



EXHIBIT 2

GPS SIGNAL LEVEL CALCULATIONS

LOCKHEED MARTIN AERONAUTICS
COMPANY
Palmdale, CA.



SYSTEM 14
LMAC PLANT 10
BUILDING 614A
FLIGHT LINE – STALL 1
IDENTIFIERS: 614T1

The following calculations are for System 14 transmit identifier 614T1. Calculations are based upon an average re-transmitted receive power for L1 and L2 of -130 dBm at the unit under test.

The attenuation of the GPS signal while traveling through free space is calculated with the following formula:

$$FSL = K1 + 20 \cdot \log(D) + 20 \cdot \log(F)$$

Where:

K1 = the constant factor (-37.87) for the desired units (feet),

F = the frequency in MHz; and

D = the slant range distance from the transmitter antenna to 100 feet beyond the nearest exterior wall in feet.

The GPS Re-radiation device transmits at two frequencies: 1575.42 MHz for L1 and 1227.6 MHz for L2.

Therefore, the Free Space Path Loss (FSL) equals:

1. For L1: $FSL = -37.87 + 20 \cdot \log(152.2) + 20 \cdot \log(1575.42) = 69.7 \text{ dB}$

2. For L2: $FSL = -37.87 + 20 \cdot \log(152.2) + 20 \cdot \log(1227.6) = 67.6 \text{ dB}$

The calculated signal at 100 feet beyond the nearest exterior wall from the transmit antenna is as follows:

1. L1 Transmitted Power = 13.5 picowatts EIRP = -78.7 dBm/24 MHz

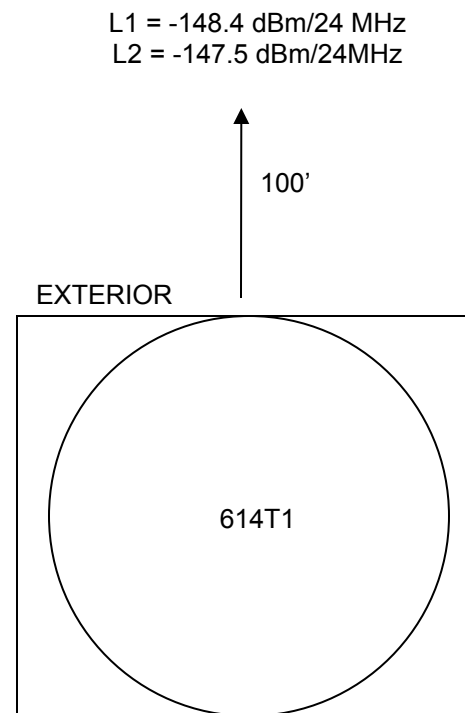
At 100 feet = $-78.7 - 69.7 = \mathbf{-148.4 \text{ dBm/24 MHz}}$

2. L2 Transmitted Power = 10.2 picowatts EIRP = -79.9 dBm/24 MHz

At 100 feet = $-79.9 - 67.6 = \mathbf{-147.5 \text{ dBm/24 MHz}}$



SYSTEM 14
LMAC PLANT 10
BUILDING 614A
FLIGHT LINE STALL 1
IDENTIFIERS: 614T1
BUILDING DIMENSION: 150' X 100'



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System 14