

Roger GPS, repeater budget calculator for NTIA regulations



GPS carrier frequency, use code L1 or L2

L1
1575 MHz

Values in light blue cells only can be edited

Distance from Building

100 ft
30.48 m
0.019 mi
0.030 km

	External components				Repeater unit			Free Space Loss
	Receiver + Antenna	Cable Loss.	Attenuator	Repeater Gain.	Repeater Antenna	Antenna Isotropic vs Dipole		
Avg Receive Power North America Isotropic Antenna	35.0 dB	-10.0 dB	0.0 dB	25.0 dB	3.0 dB	-2.2 dB	-66.1 dB	
Level	-130.0 dBm	-95.0 dBm	-105.0 dBm	-105.0 dBm	-80.0 dBm	-77.0 dBm	-79.2 dBm	
			0.0					
			Attenuator needed to reach allowed output limit		Effective Radiated Power	Effective Isotropic Radiated Power		

-143.1 dBm
4.9E-18 W
Repeated Signal Power @ distance

NTIA requires < -140 dBm @ 100 ft

Effective Radiated Power (W) 100 feet from the building
1.99526E-11 in Watts
Same in pico Watts 100 feet from the building
19.9526231496888 pW