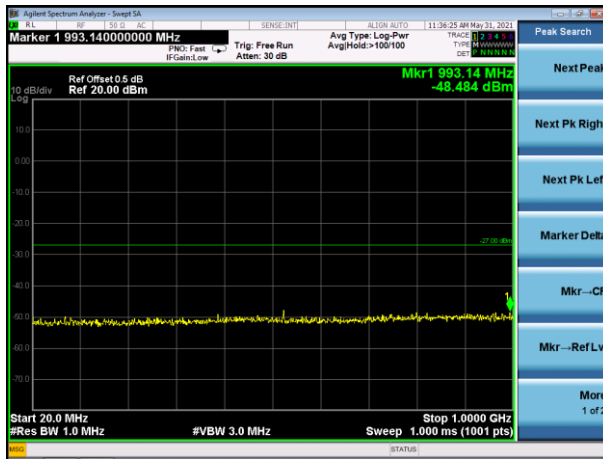
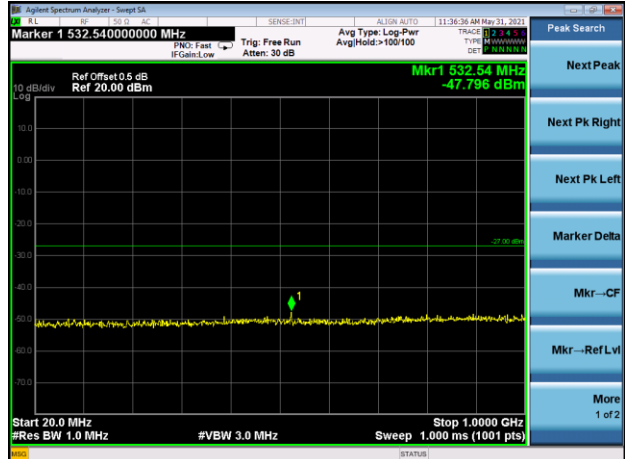


Test Plot

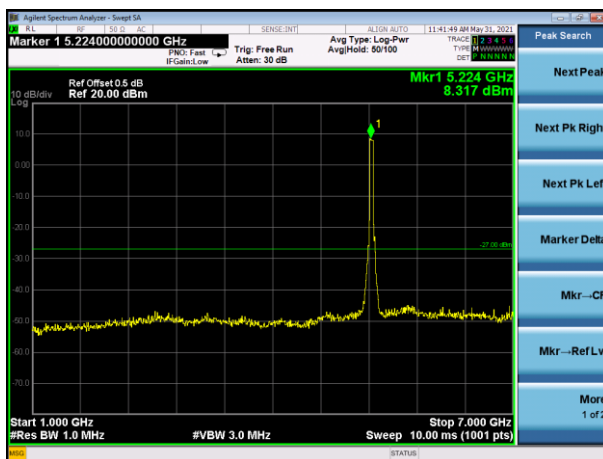
802.11ac40 on channel 46



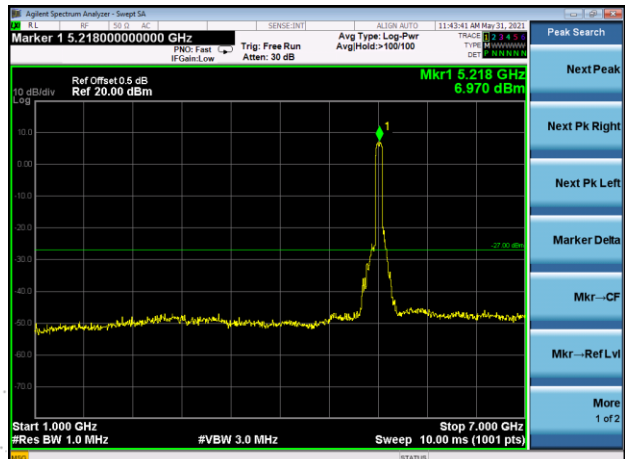
802.11ac80 on channel 42



802.11 ac40 on channel 46



802.11ac80 on channel 42



802.11 ac40 on channel 46



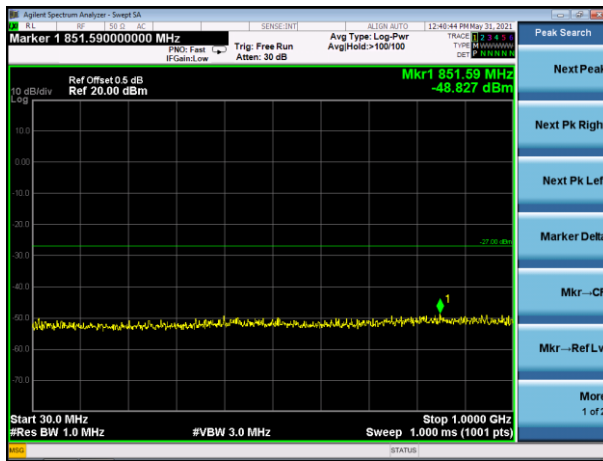
802.11ac80 on channel 42



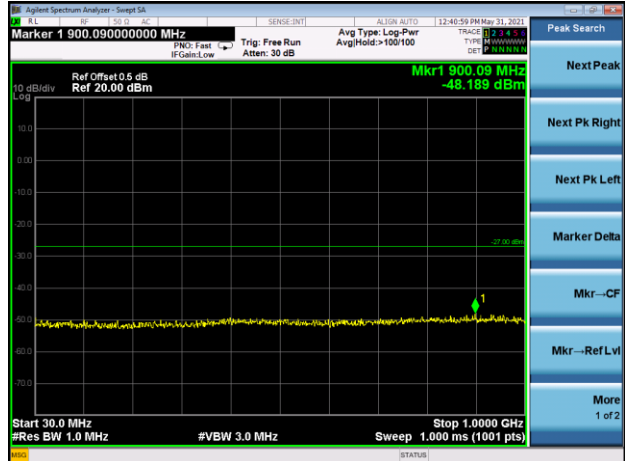
5.8G

Test Plot

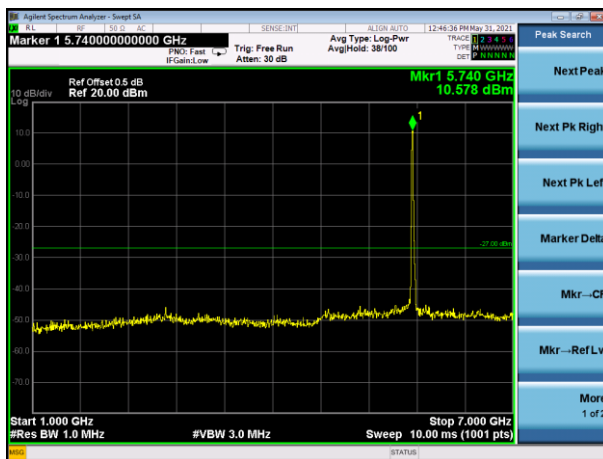
802.11a on channel 149



802.11a on channel 157



802.11a on channel 149



802.11a on channel 157



802.11a on channel 149

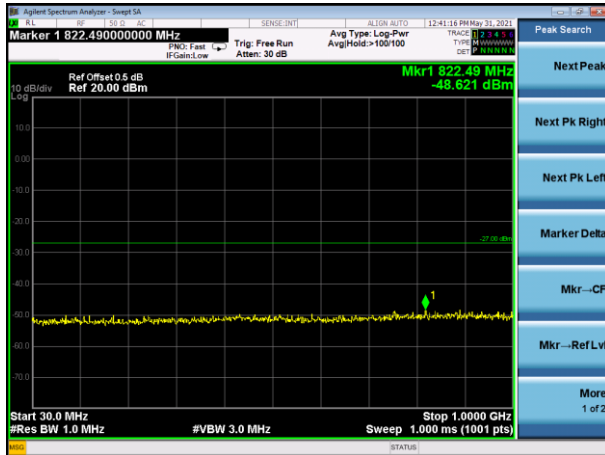


802.11a on channel 157

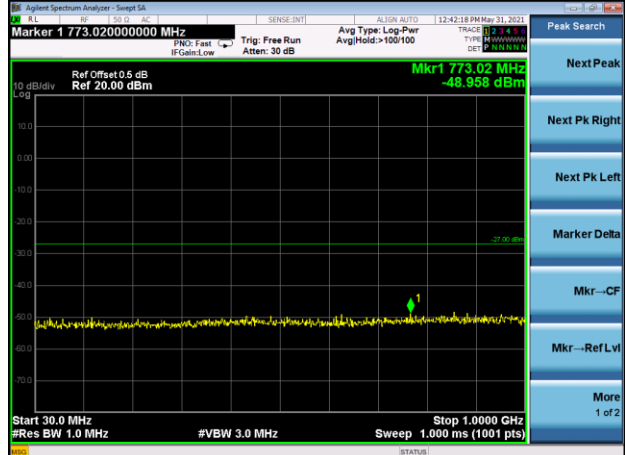


Test Plot

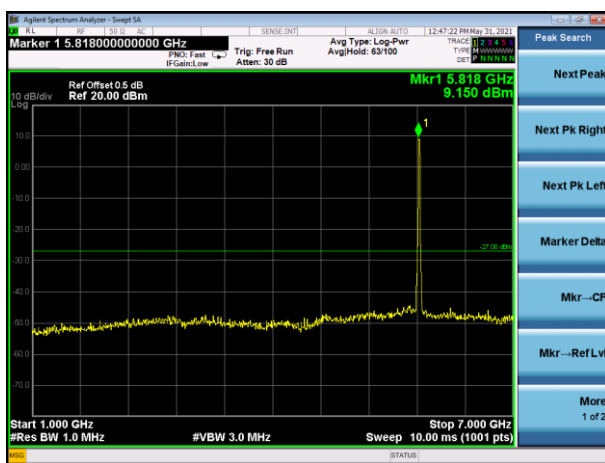
802.11a on channel 165



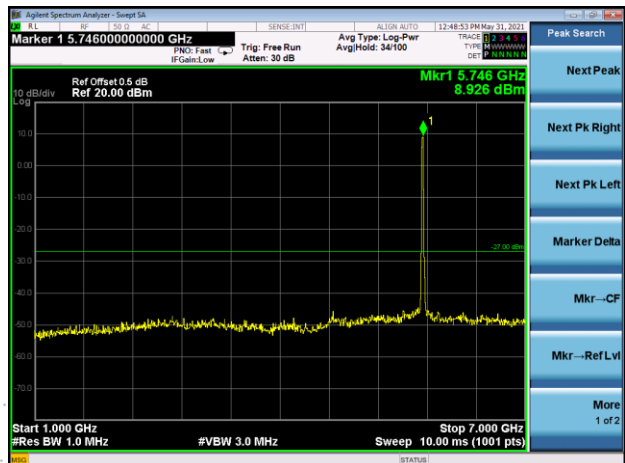
802.11n20 on channel 149



802.11a on channel 165



802.11n20 on channel 149



802.11a on channel 165

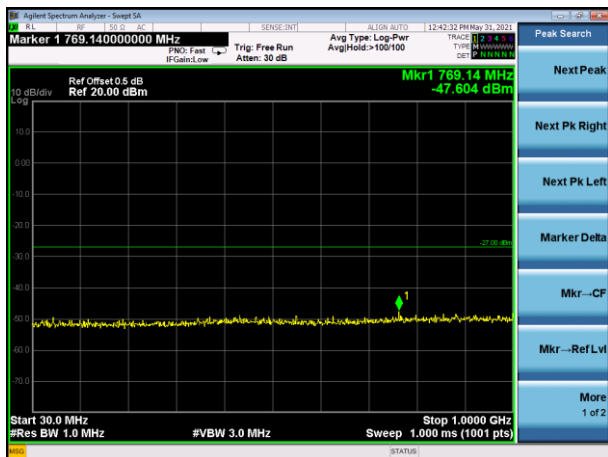


802.11n20 on channel 149

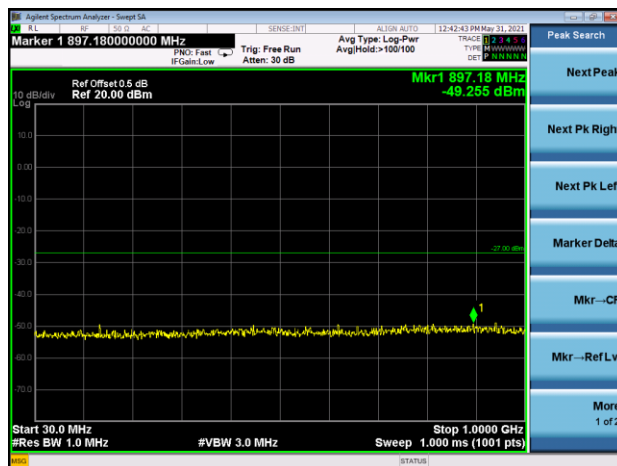


Test Plot

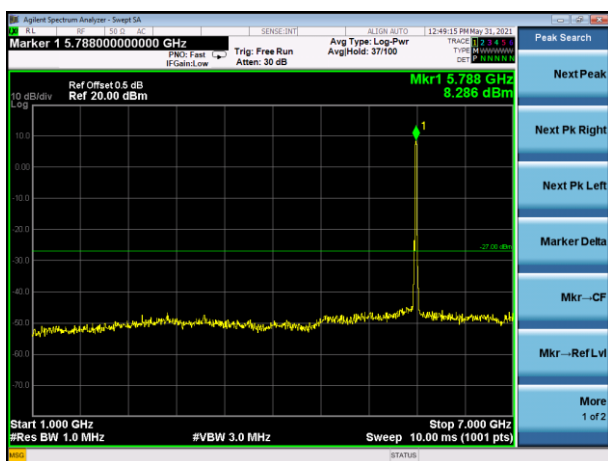
802.11n20 on channel 157



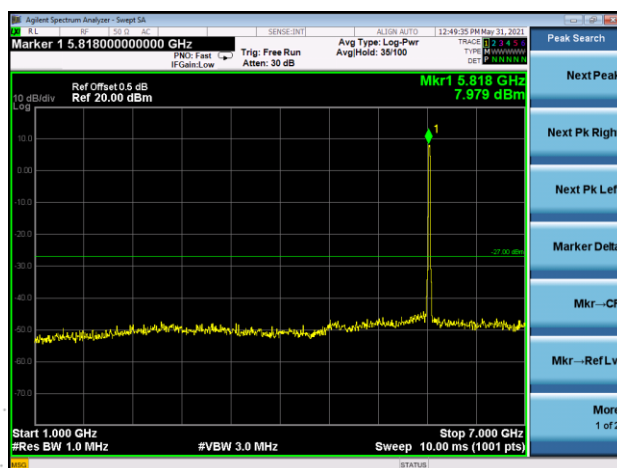
802.11n20 on channel 165



802.11n20 on channel 157



802.11n20 on channel 165



802.11n20 on channel 157

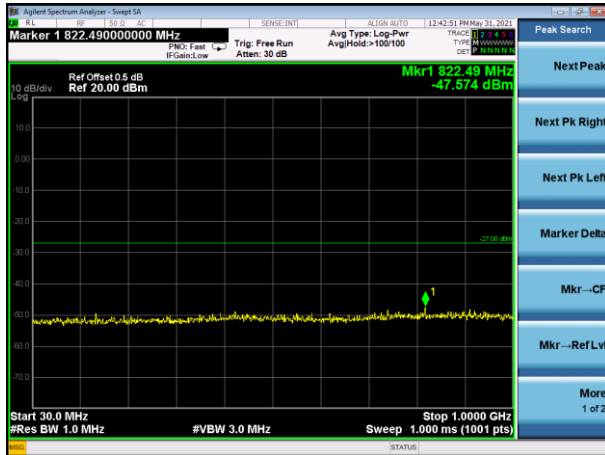


802.11n20 on channel 165

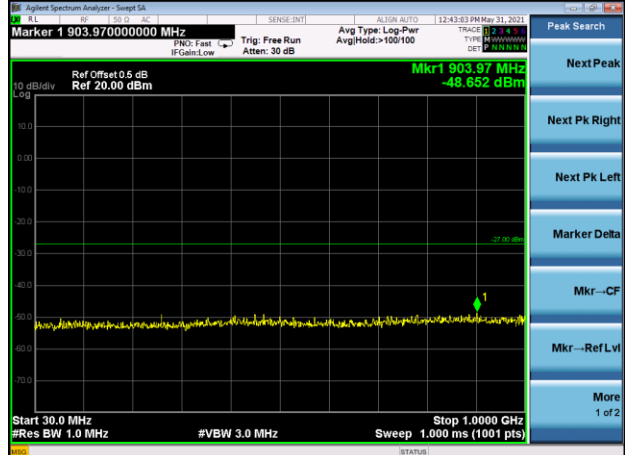


Test Plot

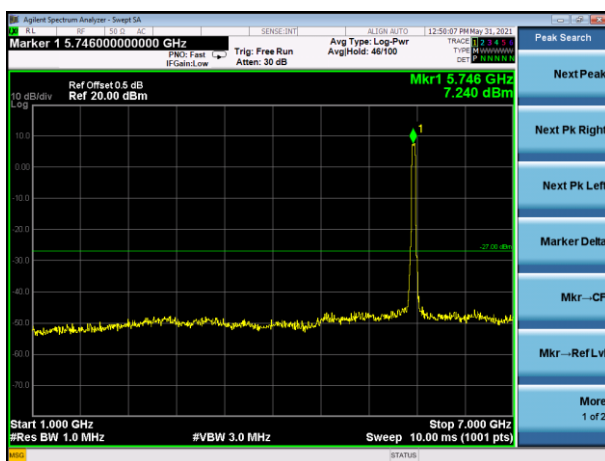
802.11n40 on channel 151



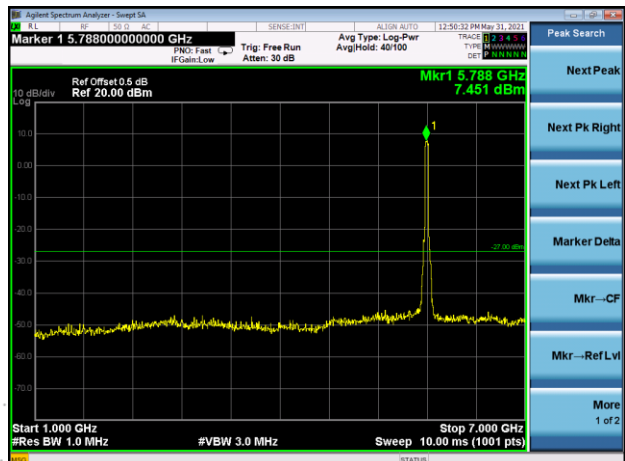
802.11n40 on channel 159



802.11n40 on channel 151



802.11n40 on channel 159



802.11n40 on channel 151

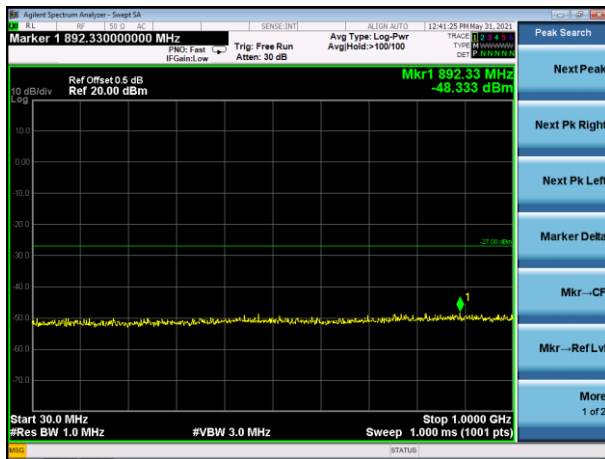


802.11n40 on channel 159

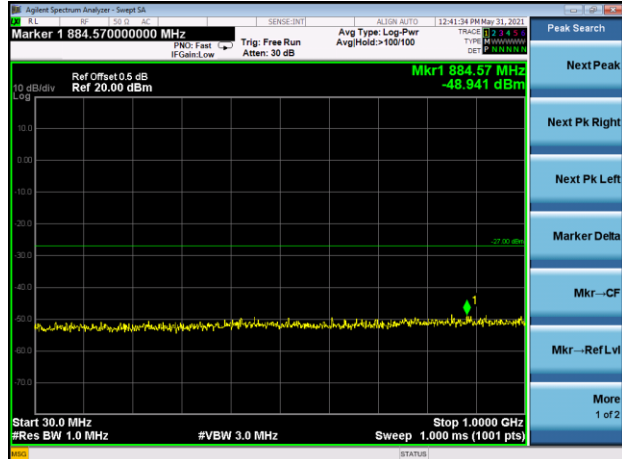


Test Plot

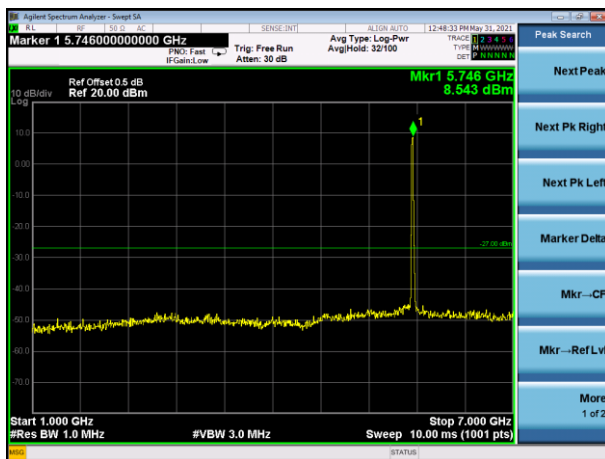
802.11ac20 on channel 149



802.11ac20 on channel 157



802.11ac20 on channel 149



802.11ac20 on channel 157



802.11ac20 on channel 149

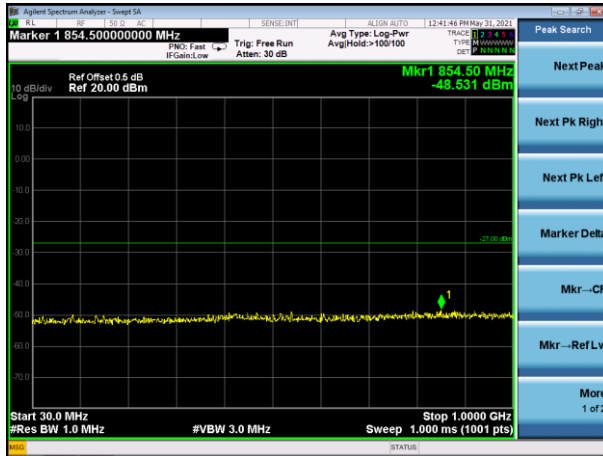


802.11ac20 on channel 157

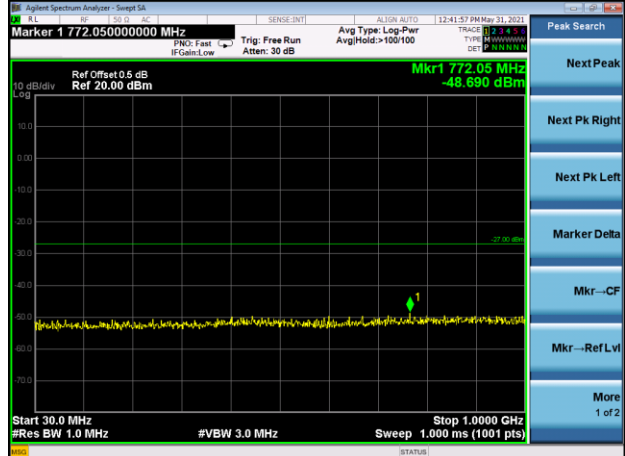


Test Plot

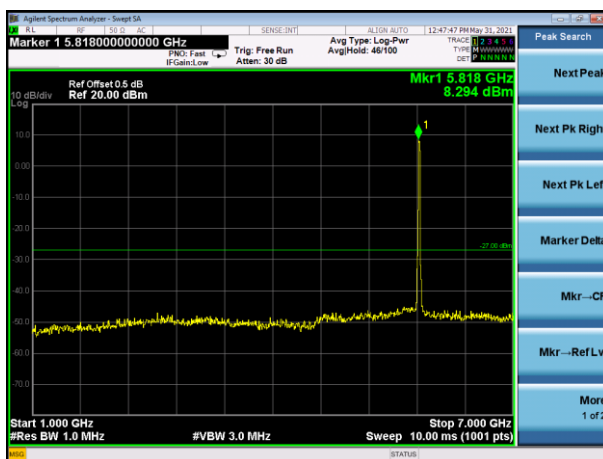
802.11ac20 on channel 165



802.11ac40 on channel 151



802.11ac20 on channel 165



802.11ac40 on channel 151



802.11ac20 on channel 165

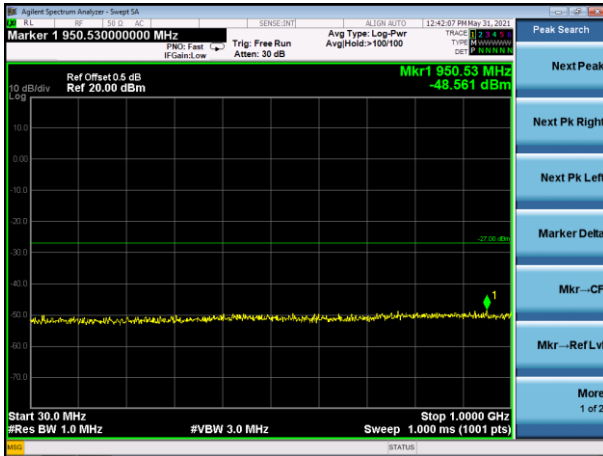


802.11ac40 on channel 151

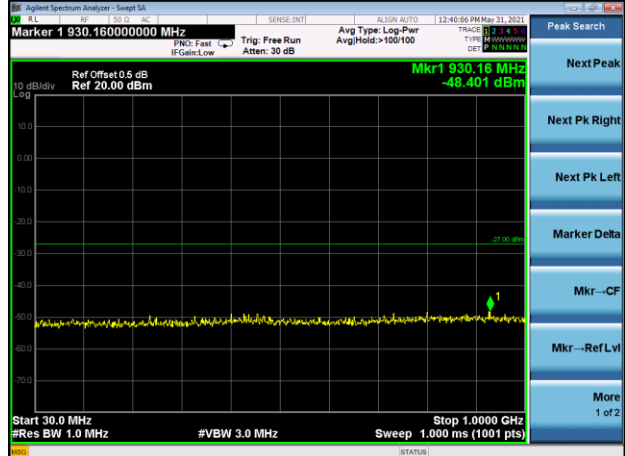


Test Plot

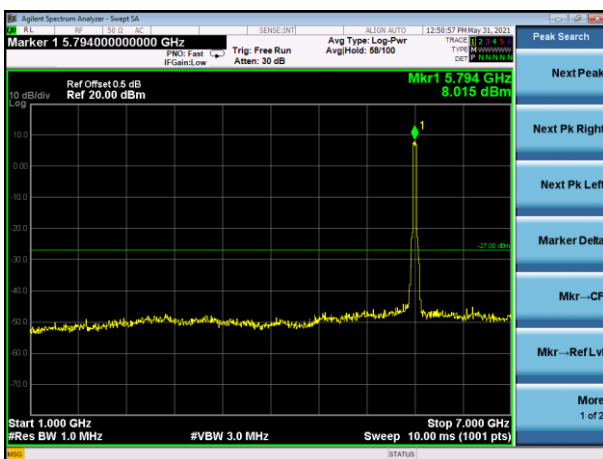
802.11ac40 on channel 159



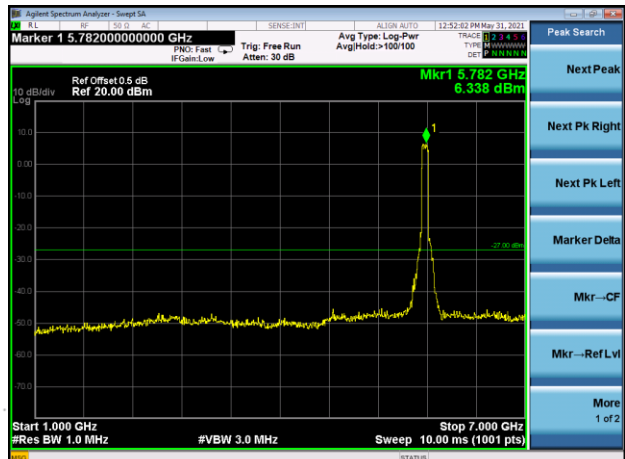
802.11ac80 on channel 155



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 LIMIT

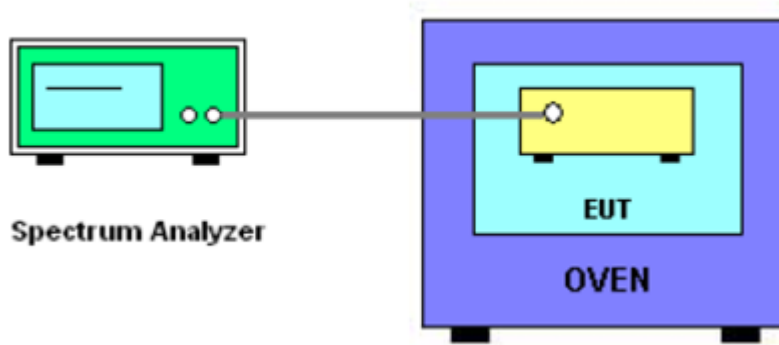
Manufactures of U-NII devices are responsible for ensuring frequency stability such that an emission is maintained within the band of operation under all conditions of normal operation as specified in the user's manual.

The transmitter center frequency tolerance shall be ± 20 ppm maximum for the 5 GHz band (IEEE802.11n specification).

13.2 TEST PROCEDURES

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 the 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 $-20^\circ\text{C} \sim 70^\circ\text{C}$.

13.3 TEST SETUP LAYOUT



13.4 EUT OPERATION DURING TEST

The EUT was programmed to be in continuously un-modulation transmitting mode.

13.5 TEST RESULTS

Temperature:	26 °C	Relative Humidity:	54%
Pressure:	101kPa	Test Voltage :	AC 120V/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)	#####	5180.00384	5180	0.0038	0.7404
		V max (V)	#####	5180.00436	5180	0.0044	0.8423
		V min (V)	#####	5180.00002	5180	0.0000	0.0046
Limits				±20ppm			
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	5180.01269	5180	0.0127	2.4501
		T (°C)	-10	5180.01200	5180	0.0120	2.3163
		T (°C)	0	5180.00208	5180	0.0021	0.4010
		T (°C)	10	5180.00732	5180	0.0073	1.4139
		T (°C)	20	5180.00303	5180	0.0030	0.5849
		T (°C)	30	5180.01148	5180	0.0115	2.2164
		T (°C)	40	5180.01203	5180	0.0120	2.3222
		T (°C)	50	5180.00047	5180	0.0005	0.0903
		T (°C)	60	5180.00078	5180	0.0008	0.1508
		T (°C)	70	5180.00065	5180	0.0006	0.1254
Limits				±20ppm			
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) #####	5200.01326	5200	0.0133	2.5506	
		V max (V) #####	5200.00171	5200	0.0017	0.3284	
		V min (V) #####	5200.00873	5200	0.0087	1.6794	
Limits			±20ppm				
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	5200.00861	5200	0.0086	1.6559
		T (°C)	-10	5200.01150	5200	0.0115	2.2112
		T (°C)	0	5200.00157	5200	0.0016	0.3011
		T (°C)	10	5200.00592	5200	0.0059	1.1376
		T (°C)	20	5200.00541	5200	0.0054	1.0395
		T (°C)	30	5200.01087	5200	0.0109	2.0896
		T (°C)	40	5200.00869	5200	0.0087	1.6709
		T (°C)	50	5200.00629	5200	0.0063	1.2091
		T (°C)	60	5200.01276	5200	0.0128	2.4529
		T (°C)	70	5200.00933	5200	0.0093	1.7937
Limits				±20ppm			
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) #####	5240.00455	5240	0.0045	0.8679	
		V max (V) #####	5240.00394	5240	0.0039	0.7515	
		V min (V) #####	5240.00762	5240	0.0076	1.4538	
Limits			±20ppm				
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	5240.01007	5240	0.0101	1.9224
		T (°C)	-10	5240.01147	5240	0.0115	2.1892
		T (°C)	0	5240.00964	5240	0.0096	1.8392
		T (°C)	10	5240.00624	5240	0.0062	1.1912
		T (°C)	20	5240.00983	5240	0.0098	1.8767
		T (°C)	30	5240.01256	5240	0.0126	2.3979
		T (°C)	40	5240.01120	5240	0.0112	2.1371
		T (°C)	50	5240.00774	5240	0.0077	1.4767
		T (°C)	60	5240.00146	5240	0.0015	0.2778
		T (°C)	70	5240.00495	5240	0.0049	0.9444
Limits				±20ppm			
Result				Complies			

Temperature:	26 °C	Relative Humidity:	54%
Pressure:	101kPa	Test Voltage :	AC 120V/60Hz
Hzst 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)	#####	5745.00275	5745	0.00275	0.4785
		V max (V)	#####	5745.00821	5745	0.00821	1.4289
		V min (V)	#####	5745.00589	5745	0.00589	1.0261
Limits				±20ppm			
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	5745.00758	5745	0.00758	1.3186
		T (°C)	-10	5745.00693	5745	0.00693	1.2070
		T (°C)	0	5745.00388	5745	0.00388	0.6761
		T (°C)	10	5745.00221	5745	0.00221	0.3843
		T (°C)	20	5745.00005	5745	0.00005	0.0079
		T (°C)	30	5745.00726	5745	0.00726	1.2635
		T (°C)	40	5745.00332	5745	0.00332	0.5786
		T (°C)	50	5745.00834	5745	0.00834	1.4521
		T (°C)	60	5745.00113	5745	0.00113	0.1969
		T (°C)	70	5745.01077	5745	0.01077	1.8743
Limits				±20ppm			
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) #####	5785.00320	5785	0.00320	0.5531	
		V max (V) #####	5785.01347	5785	0.01347	2.3278	
		V min (V) #####	5785.00069	5785	0.00069	0.1187	
Limits			±20ppm				
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	5785.00630	5785	0.00630	1.0894
		T (°C)	-10	5785.00095	5785	0.00095	0.1647
		T (°C)	0	5785.00980	5785	0.00980	1.6948
		T (°C)	10	5785.00585	5785	0.00585	1.0120
		T (°C)	20	5785.00368	5785	0.00368	0.6358
		T (°C)	30	5785.00709	5785	0.00709	1.2251
		T (°C)	40	5785.00724	5785	0.00724	1.2511
		T (°C)	50	5785.01277	5785	0.01277	2.2069
		T (°C)	60	5785.00610	5785	0.00610	1.0541
		T (°C)	70	5785.00813	5785	0.00813	1.4049
Limits				±20ppm			
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) #####	5825.00959	5825	0.00959	1.6471	
		V max (V) #####	5825.01028	5825	0.01028	1.7653	
		V min (V) #####	5825.00067	5825	0.00067	0.1154	
Limits			±20ppm				
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	5825.00790	5825	0.00790	1.3563
		T (°C)	-10	5825.00184	5825	0.00184	0.3151
		T (°C)	0	5825.01305	5825	0.01305	2.2398
		T (°C)	10	5825.00729	5825	0.00729	1.2520
		T (°C)	20	5825.00399	5825	0.00399	0.6857
		T (°C)	30	5825.00507	5825	0.00507	0.8707
		T (°C)	40	5825.00543	5825	0.00543	0.9315
		T (°C)	50	5825.01304	5825	0.01304	2.2387
		T (°C)	60	5825.00829	5825	0.00829	1.4235
		T (°C)	70	5825.00025	5825	0.00025	0.0424
Limits				±20ppm			
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 (A), gain: 2dBi and FPC antenna (B), gain: 1dBi. It comply with the standard requirement.

15. EUT PHOTOGRAPHS

EUT Photo 1

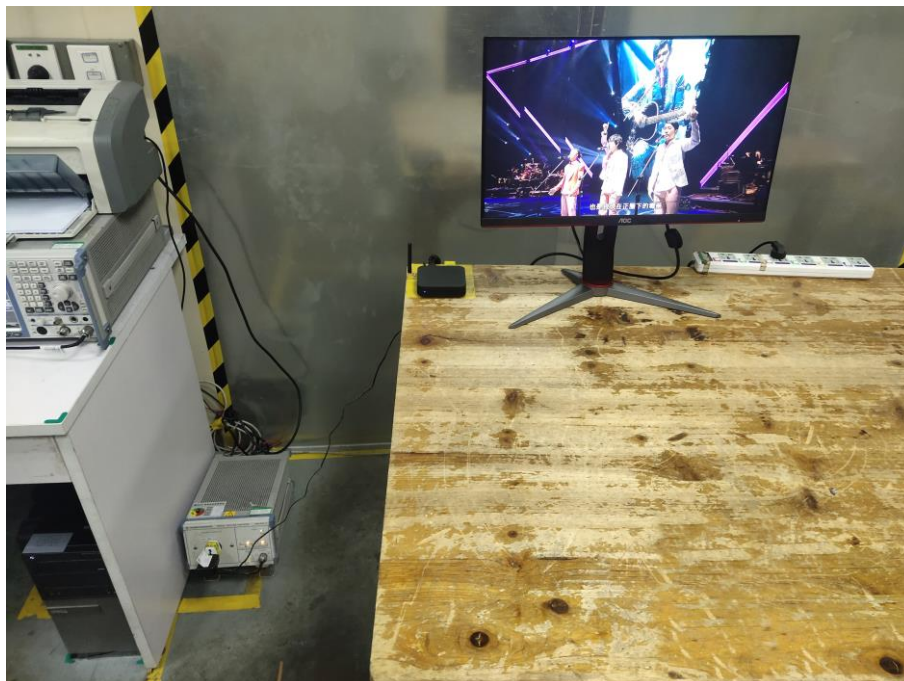


EUT Photo 2

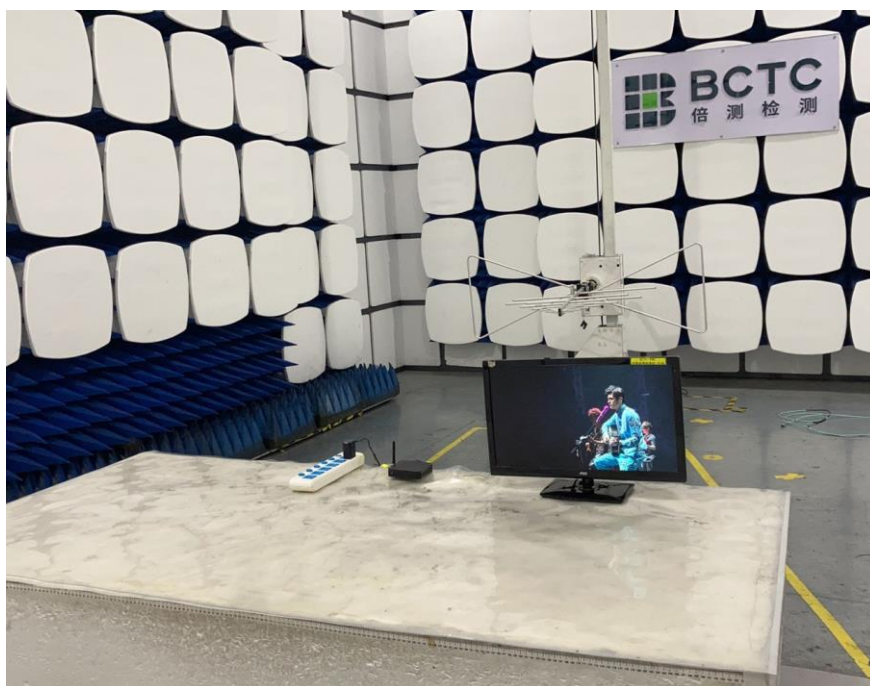


16. EUT TEST SETUP PHOTOGRAPHS

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.chnbctc.com>

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

***** END *****