

TYPICAL C-BAND LINK BUDGETS

		24K0G7D	26K7G7D	80K0G7D	106K0G7D	160K0G7D	640K0G7D	4M33G7D	6M10G7W	6M10G7W	6M10G7W	30M0G7W	8M00G7D	8M00G7D	36M0F9F	36M0F9F	33M3G7D
G rx sat	(dBi)	28.4	28.4	28.4	28.4	28.4	28.4	28.4	28.4	28.4	28.4	28.4	28.4	28.4	28.4	28.4	28.4
T sat	(K)	446.7	446.7	446.7	446.7	446.7	446.7	446.7	446.7	446.7	446.7	446.7	446.7	446.7	446.7	446.7	446.7
G tx sat	(dBi)	28.6	28.6	28.6	28.6	28.6	28.6	28.6	28.6	28.6	28.6	28.6	28.6	28.6	28.6	28.6	28.6
Transp BW	(MHz)	36	36	36	36	36	36	36	36	36	36	36	36	36	36	36	36
Signal BW	(MHz)	0.024	0.0267	0.08	0.106	0.16	0.64	4.33	6.1	6.1	6.1	30	8	8	36	36	33.3
C/Nthr Clr Sky	(dB)	5.3	8.3	7	2.8	2.8	2.8	6.1	6.4	6.4	6.4	9.8	6.1	6.1	13	13	9.8
Service Area																	
Uplink EOC U/L	(dB)	-4	-4	-4	-4	-4	-4	-4	-4	-4	-4	-4	-4	-4	-4	-4	-4
G 1m ²	(dBi)	37.3	37.3	37.3	37.3	37.3	37.3	37.3	37.3	37.3	37.3	37.3	37.3	37.3	37.3	37.3	37.3
G/T max	(dB/K)	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9
FSL	(dB)	200.2	200.2	200.2	200.2	200.2	200.2	200.2	200.2	200.2	200.2	200.2	200.2	200.2	200.2	200.2	200.2
L atmos	(dB)	0.15	0.15	0.15	0.15	0.15	0.15	0.15	0.15	0.15	0.15	0.15	0.15	0.15	0	0	0.15
Space Station SFD/EIRP																	
Min		-100.4	-100.4	-100.4	-100.4	-100.4	-100.4	-100.4	-100.4	-100.4	-100.4	-100.4	-100.4	-100.4	-100.4	-100.4	-100.4
Max		-80.4	-80.4	-80.4	-80.4	-80.4	-80.4	-80.4	-80.4	-80.4	-80.4	-80.4	-80.4	-80.4	-80.4	-80.4	-80.4
PAD wrt mid-range	(dB)	-3	-3	-3	-3	-3	-3	-3	-3	-3	-3	-6	-3	-3	4.5	4.5	-6
SFD (@ Beam Ctr)	(dBW/m ²)	-93.4	-93.4	-93.4	-93.4	-93.4	-93.4	-93.4	-93.4	-93.4	-93.4	-96.4	-93.4	-93.4	-85.9	-85.9	-96.4
Sat EIRP max	(dBW)	43.2	43.2	43.2	43.2	43.2	43.2	43.2	43.2	43.2	43.2	43.2	43.2	43.2	43.2	43.2	43.2
Uplink (TX Earth Station)																	
Diam	(m)	7	7	7	8	4.5	7	4.5	7	7	7	8	8	8	8	8	10
Gtx	(dBi)	51.3	51.3	51.3	52.4	47.4	51.3	47.4	51.3	51.3	51.3	52.4	52.4	52.4	52.4	52.4	54.4
EIRP ES (EOC)	(dBW)	39.8	42.3	46.3	47.4	49.1	55.3	60.6	63.3	63.3	63.3	71.4	63.9	63.9	78.0	78.0	71.6
Ptx (EOC)	(dBW)	-11.5	-9.0	-5.0	-5.0	1.7	4.0	13.2	12.0	12.0	12.0	19.0	11.5	11.5	25.6	25.6	17.3
Ptx (COB)	(dBW)	-15.5	-13.0	-9.0	-9.0	-2.3	0.0	9.2	8.0	8.0	8.0	15.0	7.5	7.5	21.6	21.6	13.3
Downlink (Space Station)																	
Ptx (max COB)	(dBW)	-18.4	-15.9	-11.9	-10.9	-8.9	-2.9	2.6	5.1	5.1	5.1	14.6	5.6	5.6	11.6	11.6	14.6
Ptx (min EOC)	(dBW)	-21.4	-18.9	-14.9	-13.9	-11.9	-5.9	-0.4	2.1	2.1	2.1	14.5	2.6	2.6	11.5	11.5	14.5
EIRP sat	(dBW)	10.2	12.7	16.7	17.7	19.7	25.7	31.2	33.7	33.7	33.7	43.2	34.2	34.2	40.2	40.2	43.2
RX Earth Station																	
Diameter	(m)	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	7	8	4.5	7	10	4.5	7	10
G rx ES	(dBi)	43.5	43.5	43.5	43.5	43.5	43.5	43.5	43.5	47.4	48.5	43.5	47.4	50.5	43.5	47.4	50.5
T ES	(K)	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80
U/L Interference Allocations																	
(C/I)U/L X-pol, Adj Ch, ASI, IMOD	(dB)	15.0	17.0	16.3	16.1	16.3	16.2	13.4	14.5	14.5	14.5	19.9	13.8	13.8	27.6	27.6	19.4
C/N Thermal Up	(dB)	25.5	27.6	26.8	26.6	26.8	26.8	24.0	25.0	25.0	25.0	26.1	24.3	24.3	32.8	32.8	25.6
(C/N) Total Up	(dB)	14.6	16.7	15.9	15.7	15.9	15.9	13.1	14.1	14.1	14.1	19.0	13.4	13.4	26.5	26.5	18.5
D/L Interference Allocations																	
(C/I)U/L X-pol, Adj Ch, ASI, IMOD	(dB)	15.7	17.7	16.9	16.7	16.9	16.9	14.1	15.1	15.8	15.9	20.7	15.1	15.4	20.2	24.0	22.4
C/N Dn (COB)	(dB)	22.8	24.8	24.0	23.9	24.0	24.0	21.2	22.2	25.9	27.1	24.9	25.4	28.2	21.4	25.3	31.0
(C/N) Total Dn (COB)	(dB)	14.9	16.9	16.1	15.9	16.1	16.1	13.3	14.3	15.4	15.6	19.3	14.7	15.2	17.7	21.6	21.9
C/N Dn (EOC)	(dB)	15.8	17.8	17.0	16.9	17.0	17.0	14.2	15.2	18.9	20.1	20.8	18.4	21.2	19.3	23.2	26.9
(C/N) Total Dn (EOC)	(dB)	10.0	11.9	11.2	11.0	11.2	11.1	8.3	9.4	11.2	11.6	16.3	10.6	11.5	15.6	19.5	20.2
C/N total max	(dB)	11.8	13.8	13.0	12.8	13.0	13.0	10.2	11.2	11.7	11.8	16.1	11.0	11.2	17.2	20.4	16.9
C/N total min	(dB)	8.7	10.7	9.9	9.7	9.9	9.9	7.1	8.1	9.4	9.7	14.4	8.8	9.3	15.3	18.7	16.3
Link Margin	(dB)	3.4	2.4	2.9	6.9	7.1	7.1	1.0	1.7	3.0	3.3	4.6	2.7	3.2	2.3	5.7	6.5