

HISPASAT-LINK BUDGET
DIGITAL SERVICES

REF. LINK
TRANSPONDER N°
SATELLITE

HISPASAT 30W-6
Clear Sky

GENERAL DATA			
Transponder bandwidth(MHz)	36		
carrier type	outbound		
Modulation	8-psk		
Information rate (Kb/s)	11300	OVERHEAD	15/16
FEC	2/3	Reed Solomon	67/73
bandwidth occupied (KHz)	7879.64		
BER	1.00E-07		
Eb/No (dB)	5.5	N° portadoras	
LINEALIZADOR (0=NO, 1=SI)	0	BW	POT
N° of carriers	3.00	3.92	4.93
IBO total (dB)	7.00		
OBO total (dB)	3.373		
C/I intermodulation	15.741		
Occupation factor	1.32		
availability (%)	99.50		
satellite longitude	-30		

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)	13.18
EIRP E/T Tx.(dBW)	68.10

E/T Tx example	
HPA (W)	20.00
HPA-antenna (dB) loss	0.20
Ant. gain (dB)	53.00
Ant. Diameter (m)	4.5

ES off axis psd (dBW/Hz)

-53.87

Polarization discrim (dB)	30.00		
Accuracy polarization(°)	0.10		
% unavailability		0.13000	
Rain atten.		3.08	
Atmosp. Atten. loss (dB)	0.20		
aiming error loss (dB)	0.30		
sky loss (dB)	206.90		
D.F.P. (dBW/m2)	-97.93	-101.01	
saturation D.F.P.in the BEAM CENTER (dBW/m2)	-84.00		
Back-off Input (dB)	13.93	17.01	
Geogr. advantage (dB)	-3.00		
G/T satellite in the BEAM CENTER (dB/K)	5.10		
C/N up (dB)	22.03	18.95	
C/I cochannel up(dB)	18.34	15.26	
C/(N+I without other interf. satellites up) (dB)	15.59	12.51	
psd Interference from satellite 2°(dBW/Hz)	-50.00		
C/I with other interf. Satellites 2° up (dB)	27.66	24.58	
c/(N+I) with other interf. Satellites up (dB)	15.33	12.25	
Xpolar Interference excess (dB)	7.0		

Clear sky

Rain up

rain down

DOWNLINK

E/T Rx Name	CHILE		
E/T Rx (degrees E) Longitude	-70.50		
E/T Rx (degrees N) Latitude	-28.59		
E/T Rx (m) Altitude	100.00		
Down Frequency (GHz)	11.38	SAT deirp (dBW/Hz)	
EIRP satellite in the beam center (dBW)	49.00	-31.27	
Back-off output (dB)	10.30	13.39	
Geogr. advantage (dB)	-4.00		
% unavailability			0.37000
Rain Atten.			2.15
Atmosp. Atten. loss (dB)	0.20		
aiming error loss (dB)	0.30		
sky loss (dB)	205.37		
G/T E/T Rx. (dB/K)	30.00		26.01
E/T Rx Example			
Ant. Gain(dB)	48.62		
antenna-receptor loss(dB)	0.10		
Tlna (°K)	45.00		
Ta (°K)	20.00		
Tsyst. (°K)	71.15		
Ant. Diameter (m)	2.57		

Polarization discrim.(dB)	30.00		
C/N down (dB)	16.46	13.37	10.31
C/I cochannel down(dB)	21.47	21.47	21.47
C/I channel adjacent (dB)	24.70	24.70	24.70
C/(N+I without other interf. satellites down) (dB)	12.37	9.70	8.91
deirp Interference from satellite 2°(dBW/Hz)	-30.00		
C/I with other interf. Satellites 2° down (dB)	20.88	20.88	18.73
c/(N+I) with other interf. Satellites up (dB)	11.79	9.38	8.48
Xpolar Interference excess (dB)	3.4		

GLOBAL RESULTS

C/(N+I without other interf. satellites TOTAL) (	10.68	7.87	8.07
C/(N+I with other interf. satellites) Total (dB)	10.20	7.57	7.67
Excess margin (dB)	0.50	0.50	0.50
Eb/No available (interf nominal)(dB)	8.14	5.51	5.60
Eb/No request (dB)	5.50	5.50	5.50
Margin (nominal)(dB)	2.64	0.01	0.10