

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)
802.11b	2412	1.030	1.083	95.106	0.218	0.971
802.11g	2412	0.840	0.888	94.595	0.241	1.190
802.11ax HE20	2412	0.795	0.845	94.014	0.268	1.258
802.11ax HE40	2422	0.795	0.843	94.304	0.255	1.258

2.4 GHz Band (Beamforming off)								
Mod.	Freq. (MHz)		Data Rate	RF power setting in Test SW				Test SW Version
				Ant-0	Ant-1	Ant-2	Ant-3	
802.11b	2412		1M	21.00	21.00	21.00	21.00	QA tool/0.0.2.88
802.11b	2437		1M	21.50	21.50	21.50	21.50	
802.11b	2462		1M	22.50	22.50	22.50	22.50	
802.11g	2412		6M	18.00	18.00	18.00	18.00	
802.11g	2437		6M	18.00	18.00	18.00	18.00	
802.11g	2462		6M	19.50	19.50	19.50	19.50	
802.11n HT20	2412		26M	16.00	16.00	16.00	16.00	
802.11n HT20	2437		26M	17.50	17.50	17.50	17.50	
802.11n HT20	2462		26M	15.50	15.50	15.50	15.50	
802.11n HT40	2422		54M	13.00	13.00	13.00	13.00	
802.11n HT40	2437		54M	18.00	18.00	18.00	18.00	
802.11n HT40	2452		54M	14.50	14.50	14.50	14.50	
802.11n VHT20	2412		26M	16.00	16.00	16.00	16.00	
802.11n VHT20	2437		26M	17.50	17.50	17.50	17.50	
802.11n VHT20	2462		26M	15.50	15.50	15.50	15.50	
802.11n VHT40	2422		54M	13.00	13.00	13.00	13.00	
802.11n VHT40	2437		54M	17.50	17.50	17.50	17.50	
802.11n VHT40	2452		54M	14.50	14.50	14.50	14.50	
802.11ax HE20	2412	Full	MCS0	16.00	16.00	16.00	16.00	
802.11ax HE20	2437	Full	MCS0	17.50	17.50	17.50	17.50	
802.11ax HE20	2462	Full	MCS0	15.50	15.50	15.50	15.50	
802.11ax HE40	2422	Full	MCS0	13.00	13.00	13.00	13.00	
802.11ax HE40	2437	Full	MCS0	18.00	18.00	18.00	18.00	
802.11ax HE40	2452	Full	MCS0	14.50	14.50	14.50	14.50	

2.4 GHz Band (Beamforming off)													
Mod.	CH	Freq. (MHz)	Data Rate	Avg Conducted Power (dBm)					Conducted Power Limit (dBm)				
				Ant-0	Ant-1	Ant-2	Ant-3	SUM	Ant-0	Ant-1	Ant-2	Ant-3	SUM
802.11b	1	2412	1M	22.01	21.72	21.81	21.85	-	30.00	30.00	30.00	30.00	-
802.11b	6	2437	1M	23.13	22.47	23.05	22.65	-	30.00	30.00	30.00	30.00	-
802.11b	11	2462	1M	24.41	23.38	24.18	24.00	-	30.00	30.00	30.00	30.00	-
802.11g	1	2412	6M	19.70	19.07	19.26	19.64	-	30.00	30.00	30.00	30.00	-
802.11g	6	2437	6M	19.68	19.39	19.55	19.54	-	30.00	30.00	30.00	30.00	-
802.11g	11	2462	6M	20.78	20.31	20.72	20.60	-	30.00	30.00	30.00	30.00	-
802.11n HT20	1	2412	26M	16.54	16.64	17.23	17.78	23.10	26.81	26.81	26.81	26.81	26.81
802.11n HT20	6	2437	26M	20.33	20.12	20.52	20.85	26.49	26.81	26.81	26.81	26.81	26.81
802.11n HT20	11	2462	26M	17.06	16.57	17.03	17.19	22.99	26.81	26.81	26.81	26.81	26.81
802.11n HT40	3	2422	54M	14.28	13.72	14.01	14.46	20.15	26.81	26.81	26.81	26.81	26.81
802.11n HT40	6	2437	54M	20.49	20.28	20.64	20.85	26.59	26.81	26.81	26.81	26.81	26.81
802.11n HT40	9	2452	54M	15.68	15.36	15.30	15.25	21.42	26.81	26.81	26.81	26.81	26.81
802.11n VHT20	1	2412	26M	17.28	17.37	17.63	18.14	23.64	26.81	26.81	26.81	26.81	26.81
802.11n VHT20	6	2437	26M	20.00	19.85	20.17	20.53	26.16	26.81	26.81	26.81	26.81	26.81
802.11n VHT20	11	2462	26M	16.96	16.78	17.52	17.56	23.24	26.81	26.81	26.81	26.81	26.81
802.11n VHT40	3	2422	54M	14.94	14.60	14.30	14.20	20.54	26.81	26.81	26.81	26.81	26.81
802.11n VHT40	6	2437	54M	20.21	20.06	20.41	20.67	26.36	26.81	26.81	26.81	26.81	26.81
802.11n VHT40	9	2452	54M	16.46	15.75	16.36	15.65	22.09	26.81	26.81	26.81	26.81	26.81

Mod.	CH	Freq. (MHz)	RU	Data Rate	Avg Conducted Power (dBm)					Conducted Power Limit (dBm)				
					Ant-0	Ant-1	Ant-2	Ant-3	SUM	Ant-0	Ant-1	Ant-2	Ant-3	SUM
802.11ax HE20	1	2412	Full	MCS0	17.30	17.08	17.88	18.32	23.69	26.81	26.81	26.81	26.81	26.81
802.11ax HE20	6	2437	Full	MCS0	20.35	20.19	20.57	20.87	26.52	26.81	26.81	26.81	26.81	26.81
802.11ax HE20	11	2462	Full	MCS0	17.20	16.78	17.58	17.61	23.33	26.81	26.81	26.81	26.81	26.81
802.11ax HE40	3	2422	Full	MCS0	14.82	14.18	14.40	14.75	20.56	26.81	26.81	26.81	26.81	26.81
802.11ax HE40	6	2437	Full	MCS0	20.49	20.28	20.64	20.90	26.60	26.81	26.81	26.81	26.81	26.81
802.11ax HE40	9	2452	Full	MCS0	16.42	15.60	16.26	16.20	22.15	26.81	26.81	26.81	26.81	26.81

6 dB Bandwidth						
Mod.	Freq. (MHz)	6 dB Bandwidth (kHz)				6 dB Bandwidth Min.Limit (kHz)
		Ant-0	Ant-1	Ant-2	Ant-3	
802.11b	2412	8075	-	-	-	≥ 500
802.11b	2437	8069	-	-	-	≥ 500
802.11b	2462	8054	-	-	-	≥ 500
802.11g	2412	15160	-	-	-	≥ 500
802.11g	2437	15160	-	-	-	≥ 500
802.11g	2462	15160	-	-	-	≥ 500
802.11ax HE20	2412	17000	15840	16670	17250	≥ 500
802.11ax HE20	2437	16800	15600	15560	15160	≥ 500
802.11ax HE20	2462	18170	15140	15860	16270	≥ 500
802.11ax HE40	2422	36360	35120	35140	35140	≥ 500
802.11ax HE40	2437	35650	35140	35170	35830	≥ 500
802.11ax HE40	2452	35900	35340	35150	35130	≥ 500

99 % Occupied BW					
Mod.	Freq. (MHz)	99 % Occupied BW (MHz)			
		Ant-0	Ant-1	Ant-2	Ant-3
802.11b	2412	12.411	-	-	-
802.11b	2437	12.429	-	-	-
802.11b	2462	12.417	-	-	-
802.11g	2412	16.621	-	-	-
802.11g	2437	16.482	-	-	-
802.11g	2462	16.463	-	-	-
802.11ax HE20	2412	18.700	18.706	18.733	18.744
802.11ax HE20	2437	18.850	18.816	18.856	18.846
802.11ax HE20	2462	18.822	18.817	18.809	18.854
802.11ax HE40	2422	37.576	37.524	37.568	37.503
802.11ax HE40	2437	37.607	37.614	37.598	37.554
802.11ax HE40	2452	37.566	37.564	37.531	37.631

Maximum Power Spectral Density Measurement											
Mod.	Freq. (MHz)	Measurement (dBm/3 kHz)					Max.Limit (dBm/ 3 kHz)				
		Ant-0	Ant-1	Ant-2	Ant-3	SUM	Ant-0	Ant-1	Ant-2	Ant-3	SUM
802.11b	2412	-0.58	-	-	-		8.00	-	-	-	-
802.11b	2437	0.21	-	-	-		8.00	-	-	-	-
802.11b	2462	0.17	-	-	-		8.00	-	-	-	-
802.11g	2412	-4.23	-	-	-		8.00	-	-	-	-
802.11g	2437	-4.80	-	-	-		8.00	-	-	-	-
802.11g	2462	-3.55	-	-	-		8.00	-	-	-	-
802.11ax HE20	2412	-7.76	-8.65	-7.95	-8.26	-2.12	8.00	8.00	8.00	8.00	4.81
802.11ax HE20	2437	-6.88	-5.96	-5.10	-6.21	0.03	8.00	8.00	8.00	8.00	4.81
802.11ax HE20	2462	-8.71	-8.67	-7.03	-7.36	-1.86	8.00	8.00	8.00	8.00	4.81
802.11ax HE40	2422	-13.39	-13.86	-12.95	-12.42	-7.10	8.00	8.00	8.00	8.00	4.81
802.11ax HE40	2437	-8.09	-8.59	-7.68	-7.91	-2.03	8.00	8.00	8.00	8.00	4.81
802.11ax HE40	2452	-12.55	-11.37	-11.48	-11.90	-5.78	8.00	8.00	8.00	8.00	4.81

Duty cycle (Beamforming on)						
Band	Frequency (MHz)	On time (ms)	On+off time (ms)	Duty cycle (%)	Duty Factor (dB)	1/T Minimun VBW (kHz)
802.11ax HE20	2412	0.795	0.840	94.643	0.239	1.258
802.11ax HE40	2422	0.800	0.845	94.675	0.238	1.250

2.4 GHz Band (Beamforming on)

Mod.	Freq. (MHz)		Data Rate	RF power setting in Test SW				Test SW Version
				Ant-0	Ant-1	Ant-2	Ant-3	
802.11n HT20	2412		26M	33.00	33.00	33.00	33.00	QA tool/0.0.2.88
802.11n HT20	2437		26M	38.00	38.00	38.00	38.00	
802.11n HT20	2462		26M	31.00	31.00	31.00	31.00	
802.11n HT40	2422		54M	27.00	27.00	27.00	27.00	
802.11n HT40	2437		54M	39.00	39.00	39.00	39.00	
802.11n HT40	2452		54M	29.00	29.00	29.00	29.00	
802.11n VHT20	2412		26M	33.00	33.00	33.00	33.00	
802.11n VHT20	2437		26M	35.00	35.00	35.00	35.00	
802.11n VHT20	2462		26M	32.00	32.00	32.00	32.00	
802.11n VHT40	2422		54M	27.00	27.00	27.00	27.00	
802.11n VHT40	2437		54M	34.00	34.00	34.00	34.00	
802.11n VHT40	2452		54M	29.00	29.00	29.00	29.00	
802.11ax HE20	2412	Full	MCS0	32.00	32.00	32.00	32.00	
802.11ax HE20	2437	Full	MCS0	38.00	38.00	38.00	38.00	
802.11ax HE20	2462	Full	MCS0	32.00	32.00	32.00	32.00	
802.11ax HE40	2422	Full	MCS0	27.00	27.00	27.00	27.00	
802.11ax HE40	2437	Full	MCS0	39.00	39.00	39.00	39.00	
802.11ax HE40	2452	Full	MCS0	29.00	29.00	29.00	29.00	

2.4 GHz Band (Beamforming on)

Mod.	CH	Freq. (MHz)	Data Rate	Avg Conducted Power (dBm)					Conducted Power Limit (dBm)				
				Ant-0	Ant-1	Ant-2	Ant-3	SUM	Ant-0	Ant-1	Ant-2	Ant-3	SUM
802.11n HT20	1	2412	26M	16.03	16.22	16.70	17.37	22.63	26.81	26.81	26.81	26.81	26.81
802.11n HT20	6	2437	26M	20.11	19.80	20.22	20.36	26.15	26.81	26.81	26.81	26.81	26.81
802.11n HT20	11	2462	26M	16.60	16.04	16.76	16.86	22.60	26.81	26.81	26.81	26.81	26.81
802.11n HT40	3	2422	54M	13.78	13.32	13.54	14.05	19.70	26.81	26.81	26.81	26.81	26.81
802.11n HT40	6	2437	54M	20.10	19.87	20.17	20.55	26.20	26.81	26.81	26.81	26.81	26.81
802.11n HT40	9	2452	54M	15.16	15.18	15.14	14.91	21.12	26.81	26.81	26.81	26.81	26.81
802.11n VHT20	1	2412	26M	16.29	16.55	16.64	17.36	22.75	26.81	26.81	26.81	26.81	26.81
802.11n VHT20	6	2437	26M	19.29	19.06	19.45	19.82	25.44	26.81	26.81	26.81	26.81	26.81
802.11n VHT20	11	2462	26M	16.61	16.40	16.96	17.02	22.77	26.81	26.81	26.81	26.81	26.81
802.11n VHT40	3	2422	54M	14.43	13.80	13.35	13.38	19.79	26.81	26.81	26.81	26.81	26.81
802.11n VHT40	6	2437	54M	19.25	19.09	19.73	19.90	25.53	26.81	26.81	26.81	26.81	26.81
802.11n VHT40	9	2452	54M	15.80	14.90	15.73	14.91	21.38	26.81	26.81	26.81	26.81	26.81

Mod.	CH	Freq. (MHz)	RU	Data Rate	Avg Conducted Power (dBm)					Conducted Power Limit (dBm)				
					Ant-0	Ant-1	Ant-2	Ant-3	SUM	Ant-0	Ant-1	Ant-2	Ant-3	SUM
802.11ax HE20	1	2412	Full	MCS0	17.51	17.49	17.39	18.16	23.67	26.81	26.81	26.81	26.81	26.81
802.11ax HE20	6	2437	Full	MCS0	20.05	19.73	20.49	20.41	26.20	26.81	26.81	26.81	26.81	26.81
802.11ax HE20	11	2462	Full	MCS0	17.17	17.03	17.50	17.49	23.32	26.81	26.81	26.81	26.81	26.81
802.11ax HE40	3	2422	Full	MCS0	14.26	14.41	14.68	14.31	20.44	26.81	26.81	26.81	26.81	26.81
802.11ax HE40	6	2437	Full	MCS0	20.24	20.61	20.54	20.72	26.55	26.81	26.81	26.81	26.81	26.81
802.11ax HE40	9	2452	Full	MCS0	15.19	15.69	15.88	16.21	21.78	26.81	26.81	26.81	26.81	26.81