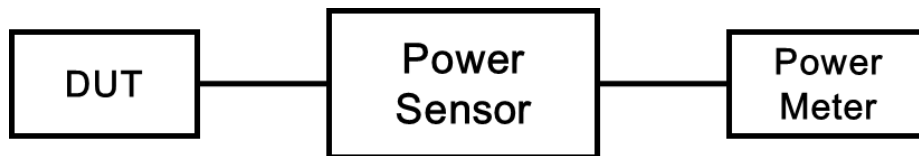


Appendix A - Conducted Power Measurements

WLAN Conducted Power

1. As per FCC OET KDB 248227 D01, conducted output power and SAR testing are not required for 802.11g/n20/n40/ax channels when the highest reported SAR for DSSS is adjusted by the ratio of OFDM to DSSS specified maximum output power and the adjusted SAR is $\leq 1.2\text{W/kg}$.
2. When the reported SAR of the initial test configuration is $> 0.8\text{ W/kg}$, SAR measurement is required for subsequent next highest measured output power channel(s) in the initial test configuration until reported SAR is $\leq 1.2\text{ W/kg}$ or all required channels are tested.
3. Additional conducted power measurement is required when reported SAR is $> 1.2\text{W/kg}$. In case the subsequent test configuration and the channel bandwidth is smaller than the initial test configuration, all channels that overlap with the larger channel bandwidth in the initial configuration should be tested.
4. The initial test configuration for 2.4 GHz ,5 GHz and 6 GHz OFDM transmission modes is determined by the 802.11 configuration with the highest maximum output power specified for production units, including tune-up tolerance, in each standalone and aggregated frequency band. SAR for the initial test configuration is measured using the highest maximum output power channel determined by the default power measurement procedures. When multiple transmission modes (802.11a/g/n/ac/ax) have the same specified maximum output power, largest channel bandwidth, lowest order modulation and lowest data rate, lowest order 802.11 mode is selected (i.e. a, g, n, ac then ax)
5. When the highest reported SAR for the initial test configuration (when applicable, include subsequent highest output channels), according to the initial test position or fixed exposure requirements, is adjusted by the ratio of the subsequent test configuration to the initial test configuration specified maximum output power and the adjusted SAR is $\leq 1.2\text{ W/Kg}$, SAR is not required for that subsequent test configuration.



Power Measurement Setup

WLAN 2.4 GHz								
Mode	Channel	Frequency (MHz)	Main			Aux		
			Peak Power (dBm)	Average Power (dBm)	Tune-Up Limit (dBm)	Peak Power (dBm)	Average Power (dBm)	Tune-Up Limit (dBm)
802.11b	1	2412	16.47	14.61	15.50	16.30	14.55	15.50
	6	2437	16.41	14.59	15.50	16.32	14.52	15.50
	11	2462	16.39	14.58	15.50	16.12	14.54	15.50
	12	2467	16.42	14.71	15.50	16.25	14.65	15.50
	13	2472	16.38	14.73	15.50	16.25	14.76	15.50
802.11g	1	2412	19.14	14.53	15.50	20.26	14.79	15.50
	6	2437	18.84	14.52	15.50	20.23	14.95	15.50
	11	2462	19.31	14.66	15.50	20.54	14.65	15.50
	12	2467	18.84	14.56	15.50	20.15	14.52	15.50
	13	2472	16.30	10.40	11.00	16.08	10.25	11.00
802.11n HT20	1	2412	20.48	14.91	15.50	21.42	14.75	15.50
	6	2437	20.16	14.50	15.50	21.39	14.81	15.50
	11	2462	19.93	14.53	15.50	21.29	14.52	15.50
	12	2467	20.39	14.87	15.50	20.22	14.84	15.50
	13	2472	18.17	12.65	13.50	18.19	12.58	13.50
802.11n HT40	3	2422	19.66	14.85	15.50	20.84	14.76	15.50
	6	2437	19.85	14.90	15.50	20.97	14.85	15.50
	9	2452	19.68	14.57	15.50	20.58	14.92	15.50
	10	2457	19.94	14.54	15.50	20.40	14.89	15.50
	11	2462	17.88	11.17	12.00	17.79	11.05	12.00
VHT20	1	2412	20.59	14.81	15.50	21.34	14.75	15.50
	6	2437	20.22	14.92	15.50	21.40	14.85	15.50
	11	2462	19.87	14.54	15.50	21.10	14.88	15.50
	12	2467	20.04	14.96	15.50	20.09	14.84	15.50
	13	2472	17.85	12.65	13.50	18.56	12.53	13.50
VHT40	3	2422	19.89	14.85	15.50	20.69	14.80	15.50
	6	2437	19.84	14.97	15.50	21.28	14.76	15.50
	9	2452	19.36	14.57	15.50	20.51	14.89	15.50
	10	2457	19.99	14.52	15.50	20.51	14.92	15.50
	11	2462	17.60	11.25	12.00	17.48	11.14	12.00
802.11ax HE20	1	2412	20.14	14.58	15.50	21.50	14.83	15.50
	6	2437	20.16	14.53	15.50	21.20	14.90	15.50
	11	2462	20.17	14.72	15.50	21.54	14.60	15.50
	12	2467	19.49	14.61	15.50	20.72	14.59	15.50
	13	2472	17.78	12.82	13.50	18.63	12.72	13.50
802.11ax HE40	3	2422	20.11	14.59	15.50	21.16	14.53	15.50
	6	2437	19.90	14.63	15.50	21.25	14.56	15.50
	9	2452	20.16	14.74	15.50	21.37	14.57	15.50
	10	2457	20.00	14.68	15.50	20.68	14.63	15.50
	11	2462	17.78	11.46	12.00	17.99	11.31	12.00

WLAN 5.2 GHz						
Mode	Channel	Frequency (MHz)	Main		Aux	
			Average Power (dBm)	Tune-Up Limit (dBm)	Average Power (dBm)	Tune-Up Limit (dBm)
802.11a	36	5180	11.75	12.50	11.62	12.50
	40	5200	11.78	12.50	11.69	12.50
	44	5220	11.62	12.50	11.91	12.50
	48	5240	11.61	12.50	11.52	12.50
802.11n HT20	36	5180	11.69	12.50	11.54	12.50
	40	5200	11.64	12.50	11.53	12.50
	44	5220	11.51	12.50	11.85	12.50
	48	5240	11.92	12.50	11.88	12.50
802.11n HT40	38	5190	11.70	12.50	11.57	12.50
	46	5230	11.81	12.50	11.65	12.50
802.11ac VHT20	36	5180	11.63	12.50	11.53	12.50
	40	5200	11.76	12.50	11.52	12.50
	44	5220	11.51	12.50	11.82	12.50
	48	5240	11.90	12.50	11.86	12.50
802.11ac VHT40	38	5190	11.66	12.50	11.58	12.50
	46	5230	11.76	12.50	11.64	12.50
802.11ac VHT80	42	5210	11.52	12.50	11.51	12.50
802.11ax HE20	36	5180	11.94	12.50	11.86	12.50
	40	5200	11.51	12.50	11.87	12.50
	44	5220	11.58	12.50	11.52	12.50
	48	5240	11.61	12.50	11.51	12.50
802.11ax HE40	38	5190	11.56	12.50	11.86	12.50
	46	5230	11.55	12.50	11.92	12.50
802.11ax HE80	42	5210	11.87	12.50	11.63	12.50

WLAN 5.3 GHz						
Mode	Channel	Frequency (MHz)	Main		Aux	
			Average Power (dBm)	Tune-Up Limit (dBm)	Average Power (dBm)	Tune-Up Limit (dBm)
802.11a	52	5260	11.60	12.50	11.58	12.50
	56	5280	11.63	12.50	11.53	12.50
	60	5300	11.84	12.50	11.74	12.50
	64	5320	11.92	12.50	11.75	12.50
802.11n HT20	52	5260	11.52	12.50	11.87	12.50
	56	5280	11.57	12.50	11.92	12.50
	60	5300	11.74	12.50	11.62	12.50
	64	5320	11.85	12.50	11.63	12.50
802.11n HT40	54	5270	11.83	12.50	11.75	12.50
	62	5310	11.82	12.50	11.67	12.50
802.11ac VHT20	52	5260	11.58	12.50	11.84	12.50
	56	5280	11.60	12.50	11.84	12.50
	60	5300	11.87	12.50	11.69	12.50
	64	5320	11.88	12.50	11.76	12.50
802.11ac VHT40	54	5270	11.91	12.50	11.76	12.50
	62	5310	11.92	12.50	11.72	12.50
802.11ac VHT80	58	5290	11.63	12.50	11.51	12.50
802.11ac VHT160	50	5250	11.94	12.50	11.87	12.50
802.11ax HE20	52	5260	11.62	12.50	11.52	12.50
	56	5280	11.65	12.50	11.62	12.50
	60	5300	11.57	12.50	11.50	12.50
	64	5320	11.64	12.50	11.52	12.50
802.11ax HE40	54	5270	11.52	12.50	11.92	12.50
	62	5310	11.63	12.50	11.51	12.50
802.11ax HE80	58	5290	11.91	12.50	11.81	12.50
802.11ax HE160	50	5250	11.63	12.50	11.57	12.50

WLAN 5.6 GHz						
Mode	Channel	Frequency (MHz)	Main		Aux	
			Average Power (dBm)	Tune-Up Limit (dBm)	Average Power (dBm)	Tune-Up Limit (dBm)
802.11a	100	5500	10.84	11.50	10.75	11.50
	116	5580	10.85	11.50	10.78	11.50
	124	5620	10.58	11.50	10.51	11.50
	132	5660	10.65	11.50	10.63	11.50
	140	5700	10.82	11.50	10.68	11.50
	144	5720	10.70	11.50	10.67	11.50
802.11n HT20	100	5500	10.77	11.50	10.64	11.50
	116	5580	10.74	11.50	10.56	11.50
	124	5620	10.52	11.50	10.84	11.50
	132	5660	10.56	11.50	10.52	11.50
	140	5700	10.75	11.50	10.63	11.50
	144	5720	10.62	11.50	10.53	11.50
802.11n HT40	102	5510	10.75	11.50	10.63	11.50
	110	5550	10.89	11.50	10.73	11.50
	126	5630	10.78	11.50	10.67	11.50
	134	5670	10.69	11.50	10.64	11.50
	142	5710	10.90	11.50	10.82	11.50
802.11ac VHT20	100	5500	10.78	11.50	10.62	11.50
	116	5580	10.75	11.50	10.57	11.50
	124	5620	10.51	11.50	10.82	11.50
	132	5660	10.56	11.50	10.94	11.50
	140	5700	10.68	11.50	10.69	11.50
	144	5720	10.61	11.50	10.62	11.50
802.11ac VHT40	102	5510	10.57	11.50	10.67	11.50
	110	5550	10.66	11.50	10.74	11.50
	126	5630	10.53	11.50	10.63	11.50
	134	5670	10.60	11.50	10.68	11.50
	142	5710	10.58	11.50	10.82	11.50
802.11ac VHT80	106	5530	10.71	11.50	10.70	11.50
	122	5610	10.69	11.50	10.68	11.50
	138	5690	10.75	11.50	10.72	11.50
802.11ac VHT160	114	5570	10.89	11.50	10.84	11.50
802.11ax HE20	100	5500	10.55	11.50	10.94	11.50
	116	5580	10.91	11.50	10.74	11.50
	124	5620	10.65	11.50	10.53	11.50
	132	5660	10.69	11.50	10.55	11.50
	140	5700	10.57	11.50	10.52	11.50
	144	5720	10.72	11.50	10.71	11.50
802.11ax HE40	102	5510	10.57	11.50	10.98	11.50
	110	5550	10.60	11.50	10.57	11.50
	126	5630	10.53	11.50	10.91	11.50
	134	5670	10.50	11.50	10.89	11.50
	142	5710	10.57	11.50	10.53	11.50
802.11ax HE80	106	5530	10.93	11.50	10.75	11.50
	122	5610	10.67	11.50	10.60	11.50
	138	5690	10.97	11.50	10.85	11.50
802.11ax HE160	114	5570	10.71	11.50	10.59	11.50

WLAN 5.8 GHz						
Mode	Channel	Frequency (MHz)	Main		Aux	
			Average Power (dBm)	Tune-Up Limit (dBm)	Average Power (dBm)	Tune-Up Limit (dBm)
802.11a	149	5745	11.95	12.50	11.85	12.50
	157	5785	11.80	12.50	11.81	12.50
	165	5825	11.52	12.50	11.51	12.50
	169	5845	11.94	12.50	11.75	12.50
	173	5865	11.85	12.50	11.69	12.50
	177	5885	11.92	12.50	11.80	12.50
802.11n HT20	149	5745	11.86	12.50	11.79	12.50
	157	5785	11.72	12.50	11.57	12.50
	165	5825	11.51	12.50	11.84	12.50
	169	5845	11.77	12.50	11.64	12.50
	173	5865	11.80	12.50	11.75	12.50
	177	5885	11.82	12.50	11.60	12.50
802.11n HT40	151	5755	11.86	12.50	11.85	12.50
	159	5795	11.58	12.50	11.50	12.50
	167	5835	11.57	12.50	11.55	12.50
	175	5875	11.61	12.50	11.51	12.50
802.11ac VHT20	149	5745	11.76	12.50	11.81	12.50
	157	5785	11.68	12.50	11.68	12.50
	165	5825	11.54	12.50	11.91	12.50
	169	5845	11.83	12.50	11.59	12.50
	173	5865	11.77	12.50	11.61	12.50
	177	5885	11.80	12.50	11.59	12.50
802.11ac VHT40	151	5755	11.83	12.50	11.77	12.50
	159	5795	11.52	12.50	11.50	12.50
	167	5835	11.62	12.50	11.98	12.50
	175	5875	11.62	12.50	11.51	12.50
802.11ac VHT80	155	5775	11.77	12.50	11.75	12.50
	171	5855	11.85	12.50	11.81	12.50
802.11ac VHT160	163	5815	11.69	12.50	11.64	12.50
802.11ax HE20	149	5745	11.62	12.50	11.56	12.50
	157	5785	11.83	12.50	11.77	12.50
	165	5825	11.79	12.50	11.62	12.50
	169	5845	11.92	12.50	11.76	12.50
	173	5865	11.89	12.50	11.79	12.50
	177	5885	11.90	12.50	11.67	12.50
802.11ax HE40	151	5755	11.64	12.50	11.62	12.50
	159	5795	11.75	12.50	11.59	12.50
	167	5835	11.84	12.50	11.64	12.50
	175	5875	11.85	12.50	11.65	12.50
802.11ax HE80	155	5775	11.59	12.50	11.96	12.50
	171	5855	11.63	12.50	11.50	12.50
802.11ax HE160	163	5815	11.59	12.50	11.92	12.50

WLAN 6.2 GHz						
Mode	Channel	Frequency (MHz)	Main		Aux	
			Average power (dBm)	Tune-Up Limit (dBm)	Average power (dBm)	Tune-Up Limit (dBm)
802.11a	1	5955	6.52	7.00	6.37	7.00
	45	6175	6.10	7.00	6.24	7.00
	93	6415	6.35	7.00	6.15	7.00
802.11ax HE20	1	5955	6.16	7.00	6.11	7.00
	45	6175	6.27	7.00	6.10	7.00
	93	6415	6.38	7.00	6.14	7.00
802.11ax HE40	3	5965	8.83	9.50	8.83	9.50
	43	6165	8.59	9.50	8.51	9.50
	91	6405	8.85	9.50	8.77	9.50
802.11ax HE80	7	5985	8.82	9.50	8.71	9.50
	39	6145	8.50	9.50	8.67	9.50
	87	6385	8.57	9.50	8.96	9.50
802.11ax HE160	15	6025	9.04	9.50	9.21	9.50
	47	6185	9.01	9.50	8.81	9.50
	79	6345	9.19	9.50	9.09	9.50

WLAN 6.5 GHz						
Mode	Channel	Frequency (MHz)	Main		Aux	
			Average power (dBm)	Tune-Up Limit (dBm)	Average power (dBm)	Tune-Up Limit (dBm)
802.11a	97	6435	6.08	7.50	6.56	7.50
	105	6475	6.34	7.50	6.86	7.50
	113	6515	6.37	7.50	6.85	7.50
802.11ax HE20	97	6435	6.72	7.50	6.59	7.50
	105	6475	6.94	7.50	6.90	7.50
	113	6515	6.95	7.50	6.91	7.50
802.11ax HE40	99	6445	8.69	9.50	8.64	9.50
	107	6485	8.97	9.50	8.89	9.50
802.11ax HE80	103	6465	8.57	9.50	8.52	9.50
802.11ax HE80	119	6545	8.71	9.50	8.71	9.50
802.11ax HE160	111	6505	9.15	9.50	8.87	9.50

WLAN 6.7 GHz						
Mode	Channel	Frequency (MHz)	Main		Aux	
			Average power (dBm)	Tune-Up Limit (dBm)	Average power (dBm)	Tune-Up Limit (dBm)
802.11a	117	6535	6.38	7.00	6.33	7.00
	149	6695	6.15	7.00	6.02	7.00
	181	6855	6.37	7.00	6.13	7.00
802.11ax HE20	117	6535	6.45	7.00	6.30	7.00
	149	6695	6.17	7.00	6.03	7.00
	181	6855	6.42	7.00	6.09	7.00
802.11ax HE40	115	6525	8.92	9.50	8.91	9.50
	147	6685	8.78	9.50	8.52	9.50
	179	6845	8.51	9.50	8.63	9.50
802.11ac VHT80	135	6625	8.63	9.50	8.52	9.50
	151	6705	8.60	9.50	8.51	9.50
	167	6785	8.72	9.50	8.56	9.50
	183	6865	8.89	9.50	8.61	9.50
802.11ax HE160	143	6665	9.16	9.50	8.81	9.50
	175	6825	9.03	9.50	9.06	9.50

WLAN 7.0 GHz						
Mode	Channel	Frequency (MHz)	Main		Aux	
			Average power (dBm)	Tune-Up Limit (dBm)	Average power (dBm)	Tune-Up Limit (dBm)
802.11a	185	6875	7.21	8.00	7.02	8.00
	209	6995	7.37	8.00	7.15	8.00
	233	7115	7.26	8.00	7.01	8.00
802.11ax HE20	185	6875	7.42	8.00	7.44	8.00
	209	6995	7.03	8.00	7.10	8.00
	233	7115	7.06	8.00	7.14	8.00
802.11ax HE40	187	6885	8.53	9.50	8.51	9.50
	211	7005	8.64	9.50	8.56	9.50
	227	7085	8.63	9.50	8.53	9.50
802.11ax HE80	199	6945	8.97	9.50	8.76	9.50
	215	7025	8.68	9.50	8.92	9.50
802.11ax HE160	207	6985	9.17	9.50	8.84	9.50

Bluetooth BR / EDR					
Band	Channel	Frequency (MHz)	Main		
			Peak Power (dBm)	Average Power (dBm)	Tune-Up Limit (dBm)
Bluetooth BR GFSK	0	2402	14.63	13.25	13.50
	39	2441	14.76	13.23	13.50
	78	2480	14.79	13.24	13.50
Bluetooth EDR $\pi/4$ -DQPSK	0	2402	11.40	10.18	10.50
	39	2441	11.49	10.31	10.50
	78	2480	11.33	10.26	10.50
Bluetooth EDR 8DPSK	0	2402	11.51	10.34	10.50
	39	2441	11.65	10.45	10.50
	78	2480	11.45	10.36	10.50

Bluetooth LE					
Band	Channel	Frequency (MHz)	Main		
			Peak Power (dBm)	Average Power (dBm)	Tune-Up Limit (dBm)
Bluetooth LE 1M	0	2402	13.93	13.04	13.50
	19	2440	14.19	13.01	13.50
	39	2480	14.29	13.21	13.50
Bluetooth LE 2M	1	2404	14.96	12.64	13.50
	19	2440	15.07	12.56	13.50
	38	2478	15.16	12.57	13.50

Bluetooth BR / EDR					
Band	Channel	Frequency (MHz)	Aux		
			Peak Power (dBm)	Average Power (dBm)	Tune-Up Limit (dBm)
Bluetooth BR GFSK	0	2402	14.53	13.14	13.50
	39	2441	14.57	13.12	13.50
	78	2480	14.82	13.08	13.50
Bluetooth EDR $\pi/4$ -DQPSK	0	2402	11.44	10.36	10.50
	39	2441	11.52	10.39	10.50
	78	2480	11.42	10.41	10.50
Bluetooth EDR 8DPSK	0	2402	11.46	10.35	10.50
	39	2441	11.65	10.46	10.50
	78	2480	11.41	10.31	10.50

Bluetooth LE					
Band	Channel	Frequency (MHz)	Aux		
			Peak Power (dBm)	Average Power (dBm)	Tune up Limit (dBm)
Bluetooth LE 1M	0	2402	13.96	13.03	13.50
	19	2440	14.00	13.09	13.50
	39	2480	14.17	13.11	13.50
Bluetooth LE 2M	1	2404	14.85	12.26	13.50
	19	2440	14.95	12.24	13.50
	38	2478	15.12	12.38	13.50