

Ku-BAND

UPLINK BEAM INFORMATION						
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
DOWNLINK BEAM INFORMATION						
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
ADJACENT SATELLITE 1						
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
ADJACENT SATELLITE 2						
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
CARRIER INFORMATION						
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
UPLINK EARTH STATION						
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
DOWNLINK EARTH STATION						
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
LINK FADE TYPE						
Link Fade Type	Clear Sky	Clear Sky	Clear Sky	Clear Sky	Clear Sky	Clear Sky
UPLINK PERFORMANCE						
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
DOWNLINK PERFORMANCE						
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
COMPOSITE LINK PERFORMANCE						
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
CARRIER DENSITY LEVELS						
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