

RF Exposure evaluation

According to 447498 D01 General RF Exposure Guidance v05

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

$$\left[\frac{\text{max.powerofchannel,includingtune-uptolerance,mW}}{(\text{min.testseparationdistance,mm})} \right] \cdot \sqrt{f(\text{GHz})} \leq 3.0$$
 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

Worse case is as below:

2.4G: [2437MHz 14.75dBm (29.85mW) output power]
 $(29.85\text{mW} / 25\text{mm}) \cdot \sqrt{2.437 \text{ (GHz)}} = 1.864 < 7.5$ for 10-g extremity SAR

5.2G: [5180MHz 13.86dBm (24.32mW) output power]
 $(24.32\text{mW} / 25\text{mm}) \cdot \sqrt{5.18 \text{ (GHz)}} = 2.21 < 7.5$ for 10-g extremity SAR

5.8G: [5745MHz 14.52dBm (28.31mW) output power]
 $(28.31\text{mW} / 25\text{mm}) \cdot \sqrt{5.745 \text{ (GHz)}} = 2.71 < 7.5$ for 10-g extremity SAR

The maximum simultaneously transmitting were as below

2.4G+5.2G: $0.54 < 1$

2.4G+5.8G: $0.61 < 1$

Then SAR evaluation is not required

Remark:

The shortest distance between antenna and The manual part is 25mm



