

**1 MAXIMUM PERMISSIBLE EXPOSURE (MPE) CALCULATIONS**

The § 1.1310 Radiofrequency radiation exposure limits are listed in the table below.

	<b>Frequency Range (MHz)</b>	<b>Power Density Limit (mW/cm<sup>2</sup>)</b>
<b>Limits for Occupational/Controlled Exposures</b>	0.3-3.0	100
	3.0-30	900/ Frequency <sup>2</sup>
	30-300	1.0
	300-1500	Frequency/300
	1500-100,000	5.0
<b>Limits for General Population/Uncontrolled Exposure</b>	0.3-1.34	100
	1.34-30	180/Frequency <sup>2</sup>
	30-300	0.2
	300-1500	Frequency/1500
	1500-100,000	1.0

**1.1 Test Procedure**

The maximum measured radiated power was 3061mW at 824.2MHz. This radiated RF power was used to calculate the maximum RF exposure at a 20 cm distance using the formula:

$$\text{Maximum RF Exposure at 20cm} = (\text{ERP in mW}) / (4\text{Pi}(20\text{cm})^2)$$

**1.2 Test Results**

The following calculations show the Maximum RF Exposure from the TG-4 at 20cm for the worst case measured EIRP. The MPE level is below the limits for the general population described in the table above.

$$\text{Maximum Peak Measured ERP} = 3061\text{mW}$$

$$\text{MPE} = 3061\text{mW} / (4\text{Pi}(20\text{cm})^2) = 0.61 \text{ mW/cm}^2$$

$$\text{The limit at 824.2MHz} = (824.2\text{MHz} / 1500) = .54 \text{ mW/cm}^2$$

GSM radios transmit in 1 out of 8 possible timeslots. Therefore, using source base time averaging as allowed under FCC rule § 2.1091, the final MPE value which compares to the limit is:

$$(0.61 \text{ mW/cm}^2) * (1/8) = \mathbf{0.076 \text{ mW/cm}^2}$$

The above calculations clearly show that the TG-4 meets the MPE requirements for