

8 CONDUCTED RF OUPUT POWER

8.1	2.4G ISM Band Output Power
8.2	WIFI Output Power
8.3	Bluetooth
8.3.1	Bluetooth Output Power
8.3.2	Bluetooth Duty Cycle

8.1 2.4G ISM Band Output Power

test Mode	Modulation	Fre.(MHz)	output power(dBm)	tune up power(dBm)	SAR Test
2.4G ISM Band	250Kbps	2405	8.39	9.00	No
		2440	9.71	10.50	No
		2475	10.34	10.50	Yes
	1Mbps	2405	8.37	9.00	No
		2440	9.67	10.50	No
		2475	10.32	10.50	No

8.2 WIFI Output Power

test Mode	Modulation	Channel number	Fre.(MHz)	output power(dBm)	tune up power(dBm)	SAR Test
WIFI 2.4G	11b	1	2412	9.30	10.00	No
		6	2437	9.43	10.00	No
		11	2462	9.70	10.00	Yes
	11g	1	2412	2.74	3.50	No
		6	2437	2.89	3.50	No
		11	2462	3.11	3.50	No
	HT20	1	2412	4.07	4.50	No
		6	2437	4.21	4.50	No
		11	2462	4.41	4.50	No
	HT40	3	2422	4.09	4.50	No
		6	2437	4.19	4.50	No
		9	2452	4.33	4.50	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 = $0.096 * (2.81\text{mW}/10\text{mW}) = 0.027$ W/Kg, so 2.4G OFDM SAR test is not required.

test Mode	Modulation	Channel number	Fre.(MHz)	output power(dBm)	tune up power(dBm)	SAR Test
5.2 WIFI	11a	36	5180	9.86	10.00	No
		44	5220	9.87	10.00	Yes
		48	5240	8.27	9.00	No
	11n20	36	5180	8.26	8.50	No
		44	5220	8.05	8.50	No
		48	5240	7.85	8.50	No
	11n40	38	5190	5.58	6.00	No
		46	5230	5.94	6.00	No
5.8G WIFI	11a	149	5745	9.67	10.50	No
		157	5785	9.79	10.50	Yes
		165	5825	9.73	10.50	No
	11n20	149	5745	9.79	10.00	No
		157	5785	9.77	10.00	No
		165	5825	9.79	10.00	No
	11n40	151	5755	9.73	10.00	No
		159	5795	9.83	10.00	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) 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.

8.3 Bluetooth

8.3.1 Bluetooth Output Power

ANT1					
test Mode	Modulation	Fre.(MHz)	AV output power(dBm)	Tune up power(dBm)	SAR Test
BT	DH5	2402	6.52	7.50	No
		2441	6.64	7.50	Yes
		2480	6.58	7.50	No
	2DH5	2402	2.53	3.00	No
		2441	2.89	3.00	No
		2480	2.92	3.00	No
	3DH5	2402	2.54	3.00	No
		2441	2.90	3.00	No
		2480	2.93	3.00	No
	BLE1M	2402	2.34	3.00	No
		2440	2.52	3.00	No
		2480	2.45	3.00	No
	BLE2M	2404	2.53	3.00	No
		2440	2.63	3.00	No
		2478	2.60	3.00	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.					

ANT2					
test Mode	Modulation	Fre.(MHz)	AV output power(dBm)	Tune up power(dBm)	SAR Test
BT	DH5	2402	6.18	7.50	No
		2441	6.44	7.50	Yes
		2480	6.40	7.50	No
	2DH5	2402	5.75	6.50	No
		2441	6.00	6.50	No
		2480	5.93	6.50	No
	3DH5	2402	5.73	6.00	No
		2441	5.95	6.00	No
		2480	5.92	6.00	No
	BLE1M	2402	2.51	3.00	No
		2440	2.49	3.00	No
		2480	2.41	3.00	No
	BLE2M	2404	2.48	3.00	No
		2440	2.44	3.00	No
		2478	2.42	3.00	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.					

8.3.2 Bluetooth Duty Cycle

ANT1

The Bluetooth duty cycle is 57.55% 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.



