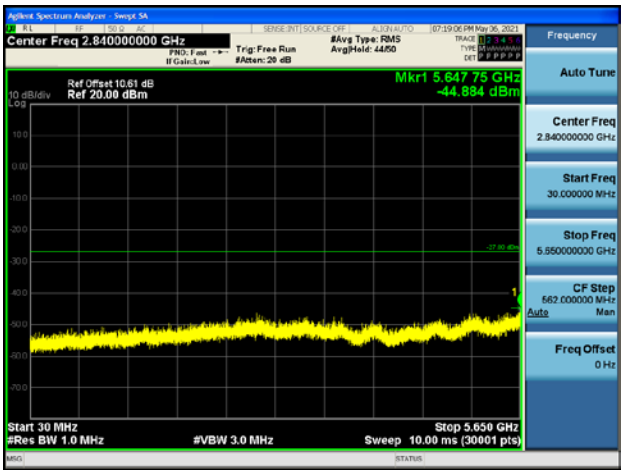
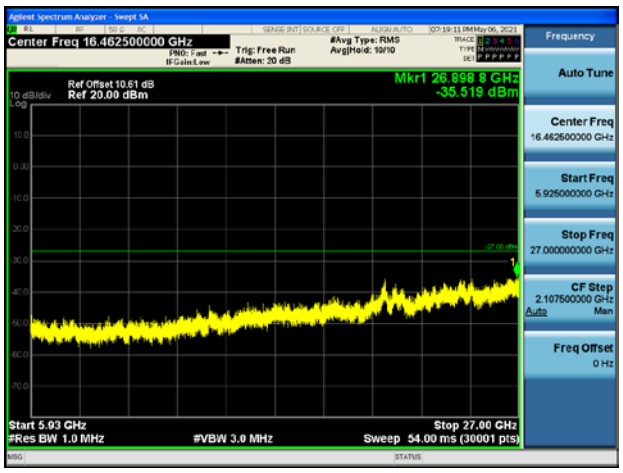
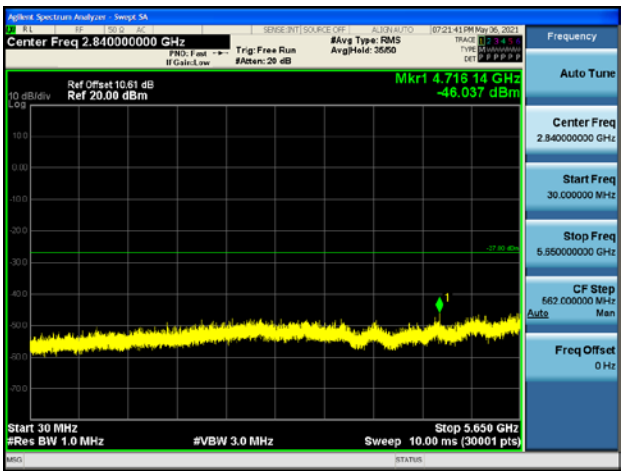
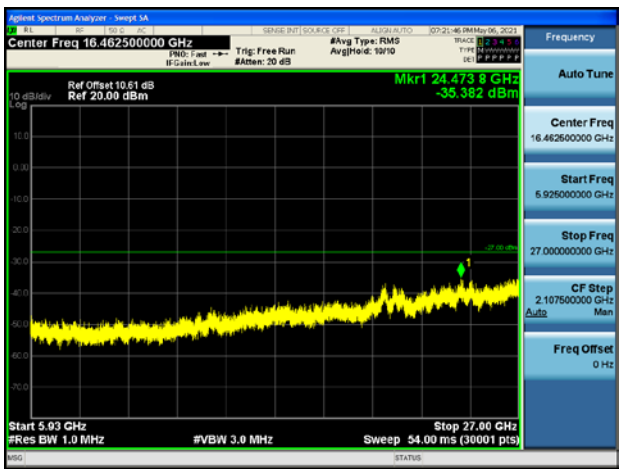
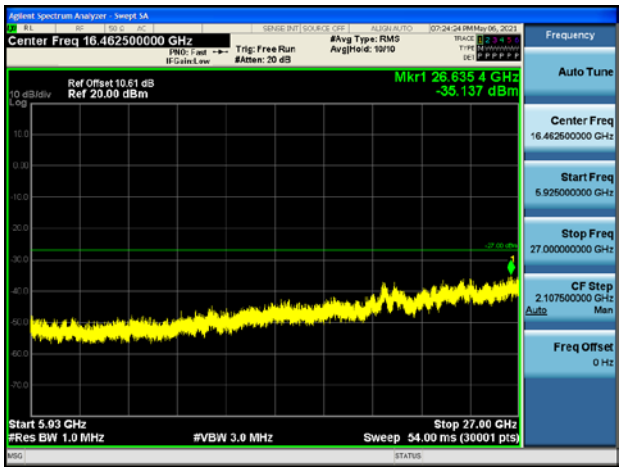
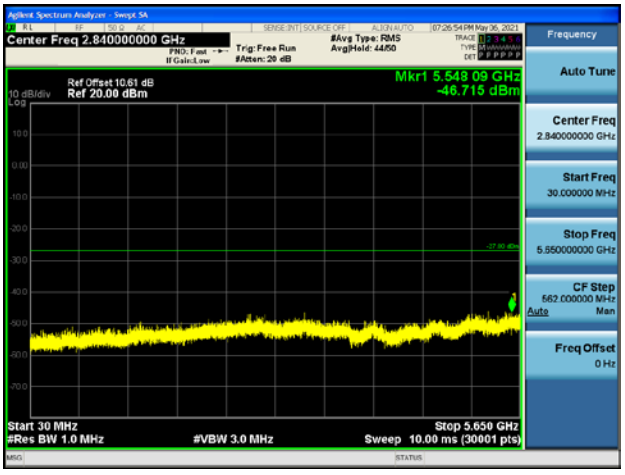
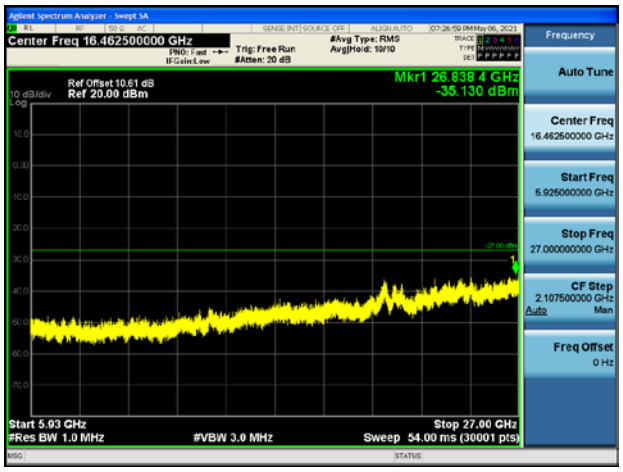
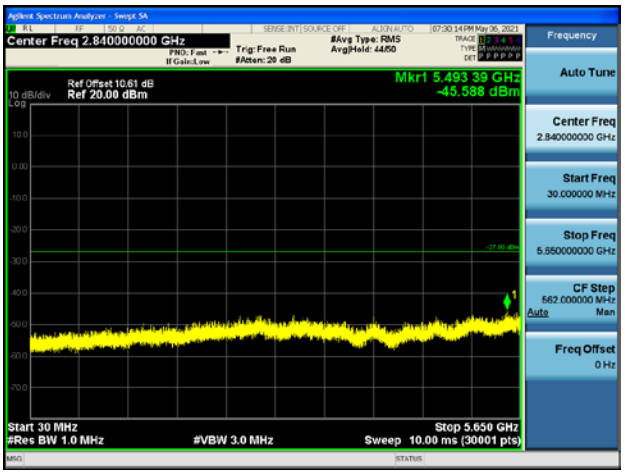
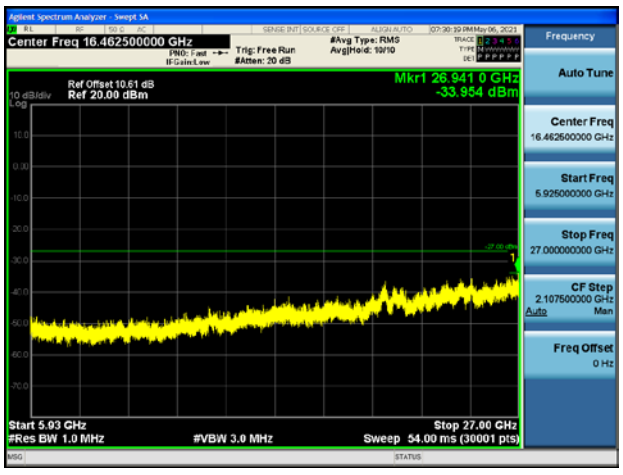
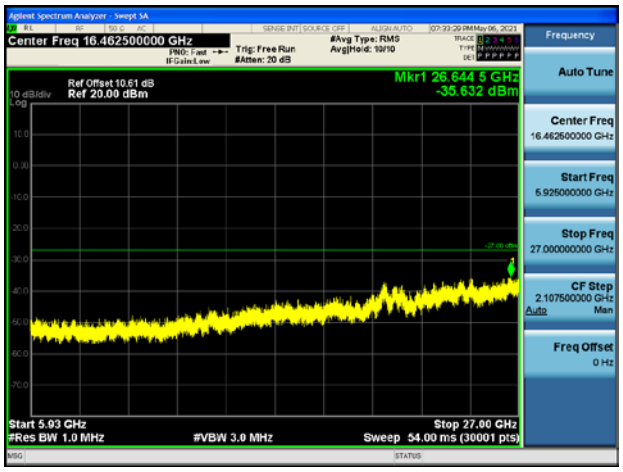
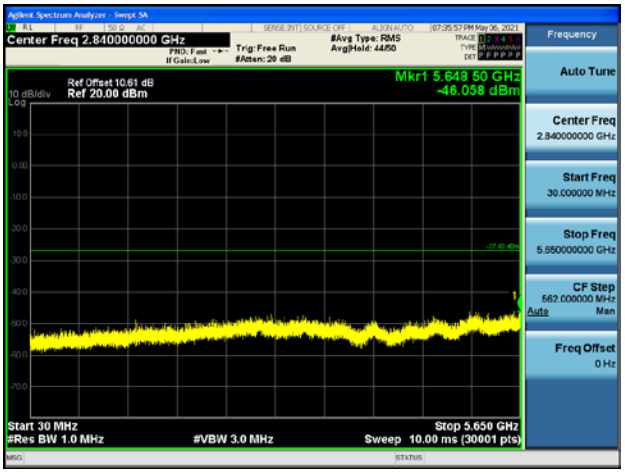
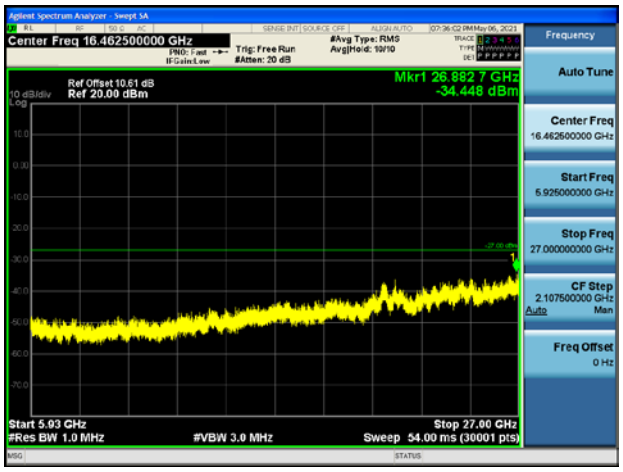
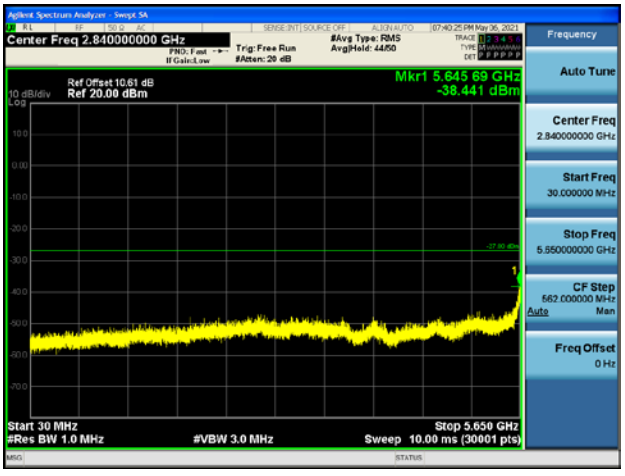
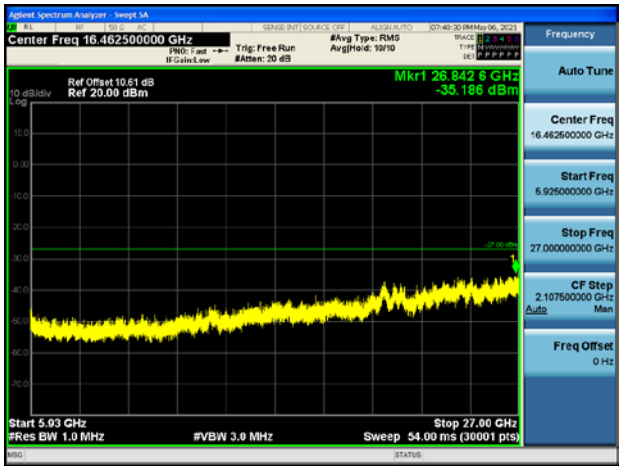
11n40	
Low channel	Low channel
	
High channel	High channel
	

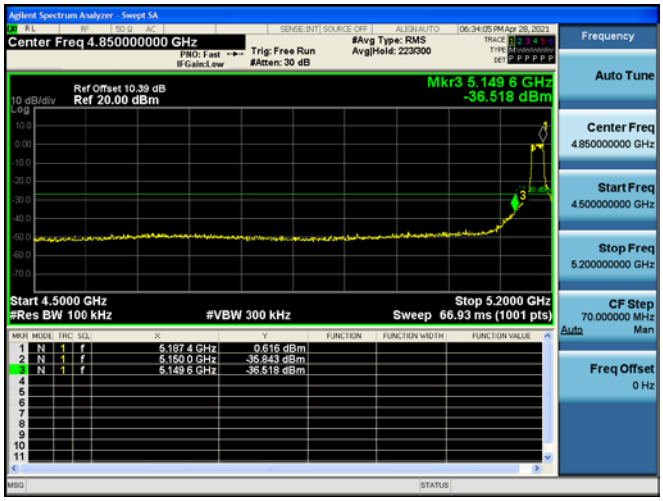
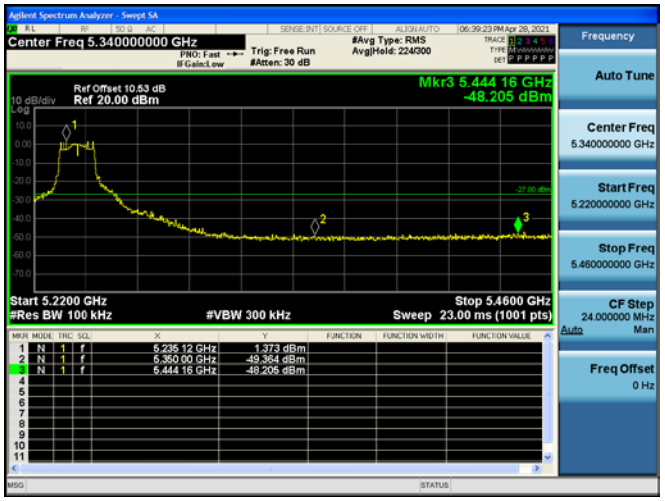
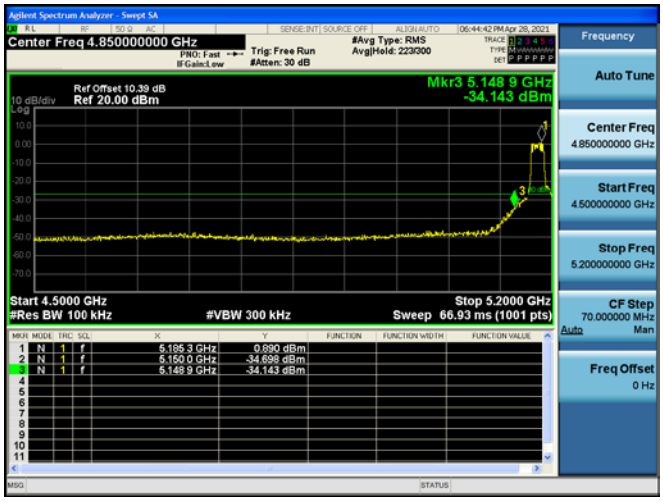
11ac20	
Low channel	Low channel
	
Middle channel	Middle channel
	
High channel	High channel
	

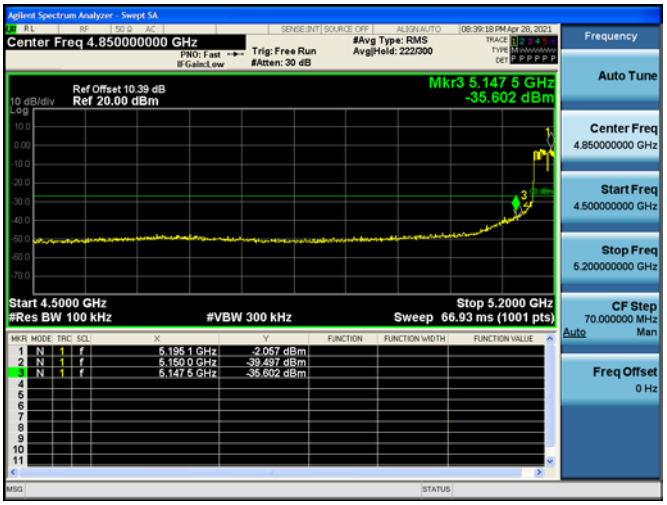
11ac40	
Low channel	Low channel
	
High channel	High channel
	
11ac80	
	

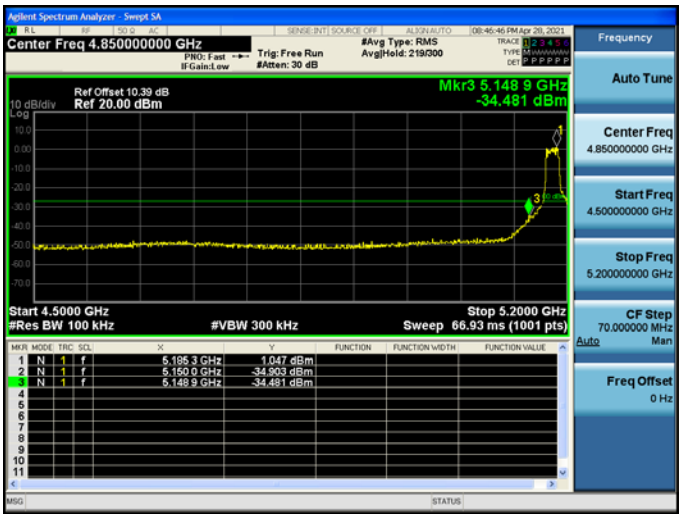
Note: The test result of 27G-40GHz is far below the limit, so it is no need to report.

5.7.5 Conduction Band edge

For U-NII-1 test plot

11a	
Band edge-Left	Band edge-Right
	
11n20	
Band edge-Left	Band edge-Right
	

11n40	
Band edge-Left	Band edge-Right
	

11ac20	
Band edge-Left	Band edge-Right
	

11ac40	
Band edge-Left	Band edge-Right
	

11ac80	
Band edge-Left	Band edge-Right
	

Conduction Band edge

For U-NII-3 test plot

11a	
Band edge-Left	Band edge-Right
	
11n20	
Band edge-Left	Band edge-Right
	

11n40	
Band edge-Left	Band edge-Right
	

11ac20	
Band edge-Left	Band edge-Right
	
11ac40	
Band edge-Left	Band edge-Right
	

11ac80	
Band edge-Left	Band edge-Right
	

5.8 Power spectral density

5.8.1 Limit

For the band 5.15-5.25 GHz

For client devices in the 5.15-5.25 GHz band, the maximum power spectral density shall not exceed 11 dBm in any 1 megahertz band. If transmitting antennas of directional gain greater than 6 dBi are used, the maximum power spectral density shall be reduced by the amount in dB that the directional gain of the antenna exceeds 6 dBi.

For the band 5.25-5.35 GHz and 5.47-5.725 GHz

The maximum power spectral density shall not exceed 11 dBm in any 1 megahertz band. If transmitting antennas of directional gain greater than 6 dBi are used, the maximum power spectral density shall be reduced by the amount in dB that the directional gain of the antenna exceeds 6 dBi.

For the band 5.725-5.85 GHz

The maximum power spectral density shall not exceed 30 dBm in any 500-kHz band. If transmitting antennas of directional gain greater than 6 dBi are used, the maximum power spectral density shall be reduced by the amount in dB that the directional gain of the antenna exceeds 6 dBi.

5.8.2 Test procedure

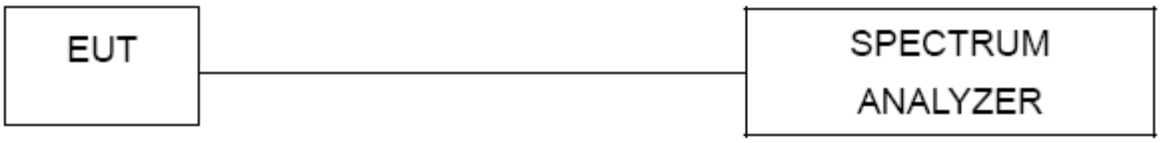
For U-NII-1

1. Set analyzer center frequency to NII channel center frequency.
2. Set the RBW ≥ 1MHz.
3. Set the VBW ≥ 3 x RBW.
4. Detector = peak.
5. Sweep time = auto couple.
6. Trace mode = max hold.
7. Allow trace to fully stabilize.
8. Use the peak marker function to determine the maximum amplitude level.

For U-NII-3

1. Set analyzer center frequency to NII channel center frequency.
2. Set the RBW ≥ 510kHz.
3. Set the VBW ≥ 3 x RBW.
4. Detector = peak.
5. Sweep time = auto couple.
6. Trace mode = max hold.
7. Allow trace to fully stabilize.
8. Use the peak marker function to determine the maximum amplitude level.

5.8.3 Test setup



5.8.4 Test results

For U-NII-1

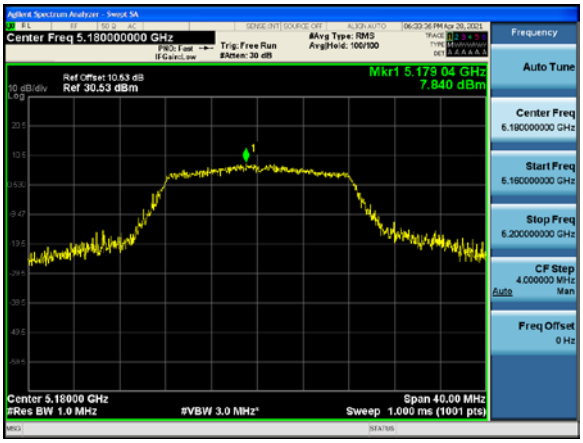
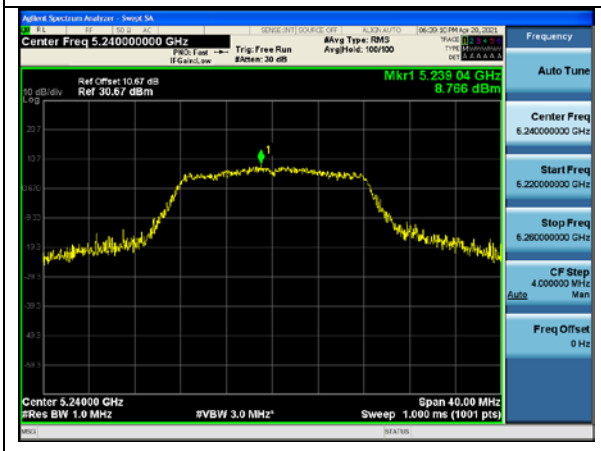
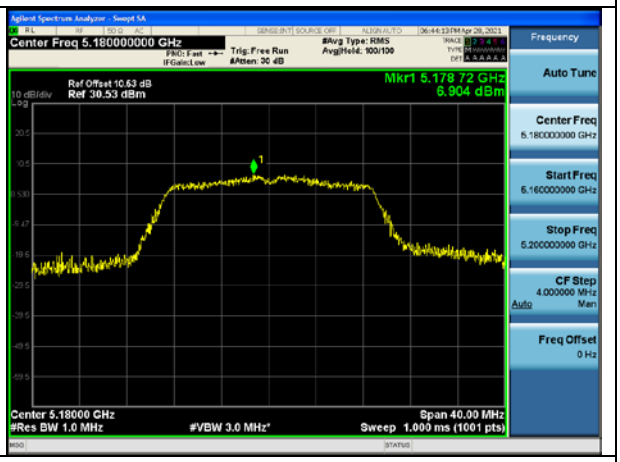
Mode	Channel	Frequency(MHz)	Measurement PSD (dBm/MHz)	Limit (dBm/MHz)	Result
11a	CH36	5180	7.840	11	Pass
11a	CH44	5220	7.829	11	Pass
11a	CH48	5240	8.766	11	Pass
11n(HT20)	CH36	5180	6.904	11	Pass
11n(HT20)	CH44	5220	7.830	11	Pass
11n(HT20)	CH48	5240	7.711	11	Pass
11n(HT40)	CH38	5190	4.188	11	Pass
11n(HT40)	CH46	5230	5.060	11	Pass
11ac(HT20)	CH36	5180	7.017	11	Pass
11ac (HT20)	CH40	5200	7.107	11	Pass
11ac (HT20)	CH48	5240	7.690	11	Pass
11ac (HT40)	CH38	5190	5.164	11	Pass
11ac (HT40)	CH46	5230	4.884	11	Pass
11ac (HT80)	CH42	5210	2.111	11	Pass

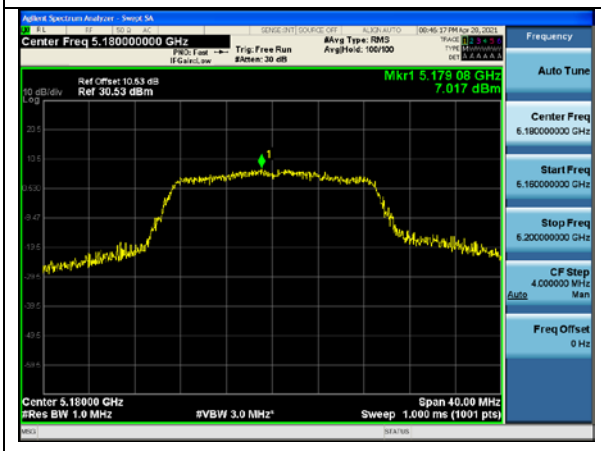
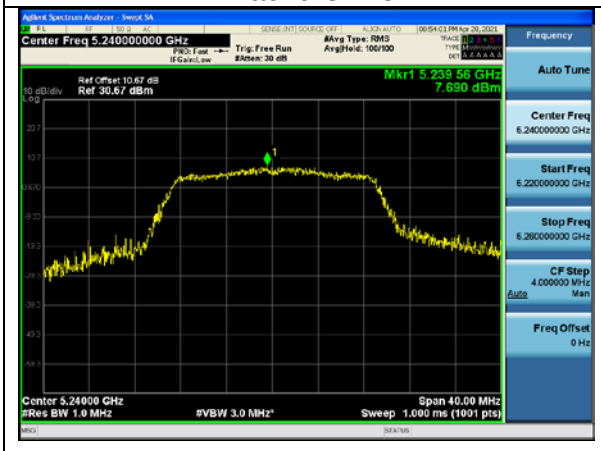
For U-NII-3

Mode	Channel	Frequency (MHz)	PSD (dBm/510kHz)	PSD (dBm/500kHz)	Limit (dBm/500kHz)	Result
11a	CH149	5745	7.335	5.308	30	Pass
11a	CH157	5785	6.854	4.751	30	Pass
11a	CH165	5825	7.416	5.408	30	Pass
11n20	CH149	5745	6.961	4.870	30	Pass
11n20	CH157	5785	6.355	4.235	30	Pass
11n20	CH165	5825	6.691	4.576	30	Pass
11n40	CH151	5755	2.459	1.727	30	Pass
11n40	CH159	5795	1.666	1.439	30	Pass
11ac20	CH149	5745	5.740	3.676	30	Pass
11ac20	CH157	5785	5.678	3.624	30	Pass
11ac20	CH165	5825	4.790	2.954	30	Pass
11ac40	CH151	5755	2.523	1.753	30	Pass
11ac40	CH159	5795	1.845	1.499	30	Pass
11ac80	CH155	5775	0.870	1.198	30	Pass
Note: If the measurement is X dBm/510kHz, thus X dBm/510kHz = $(10^{X/10})*(500 / 510)$ mW/500kHz =10*lgo10{$(10^{X/10})*(500 / 510)$ } dBm/500kHz						

Test plots

For U-NII-1

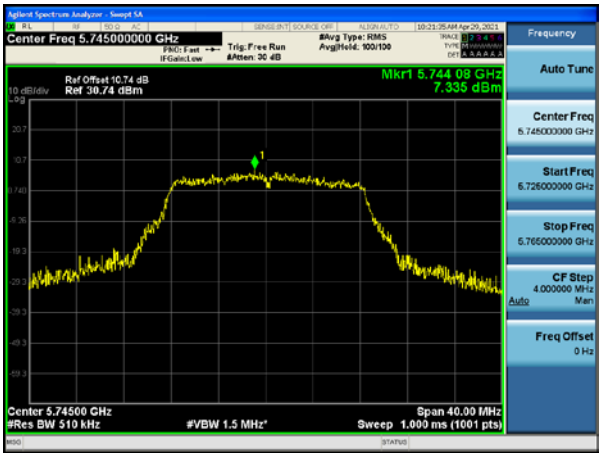
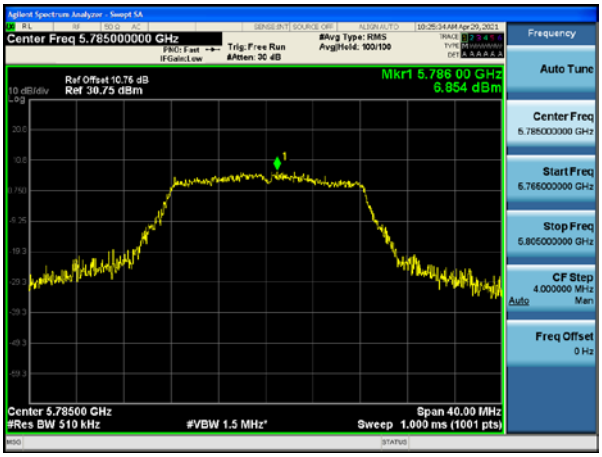
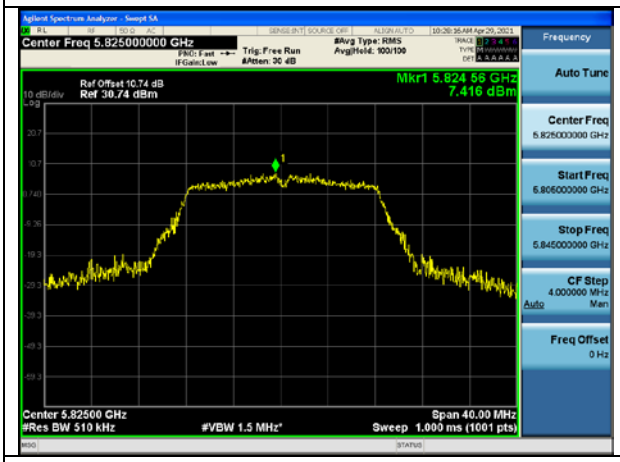
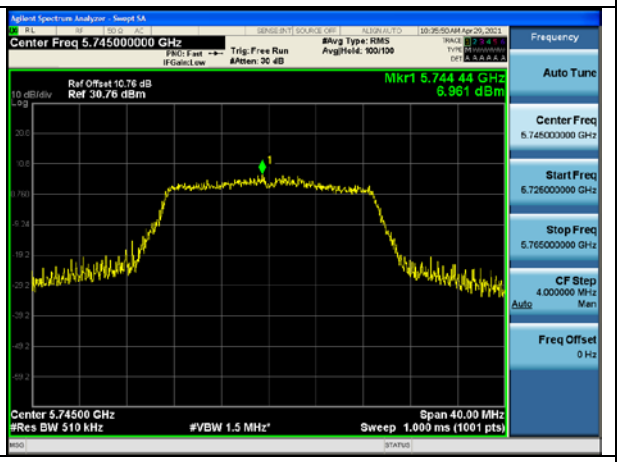
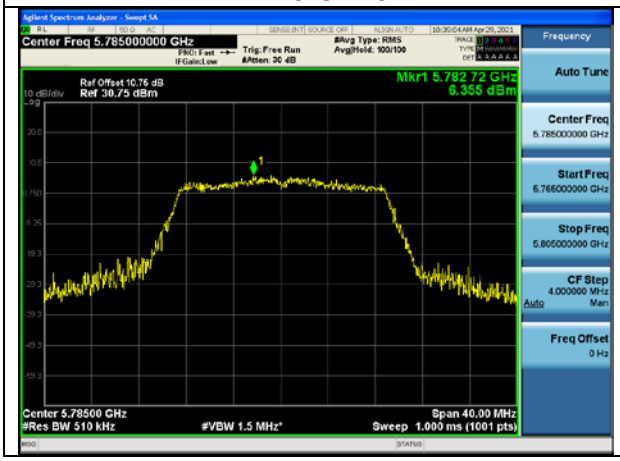
11a CH36	11a CH44
	
11a CH48	**11n20 CH36**
	
11n20 CH44	**11n20 CH48**
	

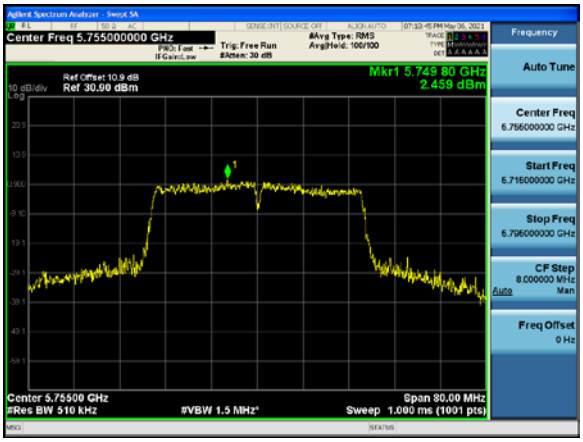
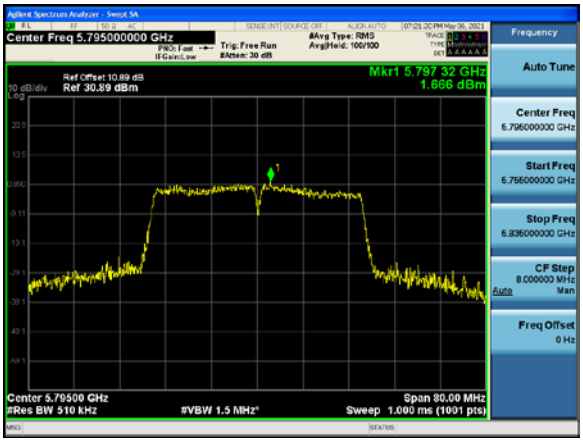
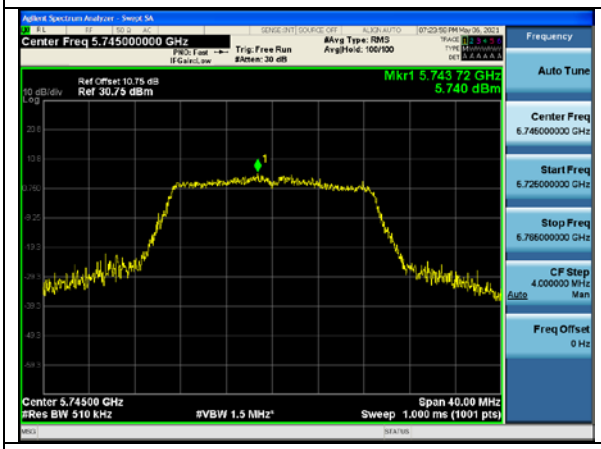
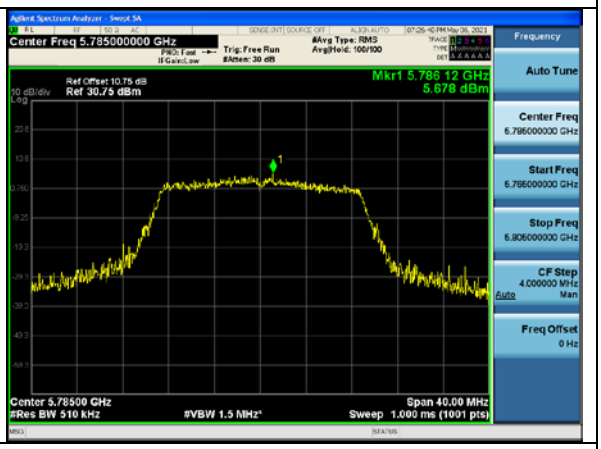
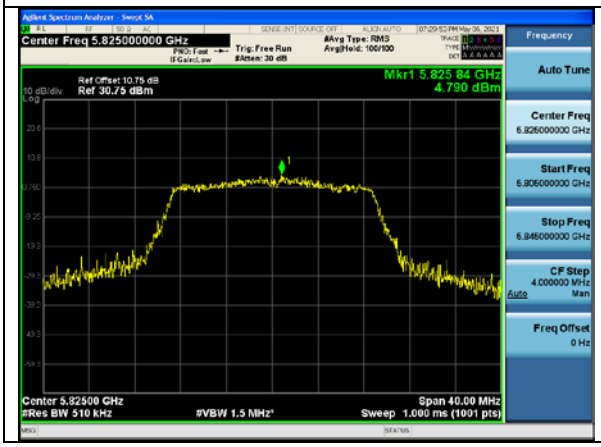
11n40 CH38	11n40 CH46
	
11ac20 CH36	**11ac20 CH40**
	
11ac20 CH48	**11ac40 CH38**
	

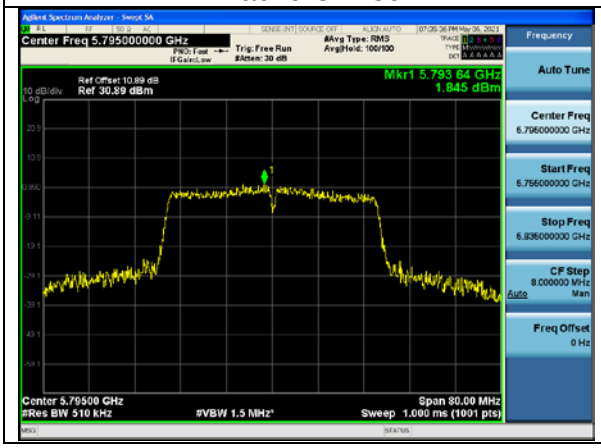
11ac40 CH46	11ac80 CH42
	

Test plots

For U-NII-3

11a CH149	11a CH157
	
11a CH165	**11n20 CH149**
	
11n20 CH157	**11n20 CH165**
	

11n40 CH151	11n40 CH159
	
11ac20 CH149	11ac20 CH157
	
11ac20 CH165	11ac40 CH151
	

11ac40 CH159	11ac80 CH155
	

5.9 Frequency Stability Measurement

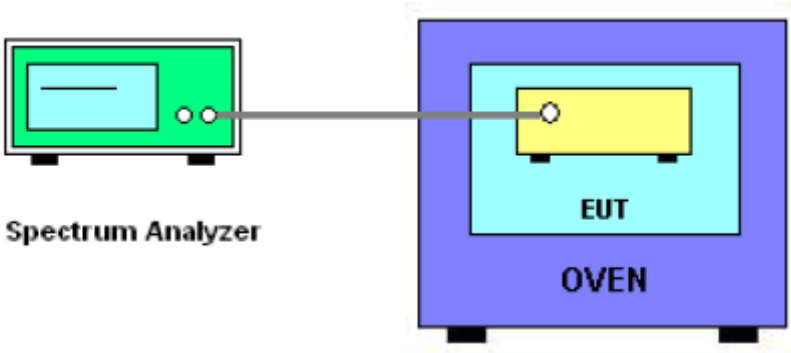
5.9.1 Limit

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.

5.9.2 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 max hold settings.
5. Fc is declaring of channel frequency. Then the frequency error formula is (fc-f)/fc × 106 ppm and the 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.

5.9.3 Test Setup Layout



5.9.4 EUT Operation during Test

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

5.9.5 TEST RESULTS

For U-NII-1

Voltage vs. Frequency Stability

TEST CONDITIONS				Reference Frequency：5180MHz			
				f	fc	Max. Deviation (MHz)	Max. Deviation (ppm)
T nom (°C)	20	V nom (V)	5.00	5180.0140	5180	0.0140	-2.7027
		V max (V)	5.75	5180.0197	5180	0.0197	-3.7992
		V min (V)	4.25	5180.0112	5180	0.0112	-2.1622
Limits				within 5150-5250MHz			
Result				Complies			

Temperature vs. Frequency Stability

TEST CONDITIONS				Reference Frequency：5180MHz			
				f	fc	Max. Deviation (MHz)	Max. Deviation (ppm)
V nom (V)	5	T (°C)	-20	5180.0136	5180	0.0136	-2.6274
		T (°C)	-10	5180.0102	5180	0.0102	-1.9691
		T (°C)	0	5180.0126	5180	0.0126	-2.4324
		T (°C)	10	5180.0130	5180	0.0130	-2.5097
		T (°C)	20	5180.0123	5180	0.0123	-2.3745
		T (°C)	30	5180.0134	5180	0.0134	-2.5869
		T (°C)	40	5180.0110	5180	0.0110	-2.1236
		T (°C)	50	5180.0123	5180	0.0123	-2.3745
		T (°C)	60	5180.0140	5180	0.0140	-2.7027
		T (°C)	70	5180.0143	5180	0.0143	-2.7606
Limits				within 5150-5250MHz			
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)	3.70	5200.0121	5200	0.0121	-2.3269
		V max (V)	4.26	5200.0119	5200	0.0119	-2.2885
		V min (V)	3.15	5200.0134	5200	0.0134	-2.5769
Limits				within 5150-5250MHz			
Result				Complies			

Temperature vs. Frequency Stability

TEST CONDITIONS				Reference Frequency：5200MHz			
				f	fc	Max. Deviation (MHz)	Max. Deviation (ppm)
V nom (V)	5	T (°C)	-20	5200.0190	5200	0.0190	-3.6538
		T (°C)	-10	5200.0135	5200	0.0135	-2.5962
		T (°C)	0	5200.0124	5200	0.0124	-2.3846
		T (°C)	10	5200.0113	5200	0.0113	-2.1731
		T (°C)	20	5200.0121	5200	0.0121	-2.3269
		T (°C)	30	5200.0131	5200	0.0131	-2.5192
		T (°C)	40	5200.0110	5200	0.0110	-2.1154
		T (°C)	50	5200.0112	5200	0.0112	-2.1538
		T (°C)	60	5200.0119	5200	0.0119	-2.2885
		T (°C)	70	5200.0129	5200	0.0129	-2.4808
Limits				within 5150-5250MHz			
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)	3.70	5240.0154	5240	0.0154	-2.9389
		V max (V)	4.26	5240.0189	5240	0.0189	-3.6069
		V min (V)	3.15	5240.0144	5240	0.0144	-2.7481
Limits				within 5150-5250MHz			
Result				Complies			

Temperature vs. Frequency Stability

TEST CONDITIONS				Reference Frequency：5240MHz			
				f	fc	Max. Deviation (MHz)	Max. Deviation (ppm)
V nom (V)	5	T (°C)	-20	5240.0233	5240	0.0233	-4.4466
		T (°C)	-10	5240.0124	5240	0.0124	-2.3664
		T (°C)	0	5240.0137	5240	0.0137	-2.6145
		T (°C)	10	5240.0164	5240	0.0164	-3.1298
		T (°C)	20	5240.0140	5240	0.0140	-2.6718
		T (°C)	30	5240.0130	5240	0.0130	-2.4809
		T (°C)	40	5240.0120	5240	0.0120	-2.2901
		T (°C)	50	5240.0119	5240	0.0119	-2.2710
		T (°C)	60	5240.0110	5240	0.0110	-2.0992
		T (°C)	70	5240.0120	5240	0.0120	-2.2901
Limits				within 5150-5250MHz			
Result				Complies			

For U-NII-3
Voltage vs. Frequency Stability

TEST CONDITIONS				Reference Frequency：5745MHz			
				f	fc	Max. Deviation (MHz)	Max. Deviation (ppm)
T nom (° C)	20	V nom (V)	3.70	5745.00921	5745	0.00921	-1.6024
		V max (V)	4.26	5745.00549	5745	0.00549	-0.9554
		V min (V)	3.15	5745.00607	5745	0.00607	-1.0560
Limits				within 5725-5850MHz			
Result				Complies			

Temperature vs. Frequency Stability

TEST CONDITIONS				Reference Frequency：5745MHz			
				f	fc	Max. Deviation (MHz)	Max. Deviation (ppm)
V nom (V)	5	T (°C)	-20	5745.01161	5745	0.01161	-2.0203
		T (°C)	-10	5745.00274	5745	0.00274	-0.4775
		T (°C)	0	5745.01242	5745	0.01242	-2.1627
		T (°C)	10	5745.01258	5745	0.01258	-2.1899
		T (°C)	20	5745.00203	5745	0.00203	-0.3532
		T (°C)	30	5745.00909	5745	0.00909	-1.5824
		T (°C)	40	5745.00264	5745	0.00264	-0.4587
		T (°C)	50	5745.00965	5745	0.00965	-1.6800
		T (°C)	60	5745.00251	5745	0.00251	-0.4374
		T (°C)	70	5745.00129	5745	0.00129	-0.2248
Limits				within 5725-5850MHz			
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)	3.70	5785.01074	5785	0.01074	-1.8559
		V max (V)	4.26	5785.00675	5785	0.00675	-1.1677
		V min (V)	3.15	5785.01065	5785	0.01065	-1.8403
Limits				within 5725-5850MHz			
Result				Complies			

Temperature vs. Frequency Stability

TEST CONDITIONS				Reference Frequency：5785MHz			
				f	fc	Max. Deviation (MHz)	Max. Deviation (ppm)
V nom (V)	5	T (°C)	-20	5785.00509	5785	0.00509	-0.8795
		T (°C)	-10	5785.01172	5785	0.01172	-2.0254
		T (°C)	0	5785.00986	5785	0.00986	-1.7049
		T (°C)	10	5785.00834	5785	0.00834	-1.4410
		T (°C)	20	5785.00750	5785	0.00750	-1.2963
		T (°C)	30	5785.00474	5785	0.00474	-0.8188
		T (°C)	40	5785.00623	5785	0.00623	-1.0763
		T (°C)	50	5785.00087	5785	0.00087	-0.1501
		T (°C)	60	5785.01067	5785	0.01067	-1.8447
		T (°C)	70	5785.00436	5785	0.00436	-0.7545
Limits				within 5725-5850MHz			
Result				Complies			

Voltage vs. Frequency Stability

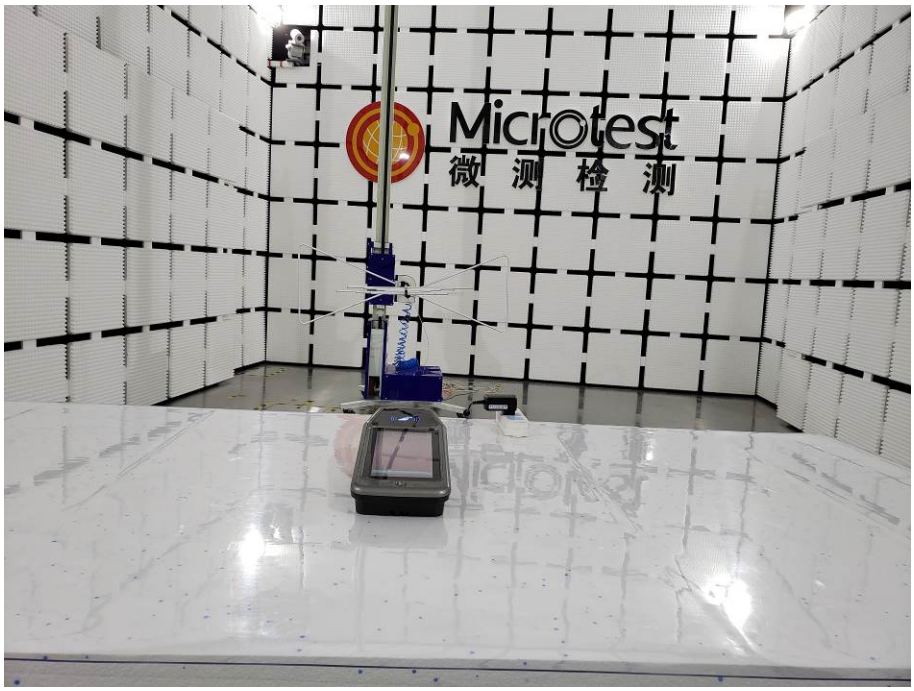
TEST CONDITIONS				Reference Frequency：5825MHz			
				f	fc	Max. Deviation (MHz)	Max. Deviation (ppm)
T nom (°C)	20	V nom (V)	3.70	5825.00599	5825	0.00599	-1.0281
		V max (V)	4.26	5825.01298	5825	0.01298	-2.2276
		V min (V)	3.15	5825.00779	5825	0.00779	-1.3380
Limits				within 5725-5850MHz			
Result				Complies			

Temperature vs. Frequency Stability

TEST CONDITIONS				Reference Frequency：5825MHz			
				f	fc	Max. Deviation (MHz)	Max. Deviation (ppm)
V nom (V)	5	T (°C)	-20	5825.00034	5825	0.00034	-0.0589
		T (°C)	-10	5825.00170	5825	0.00170	-0.2918
		T (°C)	0	5825.00448	5825	0.00448	-0.7690
		T (°C)	10	5825.00146	5825	0.00146	-0.2507
		T (°C)	20	5825.00389	5825	0.00389	-0.6670
		T (°C)	30	5825.01254	5825	0.01254	-2.1523
		T (°C)	40	5825.01175	5825	0.01175	-2.0175
		T (°C)	50	5825.01079	5825	0.01079	-1.8523
		T (°C)	60	5825.00688	5825	0.00688	-1.1804
		T (°C)	70	5825.00807	5825	0.00807	-1.3856
Limits				within 5725-5850MHz			
Result				Complies			

Photographs of the Test Setup

Radiated emission



Conducted emission


Photographs of the EUT

See the APPENDIX 1- EUT PHOTO.

----END OF REPORT----