

Sirius XM Radio Inc.
File No. 0713-EX-PL-2015

Revised ATTACHMENT B

Roger GPS, repeater budget calculator for NTIA regulations

100 Foot Cable



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										
		Receiver + Antenna		Cable Loss.		Attenuator		Repeater Gain.		Repeater Antenna		Antenna Isotropic vs Dipole		Free Space Loss		
		Gain								Gain						
Avg Receive Power North America Isotropic Antenna		35.0	dB	-18.0	dB	0.0	dB	36.0	dB	3.0	dB	-2.2	dB	-66.1	dB	
Level	-130.0	dBm	-95.0	dBm	-113.0	dBm	-113.0	dBm	-77.0	dBm	-74.0	dBm	-76.2	dBm	-140.1	dBm
		0.0				Attenuator needed to reach allowed output limit				Effective Radiated Power		Effective Isotropic Radiated Power		9.8E-18 W		
														Repeated Signal Power @ distance		
														NTIA requires < -140 dBm @ 100 ft		

Roger GPS, repeater budget calculator for NTIA regulations

50 Foot Cable



GPS carrier frequency, use code L1 or L2

L1
1575 MHz

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Distance from Building

100 ft
30.48 m
0.019 mi
0.030 km

		External components				Repeater unit									
		Receiver + Antenna		Cable Loss.		Attenuator		Repeater Gain.		Repeater Antenna		Antenna Isotropic vs Dipole		Free Space Loss	
		Gain								Gain					
Avg Receive Power North America Isotropic Antenna		35.0	dB	-14.0	dB	0.0	dB	32.0	dB	3.0	dB	-2.2	dB	-66.1	dB
Level	-130.0	-95.0	dBm	-109.0	dBm	-109.0	dBm	-77.0	dBm	-74.0	dBm	-76.2	dBm	-140.1	dBm
		0.0				Attenuator needed to reach allowed output limit				Effective Radiated Power		Effective Isotropic Radiated Power		9.8E-18 W	
														Repeated Signal Power @ distance	
														NTIA requires < -140 dBm @ 100 ft	