

FCC SAR exemption letter according KDB 447498 D01 v06

For Eliko Tehnoloogia Arenduskeskus OÜ, ELIKO TAG

Declared minimum distance to human body according to customer = 0 mm according external document "MPE Information Requirements_Tag_v1" provided by customer.

According to KDB 447498 D01 General RF Exposure Guidance V06 SAR testing can be exempted if the following exclusion threshold are met:

4.3. General SAR test exclusion guidance

4.3.1. Standalone SAR test exclusion considerations

- 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:

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

- f_{GHz} is the RF channel transmit frequency in GHz
- Power and distance are rounded to the nearest mW and mm before calculation³¹
- The result is rounded to one decimal place for comparison
- The values 3.0 and 7.5 are referred to as *numeric thresholds* in step b) below

The test exclusions are applicable only when the minimum test separation distance is ≤ 50 mm, and for transmission frequencies between 100 MHz and 6 GHz. When the minimum test separation distance is < 5 mm, a distance of 5 mm according to 4.1 f) is applied to determine SAR test exclusion.

$P_{\text{threshold}}$ calculation based on external document "MPE Information Requirements_Tag_v1" provided by customer.

$P_{\text{threshold}} = \text{Maximum Rated Conducted Output Power (dBm)} + \text{Tune-Up Tolerance} - \text{Maximum Path Loss to Antenna}$

$$P_{\text{threshold_DUT}} = 1 \text{ mW} * 10^{((-21.1\text{dBm} + 2.0\text{dB} - 0.0\text{dB})/10)} \leq 0.012 \text{ mW}$$

FCC General SAR test exclusion acc. KDB 447498 D01 v06					
Frequency (MHz)	Max. power incl. Tune-up tolerance (mW)	Threshold 1-g SAR Limit < 3.0	Threshold 10-g SAR Limit < 7.5	1-G SAR Exemption fulfilled	10-g SAR Exemption fulfilled
3993.6	0.0123	0.0049	0.0049	yes	yes
min. test separation distance (mm)			5		

The user manual must list the given usage position.


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