

Table A.13-5 – Uplink Link Budget for 1.0 m antenna (6M80G7W)

Link Parameters	Clear Sky (- 3dB Contour)	Faded (-3 dB Contour)
Carrier:		
Uncoded Data Rate (kbps)	6,968	6,968
Modulation	QPSK	QPSK
FEC	0.69	0.69
Carrier Bandwidth (kHz)	6,800	6,800
Link Geometry:		
Elevation Angle (degrees)	30.0	30.0
Tx E/S Range to Satellite (km)	38,612	38,612
Uplink (per carrier):		
Carrier Frequency (MHz)	29,800	29,800
Tx E/S Antenna Diameter (m)	1.0	1.0
Tx E/S Power to Antenna (W)	3.0	11.0
Tx E/S Antenna Gain (dB)	47.7	47.7
Tx E/S EIRP per Carrier (dBW)	52.4	58.1
Atmospheric and Other Losses (dB)	0.7	8.0
Free Space Loss (dB)	213.7	213.7
G/T towards Tx E/S (dB/K)	13.5	13.5
(Eb/No) - Thermal Uplink (dB)	10.1	8.5
(Eb/lo) - (Adjacent satellite interference) (dB)	16.0	16.0
(Eb/No+lo) - Total Actual (dB)	9.1	7.8
(Eb/No+lo) - Total Required (dB)	7.0	7.0
Excess Margin (dB)	2.1	0.8

99.6% availability