

C-band TV/FM

Wanted System Orbital Location

-76.7 deg

Interfering System Orbital Location

-79 deg

and -74 (FCC allocation)

Minimum Orbital Separation (Geo-centric)

1.90 deg ; Note: the calculations take topocentric advantage into account

Uplink	I, psd	-35.7	dBW/Hz	6.000
Dnlink	I, eirpd	-30.0	dBW/Hz	4.000

Carrier Type	SINGLE TV/FM PER TXPR		TWO TV/FM PER TXPR	
Interfering downlink e.i.r.p. density(bp)	-30.0	-30.0	-32.0	-30.0
Interfering uplink power density	-35.7	-35.7	-41.0	-35.7
Uplink frequency (GHz)	6.000	6.000	6.000	6.000
Downlink frequency (GHz)	4.000	4.000	4.000	4.000
Uplink Beam name	NAC-C	NAC-C	NAC-C	NAC-C
Downlink beam name	NAC-C	NAC-C	NAC-C	NAC-C
Transmit ES Locatio	CONUS	CONUS	CONUS	CONUS
Receive ES Location	CONUS	CONUS	CONUS	CONUS
TX ES Size at BE	16.0	16.0	6.0	16.0
Transmit ES Peak gain	57.8	57.8	49.3	57.8
ES Size at beam peak	10.21	10.21	3.83	10.21
Rx ES Size	16.0	10.0	16.0	10.0
Receive ES Gain	54.3	50.2	54.3	50.2
Receive ES G/T (Temp=83K)	35.1	31.0	34.3	31.0
Carrier Type	1 TV/xpr	1 TV/xpr	2TV/xpr	2TV/xpr
Energy Dispersal BW	2000	2000	2000	2000
Occupied bandwidth per carrier (kHz)	30000.0	20000.0	18000.0	18000.0
Allocated bandwidth per carrier (kHz)	36000.0	36000.0	20000.0	20000.0
C/N Threshold	17.20	17.2	15.5	15.5
System Margin	0.00	1.00	1.00	1.00
Other losses(terrestrial, OBE, etc.,)	1.0	1.0	1.0	1.0
Clear Sky C/N	18.2	19.2	17.5	17.5
Nominal e/s e.i.r.p. per carrier (dBW)	83.3	84.3	75.8	84.3
ES Power @ site, max	25.5	26.5	26.5	26.5
ES power at bp	21.6	22.6	22.6	22.6
TX ES PSD at ES	-37.5	-36.5	-36.5	-36.5
Sat G/T at bp	2.6	2.6	2.6	2.6
Sat G/T at e/s	-1.3	-1.3	-1.3	-1.3
Free space path loss (dB)	199.6	199.6	199.6	199.6
C/N uplink (dB)	36.3	39.0	31.0	39.5
X-pol interf:C/I -uplink (dB)-wanted system	30.0	30.0	30.0	30.0
X-pol interf:C/I -uplink (dB)-interfering ES	33.3	36.0	33.3	36.5
C/I - copol asi uplink (dB)	19.4	22.1	19.4	22.6
C/N+I+others, uplink	18.8	21.2	18.6	21.6
Downlink e.i.r.p. -bp (dBW)	40.3	40.3	40.3	40.3
Downlink BP-BE difference	6.7	6.7	6.7	6.7
DL ES Pattern Advantage	4.5	4.5	4.5	4.5
Satellite Txpr e.i.r.p. -ES (dBW)	38.1	38.1	38.1	38.1
Output back-off	0	0	5.5	5.5
Satellite e.i.r.p. per carrier (dBW)-ES	38.1	38.1	32.6	32.6
Satellite e.i.r.p. per carrier (dBW)-bp	40.3	40.3	34.8	34.8
Free space path loss (dB)	196.1	196.1	196.1	196.1
Earth station pointing loss (dB)	0.30	0.30	0.30	0.30
C/N downlink towards BP (dB)	37.4	35.0	33.3	30.0
C/N downlink towards ES (dB)	35.2	32.8	31.1	27.8
C/N-thermal-total	32.7	31.9	28.0	27.5
C/I Co-polar downlink interference d/I(dB)	32.8	30.3	31.5	25.2
C/I X-polar external interference d/I (dB)	30.5	28.1	29.2	23.0
Downlink C/(Nth +I+others) composite with ASI dn	27.6	25.2	25.7	20.2
Total C/(Nth +I) composite with ASI tot	18.2	19.8	17.8	17.8
Total C/(Nth +others) w/o ASI	29.9	24.6	23.7	21.0
C/N Margin	0.0	0.6	0.3	0.3