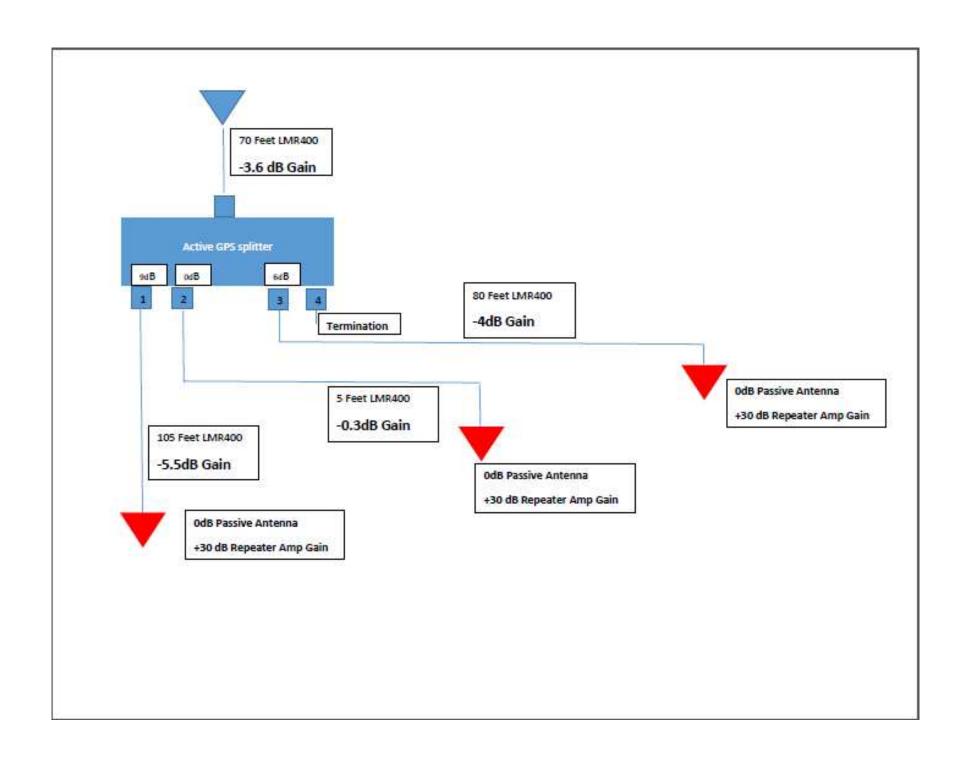
Topeka Diesel Shop GPS Repeater Link Budget

July 2014



	5 Feet Cab	ble Link Budget	Calculation		
	Ant Cable Insertion	Donostor Amn	Repeater Ant Gain		
eceive Ant Gain		+ Splitter Gain		Range in Feet	Repeated Signal Power @ Range In dBm
26	-5.8	34	0	100	-141.89
GPS Carrier Frequency MHz		Total System Gain	Range in Miles	Total Signal Power @ Range in Watts	
	1575		54.2	0.02	6.5E-18
Avg Receiv	e Power L1 dBm Nor	rth America		Range in Meters	Radiated Power dBm
	-130			31.17	-75.8
Free Space	ce loss with Isotropic	Antennas		Range in Kilometers	Transmitted Power (W)
	-66.09			0.03	13.2E-12
					Effective Radiated Power (W)
					26.3E-12
					Effective Radiated Power (dBW)
					-105.8
			7		

					1
	80 Feet Cal	ble Link Budget	Calculation		
eive Ant Gain	Ant Cable Insertion Loss	Repeater Amp + Splitter Gain	Repeater Ant Gain Best Case	Range in Feet	Repeated Signal Power @ Range In di
26	-7.6	36	0	100	-141.69
GP:	S Carrier Frequency I 1575	MHz	Total System Gain 54.4	Range in Miles 0.02	Total Signal Power @ Range in Watts 6.8E-18
	1073		54.4	0.02	U.U.E 10
Avg Receive Power L1 dBm North America				Range in Meters	Radiated Power dBm
	-130			31.17	-75.6
Fron Coo	sa laga with lagtronia	Antonnoo		Dange in Vilometers	Tropomitted Dower (M)
Free Space loss with Isotropic Antennas -66.09				Range in Kilometers 0.03	Transmitted Power (W) 13.8E-12
					Effective Radiated Power (W)
					27.5E-12
					Effective Radiated Power (dBW)
					-105.6
1					

	_	_	_	_	
	105 Feet Ca	<mark>able Link Budget</mark>	t Calculation		
			Repeater Ant Gain		
eive Ant Gain	Loss	+ Splitter Gain	Best Case	Range in Feet	Repeated Signal Power @ Range In d
26	-10.4	39	0	100	-141.49
GPS Carrier Frequency MHz			Total System Gain	Range in Miles	Total Signal Power @ Range in Watts
	1575		54.6	0.02	7.1E-18
		1			
Avg Receiv	e Power L1 dBm Nor	rth America		Range in Meters	Radiated Power dBm
	-130			31.17	-75.4
Free Space	ce loss with Isotropic	Antennas		Range in Kilometers	Transmitted Power (W)
	-66.09			0.03	14.5E-12
		1			
			!	<u> </u>	Effective Radiated Power (W)
					28.8E-12
		1			Effective Radiated Power (dBW)
		1			-105.4