

RF exposure information

Product description

Test item	: Sensor
Applicant	: Metrol Co., Ltd.
Address	: 1-100 Takamatsu-cho, Tachikawa City, Tokyo 190-0011 Japan
Model	: RC-K3E
FCC ID	: AORMETROLRCS001
Operating frequency range	: 2404 - 2476 MHz
TX output power (Cond)	: -4.80dBm @2.404GHz, -4.72dBm @2.440GHz, -4.39dBm @2.476GHz
Maximum Antenna Gain	: +4.87dBi

Analysis for portable use

Standalone SAR test exclusion considerations are defined in the KDB 447498 Chapter 4.3.1. 1-g head or body SAR exclusion threshold is defined with formula.

$[(\text{Max. power of channel, mW}) / (\text{Min. test separation distance, mm})] * [\sqrt{f} (\text{GHz})] \leq 3.0$ for 1-g SAR

The maximum Conducted Peak Output Power is -4.39dBm (2.476GHz).

The best case gain of the antenna is +4.87dBi.

$\text{EIRP} = (-4.39\text{dBm}) + (+4.87\text{dBi}) = +0.48\text{dBm}$

+0.48dBm logarithmic terms covert to numeric result is nearby 1.117mW

$$\text{General RF Exposure} = (1.117\text{mW} / 5\text{mm}) * \sqrt{2.476\text{GHz}} = 0.351 \leq 3.0$$

Other frequency results are

$$\text{General RF Exposure} = (1.016\text{mW} / 5\text{mm}) * \sqrt{2.404\text{GHz}} = 0.315 \leq 3.0$$

$$\text{General RF Exposure} = (1.035\text{mW} / 5\text{mm}) * \sqrt{2.440\text{GHz}} = 0.323 \leq 3.0$$

Sensor RC-K3E meets the SAR exclusion. So SAR evaluation is not needed.

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