

HISPASAT-LINK BUDGET
DIGITAL SERVICES

REF. LINK TRANSPONDER N° SATELLITE	AMAZONAS Clear Sky	Rain up	Rain down
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GENERAL DATA

Transponder bandwidth(MHz)	36		
carrier type	outbound		
Modulation	QPSK		
Information rate (Kb/s)	38010	OVERHEAD	1
FEC	3/4	Reed Solomon	4751
bandwidth occupied (KHz)	32995.91		
BER	1.00E-07		
Eb/No (dB)	5.5	Nº portadoras	
LINEALIZADOR (0=NO, 1=SI)	0	BW	POT
Nº of carriers	0.00	0.94	0.90
IBO total (dB)	7.00		
OBO total (dB)	3.373		
C/I intermodulation	15.741		
Occupation factor	1.32		
availability (%)	99.50		
satellite longitude	-61		

UPLINK

E/T Tx Name	new York
E/T Tx (degrees E) Longitude	-74.00
E/T Tx (degrees N) latitude	40.75
E/T Tx (m) Altitude	100.00
Uplink Frequency (GHz)	14.00
EIRP E/T Tx.(dBW)	76.00

E/T Tx example	
HPA (W)	20.00
HPA-antena (dB) loss	0.20
Ant. gain (dB)	53.00
Ant. Diameter (m)	3.70

ES off axis psd (dBW/Hz)
-52.18

Polarization discrim (dB)	30.00		
Accuracy polarization(°)	0.10		
% unavailability		0.09000	
Rain atten.		3.78	
Atmosp. Atten. loss (dB)	0.20		
aiming error loss (dB)	0.30		
sky loss (dB)	206.90		
D.F.P. (dBW/m2)	-90.53	-94.31	
saturation D.F.P.in the BEAM CENTER (dBW)	-84.00		
Back-off Input (dB)	6.53	10.31	
Geogr. advantage (dB)	-3.50		
G/T satellite in the BEAM CENTER (dB/K)	4.70		
CIN up (dB)	23.21	19.43	
C/I cochannel up(dB)	18.34	14.56	
C/(N+I without other interf. satellites up) (dB)	16.11	12.32	
psd Interference from satellite 2º(dBW/Hz)	-50.00		
C/I with other interf. Satellites 2º up (dB)	29.34	25.56	
c/(N+I) with other interf. Satellites up (dB)	15.90	12.12	
Xpolar Interference excess (dB)	7.0		

Clear sky
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DOWNLINK

E/T Rx Name	MIAMI		
E/T Rx (degrees E) Longitude	-80.18		
E/T Rx (degrees N) Latitude	25.77		
E/T Rx (Km) Altitude	100.00		
Down Frequency (GHz)	12.00	SAT deirp (dBW/Hz)	
EIRP satellite in the beam center (dBW)	48.00		-30.09
Back-off output (dB)	2.90	6.68	
Geogr. advantage (dB)	-5.00		
% unavailability			0.41000
Rain Atten.			2.01
Atmosp. Atten. loss (dB)	0.20		
aiming error loss (dB)	0.30		
sky loss (dB)	205.37		
G/T E/T Rx. (dB/K)	26.30		22.44
E/T Rx Example			
Ant. Gain(dB)	44.92		
antenna-receptor loss(dB)	0.10		
Tlna (°K)	45.00		
Ta (°K)	20.00		
Tsyst. (°K)	71.15		
Ant. Diameter (m)	1.68		

Polarization discrim.(dB)	25.00		
CIN down (dB)	13.94	10.16	8.07
C/I cochannel down(dB)	18.48	18.48	18.48
C/I channel adjacent (dB)	24.70	24.70	24.70
C/(N+I without other interf. satellites down) (dB)	11.14	7.98	7.16
deirp Interference from satellite 2º(dBW/Hz)	-30.00		
C/I with other interf. Satellites 2º down (dB)	18.36	18.36	16.35
c/(N+I) with other interf. Satellites up (dB)	10.39	7.60	6.66
Xpolar Interference excess (dB)	3.4		

GLOBAL RESULTS

C/(N+I without other interf. satellites TOTAL)	9.94	6.62	6.64
C/(N+I with other interf. satellites) Total (dB)	9.31	6.29	6.18
Excess margin (dB)	0.50	0.50	0.50
Eb/No available (interf nominal)(dB)	8.20	5.17	5.06
Eb/No request (dB)	5.50	5.50	5.50
Margin (nominal)(dB)	2.70	-0.33	-0.44