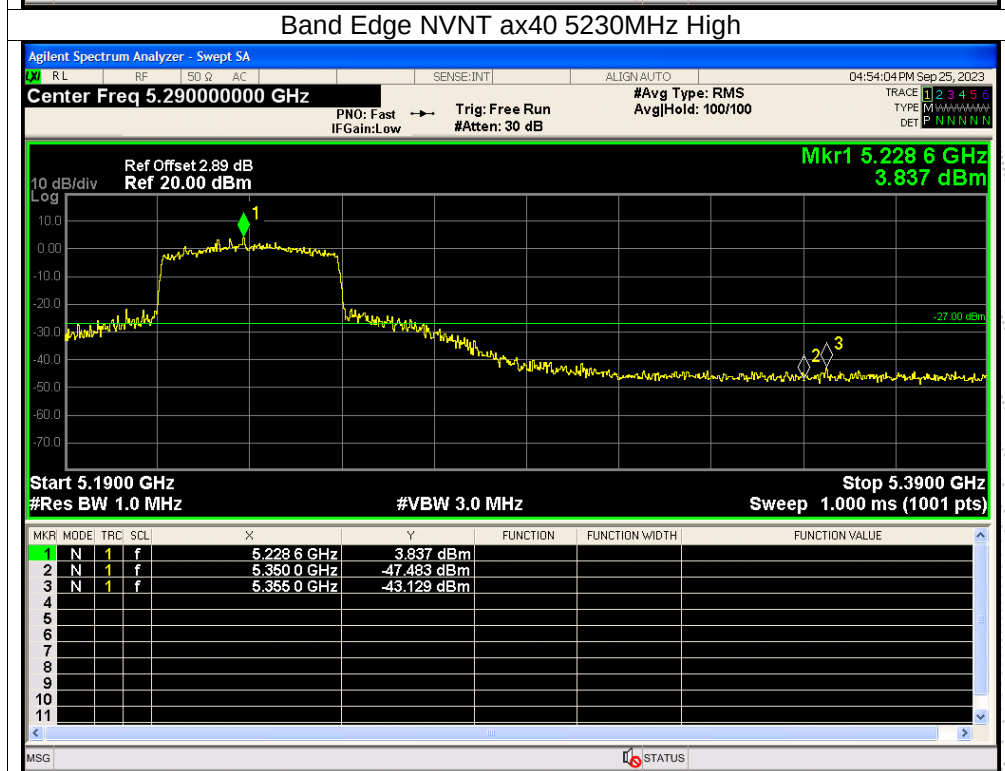
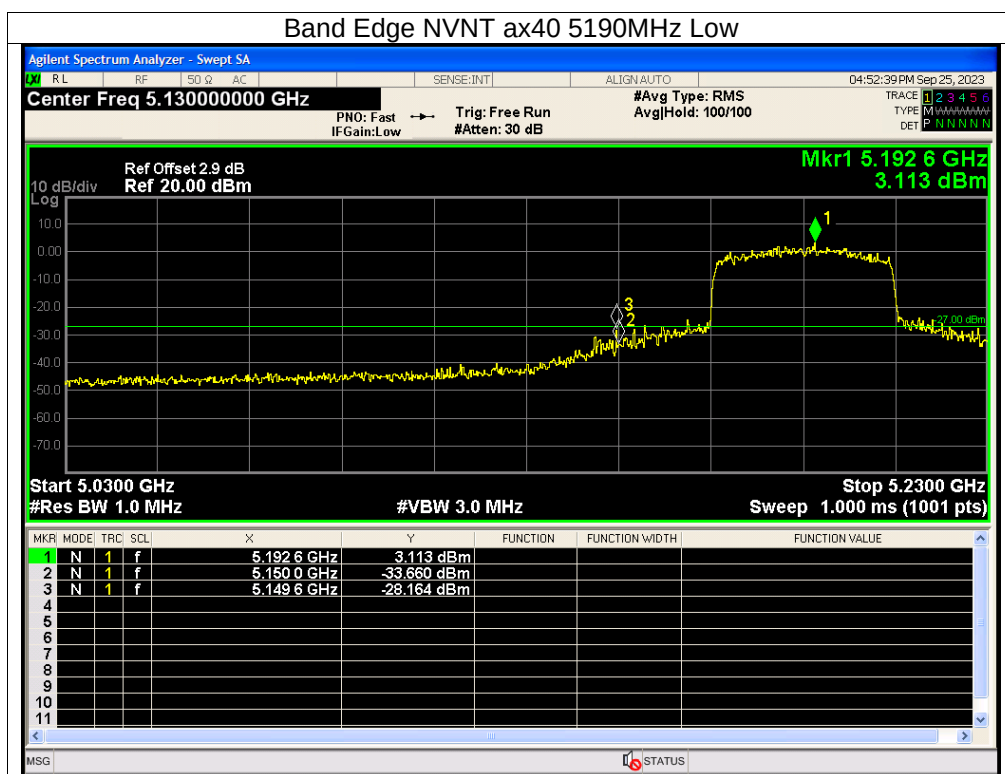
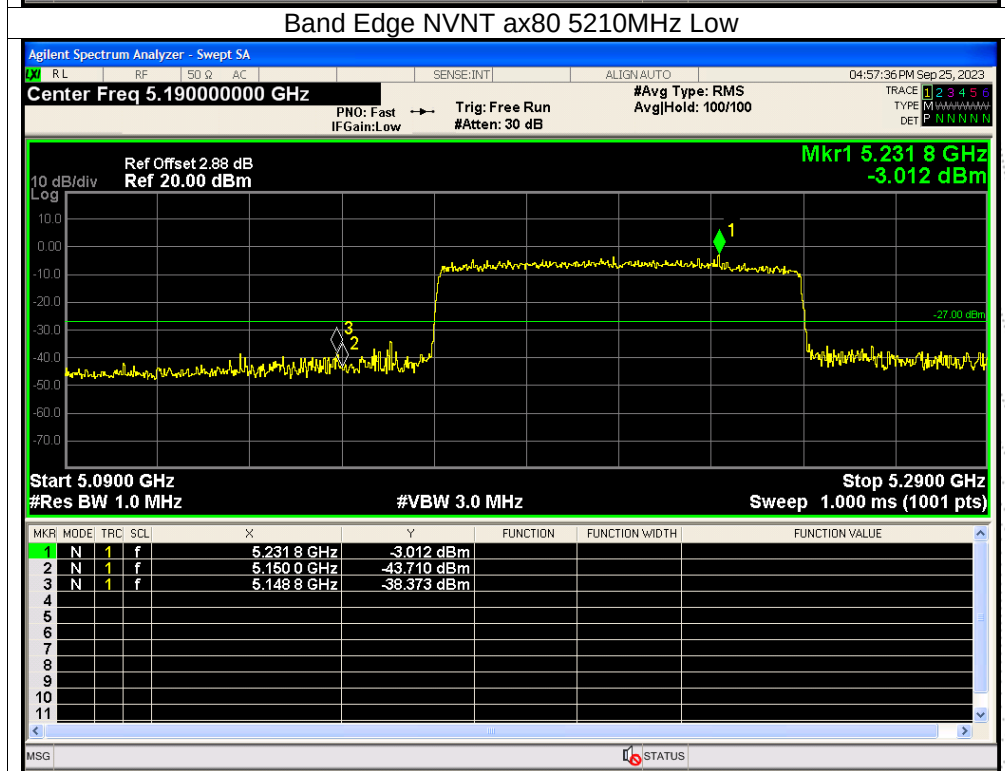
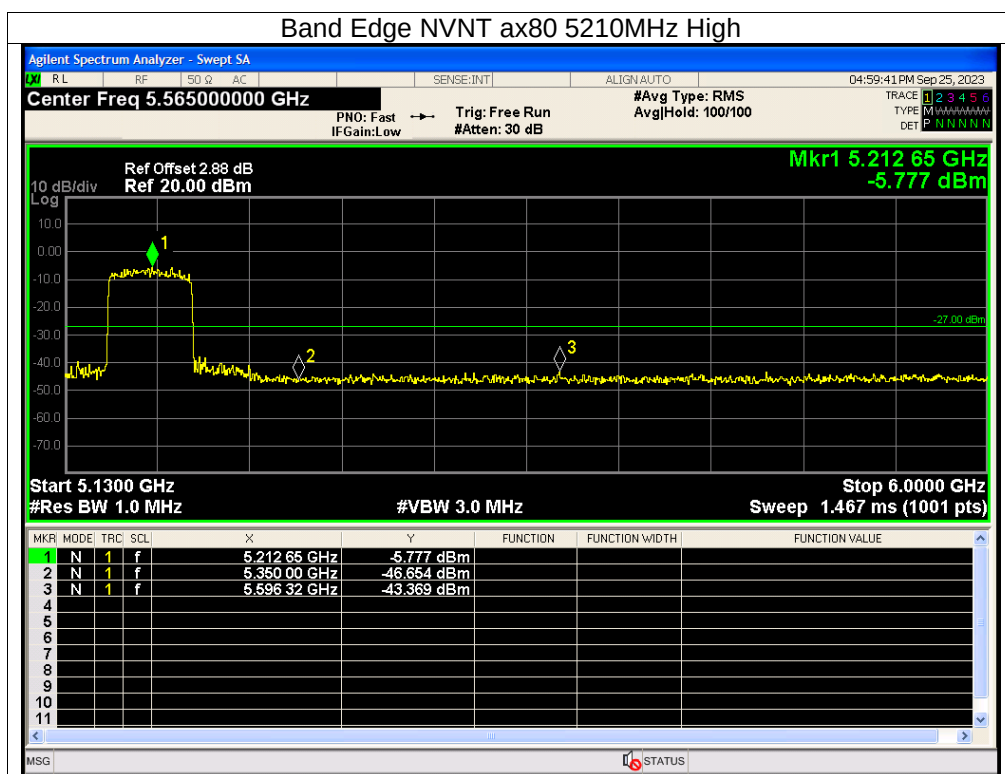
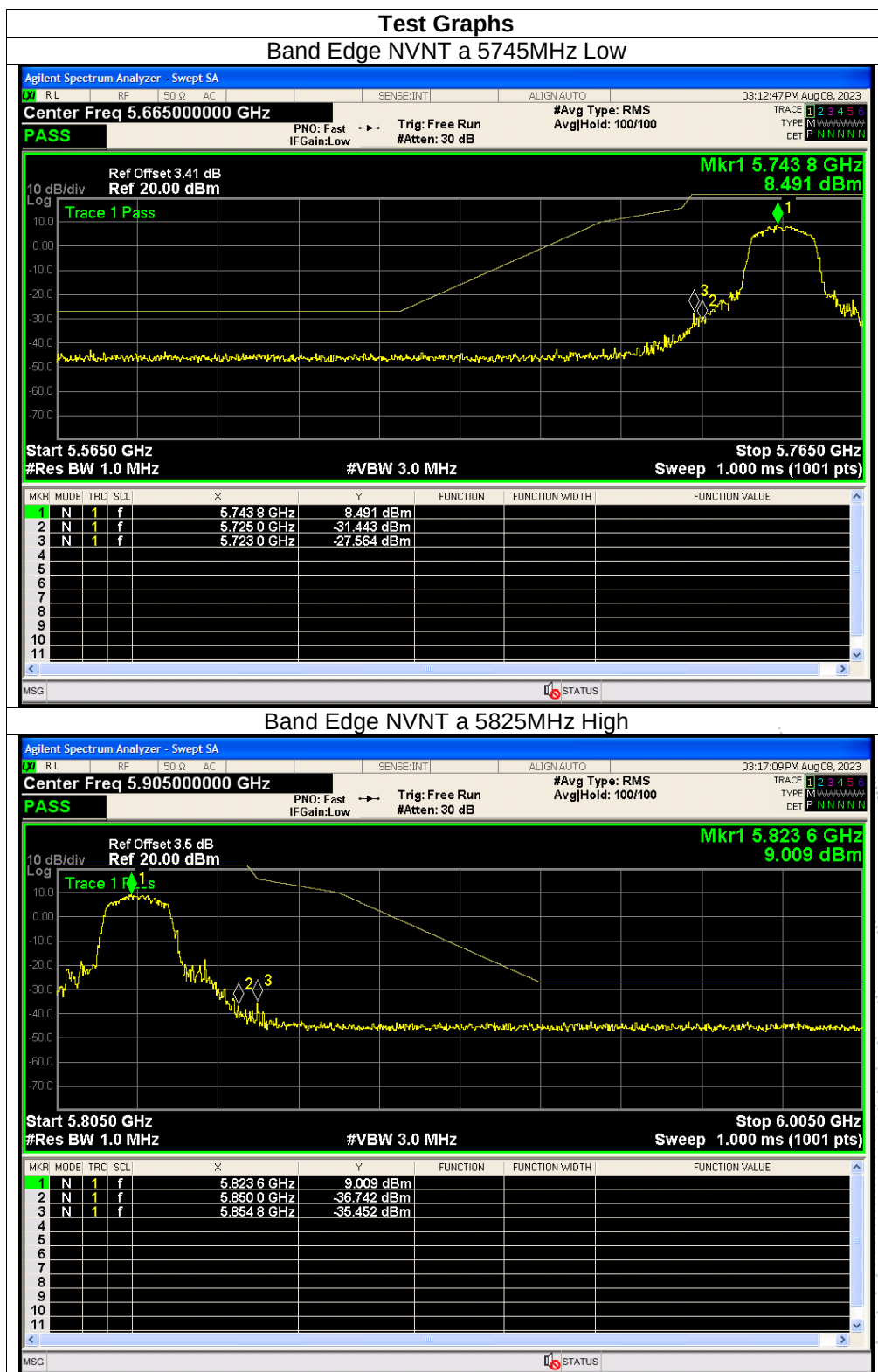
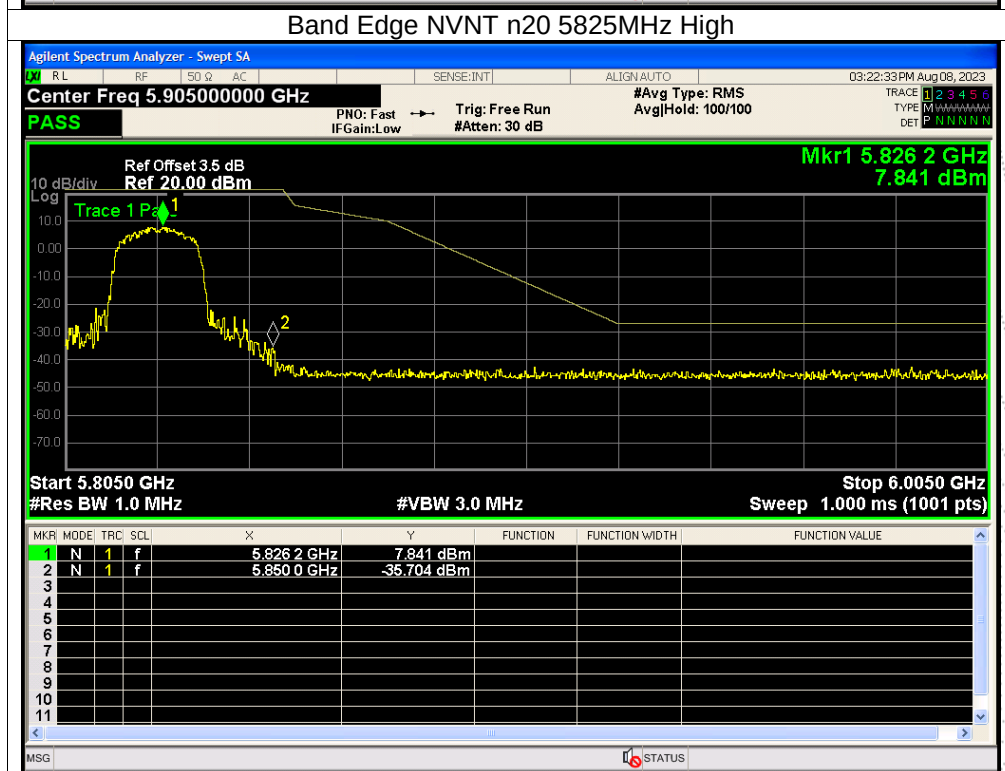
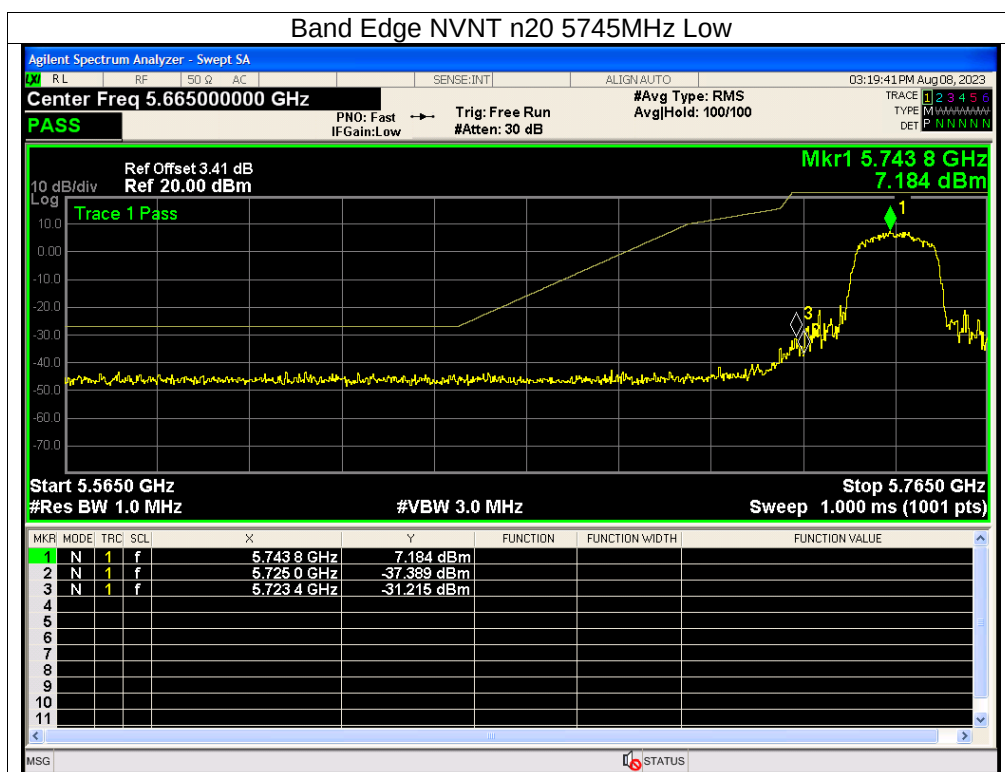
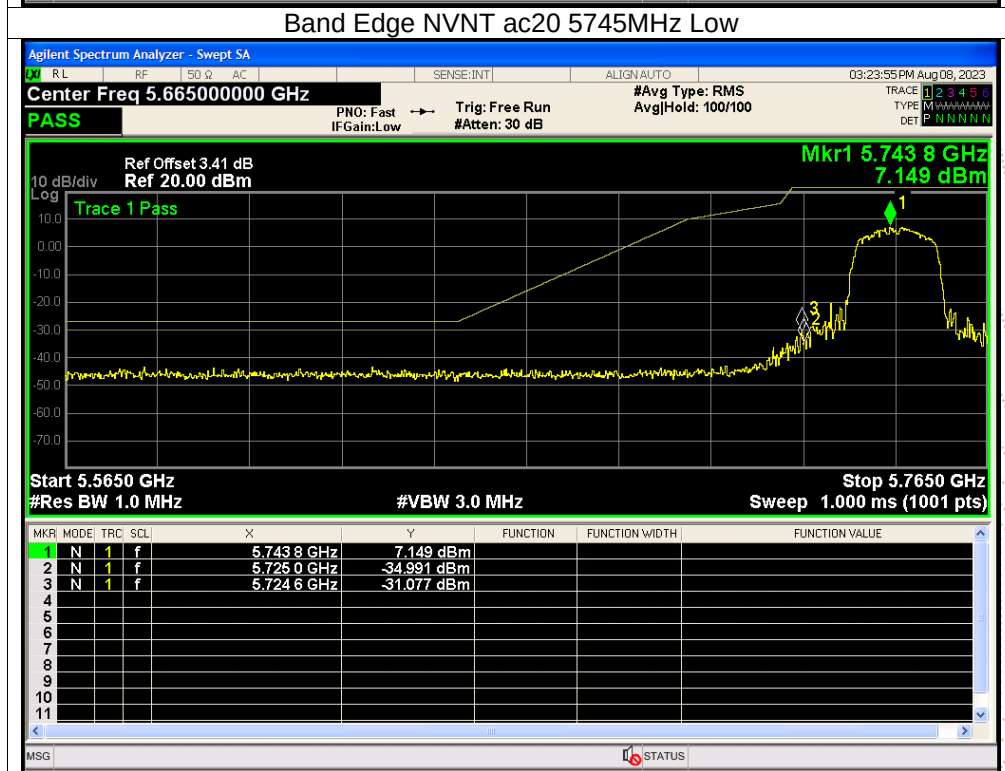
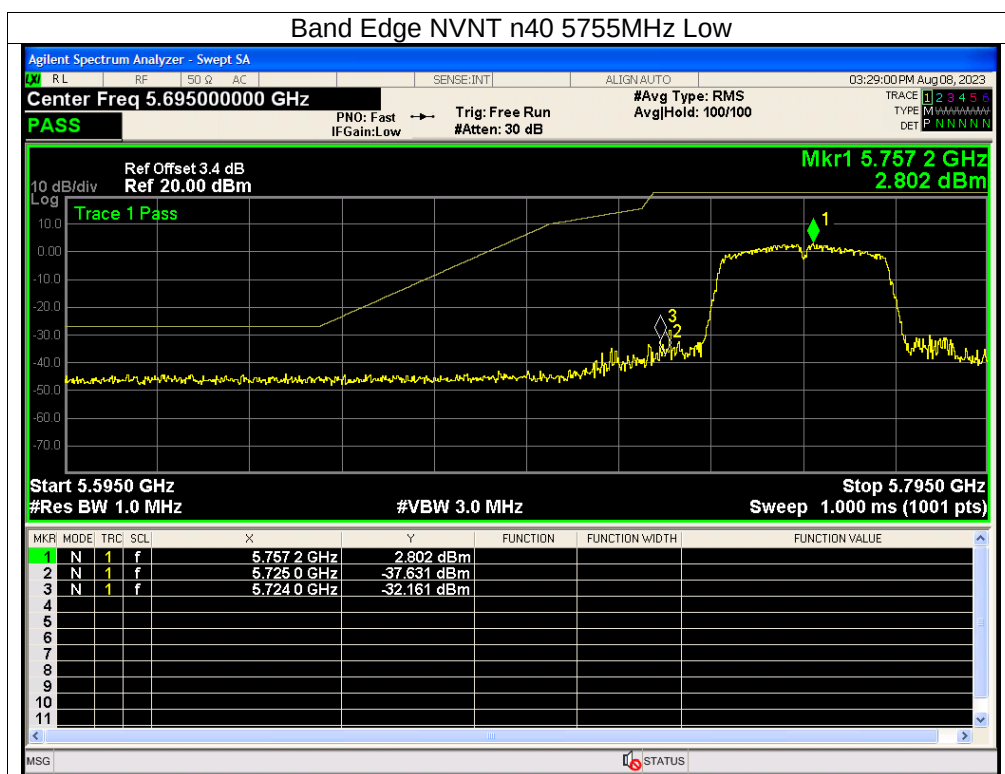


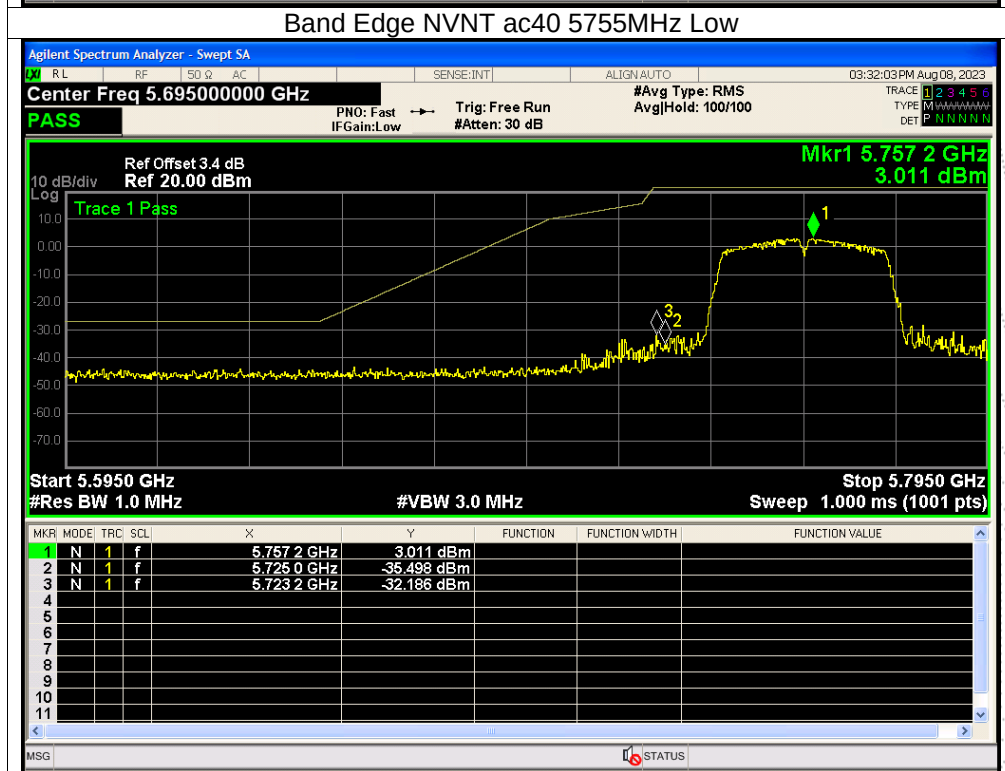
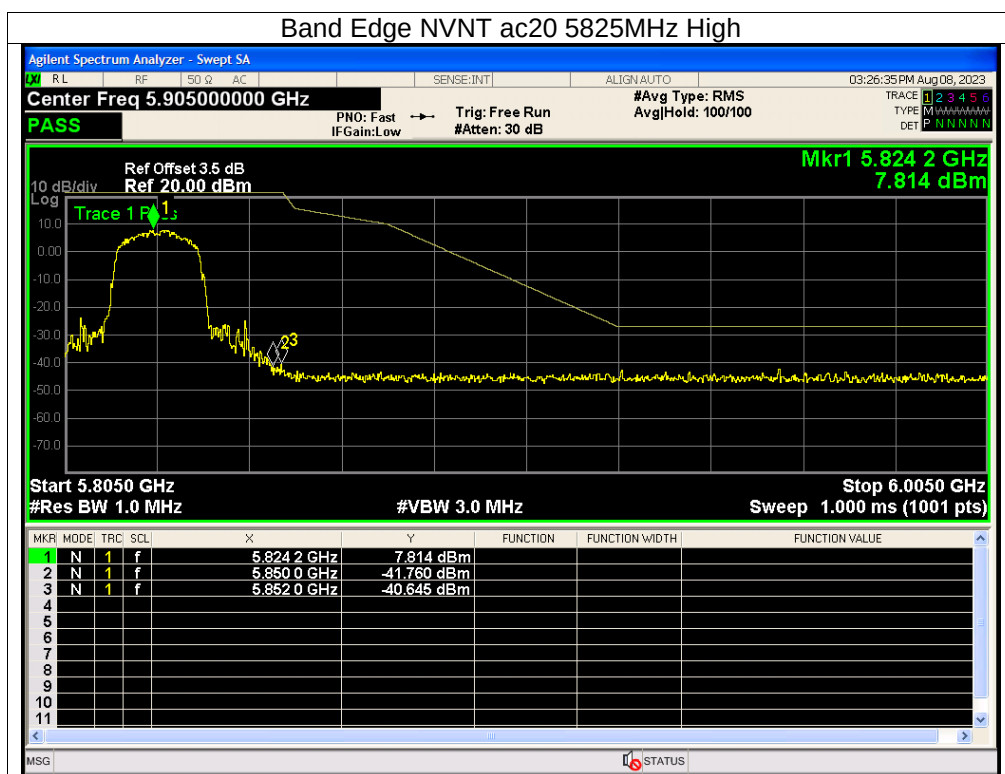


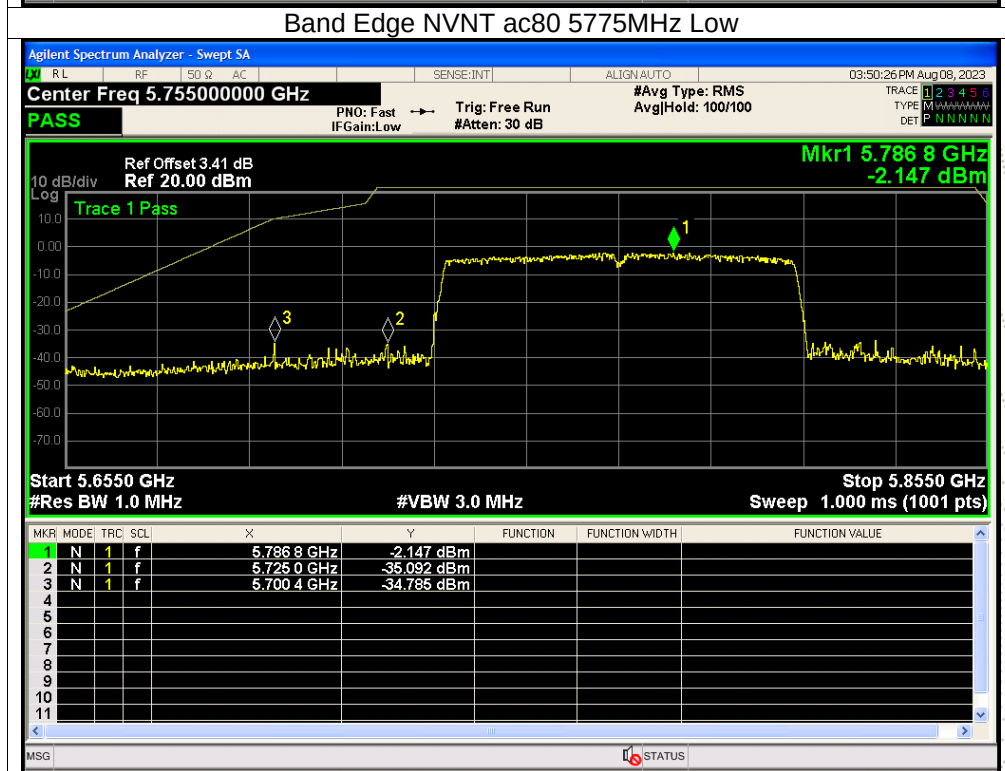
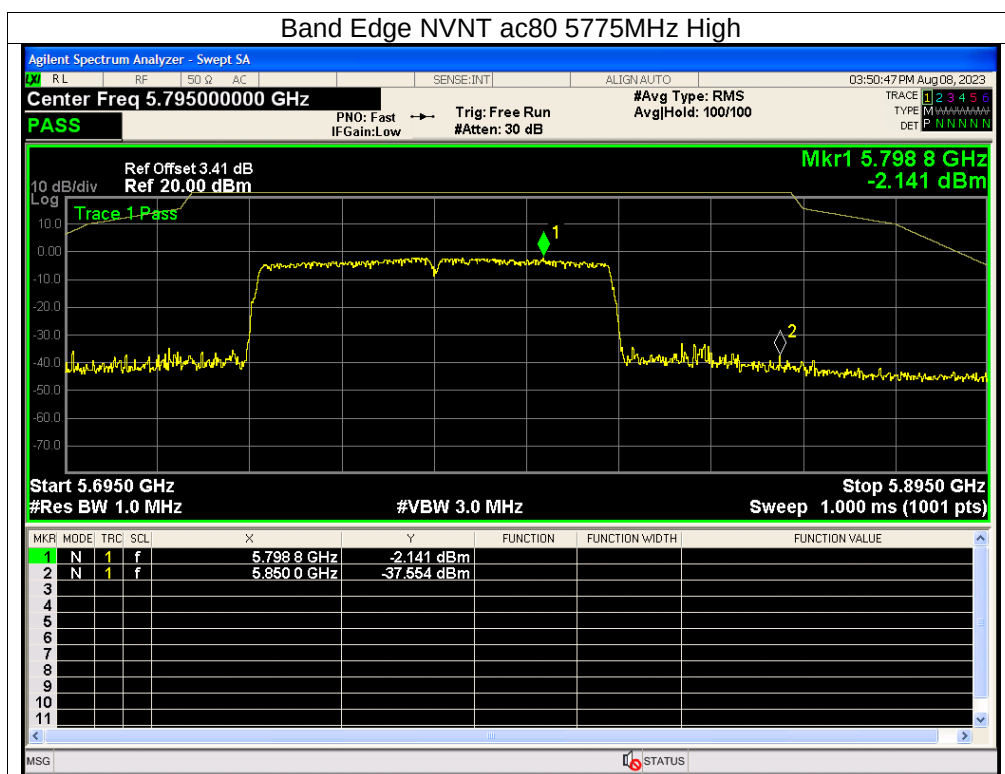


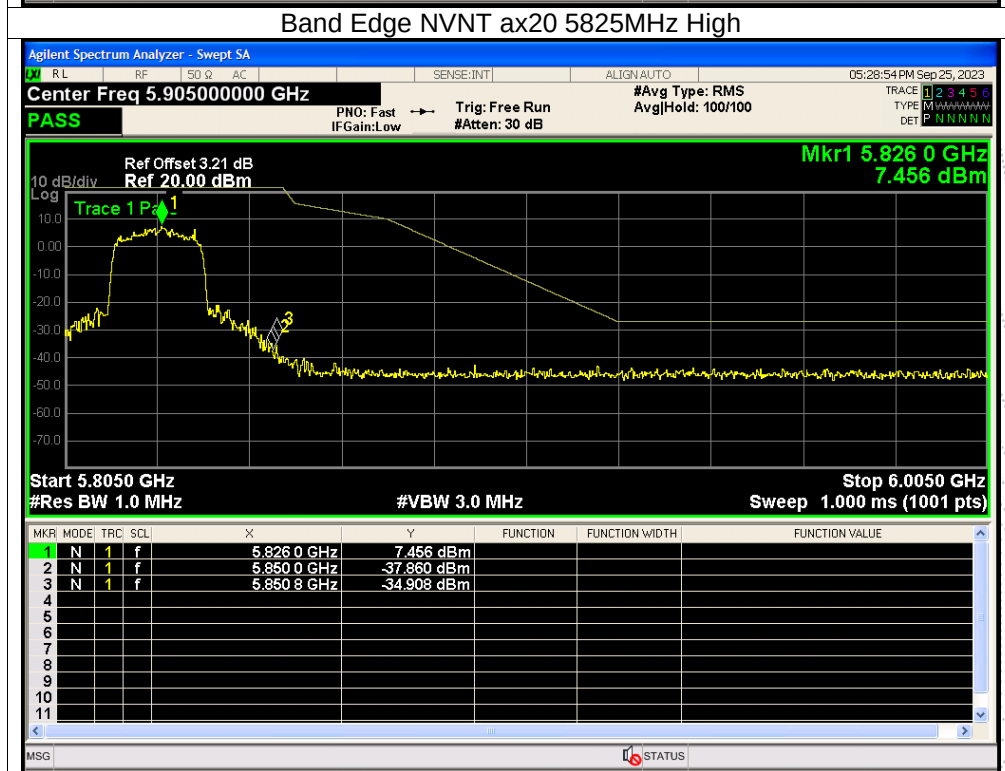
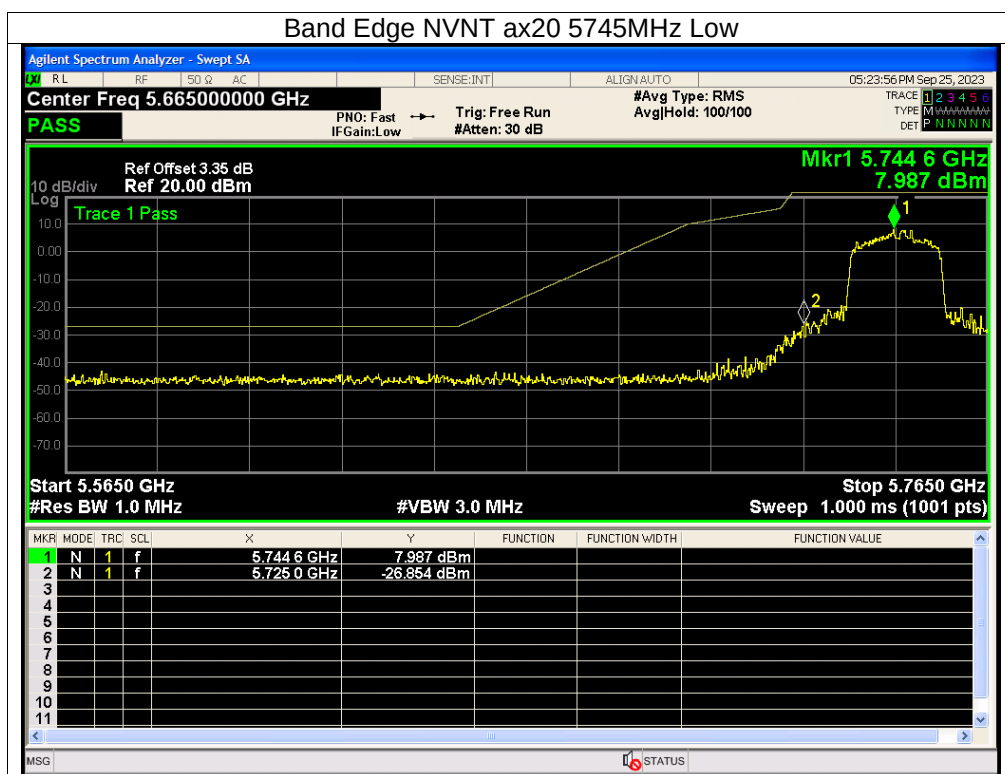


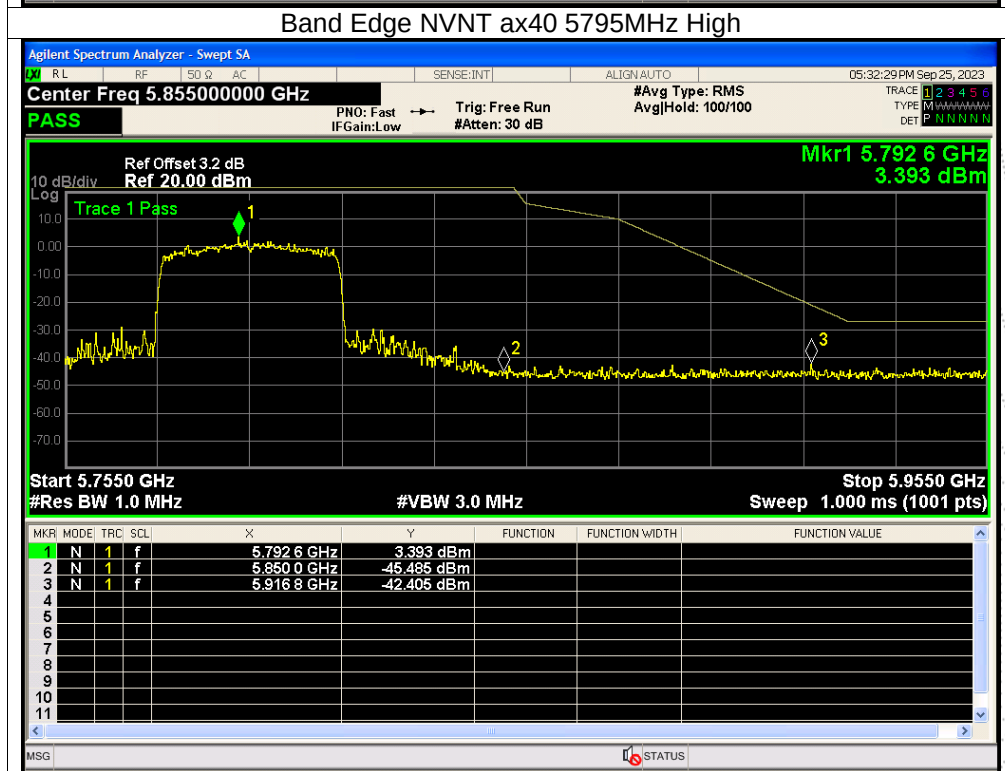
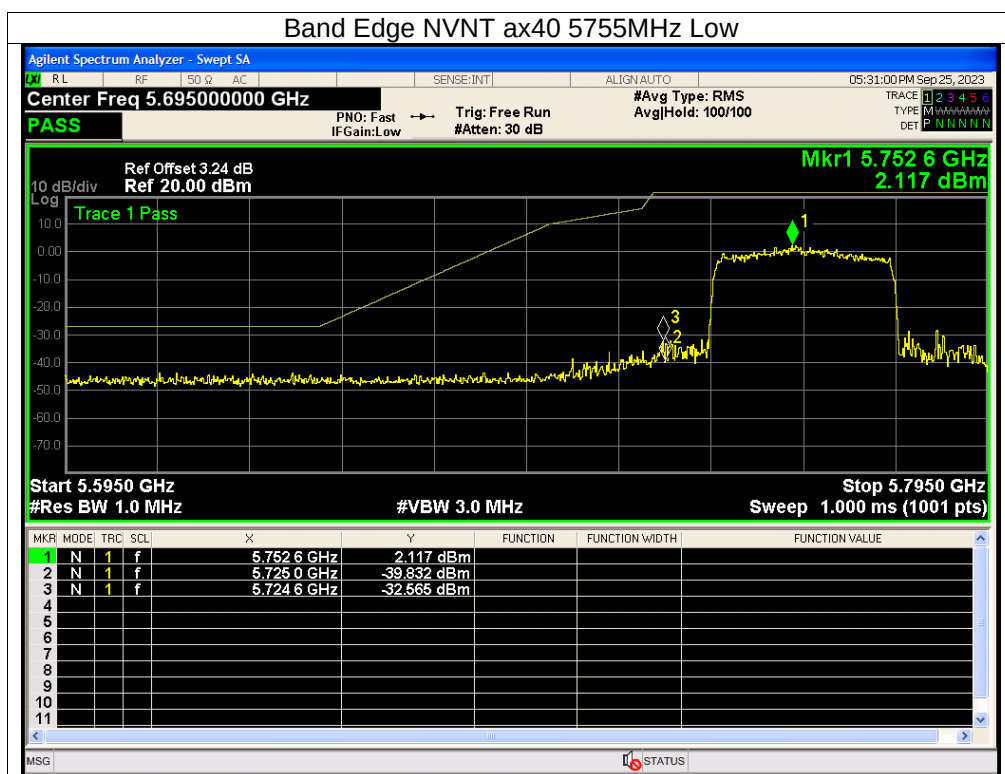


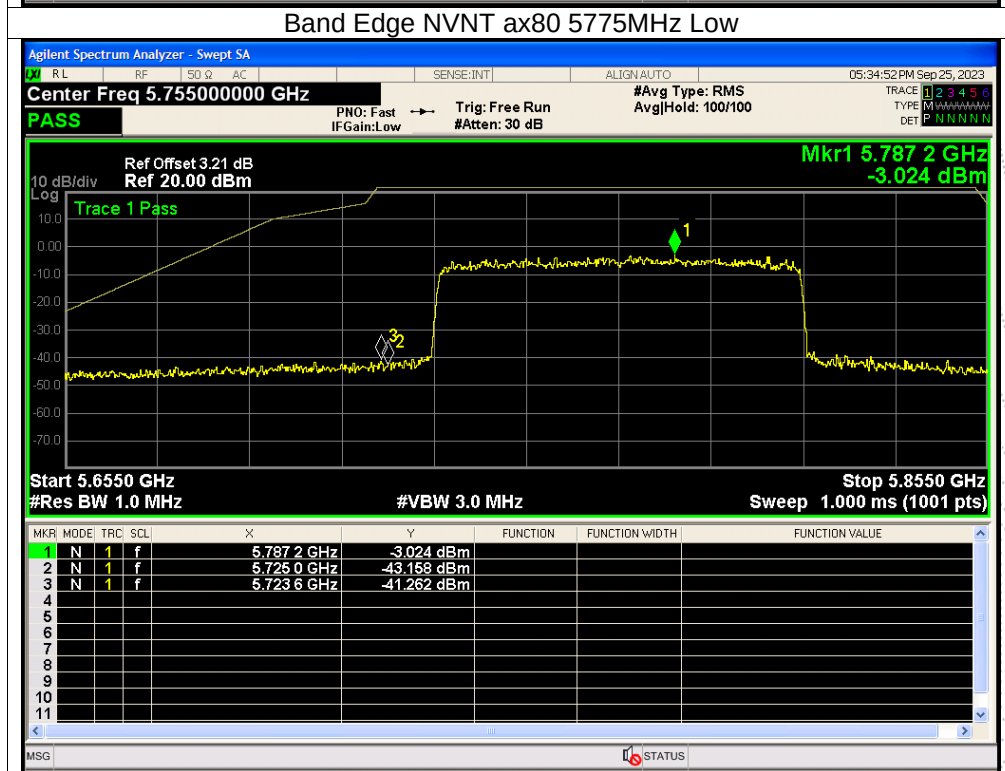
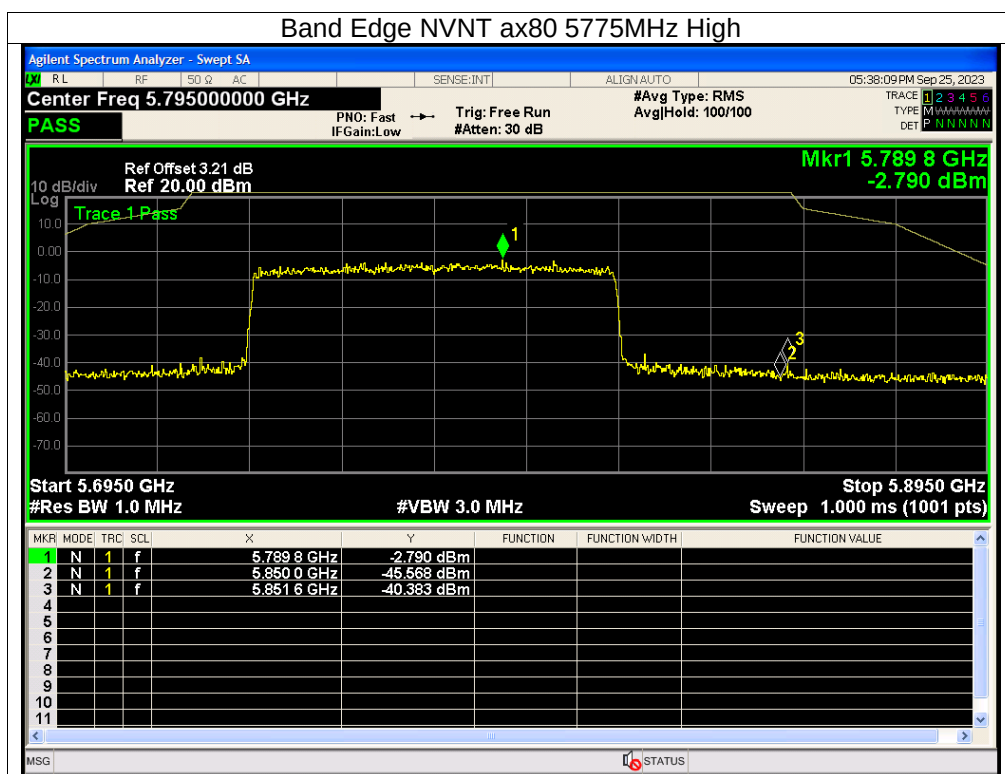












12. Spurious RF Conducted Emissions

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..

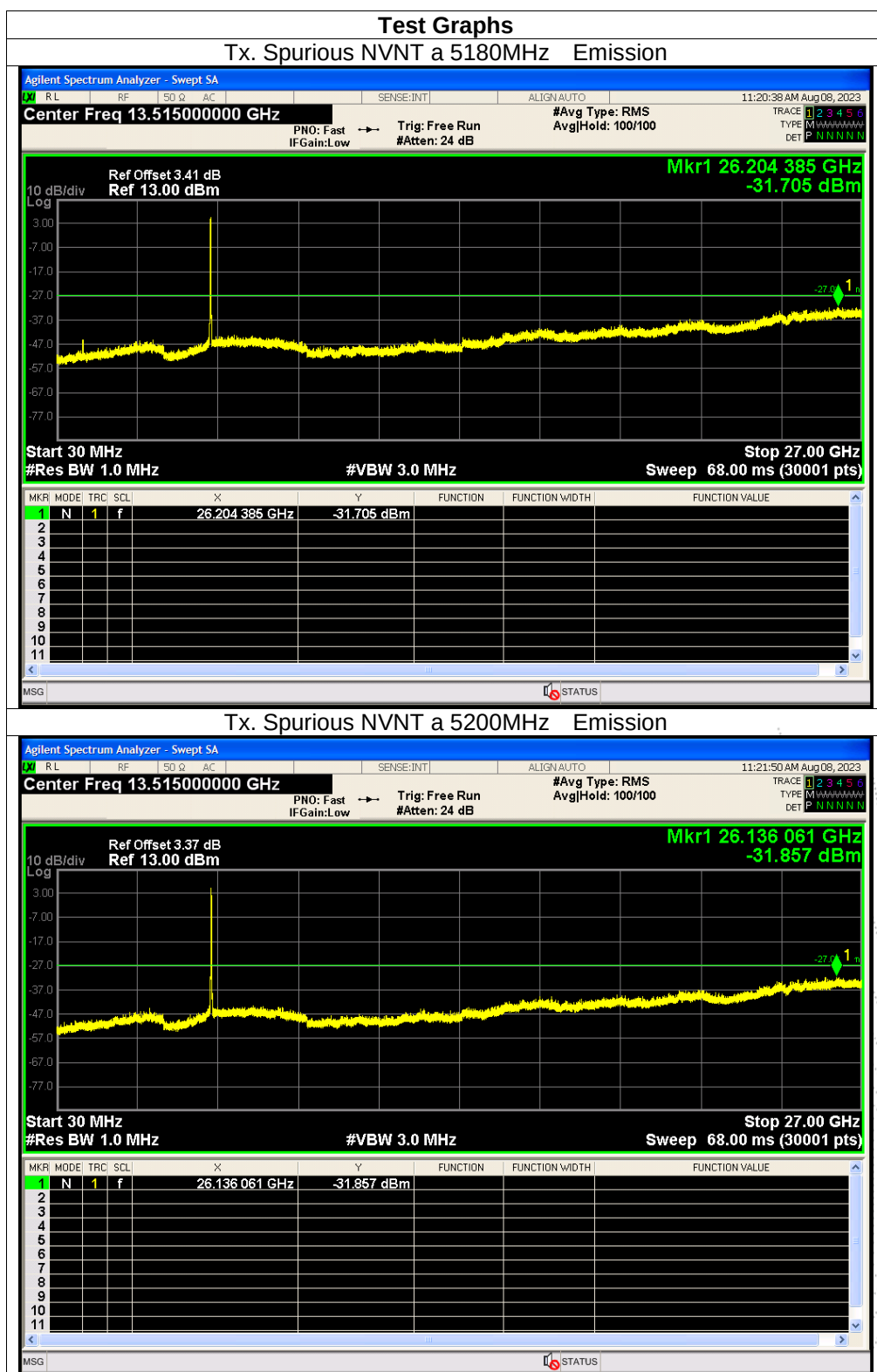
12.3 Test Procedure

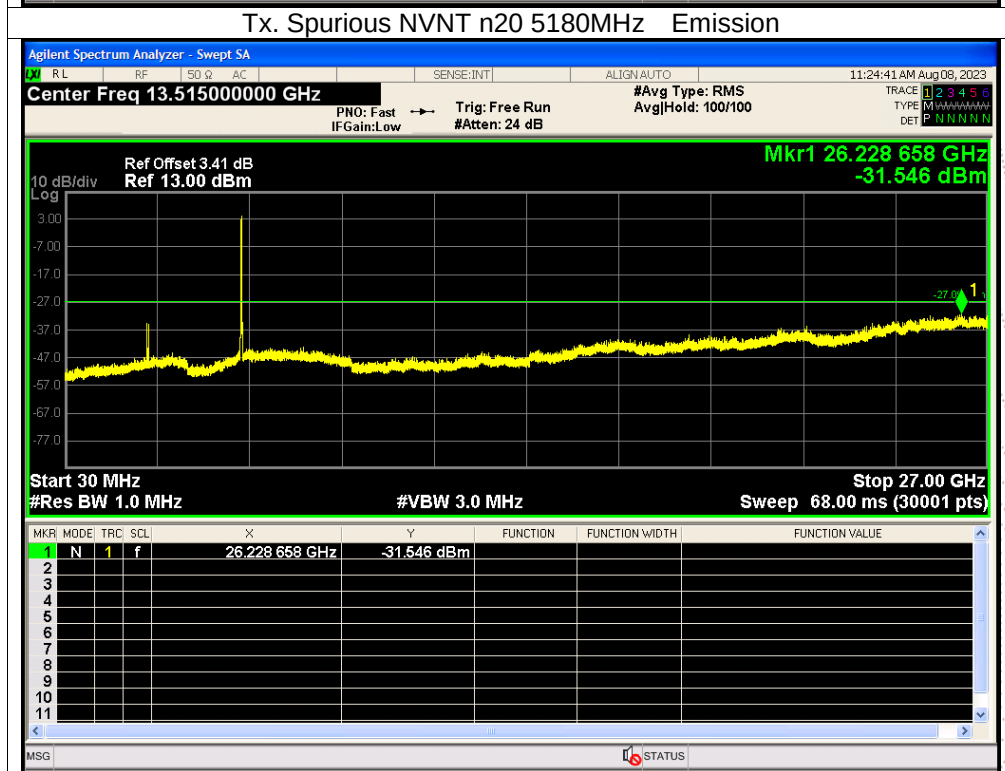
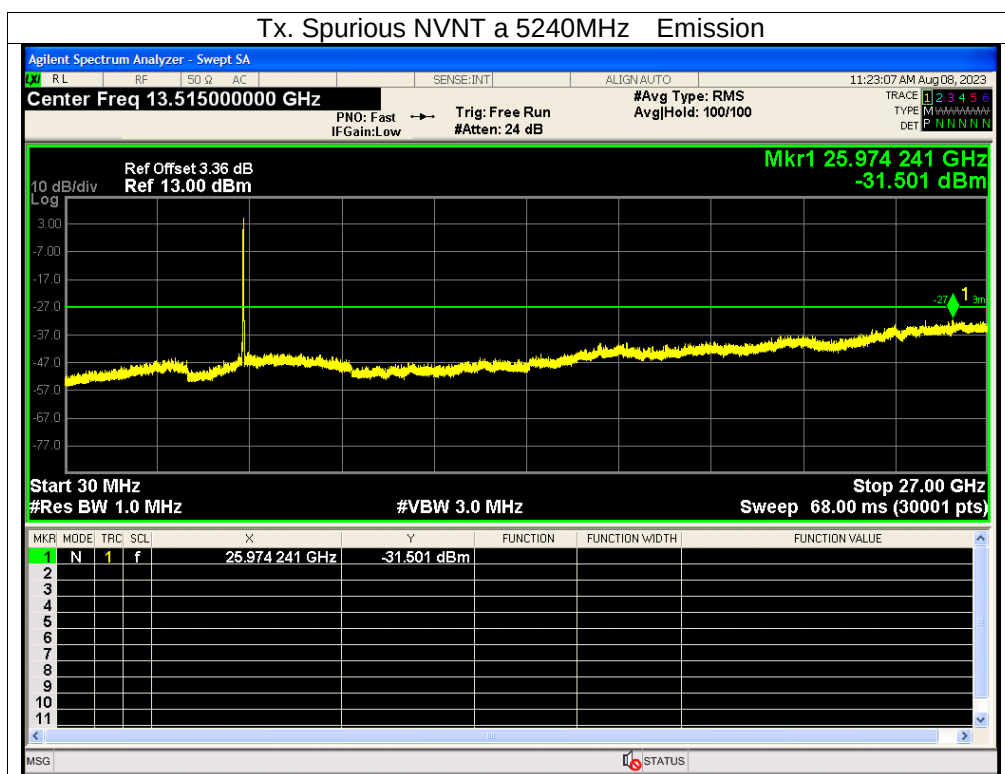
1. Check the calibration of the measuring instrument using either an internal calibrator or a known signal from an external generator.
2. Position the EUT without connection to measurement instrument. Turn on the EUT and connect its antenna terminal to measurement instrument via a low loss cable. Then 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.

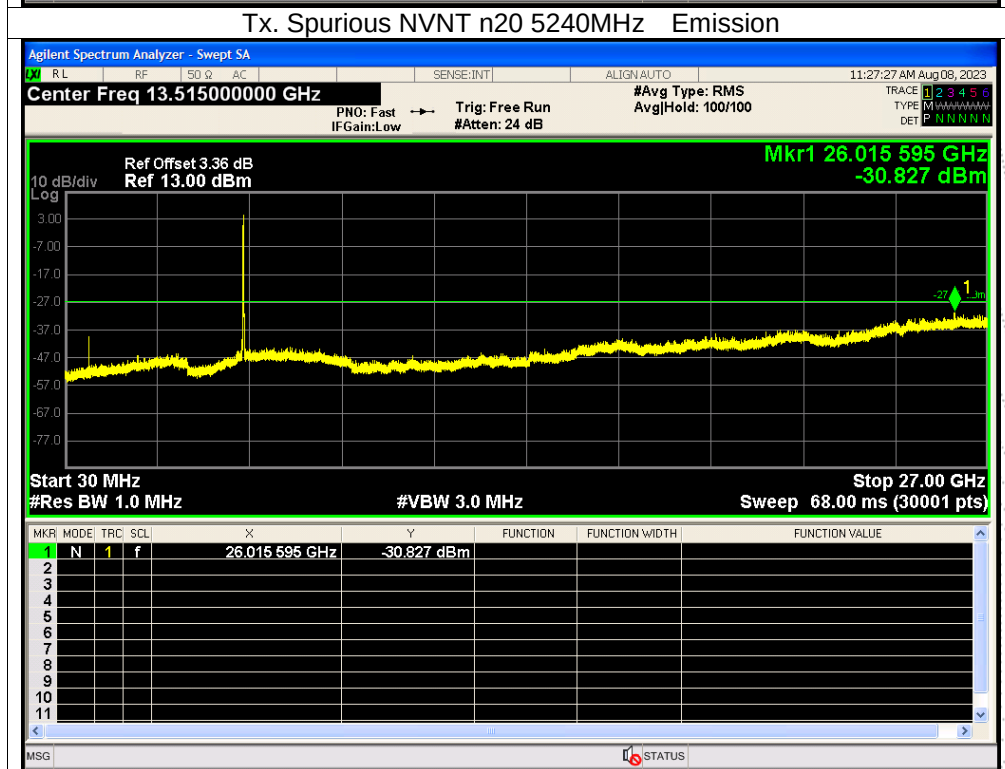
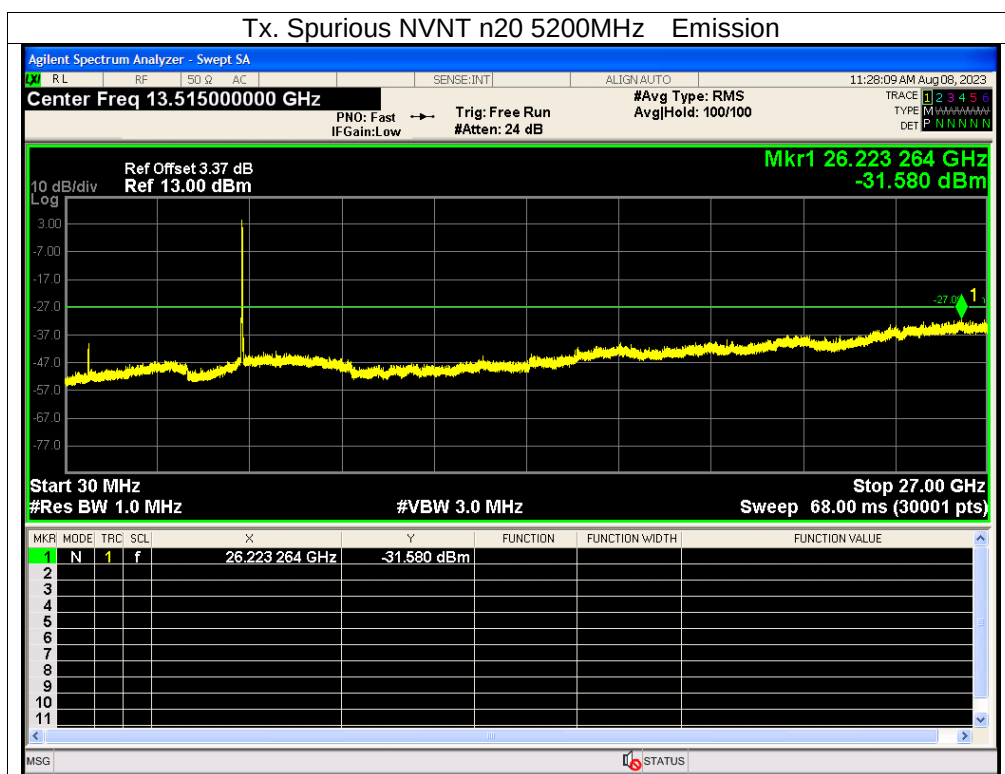
12.4 Test Result

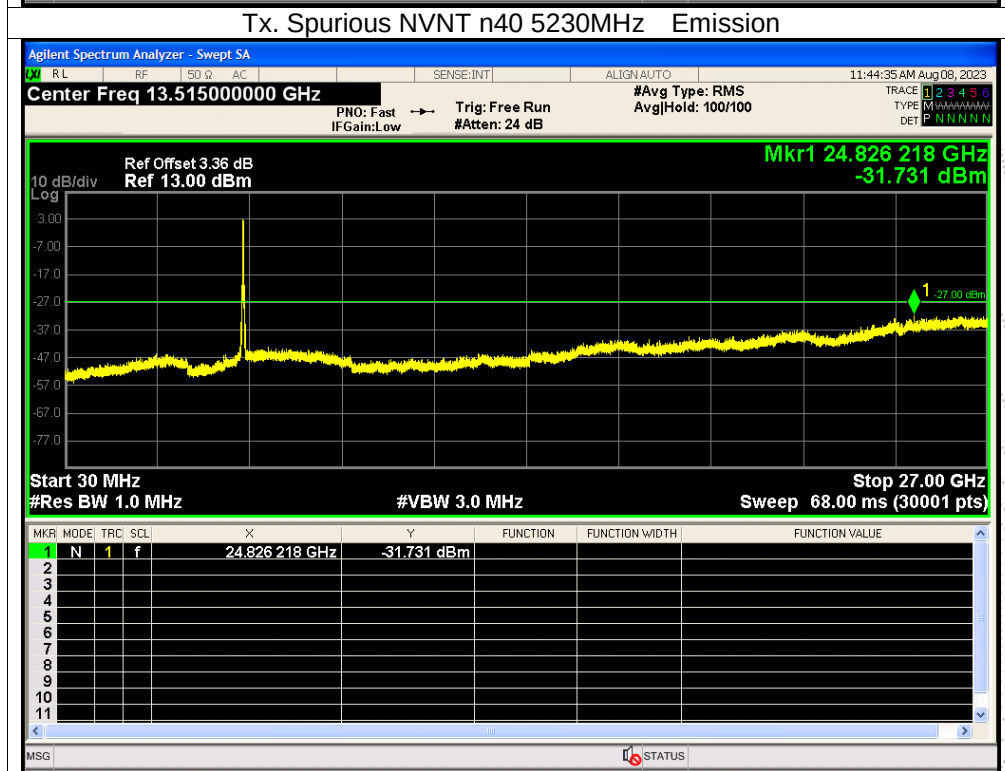
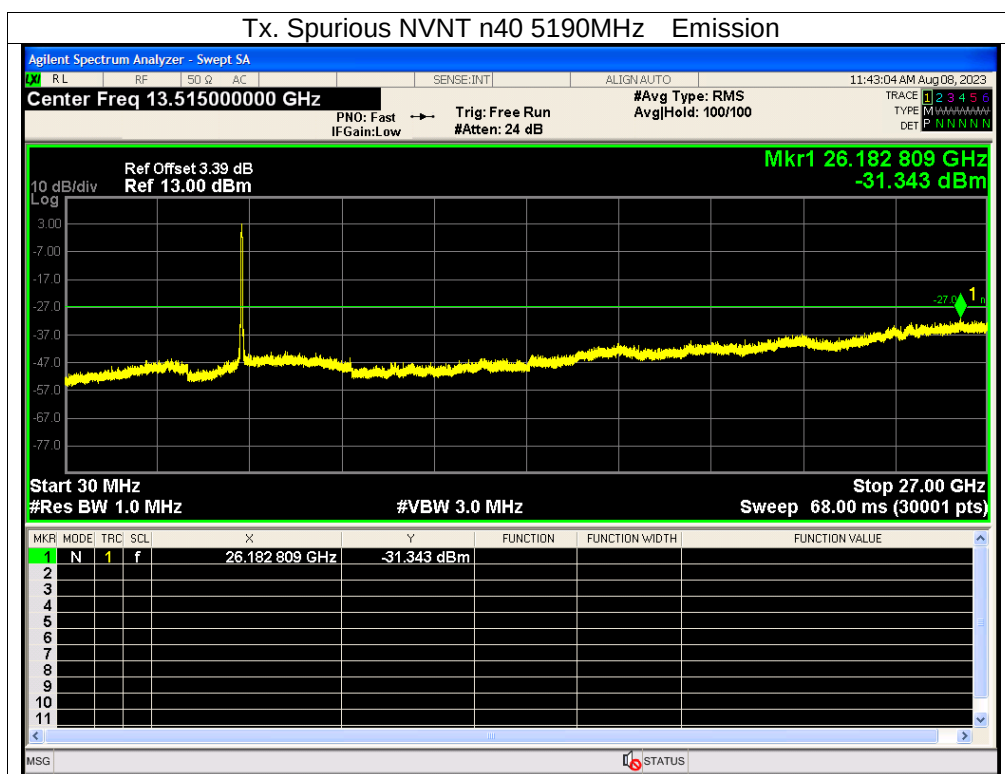
Remark: The measurement frequency range is from 9KHz to the 10th harmonic of the fundamental frequency. The lowest, middle and highest channels are tested to verify the spurious emissions and band edge measurement data.

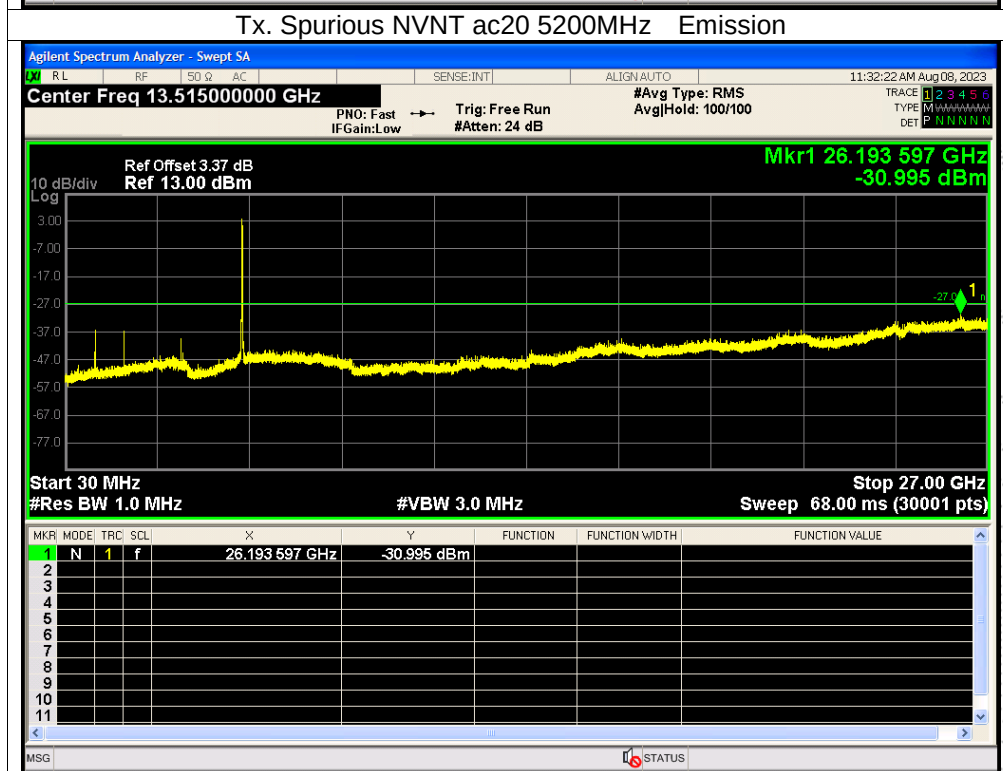
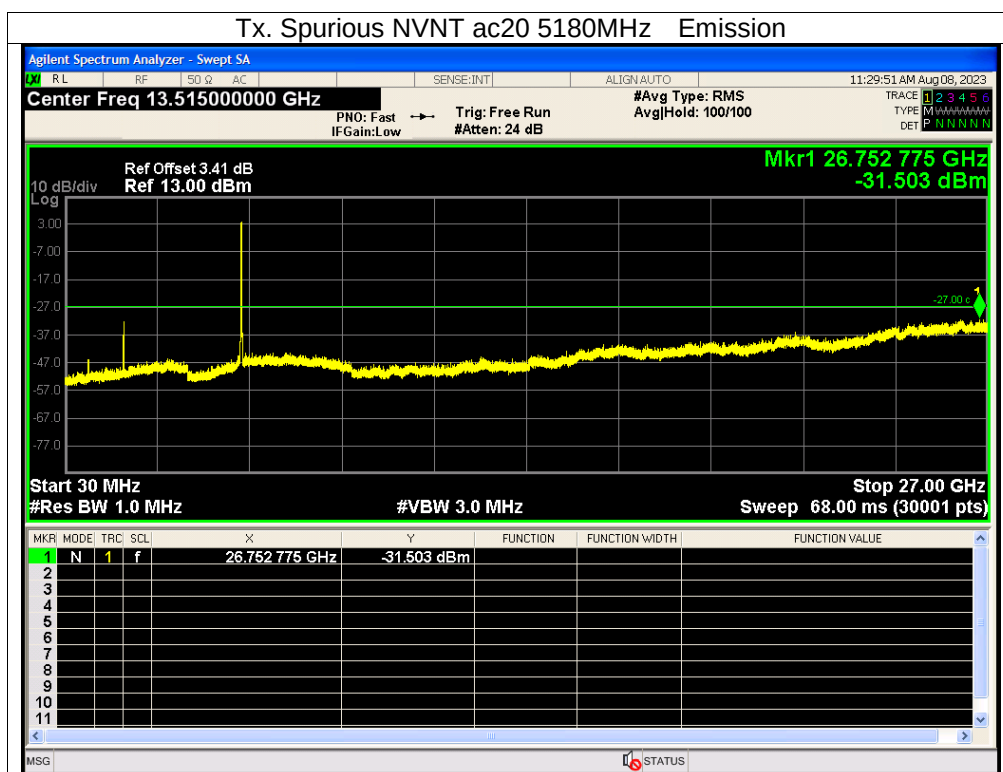
About: 26.5GHz-40GHz, The amplitude of spurious emissions which are attenuated by more than 20dB below the permissible value has no need to be reported.

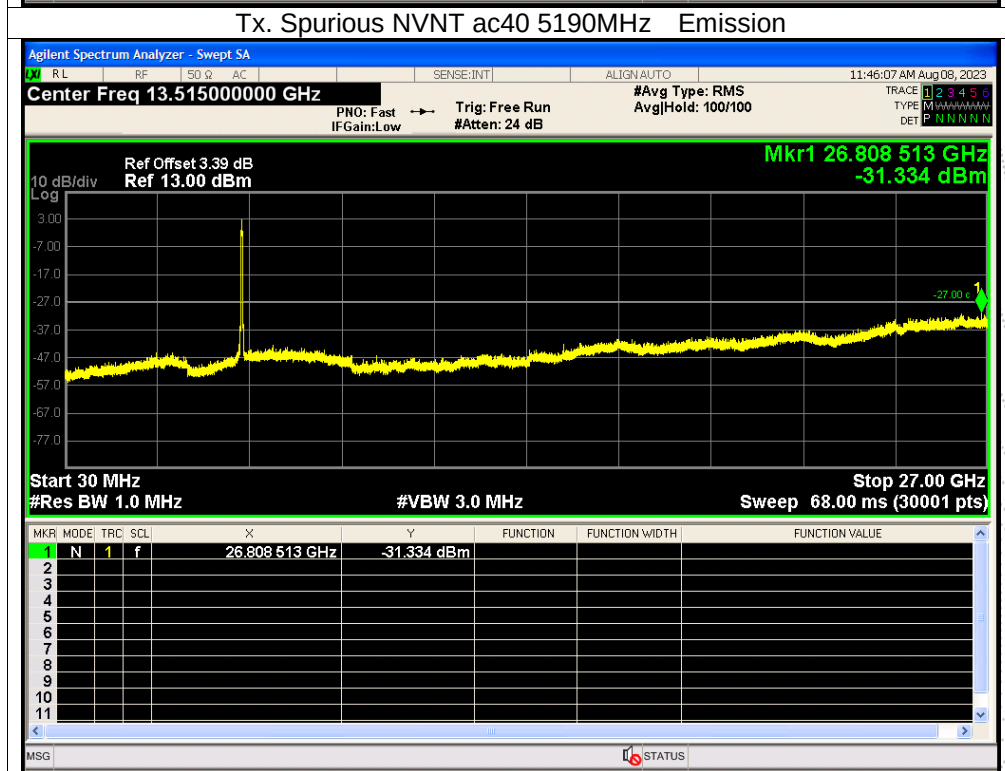
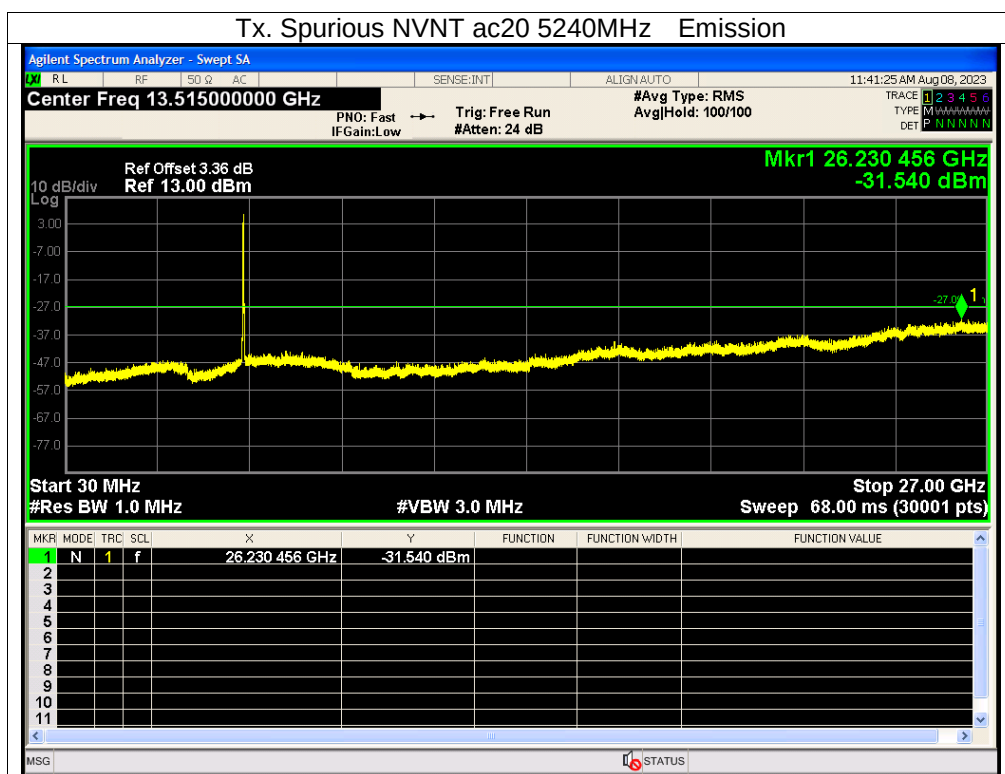


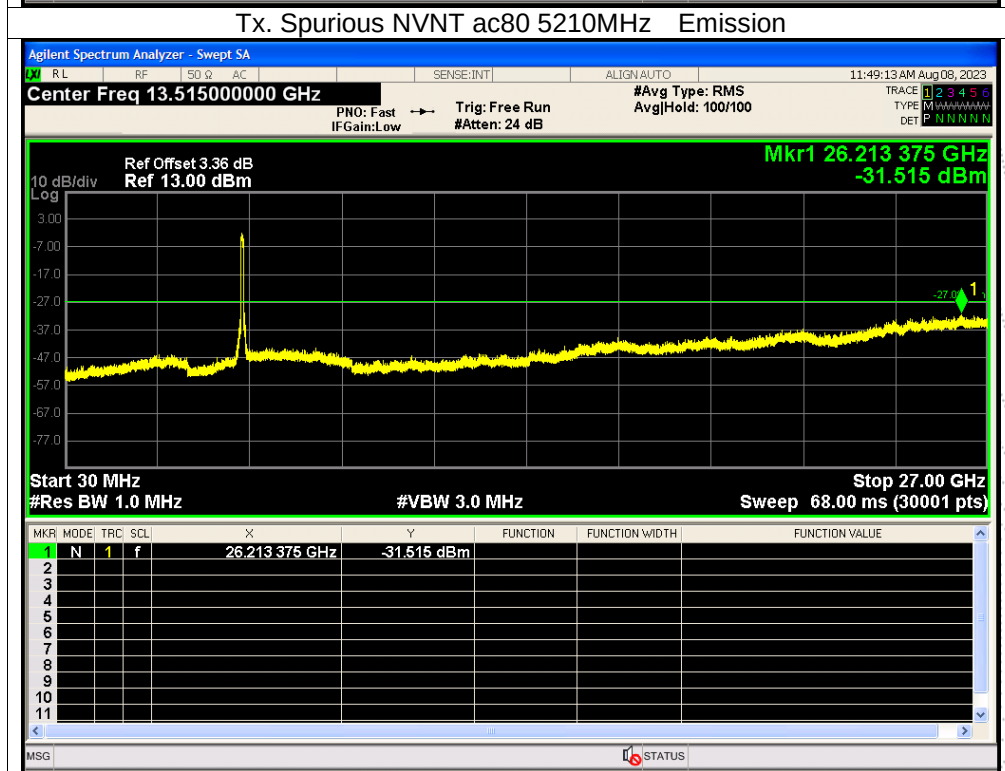
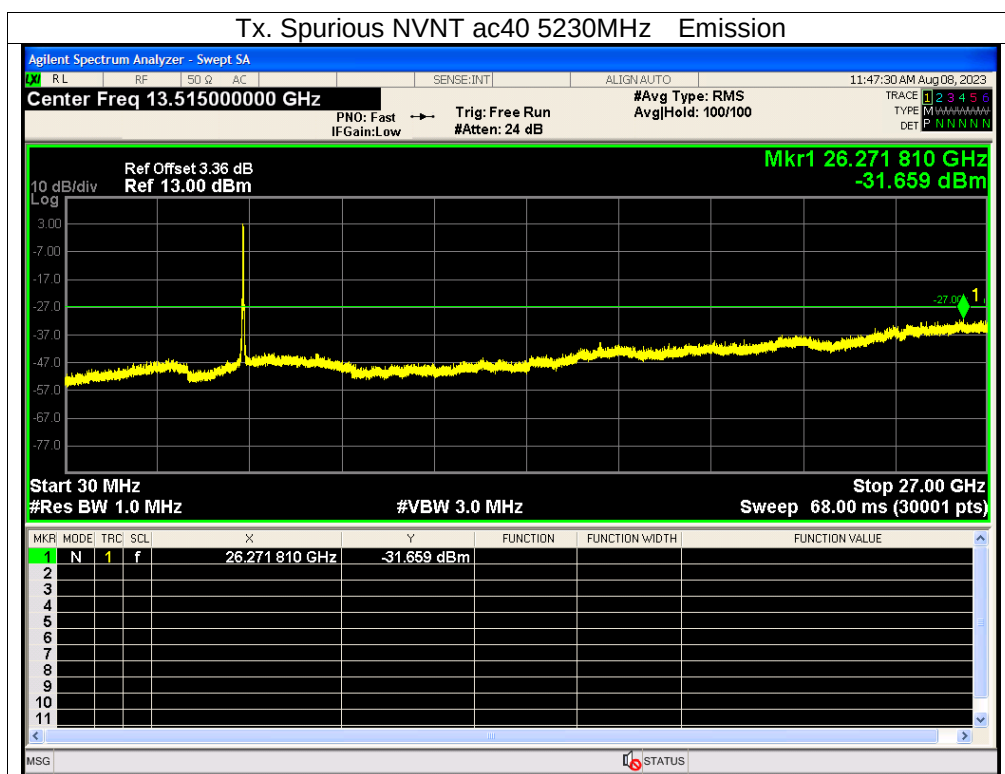


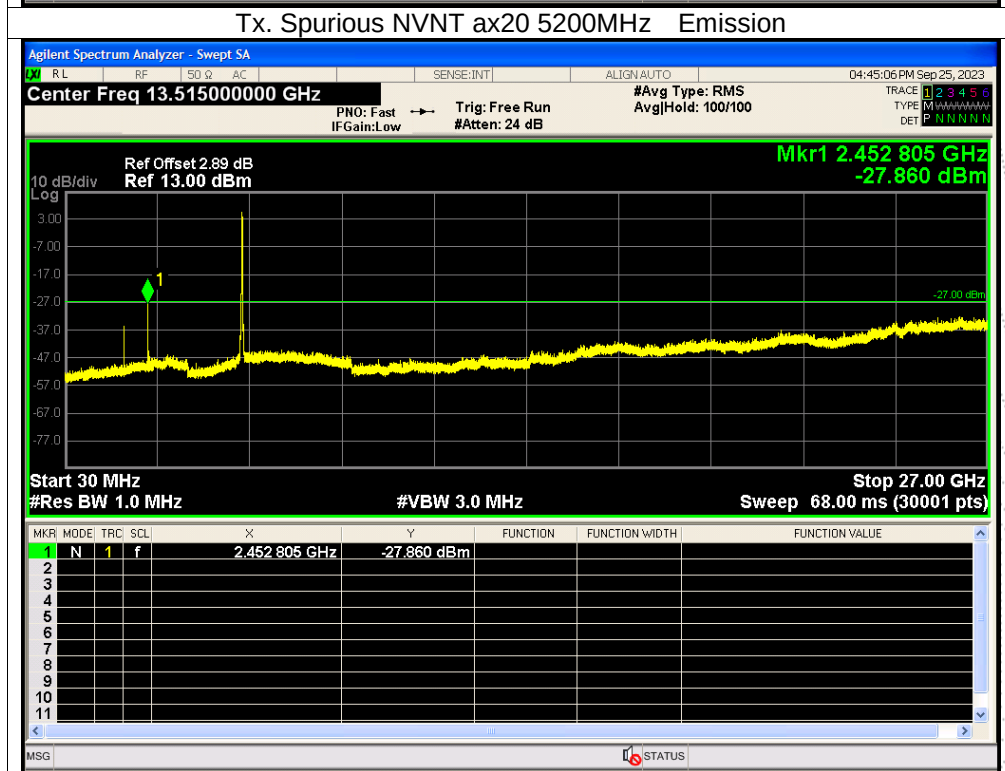
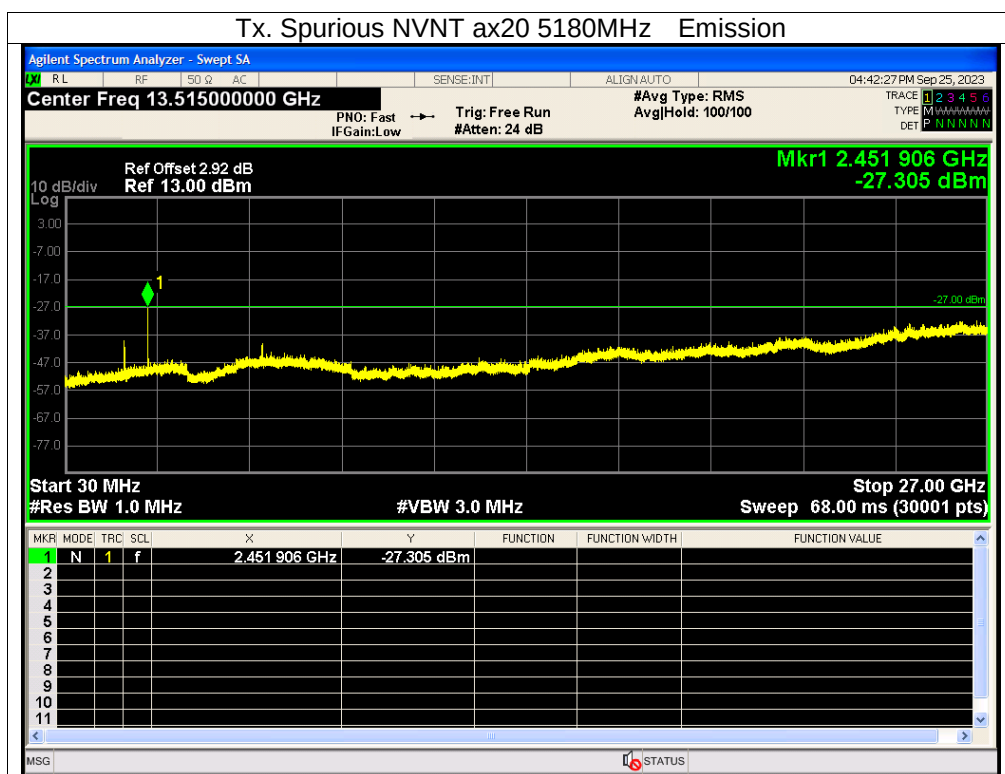


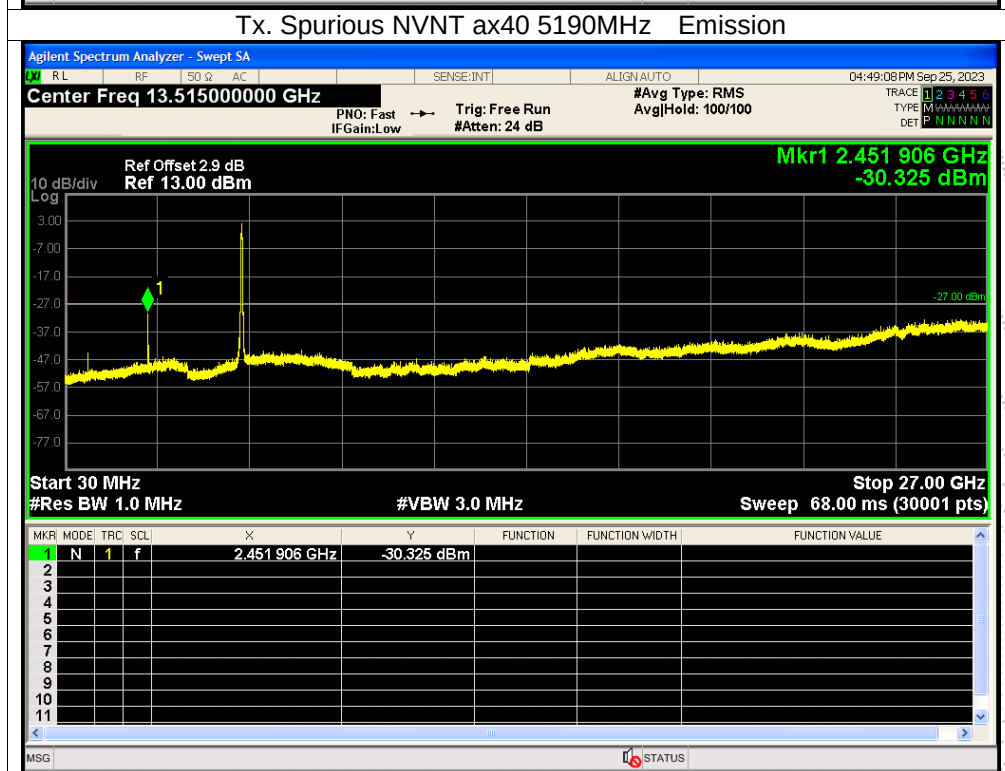
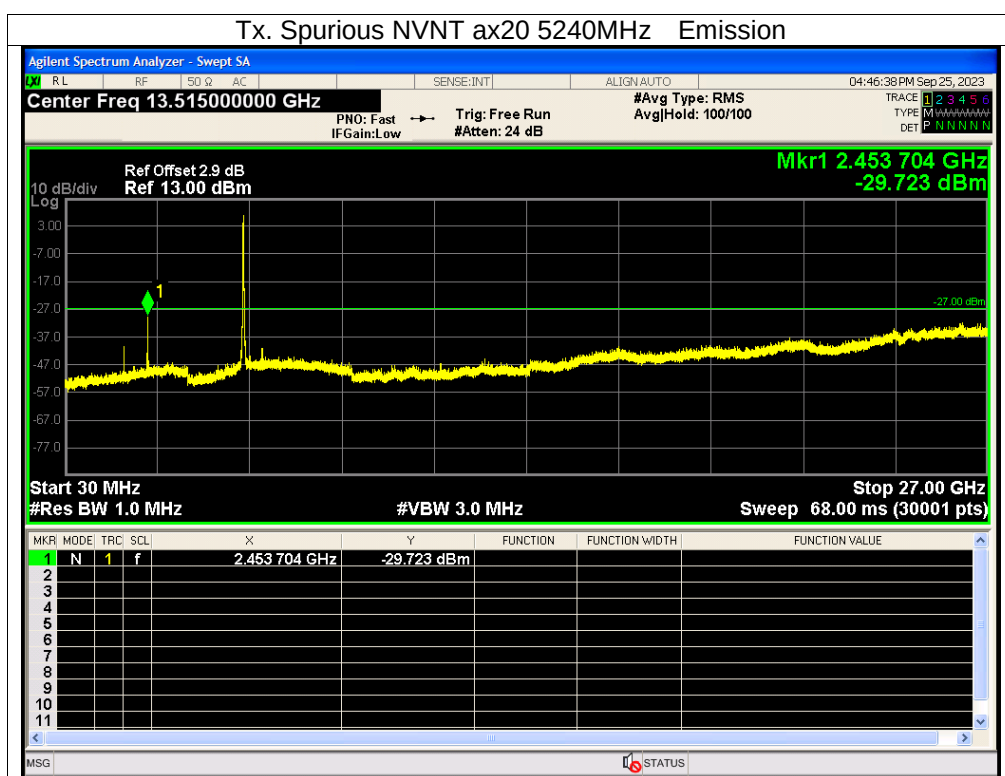


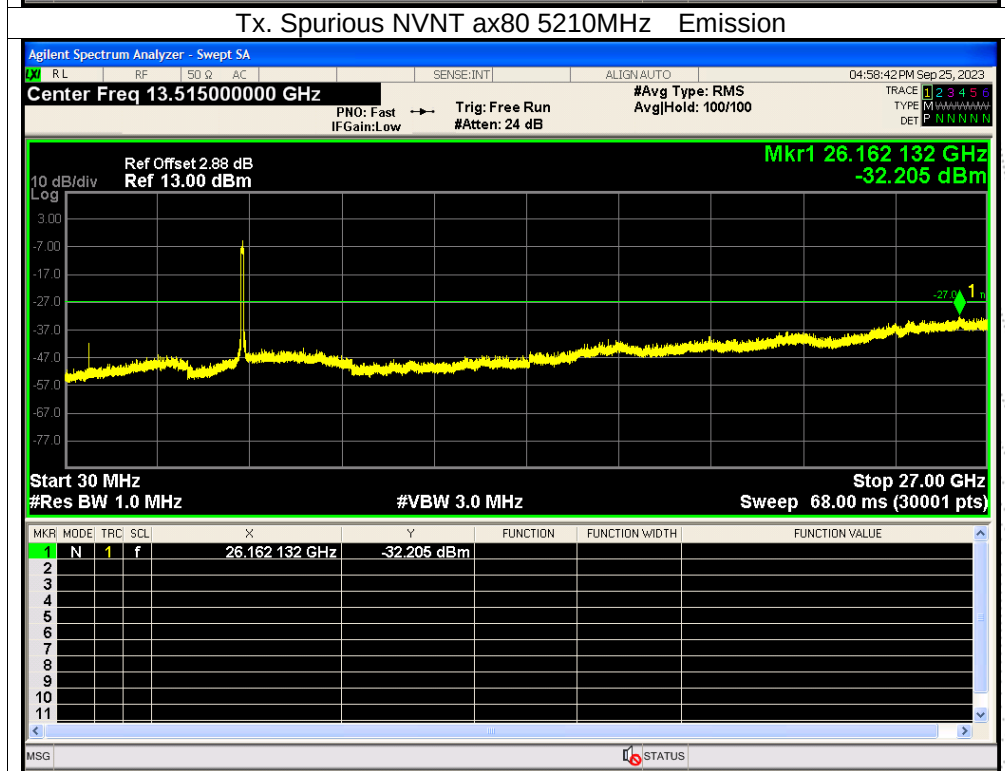
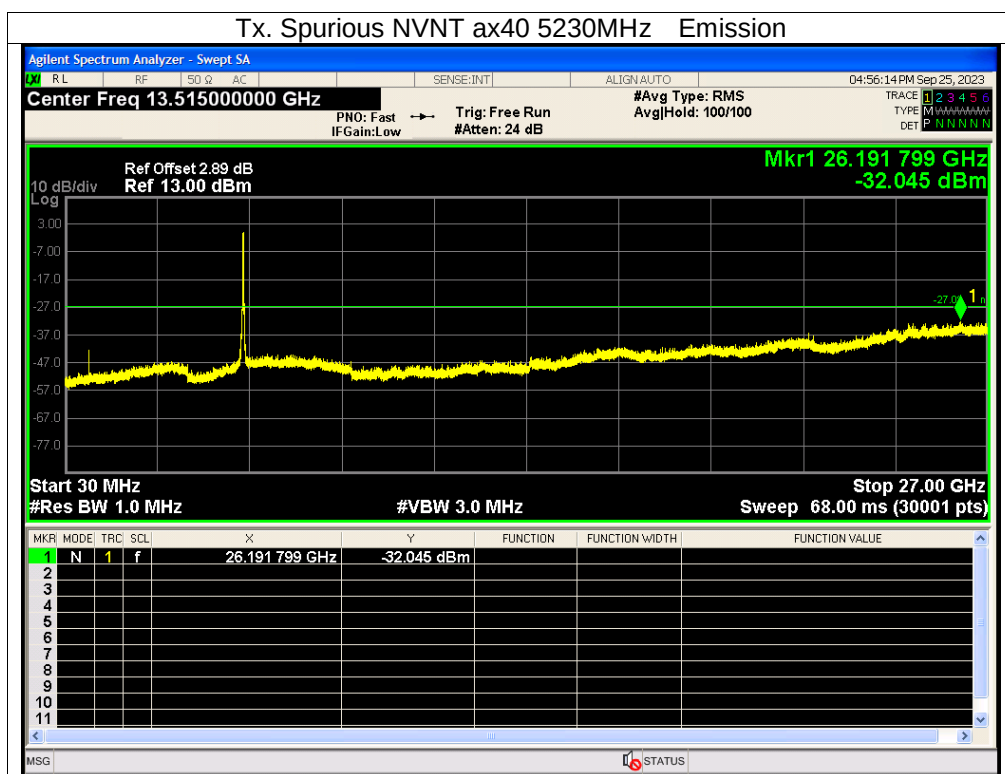


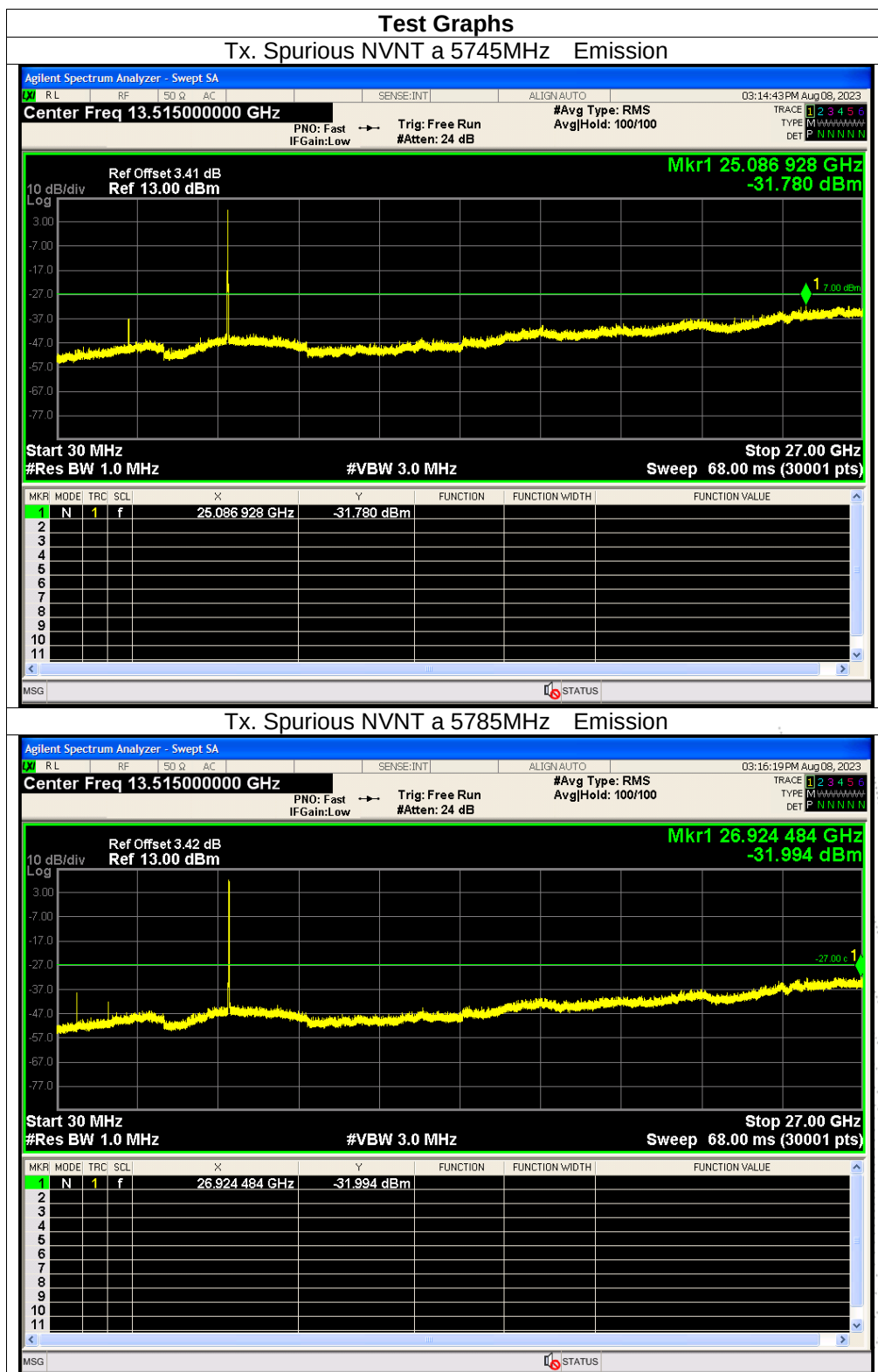


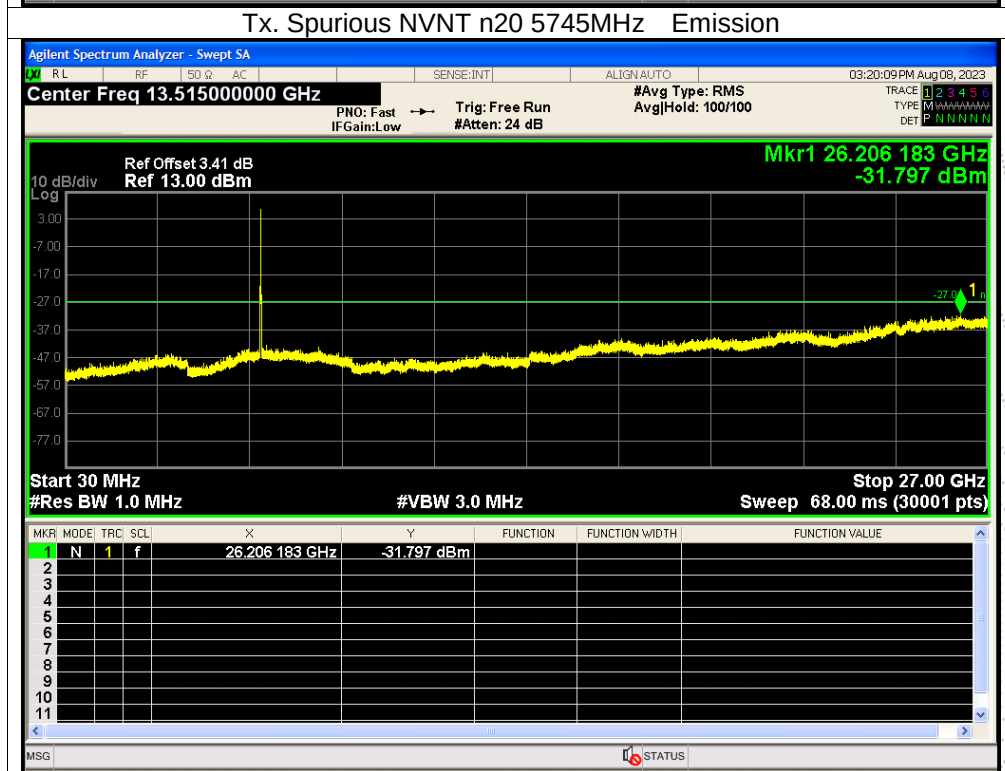
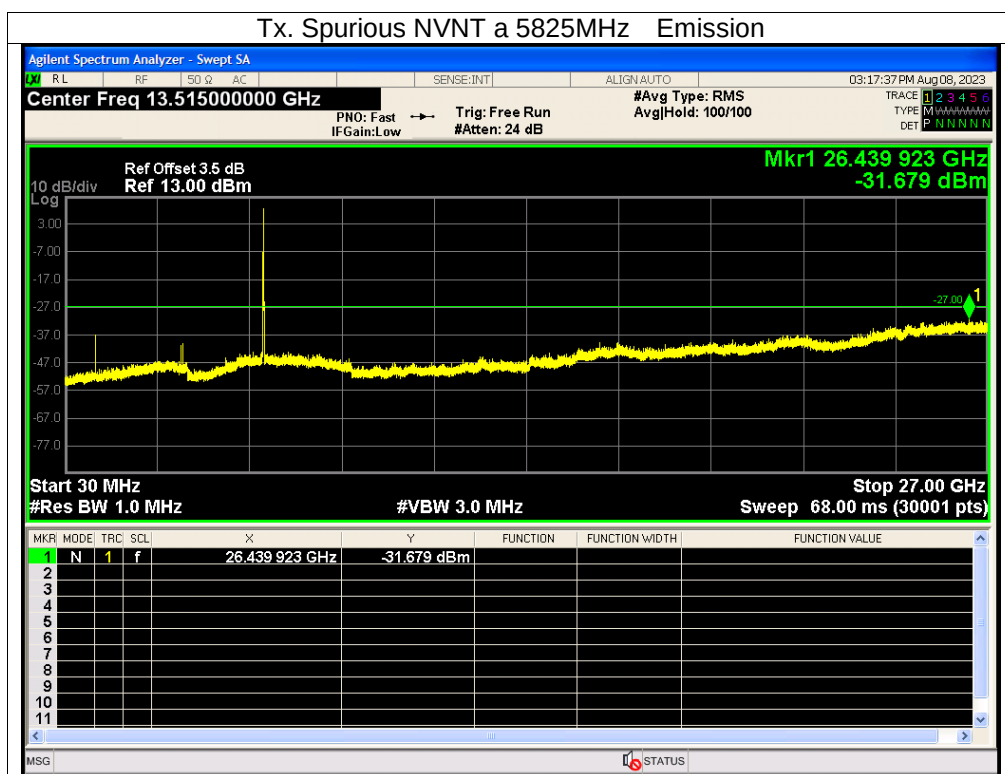


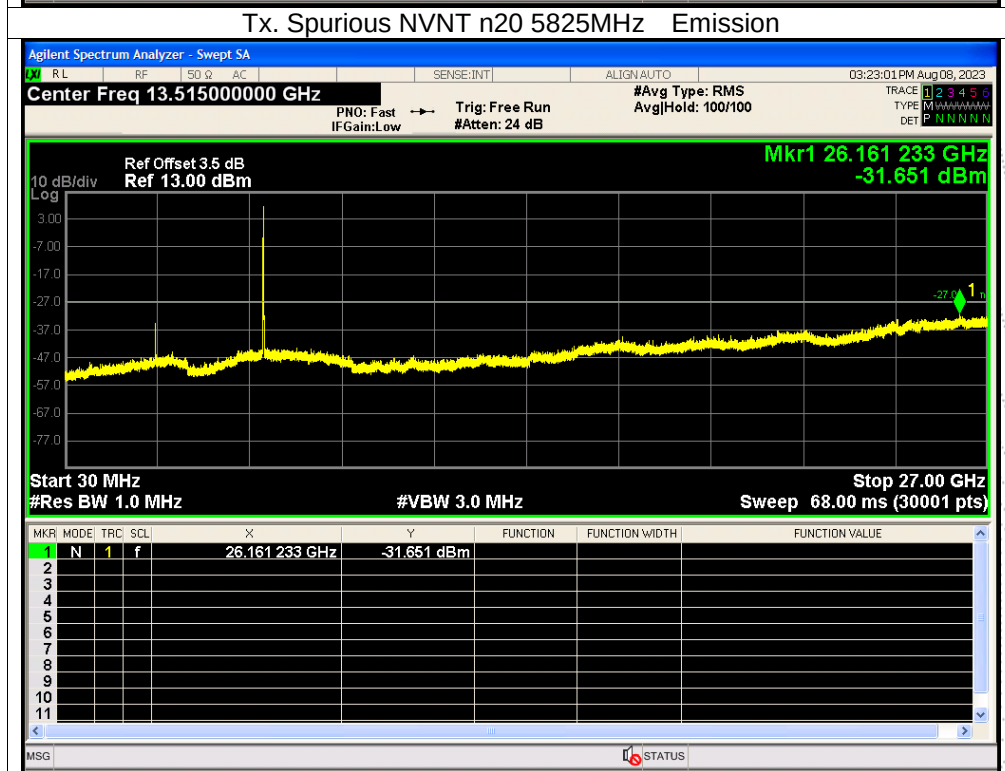
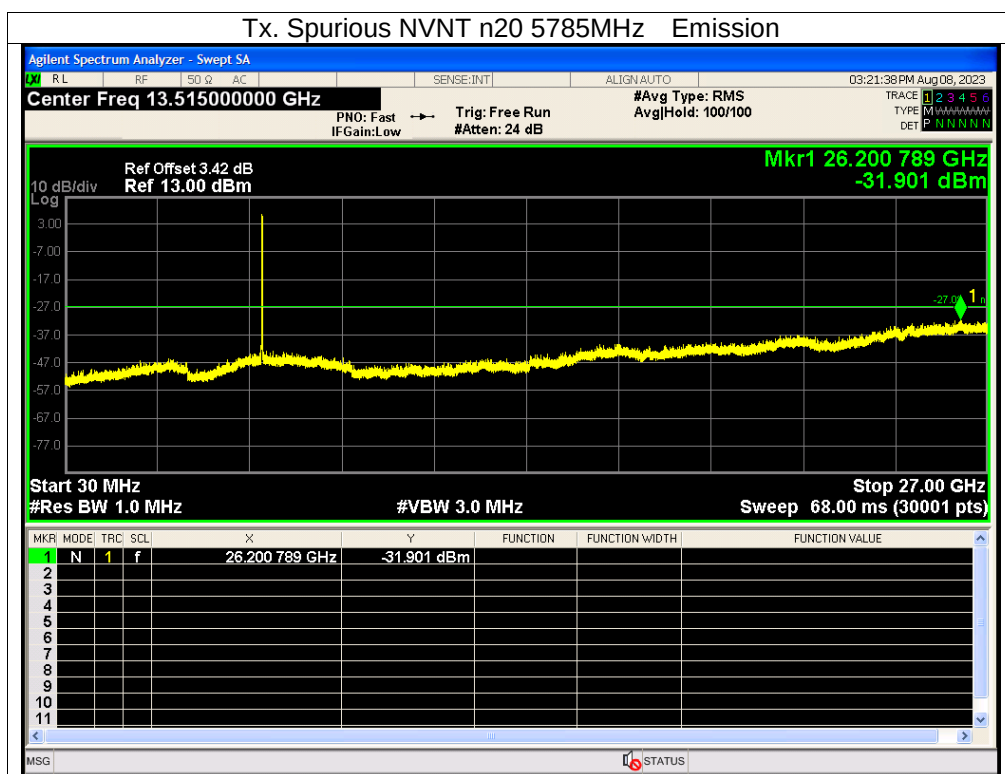


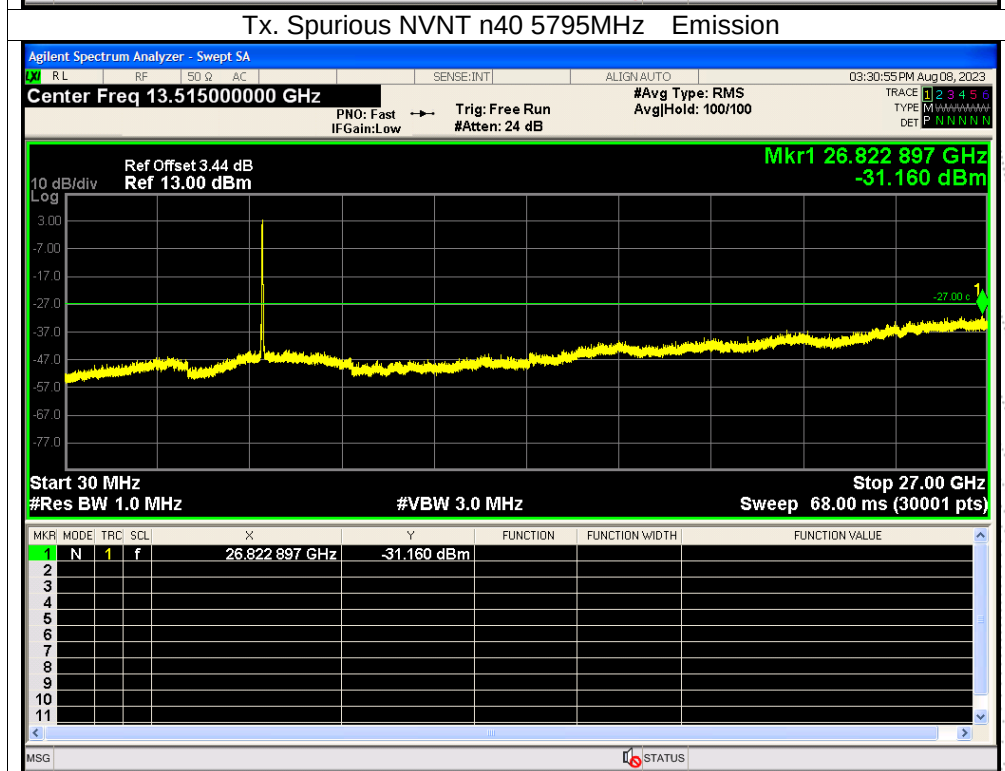
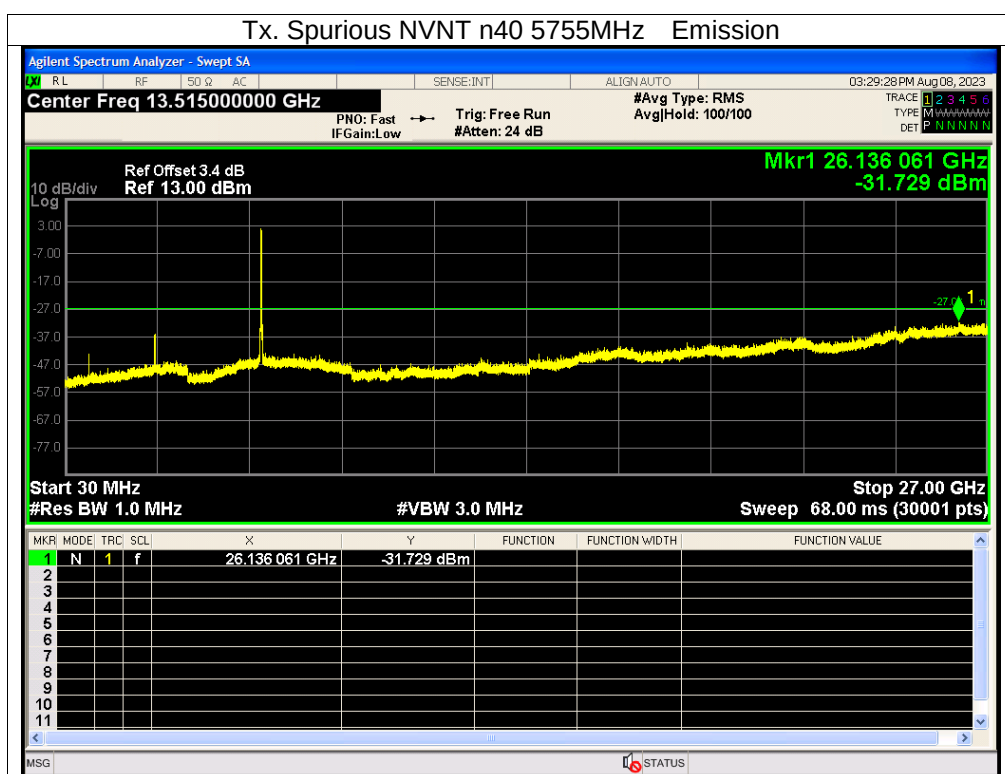


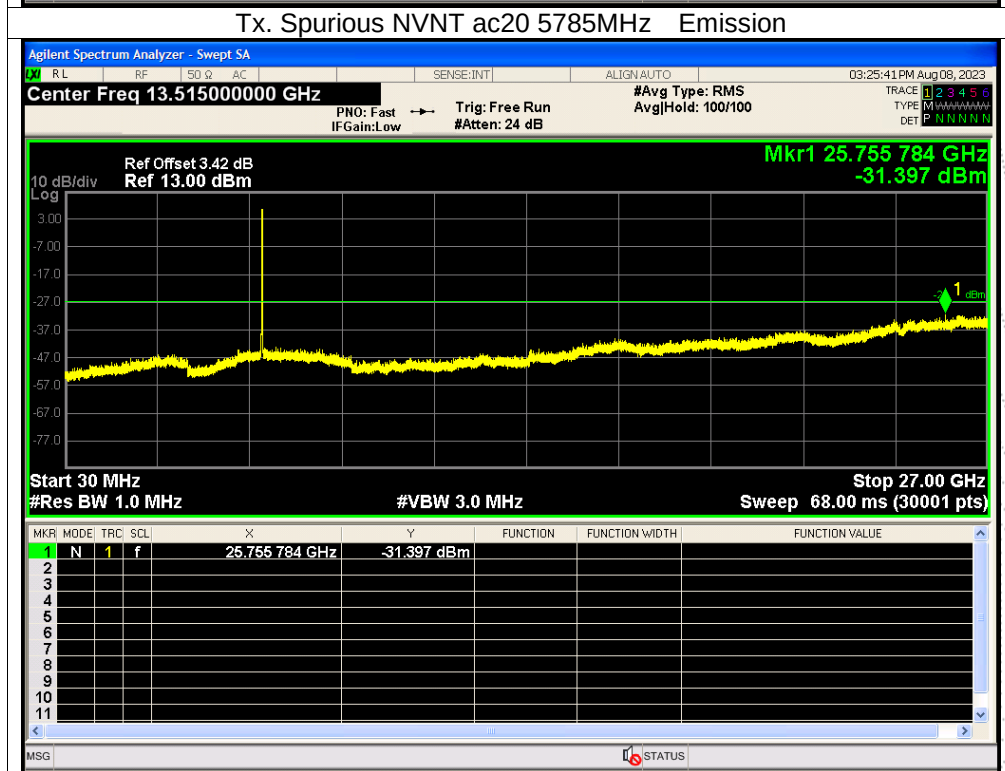
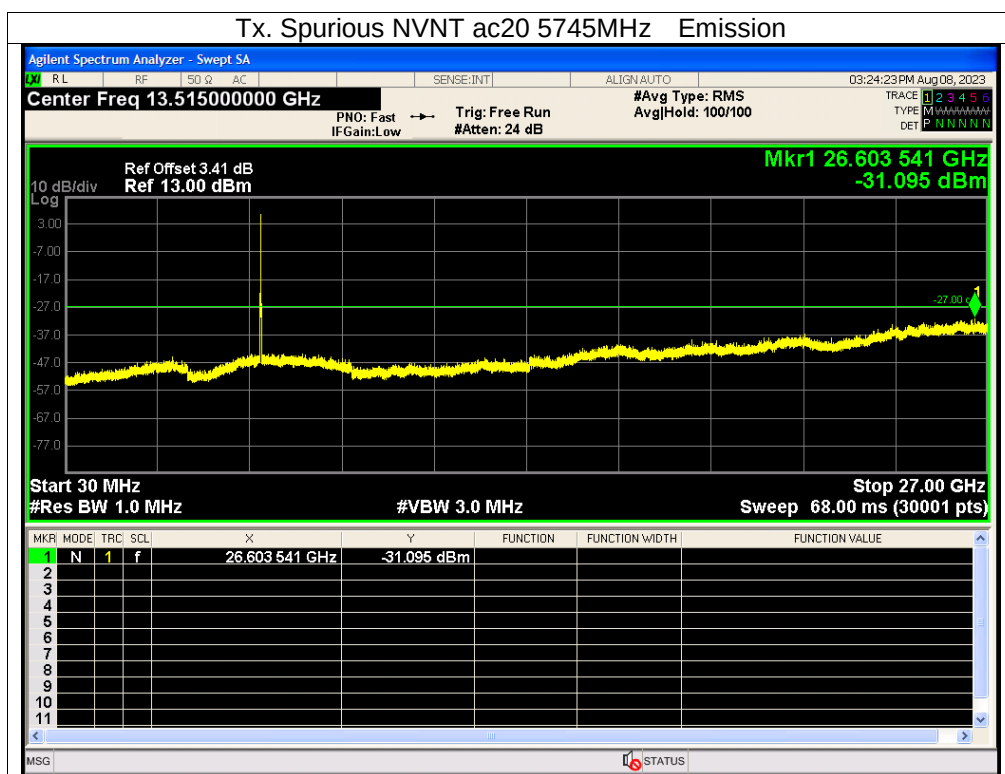


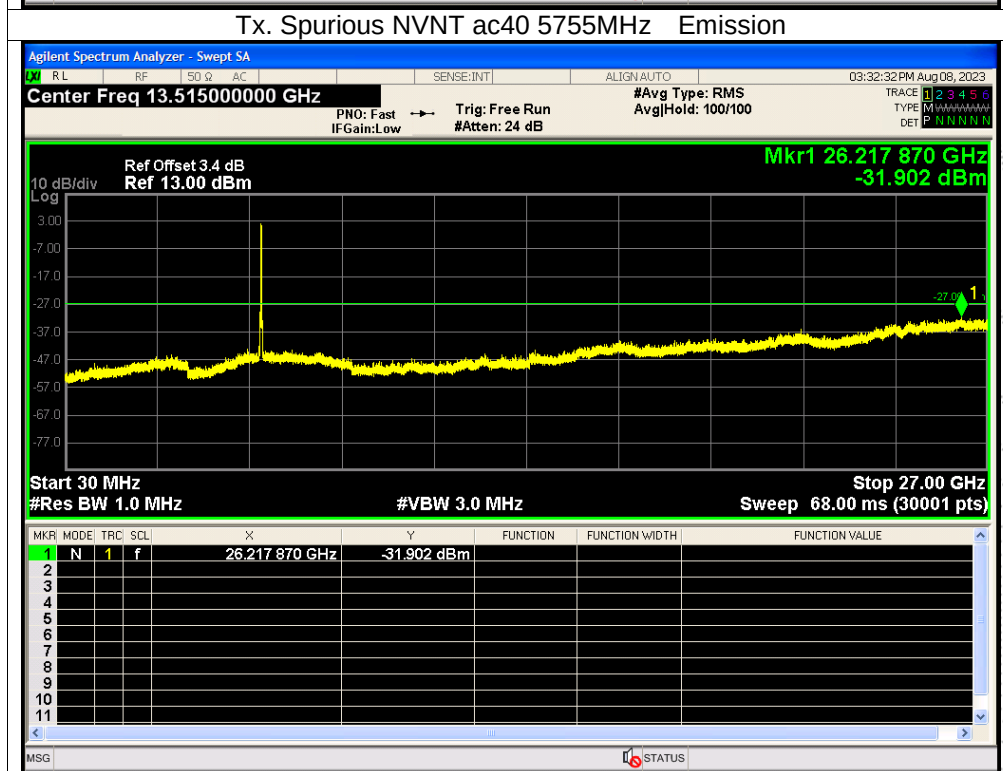
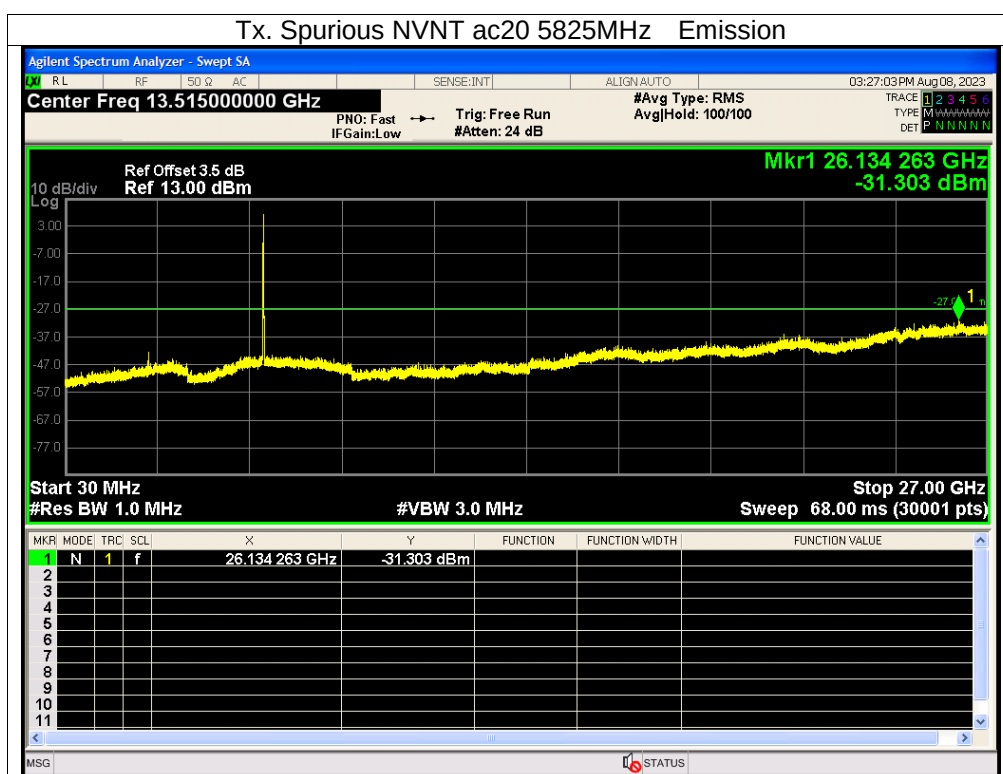


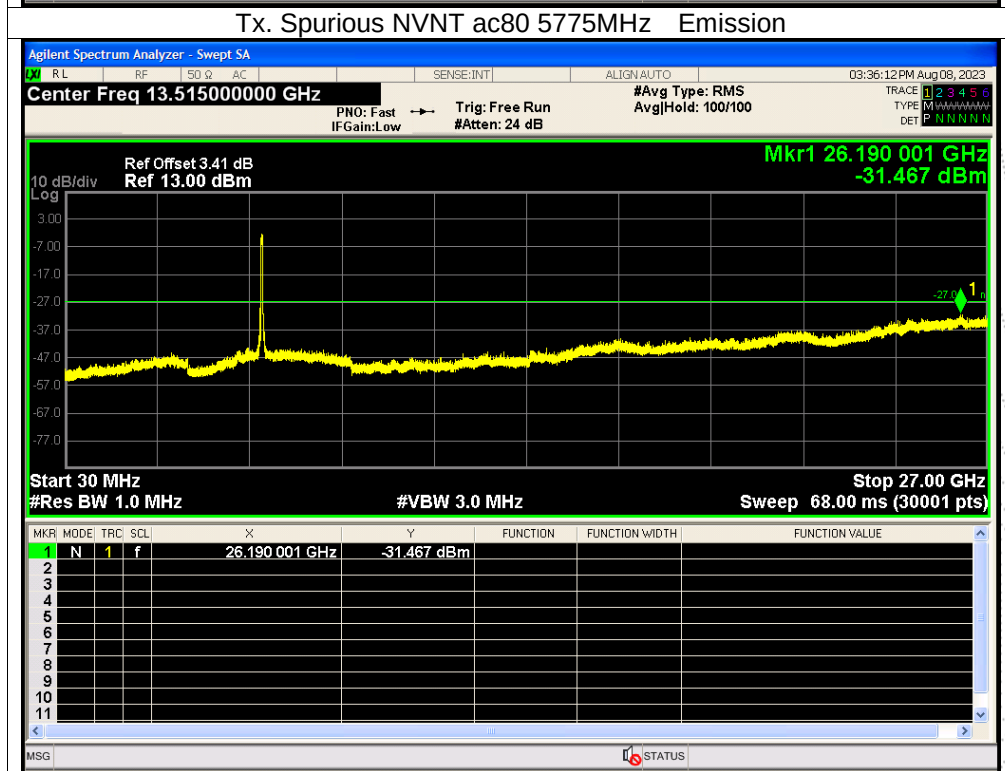
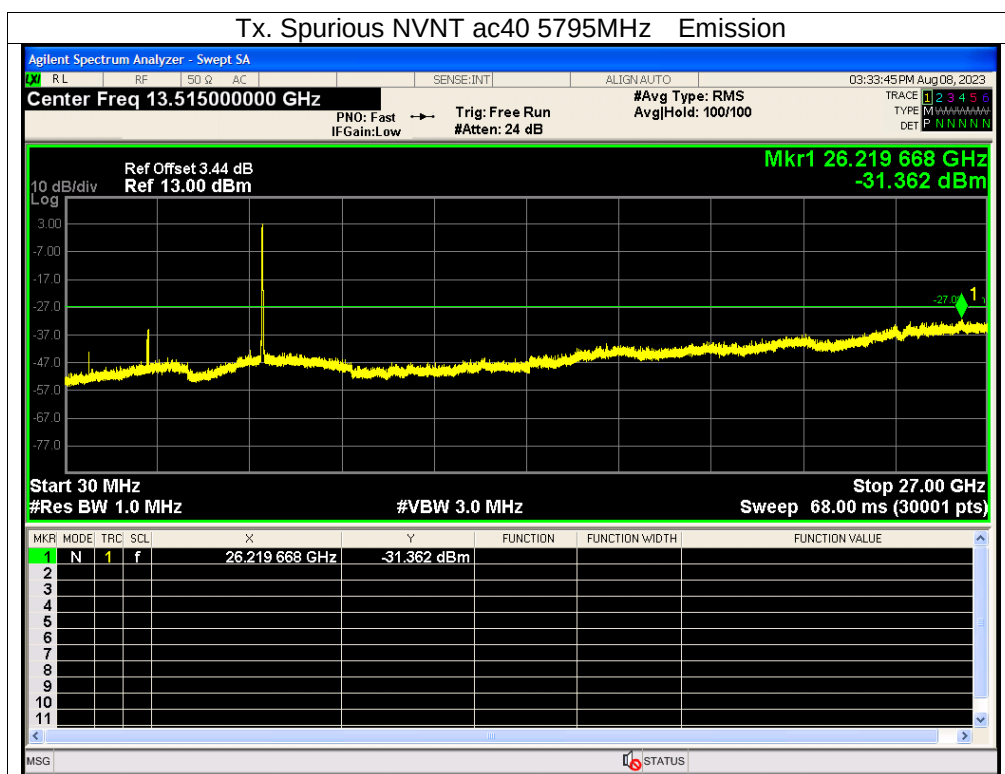


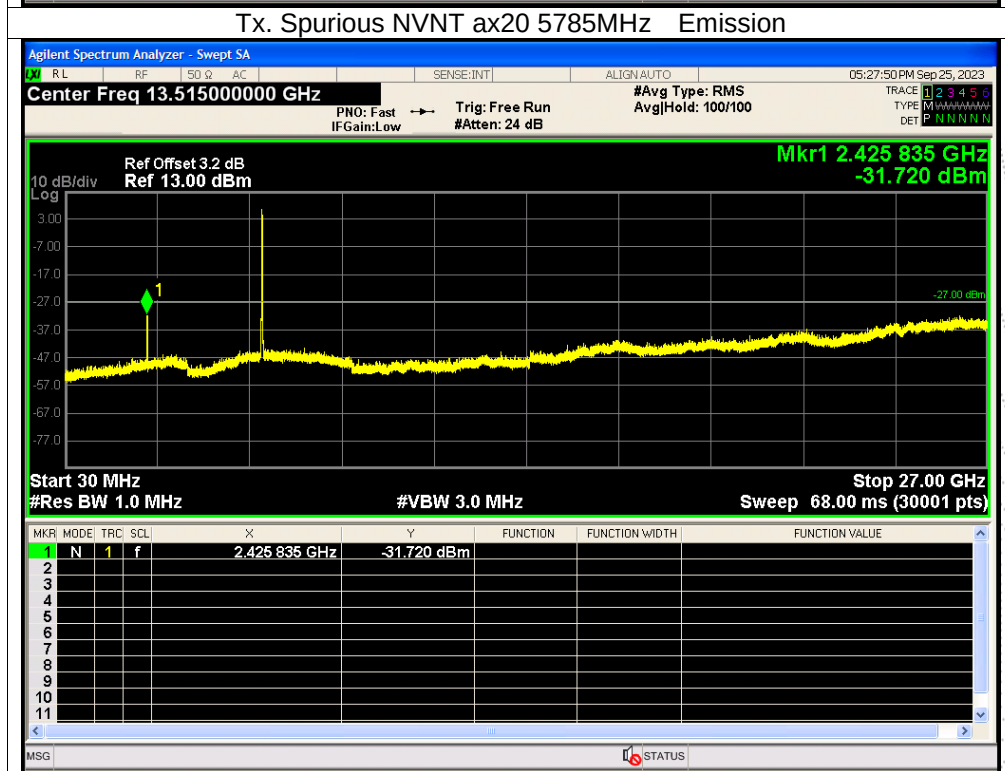
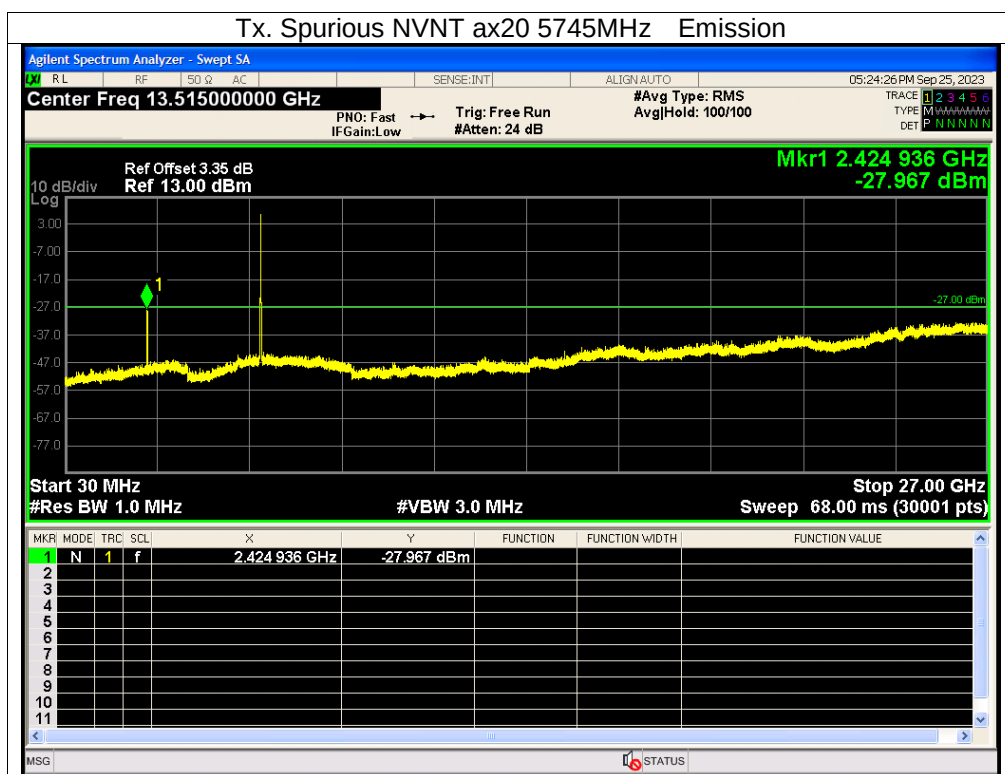


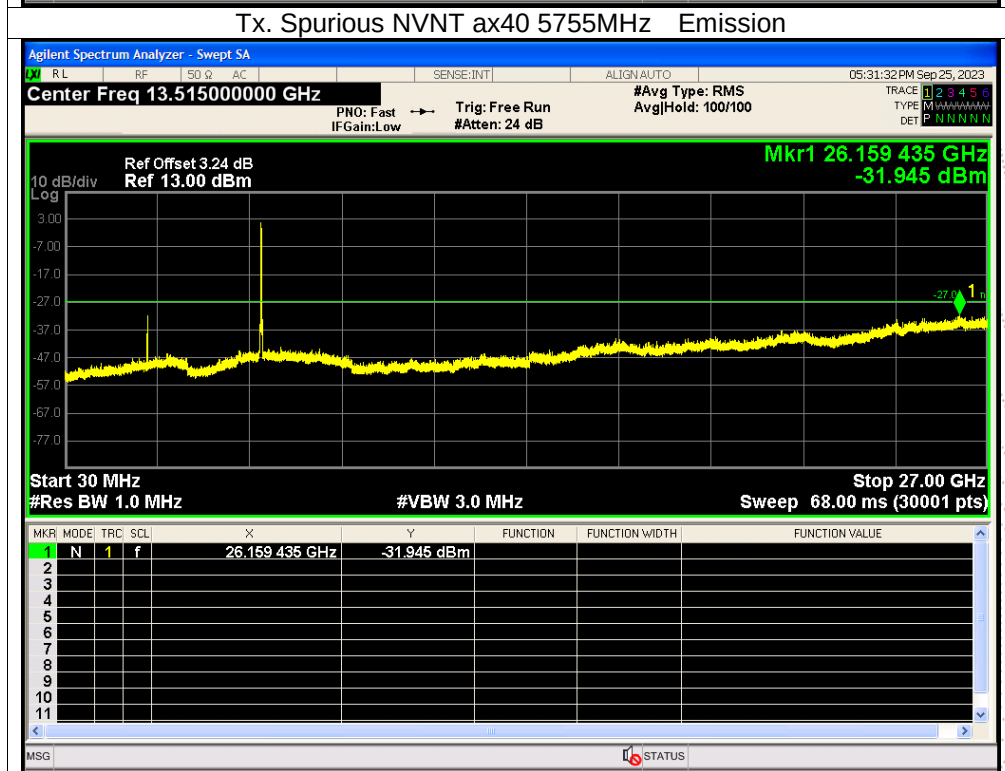
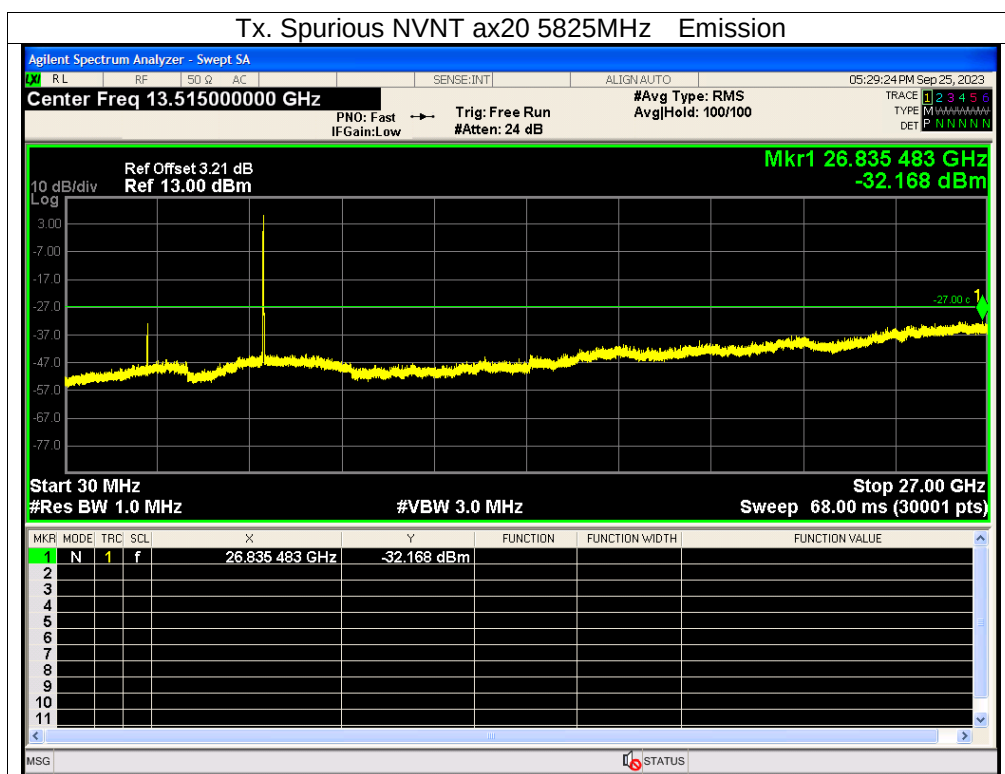


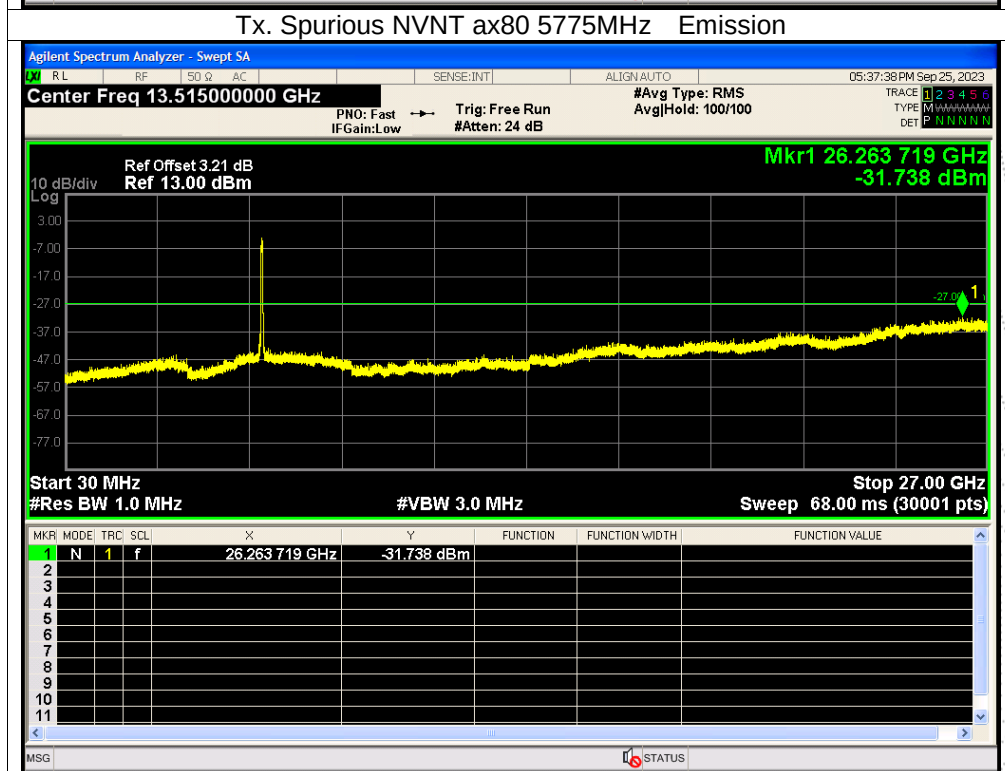
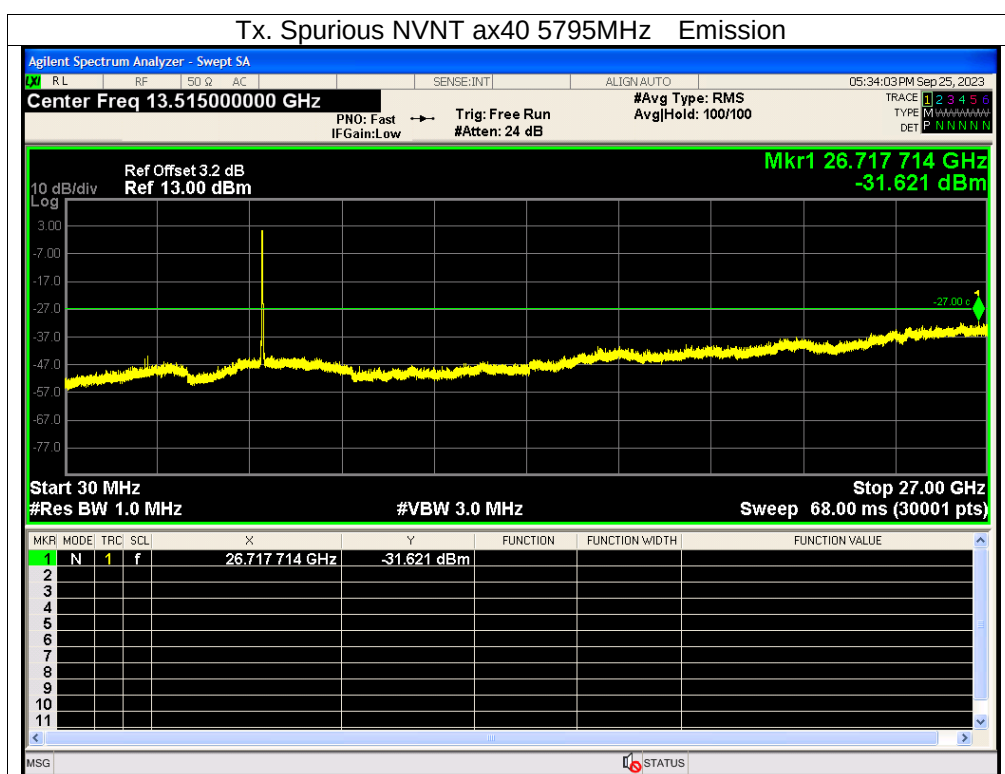












13. Frequency Stability Measurement

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 $-20^\circ\text{C} \sim 70^\circ\text{C}$.

13.4 Test Result

Temperature:	26 °C	Relative Humidity:	54%
Pressure:	101kPa	Test Voltage:	DC 7.74V
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)	7.74	5180.0131	5180	0.0131	2.5334
		V max (V)	8.51	5180.0121	5180	0.0121	2.3286
		V min (V)	6.96	5180.0025	5180	0.0025	0.4753
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)	7.74	T (°C)	-20	5180.0132	5180	0.0132	2.5568
		T (°C)	-10	5180.0025	5180	0.0025	0.4781
		T (°C)	0	5180.0047	5180	0.0047	0.8991
		T (°C)	10	5180.0022	5180	0.0022	0.4202
		T (°C)	20	5180.0070	5180	0.0070	1.3427
		T (°C)	30	5180.0034	5180	0.0034	0.6657
		T (°C)	40	5180.0015	5180	0.0015	0.2803
		T (°C)	50	5180.0106	5180	0.0106	2.0464
		T (°C)	60	5180.0074	5180	0.0074	1.4220
		T (°C)	70	5180.0049	5180	0.0049	0.9522
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)	7.74	5200.0072	5200	0.0072	1.3899
		V max (V)	8.51	5200.0123	5200	0.0123	2.3656
		V min (V)	6.96	5200.0032	5200	0.0032	0.6241
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)	7.74	T (°C)	-20	5200.00916	5200	0.00916	1.7620
		T (°C)	-10	5200.00801	5200	0.00801	1.5400
		T (°C)	0	5200.00121	5200	0.00121	0.2323
		T (°C)	10	5200.00544	5200	0.00544	1.0467
		T (°C)	20	5200.01158	5200	0.01158	2.2275
		T (°C)	30	5200.00606	5200	0.00606	1.1656
		T (°C)	40	5200.00133	5200	0.00133	0.2556
		T (°C)	50	5200.00458	5200	0.00458	0.8802
		T (°C)	60	5200.00176	5200	0.00176	0.3389
		T (°C)	70	5200.00054	5200	0.00054	0.1034
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)	7.74	5240.0006	5240	0.0006	0.1071
		V max (V)	8.51	5240.0030	5240	0.0030	0.5812
		V min (V)	6.96	5240.0051	5240	0.0051	0.9761
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)	7.74	T (°C)	-20	5240.0006	5240	0.0006	0.1133
		T (°C)	-10	5240.0051	5240	0.0051	0.9680
		T (°C)	0	5240.0041	5240	0.0041	0.7907
		T (°C)	10	5240.0110	5240	0.0110	2.1047
		T (°C)	20	5240.0058	5240	0.0058	1.1047
		T (°C)	30	5240.0074	5240	0.0074	1.4076
		T (°C)	40	5240.0070	5240	0.0070	1.3379
		T (°C)	50	5240.0135	5240	0.0135	2.5701
		T (°C)	60	5240.0082	5240	0.0082	1.5561
		T (°C)	70	5240.0005	5240	0.0005	0.0972
Limits				5150-5250 MHz			
Result				Complies			

Temperature:	26 °C	Relative Humidity:	54%
Pressure:	101kPa	Test Voltage:	DC 7.74V
Test Mode:	TX Frequency(5745-5825MHz)		

Voltage vs. Frequency Stability

TEST CONDITIONS				Reference Frequency: 5745MHz			
				f	fc	Max. Deviation (MHz)	Max. Deviation (ppm)
T nom (°C)	20	V nom (V)	7.74	5745.00861	5745	0.00861	1.4981
		V max (V)	8.51	5745.00636	5745	0.00636	1.1076
		V min (V)	6.96	5745.00880	5745	0.00880	1.5319
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)	7.74	T (°C)	-20	5745.00504	5745	0.00504	0.8767
		T (°C)	-10	5745.00006	5745	0.00006	0.0100
		T (°C)	0	5745.00338	5745	0.00338	0.5889
		T (°C)	10	5745.01057	5745	0.01057	1.8394
		T (°C)	20	5745.00077	5745	0.00077	0.1341
		T (°C)	30	5745.01275	5745	0.01275	2.2187
		T (°C)	40	5745.00104	5745	0.00104	0.1802
		T (°C)	50	5745.00041	5745	0.00041	0.0707
		T (°C)	60	5745.01068	5745	0.01068	1.8585
		T (°C)	70	5745.00729	5745	0.00729	1.2694
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)	7.74	5785.00449	5785	0.00449	0.7764
		V max (V)	8.51	5785.00646	5785	0.00646	1.1162
		V min (V)	6.96	5785.00763	5785	0.00763	1.3197
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)	7.74	T (°C)	-20	5785.00345	5785	0.00345	0.5957
		T (°C)	-10	5785.00513	5785	0.00513	0.8868
		T (°C)	0	5785.00671	5785	0.00671	1.1599
		T (°C)	10	5785.00133	5785	0.00133	0.2302
		T (°C)	20	5785.00755	5785	0.00755	1.3046
		T (°C)	30	5785.01320	5785	0.01320	2.2818
		T (°C)	40	5785.00636	5785	0.00636	1.1002
		T (°C)	50	5785.01000	5785	0.01000	1.7280
		T (°C)	60	5785.00298	5785	0.00298	0.5143
		T (°C)	70	5785.00795	5785	0.00795	1.3735
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)	7.74	5825.00916	5825	0.00916	1.5720
		V max (V)	8.51	5825.00688	5825	0.00688	1.1808
		V min (V)	6.96	5825.01019	5825	0.01019	1.7490
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)	7.74	T (°C)	-20	5825.00990	5825	0.00990	1.6994
		T (°C)	-10	5825.01250	5825	0.01250	2.1467
		T (°C)	0	5825.01167	5825	0.01167	2.0036
		T (°C)	10	5825.00973	5825	0.00973	1.6703
		T (°C)	20	5825.01010	5825	0.01010	1.7341
		T (°C)	30	5825.01101	5825	0.01101	1.8896
		T (°C)	40	5825.00213	5825	0.00213	0.3659
		T (°C)	50	5825.00939	5825	0.00939	1.6112
		T (°C)	60	5825.00004	5825	0.00004	0.0070
		T (°C)	70	5825.01055	5825	0.01055	1.8117
Limits				5725-5850 MHz			
Result				Complies			

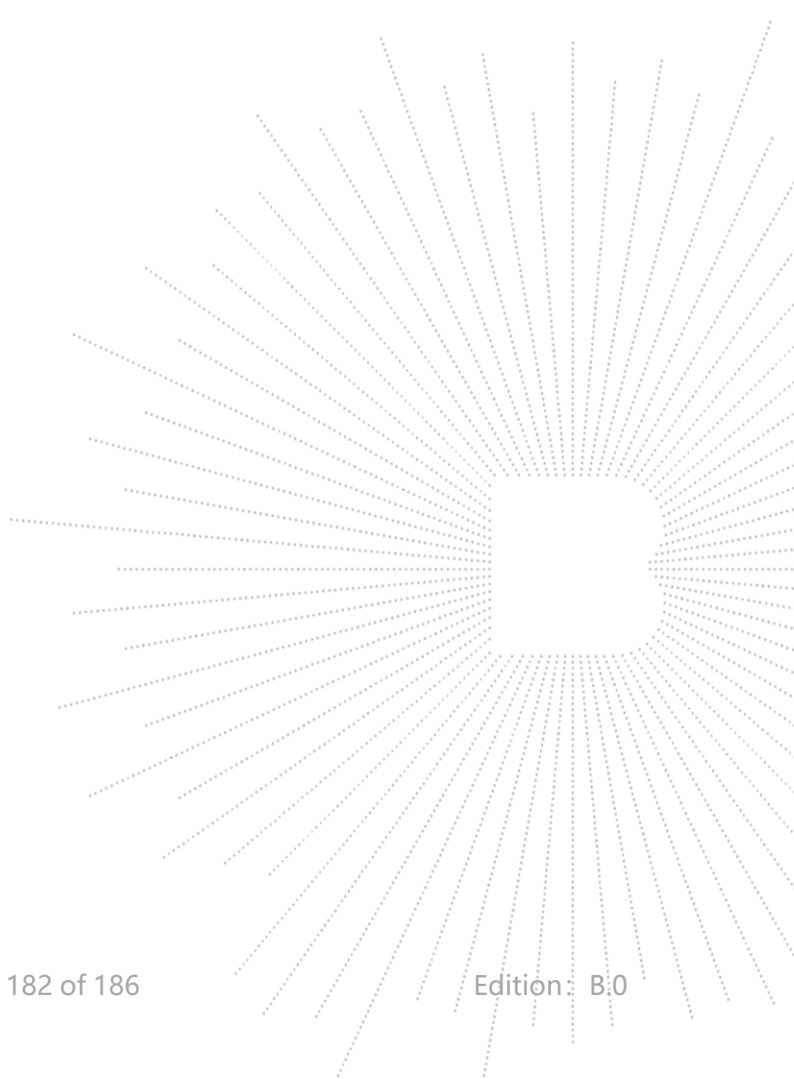
14. Antenna Requirement

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: 5.1G: -0.41 dBi, 5.8G: -0.15 dBi). It comply with the standard requirement.



15. EUT Photographs

EUT Photo 1

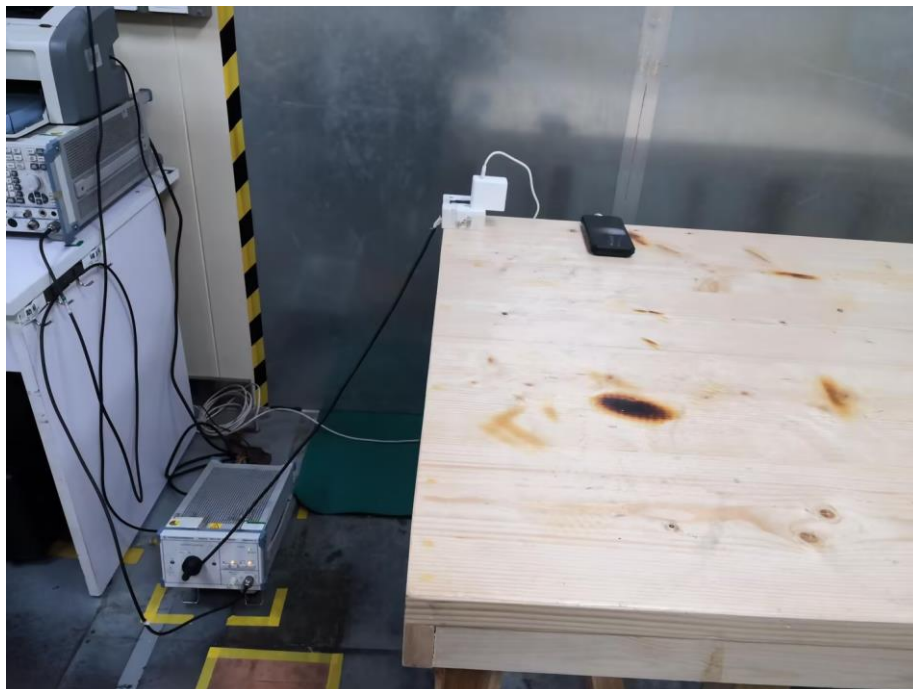


EUT Photo 2

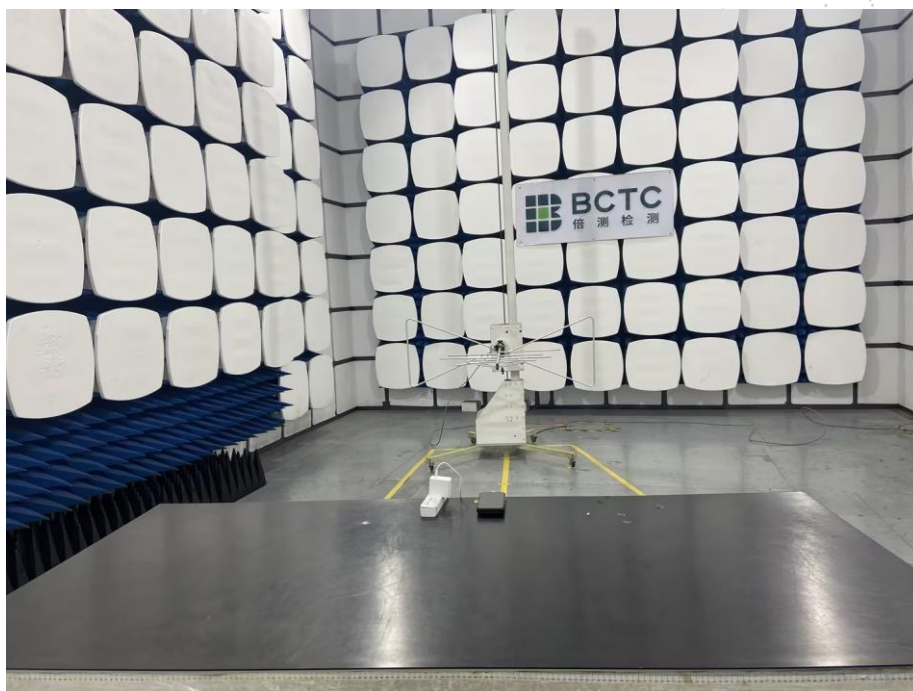


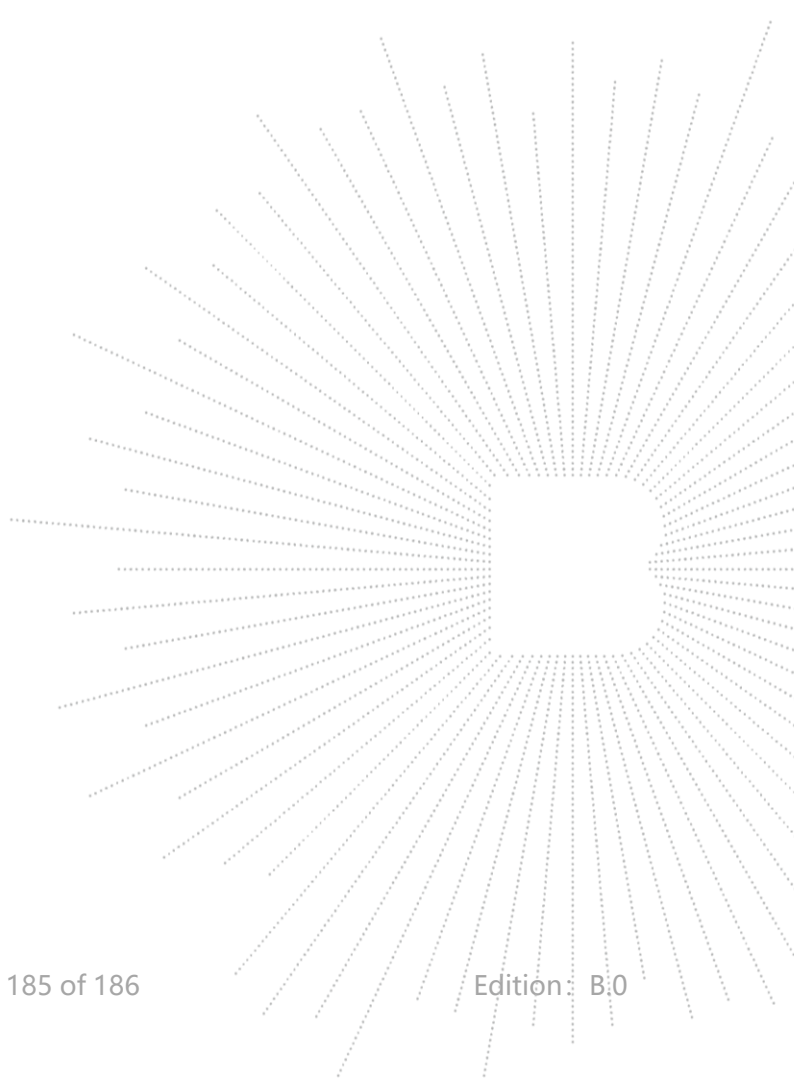
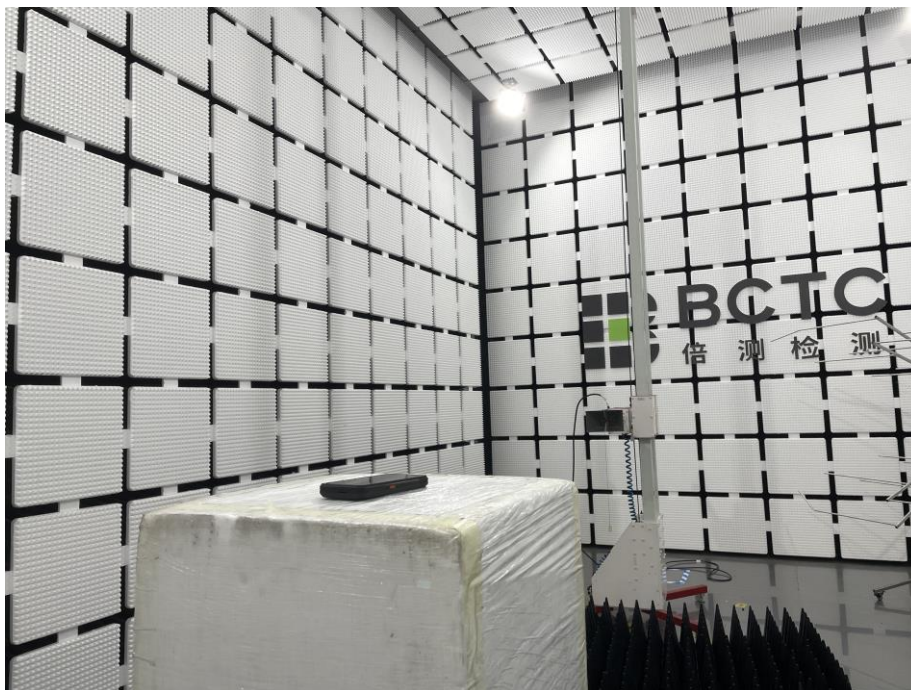
16. EUT Test Setup Photographs

Conducted Measurement Photo



Radiated Measurement Photos





STATEMENT

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

Address:

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

TEL: 400-788-9558

P.C.: 518103

FAX: 0755-33229357

Website: <http://www.chnbctc.com>

E-Mail: bctc@bctc-lab.com.cn

***** END *****