**FCC ID:2BDNA-TNMS-ELE**

Portable device

According to §15.247(e)(i) and §1.1307(b)(1), systems operating under the provisions of this section shall be operated in a manner that ensures that the public is not exposed to radio frequency energy level in excess of the Commission's guidelines.

According to KDB447498 D01 General RF Exposure Guidance V06

The 1-g SAR and 10-g SAR test exclusion thresholds for 100 MHz to 6 GHz at test separation distances ≤ 50 mm are determined by:

[(max. power of channel, including tune-up tolerance, mW)/(min. test separation distance, mm)]·[√f(GHZ)] ≤ 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

When the minimum test separation distance is < 5 mm, a distance of 5 mm is applied to determine SAR test exclusion.

BLE:1M

| Modulation | Channel Freq. (GHz) | Conducted power (dBm) | Conducted power (mW) | Tune-up power (dBm) | Max tune-up power (dBm) | Max tune-up power (mW) | Distance (mm) | Result calculation | SAR Exclusion threshold | SAR test exclusion |
|---|---|---|---|---|---|---|---|---|---|---|
| GFSK | 2.402 | 5.964 | 3.95 | 5±1 | 6.00 | 3.98 | <5 | 1.23400 | 3.00 | YES |
| | 2.44 | 6.536 | 4.50 | 6±1 | 7.00 | 5.01 | <5 | 1.56576 | 3.00 | YES |
| | 2.480 | 6.871 | 4.87 | 6±1 | 7.00 | 5.01 | <5 | 1.57854 | 3.00 | YES |

BLE:2M

| Modulation | Channel Freq. (GHz) | Conducted power (dBm) | Conducted power (mW) | Tune-up power (dBm) | Max tune-up power (dBm) | Max tune-up power (mW) | Distance (mm) | Result calculation | SAR Exclusion threshold | SAR test exclusion |
|---|---|---|---|---|---|---|---|---|---|---|
| GFSK | 2.402 | 5.962 | 3.95 | 5±1 | 6.00 | 3.98 | <5 | 1.23400 | 3.00 | YES |
| | 2.44 | 6.536 | 4.50 | 6±1 | 7.00 | 5.01 | <5 | 1.56576 | 3.00 | YES |
| | 2.480 | 6.874 | 4.87 | 6±1 | 7.00 | 5.01 | <5 | 1.57854 | 3.00 | YES |

LoRa:

| Modulation | Channel Freq. (GHz) | Conducted power (dBm) | Conducted power (mW) | Tune-up power (dBm) | Max tune-up power (dBm) | Max tune-up power (mW) | Distance (mm) | Result calculation | SAR Exclusion threshold | SAR test exclusion |
|---|---|---|---|---|---|---|---|---|---|---|
| LoRa/(G)FSK | 0.915 | -12.58 | 0.06 | -12±1 | -11.00 | 0.08 | <5 | 0.01520 | 3.00 | YES |

Note:dbm=dbuv/m-95.2-2.15=87.27-95.2-2.15=-10.08dBm(ERP), so the conduct peak power= -10.08-2.5=-12.58dBm

**Conclusion:**

For the max result : BLE+ LoRa: ∑MPE Ratio =1.57854/3+0.01520/3=0.5312≤ FCC Limit 3.0 for 1g SAR.