



RF Exposure and Transmitter Power Considerations for the Loc8tor Tag

FCC ID: TUW-BT

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:

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

- $f(\text{GHz})$ 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

For the Loc8tor Tag, the maximum conducted output power is +4.0 dBm (2.5 mW).

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

$$(2.5 \text{ mW} / 5 \text{ mm}) \times \sqrt{2.435 \text{ GHz}} = 0.8 \text{ (i.e.: } \leq 3.0 \text{ for 1-g SAR and } \leq 7.5 \text{ for 10-g extremity SAR)}$$

This demonstrates the Loc8tor Tag meets the criteria for 1-g head/ body and 10-g extremity SAR test exemption.

Conclusion

The Loc8tor Tag is exempt from SAR testing and can be used for Portable applications.

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