

8 CONDUCTED RF OUPUT POWER

8.1	WIFI Output Power
8.2	Bluetooth
8.2.1	Bluetooth Output Power
8.2.2	Bluetooth Duty Cycle

8.1 WIFI Output Power

WIFI2.4G-Ant.1						
2.4G	Mode	Channal	Frequency (MHz)	AV power (dBm)	Tune up (dBm)	SAR Test
	11b	1	2412	13.55	14.00	No
		6	2437	16.14	17.00	Yes
		11	2462	11.96	13.00	No
	11g	1	2412	13.02	14.00	No
		6	2437	15.96	17.00	No
		11	2462	11.66	13.00	No
	11n20	1	2412	13.42	14.00	No
		6	2437	16.17	17.00	No
		11	2462	11.93	13.00	No
	11n40	3	2422	16.28	17.00	No
		6	2437	16.76	17.00	No
		9	2452	14.46	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) 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 = $0.722 * (50.12\text{mW}/50.12\text{mW}) = 0.722$ W/Kg, so 2.4G OFDM SAR test is not required.

8.1 WIFI Output Power

WIFI5G-Ant.1						
	Mode	Channel	Frequency (MHz)	AV power (dBm)	Tune up (dBm)	SAR Test
5.2G	11a	36	5180	14.37	15.00	No
		44	5220	14.70	15.00	No
		48	5240	14.45	15.00	No
	11n20	36	5180	14.76	15.00	No
		44	5220	14.25	15.00	No
		48	5240	14.76	15.00	No
	11n40	38	5190	14.42	15.00	No
		46	5230	14.25	15.00	No
	11ac20	36	5180	14.85	15.00	No
		44	5220	14.35	15.00	No
		48	5240	14.12	15.00	No
	11ac40	38	5190	14.48	15.00	No
		46	5230	14.61	15.00	No
	11ac80	42	5210	14.71	15.00	Yes
5.8G	11a	149	5745	11.80	12.50	No
		157	5785	11.66	12.50	No
		165	5825	11.82	12.50	No
	11n20	149	5745	11.88	12.50	No
		157	5785	12.21	12.50	No
		165	5825	12.16	12.50	No
	11n40	151	5755	12.30	12.50	No
		159	5795	12.29	12.50	No
	11ac20	149	5745	12.32	12.50	No
		157	5785	12.31	12.50	No
		165	5825	11.72	12.50	No
	11ac40	151	5755	12.45	12.50	No
		159	5795	11.28	12.50	No
	11ac80	155	5775	12.14	12.50	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) 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) 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-Ant.1						
Test Mode	Modulation	Channel number	Frequency(MHz)	AV power (dBm)	Tune up (dBm))	SAR Test
BT	DH5	0	2402	11.29	12.00	No
		39	2441	11.04	12.00	No
		78	2480	11.52	12.00	Yes
	2DH5	0	2402	2.50	3.00	No
		39	2441	2.00	3.00	No
		78	2480	2.88	3.00	No
	3DH5	0	2402	2.47	3.00	No
		39	2441	2.05	3.00	No
		78	2480	2.89	3.00	No
	BLE-1M	0	2402	3.99	5.00	No
		19	2440	4.19	5.00	No
		39	2480	3.88	5.00	No
	BLE-2M	1	2404	4.38	5.00	No
		19	2440	4.24	5.00	No
		38	2478	4.20	5.00	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 77.69% 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

