

HISPASAT-LINK BUDGET
DIGITAL SERVICES

REF. LINK
TRANSPONDER N°
SATELLITE HISPASAT 30-W6
Clear Sky

GENERAL DATA				
Transponder bandwidth (MHz)	54			
Carrier Type	IDR			
Modulation	QPSK			
Information rate (Kb/s)	45000	OVERHEAD	1	
FEC	7/8	Reed Solomon	47/51	
bandwidth occupied (KHz)	33483.28			
BER	1.00E-07			
Eb/No (dB)	6.5			
LINEALIZADOR (0=NO, 1=SI)	1			
N° of carrier	1.00	1.61	2.53	
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)	74.00	7.03		

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	-48.25		
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)	-96.03	-96.30		
D.F.P. Saturation in the contour (dBW/m2)	-89.00			
Back-off input (dB)	7.03	7.30		
geog. advantage (dB)	-3.5			
G/T satellite in the contour (dB/K)	-3.00			
C/N up (dB)	19.48	19.20		
C/I cochannel up(dB)	24.89	24.62		
C/(N+I without other interf. Satellites up (dB)	14.84	14.56		
psd Interference from satellite 2°(dBW/Hz)	-38.70			
C/I with other interf. Satellites 2° up (dB)	15.98	15.70		
c/(N+I) with other interf. Satellites up (dB)	12.36	12.08		
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	-40.53		
Back-off output (dB)	6.28	6.55		
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)	30.00		29.28	
E/T Rx Example				
Ant. Gain(dB)	48.78			
antenna-receptor loss(dB)	0.20			
Tlra (°K)	40.00			
Ta (°K)	20.00			
Tsyst. (°K)	72.15			
Ant. Diameter (m)	8.57			
Polarization discrim.(dB)	35.00			
C/N down (dB)	17.51	17.24	16.64	
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)	13.52	13.28	13.15	
deirp Interference from satellite 2°(dBW/Hz)	-34.50			
C/I with other interf. Satellites 2° down (dB)	16.28	16.28	16.13	
c/(N+I) with other interf. Satellites up (dB)	11.67	11.52	11.38	
Xpolar Interference excess (dB)	2.2			

GLOBAL RESULTS			
C/(N+I without other interf. satellites TOTAL) (d	11.12	10.86	10.90
C/(N+I with other interf. satellites) Total (dB)	8.99	8.78	8.83
Excess margin (dB)	0.50	0.50	0.50
Eb/No available (interf nominal)(dB)	7.21	7.00	7.05
Eb/No request (dB)	6.50	6.50	6.50
Margin (nominal)(dB)	0.71	0.50	0.55