FCC §15.247 (i) & §1.1310 & §2.1093- RF EXPOSURE

Applicable Standard

According to §15.247(i) and §1.1310, systems operating under the provisions of this section shall be operated in a manner that ensure that the public is not exposed to radio frequency energy level in excess of the Commission's guideline.

Report No.: RDG191210005-00A

According to KDB447498 D01 General RF Exposure Guidance v06:

The 1-g and 10-g SAR test exclusion thresholds for 100 MHz to 6 GHz at test separation distances \leq 50 mm are determined by:

[(max. power of channel, including tune-up tolerance, mW)/(min. test separation distance,

mm)] $\cdot [\sqrt{f(GHz)}] \le 3.0$ for 1-g SAR and ≤ 7.5 for 10-g extremity SAR, where

- f(GHz) is the RF channel transmit frequency in GHz
- Power and distance are rounded to the nearest mW and mm before calculation
- The result is rounded to one decimal place for comparison
- 3.0 and 7.5 are referred to as the numeric thresholds in the step 2 below

The test exclusions are applicable only when the minimum test separation distance is \leq 50 mm and for transmission frequencies between 100 MHz and 6 GHz. When the minimum test separation distance is \leq 5 mm, a distance of 5 mm according to 5) in section 4.1 is applied to determine SAR test exclusion.

Measurement Result

For Bluetooth:

The max conducted power including tune-up tolerance is -2 dBm (0.63 mW). [(max. power of channel, mW)/(min. test separation distance, mm)][$\sqrt{f(GHz)}$] =0.63/5*($\sqrt{2}$.480) = 0.2< 3.0

For 2.4G Hopping Radio:

The max conducted power including tune-up tolerance is 1.0 dBm (1.26 mW). [(max. power of channel, mW)/(min. test separation distance, mm)][$\sqrt{f(GHz)}$] =1.26/5*($\sqrt{2}$.480) = 0.4< 3.0

So the stand-alone SAR evaluation is not necessary.