

RF EXPOSURE

FCC ID: WC2-DS1685

1. Applicable Standard

According to §15.247(i) and §1.1307 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.

According to 447498 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 ≤ 5 mm are determined by:

$$\left[\frac{\text{max. power of channel, including tune-up tolerance, mW}}{\text{min. test separation distance, mm}} \right] \cdot [\sqrt{f(\text{GHz})}] \leq 3.0$$
 for 1-g SAR and ≤ 7.5 for 10-g extremity SAR, where $f(\text{GHz})$ 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

The values 3.0 and 7.5 are referred to as numeric thresholds in step b) below

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

2. Measurement Result

The maximum conducted output power = 4.0dBm (2.512mW) at 2402MHz $\left[\frac{\text{max. power of channel, mW}}{\text{min. test separation distance, mm}} \right] [\sqrt{f(\text{GHz})}]$

$$= 2.512/5 \cdot (\sqrt{2.402}) = 0.7786 < 3.0$$

NOTE: Declare Maximum Power of the device: 3.0dBm the power tolerance can't be more than ± 1 dBm, the maximum power value of the actual test is GFSK-2402MHz (3.320dBm), $\pi/4$ -DQPSK-2402MHz (3.313dBm) 8DPSK-2402MHz (3.524dBm).

So the stand-alone SAR evaluation is not necessary.