

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

FCC Part 95
KE3-30035901
23-0066
May 11, 2023
Radio Systems Corporation
RFA-621

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) = 0.1 (max rated output power, +20 dBm)
Gain of Transmit Antenna = -1 dBi = 0.79, numeric (EUT uses an external Loop antenna)
d = Distance = 20 cm = 0.2 m

$$\begin{aligned} \mathbf{S} &= (\text{PG} / 4\pi d^2) = \text{EIRP} / 4\pi = 0.1 * (0.79) / 4 * \pi * 0.2^2 \\ &= 0.079 / 0.5030 = 0.1571 \text{ W/m}^2 \\ &= (\text{W/m}^2) (1\text{m}^2/\text{W}) (0.1 \text{ mW/cm}^2) \\ &= 0.01571 \text{ mW/cm}^2 \\ &\text{which is } \ll \text{ less than } 1.0 \text{ mW/cm}^2 \end{aligned}$$

Simultaneous transmission MPE consideration (KDB 447498 D01, 7.2)

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

MPE ratio for this radio = **0.01571**

MPE ratio for the Wi-Fi, from attached MPE test report pg. 12 = **0.0110**

Sum of MPE = **0.02671**

Less than 1 = **PASS**