

												Scenario 2a (10 W & 0.2 deg)						SES AMC-21 Schedule S Link Budget Info		
Parameters	Unit	Interferer	Victim System 1 - No Interferer	Victim System 1 - With Interferer	Victim System 2 - No Interferer	Victim System 2 - With Interferer	Victim System 5 - No Interferer	Victim System 5 - With Interferer	Victim System 6 - No Interferer	Victim System 6 - With Interferer	Unit	Parameter	56Kbps QPSK ¼ RS	1.544 MBPS QPSK ¾ RS						
															Uplink					
Orbital Location	W.L.	127	125	125	125	125	125	125	125	125	W.L.	Carrier designation	100KG1W	1M60G1W						
Satellite UL Pattern Disadvantage to E/S	dB	0	4	4	4	4	4	4	4	4	dB	Throughput rate, Mbps	0.0562	1.5440						
Data Rate	kbit/s	256	56.2	56.2	1544	1544	256	256	512	512	kbit/s	Symbol rate, MHz	0.0407	1.1						
Symbol Rate / Necessary Bandwidth	kBd / kHz	1024	40.7	40.7	1118.2	1118.2	256.0	256.0	512.0	512.0	kBd / kHz	Uplinks:								
Transmitter Power	W	10	0.65	0.65	5.4	5.4	0.16	0.16	0.3	0.3	W	Transmit Power (dBW)	-2	8						
Transmit Losses	dB	4.71	1	1	1	1	1	1	1	1	dB	Transmit Loss (dB)	-1	-1						
Transmit Power to Antenna	dBW	5.3	-2.9	-2.9	6.3	6.3	-9.0	-9.0	-6.2	-6.2	dBW	Antenna diameter	1.8	1.8						
E/S Antenna Gain	dB	33.3	46.6	46.6	46.6	46.6	46.6	46.6	46.6	46.6	dB	Antenna Gain (dBi)	46.6	46.6						
E/S Uplink EIRP	dBW	38.6	43.7	43.7	52.9	52.9	37.6	37.6	40.4	40.4	dBW	Ground Station EIRP (dBW)	43.6	53.6						
E/S Uplink EIRP Density	dBW/Hz	-21.5	-2.4	-2.4	-7.6	-7.6	-16.4	-16.4	-16.7	-16.7	dBW/Hz	Uplink Rain Loss (dB)	-2	-2						
Uplink Rain Loss	dB	0	0	0	0	0	0	0	0	0	dB	Free Space Loss (dB)	-207.5	-207.5						
Off-Axis Angle between Satellites	deg	2.00									deg	Satellite G/T (dB/K)	0.5	0.5						
Off-Axis Gain	dB	19.3									dB	Data Rate (dB-Hz)	47.5	61.9						
Off-Axis EIRP density	dBW/Hz	-35.5									dBW/Hz	Boltzmann's Constant (dBW/K-Hz)	-228.6	-228.6						
Slant Range	km	39500.0	39500.0	39500.0	39500.0	39500.0	39500.0	39500.0	39500.0	39500.0	km	Eb/No (dB)	15.7	11.3						
Path and Atmospheric Losses	dB	207.5	207.5	207.5	207.5	207.5	207.5	207.5	207.5	207.5	dB	Eb/lo (dB)	16	16						
Satellite Receive Antenna Gain to E/S	dB	33.0	29.0	29.0	29.0	29.0	29.0	29.0	29.0	29.0	dB	Total Eb/(No + lo) (dB) For 10-7	12.8	10.0						
Satellite G/T	dB/K		0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	dB/K	Downlinks:								
Satellite Noise Temperature	K	707.9	707.9	707.9	707.9	707.9	707.9	707.9	707.9	707.9	K	Satellite Carrier EIRP (dBW)	18.5	28.5						
Received Carrier Power, C	dBW	-134.7	-134.7	-125.5	-125.5	-140.8	-140.8	-138.1	-138.1	-138.1	dBW	Downlink Rain Loss (dB)	-3	-3						
Thermal Noise Density, No	dBW/Hz	-200.1	-200.1	-200.1	-200.1	-200.1	-200.1	-200.1	-200.1	-200.1	dBW/Hz	Free Space Loss (dB)	-206.3	-206.3						
Uplink C/No	dB-Hz	65.4	65.4	74.6	74.6	59.3	59.3	62.0	62.0	62.0	dB-Hz	Ground station antenna dia, m	1.2	2.4						
Uplink Interference Density, I _o	dBW/Hz	-206.3	-206.3	-206.3	-206.3	-206.3	-206.3	-206.3	-206.3	-206.3	dBW/Hz	Ground Station G/T (dB/K)	19.6	25.6						
Uplink C/I _o	dB-Hz	71.6	71.6	80.8	80.8	65.5	65.5	68.2	68.2	68.2	dB-Hz	Eb/No (dB)	9.9	11.5						
Interferer Uplink Interference Density, I _o	dBW/Hz		-210.0	-210.0	-210.0	-210.0	-210.0	-210.0	-210.0	-210.0	dBW/Hz	C/I _M	18	18						
Interferer Uplink C/I _o	dB-Hz		75.3	84.5	84.5	69.2	69.2	71.9	71.9	71.9	dB-Hz	Eb/ModB	16.6	16.6						
Total Uplink C/(No+I _o)	dB-Hz	64.4	64.1	73.6	73.3	58.4	58.0	61.1	60.7	60.7	dB-Hz	C/I	15.0	15.0						
Total Uplink Eb/No	dB	17.0	16.6	11.8	11.4	4.3	3.9	4.0	3.7	3.7	dB	Eb/lo(ASI)	13.6	13.6						
Required Eb/No	dB	5.4	5.4	5.4	5.4	2.1	2.1	2.1	2.1	2.1	dB	Eb/lo (dB)	11.8	11.8						
Uplink Margin	dB	11.6	11.2	6.4	6.0	2.2	1.8	1.9	1.6	1.6	dB	Eb/(No + I _o) (dB)	7.7	8.7						
C/(No+I _o) Degradation due to Interferer	dB		0.3		0.3		0.3		0.3		dB	Total UP/DOWN Eb/(No+I _o)(dB)	6.6	6.3						
Uplink NTemp Degradation due to Interferer	K		72.6		72.6		72.6		72.6		K	Required	5.4	5.4						
ΔT/T Uplink	%		10.2		10.2		10.2		10.2		%	Margin	1.2	0.9						
Downlink																				
Satellite DL Pattern Disadvantage to E/S	GHz		5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	GHz	Satellite Performance Info		AMC-21						
Satellite Downlink EIRP	dBW		18.7	18.7	27.9	27.9	12.6	12.6	15.3	15.3	dBW	Ant Gain BC		33						
Satellite EIRP Density	dBW/Hz		-27.4	-27.4	-32.6	-32.6	-41.5	-41.5	-41.8	-41.8	dBW/Hz	Ant Gain EOC		23						
Downlink Rain Loss	dB		3	3	3	3	3	3	3	3	dB	SNT		708						
Slant Range	km		41400.0	41400.0	41400.0	41400.0	41400.0	41400.0	41400.0	41400.0	km	G/T		4.5						
Path and Atmospheric Losses	dB		206.3	206.3	206.3	206.3	206.3	206.3	206.3	206.3	dB	SFD min		-97.5						
E/S Antenna Diameter	m		1.2	1.2	2.4	2.4	7.3	7.3	7.3	7.3	m	ATT Range		21						
E/S Antenna Gain	dB		41.7	41.7	47.7	47.7	57.3	57.3	57.3	57.3	dB	Max EIRP		50						
E/S G/T	dB/K		19.6	19.6	25.6	25.6	35.3	35.3	35.3	35.3	dB/K									
E/S Noise Temperature	K		160.7	160.7	161.5	161.5	160.1	160.1	160.1	160.1	K									
Received Carrier Power, C	dBW		-149.0	-149.0	-133.8	-133.8	-139.4	-139.4	-136.7	-136.7	dBW									
Downlink Thermal Noise Density, No	dBW/Hz		-206.5	-206.5	-206.5	-206.5	-206.6	-206.6	-206.6	-206.6	dBW/Hz									
Downlink C/No	dB-Hz		57.6	57.6	72.7	72.7	67.2	67.2	69.9	69.9	dB-Hz									
DL Intermod Interference Density, I _{Mo}	dBW/Hz		-213.1	-213.1	-213.1	-213.1	-213.1	-213.1	-213.1	-213.1	dBW/Hz									
Downlink C/I _{Mo}	dB-Hz		64.1	64.1	79.3	79.3	73.7	73.7	76.4	76.4	dB-Hz									
DL Adj Sat Interference Density, I _o (ASI)	dBW/Hz		-207.5	-207.5	-207.5	-207.5	-207.5	-207.5	-207.5	-207.5	dBW/Hz									
Downlink C/I _o (ASI)	dB-Hz		58.5	58.5	73.7	73.7	68.1	68.1	70.8	70.8	dB-Hz									
Downlink C/(No+I _o)	dB-Hz		54.5	54.5	69.7	69.7	64.1	64.1	66.8	66.8	dB-Hz									
Downlink Eb/No	dB		7.0	7.0	7.8	7.8	10.0	10.0	9.7	9.7	dB									
Required Eb/No	dB		5.4	5.4	5.4	5.4	5.4	5.4	5.4	5.4	dB									
Downlink Margin	dB		1.6	1.6	2.4	2.4	4.6	4.6	4.3	4.3	dB									
Total Up/Downlink C/(No+I _o)	dB-Hz		54.1	54.0	68.2	68.1	57.3	57.1	60.1	59.8	dB-Hz									
Total U/Downlink Eb/No	dB		6.6	6.5	6.3	6.2	3.3	3.0	3.0	2.7	dB									
Required Eb/No	dB		5.4	5.4	5.4	5.4	2.1	2.1	2.1	2.1	dB									
Overall Margin	dB		1.2	1.15	0.9	0.84	1.2	0.9	0.9	0.6	dB									
C/(No+I _o) Degradation due to Interferer	dB		0.03		0.10		0.3		0.3		dB									

													Scenario 1b (12.5 W & 0.75 deg)						SES AMC-21 Schedule S Link Budget Info		
Parameters	Unit	Interferer	Victim System 1 - No Interferer	Victim System 1 - With Interferer	Victim System 2 - No Interferer	Victim System 2 - With Interferer	Victim System 3 - No Interferer	Victim System 3 - With Interferer	Victim System 4 - No Interferer	Victim System 4 - With Interferer	Unit	Carrier designation	56Kbps QPSK ¼ RS	1.544 MBPS QPSK ¾ RS							
													100KG1W	1M60G1W	Parameter						
Uplink											Uplink										
Orbital Location	W.L.		127	125	125	125	125	125	125	125	W.L.	Throughput rate, Mbps	0.0562	1.5440							
Satellite UL Pattern Disadvantage to E/S	dB		0	4	4	4	4	4	4	4	dB	Symbol rate, MHz	0.0407	1.1							
Data Rate	kbit/s		256	56.2	56.2	1544	1544	56.2	56.2	1544	kbit/s	Uplinks:									
Symbol Rate / Necessary Bandwidth	kBd / kHz		1024	40.7	40.7	1118.2	1118.2	40.7	40.7	1118.2	kBd / kHz	Transmit Power (dBW)	-2	8							
Transmitter Power	W		12.5	0.65	0.65	5.4	5.4	0.076	0.076	1.97	W	Transmit Loss (dB)	-1	-1							
Transmit Losses	dB		4.71	1	1	1	1	1	1	1	dB	Antenna diameter	1.8	1.8							
Transmit Power to Antenna	dBW		6.3	-2.9	-2.9	6.3	6.3	-12.2	-12.2	1.9	dBW	Antenna Gain (dBi)	46.6	46.6							
E/S Antenna Gain	dB		33.3	46.6	46.6	46.6	46.6	46.6	46.6	46.6	dB	Ground Station EIRP (dBW)	43.6	53.6							
E/S Uplink EIRP	dBW		39.6	43.7	43.7	52.9	52.9	34.4	34.4	48.5	dBW	Uplink Rain Loss (dB)	-2	-2							
E/S Uplink EIRP Density	dBW/Hz		-20.5	-2.4	-2.4	-7.6	-7.6	-11.7	-11.7	-11.9	dBW/Hz	Free Space Loss (dB)	-207.5	-207.5							
Uplink Rain Loss	dB		0	0	0	0	0	0	0	0	dB	Satellite G/T (dB/K)	0.5	0.5							
Off-Axis Angle between Satellites	deg		1.45								deg	Data Rate (dB-Hz)	47.5	61.9							
Off-Axis Gain	dB		27.7								dB	Boltzmann's Constant (dBW/K-Hz)	-228.6	-228.6							
Off-Axis EIRP density	dBW/Hz		-26.1								dBW/Hz	Eb/No (dB)	15.7	11.3							
Slant Range	km		39500.0	39500.0	39500.0	39500.0	39500.0	39500.0	39500.0	39500.0	km	Eb/lo (dB)	16	16							
Path and Atmospheric Losses	dB		207.5	207.5	207.5	207.5	207.5	207.5	207.5	207.5	dB	Total Eb/(No + lo) (dB) For 10-7	12.8	10.0							
Satellite Receive Antenna Gain to E/S	dB		33.0	29.0	29.0	29.0	29.0	29.0	29.0	29.0	dB										
Satellite G/T	dB/K			0.5	0.5	0.5	0.5	0.5	0.5	0.5	dB/K	Downlinks:									
Satellite Noise Temperature	K		707.9	707.9	707.9	707.9	707.9	707.9	707.9	707.9	K	Satellite Carrier EIRP (dBW)	18.5	28.5							
Received Carrier Power, C	dBW		-134.7	-134.7	-125.5	-125.5	-144.0	-144.0	-129.9	-129.9	dBW	Downlink Rain Loss (dB)	-3	-3							
Thermal Noise Density, No	dBW/Hz		-200.1	-200.1	-200.1	-200.1	-200.1	-200.1	-200.1	-200.1	dBW/Hz	Free Space Loss (dB)	-206.3	-206.3							
Uplink C/No	dB-Hz		65.4	65.4	74.6	74.6	56.1	56.1	70.2	70.2	dB-Hz	Ground station antenna dia, m	1.2	2.4							
Uplink Interference Density, Io	dBW/Hz		-206.3	-206.3	-206.3	-206.3	-206.3	-206.3	-206.3	-206.3	dBW/Hz	Ground Station G/T (dB/K)	19.6	25.6							
Uplink C/Io	dB-Hz		71.6	71.6	80.8	80.8	62.3	62.3	76.4	76.4	dB-Hz	Eb/No (dB)	9.9	11.5							
Interferer Uplink Interference Density, Io	dBW/Hz			-200.6		-200.6		-200.6		-200.6	dBW/Hz	C/I	18	18							
Interferer Uplink C/Io	dB-Hz			65.9		75.1		56.6		70.7	dB-Hz	Eb/ModB	16.6	16.6							
Total Uplink C/(No+Io)	dB-Hz		64.4	62.1	73.6	71.3	55.1	52.8	69.3	66.9	dB-Hz	C/I	15.0	15.0							
Total Uplink Eb/No	dB		17.0	14.6	11.8	9.4	7.6	5.3	7.4	5.0	dB	Eb/lo(ASI)	13.6	13.6							
Required Eb/No	dB		5.4	5.4	5.4	5.4	5.4	5.4	5.4	5.4	dB	Eb/lo (dB)	11.8	11.8							
Uplink Margin	dB		11.6	9.2	6.4	4.0	2.2	-0.1	2.0	-0.4	dB	Eb/(No + lo) (dB)	7.7	8.7							
C/(No+Io) Degradation due to Interferer	dB			2.4		2.4		2.4		2.4	dB	Total UP/DOWN Eb/(No+lo)(dB)	6.6	6.3							
Uplink NTemp Degradation due to Interferer	K			631.8		631.8		631.8		631.8	K	Required	5.4	5.4							
ΔT/T Uplink	%			89.3		89.3		89.3		89.3	%	Margin	1.2	0.9							
Downlink																					
Satellite DL Pattern Disadvantage to E/S	GHz		5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	GHz	Satellite Performance Info	AMC-21								
Satellite Downlink EIRP	dBW		18.7	18.7	27.9	27.9	9.4	9.4	23.5	23.5	dBW	Ant Gain BC		33							
Satellite EIRP Density	dBW/Hz		-27.4	-27.4	-32.6	-32.6	-36.7	-36.7	-37.0	-37.0	dBW/Hz	Ant Gain EOC		23							
Downlink Rain Loss	dB		3	3	3	3	3	3	3	3	dB	SNT		708							
Slant Range	km		41400.0	41400.0	41400.0	41400.0	41400.0	41400.0	41400.0	41400.0	km	G/T		4.5							
Path and Atmospheric Losses	dB		206.3	206.3	206.3	206.3	206.3	206.3	206.3	206.3	dB	SFD min		-97.5							
E/S Antenna Diameter	m		1.2	1.2	2.4	2.4	7.3	7.3	7.3	7.3	m	ATT Range		21							
E/S Antenna Gain	dB		41.7	41.7	47.7	47.7	57.3	57.3	57.3	57.3	dB	Max EIRP		50							
E/S G/T	dB/K		19.6	19.6	25.6	25.6	35.3	35.3	35.3	35.3	dB/K										
E/S Noise Temperature	K		160.7	160.7	161.5	161.5	160.1	160.1	160.1	160.1	K										
Received Carrier Power, C	dBW		-149.0	-149.0	-133.8	-133.8	-142.6	-142.6	-128.5	-128.5	dBW										
Downlink Thermal Noise Density, No	dBW/Hz		-206.5	-206.5	-206.5	-206.5	-206.6	-206.6	-206.6	-206.6	dBW/Hz										
Downlink C/No	dB-Hz		57.6	57.6	72.7	72.7	63.9	63.9	78.1	78.1	dB-Hz										
DL Intermod Interference Density, IMo	dBW/Hz		-213.1	-213.1	-213.1	-213.1	-213.1	-213.1	-213.1	-213.1	dBW/Hz										
Downlink C/IMo	dB-Hz		64.1	64.1	79.3	79.3	70.5	70.5	84.6	84.6	dB-Hz										
DL Adj Sat Interference Density, Io (ASI)	dBW/Hz		-207.5	-207.5	-207.5	-207.5	-207.5	-207.5	-207.5	-207.5	dBW/Hz										
Downlink C/Io (ASI)	dB-Hz		58.5	58.5	73.7	73.7	64.9	64.9	79.0	79.0	dB-Hz										
Downlink C/(No+Io)	dB-Hz		54.5	54.5	69.7	69.7	60.9	60.9	75.0	75.0	dB-Hz										
Downlink Eb/No	dB		7.0	7.0	7.8	7.8	13.4	13.4	13.1	13.1	dB										
Required Eb/No	dB		5.4	5.4	5.4	5.4	5.4	5.4	5.4	5.4	dB										
Downlink Margin	dB		1.6	1.6	2.4	2.4	8.0	8.0	7.7	7.7	dB										
Total Up/Downlink C/(No+Io)	dB-Hz		54.1	53.8	68.2	67.4	54.1	52.1	68.2	66.3	dB-Hz										
Total U/Downlink Eb/No	dB		6.6	6.3	6.3	5.5	6.6	4.6	6.3	4.4	dB										
Required Eb/No	dB		5.4	5.4	5.4	5.4	5.4	5.4	5.4	5.4	dB										
Overall Margin	dB		1.2	0.9	0.9	0.1	1.2	-0.8	0.9	-1.0	dB										
C/(No+Io) Degradation due to Interferer	dB			0.3		0.8		2.0		2.0	dB										

		Scenario 2b (10 W & 0.75 deg)										SES AMC-21 Schedule S Link Budget Info			
Parameters		Interferer	Victim System 1 - No Interferer	Victim System 1 - With Interferer	Victim System 2 - No Interferer	Victim System 2 - With Interferer	Victim System 5 - No Interferer	Victim System 5 - With Interferer	Victim System 6 - No Interferer	Victim System 6 - With Interferer		Parameter	56Kbps QPSK ¼ RS	1.544 MBPS QPSK 3/4	
UpLink	Unit	Uplink										Unit			
Orbital Location	W.L.	127	125	125	125	125	125	125	125	125	W.L.	Carrier designation	100KG1W	1M60G1W	
Satellite UL Pattern Disadvantage to E/S	dB	0	4	4	4	4	4	4	4	4	dB	Throughput rate, Mbps	0.0562	1.5440	
Data Rate	kbit/s	256	56.2	56.2	1544	1544	256	256	512	512	kbit/s	Symbol rate, MHz	0.0407	1.1	
Symbol Rate / Necessary Bandwidth	kBd / kHz	1024	40.7	40.7	1118.2	1118.2	256.0	256.0	512.0	512.0	kBd / kHz	Uplinks:			
Transmitter Power	W	10	0.65	0.65	5.4	5.4	0.16	0.16	0.3	0.3	W	Transmit Power (dBW)	-2	8	
Transmit Losses	dB	4.71	1	1	1	1	1	1	1	1	dB	Transmit Loss (dB)	-1	-1	
Transmit Power to Antenna	dBW	5.3	-2.9	-2.9	6.3	6.3	-9.0	-9.0	-6.2	-6.2	dBW	Antenna diameter	1.8	1.8	
E/S Antenna Gain	dB	33.3	46.6	46.6	46.6	46.6	46.6	46.6	46.6	46.6	dB	Antenna Gain (dBi)	46.6	46.6	
E/S Uplink EIRP	dBW	38.6	43.7	43.7	52.9	52.9	37.6	37.6	40.4	40.4	dBW	Ground Station EIRP (dBW)	43.6	53.6	
E/S Uplink EIRP Density	dBW/Hz	-21.5	-2.4	-2.4	-7.6	-7.6	-16.4	-16.4	-16.7	-16.7	dBW/Hz	Uplink Rain Loss (dB)	-2	-2	
Uplink Rain Loss	dB	0	0	0	0	0	0	0	0	0	dB	Free Space Loss (dB)	-207.5	-207.5	
Off-Axis Angle between Satellites	deg	1.45									deg	Satellite G/T (dB/K)	0.5	0.5	
Off-Axis Gain	dBi	27.7									dBi	Data Rate (dB-Hz)	47.5	61.9	
Off-Axis EIRP density	dBW/Hz	-27.1									dBW/Hz	Boltzmann's Constant (dBW/K-Hz)	-228.6	-228.6	
Slant Range	km	39500.0	39500.0	39500.0	39500.0	39500.0	39500.0	39500.0	39500.0	39500.0	km	Eb/No (dB)	15.7	11.3	
Path and Atmospheric Losses	dB	207.5	207.5	207.5	207.5	207.5	207.5	207.5	207.5	207.5	dB	Eb/lo (dB)	16	16	
Satellite Receive Antenna Gain to E/S	dBi	33.0	29.0	29.0	29.0	29.0	29.0	29.0	29.0	29.0	dBi	Total Eb/(No + lo) (dB) For 10-7	12.8	10.0	
Satellite G/T	dB/K		0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	dB/K	Downlinks:			
Satellite Noise Temperature	K		707.9	707.9	707.9	707.9	707.9	707.9	707.9	707.9	K	Satellite Carrier EIRP (dBW)	18.5	28.5	
Received Carrier Power, C	dBW		-134.7	-134.7	-125.5	-125.5	-140.8	-140.8	-138.1	-138.1	dBW	Downlink Rain Loss (dB)	-3	-3	
Thermal Noise Density, No	dBW/Hz		-200.1	-200.1	-200.1	-200.1	-200.1	-200.1	-200.1	-200.1	dBW/Hz	Free Space Loss (dB)	-206.3	-206.3	
Uplink C/No	dB-Hz		65.4	65.4	74.6	74.6	59.3	59.3	62.0	62.0	dB-Hz	Ground station antenna dia, m	1.2	2.4	
Uplink Interference Density, Io	dBW/Hz		-206.3	-206.3	-206.3	-206.3	-206.3	-206.3	-206.3	-206.3	dBW/Hz	Ground Station G/T (dB/K)	19.6	25.6	
Uplink C/Io	dB-Hz		71.6	71.6	80.8	80.8	65.5	65.5	68.2	68.2	dB-Hz	Eb/No (dB)	9.9	11.5	
Interferer Uplink Interference Density, Io	dBW/Hz			-201.6		-201.6		-201.6		-201.6	dBW/Hz	C/I/M	18	18	
Interferer Uplink C/Io	dB-Hz			66.8		76.0		60.8		63.5	dB-Hz	Eb/ModB	16.6	16.6	
Total Uplink C/(No+Io)	dB-Hz		64.4	62.5	73.6	71.7	58.4	56.4	61.1	59.1	dB-Hz	C/I	15.0	15.0	
Total Uplink Eb/No	dB		17.0	15.0	11.8	9.8	4.3	2.3	4.0	2.0	dB	Eb/lo(ASI)	13.6	13.6	
Required Eb/No	dB		5.4	5.4	5.4	5.4	2.1	2.1	2.1	2.1	dB	Eb/lo (dB)	11.8	11.8	
Uplink Margin	dB		11.6	9.6	6.4	4.4	2.2	0.2	1.9	-0.1	dB	Eb/(No + Io) (dB)	7.7	8.7	
C/(No+Io) Degradation due to Interferer	dB			2.0		2.0		2.0		2.0	dB	Total UP/DOWN Eb/(No+Io)(dB)	6.6	6.3	
Uplink NTemp Degradation due to Interferer	K			505.5		505.5		505.5		505.5	K	Required	5.4	5.4	
ΔT/T Uplink	%			71.4		71.4		71.4		71.4	%	Margin	1.2	0.9	
Downlink	Unit	Downlink										Unit	Satellite Performance Info		
Satellite DL Pattern Disadvantage to E/S	GHz		5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	GHz	Ant Gain BC	33		
Satellite Downlink EIRP	dBW		18.7	18.7	27.9	27.9	12.6	12.6	15.3	15.3	dBW	Ant Gain EOC	23		
Satellite EIRP Density	dBW/Hz		-27.4	-27.4	-32.6	-32.6	-41.5	-41.5	-41.8	-41.8	dBW/Hz	SNT	708		
Downlink Rain Loss	dB		3	3	3	3	3	3	3	3	dB	G/T	4.5		
Slant Range	km		41400.0	41400.0	41400.0	41400.0	41400.0	41400.0	41400.0	41400.0	km	SFD min	-97.5		
Path and Atmospheric Losses	dB		206.3	206.3	206.3	206.3	206.3	206.3	206.3	206.3	dB	ATT Range	21		
E/S Antenna Diameter	m		1.2	1.2	2.4	2.4	7.3	7.3	7.3	7.3	m	Max EIRP	50		
E/S Antenna Gain	dBi		41.7	41.7	47.7	47.7	57.3	57.3	57.3	57.3	dBi				
E/S G/T	dB/K		19.6	19.6	25.6	25.6	35.3	35.3	35.3	35.3	dB/K				
E/S Noise Temperature	K		160.7	160.7	161.5	161.5	160.1	160.1	160.1	160.1	K				
Received Carrier Power, C	dBW		-149.0	-149.0	-133.8	-133.8	-139.4	-139.4	-136.7	-136.7	dBW				
Downlink Thermal Noise Density, No	dBW/Hz		-206.5	-206.5	-206.5	-206.5	-206.6	-206.6	-206.6	-206.6	dBW/Hz				
Downlink C/No	dB-Hz		57.6	57.6	72.7	72.7	67.2	67.2	69.9	69.9	dB-Hz				
DL Intermod Interference Density, IMo	dBW/Hz		-213.1	-213.1	-213.1	-213.1	-213.1	-213.1	-213.1	-213.1	dBW/Hz				
Downlink C/IMo	dB-Hz		64.1	64.1	79.3	79.3	73.7	73.7	76.4	76.4	dB-Hz				
DL Adj Sat Interference Density, Io (ASI)	dBW/Hz		-207.5	-207.5	-207.5	-207.5	-207.5	-207.5	-207.5	-207.5	dBW/Hz				
Downlink C/Io (ASI)	dB-Hz		58.5	58.5	73.7	73.7	68.1	68.1	70.8	70.8	dB-Hz				
Downlink C/(No+Io)	dB-Hz		54.5	54.5	69.7	69.7	64.1	64.1	66.8	66.8	dB-Hz				
Downlink Eb/No	dB		7.0	7.0	7.8	7.8	10.0	10.0	9.7	9.7	dB				
Required Eb/No	dB		5.4	5.4	5.4	5.4	5.4	5.4	5.4	5.4	dB				
Downlink Margin	dB		1.6	1.6	2.4	2.4	4.6	4.6	4.3	4.3	dB				
Total Up/Downlink C/(No+Io)	dB-Hz		54.1	53.9	68.2	67.6	57.3	55.7	60.1	58.4	dB-Hz				
Total U/Downlink Eb/No	dB		6.6	6.4	6.3	5.7	3.3	1.6	3.0	1.3	dB				
Required Eb/No	dB		5.4	5.4	5.4	5.4	2.1	2.1	2.1	2.1	dB				
Overall Margin	dB		1.2	1.0	0.9	0.3	1.2	-0.5	0.9	-0.8	dB				
C/(No+Io) Degradation due to Interferer	dB			0.2		0.7		1.6		1.6	dB				