

RF Exposure Analysis

FCC §2.1093

Compliance with the SAR requirements is considered without testing if the RF power of channel is below SAR Test Exclusion Threshold. The SAR Test Exclusion Threshold (TET) is calculated according to the KDB 447498, Sec 4.3.1.1 using the formula below:

For General Public (Uncontrolled Environment):

$$\mathbf{TET = \frac{\text{max. power of channel, mW}}{\text{min. separation d, mm}} \times \sqrt{f_{(\text{GHz})}} \leq \mathbf{3 \text{ for 1-g SAR}}$$

where d = 5 mm – the minimum separation distance between the antenna and human body.

At f = 0.9257 GHz,

Conducted Power = 9 dBm; Antenna Gain = 1 dBi. Therefore EIRP is 10 dBm or 10 mW

$$\mathbf{TET = \frac{10, \text{ mW}}{5, \text{ mm}} \times \sqrt{0.9257_{(\text{GHz})}} = \mathbf{1.92}$$

Since it is less than 3, the device compliance with FCC SAR requirements without testing

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| Results | Complies |
|----------------|-----------------|

Industry Canada RSS-102

According to the sec 2.5.1 (Table 1) of the RSS-102

| Table 1: SAR evaluation — Exemption limits for routine evaluation based on frequency and separation distance | | | | | |
|---|--|--|--|--|--|
| 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 |

Considering a separation distance of ≤ 5 mm and interpolating Exemption Limit for 925.7 MHz (between 835 MHz and 1900 MHz) getting the Exemption Limit at least 15 mW.

With the EIRP of 10 mW (925.7 MHz), compliance with the SAR requirements is considered without testing because the RF power of channel is below SAR calculated Exemption Limits.

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| Results | Complies |
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