

## RF Exposure Evaluation

According to KDB 447498 D01 V06 and part 2.1093, Unless specifically required by the *published RF exposure KDB procedures*, standalone 1-g head or body and 10-g extremity SAR evaluation for general population exposure conditions, by measurement or numerical simulation, is not required when the corresponding *SAR Test Exclusion Threshold* condition(s), listed below, is (are) satisfied.

For 100 MHz to 6 GHz and test separation distances  $\leq 50$  mm, the 1-g and 10-g SAR test exclusion thresholds are determined by the following:

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

$$\text{EIRP} = E_{\text{Meas}} + 20\log(d_{\text{Meas}}) - 104.7$$

EIRP is the equivalent isotropically radiated power, in dBm

$E_{\text{Meas}}$  is the field strength of the emission at the measurement distance, in dB  $\mu$  V/m

$d_{\text{Meas}}$  is the measurement distance, in m

Here,

For BT

| Field strength<br>(dBuV/m) | EIRP<br>(dBm) | Max tune-up<br>(mW) | Frequency<br>(MHz) | Min.<br>distance(mm) | Calc.<br>thresholds | limit |
|----------------------------|---------------|---------------------|--------------------|----------------------|---------------------|-------|
| 100.07                     | 4.912         | 2.892               | 2402               | 5                    | 0.896               | 3.0   |

$$\text{MPE} = 2.892 \text{ mw} / 5\text{mm} \cdot \sqrt{(2.402\text{GHz})} = 0.896$$

$$\text{EIRP} = E_{\text{Meas}} + 20\log(d_{\text{Meas}}) - 104.7 = 100.07 + 9.542 - 104.7 = 4.912\text{dBm}$$

$$\text{Conducted Power} = \text{EIRP} - \text{ANT}_{\text{Gain}} = 4.912\text{dBm} - (1.3) = 3.612\text{dBm}$$

$$\text{Max tune-up} = 3.612\text{dBm} \pm 1 = 4.612\text{dBm} = 2.892\text{mW}$$

Note1: the antenna gain is 1.3dBi;

So a SAR test is not required.