

MPE CALCULATION for GRE S2403BP120

Formular used in the MPE Calculations:

$$E^2/3770 = S, \text{ mW/cm}^2$$

$$P_{\text{watts}} * G_{\text{gain}} = 10^{(P_{\text{dBm}} - 30 + G_{\text{dBi}})/10}$$

$$E, \text{ V/m} = (P_{\text{watts}} * G_{\text{gain}} * 30)^{.5}/d, \text{ meters}$$

$$d = ((P_{\text{watts}} * G * 30) / (3770 * S))^{.5} \text{ ----- (A)}$$

Since

$$S (\text{mW/cm}^2) = 1.00 \quad \text{from 1.1310 Table 1}$$

$$P (\text{dBm}) = 22.7 \quad \text{EUT output power}$$

$$G (\text{dBi}) = 5.15 \text{ EUT} \quad \text{antenna gain}$$

Substitute these parameters into the A above, we have

$$\text{MPE safe distance } d (\text{cm}) = 7.0$$

NOTE: For mobile or fixed location transmitters, minimum separation distance is 20 cm, even if calculations indicate MPE distance is less

MPE CALCULATION for GRE TELEX 2415

Formular used in the MPE Calculations:

$$E^2/3770 = S, \text{ mW/cm}^2$$

$$P_{\text{watts}} * G_{\text{gain}} = 10^{(P_{\text{dBm}} - 30 + G_{\text{dBi}})/10}$$

$$E, \text{ V/m} = (P_{\text{watts}} * G_{\text{gain}} * 30)^{.5}/d, \text{ meters}$$

$$d = ((P_{\text{watts}} * G * 30) / (3770 * S))^{.5} \text{ ----- (A)}$$

Since

$$S (\text{mW/cm}^2) = 1.00 \quad \text{from 1.1310 Table 1}$$

$$P (\text{dBm}) = 18.9 \quad \text{EUT output power}$$

$$G (\text{dBi}) = 9.01 \text{ EUT} \quad \text{antenna gain}$$

Substitute these parameters into the A above, we have

$$\text{MPE safe distance } d (\text{cm}) = 7.0$$

NOTE: For mobile or fixed location transmitters, minimum separation distance is 20 cm, even if calculations indicate MPE distance is less

MPE CALCULATION for GRE OMNI ANT - GAIN LESS THAN 0 dBd (2.15dBi)

Formular used in the MPE Calculations:

$$E^2/3770 = S, \text{ mW/cm}^2$$

$$P_{\text{watts}} * G_{\text{gain}} = 10^{(P_{\text{dBm}} - 30 + G_{\text{dBi}})/10}$$

$$E, \text{ V/m} = (P_{\text{watts}} * G_{\text{gain}} * 30)^{.5}/d, \text{ meters}$$

$$d = ((P_{\text{watts}} * G * 30) / (3770 * S))^{0.5} \text{ ----- (A)}$$

Since

$$S (\text{mW/cm}^2) = 1.00 \quad \text{from 1.1310 Table 1}$$

$$P (\text{dBm}) = 27.0 \quad \text{EUT output power}$$

$$G (\text{dBi}) = 2.15 \text{ EUT} \quad \text{antenna gain}$$

Substitute these parameters into the A above, we have

$$\text{MPE safe distance } d (\text{cm}) = 8.1$$

NOTE: For mobile or fixed location transmitters, minimum separation distance is 20 cm, even if calculations indicate MPE distance is less