

RADIO FREQUENCY EXPOSURE EVALUATION

Evaluation Method

KDB 447498 D04 Interim General RF Exposure Guidance v01

Applicable Standard:

FCC CFR 47 §1.1307(b)(3)(i)(B):

A single RF source is exempt if the available maximum time-averaged power or effective radiated power (ERP), whichever is greater, is less than or equal to the threshold P_{th} (mW) described in the following formula. This method shall only be used at separation distances (cm) from 0.5 centimeters to 40 centimeters and at frequencies from 0.3 GHz to 6 GHz (inclusive). P_{th} is given by:

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

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);

SAR evaluation:

<Passed>

| Mode | Frequency | Max output power | | Ant. Gain | Max E.I.R.P | | P _{th} |
|-----------|-----------|------------------|-------|-----------|-------------|-------|-----------------|
| | MHz | dBm | mW | dBi | dBm | mW | mW |
| 802.11b | 2412 | 12.1 | 16.22 | 2.5 | 14.6 | 28.84 | 38.6 |
| 802.11g | 2412 | 11.84 | 15.28 | 2.5 | 14.34 | 27.16 | 38.6 |
| 802.11n20 | 2412 | 11.81 | 15.17 | 2.5 | 14.31 | 26.98 | 38.6 |

Note1: For this EUT, that is a fixed devices, and the separation distance is 2 cm that declared by manufacturer.

Note2: The Conducted output power and Maximum EIRP both no greater than the threshold P_{th}, that meets the exemption, the RF exposure evaluation is not required.

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