

Model 2100 RFID Reader is an RFID tag reader that will be used in automotive assembly lines with the high gain antenna configuration (14.5 dB gain). The User and Installation documents warn users and installers about the minimum 20 cm (8 inches) distance requirement during use. The calculations below show the compliance of the product with **1 mW/cm<sup>2</sup> MPE limit** for uncontrolled environments.

$P_T = 427 \text{ mW}$  (transmitted power at the transmitter)  
 $G_{dB} = 14.5 \text{ dB}$  (antenna gain)  
 $d = 20 \text{ cm}$  (distance between exposed body & antenna)  
 $F = 40\%$  (duty cycling factor for operation over 30 minutes)

$$P_D = P_T * G_{Num} * F / (4\pi d^2)$$

$$P_D = \underline{\underline{0.957 \text{ mW/cm}^2}} < 1 \text{ mW/cm}^2$$