



KSIGN (Guangdong) Testing Co., Ltd.

West Side of 1/F., Building C, Zone A, Fuyuan New Factory, Jiujiu Industrial Park,
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RF Exposure Evaluation

FCC ID: 2A4BF-AIWO1001A

Applicable Standard

According to FCC part 2.1093 and part 1.1307(b)(3), systems operating under the provisions of this section shall be operated in a manner that ensure that the public is not exposed to radio frequency energy level in excess of the Commission's guideline

KDB447498 D04 Interim General RF Exposure Guidance v01, clause 2.1.3 SAR-Based Exemption:

A more comprehensive exemption, considering a variable power threshold that depends on both the separation distance and power, is provided in 1.1307(b)(3) (i)(B). This exemption is applicable to the frequency range between 300 MHz and 6 GHz, with test separation distances between 0.5 cm and 40 cm, and for all RF sources in fixed, mobile, and portable device exposure conditions

Accordingly, a RF source is considered an RF exempt device if its available maximum time averaged (matched conducted) power or its effective radiated power(ERP), whichever is greater, are below a specified threshold.

$$P_{th} \text{ (mW)} = \begin{cases} ERP_{20 \text{ cm}} (d/20 \text{ cm})^x & d \leq 20 \text{ cm} \\ ERP_{20 \text{ cm}} & 20 \text{ cm} < d \leq 40 \text{ cm} \end{cases}$$

Where

$$x = -\log_{10} \left(\frac{60}{ERP_{20 \text{ cm}} \sqrt{f}} \right) \text{ and } f \text{ is in GHz;}$$

and

$$ERP_{20 \text{ cm}} \text{ (mW)} = \begin{cases} 2040f & 0.3 \text{ GHz} \leq f < 1.5 \text{ GHz} \\ 3060 & 1.5 \text{ GHz} \leq f \leq 6 \text{ GHz} \end{cases}$$

d = the separation distance (cm);

TEST RESULT

Passed

Not Applicable



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BLE

Test mode	Channel Frequency (MHz)	Max. Measured Power (dBm)	Tune up tolerance (dBm)	Max. Tune up Power (dBm)	Maximum Output Power (mW)	Calculating data	Limit	Results
GFSK_1M	2402	4.42	4.42±1	5.42	3.48	1.0797	3.00	Pass
	2440	3.92	3.92±1	4.92	3.10	0.9699		
	2480	2.46	2.46±1	3.46	2.22	0.6986		

2.4WIFI

Test mode	Channel Frequency (MHz)	Max. Measured Power (dBm)	Tune up tolerance (dBm)	Max. Tune up Power (dBm)	Maximum Output Power (mW)	Calculating data	Limit	Results
802.11b	2412	9.58	8.6±1	9.6	9.12	2.8328	3.00	Pass
	2437	9.63	8.7±1	9.7	9.33	2.9138		
	2462	9.39	8.4±1	9.4	8.71	2.7332		
802.11g	2412	8.33	7.4±1	8.4	6.92	2.1489	3.00	Pass
	2437	8.35	7.4±1	8.4	6.92	2.1600		
	2462	8.52	7.6±1	8.6	7.24	2.2734		
802.11n (HT20)	2412	8.53	7.6±1	8.6	7.24	2.2502	3.00	Pass
	2437	9.18	8.2±1	9.2	8.32	2.5969		
	2462	8.84	7.9±1	8.9	7.76	2.4360		
802.11 (HT40)	2422	9.05	8.1±1	9.1	8.13	2.5300	3.00	Pass
	2437	8.98	8.0±1	9.0	7.94	2.4800		
	2452	8.81	7.9±1	8.9	7.76	2.4310		

BT

Test mode	Channel Frequency (MHz)	Max. Measured Power (dBm)	Tune up tolerance (dBm)	Max. Tune up Power (dBm)	Maximum Output Power (mW)	Calculating data	Limit	Results
DH5	2402	9.498	8.5±1	9.5	8.91	2.7626	3.00	Pass
	2441	9.580	8.6±1	9.6	9.12	2.8498		
	2480	9.009	8.1±1	9.1	8.13	2.5601		
2DH5	2402	9.364	8.4±1	9.4	8.71	2.6997	3.00	Pass
	2441	9.474	8.5±1	9.5	8.91	2.7849		
	2480	8.882	7.8±1	8.8	7.59	2.3892		
3DH5	2402	9.364	8.4±1	9.4	8.71	2.6997	3.00	Pass
	2441	9.508	8.6±1	9.6	9.12	2.8498		
	2480	8.901	8.0±1	9.0	7.94	2.5018		



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802.11a Single mode(Worst case) For 5GHz WIFI

Test mode	Channel Frequency (MHz)	Max. Measured Power (dBm)	Max. Tune up tolerance Power (dBm)	Max. Tune up tolerance Power (mW)	Calculating data	Limit	Results
U-NII 1	5180	7.89	7±1	6.31	2.8721	3.00	Pass
	5200	7.88	7±1	6.31	2.8776		Pass
	5240	8.04	7.1±1	6.46	2.9559		Pass
U-NII 2A	5260	7.77	7±1	6.31	2.8942		Pass
	5300	7.14	7±1	6.31	2.9051		Pass
	5320	7.27	7±1	6.31	2.9106		Pass
U-NII 2C	5500	6.81	6±1	5.01	2.3508		Pass
	5580	6.20	6±1	5.01	2.3678		Pass
	5700	7.62	7±1	6.31	3.0128		Pass
U-NII 3	5745	6.29	6±1	5.01	2.4026		Pass
	5785	6.81	6±1	5.01	2.4109		Pass
	5825	6.85	6±1	5.01	2.4192		Pass

Note:

- The tune-up power was declared by the applicant
- The maximum antenna gain is -1dBi.
- This device does not support simultaneous Transmitter.
- The WIFI and BT can not be transmit simultaneously.

Result: Compliant

--THE END--