

SAR Test Exclusion Evaluation

DePuySynthes Power Tools

1. Requirement(s)

FCC KDB Publication 447498 D01 v06, 4.3.1 a):

For 100 MHz to 6 GHz and *test separation distances* ≤ 50 mm, the 1-g and 10-g SAR test exclusion thresholds are determined by the following:

$[(\text{max. power of channel, including tune-up tolerance, mW}) / (\text{min. test separation distance, mm})] \cdot [v f(\text{GHz})] \leq 3.0$ 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
- The values 3.0 and 7.5 are referred to as numeric thresholds in step b) 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 4.1 f) is applied to determine SAR test exclusion.

2. Calculation

$f_{(\text{GHz})} = 2.475$ GHz, $P_{\text{max}}^* = 4.64$ dBm (2.911 mW), $d_{\text{min}} = 5$ mm

$[(2.911)/(5)] \cdot [v 2.475] = 0.9159 \leq 3.0$ for 1-g SAR, and ≤ 7.5 for 10-g extremity SAR

*: Power data is taken from Intertek 10469BOX-018a test report

3. Conclusion

SAR Test Exclusion Threshold is satisfied. The device complies with SAR requirements without measurement.