

US Tech Test Report:
Report Number:
Issue Date:
Customer:
Model:
FCC ID:

FCC Part 95
19-0405
November 22, 2019
Radio Systems Corporation
RAC00-16936
KE3-3003591

Maximum Permissible Exposure to RF (MPE) CFR 1.1310

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 Dipole Antenna= -1 dBi

Peak Power (Watts) = 0.0398 (max rated output power for MURS radio)
Gain of Transmit Antenna = -1 dBi = 0.79, numeric (EUT uses an external Loop antenna)
d = Distance = 20 cm = 0.2 m

$$\begin{aligned} S &= (PG / 4\pi d^2) = EIRP / 4\pi = 0.0398 * (0.79) / 4 * \pi * 0.2^2 \\ &= 0.0314 / 0.5030 = 0.0625 \text{ W/m}^2 \\ &= (\text{W/m}^2) (1\text{m}^2/\text{W}) (0.1 \text{ mW/cm}^2) \\ &= 0.00625 \text{ mW/cm}^2 \end{aligned}$$

which is << less than 1.0 mW/cm²

Simultaneous transmission MPE consideration (KDB 447498 D01, 7.2)

Since the product can incorporate a WiFi module, the sum of the MPE ratio for both radio's must be less than 1.

MPE ratio for this radio = **0.00625**

MPE ratio for the WiFi, from attached MPE test report pg. 9 = **0.0132**

Sum of MPE = **0.01945**

Less than 1 = **PASS**