

HISPASAT-LINK BUDGET
DIGITAL SERVICES

REF. LINK
TRANSPONDER N°
SATELLITE HISPASAT 30W-6
Clear Sky

GENERAL DATA				
Transponder bandwidth (MHz)	54			
Carrier Type	IDR			
Modulation	8-psk			
Information rate (Kb/s)	64	OVERHEAD	15/16	
FEC	2/3	Reed Solomon	67/73	
bandwidth occupied (KHz)	44.63			
BER	1.00E-07			
Eb/No (dB)	6.7			
LINEALIZADOR (0=NO, 1=SI)	1			
N° of carrier	1210.00	1210.00	318.37	
IBO total (dB)	3.00			
OBO total (dB)	2.248			
C/I intermodulation	18.808			
Occupation factor	1.32			
availability (%)	99.90			
Satellite Longitude	-30			

UPLINK	
E/T Tx Name	New York
E/T Tx Longitude (degrees E)	-74.00
E/T Tx latitude (degrees N)	40.75
E/T Tx Altitude (m)	100.00
Uplink Frequency (GHz)	6.875
EIRP, E/T Tx.(dBW)	53.00
	-2.80

E/T Tx Example		
H/PA (W)	8.00	
H/PA-antenna loss (dB)	0.20	ES off axis psd (dBW/Hz)
Ant. gain (dB)	47.00	-40.50
Ant. Diameter (m)	4.50	

Polarization discr. (dB)	35.00	
Accuracy polarization (°)	0.10	
% unavailability		0.08000
Rain atte.		0.27
atmosph. Atten. loss(dB)	0.20	
Aiming error loss (dB)	0.30	
Sky loss (dB)	199.37	
D.F.P. (dBW/m2)	-117.03	-117.30
D.F.P. Saturation in the contour (dBW/m2)	-89.00	
Back-off input (dB)	28.03	28.30
geog. advantage (dB)	-4.00	
G/T satellite in the contour (dB/K)	-3.00	
C/N up (dB)	27.23	26.96
C/I cochannel up(dB)	24.89	24.62
C/(N+I without other interf. Satellites up (dB)	20.86	20.58
psd Interference from satellite 2°(dBW/Hz)	-38.70	
C/I with other interf. Satellites 2° up (dB)	23.73	23.45
c/(N+I) with other interf. Satellites up (dB)	19.05	18.78
Xpol. Interf. excess (dB)	3.0	

clear sky rain up rain down

DOWNLINK				
E/T Rx name	MEXICO			
E/T Rx Longitude (degrees E)	-99.18			
E/T Rx Latitude (degrees N)	23.57			
E/T Rx Altitude(m)	100.00			
Down Frequency (GHz)	4.652	SAT deirp (dBW/Hz)		
EIRP, satellite in the beam center (dBW)	41.00	-32.77		
Back-off output (dB)	27.28	27.55		
Geog. advantage (dB)	-4.00			
% unavailability			0.02	
Rain atte.			0.16	
atmosph. Atten. loss(dB)	0.20			
Aiming error loss (dB)	0.30			
Sky loss (dB)	195.08			
G/T E/T Rx. (dB/K)	18.90			18.18
E/T Rx Example				
Ant. Gain(dB)	37.68			
antenna-receptor loss(dB)	0.20			
Tlra (°K)	40.00			
Ta (°K)	20.00			
Tsyst. (°K)	72.15			
Ant. Diameter (m)	2.39			

Polarization discrim.(dB)	25.00		
C/N down (dB)	14.17	13.89	13.30
C/I cochannel down(dB)	19.61	19.61	19.61
C/I channel adjacent (dB)	24.70	24.70	24.70
C/(N+I without other interf. satellites down) (dB)	12.51	12.30	11.90
deirp Interference from satellite 2°(dBW/Hz)	-34.50		
C/I with other interf. Satellites 2° down (dB)	12.94	12.94	12.78
c/(N+I) with other interf. Satellites up (dB)	9.71	9.60	9.31
Xpolar Interference excess (dB)	2.2		

GLOBAL RESULTS			
C/(N+I without other interf. satellites TOTAL) (d)	11.92	11.70	11.38
C/(N+I with other interf. satellites) Total (dB)	9.23	9.10	8.87
Excess margin (dB)	0.50	0.50	0.50
Eb/No available (interf nominal)(dB)	7.16	7.04	6.80
Eb/No request (dB)	6.70	6.70	6.70
Margin (nominal)(dB)	0.46	0.34	0.10