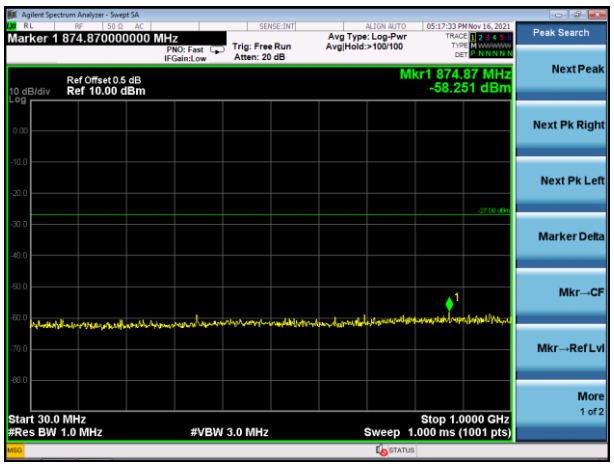
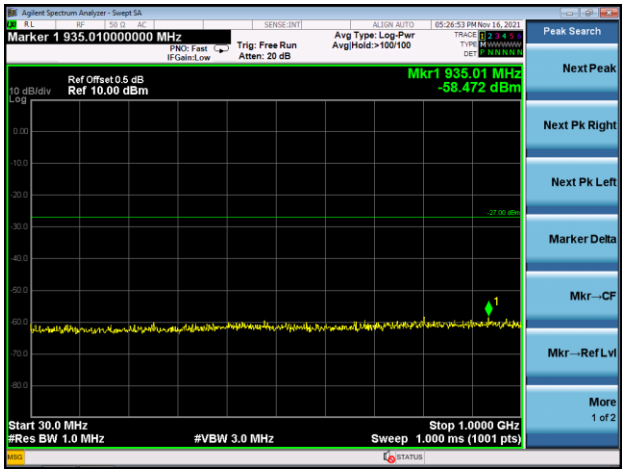
Test Plot

802.11ac20 on channel 48

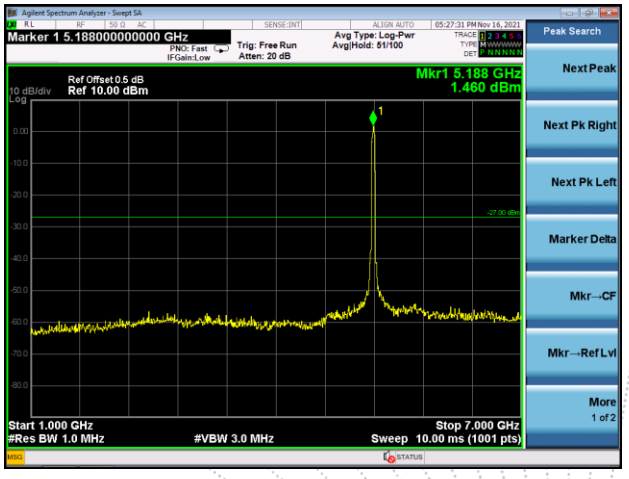


802.11ac40 on channel 38



802.11ac20 on channel 48

802.11ac40 on channel 38

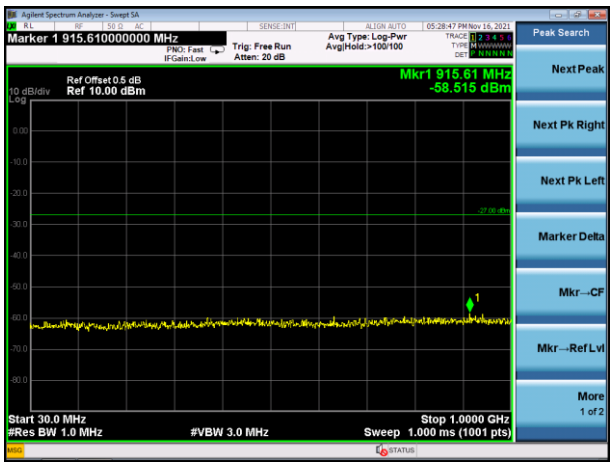


802.11ac20 on channel 48

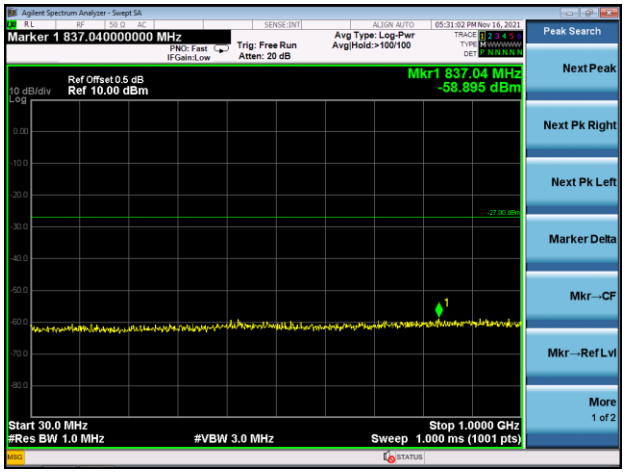
802.11ac40 on channel 38

Test Plot

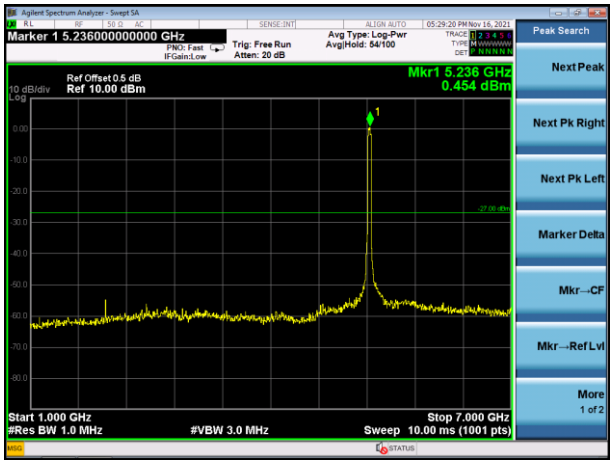
802.11ac40 on channel 46



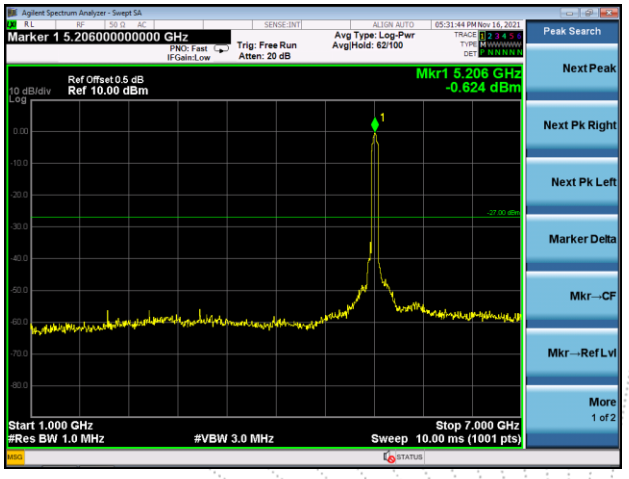
802.11ac80 on channel 42



802.11 ac40 on channel 46



802.11 ac80 on channel 42

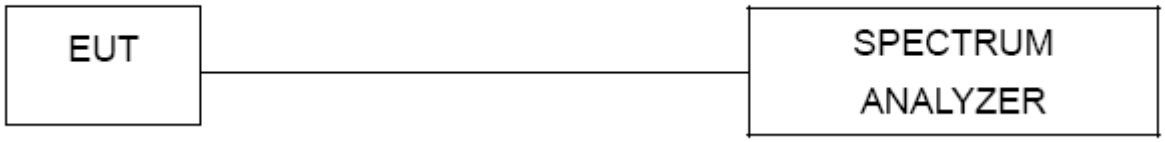


802.11 ac40 on channel 46

802.11 ac80 on channel 42

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 5V
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	5180.0130	5180	0.0130	2.5097
		V max (V)	138.00	5180.0067	5180	0.0067	1.2959
		V min (V)	102.00	5180.0197	5180	0.0197	3.7979
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)	DC 5V	T (°C)	-20	5180.0113	5180	0.0113	2.1814
		T (°C)	-10	5180.0009	5180	0.0009	0.1666
		T (°C)	0	5180.0066	5180	0.0066	1.2767
		T (°C)	10	5180.0127	5180	0.0127	2.4474
		T (°C)	20	5180.0054	5180	0.0054	1.0510
		T (°C)	30	5180.0120	5180	0.0120	2.3106
		T (°C)	40	5180.0005	5180	0.0005	0.0899
		T (°C)	50	5180.0028	5180	0.0028	0.5441
		T (°C)	60	5180.0085	5180	0.0085	1.6445
		T (°C)	70	5180.0041	5180	0.0041	0.7956
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	5200.0073	5200	0.0073	1.4125
		V max (V)	138.00	5200.0121	5200	0.0121	2.3331
		V min (V)	102.00	5200.0102	5200	0.0102	1.9532
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)	DC 5V	T (°C)	-20	5200.01059	5200	0.01059	2.0368
		T (°C)	-10	5200.00598	5200	0.00598	1.1499
		T (°C)	0	5200.00876	5200	0.00876	1.6845
		T (°C)	10	5200.00870	5200	0.00870	1.6727
		T (°C)	20	5200.00248	5200	0.00248	0.4775
		T (°C)	30	5200.00032	5200	0.00032	0.0623
		T (°C)	40	5200.00080	5200	0.00080	0.1541
		T (°C)	50	5200.00173	5200	0.00173	0.3317
		T (°C)	60	5200.00685	5200	0.00685	1.3174
		T (°C)	70	5200.00401	5200	0.00401	0.7702
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	5240.0128	5240	0.0128	2.4355
		V max (V)	138.00	5240.0046	5240	0.0046	0.8750
		V min (V)	102.00	5240.0123	5240	0.0123	2.3558
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)	DC 5V	T (°C)	-20	5240.0070	5240	0.0070	1.3432
		T (°C)	-10	5240.0062	5240	0.0062	1.1789
		T (°C)	0	5240.0036	5240	0.0036	0.6888
		T (°C)	10	5240.0002	5240	0.0002	0.0321
		T (°C)	20	5240.0124	5240	0.0124	2.3651
		T (°C)	30	5240.0059	5240	0.0059	1.1331
		T (°C)	40	5240.0108	5240	0.0108	2.0677
		T (°C)	50	5240.0005	5240	0.0005	0.1021
		T (°C)	60	5240.0133	5240	0.0133	2.5356
		T (°C)	70	5240.0038	5240	0.0038	0.7308
Limits				5150-5250 MHz			
Result				Complies			

14. Antenna Requirement

14.1 Limit

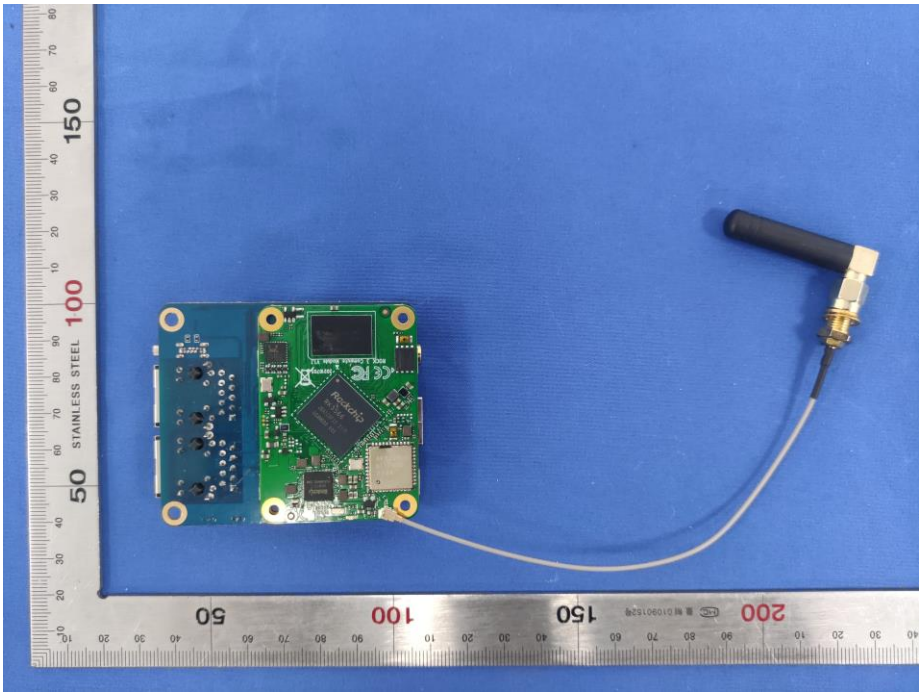
15.203 requirement: For intentional device, according to 15.203: an intentional radiator shall be designed to ensure that no antenna other than that furnished by the responsible party shall be used with the device.

14.2 EUT Antenna

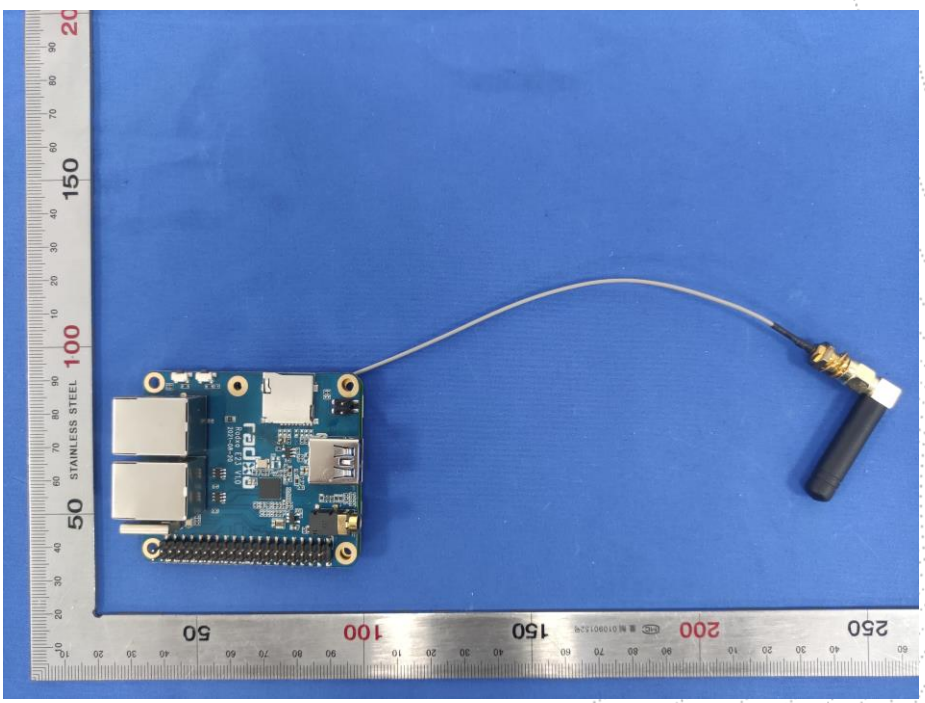
The EUT antenna is External Antenna. It comply with the standard requirement.

15. EUT Photographs

EUT Photo 1



EUT Photo 2



16. EUT Test Setup Photographs

Conducted Measurement Photos

Radiated Measurement Photos


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 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** ※※※※※