



SAR Exclusion Justification

Test exclusion thresholds for 100 MHz to 6 GHz at test separation distances ≤ 50 mm

Guidance document reference: 447498 D01 General RF Exposure Guidance v05r02, page 11, paragraph 4.3.1(1).

The 1-g and 10-g SAR test exclusion thresholds for 100 MHz to 6 GHz at test separation distances ≤ 50 mm are determined by:

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

- f(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
- 3.0 and 7.5 are referred to as the numeric thresholds in the step 2 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 5) in section 4.1 is applied to determine SAR test exclusion.

TX Frequency Range: 2403 – 2481 MHz
Pmax (incl. Tune-Up tolerance): $8.5 + 2.0 + 0.5 = 11 \text{ dBm} = 12.6 \text{ mW}$
Maximum Duty Factor: $168/10000 = 1.7 \%$

Maximum Tune-Up Tolerance: 0.5 dB

Maximum source-based time-averaged output power,
including Tune-Up Tolerance: 0.214 mW

SAR test exclusion analysis RØDELink RX-CAM:


Max. power of channel: 0.214 mW
Min. separation distance: 5 mm
Max. frequency: 2.481 GHz

$$[(P_{\text{wr}}/\text{Dist}) * v\text{Freq.}] = 0.1$$

The result of the above SAR threshold calculation demonstrates that the result is less than the 1-g numeric threshold of 3 and the 10-g numeric threshold of 7.5.



Conclusion: The above analysis shows that the evaluated device qualifies for exemption from SAR testing.

Signed:  , Technical Manager 5/5/2015