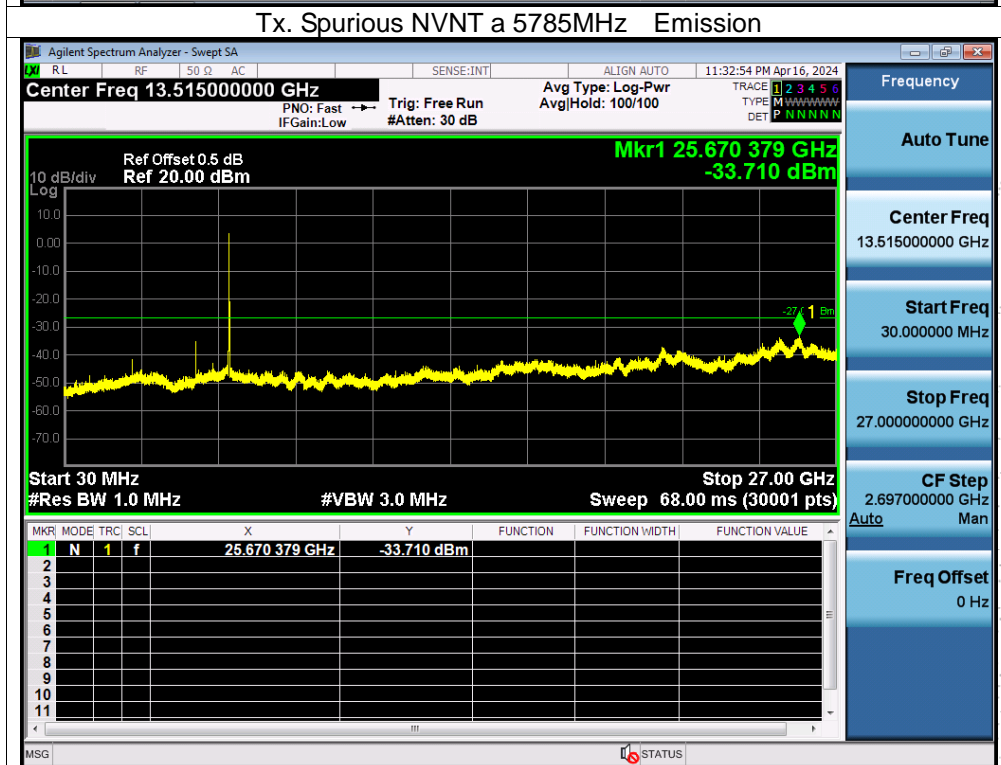
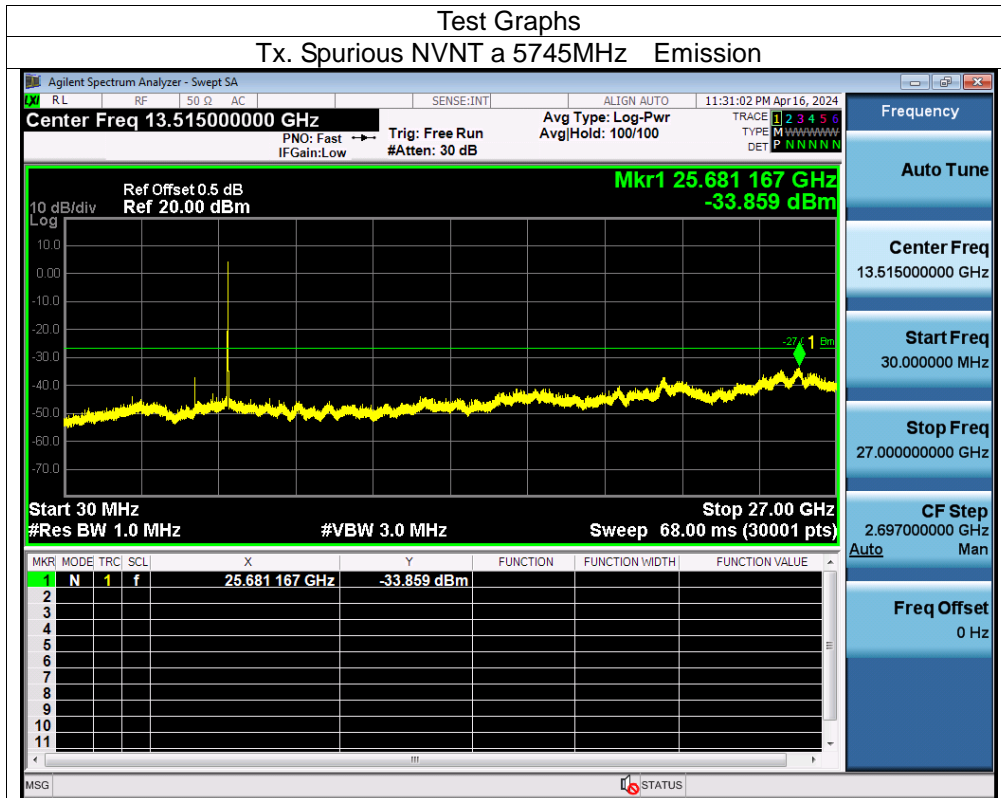
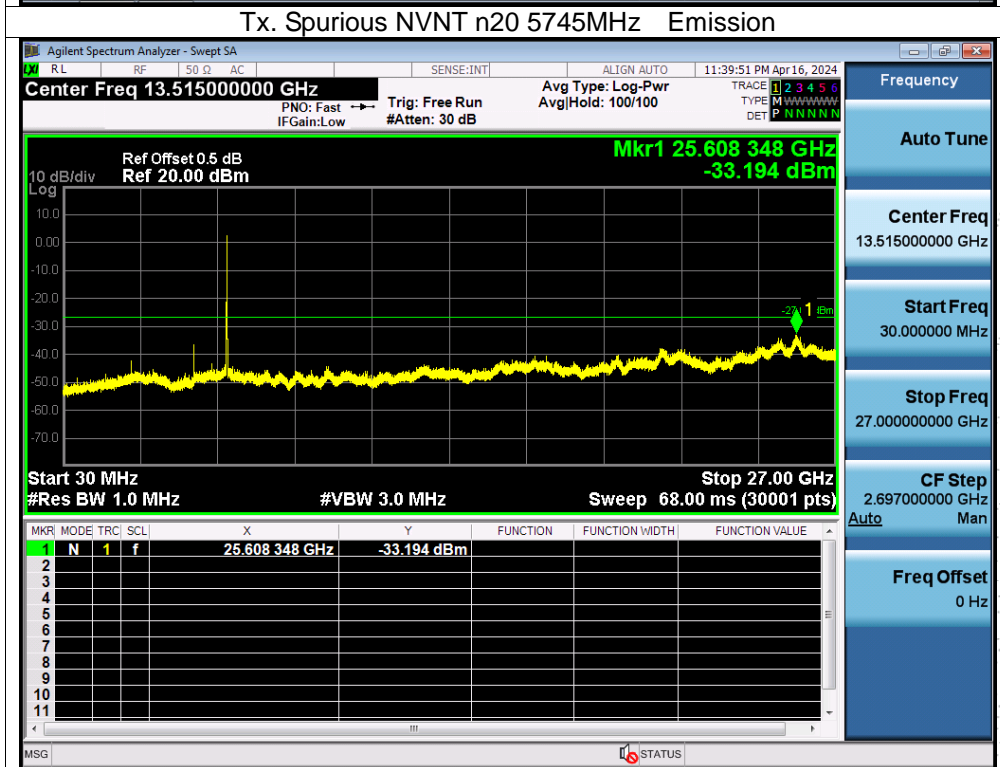
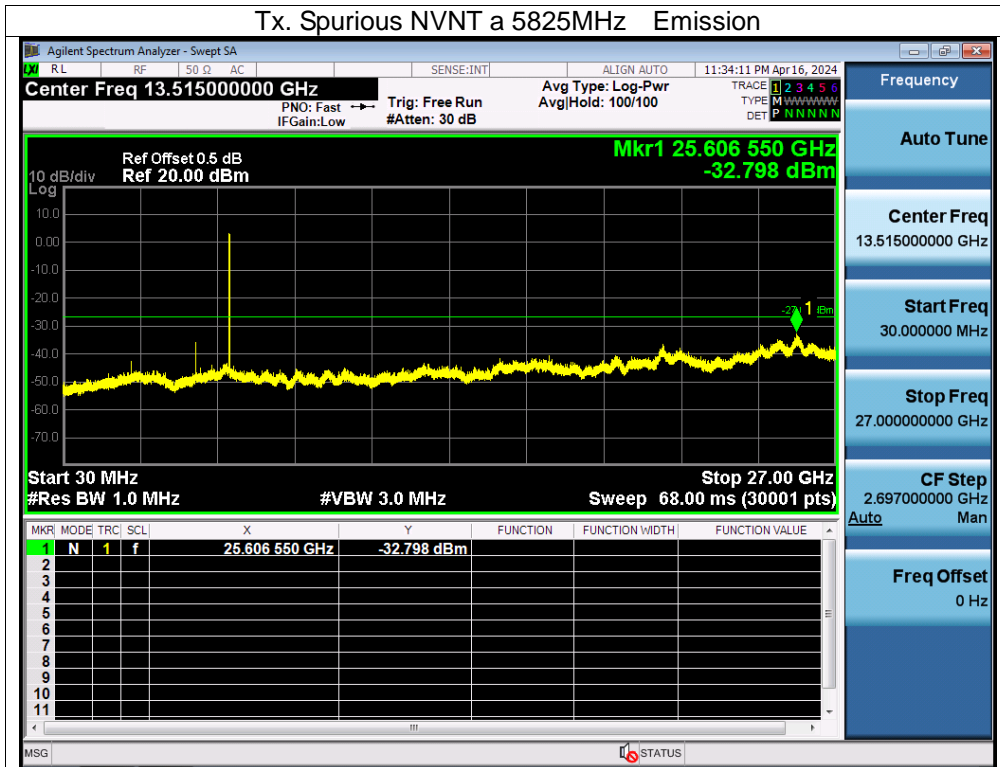
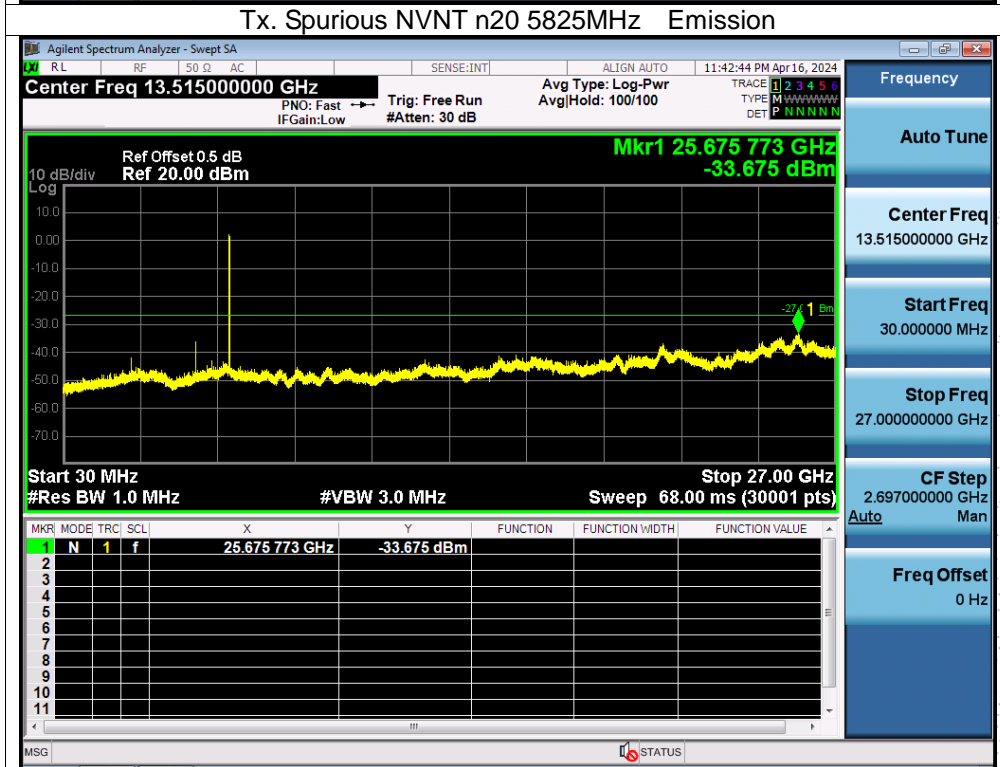
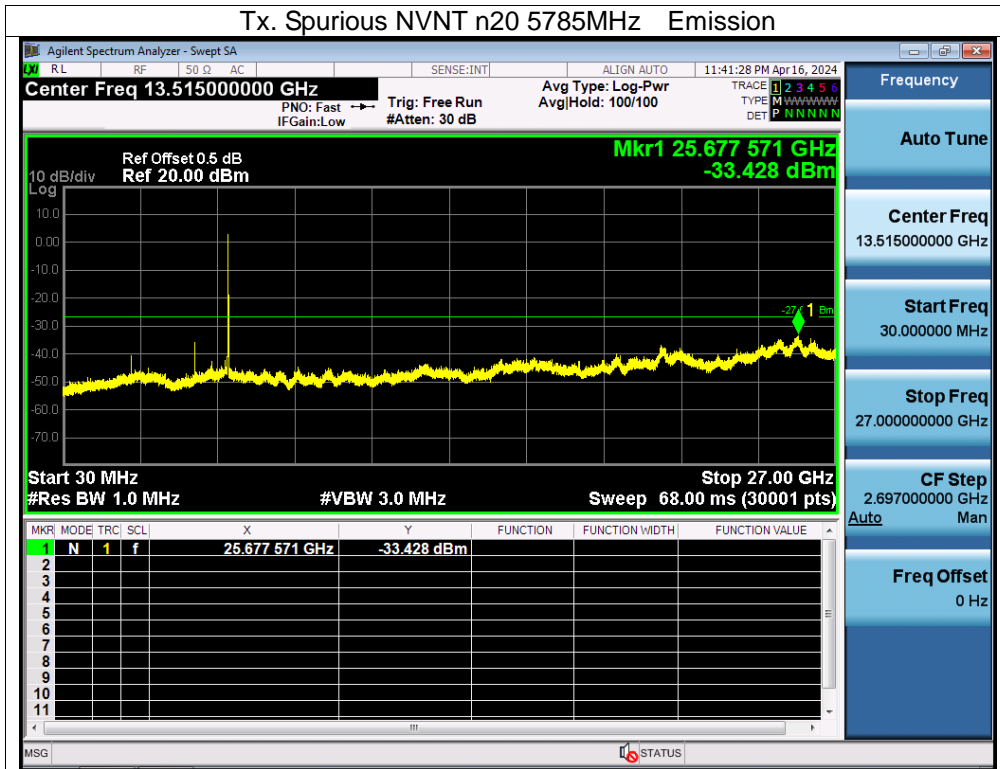


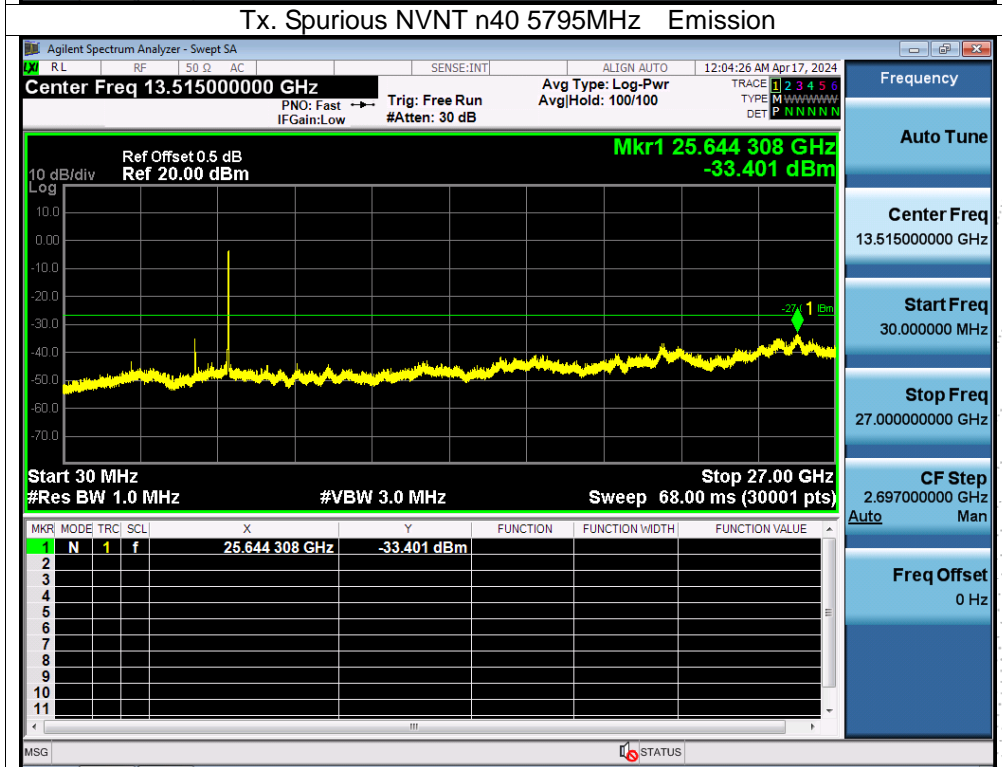
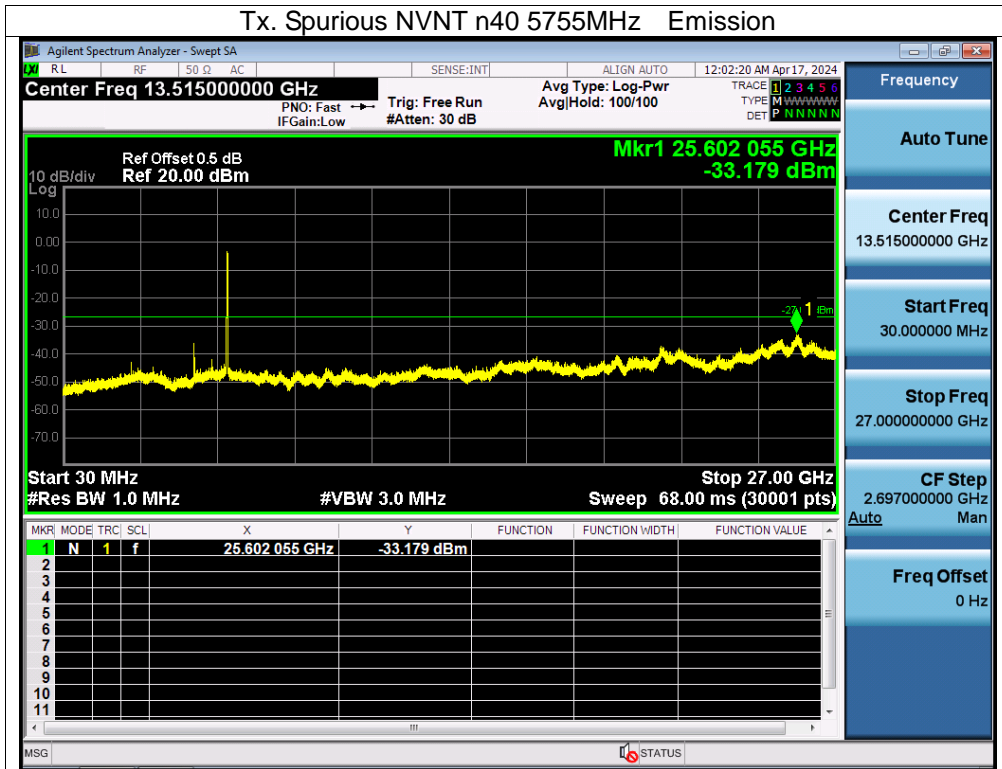
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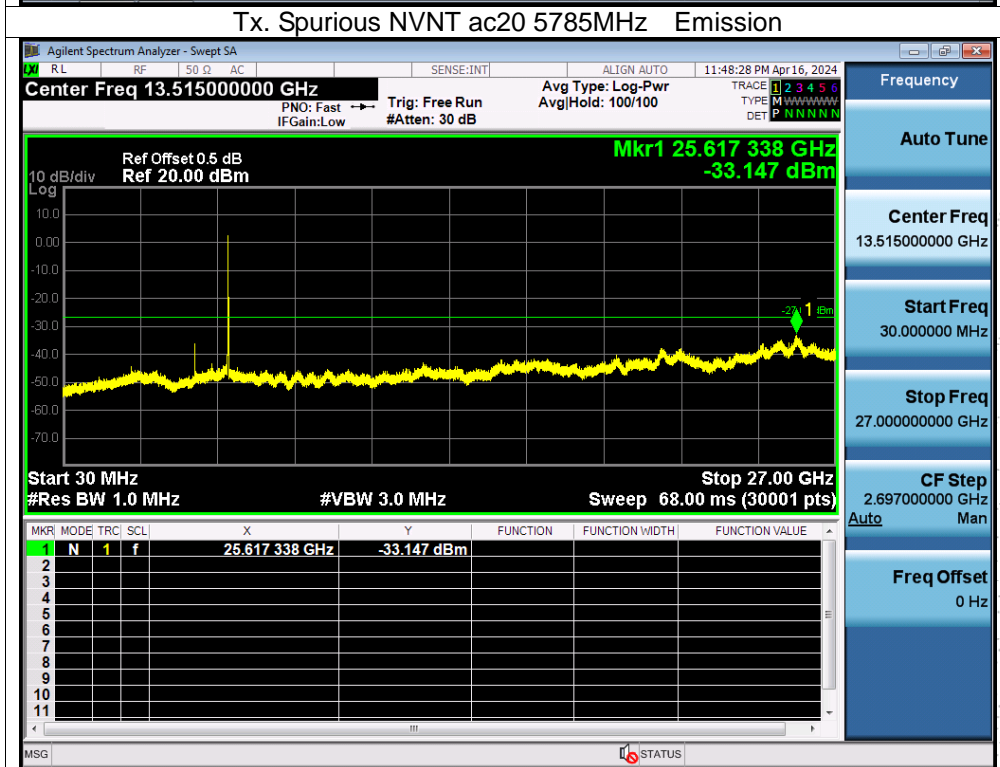
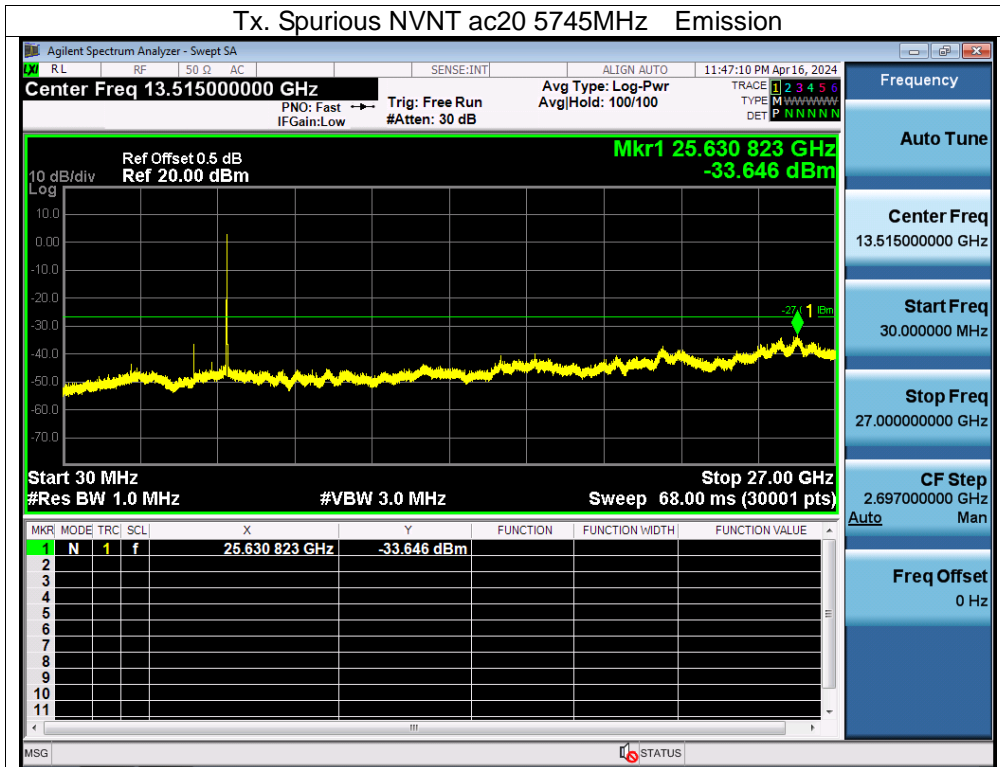


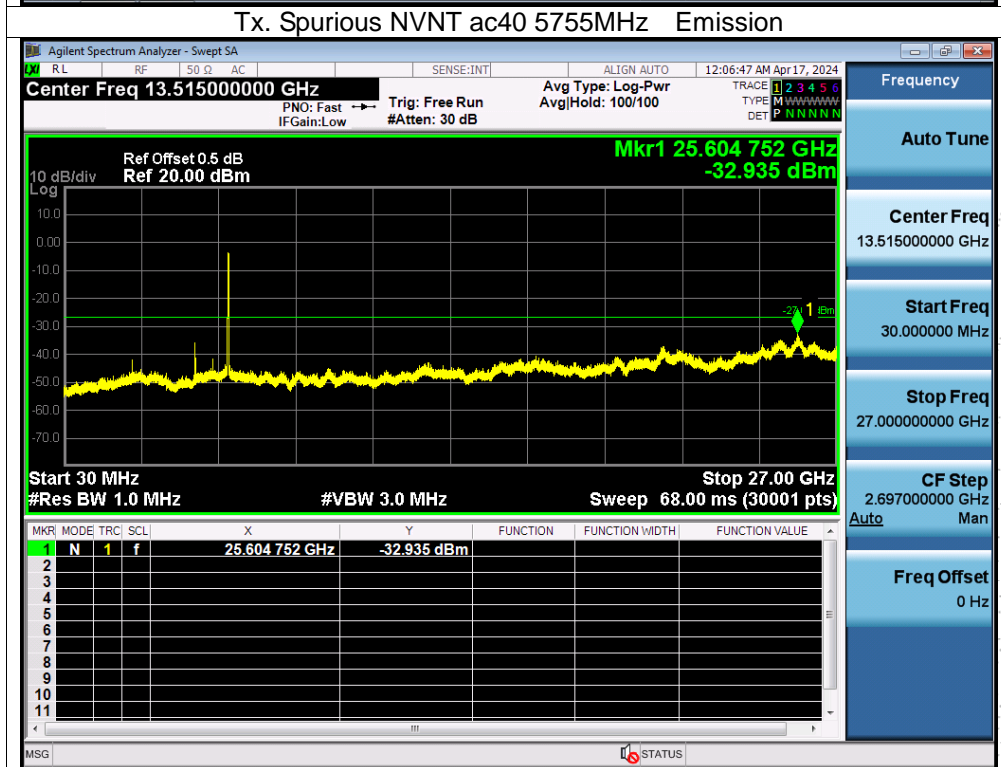
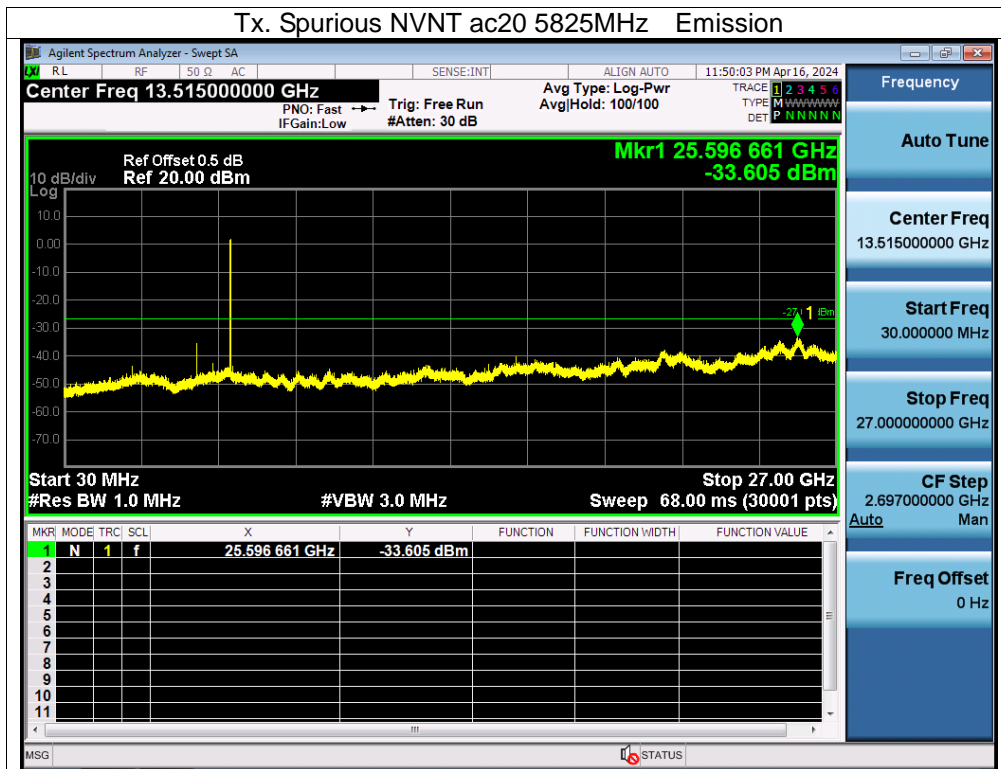
SHENZHEN



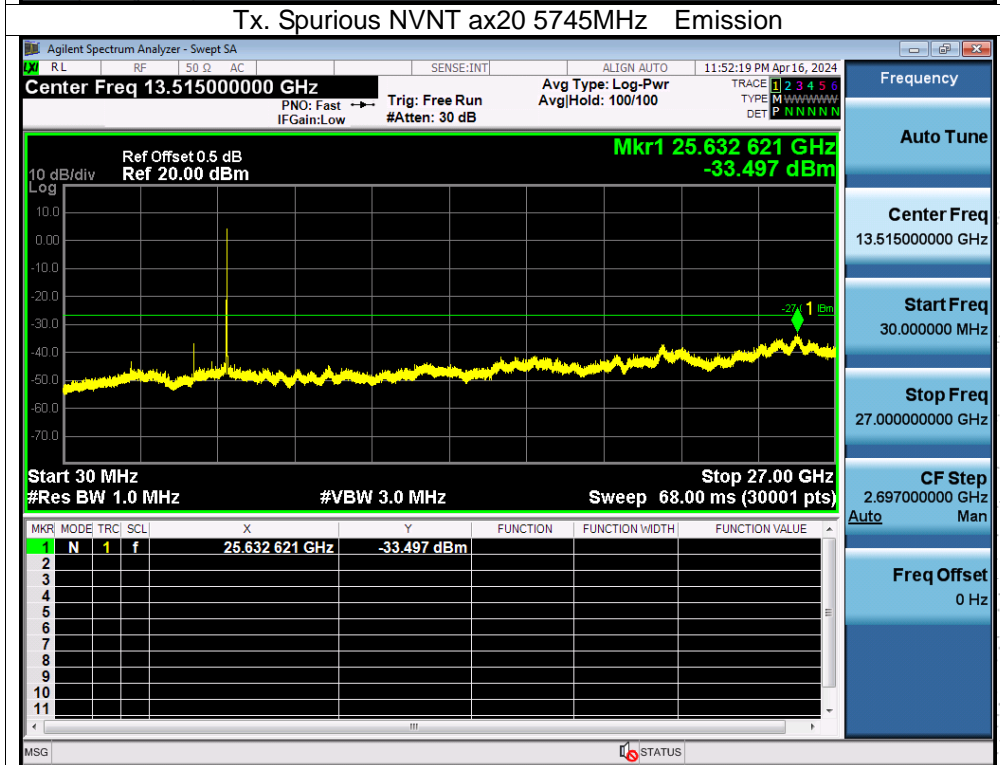
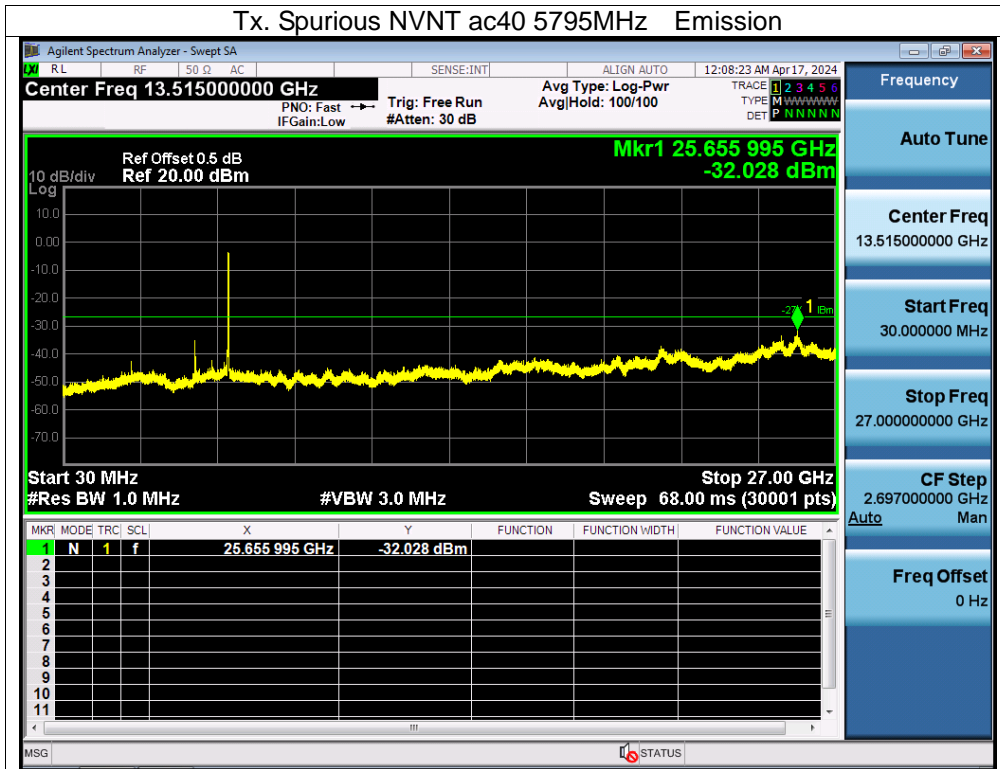




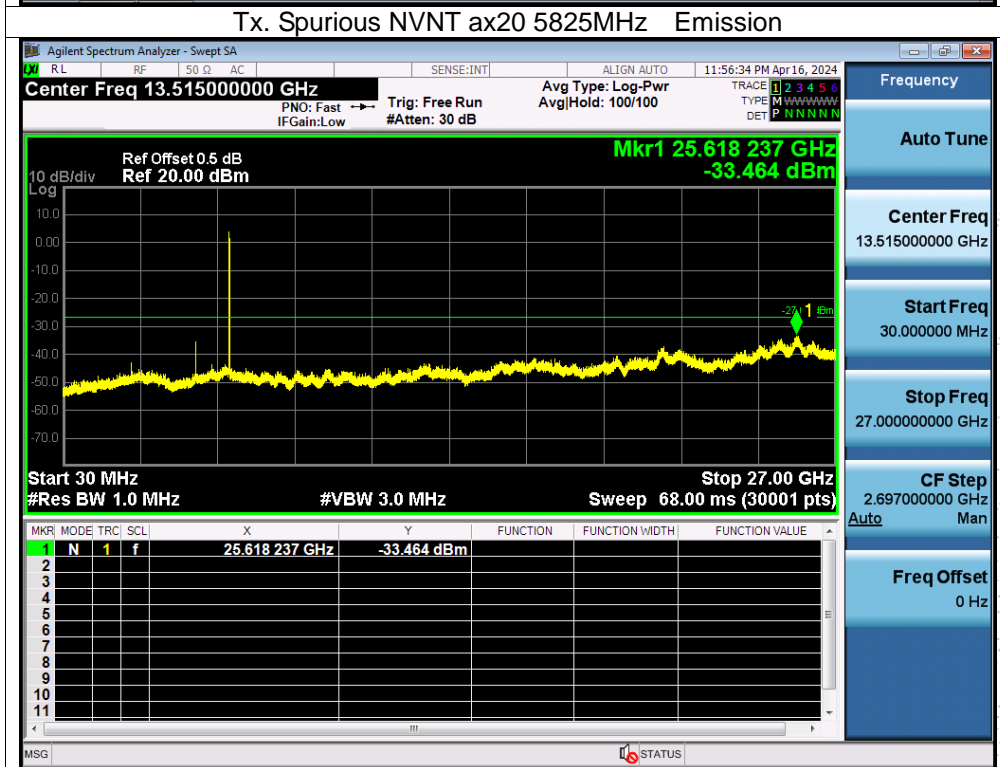
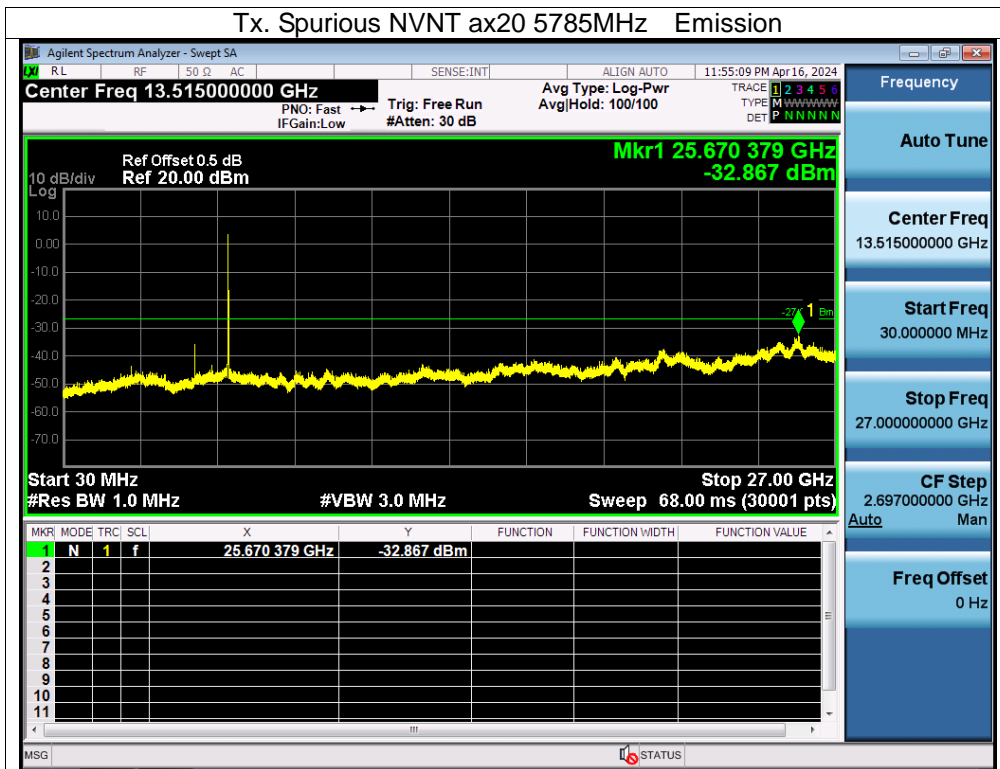


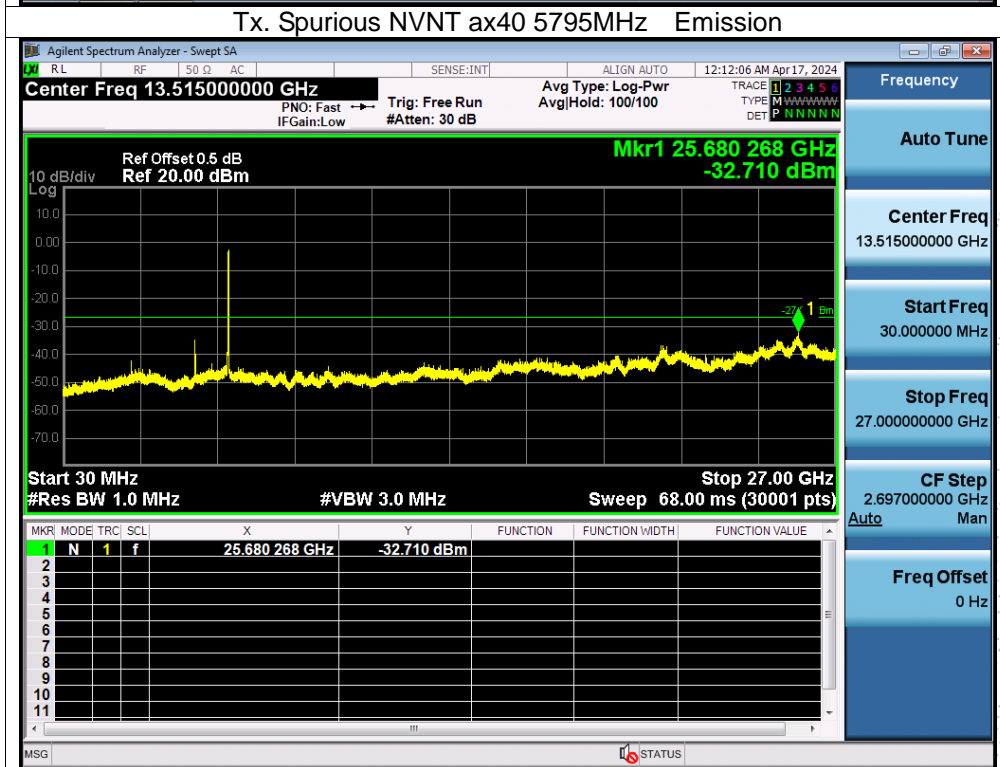
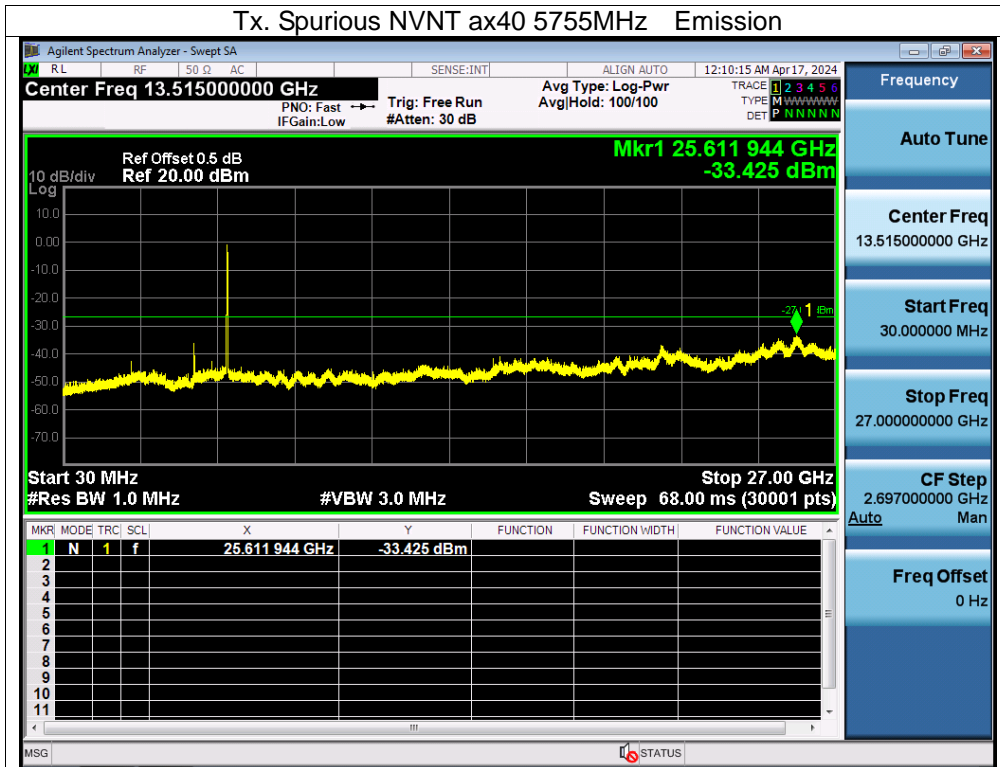


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13. Frequency Stability Measurement

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

13.4 Test Result

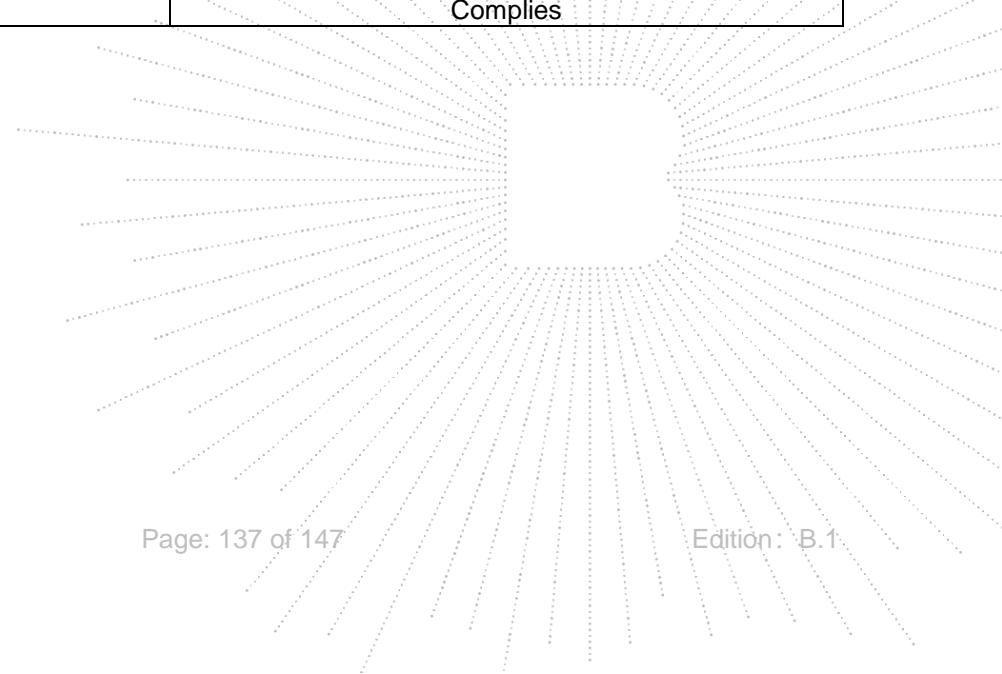
Temperature:	26 °C	Relative Humidity:	54%
Pressure:	101KPa	Test Voltage:	AC120V/60Hz
Test Mode:	TX (5.1G) Mode Frequency U-NII-1 (5180-5240MHz)		

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	5180.0095	5180	0.0095	1.8340
		V max (V)	138.00	5180.0064	5180	0.0064	1.2355
		V min (V)	102.00	5180.0054	5180	0.0054	1.0425
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	5180.0115	5180	0.0115	2.2201
		T (°C)	-10	5180.0050	5180	0.0050	0.9653
		T (°C)	0	5180.0073	5180	0.0073	1.4093
		T (°C)	10	5180.0035	5180	0.0035	0.6757
		T (°C)	20	5180.0100	5180	0.0100	1.9305
		T (°C)	30	5180.0011	5180	0.0011	0.2124
		T (°C)	40	5180.0101	5180	0.0101	1.9498
		T (°C)	50	5180.0110	5180	0.0110	2.1236
		T (°C)	60	5180.0078	5180	0.0078	1.5058
		T (°C)	70	5180.0083	5180	0.0083	1.6023
Limits				5150-5250 MHz			
Result				Complies			



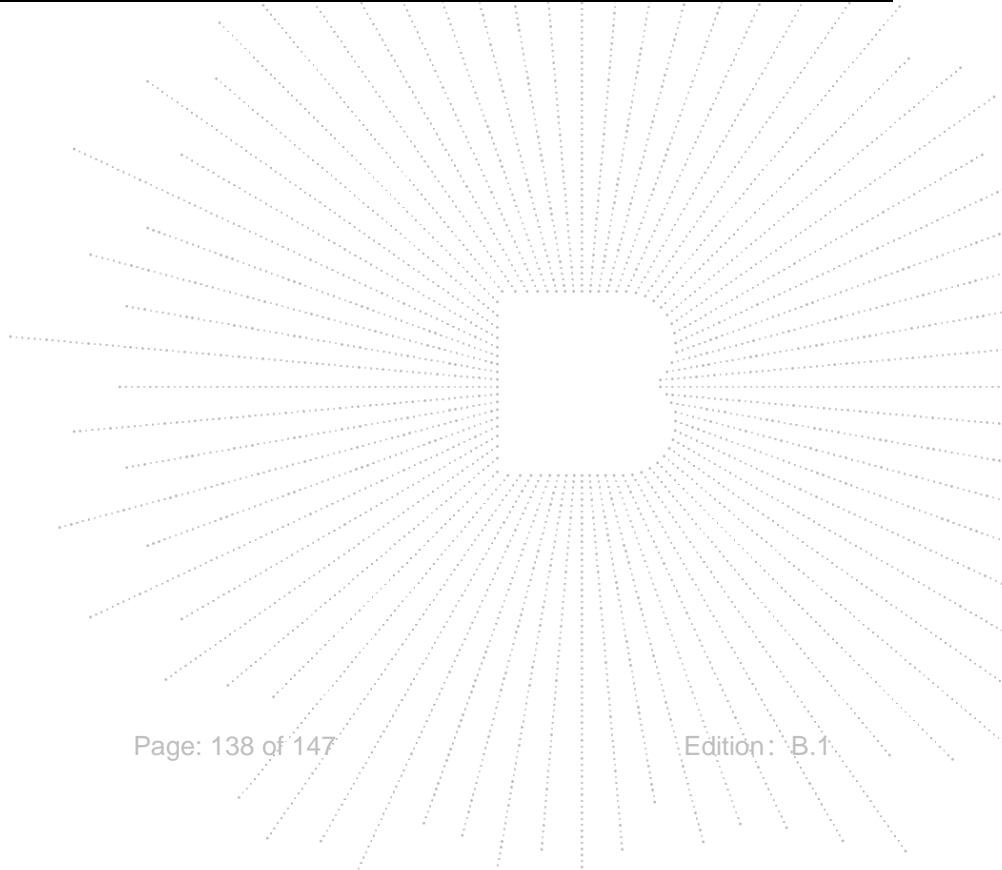
Voltage vs. Frequency Stability

TEST CONDITIONS				Reference Frequency: 5200MHz			
				f	fc	Max. Deviation (MHz)	Max. Deviation (ppm)
T nom (°C)	20	V nom (V)	120.00	5200.0086	5200	0.0086	1.6538
		V max (V)	138.00	5200.0109	5200	0.0109	2.0962
		V min (V)	102.00	5200.0122	5200	0.0122	2.3462
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	5200.00880	5200	0.00880	1.6923
		T (°C)	-10	5200.01270	5200	0.01270	2.4423
		T (°C)	0	5200.00990	5200	0.00990	1.9038
		T (°C)	10	5200.00160	5200	0.00160	0.3077
		T (°C)	20	5200.00620	5200	0.00620	1.1923
		T (°C)	30	5200.01080	5200	0.01080	2.0769
		T (°C)	40	5200.00220	5200	0.00220	0.4231
		T (°C)	50	5200.00010	5200	0.00010	0.0192
		T (°C)	60	5200.00020	5200	0.00020	0.0385
		T (°C)	70	5200.00260	5200	0.00260	0.5000
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	5240.0002	5240	0.0002	0.0382
		V max (V)	138.00	5240.0097	5240	0.0097	1.8511
		V min (V)	102.00	5240.0086	5240	0.0086	1.6412
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	5240.0054	5240	0.0054	1.0305
		T (°C)	-10	5240.0052	5240	0.0052	0.9924
		T (°C)	0	5240.0127	5240	0.0127	2.4237
		T (°C)	10	5240.0053	5240	0.0053	1.0115
		T (°C)	20	5240.0019	5240	0.0019	0.3626
		T (°C)	30	5240.0078	5240	0.0078	1.4885
		T (°C)	40	5240.0028	5240	0.0028	0.5344
		T (°C)	50	5240.0041	5240	0.0041	0.7824
		T (°C)	60	5240.0017	5240	0.0017	0.3244
		T (°C)	70	5240.0044	5240	0.0044	0.8397
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	5745.00690	5745	0.00690	1.2010
		V max (V)	138.00	5745.00980	5745	0.00980	1.7058
		V min (V)	102.00	5745.00230	5745	0.00230	0.4003
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	5745.00880	5745	0.00880	1.5318
		T (°C)	-10	5745.00880	5745	0.00880	1.5318
		T (°C)	0	5745.00920	5745	0.00920	1.6014
		T (°C)	10	5745.01080	5745	0.01080	1.8799
		T (°C)	20	5745.00250	5745	0.00250	0.4352
		T (°C)	30	5745.00650	5745	0.00650	1.1314
		T (°C)	40	5745.00740	5745	0.00740	1.2881
		T (°C)	50	5745.01160	5745	0.01160	2.0191
		T (°C)	60	5745.00530	5745	0.00530	0.9225
		T (°C)	70	5745.01150	5745	0.01150	2.0017
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	5785.00840	5785	0.00840	1.4520
		V max (V)	138.00	5785.00830	5785	0.00830	1.4347
		V min (V)	102.00	5785.00250	5785	0.00250	0.4322
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	5785.00030	5785	0.00030	0.0519
		T (°C)	-10	5785.01230	5785	0.01230	2.1262
		T (°C)	0	5785.00410	5785	0.00410	0.7087
		T (°C)	10	5785.00920	5785	0.00920	1.5903
		T (°C)	20	5785.00980	5785	0.00980	1.6940
		T (°C)	30	5785.00950	5785	0.00950	1.6422
		T (°C)	40	5785.00790	5785	0.00790	1.3656
		T (°C)	50	5785.00200	5785	0.00200	0.3457
		T (°C)	60	5785.01120	5785	0.01120	1.9360
		T (°C)	70	5785.00360	5785	0.00360	0.6223
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	5825.00370	5825	0.00370	0.6352
		V max (V)	138.00	5825.00800	5825	0.00800	1.3734
		V min (V)	102.00	5825.00870	5825	0.00870	1.4936
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	5825.00940	5825	0.00940	1.6137
		T (°C)	-10	5825.00770	5825	0.00770	1.3219
		T (°C)	0	5825.01030	5825	0.01030	1.7682
		T (°C)	10	5825.00370	5825	0.00370	0.6352
		T (°C)	20	5825.00980	5825	0.00980	1.6824
		T (°C)	30	5825.00670	5825	0.00670	1.1502
		T (°C)	40	5825.00310	5825	0.00310	0.5322
		T (°C)	50	5825.00440	5825	0.00440	0.7554
		T (°C)	60	5825.00150	5825	0.00150	0.2575
		T (°C)	70	5825.01180	5825	0.01180	2.0258
Limits				5725-5850 MHz			
Result				Complies			

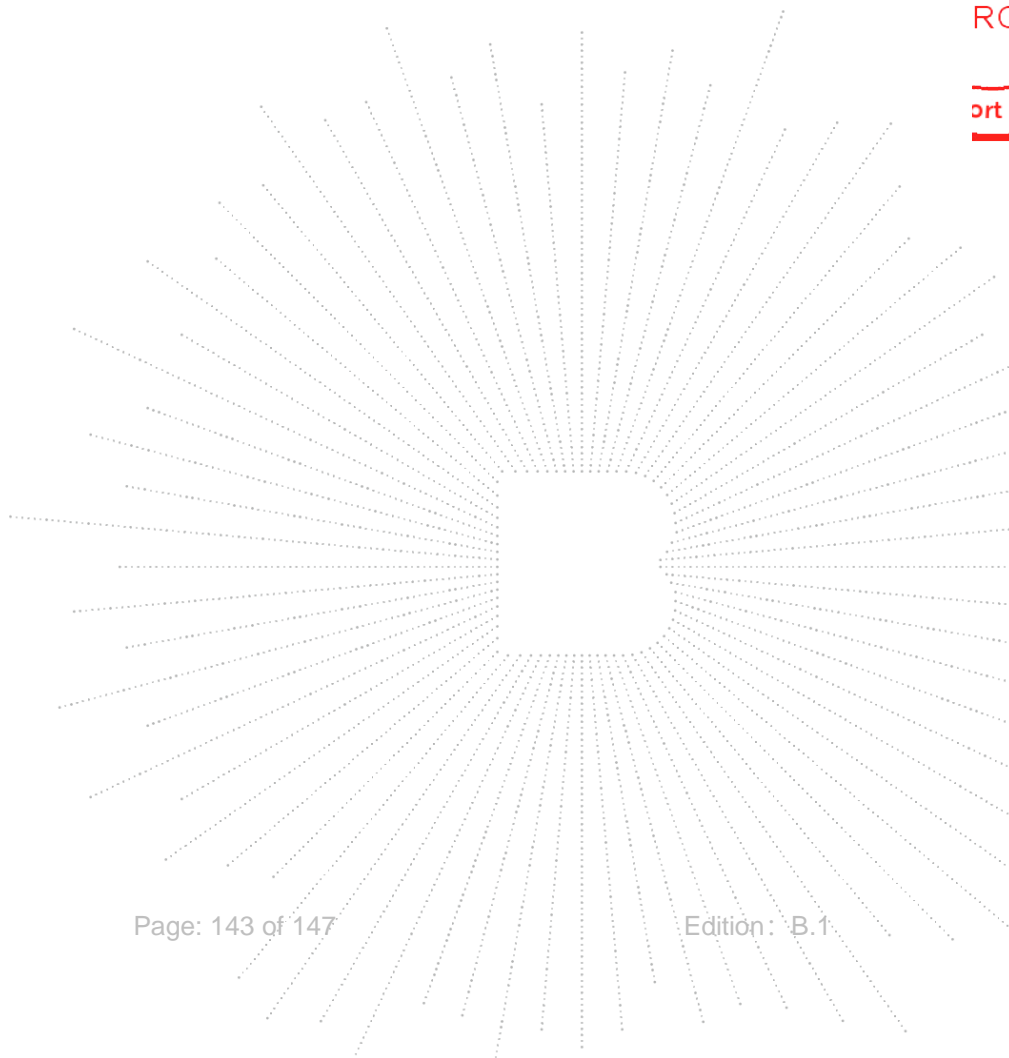
14. Antenna Requirement

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 Internal antenna, It comply with the standard requirement.



15. EUT Photographs

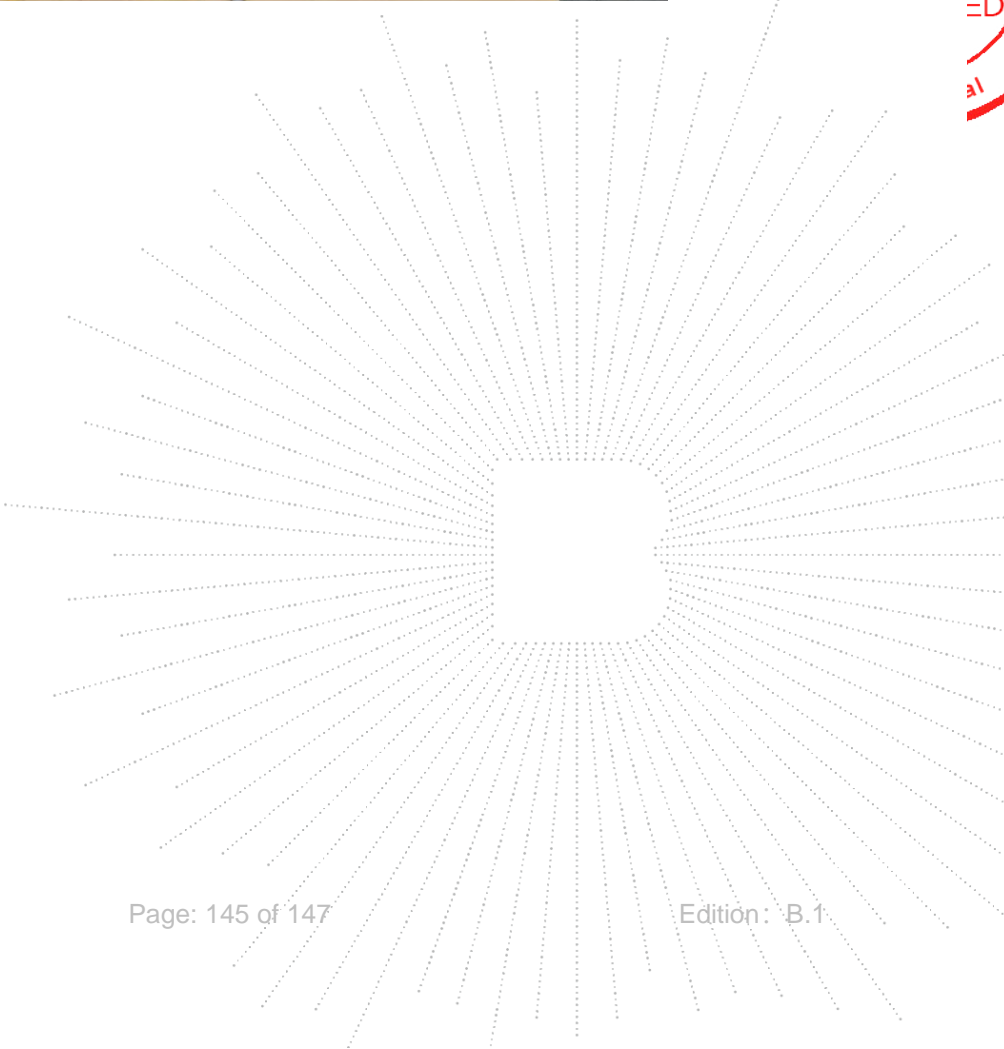
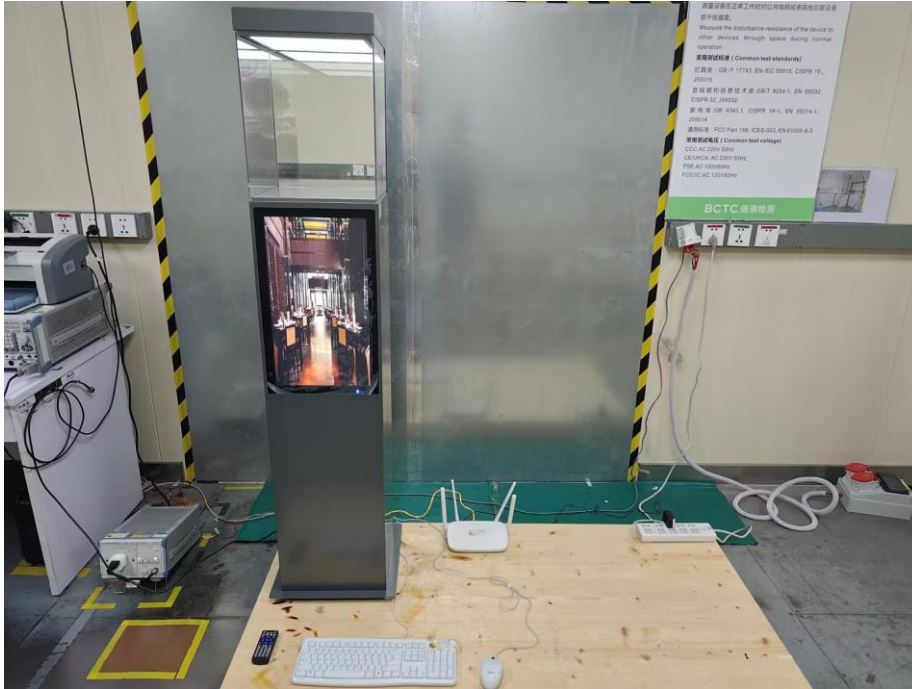
EUT Photo



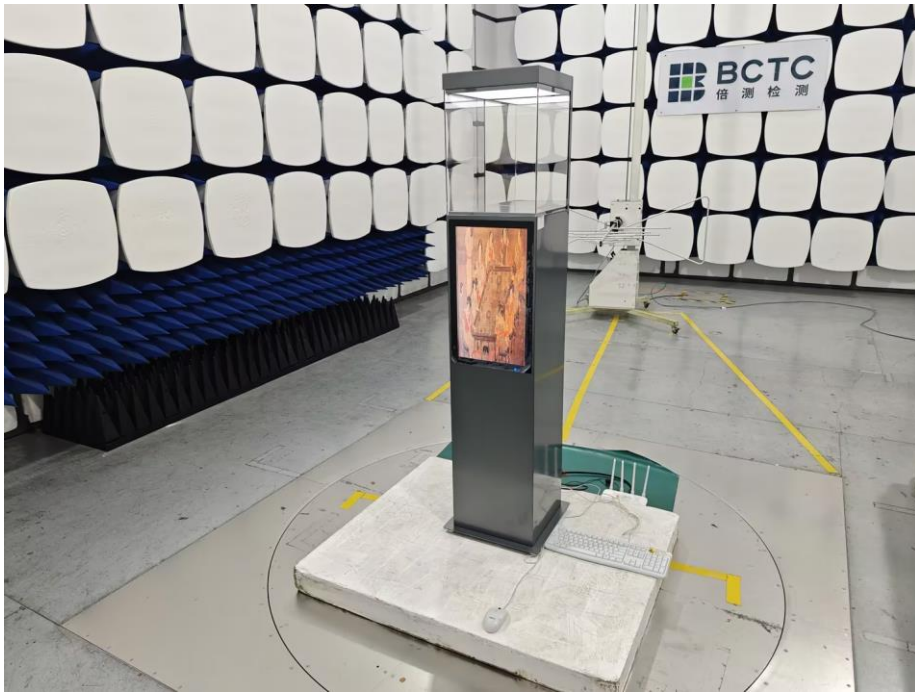
NOTE: Appendix-Photographs Of EUT Constructional Details

16. EUT Test Setup Photographs

Conducted emissions



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

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Website: <http://www.chnbctc.com>E-Mail: bctc@bctc-lab.com.cn

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