MPE Calculations

FCC part 1.1310, Table 1 limits the power density for uncontrolled exposure to 0.6mW/ cm^2 for systems operating in the 902 ñ 928 MHz bands. The distance, d(cm) from the antenna at which the power density, P_d (mW/cm^2) is below this limit is calculated from the maximum EIRP, P_t (mW) using the method detailed in OET Bulletin 65. This uses Friisí equation:

$$P_d = P_t/(4 \pi d^2)$$

Re-arranging for the distance at which the power density is $0.6mW/cm^2$, the maximum permitted density, gives:

$$d = \sqrt{} (P_t /(4 \pi))$$

The transmit power is 28.6dBm (724.4 mW). The system can use antennas with gains of 2.2 dBi, 5.2dBi, 8.2 dBi, 10.2dBi and 11.2dBi. All antennas with a gain exceeding 6dBi are installed with cables such the net gain of the combination of antenna plus cable is 6dBi or less.

Frequency	MPE Limit (mW/cm^2)	Output Power (mW)	Max. Antenna Gain (dBi)	EIRP (mW)	Pd at 20cm (mW/cm^2)	Calculated distance for Pd < Limit
902 to 928 MHz	0.60	724.4	6.0	2884.0	0.6	20 cm
902 to 928 MHz	0.60	724.4	5.2	2398.8	0.5	18 cm
902 to 928 MHz	0.60	724.4	2.2	1202.3	0.2	13 cm

The device is not a portable device (i.e. intended to be worn on the body or be hand-held) and can be classified as both fixed mounted and mobile, depending on the antenna used.

- All antenna assemblies (i.e. antenna and cable assembly) are required to be installed to ensure a separation distance of at least 30cm from the antenna (refer to page 59 of the userís manual). The use of a 30cm separation distance ensures that the

As shown in the calculations above, the power density 20cm from the device is at or below the maximum permitted level for uncontrolled exposure. The installation instructions require a separation distance of 30cm to provide some additional cushion of safety with regards to rf exposure.