9.56	12.83	24	Pass
NVNT	ac20	5180	10.65	10.72	13.70	24	Pass
NVNT	ac20	5200	10.2	9.92	13.07	24	Pass
NVNT	ac20	5240	10.24	10.8	13.54	24	Pass
NVNT	ac40	5190	9.07	9.12	12.11	24	Pass
NVNT	ac40	5230	9.94	9.45	12.71	24	Pass
NVNT	ac80	5210	8.61	8.66	11.65	24	Pass

Note:
Antenna A gain:3.83 dBi, Antenna B gain: 3.83 dBi,

For power measurements,
The Array gain=0 for NANT≤4,
So the directional gain for Power measurements is 3.83 dBi

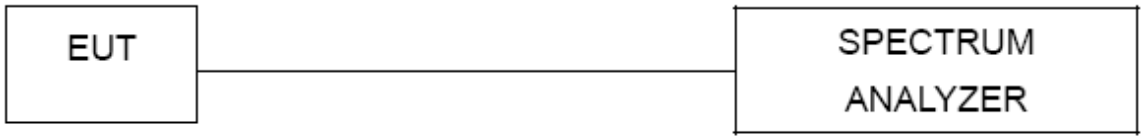
Temperature:	26 ℃	Relative Humidity:	54%
Pressure:	101KPa	Test Voltage:	AC120V/60Hz
Test Mode:	5745-5825MHz		

Condition	Mode	Frequency (MHz)	Conducted Power (dBm)		Total(dBm)	Limit (dBm)	Verdict
			Ant A	Ant B			
NVNT	a	5745	9.59	8.71	/	30	Pass
NVNT	a	5785	9.16	8.35	/	30	Pass
NVNT	a	5825	8.61	7.54	/	30	Pass
NVNT	n20	5745	9.05	7.66	11.42	30	Pass
NVNT	n20	5785	8.52	7.27	10.95	30	Pass
NVNT	n20	5825	7.42	6.59	10.04	30	Pass
NVNT	n40	5755	6.94	5.87	9.45	30	Pass
NVNT	n40	5795	6.31	5.5	8.93	30	Pass
NVNT	ac20	5745	7.98	6.86	10.47	30	Pass
NVNT	ac20	5785	7.71	6.56	10.18	30	Pass
NVNT	ac20	5825	6.73	5.86	9.33	30	Pass
NVNT	ac40	5755	5.98	4.83	8.45	30	Pass
NVNT	ac40	5795	4.89	4.2	7.57	30	Pass
NVNT	ac80	5775	4.46	2.92	6.77	30	Pass

Note:
Antenna A gain:3.83 dBi, Antenna B gain: 3.83 dBi,
For power measurements,
The Array gain=0 for NANT≤4,
So the directional gain for Power measurements is 3.83 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

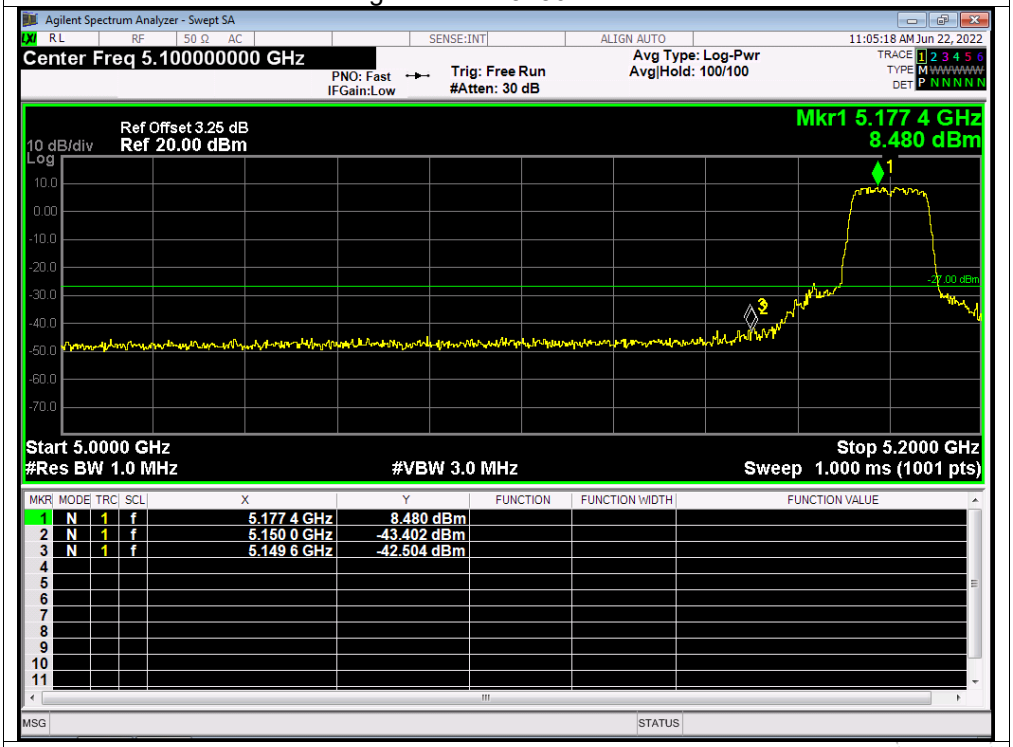
The EUT was configured for testing in a typical fashion (as a customer would normally use it). The EUT has been programmed to continuously transmit during test. This operating condition was tested and used to collect the included data

11.5 Test Result

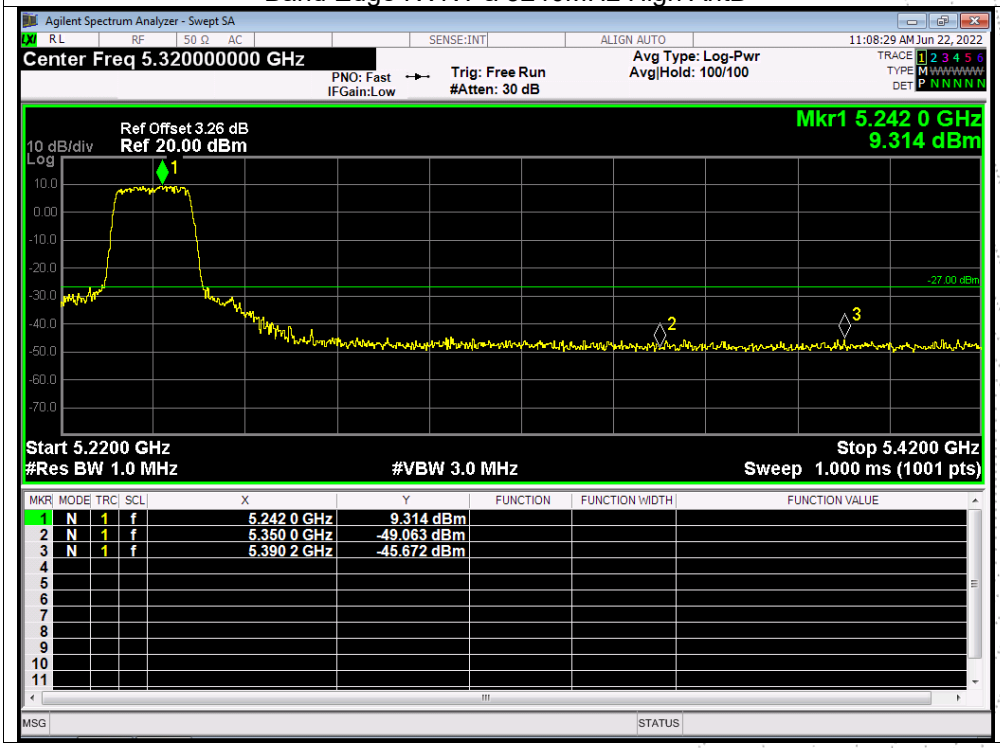
Temperature:	26 ℃	Relative Humidity:	54%
Pressure:	101kPa	Test Voltage:	AC 120V/60Hz

Note: A(B) Represent the value of antenna A and B, The worst data is Antenna B, only shown Antenna B.
Plot. Antenna B: 5180-5240MHz

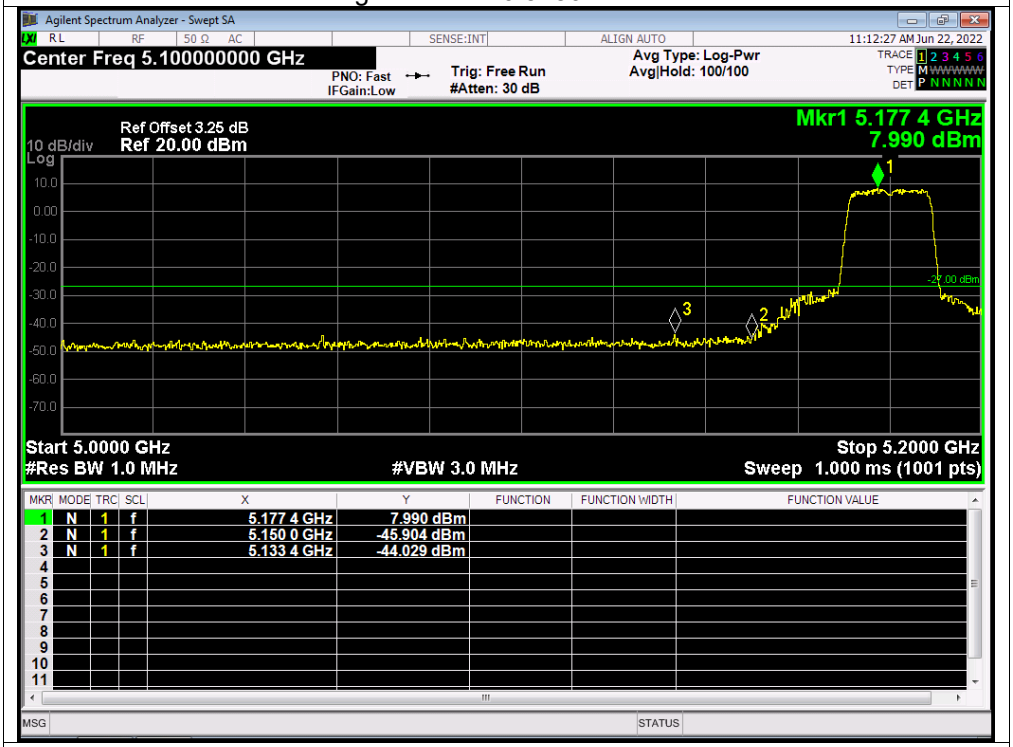
Test Graphs
Band Edge NVNT a 5180MHz Low AntB



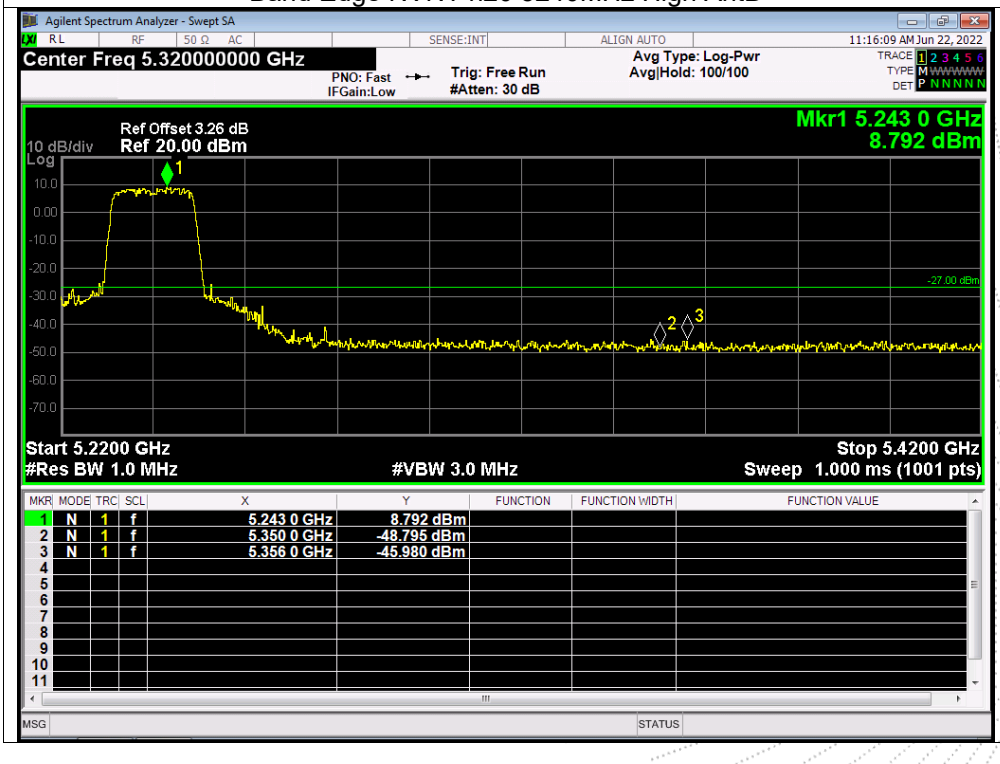
Band Edge NVNT a 5240MHz High AntB



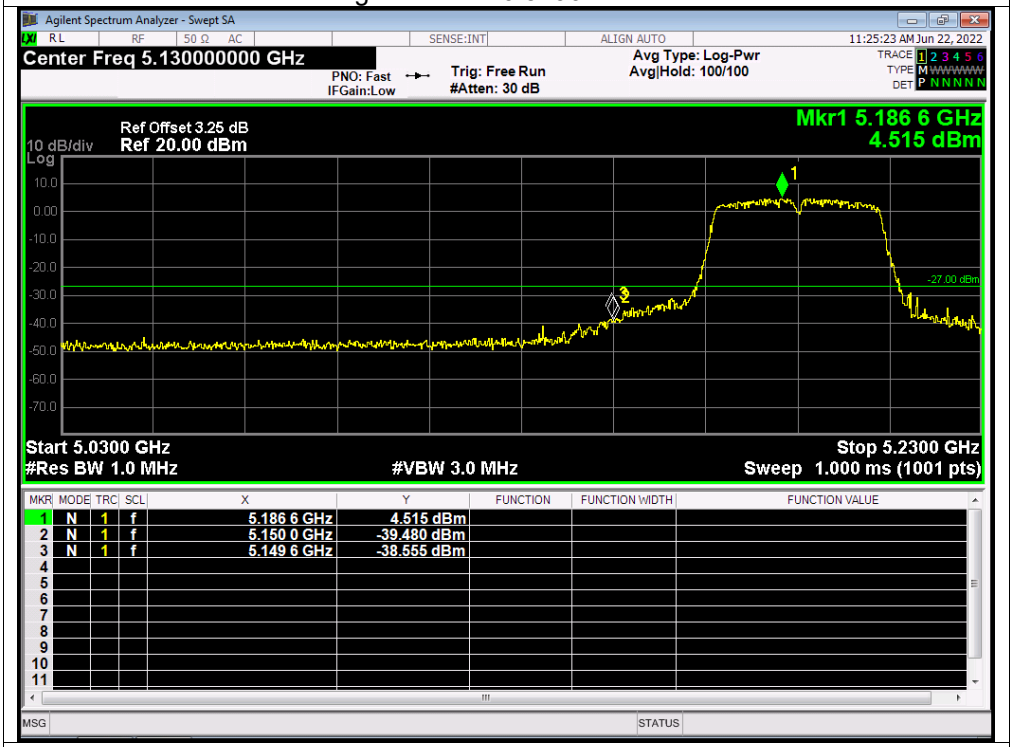
Band Edge NVNT n20 5180MHz Low AntB



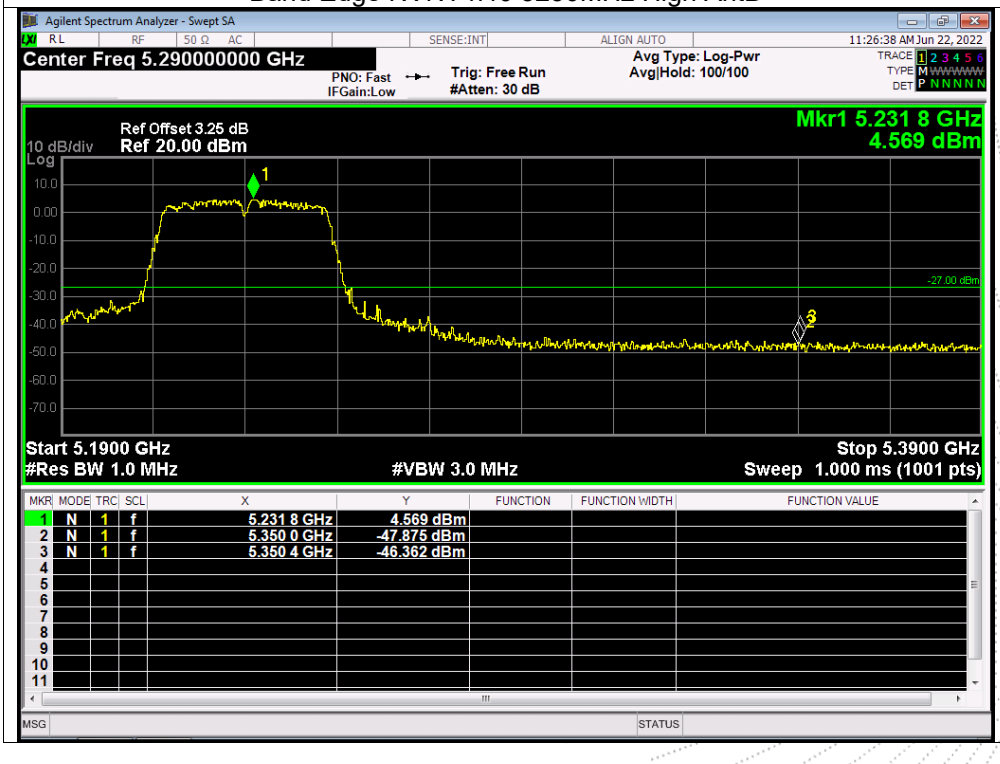
Band Edge NVNT n20 5240MHz High AntB



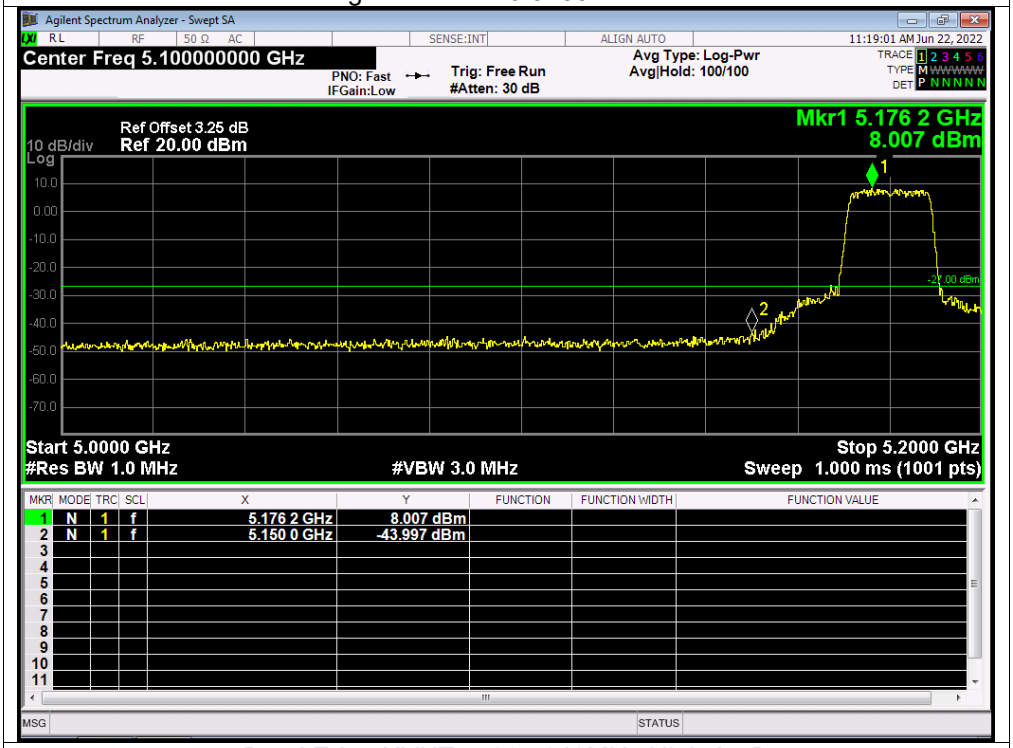
Band Edge NVNT n40 5190MHz Low AntB



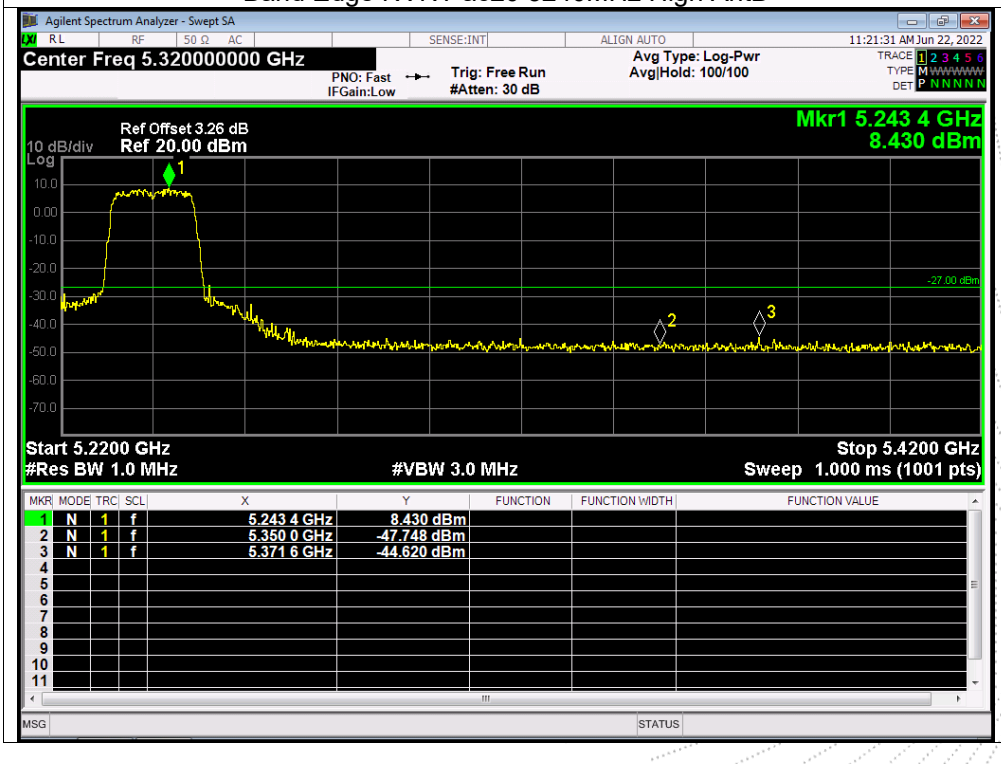
Band Edge NVNT n40 5230MHz High AntB



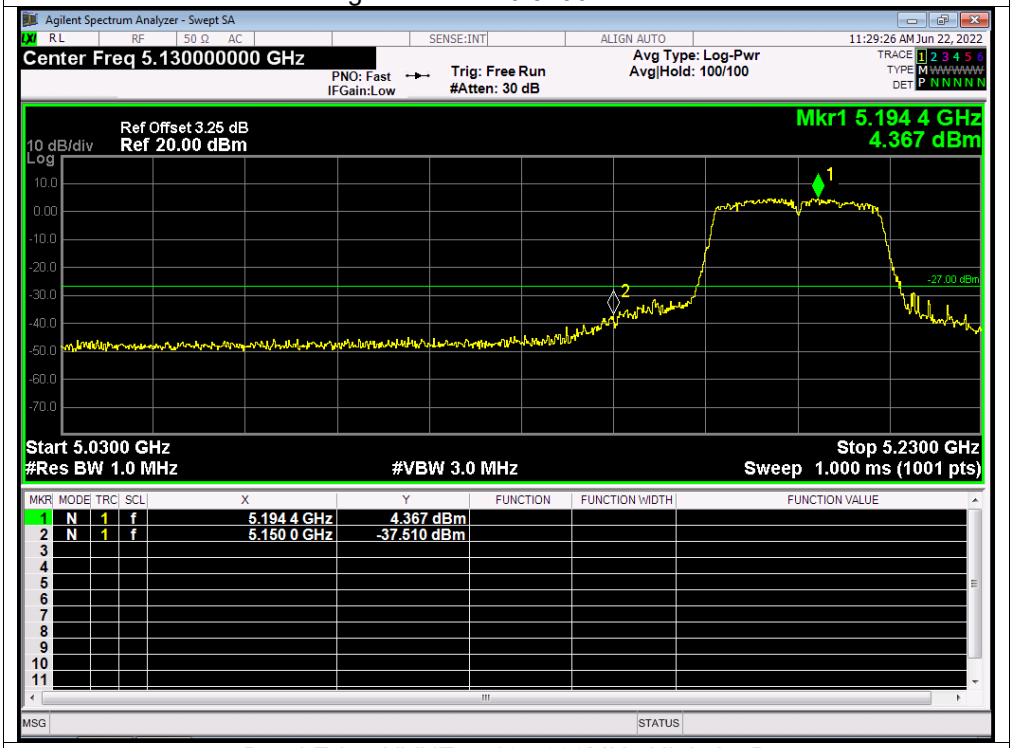
Band Edge NVNT ac20 5180MHz Low AntB



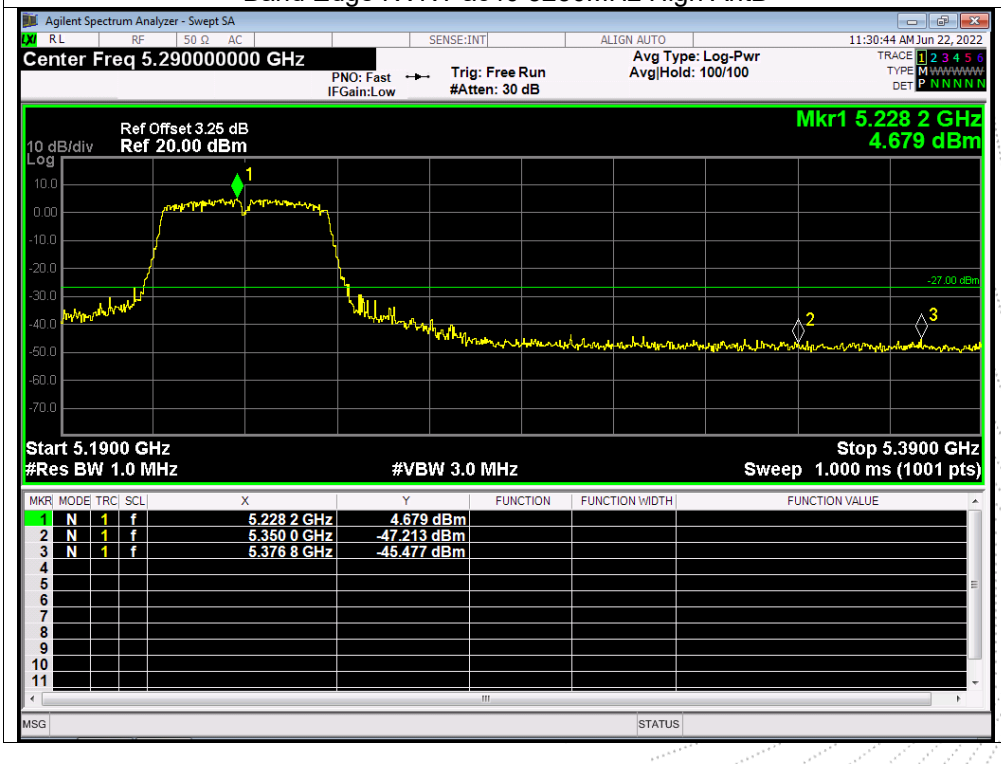
Band Edge NVNT ac20 5240MHz High AntB



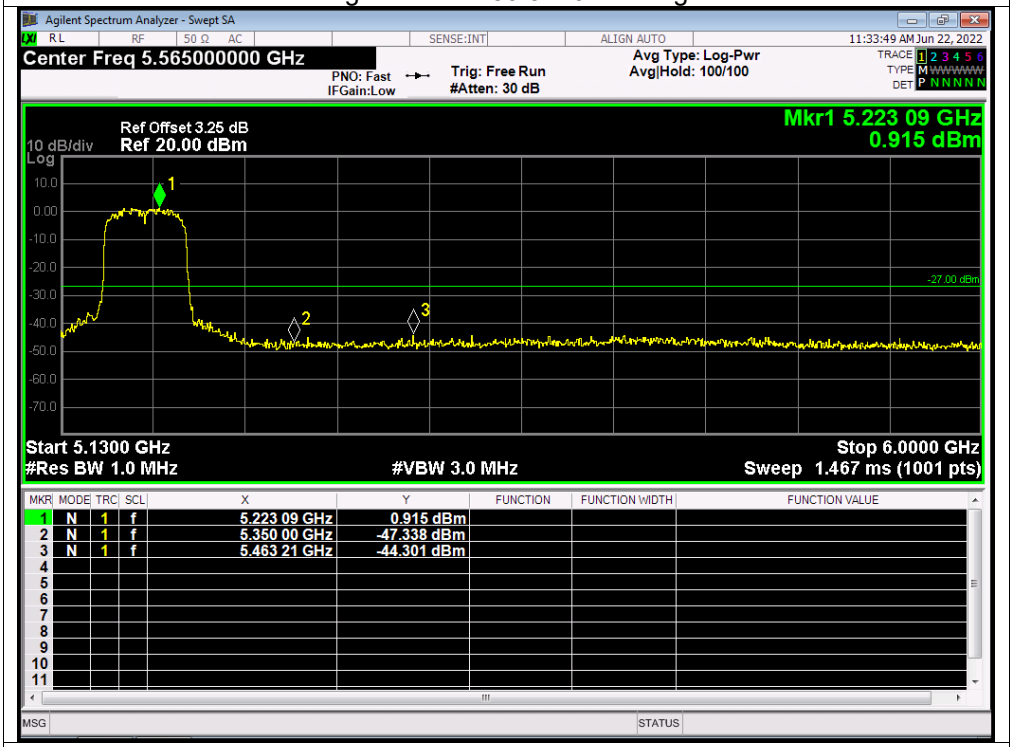
Band Edge NVNT ac40 5190MHz Low AntB



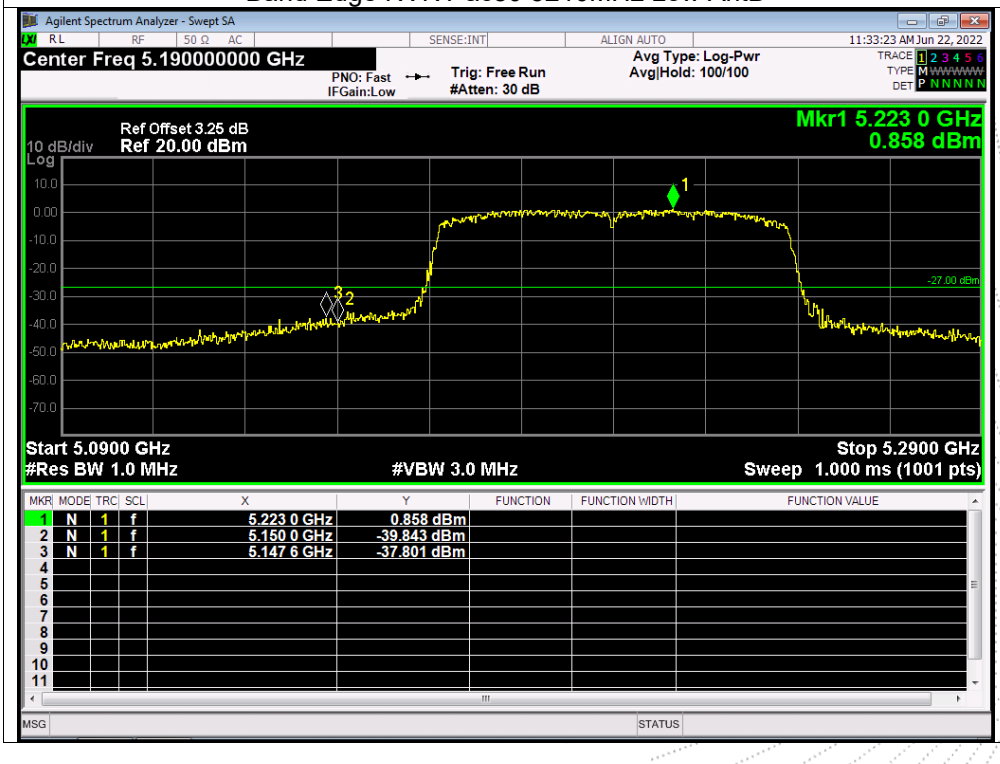
Band Edge NVNT ac40 5230MHz High AntB



Band Edge NVNT ac80 5210MHz High AntB



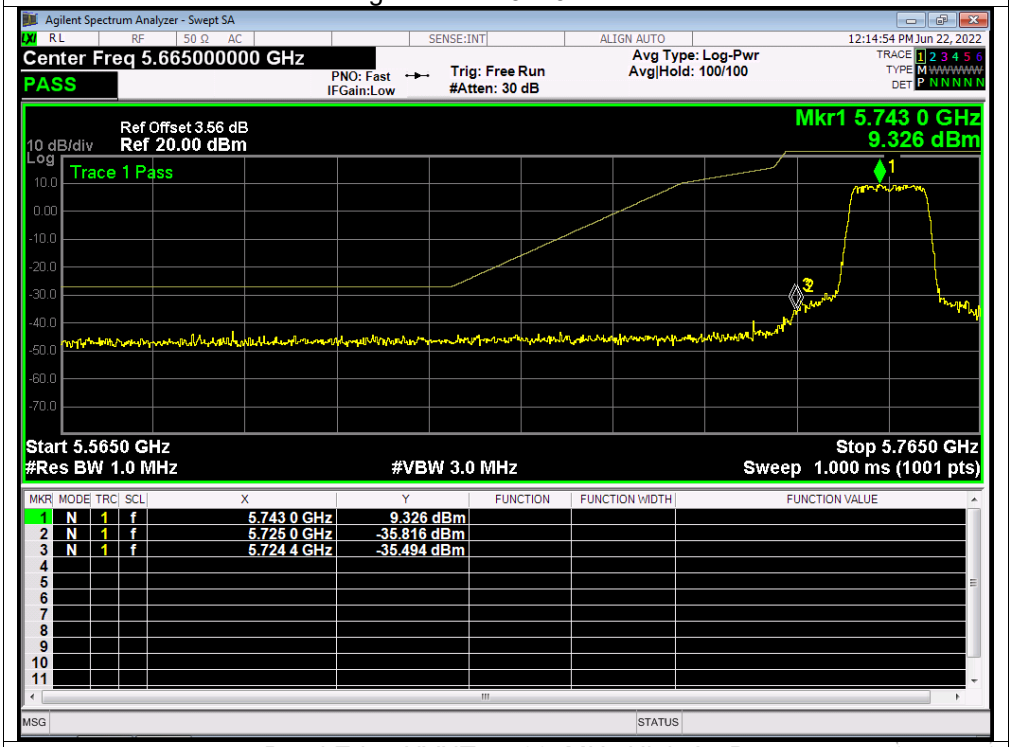
Band Edge NVNT ac80 5210MHz Low AntB



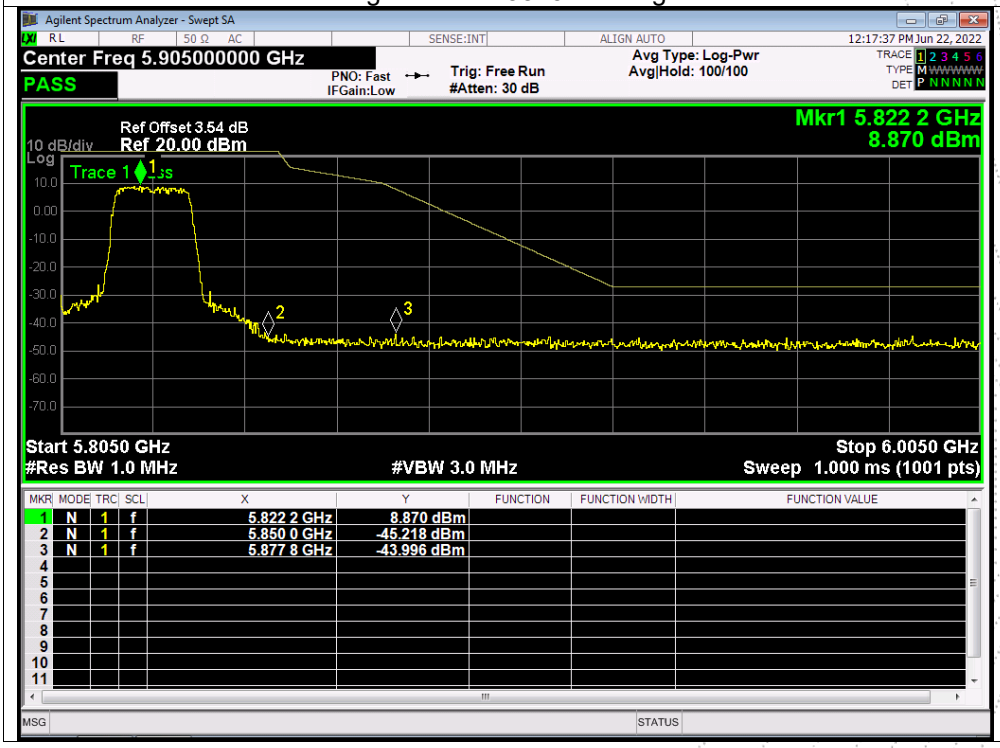
Note: A(B) Represent the value of antenna A and B, The worst data is Antenna B, only shown Antenna B.
Antenna B: 5745-5825MHz

Test Graphs

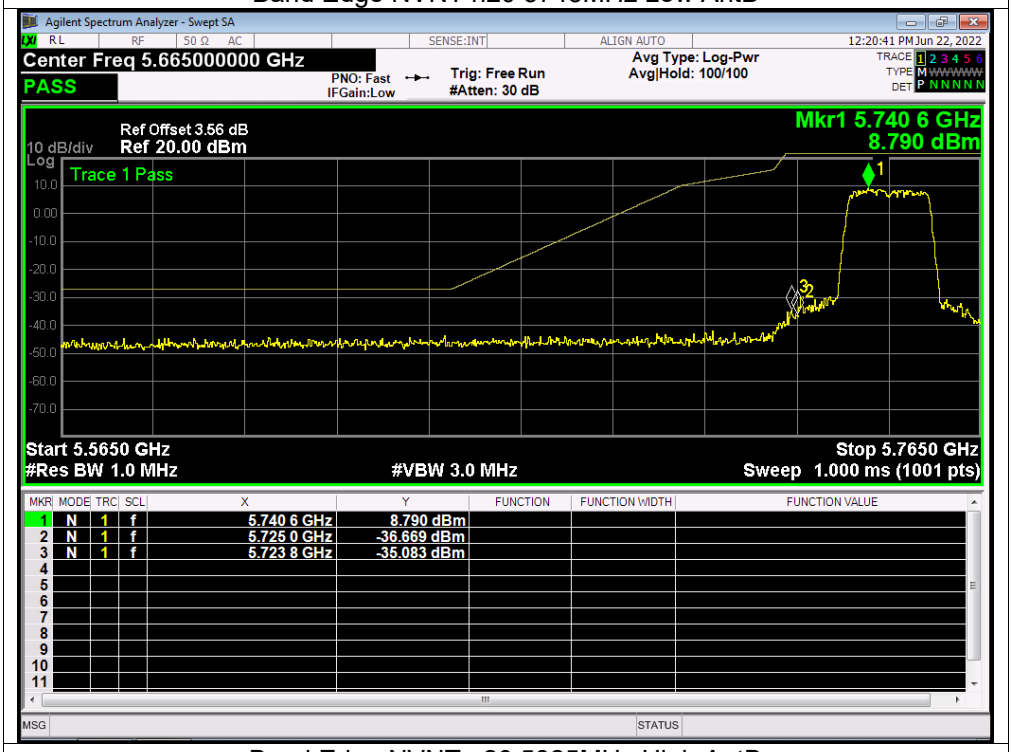
Band Edge NVNT a 5745MHz Low AntB



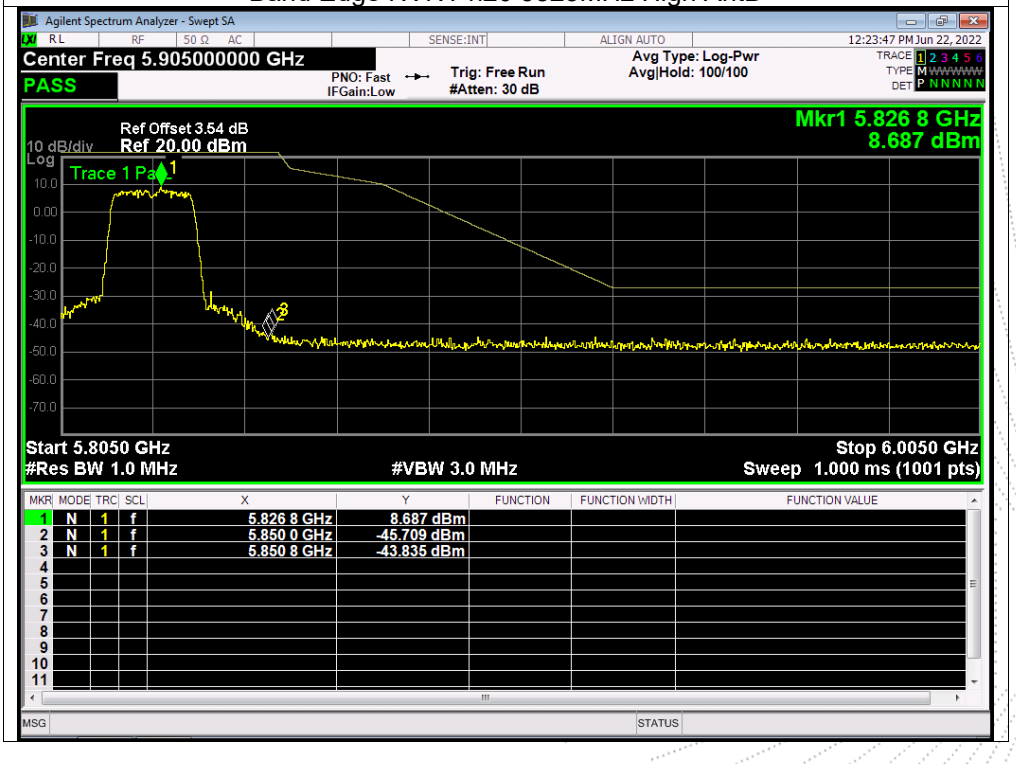
Band Edge NVNT a 5825MHz High AntB



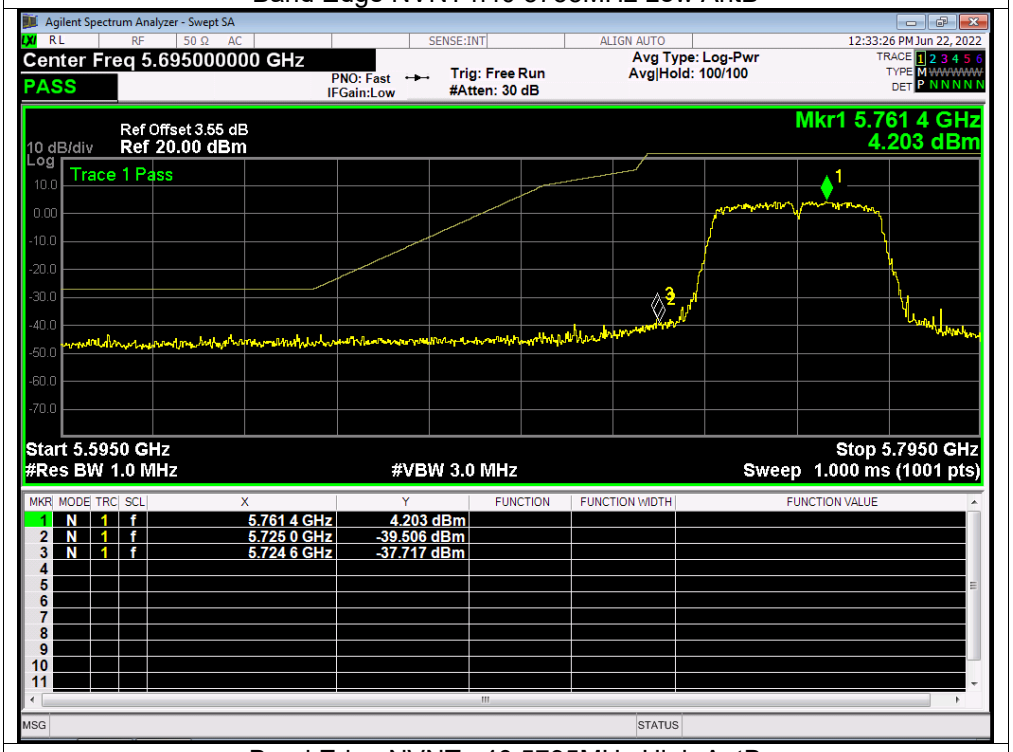
Band Edge NVNT n20 5745MHz Low AntB



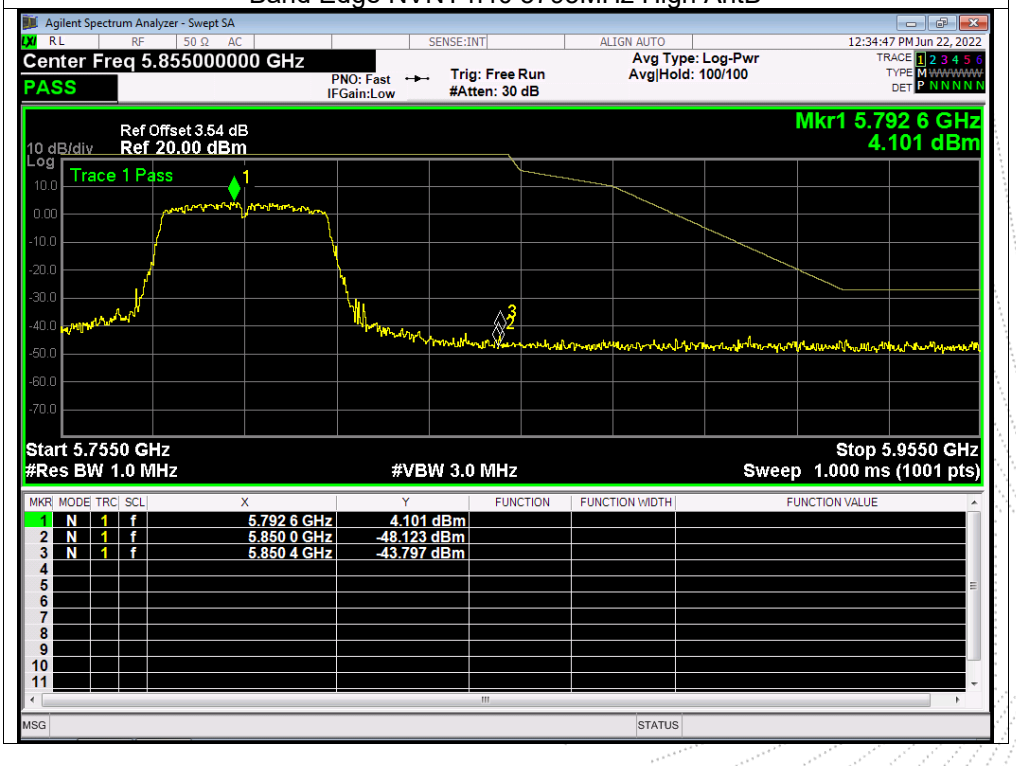
Band Edge NVNT n20 5825MHz High AntB



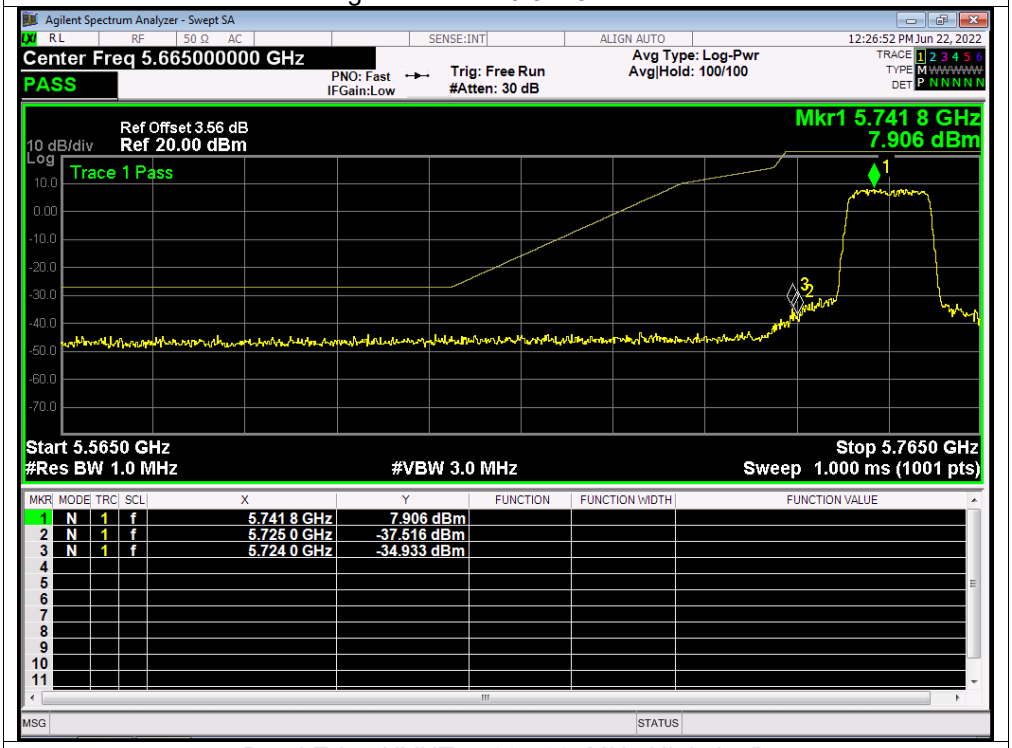
Band Edge NVNT n40 5755MHz Low AntB



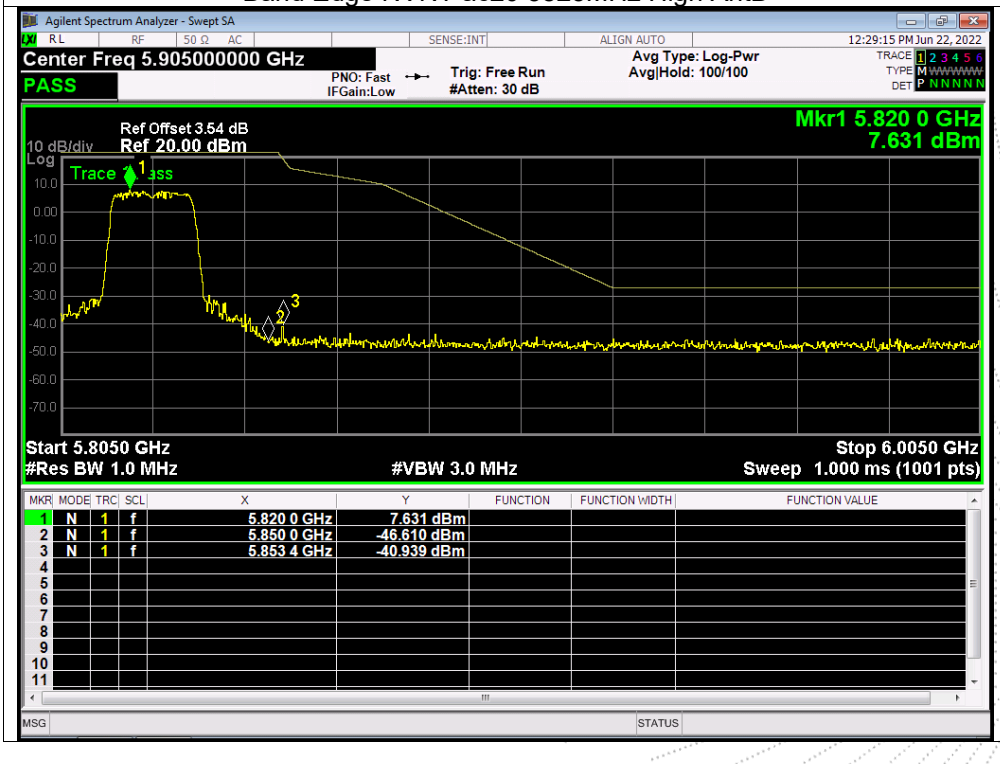
Band Edge NVNT n40 5795MHz High AntB



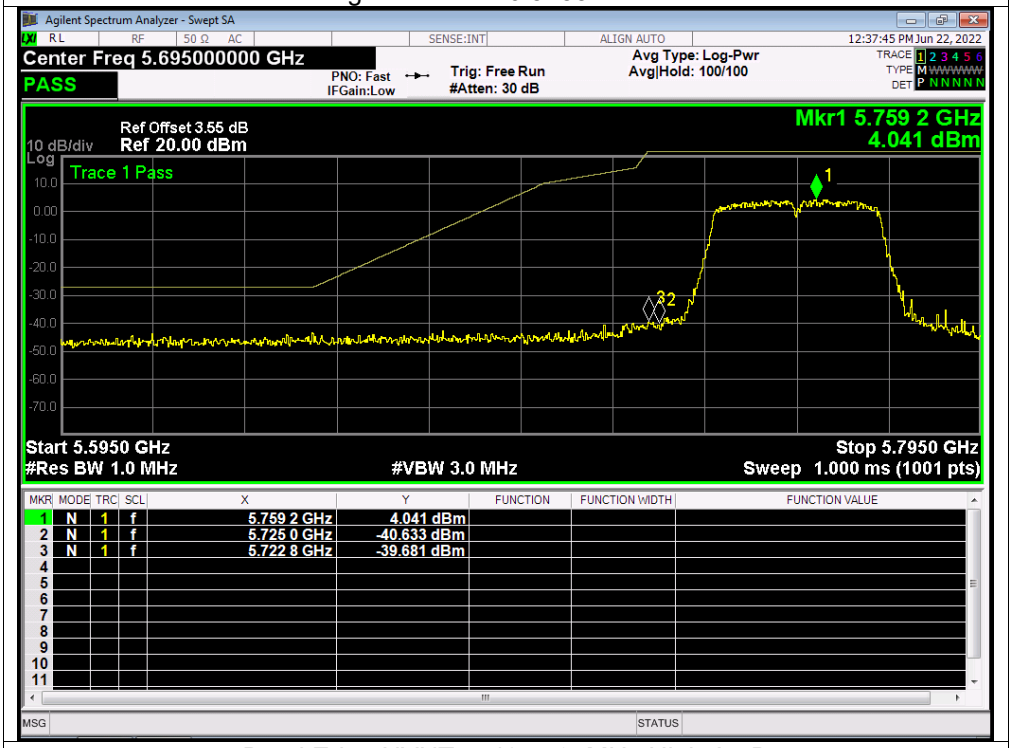
Band Edge NVNT ac20 5745MHz Low AntB



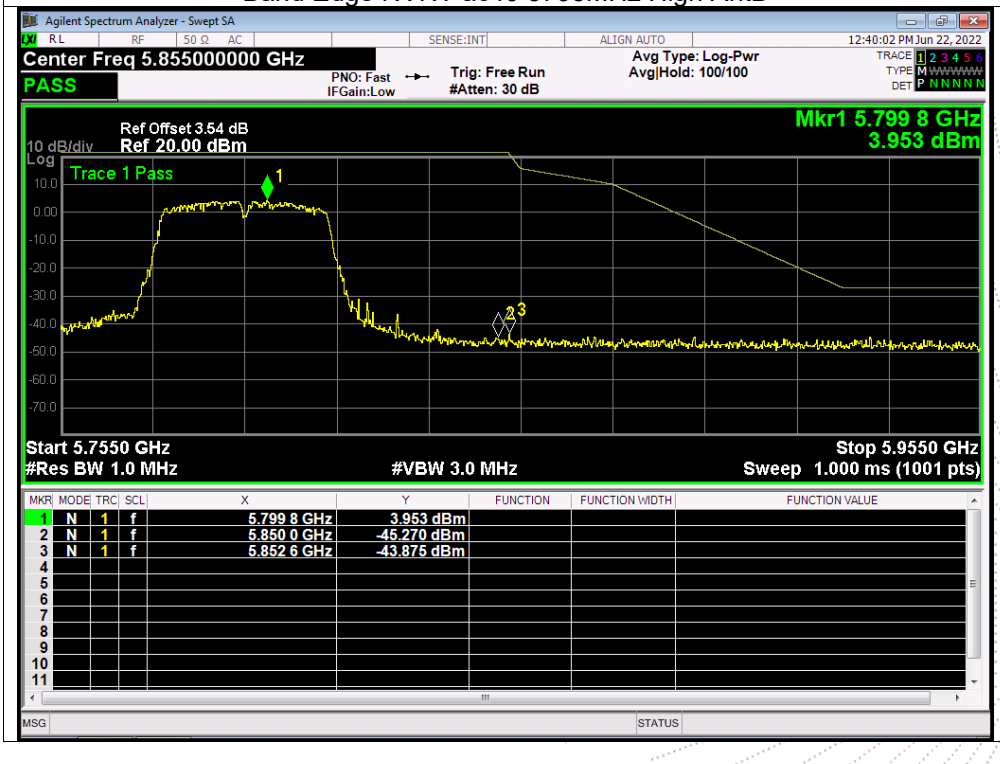
Band Edge NVNT ac20 5825MHz High AntB



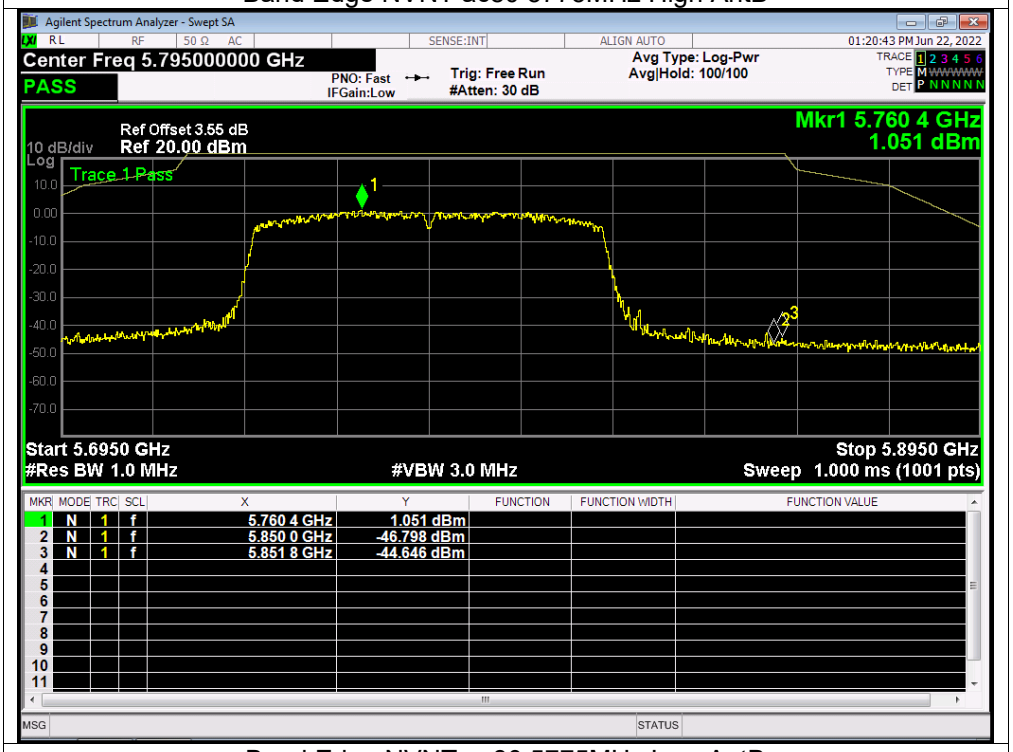
Band Edge NVNT ac40 5755MHz Low AntB



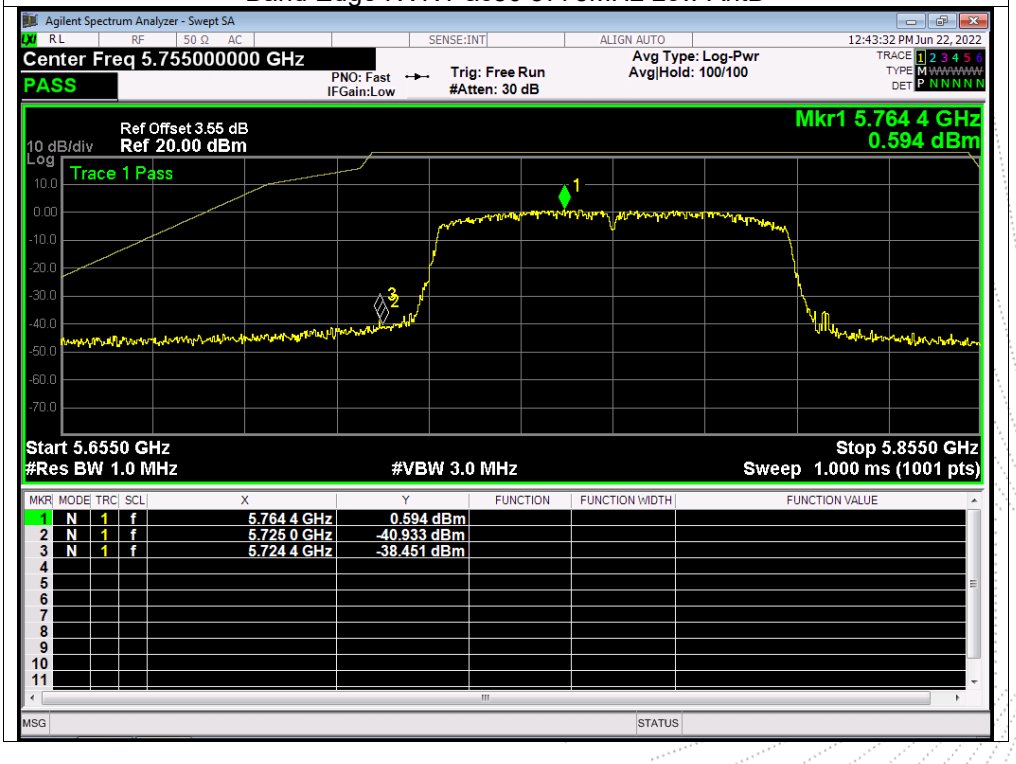
Band Edge NVNT ac40 5795MHz High AntB



Band Edge NVNT ac80 5775MHz High AntB

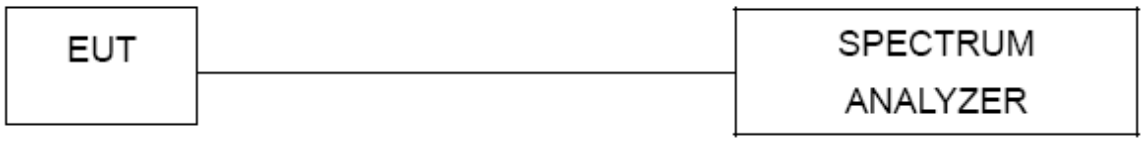


Band Edge NVNT ac80 5775MHz Low AntB



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

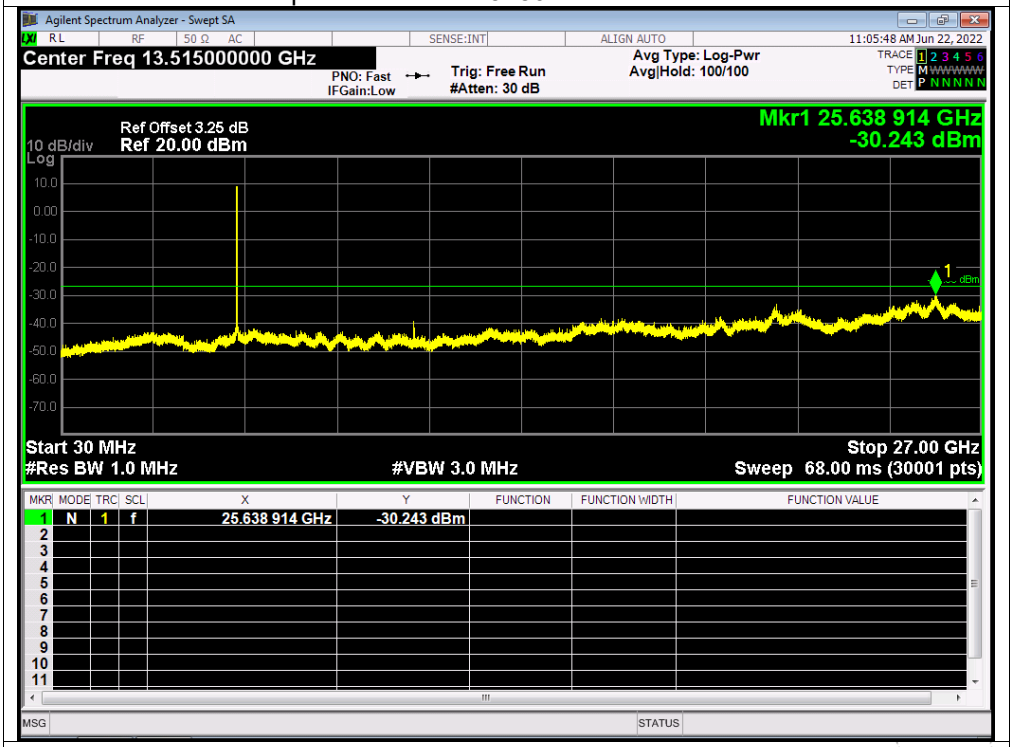
Remark: The measurement frequency range is from 9KHz to the 10th harmonic of the fundamental frequency. The lowest, middle and highest channels are tested to verify the spurious emissions and bandege measurement data.

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.

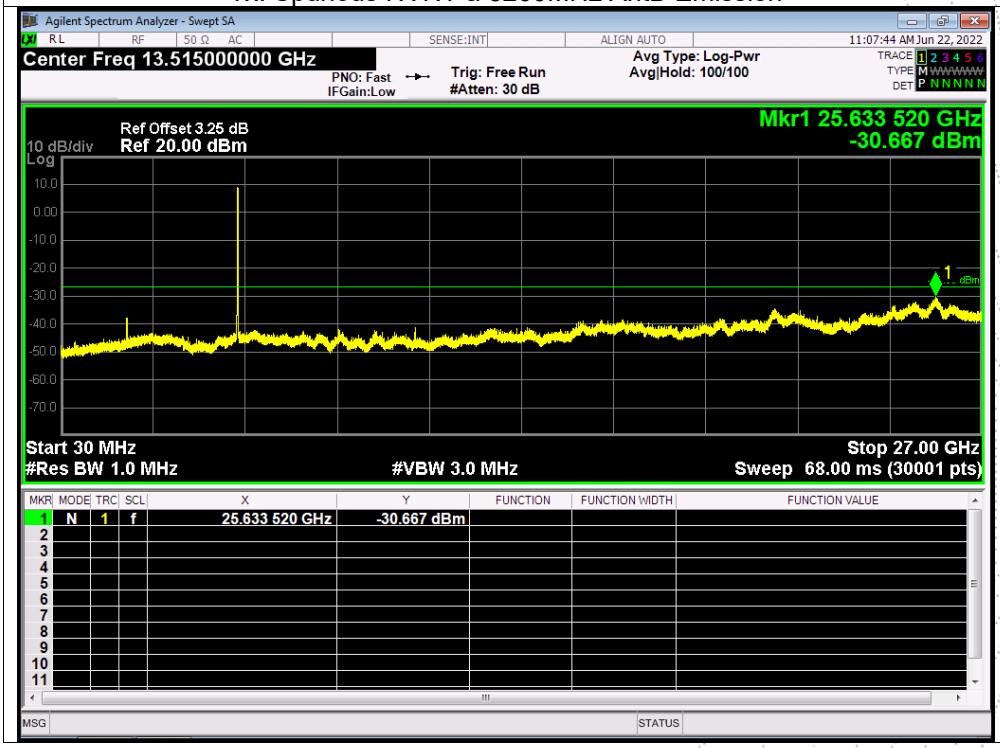
Note: A(B) Represent the value of antenna A and B, The worst data is Antenna B, only shown Antenna B .
Plot. Antenna B: 5180-5240MHz

Test Graphs

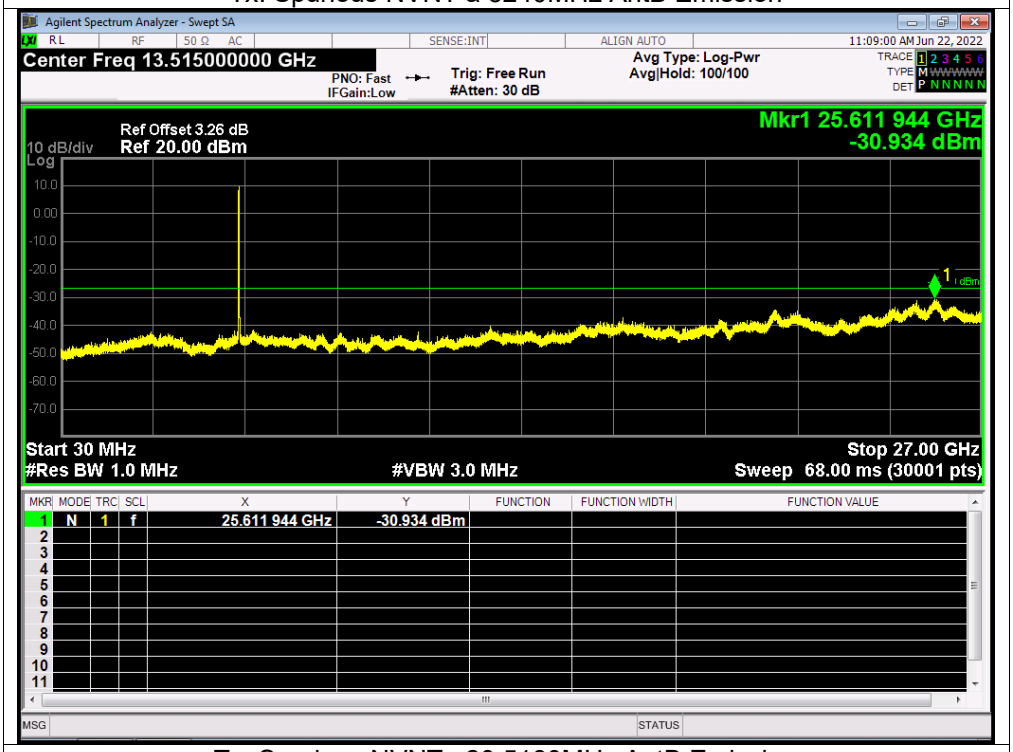
Tx. Spurious NVNT a 5180MHz AntB Emission



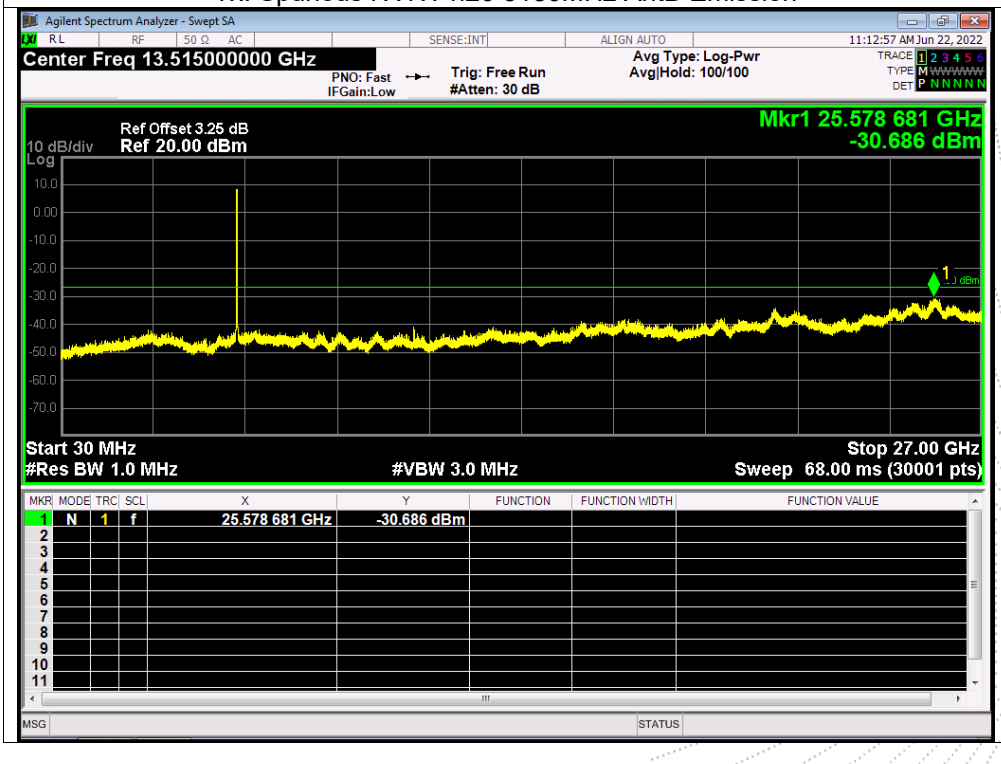
Tx. Spurious NVNT a 5200MHz AntB Emission



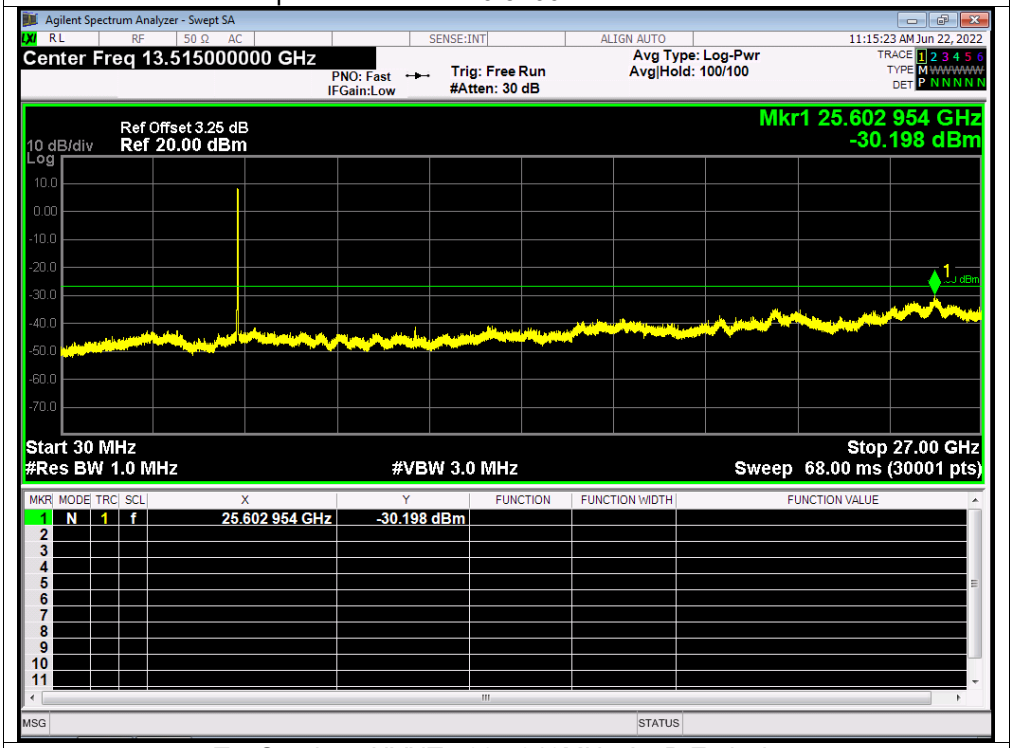
Tx. Spurious NVNT a 5240MHz AntB Emission



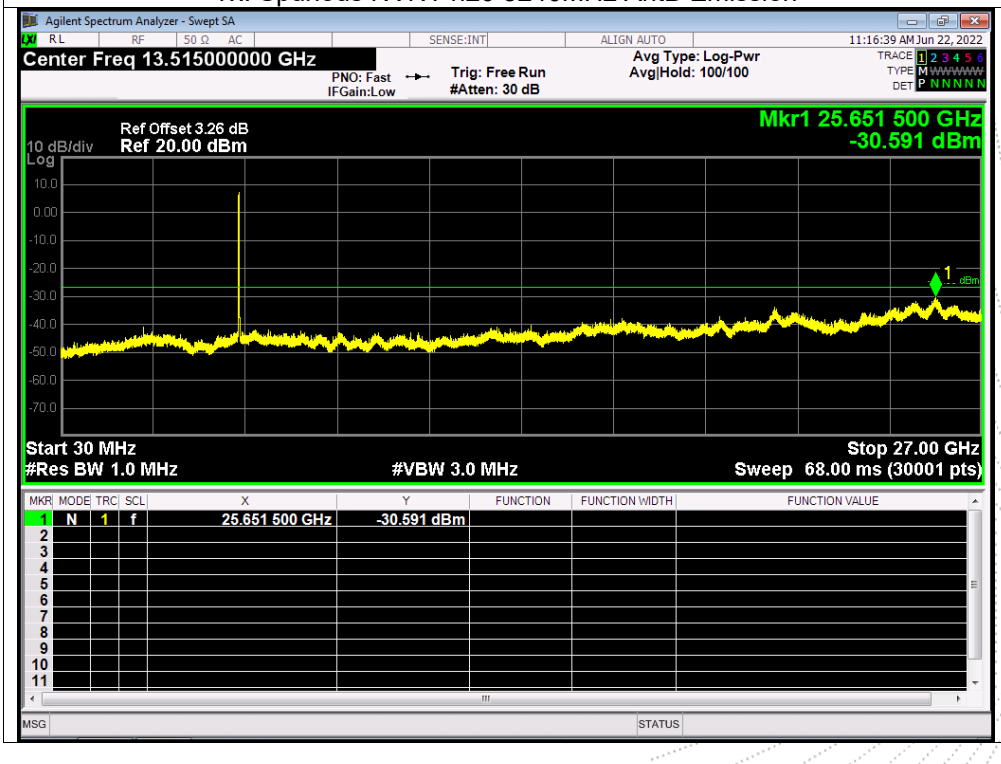
Tx. Spurious NVNT n20 5180MHz AntB Emission



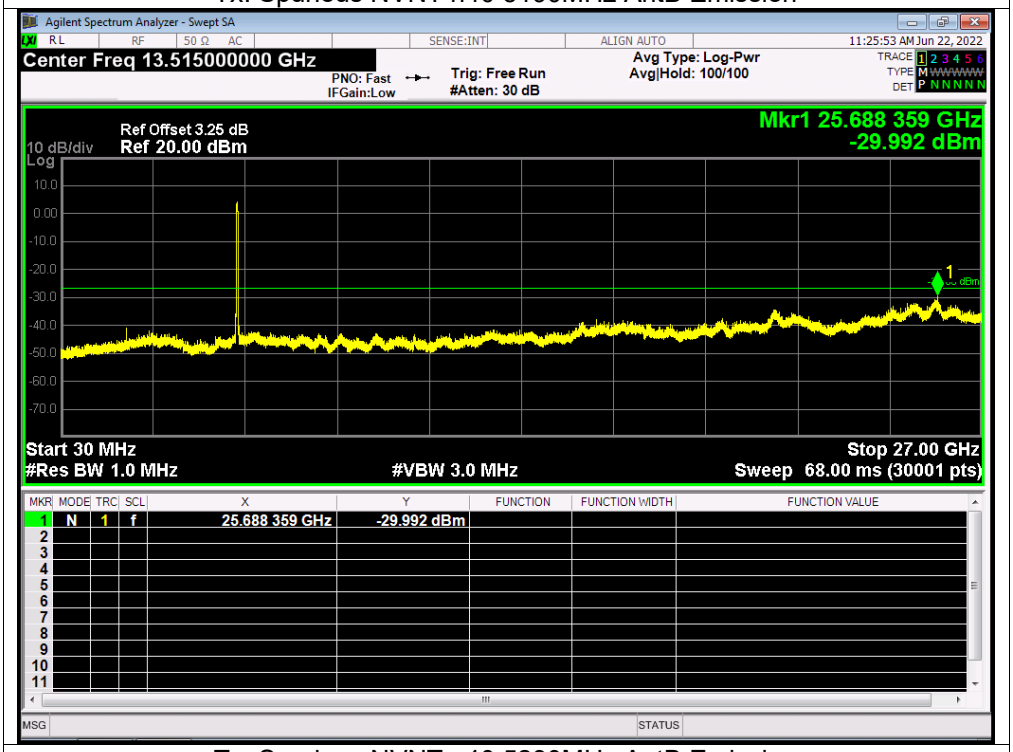
Tx. Spurious NVNT n20 5200MHz AntB Emission



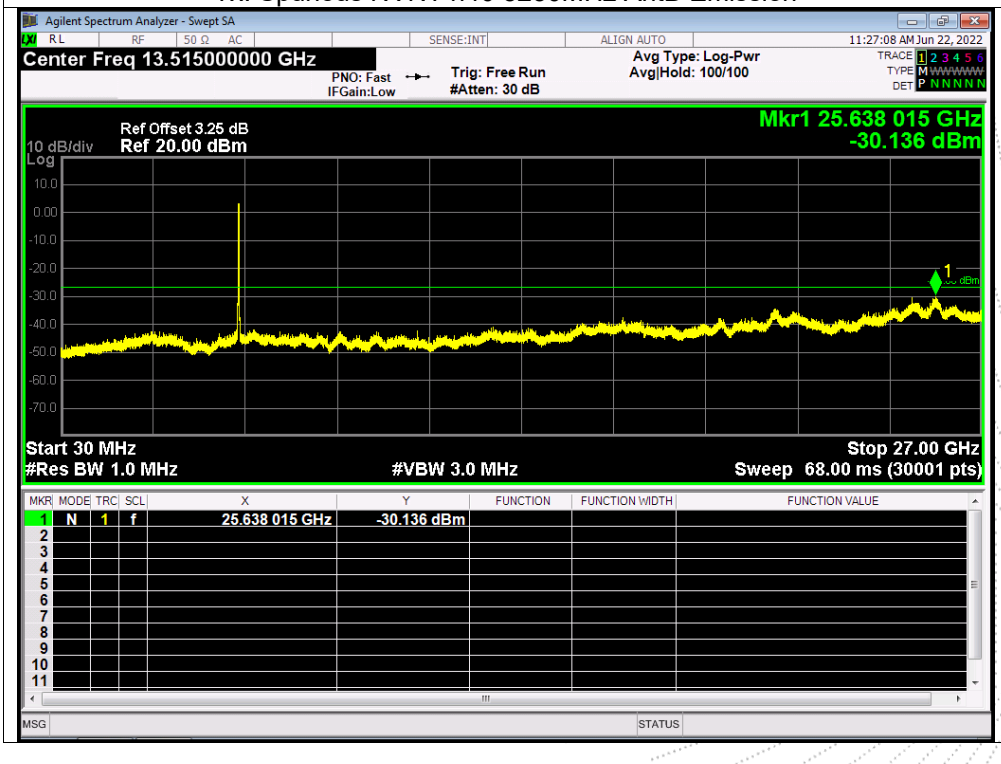
Tx. Spurious NVNT n20 5240MHz AntB Emission



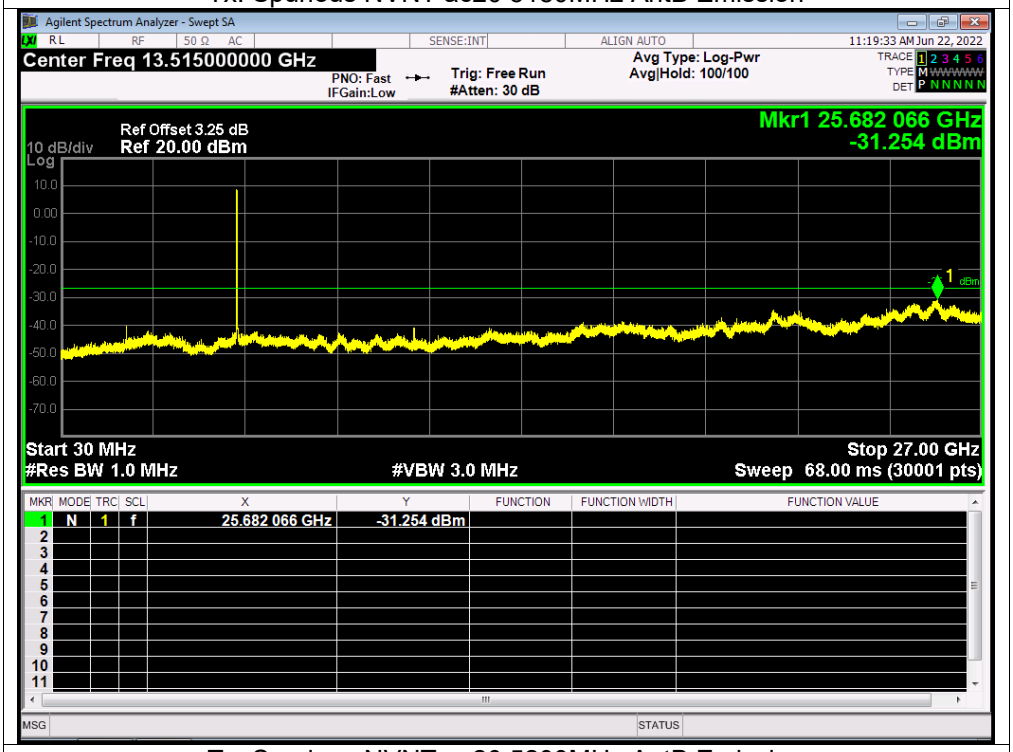
Tx. Spurious NVNT n40 5190MHz AntB Emission



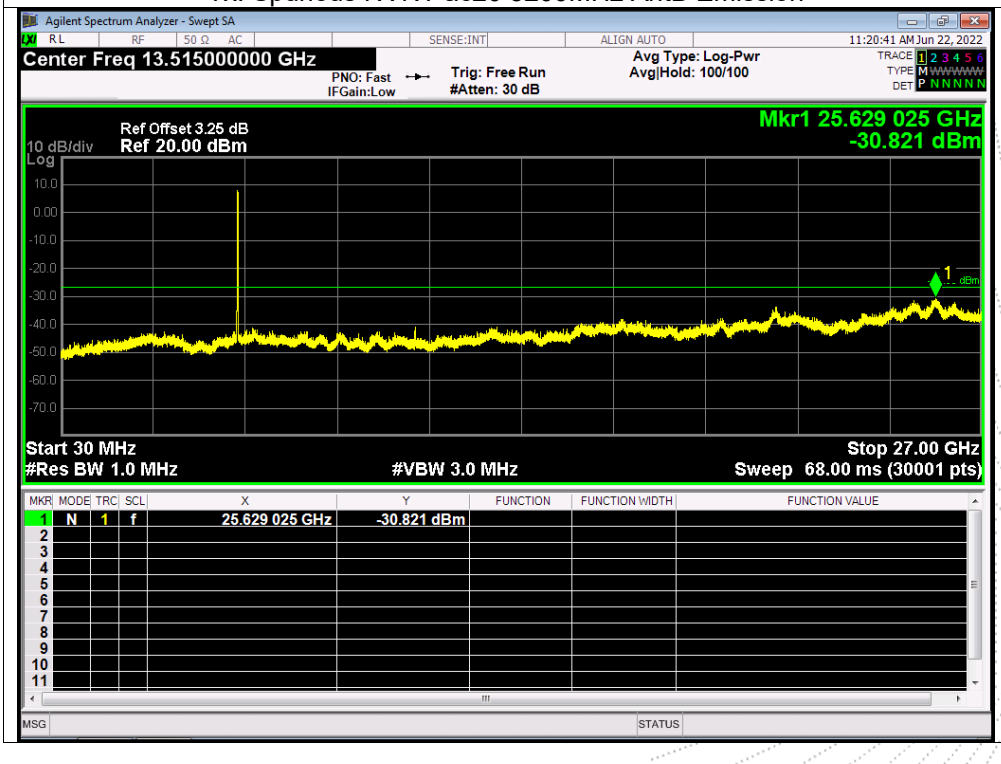
Tx. Spurious NVNT n40 5230MHz AntB Emission



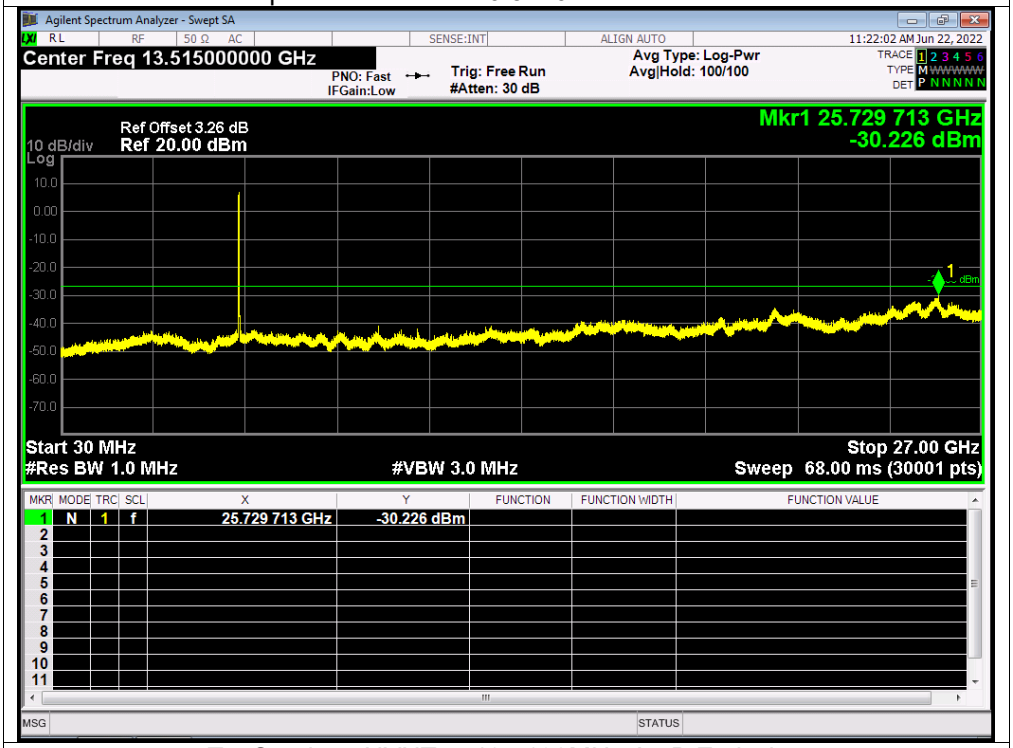
Tx. Spurious NVNT ac20 5180MHz AntB Emission



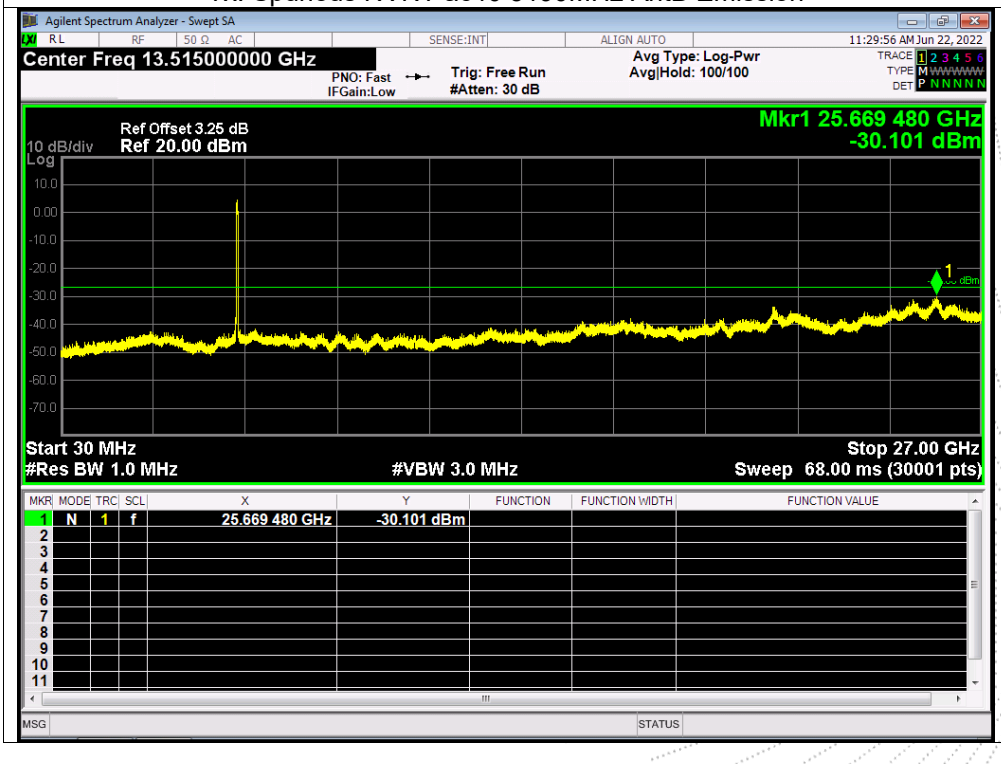
Tx. Spurious NVNT ac20 5200MHz AntB Emission



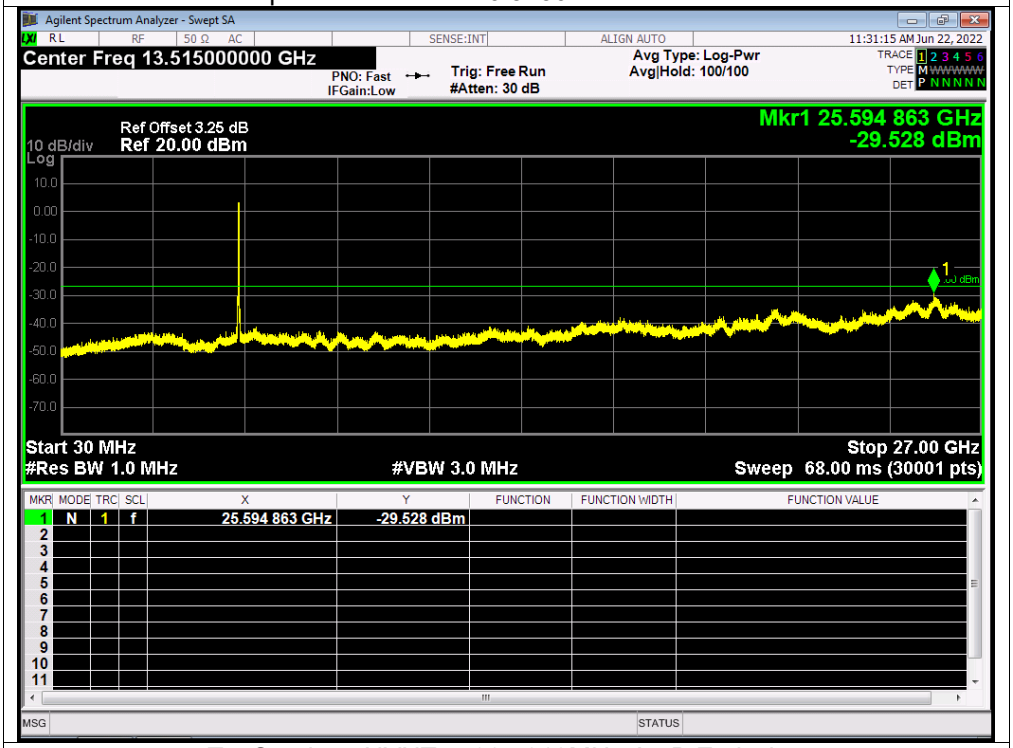
Tx. Spurious NVNT ac20 5240MHz AntB Emission



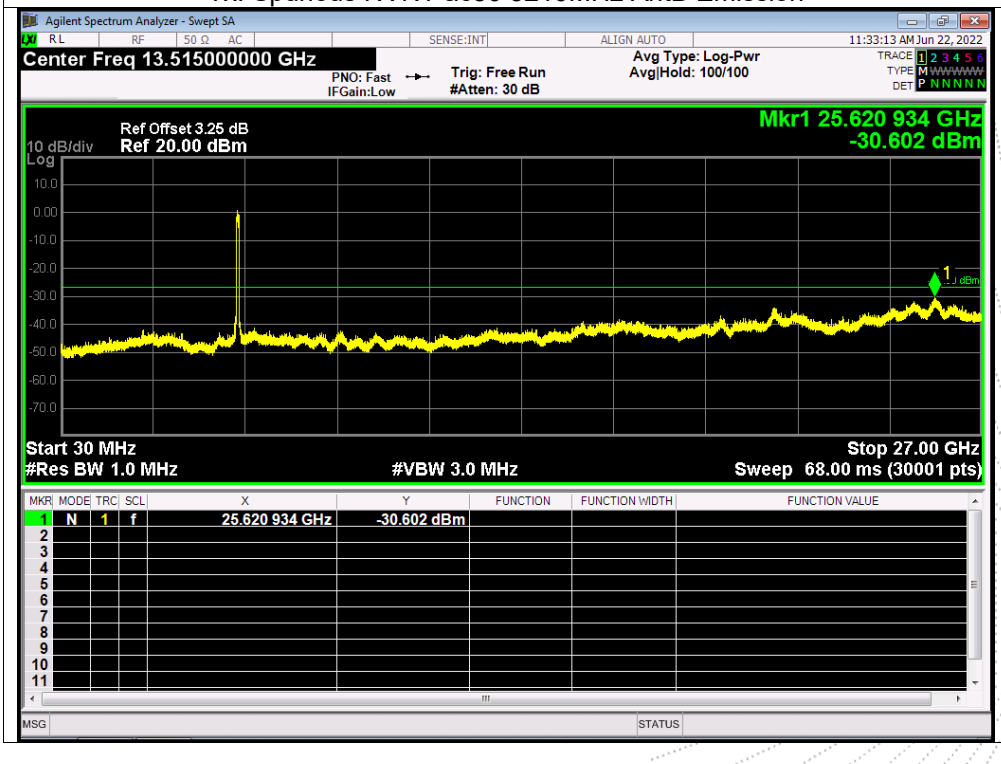
Tx. Spurious NVNT ac40 5190MHz AntB Emission



Tx. Spurious NVNT ac40 5230MHz AntB Emission

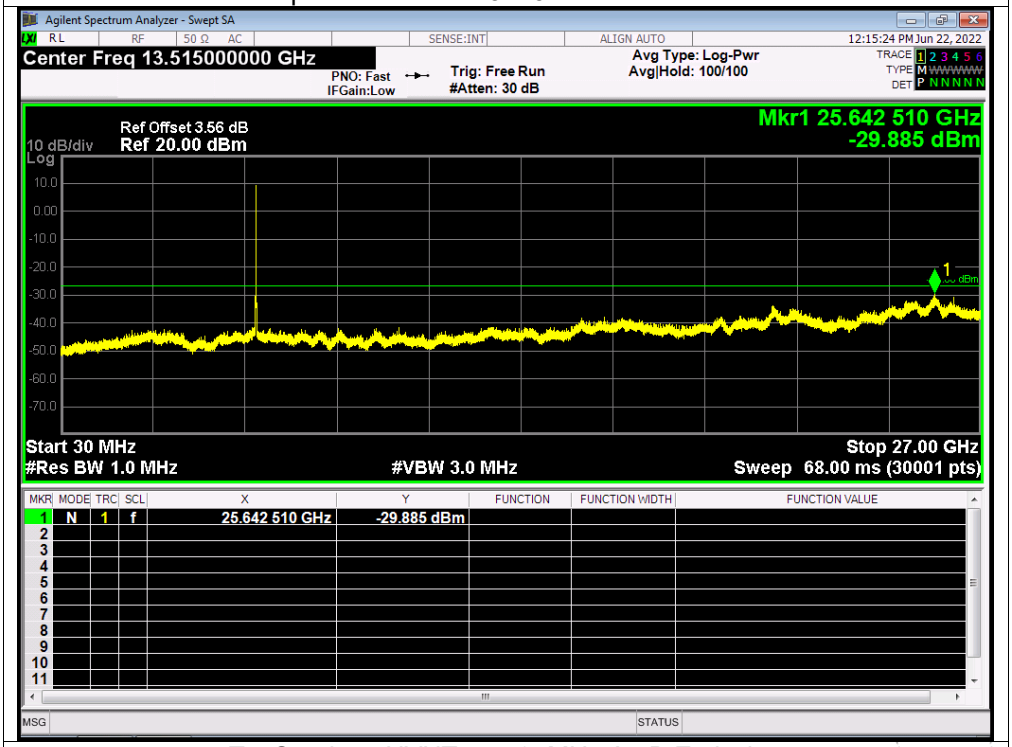


Tx. Spurious NVNT ac80 5210MHz AntB Emission

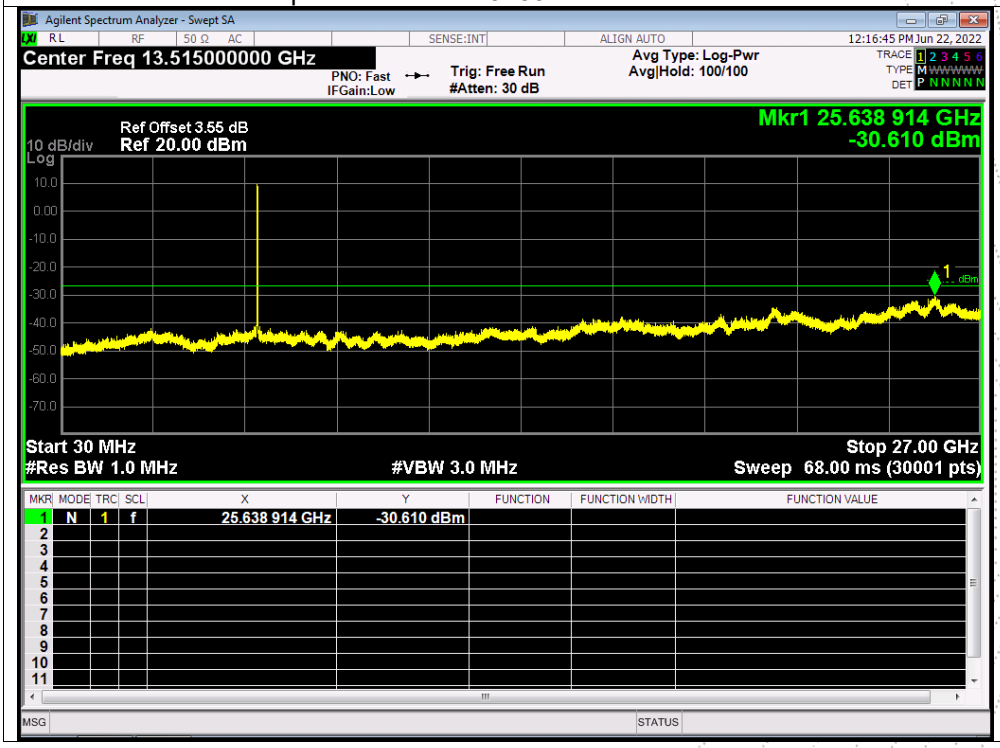


Note: A(B) Represent the value of antenna A and B, The worst data is Antenna B, only shown Antenna B.
Antenna B: 5745-58250MHz

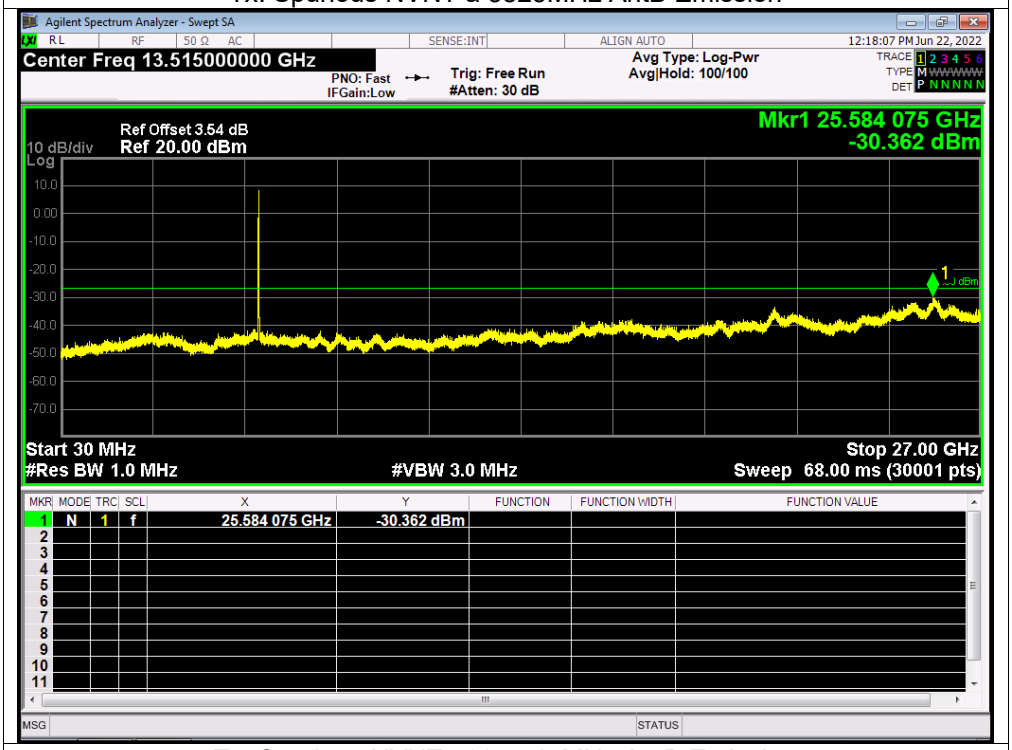
Test Graphs
Tx. Spurious NVNT a 5745MHz AntB Emission



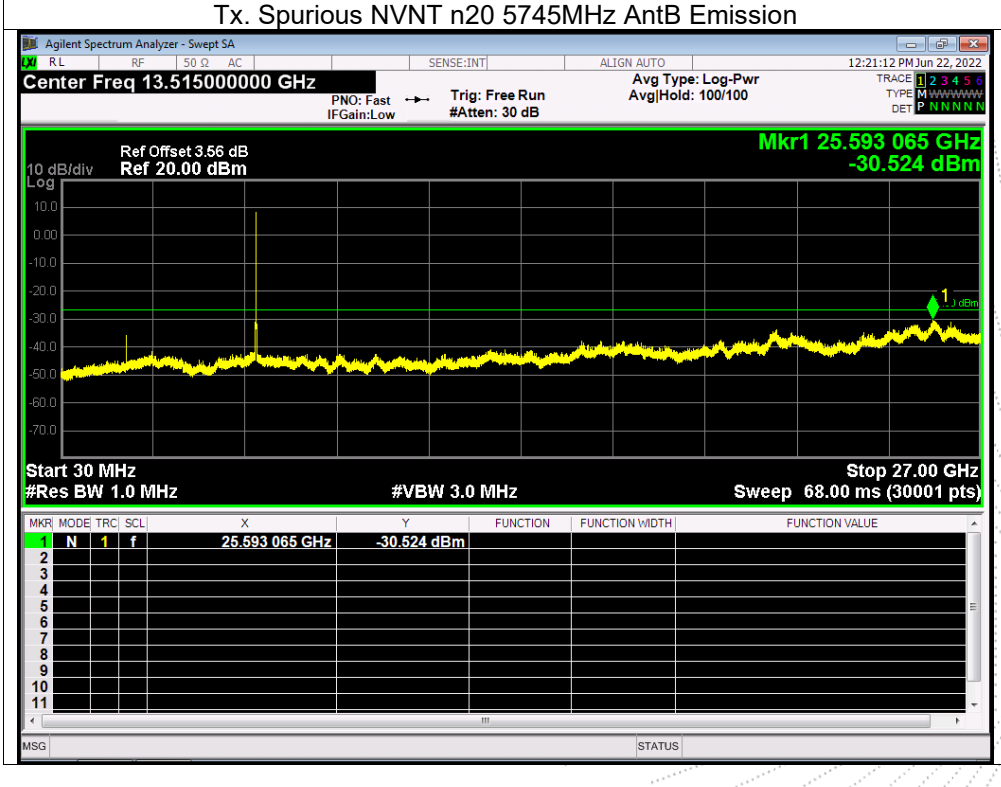
Tx. Spurious NVNT a 5785MHz AntB Emission



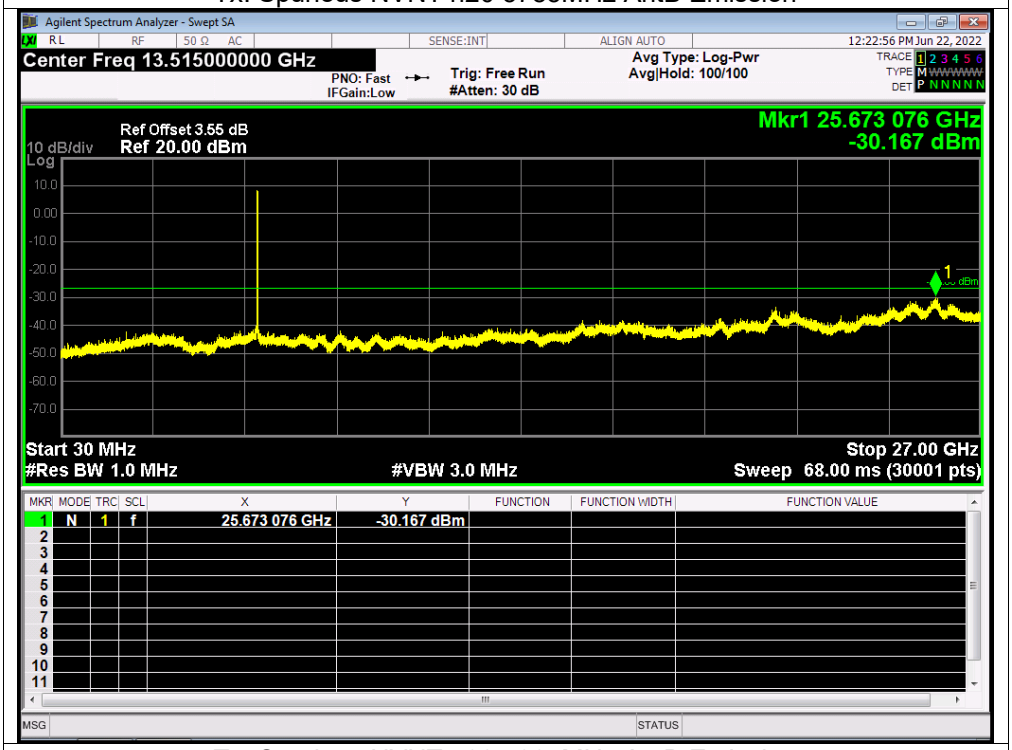
Tx. Spurious NVNT a 5825MHz AntB Emission



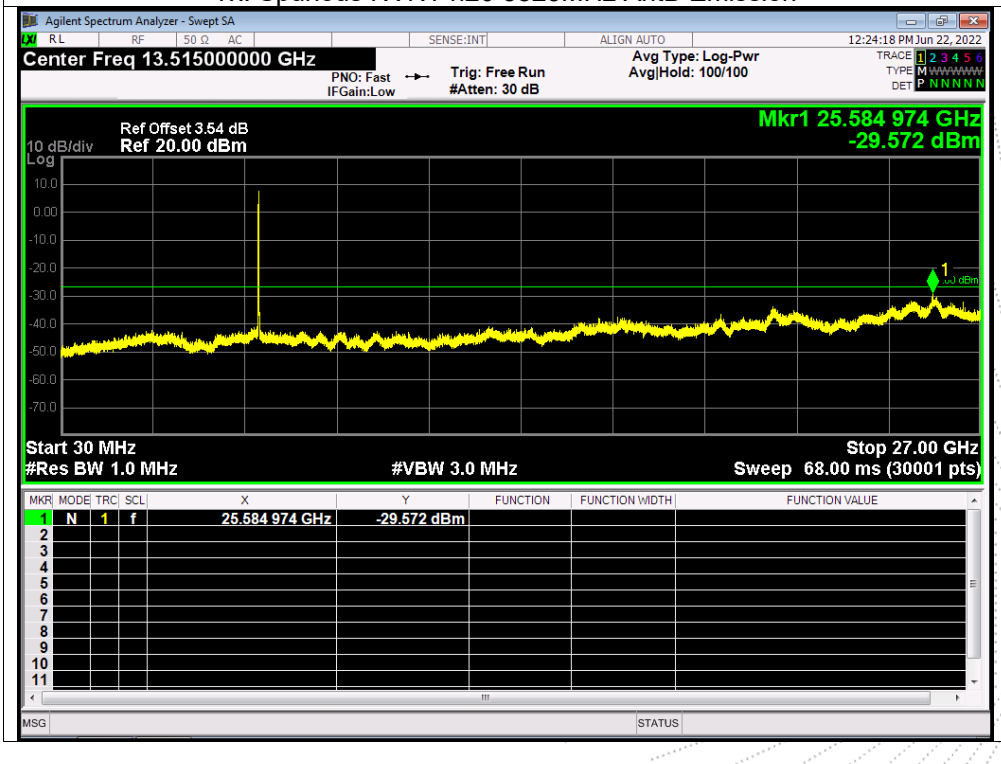
Tx. Spurious NVNT n20 5745MHz AntB Emission



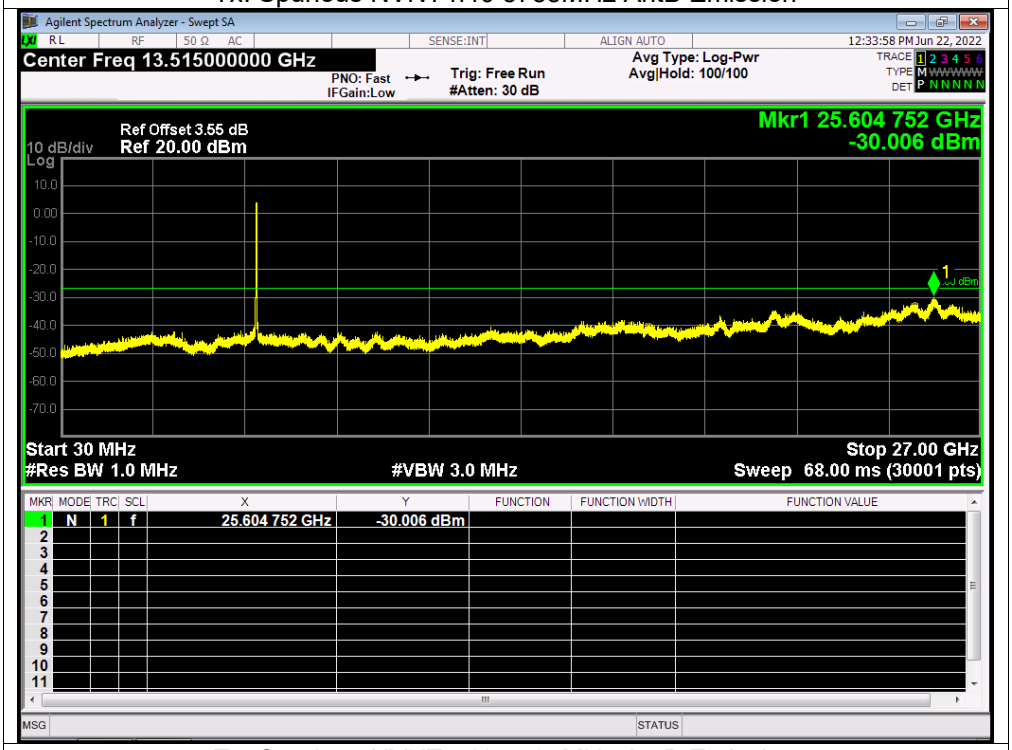
Tx. Spurious NVNT n20 5785MHz AntB Emission



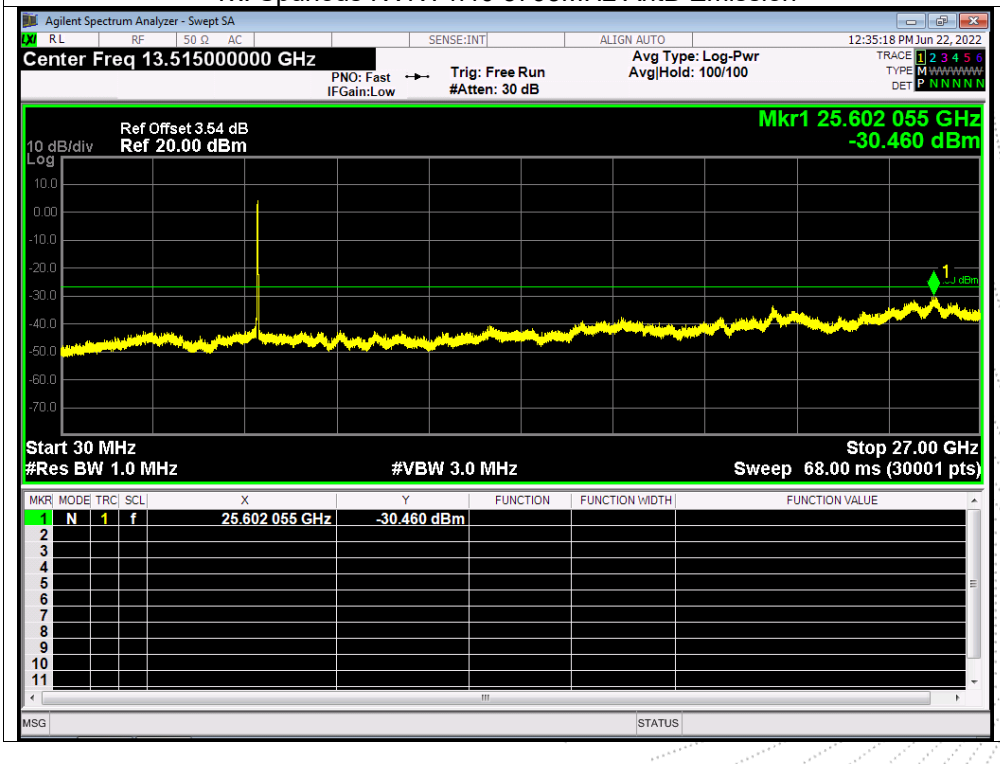
Tx. Spurious NVNT n20 5825MHz AntB Emission



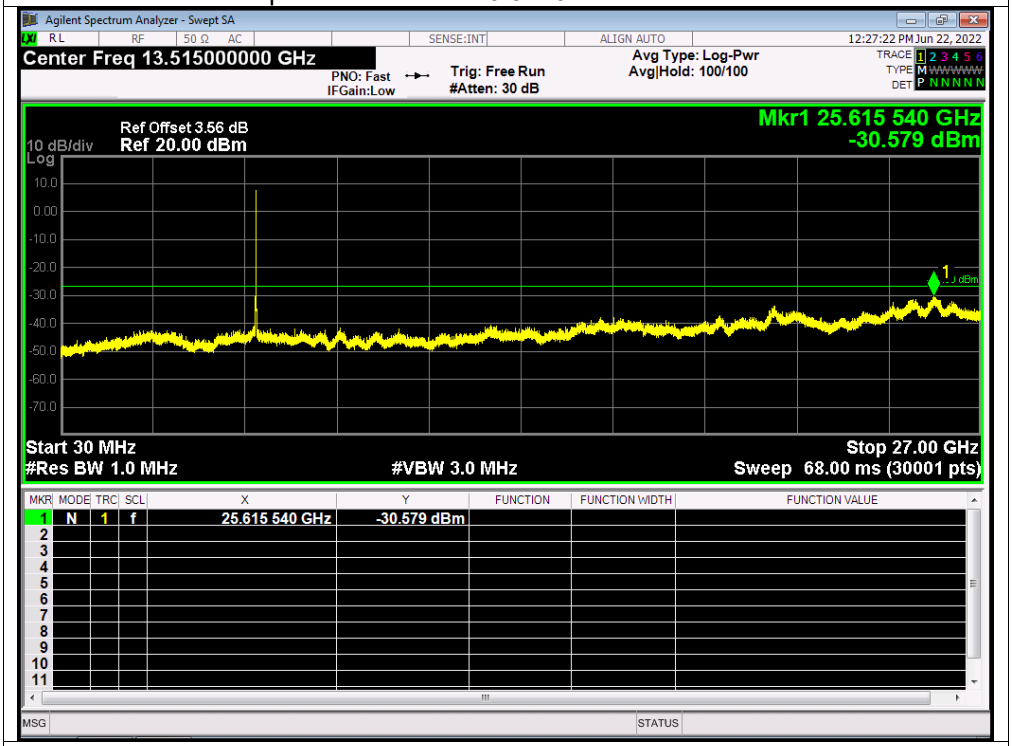
Tx. Spurious NVNT n40 5755MHz AntB Emission



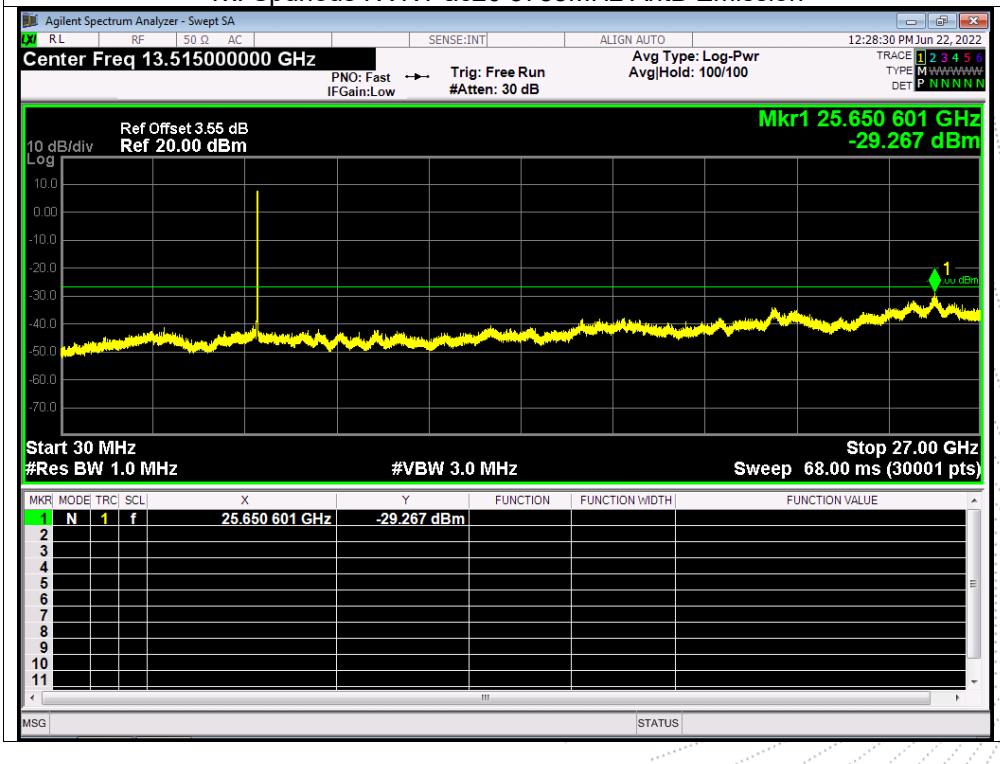
Tx. Spurious NVNT n40 5795MHz AntB Emission



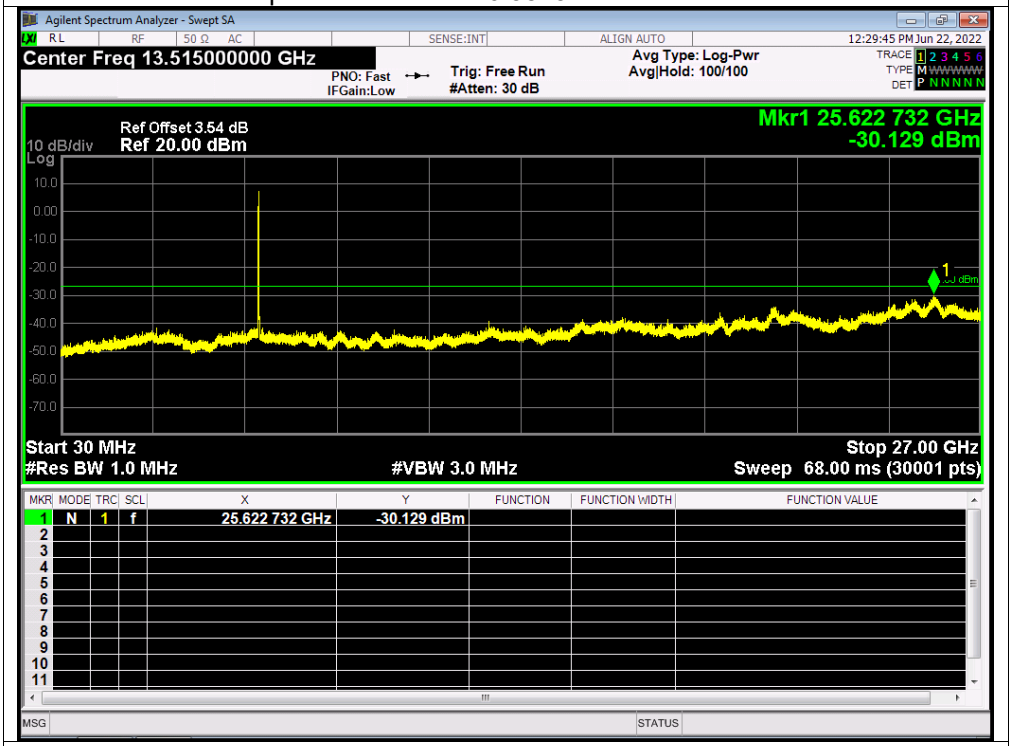
Tx. Spurious NVNT ac20 5745MHz AntB Emission



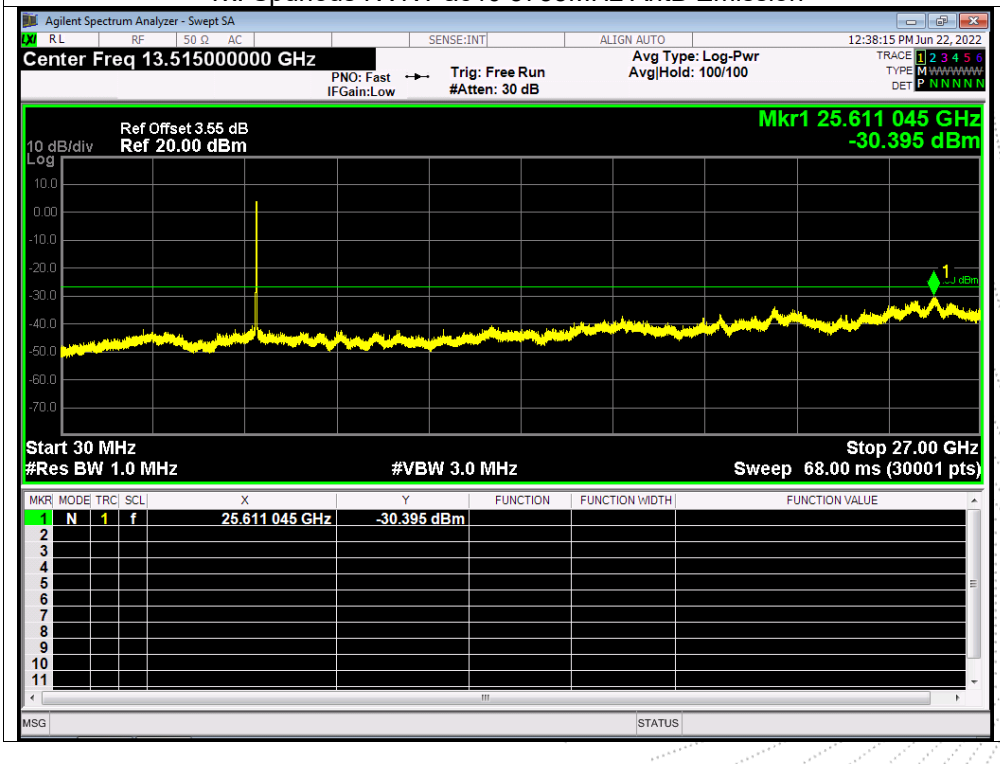
Tx. Spurious NVNT ac20 5785MHz AntB Emission



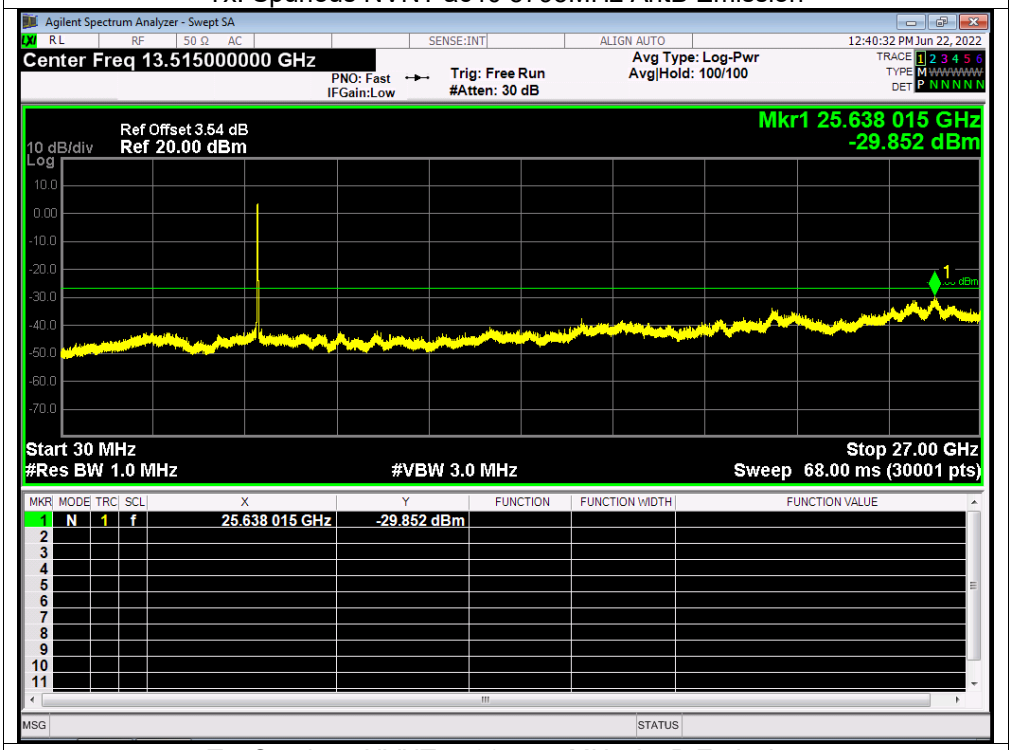
Tx. Spurious NVNT ac20 5825MHz AntB Emission



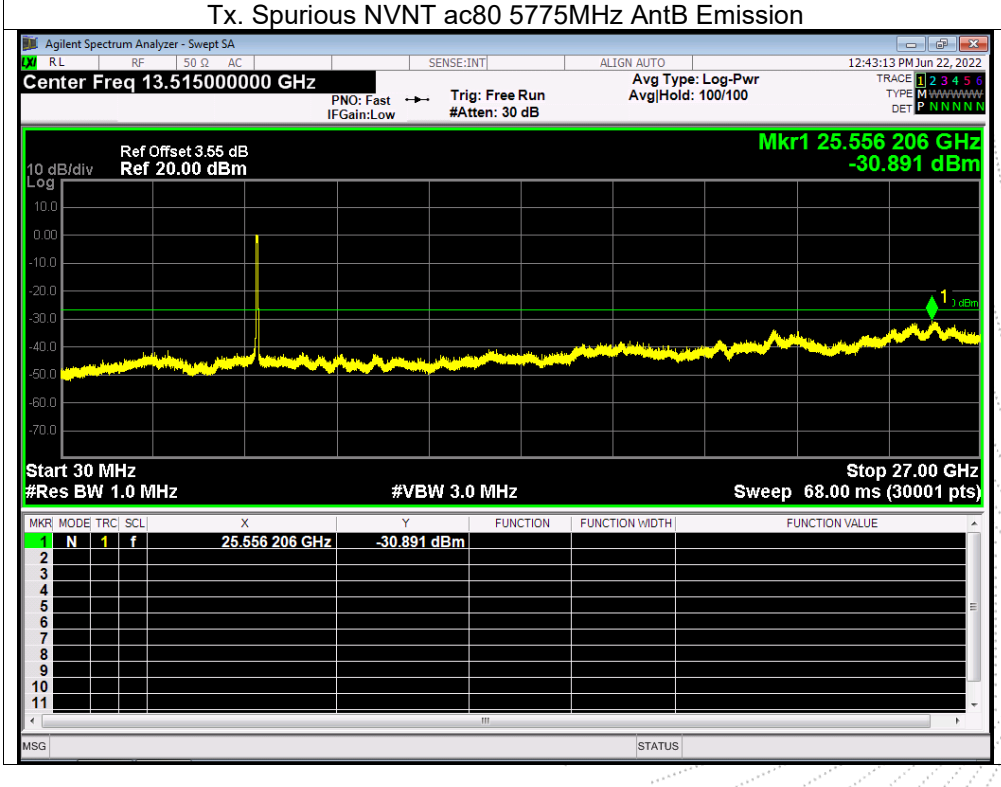
Tx. Spurious NVNT ac40 5755MHz AntB Emission



Tx. Spurious NVNT ac40 5795MHz AntB Emission

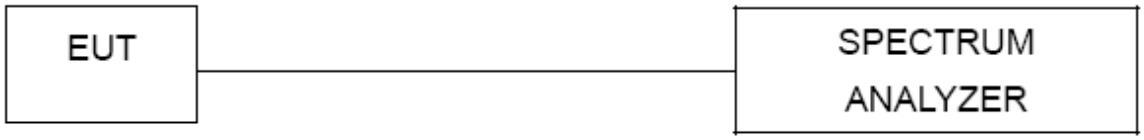


Tx. Spurious NVNT ac80 5775MHz AntB Emission



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:	AC120V/60Hz
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)	120.00	5180.0163	5180	0.0163	3.1454
		V max (V)	138.00	5180.0160	5180	0.0160	3.0939
		V min (V)	102.00	5180.0070	5180	0.0070	1.3507
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)	120	T (°C)	-20	5180.0132	5180	0.0132	2.5539
		T (°C)	-10	5180.0095	5180	0.0095	1.8390
		T (°C)	0	5180.0084	5180	0.0084	1.6217
		T (°C)	10	5180.0013	5180	0.0013	0.2536
		T (°C)	20	5180.0008	5180	0.0008	0.1475
		T (°C)	30	5180.0028	5180	0.0028	0.5440
		T (°C)	40	5180.0045	5180	0.0045	0.8727
		T (°C)	50	5180.0034	5180	0.0034	0.6585
		T (°C)	60	5180.0088	5180	0.0088	1.6982
		T (°C)	70	5180.0032	5180	0.0032	0.6124
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)	120.00	5200.0093	5200	0.0093	1.7927
		V max (V)	138.00	5200.0096	5200	0.0096	1.8553
		V min (V)	102.00	5200.0093	5200	0.0093	1.7801
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)	120	T (°C)	-20	5200.00229	5200	0.00229	0.4403
		T (°C)	-10	5200.00802	5200	0.00802	1.5414
		T (°C)	0	5200.00943	5200	0.00943	1.8143
		T (°C)	10	5200.00233	5200	0.00233	0.4482
		T (°C)	20	5200.01030	5200	0.01030	1.9808
		T (°C)	30	5200.00766	5200	0.00766	1.4739
		T (°C)	40	5200.00129	5200	0.00129	0.2487
		T (°C)	50	5200.00503	5200	0.00503	0.9665
		T (°C)	60	5200.00881	5200	0.00881	1.6940
		T (°C)	70	5200.01233	5200	0.01233	2.3712
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)	120.00	5240.0088	5240	0.0088	1.6813
		V max (V)	138.00	5240.0133	5240	0.0133	2.5295
		V min (V)	102.00	5240.0106	5240	0.0106	2.0278
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)	120	T (°C)	-20	5240.0126	5240	0.0126	2.4034
		T (°C)	-10	5240.0016	5240	0.0016	0.2967
		T (°C)	0	5240.0017	5240	0.0017	0.3224
		T (°C)	10	5240.0099	5240	0.0099	1.8869
		T (°C)	20	5240.0093	5240	0.0093	1.7820
		T (°C)	30	5240.0007	5240	0.0007	0.1404
		T (°C)	40	5240.0087	5240	0.0087	1.6670
		T (°C)	50	5240.0088	5240	0.0088	1.6887
		T (°C)	60	5240.0088	5240	0.0088	1.6715
		T (°C)	70	5240.0050	5240	0.0050	0.9489
Limits				5150-5250 MHz			
Result				Complies			

Temperature:	26 ℃	Relative Humidity:	54%
Pressure:	101KPa	Test Voltage:	AC120V/60Hz
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)	120.00	5745.00884	5745	0.00884	1.5380
		V max (V)	138.00	5745.00077	5745	0.00077	0.1343
		V min (V)	102.00	5745.00373	5745	0.00373	0.6486
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)	120	T (°C)	-20	5745.00742	5745	0.00742	1.2915
		T (°C)	-10	5745.01049	5745	0.01049	1.8258
		T (°C)	0	5745.01176	5745	0.01176	2.0467
		T (°C)	10	5745.00377	5745	0.00377	0.6567
		T (°C)	20	5745.00819	5745	0.00819	1.4251
		T (°C)	30	5745.00959	5745	0.00959	1.6692
		T (°C)	40	5745.00220	5745	0.00220	0.3827
		T (°C)	50	5745.00137	5745	0.00137	0.2383
		T (°C)	60	5745.00726	5745	0.00726	1.2637
		T (°C)	70	5745.01243	5745	0.01243	2.1634
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)	120.00	5785.00047	5785	0.00047	0.0817
		V max (V)	138.00	5785.00230	5785	0.00230	0.3981
		V min (V)	102.00	5785.00387	5785	0.00387	0.6692
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)	120	T (°C)	-20	5785.01306	5785	0.01306	2.2575
		T (°C)	-10	5785.00849	5785	0.00849	1.4671
		T (°C)	0	5785.00589	5785	0.00589	1.0187
		T (°C)	10	5785.00417	5785	0.00417	0.7205
		T (°C)	20	5785.00237	5785	0.00237	0.4093
		T (°C)	30	5785.00136	5785	0.00136	0.2357
		T (°C)	40	5785.00800	5785	0.00800	1.3834
		T (°C)	50	5785.00554	5785	0.00554	0.9579
		T (°C)	60	5785.01234	5785	0.01234	2.1340
		T (°C)	70	5785.00581	5785	0.00581	1.0044
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)	120.00	5825.00026	5825	0.00026	0.0452
		V max (V)	138.00	5825.00987	5825	0.00987	1.6947
		V min (V)	102.00	5825.00177	5825	0.00177	0.3039
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)	120	T (°C)	-20	5825.00113	5825	0.00113	0.1943
		T (°C)	-10	5825.00867	5825	0.00867	1.4876
		T (°C)	0	5825.01317	5825	0.01317	2.2606
		T (°C)	10	5825.01118	5825	0.01118	1.9186
		T (°C)	20	5825.01103	5825	0.01103	1.8928
		T (°C)	30	5825.01300	5825	0.01300	2.2319
		T (°C)	40	5825.00655	5825	0.00655	1.1237
		T (°C)	50	5825.01254	5825	0.01254	2.1534
		T (°C)	60	5825.00233	5825	0.00233	0.3998
		T (°C)	70	5825.00974	5825	0.00974	1.6720
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

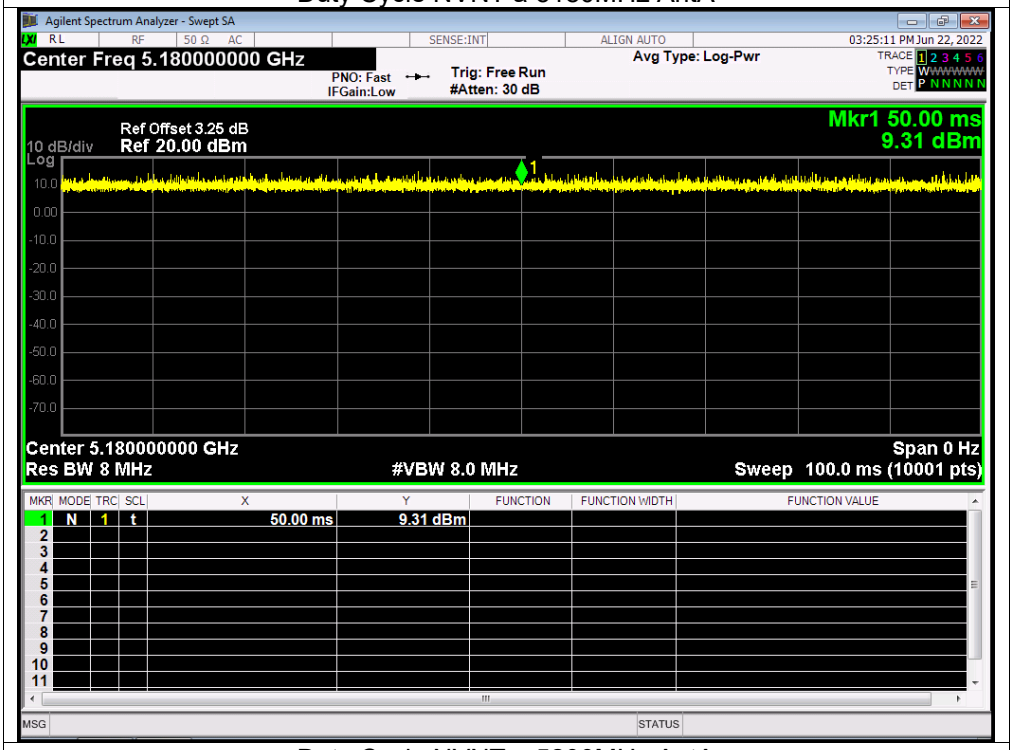
1.Set span = Zero
2. RBW = 8MHz
3. VBW = 8MHz,
4. Detector = Peak

14.4 Test Result

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 AntA



Duty Cycle NVNT a 5200MHz AntA