



DISRUPTIVE
TECHNOLOGIES

RF Exposure and Transmitter Power Considerations for the Sensor US

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Standalone SAR test exclusion considerations are defined in KDB 447498D01 (v06) Chapter 4.3.1 where the 1-g head or body and 10-g extremity SAR exclusion threshold is defined by the following formula:

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

- 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

For the Sensor US, the maximum conducted output power is 0 dBm (1mW).

Applying the above data using the given KDB 447498 D01 formula, and minimum separation distance of 5mm, the following results:

$$(1\text{mW} / 5 \text{ mm}) \times \sqrt{0.928\text{GHz}} = 0.2 \text{ (i.e.: } \leq 3.0 \text{ for 1-g SAR and } \leq 7.5 \text{ for 10-g extremity SAR)}$$

This demonstrates the Sensor US meets the criteria for 1-g head/ body and 10-g extremity SAR test exemption.

Conclusion

The Sensor US is exempt from SAR testing and can be used for Portable applications.

DocuSigned by:
Bengt Lundberg
Signature: 7DC207D3EBD6461... Date: 2019-11-27