

EXHIBIT 10: INTELSAT 29e LINK BUDGETS

UPLINK BEAM INFORMATION				
Uplink Beam Name	SOUTH AMERICA	SOUTH AMERICA	SOUTH AMERICA	SOUTH AMERICA
Uplink Frequency (GHz)	6.175	6.175	6.175	6.175
Uplink Beam Polarization	LINEAR	LINEAR	LINEAR	LINEAR
Uplink Relative Contour Level (dB)	-6.0	-6.0	-6.0	-6.0
Uplink Contour G/T (dB/K)	-3.9	-3.9	-3.9	-3.9
Uplink SFD (dBW/m2)	-74.1	-87.1	-80.1	-80.1
Rain Rate (mm/hr)	42.0	42.0	42.0	42.0
DOWNLINK BEAM INFORMATION				
Downlink Beam Name	LINEAR	LINEAR	LINEAR	LINEAR
Downlink Frequency (GHz)	3.950	3.950	3.950	3.950
Downlink Beam Polarization	ANY	ANY	ANY	ANY
Downlink Relative Contour Level (dB)	-4.0	-4.0	-4.0	-4.0
Downlink Contour EIRP (dBW)	38.9	38.9	38.9	38.9
Rain Rate (mm/hr)	42.0	42.0	42.0	42.0
ADJACENT SATELLITE 1				
Satellite 1 Orbital Location	48.0W	48.0W	48.0W	48.0W
Uplink Power Density (dBW/Hz)	-38.7	-38.7	-38.7	-38.7
Uplink Polarization Advantage (dB)	0.0	0.0	0.0	0.0
Downlink EIRP Density (dBW/Hz)	-35.9	-35.9	-35.9	-35.9
Downlink Polarization Advantage (dB)	0.0	0.0	0.0	0.0
ADJACENT SATELLITE 2				
Satellite 2 Orbital Location	52.0W	52.0W	52.0W	52.0W
Uplink Power Density (dBW/Hz)	-38.7	-38.7	-38.7	-38.7
Uplink Polarization Advantage (dB)	0.0	0.0	0.0	0.0
Downlink EIRP Density (dBW/Hz)	-35.9	-35.9	-35.9	-35.9
Downlink Polarization Advantage (dB)	0.0	0.0	0.0	0.0
CARRIER INFORMATION				
Carrier ID	36M0F3F	112MG7W	10M3G7W	100KG7
Carrier Modulation	TV/FM	QPSK	QPSK	QPSK
Peak to Peak Bandwidth of BDS (MHz)	4	N/A	N/A	N/A
Information Rate(kbps)	N/A	76455	6000	64
Code Rate	N/A	1/2x188/204	1/2x188/204	1/2x239/256
Occupied Bandwidth(kHz)	36000	93747	6771.1	75.4
Allocated Bandwidth(kHz)	36000	112000	10300	100
Minimum C/N, Clear Sky (dB)	10.0	3.36	3.87	2.99
Minimum C/N, Rain (dB)	10.0	3.36	3.57	2.79
UPLINK EARTH STATION				
Earth Station Diameter (meters)	8.1	8.1	6.1	6.1
Earth Station Gain (dBi)	52.8	52.8	49.4	49.4
Earth Station Elevation Angle	20	20	20	20
DOWNLINK EARTH STATION				
Earth Station Diameter (meters)	13.1	3.5	3.5	3.5
Earth Station Gain (dBi)	53.5	41.1	41.1	41.1
Earth Station G/T (dB/K)	33.0	21.0	21.0	21.0
Earth Station Elevation Angle	20	20	20	20
LINK FADE TYPE				
	Clear Sky	Clear Sky	Clear Sky	Clear Sky
UPLINK PERFORMANCE				
Uplink Earth Station EIRP (dBW)	77.3	75.8	65.9	45.5
Uplink Path Loss, Clear Sky (dB)	-200.2	-200.2	-200.2	-200.2
Uplink Rain Attenuation	0.0	0.0	0.0	0.0
Satellite G/T(dB/K)	-3.9	-3.9	-3.9	-3.9
Boltzman Constant(dBW/K-Hz)	228.6	228.6	228.6	228.6
Carrier Noise Bandwidth (dB-Hz)	-75.6	-79.7	-68.3	-48.8
Uplink C/N(dB)	26.3	20.6	22.1	21.2
DOWNLINK PERFORMANCE				
Downlink EIRP per Carrier (dBW)	32.1	38.9	26.7	6.3
Antenna Pointing Error (dB)	-5	-5	-5	-5
Downlink Path Loss, Clear Sky (dB)	-196.3	-196.3	-196.3	-196.3
Downlink Rain Attenuation	0.0	0.0	0.0	0.0
Earth Station G/T (dB/K)	33.0	21.0	21.0	21.0
Boltzman Constant(dBW / K - Hz)	228.6	228.6	228.6	228.6
Carrier Noise Bandwidth (dB-Hz)	-75.6	-79.7	-68.3	-48.8
Downlink C / N(dB)	21.3	11.9	11.2	10.3
COMPOSITE LINK PERFORMANCE				
C/N Uplink (dB)	26.3	20.6	22.1	21.2
C/N Downlink (dB)	21.3	11.9	11.2	10.3
C/I Intermodulation (dB)	18.3	N/A	20.2	19.3
C/I Uplink Co-Channel (dB)*	28.7	27.0	28.7	28.4
C/I Downlink Co-Channel (dB)*	28.7	27.0	28.7	28.4
C/I Uplink Adjacent Satellite 1 (dB)	16.5	10.8	12.3	11.5
C/I Downlink Adjacent Satellite 1 (dB)	24.0	11.4	10.7	9.8
C/I Uplink Adjacent Satellite 2 (dB)	16.5	10.8	12.3	11.5
C/I Downlink Adjacent Satellite 2 (dB)	24.9	16.2	15.4	14.5
C/(N+I) Composite (dB)	11.0	4.7	4.9	4.0
Required System Margin (dB)	-1.0	-1.0	-1.0	-1.0
Net C/(N+I) Composite (dB)	10.0	3.7	3.9	3.0
Minimum Required C/N (dB)	-10.0	-3.4	-3.9	-3.0
Excess Link Margin (dB)	0.0	.3	0.0	0.0
Number of Carriers	2	1.0	7.3	807.5
CARRIER DENSITY LEVELS				
Uplink Power Density (dBW/Hz)	-41.5	-56.7	-51.8	-52.6
Downlink EIRP Density At Beam Peak (dBW/Hz)	-29.9	-36.8	-37.6	-38.5

EXHIBIT 10: INTELSAT 29e LINK BUDGETS (continued)

UPLINK BEAM INFORMATION					
Uplink Beam Name	SPOT	SPOT	SPOT	SPOT	SPOT
Uplink Frequency (GHz)	14.125	14.125	14.125	14.125	14.125
Uplink Beam Polarization	LINEAR	LINEAR	LINEAR	LINEAR	LINEAR
Uplink Relative Contour Level (dB)	-4.0	-4.0	-4.0	-4.0	-4.0
Uplink Contour G/T (dB/K)	11.3	11.3	11.3	11.3	11.3
Uplink SFD (dBW/m2)	-83.3	-84.3	-84.3	-84.3	-84.3
Rain Rate (mm/hr)	95.0	95.0	95.0	95.0	95.0
DOWNLINK BEAM INFORMATION					
Downlink Beam Name	SPOT	SPOT	SPOT	SPOT	SPOT
Downlink Frequency (GHz)	11.575	11.575	11.575	11.575	11.575
Downlink Beam Polarization	LINEAR	LINEAR	LINEAR	LINEAR	LINEAR
Downlink Relative Contour Level (dB)	-4.0	-4.0	-4.0	-4.0	-4.0
Downlink Contour EIRP (dBW)	53.6	53.6	53.6	53.6	53.6
Rain Rate (mm/hr)	95.0	95.0	95.0	95.0	95.0
ADJACENT SATELLITE 1					
Satellite 1 Orbital Location	48.0W	48.0W	48.0W	48.0W	48.0W
Uplink Power Density (dBW/Hz)	-45.0	-45.0	-45.0	-45.0	-45.0
Uplink Polarization Advantage (dB)	0.0	0.0	0.0	0.0	0.0
Downlink EIRP Density (dBW/Hz)	-20.4	-20.4	-20.4	-20.4	-20.4
Downlink Polarization Advantage (dB)	0.0	0.0	0.0	0.0	0.0
ADJACENT SATELLITE 2					
Satellite 2 Orbital Location	52.0W	52.0W	52.0W	52.0W	52.0W
Uplink Power Density (dBW/Hz)	-45.0	-45.0	-45.0	-45.0	-45.0
Uplink Polarization Advantage (dB)	0.0	0.0	0.0	0.0	0.0
Downlink EIRP Density (dBW/Hz)	-20.4	-20.4	-20.4	-20.4	-20.4
Downlink Polarization Advantage (dB)	0.0	0.0	0.0	0.0	0.0
CARRIER INFORMATION					
Carrier ID	62M5G7W	10M3G7W	100KG7W	1M45G7W	100KG7W
Carrier Modulation	QPSK	QPSK	QPSK	BPSK	BPSK
Peak to Peak Bandwidth of EDS (MHz)	N/A	N/A	N/A	N/A	N/A
Information Rate(kbps)	42665	6000	64	512	128
Code Rate	1/2x188/204	1/2x188/204	1/2x239/256	R1/2	R1/2
Occupied Bandwidth(kHz)	52314	6771.1	75.4	1229.0	307.0
Allocated Bandwidth(kHz)	62500	10300	100	1450.0	400.0
Minimum C/N, Clear Sky (dB)	3.36	3.87	2.99	3.4	3.4
Minimum C/N, Rain (dB)	3.36	3.57	2.79	2.7	2.7
UPLINK EARTH STATION					
Earth Station Diameter (meters)	6.1	6.1	6.1	6.1	2.4
Earth Station Gain (dBi)	56.8	56.8	56.8	56.8	48.9
Earth Station Elevation Angle	20	20	20	20	20
DOWNLINK EARTH STATION					
Earth Station Diameter (meters)	3.7	2.4	2.4	2.4	6.1
Earth Station Gain (dBi)	50.8	47.2	47.2	47.2	55.2
Earth Station G/T (dB/K)	28.3	24.7	24.7	24.7	32.8
Earth Station Elevation Angle	20	20	20	20	20
LINK BUDGET TYPE					
Clear Sky	Clear Sky	Clear Sky	Clear Sky	Clear Sky	Clear Sky
UPLINK PERFORMANCE					
Uplink Earth Station EIRP (dBW)	67.3	60.2	39.9	52.0	43.9
Uplink Path Loss, Clear Sky (dB)	-207.4	-207.4	-207.4	-207.4	-207.4
Uplink Rain Attenuation	0.0	0.0	0.0	0.0	0.0
Satellite G/T(dB/K)	11.3	11.3	11.3	11.3	11.3
Boltzman Constant(dBW/K-Hz)	228.6	228.6	228.6	228.6	228.6
Carrier Noise Bandwidth (dB-Hz)	-77.2	-68.3	-48.8	-60.9	-54.9
Uplink C/N(dB)	22.6	24.4	23.7	23.6	21.5
DOWNLINK PERFORMANCE					
Downlink EIRP per Carrier (dBW)	47.2	38.3	18.1	30.1	22.0
Antenna Pointing Error (dB)	-5	-5	-5	-5	-5
Downlink Path Loss, Clear Sky (dB)	-205.7	-205.7	-205.7	-205.7	-205.7
Downlink Rain Attenuation	0.0	0.0	0.0	0.0	0.0
Earth Station G/T (dB/K)	28.3	24.7	24.7	24.7	32.8
Boltzman Constant(dBW / K - Hz)	228.6	228.6	228.6	228.6	228.6
Carrier Noise Bandwidth (dB-Hz)	-77.2	-68.3	-48.8	-60.9	-54.9
Downlink C / N(dB)	20.7	17.2	16.4	16.3	22.4
COMPOSITE LINK PERFORMANCE					
C/N Uplink (dB)	22.6	24.4	23.7	23.6	21.5
C/N Downlink (dB)	20.7	17.2	16.4	16.3	22.4
C/I Intermodulation (dB)	N/A	22.6	21.9	21.7	19.7
C/I Uplink Co-Channel (dB)*	27.0	24.7	24.5	24.9	22.4
C/I Downlink Co-Channel (dB)*	27.0	24.7	24.5	24.9	22.4
C/I Uplink Adjacent Satellite 1 (dB)	13.1	14.9	14.2	14.1	12.0
C/I Downlink Adjacent Satellite 1 (dB)	19.2	15.4	14.6	14.5	21.0
C/I Uplink Adjacent Satellite 2 (dB)	13.1	14.9	14.2	14.1	12.0
C/I Downlink Adjacent Satellite 2 (dB)	20.2	16.9	16.2	16.1	21.6
C/(N+I) Composite (dB)	8.6	8.3	7.5	7.5	7.6
Required System Margin (dB)	-1.0	-1.0	-1.0	-1.0	-1.0
Net C/(N+I) Composite (dB)	7.6	7.3	6.5	6.5	6.6
Minimum Required C/N (dB)	-3.4	-3.9	-3.0	-3.4	-3.4
Excess Link Margin (dB)	4.3	3.4	3.6	3.1	3.2
Number of Carriers	1.0	6.1	625.0	43.1	156.3
CARRIER DENSITY LEVELS					
Uplink Power Density (dBW/Hz)	-66.7	-64.9	-65.6	-65.8	-59.9
Downlink EIRP Density At Beam Peak (dBW/Hz)	-26.0	-26.0	-26.7	-26.8	-28.9

EXHIBIT 10: INTELSAT 29e LINK BUDGETS (continued)

UPLINK BEAM INFORMATION			
Uplink Beam Name	C BAND	C BAND	C BAND
Uplink Frequency (GHz)	6.2875	6.2875	6.2875
Uplink Beam Polarization	LINEAR	LINEAR	LINEAR
Uplink Relative Contour Level (dB)	-10.0	-10.0	-10.0
Uplink Contour G/T (dB/K)	-3.9	-3.9	-3.9
Uplink SFD (dBW/m2)	-72.1	-75.1	-75.1
Rain Rate (mm/hr)	95.0	95.0	95.0
DOWNLINK BEAM INFORMATION			
Downlink Beam Name	SPOT	SPOT	SPOT
Downlink Frequency (GHz)	11.950	11.950	11.950
Downlink Beam Polarization	LINEAR	LINEAR	LINEAR
Downlink Relative Contour Level (dB)	-4.0	-4.0	-4.0
Downlink Contour EIRP (dBW)	53.6	53.6	53.6
Rain Rate (mm/hr)	95.0	95.0	95.0
ADJACENT SATELLITE 1			
Satellite 1 Orbital Location	48.0W	48.0W	48.0W
Uplink Power Density (dBW/Hz)	-38.7	-38.7	-38.7
Uplink Polarization Advantage (dB)	0.0	0.0	0.0
Downlink EIRP Density (dBW/Hz)	-20.4	-20.4	-20.4
Downlink Polarization Advantage (dB)	0.0	0.0	0.0
ADJACENT SATELLITE 2			
Satellite 2 Orbital Location	52.0W	52.0W	52.0W
Uplink Power Density (dBW/Hz)	-38.7	-38.7	-38.7
Uplink Polarization Advantage (dB)	0.0	0.0	0.0
Downlink EIRP Density (dBW/Hz)	-20.4	-20.4	-20.4
Downlink Polarization Advantage (dB)	0.0	0.0	0.0
CARRIER INFORMATION			
Carrier ID	125MG7W	10M3G7W	100KG7W
Carrier Modulation	QPSK	QPSK	QPSK
Peak to Peak Bandwidth of BDS (MHz)	N/A	N/A	N/A
Information Rate(kbps)	85329	6000	64
Code Rate	1/2x188/204	1/2x188/204	1/2x239/256
Occupied Bandwidth(kHz)	104628	6771.1	75.4
Allocated Bandwidth(kHz)	125000	10300	100
Minimum C/N, Clear Sky (dB)	3.36	3.87	2.99
Minimum C/N, Rain (dB)	3.36	3.57	2.79
UPLINK EARTH STATION			
Earth Station Diameter (meters)	15.2	6.1	6.1
Earth Station Gain (dBi)	58.6	49.6	49.6
Earth Station Elevation Angle	20	20	20
DOWNLINK EARTH STATION			
Earth Station Diameter (meters)	1.8	1.8	1.8
Earth Station Gain (dBi)	44.8	44.8	44.8
Earth Station G/T (dB/K)	22.3	22.3	22.3
Earth Station Elevation Angle	20	20	20
LINK BUDGET TYPE			
Link Budget Type	Clear Sky	Clear Sky	Clear Sky
UPLINK PERFORMANCE			
Uplink Earth Station EIRP (dBW)	81.6	69.4	49.1
Uplink Path Loss, Clear Sky (dB)	-200.4	-200.4	-200.4
Uplink Rain Attenuation	0.0	0.0	0.0
Satellite G/T(dB/K)	-3.9	-3.9	-3.9
Boltzman Constant(dBW/K-Hz)	228.6	228.6	228.6
Carrier Noise Bandwidth (dB-Hz)	-80.2	-68.3	-48.8
Uplink C/N(dB)	25.7	25.5	24.7
DOWNLINK PERFORMANCE			
Downlink EIRP per Carrier (dBW)	50.2	38.3	18.0
Antenna Pointing Error (dB)	-5	-5	-5
Downlink Path Loss, Clear Sky (dB)	-205.9	-205.9	-205.9
Downlink Rain Attenuation	0.0	0.0	0.0
Earth Station G/T (dB/K)	22.3	22.3	22.3
Boltzman Constant(dBW / K - Hz)	228.6	228.6	228.6
Carrier Noise Bandwidth (dB-Hz)	-80.2	-68.3	-48.8
Downlink C / N(dB)	14.5	14.5	13.7
COMPOSITE LINK PERFORMANCE			
C/N Uplink (dB)	25.7	25.5	24.7
C/N Downlink (dB)	14.5	14.5	13.7
C/I Intermodulation (dB)	N/A	25.6	24.8
C/I Uplink Co-Channel (dB)*	27.0	27.7	27.5
C/I Downlink Co-Channel (dB)*	27.0	27.7	27.5
C/I Uplink Adjacent Satellite 1 (dB)	12.1	11.8	11.0
C/I Downlink Adjacent Satellite 1 (dB)	12.6	12.6	11.9
C/I Uplink Adjacent Satellite 2 (dB)	12.1	11.8	11.0
C/I Downlink Adjacent Satellite 2 (dB)	14.7	14.7	14.0
C/(N+I) Composite (dB)	6.0	5.8	5.0
Required System Margin (dB)	-1.0	-1.0	-1.0
Net C/(N+I) Composite (dB)	5.0	4.8	4.0
Minimum Required C/N (dB)	-3.4	-3.9	-3.0
Excess Link Margin (dB)	1.6	.9	1.0
Number of Carriers	1.0	10.4	1117.9
CARRIER DENSITY LEVELS			
Uplink Power Density (dBW/Hz)	-57.2	-48.4	-49.2
Downlink EIRP Density At Beam Peak (dBW/Hz)	-26.0	-26.0	-26.7

EXHIBIT 10: INTELSAT 29e LINK BUDGETS (continued)

UPLINK BEAM INFORMATION			
Uplink Beam Name	SPOT	SPOT	SPOT
Uplink Frequency (GHz)	13.875	13.875	13.875
Uplink Beam Polarization	LINEAR	LINEAR	LINEAR
Uplink Relative Contour Level (dB)	-4.0	-4.0	-4.0
Uplink Contour G/T (dB/K)	11.3	11.3	11.3
Uplink SFD (dBW/m2)	-83.3	-88.3	-88.3
Rain Rate (mm/hr)	42.0	42.0	42.0
DOWNLINK BEAM INFORMATION			
Downlink Beam Name	TRANS	TRANS	TRANS
Downlink Frequency (GHz)	12.010	12.010	12.010
Downlink Beam Polarization	LINEAR	LINEAR	LINEAR
Downlink Relative Contour Level (dB)	-4.0	-4.0	-4.0
Downlink Contour EIRP (dBW)	45.1	45.1	45.1
Rain Rate (mm/hr)	42.0	42.0	42.0
ADJACENT SATELLITE 1			
Satellite 1 Orbital Location	48.0W	48.0W	48.0W
Uplink Power Density (dBW/Hz)	-45.0	-45.0	-45.0
Uplink Polarization Advantage (dB)	0.0	0.0	0.0
Downlink EIRP Density (dBW/Hz)	-16.4	-16.4	-16.4
Downlink Polarization Advantage (dB)	0.0	0.0	0.0
ADJACENT SATELLITE 2			
Satellite 2 Orbital Location	52.0W	52.0W	52.0W
Uplink Power Density (dBW/Hz)	-45.0	-45.0	-45.0
Uplink Polarization Advantage (dB)	0.0	0.0	0.0
Downlink EIRP Density (dBW/Hz)	-16.4	-16.4	-16.4
Downlink Polarization Advantage (dB)	0.0	0.0	0.0
CARRIER INFORMATION			
Carrier ID	36M0G7W	10M3G7W	100KG7W
Carrier Modulation	QPSK	QPSK	QPSK
Peak to Peak Bandwidth of EDS (MHz)	N/A	N/A	N/A
Information Rate(kbps)	24575	6000	64
Code Rate	1/2x188/204	1/2x188/204	1/2x239/256
Occupied Bandwidth(kHz)	30133	6771.1	75.4
Allocated Bandwidth(kHz)	36000	10300	100
Minimum C/N, Clear Sky (dB)	3.36	3.87	2.99
Minimum C/N, Rain (dB)	3.36	3.57	2.79
UPLINK EARTH STATION			
Earth Station Diameter (meters)	6.1	6.1	6.1
Earth Station Gain (dBi)	56.7	56.7	56.7
Earth Station Elevation Angle	20	20	20
DOWNLINK EARTH STATION			
Earth Station Diameter (meters)	1.8	2.4	2.4
Earth Station Gain (dBi)	44.8	47.5	47.5
Earth Station G/T (dB/K)	22.3	25.0	25.0
Earth Station Elevation Angle	20	20	20
LINK FADE TYPE			
	Clear Sky	Clear Sky	Clear Sky
UPLINK PERFORMANCE			
Uplink Earth Station EIRP (dBW)	75.6	62.7	42.5
Uplink Path Loss, Clear Sky (dB)	-207.2	-207.2	-207.2
Uplink Rain Attenuation	0.0	0.0	0.0
Satellite G/T(dB/K)	11.3	11.3	11.3
Boltzman Constant(dBW/K-Hz)	228.6	228.6	228.6
Carrier Noise Bandwidth (dB-Hz)	-74.8	-68.3	-48.8
Uplink C/N(dB)	33.5	27.0	26.4
DOWNLINK PERFORMANCE			
Downlink EIRP per Carrier (dBW)	44.8	36.3	16.1
Antenna Pointing Error (dB)	-5	-5	-5
Downlink Path Loss, Clear Sky (dB)	-206.0	-206.0	-206.0
Downlink Rain Attenuation	0.0	0.0	0.0
Earth Station G/T (dB/K)	22.3	25.0	25.0
Boltzman Constant(dBW / K - Hz)	228.6	228.6	228.6
Carrier Noise Bandwidth (dB-Hz)	-74.8	-68.3	-48.8
Downlink C / N(dB)	14.5	15.1	14.5
COMPOSITE LINK PERFORMANCE			
C/N Uplink (dB)	33.5	27.0	26.4
C/N Downlink (dB)	14.5	15.1	14.5
C/I Intermodulation (dB)	N/A	26.6	26.0
C/I Uplink Co-Channel (dB)*	27.0	28.7	28.7
C/I Downlink Co-Channel (dB)*	27.0	28.7	28.7
C/I Uplink Adjacent Satellite 1 (dB)	23.8	17.4	16.8
C/I Downlink Adjacent Satellite 1 (dB)	8.7	9.6	9.0
C/I Uplink Adjacent Satellite 2 (dB)	23.8	17.4	16.8
C/I Downlink Adjacent Satellite 2 (dB)	10.8	11.2	10.6
C/(N+I) Composite (dB)	5.7	5.8	5.2
Required System Margin (dB)	-1.0	-1.0	-1.0
Net C/(N+I) Composite (dB)	4.7	4.8	4.2
Minimum Required C/N (dB)	-3.4	-3.9	-3.0
Excess Link Margin (dB)	1.4	1.0	1.3
Number of Carriers	1.0	2.4	244.2
CARRIER DENSITY LEVELS			
Uplink Power Density (dBW/Hz)	-55.9	-62.3	-62.9
Downlink EIRP Density At Beam Peak (dBW/Hz)	-26.0	-28.0	-28.6

EXHIBIT 10: INTELSAT 29e LINK BUDGETS (continued)

UPLINK BEAM INFORMATION			
Uplink Beam Name	KA	KA	KA
Uplink Frequency (GHz)	29.8	29.8	29.8
Uplink Beam Polarization	CIRCULAR	CIRCULAR	CIRCULAR
Uplink Relative Contour Level (dB)	-5.0	-5.0	-5.0
Uplink Contour G/T (dB/K)	-10.3	-10.3	-10.3
Uplink SPD (dBW/m2)	-81.8	-81.8	-81.8
Rain Rate (mm/hr)	42.0	42.0	42.0
DOWNLINK BEAM INFORMATION			
Downlink Beam Name	KA	KA	KA
Downlink Frequency (GHz)	20.0	20.0	20.0
Downlink Beam Polarization	CIRCULAR	CIRCULAR	CIRCULAR
Downlink Relative Contour Level (dB)	-3.0	-3.0	-3.0
Downlink Contour EIRP (dBW)	36.9	36.9	36.9
Rain Rate (mm/hr)	42.0	42.0	42.0
ADJACENT SATELLITE 1			
Satellite 1 Orbital Location	48.0W	48.0W	48.0W
Uplink Power Density (dBW/Hz)	-56.5	-56.5	-56.5
Uplink Polarization Advantage (dB)	0.0	0.0	0.0
Downlink EIRP Density (dBW/Hz)	-18.9	-18.9	-18.9
Downlink Polarization Advantage (dB)	0.0	0.0	0.0
ADJACENT SATELLITE 2			
Satellite 1 Orbital Location	52.0W	52.0W	52.0W
Uplink Power Density (dBW/Hz)	-56.5	-56.5	-56.5
Uplink Polarization Advantage (dB)	0.0	0.0	0.0
Downlink EIRP Density (dBW/Hz)	-18.9	-18.9	-18.9
Downlink Polarization Advantage (dB)	0.0	0.0	0.0
CARRIER INFORMATION			
Carrier ID	67M7G7W	10M3G7W	100KG7W
Carrier Modulation	QPSK	QPSK	QPSK
Peak to Peak Bandwidth of BDS (MHz)	N/A	N/A	N/A
Information Rate(kbps)	60052.2	6000	64
Code Rate	1/2x188/204	1/2x188/204	1/2x239/256
Occupied Bandwidth(kHz)	65163.0	6771.1	75.4
Allocated Bandwidth(kHz)	67711.0	10300	100
Minimum C/N, Clear Sky (dB)	3.4	3.87	2.99
Minimum C/N, Rain (dB)	3.4	3.57	2.79
UPLINK EARTH STATION			
Earth Station Diameter (meters)	9.0	9.0	9.0
Earth Station Gain (dBi)	67.1	67.1	67.1
Earth Station Elevation Angle	54.8	54.8	54.8
DOWNLINK EARTH STATION			
Earth Station Diameter (meters)	7.2	7.2	7.2
Earth Station Gain (dBi)	61.7	61.7	61.7
Earth Station G/T (dB/K)	39.3	39.3	39.3
Earth Station Elevation Angle	54.8	54.8	54.8
LINK BUDGET TYPE			
Clear Sky	Clear Sky	Clear Sky	Clear Sky
UPLINK PERFORMANCE			
Uplink Earth Station EIRP (dBW)	80.5	70.4	56.2
Uplink Path Loss, Clear Sky (dB)	213.2	213.2	213.2
Uplink Rain Attenuation	0.0	0.0	0.0
Satellite G/T(dB/K)	-10.3	-10.3	-10.3
Boltzman Constant(dBW/K-Hz)	228.6	228.6	228.6
Carrier Noise Bandwidth (dB-Hz)	-78.1	-68.3	-48.8
Uplink C/N(dB)	16.0	6.8	12.2
DOWNLINK PERFORMANCE			
Downlink EIRP per Carrier (dBW)	36.9	28.8	4.6
Antenna Pointing Error (dB)	-0.5	-0.5	-0.5
Downlink Path Loss, Clear Sky (dB)	209.8	209.8	209.8
Downlink Rain Attenuation	0.0	0.0	0.0
Earth Station G/T (dB/K)	39.3	39.3	39.3
Boltzman Constant(dBW / K - Hz)	228.6	228.6	228.6
Carrier Noise Bandwidth (dB-Hz)	-78.1	-68.3	-48.8
Downlink C / N(dB)	16.0	17.7	13.1
COMPOSITE LINK PERFORMANCE			
C/N Uplink (dB)	7.1	6.8	12.2
C/N Downlink (dB)	16.0	17.7	13.1
C/I Intermodulation (dB)	N/A	16.7	16.7
C/I Uplink Co-Channel (dB)*	27.0	27.0	27.0
C/I Downlink Co-Channel (dB)*	27.0	27.0	27.0
C/I Uplink Adjacent Satellite 1 (dB)	37.7	37.4	42.8
C/I Downlink Adjacent Satellite 1 (dB)	18.2	19.9	15.3
C/I Uplink Adjacent Satellite 2 (dB)	38.3	38.0	43.4
C/I Downlink Adjacent Satellite 2 (dB)	18.7	20.4	15.8
C/(N+I) Composite (dB)	5.9	5.7	7.2
Required System Margin (dB)	-1.0	1.0	1.0
Net C/(N+I) Composite (dB)	4.9	4.7	6.2
Minimum Required C/N (dB)	3.4	3.9	3.0
Excess Link Margin (dB)	1.5	0.8	3.2
Number of Carriers	1.0	6.0	1688.0
CARRIER DENSITY LEVELS			
Uplink Power Density (dBW/Hz)	-64.7	-65.0	-59.6
Downlink EIRP Density At Beam Peak (dBW/Hz)	-38.2	-36.5	-41.1