

FCC ID: 2AGS9M2

FCC SAR Test Exclusion

Device is a wireless (Bluetooth Low Energy transmitter) that reports grader blade position information to a BT enabled device. During normal operation, user extremities can come within 20cm of the internal antenna and therefore product is considered as "Portable".

Per FCC KDB447498

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:

$$\left[\frac{\text{(max. power of channel, including tune-up tolerance, mW)}}{\text{(min. test separation distance, mm)}} \right] \cdot \sqrt{f(\text{GHz})} \leq 3.0$$
 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

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

Calculation based on the above formula:

Separation Distance = 5 mm
Conducted Output Power = 1 mW
Frequency = 2.402 GHz

Calculation = 0.3 < 3

Since calculated value is less than 3, product complies with FCC's RF radiation exposure limits for general population as a portable device without the need for SAR evaluation.