

## 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  $\leq 50$  mm are determined by:

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

$$\text{eirp} = \text{pt} \times \text{gt} = (E \times d)^2 / 30$$

Where:

$P_t$  = transmitter output power in watts,

$g_t$  = numeric gain of the transmitting antenna (unitless),

$E$  = electric field strength in V/m, ---  $10^{(\text{dBuV/m})/20}/10^6$

$d$  = measurement distance in meters (m) --- 3m

$$\text{So } P_t = (E \times d)^2 / 30 \times g_t$$

Field strength: Master: 84.81 dBuV/m @3r

Ant gain = 0dBi; so Ant numeric gain=1

$$\text{So, for master, } P_t = \{[(10^{(84.81/20)}/10^6) \times 3]^2 / 30 \times 1\} \times 1000 \text{mW} = 0.091 \text{ mW}$$
$$(0.091 \text{ mW}/5\text{mm}) \times \sqrt{2.44} = 0.028 < 3$$

Then SAR evaluation is not required