

## RF Exposure evaluation

According to KDB 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:  
[(max. power of channel, including tune-up tolerance, mW) / (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

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

Field strength = 98.65dBuV/m @3m

Ant gain 0dBi; so Ant numeric gain=1

$$\text{So pt} = \{ [10^{(98.65/20)} / 10^6 \times 3]^2 / (30 \times 1) \} \times 1000 \text{mW} = 2.2 \text{ mW}$$

$$\text{So } (2.2 \text{mW} / 5 \text{mm}) \times \sqrt{2.402 \text{GHz}} = 0.7 < 3$$

Then SAR evaluation is not required