

Radio Frequency Hazard Information

As per Section 1.1310 mobile transmitters are required to be operated in a manner that ensures that the public is not exposed to RF energy levels in accordance with OST/OET Bulletin Number 65.

In accordance with this section and also Section 2.1091, this device has been classified as a mobile device whereby a distance of 20 cm can normally be maintained between the user and the device.

In accordance with Section 1.1310 the Maximum Permissible Exposure (MPE) limit for the Occupational / Controlled Exposure of 1.5 (f/300 = 450 MHz/300) has been applied.

This mobile transceiver will typically be used at emergency incidents requiring temporary extended range communications.

The MPE has been calculated from the equation relating field strength in V/m, transmit power in watts and transmit antenna gain when a separation distance of 20 cm (0.2 metres) is maintained with a transmit power of 4 watts and a typical antenna gain of 1:

$$E(\text{V/m}) = (\sqrt{30 * P * G}) / d$$

$$\text{Power density, mW/m}^2 = E^2/3770$$

$$\text{MPE} = E^2/3770$$

$$\text{MPE} = ((\sqrt{30 * P * G}) / d)^2/3770$$

$$\text{MPE} = ((\sqrt{30 * 4 * 1}) / 0.2)^2/3770$$

$$\text{MPE} = 0.796 \text{ mW/m}^2$$

Typically this mobile transceiver would operate in a push to talk mode and therefore a duty cycle of 50% could be expected.

$$\text{MPE} = E^2/3770$$

$$\text{MPE} = ((\sqrt{30 * P * G * \text{duty cycle}}) / d)^2/3770$$

$$\text{MPE} = ((\sqrt{30 * 5 * 1.0 * 0.5}) / 0.2)^2/3770$$

$$\text{MPE} = 0.398 \text{ mW/m}^2$$

The MPE limit at this frequency is 1.5 mW/m²

The above calculations therefore show that this device meets the MPE requirement for mobile devices when a 20 cm clearance is maintained.

Result: Complies