RF Exposure Evaluation

FCC ID: 2A6T3-NB-100

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.

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

Where

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

and

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

Note: f is in GHz, d is the separation distance (cm)

Table 1-Example Power Thresholds(mw)

Frequency (MHz)	Distance(mm)									
	5	10	15	20	25	30	35	40	45	50
300	39	65	88	110	129	148	166	184	201	217
450	22	44	67	89	112	135	158	180	203	226
835	9	25	44	66	90	116	145	175	207	240
1900	3	12	26	44	66	92	122	157	195	236
2450	3	10	22	38	59	83	111	143	179	219
3600	2	8	18	32	49	71	96	125	158	195
5800	1	6	14	25	40	58	80	106	136	169

TEST RESULT

☒ **Passed** ☐ **Not Applicable**

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BLE

Test mode	Channel Frequency (MHz)	Max. Measured Power (dBm)	Max. Tune up tolerance Power (dBm)	Max. Tune up Power (dBm)	Max. Tune up tolerance Power (mW)	Calculating data	Limit	Results
BLE1M	2402	-7.70	±1	-6.70	0.21	0.0663	3.00	Pass
	2440	-7.81	±1	-6.81	0.21	0.0651		
	2480	-7.95	±1	-6.95	0.20	0.0636		

2.4G WIFI

Test mode	Channel Frequency (MHz)	Max. Measured Power (dBm)	Max. Tune up tolerance Power (dBm)	Max. Tune up Power (dBm)	Max. Tune up tolerance Power (mW)	Calculating data	Limit	Results
802.11b	2412	1.90	±1	2.90	1.95	0.6056	3.00	Pass
	2437	2.93	±1	3.93	2.47	0.7717		
	2462	2.63	±1	3.63	2.31	0.7239		
802.11g	2412	2.33	±1	3.33	2.15	0.6687		
	2437	4.90	±1	5.9	3.89	1.2147		
	2462	3.83	±1	4.83	3.04	0.9543		
802.11n (HT20)	2412	2.23	±1	3.23	2.10	0.6535		
	2437	4.12	±1	5.12	3.25	1.0150		
	2462	2.12	±1	3.12	2.05	0.6437		
802.11n (HT40)	2422	3.04	±1	4.04	2.54	0.7891		
	2437	4.31	±1	5.31	3.40	1.0604		
	2452	3.52	±1	4.52	2.83	0.8867		

Note:

- The tune-up power was declared by the applicant
- dBi=dBd+2.15
- The maximum antenna gain is 2.28dBi.
- To maintain compliance with the RF exposure guidelines, place the equipment greater than 0.5cm from nearby persons
-The WIFI and BLE can be transmit simultaneously:0.0663/3+1.2147/3=0.427＜1.

Result: Compliant

--THE END--

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