

## FCC ID: 2ACHW-IOT-800N

According to §15.247(e)(i) and §1.1307(b)(1), systems operating under the provisions of this section shall be operated in a manner that ensures that the public is not exposed to radio frequency energy level in excess of the Commission's guidelines.

According to KDB447498 D01 General RF Exposure Guidance V06

The 1-g SAR and 10-g SAR test exclusion thresholds for 100 MHz to 6 GHz at test separation distances  $\leq 50$  mm are determined by:

$[(\text{max. power of channel, including tune-up tolerance, mW})/(\text{min. test separation distance, mm})] \cdot \sqrt{f(\text{GHz})} \leq 3.0$  for 1-g SAR and  $\leq 7.5$  for 10-g extremity SAR, where:

- $f(\text{GHz})$  is the RF channel transmit frequency in GHz
- Power and distance are rounded to the nearest mW and mm before calculation
- The result is rounded to one decimal place for comparison

When the minimum test separation distance is  $< 5$  mm, a distance of 5 mm is applied to determine SAR test exclusion.

WIFI:

Modulation	Channel Freq. (GHz)	Conduct ed power (dBm)	Conducte d power (mW)	Tune-up power (dBm)	Max tune-up power (dBm)	Max tune-up power (mW)	Distance (mm)	Result calculatio n	1g SAR Exclusion threshold	SAR test exclusion
802.11b	2.412	12.24	16.749	12±1	13	19.953	<5	6.19753	7.50	YES
	2.437	12.19	16.558	12±1	13	19.953	<5	6.22957	7.50	YES
	2.462	12.24	16.749	12±1	13	19.953	<5	6.26144	7.50	YES
802.11g	2.412	11.65	14.622	12±1	13	19.953	<5	6.19753	7.50	YES
	2.437	11.28	13.428	12±1	13	19.953	<5	6.22957	7.50	YES
	2.462	11.16	13.062	12±1	13	19.953	<5	6.26144	7.50	YES
802.11n HT20	2.412	11.80	15.136	12±1	13	19.953	<5	6.19753	7.50	YES
	2.437	11.23	13.274	12±1	13	19.953	<5	6.22957	7.50	YES
	2.462	11.35	13.646	12±1	13	19.953	<5	6.26144	7.50	YES
802.11n HT40	2.422	11.83	15.241	12±1	13	19.953	<5	6.21036	7.50	YES
	2.437	12.26	16.827	12±1	13	19.953	<5	6.22957	7.50	YES
	2.452	12.64	18.365	12±1	13	19.953	<5	6.24871	7.50	YES

BT:

Modulation	Channel Freq. (GHz)	Conduct ed power (dBm)	Conducte d power (mW)	Tune-up power (dBm)	Max tune-up power (dBm)	Max tune-up power (mW)	Distance (mm)	Result calculatio n	1g SAR Exclusion threshold	SAR test exclusion
GFSK	2.402	7.932	6.212	8±1	9	7.943	<5	2.46216	7.50	YES
	2.441	6.615	4.587	7±1	8	6.310	<5	1.97158	7.50	YES
	2.48	7.188	5.234	7±1	8	6.310	<5	1.98727	7.50	YES
$\pi/4$ -DQPSK	2.402	8.008	6.321	8±1	9	7.943	<5	2.46216	7.50	YES
	2.441	6.782	4.767	7±1	8	6.310	<5	1.97158	7.50	YES
	2.48	7.383	5.474	7±1	8	6.310	<5	1.98727	7.50	YES
8-DPSK	2.402	8.412	6.937	8±1	9	7.943	<5	2.46216	7.50	YES
	2.441	7.206	5.255	7±1	8	6.310	<5	1.97158	7.50	YES
	2.48	7.772	5.987	7±1	8	6.310	<5	1.98727	7.50	YES

BLE:

Modulation	Channel Freq. (GHz)	Conduct ed power (dBm)	Conducte d power (mW)	Tune-up power (dBm)	Max tune-up power (dBm)	Max tune-up power (mW)	Distance (mm)	Result calculatio n	1g SAR Exclusion threshold	SAR test exclusion
GFSK	2.402	-3.078	0.492	-3±1	-2	0.631	<5	0.19558	7.50	YES
	2.44	-4.255	0.375	-4±1	3	1.995	<5	0.62334	7.50	YES
	2.48	-3.741	0.423	-4±1	-3	0.501	<5	0.15785	7.50	YES

**Conclusion:**

For the max result :  $6.26144 \leq 7.5$  for 10-g SAR, No SAR is required.

*Alex*

**Signature:**

**Date:** 2020-03-30

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