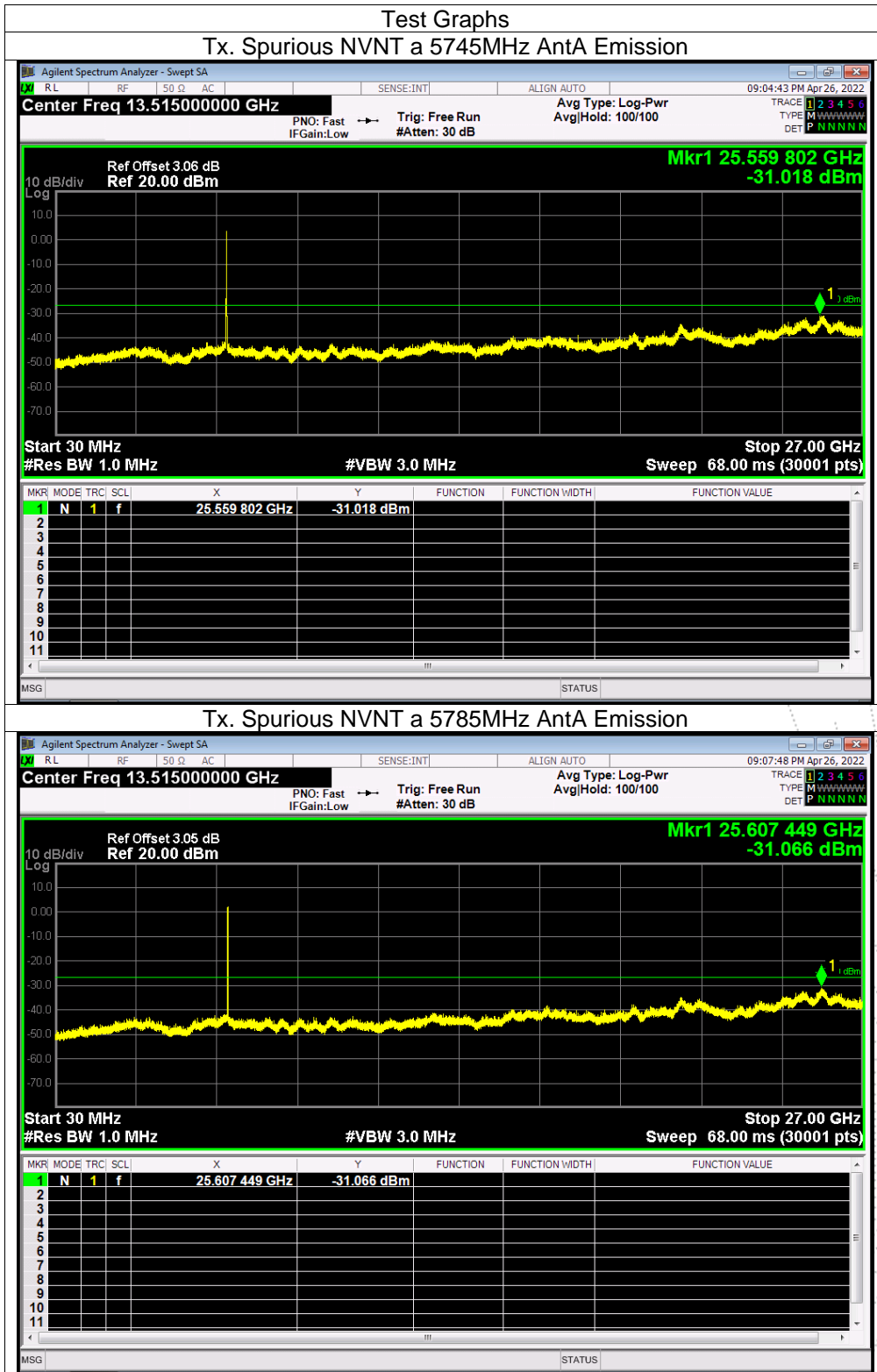
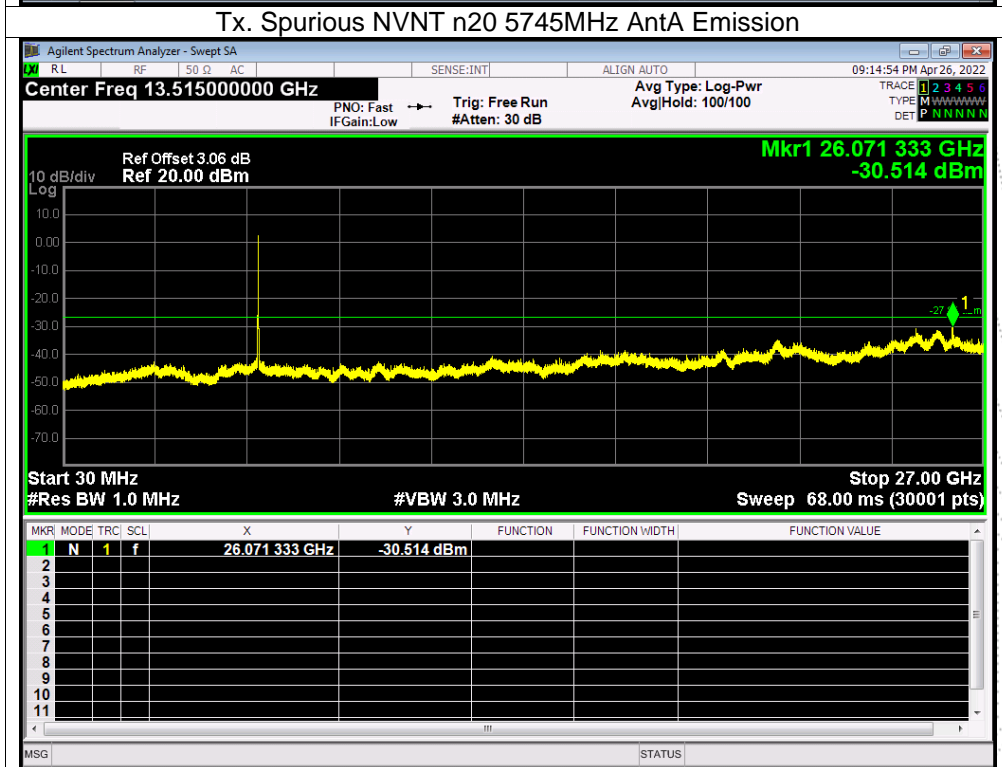
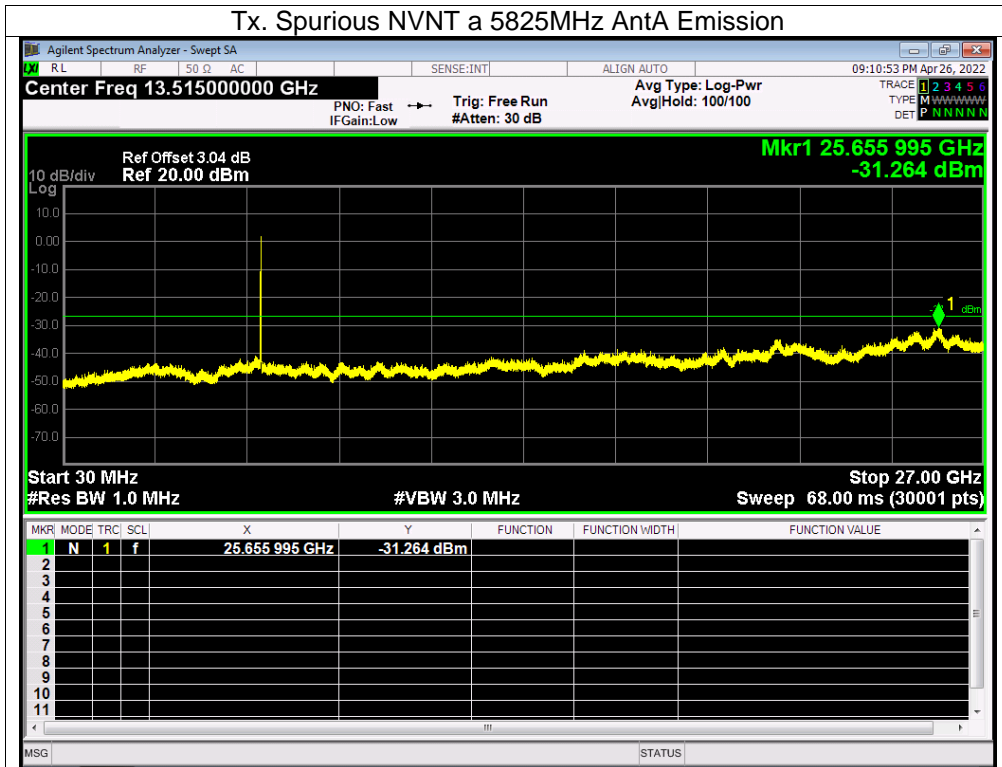
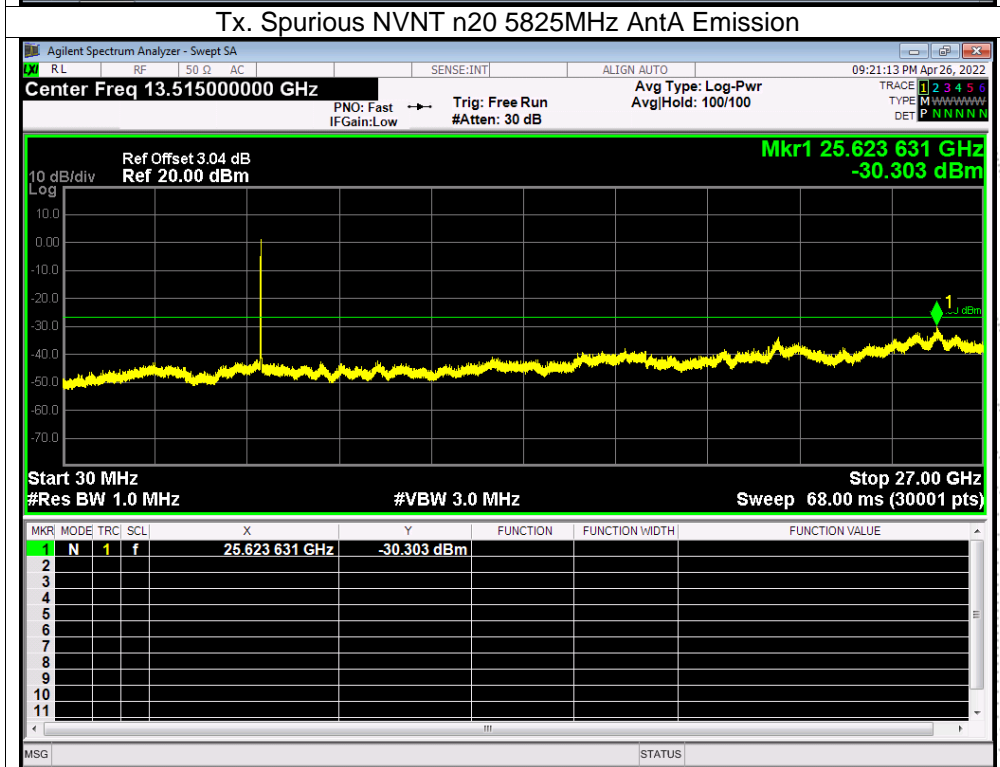
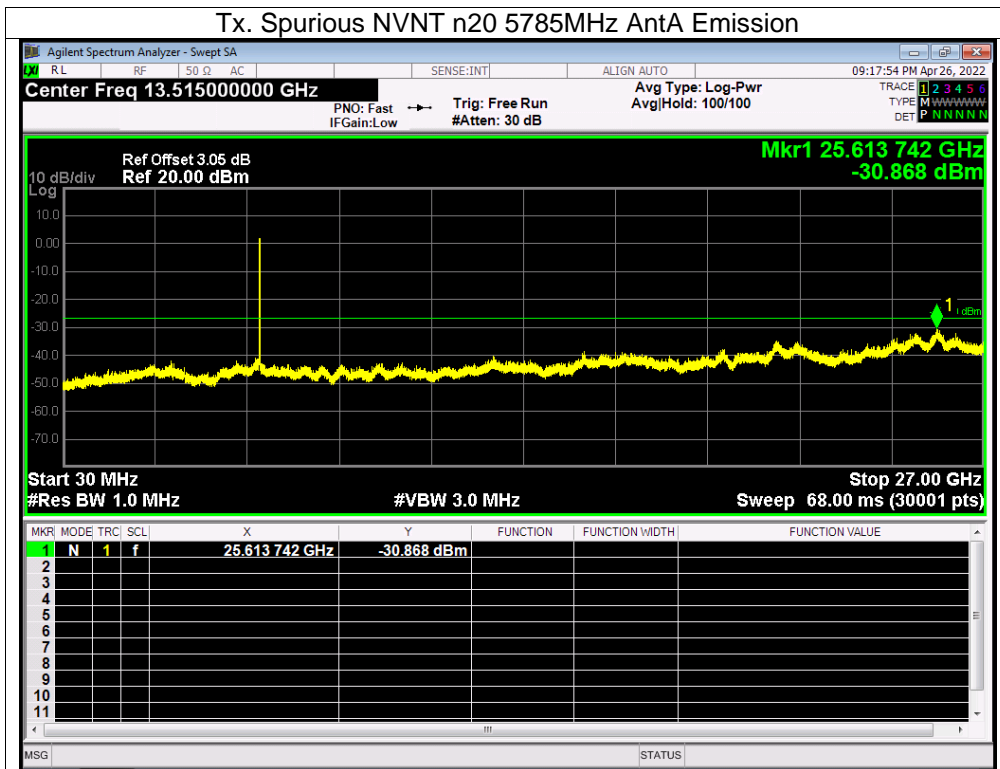
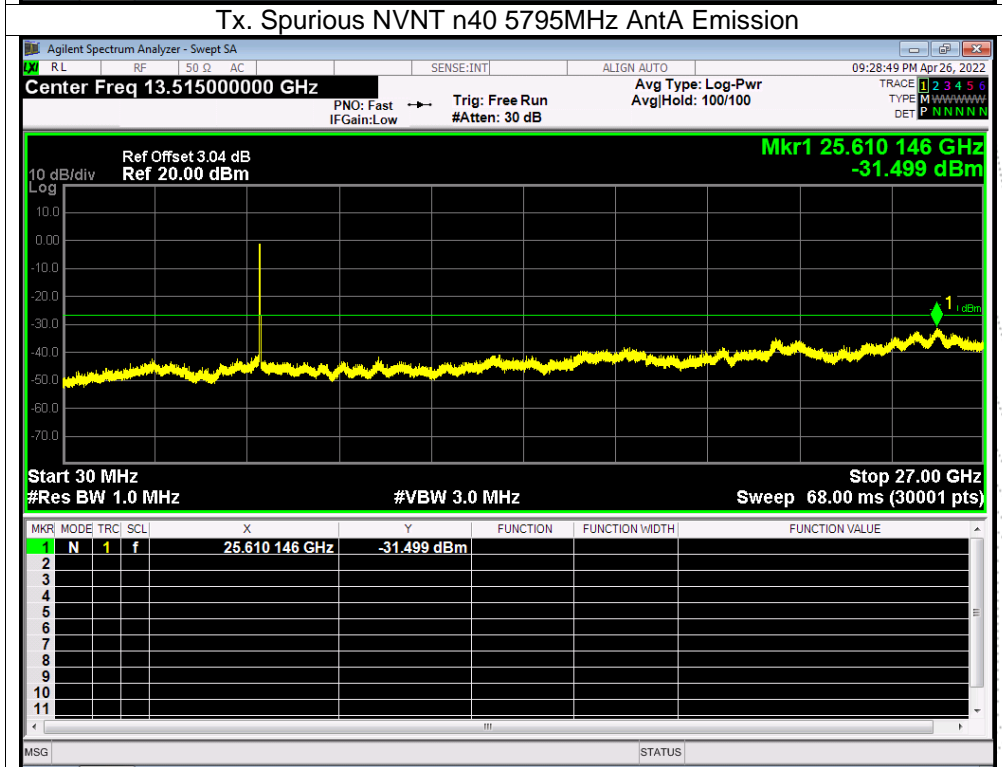
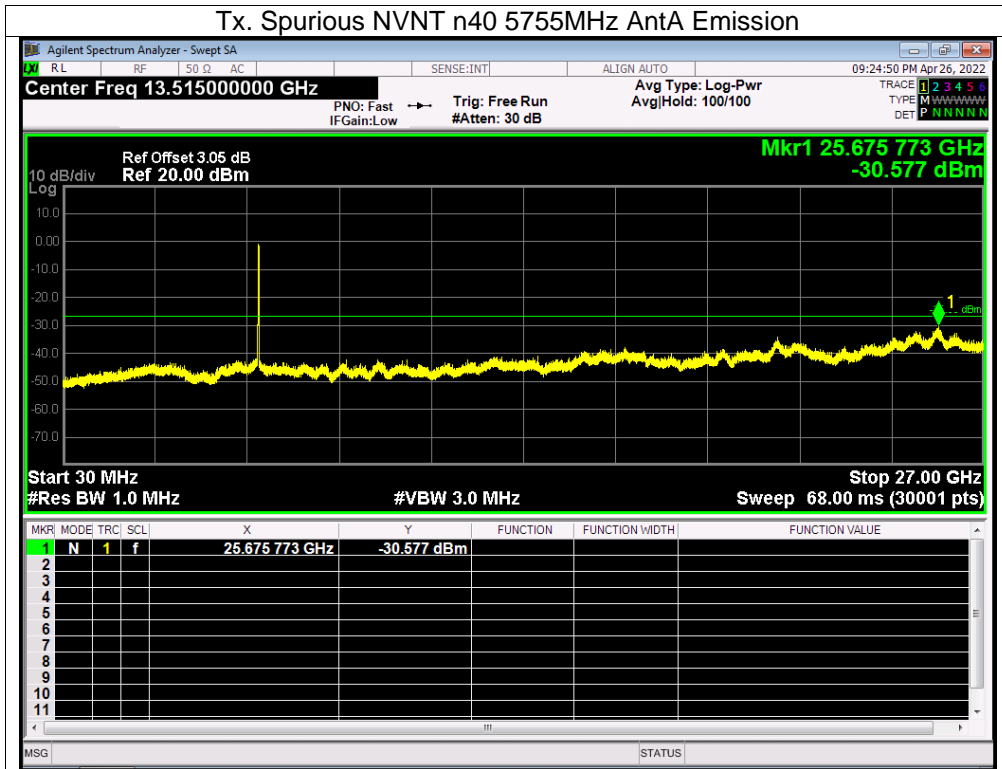


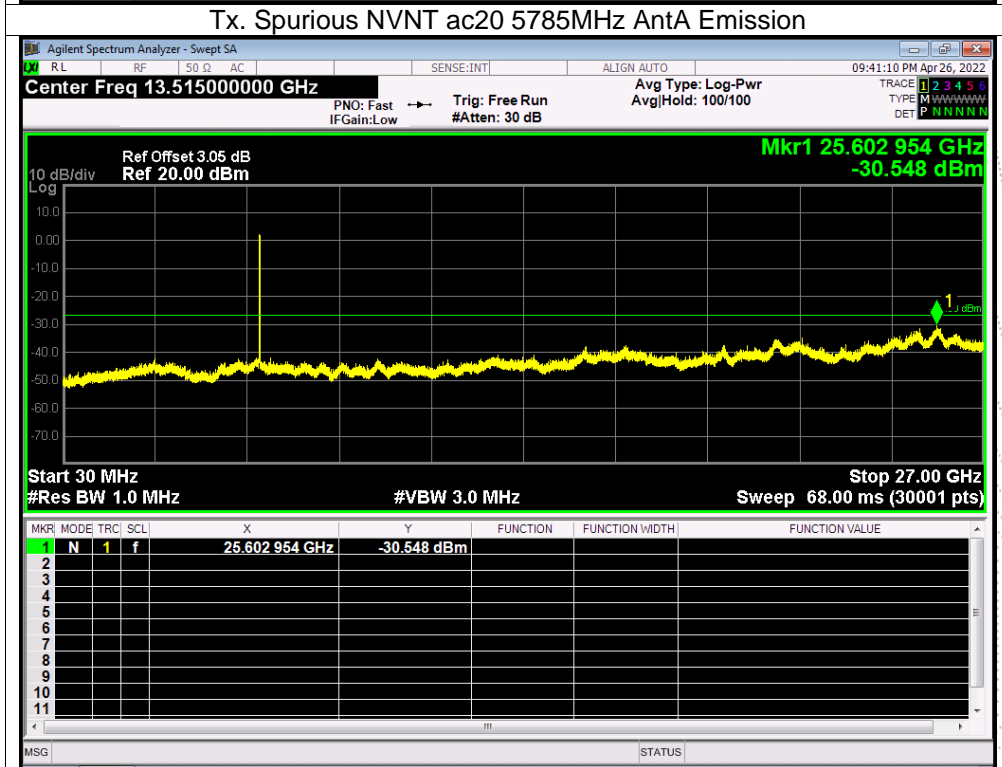
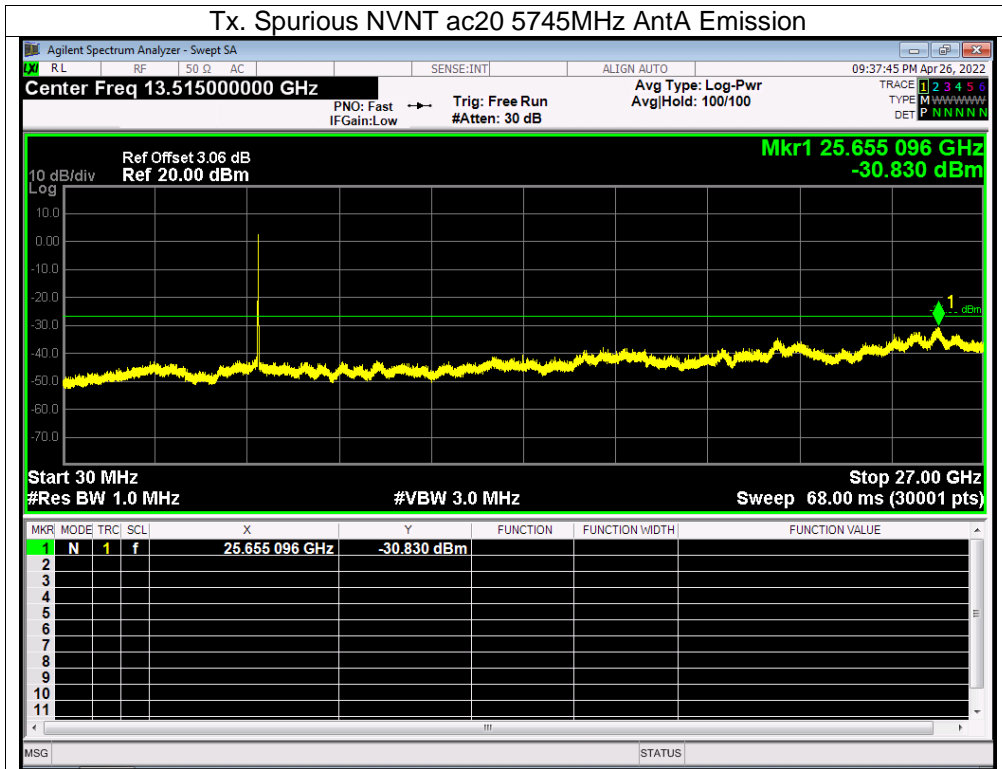
Note: A(B) Represent the value of antenna A and B, The worst data is Antenna A, only shown Antenna A.
 Antenna A: 5745-58250MHz

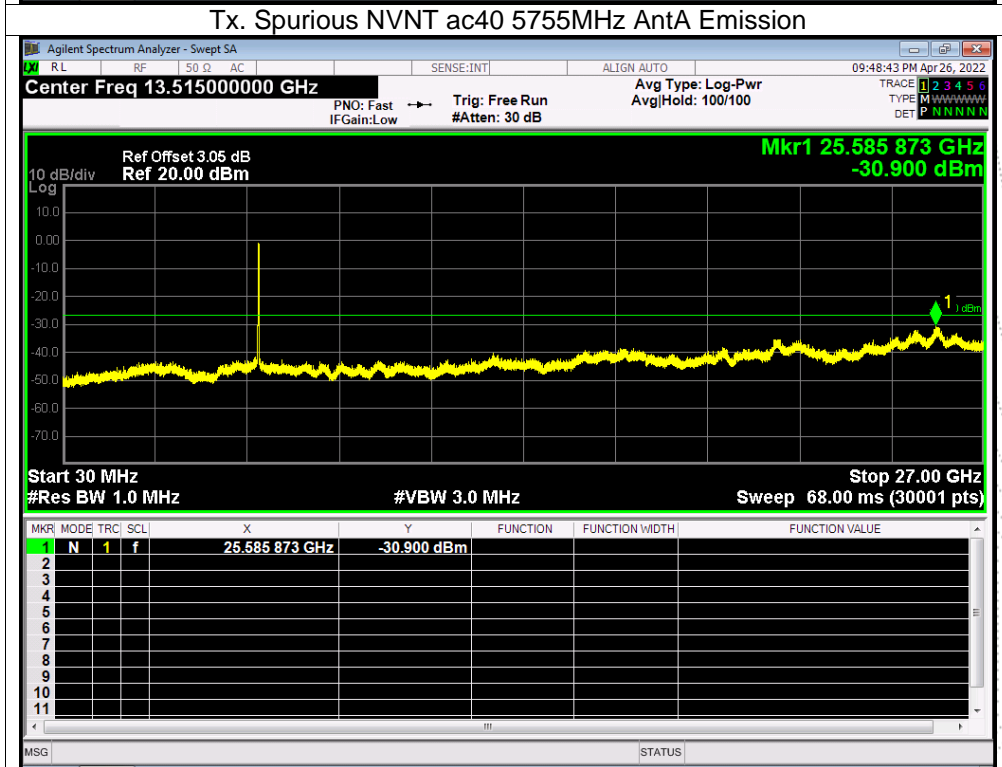
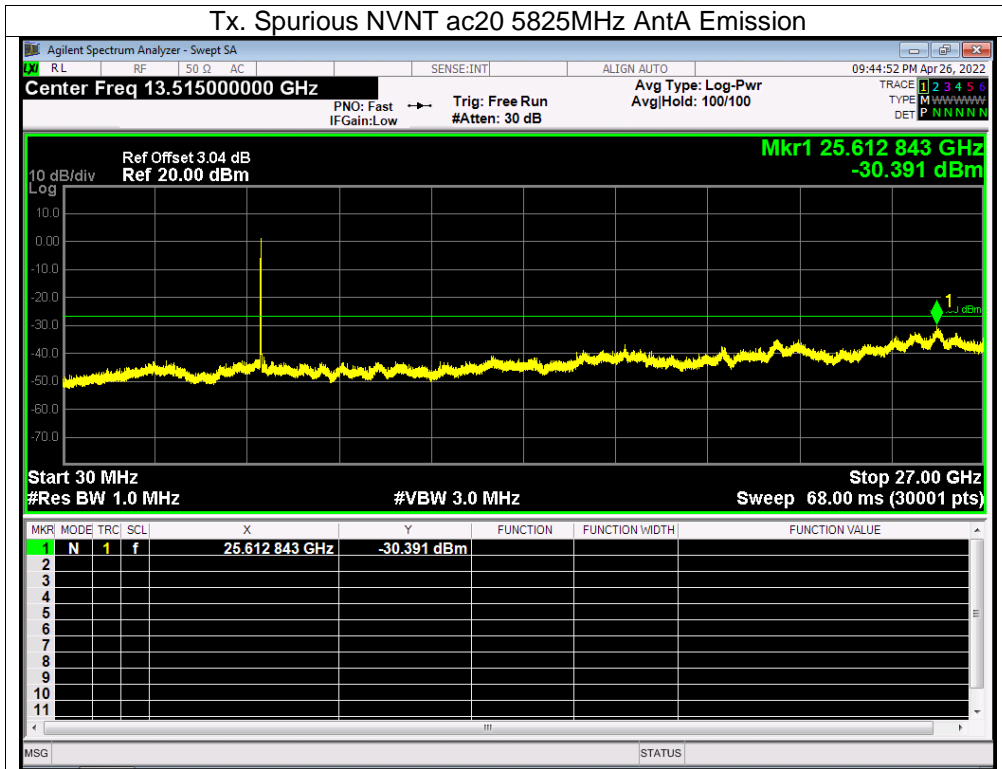


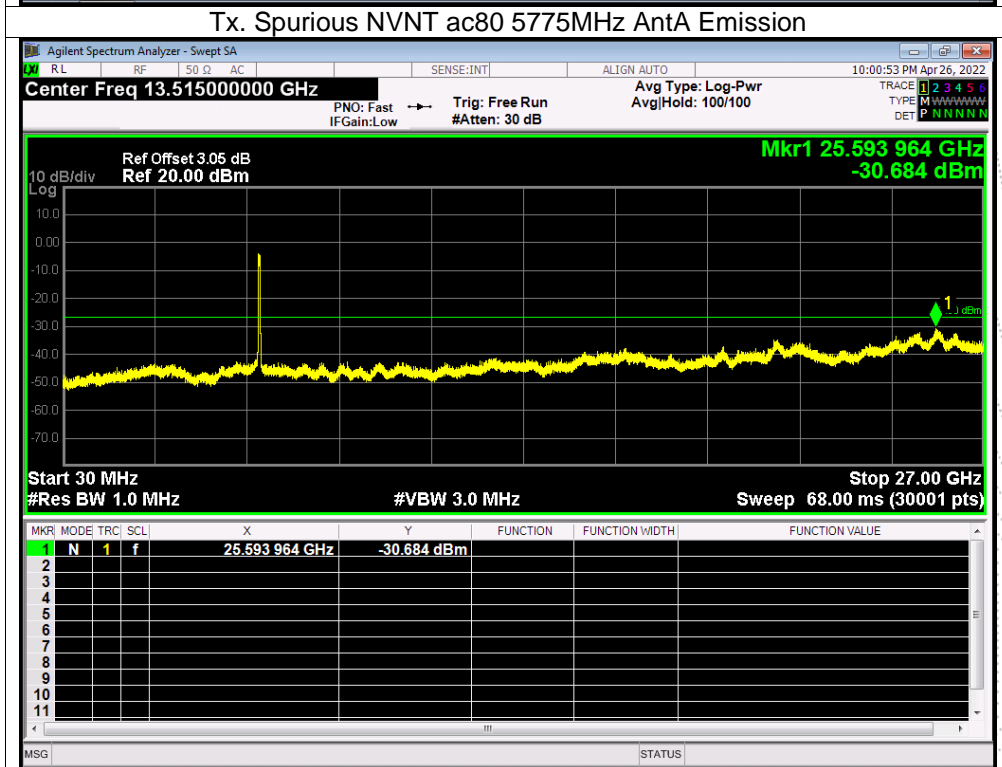
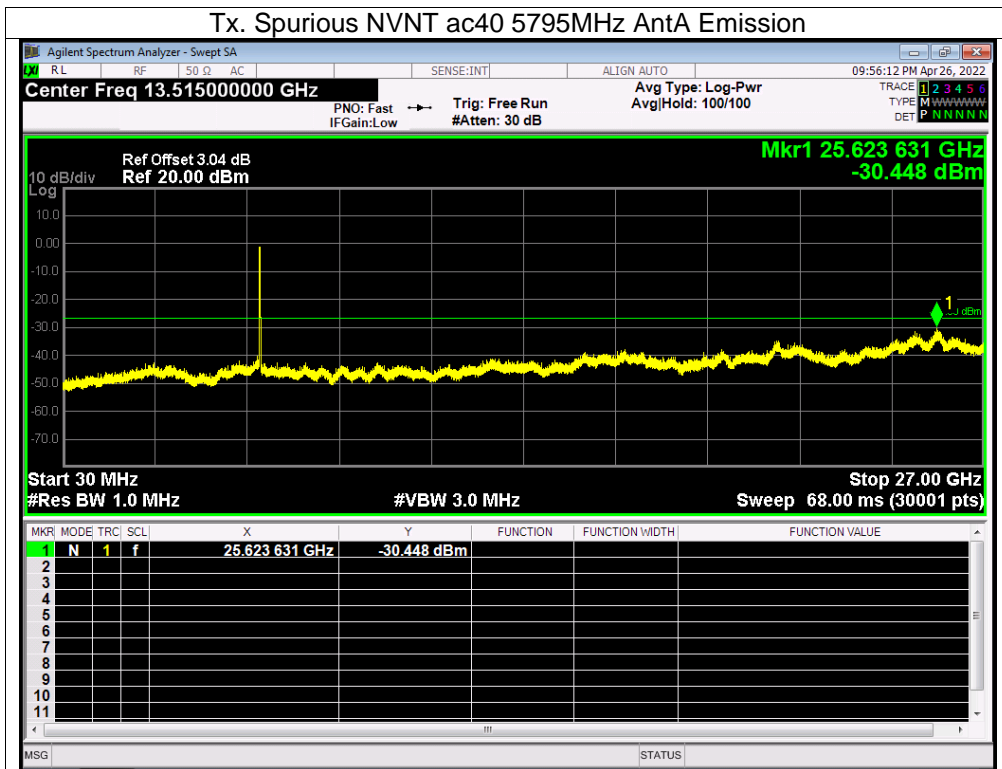












13. Frequency Stability Measurement

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 802.11nspecification).
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 $-20^\circ\text{C} \sim 70^\circ\text{C}$.

13.4 Test Result

Temperature :	26 °C	Relative Humidity :	54%
Pressure :	101kPa	Test Voltage :	DC 7.6V
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)	12.00	5180.0181	5180	0.0181	3.4872
		V max (V)	13.80	5180.0057	5180	0.0057	1.1100
		V min (V)	10.20	5180.0164	5180	0.0164	3.1586
Limits				5150-5250 MHz			
Result				Complies			

Temperature vs. Frequency Stability

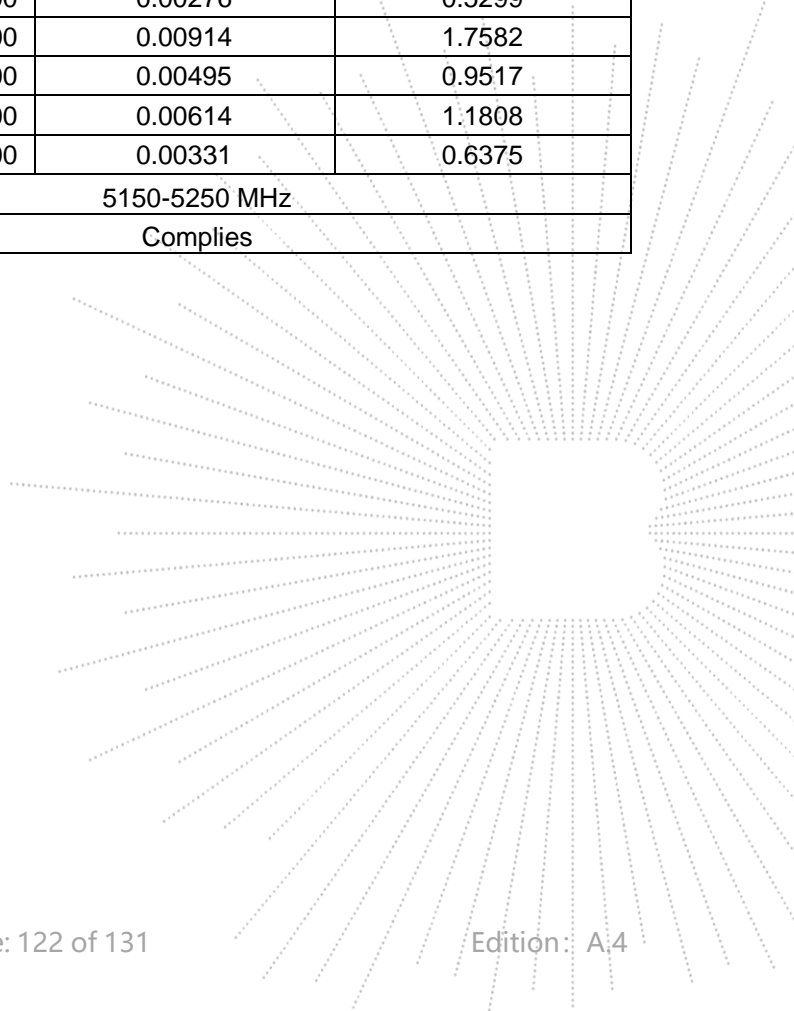
TEST CONDITIONS				Reference Frequency: 5180MHz			
				f	fc	Max. Deviation (MHz)	Max. Deviation (ppm)
V nom (V)	12	T (°C)	-20	5180.0051	5180	0.0051	0.9837
		T (°C)	-10	5180.0037	5180	0.0037	0.7220
		T (°C)	0	5180.0111	5180	0.0111	2.1476
		T (°C)	10	5180.0090	5180	0.0090	1.7362
		T (°C)	20	5180.0027	5180	0.0027	0.5272
		T (°C)	30	5180.0054	5180	0.0054	1.0422
		T (°C)	40	5180.0076	5180	0.0076	1.4700
		T (°C)	50	5180.0018	5180	0.0018	0.3543
		T (°C)	60	5180.0096	5180	0.0096	1.8607
		T (°C)	70	5180.0130	5180	0.0130	2.5011
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)	12.00	5200.0123	5200	0.0123	2.3628
		V max (V)	13.80	5200.0113	5200	0.0113	2.1778
		V min (V)	10.20	5200.0069	5200	0.0069	1.3211
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	5200.01245	5200	0.01245	2.3935
		T (°C)	-10	5200.00842	5200	0.00842	1.6186
		T (°C)	0	5200.00069	5200	0.00069	0.1319
		T (°C)	10	5200.01082	5200	0.01082	2.0802
		T (°C)	20	5200.01349	5200	0.01349	2.5946
		T (°C)	30	5200.00276	5200	0.00276	0.5299
		T (°C)	40	5200.00914	5200	0.00914	1.7582
		T (°C)	50	5200.00495	5200	0.00495	0.9517
		T (°C)	60	5200.00614	5200	0.00614	1.1808
		T (°C)	70	5200.00331	5200	0.00331	0.6375
Limits				5150-5250 MHz			
Result				Complies			

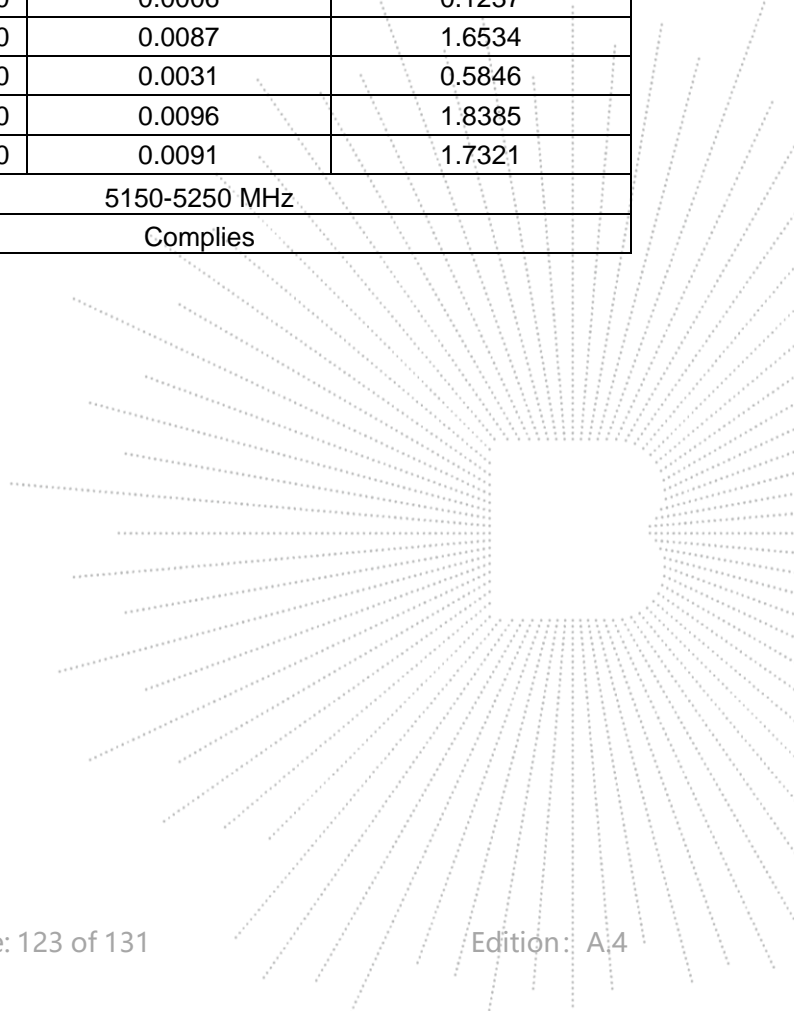


Voltage vs. Frequency Stability

TEST CONDITIONS				Reference Frequency: 5240MHz			
				f	fc	Max. Deviation (MHz)	Max. Deviation (ppm)
T nom (°C)	20	V nom (V)	12.00	5240.0052	5240	0.0052	0.9999
		V max (V)	13.80	5240.0086	5240	0.0086	1.6488
		V min (V)	10.20	5240.0132	5240	0.0132	2.5281
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	5240.0119	5240	0.0119	2.2663
		T (°C)	-10	5240.0057	5240	0.0057	1.0881
		T (°C)	0	5240.0080	5240	0.0080	1.5218
		T (°C)	10	5240.0126	5240	0.0126	2.4124
		T (°C)	20	5240.0101	5240	0.0101	1.9351
		T (°C)	30	5240.0006	5240	0.0006	0.1237
		T (°C)	40	5240.0087	5240	0.0087	1.6534
		T (°C)	50	5240.0031	5240	0.0031	0.5846
		T (°C)	60	5240.0096	5240	0.0096	1.8385
		T (°C)	70	5240.0091	5240	0.0091	1.7321
Limits				5150-5250 MHz			
Result				Complies			



Temperature :	26 °C	Relative Humidity :	54%
Pressure :	101kPa	Test Voltage :	DC 7.6V
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)	7.60	5745.00764	5745	0.00764	1.3304
		V max (V)	8.36	5745.00394	5745	0.00394	0.6854
		V min (V)	6.84	5745.00569	5745	0.00569	0.9898
Limits				5725-5850 MHz			
Result				Complies			

Temperature vs. Frequency Stability

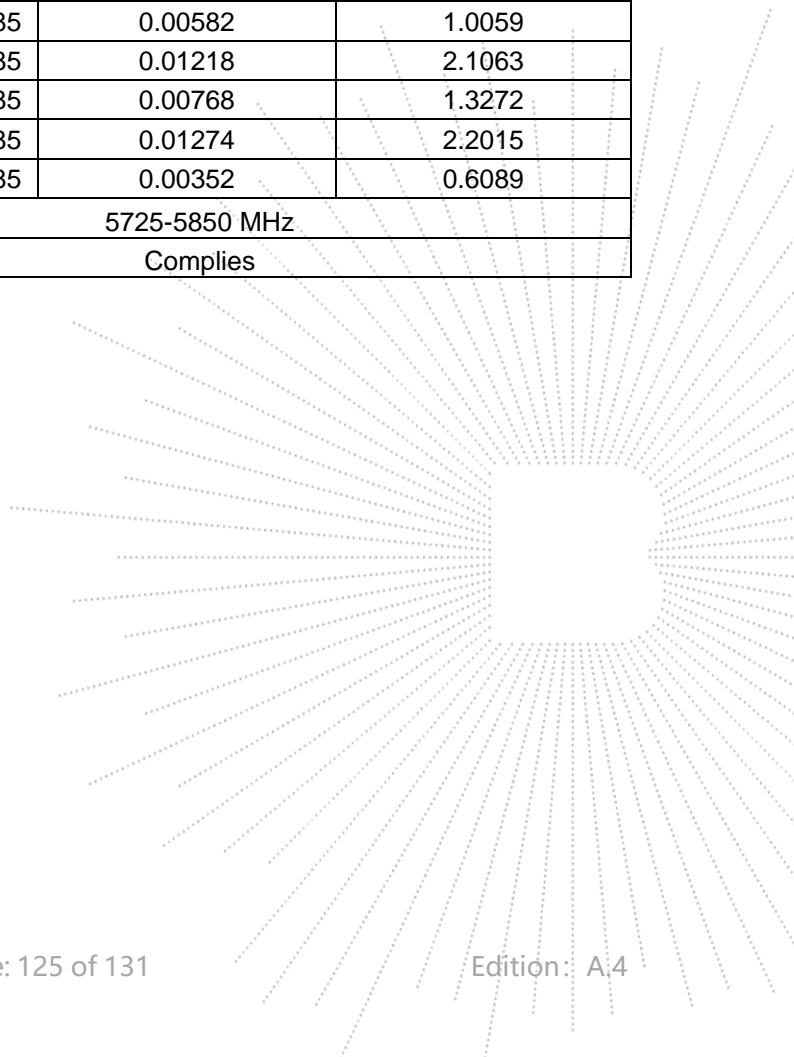
TEST CONDITIONS				Reference Frequency: 5745MHz			
				f	fc	Max. Deviation (MHz)	Max. Deviation (ppm)
V nom (V)	7.6	T (°C)	-20	5745.00346	5745	0.00346	0.6024
		T (°C)	-10	5745.00931	5745	0.00931	1.6203
		T (°C)	0	5745.00222	5745	0.00222	0.3872
		T (°C)	10	5745.01294	5745	0.01294	2.2523
		T (°C)	20	5745.00478	5745	0.00478	0.8323
		T (°C)	30	5745.00219	5745	0.00219	0.3812
		T (°C)	40	5745.00173	5745	0.00173	0.3004
		T (°C)	50	5745.01098	5745	0.01098	1.9119
		T (°C)	60	5745.00923	5745	0.00923	1.6072
		T (°C)	70	5745.00067	5745	0.00067	0.1165
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)	7.60	5785.00394	5785	0.00394	0.6805
		V max (V)	8.36	5785.00468	5785	0.00468	0.8085
		V min (V)	6.84	5785.01019	5785	0.01019	1.7614
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)	7.6	T (°C)	-20	5785.00311	5785	0.00311	0.5379
		T (°C)	-10	5785.01325	5785	0.01325	2.2902
		T (°C)	0	5785.00953	5785	0.00953	1.6470
		T (°C)	10	5785.00909	5785	0.00909	1.5714
		T (°C)	20	5785.00941	5785	0.00941	1.6262
		T (°C)	30	5785.00582	5785	0.00582	1.0059
		T (°C)	40	5785.01218	5785	0.01218	2.1063
		T (°C)	50	5785.00768	5785	0.00768	1.3272
		T (°C)	60	5785.01274	5785	0.01274	2.2015
		T (°C)	70	5785.00352	5785	0.00352	0.6089
Limits				5725-5850 MHz			
Result				Complies			

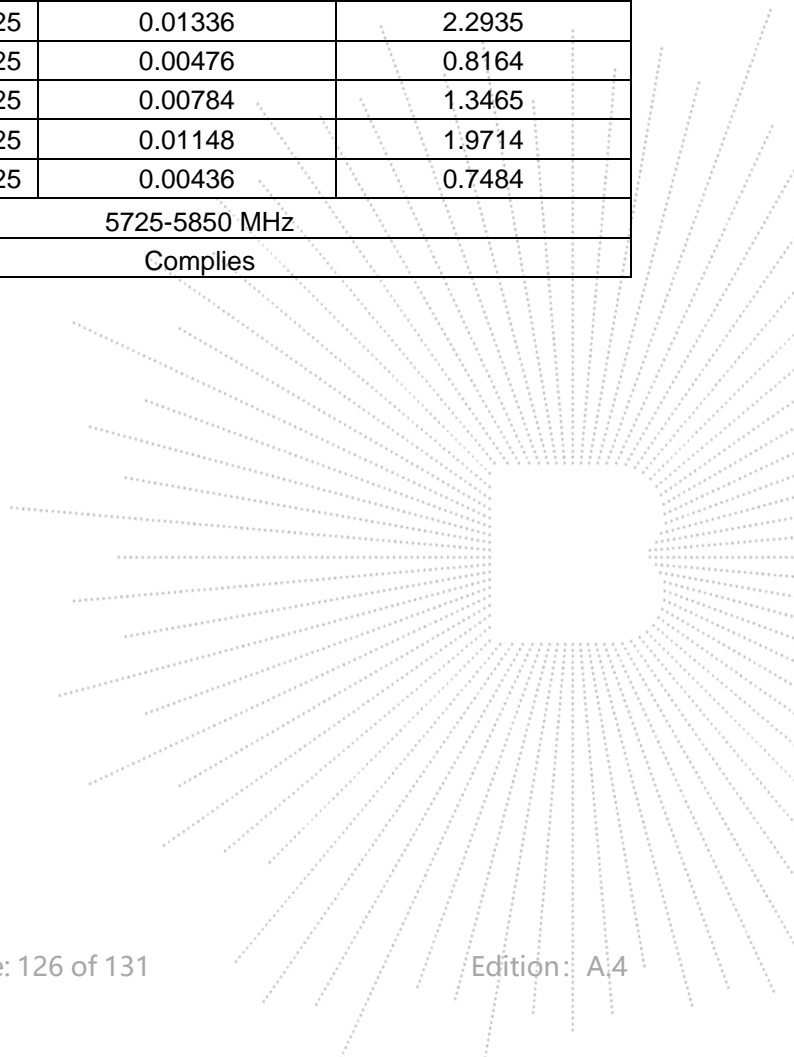


Voltage vs. Frequency Stability

TEST CONDITIONS				Reference Frequency: 5825MHz			
				f	fc	Max. Deviation (MHz)	Max. Deviation (ppm)
T nom (°C)	20	V nom (V)	7.60	5825.00888	5825	0.00888	1.5241
		V max (V)	8.36	5825.00352	5825	0.00352	0.6038
		V min (V)	6.84	5825.00167	5825	0.00167	0.2872
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)	7.6	T (°C)	-20	5825.00627	5825	0.00627	1.0760
		T (°C)	-10	5825.01184	5825	0.01184	2.0331
		T (°C)	0	5825.01008	5825	0.01008	1.7296
		T (°C)	10	5825.00486	5825	0.00486	0.8339
		T (°C)	20	5825.01282	5825	0.01282	2.2002
		T (°C)	30	5825.01336	5825	0.01336	2.2935
		T (°C)	40	5825.00476	5825	0.00476	0.8164
		T (°C)	50	5825.00784	5825	0.00784	1.3465
		T (°C)	60	5825.01148	5825	0.01148	1.9714
		T (°C)	70	5825.00436	5825	0.00436	0.7484
Limits				5725-5850 MHz			
Result				Complies			



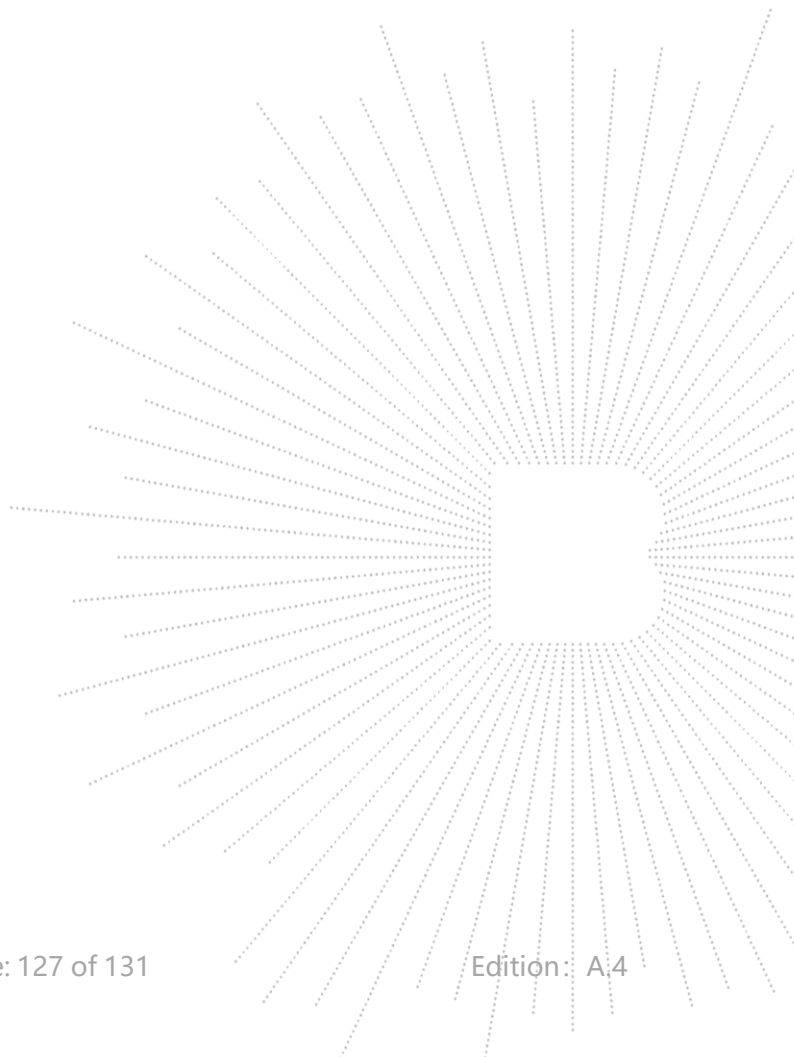
14. Antenna Requirement

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 FPCB antenna. It comply with the standard requirement.

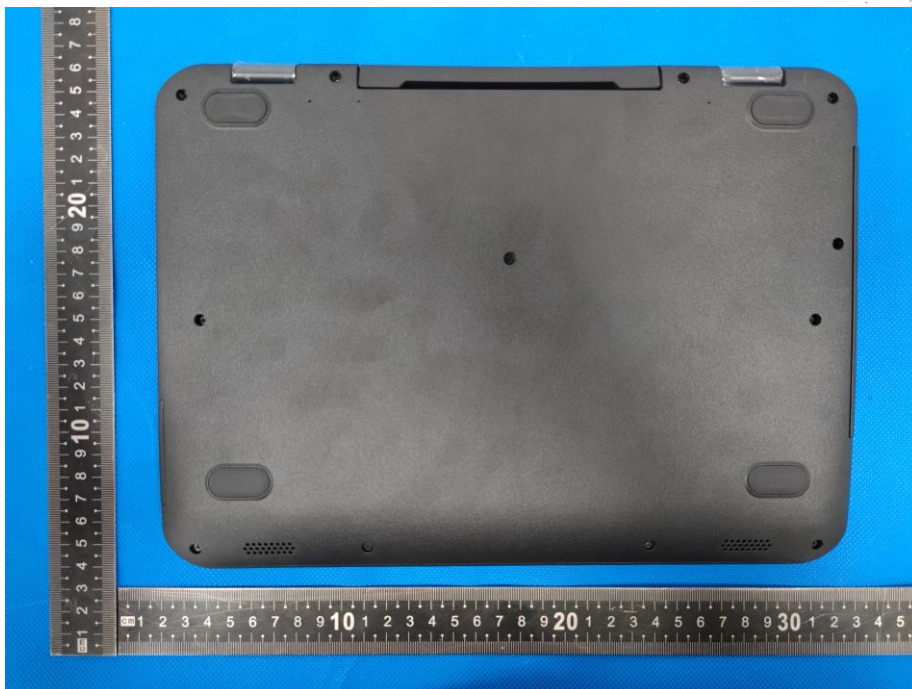


15. EUT Photographs

EUT Photo 1



EUT Photo 2



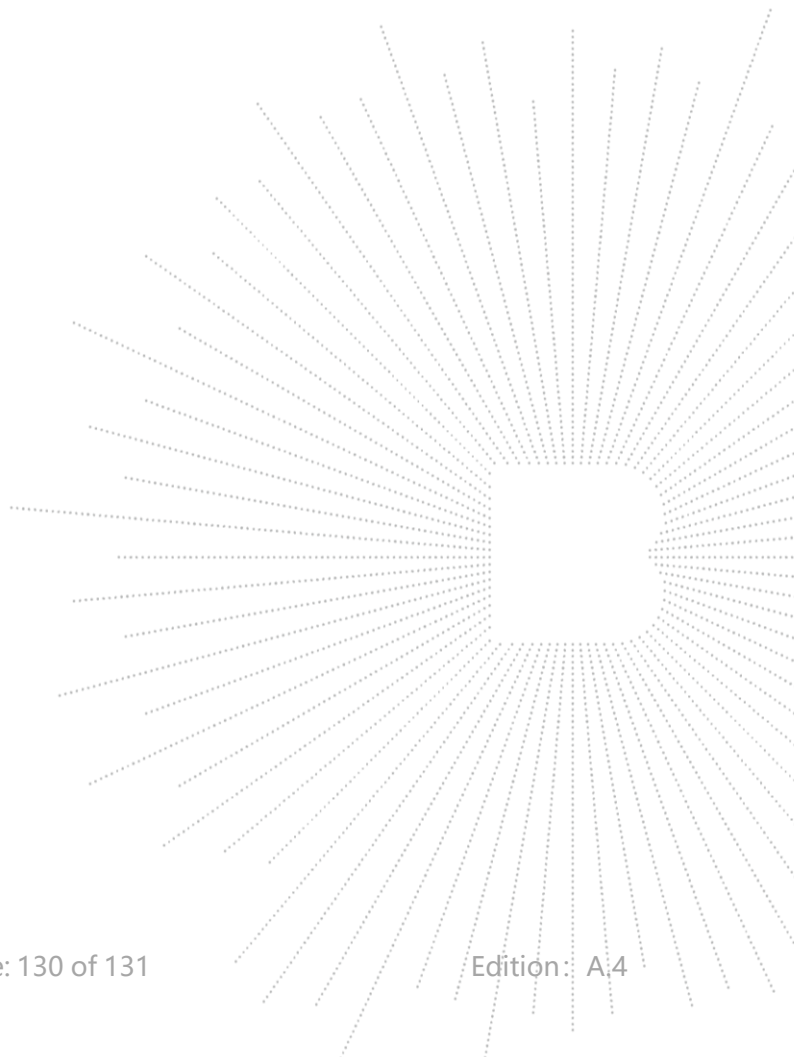
16. EUT Test Setup Photographs

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 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 *****

