

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 1.0 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 5 watts and a typical antenna gain of 1:

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

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

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

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

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

$$\text{MPE} = 0.995 \text{ mW/m}^2$$

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

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

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

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

$$\text{MPE} = 0.497 \text{ mW/m}^2$$

The MPE limit at this frequency is 1.0 mW/m^2

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

Result: Complies