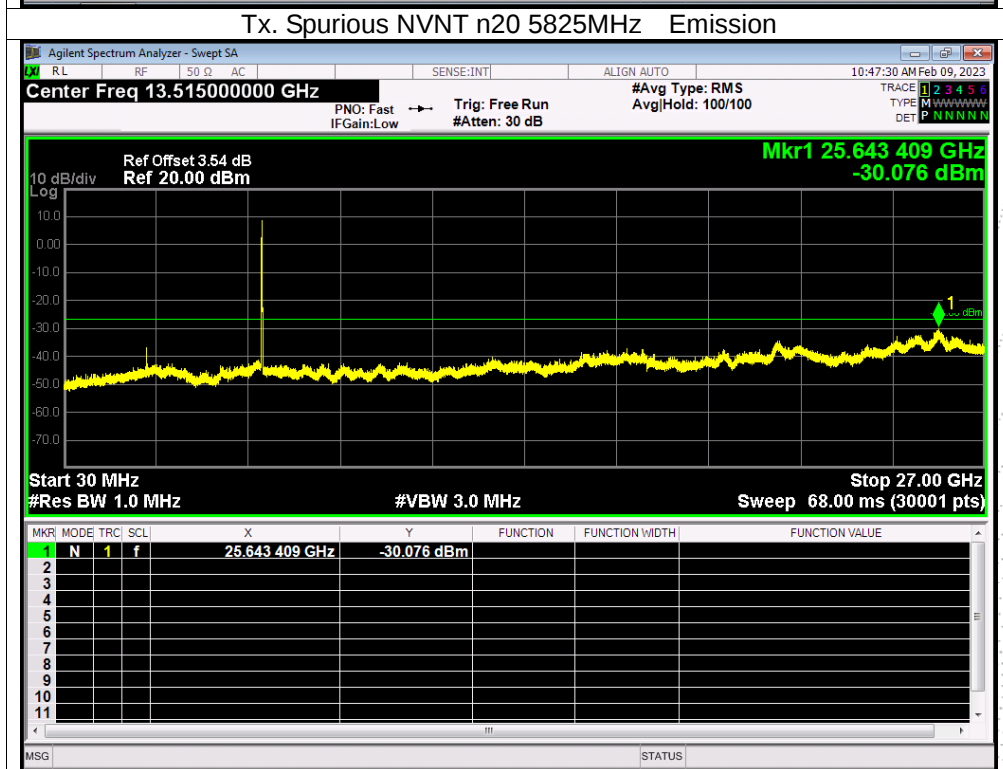
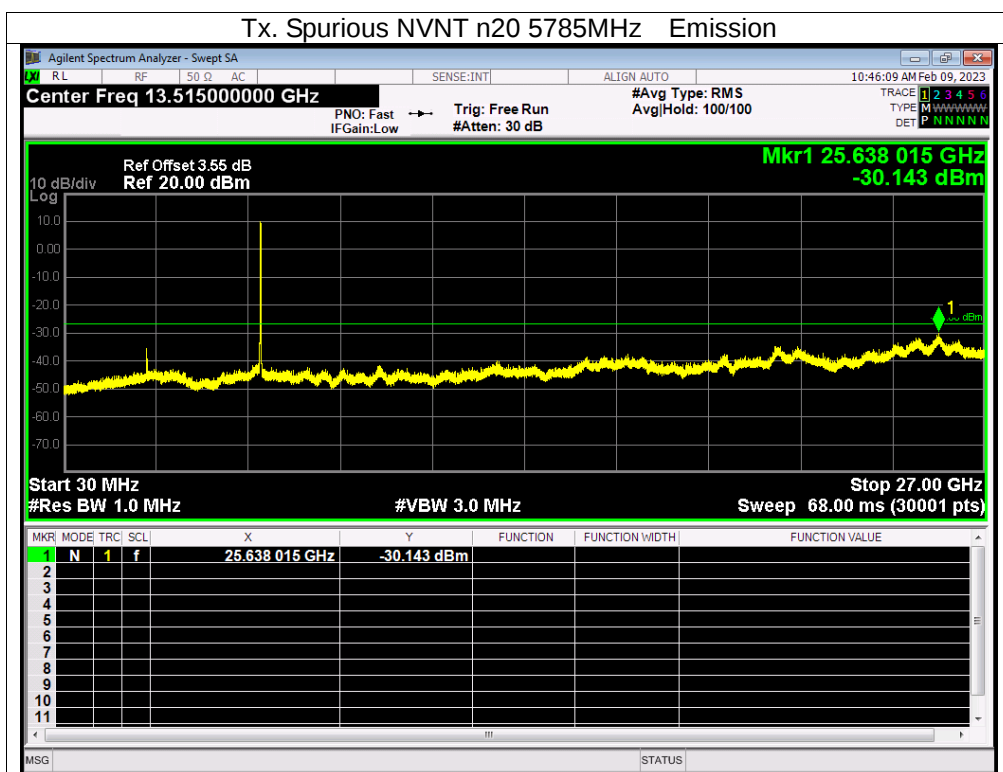
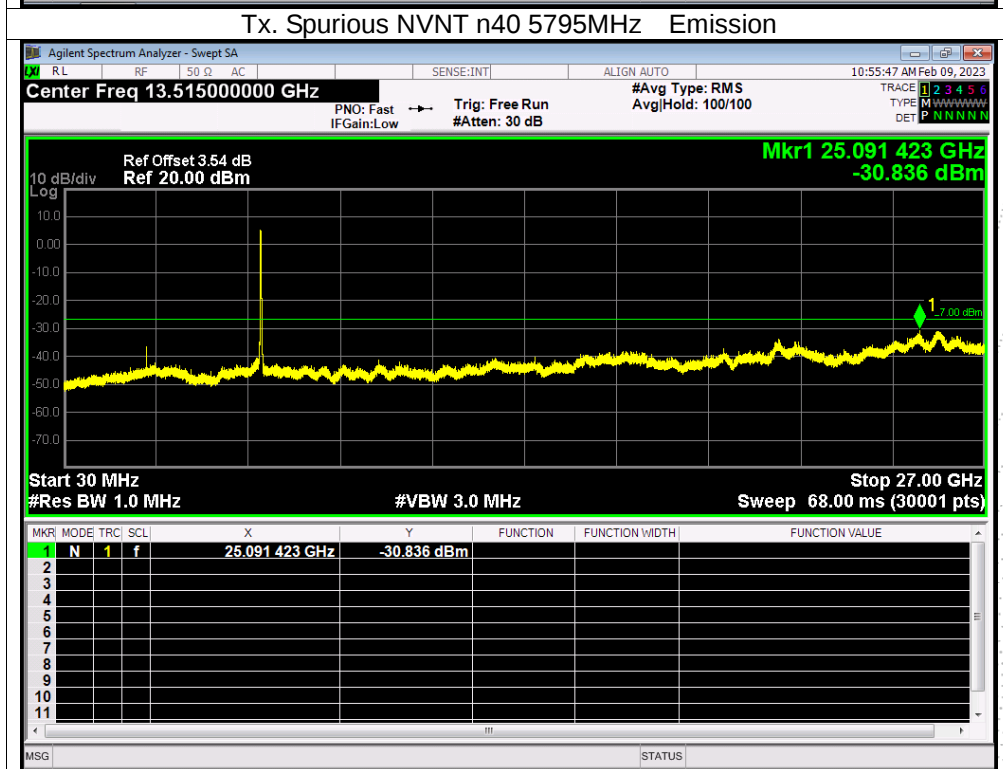
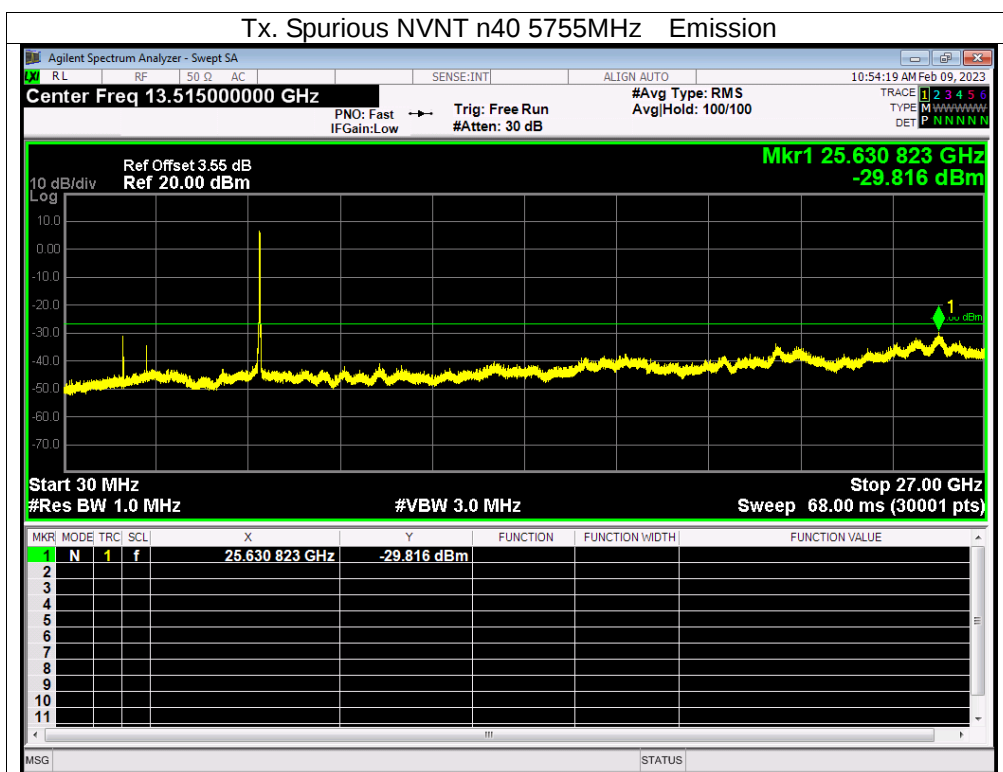
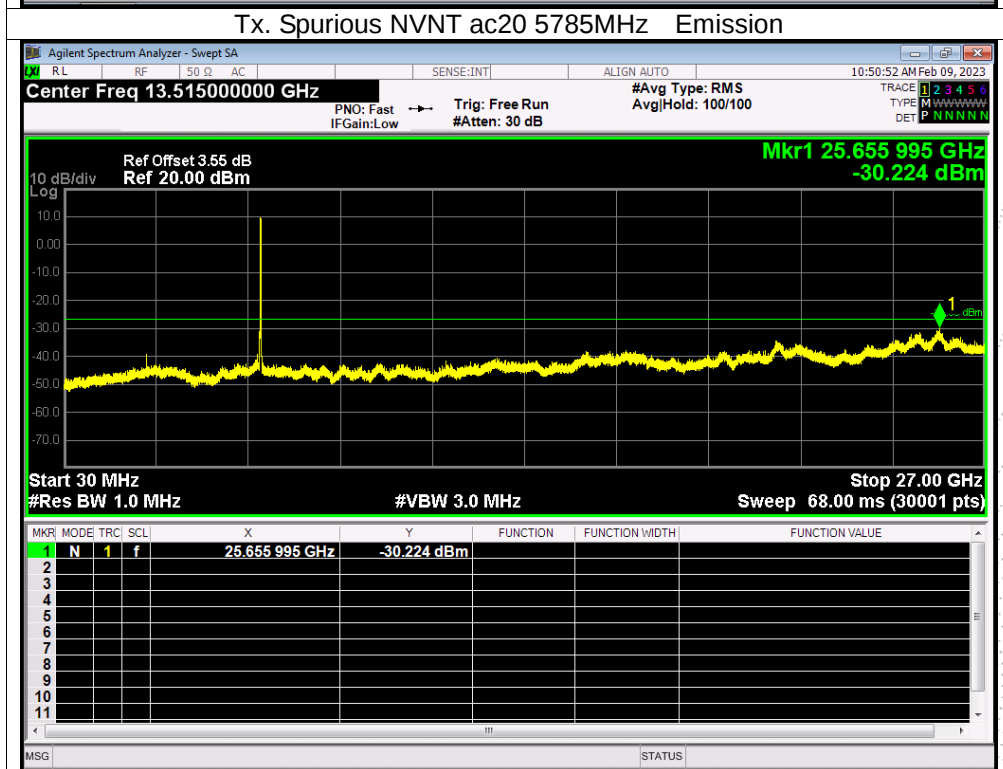
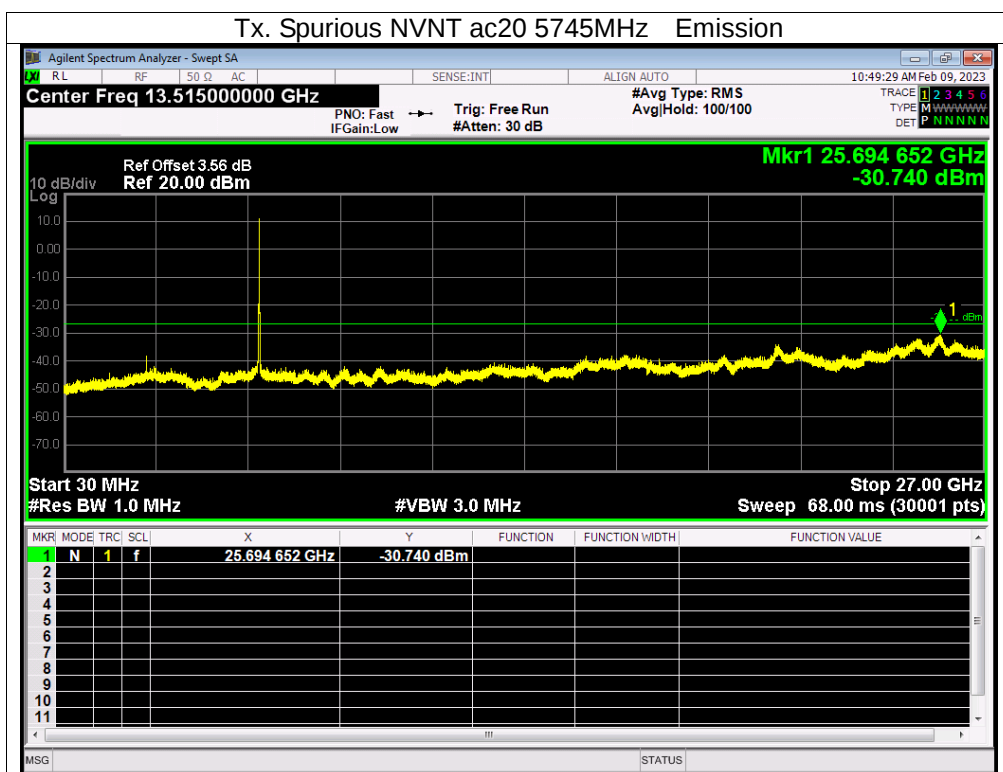


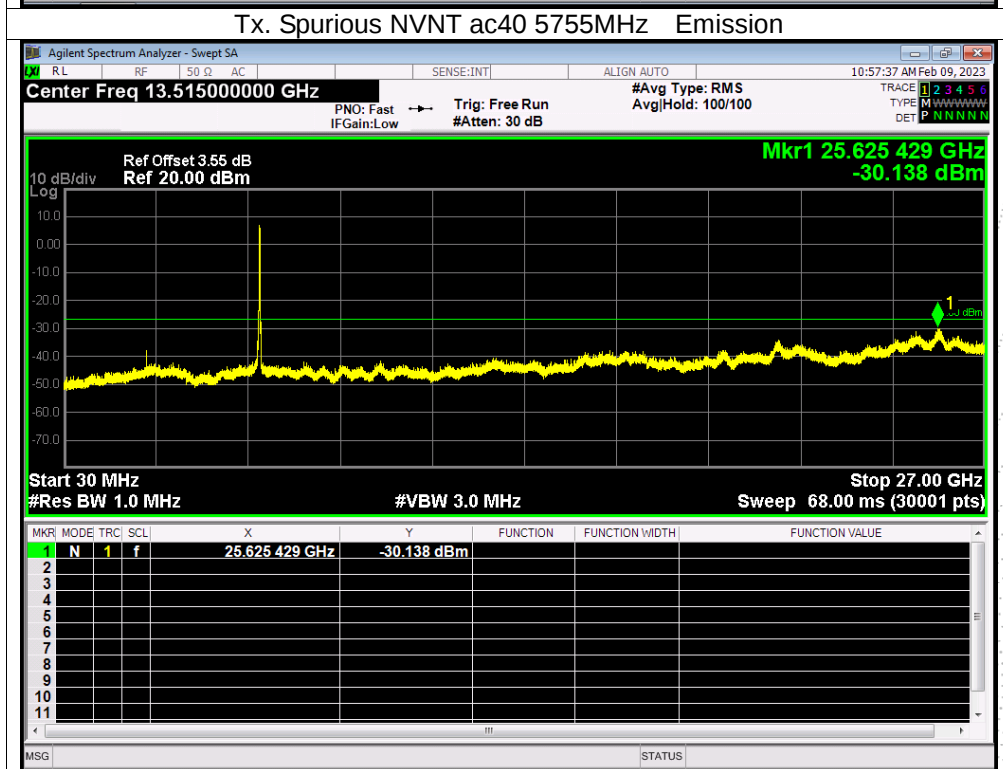
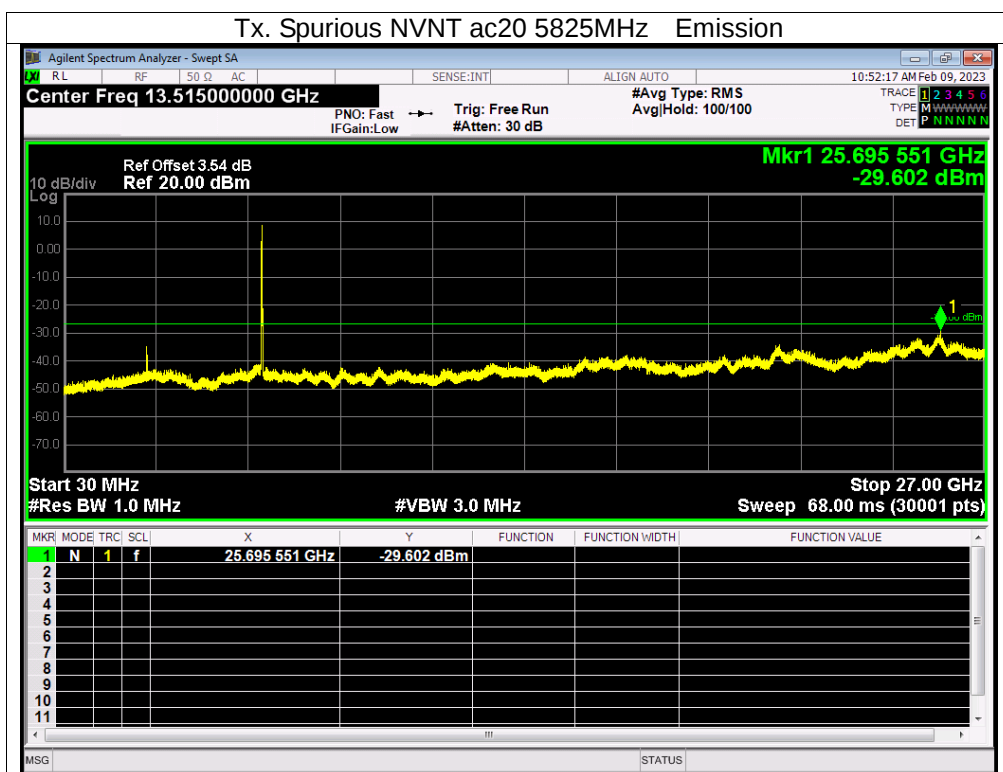


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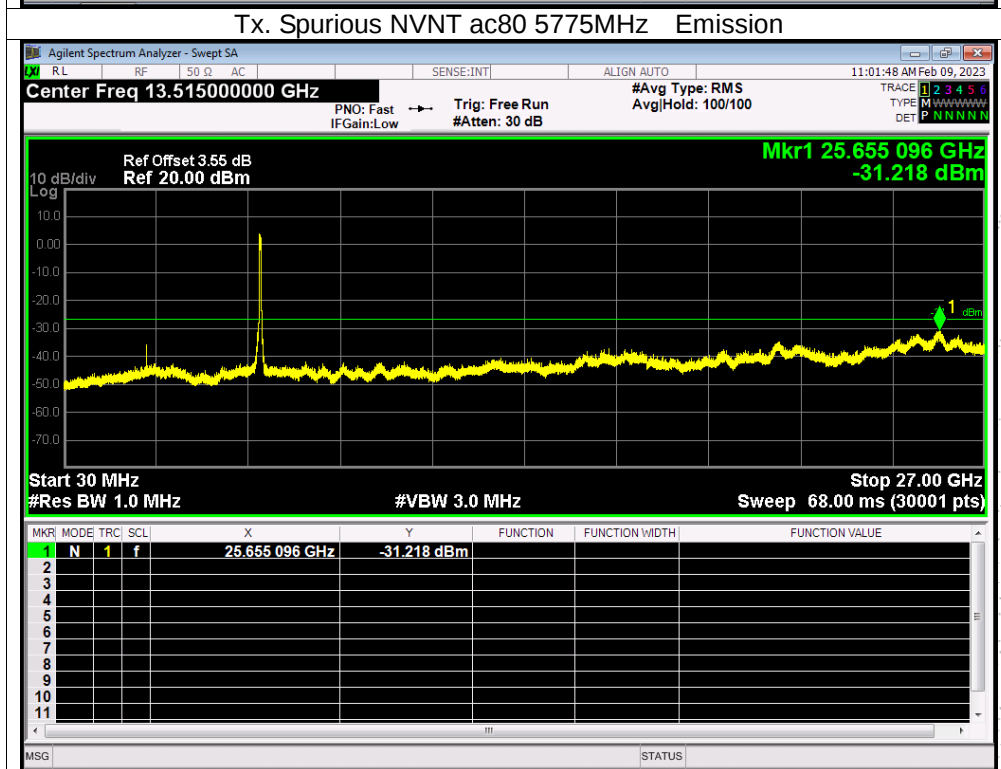
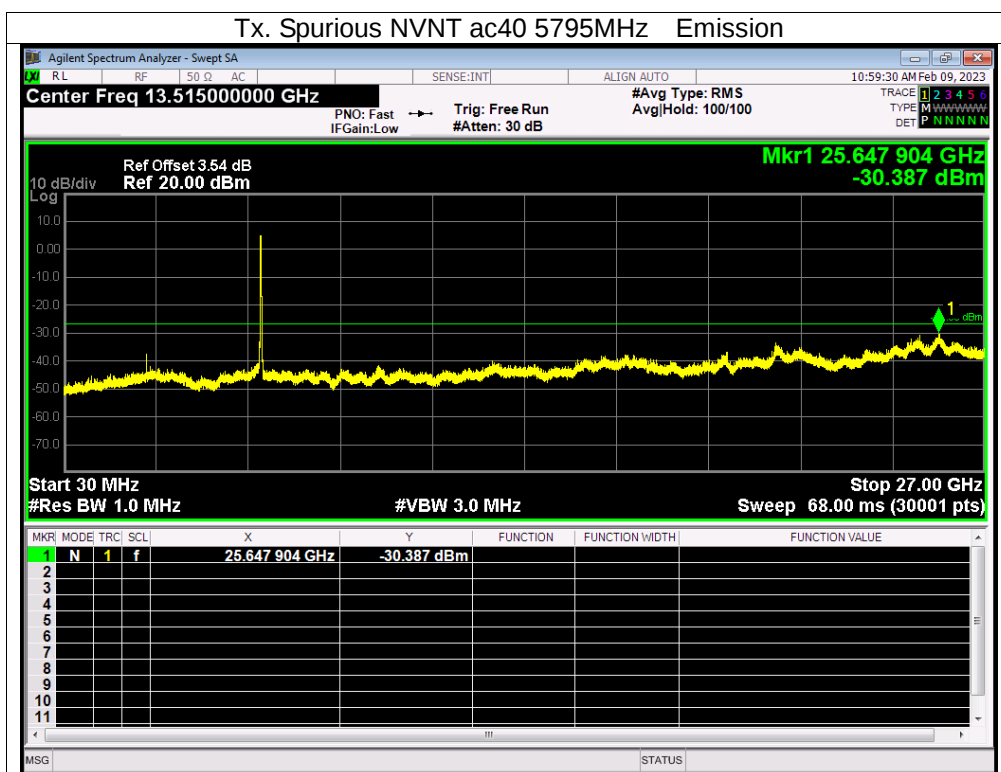




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13. Frequency Stability Measurement

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°C ~ 70°C .

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13.4 Test Result

Temperature:	26 °C	Relative Humidity:	54%
Pressure:	101KPa	Test Voltage:	DC 7.6V
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)	7.6	5180.0041	5180	0.0041	0.7986
		V max (V)	8.36	5180.0188	5180	0.0188	3.6199
		V min (V)	6.84	5180.0157	5180	0.0157	3.0360
Limits				5150-5250 MHz			
Result				Complies			

Temperature vs. Frequency Stability

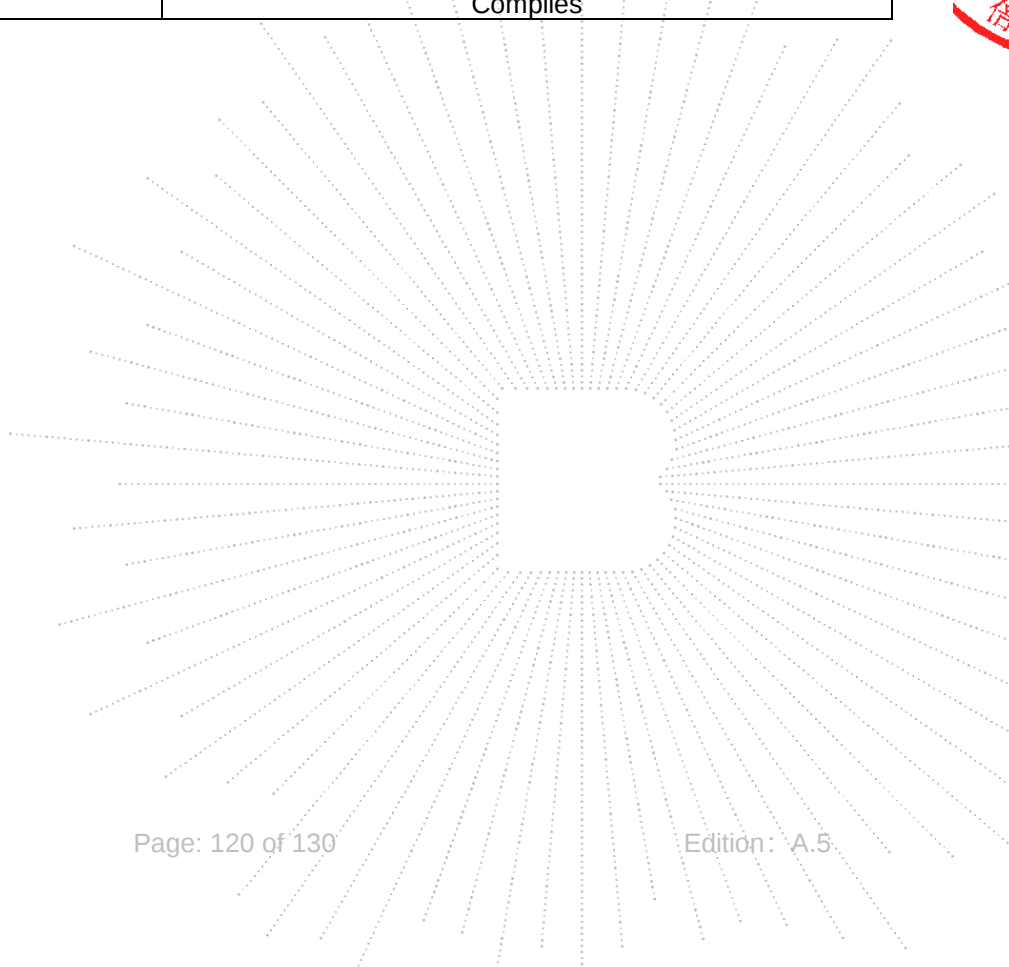
TEST CONDITIONS				Reference Frequency: 5180MHz			
				f	fc	Max. Deviation (MHz)	Max. Deviation (ppm)
V nom (V)	7.6	T (°C)	-20	5180.0045	5180	0.0045	0.8682
		T (°C)	-10	5180.0059	5180	0.0059	1.1347
		T (°C)	0	5180.0098	5180	0.0098	1.9012
		T (°C)	10	5180.0034	5180	0.0034	0.6571
		T (°C)	20	5180.0124	5180	0.0124	2.3897
		T (°C)	30	5180.0102	5180	0.0102	1.9701
		T (°C)	40	5180.0037	5180	0.0037	0.7140
		T (°C)	50	5180.0128	5180	0.0128	2.4670
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)	7.6	5200.0079	5200	0.0079	1.5234
		V max (V)	8.36	5200.0135	5200	0.0135	2.5936
		V min (V)	6.84	5200.0110	5200	0.0110	2.1073
Limits				5150-5250 MHz			
Result				Complies			

Temperature vs. Frequency Stability

TEST CONDITIONS				Reference Frequency: 5200MHz			
				f	fc	Max. Deviation (MHz)	Max. Deviation (ppm)
V nom (V)	7.6	T (°C)	-20	5200.00313	5200	0.00313	0.6019
		T (°C)	-10	5200.00105	5200	0.00105	0.2014
		T (°C)	0	5200.00546	5200	0.00546	1.0496
		T (°C)	10	5200.00921	5200	0.00921	1.7709
		T (°C)	20	5200.00639	5200	0.00639	1.2292
		T (°C)	30	5200.00388	5200	0.00388	0.7470
		T (°C)	40	5200.00074	5200	0.00074	0.1421
		T (°C)	50	5200.00682	5200	0.00682	1.3118
Limits				5150-5250 MHz			
Result				Complies			



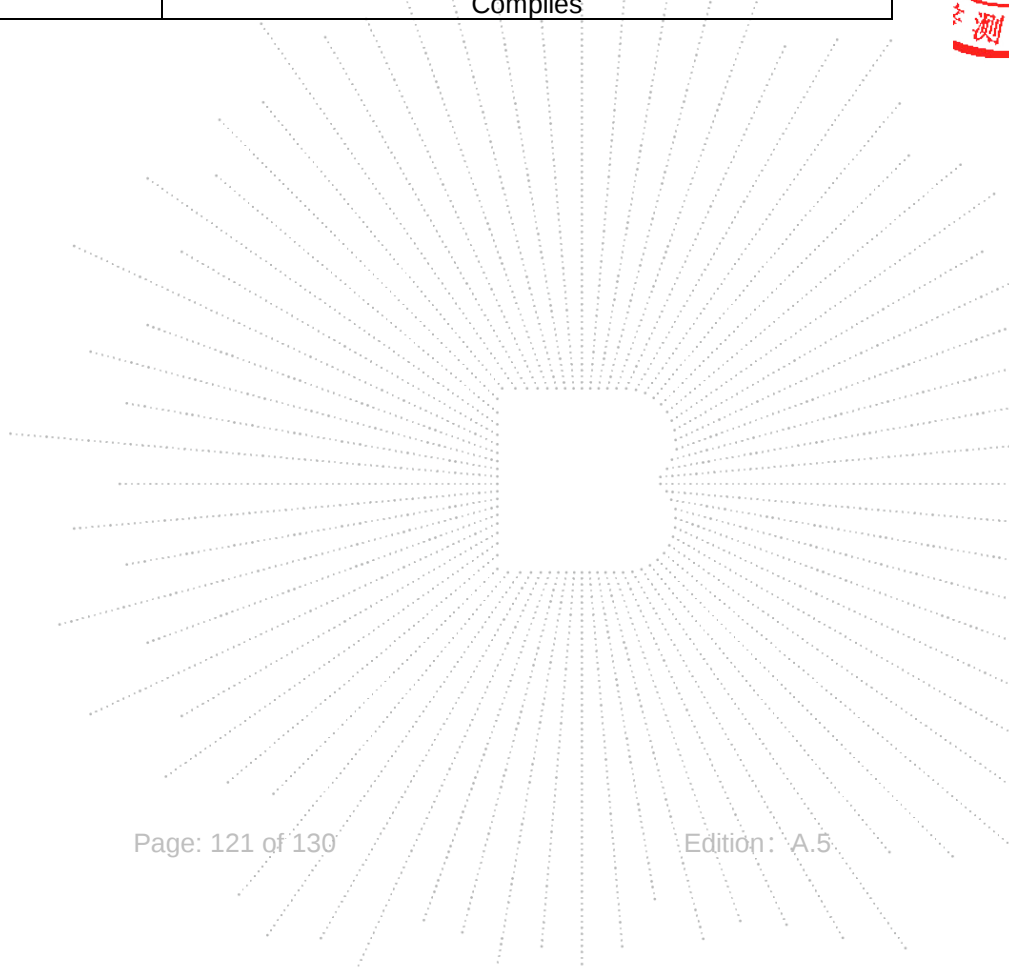
Voltage vs. Frequency Stability

TEST CONDITIONS				Reference Frequency: 5240MHz			
				f	fc	Max. Deviation (MHz)	Max. Deviation (ppm)
T nom (°C)	20	V nom (V)	7.6	5240.0014	5240	0.0014	0.2631
		V max (V)	8.36	5240.0123	5240	0.0123	2.3451
		V min (V)	6.84	5240.0006	5240	0.0006	0.1203
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)	7.6	T (°C)	-20	5240.0118	5240	0.0118	2.2489
		T (°C)	-10	5240.0104	5240	0.0104	1.9842
		T (°C)	0	5240.0042	5240	0.0042	0.7926
		T (°C)	10	5240.0011	5240	0.0011	0.2062
		T (°C)	20	5240.0004	5240	0.0004	0.0841
		T (°C)	30	5240.0132	5240	0.0132	2.5272
		T (°C)	40	5240.0116	5240	0.0116	2.2116
		T (°C)	50	5240.0039	5240	0.0039	0.7433
Limits				5150-5250 MHz			
Result				Complies			

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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)	7.6	5745.00816	5745	0.00816	1.4197
		V max (V)	8.36	5745.00735	5745	0.00735	1.2792
		V min (V)	6.84	5745.00892	5745	0.00892	1.5522
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	5745.00463	5745	0.00463	0.8058
		T (°C)	-10	5745.00613	5745	0.00613	1.0665
		T (°C)	0	5745.01178	5745	0.01178	2.0505
		T (°C)	10	5745.00084	5745	0.00084	0.1469
		T (°C)	20	5745.01303	5745	0.01303	2.2683
		T (°C)	30	5745.00883	5745	0.00883	1.5378
		T (°C)	40	5745.00282	5745	0.00282	0.4908
		T (°C)	50	5745.00071	5745	0.00071	0.1237
Limits				5725-5850 MHz			
Result				Complies			

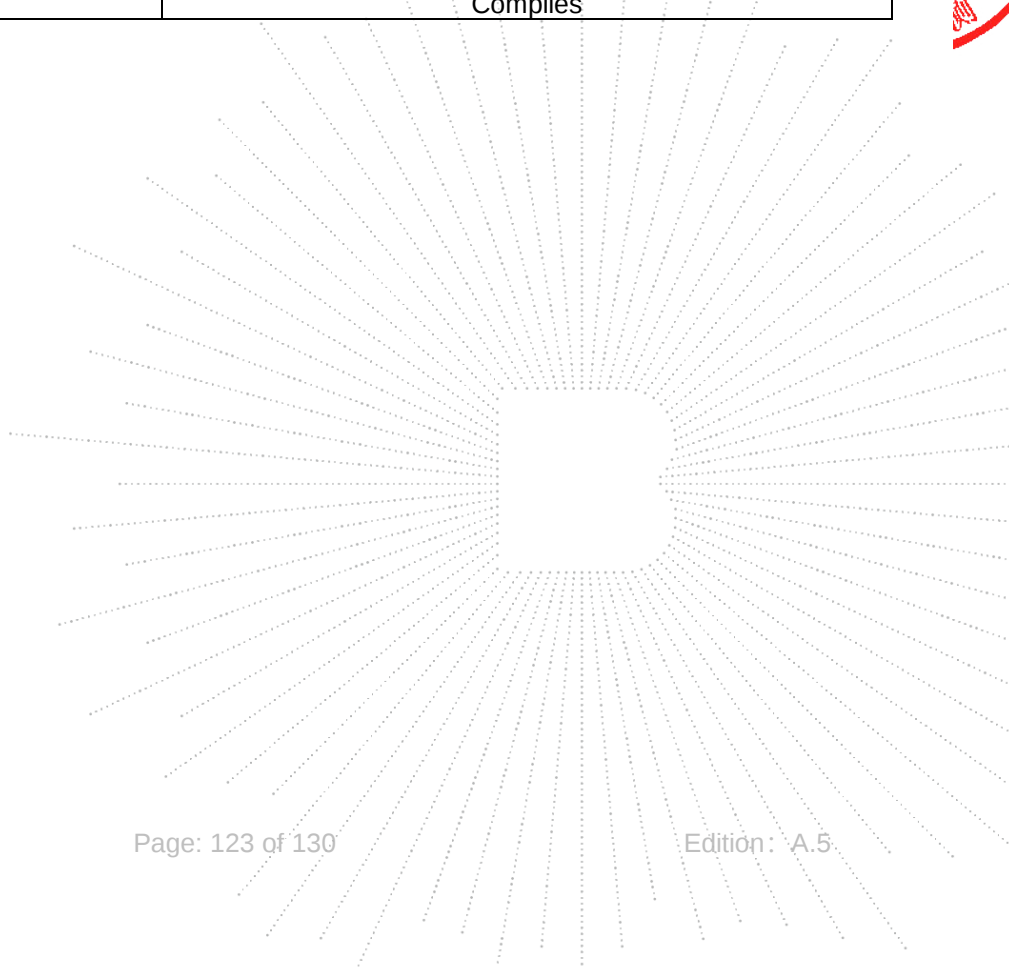
Voltage vs. Frequency Stability

TEST CONDITIONS				Reference Frequency: 5785MHz			
				f	fc	Max. Deviation (MHz)	Max. Deviation (ppm)
T nom (°C)	20	V nom (V)	7.6	5785.00636	5785	0.00636	1.1000
		V max (V)	8.36	5785.00207	5785	0.00207	0.3583
		V min (V)	6.84	5785.01173	5785	0.01173	2.0282
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	5785.00795	5785	0.00795	1.3737
		T (°C)	-10	5785.01280	5785	0.01280	2.2125
		T (°C)	0	5785.00360	5785	0.00360	0.6223
		T (°C)	10	5785.00313	5785	0.00313	0.5412
		T (°C)	20	5785.00216	5785	0.00216	0.3734
		T (°C)	30	5785.01122	5785	0.01122	1.9393
		T (°C)	40	5785.00256	5785	0.00256	0.4426
		T (°C)	50	5785.00046	5785	0.00046	0.0787
Limits				5725-5850 MHz			
Result				Complies			

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Voltage vs. Frequency Stability

TEST CONDITIONS				Reference Frequency: 5825MHz			
				f	fc	Max. Deviation (MHz)	Max. Deviation (ppm)
T nom (°C)	20	V nom (V)	7.6	5825.00194	5825	0.00194	0.3336
		V max (V)	8.36	5825.01022	5825	0.01022	1.7547
		V min (V)	6.84	5825.00107	5825	0.00107	0.1830
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	5825.01198	5825	0.01198	2.0565
		T (°C)	-10	5825.00014	5825	0.00014	0.0234
		T (°C)	0	5825.00053	5825	0.00053	0.0912
		T (°C)	10	5825.00505	5825	0.00505	0.8668
		T (°C)	20	5825.00808	5825	0.00808	1.3870
		T (°C)	30	5825.00750	5825	0.00750	1.2870
		T (°C)	40	5825.00111	5825	0.00111	0.1905
		T (°C)	50	5825.00243	5825	0.00243	0.4175
Limits				5725-5850 MHz			
Result				Complies			

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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 FPCB antenna, It comply with the standard requirement.

15. EUT Photographs

Adapter 1



Adapter 2



NOTE: Appendix-Photographs Of EUT Constructional Details

16. EUT Test Setup Photographs

Conducted emissions

Adapter 1



Adapter 2



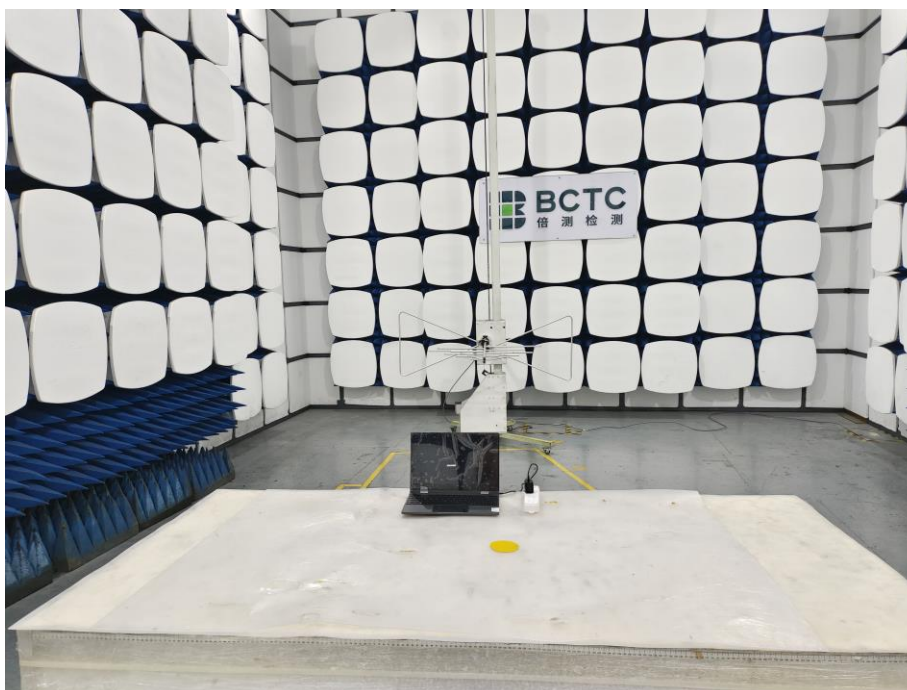
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Radiated Measurement Photos

Adapter 1



Adapter 2



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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 test report without CMA mark is only used for scientific research, teaching, enterprise product development and internal quality control purposes.
8. The quality system of our laboratory is in accordance with ISO/IEC17025.
9. 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

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******* END *******