

## RF Exposure evaluation

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  $\leq$  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

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

where:

pt = transmitter output power in watts,

gt = 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

So  $\text{pt} = (\text{Exd})^2/30 \times \text{gt}$

### For Worst case Mode: 315MHz

Field strength = 38.18 dBuV/m @3m

Ant gain 0dBi; so Ant numeric gain=1

So  $\text{pt} = \{[10^{(38.18/20)/10^6} \times 3]^2/30 \times 1\} \times 1000 \text{ mW} = 0.000002 \text{ mW}$

So  $(0.000002 \text{ mW}/5\text{mm}) \times \sqrt{0.315 \text{ GHz}} = 0.0000002 < 3$

Then SAR evaluation is not required