

HISPASAT-LINK BUDGET
DIGITAL SERVICES

REF. LINK
TRANSPONDER Nº
SATELLITE

AMAZONAS
Clear Sky
Rain
up
Rain
down

GENERAL DATA

Transponder bandwidth(MHz)	36		
carrier type	outbound		
Modulation	QPSK		
Information rate (Kb/s)	11	OVERHEAD	1
FEC	1/2	Reed Solomon	1
bandwidth occupied (KHz)	13.20		
BER	1.00E-07		
Eb/No (dB)	6.1	Nº portadoras	
LINEALIZADOR (0=NO, 1=SI)	1	BW	POT
Nº of carriers	2337.00	2337.66	10067.65
IBO total (dB)	3.00		
OBO total (dB)	2.321		
C/I intermodulation	18.063		
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)	35.00

E/T Tx example

HPA (W)	20.00	
HPA-antena (dB) loss	0.20	ES off axis psd (dBW/Hz)
Ant. gain (dB)	44.00	-50.21
Ant. Diameter (m)	1.20	

Polarization discrim (dB)	30.00		
Accuracy polarization(°)	0.10		
% unavailability		0.15000	
Rain atten.		2.84	
Atmosp. Atten. loss (dB)	0.20		
aiming error loss (dB)	0.30		
sky loss (dB)	206.90		
D.F.P. (dBW/m2)	-131.03	-133.87	
saturation D.F.P.in the BEAM CENTER (dBW)	-88.00		
Back-off Input (dB)	43.03	45.87	
Geogr. advantage (dB)	-3.00		
G/T satellite in the BEAM CENTER (dB/K)	4.70		
C/N up (dB)	16.69	13.85	
C/I cochannel up(dB)	22.34	19.50	
C/(N+I without other interf. satellites up) (dB)	13.00	10.16	
psd Interference from satellite 2º(dBW/Hz)	-50.00		
C/I with other interf. Satellites 2º up (dB)	22.32	19.48	
c/(N+I) with other interf. Satellites up (dB)	12.52	9.68	
Xpolar Interference excess (dB)	3.0		

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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	-35.56	
Back-off output (dB)	42.35	45.19	
Geogr. advantage (dB)	-3.00		
% unavailability			0.35000
Rain Atten.			2.23
Atmosp. Atten. loss (dB)	0.20		
aiming error loss (dB)	0.30		
sky loss (dB)	205.37		
G/T E/T Rx. (dB/K)	31.00		26.94

E/T Rx Example

Ant. Gain(dB)	49.62
antenna-receptor loss(dB)	0.10
Tlna (°K)	45.00
Ta (°K)	20.00
Tsyst. (°K)	71.15
Ant. Diameter (m)	2.88

Polarization discrim.(dB)	30.00		
C/N down (dB)	15.17	12.33	8.87
C/I cochannel down(dB)	22.52	22.52	22.52
C/I channel adjacent (dB)	24.70	24.70	24.70
C/(N+I without other interf. satellites down) (dB)	11.05	8.45	7.50
deirp Interference from satellite 2º(dBW/Hz)	-30.00		
C/I with other interf. Satellites 2º down (dB)	19.59	19.59	17.36
c/(N+I) with other interf. Satellites up (dB)	10.48	8.13	7.08
Xpolar Interference excess (dB)	2.3		

GLOBAL RESULTS

C/(N+I without other interf. satellites TOTAL)	8.91	6.21	6.42
C/(N+I with other interf. satellites) Total (dB)	8.37	5.83	5.99
Excess margin (dB)	0.50	0.50	0.50
Eb/No available (interf nominal)(dB)	8.66	6.12	6.28
Eb/No request (dB)	6.10	6.10	6.10
Margin (nominal)(dB)	2.56	0.02	0.18