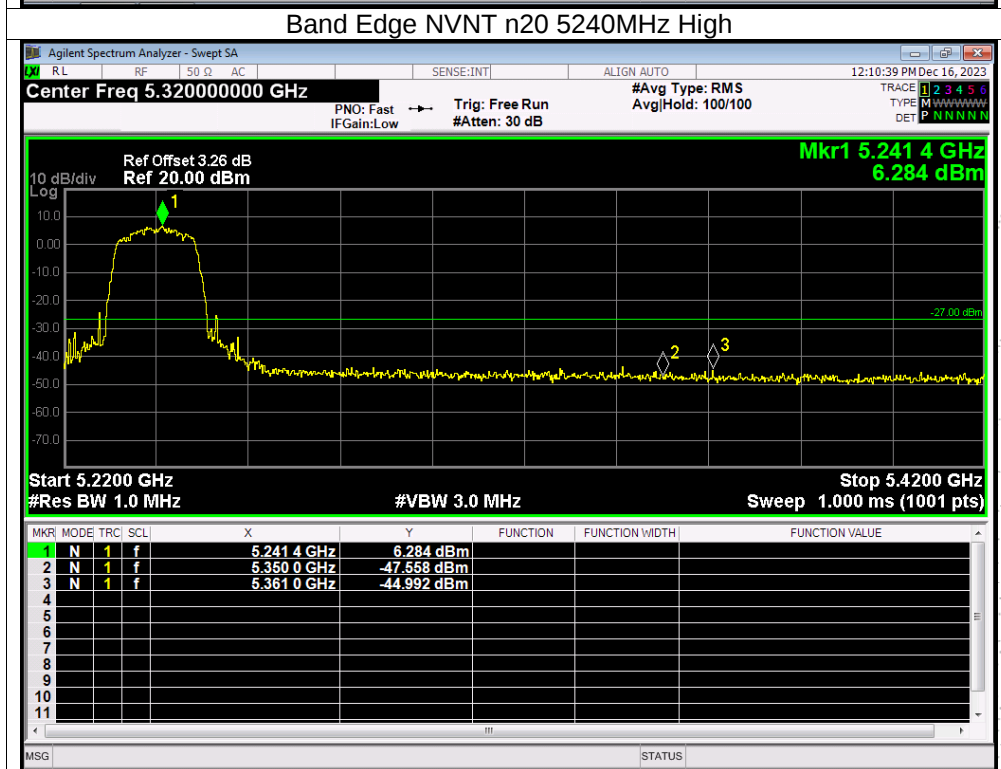
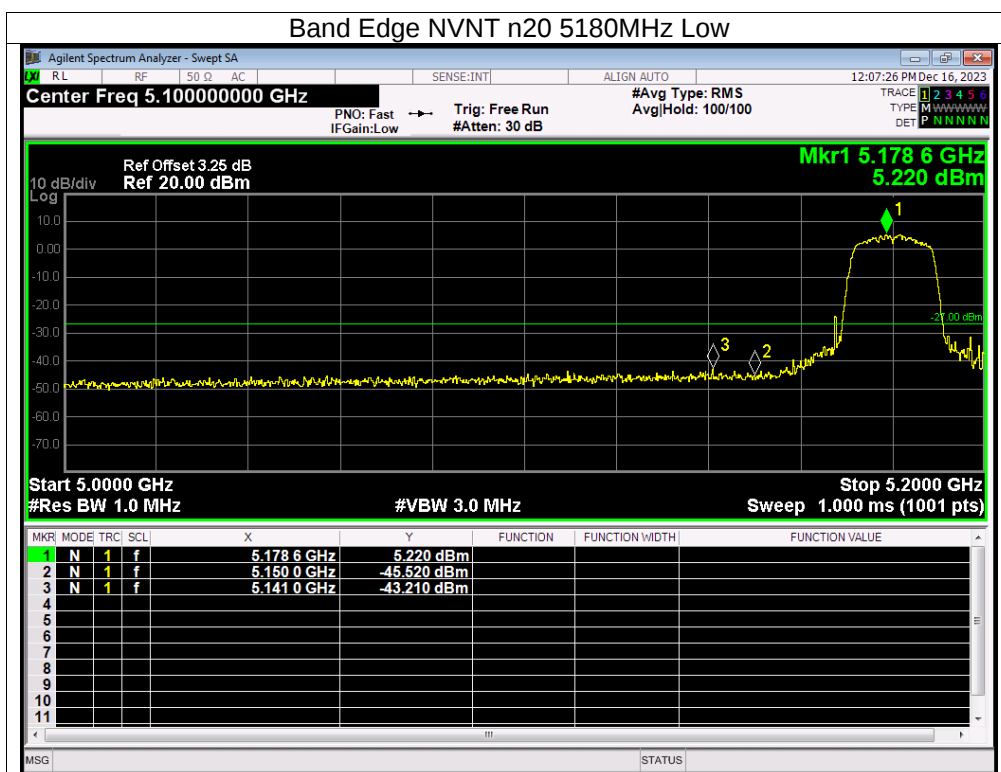
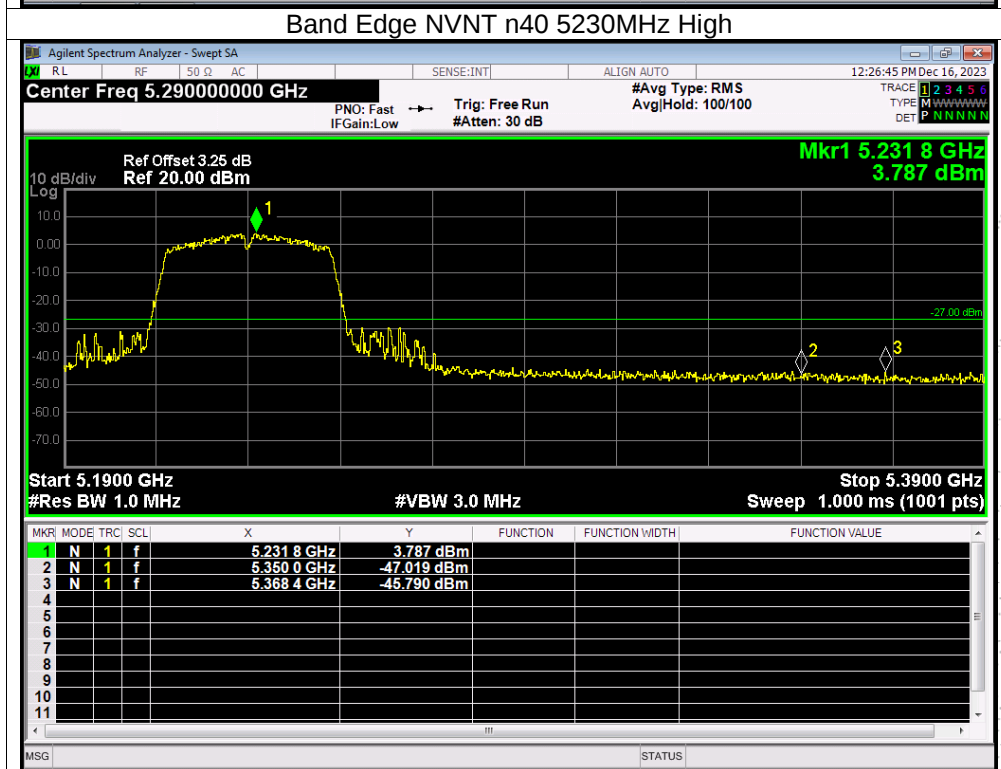
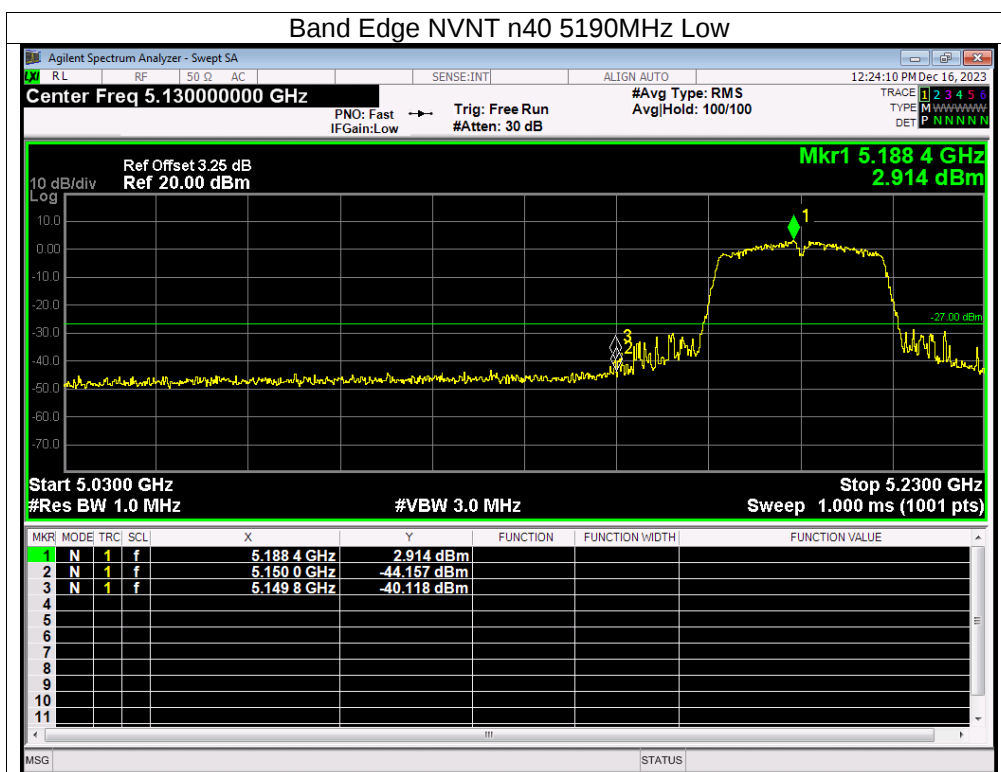
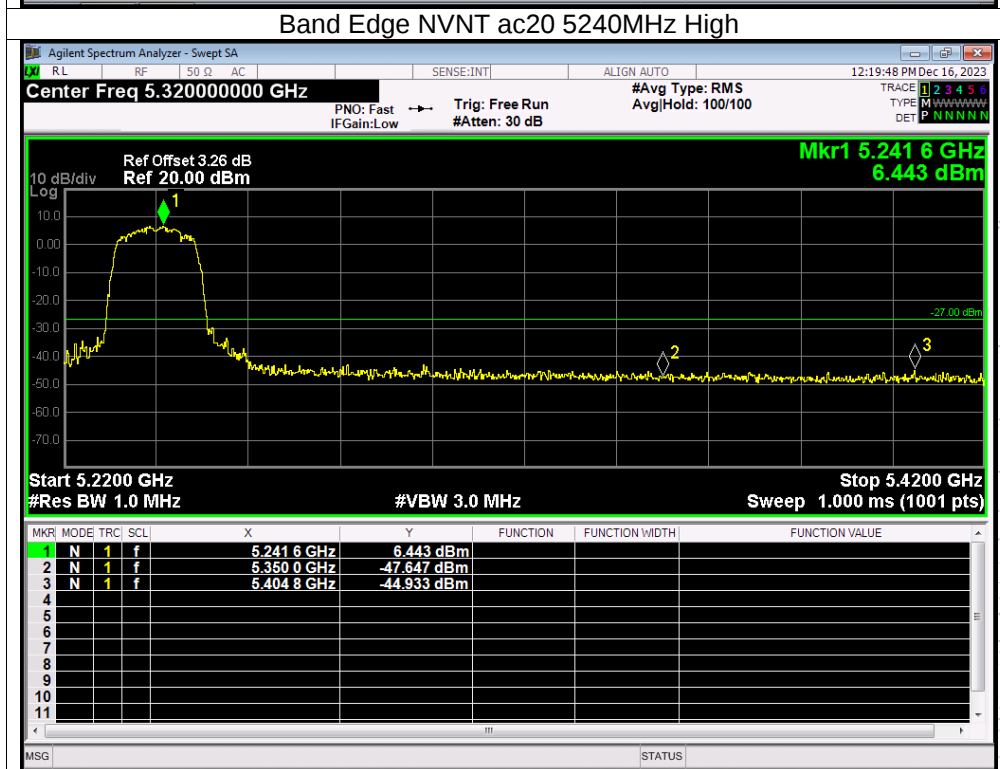
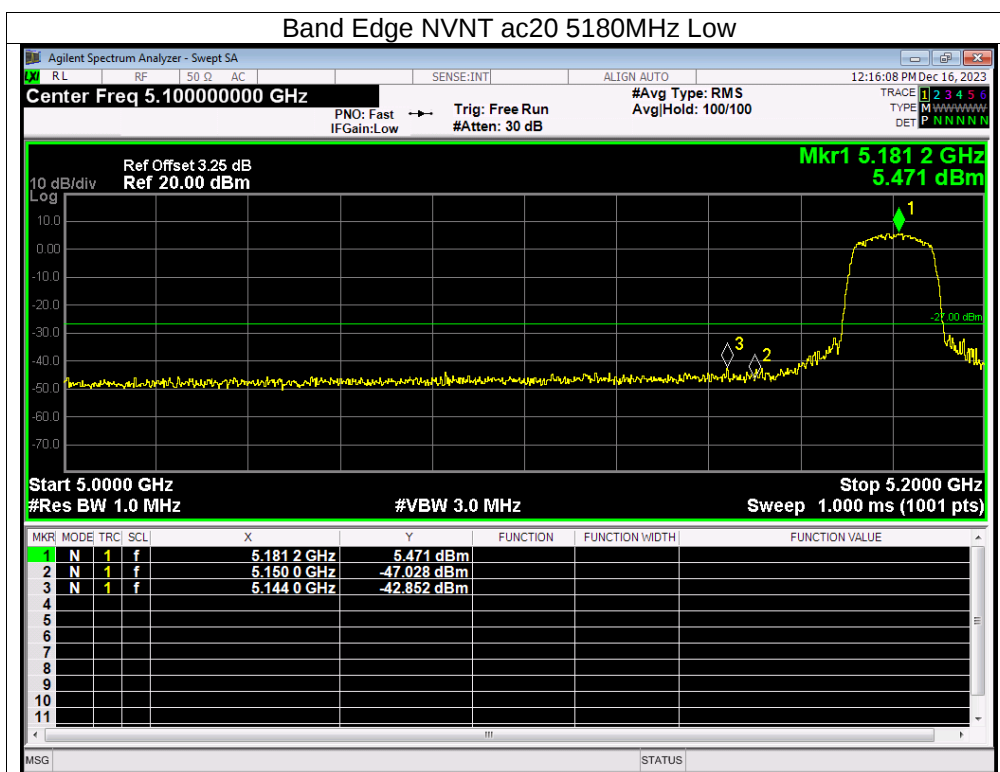
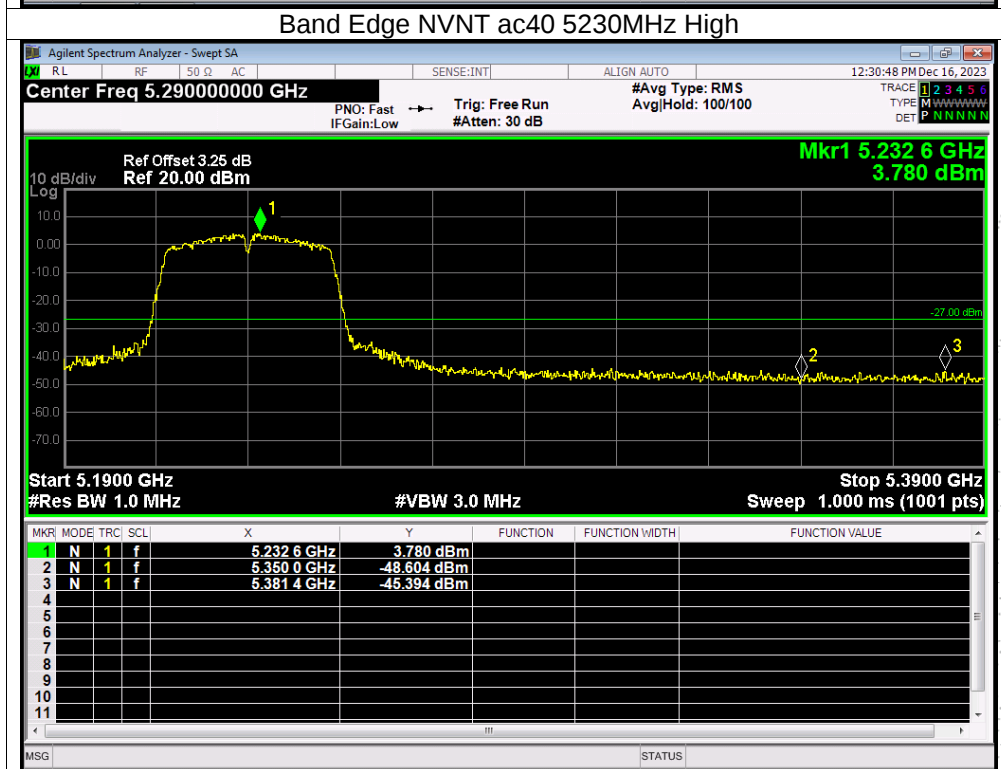
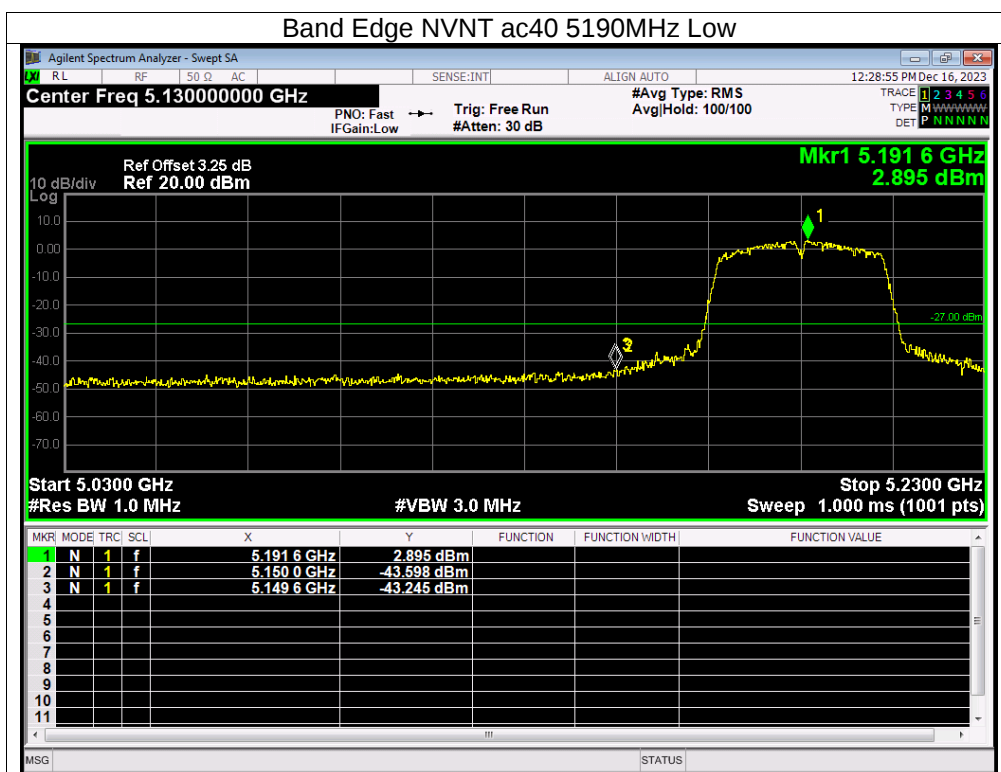


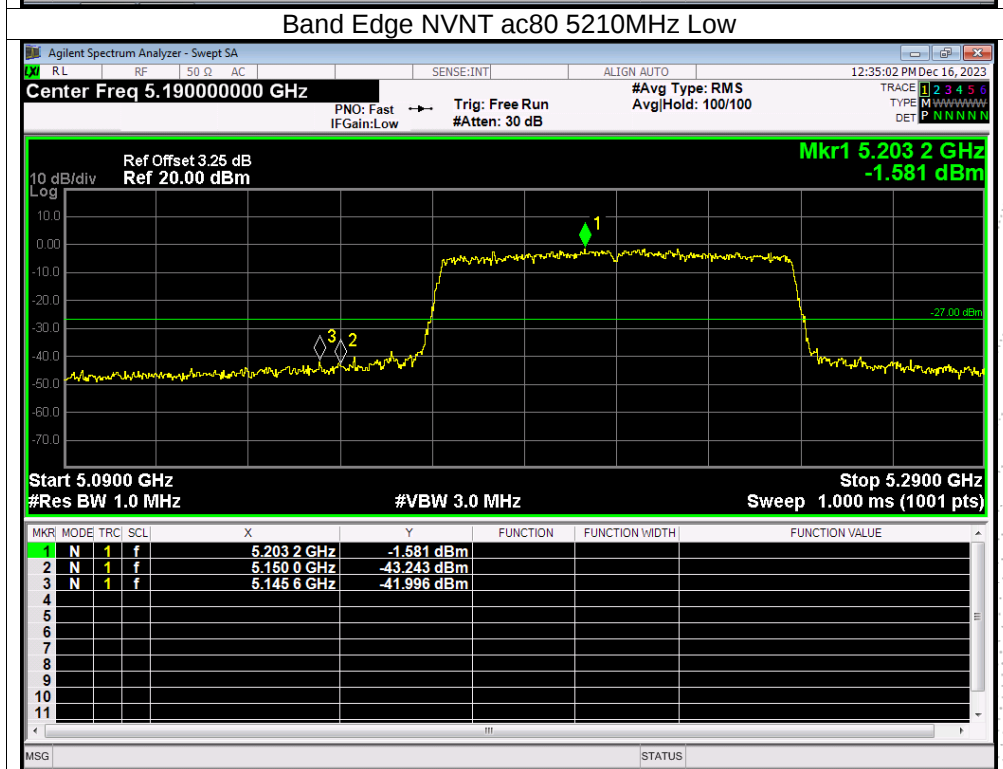
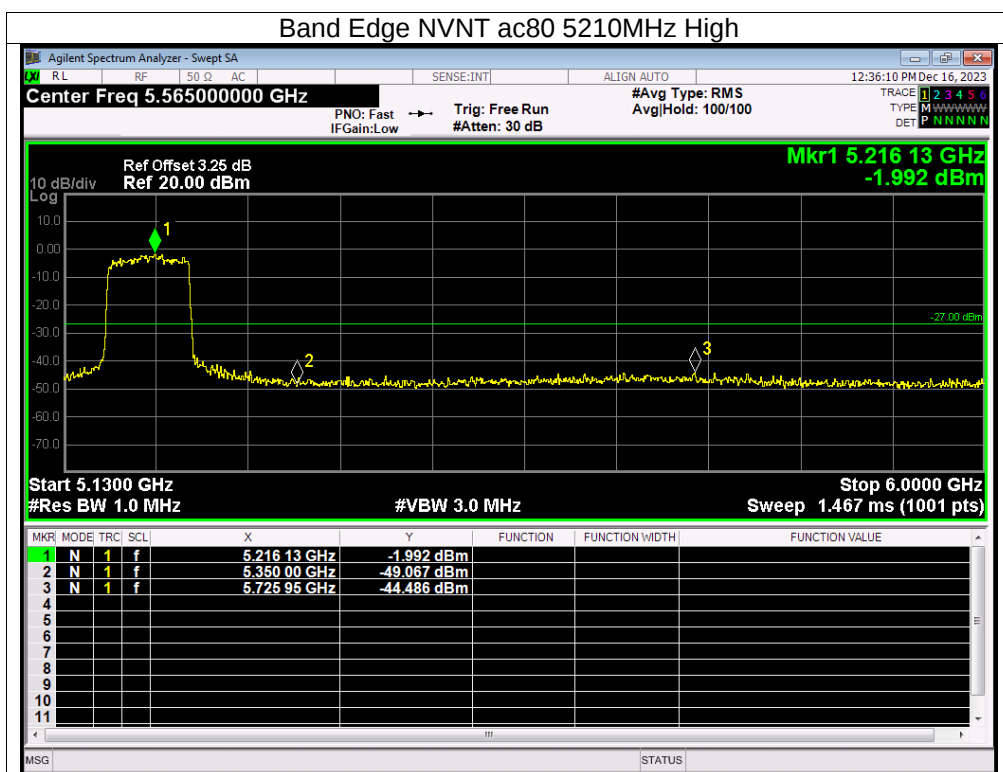


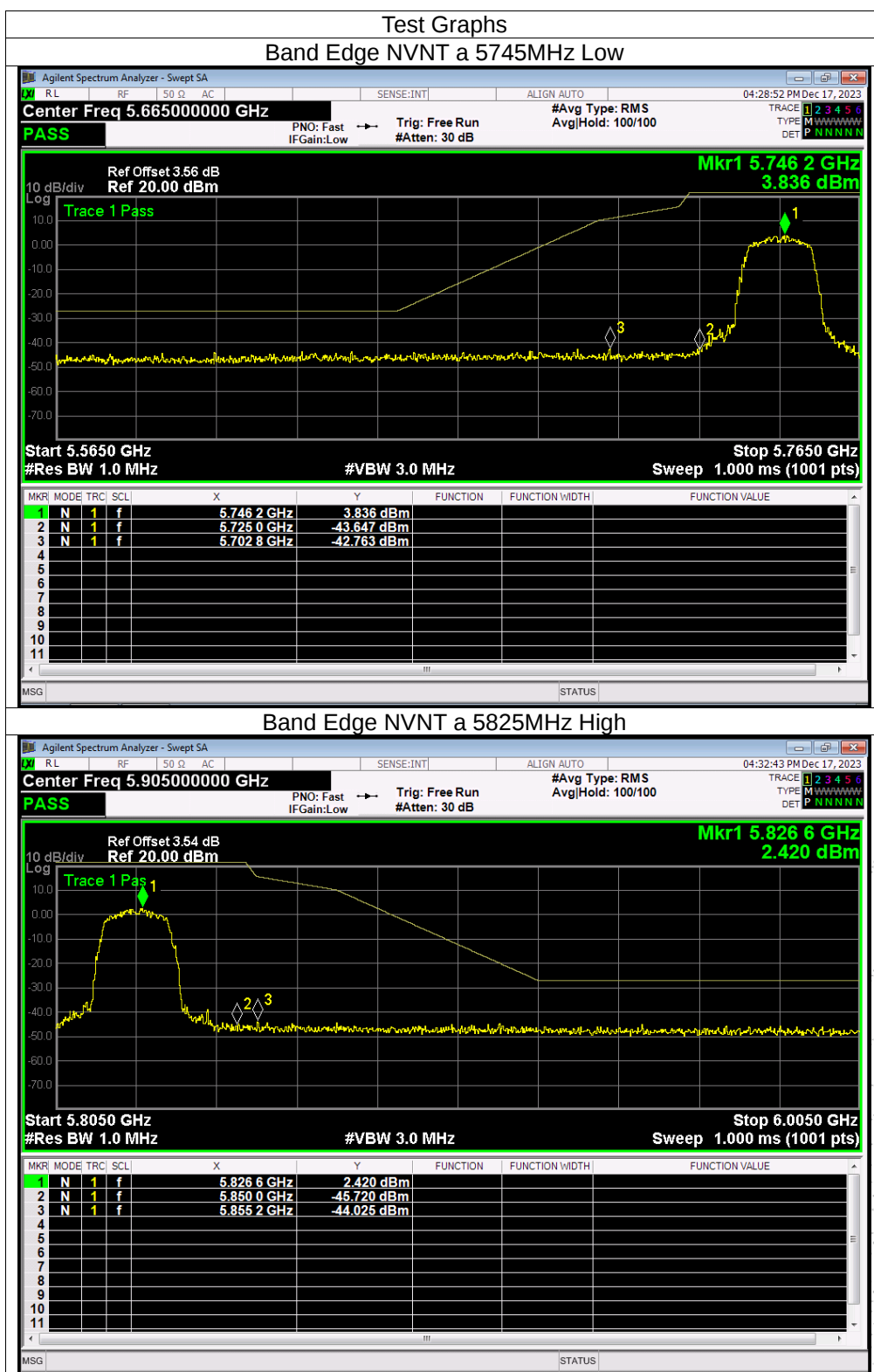
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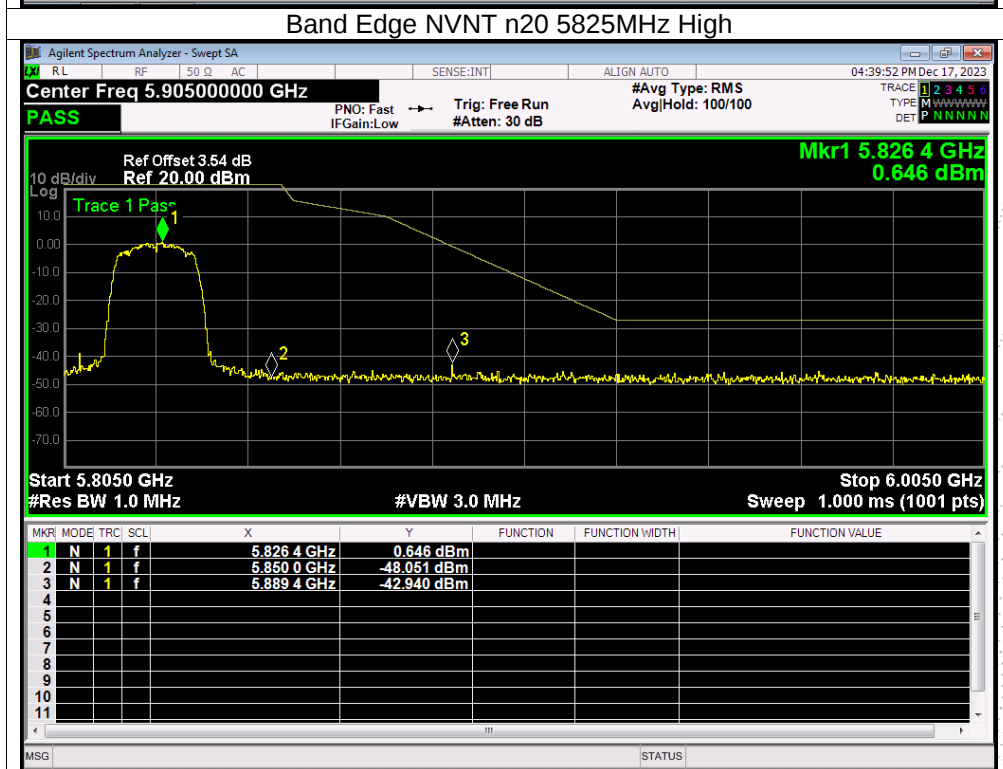
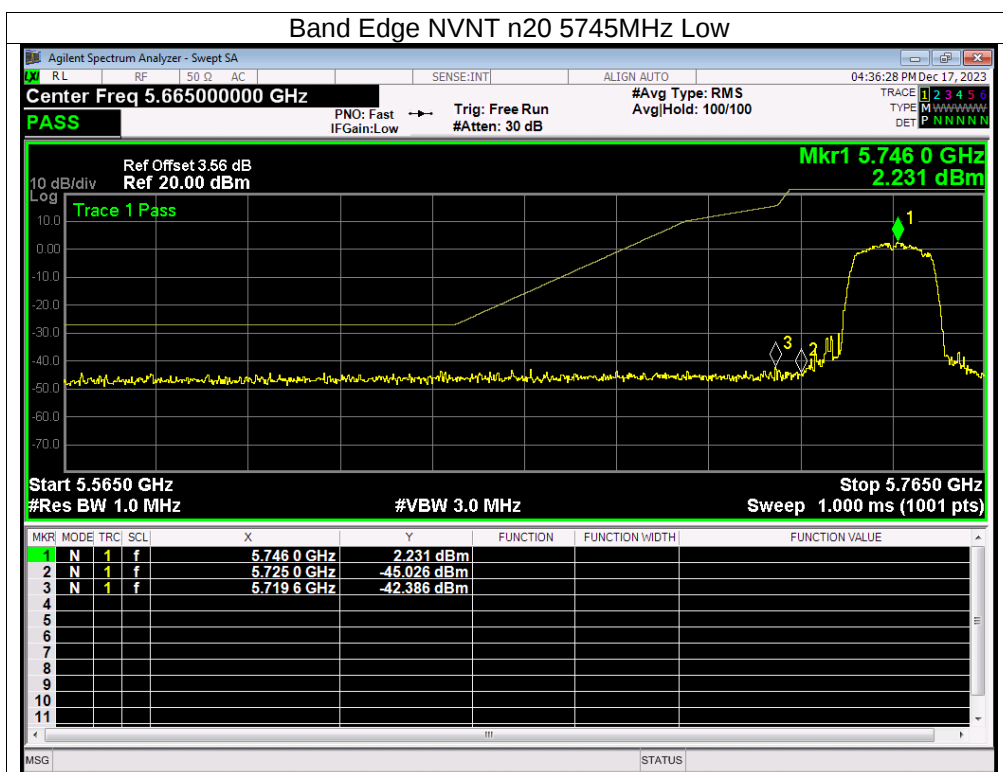




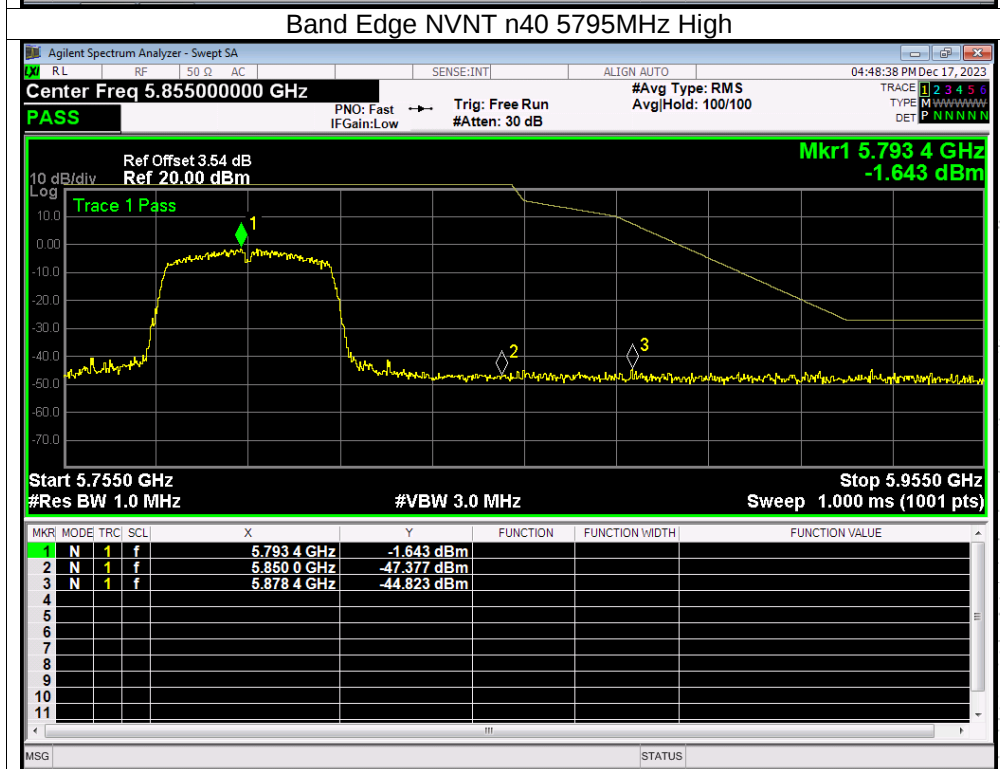
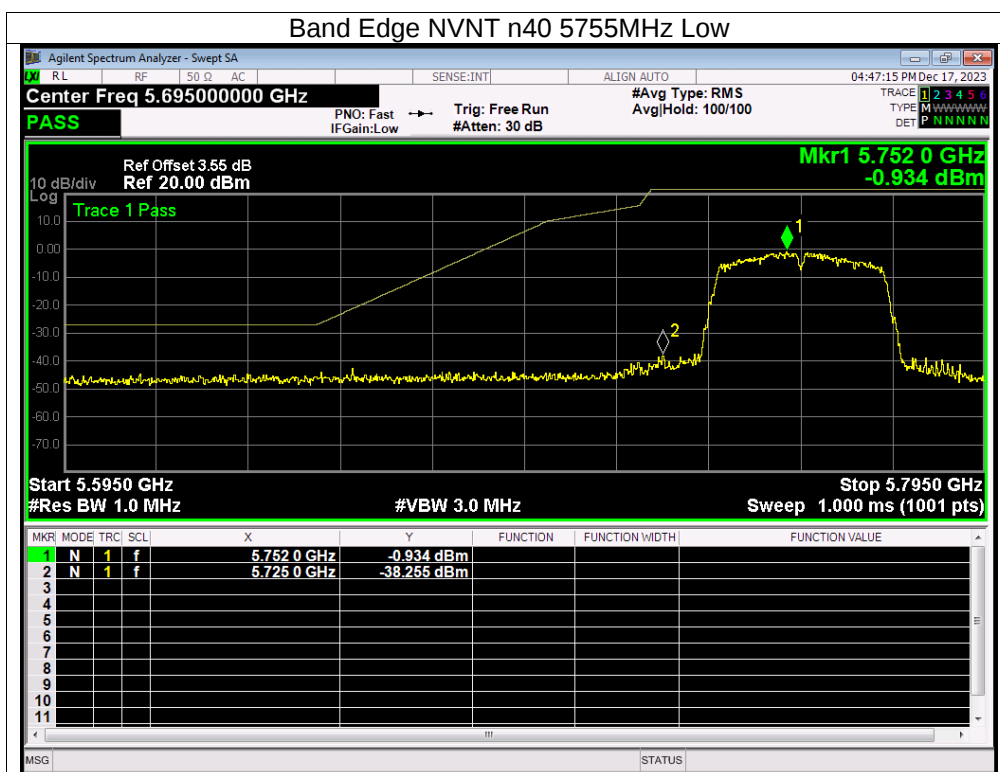


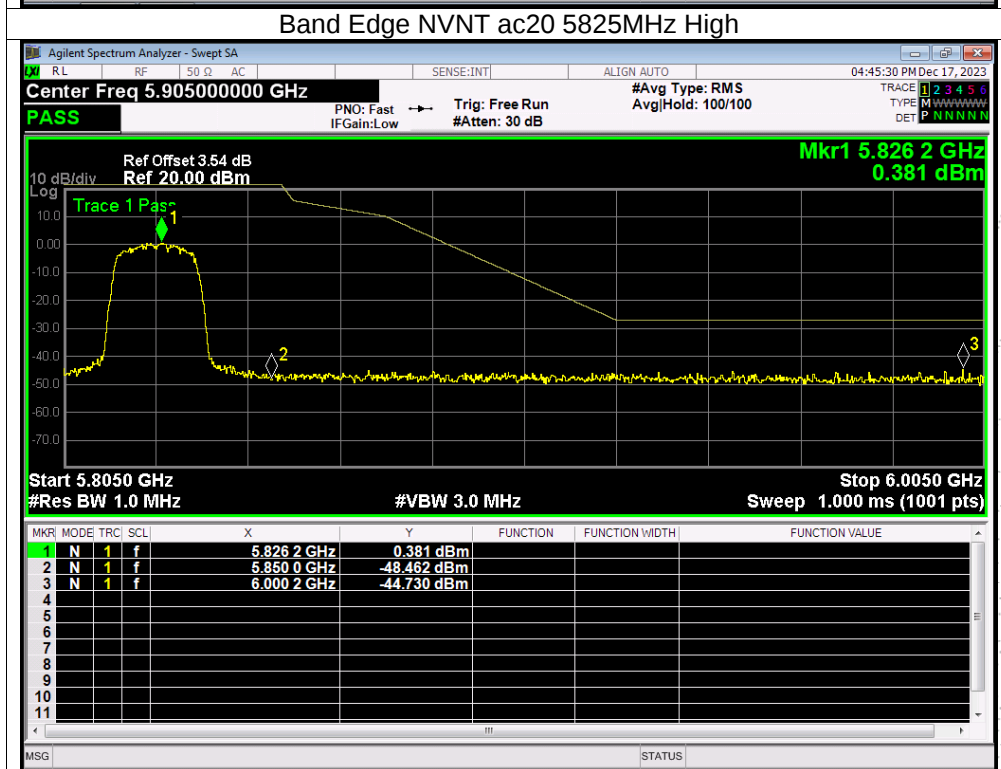
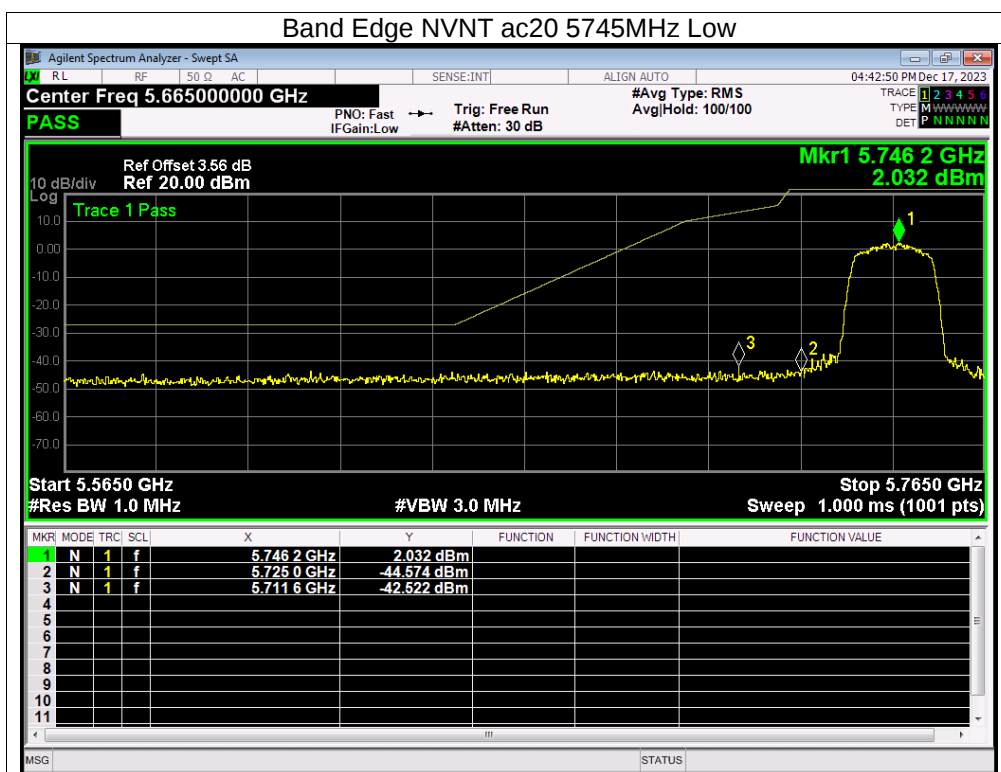


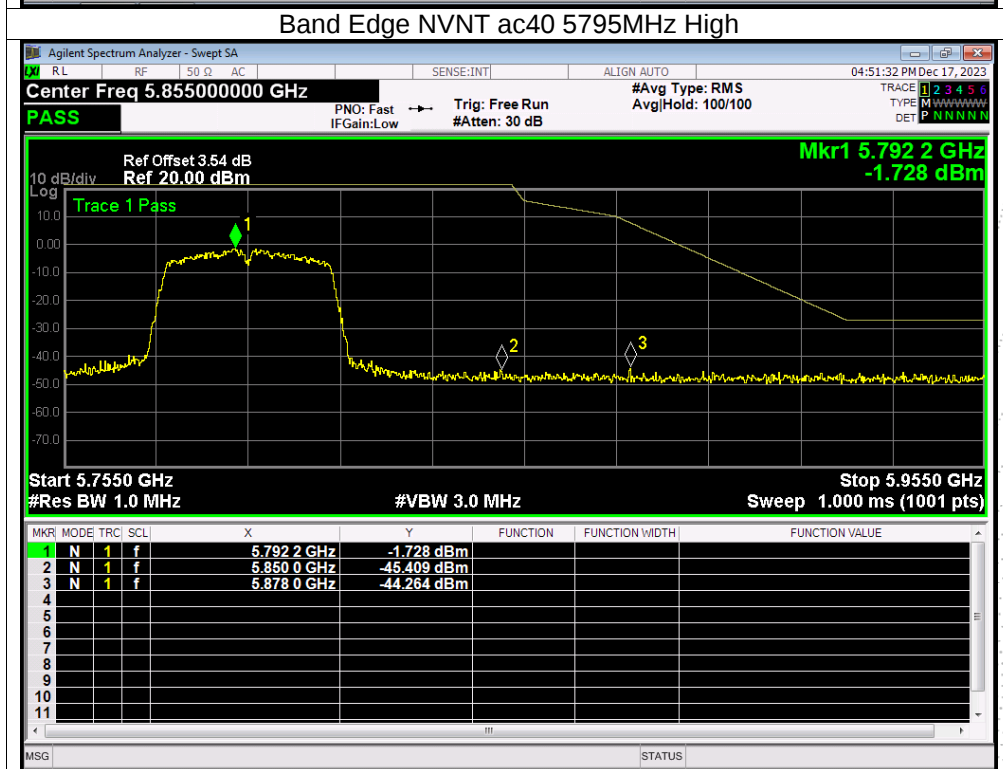
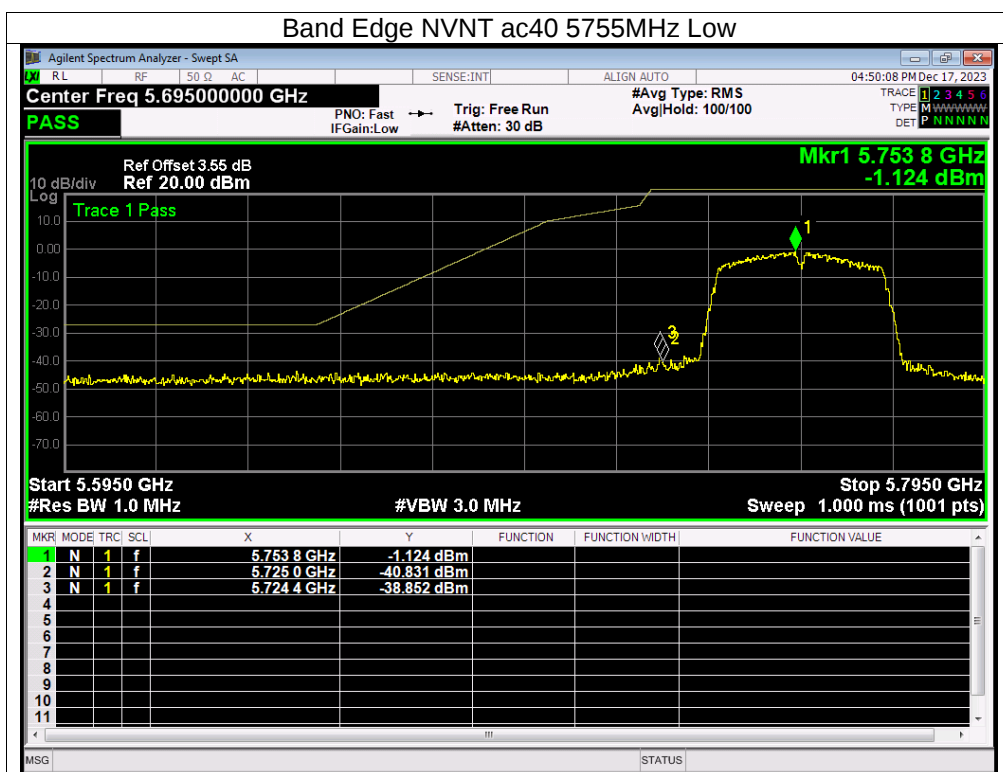
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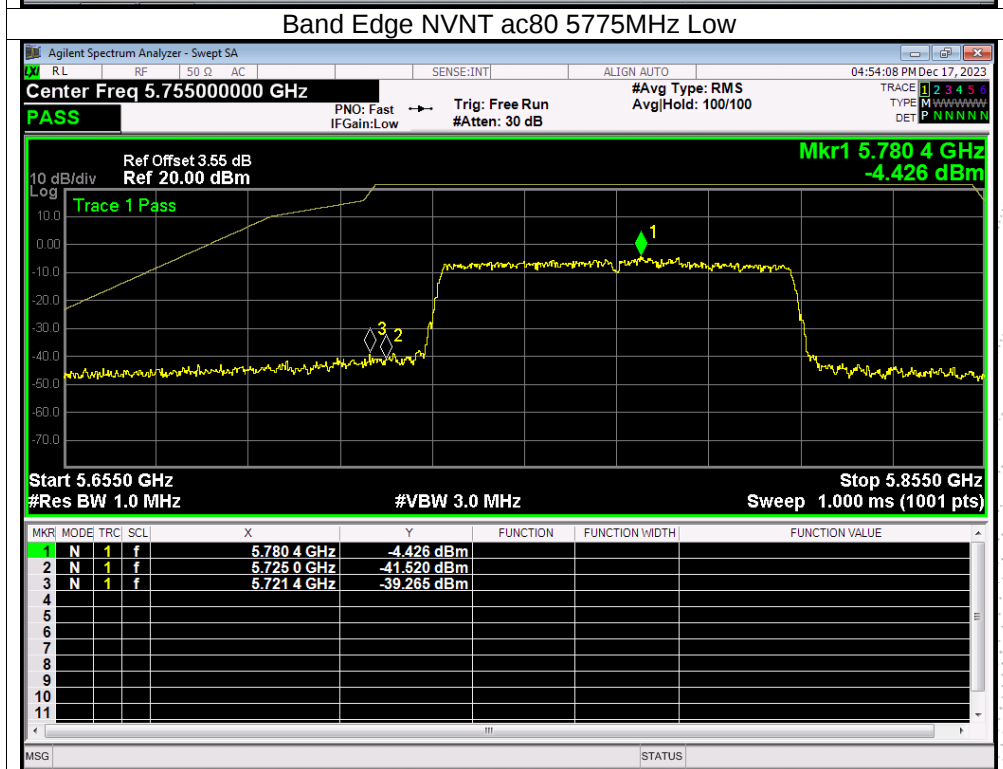
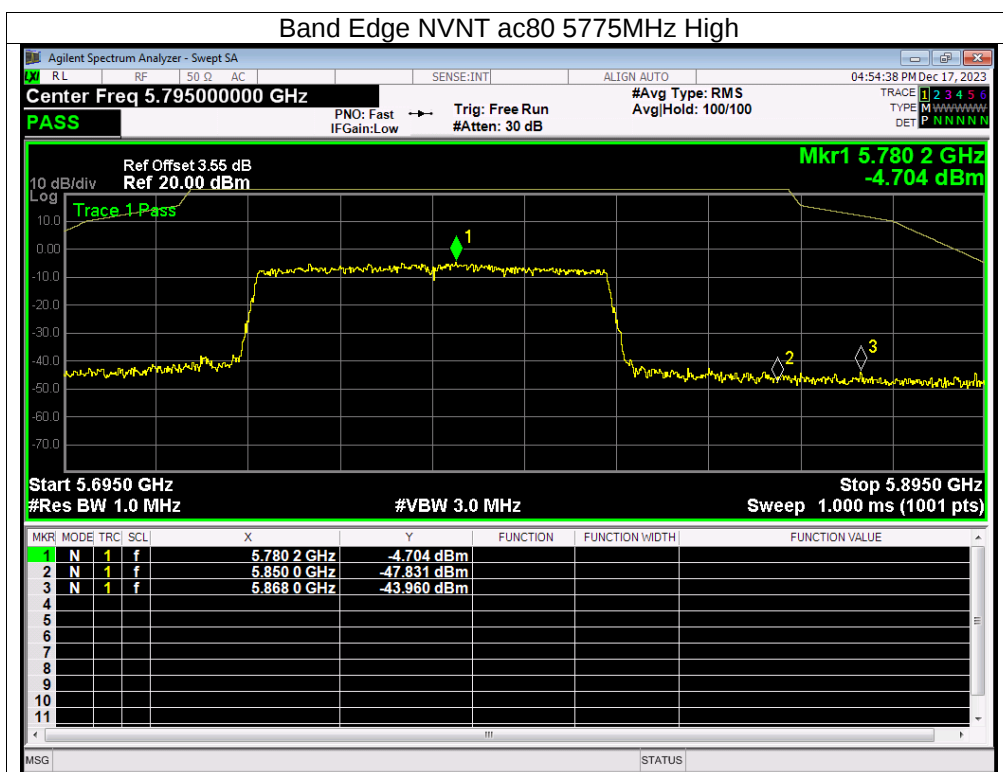


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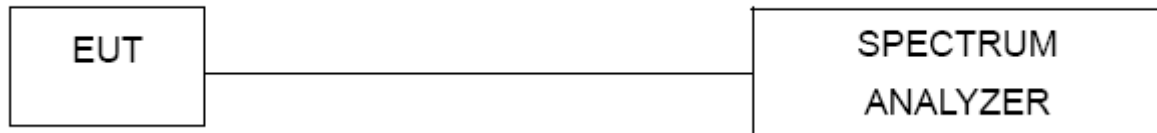




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12. Spurious RF Conducted Emissions

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.

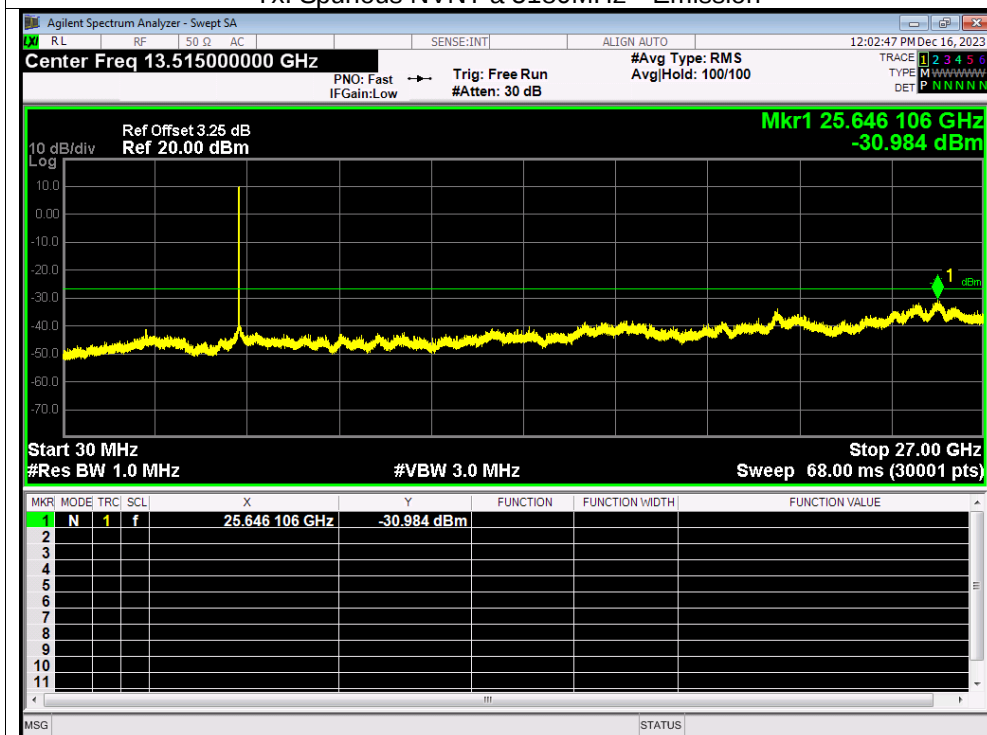
12.4 Test Result

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 bandedge measurement data.

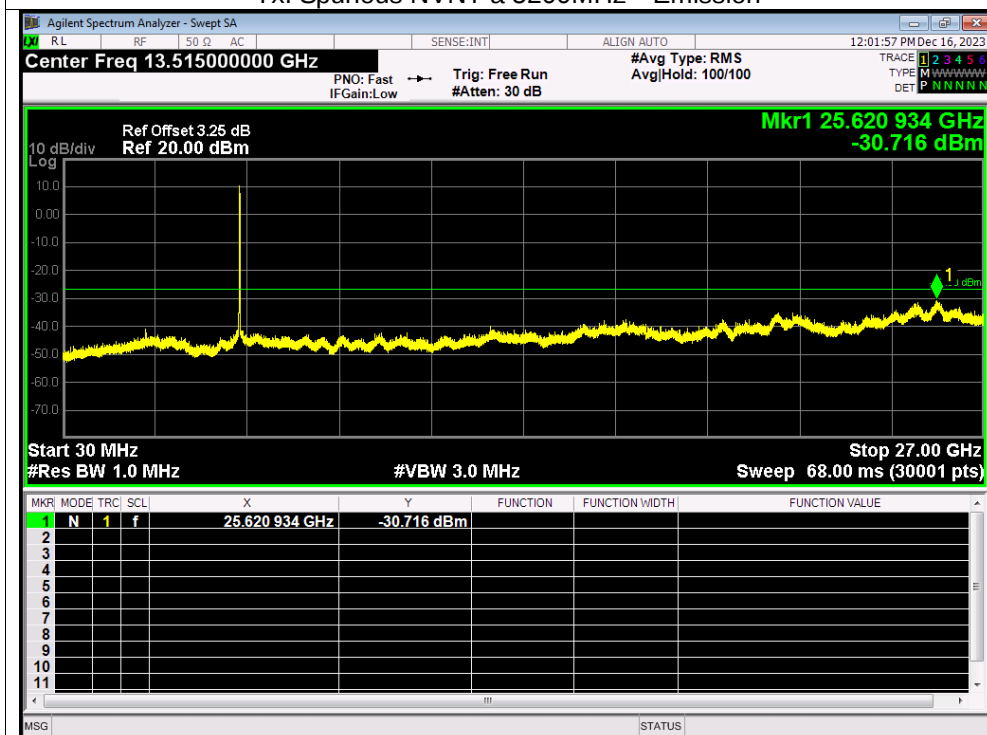
About: 26.5GHz-40GHz, The amplitude of spurious emissions which are attenuated by more than 20dB below the permissible value has no need to be reported.

Test Graphs

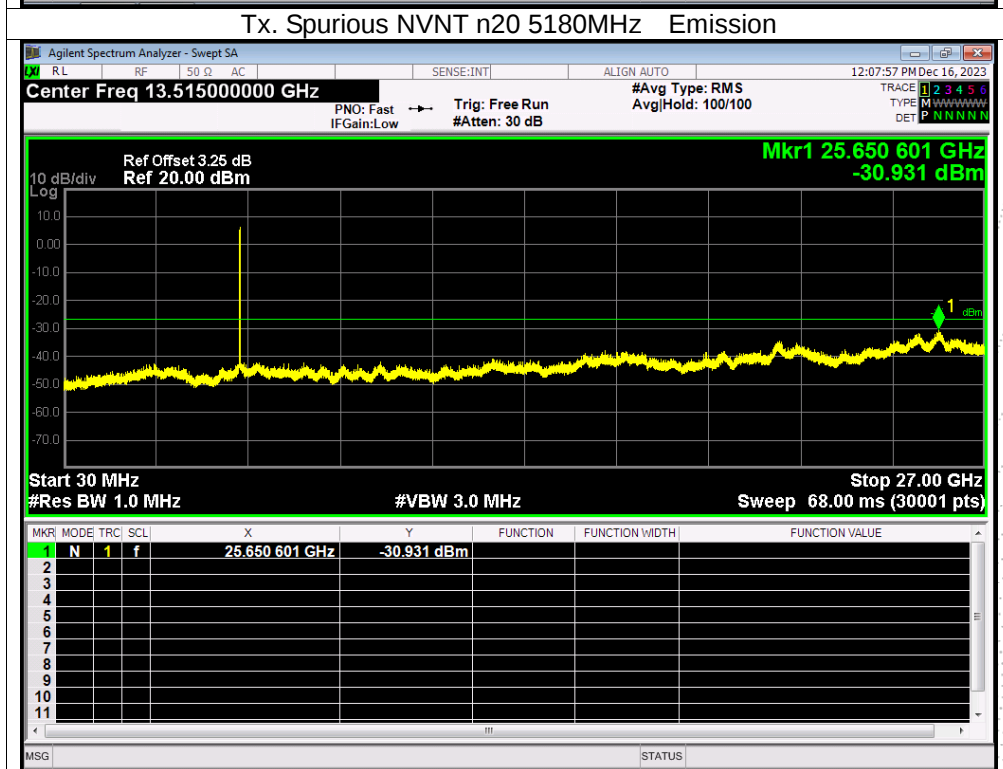
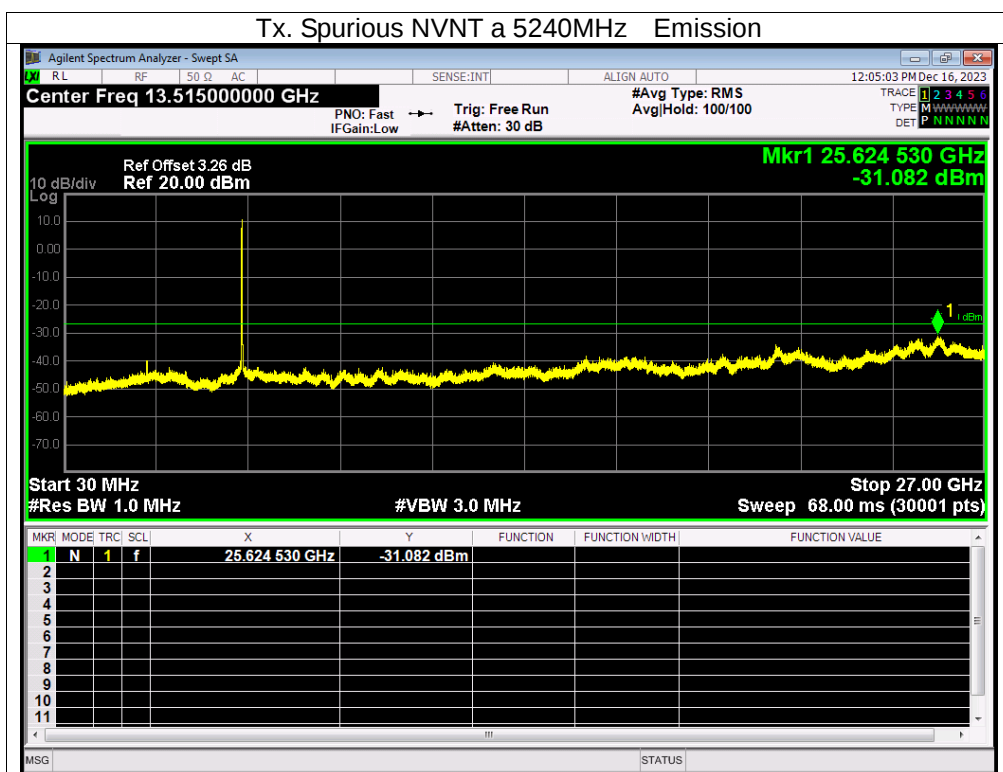
Tx. Spurious NVNT a 5180MHz Emission

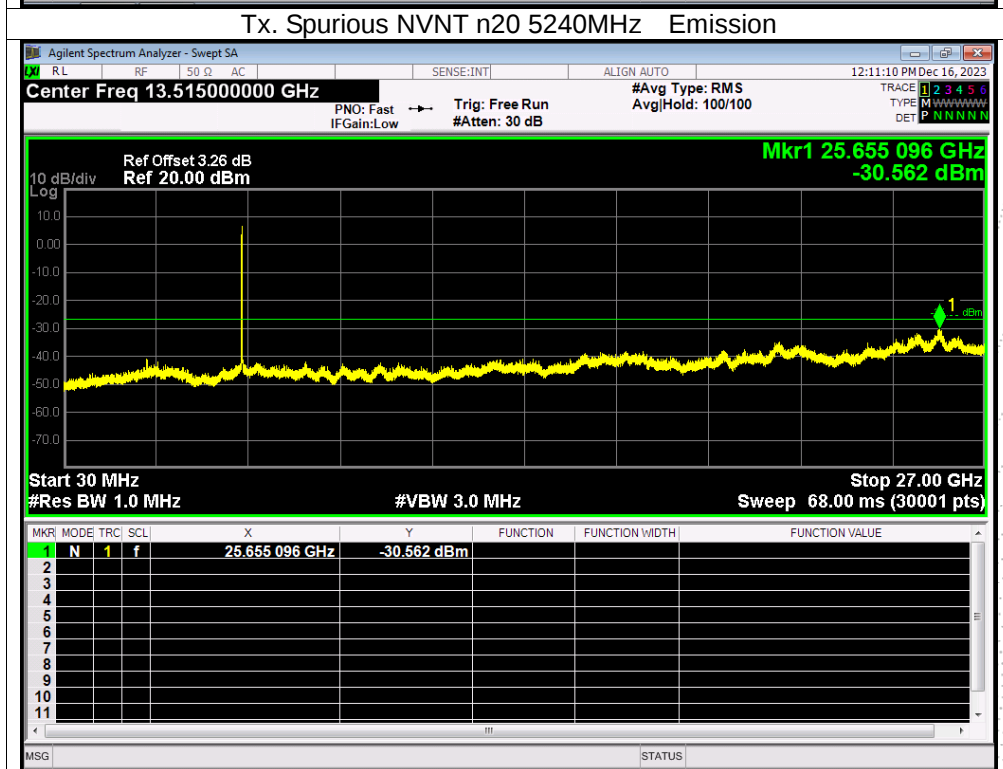
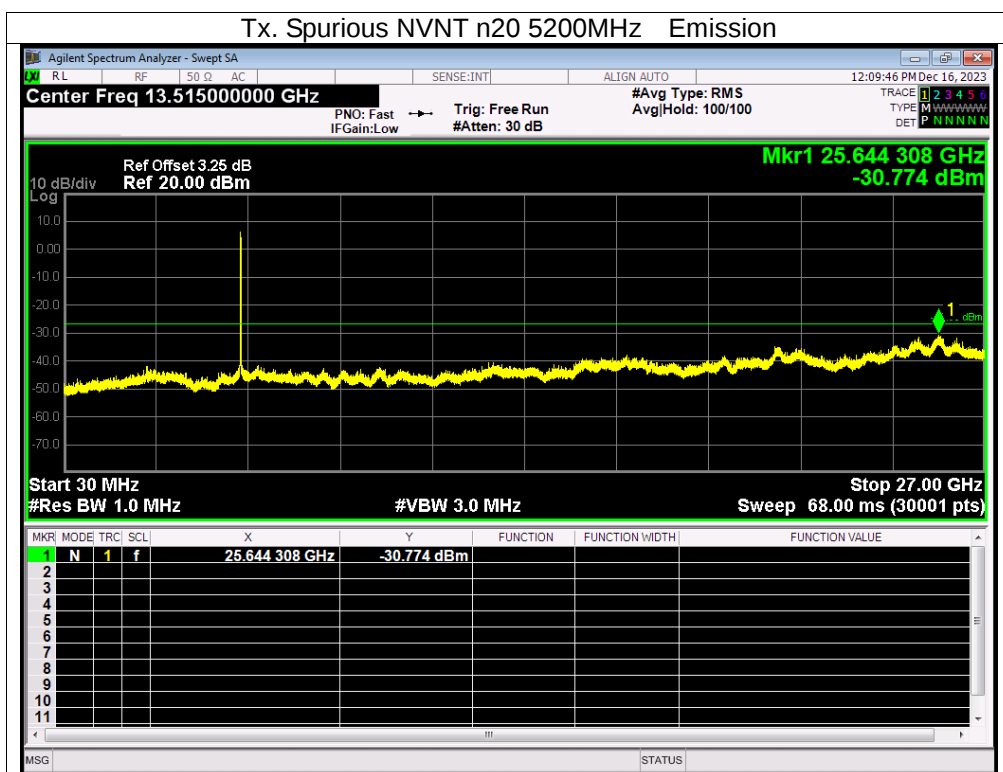


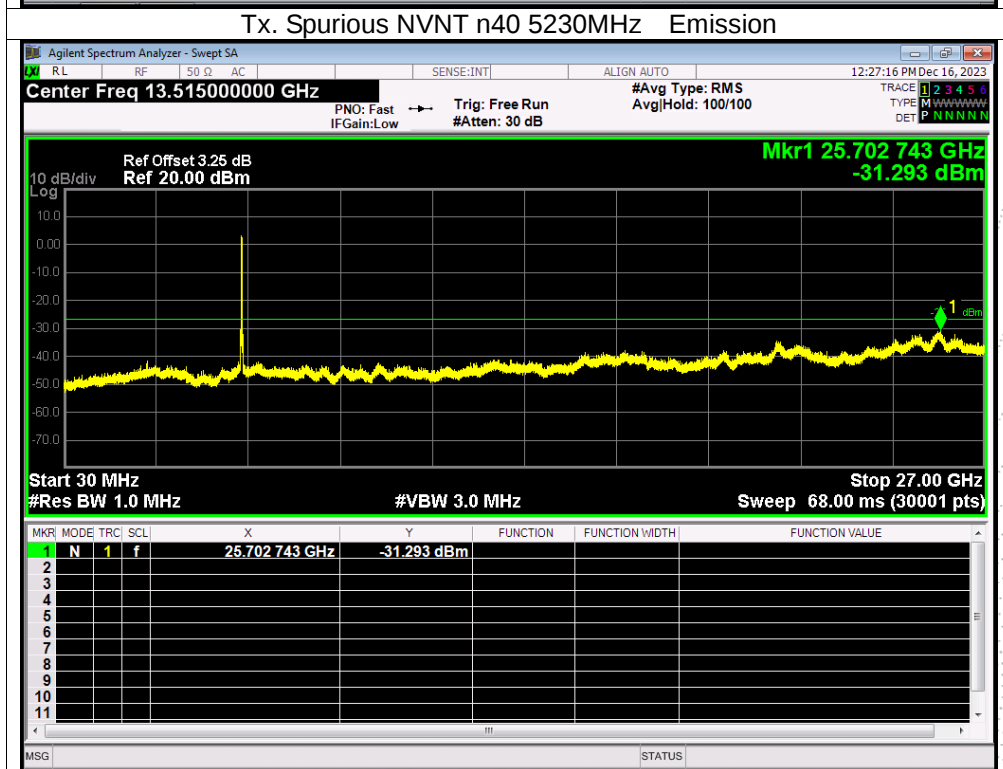
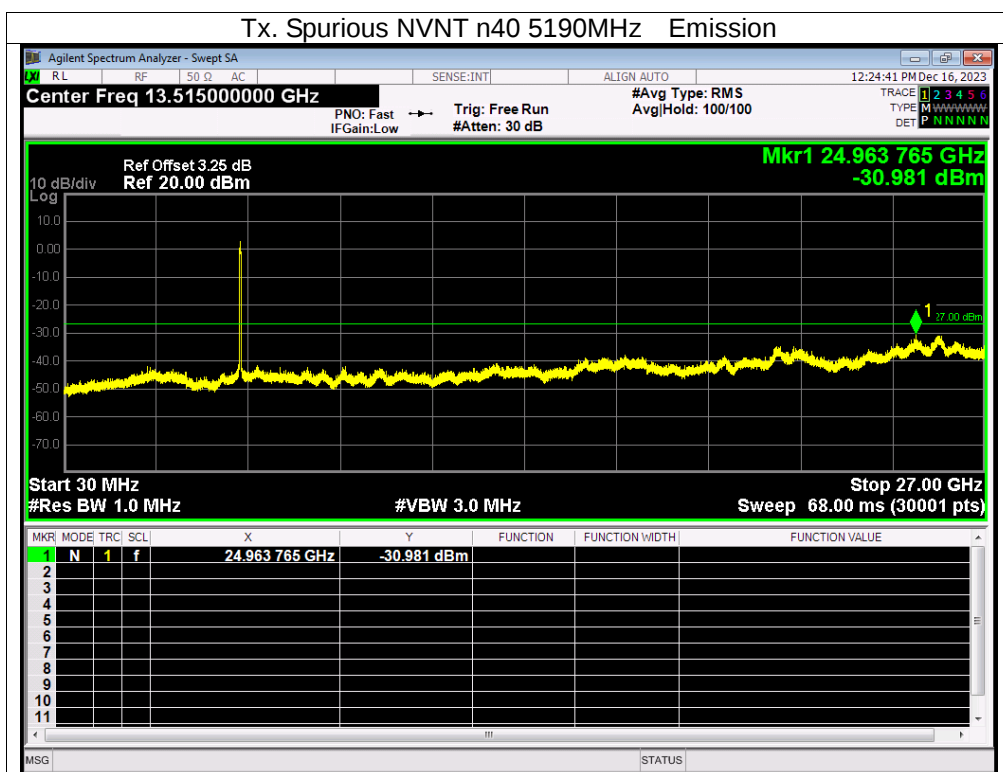
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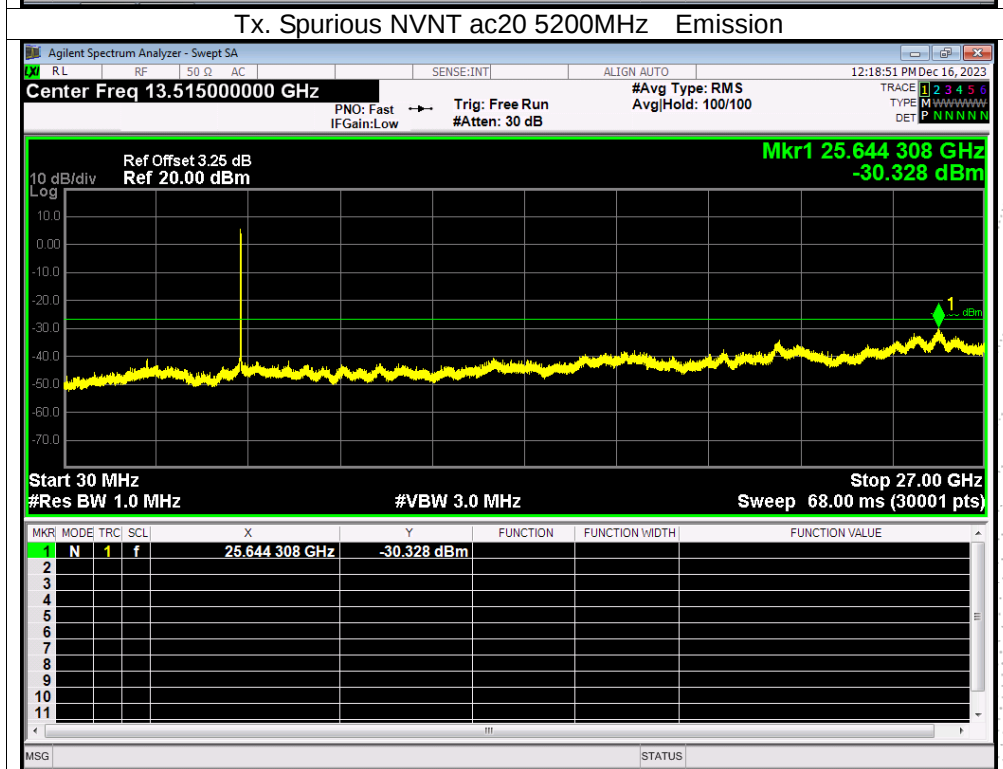
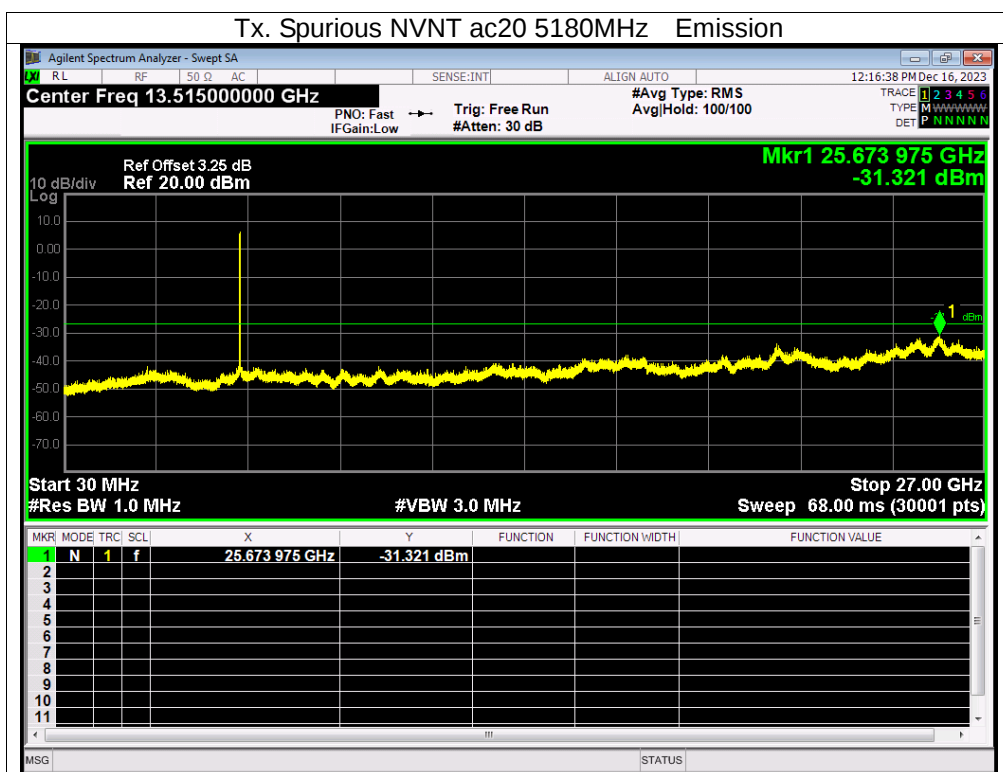


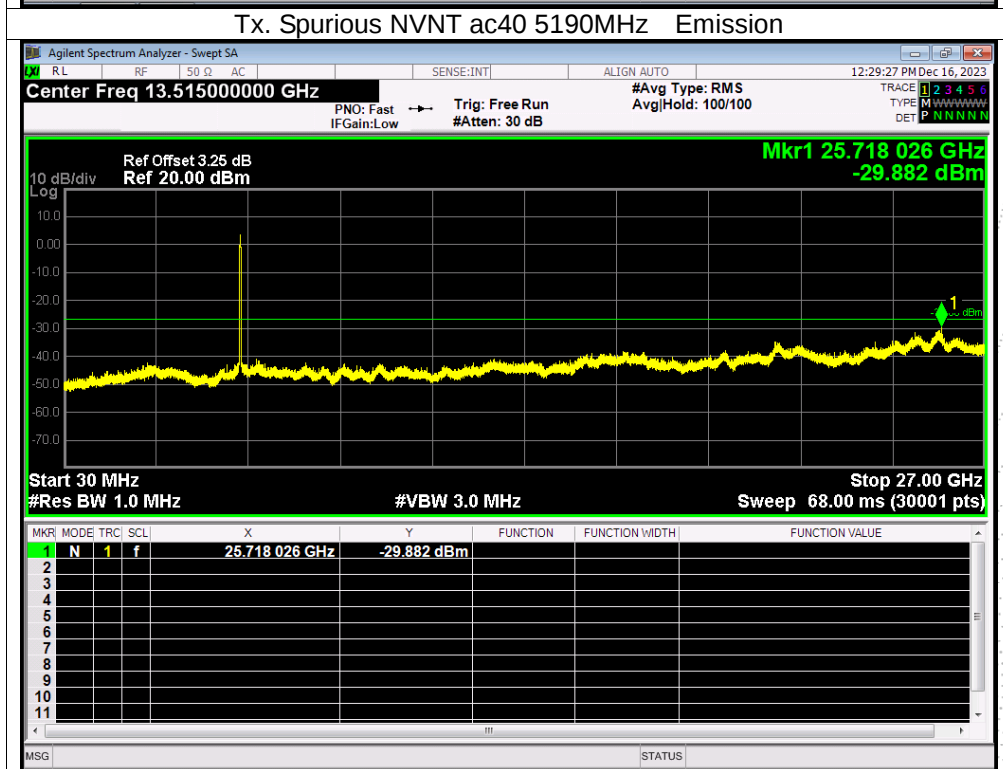
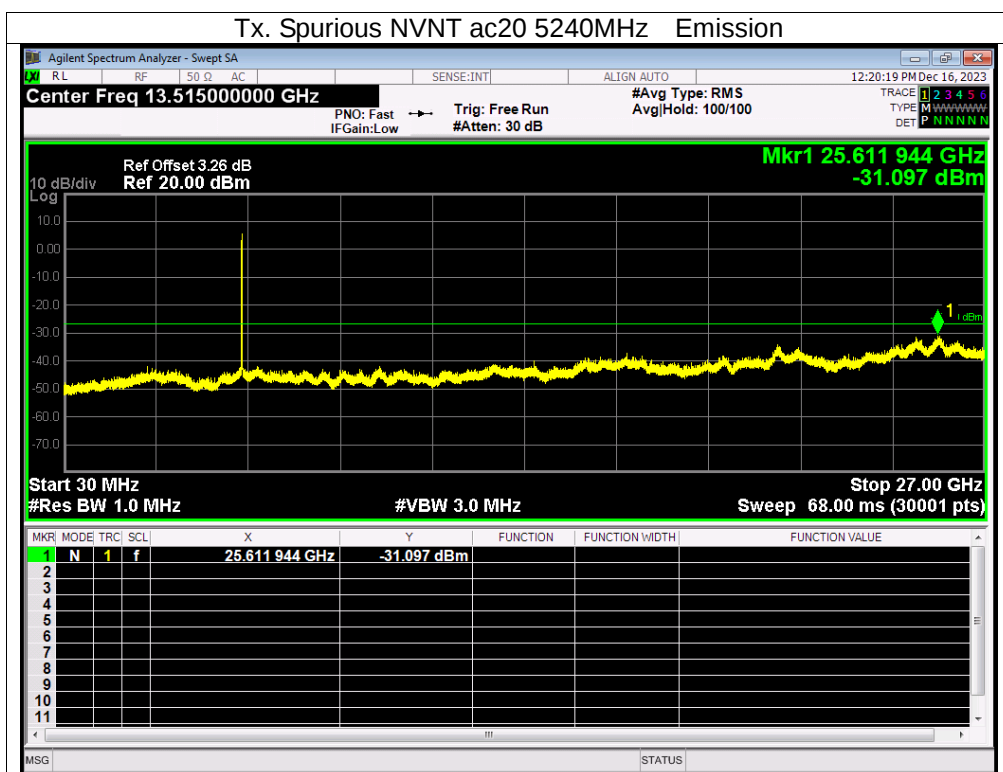
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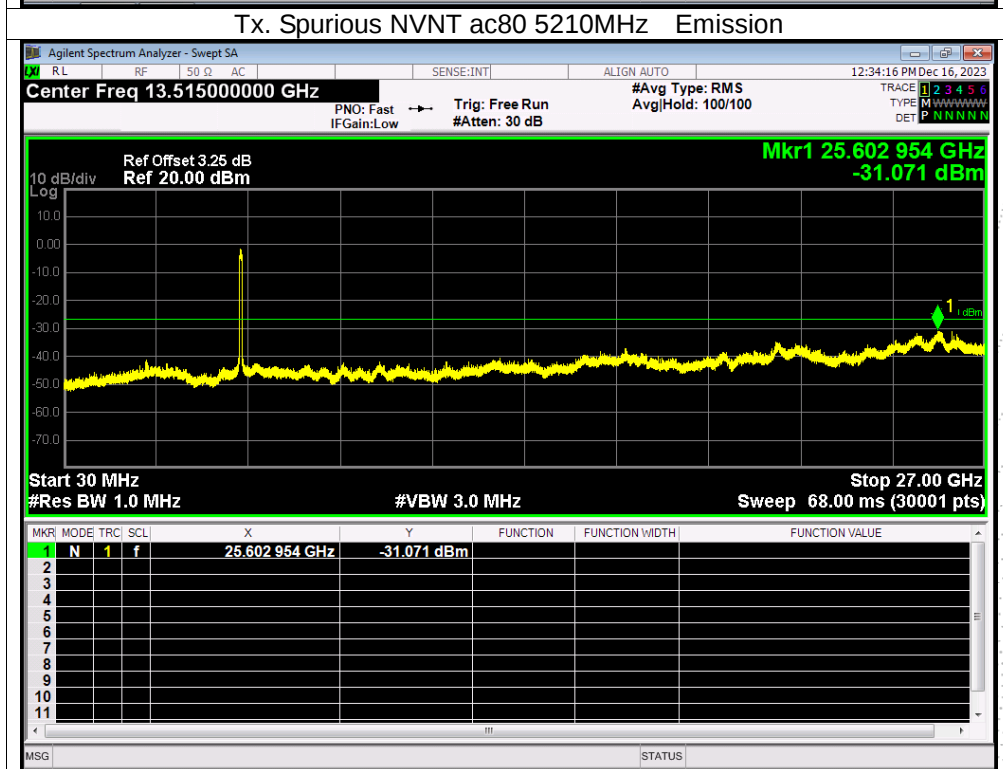
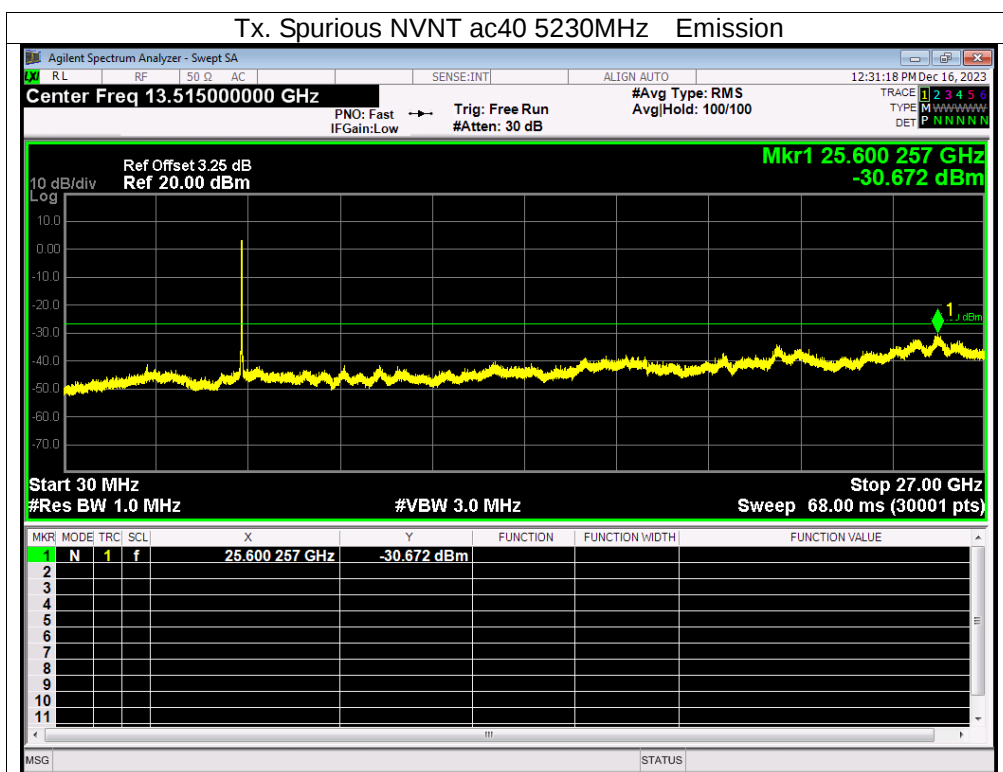




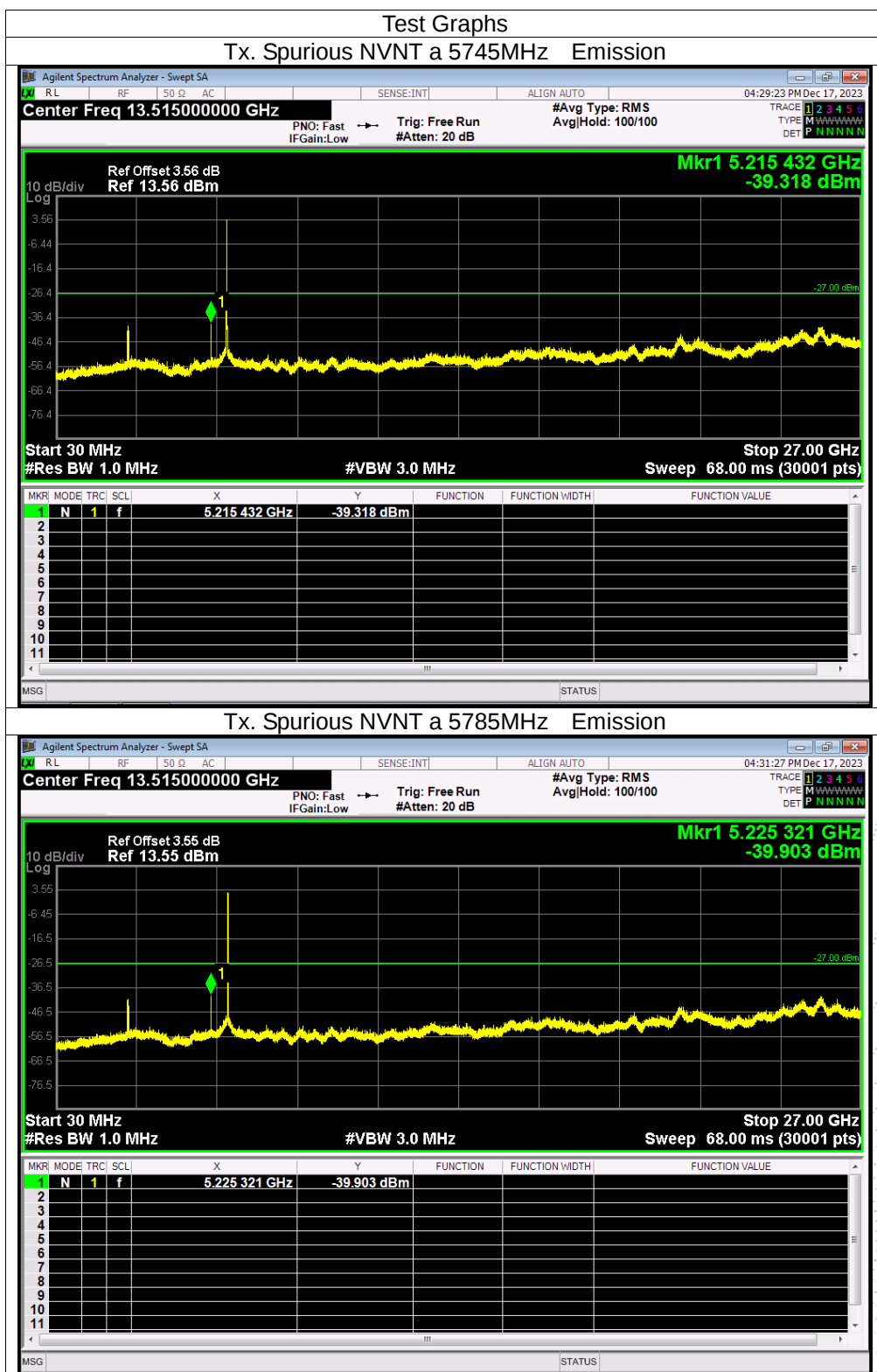


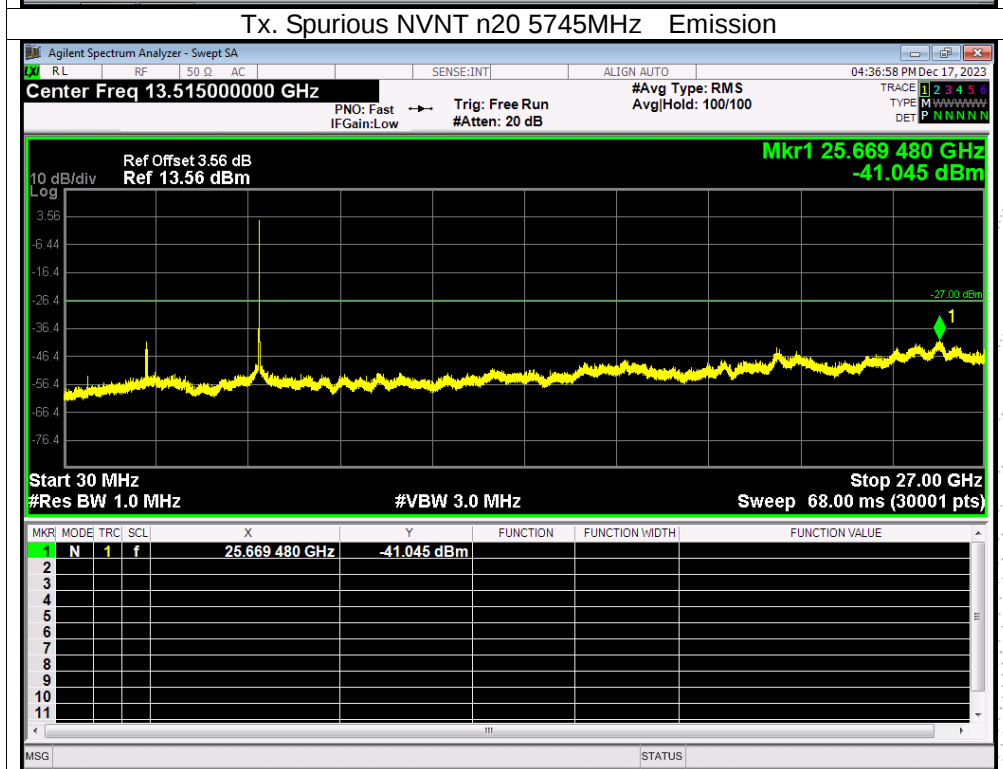
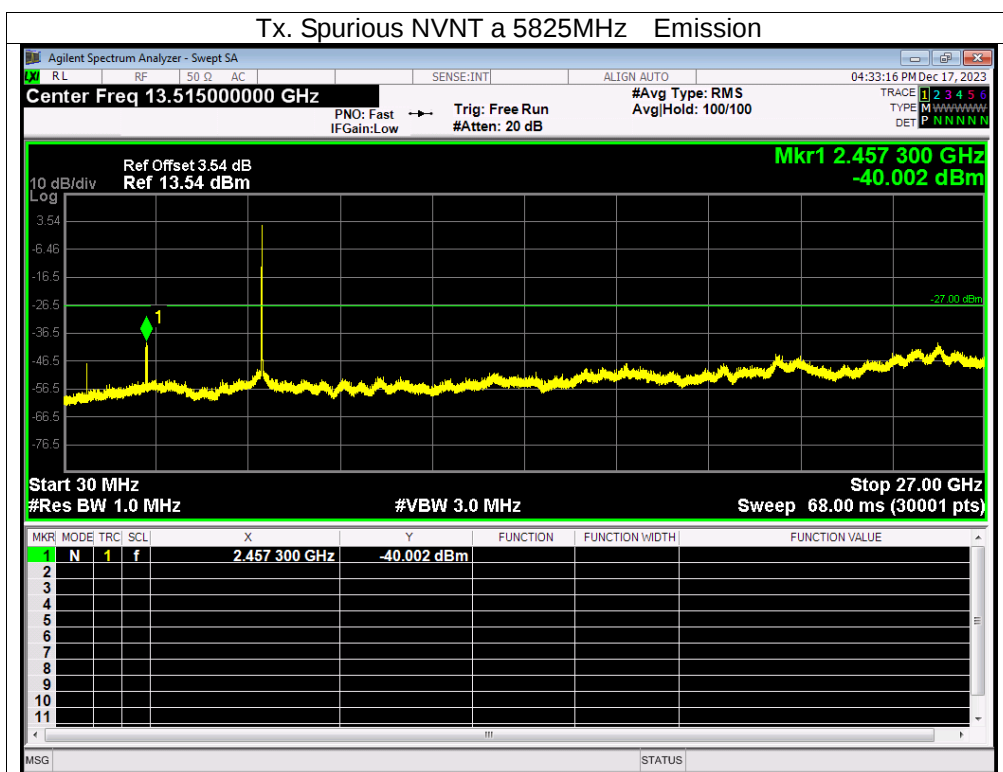


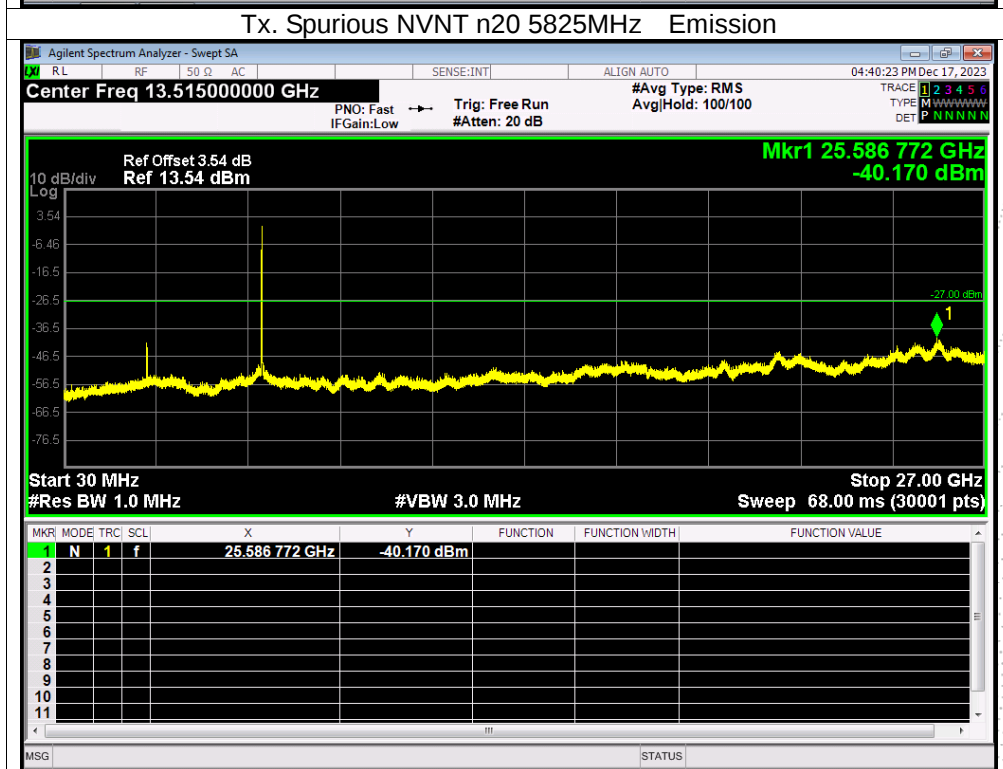
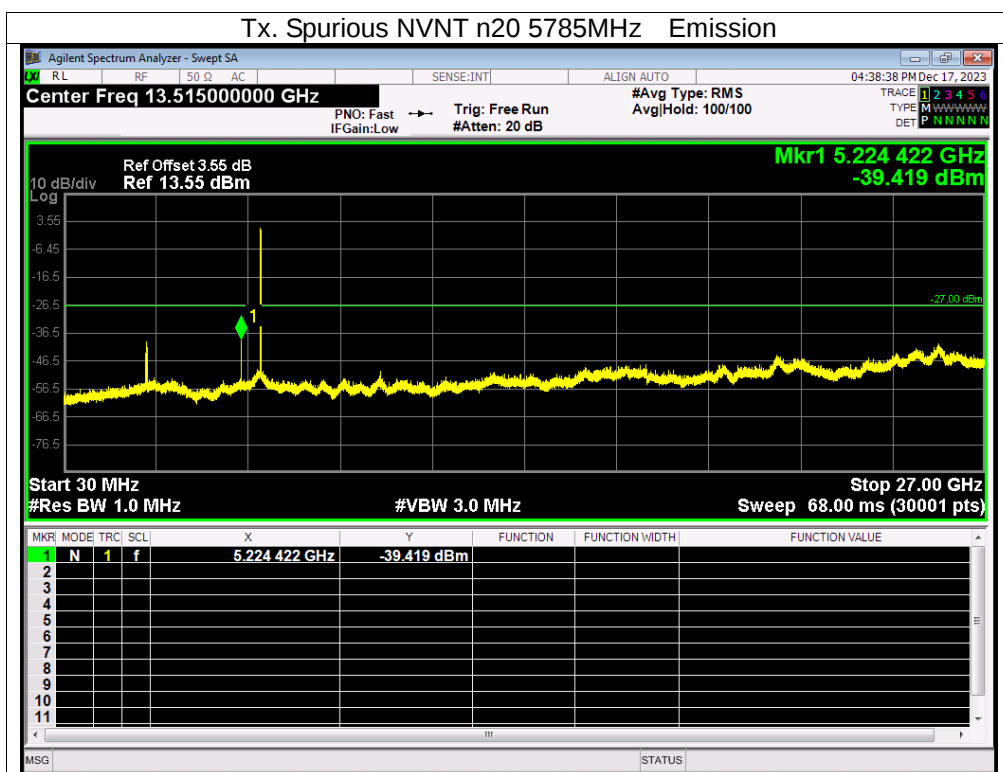
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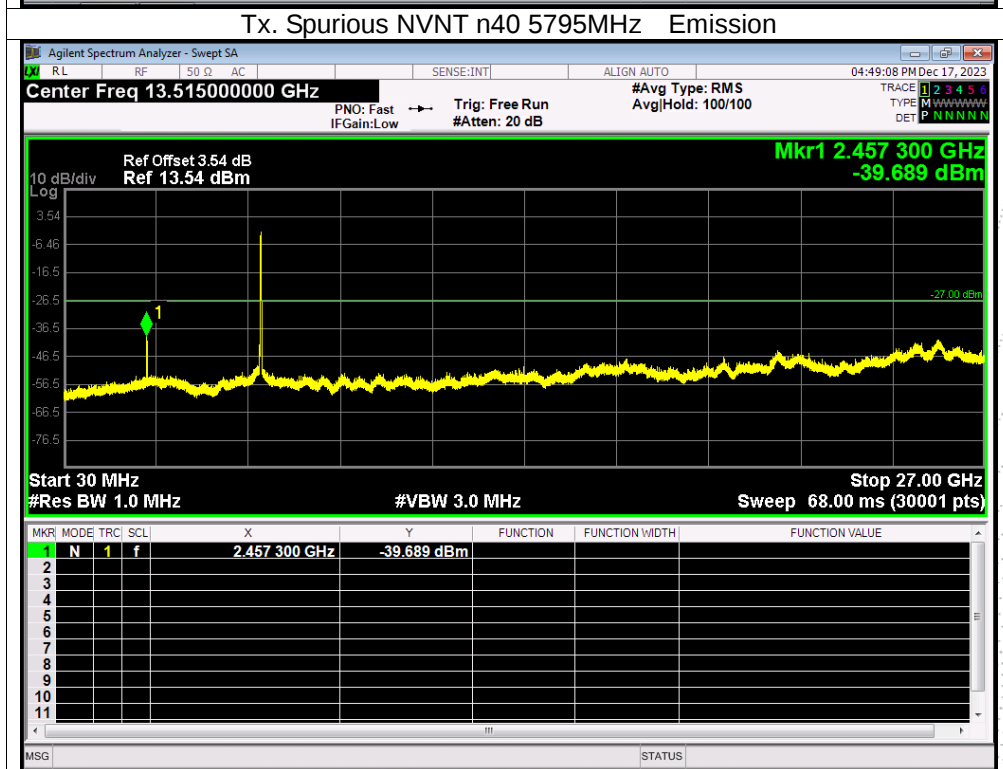
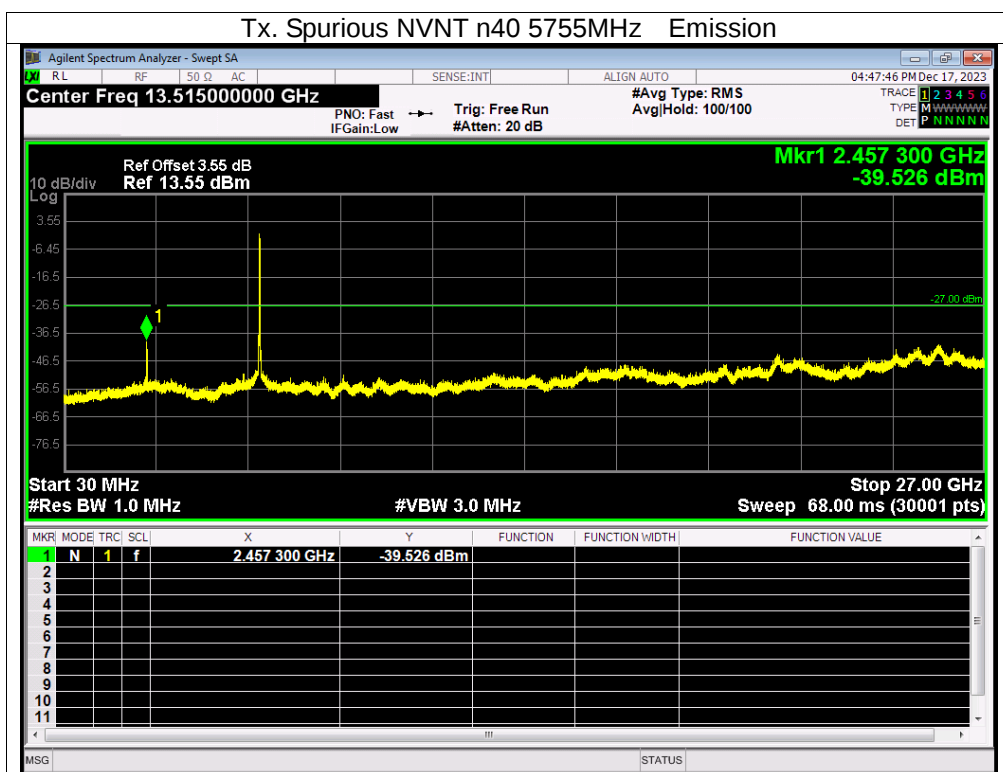


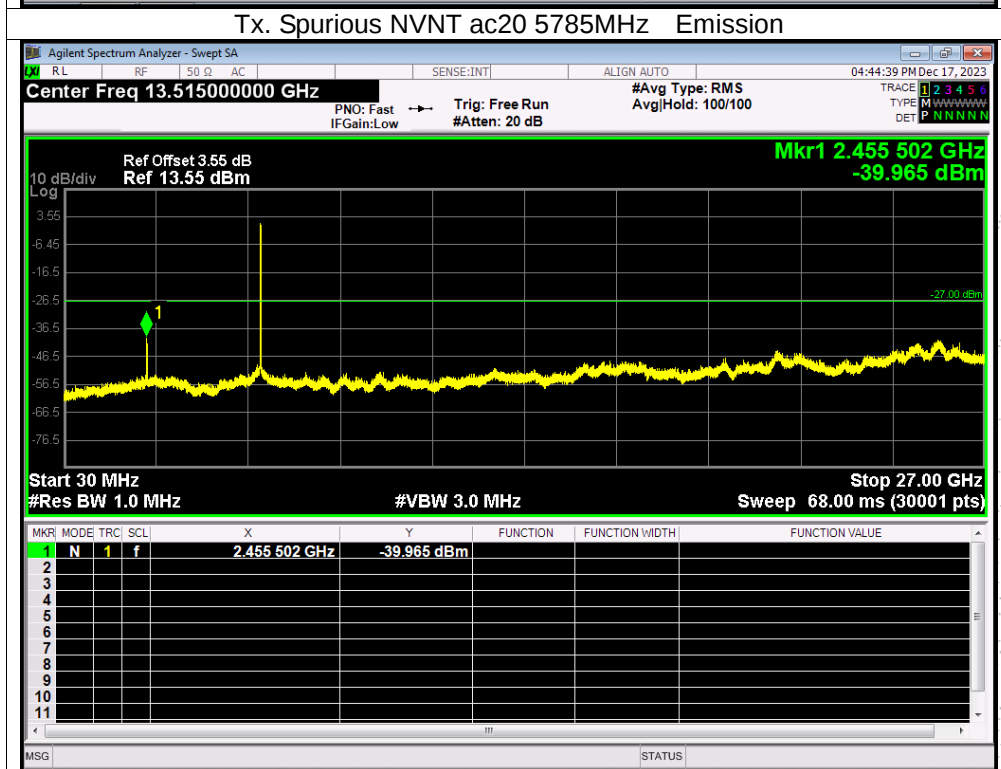
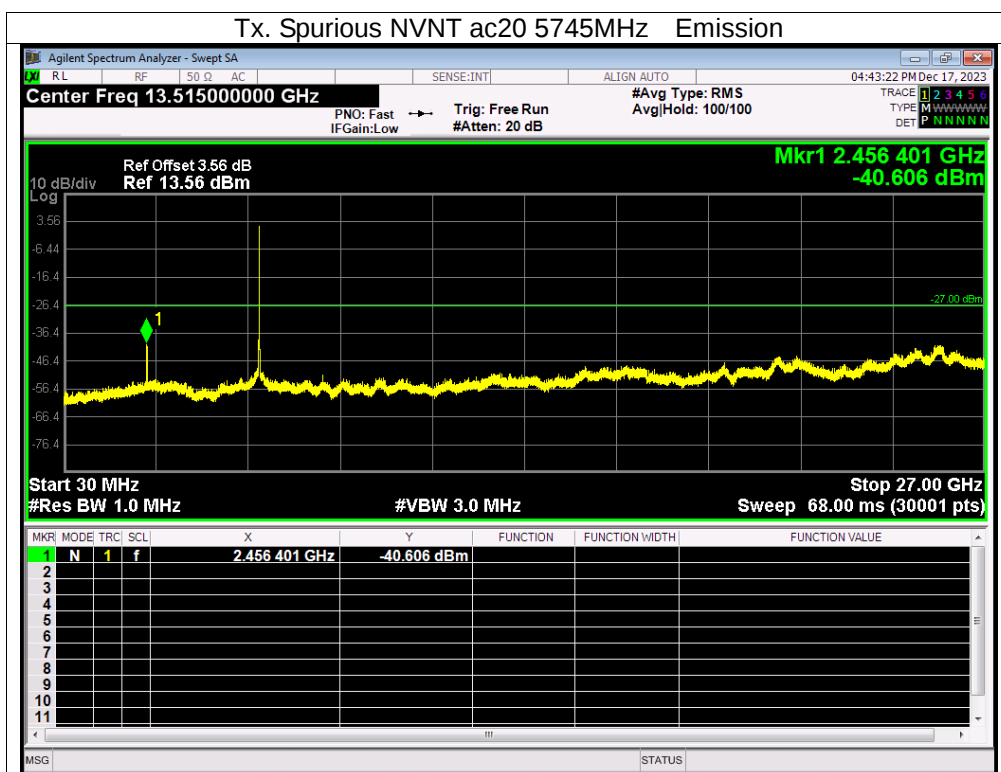
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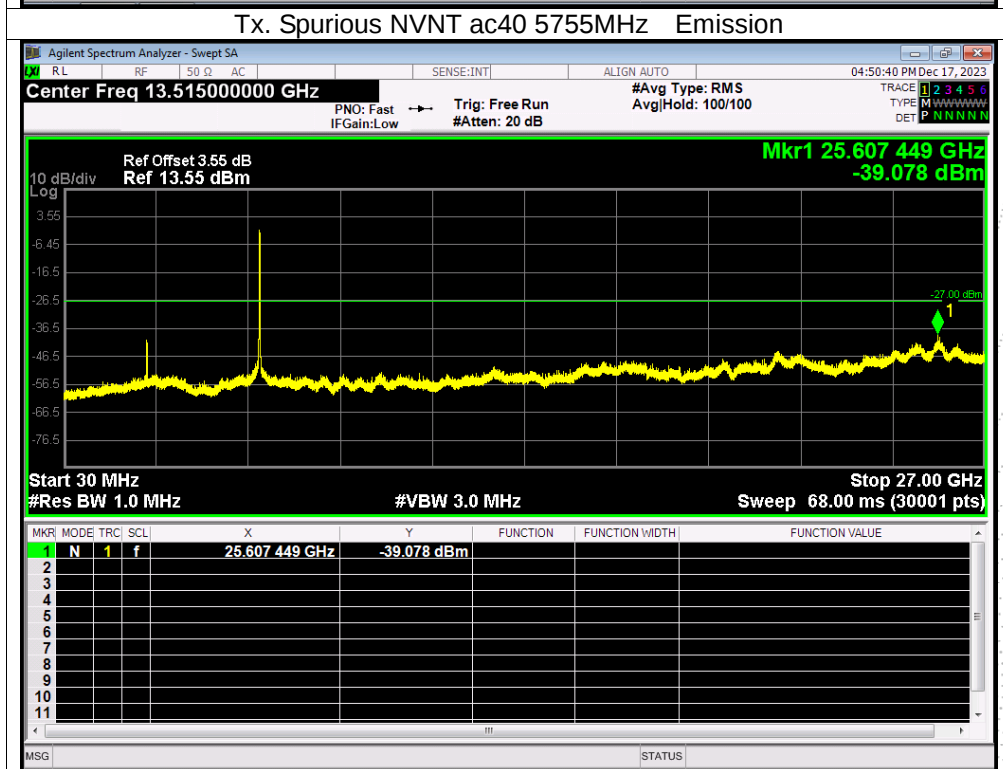
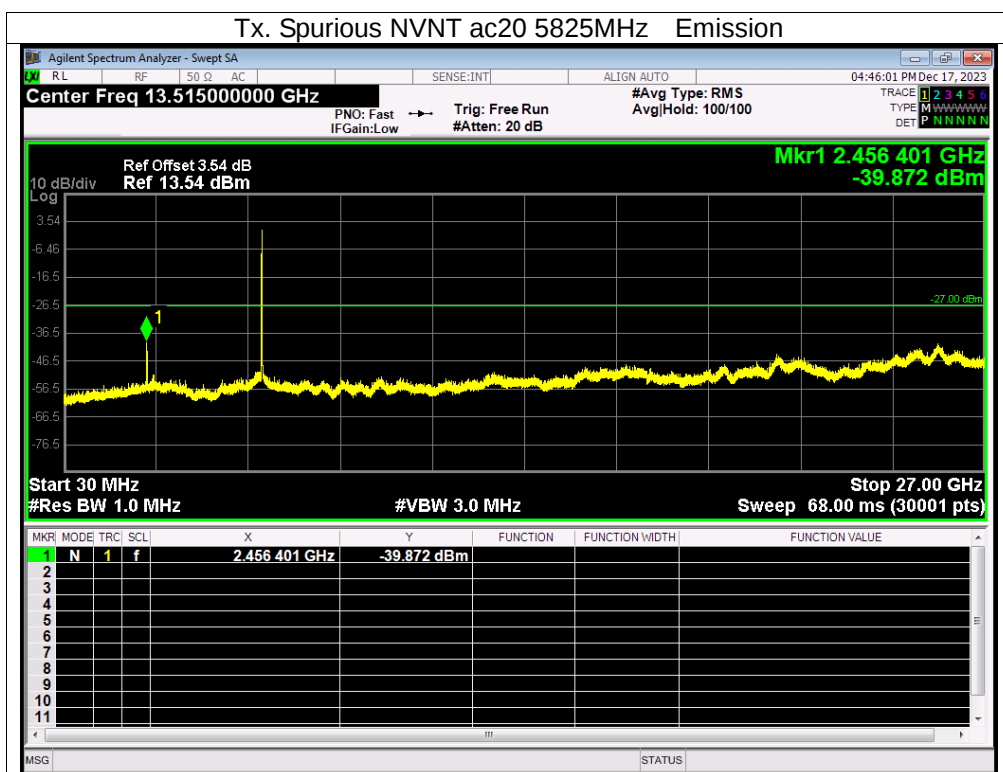




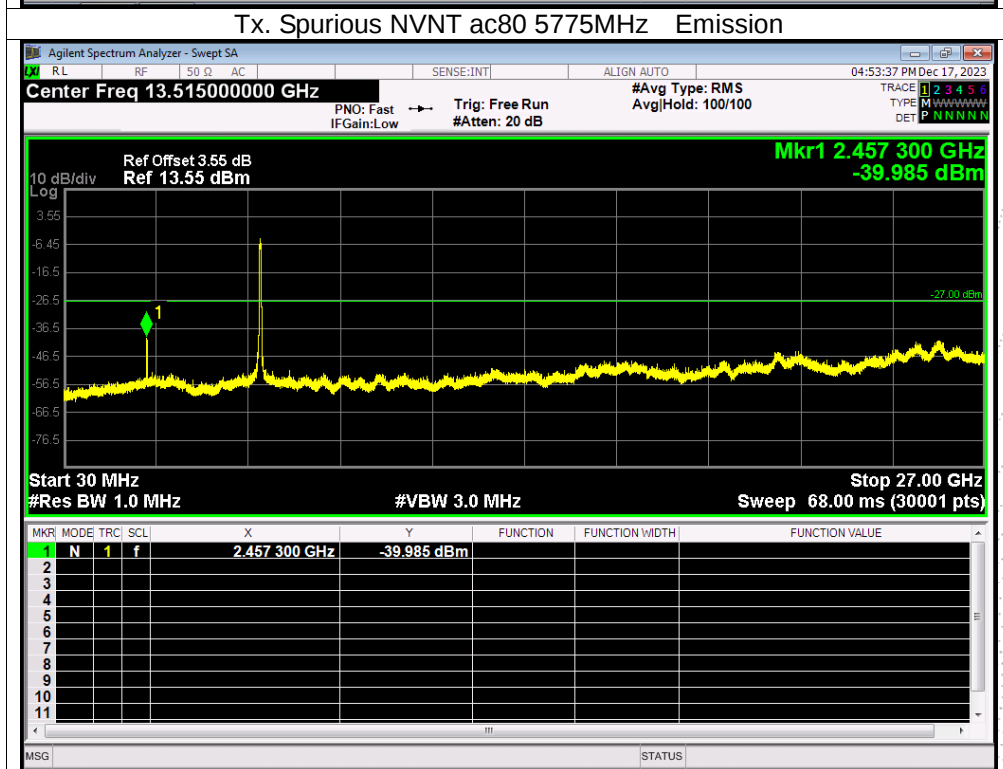
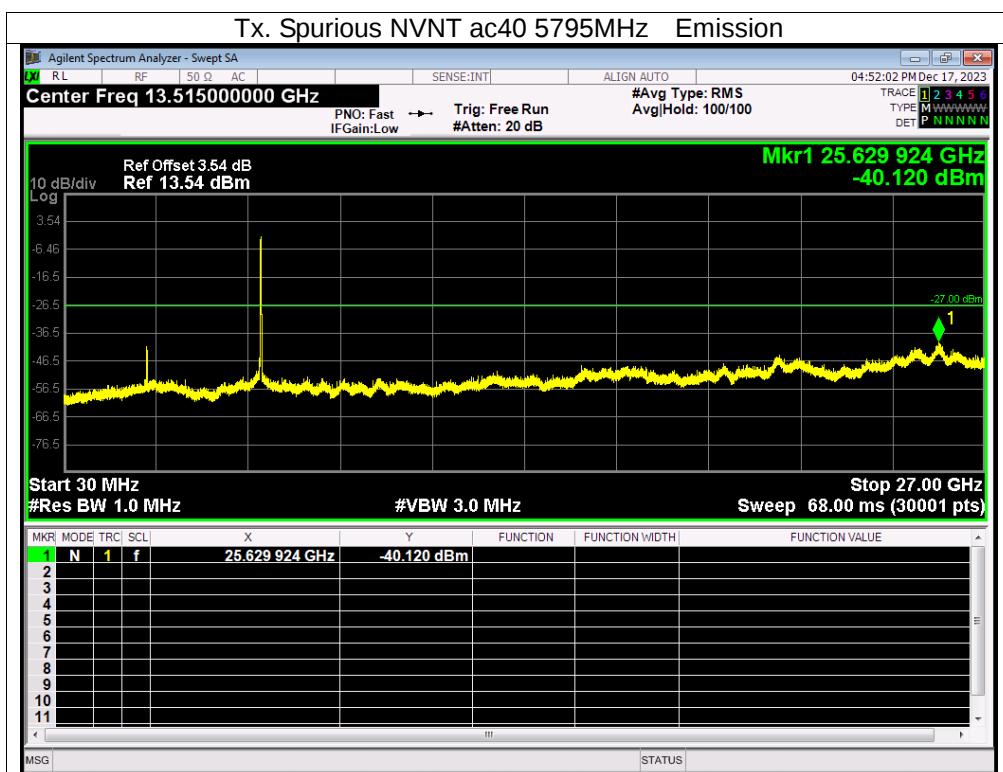






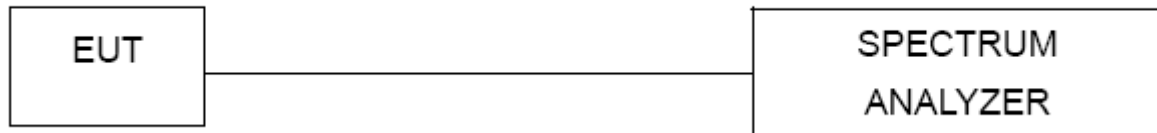


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13. Frequency Stability Measurement

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. f_c is declaring of channel frequency. Then the frequency error formula is $(f_c - f)/f_c \times 10^6$ ppm and he limit is less than ± 20 ppm (IEEE 802.11n specification).
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 °C	Relative Humidity:	54%
Pressure:	101KPa	Test Voltage:	DC 3.8V
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	5180.0124	5180	0.0124	2.3938
		V max (V)	138.00	5180.0181	5180	0.0181	3.4942
		V min (V)	102.00	5180.0192	5180	0.0192	3.7065
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	5180.0134	5180	0.0134	2.5869
		T (°C)	-10	5180.0008	5180	0.0008	0.1544
		T (°C)	0	5180.0119	5180	0.0119	2.2973
		T (°C)	10	5180.0038	5180	0.0038	0.7336
		T (°C)	20	5180.0019	5180	0.0019	0.3668
		T (°C)	30	5180.0076	5180	0.0076	1.4672
		T (°C)	40	5180.0061	5180	0.0061	1.1776
		T (°C)	50	5180.0030	5180	0.0030	0.5792
		T (°C)	60	5180.0065	5180	0.0065	1.2548
		T (°C)	70	5180.0122	5180	0.0122	2.3552
Limits				5150-5250 MHz			
Result				Complies			

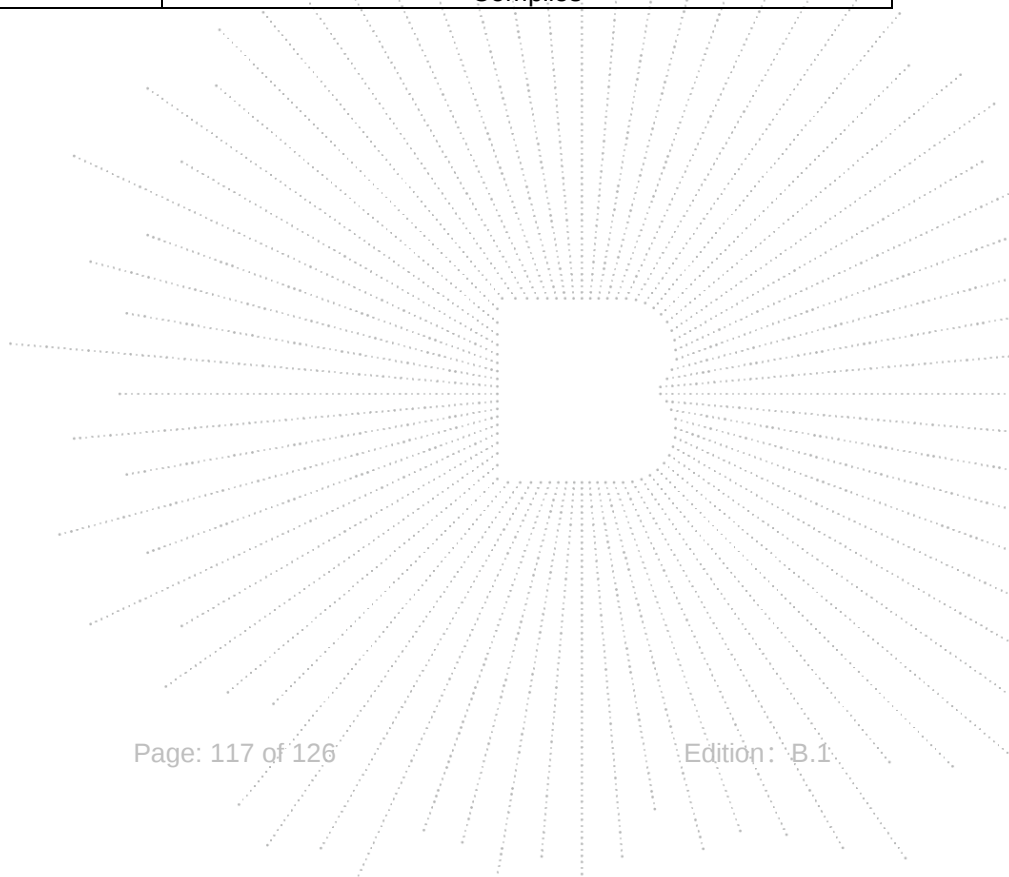
Voltage vs. Frequency Stability

TEST CONDITIONS				Reference Frequency: 5200MHz			
				f	fc	Max. Deviation (MHz)	Max. Deviation (ppm)
T nom (°C)	20	V nom (V)	120.00	5200.0131	5200	0.0131	2.5192
		V max (V)	138.00	5200.0123	5200	0.0123	2.3654
		V min (V)	102.00	5200.0097	5200	0.0097	1.8654
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	5200.00065	5200	0.00065	0.1250
		T (°C)	-10	5200.00434	5200	0.00434	0.8346
		T (°C)	0	5200.00458	5200	0.00458	0.8808
		T (°C)	10	5200.00617	5200	0.00617	1.1865
		T (°C)	20	5200.01005	5200	0.01005	1.9327
		T (°C)	30	5200.00451	5200	0.00451	0.8673
		T (°C)	40	5200.00968	5200	0.00968	1.8615
		T (°C)	50	5200.01041	5200	0.01041	2.0019
		T (°C)	60	5200.01256	5200	0.01256	2.4154
		T (°C)	70	5200.00688	5200	0.00688	1.3231
Limits				5150-5250 MHz			
Result				Complies			

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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	5240.0045	5240	0.0045	0.8588
		V max (V)	138.00	5240.0060	5240	0.0060	1.1450
		V min (V)	102.00	5240.0093	5240	0.0093	1.7748
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	5240.0114	5240	0.0114	2.1756
		T (°C)	-10	5240.0102	5240	0.0102	1.9466
		T (°C)	0	5240.0013	5240	0.0013	0.2481
		T (°C)	10	5240.0042	5240	0.0042	0.8015
		T (°C)	20	5240.0004	5240	0.0004	0.0763
		T (°C)	30	5240.0031	5240	0.0031	0.5916
		T (°C)	40	5240.0097	5240	0.0097	1.8511
		T (°C)	50	5240.0105	5240	0.0105	2.0038
		T (°C)	60	5240.0109	5240	0.0109	2.0801
		T (°C)	70	5240.0058	5240	0.0058	1.1069
Limits				5150-5250 MHz			
Result				Complies			

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Temperature:	26 °C	Relative Humidity:	54%
Pressure:	101KPa	Test Voltage:	DC 3.8V
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	5745.00183	5745	0.00183	0.3185
		V max (V)	138.00	5745.00816	5745	0.00816	1.4204
		V min (V)	102.00	5745.00966	5745	0.00966	1.6815
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	5745.01279	5745	0.01279	2.2263
		T (°C)	-10	5745.00892	5745	0.00892	1.5527
		T (°C)	0	5745.00686	5745	0.00686	1.1941
		T (°C)	10	5745.01301	5745	0.01301	2.2646
		T (°C)	20	5745.01296	5745	0.01296	2.2559
		T (°C)	30	5745.00907	5745	0.00907	1.5788
		T (°C)	40	5745.00612	5745	0.00612	1.0653
		T (°C)	50	5745.00478	5745	0.00478	0.8320
		T (°C)	60	5745.00985	5745	0.00985	1.7145
		T (°C)	70	5745.00831	5745	0.00831	1.4465
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	5785.01218	5785	0.01218	2.1054
		V max (V)	138.00	5785.01107	5785	0.01107	1.9136
		V min (V)	102.00	5785.00683	5785	0.00683	1.1806
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	2.2576
		T (°C)	-10	5785.01018	5785	0.01018	1.7597
		T (°C)	0	5785.00322	5785	0.00322	0.5566
		T (°C)	10	5785.00792	5785	0.00792	1.3691
		T (°C)	20	5785.00455	5785	0.00455	0.7865
		T (°C)	30	5785.01298	5785	0.01298	2.2437
		T (°C)	40	5785.00604	5785	0.00604	1.0441
		T (°C)	50	5785.00594	5785	0.00594	1.0268
		T (°C)	60	5785.01342	5785	0.01342	2.3198
		T (°C)	70	5785.00438	5785	0.00438	0.7571
Limits				5725-5850 MHz			
Result				Complies			

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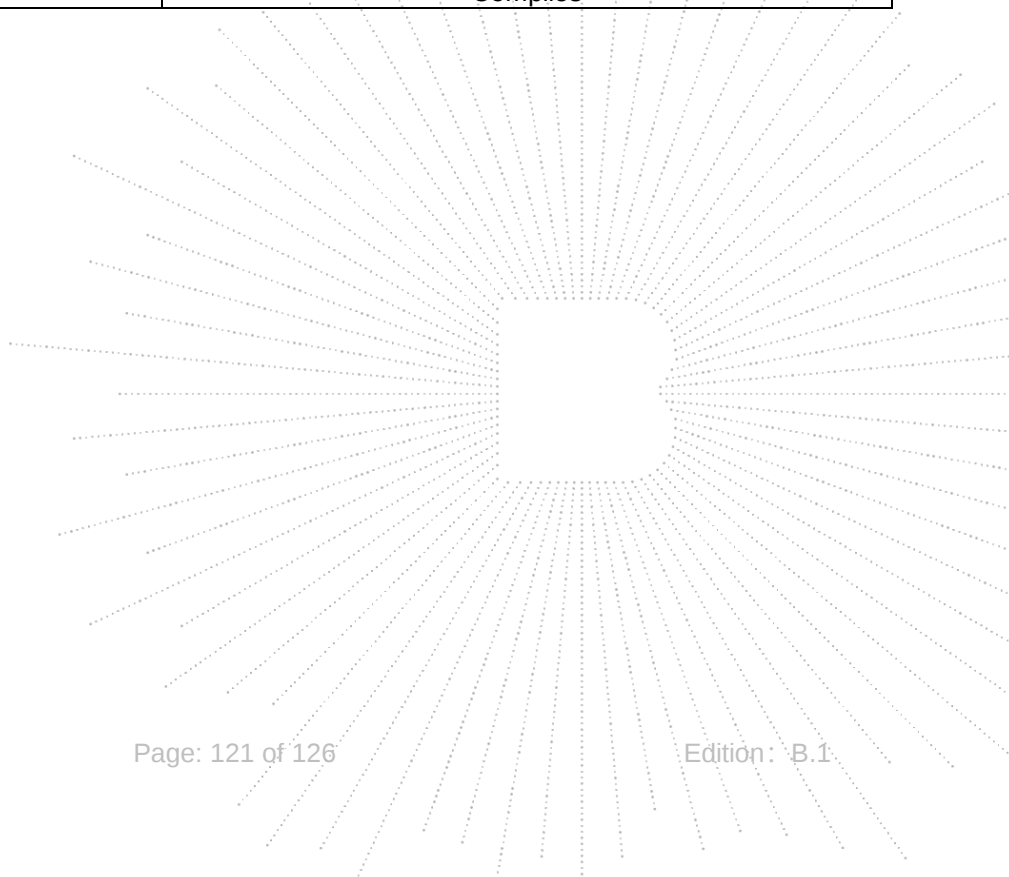
Voltage vs. Frequency Stability

TEST CONDITIONS				Reference Frequency: 5825MHz			
				f	fc	Max. Deviation (MHz)	Max. Deviation (ppm)
T nom (°C)	20	V nom (V)	120.00	5825.01007	5825	0.01007	1.7288
		V max (V)	138.00	5825.00905	5825	0.00905	1.5536
		V min (V)	102.00	5825.00764	5825	0.00764	1.3116
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	5825.00708	5825	0.00708	1.2154
		T (°C)	-10	5825.00021	5825	0.00021	0.0361
		T (°C)	0	5825.00212	5825	0.00212	0.3639
		T (°C)	10	5825.00068	5825	0.00068	0.1167
		T (°C)	20	5825.00870	5825	0.00870	1.4936
		T (°C)	30	5825.00919	5825	0.00919	1.5777
		T (°C)	40	5825.00166	5825	0.00166	0.2850
		T (°C)	50	5825.00962	5825	0.00962	1.6515
		T (°C)	60	5825.00104	5825	0.00104	0.1785
		T (°C)	70	5825.01194	5825	0.01194	2.0498
Limits				5725-5850 MHz			
Result				Complies			

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14. Antenna Requirement

14.1 Limit

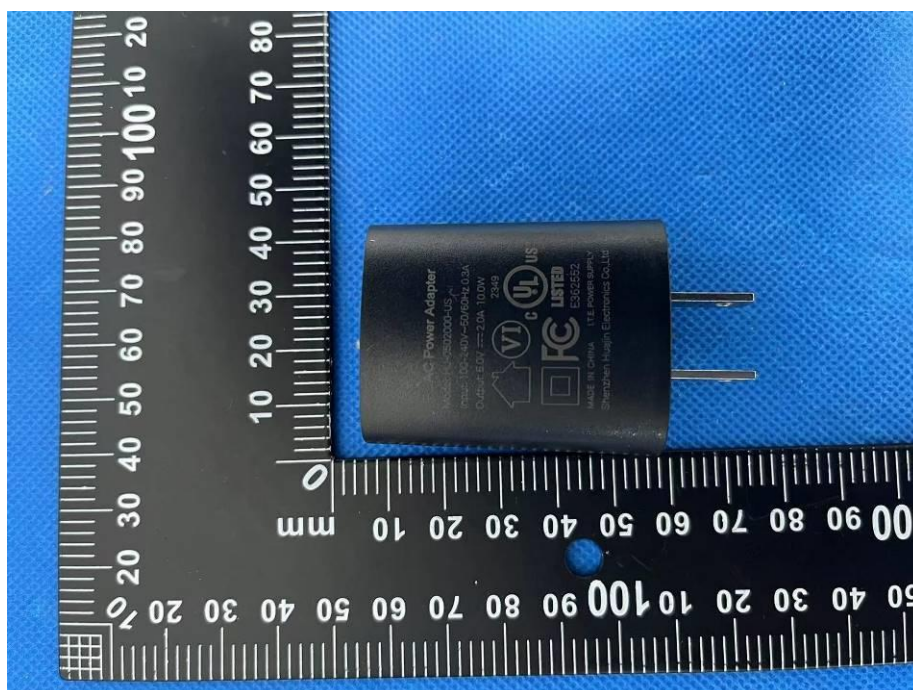
15.203 requirement: For intentional device, according to 15.203: an intentional radiator shall be designed to ensure that no antenna other than that furnished by the responsible party shall be used with the device.

14.2 Test Antenna

The EUT antenna is Internal antenna, It comply with the standard requirement.

15. EUT Photographs

EUT Photo



NOTE: Appendix-Photographs Of EUT Constructional Details

16. EUT Test Setup Photographs

Conducted emissions



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Radiated Measurement Photos



STATEMENT

1. The equipment lists are traceable to the national reference standards.
2. The test report can not be partially copied unless prior written approval is issued from our lab.
3. The test report is invalid without the "special seal for inspection and testing".
4. The test report is invalid without the signature of the approver.
5. The test process and test result is only related to the Unit Under Test.
6. Sample information is provided by the client and the laboratory is not responsible for its authenticity.
7. The quality system of our laboratory is in accordance with ISO/IEC17025.
8. If there is any objection to this test report, the client should inform issuing laboratory within 15 days from the date of receiving test report.

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***** END *****