

### GPS Source, Inc. Repeater Budget Calculator

Change the values in the yellow boxes to calculate required readings

-140 dBm at 100 feet from the building to meet NTIA regulations

<b>Receive Ant Gain</b>	<b>Ant Cable Insertion Loss</b>	<b>Repeater Amp Gain</b>	<b>Repeater Ant Gain (Best Case)</b>	<b>Range in Feet</b>	<b>Repeated Signal Power @ Range In dBm</b>	<b>Total Signal Power @ Range in Watts</b>
30	-13	30	3	100	-141.93	6.4e-18
GPS Carrier Frequency (MHz)		Free Space loss with Isotropic Antennas	Total System Gain	Range in Miles	Effective Radiated Power dBm	Effective Radiated Power (dBW)
1227.6		63.93	47	0.02	-80.15	-110.15
Avg Receive Power in dBm North America		Reference Dipole Gain	Transmitted Power (W)	Range in Kilometers	Effective Isotropic Radiated Power (dBm)	Effective Isotropic Radiated Power (dBW)
-128		2.15	4.8e-12	0.03	-78.00	-108.00
Typical value @ L1: -130.0 dBm @ L2: -127.5 dBm				Range in Meters		Effective Radiated Power (W)
				30.4800		9.7e-12