

Appendix A. Test Data

Duty cycle						
Mode	Frequency (MHz)	on time (ms)	on+off time (ms)	Duty cycle (%)	Duty Factor (dB)	1/T Minimum VBW (kHz)
802.11a	5180	1.370	1.410	97.163	0.125	0.730
802.11n HT20	5180	1.160	1.200	96.667	0.147	0.862
802.11n HT40	5190	0.579	0.624	92.788	0.325	1.727
802.11ac VHT20	5180	1.165	1.205	96.680	0.147	0.858
802.11ac VHT40	5190	0.582	0.627	92.823	0.323	1.718
802.11ac VHT80	5210	0.291	0.340	85.576	0.676	3.433
802.11ax HE20	5180	1.000	1.045	95.694	0.191	1.000
802.11ax HE40	5190	0.525	0.570	92.105	0.357	1.905
802.11ax HE80	5210	0.284	0.333	85.272	0.692	3.525

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	15	-	-	-	AX Series MP Toolkit_v2.0.41
	40	5200	15	-	-	-	
	48	5240	13.5	-	-	-	
	52	5260	14.5	-	-	-	
	56	5280	14	-	-	-	
	64	5320	14.5	-	-	-	
	100	5500	11.5	-	-	-	
	112	5560	11.5	-	-	-	
	140	5700	12	-	-	-	
	149	5745	11.5	-	-	-	
	157	5785	11.5	-	-	-	
802.11n HT20	36	5180	15	-	-	-	AX Series MP Toolkit_v2.0.41
	40	5200	15	-	-	-	
	48	5240	15	-	-	-	
	52	5260	15	-	-	-	
	56	5280	14.5	-	-	-	
	64	5320	14.5	-	-	-	
	100	5500	11.5	-	-	-	
	112	5560	12	-	-	-	
	140	5700	12	-	-	-	
	149	5745	11.5	-	-	-	
	157	5785	12.5	-	-	-	
802.11n HT40	38	5190	15	-	-	-	AX Series MP Toolkit_v2.0.41
	46	5230	14.5	-	-	-	
	54	5270	14.5	-	-	-	
	62	5310	14	-	-	-	
	102	5510	12	-	-	-	
	110	5550	11.5	-	-	-	
	134	5670	12.5	-	-	-	
	151	5755	12.5	-	-	-	
	159	5795	12	-	-	-	

RF power setting in Test SW

Mode	CH	Frequency (MHz)	Ant-0	Ant-1	Ant-2	Ant-3	Test SW Version
802.11ac VHT20	36	5180	15	-	-	-	AX Series MP Toolkit_v2.0.41
	40	5200	15	-	-	-	
	48	5240	15	-	-	-	
	52	5260	15	-	-	-	
	56	5280	14.5	-	-	-	
	64	5320	14.5	-	-	-	
	100	5500	11.5	-	-	-	
	112	5560	12	-	-	-	
	140	5700	12	-	-	-	
	149	5745	11.5	-	-	-	
	157	5785	12.5	-	-	-	
802.11ac VHT40	165	5825	12.5	-	-	-	AX Series MP Toolkit_v2.0.41
	38	5190	15	-	-	-	
	46	5230	14.5	-	-	-	
	54	5270	14.5	-	-	-	
	62	5310	14	-	-	-	
	102	5510	12	-	-	-	
	110	5550	11.5	-	-	-	
	134	5670	12.5	-	-	-	
	151	5755	12.5	-	-	-	
159	5795	12	-	-	-		
802.11ac VHT80	42	5210	14.5	-	-	-	AX Series MP Toolkit_v2.0.41
	58	5290	14	-	-	-	
	106	5530	12	-	-	-	
	122	5610	12	-	-	-	
	155	5775	12.5	-	-	-	

RF power setting in Test SW

Mode	CH	Frequency (MHz)	Ant-0	Ant-1	Ant-2	Ant-3	Test SW Version
802.11ax HE20	36	5180	15	-	-	-	AX Series MP Toolkit_v2.0.41
	40	5200	15	-	-	-	
	48	5240	15	-	-	-	
	52	5260	15	-	-	-	
	56	5280	14.5	-	-	-	
	64	5320	14.5	-	-	-	
	100	5500	11.5	-	-	-	
	112	5560	12	-	-	-	
	140	5700	12	-	-	-	
	149	5745	11.5	-	-	-	
	157	5785	12.5	-	-	-	
802.11ax HE40	165	5825	12.5	-	-	-	AX Series MP Toolkit_v2.0.41
	38	5190	15	-	-	-	
	46	5230	14.5	-	-	-	
	54	5270	14.5	-	-	-	
	62	5310	14	-	-	-	
	102	5510	12	-	-	-	
	110	5550	11.5	-	-	-	
	134	5670	12.5	-	-	-	
	151	5755	12.5	-	-	-	
159	5795	12	-	-	-		
802.11ax HE80	42	5210	14.5	-	-	-	AX Series MP Toolkit_v2.0.41
	58	5290	14	-	-	-	
	106	5530	12	-	-	-	
	122	5610	12	-	-	-	
	155	5775	12.5	-	-	-	

Maximum Conducted Output Power Measurement							
Mode	CH	Frequency (MHz)	Average power				Limit
			Ant-0	Ant-1	Ant-2	Ant-3	
			dBm	dBm	dBm	dBm	dBm
802.11a	36	5180	15.19	-	-	-	24.00
	40	5200	15.38	-	-	-	24.00
	48	5240	15.00	-	-	-	24.00
	52	5260	15.16	-	-	-	23.68
	56	5280	15.14	-	-	-	23.68
	64	5320	15.27	-	-	-	23.68
	100	5500	14.27	-	-	-	23.70
	112	5560	14.31	-	-	-	23.70
	140	5700	14.08	-	-	-	23.70
	149	5745	14.14	-	-	-	30.00
	157	5785	14.21	-	-	-	30.00
	165	5825	14.12	-	-	-	30.00
802.11n HT20	36	5180	15.18	-	-	-	24.00
	40	5200	14.92	-	-	-	24.00
	48	5240	15.08	-	-	-	24.00
	52	5260	15.07	-	-	-	24.00
	56	5280	14.75	-	-	-	24.00
	64	5320	14.96	-	-	-	24.00
	100	5500	13.82	-	-	-	24.00
	112	5560	13.87	-	-	-	24.00
	140	5700	13.96	-	-	-	24.00
	149	5745	13.72	-	-	-	30.00
	157	5785	14.09	-	-	-	30.00
	165	5825	14.01	-	-	-	30.00
802.11n HT40	38	5190	15.12	-	-	-	24.00
	46	5230	14.94	-	-	-	24.00
	54	5270	15.23	-	-	-	24.00
	62	5310	15.08	-	-	-	24.00
	102	5510	13.99	-	-	-	24.00
	110	5550	13.85	-	-	-	24.00
	134	5670	13.80	-	-	-	24.00
	151	5755	14.20	-	-	-	30.00
159	5795	13.97	-	-	-	30.00	

Maximum Conducted Output Power Measurement							
Mode	CH	Frequency (MHz)	Average power				Limit
			Ant-0	Ant-1	Ant-2	Ant-3	
			dBm	dBm	dBm	dBm	dBm
802.11ac VHT20	36	5180	15.27	-	-	-	24.00
	40	5200	15.05	-	-	-	24.00
	48	5240	15.15	-	-	-	24.00
	52	5260	15.09	-	-	-	24.00
	56	5280	14.86	-	-	-	24.00
	64	5320	14.99	-	-	-	24.00
	100	5500	13.95	-	-	-	24.00
	112	5560	13.91	-	-	-	24.00
	140	5700	13.99	-	-	-	24.00
	149	5745	13.74	-	-	-	30.00
	157	5785	14.14	-	-	-	30.00
165	5825	14.04	-	-	-	30.00	
802.11ac VHT40	38	5190	15.12	-	-	-	24.00
	46	5230	14.99	-	-	-	24.00
	54	5270	15.30	-	-	-	24.00
	62	5310	15.09	-	-	-	24.00
	102	5510	14.05	-	-	-	24.00
	110	5550	14.02	-	-	-	24.00
	134	5670	13.88	-	-	-	24.00
	151	5755	14.20	-	-	-	30.00
159	5795	14.05	-	-	-	30.00	
802.11ac VHT80	42	5210	15.09	-	-	-	24.00
	58	5290	15.43	-	-	-	24.00
	106	5530	14.42	-	-	-	24.00
	122	5610	14.28	-	-	-	24.00
	155	5775	14.38	-	-	-	30.00

Maximum Conducted Output Power Measurement							
Mode	CH	Frequency (MHz)	Average power				Limit
			Ant-0	Ant-1	Ant-2	Ant-3	
			dBm	dBm	dBm	dBm	dBm
802.11ax HE20	36	5180	15.36	-	-	-	24.00
	40	5200	15.20	-	-	-	24.00
	48	5240	15.28	-	-	-	24.00
	52	5260	15.33	-	-	-	24.00
	56	5280	15.06	-	-	-	24.00
	64	5320	15.23	-	-	-	24.00
	100	5500	14.05	-	-	-	24.00
	112	5560	14.20	-	-	-	24.00
	140	5700	14.16	-	-	-	24.00
	149	5745	13.96	-	-	-	30.00
	157	5785	14.29	-	-	-	30.00
165	5825	14.30	-	-	-	30.00	
802.11ax HE40	38	5190	15.17	-	-	-	24.00
	46	5230	15.30	-	-	-	24.00
	54	5270	15.37	-	-	-	24.00
	62	5310	15.30	-	-	-	24.00
	102	5510	14.29	-	-	-	24.00
	110	5550	14.13	-	-	-	24.00
	134	5670	14.15	-	-	-	24.00
	151	5755	14.37	-	-	-	30.00
159	5795	14.23	-	-	-	30.00	
802.11ax HE80	42	5210	15.16	-	-	-	24.00
	58	5290	15.27	-	-	-	24.00
	106	5530	14.43	-	-	-	24.00
	122	5610	14.30	-	-	-	24.00
	155	5775	14.30	-	-	-	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	16.280	-	-	-	18.550	-	-	-
	40	5200	16.282	-	-	-	18.670	-	-	-
	48	5240	16.281	-	-	-	18.550	-	-	-
	52	5260	16.283	-	-	-	18.520	-	-	-
	56	5280	16.276	-	-	-	18.620	-	-	-
	64	5320	16.281	-	-	-	18.640	-	-	-
	100	5500	16.280	-	-	-	18.600	-	-	-
	112	5560	16.274	-	-	-	18.630	-	-	-
802.11ax HE20	36	5180	18.681	-	-	-	20.320	-	-	-
	40	5200	18.655	-	-	-	20.300	-	-	-
	48	5240	18.687	-	-	-	20.290	-	-	-
	52	5260	18.696	-	-	-	20.240	-	-	-
	56	5280	18.676	-	-	-	20.260	-	-	-
	64	5320	18.687	-	-	-	20.300	-	-	-
	100	5500	18.676	-	-	-	20.230	-	-	-
	112	5560	18.707	-	-	-	20.280	-	-	-
802.11ax HE40	38	5190	37.308	-	-	-	40.240	-	-	-
	46	5230	37.298	-	-	-	40.120	-	-	-
	54	5270	37.339	-	-	-	40.140	-	-	-
	62	5310	37.305	-	-	-	40.070	-	-	-
	102	5510	37.382	-	-	-	40.150	-	-	-
	110	5550	37.287	-	-	-	40.090	-	-	-
	134	5670	37.349	-	-	-	40.110	-	-	-
802.11ax HE80	42	5210	76.548	-	-	-	81.140	-	-	-
	58	5290	76.518	-	-	-	81.080	-	-	-
	106	5530	76.375	-	-	-	81.110	-	-	-
	122	5610	76.493	-	-	-	81.090	-	-	-

Band III_6 dB & 99 % RF Bandwidth Measurement

Mode	CH	Freq. (MHz)	99 % Bandwidth				6 dB Bandwidth				6dB Limit
			Ant-0	Ant-1	Ant-2	Ant-3	Ant-0	Ant-1	Ant-2	Ant-3	
			MHz	MHz	MHz	MHz	kHz	kHz	kHz	kHz	
802.11a	149	5745	16.370	-	-	-	15110	-	-	-	≥ 500 kHz
	157	5785	16.376	-	-	-	15130	-	-	-	
	165	5825	16.374	-	-	-	15130	-	-	-	
802.11ax HE20	149	5745	18.633	-	-	-	15120	-	-	-	
	157	5785	18.651	-	-	-	15140	-	-	-	
	165	5825	18.619	-	-	-	15120	-	-	-	
802.11ax HE40	151	5755	37.381	-	-	-	35120	-	-	-	
	159	5795	37.374	-	-	-	35120	-	-	-	
802.11ax HE80	155	5775	76.563	-	-	-	75130	-	-	-	

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	4.781	-	-	-	0.125	4.906	11.000
	40	5200	4.727	-	-	-	0.125	4.852	11.000
	48	5240	3.748	-	-	-	0.125	3.873	11.000
	52	5260	4.602	-	-	-	0.125	4.727	11.000
	56	5280	4.601	-	-	-	0.125	4.726	11.000
	64	5320	4.817	-	-	-	0.125	4.942	11.000
	100	5500	3.377	-	-	-	0.125	3.502	11.000
	112	5560	3.800	-	-	-	0.125	3.925	11.000
	140	5700	2.817	-	-	-	0.125	2.942	11.000
802.11ax HE20	36	5180	4.322	-	-	-	0.191	4.513	11.000
	40	5200	4.184	-	-	-	0.191	4.375	11.000
	48	5240	4.654	-	-	-	0.191	4.845	11.000
	52	5260	4.744	-	-	-	0.191	4.935	11.000
	56	5280	4.444	-	-	-	0.191	4.636	11.000
	64	5320	4.102	-	-	-	0.191	4.293	11.000
	100	5500	2.940	-	-	-	0.191	3.132	11.000
	112	5560	3.802	-	-	-	0.191	3.993	11.000
	140	5700	2.573	-	-	-	0.191	2.765	11.000
802.11ax HE40	38	5190	1.553	-	-	-	0.357	1.910	11.000
	46	5230	1.182	-	-	-	0.357	1.539	11.000
	54	5270	1.564	-	-	-	0.357	1.921	11.000
	62	5310	1.335	-	-	-	0.357	1.693	11.000
	102	5510	0.317	-	-	-	0.357	0.674	11.000
	110	5550	0.071	-	-	-	0.357	0.428	11.000
	134	5670	-0.002	-	-	-	0.357	0.355	11.000
802.11ax HE80	42	5210	-2.078	-	-	-	0.692	-1.386	11.000
	58	5290	-2.030	-	-	-	0.692	-1.338	11.000
	106	5530	-2.094	-	-	-	0.692	-1.402	11.000
	122	5610	-2.714	-	-	-	0.692	-2.022	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	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			
802.11a	149	5745	-5.321	1.794	-	-	-	-	-	-	0.125	30.00	PASS
	157	5785	-5.338	1.776	-	-	-	-	-	-	0.125	30.00	PASS
	165	5825	-6.121	0.994	-	-	-	-	-	-	0.125	30.00	PASS
802.11ax HE20	149	5745	-6.860	0.320	-	-	-	-	-	-	0.191	30.00	PASS
	157	5785	-5.958	1.223	-	-	-	-	-	-	0.191	30.00	PASS
	165	5825	-6.572	0.609	-	-	-	-	-	-	0.191	30.00	PASS
802.11ax HE40	151	5755	-8.666	-1.319	-	-	-	-	-	-	0.357	30.00	PASS
	159	5795	-9.364	-2.017	-	-	-	-	-	-	0.357	30.00	PASS
802.11ax HE80	155	5775	-11.887	-4.205	-	-	-	-	-	-	0.692	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)