

FCC ID:2AK6D-VTK5000

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:

$[(\text{max. power of channel, including tune-up tolerance, mW})/(\text{min. test separation distance, mm})] \cdot [\sqrt{f(\text{GHz})}] \leq 3.0$ 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 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) | Conduct ed power (dBm) | Conducte d 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 | -1.488 | 0.71 | -1 \pm 1 | 0.00 | 1.00 | <5 | 0.30997 | 3.00 | YES |
| | 2.44 | -1.319 | 0.74 | -1 \pm 1 | 0.00 | 1.00 | <5 | 0.31241 | 3.00 | YES |
| | 2.480 | -1.91 | 0.64 | -1 \pm 1 | 0.00 | 1.00 | <5 | 0.31496 | 3.00 | YES |

2M

| Modulation | Channel Freq. (GHz) | Conduct ed power (dBm) | Conducte d 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 | -2.069 | 0.62 | -2 \pm 1 | -1.00 | 0.79 | <5 | 0.24622 | 3.00 | YES |
| | 2.44 | -3.066 | 0.49 | -3 \pm 1 | -2.00 | 0.63 | <5 | 0.19712 | 3.00 | YES |
| | 2.480 | -3.911 | 0.41 | -3 \pm 1 | -2.00 | 0.63 | <5 | 0.19873 | 3.00 | YES |

2.4GHz:

| Modulation | Channel Freq. (GHz) | Conduct ed power (dBm) | Conducte d 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 | 1.502 | 1.41 | 1 \pm 1 | 2.00 | 1.58 | <5 | 0.49127 | 3.00 | YES |

Note: $\text{dbm} = \text{dbuv}/m - 95.2 = 97.04 - 95.2 = 1.84\text{dBm}(\text{EIRP})$, so the conduct peak power = $1.84 - 0.338 = 1.502\text{dBm}$

Conclusion:

For the max result : $0.49127 \leq \text{FCC Limit } 3.0$ for 1g SAR.