MPE analysis

Matrics Clamp Truck Reader
f=915MHz
Power = 20Watts conducted
Power = 20Watts x 0.4 conducted = 8 Watts conducted to antenna port with Duty factor corrected (conversntional CW) per Table 2 of Oet 65b

Antenna gain = 6 dBi and the Numerical gain: G = 4

The MPE calculation for Matrics (P = 8 Watts ; G = 4) @ 1 meter:

$Sp = PG/4pi\ R^2 = (8\ x\ 4)/12.56 = 2.55$ W/m^2 @ 1 meter

*Sp is power density in W/m^2 and P is 8 Watts conducted to antenna port
*G = 4 antenna numerical gain and R = distance to the center of the antenna (1 meter)
*The power density Sp =2.55 W/m^2 @ 1 meter or 0.255 mW/cm^2 @ 1 meter compared to a limit of 0.61 mW/cm^2 @ 915MHz averaged over a 30 minute period for General Population Exposure.

$So = PG/4pi\ R^2 = (8\ x\ 4)/12.56\ x\ 0.2 = 12.8$ W/m^2 @ 0.45 meters

*So is power density in W/m^2 and P is 8 Watts conducted to antenna port
*G = 4 antenna numerical gain and R = distance to the center of the antenna (0.45meters)
*The power density Sp =12.8 W/m^2 @ 0.45 meters
or 1.28 mW/cm^2 @ 0.45 meters compared to a limit of 3.05 mW/cm^2 @ 915MHz averaged over a 30 minute period for General Population Exposure.

* The EUT(antenna) must be 0.45 meter away from Occupational RF Exposure trained persons.

* The EUT(antenna) must be 1 meter away from the General Population.