



RF Exposure Evaluation

According to KDB447498 D01 4.3.1)a)b)c), General RF Exposure Guidance 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.

a)

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:

$[(\text{max. power of channel, including tune-up tolerance, mW}) / (\text{min. test separation distance, mm})] [\sqrt{f(\text{GHz})}] \leq 3.0$ for 1-g SAR, and ≤ 7.5 for 10-g extremity SAR, 30 where

b)

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 (also illustrated in Appendix B):³²

1) $\{[\text{Power allowed at numeric threshold for 50 mm in step a)}] + [(\text{test separation distance} - 50 \text{ mm}) \cdot (f(\text{MHz})/150)]\}$ mW, for 100 MHz to 1500 MHz

c)

For frequencies below 100 MHz, the following may be considered for SAR test exclusion (also illustrated in Appendix C):³³

1) For test separation distances > 50 mm and < 200 mm, the power threshold at the corresponding test separation distance at 100 MHz in step b) is multiplied by $[1 + \log(100/f(\text{MHz}))]$

2) For test separation distances ≤ 50 mm, the power threshold determined by the equation in c) 1) for 50 mm and 100 MHz is multiplied by $\frac{1}{2}$

$f(\text{GHz})$ 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

Mode	Max power (dBm)	Max power (mW)	Frequency (MHz)	Min. distance(mm)	Calc. thresholds	Limit
GFSK	-0.59	0.873	2402	5	0.271	3.0

Frequency (MHz)	Electric Field (dBuV/m)	Max power (dBm)	Max power (mW)	Min. distance(mm)	Limit
0.125	87.51	-7.69	0.17	5	925

Remark: dBuV/m to dBm, $\text{dBm} = \text{dBuV/m} - 95.2$

$\text{BLE/MILIT} + 125\text{K/LIMIT} = 0.873/3 + 0.17/3 = 0.291 < 1$