

EXHIBIT H - LINK BUDGETS



INTERSPUTNIK
INTERNATIONAL ORGANIZATION
OF SPACE COMMUNICATIONS

Международная организация космической связи
Organisation Internationale des Telecommunications Spatiales
Organizacion Internacional de Telecomunicaciones Cosmicas

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LINK BUDGET CALCULATION

Satellite			Transponder			Channel parameters		
Name	Express-AM44		Name	15		Data bitrate	50	kb/s
			Maximum G/T	3.5	dB/K	FEC	0.7500	(factor)
			Maximum (saturated) EIRP	47.0	dBW	Coding	Turbo	(lookup name)
			Output backoff (OBO)	4.0	dB		1	(factor)
			Input backoff (IBO)	6.0	dB	Transmitted bitrate	67	kb/s
			Saturation flux density (SFD)	-98.3	dBW/m ²	Modulation	QPSK	(lookup name)
Nominal longitude	-11	degrees East	Bandwidth	40	MHz		2	(factor)
			Central uplink frequency	6350	MHz	Required E _g /N ₀	4.0	dB
			Uplink polarization	C	H/V/C	System margin	1.00	dB
			Central downlink frequency	4025	MHz	Required C/N ₀	52.0	dB*Hz
Station keeping accuracy	0.05	degrees	Downlink polarization	C	H/V/C	Required C/N	6.8	dB
			Central intermediate frequency	70	MHz	Required total availability	99.70	%
			Carrier to intermodulation products interference ratio	20	dB	1 + Roll-off factor	1.35	(factor)
			Carrier to cross-polarization interference ratio	30	dB	Noise bandwidth	33	kHz
						Occupied bandwidth	45	kHz
						Carrier intermediate frequency	0.000	MHz
						Number of identical carriers of this type	1	(factor)
						Clear sky uplink		
						Carrier transmission frequency	6280.000	MHz
						Wavelength	0.048	m
						ES EIRP	43.5	dBW
						Mispointing loss	0.15	dB
						Free space loss	200.6	dB
						Atmospheric loss	0.3	dB
						Power flux density at satellite	-120.1	dB(W/m ²)
						Carrier to noise spectral density ratio (C/N ₀)	59.9	dB*Hz
							9.7E+05	(factor)
						Carrier to interference from adjacent satellites ratio (C/I)	30.000	dB
						Carrier to interference from adjacent satellites spectral density ratio (C/I ₀)	75.2	dB
							3.3E+07	(factor)
						Carrier to noise and interference spectral density ratio (C/(N ₀ +I ₀))	59.7	dB*Hz
							9.4E+05	(factor)
						Carrier to noise ratio (C/N+I)	14.5	dB
						Clear sky downlink		
						Carrier transmission frequency	3955.000	MHz
						Wavelength	0.076	m
						Satellite EIRP	12.4	dBW
						Mispointing loss	0.01	dB
						Free space loss	195.6	dB
						Atmospheric loss	0.0	dB
						Total Rx system noise temperature	78	K
						Noise spectral density (N ₀)	-209.7	dBW/Hz
						Carrier level at ES receiver input	-153.5	dBW
						Carrier to noise spectral density ratio (C/N ₀)	56.2	dB*Hz
							4.1E+05	(factor)
						Carrier to interference from adjacent satellites ratio (C/I)	30.000	dB
						Carrier to interference from adjacent satellites spectral density ratio (C/I ₀)	75.2	dB
							3.3E+07	(factor)
						Carrier to noise and interference spectral density ratio (C/(N ₀ +I ₀))	56.1	dB*Hz
							4.1E+05	(factor)
						Carrier to noise ratio (C/N+I)	10.9	dB
						Clear sky total link		
						Carrier to noise and interference spectral density ratio (C/(N ₀ +I ₀)), total	54.2	dB*Hz
						Bit energy to noise and interference spectral density ratio (E _d /(N ₀ +I ₀)), total	7.2	dB
						Carrier to noise ratio (C/N+I)	8.9	dB
						Clear sky margin	2.17	dB
						Availability		
						Uplink availability	99.70	%
						Downlink precipitation fade	0.6	dB
						Rx system noise temperature increase due to precipitation	33.9	K
						Rx system G/T degradation due to precipitation	1.6	dB
						Rx system G/T (w/precipitation)	17.4	dB/K
						Downlink availability	100.00	%
						Total availability	99.70	%
Capacity utilization								
Total occupied bandwidth	45	kHz						
Total EIRP utilized	12.4	dBW						
Power-equivalent BW	35	kHz						
Bandwidth utilization	0.11	%						
Power utilization	0.09	%						
Allocated capacity	0.045	MHz						



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Satellite			Transponder			Channel parameters			
Name	Express-AM44		Name		11G		Data bitrate	50	kb/s
			Maximum G/T		-7.0	dB/K	FEC	0.7500	(factor)
			Maximum (saturated) EIRP		39.0	dBW	Coding	Turbo	(lookup name)
			Output backoff (OBO)		4.4	dB		1	(factor)
			Input backoff (IBO)		7.0	dB	Transmitted bitrate	67	kb/s
			Saturation flux density (SFD)		-87.5	dBW/m ²	Modulation	QPSK	(lookup name)
			Bandwidth		40	MHz		2	(factor)
Nominal longitude	-11	degrees East	Central uplink frequency		6250	MHz	Required E _g /N ₀	4.0	dB
			Uplink polarization		C	H/V/C	System margin	1.00	dB
			Central downlink frequency		3925	MHz	Required C/N ₀	52.0	dB*Hz
			Downlink polarization		C	H/V/C	Required C/N	6.8	dB
Station keeping accuracy	0.05	degrees	Central intermediate frequency		70	MHz	Required total availability	99.70	%
			Carrier to intermodulation products interference ratio		18	dB	1 + Roll-off factor	1.35	(factor)
			Carrier to cross-polarization interference ratio		30	dB	Noise bandwidth	33	kHz
						Occupied bandwidth	45	kHz	
						Carrier intermediate frequency	0.000	MHz	
						Number of identical carriers of this type	1	(factor)	
						Clear sky uplink			
			Carrier transmission frequency		6180.000	MHz			
			Wavelength		0.049	m			
			ES EIRP		42.4	dBW			
			Mispointing loss		0.15	dB			
			Free space loss		200.4	dB			
			Atmospheric loss		0.3	dB			
			Power flux density at satellite		-121.2	dB(W/m ²)			
			Carrier to noise spectral density ratio (C/N ₀)		60.2	dB*Hz			
					1.0E+06	(factor)			
			Carrier to interference from adjacent satellites ratio (C/I)		30.000	dB			
			Carrier to interference from adjacent satellites spectral density ratio (C/I ₀)		75.2	dB			
					3.3E+07	(factor)			
			Carrier to noise and interference spectral density ratio (C/(N ₀ +I ₀))		60.0	dB*Hz			
					1.0E+06	(factor)			
			Carrier to noise ratio (C/N+I)		14.8	dB			
						Clear sky downlink			
			Carrier transmission frequency		3855.000	MHz			
			Wavelength		0.078	m			
			Satellite EIRP		5.0	dBW			
			Mispointing loss		0.01	dB			
			Free space loss		195.4	dB			
			Atmospheric loss		0.0	dB			
			Total Rx system noise temperature		78	K			
			Noise spectral density (N ₀)		-209.7	dBW/Hz			
			Carrier level at ES receiver input		-153.5	dBW			
			Carrier to noise spectral density ratio (C/N ₀)		56.2	dB*Hz			
					4.1E+05	(factor)			
			Carrier to interference from adjacent satellites ratio (C/I)		30.000	dB			
					75.2	dB			
			Carrier to interference from adjacent satellites spectral density ratio (C/I ₀)		3.3E+07	(factor)			
			Carrier to noise and interference spectral density ratio (C/(N ₀ +I ₀))		56.1	dB*Hz			
					4.1E+05	(factor)			
			Carrier to noise ratio (C/N+I)		10.9	dB			
						Clear sky total link			
			Carrier to noise and interference spectral density ratio (C/(N ₀ +I ₀)), total		54.0	dB*Hz			
			Bit energy to noise and interference spectral density ratio (E _d /(N ₀ +I ₀)), total		7.1	dB			
			Carrier to noise ratio (C/N+I)		8.8	dB			
			Clear sky margin		2.05	dB			
						Availability			
			Uplink availability		99.70	%			
			Downlink precipitation fade		0.6	dB			
			Rx system noise temperature increase due to precipitation		31.9	K			
			Rx system G/T degradation due to precipitation		1.5	dB			
			Rx system G/T (w/precipitation)		17.2	dB/K			
			Downlink availability		100.00	%			
			Total availability		99.70	%			
Capacity utilization									
Total occupied bandwidth		45	kHz						
Total EIRP utilized		5.0	dBW						
Power-equivalent BW		43	kHz						
Bandwidth utilization		0.11	%						
Power utilization		0.11	%						
Allocated capacity		0.045	MHz						



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Satellite			Transponder			Channel parameters		
Name	Express-AM44		Name	15		Data bitrate	142	kb/s
			Maximum G/T	3.5	dB/K	FEC	0.7500	(factor)
			Maximum (saturated) EIRP	47.0	dBW	Coding	Turbo	(lookup name)
			Output backoff (OBO)	4.0	dB		1	(factor)
			Input backoff (IBO)	6.0	dB	Transmitted bitrate	189	kb/s
			Saturation flux density (SFD)	-98.3	dBW/m ²	Modulation	QPSK	(lookup name)
Nominal longitude	-11	degrees East	Bandwidth	40	MHz		2	(factor)
			Central uplink frequency	6350	MHz	Required E _g /N ₀	4.0	dB
			Uplink polarization	C	H/V/C	System margin	1.00	dB
			Central downlink frequency	4025	MHz	Required C/N ₀	56.5	dB*Hz
Station keeping accuracy	0.05	degrees	Downlink polarization	C	H/V/C	Required C/N	6.8	dB
			Central intermediate frequency	70	MHz	Required total availability	99.70	%
			Carrier to intermodulation products interference ratio	20	dB	1 + Roll-off factor	1.35	(factor)
			Carrier to cross-polarization interference ratio	30	dB	Noise bandwidth	95	kHz
						Occupied bandwidth	128	kHz
						Carrier intermediate frequency	0.000	MHz
						Number of identical carriers of this type	1	(factor)
						Clear sky uplink		
						Carrier transmission frequency	6280.000	MHz
						Wavelength	0.048	m
						ES EIRP	48.0	dBW
						Mispointing loss	0.15	dB
						Free space loss	200.6	dB
						Atmospheric loss	0.3	dB
						Power flux density at satellite	-115.6	dB(W/m ²)
						Carrier to noise spectral density ratio (C/N ₀)	64.4	dB*Hz
							2.8E+06	(factor)
						Carrier to interference from adjacent satellites ratio (C/I)	30.000	dB
						Carrier to interference from adjacent satellites spectral density ratio (C/I ₀)	79.8	dB
							9.5E+07	(factor)
						Carrier to noise and interference spectral density ratio (C/(N ₀ +I ₀))	64.3	dB*Hz
							2.7E+06	(factor)
						Carrier to noise ratio (C/N+I)	14.5	dB
						Clear sky downlink		
						Carrier transmission frequency	3955.000	MHz
						Wavelength	0.076	m
						Satellite EIRP	17.0	dBW
						Mispointing loss	0.01	dB
						Free space loss	195.6	dB
						Atmospheric loss	0.0	dB
						Total Rx system noise temperature	78	K
						Noise spectral density (N ₀)	-209.7	dBW/Hz
						Carrier level at ES receiver input	-149.0	dBW
						Carrier to noise spectral density ratio (C/N ₀)	60.7	dB*Hz
							1.2E+06	(factor)
						Carrier to interference from adjacent satellites ratio (C/I)	30.000	dB
						Carrier to interference from adjacent satellites spectral density ratio (C/I ₀)	79.8	dB
							9.5E+07	(factor)
						Carrier to noise and interference spectral density ratio (C/(N ₀ +I ₀))	60.6	dB*Hz
							1.2E+06	(factor)
						Carrier to noise ratio (C/N+I)	10.9	dB
						Clear sky total link		
						Carrier to noise and interference spectral density ratio (C/(N ₀ +I ₀)), total	58.7	dB*Hz
						Bit energy to noise and interference spectral density ratio (E _b /(N ₀ +I ₀)), total	7.2	dB
						Carrier to noise ratio (C/N+I)	8.9	dB
						Clear sky margin	2.17	dB
						Availability		
						Uplink availability	99.70	%
						Downlink precipitation fade	0.6	dB
						Rx system noise temperature increase due to precipitation	34.0	K
						Rx system G/T degradation due to precipitation	1.6	dB
						Rx system G/T (w/precipitation)	17.4	dB/K
						Downlink availability	100.00	%
						Total availability	99.70	%
			</					



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Satellite			Transponder			Channel parameters					
Name	Express-AM44		Name		11G		Data bitrate		142	kb/s	
			Maximum G/T		-7.0	dB/K	FEC		0.7500	(factor)	
			Maximum (saturated) EIRP		39.0	dBW	Coding		Turbo	(lookup name)	
			Output backoff (OBO)		4.4	dB			1	(factor)	
			Input backoff (IBO)		7.0	dB	Transmitted bitrate		189	kb/s	
			Saturation flux density (SFD)		-87.5	dBW/m²	Modulation		QPSK	(lookup name)	
					Bandwidth		40	MHz			2
Nominal longitude	-11	degrees East	Central uplink frequency		6250	MHz	Required E _g /N ₀		4.0	dB	
			Uplink polarization		C	H/V/C	System margin		1.00	dB	
			Central downlink frequency		3925	MHz	Required C/N ₀		56.5	dB*Hz	
			Downlink polarization		C	H/V/C	Required C/N		6.8	dB	
Station keeping accuracy	0.05	degrees	Central intermediate frequency		70	MHz	Required total availability		99.70	%	
			Carrier to intermodulation products interference ratio		18	dB	1 + Roll-off factor		1.35	(factor)	
			Carrier to cross-polarization interference ratio		30	dB	Noise bandwidth		95	kHz	
								Occupied bandwidth		128	kHz
								Carrier intermediate frequency		0.000	MHz
								Number of identical carriers of this type		1	(factor)
			Clear sky uplink								
			Carrier transmission frequency		6180.000	MHz					
			Wavelength		0.049	m					
			ES EIRP		46.9	dBW					
			Mispointing loss		0.15	dB					
			Free space loss		200.4	dB					
			Atmospheric loss		0.3	dB					
			Power flux density at satellite		-116.6	dB(W/m²)					
			Carrier to noise spectral density ratio (C/N ₀)		64.7	dB*Hz					
					3.0E+06	(factor)					
			Carrier to interference from adjacent satellites ratio (C/I)		30.000	dB					
			Carrier to interference from adjacent satellites spectral density ratio (C/I ₀)		79.8	dB					
					9.5E+07	(factor)					
			Carrier to noise and interference spectral density ratio (C/(N ₀ +I ₀))		64.6	dB*Hz					
					2.9E+06	(factor)					
			Carrier to noise ratio (C/N+I)		14.8	dB					
			Clear sky downlink								
			Carrier transmission frequency		3855.000	MHz					
			Wavelength		0.078	m					
			Satellite EIRP		9.5	dBW					
			Mispointing loss		0.01	dB					
			Free space loss		195.4	dB					
			Atmospheric loss		0.0	dB					
			Total Rx system noise temperature		78	K					
			Noise spectral density (N ₀)		-209.7	dBW/Hz					
			Carrier level at ES receiver input		-148.9	dBW					
			Carrier to noise spectral density ratio (C/N ₀)		60.7	dB*Hz					
					1.2E+06	(factor)					
			Carrier to interference from adjacent satellites ratio (C/I)		30.000	dB					
			Carrier to interference from adjacent satellites spectral density ratio (C/I ₀)		79.8	dB					
					9.5E+07	(factor)					
			Carrier to noise and interference spectral density ratio (C/(N ₀ +I ₀))		60.7	dB*Hz					
					1.2E+06	(factor)					
			Carrier to noise ratio (C/N+I)		10.9	dB					
			Clear sky total link								
			Carrier to noise and interference spectral density ratio (C/(N ₀ +I ₀)), total		58.6	dB*Hz					
			Bit energy to noise and interference spectral density ratio (E _d /(N ₀ +I ₀)), total		7.1	dB					
			Carrier to noise ratio (C/N+I)		8.8	dB					
			Clear sky margin		2.05	dB					
			Availability								
			Uplink availability		99.70	%					
			Downlink precipitation fade		0.6	dB					
			Rx system noise temperature increase due to precipitation		32.0	K					
			Rx system G/T degradation due to precipitation		1.5	dB					
			Rx system G/T (w/precipitation)		17.2	dB/K					
			Downlink availability		100.00	%					
			Total availability		99.70	%					



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Satellite			Transponder			Channel parameters				
Name	Express-AM44		Name	15		Data bitrate	50000	kb/s		
			Maximum G/T	3.5	dB/K	FEC	0.7500	(factor)		
			Maximum (saturated) EIRP	47.0	dBW	Coding	Turbo	(lookup name)		
			Output backoff (OBO)	0.5	dB		1	(factor)		
			Input backoff (IBO)	1.0	dB	Transmitted bitrate	66667	kb/s		
			Saturation flux density (SFD)	-100.0	dBW/m ²	Modulation	QPSK	(lookup name)		
			Bandwidth	40	MHz		2	(factor)		
Nominal longitude	-11	degrees East	Central uplink frequency	6350	MHz	Required E _r /N ₀	4.0	dB		
			Uplink polarization	C	H/V/C	System margin	1.00	dB		
			Central downlink frequency	4025	MHz	Required C/N ₀	82.0	dB*Hz		
			Downlink polarization	C	H/V/C	Required C/N	6.8	dB		
			Central intermediate frequency	70	MHz	Required total availability	99.70	%		
Station keeping accuracy	0.05	degrees	Carrier to intermodulation products interference ratio	20	dB	1 + Roll-off factor	1.20	(factor)		
			Carrier to cross-polarization interference ratio	30	dB	Noise bandwidth	33333	kHz		
						Occupied bandwidth	40000	kHz		
						Carrier intermediate frequency	0.000	MHz		
						Number of identical carriers of this type	1	(factor)		
			Clear sky uplink							
			Carrier transmission frequency						6280.000	MHz
			Wavelength						0.048	m
			ES EIRP						73.3	dBW
			Mispointing loss						0.15	dB
			Free space loss						200.6	dB
			Atmospheric loss						0.3	dB
			Power flux density at satellite						-90.3	dB(W/m ²)
			Carrier to noise spectral density ratio (C/N ₀)						89.7	dB*Hz
									9.3E+08	(factor)
			Carrier to interference from adjacent satellites ratio (C/I)						30.000	dB
			Carrier to interference from adjacent satellites spectral density ratio (C/I ₀)						105.2	dB
									3.3E+10	(factor)
			Carrier to noise and interference spectral density ratio (C/(N ₀ +I ₀))						89.6	dB*Hz
									9.1E+08	(factor)
			Carrier to noise ratio (C/N+I)						14.4	dB
			Clear sky downlink							
			Carrier transmission frequency						3955.000	MHz
			Wavelength						0.076	m
			Satellite EIRP						42.5	dBW
			Mispointing loss						0.01	dB
			Free space loss						195.6	dB
			Atmospheric loss						0.0	dB
			Total Rx system noise temperature						78	K
			Noise spectral density (N ₀)						-209.7	dBW/Hz
			Carrier level at ES receiver input						-123.4	dBW
			Carrier to noise spectral density ratio (C/N ₀)						86.2	dB*Hz
									4.2E+08	(factor)
			Carrier to interference from adjacent satellites ratio (C/I)						30.000	dB
			Carrier to interference from adjacent satellites spectral density ratio (C/I ₀)						105.2	dB
									3.3E+10	(factor)
			Carrier to noise and interference spectral density ratio (C/(N ₀ +I ₀))						86.2	dB*Hz
									4.2E+08	(factor)
			Carrier to noise ratio (C/N+I)						11.0	dB
			Clear sky total link							
			Carrier to noise and interference spectral density ratio (C/(N ₀ +I ₀)), total						84.2	dB*Hz
			Bit energy to noise and interference spectral density ratio (E _b /(N ₀ +I ₀)), total						7.2	dB
			Carrier to noise ratio (C/N+I)						8.9	dB
			Clear sky margin						2.17	dB
			Availability							
			Uplink availability						99.70	%
			Downlink precipitation fade						0.6	dB
			Rx system noise temperature increase due to precipitation						34.0	K
			Rx system G/T degradation due to precipitation						1.6	dB
			Rx system G/T (w/precipitation)						17.4	dB/K
			Downlink availability						100.00	%
			Total availability						99.70	%
Capacity utilization										
Total occupied bandwidth	40000	kHz								
Total EIRP utilized	42.5	dBW								
Power-equivalent BW	15984	kHz								
Bandwidth utilization	100.00	%								
Power utilization	39.96	%								
Allocated capacity	40.000	MHz								



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LINK BUDGET CALCULATION

Satellite			Transponder			Channel parameters				
Name	Express-AM44		Name	11G		Data bitrate	50000	kb/s		
			Maximum G/T	-7.0	dB/K	FEC	0.7500	(factor)		
			Maximum (saturated) EIRP	39.0	dBW	Coding	Turbo	(lookup name)		
			Output backoff (OBO)	0.5	dB		1	(factor)		
			Input backoff (IBO)	1.0	dB	Transmitted bitrate	66667	kb/s		
			Saturation flux density (SFD)	-90.8	dBW/m ²	Modulation	QPSK	(lookup name)		
			Bandwidth	40	MHz		2	(factor)		
Nominal longitude	-11	degrees East	Central uplink frequency	6250	MHz	Required E _r /N ₀	4.0	dB		
			Uplink polarization	C	H/V/C	System margin	1.00	dB		
			Central downlink frequency	3925	MHz	Required C/N ₀	82.0	dB*Hz		
			Downlink polarization	C	H/V/C	Required C/N	6.8	dB		
			Central intermediate frequency	70	MHz	Required total availability	99.70	%		
Station keeping accuracy	0.05	degrees	Carrier to intermodulation products interference ratio	18	dB	1 + Roll-off factor	1.20	(factor)		
			Carrier to cross-polarization interference ratio	30	dB	Noise bandwidth	33333	kHz		
						Occupied bandwidth	40000	kHz		
						Carrier intermediate frequency	0.000	MHz		
						Number of identical carriers of this type	1	(factor)		
			Clear sky uplink							
			Carrier transmission frequency						6180.000	MHz
			Wavelength						0.049	m
			ES EIRP						71.6	dBW
			Mispointing loss						0.15	dB
			Free space loss						200.4	dB
			Atmospheric loss						0.3	dB
			Power flux density at satellite						-92.0	dB(W/m ²)
			Carrier to noise spectral density ratio (C/N ₀)						89.3	dB*Hz
									8.6E+08	(factor)
			Carrier to interference from adjacent satellites ratio (C/I)						30.000	dB
			Carrier to interference from adjacent satellites spectral density ratio (C/I ₀)						105.2	dB
									3.3E+10	(factor)
			Carrier to noise and interference spectral density ratio (C/(N ₀ +I ₀))						89.2	dB*Hz
									8.3E+08	(factor)
			Carrier to noise ratio (C/N+I)						14.0	dB
			Clear sky downlink							
			Carrier transmission frequency						3855.000	MHz
			Wavelength						0.078	m
			Satellite EIRP						35.3	dBW
			Mispointing loss						0.01	dB
			Free space loss						195.4	dB
			Atmospheric loss						0.0	dB
			Total Rx system noise temperature						78	K
			Noise spectral density (N ₀)						-209.7	dBW/Hz
			Carrier level at ES receiver input						-123.1	dBW
			Carrier to noise spectral density ratio (C/N ₀)						86.6	dB*Hz
									4.5E+08	(factor)
			Carrier to interference from adjacent satellites ratio (C/I)						30.000	dB
			Carrier to interference from adjacent satellites spectral density ratio (C/I ₀)						105.2	dB
									3.3E+10	(factor)
			Carrier to noise and interference spectral density ratio (C/(N ₀ +I ₀))						86.5	dB*Hz
									4.5E+08	(factor)
			Carrier to noise ratio (C/N+I)						11.3	dB
			Clear sky total link							
			Carrier to noise and interference spectral density ratio (C/(N ₀ +I ₀)), total						84.0	dB*Hz
			Bit energy to noise and interference spectral density ratio (E _b /(N ₀ +I ₀)), total						7.1	dB
			Carrier to noise ratio (C/N+I)						8.8	dB
			Clear sky margin						2.05	dB
			Availability							
			Uplink availability						99.70	%
			Downlink precipitation fade						0.6	dB
			Rx system noise temperature increase due to precipitation						32.0	K
			Rx system G/T degradation due to precipitation						1.5	dB
			Rx system G/T (w/precipitation)						17.2	dB/K
			Downlink availability						100.00	%
			Total availability						99.70	%