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RF/MPR Exposure Evaluation

Date: October 28, 2014

Model: MICRO-RM2.4

FCC ID: 2ACNQRM2

IC: 12298A-RM2

Exposure Limits

The maximum permissible exposure (MPE) for the general/uncontrolled population at a minimum separation distance of 20 cm = f_{MHz} / (1,500 mW/cm^2)

MPE = 2400/1500 = 1.60 mW/cm^2

Friis Formula

Pd = (Pout * G) / (4 * π * r^2)

Where:

Pd = Power density in mW/cm^2

Pout = Output power to antenna in mW

G = Gain of antenna in linear scale

π = Pi = 3.14159

r = Distance between observation point and center of the radiator in cm

Antenna Gain

Antenna gain per Johanson Technology spec sheet for 2450AT42B100 chip antenna

Maximum Gain = 0 dBi (1 in linear scale)

Output Power to Antenna

Measured output peak power = -3.5 dBm (0.677 mW)

Power Density Calculation

Pd = (0.677 * 1) / (4 * π * 20^2) = 0.00013 mW/cm^2 @ r = 20 cm

The power density at a distance of 20 cm is far below the limit of 1.60 mW/cm^2