Environmental assessment (EA)

The device is designed to carry 1 transmitter:

- **One way paging Transmitter VHF 2m,**
  FCC ID: L3M-ISITEIIIVHF; IC: 4404A-ISITEIIIVHF

This device is to be used only for fixed applications (Controlled environment).

The antenna(s) used for this transmitter 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 chapter 4.4 of RSS-102.

Frequency Range (MHz)	Power density (W/m^2)	Averaging time (minutes)
30 - 300	10	6

Based on the above table the limit for Maximum Permissible Exposure (MPE) is:

For 150 - 174 MHz frequency band device: **S = 1.00 mW/cm^2**

For this consideration the max measured source based time averaged power including tune up tolerance is:

Max. power for 150 - 174 MHz operation: **P = 29.2 W** (conducted)

Max. gain of the used antenna (Kathrein K552921) **G = 2.0 dBd** (declared by applicant)

Max. radiated power for 150 - 174 MHz operation: **46.3 W (ERP)**

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/cm^2)
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)

Based on the power density limit the required distance to the antenna can be calculated using the equation above.

The required separation distance from the antenna is: **R = 60.7 cm**

Result: The applicant has to provide a separation distance to the antenna of at least 60.7 cm.