

8 CONDUCTED RF OUPUT POWER

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8.1 WIFI Output Power

8.1.1 WIFI2.4G Output Power

test Mode	Modulation	Channel number	Fre.(MHz)	AV output power(dBm)	tune up power(dBm)	SAR Test
WIFI 2.4G	11b	1	2412	17.23	18.00	Yes
		6	2437	17.18	18.00	Yes
		11	2462	17.13	18.00	Yes
	11g	1	2412	17.03	18.00	No
		6	2437	17.08	18.00	No
		11	2462	14.90	15.00	No
	HT20	1	2412	17.84	18.00	No
		6	2437	17.86	18.00	No
		11	2462	14.68	15.00	No
	HT40	3	2422	14.29	15.00	No
		6	2437	16.49	17.00	No
		9	2452	14.35	15.00	No
	ax20	1	2412	14.57	15.00	No
		6	2437	17.84	18.00	No
		11	2462	14.69	15.00	No
	ax40	3	2422	14.21	15.00	No
		6	2437	16.48	17.00	No
		9	2452	14.30	15.00	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) When multiple transmission modes (802.11b/g/n/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., 802.11b is chosen over 802.11g, and 802.11g chosen over 802.11n.

3) 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 = $1.054 * (63.10\text{mW}/63.10\text{mW}) = 1.054$ W/Kg, so 2.4G OFDM SAR test is not required.

8.1.2 WIFI5G Output Power

test Mode	Modulation	Channel number	Fre.(MHz)	output power(dBm)	tune up power(dBm)	SAR Test
5.2 WIFI	11a	36	5180	8.23	9.00	No
		44	5220	8.69	9.00	No
		48	5240	8.58	9.00	No
	11n20	36	5180	7.96	9.00	No
		44	5220	8.45	9.00	No
		48	5240	8.41	9.00	No
	11n40	38	5190	8.76	9.00	No
		46	5230	8.69	9.00	No
	11ac20	36	5180	8.24	9.00	No
		44	5220	8.22	9.00	No
		48	5240	8.41	9.00	No
	11ac40	38	5190	8.74	9.00	No
		46	5230	8.78	9.00	No
	11ac80	42	5210	7.42	8.00	No
	11ac160	50	5250	7.55	8.00	No
	11ax20	36	5180	8.43	9.00	No
		44	5220	8.21	9.00	No
		48	5240	8.35	9.00	No
	11ax40	38	5190	8.87	9.00	No
		46	5230	8.79	9.00	No
	11ax80	42	5210	7.43	8.00	No
	11ax160	50	5250	7.50	8.00	No
5.3 WIFI	11a	52	5260	8.54	9.00	No
		60	5300	8.97	9.00	No
		64	5320	8.35	9.00	No
	11n20	52	5260	8.43	9.00	No
		60	5300	8.88	9.00	No
		64	5320	8.31	9.00	No
	11n40	54	5270	8.57	9.00	Yes
		62	5310	8.67	9.00	Yes
	11ac20	52	5260	8.46	9.00	No
		60	5300	8.92	9.00	No
		64	5320	8.33	9.00	No
	11ac40	54	5270	8.65	9.00	No
		62	5310	8.77	9.00	No
	11ac80	58	5290	7.38	8.00	No
	11ax20	52	5260	8.28	9.00	No
		60	5300	8.30	9.00	No
		64	5320	8.53	9.00	No
	11ax40	54	5270	8.77	9.00	No
		62	5310	8.79	9.00	No
	11ax80	58	5290	7.39	8.00	No

test Mode	Modulation	Channel number	Fre.(MHz)	output power(dBm)	tune up power(dBm)	SAR Test
5.6G WIFI	11a	100	5500	9.95	10.00	No
		116	5580	9.06	10.00	No
		140	5700	9.38	10.00	No
	11n20	100	5500	9.89	10.00	No
		116	5580	9.89	10.00	No
		140	5700	9.94	10.00	No
	11n40	102	5510	9.54	10.00	Yes
		118	5590	9.18	10.00	Yes
		134	5670	9.63	10.00	Yes
	11ac20	100	5500	9.85	10.00	No
		116	5580	9.81	10.00	No
		140	5700	9.96	10.00	No
	11ac40	102	5510	9.50	10.00	No
		118	5590	9.27	10.00	No
		134	5670	9.56	10.00	No
	11ac80	106	5530	8.21	9.00	No
		122	5610	8.17	9.00	No
	11ac160	114	5570	8.01	9.00	No
	11ac20	100	5500	9.69	10.00	No
		116	5580	9.88	10.00	No
		140	5700	9.35	10.00	No
	11ax40	102	5510	9.67	10.00	No
		118	5590	9.36	10.00	No
		134	5670	9.88	10.00	No
	11ax80	106	5530	8.52	9.00	No
		122	5610	8.34	9.00	No
	11ax160	114	5570	7.05	8.00	No
5.8G WIFI	11a	149	5745	9.96	10.00	No
		157	5785	9.42	10.00	No
		165	5825	9.93	10.00	No
	11n20	149	5745	9.80	10.00	No
		157	5785	9.22	10.00	No
		165	5825	9.95	10.00	No
	11n40	151	5755	9.35	10.00	Yes
		159	5795	9.42	10.00	Yes
	11ac20	149	5745	9.77	10.00	No
		157	5785	9.23	10.00	No
		165	5825	9.92	10.00	No
	11ac40	151	5755	9.38	10.00	No
		159	5795	9.43	10.00	No
	11ac80	155	5775	8.24	9.00	No
	11ax20	149	5745	9.23	10.00	No
		157	5785	9.20	10.00	No
		165	5825	9.06	10.00	No
	11ax40	151	5755	9.43	10.00	No
		159	5795	9.44	10.00	No
	11ax80	155	5775	8.25	9.00	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 among the multiple configurations in a frequency band with the same maximum tune-up output power. 2) 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 then 802.11ac.						

8.2 Bluetooth

8.2.1 Bluetooth Output Power

Bluetooth					
test Mode	Modulation	Fre.(MHz)	AV output power(dBm)	Tune up power(dBm)	SAR Test
BT	DH5	2402	10.69	11.00	Yes
		2441	10.52	11.00	Yes
		2480	10.74	11.00	Yes
	2DH5	2402	7.63	8.00	No
		2441	7.67	8.00	No
		2480	7.41	8.00	No
	3DH5	2402	7.68	8.00	No
		2441	7.65	8.00	No
		2480	7.80	8.00	No
	BLE1M	2402	7.56	8.00	No
		2440	7.57	8.00	No
		2480	7.67	8.00	No
	BLE1M	2402	7.33	8.00	No
		2440	7.29	8.00	No
		2480	7.59	8.00	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 ≤ ¼ dB higher than the primary mode.					

8.2.2 Bluetooth Duty Cycle

The Bluetooth duty cycle is 61.07% 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

