Radio Frequency Hazard Information

As per Section 1.1310 and Section 2.1091 certification of this transmitter is sought using the Controlled / Occupational exposure limits as detailed in OST/OET Bulletin Number 65 as a power of 27.5 watts is to be used in a mobile environment where the use of the transmitter will be employment related.

Calculations have been made using the General Public/Uncontrolled Exposure limits.

Minimum safe distances have been calculated below.

Power density, $W/m^2 = E^2/3770$
- Occupational / Controlled Exposure limit will be 2.69 mW/cm^2
  (f/300 = 806/ 300)
- General Population / Uncontrolled exposure limit will be 0.54 mW/cm^2
  (f/1500 = 806/ 1500)

The minimum distance from the antenna at which the MPE is met is calculated from the equation relating field strength in V/m, transmit power in watts, transmit antenna gain, transmitter duty cycle and separation distance in metres:

E, V/m = (√ (30 * P * G)) / d

Controlled
$E = 2.69\ mW/cm^2 = E^2/3770$
$E = \sqrt{1.46*3770}$
$E = 100.7$ V/m

Uncontrolled
$E = 0.54\ mW/cm^2 = E^2/3770$
$E = \sqrt{0.54*3770}$
$E = 45.1$ V/m

The rated maximum transmitter power = 27.5 watts.

Transmitter operated using a quarter wave whip antenna with a gain of 2.15 dBi (1.64).

The transmitter is a push to talk device that would typically be used with a duty cycle of 50% in a 6 minute period or a 30 minute period.

Controlled
d = √ (30 * P * G*DC) / E
d = √ (30 * 27.5 * 1.64 * 0.5) / 100.7
d = 25.8 cm or 0.258 m

Uncontrolled
d = √ (30 * 25.0 * 1.64 * 0.5) / 45.1
d = 0.577 m or 57.7 cm

Result: Complies