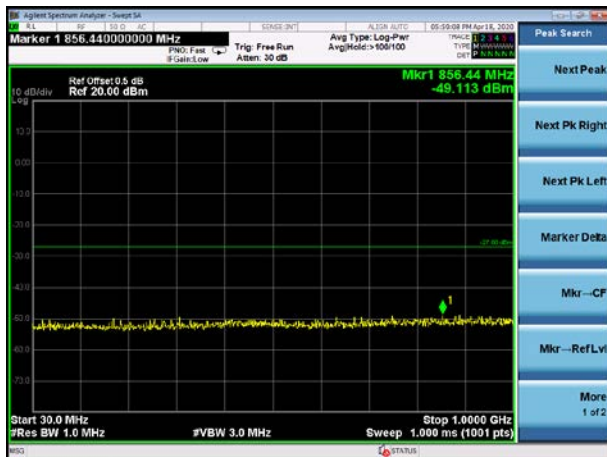
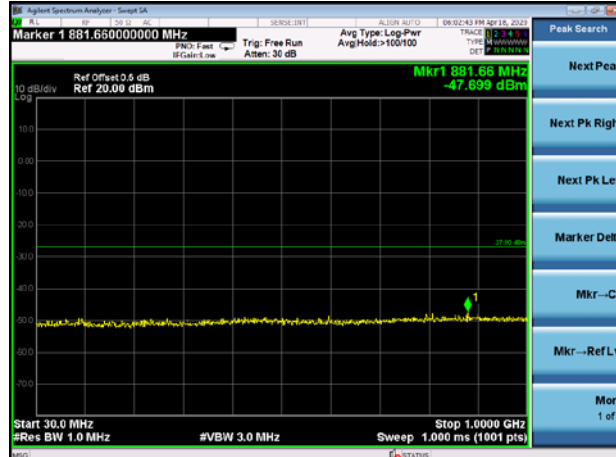


Test Plot

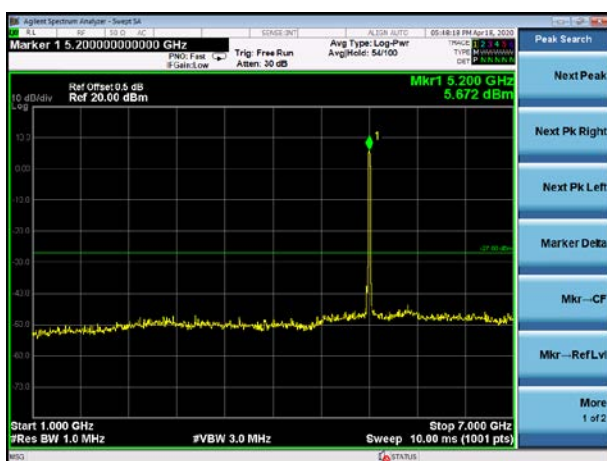
802.11n20 on channel 40



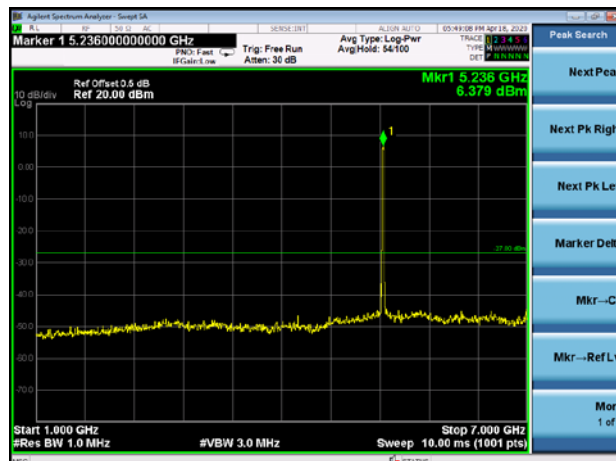
802.11n20 on channel 48



802.11n20 on channel 40



802.11n20 on channel 48



802.11n20 on channel 40

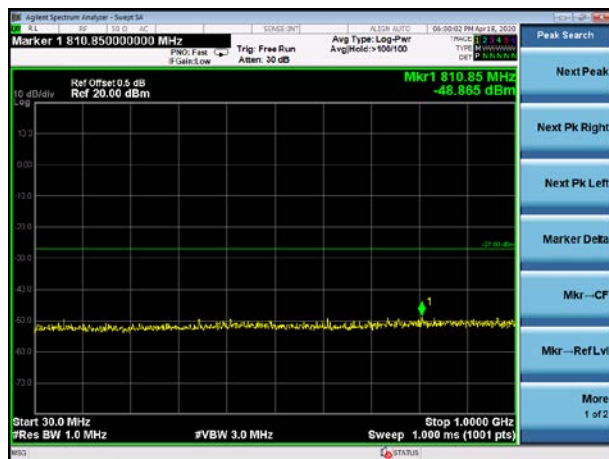


802.11n20 on channel 48

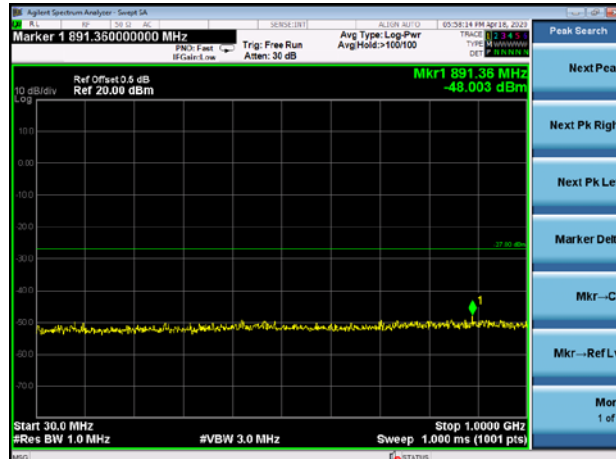


Test Plot

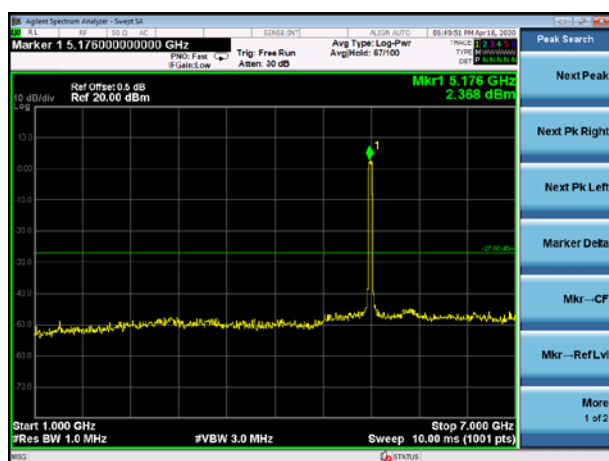
802.11n40 on channel 38



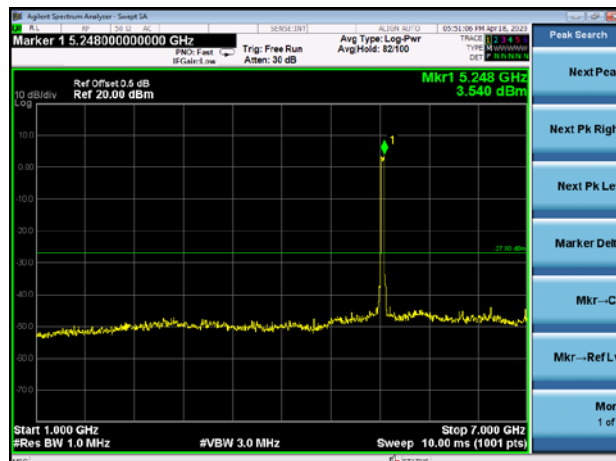
802.11n40 on channel 46



802.11n40 on channel 38



802.11n40 on channel 46



802.11n40 on channel 38

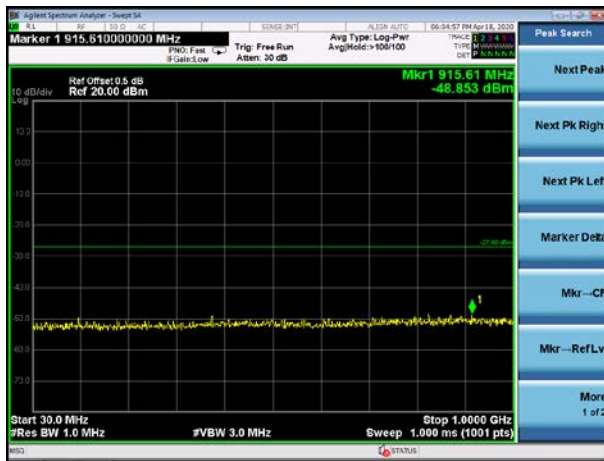


802.11n40 on channel 46

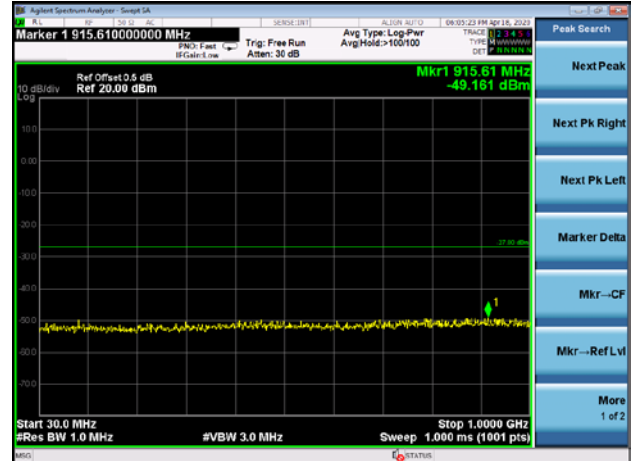


Test Plot

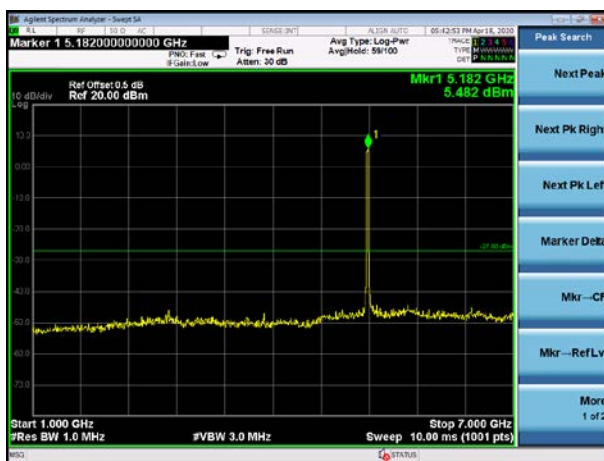
802.11ac20 on channel 36



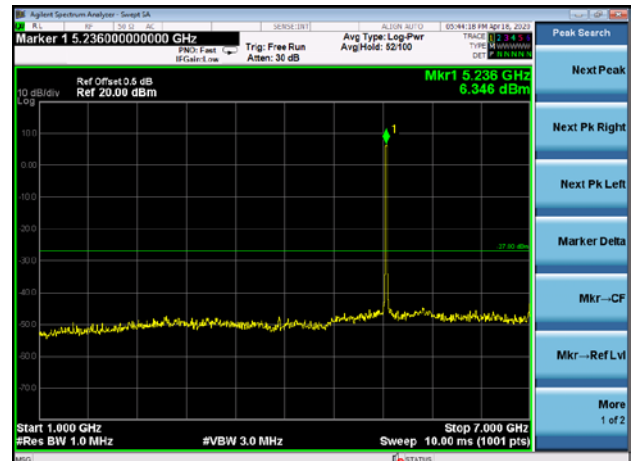
802.11ac20 on channel 40



802.11ac20 on channel 36



802.11ac20 on channel 40



802.11ac20 on channel 36

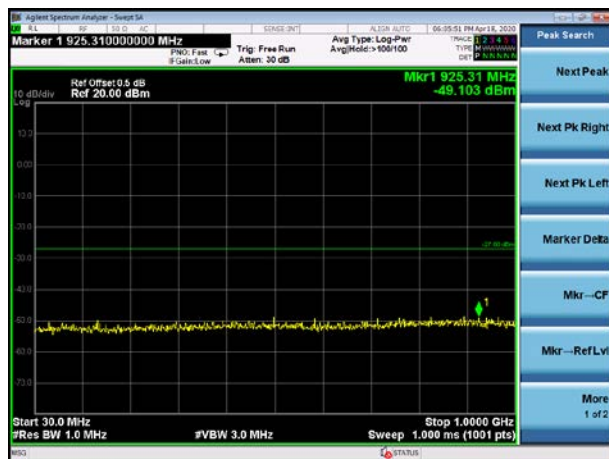


802.11ac20 on channel 40

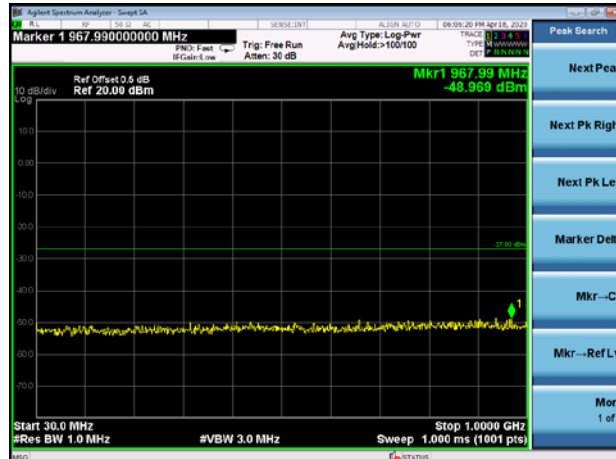


Test Plot

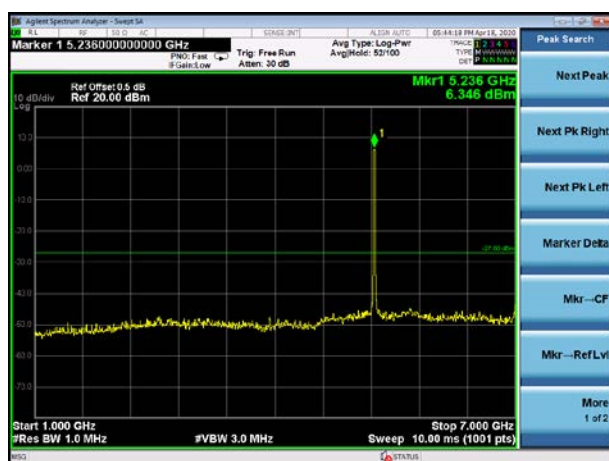
802.11ac20 on channel 48



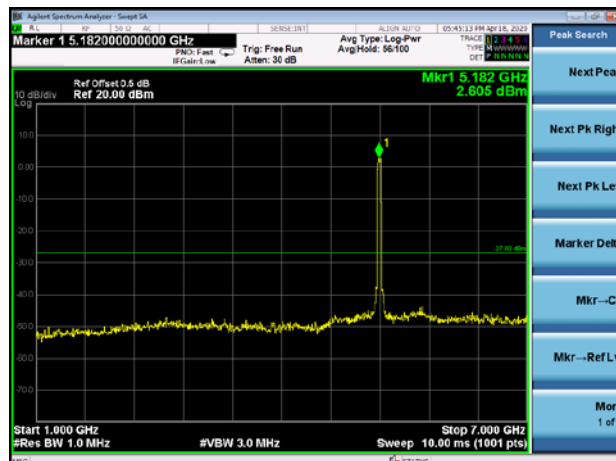
802.11ac40 on channel 38



802.11ac20 on channel 48



802.11ac40 on channel 38



802.11ac20 on channel 48

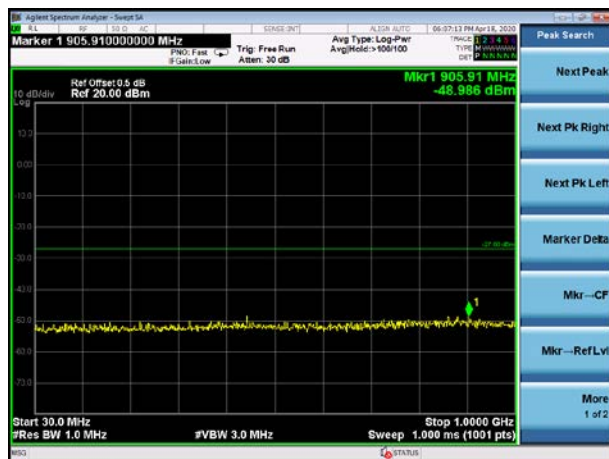


802.11ac40 on channel 38

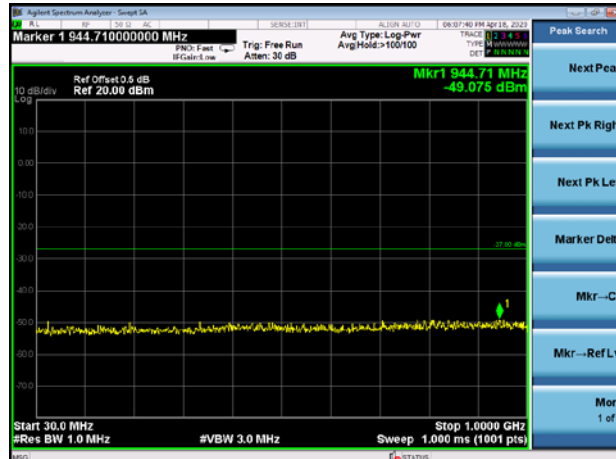


Test Plot

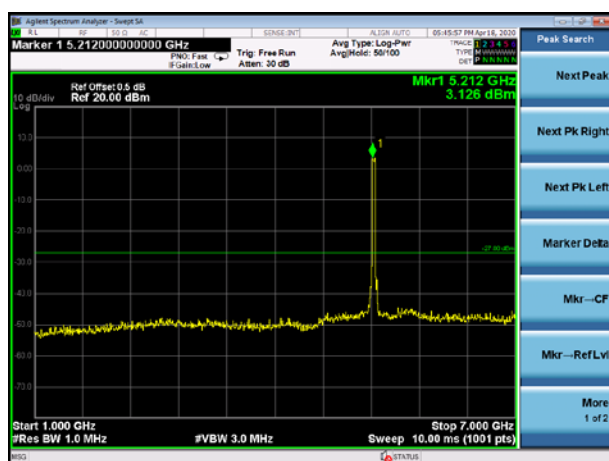
802.11ac40 on channel 46



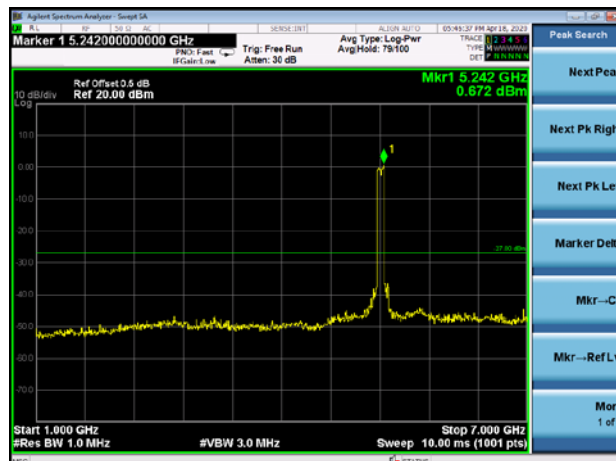
802.11ac80 on channel 42



802.11 ac40 on channel 46



802.11 ac80 on channel 42



802.11 ac40 on channel 46



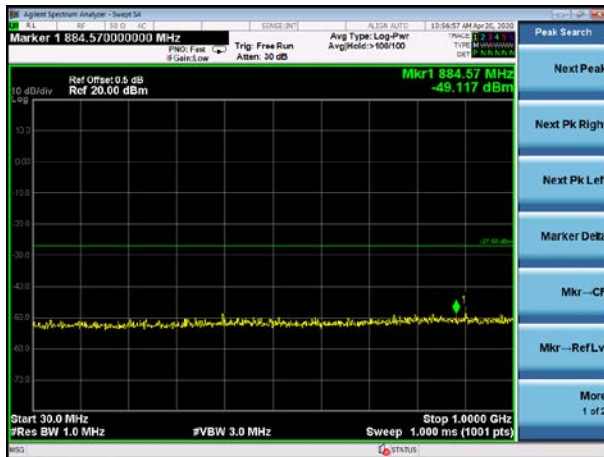
802.11 ac80 on channel 42



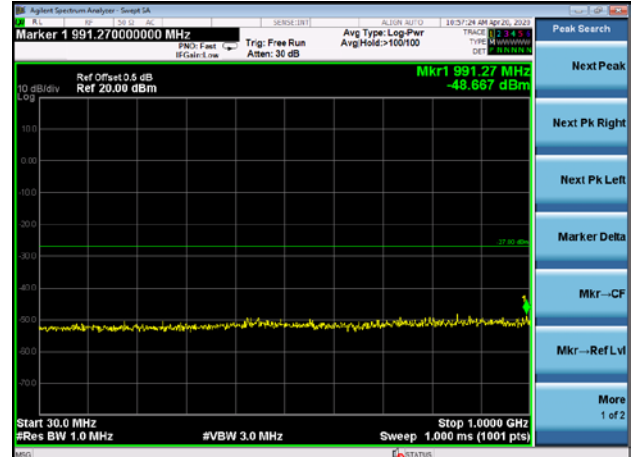
5.8G

Test Plot

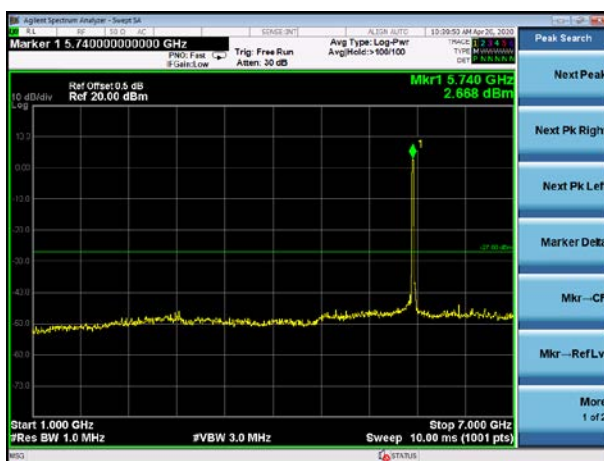
802.11a on channel 149



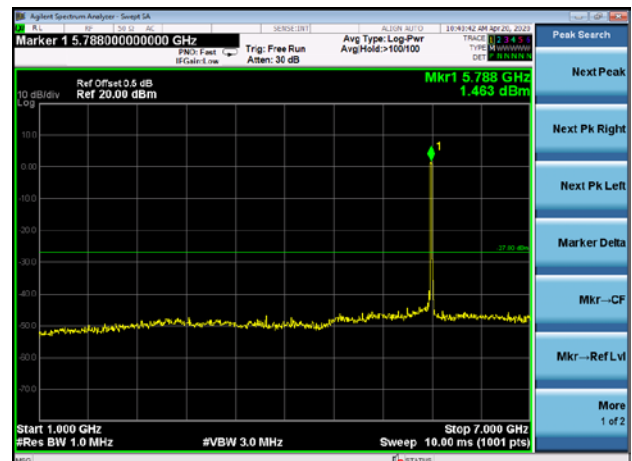
802.11a on channel 157



802.11a on channel 149



802.11a on channel 157



802.11a on channel 149

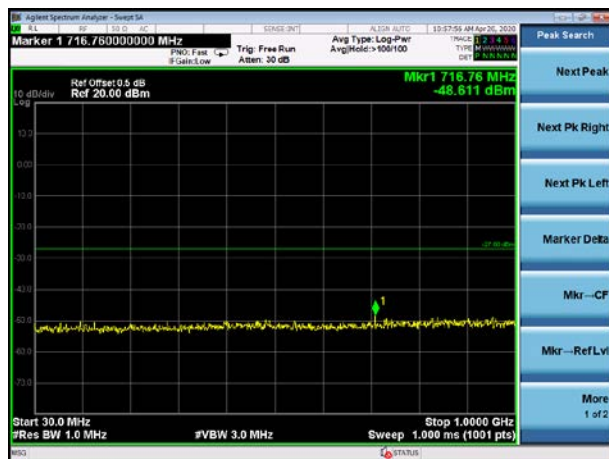


802.11a on channel 157

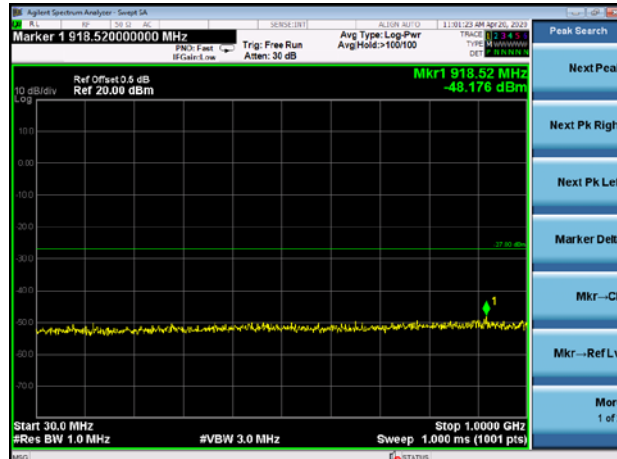


Test Plot

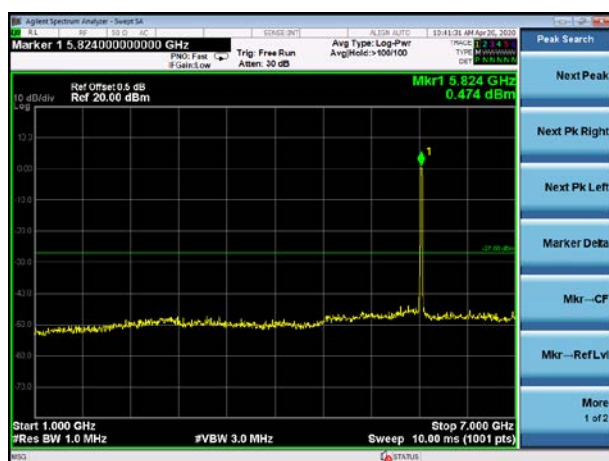
802.11a on channel 165



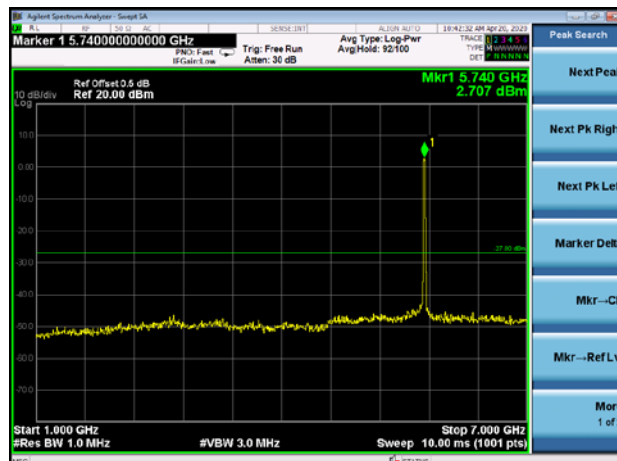
802.11n20 on channel 149



802.11a on channel 165



802.11n20 on channel 149



802.11a on channel 165

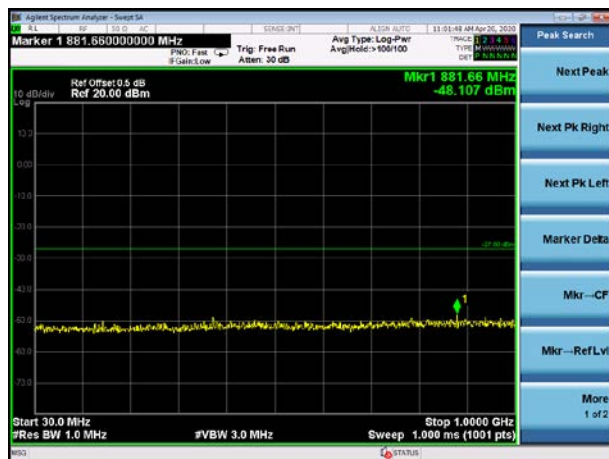


802.11n20 on channel 149

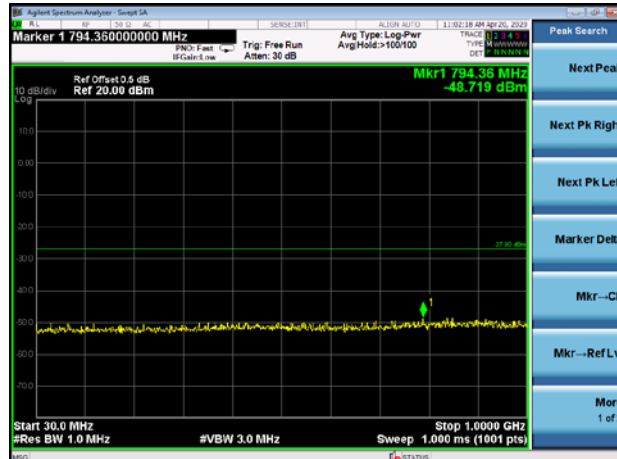


Test Plot

802.11n20 on channel 157



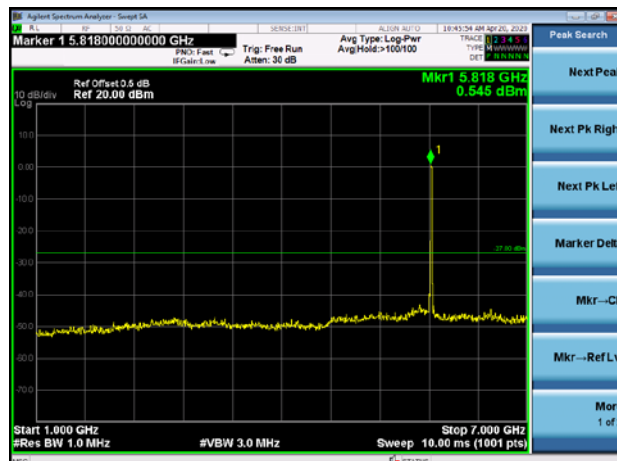
802.11n20 on channel 165



802.11n20 on channel 157



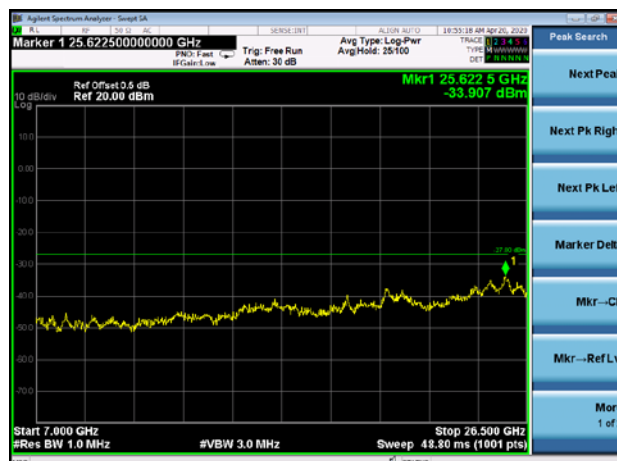
802.11n20 on channel 165



802.11n20 on channel 157

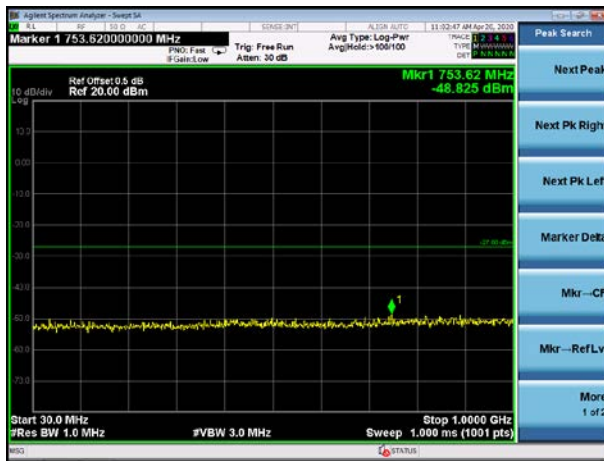


802.11n20 on channel 165

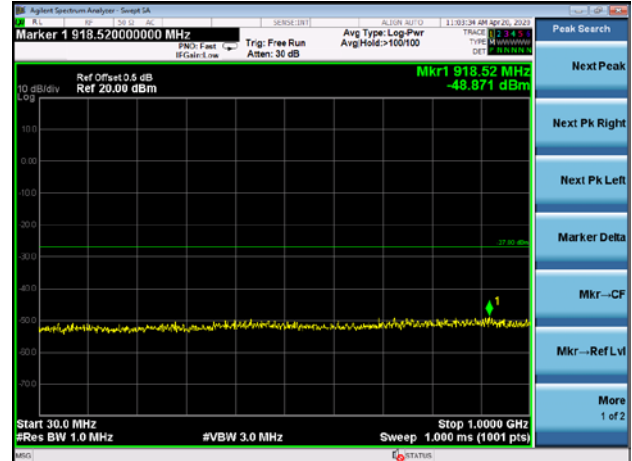


Test Plot

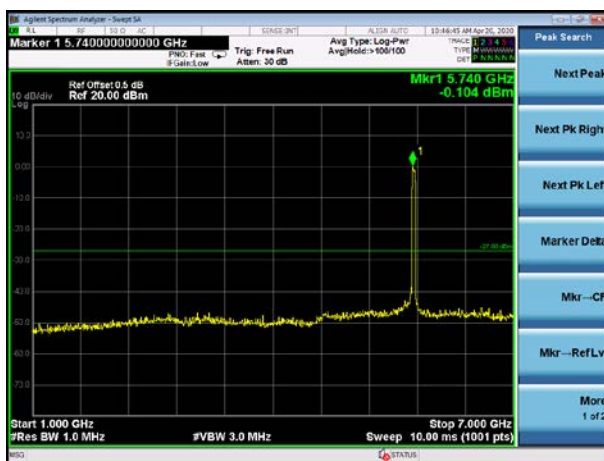
802.11n40 on channel 151



802.11n40 on channel 159



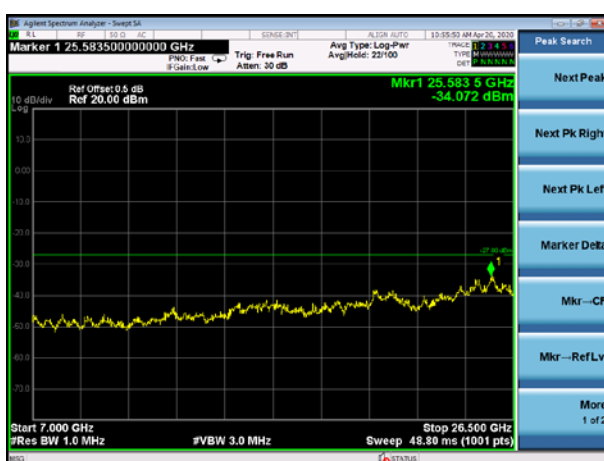
802.11n40 on channel 151



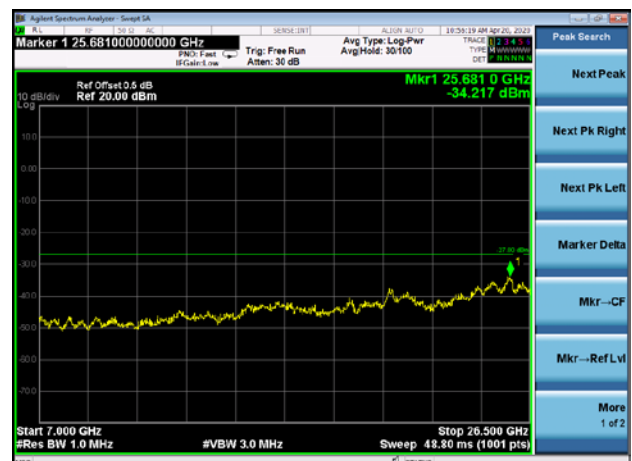
802.11n40 on channel 159



802.11n40 on channel 151

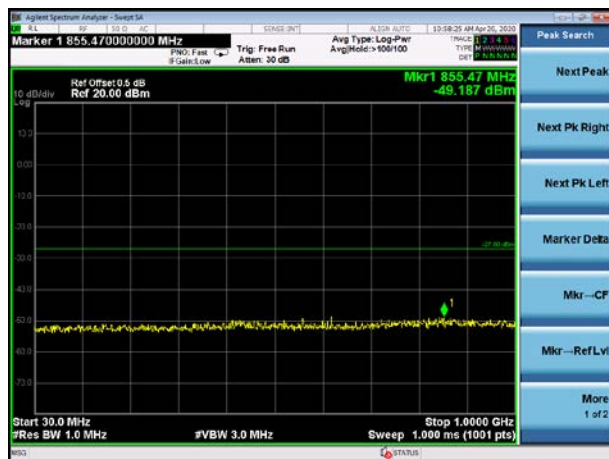


802.11n40 on channel 159

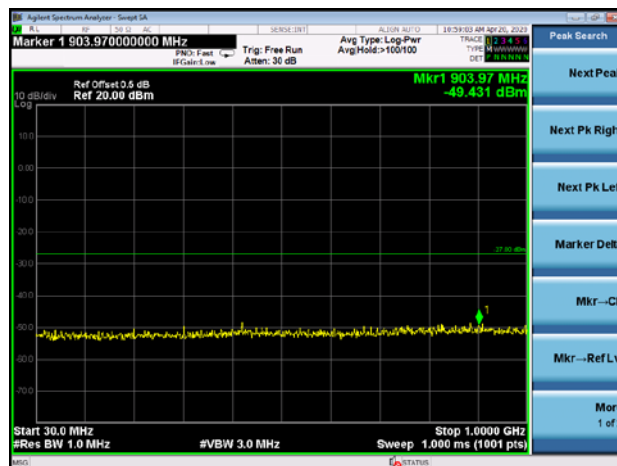


Test Plot

802.11ac20 on channel 149



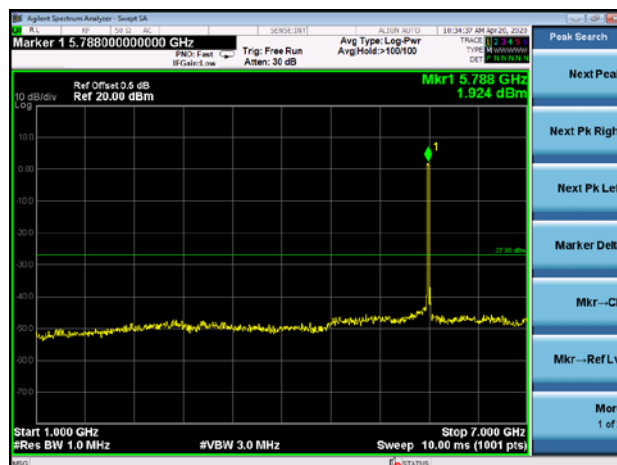
802.11ac20 on channel 157



802.11ac20 on channel 149



802.11ac20 on channel 157



802.11ac20 on channel 149

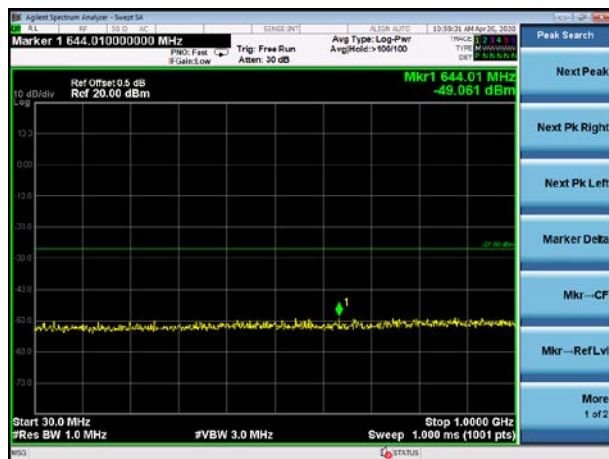


802.11ac20 on channel 157

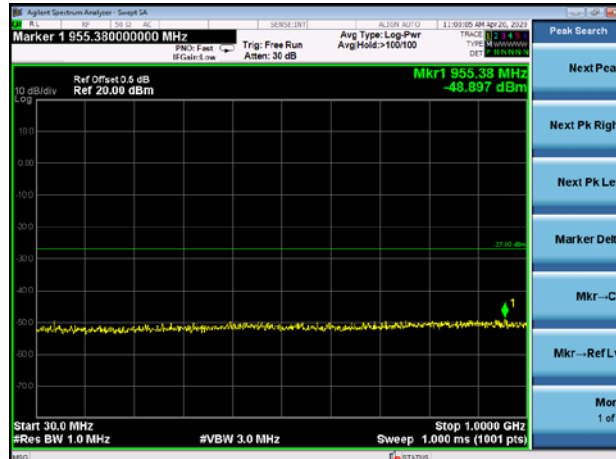


Test Plot

802.11ac20 on channel 165



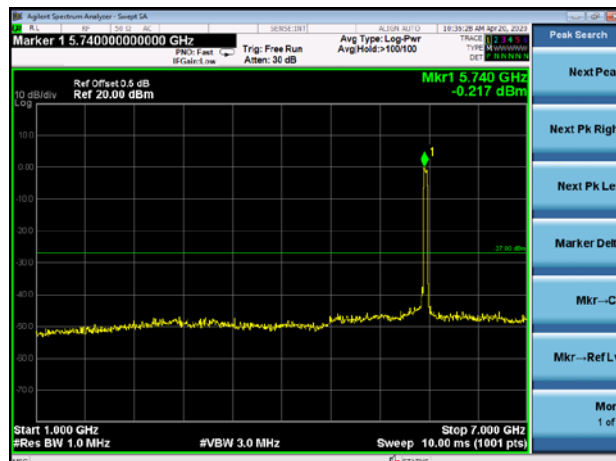
802.11ac40 on channel 151



802.11ac20 on channel 165



802.11ac40 on channel 151



802.11ac20 on channel 165

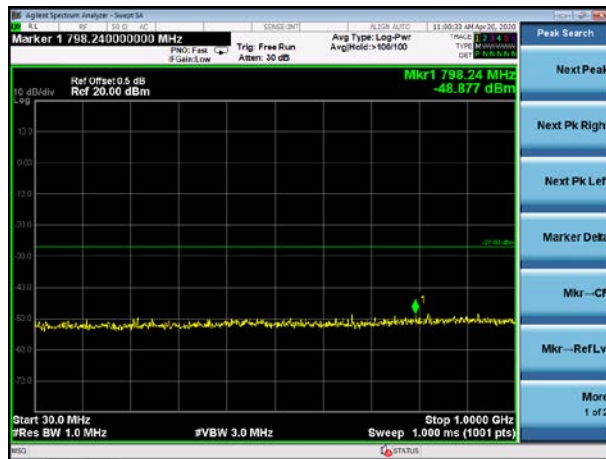


802.11ac40 on channel 151

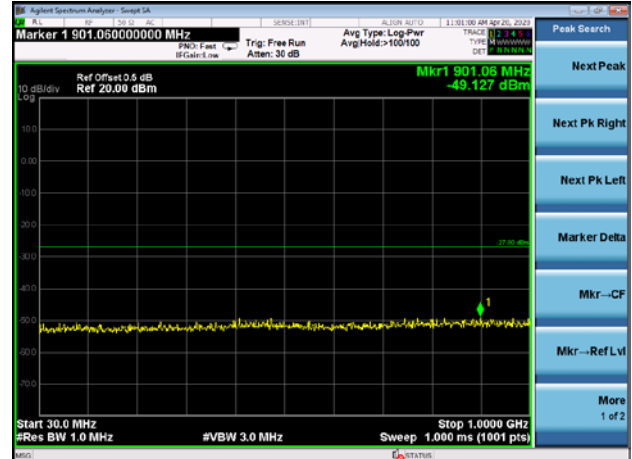


Test Plot

802.11ac40 on channel 159



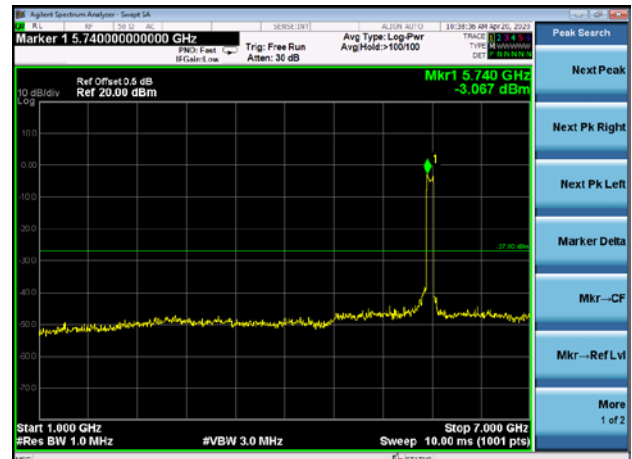
802.11ac80 on channel 155



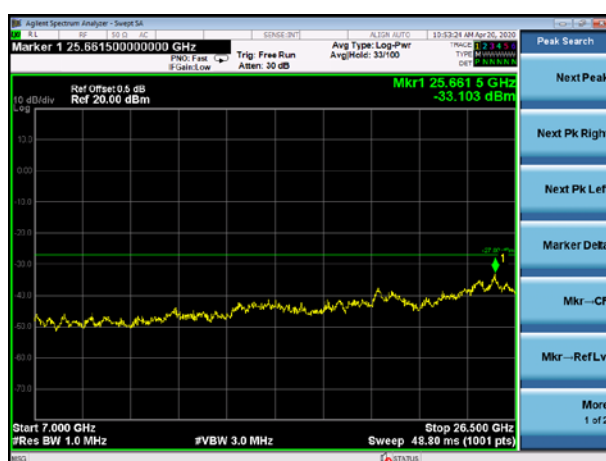
802.11 ac40 on channel 159



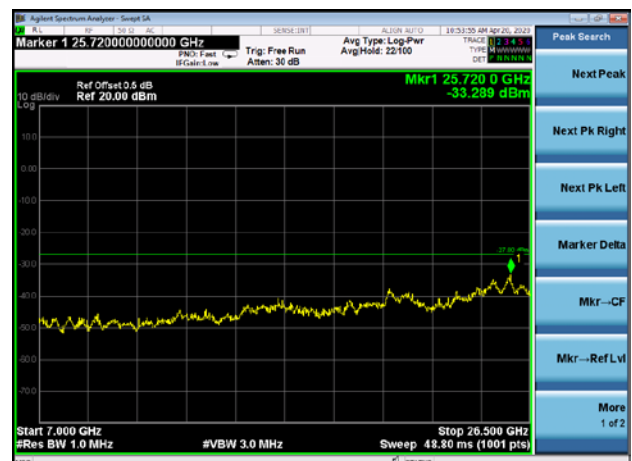
802.11 ac80 on channel 155



802.11 ac40 on channel 159



802.11 ac80 on channel 155



9. Frequency Stability Measurement

9.1 LIMIT

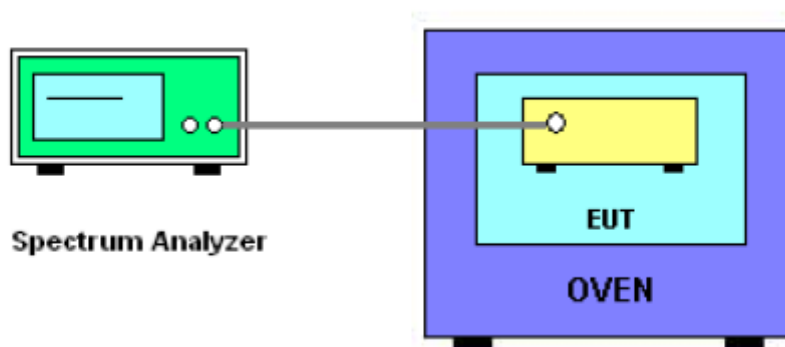
Manufactures of U-NII devices are responsible for ensuring frequency stability such that an emission is maintained within the band of operation under all conditions of normal operation as specified in the user's manual.

The transmitter center frequency tolerance shall be ± 20 ppm maximum for the 5 GHz band (IEEE 802.11n specification).

9.2 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 $-20^{\circ}\text{C} \sim 70^{\circ}\text{C}$.

9.3 TEST SETUP LAYOUT



9.4 EUT OPERATION DURING TEST

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

9.5 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)	12.00	5180.0526	5180	0.0526	10.1544
		V max (V)	13.80	5180.0323	5180	0.0323	6.2355
		V min (V)	10.20	5180.0248	5180	0.0248	4.7876
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)	12	T (°C)	-20	5180.0057	5180	0.0057	1.1004
		T (°C)	-10	5180.0106	5180	0.0106	2.0463
		T (°C)	0	5180.0327	5180	0.0327	6.3127
		T (°C)	10	5180.0382	5180	0.0382	7.3745
		T (°C)	20	5180.0291	5180	0.0291	5.6178
		T (°C)	30	5180.0217	5180	0.0217	4.1892
		T (°C)	40	5180.0125	5180	0.0125	2.4131
		T (°C)	50	5180.0094	5180	0.0094	1.8147
		T (°C)	60	5180.0412	5180	0.0412	7.9537
		T (°C)	70	5180.0697	5180	0.0697	13.4556
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)	12.00	5200.0254	5200	0.0254	4.8846
		V max (V)	13.80	5200.0422	5200	0.0422	8.1154
		V min (V)	10.20	5200.0696	5200	0.0696	13.3846
Limits				5150-5250 MHz			
Result				Complies			

Temperature vs. Frequency Stability

TEST CONDITIONS				Reference Frequency: 5200MHz			
				f	fc	Max. Deviation (MHz)	Max. Deviation (ppm)
V nom (V)	12	T (°C)	-20	5200.0632	5200	0.0632	12.1538
		T (°C)	-10	5200.0527	5200	0.0527	10.1346
		T (°C)	0	5200.0433	5200	0.0433	8.3269
		T (°C)	10	5200.0927	5200	0.0927	17.8269
		T (°C)	20	5200.0632	5200	0.0632	12.1538
		T (°C)	30	5200.0121	5200	0.0121	2.3269
		T (°C)	40	5200.0733	5200	0.0733	14.0962
		T (°C)	50	5200.0414	5200	0.0414	7.9615
		T (°C)	60	5200.0327	5200	0.0327	6.2885
		T (°C)	70	5200.0423	5200	0.0423	8.1346
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)	12.00	5240.0134	5240	0.0134	2.5573
		V max (V)	13.80	5240.0413	5240	0.0413	7.8817
		V min (V)	10.20	5240.0091	5240	0.0091	1.7366
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)	12	T (°C)	-20	5240.0097	5240	0.0097	1.8511
		T (°C)	-10	5240.0034	5240	0.0034	0.6489
		T (°C)	0	5240.0148	5240	0.0148	2.8244
		T (°C)	10	5240.0851	5240	0.0851	16.2405
		T (°C)	20	5240.0113	5240	0.0113	2.1565
		T (°C)	30	5240.0121	5240	0.0121	2.3092
		T (°C)	40	5240.0062	5240	0.0062	1.1832
		T (°C)	50	5240.0077	5240	0.0077	1.4695
		T (°C)	60	5240.0083	5240	0.0083	1.5840
		T (°C)	70	5240.0102	5240	0.0102	1.9466
Limits				5150-5250 MHz			
Result				Complies			

Temperature :	26 °C	Relative Humidity :	54%
Pressure :	101kPa	Test Voltage :	AC 120V/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)	12.00	5745.00062	5745	0.00062	0.1071
		V max (V)	13.80	5745.00190	5745	0.00190	0.3314
		V min (V)	10.20	5745.01025	5745	0.01025	1.7842
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)	12	T (°C)	-20	5745.01067	5745	0.01067	1.8576
		T (°C)	-10	5745.01204	5745	0.01204	2.0959
		T (°C)	0	5745.00116	5745	0.00116	0.2022
		T (°C)	10	5745.00495	5745	0.00495	0.8614
		T (°C)	20	5745.00576	5745	0.00576	1.0022
		T (°C)	30	5745.00854	5745	0.00854	1.4869
		T (°C)	40	5745.00855	5745	0.00855	1.4885
		T (°C)	50	5745.00669	5745	0.00669	1.1643
		T (°C)	60	5745.01040	5745	0.01040	1.8096
		T (°C)	70	5745.01028	5745	0.01028	1.7901
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)	12.00	5785.00937	5785	0.00937	1.6196
		V max (V)	13.80	5785.00097	5785	0.00097	0.1669
		V min (V)	10.20	5785.00918	5785	0.00918	1.5874
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)	12	T (°C)	-20	5785.00539	5785	0.00539	0.9312
		T (°C)	-10	5785.01070	5785	0.01070	1.8497
		T (°C)	0	5785.01048	5785	0.01048	1.8122
		T (°C)	10	5785.00591	5785	0.00591	1.0217
		T (°C)	20	5785.00447	5785	0.00447	0.7729
		T (°C)	30	5785.00758	5785	0.00758	1.3105
		T (°C)	40	5785.00204	5785	0.00204	0.3520
		T (°C)	50	5785.00020	5785	0.00020	0.0351
		T (°C)	60	5785.00660	5785	0.00660	1.1415
		T (°C)	70	5785.00173	5785	0.00173	0.2986
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)	12.00	5825.01041	5825	0.01041	1.7875
		V max (V)	13.80	5825.00135	5825	0.00135	0.2312
		V min (V)	10.20	5825.01126	5825	0.01126	1.9335
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)	12	T (°C)	-20	5825.00309	5825	0.00309	0.5298
		T (°C)	-10	5825.00858	5825	0.00858	1.4731
		T (°C)	0	5825.00950	5825	0.00950	1.6311
		T (°C)	10	5825.00845	5825	0.00845	1.4504
		T (°C)	20	5825.00973	5825	0.00973	1.6703
		T (°C)	30	5825.01270	5825	0.01270	2.1805
		T (°C)	40	5825.01211	5825	0.01211	2.0785
		T (°C)	50	5825.00003	5825	0.00003	0.0051
		T (°C)	60	5825.00249	5825	0.00249	0.4276
		T (°C)	70	5825.01260	5825	0.01260	2.1639
Limits				5725-5850 MHz			
Result				Complies			

10. ANTENNA REQUIREMENT

10.1 STANDARD REQUIREMENT

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.

10.2 EUT ANTENNA

The EUT antenna is PIFA antenna (antenna gain (A): 2.7dBi; antenna gain (B) : 2.7dBi). It comply with the standard requirement.

11. EUT TEST PHOTO

Conducted Measurement Photos



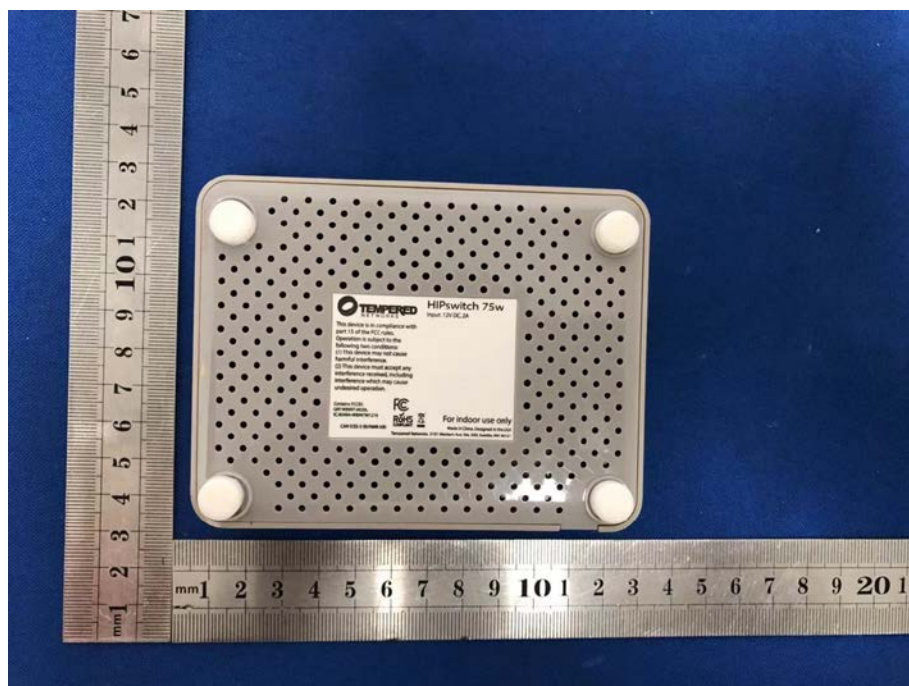
Radiated Measurement Photos





12. EUT PHOTO





S***** END OF REPORT *****