

Correspondence Reference Number 31699
731 Confirmation Number EA951917
FCC ID T8E-E1000

RF Exposure Statement

rule: FCC part 15.247(i), part 1.1307(b)

This device is a fixed device used for unlicensed networks which doesn't belong to neither table 1 of 1.1307(b) (1) nor 1.1307 (b) (2). The unit qualifies to categorically excluded from making a routine environmental evaluation. Calculations prove that the RF exposure caused by the unit is within the limit of $1\text{mW}/\text{cm}^2$ required for general population (uncontrolled exposure). Detailed calculations follow below.

Maximum Standard: FCC part 1.1310 table 1 [B]
General Population/Uncontrolled Exposure

Frequency range: 1500-100000 MHz values: 2400-2483MHz (Tx freq range)
Power Density 1 mW/cm^2 0.0000265 mW/cm^2
The exposure does not exceed $1\text{mW}/\text{cm}^2$

Regards,
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RF radiation exposure evaluation calculations:

A copy of an RF exposure evaluation provided to Industry Canada is submitted along with this answer (Annex A "Technical Brief" - pages 8-9).

duty cycle = 0.004% (8ms every 200sec)
maximum EIRP = 4mW - value measured in radiated mode, any antenna gain included

General expression of worst case (reflected from nearby ground) power density S as shown in Bulletin 65 eq 6 page 25

$$S_{\text{max}} = \text{EIRP} / (\pi \cdot R^2)$$

Where

S_{max} = maximum power density

R = distance between subject and the radiating element
(worst-case, minimum distance for far field)

This device is a fixed device used for unlicensed networks. The RF exposure will therefore be calculated for far-field, at the beginning of the far-field for small antenna

beginning of far field distance $R_{\text{ff}} = \lambda / (2 \cdot \pi)$

Antenna diameter D = 3cm (tuned quarterlength)

Tx frequency 2400MHz 2450MHz
wavelength $\lambda = 12.5\text{cm}$ 12.1cm

start far field Rff = 1.99cm 1.92cm

considering minimum distance for worst case R above should be 1.92cm

$S_{max} = 4 / (\pi * 1.92) = 0.66 \text{ mW/cm}^2$

Average over 30min, as required by general public category

$S_{ave} = (\text{duty cycle}) * S_{max}$

$S_{ave} = 0.00004 * 0.66 = 0.0000265 \text{ mW/cm}^2$