

Telemetry Room			
	Units	Chain	Clear
Frequency	GHz	19.70	19.70
Elevation Angle	deg.	43.61	43.61
Slant Range	km	37511	37511
Downlink Availability	%	99.96	
RF power (peak CW)	W	50	50
Xmtr Power (peak CW)	dBW	16.99	16.99
2 Carrier Output Back-off	dBW	-4.20	-4.20
Output Loss	dB	-3.05	-3.05
S/C TLM Ant Directivity	dB	22.30	22.30
S/C EIRP (dBW)	dBW	32.04	32.04
Required EIRP (dBW)	dBW	31.50	31.50
Margin (dBW)	dBW	0.54	0.54
Free Space loss	dB	-209.51	-209.51
Gaseous Att	dB	-0.46	-0.37
Cloud Att	dB	-0.36	
Rain Fade	dB	-2.57	
Total Atmospheric loss	dB	-3.39	-0.37
Rain fade		-3.02	
Min Rx Isotropic Power (RIP)	dBW	-181.70	-178.89
Polarization Loss	dB	-0.02	-0.02
Pointing Loss	dB	-0.50	-0.50
Ground Station G/T	dB/K	38.00	38.00
Receiver Temperature	K	225	225
Background Temperature	K	152	23
G/T Degradation	dB	-1.81	0.00
Boltzmann's Constant	dBW/Hz	-228.60	-228.60
C/No Received	dB-Hz	82.56	87.39
Data demodulation at BER=1E-6			
PCM Data Rate	kbps	4	4
Required C/No (single mode)	dB-Hz	50.93	50.93
Required C/No (SIMO mode)	dB-Hz	56.62	56.62
Margin* (single mode)	dB	31.63	36.46
Margin* (SIMO mode)	dB	25.94	30.77
With interference			
C/I <sub>o</sub>	dB-Hz	61.39	61.39
Total C/(No+Io)	dB-Hz	61.39	61.41
Data demodulation at BER=1E-6			
PCM Data Rate	kbps	4	4
Required C/No (single mode)	dB-Hz	50.93	50.93
Required C/No (SIMO mode)	dB-Hz	56.62	56.62
Margin* (single mode)	dB	10.46	10.48
Margin* (SIMO mode)	dB	4.76	4.79