

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)	2048	OVERHEAD	15/16
FEC	2/3	Reed Solomon	67/73
bandwidth occupied (KHz)	1428.10		
BER	1.00E-07		
Eb/No (dB)	6.7		
LINEALIZADOR (0=NO, 1=SI)	1		
N° of carrier	37.00	37.81	30.40
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)	63.20
	2.15

E/T Tx Example		
H/PA (W)	1000.00	
H/PA-antenna loss (dB)	0.20	ES off axis psd (dBW/Hz)
Ant. gain (dB)	47.00	-45.35
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)	-106.83	-107.10
D.F.P. Saturation in the contour (dBW/m2)	-89.00	
Back-off input (dB)	17.83	18.10
geog. advantage (dB)	-3.50	
G/T satellite in the contour (dB/K)	-3.00	
C/N up (dB)	22.38	22.10
C/I cochannel up(dB)	24.89	24.62
C/(N+I without other interf. Satellites up (dB)	17.35	17.07
psd Interference from satellite 2°(dBW/Hz)	-38.70	
C/I with other interf. Satellites 2° up (dB)	18.88	18.60
c/(N+I) with other interf. Satellites up (dB)	15.04	14.76
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	-37.62	
Back-off output (dB)	17.08	17.35	
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)	24.50		23.78
E/T Rx Example			
Ant. Gain(dB)	43.28		
antenna-receptor loss(dB)	0.20		
Tlra (°K)	40.00		
Ta (°K)	20.00		
Tsyst. (°K)	72.15		
Ant. Diameter (m)	4.55		

Polarization discrim.(dB)	35.00		
C/N down (dB)	14.92	14.64	14.04
C/I cochannel down(dB)	25.65	25.65	25.65
C/I channel adjacent (dB)	24.70	24.70	24.70
C/(N+I without other interf. satellites down) (dB)	13.10	12.86	12.51
deirp Interference from satellite 2°(dBW/Hz)	-34.50		
C/I with other interf. Satellites 2° down (dB)	13.68	13.68	13.53
c/(N+I) with other interf. Satellites up (dB)	10.37	10.24	9.98
Xpolar Interference excess (dB)	2.2		

GLOBAL RESULTS			
C/(N+I without other interf. satellites TOTAL) (dB)	11.72	11.47	11.28
C/(N+I with other interf. satellites) Total (dB)	9.10	8.93	8.80
Excess margin (dB)	0.50	0.50	0.50
Eb/No available (interf nominal)(dB)	7.03	6.86	6.73
Eb/No request (dB)	6.70	6.70	6.70
Margin (nominal)(dB)	0.33	0.16	0.03