

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

| Receive Ant Gain | Ant Cable Insertion Loss | Repeater Amp Gain | Repeater Ant Gain (Best Case) | Range in Feet | Repeated Signal Power @ Range In dBm | Total Signal Power @ Range in Watts |
|------------------|---|---|-------------------------------|---------------------|--|--|
| 35 | -12 | 30 | 3 | 150 | -143.61 | 4.4E-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) |
| | 1575 | 69.61 | 53 | 0.03 | -76.15 | -106.15 |
| | 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) |
| | -130 | 2.15 | 12.2E-12 | 0.05 | -74.00 | -104.00 |
| | Typical value @ L1: -130.0 dBm @ L2: -127.5 dBm | | | Range in Meters | Effective Isotropic Radiated Power (W) | Effective Radiated Power (W) |
| | | | | 45.7200 | 39.8E-12 | 24.3E-12 |

Note: Link budget has been revised to include data in EIRP and to add the distance of 50 feet to the nearest outside wall.