

Appendix A. Test Data

Duty cycle						
Band	Frequency (MHz)	on time (ms)	on+off time (ms)	Duty cycle (%)	Duty Factor (dB)	1/T Minimum VBW (kHz)
802.11a	5180	2.100	9.990	21.021	6.773	0.476
802.11n HT20	5180	1.980	10.020	19.760	7.042	0.505
802.11n HT40	5190	0.990	9.960	9.940	10.026	1.010
802.11ac VHT20	5180	1.980	10.020	19.760	7.042	0.505
802.11ac VHT40	5190	0.990	9.960	9.940	10.026	1.010
802.11ac VHT80	5210	0.510	9.990	5.105	12.920	1.961

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	43	-	-	-	Tera Term/4.106
	40	5200	43	-	-	-	
	48	5240	43	-	-	-	
	52	5260	43	-	-	-	
	56	5280	42	-	-	-	
	64	5320	43	-	-	-	
	100	5500	42	-	-	-	
	112	5560	44	-	-	-	
	140	5700	39	-	-	-	
	149	5745	43	-	-	-	
	157	5785	42	-	-	-	
	165	5825	42	-	-	-	
802.11n HT20	36	5180	44	-	-	-	Tera Term/4.106
	40	5200	43	-	-	-	
	48	5240	43	-	-	-	
	52	5260	43	-	-	-	
	56	5280	42	-	-	-	
	64	5320	43	-	-	-	
	100	5500	42	-	-	-	
	112	5560	44	-	-	-	
	140	5700	32	-	-	-	
	149	5745	43	-	-	-	
	157	5785	42	-	-	-	
	165	5825	42	-	-	-	
802.11n HT40	38	5190	35	-	-	-	Tera Term/4.106
	46	5230	40	-	-	-	
	54	5270	39	-	-	-	
	62	5310	36	-	-	-	
	102	5510	35	-	-	-	
	110	5550	41	-	-	-	
	134	5670	37	-	-	-	
	151	5755	39	-	-	-	
	159	5795	39	-	-	-	

Mode	CH	Frequency (MHz)	Ant-0	Ant-1	Ant-2	Ant-3	Test SW Version
802.11ac VHT20	36	5180	44	-	-	-	Tera Term/4.106
	40	5200	43	-	-	-	
	48	5240	43	-	-	-	
	52	5260	43	-	-	-	
	56	5280	42	-	-	-	
	64	5320	43	-	-	-	
	100	5500	42	-	-	-	
	112	5560	44	-	-	-	
	140	5700	32	-	-	-	
	149	5745	43	-	-	-	
	157	5785	42	-	-	-	
	165	5825	42	-	-	-	
802.11ac VHT40	38	5190	35	-	-	-	Tera Term/4.106
	46	5230	40	-	-	-	
	54	5270	39	-	-	-	
	62	5310	36	-	-	-	
	102	5510	35	-	-	-	
	110	5550	41	-	-	-	
	134	5670	37	-	-	-	
	151	5755	39	-	-	-	
	159	5795	39	-	-	-	
802.11ac VHT80	42	5210	34	-	-	-	Tera Term/4.106
	58	5290	33	-	-	-	
	106	5530	32	-	-	-	
	122	5610	38	-	-	-	
	155	5775	38	-	-	-	

Maximum Conducted Output Power Measurement									
Band	Date Rate or Sub-test	CH	Frequency (MHz)	Average power					Limit
				Ant-0	Ant-1	Ant-2	Ant-3	Total	
				dBm	dBm	dBm	dBm	dBm	
802.11a	6M	36	5180	16.52	-	-	-	-	24.00
		40	5200	16.99	-	-	-	-	24.00
		48	5240	16.81	-	-	-	-	24.00
		52	5260	16.93	-	-	-	-	24.00
		56	5280	16.85	-	-	-	-	24.00
		64	5320	16.76	-	-	-	-	24.00
		100	5500	15.91	-	-	-	-	24.00
		112	5560	16.76	-	-	-	-	24.00
		140	5700	15.84	-	-	-	-	24.00
		149	5745	16.97	-	-	-	-	30.00
		157	5785	16.86	-	-	-	-	30.00
		165	5825	16.65	-	-	-	-	30.00
802.11n HT20	6.5M	36	5180	16.93	-	-	-	-	24.00
		40	5200	16.91	-	-	-	-	24.00
		48	5240	16.86	-	-	-	-	24.00
		52	5260	16.90	-	-	-	-	24.00
		56	5280	16.91	-	-	-	-	24.00
		64	5320	16.82	-	-	-	-	24.00
		100	5500	15.80	-	-	-	-	24.00
		112	5560	16.81	-	-	-	-	24.00
		140	5700	12.33	-	-	-	-	24.00
		149	5745	16.94	-	-	-	-	30.00
		157	5785	16.76	-	-	-	-	30.00
		165	5825	16.54	-	-	-	-	30.00
802.11n HT40	13.5M	38	5190	13.34	-	-	-	-	24.00
		46	5230	15.91	-	-	-	-	24.00
		54	5270	15.72	-	-	-	-	24.00
		62	5310	14.27	-	-	-	-	24.00
		102	5510	12.84	-	-	-	-	24.00
		110	5550	15.78	-	-	-	-	24.00
		134	5670	14.19	-	-	-	-	24.00
		151	5755	15.64	-	-	-	-	30.00
		159	5795	15.61	-	-	-	-	30.00

Band	Date Rate or Sub-test	CH	Frequency (MHz)	Average power					Limit
				Ant-0	Ant-1	Ant-2	Ant-3	Total	
				dBm	dBm	dBm	dBm	dBm	dBm
802.11ac VHT20	6.5M	36	5180	16.97	-	-	-	-	24.00
		40	5200	16.98	-	-	-	-	24.00
		48	5240	16.92	-	-	-	-	24.00
		52	5260	16.96	-	-	-	-	24.00
		56	5280	16.95	-	-	-	-	24.00
		64	5320	16.86	-	-	-	-	24.00
		100	5500	15.85	-	-	-	-	24.00
		112	5560	16.84	-	-	-	-	24.00
		140	5700	12.63	-	-	-	-	24.00
		149	5745	16.98	-	-	-	-	30.00
		157	5785	16.83	-	-	-	-	30.00
		165	5825	16.69	-	-	-	-	30.00
802.11ac VHT40	13.5M	38	5190	13.37	-	-	-	-	24.00
		46	5230	15.99	-	-	-	-	24.00
		54	5270	15.82	-	-	-	-	24.00
		62	5310	14.32	-	-	-	-	24.00
		102	5510	12.85	-	-	-	-	24.00
		110	5550	15.89	-	-	-	-	24.00
		134	5670	14.52	-	-	-	-	24.00
		151	5755	15.77	-	-	-	-	30.00
		159	5795	15.73	-	-	-	-	30.00
802.11ac VHT80	29.3M	42	5210	12.86	-	-	-	-	24.00
		58	5290	12.81	-	-	-	-	24.00
		106	5530	11.25	-	-	-	-	24.00
		122	5610	14.90	-	-	-	-	24.00
		155	5775	14.99	-	-	-	-	30.00

26 dB & 99 % RF Bandwidth Measurement

Band	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	16.966	-	-	-	22.190	-	-	-
	40	5200	16.977	-	-	-	23.020	-	-	-
	48	5240	17.034	-	-	-	25.380	-	-	-
	52	5260	16.992	-	-	-	22.850	-	-	-
	56	5280	16.936	-	-	-	23.750	-	-	-
	64	5320	16.985	-	-	-	25.100	-	-	-
	100	5500	16.938	-	-	-	20.990	-	-	-
	112	5560	16.975	-	-	-	21.730	-	-	-
	140	5700	16.837	-	-	-	21.230	-	-	-
802.11ac VHT20	36	5180	17.939	-	-	-	25.970	-	-	-
	40	5200	17.926	-	-	-	25.760	-	-	-
	48	5240	17.949	-	-	-	25.760	-	-	-
	52	5260	17.932	-	-	-	27.200	-	-	-
	56	5280	17.978	-	-	-	25.510	-	-	-
	64	5320	17.871	-	-	-	25.070	-	-	-
	100	5500	17.927	-	-	-	21.440	-	-	-
	112	5560	17.861	-	-	-	24.590	-	-	-
	140	5700	17.735	-	-	-	22.150	-	-	-
802.11ac VHT40	38	5190	36.314	-	-	-	41.460	-	-	-
	46	5230	36.166	-	-	-	42.400	-	-	-
	54	5270	36.236	-	-	-	42.080	-	-	-
	62	5310	36.193	-	-	-	42.500	-	-	-
	102	5510	36.275	-	-	-	42.230	-	-	-
	110	5550	36.183	-	-	-	41.660	-	-	-
	134	5670	36.337	-	-	-	42.240	-	-	-
802.11ac VHT80	42	5210	75.712	-	-	-	80.510	-	-	-
	58	5290	75.758	-	-	-	81.550	-	-	-
	106	5530	75.843	-	-	-	81.210	-	-	-
	122	5610	75.796	-	-	-	82.880	-	-	-

Band III_6 dB & 99 % RF Bandwidth Measurement

Band	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	17.331	-	-	-	16340	-	-	-	≥ 500 kHz
	157	5785	17.298	-	-	-	15710	-	-	-	
	165	5825	17.344	-	-	-	16300	-	-	-	
802.11ac VHT20	149	5745	18.303	-	-	-	16290	-	-	-	
	157	5785	18.200	-	-	-	17280	-	-	-	
	165	5825	18.127	-	-	-	16540	-	-	-	
802.11ac VHT40	151	5755	36.432	-	-	-	34880	-	-	-	
	159	5795	36.299	-	-	-	35130	-	-	-	
802.11ac VHT80	155	5775	75.554	-	-	-	72740	-	-	-	

Power Spectral Density Measurement									
Band	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		dBm/MHz	
802.11a	36	5180	-0.578	-	-	-	6.773	6.195	11.000
	40	5200	-0.795	-	-	-	6.773	5.978	11.000
	48	5240	1.030	-	-	-	6.773	7.803	11.000
	52	5260	-0.288	-	-	-	6.773	6.486	11.000
	56	5280	-3.248	-	-	-	6.773	3.526	11.000
	64	5320	-1.100	-	-	-	6.773	5.674	11.000
	100	5500	-2.086	-	-	-	6.773	4.688	11.000
	112	5560	-0.144	-	-	-	6.773	6.629	11.000
	140	5700	-1.493	-	-	-	6.773	5.281	11.000
802.11ac VHT20	36	5180	0.080	-	-	-	7.042	7.122	11.000
	40	5200	-2.122	-	-	-	7.042	4.920	11.000
	48	5240	-0.392	-	-	-	7.042	6.650	11.000
	52	5260	-0.347	-	-	-	7.042	6.695	11.000
	56	5280	-1.530	-	-	-	7.042	5.512	11.000
	64	5320	-0.197	-	-	-	7.042	6.845	11.000
	100	5500	-1.595	-	-	-	7.042	5.447	11.000
	112	5560	0.323	-	-	-	7.042	7.365	11.000
	140	5700	-4.768	-	-	-	7.042	2.274	11.000
802.11ac VHT40	38	5190	-8.779	-	-	-	10.026	1.248	11.000
	46	5230	-5.179	-	-	-	10.026	4.847	11.000
	54	5270	-6.609	-	-	-	10.026	3.417	11.000
	62	5310	-9.089	-	-	-	10.026	0.937	11.000
	102	5510	-10.831	-	-	-	10.026	-0.805	11.000
	110	5550	-10.019	-	-	-	10.026	0.007	11.000
	134	5670	-7.678	-	-	-	10.026	2.348	11.000
802.11ac VHT80	42	5210	-12.843	-	-	-	12.920	0.077	11.000
	58	5290	-13.197	-	-	-	12.920	-0.277	11.000
	106	5530	-15.607	-	-	-	12.920	-2.687	11.000
	122	5610	-11.911	-	-	-	12.920	1.009	11.000

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

Band III Power Spectral Density Measurement

Band III - Power Spectral Density Measurement													
Band	CH	Frequency (MHz)	Measurement								Duty Factor	Limit	PASS/FAIL
			Ant-0		Ant-1		Ant-2		Ant-3				
			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	
802.11a	149	5745	-8.475	5.288	-	-	-	-	-	-	6.773	30.00	PASS
	157	5785	-10.340	3.423	-	-	-	-	-	-	6.773	30.00	PASS
	165	5825	-10.359	3.405	-	-	-	-	-	-	6.773	30.00	PASS
802.11ac VHT20	149	5745	-10.316	3.715	-	-	-	-	-	-	7.042	30.00	PASS
	157	5785	-10.480	3.552	-	-	-	-	-	-	7.042	30.00	PASS
	165	5825	-10.471	3.561	-	-	-	-	-	-	7.042	30.00	PASS
802.11ac VHT40	151	5755	-15.672	1.344	-	-	-	-	-	-	10.026	30.00	PASS
	159	5795	-17.007	0.009	-	-	-	-	-	-	10.026	30.00	PASS
802.11ac VHT80	155	5775	-18.508	1.402	-	-	-	-	-	-	12.920	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)