

RF Exposure Statement

Product description

| | |
|---------------------------|---|
| Test item | : Bluetooth Low Energy Wireless Module |
| Applicant | : LAPIS Semiconductor Co., Ltd. |
| Address | : 2-4-8 Shinyokohama, Kouhoku-ku, Yokohama 222-8575, Japan |
| Model | : MK71251-01 |
| FCC ID | : 2ACIJ71251 |
| Operating frequency range | : 2402 - 2480 MHz |
| TX output power (Cond) | : 0.31dBm @2.402GHz, 0.77dBm @2.440GHz, 0.75dBm @2.480GHz |
| Maximum Antenna Gain | : +1.7dBi |
| Family model | : MK71251-02 (Difference is an internal ROM. The operating frequency is same.) |

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 0.77dBm (2.440GHz).

The best case gain of the antenna is +1.7dBi.

$\text{EIRP} = (0.77\text{dBm}) + (+1.7\text{dBi}) = 2.47\text{dBm}$

2.47dBm logarithmic terms covert to numeric result is nearby 1.766mW

$$\text{General RF Exposure} = (1.766\text{mW} / 5\text{mm}) * \sqrt{2.440\text{GHz}} = 0.552 \leq 3.0$$

Other frequency results are

$$\text{General RF Exposure} = (1.589\text{mW} / 5\text{mm}) * \sqrt{2.402\text{GHz}} = 0.493 \leq 3.0$$

$$\text{General RF Exposure} = (1.758\text{mW} / 5\text{mm}) * \sqrt{2.480\text{GHz}} = 0.554 \leq 3.0$$

Bluetooth Low Energy Wireless Module MK71251-01 meet the SAR exclusion. So SAR evaluation is not needed.