

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)
802.11b	2412	1.035	1.080	95.833	0.185	0.966
802.11g	2412	0.840	0.891	94.276	0.256	1.190
802.11n HT20	2412	0.852	0.904	94.248	0.257	1.174
802.11n HT40	2422	0.824	0.872	94.495	0.246	1.214
802.11n VHT20	2412	0.458	0.508	90.157	0.450	2.183
802.11n VHT40	2422	0.454	0.506	89.723	0.471	2.203
802.11ax HE20	2412	0.768	0.819	93.773	0.279	1.302
802.11ax HE40	2422	0.524	0.572	91.608	0.381	1.908

2.4 GHz Band							Test SW Version
Mode	CH	Freq. (MHz)	RF power setting in Test SW				
			Ant-0	Ant-1	Ant-2	Ant-3	
802.11b	1	2412	23.00	23.00	-	-	MT7981 QA/0.0.2.78
802.11b	6	2437	23.00	23.00	-	-	
802.11b	11	2462	20.00	20.00	-	-	
802.11g	1	2412	19.50	19.50	-	-	
802.11g	6	2437	22.50	22.50	-	-	
802.11g	11	2462	19.50	19.50	-	-	
802.11n HT20	1	2412	18.50	18.50	-	-	
802.11n HT20	2	2417	22.00	22.00	-	-	
802.11n HT20	6	2437	22.00	22.00	-	-	
802.11n HT20	10	2457	20.50	20.50	-	-	
802.11n HT20	11	2462	18.50	18.50	-	-	
802.11n HT40	3	2422	16.00	16.00	-	-	
802.11n HT40	6	2437	19.00	19.00	-	-	
802.11n HT40	9	2452	16.00	16.00	-	-	
802.11n VHT20	1	2412	18.50	18.50	-	-	
802.11n VHT20	2	2417	22.00	22.00	-	-	
802.11n VHT20	6	2437	22.00	22.00	-	-	
802.11n VHT20	10	2457	20.50	20.50	-	-	
802.11n VHT20	11	2462	18.50	18.50	-	-	
802.11n VHT40	3	2422	16.00	16.00	-	-	
802.11n VHT40	6	2437	19.00	19.00	-	-	
802.11n VHT40	9	2452	16.00	16.00	-	-	
802.11ax HE20	1	2412	19.50	19.50	-	-	
802.11ax HE20	6	2437	22.50	22.50	-	-	
802.11ax HE20	11	2462	20.00	20.00	-	-	
802.11ax HE40	3	2422	17.00	17.00	-	-	
802.11ax HE40	6	2437	19.50	19.50	-	-	
802.11ax HE40	9	2452	17.00	17.00	-	-	

2.4 GHz Band												
Mode	CH	Freq. (MHz)	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	23.65	23.67	-	-	26.68	30.00	30.00	-	-	30.00
802.11b	6	2437	23.49	23.75	-	-	26.64	30.00	30.00	-	-	30.00
802.11b	11	2462	21.23	21.60	-	-	24.43	30.00	30.00	-	-	30.00
802.11g	1	2412	19.64	19.73	-	-	22.69	30.00	30.00	-	-	30.00
802.11g	6	2437	22.30	22.65	-	-	25.48	30.00	30.00	-	-	30.00
802.11g	11	2462	19.74	20.29	-	-	23.03	30.00	30.00	-	-	30.00
802.11n HT20	1	2412	17.56	17.61	-	-	20.59	30.00	30.00	-	-	30.00
802.11n HT20	2	2417	21.01	21.05	-	-	24.04	30.00	30.00	-	-	30.00
802.11n HT20	6	2437	20.73	21.22	-	-	23.99	30.00	30.00	-	-	30.00
802.11n HT20	10	2457	19.23	19.66	-	-	22.46	30.00	30.00	-	-	30.00
802.11n HT20	11	2462	17.70	18.12	-	-	20.92	30.00	30.00	-	-	30.00
802.11n HT40	3	2422	14.90	14.94	-	-	17.93	30.00	30.00	-	-	30.00
802.11n HT40	6	2437	17.49	18.10	-	-	20.81	30.00	30.00	-	-	30.00
802.11n HT40	9	2452	14.55	14.97	-	-	17.77	30.00	30.00	-	-	30.00
802.11n VHT20	1	2412	17.60	17.62	-	-	20.62	30.00	30.00	-	-	30.00
802.11n VHT20	2	2417	21.03	21.05	-	-	24.05	30.00	30.00	-	-	30.00
802.11n VHT20	6	2437	20.72	21.27	-	-	24.01	30.00	30.00	-	-	30.00
802.11n VHT20	10	2457	19.24	19.70	-	-	22.49	30.00	30.00	-	-	30.00
802.11n VHT20	11	2462	17.67	18.19	-	-	20.95	30.00	30.00	-	-	30.00
802.11n VHT40	3	2422	14.97	15.00	-	-	18.00	30.00	30.00	-	-	30.00
802.11n VHT40	6	2437	17.53	18.07	-	-	20.82	30.00	30.00	-	-	30.00
802.11n VHT40	9	2452	14.49	15.05	-	-	17.79	30.00	30.00	-	-	30.00
802.11ax HE20	1	2412	18.87	18.83	-	-	21.86	30.00	30.00	-	-	30.00
802.11ax HE20	6	2437	21.46	21.94	-	-	24.72	30.00	30.00	-	-	30.00
802.11ax HE20	11	2462	19.33	19.89	-	-	22.63	30.00	30.00	-	-	30.00
802.11ax HE40	3	2422	16.37	16.39	-	-	19.39	30.00	30.00	-	-	30.00
802.11ax HE40	6	2437	18.38	18.90	-	-	21.66	30.00	30.00	-	-	30.00
802.11ax HE40	9	2452	15.88	16.42	-	-	19.17	30.00	30.00	-	-	30.00

6 dB Bandwidth						
Mode	Freq. (MHz)	6 dB Bandwidth (kHz)				6 dB Bandwidth Min.Limit (kHz)
		Ant-0	Ant-1	Ant-2	Ant-3	
802.11b	2412	8089	8079	-	-	≥ 500
802.11b	2437	8086	8098	-	-	≥ 500
802.11b	2462	8082	8089	-	-	≥ 500
802.11g	2412	16050	16360	-	-	≥ 500
802.11g	2437	16310	16350	-	-	≥ 500
802.11g	2462	15910	16350	-	-	≥ 500
802.11n VHT20	2412	17200	17610	-	-	≥ 500
802.11n VHT20	2417	17100	17570	-	-	≥ 500
802.11n VHT20	2437	17030	17590	-	-	≥ 500
802.11n VHT20	2457	16930	17590	-	-	≥ 500
802.11n VHT20	2462	16430	17570	-	-	≥ 500
802.11n VHT40	2422	35190	35160	-	-	≥ 500
802.11n VHT40	2437	35200	35160	-	-	≥ 500
802.11n VHT40	2462	35190	35160	-	-	≥ 500
802.11ax HE20	2412	18780	18770	-	-	≥ 500
802.11ax HE20	2437	18560	18480	-	-	≥ 500
802.11ax HE20	2462	18480	18150	-	-	≥ 500
802.11ax HE40	2422	35970	35180	-	-	≥ 500
802.11ax HE40	2437	36180	35170	-	-	≥ 500
802.11ax HE40	2452	37010	36160	-	-	≥ 500

99 % Occupied BW					
Mode	Freq. (MHz)	99 % Occupied BW (MHz)			
		Ant-0	Ant-1	Ant-2	Ant-3
802.11b	2412	12.738	12.592	-	-
802.11b	2437	12.542	12.617	-	-
802.11b	2462	12.762	12.687	-	-
802.11g	2412	17.250	17.055	-	-
802.11g	2437	18.306	18.927	-	-
802.11g	2462	17.152	16.987	-	-
802.11n VHT20	2412	18.134	17.929	-	-
802.11n VHT20	2417	18.228	18.005	-	-
802.11n VHT20	2437	18.264	18.165	-	-
802.11n VHT20	2457	18.315	18.077	-	-
802.11n VHT20	2462	18.211	18.090	-	-
802.11n VHT40	2422	37.151	36.884	-	-
802.11n VHT40	2437	37.378	37.006	-	-
802.11n VHT40	2452	37.198	36.951	-	-
802.11ax HE20	2412	18.928	18.936	-	-
802.11ax HE20	2437	19.258	19.256	-	-
802.11ax HE20	2462	19.180	19.133	-	-
802.11ax HE40	2422	37.941	37.896	-	-
802.11ax HE40	2437	38.089	37.999	-	-
802.11ax HE40	2452	38.015	37.967	-	-

Maximum Power Spectral Density Measurement											
Mode	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	0.94	1.31	-	-	4.14	8.00	8.00	-	-	8.00
802.11b	2437	1.91	1.47	-	-	4.71	8.00	8.00	-	-	8.00
802.11b	2462	-2.05	-1.53	-	-	1.23	8.00	8.00	-	-	8.00
802.11g	2412	-4.98	-5.40	-	-	-2.17	8.00	8.00	-	-	8.00
802.11g	2437	-2.96	-1.50	-	-	0.84	8.00	8.00	-	-	8.00
802.11g	2462	-5.40	-4.16	-	-	-1.73	8.00	8.00	-	-	8.00
802.11n VHT20	2412	-6.56	-6.92	-	-	-3.73	8.00	8.00	-	-	8.00
802.11n VHT20	2417	-4.79	-4.49	-	-	-1.63	8.00	8.00	-	-	8.00
802.11n VHT20	2437	-4.41	-4.05	-	-	-1.22	8.00	8.00	-	-	8.00
802.11n VHT20	2457	-6.25	-5.02	-	-	-2.58	8.00	8.00	-	-	8.00
802.11n VHT20	2462	-7.92	-6.83	-	-	-4.33	8.00	8.00	-	-	8.00
802.11n VHT40	2422	-11.73	-13.05	-	-	-9.33	8.00	8.00	-	-	8.00
802.11n VHT40	2437	-10.30	-9.03	-	-	-6.61	8.00	8.00	-	-	8.00
802.11n VHT40	2452	-12.29	-12.83	-	-	-9.54	8.00	8.00	-	-	8.00
802.11ax HE20	2412	-6.35	-7.13	-	-	-3.71	8.00	8.00	-	-	8.00
802.11ax HE20	2437	-3.14	-3.90	-	-	-0.49	8.00	8.00	-	-	8.00
802.11ax HE20	2462	-7.01	-6.19	-	-	-3.57	8.00	8.00	-	-	8.00
802.11ax HE40	2422	-12.60	-11.67	-	-	-9.10	8.00	8.00	-	-	8.00
802.11ax HE40	2437	-10.60	-9.34	-	-	-6.91	8.00	8.00	-	-	8.00
802.11ax HE40	2452	-12.63	-11.59	-	-	-9.07	8.00	8.00	-	-	8.00

Duty cycle (Beamforming on)						
Mode	Frequency (MHz)	On time (ms)	On+off time (ms)	Duty cycle (%)	Duty Factor (dB)	1/T Minimum VBW (kHz)
802.11n HT20	2412	2.520	2.800	90.000	0.458	0.397
802.11n HT40	2422	2.430	2.730	89.011	0.506	0.412
802.11n VHT20	2412	2.530	2.820	89.716	0.471	0.395
802.11n VHT40	2422	2.440	2.730	89.377	0.488	0.410
802.11ax HE20	2412	3.825	4.095	93.407	0.296	0.261
802.11ax HE40	2422	1.936	2.237	86.544	0.628	0.517

2.4 GHz Band (Beamforming on)							Test SW Version
Mode	CH	Freq. (MHz)	RF power setting in Test SW				
			Ant-0	Ant-1	Ant-2	Ant-3	
802.11n HT20	1	2412	38.00	38.00	-	-	MT7981 QA/0.0.2.78
802.11n HT20	2	2417	45.00	45.00	-	-	
802.11n HT20	6	2437	45.00	45.00	-	-	
802.11n HT20	10	2457	41.00	41.00	-	-	
802.11n HT20	11	2462	38.00	38.00	-	-	
802.11n HT40	3	2422	34.00	34.00	-	-	
802.11n HT40	6	2437	38.00	38.00	-	-	
802.11n HT40	9	2452	33.00	33.00	-	-	
802.11n VHT20	1	2412	38.00	38.00	-	-	
802.11n VHT20	2	2417	45.00	45.00	-	-	
802.11n VHT20	6	2437	45.00	45.00	-	-	
802.11n VHT20	10	2457	41.00	41.00	-	-	
802.11n VHT20	11	2462	38.00	38.00	-	-	
802.11n VHT40	3	2422	34.00	34.00	-	-	
802.11n VHT40	6	2437	38.00	38.00	-	-	
802.11n VHT40	9	2452	33.00	33.00	-	-	
802.11ax HE20	1	2412	39.00	39.00	-	-	
802.11ax HE20	6	2437	46.00	46.00	-	-	
802.11ax HE20	11	2462	41.00	41.00	-	-	
802.11ax HE40	3	2422	36.00	36.00	-	-	
802.11ax HE40	6	2437	40.00	40.00	-	-	
802.11ax HE40	9	2452	36.00	36.00	-	-	

2.4 GHz Band (Beamforming on)												
Mode	CH	Freq. (MHz)	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	17.24	17.62	-	-	20.44	30.00	30.00	-	-	30.00
802.11n HT20	2	2417	20.86	20.99	-	-	23.93	30.00	30.00	-	-	30.00
802.11n HT20	6	2437	20.64	21.04	-	-	23.85	30.00	30.00	-	-	30.00
802.11n HT20	10	2457	19.21	19.45	-	-	22.34	30.00	30.00	-	-	30.00
802.11n HT20	11	2462	17.55	17.79	-	-	20.68	30.00	30.00	-	-	30.00
802.11n HT40	3	2422	14.87	14.93	-	-	17.91	30.00	30.00	-	-	30.00
802.11n HT40	6	2437	17.36	17.76	-	-	20.57	30.00	30.00	-	-	30.00
802.11n HT40	9	2452	14.46	15.01	-	-	17.75	30.00	30.00	-	-	30.00
802.11n VHT20	1	2412	17.51	17.58	-	-	20.56	30.00	30.00	-	-	30.00
802.11n VHT20	2	2417	20.89	21.01	-	-	23.96	30.00	30.00	-	-	30.00
802.11n VHT20	6	2437	20.68	21.12	-	-	23.92	30.00	30.00	-	-	30.00
802.11n VHT20	10	2457	19.29	19.52	-	-	22.42	30.00	30.00	-	-	30.00
802.11n VHT20	11	2462	17.77	17.98	-	-	20.89	30.00	30.00	-	-	30.00
802.11n VHT40	3	2422	14.86	15.06	-	-	17.97	30.00	30.00	-	-	30.00
802.11n VHT40	6	2437	17.42	17.80	-	-	20.62	30.00	30.00	-	-	30.00
802.11n VHT40	9	2452	14.49	15.02	-	-	17.77	30.00	30.00	-	-	30.00
802.11ax HE20	1	2412	18.32	18.55	-	-	21.44	30.00	30.00	-	-	30.00
802.11ax HE20	6	2437	21.26	21.82	-	-	24.56	30.00	30.00	-	-	30.00
802.11ax HE20	11	2462	19.48	19.70	-	-	22.60	30.00	30.00	-	-	30.00
802.11ax HE40	3	2422	16.21	16.40	-	-	19.31	30.00	30.00	-	-	30.00
802.11ax HE40	6	2437	18.43	18.80	-	-	21.63	30.00	30.00	-	-	30.00
802.11ax HE40	9	2452	15.99	16.18	-	-	19.09	30.00	30.00	-	-	30.00