

8 CONDUCTED RF OUPUT POWER

8.1	WIFI Output Power
8.2	Bluetooth Output Power
8.3	Bluetooth Duty cycle

8.1 WIFI Output Power

test Mode	Modulation	Channel number	Fre. (MHz)	AUX		Main		SAR Test	
				output power (dBm)	tune up power	output power (dBm)	tune up power	Aux	Main
WIFI 2.4G	11b	1	2412	12.43	14.00	13.51	15.00	Yes	Yes
		6	2437	12.37	14.00	13.52	15.00	Yes	Yes
		11	2462	12.55	14.00	13.49	15.00	Yes	Yes
	11g	1	2412	12.51	14.00	13.69	15.00	No	No
		6	2437	12.54	14.00	13.70	15.00	No	No
		11	2462	12.64	14.00	13.79	15.00	No	No
	11n20	1	2412	12.87	14.00	13.79	15.00	No	No
		6	2437	12.63	14.00	13.89	15.00	No	No
		11	2462	12.49	14.00	13.88	15.00	No	No
	11ax20	1	2412	12.74	14.00	13.49	15.00	No	No
		6	2437	12.62	14.00	13.60	15.00	No	No
		11	2462	12.42	14.00	13.53	15.00	No	No

Note: When multiple channel bandwidth configurations in a frequency band have the same maximum tune-up output power, the test configuration is determined by applying the following steps sequentially.

(1) The largest channel bandwidth configuration is selected between the multiple configurations in a frequency band with the same maximum tune-up output power.

(2) According KDB 247228, 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 ≤ 1.2 W/kg, OFDM SAR test is not required.

Adjusted SAR = $1.153 * (25.12\text{mW} / 25.12\text{mW}) = 1.153$ W/Kg, so 2.4G OFDM SAR test is not required.

test Mode	Modulation	Channel number	Fre. (MHz)	AUX		Main		SAR Test	
				output power (dBm)	tune up power	output power (dBm)	tune up power	Aux	Main
WIFI 5. 2G	11a	36	5180	9.22	10.50	8.62	10.00	No	No
		40	5200	9.33	10.50	8.71	10.00	No	No
		48	5240	8.90	10.50	8.89	10.00	No	No
	11n20	36	5180	9.03	10.50	8.77	10.00	No	No
		40	5200	9.13	10.50	8.57	10.00	No	No
		48	5240	8.96	10.50	8.51	10.00	No	No
	11n40	38	5190	9.37	10.50	8.69	10.00	No	No
		46	5230	9.03	10.50	8.80	10.00	No	No
	11ac20	36	5180	9.11	10.50	8.70	10.00	No	No
		40	5200	9.20	10.50	8.41	10.00	No	No
		48	5240	9.05	10.50	8.83	10.00	No	No
	11ac40	38	5190	8.97	10.50	8.40	10.00	No	No
		46	5230	9.15	10.50	8.59	10.00	No	No
	11ac80	42	5210	9.07	10.50	8.87	10.00	No	No
	11ac160	50	5250	8.97	10.50	8.80	10.00	No	No
	11ax20	36	5180	8.92	10.50	8.60	10.00	No	No
		40	5200	8.91	10.50	8.69	10.00	No	No
		48	5240	9.26	10.50	8.89	10.00	No	No
	11ax40	38	5190	9.28	10.50	8.62	10.00	No	No
		46	5230	9.08	10.50	8.64	10.00	No	No
	11ax80	42	5210	9.02	10.50	8.65	10.00	No	No
	11ax160	50	5250	9.21	10.50	8.43	10.00	No	No
WIFI 5. 3G	11a	52	5260	9.16	10.50	8.72	10.00	No	No
		60	5300	9.36	10.50	8.64	10.00	No	No
		64	5320	9.30	10.50	8.51	10.00	No	No
	11n20	52	5260	9.32	10.50	8.57	10.00	No	No
		60	5300	9.34	10.50	8.65	10.00	No	No
		64	5320	8.96	10.50	8.45	10.00	No	No
	11n40	54	5270	9.17	10.50	8.75	10.00	No	No
		62	5310	8.93	10.50	8.53	10.00	No	No
	11ac20	52	5260	9.33	10.50	8.61	10.00	No	No
		60	5300	9.07	10.50	8.56	10.00	No	No
		64	5320	9.37	10.50	8.44	10.00	No	No
	11ac40	54	5270	9.25	10.50	8.45	10.00	No	No
		62	5310	8.94	10.50	8.43	10.00	No	No
	11ac80	58	5290	9.08	10.50	8.50	10.00	Yes	Yes
	11ax20	52	5260	9.05	10.50	8.61	10.00	No	No
		60	5300	8.95	10.50	8.69	10.00	No	No
		64	5320	8.93	10.50	8.73	10.00	No	No
	11ax40	54	5270	8.96	10.50	8.49	10.00	No	No
		62	5310	9.31	10.50	8.61	10.00	No	No
	11ax80	58	5290	9.20	10.50	8.42	10.00	No	No
WIFI 5. 6G	11a	100	5500	8.66	10.00	9.06	10.50	No	No
		116	5580	8.43	10.00	9.23	10.50	No	No
		140	5700	8.41	10.00	9.14	10.50	No	No
		144	5720	8.89	10.00	9.33	10.50	No	No
	11n20	100	5500	8.46	10.00	8.98	10.50	No	No
		116	5580	8.79	10.00	9.03	10.50	No	No
		140	5700	8.80	10.00	9.18	10.50	No	No
		144	5720	8.78	10.00	9.21	10.50	No	No
	11n40	102	5510	8.54	10.00	9.20	10.50	No	No
		110	5550	8.55	10.00	9.27	10.50	No	No
		134	5670	8.81	10.00	9.20	10.50	No	No
		142	5710	8.69	10.00	9.04	10.50	No	No
	11ac20	100	5500	8.45	10.00	8.91	10.50	No	No
		116	5580	8.74	10.00	9.07	10.50	No	No
		140	5700	8.57	10.00	9.32	10.50	No	No
		144	5720	8.66	10.00	8.91	10.50	No	No
	11ac40	102	5510	8.72	10.00	9.12	10.50	No	No
		110	5550	8.80	10.00	9.25	10.50	No	No
		134	5670	8.71	10.00	9.15	10.50	No	No
		142	5710	8.65	10.00	9.35	10.50	No	No
	11ac80	106	5530	8.67	10.00	9.27	10.50	No	No
		122	5610	8.84	10.00	9.28	10.50	No	No
		138	5690	8.59	10.00	9.01	10.50	No	No

	11ac160	114	5570	8.62	10.00	9.12	10.50	Yes	Yes
	11ax20	100	5500	8.62	10.00	8.96	10.50	No	No
		116	5580	8.41	10.00	9.17	10.50	No	No
		140	5700	8.51	10.00	9.23	10.50	No	No
		144	5720	8.60	10.00	9.14	10.50	No	No
	11ax40	102	5510	8.45	10.00	9.15	10.50	No	No
		110	5550	8.63	10.00	9.04	10.50	No	No
		134	5670	8.88	10.00	8.90	10.50	No	No
		142	5710	8.71	10.00	8.97	10.50	No	No
	11ax80	106	5530	8.79	10.00	9.37	10.50	No	No
		122	5610	8.53	10.00	9.05	10.50	No	No
		138	5690	8.79	10.00	9.18	10.50	No	No
	11ax160	114	5570	8.57	10.00	9.11	10.50	No	No
WIFI 5.8G	11a	149	5745	8.50	10.00	8.59	10.00	No	No
		157	5785	8.82	10.00	8.69	10.00	No	No
		165	5825	8.59	10.00	8.56	10.00	No	No
	11n20	149	5745	8.47	10.00	8.67	10.00	No	No
		157	5785	8.70	10.00	8.56	10.00	No	No
		165	5825	8.86	10.00	8.83	10.00	No	No
	11n40	151	5755	8.72	10.00	8.75	10.00	No	No
		159	5795	8.72	10.00	8.80	10.00	No	No
	11ac20	149	5745	8.41	10.00	8.52	10.00	No	No
		157	5785	8.57	10.00	8.84	10.00	No	No
		165	5825	8.40	10.00	8.80	10.00	No	No
	11ac40	151	5755	8.40	10.00	8.47	10.00	No	No
		159	5795	8.89	10.00	8.41	10.00	No	No
	11ac80	155	5775	8.87	10.00	8.81	10.00	Yes	Yes
	11ax20	149	5745	8.79	10.00	8.74	10.00	No	No
		157	5785	8.79	10.00	8.61	10.00	No	No
		165	5825	8.55	10.00	8.85	10.00	No	No
	11ax40	151	5755	8.81	10.00	8.70	10.00	No	No
		159	5795	8.70	10.00	8.72	10.00	No	No
	11ax80	155	5775	8.80	10.00	8.67	10.00	No	No

Note: When multiple channel bandwidth configurations in a frequency band have the same maximum tune-up output power, the test configuration is determined by applying the following steps sequentially.

(1) When the same maximum output power is specified for both bands, begin SAR measurement in U-NII-2A band by applying the OFDM SAR requirements. If the highest reported SAR for a test configuration is ≤ 1.2 W/kg, SAR is not required for U-NII-1 band for that configuration (802.11 mode and exposure condition); otherwise, each band is tested independently for SAR.

(2) The largest channel bandwidth configuration is selected among the multiple configurations in a frequency band with the same maximum tune-up output power.

(3) When multiple transmission modes (802.11a/n/ac/ax) have the same maximum tune-up output power, largest channel bandwidth, lowest order modulation and lowest data rate, the lowest order 802.11 mode is selected; i.e., 802.11a is chosen over 802.11n, 802.11n is chosen over 802.11ac then 802.11ax.

8.2 Bluetooth Output Power

Test mode	Modulation	Channel number	Fre. (MHz)	Measurement Conducted power(dBm)	Tune-up (dBm)	SAR Test
				Aux	Aux	
BT	DH5	0	2402	9.01	10.50	Yes
		39	2441	9.59	10.50	Yes
		78	2480	9.93	10.50	Yes
	2DH5	0	2402	6.80	7.50	No
		39	2441	6.94	7.50	No
		78	2480	6.75	7.50	No
	3DH5	0	2402	7.19	7.50	No
		39	2441	6.74	7.50	No
		78	2480	7.18	7.50	No
	BLE-1M	0	2402	6.23	7.00	No
		19	2440	6.05	7.00	No
		39	2480	6.12	7.00	No
	BLE-2M	1	2404	6.08	7.00	No
		19	2440	6.12	7.00	No
		38	2478	6.17	7.00	No

Note: Since bluetooth BR mode is the maximum output power mode, SAR measurements were performed with test software using DH5 modulation, and SAR measurement is not required for the EDR and LE. When the secondary mode is $\leq 1/4$ dB higher than the primary mode.

8.3 Bluetooth Duty cycle

The Bluetooth duty cycle is 76.5% as following figure, according to 2016 Oct. TCB workshop for Bluetooth SAR scaling need further consideration and the maximum duty cycle is 100%, therefore the actual duty cycle will be scaled up to 100% for Bluetooth reported SAR calculation.

Duty Cycle

