

RF Exposure Requirements

Product Description: MR Logger

Model No.: MR 814

FCC ID: 2A2SN-SKYCELL814

According to the KDB 447498 D01 v06 section 4.3.1, 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:

$$[(\text{max. power of channel, including tune-up tolerance, mW}) / (\text{min. test separation distance, mm})] \cdot [\sqrt{f(\text{GHz})}] \leq 3.0$$
 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 calculation¹⁷

- The result is rounded to one decimal place for comparison

Calculation Result:

Bluetooth

Tx frequency range: 2402-2480MHz

Min. test separation distance: 5mm

Maximum Conducted Output Power: 9.12dBm

Tune-Up output power: 9.50dBm

RF channel transmit frequency: 2402MHz

Result: 0.07

Limit: 3.0

The exclusion thresholds is $0.07 < 3$, so the transmitter complies with the RF exposure requirements and the SAR is not required.

LoRa

Tx frequency range: 2403-2479MHz

Min. test separation distance: 5mm

Maximum Conducted Output Power: 9.09dBm

Tune-Up output power: 9.50dBm

RF channel transmit frequency: 2403MHz

Result: 0.07

Limit: 3.0

The exclusion thresholds is $0.07 < 3$, so the transmitter complies with the RF exposure requirements and the SAR is not required.

Bluetooth and LoRa can't transmit at the same time. So the transmitter complies with the RF exposure requirements and the SAR is not required.