

US Tech:	14-0286
Client:	RFM
Issue Date:	12/3/2014
Model:	DNT90
FCC ID:	HSW-DNT90
IC ID:	<u>4492A-DNT90</u>

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 dB_i = 0.794, numeric (from Table 4 of Test Report)

d = Distance = 20 cm = 0.2 m

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

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 dB_i = 3.162, numeric (from Table 3 of Test Report)

d = Distance = 20 cm = 0.2 m

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

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 dB_i = 3.981, numeric (from Table 3 of Test Report)
d = Distance = 20 cm = 0.2 m

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

which is << less than 0.61 mW/cm²