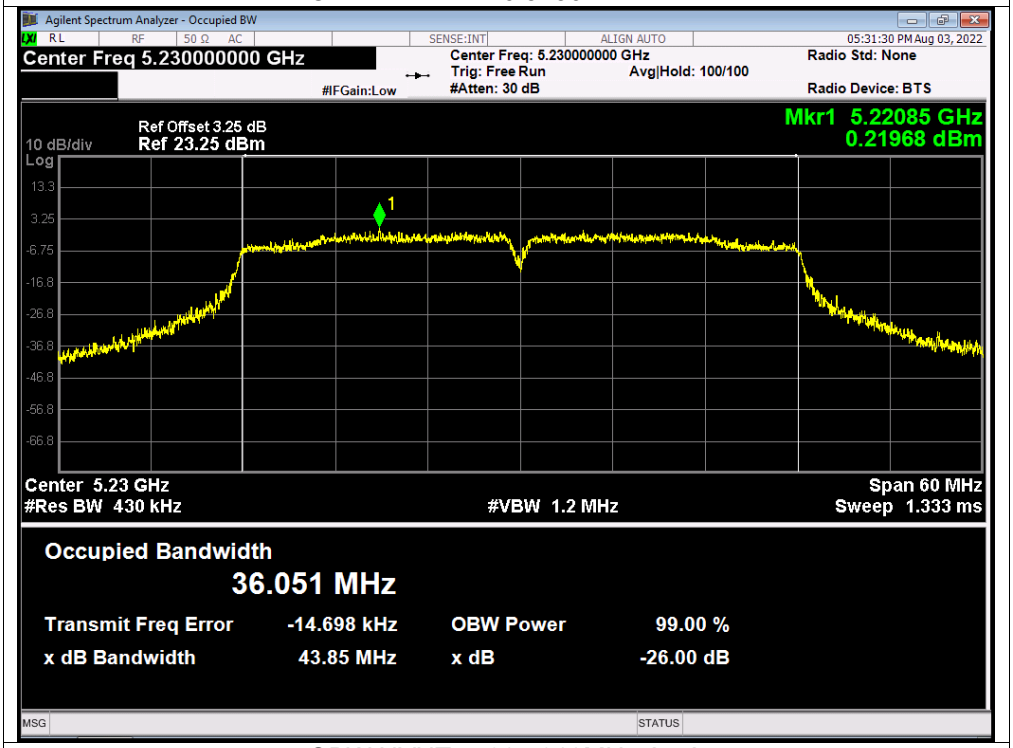
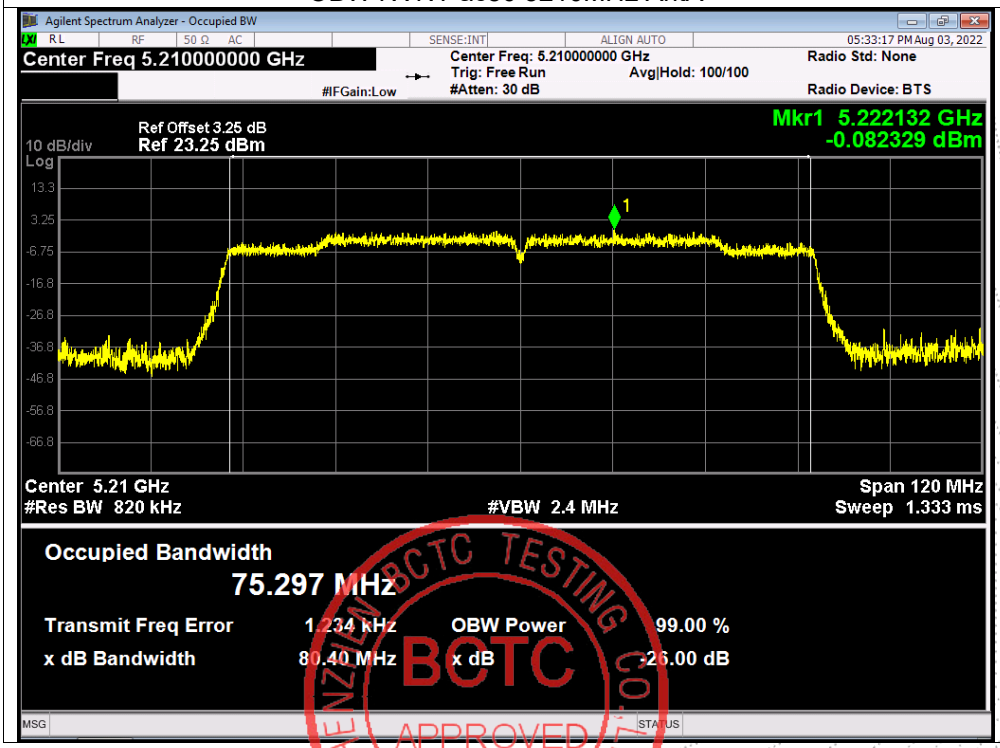
OBW NVNT ac40 5230MHz AntA



OBW NVNT ac80 5210MHz AntA



Temperature：	26 ℃	Relative Humidity：	54%
Pressure：	101kPa	Test Voltage ：	AC 120V/60Hz
Test Mode ：	TX Frequency U-NII-3(5745-5825MHz)		

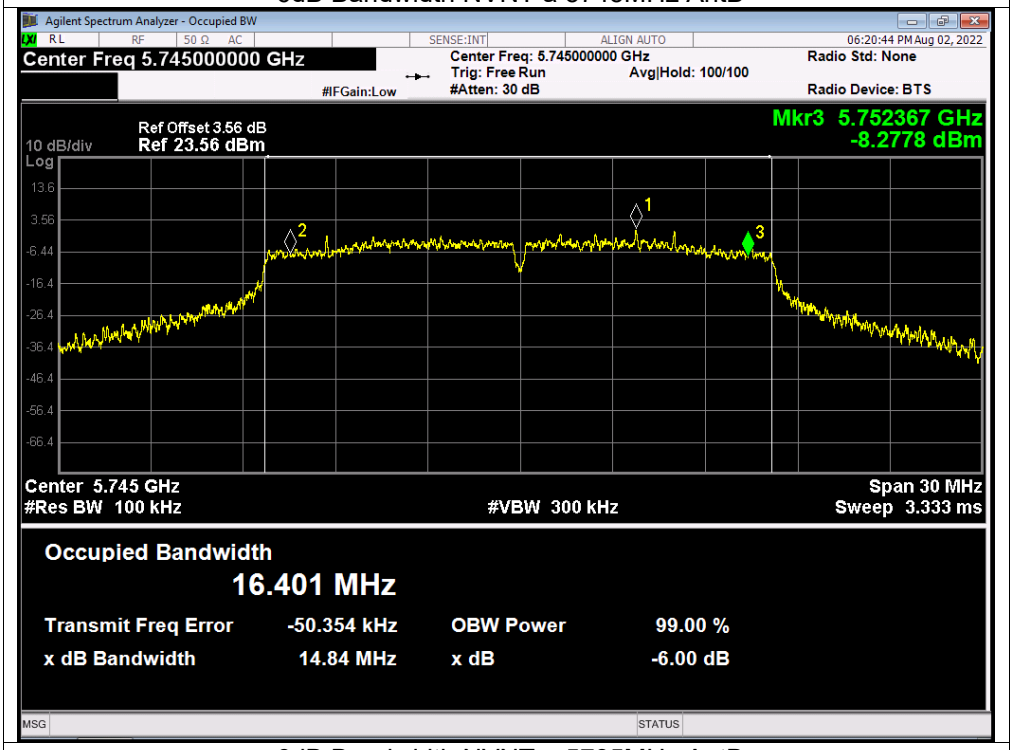
Note: A(B) Represent the value of antenna A and B, The worst data is Antenna B, only shown Antenna B Plot.

Mode	Channel	Frequency (MHz)	99% bandwidth(MHz)	-6dB bandwidth (MHz)	Limit -6dB bandwidth MHz	Result
			ANT A	ANT A		
802.11a	CH149	5745	16.662	12.76	≥500	Pass
	CH157	5785	16.601	15.435	≥500	Pass
	CH165	5825	16.553	15.031	≥500	Pass
802.11 n20	CH149	5745	17.646	14.61	≥500	Pass
	CH157	5785	17.688	13.892	≥500	Pass
	CH165	5825	17.656	13.436	≥500	Pass
802.11 n40	CH151	5755	36.142	35.037	≥500	Pass
	CH159	5795	36.108	33.816	≥500	Pass
802.11 ac20	CH149	5745	17.721	13.862	≥500	Pass
	CH157	5785	17.686	15.702	≥500	Pass
	CH165	5825	17.651	12.975	≥500	Pass
802.11 ac40	CH151	5755	36.146	35.073	≥500	Pass
	CH159	5795	36.052	33.807	≥500	Pass
802.11 AC80	CH155	5775	**75.274**	73.836	≥500	Pass

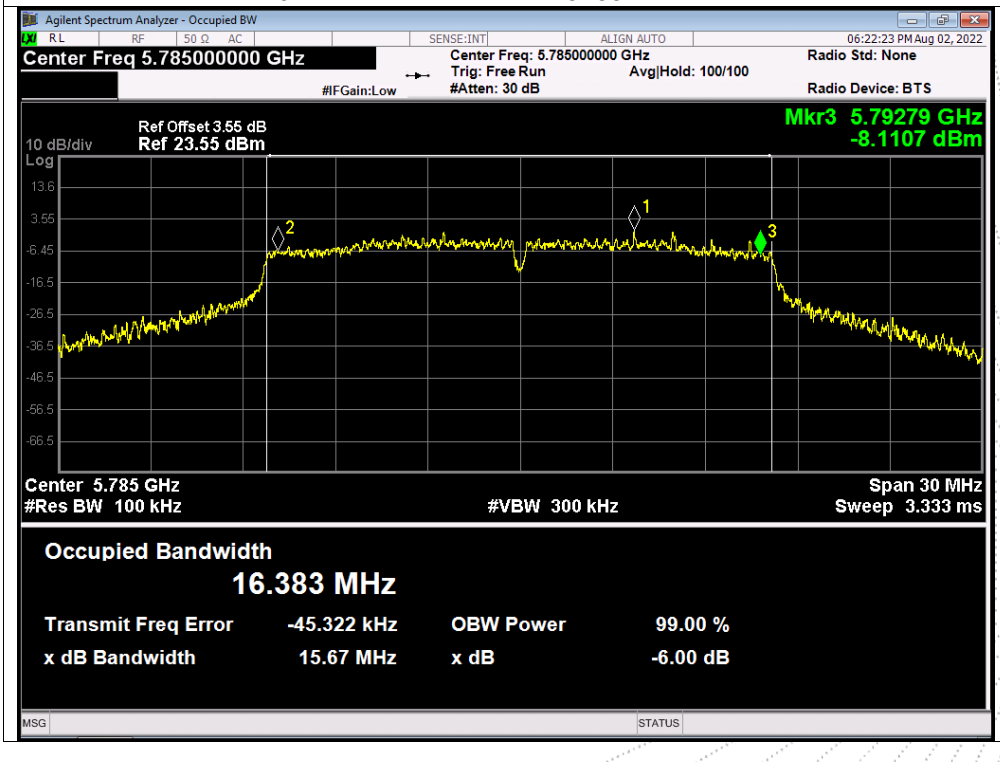
Mode	Channel	Frequency (MHz)	99% bandwidth(MHz)	-6dB bandwidth (MHz)	Limit -6dB bandwidth MHz	Result
			ANT B	ANT B		
802.11a	CH149	5745	16.476	14.835	≥500	Pass
	CH157	5785	16.425	15.67	≥500	Pass
	CH165	5825	16.43	13.659	≥500	Pass
802.11 n20	CH149	5745	17.642	12.624	≥500	Pass
	CH157	5785	17.692	11.934	≥500	Pass
	CH165	5825	17.608	13.374	≥500	Pass
802.11 n40	CH151	5755	36.092	35.118	≥500	Pass
	CH159	5795	36.072	35.046	≥500	Pass
802.11 ac20	CH149	5745	17.631	12.2	≥500	Pass
	CH157	5785	17.629	13.577	≥500	Pass
	CH165	5825	17.627	13.826	≥500	Pass
802.11 ac40	CH151	5755	36.117	35.082	≥500	Pass
	CH159	5795	36.055	35.321	≥500	Pass
802.11 AC80	CH155	5775	**75.283**	75.1	≥500	Pass

Test Graphs

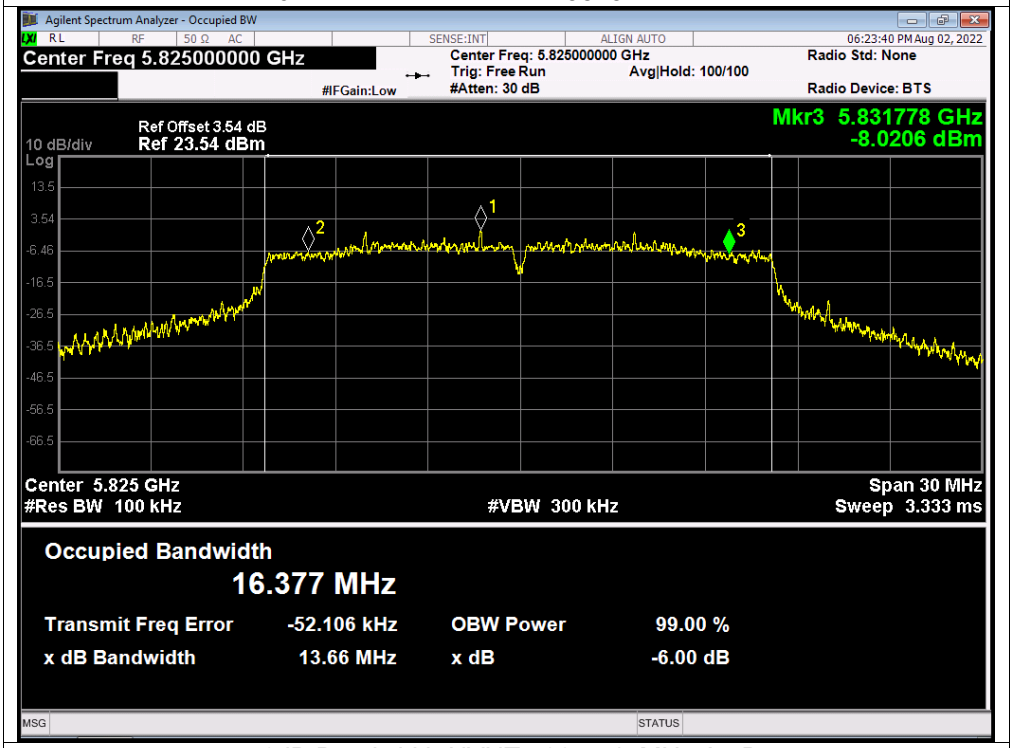
-6dB Bandwidth NVNT a 5745MHz AntB



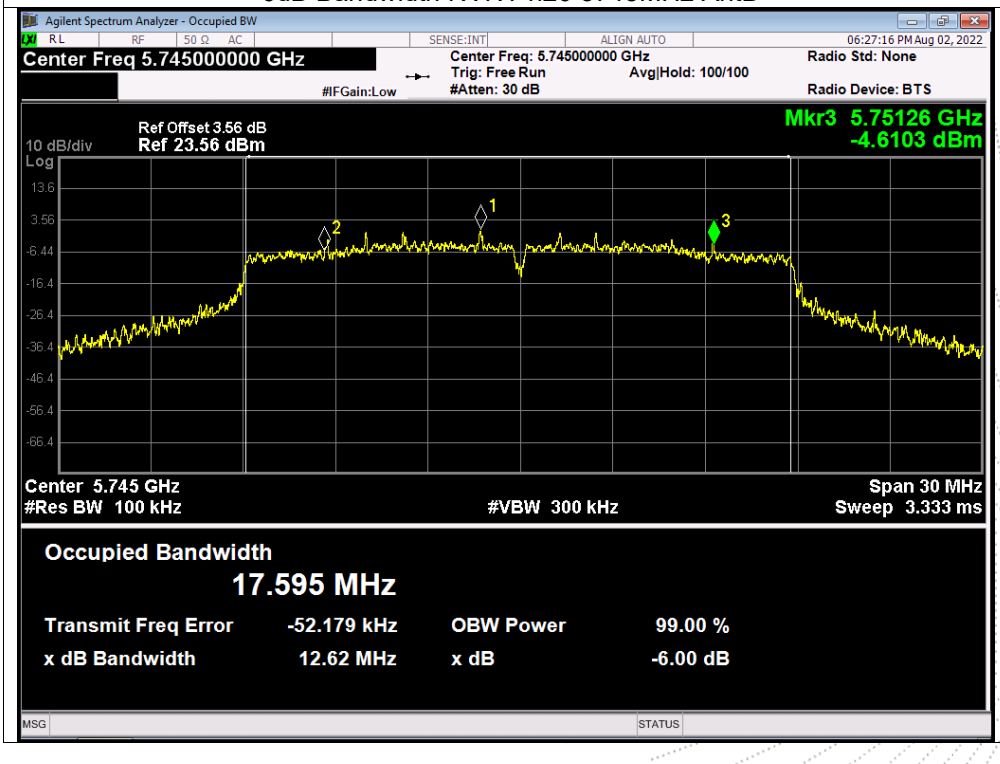
-6dB Bandwidth NVNT a 5785MHz AntB



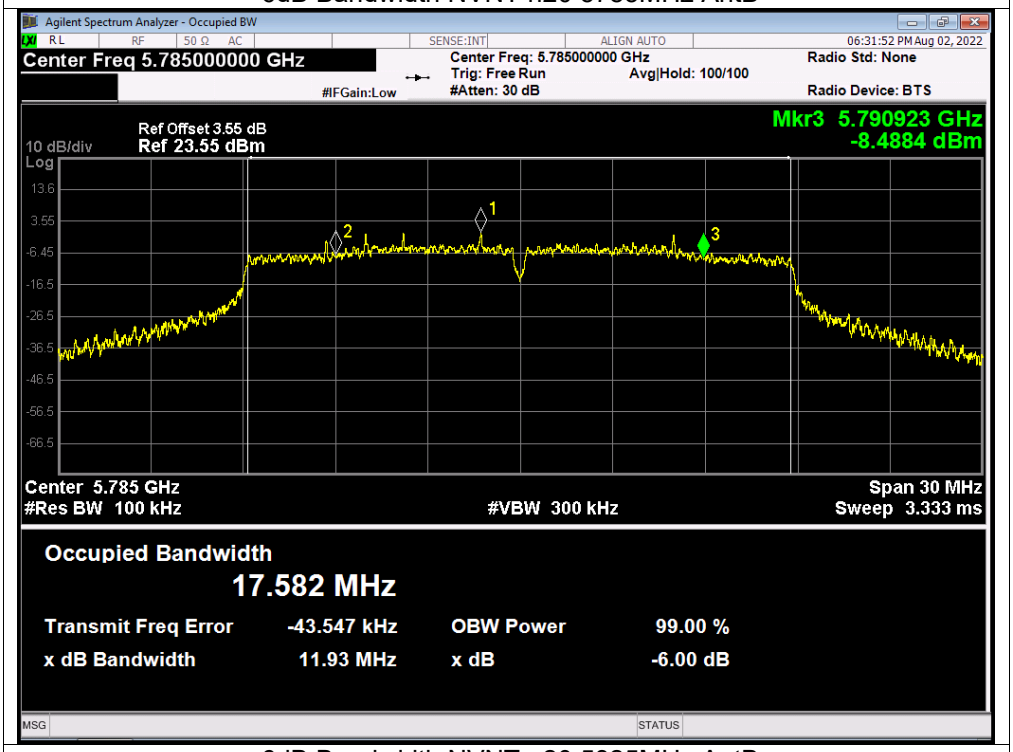
-6dB Bandwidth NVNT a 5825MHz AntB



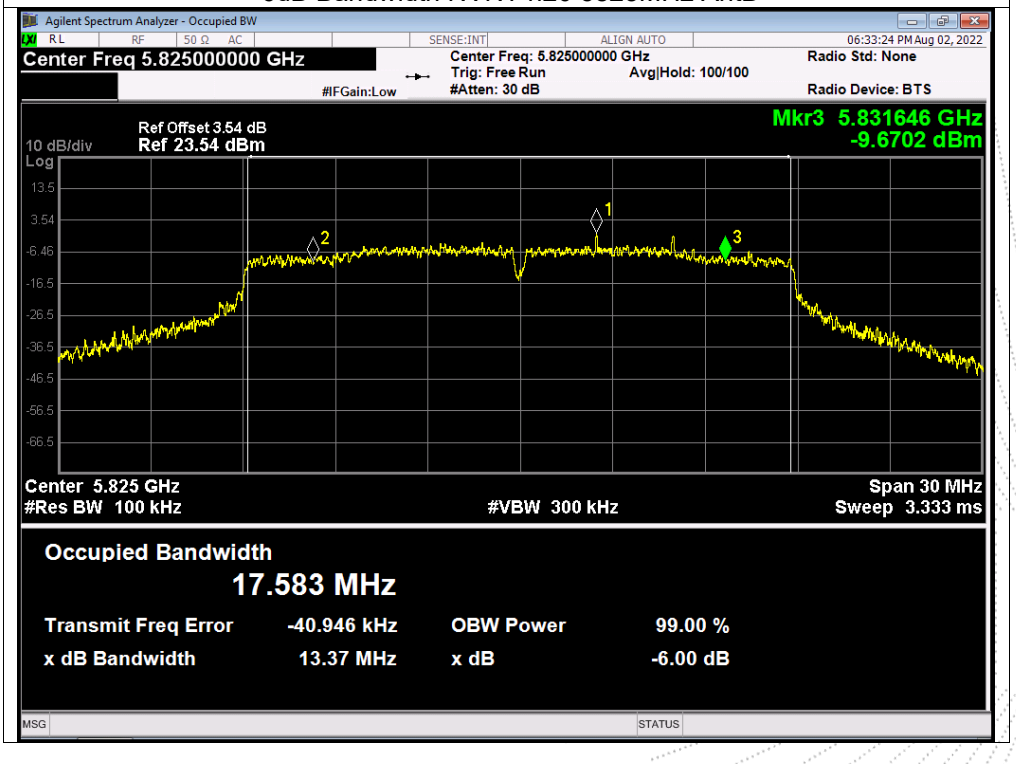
-6dB Bandwidth NVNT n20 5745MHz AntB



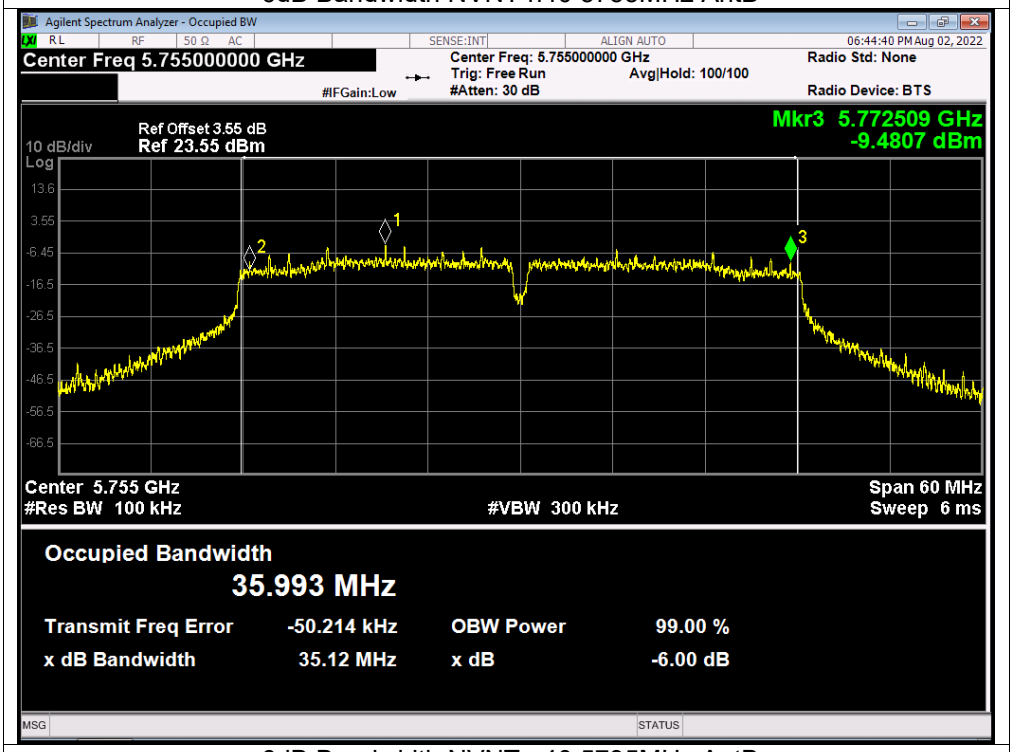
-6dB Bandwidth NVNT n20 5785MHz AntB



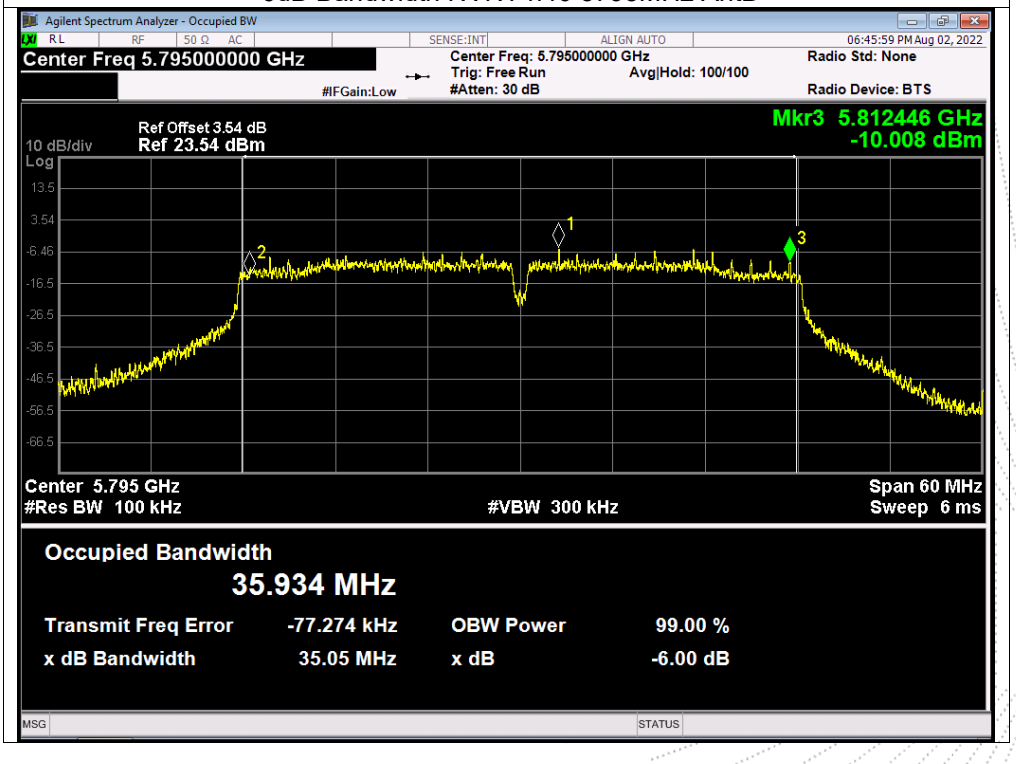
-6dB Bandwidth NVNT n20 5825MHz AntB



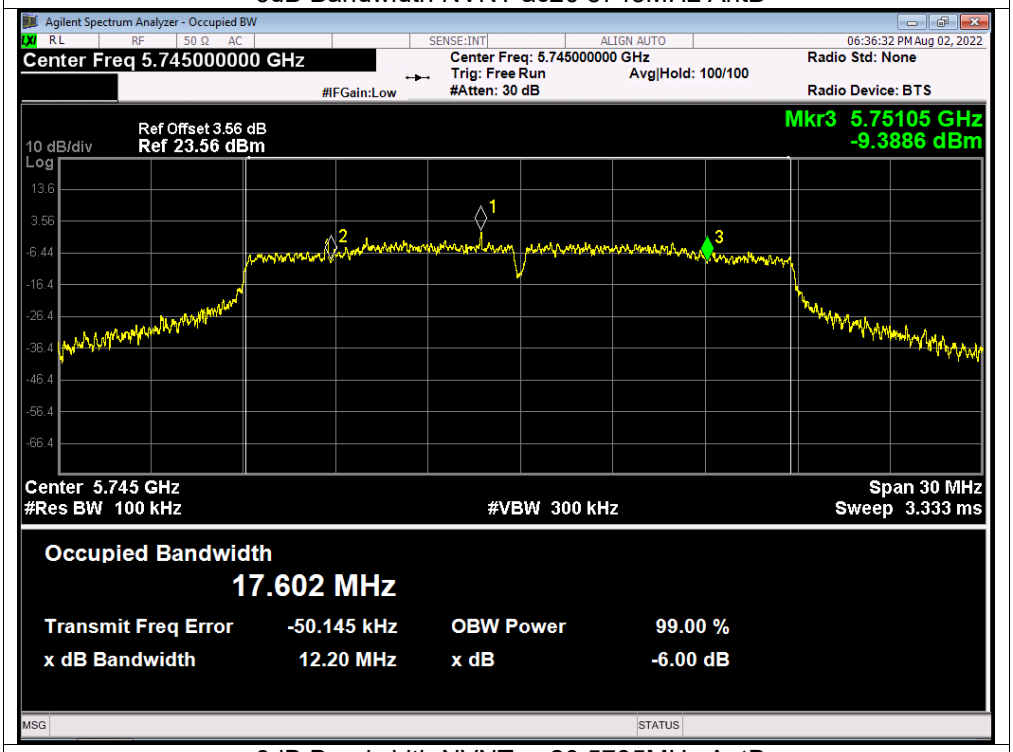
-6dB Bandwidth NVNT n40 5755MHz AntB



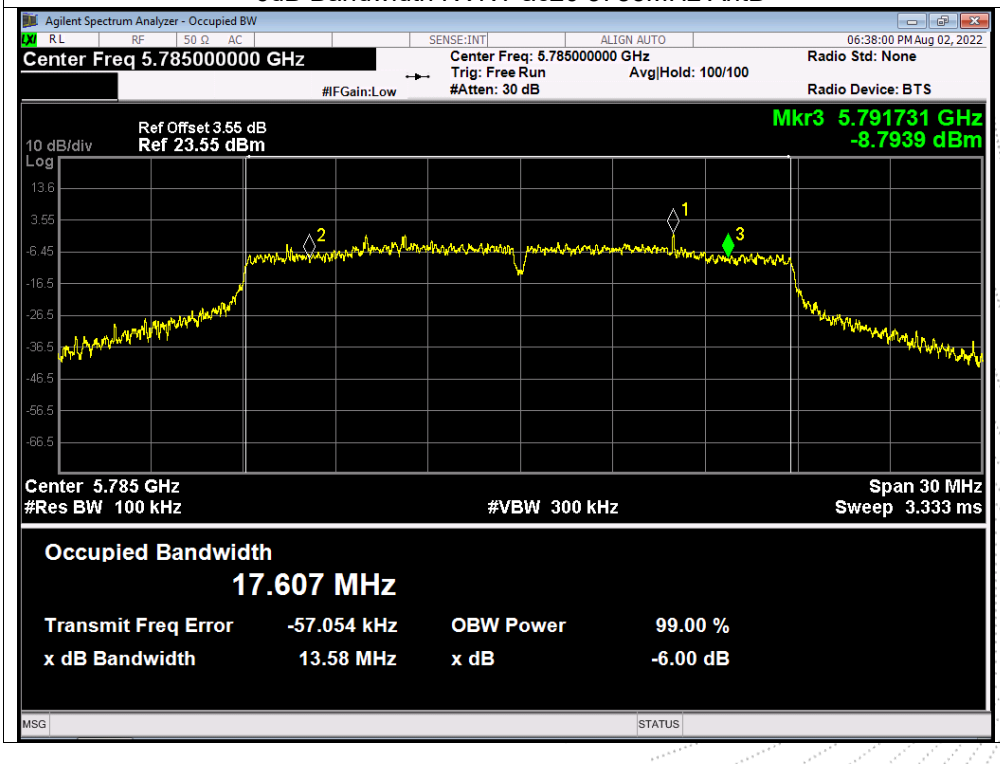
-6dB Bandwidth NVNT n40 5795MHz AntB



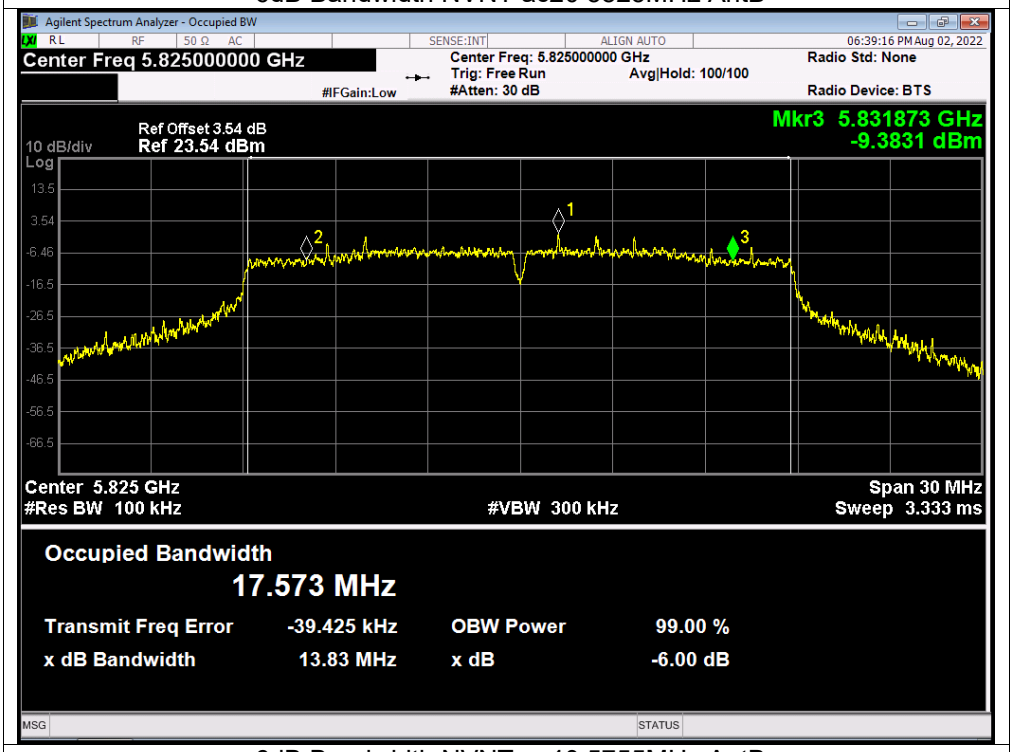
-6dB Bandwidth NVNT ac20 5745MHz AntB



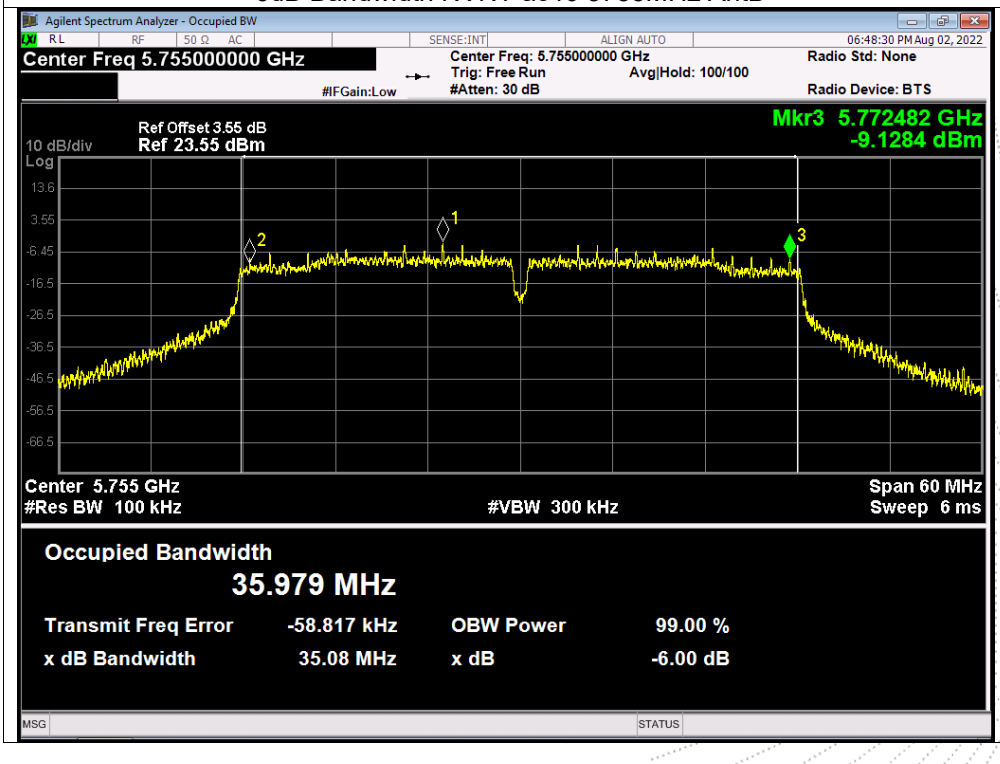
-6dB Bandwidth NVNT ac20 5785MHz AntB



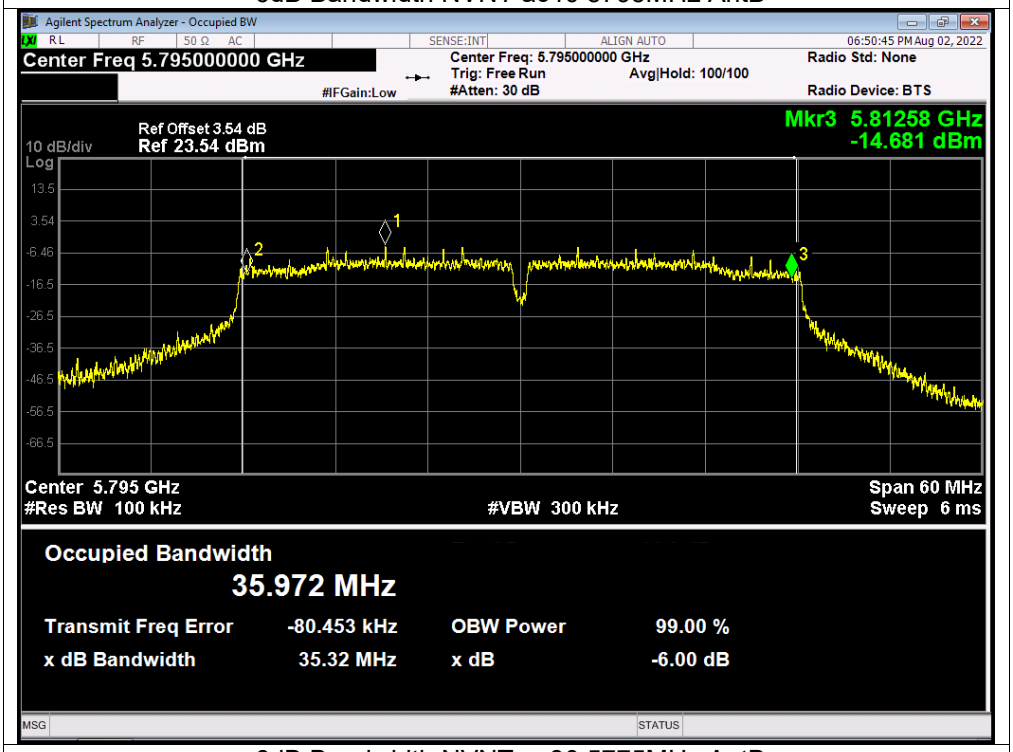
-6dB Bandwidth NVNT ac20 5825MHz AntB



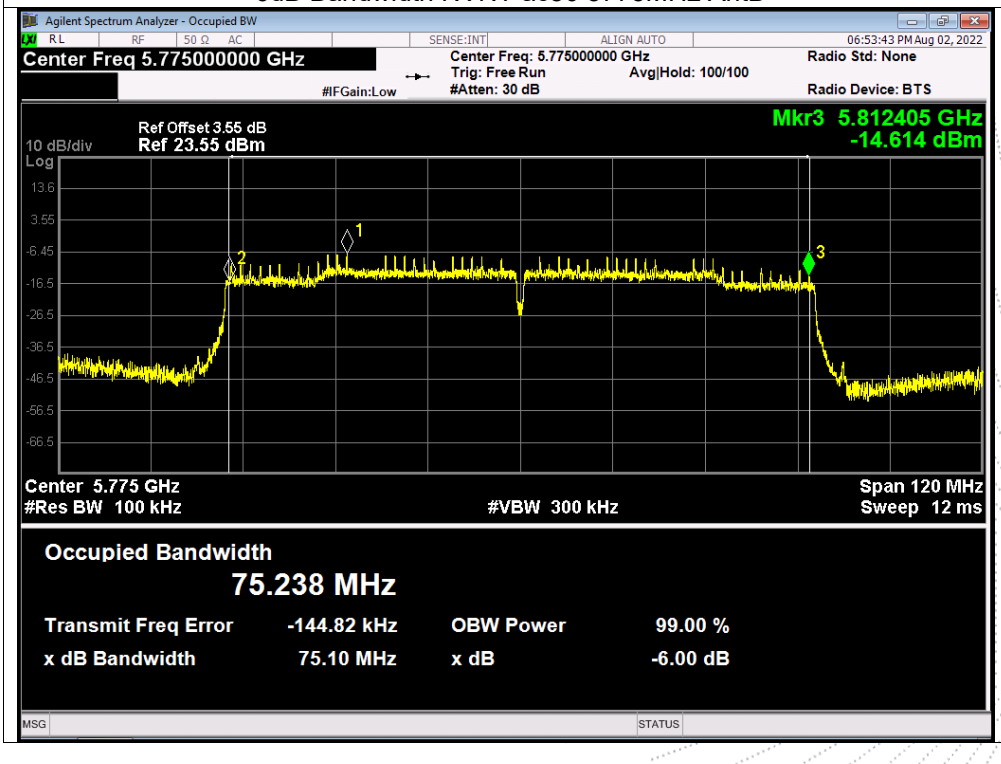
-6dB Bandwidth NVNT ac40 5755MHz AntB



-6dB Bandwidth NVNT ac40 5795MHz AntB

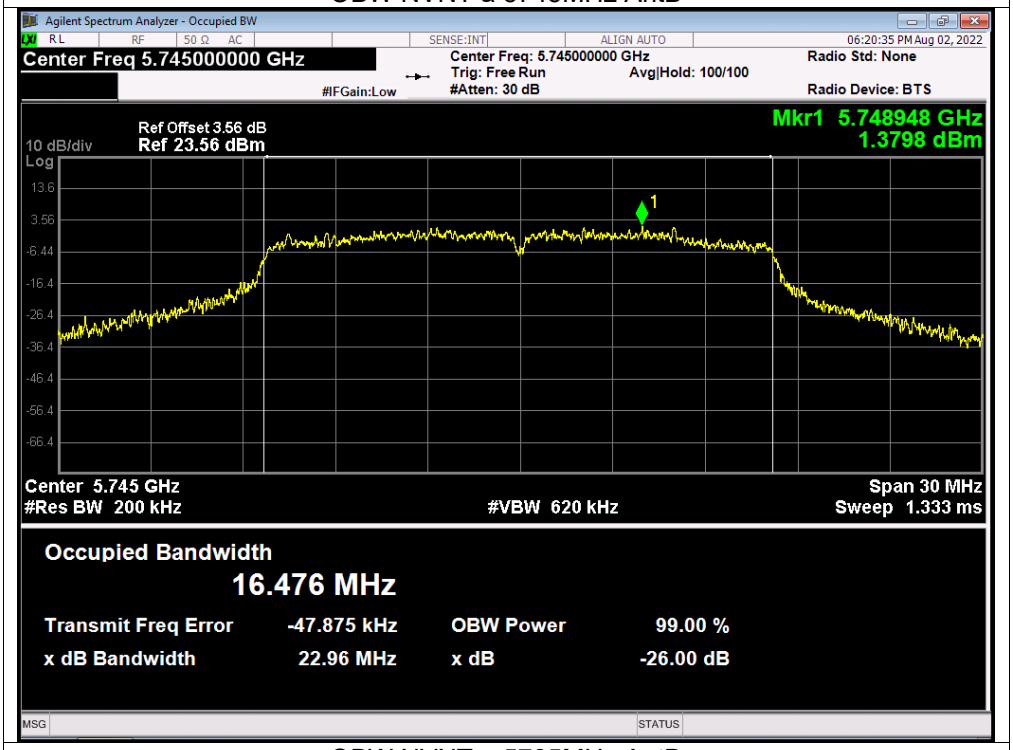


-6dB Bandwidth NVNT ac80 5775MHz AntB

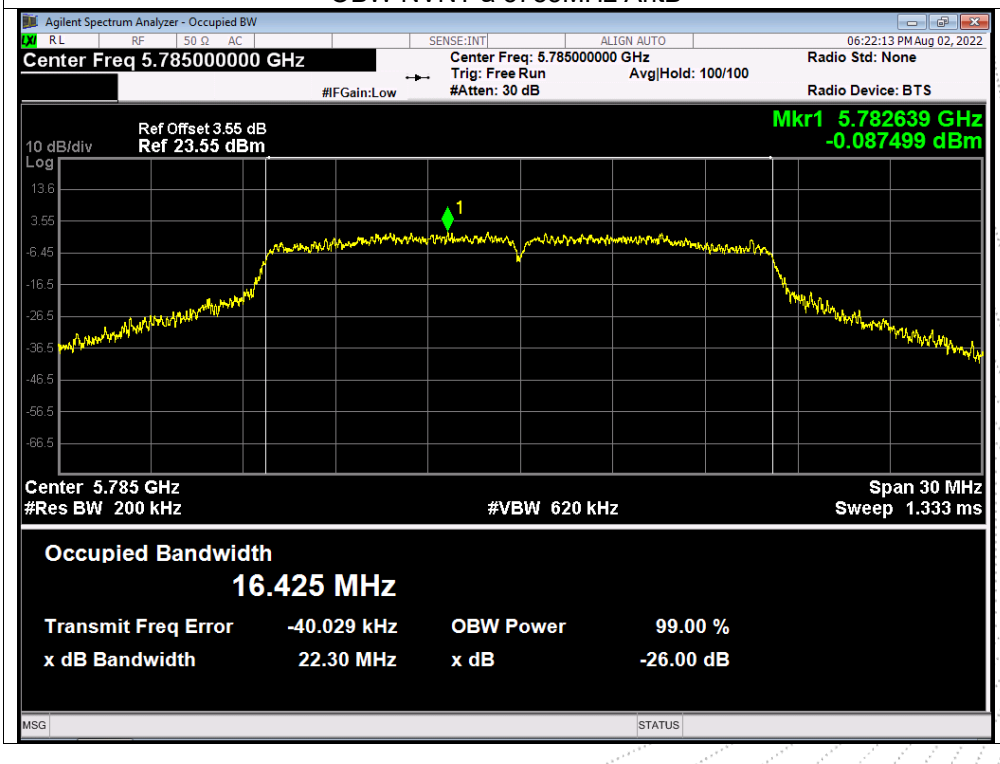


Test Graphs

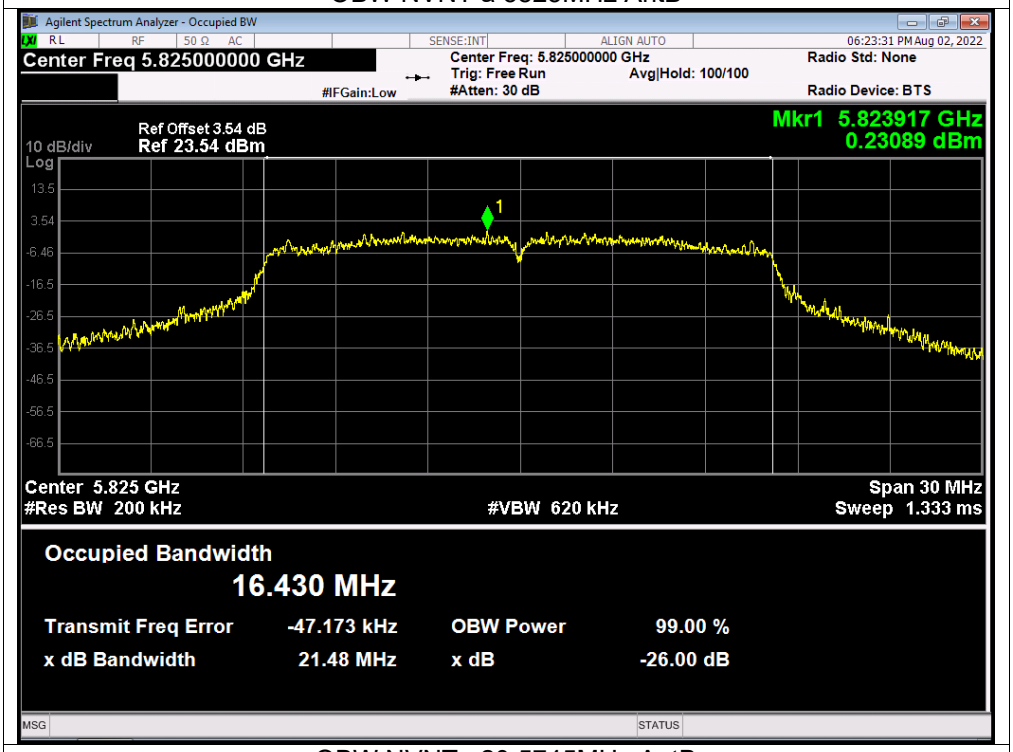
OBW NVNT a 5745MHz AntB



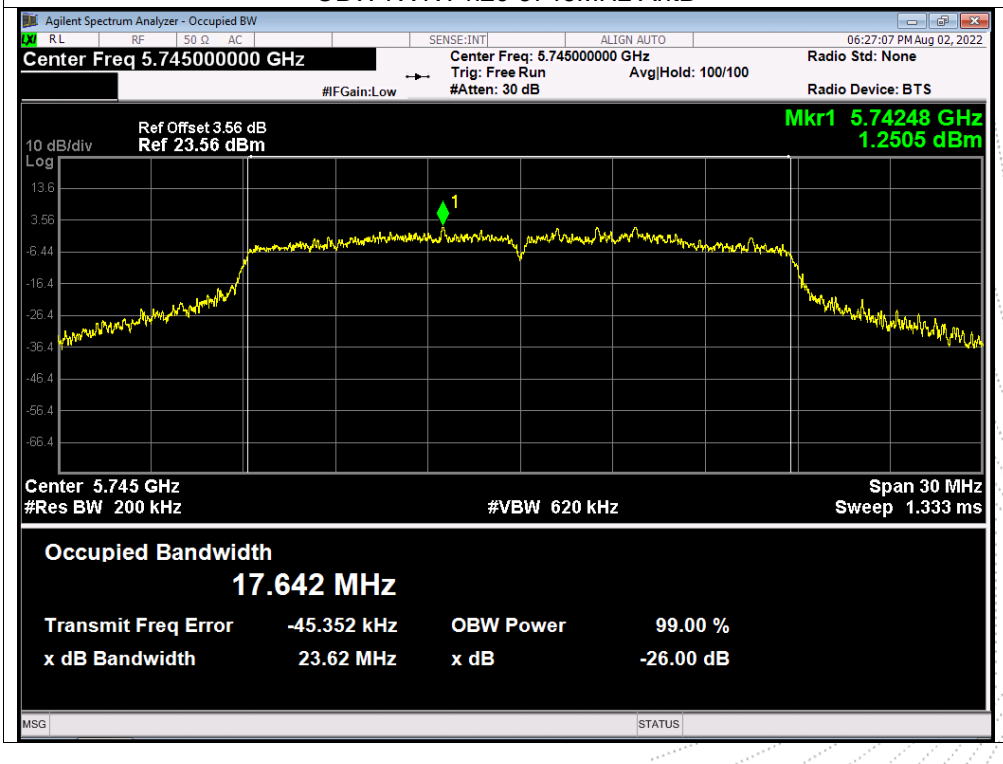
OBW NVNT a 5785MHz AntB



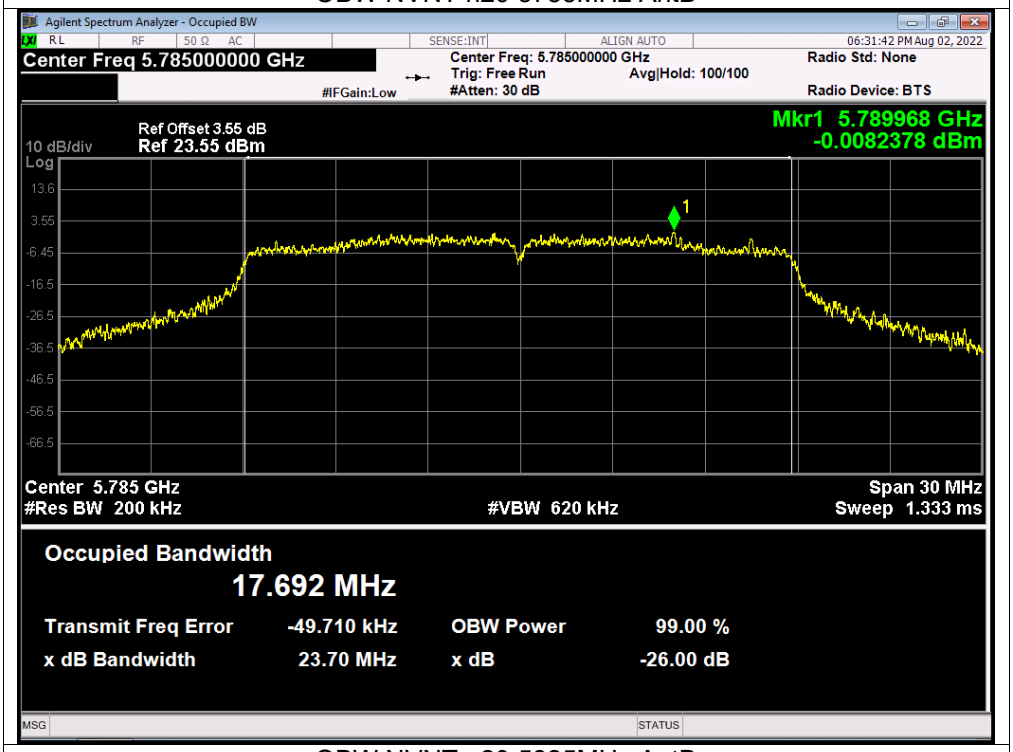
OBW NVNT a 5825MHz AntB



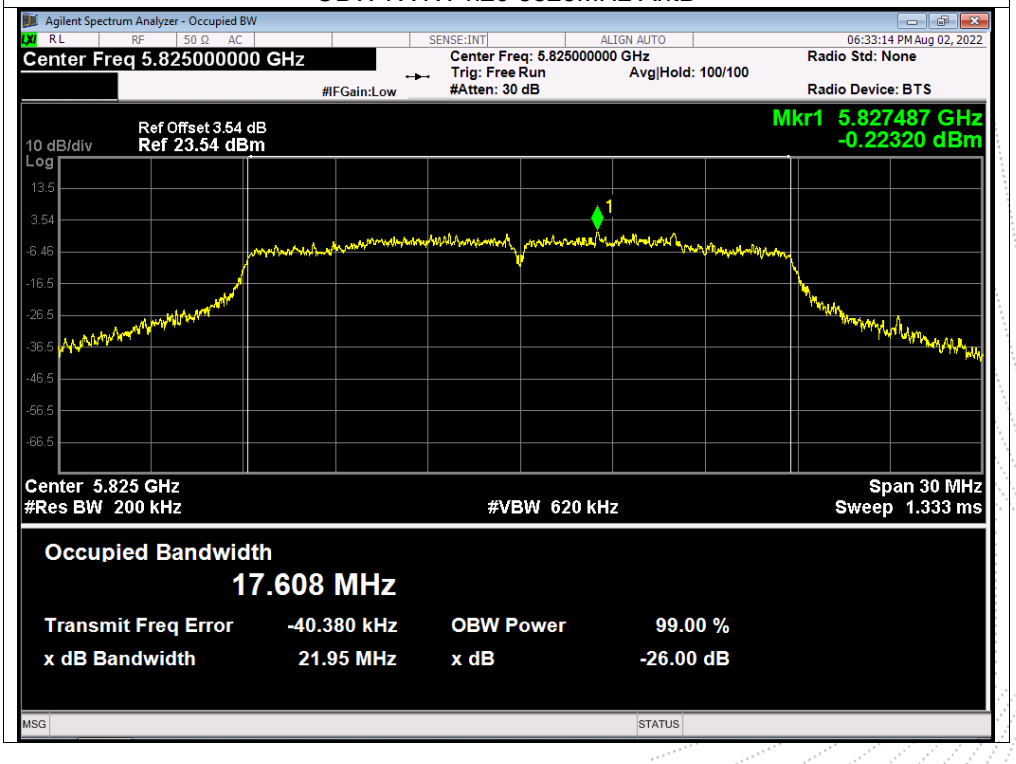
OBW NVNT n20 5745MHz AntB



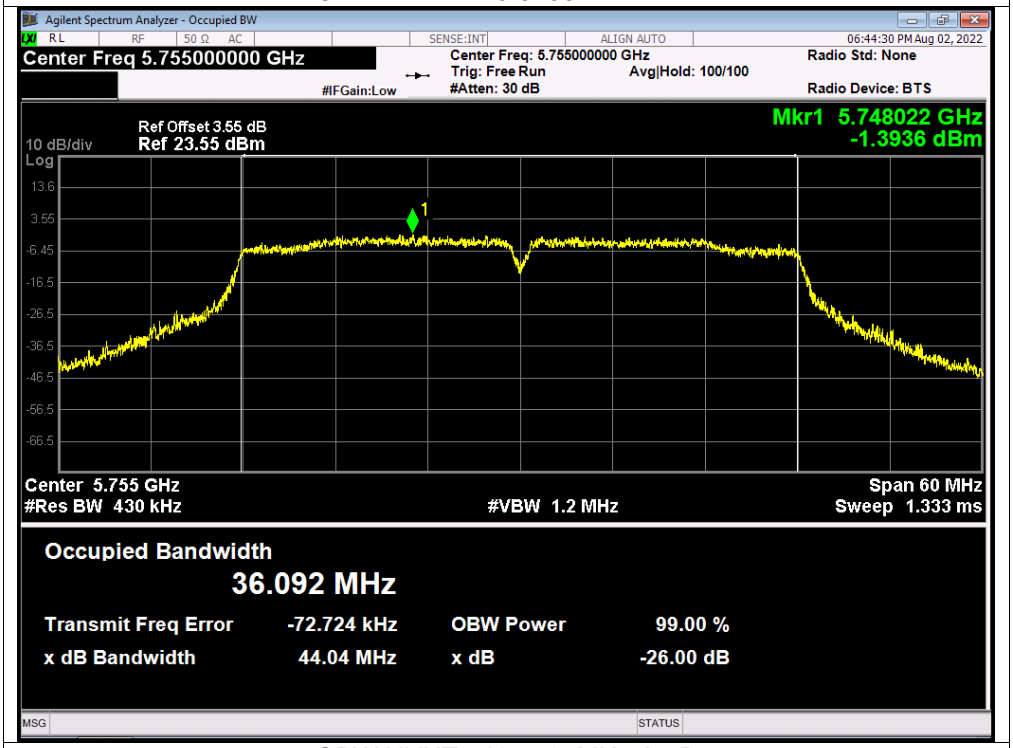
OBW NVNT n20 5785MHz AntB



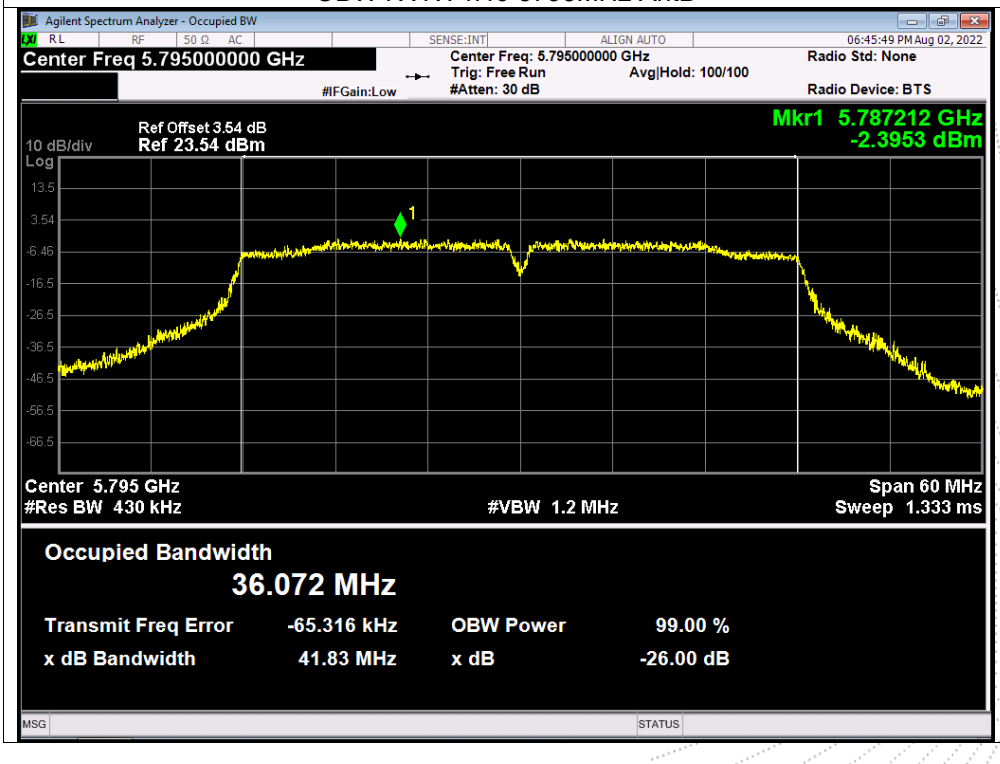
OBW NVNT n20 5825MHz AntB



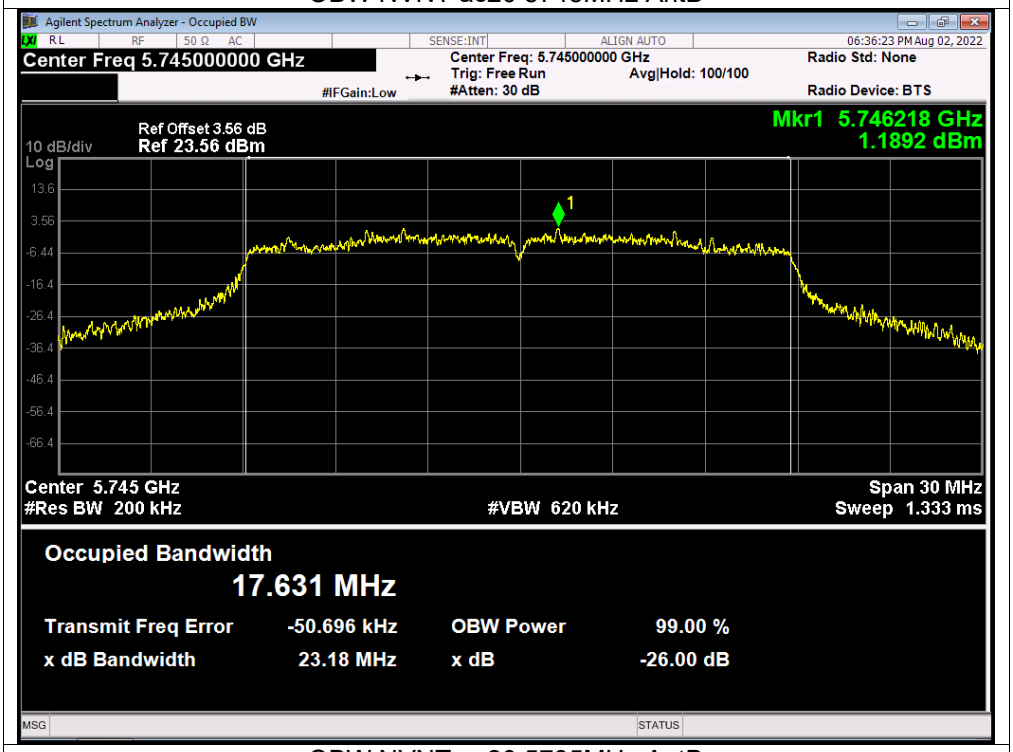
OBW NVNT n40 5755MHz AntB



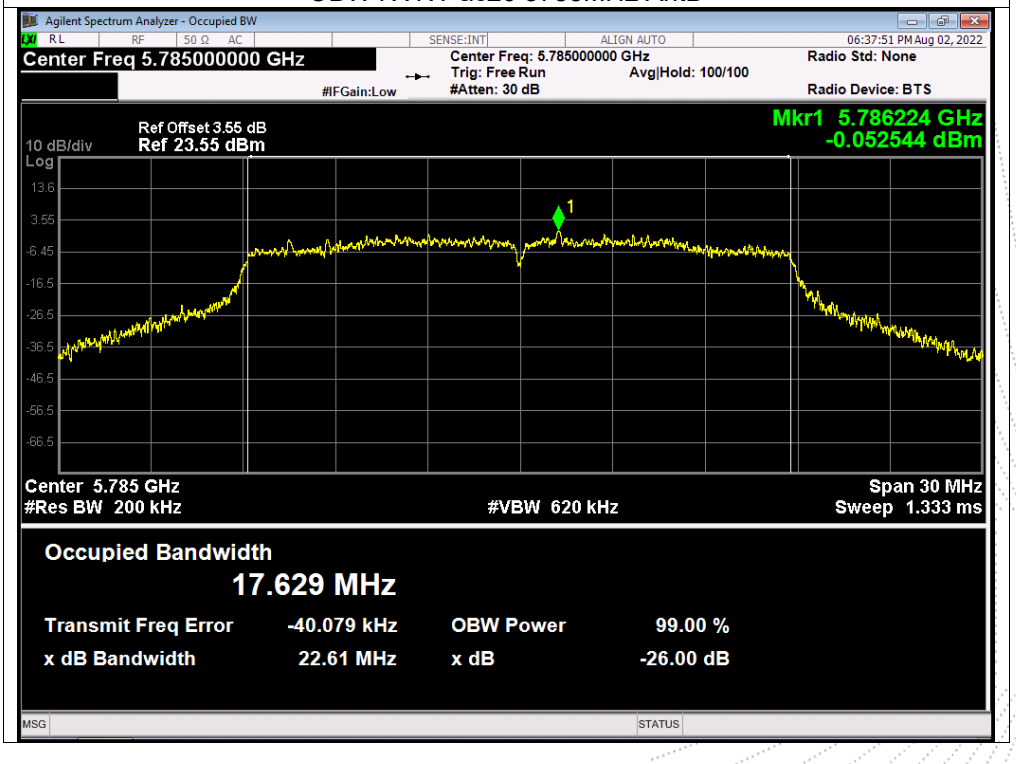
OBW NVNT n40 5795MHz AntB



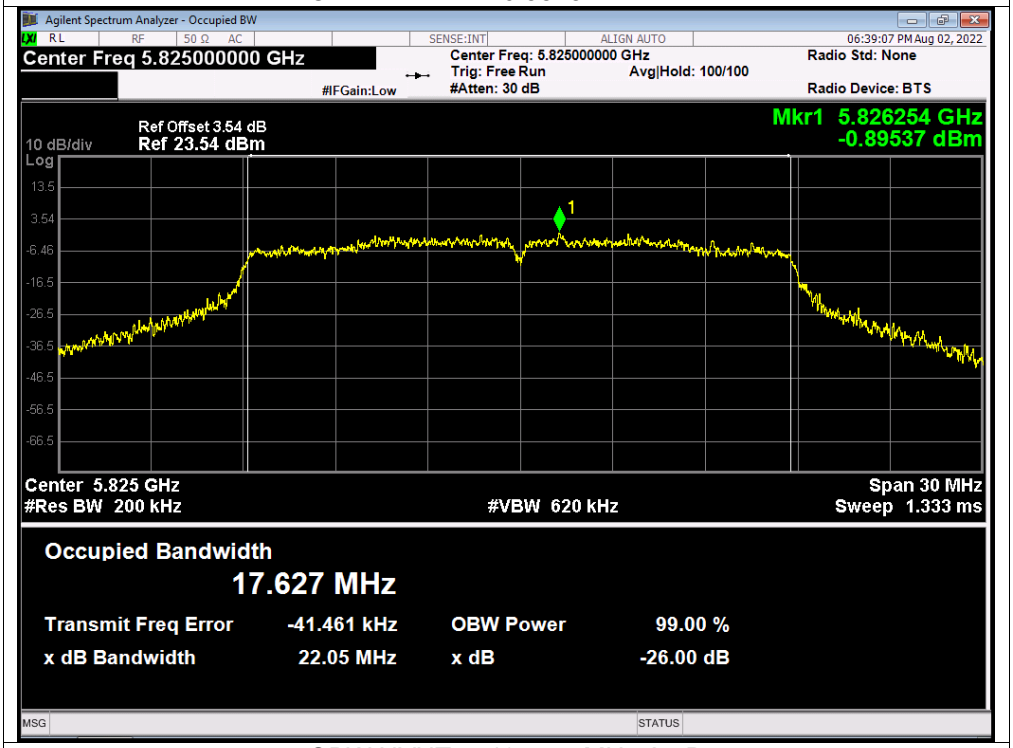
OBW NVNT ac20 5745MHz AntB



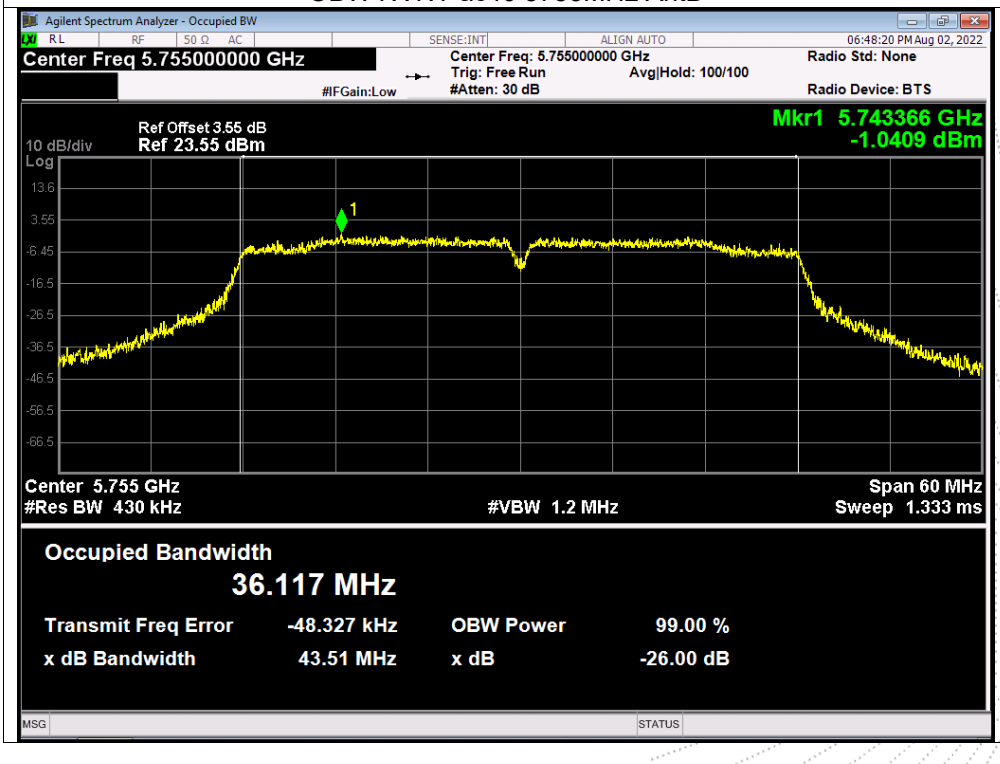
OBW NVNT ac20 5785MHz AntB



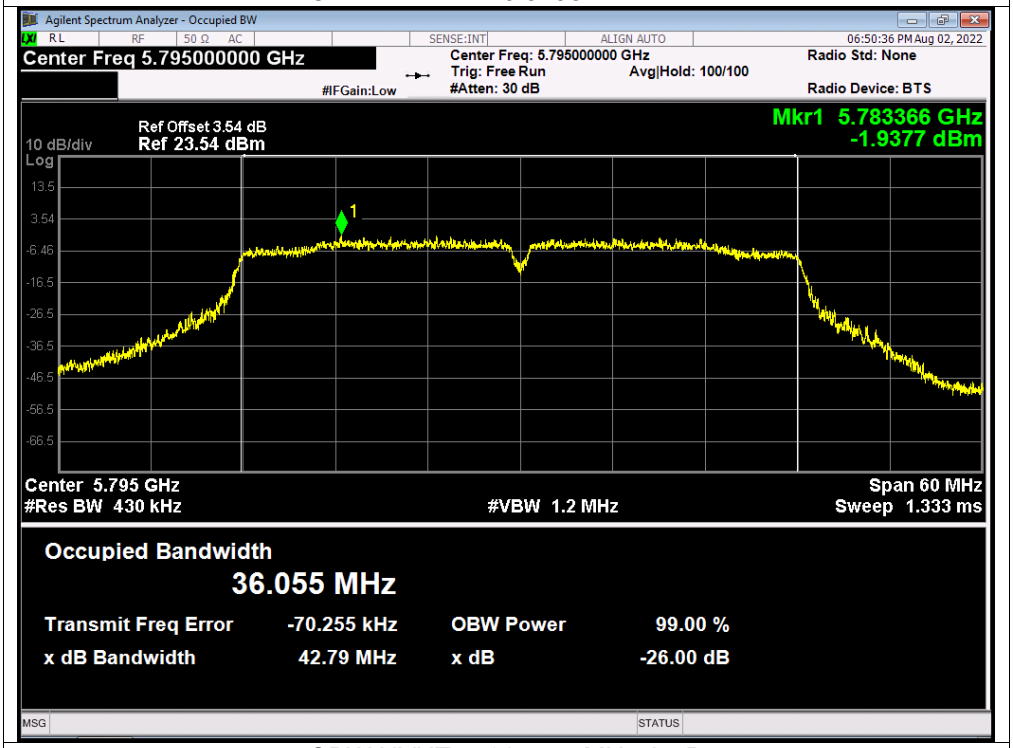
OBW NVNT ac20 5825MHz AntB



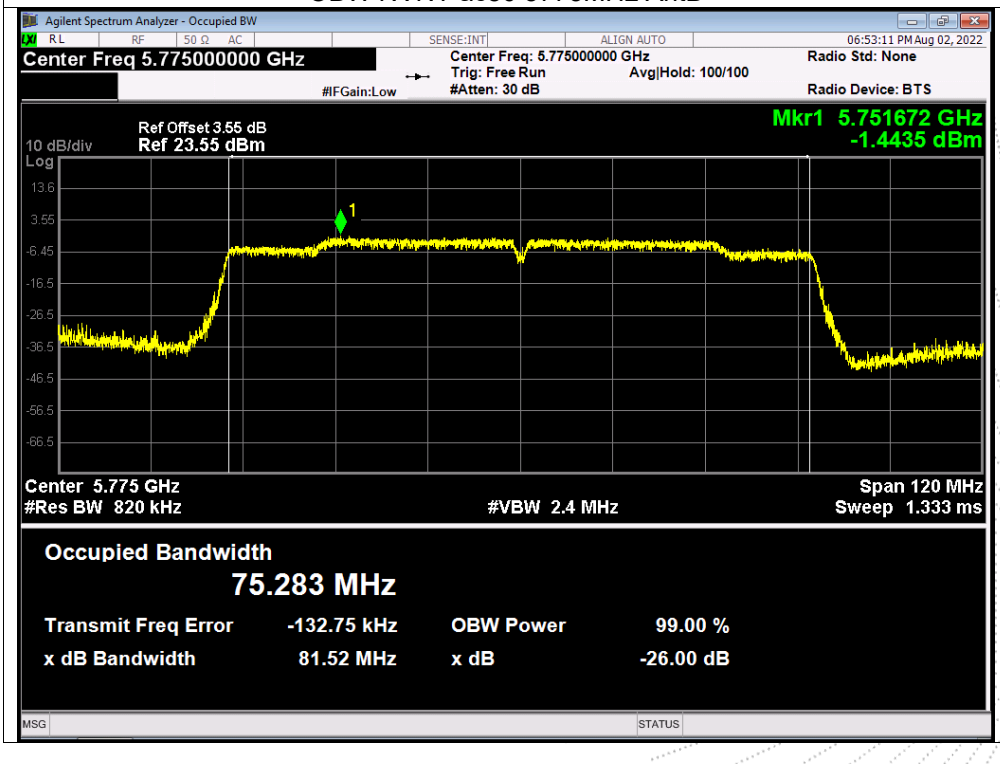
OBW NVNT ac40 5755MHz AntB



OBW NVNT ac40 5795MHz AntB

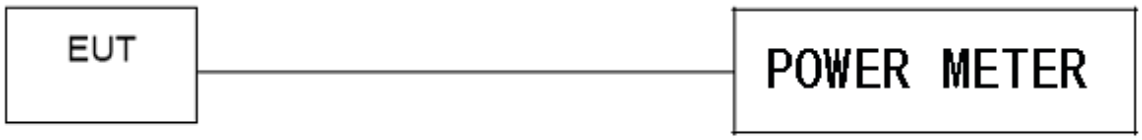


OBW NVNT ac80 5775MHz AntB



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	250mW
5725~5850	1W

10.3 Test Procedure

Maximum conducted output power may be measured using a spectrum analyzer/EMI receiver or an RF power meter.

1. Device Configuration
If possible, configure or modify the operation of the EUT so that it transmits continuously at its maximum power control level (see section II.B.).

a) The intent is to test at 100 percent duty cycle; however a small reduction in duty cycle (to no lower than 98 percent) is permitted if required by the EUT for amplitude control purposes. Manufacturers are expected to provide software to the test lab to permit such continuous operation.

b) If continuous transmission (or at least 98 percent duty cycle) cannot be achieved due to hardware limitations (e.g., overheating), the EUT shall be operated at its maximum power control level with the transmit duration as long as possible and the duty cycle as high as possible.

2. Measurement using a Spectrum Analyzer or EMI Receiver (SA)
Measurement of maximum conducted output power using a spectrum analyzer requires integrating the spectrum across a frequency span that encompasses, at a minimum, either the EBW or the 99-percent occupied bandwidth of the signal.1 However, the EBW must be used to determine bandwidth dependent limits on maximum conducted output power in accordance with § 15.407(a).

a) The test method shall be selected as follows: (i) Method SA-1 or SA-1 Alternative (averaging with the EUT transmitting at full power throughout each sweep) shall be applied if either of the following conditions can be satisfied:

• The EUT transmits continuously (or with a duty cycle ≥ 98 percent).

• Sweep triggering or gating can be implemented in a way that the device transmits at the maximum power control level throughout the duration of each of the instrument sweeps to be averaged. This condition can generally be achieved by triggering the instrument's sweep if the duration of the sweep (with the analyzer configured as in Method SA-1, below) is equal to or shorter than the duration T of each

transmission from the EUT and if those transmissions exhibit full power throughout their durations.

(ii) Method SA-2 or SA-2 Alternative (averaging across on and off times of the EUT transmissions, followed by duty cycle correction) shall be applied if the conditions of (i) cannot be achieved and the transmissions exhibit a constant duty cycle during the measurement duration. Duty cycle will be considered to be constant if variations are less than ± 2 percent.

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

b) Method SA-1 (trace averaging with the EUT transmitting at full power throughout each sweep): (i) Set span to encompass the entire emission bandwidth (EBW) (or, alternatively, the entire 99% occupied bandwidth) of the signal.

(ii) Set RBW = 1 MHz.

(iii) Set VBW ≥ 3 MHz.

(iv) Number of points in sweep ≥ 2 Span / RBW. (This ensures that bin-to-bin spacing is ≤ RBW/2, so that narrowband signals are not lost between frequency bins.)

(v) Sweep time = auto.

(vi) Detector = RMS (i.e., power averaging), if available. Otherwise, use sample detector mode.

(vii) If transmit duty cycle < 98 percent, use a video trigger with the trigger level set to enable triggering only on full power pulses. Transmitter must operate at maximum power control level for the entire duration of every sweep. If the EUT transmits continuously (i.e., with no off intervals) or at duty cycle ≥ 98 percent, and if each transmission is entirely at the maximum power control level, then the trigger shall be set to “free run”.

(viii) Trace average at least 100 traces in power averaging (i.e., RMS) mode.

(ix) Compute power by integrating the spectrum across the EBW (or, alternatively, the entire 99% occupied bandwidth) of the signal using the instrument’s band power measurement function with band limits set equal to the EBW (or occupied bandwidth) band edges. If the instrument does not have a band power function, sum the spectrum

10.4 EUT Operating Conditions

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

10.5 Test Result

Temperature：	26 ℃	Relative Humidity：	54%
Pressure：	101kPa	Test Voltage ：	AC 120V/60Hz
Test Mode ：	TX (5G) Mode Frequency U-NII-1 (5180-5240MHz)		

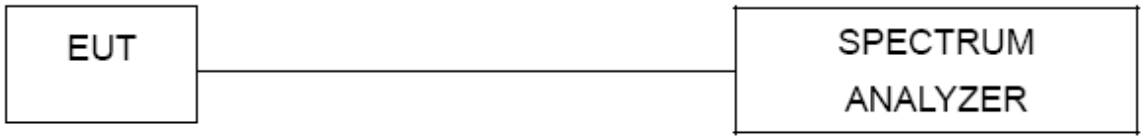
Test Mode	Test Channel	Frequency	Maximum output power. Antenna port (AV)			Limit	Result
		(MHz)	ANT A(dBm)	ANT B(dBm)	Total(dBm)	dBm	
TX 802.11a Mode	CH36	5180	12.25	11.56	/	24	Pass
	CH40	5200	11.87	10.86	/	24	Pass
	CH48	5240	10.87	10.99	/	24	Pass
TX 802.11 n20M Mode	CH36	5180	11.25	9.97	13.67	24	Pass
	CH40	5200	10.47	9.7	13.11	24	Pass
	CH48	5240	10.05	9.68	12.88	24	Pass
TX 802.11 n40M Mode	CH38	5190	9.74	9.8	12.78	24	Pass
	CH46	5230	9.91	8.49	12.27	24	Pass
TX 802.11 AC20M Mode	CH36	5180	10.56	8.57	12.69	24	Pass
	CH40	5200	9.99	10.18	13.10	24	Pass
	CH48	5240	11.24	10.09	13.71	24	Pass
TX 802.11 AC40M Mode	CH38	5190	9.46	9.67	12.58	24	Pass
	CH46	5230	10.09	8.36	12.32	24	Pass
TX 802.11 AC80M Mode	CH42	5210	9.22	8.37	11.83	24	Pass

Temperature：	26 ℃	Relative Humidity：	54%
Pressure：	101kPa	Test Voltage ：	AC 120V/60Hz
Test Mode ：	TX (5G) Mode Frequency U-NII-3 (5745-5825MHz)		

Test Mode	Test Channel	Frequency	Maximum output power. Antenna port (AV)			Limit	Result
		(MHz)	ANT A(dBm)	ANT B(dBm)	Total(dBm)	dBm	
TX 802.11a Mode	CH 149	5745	12.21	11.02	/	30	Pass
	CH 157	5785	11.38	10.25	/	30	Pass
	CH 165	5825	10.62	10.01	/	30	Pass
TX 802.11 n20M Mode	CH 149	5745	11.42	9.97	13.77	30	Pass
	CH 157	5785	10.52	9.41	13.01	30	Pass
	CH 165	5825	9.61	8.6	12.14	30	Pass
TX 802.11 n40M Mode	CH 151	5755	10.24	9.06	12.70	30	Pass
	CH 159	5795	9.5	8.32	11.96	30	Pass
TX 802.11 AC20M Mode	CH 151	5755	11.35	9.87	13.68	30	Pass
	CH 159	5795	10.63	9.33	13.04	30	Pass
	CH 151	5755	9.62	8.94	12.30	30	Pass
TX 802.11 AC40M Mode	CH 151	5755	10.22	8.86	12.60	30	Pass
	CH 159	5795	9.51	8.17	11.90	30	Pass
TX 802.11 AC80M Mode	CH 155	5775	9.05	7.92	11.53	30	Pass

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

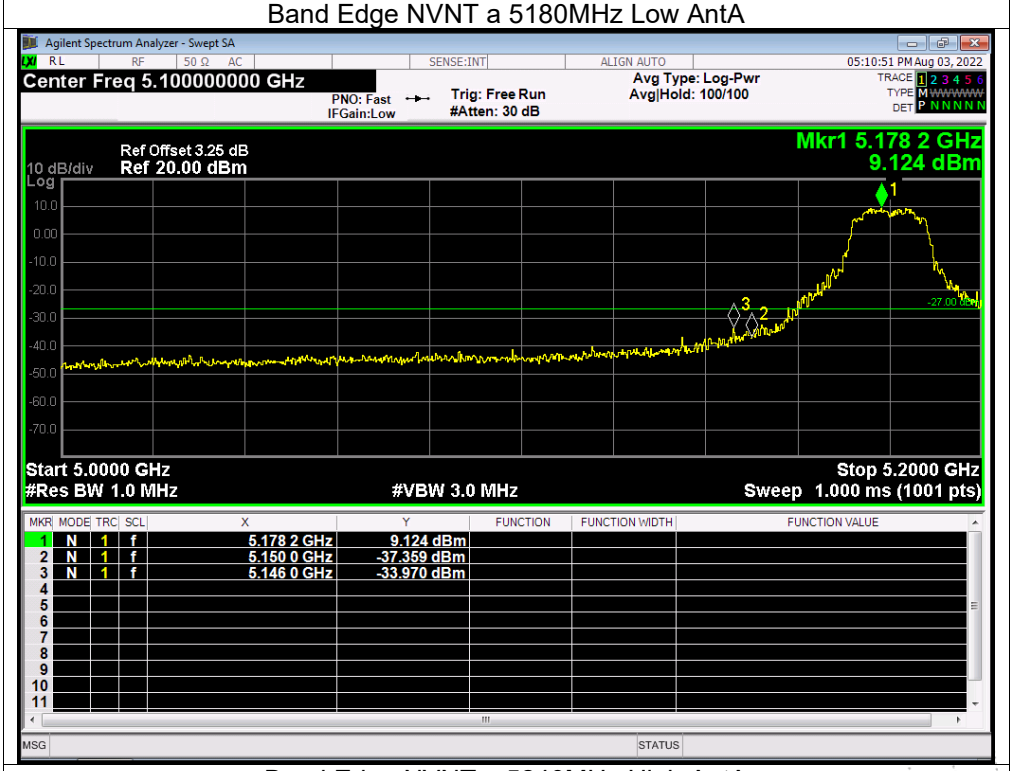
11.5 Test Result

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

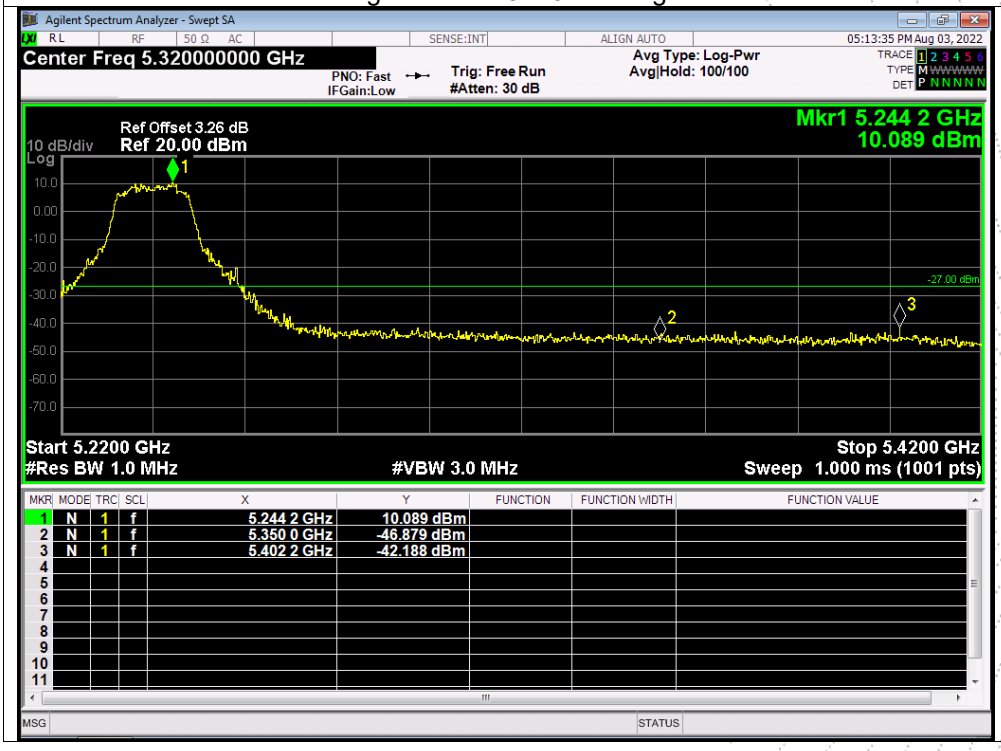
Note: A(B) Represent the value of antenna A and B, The worst data is Antenna A, only shown Antenna A .
Plot. Antenna A: 5180-5240MHz

Test Graphs

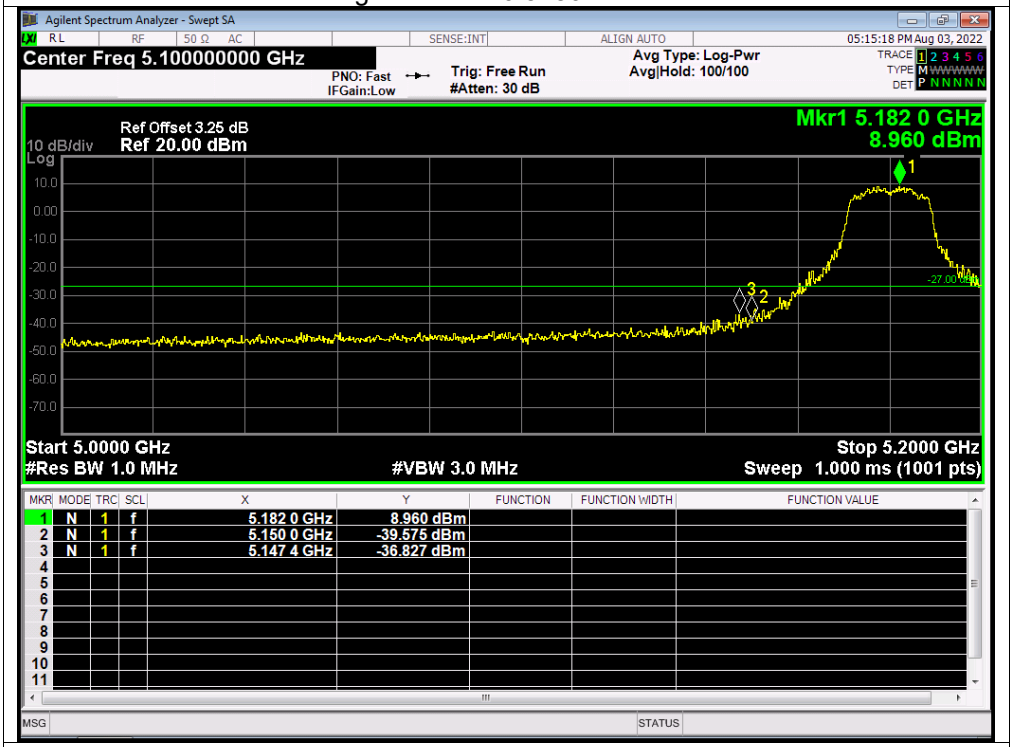
Band Edge NVNT a 5180MHz Low AntA



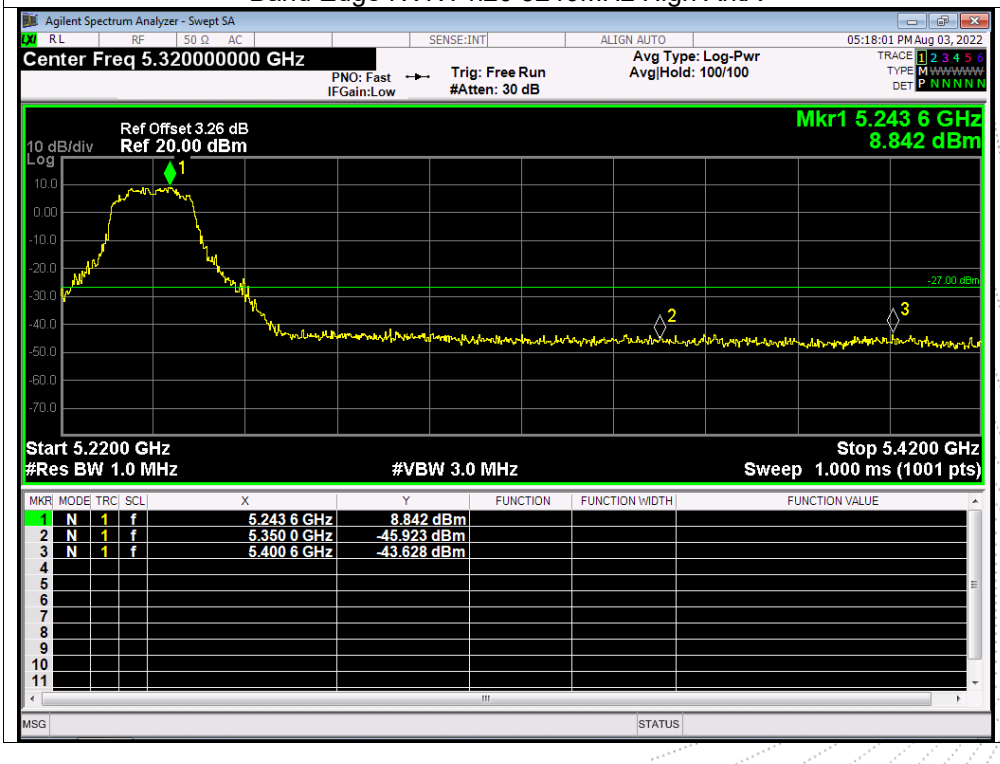
Band Edge NVNT a 5240MHz High AntA



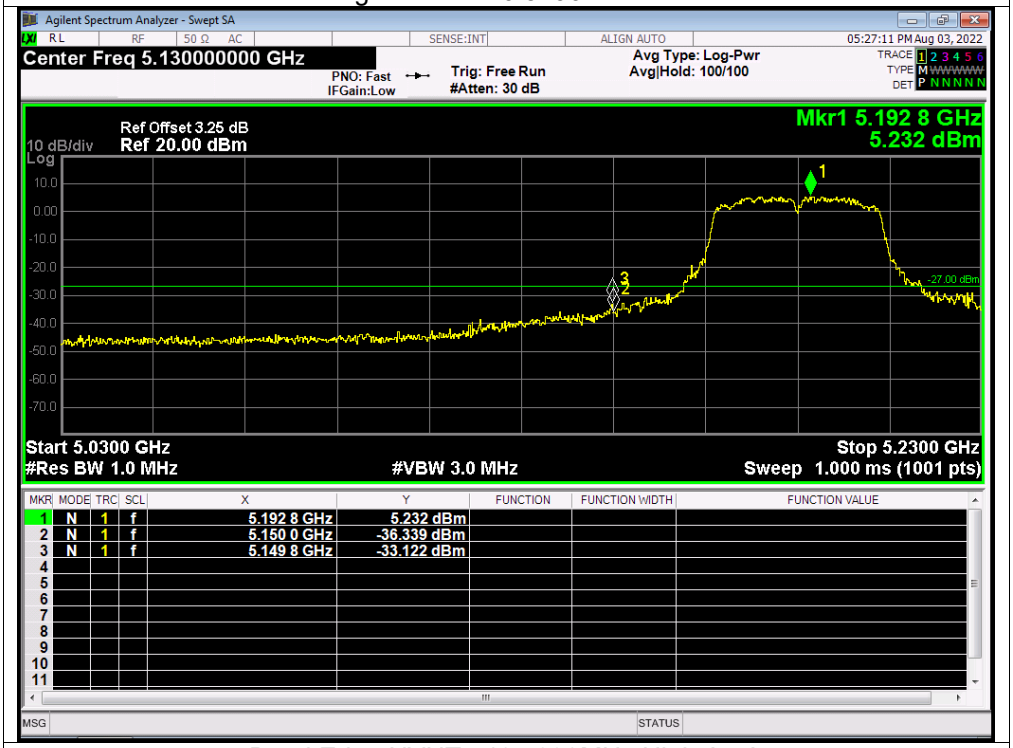
Band Edge NVNT n20 5180MHz Low AntA



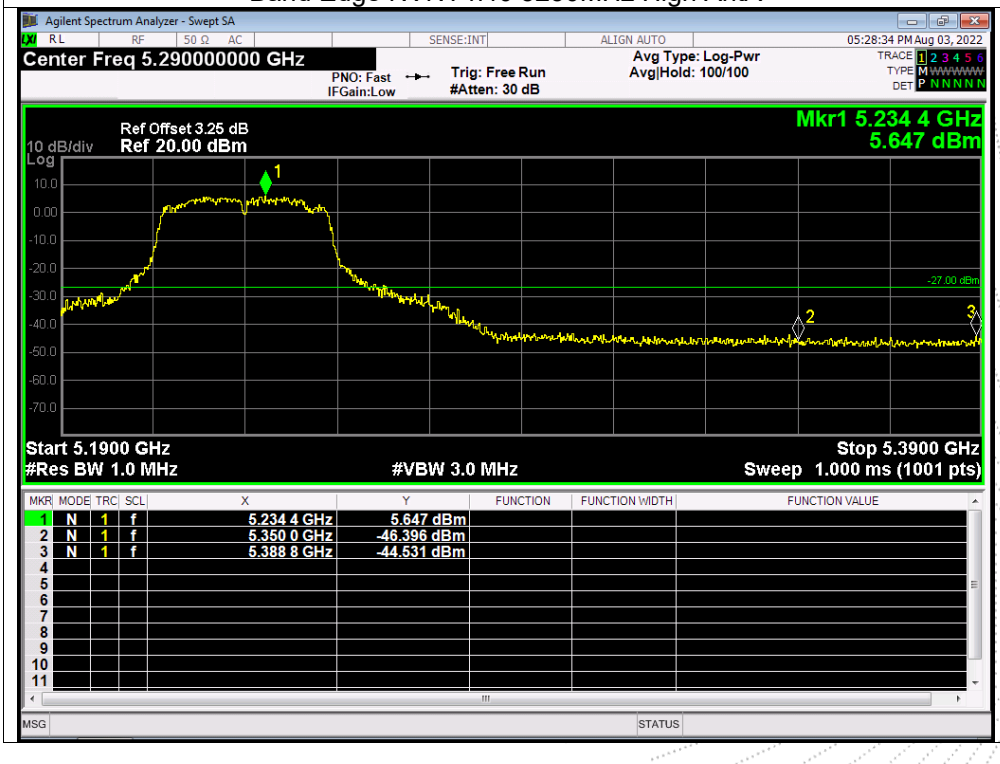
Band Edge NVNT n20 5240MHz High AntA



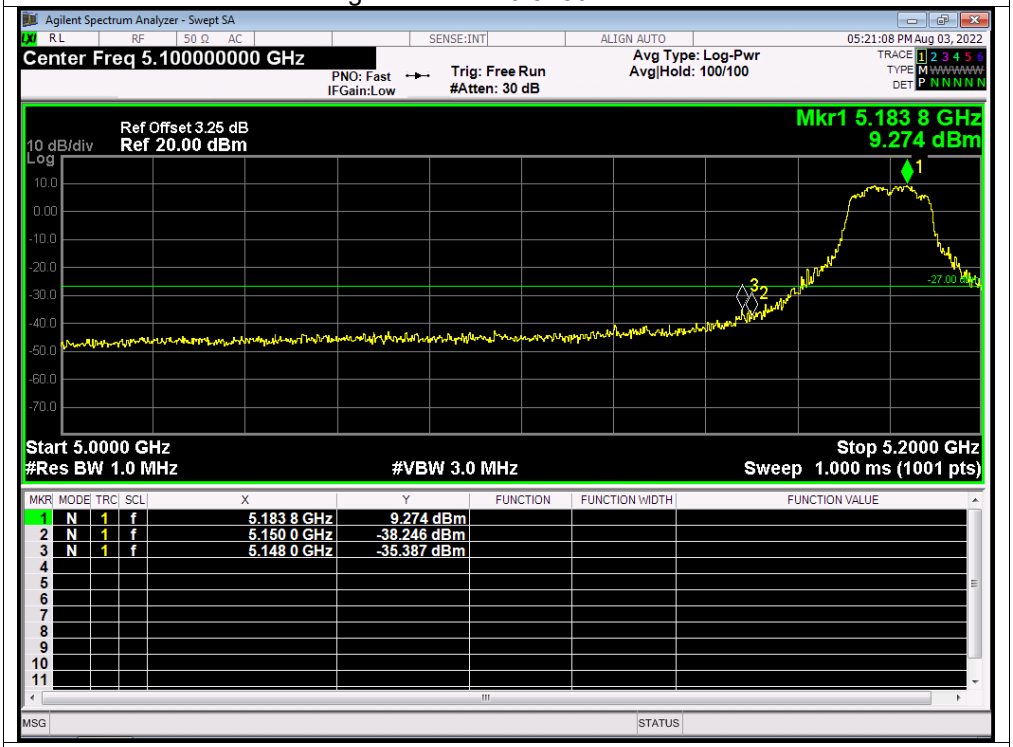
Band Edge NVNT n40 5190MHz Low AntA



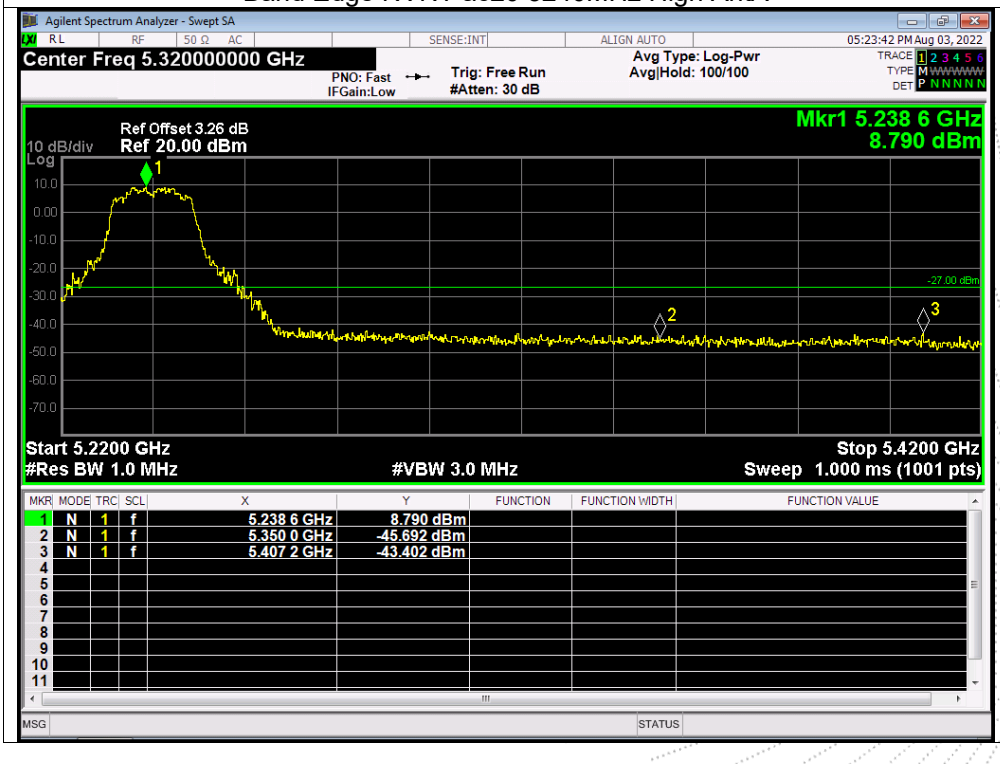
Band Edge NVNT n40 5230MHz High AntA



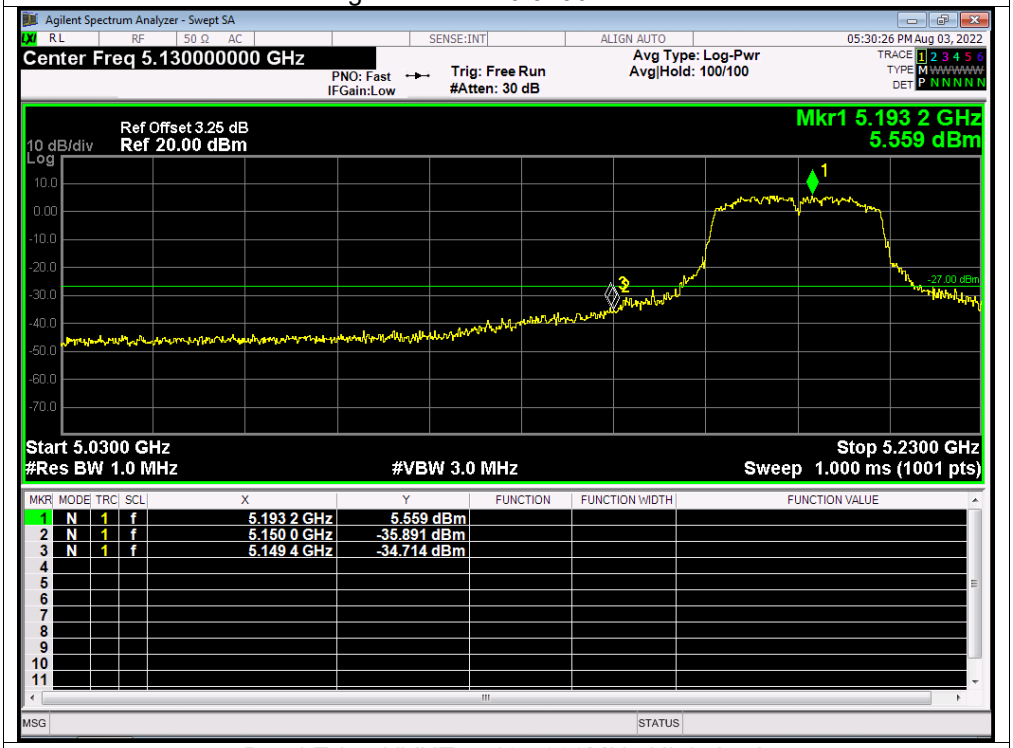
Band Edge NVNT ac20 5180MHz Low AntA



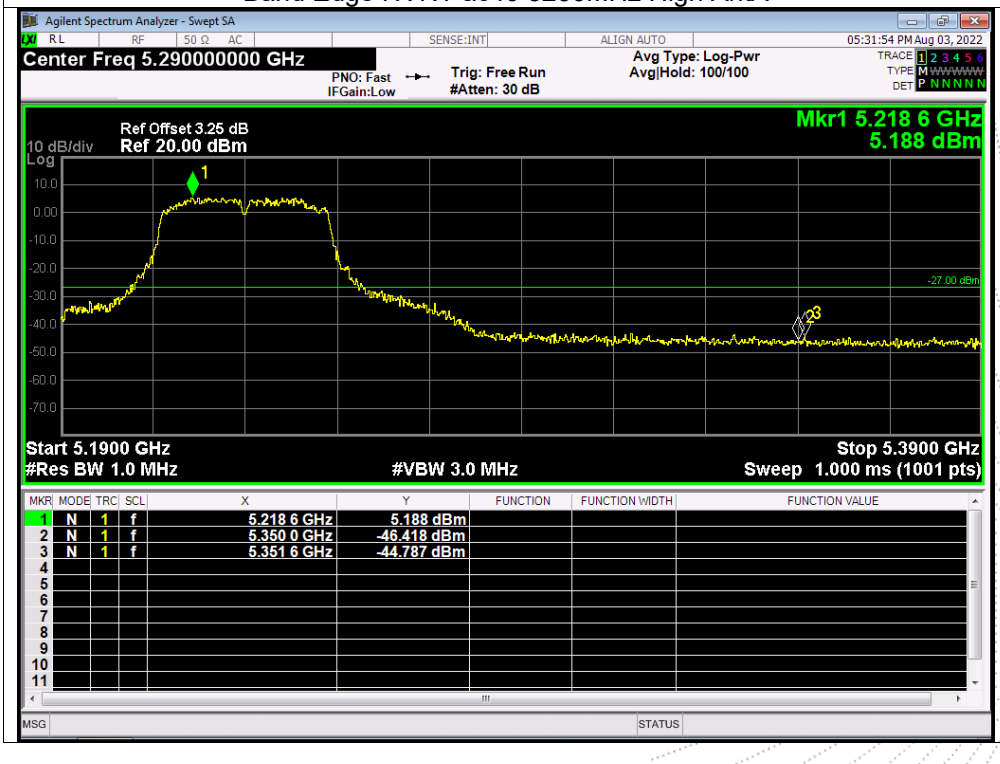
Band Edge NVNT ac20 5240MHz High AntA



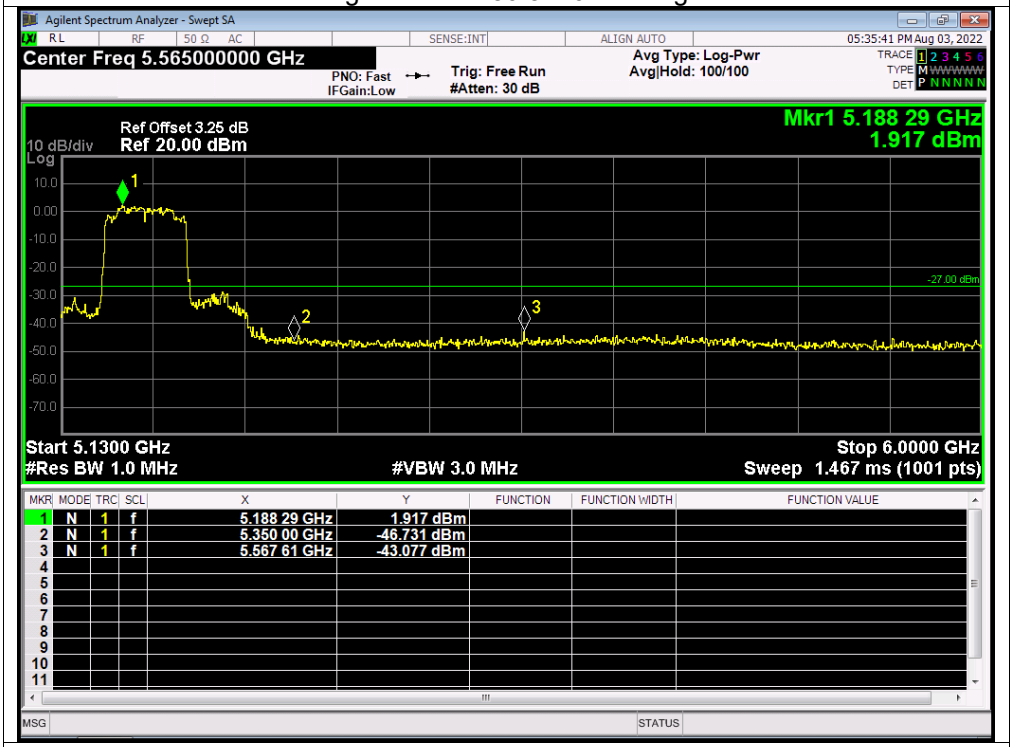
Band Edge NVNT ac40 5190MHz Low AntA



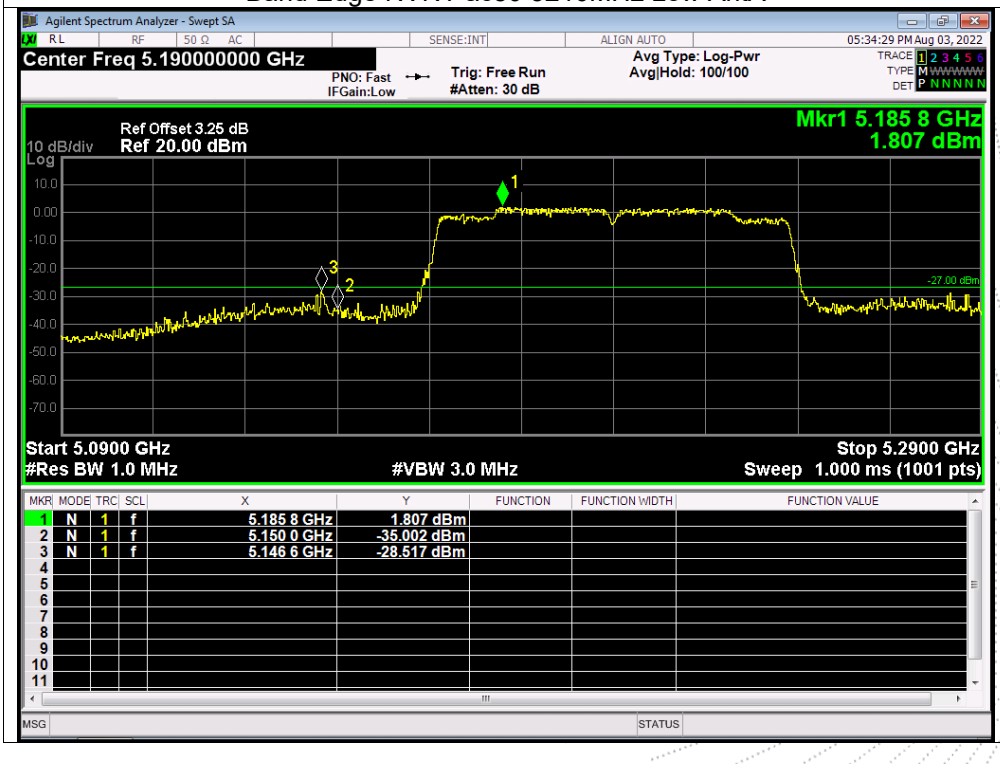
Band Edge NVNT ac40 5230MHz High AntA



Band Edge NVNT ac80 5210MHz High AntA



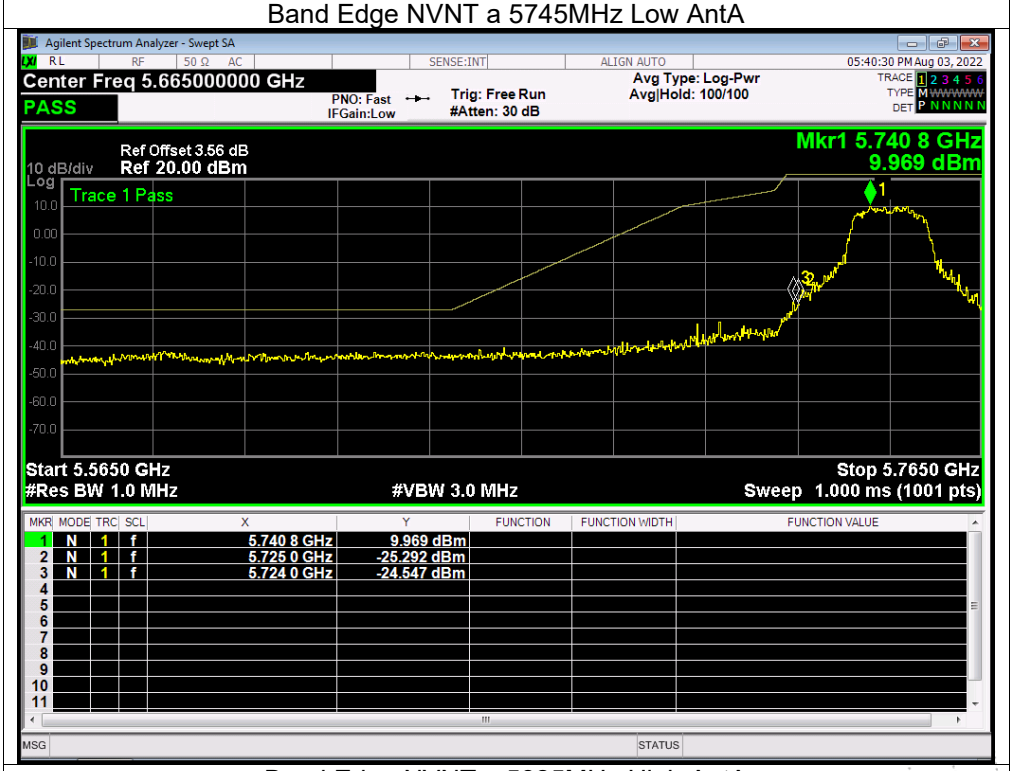
Band Edge NVNT ac80 5210MHz Low AntA



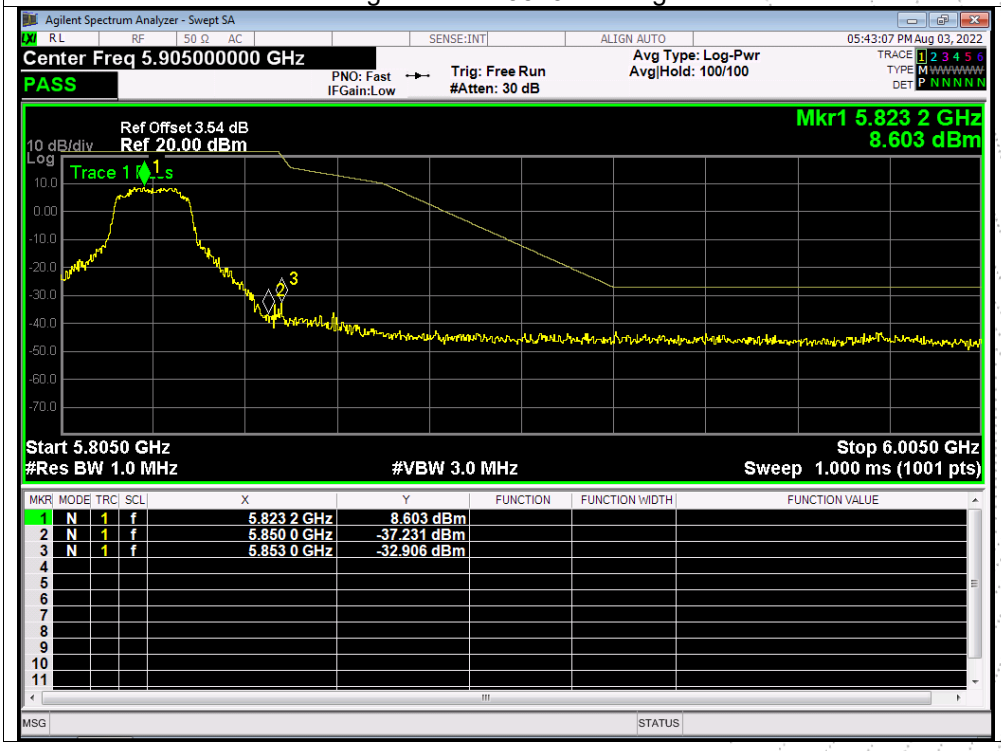
Note: A(B) Represent the value of antenna A and B. The worst data is Antenna A, only shown Antenna A.
Antenna A: 5745-58250MHz

Test Graphs

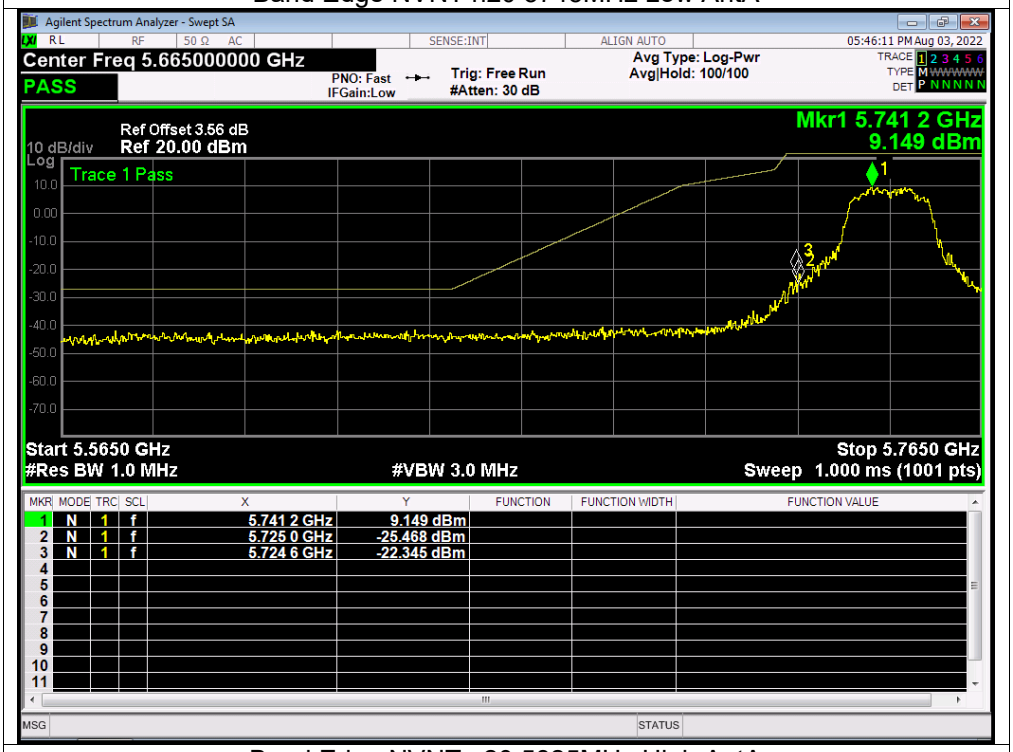
Band Edge NVNT a 5745MHz Low AntA



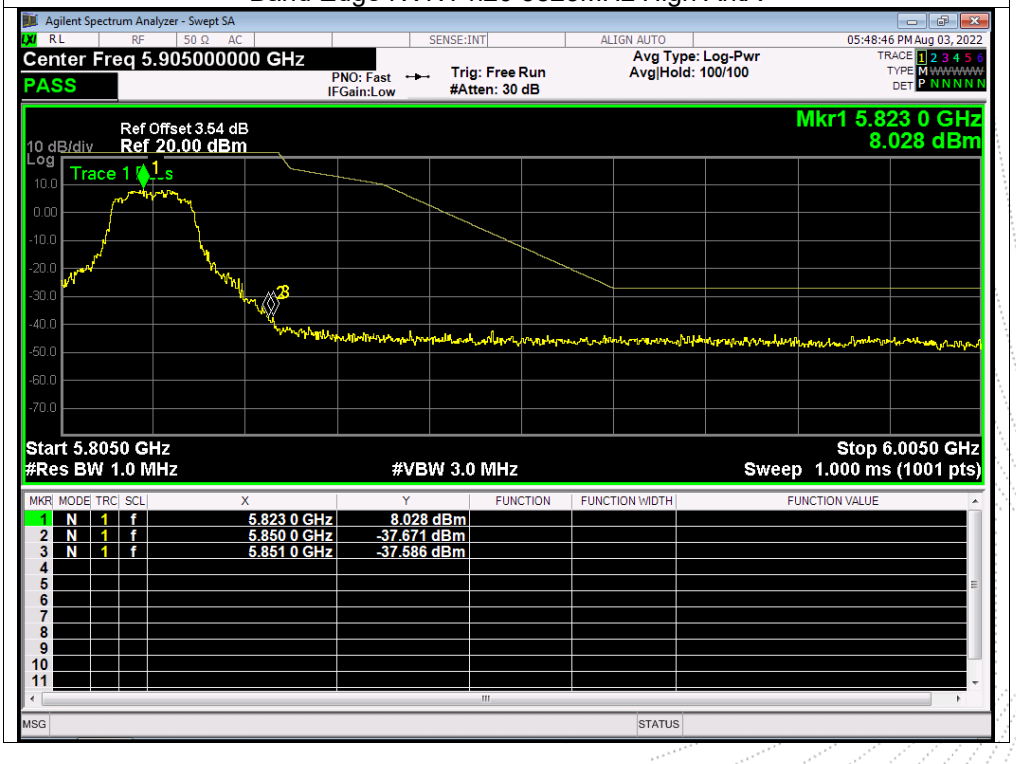
Band Edge NVNT a 5825MHz High AntA



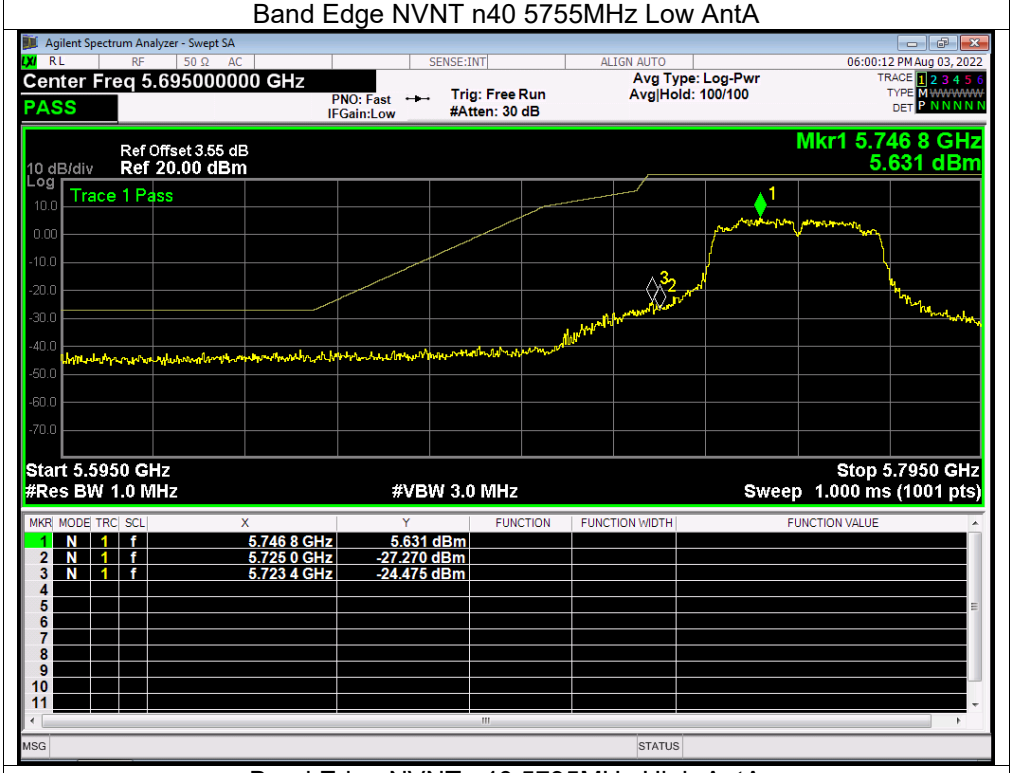
Band Edge NVNT n20 5745MHz Low AntA



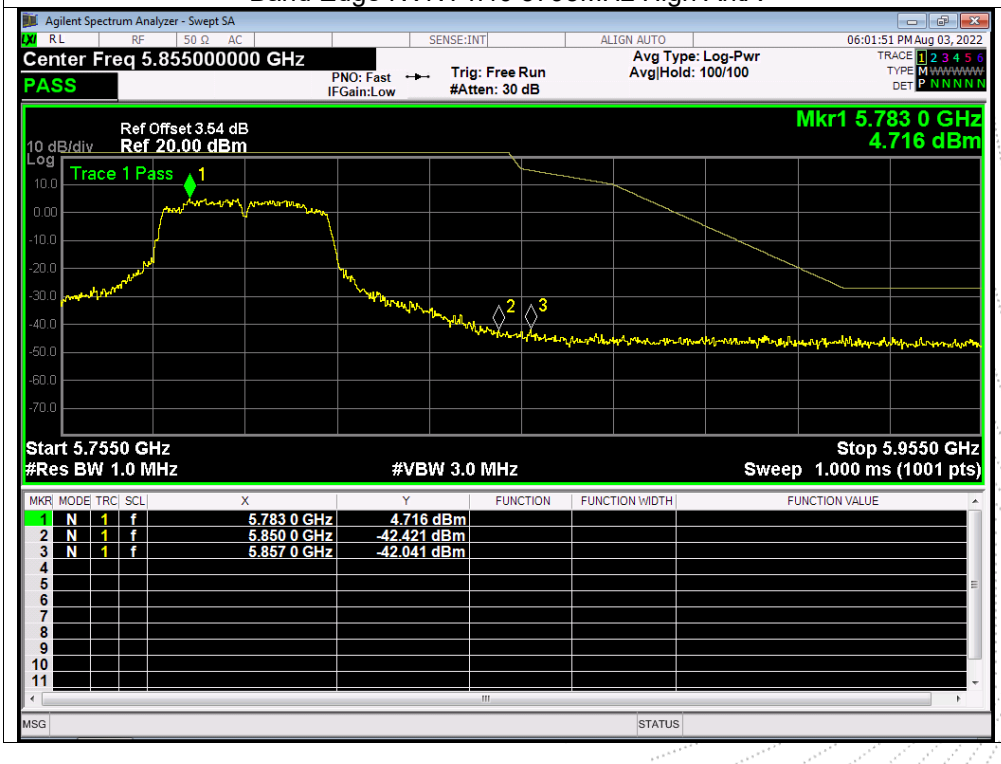
Band Edge NVNT n20 5825MHz High AntA



Band Edge NVNT n40 5755MHz Low AntA



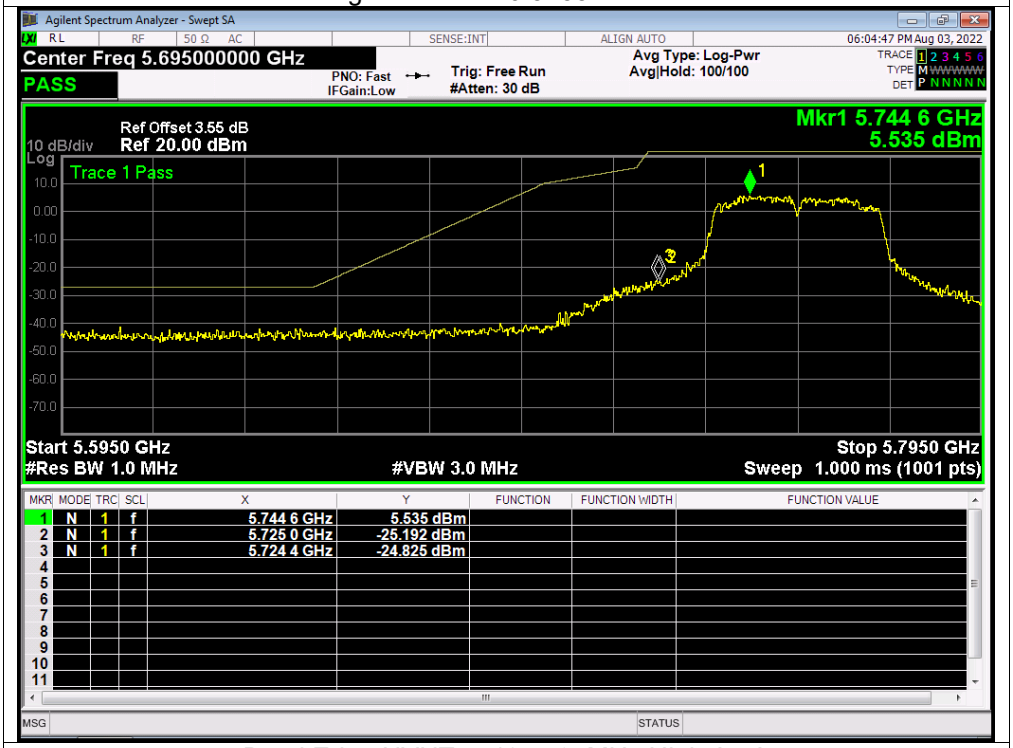
Band Edge NVNT n40 5795MHz High AntA



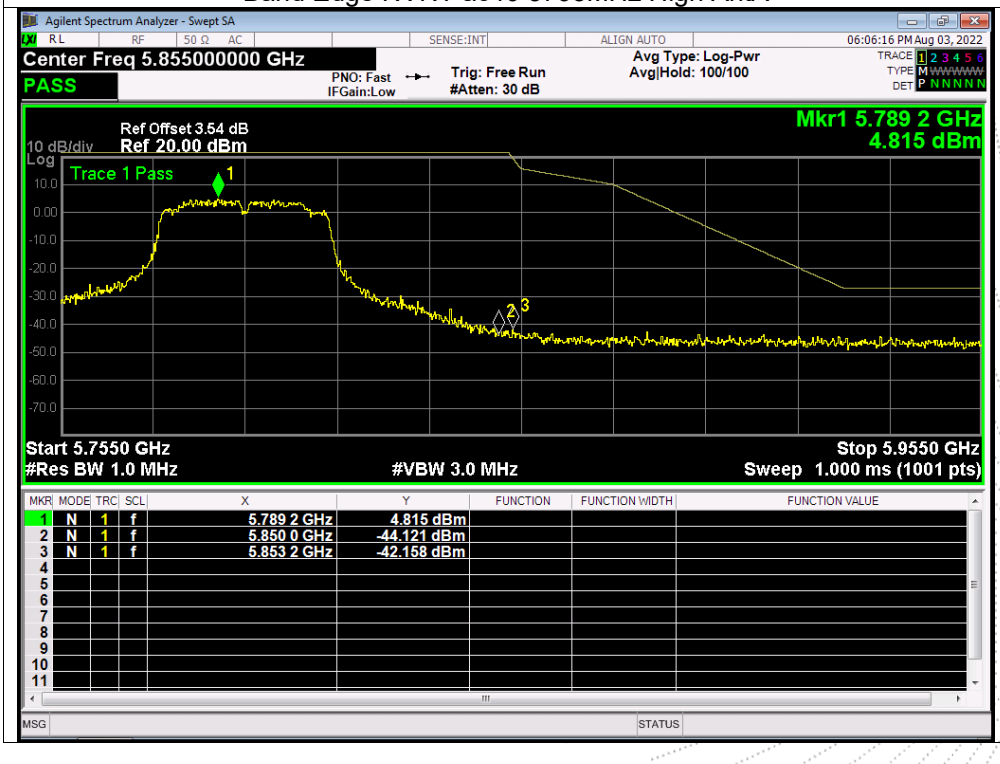
Band Edge NVNT ac20 5745MHz Low AntA

Band Edge NVNT ac20 5825MHz High AntA

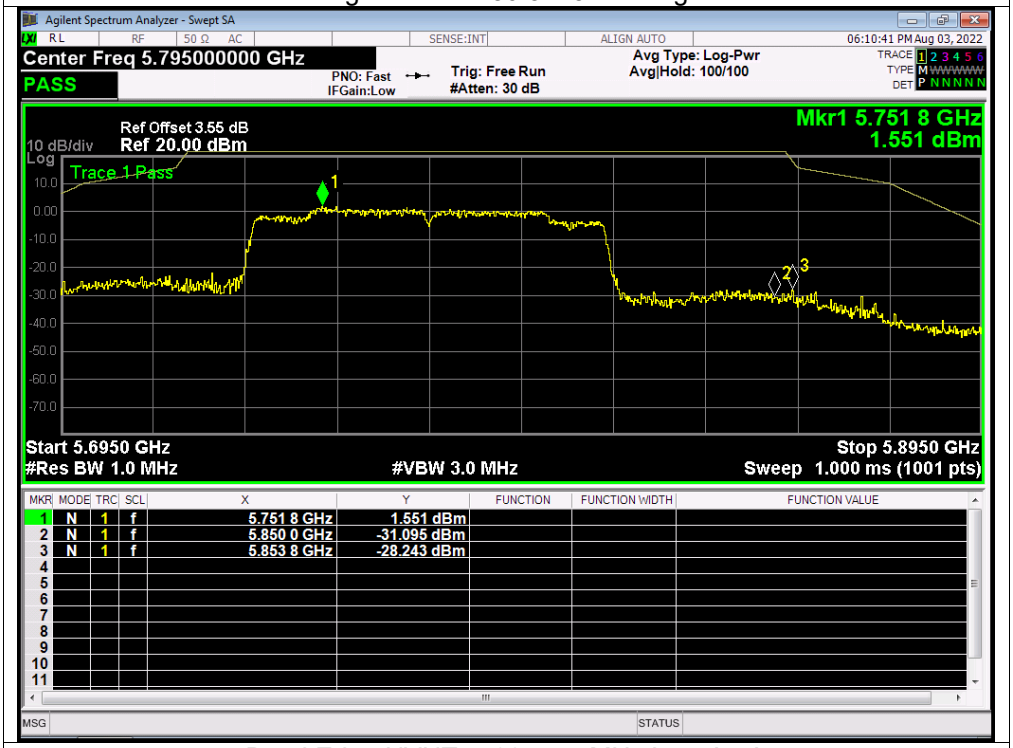
Band Edge NVNT ac40 5755MHz Low AntA



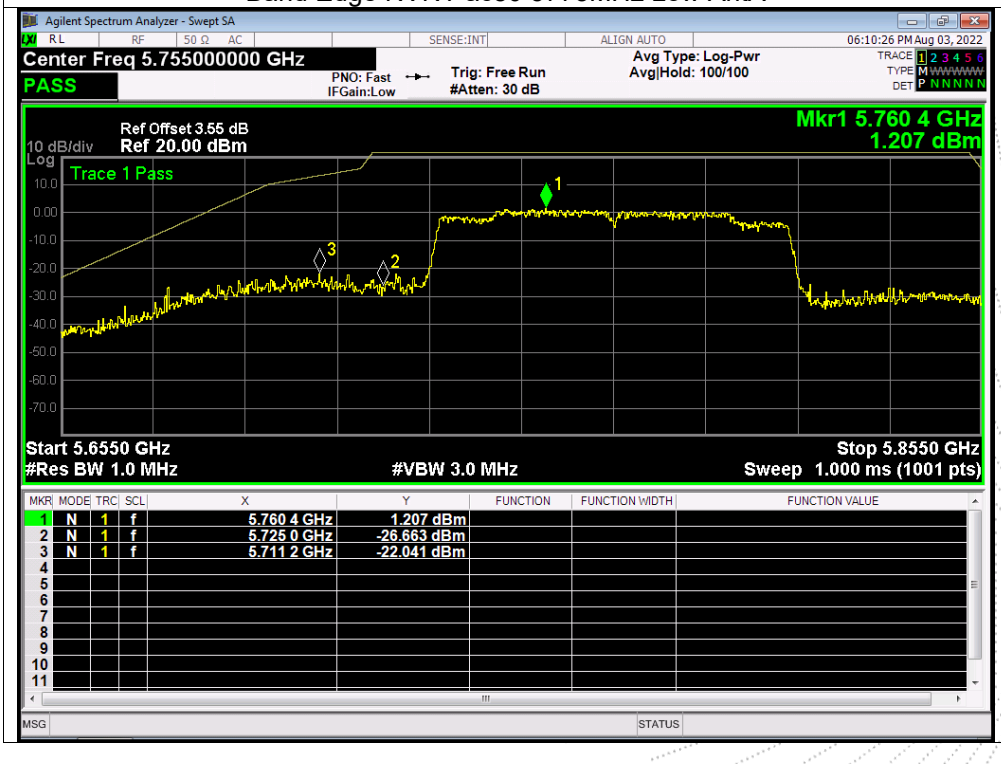
Band Edge NVNT ac40 5795MHz High AntA



Band Edge NVNT ac80 5775MHz High AntA

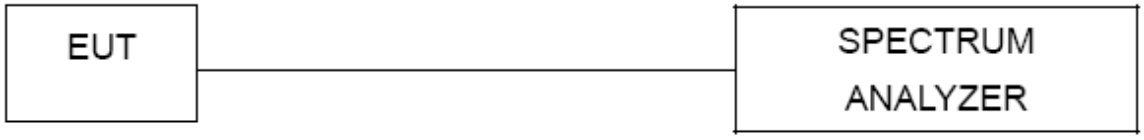


Band Edge NVNT ac80 5775MHz Low AntA



12. Spurious RF Conducted Emissions

12.1 Block Diagram Of Test Setup



12.2 Limit

Undesirable emission limits. Except as shown in paragraph (b)(7) of this section, the maximum emissions outside of the frequency bands of operation shall be attenuated in accordance with the following limits:
(1)For transmitters operating in the 5.15-5.25 GHz band: All emissions outside of the 5.15-5.35 GHz band shall not exceed an e.i.r.p. of −27 dBm/MHz.
(2)For transmitters operating in the 5.725-5.85 GHz band(i) All emissions shall be limited to a level of −27 dBm/MHz at 75 MHz or more above or below the band edge increasing linearly to 10 dBm/MHz at 25 MHz above or below the band edge, and from 25 MHz above or below the band edge increasing linearly to a level of 15.6 dBm/MHz at 5 MHz above or below the band edge, and from 5 MHz above or below the band edge increasing linearly to a level of 27 dBm/MHz at the band edge..

12.3 Test Procedure

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

12.4 Test Result

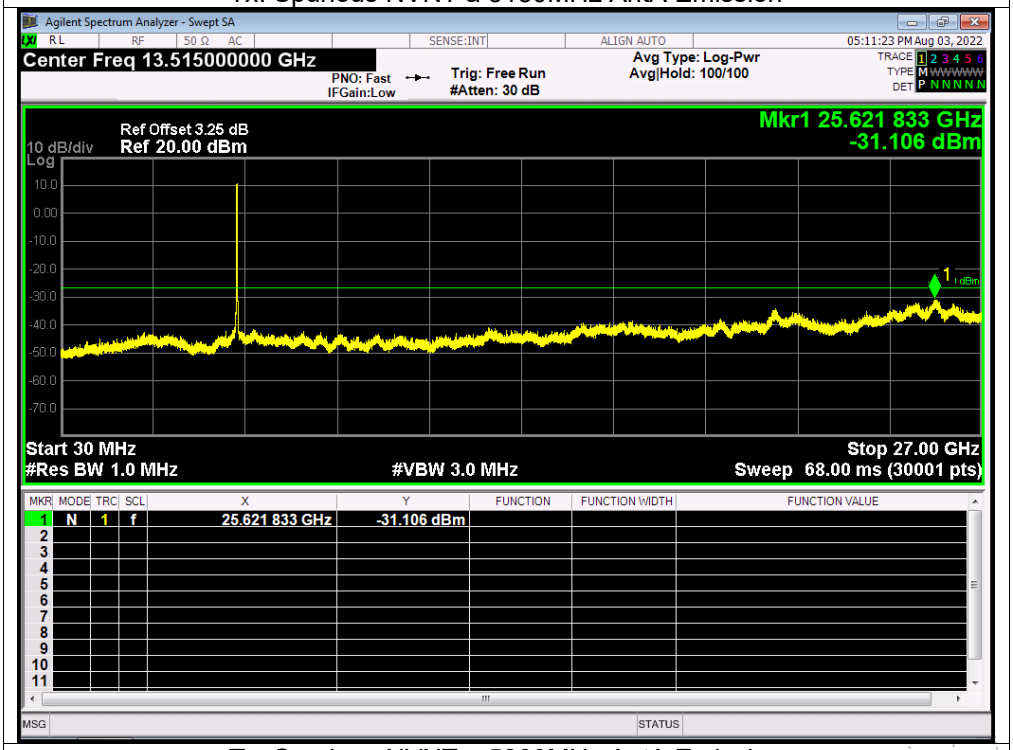
Remark: The measurement frequency range is from 9KHz to the 10th harmonic of the fundamental frequency. The lowest, middle and highest channels are tested to verify the spurious emissions and bandege measurement data.

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

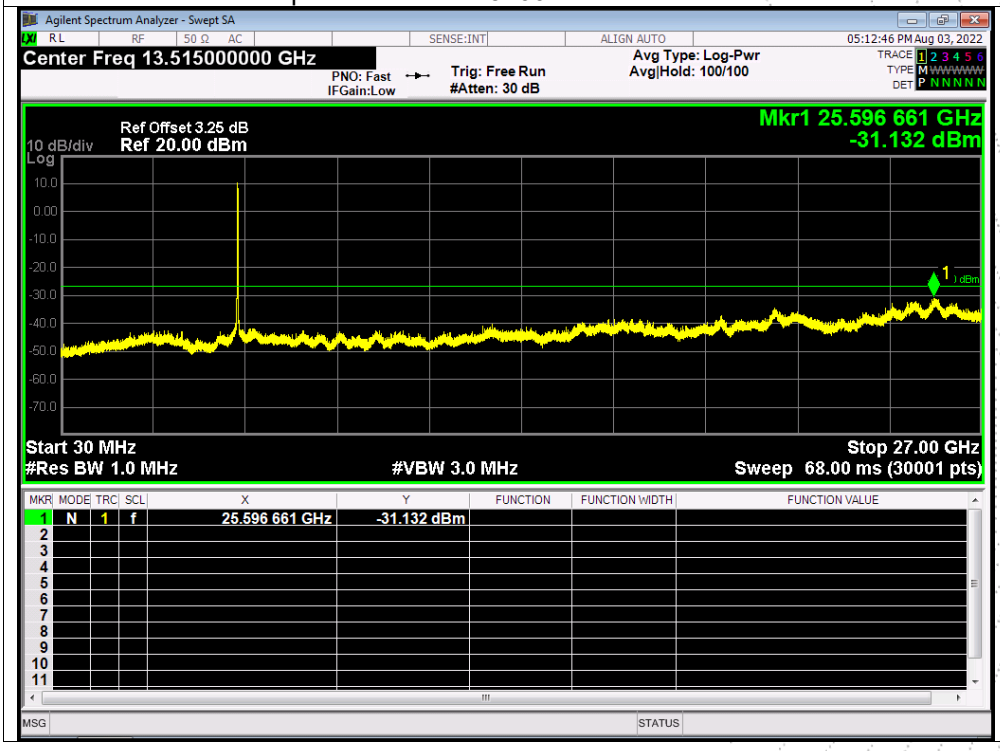
Note: A(B) Represent the value of antenna A and B, The worst data is Antenna A, only shown Antenna A.
Plot. Antenna A: 5180-5240MHz

Test Graphs

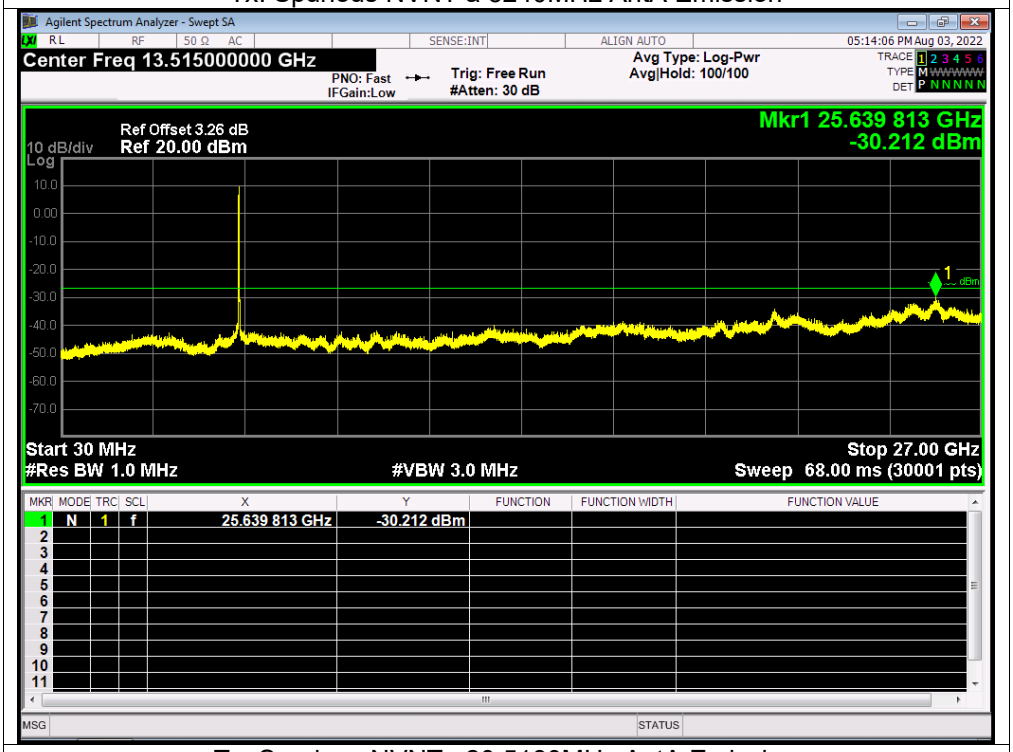
Tx. Spurious NVNT a 5180MHz AntA Emission



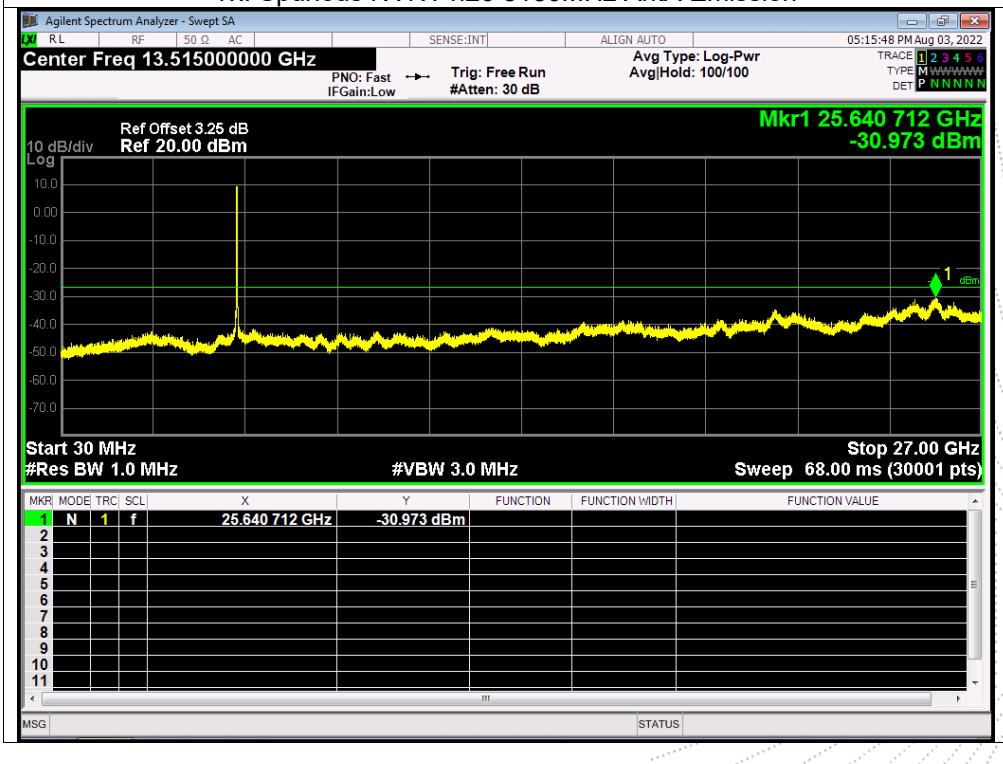
Tx. Spurious NVNT a 5200MHz AntA Emission



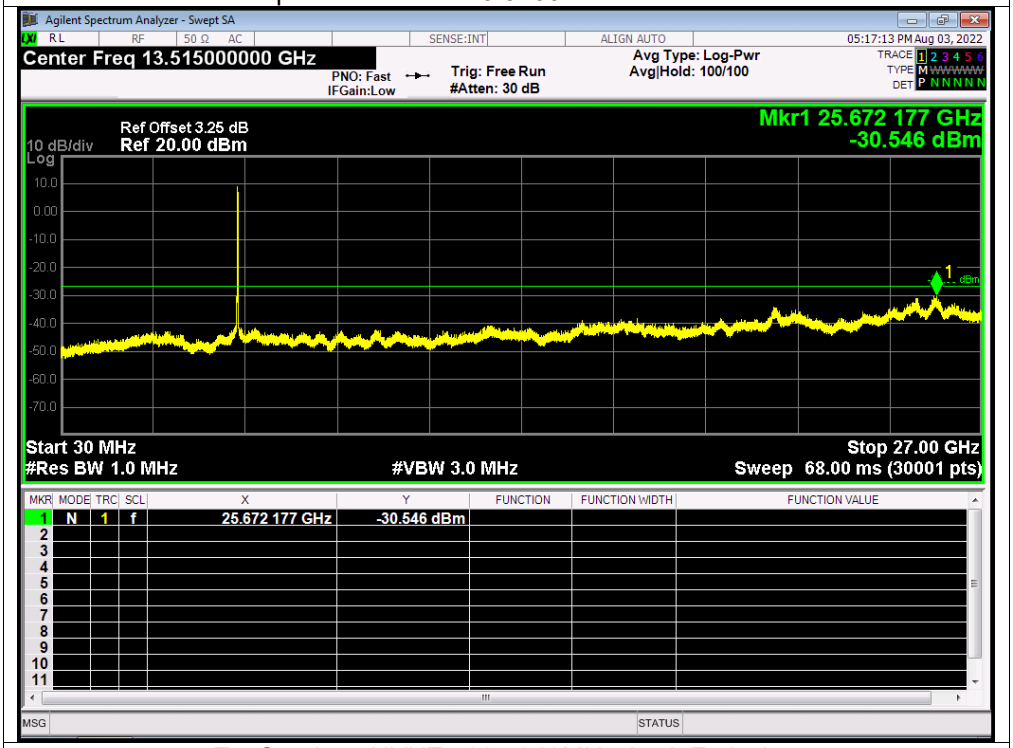
Tx. Spurious NVNT a 5240MHz AntA Emission



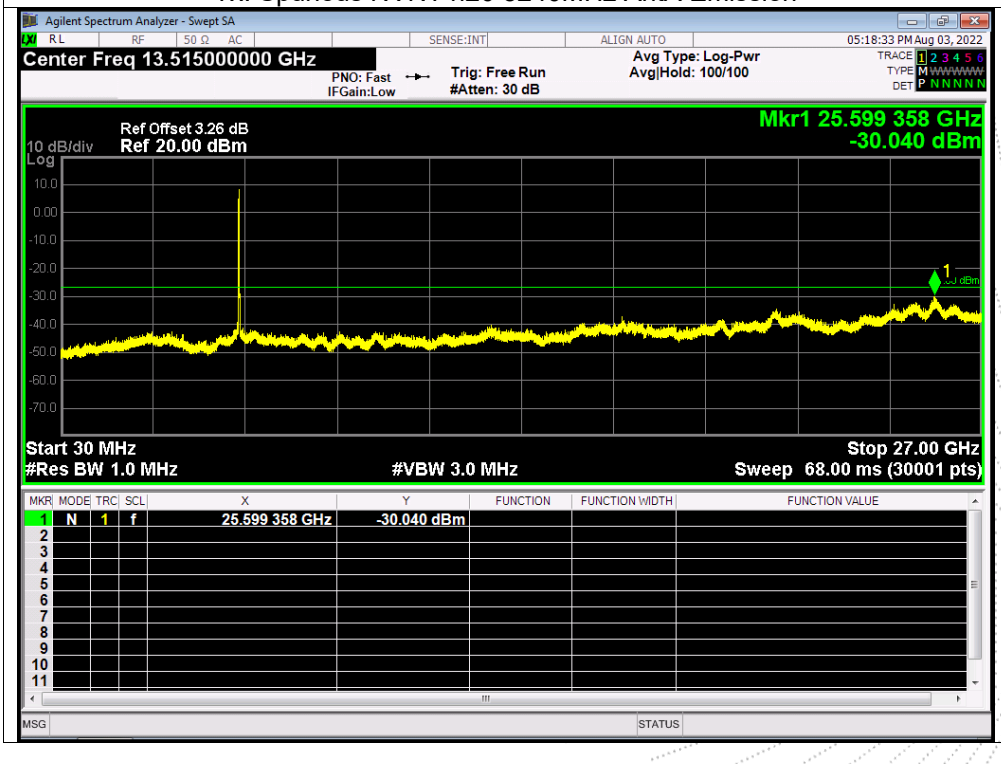
Tx. Spurious NVNT n20 5180MHz AntA Emission



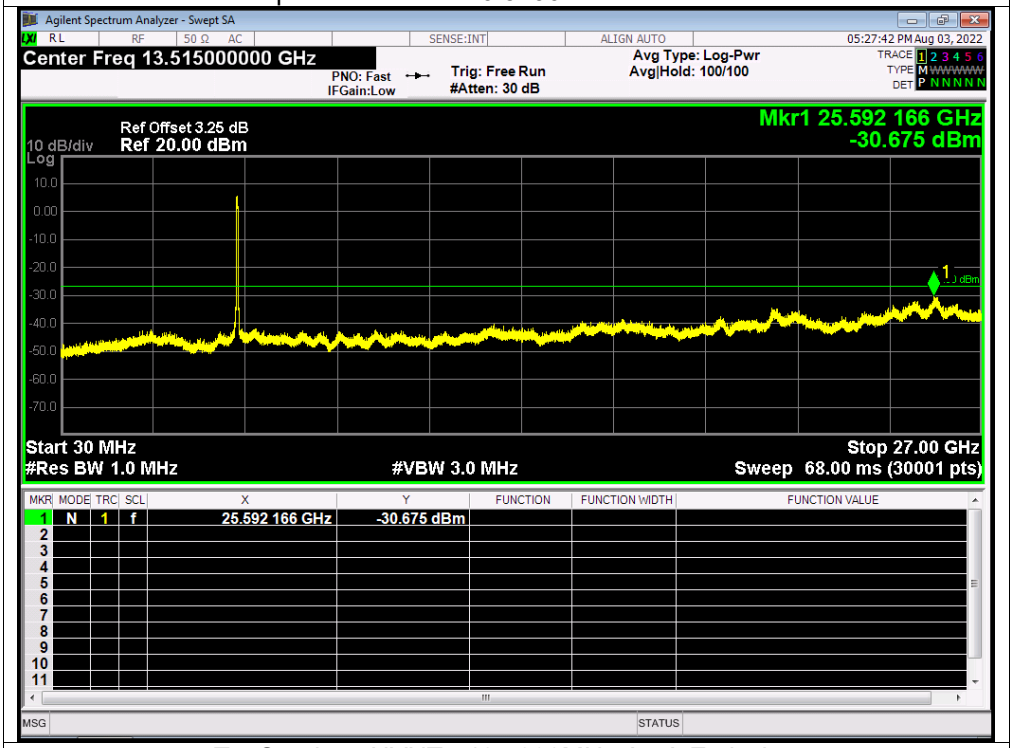
Tx. Spurious NVNT n20 5200MHz AntA Emission



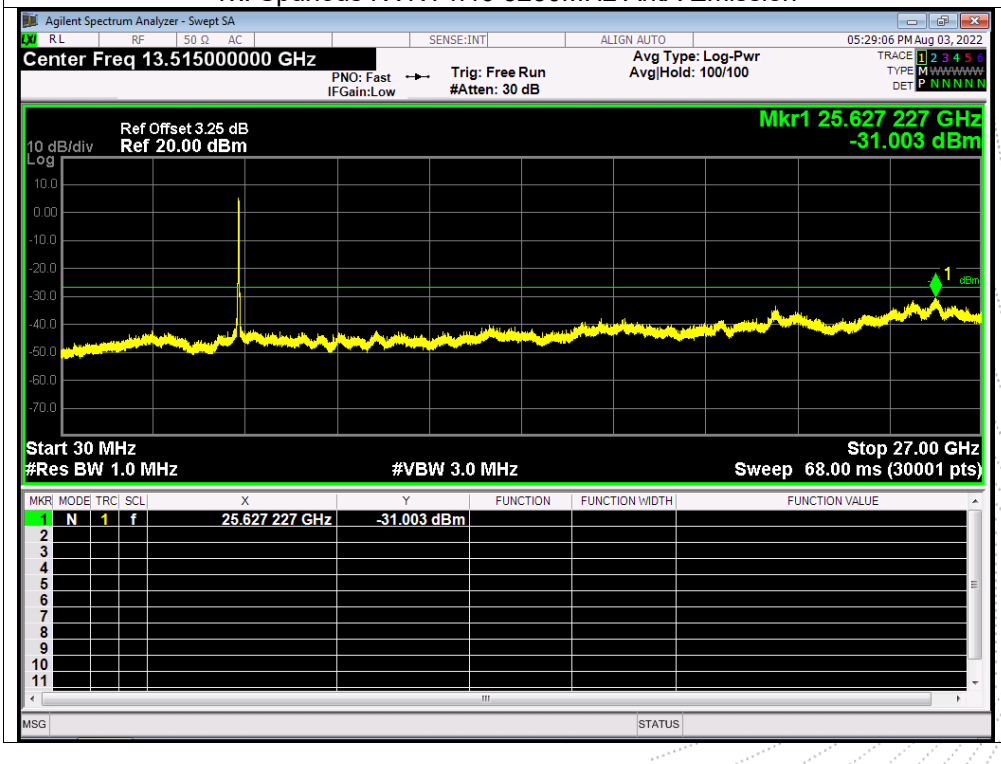
Tx. Spurious NVNT n20 5240MHz AntA Emission



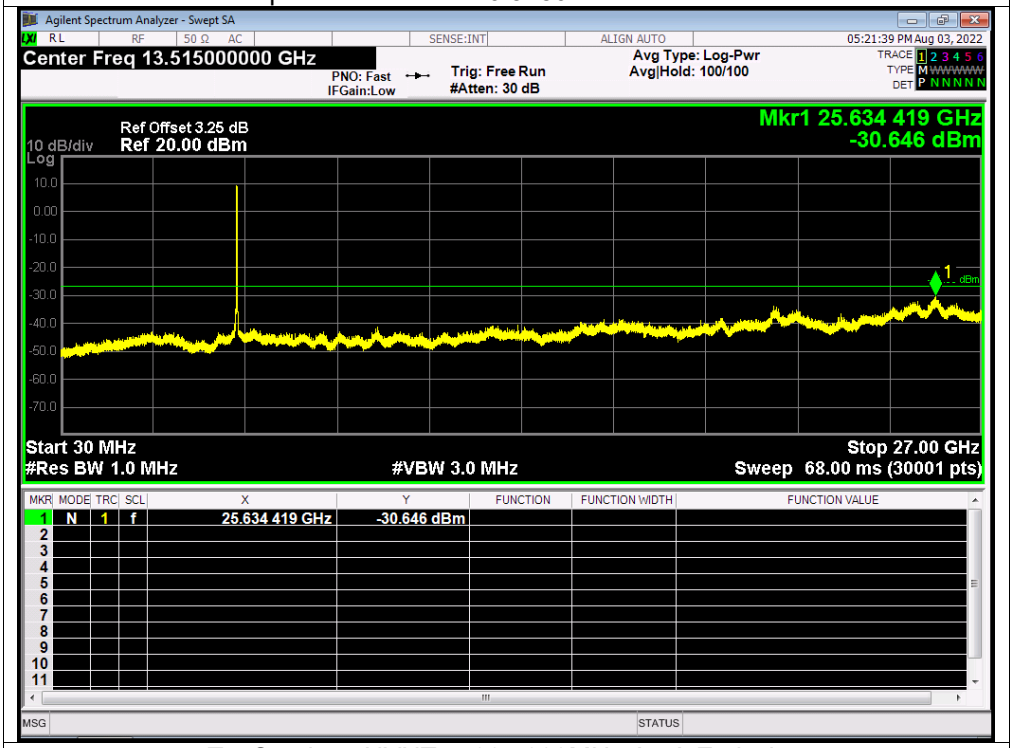
Tx. Spurious NVNT n40 5190MHz AntA Emission



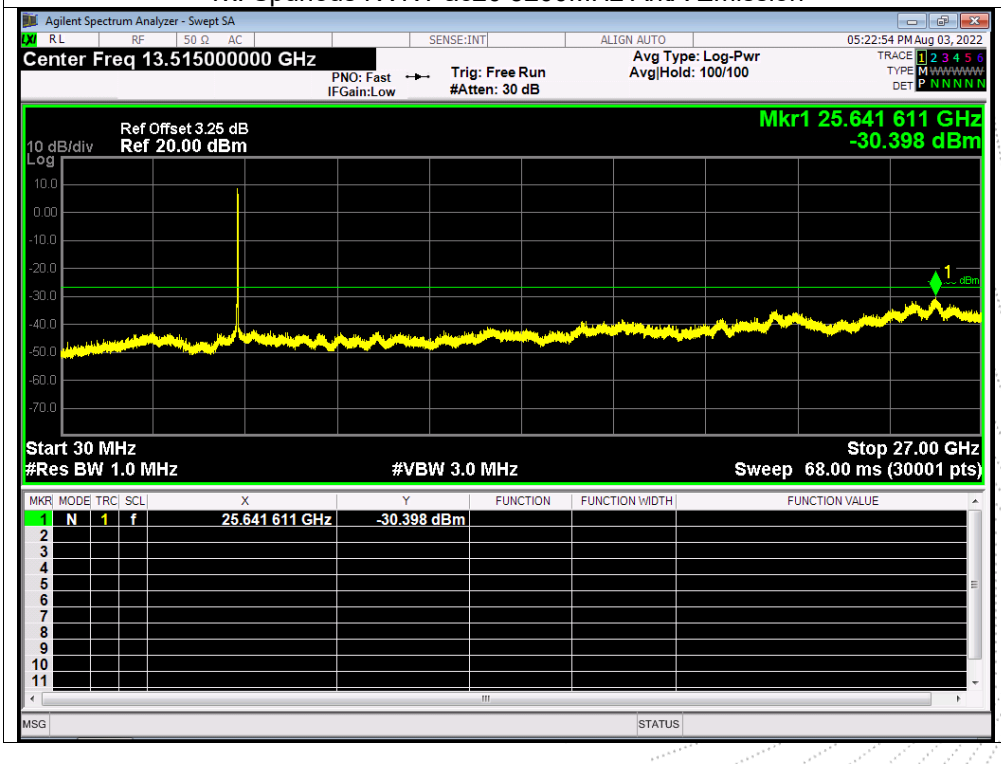
Tx. Spurious NVNT n40 5230MHz AntA Emission



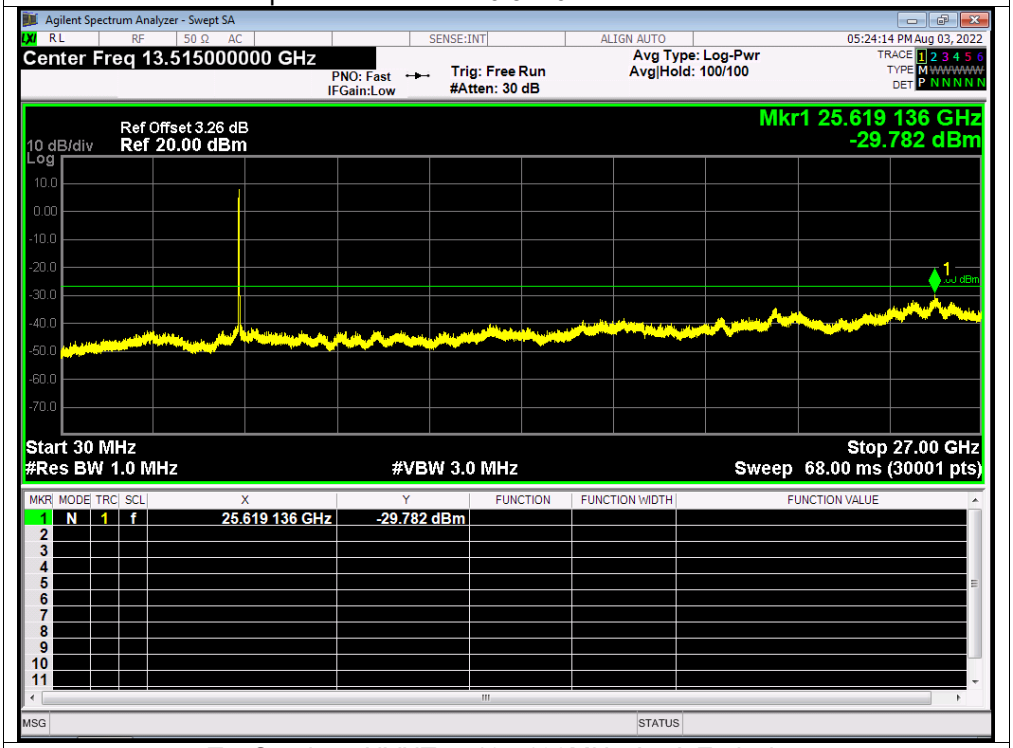
Tx. Spurious NVNT ac20 5180MHz AntA Emission



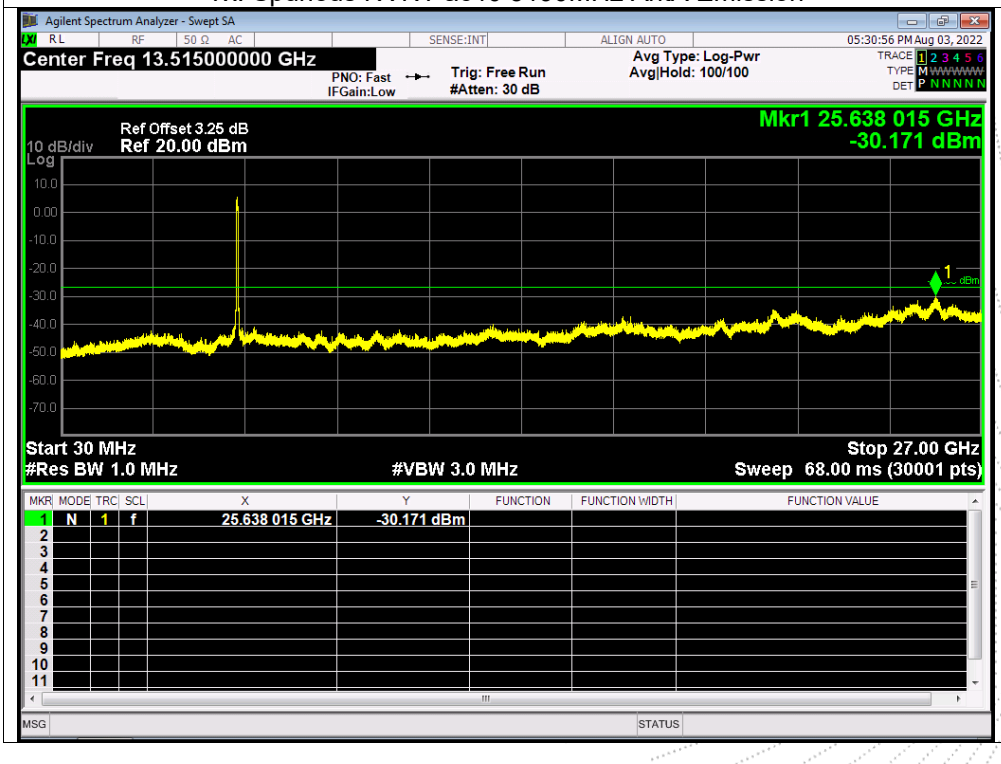
Tx. Spurious NVNT ac20 5200MHz AntA Emission



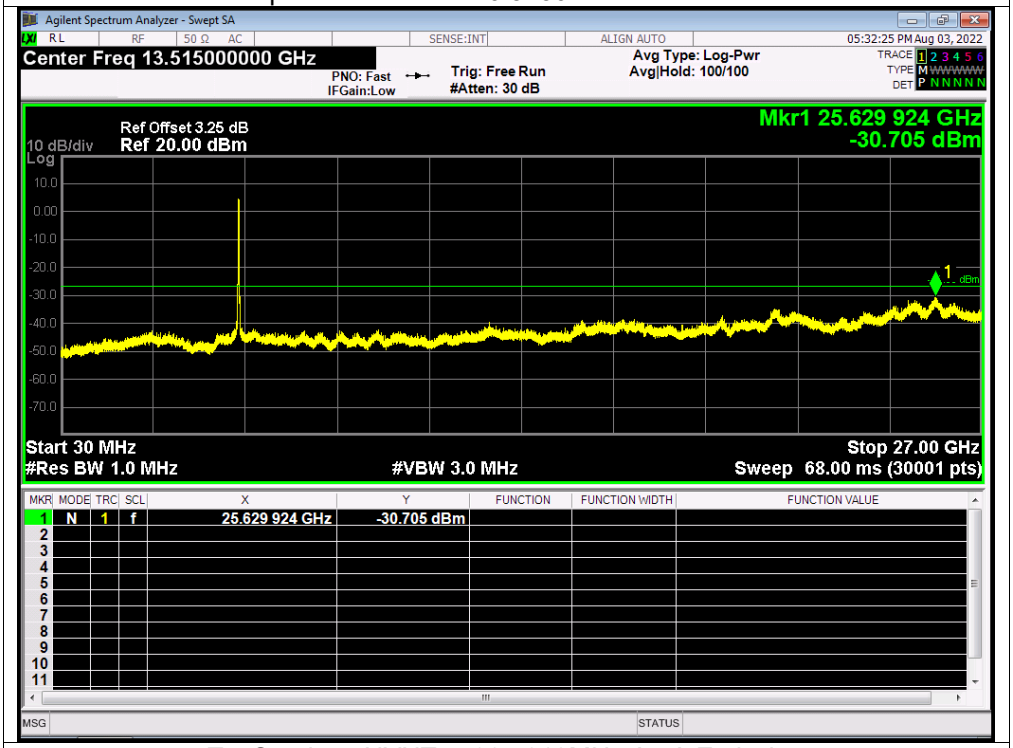
Tx. Spurious NVNT ac20 5240MHz AntA Emission



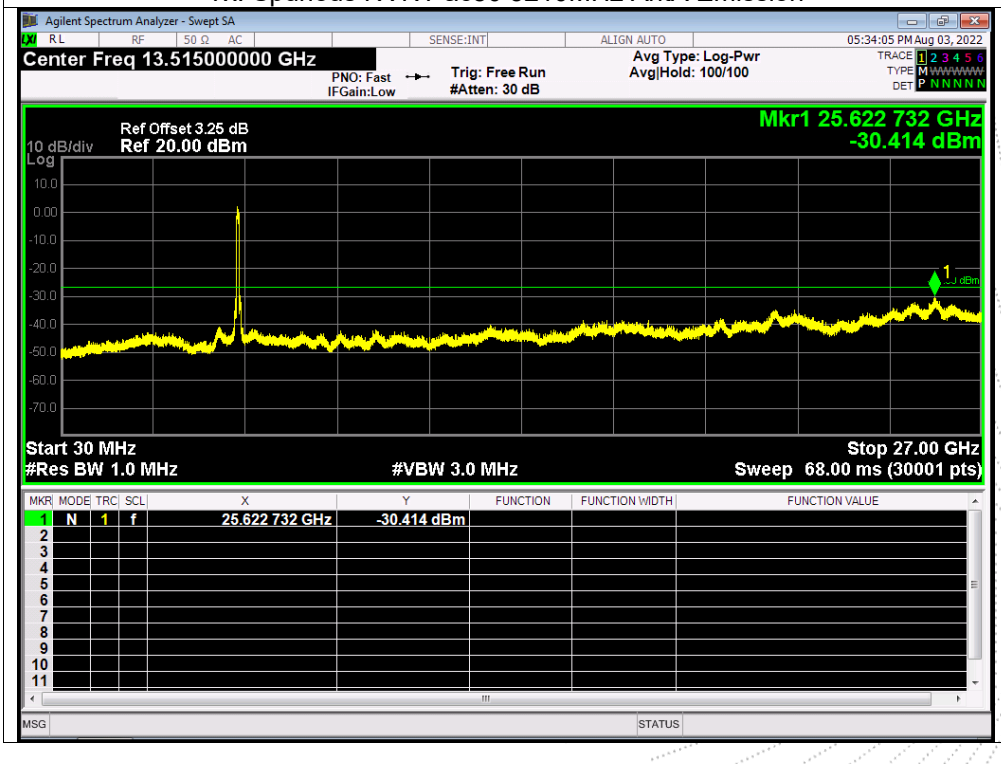
Tx. Spurious NVNT ac40 5190MHz AntA Emission



Tx. Spurious NVNT ac40 5230MHz AntA Emission



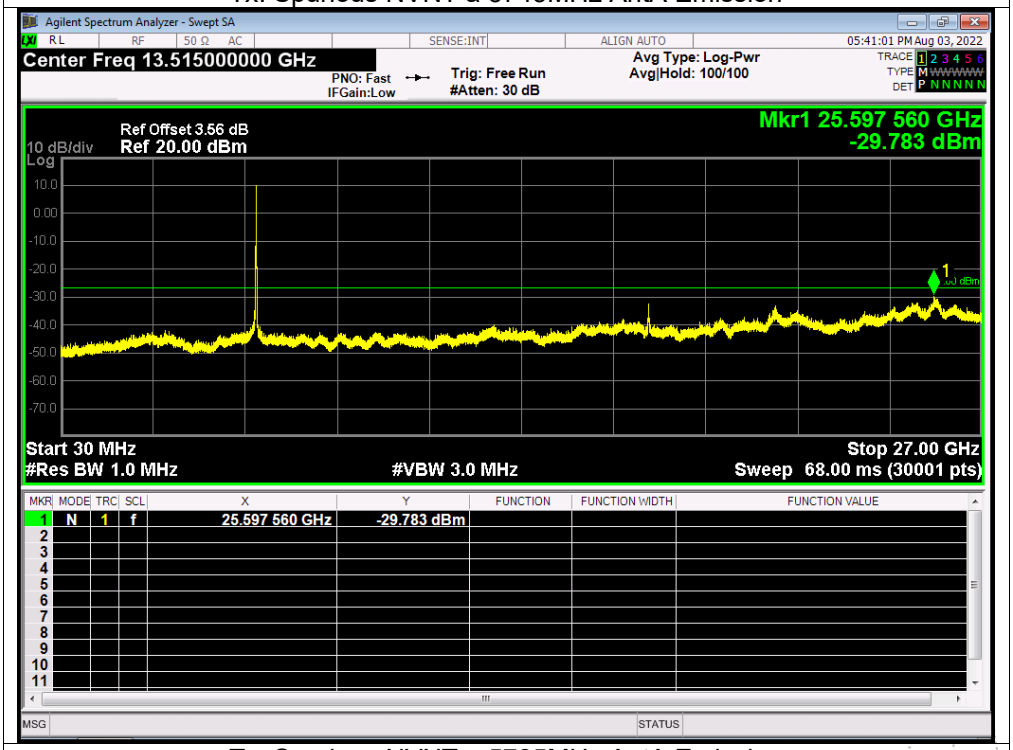
Tx. Spurious NVNT ac80 5210MHz AntA Emission



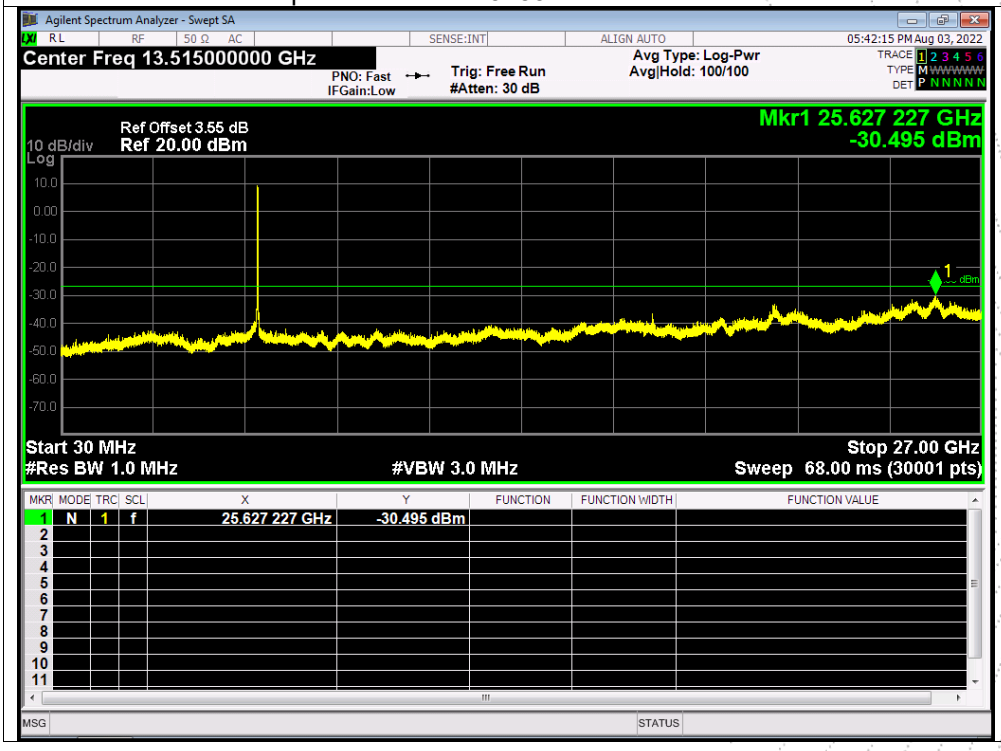
Note: A(B) Represent the value of antenna A and B, The worst data is Antenna A, only shown Antenna A.
Antenna A: 5745-58250MHz

Test Graphs

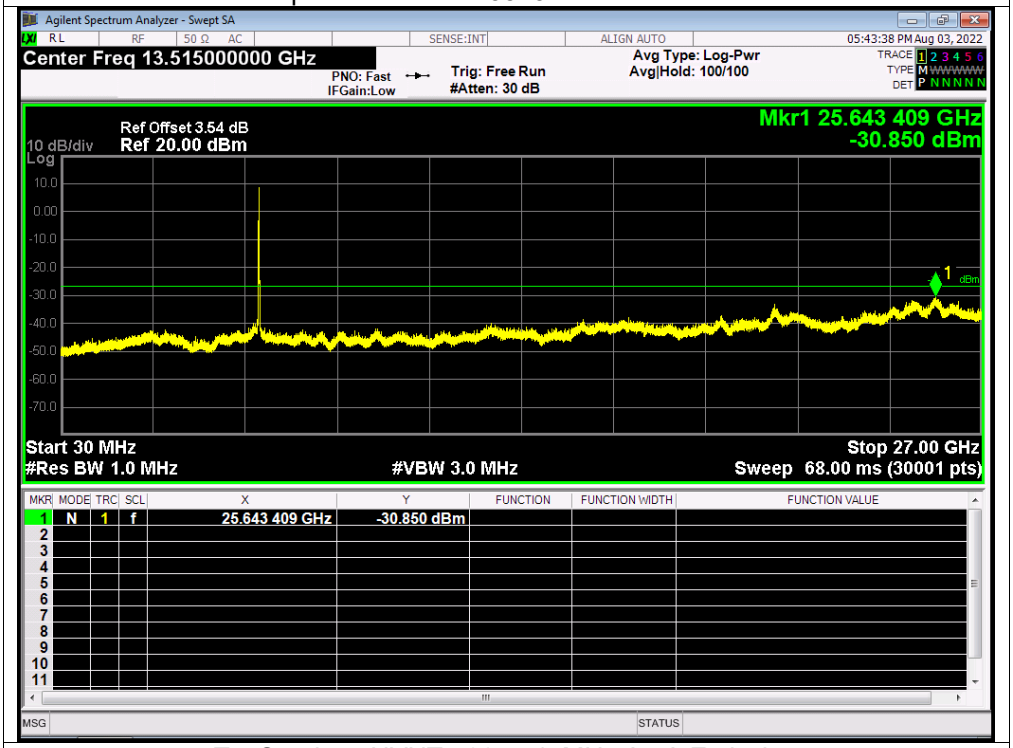
Tx. Spurious NVNT a 5745MHz AntA Emission



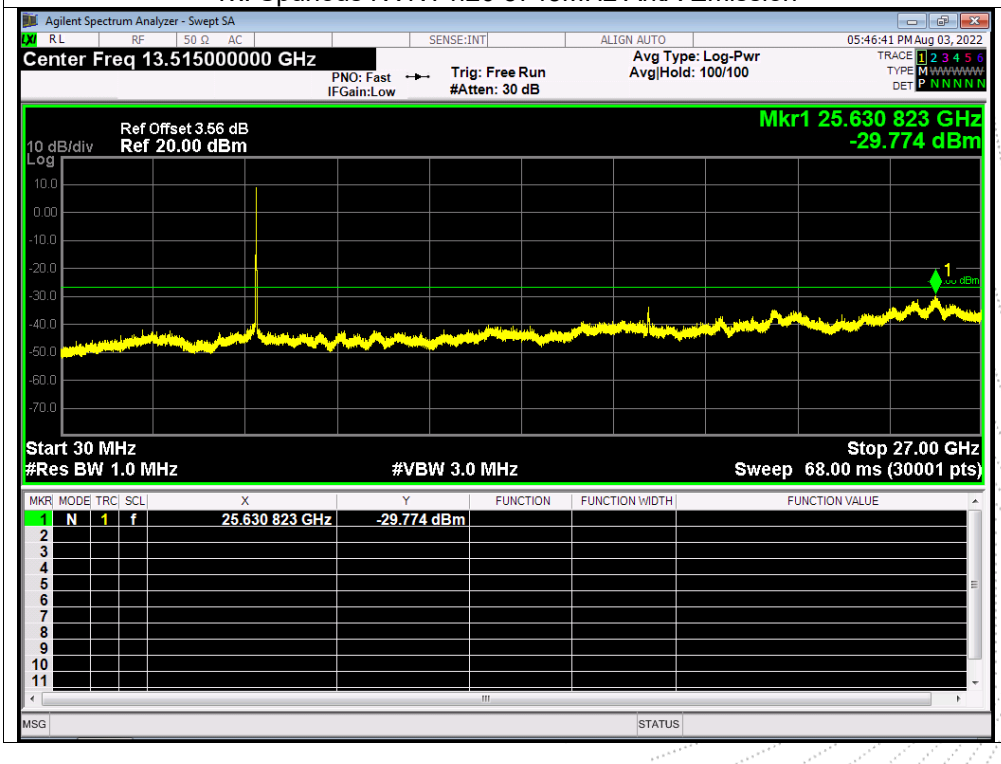
Tx. Spurious NVNT a 5785MHz AntA Emission



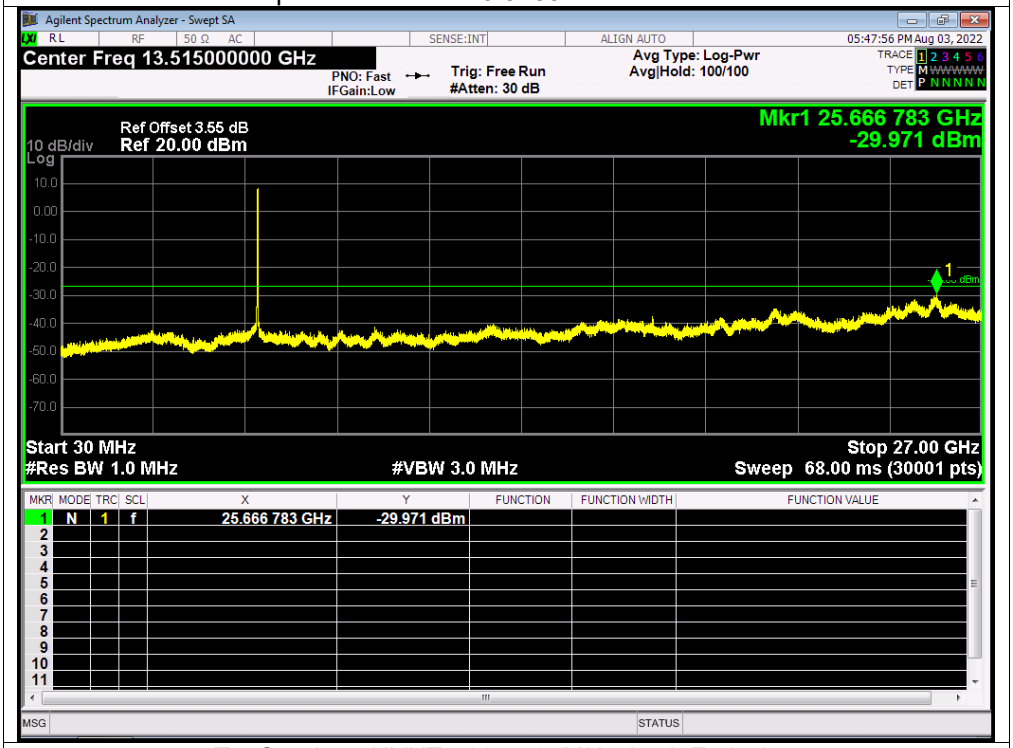
Tx. Spurious NVNT a 5825MHz AntA Emission



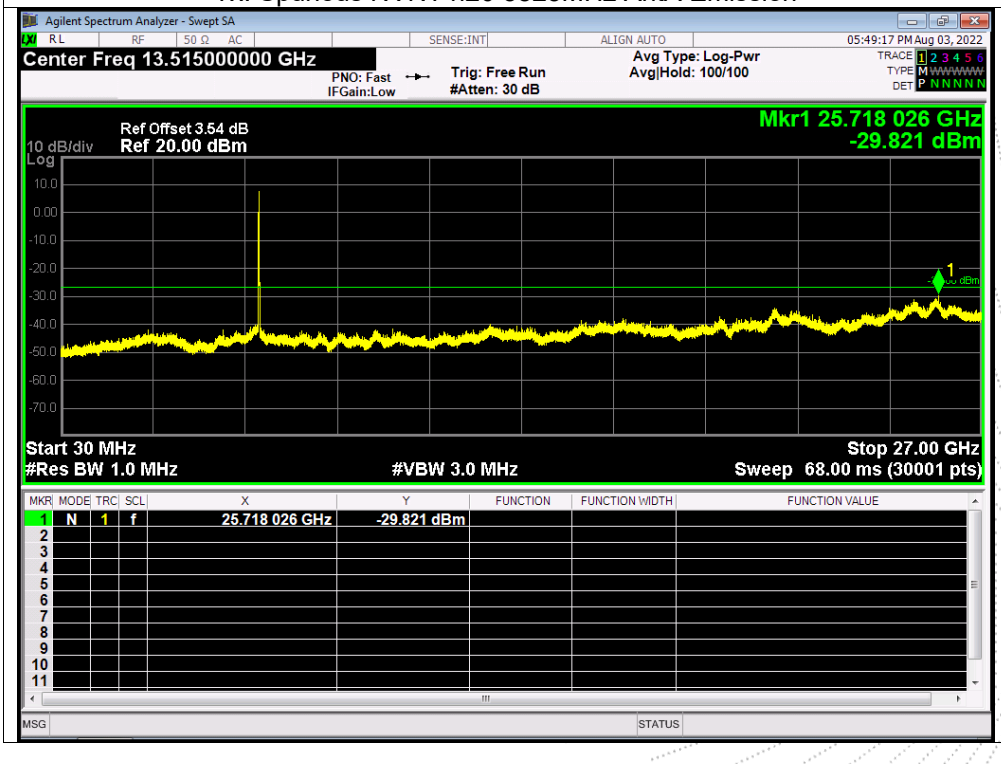
Tx. Spurious NVNT n20 5745MHz AntA Emission



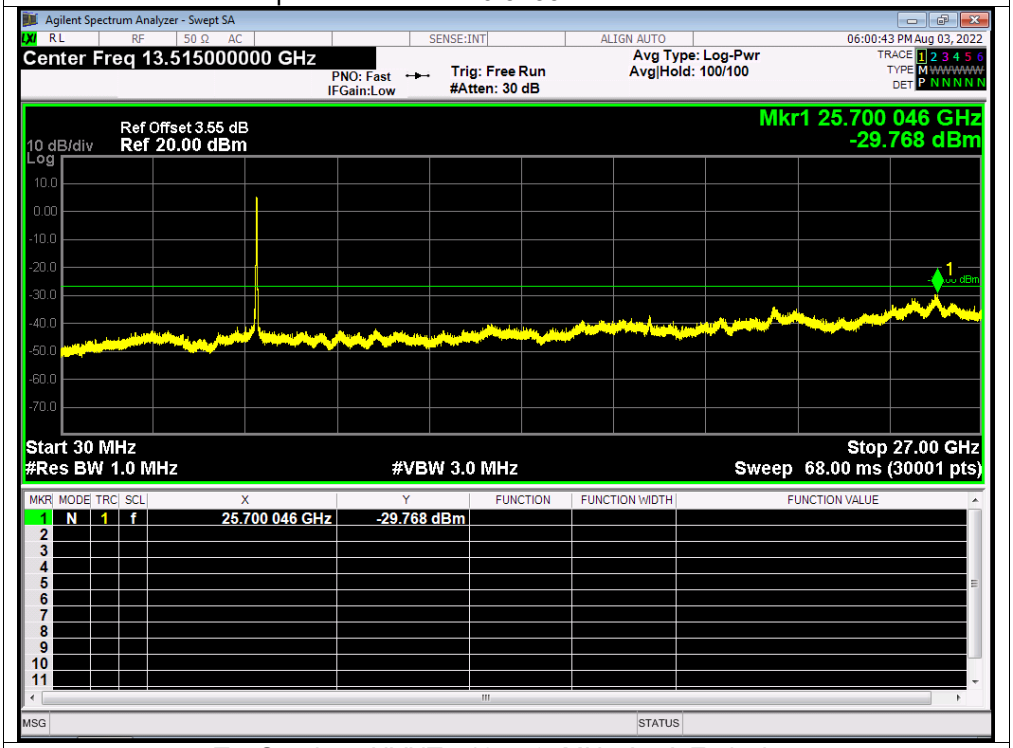
Tx. Spurious NVNT n20 5785MHz AntA Emission



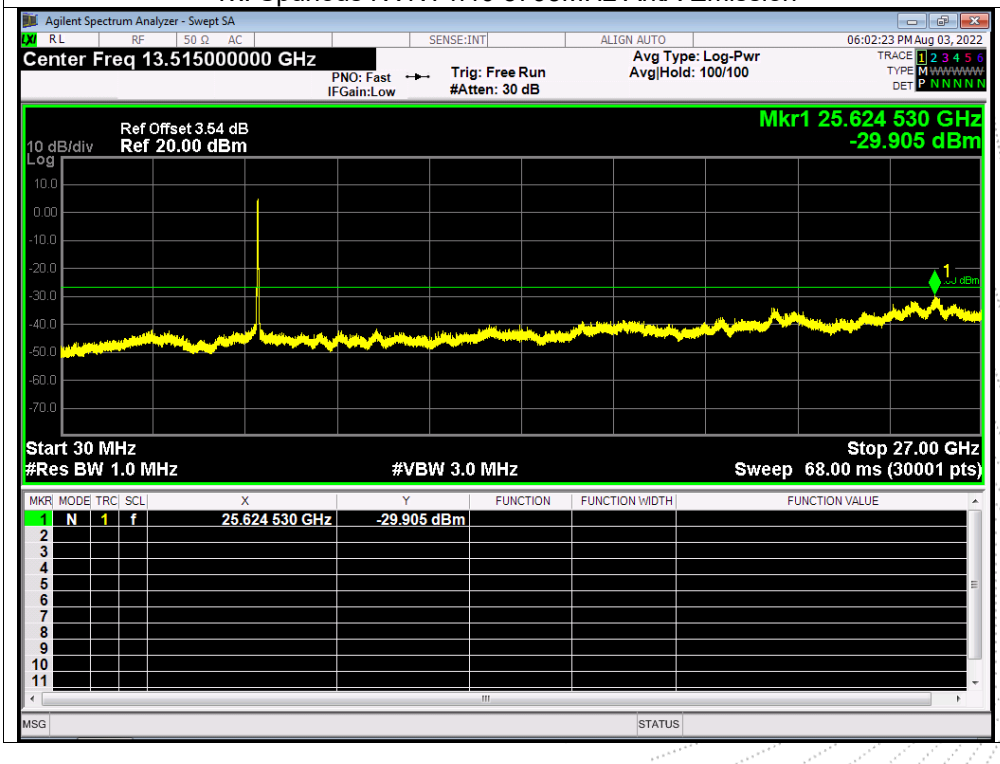
Tx. Spurious NVNT n20 5825MHz AntA Emission



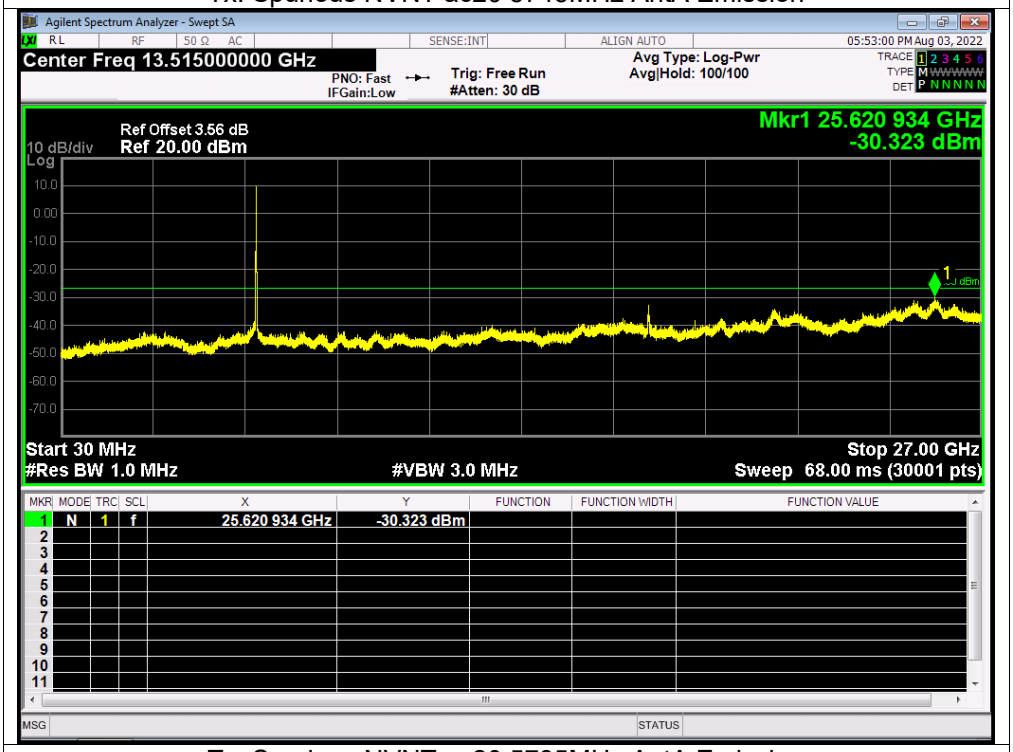
Tx. Spurious NVNT n40 5755MHz AntA Emission



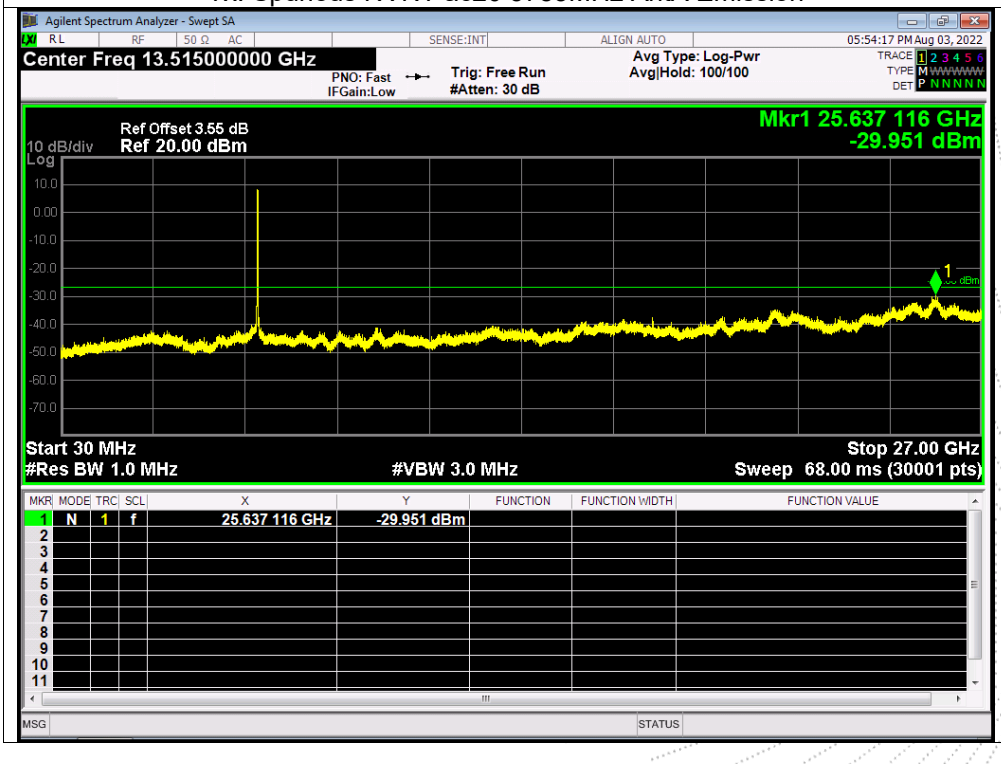
Tx. Spurious NVNT n40 5795MHz AntA Emission



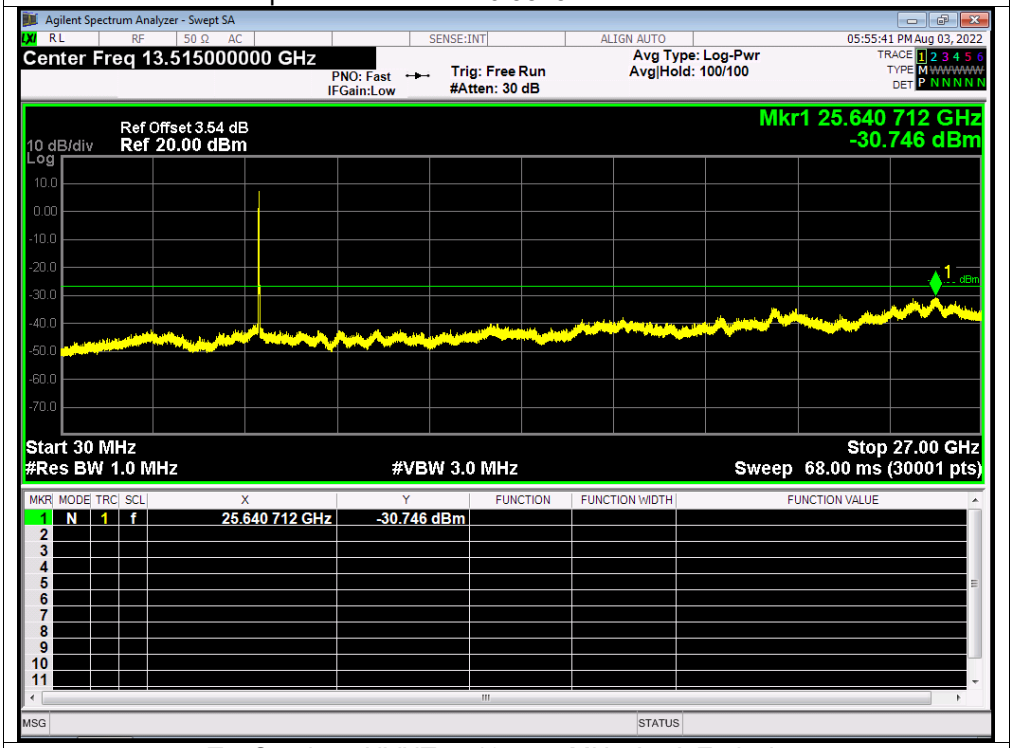
Tx. Spurious NVNT ac20 5745MHz AntA Emission



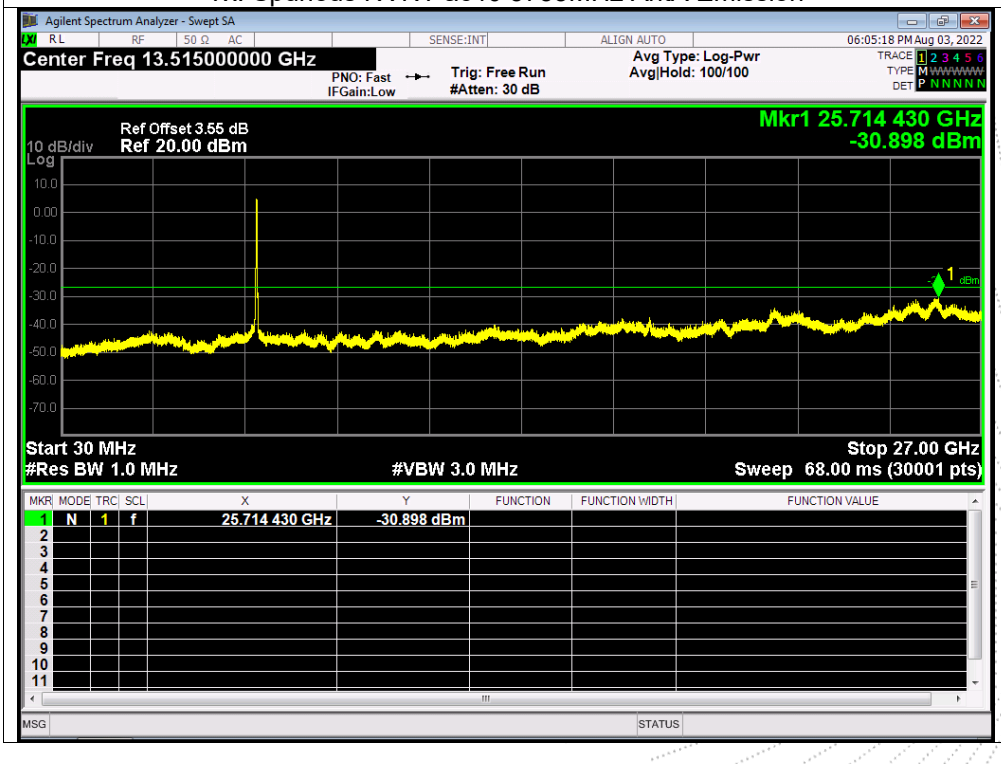
Tx. Spurious NVNT ac20 5785MHz AntA Emission



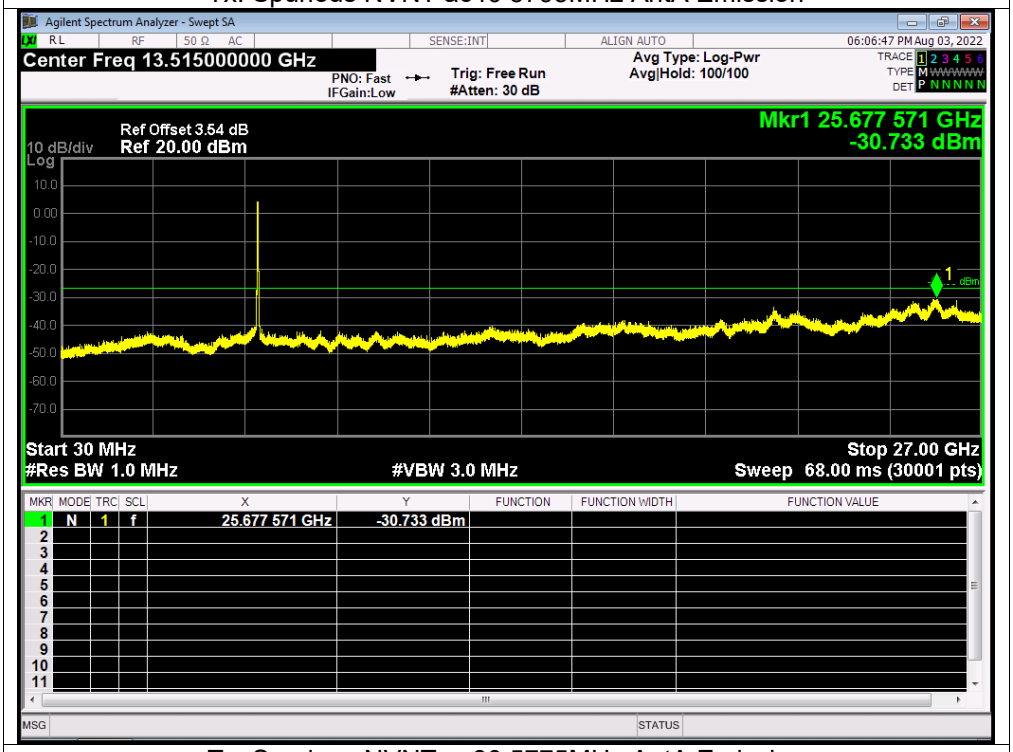
Tx. Spurious NVNT ac20 5825MHz AntA Emission



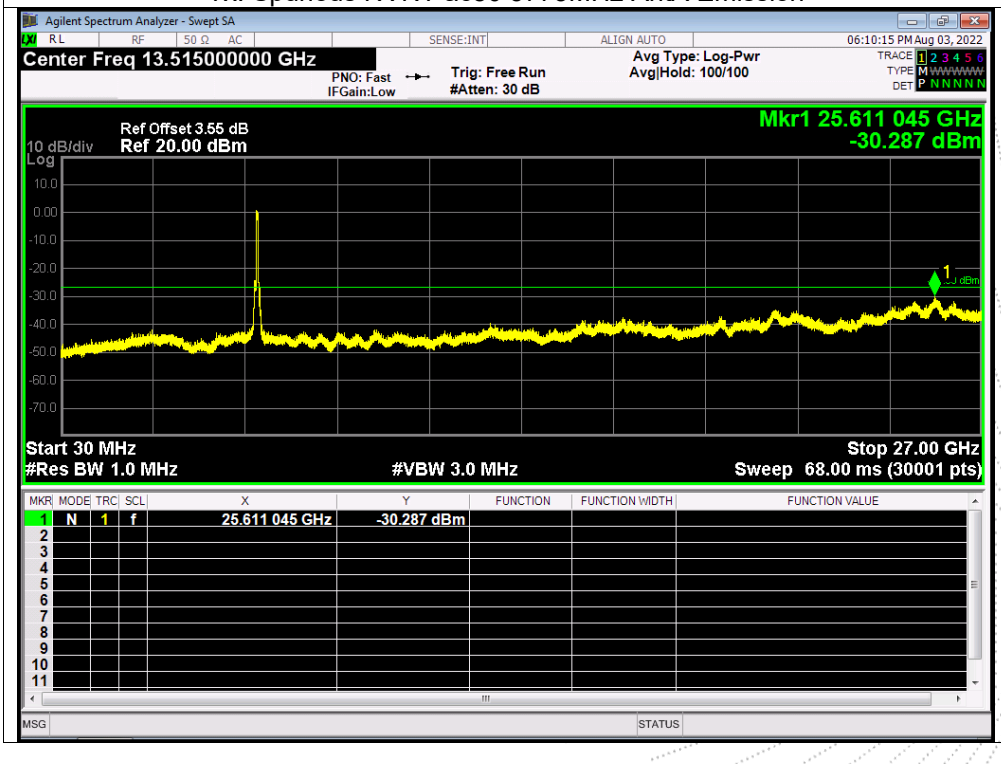
Tx. Spurious NVNT ac40 5755MHz AntA Emission



Tx. Spurious NVNT ac40 5795MHz AntA Emission

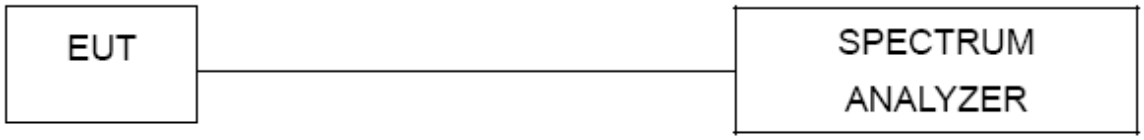


Tx. Spurious NVNT ac80 5775MHz AntA Emission



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/60Hz
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)	120.00	5180.0193	5180	0.0193	3.7254
		V max (V)	138.00	5180.0011	5180	0.0011	0.2205
		V min (V)	102.00	5180.0164	5180	0.0164	3.1642
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	5180.0014	5180	5180.0057	5180
		T (°C)	-10	5180.0015	5180	5180.0028	5180
		T (°C)	0	5180.0095	5180	5180.0009	5180
		T (°C)	10	5180.0030	5180	5180.0003	5180
		T (°C)	20	5180.0102	5180	5180.0029	5180
		T (°C)	30	5180.0047	5180	5180.0049	5180
		T (°C)	40	5180.0010	5180	5180.0060	5180
		T (°C)	50	5180.0017	5180	5180.0055	5180
		T (°C)	60	5180.0074	5180	5180.0041	5180
		T (°C)	70	5180.0121	5180	5180.0097	5180
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	5200.0035	5200	0.0035	0.6686
		V max (V)	138.00	5200.0042	5200	0.0042	0.8027
		V min (V)	102.00	5200.0038	5200	0.0038	0.7214
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	5200.00092	5200	0.00092	0.1766
		T (°C)	-10	5200.00081	5200	0.00081	0.1562
		T (°C)	0	5200.00746	5200	0.00746	1.4350
		T (°C)	10	5200.00358	5200	0.00358	0.6884
		T (°C)	20	5200.00785	5200	0.00785	1.5090
		T (°C)	30	5200.00437	5200	0.00437	0.8400
		T (°C)	40	5200.00946	5200	0.00946	1.8196
		T (°C)	50	5200.00117	5200	0.00117	0.2259
		T (°C)	60	5200.00845	5200	0.00845	1.6256
		T (°C)	70	5200.01212	5200	0.01212	2.3309
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	5240.0002	5240	0.0002	0.0353
		V max (V)	138.00	5240.0093	5240	0.0093	1.7831
		V min (V)	102.00	5240.0051	5240	0.0051	0.9806
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	2.3990
		T (°C)	-10	5240.0040	5240	0.0040	0.7565
		T (°C)	0	5240.0067	5240	0.0067	1.2823
		T (°C)	10	5240.0110	5240	0.0110	2.0995
		T (°C)	20	5240.0051	5240	0.0051	0.9826
		T (°C)	30	5240.0051	5240	0.0051	0.9769
		T (°C)	40	5240.0022	5240	0.0022	0.4234
		T (°C)	50	5240.0029	5240	0.0029	0.5483
		T (°C)	60	5240.0134	5240	0.0134	2.5634
		T (°C)	70	5240.0016	5240	0.0016	0.2977
Limits				5150-5250 MHz			
Result				Complies			

Temperature：	26 ℃	Relative Humidity：	54%
Pressure：	101kPa	Test Voltage ：	AC 120V/60Hz
Hzst Mode ：	TX Frequency(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	5745.01065	5745	0.01065	1.8530
		V max (V)	138.00	5745.00619	5745	0.00619	1.0782
		V min (V)	102.00	5745.00656	5745	0.00656	1.1415
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	5745.01277	5745	0.01277	2.2237
		T (°C)	-10	5745.00462	5745	0.00462	0.8043
		T (°C)	0	5745.01201	5745	0.01201	2.0898
		T (°C)	10	5745.00819	5745	0.00819	1.4248
		T (°C)	20	5745.00399	5745	0.00399	0.6948
		T (°C)	30	5745.00460	5745	0.00460	0.8009
		T (°C)	40	5745.00161	5745	0.00161	0.2802
		T (°C)	50	5745.01337	5745	0.01337	2.3267
		T (°C)	60	5745.01335	5745	0.01335	2.3244
		T (°C)	70	5745.00089	5745	0.00089	0.1553
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	5785.00391	5785	0.00391	0.6760
		V max (V)	138.00	5785.00576	5785	0.00576	0.9965
		V min (V)	102.00	5785.00773	5785	0.00773	1.3357
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	5785.00895	5785	0.00895	1.5467
		T (°C)	-10	5785.00969	5785	0.00969	1.6744
		T (°C)	0	5785.00655	5785	0.00655	1.1329
		T (°C)	10	5785.01160	5785	0.01160	2.0053
		T (°C)	20	5785.00324	5785	0.00324	0.5603
		T (°C)	30	5785.00308	5785	0.00308	0.5322
		T (°C)	40	5785.00821	5785	0.00821	1.4188
		T (°C)	50	5785.00590	5785	0.00590	1.0198
		T (°C)	60	5785.00262	5785	0.00262	0.4522
		T (°C)	70	5785.00476	5785	0.00476	0.8221
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	5825.01122	5825	0.01122	1.9269
		V max (V)	138.00	5825.01239	5825	0.01239	2.1279
		V min (V)	102.00	5825.00579	5825	0.00579	0.9932
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	5825.00119	5825	0.00119	0.2051
		T (°C)	-10	5825.00973	5825	0.00973	1.6710
		T (°C)	0	5825.00316	5825	0.00316	0.5419
		T (°C)	10	5825.01118	5825	0.01118	1.9195
		T (°C)	20	5825.01191	5825	0.01191	2.0451
		T (°C)	30	5825.00850	5825	0.00850	1.4591
		T (°C)	40	5825.00282	5825	0.00282	0.4847
		T (°C)	50	5825.00258	5825	0.00258	0.4429
		T (°C)	60	5825.00206	5825	0.00206	0.3541
		T (°C)	70	5825.00370	5825	0.00370	0.6352
Limits				5725-5850 MHz			
Result				Complies			

14. Antenna Requirement

14.1 Limit

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

14.2 Test Result

The EUT antenna is Internal antenna (antenna gain (A): 2.5dBi; antenna gain (B) : 2.5dBi). It comply with the standard requirement.