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

56 ft

17.0688 m

0.011 mi

0.017 km

	Avg Receive Power North America Isotropic Antenna		External components: Receiver + Antenna Gain		External components: Cable Loss. This has to be negative value		External components: Attenuator		Repeater unit: Repeater Gain. Adjusted in the repeater		Repeater unit: Repeater Antenna Gain		Repeater unit: Antenna Isotropic vs Dipole		Free Space Loss	
			35.0	dB	-20.0	dB	0.0	dB	25.0	dB	3.0	dB	-2.2	dB	-61.0	dB
Level	-130.0	dBm	-95.0	dBm	-115.0	dBm	-115.0	dBm	-90.0	dBm	-87.0	dBm	-89.2	dBm	-148.0	dBm
															1.6E-18	W
							0.0 Attenuator needed to reach allowed output limit				Effective Radiated Power		Effective Isotropic Radiated Power		Repeated Signal Power @ distance	
															NTIA requires < -140 @ 100 ft	dBm

Roger GPS, repeater budget calculator for NTIA regulations

GPS carrier frequency, use code L1 or L2

L2

1227 MHz

Values in light blue cells only can be edited

Distance from Building

56 ft

17.0688 m

0.011 mi

0.017 km

External components

Repeater unit

	Avg Receive Power North America Isotropic Antenna		Receiver + Antenna Gain		Cable Loss. This has to be negative value		Attenuator		Repeater Gain. Adjusted in the repeater		Repeater Antenna Gain		Antenna Isotropic vs Dipole		Free Space Loss	
			35.0	dB	-20.0	dB	0.0	dB	25.0	dB	3.0	dB	-2.2	dB	-58.9	dB
Level	-127.5	dBm	-92.5	dBm	-112.5	dBm	-112.5	dBm	-87.5	dBm	-84.5	dBm	-86.7	dBm	-143.4	dBm
															4.6E-18	W

0.0 Attenuator needed to reach allowed output limit

Effective Radiated Power

Effective Isotropic Radiated Power

Repeated Signal Power @ distance

NTIA requires < -140 @ 100 ft dBm