

8 CONDUCTED RF OUTPUT POWER

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8.1 WIFI Output Power

test Mode	Modulation	Channel number	Fre.(MHz)	power set	Output power(dBm)	Tune up power(dBm)	SAR Test
WIFI 2.4G	11b	1	2412	19.50	16.55	18.00	Yes
		6	2437	15.50	13.73	14.00	Yes
		11	2462	19.50	17.17	18.00	Yes
	11g	1	2412	17.50	14.64	16.00	No
		6	2437	17.50	15.25	16.00	No
		11	2462	17.50	15.05	16.00	No
	HT20	1	2412	17.50	14.52	16.00	No
		6	2437	17.50	15.14	16.00	No
		11	2462	17.50	14.91	16.00	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) SAR is measured for 2.4 GHz 802.11b DSSS using either a fixed test position or, when applicable, the initial test position procedure. 2) According KDB 248227, 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 = $0.173^* (39.81\text{mW}/63.09\text{mW}) = 0.109$ W/Kg, so 2.4G OFDM SAR test is not required.							

test Mode	Modulation	Channel number	Fre.(MHz)	power set	Output power(dBm)	Tune up power(dBm)	SAR Test
5.2 WIFI	11a	36	5180	16.00	15.88	16.00	No
		44	5220	16.00	15.82	16.00	No
		48	5240	16.00	15.95	16.00	No
	11n20	36	5180	16.00	15.77	16.00	No
		44	5220	16.00	15.86	16.00	No
		48	5240	16.00	15.81	16.00	No
	11n40	38	5190	16.00	15.66	16.00	No
		46	5230	16.00	15.65	16.00	No
	11ac20	36	5180	16.00	15.65	16.00	No
		44	5220	16.00	15.76	16.00	No
		48	5240	16.00	15.87	16.00	No
	11ac40	38	5190	16.00	15.66	16.00	No
		46	5230	16.00	15.62	16.00	No
	11ac80	42	5210	16.00	15.46	16.00	No
5.3 WIFI	11a	52	5260	16.00	15.84	16.00	No
		60	5300	16.00	15.91	16.00	No
		64	5320	16.00	15.95	16.00	No
	11n20	52	5260	16.00	15.90	16.00	No
		60	5300	16.00	15.68	16.00	No
		64	5320	16.00	15.86	16.00	No
	11n40	54	5270	16.00	15.69	16.00	No
		62	5310	16.00	15.82	16.00	No
	11ac20	52	5260	16.00	15.87	16.00	No
		60	5300	16.00	15.83	16.00	No
		64	5320	16.00	15.89	16.00	No
	11ac40	54	5270	16.00	15.76	16.00	No
		62	5310	16.00	15.85	16.00	No
	11ac80	58	5290	16.00	15.50	16.00	Yes

5.6 WIFI	11a	100	5500	16.00	15.94	16.00	No
		116	5580	16.00	15.85	16.00	No
		140	5700	16.00	15.80	16.00	No
	11n20	100	5500	16.00	15.98	16.00	No
		116	5580	16.00	15.85	16.00	No
		140	5700	16.00	15.78	16.00	No
	11n40	102	5510	16.00	15.73	16.00	No
		118	5590	16.00	15.74	16.00	No
		134	5670	16.00	15.41	16.00	No
	11ac20	100	5500	16.00	15.98	16.00	No
		116	5580	16.00	15.73	16.00	No
		140	5700	16.00	15.57	16.00	No
	11ac40	102	5510	16.00	15.81	16.00	No
		118	5590	16.00	15.67	16.00	No
		134	5670	16.00	15.47	16.00	No
	11ac80	106	5530	16.00	15.54	16.00	Yes
		122	5610	16.00	15.42	16.00	Yes
		138	5690	16.00	15.42	16.00	Yes
5.8G WIFI	11a	149	5745	16.00	15.93	16.00	No
		157	5785	16.00	15.73	16.00	No
		165	5825	16.00	15.78	16.00	No
	11n20	149	5745	16.00	15.75	16.00	No
		157	5785	16.00	15.55	16.00	No
		165	5825	16.00	15.53	16.00	No
	11n40	151	5755	16.00	15.51	16.00	No
		159	5795	16.00	15.44	16.00	No
	11ac20	149	5745	16.00	15.77	16.00	No
		157	5785	16.00	15.66	16.00	No
		165	5825	16.00	15.58	16.00	No
	11ac40	151	5755	16.00	15.62	16.00	No
		159	5795	16.00	15.44	16.00	No
	11ac80	155	5775	16.00	15.23	16.00	Yes

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) 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)	power set	Output power(dBm)	Tune up power(dBm)	SAR Test
BT	DH5	2402	N/A	5.97	7.00	Yes
		2441	N/A	7.66	8.00	Yes
		2480	N/A	10.47	11.00	Yes
	2DH5	2402	N/A	3.10	4.00	No
		2441	N/A	4.12	5.00	No
		2480	N/A	7.51	8.00	No
	3DH5	2402	N/A	3.52	4.00	No
		2441	N/A	4.31	5.00	No
		2480	N/A	7.72	8.00	No
	BLE1M	2402	N/A	-3.62	-3.00	No
		2440	N/A	-1.99	-1.00	No
		2480	N/A	-2.01	-2.00	No
	BLE2M	2404	N/A	-3.45	-3.00	No
		2440	N/A	-2.04	-2.00	No
		2478	N/A	-1.91	-1.00	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 $\leq \frac{1}{4}$ dB higher than the primary mode.						

8.2.2 Bluetooth Duty Cycle

The Bluetooth duty cycle is 85.71% 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

