



Maximum Permissible Exposure (MPE) Evaluation

Applicant : Kenwood Corporation
Equipment : VHF DIGITAL BASE-REPEATER
Model No. : NXR-710-K
FCC ID : K44422300
IC CN and UPN : 282F-422300

MPE Calculations

According to the OET Bulletin 65 (Edition 97-01)

$$S = \frac{PG}{4\pi R^2}$$

$$R = \sqrt{\frac{PG}{4\pi S}}$$

Where:

S=Power density (in appropriate units, e.g. mW/cm²)

P=Power input to antenna (in appropriate units, e.g., mW)

G=Power gain of the antenna in the direction of interest relative to an isotropic radiator

R=Distance to the center of radiation of the antenna (appropriate units, e.g., cm)

Tx Frequency= 150 to 174 (MHz) : FCC
138 to 144 , 148 to 174 (MHz) : IC
Maximum peak power= 46.99 (dBm) (=50W)
Antenna gain= 2.15 (dBi)

S= 0.20 (mW/cm²)
P= 30000.00 (mW) (=Maximum peak power x 120% x Duty cycle 50%)
G= 1.64 (numeric)
R= 139.94 (cm)

P = Value calculated according to CFR Part 90.205(s)

Calculated minimum separation distance from antenna :

139.94 (cm)