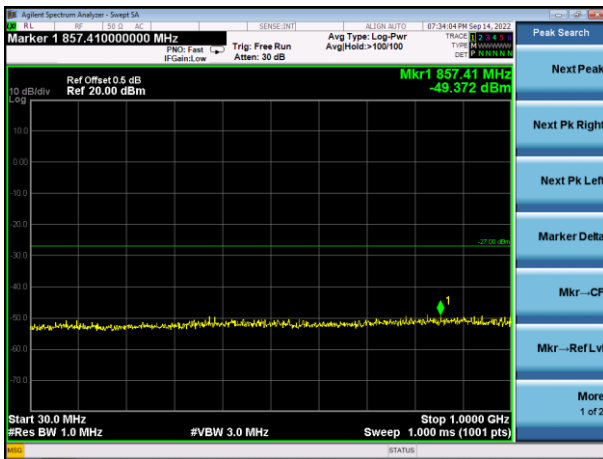
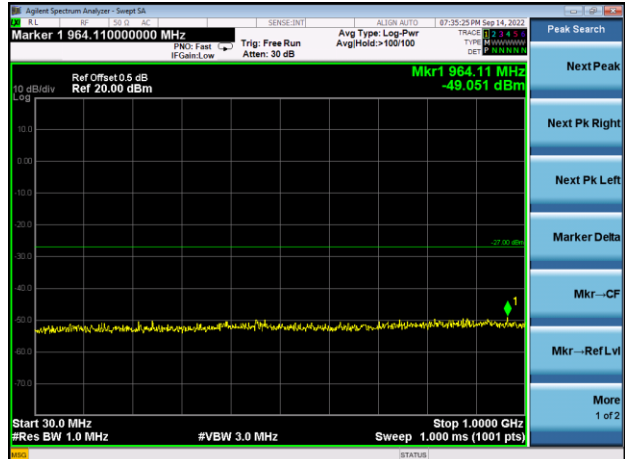


5.1G Test Plot

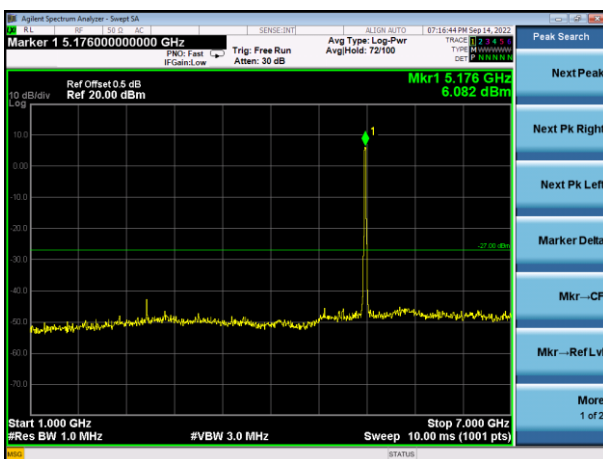
802.11a on channel 36



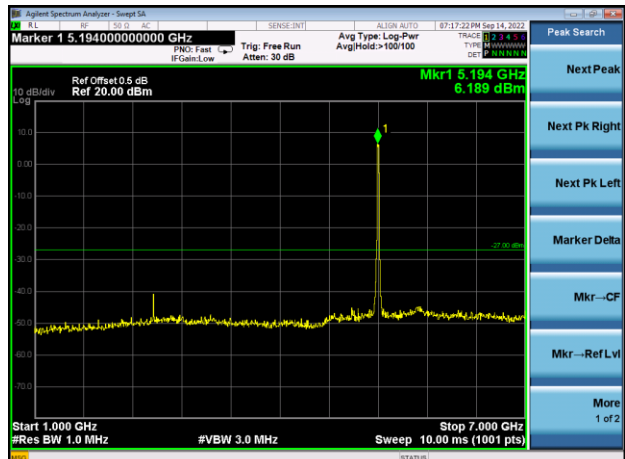
802.11a on channel 40



802.11a on channel 36



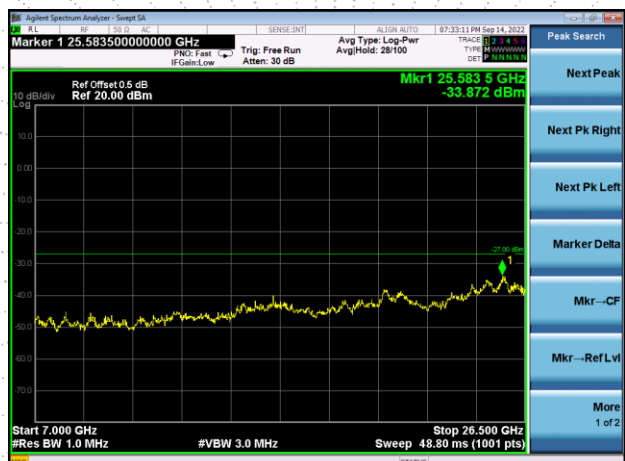
802.11a on channel 40



802.11a on channel 36

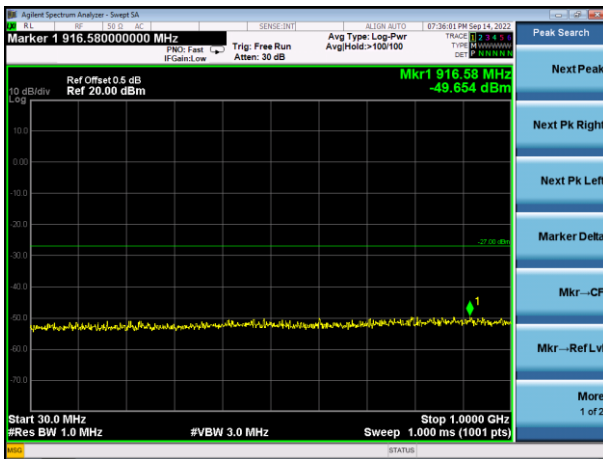


802.11a on channel 40

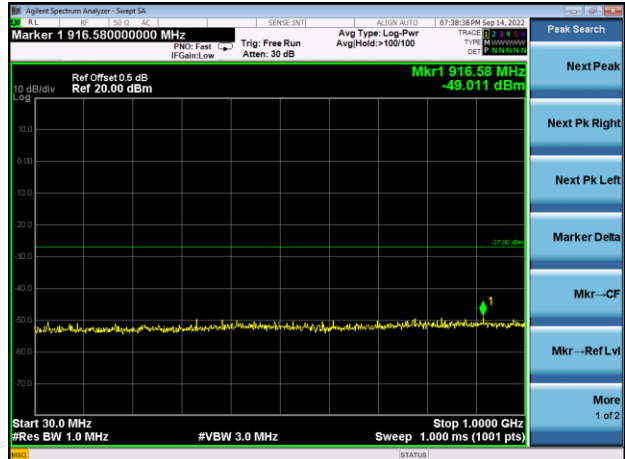


Test Plot

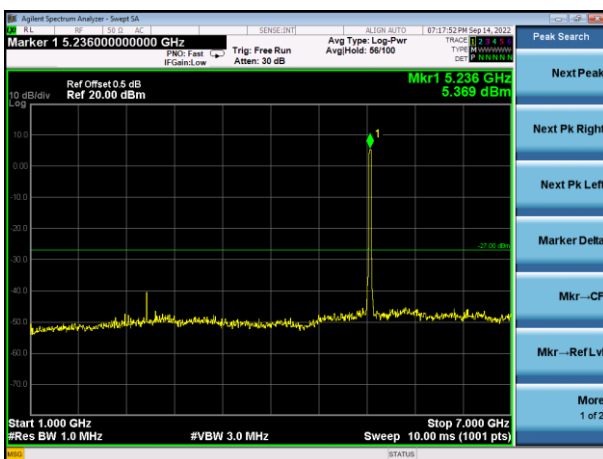
802.11a on channel 48



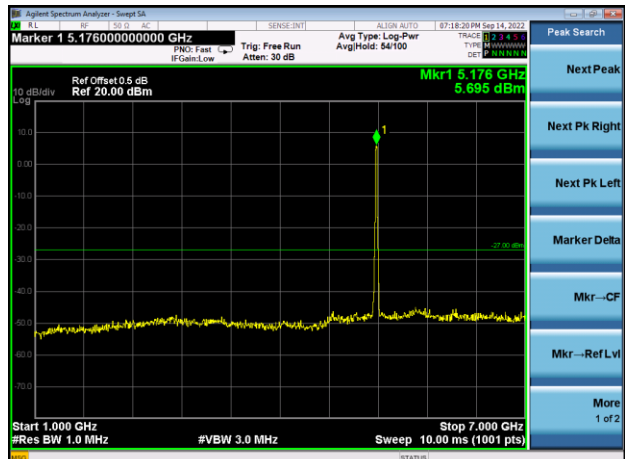
802.11n20 on channel 36



802.11a on channel 48



802.11n20 on channel 36



802.11a on channel 48

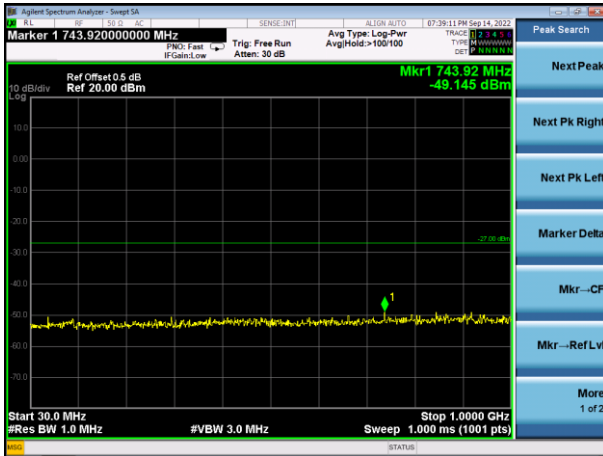


802.11n20 on channel 36

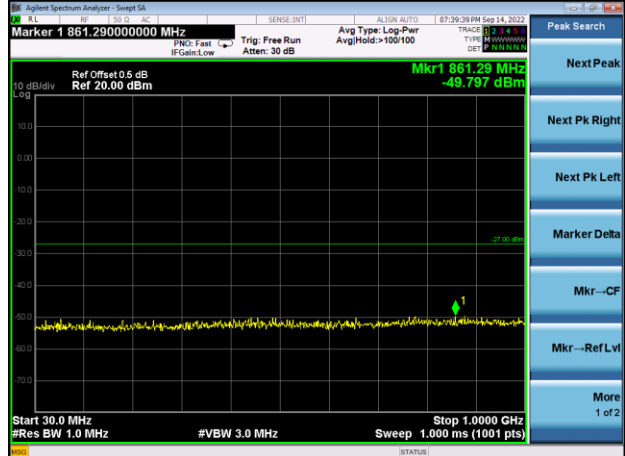


Test Plot

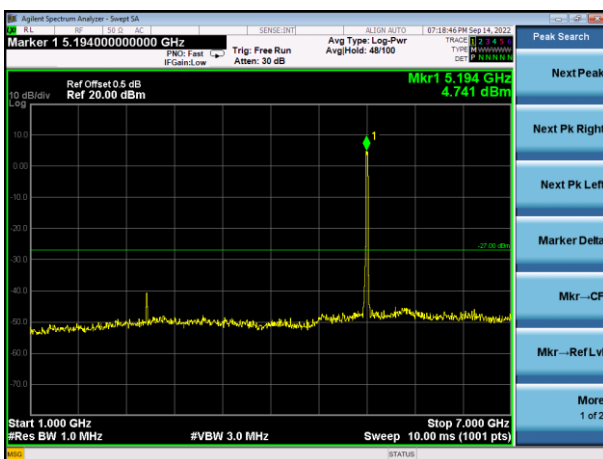
802.11n20 on channel 40



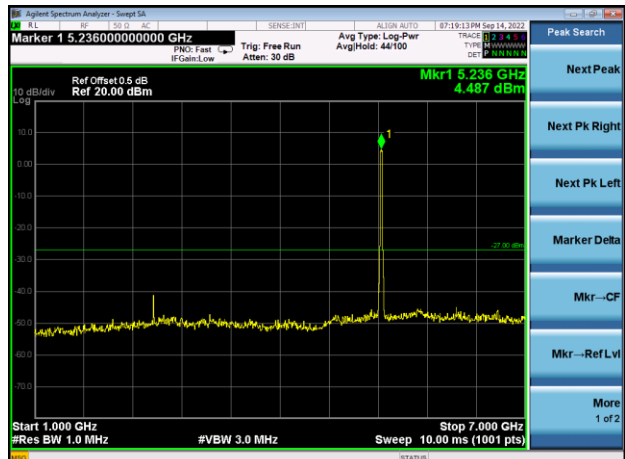
802.11n20 on channel 48



802.11n20 on channel 40



802.11n20 on channel 48



802.11n20 on channel 40

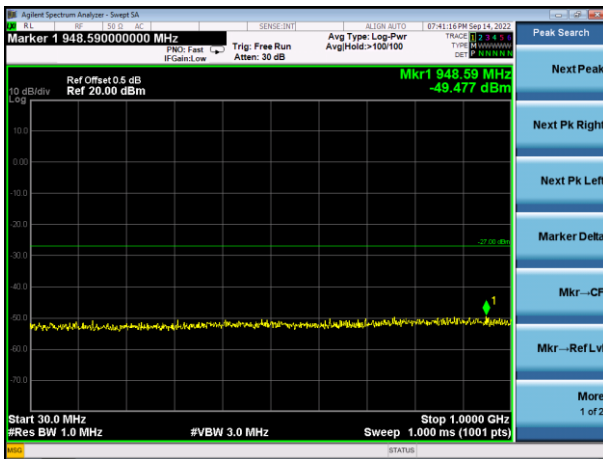


802.11n20 on channel 48

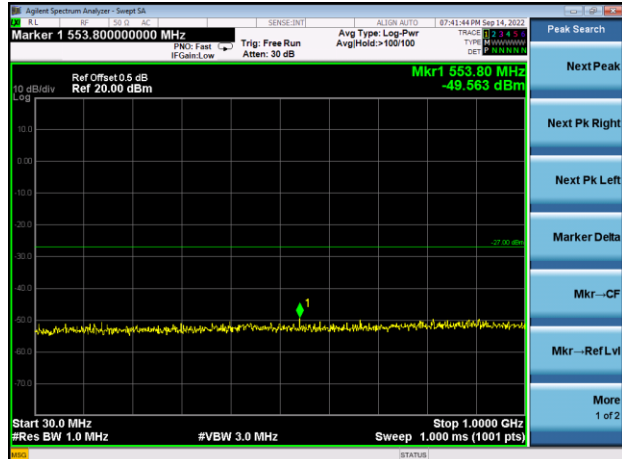


Test Plot

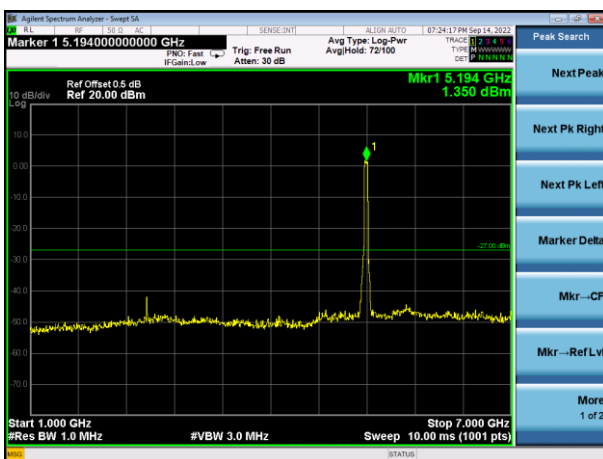
802.11n40 on channel 38



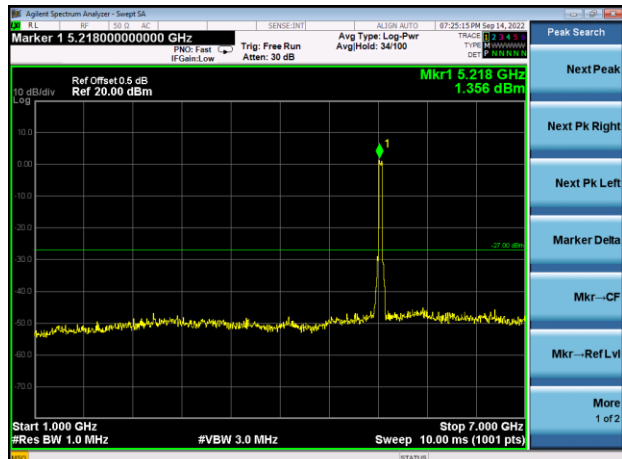
802.11n40 on channel 46



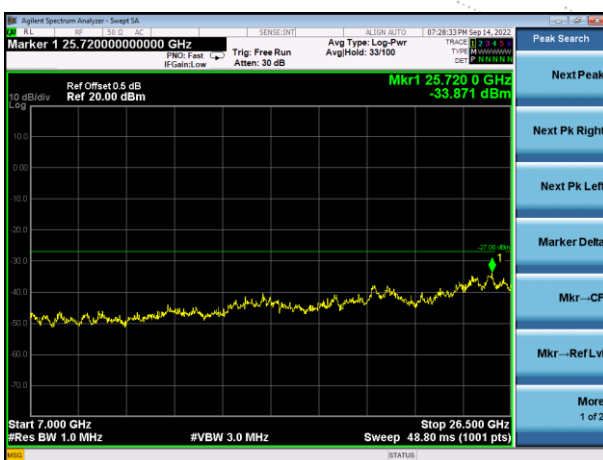
802.11n40 on channel 38



802.11n40 on channel 46



802.11n40 on channel 38

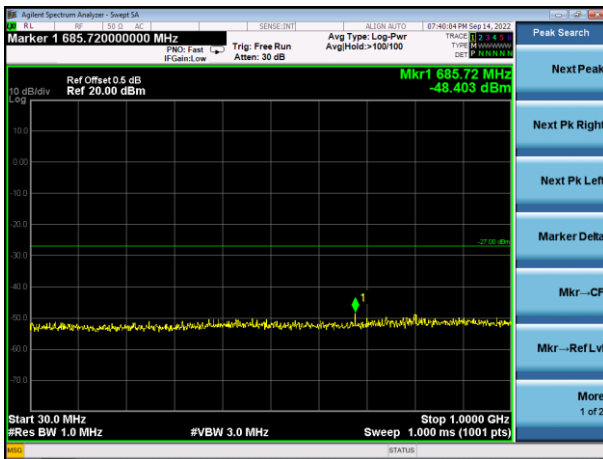


802.11n40 on channel 46

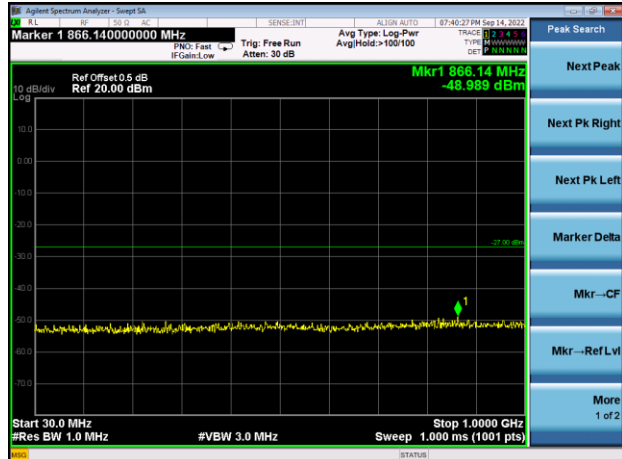


Test Plot

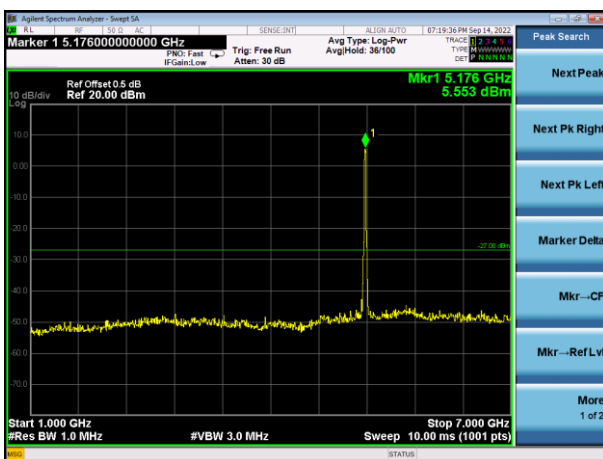
802.11ac20 on channel 36



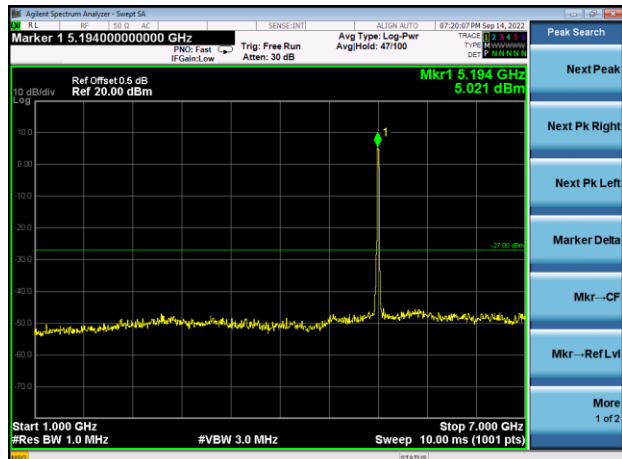
802.11ac20 on channel 40



802.11ac20 on channel 36



802.11ac20 on channel 40



802.11ac20 on channel 36

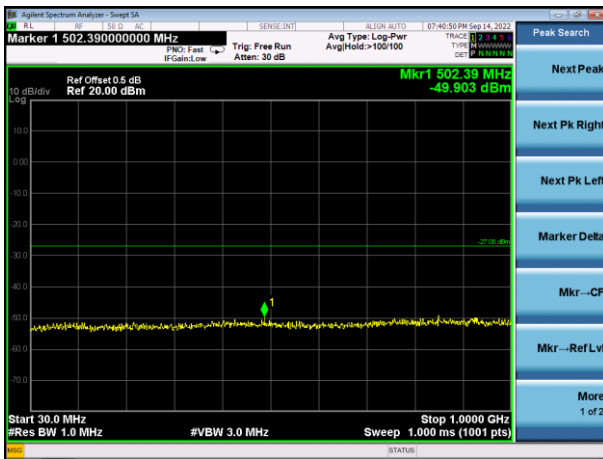


802.11ac20 on channel 40

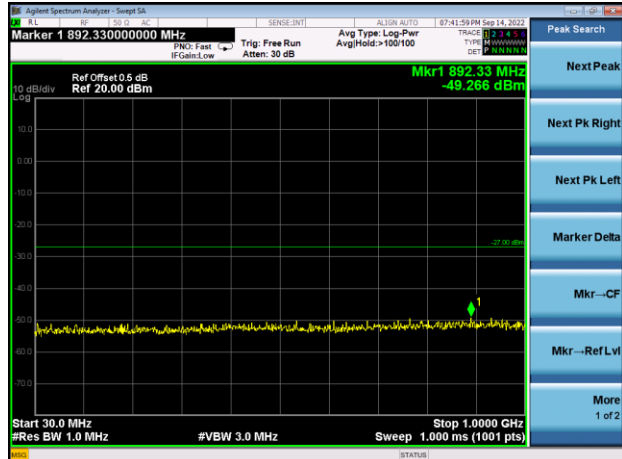


Test Plot

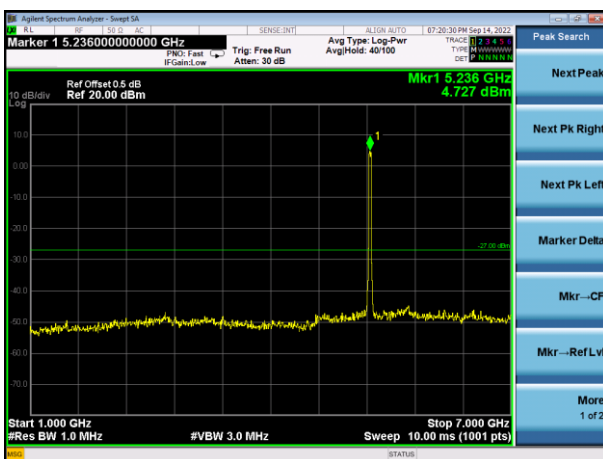
802.11ac20 on channel 48



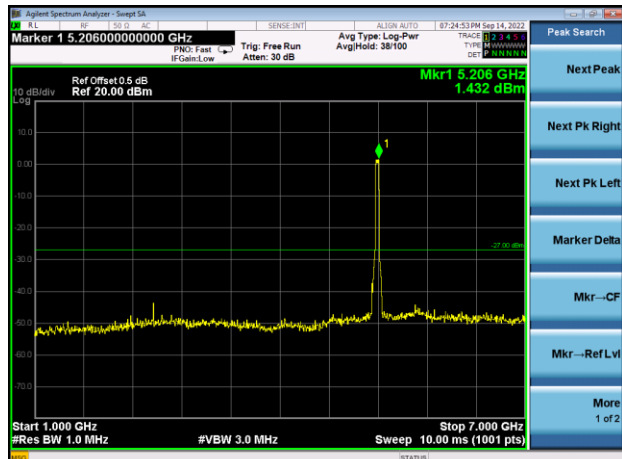
802.11ac40 on channel 38



802.11ac20 on channel 48



802.11ac40 on channel 38



802.11ac20 on channel 48

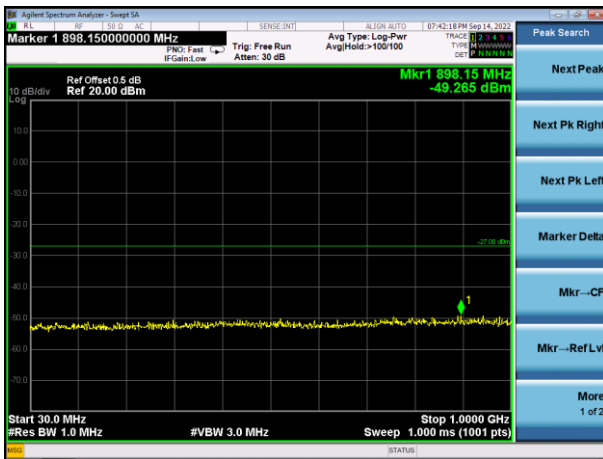


802.11ac40 on channel 38

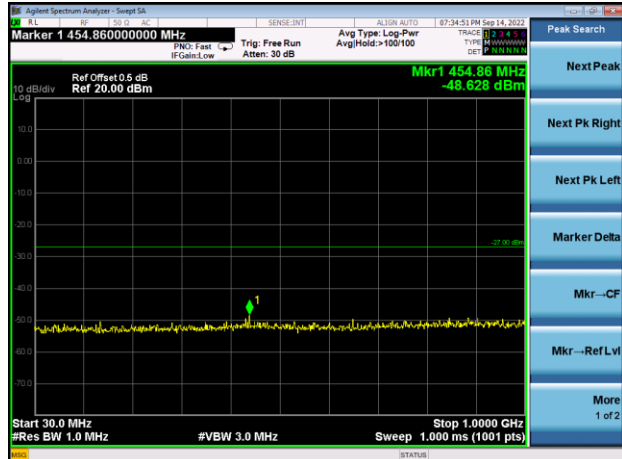


Test Plot

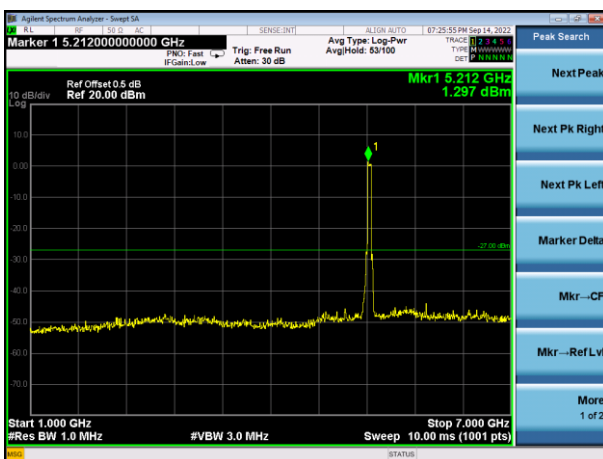
802.11ac40 on channel 46



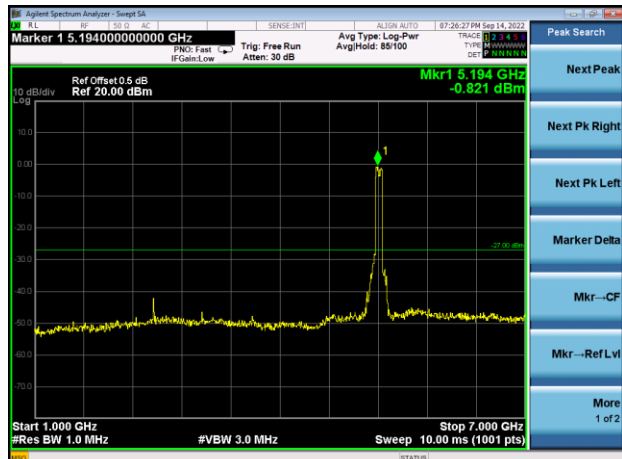
802.11ac80 on channel 42



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. 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:	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)	5	5180.0177	5180	0.0177	3.4198
		V max (V)	5.5	5180.0053	5180	0.0053	1.0162
		V min (V)	4.5	5180.0179	5180	0.0179	3.4482
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	5180.0013	5180	0.0013	0.2509
		T (°C)	-10	5180.0051	5180	0.0051	0.9899
		T (°C)	0	5180.0046	5180	0.0046	0.8849
		T (°C)	10	5180.0036	5180	0.0036	0.7021
		T (°C)	20	5180.0112	5180	0.0112	2.1638
		T (°C)	30	5180.0083	5180	0.0083	1.5943
		T (°C)	40	5180.0123	5180	0.0123	2.3746
		T (°C)	50	5180.0006	5180	0.0006	0.1211
		T (°C)	60	5180.0052	5180	0.0052	1.0003
		T (°C)	70	5180.0066	5180	0.0066	1.2764
Limits				5150-5250 MHz			
Result				Complies			

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Voltage vs. Frequency Stability

TEST CONDITIONS				Reference Frequency: 5200MHz			
				f	fc	Max. Deviation (MHz)	Max. Deviation (ppm)
T nom (°C)	20	V nom (V)	5	5200.0038	5200	0.0038	0.7320
		V max (V)	5.5	5200.0007	5200	0.0007	0.1329
		V min (V)	4.5	5200.0112	5200	0.0112	2.1616
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	5200.00400	5200	0.00400	0.7691
		T (°C)	-10	5200.00856	5200	0.00856	1.6462
		T (°C)	0	5200.01214	5200	0.01214	2.3343
		T (°C)	10	5200.00553	5200	0.00553	1.0634
		T (°C)	20	5200.00814	5200	0.00814	1.5647
		T (°C)	30	5200.00974	5200	0.00974	1.8729
		T (°C)	40	5200.00421	5200	0.00421	0.8093
		T (°C)	50	5200.00581	5200	0.00581	1.1171
		T (°C)	60	5200.00144	5200	0.00144	0.2767
		T (°C)	70	5200.00636	5200	0.00636	1.2233
Limits				5150-5250 MHz			
Result				Complies			

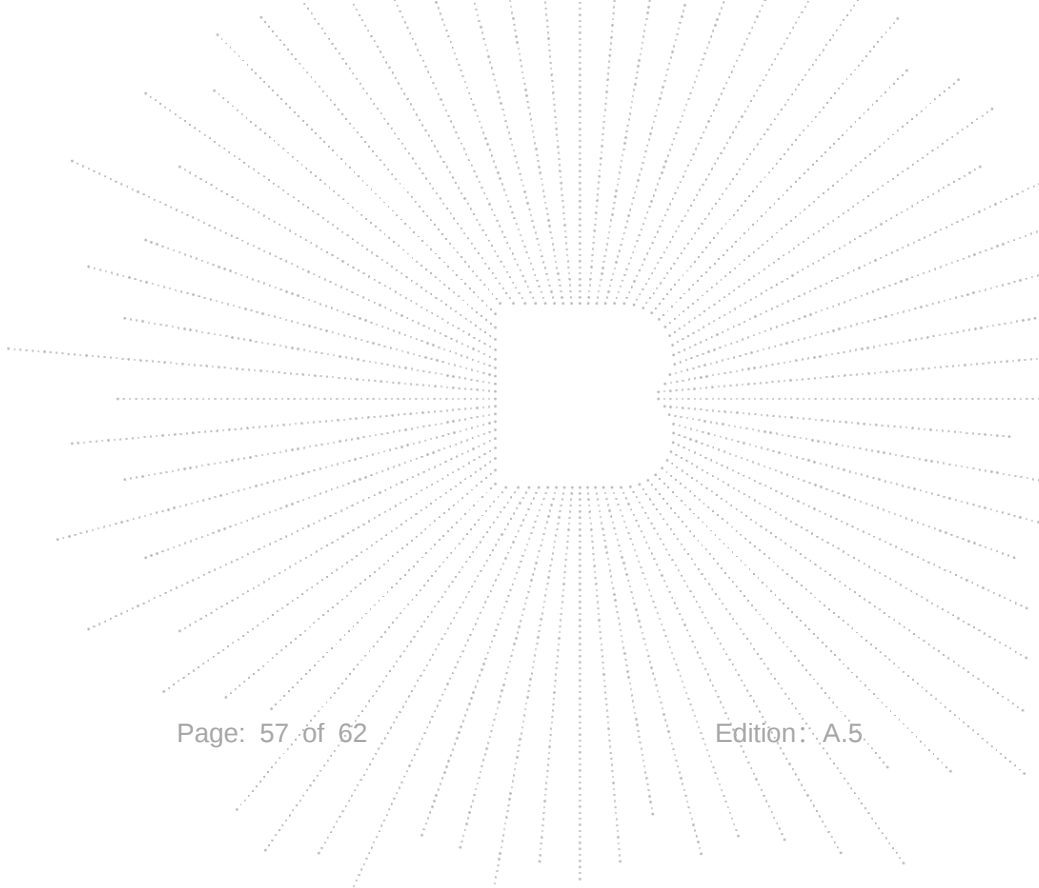
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Voltage vs. Frequency Stability

TEST CONDITIONS				Reference Frequency: 5240MHz			
				f	fc	Max. Deviation (MHz)	Max. Deviation (ppm)
T nom (°C)	20	V nom (V)	5	5240.0034	5240	0.0034	0.6464
		V max (V)	5.5	5240.0017	5240	0.0017	0.3220
		V min (V)	4.5	5240.0084	5240	0.0084	1.5980
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	5240.0056	5240	0.0056	1.0777
		T (°C)	-10	5240.0057	5240	0.0057	1.0885
		T (°C)	0	5240.0092	5240	0.0092	1.7548
		T (°C)	10	5240.0078	5240	0.0078	1.4953
		T (°C)	20	5240.0049	5240	0.0049	0.9312
		T (°C)	30	5240.0006	5240	0.0006	0.1098
		T (°C)	40	5240.0135	5240	0.0135	2.5824
		T (°C)	50	5240.0028	5240	0.0028	0.5273
		T (°C)	60	5240.0036	5240	0.0036	0.6927
		T (°C)	70	5240.0062	5240	0.0062	1.1904
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.

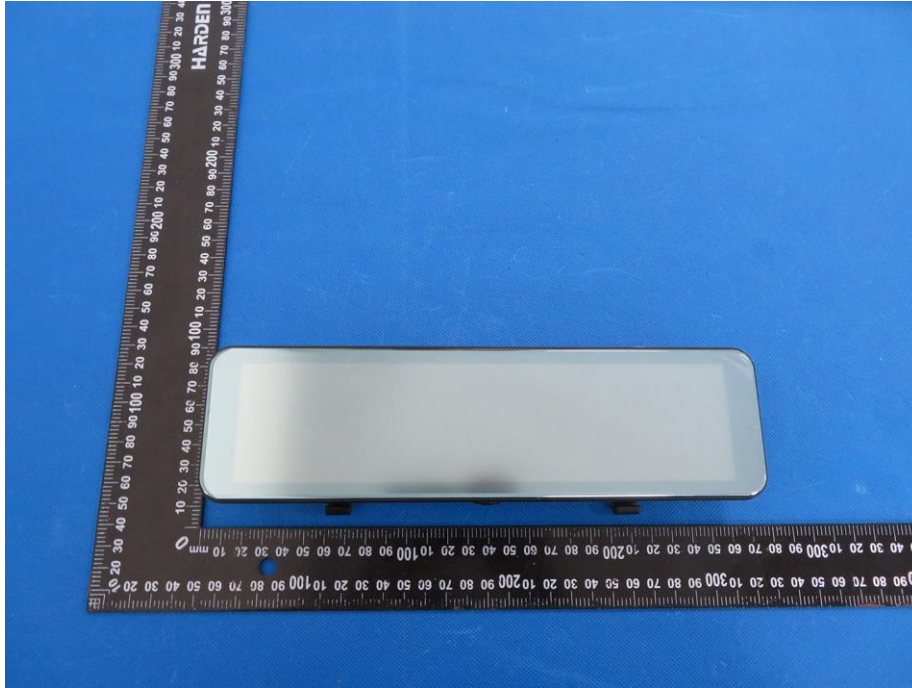
14.2 EUT Antenna

The EUT antenna is FPC antenna. It comply with the standard requirement.

CO., LTD.

15. EUT Photographs

EUT Photo



NOTE: Appendix-Photographs Of EUT Constructional Details

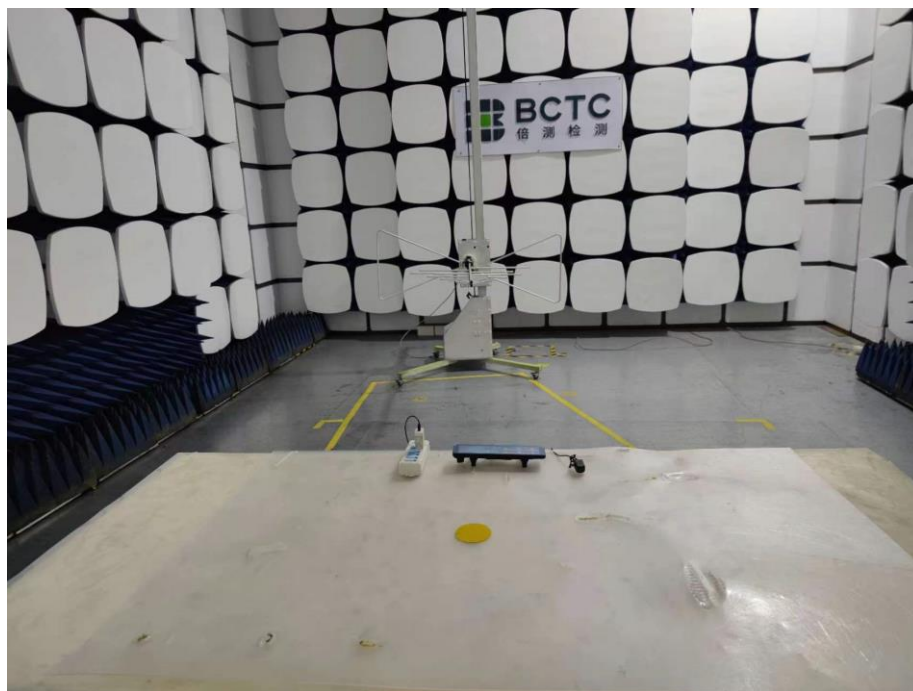
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16. EUT Test Setup Photographs

Conducted Measurement Photos



Radiated Measurement Photos



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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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P.C.: 518103

FAX: 0755-33229357

Website: <http://www.chnbctc.com>

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

***** END *****

