8.4 POWER SPECTRAL DENSITY

The peak power density is measured with a spectrum analyzer connected to the antenna terminal while the EUT is operating in transmission mode at the appropriate frequencies. The maximum permissible peak power spectral density is 11 dBm/ MHz for UNII 1,2A, 2C and 30 dBm/500 kHz for UNII 3.

▣ Limit(CDD)

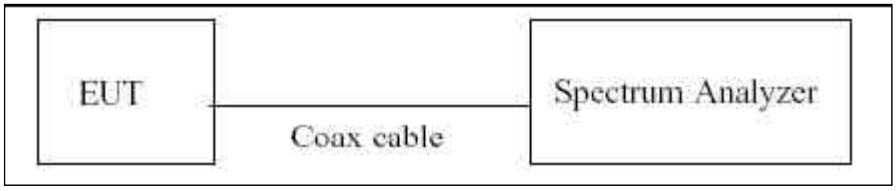
Power Spectral Density

Operating Mode	Band	Mode	Ant. Port	Ant. Gain (dBi)	Limit
SISO	UNII 1	802.11a,n,ac	0	1.99	11.00 dBm/MHz
			1	1.26	
	UNII 2A	802.11a,n,ac	0	1.79	11.00 dBm/MHz
			1	1.35	
	UNII 2C	802.11a,n,ac	0	1.11	11.00 dBm/MHz
			1	1.94	
	UNII 3	802.11a,n,ac	0	1.06	30.00 dBm/500kHz
			1	1.79	
MIMO(2 TX)	UNII 1	802.11a,n,ac	0 & 1	4.64	11.00 dBm/MHz
	UNII 2A	802.11a,n,ac	0 & 1	4.58	11.00 dBm/MHz
	UNII 2C	802.11a,n,ac	0 & 1	4.55	11.00 dBm/MHz
	UNII 3	802.11a,n,ac	0 & 1	4.44	30.00 dBm/500kHz

Note :

1. The limits of conducted power spectral density were applied the antenna gain. Therefore, if conducted power is pass, e.i.r.p. is also pass. So, we attached only conducted power spectral density table.
2. In case of UNII channels 138, 142 and 144, this device is satisfied with KDB644545 D03.

▣ TEST CONFIGURATION



▣ TEST PROCEDURE

We tested according to Method in KDB 789033(issued 06/06/2014).

The spectrum analyzer is set to :

1. Set span to encompass the entire emission bandwidth(EBW) of the signal.
2. RBW = 1 MHz(510 kHz for UNII 3)
3. VBW ≥ 3 MHz
4. Number of points in sweep ≥ 2*span/RBW.
5. Sweep time = auto.
6. Detector = RMS(i.e., power averaging), if available. Otherwise, use sample detector mode.
7. Do not use sweep triggering. Allow the sweep to “free run”.
8. Trace average at least 100 traces in power averaging(RMS) mode
9. Use the peak search function on the spectrum analyzer to find the peak of the spectrum.
10. If Method SA-2 was used, add 10 log(1/x), where x is the duty cycle, to the peak of the spectrum.

▣ Sample Calculation

PSD = Reading Value + ATT loss + Cable loss(1 ea) + Duty Cycle Factor

Output Power = -5 dBm + 10 dB + 0.8 dB + 0.21 dB = 16.01 dBm

Note :

1. Spectrum reading values are not plot data. The PSD results in plot is already including the actual values of loss for the attenuator and cable combination.
2. Spectrum offset = Attenuator loss + Cable loss
3. We apply to the offset in the 5.2 GHz, 5.3 GHz and 5.6 GHz range that was rounded off to the closest tenth dB. Actual value of loss for the attenuator and cable combination is below table.

Band	Loss(dB)
UNII 1, 2A , 2C, 3	10.4

(Actual value of loss for the attenuator and cable combination)

▣ **Ant.0_802.11a_20MHz BW**

▣ **TEST RESULTS**

Conducted Power Density Measurements

Frequency (MHz)	Channel No.	Mode	Test Result				
			Measured Power Density (dBm)	Duty Cycle Factor (dB)	Measured Power Density(dBm) + Duty Cycle Factor	Limit (dBm)	Pass/Fail
5180	36	802.11a	0.947	0.223	1.170	11	Pass
5200	40		0.987	0.370	1.357		Pass
5240	48		1.404	0.370	1.774		Pass
5260	52		1.435	0.370	1.805	11	Pass
5300	60		1.697	0.370	2.067		Pass
5320	64		2.140	0.370	2.510		Pass
5500	100		1.064	0.291	1.355	11	Pass
5580	116		0.327	0.370	0.697		Pass
5720	144		1.047	0.370	1.417		Pass
5745	149		-1.958	0.370	-1.588	30	Pass
5785	157		-0.014	0.291	0.277		Pass
5825	165		-4.588	0.370	-4.218		Pass

▣ **Ant.1_802.11a_20MHz BW**

▣ **TEST RESULTS**

Conducted Power Density Measurements

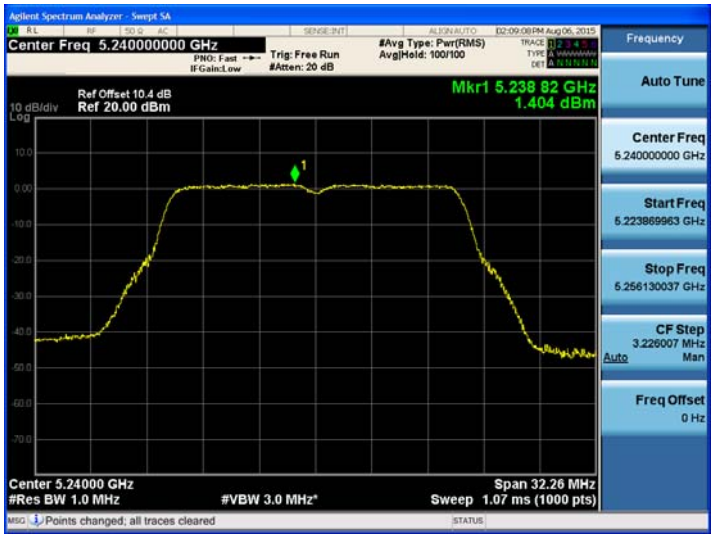
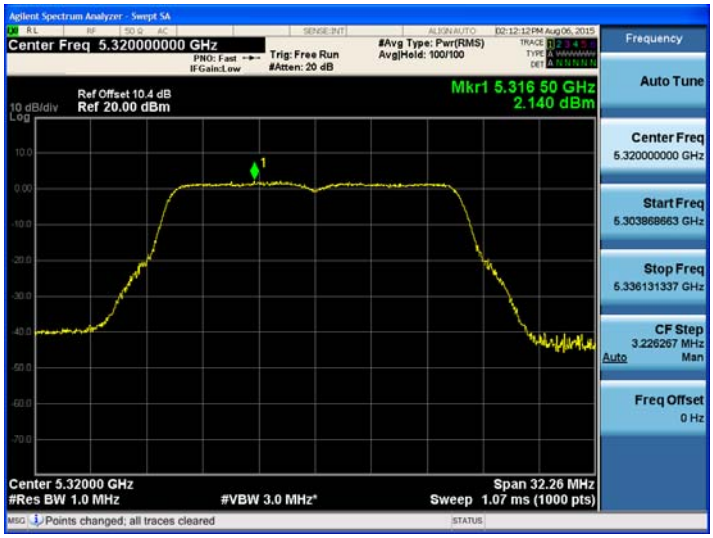
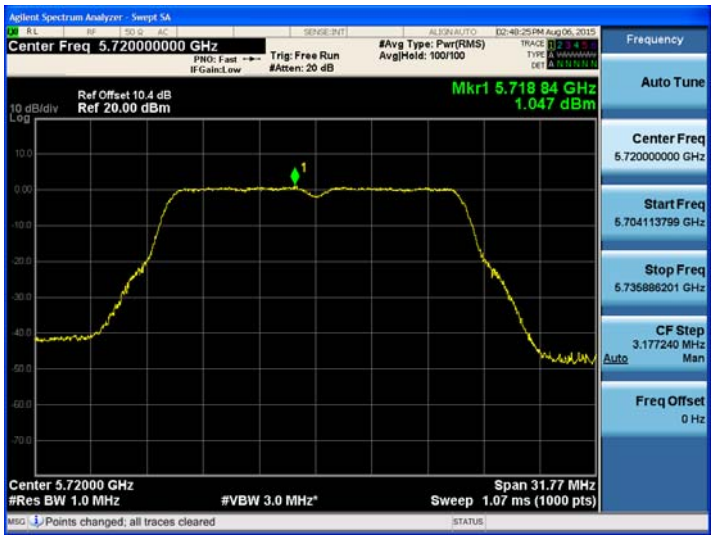
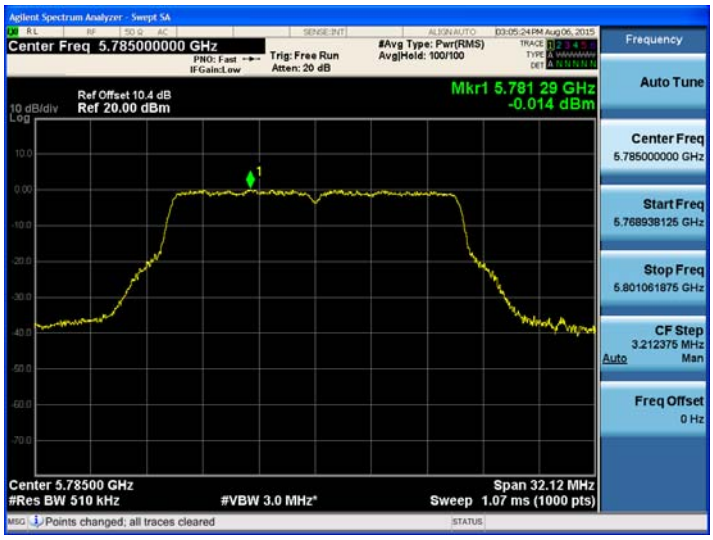
Frequency (MHz)	Channel No.	Mode	Test Result				
			Measured Power Density (dBm)	Duty Cycle Factor (dB)	Measured Power Density(dBm) + Duty Cycle Factor	Limit (dBm)	Pass/Fail
5180	36	802.11a	1.007	0.364	1.371	11	Pass
5200	40		0.822	0.364	1.186		Pass
5240	48		1.346	0.215	1.561		Pass
5260	52		1.310	0.278	1.588	11	Pass
5300	60		1.832	0.364	2.196		Pass
5320	64		1.886	0.364	2.250		Pass
5500	100		1.252	0.364	1.616	11	Pass
5580	116		0.750	0.414	1.164		Pass
5720	144		1.779	0.278	2.057		Pass
5745	149		-1.080	0.364	-0.716	30	Pass
5785	157		0.749	0.364	1.113		Pass
5825	165		-3.573	0.364	-3.209		Pass

▣ Sum Data of Ant.0 and Ant.1_802.11a_20MHz BW

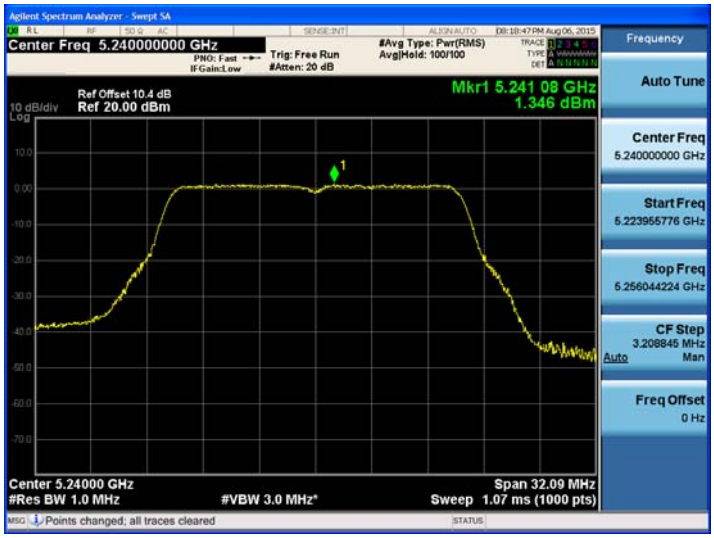
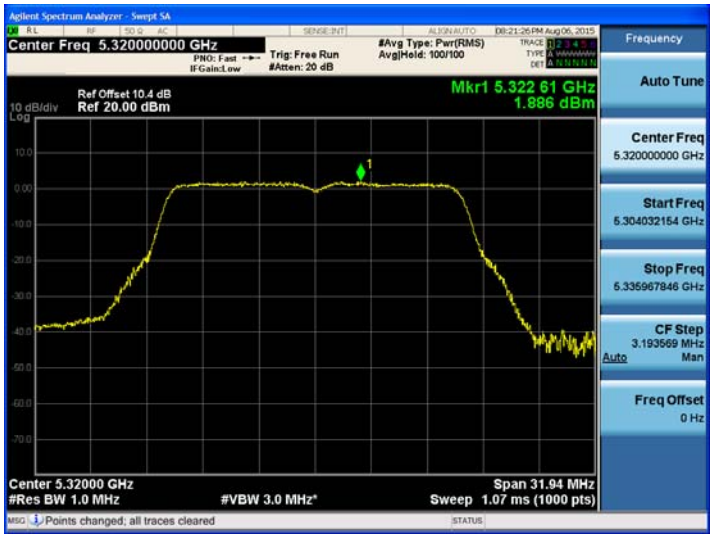
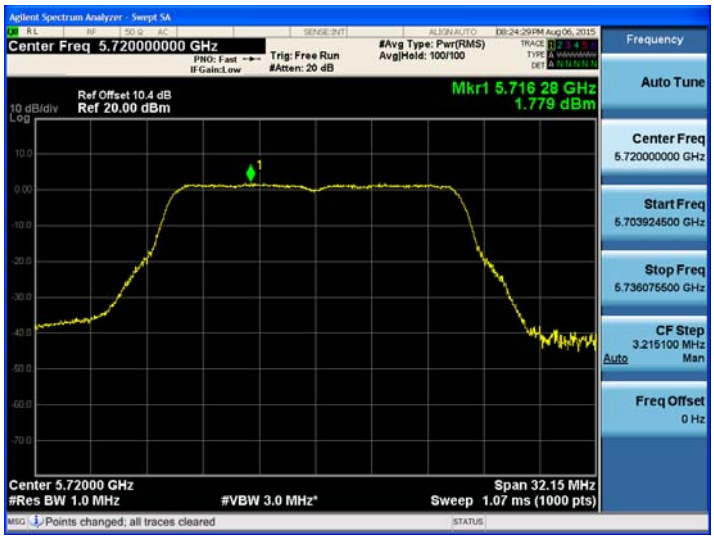
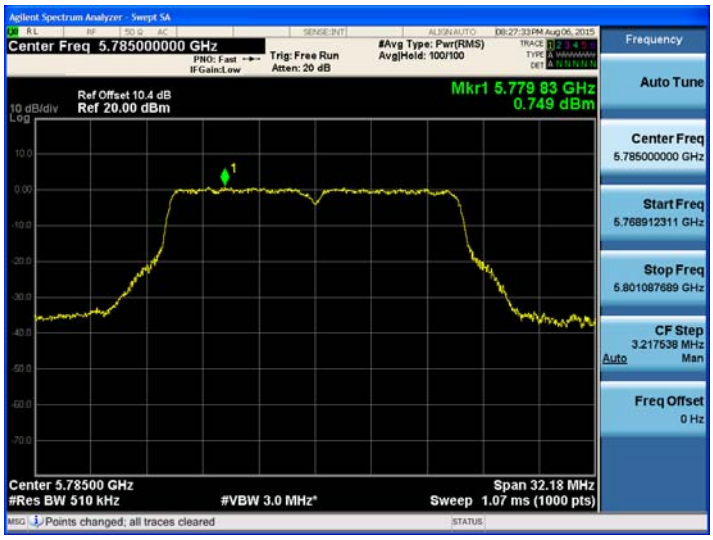
Conducted Power Density Measurements

Frequency (MHz)	Channel No.	Mode	Test Result		
			Measured Power Density (dBm)	Limit (dBm)	Pass/Fail
5180	36	802.11a	4.28	11	Pass
5200	40		4.28		Pass
5240	48		4.68		Pass
5260	52		4.71	11	Pass
5300	60		5.14		Pass
5320	64		5.39		Pass
5500	100		4.50	11	Pass
5600	120		3.94		Pass
5720	144		4.75		Pass
5745	149		1.87	30	Pass
5785	157		3.72		Pass
5825	165		-0.69		Pass

▣ TEST Plot for Ant.0_802.11a 20MHz BW

802.11a_20MHz BW UNII 1 BAND PSD CH 48	802.11a_20MHz BW UNII 2A BAND PSD CH 64
	
802.11a_20MHz BW UNII 2C BAND PSD CH 144	**802.11a_20MHz BW UNII 3 BAND PSD CH 157**
	

▣ TEST Plot for Ant.1_802.11a 20MHz BW

802.11a_20MHz BW UNII 1 BAND PSD CH 48	802.11a_20MHz BW UNII 2A BAND PSD CH 64
	
802.11a_20MHz BW UNII 2C BAND PSD CH 144	**802.11a_20MHz BW UNII 3 BAND PSD CH 157**
	

▣ **Ant.0_802.11n_20MHz BW**

▣ **TEST RESULTS**

Conducted Power Density Measurements

Frequency (MHz)	Channel No.	Mode	Test Result				
			Measured Power Density (dBm)	Duty Cycle Factor (dB)	Measured Power Density(dBm) + Duty Cycle Factor	Limit (dBm)	Pass/Fail
5180	36	802.11n 20M BW	0.683	0.449	1.132	11	Pass
5200	40		0.508	0.416	0.924		Pass
5240	48		1.144	0.449	1.593		Pass
5260	52		1.632	0.416	2.048	11	Pass
5300	60		1.830	0.370	2.200		Pass
5320	64		1.979	0.449	2.428		Pass
5500	100		0.586	0.416	1.002	11	Pass
5580	116		0.410	0.449	0.859		Pass
5720	144		0.381	0.449	0.830		Pass
5745	149		-2.108	0.449	-1.659	30	Pass
5785	157		-2.735	0.289	-2.446		Pass
5825	165		-4.964	0.416	-4.548		Pass

▣ **Ant.1_802.11n_20MHz BW**

▣ **TEST RESULTS**

Conducted Power Density Measurements

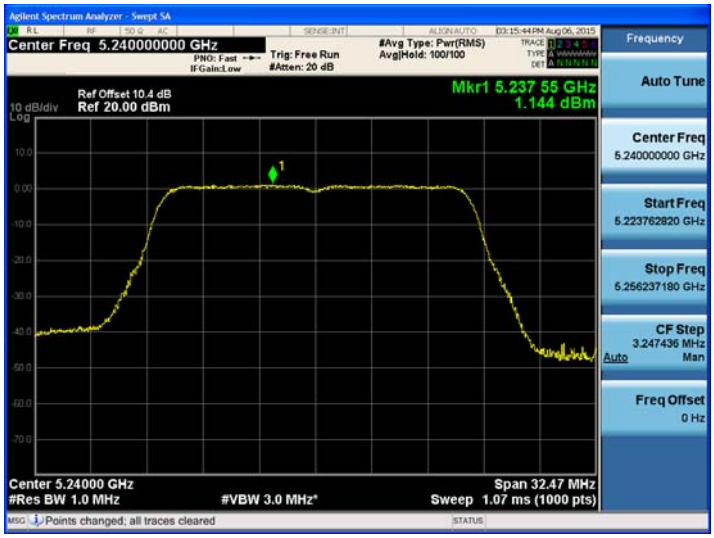
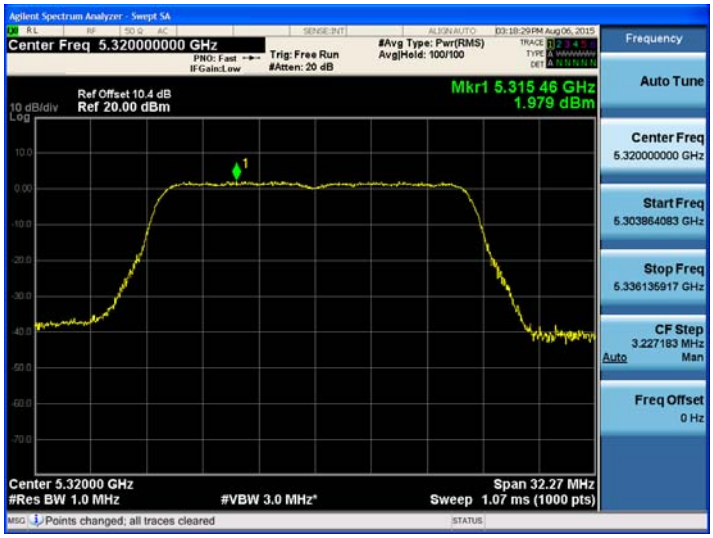
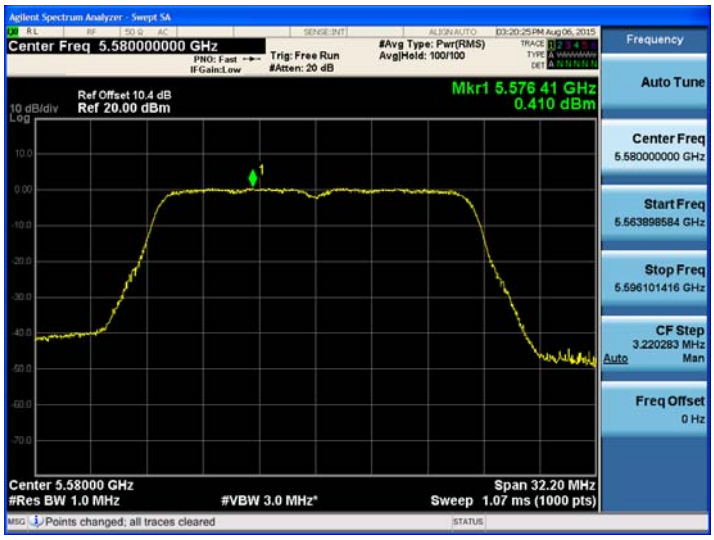
Frequency (MHz)	Channel No.	Mode	Test Result				
			Measured Power Density (dBm)	Duty Cycle Factor (dB)	Measured Power Density(dBm) + Duty Cycle Factor	Limit (dBm)	Pass/Fail
5180	36	802.11n 20M BW	0.531	0.408	0.939	11	Pass
5200	40		0.476	0.408	0.884		Pass
5240	48		1.373	0.408	1.781		Pass
5260	52		1.323	0.442	1.765	11	Pass
5300	60		1.978	0.210	2.188		Pass
5320	64		2.225	0.297	2.522		Pass
5500	100		0.928	0.374	1.302	11	Pass
5580	116		0.602	0.374	0.976		Pass
5720	144		1.390	0.297	1.687		Pass
5745	149		-1.564	0.442	-1.122	30	Pass
5785	157		-1.765	0.408	-1.357		Pass
5825	165		-4.239	0.210	-4.029		Pass

▣ **Sum Data of Ant.0, Ant 1 and Ant.2**

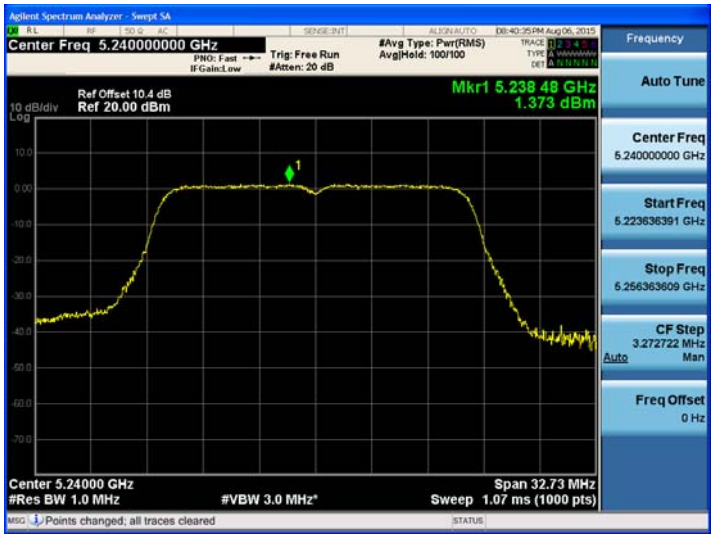
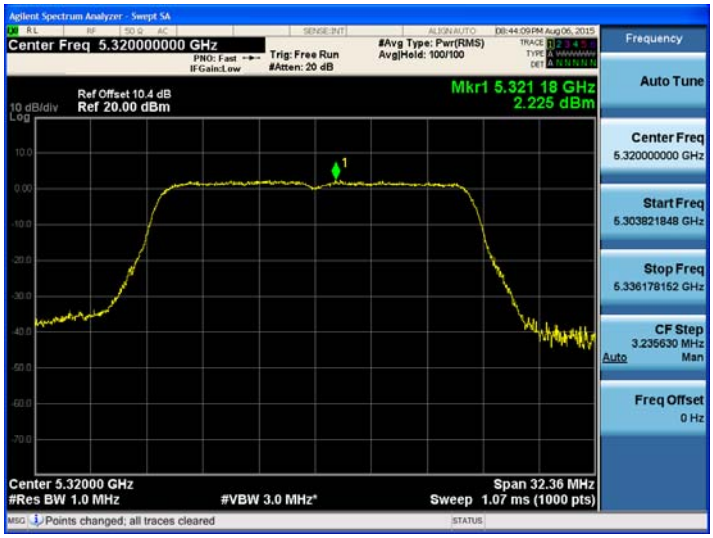
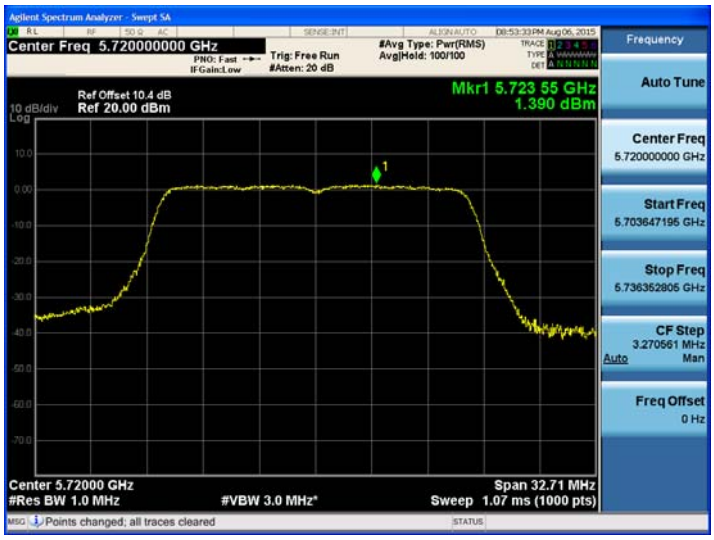
Conducted Power Density Measurements

Frequency (MHz)	Channel No.	Mode	Test Result		
			Measured Power Density (dBm)	Limit (dBm)	Pass/Fail
5180	36	802.11n 20MHz BW	4.05	11	Pass
5200	40		3.91		Pass
5240	48		4.70		Pass
5260	52		4.92	11	Pass
5300	60		5.20		Pass
5320	64		5.49		Pass
5500	100		4.16	11	Pass
5600	120		3.93		Pass
5720	144		4.28		Pass
5745	149		1.62	30	Pass
5785	157		1.13		Pass
5825	165		-1.27		Pass

▣ TEST Plot for Ant.0_802.11n 20MHz BW

802.11n_20MHz BW UNII 1 BAND PSD CH 48	802.11n_20MHz BW UNII 2A BAND PSD CH 64
	
802.11n_20MHz BW UNII 2C BAND PSD CH 116	**802.11n_20MHz BW UNII 3 BAND PSD CH 149**
	

▣ TEST Plot for Ant.1_802.11n 20MHz BW

802.11n_20MHz BW UNII 1 BAND PSD CH 48	802.11n_20MHz BW UNII 2A BAND PSD CH 64
	
802.11n_20MHz BW UNII 2C BAND PSD CH 144	**802.11n_20MHz BW UNII 3 BAND PSD CH 149**
	

▣ **Ant.0_802.11ac_20MHz BW**

▣ **TEST RESULTS**

Conducted Power Density Measurements

Frequency (MHz)	Channel No.	Mode	Test Result				
			Measured Power Density (dBm)	Duty Cycle Factor (dB)	Measured Power Density(dBm) + Duty Cycle Factor	Limit (dBm)	Pass/Fail
5180	36	802.11ac _20MHz BW	0.780	0.376	1.156	11	Pass
5200	40		0.781	0.488	1.269		Pass
5240	48		1.260	0.376	1.636		Pass
5260	52		1.602	0.376	1.978	11	Pass
5300	60		1.636	0.376	2.012		Pass
5320	64		2.121	0.376	2.497		Pass
5500	100		-0.580	0.376	-0.204	11	Pass
5580	116		0.121	0.376	0.497		Pass
5720	144		0.339	0.512	0.851		Pass
5745	149		-2.397	0.376	-2.021	30	Pass
5785	157		-3.101	0.607	-2.494		Pass
5825	165		-5.062	0.376	-4.686		Pass

▣ **Ant.1_802.11ac_20MHz BW**

▣ **TEST RESULTS**

Conducted Power Density Measurements

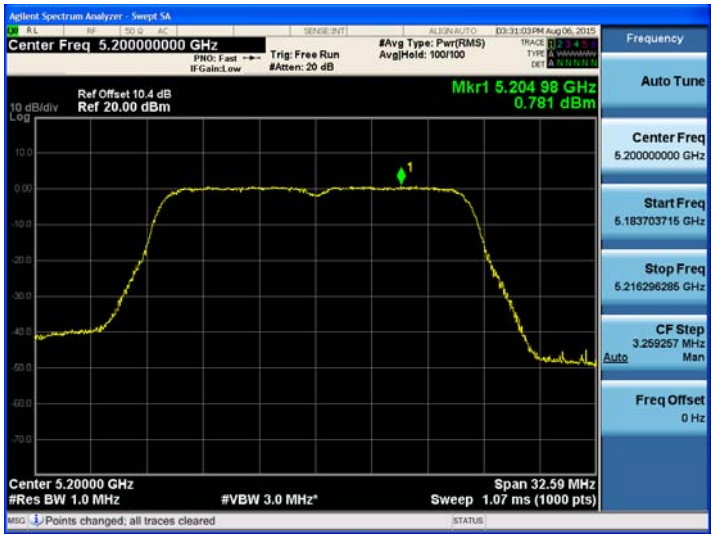
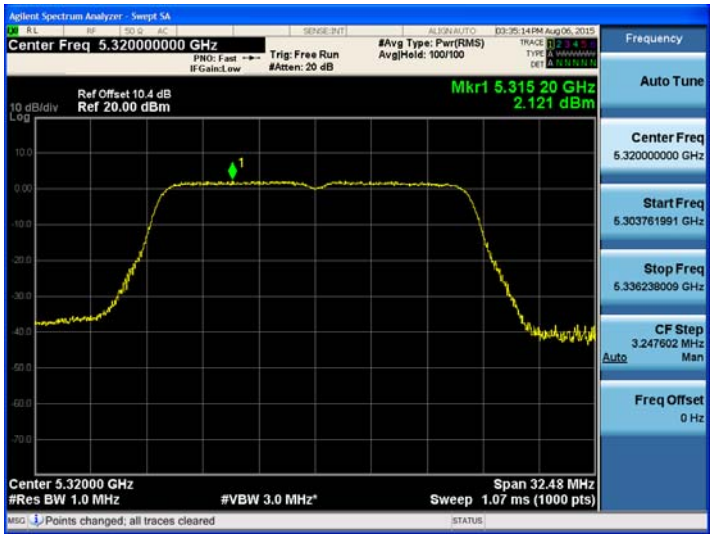
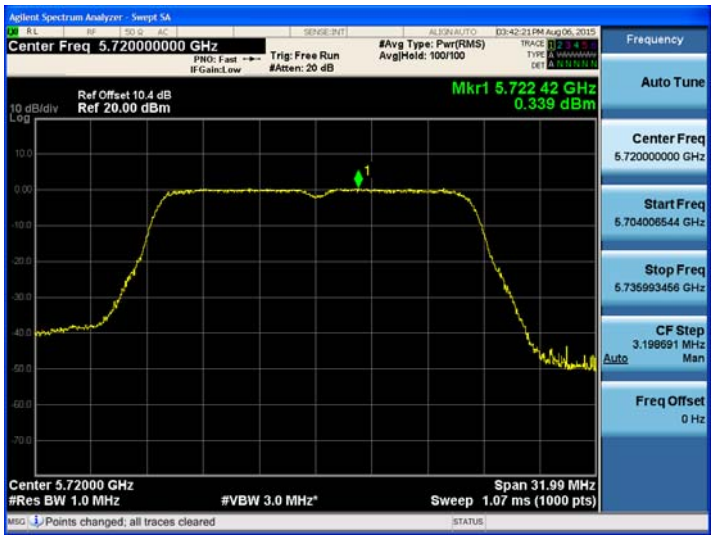
Frequency (MHz)	Channel No.	Mode	Test Result				
			Measured Power Density (dBm)	Duty Cycle Factor (dB)	Measured Power Density(dBm) + Duty Cycle Factor	Limit (dBm)	Pass/Fail
5180	36	802.11ac _20MHz BW	-0.030	0.465	0.435	11	Pass
5200	40		-0.012	0.248	0.236		Pass
5240	48		0.780	0.376	1.156		Pass
5260	52		0.833	0.376	1.209	11	Pass
5300	60		1.196	0.376	1.572		Pass
5320	64		1.218	0.488	1.706		Pass
5500	100		-1.468	0.607	-0.861	11	Pass
5580	116		-0.136	0.376	0.240		Pass
5720	144		0.620	0.607	1.227		Pass
5745	149		-2.367	0.465	-1.902	30	Pass
5785	157		-2.513	0.512	-2.001		Pass
5825	165		-4.333	0.465	-3.868		Pass

▣ Sum Data of Ant.0, Ant 1 and Ant.2

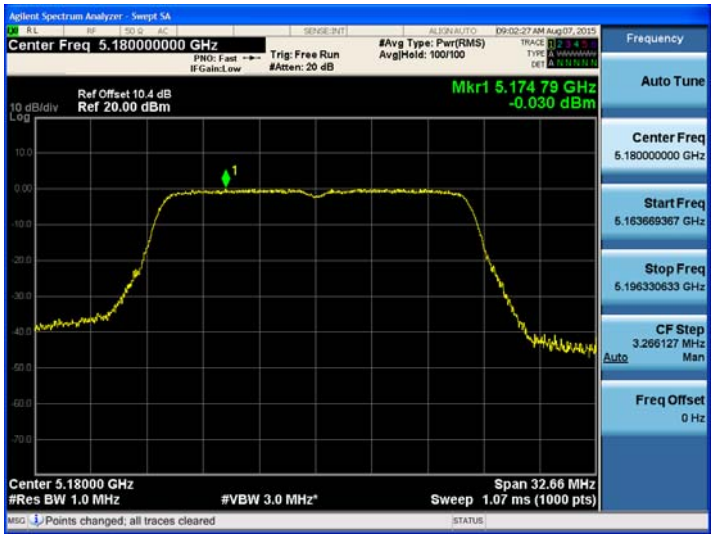
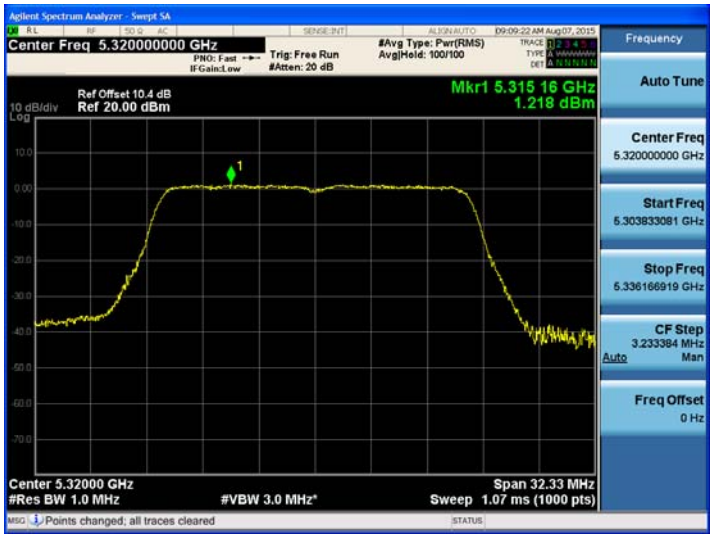
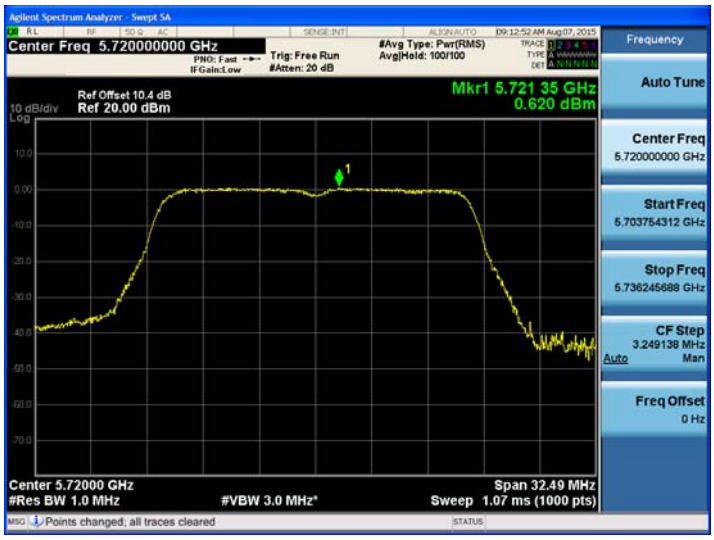
Conducted Power Density Measurements

Frequency (MHz)	Channel No.	Mode	Test Result		
			Measured Power Density (dBm)	Limit (dBm)	Pass/Fail
5180	36	802.11ac _20MHz BW	-2.03	11	Pass
5200	40		-3.86		Pass
5240	48		-1.54		Pass
5260	52		3.95	11	Pass
5300	60		-5.49		Pass
5320	64		-3.11		Pass
5500	100		-3.10	11	Pass
5600	120		3.98		Pass
5720	144		4.31		Pass
5745	149		8.34	30	Pass
5785	157		8.01		Pass
5825	165		0.94		Pass

▣ TEST Plot for Ant.0_ 802.11ac 20MHz BW

802.11ac_20MHz BW UNII 1 BAND PSD CH 40	802.11ac _20MHz BW UNII 2A BAND PSD CH 64
	
802.11ac _20MHz BW UNII 2C BAND PSD CH 144	**802.11ac _20MHz BW UNII 3 BAND PSD CH 149**
	

▣ TEST Plot for Ant.1_ 802.11ac 20MHz BW

802.11ac_20MHz BW UNII 1 BAND PSD CH 36	802.11ac _20MHz BW UNII 2A BAND PSD CH 64
	
802.11ac _20MHz BW UNII 2C BAND PSD CH 144	**802.11ac _20MHz BW UNII 3 BAND PSD CH 149**
	

▣ Ant.0_802.11n_40MHz BW

▣ TEST RESULTS

Conducted Power Density Measurements

Frequency (MHz)	Channel No.	Mode	Test Result				
			Measured Power Density (dBm)	Duty Cycle Factor (dB)	Measured Power Density(dBm) + Duty Cycle Factor	Limit (dBm)	Pass/Fail
5190	38	802.11n 40MHz BW	-5.031	0.381	-4.650	11	Pass
5230	46		0.006	0.749	0.755		Pass
5270	54		-3.421	0.749	-2.672	11	Pass
5310	62		-3.847	0.647	-3.200		Pass
5510	102		-7.424	0.699	-6.725	11	Pass
5550	110		-3.785	0.381	-3.404		Pass
5710	142		-1.777	0.381	-1.396		Pass
5755	151		-4.684	0.527	-4.157	30	Pass
5795	159		-5.705	0.647	-5.058		Pass

▣ Ant.1_802.11n_40MHz BW

▣ TEST RESULTS

Conducted Power Density Measurements

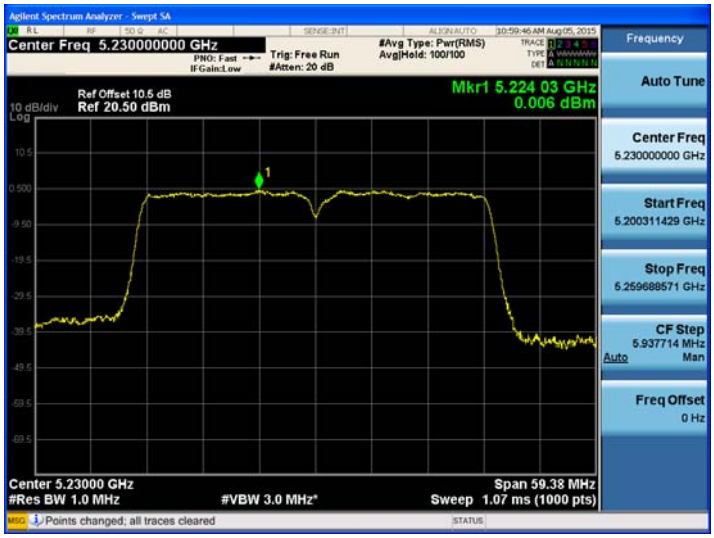
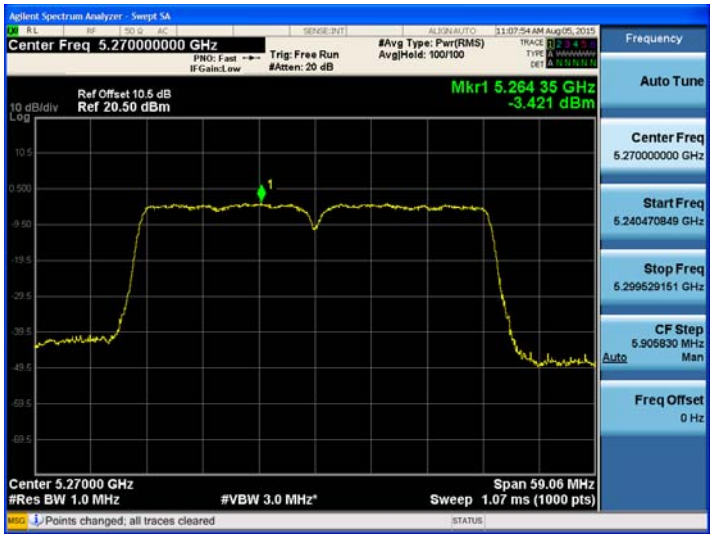
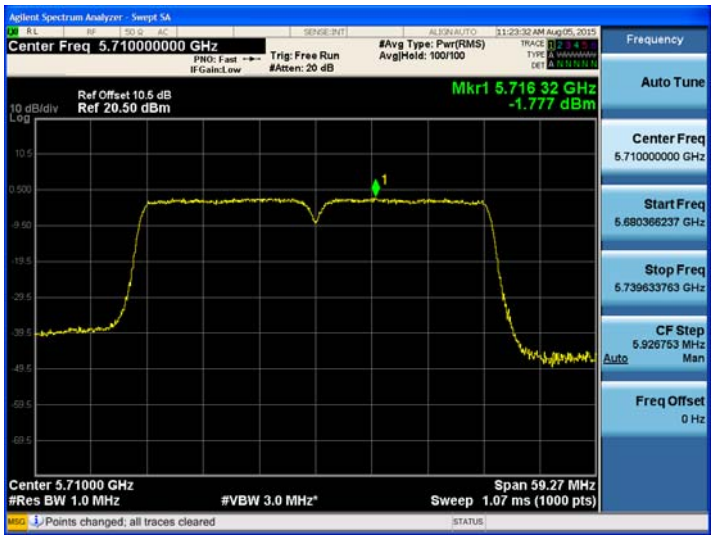
Frequency (MHz)	Channel No.	Mode	Test Result				
			Measured Power Density (dBm)	Duty Cycle Factor (dB)	Measured Power Density(dBm) + Duty Cycle Factor	Limit (dBm)	Pass/Fail
5190	38	802.11n 40MHz BW	-5.989	0.748	-5.241	11	Pass
5230	46		-1.433	0.748	-0.685		Pass
5270	54		-5.024	0.531	-4.493	11	Pass
5310	62		-4.914	0.385	-4.529		Pass
5510	102		-7.920	0.531	-7.389	11	Pass
5550	110		-1.390	0.531	-0.859		Pass
5710	142		-1.901	0.700	-1.201		Pass
5755	151		-4.737	0.385	-4.352	30	Pass
5795	159		-5.570	0.649	-4.921		Pass

▣ **Sum Data of Ant.0 and Ant.1**

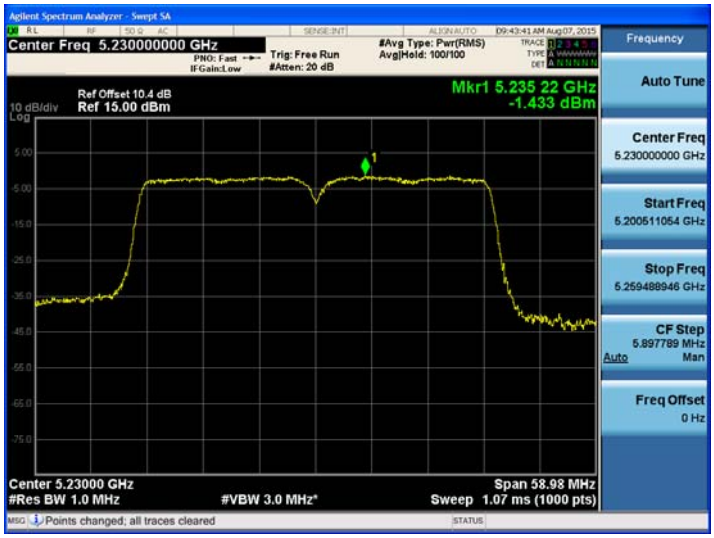
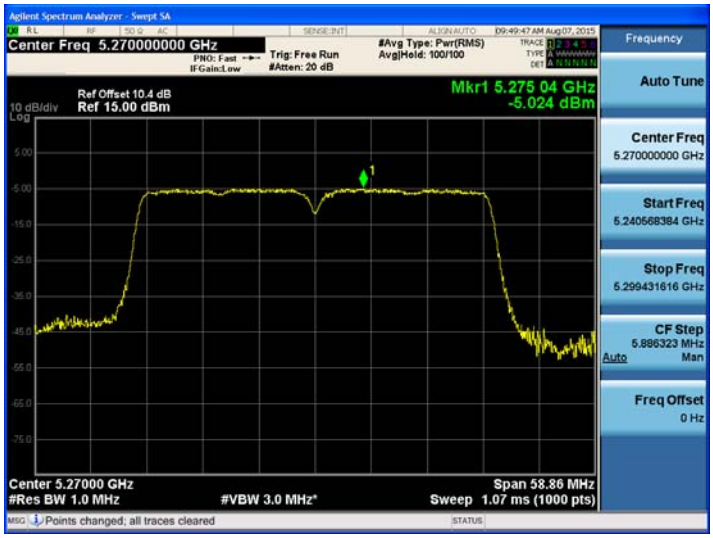
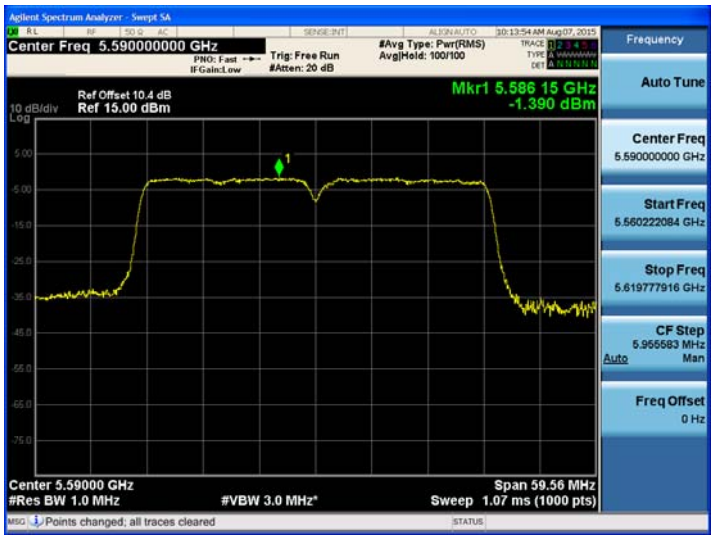
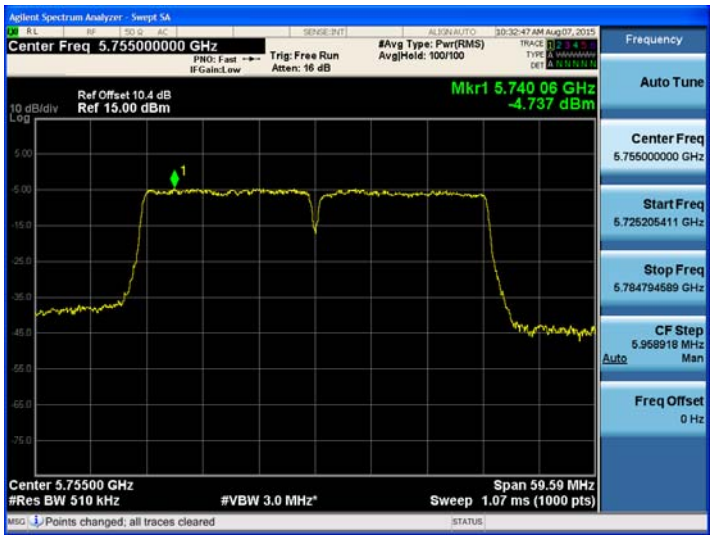
Conducted Power Density Measurements

Frequency (MHz)	Channel No.	Mode	Test Result		
			Measured Power Density (dBm)	Limit (dBm)	Pass/Fail
5190	38	802.11n_40 MHz BW	-1.93	11	Pass
5230	46		3.08		Pass
5270	54		-0.52	11	Pass
5310	62		-0.83		Pass
5510	102		-4.04	11	Pass
5590	118		0.97		Pass
5710	142		1.71		Pass
5755	151		-1.24	30	Pass
5795	159		-1.98		Pass

▣ TEST Plot for Ant.0_802.11n 40MHz BW

802.11n_40MHz BW UNII 1 BAND PSD CH 46	802.11n_40MHz BW UNII 2A BAND PSD CH 54
	
802.11n_40MHz BW UNII 2C BAND PSD CH 142	**802.11n_40MHz BW UNII 3 BAND PSD CH 151**
	

▣ TEST Plot for Ant.1_802.11n 40MHz BW

802.11n_40MHz BW UNII 1 BAND PSD CH 46	802.11n_40MHz BW UNII 2A BAND PSD CH 54
	
802.11n_40MHz BW UNII 2C BAND PSD CH 118	**802.11n_40MHz BW UNII 3 BAND PSD CH 151**
	

▣ **Ant.0_802.11ac_40MHz BW**

▣ **TEST RESULTS**

Conducted Power Density Measurements

Frequency (MHz)	Channel No.	Mode	Test Result				
			Measured Power Density (dBm)	Duty Cycle Factor (dB)	Measured Power Density(dBm) + Duty Cycle Factor	Limit (dBm)	Pass/Fail
5190	38	802.11ac 40MHz BW	-5.388	1.031	-4.357	11	Pass
5230	46		-0.234	0.611	0.377		Pass
5270	54		0.276	0.462	0.738	11	Pass
5310	62		-4.124	0.863	-3.261		Pass
5510	102		-7.347	0.611	-6.736	11	Pass
5550	110		-4.135	0.852	-3.283		Pass
5710	142		-1.920	1.031	-0.889		Pass
5755	151		-5.079	0.863	-4.216	30	Pass
5795	159		-5.965	0.740	-5.225		Pass

▣ **Ant.1_802.11ac_40MHz BW**

▣ **TEST RESULTS**

Conducted Power Density Measurements

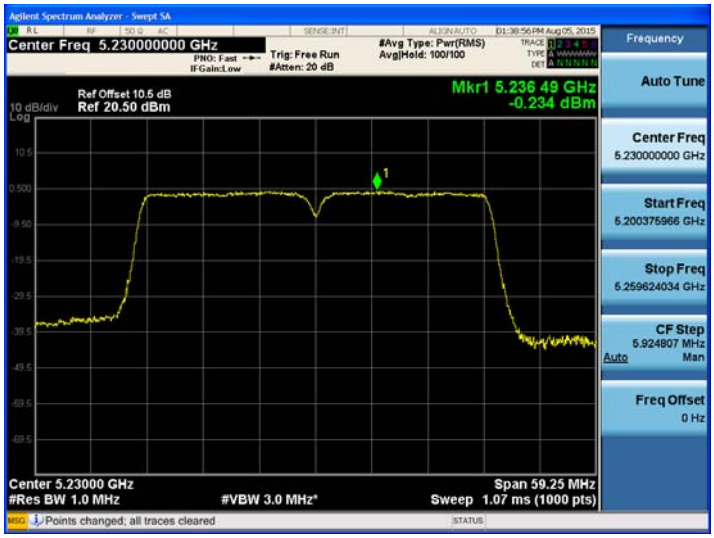
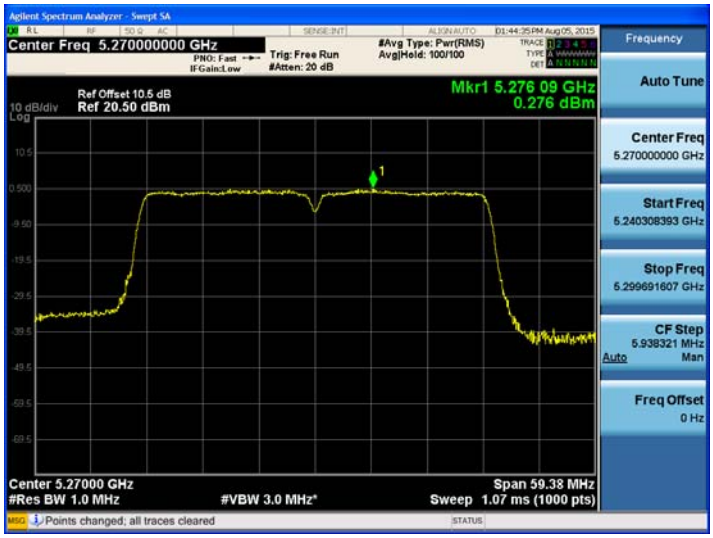
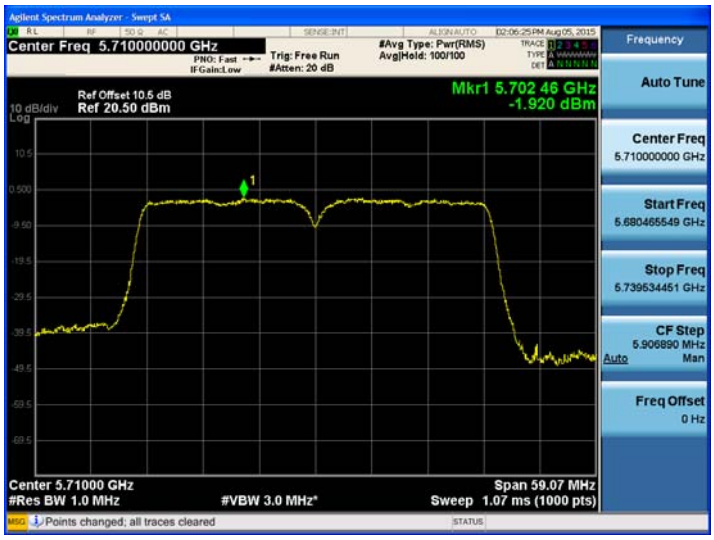
Frequency (MHz)	Channel No.	Mode	Test Result				
			Measured Power Density (dBm)	Duty Cycle Factor (dB)	Measured Power Density(dBm) + Duty Cycle Factor	Limit (dBm)	Pass/Fail
5190	38	802.11ac 40MHz BW	-6.618	0.969	-5.649	11	Pass
5230	46		-1.365	0.797	-0.568		Pass
5270	54		-1.181	1.000	-0.181	11	Pass
5310	62		-5.290	0.591	-4.699		Pass
5510	102		-8.062	1.000	-7.062	11	Pass
5550	110		-1.932	0.863	-1.069		Pass
5710	142		-1.841	1.000	-0.841		Pass
5755	151		-4.686	0.797	-3.889	30	Pass
5795	159		-5.606	0.797	-4.809		Pass

▣ Sum Data of Ant.0, Ant.1 and Ant.2

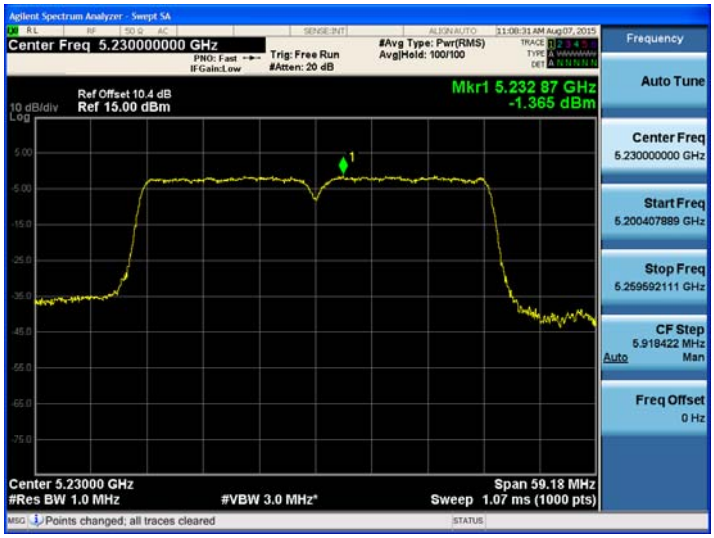
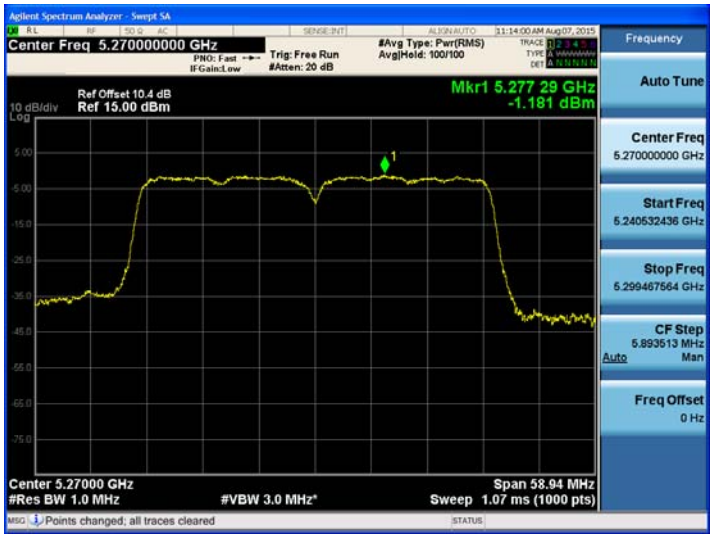
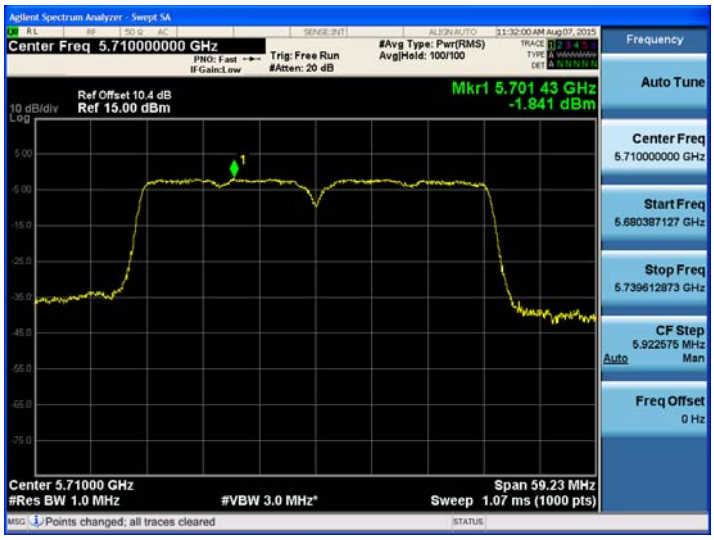
Conducted Power Density Measurements

Frequency (MHz)	Channel No.	Mode	Test Result		
			Measured Power Density (dBm)	Limit (dBm)	Pass/Fail
5190	38	802.11ac_40 MHz BW	-1.97	11	Pass
5230	46		2.93		Pass
5270	54		3.30	11	Pass
5310	62		-0.94		Pass
5510	102		-3.89	11	Pass
5590	118		0.90		Pass
5710	142		2.15		Pass
5755	151		-1.04	30	Pass
5795	159		-2.00		Pass

▣ TEST Plot for Ant.0_802.11ac_ 40MHz BW

802.11ac_40MHz BW UNII 1 BAND PSD CH 46	802.11ac_40MHz BW UNII 2A BAND PSD CH 54
	
802.11ac_40MHz BW UNII 2C BAND PSD CH 142	**802.11ac_40MHz BW UNII 3 BAND PSD CH 151**
	

▣ TEST Plot for Ant.1_802.11ac_ 40MHz BW

802.11ac_40MHz BW UNII 1 BAND PSD CH 46	802.11ac_40MHz BW UNII 2A BAND PSD CH 54
	
802.11ac_40MHz BW UNII 2C BAND PSD CH 142	**802.11ac_40MHz BW UNII 3 BAND PSD CH 151**
	

▣ Ant.0_802.11ac_80MHz BW

▣ TEST RESULTS

Conducted Power Density Measurements

Frequency (MHz)	Channel No.	Mode	Test Result				
			Measured Power Density (dBm)	Duty Cycle Factor (dB)	Measured Power Density(dBm) + Duty Cycle Factor	Limit (dBm)	Pass/Fail
5210	42	802.11ac 80MHz BW	-9.025	1.146	-7.879	11	Pass
5290	58		-6.488	1.470	-5.018	11	Pass
5530	106		-11.361	1.237	-10.124	11	Pass
5690	138		-3.914	1.146	-2.768		Pass
5775	155		-12.331	1.146	-11.185	30	Pass

▣ Ant.1_802.11ac_80MHz BW

▣ TEST RESULTS

Conducted Power Density Measurements

Frequency (MHz)	Channel No.	Mode	Test Result				
			Measured Power Density (dBm)	Duty Cycle Factor (dB)	Measured Power Density(dBm) + Duty Cycle Factor	Limit (dBm)	Pass/Fail
5210	42	802.11ac 80MHz BW	-9.367	1.000	-8.367	11	Pass
5290	58		-7.038	0.802	-6.236	11	Pass
5530	106		-12.138	0.802	-11.336	11	Pass
5690	138		-4.640	1.146	-3.494		Pass
5775	155		-12.234	1.146	-11.088	30	Pass

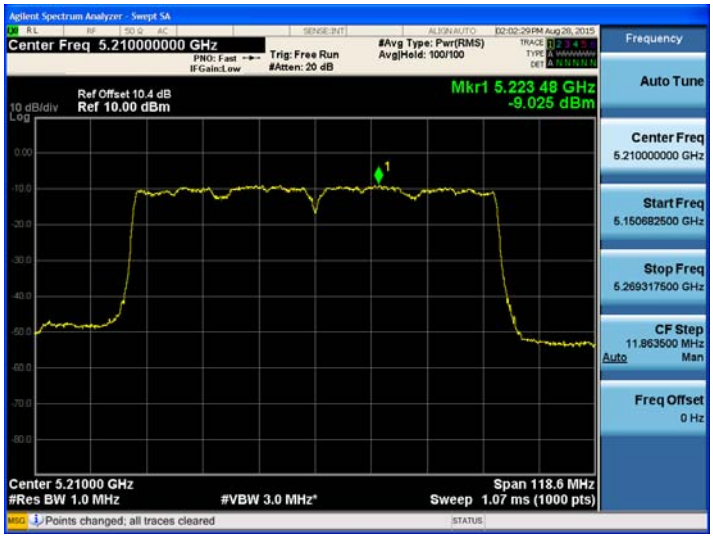
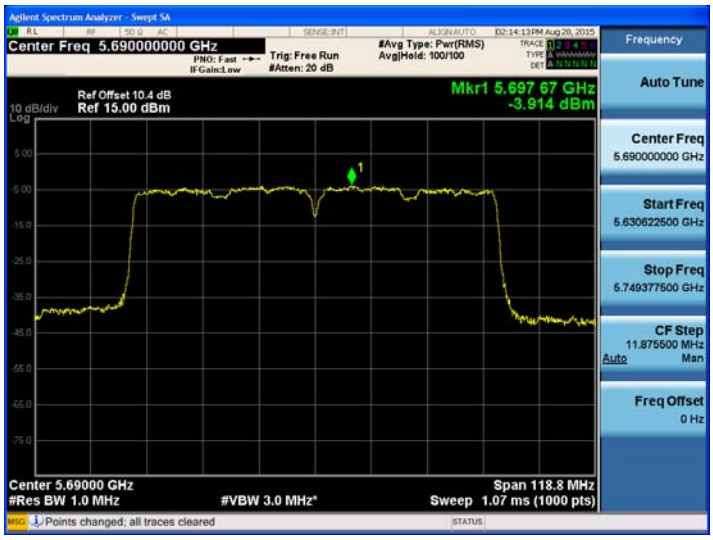
▣ 80MHz BW

▣ Sum Data of Ant.0 and Ant.1

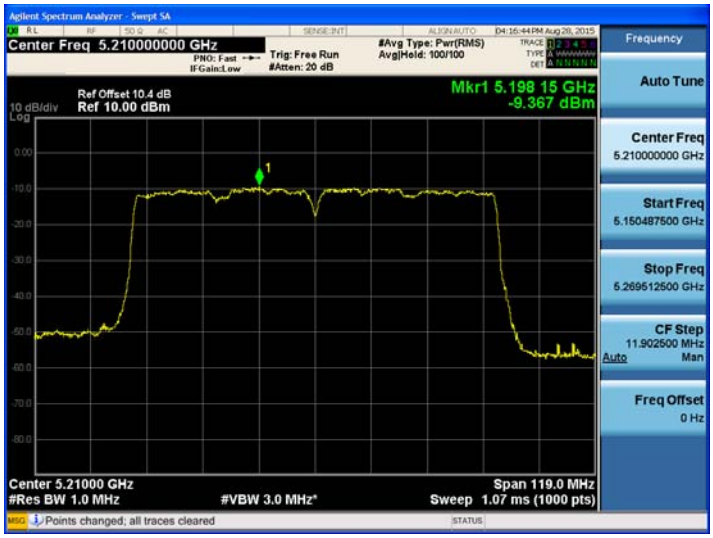
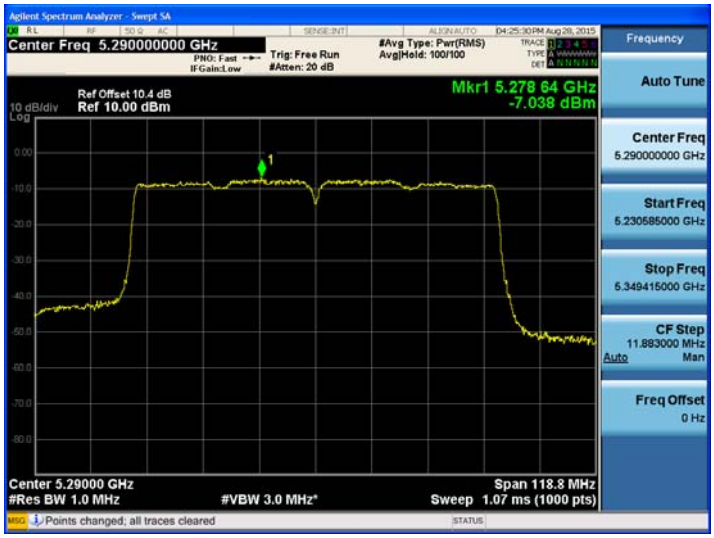
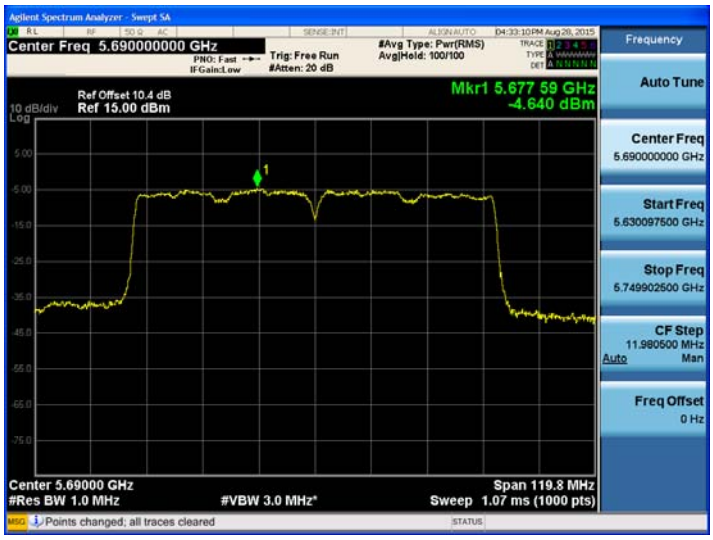
Conducted Power Density Measurements

Frequency (MHz)	Channel No.	Mode	Test Result		
			Measured Power Density (dBm)	Limit (dBm)	Pass/Fail
5210	42	802.11ac 80MHz BW	-5.11	11	Pass
5290	58		-2.60	11	Pass
5530	106		-7.70	11	Pass
5610	122		-0.11		Pass
5690	138		-8.13		Pass
5775	155		-5.11	30	Pass

▣ TEST Plot for Ant.0_ 802.11ac_80MHz BW

802.11ac_80MHz BW UNII 1 BAND PSD CH 42	802.11ac_80MHz BW UNII 2A BAND PSD CH 58
	
802.11ac_80MHz BW UNII 2C BAND PSD CH 138	**802.11ac_80MHz BW UNII 3 BAND PSD CH 155**
	

▣ TEST Plot for Ant.1_ 802.11ac_80MHz BW

802.11ac_80MHz BW UNII 1 BAND PSD CH 42	802.11ac_80MHz BW UNII 2A BAND PSD CH 58
	
802.11ac_80MHz BW UNII 2C BAND PSD CH 138	**802.11ac_80MHz BW UNII 3 BAND PSD CH 155**
	

▣ Additional TEST RESULTS

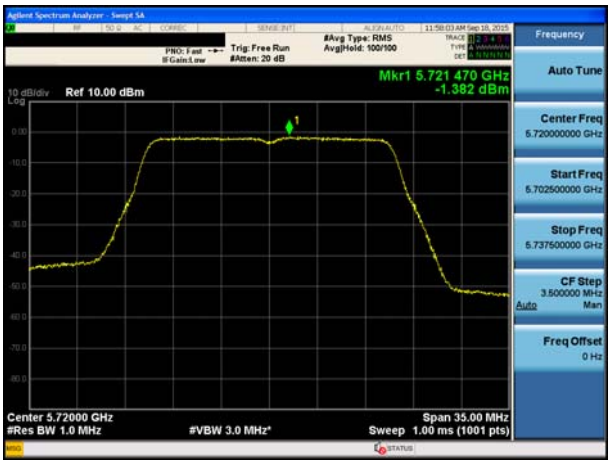
Conducted Power Density Measurements (UNII 2C Band 5720MHz)

Frequency (MHz)	Channel No.	Mode	Test Result				
			Measured Power Density (dBm)	Duty Cycle Factor (dB)	Measured Power Density(dBm) + Duty Cycle Factor	Limit (dBm)	Pass/Fail
5720	144	802.11a	-1.219	0.219	-1.000	11	Pass
		802.11n	-1.382	0.215	-1.167		Pass
		802.11ac	-1.330	0.078	-1.252		Pass

Conducted Power Density Measurements (UNII 3 Band 5720MHz)

Frequency (MHz)	Channel No.	Mode	Test Result				
			Measured Power Density (dBm)	Duty Cycle Factor (dB)	Measured Power Density(dBm) + Duty Cycle Factor	Limit (dBm)	Pass/Fail
5720	144	802.11a	-4.157	0.219	-3.938	30	Pass
		802.11n	-4.812	0.215	-4.597		Pass
		802.11ac	-4.501	0.078	-4.423		Pass

▣ Additional TEST Plot for 802.11a/n/ac_20MHz BW

802.11a UNII 2C Band PSD CH.144	802.11a UNII 3 Band PSD CH.144
802.11n_20MHz BW UNII 2C Band PSD CH.144	**802.11n_20MHz BW UNII 3 Band PSD CH.144**
	
802.11ac_20MHz BW UNII 2C Band PSD CH.144	**802.11ac_20MHz BW UNII 3 Band PSD CH.144**

▣ Additional TEST RESULTS

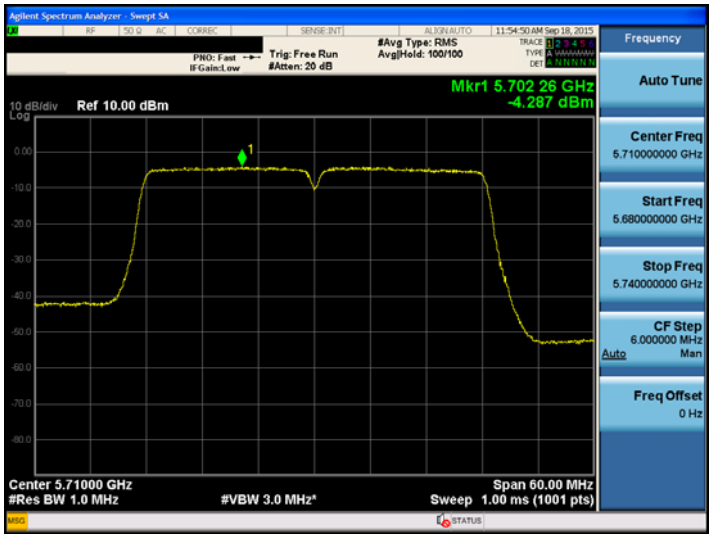
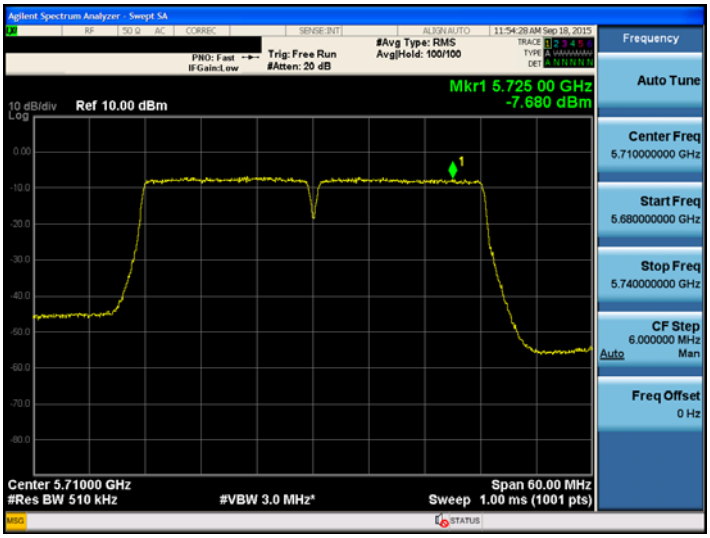
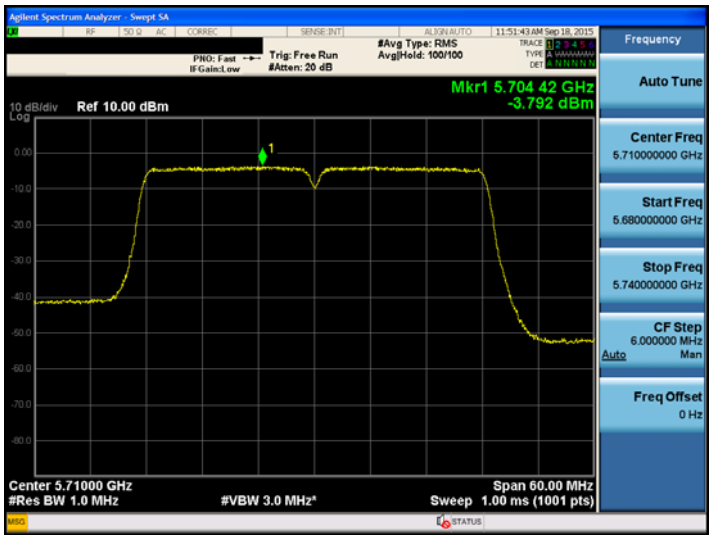
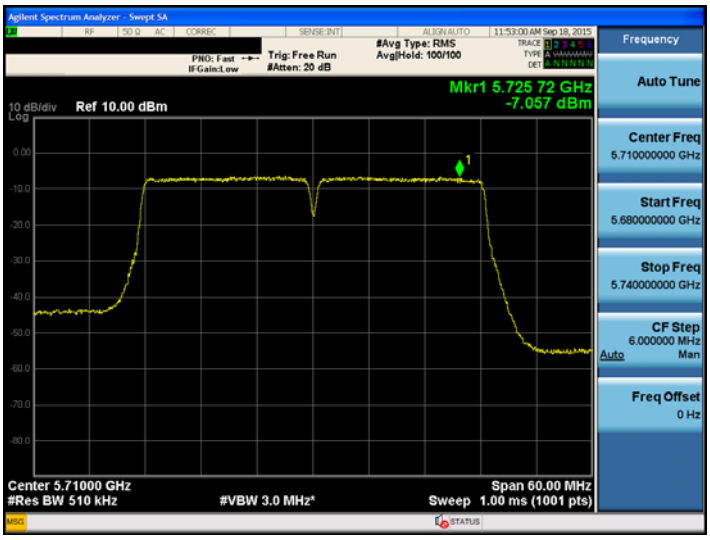
Conducted Power Density Measurements (UNII 2C Band 5710MHz)

Frequency (MHz)	Channel No.	Mode	Test Result				
			Measured Power Density (dBm)	Duty Cycle Factor (dB)	Measured Power Density(dBm) + Duty Cycle Factor	Limit (dBm)	Pass/Fail
5710	142	802.11n	-4.287	0.433	-3.854	11	Pass
		802.11ac	-3.792	0.126	-3.666		Pass

Conducted Power Density Measurements (UNII 3 Band 5710MHz)

Frequency (MHz)	Channel No.	Mode	Test Result				
			Measured Power Density (dBm)	Duty Cycle Factor (dB)	Measured Power Density(dBm) + Duty Cycle Factor	Limit (dBm)	Pass/Fail
5710	142	802.11n	-7.680	0.433	-7.247	30	Pass
		802.11ac	-7.057	0.126	-6.931		Pass

▣ Additional TEST Plot for 802.11n/ac_40MHz BW

802.11n_40MHz BW UNII 2C Band PSD CH.142	802.11n_40MHz BW UNII 3 Band PSD CH.142
	
802.11ac_40MHz BW UNII 2C Band PSD CH.142	**802.11ac_40MHz BW UNII 3 Band PSD CH.142**
	

▣ Additional TEST RESULTS

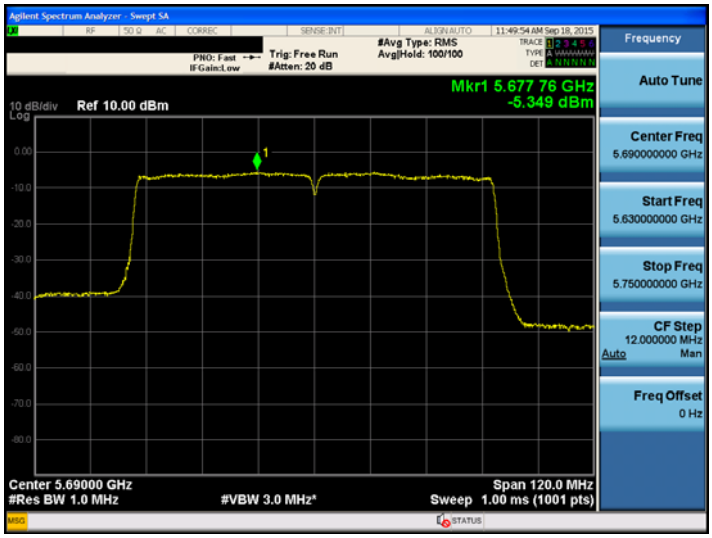
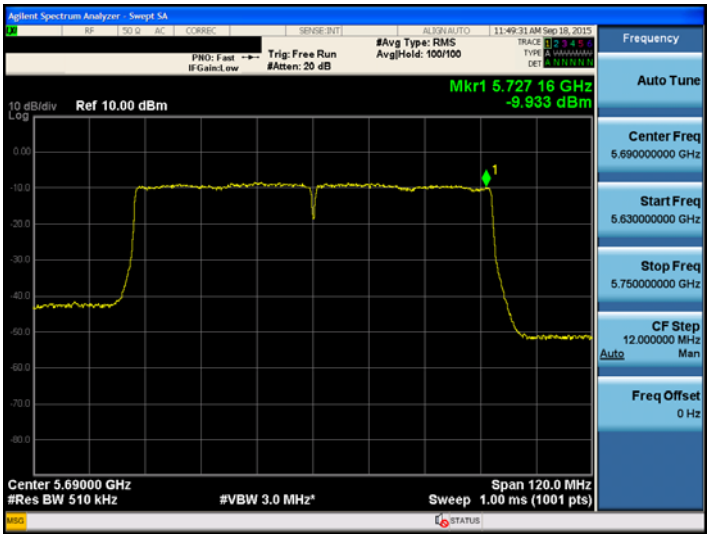
Conducted Power Density Measurements (UNII 2C Band 5710MHz)

Frequency (MHz)	Channel No.	Mode	Test Result				
			Measured Power Density (dBm)	Duty Cycle Factor (dB)	Measured Power Density(dBm) + Duty Cycle Factor	Limit (dBm)	Pass/Fail
5690	138	802.11ac	-5.349	0.266	-5.083	11	Pass

Conducted Power Density Measurements (UNII 3 Band 5710MHz)

Frequency (MHz)	Channel No.	Mode	Test Result				
			Measured Power Density (dBm)	Duty Cycle Factor (dB)	Measured Power Density(dBm) + Duty Cycle Factor	Limit (dBm)	Pass/Fail
5690	138	802.11ac	-9.933	0.266	-9.667	30	Pass

▣ Additional TEST Plot for 802.11ac_80MHz BW

802.11ac_80MHz BW UNII 2C Band PSD CH.138	802.11ac_80MHz BW UNII 3 Band PSD CH.138
	

8.5 FREQUENCY STABILITY.

The EUT was placed inside an environmental chamber as the temperature in the chamber was varied between -30 ℃ and 50 ℃. The temperature was incremented by 10 ℃ intervals and the unit was allowed to stabilize at each temperature before each measurement. The center frequency of the transmitting channel was evaluated at each temperature and the frequency deviation from the channel's center frequency was recorded.

20 MHz BW

OPERATING BAND: UNII Band 1

OPERATING FREQUENCY: 5,180,000,000 Hz

CHANNEL: 36

REFERENCE VOLTAGE: 3.3 VDC

Voltage (%)	Power (VDC)	Temp. (℃)	Frequency (kHz)	Frequency Error (kHz)
100%	3.3	+20(Ref)	5180014.56	14.56
100%		-30	5179981.65	-18.35
100%		-20	5179991.03	-8.97
100%		-10	5179998.21	-1.79
100%		0	5180002.51	2.51
100%		+10	5180009.46	9.46
100%		+30	5180018.27	18.27
100%		+40	5180027.34	27.34
100%		+50	5180033.61	33.61
115%	3.795	+20	5180000.00	14.21
Batt. Endpoint	2.805	+20	5180010.00	10.00

Note:

Based on the results of the frequency stability test shown above the frequency deviation results measured are very small. As such it is determined that the channels at the band edge would remain in-band when the maximum measured frequency error noted during the frequency stability tests is applied. Therefore the device is determined to remain operating in band over the temperature and voltage range as tested.

OPERATING BAND: UNII Band 2A

OPERATING FREQUENCY: 5,260,000,000 Hz

CHANNEL: 52

REFERENCE VOLTAGE: 3.3 VDC

Voltage (%)	Power (VDC)	Temp. (℃)	Frequency (kHz)	Frequency Error (kHz)
100%	3.3	+20(Ref)	5260012.95	12.95
100%		-30	5259980.15	-19.85
100%		-20	5259989.79	-10.21
100%		-10	5259996.76	-3.24
100%		0	5260001.76	1.76
100%		+10	5260008.34	8.34
100%		+30	5260016.27	16.27
100%		+40	5260026.05	26.05
100%		+50	5260031.95	31.95
115%	3.795	+20	5260013.12	13.12
Batt. Endpoint	2.805	+20	5260009.25	9.25

Note:

Based on the results of the frequency stability test shown above the frequency deviation results measured are very small. As such it is determined that the channels at the band edge would remain in-band when the maximum measured frequency error noted during the frequency stability tests is applied. Therefore the device is determined to remain operating in band over the temperature and voltage range as tested.

OPERATING BAND: UNII Band 2C

OPERATING FREQUENCY: 5,500,000,000 Hz

CHANNEL: 100

REFERENCE VOLTAGE: 3.3 VDC

Voltage (%)	Power (VDC)	Temp. (℃)	Frequency (kHz)	Frequency Error (kHz)
100%	3.3	+20(Ref)	5500011.24	11.24
100%		-30	5499978.84	-21.16
100%		-20	5499988.24	-11.76
100%		-10	5499994.96	-5.04
100%		0	5500000.85	0.85
100%		+10	5500007.28	7.28
100%		+30	5500015.09	15.09
100%		+40	5500024.13	24.13
100%		+50	5500030.54	30.54
115%	3.795	+20	5500011.85	11.85
Batt. Endpoint	2.805	+20	5500008.61	8.61

Note:

Based on the results of the frequency stability test shown above the frequency deviation results measured are very small. As such it is determined that the channels at the band edge would remain in-band when the maximum measured frequency error noted during the frequency stability tests is applied. Therefore the device is determined to remain operating in band over the temperature and voltage range as tested.

OPERATING BAND: UNII Band 3

OPERATING FREQUENCY: 5,745,000,000 Hz

CHANNEL: 149

REFERENCE VOLTAGE: 3.3 VDC

Voltage (%)	Power (VDC)	Temp. (℃)	Frequency (kHz)	Frequency Error (kHz)
100%	3.3	+20(Ref)	5745008.45	8.45
100%		-30	5744973.82	-26.18
100%		-20	5744980.16	-19.84
100%		-10	5744989.66	-10.34
100%		0	5744995.25	-4.75
100%		+10	5745002.15	2.15
100%		+30	5745013.62	13.62
100%		+40	5745020.17	20.17
100%		+50	5745028.73	28.73
115%	3.795	+20	5745006.02	6.02
Batt. Endpoint	2.805	+20	5745007.14	7.14

Note:

Based on the results of the frequency stability test shown above the frequency deviation results measured are very small. As such it is determined that the channels at the band edge would remain in-band when the maximum measured frequency error noted during the frequency stability tests is applied. Therefore the device is determined to remain operating in band over the temperature and voltage range as tested.

40 MHz BW

OPERATING BAND: UNII Band 1

OPERATING FREQUENCY: 5,190,000,000 Hz

CHANNEL: 38

REFERENCE VOLTAGE: 3.3 VDC

Voltage (%)	Power (VDC)	Temp. (℃)	Frequency (kHz)	Frequency Error (kHz)
100%	3.3	+20(Ref)	5190013.50	13.50
100%		-30	5189981.49	-18.51
100%		-20	5189989.66	-10.34
100%		-10	5189996.48	-3.52
100%		0	5190002.14	2.14
100%		+10	5190009.27	9.27
100%		+30	5190018.64	18.64
100%		+40	5190028.31	28.31
100%		+50	5190035.20	35.20
115%	3.795	+20	5190011.60	11.60
Batt. Endpoint	2.805	+20	5190009.36	9.36

Note:

Based on the results of the frequency stability test shown above the frequency deviation results measured are very small. As such it is determined that the channels at the band edge would remain in-band when the maximum measured frequency error noted during the frequency stability tests is applied. Therefore the device is determined to remain operating in band over the temperature and voltage range as tested.

OPERATING BAND: UNII Band 2A

OPERATING FREQUENCY: 5,270,000,000 Hz

CHANNEL: 54

REFERENCE VOLTAGE: 3.3 VDC

Voltage (%)	Power (VDC)	Temp. (℃)	Frequency (kHz)	Frequency Error (kHz)
100%	3.3	+20(Ref)	5270012.37	12.37
100%		-30	5269979.57	-20.43
100%		-20	5269989.21	-10.79
100%		-10	5269996.18	-3.82
100%		0	5270001.18	1.18
100%		+10	5270007.76	7.76
100%		+30	5270015.69	15.69
100%		+40	5270025.47	25.47
100%		+50	5270031.37	31.37
115%	3.795	+20	5270012.54	12.54
Batt. Endpoint	2.805	+20	5270008.67	8.67

Note:

Based on the results of the frequency stability test shown above the frequency deviation results measured are very small. As such it is determined that the channels at the band edge would remain in-band when the maximum measured frequency error noted during the frequency stability tests is applied. Therefore the device is determined to remain operating in band over the temperature and voltage range as tested.

OPERATING BAND: UNII Band 2C

OPERATING FREQUENCY: 5,510,000,000 Hz

CHANNEL: 102

REFERENCE VOLTAGE: 3.3 VDC

Voltage (%)	Power (VDC)	Temp. (℃)	Frequency (kHz)	Frequency Error (kHz)
100%	3.3	+20(Ref)	5510010.08	10.08
100%		-30	5509977.68	-22.32
100%		-20	5509987.08	-12.92
100%		-10	5509993.80	-6.20
100%		0	5509999.69	-0.31
100%		+10	5510006.12	6.12
100%		+30	5510013.93	13.93
100%		+40	5510022.97	22.97
100%		+50	5510029.38	29.38
115%	3.795	+20	5510010.69	10.69
Batt. Endpoint	2.805	+20	5510007.45	7.45

Note:

Based on the results of the frequency stability test shown above the frequency deviation results measured are very small. As such it is determined that the channels at the band edge would remain in-band when the maximum measured frequency error noted during the frequency stability tests is applied. Therefore the device is determined to remain operating in band over the temperature and voltage range as tested.

OPERATING BAND: UNII Band 3

OPERATING FREQUENCY: 5,755,000,000 Hz

CHANNEL: 151

REFERENCE VOLTAGE: 3.3 VDC

Voltage (%)	Power (VDC)	Temp. (℃)	Frequency (kHz)	Frequency Error (kHz)
100%	3.3	+20(Ref)	5755009.16	9.16
100%		-30	5754976.57	-23.43
100%		-20	5754982.70	-17.3
100%		-10	5754989.72	-10.28
100%		0	5754996.42	-3.58
100%		+10	5755002.41	2.41
100%		+30	5755013.52	13.52
100%		+40	5755020.48	20.48
100%		+50	5755027.56	27.56
115%	3.795	+20	5755008.77	8.77
Batt. Endpoint	2.805	+20	5755007.49	7.49

Note:

Based on the results of the frequency stability test shown above the frequency deviation results measured are very small. As such it is determined that the channels at the band edge would remain in-band when the maximum measured frequency error noted during the frequency stability tests is applied. Therefore the device is determined to remain operating in band over the temperature and voltage range as tested.

80 MHz BW

OPERATING BAND: UNII Band 1

OPERATING FREQUENCY: 5,210,000,000 Hz

CHANNEL: 42

REFERENCE VOLTAGE: 3.3 VDC

Voltage (%)	Power (VDC)	Temp. (℃)	Frequency (kHz)	Frequency Error (kHz)
100%	3.3	+20(Ref)	5210016.48	16.48
100%		-30	5209981.33	-18.67
100%		-20	5209989.04	-10.96
100%		-10	5209997.43	-2.57
100%		0	5210003.74	3.74
100%		+10	5210011.63	11.63
100%		+30	5210021.52	21.52
100%		+40	5210029.84	29.84
100%		+50	5210034.45	34.45
115%	3.795	+20	5210019.60	19.60
Batt. Endpoint	2.805	+20	5210017.38	17.38

Note:

Based on the results of the frequency stability test shown above the frequency deviation results measured are very small. As such it is determined that the channels at the band edge would remain in-band when the maximum measured frequency error noted during the frequency stability tests is applied. Therefore the device is determined to remain operating in band over the temperature and voltage range as tested.

OPERATING BAND: UNII Band 2A

OPERATING FREQUENCY: 5,290,000,000 Hz

CHANNEL: 58

REFERENCE VOLTAGE: 3.3 VDC

Voltage (%)	Power (VDC)	Temp. (℃)	Frequency (kHz)	Frequency Error (kHz)
100%	3.3	+20(Ref)	5290012.46	12.46
100%		-30	5289979.66	-20.34
100%		-20	5289989.30	-10.70
100%		-10	5289996.27	-3.73
100%		0	5290001.27	1.27
100%		+10	5290007.85	7.85
100%		+30	5290015.78	15.78
100%		+40	5290025.56	25.56
100%		+50	5290031.46	31.46
115%	3.795	+20	5290012.63	12.63
Batt. Endpoint	2.805	+20	5290008.76	8.76

Note:

Based on the results of the frequency stability test shown above the frequency deviation results measured are very small. As such it is determined that the channels at the band edge would remain in-band when the maximum measured frequency error noted during the frequency stability tests is applied. Therefore the device is determined to remain operating in band over the temperature and voltage range as tested.

OPERATING BAND: UNII Band 2C

OPERATING FREQUENCY: 5,530,000,000 Hz

CHANNEL: 106

REFERENCE VOLTAGE: 3.3 VDC

Voltage (%)	Power (VDC)	Temp. (℃)	Frequency (kHz)	Frequency Error (kHz)
100%	3.3	+20(Ref)	5530010.75	10.75
100%		-30	5529978.35	-21.65
100%		-20	5529987.75	-12.25
100%		-10	5529994.47	-5.53
100%		0	5530000.36	0.36
100%		+10	5530006.79	6.79
100%		+30	5530014.60	14.60
100%		+40	5530023.64	23.64
100%		+50	5530030.05	30.05
115%	3.795	+20	5530011.36	11.36
Batt. Endpoint	2.805	+20	5530008.12	8.12

Note:

Based on the results of the frequency stability test shown above the frequency deviation results measured are very small. As such it is determined that the channels at the band edge would remain in-band when the maximum measured frequency error noted during the frequency stability tests is applied. Therefore the device is determined to remain operating in band over the temperature and voltage range as tested.

OPERATING BAND: UNII Band 3

OPERATING FREQUENCY: 5,775,000,000 Hz

CHANNEL: 155

REFERENCE VOLTAGE: 3.3 VDC

Voltage (%)	Power (VDC)	Temp. (℃)	Frequency (kHz)	Frequency Error (kHz)
100%	3.3	+20(Ref)	5775004.52	4.52
100%		-30	5774969.99	-30.01
100%		-20	5774978.36	-21.64
100%		-10	5774986.33	-13.67
100%		0	5774991.48	-8.52
100%		+10	5774998.47	-1.53
100%		+30	5775009.58	9.58
100%		+40	5775017.24	17.24
100%		+50	5775026.39	26.39
115%	3.795	+20	5775005.43	5.43
Batt. Endpoint	2.805	+20	5775006.28	6.28

Note:

Based on the results of the frequency stability test shown above the frequency deviation results measured are very small. As such it is determined that the channels at the band edge would remain in-band when the maximum measured frequency error noted during the frequency stability tests is applied. Therefore the device is determined to remain operating in band over the temperature and voltage range as tested.

8.6 RADIATED MEASUREMENT

8.6.1 RADIATED SPURIOUS EMISSIONS.

Test Requirements and limit, §15.205, §15.209, §15.407

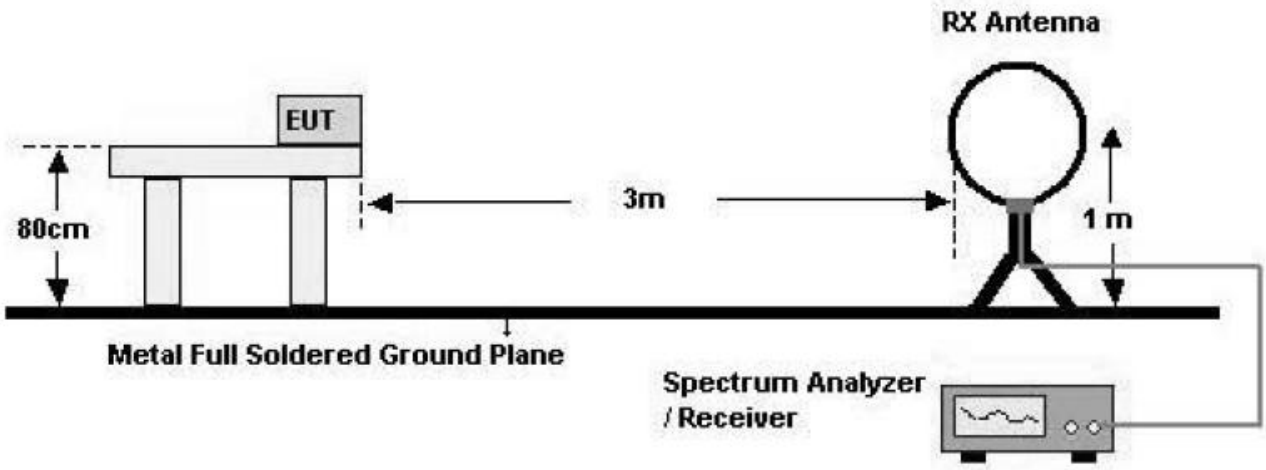
Frequency (MHz)	Field Strength (uV/m)	Measurement Distance (m)
0.009 – 0.490	2400/F(kHz)	300
0.490 – 1.705	24000/F(kHz)	30
1.705 – 30	30	30
30-88	100	3
88-216	150	3
216-960	200	3
Above 960	500	3

▣ §15.407, KDB 789033 D02

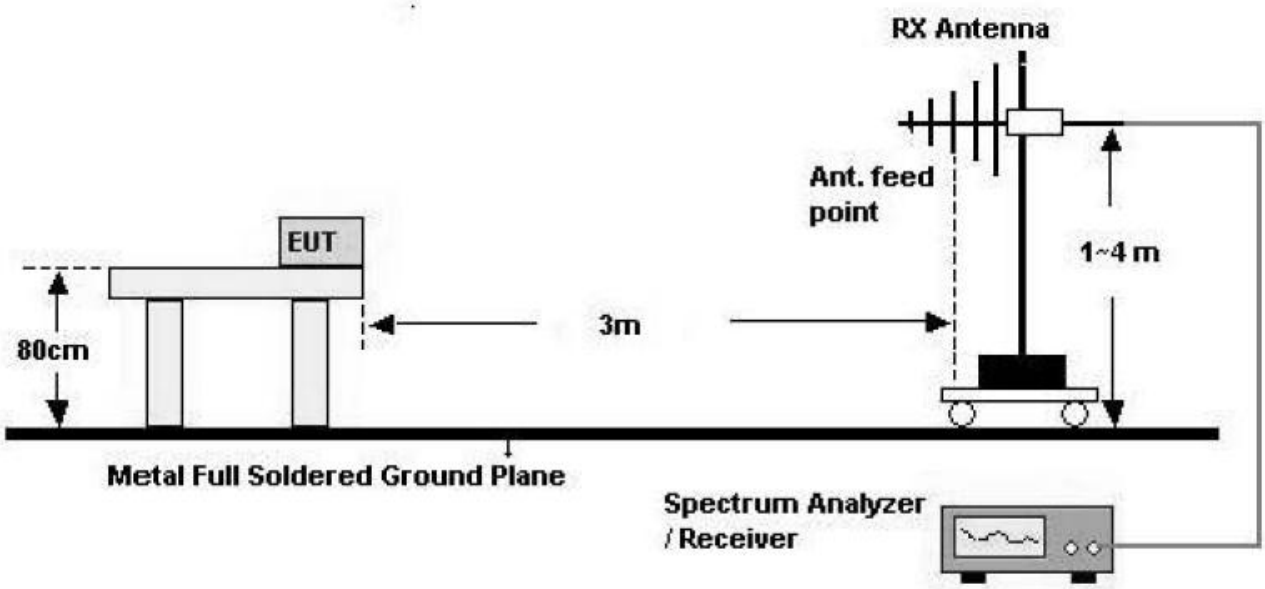
All harmonics that do not lie in a restricted band are subject to a peak limit of -27 dBm/MHz. At a distance of 3 meters the field strength limit in dBμV/m can be determined by adding a “conversion” factor of 95.2 dB to the EIRP limit of -27 dBm/MHz to obtain the limit for out of band spurious emissions of 68.2 dBμV/m. Espectally, for transmitter operating in the 5725 Mhz – 5850 MHz : 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 frequency 10 MHz or greater above or below the band edge, emissions shall not exceed an e.i.r.p. of -27 dBm/MHz.

Test Configuration

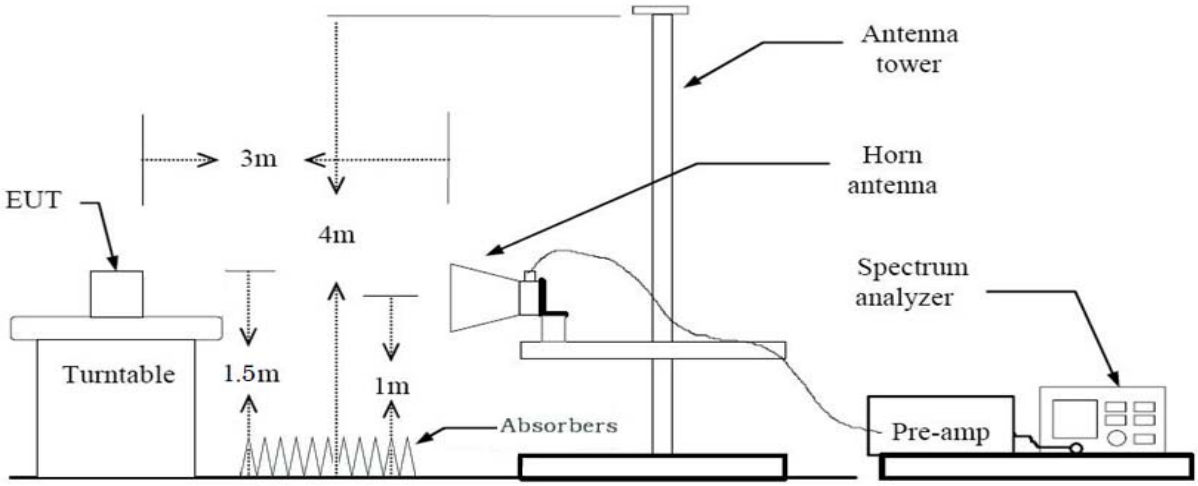
Below 30 MHz



30 MHz - 1 GHz



Above 1 GHz



TEST PROCEDURE USED

ANSI C63.10:2013

Method G)5) in KDB 789033, issued 06/06/2014 (Peak)

Method G)6)d) in KDB 789033, issued 06/06/2014 (Average)

. Spectrum setting:

- Peak.

1. RBW = 1 MHz
2. VBW ≥ 3 MHz
3. Detector = Peak
4. Sweep Time = auto
5. Trace mode = max hold
6. Allow sweeps to continue until the trace stabilizes.
7. 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.

- Average (Method VB :Averaging using reduced video bandwidth)

1. RBW = 1 MHz
2. VBW
   2.1. 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.
   2.2. If the EUT duty cycle is < 98 percent, set VBW ≥ 1/T, where T is the minimum transmission duration.
3. The analyzer is set to linear detector mode.

4. Detector = Peak.
5. Sweep time = auto.
6. Trace mode = max hold.
7. 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 minimym number of traces by a factor of 1/x, where x is the duty cycle.

Note :

1. We used the Method VB for 802.11a/n/ac_20, n/ac_40, ac_80 mode to perform the average filed strength measurements.
2. The actual setting value of VBW for 802.11a/n/ac_20, n/ac_40, ac_80

Mode	Worst Data rate (Mbps)	T_{on} (ms)	T_{total} (ms)	Duty Cycle (%)	VBW(1/T) (Hz)	The actual setting value of VBW (Hz)
a	**6**	**2.068**	**2.175**	**95.07**	**484**	**1000**
n_20	**6.5**	**1.919**	**2.017**	**95.16**	**521**	**1000**
n_40	**13.5**	**0.944**	**1.043**	**90.51**	**1060**	**3000**
ac_20	**6.5**	**1.920**	**1.955**	**98.21**	**521**	**1000**
ac_40	**13.5**	**0.954**	**0.982**	**97.15**	**1048**	**3000**
ac_80	**29.3**	**0.460**	**0.489**	**94.07**	**2174**	**3000**

TEST RESULTS

9 kHz – 30MHz

Operation Mode: Normal Mode

Frequency	Reading	Ant. factor	Cable loss	Ant. POL	Total	Limit	Margin
MHz	dBμV	dB /m	dB	(H/V)	dBμV/m	dBμV/m	dB
No Critical peaks found							

Notes:

1. Measuring frequencies from 9 kHz to the 30MHz.
2. The reading of emissions are attenuated more than 20 dB below the permissible limits or the field strength is too small to be measured.
3. Distance extrapolation factor = 40 log (specific distance / test distance) (dB)
4. Limit line = specific Limits (dBuV) + Distance extrapolation factor
5. We have done x, y, z planes in EUT and horizontal and vertical polarization in detecting antenna.

TEST RESULTS

Below 1 GHz

Operation Mode: Normal Mode

Frequency	Reading	Ant. factor	Cable loss	Ant. POL	Total	Limit	Margin
MHz	dBμV	dB /m	dB	(H/V)	dBμV/m	dBμV/m	dB
No Critical peaks found							

Notes:

1. Measuring frequencies from 30 MHz to the 1 GHz.
2. Radiated emissions measured in frequency range from 30 MHz to 1000 MHz were made with an instrument using Quasi peak detector mode.
3. We have done x, y, z planes in EUT and horizontal and vertical polarization in detecting antenna.

Above 1 GHz

Band :	UNII 1
Operation Mode:	802.11 a_20 MHz BW
Transfer Rate:	6 Mbps
Operating Frequency	5180 MHz
Channel No.	36 Ch

Frequency [MHz]	Reading dBuV	AN.+CL-Amp G. [dB]	ANT. POL [H/V]	Total [dBuV/m]	Limit [dBuV/m]	Margin [dB]	Measurement Type
10360	66.52	-2.21	V	64.31	68.20	3.89	PK
15540	60.01	-1.95	V	58.06	73.98	15.92	PK
15540	46.45	-1.95	V	44.50	53.98	9.48	AV
10360	66.81	-2.21	H	64.60	68.20	3.60	PK
15540	60.03	-1.95	H	58.08	73.98	15.90	PK
15540	46.65	-1.95	H	44.70	53.98	9.28	AV

Notes:

1. Measuring frequencies from 1 GHz to the 10th harmonic of highest fundamental frequency.
2. Measurements above show only up to 6 maximum emissions noted, or would be lesser if no specific emissions from the EUT are recorded (ie: margin > 20 dB from the applicable limit) and considered that's already beyond the background noise floor.
3. Radiated emissions measured in frequency above 1000MHz were made with an instrument using Peak detector mode and average detector mode of the emission shown in Actual FS column.
4. Total = Reading Value + Antenna Factor + Cable Loss - Amp Gain
5. We have done all data rate in 802.11a. Worst case is 6 Mbps in 802.11a.
6. We have done x, y, z planes in EUT and horizontal and vertical polarization in detecting antenna.

Band :	UNII 1
Operation Mode:	802.11 a_20 MHz BW
Transfer Rate:	6 Mbps
Operating Frequency	5200 MHz
Channel No.	40 Ch

Frequency [MHz]	Reading dBuV	AN.+CL-Amp G. [dB]	ANT. POL [H/V]	Total [dBuV/m]	Limit [dBuV/m]	Margin [dB]	Measurement Type
10400	66.68	-2.16	V	64.52	68.20	3.68	PK
15600	59.12	-2.51	V	56.61	73.98	17.37	PK
15600	46.05	-2.51	V	43.54	53.98	10.44	AV
10400	67.35	-2.16	H	65.19	68.20	3.01	PK
15600	59.37	-2.51	H	56.86	73.98	17.12	PK
15600	46.26	-2.51	H	43.75	53.98	10.23	AV

Notes:

1. Measuring frequencies from 1 GHz to the 10th harmonic of highest fundamental frequency.
2. Measurements above show only up to 6 maximum emissions noted, or would be lesser if no specific emissions from the EUT are recorded (ie: margin > 20 dB from the applicable limit) and considered that's already beyond the background noise floor.
3. Radiated emissions measured in frequency above 1000MHz were made with an instrument using Peak detector mode and average detector mode of the emission shown in Actual FS column.
4. Total = Reading Value + Antenna Factor + Cable Loss - Amp Gain
5. We have done all data rate in 802.11a. Worst case is 6 Mbps in 802.11a.
6. We have done x, y, z planes in EUT and horizontal and vertical polarization in detecting antenna.

Band :	UNII 1
Operation Mode:	802.11 a_20 MHz BW
Transfer Rate:	6 Mbps
Operating Frequency	5240 MHz
Channel No.	48 Ch

Frequency [MHz]	Reading dBuV	AN.+CL-Amp G. [dB]	ANT. POL [H/V]	Total [dBuV/m]	Limit [dBuV/m]	Margin [dB]	Measurement Type
10480	66.85	-2.59	V	64.26	68.20	3.94	PK
15720	59.04	-1.62	V	57.42	73.98	16.56	PK
15720	46.11	-1.62	V	44.49	53.98	9.49	AV
10480	67.47	-2.59	H	64.88	68.20	3.32	PK
15720	59.20	-1.62	H	57.58	73.98	16.40	PK
15720	46.24	-1.62	H	44.62	53.98	9.36	AV

Notes:

1. Measuring frequencies from 1 GHz to the 10th harmonic of highest fundamental frequency.
2. Measurements above show only up to 6 maximum emissions noted, or would be lesser if no specific emissions from the EUT are recorded (ie: margin > 20 dB from the applicable limit) and considered that's already beyond the background noise floor.
3. Radiated emissions measured in frequency above 1000MHz were made with an instrument using Peak detector mode and average detector mode of the emission shown in Actual FS column.
4. Total = Reading Value + Antenna Factor + Cable Loss - Amp Gain
5. We have done all data rate in 802.11a. Worst case is 6 Mbps in 802.11a.
6. We have done x, y, z planes in EUT and horizontal and vertical polarization in detecting antenna

Band :	UNII 1
Operation Mode:	802.11 n_20 MHz BW
Transfer Rate:	6.5 Mbps
Operating Frequency	5180 MHz
Channel No.	36 Ch

Frequency [MHz]	Reading dBuV	AN.+CL-Amp G. [dB]	ANT. POL [H/V]	Total [dBuV/m]	Limit [dBuV/m]	Margin [dB]	Measurement Type
10360	66.89	-2.21	V	64.68	68.20	3.52	PK
15540	59.12	-1.95	V	57.17	73.98	16.81	PK
15540	46.05	-1.95	V	44.10	53.98	9.88	AV
10360	67.34	-2.21	H	65.13	68.20	3.07	PK
15540	59.66	-1.95	H	57.71	73.98	16.27	PK
15540	46.10	-1.95	H	44.15	53.98	9.83	AV

Notes:

1. Measuring frequencies from 1 GHz to the 10th harmonic of highest fundamental frequency.
2. Measurements above show only up to 6 maximum emissions noted, or would be lesser if no specific emissions from the EUT are recorded (ie: margin > 20 dB from the applicable limit) and considered that's already beyond the background noise floor.
3. Radiated emissions measured in frequency above 1000MHz were made with an instrument using Peak detector mode and average detector mode of the emission shown in Actual FS column.
4. Total = Reading Value + Antenna Factor + Cable Loss - Amp Gain
5. We have done all data rate in 802.11n_20 MHz BW. Worst case is 6.5 Mbps in 802.11n_20 MHz BW.
6. We have done x, y, z planes in EUT and horizontal and vertical polarization in detecting antenna.

Band :	UNII 1
Operation Mode:	802.11 n_20 MHz BW
Transfer Rate:	6.5 Mbps
Operating Frequency	5200 MHz
Channel No.	40 Ch

Frequency [MHz]	Reading dBuV	AN.+CL-Amp G. [dB]	ANT. POL [H/V]	Total [dBuV/m]	Limit [dBuV/m]	Margin [dB]	Measurement Type
10400	66.10	-2.16	V	63.94	68.20	4.26	PK
15600	60.05	-2.51	V	57.54	73.98	16.44	PK
15600	46.56	-2.51	V	44.05	53.98	9.93	AV
10400	66.93	-2.16	H	64.77	68.20	3.43	PK
15600	60.34	-2.51	H	57.83	73.98	16.15	PK
15600	46.93	-2.51	H	44.42	53.98	9.56	AV

Notes:

1. Measuring frequencies from 1 GHz to the 10th harmonic of highest fundamental frequency.
2. Measurements above show only up to 6 maximum emissions noted, or would be lesser if no specific emissions from the EUT are recorded (ie: margin > 20 dB from the applicable limit) and considered that's already beyond the background noise floor.
3. Radiated emissions measured in frequency above 1000MHz were made with an instrument using Peak detector mode and average detector mode of the emission shown in Actual FS column.
4. Total = Reading Value + Antenna Factor + Cable Loss - Amp Gain
5. We have done all data rate in 802.11n_20 MHz BW. Worst case is 6.5 Mbps in 802.11n_20 MHz BW.
6. We have done x, y, z planes in EUT and horizontal and vertical polarization in detecting antenna.

Band :	UNII 1
Operation Mode:	802.11 n_20 MHz BW
Transfer Rate:	6.5 Mbps
Operating Frequency	5240 MHz
Channel No.	48 Ch

Frequency [MHz]	Reading dBuV	AN.+CL-Amp G. [dB]	ANT. POL [H/V]	Total [dBuV/m]	Limit [dBuV/m]	Margin [dB]	Measurement Type
10480	66.17	-2.59	V	63.58	68.20	4.62	PK
15720	59.11	-1.62	V	57.49	73.98	16.49	PK
15720	45.84	-1.62	V	44.22	53.98	9.76	AV
10480	66.78	-2.59	H	64.19	68.20	4.01	PK
15720	59.43	-1.62	H	57.81	73.98	16.17	PK
15720	45.93	-1.62	H	44.31	53.98	9.67	AV

Notes:

1. Measuring frequencies from 1 GHz to the 10th harmonic of highest fundamental frequency.
2. Measurements above show only up to 6 maximum emissions noted, or would be lesser if no specific emissions from the EUT are recorded (ie: margin > 20 dB from the applicable limit) and considered that's already beyond the background noise floor.
3. Radiated emissions measured in frequency above 1000MHz were made with an instrument using Peak detector mode and average detector mode of the emission shown in Actual FS column.
4. Total = Reading Value + Antenna Factor + Cable Loss - Amp Gain
5. We have done all data rate in 802.11n_20 MHz BW. Worst case is 6.5 Mbps in 802.11n_20 MHz BW.
6. We have done x, y, z planes in EUT and horizontal and vertical polarization in detecting antenna.

Band :	UNII 1
Operation Mode:	802.11 ac_20 MHz BW
Transfer Rate:	6.5 Mbps
Operating Frequency	5180 MHz
Channel No.	36 Ch

Frequency [MHz]	Reading dBuV	AN.+CL-Amp G. [dB]	ANT. POL [H/V]	Total [dBuV/m]	Limit [dBuV/m]	Margin [dB]	Measurement Type
10360	66.18	-2.21	V	63.97	68.20	4.23	PK
15540	58.31	-1.95	V	56.36	73.98	17.62	PK
15540	45.12	-1.95	V	43.17	53.98	10.81	AV
10360	66.73	-2.21	H	64.52	68.20	3.68	PK
15540	58.78	-1.95	H	56.83	73.98	17.15	PK
15540	45.62	-1.95	H	43.67	53.98	10.31	AV

Notes:

1. Measuring frequencies from 1 GHz to the 10th harmonic of highest fundamental frequency.
2. Measurements above show only up to 6 maximum emissions noted, or would be lesser if no specific emissions from the EUT are recorded (ie: margin > 20 dB from the applicable limit) and considered that's already beyond the background noise floor.
3. Radiated emissions measured in frequency above 1000MHz were made with an instrument using Peak detector mode and average detector mode of the emission shown in Actual FS column.
4. Total = Reading Value + Antenna Factor + Cable Loss - Amp Gain
5. We have done all data rate in 802.11ac_20 MHz BW. Worst case is 6.5 Mbps in 802.11ac_20 MHz BW.
6. We have done x, y, z planes in EUT and horizontal and vertical polarization in detecting antenna.

Band :	UNII 1
Operation Mode:	802.11 ac_20 MHz BW
Transfer Rate:	6.5 Mbps
Operating Frequency	5200 MHz
Channel No.	40 Ch

Frequency [MHz]	Reading dBuV	AN.+CL-Amp G. [dB]	ANT. POL [H/V]	Total [dBuV/m]	Limit [dBuV/m]	Margin [dB]	Measurement Type
10400	66.55	-2.16	V	64.39	68.20	3.81	PK
15600	60.05	-2.51	V	57.54	73.98	16.44	PK
15600	46.11	-2.51	V	43.60	53.98	10.38	AV
10400	67.12	-2.16	H	64.96	68.20	3.24	PK
15600	60.18	-2.51	H	57.67	73.98	16.31	PK
15600	46.26	-2.51	H	43.75	53.98	10.23	AV

Notes:

1. Measuring frequencies from 1 GHz to the 10th harmonic of highest fundamental frequency.
2. Measurements above show only up to 6 maximum emissions noted, or would be lesser if no specific emissions from the EUT are recorded (ie: margin > 20 dB from the applicable limit) and considered that's already beyond the background noise floor.
3. Radiated emissions measured in frequency above 1000MHz were made with an instrument using Peak detector mode and average detector mode of the emission shown in Actual FS column.
4. Total = Reading Value + Antenna Factor + Cable Loss - Amp Gain
5. We have done all data rate in 802.11ac_20 MHz BW. Worst case is 6.5 Mbps in 802.11ac_20 MHz BW.
6. We have done x, y, z planes in EUT and horizontal and vertical polarization in detecting antenna.

Band :	UNII 1
Operation Mode:	802.11 ac_20 MHz BW
Transfer Rate:	6.5 Mbps
Operating Frequency	5240 MHz
Channel No.	48 Ch

Frequency [MHz]	Reading dBuV	AN.+CL-Amp G. [dB]	ANT. POL [H/V]	Total [dBuV/m]	Limit [dBuV/m]	Margin [dB]	Measurement Type
10480	67.21	-2.59	V	64.62	68.20	3.58	PK
15720	58.46	-1.62	V	56.84	73.98	17.14	PK
15720	45.87	-1.62	V	44.25	53.98	9.73	AV
10480	67.79	-2.59	H	65.20	68.20	3.00	PK
15720	58.96	-1.62	H	57.34	73.98	16.64	PK
15720	46.00	-1.62	H	44.38	53.98	9.60	AV

Notes:

1. Measuring frequencies from 1 GHz to the 10th harmonic of highest fundamental frequency.
2. Measurements above show only up to 6 maximum emissions noted, or would be lesser if no specific emissions from the EUT are recorded (ie: margin > 20 dB from the applicable limit) and considered that's already beyond the background noise floor.
3. Radiated emissions measured in frequency above 1000MHz were made with an instrument using Peak detector mode and average detector mode of the emission shown in Actual FS column.
4. Total = Reading Value + Antenna Factor + Cable Loss - Amp Gain
5. We have done all data rate in 802.11ac_20 MHz BW. Worst case is 6.5 Mbps in 802.11ac_20 MHz BW.
6. We have done x, y, z planes in EUT and horizontal and vertical polarization in detecting antenna.

Band :	UNII 1
Operation Mode:	802.11n_40 MHz BW
Transfer Rate:	13.5 Mbps
Operating Frequency	5190 MHz
Channel No.	38 Ch

Frequency [MHz]	Reading dBuV	AN.+CL-Amp G. [dB]	ANT. POL [H/V]	Total [dBuV/m]	Limit [dBuV/m]	Margin [dB]	Measurement Type
10380	58.68	-2.51	V	56.17	68.20	12.03	PK
15570	58.96	-2.14	V	56.82	73.98	17.16	PK
15570	45.34	-2.14	V	43.20	53.98	10.78	AV
10380	59.83	-2.51	H	57.32	68.20	10.88	PK
15570	59.18	-2.14	H	57.04	73.98	16.94	PK
15570	45.63	-2.14	H	43.49	53.98	10.49	AV

Notes:

1. Measuring frequencies from 1 GHz to the 10th harmonic of highest fundamental frequency.
2. Measurements above show only up to 6 maximum emissions noted, or would be lesser if no specific emissions from the EUT are recorded (ie: margin > 20 dB from the applicable limit) and considered that's already beyond the background noise floor.
3. Radiated emissions measured in frequency above 1000MHz were made with an instrument using Peak detector mode and average detector mode of the emission shown in Actual FS column.
4. Total = Reading Value + Antenna Factor + Cable Loss - Amp Gain
5. We have done all data rate in 802.11n_40 MHz BW. Worst case is 13.5 Mbps in 802.11n_40 MHz BW.
6. We have done x, y, z planes in EUT and horizontal and vertical polarization in detecting antenna.

Band :	UNII 1
Operation Mode:	802.11n_40 MHz BW
Transfer Rate:	13.5 Mbps
Operating Frequency	5230 MHz
Channel No.	46 Ch

Frequency [MHz]	Reading dBuV	AN.+CL-Amp G. [dB]	ANT. POL [H/V]	Total [dBuV/m]	Limit [dBuV/m]	Margin [dB]	Measurement Type
10460	66.48	-2.28	V	64.20	68.20	4.00	PK
15690	59.45	-1.92	V	57.53	73.98	16.45	PK
15690	45.96	-1.92	V	44.04	53.98	9.94	AV
10460	66.94	-2.28	H	64.66	68.20	3.54	PK
15690	59.73	-1.92	H	57.81	73.98	16.17	PK
15690	46.41	-1.92	H	44.49	53.98	9.49	AV

Notes:

1. Measuring frequencies from 1 GHz to the 10th harmonic of highest fundamental frequency.
2. Measurements above show only up to 6 maximum emissions noted, or would be lesser if no specific emissions from the EUT are recorded (ie: margin > 20 dB from the applicable limit) and considered that's already beyond the background noise floor.
3. Radiated emissions measured in frequency above 1000MHz were made with an instrument using Peak detector mode and average detector mode of the emission shown in Actual FS column.
4. Total = Reading Value + Antenna Factor + Cable Loss - Amp Gain
5. We have done all data rate in 802.11n_40 MHz BW. Worst case is 13.5 Mbps in 802.11n_40 MHz BW.
6. We have done x, y, z planes in EUT and horizontal and vertical polarization in detecting antenna.

Band :	UNII 1
Operation Mode:	802.11ac_40 MHz BW
Transfer Rate:	13.5 Mbps
Operating Frequency	5190 MHz
Channel No.	38 Ch

Frequency [MHz]	Reading dBuV	AN.+CL-Amp G. [dB]	ANT. POL [H/V]	Total [dBuV/m]	Limit [dBuV/m]	Margin [dB]	Measurement Type
10380	59.88	-2.51	V	57.37	68.20	10.83	PK
15570	59.81	-2.14	V	57.67	73.98	16.31	PK
15570	45.45	-2.14	V	43.31	53.98	10.67	AV
10380	60.21	-2.51	H	57.70	68.20	10.50	PK
15570	60.33	-2.14	H	58.19	73.98	15.79	PK
15570	45.71	-2.14	H	43.57	53.98	10.41	AV

Notes:

1. Measuring frequencies from 1 GHz to the 10th harmonic of highest fundamental frequency.
2. Measurements above show only up to 6 maximum emissions noted, or would be lesser if no specific emissions from the EUT are recorded (ie: margin > 20 dB from the applicable limit) and considered that's already beyond the background noise floor.
3. Radiated emissions measured in frequency above 1000MHz were made with an instrument using Peak detector mode and average detector mode of the emission shown in Actual FS column.
4. Total = Reading Value + Antenna Factor + Cable Loss - Amp Gain
5. We have done all data rate in 802.11ac_40 MHz BW. Worst case is 13.5 Mbps in 802.11ac_40 MHz BW.
6. We have done x, y, z planes in EUT and horizontal and vertical polarization in detecting antenna.

Band :	UNII 1
Operation Mode:	802.11ac_40 MHz BW
Transfer Rate:	13.5 Mbps
Operating Frequency	5230 MHz
Channel No.	46 Ch

Frequency [MHz]	Reading dBuV	AN.+CL-Amp G. [dB]	ANT. POL [H/V]	Total [dBuV/m]	Limit [dBuV/m]	Margin [dB]	Measurement Type
10460	66.12	-2.28	V	63.84	68.20	4.36	PK
15690	59.86	-1.92	V	57.94	73.98	16.04	PK
15690	46.55	-1.92	V	44.63	53.98	9.35	AV
10460	66.92	-2.28	H	64.64	68.20	3.56	PK
15690	60.08	-1.92	H	58.16	73.98	15.82	PK
15690	46.52	-1.92	H	44.60	53.98	9.38	AV

Notes:

1. Measuring frequencies from 1 GHz to the 10th harmonic of highest fundamental frequency.
2. Measurements above show only up to 6 maximum emissions noted, or would be lesser if no specific emissions from the EUT are recorded (ie: margin > 20 dB from the applicable limit) and considered that's already beyond the background noise floor.
3. Radiated emissions measured in frequency above 1000MHz were made with an instrument using Peak detector mode and average detector mode of the emission shown in Actual FS column.
4. Total = Reading Value + Antenna Factor + Cable Loss - Amp Gain
5. We have done all data rate in 802.11ac_40 MHz BW. Worst case is 13.5 Mbps in 802.11ac_40 MHz BW.
6. We have done x, y, z planes in EUT and horizontal and vertical polarization in detecting antenna

Band :	UNII 1
Operation Mode:	802.11ac_80 MHz BW
Transfer Rate:	29.3 Mbps
Operating Frequency	5210 MHz
Channel No.	42 Ch

Frequency [MHz]	Reading dBuV	AN.+CL-Amp G. [dB]	ANT. POL [H/V]	Total [dBuV/m]	Limit [dBuV/m]	Margin [dB]	Measurement Type
10420	58.96	-2.53	V	56.43	68.20	11.77	PK
15630	59.36	-2.73	V	56.63	73.98	17.35	PK
15630	46.29	-2.73	V	43.56	53.98	10.42	AV
10420	59.00	-2.53	H	56.47	68.20	11.73	PK
15630	60.14	-2.73	H	57.41	73.98	16.57	PK
15630	46.45	-2.73	H	43.72	53.98	10.26	AV

Notes:

1. Measuring frequencies from 1 GHz to the 10th harmonic of highest fundamental frequency.
2. Measurements above show only up to 6 maximum emissions noted, or would be lesser if no specific emissions from the EUT are recorded (ie: margin > 20 dB from the applicable limit) and considered that's already beyond the background noise floor.
3. Radiated emissions measured in frequency above 1000MHz were made with an instrument using Peak detector mode and average detector mode of the emission shown in Actual FS column.
4. Total = Reading Value + Antenna Factor + Cable Loss - Amp Gain
5. We have done all data rate in 802.11ac_80 MHz BW. Worst case is 29.3 Mbps in 802.11ac_80 MHz BW.
6. We have done x, y, z planes in EUT and horizontal and vertical polarization in detecting antenna.

Band :	UNII 2A
Operation Mode:	802.11 a_20 MHz BW
Transfer Rate:	6 Mbps
Operating Frequency	5260 MHz
Channel No.	52 Ch

Frequency [MHz]	Reading dBuV	AN.+CL-Amp G. [dB]	ANT. POL [H/V]	Total [dBuV/m]	Limit [dBuV/m]	Margin [dB]	Measurement Type
10520	66.96	-2.51	V	64.45	68.20	3.75	PK
15780	58.97	-2.14	V	56.83	73.98	17.15	PK
15780	46.12	-2.14	V	43.98	53.98	10.00	AV
10520	67.56	-2.51	H	65.05	68.20	3.15	PK
15780	59.83	-2.14	H	57.69	73.98	16.29	PK
15780	46.33	-2.14	H	44.19	53.98	9.79	AV

Notes:

1. Measuring frequencies from 1 GHz to the 10th harmonic of highest fundamental frequency.
2. Measurements above show only up to 6 maximum emissions noted, or would be lesser if no specific emissions from the EUT are recorded (ie: margin > 20 dB from the applicable limit) and considered that's already beyond the background noise floor.
3. Radiated emissions measured in frequency above 1000MHz were made with an instrument using Peak detector mode and average detector mode of the emission shown in Actual FS column.
4. Total = Reading Value + Antenna Factor + Cable Loss - Amp Gain
5. We have done all data rate in 802.11a. Worst case is 6 Mbps in 802.11a.
6. We have done x, y, z planes in EUT and horizontal and vertical polarization in detecting antenna.

Band :	UNII 2A
Operation Mode:	802.11 a_20 MHz BW
Transfer Rate:	6 Mbps
Operating Frequency	5300 MHz
Channel No.	60 Ch

Frequency [MHz]	Reading dBuV	AN.+CL-Amp G. [dB]	ANT. POL [H/V]	Total [dBuV/m]	Limit [dBuV/m]	Margin [dB]	Measurement Type
10600	66.86	-2.45	V	64.41	73.98	9.57	PK
10600	53.12	-2.45	V	50.67	53.98	3.31	AV
15900	59.26	-1.99	V	57.27	73.98	16.71	PK
15900	45.97	-1.99	V	43.98	53.98	10.00	AV
10600	67.41	-2.45	H	64.96	73.98	9.02	PK
10600	53.26	-2.45	H	50.81	53.98	3.17	AV
15900	59.84	-1.99	H	57.85	73.98	16.13	PK
15900	46.02	-1.99	H	44.03	53.98	9.95	AV

Notes:

1. Measuring frequencies from 1 GHz to the 10th harmonic of highest fundamental frequency.
2. Measurements above show only up to 6 maximum emissions noted, or would be lesser if no specific emissions from the EUT are recorded (ie: margin > 20 dB from the applicable limit) and considered that's already beyond the background noise floor.
3. Radiated emissions measured in frequency above 1000MHz were made with an instrument using Peak detector mode and average detector mode of the emission shown in Actual FS column.
4. Total = Reading Value + Antenna Factor + Cable Loss - Amp Gain
5. We have done all data rate in 802.11a. Worst case is 6 Mbps in 802.11a.
6. We have done x, y, z planes in EUT and horizontal and vertical polarization in detecting antenna.

Band :	UNII 2A
Operation Mode:	802.11 a_20 MHz BW
Transfer Rate:	6 Mbps
Operating Frequency	5320 MHz
Channel No.	64 Ch

Frequency [MHz]	Reading dBuV	AN.+CL-Amp G. [dB]	ANT. POL [H/V]	Total [dBuV/m]	Limit [dBuV/m]	Margin [dB]	Measurement Type
10640	67.15	-2.17	V	64.98	73.98	9.00	PK
10640	52.10	-2.17	V	49.93	53.98	4.05	AV
15960	60.17	-1.69	V	58.48	73.98	15.50	PK
15960	47.23	-1.69	V	45.54	53.98	8.44	AV
10640	67.45	-2.17	H	65.28	73.98	8.70	PK
10640	52.20	-2.17	H	50.03	53.98	3.95	AV
15960	60.63	-1.69	H	58.94	73.98	15.04	PK
15960	47.52	-1.69	H	45.83	53.98	8.15	AV

Notes:

1. Measuring frequencies from 1 GHz to the 10th harmonic of highest fundamental frequency.
2. Measurements above show only up to 6 maximum emissions noted, or would be lesser if no specific emissions from the EUT are recorded (ie: margin > 20 dB from the applicable limit) and considered that's already beyond the background noise floor.
3. Radiated emissions measured in frequency above 1000MHz were made with an instrument using Peak detector mode and average detector mode of the emission shown in Actual FS column.
4. Total = Reading Value + Antenna Factor + Cable Loss - Amp Gain
5. We have done all data rate in 802.11a. Worst case is 6 Mbps in 802.11a.
6. We have done x, y, z planes in EUT and horizontal and vertical polarization in detecting antenna

Band :	UNII 2A
Operation Mode:	802.11 n_20 MHz BW
Transfer Rate:	6.5 Mbps
Operating Frequency	5260 MHz
Channel No.	52 Ch

Frequency [MHz]	Reading dBuV	AN.+CL-Amp G. [dB]	ANT. POL [H/V]	Total [dBuV/m]	Limit [dBuV/m]	Margin [dB]	Measurement Type
10520	66.58	-2.51	V	64.07	68.20	4.13	PK
15780	59.31	-2.14	V	57.17	73.98	16.81	PK
15780	45.97	-2.14	V	43.83	53.98	10.15	AV
10520	66.99	-2.51	H	64.48	68.20	3.72	PK
15780	60.07	-2.14	H	57.93	73.98	16.05	PK
15780	46.01	-2.14	H	43.87	53.98	10.11	AV

Notes:

1. Measuring frequencies from 1 GHz to the 10th harmonic of highest fundamental frequency.
2. Measurements above show only up to 6 maximum emissions noted, or would be lesser if no specific emissions from the EUT are recorded (ie: margin > 20 dB from the applicable limit) and considered that's already beyond the background noise floor.
3. Radiated emissions measured in frequency above 1000MHz were made with an instrument using Peak detector mode and average detector mode of the emission shown in Actual FS column.
4. Total = Reading Value + Antenna Factor + Cable Loss - Amp Gain
5. We have done all data rate in 802.11n_20 MHz BW. Worst case is 6.5 Mbps in 802.11n_20 MHz BW.
6. We have done x, y, z planes in EUT and horizontal and vertical polarization in detecting antenna.

Band :	UNII 2A
Operation Mode:	802.11 n_20 MHz BW
Transfer Rate:	6.5 Mbps
Operating Frequency	5300 MHz
Channel No.	60 Ch

Frequency [MHz]	Reading dBuV	AN.+CL-Amp G. [dB]	ANT. POL [H/V]	Total [dBuV/m]	Limit [dBuV/m]	Margin [dB]	Measurement Type
10600	67.23	-2.45	V	64.78	73.98	9.20	PK
10600	53.04	-2.45	V	50.59	53.98	3.39	AV
15900	59.42	-1.99	V	57.43	73.98	16.55	PK
15900	45.86	-1.99	V	43.87	53.98	10.11	AV
10600	67.71	-2.45	H	65.26	73.98	8.72	PK
10600	53.19	-2.45	H	50.74	53.98	3.24	AV
15900	59.60	-1.99	H	57.61	73.98	16.37	PK
15900	46.01	-1.99	H	44.02	53.98	9.96	AV

Notes:

1. Measuring frequencies from 1 GHz to the 10th harmonic of highest fundamental frequency.
2. Measurements above show only up to 6 maximum emissions noted, or would be lesser if no specific emissions from the EUT are recorded (ie: margin > 20 dB from the applicable limit) and considered that's already beyond the background noise floor.
3. Radiated emissions measured in frequency above 1000MHz were made with an instrument using Peak detector mode and average detector mode of the emission shown in Actual FS column.
4. Total = Reading Value + Antenna Factor + Cable Loss - Amp Gain
5. We have done all data rate in 802.11n_20 MHz BW. Worst case is 6.5 Mbps in 802.11n_20 MHz BW.
6. We have done x, y, z planes in EUT and horizontal and vertical polarization in detecting antenna.

Band :	UNII 2A
Operation Mode:	802.11 n_20 MHz BW
Transfer Rate:	6.5 Mbps
Operating Frequency	5320 MHz
Channel No.	64 Ch

Frequency [MHz]	Reading dBuV	AN.+CL-Amp G. [dB]	ANT. POL [H/V]	Total [dBuV/m]	Limit [dBuV/m]	Margin [dB]	Measurement Type
10640	65.71	-2.17	V	63.54	73.98	10.44	PK
10640	52.46	-2.17	V	50.29	53.98	3.69	AV
15960	60.22	-1.69	V	58.53	73.98	15.45	PK
15960	45.87	-1.69	V	44.18	53.98	9.80	AV
10640	66.42	-2.17	H	64.25	73.98	9.73	PK
10640	52.87	-2.17	H	50.70	53.98	3.28	AV
15960	60.74	-1.69	H	59.05	73.98	14.93	PK
15960	46.03	-1.69	H	44.34	53.98	9.64	AV

Notes:

1. Measuring frequencies from 1 GHz to the 10th harmonic of highest fundamental frequency.
2. Measurements above show only up to 6 maximum emissions noted, or would be lesser if no specific emissions from the EUT are recorded (ie: margin > 20 dB from the applicable limit) and considered that's already beyond the background noise floor.
3. Radiated emissions measured in frequency above 1000MHz were made with an instrument using Peak detector mode and average detector mode of the emission shown in Actual FS column.
4. Total = Reading Value + Antenna Factor + Cable Loss - Amp Gain
5. We have done all data rate in 802.11n_20 MHz BW. Worst case is 6.5 Mbps in 802.11n_20 MHz BW.
6. We have done x, y, z planes in EUT and horizontal and vertical polarization in detecting antenna.

Band :	UNII 2A
Operation Mode:	802.11 ac_20 MHz BW
Transfer Rate:	6.5 Mbps
Operating Frequency	5260MHz
Channel No.	52 Ch

Frequency [MHz]	Reading dBuV	AN.+CL-Amp G. [dB]	ANT. POL [H/V]	Total [dBuV/m]	Limit [dBuV/m]	Margin [dB]	Measurement Type
10520	67.07	-2.51	V	64.56	68.20	3.64	PK
15780	58.47	-2.14	V	56.33	73.98	17.65	PK
15780	45.36	-2.14	V	43.22	53.98	10.76	AV
10520	67.34	-2.51	H	64.83	68.20	3.37	PK
15780	59.10	-2.14	H	56.96	73.98	17.02	PK
15780	45.56	-2.14	H	43.42	53.98	10.56	AV

Notes:

1. Measuring frequencies from 1 GHz to the 10th harmonic of highest fundamental frequency.
2. Measurements above show only up to 6 maximum emissions noted, or would be lesser if no specific emissions from the EUT are recorded (ie: margin > 20 dB from the applicable limit) and considered that's already beyond the background noise floor.
3. Radiated emissions measured in frequency above 1000MHz were made with an instrument using Peak detector mode and average detector mode of the emission shown in Actual FS column.
4. Total = Reading Value + Antenna Factor + Cable Loss - Amp Gain
5. We have done all data rate in 802.11ac_20 MHz BW. Worst case is 6.5 Mbps in 802.11ac_20 MHz BW.
6. We have done x, y, z planes in EUT and horizontal and vertical polarization in detecting antenna.

Band :	UNII 2A
Operation Mode:	802.11 ac_20 MHz BW
Transfer Rate:	6.5 Mbps
Operating Frequency	5300 MHz
Channel No.	60 Ch

Frequency [MHz]	Reading dBuV	AN.+CL-Amp G. [dB]	ANT. POL [H/V]	Total [dBuV/m]	Limit [dBuV/m]	Margin [dB]	Measurement Type
10600	66.58	-2.45	V	64.13	73.98	9.85	PK
10600	53.05	-2.45	V	50.60	53.98	3.38	AV
15900	59.46	-1.99	V	57.47	73.98	16.51	PK
15900	45.39	-1.99	V	43.40	53.98	10.58	AV
10600	67.68	-2.45	H	65.23	73.98	8.75	PK
10600	53.10	-2.45	H	50.65	53.98	3.33	AV
15900	59.89	-1.99	H	57.90	73.98	16.08	PK
15900	45.92	-1.99	H	43.93	53.98	10.05	AV

Notes:

1. Measuring frequencies from 1 GHz to the 10th harmonic of highest fundamental frequency.
2. Measurements above show only up to 6 maximum emissions noted, or would be lesser if no specific emissions from the EUT are recorded (ie: margin > 20 dB from the applicable limit) and considered that's already beyond the background noise floor.
3. Radiated emissions measured in frequency above 1000MHz were made with an instrument using Peak detector mode and average detector mode of the emission shown in Actual FS column.
4. Total = Reading Value + Antenna Factor + Cable Loss - Amp Gain
5. We have done all data rate in 802.11ac_20 MHz BW. Worst case is 6.5 Mbps in 802.11ac_20 MHz BW.
6. We have done x, y, z planes in EUT and horizontal and vertical polarization in detecting antenna.

Band :	UNII 2A
Operation Mode:	802.11 ac_20 MHz BW
Transfer Rate:	6.5 Mbps
Operating Frequency	5320 MHz
Channel No.	64 Ch

Frequency [MHz]	Reading dBuV	AN.+CL-Amp G. [dB]	ANT. POL [H/V]	Total [dBuV/m]	Limit [dBuV/m]	Margin [dB]	Measurement Type
10640	67.23	-2.17	V	65.06	73.98	8.92	PK
10640	53.02	-2.17	V	50.85	53.98	3.13	AV
15960	59.39	-1.69	V	57.70	73.98	16.28	PK
15960	45.86	-1.69	V	44.17	53.98	9.81	AV
10640	67.89	-2.17	H	65.72	73.98	8.26	PK
10640	53.09	-2.17	H	50.92	53.98	3.06	AV
15960	59.78	-1.69	H	58.09	73.98	15.89	PK
15960	46.11	-1.69	H	44.42	53.98	9.56	AV

Notes:

1. Measuring frequencies from 1 GHz to the 10th harmonic of highest fundamental frequency.
2. Measurements above show only up to 6 maximum emissions noted, or would be lesser if no specific emissions from the EUT are recorded (ie: margin > 20 dB from the applicable limit) and considered that's already beyond the background noise floor.
3. Radiated emissions measured in frequency above 1000MHz were made with an instrument using Peak detector mode and average detector mode of the emission shown in Actual FS column.
4. Total = Reading Value + Antenna Factor + Cable Loss - Amp Gain
5. We have done all data rate in 802.11ac_20 MHz BW. Worst case is 6.5 Mbps in 802.11ac_20 MHz BW.
6. We have done x, y, z planes in EUT and horizontal and vertical polarization in detecting antenna.

Band :	UNII 2A
Operation Mode:	802.11n_40 MHz BW
Transfer Rate:	13.5 Mbps
Operating Frequency	5270 MHz
Channel No.	54 Ch

Frequency [MHz]	Reading dBuV	AN.+CL-Amp G. [dB]	ANT. POL [H/V]	Total [dBuV/m]	Limit [dBuV/m]	Margin [dB]	Measurement Type
10540	66.82	-2.53	V	64.29	68.20	3.91	PK
15810	58.75	-2.09	V	56.66	73.98	17.32	PK
15810	46.17	-2.09	V	44.08	53.98	9.90	AV
10540	67.70	-2.53	H	65.17	68.20	3.03	PK
15810	59.44	-2.09	H	57.35	73.98	16.63	PK
15810	46.23	-2.09	H	44.14	53.98	9.84	AV

Notes:

1. Measuring frequencies from 1 GHz to the 10th harmonic of highest fundamental frequency.
2. Measurements above show only up to 6 maximum emissions noted, or would be lesser if no specific emissions from the EUT are recorded (ie: margin > 20 dB from the applicable limit) and considered that's already beyond the background noise floor.
3. Radiated emissions measured in frequency above 1000MHz were made with an instrument using Peak detector mode and average detector mode of the emission shown in Actual FS column.
4. Total = Reading Value + Antenna Factor + Cable Loss - Amp Gain
5. We have done all data rate in 802.11n_40 MHz BW. Worst case is 13.5 Mbps in 802.11n_40 MHz BW.
6. We have done x, y, z planes in EUT and horizontal and vertical polarization in detecting antenna.

Band :	UNII 2A
Operation Mode:	802.11n_40 MHz BW
Transfer Rate:	13.5 Mbps
Operating Frequency	5310 MHz
Channel No.	62 Ch

Frequency [MHz]	Reading dBuV	AN.+CL-Amp G. [dB]	ANT. POL [H/V]	Total [dBuV/m]	Limit [dBuV/m]	Margin [dB]	Measurement Type
10620	65.78	-2.19	V	63.59	73.98	10.39	PK
10620	51.95	-2.19	V	49.76	53.98	4.22	AV
15930	61.54	-1.80	V	59.74	73.98	14.24	PK
15930	48.75	-1.80	V	46.95	53.98	7.03	AV
10620	66.06	-2.19	H	63.87	73.98	10.11	PK
10620	52.41	-2.19	H	50.22	53.98	3.76	AV
15930	62.00	-1.80	H	60.20	73.98	13.78	PK
15930	49.01	-1.80	H	47.21	53.98	6.77	AV

Notes:

1. Measuring frequencies from 1 GHz to the 10th harmonic of highest fundamental frequency.
2. Measurements above show only up to 6 maximum emissions noted, or would be lesser if no specific emissions from the EUT are recorded (ie: margin > 20 dB from the applicable limit) and considered that's already beyond the background noise floor.
3. Radiated emissions measured in frequency above 1000MHz were made with an instrument using Peak detector mode and average detector mode of the emission shown in Actual FS column.
4. Total = Reading Value + Antenna Factor + Cable Loss - Amp Gain
5. We have done all data rate in 802.11n_40 MHz BW. Worst case is 13.5 Mbps in 802.11n_40 MHz BW.
6. We have done x, y, z planes in EUT and horizontal and vertical polarization in detecting antenna.

Band :	UNII 2A
Operation Mode:	802.11ac_40 MHz BW
Transfer Rate:	13.5 Mbps
Operating Frequency	5270 MHz
Channel No.	54 Ch

Frequency [MHz]	Reading dBuV	AN.+CL-Amp G. [dB]	ANT. POL [H/V]	Total [dBuV/m]	Limit [dBuV/m]	Margin [dB]	Measurement Type
10540	66.05	-2.53	V	63.52	68.20	4.68	PK
15810	58.96	-2.09	V	56.87	73.98	17.11	PK
15810	46.14	-2.09	V	44.05	53.98	9.93	AV
10540	66.40	-2.53	H	63.87	68.20	4.33	PK
15810	59.68	-2.09	H	57.59	73.98	16.39	PK
15810	46.26	-2.09	H	44.17	53.98	9.81	AV

Notes

1. Measuring frequencies from 1 GHz to the 10th harmonic of highest fundamental frequency.
2. Measurements above show only up to 6 maximum emissions noted, or would be lesser if no specific emissions from the EUT are recorded (ie: margin > 20 dB from the applicable limit) and considered that's already beyond the background noise floor.
3. Radiated emissions measured in frequency above 1000MHz were made with an instrument using Peak detector mode and average detector mode of the emission shown in Actual FS column.
4. Total = Reading Value + Antenna Factor + Cable Loss - Amp Gain
5. We have done all data rate in 802.11ac_40 MHz BW. Worst case is 13.5 Mbps in 802.11ac_40 MHz BW.
6. We have done x, y, z planes in EUT and horizontal and vertical polarization in detecting antenna.

Band :	UNII 2A
Operation Mode:	802.11ac_40 MHz BW
Transfer Rate:	13.5 Mbps
Operating Frequency	5310 MHz
Channel No.	62 Ch

Frequency [MHz]	Reading dBuV	AN.+CL-Amp G. [dB]	ANT. POL [H/V]	Total [dBuV/m]	Limit [dBuV/m]	Margin [dB]	Measurement Type
10620	65.82	-2.19	V	63.63	73.98	10.35	PK
10620	52.17	-2.19	V	49.98	53.98	4.00	AV
15930	62.48	-1.80	V	60.68	73.98	13.30	PK
15930	48.84	-1.80	V	47.04	53.98	6.94	AV
10620	66.02	-2.19	H	63.83	73.98	10.15	PK
10620	52.67	-2.19	H	50.48	53.98	3.50	AV
15930	62.95	-1.80	H	61.15	73.98	12.83	PK
15930	49.04	-1.80	H	47.24	53.98	6.74	AV

Notes:

1. Measuring frequencies from 1 GHz to the 10th harmonic of highest fundamental frequency.
2. Measurements above show only up to 6 maximum emissions noted, or would be lesser if no specific emissions from the EUT are recorded (ie: margin > 20 dB from the applicable limit) and considered that's already beyond the background noise floor.
3. Radiated emissions measured in frequency above 1000MHz were made with an instrument using Peak detector mode and average detector mode of the emission shown in Actual FS column.
4. Total = Reading Value + Antenna Factor + Cable Loss - Amp Gain
5. We have done all data rate in 802.11ac_40 MHz BW. Worst case is 13.5 Mbps in 802.11ac_40 MHz BW.
6. We have done x, y, z planes in EUT and horizontal and vertical polarization in detecting antenna

Band :	UNII 2A
Operation Mode:	802.11ac_80 MHz BW
Transfer Rate:	29.3 Mbps
Operating Frequency	5290 MHz
Channel No.	58 Ch

Frequency [MHz]	Reading dBuV	AN.+CL-Amp G. [dB]	ANT. POL [H/V]	Total [dBuV/m]	Limit [dBuV/m]	Margin [dB]	Measurement Type
10580	61.85	-2.58	V	59.27	68.20	8.93	PK
15870	58.65	-2.85	V	55.80	73.98	18.18	PK
15870	46.21	-2.85	V	43.36	53.98	10.62	AV
10580	62.00	-2.58	H	59.42	68.20	8.78	PK
15870	59.57	-2.85	H	56.72	73.98	17.26	PK
15870	46.34	-2.85	H	43.49	53.98	10.49	AV

Notes:

1. Measuring frequencies from 1 GHz to the 10th harmonic of highest fundamental frequency.
2. Measurements above show only up to 6 maximum emissions noted, or would be lesser if no specific emissions from the EUT are recorded (ie: margin > 20 dB from the applicable limit) and considered that's already beyond the background noise floor.
3. Radiated emissions measured in frequency above 1000MHz were made with an instrument using Peak detector mode and average detector mode of the emission shown in Actual FS column.
4. Total = Reading Value + Antenna Factor + Cable Loss - Amp Gain
5. We have done all data rate in 802.11ac_80 MHz BW. Worst case is 29.3 Mbps in 802.11ac_80 MHz BW.
6. We have done x, y, z planes in EUT and horizontal and vertical polarization in detecting antenna.

Band :	UNII 2C
Operation Mode:	802.11 a_20 MHz BW
Transfer Rate:	6 Mbps
Operating Frequency	5500 MHz
Channel No.	100 Ch

Frequency [MHz]	Reading dBuV	AN.+CL-Amp G. [dB]	ANT. POL [H/V]	Total [dBuV/m]	Limit [dBuV/m]	Margin [dB]	Measurement Type
11000	66.05	-2.13	V	63.92	73.98	10.06	PK
11000	52.42	-2.13	V	50.29	53.98	3.69	AV
16500	60.01	0.36	V	60.37	68.20	7.83	PK
11000	66.48	-2.13	H	64.35	73.98	9.63	PK
11000	52.89	-2.13	H	50.76	53.98	3.22	AV
16500	60.34	0.36	H	60.70	68.20	7.50	PK

Notes:

1. Measuring frequencies from 1 GHz to the 10th harmonic of highest fundamental frequency.
2. Measurements above show only up to 6 maximum emissions noted, or would be lesser if no specific emissions from the EUT are recorded (ie: margin > 20 dB from the applicable limit) and considered that's already beyond the background noise floor.
3. Radiated emissions measured in frequency above 1000MHz were made with an instrument using Peak detector mode and average detector mode of the emission shown in Actual FS column.
4. Total = Reading Value + Antenna Factor + Cable Loss - Amp Gain
5. We have done all data rate in 802.11a. Worst case is 6 Mbps in 802.11a.
6. We have done x, y, z planes in EUT and horizontal and vertical polarization in detecting antenna.

Band :	UNII 2C
Operation Mode:	802.11 a_20 MHz BW
Transfer Rate:	6 Mbps
Operating Frequency	5580 MHz
Channel No.	116 Ch

Frequency [MHz]	Reading dBuV	AN.+CL-Amp G. [dB]	ANT. POL [H/V]	Total [dBuV/m]	Limit [dBuV/m]	Margin [dB]	Measurement Type
11160	65.29	-1.75	V	63.54	73.98	10.44	PK
11160	52.19	-1.75	V	50.44	53.98	3.54	AV
16740	58.01	1.34	V	59.35	68.20	8.85	PK
11160	65.68	-1.75	H	63.93	73.98	10.05	PK
11160	52.40	-1.75	H	50.65	53.98	3.33	AV
16740	58.08	1.34	H	59.42	68.20	8.78	PK

Notes:

1. Measuring frequencies from 1 GHz to the 10th harmonic of highest fundamental frequency.
2. Measurements above show only up to 6 maximum emissions noted, or would be lesser if no specific emissions from the EUT are recorded (ie: margin > 20 dB from the applicable limit) and considered that's already beyond the background noise floor.
3. Radiated emissions measured in frequency above 1000MHz were made with an instrument using Peak detector mode and average detector mode of the emission shown in Actual FS column.
4. Total = Reading Value + Antenna Factor + Cable Loss - Amp Gain
5. We have done all data rate in 802.11a. Worst case is 6 Mbps in 802.11a.
6. We have done x, y, z planes in EUT and horizontal and vertical polarization in detecting antenna.

Band :	UNII 2C
Operation Mode:	802.11 a_20 MHz BW
Transfer Rate:	6 Mbps
Operating Frequency	5720 MHz
Channel No.	144 Ch

Frequency [MHz]	Reading dBuV	AN.+CL-Amp G. [dB]	ANT. POL [H/V]	Total [dBuV/m]	Limit [dBuV/m]	Margin [dB]	Measurement Type
11440	66.29	-2.57	V	63.72	73.98	10.26	PK
11440	52.56	-2.57	V	49.99	53.98	3.99	AV
17160	57.87	2.74	V	60.61	68.20	7.59	PK
11440	66.56	-2.57	H	63.99	73.98	9.99	PK
11440	52.95	-2.57	H	50.38	53.98	3.60	AV
17160	58.89	2.74	H	61.63	68.20	6.57	PK

Notes:

1. Measuring frequencies from 1 GHz to the 10th harmonic of highest fundamental frequency.
2. Measurements above show only up to 6 maximum emissions noted, or would be lesser if no specific emissions from the EUT are recorded (ie: margin > 20 dB from the applicable limit) and considered that's already beyond the background noise floor.
3. Radiated emissions measured in frequency above 1000MHz were made with an instrument using Peak detector mode and average detector mode of the emission shown in Actual FS column.
4. Total = Reading Value + Antenna Factor + Cable Loss - Amp Gain
5. We have done all data rate in 802.11a. Worst case is 6 Mbps in 802.11a.
6. We have done x, y, z planes in EUT and horizontal and vertical polarization in detecting antenna

Band :	UNII 2C
Operation Mode:	802.11 n_20 MHz BW
Transfer Rate:	6.5 Mbps
Operating Frequency	5500 MHz
Channel No.	100 Ch

Frequency [MHz]	Reading dBuV	AN.+CL-Amp G. [dB]	ANT. POL [H/V]	Total [dBuV/m]	Limit [dBuV/m]	Margin [dB]	Measurement Type
11000	65.42	-2.13	V	63.29	73.98	10.69	PK
11000	51.86	-2.13	V	49.73	53.98	4.25	AV
16500	45.29	0.36	V	45.65	68.20	22.55	PK
11000	65.83	-2.13	H	63.70	73.98	10.28	PK
11000	52.08	-2.13	H	49.95	53.98	4.03	AV
16500	45.49	0.36	H	45.85	68.20	22.35	PK

Notes:

1. Measuring frequencies from 1 GHz to the 10th harmonic of highest fundamental frequency.
2. Measurements above show only up to 6 maximum emissions noted, or would be lesser if no specific emissions from the EUT are recorded (ie: margin > 20 dB from the applicable limit) and considered that's already beyond the background noise floor.
3. Radiated emissions measured in frequency above 1000MHz were made with an instrument using Peak detector mode and average detector mode of the emission shown in Actual FS column.
4. Total = Reading Value + Antenna Factor + Cable Loss - Amp Gain
5. We have done all data rate in 802.11n_20 MHz BW. Worst case is 6.5 Mbps in 802.11n_20 MHz BW.
6. We have done x, y, z planes in EUT and horizontal and vertical polarization in detecting antenna.

Band :	UNII 2C
Operation Mode:	802.11 n_20 MHz BW
Transfer Rate:	6.5 Mbps
Operating Frequency	5580 MHz
Channel No.	116 Ch

Frequency [MHz]	Reading dBuV	AN.+CL-Amp G. [dB]	ANT. POL [H/V]	Total [dBuV/m]	Limit [dBuV/m]	Margin [dB]	Measurement Type
11160	66.88	-1.75	V	65.13	73.98	8.85	PK
11160	52.14	-1.75	V	50.39	53.98	3.59	AV
16740	58.75	1.34	V	60.09	68.20	8.11	PK
11160	67.05	-1.75	H	65.30	73.98	8.68	PK
11160	52.29	-1.75	H	50.54	53.98	3.44	AV
16740	59.00	1.34	H	60.34	68.20	7.86	PK

Notes:

1. Measuring frequencies from 1 GHz to the 10th harmonic of highest fundamental frequency.
2. Measurements above show only up to 6 maximum emissions noted, or would be lesser if no specific emissions from the EUT are recorded (ie: margin > 20 dB from the applicable limit) and considered that's already beyond the background noise floor.
3. Radiated emissions measured in frequency above 1000MHz were made with an instrument using Peak detector mode and average detector mode of the emission shown in Actual FS column.
4. Total = Reading Value + Antenna Factor + Cable Loss - Amp Gain
5. We have done all data rate in 802.11n_20 MHz BW. Worst case is 6.5 Mbps in 802.11n_20 MHz BW.
6. We have done x, y, z planes in EUT and horizontal and vertical polarization in detecting antenna.

Band :	UNII 2C
Operation Mode:	802.11 n_20 MHz BW
Transfer Rate:	6.5 Mbps
Operating Frequency	5720 MHz
Channel No.	144 Ch

Frequency [MHz]	Reading dBuV	AN.+CL-Amp G. [dB]	ANT. POL [H/V]	Total [dBuV/m]	Limit [dBuV/m]	Margin [dB]	Measurement Type
11440	66.48	-2.57	V	63.91	73.98	10.07	PK
11440	52.33	-2.57	V	49.76	53.98	4.22	AV
17160	58.61	2.74	V	61.35	68.20	6.85	PK
11440	67.10	-2.57	H	64.53	73.98	9.45	PK
11440	52.84	-2.57	H	50.27	53.98	3.71	AV
17160	58.74	2.74	H	61.48	68.20	6.72	PK

Notes:

1. Measuring frequencies from 1 GHz to the 10th harmonic of highest fundamental frequency.
2. Measurements above show only up to 6 maximum emissions noted, or would be lesser if no specific emissions from the EUT are recorded (ie: margin > 20 dB from the applicable limit) and considered that's already beyond the background noise floor.
3. Radiated emissions measured in frequency above 1000MHz were made with an instrument using Peak detector mode and average detector mode of the emission shown in Actual FS column.
4. Total = Reading Value + Antenna Factor + Cable Loss - Amp Gain
5. We have done all data rate in 802.11n_20 MHz BW. Worst case is 6.5 Mbps in 802.11n_20 MHz BW.
6. We have done x, y, z planes in EUT and horizontal and vertical polarization in detecting antenna.

Band :	UNII 2C
Operation Mode:	802.11 ac_20 MHz BW
Transfer Rate:	6.5 Mbps
Operating Frequency	5500MHz
Channel No.	100 Ch

Frequency [MHz]	Reading dBuV	AN.+CL-Amp G. [dB]	ANT. POL [H/V]	Total [dBuV/m]	Limit [dBuV/m]	Margin [dB]	Measurement Type
11000	62.96	-2.13	V	60.83	73.98	13.15	PK
11000	50.12	-2.13	V	47.99	53.98	5.99	AV
16500	58.99	0.36	V	59.35	68.20	8.85	PK
11000	63.32	-2.13	H	61.19	73.98	12.79	PK
11000	50.51	-2.13	H	48.38	53.98	5.60	AV
16500	59.08	0.36	H	59.44	68.20	8.76	PK

Notes:

1. Measuring frequencies from 1 GHz to the 10th harmonic of highest fundamental frequency.
2. Measurements above show only up to 6 maximum emissions noted, or would be lesser if no specific emissions from the EUT are recorded (ie: margin > 20 dB from the applicable limit) and considered that's already beyond the background noise floor.
3. Radiated emissions measured in frequency above 1000MHz were made with an instrument using Peak detector mode and average detector mode of the emission shown in Actual FS column.
4. Total = Reading Value + Antenna Factor + Cable Loss - Amp Gain
5. We have done all data rate in 802.11ac_20 MHz BW. Worst case is 6.5 Mbps in 802.11ac_20 MHz BW.
6. We have done x, y, z planes in EUT and horizontal and vertical polarization in detecting antenna.

Band :	UNII 2C
Operation Mode:	802.11 ac_20 MHz BW
Transfer Rate:	6.5 Mbps
Operating Frequency	5580 MHz
Channel No.	116 Ch

Frequency [MHz]	Reading dBuV	AN.+CL-Amp G. [dB]	ANT. POL [H/V]	Total [dBuV/m]	Limit [dBuV/m]	Margin [dB]	Measurement Type
11160	66.12	-1.75	V	64.37	73.98	9.61	PK
11160	51.79	-1.75	V	50.04	53.98	3.94	AV
16740	58.64	1.34	V	59.98	68.20	8.22	PK
11160	66.48	-1.75	H	64.73	73.98	9.25	PK
11160	51.90	-1.75	H	50.15	53.98	3.83	AV
16740	58.99	1.34	H	60.33	68.20	7.87	PK

Notes:

1. Measuring frequencies from 1 GHz to the 10th harmonic of highest fundamental frequency.
2. Measurements above show only up to 6 maximum emissions noted, or would be lesser if no specific emissions from the EUT are recorded (ie: margin > 20 dB from the applicable limit) and considered that's already beyond the background noise floor.
3. Radiated emissions measured in frequency above 1000MHz were made with an instrument using Peak detector mode and average detector mode of the emission shown in Actual FS column.
4. Total = Reading Value + Antenna Factor + Cable Loss - Amp Gain
5. We have done all data rate in 802.11ac_20 MHz BW. Worst case is 6.5 Mbps in 802.11ac_20 MHz BW.
6. We have done x, y, z planes in EUT and horizontal and vertical polarization in detecting antenna.

Band :	UNII 2C
Operation Mode:	802.11 ac_20 MHz BW
Transfer Rate:	6.5 Mbps
Operating Frequency	5720 MHz
Channel No.	144 Ch

Frequency [MHz]	Reading dBuV	AN.+CL-Amp G. [dB]	ANT. POL [H/V]	Total [dBuV/m]	Limit [dBuV/m]	Margin [dB]	Measurement Type
11440	66.45	-2.57	V	63.88	73.98	10.10	PK
11440	51.96	-2.57	V	49.39	53.98	4.59	AV
17160	58.26	2.74	V	61.00	68.20	7.20	PK
11440	67.01	-2.57	H	64.44	73.98	9.54	PK
11440	52.80	-2.57	H	50.23	53.98	3.75	AV
17160	58.68	2.74	H	61.42	68.20	6.78	PK

Notes:

1. Measuring frequencies from 1 GHz to the 10th harmonic of highest fundamental frequency.
2. Measurements above show only up to 6 maximum emissions noted, or would be lesser if no specific emissions from the EUT are recorded (ie: margin > 20 dB from the applicable limit) and considered that's already beyond the background noise floor.
3. Radiated emissions measured in frequency above 1000MHz were made with an instrument using Peak detector mode and average detector mode of the emission shown in Actual FS column.
4. Total = Reading Value + Antenna Factor + Cable Loss - Amp Gain
5. We have done all data rate in 802.11ac_20 MHz BW. Worst case is 6.5 Mbps in 802.11ac_20 MHz BW.
6. We have done x, y, z planes in EUT and horizontal and vertical polarization in detecting antenna.

Band :	UNII 2C
Operation Mode:	802.11n_40 MHz BW
Transfer Rate:	13.5 Mbps
Operating Frequency	5510 MHz
Channel No.	102 Ch

Frequency [MHz]	Reading dBuV	AN.+CL-Amp G. [dB]	ANT. POL [H/V]	Total [dBuV/m]	Limit [dBuV/m]	Margin [dB]	Measurement Type
11020	59.34	-2.07	V	57.27	73.98	16.71	PK
11020	46.05	-2.07	V	43.98	53.98	10.00	AV
16530	59.75	0.77	V	60.52	68.20	7.68	PK
11020	59.78	-2.07	H	57.71	73.98	16.27	PK
11020	46.20	-2.07	H	44.13	53.98	9.85	AV
16530	59.88	0.77	H	60.65	68.20	7.55	PK

Notes:

1. Measuring frequencies from 1 GHz to the 10th harmonic of highest fundamental frequency.
2. Measurements above show only up to 6 maximum emissions noted, or would be lesser if no specific emissions from the EUT are recorded (ie: margin > 20 dB from the applicable limit) and considered that's already beyond the background noise floor.
3. Radiated emissions measured in frequency above 1000MHz were made with an instrument using Peak detector mode and average detector mode of the emission shown in Actual FS column.
4. Total = Reading Value + Antenna Factor + Cable Loss - Amp Gain
5. We have done all data rate in 802.11n_40 MHz BW. Worst case is 13.5 Mbps in 802.11n_40 MHz BW.
6. We have done x, y, z planes in EUT and horizontal and vertical polarization in detecting antenna.

Band :	UNII 2C
Operation Mode:	802.11n_40 MHz BW
Transfer Rate:	13.5 Mbps
Operating Frequency	5550 MHz
Channel No.	110 Ch

Frequency [MHz]	Reading dBuV	AN.+CL-Amp G. [dB]	ANT. POL [H/V]	Total [dBuV/m]	Limit [dBuV/m]	Margin [dB]	Measurement Type
11180	66.05	-2.26	V	63.79	73.98	10.19	PK
11180	52.23	-2.26	V	49.97	53.98	4.01	AV
16770	58.21	1.90	V	60.11	68.20	8.09	PK
11180	66.62	-2.26	H	64.36	73.98	9.62	PK
11180	52.49	-2.26	H	50.23	53.98	3.75	AV
16770	58.33	1.90	H	60.23	68.20	7.97	PK

Notes:

1. Measuring frequencies from 1 GHz to the 10th harmonic of highest fundamental frequency.
2. Measurements above show only up to 6 maximum emissions noted, or would be lesser if no specific emissions from the EUT are recorded (ie: margin > 20 dB from the applicable limit) and considered that's already beyond the background noise floor.
3. Radiated emissions measured in frequency above 1000MHz were made with an instrument using Peak detector mode and average detector mode of the emission shown in Actual FS column.
4. Total = Reading Value + Antenna Factor + Cable Loss - Amp Gain
5. We have done all data rate in 802.11n_40 MHz BW. Worst case is 13.5 Mbps in 802.11n_40 MHz BW.
6. We have done x, y, z planes in EUT and horizontal and vertical polarization in detecting antenna.

Band :	UNII 2C
Operation Mode:	802.11n_40 MHz BW
Transfer Rate:	13.5 Mbps
Operating Frequency	5710 MHz
Channel No.	142 Ch

Frequency [MHz]	Reading dBuV	AN.+CL-Amp G. [dB]	ANT. POL [H/V]	Total [dBuV/m]	Limit [dBuV/m]	Margin [dB]	Measurement Type
11420	65.18	-1.94	V	63.24	73.98	10.74	PK
11420	52.25	-1.94	V	50.31	53.98	3.67	AV
17130	58.68	2.66	V	61.34	68.20	6.86	PK
11420	65.88	-1.94	H	63.94	73.98	10.04	PK
11420	52.60	-1.94	H	50.66	53.98	3.32	AV
17130	58.93	2.66	H	61.59	68.20	6.61	PK

Notes:

1. Measuring frequencies from 1 GHz to the 10th harmonic of highest fundamental frequency.
2. Measurements above show only up to 6 maximum emissions noted, or would be lesser if no specific emissions from the EUT are recorded (ie: margin > 20 dB from the applicable limit) and considered that's already beyond the background noise floor.
3. Radiated emissions measured in frequency above 1000MHz were made with an instrument using Peak detector mode and average detector mode of the emission shown in Actual FS column.
4. Total = Reading Value + Antenna Factor + Cable Loss - Amp Gain
5. We have done all data rate in 802.11n_40 MHz BW. Worst case is 13.5 Mbps in 802.11n_40 MHz BW.
6. We have done x, y, z planes in EUT and horizontal and vertical polarization in detecting antenna.

Band :	UNII 2C
Operation Mode:	802.11ac_40 MHz BW
Transfer Rate:	13.5 Mbps
Operating Frequency	5510 MHz
Channel No.	102 Ch

Frequency [MHz]	Reading dBuV	AN.+CL-Amp G. [dB]	ANT. POL [H/V]	Total [dBuV/m]	Limit [dBuV/m]	Margin [dB]	Measurement Type
11020	59.57	-2.07	V	57.50	73.98	16.48	PK
11020	45.87	-2.07	V	43.80	53.98	10.18	AV
16530	58.97	0.77	V	59.74	68.20	8.46	PK
11020	59.86	-2.07	H	57.79	73.98	16.19	PK
11020	46.18	-2.07	H	44.11	53.98	9.87	AV
16530	59.87	0.77	H	60.64	68.20	7.56	PK

Notes:

1. Measuring frequencies from 1 GHz to the 10th harmonic of highest fundamental frequency.
2. Measurements above show only up to 6 maximum emissions noted, or would be lesser if no specific emissions from the EUT are recorded (ie: margin > 20 dB from the applicable limit) and considered that's already beyond the background noise floor.
3. Radiated emissions measured in frequency above 1000MHz were made with an instrument using Peak detector mode and average detector mode of the emission shown in Actual FS column.
4. Total = Reading Value + Antenna Factor + Cable Loss - Amp Gain
5. We have done all data rate in 802.11ac_40 MHz BW. Worst case is 13.5 Mbps in 802.11ac_40 MHz BW.
6. We have done x, y, z planes in EUT and horizontal and vertical polarization in detecting antenna.

Band :	UNII 2C
Operation Mode:	802.11ac_40 MHz BW
Transfer Rate:	13.5 Mbps
Operating Frequency	5550 MHz
Channel No.	110 Ch

Frequency [MHz]	Reading dBuV	AN.+CL-Amp G. [dB]	ANT. POL [H/V]	Total [dBuV/m]	Limit [dBuV/m]	Margin [dB]	Measurement Type
11180	65.12	-2.26	V	62.86	73.98	11.12	PK
11180	52.75	-2.26	V	50.49	53.98	3.49	AV
16770	57.21	1.90	V	59.11	68.20	9.09	PK
11180	65.88	-2.26	H	63.62	73.98	10.36	PK
11180	53.03	-2.26	H	50.77	53.98	3.21	AV
16770	57.37	1.90	H	59.27	68.20	8.93	PK

Notes:

1. Measuring frequencies from 1 GHz to the 10th harmonic of highest fundamental frequency.
2. Measurements above show only up to 6 maximum emissions noted, or would be lesser if no specific emissions from the EUT are recorded (ie: margin > 20 dB from the applicable limit) and considered that's already beyond the background noise floor.
3. Radiated emissions measured in frequency above 1000MHz were made with an instrument using Peak detector mode and average detector mode of the emission shown in Actual FS column.
4. Total = Reading Value + Antenna Factor + Cable Loss - Amp Gain
5. We have done all data rate in 802.11ac_40 MHz BW. Worst case is 13.5 Mbps in 802.11ac_40 MHz BW.
6. We have done x, y, z planes in EUT and horizontal and vertical polarization in detecting antenna

Band :	UNII 2C
Operation Mode:	802.11ac_40 MHz BW
Transfer Rate:	13.5 Mbps
Operating Frequency	5710 MHz
Channel No.	142 Ch

Frequency [MHz]	Reading dBuV	AN.+CL-Amp G. [dB]	ANT. POL [H/V]	Total [dBuV/m]	Limit [dBuV/m]	Margin [dB]	Measurement Type
11420	65.11	-1.94	V	63.17	73.98	10.81	PK
11420	52.29	-1.94	V	50.35	53.98	3.63	AV
17130	58.42	2.66	V	61.08	68.20	7.12	PK
11420	65.30	-1.94	H	63.36	73.98	10.62	PK
11420	52.71	-1.94	H	50.77	53.98	3.21	AV
17130	58.60	2.66	H	61.26	68.20	6.94	PK

Notes:

1. Measuring frequencies from 1 GHz to the 10th harmonic of highest fundamental frequency.
2. Measurements above show only up to 6 maximum emissions noted, or would be lesser if no specific emissions from the EUT are recorded (ie: margin > 20 dB from the applicable limit) and considered that's already beyond the background noise floor.
3. Radiated emissions measured in frequency above 1000MHz were made with an instrument using Peak detector mode and average detector mode of the emission shown in Actual FS column.
4. Total = Reading Value + Antenna Factor + Cable Loss - Amp Gain
5. We have done all data rate in 802.11ac_40 MHz BW. Worst case is 13.5 Mbps in 802.11ac_40 MHz BW.
6. We have done x, y, z planes in EUT and horizontal and vertical polarization in detecting antenna

Band :	UNII 2C
Operation Mode:	802.11ac_80 MHz BW
Transfer Rate:	29.3 Mbps
Operating Frequency	5530 MHz
Channel No.	106 Ch

Frequency [MHz]	Reading dBuV	AN.+CL-Amp G. [dB]	ANT. POL [H/V]	Total [dBuV/m]	Limit [dBuV/m]	Margin [dB]	Measurement Type
11060	58.66	-1.75	V	56.91	73.98	17.07	PK
11060	45.41	-1.75	V	43.66	53.98	10.32	AV
16590	58.63	1.29	V	59.92	68.20	8.28	PK
11060	58.95	-1.75	H	57.20	73.98	16.78	PK
11060	45.56	-1.75	H	43.81	53.98	10.17	AV
16590	58.83	1.29	H	60.12	68.20	8.08	PK

Notes:

1. Measuring frequencies from 1 GHz to the 10th harmonic of highest fundamental frequency.
2. Measurements above show only up to 6 maximum emissions noted, or would be lesser if no specific emissions from the EUT are recorded (ie: margin > 20 dB from the applicable limit) and considered that's already beyond the background noise floor.
3. Radiated emissions measured in frequency above 1000MHz were made with an instrument using Peak detector mode and average detector mode of the emission shown in Actual FS column.
4. Total = Reading Value + Antenna Factor + Cable Loss - Amp Gain
5. We have done all data rate in 802.11ac_80 MHz BW. Worst case is 29.3 Mbps in 802.11ac_80 MHz BW.
6. We have done x, y, z planes in EUT and horizontal and vertical polarization in detecting antenna.

Band :	UNII 2C
Operation Mode:	802.11ac_80 MHz BW
Transfer Rate:	29.3 Mbps
Operating Frequency	5690 MHz
Channel No.	138 Ch

Frequency [MHz]	Reading dBuV	AN.+CL-Amp G. [dB]	ANT. POL [H/V]	Total [dBuV/m]	Limit [dBuV/m]	Margin [dB]	Measurement Type
11380	64.05	-1.73	V	62.32	73.98	11.66	PK
11380	51.24	-1.73	V	49.51	53.98	4.47	AV
17070	57.68	3.20	V	60.88	68.20	7.32	PK
11380	65.11	-1.73	H	63.38	73.98	10.60	PK
11380	51.49	-1.73	H	49.76	53.98	4.22	AV
17070	58.14	3.20	H	61.34	68.20	6.86	PK

Notes:

1. Measuring frequencies from 1 GHz to the 10th harmonic of highest fundamental frequency.
2. Measurements above show only up to 6 maximum emissions noted, or would be lesser if no specific emissions from the EUT are recorded (ie: margin > 20 dB from the applicable limit) and considered that's already beyond the background noise floor.
3. Radiated emissions measured in frequency above 1000MHz were made with an instrument using Peak detector mode and average detector mode of the emission shown in Actual FS column.
4. Total = Reading Value + Antenna Factor + Cable Loss - Amp Gain
5. We have done all data rate in 802.11ac_80 MHz BW. Worst case is 29.3 Mbps in 802.11ac_80 MHz BW.
6. We have done x, y, z planes in EUT and horizontal and vertical polarization in detecting antenna.

Band :	UNII 3
Operation Mode:	802.11 a_20 MHz BW
Transfer Rate:	6 Mbps
Operating Frequency	5745MHz
Channel No.	149 Ch

Frequency [MHz]	Reading dBuV	AN.+CL-Amp G. [dB]	ANT. POL [H/V]	Total [dBuV/m]	Limit [dBuV/m]	Margin [dB]	Measurement Type
11490	67.76	-1.70	V	66.06	73.98	7.92	PK
11490	51.85	-1.70	V	50.15	53.98	3.83	AV
17235	58.89	2.52	V	61.41	68.20	6.79	PK
11490	67.26	-1.70	H	65.56	73.98	8.42	PK
11490	51.26	-1.70	H	49.56	53.98	4.42	AV
17235	58.68	2.52	H	61.20	68.20	7.00	PK

Notes:

1. Measuring frequencies from 1 GHz to the 10th harmonic of highest fundamental frequency.
2. Measurements above show only up to 6 maximum emissions noted, or would be lesser if no specific emissions from the EUT are recorded (ie: margin > 20 dB from the applicable limit) and considered that's already beyond the background noise floor.
3. Radiated emissions measured in frequency above 1000MHz were made with an instrument using Peak detector mode and average detector mode of the emission shown in Actual FS column.
4. Total = Reading Value + Antenna Factor + Cable Loss - Amp Gain
5. We have done all data rate in 802.11a. Worst case is 6 Mbps in 802.11a.
6. We have done x, y, z planes in EUT and horizontal and vertical polarization in detecting antenna.

Band :	UNII 3
Operation Mode:	802.11 a_20 MHz BW
Transfer Rate:	6 Mbps
Operating Frequency	5785 MHz
Channel No.	157 Ch

Frequency [MHz]	Reading dBuV	AN.+CL-Amp G. [dB]	ANT. POL [H/V]	Total [dBuV/m]	Limit [dBuV/m]	Margin [dB]	Measurement Type
11570	67.98	-2.08	V	65.90	73.98	8.08	PK
11570	52.80	-2.08	V	50.72	53.98	3.26	AV
17355	59.13	2.67	V	61.80	68.20	6.40	PK
11570	67.31	-2.08	H	65.23	73.98	8.75	PK
11570	52.17	-2.08	H	50.09	53.98	3.89	AV
17355	59.05	2.67	H	61.72	68.20	6.48	PK

Notes:

1. Measuring frequencies from 1 GHz to the 10th harmonic of highest fundamental frequency.
2. Measurements above show only up to 6 maximum emissions noted, or would be lesser if no specific emissions from the EUT are recorded (ie: margin > 20 dB from the applicable limit) and considered that's already beyond the background noise floor.
3. Radiated emissions measured in frequency above 1000MHz were made with an instrument using Peak detector mode and average detector mode of the emission shown in Actual FS column.
4. Total = Reading Value + Antenna Factor + Cable Loss - Amp Gain
5. We have done all data rate in 802.11a. Worst case is 6 Mbps in 802.11a.
6. We have done x, y, z planes in EUT and horizontal and vertical polarization in detecting antenna.

Band :	UNII 3
Operation Mode:	802.11 a_20 MHz BW
Transfer Rate:	6 Mbps
Operating Frequency	5825 MHz
Channel No.	165 Ch

Frequency [MHz]	Reading dBuV	AN.+CL-Amp G. [dB]	ANT. POL [H/V]	Total [dBuV/m]	Limit [dBuV/m]	Margin [dB]	Measurement Type
11650	66.43	-2.36	V	64.07	73.98	9.91	PK
11650	51.58	-2.36	V	49.22	53.98	4.76	AV
17475	60.21	3.81	V	64.02	68.20	4.18	PK
11650	66.07	-2.36	H	63.71	73.98	10.27	PK
11650	51.27	-2.36	H	48.91	53.98	5.07	AV
17475	60.10	3.81	H	63.91	68.20	4.29	PK

Notes:

1. Measuring frequencies from 1 GHz to the 10th harmonic of highest fundamental frequency.
2. Measurements above show only up to 6 maximum emissions noted, or would be lesser if no specific emissions from the EUT are recorded (ie: margin > 20 dB from the applicable limit) and considered that's already beyond the background noise floor.
3. Radiated emissions measured in frequency above 1000MHz were made with an instrument using Peak detector mode and average detector mode of the emission shown in Actual FS column.
4. Total = Reading Value + Antenna Factor + Cable Loss - Amp Gain
5. We have done all data rate in 802.11a. Worst case is 6 Mbps in 802.11a.
6. We have done x, y, z planes in EUT and horizontal and vertical polarization in detecting antenna

Band :	UNII 3
Operation Mode:	802.11 n_20 MHz BW
Transfer Rate:	6.5 Mbps
Operating Frequency	5745 MHz
Channel No.	149 Ch

Frequency [MHz]	Reading dBuV	AN.+CL-Amp G. [dB]	ANT. POL [H/V]	Total [dBuV/m]	Limit [dBuV/m]	Margin [dB]	Measurement Type
11490	65.35	-1.70	V	63.65	73.98	10.33	PK
11490	51.58	-1.70	V	49.88	53.98	4.10	AV
17235	59.42	2.52	V	61.94	68.20	6.26	PK
11490	65.17	-1.70	H	63.47	73.98	10.51	PK
11490	51.43	-1.70	H	49.73	53.98	4.25	AV
17235	58.79	2.52	H	61.31	68.20	6.89	PK

Notes:

1. Measuring frequencies from 1 GHz to the 10th harmonic of highest fundamental frequency.
2. Measurements above show only up to 6 maximum emissions noted, or would be lesser if no specific emissions from the EUT are recorded (ie: margin > 20 dB from the applicable limit) and considered that's already beyond the background noise floor.
3. Radiated emissions measured in frequency above 1000MHz were made with an instrument using Peak detector mode and average detector mode of the emission shown in Actual FS column.
4. Total = Reading Value + Antenna Factor + Cable Loss - Amp Gain
5. We have done all data rate in 802.11n_20 MHz BW. Worst case is 6.5 Mbps in 802.11n_20 MHz BW.
6. We have done x, y, z planes in EUT and horizontal and vertical polarization in detecting antenna.

Band :	UNII 3
Operation Mode:	802.11 n_20 MHz BW
Transfer Rate:	6.5 Mbps
Operating Frequency	5785 MHz
Channel No.	157 Ch

Frequency [MHz]	Reading dBuV	AN.+CL-Amp G. [dB]	ANT. POL [H/V]	Total [dBuV/m]	Limit [dBuV/m]	Margin [dB]	Measurement Type
11570	65.99	-2.08	V	63.91	73.98	10.07	PK
11570	52.16	-2.08	V	50.08	53.98	3.90	AV
17355	58.87	2.67	V	61.54	68.20	6.66	PK
11570	65.47	-2.08	H	63.39	73.98	10.59	PK
11570	51.86	-2.08	H	49.78	53.98	4.20	AV
17355	58.44	2.67	H	61.11	68.20	7.09	PK

Notes:

1. Measuring frequencies from 1 GHz to the 10th harmonic of highest fundamental frequency.
2. Measurements above show only up to 6 maximum emissions noted, or would be lesser if no specific emissions from the EUT are recorded (ie: margin > 20 dB from the applicable limit) and considered that's already beyond the background noise floor.
3. Radiated emissions measured in frequency above 1000MHz were made with an instrument using Peak detector mode and average detector mode of the emission shown in Actual FS column.
4. Total = Reading Value + Antenna Factor + Cable Loss - Amp Gain
5. We have done all data rate in 802.11n_20 MHz BW. Worst case is 6.5 Mbps in 802.11n_20 MHz BW.
6. We have done x, y, z planes in EUT and horizontal and vertical polarization in detecting antenna.

Band :	UNII 3
Operation Mode:	802.11 n_20 MHz BW
Transfer Rate:	6.5 Mbps
Operating Frequency	5825 MHz
Channel No.	165 Ch

Frequency [MHz]	Reading dBuV	AN.+CL-Amp G. [dB]	ANT. POL [H/V]	Total [dBuV/m]	Limit [dBuV/m]	Margin [dB]	Measurement Type
11650	64.66	-2.36	V	62.30	73.98	11.68	PK
11650	51.07	-2.36	V	48.71	53.98	5.27	AV
17475	59.64	3.81	V	63.45	68.20	4.75	PK
11650	64.52	-2.36	H	62.16	73.98	11.82	PK
11650	51.01	-2.36	H	48.65	53.98	5.33	AV
17475	59.39	3.81	H	63.20	68.20	5.00	PK

Notes:

1. Measuring frequencies from 1 GHz to the 10th harmonic of highest fundamental frequency.
2. Measurements above show only up to 6 maximum emissions noted, or would be lesser if no specific emissions from the EUT are recorded (ie: margin > 20 dB from the applicable limit) and considered that's already beyond the background noise floor.
3. Radiated emissions measured in frequency above 1000MHz were made with an instrument using Peak detector mode and average detector mode of the emission shown in Actual FS column.
4. Total = Reading Value + Antenna Factor + Cable Loss - Amp Gain
5. We have done all data rate in 802.11n_20 MHz BW. Worst case is 6.5 Mbps in 802.11n_20 MHz BW.
6. We have done x, y, z planes in EUT and horizontal and vertical polarization in detecting antenna.

Band :	UNII 3
Operation Mode:	802.11 ac_20 MHz BW
Transfer Rate:	6.5 Mbps
Operating Frequency	5745 MHz
Channel No.	149 Ch

Frequency [MHz]	Reading dBuV	AN.+CL-Amp G. [dB]	ANT. POL [H/V]	Total [dBuV/m]	Limit [dBuV/m]	Margin [dB]	Measurement Type
11490	65.68	-1.70	V	63.98	73.98	10.00	PK
11490	52.00	-1.70	V	50.30	53.98	3.68	AV
17235	58.27	2.52	V	60.79	68.20	7.41	PK
11490	65.42	-1.70	H	63.72	73.98	10.26	PK
11490	51.91	-1.70	H	50.21	53.98	3.77	AV
17235	58.11	2.52	H	60.63	68.20	7.57	PK

Notes:

1. Measuring frequencies from 1 GHz to the 10th harmonic of highest fundamental frequency.
2. Measurements above show only up to 6 maximum emissions noted, or would be lesser if no specific emissions from the EUT are recorded (ie: margin > 20 dB from the applicable limit) and considered that's already beyond the background noise floor.
3. Radiated emissions measured in frequency above 1000MHz were made with an instrument using Peak detector mode and average detector mode of the emission shown in Actual FS column.
4. Total = Reading Value + Antenna Factor + Cable Loss - Amp Gain
5. We have done all data rate in 802.11ac_20 MHz BW. Worst case is 6.5 Mbps in 802.11ac_20 MHz BW.
6. We have done x, y, z planes in EUT and horizontal and vertical polarization in detecting antenna.

Band :	UNII 3
Operation Mode:	802.11 ac_20 MHz BW
Transfer Rate:	6.5 Mbps
Operating Frequency	5785 MHz
Channel No.	157 Ch

Frequency [MHz]	Reading dBuV	AN.+CL-Amp G. [dB]	ANT. POL [H/V]	Total [dBuV/m]	Limit [dBuV/m]	Margin [dB]	Measurement Type
11570	66.44	-2.08	V	64.36	73.98	9.62	PK
11570	52.76	-2.08	V	50.68	53.98	3.30	AV
17355	58.15	2.67	V	60.82	68.20	7.38	PK
11570	66.12	-2.08	H	64.04	73.98	9.94	PK
11570	52.18	-2.08	H	50.10	53.98	3.88	AV
17355	58.05	2.67	H	60.72	68.20	7.48	PK

Notes:

1. Measuring frequencies from 1 GHz to the 10th harmonic of highest fundamental frequency.
2. Measurements above show only up to 6 maximum emissions noted, or would be lesser if no specific emissions from the EUT are recorded (ie: margin > 20 dB from the applicable limit) and considered that's already beyond the background noise floor.
3. Radiated emissions measured in frequency above 1000MHz were made with an instrument using Peak detector mode and average detector mode of the emission shown in Actual FS column.
4. Total = Reading Value + Antenna Factor + Cable Loss - Amp Gain
5. We have done all data rate in 802.11ac_20 MHz BW. Worst case is 6.5 Mbps in 802.11ac_20 MHz BW.
6. We have done x, y, z planes in EUT and horizontal and vertical polarization in detecting antenna.

Band :	UNII 3
Operation Mode:	802.11 ac_20 MHz BW
Transfer Rate:	6.5 Mbps
Operating Frequency	5825 MHz
Channel No.	165 Ch

Frequency [MHz]	Reading dBuV	AN.+CL-Amp G. [dB]	ANT. POL [H/V]	Total [dBuV/m]	Limit [dBuV/m]	Margin [dB]	Measurement Type
11650	64.42	-2.36	V	62.06	73.98	11.92	PK
11650	51.23	-2.36	V	48.87	53.98	5.11	AV
17475	58.79	3.81	V	62.60	68.20	5.60	PK
11650	64.22	-2.36	H	61.86	73.98	12.12	PK
11650	51.05	-2.36	H	48.69	53.98	5.29	AV
17475	58.46	3.81	H	62.27	68.20	5.93	PK

Notes:

1. Measuring frequencies from 1 GHz to the 10th harmonic of highest fundamental frequency.
2. Measurements above show only up to 6 maximum emissions noted, or would be lesser if no specific emissions from the EUT are recorded (ie: margin > 20 dB from the applicable limit) and considered that's already beyond the background noise floor.
3. Radiated emissions measured in frequency above 1000MHz were made with an instrument using Peak detector mode and average detector mode of the emission shown in Actual FS column.
4. Total = Reading Value + Antenna Factor + Cable Loss - Amp Gain
5. We have done all data rate in 802.11ac_20 MHz BW. Worst case is 6.5 Mbps in 802.11ac_20 MHz BW.
6. We have done x, y, z planes in EUT and horizontal and vertical polarization in detecting antenna.

Band :	UNII3
Operation Mode:	802.11n_40 MHz BW
Transfer Rate:	13.5 Mbps
Operating Frequency	5755 MHz
Channel No.	151 Ch

Frequency [MHz]	Reading dBuV	AN.+CL-Amp G. [dB]	ANT. POL [H/V]	Total [dBuV/m]	Limit [dBuV/m]	Margin [dB]	Measurement Type
11510	64.62	-1.79	V	62.83	73.98	11.15	PK
11510	51.40	-1.79	V	49.61	53.98	4.37	AV
17265	58.41	3.16	V	61.57	68.20	6.63	PK
11510	64.28	-1.79	H	62.49	73.98	11.49	PK
11510	51.02	-1.79	H	49.23	53.98	4.75	AV
17265	57.96	3.16	H	61.12	68.20	7.08	PK

Notes:

1. Measuring frequencies from 1 GHz to the 10th harmonic of highest fundamental frequency.
2. Measurements above show only up to 6 maximum emissions noted, or would be lesser if no specific emissions from the EUT are recorded (ie: margin > 20 dB from the applicable limit) and considered that's already beyond the background noise floor.
3. Radiated emissions measured in frequency above 1000MHz were made with an instrument using Peak detector mode and average detector mode of the emission shown in Actual FS column.
4. Total = Reading Value + Antenna Factor + Cable Loss - Amp Gain
5. We have done all data rate in 802.11n_40 MHz BW. Worst case is 13.5 Mbps in 802.11n_40 MHz BW.
6. We have done x, y, z planes in EUT and horizontal and vertical polarization in detecting antenna.

Band :	UNII 3
Operation Mode:	802.11n_40 MHz BW
Transfer Rate:	13.5 Mbps
Operating Frequency	5795 MHz
Channel No.	159 Ch

Frequency [MHz]	Reading dBuV	AN.+CL-Amp G. [dB]	ANT. POL [H/V]	Total [dBuV/m]	Limit [dBuV/m]	Margin [dB]	Measurement Type
11590	63.89	-2.20	V	61.69	73.98	12.29	PK
11590	51.37	-2.20	V	49.17	53.98	4.81	AV
17385	59.65	3.26	V	62.91	68.20	5.29	PK
11590	63.16	-2.20	H	60.96	73.98	13.02	PK
11590	51.05	-2.20	H	48.85	53.98	5.13	AV
17385	58.96	3.26	H	62.22	68.20	5.98	PK

Notes:

1. Measuring frequencies from 1 GHz to the 10th harmonic of highest fundamental frequency.
2. Measurements above show only up to 6 maximum emissions noted, or would be lesser if no specific emissions from the EUT are recorded (ie: margin > 20 dB from the applicable limit) and considered that's already beyond the background noise floor.
3. Radiated emissions measured in frequency above 1000MHz were made with an instrument using Peak detector mode and average detector mode of the emission shown in Actual FS column.
4. Total = Reading Value + Antenna Factor + Cable Loss - Amp Gain
5. We have done all data rate in 802.11n_40 MHz BW. Worst case is 13.5 Mbps in 802.11n_40 MHz BW.
6. We have done x, y, z planes in EUT and horizontal and vertical polarization in detecting antenna.

Band :	UNII 3
Operation Mode:	802.11ac_40 MHz BW
Transfer Rate:	13.5 Mbps
Operating Frequency	5755 MHz
Channel No.	151 Ch

Frequency [MHz]	Reading dBuV	AN.+CL-Amp G. [dB]	ANT. POL [H/V]	Total [dBuV/m]	Limit [dBuV/m]	Margin [dB]	Measurement Type
11510	64.64	-1.79	V	62.85	73.98	11.13	PK
11510	51.63	-1.79	V	49.84	53.98	4.14	AV
17265	57.88	3.16	V	61.04	68.20	7.16	PK
11510	64.28	-1.79	H	62.49	73.98	11.49	PK
11510	51.34	-1.79	H	49.55	53.98	4.43	AV
17265	57.63	3.16	H	60.79	68.20	7.41	PK

Notes:

1. Measuring frequencies from 1 GHz to the 10th harmonic of highest fundamental frequency.
2. Measurements above show only up to 6 maximum emissions noted, or would be lesser if no specific emissions from the EUT are recorded (ie: margin > 20 dB from the applicable limit) and considered that's already beyond the background noise floor.
3. Radiated emissions measured in frequency above 1000MHz were made with an instrument using Peak detector mode and average detector mode of the emission shown in Actual FS column.
4. Total = Reading Value + Antenna Factor + Cable Loss - Amp Gain
5. We have done all data rate in 802.11ac_40 MHz BW. Worst case is 13.5 Mbps in 802.11ac_40 MHz BW.
6. We have done x, y, z planes in EUT and horizontal and vertical polarization in detecting antenna.

Band :	UNII 3
Operation Mode:	802.11ac_40 MHz BW
Transfer Rate:	13.5 Mbps
Operating Frequency	5795 MHz
Channel No.	159 Ch

Frequency [MHz]	Reading dBuV	AN.+CL-Amp G. [dB]	ANT. POL [H/V]	Total [dBuV/m]	Limit [dBuV/m]	Margin [dB]	Measurement Type
11590	64.10	-2.20	V	61.90	73.98	12.08	PK
11590	51.71	-2.20	V	49.51	53.98	4.47	AV
17385	58.89	3.26	V	62.15	68.20	6.05	PK
11590	63.89	-2.20	H	61.69	73.98	12.29	PK
11590	51.64	-2.20	H	49.44	53.98	4.54	AV
17385	57.96	3.26	H	61.22	68.20	6.98	PK

Notes:

1. Measuring frequencies from 1 GHz to the 10th harmonic of highest fundamental frequency.
2. Measurements above show only up to 6 maximum emissions noted, or would be lesser if no specific emissions from the EUT are recorded (ie: margin > 20 dB from the applicable limit) and considered that's already beyond the background noise floor.
3. Radiated emissions measured in frequency above 1000MHz were made with an instrument using Peak detector mode and average detector mode of the emission shown in Actual FS column.
4. Total = Reading Value + Antenna Factor + Cable Loss - Amp Gain
5. We have done all data rate in 802.11ac_40 MHz BW. Worst case is 13.5 Mbps in 802.11ac_40 MHz BW.
6. We have done x, y, z planes in EUT and horizontal and vertical polarization in detecting antenna

Band :	UNII 3
Operation Mode:	802.11ac_80 MHz BW
Transfer Rate:	29.3 Mbps
Operating Frequency	5775 MHz
Channel No.	155 Ch

Frequency [MHz]	Reading dBuV	AN.+CL-Amp G. [dB]	ANT. POL [H/V]	Total [dBuV/m]	Limit [dBuV/m]	Margin [dB]	Measurement Type
11550	58.75	-1.78	V	56.97	73.98	17.01	PK
11550	45.61	-1.78	V	43.83	53.98	10.15	AV
17325	58.75	2.95	V	61.70	68.20	6.50	PK
11550	58.28	-1.78	H	56.50	73.98	17.48	PK
11550	45.48	-1.78	H	43.70	53.98	10.28	AV
17325	57.59	2.95	H	60.54	68.20	7.66	PK

Notes:

1. Measuring frequencies from 1 GHz to the 10th harmonic of highest fundamental frequency.
2. Measurements above show only up to 6 maximum emissions noted, or would be lesser if no specific emissions from the EUT are recorded (ie: margin > 20 dB from the applicable limit) and considered that's already beyond the background noise floor.
3. Radiated emissions measured in frequency above 1000MHz were made with an instrument using Peak detector mode and average detector mode of the emission shown in Actual FS column.
4. Total = Reading Value + Antenna Factor + Cable Loss - Amp Gain
5. We have done all data rate in 802.11ac_80 MHz BW. Worst case is 29.3 Mbps in 802.11ac_80 MHz BW.
6. We have done x, y, z planes in EUT and horizontal and vertical polarization in detecting antenna.

8.6.2 RADIATED RESTRICTED BAND EDGE MEASUREMENTS

Test Requirements and limit, §15.247(d) §15.205, §15.209

In any 100 kHz bandwidth outside the frequency band in which the spread spectrum is operating, the radio frequency power that is produced by the intentional radiator shall be at least 20 dB below that in the 100 kHz bandwidth within the band that contains the highest level of the desired power, based on either an RF conducted or a radiated measurement. Attenuation below the general limits specified in Section 15.209(a) is not required. In addition, radiated emissions which fall in the restricted bands, as defined in Section 15.205(a), must also comply with the radiated emission limits specified in section 15.209(a) (See section 15.205(c)).

Band :	UNII 1
Operation Mode:	802.11 a_20 MHz BW
Transfer Rate:	6 Mbps
Operating Frequency	5180 MHz
Channel No.	36 Ch

Frequency [MHz]	Reading dBuV	AN.+CL-AMP+ATT. [dB]	ANT. POL [H/V]	Total [dBuV/m]	Limit [dBuV/m]	Margin [dB]	Measurement Type
5150	56.18	3.13	H	59.31	73.98	14.67	PK
5150	43.86	3.13	H	46.99	53.98	6.99	AV
5150	57.56	3.13	V	60.69	73.98	13.29	PK
5150	44.73	3.13	V	47.86	53.98	6.12	AV

Band :	UNII 1
Operation Mode:	802.11 n_20 MHz BW
Transfer Rate:	6.5 Mbps
Operating Frequency	5180 MHz
Channel No.	36 Ch

Frequency [MHz]	Reading dBuV	AN.+CL-AMP+ATT [dB]	ANT. POL [H/V]	Total [dBuV/m]	Limit [dBuV/m]	Margin [dB]	Measurement Type
5150	59.05	3.13	H	62.18	73.98	11.80	PK
5150	45.89	3.13	H	49.02	53.98	4.96	AV
5150	59.72	3.13	V	62.85	73.98	11.13	PK
5150	46.76	3.13	V	49.89	53.98	4.09	AV

Band :	UNII 1
Operation Mode:	802.11 ac_20Mz BW
Transfer Rate:	6.5 Mbps
Operating Frequency	5180 MHz
Channel No.	36 Ch

Frequency [MHz]	Reading dBuV	AN.+CL-AMP+ATT [dB]	ANT. POL [H/V]	Total [dBuV/m]	Limit [dBuV/m]	Margin [dB]	Measurement Type
5150	58.76	3.13	H	61.89	73.98	12.09	PK
5150	46.12	3.13	H	49.25	53.98	4.73	AV
5150	59.52	3.13	V	62.65	73.98	11.33	PK
5150	46.64	3.13	V	49.77	53.98	4.21	AV

Band :	UNII 1
Operation Mode:	802.11 n_40 MHz BW
Transfer Rate:	13.5 Mbps
Operating Frequency	5190 MHz
Channel No.	38 Ch

Frequency [MHz]	Reading dBuV	AN.+CL-AMP+ATT [dB]	ANT. POL [H/V]	Total [dBuV/m]	Limit [dBuV/m]	Margin [dB]	Measurement Type
5150	58.68	3.13	H	61.81	73.98	12.17	PK
5150	46.12	3.13	H	49.25	53.98	4.73	AV
5150	59.25	3.13	V	62.38	73.98	11.60	PK
5150	46.64	3.13	V	49.77	53.98	4.21	AV

Band :	UNII 1
Operation Mode:	802.11 ac_40 MHz BW
Transfer Rate:	13.5 Mbps
Operating Frequency	5190 MHz
Channel No.	38 Ch

Frequency [MHz]	Reading dBuV	AN.+CL-AMP+ATT [dB]	ANT. POL [H/V]	Total [dBuV/m]	Limit [dBuV/m]	Margin [dB]	Measurement Type
5150	58.92	3.13	H	62.05	73.98	11.93	PK
5150	46.23	3.13	H	49.36	53.98	4.62	AV
5150	59.67	3.13	V	62.8	73.98	11.18	PK
5150	46.83	3.13	V	49.96	53.98	4.02	AV

Band :	UNII 1
Operation Mode:	802.11 ac_80 MHz BW
Transfer Rate:	29.3 Mbps
Operating Frequency	5210 MHz
Channel No.	42 Ch

Frequency [MHz]	Reading dBuV	AN.+CL-AMP+ATT [dB]	ANT. POL [H/V]	Total [dBuV/m]	Limit [dBuV/m]	Margin [dB]	Measurement Type
5150	60.24	3.13	H	63.37	73.98	10.61	PK
5150	47.14	3.13	H	50.27	53.98	3.71	AV
5150	59.68	3.13	V	62.81	73.98	11.17	PK
5150	46.29	3.13	V	49.42	53.98	4.56	AV

Band :	UNII 2A
Operation Mode:	802.11 a_20 MHz BW
Transfer Rate:	6 Mbps
Operating Frequency	5320 MHz
Channel No.	64 Ch

Frequency [MHz]	Reading dBuV	AN.+CL-AMP+ATT [dB]	ANT. POL [H/V]	Total [dBuV/m]	Limit [dBuV/m]	Margin [dB]	Measurement Type
5350	61.95	3.24	H	65.19	73.98	8.79	PK
5350	46.88	3.24	H	50.12	53.98	3.86	AV
5350	60.86	3.24	V	64.1	73.98	9.88	PK
5350	46.32	3.24	V	49.56	53.98	4.42	AV

Band :	UNII 2A
Operation Mode:	802.11 n_20 MHz BW
Transfer Rate:	6.5 Mbps
Operating Frequency	5320 MHz
Channel No.	64 Ch

Frequency [MHz]	Reading dBuV	AN.+CL-AMP+ATT [dB]	ANT. POL [H/V]	Total [dBuV/m]	Limit [dBuV/m]	Margin [dB]	Measurement Type
5350	60.75	3.24	H	63.99	73.98	9.99	PK
5350	46.99	3.24	H	50.23	53.98	3.75	AV
5350	59.24	3.24	V	62.48	73.98	11.50	PK
5350	46.17	3.24	V	49.41	53.98	4.57	AV

Band :	UNII 2A
Operation Mode:	802.11 ac_20Mz BW
Transfer Rate:	6.5 Mbps
Operating Frequency	5320 MHz
Channel No.	64 Ch

Frequency [MHz]	Reading dBuV	AN.+CL-AMP+ATT [dB]	ANT. POL [H/V]	Total [dBuV/m]	Limit [dBuV/m]	Margin [dB]	Measurement Type
5350	60.82	3.24	H	64.06	73.98	9.92	PK
5350	47.05	3.24	H	50.29	53.98	3.69	AV
5350	59.77	3.24	V	63.01	73.98	10.97	PK
5350	46.51	3.24	V	49.75	53.98	4.23	AV

Band :	UNII 2A
Operation Mode:	802.11 n_40 MHz BW
Transfer Rate:	13.5 Mbps
Operating Frequency	5310 MHz
Channel No.	62 Ch

Frequency [MHz]	Reading dBuV	AN.+CL-AMP+ATT [dB]	ANT. POL [H/V]	Total [dBuV/m]	Limit [dBuV/m]	Margin [dB]	Measurement Type
5350	61.08	3.24	H	64.32	73.98	9.66	PK
5350	47.32	3.24	H	50.56	53.98	3.42	AV
5350	60.68	3.24	V	63.92	73.98	10.06	PK
5350	46.92	3.24	V	50.16	53.98	3.82	AV

Band :	UNII 2A
Operation Mode:	802.11 ac_40 MHz BW
Transfer Rate:	13.5 Mbps
Operating Frequency	5310 MHz
Channel No.	62 Ch

Frequency [MHz]	Reading dBuV	AN.+CL-AMP+ATT [dB]	ANT. POL [H/V]	Total [dBuV/m]	Limit [dBuV/m]	Margin [dB]	Measurement Type
5350	60.10	3.24	H	63.34	73.98	10.64	PK
5350	47.19	3.24	H	50.43	53.98	3.55	AV
5350	59.62	3.24	V	62.86	73.98	11.12	PK
5350	46.88	3.24	V	50.12	53.98	3.86	AV

Band :	UNII 1
Operation Mode:	802.11 ac_80 MHz BW
Transfer Rate:	29.3 Mbps
Operating Frequency	5290 MHz
Channel No.	58 Ch

Frequency [MHz]	Reading dBuV	AN.+CL-AMP+ATT [dB]	ANT. POL [H/V]	Total [dBuV/m]	Limit [dBuV/m]	Margin [dB]	Measurement Type
5350	59.80	3.24	H	63.04	73.98	10.94	PK
5350	46.41	3.24	H	49.65	53.98	4.33	AV
5350	58.79	3.24	V	62.03	73.98	11.95	PK
5350	45.91	3.24	V	49.15	53.98	4.83	AV

Band :	UNII 2C
Operation Mode:	802.11 a_20 MHz BW
Transfer Rate:	6 Mbps
Operating Frequency	5500 MHz
Channel No.	100 Ch

Frequency [MHz]	Reading DBuV	AN.+CL-AMP+ATT [dB]	ANT. POL [H/V]	Total [dBuV/m]	Limit [dBuV/m]	Margin [dB]	Measurement Type
5460	58.41	3.59	H	62.00	73.98	11.98	PK
5460	45.06	3.59	H	48.65	53.98	5.33	AV
*5470	60.29	3.56	H	63.85	68.20	4.35	PK
5460	57.91	3.59	V	61.5	73.98	12.48	PK
5460	44.89	3.59	V	48.48	53.98	5.50	AV
*5470	59.68	3.56	V	63.24	68.20	4.96	PK

Band :	UNII 2C
Operation Mode:	802.11 n_20MHz BW
Transfer Rate:	6.5 Mbps
Operating Frequency	5500 MHz
Channel No.	100 Ch

Frequency [MHz]	Reading DBuV	AN.+CL-AMP+ATT [dB]	ANT. POL [H/V]	Total [dBuV/m]	Limit [dBuV/m]	Margin [dB]	Measurement Type
5460	58.74	3.59	H	62.33	73.98	11.65	PK
5460	44.97	3.59	H	48.56	53.98	5.42	AV
*5470	60.90	3.56	H	64.46	68.20	3.74	PK
5460	58.42	3.59	V	62.01	73.98	11.97	PK
5460	44.29	3.59	V	47.88	53.98	6.10	AV
*5470	60.10	3.56	V	63.66	68.20	4.54	PK

Band :	UNII 2C
Operation Mode:	802.11 ac_20 MHz BW
Transfer Rate:	6.5 Mbps
Operating Frequency	5500 MHz
Channel No.	100 Ch

Frequency [MHz]	Reading DBuV	AN.+CL-AMP+ATT [dB]	ANT. POL [H/V]	Total [dBuV/m]	Limit [dBuV/m]	Margin [dB]	Measurement Type
5460	56.67	3.59	H	60.26	73.98	13.72	PK
5460	43.46	3.59	H	47.05	53.98	6.93	AV
*5470	59.49	3.56	H	63.05	68.20	5.15	PK
5460	56.47	3.59	V	60.06	73.98	13.92	PK
5460	42.89	3.59	V	46.48	53.98	7.50	AV
*5470	58.99	3.56	V	62.55	68.20	5.65	PK

Band :	UNII 2C
Operation Mode:	802.11 n_40 MHz BW
Transfer Rate:	13.5 Mbps
Operating Frequency	5510 MHz
Channel No.	102 Ch

Frequency [MHz]	Reading DBuV	AN.+CL-AMP+ATT [dB]	ANT. POL [H/V]	Total [dBuV/m]	Limit [dBuV/m]	Margin [dB]	Measurement Type
5460	58.62	3.59	H	62.21	73.98	11.77	PK
5460	43.13	3.59	H	46.72	53.98	7.26	AV
*5470	63.44	3.56	H	67	68.20	1.20	PK
5460	58.11	3.59	V	61.7	73.98	12.28	PK
5460	42.45	3.59	V	46.04	53.98	7.94	AV
*5470	62.29	3.56	V	65.85	68.20	2.35	PK

Band :	UNII 2C
Operation Mode:	802.11 ac_40 MHz BW
Transfer Rate:	13.5 Mbps
Operating Frequency	5510 MHz
Channel No.	102 Ch

Frequency [MHz]	Reading DBuV	AN.+CL-AMP+ATT [dB]	ANT. POL [H/V]	Total [dBuV/m]	Limit [dBuV/m]	Margin [dB]	Measurement Type
5460	57.38	3.59	H	60.97	73.98	13.01	PK
5460	43.03	3.59	H	46.62	53.98	7.36	AV
*5470	63.21	3.56	H	66.77	68.20	1.43	PK
5460	57.12	3.59	V	60.71	73.98	13.27	PK
5460	42.89	3.59	V	46.48	53.98	7.50	AV
*5470	62.08	3.56	V	65.64	68.20	2.56	PK

Band :	UNII 2C
Operation Mode:	802.11 ac_80 MHz BW
Transfer Rate:	29.3 Mbps
Operating Frequency	5530 MHz
Channel No.	106 Ch

Frequency [MHz]	Reading DBuV	AN.+CL-AMP+ATT [dB]	ANT. POL [H/V]	Total [dBuV/m]	Limit [dBuV/m]	Margin [dB]	Measurement Type
5460	58.92	3.59	H	62.51	73.98	11.47	PK
5460	46.14	3.59	H	49.73	53.98	4.25	AV
*5470	61.12	3.56	H	64.68	68.20	3.52	PK
5460	58.10	3.59	V	61.69	73.98	12.29	PK
5460	45.98	3.59	V	49.57	53.98	4.41	AV
*5470	60.56	3.56	V	64.12	68.20	4.08	PK

Band :	UNII 3
Operation Mode:	802.11 a_20 MHz BW
Transfer Rate:	6 Mbps
Operating Frequency	5825 MHz
Channel No.	165 Ch

Frequency [MHz]	Reading DBuV	AN.+CL-AMP+ATT [dB]	ANT. POL [H/V]	Total [dBuV/m]	Limit [dBuV/m]	Margin [dB]	Measurement Type
*5850	56.67	4.40	H	61.07	78.20	17.13	PK
*5850	56.12	4.40	V	60.52	78.20	17.68	PK
*5860	56.31	4.42	H	60.73	68.20	7.47	PK
*5860	56.05	4.42	V	60.47	68.20	7.73	PK

Band :	UNII 3
Operation Mode:	802.11 n_20MHz BW
Transfer Rate:	6.5 Mbps
Operating Frequency	5825 MHz
Channel No.	165 Ch

Frequency [MHz]	Reading DBuV	AN.+CL-AMP+ATT [dB]	ANT. POL [H/V]	Total [dBuV/m]	Limit [dBuV/m]	Margin [dB]	Measurement Type
*5850	58.05	4.40	H	62.45	78.20	15.75	PK
*5850	57.96	4.40	V	62.36	78.20	15.84	PK
*5860	56.41	4.42	H	60.83	68.20	7.37	PK
*5860	56.28	4.42	V	60.70	68.20	7.50	PK

Band :	UNII 3
Operation Mode:	802.11 ac_20 MHz BW
Transfer Rate:	6.5 Mbps
Operating Frequency	5825 MHz
Channel No.	165 Ch

Frequency [MHz]	Reading DBuV	AN.+CL-AMP+ATT [dB]	ANT. POL [H/V]	Total [dBuV/m]	Limit [dBuV/m]	Margin [dB]	Measurement Type
*5850	58.93	4.40	H	63.33	78.20	14.87	PK
*5850	57.96	4.40	V	62.36	78.20	15.84	AV
*5860	56.35	4.42	H	60.77	68.20	7.43	PK
*5860	56.29	4.42	V	60.71	68.20	7.49	AV

Band :	UNII 3
Operation Mode:	802.11 n_40 MHz BW
Transfer Rate:	13.5 Mbps
Operating Frequency	5795 MHz
Channel No.	159 Ch

Frequency [MHz]	Reading DBuV	AN.+CL-AMP+ATT [dB]	ANT. POL [H/V]	Total [dBuV/m]	Limit [dBuV/m]	Margin [dB]	Measurement Type
*5850	58.24	4.40	H	62.64	78.20	15.56	PK
*5850	57.90	4.40	V	62.30	78.20	15.90	PK
*5860	57.81	4.42	H	62.23	68.20	5.97	PK
*5860	57.74	4.42	V	62.16	68.20	6.04	PK

Band :	UNII 3
Operation Mode:	802.11 ac_40 MHz BW
Transfer Rate:	13.5 Mbps
Operating Frequency	5795 MHz
Channel No.	159 Ch

Frequency [MHz]	Reading DBuV	AN.+CL-AMP+ATT [dB]	ANT. POL [H/V]	Total [dBuV/m]	Limit [dBuV/m]	Margin [dB]	Measurement Type
*5850	58.20	4.40	H	62.60	78.20	15.60	PK
*5850	57.46	4.40	V	61.86	78.20	16.34	AV
*5860	58.47	4.42	H	62.89	68.20	5.31	PK
*5860	58.17	4.42	V	62.59	68.20	5.61	AV

Band :	UNII 3
Operation Mode:	802.11 ac_80 MHz BW
Transfer Rate:	29.3 Mbps
Operating Frequency	5755 MHz
Channel No.	155 Ch

Frequency [MHz]	Reading DBuV	AN.+CL-AMP+ATT [dB]	ANT. POL [H/V]	Total [dBuV/m]	Limit [dBuV/m]	Margin [dB]	Measurement Type
5850	57.10	4.40	H	61.50	78.20	16.70	PK
5850	56.76	4.40	V	61.16	78.20	17.04	PK
5860	56.49	4.42	H	60.91	68.20	7.29	PK
5860	56.40	4.42	V	60.82	68.20	7.38	PK

Notes:

1. Total = Reading Value + Antenna Factor + Cable Loss - Amp Gain + ATT
2. We have done all data rate in 802.11a/n/ac mode test. . Worst case of EUT is lowest data rate in 802.11a/n/ac.
3. We have done x, y, z planes in EUT and horizontal and vertical polarization in detecting antenna.
4. '*' is radiated band edge test frequency.(not restricted band emissions)

8.7 POWERLINE CONDUCTED EMISSIONS

Test Requirements and limit, §15.207

For an intentional radiator which is designed to be connected to the public utility (AC) power line, the radio frequency voltage that is conducted back onto the AC power line on any frequency or frequencies within the band 150 kHz to 30 MHz shall not exceed 250 microvolts (The limit decreases linearly with the logarithm of the frequency in the range 0.15 MHz to 0.50 MHz). The limits at specific frequency range is listed as follows:

Frequency Range (MHz)	Limits (dBμV)	
	Quasi-peak	Average
0.15 to 0.50	66 to 56	56 to 46
0.50 to 5	56	46
5 to 30	60	50

Compliance with this provision shall be based on the measurement of the radio frequency voltage between each power line (LINE and NEUTRAL) and ground at the power terminals.

Test Configuration

See test photographs attached in Appendix 1 for the actual connections between EUT and support equipment.

TEST PROCEDURE

1. The EUT is placed on a wooden table 80 cm above the reference groundplane.
2. The EUT is connected via LISN to a test power supply.
3. The measurement results are obtained as described below:
4. Detectors – Quasi Peak and Average Detector.

Sample Calculation

Quasi-peak(Final Result) = Reading Value + Correction Factor

▣ RESULT PLOTS

Conducted Emissions (Line 1)

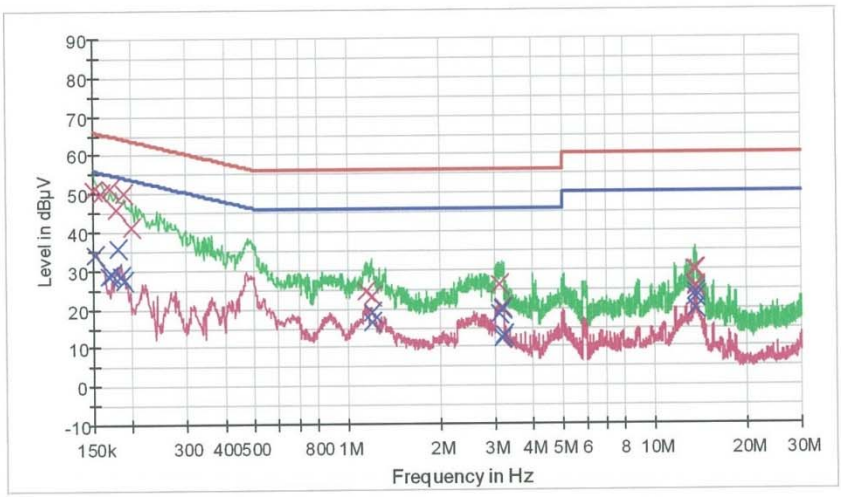
EMI Auto Test(10) 1 / 2

HCT TEST Report

Common Information

EUT:	LG-SBW61
Manufacturer:	LG
Test Site:	SHIELD ROOM
Operating Conditions:	WLAN MODE (5G)
Operator Name:	KS KANG

FCC CLASS B



FCC CLASS B_QP
Preview Result 2-AVG
FCC CLASS B_ AV
Final Result 1-QPK
Preview Result 1-PK+
Final Result 2-CAV

Final Result 1

Frequency (MHz)	QuasiPeak (dBµV)	Bandwidth (kHz)	Filter	Line	Corr. (dB)	Margin (dB)	Limit (dBµV)
0.150000	50.8	9.000	Off	L1	9.6	15.2	66.0
0.158000	50.3	9.000	Off	L1	9.6	15.4	65.6
0.170000	51.4	9.000	Off	L1	9.6	13.6	65.0
0.178000	45.8	9.000	Off	L1	9.6	18.8	64.6
0.188000	50.2	9.000	Off	L1	9.6	13.9	64.1
0.200000	41.3	9.000	Off	L1	9.6	22.3	63.6
1.146000	24.4	9.000	Off	L1	9.7	31.6	56.0
1.198000	23.4	9.000	Off	L1	9.7	32.6	56.0
1.204000	23.1	9.000	Off	L1	9.7	32.9	56.0
3.110000	26.0	9.000	Off	L1	9.8	30.0	56.0
3.184000	20.2	9.000	Off	L1	9.8	35.8	56.0
3.192000	20.2	9.000	Off	L1	9.8	35.8	56.0
13.496000	29.9	9.000	Off	L1	10.1	30.1	60.0
13.576000	30.1	9.000	Off	L1	10.1	29.9	60.0
13.594000	25.5	9.000	Off	L1	10.1	34.5	60.0
13.600000	25.4	9.000	Off	L1	10.1	34.6	60.0

8/27/2015 11:43:24

EMI Auto Test(10) 2 / 2

Frequency (MHz)	QuasiPeak (dBµV)	Bandwidth (kHz)	Filter	Line	Corr. (dB)	Margin (dB)	Limit (dBµV)
13.618000	25.4	9.000	Off	L1	10.1	34.6	60.0
13.644000	29.9	9.000	Off	L1	10.1	30.1	60.0

Final Result 2

Frequency (MHz)	CAverage (dBµV)	Bandwidth (kHz)	Filter	Line	Corr. (dB)	Margin (dB)	Limit (dBµV)
0.152000	33.9	9.000	Off	L1	9.6	22.0	55.9
0.168000	28.6	9.000	Off	L1	9.6	26.5	55.1
0.172000	29.1	9.000	Off	L1	9.6	25.8	54.9
0.180000	35.9	9.000	Off	L1	9.6	18.6	54.5
0.184000	28.7	9.000	Off	L1	9.6	25.6	54.3
0.188000	27.4	9.000	Off	L1	9.6	26.7	54.1
1.198000	16.4	9.000	Off	L1	9.7	29.6	46.0
1.204000	19.0	9.000	Off	L1	9.7	27.0	46.0
3.106000	18.7	9.000	Off	L1	9.8	27.3	46.0
3.182000	12.2	9.000	Off	L1	9.8	33.8	46.0
3.192000	19.9	9.000	Off	L1	9.8	26.1	46.0
3.230000	13.1	9.000	Off	L1	9.8	32.9	46.0
13.522000	19.7	9.000	Off	L1	10.1	30.3	50.0
13.536000	22.8	9.000	Off	L1	10.1	27.2	50.0
13.562000	23.9	9.000	Off	L1	10.1	26.1	50.0
13.576000	19.9	9.000	Off	L1	10.1	30.1	50.0
13.608000	24.1	9.000	Off	L1	10.1	25.9	50.0
13.616000	19.8	9.000	Off	L1	10.1	30.2	50.0

8/27/2015 11:43:24

Conducted Emissions (Line 2)

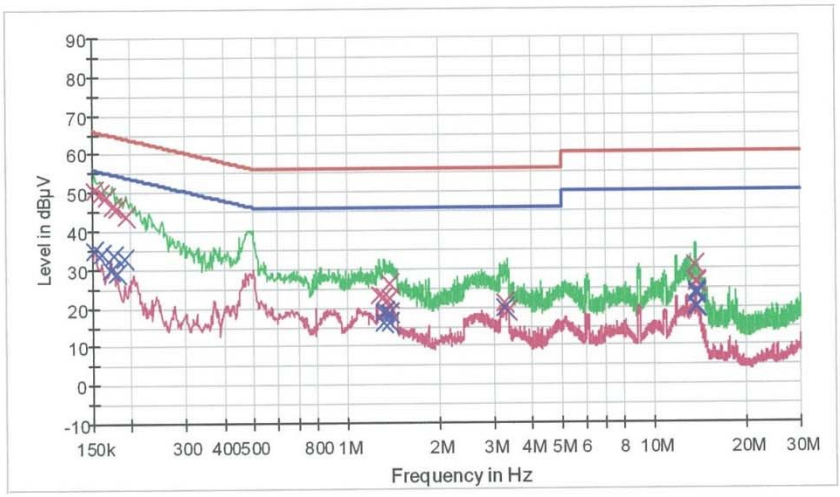
EMI Auto Test(10) 1 / 2

HCT TEST Report

Common Information

EUT:	LG-SBW61
Manufacturer:	LG
Test Site:	SHIELD ROOM
Operating Conditions:	WLAN MODE (5G)
Operator Name:	KS KANG

FCC CLASS B



FCC CLASS B_QP
Preview Result 2-AVG
FCC CLASS B_ AV
Final Result 1-QPK
Preview Result 1-PK+
Final Result 2-CAV

Final Result 1

Frequency (MHz)	QuasiPeak (dBµV)	Bandwidth (kHz)	Filter	Line	Corr. (dB)	Margin (dB)	Limit (dBµV)
0.152000	50.7	9.000	Off	N	9.6	15.2	65.9
0.158000	49.7	9.000	Off	N	9.6	15.9	65.6
0.166000	48.8	9.000	Off	N	9.6	16.4	65.2
0.174000	46.4	9.000	Off	N	9.6	18.4	64.8
0.180000	45.8	9.000	Off	N	9.6	18.7	64.5
0.192000	43.9	9.000	Off	N	9.6	20.0	63.9
1.280000	23.1	9.000	Off	N	9.7	32.9	56.0
1.326000	23.0	9.000	Off	N	9.7	33.0	56.0
1.374000	26.1	9.000	Off	N	9.7	29.9	56.0
1.386000	22.4	9.000	Off	N	9.7	33.6	56.0
3.260000	21.2	9.000	Off	N	9.8	34.8	56.0
3.322000	19.1	9.000	Off	N	9.8	36.9	56.0
13.636000	30.9	9.000	Off	N	10.1	29.1	60.0
13.674000	26.1	9.000	Off	N	10.1	33.9	60.0
13.686000	26.5	9.000	Off	N	10.1	33.6	60.0
13.696000	26.0	9.000	Off	N	10.1	34.0	60.0

8/27/2015 11:33:12

EMI Auto Test(10) 2 / 2

Frequency (MHz)	QuasiPeak (dBµV)	Bandwidth (kHz)	Filter	Line	Corr. (dB)	Margin (dB)	Limit (dBµV)
13.730000	26.0	9.000	Off	N	10.1	34.0	60.0
13.738000	26.0	9.000	Off	N	10.1	34.0	60.0

Final Result 2

Frequency (MHz)	CAverage (dBµV)	Bandwidth (kHz)	Filter	Line	Corr. (dB)	Margin (dB)	Limit (dBµV)
0.152000	35.0	9.000	Off	N	9.6	20.9	55.9
0.160000	34.0	9.000	Off	N	9.6	21.5	55.5
0.172000	30.1	9.000	Off	N	9.6	24.8	54.9
0.176000	33.8	9.000	Off	N	9.6	20.9	54.7
0.180000	29.0	9.000	Off	N	9.6	25.5	54.5
0.190000	32.7	9.000	Off	N	9.6	21.3	54.0
1.314000	18.5	9.000	Off	N	9.7	27.5	46.0
1.326000	15.9	9.000	Off	N	9.7	30.1	46.0
1.338000	19.1	9.000	Off	N	9.7	26.9	46.0
1.374000	16.2	9.000	Off	N	9.7	29.8	46.0
1.386000	18.7	9.000	Off	N	9.7	27.3	46.0
3.260000	19.9	9.000	Off	N	9.8	26.1	46.0
13.668000	20.0	9.000	Off	N	10.1	30.0	50.0
13.674000	24.0	9.000	Off	N	10.1	26.0	50.0
13.686000	20.0	9.000	Off	N	10.1	30.0	50.0
13.694000	20.4	9.000	Off	N	10.1	29.6	50.0
13.730000	23.1	9.000	Off	N	10.1	26.9	50.0
13.738000	23.6	9.000	Off	N	10.1	26.4	50.0

8/27/2015 11:33:12

9. LIST OF TEST EQUIPMENT

9.1 LIST OF TEST EQUIPMENT(Conducted Test)

Manufacturer	Model / Equipment	Calibration Date	Calibration Interval	Serial No.
Rohde & Schwarz	ENV216/ LISN	01/13/2015	Annual	100073
Agilent	E4440A/ Spectrum Analyzer	03/18/2015	Annual	US45303008
Agilent	N9020A / SIGNAL ANALYZER	06/30/2015	Annual	MY51110085
Agilent	N9020A / SIGNAL ANALYZER	07/02/2015	Annual	MY50510304
Agilent	N1911A/Power Meter	07/09/2015	Annual	MY45100523
Agilent	N1921A /POWER SENSOR	07/09/2015	Annual	MY45241059
Agilent	87300B/Directional Coupler	12/08/2014	Annual	3116A03621
Hewlett Packard	11667B / Power Splitter	04/30/2015	Annual	11275
ITECH	IT6720 / DC POWER SUPPLY	11/04/2014	Annual	010002156287001199
Agilent	8493C / Attenuator(10 dB)	07/21/2015	Annual	07560

9.2 LIST OF TEST EQUIPMENT(Radiated Test)

Manufacturer	Model / Equipment	Calibration Date	Calibration Interval	Serial No.
Schwarzbeck	VULB 9160/ TRILOG Antenna	10/10/2014	Biennial	3368
HD	MA240/ Antenna Position Tower	N/A	N/A	556
EMCO	1050/ Turn Table	N/A	N/A	114
HD GmbH	HD 100/ Controller	N/A	N/A	13
HD GmbH	KMS 560/ SlideBar	N/A	N/A	12
CERNEX	CBL18265035 / POWER AMP	07/27/2015	Annual	22966
Schwarzbeck	BBHA 9120D/ Horn Antenna	05/07/2015	Biennial	937
Schwarzbeck	BBHA9170 / Horn Antenna(15 GHz ~ 40 GHz)	04/30/2015	Biennial	BBHA9170124
Rohde & Schwarz	FSP / Spectrum Analyzer	10/23/2014	Annual	836650/016
Wainwright Instrument	WHF3.0/18G-10EF / High Pass Filter	06/28/2015	Annual	8
Wainwright Instrument	WRCJ2400/2483.5-2370/2520-60/14SS / Band Reject Filter	06/15/2015	Annual	1
Rohde & Schwarz	LOOP ANTENNA	09/03/2014	Biennial	1513-175
CERNEX	CBL06185030 / POWER AMP	07/21/2015	Annual	22965
CERNEX	CBLU1183540 / POWER AMP	07/21/2015	Annual	22964