

Appendix A. Test Data

Duty cycle						
Band	Frequency (MHz)	on time (ms)	on+off time (ms)	Duty cycle (%)	Duty Factor (dB)	1/T Minimun VBW (kHz)
802.11a	5180	1.420	2.010	70.647	1.509	0.704
802.11ax HE20	5180	0.552	1.184	46.622	3.314	1.812
802.11ax HE40	5190	0.072	0.089	80.899	0.921	13.889
802.11ax HE80	5210	0.046	0.063	73.016	1.366	21.739

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		13	13	-	-	adb
	40	5200		18	18	-	-	
	44	5220		18	18	-	-	
	48	5240		18	18	-	-	
	149	5745		20	20	-	-	
	157	5785		20	20	-	-	
	165	5825		20	20	-	-	
802.11n HT20	36	5180		13	13	-	-	adb
	40	5200		18.5	18.5	-	-	
	44	5220		18.5	18.5	-	-	
	48	5240		18.5	18.5	-	-	
	149	5745		19.5	19.5	-	-	
	157	5785		20	20	-	-	
	165	5825		20	20	-	-	
802.11n HT40	38	5190		13	13	-	-	adb
	46	5230		17	17	-	-	
	151	5755		19.5	19.5	-	-	
	159	5795		19.5	19.5	-	-	
802.11ac VHT20	36	5180		13	13	-	-	adb
	40	5200		18.5	18.5	-	-	
	44	5220		18.5	18.5	-	-	
	48	5240		18.5	18.5	-	-	
	149	5745		19.5	19.5	-	-	
	157	5785		20	20	-	-	
	165	5825		20	20	-	-	
802.11ac VHT40	38	5190		13	13	-	-	adb
	46	5230		17	17	-	-	
	151	5755		19.5	19.5	-	-	
	159	5795		19.5	19.5	-	-	
802.11ac VHT80	42	5210		11	11	-	-	adb
	155	5775		17.5	17.5	-	-	
Mode	CH	Frequency (MHz)		Ant-0	Ant-1	Ant-2	Ant-3	Test SW Version
802.11ax HE20	36	5180	Full	13	13	-	-	adb
	40	5200	Full	18.5	18.5	-	-	
	44	5220	Full	18.5	18.5	-	-	
	48	5240	Full	18.5	18.5	-	-	
	149	5745	Full	19.5	19.5	-	-	
	157	5785	Full	20	20	-	-	
	165	5825	Full	20	20	-	-	
802.11ax HE40	38	5190	Full	13	13	-	-	adb
	46	5230	Full	17	17	-	-	
	151	5755	Full	19.5	19.5	-	-	
	159	5795	Full	19.5	19.5	-	-	
802.11ax HE80	42	5210	Full	11	11	-	-	adb
	155	5775	Full	17.5	17.5	-	-	

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	12.81	12.54	-	-	15.69	24.00	
		40	5200	17.65	17.53	-	-	20.60	24.00	
		48	5240	17.56	17.48	-	-	20.53	24.00	
		149	5745	16.99	18.52	-	-	20.83	30.00	
		157	5785	16.62	18.34	-	-	20.57	30.00	
		165	5825	16.52	18.30	-	-	20.51	30.00	
802.11n HT20	13M	36	5180	11.84	11.65	-	-	14.76	24.00	
		40	5200	16.94	16.60	-	-	19.78	24.00	
		48	5240	16.79	16.47	-	-	19.64	24.00	
		149	5745	15.69	17.15	-	-	19.49	30.00	
		157	5785	15.81	17.30	-	-	19.63	30.00	
		165	5825	15.60	16.95	-	-	19.34	30.00	
802.11n HT40	27M	38	5190	11.79	11.70	-	-	14.76	24.00	
		46	5230	15.86	15.50	-	-	18.69	24.00	
		151	5755	15.41	17.47	-	-	19.57	30.00	
		159	5795	15.70	17.56	-	-	19.74	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		
802.11ac VHT20	13M	36	5180	11.95	11.88	-	-	14.93	24.00	
		40	5200	17.05	16.75	-	-	19.91	24.00	
		48	5240	16.89	16.57	-	-	19.74	24.00	
		149	5745	15.77	17.17	-	-	19.54	30.00	
		157	5785	15.89	17.33	-	-	19.68	30.00	
		165	5825	15.75	17.18	-	-	19.53	30.00	
802.11ac VHT40	27M	38	5190	11.91	11.85	-	-	14.89	24.00	
		46	5230	16.03	15.65	-	-	18.85	24.00	
		151	5755	15.56	17.55	-	-	19.68	30.00	
		159	5795	15.70	17.67	-	-	19.81	30.00	
802.11ac VHT80	58.6M	42	5210	9.96	9.24	-	-	12.63	24.00	
		155	5775	13.86	15.22	-	-	17.60	30.00	
Band	Date Rate or Sub-test	CH	Freq. (MHz)	RU	Average power					Limit
					Ant-0	Ant-1	Ant-2	Ant-3	Total	
					dBm	dBm	dBm	dBm	dBm	
802.11ax HE20	MCS 0	36	5180	Full	12.02	11.91	-	-	14.98	24.00
		40	5200	Full	17.13	16.81	-	-	19.98	24.00
		48	5240	Full	17.02	16.63	-	-	19.84	24.00
		149	5745	Full	15.85	17.23	-	-	19.60	30.00
		157	5785	Full	16.00	17.44	-	-	19.79	30.00
		165	5825	Full	15.81	17.24	-	-	19.59	30.00
802.11ax HE40	MCS0	38	5190	Full	11.96	11.87	-	-	14.93	24.00
		46	5230	Full	16.06	15.68	-	-	18.88	24.00
		151	5755	Full	15.61	17.68	-	-	19.78	30.00
		159	5795	Full	15.77	17.76	-	-	19.89	30.00
802.11ax HE80	MCS 0	42	5210	Full	10.11	9.39	-	-	12.78	24.00
		155	5775	Full	13.87	15.26	-	-	17.63	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	17.858	17.312	-	-	27.470	25.580	-	-
	40	5200	18.397	17.678	-	-	29.060	30.300	-	-
	48	5240	17.419	17.168	-	-	34.050	29.540	-	-
802.11ax HE20	36	5180	19.110	19.110	-	-	26.660	24.340	-	-
	40	5200	19.248	19.145	-	-	27.710	29.010	-	-
	48	5240	19.015	18.965	-	-	21.140	20.900	-	-
802.11ax HE40	38	5190	37.736	37.705	-	-	42.820	43.060	-	-
	46	5230	37.847	38.277	-	-	44.900	63.550	-	-
802.11ax HE80	42	5210	76.748	77.009	-	-	85.340	85.200	-	-

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	
802.11a	149	5745	20.992	21.038	-	-	16020	16030.000	-	-	≥ 500 kHz
	157	5785	21.455	21.717	-	-	15730	16330.000	-	-	
	165	5825	21.756	22.421	-	-	16300	16090.000	-	-	
802.11ax HE20	149	5745	19.529	19.323	-	-	18750	18830	-	-	
	157	5785	19.558	19.497	-	-	18360	18700	-	-	
	165	5825	19.469	19.445	-	-	18760	18820	-	-	
802.11ax HE40	151	5755	38.363	38.674	-	-	35120	35100	-	-	
	159	5795	38.456	39.137	-	-	35120	35110	-	-	
802.11ax HE80	155	5775	77.066	77.134	-	-	75150	75130	-	-	

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	dB	dBm/MHz	dBm/MHz
802.11a	36	5180	0.029	-0.091	-	-	1.509	4.489	11.000
	40	5200	5.692	4.109	-	-	1.509	9.492	11.000
	48	5240	5.860	4.869	-	-	1.509	9.912	11.000
802.11ax HE20	36	5180	-2.278	0.881	-	-	3.314	5.907	11.000
	40	5200	3.102	2.717	-	-	3.314	9.238	11.000
	48	5240	3.466	2.997	-	-	3.314	9.562	11.000
802.11ax HE40	38	5190	-3.794	-3.627	-	-	0.921	0.221	11.000
	46	5230	0.196	0.020	-	-	0.921	4.040	11.000
802.11ax HE80	42	5210	-9.465	-9.736	-	-	1.366	-5.222	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	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	-4.792	3.707	-3.351	5.148	-	-	-	-	1.509	7.497	30.00	PASS
	157	5785	-5.297	3.202	-3.865	4.634	-	-	-	-	1.509	6.987	30.00	PASS
	165	5825	-4.875	3.624	-3.141	5.358	-	-	-	-	1.509	7.587	30.00	PASS
802.11ax HE20	149	5745	-8.615	1.689	-6.876	3.428	-	-	-	-	3.314	5.655	30.00	PASS
	157	5785	-7.717	2.587	-5.974	4.330	-	-	-	-	3.314	6.555	30.00	PASS
	165	5825	-7.409	2.895	-6.118	4.186	-	-	-	-	3.314	6.598	30.00	PASS
802.11ax HE40	151	5755	-6.960	0.950	-4.114	3.796	-	-	-	-	0.921	5.613	30.00	PASS
	159	5795	-6.890	1.020	-3.655	4.255	-	-	-	-	0.921	5.943	30.00	PASS
802.11ax HE80	155	5775	-11.166	-2.810	-8.739	-0.383	-	-	-	-	1.366	1.581	30.00	PASS

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