MPE CALCULATION

Matrics Clamp Truck Reader
f=915MHz
Power = 20Watts conducted

The MPE calculation for Matrics (E = 45.2 dBm = 42 V/m) @ 3 meters:
E = 45.2 dBm = 42 V/m; @ 3 meters
EUT operates with 37% worst case Duty Cycle (this must be Source-based, not operation based)
42V/m x 37% = 15.5 V/m = 36.5 dBm @ 3 meters (Duty cycle corrected)
46.5 dBm = 47 v/m @ 1 meter with duty cycle corrected
53.43 dBm = 104.7 v/m @ 0.45 meters with duty cycle corrected.

$P_P = E^2/ 120*pi$
$= (47 \times 47)/376.6$
$= 5.87$ W/m^2 @ 1 meter

*P_P is power density in W/m^2 and E is field strength in V/m
*The power density P_P =5.87 W/m^2 @ 1 meter
or 0.587 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.

$P_o = E^2/ 120*pi$
$= (104.7 \times 104.7)/376.6$
$= 29.1$ W/m^2 @ 0.45 meter

*P_o is power density in W/m^2 and E is field strength in V/m
*The power density P_o =29.1 W/m^2 @ 0.45 meter
or 2.91 mW/cm^2 @ 0.45 meter compared to a limit of 3.05 mW/cm^2 @ 915MHz
averaged over a 6 minute period for Occupational 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.