

<b>UPLINK BEAM INFORMATION</b>				
Uplink Beam Name	C-Band	C-Band	C-Band	C-Band
Uplink Frequency (GHz)	5.925-6.025	5.925-6.025	5.925-6.025	5.925-6.025
Uplink Beam Polarization	Horizontal/Vertical	Horizontal/Vertical	Horizontal/Vertical	Horizontal/Vertical
Uplink Beam Peak G/T (dB/K)	0.6	0.6	0.6	0.6
Uplink Beam Peak SFD (dBW/m2)	-87.6	-88.6	-88.6	-88.6
Uplink Relative Contour Level (dB)	-6	-6	-6	-6
<b>DOWNLINK BEAM INFORMATION</b>				
Downlink Beam Name	C-Band	C-Band	C-Band	C-Band
Downlink Frequency (GHz)	3.7-4.2	3.7-4.2	3.7-4.2	3.7-4.2
Downlink Beam Polarization	Horizontal/Vertical	Horizontal/Vertical	Horizontal/Vertical	Horizontal/Vertical
Downlink Beam Peak EIRP (dBW)	41.0	41.0	41.0	41.0
Downlink Relative Contour Level (dB)	-6	-6	-6	-6
<b>ADJACENT SATELLITE 1</b>				
Satellite Name	ABS-6	ABS-6	ABS-6	ABS-6
Orbital Location	159.0E	159.0E	159.0E	159.0E
Uplink Power Density (dBW/Hz)	-38.7	-38.7	-38.7	-38.7
Beam Peak Downlink EIRP Density (dBW/Hz)	-42.0	-42.0	-42.0	-42.0
<b>ADJACENT SATELLITE 2</b>				
Satellite Name	HYP 155E	HYP 155E	HYP 155E	HYP 155E
Orbital Location	155.0 E	155.0 E	155.0 E	155.0 E
Uplink Power Density (dBW/Hz)	-38.7	-38.7	-38.7	-38.7
Beam Peak Downlink EIRP Density (dBW/Hz)	-32.0	-32.0	-32.0	-32.0
<b>CARRIER INFORMATION</b>				
Carrier ID	36M0G7W	9M00G7W	1M43G7W	222KG7W
Carrier Modulation	QPSK	QPSK	QPSK	QPSK
Information Rate(kbps)	36860	9681	1024	256
Code Rate	3/4x188/203	3/4	1/2	3/4
Occupied Bandwidth(kHz)	26664.7	6666.7	1024	184.7
Allocated Bandwidth(kHz)	36000	9000	1434	222
Minimum C/N, Rain (dB)	7.3	5.0	3.7	5.6
<b>UPLINK EARTH STATION</b>				
Earth Station Diameter (meters)	11.0	3.7	2.4	2.4
Earth Station Gain (dBi)	54.5	45.1	41.4	41.4
Earth Station Elevation Angle	10.4	10.4	10.4	10.4
<b>DOWNLINK EARTH STATION</b>				
Earth Station Diameter (meters)	3.7	5.0	3.7	5.0
Earth Station Gain (dBi)	41.9	44.6	41.9	4.6
Earth Station G/T (dB/K)	22.1	22.7	22.1	22.7
Earth Station Elevation Angle	10.1	10.1	10.1	10.1
<b>UPLINK PERFORMANCE</b>				
Uplink Earth Station EIRP (dBW)	78.8	68.8	61.0	53.0
Uplink Path Loss, Clear Sky (dB)	-200.7	-200.7	-200.7	-200.7
Satellite G/T(dB/K)	-5.4	-5.4	-5.4	-5.4
Boltzman Constant(dBW/K-Hz)	228.6	228.6	228.6	228.6
Carrier Noise Bandwidth (MHz)	26.7	6.7	1.0	0.2
Uplink Thermal C/N(dB)	27.0	23.1	23.4	22.8
<b>DOWNLINK PERFORMANCE</b>				
Downlink EIRP per Carrier (dBW)	35.0	26.1	18.1	10.0
Downlink Path Loss, Clear Sky (dB)	-196.8	-196.8	-196.8	-196.8
Downlink Earth Station G/T (dB/K)	22.1	22.7	22.1	22.7
Boltzman Constant(dBW/K-Hz)	228.6	228.6	228.6	228.6
Carrier Noise Bandwidth (MHz)	26.7	6.7	1.0	0.2
Downlink Thermal C / N(dB)	14.6	12.4	11.9	11.8
<b>COMPOSITE LINK PERFORMANCE</b>				

Uplink Earth Station HPA Intermodulation C/N (dB)	41.9	38.0	38.3	37.7
C/N Thermal Uplink (dB)	27.0	23.1	23.4	22.8
Uplink Interference C/I (dB)	28.2	23.9	24.2	27.4
Uplink Adjacent Satellite C/I (dB)	19.8	15.9	16.2	15.6
Intermodulation C/IM (dB)	200.0	20.4	21.2	21.5
Downlink Thermal C/N (dB)	14.6	12.4	11.9	11.8
Downlink Interference C/I (dB)	26.8	22.1	21.6	23.0
Downlink Adjacent Satellite C/I (dB)	11.1	11.9	8.4	11.4
Subtotal C/N (dB)	8.9	7.6	5.9	7.3
Antenna Mispointing and Other Losses (dB)	1.5	1.5	1.5	1.5
Total C/N (dB)	7.4	6.1	4.4	5.8
Minimum Required C/N (dB)	7.3	5.0	3.7	5.6
Number of Carriers	1	4	25	162
<b>CARRIER DENSITY LEVELS</b>				
Uplink Power Density (dBW/Hz)	-50.0	-44.5	-40.5	-41.1
Downlink EIRP Density At Beam Peak (dBW/Hz)	-33.3	-36.1	-36.0	-36.7
Number of Carriers	1	4	25	162
Antenna Gain	54.5	45.1	41.4	41.4
Min Tx Power	18.3	17.7	13.6	5.6
Max Tx Power	24.3	23.7	19.6	11.6
Min EIRP	35	26.1	18.1	10
Max EIRP	41.0	32.1	24.1	16.0
Spreading Loss	162.0663618	162.0663618	162.0663618	162.0663618
Max PFD (/4 kHz)	-159.3	-162.2	-162.0	-162.7
Rx G/T	22.1	22.7	22.1	22.7

<b>UPLINK BEAM INFORMATION</b>				
Uplink Beam Name	Ku-Band	Ku-Band	Ku-Band	Ku-Band
Uplink Frequency (GHz)	14-14.25	14-14.25	14-14.25	14-14.25
Uplink Beam Polarization	Horizontal	Horizontal	Horizontal	Horizontal
Uplink Beam Peak G/T (dB/K)	2.9	2.9	2.9	2.9
Uplink Beam Peak SFD (dBW/m2)	-91.9	-86.9	-86.9	-86.9
Uplink Relative Contour Level (dB)	-6	-6	-6	-6
<b>DOWNLINK BEAM INFORMATION</b>				
Downlink Beam Name	Ku-Band	Ku-Band	Ku-Band	Ku-Band
Downlink Frequency (GHz)	11.45-11.7	11.45-11.7	11.45-11.7	11.45-11.7
Downlink Beam Polarization	Vertical	Vertical	Vertical	Vertical
Downlink Beam Peak EIRP (dBW)	48.6	48.6	48.6	48.6
Downlink Relative Contour Level (dB)	-6	-6	-6	-6
<b>ADJACENT SATELLITE 1</b>				
Satellite Name	HYP 159E	HYP 159E	HYP 159E	HYP 159E
Orbital Location	159.0E	159.0E	159.0E	159.0E
Uplink Power Density (dBW/Hz)	-50.0	-50.0	-50.0	-50.0
Beam Peak Downlink EIRP Density (dBW/Hz)	-26.0	-26.0	-26.0	-26.0
<b>ADJACENT SATELLITE 2</b>				
Satellite Name	HYP 155E	HYP 155E	HYP 155E	HYP 155E
Orbital Location	155.0 E	155.0 E	155.0 E	155.0 E
Uplink Power Density (dBW/Hz)	-50.0	-50.0	-50.0	-50.0
Beam Peak Downlink EIRP Density (dBW/Hz)	-26.0	-26.0	-26.0	-26.0
<b>CARRIER INFORMATION</b>				
Carrier ID	36M0G7W	9M00G7W	1M43G7W	222KG7W
Carrier Modulation	QPSK	QPSK	QPSK	QPSK
Information Rate(kbps)	36860	9681	1024	256
Code Rate	3/4x188/203	3/4	1/2	3/4
Occupied Bandwidth(kHz)	26664.7	6666.7	1024	184.7
Allocated Bandwidth(kHz)	36000	9000	1434	222
Minimum C/N, Rain (dB)	7.3	5.0	3.7	5.6
<b>UPLINK EARTH STATION</b>				
Earth Station Diameter (meters)	2.4	2.4	2.4	2.4
Earth Station Gain (dBi)	48.7	48.7	48.7	48.7
Earth Station Elevation Angle	42.7	42.7	42.7	42.7
<b>DOWNLINK EARTH STATION</b>				
Earth Station Diameter (meters)	1.8	2.4	1.8	2.4
Earth Station Gain (dBi)	44.5	47.0	44.5	47.0
Earth Station G/T (dB/K)	23.3	25.0	23.3	25.0
Earth Station Elevation Angle	22.4	22.4	22.4	22.4
<b>UPLINK PERFORMANCE</b>				
Uplink Earth Station EIRP (dBW)	72.0	66.6	58.3	50.8
Uplink Path Loss, Clear Sky (dB)	-207.1	-207.1	-207.1	-207.1
Satellite G/T(dB/K)	-3.2	-3.2	-3.2	-3.2
Boltzman Constant(dBW/K-Hz)	228.6	228.6	228.6	228.6
Carrier Noise Bandwidth (MHz)	26.7	6.7	1.0	0.2
Uplink Thermal C/N(dB)	16.0	16.7	16.5	16.4
<b>DOWNLINK PERFORMANCE</b>				
Downlink EIRP per Carrier (dBW)	41.5	32.0	23.5	15.9
Downlink Path Loss, Clear Sky (dB)	-205.9	-205.9	-205.9	-205.9
Downlink Earth Station G/T (dB/K)	23.3	25.0	23.3	25.0
Boltzman Constant(dBW/K-Hz)	228.6	228.6	228.6	228.6
Carrier Noise Bandwidth (MHz)	26.7	6.7	1.0	0.2
Downlink Thermal C / N(dB)	13.2	11.5	9.4	10.9
<b>COMPOSITE LINK PERFORMANCE</b>				

Uplink Earth Station HPA Intermodulation C/N (dB)	35.1	35.8	35.7	35.5
C/N Thermal Uplink (dB)	16.0	16.7	16.5	16.4
Uplink Interference C/I (dB)	200.0	200.0	200.0	200.0
Uplink Adjacent Satellite C/I (dB)	19.3	20.0	19.8	19.7
Intermodulation C/IM (dB)	200.0	18.7	20.1	20.0
Downlink Thermal C/N (dB)	13.2	11.5	9.4	11.3
Downlink Interference C/I (dB)	200.0	25.6	25.9	25.4
Downlink Adjacent Satellite C/I (dB)	14.0	13.1	10.2	12.6
Subtotal C/N (dB)	9.1	7.7	5.9	7.6
Antenna Mispointing and Other Losses (dB)	1.5	1.5	1.5	1.5
Total C/N (dB)	7.6	6.2	4.4	6.1
Minimum Required C/N (dB)	7.3	5.0	3.7	5.6
Number of Carriers	1	4	25	162
<b>CARRIER DENSITY LEVELS</b>				
Uplink Power Density (dBW/Hz)	-51.0	-50.3	-50.5	-50.6
Downlink EIRP Density At Beam Peak (dBW/Hz)	-26.8	-30.2	-30.6	-30.8
Number of Carriers	1	4	25	162
Antenna Gain	48.7	48.7	48.7	48.7
Min Tx Power	17.2	11.8	3.5	-4
Max Tx Power	23.3	17.9	9.6	2.1
Min EIRP	41.5	32	23.5	15.9
Max EIRP	47.6	38.1	29.6	22.0
Spreading Loss	162.0663618	162.0663618	162.0663618	162.0663618
Max PFD (/4 kHz)	-144.5	-156.2	-156.5	-156.7
Rx G/T	23.3	25	23.3	25