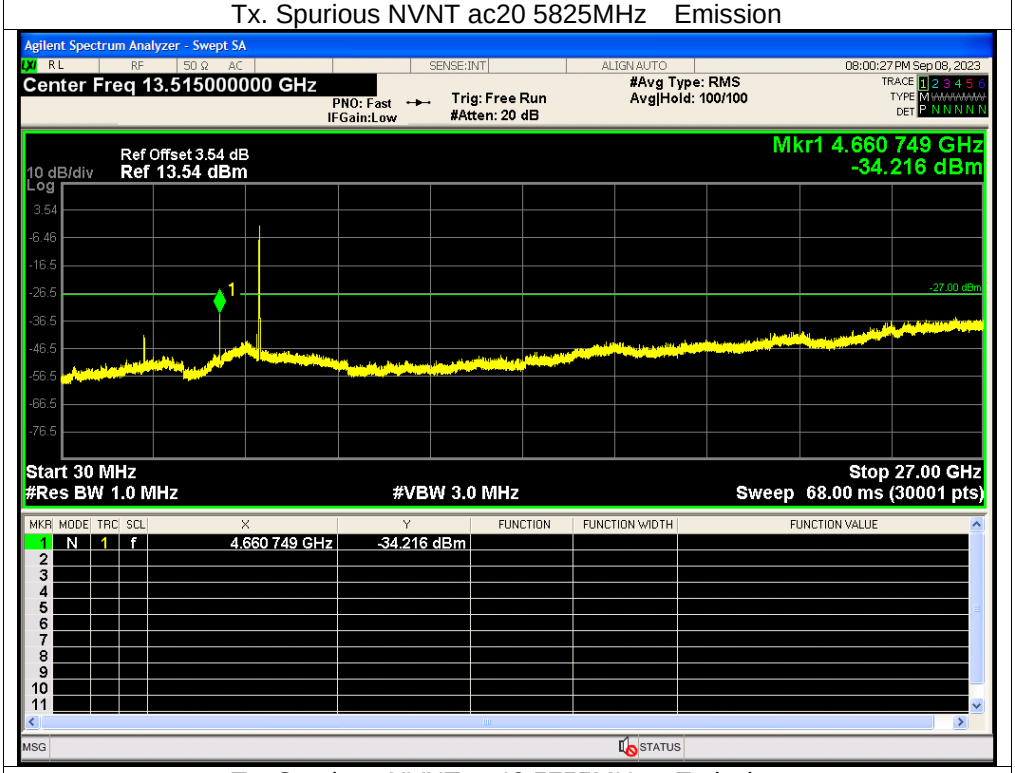
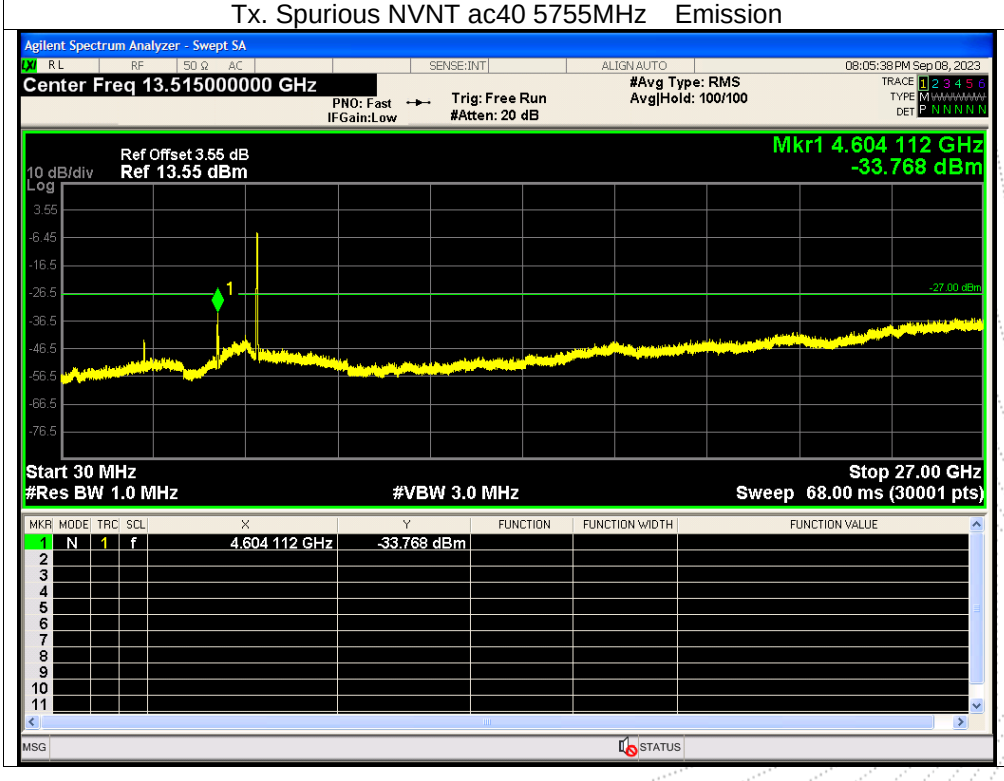
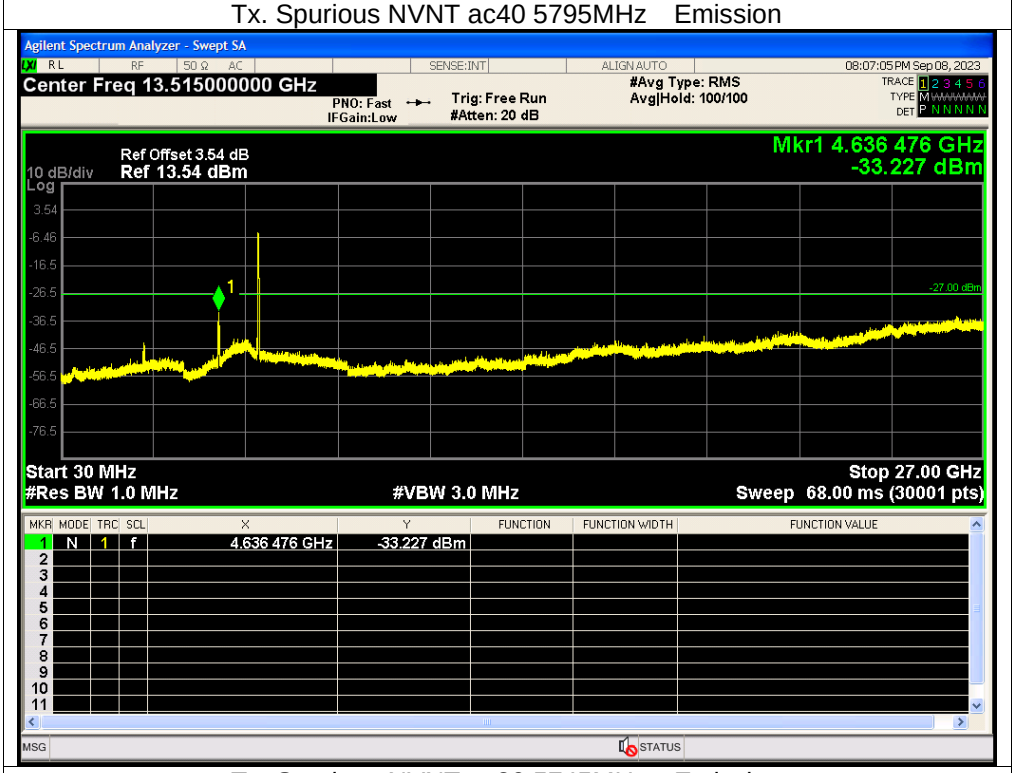
Tx. Spurious NVNT ac20 5825MHz Emission



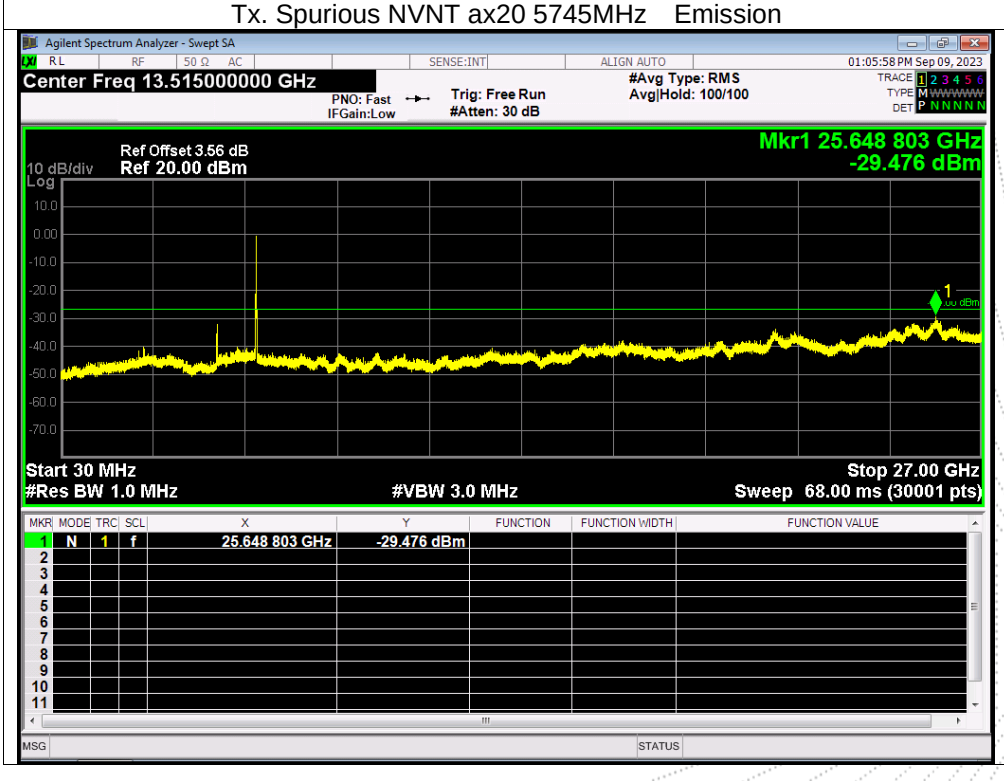
Tx. Spurious NVNT ac40 5755MHz Emission



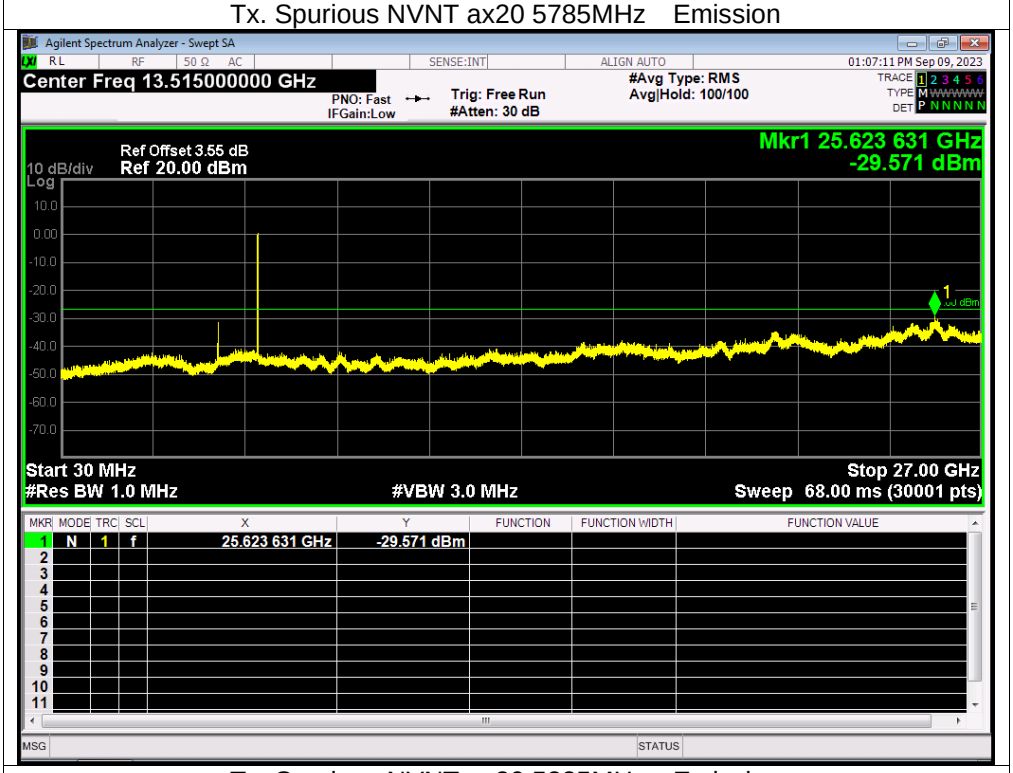
Tx. Spurious NVNT ac40 5795MHz Emission



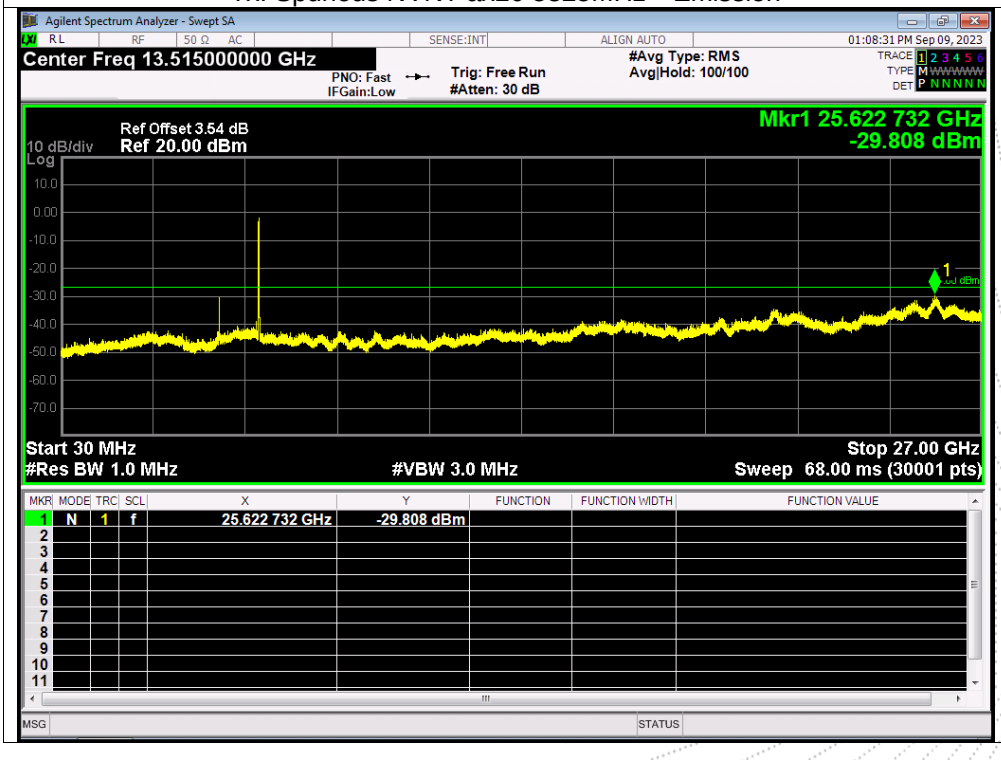
Tx. Spurious NVNT ax20 5745MHz Emission



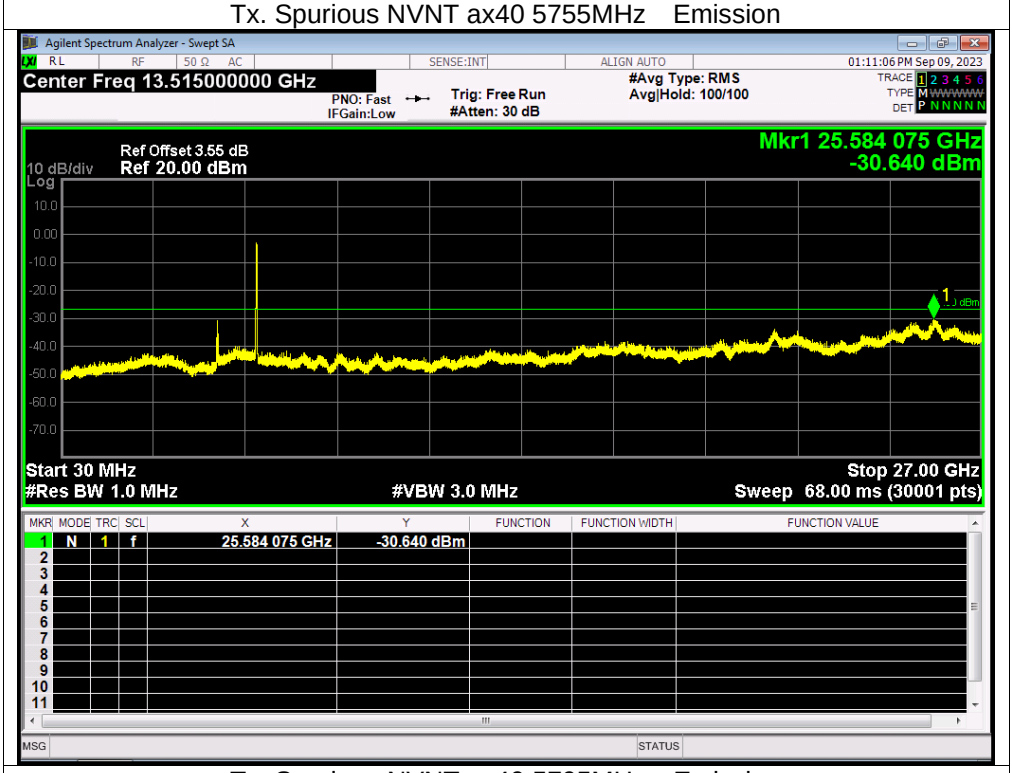
Tx. Spurious NVNT ax20 5785MHz Emission



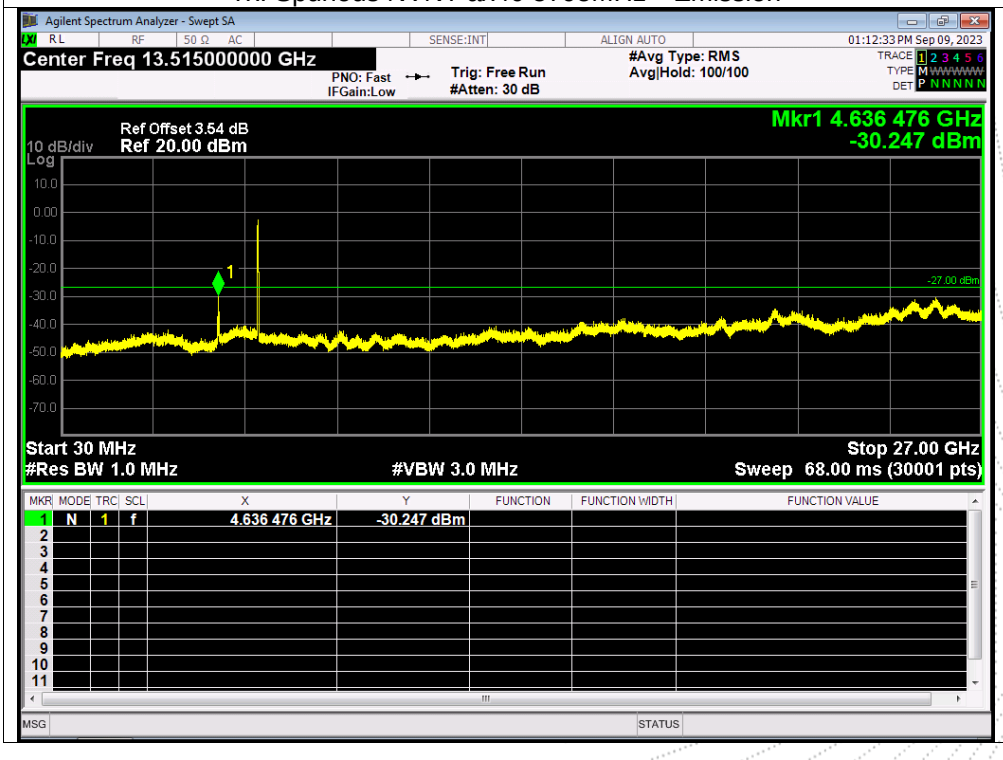
Tx. Spurious NVNT ax20 5825MHz Emission



Tx. Spurious NVNT ax40 5755MHz Emission

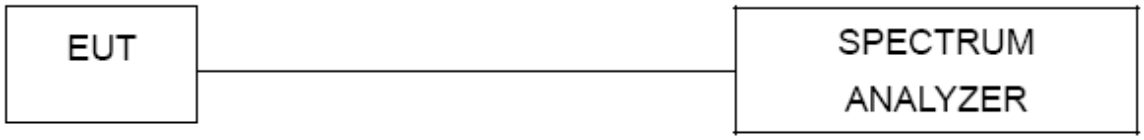


Tx. Spurious NVNT ax40 5795MHz Emission



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. fc is declaring of channel frequency. Then the frequency error formula is (fc-f)/fc × 106 ppm and he limit is less than ±20ppm (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°C~70°C.

13.4 Test Result

Temperature：	26 ℃	Relative Humidity：	54%
Pressure：	101kPa	Test Voltage ：	DC 3.8V
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)	3.8	5180.0127	5180	0.0127	2.4577
		V max (V)	4.37	5180.0014	5180	0.0014	0.2649
		V min (V)	3.23	5180.0123	5180	0.0123	2.3715
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)	3.8	T (°C)	-20	5180.0064	5180	0.0064	1.2316
		T (°C)	-10	5180.0018	5180	0.0018	0.3431
		T (°C)	0	5180.0053	5180	0.0053	1.0180
		T (°C)	10	5180.0104	5180	0.0104	2.0163
		T (°C)	20	5180.0053	5180	0.0053	1.0312
		T (°C)	30	5180.0008	5180	0.0008	0.1545
		T (°C)	40	5180.0006	5180	0.0006	0.1109
		T (°C)	50	5180.0066	5180	0.0066	1.2662
		T (°C)	60	5180.0093	5180	0.0093	1.7977
		T (°C)	70	5180.0041	5180	0.0041	0.8005
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)	3.8	5200.0053	5200	0.0053	1.0286
		V max (V)	4.37	5200.0051	5200	0.0051	0.9790
		V min (V)	3.23	5200.0123	5200	0.0123	2.3678
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)	3.8	T (°C)	-20	5200.00722	5200	0.00722	1.3877
		T (°C)	-10	5200.01292	5200	0.01292	2.4848
		T (°C)	0	5200.00787	5200	0.00787	1.5127
		T (°C)	10	5200.00892	5200	0.00892	1.7160
		T (°C)	20	5200.00682	5200	0.00682	1.3120
		T (°C)	30	5200.00704	5200	0.00704	1.3533
		T (°C)	40	5200.01257	5200	0.01257	2.4165
		T (°C)	50	5200.01219	5200	0.01219	2.3433
		T (°C)	60	5200.01133	5200	0.01133	2.1797
		T (°C)	70	5200.01314	5200	0.01314	2.5269
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)	3.8	5240.0076	5240	0.0076	1.4501
		V max (V)	4.37	5240.0019	5240	0.0019	0.3634
		V min (V)	3.23	5240.0062	5240	0.0062	1.1808
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)	3.8	T (°C)	-20	5240.0068	5240	0.0068	1.3023
		T (°C)	-10	5240.0091	5240	0.0091	1.7363
		T (°C)	0	5240.0084	5240	0.0084	1.6017
		T (°C)	10	5240.0030	5240	0.0030	0.5793
		T (°C)	20	5240.0006	5240	0.0006	0.1083
		T (°C)	30	5240.0062	5240	0.0062	1.1795
		T (°C)	40	5240.0006	5240	0.0006	0.1121
		T (°C)	50	5240.0076	5240	0.0076	1.4550
		T (°C)	60	5240.0107	5240	0.0107	2.0403
		T (°C)	70	5240.0078	5240	0.0078	1.4798
Limits				5150-5250 MHz			
Result				Complies			

Temperature：	26 ℃	Relative Humidity：	54%
Pressure：	101kPa	Test Voltage ：	DC 3.8V
Test Mode ：	TX Frequency(5745-5825MHz)		

Voltage vs. Frequency Stability

TEST CONDITIONS				Reference Frequency：5745MHz			
				f	fc	Max. Deviation (MHz)	Max. Deviation (ppm)
T nom (°C)	20	V nom (V)	3.8	5745.00351	5745	0.00351	0.6108
		V max (V)	4.37	5745.00811	5745	0.00811	1.4114
		V min (V)	3.23	5745.00848	5745	0.00848	1.4761
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)	3.8	T (°C)	-20	5745.00257	5745	0.00257	0.4475
		T (°C)	-10	5745.01323	5745	0.01323	2.3029
		T (°C)	0	5745.01209	5745	0.01209	2.1047
		T (°C)	10	5745.00183	5745	0.00183	0.3189
		T (°C)	20	5745.00153	5745	0.00153	0.2660
		T (°C)	30	5745.00866	5745	0.00866	1.5072
		T (°C)	40	5745.00759	5745	0.00759	1.3211
		T (°C)	50	5745.00291	5745	0.00291	0.5057
		T (°C)	60	5745.01353	5745	0.01353	2.3555
		T (°C)	70	5745.00793	5745	0.00793	1.3795
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)	3.8	5785.00672	5785	0.00672	1.1621
		V max (V)	4.37	5785.01285	5785	0.01285	2.2214
		V min (V)	3.23	5785.00559	5785	0.00559	0.9655
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)	3.8	T (°C)	-20	5785.00750	5785	0.00750	1.2959
		T (°C)	-10	5785.01018	5785	0.01018	1.7595
		T (°C)	0	5785.00088	5785	0.00088	0.1519
		T (°C)	10	5785.00060	5785	0.00060	0.1029
		T (°C)	20	5785.00677	5785	0.00677	1.1694
		T (°C)	30	5785.01056	5785	0.01056	1.8256
		T (°C)	40	5785.00958	5785	0.00958	1.6562
		T (°C)	50	5785.00908	5785	0.00908	1.5693
		T (°C)	60	5785.01244	5785	0.01244	2.1506
		T (°C)	70	5785.00177	5785	0.00177	0.3068
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)	3.8	5825.00096	5825	0.00096	0.1648
		V max (V)	4.37	5825.00659	5825	0.00659	1.1315
		V min (V)	3.23	5825.00701	5825	0.00701	1.2038
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)	3.8	T (°C)	-20	5825.01163	5825	0.01163	1.9972
		T (°C)	-10	5825.00408	5825	0.00408	0.7009
		T (°C)	0	5825.00049	5825	0.00049	0.0839
		T (°C)	10	5825.00290	5825	0.00290	0.4986
		T (°C)	20	5825.01128	5825	0.01128	1.9363
		T (°C)	30	5825.00686	5825	0.00686	1.1770
		T (°C)	40	5825.00096	5825	0.00096	0.1643
		T (°C)	50	5825.00250	5825	0.00250	0.4296
		T (°C)	60	5825.01338	5825	0.01338	2.2973
		T (°C)	70	5825.00197	5825	0.00197	0.3379
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.

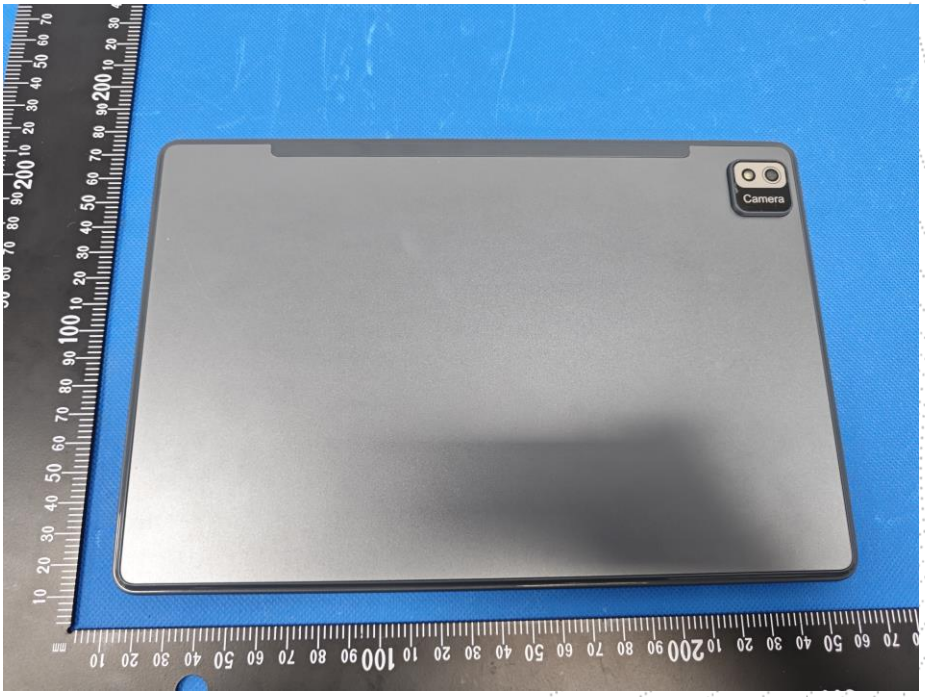
14.2 Test Result

The EUT antenna is FPC antenna (5.1G antenna gain: 2.1 dBi, 5.8G antenna gain: 1.12 dBi). It comply with the standard requirement.

15. EUT Photographs

EUT Photo 1

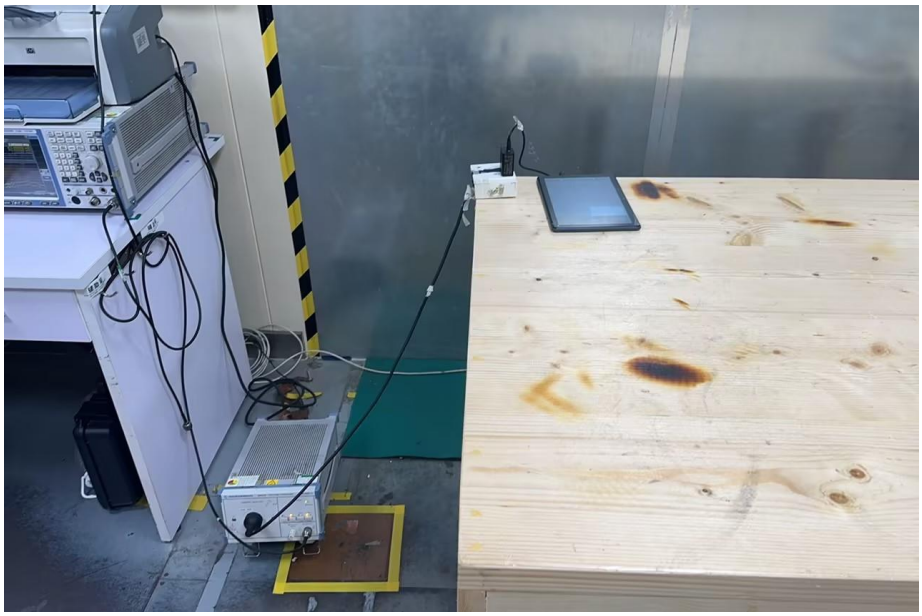
EUT Photo 2



NOTE: Appendix-Photographs Of EUT Constructional Details

16. EUT Test Setup Photographs

Conducted Measurement Photo



Radiated Measurement Photos


BCTC
倍 测 检 测

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.

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