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GPS Networking Link Budget Calculator

PSA Airlines ORF Hangar 1   FRN:0004415857

The following spreadsheet calculates the effective radiated power for a GPS Networking reradiating system as well as the effective signal power at given range in dBm. Enter the components for the strongest repeating path in your system into the section with the **red** border. NTIA regulations require that the repeated signal be weaker than -140 dBm when measured 100 FT outside of the reradiated structure. Please feel free to reach out to GPS Networking if you need assistance.

Receive Ant Gain	Ant Cable Insertion Loss	Repeater Amp Gain	Repeater Ant Gain Best Case	Building Length (Feet)	Repeated Signal Power @ End of Building In dBm	Repeated Signal Power @ 100' Outside of Building In dBm
33	-3	25	2	12	-120.68	-140.0772932

GPS Carrier Frequency MHz
1575

Total System Gain
57

Range in Miles
0.00

Total Signal Power @ Range in Watts
855.7E-18

Avg Receive Power L1 dBm North America
-130

Free Space loss with Isotropic Antennas
-47.68

Range in Meters
3.74

Radiated Power dBm
-73

Range in Kilometers
0.00

Transmitted Power (W)
25.1E-12

Effective Radiated Power (W)
50.1E-12

Effective Radiated Power (dBW)
-103

System Receive Antenna

Part Number	Gain/Loss (dB)
L1GPSA-N	33

Passive Components (Cause Loss)

Part Number	Gain/Loss (dB)

Amplified Components (Cause Gain)

Part Number	Gain/Loss (dB)
LA30RPDC	25

Repeating Antennas

Part Number	Gain/Loss (dB)
L1PRRKA-S	2

Cable Runs

Cable Type	Loss Per 100 Feet (LMR400) = -6	Feet of Cable	Cable Losses
LMR400	-6	50	-3
			0

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