

RF Exposure Evaluation

FCC ID: 2A54U-DT3MATE

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

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	2.49	2±1	3	2.00	0.6185	3.00	Pass
	2441	2.19	2±1	3	2.00	0.6235		
	2480	2.73	2±1	3	2.00	0.6284		
2DH5	2402	3.15	2±1	3	2.00	0.6185		
	2441	2.78	2±1	3	2.00	0.6235		
	2480	3.44	2±1	3	2.00	0.6284		
3DH5	2402	3.08	3±1	4	2.51	0.7786		
	2441	3.09	3±1	4	2.51	0.7849		
	2480	3.70	3±1	4	2.51	0.7911		

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	0.37	0±1	1	1.26	0.3902	3.00	Pass
	2440	-0.06	0±1	1	1.26	0.3933		
	2480	0.33	0±1	1	1.26	0.3965		

Note:

- The maximum antenna gain is 2.74dBi.
- To maintain compliance with the RF exposure guidelines, place the equipment less than 0.5cm from nearby persons.
- The BT and BLE can be transmit simultaneously: $0.7911+0.3965=1.1876<3$.

Result:Compliant

--THE END--