

Appendix A. Test Data

Beamforming off						
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	1.405	1.450	96.897	0.137	0.712
802.11n HT20	5180	1.320	1.365	96.703	0.146	0.758
802.11n HT40	5190	0.654	0.705	92.766	0.326	1.529
802.11ac VHT20	5180	0.486	0.538	90.335	0.441	2.058
802.11ac VHT40	5190	0.265	0.317	83.585	0.779	3.769
802.11ac VHT80	5210	0.151	0.206	73.541	1.335	6.614
802.11ac VHT160	5250	0.102	0.151	67.550	1.704	9.804
802.11ax HE20	5180	0.434	0.486	89.300	0.491	2.304
802.11ax HE40	5190	0.273	0.327	83.558	0.780	3.664
802.11ax HE80	5210	0.188	0.241	78.008	1.079	5.319
802.11ax HE160	5250	0.150	0.198	75.403	1.226	6.684

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	20	20	20	-	MT7981 QA 0.0.2.78
	40	5200	20	20	20	-	
	48	5240	20	20	20	-	
	52	5260	15	15	15	-	
	56	5280	15	15	15	-	
	64	5320	15	15	15	-	
	100	5500	15	15	15	-	
	112	5560	15	15	15	-	
	140	5700	15.5	15.5	15.5	-	
	144	5720	15.5	15.5	15.5	-	
	149	5745	25.5	25.5	25.5	-	
	157	5785	26	26	26	-	
165	5825	25	25	25	-		
802.11n HT20	36	5180	20.5	20.5	20.5	-	
	40	5200	20.5	20.5	20.5	-	
	48	5240	20.5	20.5	20.5	-	
	52	5260	15	15	15	-	
	56	5280	15	15	15	-	
	64	5320	15.5	15.5	15.5	-	
	100	5500	15.5	15.5	15.5	-	
	112	5560	15	15	15	-	
	140	5700	15	15	15	-	
	144	5720	16	16	16	-	
	149	5745	25	25	25	-	
	157	5785	25	25	25	-	
165	5825	25	25	25	-		
802.11n HT40	38	5190	17	17	17	-	
	46	5230	20	20	20	-	
	54	5270	17	17	17	-	
	62	5310	17	17	17	-	
	102	5510	17	17	17	-	
	110	5550	17	17	17	-	
	134	5670	17.5	17.5	17.5	-	
	142	5710	17.5	17.5	17.5	-	
	151	5755	22.5	22.5	22.5	-	
159	5795	22.5	22.5	22.5	-		

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	20.5	20.5	20.5	-	MT7981 QA 0.0.2.78
	40	5200	20.5	20.5	20.5	-	
	48	5240	20.5	20.5	20.5	-	
	52	5260	15	15	15	-	
	56	5280	15	15	15	-	
	64	5320	15.5	15.5	15.5	-	
	100	5500	15.5	15.5	15.5	-	
	112	5560	15.5	15.5	15.5	-	
	140	5700	15.5	15.5	15.5	-	
	144	5720	16	16	16	-	
	149	5745	25	25	25	-	
	157	5785	25	25	25	-	
802.11ac VHT40	165	5825	25	25	25	-	
	38	5190	17	17	17	-	
	46	5230	20	20	20	-	
	54	5270	17.5	17.5	17.5	-	
	62	5310	17	17	17	-	
	102	5510	17.5	17.5	17.5	-	
	110	5550	17.5	17.5	17.5	-	
	134	5670	17.5	17.5	17.5	-	
	142	5710	17.5	17.5	17.5	-	
802.11ac VHT80	151	5755	22.5	22.5	22.5	-	
	159	5795	22.5	22.5	22.5	-	
	42	5210	11.5	11.5	11.5	-	
	58	5290	13.5	13.5	13.5	-	
	106	5530	16	16	16	-	
	122	5610	17.5	17.5	17.5	-	
802.11ac VHT160	138	5690	17.5	17.5	17.5	-	
	155	5775	20	20	20	-	
	50	5250	14	14	14	-	
	114	5570	16.5	16.5	16.5	-	

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	20.5	20.5	20.5	-	MT7981 QA 0.0.2.78
	40	5200	20.5	20.5	20.5	-	
	48	5240	20.5	20.5	20.5	-	
	52	5260	15	15	15	-	
	56	5280	15	15	15	-	
	64	5320	15.5	15.5	15.5	-	
	100	5500	15.5	15.5	15.5	-	
	112	5560	15.5	15.5	15.5	-	
	140	5700	16	16	16	-	
	144	5720	16	16	16	-	
	149	5745	25	25	25	-	
	157	5785	25	25	25	-	
802.11ax HE40	165	5825	25	25	25	-	
	38	5190	16.5	16.5	16.5	-	
	46	5230	18.5	18.5	18.5	-	
	54	5270	17	17	17	-	
	62	5310	16	16	16	-	
	102	5510	17	17	17	-	
	110	5550	17	17	17	-	
	134	5670	17.5	17.5	17.5	-	
	142	5710	17.5	17.5	17.5	-	
802.11ax HE80	151	5755	23	23	23	-	
	159	5795	23	23	23	-	
	42	5210	12	12	12	-	
	58	5290	13.5	13.5	13.5	-	
	106	5530	16	16	16	-	
	122	5610	17.5	17.5	17.5	-	
802.11ax HE160	138	5690	17.5	17.5	17.5	-	
	155	5775	19	19	19	-	
802.11ax HE160	50	5250	14.5	14.5	14.5	-	
	114	5570	16.5	16.5	16.5	-	

Maximum Conducted Output Power Measurement								
Mode	CH	Frequency (MHz)	Average power					Limit
			Ant-0	Ant-1	Ant-2	Ant-3	Total	
			dBm	dBm	dBm	dBm	dBm	
802.11a	36	5180	19.34	20.32	20.53	-	24.86	30.00
	40	5200	19.56	20.45	20.64	-	25.01	30.00
	48	5240	19.87	20.89	20.95	-	25.37	30.00
	52	5260	14.98	15.90	15.34	-	20.19	24.00
	56	5280	14.99	15.94	15.50	-	20.26	24.00
	64	5320	14.56	15.62	15.25	-	19.93	24.00
	100	5500	14.61	15.51	15.20	-	19.89	24.00
	112	5560	14.88	15.67	15.33	-	20.07	24.00
	140	5700	14.85	15.35	14.60	-	19.71	24.00
	144	5720	15.15	15.57	15.08	-	20.04	22.89
	149	5745	23.70	24.57	23.97	-	28.86	30.00
	157	5785	24.05	25.12	24.40	-	29.31	30.00
165	5825	23.46	23.86	23.66	-	28.43	30.00	
802.11n HT20	36	5180	19.91	20.87	20.99	-	25.38	28.08
	40	5200	19.84	20.84	20.95	-	25.34	28.08
	48	5240	20.15	21.09	21.18	-	25.60	28.08
	52	5260	14.67	15.65	15.15	-	19.94	22.23
	56	5280	14.58	15.59	15.15	-	19.89	22.23
	64	5320	14.82	15.71	15.29	-	20.06	22.23
	100	5500	14.72	15.68	15.26	-	20.00	22.26
	112	5560	14.69	15.52	15.26	-	19.94	22.26
	140	5700	14.25	14.85	14.30	-	19.24	22.26
	144	5720	15.49	16.06	15.48	-	20.45	21.27
	149	5745	23.12	24.01	23.48	-	28.32	28.92
	157	5785	23.13	23.95	23.38	-	28.27	28.92
165	5825	23.30	23.85	23.83	-	28.43	28.92	
802.11n HT40	38	5190	16.83	17.58	17.68	-	22.15	28.08
	46	5230	19.43	19.97	20.02	-	24.58	28.08
	54	5270	16.75	17.79	17.25	-	22.05	22.23
	62	5310	16.29	17.24	16.81	-	21.56	22.23
	102	5510	16.59	17.56	17.28	-	21.93	22.26
	110	5550	16.73	17.65	17.25	-	21.99	22.26
	134	5670	16.93	17.48	16.96	-	21.90	22.26
	142	5710	17.00	17.54	17.01	-	21.96	22.26
	151	5755	21.12	22.23	21.64	-	26.45	28.92
159	5795	21.12	22.16	21.59	-	26.41	28.92	

Maximum Conducted Output Power Measurement								
Mode	CH	Frequency (MHz)	Average power					Limit
			Ant-0	Ant-1	Ant-2	Ant-3	Total	
			dBm	dBm	dBm	dBm	dBm	dBm
802.11ac VHT20	36	5180	19.93	20.93	20.96	-	25.40	28.08
	40	5200	19.93	20.97	21.00	-	25.43	28.08
	48	5240	20.26	21.32	20.99	-	25.65	28.08
	52	5260	14.86	15.78	15.01	-	20.01	22.23
	56	5280	14.76	15.78	14.94	-	19.96	22.23
	64	5320	14.84	15.97	15.08	-	20.10	22.23
	100	5500	14.98	15.81	15.12	-	20.09	22.26
	112	5560	15.13	15.94	15.28	-	20.24	22.26
	140	5700	14.77	15.33	14.20	-	19.56	22.26
	144	5720	15.58	16.06	15.56	-	20.51	21.27
	149	5745	23.27	24.17	23.15	-	28.33	28.92
	157	5785	23.24	24.14	23.12	-	28.30	28.92
165	5825	23.49	24.02	23.52	-	28.46	28.92	
802.11ac VHT40	38	5190	16.58	17.70	17.88	-	22.19	28.08
	46	5230	19.09	20.11	20.29	-	24.63	28.08
	54	5270	16.87	17.84	17.40	-	22.16	22.23
	62	5310	16.19	17.24	16.91	-	21.57	22.23
	102	5510	16.90	17.86	17.49	-	22.20	22.26
	110	5550	16.84	17.76	17.71	-	22.23	22.26
	134	5670	16.88	17.44	17.07	-	21.91	22.26
	142	5710	16.95	17.58	17.06	-	21.98	22.26
	151	5755	21.10	22.26	21.68	-	26.48	28.92
159	5795	21.21	22.23	21.65	-	26.49	28.92	
802.11ac VHT80	42	5210	10.17	11.19	11.35	-	15.71	28.08
	58	5290	12.23	13.23	12.81	-	17.55	22.23
	106	5530	14.81	15.71	15.44	-	20.11	22.26
	122	5610	16.53	17.47	16.62	-	21.67	22.26
	138	5690	16.35	17.03	16.49	-	21.41	22.26
	155	5775	17.81	18.79	18.32	-	23.10	28.92
802.11ac VHT160	50	5250	10.68	11.64	11.83	-	16.19	28.08
	114	5570	13.27	14.18	13.88	-	18.57	22.26

Maximum Conducted Output Power Measurement								
Mode	CH	Frequency (MHz)	Average power					Limit
			Ant-0	Ant-1	Ant-2	Ant-3	Total	
			dBm	dBm	dBm	dBm	dBm	
802.11ax HE20	36	5180	20.12	21.09	21.23	-	25.61	28.08
	40	5200	20.14	21.05	21.29	-	25.63	28.08
	48	5240	20.54	21.39	21.29	-	25.86	28.08
	52	5260	15.05	15.94	15.19	-	20.18	22.23
	56	5280	15.00	15.94	15.13	-	20.15	22.23
	64	5320	15.11	16.19	15.81	-	20.50	22.23
	100	5500	15.10	15.98	15.72	-	20.39	22.26
	112	5560	15.27	16.17	15.86	-	20.56	22.26
	140	5700	15.49	16.01	15.52	-	20.45	22.26
	144	5720	15.66	16.18	15.63	-	20.60	21.27
	149	5745	23.35	24.24	23.71	-	28.55	28.92
	157	5785	23.32	24.19	23.71	-	28.53	28.92
165	5825	23.67	24.08	24.12	-	28.73	28.92	
802.11ax HE40	38	5190	16.83	17.64	17.78	-	22.21	28.08
	46	5230	19.39	20.13	20.11	-	24.66	28.08
	54	5270	16.92	17.93	17.41	-	22.21	22.23
	62	5310	16.63	17.04	16.76	-	21.58	22.23
	102	5510	16.86	17.88	17.58	-	22.23	22.26
	110	5550	16.97	17.84	17.58	-	22.25	22.26
	134	5670	17.18	17.76	17.22	-	22.17	22.26
	142	5710	17.32	17.86	17.22	-	22.25	22.26
	151	5755	21.91	22.97	22.41	-	27.22	28.92
159	5795	21.81	22.96	22.14	-	27.10	28.92	
802.11ax HE80	42	5210	10.90	12.02	12.02	-	16.45	28.08
	58	5290	12.50	13.58	13.15	-	17.87	22.23
	106	5530	15.07	16.04	15.41	-	20.30	22.26
	122	5610	16.92	17.83	16.71	-	21.95	22.26
	138	5690	16.69	17.31	16.58	-	21.64	22.26
	155	5775	17.80	18.88	18.31	-	23.12	28.92
802.11ax HE160	50	5250	11.64	12.65	12.79	-	17.16	28.08
	114	5570	13.79	14.62	14.25	-	19.00	22.26

Maximum Conducted Output Power Measurement_Transmit power control											
Mode	CH	Frequency (MHz)	Average power					Limit	E.I.R.P		EIRP Power Limit
			Ant-0	Ant-1	Ant-2	Ant-3	Total		Gain	Calculated Results	
			dBm	dBm	dBm	dBm	dBm		dBm	dBm	
802.11a	52	5260	8.98	9.90	9.34	-	14.19	18.00	3.09	17.28	23.22
	56	5280	8.99	9.94	9.50	-	14.26	18.00	3.09	17.35	23.22
	64	5320	8.56	9.62	9.25	-	13.93	18.00	3.09	17.02	23.22
	100	5500	8.61	9.51	9.20	-	13.89	18.00	3.08	16.97	23.23
	112	5560	8.88	9.67	9.33	-	14.07	18.00	3.08	17.15	23.23
	140	5700	8.85	9.35	8.60	-	13.71	18.00	3.08	16.79	23.23
	144	5720	9.15	9.57	9.08	-	14.04	16.89	3.08	17.12	22.25
802.11n HT20	52	5260	8.67	9.65	9.15	-	13.94	16.23	7.77	21.71	23.80
	56	5280	8.58	9.59	9.15	-	13.89	16.23	7.77	21.66	23.80
	64	5320	8.82	9.71	9.29	-	14.06	16.23	7.77	21.83	23.80
	100	5500	8.72	9.68	9.26	-	14.00	16.26	7.74	21.74	23.80
	112	5560	8.69	9.52	9.26	-	13.94	16.26	7.74	21.68	23.80
	140	5700	8.25	8.85	8.30	-	13.24	16.26	7.74	20.98	23.80
	144	5720	9.49	10.06	9.48	-	14.45	15.27	7.74	22.19	22.62
802.11n HT40	54	5270	10.75	11.79	11.25	-	16.05	16.23	7.77	23.82	24.00
	62	5310	10.29	11.24	10.81	-	15.56	16.23	7.77	23.33	24.00
	102	5510	10.59	11.56	11.28	-	15.93	16.26	7.74	23.67	24.00
	110	5550	10.73	11.65	11.25	-	15.99	16.26	7.74	23.73	24.00
	134	5670	10.93	11.48	10.96	-	15.90	16.26	7.74	23.64	24.00
	142	5710	11.00	11.54	11.01	-	15.96	16.26	7.74	23.70	24.00

Maximum Conducted Output Power Measurement_Transmit power control											
Mode	CH	Frequency (MHz)	Average power					Limit dBm	E.I.R.P		EIRP Power Limit dBm
			Ant-0	Ant-1	Ant-2	Ant-3	Total		Gain	Calculated Results	
			dBm	dBm	dBm	dBm	dBm		dBm	dBm	
802.11ac VHT20	52	5260	8.86	9.78	9.01	-	14.01	16.23	7.77	21.78	23.80
	56	5280	8.76	9.78	8.94	-	13.96	16.23	7.77	21.73	23.80
	64	5320	8.84	9.97	9.08	-	14.10	16.23	7.77	21.87	23.80
	100	5500	8.98	9.81	9.12	-	14.09	16.26	7.74	21.83	23.80
	112	5560	9.13	9.94	9.28	-	14.24	16.26	7.74	21.98	23.80
	140	5700	8.77	9.33	8.20	-	13.56	16.26	7.74	21.30	22.62
	144	5720	9.58	10.06	9.56	-	14.51	15.27	7.74	22.25	22.62
802.11ac VHT40	54	5270	10.87	11.84	11.40	-	16.16	16.23	7.77	23.93	24.00
	62	5310	10.19	11.24	10.91	-	15.57	16.23	7.77	23.34	24.00
	102	5510	10.90	11.86	11.49	-	16.20	16.26	7.74	23.94	24.00
	110	5550	10.84	11.76	11.71	-	16.23	16.26	7.74	23.97	24.00
	134	5670	10.88	11.44	11.07	-	15.91	16.26	7.74	23.65	24.00
	142	5710	10.95	11.58	11.06	-	15.98	16.26	7.74	23.72	24.00
802.11ac VHT80	58	5290	6.23	7.23	6.81	-	11.55	16.23	7.77	19.32	24.00
	106	5530	8.81	9.71	9.44	-	14.11	16.26	7.74	21.85	24.00
	122	5610	10.53	11.47	10.62	-	15.67	16.26	7.74	23.41	24.00
	138	5690	10.35	11.03	10.49	-	15.41	16.26	7.74	23.15	24.00
802.11ac VHT160	50	5250	1.69	2.69	2.88	-	7.22	17.80	7.92	15.14	24.00
	114	5570	7.27	8.18	7.88	-	12.57	16.26	7.74	20.31	24.00

Maximum Conducted Output Power Measurement_Transmit power control

Mode	CH	Frequency (MHz)	Average power					Limit	E.I.R.P		EIRP Power Limit
			Ant-0	Ant-1	Ant-2	Ant-3	Total		Gain	Calculated Results	
			dBm	dBm	dBm	dBm	dBm		dBm	dBm	
802.11ax HE20	52	5260	9.05	9.94	9.19	-	14.18	16.23	7.77	21.95	23.80
	56	5280	9.00	9.94	9.13	-	14.15	16.23	7.77	21.92	23.80
	64	5320	9.11	10.19	9.81	-	14.50	16.23	7.77	22.27	23.80
	100	5500	9.10	9.98	9.72	-	14.39	16.26	7.74	22.13	23.80
	112	5560	9.27	10.17	9.86	-	14.56	16.26	7.74	22.30	23.80
	140	5700	9.49	10.01	9.52	-	14.45	16.26	7.74	22.19	22.62
	144	5720	9.66	10.18	9.63	-	14.60	15.27	7.74	22.34	22.62
802.11ax HE40	54	5270	10.92	11.93	11.41	-	16.21	16.23	7.77	23.98	24.00
	62	5310	10.63	11.04	10.76	-	15.58	16.23	7.77	23.35	24.00
	102	5510	10.86	11.88	11.58	-	16.23	16.26	7.74	23.97	24.00
	110	5550	10.97	11.84	11.58	-	16.25	16.26	7.74	23.99	24.00
	134	5670	11.18	11.76	11.22	-	16.17	16.26	7.74	23.91	24.00
	142	5710	11.32	11.86	11.22	-	16.25	16.26	7.74	23.99	24.00
802.11ax HE80	58	5290	6.50	7.58	7.15	-	11.87	16.23	7.77	19.64	24.00
	106	5530	9.07	10.04	9.41	-	14.30	16.26	7.74	22.04	24.00
	122	5610	10.92	11.83	10.71	-	15.95	16.26	7.74	23.69	24.00
	138	5690	10.69	11.31	10.58	-	15.64	16.26	7.74	23.38	24.00
802.11ax HE160	50	5250	2.64	3.69	3.83	-	8.19	18.00	7.92	16.11	24.00
	114	5570	7.79	8.62	8.25	-	13.00	16.26	7.74	20.74	24.00

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	17.282	17.203	17.236	-	31.480	31.250	28.120	-
	40	5200	17.412	17.311	17.181	-	29.630	28.970	29.050	-
	48	5240	17.089	17.030	17.101	-	23.630	29.160	25.360	-
	52	5260	16.885	16.732	16.682	-	22.030	21.300	21.030	-
	56	5280	16.900	16.787	16.666	-	21.780	21.330	20.980	-
	64	5320	17.278	17.180	17.033	-	27.590	28.530	29.300	-
	100	5500	17.295	17.189	17.033	-	28.360	28.280	26.320	-
	112	5560	16.931	16.771	16.703	-	21.360	21.140	21.210	-
	140	5700	17.187	17.058	17.006	-	26.590	24.760	26.420	-
144	5720	13.386	13.376	13.342	-	16.060	15.460	15.630	-	

802.11ax HE20	36	5180	19.181	19.205	19.197	-	26.690	27.260	27.370	-
	40	5200	19.296	19.283	19.234	-	34.140	28.940	29.980	-
	48	5240	18.967	19.046	19.089	-	24.710	30.990	31.180	-
	52	5260	19.082	19.086	19.138	-	22.750	22.320	22.090	-
	56	5280	19.120	19.108	19.060	-	22.400	22.150	22.160	-
	64	5320	19.221	19.195	19.164	-	31.170	27.890	27.390	-
	100	5500	19.189	19.161	19.296	-	26.400	29.420	26.250	-
	112	5560	19.089	19.106	19.064	-	22.790	22.810	22.080	-
	140	5700	19.198	19.174	19.175	-	24.670	31.900	26.320	-
144	5720	14.507	14.510	14.508	-	16.100	15.870	16.080	-	
802.11ax HE40	38	5190	37.827	37.802	37.803	-	49.150	49.040	48.170	-
	46	5230	37.560	37.694	37.661	-	39.940	40.210	41.600	-
	54	5270	37.663	37.677	37.570	-	39.930	39.890	39.870	-
	62	5310	37.767	37.750	37.872	-	42.870	50.540	46.350	-
	102	5510	37.779	37.736	37.808	-	45.430	50.470	51.100	-
	110	5550	37.650	37.581	37.664	-	39.930	40.100	40.010	-
	134	5670	37.833	37.876	37.830	-	56.050	58.860	50.290	-
142	5710	33.629	33.570	33.647	-	35.050	34.930	34.890	-	
802.11ax HE80	42	5210	77.428	77.241	77.170	-	102.110	100.050	94.950	-
	58	5290	77.237	77.271	77.154	-	92.380	84.230	91.340	-
	106	5530	77.136	77.050	77.196	-	104.530	93.290	84.050	-
	122	5610	76.738	76.824	76.919	-	80.890	81.130	81.240	-
138	5690	72.929	73.127	73.047	-	75.540	75.570	75.490	-	
802.11ax HE160	50	5250	77.875	77.825	77.857	-	80.710	80.730	80.780	-
	50	5250	77.768	77.686	77.734	-	81.250	82.690	82.990	-
	114	5570	155.284	155.234	155.769	-	164.730	167.820	164.380	-

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	144	5720	3.804	3.782	3.748	-	3145.000	3154.000	3151.000	-	≥ 500 kHz
802.11ax HE20	144	5720	4.686	4.649	4.661	-	4505.000	4521.000	4477.000	-	
802.11ax HE40	142	5710	4.128	4.116	4.109	-	4016.000	4018.000	4009.000	-	
802.11ax HE80	138	5690	4.212	4.195	4.191	-	3998.000	4037.000	4021.000	-	

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	8.035	9.317	9.144	-	0.137	13.776	15.080
	40	5200	8.145	9.171	9.592	-	0.137	13.919	15.080
	48	5240	8.267	9.408	9.432	-	0.137	13.977	15.080
	52	5260	3.624	4.743	4.421	-	0.137	9.196	9.230
	56	5280	3.790	4.589	4.440	-	0.137	9.195	9.230
	64	5320	3.256	4.352	3.802	-	0.137	8.734	9.230
	100	5500	3.597	4.643	4.026	-	0.137	9.018	9.260
	112	5560	3.686	4.544	4.175	-	0.137	9.057	9.260
	140	5700	3.823	4.385	3.458	-	0.137	8.814	9.260
144	5720	3.988	4.305	3.662	-	0.137	8.901	9.260	

802.11ax HE20	36	5180	7.855	8.815	9.106	-	0.491	13.887	15.080
	40	5200	8.045	8.840	8.790	-	0.491	13.836	15.080
	48	5240	8.516	9.816	9.096	-	0.491	14.438	15.080
	52	5260	3.507	4.207	3.122	-	0.491	8.898	9.230
	56	5280	3.142	3.801	3.809	-	0.491	8.858	9.230
	64	5320	3.229	3.966	3.032	-	0.491	8.691	9.230
	100	5500	3.386	4.114	3.651	-	0.491	8.990	9.260
	112	5560	3.286	4.545	3.925	-	0.491	9.212	9.260
	140	5700	3.407	4.224	3.490	-	0.491	8.985	9.260
144	5720	3.527	4.093	3.606	-	0.491	9.012	9.260	
802.11ax HE40	38	5190	1.584	2.487	2.615	-	0.780	7.803	15.080
	46	5230	4.106	5.067	4.932	-	0.780	10.273	15.080
	54	5270	2.805	3.682	3.069	-	0.780	8.753	9.230
	62	5310	1.534	2.222	2.083	-	0.780	7.508	9.230
	102	5510	2.247	3.124	3.130	-	0.780	8.404	9.260
	110	5550	2.441	3.191	3.079	-	0.780	8.467	9.260
	134	5670	2.430	3.178	2.423	-	0.780	8.243	9.260
142	5710	2.631	3.486	2.853	-	0.780	8.557	9.260	
802.11ax HE80	42	5210	-6.784	-5.587	-5.129	-	1.079	0.071	15.080
	58	5290	-4.968	-3.585	-4.285	-	1.079	1.607	9.230
	106	5530	-2.348	-1.341	-2.056	-	1.079	3.956	9.260
	122	5610	-0.871	0.025	-0.763	-	1.079	5.332	9.260
802.11ax HE160	138	5690	-0.562	-0.439	-0.762	-	1.079	5.264	9.260
	50	5250	-8.410	-7.172	-7.307	-	1.226	-1.598	15.080
	50	5250	-8.147	-7.114	-7.003	-	1.226	-1.394	9.230
	114	5570	-6.481	-5.338	-5.987	-	1.226	0.087	9.260

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	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	144	5720	-6.257	0.870	-5.655	1.472	-6.422	0.705	-	-	0.137	5.799	28.92	PASS
802.11ax HE20	144	5720	-6.995	0.486	-5.603	1.879	-7.218	0.263	-	-	0.491	5.708	28.92	PASS
802.11ax HE40	142	5710	-9.169	-1.399	-8.571	-0.801	-8.728	-0.959	-	-	0.780	3.726	28.92	PASS
802.11ax HE80	138	5690	-12.907	-4.839	-12.239	-4.170	-12.402	-4.333	-	-	1.079	0.333	28.92	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)

Appendix A. Test Data

Beamforming on						
Duty cycle						
Mode	Frequency (MHz)	on time (ms)	on+off time (ms)	Duty cycle (%)	Duty Factor (dB)	1/T Minimum VBW (kHz)
802.11n HT20	5180	2.530	2.840	89.085	0.502	0.395
802.11n HT40	5190	2.430	2.720	89.338	0.490	0.412
802.11ac VHT20	5180	2.530	2.810	90.036	0.456	0.395
802.11ac VHT40	5190	2.440	2.750	88.727	0.519	0.410
802.11ac VHT80	5210	1.150	1.440	79.861	0.977	0.870
802.11ac VHT160	5250	0.597	0.888	67.230	1.724	1.675
802.11ax HE20	5180	3.825	4.110	93.066	0.312	0.261
802.11ax HE40	5190	1.940	2.230	86.996	0.605	0.515
802.11ax HE80	5210	0.960	1.245	77.108	1.129	1.042
802.11ax HE160	5250	0.507	0.789	64.259	1.921	1.972

RF power setting in Test SW

Mode	CH	Frequency (MHz)	Ant-0	Ant-1	Ant-2	Ant-3	Test SW Version
802.11n HT20	36	5180	40	40	40	-	Command
	40	5200	40	40	40	-	
	48	5240	40	40	40	-	
	52	5260	30	30	30	-	
	56	5280	30	30	30	-	
	64	5320	30	30	30	-	
	100	5500	30	30	30	-	
	112	5560	31	31	31	-	
	140	5700	30	30	30	-	
	144	5720	31	31	31	-	
	149	5745	50	50	50	-	
	157	5785	50	50	50	-	
802.11n HT40	165	5825	50	50	50	-	
	38	5190	33	33	33	-	
	46	5230	40	40	40	-	
	54	5270	34	34	34	-	
	62	5310	34	34	34	-	
	102	5510	34	34	34	-	
	110	5550	34	34	34	-	
	134	5670	34	34	34	-	
	142	5710	34	34	34	-	
	151	5755	44	44	44	-	
159	5795	45	45	45	-		

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	40	40	40	-	Command
	40	5200	40	40	40	-	
	48	5240	40	40	40	-	
	52	5260	30	30	30	-	
	56	5280	30	30	30	-	
	64	5320	30	30	30	-	
	100	5500	30	30	30	-	
	112	5560	31	31	31	-	
	140	5700	30	30	30	-	
	144	5720	31	31	31	-	
	149	5745	50	50	50	-	
	157	5785	50	50	50	-	
802.11ac VHT40	165	5825	50	50	50	-	
	38	5190	33	33	33	-	
	46	5230	40	40	40	-	
	54	5270	34	34	34	-	
	62	5310	34	34	34	-	
	102	5510	35	35	35	-	
	110	5550	35	35	35	-	
	134	5670	34	34	34	-	
	142	5710	34	34	34	-	
151	5755	44	44	44	-		
802.11ac VHT80	159	5795	45	45	45	-	
	42	5210	21	21	21	-	
	58	5290	26	26	26	-	
	106	5530	31	31	31	-	
	122	5610	35	35	35	-	
	138	5690	35	35	35	-	
802.11ac VHT160	155	5775	39	39	39	-	
	50	5250	26	26	26	-	
	114	5570	32	32	32	-	

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	40	40	40	-	Command
	40	5200	40	40	40	-	
	48	5240	40	40	40	-	
	52	5260	31	31	31	-	
	56	5280	31	31	31	-	
	64	5320	31	31	31	-	
	100	5500	31	31	31	-	
	112	5560	31	31	31	-	
	140	5700	31	31	31	-	
	144	5720	32	32	32	-	
	149	5745	50	50	50	-	
	157	5785	50	50	50	-	
802.11ax HE40	165	5825	50	50	50	-	
	38	5190	33	33	33	-	
	46	5230	39	39	39	-	
	54	5270	34	34	34	-	
	62	5310	34	34	34	-	
	102	5510	34	34	34	-	
	110	5550	34	34	34	-	
	134	5670	35	35	35	-	
	142	5710	35	35	35	-	
802.11ax HE80	151	5755	46	46	46	-	
	159	5795	47	47	47	-	
	42	5210	25	25	25	-	
	58	5290	27	27	27	-	
	106	5530	32	32	32	-	
	122	5610	35	35	35	-	
802.11ax HE160	138	5690	34	34	34	-	
	155	5775	39	39	39	-	
	50	5250	27	27	27	-	
	114	5570	32	32	32	-	

Maximum Conducted Output Power Measurement								
Mode	CH	Frequency (MHz)	Average power					Limit
			Ant-0	Ant-1	Ant-2	Ant-3	Total	
			dBm	dBm	dBm	dBm	dBm	
802.11n HT20	36	5180	19.35	20.20	20.32	-	24.75	28.08
	40	5200	19.39	20.13	20.25	-	24.71	28.08
	48	5240	19.45	20.24	20.30	-	24.79	28.08
	52	5260	14.65	15.51	14.83	-	19.79	22.23
	56	5280	14.50	15.24	14.65	-	19.58	22.23
	64	5320	14.81	15.37	14.41	-	19.65	22.23
	100	5500	14.14	15.04	14.69	-	19.41	22.26
	112	5560	14.65	14.94	14.80	-	19.57	22.26
	140	5700	14.69	14.67	13.70	-	19.15	22.26
	144	5720	14.73	14.80	14.60	-	19.48	21.27
	149	5745	22.94	23.67	22.93	-	27.97	28.92
	157	5785	22.90	23.74	22.70	-	27.91	28.92
	165	5825	22.99	23.60	22.85	-	27.93	28.92
802.11n HT40	38	5190	16.32	16.78	16.84	-	21.42	28.08
	46	5230	19.34	19.63	19.60	-	24.30	28.08
	54	5270	16.24	17.45	16.51	-	21.54	22.23
	62	5310	16.18	17.32	16.27	-	21.39	22.23
	102	5510	16.21	17.41	16.33	-	21.46	22.26
	110	5550	16.15	17.34	16.48	-	21.46	22.26
	134	5670	15.99	17.48	16.35	-	21.42	22.26
	142	5710	15.86	17.44	16.41	-	21.39	22.26
	151	5755	20.90	21.52	21.74	-	26.17	28.92
159	5795	21.10	21.73	21.47	-	26.21	28.92	

Maximum Conducted Output Power Measurement

Mode	CH	Frequency (MHz)	Average power					Limit
			Ant-0	Ant-1	Ant-2	Ant-3	Total	
			dBm	dBm	dBm	dBm	dBm	
802.11ac VHT20	36	5180	19.42	20.38	20.12	-	24.76	28.08
	40	5200	19.44	20.44	20.09	-	24.78	28.08
	48	5240	19.50	20.46	20.19	-	24.84	28.08
	52	5260	14.67	15.60	14.83	-	19.82	22.23
	56	5280	14.55	15.32	14.56	-	19.59	22.23
	64	5320	14.84	15.33	14.50	-	19.67	22.23
	100	5500	14.26	15.01	14.72	-	19.44	22.26
	112	5560	14.67	15.08	14.73	-	19.60	22.26
	140	5700	14.78	14.63	13.75	-	19.18	22.26
	144	5720	14.88	14.71	14.76	-	19.55	21.27
	149	5745	23.01	23.65	23.02	-	28.00	28.92
	157	5785	22.97	23.53	22.95	-	27.93	28.92
165	5825	23.06	23.55	22.92	-	27.95	28.92	
802.11ac VHT40	38	5190	16.51	16.87	17.03	-	21.58	28.08
	46	5230	19.36	19.63	19.77	-	24.36	28.08
	54	5270	16.41	17.34	16.51	-	21.54	22.23
	62	5310	16.25	17.26	16.35	-	21.41	22.23
	102	5510	16.92	17.65	17.16	-	22.02	22.26
	110	5550	16.87	17.54	17.13	-	21.96	22.26
	134	5670	16.41	17.28	16.66	-	21.57	22.26
	142	5710	16.23	17.45	16.40	-	21.50	22.26
	151	5755	21.02	21.66	21.84	-	26.29	28.92
159	5795	21.23	21.81	21.59	-	26.32	28.92	
802.11ac VHT80	42	5210	9.68	10.77	10.85	-	15.23	28.08
	58	5290	11.44	12.35	11.78	-	16.64	22.23
	106	5530	14.80	15.09	14.46	-	19.56	22.26
	122	5610	16.30	17.21	15.89	-	21.27	22.26
	138	5690	16.67	16.21	15.55	-	20.94	22.26
	155	5775	17.51	18.30	17.33	-	22.50	28.92
802.11ac VHT160	50	5250	10.02	10.72	10.86	-	15.32	28.08
	114	5570	12.62	13.46	13.29	-	17.91	22.26

Maximum Conducted Output Power Measurement								
Mode	CH	Frequency (MHz)	Average power					Limit
			Ant-0	Ant-1	Ant-2	Ant-3	Total	
			dBm	dBm	dBm	dBm	dBm	
802.11ax HE20	36	5180	19.53	20.66	20.33	-	24.97	28.08
	40	5200	19.56	20.77	20.49	-	25.08	28.08
	48	5240	19.71	20.82	20.45	-	25.12	28.08
	52	5260	15.08	15.30	14.93	-	19.88	22.23
	56	5280	14.84	15.25	14.88	-	19.77	22.23
	64	5320	15.03	15.10	14.80	-	19.75	22.23
	100	5500	15.04	15.18	14.74	-	19.76	22.26
	112	5560	14.88	15.09	14.94	-	19.74	22.26
	140	5700	15.04	15.14	14.97	-	19.82	22.26
	144	5720	15.08	15.25	15.10	-	19.92	21.30
	149	5745	23.17	23.76	22.90	-	28.06	28.92
	157	5785	23.20	23.77	22.92	-	28.08	28.92
165	5825	23.27	23.81	22.98	-	28.14	28.92	
802.11ax HE40	38	5190	16.52	17.02	16.94	-	21.60	28.08
	46	5230	19.32	19.73	19.80	-	24.39	28.08
	54	5270	16.41	17.34	16.93	-	21.68	22.23
	62	5310	16.34	17.20	16.81	-	21.56	22.23
	102	5510	17.00	17.60	17.24	-	22.05	22.26
	110	5550	16.95	17.47	17.20	-	21.98	22.26
	134	5670	16.90	17.06	16.61	-	21.63	22.26
	142	5710	16.84	17.18	16.57	-	21.64	22.26
	151	5755	21.76	22.47	21.64	-	26.74	28.92
159	5795	21.87	22.65	21.79	-	26.89	28.92	
802.11ax HE80	42	5210	10.78	11.58	11.73	-	16.15	28.08
	58	5290	12.39	13.46	12.58	-	17.61	22.23
	106	5530	14.77	15.59	15.17	-	19.96	22.26
	122	5610	16.55	17.20	16.09	-	21.41	22.26
	138	5690	16.38	16.67	15.74	-	21.05	22.26
	155	5775	17.72	18.54	17.54	-	22.73	28.92
802.11ax HE160	50	5250	10.82	11.67	11.94	-	16.27	28.08
	114	5570	13.01	13.62	13.28	-	18.08	22.26

Maximum Conducted Output Power Measurement_Transmit power control											
Mode	CH	Frequency (MHz)	Average power					Limit	E.I.R.P		EIRP Power Limit
			Ant-0	Ant-1	Ant-2	Ant-3	Total		Gain	Calculated Results	
			dBm	dBm	dBm	dBm	dBm	dBm	dBm	dBm	dBm
802.11n HT20	52	5260	8.65	9.51	8.83	-	13.79	16.23	7.77	21.56	23.51
	56	5280	8.50	9.24	8.65	-	13.58	16.23	7.77	21.35	23.51
	64	5320	8.81	9.37	8.41	-	13.65	16.23	7.77	21.42	23.51
	100	5500	8.14	9.04	8.69	-	13.41	16.26	7.74	21.15	23.52
	112	5560	8.65	8.94	8.80	-	13.57	16.26	7.74	21.31	23.52
	140	5700	8.69	8.67	7.70	-	13.15	16.26	7.74	20.89	23.52
	144	5720	8.73	8.80	8.60	-	13.48	15.27	7.74	21.22	22.43
802.11n HT40	54	5270	10.24	11.45	10.51	-	15.54	16.23	7.77	23.31	24.00
	62	5310	10.18	11.32	10.27	-	15.39	16.23	7.77	23.16	24.00
	102	5510	10.21	11.41	10.33	-	15.46	16.26	7.74	23.20	24.00
	110	5550	10.15	11.34	10.48	-	15.46	16.26	7.74	23.20	24.00
	134	5670	9.99	11.48	10.35	-	15.42	16.26	7.74	23.16	24.00
	142	5710	9.86	11.44	10.41	-	15.39	16.26	7.74	23.13	24.00

802.11ac VHT20	52	5260	8.67	9.60	8.83	-	13.82	16.23	7.77	21.59	23.51
	56	5280	8.55	9.32	8.56	-	13.59	16.23	7.77	21.36	23.51
	64	5320	8.84	9.33	8.50	-	13.67	16.23	7.77	21.44	23.52
	100	5500	8.26	9.01	8.72	-	13.44	16.26	7.74	21.18	23.52
	112	5560	8.67	9.08	8.73	-	13.60	16.26	7.74	21.34	23.52
	140	5700	8.78	8.63	7.75	-	13.18	16.26	7.74	20.92	22.43
	144	5720	8.88	8.71	8.76	-	13.55	15.27	7.74	21.29	22.43
802.11ac VHT40	54	5270	10.41	11.34	10.51	-	15.54	16.23	7.77	23.31	24.00
	62	5310	10.25	11.26	10.35	-	15.41	16.23	7.77	23.18	24.00
	102	5510	10.92	11.65	11.16	-	16.02	16.26	7.74	23.76	24.00
	110	5550	10.87	11.54	11.13	-	15.96	16.26	7.74	23.70	24.00
	134	5670	10.41	11.28	10.66	-	15.57	16.26	7.74	23.31	24.00
	142	5710	10.23	11.45	10.40	-	15.50	16.26	7.74	23.24	24.00
802.11ac VHT80	58	5290	5.44	6.35	5.78	-	10.64	16.23	7.77	18.41	24.00
	106	5530	8.80	9.09	8.46	-	13.56	16.26	7.74	21.30	24.00
	122	5610	10.30	11.21	9.89	-	15.27	16.26	7.74	23.01	24.00
	138	5690	10.67	10.21	9.55	-	14.94	16.26	7.74	22.68	24.00
802.11ac VHT160	50	5250	1.13	1.77	1.90	-	6.38	17.51	7.92	14.30	24.00
	114	5570	6.62	7.46	7.29	-	11.91	16.26	7.74	19.65	24.00

Maximum Conducted Output Power Measurement_Transmit power control											
Mode	CH	Frequency (MHz)	Average power					Limit	E.I.R.P		EIRP Power Limit
			Ant-0	Ant-1	Ant-2	Ant-3	Total		Gain	Calculated Results	
			dBm	dBm	dBm	dBm	dBm		dBm	dBm	
802.11ax HE20	52	5260	9.08	9.30	8.93	-	13.88	16.23	7.77	21.65	23.80
	56	5280	8.84	9.25	8.88	-	13.77	16.23	7.77	21.54	23.80
	64	5320	9.03	9.10	8.80	-	13.75	16.23	7.77	21.52	23.80
	100	5500	9.04	9.18	8.74	-	13.76	16.26	7.74	21.50	23.80
	112	5560	8.88	9.09	8.94	-	13.74	16.26	7.74	21.48	23.80
	140	5700	9.04	9.14	8.97	-	13.82	16.26	7.74	21.56	22.62
	144	5720	9.08	9.25	9.10	-	13.92	15.30	7.74	21.66	22.62
802.11ax HE40	54	5270	10.41	11.34	10.93	-	15.68	16.23	7.77	23.45	24.00
	62	5310	10.34	11.20	10.81	-	15.56	16.23	7.77	23.33	24.00
	102	5510	11.00	11.60	11.24	-	16.05	16.26	7.74	23.79	24.00
	110	5550	10.95	11.47	11.20	-	15.98	16.26	7.74	23.72	24.00
	134	5670	10.90	11.06	10.61	-	15.63	16.26	7.74	23.37	24.00
	142	5710	10.84	11.18	10.57	-	15.64	16.26	7.74	23.38	24.00
802.11ax HE80	58	5290	6.39	7.46	6.58	-	11.61	16.23	7.77	19.38	24.00
	106	5530	8.77	9.59	9.17	-	13.96	16.26	7.74	21.70	24.00
	122	5610	10.55	11.20	10.09	-	15.41	16.26	7.74	23.15	24.00
	138	5690	10.38	10.67	9.74	-	15.05	16.26	7.74	22.79	24.00
802.11ax HE160	50	5250	1.81	2.63	2.87	-	7.23	18.00	7.92	15.15	24.00
	114	5570	7.01	7.62	7.28	-	12.08	16.26	7.74	19.82	24.00