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 100 watts is to be used in a fixed environment.

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 1.46 mW/cm^2
  (f/300 = 440 MHz/300)
- General Population / Uncontrolled exposure limit will be 0.29 mW/cm^2
  (f/1500 = 440 MHz/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 = ($\sqrt{}$ (30 * P * G)) / d

Controlled

$E = 1.46\ mW/cm^2 = E^2/3770$

$E = \sqrt{1.46*3770}$

E = 74.2 V/m

Uncontrolled

$E = 0.29\ mW/cm^2 = E^2/3770$

$E = \sqrt{0.29*3770}$

E = 33.1 V/m

The rated maximum transmitter power = 100.0 watts.

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

Controlled

d = $\sqrt{}$ (30 * P * G*DC) / E

d = $\sqrt{}$ (30 * 100.0 * 1.64) / 74.2

d = 0.94 metres or 94 cm

Uncontrolled

d = $\sqrt{}$ (30 * 25.0 * 1.64) / 33.1

d = 2.11 metres or 211 cm

Result: Complies