

HISPAMAR-LINK BUDGET

DIGITAL SERVICES

TRANSPONDER N°
SATELLITE

AMAZONAS-3

GENERAL DATA

Transponder bandwidth(MHz)	450
bandwidth (MHz)	45
carrier type	DVB-S2
Modulation	16APSK
Information rate (Kb/s)	103575
FEC	3/4
bandwidth occupied (KHz)	45000.00
BER (Tasa de errores)	-
Eb/No (dB)	7.1
LINEALIZADOR (0=NO, 1=SÍ)	si
Nº of carriers	10.00
ISO total (dB)	3.0
OBSO total (dB)	2.5
C/I intermodulation	23.0
Occupation factor	1.20
availability (%)	clear sky
satellite longitude	-61

UPLINK

Clear Sky

Continent E/T Rx	AMERICA
Country E/T Rx	USA
Name E/T Tx	LAREDO
E/T Tx (degrees E) Longitude	-99.51
E/T Tx (degrees N) latitude	27.51
E/T Tx (m) Altitude	90.00
Uplink Frequency (GHz)	28.35

ERP E/T Tx.(dBW) 72.60

Automatic Power Control 10.00

E/T Tx example	
HPA (W)	20.00
HPA-antenna (dB) loss	3.50
Ant. gain (dB)	63.09
Ant. Diameter (m)	6.0

Polarization discrim. (dB)	30.00
Accuracy polarization(*)	0.10
% unavailability	
Rain atten.	
Atmosp. Atten. loss (dB)	2.50
aiming error loss (dB)	0.50
sky loss (dB)	213.10
D.F.P. (dBW/m2)	-93.00
saturation D.F.P.in the center (dBW/m2)	-80.00
Back-off input (dB)	13.00
Geogr. advantage (dB)	0.00
G/T satellite in the contour (dB/K)	18.0
C/N up (dB)	26.57
C/I aggregate co-polar cross-polar up(dB)	25.00
C/I aggregate co-polar cochannel up(dB)	23.00
C/(N+I without other interf. satellites up) (dB)	19.94
psd Interference from satellite 2º(dBW/Hz)	-56.50
C/I with other interf. Satellites 2º up (dB)	31.62
c/(N+I) with other interf. Satellites up (dB)	19.56

DOWNLINK

Clear sky

Continent E/T Rx	AMERICA
Country E/T Rx	MEXICO
Name E/T Tx	MEJICO
E/T Rx (degrees E) Longitude	-46.64
E/T Rx (degrees N) Latitude	-23.55
E/T Rx (Km) Altitude	760.00

Down Frequency (GHz) 19.95

ERP satellite in the beam center (dBW) 65.00

Back-off output (dB) 12.5

Geogr. advantage (dB) 0.00

% unavailability	
Rain Atten.	
Atmosp. Atten. loss (dB)	1.60
aiming error loss (dB)	0.80
sky loss (dB)	209.72
G/T E/T Rx. (dB/K)	23.30

E/T Rx Example	
Ant. Gain(dB)	45.92
antenna-receptor loss(dB)	0.40
Tba (°K)	100.00
Ta (°K)	45.00
Teyst. (°K)	166.56
Ant. Diameter (m)	1.17

Polarization discrim.(dB)	25.00
C/N down (dB)	15.74
C/I aggregate co-polar cross-polar down(dB)	22.00
C/I aggregate co-polar cochannel down(dB)	20.00
C/I channel adjacent (dB)	22.70
C/(N+I without other interf. satellites down) (dB)	12.73
dspp Interference from satellite 2º(dBW/Hz)	-16.00
C/I with other interf. Satellites 2º down (dB)	19.44
c/(N+I) with other interf. Satellites down (dB)	11.89
	5.5

GLOBAL RESULTS

Clear sky

C/(N+I without other interf. satellites TOTAL) (dB)	11.96
C/(N+I with other interf. satellites) Total (dB)	11.20
Eb/No available (interf nominal)(dB)	7.58
Eb/No request (dB)	7.09
Margin (nominal)(dB)	0.50