

# Exposure of Humans to RF Fields

Analysis Performed By: Glen Westwell

Date of Test: 21 Aug 2002

## Maximum Permissible Exposure (MPE) Compliance Statement, FCC Radio Frequency Exposure Limit 1.1310 & Industry Canada RSS-102

### Mark IV 801154 Radio Module

The 801154 Radio Module has been tested and the performance characterized in accordance with the MPE requirements of FCC 47 CFR and Industry Canada RSS-102.

At an operating frequency of 915.75MHz the MPE limit for the General Population/Uncontrolled Exposure is  $0.61\text{mW}/\text{cm}^2$  ( $\text{f}/1500\text{mW}/\text{cm}^2$ ). This device complies with this limit at the following line of sight distances from the antenna element:

801154 Radio Module : 23cm

The analysis is provided below.

Power Density (S) =  $\text{EIRP}/(4\pi R^2)$ , Therefore,  $R \geq \sqrt{\text{EIRP}/S \times 4\pi}$   
*Using this calculation:*

Maximum Antenna Gain = 8dBi  
Maximum output power = 28dBm

$S = 0.6 \text{ mW}/\text{cm}^2$   
 $\text{EIRP} = 36\text{dBm}$  or 4W(max. worst case)  
*Therefore,*  
 $R = 22.8 \text{ cm}$

This minimum safe distance for the general population of 23cm shall be stated in the installation & operators instruction manual under the RF Safety Exposure Warning Statement.

Analysis provided by,  
Glen Westwell, Nemko Canada Inc. for Mark IV Industries.