

8 CONDUCTED RF OUPUT POWER

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8.1 WIFI Output Power

WIFI2.4G-Ant.1						
2.4G	Mode	Channel	Frequency (MHz)	AV power (dBm)	Tune up (dBm)	SAR Test
	11b	1	2412	12.82	13.00	Yes
		6	2437	12.09	13.00	Yes
		11	2462	12.75	13.00	Yes
	11g	1	2412	12.58	13.00	No
		6	2437	11.46	13.00	No
		11	2462	11.78	13.00	No
	11n20	1	2412	12.94	13.00	No
		6	2437	11.78	13.00	No
		11	2462	12.03	13.00	No
	11n40	3	2422	11.89	13.00	No
		6	2437	12.95	13.00	No
		9	2452	12.76	13.00	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 = $1.061 * (19.95\text{mW}/19.95\text{mW}) = 1.061$ W/Kg, so 2.4G OFDM SAR test is not required.

WiFi5G-Ant.1						
	Mode	Channal	Frequency (MHz)	AV power (dBm)	Tune up (dBm)	SAR Test
5.2G	11a	36	5180	10.47	11.00	No
		44	5220	10.50	11.00	No
		48	5240	9.94	11.00	No
	11n20	36	5190	10.68	11.00	No
		44	5220	10.82	11.00	No
		48	5240	10.18	11.00	No
	11n40	38	5190	9.20	11.00	No
		46	5230	9.74	11.00	No
		36	5180	9.84	11.00	No
	11ac20	44	5220	10.66	11.00	No
		48	5240	10.16	11.00	No
		38	5190	9.90	11.00	No
	11ac40	46	5230	10.19	11.00	No
		42	5210	10.18	11.00	No
5.3G	11a	52	5260	10.51	11.50	No
		60	5300	10.85	11.50	No
		64	5320	10.68	11.50	No
	11n20	52	5260	10.86	11.50	No
		60	5300	11.17	11.50	No
		64	5320	11.06	11.50	No
	11n40	54	5270	10.73	11.50	No
		62	5310	10.81	11.50	No
		52	5260	10.89	11.50	No
	11ac20	60	5300	11.20	11.50	No
		64	5320	11.09	11.50	No
		54	5270	10.72	11.50	No
	11ac40	62	5310	10.86	11.50	No
		58	5290	11.13	11.50	Yes
5.6G	11a	100	5500	9.76	10.00	No
		116	5580	9.69	10.00	No
		140	5700	8.50	10.00	No
	11n20	100	5500	10.14	10.50	No
		116	5580	10.11	10.50	No
		140	5700	8.94	10.50	No
	11n40	102	5510	9.67	10.50	No
		118	5590	9.84	10.50	No
		134	5670	9.02	10.50	No
	11ac20	100	5500	10.19	10.50	No
		116	5580	10.25	10.50	No
		140	5700	9.05	10.50	No
	11ac40	102	5510	9.72	10.50	No
		118	5590	9.88	10.50	No
5.8G	11a	134	5670	9.09	10.50	No
		106	5530	10.76	11.00	Yes
		122	5610	10.17	11.00	Yes
	11n20	149	5745	9.46	10.00	Yes
		157	5785	9.55	10.00	Yes
		165	5825	8.63	10.00	Yes
	11n40	149	5745	9.62	10.00	No
		157	5785	9.41	10.00	No
		165	5825	8.97	10.00	No
	11ac20	151	5755	8.87	9.50	No
		159	5795	8.94	9.50	No
		149	5745	9.60	10.00	No
	11ac40	157	5785	9.40	10.00	No
		165	5825	8.93	10.00	No
		151	5755	8.89	9.50	No
	11ac80	159	5795	8.98	9.50	No
		155	5775	9.07	9.50	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) 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 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. 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-Ant.1						
Test Mode	Modulation	Channel number	Frequency(MHz)	AV power (dBm)	Tune up (dBm))	SAR Test
BT	DH5	0	2402	9.76	10.00	Yes
		39	2441	8.00	9.50	Yes
		78	2480	8.93	10.00	Yes
	2DH5	0	2402	7.45	8.00	No
		39	2441	5.70	7.00	No
		78	2480	6.99	8.00	No
	3DH5	0	2402	7.45	8.00	No
		39	2441	5.71	7.00	No
		78	2480	6.98	8.00	No
	BLE-1M	0	2402	2.43	3.00	No
		19	2440	1.21	2.00	No
		39	2480	1.98	3.00	No
	BLE-2M	1	2404	2.49	3.00	No
		19	2440	1.10	2.00	No
		38	2478	1.97	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.						

8.2.2 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.

