

RF exposure information for SAR test exclusion

The Bluetooth Modular Transmitter will be used in a hand-held portable host (Stellar Optima Treatment Hand-Piece) operating in 2402 – 2480 MHz band. The module is equipped with an internal PCB antenna of -3 dBi gain as given in Test Report No:148760-703877 in FCC ID:XXMQN9080M17 filing.

Maximum measured transmitter power derived from section 6.5 of Test Report No:148760-703877:

P _{out} conducted		Maximum antenna gain, dBi	P _{out} EIRP	
dBm	mW		dBm	mW
-0.58	0.9	-3	-3.58	0.44

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:

$[(\text{max. power including tune-up tolerance, mW}) / (\text{min. test separation distance, mm})] \times [\sqrt{f(\text{GHz})}] \leq 3.0$
for 1-g SAR and ≤ 7.5 for 10-g 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;
- The value 3.0 and 7.5 are referred to as numeric threshold.

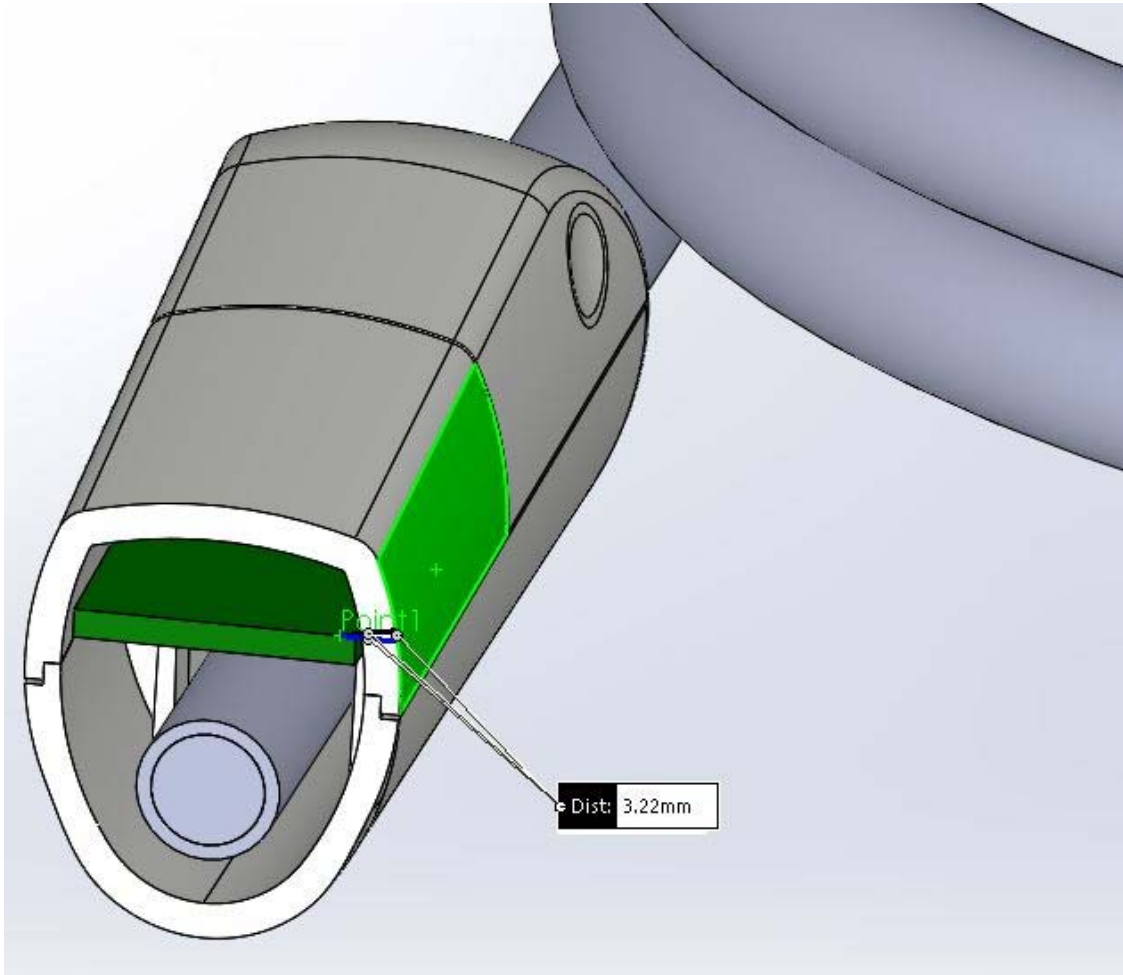
The minimum separation distance is assured by the typical device usage and the internal construction of the antenna and plastic case elements. The smallest distance from antenna to outer surface of the device is 3.22 mm as shown in Figure No.1. When the minimum test separation distance is < 5 mm, a distance of 5 mm is applied to determine SAR test exclusion according to section 4.3.1(a) of KDB 447498 D01 General RF Exposure Guidance v06.

The 1-g body SAR test exclusion threshold at frequency 2.48 GHz and test separation distances 5.0 mm was determined as follows:

$$[0.9 \text{ mW} / 5.0 \text{ mm}] \times \sqrt{2.48} = 0.18 \times 1.57 = 0.283 \approx 0.3 < 3.0.$$

Upon this the device is excluded from SAR evaluation according to KDB 447498 D01 v06.

Figure No.1



Note: The smallest distance from antenna to outer surface of the device is 3.22 mm.