

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/cm<sup>2</sup> 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

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

which is << less than 1.0 mW/cm<sup>2</sup>

#### 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**