System Transmitters & Line Losses:

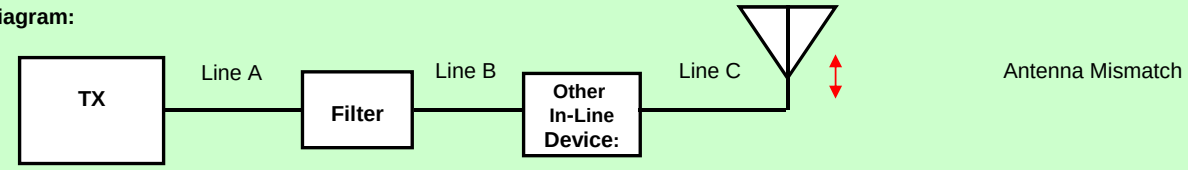
Alpha CubeSat

2016 February 05

Uplink Transmitter System (At Ground Station):

NOTE:

Block Diagram:



Transmitter Power:	50.00	Watts =	17.0	dBW =	46.99	dBm

Cable or Waveguide ("Line") Losses:

Line A Length:	1.0	meters
Line B Length:	0.3	meters
Line C Length:	25.0	meters
Total Line Length (Line A+B+C):	26.3	meters
Cable/W. Guide Type:	Belden 9913	cable

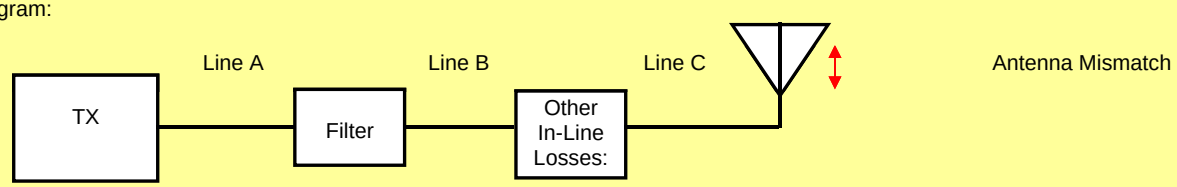
Cable/W.Guide Loss/meter: 0.05 dB At (freq.) 7145 MHz = 1.315 dB

Other Components in Line:

No. of In-Line Connectors:	6	Connectors X 0.05 dB/Con. =	0.3	dB
Filter Insertion Losses:			1.0	dB
Other In-Line Losses:	Device: Directional Coupler		0.5	dB
Antenna Mismatch Losses:		(See "VSWR Loss Tool" W/S)	0.5	dB
Total Line Losses:			3.62	dB
Total Power Delivered to Antenna:			13.37	dBW

Downlink Transmitter System (At Spacecraft):

Block Diagram:



Transmitter Power:	3.0	Watts =	4.8	dBW =	34.77	dBm

Cable or Waveguide Loss:

Line A Length:	0	meters
Line B Length:	0	meters
Line C Length:	0.3	meters
Total Line Length (Lines A+B+C):	0.3	meters
Cable/Guide Type:	MicroCoax MCJ185A	cable

Cable/Guide Loss/meter: 0.49 dB At (freq.) 32000 MHz = 0.147 dB

Other Components in Line:

No. of In-Line Connectors:	2	Connectors X 0.05 dB =	0.1	dB
Filter Insertion Losses:			0.0	dB
Other In-Line Losses:	Device: N/A		0	dB

	Antenna Mismatch Losses:	(See "VSWR Loss Tool" W/S)	0.240	dB
	Total Line Losses:		**0.49**	dB
	Total RF Power Delivered to Antenna:		4.28	dBW