

US Tech:
Client:
Issue Date:
Model:
FCC ID:
IC ID:

14-0286
RFM
12/3/2014
DNT90
HSW-DNT90
4492A-DNT90

Maximum Public Exposure to RF (MPE) CFR 15.247 (i)

The maximum exposure level to the public from the RF power of the EUT shall not exceed a power density, **S**, of 1 mW/cm² at a distance, d, of 20 cm from the EUT.

Therefore, for:

Highest Gain Chip Antenna= -1 dBi

Peak Power (Watts) = 0.142 (from Table 7 of Test Report)
Gain of Transmit Antenna = -1 dBi = 0.794, numeric (from Table 4 of Test Report)
d = Distance = 20 cm = 0.2 m

$$\begin{aligned} S &= (PG/ 4\pi d^2) = EIRP/4A = 0.142 (0.794)/4*\pi*0.2*0.2 \\ &= 0.1127/0.5024 = 0.2243 \text{ W/m}^2 \\ &= (\text{W/m}^2) (1\text{m}^2/\text{W}) (0.1 \text{ mW/cm}^2) \\ &= 0.02243 \text{ mW/cm}^2 \end{aligned}$$

which is << less than 0.61 mW/cm²

Highest Gain Dipole Antenna= 5 dBi

Peak Power (Watts) = 0.145 (from Table 9 of Test Report)
Gain of Transmit Antenna = 5 dBi = 3.162, numeric (from Table 3 of Test Report)
d = Distance = 20 cm = 0.2 m

$$\begin{aligned} S &= (PG/ 4\pi d^2) = EIRP/4A = 0.145 (3.162)/4*\pi*0.2*0.2 \\ &= 0.4585/0.503 = 0.9122 \text{ W/m}^2 \\ &= (\text{W/m}^2) (1\text{m}^2/\text{W}) (0.1 \text{ mW/cm}^2) \\ &= 0.09122 \text{ mW/cm}^2 \end{aligned}$$

which is << less than 0.61 mW/cm²

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Highest Gain Yagi Antenna= 6 dBi

Peak Power (Watts) = 0.145 (from Table 9 of Test Report)
Gain of Transmit Antenna = 6 dBi = 3.981, numeric (from Table 3 of Test Report)

d = Distance = 20 cm = 0.2 m

$$\begin{aligned} S &= (PG/4\pi d^2) = EIRP/4A = 0.145 (3.981)/4*\pi*0.2*0.2 \\ &= 0.5772/0.503 = 1.1478 \text{ w/m}^2 \\ &= (W/m^2) (1m^2/W) (0.1 \text{ mW/cm}^2) \\ &= 0.11478 \text{ mW/cm}^2 \end{aligned}$$

which is << less than 0.61 mW/cm²