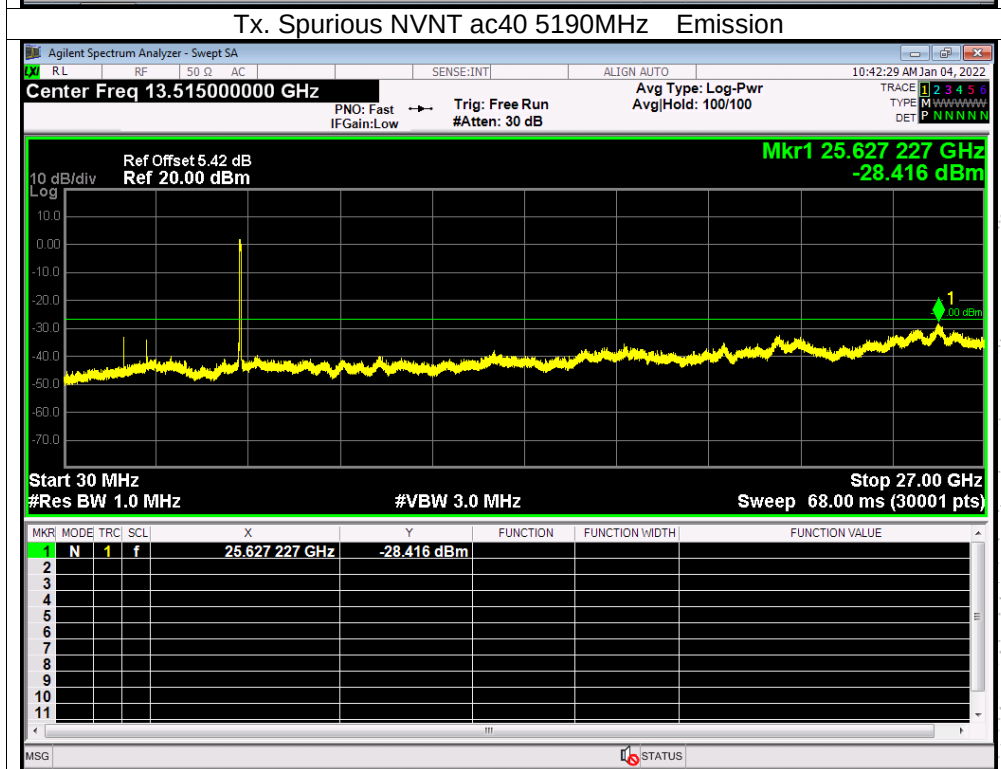
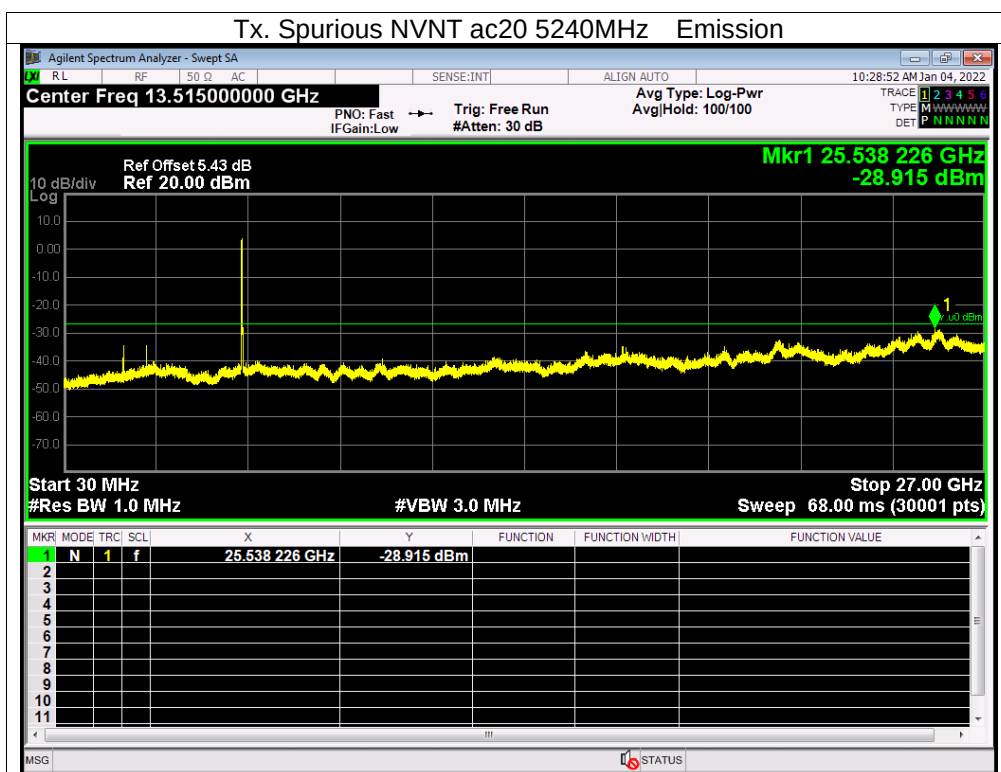
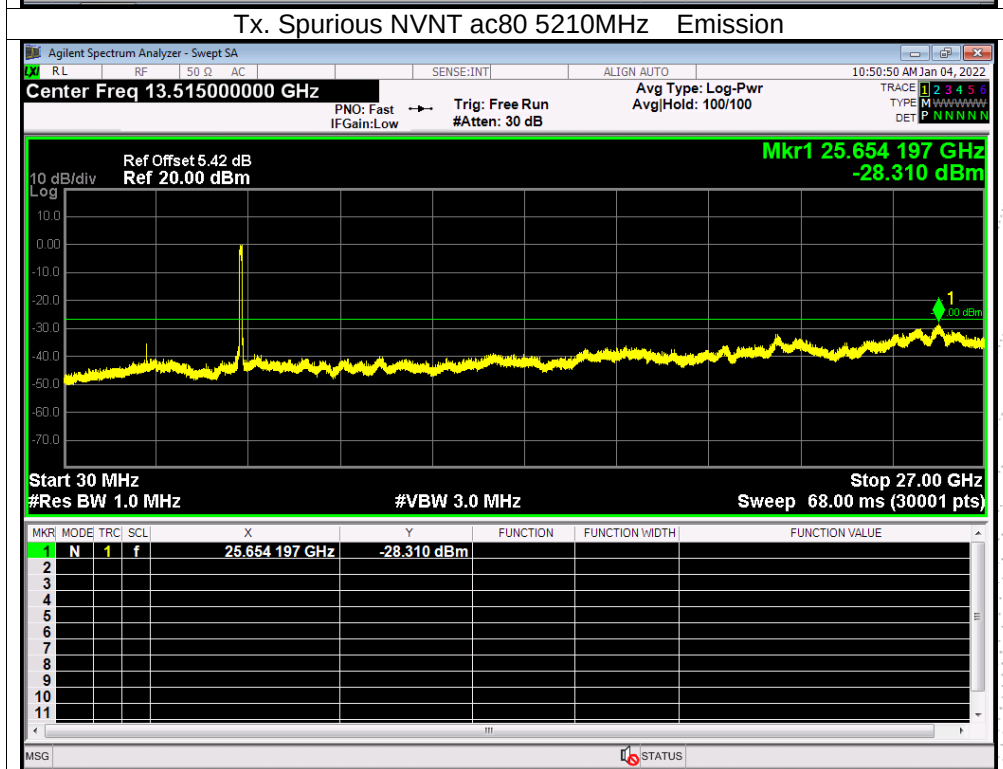
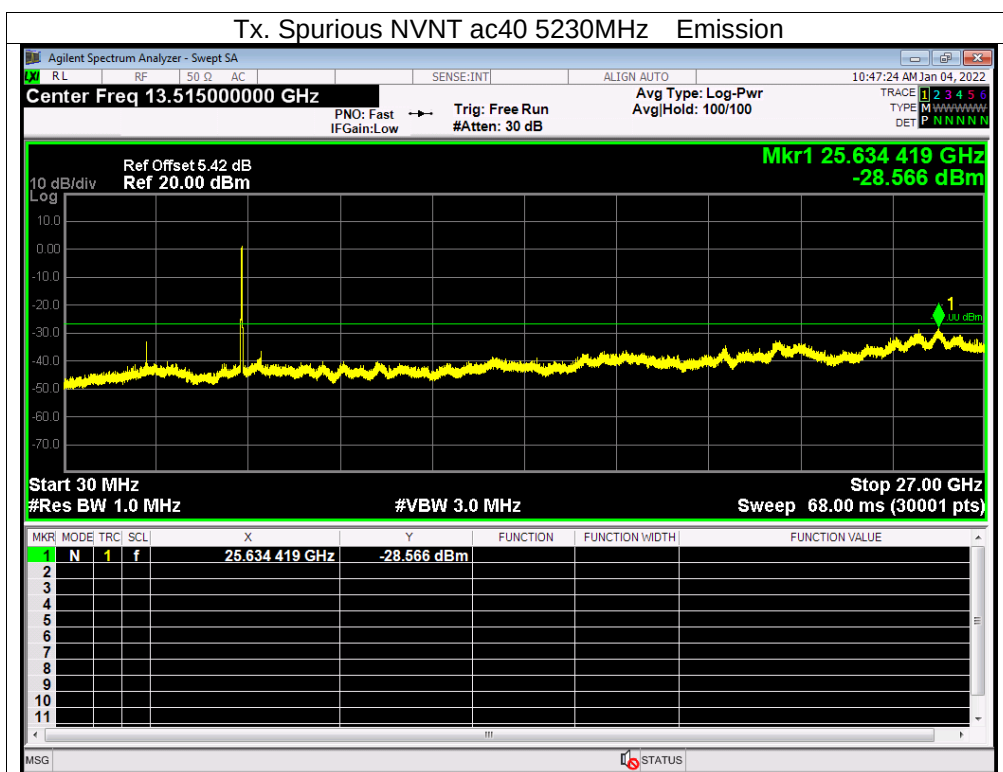
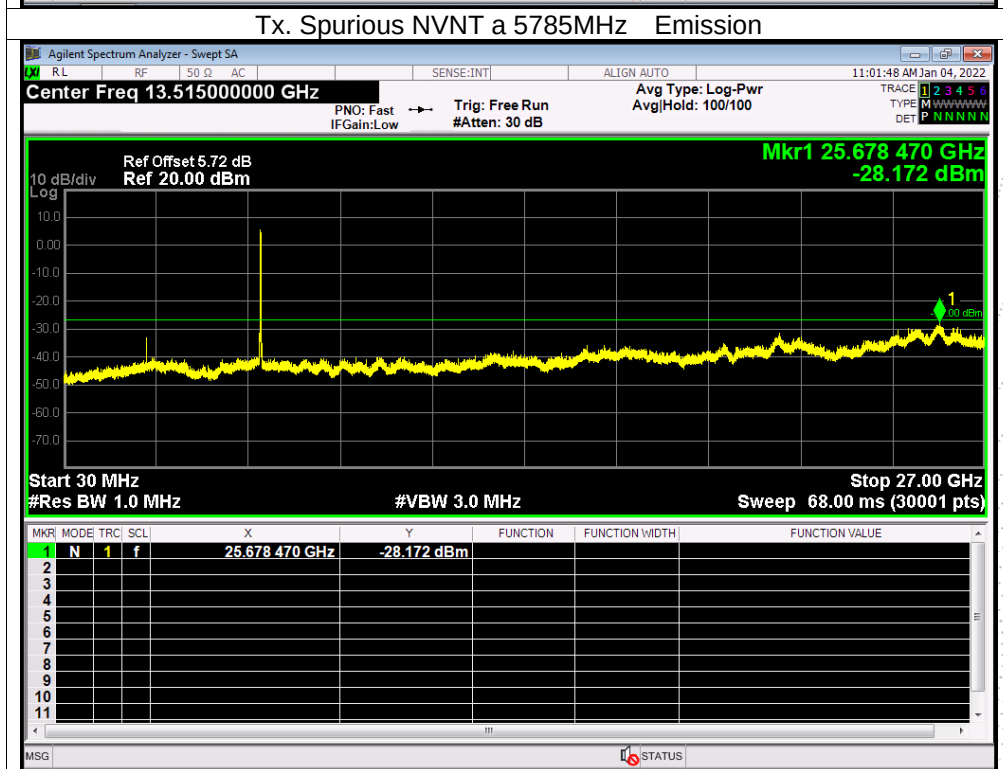
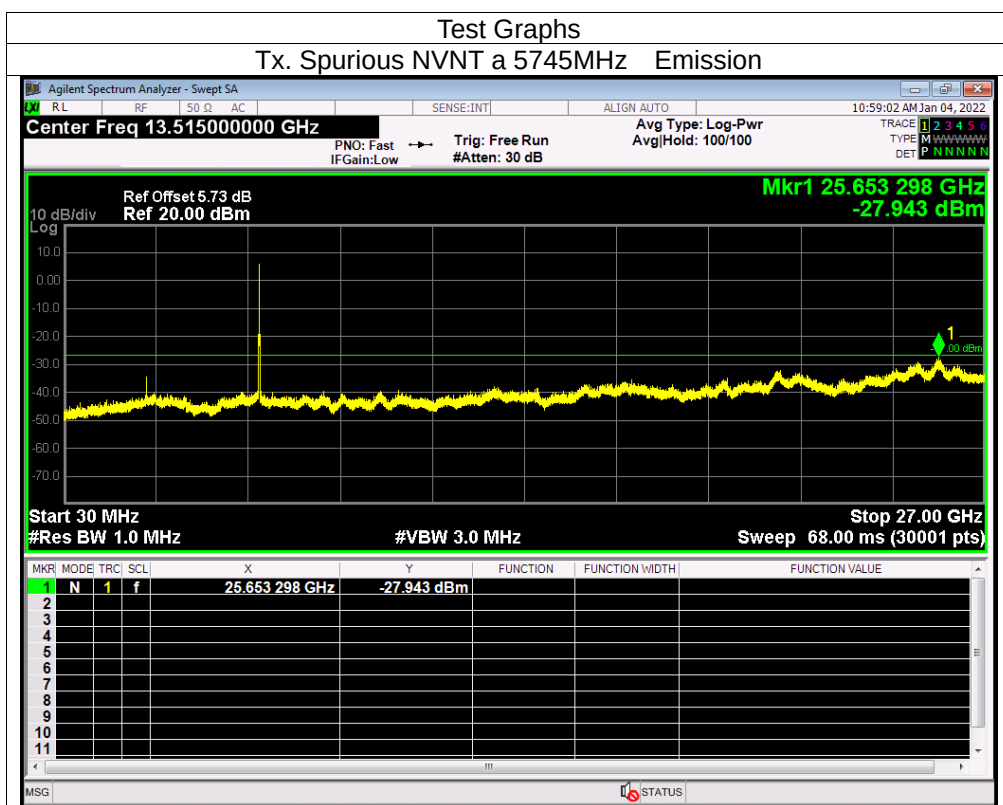
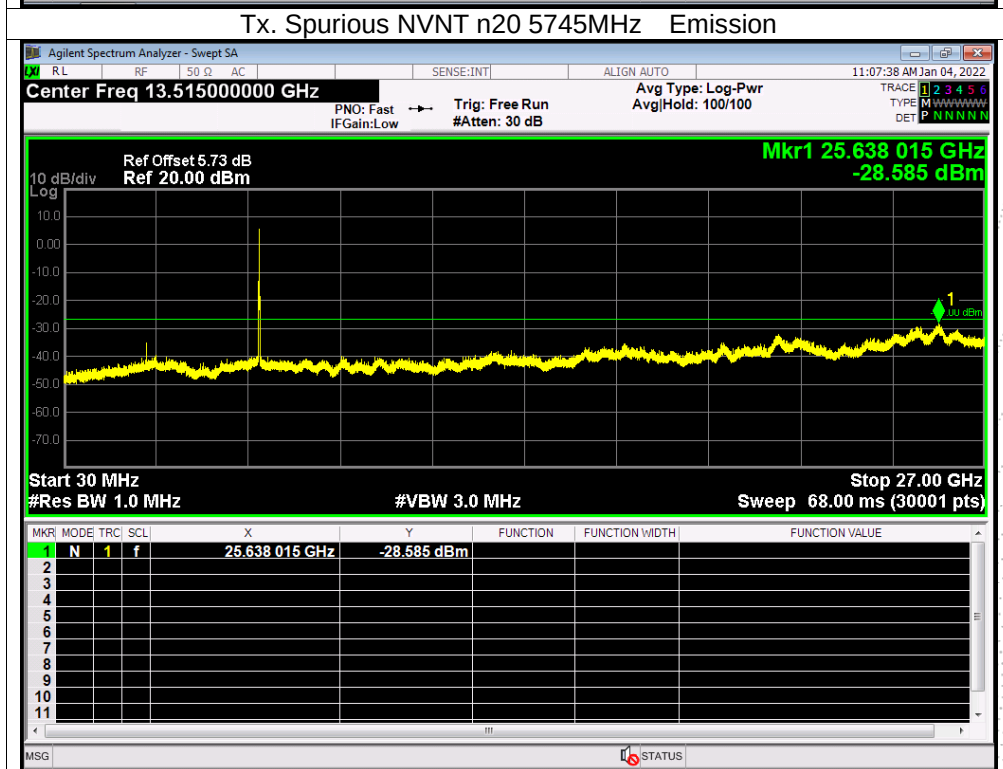
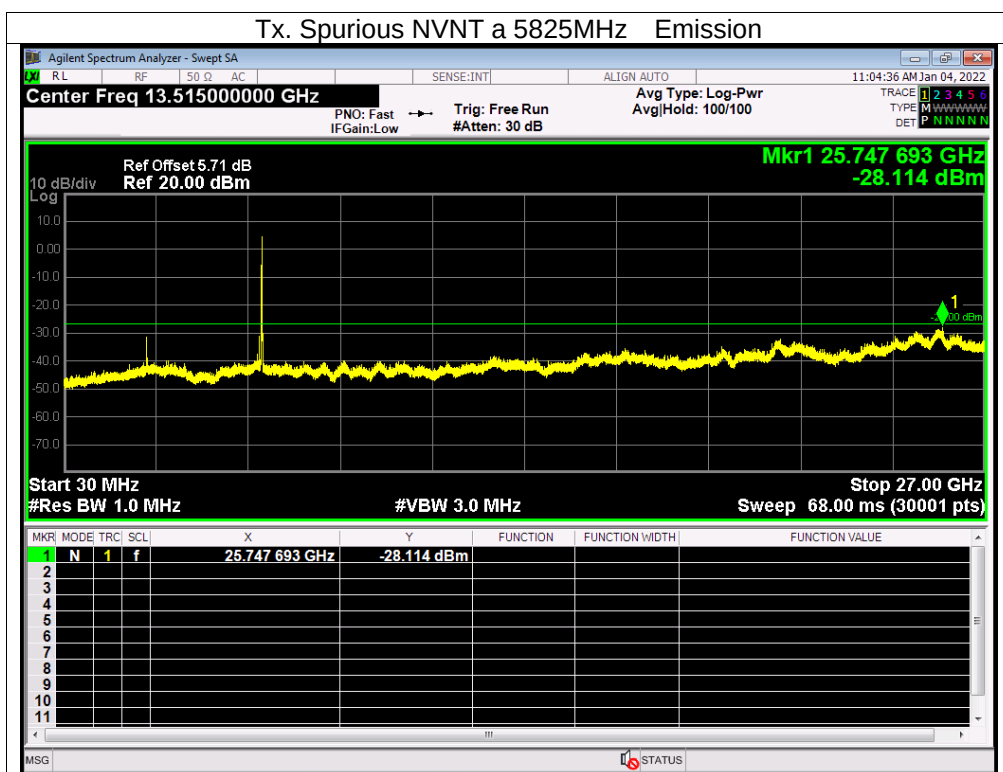
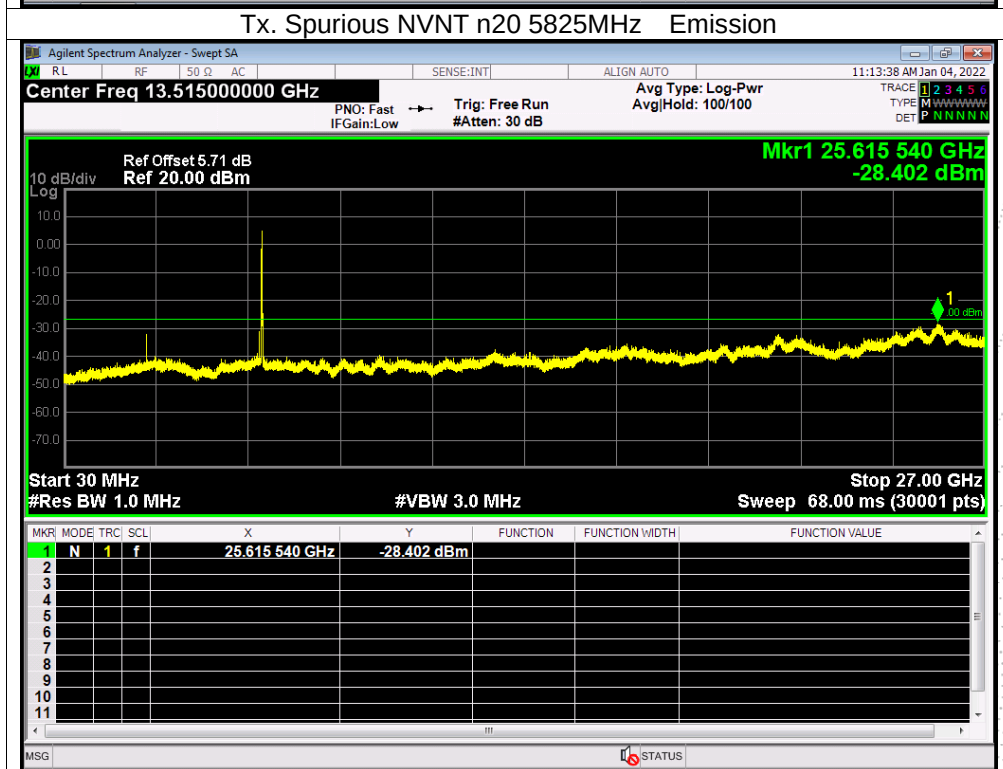
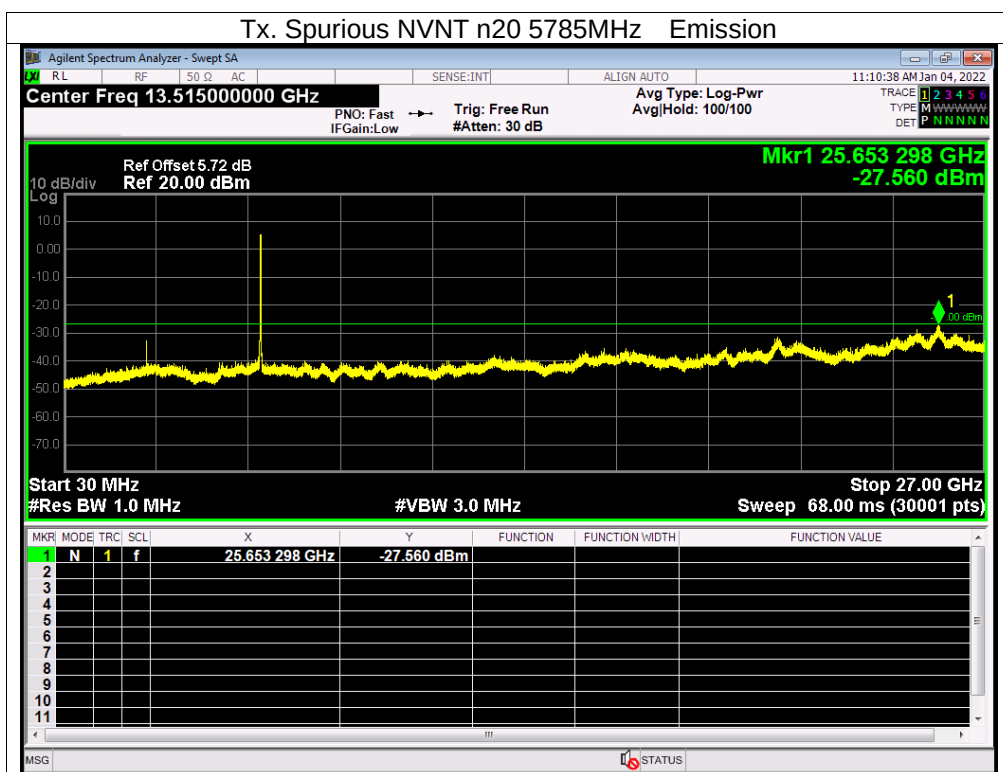


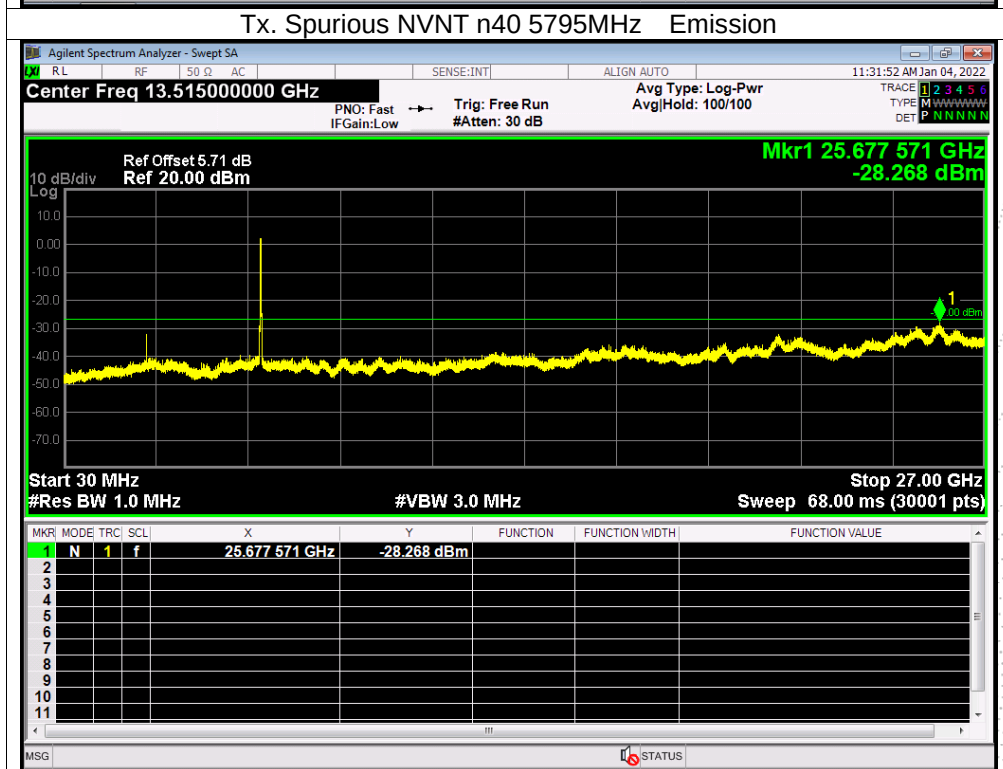
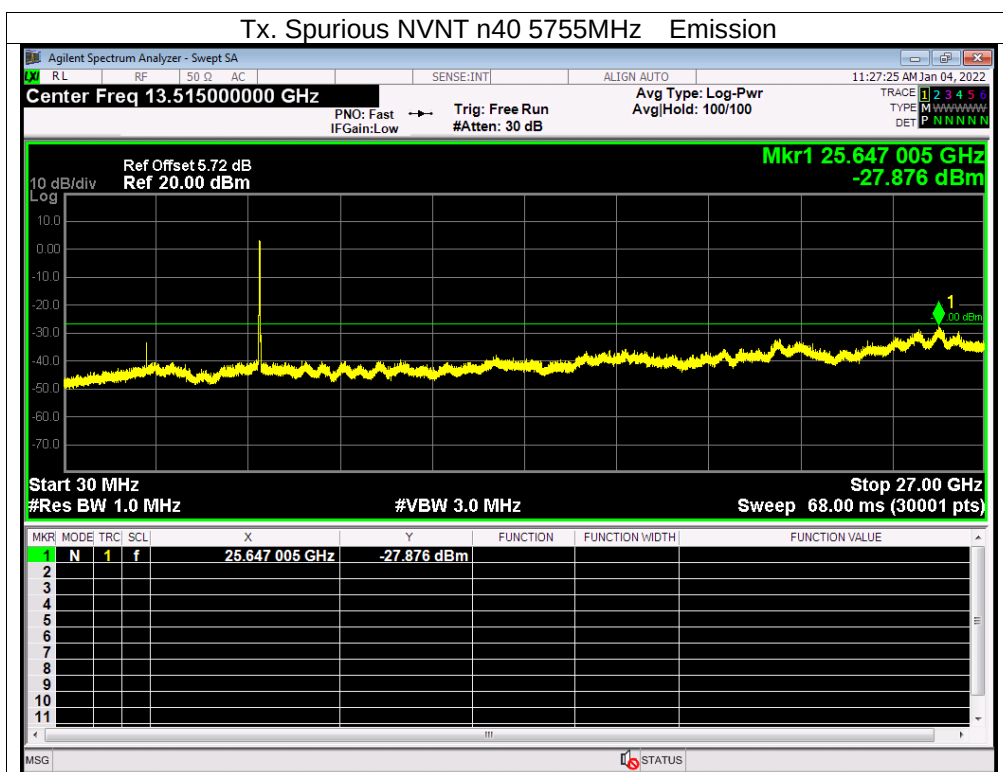


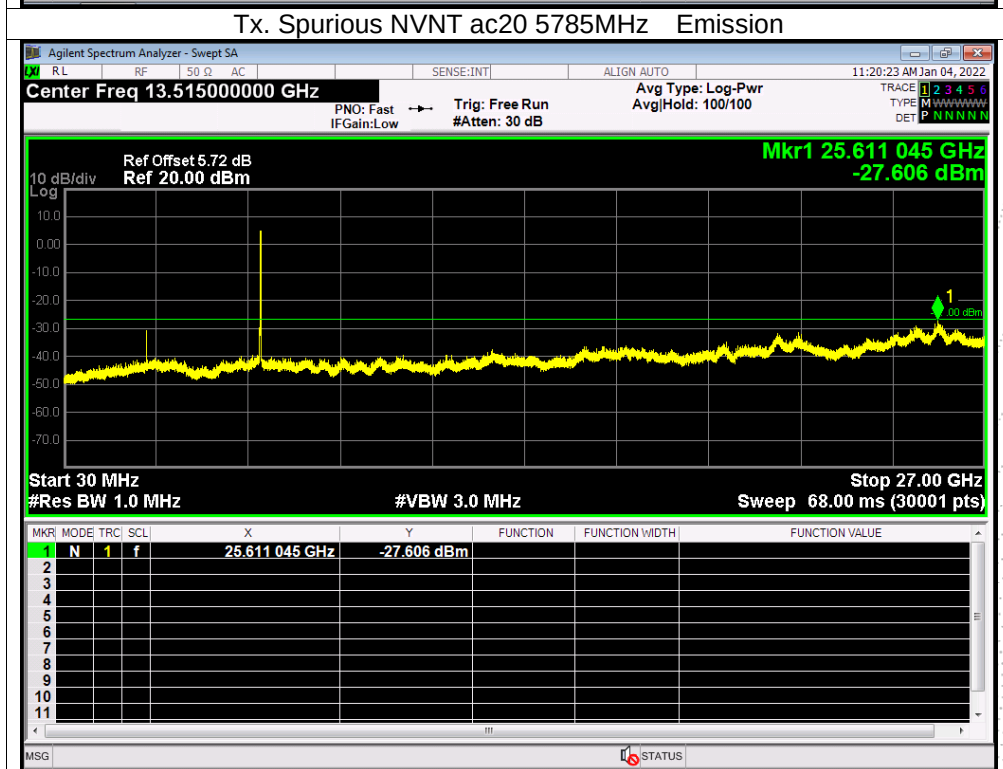
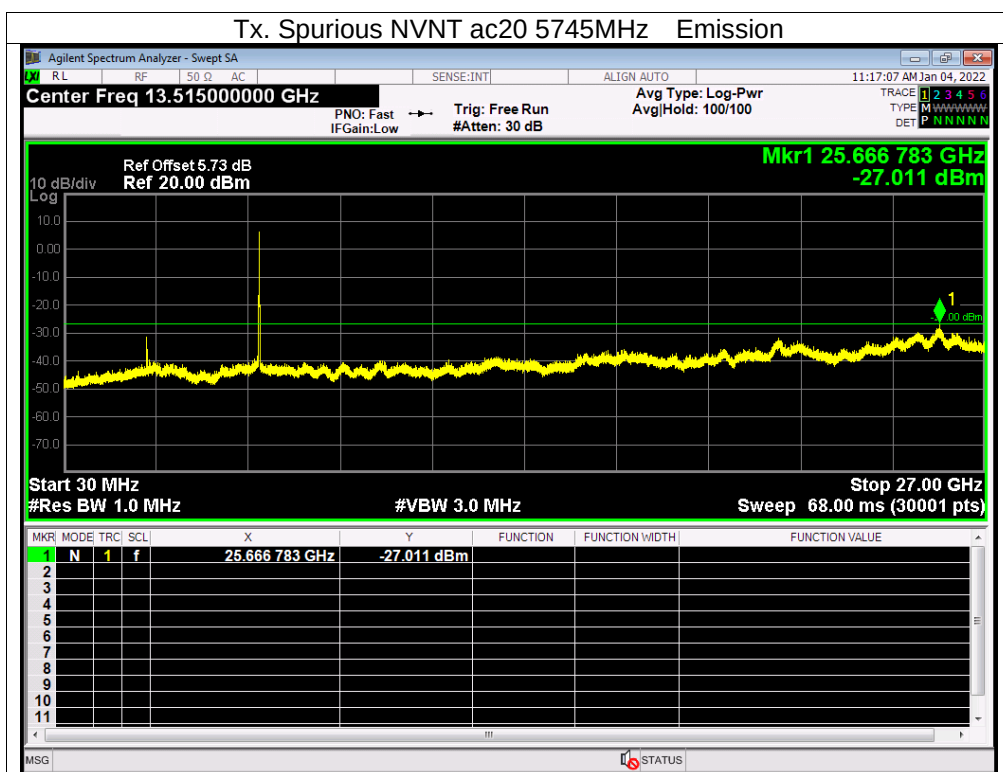


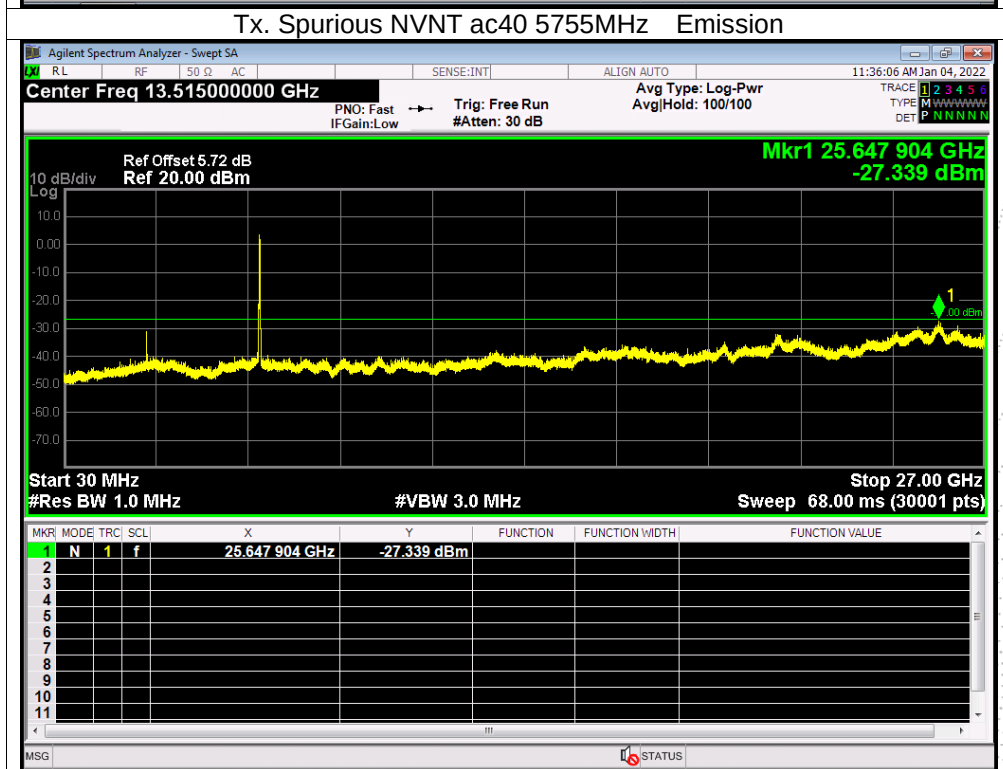
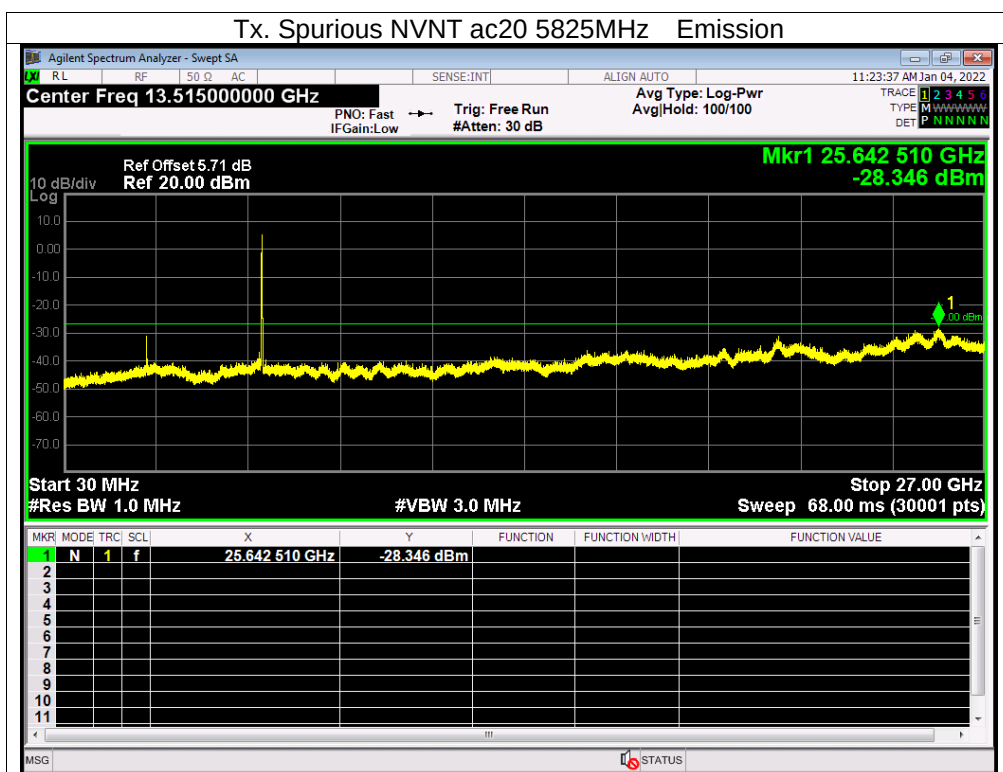


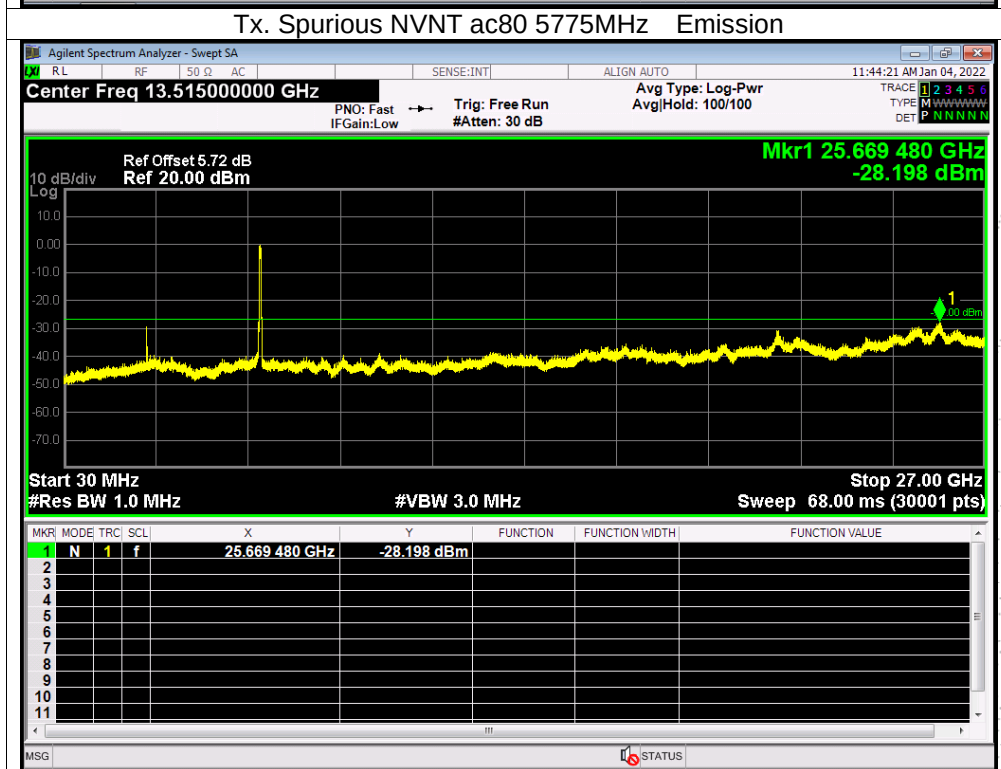
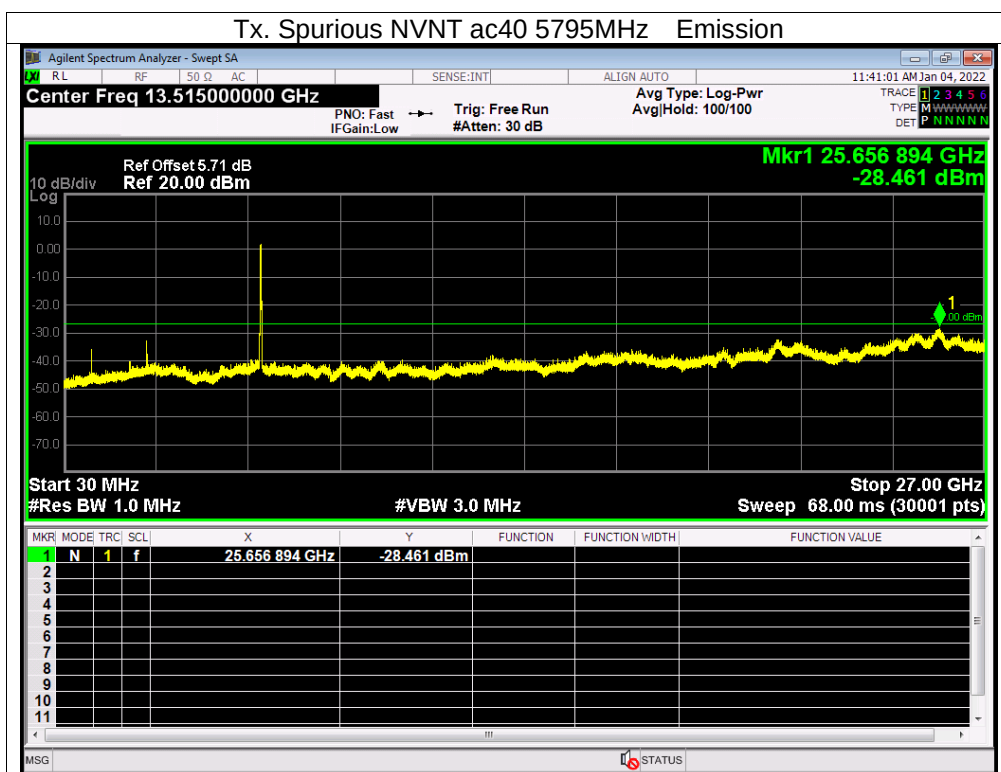






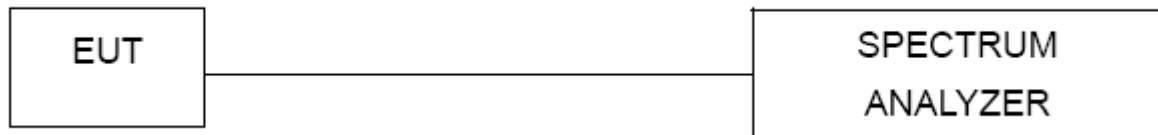






13. Frequency Stability Measurement

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:	AC120V/60Hz
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	5180.0145	5180	0.0145	2.7947
		V max (V)	138.00	5180.0177	5180	0.0177	3.4127
		V min (V)	102.00	5180.0040	5180	0.0040	0.7801
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	5180.0030	5180	0.0030	0.5726
		T (°C)	-10	5180.0090	5180	0.0090	1.7398
		T (°C)	0	5180.0079	5180	0.0079	1.5324
		T (°C)	10	5180.0097	5180	0.0097	1.8648
		T (°C)	20	5180.0064	5180	0.0064	1.2350
		T (°C)	30	5180.0018	5180	0.0018	0.3454
		T (°C)	40	5180.0054	5180	0.0054	1.0520
		T (°C)	50	5180.0089	5180	0.0089	1.7167
		T (°C)	60	5180.0054	5180	0.0054	1.0431
		T (°C)	70	5180.0079	5180	0.0079	1.5311
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	5200.0059	5200	0.0059	1.1440
		V max (V)	138.00	5200.0015	5200	0.0015	0.2830
		V min (V)	102.00	5200.0039	5200	0.0039	0.7425
Limits				5725-5850 MHz			
Result				Complies			

Temperature vs. Frequency Stability

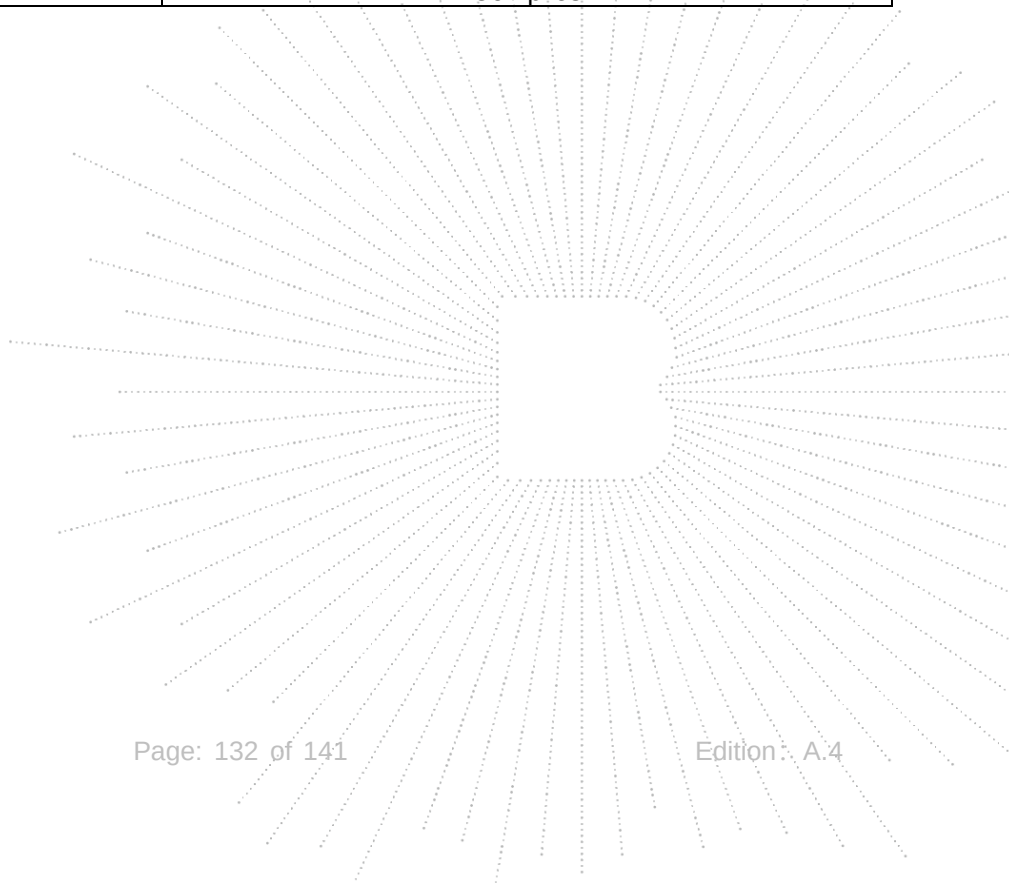
TEST CONDITIONS				Reference Frequency : 5200MHz			
				f	fc	Max. Deviation (MHz)	Max. Deviation (ppm)
V nom (V)	120	T (°C)	-20	5200.00561	5200	0.00561	1.0794
		T (°C)	-10	5200.00699	5200	0.00699	1.3440
		T (°C)	0	5200.00806	5200	0.00806	1.5502
		T (°C)	10	5200.01276	5200	0.01276	2.4538
		T (°C)	20	5200.00550	5200	0.00550	1.0583
		T (°C)	30	5200.01233	5200	0.01233	2.3718
		T (°C)	40	5200.00499	5200	0.00499	0.9593
		T (°C)	50	5200.00090	5200	0.00090	0.1725
		T (°C)	60	5200.01211	5200	0.01211	2.3280
		T (°C)	70	5200.00983	5200	0.00983	1.8911
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	5240.0054	5240	0.0054	1.0361
		V max (V)	138.00	5240.0079	5240	0.0079	1.4981
		V min (V)	102.00	5240.0003	5240	0.0003	0.0617
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	5240.0127	5240	0.0127	2.4179
		T (°C)	-10	5240.0087	5240	0.0087	1.6542
		T (°C)	0	5240.0072	5240	0.0072	1.3713
		T (°C)	10	5240.0125	5240	0.0125	2.3824
		T (°C)	20	5240.0005	5240	0.0005	0.0940
		T (°C)	30	5240.0035	5240	0.0035	0.6602
		T (°C)	40	5240.0033	5240	0.0033	0.6282
		T (°C)	50	5240.0003	5240	0.0003	0.0553
		T (°C)	60	5240.0098	5240	0.0098	1.8628
		T (°C)	70	5240.0075	5240	0.0075	1.4295
Limits				5150-5250 MHz			
Result				Complies			



Temperature:	26 °C	Relative Humidity:	54%
Pressure:	101KPa	Test Voltage:	AC120V/60Hz
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	5745.00868	5745	0.00868	1.5114
		V max (V)	138.00	5745.00328	5745	0.00328	0.5707
		V min (V)	102.00	5745.00461	5745	0.00461	0.8022
Limits				5725-5850 MHz			
Result				Complies			

Temperature vs. Frequency Stability

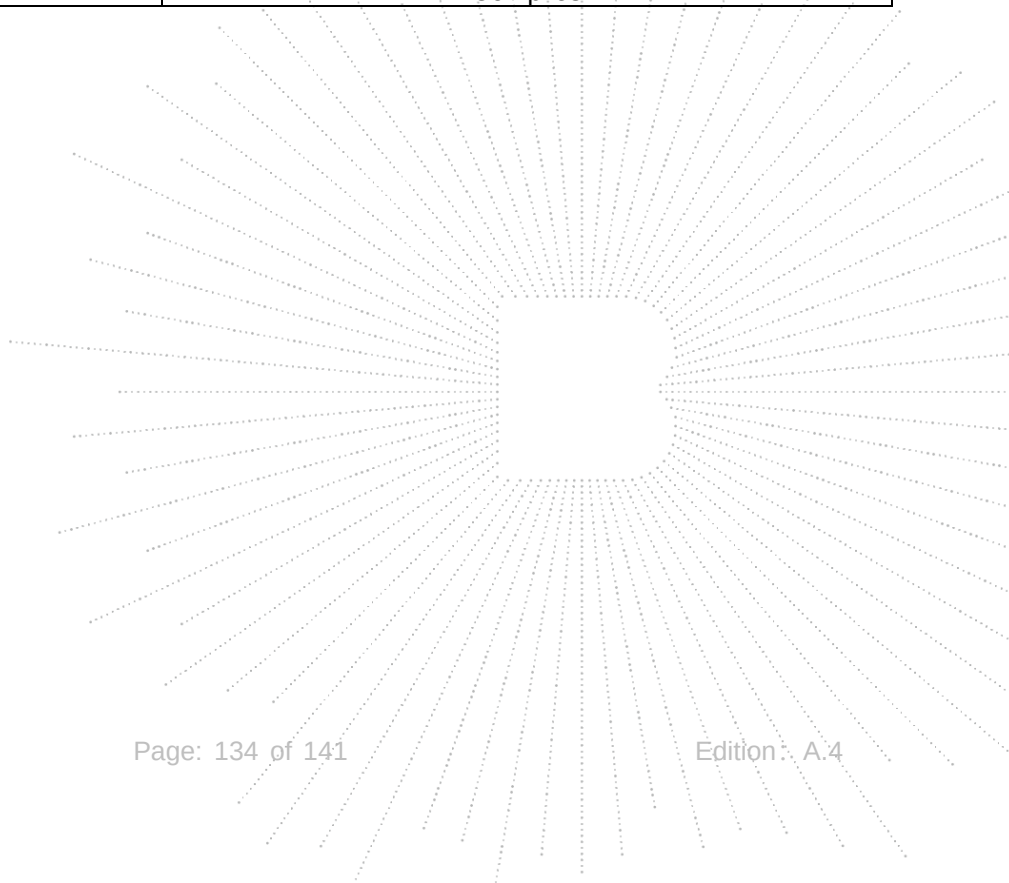
TEST CONDITIONS				Reference Frequency : 5745MHz			
				f	fc	Max. Deviation (MHz)	Max. Deviation (ppm)
V nom (V)	120	T (°C)	-20	5745.00344	5745	0.00344	0.5991
		T (°C)	-10	5745.00304	5745	0.00304	0.5295
		T (°C)	0	5745.00692	5745	0.00692	1.2054
		T (°C)	10	5745.00919	5745	0.00919	1.6005
		T (°C)	20	5745.01095	5745	0.01095	1.9061
		T (°C)	30	5745.00328	5745	0.00328	0.5706
		T (°C)	40	5745.00333	5745	0.00333	0.5804
		T (°C)	50	5745.00577	5745	0.00577	1.0037
		T (°C)	60	5745.00597	5745	0.00597	1.0397
		T (°C)	70	5745.01073	5745	0.01073	1.8674
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	5785.00753	5785	0.00753	1.3023
		V max (V)	138.00	5785.00394	5785	0.00394	0.6809
		V min (V)	102.00	5785.00624	5785	0.00624	1.0781
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	5785.00002	5785	0.00002	0.0031
		T (°C)	-10	5785.00710	5785	0.00710	1.2277
		T (°C)	0	5785.00135	5785	0.00135	0.2337
		T (°C)	10	5785.00076	5785	0.00076	0.1322
		T (°C)	20	5785.00566	5785	0.00566	0.9780
		T (°C)	30	5785.00150	5785	0.00150	0.2585
		T (°C)	40	5785.01211	5785	0.01211	2.0933
		T (°C)	50	5785.00265	5785	0.00265	0.4588
		T (°C)	60	5785.01098	5785	0.01098	1.8989
		T (°C)	70	5785.00390	5785	0.00390	0.6739
Limits				5725-5850 MHz			
Result				Complies			

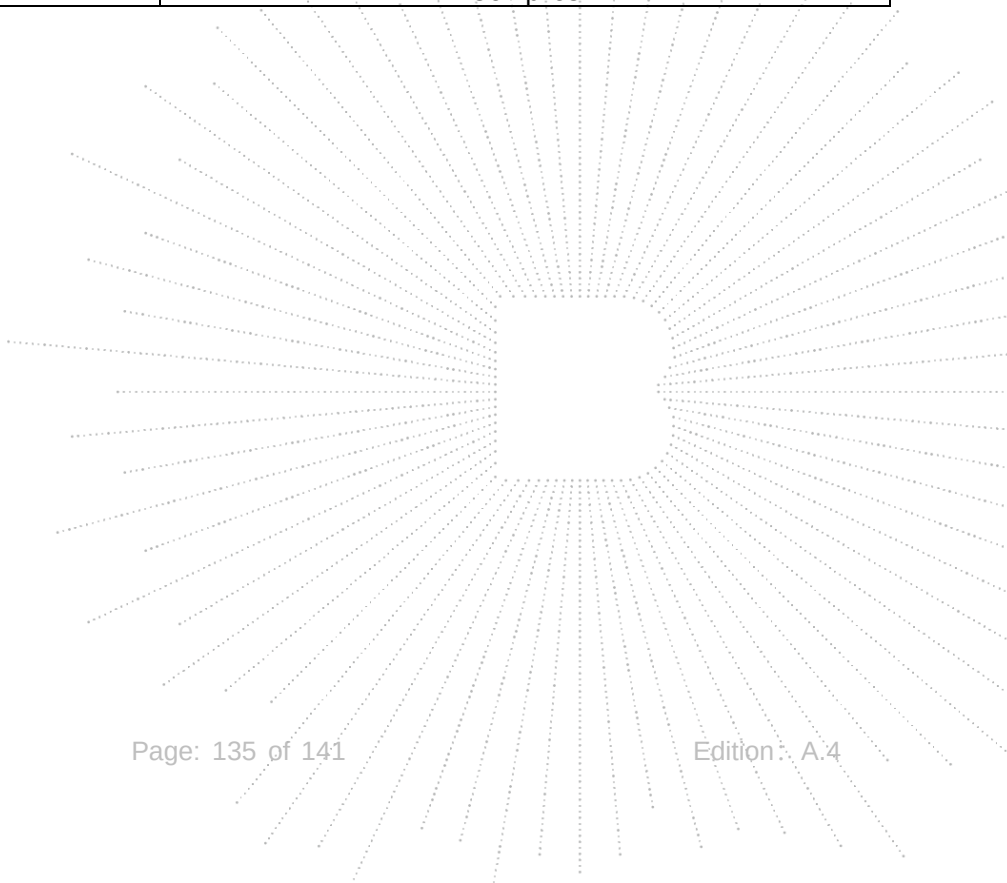


Voltage vs. Frequency Stability

TEST CONDITIONS				Reference Frequency : 5825MHz			
				f	fc	Max. Deviation (MHz)	Max. Deviation (ppm)
T nom (°C)	20	V nom (V)	120.00	5825.00821	5825	0.00821	1.4098
		V max (V)	138.00	5825.00309	5825	0.00309	0.5307
		V min (V)	102.00	5825.01103	5825	0.01103	1.8943
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	5825.00225	5825	0.00225	0.3857
		T (°C)	-10	5825.01337	5825	0.01337	2.2957
		T (°C)	0	5825.01193	5825	0.01193	2.0476
		T (°C)	10	5825.01169	5825	0.01169	2.0068
		T (°C)	20	5825.00357	5825	0.00357	0.6124
		T (°C)	30	5825.00044	5825	0.00044	0.0747
		T (°C)	40	5825.00479	5825	0.00479	0.8225
		T (°C)	50	5825.00505	5825	0.00505	0.8672
		T (°C)	60	5825.00116	5825	0.00116	0.1996
		T (°C)	70	5825.00040	5825	0.00040	0.0684
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 Antenna

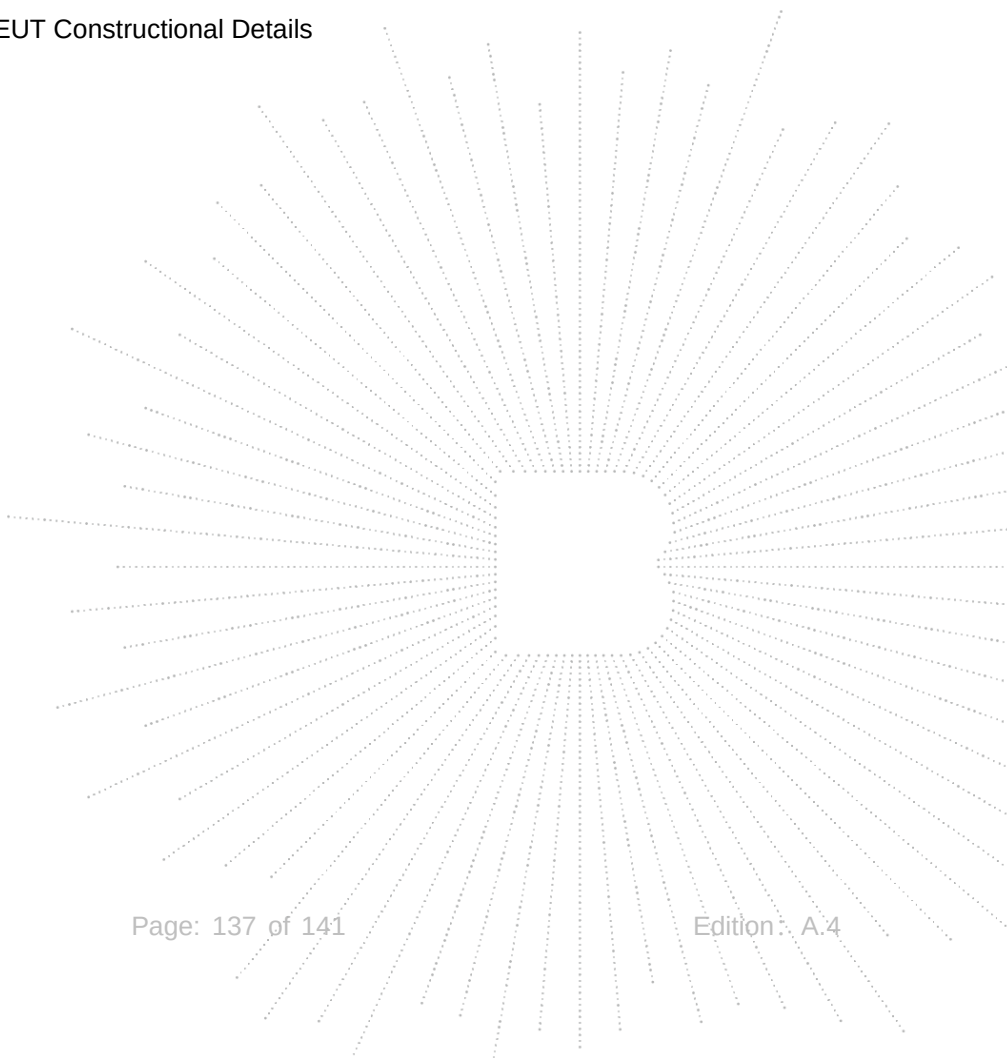
The EUT antenna is External antenna (antenna gain: 2.81dBi). It comply with the standard requirement.

15. EUT Photographs

EUT Photo 1

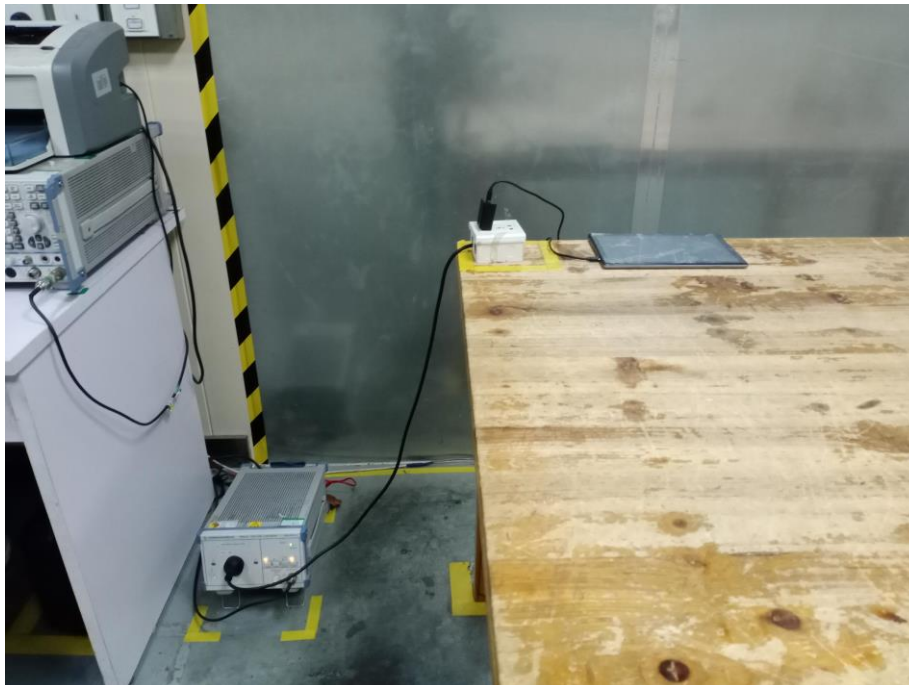


Appendix-Photographs Of EUT Constructional Details

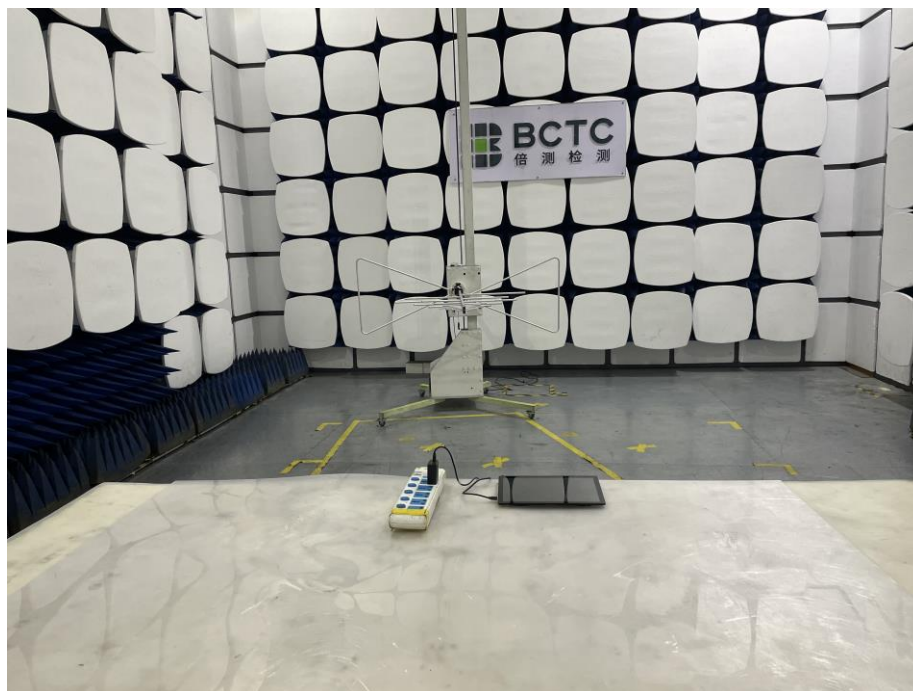


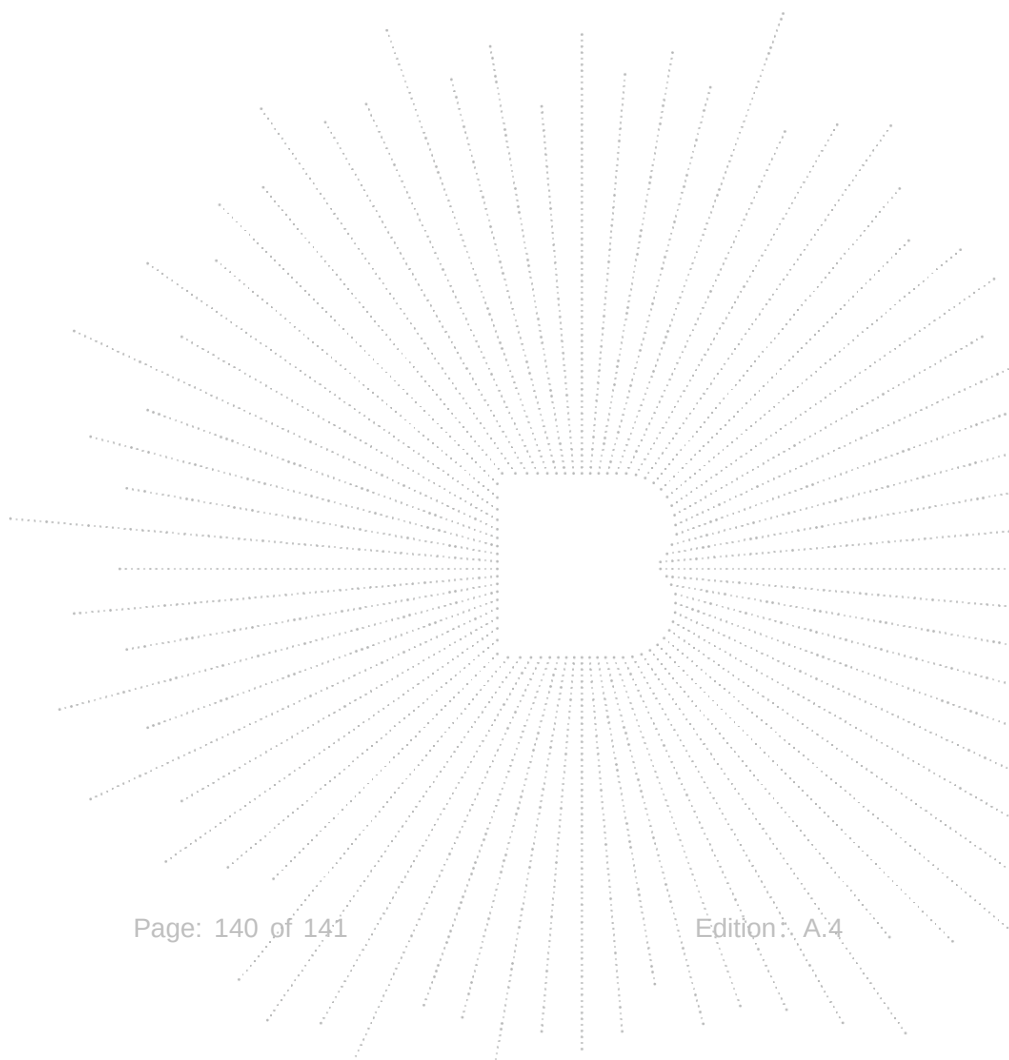
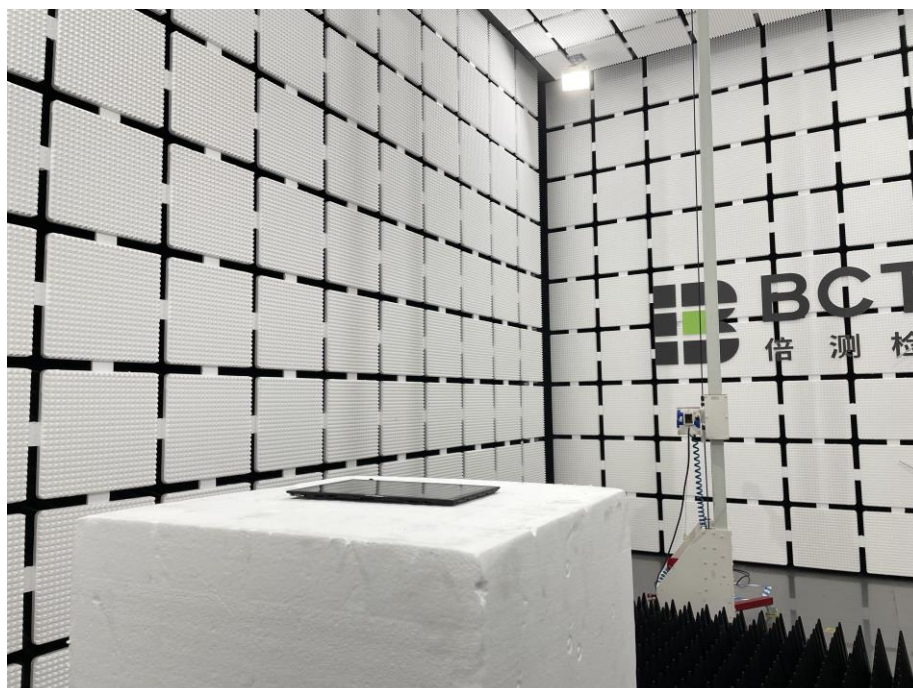
16. EUT Test Setup Photographs

Conducted emissions



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** *****