

Section 15.247(i) – Radio Frequency Hazard Information

In accordance with Section 1.1310 this device would be classed as a portable device that would be held in the hand and therefore Section 2.1093 will apply to the Bluetooth module that transmits in the 2.4 GHz band.

As per Section 15.247 (i) spread spectrum transmitters operating in the 2400 – 2483.5 MHz band are required to be operated in a manner that ensures that the public is not exposed to RF energy levels in accordance with CFR 47, Section 1.1307(b)(1).

Section 2.1093 requires SAR measurements to be carried out.

A SAR evaluation has been carried out in accordance with KDB Publication 447498 D01 General RF Exposure Guidance v06 dated October 23, 2015.

Clause 4.3.1 1 has been applied to this device as the power output is very low.

The highest output power observed from this device, based upon the module test report, was +13 dBm or 20 mW when transmitting on 2480 MHz.

The module test report indicates an antenna gain of 0.5 dBi which give a numeric gain of 1.1.

The radiated power would therefore be 22.0 mW EIRP.

The 10-g SAR extremity threshold level was calculated using a safe distance of 5 mm

$$10\text{-g SAR} = (22 \text{ mW} / 5 \text{ mm}) * (\sqrt{2.480 \text{ GHz}}) = 6.93$$

The 10-g SAR extremity threshold level, for distances < 50 mm, is < 7.5.

The device will therefore meet the requirements of Section 2.1093 without any further testing falling below the 10-g SAR threshold level.

Result: Complies.