

RF Exposure Statement

Product description

Test item	: Bluetooth Module (BTLE)
Manufacturer	: TDK Corporation Kofu Plant
Address	: 160 Miyazawa, Minami Alps City, Yamanashi Prefecture, 400-0495, Japan
Model	: SP14808
FCC ID	: 2ACNB14808
Operating frequency range	: 2402 - 2480 MHz
TX output power (Cond)	: -0.32dBm @2.402GHz, -0.42dBm @2.440GHz, -0.57dBm @2.480GHz
Antenna Type	: Chip antenna
Maximum Antenna Gain	: -7.1dBi

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 -0.32dBm (2.402GHz).

The best case gain of the antenna is -7.1 dBi.

$\text{EIRP} = (-0.32\text{dBm}) + (-7.1 \text{ dBi}) = -7.42 \text{ dBm}$

-7.42dBm logarithmic terms covert to numeric result is nearby 0.181mW

$$\text{General RF Exposure} = (0.181\text{mW} / 5\text{mm}) * \sqrt{2.402\text{GHz}} = 0.0561 \leq 3.0$$

Other frequency results are

$$\text{General RF Exposure} = (0.177\text{mW} / 5\text{mm}) * \sqrt{2.440\text{GHz}} = 0.0553 \leq 3.0$$

$$\text{General RF Exposure} = (0.171\text{mW} / 5\text{mm}) * \sqrt{2.480\text{GHz}} = 0.0539 \leq 3.0$$

Bluetooth Module SP14808 meets the SAR exclusion. So SAR evaluation is not needed.