Appendix A. Test Data

Duty cycle						
Mode	Frequency (MHz)	on time (ms)	on+off time (ms)	Duty cycle (%)	Duty Factor (dB)	1/T Minimun VBW (kHz)
802.11a	5180	30.000	30.000	100.000	0.000	0.010
802.11n HT20	5180	1.360	1.390	97.842	0.095	0.735
802.11n HT40	5190	0.960	1.050	91.429	0.389	1.042
802.11ac VHT20	5180	1.950	2.030	96.059	0.175	0.513
802.11ac VHT40	5190	0.965	1.055	91.469	0.387	1.036
802.11ac VHT80	5210	0.468	0.561	83.422	0.787	2.137

5 GHz Band Config			
Mode	Channel	Freq. (MHz)	Data Rate
802.11a	36	5180	6M
802.11a	40	5200	6M
802.11a	48	5240	6M
802.11a	52	5260	6M
802.11a	56	5280	6M
802.11a	64	5320	6M
802.11a	100	5500	6M
802.11a	112	5560	6M
802.11a	140	5700	6M
802.11a	149	5745	6M
802.11a	157	5785	6M
802.11a	165	5825	6M
802.11n HT20	36	5180	6.5M
802.11n HT20	40	5200	6.5M
802.11n HT20	48	5240	6.5M
802.11n HT20	52	5260	6.5M
802.11n HT20	56	5280	6.5M
802.11n HT20	64	5320	6.5M
802.11n HT20	100	5500	6.5M
802.11n HT20	112	5560	6.5M
802.11n HT20	140	5700	6.5M
802.11n HT20	149	5745	6.5M
802.11n HT20	157	5785	6.5M
802.11n HT20	165	5825	6.5M
802.11n HT40	38	5190	13.5M
802.11n HT40	46	5230	13.5M
802.11n HT40	54	5270	13.5M
802.11n HT40	62	5310	13.5M
802.11n HT40	102	5510	13.5M
802.11n HT40	110	5550	13.5M
802.11n HT40	134	5670	13.5M
802.11n HT40	151	5755	13.5M
802.11n HT40	159	5795	13.5M

5 GHz Band Config			
Mode	Channel	Freq. (MHz)	Data Rate
802.11ac VHT20	36	5180	MCS 0
802.11ac VHT20	40	5200	MCS 0
802.11ac VHT20	48	5240	MCS 0
802.11ac VHT20	52	5260	MCS 0
802.11ac VHT20	56	5280	MCS 0
802.11ac VHT20	64	5320	MCS 0
802.11ac VHT20	100	5500	MCS 0
802.11ac VHT20	112	5560	MCS 0
802.11ac VHT20	140	5700	MCS 0
802.11ac VHT20	149	5745	MCS 0
802.11ac VHT20	157	5785	MCS 0
802.11ac VHT20	165	5825	MCS 0
802.11ac VHT40	38	5190	MCS 0
802.11ac VHT40	46	5230	MCS 0
802.11ac VHT40	54	5270	MCS 0
802.11ac VHT40	62	5310	MCS 0
802.11ac VHT40	102	5510	MCS 0
802.11ac VHT40	110	5550	MCS 0
802.11ac VHT40	134	5670	MCS 0
802.11ac VHT40	151	5755	MCS 0
802.11ac VHT40	159	5795	MCS 0
802.11ac VHT80	42	5210	MCS 0
802.11ac VHT80	58	5290	MCS 0
802.11ac VHT80	106	5530	MCS 0
802.11ac VHT80	122	5610	MCS 0
802.11ac VHT80	155	5775	MCS 0

RF power setting in Test SW							
Mode	CH	Frequency (MHz)	Ant-0	Ant-1	Ant-2	Ant-3	Test SW Version
802.11a	36	5180	14	-	-	-	Putty
	40	5200	21	-	-	-	
	48	5240	20	-	-	-	
	52	5260	21	-	-	-	
	56	5280	21	-	-	-	
	64	5320	17	-	-	-	
	100	5500	15	-	-	-	
	112	5560	21	-	-	-	
	140	5700	12	-	-	-	
	149	5745	21	-	-	-	
	157	5785	21	-	-	-	
	165	5825	21	-	-	-	
802.11n HT20	36	5180	14	-	-	-	Putty
	40	5200	21	-	-	-	
	48	5240	20	-	-	-	
	52	5260	21	-	-	-	
	56	5280	21	-	-	-	
	64	5320	17	-	-	-	
	100	5500	16	-	-	-	
	112	5560	21	-	-	-	
	140	5700	13	-	-	-	
	149	5745	21	-	-	-	
	157	5785	21	-	-	-	
	165	5825	21	-	-	-	
802.11n HT40	38	5190	10	-	-	-	Putty
	46	5230	20	-	-	-	
	54	5270	21	-	-	-	
	62	5310	13	-	-	-	
	102	5510	12	-	-	-	
	110	5550	21	-	-	-	
	134	5670	15	-	-	-	
	151	5755	21	-	-	-	
	159	5795	21	-	-	-	
802.11ac VHT20	36	5180	14	-	-	-	Putty
	40	5200	21	-	-	-	
	48	5240	20	-	-	-	
	52	5260	21	-	-	-	
	56	5280	21	-	-	-	
	64	5320	17	-	-	-	
	100	5500	16	-	-	-	
	112	5560	21	-	-	-	
	140	5700	13	-	-	-	
	149	5745	21	-	-	-	
	157	5785	21	-	-	-	
	165	5825	21	-	-	-	
802.11ac VHT40	38	5190	10	-	-	-	Putty
	46	5230	20	-	-	-	
	54	5270	21	-	-	-	
	62	5310	13	-	-	-	
	102	5510	12	-	-	-	
	110	5550	21	-	-	-	
	134	5670	15	-	-	-	
	151	5755	21	-	-	-	
	159	5795	21	-	-	-	
802.11ac VHT80	42	5210	8	-	-	-	Putty
	58	5290	11	-	-	-	
	106	5530	10	-	-	-	
	122	5610	17	-	-	-	
	155	5775	20	-	-	-	

Maximum Conducted Output Power Measurement								
Mode	CH	Frequency (MHz)	Average power					Limit
			Ant-0	Ant-1	Ant-2	Ant-3	Total	
			dBm	dBm	dBm	dBm	dBm	dBm
802.11a	36	5180	14.51	-	-	-	-	24.00
	40	5200	18.93	-	-	-	-	24.00
	48	5240	18.41	-	-	-	-	24.00
	52	5260	18.83	-	-	-	-	24.00
	56	5280	18.72	-	-	-	-	24.00
	64	5320	16.35	-	-	-	-	24.00
	100	5500	15.11	-	-	-	-	24.00
	112	5560	18.95	-	-	-	-	24.00
	140	5700	11.78	-	-	-	-	24.00
	149	5745	18.88	-	-	-	-	30.00
	157	5785	18.81	-	-	-	-	30.00
	165	5825	18.83	-	-	-	-	30.00
802.11n HT20	36	5180	13.82	-	-	-	-	24.00
	40	5200	18.45	-	-	-	-	24.00
	48	5240	18.30	-	-	-	-	24.00
	52	5260	18.36	-	-	-	-	24.00
	56	5280	18.46	-	-	-	-	24.00
	64	5320	15.75	-	-	-	-	24.00
	100	5500	15.27	-	-	-	-	24.00
	112	5560	18.83	-	-	-	-	24.00
	140	5700	12.42	-	-	-	-	24.00
	149	5745	18.71	-	-	-	-	30.00
	157	5785	18.43	-	-	-	-	30.00
	165	5825	18.36	-	-	-	-	30.00
802.11n HT40	38	5190	10.08	-	-	-	-	24.00
	46	5230	18.98	-	-	-	-	24.00
	54	5270	18.92	-	-	-	-	24.00
	62	5310	13.01	-	-	-	-	24.00
	102	5510	12.32	-	-	-	-	24.00
	110	5550	19.49	-	-	-	-	24.00
	134	5670	14.76	-	-	-	-	24.00
	151	5755	19.39	-	-	-	-	30.00
	159	5795	19.16	-	-	-	-	30.00

Mode	CH	Frequency (MHz)	Average power					Limit
			Ant-0	Ant-1	Ant-2	Ant-3	Total	
			dBm	dBm	dBm	dBm	dBm	dBm
802.11ac VHT20	36	5180	13.93	-	-	-	-	24.00
	40	5200	18.72	-	-	-	-	24.00
	48	5240	18.39	-	-	-	-	24.00
	52	5260	18.56	-	-	-	-	24.00
	56	5280	18.63	-	-	-	-	24.00
	64	5320	15.89	-	-	-	-	24.00
	100	5500	15.38	-	-	-	-	24.00
	112	5560	18.97	-	-	-	-	24.00
	140	5700	12.48	-	-	-	-	24.00
	149	5745	18.84	-	-	-	-	30.00
	157	5785	18.69	-	-	-	-	30.00
	165	5825	18.61	-	-	-	-	30.00
802.11ac VHT40	38	5190	10.14	-	-	-	-	24.00
	46	5230	19.05	-	-	-	-	24.00
	54	5270	19.15	-	-	-	-	24.00
	62	5310	13.07	-	-	-	-	24.00
	102	5510	12.42	-	-	-	-	24.00
	110	5550	19.59	-	-	-	-	24.00
	134	5670	14.82	-	-	-	-	24.00
	151	5755	19.51	-	-	-	-	30.00
	159	5795	19.43	-	-	-	-	30.00
802.11ac VHT80	42	5210	8.14	-	-	-	-	24.00
	58	5290	11.15	-	-	-	-	24.00
	106	5530	9.51	-	-	-	-	24.00
	122	5610	16.07	-	-	-	-	24.00
	155	5775	18.38	-	-	-	-	30.00

26 dB & 99 % RF Bandwidth Measurement										
Mode	CH	Freq. (MHz)	99 % Bandwidth				26 dB Bandwidth			
			Ant-0	Ant-1	Ant-2	Ant-3	Ant-0	Ant-1	Ant-2	Ant-3
			MHz	MHz	MHz	MHz	MHz	MHz	MHz	MHz
802.11a	36	5180	17.214	-	-	-	21.570	-	-	-
	40	5200	20.236	-	-	-	33.990	-	-	-
	48	5240	19.146	-	-	-	33.000	-	-	-
	52	5260	19.821	-	-	-	33.850	-	-	-
	56	5280	20.011	-	-	-	33.830	-	-	-
	64	5320	17.333	-	-	-	21.770	-	-	-
	100	5500	17.277	-	-	-	21.550	-	-	-
	112	5560	22.300	-	-	-	35.890	-	-	-
	140	5700	17.099	-	-	-	21.390	-	-	-
802.11ac VHT20	36	5180	18.169	-	-	-	21.960	-	-	-
	40	5200	20.522	-	-	-	34.550	-	-	-
	48	5240	19.172	-	-	-	32.710	-	-	-
	52	5260	19.601	-	-	-	33.640	-	-	-
	56	5280	20.034	-	-	-	34.730	-	-	-
	64	5320	18.374	-	-	-	22.440	-	-	-
	100	5500	18.290	-	-	-	21.800	-	-	-
	112	5560	22.474	-	-	-	42.380	-	-	-
	140	5700	18.196	-	-	-	21.870	-	-	-
802.11ac VHT40	38	5190	36.485	-	-	-	40.290	-	-	-
	46	5230	37.763	-	-	-	68.360	-	-	-
	54	5270	44.242	-	-	-	82.650	-	-	-
	62	5310	36.502	-	-	-	40.460	-	-	-
	102	5510	36.394	-	-	-	40.420	-	-	-
	110	5550	50.779	-	-	-	87.880	-	-	-
	134	5670	36.599	-	-	-	43.950	-	-	-
802.11ac VHT80	42	5210	75.665	-	-	-	81.970	-	-	-
	58	5290	75.667	-	-	-	81.910	-	-	-
	106	5530	75.634	-	-	-	82.490	-	-	-
	122	5610	75.899	-	-	-	93.820	-	-	-

Band III_6 dB & 99 % RF Bandwidth Measurement											
Mode	CH	Freq. (MHz)	99 % Bandwidth				6 dB Bandwidth				6dB Limit For FCC
			Ant-0	Ant-1	Ant-2	Ant-3	Ant-0	Ant-1	Ant-2	Ant-3	
			MHz	MHz	MHz	MHz	kHz	kHz	kHz	kHz	kHz
802.11a	149	5745	22.513	-	-	-	16050	-	-	-	≧ 500 kHz
	157	5785	21.755	-	-	-	16040	-	-	-	
	165	5825	21.940	-	-	-	16030	-	-	-	
802.11ac VHT20	149	5745	22.215	-	-	-	17140	-	-	-	
	157	5785	22.844	-	-	-	16890	-	-	-	
	165	5825	22.116	-	-	-	16940	-	-	-	
802.11ac VHT40	151	5755	49.534	-	-	-	35510	-	-	-	
	159	5795	49.487	-	-	-	35750	-	-	-	
802.11ac VHT80	155	5775	77.030	-	-	-	75230	-	-	-	

Power Spectral Density Measurement									
Mode	CH	Frequency (MHz)	Measurement				Duty Factor	Calculated	Limit
			Ant-0	Ant-1	Ant-2	Ant-3		Total	
			dBm/MHz	dBm/MHz	dBm/MHz	dBm/MHz	dB	dBm/MHz	dBm/MHz
802.11a	36	5180	4.500	-	-	-	0.000	4.500	11.000
	40	5200	9.303	-	-	-	0.000	9.303	11.000
	48	5240	8.436	-	-	-	0.000	8.436	11.000
	52	5260	8.958	-	-	-	0.000	8.958	11.000
	56	5280	8.996	-	-	-	0.000	8.996	11.000
	64	5320	5.770	-	-	-	0.000	5.770	11.000
	100	5500	4.468	-	-	-	0.000	4.468	11.000
	112	5560	9.081	-	-	-	0.000	9.081	11.000
	140	5700	1.001	-	-	-	0.000	1.001	11.000
802.11ac VHT20	36	5180	3.354	-	-	-	0.175	3.529	11.000
	40	5200	8.778	-	-	-	0.175	8.953	11.000
	48	5240	7.924	-	-	-	0.175	8.099	11.000
	52	5260	8.470	-	-	-	0.175	8.645	11.000
	56	5280	8.822	-	-	-	0.175	8.997	11.000
	64	5320	5.639	-	-	-	0.175	5.814	11.000
	100	5500	4.474	-	-	-	0.175	4.649	11.000
	112	5560	8.797	-	-	-	0.175	8.972	11.000
	140	5700	1.416	-	-	-	0.175	1.591	11.000
802.11ac VHT40	38	5190	-3.429	-	-	-	0.387	-3.042	11.000
	46	5230	5.087	-	-	-	0.387	5.474	11.000
	54	5270	5.720	-	-	-	0.387	6.107	11.000
	62	5310	-0.886	-	-	-	0.387	-0.499	11.000
	102	5510	-1.586	-	-	-	0.387	-1.199	11.000
	110	5550	6.179	-	-	-	0.387	6.566	11.000
	134	5670	0.453	-	-	-	0.387	0.840	11.000
802.11ac VHT80	42	5210	-8.608	-	-	-	0.787	-7.821	11.000
	58	5290	-5.880	-	-	-	0.787	-5.093	11.000
	106	5530	-8.049	-	-	-	0.787	-7.262	11.000
	122	5610	-1.054	-	-	-	0.787	-0.267	11.000

Note: Power Density = measured result + 10 log (1/duty cycle) + Conversion ratio = measured result + duty factory.

Band III_ Power Spectral Density Measurement														
Mode	CH	Frequency (MHz)	Measurement								Duty Factor	Calculated	Limit	PASS/FAIL
			Ant-0		Ant-1		Ant-2		Ant-3			Total		
			dBm/100 kHz	dBm/500 kHz	dBm/100 kHz	dBm/500 kHz	dBm/100 kHz	dBm/500 kHz	dBm/100 kHz	dBm/500 kHz	dB	dBm/500 kHz	dBm/500 kHz	
802.11a	149	5745	0.161	7.151	-	-	-	-	-	-	0.000	7.151	30.00	PASS
	157	5785	0.013	7.003	-	-	-	-	-	-	0.000	7.003	30.00	PASS
	165	5825	-0.219	6.771	-	-	-	-	-	-	0.000	6.771	30.00	PASS
802.11ac VHT20	149	5745	-0.490	6.500	-	-	-	-	-	-	0.175	6.674	30.00	PASS
	157	5785	-0.750	6.240	-	-	-	-	-	-	0.175	6.414	30.00	PASS
	165	5825	-0.563	6.427	-	-	-	-	-	-	0.175	6.601	30.00	PASS
802.11ac VHT40	151	5755	-3.262	3.728	-	-	-	-	-	-	0.387	4.115	30.00	PASS
	159	5795	-3.363	3.627	-	-	-	-	-	-	0.387	4.014	30.00	PASS
802.11ac VHT80	155	5775	-7.713	-0.723	-	-	-	-	-	-	0.787	0.064	30.00	PASS

Note: Power Density = measured result + 10 log (1/duty cycle) + Conversion ratio = measured result + duty factory.
Conversion ration = 10*Log(500 k/100 k)