

Table A.13-5. Representative CONUS Forward Link Budget (46M3G7W)

Link Parameters	Clear Sky
Carrier	
Data Rate (Mbps)	53.264
Modulation	QPSK
FEC	0.691
Bandwidth (dB-Hz)	76.7
Uplink	
Uplink Frequency (MHz)	28,444
Tx E/S Antenna Diameter (m)	8.10
Tx E/S Power to Antenna (dBW)	5.0
Input Power Density (dBW/Hz)	-71.7
Tx E/S Antenna Gain (dB)	62.9
Tx E/S EIRP per Carrier (dBW)	67.9
Mispointing Error (dB)	0.5
Atmospheric Losses (dB)	0.5
Free Space Loss (dB)	213.2
Satellite Antenna Gain (- 3dB) (dBi)	52.2
Satellite Antenna G/T (-3 dB) (dB/K)	23.5
(C/I) Up - Intra-system (dB)	32.0
Downlink	
Downlink Frequency (MHz)	20,074
Downlink EIRP (-3 dB) (dBW)	57.7
Beam Peak EIRP Density (dBW/Hz)	-16.0
Atmospheric Losses (dB)	0.3
Free Space Loss (dB)	210.2
Rx E/S Antenna Diameter (m)	0.65
Antenna Mispointing Error (dB)	0.30
Rx E/S Antenna Gain (dB)	40.8
Rx E/S G/T (dB/K)	19.6
System Noise Temp. (K)	132
(C/I) Dn - Intra-system (dB)	28.2
End-to-End	
(C/N) - Thermal Uplink (dB)	29.1
(C/N) - Thermal Downlink (dB)	18.4
(C/I) Up - ASI (dB)	24.8
(C/I) Dn - ASI (dB)	17.0
(C/N+I) - Total Actual (dB)	13.9
(C/N+I) - Total Required (dB)	5.1
System Margin (dB)	8.8