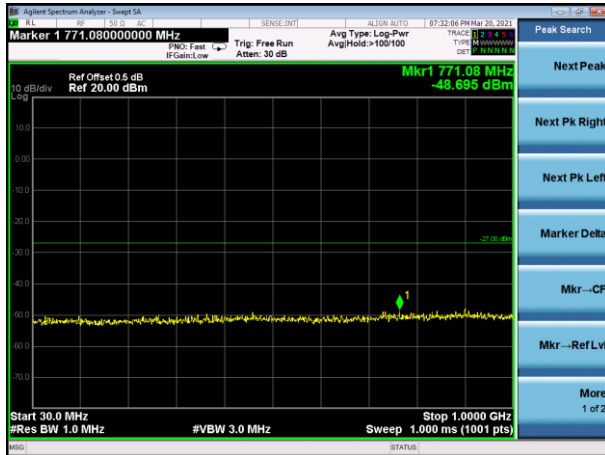
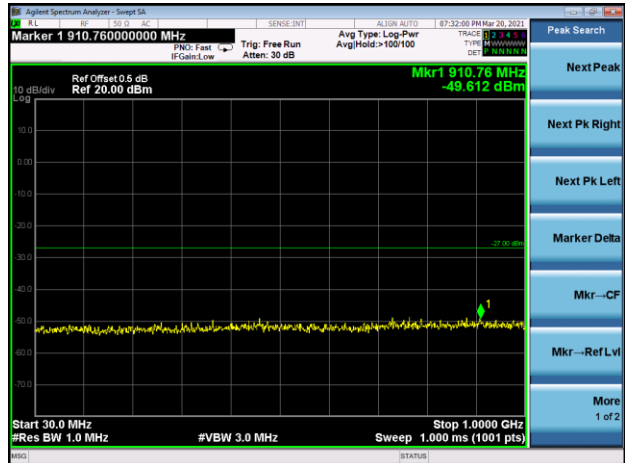


Test Plot

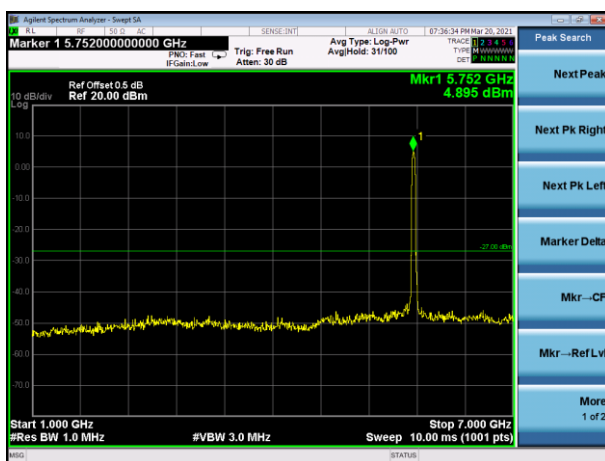
802.11n40 on channel 151



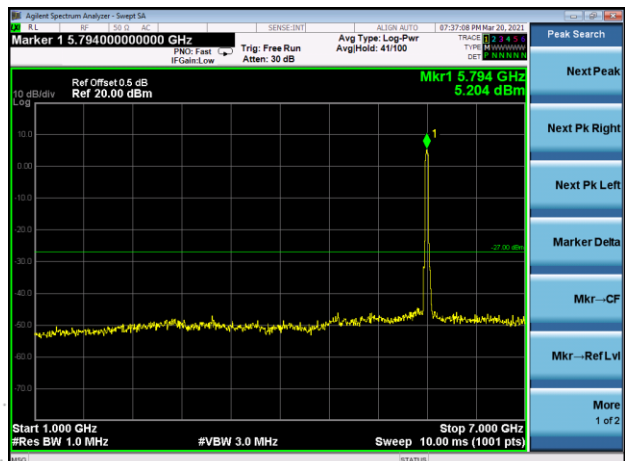
802.11n40 on channel 159



802.11n40 on channel 151



802.11n40 on channel 159



802.11n40 on channel 151

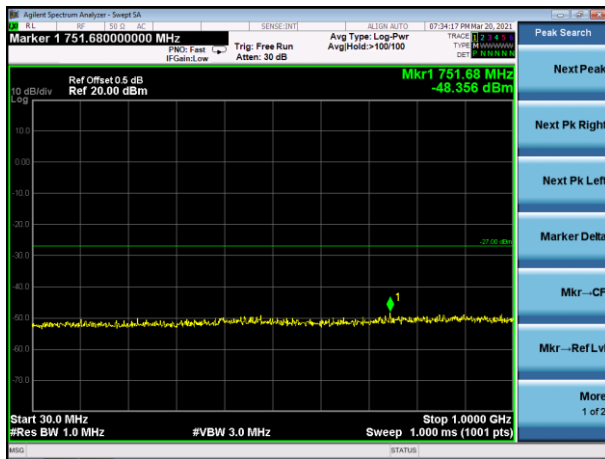


802.11n40 on channel 159

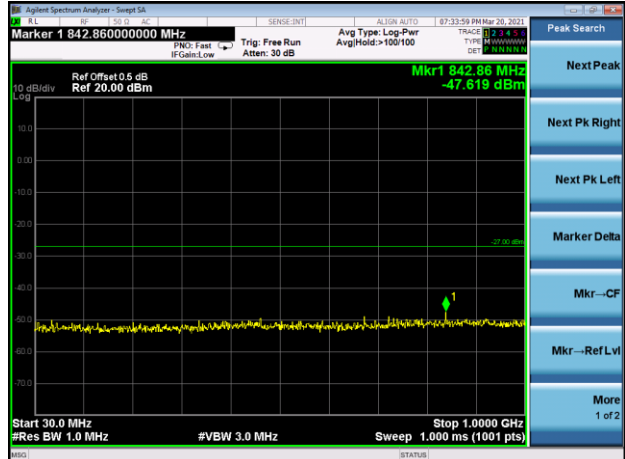


Test Plot

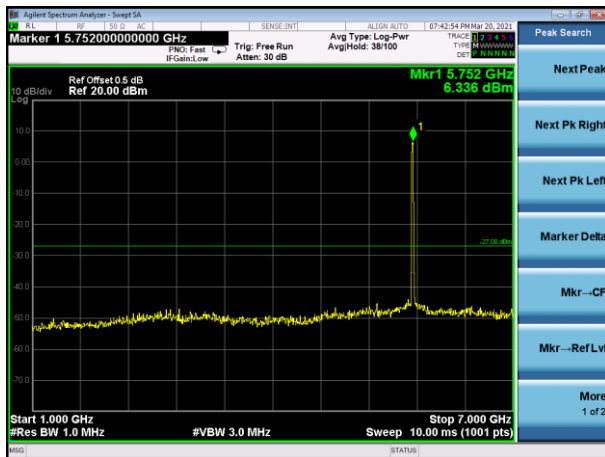
802.11ac20 on channel 149



802.11ac20 on channel 157



802.11ac20 on channel 149



802.11ac20 on channel 157



802.11ac20 on channel 149

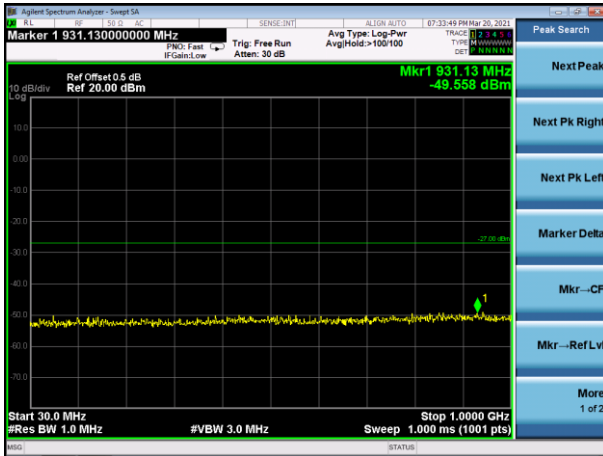


802.11ac20 on channel 157

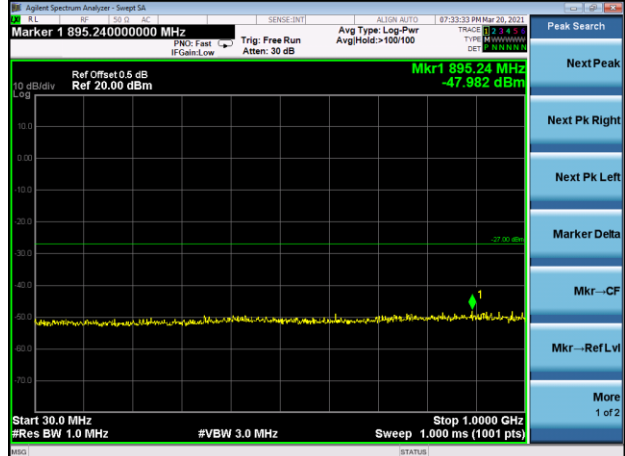


Test Plot

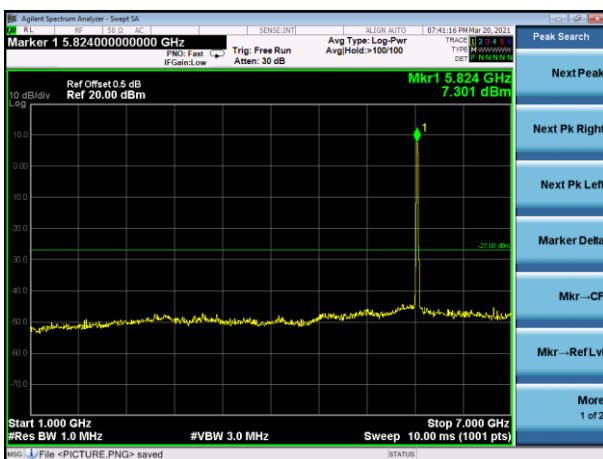
802.11ac20 on channel 165



802.11ac40 on channel 151



802.11ac20 on channel 165



802.11ac40 on channel 151



802.11ac20 on channel 165

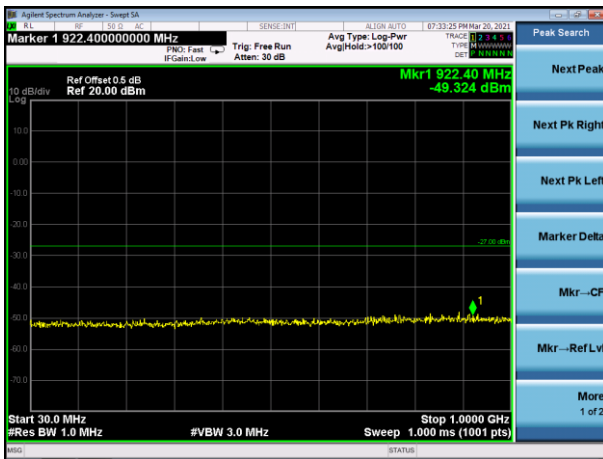


802.11ac40 on channel 151

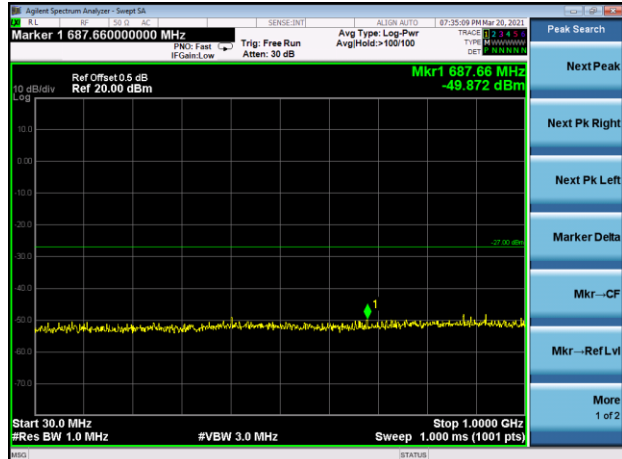


Test Plot

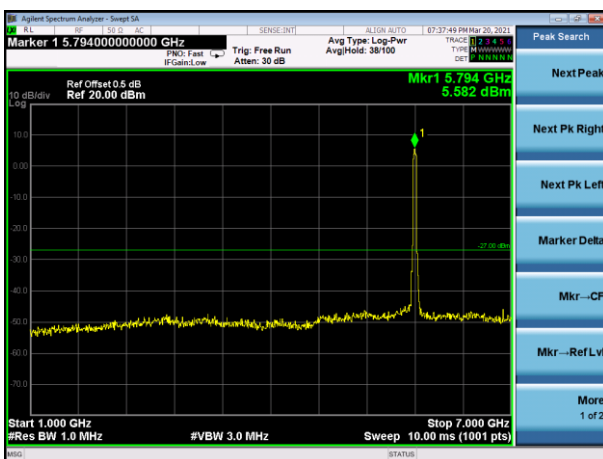
802.11ac40 on channel 159



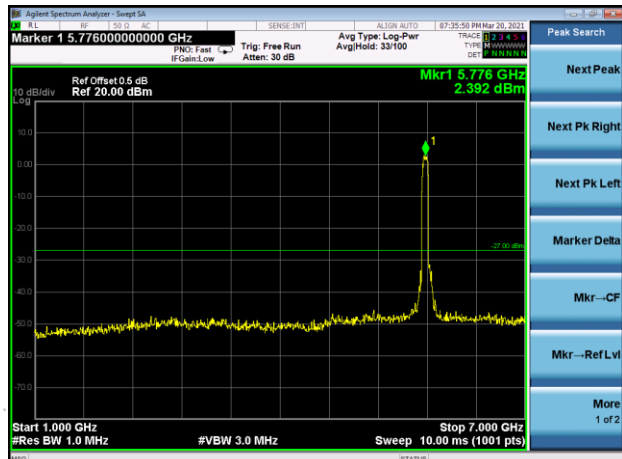
802.11ac80 on channel 155



802.11 ac40 on channel 159



802.11ac80 on channel 155



802.11 ac40 on channel 159



802.11ac80 on channel 155



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 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	5180.0005	5180	0.0005	0.1060
		V max (V)	132.00	5180.0128	5180	0.0128	2.4645
		V min (V)	108.00	5180.0181	5180	0.0181	3.4931
Limits				5150-5250 MHz			
Result				Complies			

Temperature vs. Frequency Stability

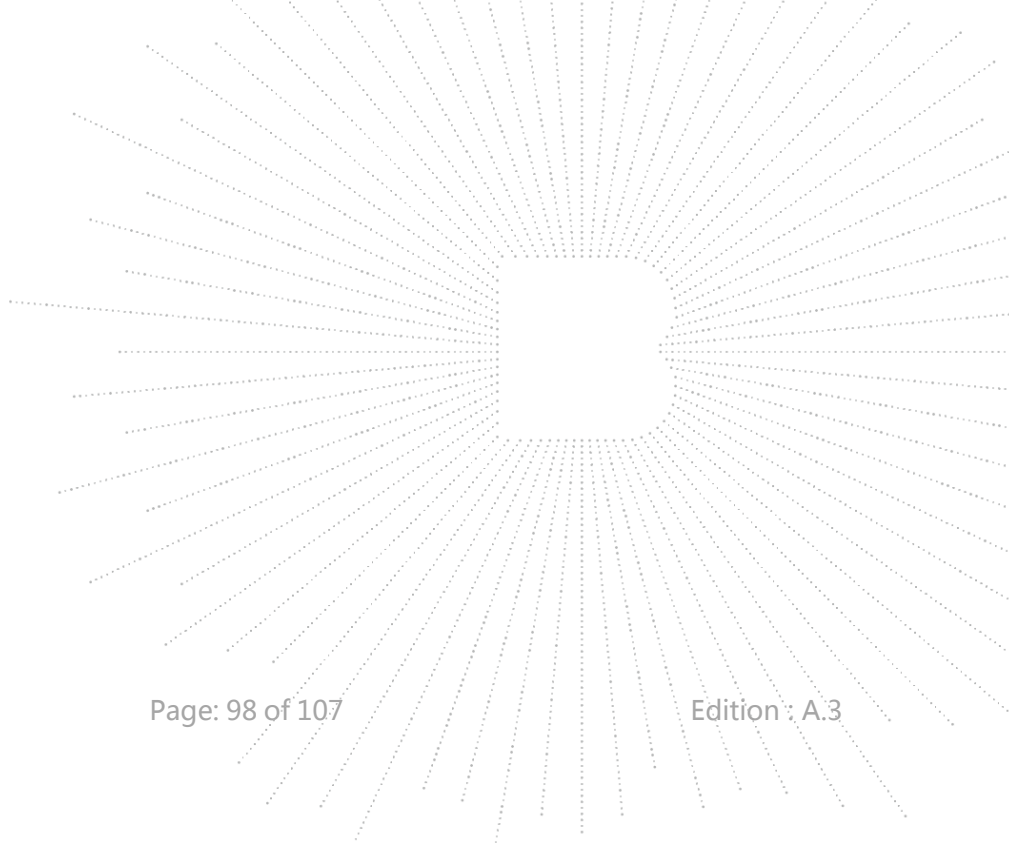
TEST CONDITIONS				Reference Frequency: 5180MHz			
				f	fc	Max. Deviation (MHz)	Max. Deviation (ppm)
V nom (V)	120	T (°C)	-20	5180.0104	5180	0.0104	2.0001
		T (°C)	-10	5180.0121	5180	0.0121	2.3428
		T (°C)	0	5180.0116	5180	0.0116	2.2444
		T (°C)	10	5180.0113	5180	0.0113	2.1895
		T (°C)	20	5180.0073	5180	0.0073	1.4027
		T (°C)	30	5180.0028	5180	0.0028	0.5405
		T (°C)	40	5180.0038	5180	0.0038	0.7326
		T (°C)	50	5180.0010	5180	0.0010	0.1943
		T (°C)	60	5180.0015	5180	0.0015	0.2811
		T (°C)	70	5180.0021	5180	0.0021	0.3958
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	5200.0070	5200	0.0070	1.3426
		V max (V)	132.00	5200.0003	5200	0.0003	0.0505
		V min (V)	108.00	5200.0124	5200	0.0124	2.3772
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	5200.01166	5200	0.01166	2.2426
		T (°C)	-10	5200.00355	5200	0.00355	0.6826
		T (°C)	0	5200.01244	5200	0.01244	2.3919
		T (°C)	10	5200.00514	5200	0.00514	0.9888
		T (°C)	20	5200.00265	5200	0.00265	0.5103
		T (°C)	30	5200.01270	5200	0.01270	2.4423
		T (°C)	40	5200.00917	5200	0.00917	1.7630
		T (°C)	50	5200.00416	5200	0.00416	0.7996
		T (°C)	60	5200.00484	5200	0.00484	0.9315
		T (°C)	70	5200.00875	5200	0.00875	1.6833
Limits				5150-5250 MHz			
Result				Complies			

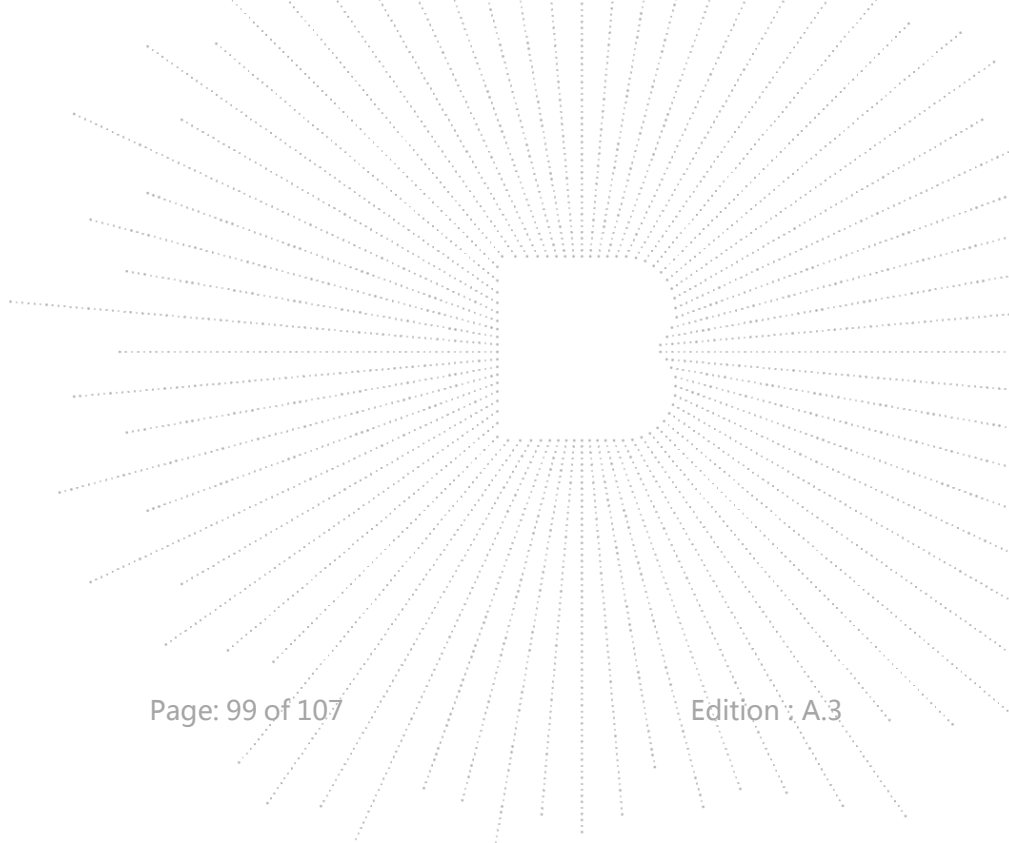


Voltage vs. Frequency Stability

TEST CONDITIONS				Reference Frequency: 5240MHz			
				f	fc	Max. Deviation (MHz)	Max. Deviation (ppm)
T nom (°C)	20	V nom (V)	120.00	5240.0019	5240	0.0019	0.3565
		V max (V)	132.00	5240.0093	5240	0.0093	1.7680
		V min (V)	108.00	5240.0091	5240	0.0091	1.7320
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	5240.0132	5240	0.0132	2.5239
		T (°C)	-10	5240.0048	5240	0.0048	0.9121
		T (°C)	0	5240.0039	5240	0.0039	0.7407
		T (°C)	10	5240.0016	5240	0.0016	0.3008
		T (°C)	20	5240.0080	5240	0.0080	1.5314
		T (°C)	30	5240.0024	5240	0.0024	0.4667
		T (°C)	40	5240.0064	5240	0.0064	1.2273
		T (°C)	50	5240.0097	5240	0.0097	1.8490
		T (°C)	60	5240.0135	5240	0.0135	2.5722
		T (°C)	70	5240.0044	5240	0.0044	0.8373
Limits				5150-5250 MHz			
Result				Complies			



Temperature :	26 °C	Relative Humidity :	54%
Pressure :	101kPa	Test Voltage :	AC120V/60Hz
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)	120.00	5745.00122	5745	0.00122	0.2119
		V max (V)	132.00	5745.00464	5745	0.00464	0.8081
		V min (V)	108.00	5745.00306	5745	0.00306	0.5320
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	5745.01184	5745	0.01184	2.0614
		T (°C)	-10	5745.00116	5745	0.00116	0.2019
		T (°C)	0	5745.00277	5745	0.00277	0.4813
		T (°C)	10	5745.00664	5745	0.00664	1.1551
		T (°C)	20	5745.00634	5745	0.00634	1.1037
		T (°C)	30	5745.00707	5745	0.00707	1.2300
		T (°C)	40	5745.00473	5745	0.00473	0.8238
		T (°C)	50	5745.00084	5745	0.00084	0.1458
		T (°C)	60	5745.00974	5745	0.00974	1.6955
		T (°C)	70	5745.01233	5745	0.01233	2.1453
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	5785.00552	5785	0.00552	0.9538
		V max (V)	132.00	5785.01350	5785	0.01350	2.3330
		V min (V)	108.00	5785.01165	5785	0.01165	2.0139
Limits				5725-5850 MHz			
Result				Complies			

Temperature vs. Frequency Stability

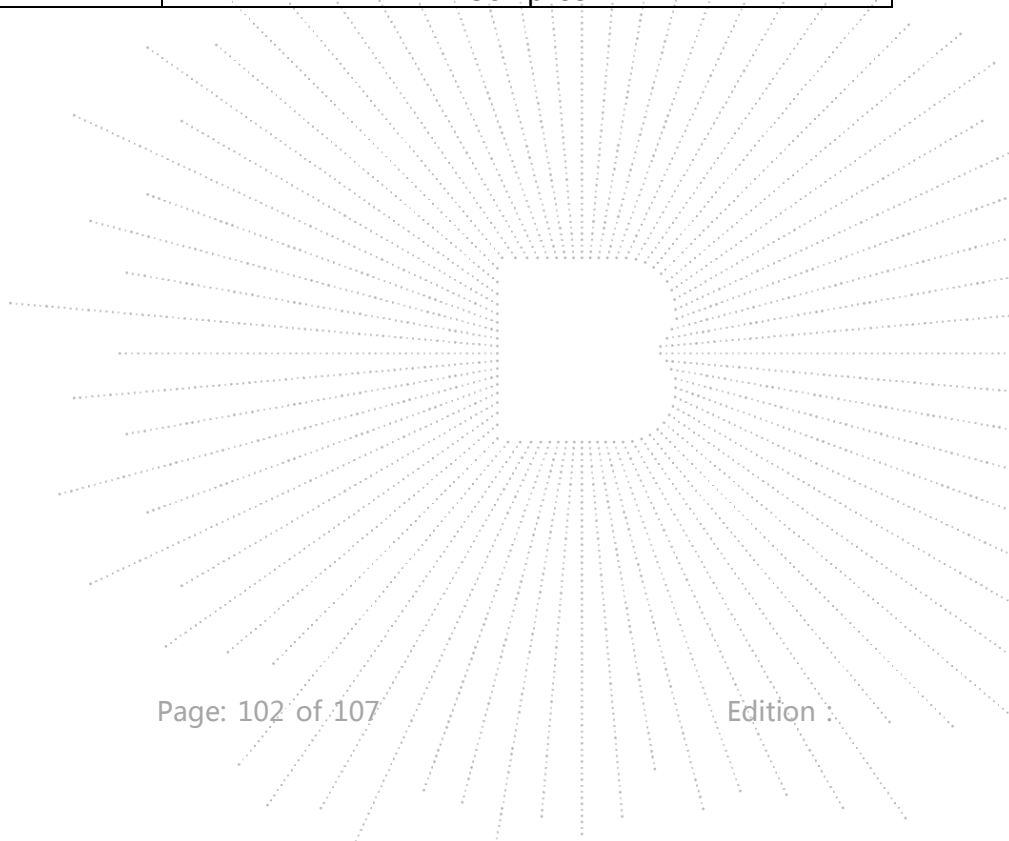
TEST CONDITIONS				Reference Frequency: 5785MHz			
				f	fc	Max. Deviation (MHz)	Max. Deviation (ppm)
V nom (V)	120	T (°C)	-20	5785.00455	5785	0.00455	0.7872
		T (°C)	-10	5785.00165	5785	0.00165	0.2855
		T (°C)	0	5785.00897	5785	0.00897	1.5502
		T (°C)	10	5785.00474	5785	0.00474	0.8199
		T (°C)	20	5785.00953	5785	0.00953	1.6478
		T (°C)	30	5785.01055	5785	0.01055	1.8230
		T (°C)	40	5785.00476	5785	0.00476	0.8225
		T (°C)	50	5785.00025	5785	0.00025	0.0431
		T (°C)	60	5785.00388	5785	0.00388	0.6703
		T (°C)	70	5785.00222	5785	0.00222	0.3836
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	5825.00062	5825	0.00062	0.1068
		V max (V)	132.00	5825.00449	5825	0.00449	0.7702
		V min (V)	108.00	5825.00186	5825	0.00186	0.3193
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	5825.00234	5825	0.00234	0.4022
		T (°C)	-10	5825.01016	5825	0.01016	1.7439
		T (°C)	0	5825.01336	5825	0.01336	2.2940
		T (°C)	10	5825.00672	5825	0.00672	1.1535
		T (°C)	20	5825.00658	5825	0.00658	1.1297
		T (°C)	30	5825.01202	5825	0.01202	2.0638
		T (°C)	40	5825.00811	5825	0.00811	1.3924
		T (°C)	50	5825.01338	5825	0.01338	2.2972
		T (°C)	60	5825.00843	5825	0.00843	1.4464
		T (°C)	70	5825.00361	5825	0.00361	0.6201
Limits				5725-5850 MHz			
Result				Complies			



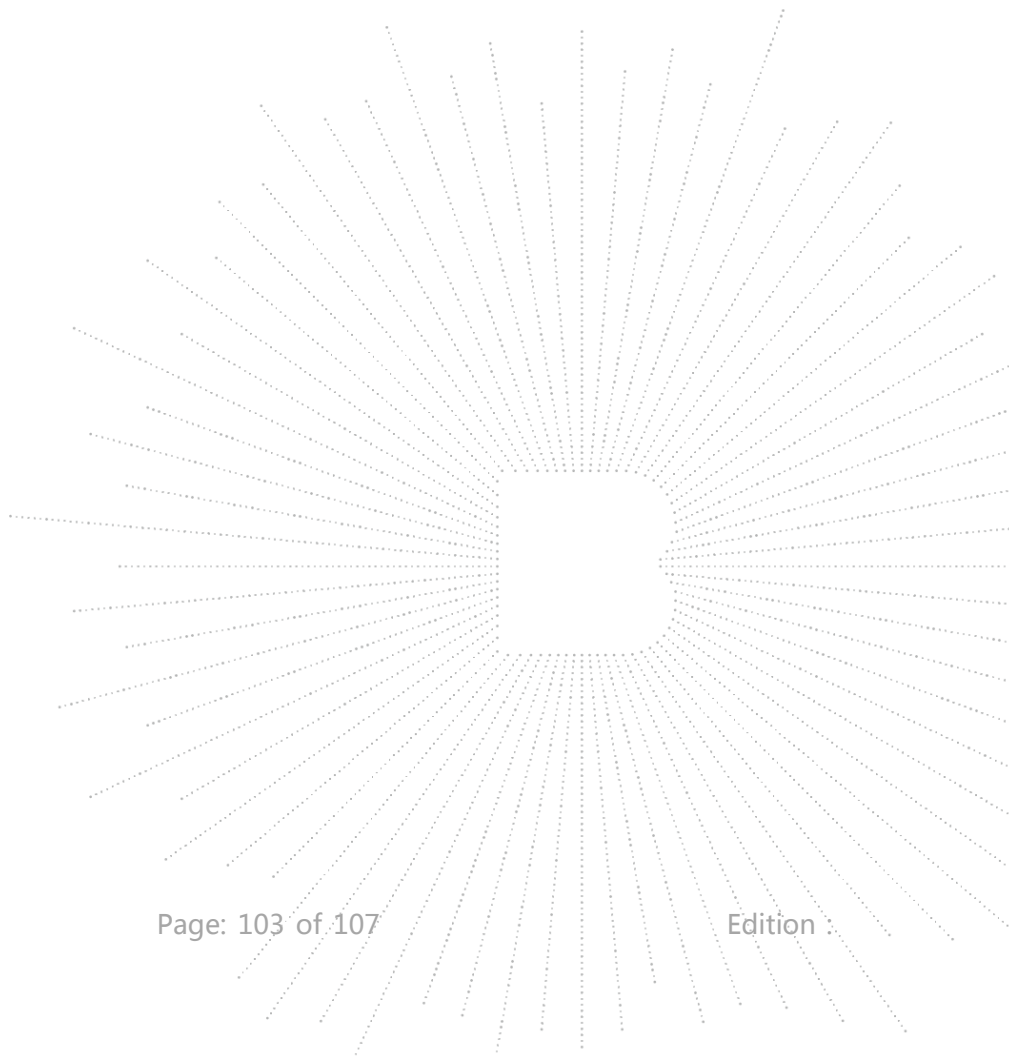
14. ANTENNA REQUIREMENT

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 External antenna (antenna gain (A): 1dBi; antenna gain (B): 1dBi). It comply with the standard requirement.



15. EUT PHOTOGRAPHS

EUT Photo 1



EUT Photo 2

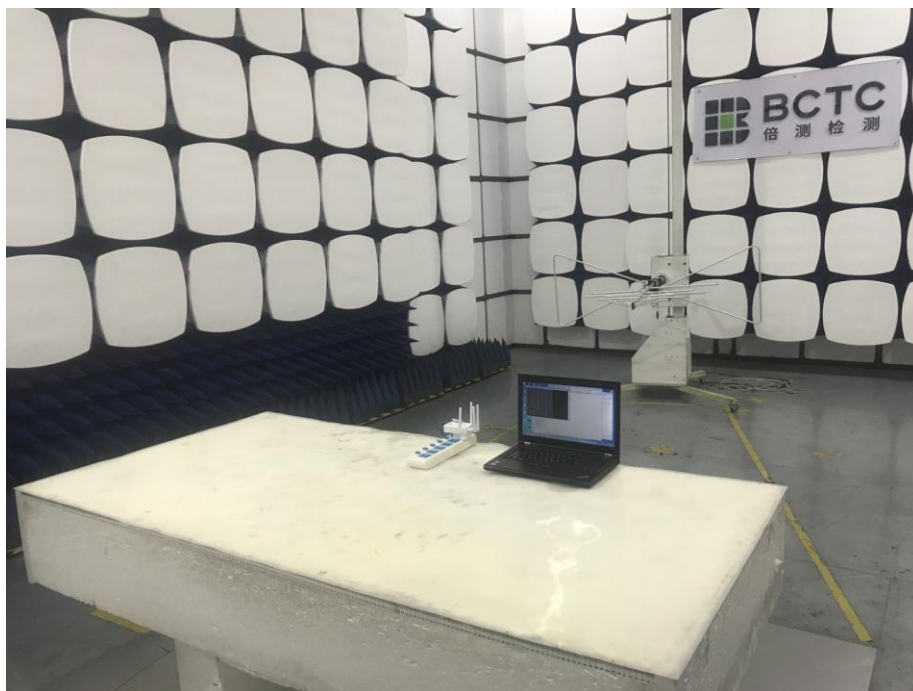


16. EUT TEST SETUP PHOTOGRAPHS

Conducted Measurement Photos



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.bctc-lab.com>

E-Mail : bctc@bctc-lab.com.cn

***** END *****