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RF exposure analysis for the equipment with FCC ID RI7xE61

The devices with FCC ID RI7xE61 are designed to be used only in mobile exposure conditions (antenna to user distance higher than 20 cm).

The antenna(s) used for these transmitters must be installed to provide a separation distance of at least 20 cm from all the persons and must not be co-located or operating in conjunction with any other antenna or transmitter.

The table below is excerpted from Table 1B of 47 CFR 1.1310 titled Limits for Maximum Permissible Exposure (MPE), Limits for General Population/Uncontrolled Exposure:

Frequency Range (MHz)	Power density (mW/cm ²)	Averaging time (minutes)
300 – 1500	f (MHz) /1500	30
1500 – 100.000	1.0	30

Based on the above table the limits are:

For 2.4 GHz frequency band device: 1 mW/cm²

Using the equation from page 19 of OET Bulletin 65, Edition 97-01:

$$S = \frac{PG}{4\pi R^2}$$

where: S = power density (in appropriate units, e.g. mW/cm²)
 P = power input to the antenna (in appropriate units, e.g., mW)
 G = power gain of the antenna in the direction of interest relative to an isotropic radiator
 R = distance to the center of radiation of the antenna (appropriate units, e.g., cm)

Compliance with MPE limits can be guaranteed as the calculation below shows:

Maximum conducted output power (dBm)	Maximum conducted output power (mW)	Evaluation distance (cm)	S (mW/cm ²)	Limit (mW/cm ²)	Result
25,79	379,31	20,00	0,076	1,00	Compliant