

C-Band

UPLINK BEAM INFORMATION				
Uplink Beam Name	C-Band	C-Band	C-Band	C-Band
Uplink Frequency (GHz)	6.175	6.175	6.175	6.175
Uplink Beam Polarization	Horizontal	Horizontal	Horizontal	Horizontal
Uplink Relative Contour Level (dB)	-6.0	-6.0	-6.0	-6.0
Uplink Contour G/T (dB/K)	-5.6	-5.6	-5.6	-5.6
Uplink SFD (dBW/m2)	-82.4	-89.4	-80.4	-80.4
Rain Rate (mm/hr)	42.0	42.0	42.0	42.0
DOWNLINK BEAM INFORMATION				
Downlink Beam Name	C-Band	C-Band	C-Band	C-Band
Downlink Frequency (GHz)	3.95	3.95	3.95	3.95
Downlink Beam Polarization	Horizontal	Horizontal	Horizontal	Horizontal
Downlink Relative Contour Level (dB)	-6.0	-6.0	-6.0	-6.0
Downlink Contour EIRP (dBW)	35.4	35.4	35.4	35.4
Rain Rate (mm/hr)	42.0	42.0	42.0	42.0
ADJACENT SATELLITE 1				
Satellite 1 Orbital Location	Africasat-1	Africasat-1	Africasat-1	Africasat-1
Satellite 1 Power Density (dBW/Hz)	46E	46E	46E	46E
Uplink Power Density (dBW/Hz)	-38.7	-38.7	-38.7	-38.7
Uplink Polarization Advantage (dB)	0	0	0	0
Downlink EIRP Density (dBW/Hz)	-33.3	-33.3	-33.3	-33.3
Downlink Polarization Advantage (dB)	0	0	0	0
ADJACENT SATELLITE 2				
Satellite 1 Orbital Location	Yamal-202	Yamal-202	Yamal-202	Yamal-202
Satellite 1 Power Density (dBW/Hz)	49E	49E	49E	49E
Uplink Power Density (dBW/Hz)	-38.7	-38.7	-38.7	-38.7
Uplink Polarization Advantage (dB)	0	0	0	0
Downlink EIRP Density (dBW/Hz)	-33.8	-33.8	-33.8	-33.8
Downlink Polarization Advantage (dB)	0	0	0	0
CARRIER INFORMATION				
Carrier ID	36M0F7W	54M0G7W	3M07G7W	400KG7W
Carrier Modulation	TV/FM	QPSK	QPSK	QPSK
Peak to Peak Bandwidth of FDS (MHz)	4	N/A	N/A	N/A
Information Rate(kbps)	N/A	36860	2048	256
Code Rate	N/A	1/2x188/204	1/2x239/256	1/2x239/256
Occupied Bandwidth(kHz)	36000	39997	2413.0	301.6
Allocated Bandwidth(kHz)	36000	54000	3075	400
Minimum C/N Clear Skv (dB)	10.0	3.36	2.99	2.99
Minimum C/N Rain (dB)	10.0	3.36	2.79	2.79
UPLINK EARTH STATION				
Earth Station Diameter (meters)	15.2	15.2	3.0	3.0
Earth Station Gain (dBi)	58.4	58.4	43.2	43.2
Earth Station Elevation Angle	20	20	20	20
DOWNLINK EARTH STATION				
Earth Station Diameter (meters)	13.1	8.1	8.1	8.1
Earth Station Gain (dBi)	53.5	49.3	49.3	49.3
Earth Station G/T (dB/K)	33.0	28.4	28.4	28.4
Earth Station Elevation Angle	20	20	20	20
LINK FADE TYPE				
Link Fade Type	Clear Skv	Clear Skv	Clear Skv	Clear Skv
UPLINK PERFORMANCE				
Uplink Earth Station EIRP (dBW)	80.5	73.5	61.7	52.7
Uplink Path Loss Clear Skv (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)	-5.6	-5.6	-5.6	-5.6
Boltzman Constant(dBW/K-Hz)	228.6	228.6	228.6	228.6
Carrier Noise Bandwidth (dB-Hz)	-75.6	-76.0	-63.8	-54.8
Uplink C/N(dB)	27.7	20.3	20.7	20.7
DOWNLINK PERFORMANCE				
Downlink EIRP per Carrier (dBW)	35.4	35.4	19.6	10.6
Antenna Pointing Error (dB)	-5	-5	-5	-5
Downlink Path Loss Clear Skv (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	28.4	28.4	28.4
Boltzman Constant(dBW / K - Hz)	228.6	228.6	228.6	228.6
Carrier Noise Bandwidth (dB-Hz)	-75.6	-76.0	-63.8	-54.8
Downlink C / N(dB)	24.6	19.6	16.0	16.0
COMPOSITE LINK PERFORMANCE				
C/N Uplink (dB)	27.7	20.3	20.7	20.7
C/N Downlink (dB)	24.6	19.6	16.0	16.0
C/I Intermodulation (dB)	N/A	N/A	18.4	18.4
C/I Uplink Co-Channel (dB)*	25.8	24.0	24.1	24.0
C/I Downlink Co-Channel (dB)*	25.8	24.0	24.1	24.0
C/I Uplink Adjacent Satellite 1 (dB)	16.3	8.9	9.3	9.3
C/I Downlink Adjacent Satellite 1 (dB)	21.2	16.2	12.6	12.6
C/I Uplink Adjacent Satellite 2 (dB)	16.3	8.9	9.3	9.3
C/I Downlink Adjacent Satellite 2 (dB)	22.9	18.5	14.9	15.0
C/(N+I) Composite (dB)	11.6	4.9	4.2	4.2
Required System Margin (dB)	-1.0	-1.0	-1.0	-1.0
Net C/(N+I) Composite (dB)	10.6	3.9	3.2	3.2
Minimum Required C/N (dB)	-10.0	-3.4	-3.0	-3.0
Excess Link Margin (dB)	.6	.5	.2	.2
Number of Carriers	1	1.0	17.0	135.0
CARRIER DENSITY LEVELS				
Uplink Power Density (dBW/Hz)	-43.9	-60.9	-45.3	-45.3
Downlink EIRP Density At Beam Peak (dBW/Hz)	-24.6	-34.6	-38.2	-38.2