

RF Exposure Report

Following FCC KDB 447498 D01 General SAR test exclusion guidelines

The corresponding SAR exclusion threshold condition, listed below:

1) The 1-g 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 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 according to 5) in section 4.1 is applied to determine SAR test exclusion(447498 D01 General RF Exposure Guidance v06)

2) At 100 MHz to 6 GHz and for test separation distances > 50 mm, the SAR test exclusion threshold is determined according to the following

- $[\text{Power allowed at numeric threshold for 50 mm in step 1}) + (\text{test separation distance} - 50 \text{ mm}) \cdot (f(\text{MHz})/150)]$ mW, at 100 MHz to 1500 MHz
- $[\text{Power allowed at numeric threshold for 50 mm in step 1}) + (\text{test separation distance} - 50 \text{ mm}) \cdot 10]$ mW at > 1500 MHz and ≤ 6 GHz

3) At frequencies below 100 MHz, the following may be considered for SAR test exclusion,

- The power threshold at the corresponding test separation distance at 100 MHz in step 2) is multiplied by $[1 + \log(100/f(\text{MHz}))]$ for *test separation distances* > 50 mm and < 200 mm
- The power threshold determined by the equation in a) for 50 mm and 100 MHz is multiplied by $\frac{1}{2}$ for *test separation distances* ≤ 50 mm
- SAR measurement procedures are not established below 100 MHz When SAR test exclusion cannot be applied, a KDB inquiry is required to determine SAR evaluation requirements for any test results to be acceptable.

SAR Test Exclusion Thresholds

Maximum Measured Transmitter Power:

Exclusion calculation considering conducted power

Antenna 1:

| Frequency (GHz) | Max.Power (dBm) | Tune-up value | Max.Power Including Tune-up Tolarence (dBm) | Max.Power Including Tune-up Tolarence (mW) | Minimum test separation distance (mm) | SAR Test Exclusion Calculation Values | 1-g Extremity SAR Test exclusion Threshold |
|-----------------|-----------------|---------------|---|--|---------------------------------------|---------------------------------------|--|
| 2.405 | 8.50 | 1 | 9.50 | 8.91 | 20.93 | 0.659964829 | 3 |
| 2.440 | 8.39 | 1 | 9.39 | 8.68 | 20.93 | 0.647590077 | 3 |
| 2.475 | 7.83 | 1 | 8.83 | 7.63 | 20.93 | 0.573320785 | 3 |

Exclusion calculation considering radiated E I R P

| Frequency (GHz) | Max.Power (dBm) | Tune-up value | Antenna gain (dBi) | Max.Power Including Tune-up Tolarence & antenna gain (dBm) | Max.Power Including Tune-up Tolarence & antenna gain (mW) | Minimum test separation distance (mm) | SAR Test Exclusion Calculation Values | 1-g Extremity SAR Test exclusion Threshold |
|-----------------|-----------------|---------------|--------------------|--|---|---------------------------------------|---------------------------------------|--|
| 2.405 | 8.50 | 1 | 0.5 | 10.00 | 10.00 | 20.93 | 0.740701267 | 3 |
| 2.440 | 8.39 | 1 | 0.5 | 9.89 | 9.74 | 20.93 | 0.726673658 | 3 |
| 2.475 | 7.83 | 1 | 0.5 | 9.33 | 8.57 | 20.93 | 0.643952703 | 3 |

Antenna 2:

| Frequency (GHz) | Max.Power (dBm) | Tune-up value | Max.Power Including Tune-up Tolarence (dBm) | Max.Power Including Tune-up Tolarence (mW) | Minimum test separation distance (mm) | SAR Test Exclusion Calculation Values | 1-g Extremity SAR Test exclusion Threshold |
|-----------------|-----------------|---------------|---|--|---------------------------------------|---------------------------------------|--|
| 2.405 | 8.49 | 1 | 9.49 | 8.89 | 20.93 | 0.658483426 | 3 |
| 2.440 | 8.37 | 1 | 9.37 | 8.64 | 20.93 | 0.644605791 | 3 |
| 2.475 | 7.85 | 1 | 8.85 | 7.67 | 20.93 | 0.576326398 | 3 |

Exclusion calculation considering radiated E I R P

| Frequency (GHz) | Max.Power (dBm) | Tune-up value | Antenna gain (dBi) | Max.Power Including Tune-up Tolarence & antenna gain (dBm) | Max.Power Including Tune-up Tolarence & antenna gain (mW) | Minimum test separation distance (mm) | SAR Test Exclusion Calculation Values | 1-g Extremity SAR Test exclusion Threshold |
|-----------------|-----------------|---------------|--------------------|--|---|---------------------------------------|---------------------------------------|--|
| 2.405 | 8.49 | 1 | 0.5 | 9.99 | 9.97 | 20.93 | 0.738479163 | 3 |
| 2.440 | 8.37 | 1 | 0.5 | 9.87 | 9.70 | 20.93 | 0.723689372 | 3 |
| 2.475 | 7.85 | 1 | 0.5 | 9.35 | 8.60 | 20.93 | 0.646206913 | 3 |

From above table calculation the EUT is exempted from routine SAR evaluation

Note:

1. SAR exclusion threshold is calculated using condition1 formulas.
2. Conducted power is taken from the RF test report ULR-TC56882230000016F
3. Antenna gain values are taken from Antenna data sheet.

IC limit

As per RSS102 Section 2.5.1

SAR evaluation is required if the separation distance between the user and/or bystander and the antenna and/or radiating element of the device is less than or equal to 20 cm, except when the device operates at or below the applicable output power level (adjusted for tune-up tolerance) for the specified separation distance defined in

Below Table.

| Table 1: SAR evaluation — Exemption limits for routine evaluation based on frequency and separation distance ^{4,5} | | | | | |
|---|---------------------------------|---------------------------------|---------------------------------|---------------------------------|---------------------------------|
| Frequency (MHz) | Exemption Limits (mW) | | | | |
| | At separation distance of ≤5 mm | At separation distance of 10 mm | At separation distance of 15 mm | At separation distance of 20 mm | At separation distance of 25 mm |
| ≤300 | 71 mW | 101 mW | 132 mW | 162 mW | 193 mW |
| 450 | 52 mW | 70 mW | 88 mW | 106 mW | 123 mW |
| 835 | 17 mW | 30 mW | 42 mW | 55 mW | 67 mW |
| 1900 | 7 mW | 10 mW | 18 mW | 34 mW | 60 mW |
| 2450 | 4 mW | 7 mW | 15 mW | 30 mW | 52 mW |
| 3500 | 2 mW | 6 mW | 16 mW | 32 mW | 55 mW |
| 5800 | 1 mW | 6 mW | 15 mW | 27 mW | 41 mW |

| Frequency (MHz) | Exemption Limits (mW) | | | | |
|-----------------|---------------------------------|---------------------------------|---------------------------------|---------------------------------|----------------------------------|
| | At separation distance of 30 mm | At separation distance of 35 mm | At separation distance of 40 mm | At separation distance of 45 mm | At separation distance of ≥50 mm |
| ≤300 | 223 mW | 254 mW | 284 mW | 315 mW | 345 mW |
| 450 | 141 mW | 159 mW | 177 mW | 195 mW | 213 mW |
| 835 | 80 mW | 92 mW | 105 mW | 117 mW | 130 mW |
| 1900 | 99 mW | 153 mW | 225 mW | 316 mW | 431 mW |
| 2450 | 83 mW | 123 mW | 173 mW | 235 mW | 309 mW |
| 3500 | 86 mW | 124 mW | 170 mW | 225 mW | 290 mW |
| 5800 | 56 mW | 71 mW | 85 mW | 97 mW | 106 mW |

Note: Max. e.i.r.p. is 10mW which is less than exemption limits 30mW for 20mm distance.

******END OF TEST REPORT******