

# 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	: SP13808
FCC ID	: 2ACNB13808
Operating frequency range	: 2402 - 2480 MHz
TX output power (Cond)	: -5.31dBm @2.402GHz, -7.32dBm @2.440GHz, -8.57dBm @2.480GHz
Antenna Type	: Pattern 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 -5.31dBm (2.402GHz).

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

$\text{EIRP} = (-5.31\text{dBm}) + (-7.1\text{ dBi}) = -12.41\text{ dBm}$

-12.41dBm logarithmic terms convert to numeric result is nearby 0.0574mW

$$\text{General RF Exposure} = (0.0574\text{mW} / 5\text{mm}) * \sqrt{2.402\text{GHz}} = 0.0178 \leq 3.0$$

Other frequency results are

$$\text{General RF Exposure} = (0.0361\text{mW} / 5\text{mm}) * \sqrt{2.440\text{GHz}} = 0.0113 \leq 3.0$$

$$\text{General RF Exposure} = (0.0275\text{mW} / 5\text{mm}) * \sqrt{2.480\text{GHz}} = 0.0087 \leq 3.0$$

Bluetooth Module SP13808 meets the SAR exclusion. So SAR evaluation is not needed.