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SAR Test Exhibit

The FCC General RF Exposure Guidance 447498 D01 demonstrates compliance of wireless communication devices with the basic restrictions and exposure limit values related to human exposure to electromagnetic fields in the frequency range 100 MHz to 6 GHz.

Specific Absorption Rate (**SAR**) is the unit of measurement of the amount of radio frequency (RF) absorbed by the body when using a wireless device. This section is included to document why the RF Exposure Guidance does not apply because the power level is below the exclusion limit.

The **FCC SAR for BLE Mode** test exclusion comes from section 4.3.1a of 447498 D01 General RF Exposure Guidance. 10-g SAR is limited to limbs of the human body and is used to calculate this exclusion as follows:

For 100 MHz to 6 GHz and test separation distances ≤ 50 mm, 10-g SAR test exclusion thresholds are determined by the following formula and when calculated is equal to or below 7.5.

$$\left(\frac{P}{D}\right) \cdot (\sqrt{f_{GHz}}) \leq 7.5$$

P: is maximum power in mW

D: is Separation Distance in mm and x is the number of different measurement points

fGHz: is the RF channel transmit frequency in GHz

f = 2.487GHz which is the highest BLE channel or worst case for calculations

P = 7.2mW which is maximum power or worst case for calculations.

D1 = 11.11mm Reader pcb antenna which represents the worst case for calculations.

$$1.02 = \left(\frac{7.2mW}{11.11mm}\right) \times \sqrt{2.487GHz} \leq 7.5 \text{ for } 10 - g$$