

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 ≤ 50 mm, the 1-g and 10-g SAR test exclusion thresholds are determined by the following:  

$$[(\text{max. power of channel, including tune-up tolerance, mW}) / (\text{min. test separation distance, mm})] \cdot [\sqrt{f_{\text{(GHz)}}}] \leq 3.0 \text{ for 1-g SAR, and } \leq 7.5 \text{ for 10-g extremity SAR, where}$$

$$f_{\text{(GHz)}}$$
 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

$E_{\text{IRP}} = E_{\text{Meas}} + 20\log(d_{\text{Meas}}) - 104.7$   
EIRP is the equivalent isotropically radiated power, in dBm  
E<sub>Meas</sub> is the field strength of the emission at the measurement distance, in dBμ V/m  
d<sub>Meas</sub> is the measurement distance, in m

Here,

| Field strength<br>(dBuV/m) | EIRP<br>(dBm) | Max tune-up<br>(mW) | Frequency<br>(MHz) | Min.<br>distance(mm) | Calc.<br>thresholds | limit |
|----------------------------|---------------|---------------------|--------------------|----------------------|---------------------|-------|
| 84.31                      | -10.85        | 0.082               | 2402               | 5                    | 0.025               | 3.0   |

So a SAR test is not required