

McClellan Park 5239 Luce Ave Facility GPS Re-Radiator

- a. The GPS Re-radiator will be for indoor use only. The GPS re-radiator will reside within a commercial office building.
- b. All of our product deliveries include a GPS receiver and require current GPS data while testing is in progress. The GPS re-radiator will allow multiple users within the Kratos facility to access GPS signals to test hardware and software.
- c. The setup is similar to what is used at Kratos (Composite Engineering Inc) Sacramento facility. The Sacramento facility call sign is WE2XUS, and file number 0282-EX-CR-2017.
- d. Kratos is requesting a 2 years license with a possible extension after two years
- e. The GPS re-radiator is controlled by the Kratos Communications group that resides in McClellan Park CA. The primary point of contact resides at the McClellan Park facility.

f. Link budget

$$P_{Tmax} = P_R + 20\log f + 20\log (30+d) - 27.55$$

$$P_{Tmax} = P_R + 20\log 1575.42 + 20\log (30+10 \text{ meters}) - 27.55$$

$$P_{Tmax} = P_R + 20\log 1575.42 + 20\log (30 + 10 \text{ meters}) - 27.55$$

$$P_{Tmax} = P_R + 63.95 + 32.04 - 27.55$$

$$P_{Tmax} = P_R + 68.44$$

$$P_{Tmax} = -140 \text{ dBm} + 68.44$$

$$-71.56 \text{ dBm} = 69.81 \text{ pW}$$

$$P_{Tmax} = -71.56 \text{ dBm (Maximum Permissible EIRP of GPS Re-radiator)}$$

69.81 pW is maximum EIRP out of the GPS Re-radiator antenna

The GPS Low Noise Amplifier has a potentiometer where the gain can be adjusted

g. A sign will be posted on the door to the lab where the GPS Re-radiator resides stating the following, "GPS re-radiator is in use and the GPS information you receive may be in error."

h. The GPS Re-radiator shall only be used for the test of GPS receivers used on our companies end products.

i. The stop buzzers shall be the following:

Phillip Manno, (916) 751-2876 or (916) 468-8062

Mark Noll, (916) 945-5804 or (916) 301-3691