

8 CONDUCTED RF OUPUT POWER

8.1	WIFI Output Power
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8.1 WIFI Output Power

WIFI2.4G-ANT1						
2.4G	Mode	Channal	Frequency (MHz)	AV power (dBm)	Tune up (dBm)	SAR Test
	11b	1	2412	17.84	19.00	Yes
		6	2437	18.04	19.00	Yes
		11	2462	17.73	19.00	Yes
	11g	1	2412	17.06	18.50	No
		6	2437	17.17	18.50	No
		11	2462	16.87	18.00	No
	11n-HT20	1	2412	15.87	17.00	No
		6	2437	15.90	17.00	No
		11	2462	15.57	17.00	No
	11n-HT40	3	2422	14.84	16.00	No
		6	2437	14.78	16.00	No
		9	2452	14.64	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 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 = $0.421 * (70.79\text{mW}/79.43\text{mW}) = 0.375$ W/Kg, so 2.4G OFDM SAR test is not required.

WIFI5G-ANT2						
	Mode	Channel	Frequency (MHz)	AV power (dBm)	Tune up (dBm)	SAR Test
5.2G	11a	36	5180	16.99	18.50	No
		44	5220	17.23	18.50	No
		48	5240	17.05	18.50	No
	11n20	36	5180	16.35	17.50	No
		44	5220	16.57	18.00	No
		48	5240	16.39	17.50	No
	11n40	38	5190	16.43	17.50	No
		46	5230	16.70	18.00	No
		36	5180	15.32	16.50	No
	11ac20	44	5220	15.54	17.00	No
		48	5240	15.43	16.50	No
		38	5190	14.35	15.50	No
5.3G	11a	46	5230	14.58	16.00	No
		42	5210	14.23	15.50	No
		52	5260	17.17	18.50	Yes
	11n20	60	5300	17.23	18.50	Yes
		64	5320	17.27	18.50	Yes
		52	5260	16.40	17.50	No
	11n40	60	5300	16.59	18.00	No
		64	5320	16.60	18.00	No
		54	5270	16.25	17.50	No
	11ac20	62	5310	16.38	17.50	No
		52	5260	15.51	17.00	No
		60	5300	15.54	17.00	No
5.6G	11a	64	5320	15.55	17.00	No
		54	5270	14.63	16.00	No
		62	5310	14.59	16.00	No
	11n20	58	5290	14.43	15.50	No
		100	5500	17.62	18.50	Yes
		116	5580	17.48	18.50	Yes
	11n40	140	5700	17.85	18.50	Yes
		100	5500	16.57	18.00	No
		116	5580	16.93	18.00	No
	11ac20	140	5700	17.23	18.50	No
		102	5510	16.45	17.50	No
		118	5590	16.90	18.00	No
5.8G	11a	134	5670	17.11	18.00	No
		100	5500	15.91	17.00	No
		116	5580	15.80	17.00	No
	11n20	140	5700	16.21	17.50	No
		102	5510	15.17	16.50	No
		118	5590	14.79	16.00	No
	11n40	134	5670	15.03	16.50	No
		106	5530	14.72	16.00	No
		122	5610	14.64	16.00	No
	11ac20	149	5745	17.39	18.50	Yes
		157	5785	17.47	18.50	Yes
		165	5825	17.52	18.50	Yes
5.8G	11a	149	5745	16.71	18.00	No
		157	5785	16.84	18.00	No
		165	5825	16.87	18.00	No
	11n20	151	5755	16.67	18.00	No
		159	5795	16.95	18.00	No
		149	5745	15.72	17.00	No
	11n40	157	5785	15.88	17.00	No
		165	5825	16.36	17.50	No
		151	5755	14.68	16.00	No
	11ac20	159	5795	14.92	16.00	No
		155	5775	14.66	16.00	No
		155	5775	14.66	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)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/g/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 Output Power

Bluetooth-Ant.1						
Test Mode	Modulation	Channel number	Frequency(MHz)	AV power (dBm)	Tune up (dBm))	SAR Test
BT	DH5	0	2402	7.28	8.50	Yes
		39	2441	6.15	7.50	Yes
		78	2480	6.01	7.50	Yes
	2DH5	0	2402	7.23	8.50	No
		39	2441	6.09	7.50	No
		78	2480	5.92	7.00	No
	3DH5	0	2402	7.31	8.50	No
		39	2441	6.08	7.50	No
		78	2480	5.87	7.00	No
	BLE-1M	0	2402	-2.52	-1.50	No
		19	2440	-1.94	-0.50	No
		39	2480	-2.02	-1.00	No
	BLE-2M	1	2404	-2.42	-1.00	No
		19	2440	-1.97	-0.50	No
		38	2478	-1.89	-0.50	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 Bluetooth Duty Cycle

The Bluetooth duty cycle is 76.61% 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

