



Your source for quality GNSS Networking Solutions and Design Services, Now!



GPS Networking Link Budget Calc

Customer:

The following spreadsheet calculates the effective radiated power for a GPS Networking reradiating system as well as the effective signal power system into the section with the **red** border. NTIA regulations require that the repeated signal be weaker than -140 dBm when measured 100 F need assistance.

Receive Ant Gain	Ant Cable Insertion Loss	Repeater Amp Gain	Repeater Ant Gain Best Case
38	-3	30	0
GPS Carrier Frequency MHz			Total System Gain
1575			65
Avg Receive Power L1 dBm North America			
-130			
Free Space loss with Isotropic Antennas			
-71.39			

Helpful Links:

Get an FCC Registration Number:	https://apps.fcc.gov/coresWeb/publicHome.do
FCC Experimental Broadcast Form 442:	https://apps.fcc.gov/oetcf/els/forms/442Entry.cfm
Cable Loss Calculator	https://www.timesmicrowave.com/Calculator
GPS Networking Store	https://www.gpsnetworking.com/store
Tim's Email Address (if you need help)	mailto:tim@gpsnetworking.com

System Receive Antenna

Part Number	Gain/Loss (dB)
-------------	----------------

Org.:Sales and Marketing
Rev.:002



Your source for quality GNSS Networking Solutions and Design Services, Now!

L1GPSA-N 38

Passive Components (Cause Loss)

Part Number	Gain/Loss (dB)
-------------	----------------

L1GRRKPA	3
----------	---

Amplified Components (Cause Gain)

Part Number	Gain/Loss (dB)
-------------	----------------

VGLCDLA30RPDC	27
---------------	----

Repeating Antennas

Part Number	Gain/Loss (dB)
-------------	----------------

Cable Runs

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



Your source for quality GNSS Networking Solutions and Design Services, Now!



0
0
0
0
0
0
0
0



Your source for quality GNSS Networking Solutions and Design Services, Now!

ulator

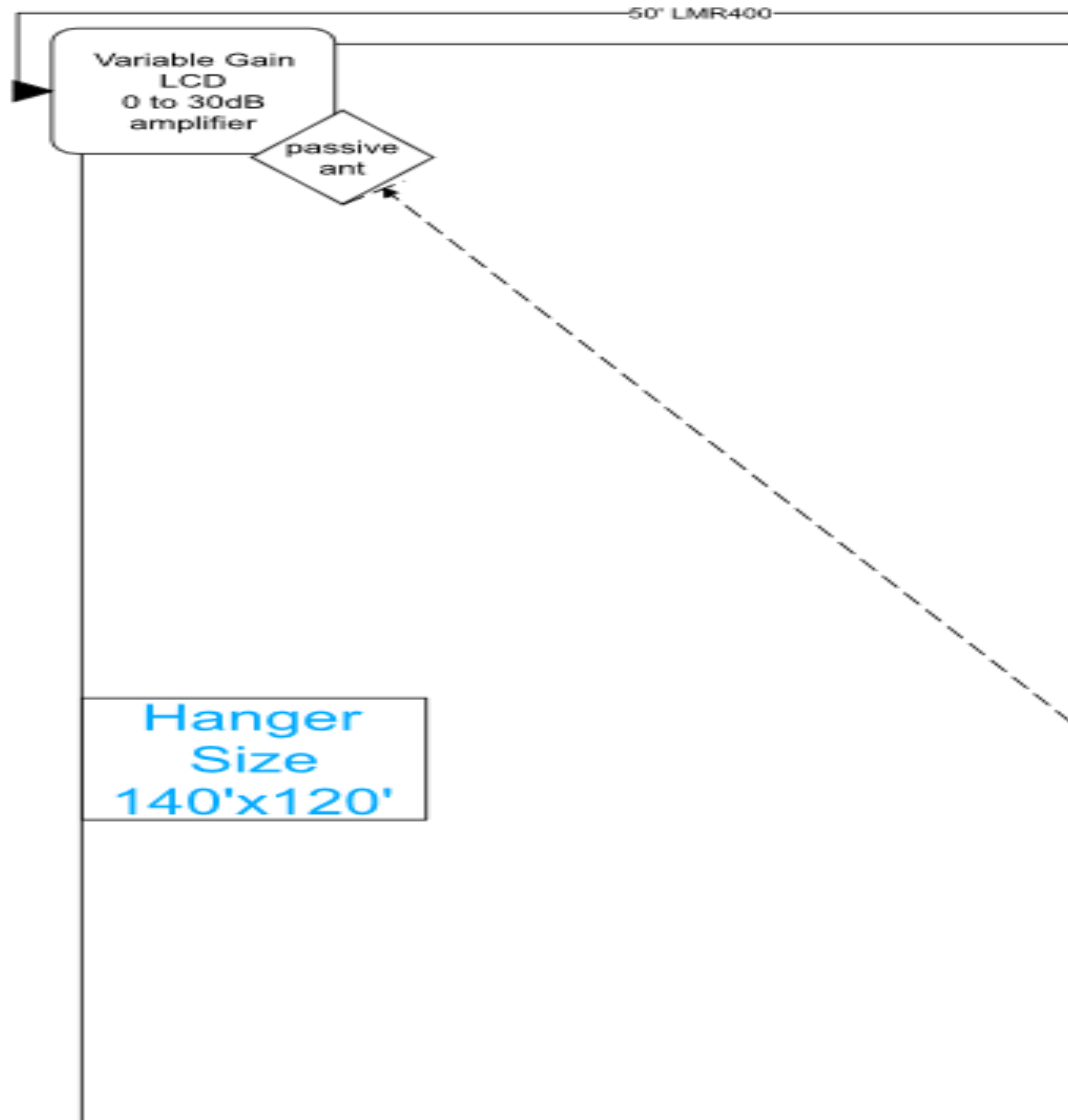
er at given range in dBm. Enter the components for the strongest repeating path in your
:T outside of the reradiated structure. Please feel free to reach out to GPS Networking if you

Building Length (Feet)	Repeated Signal Power @ End of Building In dBm
184	-136.39
Range in Miles 0.03	Total Signal Power @ Range in Watts 23.0E-18
Range in Meters 57.35	Radiated Power dBm -65
Range in Kilometers 0.06	Transmitted Power (W) 158.5E-12
	Effective Radiated Power (W) 316.2E-12
	Effective Radiated Power (dBW) -95

System Diagram



Your source for quality GNSS Networking Solutions and Design Services, Now!





Your source for quality GNSS Networking Solutions and Design Services, Now!





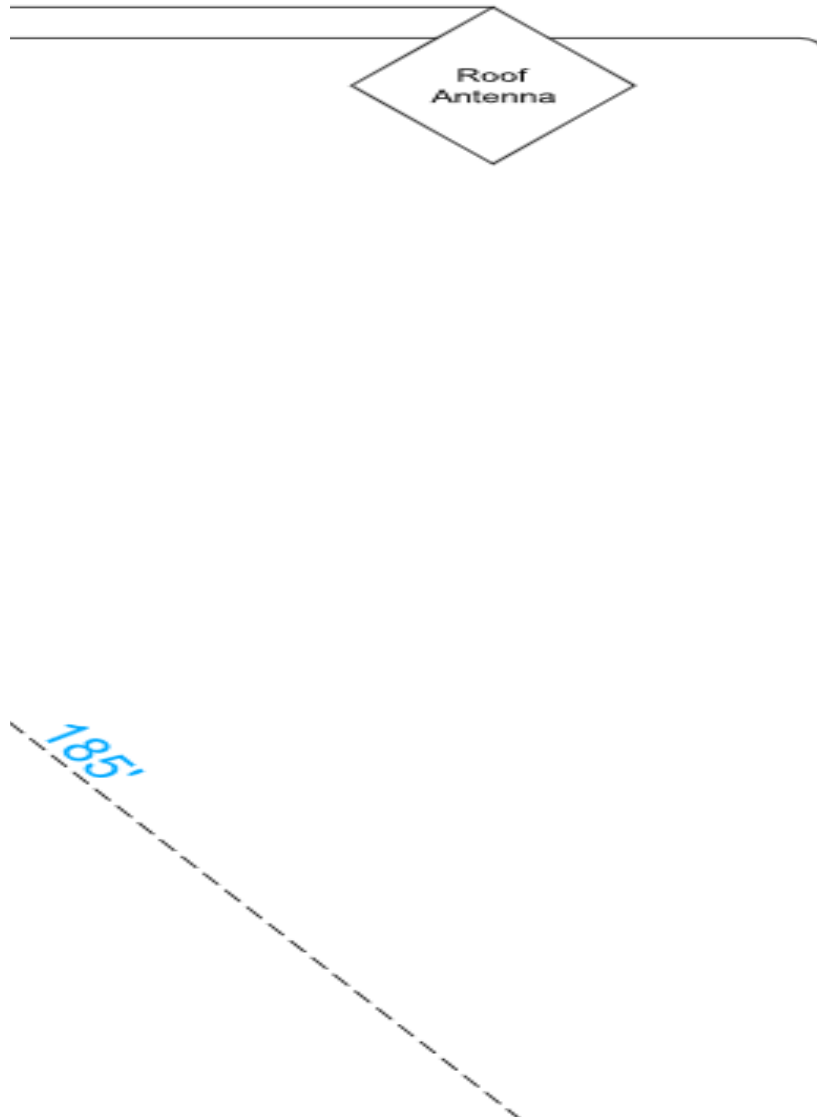
Your source for quality GNSS Networking Solutions and Design Services, Now!

Repeated Signal Power @ 100' Outside of Building In dBm

-140.1592995

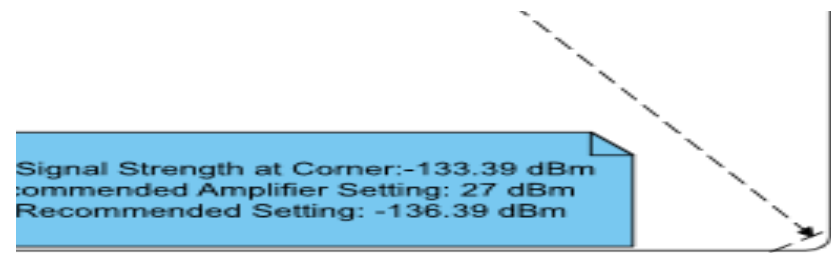


Your source for quality GNSS Networking Solutions and Design Services, Now!





Your source for quality GNSS Networking Solutions and Design Services, Now!

A diagram showing a right-angled corner. A dashed line extends from the top-left corner towards the center. A blue callout box with a folded corner effect points to the corner. The text inside the box provides signal strength and amplifier settings.

Signal Strength at Corner: -133.39 dBm
Recommended Amplifier Setting: 27 dBm
Recommended Setting: -136.39 dBm