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:

[(*max. power of channel, including tune-up tolerance, mW*)/(*min. test separation distance, mm*)] * √f(GHz)] ≤ 3.0 for 1-g SAR and ≤ 7.5 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.

SAR test exclusion analysis:

Assumptions: Since the exact separation distance may vary from sensor to sensor, the minimum separation distance of 5 mm is assumed per the guidance document.

Max. power of channel:	2.77 mW
Min. separation distance:	5 mm
Max. frequency:	0.92 GHz
[(Pwr/Dist)*√Freq.] =	0.5

Max. power is source-based time-averaged maximum conducted output power, adjusted for tune-up tolerance.
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. **This is a limb-worn device where the 10-g threshold applies.**

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

Signed: Senior Engineer 9/7/2017