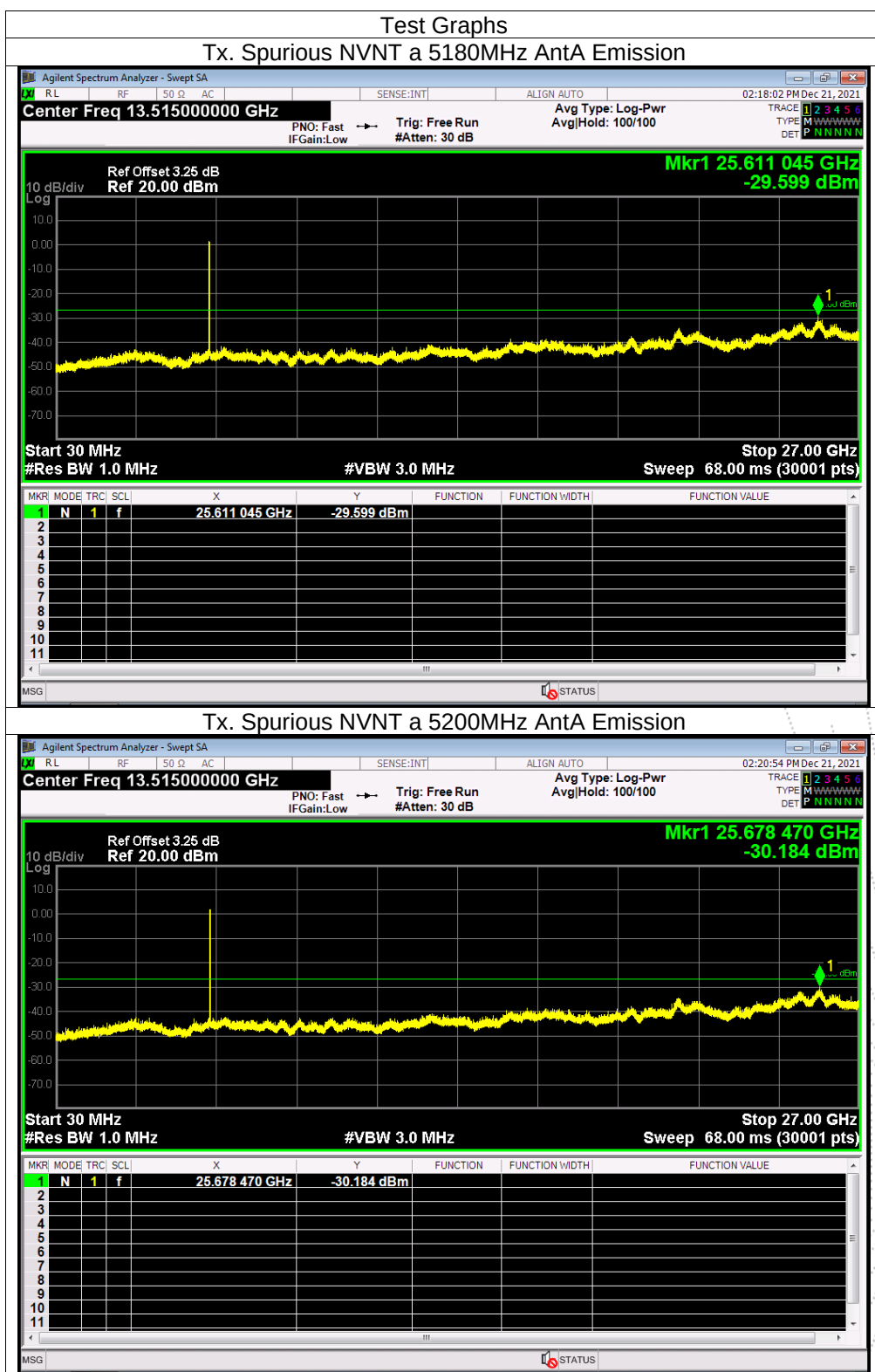
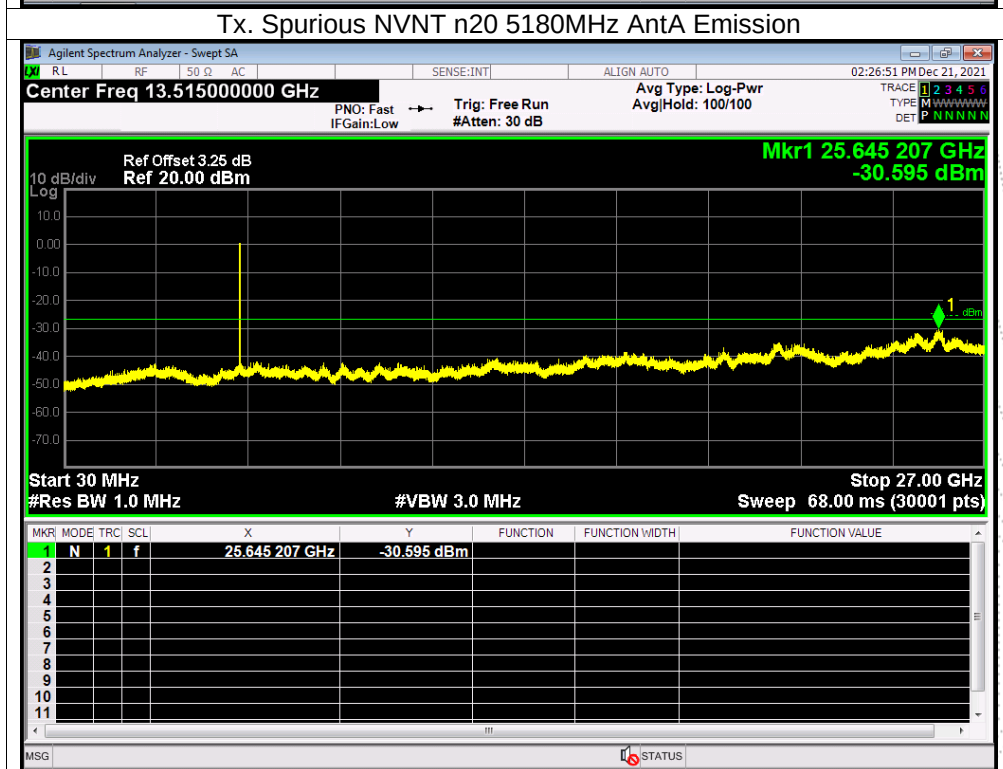
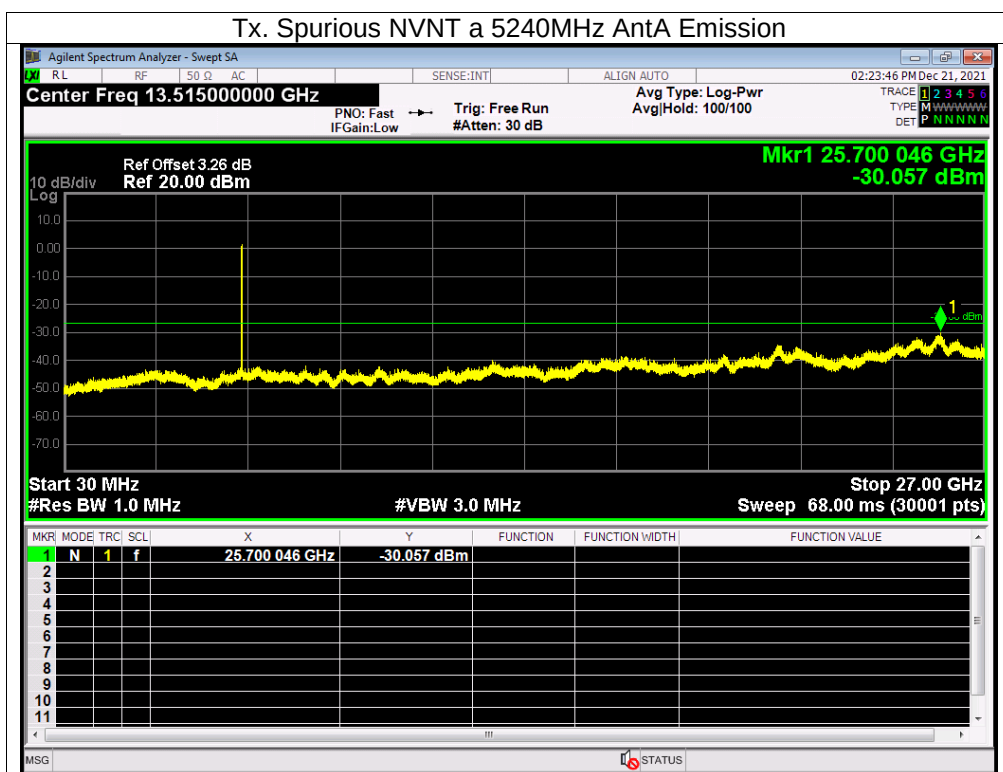
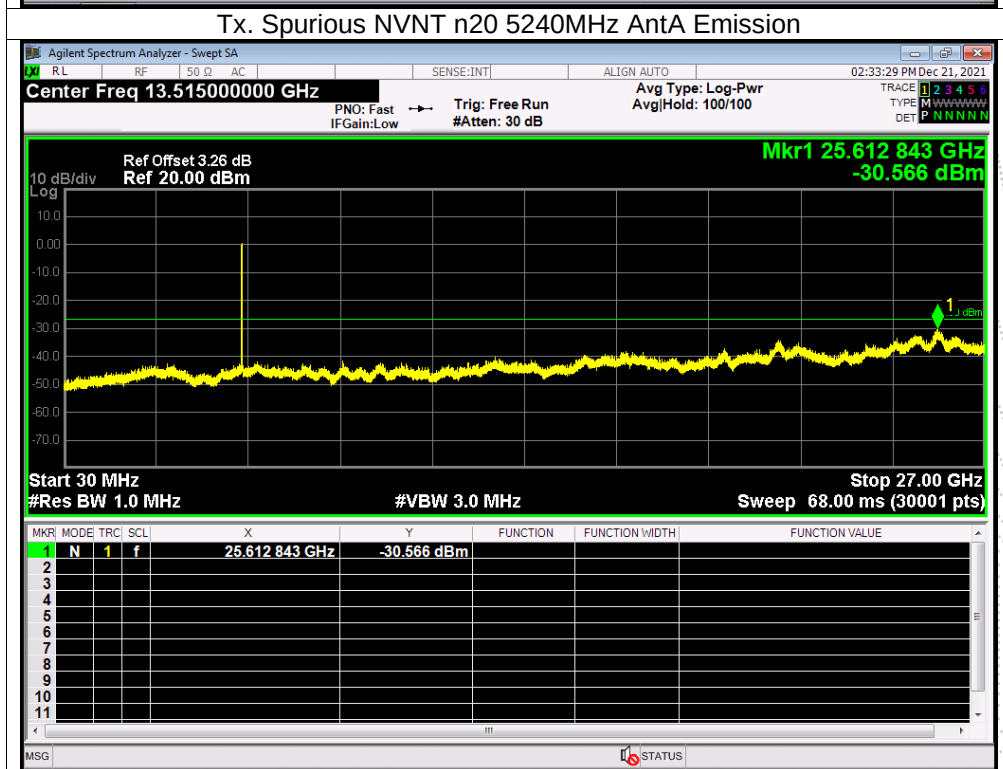
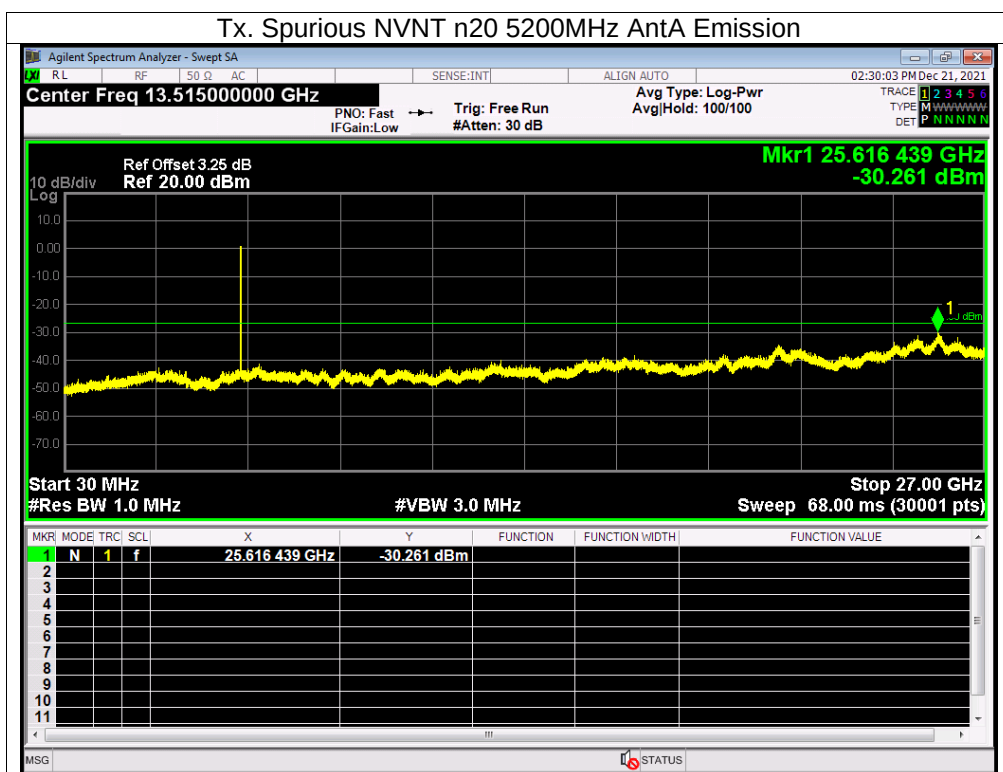
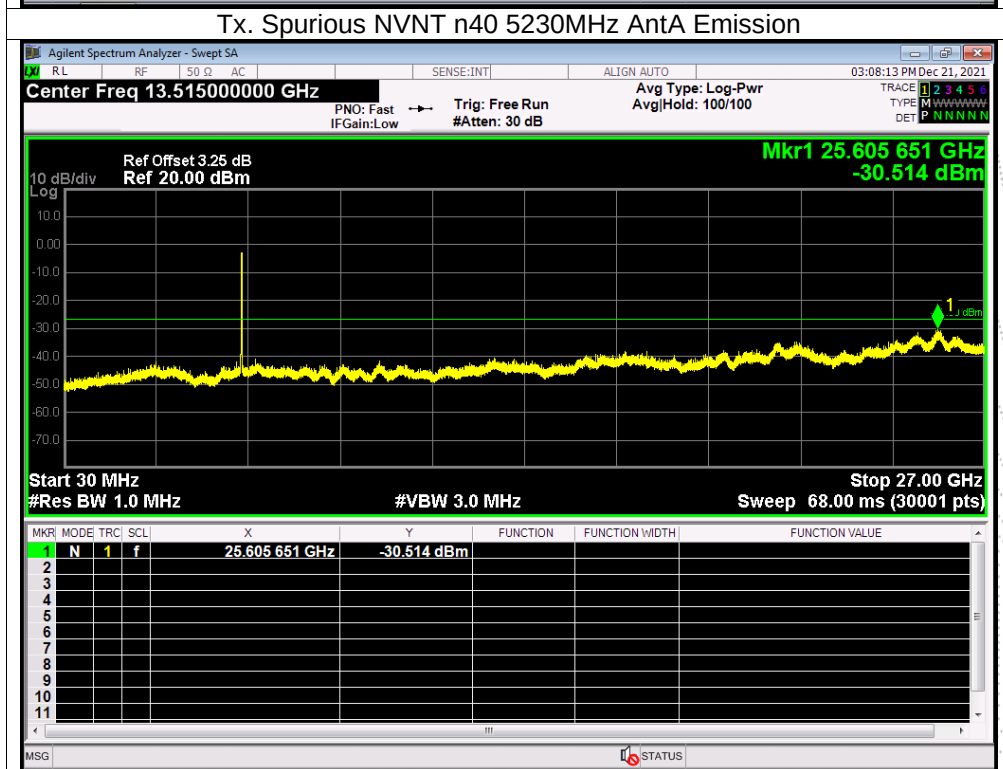
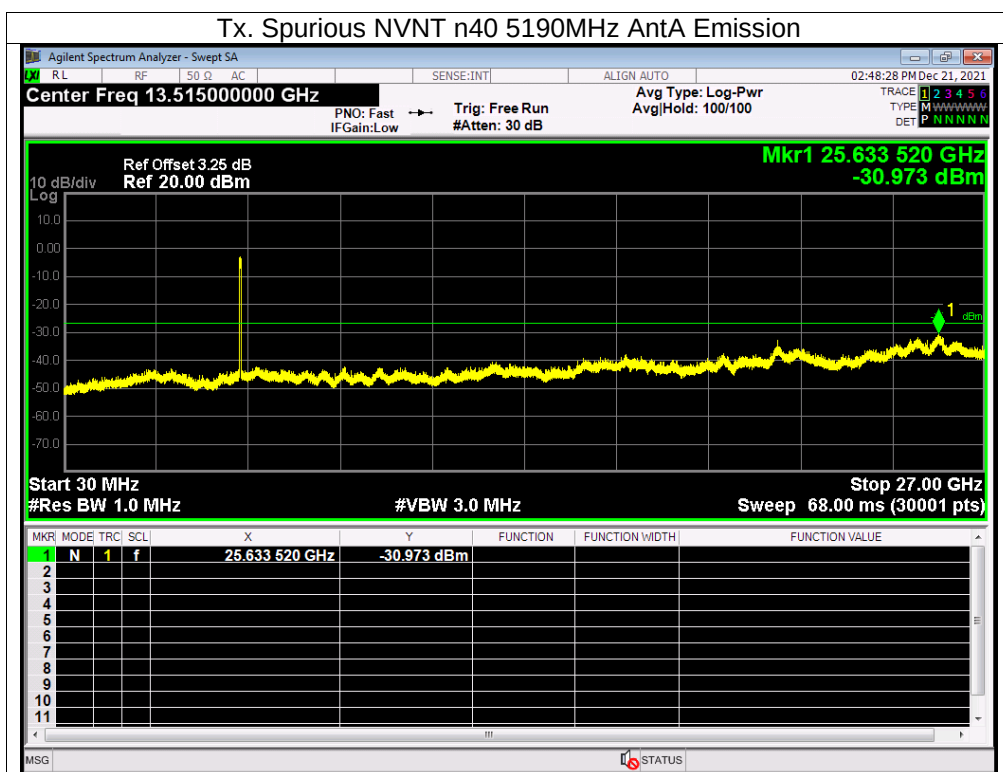


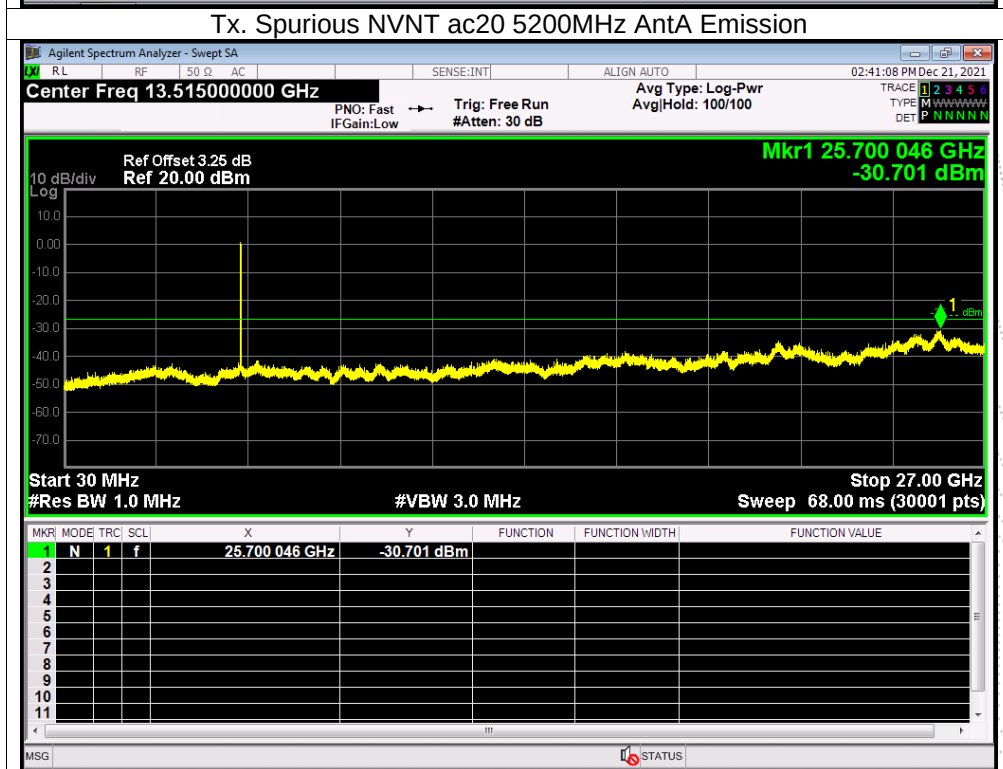
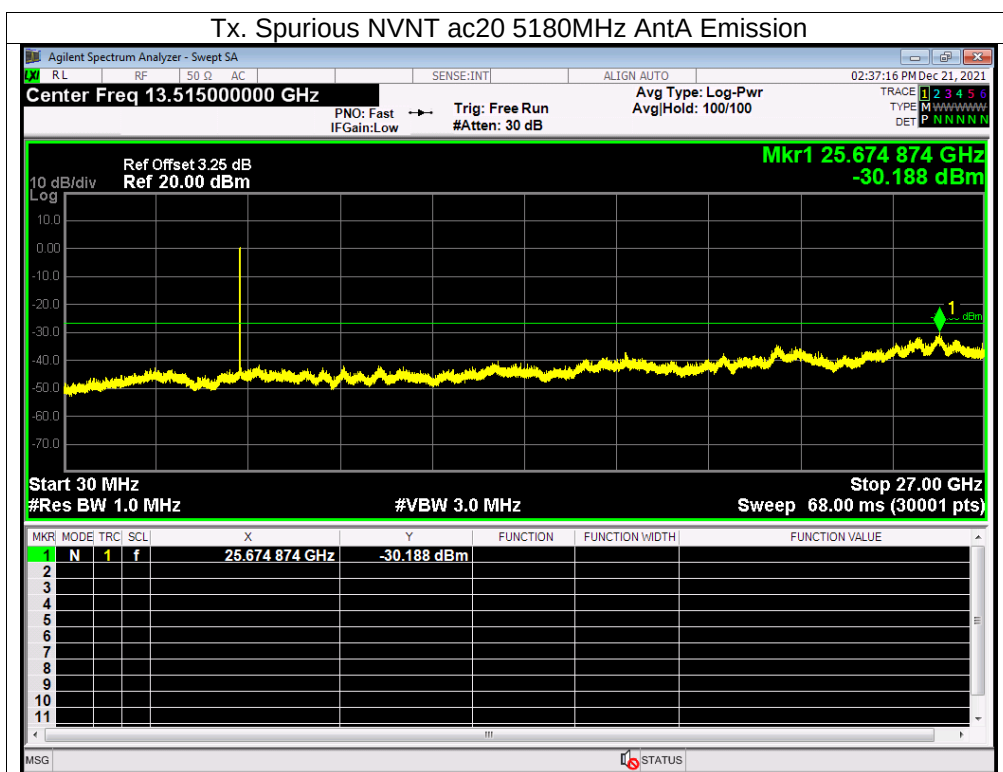
Note: A(B) Represent the value of antenna A and B, The worst data is Antenna A ,only shown Antenna A .
Plot. Antenna A: 5180-5240MHz

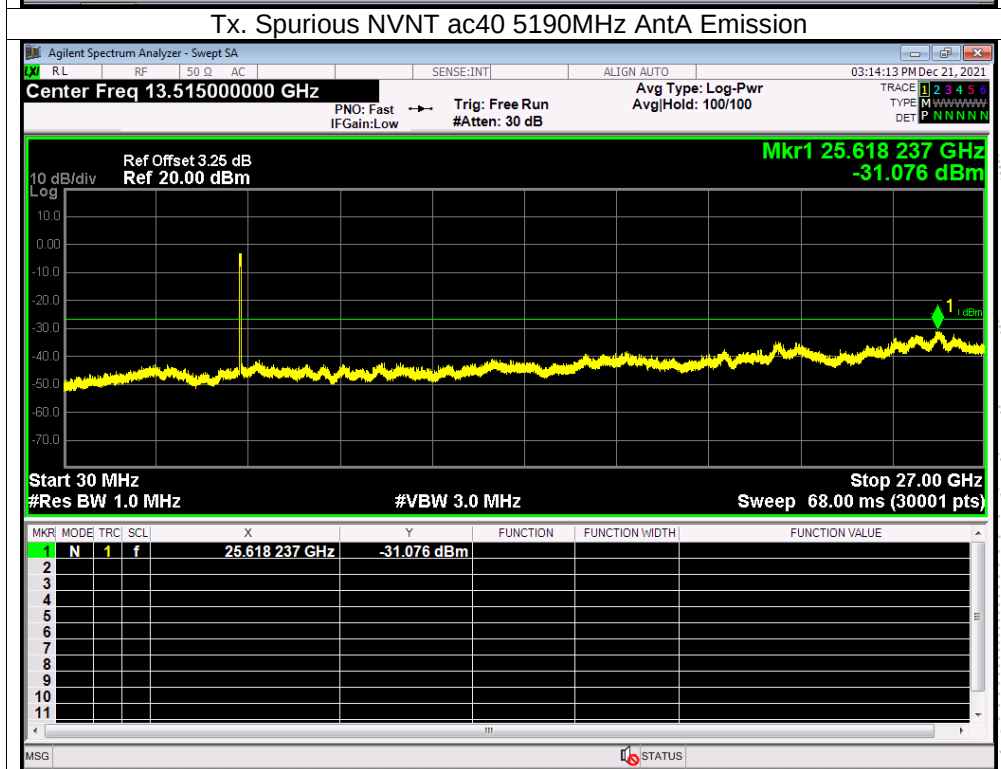
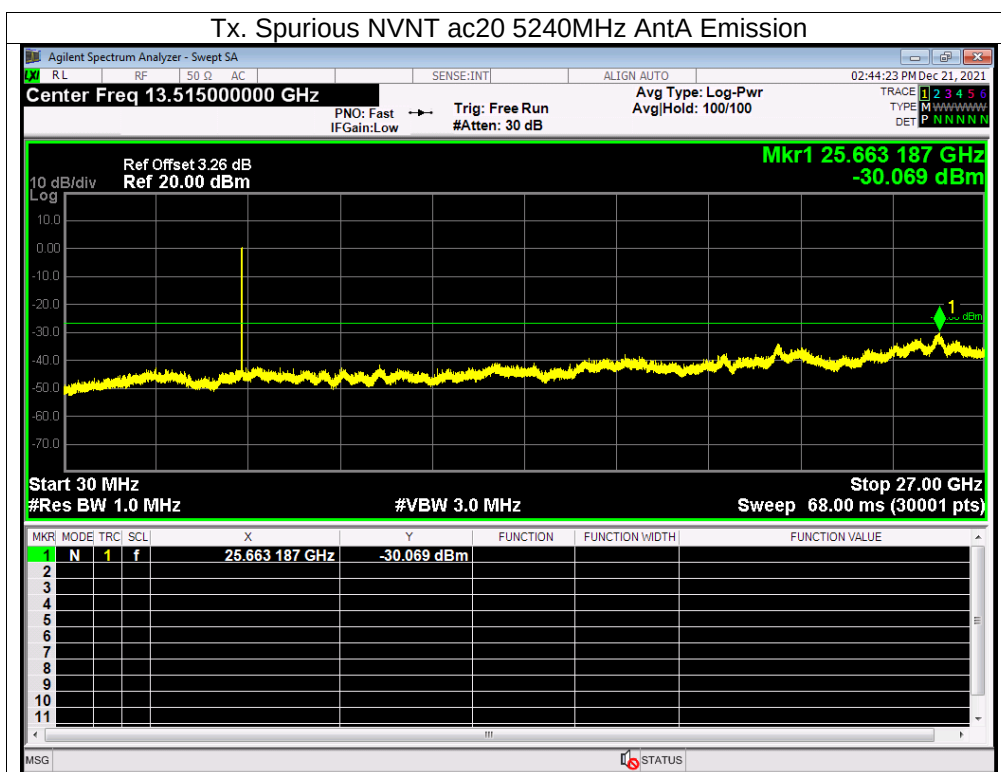


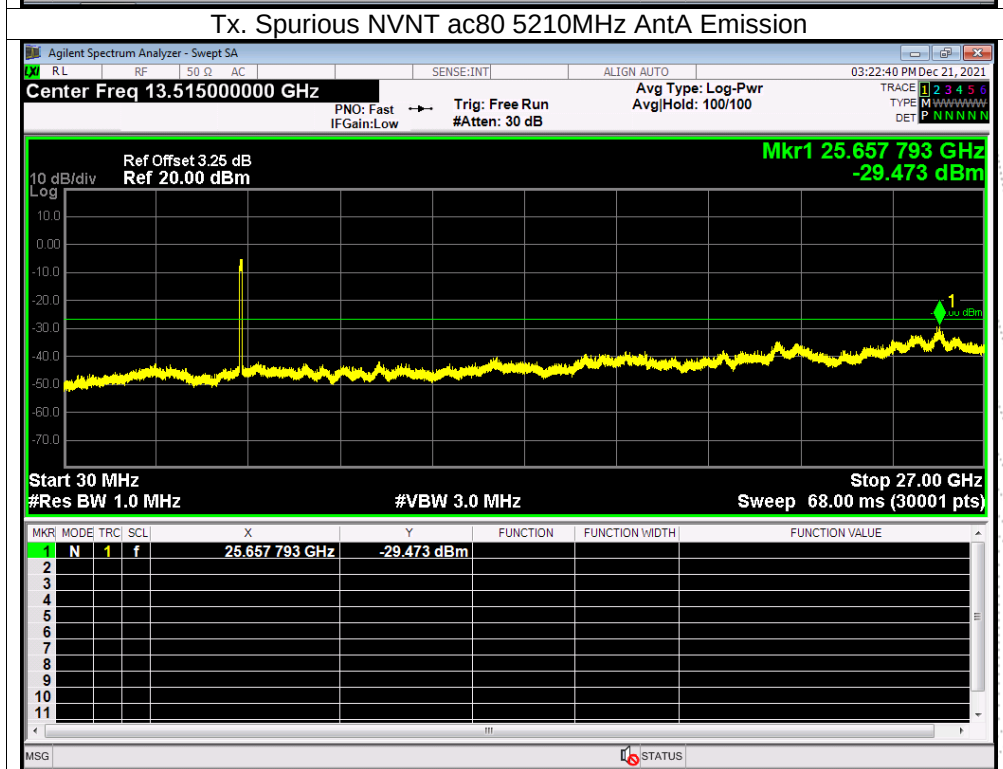
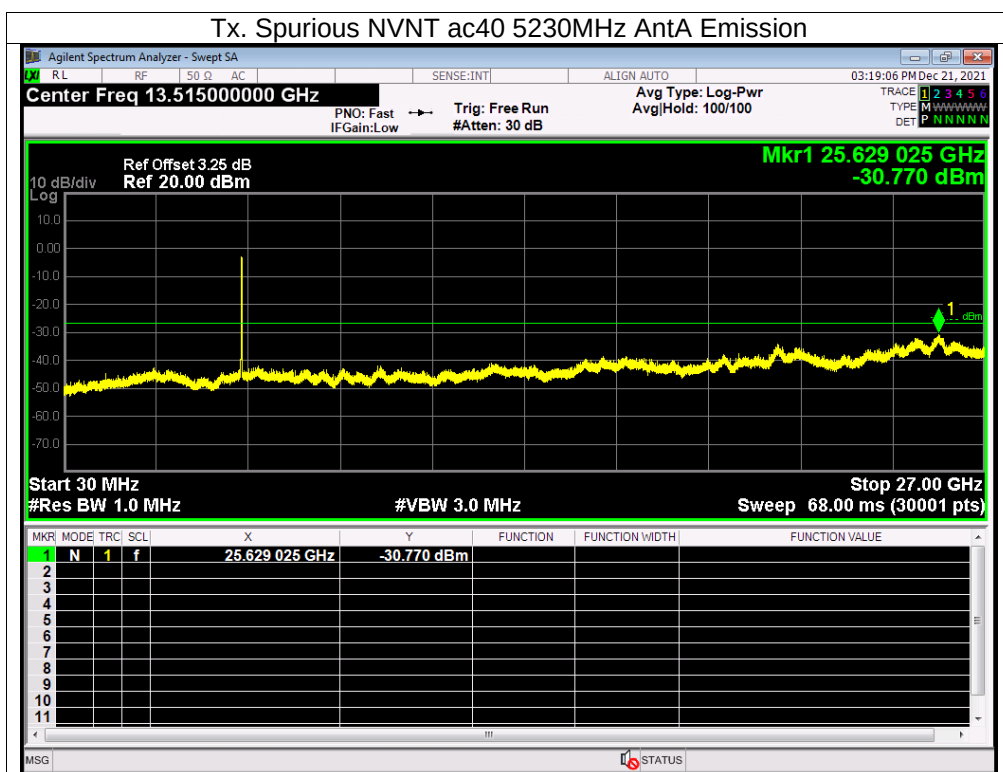




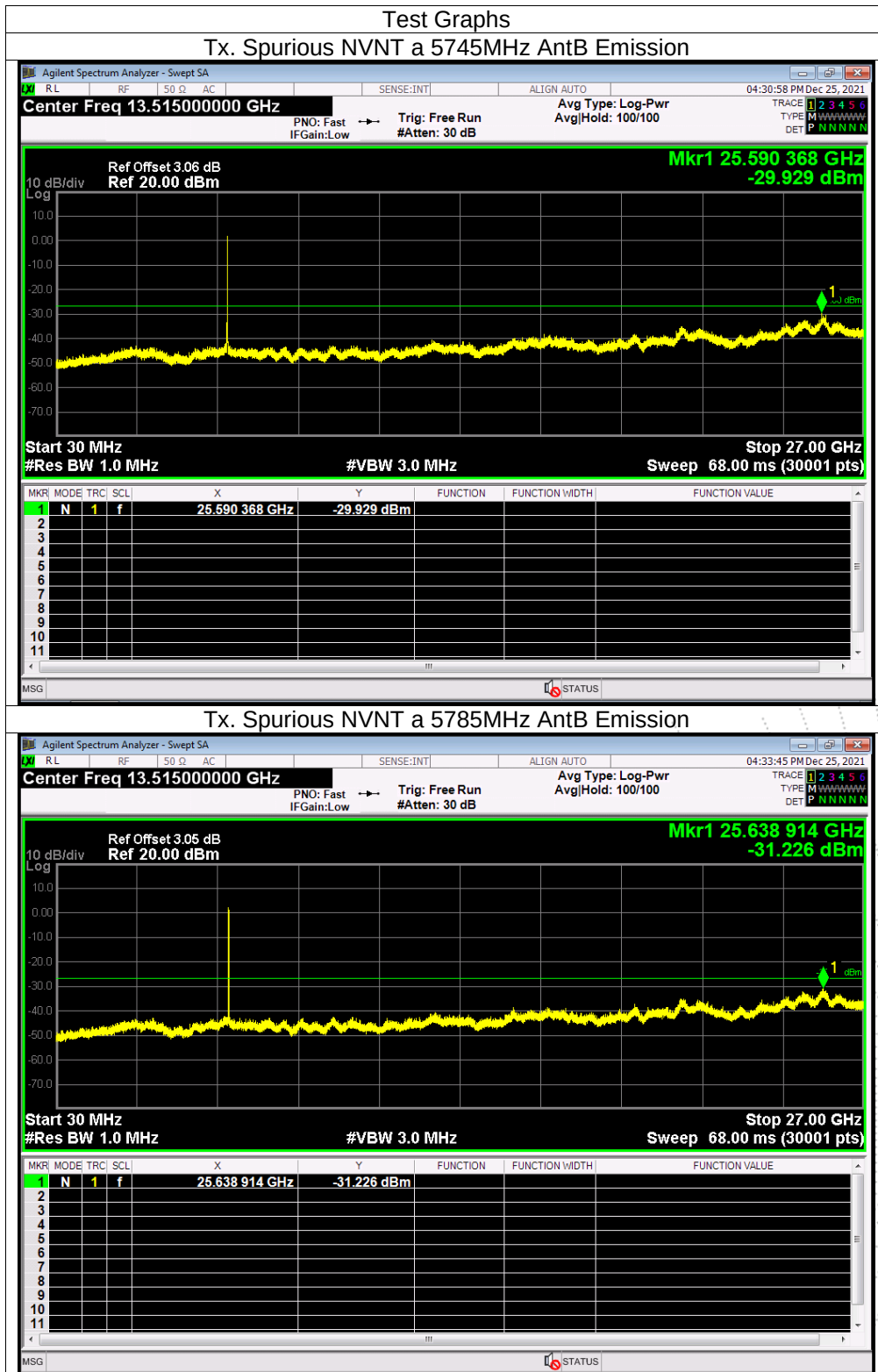


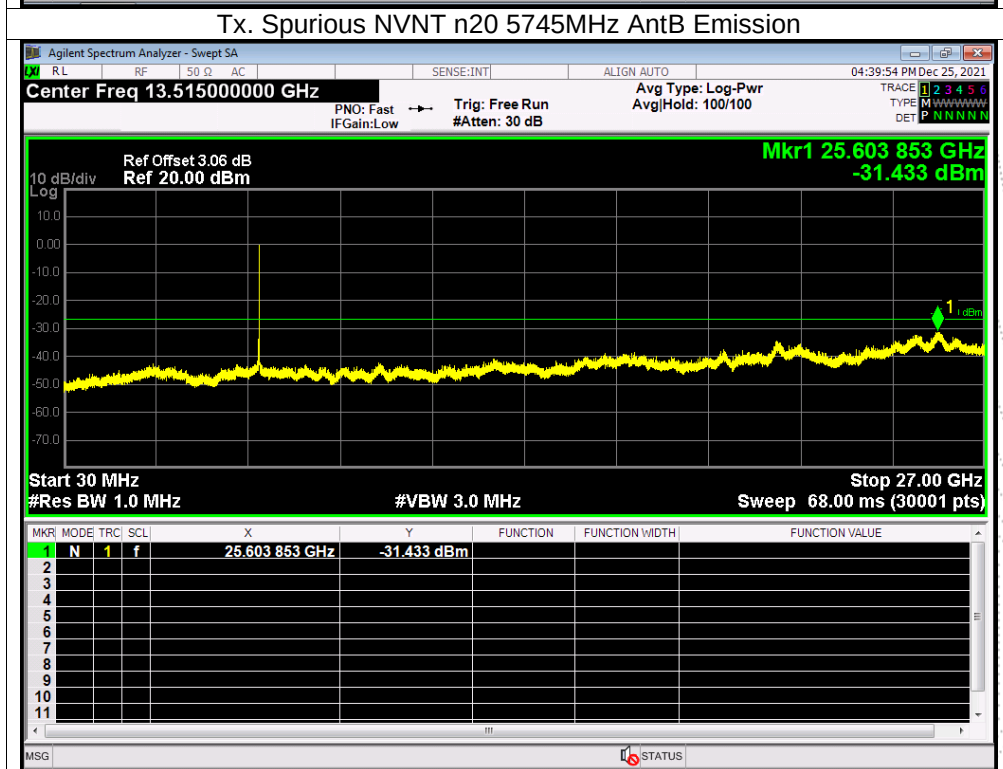
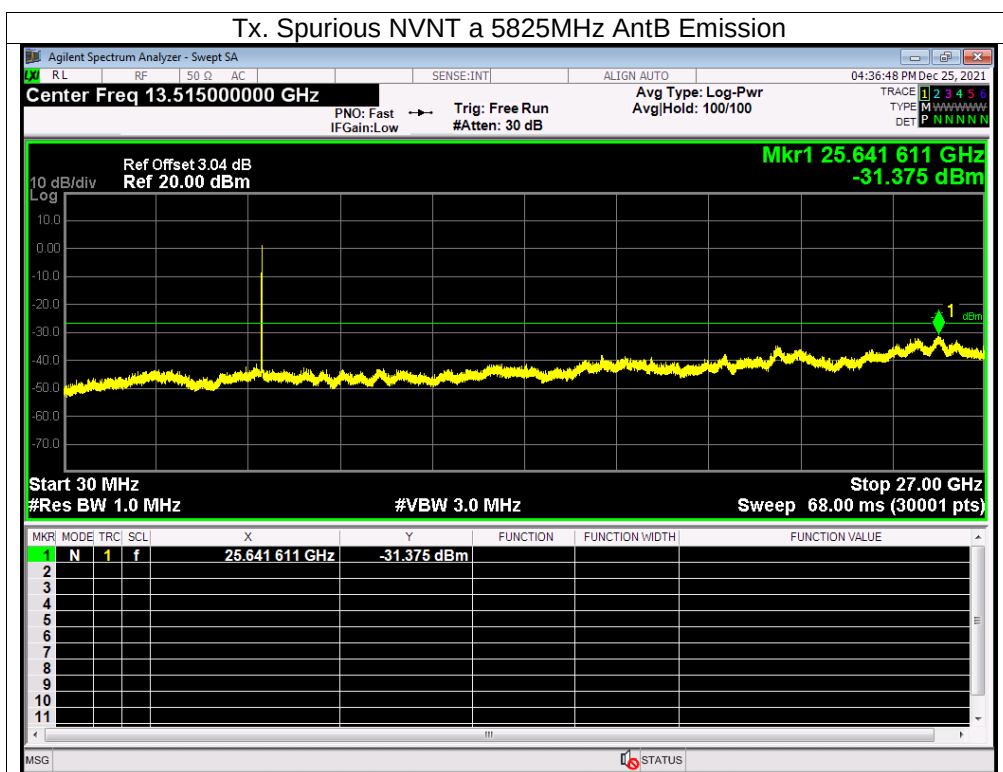


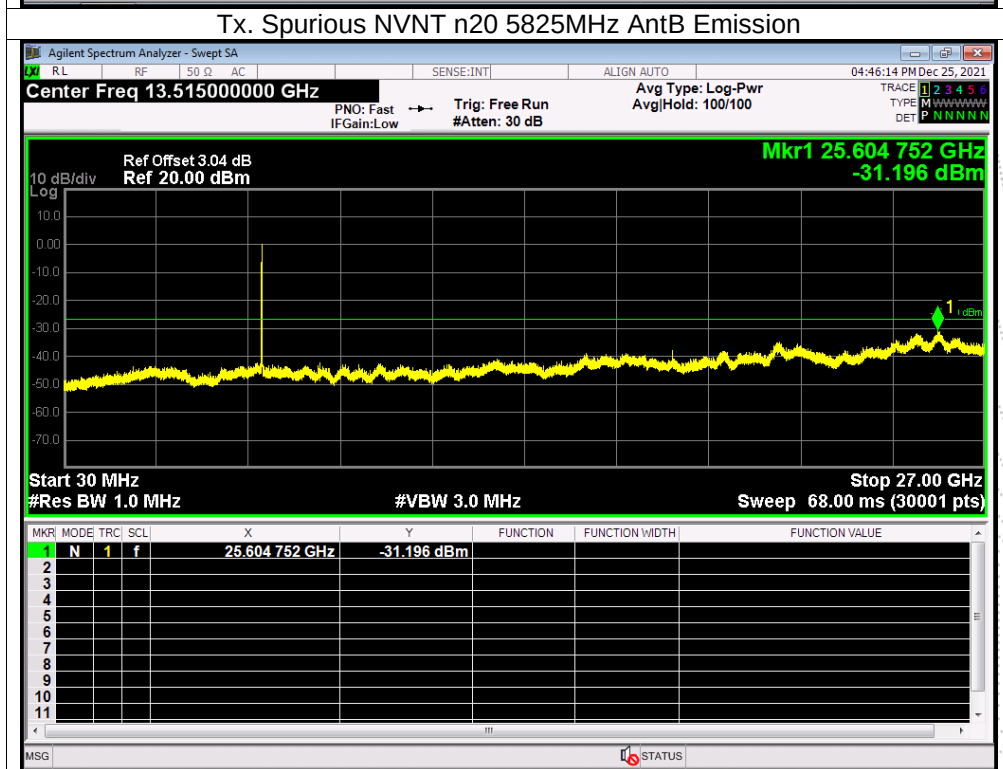
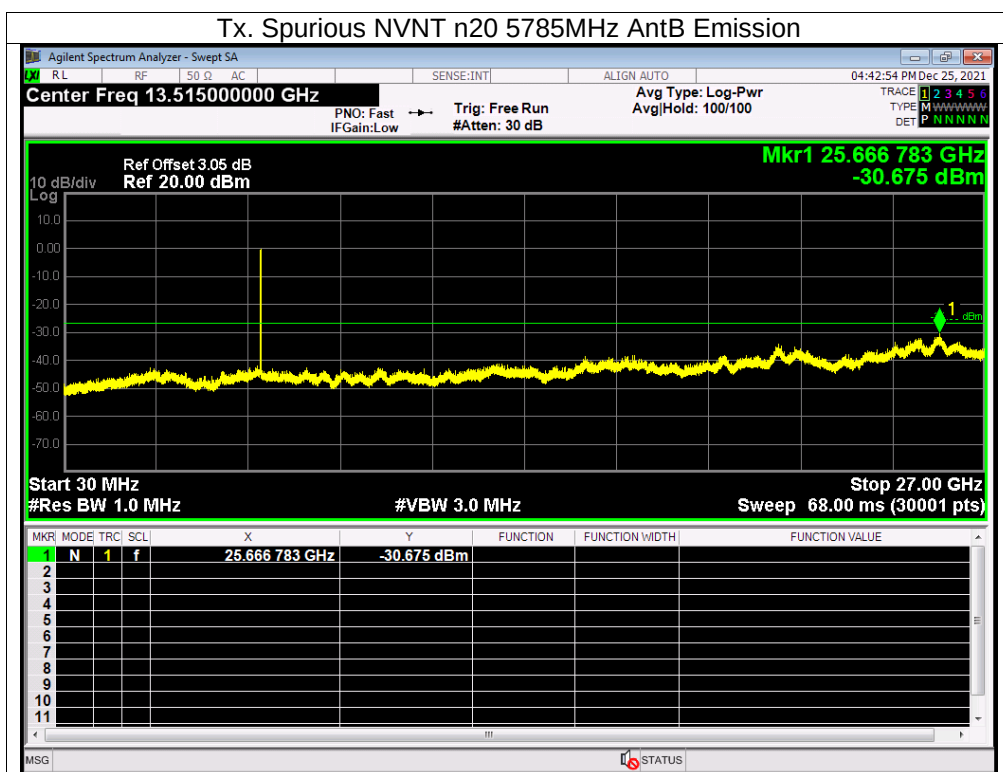


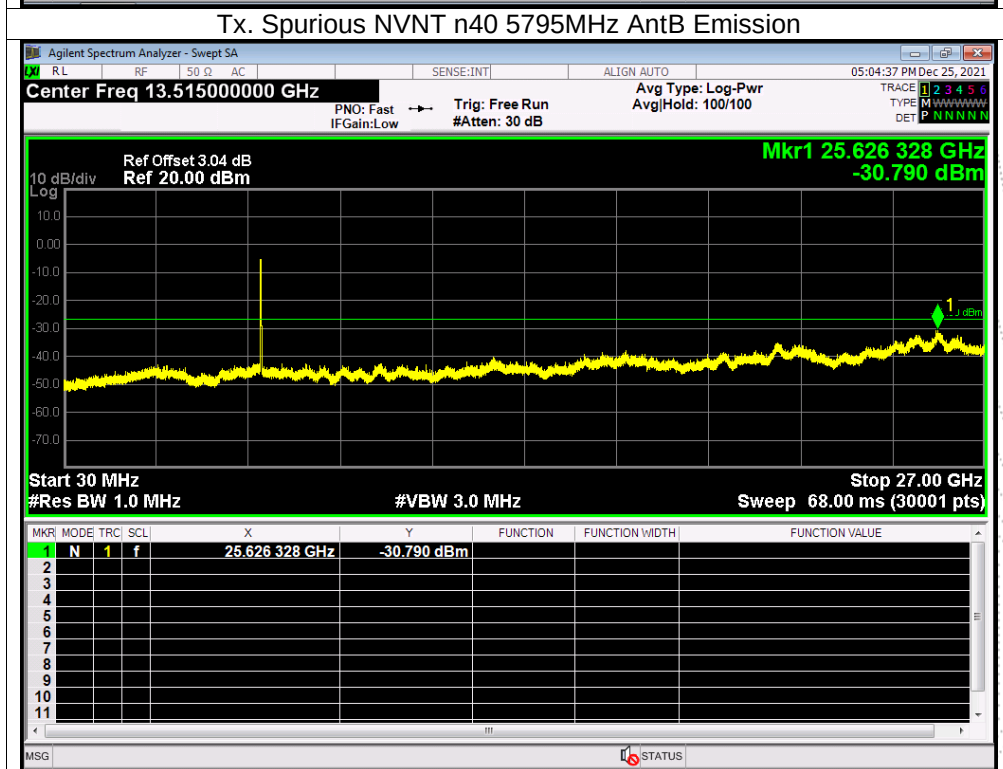
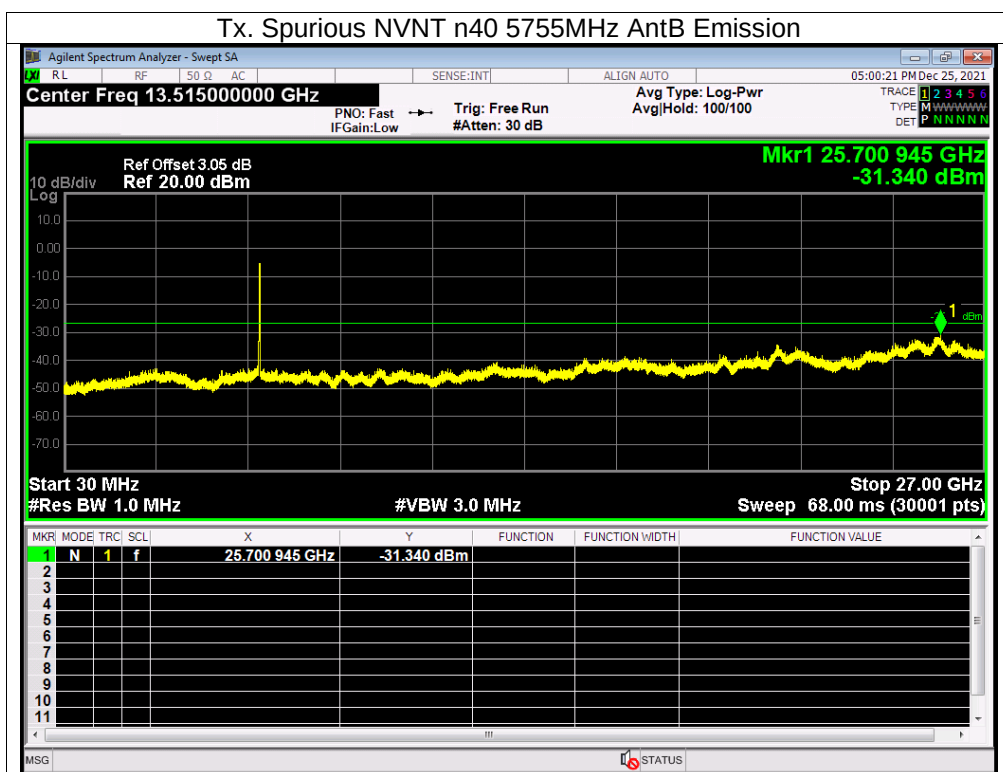


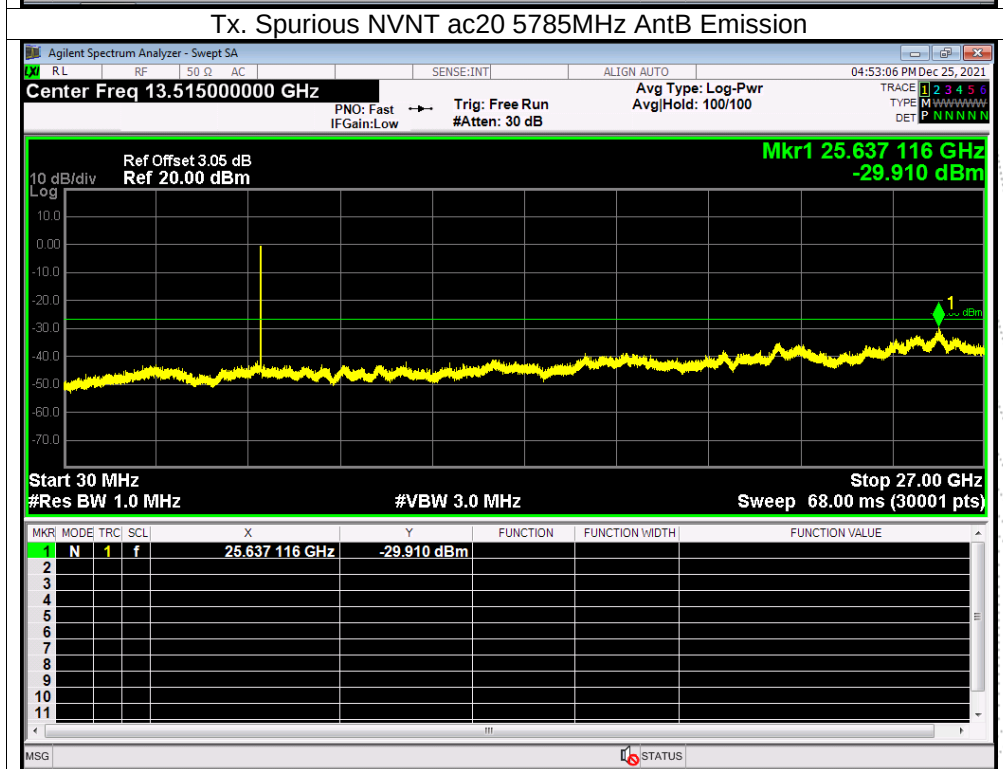
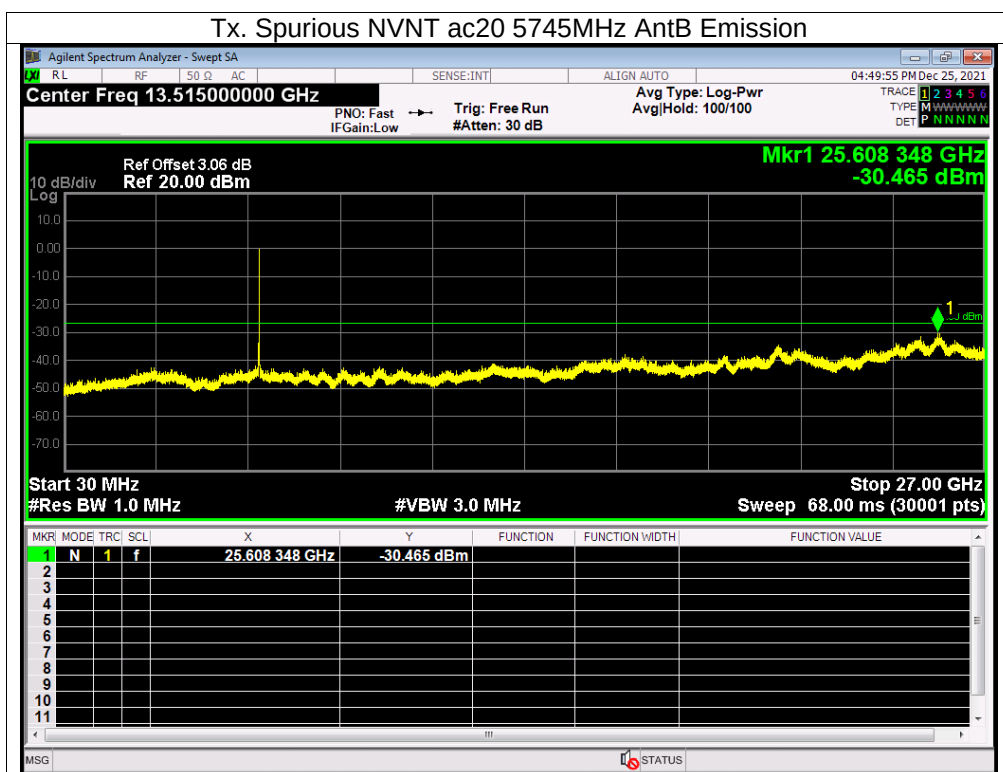
Note: A(B) Represent the value of antenna A and B, The worst data is Antenna B, only shown Antenna B.
Antenna A: 5745-58250MHz

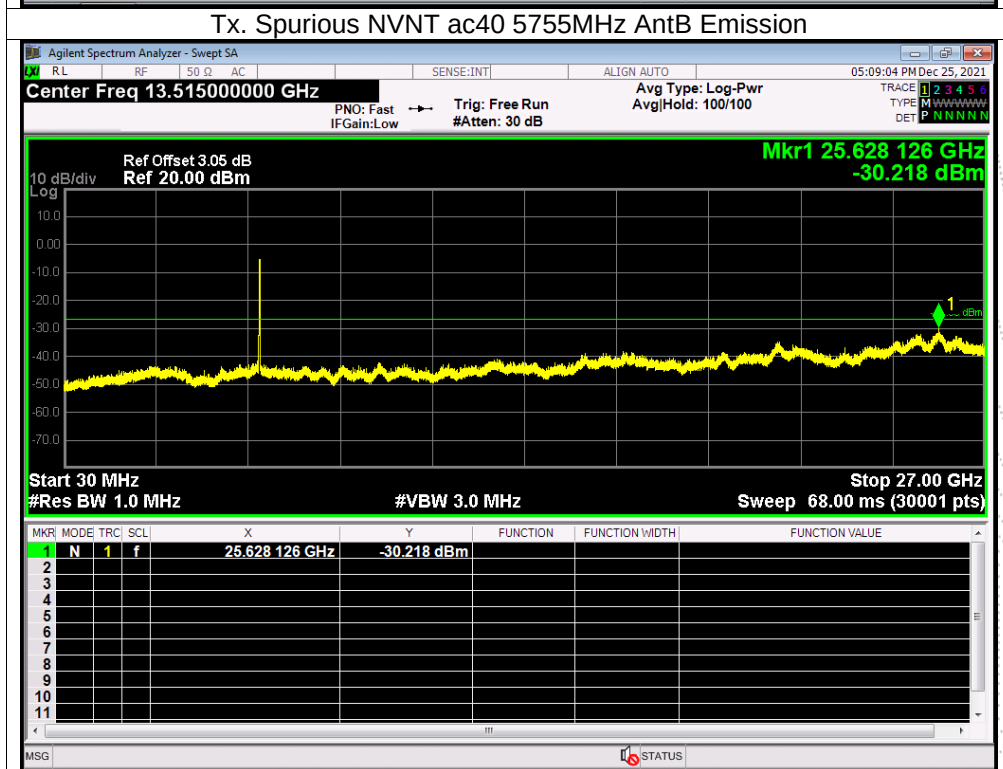
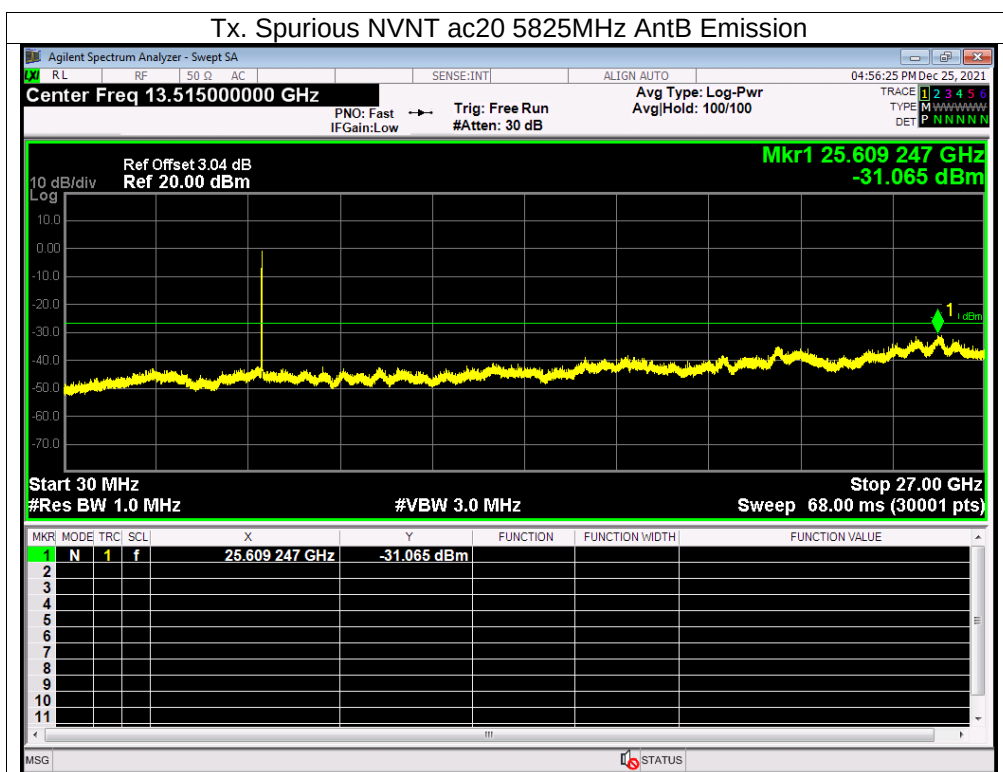


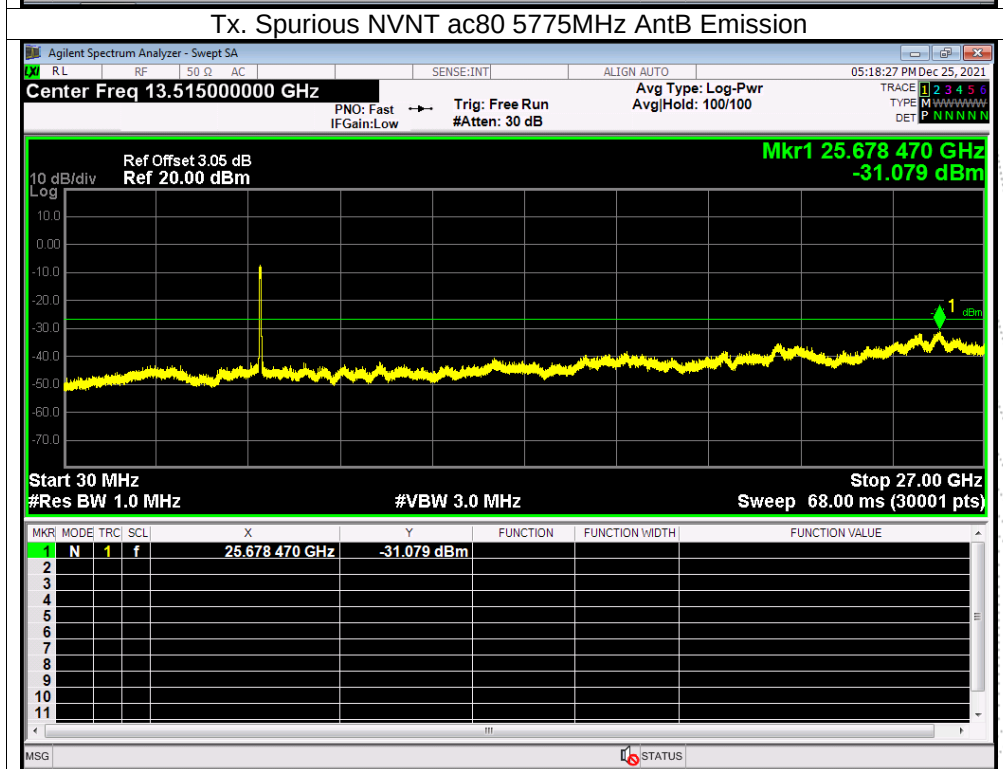
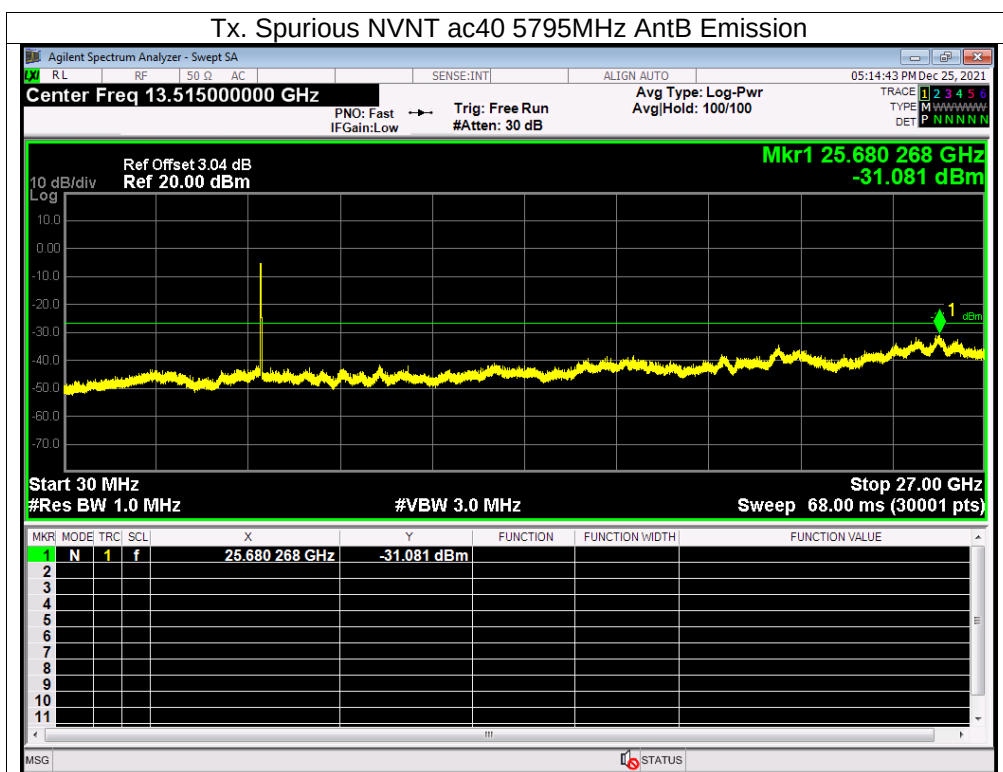












13. Frequency Stability Measurement

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 :	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	5180.0151	5180	0.0151	2.9144
		V max (V)	138.00	5180.0119	5180	0.0119	2.2976
		V min (V)	102.00	5180.0056	5180	0.0056	1.0856
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)	12	T (°C)	-20	5180.0018	5180	0.0018	0.3441
		T (°C)	-10	5180.0017	5180	0.0017	0.3316
		T (°C)	0	5180.0115	5180	0.0115	2.2288
		T (°C)	10	5180.0050	5180	0.0050	0.9734
		T (°C)	20	5180.0033	5180	0.0033	0.6366
		T (°C)	30	5180.0097	5180	0.0097	1.8712
		T (°C)	40	5180.0120	5180	0.0120	2.3094
		T (°C)	50	5180.0131	5180	0.0131	2.5246
		T (°C)	60	5180.0074	5180	0.0074	1.4297
		T (°C)	70	5180.0102	5180	0.0102	1.9766
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	5200.0062	5200	0.0062	1.1955
		V max (V)	138.00	5200.0062	5200	0.0062	1.1953
		V min (V)	102.00	5200.0060	5200	0.0060	1.1533
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)	12	T (°C)	-20	5200.00845	5200	0.00845	1.6247
		T (°C)	-10	5200.00384	5200	0.00384	0.7378
		T (°C)	0	5200.00443	5200	0.00443	0.8519
		T (°C)	10	5200.00416	5200	0.00416	0.7999
		T (°C)	20	5200.01251	5200	0.01251	2.4065
		T (°C)	30	5200.01194	5200	0.01194	2.2959
		T (°C)	40	5200.00498	5200	0.00498	0.9577
		T (°C)	50	5200.00147	5200	0.00147	0.2819
		T (°C)	60	5200.01336	5200	0.01336	2.5689
		T (°C)	70	5200.01281	5200	0.01281	2.4630
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	5240.0032	5240	0.0032	0.6080
		V max (V)	138.00	5240.0126	5240	0.0126	2.4075
		V min (V)	102.00	5240.0061	5240	0.0061	1.1716
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)	12	T (°C)	-20	5240.0043	5240	0.0043	0.8279
		T (°C)	-10	5240.0120	5240	0.0120	2.2817
		T (°C)	0	5240.0098	5240	0.0098	1.8633
		T (°C)	10	5240.0064	5240	0.0064	1.2257
		T (°C)	20	5240.0109	5240	0.0109	2.0731
		T (°C)	30	5240.0114	5240	0.0114	2.1682
		T (°C)	40	5240.0036	5240	0.0036	0.6783
		T (°C)	50	5240.0120	5240	0.0120	2.2925
		T (°C)	60	5240.0009	5240	0.0009	0.1625
		T (°C)	70	5240.0068	5240	0.0068	1.3026
Limits				5150-5250 MHz			
Result				Complies			

Temperature :	26 °C	Relative Humidity :	54%
Pressure :	101kPa	Test Voltage :	AC 120V/60Hz
Hrst 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	5745.00058	5745	0.00058	0.1009
		V max (V)	138	5745.01081	5745	0.01081	1.8821
		V min (V)	102	5745.00320	5745	0.00320	0.5567
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)	12	T (°C)	-20	5745.00325	5745	0.00325	0.5652
		T (°C)	-10	5745.00977	5745	0.00977	1.7012
		T (°C)	0	5745.00885	5745	0.00885	1.5398
		T (°C)	10	5745.01006	5745	0.01006	1.7519
		T (°C)	20	5745.00033	5745	0.00033	0.0567
		T (°C)	30	5745.00149	5745	0.00149	0.2600
		T (°C)	40	5745.00105	5745	0.00105	0.1835
		T (°C)	50	5745.00770	5745	0.00770	1.3399
		T (°C)	60	5745.00435	5745	0.00435	0.7566
		T (°C)	70	5745.01004	5745	0.01004	1.7470
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	5785.00227	5785	0.00227	0.3931
		V max (V)	138	5785.01310	5785	0.01310	2.2638
		V min (V)	102	5785.00270	5785	0.00270	0.4675
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)	12	T (°C)	-20	5785.00517	5785	0.00517	0.8936
		T (°C)	-10	5785.01166	5785	0.01166	2.0159
		T (°C)	0	5785.01279	5785	0.01279	2.2102
		T (°C)	10	5785.00026	5785	0.00026	0.0450
		T (°C)	20	5785.01345	5785	0.01345	2.3255
		T (°C)	30	5785.00973	5785	0.00973	1.6822
		T (°C)	40	5785.00520	5785	0.00520	0.8992
		T (°C)	50	5785.01289	5785	0.01289	2.2284
		T (°C)	60	5785.00520	5785	0.00520	0.8981
		T (°C)	70	5785.00377	5785	0.00377	0.6521
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	5825.01173	5825	0.01173	2.0134
		V max (V)	138	5825.01087	5825	0.01087	1.8656
		V min (V)	102	5825.00128	5825	0.00128	0.2206
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)	12	T (°C)	-20	5825.00355	5825	0.00355	0.6096
		T (°C)	-10	5825.00232	5825	0.00232	0.3985
		T (°C)	0	5825.00371	5825	0.00371	0.6370
		T (°C)	10	5825.00442	5825	0.00442	0.7592
		T (°C)	20	5825.00058	5825	0.00058	0.0989
		T (°C)	30	5825.01302	5825	0.01302	2.2346
		T (°C)	40	5825.00140	5825	0.00140	0.2400
		T (°C)	50	5825.00079	5825	0.00079	0.1363
		T (°C)	60	5825.00454	5825	0.00454	0.7787
		T (°C)	70	5825.00875	5825	0.00875	1.5017
Limits				5725-5850 MHz			
Result				Complies			

14. Antenna Requirement

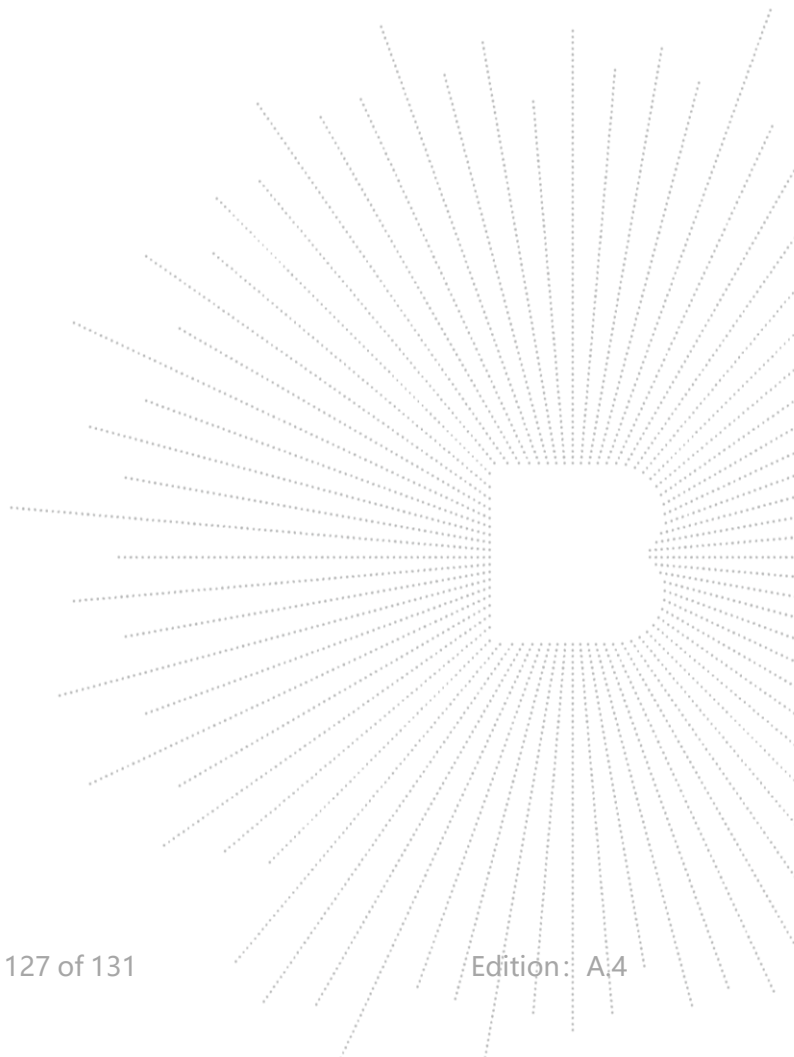
14.1 Limit

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): 3.01dBi; antenna gain (B) : 3.01dBi). It comply with the standard requirement.

The EUT antenna is Internal antenna (antenna gain (A): 4.65dBi; antenna gain (B) : 4.65dBi). It comply with the standard requirement.



15. EUT Photographs

EUT Photo 1



EUT Photo 2

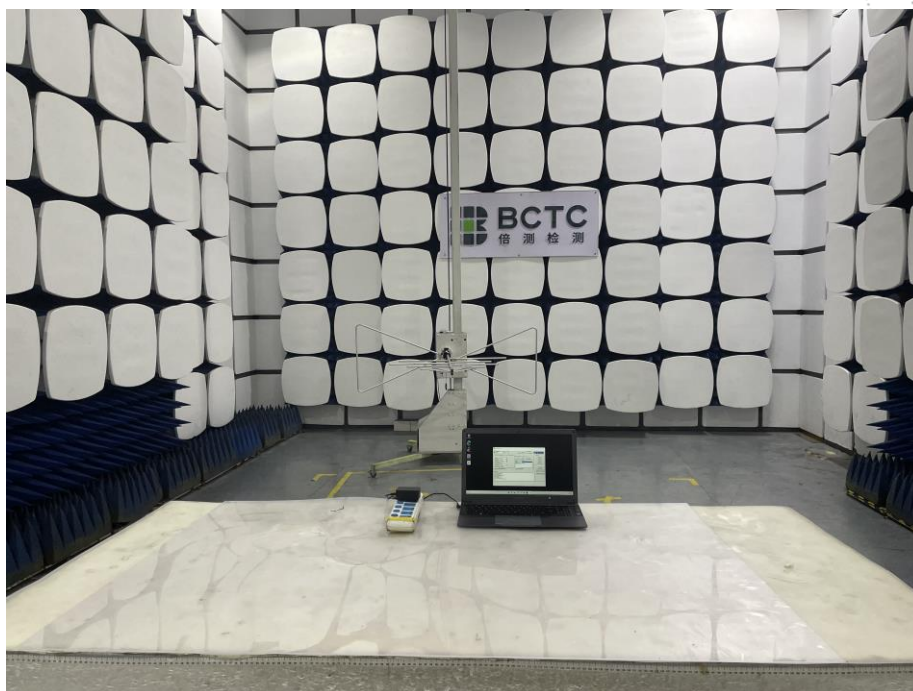


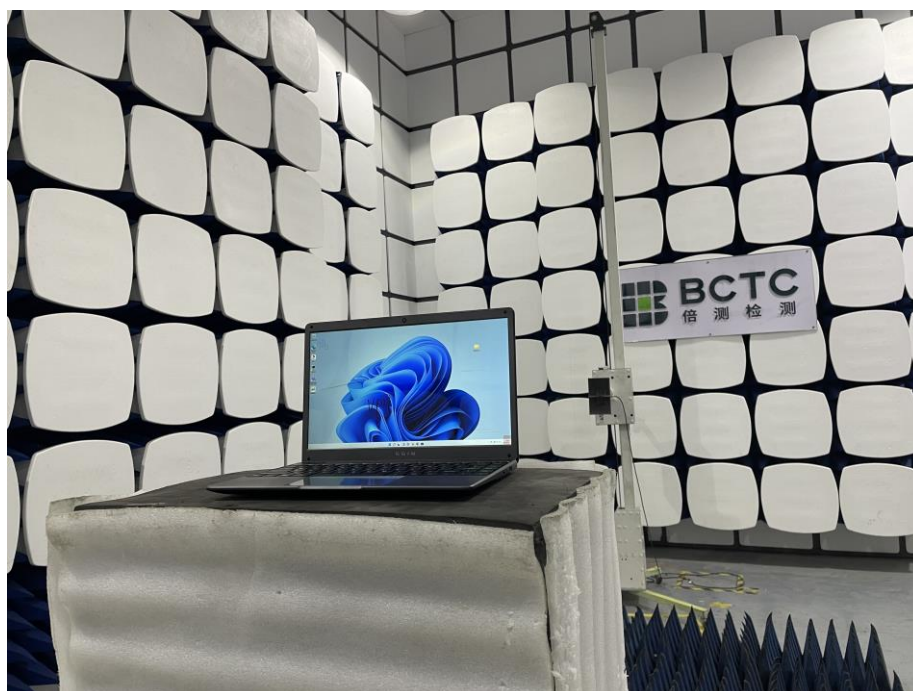
16. EUT Test Setup Photographs

Conducted Measurement Photos



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 stamp of laboratory.
- 4.The test report is invalid without signature of person(s) testing and authorizing.
- 5.The test process and test result is only related to the Unit Under Test.
- 6.The quality system of our laboratory is in accordance with ISO/IEC17025.
- 7.If there is any objection to 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, Tangwei, 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 *****