

FCC ID: U4A-MODBLE9117K

Device is an RF module separated by less than 20cm from end users. 5mm separation is considered for worst case.

It has 3 radios as follows,

Radio 1: 125kHz RFID

Radio 2: 13.56MHz RFID

Radio 3: Bluetooth Low Energy (2402-2480MHz)

All radios can transmit simultaneously.

**Radio 1: 125kHz RFID**

Fundamental field strength = 75.8dBuV/m at 3m = -19.43dBm EIRP = 0.0114mW

Per SAR exclusion per 447498 D01 General RF Exposure Guidance v06 Appendix C

At 0.1MHz, exclusion power threshold is shown as 948mW at <50mm

At 1MHz, exclusion power threshold is shown as 711mW at <50mm

Worst case 711mW is considered as the limit

0.0114mW < 711mW, therefore exempt from SAR.

**Radio 2: 13.56MHz RFID**

Fundamental field strength = 65.4dBuV/m at 3m = -29.83dBm EIRP = 0.001mW

Per SAR exclusion per 447498 D01 General RF Exposure Guidance v06 Appendix C

At 10MHz, exclusion power threshold is shown as 474mW at <50mm

At 50MHz, exclusion power threshold is shown as 308mW at <50mm

Worst case 308mW is considered as the limit

0.001mW < 308mW, therefore exempt from SAR.

**Radio 3: Bluetooth Low Energy (2402-2480MHz)**

Output power = 2.67dBm = 1.85mW

Per SAR exclusion per 447498 D01 General RF Exposure Guidance v06 Appendix A

At 2450MHz, exclusion power threshold is shown as 10mW at 5mm

1.85mW < 10mW, therefore exempt from SAR.

**Simultaneous transmission:**

Sum of *Power / Exclusion Limit* ratios of all 3 radios

*Power / Exclusion Limit* ratio for Radio 1 = 0.0114/711 = 0.000016

*Power / Exclusion Limit* ratio for Radio 2 = 0.001/308 = 0.00000325

*Power / Exclusion Limit* ratio for Radio 3 = 1.85/10 = 0.185

Sum = 0.000016 + 0.00000325 + 0.185 = 0.18501925

0.18501925 < 1

Therefore device complies with FCC's RF radiation exposure limits for general population without SAR evaluation.