

RF Exposure Evaluation

FCC ID: 2A54U-DT8ULTRA

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)	Antenna Gain		conducted power or ERP		Evaluation distance cm	Exemption Limit (mW)
					(dBi)	(dBd)	dBm	mw		
BR/EDR	2402	4.9	± 1	5	-2.09	-4.24	5.0	3.16	0.5	6.75

BLE

Test mode	Channel Frequency (MHz)	Max. Measured Power (dBm)	Tune up tolerance (dBm)	Max. Tune up Power (dBm)	Antenna Gain		conducted power or ERP		Evaluation distance cm	Exemption Limit (mW)
					(dBi)	(dBd)	dBm	mw		
BLE_1M/2M	2440	4.71	± 1	5	-2.09	-4.24	5.0	3.16	0.5	6.75

Note:

- The tune-up power was declared by the applicant
- $dBi = dBd + 2.15$
- The maximum antenna gain is -2.09dBi.
- The EUT does not support the call function,so limit: $2.7 \times 2.5 = 6.75$.
- 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: $3.16/6.75 + 3.16/6.75 = 0.936 < 1$

Result:Compliant

--THE END--