

AMC-14 DBS Link Budget		(Normal Mode)			(High-Powered Mode)		
Link Parameters		Clear Sky (New York)	Faded D/L (New York)	Faded D/L (Miami)	Clear Sky (New York)	Faded D/L (New York)	Faded D/L (Miami)
Link Geometry:							
Tx E/S Range to Satellite (Cheyenne)	(km)	39,033	39,033	39,033	39,033	39,033	39,033
Rx E/S Range to Satellite	(km)	37,686	37,686	36,882	37,686	37,686	36,882
Uplink (per carrier):							
Carrier Frequency	(MHz)	17,500	17,500	17,500	17,500	17,500	17,500
Tx E/S Antenna Diameter	(m)	13.2	13.2	13.2	13.2	13.2	13.2
Tx E/S Power to Antenna	(dBW)	9.2	9.2	9.2	9.2	9.2	9.2
Tx E/S Antenna Gain	(dB)	65.8	65.8	65.8	65.8	65.8	65.8
Tx E/S EIRP per Carrier	(dBW)	75.0	75.0	75.0	75.0	75.0	75.0
Atmospheric and Other Losses	(dB)	0.3	0.3	0.3	0.3	0.3	0.3
Free Space Loss	(dB)	209.1	209.1	209.1	209.1	209.1	209.1
Satellite:							
G/T towards Tx E/S	(dB/K)	14.8	14.8	14.8	14.8	14.8	14.8
Sat'd EIRP	(dBW)	55.7	55.7	55.7	58.4	58.4	58.4
EIRP towards Rx E/S	(dBW)	53.1	53.1	53.7	55.8	55.8	56.4
Downlink (per carrier):							
Carrier Frequency	(MHz)	12,500	12,500	12,500	12,500	12,500	12,500
Atmospheric and Rain Losses	(dB)	0.1	3.4	4.1	0.1	4.8	6.0
Free Space Loss	(dB)	205.9	205.9	205.7	205.9	205.9	205.7
Rx E/S Antenna Diameter	(m)	0.45	0.45	0.45	0.45	0.45	0.45
Antenna Mis-pointing Error	(dB)	0.50	0.50	0.50	0.50	0.50	0.50
Rx E/S Antenna Gain	(dB)	34.0	34.0	34.0	34.0	34.0	34.0
Rx E/S G/T	(dB/K)	13.2	9.7	9.4	13.2	9.2	8.9
System (LNA+Sky) Noise Temp.	(K)	120	267	285	120	302	324
Total Link:							
Noise Bandwidth	(dB-Hz)	73.5	73.5	73.5	73.5	73.5	73.5
(C/N) - Thermal Uplink	(dB)	35.5	35.5	35.5	35.5	35.5	35.5
(C/N) - Thermal Downlink	(dB)	14.9	8.1	7.9	17.6	8.9	8.2
(C/I) - Adjacent Satellite Interference	(dB)	23.7	23.7	24.5	26.4	26.4	27.2
(C/I) - Other Link Degradations	(dB)	22.9	22.9	22.9	22.9	22.9	22.9
(C/N) - Total Actual	(dB)	13.7	7.8	7.7	16.0	8.6	8.0
(C/N) - Total Required	(dB)	7.5	7.5	7.5	7.5	7.5	7.5
Excess Margin	(dB)	6.2	0.3	0.2	8.5	1.1	0.5
Availability	(%)	N/A	99.94	99.85	N/A	99.97	99.93