

TCB June 24th Email Response for Item 5b
TerraDigital Systems FCC ID Number QW8-TP100-00

TerraPlayer Wireless Digital Audio Jukebox
902 - 928MHz Digital Radio
FCC ID#: QW8-TP100-00

This excel sheet has been filled out for the highest gain antenna, specifically (2.5 dBi), on the lowest channel, (904.7 MHz- with the highest power output and the tightest MPE limit). This will represent the worst case exposure case for the TerraPlayer family of products. Specifically ... (BT-100, CR-100 and TR-100)
The margin of compliance is seen to be 18.3 dB.

Prediction of MPE limit at a given distance

Equation from page 18 of OET Bulletin 65, Edition 97-01

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

where: S = power density
P = power input to the antenna
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

Maximum peak output power at antenna input terminal: 14.10 (dBm)
Maximum peak output power at antenna input terminal: 25.7 (mW)
Antenna gain(typical): 2.5 (dBi)
Maximum antenna gain: 1.78 (numeric)
Prediction distance: 20 (cm)
Prediction frequency: 904.7 (MHz)
MPE limit for uncontrolled exposure at prediction frequency: 0.603 (mW/cm²)

Power density at prediction frequency: 0.009101 (mW/cm²)

Maximum allowable antenna gain: 20.71654044 (dBi)