



LCIE SUD EST
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RF Exposure Considerations for FCC ID: XKB-IMP3X2

Per FCC KDB 447498 D01 General RF Exposure Guidance v06

The 1-g and 10-g SAR test exclusion thresholds for 100 MHz to 6 GHz are based on source-based time-averaged maximum conducted output power of the RF channel requiring evaluation, adjusted for tune-up tolerance, and the minimum test separation distance required for the exposure conditions.

The minimum test separation distance defined in 4.1 f) is determined by the smallest distance from the antenna and radiating structures or outer surface of the device, according to the host form factor, exposure conditions and platform requirements, to any part of the body or extremity of a user or bystander.

Minimum test separation distance: **5 mm**

BLUETOOTH:

Step a) 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:

$$\frac{(\text{max power of channel (mW)})}{(\text{min test separation distance (mm)})} \times \sqrt{f(\text{GHz})} \leq 3.0 \text{ for } 1 - g \text{ SAR or } \leq 7.5 \text{ for } 10 - g \text{ extremity SAR}$$

Where:

- f(GHz) is the RF channel transmit frequency in GHz
- Power and distance are rounded to the nearest mW and mm before calculation³¹
- The result is rounded to one decimal place for comparison
- The values 3.0 and 7.5 are referred to as numeric thresholds in step b) below

The test exclusions are applicable only when the minimum test separation distance is ≤ 50 mm, and for transmission frequencies between 100 MHz and 6 GHz.

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

| Channel | Frequency (GHz) | Maximum source-based time averaged conducted output power or EIRP (worst case) including tune-up tolerance | | Minimum separation distance (mm) | Result of Eq. 1 | Limit for 1-g SAR | Limit for 10-g extremity SAR | Verdict |
|---------|-----------------|--|------|----------------------------------|-----------------|-------------------|------------------------------|-----------------|
| | | (dBm) | (mW) | | | | | |
| Min | 2.402 | -10.1 | 0.10 | 5 | 0.03 | 3 | 7.5 | Exempt from SAR |
| Mid | 2.441 | -5.9 | 0.26 | 5 | 0.08 | 3 | 7.5 | Exempt from SAR |
| Max | 2.480 | -9.3 | 0.12 | 5 | 0.04 | 3 | 7.5 | Exempt from SAR |



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RFID:

Step c) For frequencies below 100 MHz, the following may be considered for SAR test exclusion

1) For test separation distances ≤ 50 mm, the power threshold determined by:

$$\left[(\text{equation in step c) 1) } \times \left(\frac{1}{2} \right) \right] (mW)$$

With 50 mm and 100 MHz

| Channel | Frequency (MHz) | Maximum source-based time averaged conducted output power or EIRP (worst case) including tune-up tolerance | | Minimum separation distance (mm) | Limit for 1-g SAR (mW) | Verdict | Limit for 10-g SAR (mW) | Verdict |
|---------|-----------------|--|---------|----------------------------------|------------------------|-----------------|-------------------------|-----------------|
| | | (dBm) | (mW) | | | | | |
| Nominal | 13.560 | -42.2 | 0.00006 | 5 | 414.96 | Exempt from SAR | 1079.42 | Exempt from SAR |

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