8.3 MAXIMUM PEAK POWER DENSITY

8.3.1 Applicable Standard

According to FCC Part 15.407(a)(1) for UNII Band I
According to FCC Part 15.407(a)(2) for UNII Band II-A and UNII Band II-C
According to FCC Part 15.407(a)(3) for UNII Band III
According to 789033 D02 Section II(F)

8.3.2 Conformance Limit

- For the band 5.15-5.25 GHz,

(a) (1) (i) For an outdoor access point operating in the band 5.15-5.25 GHz, the maximum conducted output power over the frequency band of operation shall not exceed 1 W provided the maximum antenna gain does not exceed 6 dBi. If transmitting antennas of directional gain greater than 6 dBi are used, both the maximum conducted output power and the maximum power spectral density shall be reduced by the amount in dB that the directional gain of the antenna exceeds 6 dBi. The maximum e.i.r.p. at any elevation angle above 30 degrees as measured from the horizon must not exceed 125 mW (21 dBm).
(a) (1) (ii) For an indoor access point operating in the band 5.15-5.25 GHz, the maximum conducted output power over the frequency band of operation shall not exceed 1 W provided the maximum antenna gain does not exceed 6 dBi. If transmitting antennas of directional gain greater than 6 dBi are used, both the maximum conducted output power and the maximum power spectral density shall be reduced by the amount in dB that the directional gain of the antenna exceeds 6 dBi.
(a) (1) (iii) For fixed point-to-point access points operating in the band 5.15-5.25 GHz, the maximum conducted output power over the frequency band of operation shall not exceed 1 W. Fixed point-to-point U-NII devices may employ antennas with directional gain up to 23 dBi without any corresponding reduction in the maximum conducted output power or maximum power spectral density. For fixed point-to-point transmitters that employ a directional antenna gain greater than 23 dBi, a 1 dB reduction in maximum conducted output power and maximum power spectral density is required for each 1 dB of antenna gain in excess of 23 dBi. Fixed, point-to-point operations exclude the use of point-to-multipoint systems, omnidirectional applications, and multiple collocated transmitters transmitting the same information. The operator of the U-NII device, or if the equipment is professionally installed, the installer, is responsible for ensuring that systems employing high gain directional antennas are used exclusively for fixed, point-to-point operations.
(a) (1) (iv) For mobile and portable client devices in the 5.15-5.25 GHz band, the maximum conducted output power over the frequency band of operation shall not exceed 250 mW provided the maximum antenna gain does not exceed 6 dBi. If transmitting antennas of directional gain greater than 6 dBi are used, both the maximum conducted output power and 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 5.25-5.35 GHz and 5.47-5.725 GHz bands

(b) (2) the maximum conducted output power over the frequency bands of operation shall not exceed the lesser of 250 mW or 11 dBm + 10 log B, where B is the 26 dB emission bandwidth in megahertz. In addition, 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, both the maximum conducted output power and 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

(a) (3)For the band 5.725-5.85 GHz, the maximum conducted output power over the frequency band of operation shall not exceed 1 W. In addition, 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, both the maximum conducted output power and the maximum power spectral density shall be reduced by the amount in dB that the directional gain of the antenna exceeds 6 dBi.

8.3.3 Test Configuration

Test according to clause 6.1 radio frequency test setup

8.3.4 Test Procedure

Methods refer to FCC KDB 789033

1) Create an average power spectrum for the EUT operating mode being tested by following the instructions in section E)2) for measuring maximum conducted output power using a spectrum analyzer or EMI receiver: select the appropriate test method (SA-3, or alternatives to each) and apply it up to, but not including, the step labeled, “Compute power…”.

2) Use the peak search function on the instrument to find the peak of the spectrum.

3) The result is the PPSD.
4) The above procedures make use of 500kHz resolution bandwidth to satisfy the 500kHz measurement bandwidth specified in the 15.407(a)(5). That rule section also permits use of resolution bandwidths less than 1 MHz “provided that the measured power is integrated to show the total power over the measurement bandwidth” (i.e., 1 MHz). If measurements are performed using a reduced resolution bandwidth and integrated over 500kHz bandwidth
Note: As a practical matter, it is recommended to use reduced RBW of 500 kHz for the sections 5.c) and 5.d) above, since RBW=500 kHz is available on nearly all spectrum analyzers.

8.3.5 Test Results

☒ 802.11a mode			
Temperature :	28°C	Test Date :	December 15, 2016
Humidity :	65 %	Test By:	King Kong

Band	Channel Number	Channel Freq. (MHz)	Power Spectral Density		Limit	Verdict
			Ant0	Ant1		
UNII Band I	CH36	5180	1.920	2.085	≤10.98dBm/1MHz	Pass
	CH40	5200	1.114	0.956	≤10.98dBm/1MHz	Pass
	CH48	5240	1.732	1.630	≤10.98dBm/1MHz	Pass
UNII Band II-A	CH52	5260	2.064	1.792	≤10.88dBm/1MHz	Pass
	CH56	5280	2.413	2.319	≤10.88dBm/1MHz	Pass
	CH64	5320	2.623	2.315	≤10.88dBm/1MHz	Pass
UNII Band II-C	CH100	5500	3.128	2.944	≤10.88dBm/1MHz	Pass
	CH120	5600	2.359	2.428	≤10.88dBm/1MHz	Pass
	CH140	5700	0.700	0.456	≤10.88dBm/1MHz	Pass
UNII Band III	CH149	5745	-2.072	-2.265	≤29.65dBm/1MHz	Pass
	CH157	5785	-2.445	-2.682	≤29.65dBm/1MHz	Pass
	CH165	5825	-2.407	-2.480	≤29.65dBm/1MHz	Pass
Note: N/A (Not Applicable)						

☒ 802.11n(VHT20) mode			
Temperature :	28°C	Test Date :	December 15, 2016
Humidity :	65 %	Test By:	King Kong

Band	Channel Number	Channel Freq. (MHz)	Power Spectral Density			Limit	Verdict
			Ant0	Ant1	Ant0+1		
UNII Band I	CH36	5180	0.609	0.810	3.72	≤10.98dBm/1MHz	Pass
	CH40	5200	1.030	0.676	3.87	≤10.98dBm/1MHz	Pass
	CH48	5240	1.703	1.117	4.43	≤10.98dBm/1MHz	Pass
UNII Band II-A	CH52	5260	2.055	1.783	4.93	≤10.88dBm/1MHz	Pass
	CH56	5280	1.489	1.283	4.40	≤10.88dBm/1MHz	Pass
	CH64	5320	1.821	1.847	4.84	≤10.88dBm/1MHz	Pass
UNII Band II-C	CH100	5500	2.825	2.319	5.59	≤10.88dBm/1MHz	Pass
	CH120	5600	1.941	1.967	4.96	≤10.88dBm/1MHz	Pass
	CH140	5700	0.339	0.321	3.34	≤10.88dBm/1MHz	Pass
UNII Band III	CH149	5745	-2.518	-2.545	0.48	≤29.65dBm/1MHz	Pass
	CH157	5785	-2.833	2.712	3.78	≤29.65dBm/1MHz	Pass
	CH165	5825	-2.665	-3.192	0.09	≤29.65dBm/1MHz	Pass
Note: N/A (Not Applicable)							

☒ 802.11ac(VHT20) mode

Temperature :	28°C	Test Date :	December 15, 2016
Humidity :	65 %	Test By:	King Kong

Band	Channel Number	Channel Freq. (MHz)	Power Spectral Density			Limit	Verdict
			Ant0	Ant1	Ant0+1		
UNII Band I	CH36	5180	1.296	0.842	4.09	≤10.98dBm/1MHz	Pass
	CH40	5200	0.895	1.080	4.00	≤10.98dBm/1MHz	Pass
	CH48	5240	1.386	1.288	4.35	≤10.98dBm/1MHz	Pass
UNII Band II-A	CH52	5260	1.865	2.251	5.07	≤10.88dBm/1MHz	Pass
	CH56	5280	1.794	1.995	4.91	≤10.88dBm/1MHz	Pass
	CH64	5320	1.712	1.735	4.73	≤10.88dBm/1MHz	Pass
UNII Band II-C	CH100	5500	2.739	2.585	5.67	≤10.88dBm/1MHz	Pass
	CH120	5600	2.061	1.733	4.91	≤10.88dBm/1MHz	Pass
	CH140	5700	0.476	0.512	3.50	≤10.88dBm/1MHz	Pass
UNII Band III	CH149	5745	-2.306	-1.068	1.37	≤29.65dBm/1MHz	Pass
	CH157	5785	-2.563	-2.574	0.44	≤29.65dBm/1MHz	Pass
	CH165	5825	-2.518	-2.584	0.46	≤29.65dBm/1MHz	Pass
Note: N/A (Not Applicable)							

☒ 802.11n(VHT40) mode

Temperature :	28°C	Test Date :	December 15, 2016
Humidity :	65 %	Test By:	King Kong

Band	Channel Number	Channel Freq. (MHz)	Power Spectral Density			Limit	Verdict
			Ant0	Ant1	Ant0+1		
UNII Band I	CH38	5190	-2.149	-1.920	0.98	≤10.98dBm/1MHz	Pass
	CH46	5230	-2.324	-2.263	0.72	≤10.98dBm/1MHz	Pass
UNII Band II-A	CH54	5270	-2.127	-2.163	0.87	≤10.88dBm/1MHz	Pass
	CH62	5310	-1.894	-2.001	1.06	≤10.88dBm/1MHz	Pass
UNII Band II-C	CH102	5510	-0.892	-1.145	1.99	≤10.88dBm/1MHz	Pass
	CH118	5590	-1.820	-2.152	1.03	≤10.88dBm/1MHz	Pass
	CH134	5670	-2.755	-3.110	0.08	≤10.88dBm/1MHz	Pass
UNII Band III	CH151	5755	-6.887	-7.224	-4.04	≤29.65dBm/1MHz	Pass
	CH159	5795	-6.062	-6.266	-3.15	≤29.65dBm/1MHz	Pass
Note: N/A (Not Applicable)							

☒ 802.11ac(VHT40) mode

Temperature :	28°C	Test Date :	December 15, 2016
Humidity :	65 %	Test By:	King Kong

Band	Channel Number	Channel Freq. (MHz)	Power Spectral Density			Limit	Verdict
			Ant0	Ant1	Ant0+1		
UNII Band I	CH38	5190	-2.553	-2.606	0.43	≤10.98dBm/1MHz	Pass
	CH46	5230	-2.222	-2.611	0.60	≤10.98dBm/1MHz	Pass
UNII Band II-A	CH54	5270	-1.891	-2.031	1.05	≤10.88dBm/1MHz	Pass
	CH62	5310	-1.601	-1.803	1.31	≤10.88dBm/1MHz	Pass
UNII Band II-C	CH102	5510	-0.890	-0.678	2.23	≤10.88dBm/1MHz	Pass
	CH118	5590	-1.730	-2.082	1.11	≤10.88dBm/1MHz	Pass
	CH134	5670	-2.592	-2.641	0.39	≤10.88dBm/1MHz	Pass
UNII Band III	CH151	5755	-6.064	-6.253	-3.15	≤29.65dBm/1MHz	Pass
	CH159	5795	-5.799	-6.122	-2.95	≤29.65dBm/1MHz	Pass
Note: N/A (Not Applicable)							

☒ 802.11ac(VHT80) mode

Temperature :	28°C	Test Date :	December 15, 2016
Humidity :	65 %	Test By:	King Kong

Band	Channel Number	Channel Freq. (MHz)	Power Spectral Density			Limit	Verdict
			Ant0	Ant1	Ant0+1		
UNII Band I	CH42	5210	-4.591	-4.879	-1.72	≤10.98dBm/1MHz	Pass
UNII Band II-A	CH58	5290	-4.458	-4.156	-1.29	≤10.88dBm/1MHz	Pass
UNII Band II-C	CH106	5530	-3.998	-4.276	-1.12	≤10.88dBm/1MHz	Pass
	CH122	5610	-4.450	-4.568	-1.50	≤10.88dBm/1MHz	Pass
UNII Band III	CH155	5775	-8.650	-8.675	-5.65	≤29.65dBm/1MHz	Pass
Note: N/A (Not Applicable)							

Power Spectral Density		UNII Band I	
Test Model	802.11a	Frequency(MHz)	5180

Ant0

Ant1

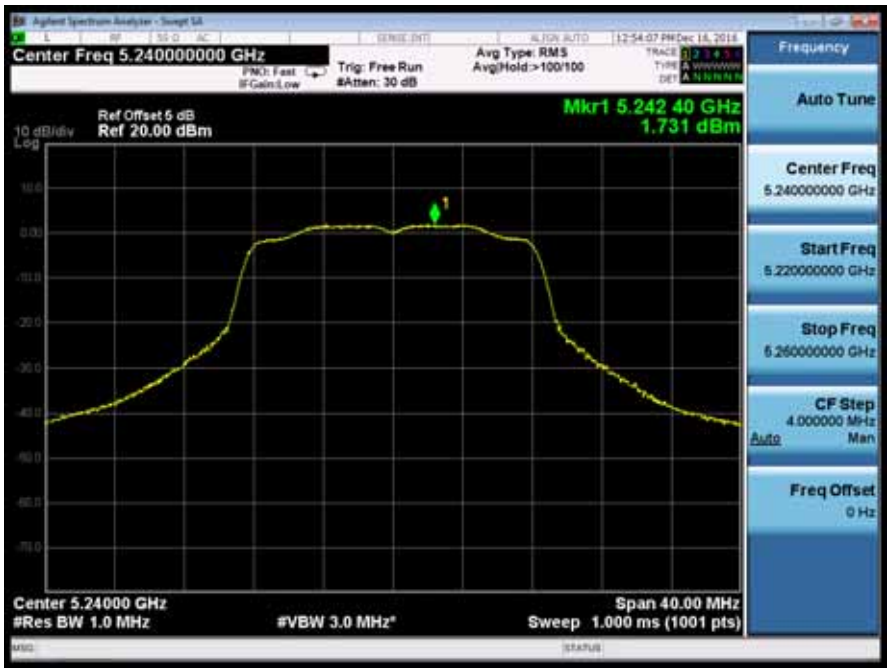
Power Spectral Density		UNII Band I	
Test Model	802.11a	Frequency(MHz)	5200

Ant0

Ant1

Power Spectral Density		UNII Band I	
Test Model	802.11a	Frequency(MHz)	5240

Ant0



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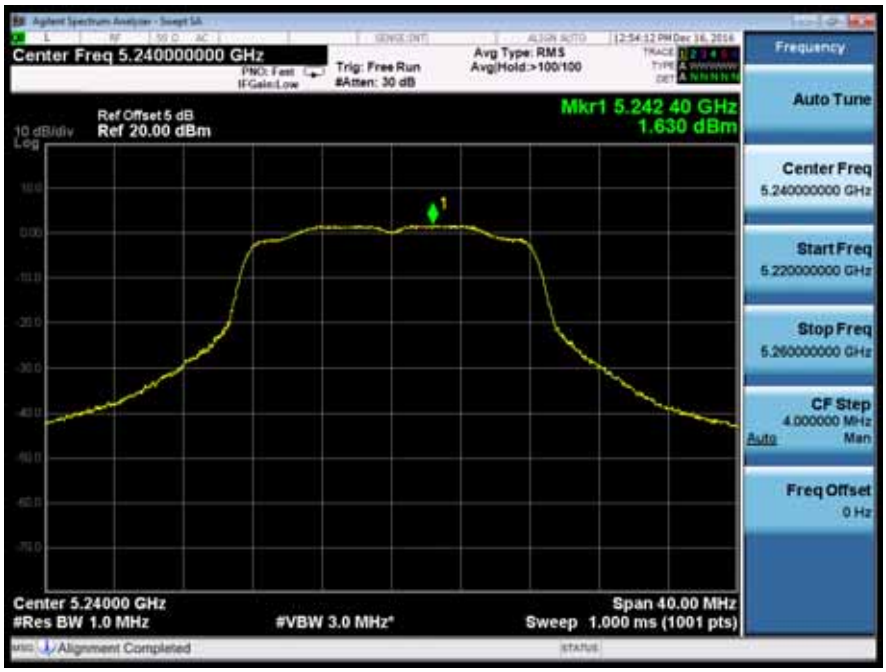


Power Spectral Density		UNII Band II-A	
Test Model	802.11a	Frequency(MHz)	5260

Ant0

Ant1

Power Spectral Density		UNII Band II-A	
Test Model	802.11a	Frequency(MHz)	5280

Ant0

Ant1

Power Spectral Density		UNII Band II-A	
Test Model	802.11a	Frequency(MHz)	5320

Ant0

Ant1

Power Spectral Density		UNII Band II-C	
Test Model	802.11a	Frequency(MHz)	5500

Ant0

Ant1

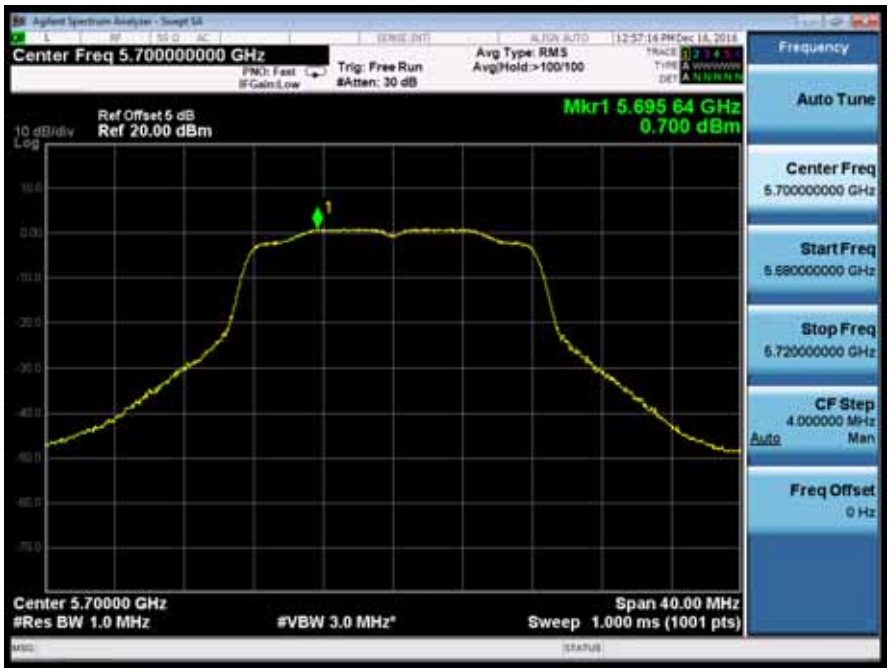
Power Spectral Density		UNII Band II-C	
Test Model	802.11a	Frequency(MHz)	5600

Ant0

Ant1

Power Spectral Density		UNII Band II-C	
Test Model	802.11a	Frequency(MHz)	5700

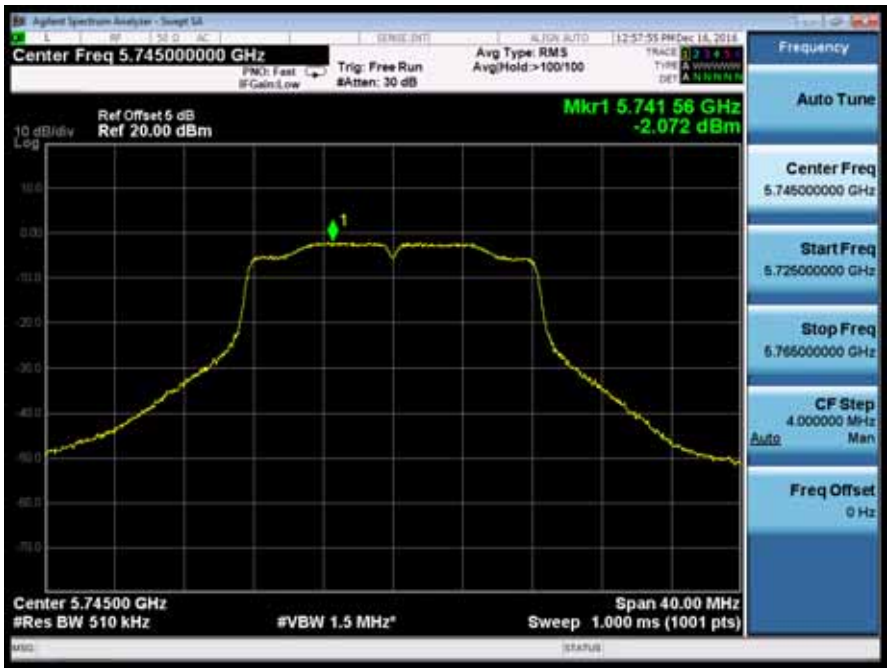
Ant0



Ant1

Power Spectral Density		UNII Band III	
Test Model	802.11a	Frequency(MHz)	5745

Ant0



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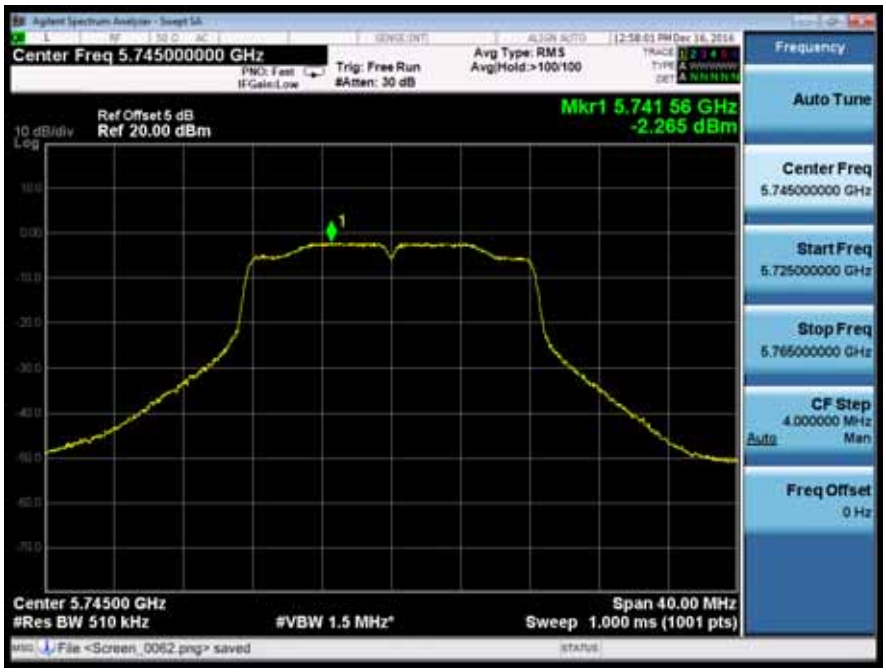
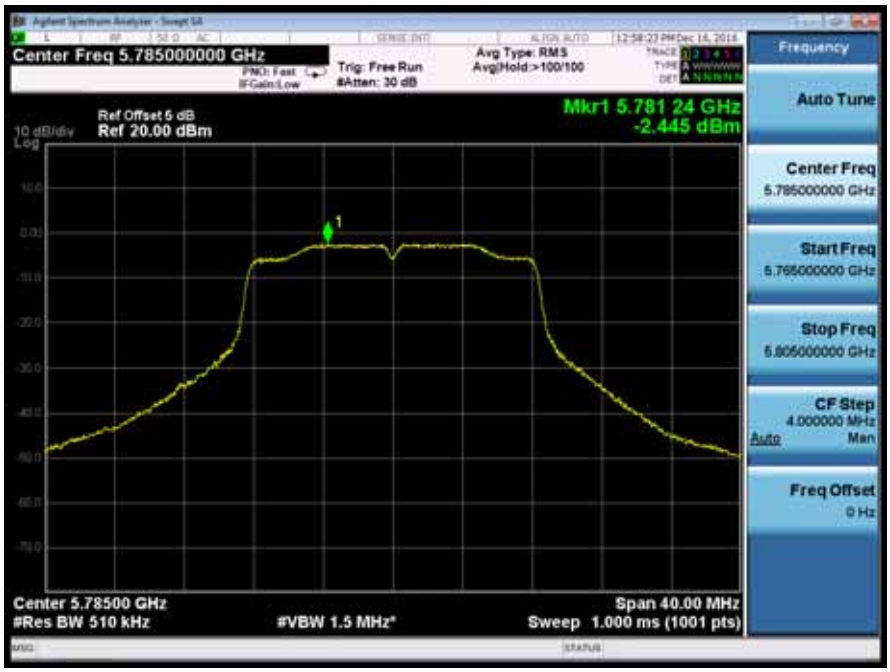


Power Spectral Density		UNII Band III	
Test Model	802.11a	Frequency(MHz)	5785

Ant0



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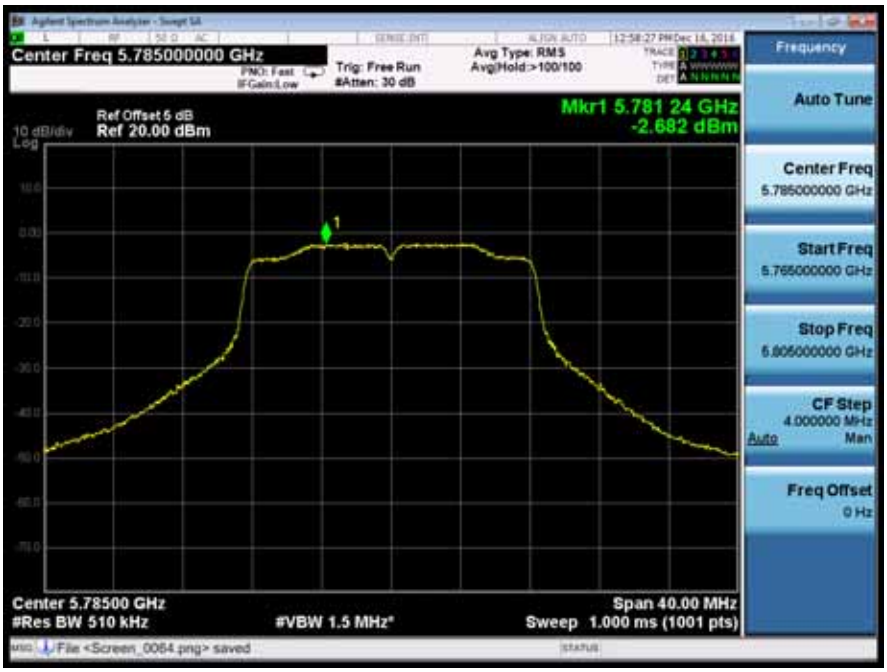
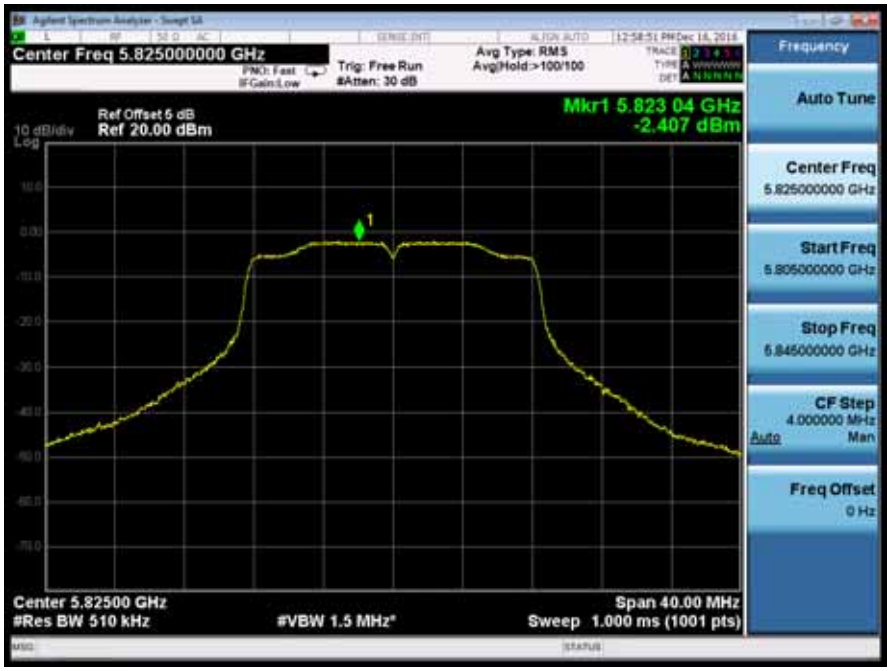


Power Spectral Density		UNII Band III	
Test Model	802.11a	Frequency(MHz)	5825

Ant0



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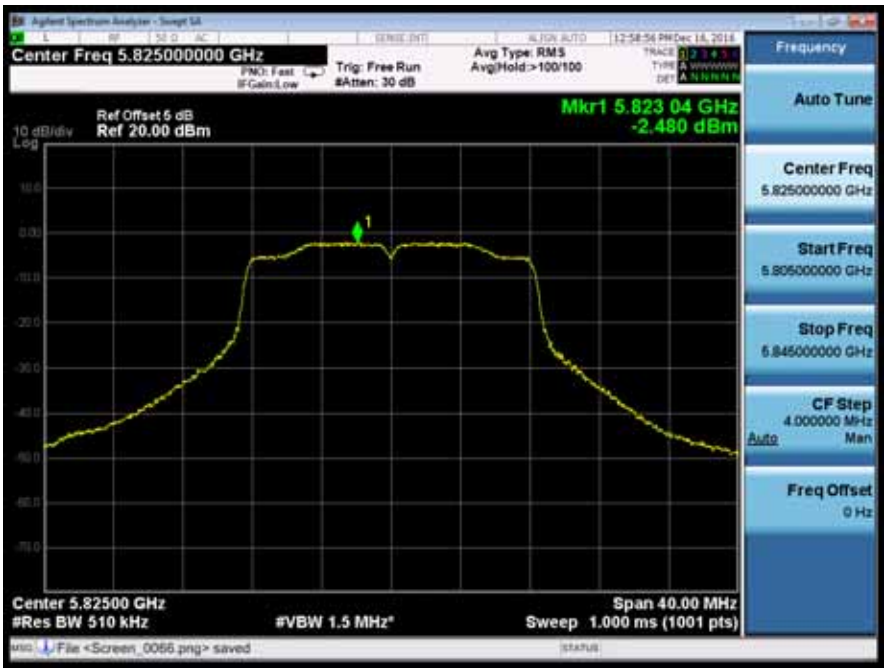


Power Spectral Density		UNII Band I	
Test Model	802.11n(VHT20) mode	Frequency(MHz)	5180

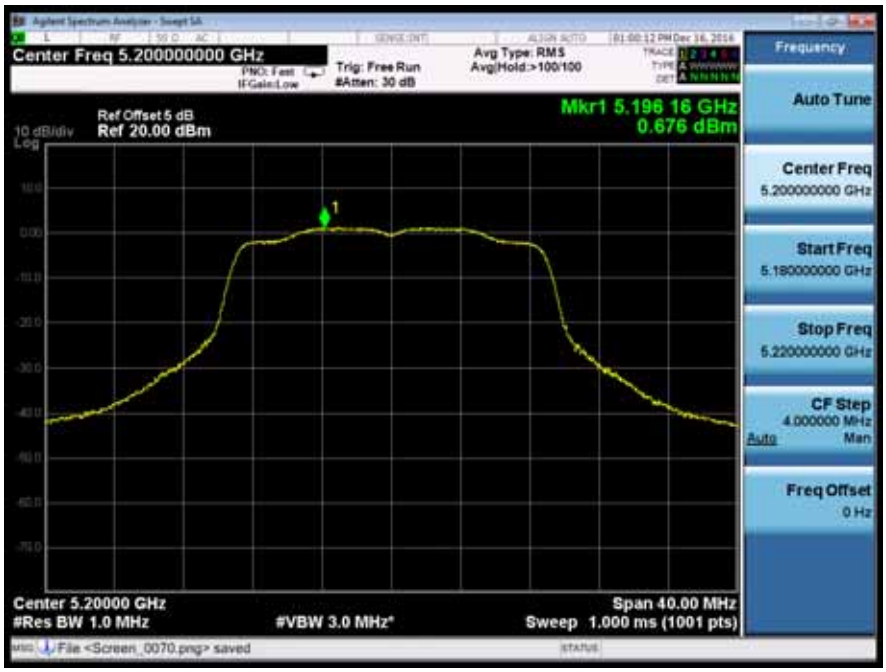
Ant0

Ant1

Power Spectral Density		UNII Band I	
Test Model	802.11n(VHT20) mode	Frequency(MHz)	5200

Ant0

Ant1



Power Spectral Density		UNII Band I	
Test Model	802.11n(VHT20) mode	Frequency(MHz)	5240

Ant0

Ant1

Power Spectral Density		UNII Band II-A	
Test Model	802.11n(VHT20) mode	Frequency(MHz)	5260

Ant0

Ant1

Power Spectral Density		UNII Band II-A	
Test Model	802.11n(VHT20) mode	Frequency(MHz)	5280

Ant0

Ant1

Power Spectral Density		UNII Band II-A	
Test Model	802.11n(VHT20) mode	Frequency(MHz)	5320

Ant0

Ant1

Power Spectral Density		UNII Band II-C	
Test Model	802.11n(VHT20) mode	Frequency(MHz)	5500

Ant0

Ant1

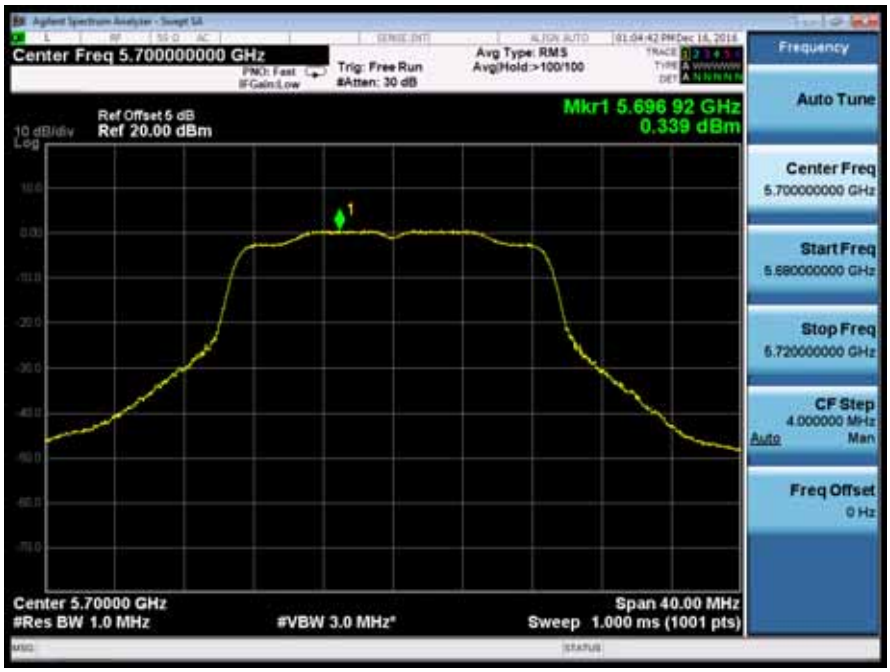
Power Spectral Density		UNII Band II-C	
Test Model	802.11n(VHT20) mode	Frequency(MHz)	5600

Ant0

Ant1

Power Spectral Density		UNII Band II-C	
Test Model	802.11n(VHT20) mode	Frequency(MHz)	5700

Ant0



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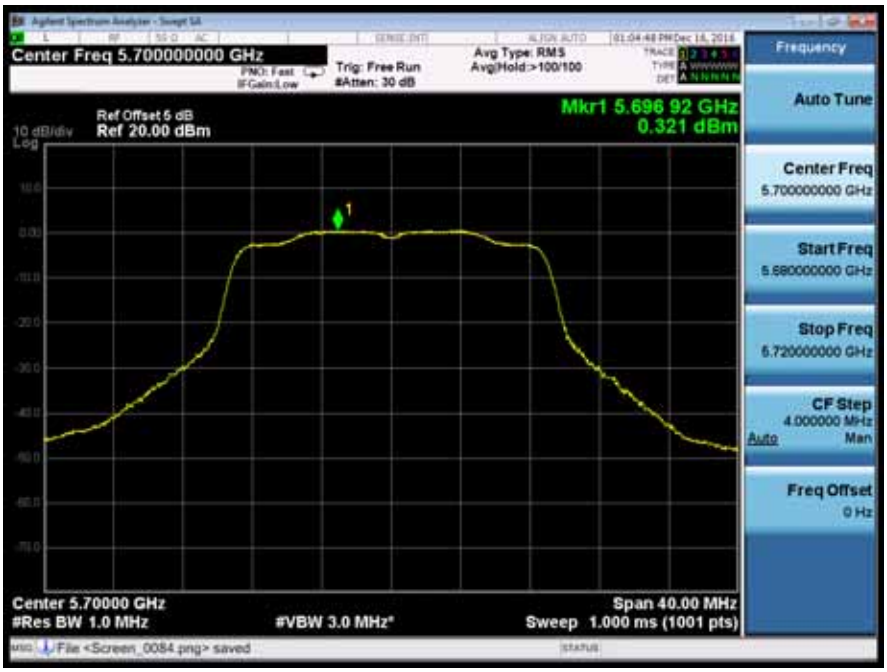


Power Spectral Density		UNII Band III	
Test Model	802.11n(VHT20) mode	Frequency(MHz)	5745

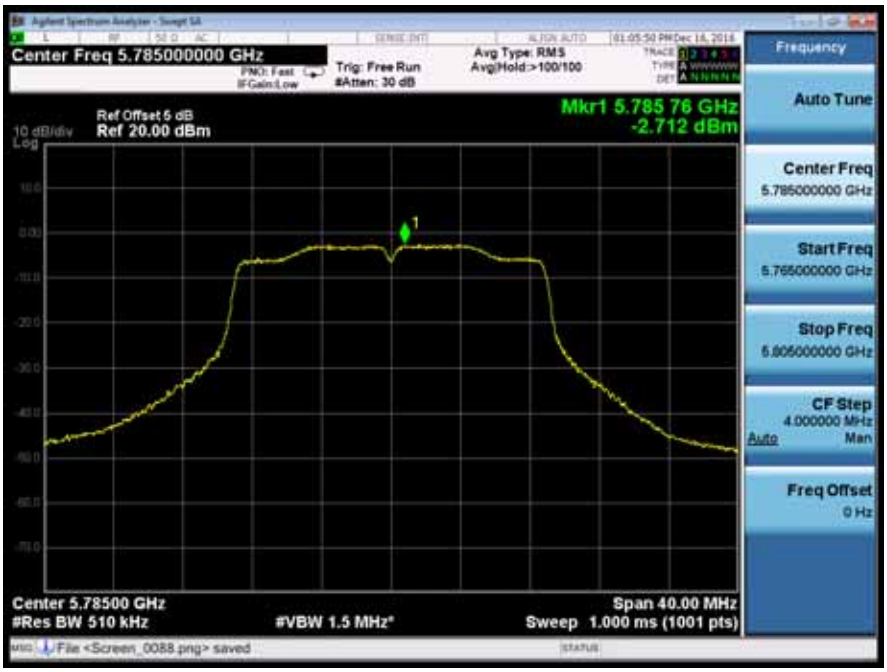
Ant0

Ant1

Power Spectral Density		UNII Band III	
Test Model	802.11n(VHT20) mode	Frequency(MHz)	5785

Ant0

Ant1



Power Spectral Density		UNII Band III	
Test Model	802.11n(VHT20) mode	Frequency(MHz)	5825

Ant0

Ant1

Power Spectral Density		UNII Band I	
Test Model	802.11ac(VHT20) mode	Frequency(MHz)	5180

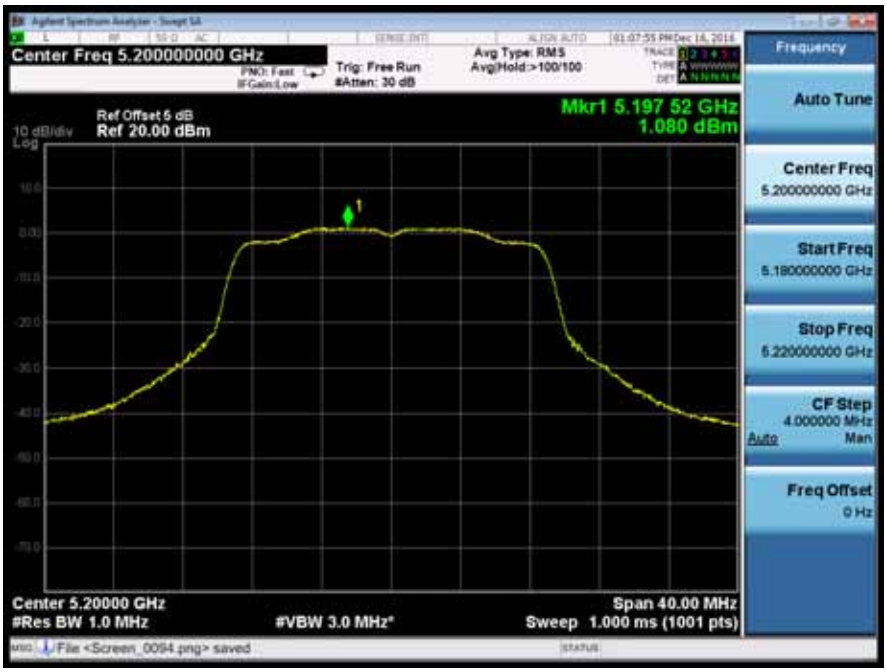
Ant0

Ant1

Power Spectral Density		UNII Band I	
Test Model	802.11ac(VHT20) mode	Frequency(MHz)	5200

Ant0

Ant1



Power Spectral Density		UNII Band I	
Test Model	802.11ac(VHT20) mode	Frequency(MHz)	5240

Ant0

Ant1

Power Spectral Density		UNII Band II-A	
Test Model	802.11ac(VHT20) mode	Frequency(MHz)	5260

Ant0

Ant1

Power Spectral Density		UNII Band II-A	
Test Model	802.11ac(VHT20) mode	Frequency(MHz)	5280

Ant0

Ant1

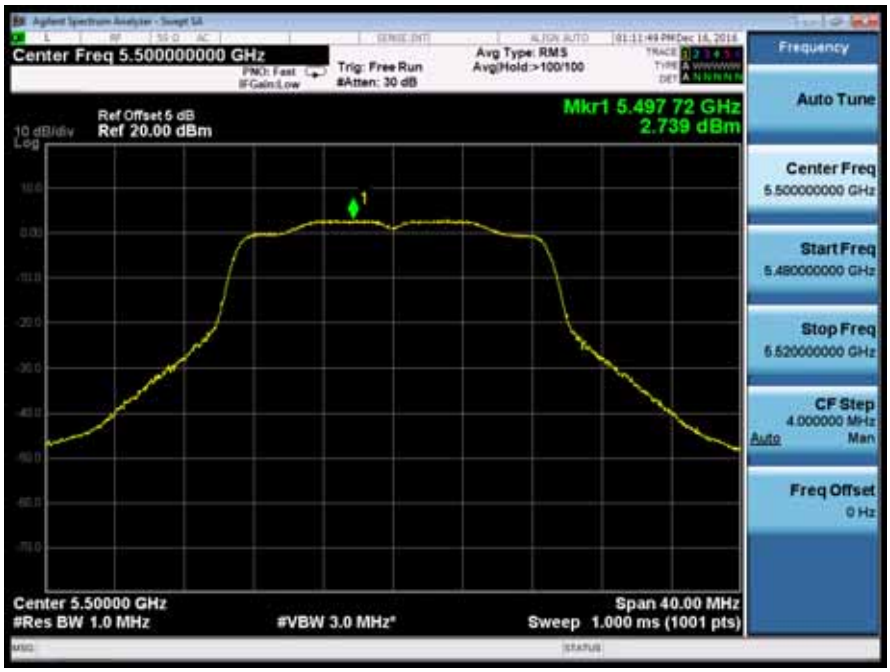
Power Spectral Density		UNII Band II-A	
Test Model	802.11ac(VHT20) mode	Frequency(MHz)	5320

Ant0

Ant1

Power Spectral Density		UNII Band II-C	
Test Model	802.11ac(VHT20) mode	Frequency(MHz)	5500

Ant0



Ant1

Power Spectral Density		UNII Band II-C	
Test Model	802.11ac(VHT20) mode	Frequency(MHz)	5600

Ant0

Ant1

Power Spectral Density		UNII Band II-C	
Test Model	802.11ac(VHT20) mode	Frequency(MHz)	5700

Ant0

Ant1

Power Spectral Density		UNII Band III	
Test Model	802.11ac(VHT20) mode	Frequency(MHz)	5745

Ant0

Ant1

Power Spectral Density		UNII Band III	
Test Model	802.11ac(VHT20) mode	Frequency(MHz)	5785

Ant0

Ant1

Power Spectral Density		UNII Band III	
Test Model	802.11ac(VHT20) mode	Frequency(MHz)	5825

Ant0

Ant1

Power Spectral Density		UNII Band I	
Test Model	802.11n(VHT40) mode	Frequency(MHz)	5190

Ant0

Ant1

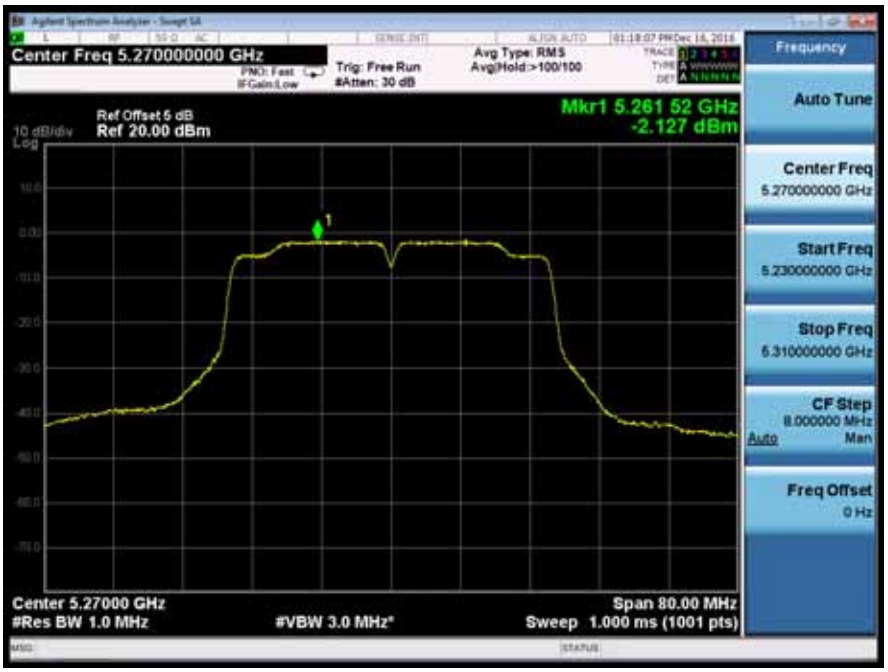
Power Spectral Density		UNII Band I	
Test Model	802.11n(VHT40) mode	Frequency(MHz)	5230

Ant0

Ant1

Power Spectral Density		UNII Band II-A	
Test Model	802.11n(VHT40) mode	Frequency(MHz)	5270

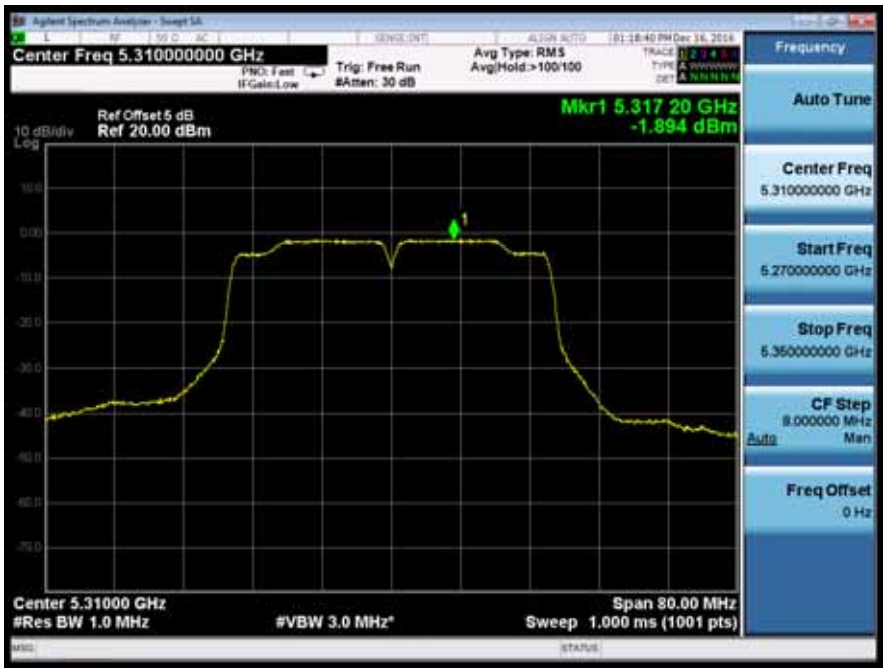
Ant0



Ant1

Power Spectral Density		UNII Band II-A	
Test Model	802.11n(VHT40) mode	Frequency(MHz)	5310

Ant0



Ant1

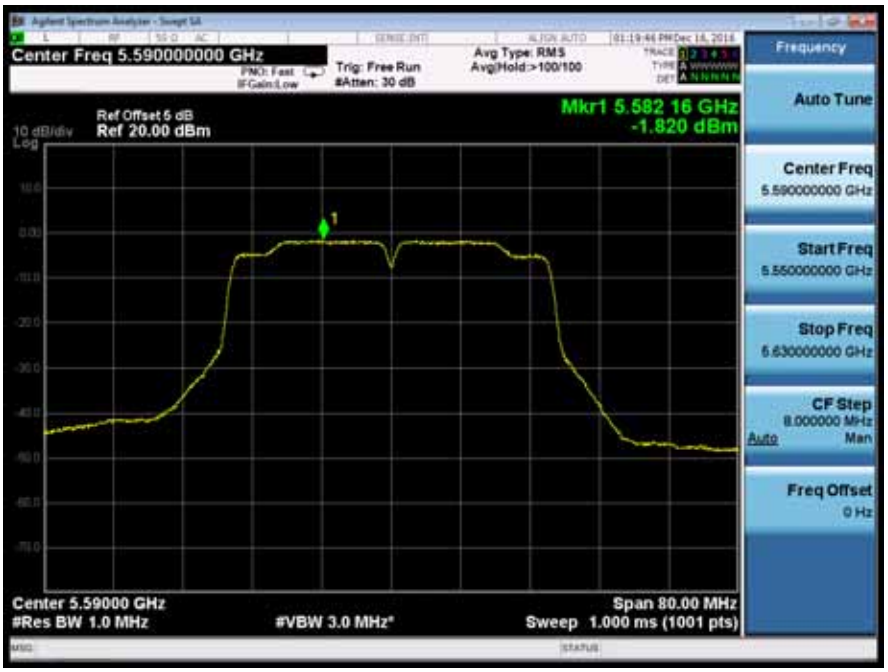
Power Spectral Density		UNII Band II-C	
Test Model	802.11n(VHT40) mode	Frequency(MHz)	5510

Ant0

Ant1

Power Spectral Density		UNII Band II-C	
Test Model	802.11n(VHT40) mode	Frequency(MHz)	5590

Ant0



Ant1

Power Spectral Density		UNII Band II-C	
Test Model	802.11n(VHT40) mode	Frequency(MHz)	5670

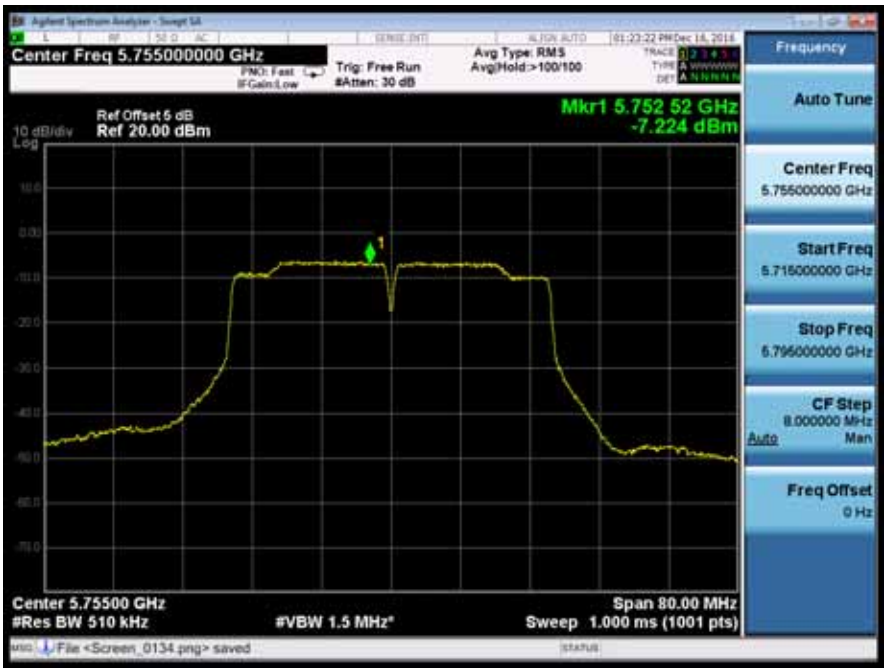
Ant0

Ant1

Power Spectral Density		UNII Band III	
Test Model	802.11n(VHT40) mode	Frequency(MHz)	5755

Ant0

Ant1



Power Spectral Density		UNII Band III	
Test Model	802.11n(VHT40) mode	Frequency(MHz)	5795

Ant0

Ant1

Power Spectral Density		UNII Band I	
Test Model	802.11ac(VHT40) mode	Frequency(MHz)	5190

Ant0

Ant1

Power Spectral Density		UNII Band I	
Test Model	802.11ac(VHT40) mode	Frequency(MHz)	5230

Ant0

Ant1

Power Spectral Density		UNII Band II-A	
Test Model	802.11ac(VHT40) mode	Frequency(MHz)	5270

Ant0

Ant1

Power Spectral Density		UNII Band II-A	
Test Model	802.11ac(VHT40) mode	Frequency(MHz)	5310

Ant0

Ant1

Power Spectral Density		UNII Band II-C	
Test Model	802.11ac(VHT40) mode	Frequency(MHz)	5510

Ant0

Ant1

Power Spectral Density		UNII Band II-C	
Test Model	802.11ac(VHT40) mode	Frequency(MHz)	5590

Ant0

Ant1

Power Spectral Density		UNII Band II-C	
Test Model	802.11ac(VHT40) mode	Frequency(MHz)	5670

Ant0

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Power Spectral Density		UNII Band III	
Test Model	802.11ac(VHT40) mode	Frequency(MHz)	5755

Ant0

Ant1

Power Spectral Density		UNII Band III	
Test Model	802.11ac(VHT40) mode	Frequency(MHz)	5795

Ant0

Ant1

Power Spectral Density		UNII Band I	
Test Model	802.11ac(VHT80) mode	Frequency(MHz)	5210

Ant0

Ant1

Power Spectral Density		UNII Band II-A	
Test Model	802.11ac(VHT80) mode	Frequency(MHz)	5290

Ant0

Ant1

Power Spectral Density		UNII Band II-C	
Test Model	802.11ac(VHT80) mode	Frequency(MHz)	5530

Ant0

Ant1

Power Spectral Density		UNII Band II-C	
Test Model	802.11ac(VHT80) mode	Frequency(MHz)	5610

Ant0

Ant1

Power Spectral Density		UNII Band III	
Test Model	802.11ac(VHT80) mode	Frequency(MHz)	5775

Ant0

Ant1

8.4 FREQUENCY STABILITY

8.4.1 Applicable Standard

According to FCC Part 15.407(g)
ANSI C63.10 Section 6.8

8.4.2 Conformance Limit

Manufacturers 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 users manual.

8.4.3 Test Configuration

Test according to clause 6.1 radio frequency test setup

8.4.4 Test Procedure

The RF output of EUT was connected to the spectrum analyzer by RF cable and attenuator. The path loss was compensated to the results for each measurement.
Set to the maximum power setting and enable the EUT transmit continuously
Set RBW = 10 kHz.
Set the video bandwidth (VBW) =30 kHz.
Set Span= Entire absence of modulation emissions bandwidth
Set Detector = Peak.
Set Trace mode = max hold.
Set Sweep = auto couple.
Allow the trace to stabilize.
The test extreme voltage is to change the primary supply voltage from 85 to 115 percent of the nominal value.
Beginning at each temperature level specified in user manual , the frequency shall be measured within one minute after application of primary power to the transmitter and at intervals of no more than one minute thereafter until ten minutes have elapsed or until sufficient measurements are obtained to indicate clearly that the frequency has stabilized within the applicable tolerance, whichever time period is greater. During each test, the ambient temperature shall not be allowed to rise more than 10° centigrade above the respective beginning ambient temperature level
Measure and record the results in the test report.

8.4.5 Test Results

802.11a mode		5180	
Temperature :	--	Test Date :	December 15, 2016
Humidity :	65 %	Test By:	King Kong

Voltage(V)	Temp(°C)	Test Frequency (MHz)	Max. Deviation (KHz)	Verdict
Vnom	-20	5179.969166	-30.836	Pass
	-10	5179.969174	-30.826	Pass
	0	5179.969418	-30.582	Pass
	10	5179.969522	-30.478	Pass
	20	5179.969514	-30.486	Pass
	30	5179.969275	-30.725	Pass
	40	5179.969975	-30.025	Pass
	50	5179.969564	-30.436	Pass
85% Vnom	20	5179.969513	-30.487	Pass
115% Vnom	20	5179.969275	-30.725	Pass

802.11a mode		5200	
Temperature :	--	Test Date :	December 15, 2016
Humidity :	65 %	Test By:	King Kong

Voltage(V)	Temp(°C)	Test Frequency (MHz)	Max. Deviation (KHz)	Verdict
Vnom	-20	5199.961050	-38.950	Pass
	-10	5199.961410	-38.590	Pass
	0	5199.961571	-38.429	Pass
	10	5199.961528	-38.472	Pass
	20	5200.038725	38.725	Pass
	30	5199.961513	-38.487	Pass
	40	5199.961842	-38.158	Pass
	50	5199.961704	-38.296	Pass
85% Vnom	20	5199.961075	-38.925	Pass
115% Vnom	20	5199.961037	-38.963	Pass

802.11a mode		5240	
Temperature :	--	Test Date :	December 15, 2016
Humidity :	65 %	Test By:	King Kong

Voltage(V)	Temp(°C)	Test Frequency (MHz)	Max. Deviation (KHz)	Verdict
Vnom	-20	5239.977897	-22.103	Pass
	-10	5239.977892	-22.108	Pass
	0	5239.977595	-22.405	Pass
	10	5239.977841	-22.159	Pass
	20	5239.977635	-22.365	Pass
	30	5239.977585	-22.415	Pass
	40	5239.977275	-22.725	Pass
	50	5239.977975	-22.025	Pass
85% Vnom	20	5239.977699	-22.301	Pass
115% Vnom	20	5239.977595	-22.405	Pass

802.11a mode		5260	
Temperature :	--	Test Date :	December 15, 2016
Humidity :	65 %	Test By:	King Kong

Voltage(V)	Temp(°C)	Test Frequency (MHz)	Max. Deviation (KHz)	Verdict
Vnom	-20	5259.973929	-26.071	Pass
	-10	5259.973646	-26.354	Pass
	0	5259.973595	-26.405	Pass
	10	5259.973855	-26.145	Pass
	20	5259.973695	-26.305	Pass
	30	5259.973498	-26.502	Pass
	40	5259.973149	-26.851	Pass
	50	5259.973646	-26.354	Pass
85% Vnom	20	5259.973590	-26.410	Pass
115% Vnom	20	5259.973842	-26.158	Pass

802.11a mode		5280	
Temperature :	--	Test Date :	December 15, 2016
Humidity :	65 %	Test By:	King Kong

Voltage(V)	Temp(°C)	Test Frequency (MHz)	Max. Deviation (KHz)	Verdict
Vnom	-20	5279.993934	-6.066	Pass
	-10	5279.993942	-6.058	Pass
	0	5279.993988	-6.012	Pass
	10	5279.993598	-6.402	Pass
	20	5279.993895	-6.105	Pass
	30	5279.993480	-6.520	Pass
	40	5279.993797	-6.203	Pass
	50	5279.993956	-6.044	Pass
85% Vnom	20	5279.993599	-6.401	Pass
115% Vnom	20	5279.993742	-6.258	Pass

802.11a mode		5320	
Temperature :	--	Test Date :	December 15, 2016
Humidity :	65 %	Test By:	King Kong

Voltage(V)	Temp(°C)	Test Frequency (MHz)	Max. Deviation (KHz)	Verdict
Vnom	-20	5319.949702	-50.298	Pass
	-10	5319.949751	-50.249	Pass
	0	5319.949836	-50.164	Pass
	10	5319.949655	-50.345	Pass
	20	5319.949631	-50.369	Pass
	30	5319.949513	-50.487	Pass
	40	5319.949358	-50.642	Pass
	50	5319.949836	-50.164	Pass
85% Vnom	20	5319.949532	-50.468	Pass
115% Vnom	20	5319.949531	-50.469	Pass

802.11a mode		5500	
Temperature :	--	Test Date :	December 15, 2016
Humidity :	65 %	Test By:	King Kong

Voltage(V)	Temp(°C)	Test Frequency (MHz)	Max. Deviation (KHz)	Verdict
Vnom	-20	5499.964939	-35.061	Pass
	-10	5499.964855	-35.145	Pass
	0	5499.964831	-35.169	Pass
	10	5499.964896	-35.104	Pass
	20	5499.964802	-35.198	Pass
	30	5499.964850	-35.150	Pass
	40	5499.964599	-35.401	Pass
	50	5499.964258	-35.742	Pass
85% Vnom	20	5499.964831	-35.169	Pass
115% Vnom	20	5499.964744	-35.256	Pass

802.11a mode		5600	
Temperature :	--	Test Date :	December 15, 2016
Humidity :	65 %	Test By:	King Kong

Voltage(V)	Temp(°C)	Test Frequency (MHz)	Max. Deviation (KHz)	Verdict
Vnom	-20	5600.021035	21.035	Pass
	-10	5600.021064	21.064	Pass
	0	5600.021358	21.358	Pass
	10	5600.021421	21.421	Pass
	20	5600.021520	21.520	Pass
	30	5600.021365	21.365	Pass
	40	5600.021360	21.360	Pass
	50	5600.021259	21.259	Pass
85% Vnom	20	5600.021402	21.402	Pass
115% Vnom	20	5600.021600	21.600	Pass

802.11a mode		5700	
Temperature :	--	Test Date :	December 15, 2016
Humidity :	65 %	Test By:	King Kong

Voltage(V)	Temp(°C)	Test Frequency (MHz)	Max. Deviation (KHz)	Verdict
Vnom	-20	5699.956226	-43.774	Pass
	-10	5699.956746	-43.254	Pass
	0	5699.956831	-43.169	Pass
	10	5699.956811	-43.189	Pass
	20	5699.956517	-43.483	Pass
	30	5699.956577	-43.423	Pass
	40	5699.956544	-43.456	Pass
	50	5699.956238	-43.762	Pass
85% Vnom	20	5699.956458	-43.542	Pass
115% Vnom	20	5699.956048	-43.952	Pass

802.11a mode		5745	
Temperature :	--	Test Date :	December 15, 2016
Humidity :	65 %	Test By:	King Kong

Voltage(V)	Temp(°C)	Test Frequency (MHz)	Max. Deviation (KHz)	Verdict
Vnom	-20	5744.986201	-13.799	Pass
	-10	5744.986148	-13.852	Pass
	0	5744.986529	-13.471	Pass
	10	5744.986078	-13.922	Pass
	20	5744.986274	-13.726	Pass
	30	5744.986148	-13.852	Pass
	40	5744.986037	-13.963	Pass
	50	5744.986508	-13.492	Pass
85% Vnom	20	5744.986577	-13.423	Pass
115% Vnom	20	5744.986039	-13.961	Pass

802.11a mode		5785	
Temperature :	--	Test Date :	December 15, 2016
Humidity :	65 %	Test By:	King Kong

Voltage(V)	Temp(°C)	Test Frequency (MHz)	Max. Deviation (KHz)	Verdict
Vnom	-20	5784.991152	-8.848	Pass
	-10	5784.991844	-8.156	Pass
	0	5784.991732	-8.268	Pass
	10	5784.991275	-8.725	Pass
	20	5784.991375	-8.625	Pass
	30	5784.991844	-8.156	Pass
	40	5784.991308	-8.692	Pass
	50	5784.991837	-8.163	Pass
85% Vnom	20	5784.991864	-8.136	Pass
115% Vnom	20	5784.991840	-8.160	Pass

802.11a mode		5825	
Temperature :	--	Test Date :	December 15, 2016
Humidity :	65 %	Test By:	King Kong

Voltage(V)	Temp(°C)	Test Frequency (MHz)	Max. Deviation (KHz)	Verdict
Vnom	-20	5824.982585	-17.415	Pass
	-10	5824.982448	-17.552	Pass
	0	5824.982838	-17.162	Pass
	10	5824.982451	-17.549	Pass
	20	5824.982748	-17.252	Pass
	30	5824.982509	-17.491	Pass
	40	5824.982455	-17.545	Pass
	50	5824.982891	-17.109	Pass
85% Vnom	20	5824.982985	-17.015	Pass
115% Vnom	20	5824.982945	-17.055	Pass

802.11n(VHT20) mode		5180	
Temperature :	--	Test Date :	December 15, 2016
Humidity :	65 %	Test By:	King Kong

Voltage(V)	Temp(°C)	Test Frequency (MHz)	Max. Deviation (KHz)	Verdict
Vnom	-20	5180.001119	1.119	Pass
	-10	5180.001119	1.119	Pass
	0	5180.001125	1.125	Pass
	10	5180.001147	1.147	Pass
	20	5180.001156	1.156	Pass
	30	5180.001526	1.526	Pass
	40	5180.001565	1.565	Pass
	50	5180.001526	1.526	Pass
85% Vnom	20	5180.001525	1.525	Pass
115% Vnom	20	5180.001582	1.582	Pass

802.11n(VHT20) mode		5200	
Temperature :	--	Test Date :	December 15, 2016
Humidity :	65 %	Test By:	King Kong

Voltage(V)	Temp(°C)	Test Frequency (MHz)	Max. Deviation (KHz)	Verdict
Vnom	-20	5199.975972	-24.028	Pass
	-10	5199.975636	-24.364	Pass
	0	5199.975451	-24.549	Pass
	10	5199.975818	-24.182	Pass
	20	5199.975279	-24.721	Pass
	30	5199.975458	-24.542	Pass
	40	5199.975180	-24.820	Pass
	50	5199.975840	-24.160	Pass
85% Vnom	20	5199.975148	-24.852	Pass
115% Vnom	20	5199.975985	-24.015	Pass

802.11n(VHT20) mode		5240	
Temperature :	--	Test Date :	December 15, 2016
Humidity :	65 %	Test By:	King Kong

Voltage(V)	Temp(°C)	Test Frequency (MHz)	Max. Deviation (KHz)	Verdict
Vnom	-20	5239.981944	-18.056	Pass
	-10	5239.981544	-18.456	Pass
	0	5239.981550	-18.450	Pass
	10	5239.981548	-18.452	Pass
	20	5239.981779	-18.221	Pass
	30	5239.981490	-18.510	Pass
	40	5239.981452	-18.548	Pass
	50	5239.981548	-18.452	Pass
85% Vnom	20	5239.981855	-18.145	Pass
115% Vnom	20	5239.981459	-18.541	Pass

802.11n(VHT20) mode		5260	
Temperature :	--	Test Date :	December 15, 2016
Humidity :	65 %	Test By:	King Kong

Voltage(V)	Temp(°C)	Test Frequency (MHz)	Max. Deviation (KHz)	Verdict
Vnom	-20	5259.998000	-2.000	Pass
	-10	5259.997842	-2.158	Pass
	0	5259.997411	-2.589	Pass
	10	5259.997518	-2.482	Pass
	20	5259.997402	-2.598	Pass
	30	5259.997511	-2.489	Pass
	40	5259.997831	-2.169	Pass
	50	5259.997985	-2.015	Pass
85% Vnom	20	5259.997931	-2.069	Pass
115% Vnom	20	5259.997310	-2.690	Pass

802.11n(VHT20) mode		5280	
Temperature :	--	Test Date :	December 15, 2016
Humidity :	65 %	Test By:	King Kong

Voltage(V)	Temp(°C)	Test Frequency (MHz)	Max. Deviation (KHz)	Verdict
Vnom	-20	5279.980370	-19.630	Pass
	-10	5279.980148	-19.852	Pass
	0	5279.980580	-19.420	Pass
	10	5279.980508	-19.492	Pass
	20	5279.980518	-19.482	Pass
	30	5279.980572	-19.428	Pass
	40	5279.980242	-19.758	Pass
	50	5279.980140	-19.860	Pass
85% Vnom	20	5279.980631	-19.369	Pass
115% Vnom	20	5279.980518	-19.482	Pass

802.11n(VHT20) mode		5320	
Temperature :	--	Test Date :	December 15, 2016
Humidity :	65 %	Test By:	King Kong

Voltage(V)	Temp(°C)	Test Frequency (MHz)	Max. Deviation (KHz)	Verdict
Vnom	-20	5319.981431	-18.569	Pass
	-10	5319.981518	-18.482	Pass
	0	5319.981308	-18.692	Pass
	10	5319.981580	-18.420	Pass
	20	5319.981365	-18.635	Pass
	30	5319.981418	-18.582	Pass
	40	5319.981753	-18.247	Pass
	50	5319.981464	-18.536	Pass
85% Vnom	20	5319.981449	-18.551	Pass
115% Vnom	20	5319.981735	-18.265	Pass

802.11n(VHT20) mode		5500	
Temperature :	--	Test Date :	December 15, 2016
Humidity :	65 %	Test By:	King Kong

Voltage(V)	Temp(°C)	Test Frequency (MHz)	Max. Deviation (KHz)	Verdict
Vnom	-20	5499.990260	-9.740	Pass
	-10	5499.990480	-9.520	Pass
	0	5499.990631	-9.369	Pass
	10	5499.990842	-9.158	Pass
	20	5499.990864	-9.136	Pass
	30	5499.990842	-9.158	Pass
	40	5499.990635	-9.365	Pass
	50	5499.990850	-9.150	Pass
85% Vnom	20	5499.990880	-9.120	Pass
115% Vnom	20	5499.990742	-9.258	Pass

802.11n(VHT20) mode		5600	
Temperature :	--	Test Date :	December 15, 2016
Humidity :	65 %	Test By:	King Kong

Voltage(V)	Temp(°C)	Test Frequency (MHz)	Max. Deviation (KHz)	Verdict
Vnom	-20	5599.993025	-6.975	Pass
	-10	5599.993742	-6.258	Pass
	0	5599.993641	-6.359	Pass
	10	5599.993848	-6.152	Pass
	20	5599.993642	-6.358	Pass
	30	5599.993977	-6.023	Pass
	40	5599.993472	-6.528	Pass
	50	5599.993925	-6.075	Pass
85% Vnom	20	5599.993648	-6.352	Pass
115% Vnom	20	5599.993858	-6.142	Pass

802.11n(VHT20) mode		5700	
Temperature :	--	Test Date :	December 15, 2016
Humidity :	65 %	Test By:	King Kong

Voltage(V)	Temp(°C)	Test Frequency (MHz)	Max. Deviation (KHz)	Verdict
Vnom	-20	5699.982700	-17.300	Pass
	-10	5699.982742	-17.258	Pass
	0	5699.982595	-17.405	Pass
	10	5699.982458	-17.542	Pass
	20	5699.982479	-17.521	Pass
	30	5699.982855	-17.145	Pass
	40	5699.982946	-17.054	Pass
	50	5699.982946	-17.054	Pass
85% Vnom	20	5699.982582	-17.418	Pass
115% Vnom	20	5699.982946	-17.054	Pass

802.11n(VHT20) mode		5745	
Temperature :	--	Test Date :	December 15, 2016
Humidity :	65 %	Test By:	King Kong

Voltage(V)	Temp(°C)	Test Frequency (MHz)	Max. Deviation (KHz)	Verdict
Vnom	-20	5744.980648	-19.352	Pass
	-10	5744.980855	-19.145	Pass
	0	5744.980841	-19.159	Pass
	10	5744.980477	-19.523	Pass
	20	5744.980844	-19.156	Pass
	30	5744.980542	-19.458	Pass
	40	5744.980511	-19.489	Pass
	50	5744.980484	-19.516	Pass
85% Vnom	20	5744.980408	-19.592	Pass
115% Vnom	20	5744.980435	-19.565	Pass

802.11n(VHT20) mode		5785	
Temperature :	--	Test Date :	December 15, 2016
Humidity :	65 %	Test By:	King Kong

Voltage(V)	Temp(°C)	Test Frequency (MHz)	Max. Deviation (KHz)	Verdict
Vnom	-20	5784.988762	-11.238	Pass
	-10	5784.988838	-11.162	Pass
	0	5784.988454	-11.546	Pass
	10	5784.988439	-11.561	Pass
	20	5784.988418	-11.582	Pass
	30	5784.988458	-11.542	Pass
	40	5784.988438	-11.562	Pass
	50	5784.988458	-11.542	Pass
85% Vnom	20	5784.988157	-11.843	Pass
115% Vnom	20	5784.988486	-11.514	Pass

802.11n(VHT20) mode		5825	
Temperature :	--	Test Date :	December 15, 2016
Humidity :	65 %	Test By:	King Kong

Voltage(V)	Temp(°C)	Test Frequency (MHz)	Max. Deviation (KHz)	Verdict
Vnom	-20	5824.991863	-8.137	Pass
	-10	5824.991484	-8.516	Pass
	0	5824.991854	-8.146	Pass
	10	5824.991151	-8.849	Pass
	20	5824.991474	-8.526	Pass
	30	5824.991455	-8.545	Pass
	40	5824.991044	-8.956	Pass
	50	5824.991418	-8.582	Pass
85% Vnom	20	5824.991544	-8.456	Pass
115% Vnom	20	5824.991844	-8.156	Pass

802.11ac(VHT20) mode		5180	
Temperature :	--	Test Date :	December 15, 2016
Humidity :	65 %	Test By:	King Kong

Voltage(V)	Temp(°C)	Test Frequency (MHz)	Max. Deviation (KHz)	Verdict
Vnom	-20	5179.996346	-3.654	Pass
	-10	5179.996484	-3.516	Pass
	0	5179.996484	-3.516	Pass
	10	5179.996484	-3.516	Pass
	20	5179.996484	-3.516	Pass
	30	5179.996238	-3.762	Pass
	40	5179.996151	-3.849	Pass
	50	5179.996508	-3.492	Pass
85% Vnom	20	5179.996484	-3.516	Pass
115% Vnom	20	5179.996646	-3.354	Pass

802.11ac(VHT20) mode		5200	
Temperature :	--	Test Date :	December 15, 2016
Humidity :	65 %	Test By:	King Kong

Voltage(V)	Temp(°C)	Test Frequency (MHz)	Max. Deviation (KHz)	Verdict
Vnom	-20	5199.984962	-15.038	Pass
	-10	5199.984484	-15.516	Pass
	0	5199.984638	-15.362	Pass
	10	5199.984151	-15.849	Pass
	20	5199.984151	-15.849	Pass
	30	5199.984454	-15.546	Pass
	40	5199.984540	-15.460	Pass
	50	5199.984484	-15.516	Pass
85% Vnom	20	5199.984151	-15.849	Pass
115% Vnom	20	5199.984346	-15.654	Pass

802.11ac(VHT20) mode		5240	
Temperature :	--	Test Date :	December 15, 2016
Humidity :	65 %	Test By:	King Kong

Voltage(V)	Temp(°C)	Test Frequency (MHz)	Max. Deviation (KHz)	Verdict
Vnom	-20	5240.002172	2.172	Pass
	-10	5240.002546	2.546	Pass
	0	5240.002516	2.516	Pass
	10	5240.002516	2.516	Pass
	20	5240.002605	2.605	Pass
	30	5240.002056	2.056	Pass
	40	5240.002056	2.056	Pass
	50	5240.002561	2.561	Pass
85% Vnom	20	5240.002694	2.694	Pass
115% Vnom	20	5240.002840	2.840	Pass

802.11ac(VHT20) mode		5260	
Temperature :	--	Test Date :	December 15, 2016
Humidity :	65 %	Test By:	King Kong

Voltage(V)	Temp(°C)	Test Frequency (MHz)	Max. Deviation (KHz)	Verdict
Vnom	-20	5260.010709	10.709	Pass
	-10	5260.010849	10.849	Pass
	0	5260.010354	10.354	Pass
	10	5260.010546	10.546	Pass
	20	5260.010546	10.546	Pass
	30	5260.010654	10.654	Pass
	40	5260.010546	10.546	Pass
	50	5260.010385	10.385	Pass
85% Vnom	20	5260.010461	10.461	Pass
115% Vnom	20	5260.010583	10.583	Pass

802.11ac(VHT20) mode		5280	
Temperature :	--	Test Date :	December 15, 2016
Humidity :	65 %	Test By:	King Kong

Voltage(V)	Temp(°C)	Test Frequency (MHz)	Max. Deviation (KHz)	Verdict
Vnom	-20	5280.013809	13.809	Pass
	-10	5280.013546	13.546	Pass
	0	5280.013561	13.561	Pass
	10	5280.013890	13.890	Pass
	20	5280.013840	13.840	Pass
	30	5280.013056	13.056	Pass
	40	5280.013416	13.416	Pass
	50	5280.013814	13.814	Pass
85% Vnom	20	5280.013146	13.146	Pass
115% Vnom	20	5280.013413	13.413	Pass

802.11ac(VHT20) mode		5320	
Temperature :	--	Test Date :	December 15, 2016
Humidity :	65 %	Test By:	King Kong

Voltage(V)	Temp(°C)	Test Frequency (MHz)	Max. Deviation (KHz)	Verdict
Vnom	-20	5320.002246	2.246	Pass
	-10	5320.002156	2.156	Pass
	0	5320.002056	2.056	Pass
	10	5320.002056	2.056	Pass
	20	5320.002420	2.420	Pass
	30	5320.002580	2.580	Pass
	40	5320.002520	2.520	Pass
	50	5320.002496	2.496	Pass
85% Vnom	20	5320.002489	2.489	Pass
115% Vnom	20	5320.002849	2.849	Pass

802.11ac(VHT20) mode		5500	
Temperature :	--	Test Date :	December 15, 2016
Humidity :	65 %	Test By:	King Kong

Voltage(V)	Temp(°C)	Test Frequency (MHz)	Max. Deviation (KHz)	Verdict
Vnom	-20	5500.004121	4.121	Pass
	-10	5500.004160	4.160	Pass
	0	5500.004186	4.186	Pass
	10	5500.004952	4.952	Pass
	20	5500.004641	4.641	Pass
	30	5500.004146	4.146	Pass
	40	5500.004065	4.065	Pass
	50	5500.004215	4.215	Pass
85% Vnom	20	5500.004156	4.156	Pass
115% Vnom	20	5500.004892	4.892	Pass

802.11ac(VHT20) mode		5600	
Temperature :	--	Test Date :	December 15, 2016
Humidity :	65 %	Test By:	King Kong

Voltage(V)	Temp(°C)	Test Frequency (MHz)	Max. Deviation (KHz)	Verdict
Vnom	-20	5599.996976	-3.024	Pass
	-10	5599.996491	-3.509	Pass
	0	5599.996472	-3.528	Pass
	10	5599.996582	-3.418	Pass
	20	5599.996871	-3.129	Pass
	30	5599.996810	-3.190	Pass
	40	5599.996151	-3.849	Pass
	50	5599.996852	-3.148	Pass
85% Vnom	20	5599.996046	-3.954	Pass
115% Vnom	20	5599.996151	-3.849	Pass

802.11ac(VHT20) mode		5700	
Temperature :	--	Test Date :	December 15, 2016
Humidity :	65 %	Test By:	King Kong

Voltage(V)	Temp(°C)	Test Frequency (MHz)	Max. Deviation (KHz)	Verdict
Vnom	-20	5699.982710	-17.290	Pass
	-10	5699.982811	-17.189	Pass
	0	5699.982811	-17.189	Pass
	10	5699.982511	-17.489	Pass
	20	5699.982941	-17.059	Pass
	30	5699.982811	-17.189	Pass
	40	5699.982820	-17.180	Pass
	50	5699.982160	-17.840	Pass
85% Vnom	20	5699.982499	-17.501	Pass
115% Vnom	20	5699.982986	-17.014	Pass

802.11ac(VHT20) mode		5745	
Temperature :	--	Test Date :	December 15, 2016
Humidity :	65 %	Test By:	King Kong

Voltage(V)	Temp(°C)	Test Frequency (MHz)	Max. Deviation (KHz)	Verdict
Vnom	-20	5744.967110	-32.890	Pass
	-10	5744.967810	-32.190	Pass
	0	5744.967075	-32.925	Pass
	10	5744.967151	-32.849	Pass
	20	5744.967100	-32.900	Pass
	30	5744.967151	-32.849	Pass
	40	5744.967974	-32.026	Pass
	50	5744.967151	-32.849	Pass
85% Vnom	20	5744.967215	-32.785	Pass
115% Vnom	20	5744.967110	-32.890	Pass

802.11ac(VHT20) mode		5785	
Temperature :	--	Test Date :	December 15, 2016
Humidity :	65 %	Test By:	King Kong

Voltage(V)	Temp(°C)	Test Frequency (MHz)	Max. Deviation (KHz)	Verdict
Vnom	-20	5784.994110	-5.890	Pass
	-10	5784.994511	-5.489	Pass
	0	5784.994831	-5.169	Pass
	10	5784.994764	-5.236	Pass
	20	5784.994836	-5.164	Pass
	30	5784.994895	-5.105	Pass
	40	5784.994934	-5.066	Pass
	50	5784.994502	-5.498	Pass
85% Vnom	20	5784.994369	-5.631	Pass
115% Vnom	20	5784.994876	-5.124	Pass

802.11ac(VHT20) mode		5825	
Temperature :	--	Test Date :	December 15, 2016
Humidity :	65 %	Test By:	King Kong

Voltage(V)	Temp(°C)	Test Frequency (MHz)	Max. Deviation (KHz)	Verdict
Vnom	-20	5824.987437	-12.563	Pass
	-10	5824.987942	-12.058	Pass
	0	5824.987635	-12.365	Pass
	10	5824.987738	-12.262	Pass
	20	5824.987631	-12.369	Pass
	30	5824.987452	-12.548	Pass
	40	5824.987975	-12.025	Pass
	50	5824.987632	-12.368	Pass
85% Vnom	20	5824.987389	-12.611	Pass
115% Vnom	20	5824.987451	-12.549	Pass

802.11n(VHT40) mode		5190	
Temperature :	--	Test Date :	December 15, 2016
Humidity :	65 %	Test By:	King Kong

Voltage(V)	Temp(°C)	Test Frequency (MHz)	Max. Deviation (KHz)	Verdict
Vnom	-20	5189.975094	-24.906	Pass
	-10	5189.975977	-24.023	Pass
	0	5189.975969	-24.031	Pass
	10	5189.975931	-24.069	Pass
	20	5189.975360	-24.640	Pass
	30	5189.975640	-24.360	Pass
	40	5189.975685	-24.315	Pass
	50	5189.975635	-24.365	Pass
85% Vnom	20	5189.975838	-24.162	Pass
115% Vnom	20	5189.975508	-24.492	Pass

802.11n(VHT40) mode		5230	
Temperature :	--	Test Date :	December 15, 2016
Humidity :	65 %	Test By:	King Kong

Voltage(V)	Temp(°C)	Test Frequency (MHz)	Max. Deviation (KHz)	Verdict
Vnom	-20	5229.972351	-27.649	Pass
	-10	5229.972694	-27.306	Pass
	0	5229.972599	-27.401	Pass
	10	5229.972594	-27.406	Pass
	20	5229.972764	-27.236	Pass
	30	5229.972880	-27.120	Pass
	40	5229.972375	-27.625	Pass
	50	5229.972437	-27.563	Pass
85% Vnom	20	5229.972855	-27.145	Pass
115% Vnom	20	5229.972841	-27.159	Pass

802.11n(VHT40) mode		5270	
Temperature :	--	Test Date :	December 15, 2016
Humidity :	65 %	Test By:	King Kong

Voltage(V)	Temp(°C)	Test Frequency (MHz)	Max. Deviation (KHz)	Verdict
Vnom	-20	5270.025713	25.713	Pass
	-10	5270.025716	25.716	Pass
	0	5270.025316	25.316	Pass
	10	5270.025169	25.169	Pass
	20	5270.025348	25.348	Pass
	30	5270.025369	25.369	Pass
	40	5270.025452	25.452	Pass
	50	5270.025013	25.013	Pass
85% Vnom	20	5270.025403	25.403	Pass
115% Vnom	20	5270.025156	25.156	Pass

802.11n(VHT40) mode		5310	
Temperature :	--	Test Date :	December 15, 2016
Humidity :	65 %	Test By:	King Kong

Voltage(V)	Temp(°C)	Test Frequency (MHz)	Max. Deviation (KHz)	Verdict
Vnom	-20	5309.982542	-17.458	Pass
	-10	5309.982455	-17.545	Pass
	0	5309.982749	-17.251	Pass
	10	5309.982371	-17.629	Pass
	20	5309.982944	-17.056	Pass
	30	5309.982515	-17.485	Pass
	40	5309.982048	-17.952	Pass
	50	5309.982420	-17.580	Pass
85% Vnom	20	5309.982949	-17.051	Pass
115% Vnom	20	5309.982308	-17.692	Pass

802.11n(VHT40) mode		5510	
Temperature :	--	Test Date :	December 15, 2016
Humidity :	65 %	Test By:	King Kong

Voltage(V)	Temp(°C)	Test Frequency (MHz)	Max. Deviation (KHz)	Verdict
Vnom	-20	5510.009964	9.964	Pass
	-10	5510.009625	9.625	Pass
	0	5510.009369	9.369	Pass
	10	5510.009592	9.592	Pass
	20	5510.009548	9.548	Pass
	30	5510.009712	9.712	Pass
	40	5510.009625	9.625	Pass
	50	5510.009153	9.153	Pass
85% Vnom	20	5510.009360	9.360	Pass
115% Vnom	20	5510.009546	9.546	Pass

802.11n(VHT40) mode		5590	
Temperature :	--	Test Date :	December 15, 2016
Humidity :	65 %	Test By:	King Kong

Voltage(V)	Temp(°C)	Test Frequency (MHz)	Max. Deviation (KHz)	Verdict
Vnom	-20	5590.003459	3.459	Pass
	-10	5590.003265	3.265	Pass
	0	5590.003153	3.153	Pass
	10	5590.003025	3.025	Pass
	20	5590.003256	3.256	Pass
	30	5590.003156	3.156	Pass
	40	5590.003189	3.189	Pass
	50	5590.003419	3.419	Pass
85% Vnom	20	5590.003156	3.156	Pass
115% Vnom	20	5590.003156	3.156	Pass

802.11n(VHT40) mode		5670	
Temperature :	--	Test Date :	December 15, 2016
Humidity :	65 %	Test By:	King Kong

Voltage(V)	Temp(°C)	Test Frequency (MHz)	Max. Deviation (KHz)	Verdict
Vnom	-20	5669.980735	-19.265	Pass
	-10	5669.980810	-19.190	Pass
	0	5669.980811	-19.189	Pass
	10	5669.980842	-19.158	Pass
	20	5669.980850	-19.150	Pass
	30	5669.980845	-19.155	Pass
	40	5669.980860	-19.140	Pass
	50	5669.980844	-19.156	Pass
85% Vnom	20	5669.980247	-19.753	Pass
115% Vnom	20	5669.980616	-19.384	Pass

802.11n(VHT40) mode		5755	
Temperature :	--	Test Date :	December 15, 2016
Humidity :	65 %	Test By:	King Kong

Voltage(V)	Temp(°C)	Test Frequency (MHz)	Max. Deviation (KHz)	Verdict
Vnom	-20	5754.994731	-5.269	Pass
	-10	5754.994831	-5.169	Pass
	0	5754.994840	-5.160	Pass
	10	5754.994635	-5.365	Pass
	20	5754.994847	-5.153	Pass
	30	5754.994511	-5.489	Pass
	40	5754.994875	-5.125	Pass
	50	5754.994765	-5.235	Pass
85% Vnom	20	5754.994875	-5.125	Pass
115% Vnom	20	5754.994850	-5.150	Pass

802.11n(VHT40) mode		5795	
Temperature :	--	Test Date :	December 15, 2016
Humidity :	65 %	Test By:	King Kong

Voltage(V)	Temp(°C)	Test Frequency (MHz)	Max. Deviation (KHz)	Verdict
Vnom	-20	5794.985727	-14.273	Pass
	-10	5794.985731	-14.269	Pass
	0	5794.985643	-14.357	Pass
	10	5794.985842	-14.158	Pass
	20	5794.985852	-14.148	Pass
	30	5794.985944	-14.056	Pass
	40	5794.985455	-14.545	Pass
	50	5794.985419	-14.581	Pass
85% Vnom	20	5794.985895	-14.105	Pass
115% Vnom	20	5794.985975	-14.025	Pass

802.11ac(VHT40) mode		5190	
Temperature :	--	Test Date :	December 15, 2016
Humidity :	65 %	Test By:	King Kong

Voltage(V)	Temp(°C)	Test Frequency (MHz)	Max. Deviation (KHz)	Verdict
Vnom	-20	5189.980992	-19.008	Pass
	-10	5189.980650	-19.350	Pass
	0	5189.980537	-19.463	Pass
	10	5189.980850	-19.150	Pass
	20	5189.980844	-19.156	Pass
	30	5189.980864	-19.136	Pass
	40	5189.980244	-19.756	Pass
	50	5189.980848	-19.152	Pass
85% Vnom	20	5189.980269	-19.731	Pass
115% Vnom	20	5189.980807	-19.193	Pass

802.11ac(VHT40) mode		5230	
Temperature :	--	Test Date :	December 15, 2016
Humidity :	65 %	Test By:	King Kong

Voltage(V)	Temp(°C)	Test Frequency (MHz)	Max. Deviation (KHz)	Verdict
Vnom	-20	5229.984769	-15.231	Pass
	-10	5229.984346	-15.654	Pass
	0	5229.984841	-15.159	Pass
	10	5229.984517	-15.483	Pass
	20	5229.984550	-15.450	Pass
	30	5229.984218	-15.782	Pass
	40	5229.984848	-15.152	Pass
	50	5229.984952	-15.048	Pass
85% Vnom	20	5229.984844	-15.156	Pass
115% Vnom	20	5229.984852	-15.148	Pass

802.11ac(VHT40) mode		5270	
Temperature :	--	Test Date :	December 15, 2016
Humidity :	65 %	Test By:	King Kong

Voltage(V)	Temp(°C)	Test Frequency (MHz)	Max. Deviation (KHz)	Verdict
Vnom	-20	5270.021157	21.157	Pass
	-10	5270.021593	21.593	Pass
	0	5270.021255	21.255	Pass
	10	5270.021253	21.253	Pass
	20	5270.021482	21.482	Pass
	30	5270.021365	21.365	Pass
	40	5270.021153	21.153	Pass
	50	5270.021050	21.050	Pass
85% Vnom	20	5270.021522	21.522	Pass
115% Vnom	20	5270.021150	21.150	Pass

802.11ac(VHT40) mode		5310	
Temperature :	--	Test Date :	December 15, 2016
Humidity :	65 %	Test By:	King Kong

Voltage(V)	Temp(°C)	Test Frequency (MHz)	Max. Deviation (KHz)	Verdict
Vnom	-20	5309.992050	-7.950	Pass
	-10	5309.992369	-7.631	Pass
	0	5309.992731	-7.269	Pass
	10	5309.992452	-7.548	Pass
	20	5309.992944	-7.056	Pass
	30	5309.992741	-7.259	Pass
	40	5309.992504	-7.496	Pass
	50	5309.992801	-7.199	Pass
85% Vnom	20	5309.992831	-7.169	Pass
115% Vnom	20	5309.992148	-7.852	Pass

802.11ac(VHT40) mode		5510	
Temperature :	--	Test Date :	December 15, 2016
Humidity :	65 %	Test By:	King Kong

Voltage(V)	Temp(°C)	Test Frequency (MHz)	Max. Deviation (KHz)	Verdict
Vnom	-20	5509.984189	-15.811	Pass
	-10	5509.984735	-15.265	Pass
	0	5509.984511	-15.489	Pass
	10	5509.984646	-15.354	Pass
	20	5509.984731	-15.269	Pass
	30	5509.984977	-15.023	Pass
	40	5509.984752	-15.248	Pass
	50	5509.984680	-15.320	Pass
85% Vnom	20	5509.984746	-15.254	Pass
115% Vnom	20	5509.984550	-15.450	Pass

802.11ac(VHT40) mode		5590	
Temperature :	--	Test Date :	December 15, 2016
Humidity :	65 %	Test By:	King Kong

Voltage(V)	Temp(°C)	Test Frequency (MHz)	Max. Deviation (KHz)	Verdict
Vnom	-20	5589.975087	-24.913	Pass
	-10	5589.975844	-24.156	Pass
	0	5589.975918	-24.082	Pass
	10	5589.975070	-24.930	Pass
	20	5589.975781	-24.219	Pass
	30	5589.975510	-24.490	Pass
	40	5589.975515	-24.485	Pass
	50	5589.975520	-24.480	Pass
85% Vnom	20	5589.975545	-24.455	Pass
115% Vnom	20	5589.975151	-24.849	Pass

802.11ac(VHT40) mode		5670	
Temperature :	--	Test Date :	December 15, 2016
Humidity :	65 %	Test By:	King Kong

Voltage(V)	Temp(°C)	Test Frequency (MHz)	Max. Deviation (KHz)	Verdict
Vnom	-20	5669.984842	-15.158	Pass
	-10	5669.984514	-15.486	Pass
	0	5669.984151	-15.849	Pass
	10	5669.984186	-15.814	Pass
	20	5669.984495	-15.505	Pass
	30	5669.984595	-15.405	Pass
	40	5669.984151	-15.849	Pass
	50	5669.984151	-15.849	Pass
85% Vnom	20	5669.984644	-15.356	Pass
115% Vnom	20	5669.984511	-15.489	Pass

802.11ac(VHT40) mode		5755	
Temperature :	--	Test Date :	December 15, 2016
Humidity :	65 %	Test By:	King Kong

Voltage(V)	Temp(°C)	Test Frequency (MHz)	Max. Deviation (KHz)	Verdict
Vnom	-20	5754.983511	-16.489	Pass
	-10	5754.983842	-16.158	Pass
	0	5754.984565	-15.435	Pass
	10	5754.983770	-16.230	Pass
	20	5754.983642	-16.358	Pass
	30	5754.983744	-16.256	Pass
	40	5754.983247	-16.753	Pass
	50	5754.983514	-16.486	Pass
85% Vnom	20	5754.983108	-16.892	Pass
115% Vnom	20	5754.983698	-16.302	Pass

802.11ac(VHT40) mode		5795	
Temperature :	--	Test Date :	December 15, 2016
Humidity :	65 %	Test By:	King Kong

Voltage(V)	Temp(°C)	Test Frequency (MHz)	Max. Deviation (KHz)	Verdict
Vnom	-20	5794.974836	-25.164	Pass
	-10	5794.974850	-25.150	Pass
	0	5794.974244	-25.756	Pass
	10	5794.974842	-25.158	Pass
	20	5794.974810	-25.190	Pass
	30	5794.974355	-25.645	Pass
	40	5794.974518	-25.482	Pass
	50	5794.974898	-25.102	Pass
85% Vnom	20	5794.974784	-25.216	Pass
115% Vnom	20	5794.974842	-25.158	Pass

802.11ac(VHT80) mode		5210	
Temperature :	--	Test Date :	December 15, 2016
Humidity :	65 %	Test By:	King Kong

Voltage(V)	Temp(°C)	Test Frequency (MHz)	Max. Deviation (KHz)	Verdict
Vnom	-20	5209.969842	-30.158	Pass
	-10	5209.969520	-30.480	Pass
	0	5209.969452	-30.548	Pass
	10	5209.969520	-30.480	Pass
	20	5209.969452	-30.548	Pass
	30	5209.969520	-30.480	Pass
	40	5209.969511	-30.489	Pass
	50	5209.969511	-30.489	Pass
85% Vnom	20	5209.969151	-30.849	Pass
115% Vnom	20	5209.969740	-30.260	Pass

802.11ac(VHT80) mode		5290	
Temperature :	--	Test Date :	December 15, 2016
Humidity :	65 %	Test By:	King Kong

Voltage(V)	Temp(°C)	Test Frequency (MHz)	Max. Deviation (KHz)	Verdict
Vnom	-20	5290.038445	38.445	Pass
	-10	5290.038265	38.265	Pass
	0	5290.038598	38.598	Pass
	10	5290.038263	38.263	Pass
	20	5290.038241	38.241	Pass
	30	5290.038156	38.156	Pass
	40	5290.038159	38.159	Pass
	50	5290.038602	38.602	Pass
85% Vnom	20	5290.038600	38.600	Pass
115% Vnom	20	5290.038549	38.549	Pass

802.11ac(VHT80) mode		5530	
Temperature :	--	Test Date :	December 15, 2016
Humidity :	65 %	Test By:	King Kong

Voltage(V)	Temp(°C)	Test Frequency (MHz)	Max. Deviation (KHz)	Verdict
Vnom	-20	5529.959837	-40.163	Pass
	-10	5529.959810	-40.190	Pass
	0	5529.959410	-40.590	Pass
	10	5529.959741	-40.259	Pass
	20	5529.959437	-40.563	Pass
	30	5529.959542	-40.458	Pass
	40	5529.959519	-40.481	Pass
	50	5529.959490	-40.510	Pass
85% Vnom	20	5529.959844	-40.156	Pass
115% Vnom	20	5529.959402	-40.598	Pass

802.11ac(VHT80) mode		5610	
Temperature :	--	Test Date :	December 15, 2016
Humidity :	65 %	Test By:	King Kong

Voltage(V)	Temp(°C)	Test Frequency (MHz)	Max. Deviation (KHz)	Verdict
Vnom	-20	5609.969515	-30.485	Pass
	-10	5609.969544	-30.456	Pass
	0	5609.969735	-30.265	Pass
	10	5609.969315	-30.685	Pass
	20	5609.969480	-30.520	Pass
	30	5609.969410	-30.590	Pass
	40	5609.969889	-30.111	Pass
	50	5609.969350	-30.650	Pass
85% Vnom	20	5609.969431	-30.569	Pass
115% Vnom	20	5609.969452	-30.548	Pass

802.11ac(VHT80) mode		5775	
Temperature :	--	Test Date :	December 15, 2016
Humidity :	65 %	Test By:	King Kong

Voltage(V)	Temp(°C)	Test Frequency (MHz)	Max. Deviation (KHz)	Verdict
Vnom	-20	5774.980544	-19.456	Pass
	-10	5774.980544	-19.456	Pass
	0	5774.980454	-19.546	Pass
	10	5774.980454	-19.546	Pass
	20	5774.980850	-19.150	Pass
	30	5774.980810	-19.190	Pass
	40	5774.980420	-19.580	Pass
	50	5774.980850	-19.150	Pass
85% Vnom	20	5774.980950	-19.050	Pass
115% Vnom	20	5774.980810	-19.190	Pass

8.5 UNDESIRABLE RADIATED SPURIOUS EMISSION

8.5.1 Applicable Standard

According to FCC Part 15.407 (b)
According to 789033 D02 Section II(G)

8.5.2 Conformance Limit

For transmitters operating in the 5.15-5.25 GHz band: All emissions outside of the 5.15-5.35 GHz band shall not exceed an e.i.r.p. of −27 dBm/MHz.
For transmitters operating in the 5.25-5.35 GHz band: All emissions outside of the 5.15-5.35 GHz band shall not exceed an e.i.r.p. of −27 dBm/MHz.
For transmitters operating in the 5.47-5.725 GHz band: All emissions outside of the 5.47-5.725 GHz band shall not exceed an e.i.r.p. of −27 dBm/MHz.
For transmitters operating in the 5.725-5.85 GHz band: All emissions within the frequency range from the band edge to 10 MHz above or below the band edge shall not exceed an e.i.r.p. of −17 dBm/MHz; for frequencies 10 MHz or greater above or below the band edge, emissions shall not exceed an e.i.r.p. of −27 dBm/MHz.
The emission measurements shall be performed using a minimum resolution bandwidth of 1 MHz. A lower resolution bandwidth may be employed near the band edge, when necessary, provided the measured energy is integrated to show the total power over 1 MHz.
Unwanted emissions below 1 GHz must comply with the general field strength limits set forth in §15.209
The emissions from an intentional radiator shall not exceed the field strength levels specified in the following table 15.209(a):

Restricted Frequency(MHz)	Field Strength (μV/m)	Field Strength (dBμV/m)	Measurement Distance
0.009-0.490	2400/F(KHz)	20 log (uV/m)	300
0.490-1.705	2400/F(KHz)	20 log (uV/m)	30
1.705-30	30	29.5	30
30-88	100	40	3
88-216	150	43.5	3
216-960	200	46	3
Above 960	500	54	3

The provisions of §15.205 apply to intentional radiators operating under this section,15.205 Restricted bands of operation

MHz	MHz	MHz	GHz
0.090-0.110	16.42-16.423	399.9-410	4.5-5.15
10.495-0.505	16.69475-16.69525	608-614	5.35-5.46
2.1735-2.1905	16.80425-16.80475	960-1240	7.25-7.75
4.125-4.128	25.5-25.67	1300-1427	8.025-8.5
4.17725-4.17775	37.5-38.25	1435-1626.5	9.0-9.2
4.20725-4.20775	73-74.6	1645.5-1646.5	9.3-9.5
6.215-6.218	74.8-75.2	1660-1710	10.6-12.7
6.26775-6.26825	123-138	2200-2300	14.47-14.5
8.291-8.294	149.9-150.05	2310-2390	15.35-16.2
8.362-8.366	156.52475-156.52525	2483.5-2500	17.7-21.4
8.37625-8.38675	156.7-156.9	2690-2900	22.01-23.12
8.41425-8.41475	162.0125-167.17	3260-3267	23.6-24.0
12.29-12.293	167.72-173.2	3332-3339	31.2-31.8
12.51975-12.52025	240-285	3345.8-3358	36.43-36.5
12.57675-12.57725	322-335.4	3600-4400	(2)
13.36-13.41			

Remark: 1. Emission level in dBuV/m=20 log (uV/m)
2. Measurement was performed at an antenna to the closed point of EUT distance of meters.
3. Only spurious frequency is permitted to locate within the Restricted Bands specified in provision of ξ 15.205, and the emissions located in restricted bands also comply with 15.209 limit.

8.5.3 Test Configuration

Test according to clause 6.2 radio frequency test setup

8.5.4 Test Procedure

■ Unwanted Emissions Measurements below 1000 MHz

Compliance shall be demonstrated using CISPR quasi-peak detection; however, peak detection is permitted as an alternative to quasi-peak detection.
The EUT was placed on a turn table which is 0.8m above ground plane.
And also, each emission was to be maximized by changing the polarization of receiving antenna both horizontal and vertical.
Repeat above procedures until all frequency measured was complete.
We use software control the EUT, Let EUT hopping on and transmit with highest power, All the modes have been tested and the worst result was reported.
Use the following spectrum analyzer settings:
Set RBW=120kHz for f < 1 GHz(30MHz to 1GHz), 200Hz for f<150KHz(9KHz to 150KHz), 9KHz for <30MHz (150KHz to 30KHz).
Set the VBW > RBW.
Detector = Peak.
Trace mode = max hold.
Follow the guidelines in ANSI C63.10-2013 with respect to maximizing the emission by rotating the EUT, measuring the emission while the EUT is situated in three orthogonal planes (if appropriate), adjusting the measurement antenna height and polarization, etc. A pre-amp and a high pass filter are required for this test, in order to provide the measuring system with sufficient sensitivity. Allow the trace to stabilize. The peak reading of the emission, after being corrected by the antenna factor, cable loss, pre-amp gain, etc., is the peak field strength, which must comply with the limit specified in Section 15.35(b). Submit this data.
Repeat above procedures until all frequency measured was complete.

■ Unwanted Maximum peak Emissions Measurements above 1000 MHz

Maximum emission levels are measured by setting the analyzer as follows:
RBW = 1 MHz.
VBW ≥ 3 MHz.
Detector = Peak.
Sweep time = auto.
Trace mode = max hold.
Allow sweeps to continue until the trace stabilizes. Note that if the transmission is not continuous, the time required for the trace to stabilize will increase by a factor of approximately 1/x, where x is the duty cycle. For example, at 50 percent duty cycle, the measurement time will increase by a factor of two relative to measurement time for continuous transmission.

■ Unwanted Average Emissions Measurements above 1000 MHz

Method VB (Averaging using reduced video bandwidth): Alternative method.
RBW = 1 MHz.
Video bandwidth. • If the EUT is configured to transmit with duty cycle ≥ 98 percent, set VBW ≤ RBW/100 (i.e., 10 kHz) but not less than 10 Hz.
• If the EUT duty cycle is < 98 percent, set VBW ≥ 1/T, where T is defined in section II.B.1.a).
Video bandwidth mode or display mode • The instrument shall be set to ensure that video filtering is applied in the power domain. Typically, this requires setting the detector mode to RMS and setting the Average-VBW Type to Power (RMS).
• As an alternative, the analyzer may be set to linear detector mode. Ensure that video filtering is applied in linear voltage domain (rather than in a log or dB domain). Some analyzers require linear display mode in order to accomplish this. Others have a setting for Average-VBW Type, which can be set to “Voltage” regardless of the display mode.
Detector = Peak.
Sweep time = auto.
Trace mode = max hold.
Allow max hold to run for at least 50 traces if the transmitted signal is continuous or has at least 98 percent duty cycle. For lower duty cycles, increase the minimum number of traces by a factor of 1/x, where x is the duty cycle. For example, use at least 200 traces if the duty cycle is 25 percent. (If a specific emission is demonstrated to be continuous—i.e., 100 percent duty cycle—rather than turning on and off with the transmit cycle, at least 50 traces shall be averaged.)

■ Band edge measurements.

Unwanted band-edge emissions may be measured using either of the special band-edge measurement techniques (the marker-delta or integration methods) described below. Note that the marker-delta method is primarily a radiated measurement technique that requires the 99% occupied bandwidth edge to be within 2 MHz of the authorized band edge, whereas the integration method can be used in either a radiated or conducted measurement without any special requirement with regards to the displacement of the unwanted emission(s) relative to the authorized bandwidth.

Marker-Delta Method.

The marker-delta method, as described in ANSI C63.10, can be used to perform measurements of the radiated unwanted emissions level of emissions provided that the 99% occupied bandwidth of the fundamental is within 2 MHz of the authorized band-edge.

8.5.5 Test Results

■ ☒For Undesirable radiated Spurious Emission in UNII Band I

The voltage 120V &240V and the modes 802.11a/n/ac has been tested and the worst result recorded as below:

- ☒Undesirable radiated Spurious Emission Above 1GHz (1GHz to 40GHz)

Temperature :	28°C	Test Date :	December 15, 2016
Humidity :	65 %	Test By:	King Kong
Test mode:	802.11a	Frequency(MHz):	5180

Freq. (MHz)	Ant.Pol. H/V	Field Strength (dBuV/m)	E.I.R.P (dBm)	Limit (dBm)	Over(dB)
6400.22	V	54.19	-41.04	-27	-14.04
9088.63	V	59.17	-36.06	-27	-9.06
12469.21	V	62.41	-32.82	-27	-5.82
6264.13	H	54.96	-40.27	-27	-13.27
9632.66	H	59.70	-35.53	-27	-8.53
12656.14	H	64.19	-31.04	-27	-4.04

Temperature :	28°C	Test Date :	December 15, 2016
Humidity :	65 %	Test By:	King Kong
Test mode:	802.11a	Frequency(MHz):	5220

Freq. (MHz)	Ant.Pol. H/V	Field Strength (dBuV/m)	E.I.R.P (dBm)	Limit (dBm)	Over(dB)
6398.85	V	53.50	-41.73	-27	-14.73
9089.67	V	58.70	-36.53	-27	-9.53
12470.26	V	62.14	-33.09	-27	-6.09
6262.79	H	54.33	-40.90	-27	-13.9
9633.72	H	58.85	-36.38	-27	-9.38
12654.79	H	61.02	-34.21	-27	-7.21

Temperature :	28°C	Test Date :	December 15, 2016
Humidity :	65 %	Test By:	King Kong
Test mode:	802.11a	Frequency(MHz):	5240

Freq. (MHz)	Ant.Pol. H/V	Field Strength (dBuV/m)	E.I.R.P (dBm)	Limit (dBm)	Over(dB)
6397.33	V	52.98	-42.25	-27	-15.25
9090.68	V	58.22	-37.01	-27	-10.01
12468.75	V	63.3	-31.93	-27	-4.93
6261.33	H	54.18	-41.05	-27	-14.05
9634.7	H	58.8	-36.43	-27	-9.43
12653.35	H	62.42	-32.81	-27	-5.81

Note: (1) All Readings are Peak Value (VBW=3MHz) and Peak Value (VBW=10Hz).
(2) Emission Level= Reading Level+Probe Factor +Cable Loss.
(3)EIRP[dBm] = E[dBμV/m] + 20 log(d[meters]) - 104.77
d is the measurement distance in 3 meters

- ☒Undesirable radiated Undesirable radiated Spurious Emission in Band Edge

Temperature :	28°C	Test Date :	December 15, 2016
Humidity :	65 %	Test By:	King Kong
Test mode:	802.11a	Frequency(MHz):	5180

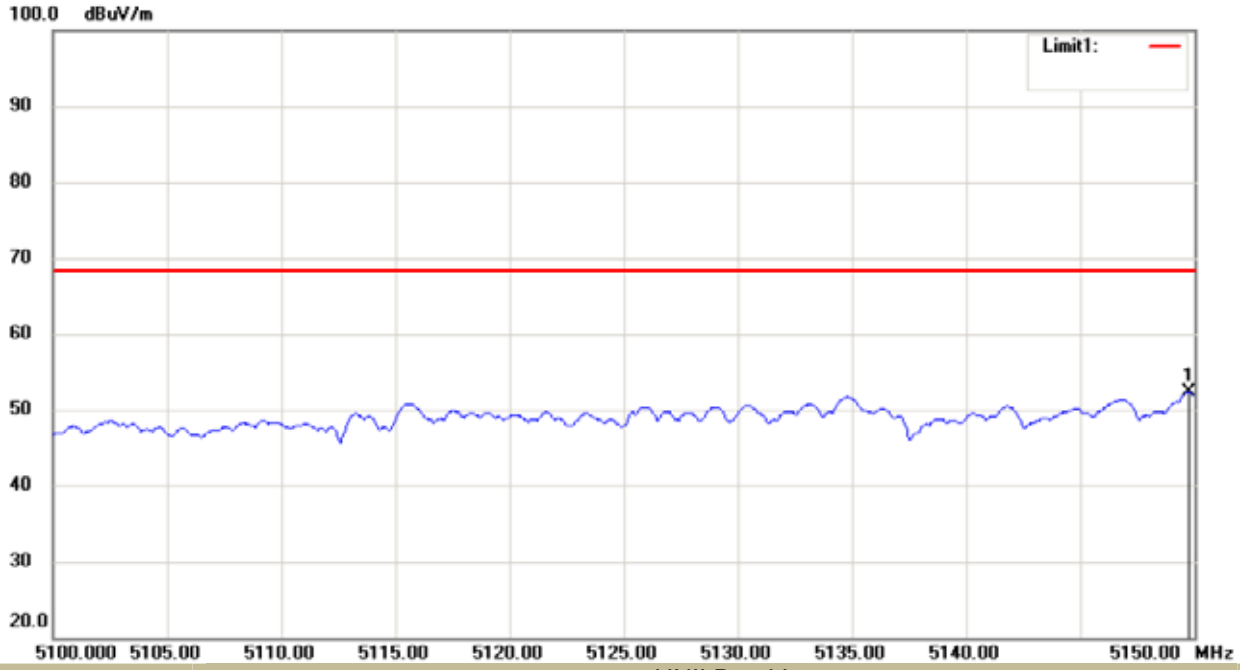
Freq. (MHz)	Ant.Pol. H/V	Field Strength (RBW=100KHz) (dBuV/m)	E.I.R.P (dBm)	Limit (dBm)	Verdict
5149.75	H	52.34	-42.89	-27	Pass
5149.85	V	49.93	-45.30	-27	Pass

Temperature :	28°C	Test Date :	December 15, 2016
Humidity :	65 %	Test By:	King Kong
Test mode:	802.11a	Frequency(MHz):	5240

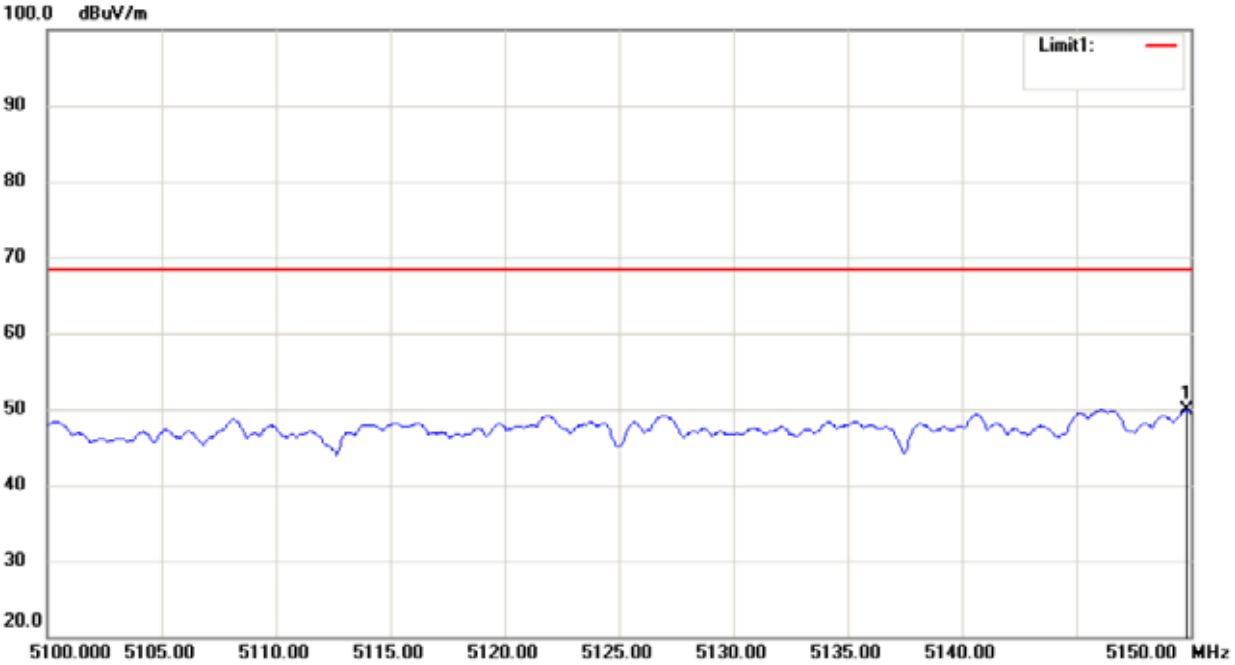
Freq. (MHz)	Ant.Pol. H/V	Field Strength (RBW=100KHz) (dBuV/m)	E.I.R.P (dBm)	Limit (dBm)	Verdict
5363.75	V	46.85	-48.38	-27	Pass
5352.30	H	46.77	-48.46	-27	Pass

Note: (1) All Readings are Peak Value (VBW=3MHz) and Peak Value (VBW=10Hz).
(2) Emission Level= Reading Level+Probe Factor +Cable Loss.
(3)EIRP[dBm] = E[dBμV/m] + 20 log(d[meters]) - 104.77
d is the measurement distance in 3 meters

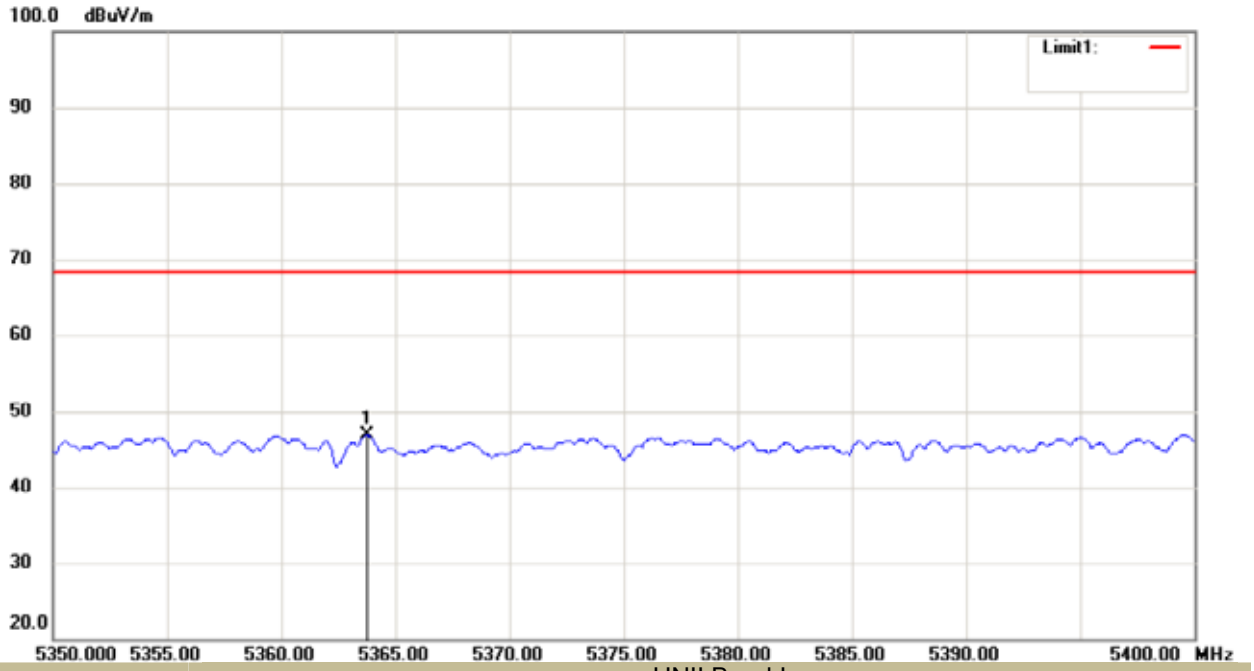
Test Model	UNII Band I Undesirable radiated Spurious Emission in Restricted Band (5100-5150MHz) ☒802.11a ☐802.11n(HT20) ☐802.11n(HT40) ☒5180 ☐5200 ☐5240 Ant.Pol H



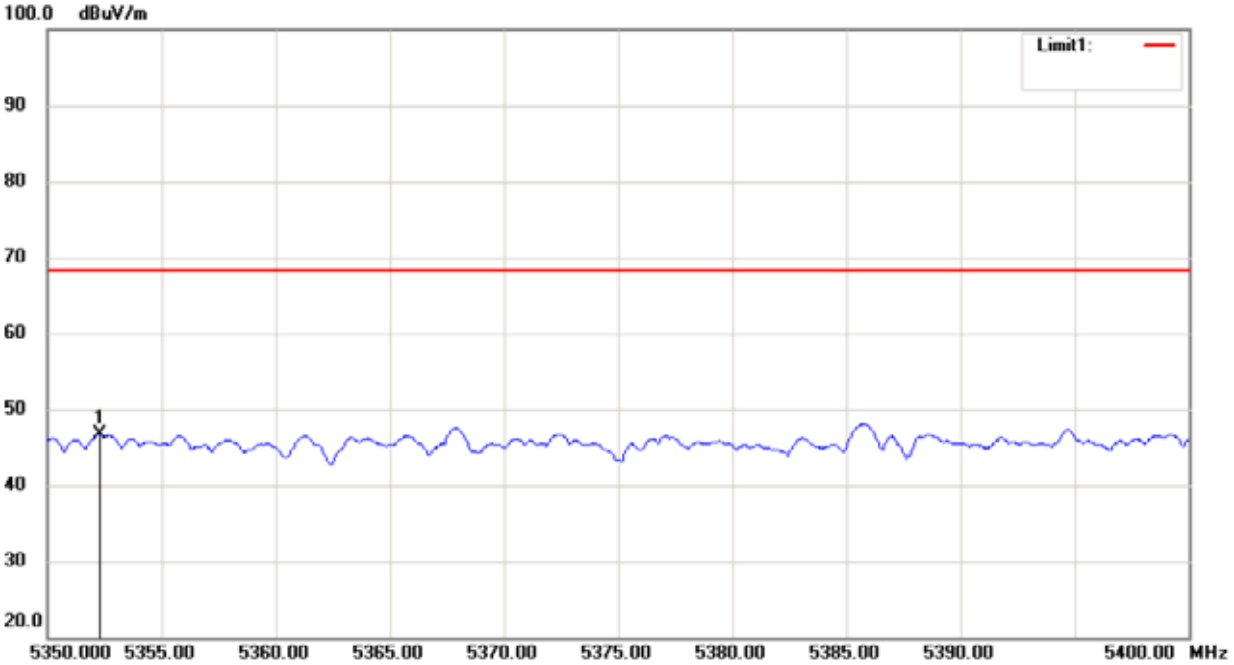
Test Model	UNII Band I Undesirable radiated Spurious Emission in Restricted Band (5100-5150MHz) ☒802.11a ☐802.11n(HT20) ☐802.11n(HT40) ☒5180 ☐5200 ☐5240 Ant.Pol V



Test Model	UNII Band I Undesirable radiated Spurious Emission in Restricted Band (5350-5400MHz) ☒802.11a ☐802.11n(HT20) ☐802.11n(HT40) ☐5180 ☐5200 ☒5240 Ant.Pol H



Test Model	UNII Band I Undesirable radiated Spurious Emission in Restricted Band (5350-5400MHz) ☒802.11a ☐802.11n(HT20) ☐802.11n(HT40) ☐5180 ☐5200 ☒5240 Ant.Pol V



■ ☒For Undesirable radiated Spurious Emission in UNII Band II-A
All the modes 802.11a/n/ac has been tested and the worst result 802.11n(ht40) recorded as below:

- ☒Undesirable radiated Spurious Emission Above 1GHz (1GHz to 40GHz)

Temperature :	28°C	Test Date :	December 15, 2016
Humidity :	65 %	Test By:	King Kong
Test mode:	802.11n(ht40)	Frequency(MHz):	5260

Freq. (MHz)	Ant.Pol. H/V	Field Strength (dBuV/m)	E.I.R.P (dBm)	Limit (dBm)	Over(dB)
6455.8	V	48.8	-46.43	-27	-19.43
9146.62	V	53.49	-41.74	-27	-14.74
12524.78	V	61.35	-33.88	-27	-6.88
6319.62	H	49.74	-45.49	-27	-18.49
9690.68	H	54.52	-40.71	-27	-13.71
12711.64	H	60.65	-34.58	-27	-7.58

Temperature :	28°C	Test Date :	December 15, 2016
Humidity :	65 %	Test By:	King Kong
Test mode:	802.11n(ht40)	Frequency(MHz):	5280

Freq. (MHz)	Ant.Pol. H/V	Field Strength (dBuV/m)	E.I.R.P (dBm)	Limit (dBm)	Over(dB)
6454.34	V	48.65	-46.58	-27	-19.58
9147.6	V	53.44	-41.79	-27	-14.79
12523.34	V	60.75	-34.48	-27	-7.48
6318.13	H	49.10	-46.13	-27	-19.13
9691.67	H	54.00	-41.23	-27	-14.23
12710.16	H	60.29	-34.94	-27	-7.94

Temperature :	28°C	Test Date :	December 15, 2016
Humidity :	65 %	Test By:	King Kong
Test mode:	802.11n(ht40)	Frequency(MHz):	5320

Freq. (MHz)	Ant.Pol. H/V	Field Strength (dBuV/m)	E.I.R.P (dBm)	Limit (dBm)	Over(dB)
6452.98	V	48.09	-47.14	-27	-20.14
9148.67	V	53.16	-42.07	-27	-15.07
12521.97	V	60.06	-35.17	-27	-8.17
6319.17	H	48.63	-46.6	-27	-19.6
9692.72	H	53.73	-41.5	-27	-14.5
12708.82	H	59.66	-35.57	-27	-8.57

Note: (1) All Readings are Peak Value (VBW=3MHz) and Peak Value (VBW=10Hz).
(2) Emission Level= Reading Level+Probe Factor +Cable Loss.
(3)EIRP[dBm] = E[dBμV/m] + 20 log(d[meters]) - 104.77
d is the measurement distance in 3 meters

- ☒Undesirable radiated Undesirable radiated Spurious Emission in Band Edge

Temperature :	28°C	Test Date :	December 15, 2016
Humidity :	65 %	Test By:	King Kong
Test mode:	802.11n(ht40)	Frequency(MHz):	5260

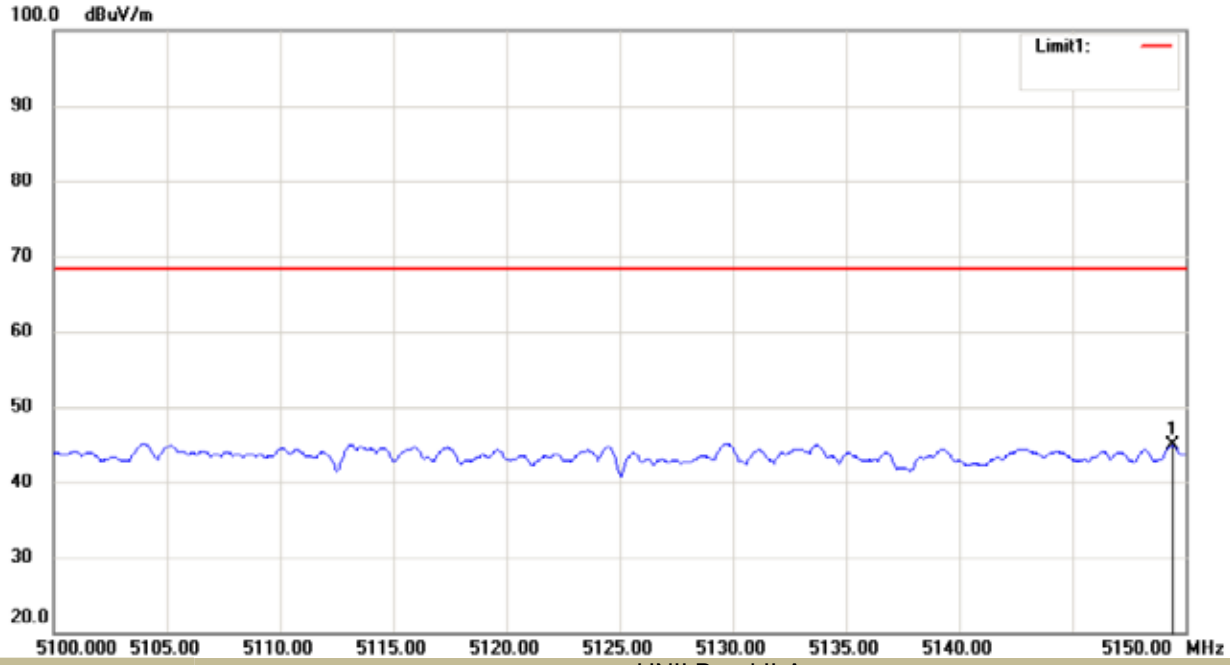
Freq. (MHz)	Ant.Pol. H/V	Field Strength (RBW=100KHz) (dBuV/m)	E.I.R.P (dBm)	Limit (dBm)	Verdict
5144.5	V	45.30	-49.93	-27	Pass
5149.4	H	44.81	-50.42	-27	Pass

Temperature :	28°C	Test Date :	December 15, 2016
Humidity :	65 %	Test By:	King Kong
Test mode:	802.11n(ht40)	Frequency(MHz):	5320

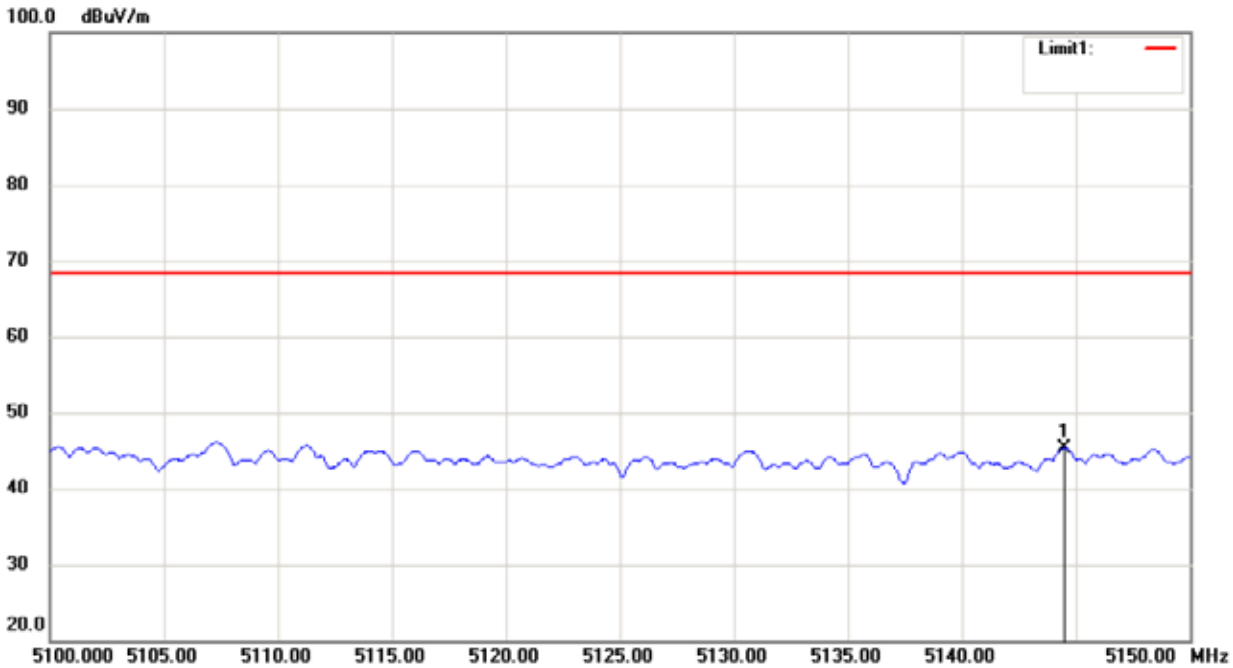
Freq. (MHz)	Ant.Pol. H/V	Field Strength (RBW=100KHz) (dBuV/m)	E.I.R.P (dBm)	Limit (dBm)	Verdict
5350.55	V	55.40	-39.83	-27	Pass
5353.75	H	52.97	-42.26	-27	Pass

Note: (1) All Readings are Peak Value (VBW=3MHz) and Peak Value (VBW=10Hz).
(2) Emission Level= Reading Level+Probe Factor +Cable Loss.
(3)EIRP[dBm] = E[dBμV/m] + 20 log(d[meters]) - 104.77
d is the measurement distance in 3 meters

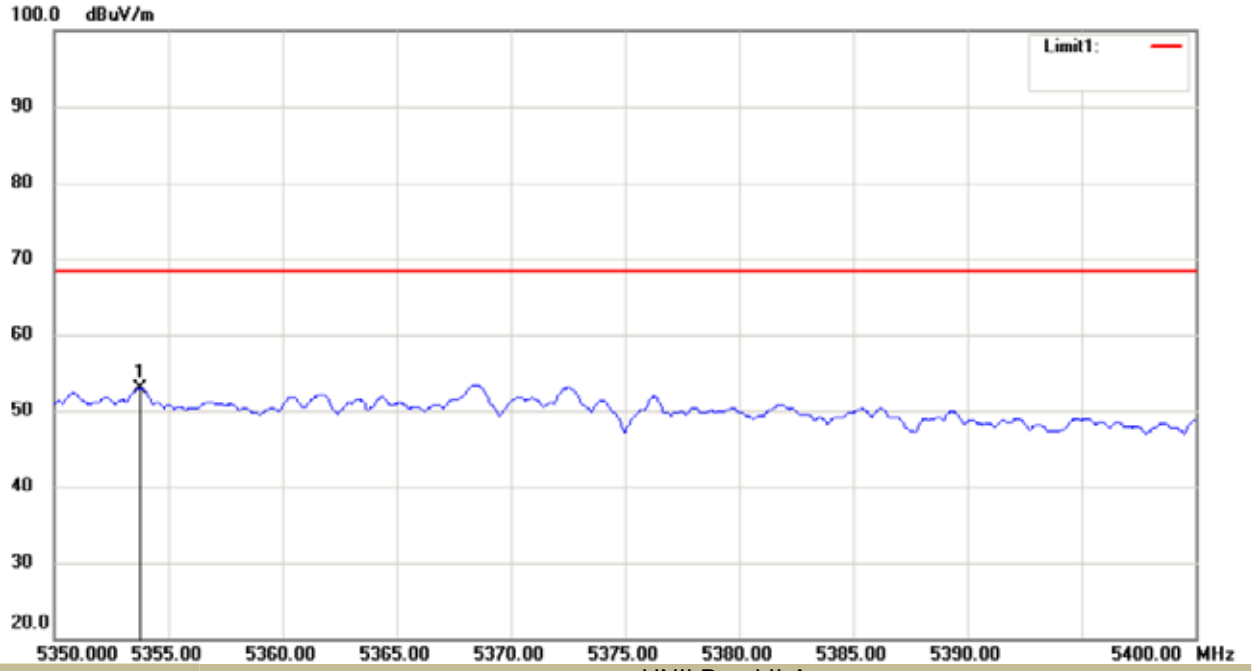
Test Model	UNII Band II-A Undesirable radiated Undesirable radiated Spurious Emission in Band Edge ☐802.11a ☐802.11n(HT20) ☒802.11n(HT40) ☒5260 Ant.Pol H



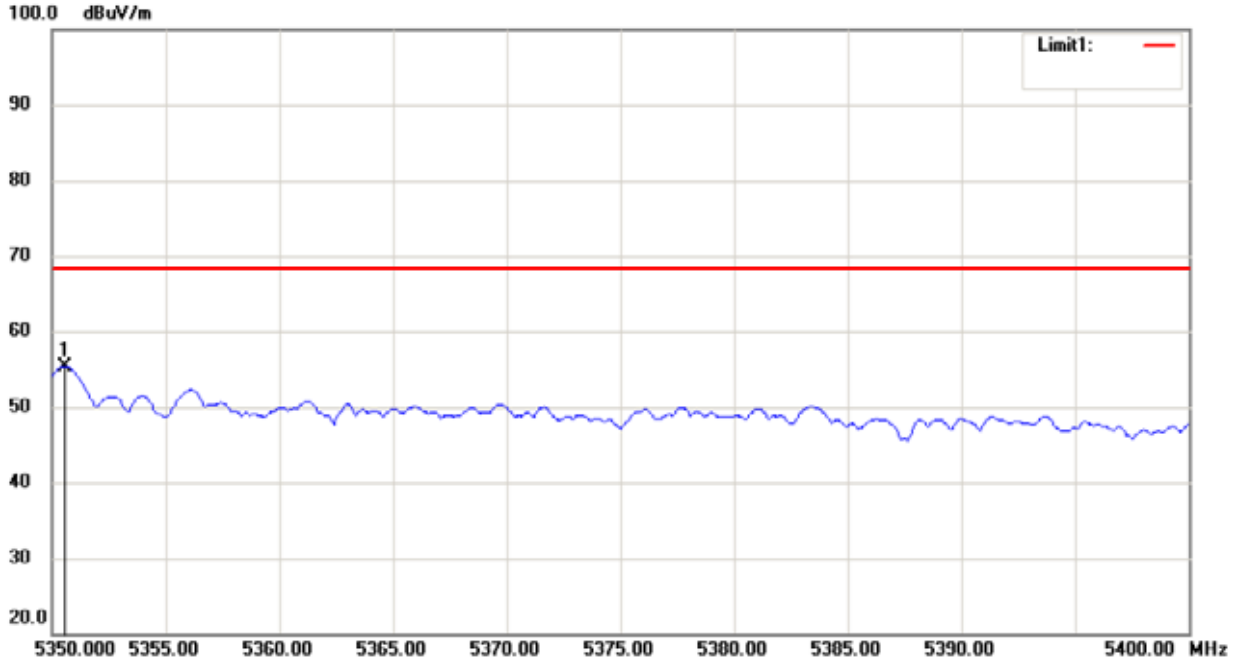
Test Model	UNII Band II-A Undesirable radiated Undesirable radiated Spurious Emission in Band Edge ☐802.11a ☐802.11n(HT20) ☒802.11n(HT40) ☒5260 Ant.Pol V



Test Model	UNII Band II-A Undesirable radiated Undesirable radiated Spurious Emission in Band Edge ☐802.11a ☐802.11n(HT20) ☒802.11n(HT40) ☒5320 Ant.Pol H



Test Model	UNII Band II-A Undesirable radiated Undesirable radiated Spurious Emission in Band Edge ☐802.11a ☐802.11n(HT20) ☒802.11n(HT40) ☒5320 Ant.Pol V



■ ☒For Undesirable radiated Spurious Emission in UNII Band II-C
All the modes 802.11a/n/ac has been tested and the worst result 802.11a recorded as below:

- ☒Undesirable radiated Spurious Emission Above 1GHz (1GHz to 40GHz)

Temperature :	28°C	Test Date :	December 15, 2016
Humidity :	65 %	Test By:	King Kong
Test mode:	802.11a	Frequency(MHz):	5500

Freq. (MHz)	Ant.Pol. H/V	Field Strength (dBuV/m)	E.I.R.P (dBm)	Limit (dBm)	Over(dB)
6455.39	V	48.38	-46.85	-27	-19.85
9146.26	V	52.81	-42.42	-27	-15.42
12524.4	V	59.9	-35.33	-27	-8.33
6316.78	H	48.93	-46.3	-27	-19.3
9690.29	H	53.42	-41.81	-27	-14.81
12711.23	H	59.92	-35.31	-27	-8.31

Temperature :	28°C	Test Date :	December 15, 2016
Humidity :	65 %	Test By:	King Kong
Test mode:	802.11a	Frequency(MHz):	5600

Freq. (MHz)	Ant.Pol. H/V	Field Strength (dBuV/m)	E.I.R.P (dBm)	Limit (dBm)	Over(dB)
6454.02	V	47.69	-47.54	-27	-20.54
9147.3	V	52.34	-42.89	-27	-15.89
12525.45	V	59.63	-35.60	-27	-8.60
6315.44	H	48.30	-46.93	-27	-19.93
9691.35	H	52.57	-42.66	-27	-15.66
12709.88	H	59.75	-35.48	-27	-8.48

Temperature :	28°C	Test Date :	December 15, 2016
Humidity :	65 %	Test By:	King Kong
Test mode:	802.11a	Frequency(MHz):	5700

Freq. (MHz)	Ant.Pol. H/V	Field Strength (dBuV/m)	E.I.R.P (dBm)	Limit (dBm)	Over(dB)
6455.12	V	47.27	-47.96	-27	-20.96
9145.87	V	51.65	-43.58	-27	-16.58
12526.43	V	58.65	-36.58	-27	-9.58
6314.00	H	47.94	-47.29	-27	-20.29
9689.83	H	52.05	-43.18	-27	-16.18
12710.89	H	59.27	-35.96	-27	-8.96

Note: (1) All Readings are Peak Value (VBW=3MHz) and Peak Value (VBW=10Hz).
(2) Emission Level= Reading Level+Probe Factor +Cable Loss.
(3)EIRP[dBm] = E[dBμV/m] + 20 log(d[meters]) - 104.77
d is the measurement distance in 3 meters

- Undesirable radiated Undesirable radiated Spurious Emission in Band Edge

Temperature :	28°C	Test Date :	December 15, 2016
Humidity :	65 %	Test By:	King Kong
Test mode:	802.11n(ht40)	Frequency(MHz):	5260

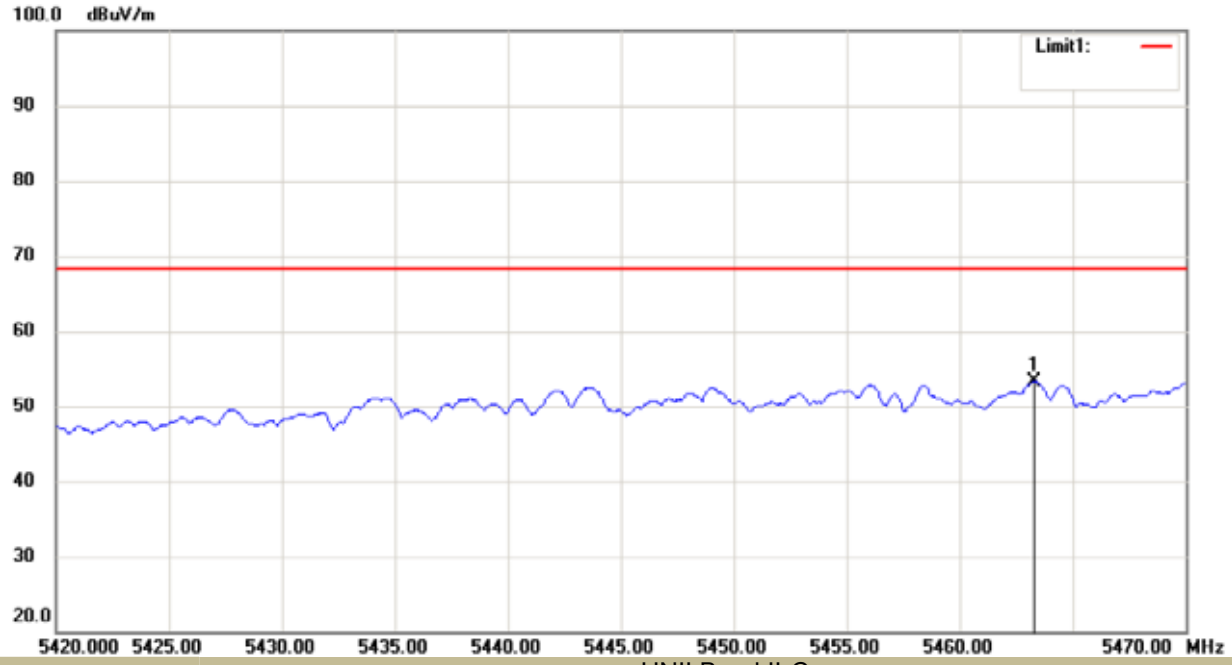
Freq. (MHz)	Ant.Pol. H/V	Field Strength (RBW=100KHz) (dBuV/m)	E.I.R.P (dBm)	Limit (dBm)	Verdict
5468.20	V	52.15	-43.08	-27	Pass
5463.30	H	53.25	-41.98	-27	Pass

Temperature :	28°C	Test Date :	December 15, 2016
Humidity :	65 %	Test By:	King Kong
Test mode:	802.11n(ht40)	Frequency(MHz):	5320

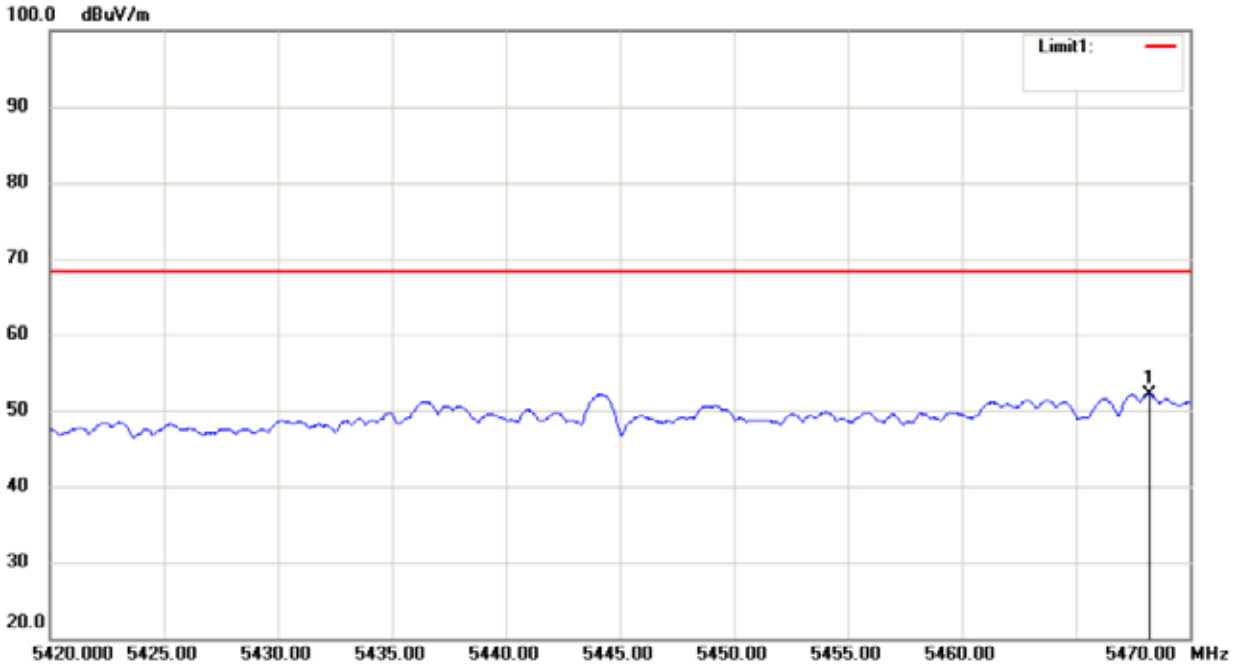
Freq. (MHz)	Ant.Pol. H/V	Field Strength (RBW=100KHz) (dBuV/m)	E.I.R.P (dBm)	Limit (dBm)	Verdict
5725.00	V	56.58	-38.65	-27	Pass
2730.55	H	53.59	-41.64	-27	Pass

Note: (1) All Readings are Peak Value (VBW=3MHz) and Peak Value (VBW=10Hz).
(2) Emission Level= Reading Level+Probe Factor +Cable Loss.
(3)EIRP[dBm] = E[dBμV/m] + 20 log(d[meters]) - 104.77
d is the measurement distance in 3 meters

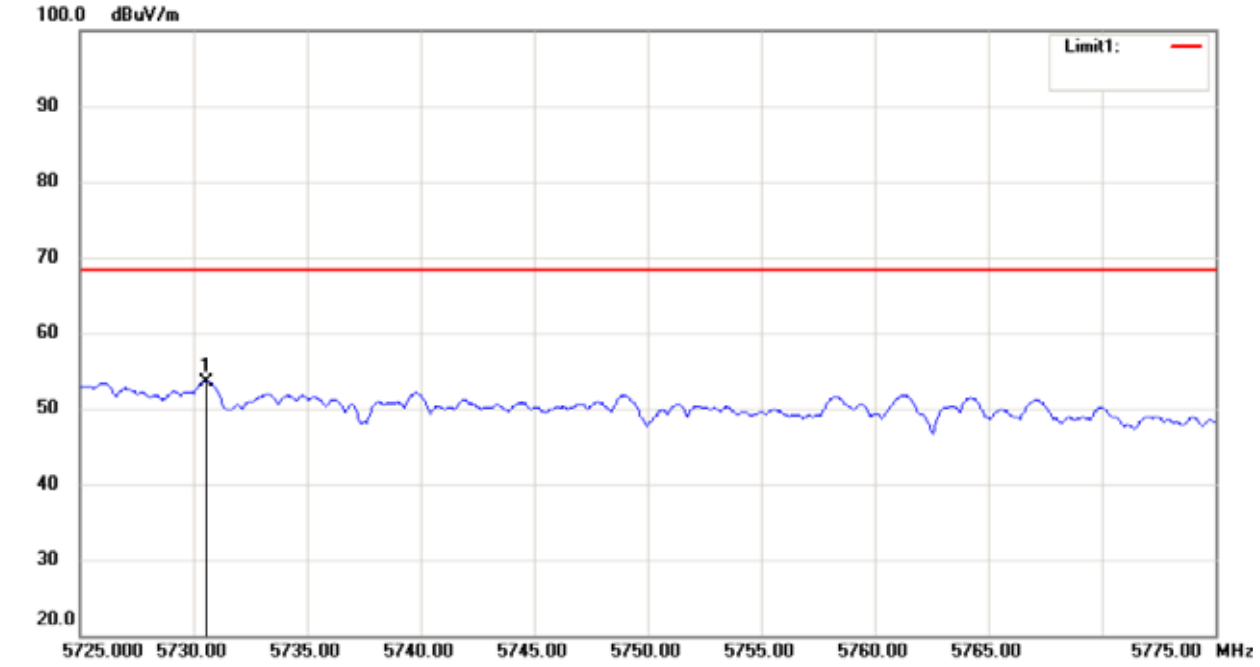
Test Model	UNII Band II-C Undesirable radiated Undesirable radiated Spurious Emission in Band Edge ☒802.11a ☐802.11n(HT20) ☐802.11n(HT40) ☒5500 Ant.Pol H



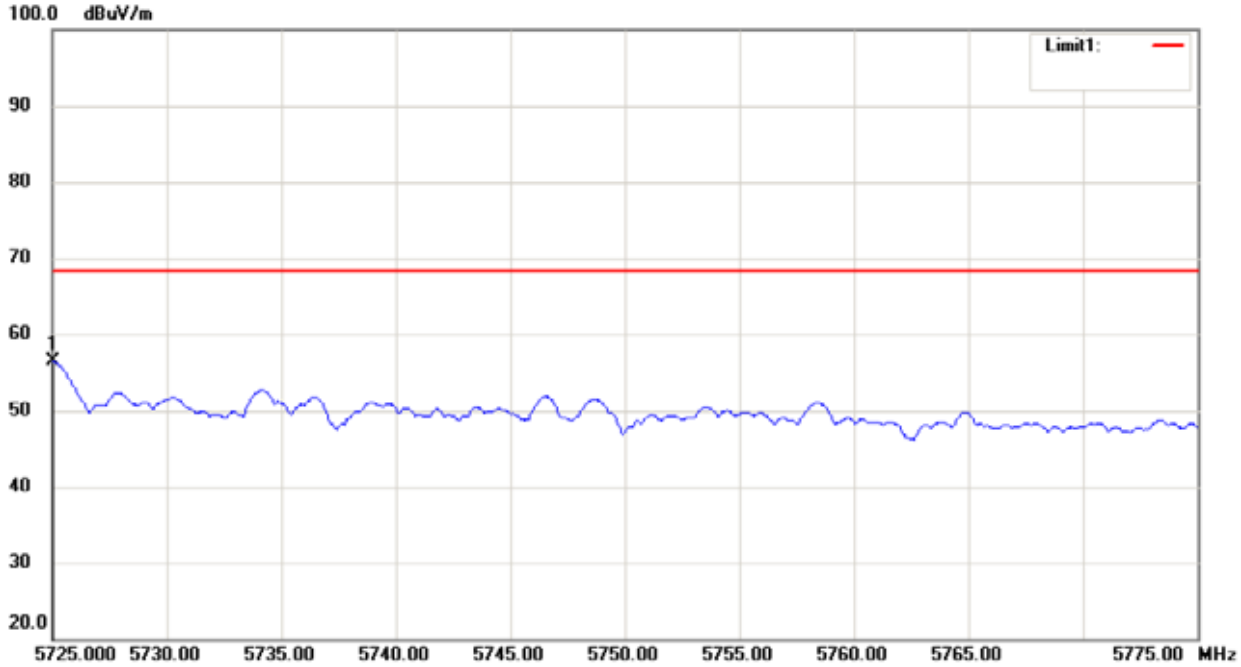
Test Model	UNII Band II-C Undesirable radiated Undesirable radiated Spurious Emission in Band Edge ☒802.11a ☐802.11n(HT20) ☐802.11n(HT40) ☒5500 Ant.Pol V



Test Model	UNII Band II-C Undesirable radiated Undesirable radiated Spurious Emission in Band Edge ☒802.11a ☐802.11n(HT20) ☐802.11n(HT40) ☒5700 Ant.Pol H



Test Model	UNII Band II-C Undesirable radiated Undesirable radiated Spurious Emission in Band Edge ☒802.11a ☐802.11n(HT20) ☐802.11n(HT40) ☒5700 Ant.Pol V



■ ☒For Undesirable radiated Spurious Emission in UNII Band III

All the modes 802.11a/n/ac has been tested and the worst result 802.11a recorded as below:

● ☒Undesirable radiated Spurious Emission Above 1GHz (1GHz to 40GHz)

Temperature :	28°C	Test Date :	December 15, 2016
Humidity :	65 %	Test By:	King Kong
Test mode:	802.11a	Frequency(MHz):	5745

Freq. (MHz)	Ant.Pol. H/V	Field Strength (dBuV/m)	E.I.R.P (dBm)	Limit (dBm)	Over(dB)
6452.59	V	47	-48.23	-27.00	-21.23
9148.28	V	51.36	-43.87	-27.00	-16.87
12524.01	V	59.27	-35.96	-27.00	-8.96
6313.92	H	47.78	-47.45	-27.00	-20.45
9692.36	H	52.09	-43.14	-27.00	-16.14
12708.37	H	58.91	-36.32	-27.00	-9.32

Temperature :	28°C	Test Date :	December 15, 2016
Humidity :	65 %	Test By:	King Kong
Test mode:	802.11a	Frequency(MHz):	5785

Freq. (MHz)	Ant.Pol. H/V	Field Strength (dBuV/m)	E.I.R.P (dBm)	Limit (dBm)	Over(dB)
6451.24	V	46.83	-48.40	-27.00	-21.40
9146.90	V	50.78	-44.45	-27.00	-17.45
12525.08	V	58.90	-36.33	-27.00	-9.33
6315.02	H	47.36	-47.87	-27.00	-20.87
9690.93	H	51.40	-43.83	-27.00	-16.83
12709.35	H	57.93	-37.30	-27.00	-10.30

Temperature :	28°C	Test Date :	December 15, 2016
Humidity :	65 %	Test By:	King Kong
Test mode:	802.11a	Frequency(MHz):	5825

Freq. (MHz)	Ant.Pol. H/V	Field Strength (dBuV/m)	E.I.R.P (dBm)	Limit (dBm)	Over(dB)
6452.31	V	46.55	-48.68	-27.00	-21.68
9145.53	V	50.09	-45.14	-27.00	-18.14
12526.12	V	58.43	-36.80	-27.00	-9.80
6316.07	H	47.09	-48.14	-27.00	-21.14
9689.59	H	50.77	-44.46	-27.00	-17.46
12710.41	H	57.08	-38.15	-27.00	-11.15

Note: (1) All Readings are Peak Value (VBW=3MHz) and Peak Value (VBW=10Hz).
(2) Emission Level= Reading Level+Probe Factor +Cable Loss.
(3)EIRP[dBm] = E[dBμV/m] + 20 log(d[meters]) - 104.77
d is the measurement distance in 3 meters

- ☒Undesirable radiated Spurious Emission in band edge

Temperature :	28°C	Test Date :	December 15, 2016
Humidity :	65 %	Test By:	King Kong
Test mode:	802.11a	Frequency:	5745

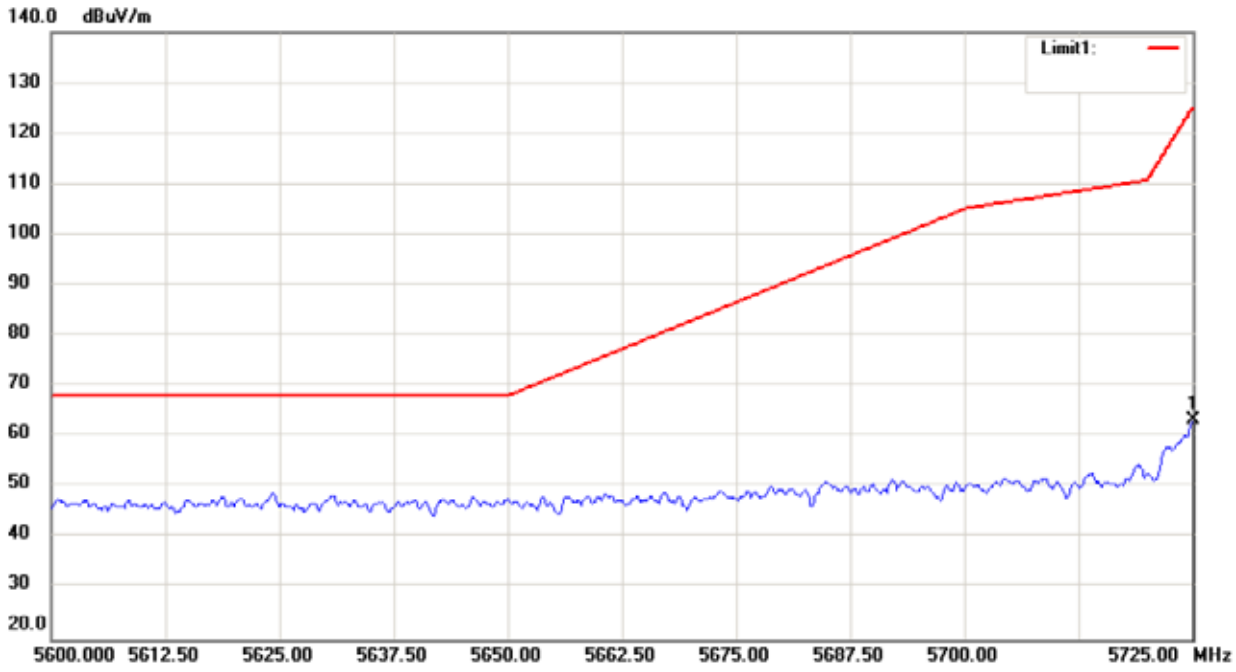
Freq. (MHz)	Ant.Pol. H/V	Field Strength (RBW=100KHz) (dBuV/m)	E.I.R.P (dBm)	Limit (dBm)	Verdict
5725.000	H	63.37	-31.86	-17	PASS
5723.125	V	64.39	-30.84	-17	PASS

Temperature :	28°C	Test Date :	December 15, 2016
Humidity :	65 %	Test By:	King Kong
Test mode:	802.11a	Frequency:	5825

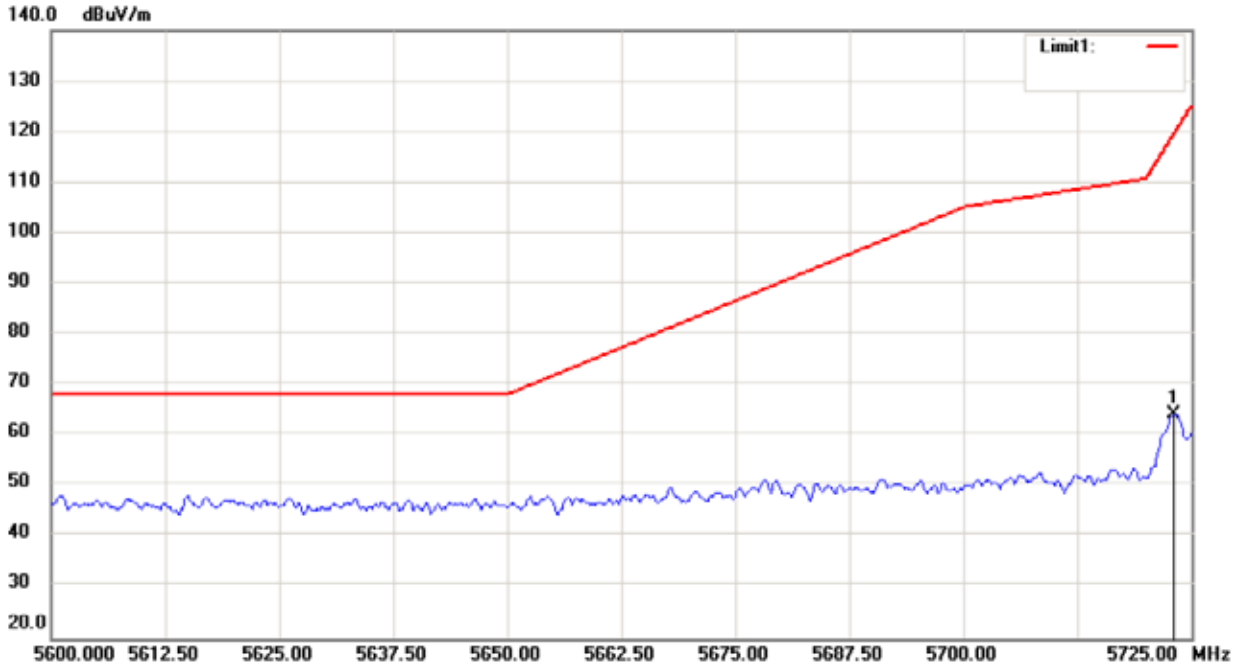
Freq. (MHz)	Ant.Pol. H/V	Field Strength (RBW=100KHz) (dBuV/m)	E.I.R.P (dBm)	Limit (dBm)	Verdict
5851.750	H	52.23	-43.00	-17	PASS
5850.875	V	52.74	-42.49	-17	PASS

Note: (1) All Readings are Peak Value (VBW=3MHz) and Peak Value (VBW=10Hz).
(2) Emission Level= Reading Level+Probe Factor +Cable Loss.
(3)EIRP[dBm] = E[dBμV/m] + 20 log(d[meters]) - 104.77
d is the measurement distance in 3 meters

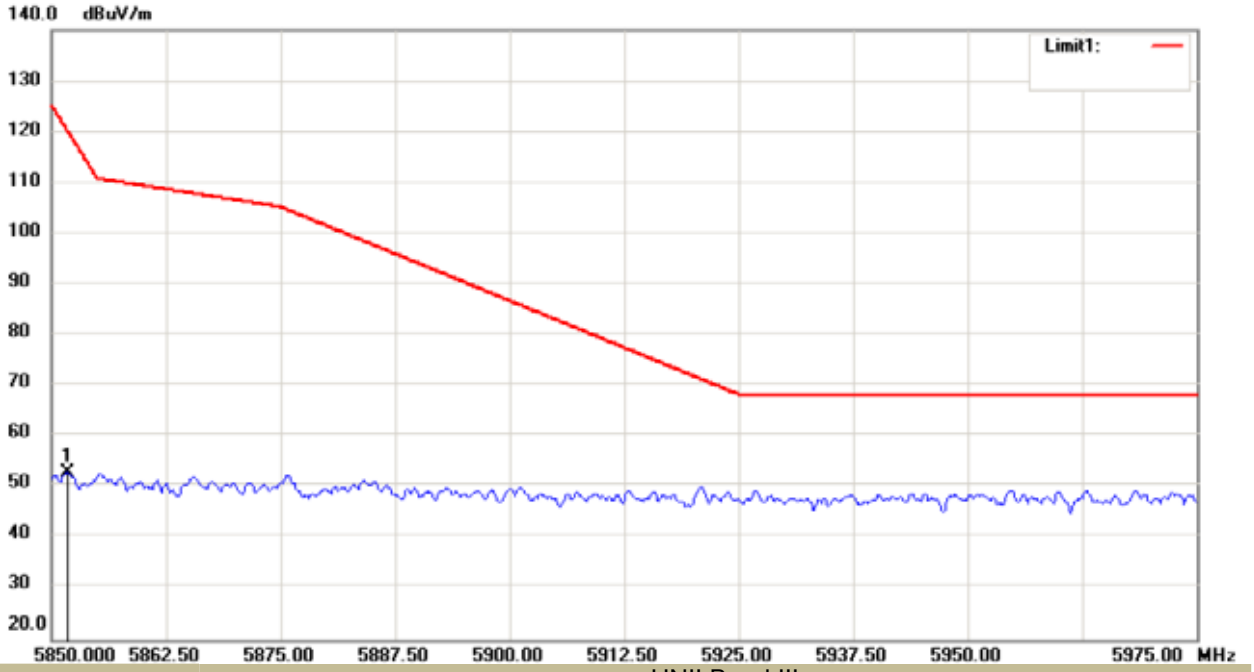
Test Model	UNII Band III Undesirable radiated Undesirable radiated Spurious Emission in Band Edge ☒802.11a ☐802.11n(HT20) ☐802.11n(HT40) ☒5745 Ant.Pol H



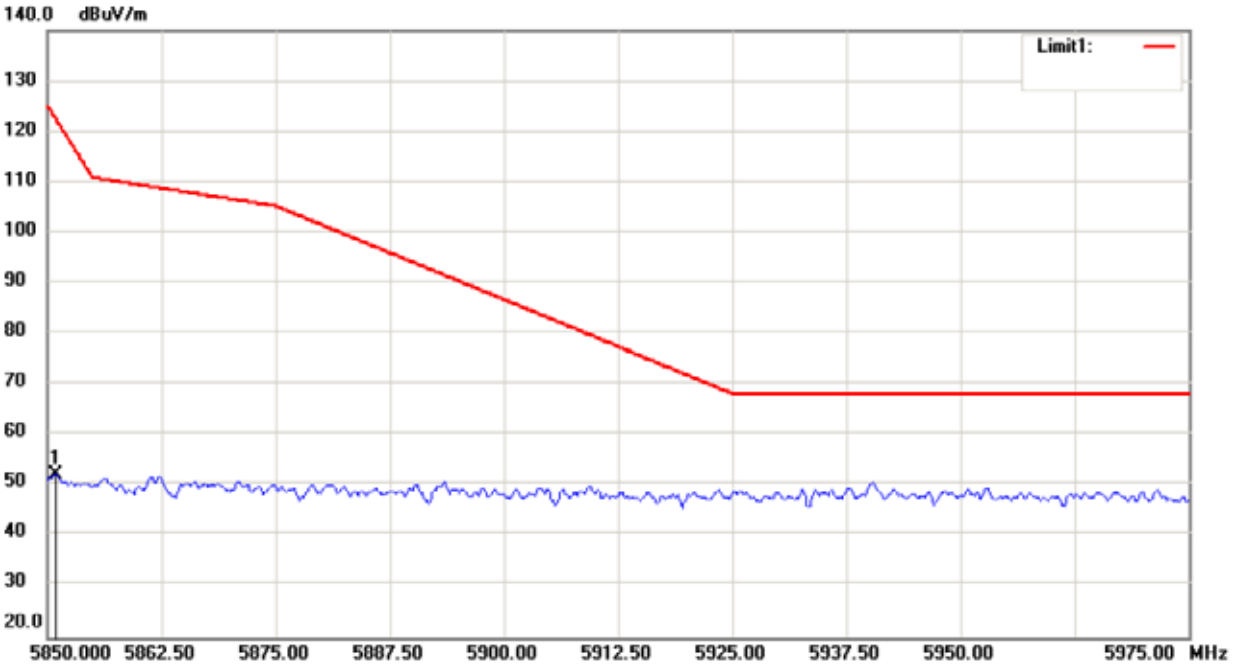
Test Model	UNII Band III Undesirable radiated Undesirable radiated Spurious Emission in Band Edge ☒802.11a ☐802.11n(HT20) ☐802.11n(HT40) ☒5745 Ant.Pol V



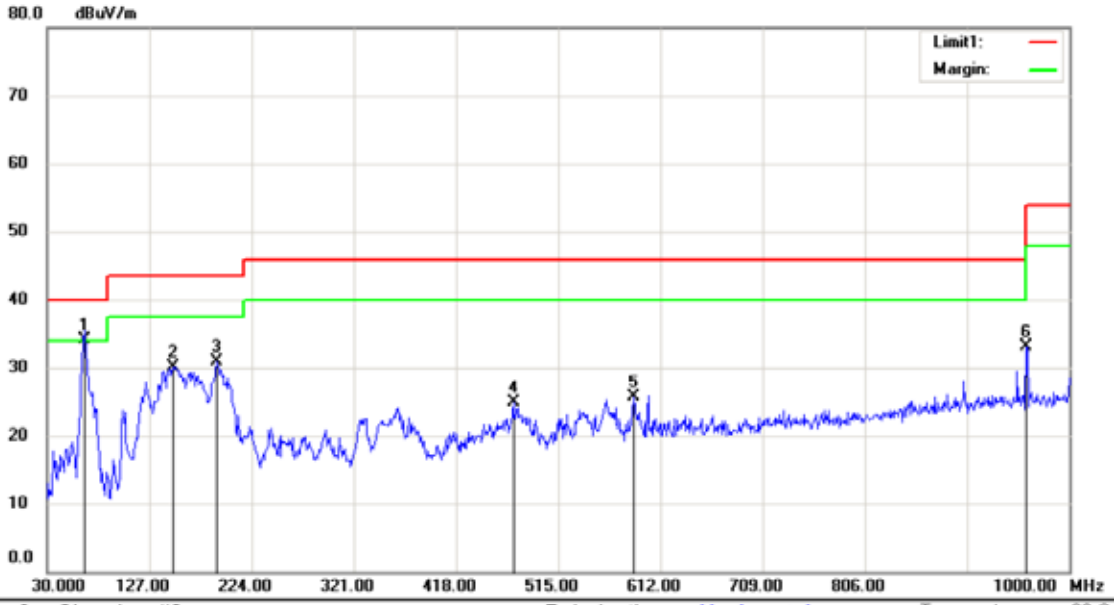
Test Model	UNII Band III Undesirable radiated Undesirable radiated Spurious Emission in Band Edge ☒802.11a ☐802.11n(HT20) ☐802.11n(HT40) ☒5825 Ant.Pol H



Test Model	UNII Band III Undesirable radiated Undesirable radiated Spurious Emission in Band Edge ☒802.11a ☐802.11n(HT20) ☐802.11n(HT40) ☒5825 Ant.Pol V



- Undesirable radiated Spurious Emission below 1GHz (30MHz to 1GHz)



Site 3m Chamber #2 Polarization: *Horizontal* Temperature: 22 C

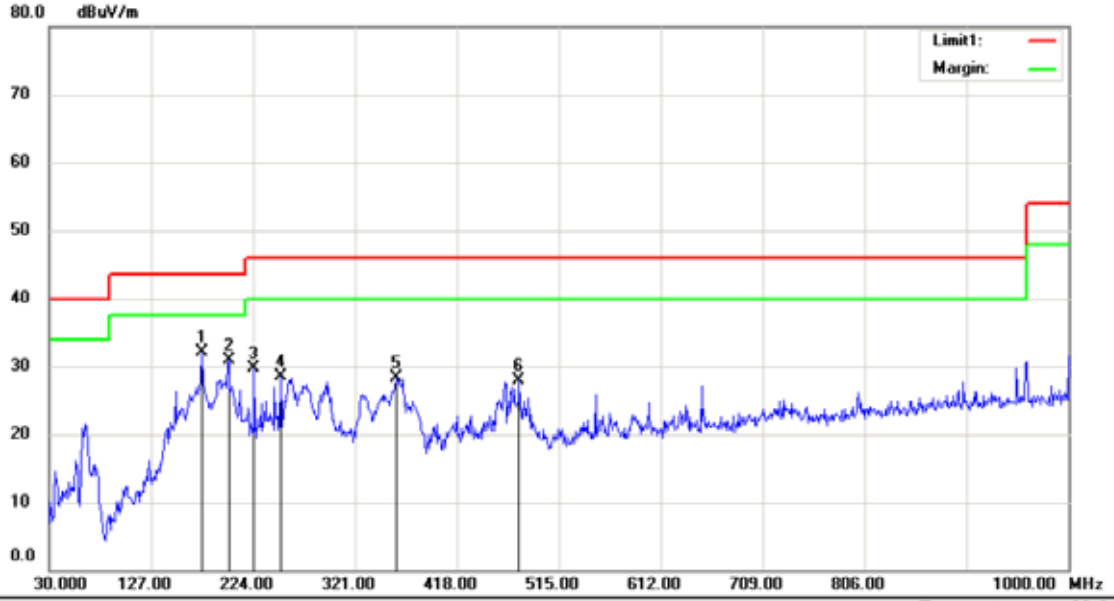
Limit: (RE)FCC PART 15 C Power: AC 120V/60Hz Humidity: 55 %

Mode:54 Wifi Tx(Low Channel)

Note:

No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Over		Antenna Height	Table Degree	
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector	cm	degree	Comment
1	*	65.8900	50.38	-16.28	34.10	40.00	-5.90	QP			
2		149.3100	48.86	-18.79	30.07	43.50	-13.43	QP			
3		191.0200	47.45	-16.47	30.98	43.50	-12.52	QP			
4		472.3200	33.15	-8.15	25.00	46.00	-21.00	QP			
5		586.7800	31.15	-5.54	25.61	46.00	-20.39	QP			
6		959.2600	32.88	0.23	33.11	46.00	-12.89	QP			

*:Maximum data x:Over limit !:over margin Operator: CSL



Site 3m Chamber #2 Polarization: *Vertical* Temperature: 22 C

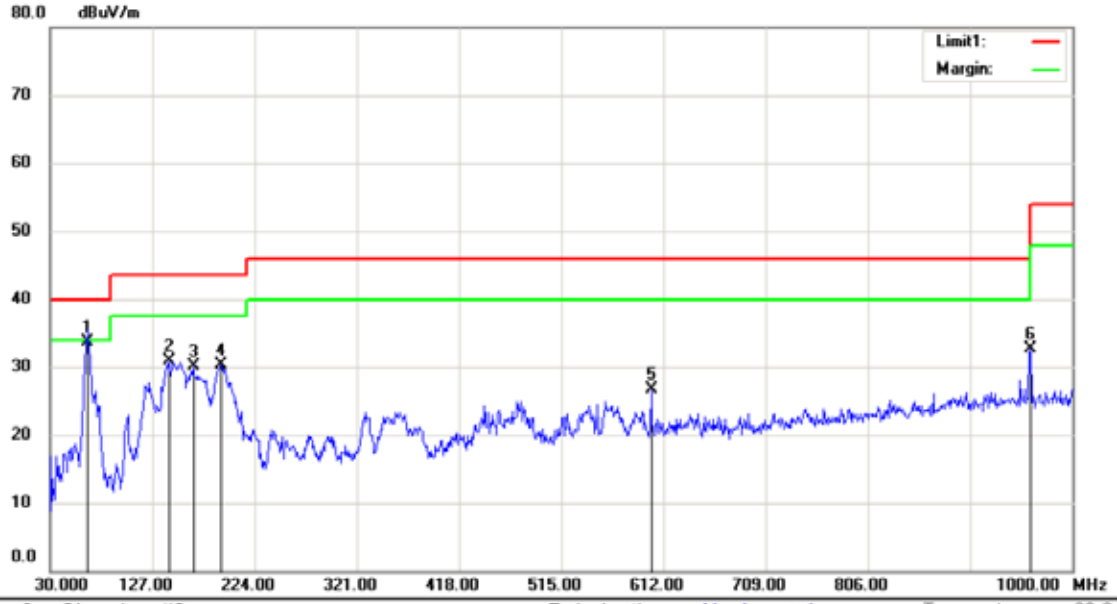
Limit: (RE)FCC PART 15 C Power: AC 120V/60Hz Humidity: 55 %

Mode:54 Wifi Tx(Low Channel)

Note:

No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Over		Antenna Height	Table Degree	
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector	cm	degree	Comment
1	*	175.5000	49.19	-17.03	32.16	43.50	-11.34	QP			
2		200.7200	46.82	-15.84	30.98	43.50	-12.52	QP			
3		224.9700	44.01	-14.24	29.77	46.00	-16.23	QP			
4		250.1900	42.35	-13.88	28.47	46.00	-17.53	QP			
5		360.7700	38.13	-9.86	28.27	46.00	-17.73	QP			
6		477.1700	35.94	-8.03	27.91	46.00	-18.09	QP			

*:Maximum data x:Over limit !:over margin Operator: CSL



Site 3m Chamber #2 Polarization: *Horizontal* Temperature: 22 C

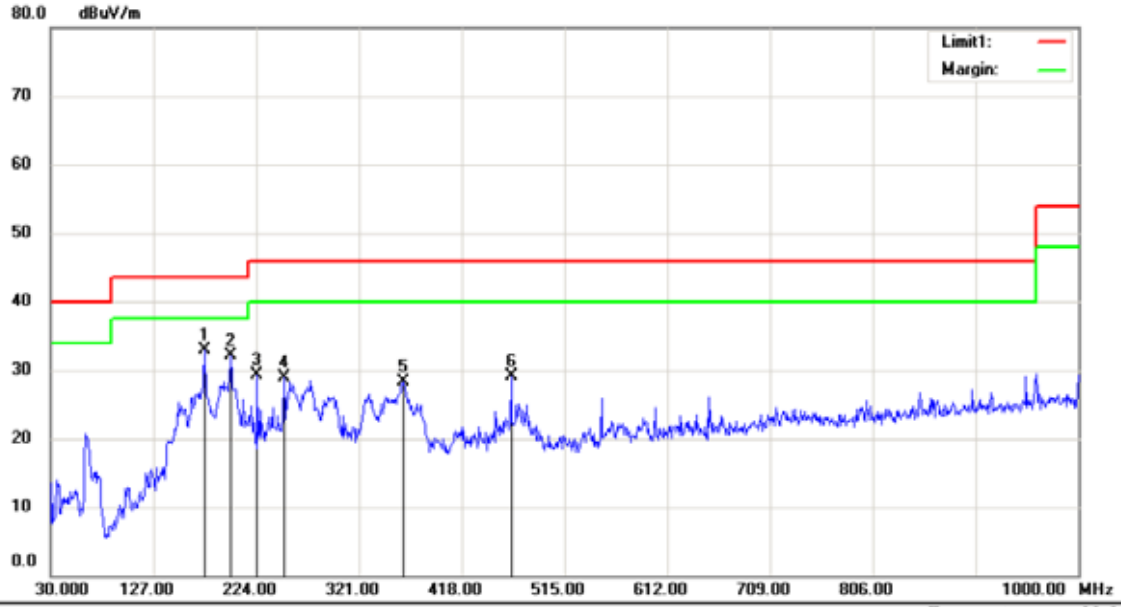
Limit: (RE)FCC PART 15 C Power: AC 120V/60Hz Humidity: 55 %

Mode:54 Wifi Tx(Middle Channel)

Note:

No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Over		Antenna Height	Table Degree	
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector	cm	degree	Comment
1	*	64.9200	49.71	-16.01	33.70	40.00	-6.30	QP			
2		142.5200	49.76	-18.83	30.93	43.50	-12.57	QP			
3		165.8000	47.59	-17.58	30.01	43.50	-13.49	QP			
4		191.9900	46.69	-16.41	30.28	43.50	-13.22	QP			
5		600.3600	31.86	-5.24	26.62	46.00	-19.38	QP			
6		960.2300	32.51	0.24	32.75	54.00	-21.25	QP			

*:Maximum data x:Over limit !:over margin Operator: CSL



Site 3m Chamber #2 Polarization: *Vertical* Temperature: 22 C

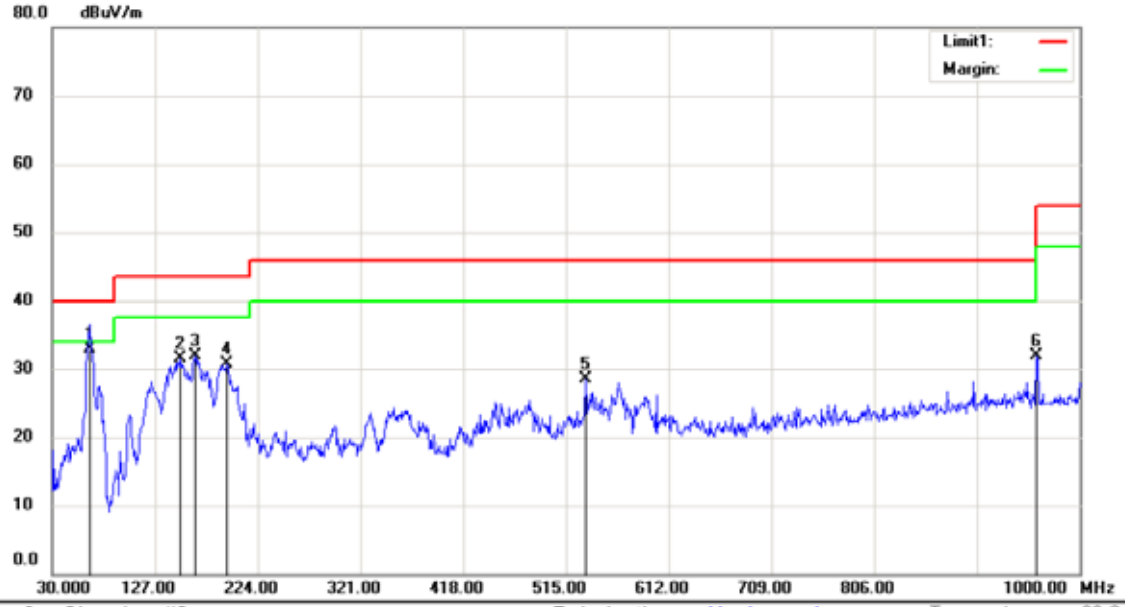
Limit: (RE)FCC PART 15 C Power: AC 120V/60Hz Humidity: 55 %

Mode:54 Wifi Tx(Middle Channel)

Note:

No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Over		Antenna Height	Table Degree	
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector	cm	degree	Comment
1	*	175.5000	49.84	-17.03	32.81	43.50	-10.69	QP			
2		199.7500	48.07	-15.89	32.18	43.50	-11.32	QP			
3		224.9700	43.57	-14.24	29.33	46.00	-16.67	QP			
4		250.1900	42.69	-13.88	28.81	46.00	-17.19	QP			
5		362.7100	38.10	-9.83	28.27	46.00	-17.73	QP			
6		464.5600	37.52	-8.34	29.18	46.00	-16.82	QP			

*:Maximum data x:Over limit !:over margin Operator: CSL



Site 3m Chamber #2 Polarization: *Horizontal* Temperature: 22 C

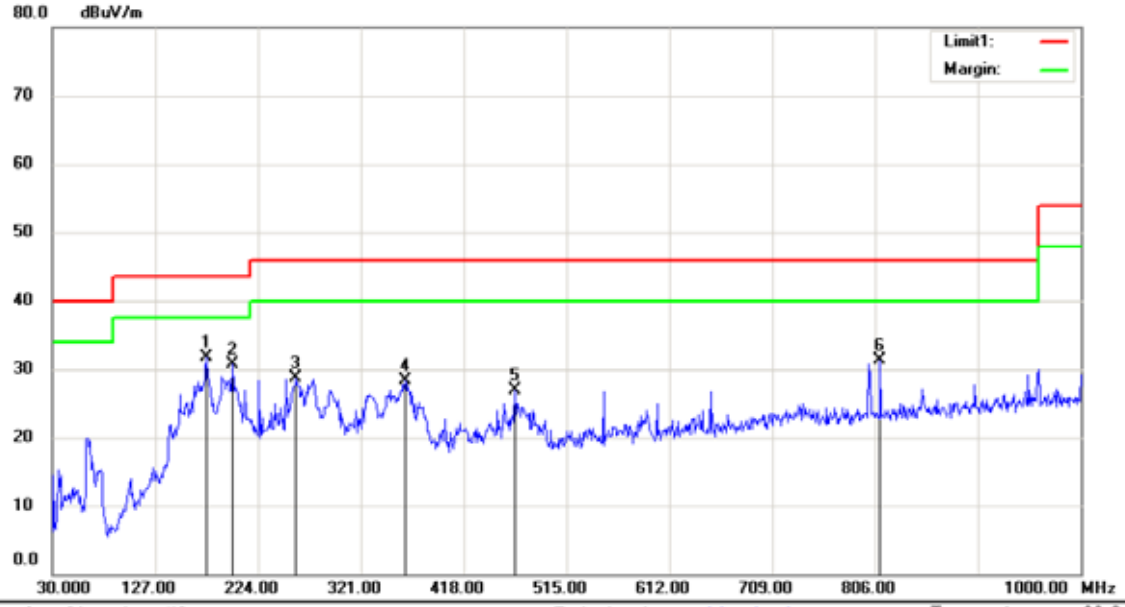
Limit: (RE)FCC PART 15 C Power: AC 120V/60Hz Humidity: 55 %

Mode:54 Wifi Tx(High Channel)

Note:

No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Over		Antenna Height	Table Degree	
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector	cm	degree	Comment
1	*	64.9200	48.91	-16.01	32.90	40.00	-7.10	QP			
2		151.2500	50.22	-18.72	31.50	43.50	-12.00	QP			
3		164.8300	49.55	-17.71	31.84	43.50	-11.66	QP			
4		194.9000	46.87	-16.22	30.65	43.50	-12.85	QP			
5		533.4300	35.28	-6.74	28.54	46.00	-17.46	QP			
6		959.2600	31.66	0.23	31.89	46.00	-14.11	QP			

*:Maximum data x:Over limit !:over margin Operator: CSL



Site 3m Chamber #2 Polarization: *Vertical* Temperature: 22 C

Limit: (RE)FCC PART 15 C Power: AC 120V/60Hz Humidity: 55 %

Mode:54 Wifi Tx(High Channel)

Note:

No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Over		Antenna Height	Table Degree	
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector	cm	degree	Comment
1	*	175.5000	48.70	-17.03	31.67	43.50	-11.83	QP			
2		199.7500	46.56	-15.89	30.67	43.50	-12.83	QP			
3		259.8900	41.65	-12.96	28.69	46.00	-17.31	QP			
4		362.7100	38.21	-9.83	28.38	46.00	-17.62	QP			
5		466.5000	35.12	-8.28	26.84	46.00	-19.16	QP			
6		810.8500	33.11	-1.81	31.30	46.00	-14.70	QP			

*:Maximum data x:Over limit !:over margin Operator: CSL

8.6 POWER LINE CONDUCTED EMISSIONS

8.6.1 Applicable Standard

According to FCC Part 15.207(a)

8.6.2 Conformance Limit

Conducted Emission Limit		
Frequency(MHz)	Quasi-peak	Average
0.15-0.5	66-56	56-46
0.5-5.0	56	46
5.0-30.0	60	50

Note: 1. The lower limit shall apply at the transition frequencies
2. The limit decreases in line with the logarithm of the frequency in the range of 0.15 to 0.50MHz.

8.6.3 Test Configuration

Test according to clause 6.3 conducted emission test setup

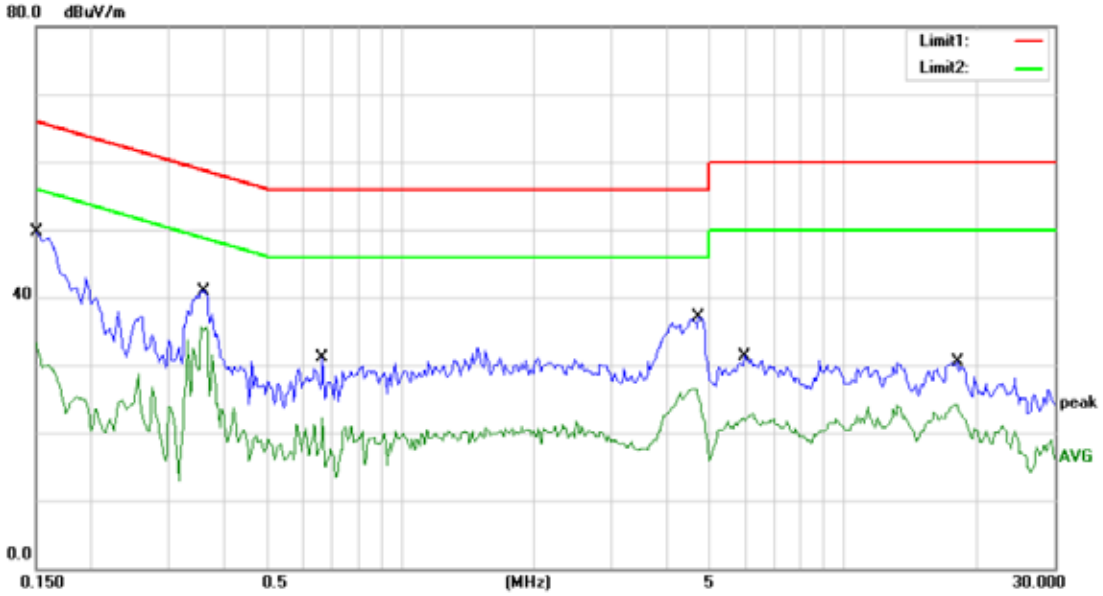
8.6.4 Test Procedure

The EUT was placed on a table which is 0.8m above ground plane.
Maximum procedure was performed on the highest emissions to ensure EUT compliance.
Repeat above procedures until all frequency measured were complete.

8.6.5 Test Results

Pass

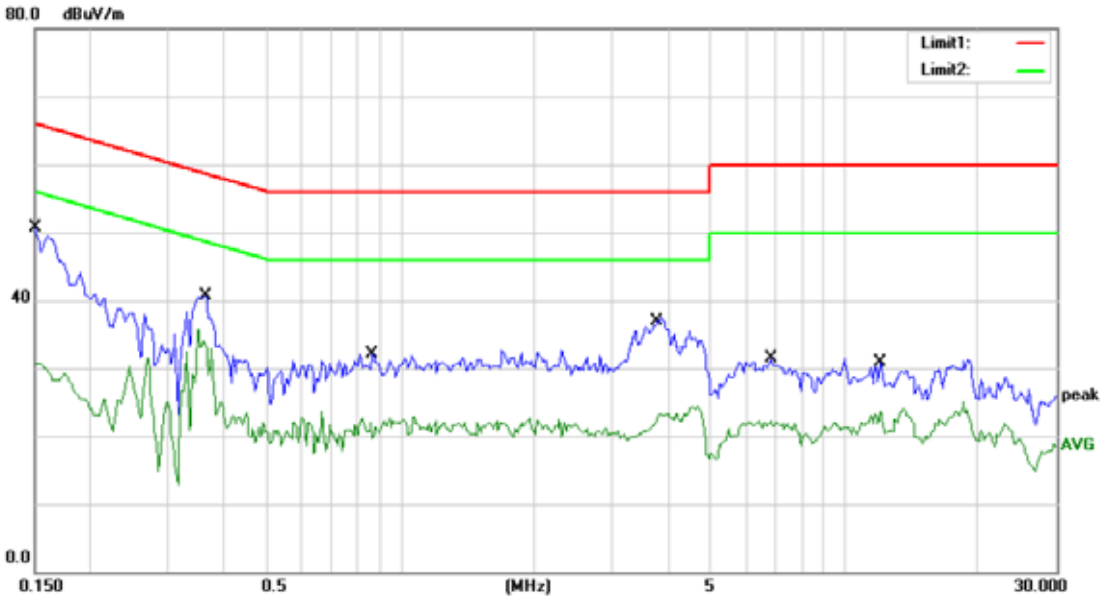
All mode and the voltage 120V and 240V have been tested, and show the worst result(WIFI+BT ON,120V~ 60Hz) as bellow.



Site Conduction #1 Phase: L1 Temperature: 22
Limit: (CE)FCC PART 15 C Power: AC 120V/60Hz Humidity: 55 %
Mode: WIFI+BT ON
Note:

No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Over		
		MHz	dBuV/m	dB	dBuV/m	dBuV/m	dB	Detector	Comment
1		0.1500	49.74	0.00	49.74	66.00	-16.26	QP	
2		0.1500	33.28	0.00	33.28	56.00	-22.72	AVG	
3		0.3600	41.00	0.00	41.00	58.73	-17.73	QP	
4	*	0.3600	35.61	0.00	35.61	48.73	-13.12	AVG	
5		0.6650	31.10	0.00	31.10	56.00	-24.90	QP	
6		0.6650	22.33	0.00	22.33	46.00	-23.67	AVG	
7		4.7100	37.02	0.00	37.02	56.00	-18.98	QP	
8		4.7100	25.80	0.00	25.80	46.00	-20.20	AVG	
9		5.9900	31.22	0.00	31.22	60.00	-28.78	QP	
10		5.9900	22.98	0.00	22.98	50.00	-27.02	AVG	
11		18.0500	30.46	0.00	30.46	60.00	-29.54	QP	
12		18.0500	24.11	0.00	24.11	50.00	-25.89	AVG	

*:Maximum data x:Over limit !:over margin Comment: Factor build in receiver. Operator: Stan



Site Conduction #1 Phase: N Temperature: 22
Limit: (CE)FCC PART 15 C Power: AC 120V/60Hz Humidity: 55 %
Mode: WIFI+BT ON
Note:

No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Over		
		MHz	dBuV/m	dB	dBuV/m	dBuV/m	dB	Detector	Comment
1		0.1500	50.78	0.00	50.78	66.00	-15.22	QP	
2		0.1500	30.71	0.00	30.71	56.00	-25.29	AVG	
3		0.3650	40.62	0.00	40.62	58.61	-17.99	QP	
4	*	0.3650	35.77	0.00	35.77	48.61	-12.84	AVG	
5		0.8650	32.15	0.00	32.15	56.00	-23.85	QP	
6		0.8650	22.65	0.00	22.65	46.00	-23.35	AVG	
7		3.7850	36.90	0.00	36.90	56.00	-19.10	QP	
8		3.7850	24.58	0.00	24.58	46.00	-21.42	AVG	
9		6.8200	31.48	0.00	31.48	60.00	-28.52	QP	
10		6.8200	22.30	0.00	22.30	50.00	-27.70	AVG	
11		12.0500	31.49	0.00	31.49	60.00	-28.51	QP	
12		12.0500	23.68	0.00	23.68	50.00	-26.32	AVG	

*:Maximum data x:Over limit !:over margin Comment: Factor build in receiver. Operator: Stan

8.7 ANTENNA APPLICATION

8.7.1 Antenna Requirement

Standard	Requirement
FCC CRF Part 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. The use of a permanently attached antenna or of an antenna that uses a unique coupling to the intentional radiator shall be considered sufficient to comply with the provisions of this section. The manufacturer may design the unit so that a broken antenna can be replaced by the user, but the use of a standard antenna jack or electrical connector is prohibited. This requirement does not apply to carrier current devices or to devices operated under the provisions of §15.211, §15.213, §15.217, §15.219, or §15.221. Further, this requirement does not apply to intentional radiators that must be professionally installed, such as perimeter protection systems and some field disturbance sensors, or to other intentional radiators which, in accordance with §15.31(d), must be measured at the installation site. However, the installer shall be responsible for ensuring that the proper antenna is employed so that the limits in this part are not exceeded.

For intentional device, according to FCC 47 CFR Section 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. And according to FCC 47 CFR Section 15.407 (a), if transmitting antennas of directional gain greater than 6dBi are used, the power shall be reduced by the amount in dB that the directional gain of the antenna exceeds 6dBi.

8.7.2 Result

PASS.

The EUT has a FPC antenna for BT, the max gain is 2.57 dBi;
The EUT has two FPC antenna for WIFI 2.4 Band, the max gain is 2.57 dBi;
The EUT has two FPC antenna: for WIFI 5G Band I, the max gain is 3.01 dBi;
for WIFI 5G Band II, the max gain is 3.11 dBi;
for WIFI 5G Band III, the max gain is 3.34 dBi;

Note: ☒ Antenna use a permanently attached antenna which is not replaceable.
☐ Not using a standard antenna jack or electrical connector for antenna replacement
☐ The antenna has to be professionally installed (please provide method of installation)

which in accordance to section 15.203, please refer to the internal photos.