

Ku-BAND

<b>UPLINK BEAM INFORMATION</b>						
Uplink Beam Name	Ku-Band	Ku-Band	Ku-Band	Ku-Band	Ku-Band	Ku-Band
Uplink Frequency (GHz)	14.25	14.25	14.25	14.25	14.25	14.25
Uplink Beam Polarization	Vertical	Vertical	Vertical	Vertical	Vertical	Vertical
Uplink Relative Contour Level (dB)	-6.0	-6.0	-6.0	-6.0	-6.0	-6.0
Uplink Contour G/T (dB/K)	4	4	4	4	4	4
Uplink SFD (dBW/m2)	-84.4	-91.4	-84.4	-84.4	-84.4	-84.4
Rain Rate (mm/hr)	42.0	42.0	42.0	42.0	42.0	42.0
<b>DOWNLINK BEAM INFORMATION</b>						
Downlink Beam Name	Ku-Band	Ku-Band	Ku-Band	Ku-Band	Ku-Band	Ku-Band
Downlink Frequency (GHz)	11.95	11.95	11.95	11.95	11.95	11.95
Downlink Beam Polarization	Horizontal	Horizontal	Horizontal	Horizontal	Horizontal	Horizontal
Downlink Relative Contour Level (dB)	-6.0	-6.0	-6.0	-6.0	-6.0	-6.0
Downlink Contour EIRP (dBW)	41.4	41.4	41.4	41.4	41.4	41.4
Rain Rate (mm/hr)	42.0	42.0	42.0	42.0	42.0	42.0
<b>ADJACENT SATELLITE 1</b>						
Satellite 1 Orbital Location	Africa	Africa	Africa	Africa	Africa	Africa
Satellite 1 Power Density (dBW/Hz)	46E	46E	46E	46E	46E	46E
Uplink Power Density (dBW/Hz)	-45	-45	-45	-45	-45	-45
Uplink Polarization Advantage (dB)	0	0	0	0	0	0
Downlink EIRP Density (dBW/Hz)	-17.5	-17.5	-17.5	-17.5	-17.5	-17.5
Downlink Polarization Advantage (dB)	0	0	0	0	0	0
<b>ADJACENT SATELLITE 2</b>						
Satellite 1 Orbital Location	HYP49.5E	HYP49.5E	HYP49.5E	HYP49.5E	HYP49.5E	HYP49.5E
Satellite 1 Power Density (dBW/Hz)	49.5E	49.5E	49.5E	49.5E	49.5E	49.5E
Uplink Power Density (dBW/Hz)	-45	-45	-45	-45	-45	-45
Uplink Polarization Advantage (dB)	0	0	0	0	0	0
Downlink EIRP Density (dBW/Hz)	-26	-26	-26	-26	-26	-26
Downlink Polarization Advantage (dB)	0	0	0	0	0	0
<b>CARRIER INFORMATION</b>						
Carrier ID	36M0F7W	36M0G7W	3M07G7W	400KG7W	1M45G7W	200KG7W
Carrier Modulation	TV/FM	QPSK	QPSK	QPSK	BPSK	BPSK
Peak to Peak Bandwidth of FDS (MHz)	4	N/A	N/A	N/A	N/A	N/A
Information Rate(kbps)	N/A	24575	2048	256	512	64
Code Rate	N/A	1/2x188/204	1/2x239/256	1/2x239/256	R1/2	R1/2
Occupied Bandwidth(kHz)	36000	30133	2413.0	301.6	1229.0	153.6
Allocated Bandwidth(kHz)	36000	36000	3075	400	1450.0	200.0
Minimum C/N Clear Sky (dB)	10.0	3.36	2.99	2.99	3.4	3.4
Minimum C/N Rain (dB)	10.0	3.36	2.79	2.79	2.7	2.7
<b>UPLINK EARTH STATION</b>						
Earth Station Diameter (meters)	3.7	3.7	1.8	1.8	1.8	1.8
Earth Station Gain (dBi)	52.7	52.7	46.4	46.4	46.4	46.4
Earth Station Elevation Angle	20	20	20	20	20	20
<b>DOWNLINK EARTH STATION</b>						
Earth Station Diameter (meters)	7.0	3.0	4.6	4.6	6.1	4.6
Earth Station Gain (dBi)	57.0	49.2	53.5	53.5	55.5	53.5
Earth Station G/T (dB/K)	34.6	26.7	31.0	31.0	33.1	31.0
Earth Station Elevation Angle	20	20	20	20	20	20
<b>LINK FADE TYPE</b>						
Link Fade Type	Clear Sky	Clear Sky	Clear Sky	Clear Sky	Clear Sky	Clear Sky
<b>UPLINK PERFORMANCE</b>						
Uplink Earth Station EIRP (dBW)	78.5	71.5	59.6	50.5	55.5	47.4
Uplink Path Loss Clear Sky (dB)	-207.5	-207.5	-207.5	-207.5	-207.5	-207.5
Uplink Rain Attenuation	0.0	0.0	0.0	0.0	0.0	0.0
Satellite G/T(dB/K)	4	4	4	4	4	4
Boltzman Constant(dBW/K-Hz)	228.6	228.6	228.6	228.6	228.6	228.6
Carrier Noise Bandwidth (dB-Hz)	-75.6	-74.8	-63.8	-54.8	-60.9	-51.9
Uplink C/N(dB)	24.5	18.2	17.3	17.2	16.1	17.1
<b>DOWNLINK PERFORMANCE</b>						
Downlink EIRP per Carrier (dBW)	41.4	41.4	27.5	18.4	23.4	15.3
Antenna Pointing Error (dB)	-5	-5	-5	-5	-5	-5
Downlink Path Loss Clear Sky (dB)	-205.9	-205.9	-205.9	-205.9	-205.9	-205.9
Downlink Rain Attenuation	0.0	0.0	0.0	0.0	0.0	0.0
Earth Station G/T (dB/K)	34.6	26.7	31.0	31.0	33.1	31.0
Boltzman Constant(dBW / K - Hz)	228.6	228.6	228.6	228.6	228.6	228.6
Carrier Noise Bandwidth (dB-Hz)	-75.6	-74.8	-63.8	-54.8	-60.9	-51.9
Downlink C / N(dB)	22.6	15.4	16.8	16.7	17.8	16.6
<b>COMPOSITE LINK PERFORMANCE</b>						
C/N Uplink (dB)	24.5	18.2	17.3	17.2	16.1	17.1
C/N Downlink (dB)	22.6	15.4	16.8	16.7	17.8	16.6
C/I Intermodulation (dB)	N/A	N/A	18.1	18.0	17.0	17.9
C/I Uplink Co-Channel (dB)*	27.0	27.0	27.3	27.0	26.4	27.0
C/I Downlink Co-Channel (dB)*	27.0	27.0	27.3	27.0	26.4	27.0
C/I Uplink Adjacent Satellite 1 (dB)	20.6	14.4	13.4	13.3	12.3	13.3
C/I Downlink Adjacent Satellite 1 (dB)	15.2	7.6	9.3	9.2	10.3	9.1
C/I Uplink Adjacent Satellite 2 (dB)	23.9	17.7	16.8	16.7	15.6	16.6
C/I Downlink Adjacent Satellite 2 (dB)	27.6	20.9	22.1	22.0	22.8	21.9
C/(N+I) Composite (dB)	12.4	5.5	6.0	5.9	6.0	5.8
Required System Margin (dB)	-1.0	-1.0	-1.0	-1.0	-1.0	-1.0
Net C/(N+I) Composite (dB)	11.4	4.5	5.0	4.9	5.0	4.8
Minimum Required C/N (dB)	-10.0	-3.4	-3.0	-3.0	-3.4	-3.4
Excess Link Margin (dB)	1.4	1.1	2.0	1.9	1.6	1.4
Number of Carriers	1	1.0	11.0	90.0	24.8	180.0
<b>CARRIER DENSITY LEVELS</b>						
Uplink Power Density (dBW/Hz)	-40.2	-56.0	-50.6	-50.7	-51.8	-50.8
Downlink EIRP Density At Beam Peak (dBW/Hz)	-18.6	-27.4	-30.3	-30.4	-31.5	-30.5