



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:

$$[(\text{max. power of channel, including tune-up tolerance, mW})/(\text{min. test separation distance, mm})]^*$$

$[\sqrt{f(\text{GHz})}] \leq 3.0$ for 1-g SAR and ≤ 7.5 for 10-g extremity SAR, 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
- 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): $8.5 + 2.0 + 0.5 = 11$ dBm = 12.6 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

$$[(\text{Pwr}/\text{Dist})^* \sqrt{\text{Freq.}}] = 0.1$$

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.

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Signed: , Technical Manager 5/5/2015