

SATELLITE DATA	Satellite : INTELSAT_702 Uplink Beam: GLOBAL Uplink POL: , Dnlink POL: , EIRP, beam center: 29.5 dBW G/T:-11.0 dB/K, SFD:-75.3 dBW/m2 Dnlink EIRP: 25.5 dBW	Location: 66.0E Dnlink Beam: GLOBAL
TRANSPONDER DATA	Trans Bandwidth :36 MHz Uplink Frequency:6.175 GHz IBO (Nominal) : 5.6 dB	Trans Type: LTWTA Dnlink Freq: 3.950 GHz OBO (Nominal): 0.9 dB
CARRIER DATA	Type: TV/FM, Format: PAL, PreEmphasis+Weighting: 15.6dB RF BW: 30.0 MHz, P-Dev: 9.0 MHz, VideoBW: 6.0 MHz,	
LINK BUDGET		
		CLR SKY UP FADE DN FADE
UPLINK PERFORMANCE	Earth Station EIRP (dBW)	82.0 n/a n/a
	- Uplink Path Loss, clear sky (dB)	-200.2 n/a n/a
	- Uplink Rain Attenuation (dB)	0.0 n/a n/a
	+ Satellite G/T (dB/K)	-11.0 n/a n/a
	- Boltzman's Constant (dBW/K-Hz)	228.6 n/a n/a
	- Carrier Noise Bandwidth (dB-Hz)	-74.8 n/a n/a
	C/N Uplink (dB)	24.6 n/a n/a
DOWNLINK PERFORMANCE	Satellite Saturation EIRP (dBW)	25.5 n/a n/a
	- Carrier Output Backoff (dB)	- .9 n/a n/a
	Downlink EIRP per carrier (dBW)	24.6 n/a n/a
	- Earth Station Pointing Error (dB)	- .5 n/a n/a
	- Downlink Path Loss, clear sky (dB)	-196.3 n/a n/a
	- Downlink Rain Attenuation (dB)	0.0 n/a n/a
	+ Earth Station G/T (dB/K)	33.0 n/a n/a
	- Boltzman's Constant (dBW/K-Hz)	228.6 n/a n/a
	- Carrier Noise Bandwidth (dB-Hz)	-74.8 n/a n/a
		C/N Dnlink (dB)
COMPOSITE PERFORMANCE	C/N Uplink (dB)	24.6 n/a n/a
	C/N Dnlink (dB)	14.7 n/a n/a
	C/I Uplink Co-channel (dB)	27.8 n/a n/a
	C/I Dnlink Co-channel (dB)	27.8 n/a n/a
	C/I Uplink Adj. Sat. (SAT-1) (dB)	23.9 n/a n/a
	C/I Dnlink Adj. Sat. (SAT-1) (dB)	17.8 n/a n/a
	C/I Uplink Adj. Sat. (SAT-2) (dB)	23.9 n/a n/a
	C/I Dnlink Adj. Sat. (SAT-2) (dB)	18.6 n/a n/a
	C/(N+I) COMPOSITE (dB)	11.0 n/a n/a
	- Required System Margin (dB)	-1.0 n/a n/a
Net C/(N+I) COMPOSITE (dB)	10.0 n/a n/a	
- Minimum Required C/N (dB)	-10.0 n/a n/a	
	Excess Link Margin (dB)	0.0 n/a n/a
	Video Signal-to-Noise Ratio (dB)	43.9 n/a n/a
	Audio Signal-to-Noise Ratio (dB)	57.7 n/a n/a
TRANSMIT EARTH STATION	Loc: -4_dB_Gain_Contour ID: AZ: 0.0 Elev: 20.0 LAT: * LON: * ALT: 0.0m RainRate: 42.0mm/hr Carrier Power: 229.0 watts	
RECEIVE EARTH STA.	Loc: -4_dB_Gain_Contour ID: AZ: 0.0 Elev: 20.0 LAT: * LON: * ALT: 0.0m RainRate: 42.0mm/hr	
DENSITY INFORMATION	Uplink Pwr Den: -51.2 dBW/Hz, Dnlink EIRP Den: -46.1 dBW/Hz Max Dnlink PFD: -173.0 dB(W/m2/4kHz) @ Beam Center	
LOSS IN C/(N+I) DUE TO ADJ SAT INTF: SAT-1 = 1.3dB, SAT-2 = 1.1dB		

GLOBAL-GLOBAL (36 MHz): 30M0F3F
[Input Data]

----- SATELLITE -----

Satellite Name	: INTELSAT_702	Location (deg):	66.0E
Uplink Beam	: GLOBAL	Dnlink Beam	: GLOBAL
Trans. BW (MHz)	: 36 MHz	Trans. Type	: LTWTA
Uplink Pol.	:	Dnlink Pol.	:
Uplink Chan.	:	Dnlink Chan.	:
Uplink Frequency (GHz)	: 6.175	Dnlink Frequency (GHz)	: 3.950
G/T, beam center (dB/K)	: -7	EIRP, beam center (dBW)	: 29.5
G/T, beam edge (dB/K)	: -11	EIRP, beam edge (dBW)	: 25.5
G/T, toward Tx ES (dB/K)	: -11.0	EIRP, toward Rx ES (dBW)	: 25.5
SFD, beam edge (dBW/m2)	: -75.3		
SFD, toward Tx ES (dBW/m2)	: -75.3		

----- OPERATING CONDITIONS -----

Attenuator Setting (dB)	: 14	Nominal Uplink Co-Chan C/I (dB)	: 27.0
Input Backoff (dB)	: 6, 5.60	Nominal Dnlink Co-Chan C/I (dB)	: 27.0
Output Backoff (dB)	: *	Minimum Uplink Rain Margin (dB)	: 0.0
(C/Im) - Nominal (dB)	: *	Actual Uplink Rain Margin (dB)	: n/a
Min. System Margin (dB)	: 1.0	Uplink Power Control Margin (dB)	: 0
Max No Carriers / Trans:	1	Minimum Dnlink Rain Margin (dB)	: 0.0
		Actual Dnlink Rain Margin (dB)	: n/a
		Dnlink Pointing Error (dB)	: 0.5

----- ADJACENT SATELLITE INTERFERENCE ----- Sat. No. 1 ----- Sat. No. 2 -----

Interfering Satellite Name	:	SAT-1	SAT-2
Interfering Satellite Location (deg)	:	64E	68E
Uplink Interference (dB or dBW/Hz)	:	-38.7	-38.7
Uplink Polarization Advantage (dB)	:	0.0	0.0
Downlink Interference (dB or dBW/Hz)	:	-36.3	-36.3
Downlink Polarization Advantage (dB)	:	0.0	0.0
Rx E/S Topocentric Angle (deg)	:	2.09	2.09
Rx E/S Pointing Error (deg)	:	-0.08	0.08
Rx E/S Off-Axis Angle (deg)	:	2.01	2.17
Rx E/S Adj. Sat. Discrimination (dB)	:	31.6	32.4

----- TV/FM CARRIER PARAMETERS -----

Video Format	: PAL	Peak Deviation (MHz)	: 9.0
RF Noise BW (MHz)	: 30.0	PreEmphasis+Weighting (dB)	: 15.6
Video BW (MHz)	: 6.0	Threshold C/N (dB)	: 10.0

----- AUDIO SUB-CARRIER PARAMETERS -----

Sub-Carrier Freq (MHz)	: 6.6	Highest Audio Freq (kHz)	: 15.0
P-Dev of Video by Audio (MHz)	: 2.0	Companding Advantage (dB)	: 0.0
Peak Dev of Audio (kHz)	: 75.0		

----- Transmit Earth Station ----- ----- Receive Earth Station -----

Location: -4_dB_Gain_Contour	Location: -4_dB_Gain_Contour
Latitude (deg): *	Latitude (deg): *
Longitude (deg): *	Longitude (deg): *
Rain Rate (mm/hr): 42*	Rain Rate (mm/hr): 42*
E/S Type or Model No:	E/S Type or Model No:
E/S Manufacturer : STANDARD	E/S Manufacturer : STANDARD
E/S Diam. (m): 15.2	E/S Diam. (m): 13.1
E/S Freq (nom, GHz): 6.175	E/S Freq (nom, GHz): 3.95
E/S Tx Gain (dBi): 58.4	E/S Gain (nom, dBi): 53.5
ULPC Margin (dB): .0	E/S Feed Loss (dB): 0.20
	E/S Ant. Temp(deg K): 30
	E/S LNA Temp (deg K): 65
	E/S G/T (nom, dB/K): *

SATOPT5 (Version 5.68) (C) 2004 TEL/COM Sciences, Inc. All Rights Reserved.
5-Dec-08 11:38
PanAmSat, Customer Support Engineering.

SATELLITE DATA	Satellite : INTELSAT_702 Uplink Beam: GLOBAL Uplink POL: , Dnlink POL: , EIRP, beam center: 29.5 dBW G/T:-11.0 dB/K, SFD:-88.3 dBW/m2 Dnlink EIRP: 25.5 dBW	Location: 66.0E Dnlink Beam: GLOBAL
TRANSPONDER DATA	Trans Bandwidth :36 MHz Uplink Frequency:6.175 GHz IBO (Nominal) : 0.0 dB	Trans Type: LTWTA Dnlink Freq: 3.950 GHz OBO (Nominal): 0.0 dB
CARRIER DATA	Type: NTC26%, Info Rate: 24575 kbps, Mod: QPSK, 1/2x188/204 BWo: 30133kHz, BWa: 36000kHz, C/N: 3.36dB, C/N_thresh: 3.36	
LINK BUDGET		
		CLR SKY UP FADE DN FADE
UPLINK PERFORMANCE	Earth Station EIRP (dBW)	74.6 n/a n/a
	- Uplink Path Loss, clear sky (dB)	-200.2 n/a n/a
	- Uplink Rain Attenuation (dB)	0.0 n/a n/a
	+ Satellite G/T (dB/K)	-11.0 n/a n/a
	- Boltzman's Constant (dBW/K-Hz)	228.6 n/a n/a
	- Carrier Noise Bandwidth (dB-Hz)	-74.8 n/a n/a
	C/N Uplink (dB)	17.2 n/a n/a
DOWNLINK PERFORMANCE	Satellite Saturation EIRP (dBW)	25.5 n/a n/a
	- Carrier Output Backoff (dB)	0.0 n/a n/a
	Downlink EIRP per carrier (dBW)	25.5 n/a n/a
	- Earth Station Pointing Error (dB)	-.5 n/a n/a
	- Downlink Path Loss, clear sky (dB)	-196.3 n/a n/a
	- Downlink Rain Attenuation (dB)	0.0 n/a n/a
	+ Earth Station G/T (dB/K)	26.2 n/a n/a
	- Boltzman's Constant (dBW/K-Hz)	228.6 n/a n/a
	- Carrier Noise Bandwidth (dB-Hz)	-74.8 n/a n/a
		C/N Dnlink (dB)
COMPOSITE PERFORMANCE	C/N Uplink (dB)	17.2 n/a n/a
	C/N Dnlink (dB)	8.7 n/a n/a
	C/I Uplink Co-channel (dB)	27.0 n/a n/a
	C/I Dnlink Co-channel (dB)	27.0 n/a n/a
	C/I Uplink Adj. Sat. (SAT-1) (dB)	16.5 n/a n/a
	C/I Dnlink Adj. Sat. (SAT-1) (dB)	11.0 n/a n/a
	C/I Uplink Adj. Sat. (SAT-2) (dB)	16.5 n/a n/a
	C/I Dnlink Adj. Sat. (SAT-2) (dB)	12.9 n/a n/a
	C/(N+I) COMPOSITE (dB)	4.8 n/a n/a
	- Required System Margin (dB)	-1.0 n/a n/a
Net C/(N+I) COMPOSITE (dB)	3.8 n/a n/a	
- Minimum Required C/N (dB)	-3.4 n/a n/a	
	Excess Link Margin (dB)	.4 n/a n/a
TRANSPONDER UTILIZATION	% BW/CARR: 100.00, % PWR/CARR: 100.00, Max No. Carriers: 1.0 Downlink EIRP per carrier toward beam center: 29.5 dBW	
TRANSMIT EARTH STATION	Loc: -4_dB_Gain_Contour ID: AZ: 0.0 Elev: 20.0 LAT: * LON: * ALT: 0.0m RainRate: 42.0mm/hr Carrier Power: 229.0 watts	
RECEIVE EARTH STA.	Loc: -4_dB_Gain_Contour ID: AZ: 0.0 Elev: 20.0 LAT: * LON: * ALT: 0.0m RainRate: 42.0mm/hr	
DENSITY INFORMATION	Uplink Pwr Den: -51.2 dBW/Hz, Dnlink EIRP Den: -45.3 dBW/Hz Max Dnlink PFD: -172.2 dB(W/m2/4kHz) @ Beam Center	
LOSS IN C/(N+I) DUE TO ADJ SAT INTF:	SAT-1 = 1.6dB, SAT-2 = 1.1dB	

GLOBAL-GLOBAL (36 MHz): 36MOG7W
[Input Data]

----- SATELLITE -----

Satellite Name	: INTELSAT_702	Location (deg)	: 66.0E
Uplink Beam	: GLOBAL	Dnlink Beam	: GLOBAL
Trans. BW (MHz)	: 36 MHz	Trans. Type	: LTWTA
Uplink Pol.	:	Dnlink Pol.	:
Uplink Chan.	:	Dnlink Chan.	:
Uplink Frequency (GHz)	: 6.175	Dnlink Frequency (GHz)	: 3.950
G/T, beam center (dB/K)	: -7	EIRP, beam center (dBW)	: 29.5
G/T, beam edge (dB/K)	: -11	EIRP, beam edge (dBW)	: 25.5
G/T, toward Tx ES (dB/K)	: -11.0	EIRP, toward Rx ES (dBW)	: 25.5
SFD, beam edge (dBW/m2)	: -88.3		
SFD, toward Tx ES (dBW/m2)	: -88.3		

----- OPERATING CONDITIONS -----

Attenuator Setting (dB)	: 1	Nominal Uplink Co-Chan C/I (dB)	: 27.0
Input Backoff (dB)	: 0.0	Nominal Dnlink Co-Chan C/I (dB)	: 27.0
Output Backoff (dB)	: *	Minimum Uplink Rain Margin (dB)	: 0.0
(C/Im) - Nominal (dB)	: *	Actual Uplink Rain Margin (dB)	: n/a
Min. System Margin (dB)	: 1.0	Uplink Power Control Margin (dB)	: .0
Max No Carriers / Trans	: 1	Minimum Dnlink Rain Margin (dB)	: 0.0
		Actual Dnlink Rain Margin (dB)	: n/a
		Dnlink Pointing Error (dB)	: 0.5

-- ADJACENT SATELLITE INTERFERENCE ----- Sat. No. 1 ----- Sat. No. 2 -----

Interfering Satellite Name	:	SAT-1	SAT-2
Interfering Satellite Location (deg)	:	64E	68E
Uplink Interference (dB or dBW/Hz)	:	-38.7	-38.7
Uplink Polarization Advantage (dB)	:	0.0	0.0
Downlink Interference (dB or dBW/Hz)	:	-36.3	-36.3
Downlink Polarization Advantage (dB)	:	0.0	0.0
Rx E/S Topocentric Angle (deg)	:	2.09	2.09
Rx E/S Pointing Error (deg)	:	-0.18	0.18
Rx E/S Off-Axis Angle (deg)	:	1.91	2.27
Rx E/S Adj. Sat. Discrimination (dB)	:	24.0	25.9

----- CARRIER PARAMETERS -----

Modem Type	: NTC26%	C/N (operating, dB)	: 3.36
Modulation	: QPSK	Eb/No (operating, dB)	: 4.2
Code Rate	: 1/2x188/204-V	C/N (threshold, dB)	: 3.36
Info Rate (kbps)	: 24575	Eb/No (threshold, dB)	: 4.2
Occupied Bandwidth (kHz)	: 30133		
Allocated Bandwidth (kHz)	: 36000		

----- Transmit Earth Station -----

Location: -4_dB_Gain_Contour
Latitude (deg): *
Longitude (deg): *
Rain Rate (mm/hr): 42*
E/S Type or Model No:
E/S Manufacturer : STANDARD
E/S Diam. (m): 7.0
E/S Freq (nom, GHz): 6.175
E/S Tx Gain (dBi): 51.0
ULPC Margin (dB): .0

----- Receive Earth Station -----

Location: -4_dB_Gain_Contour
Latitude (deg): *
Longitude (deg): *
Rain Rate (mm/hr): 42*
E/S Type or Model No:
E/S Manufacturer : STANDARD
E/S Diam. (m): 6.1
E/S Freq (nom, GHz): 3.95
E/S Gain (nom, dBi): 46.5
E/S Feed Loss (dB): 0.20
E/S Ant. Temp (deg K): 25
E/S LNA Temp (deg K): 65
E/S G/T (nom, dB/K): *

SATOPT5 (Version 5.68) (C) 2004 TEL/COM Sciences, Inc. All Rights Reserved.
5-Dec-08 10:45
PanAmSat, Customer Support Engineering.

SATELLITE DATA	Satellite : INTELSAT_702 Uplink Beam: GLOBAL Uplink POL: , Dnlink POL: , EIRP, beam center: 29.5 dBW G/T:-11.0 dB/K, SFD:-79.3 dBW/m2	Location: 66.0E Dnlink Beam: GLOBAL Dnlink EIRP: 25.5 dBW
TRANSPONDER DATA	Trans Bandwidth :36 MHz Uplink Frequency:6.175 GHz IBO (Nominal) : 8.2 dB	Trans Type: LTWTA Dnlink Freq: 3.950 GHz OBO (Nominal): 3.5 dB
CARRIER DATA	Type: EF9000, Info Rate: 6000 kbps, Mod: QPSK, 1/2x188/204- BWo: 6771.1kHz, BWa: 10300kHz, C/N: 3.87dB, C/N_thresh: 3.5	
LINK BUDGET		
		CLR SKY UP FADE DN FADE
UPLINK PERFORMANCE	Earth Station EIRP (dBW)	71.4 n/a n/a
	- Uplink Path Loss, clear sky (dB)	-200.2 n/a n/a
	- Uplink Rain Attenuation (dB)	0.0 n/a n/a
	+ Satellite G/T (dB/K)	-11.0 n/a n/a
	- Boltzman's Constant (dBW/K-Hz)	228.6 n/a n/a
	- Carrier Noise Bandwidth (dB-Hz)	-68.3 n/a n/a
	C/N Uplink (dB)	20.5 n/a n/a
DOWNLINK PERFORMANCE	Satellite Saturation EIRP (dBW)	25.5 n/a n/a
	- Carrier Output Backoff (dB)	-7.5 n/a n/a
	Downlink EIRP per carrier (dBW)	18.0 n/a n/a
	- Earth Station Pointing Error (dB)	-0.5 n/a n/a
	- Downlink Path Loss, clear sky (dB)	-196.3 n/a n/a
	- Downlink Rain Attenuation (dB)	0.0 n/a n/a
	+ Earth Station G/T (dB/K)	26.6 n/a n/a
	- Boltzman's Constant (dBW/K-Hz)	228.6 n/a n/a
	- Carrier Noise Bandwidth (dB-Hz)	-68.3 n/a n/a
		C/N Dnlink (dB)
COMPOSITE PERFORMANCE	C/N Uplink (dB)	20.5 n/a n/a
	C/N Dnlink (dB)	8.1 n/a n/a
	C/I Intermod (dB)	19.9 n/a n/a
	C/I Uplink Co-channel (dB)	28.5 n/a n/a
	C/I Dnlink Co-Channel (dB)	28.5 n/a n/a
	C/I Uplink Adj. Sat. (SAT-1) (dB)	19.8 n/a n/a
	C/I Dnlink Adj. Sat. (SAT-1) (dB)	11.2 n/a n/a
	C/I Uplink Adj. Sat. (SAT-2) (dB)	19.8 n/a n/a
	C/I Dnlink Adj. Sat. (SAT-2) (dB)	12.8 n/a n/a
	C/(N+I) COMPOSITE (dB)	4.9 n/a n/a
- Required System Margin (dB)	-1.0 n/a n/a	
Net C/(N+I) COMPOSITE (dB)	3.9 n/a n/a	
- Minimum Required C/N (dB)	-3.9 n/a n/a	
	Excess Link Margin (dB)	0.0 n/a n/a
TRANSPONDER UTILIZATION	% BW/CARR: 28.61, % PWR/CARR: 40.18, Max No. Carriers: 2.5 Downlink EIRP per carrier toward beam center: 22.0 dBW	
TRANSMIT EARTH STATION	Loc: -4_dB_Gain_Contour ID: AZ: 0.0 Elev: 20.0 LAT: * LON: * ALT: 0.0m RainRate: 42.0mm/hr Carrier Power: 110.6 watts	
RECEIVE EARTH STA.	Loc: -4_dB_Gain_Contour ID: AZ: 0.0 Elev: 20.0 LAT: * LON: * ALT: 0.0m RainRate: 42.0mm/hr	
DENSITY INFORMATION	Uplink Pwr Den: -47.9 dBW/Hz, Dnlink EIRP Den: -46.3 dBW/Hz Max Dnlink PFD: -173.2 dB(W/m2/4kHz) @ Beam Center	
LOSS IN C/(N+I) DUE TO ADJ SAT INTF:	SAT-1 = 1.3dB, SAT-2 = 0.9dB	

GLOBAL-GLOBAL (36 MHz): 10M3G7W
[Input Data]

----- SATELLITE -----

Satellite Name	: INTELSAT_702	Location (deg)	: 66.0E
Uplink Beam	: GLOBAL	Dnlink Beam	: GLOBAL
Trans. BW (MHz)	: 36 MHz	Trans. Type	: LTWTA
Uplink Pol.	:	Dnlink Pol.	:
Uplink Chan.	:	Dnlink Chan.	:
Uplink Frequency (GHz)	: 6.175	Dnlink Frequency (GHz)	: 3.950
G/T, beam center (dB/K)	: -7	EIRP, beam center (dBW)	: 29.5
G/T, beam edge (dB/K)	: -11	EIRP, beam edge (dBW)	: 25.5
G/T, toward Tx ES (dB/K)	: -11.0	EIRP, toward Rx ES (dBW)	: 25.5
SFD, beam edge (dBW/m2)	: -79.3		
SFD, toward Tx ES (dBW/m2)	: -79.3		

----- OPERATING CONDITIONS -----

Attenuator Setting (dB)	: 10	Nominal Uplink Co-Chan C/I (dB)	: 27.0
Input Backoff (dB)	: 8.2*	Nominal Dnlink Co-Chan C/I (dB)	: 27.0
Output Backoff (dB)	: *	Minimum Uplink Rain Margin (dB)	: 0.0
(C/Im) - Nominal (dB)	: *	Actual Uplink Rain Margin (dB)	: n/a
Min. System Margin (dB)	: 1.0	Uplink Power Control Margin (dB)	: .0
Max No Carriers / Trans:	: *	Minimum Dnlink Rain Margin (dB)	: 0.0
		Actual Dnlink Rain Margin (dB)	: n/a
		Dnlink Pointing Error (dB)	: 0.5

-- ADJACENT SATELLITE INTERFERENCE ----- Sat. No. 1 ----- Sat. No. 2 -----

Interfering Satellite Name	:	SAT-1	SAT-2
Interfering Satellite Location (deg)	:	64E	68E
Uplink Interference (dB or dBW/Hz)	:	-38.7	-38.7
Uplink Polarization Advantage (dB)	:	0.0	0.0
Downlink Interference (dB or dBW/Hz)	:	-36.3	-36.3
Downlink Polarization Advantage (dB)	:	0.0	0.0
Rx E/S Topocentric Angle (deg)	:	2.09	2.09
Rx E/S Pointing Error (deg)	:	-0.15	0.15
Rx E/S Off-Axis Angle (deg)	:	1.94	2.24
Rx E/S Adj. Sat. Discrimination (dB)	:	25.2	26.8

----- CARRIER PARAMETERS -----

Modem Type	: EF9000	C/N (operating, dB)	: 3.87
Modulation	: QPSK	Eb/No (operating, dB)	: 4.4
Code Rate	: 1/2x188/204-V	C/N (threshold, dB)	: 3.57
Info Rate (kbps)	: 6000	Eb/No (threshold, dB)	: 4.1
Occupied Bandwidth (kHz)	: 6771.1		
Allocated Bandwidth (kHz)	: 10300		

----- Transmit Earth Station -----

Location: -4_dB_Gain_Contour
Latitude (deg): *
Longitude (deg): *
Rain Rate (mm/hr): 42*
E/S Type or Model No:
E/S Manufacturer : STANDARD
E/S Diam. (m): 7.0
E/S Freq (nom, GHz): 6.175
E/S Tx Gain (dBi): 51.0
ULPC Margin (dB): .0

----- Receive Earth Station -----

Location: -4_dB_Gain_Contour
Latitude (deg): *
Longitude (deg): *
Rain Rate (mm/hr): 42*
E/S Type or Model No:
E/S Manufacturer : STANDARD
E/S Diam. (m): 7.0
E/S Freq (nom, GHz): 3.95
E/S Gain (nom, dBi): 47.5
E/S Feed Loss (dB): 0.15
E/S Ant. Temp (deg K): 45
E/S LNA Temp (deg K): 65
E/S G/T (nom, dB/K): *

SATOPT5 (Version 5.68) (C) 2004 TEL/COM Sciences, Inc. All Rights Reserved.
5-Dec-08 10:53
PanAmSat, Customer Support Engineering.

SATELLITE DATA	Satellite : INTELSAT_702 Uplink Beam: GLOBAL Uplink POL: , Dnlink POL: , EIRP, beam center: 29.5 dBW G/T:-11.0 dB/K, SFD:-79.3 dBW/m2	Location: 66.0E Dnlink Beam: GLOBAL Dnlink EIRP: 25.5 dBW		
TRANSPONDER DATA	Trans Bandwidth :36 MHz Uplink Frequency:6.175 GHz IBO (Nominal) : 8.2 dB	Trans Type: LTWTA Dnlink Freq: 3.950 GHz OBO (Nominal): 3.5 dB		
CARRIER DATA	Type: CS701, Info Rate: 64 kbps, Mod: QPSK, 1/2x239/256-V BWo: 75.4kHz, BWa: 100kHz, C/N: 2.99dB, C/N_thresh: 2.79dB			
LINK BUDGET				
UPLINK PERFORMANCE	Earth Station EIRP (dBW)	51.6	n/a	n/a
	- Uplink Path Loss, clear sky (dB)	-200.2	n/a	n/a
	- Uplink Rain Attenuation (dB)	0.0	n/a	n/a
	+ Satellite G/T (dB/K)	-11.0	n/a	n/a
	- Boltzman's Constant (dBW/K-Hz)	228.6	n/a	n/a
	- Carrier Noise Bandwidth (dB-Hz)	-48.8	n/a	n/a
	C/N Uplink (dB)	20.3	n/a	n/a
	Satellite Saturation EIRP (dBW)	25.5	n/a	n/a
	- Carrier Output Backoff (dB)	-27.3	n/a	n/a
	DOWNLINK PERFORMANCE	Downlink EIRP per carrier (dBW)	-1.8	n/a
	- Earth Station Pointing Error (dB)	-0.5	n/a	n/a
	- Downlink Path Loss, clear sky (dB)	-196.3	n/a	n/a
	- Downlink Rain Attenuation (dB)	0.0	n/a	n/a
	+ Earth Station G/T (dB/K)	26.2	n/a	n/a
	- Boltzman's Constant (dBW/K-Hz)	228.6	n/a	n/a
	- Carrier Noise Bandwidth (dB-Hz)	-48.8	n/a	n/a
	C/N Dnlink (dB)	7.4	n/a	n/a
	C/N Uplink (dB)	20.3	n/a	n/a
	C/N Dnlink (dB)	7.4	n/a	n/a
	C/I Intermod (dB)	19.7	n/a	n/a
	C/I Uplink Co-channel (dB)	28.8	n/a	n/a
	C/I Dnlink Co-Channel (dB)	28.8	n/a	n/a
	C/I Uplink Adj. Sat. (SAT-1) (dB)	19.6	n/a	n/a
	C/I Dnlink Adj. Sat. (SAT-1) (dB)	9.8	n/a	n/a
	C/I Uplink Adj. Sat. (SAT-2) (dB)	19.6	n/a	n/a
	C/I Dnlink Adj. Sat. (SAT-2) (dB)	11.6	n/a	n/a
COMPOSITE PERFORMANCE	C/(N+I) COMPOSITE (dB)	4.0	n/a	n/a
	- Required System Margin (dB)	-1.0	n/a	n/a
	Net C/(N+I) COMPOSITE (dB)	3.0	n/a	n/a
	- Minimum Required C/N (dB)	-3.0	n/a	n/a
	Excess Link Margin (dB)	0.0	n/a	n/a
TRANSPONDER UTILIZATION	% BW/CARR: 0.28, % PWR/CARR: 0.42, Max No. Carriers: 237.5 Downlink EIRP per carrier toward beam center: 2.2 dBW			
TRANSMIT EARTH STATION	Loc: -4 dB Gain Contour ID: AZ: 0.0 Elev: 20.0 LAT: * LON: * ALT: 0.0m RainRate: 42.0mm/hr Carrier Power: 1.2 watts			
RECEIVE EARTH STA.	Loc: -4 dB Gain Contour ID: AZ: 0.0 Elev: 20.0 LAT: * LON: * ALT: 0.0m RainRate: 42.0mm/hr			
DENSITY INFORMATION	Uplink Pwr Den: -48.1 dBW/Hz, Dnlink EIRP Den: -46.6 dBW/Hz Max Dnlink PFD: -173.4 dB(W/m2/4kHz) @ Beam Center			
LOSS IN C/(N+I) DUE TO ADJ SAT INTF: SAT-1 = 1.5dB, SAT-2 = 1.0dB				

GLOBAL-GLOBAL (36 MHz): 100KG7W
[Input Data]

----- SATELLITE -----

Satellite Name	: INTELSAT_702	Location (deg)	: 66.0E
Uplink Beam	: GLOBAL	Dnlink Beam	: GLOBAL
Trans. BW (MHz)	: 36 MHz	Trans. Type	: LTWTA
Uplink Pol.	:	Dnlink Pol.	:
Uplink Chan.	:	Dnlink Chan.	:
Uplink Frequency (GHz)	: 6.175	Dnlink Frequency (GHz)	: 3.950
G/T, beam center (dB/K)	: -7	EIRP, beam center (dBW)	: 29.5
G/T, beam edge (dB/K)	: -11	EIRP, beam edge (dBW)	: 25.5
G/T, toward Tx ES (dB/K)	: -11.0	EIRP, toward Rx ES (dBW)	: 25.5
SFD, beam edge (dBW/m2)	: -79.3		
SFD, toward Tx ES (dBW/m2)	: -79.3		

----- OPERATING CONDITIONS -----

Attenuator Setting (dB)	: 10	Nominal Uplink Co-Chan C/I (dB)	: 27.0
Input Backoff (dB)	: 8.2*	Nominal Dnlink Co-Chan C/I (dB)	: 27.0
Output Backoff (dB)	: *	Minimum Uplink Rain Margin (dB)	: 0.0
(C/Im) - Nominal (dB)	: *	Actual Uplink Rain Margin (dB)	: n/a
Min. System Margin (dB)	: 1.0	Uplink Power Control Margin (dB)	: 0
Max No Carriers / Trans:	*	Minimum Dnlink Rain Margin (dB)	: 0.0
		Actual Dnlink Rain Margin (dB)	: n/a
		Dnlink Pointing Error (dB)	: 0.5

--- ADJACENT SATELLITE INTERFERENCE ----- Sat. No. 1 ----- Sat. No. 2 -----

Interfering Satellite Name	:	SAT-1	SAT-2
Interfering Satellite Location (deg)	:	64E	68E
Uplink Interference (dB or dBW/Hz)	:	-38.7	-38.7
Uplink Polarization Advantage (dB)	:	0.0	0.0
Downlink Interference (dB or dBW/Hz)	:	-36.3	-36.3
Downlink Polarization Advantage (dB)	:	0.0	0.0
Rx E/S Topocentric Angle (deg)	:	2.09	2.09
Rx E/S Pointing Error (deg)	:	-0.18	0.18
Rx E/S Off-Axis Angle (deg)	:	1.91	2.27
Rx E/S Adj. Sat. Discrimination (dB)	:	24.0	25.9

----- CARRIER PARAMETERS -----

Modem Type	: CS701	C/N (operating, dB)	: 2.99
Modulation	: QPSK	Eb/No (operating, dB)	: 3.7
Code Rate	: 1/2x239/256-V	C/N (threshold, dB)	: 2.79
Info Rate (kbps)	: 64	Eb/No (threshold, dB)	: 3.5
Occupied Bandwidth (kHz)	: 75.4		
Allocated Bandwidth (kHz)	: 100		

----- Transmit Earth Station -----

Location: -4_dB_Gain_Contour
Latitude (deg): *
Longitude (deg): *
Rain Rate (mm/hr): 42*
E/S Type or Model No:
E/S Manufacturer : STANDARD
E/S Diam. (m): 7.0
E/S Freq (nom, GHz): 6.175
E/S Tx Gain (dBi): 51.0
ULPC Margin (dB): .0

----- Receive Earth Station -----

Location: -4_dB_Gain_Contour
Latitude (deg): *
Longitude (deg): *
Rain Rate (mm/hr): 42*
E/S Type or Model No:
E/S Manufacturer : STANDARD
E/S Diam. (m): 6.1
E/S Freq (nom, GHz): 3.95
E/S Gain (nom, dBi): 46.5
E/S Feed Loss (dB): 0.20
E/S Ant. Temp(deg K): 25
E/S LNA Temp (deg K): 65
E/S G/T (nom, dB/K): *

SATOPT5 (Version 5.68) (C) 2004 TEL/COM Sciences, Inc. All Rights Reserved.
5-Dec-08 10:54
PanAmSat, Customer Support Engineering.

SATELLITE DATA	Satellite : INTELSAT_702 Uplink Beam: GLOBAL Uplink POL: , Dnlink POL: , EIRP, beam center: 37.5 dBW G/T:-11.0 dB/K, SFD:-75.3 dBW/m2	Location: 66.0E Dnlink Beam: HEMI Dnlink EIRP: 31.5 dBW
TRANSPONDER DATA	Trans Bandwidth :36 MHz Uplink Frequency:6.175 GHz IBO (Nominal) : 9.5 dB	Trans Type: LTWTA Dnlink Freq: 3.950 GHz OBO (Nominal): 3.7 dB
CARRIER DATA	Type: TV/FM, Format: PAL, PreEmphasis+Weighting: 15.6dB RF BW: 30.0 MHz, P-Dev: 9.0 MHz, VideoBW: 6.0 MHz,	
LINK BUDGET		
		CLR SKY UP FADE DN FADE
UPLINK PERFORMANCE	Earth Station EIRP (dBW)	78.1 n/a n/a
	- Uplink Path Loss, clear sky (dB)	-200.2 n/a n/a
	- Uplink Rain Attenuation (dB)	0.0 n/a n/a
	+ Satellite G/T (dB/K)	-11.0 n/a n/a
	- Boltzman's Constant (dBW/K-Hz)	228.6 n/a n/a
	- Carrier Noise Bandwidth (dB-Hz)	-74.8 n/a n/a
	C/N Uplink (dB)	20.7 n/a n/a
DOWNLINK PERFORMANCE	Satellite Saturation EIRP (dBW)	31.5 n/a n/a
	- Carrier Output Backoff (dB)	-3.7 n/a n/a
	Downlink EIRP per carrier (dBW)	27.8 n/a n/a
	- Earth Station Pointing Error (dB)	-.5 n/a n/a
	- Downlink Path Loss, clear sky (dB)	-196.3 n/a n/a
	- Downlink Rain Attenuation (dB)	0.0 n/a n/a
	+ Earth Station G/T (dB/K)	31.0 n/a n/a
	- Boltzman's Constant (dBW/K-Hz)	228.6 n/a n/a
	- Carrier Noise Bandwidth (dB-Hz)	-74.8 n/a n/a
		C/N Dnlink (dB)
COMPOSITE PERFORMANCE	C/N Uplink (dB)	20.7 n/a n/a
	C/N Dnlink (dB)	15.9 n/a n/a
	C/I Uplink Co-channel (dB)	27.8 n/a n/a
	C/I Dnlink Co-Channel (dB)	27.8 n/a n/a
	C/I Uplink Adj. Sat. (SAT-1) (dB)	20.0 n/a n/a
	C/I Dnlink Adj. Sat. (SAT-1) (dB)	20.9 n/a n/a
	C/I Uplink Adj. Sat. (SAT-2) (dB)	20.0 n/a n/a
	C/I Dnlink Adj. Sat. (SAT-2) (dB)	22.0 n/a n/a
	C/(N+I) COMPOSITE (dB)	11.4 n/a n/a
	- Required System Margin (dB)	-1.0 n/a n/a
COMPOSITE PERFORMANCE	Net C/(N+I) COMPOSITE (dB)	10.4 n/a n/a
	- Minimum Required C/N (dB)	-10.0 n/a n/a
	Excess Link Margin (dB)	.4 n/a n/a
	Video Signal-to-Noise Ratio (dB)	44.3 n/a n/a
	Audio Signal-to-Noise Ratio (dB)	58.1 n/a n/a
TRANSMIT EARTH STATION	Loc: -4 dB Gain Contour ID: AZ: 0.0 Elev: 20.0 LAT: * LON: * ALT: 0.0m RainRate: 42.0mm/hr Carrier Power: 251.1 watts	
RECEIVE EARTH STA.	Loc: -6 dB Gain Contour ID: AZ: 0.0 Elev: 20.0 LAT: * LON: * ALT: 0.0m RainRate: 42.0mm/hr	
DENSITY INFORMATION	Uplink Pwr Den: -50.8 dBW/Hz, Dnlink EIRP Den: -40.9 dBW/Hz Max Dnlink PFD: -167.8 dB(W/m2/4kHz) @ Beam Center	
LOSS IN C/(N+I) DUE TO ADJ SAT INTF: SAT-1 = 1.2dB, SAT-2 = 1.1dB		

GLOBAL-HEMI (36 MHz): 30M0F3F
[Input Data]

----- SATELLITE -----

Satellite Name	: INTELSAT_702	Location (deg)	: 66.0E
Uplink Beam	: GLOBAL	Dnlink Beam	: HEMI
Trans. BW (MHz)	: 36 MHz	Trans. Type	: LTWTA
Uplink Pol.	:	Dnlink Pol.	:
Uplink Chan.	:	Dnlink Chan.	:
Uplink Frequency (GHz)	: 6.175	Dnlink Frequency (GHz)	: 3.950
G/T, beam center (dB/K)	: -7	EIRP, beam center (dBW)	: 37.5
G/T, beam edge (dB/K)	: -11	EIRP, beam edge (dBW)	: 31.5
G/T, toward Tx ES (dB/K)	: -11.0	EIRP, toward Rx ES (dBW)	: 31.5
SFD, beam edge (dBW/m2)	: -75.3		
SFD, toward Tx ES (dBW/m2)	: -75.3		

----- OPERATING CONDITIONS -----

Attenuator Setting (dB)	: 14	Nominal Uplink Co-Chan C/I (dB)	: 27.0
Input Backoff (dB)	: 9.5	Nominal Dnlink Co-Chan C/I (dB)	: 27.0
Output Backoff (dB)	: *	Minimum Uplink Rain Margin (dB)	: 0.0
(C/Im) - Nominal (dB)	: *	Actual Uplink Rain Margin (dB)	: n/a
Min. System Margin (dB)	: 1.0	Uplink Power Control Margin (dB)	: .0
Max No Carriers / Trans	: 1	Minimum Dnlink Rain Margin (dB)	: 0.0
		Actual Dnlink Rain Margin (dB)	: n/a
		Dnlink Pointing Error (dB)	: 0.5

----- ADJACENT SATELLITE INTERFERENCE ----- Sat. No. 1 ----- Sat. No. 2 -----

Interfering Satellite Name	:	SAT-1	SAT-2
Interfering Satellite Location (deg)	:	64E	68E
Uplink Interference (dB or dBW/Hz)	:	-38.7	-38.7
Uplink Polarization Advantage (dB)	:	0.0	0.0
Downlink Interference (dB or dBW/Hz)	:	-38	-38
Downlink Polarization Advantage (dB)	:	0.0	0.0
Rx E/S Topocentric Angle (deg)	:	2.09	2.09
Rx E/S Pointing Error (deg)	:	-0.10	0.10
Rx E/S Off-Axis Angle (deg)	:	1.99	2.19
Rx E/S Adj. Sat. Discrimination (dB)	:	29.9	30.9

----- TV/FM CARRIER PARAMETERS -----

Video Format	: PAL	Peak Deviation (MHz)	: 9.0
RF Noise BW (MHz)	: 30.0	PreEmphasis+Weighting (dB)	: 15.6
Video BW (MHz)	: 6.0	Threshold C/N (dB)	: 10.0

----- AUDIO SUB-CARRIER PARAMETERS -----

Sub-Carrier Freq (MHz)	: 6.6	Highest Audio Freq (kHz)	: 15.0
P-Dev of Video by Audio (MHz)	: 2.0	Companding Advantage (dB)	: 0.0
Peak Dev of Audio (kHz)	: 75.0		

----- Transmit Earth Station ----- ----- Receive Earth Station -----

Location: -4_dB_Gain_Contour	Location: -6_dB_Gain_Contour
Latitude (deg): *	Latitude (deg): *
Longitude (deg): *	Longitude (deg): *
Rain Rate (mm/hr): 42*	Rain Rate (mm/hr): 42*
E/S Type or Model No:	E/S Type or Model No:
E/S Manufacturer : STANDARD	E/S Manufacturer : STANDARD
E/S Diam. (m): 10.0	E/S Diam. (m): 11.0
E/S Freq (nom, GHz): 6.175	E/S Freq (nom, GHz): 3.95
E/S Tx Gain (dBi): 54.1	E/S Gain (nom, dBi): 51.9
ULPC Margin (dB): .0	E/S Feed Loss (dB): 0.15
	E/S Ant. Temp (deg K): 45
	E/S LNA Temp (deg K): 65
	E/S G/T (nom, dB/K): *

SATOPT5 (Version 5.68) (C) 2004 TEL/COM Sciences, Inc. All Rights Reserved.
5-Dec-08 11:28
PanAmSat, Customer Support Engineering.

SATELLITE	Satellite : INTELSAT_702	Location: 66.0E		
DATA	Uplink Beam: GLOBAL	Dnlink Beam: HEMI		
	Uplink POL: , Dnlink POL: , EIRP, beam center: 37.5 dBW			
	G/T:-11.0 dB/K, SFD:-79.3 dBW/m2	Dnlink EIRP: 31.5 dBW		
TRANSPONDER	Trans Bandwidth :36 MHz	Trans Type: LTWTA		
DATA	Uplink Frequency:6.175 GHz	Dnlink Freq: 3.950 GHz		
	IBO (Nominal) : 8.2 dB	OBO (Nominal): 2.5 dB		
CARRIER	Type: NTC26%, Info Rate: 24575 kbps, Mod: QPSK, 1/2x188/204			
DATA	BWo: 30133kHz, BWa: 36000kHz, C/N: 3.36dB, C/N_thresh: 3.36			
LINK BUDGET				
		CLR SKY	UP FADE	DN FADE
	Earth Station EIRP (dBW)	75.4	n/a	n/a
	- Uplink Path Loss, clear sky (dB)	-200.2	n/a	n/a
	- Uplink Rain Attenuation (dB)	0.0	n/a	n/a
UPLINK	+ Satellite G/T (dB/K)	-11.0	n/a	n/a
PERFORMANCE	- Boltzman's Constant (dBW/K-Hz)	228.6	n/a	n/a
	- Carrier Noise Bandwidth (dB-Hz)	-74.8	n/a	n/a
	C/N Uplink (dB)	18.0	n/a	n/a
	Satellite Saturation EIRP (dBW)	31.5	n/a	n/a
	- Carrier Output Backoff (dB)	-2.5	n/a	n/a
	Downlink EIRP per carrier (dBW)	29.0	n/a	n/a
	- Earth Station Pointing Error (dB)	-0.5	n/a	n/a
DOWNLINK	- Downlink Path Loss, clear sky (dB)	-196.3	n/a	n/a
PERFORMANCE	- Downlink Rain Attenuation (dB)	0.0	n/a	n/a
	+ Earth Station G/T (dB/K)	23.6	n/a	n/a
	- Boltzman's Constant (dBW/K-Hz)	228.6	n/a	n/a
	- Carrier Noise Bandwidth (dB-Hz)	-74.8	n/a	n/a
	C/N Dnlink (dB)	9.6	n/a	n/a
	C/N Uplink (dB)	18.0	n/a	n/a
	C/N Dnlink (dB)	9.6	n/a	n/a
	C/I Uplink Co-channel (dB)	27.0	n/a	n/a
	C/I Dnlink Co-Channel (dB)	27.0	n/a	n/a
	C/I Uplink Adj. Sat. (SAT-1) (dB)	17.3	n/a	n/a
	C/I Dnlink Adj. Sat. (SAT-1) (dB)	13.3	n/a	n/a
	C/I Uplink Adj. Sat. (SAT-2) (dB)	17.3	n/a	n/a
	C/I Dnlink Adj. Sat. (SAT-2) (dB)	15.8	n/a	n/a
COMPOSITE				
PERFORMANCE	C/(N+I) COMPOSITE (dB)	6.2	n/a	n/a
	- Required System Margin (dB)	-1.0	n/a	n/a
	Net C/(N+I) COMPOSITE (dB)	5.2	n/a	n/a
	- Minimum Required C/N (dB)	-3.4	n/a	n/a
	Excess Link Margin (dB)	1.8	n/a	n/a
TRANSPONDER	% BW/CARR: 100.00, % PWR/CARR: 100.00, Max No. Carriers: 1.0			
UTILIZATION	Downlink EIRP per carrier toward beam center: 35.0 dBW			
TRANSMIT	Loc: -4_dB_Gain_Contour ID: AZ: 0.0 Elev: 20.0			
EARTH	LAT: * LON: * ALT: 0.0m RainRate: 42.0mm/hr			
STATION	Carrier Power: 275.3 watts			
RECEIVE	Loc: -6_dB_Gain_Contour ID: AZ: 0.0 Elev: 20.0			
EARTH STA.	LAT: * LON: * ALT: 0.0m RainRate: 42.0mm/hr			
DENSITY	Uplink Pwr Den: -50.4 dBW/Hz, Dnlink EIRP Den: -39.8 dBW/Hz			
INFORMATION	Max Dnlink PFD: -166.7 dB(W/m2/4kHz) @ Beam Center			
LOSS IN C/(N+I) DUE TO ADJ SAT INTF:	SAT-1 = 1.4dB, SAT-2 = 0.9dB			

GLOBAL-HEMI (36 MHz): 36MOG7W
[Input Data]

----- SATELLITE -----

Satellite Name	: INTELSAT_702	Location (deg)	: 66.0E
Uplink Beam	: GLOBAL	Dnlink Beam	: HEMI
Trans. BW (MHz)	: 36 MHz	Trans. Type	: LTWTA
Uplink Pol.	:	Dnlink Pol.	:
Uplink Chan.	:	Dnlink Chan.	:
Uplink Frequency (GHz)	: 6.175	Dnlink Frequency (GHz)	: 3.950
G/T, beam center (dB/K)	: -7	EIRP, beam center (dBW)	: 37.5
G/T, beam edge (dB/K)	: -11	EIRP, beam edge (dBW)	: 31.5
G/T, toward Tx ES (dB/K)	: -11.0	EIRP, toward Rx ES (dBW)	: 31.5
SFD, beam edge (dBW/m2)	: -79.3		
SFD, toward Tx ES (dBW/m2)	: -79.3		

----- OPERATING CONDITIONS -----

Attenuator Setting (dB)	: 10	Nominal Uplink Co-Chan C/I (dB)	: 27.0
Input Backoff (dB)	: 8.2*	Nominal Dnlink Co-Chan C/I (dB)	: 27.0
Output Backoff (dB)	: *	Minimum Uplink Rain Margin (dB)	: 0.0
(C/Im) - Nominal (dB)	: *	Actual Uplink Rain Margin (dB)	: n/a
Min. System Margin (dB)	: 1.0	Uplink Power Control Margin (dB)	: .0
Max No Carriers / Trans:	1	Minimum Dnlink Rain Margin (dB)	: 0.0
		Actual Dnlink Rain Margin (dB)	: n/a
		Dnlink Pointing Error (dB)	: 0.5

--- ADJACENT SATELLITE INTERFERENCE ----- Sat. No. 1 ----- Sat. No. 2 -----

Interfering Satellite Name	:	SAT-1	SAT-2
Interfering Satellite Location (deg)	:	64E	68E
Uplink Interference (dB or dBW/Hz)	:	-38.7	-38.7
Uplink Polarization Advantage (dB)	:	0.0	0.0
Downlink Interference (dB or dBW/Hz)	:	-38	-38
Downlink Polarization Advantage (dB)	:	0.0	0.0
Rx E/S Topocentric Angle (deg)	:	2.09	2.09
Rx E/S Pointing Error (deg)	:	-0.24	0.24
Rx E/S Off-Axis Angle (deg)	:	1.85	2.33
Rx E/S Adj. Sat. Discrimination (dB)	:	21.1	23.6

----- CARRIER PARAMETERS -----

Modem Type	: NTC26%	C/N (operating, dB)	: 3.36
Modulation	: QPSK	Eb/No (operating, dB)	: 4.2
Code Rate	: 1/2x188/204-V	C/N (threshold, dB)	: 3.36
Info Rate (kbps)	: 24575	Eb/No (threshold, dB)	: 4.2
Occupied Bandwidth (kHz)	: 30133		
Allocated Bandwidth (kHz)	: 36000		

----- Transmit Earth Station -----

Location: -4_dB_Gain_Contour
Latitude (deg): *
Longitude (deg): *
Rain Rate (mm/hr): 42*
E/S Type or Model No:
E/S Manufacturer : STANDARD
E/S Diam. (m): 7.0
E/S Freq (nom, GHz): 6.175
E/S Tx Gain (dBi): 51.0
ULPC Margin (dB): .0

----- Receive Earth Station -----

Location: -6_dB_Gain_Contour
Latitude (deg): *
Longitude (deg): *
Rain Rate (mm/hr): 42*
E/S Type or Model No:
E/S Manufacturer : STANDARD
E/S Diam. (m): 4.5
E/S Freq (nom, GHz): 3.95
E/S Gain (nom, dBi): 43.9
E/S Feed Loss (dB): 0.20
E/S Ant. Temp (deg K): 25
E/S LNA Temp (deg K): 65
E/S G/T (nom, dB/K): *

SATOPT5 (Version 5.68) (C) 2004 TEL/COM Sciences, Inc. All Rights Reserved.
5-Dec-08 11:14
PanAmSat, Customer Support Engineering.

SATELLITE DATA	Satellite : INTELSAT_702 Uplink Beam: GLOBAL Uplink POL: , Dnlink POL: , EIRP, beam center: 37.5 dBW G/T:-11.0 dB/K, SFD:-82.3 dBW/m2	Location: 66.0E Dnlink Beam: HEMI Dnlink EIRP: 31.5 dBW			
TRANSPONDER DATA	Trans Bandwidth :36 MHz Uplink Frequency:6.175 GHz IBO (Nominal) : 8.2 dB	Trans Type: LTWTA Dnlink Freq: 3.950 GHz OBO (Nominal): 3.5 dB			
CARRIER DATA	Type: EF9000, Info Rate: 6000 kbps, Mod: QPSK, 1/2x188/204 BWo: 6771.1kHz, Bwa: 10300kHz, C/N: 3.87dB, C/N_thresh: 3.5				
LINK BUDGET					
	Earth Station EIRP (dBW)	68.7	CLR SKY	UP FADE	DN FADE
	- Uplink Path Loss, clear sky (dB)	-200.2		n/a	n/a
	- Uplink Rain Attenuation (dB)	0.0		n/a	n/a
UPLINK PERFORMANCE	+ Satellite G/T (dB/K)	-11.0		n/a	n/a
	- Boltzman's Constant (dBW/K-Hz)	228.6		n/a	n/a
	- Carrier Noise Bandwidth (dB-Hz)	-68.3		n/a	n/a
	C/N Uplink (dB)	17.8		n/a	n/a
	Satellite Saturation EIRP (dBW)	31.5		n/a	n/a
	- Carrier Output Backoff (dB)	-7.2		n/a	n/a
	Downlink EIRP per carrier (dBW)	24.3		n/a	n/a
	- Earth Station Pointing Error (dB)	-0.5		n/a	n/a
DOWNLINK PERFORMANCE	- Downlink Path Loss, clear sky (dB)	-196.3		n/a	n/a
	- Downlink Rain Attenuation (dB)	0.0		n/a	n/a
	+ Earth Station G/T (dB/K)	21.0		n/a	n/a
	- Boltzman's Constant (dBW/K-Hz)	228.6		n/a	n/a
	- Carrier Noise Bandwidth (dB-Hz)	-68.3		n/a	n/a
	C/N Dnlink (dB)	8.7		n/a	n/a
	C/N Uplink (dB)	17.8		n/a	n/a
	C/N Dnlink (dB)	8.7		n/a	n/a
	C/I Intermod (dB)	20.2		n/a	n/a
	C/I Uplink Co-channel (dB)	28.7		n/a	n/a
	C/I Dnlink Co-Channel (dB)	28.7		n/a	n/a
	C/I Uplink Adj. Sat. (SAT-1) (dB)	17.1		n/a	n/a
	C/I Dnlink Adj. Sat. (SAT-1) (dB)	10.3		n/a	n/a
	C/I Uplink Adj. Sat. (SAT-2) (dB)	17.1		n/a	n/a
	C/I Dnlink Adj. Sat. (SAT-2) (dB)	15.1		n/a	n/a
COMPOSITE PERFORMANCE	C/(N+I) COMPOSITE (dB)	4.9		n/a	n/a
	- Required System Margin (dB)	-1.0		n/a	n/a
	Net C/(N+I) COMPOSITE (dB)	3.9		n/a	n/a
	- Minimum Required C/N (dB)	-3.9		n/a	n/a
	Excess Link Margin (dB)	0.0		n/a	n/a
TRANSPONDER UTILIZATION	% BW/CARR: 28.61, % PWR/CARR: 42.65, Max No. Carriers: 2.3 Downlink EIRP per carrier toward beam center: 30.3 dBW				
TRANSMIT EARTH STATION	Loc: -4_dB_Gain_Contour ID: AZ: 0.0 Elev: 20.0 LAT: * LON: * ALT: 0.0m RainRate: 42.0mm/hr Carrier Power: 58.9 watts				
RECEIVE EARTH STA.	Loc: -6_dB_Gain_Contour ID: AZ: 0.0 Elev: 20.0 LAT: * LON: * ALT: 0.0m RainRate: 42.0mm/hr				
DENSITY INFORMATION	Uplink Pwr Den: -50.6 dBW/Hz, Dnlink EIRP Den: -38.0 dBW/Hz Max Dnlink PFD: -164.9 dB(W/m2/4kHz) @ Beam Center				
LOSS IN C/(N+I) DUE TO ADJ SAT INTF:	SAT-1 = 1.8dB, SAT-2 = 0.7dB				

GLOBAL-HEMI (36 MHz): 10M3G7W
[Input Data]

----- SATELLITE -----

Satellite Name	: INTELSAT_702	Location (deg)	: 66.0E
Uplink Beam	: GLOBAL	Dnlink Beam	: HEMI
Trans. BW (MHz)	: 36 MHz	Trans. Type	: LTWTA
Uplink Pol.	:	Dnlink Pol.	:
Uplink Chan.	:	Dnlink Chan.	:
Uplink Frequency (GHz)	: 6.175	Dnlink Frequency (GHz)	: 3.950
G/T, beam center (dB/K)	: -7	EIRP, beam center (dBW)	: 37.5
G/T, beam edge (dB/K)	: -11	EIRP, beam edge (dBW)	: 31.5
G/T, toward Tx ES (dB/K)	: -11.0	EIRP, toward Rx ES (dBW)	: 31.5
SFD, beam edge (dBW/m2)	: -82.3		
SFD, toward Tx ES (dBW/m2)	: -82.3		

----- OPERATING CONDITIONS -----

Attenuator Setting (dB)	: 7	Nominal Uplink Co-Chan C/I (dB)	: 27.0
Input Backoff (dB)	: 8.2*	Nominal Dnlink Co-Chan C/I (dB)	: 27.0
Output Backoff (dB)	: *	Minimum Uplink Rain Margin (dB)	: 0.0
(C/Im) - Nominal (dB)	: *	Actual Uplink Rain Margin (dB)	: n/a
Min. System Margin (dB)	: 1.0	Uplink Power Control Margin (dB)	: 0
Max No Carriers / Trans:	*	Minimum Dnlink Rain Margin (dB)	: 0.0
		Actual Dnlink Rain Margin (dB)	: n/a
		Dnlink Pointing Error (dB)	: 0.5

--- ADJACENT SATELLITE INTERFERENCE ----- Sat. No. 1 ----- Sat. No. 2 -----

Interfering Satellite Name	:	SAT-1	SAT-2
Interfering Satellite Location (deg)	:	64E	68E
Uplink Interference (dB or dBW/Hz)	:	-38.7	-38.7
Uplink Polarization Advantage (dB)	:	0.0	0.0
Downlink Interference (dB or dBW/Hz)	:	-38	-38
Downlink Polarization Advantage (dB)	:	0.0	0.0
Rx E/S Topocentric Angle (deg)	:	2.09	2.09
Rx E/S Pointing Error (deg)	:	-0.31	0.31
Rx E/S Off-Axis Angle (deg)	:	1.78	2.40
Rx E/S Adj. Sat. Discrimination (dB)	:	16.3	21.1

----- CARRIER PARAMETERS -----

Modem Type	: EF9000	C/N (operating, dB)	: 3.87
Modulation	: QPSK	Eb/No (operating, dB)	: 4.4
Code Rate	: 1/2x188/204-V	C/N (threshold, dB)	: 3.57
Info Rate (kbps)	: 6000	Eb/No (threshold, dB)	: 4.1
Occupied Bandwidth (kHz)	: 6771.1		
Allocated Bandwidth (kHz)	: 10300		

----- Transmit Earth Station -----

Location: -4_dB_Gain_Contour
Latitude (deg): *
Longitude (deg): *
Rain Rate (mm/hr): 42*
E/S Type or Model No:
E/S Manufacturer : STANDARD
E/S Diam. (m): 7.0
E/S Freq (nom, GHz): 6.175
E/S Tx Gain (dBi): 51.0
ULPC Margin (dB): .0

----- Receive Earth Station -----

Location: -6_dB_Gain_Contour
Latitude (deg): *
Longitude (deg): *
Rain Rate (mm/hr): 42*
E/S Type or Model No:
E/S Manufacturer : STANDARD
E/S Diam. (m): 3.5
E/S Freq (nom, GHz): 3.95
E/S Gain (nom, dBi): 41.1
E/S Feed Loss (dB): 0.15
E/S Ant. Temp(deg K): 25
E/S LNA Temp (deg K): 65
E/S G/T (nom, dB/K): *

SATOPT5 (Version 5.68) (C) 2004 TEL/COM Sciences, Inc. All Rights Reserved.
5-Dec-08 11:22
PanAmSat, Customer Support Engineering.

SATELLITE DATA	Satellite : INTELSAT_702 Uplink Beam: GLOBAL Uplink POL: , Dnlink POL: , EIRP, beam center: 37.5 dBW G/T:-11.0 dB/K, SFD:-82.3 dBW/m2 Dnlink EIRP: 31.5 dBW	Location: 66.0E Dnlink Beam: HEMI
TRANSPONDER DATA	Trans Bandwidth :36 MHz Uplink Frequency:6.175 GHz IBO (Nominal) : 8.2 dB	Trans Type: LTWTA Dnlink Freq: 3.950 GHz OBO (Nominal): 3.5 dB
CARRIER DATA	Type: CS701, Info Rate: 64 kbps, Mod: QPSK, 1/2x239/256-V BWo: 75.4kHz, BWa: 100kHz, C/N: 2.99dB, C/N_thresh: 2.79dB	
LINK BUDGET		
		CLR SKY UP FADE DN FADE
UPLINK PERFORMANCE	Earth Station EIRP (dBW)	48.3 n/a n/a
	- Uplink Path Loss, clear sky (dB)	-200.2 n/a n/a
	- Uplink Rain Attenuation (dB)	0.0 n/a n/a
	+ Satellite G/T (dB/K)	-11.0 n/a n/a
	- Boltzman's Constant (dBW/K-Hz)	228.6 n/a n/a
	- Carrier Noise Bandwidth (dB-Hz)	-48.8 n/a n/a
	C/N Uplink (dB)	16.9 n/a n/a
DOWNLINK PERFORMANCE	Satellite Saturation EIRP (dBW)	31.5 n/a n/a
	- Carrier Output Backoff (dB)	-27.6 n/a n/a
	Downlink EIRP per carrier (dBW)	3.9 n/a n/a
	- Earth Station Pointing Error (dB)	-5 n/a n/a
	- Downlink Path Loss, clear sky (dB)	-196.3 n/a n/a
	- Downlink Rain Attenuation (dB)	0.0 n/a n/a
	+ Earth Station G/T (dB/K)	21.0 n/a n/a
	- Boltzman's Constant (dBW/K-Hz)	228.6 n/a n/a
	- Carrier Noise Bandwidth (dB-Hz)	-48.8 n/a n/a
		C/N Dnlink (dB)
COMPOSITE PERFORMANCE	C/N Uplink (dB)	16.9 n/a n/a
	C/N Dnlink (dB)	7.9 n/a n/a
	C/I Intermod (dB)	19.3 n/a n/a
	C/I Uplink Co-channel (dB)	28.4 n/a n/a
	C/I Dnlink Co-Channel (dB)	28.4 n/a n/a
	C/I Uplink Adj. Sat. (SAT-1) (dB)	16.2 n/a n/a
	C/I Dnlink Adj. Sat. (SAT-1) (dB)	9.4 n/a n/a
	C/I Uplink Adj. Sat. (SAT-2) (dB)	16.2 n/a n/a
	C/I Dnlink Adj. Sat. (SAT-2) (dB)	14.2 n/a n/a
	C/(N+I) COMPOSITE (dB)	4.0 n/a n/a
	- Required System Margin (dB)	-1.0 n/a n/a
	Net C/(N+I) COMPOSITE (dB)	3.0 n/a n/a
	- Minimum Required C/N (dB)	-3.0 n/a n/a
	Excess Link Margin (dB)	0.0 n/a n/a
TRANSPONDER UTILIZATION	% BW/CARR: 0.28, % PWR/CARR: 0.39, Max No. Carriers: 258.1 Downlink EIRP per carrier toward beam center: 9.9 dBW	
TRANSMIT EARTH STATION	Loc: -4_dB Gain Contour ID: AZ: 0.0 Elev: 20.0 LAT: * LON: * ALT: 0.0m RainRate: 42.0mm/hr Carrier Power: 0.5 watts	
RECEIVE EARTH STA.	Loc: -6_dB Gain Contour ID: AZ: 0.0 Elev: 20.0 LAT: * LON: * ALT: 0.0m RainRate: 42.0mm/hr	
DENSITY INFORMATION	Uplink Pwr Den: -51.5 dBW/Hz, Dnlink EIRP Den: -38.9 dBW/Hz Max Dnlink PFD: -165.8 dB(W/m2/4kHz) @ Beam Center	
LOSS IN C/(N+I) DUE TO ADJ SAT INTF:	SAT-1 = 1.8dB, SAT-2 = 0.7dB	

GLOBAL-HEMI (36 MHz): 100KG7W
[Input Data]

----- SATELLITE -----

Satellite Name	: INTELSAT_702	Location (deg)	: 66.0E
Uplink Beam	: GLOBAL	Dnlink Beam	: HEMI
Trans. BW (MHz)	: 36 MHz	Trans. Type	: LTWTA
Uplink Pol.	:	Dnlink Pol.	:
Uplink Chan.	:	Dnlink Chan.	:
Uplink Frequency (GHz)	: 6.175	Dnlink Frequency (GHz)	: 3.950
G/T, beam center (dB/K)	: -7	EIRP, beam center (dBW)	: 37.5
G/T, beam edge (dB/K)	: -11	EIRP, beam edge (dBW)	: 31.5
G/T, toward Tx ES (dB/K)	: -11.0	EIRP, toward Rx ES (dBW)	: 31.5
SFD, beam edge (dBW/m2)	: -82.3		
SFD, toward Tx ES (dBW/m2)	: -82.3		

----- OPERATING CONDITIONS -----

Attenuator Setting (dB)	: 7	Nominal Uplink Co-Chan C/I (dB)	: 27.0
Input Backoff (dB)	: 8.2*	Nominal Dnlink Co-Chan C/I (dB)	: 27.0
Output Backoff (dB)	: *	Minimum Uplink Rain Margin (dB)	: 0.0
(C/Im) - Nominal (dB)	: *	Actual Uplink Rain Margin (dB)	: n/a
Min. System Margin (dB)	: 1.0	Uplink Power Control Margin (dB)	: .0
Max No Carriers / Trans:	: *	Minimum Dnlink Rain Margin (dB)	: 0.0
		Actual Dnlink Rain Margin (dB)	: n/a
		Dnlink Pointing Error (dB)	: 0.5

--- ADJACENT SATELLITE INTERFERENCE --- Sat. No. 1 --- Sat. No. 2 ---

Interfering Satellite Name	:	SAT-1	SAT-2
Interfering Satellite Location (deg)	:	64E	68E
Uplink Interference (dB or dBW/Hz)	:	-38.7	-38.7
Uplink Polarization Advantage (dB)	:	0.0	0.0
Downlink Interference (dB or dBW/Hz)	:	-38	-38
Downlink Polarization Advantage (dB)	:	0.0	0.0
Rx E/S Topocentric Angle (deg)	:	2.09	2.09
Rx E/S Pointing Error (deg)	:	-0.31	0.31
Rx E/S Off-Axis Angle (deg)	:	1.78	2.40
Rx E/S Adj. Sat. Discrimination (dB)	:	16.3	21.1

----- CARRIER PARAMETERS -----

Modem Type	: CS701	C/N (operating, dB)	: 2.99
Modulation	: QPSK	Eb/No (operating, dB)	: 3.7
Code Rate	: 1/2x239/256-V	C/N (threshold, dB)	: 2.79
Info Rate (kbps)	: 64	Eb/No (threshold, dB)	: 3.5
Occupied Bandwidth (kHz)	: 75.4		
Allocated Bandwidth (kHz)	: 100		

----- Transmit Earth Station -----

Location: -4_dB_Gain_Contour
Latitude (deg): *
Longitude (deg): *
Rain Rate (mm/hr): 42*
E/S Type or Model No:
E/S Manufacturer : STANDARD
E/S Diam. (m): 7.0
E/S Freq (nom, GHz): 6.175
E/S Tx Gain (dBi): 51.0
ULPC Margin (dB): .0

----- Receive Earth Station -----

Location: -6_dB_Gain_Contour
Latitude (deg): *
Longitude (deg): *
Rain Rate (mm/hr): 42*
E/S Type or Model No:
E/S Manufacturer : STANDARD
E/S Diam. (m): 3.5
E/S Freq (nom, GHz): 3.95
E/S Gain (nom, dBi): 41.1
E/S Feed Loss (dB): 0.15
E/S Ant. Temp (deg K): 25
E/S LNA Temp (deg K): 65
E/S G/T (nom, dB/K): *

SATOPT5 (Version 5.68) (C) 2004 TEL/COM Sciences, Inc. All Rights Reserved.
5-Dec-08 11:23
PanAmSat, Customer Support Engineering.

SATELLITE DATA	Satellite : INTELSAT_702 Uplink Beam: GLOBAL Uplink POL: , Dnlink POL: , EIRP, beam center: 36.3 dBW G/T:-11.0 dB/K, SFD:-75.3 dBW/m2	Location: 66.0E Dnlink Beam: CSPOT Dnlink EIRP: 32.3 dBW
TRANSPONDER DATA	Trans Bandwidth :36 MHz Uplink Frequency:6.175 GHz IBO (Nominal) : 9.0 dB	Trans Type: LTWTA Dnlink Freq: 3.950 GHz OBO (Nominal): 3.2 dB
CARRIER DATA	Type: TV/FM, Format: PAL, PreEmphasis+Weighting: 15.6dB RF BW: 30.0 MHz, P-Dev: 9.0 MHz, VideoBW: 6.0 MHz,	
LINK BUDGET		
		CLR SKY UP FADE DN FADE
UPLINK PERFORMANCE	Earth Station EIRP (dBW)	78.6 n/a n/a
	- Uplink Path Loss, clear sky (dB)	-200.2 n/a n/a
	- Uplink Rain Attenuation (dB)	0.0 n/a n/a
	+ Satellite G/T (dB/K)	-11.0 n/a n/a
	- Boltzman's Constant (dBW/K-Hz)	228.6 n/a n/a
	- Carrier Noise Bandwidth (dB-Hz)	-74.8 n/a n/a
	C/N Uplink (dB)	21.2 n/a n/a
DOWNLINK PERFORMANCE	Satellite Saturation EIRP (dBW)	32.3 n/a n/a
	- Carrier Output Backoff (dB)	-3.2 n/a n/a
	Downlink EIRP per carrier (dBW)	29.1 n/a n/a
	- Earth Station Pointing Error (dB)	-0.5 n/a n/a
	- Downlink Path Loss, clear sky (dB)	-196.3 n/a n/a
	- Downlink Rain Attenuation (dB)	0.0 n/a n/a
	+ Earth Station G/T (dB/K)	29.4 n/a n/a
	- Boltzman's Constant (dBW/K-Hz)	228.6 n/a n/a
	- Carrier Noise Bandwidth (dB-Hz)	-74.8 n/a n/a
		C/N Dnlink (dB)
COMPOSITE PERFORMANCE	C/N Uplink (dB)	21.2 n/a n/a
	C/N Dnlink (dB)	15.5 n/a n/a
	C/I Uplink Co-channel (dB)	27.8 n/a n/a
	C/I Dnlink Co-channel (dB)	27.8 n/a n/a
	C/I Uplink Adj. Sat. (SAT-1) (dB)	20.5 n/a n/a
	C/I Dnlink Adj. Sat. (SAT-1) (dB)	18.8 n/a n/a
	C/I Uplink Adj. Sat. (SAT-2) (dB)	20.5 n/a n/a
	C/I Dnlink Adj. Sat. (SAT-2) (dB)	20.0 n/a n/a
	C/(N+I) COMPOSITE (dB)	11.0 n/a n/a
	- Required System Margin (dB)	-1.0 n/a n/a
COMPOSITE PERFORMANCE	Net C/(N+I) COMPOSITE (dB)	10.0 n/a n/a
	- Minimum Required C/N (dB)	-10.0 n/a n/a
	Excess Link Margin (dB)	0.0 n/a n/a
	Video Signal-to-Noise Ratio (dB)	43.9 n/a n/a
	Audio Signal-to-Noise Ratio (dB)	57.7 n/a n/a
TRANSMIT EARTH STATION	Loc: -4_dB_Gain_Contour ID: AZ: 0.0 Elev: 20.0 LAT: * LON: * ALT: 0.0m RainRate: 42.0mm/hr Carrier Power: 281.7 watts	
RECEIVE EARTH STA.	Loc: -4_dB_Gain_Contour ID: AZ: 0.0 Elev: 20.0 LAT: * LON: * ALT: 0.0m RainRate: 42.0mm/hr	
DENSITY INFORMATION	Uplink Pwr Den: -50.3 dBW/Hz, Dnlink EIRP Den: -41.7 dBW/Hz Max Dnlink PFD: -168.6 dB(W/m2/4kHz) @ Beam Center	
LOSS IN C/(N+I) DUE TO ADJ SAT INTF: SAT-1 = 1.4dB, SAT-2 = 1.2dB		

GLOBAL-CSPOT (36 MHz): 30MOF3F
[Input Data]

----- SATELLITE -----

Satellite Name : INTELSAT_702 Location (deg): 66.0E
Uplink Beam : GLOBAL Dnlink Beam : CSPOT
Trans. BW (MHz): 36 MHz Trans. Type : LTWTA
Uplink Pol. : Dnlink Pol. :
Uplink Chan. : Dnlink Chan. :
Uplink Frequency (GHz): 6.175 Dnlink Frequency (GHz): 3.950
G/T, beam center (dB/K): -7 EIRP, beam center (dBW): 36.3
G/T, beam edge (dB/K): -11 EIRP, beam edge (dBW): 32.3
G/T, toward Tx ES (dB/K): -11.0 EIRP, toward Rx ES (dBW): 32.3
SFD, beam edge (dBW/m2): -75.3
SFD, toward Tx ES (dBW/m2): -75.3

----- OPERATING CONDITIONS -----

Attenuator Setting (dB): 15 Nominal Uplink Co-Chan C/I (dB): 27.0
Input Backoff (dB): 9 Nominal Dnlink Co-Chan C/I (dB): 27.0
Output Backoff (dB): * Minimum Uplink Rain Margin (dB): 0.0
(C/Im) - Nominal (dB): * Actual Uplink Rain Margin (dB): n/a
Min. System Margin (dB): 1.0 Uplink Power Control Margin (dB): 0.0
Max No Carriers / Trans: 1 Minimum Dnlink Rain Margin (dB): 0.0
 Actual Dnlink Rain Margin (dB): n/a
 Dnlink Pointing Error (dB): 0.5

----- ADJACENT SATELLITE INTERFERENCE ----- Sat. No. 1 ----- Sat. No. 2 -----

Interfering Satellite Name	:	SAT-1	SAT-2
Interfering Satellite Location (deg):		64E	68E
Uplink Interference (dB or dBW/Hz):		-38.7	-38.7
Uplink Polarization Advantage (dB):		0.0	0.0
Downlink Interference (dB or dBW/Hz):		-36.3	-36.3
Downlink Polarization Advantage (dB):		0.0	0.0
Rx E/S Topocentric Angle (deg):		2.09	2.09
Rx E/S Pointing Error (deg):		-0.12	0.12
Rx E/S Off-Axis Angle (deg):		1.97	2.21
Rx E/S Adj. Sat. Discrimination (dB):		28.2	29.4

----- TV/FM CARRIER PARAMETERS -----

Video Format : PAL Peak Deviation (MHz): 9.0
RF Noise BW (MHz): 30.0 PreEmphasis+Weighting (dB): 15.6
Video BW (MHz): 6.0 Threshold C/N (dB): 10.0

----- AUDIO SUB-CARRIER PARAMETERS -----

Sub-Carrier Freq (MHz): 6.6 Highest Audio Freq (kHz): 15.0
P-Dev of Video by Audio (MHz): 2.0 Companding Advantage (dB): 0.0
Peak Dev of Audio (kHz): 75.0

----- Transmit Earth Station -----

Location: -4_dB_Gain_Contour
Latitude (deg): *
Longitude (deg): *
Rain Rate (mm/hr): 42*
E/S Type or Model No:
E/S Manufacturer : STANDARD
E/S Diam. (m): 10.0
E/S Freq (nom, GHz): 6.175
E/S Tx Gain (dBi): 54.1
ULPC Margin (dB): .0

----- Receive Earth Station -----

Location: -4_dB_Gain_Contour
Latitude (deg): *
Longitude (deg): *
Rain Rate (mm/hr): 42*
E/S Type or Model No:
E/S Manufacturer : STANDARD
E/S Diam. (m): 9.2
E/S Freq (nom, GHz): 3.95
E/S Gain (nom, dBi): 50.3
E/S Feed Loss (dB): 0.15
E/S Ant. Temp(deg K): 45
E/S LNA Temp (deg K): 65
E/S G/T (nom, dB/K): *

SATOPT5 (Version 5.68) (C) 2004 TEL/COM Sciences, Inc. All Rights Reserved.
5-Dec-08 11:54
PanAmSat, Customer Support Engineering.

SATELLITE DATA	Satellite : INTELSAT_702 Uplink Beam: GLOBAL Uplink POL: , Dnlink POL: , EIRP, beam center: 36.3 dBW G/T:-11.0 dB/K, SFD:-88.3 dBW/m2	Location: 66.0E Dnlink Beam: CSPOT Dnlink EIRP: 32.3 dBW
TRANSPONDER DATA	Trans Bandwidth :36 MHz Uplink Frequency:6.175 GHz IBO (Nominal) : 0.0 dB	Trans Type: LTWTA Dnlink Freq: 3.950 GHz OBO (Nominal): 0.0 dB
CARRIER DATA	Type: NTC26%, Info Rate: 24575 kbps, Mod: QPSK, 1/2x188/204 BWo: 30133kHz, BWa: 36000kHz, C/N: 3.36dB, C/N_thresh: 3.36	
LINK BUDGET		
		CLR SKY UP FADE DN FADE
UPLINK PERFORMANCE	Earth Station EIRP (dBW)	74.6 n/a n/a
	- Uplink Path Loss, clear sky (dB)	-200.2 n/a n/a
	- Uplink Rain Attenuation (dB)	0.0 n/a n/a
	+ Satellite G/T (dB/K)	-11.0 n/a n/a
	- Boltzman's Constant (dBW/K-Hz)	228.6 n/a n/a
	- Carrier Noise Bandwidth (dB-Hz)	-74.8 n/a n/a
	C/N Uplink (dB)	17.2 n/a n/a
DOWNLINK PERFORMANCE	Satellite Saturation EIRP (dBW)	32.3 n/a n/a
	- Carrier Output Backoff (dB)	0.0 n/a n/a
	Downlink EIRP per carrier (dBW)	32.3 n/a n/a
	- Earth Station Pointing Error (dB)	-0.5 n/a n/a
	- Downlink Path Loss, clear sky (dB)	-196.3 n/a n/a
	- Downlink Rain Attenuation (dB)	0.0 n/a n/a
	+ Earth Station G/T (dB/K)	21.0 n/a n/a
- Boltzman's Constant (dBW/K-Hz)	228.6 n/a n/a	
- Carrier Noise Bandwidth (dB-Hz)	-74.8 n/a n/a	
C/N Dnlink (dB)	10.3 n/a n/a	
COMPOSITE PERFORMANCE	C/N Uplink (dB)	17.2 n/a n/a
	C/N Dnlink (dB)	10.3 n/a n/a
	C/I Uplink Co-channel (dB)	27.0 n/a n/a
	C/I Dnlink Co-channel (dB)	27.0 n/a n/a
	C/I Uplink Adj. Sat. (SAT-1) (dB)	16.5 n/a n/a
	C/I Dnlink Adj. Sat. (SAT-1) (dB)	10.1 n/a n/a
	C/I Uplink Adj. Sat. (SAT-2) (dB)	16.5 n/a n/a
	C/I Dnlink Adj. Sat. (SAT-2) (dB)	14.9 n/a n/a
	C/(N+I) COMPOSITE (dB)	5.4 n/a n/a
	- Required System Margin (dB)	-1.0 n/a n/a
COMPOSITE PERFORMANCE	Net C/(N+I) COMPOSITE (dB)	4.4 n/a n/a
	- Minimum Required C/N (dB)	-3.4 n/a n/a
Excess Link Margin (dB)	1.0 n/a n/a	
TRANSPONDER UTILIZATION	% BW/CARR: 100.00, % PWR/CARR: 100.00, Max No. Carriers: 1.0 Downlink EIRP per carrier toward beam center: 36.3 dBW	
TRANSMIT EARTH STATION	Loc: -4_dB_Gain_Contour ID: AZ: 0.0 Elev: 20.0 LAT: * LON: * ALT: 0.0m RainRate: 42.0mm/hr Carrier Power: 229.0 watts	
RECEIVE EARTH STA.	Loc: -4_dB_Gain_Contour ID: AZ: 0.0 Elev: 20.0 LAT: * LON: * ALT: 0.0m RainRate: 42.0mm/hr	
DENSITY INFORMATION	Uplink Pwr Den: -51.2 dBW/Hz, Dnlink EIRP Den: -38.5 dBW/Hz Max Dnlink PFD: -165.4 dB(W/m2/4kHz) @ Beam Center	
LOSS IN C/(N+I) DUE TO ADJ SAT INTF:	SAT-1 = 2.3dB, SAT-2 = 0.9dB	

GLOBAL-CSPOT (36 MHz): 36MOG7W
[Input Data]

----- SATELLITE -----

Satellite Name	: INTELSAT_702	Location (deg):	66.0E
Uplink Beam	: GLOBAL	Dnlink Beam	: CSPOT
Trans. BW (MHz)	: 36 MHz	Trans. Type	: LTWTA
Uplink Pol.	:	Dnlink Pol.	:
Uplink Chan.	:	Dnlink Chan.	:
Uplink Frequency (GHz)	: 6.175	Dnlink Frequency (GHz)	: 3.950
G/T, beam center (dB/K)	: -7	EIRP, beam center (dBW)	: 36.3
G/T, beam edge (dB/K)	: -11	EIRP, beam edge (dBW)	: 32.3
G/T, toward Tx ES (dB/K)	: -11.0	EIRP, toward Rx ES (dBW)	: 32.3
SFD, beam edge (dBW/m2)	: -88.3		
SFD, toward Tx ES (dBW/m2)	: -88.3		

----- OPERATING CONDITIONS -----

Attenuator Setting (dB):	1	Nominal Uplink Co-Chan C/I (dB):	27.0
Input Backoff (dB):	0.0	Nominal Dnlink Co-Chan C/I (dB):	27.0
Output Backoff (dB):	*	Minimum Uplink Rain Margin (dB):	0.0
(C/Im) - Nominal (dB):	*	Actual Uplink Rain Margin (dB):	n/a
Min. System Margin (dB):	1.0	Uplink Power Control Margin (dB):	.0
Max No Carriers / Trans:	1	Minimum Dnlink Rain Margin (dB):	0.0
		Actual Dnlink Rain Margin (dB):	n/a
		Dnlink Pointing Error (dB):	0.5

-- ADJACENT SATELLITE INTERFERENCE ----- Sat. No. 1 ----- Sat. No. 2 -----

Interfering Satellite Name	:	SAT-1	SAT-2
Interfering Satellite Location (deg):	:	64E	68E
Uplink Interference (dB or dBW/Hz):	:	-38.7	-38.7
Uplink Polarization Advantage (dB):	:	0.0	0.0
Downlink Interference (dB or dBW/Hz):	:	-36.3	-36.3
Downlink Polarization Advantage (dB):	:	0.0	0.0
Rx E/S Topocentric Angle (deg):	:	2.09	2.09
Rx E/S Pointing Error (deg):	:	-0.31	0.31
Rx E/S Off-Axis Angle (deg):	:	1.78	2.40
Rx E/S Adj. Sat. Discrimination (dB):	:	16.3	21.1

----- CARRIER PARAMETERS -----

Modem Type	: NTC26%	C/N (operating, dB):	3.36
Modulation	: QPSK	Eb/No (operating, dB):	4.2
Code Rate	: 1/2x188/204-V	C/N (threshold, dB):	3.36
Info Rate (kbps):	24575	Eb/No (threshold, dB):	4.2
Occupied Bandwidth (kHz):	30133		
Allocated Bandwidth (kHz):	36000		

----- Transmit Earth Station -----

Location: -4_dB_Gain_Contour
Latitude (deg): *
Longitude (deg): *
Rain Rate (mm/hr): 42*
E/S Type or Model No:
E/S Manufacturer : STANDARD
E/S Diam. (m): 7.0
E/S Freq (nom, GHz): 6.175
E/S Tx Gain (dBi): 51.0
ULPC Margin (dB): .0

----- Receive Earth Station -----

Location: -4_dB_Gain_Contour
Latitude (deg): *
Longitude (deg): *
Rain Rate (mm/hr): 42*
E/S Type or Model No:
E/S Manufacturer : STANDARD
E/S Diam. (m): 3.5
E/S Freq (nom, GHz): 3.95
E/S Gain (nom, dBi): 41.1
E/S Feed Loss (dB): 0.15
E/S Ant. Temp(deg K): 25
E/S LNA Temp (deg K): 65
E/S G/T (nom, dB/K): *

SATOPT5 (Version 5.68) (C) 2004 TEL/COM Sciences, Inc. All Rights Reserved.
5-Dec-08 11:45
PanAmSat, Customer Support Engineering.

SATELLITE DATA	Satellite : INTELSAT_702 Uplink Beam: GLOBAL Uplink POL: , Dnlink POL: , EIRP, beam center: 36.3 dBW G/T:-11.0 dB/K, SFD:-81.3 dBW/m2	Location: 66.0E Dnlink Beam: CSPOT Dnlink EIRP: 32.3 dBW		
TRANSPONDER DATA	Trans Bandwidth :36 MHz Uplink Frequency:6.175 GHz IBO (Nominal) : 8.2 dB	Trans Type: LTWTA Dnlink Freq: 3.950 GHz OBO (Nominal): 3.5 dB		
CARRIER DATA	Type: EF9000, Info Rate: 6000 kbps, Mod: QPSK, 1/2x188/204- BWo: 6771.1kHz, BWa: 10300kHz, C/N: 3.87dB, C/N_thresh: 3.5			
LINK BUDGET				
UPLINK PERFORMANCE	Earth Station EIRP (dBW)	69.6	n/a	n/a
	- Uplink Path Loss, clear sky (dB)	-200.2	n/a	n/a
	- Uplink Rain Attenuation (dB)	0.0	n/a	n/a
	+ Satellite G/T (dB/K)	-11.0	n/a	n/a
	- Boltzman's Constant (dBW/K-Hz)	228.6	n/a	n/a
	- Carrier Noise Bandwidth (dB-Hz)	-68.3	n/a	n/a
	C/N Uplink (dB)	18.7	n/a	n/a
	Satellite Saturation EIRP (dBW)	32.3	n/a	n/a
	- Carrier Output Backoff (dB)	-7.3	n/a	n/a
	DOWNLINK PERFORMANCE	Downlink EIRP per carrier (dBW)	25.0	n/a
	- Earth Station Pointing Error (dB)	-0.5	n/a	n/a
	- Downlink Path Loss, clear sky (dB)	-196.3	n/a	n/a
	- Downlink Rain Attenuation (dB)	0.0	n/a	n/a
	+ Earth Station G/T (dB/K)	21.0	n/a	n/a
	- Boltzman's Constant (dBW/K-Hz)	228.6	n/a	n/a
	- Carrier Noise Bandwidth (dB-Hz)	-68.3	n/a	n/a
	C/N Dnlink (dB)	9.5	n/a	n/a
	C/N Uplink (dB)	18.7	n/a	n/a
	C/N Dnlink (dB)	9.5	n/a	n/a
	C/I Intermod (dB)	20.1	n/a	n/a
	C/I Uplink Co-channel (dB)	28.7	n/a	n/a
	C/I Dnlink Co-Channel (dB)	28.7	n/a	n/a
	C/I Uplink Adj. Sat. (SAT-1) (dB)	18.0	n/a	n/a
	C/I Dnlink Adj. Sat. (SAT-1) (dB)	9.3	n/a	n/a
	C/I Uplink Adj. Sat. (SAT-2) (dB)	18.0	n/a	n/a
	C/I Dnlink Adj. Sat. (SAT-2) (dB)	14.1	n/a	n/a
COMPOSITE PERFORMANCE	C/(N+I) COMPOSITE (dB)	4.9	n/a	n/a
	- Required System Margin (dB)	-1.0	n/a	n/a
	Net C/(N+I) COMPOSITE (dB)	3.9	n/a	n/a
	- Minimum Required C/N (dB)	-3.9	n/a	n/a
	Excess Link Margin (dB)	0.0	n/a	n/a
TRANSPONDER UTILIZATION	% BW/CARR: 28.61, % PWR/CARR: 41.95, Max No. Carriers: 2.4 Downlink EIRP per carrier toward beam center: 29.0 dBW			
TRANSMIT EARTH STATION	Loc: -4_dB_Gain_Contour ID: AZ: 0.0 Elev: 20.0 LAT: * LON: * ALT: 0.0m RainRate: 42.0mm/hr Carrier Power: 72.9 watts			
RECEIVE EARTH STA.	Loc: -4_dB_Gain_Contour ID: AZ: 0.0 Elev: 20.0 LAT: * LON: * ALT: 0.0m RainRate: 42.0mm/hr			
DENSITY INFORMATION	Uplink Pwr Den: -49.7 dBW/Hz, Dnlink EIRP Den: -39.3 dBW/Hz Max Dnlink PFD: -166.2 dB(W/m2/4kHz) @ Beam Center			
LOSS IN C/(N+I) DUE TO ADJ SAT INTF: SAT-1 = 2.3dB, SAT-2 = 0.8dB				

GLOBAL-CSPOT (36 MHz): 10M3G7W
[Input Data]

----- SATELLITE -----

Satellite Name	: INTELSAT_702	Location (deg)	: 66.0E
Uplink Beam	: GLOBAL	Dnlink Beam	: CSPOT
Trans. BW (MHz)	: 36 MHz	Trans. Type	: LTWTA
Uplink Pol.	:	Dnlink Pol.	:
Uplink Chan.	:	Dnlink Chan.	:
Uplink Frequency (GHz)	: 6.175	Dnlink Frequency (GHz)	: 3.950
G/T, beam center (dB/K)	: -7	EIRP, beam center (dBW)	: 36.3
G/T, beam edge (dB/K)	: -11	EIRP, beam edge (dBW)	: 32.3
G/T, toward Tx ES (dB/K)	: -11.0	EIRP, toward Rx ES (dBW)	: 32.3
SFD, beam edge (dBW/m2)	: -81.3		
SFD, toward Tx ES (dBW/m2)	: -81.3		

----- OPERATING CONDITIONS -----

Attenuator Setting (dB)	: 8	Nominal Uplink Co-Chan C/I (dB)	: 27.0
Input Backoff (dB)	: 8.2*	Nominal Dnlink Co-Chan C/I (dB)	: 27.0
Output Backoff (dB)	: *	Minimum Uplink Rain Margin (dB)	: 0.0
(C/Im) - Nominal (dB)	: *	Actual Uplink Rain Margin (dB)	: n/a
Min. System Margin (dB)	: 1.0	Uplink Power Control Margin (dB)	: .0
Max No Carriers / Trans:	: *	Minimum Dnlink Rain Margin (dB)	: 0.0
		Actual Dnlink Rain Margin (dB)	: n/a
		Dnlink Pointing Error (dB)	: 0.5

--- ADJACENT SATELLITE INTERFERENCE --- Sat. No. 1 --- Sat. No. 2 ---

Interfering Satellite Name	:	SAT-1	SAT-2
Interfering Satellite Location (deg)	:	64E	68E
Uplink Interference (dB or dBW/Hz)	:	-38.7	-38.7
Uplink Polarization Advantage (dB)	:	0.0	0.0
Downlink Interference (dB or dBW/Hz)	:	-36.3	-36.3
Downlink Polarization Advantage (dB)	:	0.0	0.0
Rx E/S Topocentric Angle (deg)	:	2.09	2.09
Rx E/S Pointing Error (deg)	:	-0.31	0.31
Rx E/S Off-Axis Angle (deg)	:	1.78	2.40
Rx E/S Adj. Sat. Discrimination (dB)	:	16.3	21.1

----- CARRIER PARAMETERS -----

Modem Type	: EF9000	C/N (operating, dB)	: 3.87
Modulation	: QPSK	Eb/No (operating, dB)	: 4.4
Code Rate	: 1/2x188/204-V	C/N (threshold, dB)	: 3.57
Info Rate (kbps)	: 6000	Eb/No (threshold, dB)	: 4.1
Occupied Bandwidth (kHz)	: 6771.1		
Allocated Bandwidth (kHz)	: 10300		

----- Transmit Earth Station -----

Location: -4_dB_Gain_Contour
Latitude (deg): *
Longitude (deg): *
Rain Rate (mm/hr): 42*
E/S Type or Model No:
E/S Manufacturer : STANDARD
E/S Diam. (m): 7.0
E/S Freq (nom, GHz): 6.175
E/S Tx Gain (dBi): 51.0
ULPC Margin (dB): .0

----- Receive Earth Station -----

Location: -4_dB_Gain_Contour
Latitude (deg): *
Longitude (deg): *
Rain Rate (mm/hr): 42*
E/S Type or Model No:
E/S Manufacturer : STANDARD
E/S Diam. (m): 3.5
E/S Freq (nom, GHz): 3.95
E/S Gain (nom, dBi): 41.1
E/S Feed Loss (dB): 0.15
E/S Ant. Temp(deg K): 25
E/S LNA Temp (deg K): 65
E/S G/T (nom, dB/K): *

SATOPT5 (Version 5.68) (C) 2004 TEL/COM Sciences, Inc. All Rights Reserved.
5-Dec-08 11:49

PanAmSat, Customer Support Engineering.

SATELLITE DATA	Satellite : INTELSAT_702 Uplink Beam: GLOBAL Uplink POL: , Dnlink POL: , EIRP, beam center: 36.3 dBW G/T:-11.0 dB/K, SFD:-81.3 dBW/m2	Location: 66.0E Dnlink Beam: CSPOT Dnlink EIRP: 32.3 dBW		
TRANSPONDER DATA	Trans Bandwidth :36 MHz Uplink Frequency:6.175 GHz IBO (Nominal) : 8.2 dB	Trans Type: LTWTA Dnlink Freq: 3.950 GHz OBO (Nominal): 3.5 dB		
CARRIER DATA	Type: CS701, Info Rate: 64 kbps, Mod: QPSK, 1/2x239/256-V BWo: 75.4kHz, BWa: 100kHz, C/N: 2.99dB, C/N_thresh: 2.79dB			
LINK BUDGET				
UPLINK PERFORMANCE	Earth Station EIRP (dBW)	49.2	n/a	n/a
	- Uplink Path Loss, clear sky (dB)	-200.2	n/a	n/a
	- Uplink Rain Attenuation (dB)	0.0	n/a	n/a
	+ Satellite G/T (dB/K)	-11.0	n/a	n/a
	- Boltzman's Constant (dBW/K-Hz)	228.6	n/a	n/a
	- Carrier Noise Bandwidth (dB-Hz)	-48.8	n/a	n/a
	C/N Uplink (dB)	17.8	n/a	n/a
DOWNLINK PERFORMANCE	Satellite Saturation EIRP (dBW)	32.3	n/a	n/a
	- Carrier Output Backoff (dB)	-27.7	n/a	n/a
	Downlink EIRP per carrier (dBW)	4.6	n/a	n/a
	- Earth Station Pointing Error (dB)	-5.1	n/a	n/a
	- Downlink Path Loss, clear sky (dB)	-196.3	n/a	n/a
	- Downlink Rain Attenuation (dB)	0.0	n/a	n/a
	+ Earth Station G/T (dB/K)	21.0	n/a	n/a
	- Boltzman's Constant (dBW/K-Hz)	228.6	n/a	n/a
	- Carrier Noise Bandwidth (dB-Hz)	-48.8	n/a	n/a
	C/N Dnlink (dB)	8.6	n/a	n/a
COMPOSITE PERFORMANCE	C/N Uplink (dB)	17.8	n/a	n/a
	C/N Dnlink (dB)	8.6	n/a	n/a
	C/I Intermod (dB)	19.2	n/a	n/a
	C/I Uplink Co-channel (dB)	28.4	n/a	n/a
	C/I Dnlink Co-Channel (dB)	28.4	n/a	n/a
	C/I Uplink Adj. Sat. (SAT-1) (dB)	17.1	n/a	n/a
	C/I Dnlink Adj. Sat. (SAT-1) (dB)	8.5	n/a	n/a
	C/I Uplink Adj. Sat. (SAT-2) (dB)	17.1	n/a	n/a
	C/I Dnlink Adj. Sat. (SAT-2) (dB)	13.2	n/a	n/a
	C/(N+I) COMPOSITE (dB)	4.0	n/a	n/a
	- Required System Margin (dB)	-1.0	n/a	n/a
	Net C/(N+I) COMPOSITE (dB)	3.0	n/a	n/a
	- Minimum Required C/N (dB)	-3.0	n/a	n/a
	Excess Link Margin (dB)	0.0	n/a	n/a
TRANSPONDER UTILIZATION	% BW/CARR: 0.28, % PWR/CARR: 0.38, Max No. Carriers: 262.5 Downlink EIRP per carrier toward beam center: 8.6 dBW			
TRANSMIT EARTH STATION	Loc: -4_dB_Gain_Contour ID: AZ: 0.0 Elev: 20.0 LAT: * LON: * ALT: 0.0m RainRate: 42.0mm/hr Carrier Power: 0.7 watts			
RECEIVE EARTH STA.	Loc: -4_dB_Gain_Contour ID: AZ: 0.0 Elev: 20.0 LAT: * LON: * ALT: 0.0m RainRate: 42.0mm/hr			
DENSITY INFORMATION	Uplink Pwr Den: -50.6 dBW/Hz, Dnlink EIRP Den: -40.2 dBW/Hz Max Dnlink PFD: -167.1 dB(W/m2/4kHz) @ Beam Center			
LOSS IN C/(N+I) DUE TO ADJ SAT INTF:	SAT-1 = 2.3dB, SAT-2 = 0.8dB			

GLOBAL-CSPOT (36 MHz): 100KG7W
[Input Data]

----- SATELLITE -----

Satellite Name	: INTELSAT_702	Location (deg)	: 66.0E
Uplink Beam	: GLOBAL	Dnlink Beam	: CSPOT
Trans. BW (MHz)	: 36 MHz	Trans. Type	: LTWTA
Uplink Pol.	:	Dnlink Pol.	:
Uplink Chan.	:	Dnlink Chan.	:
Uplink Frequency (GHz)	: 6.175	Dnlink Frequency (GHz)	: 3.950
G/T, beam center (dB/K)	: -7	EIRP, beam center (dBW)	: 36.3
G/T, beam edge (dB/K)	: -11	EIRP, beam edge (dBW)	: 32.3
G/T, toward Tx ES (dB/K)	: -11.0	EIRP, toward Rx ES (dBW)	: 32.3
SFD, beam edge (dBW/m2)	: -81.3		
SFD, toward Tx ES (dBW/m2)	: -81.3		

----- OPERATING CONDITIONS -----

Attenuator Setting (dB)	: 8	Nominal Uplink Co-Chan C/I (dB)	: 27.0
Input Backoff (dB)	: 8.2*	Nominal Dnlink Co-Chan C/I (dB)	: 27.0
Output Backoff (dB)	: *	Minimum Uplink Rain Margin (dB)	: 0.0
(C/Im) - Nominal (dB)	: *	Actual Uplink Rain Margin (dB)	: n/a
Min. System Margin (dB)	: 1.0	Uplink Power Control Margin (dB)	: .0
Max No Carriers / Trans:	: *	Minimum Dnlink Rain Margin (dB)	: 0.0
		Actual Dnlink Rain Margin (dB)	: n/a
		Dnlink Pointing Error (dB)	: 0.5

-- ADJACENT SATELLITE INTERFERENCE ----- Sat. No. 1 ----- Sat. No. 2 -----

Interfering Satellite Name	:	SAT-1	SAT-2
Interfering Satellite Location (deg)	:	64E	68E
Uplink Interference (dB or dBW/Hz)	:	-38.7	-38.7
Uplink Polarization Advantage (dB)	:	0.0	0.0
Downlink Interference (dB or dBW/Hz)	:	-36.3	-36.3
Downlink Polarization Advantage (dB)	:	0.0	0.0
Rx E/S Topocentric Angle (deg)	:	2.09	2.09
Rx E/S Pointing Error (deg)	:	-0.31	0.31
Rx E/S Off-Axis Angle (deg)	:	1.78	2.40
Rx E/S Adj. Sat. Discrimination (dB)	:	16.3	21.1

----- CARRIER PARAMETERS -----

Modem Type	: CS701	C/N (operating, dB)	: 2.99
Modulation	: QPSK	Eb/No (operating, dB)	: 3.7
Code Rate	: 1/2x239/256-V	C/N (threshold, dB)	: 2.79
Info Rate (kbps)	: 64	Eb/No (threshold, dB)	: 3.5
Occupied Bandwidth (kHz)	: 75.4		
Allocated Bandwidth (kHz)	: 100		

----- Transmit Earth Station -----

Location: -4_dB_Gain_Contour
Latitude (deg): *
Longitude (deg): *
Rain Rate (mm/hr): 42*
E/S Type or Model No:
E/S Manufacturer : STANDARD
E/S Diam. (m): 7.0
E/S Freq (nom, GHz): 6.175
E/S Tx Gain (dBi): 51.0
ULPC Margin (dB): .0

----- Receive Earth Station -----

Location: -4_dB_Gain_Contour
Latitude (deg): *
Longitude (deg): *
Rain Rate (mm/hr): 42*
E/S Type or Model No:
E/S Manufacturer : STANDARD
E/S Diam. (m): 3.5
E/S Freq (nom, GHz): 3.95
E/S Gain (nom, dBi): 41.1
E/S Feed Loss (dB): 0.15
E/S Ant. Temp(deg K): 25
E/S LNA Temp (deg K): 65
E/S G/T (nom, dB/K): *

SATOPT5 (Version 5.68) (C) 2004 TEL/COM Sciences, Inc. All Rights Reserved.
5-Dec-08 11:50
PanAmSat, Customer Support Engineering.

SATELLITE DATA	Satellite : INTELSAT_702 Uplink Beam: HEMI Uplink POL: , Dnlink POL: , EIRP, beam center: 29.5 dBW G/T:-11.0 dB/K, SFD:-71.8 dBW/m2	Location: 66.0E Dnlink Beam: GLOBAL Dnlink EIRP: 32.3 dBW
TRANSPONDER DATA	Trans Bandwidth :36 MHz Uplink Frequency:6.175 GHz IBO (Nominal) : 9.6 dB	Trans Type: LTWTA Dnlink Freq: 3.950 GHz OBO (Nominal): 3.8 dB
CARRIER DATA	Type: TV/FM, Format: PAL, PreEmphasis+Weighting: 15.6dB RF BW: 30.0 MHz, P-Dev: 9.0 MHz, VideoBW: 6.0 MHz,	
LINK BUDGET		
		CLR SKY UP FADE DN FADE
UPLINK PERFORMANCE	Earth Station EIRP (dBW)	81.5 n/a n/a
	- Uplink Path Loss, clear sky (dB)	-200.2 n/a n/a
	- Uplink Rain Attenuation (dB)	0.0 n/a n/a
	+ Satellite G/T (dB/K)	-11.0 n/a n/a
	- Boltzman's Constant (dBW/K-Hz)	228.6 n/a n/a
	- Carrier Noise Bandwidth (dB-Hz)	-74.8 n/a n/a
	C/N Uplink (dB)	24.1 n/a n/a
DOWNLINK PERFORMANCE	Satellite Saturation EIRP (dBW)	32.3 n/a n/a
	- Carrier Output Backoff (dB)	-3.8 n/a n/a
	Downlink EIRP per carrier (dBW)	28.5 n/a n/a
	- Earth Station Pointing Error (dB)	-0.5 n/a n/a
	- Downlink Path Loss, clear sky (dB)	-196.3 n/a n/a
	- Downlink Rain Attenuation (dB)	0.0 n/a n/a
	+ Earth Station G/T (dB/K)	31.0 n/a n/a
	- Boltzman's Constant (dBW/K-Hz)	228.6 n/a n/a
	- Carrier Noise Bandwidth (dB-Hz)	-74.8 n/a n/a
		C/N Dnlink (dB)
COMPOSITE PERFORMANCE	C/N Uplink (dB)	24.1 n/a n/a
	C/N Dnlink (dB)	16.6 n/a n/a
	C/I Uplink Co-channel (dB)	27.8 n/a n/a
	C/I Dnlink Co-Channel (dB)	27.8 n/a n/a
	C/I Uplink Adj. Sat. (SAT-1) (dB)	17.9 n/a n/a
	C/I Dnlink Adj. Sat. (SAT-1) (dB)	19.9 n/a n/a
	C/I Uplink Adj. Sat. (SAT-2) (dB)	17.9 n/a n/a
	C/I Dnlink Adj. Sat. (SAT-2) (dB)	21.0 n/a n/a
	C/(N+I) COMPOSITE (dB)	11.0 n/a n/a
	- Required System Margin (dB)	-1.0 n/a n/a
	Net C/(N+I) COMPOSITE (dB)	10.0 n/a n/a
	- Minimum Required C/N (dB)	-10.0 n/a n/a
	Excess Link Margin (dB)	0.0 n/a n/a
	Video Signal-to-Noise Ratio (dB)	43.9 n/a n/a
	Audio Signal-to-Noise Ratio (dB)	57.7 n/a n/a
TRANSMIT EARTH STATION	Loc: -6_dB_Gain_Contour ID: AZ: 0.0 Elev: 20.0 LAT: * LON: * ALT: 0.0m RainRate: 42.0mm/hr Carrier Power: 204.1 watts	
RECEIVE EARTH STA.	Loc: -4_dB_Gain_Contour ID: AZ: 0.0 Elev: 20.0 LAT: * LON: * ALT: 0.0m RainRate: 42.0mm/hr	
DENSITY INFORMATION	Uplink Pwr Den: -51.7 dBW/Hz, Dnlink EIRP Den: -43.4 dBW/Hz Max Dnlink PFD: -170.3 dB(W/m2/4kHz) @ Beam Center	
LOSS IN C/(N+I) DUE TO ADJ SAT INTF: SAT-1 = 1.7dB, SAT-2 = 1.6dB		

HEMI-GLOBAL (36 MHz): 30M0F3F
[Input Data]

----- SATELLITE -----

Satellite Name	: INTELSAT_702	Location (deg)	: 66.0E
Uplink Beam	: HEMI	Dnlink Beam	: GLOBAL
Trans. BW (MHz)	: 36 MHz	Trans. Type	: LTWTA
Uplink Pol.	:	Dnlink Pol.	:
Uplink Chan.	:	Dnlink Chan.	:
Uplink Frequency (GHz)	: 6.175	Dnlink Frequency (GHz)	: 3.950
G/T, beam center (dB/K)	: -1.5	EIRP, beam center (dBW)	: 29.5
G/T, beam edge (dB/K)	: -7.5	EIRP, beam edge (dBW)	: 25.5
G/T, toward Tx ES (dB/K)	: -11.0	EIRP, toward Rx ES (dBW)	: 32.3
SFD, beam edge (dBW/m2)	: -71.8		
SFD, toward Tx ES (dBW/m2)	: -71.8		

----- OPERATING CONDITIONS -----

Attenuator Setting (dB)	: 14	Nominal Uplink Co-Chan C/I (dB)	: 27.0
Input Backoff (dB)	: 9.6	Nominal Dnlink Co-Chan C/I (dB)	: 27.0
Output Backoff (dB)	: *	Minimum Uplink Rain Margin (dB)	: 0.0
(C/Im) - Nominal (dB)	: *	Actual Uplink Rain Margin (dB)	: n/a
Min. System Margin (dB)	: -1.0	Uplink Power Control Margin (dB)	: 0.0
Max No Carriers / Trans	: 1	Minimum Dnlink Rain Margin (dB)	: 0.0
		Actual Dnlink Rain Margin (dB)	: n/a
		Dnlink Pointing Error (dB)	: 0.5

----- ADJACENT SATELLITE INTERFERENCE ----- Sat. No. 1 ----- Sat. No. 2 -----

Interfering Satellite Name	:	SAT-1	SAT-2
Interfering Satellite Location (deg)	:	64E	68E
Uplink Interference (dB or dBW/Hz)	:	-38.7	-38.7
Uplink Polarization Advantage (dB)	:	0.0	0.0
Downlink Interference (dB or dBW/Hz)	:	-36.3	-36.3
Downlink Polarization Advantage (dB)	:	0.0	0.0
Rx E/S Topocentric Angle (deg)	:	2.09	2.09
Rx E/S Pointing Error (deg)	:	-0.10	0.10
Rx E/S Off-Axis Angle (deg)	:	1.99	2.19
Rx E/S Adj. Sat. Discrimination (dB)	:	29.9	30.9

----- TV/FM CARRIER PARAMETERS -----

Video Format	: PAL	Peak Deviation (MHz)	: 9.0
RF Noise BW (MHz)	: 30.0	PreEmphasis+Weighting (dB)	: 15.6
Video BW (MHz)	: 6.0	Threshold C/N (dB)	: 10.0

----- AUDIO SUB-CARRIER PARAMETERS -----

Sub-Carrier Freq (MHz)	: 6.6	Highest Audio Freq (kHz)	: 15.0
P-Dev of Video by Audio (MHz)	: 2.0	Companding Advantage (dB)	: 0.0
Peak Dev of Audio (kHz)	: 75.0		

----- Transmit Earth Station -----

Location: -6_dB_Gain_Contour
Latitude (deg): *
Longitude (deg): *
Rain Rate (mm/hr): 42*
E/S Type or Model No:
E/S Manufacturer : STANDARD
E/S Diam. (m): 15.2
E/S Freq (nom, GHz): 6.175
E/S Tx Gain (dBi): 58.4
ULPC Margin (dB): .0

----- Receive Earth Station -----

Location: -4_dB_Gain_Contour
Latitude (deg): *
Longitude (deg): *
Rain Rate (mm/hr): 42*
E/S Type or Model No:
E/S Manufacturer : STANDARD
E/S Diam. (m): 11.0
E/S Freq (nom, GHz): 3.95
E/S Gain (nom, dBi): 51.9
E/S Feed Loss (dB): 0.15
E/S Ant. Temp(deg K): 45
E/S LNA Temp (deg K): 65
E/S G/T (nom, dB/K): *

SATOPT5 (Version 5.68) (C) 2004 TEL/COM Sciences, Inc. All Rights Reserved.
5-Dec-08 13:35
PanAmSat, Customer Support Engineering.

SATELLITE DATA	Satellite : INTELSAT_702 Uplink Beam: HEMI Uplink POL: , Dnlink POL: , EIRP, beam center: 29.5 dBW G/T:-11.0 dB/K, SFD:-85.8 dBW/m2 Dnlink EIRP: 32.3 dBW	Location: 66.0E Dnlink Beam: GLOBAL
TRANSPONDER DATA	Trans Bandwidth :36 MHz Uplink Frequency:6.175 GHz IBO (Nominal) : 0.0 dB	Trans Type: LTWTA Dnlink Freq: 3.950 GHz OBO (Nominal): 0.0 dB
CARRIER DATA	Type: NTC26%, Info Rate: 24575 kbps, Mod: QPSK, 1/2x188/204 BWo: 30133kHz, BWa: 36000kHz, C/N: 3.36dB, C/N_thresh: 3.36	
LINK BUDGET		
		CLR SKY UP FADE DN FADE
UPLINK PERFORMANCE	Earth Station EIRP (dBW)	77.1 n/a n/a
	- Uplink Path Loss, clear sky (dB)	-200.2 n/a n/a
	- Uplink Rain Attenuation (dB)	0.0 n/a n/a
	+ Satellite G/T (dB/K)	-11.0 n/a n/a
	- Boltzman's Constant (dBW/K-Hz)	228.6 n/a n/a
	- Carrier Noise Bandwidth (dB-Hz)	-74.8 n/a n/a
	C/N Uplink (dB)	19.7 n/a n/a
DOWNLINK PERFORMANCE	Satellite Saturation EIRP (dBW)	32.3 n/a n/a
	- Carrier Output Backoff (dB)	0.0 n/a n/a
	Downlink EIRP per carrier (dBW)	32.3 n/a n/a
	- Earth Station Pointing Error (dB)	-0.5 n/a n/a
	- Downlink Path Loss, clear sky (dB)	-196.3 n/a n/a
	- Downlink Rain Attenuation (dB)	0.0 n/a n/a
	+ Earth Station G/T (dB/K)	21.0 n/a n/a
	- Boltzman's Constant (dBW/K-Hz)	228.6 n/a n/a
	- Carrier Noise Bandwidth (dB-Hz)	-74.8 n/a n/a
	C/N Dnlink (dB)	10.3 n/a n/a
COMPOSITE PERFORMANCE	C/N Uplink (dB)	19.7 n/a n/a
	C/N Dnlink (dB)	10.3 n/a n/a
	C/I Uplink Co-channel (dB)	27.0 n/a n/a
	C/I Dnlink Co-Channel (dB)	27.0 n/a n/a
	C/I Uplink Adj. Sat. (SAT-1) (dB)	13.5 n/a n/a
	C/I Dnlink Adj. Sat. (SAT-1) (dB)	10.1 n/a n/a
	C/I Uplink Adj. Sat. (SAT-2) (dB)	13.5 n/a n/a
	C/I Dnlink Adj. Sat. (SAT-2) (dB)	14.9 n/a n/a
	C/(N+I) COMPOSITE (dB)	4.9 n/a n/a
	- Required System Margin (dB)	-1.0 n/a n/a
TRANSPONDER UTILIZATION	% BW/CARR: 100.00, % PWR/CARR: 100.00, Max No. Carriers: 1.0 Downlink EIRP per carrier toward beam center: 29.5 dBW	
	TRANSMIT EARTH STATION	Loc: -6_dB_Gain_Contour ID: AZ: 0.0 Elev: 20.0 LAT: * LON: * ALT: 0.0m RainRate: 42.0mm/hr Carrier Power: 269.0 watts
	RECEIVE EARTH STA.	Loc: -4_dB_Gain_Contour ID: AZ: 0.0 Elev: 20.0 LAT: * LON: * ALT: 0.0m RainRate: 42.0mm/hr
DENSITY INFORMATION	Uplink Pwr Den: -50.5 dBW/Hz, Dnlink EIRP Den: -39.7 dBW/Hz Max Dnlink PFD: -166.6 dB(W/m2/4kHz) @ Beam Center	
LOSS IN C/(N+I) DUE TO ADJ SAT INTF: SAT-1 = 2.5dB, SAT-2 = 1.2dB		

HEMI-GLOBAL (36 MHz): 36MOG7W
[Input Data]

----- SATELLITE -----

Satellite Name : INTELSAT_702 Location (deg): 66.0E
Uplink Beam : HEMI Dnlink Beam : GLOBAL
Trans. BW (MHz): 36 MHz Trans. Type : LTWTA
Uplink Pol. : Dnlink Pol. :
Uplink Chan. : Dnlink Chan. :
Uplink Frequency (GHz): 6.175 Dnlink Frequency (GHz): 3.950
G/T, beam center (dB/K): -1.5 EIRP, beam center (dBW): 29.5
G/T, beam edge (dB/K): -7.5 EIRP, beam edge (dBW): 25.5
G/T, toward Tx ES (dB/K): -11.0 EIRP, toward Rx ES (dBW): 32.3
SFD, beam edge (dBW/m2): -85.8
SFD, toward Tx ES (dBW/m2): -85.8

----- OPERATING CONDITIONS -----

Attenuator Setting (dB): 0 Nominal Uplink Co-Chan C/I (dB): 27.0
Input Backoff (dB): 0.0 Nominal Dnlink Co-Chan C/I (dB): 27.0
Output Backoff (dB): * Minimum Uplink Rain Margin (dB): 0.0
(C/Im) - Nominal (dB): * Actual Uplink Rain Margin (dB): n/a
Min. System Margin (dB): 1.0 Uplink Power Control Margin(dB): .0
Max-No-Carriers /-Trans: 1 Minimum Dnlink Rain Margin (dB): 0.0
 Actual Dnlink Rain Margin (dB): n/a
 Dnlink Pointing Error (dB): 0.5

----- ADJACENT SATELLITE INTERFERENCE ----- Sat. No. 1 ----- Sat. No. 2 -----

Interfering Satellite Name	:	SAT-1	SAT-2
Interfering Satellite Location (deg):	:	64E	68E
Uplink Interference (dB or dBW/Hz):	:	-38.7	-38.7
Uplink Polarization Advantage (dB):	:	0.0	0.0
Downlink Interference (dB or dBW/Hz):	:	-36.3	-36.3
Downlink Polarization Advantage (dB):	:	0.0	0.0
Rx E/S Topocentric Angle (deg):	:	2.09	2.09
Rx E/S Pointing Error (deg):	:	-0.31	0.31
Rx E/S Off-Axis Angle (deg):	:	1.78	2.40
Rx E/S Adj. Sat. Discrimination (dB):	:	16.3	21.1

----- CARRIER PARAMETERS -----

Modem Type	:	NTC26%	C/N	(operating, dB): 3.36
Modulation	:	QPSK	Eb/No	(operating, dB): 4.2
Code Rate	:	1/2x188/204-V	C/N	(threshold, dB): 3.36
Info Rate (kbps)	:	24575	Eb/No	(threshold, dB): 4.2
Occupied Bandwidth (kHz):	:	30133		
Allocated Bandwidth (kHz):	:	36000		

----- Transmit Earth Station ----- ----- Receive Earth Station -----

Location: -6_dB_Gain_Contour		Location: -4_dB_Gain_Contour	
Latitude (deg): *		Latitude (deg): *	
Longitude (deg): *		Longitude (deg): *	
Rain Rate (mm/hr): 42*		Rain Rate (mm/hr): 42*	
E/S Type or Model No:		E/S Type or Model No:	
E/S Manufacturer : STANDARD		E/S Manufacturer : STANDARD	
E/S Diam. (m): 8.1		E/S Diam. (m): 3.5	
E/S Freq (nom, GHz): 6.175		E/S Freq (nom, GHz): 3.95	
E/S Tx Gain (dBi): 52.8		E/S Gain (nom, dBi): 41.1	
ULPC Margin (dB): .0		E/S Feed Loss (dB): 0.15	
		E/S Ant. Temp(deg K): 25	
		E/S LNA Temp (deg K): 65	
		E/S G/T (nom, dB/K): *	

SATOPT5 (Version 5.68) (C) 2004 TEL/COM Sciences, Inc. All Rights Reserved.
5-Dec-08 13:26
PanAmSat, Customer Support Engineering.

SATELLITE DATA	Satellite : INTELSAT_702 Uplink Beam: HEMI Uplink POL: , Dnlink POL: , EIRP, beam center: 29.5 dBW G/T:-11.0 dB/K, SFD:-76.8 dBW/m2	Location: 66.0E Dnlink Beam: GLOBAL Dnlink EIRP: 32.3 dBW			
TRANSPONDER DATA	Trans Bandwidth :36 MHz Uplink Frequency:6.175 GHz IBO (Nominal) : 8.2 dB	Trans Type: LTWTA Dnlink Freq: 3.950 GHz OBO (Nominal): 3.5 dB			
CARRIER DATA	Type: EF9000, Info Rate: 6000 kbps, Mod: QPSK, 1/2x188/204- BWo: 6771.1kHz, BWa: 10300kHz, C/N: 3.87dB, C/N_thresh: 3.5				
LINK BUDGET					
	Earth Station EIRP (dBW)	74.1	CLR SKY	UP FADE	DN FADE
	- Uplink Path Loss, clear sky (dB)	-200.2		n/a	n/a
	- Uplink Rain Attenuation (dB)	0.0		n/a	n/a
UPLINK PERFORMANCE	+ Satellite G/T (dB/K)	-11.0		n/a	n/a
	- Boltzman's Constant (dBW/K-Hz)	228.6		n/a	n/a
	- Carrier Noise Bandwidth (dB-Hz)	-68.3		n/a	n/a
	C/N Uplink (dB)	23.2		n/a	n/a
	Satellite Saturation EIRP (dBW)	32.3		n/a	n/a
	- Carrier Output Backoff (dB)	-7.3		n/a	n/a
	Downlink EIRP per carrier (dBW)	25.0		n/a	n/a
	- Earth Station Pointing Error (dB)	-0.5		n/a	n/a
DOWNLINK PERFORMANCE	- Downlink Path Loss, clear sky (dB)	-196.3		n/a	n/a
	- Downlink Rain Attenuation (dB)	0.0		n/a	n/a
	+ Earth Station G/T (dB/K)	21.0		n/a	n/a
	- Boltzman's Constant (dBW/K-Hz)	228.6		n/a	n/a
	- Carrier Noise Bandwidth (dB-Hz)	-68.3		n/a	n/a
	C/N Dnlink (dB)	9.5		n/a	n/a
	C/N Uplink (dB)	23.2		n/a	n/a
	C/N Dnlink (dB)	9.5		n/a	n/a
	C/I Intermod (dB)	20.1		n/a	n/a
	C/I Uplink Co-channel (dB)	28.7		n/a	n/a
	C/I Dnlink Co-channel (dB)	28.7		n/a	n/a
	C/I Uplink Adj. Sat. (SAT-1) (dB)	17.0		n/a	n/a
	C/I Dnlink Adj. Sat. (SAT-1) (dB)	9.3		n/a	n/a
	C/I Uplink Adj. Sat. (SAT-2) (dB)	17.0		n/a	n/a
	C/I Dnlink Adj. Sat. (SAT-2) (dB)	14.1		n/a	n/a
COMPOSITE PERFORMANCE	C/(N+I) COMPOSITE (dB)	4.9		n/a	n/a
	- Required System Margin (dB)	-1.0		n/a	n/a
	Net C/(N+I) COMPOSITE (dB)	3.9		n/a	n/a
	- Minimum Required C/N (dB)	-3.9		n/a	n/a
	Excess Link Margin (dB)	0.0		n/a	n/a
TRANSPONDER UTILIZATION	% BW/CARR: 28.61, % PWR/CARR: 41.88, Max No. Carriers: 2.4 Downlink EIRP per carrier toward beam center: 22.2 dBW				
TRANSMIT EARTH STATION	Loc: -6_dB_Gain_Contour ID: AZ: 0.0 Elev: 20.0 LAT: * LON: * ALT: 0.0m RainRate: 42.0mm/hr Carrier Power: 205.0 watts				
RECEIVE EARTH STA.	Loc: -4_dB_Gain_Contour ID: AZ: 0.0 Elev: 20.0 LAT: * LON: * ALT: 0.0m RainRate: 42.0mm/hr				
DENSITY INFORMATION	Uplink Pwr Den: -45.2 dBW/Hz, Dnlink EIRP Den: -40.5 dBW/Hz Max Dnlink PFD: -167.4 dB(W/m2/4kHz) @ Beam Center				
LOSS IN C/(N+I) DUE TO ADJ SAT INTF:	SAT-1 = 2.4dB, SAT-2 = 0.9dB				

HEMI-GLOBAL (36 MHz): 10M3G7W
[Input Data]

----- SATELLITE -----

Satellite Name	: INTELSAT_702	Location (deg)	: 66.0E
Uplink Beam	: HEMI	Dnlink Beam	: GLOBAL
Trans. BW (MHz)	: 36 MHz	Trans. Type	: LTWTA
Uplink Pol.	:	Dnlink Pol.	:
Uplink Chan.	:	Dnlink Chan.	:
Uplink Frequency (GHz)	: 6.175	Dnlink Frequency (GHz)	: 3.950
G/T, beam center (dB/K)	: -1.5	EIRP, beam center (dBW)	: 29.5
G/T, beam edge (dB/K)	: -7.5	EIRP, beam edge (dBW)	: 25.5
G/T, toward Tx ES (dB/K)	: -11.0	EIRP, toward Rx ES (dBW)	: 32.3
SFD, beam edge (dBW/m2)	: -76.8		
SFD, toward Tx ES (dBW/m2)	: -76.8		

----- OPERATING CONDITIONS -----

Attenuator Setting (dB)	: 9	Nominal Uplink Co-Chan C/I (dB)	: 27.0
Input Backoff (dB)	: 8.2*	Nominal Dnlink Co-Chan C/I (dB)	: 27.0
Output Backoff (dB)	: *	Minimum Uplink Rain Margin (dB)	: 0.0
(C/Im) - Nominal (dB)	: *	Actual Uplink Rain Margin (dB)	: n/a
Min. System Margin (dB)	: 1.0	Uplink Power Control Margin (dB)	: 0
Max No Carriers / Trans:	*	Minimum Dnlink Rain Margin (dB)	: 0.0
		Actual Dnlink Rain Margin (dB)	: n/a
		Dnlink Pointing Error (dB)	: 0.5

----- ADJACENT SATELLITE INTERFERENCE ----- Sat. No. 1 ----- Sat. No. 2 -----

Interfering Satellite Name	:	SAT-1	SAT-2
Interfering Satellite Location (deg)	:	64E	68E
Uplink Interference (dB or dBW/Hz)	:	-38.7	-38.7
Uplink Polarization Advantage (dB)	:	0.0	0.0
Downlink Interference (dB or dBW/Hz)	:	-36.3	-36.3
Downlink Polarization Advantage (dB)	:	0.0	0.0
Rx E/S Topocentric Angle (deg)	:	2.09	2.09
Rx E/S Pointing Error (deg)	:	-0.31	0.31
Rx E/S Off-Axis Angle (deg)	:	1.78	2.40
Rx E/S Adj. Sat. Discrimination (dB)	:	16.3	21.1

----- CARRIER PARAMETERS -----

Modem Type	: EF9000	C/N (operating, dB)	: 3.87
Modulation	: QPSK	Eb/No (operating, dB)	: 4.4
Code Rate	: 1/2x188/204-V	C/N (threshold, dB)	: 3.57
Info Rate (kbps)	: 6000	Eb/No (threshold, dB)	: 4.1
Occupied Bandwidth (kHz)	: 6771.1		
Allocated Bandwidth (kHz)	: 10300		

----- Transmit Earth Station -----

Location: -6_dB_Gain_Contour
Latitude (deg): *
Longitude (deg): *
Rain Rate (mm/hr): 42*
E/S Type or Model No:
E/S Manufacturer : STANDARD
E/S Diam. (m): 7.0
E/S Freq (nom, GHz): 6.175
E/S Tx Gain (dBi): 51.0
ULPC Margin (dB): .0

----- Receive Earth Station -----

Location: -4_dB_Gain_Contour
Latitude (deg): *
Longitude (deg): *
Rain Rate (mm/hr): 42*
E/S Type or Model No:
E/S Manufacturer : STANDARD
E/S Diam. (m): 3.5
E/S Freq (nom, GHz): 3.95
E/S Gain (nom, dBi): 41.1
E/S Feed Loss (dB): 0.15
E/S Ant. Temp(deg K): 25
E/S LNA Temp (deg K): 65
E/S G/T (nom, dB/K): *

SATOPT5 (Version 5.68) (C) 2004 TEL/COM Sciences, Inc. All Rights Reserved.
5-Dec-08 13:32
PanAmSat, Customer Support Engineering.

SATELLITE DATA	Satellite : INTELSAT_702 Uplink Beam: HEMI Uplink POL: , Dnlink POL: , EIRP, beam center: 29.5 dBW G/T:-11.0 dB/K, SFD:-76.8 dBW/m2 Dnlink EIRP: 32.3 dBW	Location: 66.0E Dnlink Beam: GLOBAL
TRANSPONDER DATA	Trans Bandwidth :36 MHz Uplink Frequency:6.175 GHz IBO (Nominal) : 8.2 dB	Trans Type: LTWTA Dnlink Freq: 3.950 GHz OBO (Nominal): 3.5 dB
CARRIER DATA	Type: CS701, Info Rate: 64 kbps, Mod: QPSK, 1/2x239/256-V BWo: 75.4kHz, BWa: 100kHz; C/N: 2.99dB, C/N_thresh: 2.79dB	
LINK BUDGET		
		CLR SKY UP FADE DN FADE
UPLINK PERFORMANCE	Earth Station EIRP (dBW)	53.7 n/a n/a
	- Uplink Path Loss, clear sky (dB)	-200.2 n/a n/a
	- Uplink Rain Attenuation (dB)	0.0 n/a n/a
	+ Satellite G/T (dB/K)	-11.0 n/a n/a
	- Boltzman's Constant (dBW/K-Hz)	228.6 n/a n/a
	- Carrier Noise Bandwidth (dB-Hz)	-48.8 n/a n/a
	C/N Uplink (dB)	22.3 n/a n/a
DOWNLINK PERFORMANCE	Satellite Saturation EIRP (dBW)	32.3 n/a n/a
	- Carrier Output Backoff (dB)	-27.7 n/a n/a
	Downlink EIRP per carrier (dBW)	4.6 n/a n/a
	- Earth Station Pointing Error (dB)	- .5 n/a n/a
	- Downlink Path Loss, clear sky (dB)	-196.3 n/a n/a
	- Downlink Rain Attenuation (dB)	0.0 n/a n/a
	+ Earth Station G/T (dB/K)	21.0 n/a n/a
	- Boltzman's Constant (dBW/K-Hz)	228.6 n/a n/a
	- Carrier Noise Bandwidth (dB-Hz)	-48.8 n/a n/a
		C/N Dnlink (dB)
COMPOSITE PERFORMANCE	C/N Uplink (dB)	22.3 n/a n/a
	C/N Dnlink (dB)	8.6 n/a n/a
	C/I Intermod (dB)	19.2 n/a n/a
	C/I Uplink Co-channel (dB)	28.4 n/a n/a
	C/I Dnlink Co-Channel (dB)	28.4 n/a n/a
	C/I Uplink Adj. Sat. (SAT-1) (dB)	16.1 n/a n/a
	C/I Dnlink Adj. Sat. (SAT-1) (dB)	8.4 n/a n/a
	C/I Uplink Adj. Sat. (SAT-2) (dB)	16.1 n/a n/a
	C/I Dnlink Adj. Sat. (SAT-2) (dB)	13.2 n/a n/a
	C/(N+I) COMPOSITE (dB)	4.0 n/a n/a
- Required System Margin (dB)	-1.0 n/a n/a	
Net C/(N+I) COMPOSITE (dB)	3.0 n/a n/a	
- Minimum Required C/N (dB)	-3.0 n/a n/a	
	Excess Link Margin (dB)	0.0 n/a n/a
TRANSPONDER UTILIZATION	% BW/CARR: 0.28, % PWR/CARR: 0.38, Max No. Carriers: 262.9 Downlink EIRP per carrier toward beam center: 1.8 dBW	
TRANSMIT EARTH STATION	Loc: -6 dB Gain Contour ID: AZ: 0.0 Elev: 20.0 LAT: * LON: * ALT: 0.0m RainRate: 42.0mm/hr Carrier Power: 1.9 watts	
RECEIVE EARTH STA.	Loc: -4 dB Gain Contour ID: AZ: 0.0 Elev: 20.0 LAT: * LON: * ALT: 0.0m RainRate: 42.0mm/hr	
DENSITY INFORMATION	Uplink Pwr Den: -46.1 dBW/Hz, Dnlink EIRP Den: -41.4 dBW/Hz Max Dnlink PFD: -168.3 dB(W/m2/4kHz) @ Beam Center	
LOSS IN C/(N+I) DUE TO ADJ SAT INTF:	SAT-1 = 2.4dB, SAT-2 = 0.9dB	

HEMI-GLOBAL (36 MHz): 100KG7W
[Input Data]

----- SATELLITE -----

Satellite Name	: INTELSAT_702	Location (deg)	: 66.0E
Uplink Beam	: HEMI	Dnlink Beam	: GLOBAL
Trans. BW (MHz)	: 36 MHz	Trans. Type	: LTWTA
Uplink Pol.	:	Dnlink Pol.	:
Uplink Chan.	:	Dnlink Chan.	:
Uplink Frequency (GHz)	: 6.175	Dnlink Frequency (GHz)	: 3.950
G/T, beam center (dB/K)	: -1.5	EIRP, beam center (dBW)	: 29.5
G/T, beam edge (dB/K)	: -7.5	EIRP, beam edge (dBW)	: 25.5
G/T, toward Tx ES (dB/K)	: -11.0	EIRP, toward Rx ES (dBW)	: 32.3
SFD, beam edge (dBW/m2)	: -76.8		
SFD, toward Tx ES (dBW/m2)	: -76.8		

----- OPERATING CONDITIONS -----

Attenuator Setting (dB)	: 9	Nominal Uplink Co-Chan C/I (dB)	: 27.0
Input Backoff (dB)	: 8.2*	Nominal Dnlink Co-Chan C/I (dB)	: 27.0
Output Backoff (dB)	: *	Minimum Uplink Rain Margin (dB)	: 0.0
(C/Im) - Nominal (dB)	: *	Actual Uplink Rain Margin (dB)	: n/a
Min. System Margin (dB)	: 1.0	Uplink Power Control Margin (dB)	: 0
Max No Carriers / Trans	: *	Minimum Dnlink Rain Margin (dB)	: 0.0
		Actual Dnlink Rain Margin (dB)	: n/a
		Dnlink Pointing Error (dB)	: 0.5

--- ADJACENT SATELLITE INTERFERENCE ----- Sat. No. 1 ----- Sat. No. 2 -----

Interfering Satellite Name	:	SAT-1	SAT-2
Interfering Satellite Location (deg)	:	64E	68E
Uplink Interference (dB or dBW/Hz)	:	-38.7	-38.7
Uplink Polarization Advantage (dB)	:	0.0	0.0
Downlink Interference (dB or dBW/Hz)	:	-36.3	-36.3
Downlink Polarization Advantage (dB)	:	0.0	0.0
Rx E/S Topocentric Angle (deg)	:	2.09	2.09
Rx E/S Pointing Error (deg)	:	-0.31	0.31
Rx E/S Off-Axis Angle (deg)	:	1.78	2.40
Rx E/S Adj. Sat. Discrimination (dB)	:	16.3	21.1

----- CARRIER PARAMETERS -----

Modem Type	: CS701	C/N (operating, dB)	: 2.99
Modulation	: QPSK	Eb/No (operating, dB)	: 3.7
Code Rate	: 1/2x239/256-V	C/N (threshold, dB)	: 2.79
Info Rate (kbps)	: 64	Eb/No (threshold, dB)	: 3.5
Occupied Bandwidth (kHz)	: 75.4		
Allocated Bandwidth (kHz)	: 100		

----- Transmit Earth Station -----

Location: -6_dB_Gain_Contour
Latitude (deg): *
Longitude (deg): *
Rain Rate (mm/hr): 42*
E/S Type or Model No:
E/S Manufacturer : STANDARD
E/S Diam. (m): 7.0
E/S Freq (nom, GHz): 6.175
E/S Tx Gain (dBi): 51.0
ULPC Margin (dB): .0

----- Receive Earth Station -----

Location: -4_dB_Gain_Contour
Latitude (deg): *
Longitude (deg): *
Rain Rate (mm/hr): 42*
E/S Type or Model No:
E/S Manufacturer : STANDARD
E/S Diam. (m): 3.5
E/S Freq (nom, GHz): 3.95
E/S Gain (nom, dBi): 41.1
E/S Feed Loss (dB): 0.15
E/S Ant. Temp(deg K): 25
E/S LNA Temp (deg K): 65
E/S G/T (nom, dB/K): *

SATOPT5 (Version 5.68) (C) 2004 TEL/COM Sciences, Inc. All Rights Reserved.
5-Dec-08 13:32
PanAmSat, Customer Support Engineering.

SATELLITE DATA	Satellite : INTELSAT_702 Uplink Beam: HEMI Uplink POL: , Dnlink POL: , EIRP, beam center: 37.5 dBW G/T:-7.5 dB/K, SFD:-71.8 dBW/m2	Location: 66.0E Dnlink Beam: HEMI Dnlink EIRP: 31.5 dBW		
TRANSPONDER DATA	Trans Bandwidth :36 MHz Uplink Frequency:6.175 GHz IBO (Nominal) : 10.9 dB	Trans Type: LTWTA Dnlink Freq: 3.950 GHz OBO (Nominal): 5.0 dB		
CARRIER DATA	Type: TV/FM, Format: PAL, PreEmphasis+Weighting: 15.6dB RF BW: 30.0 MHz, P-Dev: 9.0 MHz, VideoBW: 6.0 MHz,			
LINK BUDGET				
UPLINK PERFORMANCE	Earth Station EIRP (dBW)	80.2	n/a	n/a
	- Uplink Path Loss, clear sky (dB)	-200.2	n/a	n/a
	- Uplink Rain Attenuation (dB)	0.0	n/a	n/a
	+ Satellite G/T (dB/K)	-7.5	n/a	n/a
	- Boltzman's Constant (dBW/K-Hz)	228.6	n/a	n/a
	- Carrier Noise Bandwidth (dB-Hz)	-74.8	n/a	n/a
	C/N Uplink (dB)	26.3	n/a	n/a
	Satellite Saturation EIRP (dBW)	31.5	n/a	n/a
	- Carrier Output Backoff (dB)	-5.0	n/a	n/a
	Downlink EIRP per carrier (dBW)	26.5	n/a	n/a
DOWNLINK PERFORMANCE	- Earth Station Pointing Error (dB)	-0.5	n/a	n/a
	- Downlink Path Loss, clear sky (dB)	-196.3	n/a	n/a
	- Downlink Rain Attenuation (dB)	0.0	n/a	n/a
	+ Earth Station G/T (dB/K)	31.0	n/a	n/a
	- Boltzman's Constant (dBW/K-Hz)	228.6	n/a	n/a
	- Carrier Noise Bandwidth (dB-Hz)	-74.8	n/a	n/a
	C/N Dnlink (dB)	14.5	n/a	n/a
	C/N Uplink (dB)	26.3	n/a	n/a
	C/N Dnlink (dB)	14.5	n/a	n/a
	C/I Uplink Co-channel (dB)	27.8	n/a	n/a
C/I Dnlink Co-Channel (dB)	27.8	n/a	n/a	
C/I Uplink Adj. Sat. (SAT-1) (dB)	20.1	n/a	n/a	
C/I Dnlink Adj. Sat. (SAT-1) (dB)	19.6	n/a	n/a	
C/I Uplink Adj. Sat. (SAT-2) (dB)	20.1	n/a	n/a	
C/I Dnlink Adj. Sat. (SAT-2) (dB)	20.6	n/a	n/a	
COMPOSITE PERFORMANCE	C/(N+I) COMPOSITE (dB)	11.0	n/a	n/a
- Required System Margin (dB)	-1.0	n/a	n/a	
Net C/(N+I) COMPOSITE (dB)	10.0	n/a	n/a	
- Minimum Required C/N (dB)	-10.0	n/a	n/a	
Excess Link Margin (dB)	0.0	n/a	n/a	
Video Signal-to-Noise Ratio (dB)	43.9	n/a	n/a	
Audio Signal-to-Noise Ratio (dB)	57.6	n/a	n/a	
TRANSMIT EARTH STATION	Loc: -6_dB_Gain_Contour ID: AZ: 0.0 Elev: 20.0 LAT: * LON: * ALT: 0.0m RainRate: 42.0mm/hr Carrier Power: 301.9 watts			
RECEIVE EARTH STA.	Loc: -6_dB_Gain_Contour ID: AZ: 0.0 Elev: 20.0 LAT: * LON: * ALT: 0.0m RainRate: 42.0mm/hr			
DENSITY INFORMATION	Uplink Pwr Den: -50.0 dBW/Hz, Dnlink EIRP Den: -42.3 dBW/Hz Max Dnlink PFD: -169.2 dB(W/m2/4kHz) @ Beam Center			
LOSS IN C/(N+I) DUE TO ADJ SAT INTF: SAT-1 = 1.3dB, SAT-2 = 1.1dB				

HEMI-HEMI (36 MHz): 30M0F3F
[Input Data]

----- SATELLITE -----

Satellite Name	: INTELSAT_702	Location (deg)	: 66.0E
Uplink Beam	: HEMI	Dnlink Beam	: HEMI
Trans. BW (MHz)	: 36 MHz	Trans. Type	: LTWTA
Uplink Pol.	:	Dnlink Pol.	:
Uplink Chan.	:	Dnlink Chan.	:
Uplink Frequency (GHz)	: 6.175	Dnlink Frequency (GHz)	: 3.950
G/T, beam center (dB/K)	: -1.5	EIRP, beam center (dBW)	: 37.5
G/T, beam edge (dB/K)	: -7.5	EIRP, beam edge (dBW)	: 31.5
G/T, toward Tx ES (dB/K)	: -7.5	EIRP, toward Rx ES (dBW)	: 31.5
SFD, beam edge (dBW/m2)	: -71.8		
SFD, toward Tx ES (dBW/m2)	: -71.8		

----- OPERATING CONDITIONS -----

Attenuator Setting (dB)	: 14	Nominal Uplink Co-Chan C/I (dB)	: 27.0
Input Backoff (dB)	: 11, 10.9	Nominal Dnlink Co-Chan C/I (dB)	: 27.0
Output Backoff (dB)	: *	Minimum Uplink Rain Margin (dB)	: 0.0
(C/Im) - Nominal (dB)	: *	Actual Uplink Rain Margin (dB)	: n/a
Min. System Margin (dB)	: 1.0	Uplink Power Control Margin (dB)	: 0.0
Max No Carriers / Trans	: 1	Minimum Dnlink Rain Margin (dB)	: 0.0
		Actual Dnlink Rain Margin (dB)	: n/a
		Dnlink Pointing Error (dB)	: 0.5

--- ADJACENT SATELLITE INTERFERENCE ----- Sat. No. 1 ----- Sat. No. 2 -----

Interfering Satellite Name	:	SAT-1	SAT-2
Interfering Satellite Location (deg)	:	64E	68E
Uplink Interference (dB or dBW/Hz)	:	-38.7	-38.7
Uplink Polarization Advantage (dB)	:	0.0	0.0
Downlink Interference (dB or dBW/Hz)	:	-38	-38
Downlink Polarization Advantage (dB)	:	0.0	0.0
Rx E/S Topocentric Angle (deg)	:	2.09	2.09
Rx E/S Pointing Error (deg)	:	-0.10	0.10
Rx E/S Off-Axis Angle (deg)	:	1.99	2.19
Rx E/S Adj. Sat. Discrimination (dB)	:	29.9	30.9

----- TV/FM CARRIER PARAMETERS -----

Video Format	: PAL	Peak Deviation (MHz)	: 9.0
RF Noise BW (MHz)	: 30.0	PreEmphasis+Weighting (dB)	: 15.6
Video BW (MHz)	: 6.0	Threshold C/N (dB)	: 10.0

----- AUDIO SUB-CARRIER PARAMETERS -----

Sub-Carrier Freq (MHz)	: 6.6	Highest Audio Freq (kHz)	: 15.0
P-Dev of Video by Audio (MHz)	: 2.0	Companding Advantage (dB)	: 0.0
Peak Dev of Audio (kHz)	: 75.0		

----- Transmit Earth Station -----

Location: -6_dB_Gain_Contour
Latitude (deg): *
Longitude (deg): *
Rain Rate (mm/hr): 42*
E/S Type or Model No:
E/S Manufacturer : STANDARD
E/S Diam. (m): 11.0
E/S Freq (nom, GHz): 6.175
E/S Tx Gain (dBi): 55.4
ULPC Margin (dB): .0

----- Receive Earth Station -----

Location: -6_dB_Gain_Contour
Latitude (deg): *
Longitude (deg): *
Rain Rate (mm/hr): 42*
E/S Type or Model No:
E/S Manufacturer : STANDARD
E/S Diam. (m): 11.0
E/S Freq (nom, GHz): 3.95
E/S Gain (nom, dBi): 51.9
E/S Feed Loss (dB): 0.15
E/S Ant. Temp(deg K): 45
E/S LNA Temp (deg K): 65
E/S G/T (nom, dB/K): *

SATOPT5 (Version 5.68) (C) 2004 TEL/COM Sciences, Inc. All Rights Reserved.
5-Dec-08 14:14
PanAmSat, Customer Support Engineering.

SATELLITE DATA	Satellite : INTELSAT_702 Uplink Beam: HEMI Uplink POL: , Dnlink POL: , EIRP, beam center: 37.5 dBW G/T:-7.5 dB/K, SFD:-85.8 dBW/m2 Dnlink EIRP: 31.5 dBW	Location: 66.0E Dnlink Beam: HEMI
TRANSPONDER DATA	Trans Bandwidth :36 MHz Uplink Frequency:6.175 GHz IBO (Nominal) : 0.0 dB	Trans Type: LTWTA Dnlink Freq: 3.950 GHz OBO (Nominal): 0.0 dB
CARRIER DATA	Type: NTC26%, Info Rate: 24575 kbps, Mod: QPSK, 1/2x188/204 BWo: 30133kHz, BWa: 36000kHz, C/N: 3.36dB, C/N_thresh: 3.36	
LINK BUDGET		
		CLR SKY UP FADE DN FADE
UPLINK PERFORMANCE	Earth Station EIRP (dBW)	77.1 n/a n/a
	- Uplink Path Loss, clear sky (dB)	-200.2 n/a n/a
	- Uplink Rain Attenuation (dB)	0.0 n/a n/a
	+ Satellite G/T (dB/K)	-7.5 n/a n/a
	- Boltzman's Constant (dBW/K-Hz)	228.6 n/a n/a
	- Carrier Noise Bandwidth (dB-Hz)	-74.8 n/a n/a
	C/N Uplink (dB)	23.2 n/a n/a
DOWNLINK PERFORMANCE	Satellite Saturation EIRP (dBW)	31.5 n/a n/a
	- Carrier Output Backoff (dB)	0.0 n/a n/a
	Downlink EIRP per carrier (dBW)	31.5 n/a n/a
	- Earth Station Pointing Error (dB)	-5 n/a n/a
	- Downlink Path Loss, clear sky (dB)	-196.3 n/a n/a
	- Downlink Rain Attenuation (dB)	0.0 n/a n/a
	+ Earth Station G/T (dB/K)	21.0 n/a n/a
	- Boltzman's Constant (dBW/K-Hz)	228.6 n/a n/a
	- Carrier Noise Bandwidth (dB-Hz)	-74.8 n/a n/a
	C/N Dnlink (dB)	9.5 n/a n/a
COMPOSITE PERFORMANCE	C/N Uplink (dB)	23.2 n/a n/a
	C/N Dnlink (dB)	9.5 n/a n/a
	C/I Uplink Co-channel (dB)	27.0 n/a n/a
	C/I Dnlink Co-Channel (dB)	27.0 n/a n/a
	C/I Uplink Adj. Sat. (SAT-1) (dB)	17.0 n/a n/a
	C/I Dnlink Adj. Sat. (SAT-1) (dB)	11.0 n/a n/a
	C/I Uplink Adj. Sat. (SAT-2) (dB)	17.0 n/a n/a
	C/I Dnlink Adj. Sat. (SAT-2) (dB)	15.8 n/a n/a
	C/(N+I) COMPOSITE (dB)	5.7 n/a n/a
	- Required System Margin (dB)	-1.0 n/a n/a
	Net C/(N+I) COMPOSITE (dB)	4.7 n/a n/a
	- Minimum Required C/N (dB)	-3.4 n/a n/a
	Excess Link Margin (dB)	1.4 n/a n/a
TRANSPONDER UTILIZATION	% BW/CARR: 100.00, % PWR/CARR: 100.00, Max No. Carriers: 1.0 Downlink EIRP per carrier toward beam center: 37.5 dBW	
TRANSMIT EARTH STATION	Loc: -6_dB_Gain_Contour ID: AZ: 0.0 Elev: 20.0 LAT: * LON: * ALT: 0.0m RainRate: 42.0mm/hr Carrier Power: 269.0 watts	
RECEIVE EARTH STA.	Loc: -6_dB_Gain_Contour ID: AZ: 0.0 Elev: 20.0 LAT: * LON: * ALT: 0.0m RainRate: 42.0mm/hr	
DENSITY INFORMATION	Uplink Pwr Den: -50.5 dBW/Hz, Dnlink EIRP Den: -37.3 dBW/Hz Max Dnlink PFD: -164.2 dB(W/m2/4kHz) @ Beam Center	
LOSS IN C/(N+I) DUE TO ADJ SAT INTF: SAT-1 = 2.0dB, SAT-2 = 0.8dB		

HEMI-HEMI (36 MHz): 36MOG7W
[Input Data]

----- SATELLITE -----

Satellite Name	: INTELSAT_702	Location (deg)	: 66.0E
Uplink Beam	: HEMI	Dnlink Beam	: HEMI
Trans. BW (MHz)	: 36 MHz	Trans. Type	: LTWTA
Uplink Pol.	:	Dnlink Pol.	:
Uplink Chan.	:	Dnlink Chan.	:
Uplink Frequency (GHz)	: 6.175	Dnlink Frequency (GHz)	: 3.950
G/T, beam center (dB/K)	: -1.5	EIRP, beam center (dBW)	: 37.5
G/T, beam edge (dB/K)	: -7.5	EIRP, beam edge (dBW)	: 31.5
G/T, toward Tx ES (dB/K)	: -7.5	EIRP, toward Rx ES (dBW)	: 31.5
SFD, beam edge (dBW/m2)	: -85.8		
SFD, toward Tx ES (dBW/m2)	: -85.8		

----- OPERATING CONDITIONS -----

Attenuator Setting (dB)	: 0	Nominal Uplink Co-Chan C/I (dB)	: 27.0
Input Backoff (dB)	: 0.0	Nominal Dnlink Co-Chan C/I (dB)	: 27.0
Output Backoff (dB)	: *	Minimum Uplink Rain Margin (dB)	: 0.0
(C/Im) - Nominal (dB)	: *	Actual Uplink Rain Margin (dB)	: n/a
Min. System Margin (dB)	: 1.0	Uplink Power Control Margin (dB)	: 0.0
Max No Carriers / Trans	: 1	Minimum Dnlink Rain Margin (dB)	: 0.0
		Actual Dnlink Rain Margin (dB)	: n/a
		Dnlink Pointing Error (dB)	: 0.5

--- ADJACENT SATELLITE INTERFERENCE --- Sat. No. 1 --- Sat. No. 2 ---

Interfering Satellite Name	:	SAT-1	SAT-2
Interfering Satellite Location (deg)	:	64E	68E
Uplink Interference (dB or dBW/Hz)	:	-38.7	-38.7
Uplink Polarization Advantage (dB)	:	0.0	0.0
Downlink Interference (dB or dBW/Hz)	:	-38	-38
Downlink Polarization Advantage (dB)	:	0.0	0.0
Rx E/S Topocentric Angle (deg)	:	2.09	2.09
Rx E/S Pointing Error (deg)	:	-0.31	0.31
Rx E/S Off-Axis Angle (deg)	:	1.78	2.40
Rx E/S Adj. Sat. Discrimination (dB)	:	16.3	21.1

----- CARRIER PARAMETERS -----

Modem Type	: NTC26%	C/N (operating, dB)	: 3.36
Modulation	: QPSK	Eb/No (operating, dB)	: 4.2
Code Rate	: 1/2x188/204-V	C/N (threshold, dB)	: 3.36
Info Rate (kbps)	: 24575	Eb/No (threshold, dB)	: 4.2
Occupied Bandwidth (kHz)	: 30133		
Allocated Bandwidth (kHz)	: 36000		

----- Transmit Earth Station -----

Location: -6_dB_Gain_Contour
Latitude (deg): *
Longitude (deg): *
Rain Rate (mm/hr): 42*
E/S Type or Model No:
E/S Manufacturer : STANDARD
E/S Diam. (m): 8.1
E/S Freq (nom, GHz): 6.175
E/S Tx Gain (dBi): 52.8
ULPC Margin (dB): .0

----- Receive Earth Station -----

Location: -6_dB_Gain_Contour
Latitude (deg): *
Longitude (deg): *
Rain Rate (mm/hr): 42*
E/S Type or Model No:
E/S Manufacturer : STANDARD
E/S Diam. (m): 3.5
E/S Freq (nom, GHz): 3.95
E/S Gain (nom, dBi): 41.1
E/S Feed Loss (dB): 0.15
E/S Ant. Temp(deg K): 25
E/S LNA Temp (deg K): 65
E/S G/T (nom, dB/K): *

SATOPT5 (Version 5.68) (C) 2004 TEL/COM Sciences, Inc. All Rights Reserved.
5-Dec-08 13:51
PanAmSat, Customer Support Engineering.

SATELLITE DATA	Satellite : INTELSAT_702 Uplink Beam: HEMI Uplink POL: , Dnlink POL: , EIRP, beam center: 37.5 dBW G/T:-7.5 dB/K, SFD:-80.8 dBW/m2 Dnlink EIRP: 31.5 dBW	Location: 66.0E Dnlink Beam: HEMI
TRANSPONDER DATA	Trans Bandwidth :36 MHz Uplink Frequency:6.175 GHz IBO (Nominal) : 8.2 dB	Trans Type: LTWTA Dnlink Freq: 3.950 GHz OBO (Nominal): 3.5 dB
CARRIER DATA	Type: EF9000, Info Rate: 6000 kbps, Mod: QPSK, 1/2x188/204- BWo: 6771.1kHz, Bwa: 10300kHz, C/N: 3.87dB, C/N_thresh: 3.5	
LINK BUDGET		
		CLR SKY UP FADE DN FADE
UPLINK PERFORMANCE	Earth Station EIRP (dBW)	70.1 n/a n/a
	- Uplink Path Loss, clear sky (dB)	-200.2 n/a n/a
	- Uplink Rain Attenuation (dB)	0.0 n/a n/a
	+ Satellite G/T (dB/K)	-7.5 n/a n/a
	- Boltzman's Constant (dBW/K-Hz)	228.6 n/a n/a
	- Carrier Noise Bandwidth (dB-Hz)	-68.3 n/a n/a
	C/N Uplink (dB)	22.7 n/a n/a
DOWNLINK PERFORMANCE	Satellite Saturation EIRP (dBW)	31.5 n/a n/a
	- Carrier Output Backoff (dB)	-7.3 n/a n/a
	Downlink EIRP per carrier (dBW)	24.2 n/a n/a
	- Earth Station Pointing Error (dB)	-0.5 n/a n/a
	- Downlink Path Loss, clear sky (dB)	-196.3 n/a n/a
	- Downlink Rain Attenuation (dB)	0.0 n/a n/a
	+ Earth Station G/T (dB/K)	21.0 n/a n/a
	- Boltzman's Constant (dBW/K-Hz)	228.6 n/a n/a
	- Carrier Noise Bandwidth (dB-Hz)	-68.3 n/a n/a
		C/N Dnlink (dB)
COMPOSITE PERFORMANCE	C/N Uplink (dB)	22.7 n/a n/a
	C/N Dnlink (dB)	8.6 n/a n/a
	C/I Intermod (dB)	20.1 n/a n/a
	C/I Uplink Co-channel (dB)	28.6 n/a n/a
	C/I Dnlink Co-Channel (dB)	28.6 n/a n/a
	C/I Uplink Adj. Sat. (SAT-1) (dB)	16.5 n/a n/a
	C/I Dnlink Adj. Sat. (SAT-1) (dB)	10.2 n/a n/a
	C/I Uplink Adj. Sat. (SAT-2) (dB)	16.5 n/a n/a
	C/I Dnlink Adj. Sat. (SAT-2) (dB)	15.0 n/a n/a
	C/(N+I) COMPOSITE (dB)	4.9 n/a n/a
	- Required System Margin (dB)	-1.0 n/a n/a
	Net C/(N+I) COMPOSITE (dB)	3.9 n/a n/a
	- Minimum Required C/N (dB)	-3.9 n/a n/a
	Excess Link Margin (dB)	0.0 n/a n/a
TRANSPONDER UTILIZATION	% BW/CARR: 28.61, % PWR/CARR: 41.78, Max No. Carriers: 2.4 Downlink EIRP per carrier toward beam center: 30.2 dBW	
TRANSMIT EARTH STATION	Loc: -6 dB Gain Contour ID: AZ: 0.0 Elev: 20.0 LAT: * LON: * ALT: 0.0m RainRate: 42.0mm/hr Carrier Power: 81.4 watts	
RECEIVE EARTH STA.	Loc: -6 dB Gain Contour ID: AZ: 0.0 Elev: 20.0 LAT: * LON: * ALT: 0.0m RainRate: 42.0mm/hr	
DENSITY INFORMATION	Uplink Pwr Den: -49.2 dBW/Hz, Dnlink EIRP Den: -38.1 dBW/Hz Max Dnlink PFD: -165.0 dB(W/m2/4kHz) @ Beam Center	
LOSS IN C/(N+I) DUE TO ADJ SAT INTF:	SAT-1 = 1.9dB, SAT-2 = 0.8dB	

HEMI-HEMI (36 MHz): 10M3G7W
[Input Data]

----- SATELLITE -----

Satellite Name	: INTELSAT_702	Location (deg)	: 66.0E
Uplink Beam	: HEMI	Dnlink Beam	: HEMI
Trans. BW (MHz)	: 36 MHz	Trans. Type	: LTWTA
Uplink Pol.	:	Dnlink Pol.	:
Uplink Chan.	:	Dnlink Chan.	:
Uplink Frequency (GHz)	: 6.175	Dnlink Frequency (GHz)	: 3.950
G/T, beam center (dB/K)	: -1.5	EIRP, beam center (dBW)	: 37.5
G/T, beam edge (dB/K)	: -7.5	EIRP, beam edge (dBW)	: 31.5
G/T, toward Tx ES (dB/K)	: -7.5	EIRP, toward Rx ES (dBW)	: 31.5
SFD, beam edge (dBW/m2)	: -80.8		
SFD, toward Tx ES (dBW/m2)	: -80.8		

----- OPERATING CONDITIONS -----

Attenuator Setting (dB)	: 5	Nominal Uplink Co-Chan C/I (dB)	: 27.0
Input Backoff (dB)	: 8.2*	Nominal Dnlink Co-Chan C/I (dB)	: 27.0
Output Backoff (dB)	: *	Minimum Uplink Rain Margin (dB)	: 0.0
(C/Im) - Nominal (dB)	: *	Actual Uplink Rain Margin (dB)	: n/a
Min. System Margin (dB)	: -1.0	Uplink Power Control Margin (dB)	: -0
Max No Carriers / Trans:	*	Minimum Dnlink Rain Margin (dB)	: 0.0
		Actual Dnlink Rain Margin (dB)	: n/a
		Dnlink Pointing Error (dB)	: 0.5

-- ADJACENT SATELLITE INTERFERENCE ----- Sat. No. 1 ----- Sat. No. 2 -----

Interfering Satellite Name	:	SAT-1	SAT-2
Interfering Satellite Location (deg)	:	64E	68E
Uplink Interference (dB or dBW/Hz)	:	-38.7	-38.7
Uplink Polarization Advantage (dB)	:	0.0	0.0
Downlink Interference (dB or dBW/Hz)	:	-38	-38
Downlink Polarization Advantage (dB)	:	0.0	0.0
Rx E/S Topocentric Angle (deg)	:	2.09	2.09
Rx E/S Pointing Error (deg)	:	-0.31	0.31
Rx E/S Off-Axis Angle (deg)	:	1.78	2.40
Rx E/S Adj. Sat. Discrimination (dB)	:	16.3	21.1

----- CARRIER PARAMETERS -----

Modem Type	: EF9000	C/N (operating, dB)	: 3.87
Modulation	: QPSK	Eb/No (operating, dB)	: 4.4
Code Rate	: 1/2x188/204-V	C/N (threshold, dB)	: 3.57
Info Rate (kbps)	: 6000	Eb/No (threshold, dB)	: 4.1
Occupied Bandwidth (kHz)	: 6771.1		
Allocated Bandwidth (kHz)	: 10300		

----- Transmit Earth Station -----

Location: -6_dB_Gain_Contour
Latitude (deg): *
Longitude (deg): *
Rain Rate (mm/hr): 42*
E/S Type or Model No:
E/S Manufacturer : STANDARD
E/S Diam. (m): 7.0
E/S Freq (nom, GHz): 6.175
E/S Tx Gain (dBi): 51.0
ULPC Margin (dB): .0

----- Receive Earth Station -----

Location: -6_dB_Gain_Contour
Latitude (deg): *
Longitude (deg): *
Rain Rate (mm/hr): 42*
E/S Type or Model No:
E/S Manufacturer : STANDARD
E/S Diam. (m): 3.5
E/S Freq (nom, GHz): 3.95
E/S Gain (nom, dBi): 41.1
E/S Feed Loss (dB): 0.15
E/S Ant. Temp(deg K): 25
E/S LNA Temp (deg K): 65
E/S G/T (nom, dB/K): *

SATOPT5 (Version 5.68) (C) 2004 TEL/COM Sciences, Inc. All Rights Reserved.
5-Dec-08 14:10
PanAmSat, Customer Support Engineering.

SATELLITE DATA	Satellite : INTELSAT_702 Uplink Beam: HEMI Uplink POL: , Dnlink POL: , EIRP, beam center: 37.5 dBW G/T:-7.5 dB/K, SFD:-80.8 dBW/m2	Location: 66.0E Dnlink Beam: HEMI Dnlink EIRP: 31.5 dBW
TRANSPONDER DATA	Trans Bandwidth :36 MHz Uplink Frequency:6.175 GHz IBO (Nominal) : 8.2 dB	Trans Type: LTWTA Dnlink Freq: 3.950 GHz OBO (Nominal): 3.5 dB
CARRIER DATA	Type: CS701, Info Rate: 64 kbps, Mod: QPSK, 1/2x239/256-V Bwo: 75.4kHz, Bwa: 100kHz, C/N: 2.99dB, C/N_thresh: 2.79dB	
LINK BUDGET		
UPLINK PERFORMANCE	Earth Station EIRP (dBW) - Uplink Path Loss, clear sky (dB) - Uplink Rain Attenuation (dB) + Satellite G/T (dB/K) - Boltzman's Constant (dBW/K-Hz) - Carrier Noise Bandwidth (dB-Hz) C/N Uplink (dB)	49.7 -200.2 0.0 -7.5 228.6 -48.8 21.8
DOWNLINK PERFORMANCE	Satellite Saturation-EIRP (dBW) - Carrier Output Backoff (dB) Downlink EIRP per carrier (dBW) - Earth Station Pointing Error (dB) - Downlink Path Loss, clear sky (dB) - Downlink Rain Attenuation (dB) + Earth Station G/T (dB/K) - Boltzman's Constant (dBW/K-Hz) - Carrier Noise Bandwidth (dB-Hz) C/N Dnlink (dB)	31.5 -27.7 3.8 -0.5 -196.3 0.0 21.0 228.6 -48.8 7.8
COMPOSITE PERFORMANCE	C/N Uplink (dB) C/N Dnlink (dB) C/I Intermod (dB) C/I Uplink Co-channel (dB) C/I Dnlink Co-Channel (dB) C/I Uplink Adj. Sat. (SAT-1) (dB) C/I Dnlink Adj. Sat. (SAT-1) (dB) C/I Uplink Adj. Sat. (SAT-2) (dB) C/I Dnlink Adj. Sat. (SAT-2) (dB) C/(N+I) COMPOSITE (dB) - Required System Margin (dB) Net C/(N+I) COMPOSITE (dB) - Minimum Required C/N (dB) Excess Link Margin (dB)	21.8 7.8 19.2 28.4 28.4 15.6 9.3 15.6 14.1 4.0 -1.0 3.0 -3.0 0.0
TRANSPONDER UTILIZATION	% BW/CARR: 0.28, % PWR/CARR: 0.38, Max No. Carriers: 263.5 Downlink EIRP per carrier toward beam center: 9.8 dBW	
TRANSMIT EARTH STATION	Loc: -6_dB_Gain_Contour ID: AZ: 0.0 Elev: 20.0 LAT: * LON: * ALT: 0.0m RainRate: 42.0mm/hr Carrier Power: 0.7 watts	
RECEIVE EARTH STA.	Loc: -6_dB_Gain_Contour ID: AZ: 0.0 Elev: 20.0 LAT: * LON: * ALT: 0.0m RainRate: 42.0mm/hr	
DENSITY INFORMATION	Uplink Pwr Den: -50.1 dBW/Hz, Dnlink EIRP Den: -39.0 dBW/Hz Max Dnlink PFD: -165.9 dB(W/m2/4kHz) @ Beam Center	
LOSS IN C/(N+I) DUE TO ADJ SAT INTF: SAT-1 = 1.9dB, SAT-2 = 0.8dB		

HEMI-HEMI (36 MHz): 100KG7W
[Input Data]

----- SATELLITE -----

Satellite Name	: INTELSAT_702	Location (deg)	: 66.0E
Uplink Beam	: HEMI	Dnlink Beam	: HEMI
Trans. BW (MHz)	: 36 MHz	Trans. Type	: LTWTA
Uplink Pol.	:	Dnlink Pol.	:
Uplink Chan.	:	Dnlink Chan.	:
Uplink Frequency (GHz)	: 6.175	Dnlink Frequency (GHz)	: 3.950
G/T, beam center (dB/K)	: -1.5	EIRP, beam center (dBW)	: 37.5
G/T, beam edge (dB/K)	: -7.5	EIRP, beam edge (dBW)	: 31.5
G/T, toward Tx ES (dB/K)	: -7.5	EIRP, toward Rx ES (dBW)	: 31.5
SFD, beam edge (dBW/m2)	: -80.8		
SFD, toward Tx ES (dBW/m2)	: -80.8		

----- OPERATING CONDITIONS -----

Attenuator Setting (dB)	: 5	Nominal Uplink Co-Chan C/I (dB)	: 27.0
Input Backoff (dB)	: 8.2*	Nominal Dnlink Co-Chan C/I (dB)	: 27.0
Output Backoff (dB)	: *	Minimum Uplink Rain Margin (dB)	: 0.0
(C/Im) - Nominal (dB)	: *	Actual Uplink Rain Margin (dB)	: n/a
Min. System Margin (dB)	: -1.0	Uplink Power Control Margin (dB)	: -0
Max No Carriers / Trans	: *	Minimum Dnlink Rain Margin (dB)	: 0.0
		Actual Dnlink Rain Margin (dB)	: n/a
		Dnlink Pointing Error (dB)	: 0.5

----- ADJACENT SATELLITE INTERFERENCE ----- Sat. No. 1 ----- Sat. No. 2 -----

Interfering Satellite Name	:	SAT-1	SAT-2
Interfering Satellite Location (deg)	:	64E	68E
Uplink Interference (dB or dBW/Hz)	:	-38.7	-38.7
Uplink Polarization Advantage (dB)	:	0.0	0.0
Downlink Interference (dB or dBW/Hz)	:	-38	-38
Downlink Polarization Advantage (dB)	:	0.0	0.0
Rx E/S Topocentric Angle (deg)	:	2.09	2.09
Rx E/S Pointing Error (deg)	:	-0.31	0.31
Rx E/S Off-Axis Angle (deg)	:	1.78	2.40
Rx E/S Adj. Sat. Discrimination (dB)	:	16.3	21.1

----- CARRIER PARAMETERS -----

Modem Type	: CS701	C/N (operating, dB)	: 2.99
Modulation	: QPSK	Eb/No (operating, dB)	: 3.7
Code Rate	: 1/2x239/256-V	C/N (threshold, dB)	: 2.79
Info Rate (kbps)	: 64	Eb/No (threshold, dB)	: 3.5
Occupied Bandwidth (kHz)	: 75.4		
Allocated Bandwidth (kHz)	: 100		

----- Transmit Earth Station ----- Receive Earth Station -----

Location: -6_dB_Gain_Contour	Location: -6_dB_Gain_Contour
Latitude (deg): *	Latitude (deg): *
Longitude (deg): *	Longitude (deg): *
Rain Rate (mm/hr): 42*	Rain Rate (mm/hr): 42*
E/S Type or Model No:	E/S Type or Model No:
E/S Manufacturer : STANDARD	E/S Manufacturer : STANDARD
E/S Diam. (m): 7.0	E/S Diam. (m): 3.5
E/S Freq (nom, GHz): 6.175	E/S Freq (nom, GHz): 3.95
E/S Tx Gain (dBi): 51.0	E/S Gain (nom, dBi): 41.1
ULPC Margin (dB): .0	E/S Feed Loss (dB): 0.15
	E/S Ant. Temp(deg K): 25
	E/S LNA Temp (deg K): 65
	E/S G/T (nom, dB/K): *

SATOPT5 (Version 5.68) (C) 2004 TEL/COM Sciences, Inc. All Rights Reserved.
5-Dec-08 14:10
PanAmSat, Customer Support Engineering.

SATELLITE DATA	Satellite : INTELSAT_702 Uplink Beam: HEMI Uplink POL: , Dnlink POL: , EIRP, beam center: 36.5 dBW G/T:-7.5 dB/K, SFD:-71.8 dBW/m2	Location: 66.0E Dnlink Beam: ZONE Dnlink EIRP: 32.5 dBW
TRANSPONDER DATA	Trans Bandwidth :36 MHz Uplink Frequency:6.175 GHz IBO (Nominal) : 10.4 dB	Trans Type: LTWTA Dnlink Freq: 3.950 GHz OBO (Nominal): 4.5 dB
CARRIER DATA	Type: TV/FM, Format: PAL, PreEmphasis+Weighting: 15.6dB RF BW: 30.0 MHz, P-Dev: 9.0 MHz, VideoBW: 6.0 MHz,	
LINK BUDGET		
		CLR SKY UP FADE DN FADE
UPLINK PERFORMANCE	Earth Station EIRP (dBW)	80.7 n/a n/a
	- Uplink Path Loss, clear sky (dB)	-200.2 n/a n/a
	- Uplink Rain Attenuation (dB)	0.0 n/a n/a
	+ Satellite G/T (dB/K)	-7.5 n/a n/a
	- Boltzman's Constant (dBW/K-Hz)	228.6 n/a n/a
	- Carrier Noise Bandwidth (dB-Hz)	-74.8 n/a n/a
	C/N Uplink (dB)	26.8 n/a n/a
DOWNLINK PERFORMANCE	Satellite Saturation EIRP (dBW)	32.5 n/a n/a
	- Carrier Output Backoff (dB)	-4.5 n/a n/a
	Downlink EIRP per carrier (dBW)	28.0 n/a n/a
	- Earth Station Pointing Error (dB)	-0.5 n/a n/a
	- Downlink Path Loss, clear sky (dB)	-196.3 n/a n/a
	- Downlink Rain Attenuation (dB)	0.0 n/a n/a
	+ Earth Station G/T (dB/K)	29.4 n/a n/a
	- Boltzman's Constant (dBW/K-Hz)	228.6 n/a n/a
	- Carrier Noise Bandwidth (dB-Hz)	-74.8 n/a n/a
		C/N Dnlink (dB)
COMPOSITE PERFORMANCE	C/N Uplink (dB)	26.8 n/a n/a
	C/N Dnlink (dB)	14.4 n/a n/a
	C/I Uplink Co-channel (dB)	27.8 n/a n/a
	C/I Dnlink Co-Channel (dB)	27.8 n/a n/a
	C/I Uplink Adj. Sat. (SAT-1) (dB)	20.6 n/a n/a
	C/I Dnlink Adj. Sat. (SAT-1) (dB)	19.4 n/a n/a
	C/I Uplink Adj. Sat. (SAT-2) (dB)	20.6 n/a n/a
	C/I Dnlink Adj. Sat. (SAT-2) (dB)	20.6 n/a n/a
	C/(N+I) COMPOSITE (dB)	11.0 n/a n/a
	- Required System Margin (dB)	-1.0 n/a n/a
Net C/(N+I) COMPOSITE (dB)	10.0 n/a n/a	
- Minimum Required C/N (dB)	-10.0 n/a n/a	
	Excess Link Margin (dB)	0.0 n/a n/a
	Video Signal-to-Noise Ratio (dB)	43.9 n/a n/a
	Audio Signal-to-Noise Ratio (dB)	57.7 n/a n/a
TRANSMIT EARTH STATION	Loc: -6_dB_Gain_Contour ID: AZ: 0.0 Elev: 20.0 LAT: * LON: * ALT: 0.0m RainRate: 42.0mm/hr Carrier Power: 269.0 watts	
RECEIVE EARTH STA.	Loc: -4_dB_Gain_Contour ID: AZ: 0.0 Elev: 20.0 LAT: * LON: * ALT: 0.0m RainRate: 42.0mm/hr	
DENSITY INFORMATION	Uplink Pwr Den: -50.5 dBW/Hz, Dnlink EIRP Den: -42.8 dBW/Hz Max Dnlink PFD: -169.7 dB(W/m2/4kHz) @ Beam Center	
LOSS IN C/(N+I) DUE TO ADJ SAT INTF: SAT-1 = 1.3dB, SAT-2 = 1.1dB		

HEMI-ZONE (36 MHz): 30MOF3F
[Input Data]

----- SATELLITE -----

Satellite Name	: INTELSAT_702	Location (deg)	: 66.0E
Uplink Beam	: HEMI	Dnlink Beam	: ZONE
Trans. BW (MHz)	: 36 MHz	Trans. Type	: LTWTA
Uplink Pol.	:	Dnlink Pol.	:
Uplink Chan.	:	Dnlink Chan.	:
Uplink Frequency (GHz)	: 6.175	Dnlink Frequency (GHz)	: 3.950
G/T, beam center (dB/K)	: -1.5	EIRP, beam center (dBW)	: 36.5
G/T, beam edge (dB/K)	: -7.5	EIRP, beam edge (dBW)	: 32.5
G/T, toward Tx ES (dB/K)	: -7.5	EIRP, toward Rx ES (dBW)	: 32.5
SFD, beam edge (dBW/m2)	: -71.8		
SFD, toward Tx ES (dBW/m2)	: -71.8		

----- OPERATING CONDITIONS -----

Attenuator Setting (dB)	: 14	Nominal Uplink Co-Chan C/I (dB)	: 27.0
Input Backoff (dB)	: 10.4	Nominal Dnlink Co-Chan C/I (dB)	: 27.0
Output Backoff (dB)	: *	Minimum Uplink Rain Margin (dB)	: 0.0
(C/Im) - Nominal (dB)	: *	Actual Uplink Rain Margin (dB)	: n/a
Min. System Margin (dB)	: -1.0	Uplink Power Control Margin (dB)	: 0.0
Max No Carriers / Trans	: 1	Minimum Dnlink Rain Margin (dB)	: 0.0
		Actual Dnlink Rain Margin (dB)	: n/a
		Dnlink Pointing Error (dB)	: 0.5

-- ADJACENT SATELLITE INTERFERENCE ----- Sat. No. 1 ----- Sat. No. 2 -----

Interfering Satellite Name	:	SAT-1	SAT-2
Interfering Satellite Location (deg)	:	64E	68E
Uplink Interference (dB or dBW/Hz)	:	-38.7	-38.7
Uplink Polarization Advantage (dB)	:	0.0	0.0
Downlink Interference (dB or dBW/Hz)	:	-38	-38
Downlink Polarization Advantage (dB)	:	0.0	0.0
Rx E/S Topocentric Angle (deg)	:	2.09	2.09
Rx E/S Pointing Error (deg)	:	-0.12	0.12
Rx E/S Off-Axis Angle (deg)	:	1.97	2.21
Rx E/S Adj. Sat. Discrimination (dB)	:	28.2	29.4

----- TV/FM CARRIER PARAMETERS -----

Video Format	: PAL	Peak Deviation (MHz)	: 9.0
RF Noise BW (MHz)	: 30.0	PreEmphasis+Weighting (dB)	: 15.6
Video BW (MHz)	: 6.0	Threshold C/N (dB)	: 10.0

----- AUDIO SUB-CARRIER PARAMETERS -----

Sub-Carrier Freq (MHz)	: 6.6	Highest Audio Freq (kHz)	: 15.0
P-Dev of Video by Audio (MHz)	: 2.0	Companding Advantage (dB)	: 0.0
Peak Dev of Audio (kHz)	: 75.0		

----- Transmit Earth Station -----

Location: -6_dB_Gain_Contour
Latitude (deg): *
Longitude (deg): *
Rain Rate (mm/hr): 42*
E/S Type or Model No:
E/S Manufacturer : STANDARD
E/S Diam. (m): 13.0
E/S Freq (nom, GHz): 6.175
E/S Tx Gain (dBi): 56.4
ULPC Margin (dB): .0

----- Receive Earth Station -----

Location: -4_dB_Gain_Contour
Latitude (deg): *
Longitude (deg): *
Rain Rate (mm/hr): 42*
E/S Type or Model No:
E/S Manufacturer : STANDARD
E/S Diam. (m): 9.2
E/S Freq (nom, GHz): 3.95
E/S Gain (nom, dBi): 50.3
E/S Feed Loss (dB): 0.15
E/S Ant. Temp (deg K): 45
E/S LNA Temp (deg K): 65
E/S G/T (nom, dB/K): *

SATOPT5 (Version 5.68) (C) 2004 TEL/COM Sciences, Inc. All Rights Reserved.
5-Dec-08 14:28
PanAmSat, Customer Support Engineering.

SATELLITE DATA	Satellite : INTELSAT_702 Uplink Beam: HEMI Uplink POL: , Dnlink POL: , EIRP, beam center: 36.5 dBW G/T:-7.5 dB/K, SFD:-85.8 dBW/m2	Location: 66.0E Dnlink Beam: ZONE Dnlink EIRP: 32.5 dBW
TRANSPONDER DATA	Trans Bandwidth :36 MHz Uplink Frequency:6.175 GHz IBO (Nominal) : 0.0 dB	Trans Type: LTWTA Dnlink Freq: 3.950 GHz OBO (Nominal): 0.0 dB
CARRIER DATA	Type: NTC26%, Info Rate: 24575 kbps, Mod: QPSK, 1/2x188/204 BWo: 30133kHz, BWa: 36000kHz, C/N: 3.36dB, C/N_thresh: 3.36	
LINK BUDGET		
		CLR SKY UP FADE DN FADE
UPLINK PERFORMANCE	Earth Station EIRP (dBW)	77.1 n/a n/a
	- Uplink Path Loss, clear sky (dB)	-200.2 n/a n/a
	- Uplink Rain Attenuation (dB)	0.0 n/a n/a
	+ Satellite G/T (dB/K)	-7.5 n/a n/a
	- Boltzman's Constant (dBW/K-Hz)	228.6 n/a n/a
	- Carrier Noise Bandwidth (dB-Hz)	-74.8 n/a n/a
	C/N Uplink (dB)	23.2 n/a n/a
DOWNLINK PERFORMANCE	Satellite Saturation EIRP (dBW)	32.5 n/a n/a
	- Carrier Output Backoff (dB)	0.0 n/a n/a
	Downlink EIRP per carrier (dBW)	32.5 n/a n/a
	- Earth Station Pointing Error (dB)	-0.5 n/a n/a
	- Downlink Path Loss, clear sky (dB)	-196.3 n/a n/a
	- Downlink Rain Attenuation (dB)	0.0 n/a n/a
	+ Earth Station G/T (dB/K)	21.0 n/a n/a
	- Boltzman's Constant (dBW/K-Hz)	228.6 n/a n/a
	- Carrier Noise Bandwidth (dB-Hz)	-74.8 n/a n/a
		C/N Dnlink (dB)
COMPOSITE PERFORMANCE	C/N Uplink (dB)	23.2 n/a n/a
	C/N Dnlink (dB)	10.5 n/a n/a
	C/I Uplink Co-channel (dB)	27.0 n/a n/a
	C/I Dnlink Co-Channel (dB)	27.0 n/a n/a
	C/I Uplink Adj. Sat. (SAT-1) (dB)	17.0 n/a n/a
	C/I Dnlink Adj. Sat. (SAT-1) (dB)	12.0 n/a n/a
	C/I Uplink Adj. Sat. (SAT-2) (dB)	17.0 n/a n/a
	C/I Dnlink Adj. Sat. (SAT-2) (dB)	16.8 n/a n/a
	C/(N+I) COMPOSITE (dB)	6.5 n/a n/a
	- Required System Margin (dB)	-1.0 n/a n/a
UTILIZATION	Net C/(N+I) COMPOSITE (dB)	5.5 n/a n/a
	- Minimum Required C/N (dB)	-3.4 n/a n/a
	Excess Link Margin (dB)	2.2 n/a n/a
TRANSPONDER UTILIZATION	% BW/CARR: 100.00, % PWR/CARR: 100.00, Max No. Carriers: 1.0 Downlink EIRP per carrier toward beam center: 36.5 dBW	
TRANSMIT EARTH STATION	Loc: -6_dB_Gain_Contour ID: AZ: 0.0 Elev: 20.0 LAT: * LON: * ALT: 0.0m RainRate: 42.0mm/hr Carrier Power: 269.0 watts	
RECEIVE EARTH STA.	Loc: -4_dB_Gain_Contour ID: AZ: 0.0 Elev: 20.0 LAT: * LON: * ALT: 0.0m RainRate: 42.0mm/hr	
DENSITY INFORMATION	Uplink Pwr Den: -50.5 dBW/Hz, Dnlink EIRP Den: -38.3 dBW/Hz Max Dnlink PFD: -165.2 dB(W/m2/4kHz) @ Beam Center	
LOSS IN C/(N+I) DUE TO ADJ SAT INTF:	SAT-1 = 2.0dB, SAT-2 = 0.9dB	

HEMI-ZONE (36 MHz): 36MOG7W
[Input Data]

----- SATELLITE -----

Satellite Name	: INTELSAT_702	Location (deg):	66.0E
Uplink Beam	: HEMI	Dnlink Beam	: ZONE
Trans. BW (MHz)	: 36 MHz	Trans. Type	: LTWTA
Uplink Pol.	:	Dnlink Pol.	:
Uplink Chan.	:	Dnlink Chan.	:
Uplink Frequency (GHz)	: 6.175	Dnlink Frequency (GHz)	: 3.950
G/T, beam center (dB/K)	: -1.5	EIRP, beam center (dBW)	: 36.5
G/T, beam edge (dB/K)	: -7.5	EIRP, beam edge (dBW)	: 32.5
G/T, toward Tx ES (dB/K)	: -7.5	EIRP, toward Rx ES (dBW)	: 32.5
SFD, beam edge (dBW/m2)	: -85.8		
SFD, toward Tx ES (dBW/m2)	: -85.8		

----- OPERATING CONDITIONS -----

Attenuator Setting (dB)	: 0	Nominal Uplink Co-Chan C/I (dB)	: 27.0
Input Backoff (dB)	: 0.0	Nominal Dnlink Co-Chan C/I (dB)	: 27.0
Output Backoff (dB)	: *	Minimum Uplink Rain Margin (dB)	: 0.0
(C/Im) - Nominal (dB)	: *	Actual Uplink Rain Margin (dB)	: n/a
Min. System Margin (dB)	: -1.0	Uplink Power Control Margin (dB)	: -0
Max No Carriers / Trans:	1	Minimum Dnlink Rain Margin (dB)	: 0.0
		Actual Dnlink Rain Margin (dB)	: n/a
		Dnlink Pointing Error (dB)	: 0.5

-- ADJACENT SATELLITE INTERFERENCE ----- Sat. No. 1 ----- Sat. No. 2 -----

Interfering Satellite Name	:	SAT-1	SAT-2
Interfering Satellite Location (deg)	:	64E	68E
Uplink Interference (dB or dBW/Hz)	:	-38.7	-38.7
Uplink Polarization Advantage (dB)	:	0.0	0.0
Downlink Interference (dB or dBW/Hz)	:	-38	-38
Downlink Polarization Advantage (dB)	:	0.0	0.0
Rx E/S Topocentric Angle (deg)	:	2.09	2.09
Rx E/S Pointing Error (deg)	:	-0.31	0.31
Rx E/S Off-Axis Angle (deg)	:	1.78	2.40
Rx E/S Adj. Sat. Discrimination (dB)	:	16.3	21.1

----- CARRIER PARAMETERS -----

Modem Type	: NTC26%	C/N (operating, dB)	: 3.36
Modulation	: QPSK	Eb/No (operating, dB)	: 4.2
Code Rate	: 1/2x188/204-V	C/N (threshold, dB)	: 3.36
Info Rate (kbps)	: 24575	Eb/No (threshold, dB)	: 4.2
Occupied Bandwidth (kHz)	: 30133		
Allocated Bandwidth (kHz)	: 36000		

----- Transmit Earth Station ----- ----- Receive Earth Station -----

Location: -6_dB_Gain_Contour	Location: -4_dB_Gain_Contour
Latitude (deg): *	Latitude (deg): *
Longitude (deg): *	Longitude (deg): *
Rain Rate (mm/hr): 42*	Rain Rate (mm/hr): 42*
E/S Type or Model No:	E/S Type or Model No:
E/S Manufacturer : STANDARD	E/S Manufacturer : STANDARD
E/S Diam. (m): 8.1	E/S Diam. (m): 3.5
E/S Freq (nom, GHz): 6.175	E/S Freq (nom, GHz): 3.95
E/S Tx Gain (dBi): 52.8	E/S Gain (nom, dBi): 41.1
ULPC Margin (dB): .0	E/S Feed Loss (dB): 0.15
	E/S Ant. Temp(deg K): 25
	E/S LNA Temp (deg K): 65
	E/S G/T (nom, dB/K): *

SATOPT5 (Version 5.68) (C) 2004 TEL/COM Sciences, Inc. All Rights Reserved.
5-Dec-08 14:21
PanAmSat, Customer Support Engineering.

SATELLITE DATA	Satellite : INTELSAT_702 Uplink Beam: HEMI Uplink POL: , Dnlink POL: , EIRP, beam center: 36.5 dBW G/T:-7.5 dB/K, SFD:-83.8 dBW/m2 Dnlink EIRP: 32.5 dBW	Location: 66.0E Dnlink Beam: ZONE		
TRANSPONDER DATA	Trans Bandwidth :36 MHz Uplink Frequency:6.175 GHz IBO (Nominal) : 8.2 dB	Trans Type: LTWTA Dnlink Freq: 3.950 GHz OBO (Nominal): 3.5 dB		
CARRIER DATA	Type: EF9000, Info Rate: 6000 kbps, Mod: QPSK, 1/2x188/204- BWo: 6771.1kHz, BWa: 10300kHz, C/N: 3.87dB, C/N_thresh: 3.5			
LINK BUDGET				
UPLINK PERFORMANCE	Earth Station EIRP (dBW)	67.1	n/a	n/a
	- Uplink Path Loss, clear sky (dB)	-200.2	n/a	n/a
	- Uplink Rain Attenuation (dB)	0.0	n/a	n/a
	+ Satellite G/T (dB/K)	-7.5	n/a	n/a
	- Boltzman's Constant (dBW/K-Hz)	228.6	n/a	n/a
	- Carrier Noise Bandwidth (dB-Hz)	-68.3	n/a	n/a
	C/N Uplink (dB)	19.6	n/a	n/a
	Satellite Saturation EIRP (dBW)	32.5	n/a	n/a
	- Carrier Output Backoff (dB)	-7.4	n/a	n/a
	DOWNLINK PERFORMANCE	Downlink EIRP per carrier (dBW)	25.1	n/a
	- Earth Station Pointing Error (dB)	-0.5	n/a	n/a
	- Downlink Path Loss, clear sky (dB)	-196.3	n/a	n/a
	- Downlink Rain Attenuation (dB)	0.0	n/a	n/a
	+ Earth Station G/T (dB/K)	21.0	n/a	n/a
	- Boltzman's Constant (dBW/K-Hz)	228.6	n/a	n/a
	- Carrier Noise Bandwidth (dB-Hz)	-68.3	n/a	n/a
	C/N Dnlink (dB)	9.6	n/a	n/a
COMPOSITE PERFORMANCE	C/N Uplink (dB)	19.6	n/a	n/a
	C/N Dnlink (dB)	9.6	n/a	n/a
	C/I Intermod (dB)	20.0	n/a	n/a
	C/I Uplink Co-channel (dB)	28.6	n/a	n/a
	C/I Dnlink Co-Channel (dB)	28.6	n/a	n/a
	C/I Uplink Adj. Sat. (SAT-1) (dB)	13.4	n/a	n/a
	C/I Dnlink Adj. Sat. (SAT-1) (dB)	11.2	n/a	n/a
	C/I Uplink Adj. Sat. (SAT-2) (dB)	13.4	n/a	n/a
	C/I Dnlink Adj. Sat. (SAT-2) (dB)	15.9	n/a	n/a
	C/(N+I) COMPOSITE (dB)	4.9	n/a	n/a
	- Required System Margin (dB)	-1.0	n/a	n/a
	Net C/(N+I) COMPOSITE (dB)	3.9	n/a	n/a
	- Minimum Required C/N (dB)	-3.9	n/a	n/a
	Excess Link Margin (dB)	0.0	n/a	n/a
TRANSPONDER UTILIZATION	% BW/CARR: 28.61, % PWR/CARR: 41.24, Max No. Carriers: 2.4 Downlink EIRP per carrier toward beam center: 29.1 dBW			
TRANSMIT EARTH STATION	Loc: -6_dB_Gain_Contour ID: AZ: 0.0 Elev: 20.0 LAT: * LON: * ALT: 0.0m RainRate: 42.0mm/hr Carrier Power: 40.3 watts			
RECEIVE EARTH STA.	Loc: -4_dB_Gain_Contour ID: AZ: 0.0 Elev: 20.0 LAT: * LON: * ALT: 0.0m RainRate: 42.0mm/hr			
DENSITY INFORMATION	Uplink Pwr Den: -52.3 dBW/Hz, Dnlink EIRP Den: -39.2 dBW/Hz Max Dnlink PFD: -166.1 dB(W/m2/4kHz) @ Beam Center			
LOSS IN C/(N+I) DUE TO ADJ SAT INTF: SAT-1 = 2.0dB, SAT-2 = 1.1dB				

HEMI-ZONE (36 MHz): 10M3G7W
[Input Data]

----- SATELLITE -----

Satellite Name	: INTELSAT_702	Location (deg)	: 66.0E
Uplink Beam	: HEMI	Dnlink Beam	: ZONE
Trans. BW (MHz)	: 36 MHz	Trans. Type	: LTWTA
Uplink Pol.	:	Dnlink Pol.	:
Uplink Chan.	:	Dnlink Chan.	:
Uplink Frequency (GHz)	: 6.175	Dnlink Frequency (GHz)	: 3.950
G/T, beam center (dB/K)	: -1.5	EIRP, beam center (dBW)	: 36.5
G/T, beam edge (dB/K)	: -7.5	EIRP, beam edge (dBW)	: 32.5
G/T, toward Tx ES (dB/K)	: -7.5	EIRP, toward Rx ES (dBW)	: 32.5
SFD, beam edge (dBW/m2)	: -83.8		
SFD, toward Tx ES (dBW/m2)	: -83.8		

----- OPERATING CONDITIONS -----

Attenuator Setting (dB)	: 2	Nominal Uplink Co-Chan C/I (dB)	: 27.0
Input Backoff (dB)	: 8.2*	Nominal Dnlink Co-Chan C/I (dB)	: 27.0
Output Backoff (dB)	: *	Minimum Uplink Rain Margin (dB)	: 0.0
(C/Im) - Nominal (dB)	: *	Actual Uplink Rain Margin (dB)	: n/a
Min. System Margin (dB)	: -1.0	Uplink Power Control Margin (dB)	: -0
Max No Carriers / Trans:	: *	Minimum Dnlink Rain Margin (dB)	: 0.0
		Actual Dnlink Rain Margin (dB)	: n/a
		Dnlink Pointing Error (dB)	: 0.5

--- ADJACENT SATELLITE INTERFERENCE ----- Sat. No. 1 ----- Sat. No. 2 -----

Interfering Satellite Name	:	SAT-1	SAT-2
Interfering Satellite Location (deg)	:	64E	68E
Uplink Interference (dB or dBW/Hz)	:	-38.7	-38.7
Uplink Polarization Advantage (dB)	:	0.0	0.0
Downlink Interference (dB or dBW/Hz)	:	-38	-38
Downlink Polarization Advantage (dB)	:	0.0	0.0
Rx E/S Topocentric Angle (deg)	:	2.09	2.09
Rx E/S Pointing Error (deg)	:	-0.31	0.31
Rx E/S Off-Axis Angle (deg)	:	1.78	2.40
Rx E/S Adj. Sat. Discrimination (dB)	:	16.3	21.1

----- CARRIER PARAMETERS -----

Modem Type	: EF9000	C/N (operating, dB)	: 3.87
Modulation	: QPSK	Eb/No (operating, dB)	: 4.4
Code Rate	: 1/2x188/204-V	C/N (threshold, dB)	: 3.57
Info Rate (kbps)	: 6000	Eb/No (threshold, dB)	: 4.1
Occupied Bandwidth (kHz)	: 6771.1		
Allocated Bandwidth (kHz)	: 10300		

----- Transmit Earth Station -----

Location: -6_dB_Gain_Contour
Latitude (deg): *
Longitude (deg): *
Rain Rate (mm/hr): 42*
E/S Type or Model No:
E/S Manufacturer : STANDARD
E/S Diam. (m): 7.0
E/S Freq (nom, GHz): 6.175
E/S Tx Gain (dBi): 51.0
ULPC Margin (dB): .0

----- Receive Earth Station -----

Location: -4_dB_Gain_Contour
Latitude (deg): *
Longitude (deg): *
Rain Rate (mm/hr): 42*
E/S Type or Model No:
E/S Manufacturer : STANDARD
E/S Diam. (m): 3.5
E/S Freq (nom, GHz): 3.95
E/S Gain (nom, dBi): 41.1
E/S Feed Loss (dB): 0.15
E/S Ant. Temp(deg K): 25
E/S LNA Temp (deg K): 65
E/S G/T (nom, dB/K): *

SATOPT5 (Version 5.68) (C) 2004 TEL/COM Sciences, Inc. All Rights Reserved.
5-Dec-08 14:26
PanAmSat, Customer Support Engineering.

SATELLITE DATA	Satellite : INTELSAT_702 Uplink Beam: HEMI Uplink POL: , Dnlink POL: , EIRP, beam center: 36.5 dBW G/T:-7.5 dB/K, SFD:-83.8 dBW/m2	Location: 66.0E Dnlink Beam: ZONE Dnlink EIRP: 32.5 dBW
TRANSPONDER DATA	Trans Bandwidth :36 MHz Uplink Frequency:6.175 GHz IBO (Nominal) : 8.2 dB	Trans Type: LTWTA Dnlink Freq: 3.950 GHz OBO (Nominal): 3.5 dB
CARRIER DATA	Type: CS701, Info Rate: 64 kbps, Mod: QPSK, 1/2x239/256-V BWo: 75.4kHz, BWa: 100kHz, C/N: 2.99dB, C/N_thresh: 2.79dB	
LINK BUDGET		
		CLR SKY UP FADE DN FADE
UPLINK PERFORMANCE	Earth Station EIRP (dBW)	46.6 n/a n/a
	- Uplink Path Loss, clear sky (dB)	-200.2 n/a n/a
	- Uplink Rain Attenuation (dB)	0.0 n/a n/a
	+ Satellite G/T (dB/K)	-7.5 n/a n/a
	- Boltzman's Constant (dBW/K-Hz)	228.6 n/a n/a
	- Carrier Noise Bandwidth (dB-Hz)	-48.8 n/a n/a
	C/N Uplink (dB)	18.7 n/a n/a
DOWNLINK PERFORMANCE	Satellite Saturation EIRP (dBW)	32.5 n/a n/a
	- Carrier Output Backoff (dB)	-27.8 n/a n/a
	Downlink EIRP per carrier (dBW)	4.7 n/a n/a
	- Earth Station Pointing Error (dB)	-0.5 n/a n/a
	- Downlink Path Loss, clear sky (dB)	-196.3 n/a n/a
	- Downlink Rain Attenuation (dB)	0.0 n/a n/a
	+ Earth Station G/T (dB/K)	21.0 n/a n/a
	- Boltzman's Constant (dBW/K-Hz)	228.6 n/a n/a
	- Carrier Noise Bandwidth (dB-Hz)	-48.8 n/a n/a
		C/N Dnlink (dB)
COMPOSITE PERFORMANCE	C/N Uplink (dB)	18.7 n/a n/a
	C/N Dnlink (dB)	8.7 n/a n/a
	C/I Intermod (dB)	19.1 n/a n/a
	C/I Uplink Co-channel (dB)	28.3 n/a n/a
	C/I Dnlink Co-channel (dB)	28.3 n/a n/a
	C/I Uplink Adj. Sat. (SAT-1) (dB)	12.6 n/a n/a
	C/I Dnlink Adj. Sat. (SAT-1) (dB)	10.3 n/a n/a
	C/I Uplink Adj. Sat. (SAT-2) (dB)	12.6 n/a n/a
	C/I Dnlink Adj. Sat. (SAT-2) (dB)	15.1 n/a n/a
	C/(N+I) COMPOSITE (dB)	4.0 n/a n/a
	- Required System Margin (dB)	-1.0 n/a n/a
	Net C/(N+I) COMPOSITE (dB)	3.0 n/a n/a
	- Minimum Required C/N (dB)	-3.0 n/a n/a
	Excess Link Margin (dB)	0.0 n/a n/a
TRANSPONDER UTILIZATION	% BW/CARR: 0.28, % PWR/CARR: 0.37, Max No. Carriers: 267.0 Downlink EIRP per carrier toward beam center: 8.7 dBW	
TRANSMIT EARTH STATION	Loc: -6_dB_Gain_Contour ID: AZ: 0.0 Elev: 20.0 LAT: * LON: * ALT: 0.0m RainRate: 42.0mm/hr Carrier Power: 0.4 watts	
RECEIVE EARTH STA.	Loc: -4_dB_Gain_Contour ID: AZ: 0.0 Elev: 20.0 LAT: * LON: * ALT: 0.0m RainRate: 42.0mm/hr	
DENSITY INFORMATION	Uplink Pwr Den: -53.1 dBW/Hz, Dnlink EIRP Den: -40.1 dBW/Hz Max Dnlink PFD: -167.0 dB(W/m2/4kHz) @ Beam Center	
LOSS IN C/(N+I) DUE TO ADJ SAT INTF:	SAT-1 = 2.0dB, SAT-2 = 1.1dB	

HEMI-ZONE (36 MHz): 100KG7W
[Input Data]

----- SATELLITE -----

Satellite Name	: INTELSAT_702	Location (deg)	: 66.0E
Uplink Beam	: HEMI	Dnlink Beam	: ZONE
Trans. BW (MHz)	: 36 MHz	Trans. Type	: LTWTA
Uplink Pol.	:	Dnlink Pol.	:
Uplink Chan.	:	Dnlink Chan.	:
Uplink Frequency (GHz)	: 6.175	Dnlink Frequency (GHz)	: 3.950
G/T, beam center (dB/K)	: -1.5	EIRP, beam center (dBW)	: 36.5
G/T, beam edge (dB/K)	: -7.5	EIRP, beam edge (dBW)	: 32.5
G/T, toward Tx ES (dB/K)	: -7.5	EIRP, toward Rx ES (dBW)	: 32.5
SFD, beam edge (dBW/m2)	: -83.8		
SFD, toward Tx ES (dBW/m2)	: -83.8		

----- OPERATING CONDITIONS -----

Attenuator Setting (dB)	: 2	Nominal Uplink Co-Chan C/I (dB)	: 27.0
Input Backoff (dB)	: 8.2*	Nominal Dnlink Co-Chan C/I (dB)	: 27.0
Output Backoff (dB)	: *	Minimum Uplink Rain Margin (dB)	: 0.0
(C/Im) - Nominal (dB)	: *	Actual Uplink Rain Margin (dB)	: n/a
Min. System Margin (dB)	: -1.0	Uplink Power Control Margin (dB)	: .0
Max No Carriers / Trans:	: *	Minimum Dnlink Rain Margin (dB)	: 0.0
		Actual Dnlink Rain Margin (dB)	: n/a
		Dnlink Pointing Error (dB)	: 0.5

-- ADJACENT SATELLITE INTERFERENCE ----- Sat. No. 1 ----- Sat. No. 2 -----

Interfering Satellite Name	:	SAT-1	SAT-2
Interfering Satellite Location (deg)	:	64E	68E
Uplink Interference (dB or dBW/Hz)	:	-38.7	-38.7
Uplink Polarization Advantage (dB)	:	0.0	0.0
Downlink Interference (dB or dBW/Hz)	:	-38	-38
Downlink Polarization Advantage (dB)	:	0.0	0.0
Rx E/S Topocentric Angle (deg)	:	2.09	2.09
Rx E/S Pointing Error (deg)	:	-0.31	0.31
Rx E/S Off-Axis Angle (deg)	:	1.78	2.40
Rx E/S Adj. Sat. Discrimination (dB)	:	16.3	21.1

----- CARRIER PARAMETERS -----

Modem Type	: CS701	C/N (operating, dB)	: 2.99
Modulation	: QPSK	Eb/No (operating, dB)	: 3.7
Code Rate	: 1/2x239/256-V	C/N (threshold, dB)	: 2.79
Info Rate (kbps)	: 64	Eb/No (threshold, dB)	: 3.5
Occupied Bandwidth (kHz)	: 75.4		
Allocated Bandwidth (kHz)	: 100		

----- Transmit Earth Station ----- ----- Receive Earth Station -----

Location: -6_dB_Gain_Contour	Location: -4_dB_Gain_Contour
Latitude (deg): *	Latitude (deg): *
Longitude (deg): *	Longitude (deg): *
Rain Rate (mm/hr): 42*	Rain Rate (mm/hr): 42*
E/S Type or Model No:	E/S Type or Model No:
E/S Manufacturer : STANDARD	E/S Manufacturer : STANDARD
E/S Diam. (m): 7.0	E/S Diam. (m): 3.5
E/S Freq (nom, GHz): 6.175	E/S Freq (nom, GHz): 3.95
E/S Tx Gain (dBi): 51.0	E/S Gain (nom, dBi): 41.1
ULPC Margin (dB): .0	E/S Feed Loss (dB): 0.15
	E/S Ant. Temp (deg K): 25
	E/S LNA Temp (deg K): 65
	E/S G/T (nom, dB/K): *

SATOPT5 (Version 5.68) (C) 2004 TEL/COM Sciences, Inc. All Rights Reserved.
5-Dec-08 14:26

PanAmSat, Customer Support Engineering.

SATELLITE DATA	Satellite : INTELSAT_702 Uplink Beam: HEMI Uplink POL: , Dnlink POL: , EIRP, beam center: 36.3 dBW G/T:-7.5 dB/K, SFD:-71.8 dBW/m2	Location: 66.0E Dnlink Beam: CSPOT Dnlink EIRP: 32.3 dBW		
TRANSPONDER DATA	Trans Bandwidth :36 MHz Uplink Frequency:6.175 GHz IBO (Nominal) : 10.9 dB	Trans Type: LTWTA Dnlink Freq: 3.950 GHz OBO (Nominal): 5.0 dB		
CARRIER DATA	Type: TV/FM, Format: PAL, PreEmphasis+Weighting: 15.6dB RF BW: 30.0 MHz, P-Dev: 9.0 MHz, VideoBW: 6.0 MHz,			
LINK BUDGET				
		CLR SKY UP FADE DN FADE		
UPLINK PERFORMANCE	Earth Station EIRP (dBW)	80.2	n/a	n/a
	- Uplink Path Loss, clear sky (dB)	-200.2	n/a	n/a
	- Uplink Rain Attenuation (dB)	0.0	n/a	n/a
	+ Satellite G/T (dB/K)	-7.5	n/a	n/a
	- Boltzman's Constant (dBW/K-Hz)	228.6	n/a	n/a
	- Carrier Noise Bandwidth (dB-Hz)	-74.8	n/a	n/a
	C/N Uplink (dB)	26.3	n/a	n/a
DOWNLINK PERFORMANCE	Satellite Saturation EIRP (dBW)	32.3	n/a	n/a
	- Carrier Output Backoff (dB)	-5.0	n/a	n/a
	Downlink EIRP per carrier (dBW)	27.3	n/a	n/a
	- Earth Station Pointing Error (dB)	-.5	n/a	n/a
	- Downlink Path Loss, clear sky (dB)	-196.3	n/a	n/a
	- Downlink Rain Attenuation (dB)	0.0	n/a	n/a
	+ Earth Station G/T (dB/K)	31.0	n/a	n/a
	- Boltzman's Constant (dBW/K-Hz)	228.6	n/a	n/a
	- Carrier Noise Bandwidth (dB-Hz)	-74.8	n/a	n/a
		C/N Dnlink (dB)	15.3	n/a
COMPOSITE PERFORMANCE	C/N Uplink (dB)	26.3	n/a	n/a
	C/N Dnlink (dB)	15.3	n/a	n/a
	C/I Uplink Co-channel (dB)	27.8	n/a	n/a
	C/I Dnlink Co-channel (dB)	27.8	n/a	n/a
	C/I Uplink Adj. Sat. (SAT-1) (dB)	20.1	n/a	n/a
	C/I Dnlink Adj. Sat. (SAT-1) (dB)	18.7	n/a	n/a
	C/I Uplink Adj. Sat. (SAT-2) (dB)	20.1	n/a	n/a
	C/I Dnlink Adj. Sat. (SAT-2) (dB)	19.7	n/a	n/a
	C/(N+I) COMPOSITE (dB)	11.0	n/a	n/a
	- Required System Margin (dB)	-1.0	n/a	n/a
COMPOSITE PERFORMANCE	Net C/(N+I) COMPOSITE (dB)	10.0	n/a	n/a
	- Minimum Required C/N (dB)	-10.0	n/a	n/a
	Excess Link Margin (dB)	0.0	n/a	n/a
	Video Signal-to-Noise Ratio (dB)	43.9	n/a	n/a
	Audio Signal-to-Noise Ratio (dB)	57.7	n/a	n/a
TRANSMIT EARTH STATION	Loc: -6_dB_Gain_Contour ID: AZ: 0.0 Elev: 20.0 LAT: * LON: * ALT: 0.0m RainRate: 42.0mm/hr Carrier Power: 239.8 watts			
RECEIVE EARTH STA.	Loc: -4_dB_Gain_Contour ID: AZ: 0.0 Elev: 20.0 LAT: * LON: * ALT: 0.0m RainRate: 42.0mm/hr			
DENSITY INFORMATION	Uplink Pwr Den: -51.0 dBW/Hz, Dnlink EIRP Den: -43.5 dBW/Hz Max Dnlink PFD: -170.4 dB(W/m2/4kHz) @ Beam Center			
LOSS IN C/(N+I) DUE TO ADJ SAT INTF: SAT-1 = 1.5dB, SAT-2 = 1.3dB				

HEMI-CSPOT (36 MHz): 30M0F3F
[Input Data]

----- SATELLITE -----

Satellite Name	: INTELSAT_702	Location (deg)	: 66.0E
Uplink Beam	: HEMI	Dnlink Beam	: CSPOT
Trans. BW (MHz)	: 36 MHz	Trans. Type	: LTWTA
Uplink Pol.	:	Dnlink Pol.	:
Uplink Chan.	:	Dnlink Chan.	:
Uplink Frequency (GHz)	: 6.175	Dnlink Frequency (GHz)	: 3.950
G/T, beam center (dB/K)	: -1.5	EIRP, beam center (dBW)	: 36.3
G/T, beam edge (dB/K)	: -7.5	EIRP, beam edge (dBW)	: 32.3
G/T, toward Tx ES (dB/K)	: -7.5	EIRP, toward Rx ES (dBW)	: 32.3
SFD, beam edge (dBW/m2)	: -71.8		
SFD, toward Tx ES (dBW/m2)	: -71.8		

----- OPERATING CONDITIONS -----

Attenuator Setting (dB)	: 14	Nominal Uplink Co-Chan C/I (dB)	: 27.0
Input Backoff (dB)	: 10, 10.9	Nominal Dnlink Co-Chan C/I (dB)	: 27.0
Output Backoff (dB)	: *	Minimum Uplink Rain Margin (dB)	: 0.0
(C/Im) - Nominal (dB)	: *	Actual Uplink Rain Margin (dB)	: n/a
Min. System Margin (dB)	: -1.0	Uplink Power Control Margin (dB)	: 0
Max No Carriers / Trans	: 1	Minimum Dnlink Rain Margin (dB)	: 0.0
		Actual Dnlink Rain Margin (dB)	: n/a
		Dnlink Pointing Error (dB)	: 0.5

----- ADJACENT SATELLITE INTERFERENCE ----- Sat. No. 1 ----- Sat. No. 2 -----

Interfering Satellite Name	:	SAT-1	SAT-2
Interfering Satellite Location (deg)	:	64E	68E
Uplink Interference (dB or dBW/Hz)	:	-38.7	-38.7
Uplink Polarization Advantage (dB)	:	0.0	0.0
Downlink Interference (dB or dBW/Hz)	:	-36.3	-36.3
Downlink Polarization Advantage (dB)	:	0.0	0.0
Rx E/S Topocentric Angle (deg)	:	2.09	2.09
Rx E/S Pointing Error (deg)	:	-0.10	0.10
Rx E/S Off-Axis Angle (deg)	:	1.99	2.19
Rx E/S Adj. Sat. Discrimination (dB)	:	29.9	30.9

----- TV/FM CARRIER PARAMETERS -----

Video Format	: PAL	Peak Deviation (MHz)	: 9.0
RF Noise BW (MHz)	: 30.0	PreEmphasis+Weighting (dB)	: 15.6
Video BW (MHz)	: 6.0	Threshold C/N (dB)	: 10.0

----- AUDIO SUB-CARRIER PARAMETERS -----

Sub-Carrier Freq (MHz)	: 6.6	Highest Audio Freq (kHz)	: 15.0
P-Dev of Video by Audio (MHz)	: 2.0	Companding Advantage (dB)	: 0.0
Peak Dev of Audio (kHz)	: 75.0		

----- Transmit Earth Station -----

Location: -6_dB_Gain_Contour
Latitude (deg): *
Longitude (deg): *
Rain Rate (mm/hr): 42*
E/S Type or Model No:
E/S Manufacturer : STANDARD
E/S Diam. (m): 13.0
E/S Freq (nom, GHz): 6.175
E/S Tx Gain (dBi): 56.4
ULPC Margin (dB): .0

----- Receive Earth Station -----

Location: -4_dB_Gain_Contour
Latitude (deg): *
Longitude (deg): *
Rain Rate (mm/hr): 42*
E/S Type or Model No:
E/S Manufacturer : STANDARD
E/S Diam. (m): 11.0
E/S Freq (nom, GHz): 3.95
E/S Gain (nom, dBi): 51.9
E/S Feed Loss (dB): 0.15
E/S Ant. Temp(deg K): 45
E/S LNA Temp (deg K): 65
E/S G/T (nom, dB/K): *

SATOPT5 (Version 5.68) (C) 2004 TEL/COM Sciences, Inc. All Rights Reserved.
5-Dec-08 14:42
PanAmSat, Customer Support Engineering.

SATELLITE DATA	Satellite : INTELSAT_702 Uplink Beam: HEMI Uplink POL: , Dnlink POL: , EIRP, beam center: 36.3 dBW G/T:-7.5 dB/K, SFD:-85.8 dBW/m2	Location: 66.0E Dnlink Beam: CSPOT Dnlink EIRP: 32.3 dBW
TRANSPONDER DATA	Trans Bandwidth :36 MHz Uplink Frequency:6.175 GHz IBO (Nominal) : 0.0 dB	Trans Type: LTWTA Dnlink Freq: 3.950 GHz OBO (Nominal): 0.0 dB
CARRIER DATA	Type: NTC26%, Info Rate: 24575 kbps, Mod: QPSK, 1/2x188/204 BWo: 30133kHz, BWa: 36000kHz, C/N: 3.36dB, C/N_thresh: 3.36	
LINK BUDGET		
		CLR SKY UP FADE DN FADE
UPLINK PERFORMANCE	Earth Station EIRP (dBW)	77.1 n/a n/a
	- Uplink Path Loss, clear sky (dB)	-200.2 n/a n/a
	- Uplink Rain Attenuation (dB)	0.0 n/a n/a
	+ Satellite G/T (dB/K)	-7.5 n/a n/a
	- Boltzman's Constant (dBW/K-Hz)	228.6 n/a n/a
	- Carrier Noise Bandwidth (dB-Hz)	-74.8 n/a n/a
	C/N Uplink (dB)	23.2 n/a n/a
DOWNLINK PERFORMANCE	Satellite Saturation EIRP (dBW)	32.3 n/a n/a
	- Carrier Output Backoff (dB)	0.0 n/a n/a
	Downlink EIRP per carrier (dBW)	32.3 n/a n/a
	- Earth Station Pointing Error (dB)	-0.5 n/a n/a
	- Downlink Path Loss, clear sky (dB)	-196.3 n/a n/a
	- Downlink Rain Attenuation (dB)	0.0 n/a n/a
	+ Earth Station G/T (dB/K)	21.0 n/a n/a
	- Boltzman's Constant (dBW/K-Hz)	228.6 n/a n/a
	- Carrier Noise Bandwidth (dB-Hz)	-74.8 n/a n/a
		C/N Dnlink (dB)
COMPOSITE PERFORMANCE	C/N Uplink (dB)	23.2 n/a n/a
	C/N Dnlink (dB)	10.3 n/a n/a
	C/I Uplink Co-channel (dB)	27.0 n/a n/a
	C/I Dnlink Co-Channel (dB)	27.0 n/a n/a
	C/I Uplink Adj. Sat. (SAT-1) (dB)	17.0 n/a n/a
	C/I Dnlink Adj. Sat. (SAT-1) (dB)	10.1 n/a n/a
	C/I Uplink Adj. Sat. (SAT-2) (dB)	17.0 n/a n/a
	C/I Dnlink Adj. Sat. (SAT-2) (dB)	14.9 n/a n/a
	C/(N+I) COMPOSITE (dB)	5.7 n/a n/a
	- Required System Margin (dB)	-1.0 n/a n/a
Net C/(N+I) COMPOSITE (dB)	4.7 n/a n/a	
- Minimum Required C/N (dB)	-3.4 n/a n/a	
	Excess Link Margin (dB)	1.3 n/a n/a
TRANSPONDER UTILIZATION	% BW/CARR: 100.00, % PWR/CARR: 100.00, Max No. Carriers: 1.0 Downlink EIRP per carrier toward beam center: 36.3 dBW	
TRANSMIT EARTH STATION	Loc: -6_dB_Gain_Contour ID: AZ: 0.0 Elev: 20.0 LAT: * LON: * ALT: 0.0m RainRate: 42.0mm/hr Carrier Power: 269.0 watts	
RECEIVE EARTH STA.	Loc: -4_dB_Gain_Contour ID: AZ: 0.0 Elev: 20.0 LAT: * LON: * ALT: 0.0m RainRate: 42.0mm/hr	
DENSITY INFORMATION	Uplink Pwr Den: -50.5 dBW/Hz, Dnlink EIRP Den: -38.5 dBW/Hz Max Dnlink PFD: -165.4 dB(W/m2/4kHz) @ Beam Center	
LOSS IN C/(N+I) DUE TO ADJ SAT INTF: SAT-1 = 2.4dB, SAT-2 = 0.9dB		

HEMI-CSPOT (36 MHz): 36MOG7W
[Input Data]

----- SATELLITE -----

Satellite Name	: INTELSAT_702	Location (deg)	: 66.0E
Uplink Beam	: HEMI	Dnlink Beam	: CSPOT
Trans. BW (MHz)	: 36 MHz	Trans. Type	: LTWTA
Uplink Pol.	:	Dnlink Pol.	:
Uplink Chan.	:	Dnlink Chan.	:
Uplink Frequency (GHz)	: 6.175	Dnlink Frequency (GHz)	: 3.950
G/T, beam center (dB/K)	: -1.5	EIRP, beam center (dBW)	: 36.3
G/T, beam edge (dB/K)	: -7.5	EIRP, beam edge (dBW)	: 32.3
G/T, toward Tx ES (dB/K)	: -7.5	EIRP, toward Rx ES (dBW)	: 32.3
SFD, beam edge (dBW/m2)	: -85.8		
SFD, toward Tx ES (dBW/m2)	: -85.8		

----- OPERATING CONDITIONS -----

Attenuator Setting (dB)	: 0	Nominal Uplink Co-Chan C/I (dB)	: 27.0
Input Backoff (dB)	: 0.0	Nominal Dnlink Co-Chan C/I (dB)	: 27.0
Output Backoff (dB)	: *	Minimum Uplink Rain Margin (dB)	: 0.0
(C/Im) - Nominal (dB)	: *	Actual Uplink Rain Margin (dB)	: n/a
Min. System Margin (dB)	: 1.0	Uplink Power Control Margin (dB)	: .0
Max No Carriers / Trans	: 1	Minimum Dnlink Rain Margin (dB)	: 0.0
		Actual Dnlink Rain Margin (dB)	: n/a
		Dnlink Pointing Error (dB)	: 0.5

--- ADJACENT SATELLITE INTERFERENCE ----- Sat. No. 1 ----- Sat. No. 2 -----

Interfering Satellite Name	:	SAT-1	SAT-2
Interfering Satellite Location (deg)	:	64E	68E
Uplink Interference (dB or dBW/Hz)	:	-38.7	-38.7
Uplink Polarization Advantage (dB)	:	0.0	0.0
Downlink Interference (dB or dBW/Hz)	:	-36.3	-36.3
Downlink Polarization Advantage (dB)	:	0.0	0.0
Rx E/S Topocentric Angle (deg)	:	2.09	2.09
Rx E/S Pointing Error (deg)	:	-0.31	0.31
Rx E/S Off-Axis Angle (deg)	:	1.78	2.40
Rx E/S Adj. Sat. Discrimination (dB)	:	16.3	21.1

----- CARRIER PARAMETERS -----

Modem Type	: NTC26%	C/N (operating, dB)	: 3.36
Modulation	: QPSK	Eb/No (operating, dB)	: 4.2
Code Rate	: 1/2x188/204-V	C/N (threshold, dB)	: 3.36
Info Rate (kbps)	: 24575	Eb/No (threshold, dB)	: 4.2
Occupied Bandwidth (kHz)	: 30133		
Allocated Bandwidth (kHz)	: 36000		

----- Transmit Earth Station -----

Location: -6_dB_Gain_Contour
Latitude (deg): *
Longitude (deg): *
Rain Rate (mm/hr): 42*
E/S Type or Model No:
E/S Manufacturer : STANDARD
E/S Diam. (m): 8.1
E/S Freq (nom, GHz): 6.175
E/S Tx Gain (dBi): 52.8
ULPC Margin (dB): .0

----- Receive Earth Station -----

Location: -4_dB_Gain_Contour
Latitude (deg): *
Longitude (deg): *
Rain Rate (mm/hr): 42*
E/S Type or Model No:
E/S Manufacturer : STANDARD
E/S Diam. (m): 3.5
E/S Freq (nom, GHz): 3.95
E/S Gain (nom, dBi): 41.1
E/S Feed Loss (dB): 0.15
E/S Ant. Temp (deg K): 25
E/S LNA Temp (deg K): 65
E/S G/T (nom, dB/K): *

SATOPT5 (Version 5.68) (C) 2004 TEL/COM Sciences, Inc. All Rights Reserved.
5-Dec-08 14:40
PanAmSat, Customer Support Engineering.

SATELLITE DATA	Satellite : INTELSAT_702 Uplink Beam: HEMI Uplink POL: , Dnlink POL: , EIRP, beam center: 36.3 dBW G/T:-7.5 dB/K, SFD:-80.8 dBW/m2 Dnlink EIRP: 32.3 dBW	Location: 66.0E Dnlink Beam: CSPOT				
TRANSPONDER DATA	Trans Bandwidth :36 MHz Uplink Frequency:6.175 GHz IBO (Nominal) : 8.2 dB	Trans Type: LTWTA Dnlink Freq: 3.950 GHz OBO (Nominal): 3.5 dB				
CARRIER DATA	Type: EF9000, Info Rate: 6000 kbps, Mod: QPSK, 1/2x188/204- BW: 6771.1kHz, BWa: 10300kHz, C/N: 3.87dB, C/N_thresh: 3.5					
LINK BUDGET						
	Earth Station EIRP (dBW)	70.2	UP FADE	n/a	DN FADE	n/a
	- Uplink Path Loss, clear sky (dB)	-200.2		n/a		n/a
	- Uplink Rain Attenuation (dB)	0.0		n/a		n/a
UPLINK PERFORMANCE	+ Satellite G/T (dB/K)	-7.5		n/a		n/a
	- Boltzman's Constant (dBW/K-Hz)	228.6		n/a		n/a
	- Carrier Noise Bandwidth (dB-Hz)	-68.3		n/a		n/a
	C/N Uplink (dB)	22.8		n/a		n/a
	Satellite Saturation EIRP (dBW)	32.3		n/a		n/a
	- Carrier Output Backoff (dB)	-7.2		n/a		n/a
	Downlink EIRP per carrier (dBW)	25.1		n/a		n/a
	- Earth Station Pointing Error (dB)	-0.5		n/a		n/a
DOWNLINK PERFORMANCE	- Downlink Path Loss, clear sky (dB)	-196.3		n/a		n/a
	- Downlink Rain Attenuation (dB)	0.0		n/a		n/a
	+ Earth Station G/T (dB/K)	21.0		n/a		n/a
	- Boltzman's Constant (dBW/K-Hz)	228.6		n/a		n/a
	- Carrier Noise Bandwidth (dB-Hz)	-68.3		n/a		n/a
	C/N Dnlink (dB)	9.5		n/a		n/a
	C/N Uplink (dB)	22.8		n/a		n/a
	C/N Dnlink (dB)	9.5		n/a		n/a
	C/I Intermod (dB)	20.2		n/a		n/a
	C/I Uplink Co-channel (dB)	28.7		n/a		n/a
	C/I Dnlink Co-Channel (dB)	28.7		n/a		n/a
	C/I Uplink Adj. Sat. (SAT-1) (dB)	16.6		n/a		n/a
	C/I Dnlink Adj. Sat. (SAT-1) (dB)	9.4		n/a		n/a
	C/I Uplink Adj. Sat. (SAT-2) (dB)	16.6		n/a		n/a
	C/I Dnlink Adj. Sat. (SAT-2) (dB)	14.2		n/a		n/a
COMPOSITE PERFORMANCE	C/(N+I) COMPOSITE (dB)	4.9		n/a		n/a
	- Required System Margin (dB)	-1.0		n/a		n/a
	Net C/(N+I) COMPOSITE (dB)	3.9		n/a		n/a
	- Minimum Required C/N (dB)	-3.9		n/a		n/a
	Excess Link Margin (dB)	0.0		n/a		n/a
TRANSPONDER UTILIZATION	% BW/CARR: 28.61, % PWR/CARR: 42.58, Max No. Carriers: 2.3 Downlink EIRP per carrier toward beam center: 29.1 dBW					
TRANSMIT EARTH STATION	Loc: -6_dB_Gain_Contour ID: AZ: 0.0 Elev: 20.0 LAT: * LON: * ALT: 0.0m RainRate: 42.0mm/hr Carrier Power: 83.0 watts					
RECEIVE EARTH STA.	Loc: -4_dB_Gain_Contour ID: AZ: 0.0 Elev: 20.0 LAT: * LON: * ALT: 0.0m RainRate: 42.0mm/hr					
DENSITY INFORMATION	Uplink Pwr Den: -49.1 dBW/Hz, Dnlink EIRP Den: -39.2 dBW/Hz Max Dnlink PFD: -166.1 dB(W/m2/4kHz) @ Beam Center					
LOSS IN C/(N+I) DUE TO ADJ SAT INTF:	SAT-1 = 2.4dB, SAT-2 = 0.9dB					

HEMI-CSPOT (36 MHz): 10M3G7W
[Input Data]

----- SATELLITE -----

Satellite Name	: INTELSAT_702	Location (deg)	: 66.0E
Uplink Beam	: HEMI	Dnlink Beam	: CSPOT
Trans. BW (MHz)	: 36 MHz	Trans. Type	: LTWTA
Uplink Pol.	:	Dnlink Pol.	:
Uplink Chan.	:	Dnlink Chan.	:
Uplink Frequency (GHz)	: 6.175	Dnlink Frequency (GHz)	: 3.950
G/T, beam center (dB/K)	: -1.5	EIRP, beam center (dBW)	: 36.3
G/T, beam edge (dB/K)	: -7.5	EIRP, beam edge (dBW)	: 32.3
G/T, toward Tx ES (dB/K)	: -7.5	EIRP, toward Rx ES (dBW)	: 32.3
SFD, beam edge (dBW/m2)	: -80.8		
SFD, toward Tx ES (dBW/m2)	: -80.8		

----- OPERATING CONDITIONS -----

Attenuator Setting (dB)	: 5	Nominal Uplink Co-Chan C/I (dB)	: 27.0
Input Backoff (dB)	: 8.2*	Nominal Dnlink Co-Chan C/I (dB)	: 27.0
Output Backoff (dB)	: *	Minimum Uplink Rain Margin (dB)	: 0.0
(C/Im) - Nominal (dB)	: *	Actual Uplink Rain Margin (dB)	: n/a
Min. System Margin (dB)	: -1.0	Uplink Power Control Margin (dB)	: .0
Max No Carriers / Trans	: *	Minimum Dnlink Rain Margin (dB)	: 0.0
		Actual Dnlink Rain Margin (dB)	: n/a
		Dnlink Pointing Error (dB)	: 0.5

--- ADJACENT SATELLITE INTERFERENCE --- Sat. No. 1 ----- Sat. No. 2 -----

Interfering Satellite Name	:	SAT-1	SAT-2
Interfering Satellite Location (deg)	:	64E	68E
Uplink Interference (dB or dBW/Hz)	:	-38.7	-38.7
Uplink Polarization Advantage (dB)	:	0.0	0.0
Downlink Interference (dB or dBW/Hz)	:	-36.3	-36.3
Downlink Polarization Advantage (dB)	:	0.0	0.0
Rx E/S Topocentric Angle (deg)	:	2.09	2.09
Rx E/S Pointing Error (deg)	:	-0.31	0.31
Rx E/S Off-Axis Angle (deg)	:	1.78	2.40
Rx E/S Adj. Sat. Discrimination (dB)	:	16.3	21.1

----- CARRIER PARAMETERS -----

Modem Type	: EF9000	C/N (operating, dB)	: 3.87
Modulation	: QPSK	Eb/No (operating, dB)	: 4.4
Code Rate	: 1/2x188/204-V	C/N (threshold, dB)	: 3.57
Info Rate (kbps)	: 6000	Eb/No (threshold, dB)	: 4.1
Occupied Bandwidth (kHz)	: 6771.1		
Allocated Bandwidth (kHz)	: 10300		

----- Transmit Earth Station -----

Location: -6_dB_Gain_Contour
Latitude (deg): *
Longitude (deg): *
Rain Rate (mm/hr): 42*
E/S Type or Model No:
E/S Manufacturer : STANDARD
E/S Diam. (m): 7.0
E/S Freq (nom, GHz): 6.175
E/S Tx Gain (dBi): 51.0
ULPC Margin (dB): .0

----- Receive Earth Station -----

Location: -4_dB_Gain_Contour
Latitude (deg): *
Longitude (deg): *
Rain Rate (mm/hr): 42*
E/S Type or Model No:
E/S Manufacturer : STANDARD
E/S Diam. (m): 3.5
E/S Freq (nom, GHz): 3.95
E/S Gain (nom, dBi): 41.1
E/S Feed Loss (dB): 0.15
E/S Ant. Temp(deg K): 25
E/S LNA Temp (deg K): 65
E/S G/T (nom, dB/K): *

SATOPT5 (Version 5.68) (C) 2004 TEL/COM Sciences, Inc. All Rights Reserved.
5-Dec-08 14:38
PanAmSat, Customer Support Engineering.

SATELLITE DATA	Satellite : INTELSAT_702 Uplink Beam: HEMI Uplink POL: , Dnlink POL: , EIRP, beam center: 36.3 dBW G/T:-7.5 dB/K, SFD:-80.8 dBW/m2	Location: 66.0E Dnlink Beam: CSPOT Dnlink EIRP: 32.3 dBW
TRANSPONDER DATA	Trans Bandwidth :36 MHz Uplink Frequency:6.175 GHz IBO (Nominal) : 8.2 dB	Trans Type: LTWTA Dnlink Freq: 3.950 GHz OBO (Nominal): 3.5 dB
CARRIER DATA	Type: CS701, Info Rate: 64 kbps, Mod: QPSK, 1/2x239/256-V BWo: 75.4kHz, BWa: 100kHz, C/N: 2.99dB, C/N_thresh: 2.79dB	
LINK BUDGET		
		CLR SKY UP FADE DN FADE
UPLINK PERFORMANCE	Earth Station EIRP (dBW)	49.8 n/a n/a
	- Uplink Path Loss, clear sky (dB)	-200.2 n/a n/a
	- Uplink Rain Attenuation (dB)	0.0 n/a n/a
	+ Satellite G/T (dB/K)	-7.5 n/a n/a
	- Boltzman's Constant (dBW/K-Hz)	228.6 n/a n/a
	- Carrier Noise Bandwidth (dB-Hz)	-48.8 n/a n/a
	C/N Uplink (dB)	21.9 n/a n/a
DOWNLINK PERFORMANCE	Satellite Saturation EIRP (dBW)	32.3 n/a n/a
	- Carrier Output Backoff (dB)	-27.6 n/a n/a
	Downlink EIRP per carrier (dBW)	4.7 n/a n/a
	- Earth Station Pointing Error (dB)	-5 n/a n/a
	- Downlink Path Loss, clear sky (dB)	-196.3 n/a n/a
	- Downlink Rain Attenuation (dB)	0.0 n/a n/a
	+ Earth Station G/T (dB/K)	21.0 n/a n/a
	- Boltzman's Constant (dBW/K-Hz)	228.6 n/a n/a
	- Carrier Noise Bandwidth (dB-Hz)	-48.8 n/a n/a
	C/N Dnlink (dB)	8.6 n/a n/a
COMPOSITE PERFORMANCE	C/N Uplink (dB)	21.9 n/a n/a
	C/N Dnlink (dB)	8.6 n/a n/a
	C/I Intermod (dB)	19.3 n/a n/a
	C/I Uplink Co-channel (dB)	28.4 n/a n/a
	C/I Dnlink Co-Channel (dB)	28.4 n/a n/a
	C/I Uplink Adj. Sat. (SAT-1) (dB)	15.7 n/a n/a
	C/I Dnlink Adj. Sat. (SAT-1) (dB)	8.5 n/a n/a
	C/I Uplink Adj. Sat. (SAT-2) (dB)	15.7 n/a n/a
	C/I Dnlink Adj. Sat. (SAT-2) (dB)	13.3 n/a n/a
	C/(N+I) COMPOSITE (dB)	4.0 n/a n/a
- Required System Margin (dB)	-1.0 n/a n/a	
Net C/(N+I) COMPOSITE (dB)	3.0 n/a n/a	
- Minimum Required C/N (dB)	-3.0 n/a n/a	
Excess Link Margin (dB)	0.0 n/a n/a	
TRANSPONDER UTILIZATION	% BW/CARR: 0.28, % PWR/CARR: 0.39, Max No. Carriers: 258.6 Downlink EIRP per carrier toward beam center: 8.7 dBW	
TRANSMIT EARTH STATION	Loc: -6_dB_Gain_Contour ID: AZ: 0.0 Elev: 20.0 LAT: * LON: * ALT: 0.0m RainRate: 42.0mm/hr Carrier Power: 0.8 watts	
RECEIVE EARTH STA.	Loc: -4_dB_Gain_Contour ID: AZ: 0.0 Elev: 20.0 LAT: * LON: * ALT: 0.0m RainRate: 42.0mm/hr	
DENSITY INFORMATION	Uplink Pwr Den: -50.0 dBW/Hz, Dnlink EIRP Den: -40.1 dBW/Hz Max Dnlink PFD: -167.0 dB(W/m2/4kHz) @ Beam Center	
LOSS IN C/(N+I) DUE TO ADJ SAT INTF:	SAT-1 = 2.4dB, SAT-2 = 0.9dB	

HEMI-CSPOT (36 MHz): 100KG7W
[Input Data]

----- SATELLITE -----

Satellite Name	: INTELSAT_702	Location (deg)	: 66.0E
Uplink Beam	: HEMI	Dnlink Beam	: CSPOT
Trans. BW (MHz)	: 36 MHz	Trans. Type	: LTWTA
Uplink Pol.	:	Dnlink Pol.	:
Uplink Chan.	:	Dnlink Chan.	:
Uplink Frequency (GHz)	: 6.175	Dnlink Frequency (GHz)	: 3.950
G/T, beam center (dB/K)	: -1.5	EIRP, beam center (dBW)	: 36.3
G/T, beam edge (dB/K)	: -7.5	EIRP, beam edge (dBW)	: 32.3
G/T, toward Tx ES (dB/K)	: -7.5	EIRP, toward Rx ES (dBW)	: 32.3
SFD, beam edge (dBW/m2)	: -80.8		
SFD, toward Tx ES (dBW/m2)	: -80.8		

----- OPERATING CONDITIONS -----

Attenuator Setting (dB)	: 5	Nominal Uplink Co-Chan C/I (dB)	: 27.0
Input Backoff (dB)	: 8.2*	Nominal Dnlink Co-Chan C/I (dB)	: 27.0
Output Backoff (dB)	: *	Minimum Uplink Rain Margin (dB)	: 0.0
(C/Im) - Nominal (dB)	: *	Actual Uplink Rain Margin (dB)	: n/a
Min. System Margin (dB)	: 1.0	Uplink Power Control Margin (dB)	: 0.0
Max No Carriers / Trans:	: *	Minimum Dnlink Rain Margin (dB)	: 0.0
		Actual Dnlink Rain Margin (dB)	: n/a
		Dnlink Pointing Error (dB)	: 0.5

-- ADJACENT SATELLITE INTERFERENCE ----- Sat. No. 1 ----- Sat. No. 2 -----

Interfering Satellite Name	:	SAT-1	SAT-2
Interfering Satellite Location (deg)	:	64E	68E
Uplink Interference (dB or dBW/Hz)	:	-38.7	-38.7
Uplink Polarization Advantage (dB)	:	0.0	0.0
Downlink Interference (dB or dBW/Hz)	:	-36.3	-36.3
Downlink Polarization Advantage (dB)	:	0.0	0.0
Rx E/S Topocentric Angle (deg)	:	2.09	2.09
Rx E/S Pointing Error (deg)	:	-0.31	0.31
Rx E/S Off-Axis Angle (deg)	:	1.78	2.40
Rx E/S Adj. Sat. Discrimination (dB)	:	16.3	21.1

----- CARRIER PARAMETERS -----

Modem Type	: CS701	C/N (operating, dB)	: 2.99
Modulation	: QPSK	Eb/No (operating, dB)	: 3.7
Code Rate	: 1/2x239/256-V	C/N (threshold, dB)	: 2.79
Info Rate (kbps)	: 64	Eb/No (threshold, dB)	: 3.5
Occupied Bandwidth (kHz)	: 75.4		
Allocated Bandwidth (kHz)	: 100		

----- Transmit Earth Station -----

Location: -6_dB_Gain_Contour
Latitude (deg): *
Longitude (deg): *
Rain Rate (mm/hr): 42*
E/S Type or Model No:
E/S Manufacturer : STANDARD
E/S Diam. (m): 7.0
E/S Freq (nom, GHz): 6.175
E/S Tx Gain (dBi): 51.0
ULPC Margin (dB): .0

----- Receive Earth Station -----

Location: -4_dB_Gain_Contour
Latitude (deg): *
Longitude (deg): *
Rain Rate (mm/hr): 42*
E/S Type or Model No:
E/S Manufacturer : STANDARD
E/S Diam. (m): 3.5
E/S Freq (nom, GHz): 3.95
E/S Gain (nom, dBi): 41.1
E/S Feed Loss (dB): 0.15
E/S Ant. Temp (deg K): 25
E/S LNA Temp (deg K): 65
E/S G/T (nom, dB/K): *

SATOPT5 (Version 5.68) (C) 2004 TEL/COM Sciences, Inc. All Rights Reserved.
5-Dec-08 14:38
PanAmSat, Customer Support Engineering.

SATELLITE DATA	Satellite : INTELSAT_702 Uplink Beam: HEMI Uplink POL: , Dnlink POL: , EIRP, beam center: 47.2 dBW G/T:-7.5 dB/K, SFD:-71.8 dBW/m2	Location: 66.0E Dnlink Beam: KSPOT Dnlink EIRP: 43.2 dBW
TRANSPONDER DATA	Trans Bandwidth :77.0 MHz Uplink Frequency:6.175 GHz IBO (Nominal) : 8.5 dB	Trans Type: LTWTA Dnlink Freq: 11.950 GHz OBO (Nominal): 3.4 dB
CARRIER DATA	Type: TV/FM, Format: PAL, PreEmphasis+Weighting: 15.6dB RF BW: 30.0 MHz, P-Dev: 9.0 MHz, VideoBW: 6.0 MHz,	
LINK BUDGET		
		CLR SKY UP FADE DN FADE
UPLINK PERFORMANCE	Earth Station EIRP (dBW)	79.2 79.2 79.2
	- Uplink Path Loss, clear sky (dB)	-200.2 -200.2 -200.2
	- Uplink Rain Attenuation (dB)	0.0 -1.6 0.0
	+ Satellite G/T (dB/K)	-7.5 -7.5 -7.5
	- Boltzman's Constant (dBW/K-Hz)	228.6 228.6 228.6
	- Carrier Noise Bandwidth (dB-Hz)	-74.8 -74.8 -74.8
	C/N Uplink (dB)	25.3 23.7 25.3
DOWNLINK PERFORMANCE	Satellite Saturation EIRP (dBW)	43.2 43.2 43.2
	- Carrier Output Backoff (dB)	-6.7 -8.1 -6.7
	Downlink EIRP per carrier (dBW)	36.5 35.1 36.5
	- Earth Station Pointing Error (dB)	-0.5 -0.5 -0.5
	- Downlink Path Loss, clear sky (dB)	-205.9 -205.9 -205.9
	- Downlink Rain Attenuation (dB)	0.0 0.0 -1.6
	+ Earth Station G/T (dB/K)	33.1 33.1 31.4
	- Boltzman's Constant (dBW/K-Hz)	228.6 228.6 228.6
	- Carrier Noise Bandwidth (dB-Hz)	-74.8 -74.8 -74.8
	C/N Dnlink (dB)	16.9 15.5 13.6
COMPOSITE PERFORMANCE	C/N Uplink (dB)	25.3 23.7 25.3
	C/N Dnlink (dB)	16.9 15.5 13.6
	C/I Uplink Co-channel (dB)	27.7 26.2 27.7
	C/I Dnlink Co-Channel (dB)	27.7 26.3 27.7
	C/I Uplink Adj. Sat. (SAT-1) (dB)	19.1 17.6 19.1
	C/I Dnlink Adj. Sat. (SAT-1) (dB)	25.4 24.0 25.4
	C/I Uplink Adj. Sat. (SAT-2) (dB)	19.1 17.6 19.1
	C/I Dnlink Adj. Sat. (SAT-2) (dB)	26.0 24.6 26.0
	C/(N+I) COMPOSITE (dB)	12.5 11.0 11.0
	- Required System Margin (dB)	-1.0 -1.0 -1.0
	Net C/(N+I) COMPOSITE (dB)	11.5 10.0 10.0
	- Minimum Required C/N (dB)	-10.0 -10.0 -10.0
	Excess Link Margin (dB)	1.5 0.0 0.0
	Video Signal-to-Noise Ratio (dB)	45.4 43.9 43.9
	Audio Signal-to-Noise Ratio (dB)	59.1 57.7 57.7
TRANSMIT EARTH STATION	Loc: -6_dB_Gain_Contour ID: AZ: 0.0 Elev: 20.0 LAT: * LON: * ALT: 0.0m RainRate: 42.0mm/hr Carrier Power: 239.2 watts	
RECEIVE EARTH STA.	Loc: -4_dB_Gain_Contour ID: AZ: 0.0 Elev: 20.0 LAT: * LON: * ALT: 0.0m RainRate: 42.0mm/hr	
DENSITY INFORMATION	Uplink Pwr Den: -51.0 dBW/Hz, Dnlink EIRP Den: -34.3 dBW/Hz Max Dnlink PFD: -161.2 dB(W/m2/4kHz) @ Beam Center	
AVAILABILITY	Uplink: 99.985 %, Dnlink: 99.540 %, Composite Link: 99.525%	
LOSS IN C/(N+I) DUE TO ADJ SAT INTF:	SAT-1 = 1.4dB, SAT-2 = 1.3dB	

HEMI-KSPOT (77 MHz): 30M0F3F
[Input Data]

----- SATELLITE -----

Satellite Name	: INTELSAT_702	Location (deg)	: 66.0E
Uplink Beam	: HEMI	Dnlink Beam	: KSPOT
Trans. BW (MHz)	: 77.0 MHz	Trans. Type	: LTWTA
Uplink Pol.	:	Dnlink Pol.	:
Uplink Chan.	:	Dnlink Chan.	:
Uplink Frequency (GHz)	: 6.175	Dnlink Frequency (GHz)	: 11.950
G/T, beam center (dB/K)	: -1.5	EIRP, beam center (dBW)	: 47.2
G/T, beam edge (dB/K)	: -7.5	EIRP, beam edge (dBW)	: 43.2
G/T, toward Tx ES (dB/K)	: -7.5	EIRP, toward Rx ES (dBW)	: 43.2
SFD, beam edge (dBW/m2)	: -71.8		
SFD, toward Tx ES (dBW/m2)	: -71.8		

----- OPERATING CONDITIONS -----

Attenuator Setting (dB)	: 14	Nominal Uplink Co-Chan C/I (dB)	: 27.0
Input Backoff (dB)	: 8.2*, 8.53	Nominal Dnlink Co-Chan C/I (dB)	: 27.0
Output Backoff (dB)	: *	Minimum Uplink Rain Margin (dB)	: 0.5*
(C/Im) - Nominal (dB)	: *	Actual Uplink Rain Margin (dB)	: 1.6
Min. System Margin (dB)	: 1.0	Uplink Power Control Margin (dB)	: .0
Max No Carriers / Trans	: 2	Minimum Dnlink Rain Margin (dB)	: 0.5*
Required Link Availability	: 99.5	Actual Dnlink Rain Margin (dB)	: 3.3
		Dnlink Pointing Error (dB)	: 0.5

-- ADJACENT SATELLITE INTERFERENCE ----- Sat. No. 1 ----- Sat. No. 2 -----

Interfering Satellite Name	:	SAT-1	SAT-2
Interfering Satellite Location (deg)	:	64.0E	68.0E
Uplink Interference (dB or dBW/Hz)	:	-38.7	-38.7
Uplink Polarization Advantage (dB)	:	0.0	0.0
Downlink Interference (dB or dBW/Hz)	:	-30	-30
Downlink Polarization Advantage (dB)	:	0.0	0.0
Rx E/S Topocentric Angle (deg)	:	2.09	2.09
Rx E/S Pointing Error (deg)	:	-0.06	0.06
Rx E/S Off-Axis Angle (deg)	:	2.03	2.15
Rx E/S Adj. Sat. Discrimination (dB)	:	33.7	34.3

----- TV/FM CARRIER PARAMETERS -----

Video Format	: PAL	Peak Deviation (MHz)	: 9.0
RF Noise BW (MHz)	: 30.0	PreEmphasis+Weighting (dB)	: 15.6
Video BW (MHz)	: 6.0	Threshold C/N (dB)	: 10.0

----- AUDIO SUB-CARRIER PARAMETERS -----

Sub-Carrier Freq (MHz)	: 6.6	Highest Audio Freq (kHz)	: 15.0
P-Dev of Video by Audio (MHz)	: 2.0	Companding Advantage (dB)	: 0.0
Peak Dev of Audio (kHz)	: 75.0		

----- Transmit Earth Station ----- Receive Earth Station -----

Location: -6_dB_Gain_Contour	Location: -4_dB_Gain_Contour
Latitude (deg): *	Latitude (deg): *
Longitude (deg): *	Longitude (deg): *
Rain Rate (mm/hr): 42*	Rain Rate (mm/hr): 42*
E/S Type or Model No:	E/S Type or Model No:
E/S Manufacturer : STANDARD	E/S Manufacturer : STANDARD
E/S Diam. (m): 11.0	E/S Diam. (m): 6.1
E/S Freq (nom, GHz): 6.175	E/S Freq (nom, GHz): 11.95
E/S Tx Gain (dBi): 55.4	E/S Gain (nom, dBi): 55.5
ULPC Margin (dB): .0	E/S Feed Loss (dB): 0.25
	E/S Ant. Temp (deg K): 40
	E/S LNA Temp (deg K): 110
	E/S G/T (nom, dB/K): *

SATOPT5 (Version 5.68) (C) 2004 TEL/COM Sciences, Inc. All Rights Reserved.
6-Dec-08 11:02
PanAmSat, Customer Support Engineering.

SATELLITE	Satellite : INTELSAT_702	Location: 66.0E
DATA	Uplink Beam: HEMI	Dnlink Beam: KSPOT
	Uplink POL: , Dnlink POL: , EIRP, beam center: 47.2 dBW	
	G/T:-7.5 dB/K, SFD:-85.8 dBW/m2	Dnlink EIRP: 43.2 dBW
TRANSPONDER	Trans Bandwidth :77.0 MHz	Trans Type: LTWTA
DATA	Uplink Frequency:6.175 GHz	Dnlink Freq: 11.950 GHz
	IBO (Nominal) : 0.0 dB	OBO (Nominal): 0.0 dB
CARRIER	Type: NTC26%, Info Rate: 52550 kbps, Mod: QPSK, 1/2x188/204	
DATA	BWo: 64435kHz, BWa: 77000kHz, C/N: 3.36dB, C/N_thresh: 3.36	
LINK BUDGET		
	Earth Station EIRP (dBW)	77.1
	- Uplink Path Loss, clear sky (dB)	-200.2
	- Uplink Rain Attenuation (dB)	0.0
UPLINK	+ Satellite G/T (dB/K)	-7.5
PERFORMANCE	- Boltzman's Constant (dBW/K-Hz)	228.6
	- Carrier Noise Bandwidth (dB-Hz)	-78.1
	C/N Uplink (dB)	19.9
	Satellite Saturation EIRP (dBW)	43.2
	- Carrier Output Backoff (dB)	0.0
	Downlink EIRP per carrier (dBW)	43.2
	- Earth Station Pointing Error (dB)	-0.5
DOWNLINK	- Downlink Path Loss, clear sky (dB)	-205.9
PERFORMANCE	- Downlink Rain Attenuation (dB)	0.0
	+ Earth Station G/T (dB/K)	22.3
	- Boltzman's Constant (dBW/K-Hz)	228.6
	- Carrier Noise Bandwidth (dB-Hz)	-78.1
	C/N Dnlink (dB)	9.5
	C/N Uplink (dB)	19.9
	C/N Dnlink (dB)	9.5
	C/I Uplink Co-channel (dB)	27.0
	C/I Dnlink Co-Channel (dB)	27.0
	C/I Uplink Adj. Sat. (SAT-1) (dB)	13.7
	C/I Dnlink Adj. Sat. (SAT-1) (dB)	17.3
	C/I Uplink Adj. Sat. (SAT-2) (dB)	13.7
	C/I Dnlink Adj. Sat. (SAT-2) (dB)	19.4
COMPOSITE	C/(N+I) COMPOSITE (dB)	6.2
PERFORMANCE	- Required System Margin (dB)	-1.0
	Net C/(N+I) COMPOSITE (dB)	5.2
	- Minimum Required C/N (dB)	-3.4
	Excess Link Margin (dB)	1.8
TRANSPONDER	% BW/CARR: 100.00, % PWR/CARR: 100.00, Max No. Carriers: 1.0	
UTILIZATION	Downlink EIRP per carrier toward beam center: 47.2 dBW	
TRANSMIT	Loc: -6_dB_Gain_Contour ID: AZ: 0.0 Elev: 20.0	
EARTH	LAT: * LON: * ALT: 0.0m RainRate: 42.0mm/hr	
STATION	Carrier Power: 269.0 watts	
RECEIVE	Loc: -4_dB_Gain_Contour ID: AZ: 0.0 Elev: 20.0	
EARTH STA.	LAT: * LON: * ALT: 0.0m RainRate: 42.0mm/hr	
DENSITY	Uplink Pwr Den: -53.8 dBW/Hz, Dnlink EIRP Den: -30.9 dBW/Hz	
INFORMATION	Max Dnlink PFD: -157.8 dB(W/m2/4kHz) @ Beam Center	
AVAILABILITY	Uplink: 99.998 %, Dnlink: 99.549 %, Composite Link: 99.547	
LOSS IN C/(N+I) DUE TO ADJ SAT INTF:	SAT-1 = 1.3dB, SAT-2 = 1.1dB	

SATOPT5_PAS (Version 5.68)

PanAmSat, Customer Support Engineering.

HEMI-KSPOT (77 MHz): 77MOG7W
[Input Data]

----- SATELLITE -----

Satellite Name : INTELSAT_702 Location (deg): 66.0E
Uplink Beam : HEMI Dnlink Beam : KSPOT
Trans. BW (MHz): 77.0 MHz Trans. Type : LTWTA
Uplink Pol. : Dnlink Pol. :
Uplink Chan. : Dnlink Chan. :
Uplink Frequency (GHz): 6.175 Dnlink Frequency (GHz): 11.950
G/T, beam center (dB/K): -1.5 EIRP, beam center (dBW): 47.2
G/T, beam edge (dB/K): -7.5 EIRP, beam edge (dBW): 43.2
G/T, toward Tx ES (dB/K): -7.5 EIRP, toward Rx ES (dBW): 43.2
SFD, beam edge (dBW/m2): -85.8
SFD, toward Tx ES (dBW/m2): -85.8

----- OPERATING CONDITIONS -----

Attenuator Setting (dB): 0 Nominal Uplink Co-Chan C/I (dB): 27.0
Input Backoff (dB): 0.0 Nominal Dnlink Co-Chan C/I (dB): 27.0
Output Backoff (dB): * Minimum Uplink Rain Margin (dB): 0.5*
(C/Im) - Nominal (dB): * Actual Uplink Rain Margin (dB): 3.5
Min. System Margin (dB): 1.0 Uplink Power Control Margin (dB): .0
Max No Carriers / Trans: 1 Minimum Dnlink Rain Margin (dB): 0.5*
Required Link Availability: 99.5 Actual Dnlink Rain Margin (dB): 3.3
Dnlink Pointing-Error (dB): 0.5

----- ADJACENT SATELLITE INTERFERENCE ----- Sat. No. 1 ----- Sat. No. 2 -----

Interfering Satellite Name :	SAT-1	SAT-2
Interfering Satellite Location (deg):	64.0E	68.0E
Uplink Interference (dB or dBW/Hz):	-38.7	-38.7
Uplink Polarization Advantage (dB):	0.0	0.0
Downlink Interference (dB or dBW/Hz):	-30	-30
Downlink Polarization Advantage (dB):	0.0	0.0
Rx E/S Topocentric Angle (deg):	2.09	2.09
Rx E/S Pointing Error (deg):	-0.20	0.20
Rx E/S Off-Axis Angle (deg):	1.89	2.29
Rx E/S Adj. Sat. Discrimination (dB):	22.2	24.3

----- CARRIER PARAMETERS -----

Modem Type : NTC26%	C/N (operating, dB): 3.36
Modulation : QPSK	Eb/No (operating, dB): 4.2
Code Rate : 1/2x188/204-V	C/N (threshold, dB): 3.36
Info Rate (kbps): 52550	Eb/No (threshold, dB): 4.2
Occupied Bandwidth (kHz): 64435	
Allocated Bandwidth (kHz): 77000	

----- Transmit Earth Station -----

Location: -6_dB_Gain_Contour
Latitude (deg): *
Longitude (deg): *
Rain Rate (mm/hr): 42*
E/S Type or Model No:
E/S Manufacturer : STANDARD
E/S Diam. (m): 8.1
E/S Freq (nom, GHz): 6.175
E/S Tx Gain (dBi): 52.8
ULPC Margin (dB): .0

----- Receive Earth Station -----

Location: -4_dB_Gain_Contour
Latitude (deg): *
Longitude (deg): *
Rain Rate (mm/hr): 42*
E/S Type or Model No:
E/S Manufacturer : STANDARD
E/S Diam. (m): 1.8
E/S Freq (nom, GHz): 11.95
E/S Gain (nom, dBi): 44.8
E/S Feed Loss (dB): 0.25
E/S Ant. Temp(deg K): 45
E/S LNA Temp (deg K): 110
E/S G/T (nom, dB/K): *

SATOPT5 (Version 5.68) (C) 2004 TEL/COM Sciences, Inc. All Rights Reserved.
6-Dec-08 10:52
PanAmSat, Customer Support Engineering.

SATELLITE DATA	Satellite : INTELSAT_702 Uplink Beam: HEMI Uplink POL: , Dnlink POL: , EIRP, beam center: 47.2 dBW G/T:-7.5 dB/K, SFD:-80.8 dBW/m2	Location: 66.0E Dnlink Beam: KSPOT Dnlink EIRP: 43.2 dBW
TRANSPONDER DATA	Trans Bandwidth :77.0 MHz Uplink Frequency:6.175 GHz IBO (Nominal) : 8.2 dB	Trans Type: LTWTA Dnlink Freq: 11.950 GHz OBO (Nominal): 5.1 dB
CARRIER DATA	Type: EF9000, Info Rate: 6000 kbps, Mod: QPSK, 1/2x188/204- BWo: 6771.1kHz, Bwa: 10300kHz, C/N: 3.87dB, C/N_thresh: 3.5	
LINK BUDGET		
		CLR SKY UP FADE DN FADE
UPLINK PERFORMANCE	Earth Station EIRP (dBW) - Uplink Path Loss, clear sky (dB) - Uplink Rain Attenuation (dB) + Satellite G/T (dB/K) - Boltzman's Constant (dBW/K-Hz) - Carrier Noise Bandwidth (dB-Hz) C/N Uplink (dB)	66.8 66.8 66.8 -200.2 -200.2 -200.2 0.0 -2.5 0.0 -7.5 -7.5 -7.5 228.6 228.6 228.6 -68.3 -68.3 -68.3 19.4 16.9 19.4
DOWNLINK PERFORMANCE	Satellite Saturation EIRP (dBW) - Carrier Output Backoff (dB) Downlink EIRP per carrier (dBW) - Earth Station Pointing Error (dB) - Downlink Path Loss, clear sky (dB) - Downlink Rain Attenuation (dB) + Earth Station G/T (dB/K) - Boltzman's Constant (dBW/K-Hz) - Carrier Noise Bandwidth (dB-Hz) C/N Dnlink (dB)	43.2 43.2 43.2 -12.1 -12.9 -12.1 31.1 30.3 31.1 -.5 -.5 -.5 -205.9 -205.9 -205.9 0.0 0.0 -1.5 25.0 25.0 23.4 228.6 228.6 228.6 -68.3 -68.3 -68.3 9.9 9.1 6.8
COMPOSITE PERFORMANCE	C/N Uplink (dB) C/N Dnlink (dB) C/I Intermod (dB) C/I Uplink Co-channel (dB) C/I Dnlink Co-channel (dB) C/I Uplink Adj. Sat. (SAT-1) (dB) C/I Dnlink Adj. Sat. (SAT-1) (dB) C/I Uplink Adj. Sat. (SAT-2) (dB) C/I Dnlink Adj. Sat. (SAT-2) (dB) C/(N+I) COMPOSITE (dB) - Required System Margin (dB) Net C/(N+I) COMPOSITE (dB) - Minimum Required C/N (dB) Excess Link Margin (dB)	19.4 16.9 19.4 9.9 9.1 6.8 26.6 26.7 26.6 28.7 26.2 28.7 28.7 27.9 28.7 13.2 10.8 13.2 18.0 17.2 18.0 13.2 10.8 13.2 19.5 18.8 19.5 6.2 4.6 4.6 -1.0 -1.0 -1.0 5.2 3.6 3.6 -3.9 -3.6 -3.6 1.3 0.0 0.0
TRANSPONDER UTILIZATION	% BW/CARR: 13.38, % PWR/CARR: 19.72, Max No. Carriers: 5.1 Downlink EIRP per carrier toward beam center: 35.1 dBW	
TRANSMIT EARTH STATION	Loc: -6_dB_Gain_Contour ID: AZ: 0.0 Elev: 20.0 LAT: * LON: * ALT: 0.0m RainRate: 42.0mm/hr Carrier Power: 38.4 watts	
RECEIVE EARTH STA.	Loc: -4_dB_Gain_Contour ID: AZ: 0.0 Elev: 20.0 LAT: * LON: * ALT: 0.0m RainRate: 42.0mm/hr	
DENSITY INFORMATION	Uplink Pwr Den: -52.5 dBW/Hz, Dnlink EIRP Den: -33.2 dBW/Hz Max Dnlink PFD: -160.1 dB(W/m2/4kHz) @ Beam Center	
AVAILABILITY	Uplink: 99.995 %, Dnlink: 99.508 %, Composite Link: 99.503	
LOSS IN C/(N+I) DUE TO ADJ SAT INTF:	SAT-1 = 1.3dB, SAT-2 = 1.2dB	

HEMI-KSPOT (77 MHz): 10M3G7W
[Input Data]

----- SATELLITE -----

Satellite Name	: INTELSAT_702	Location (deg)	: 66.0E
Uplink Beam	: HEMI	Dnlink Beam	: KSPOT
Trans. BW (MHz)	: 77.0 MHz	Trans. Type	: LTWTA
Uplink Pol.	:	Dnlink Pol.	:
Uplink Chan.	:	Dnlink Chan.	:
Uplink Frequency (GHz)	: 6.175	Dnlink Frequency (GHz)	: 11.950
G/T, beam center (dB/K)	: -1.5	EIRP, beam center (dBW)	: 47.2
G/T, beam edge (dB/K)	: -7.5	EIRP, beam edge (dBW)	: 43.2
G/T, toward Tx ES (dB/K)	: -7.5	EIRP, toward Rx ES (dBW)	: 43.2
SFD, beam edge (dBW/m2)	: -80.8		
SFD, toward Tx ES (dBW/m2)	: -80.8		

----- OPERATING CONDITIONS -----

Attenuator Setting (dB)	: 5	Nominal Uplink Co-Chan C/I (dB)	: 27.0
Input Backoff (dB)	: 8.2	Nominal Dnlink Co-Chan C/I (dB)	: 27.0
Output Backoff (dB)	: *	Minimum Uplink Rain Margin (dB)	: 0.5*
(C/Im) - Nominal (dB)	: *	Actual Uplink Rain Margin (dB)	: 2.5
Min. System Margin (dB)	: 1.0	Uplink Power Control Margin (dB)	: .0
Max No Carriers / Trans	: *	Minimum Dnlink Rain Margin (dB)	: 0.5*
Required Link Availability	: 99.5	Actual Dnlink Rain Margin (dB)	: 3.1
		Dnlink Pointing Error (dB)	: 0.5

-- ADJACENT SATELLITE INTERFERENCE ----- Sat. No. 1 ----- Sat. No. 2 -----

Interfering Satellite Name	:	SAT-1	SAT-2
Interfering Satellite Location (deg)	:	64.0E	68.0E
Uplink Interference (dB or dBW/Hz)	:	-38.7	-38.7
Uplink Polarization Advantage (dB)	:	0.0	0.0
Downlink Interference (dB or dBW/Hz)	:	-30	-30
Downlink Polarization Advantage (dB)	:	0.0	0.0
Rx E/S Topocentric Angle (deg)	:	2.09	2.09
Rx E/S Pointing Error (deg)	:	-0.15	0.15
Rx E/S Off-Axis Angle (deg)	:	1.94	2.24
Rx E/S Adj. Sat. Discrimination (dB)	:	25.2	26.8

----- CARRIER PARAMETERS -----

Modem Type	: EF9000	C/N (operating, dB)	: 3.87
Modulation	: QPSK	Eb/No (operating, dB)	: 4.4
Code Rate	: 1/2x188/204-V	C/N (threshold, dB)	: 3.57
Info Rate (kbps)	: 6000	Eb/No (threshold, dB)	: 4.1
Occupied Bandwidth (kHz)	: 6771.1		
Allocated Bandwidth (kHz)	: 10300		

----- Transmit Earth Station ----- ----- Receive Earth Station -----

Location: -6_dB_Gain_Contour	Location: -4_dB_Gain_Contour
Latitude (deg): *	Latitude (deg): *
Longitude (deg): *	Longitude (deg): *
Rain Rate (mm/hr): 42*	Rain Rate (mm/hr): 42*
E/S Type or Model No:	E/S Type or Model No:
E/S Manufacturer : STANDARD	E/S Manufacturer : STANDARD
E/S Diam. (m): 7.0	E/S Diam. (m): 2.4
E/S Freq (nom, GHz): 6.175	E/S Freq (nom, GHz): 11.95
E/S Tx Gain (dBi): 51.0	E/S Gain (nom, dBi): 47.5
ULPC Margin (dB): .0	E/S Feed Loss (dB): 0.25
	E/S Ant. Temp(deg K): 45
	E/S LNA Temp (deg K): 110
	E/S G/T (nom, dB/K): *

SATELLITE DATA	Satellite : INTELSAT_702 Uplink Beam: HEMI Uplink POL: , Dnlink POL: , EIRP, beam center: 47.2 dBW G/T:-7.5 dB/K, SFD:-80.8 dBW/m2	Location: 66.0E Dnlink Beam: KSPOT Dnlink EIRP: 43.2 dBW
TRANSPONDER DATA	Trans Bandwidth :77.0 MHz Uplink Frequency:6.175 GHz IBO (Nominal) : 8.2 dB	Trans Type: LTWTA Dnlink Freq: 11.950 GHz OBO (Nominal): 5.1 dB
CARRIER DATA	Type: CS701, Info Rate: 64 kbps, Mod: QPSK, 1/2x239/256-V BWo: 75.4kHz, BWa: 100kHz, C/N: 2.99dB, C/N_thresh: 2.79dB	
LINK BUDGET		
		CLR SKY UP FADE DN FADE
UPLINK PERFORMANCE	Earth Station EIRP (dBW) - Uplink Path Loss, clear sky (dB) - Uplink Rain Attenuation (dB) + Satellite G/T (dB/K) - Boltzman's Constant (dBW/K-Hz) - Carrier Noise Bandwidth (dB-Hz) C/N Uplink (dB)	46.5 46.5 46.5 -200.2 -200.2 -200.2 0.0 -2.4 0.0 -7.5 -7.5 -7.5 228.6 228.6 228.6 -48.8 -48.8 -48.8 18.6 16.2 18.6
DOWNLINK PERFORMANCE	Satellite Saturation EIRP (dBW) - Carrier Output Backoff (dB) Downlink EIRP per carrier (dBW) - Earth Station Pointing Error (dB) - Downlink Path Loss, clear sky (dB) - Downlink Rain Attenuation (dB) + Earth Station G/T (dB/K) - Boltzman's Constant (dBW/K-Hz) - Carrier Noise Bandwidth (dB-Hz) C/N Dnlink (dB)	43.2 43.2 43.2 -32.5 -33.3 -32.5 10.7 9.9 10.7 -0.5 -0.5 -0.5 -205.9 -205.9 -205.9 0.0 0.0 -1.5 25.0 25.0 23.4 228.6 228.6 228.6 -48.8 -48.8 -48.8 9.1 8.3 6.0
COMPOSITE PERFORMANCE	C/N Uplink (dB) C/N Dnlink (dB) C/I Intermod (dB) C/I Uplink Co-channel (dB) C/I Dnlink Co-Channel (dB) C/I Uplink Adj. Sat. (SAT-1) (dB) C/I Dnlink Adj. Sat. (SAT-1) (dB) C/I Uplink Adj. Sat. (SAT-2) (dB) C/I Dnlink Adj. Sat. (SAT-2) (dB) C/(N+I) COMPOSITE (dB) - Required System Margin (dB) Net C/(N+I) COMPOSITE (dB) - Minimum Required C/N (dB) Excess Link Margin (dB)	18.6 16.2 18.6 9.1 8.3 6.0 25.8 25.0 25.8 28.5 26.1 28.5 28.5 27.7 28.5 12.5 10.0 12.5 17.2 16.3 17.2 12.5 10.0 12.5 18.7 17.9 18.7 5.4 3.8 3.8 -1.0 -1.0 -1.0 4.4 2.8 2.8 -3.0 -2.8 -2.8 1.4 0.0 0.0
TRANSPONDER UTILIZATION	% BW/CARR: 0.13, % PWR/CARR: 0.18, Max No. Carriers: 545.6 Downlink EIRP per carrier toward beam center: 14.7 dBW	
TRANSMIT EARTH STATION	Loc: -6_dB_Gain_Contour ID: AZ: 0.0 Elev: 20.0 LAT: * LON: * ALT: 0.0m RainRate: 42.0mm/hr Carrier Power: 0.4 watts	
RECEIVE EARTH STA.	Loc: -4_dB_Gain_Contour ID: AZ: 0.0 Elev: 20.0 LAT: * LON: * ALT: 0.0m RainRate: 42.0mm/hr	
DENSITY INFORMATION	Uplink Pwr Den: -53.2 dBW/Hz, Dnlink EIRP Den: -34.0 dBW/Hz Max Dnlink PFD: -160.9 dB(W/m2/4kHz) @ Beam Center	
AVAILABILITY	Uplink: 99.994 %, Dnlink: 99.508 %, Composite Link: 99.502	
LOSS IN C/(N+I) DUE TO ADJ SAT INTF:	SAT-1 = 1.3dB, SAT-2 = 1.2dB	

HEMI-KSPOT (77 MHz): 100KG7W
[Input Data]

----- SATELLITE -----

Satellite Name	: INTELSAT_702	Location (deg)	: 66.0E
Uplink Beam	: HEMI	Dnlink Beam	: KSPOT
Trans. BW (MHz)	: 77.0 MHz	Trans. Type	: LTWTA
Uplink Pol.	:	Dnlink Pol.	:
Uplink Chan.	:	Dnlink Chan.	:
Uplink Frequency (GHz)	: 6.175	Dnlink Frequency (GHz)	: 11.950
G/T, beam center (dB/K)	: -1.5	EIRP, beam center (dBW)	: 47.2
G/T, beam edge (dB/K)	: -7.5	EIRP, beam edge (dBW)	: 43.2
G/T, toward Tx ES (dB/K)	: -7.5	EIRP, toward Rx ES (dBW)	: 43.2
SFD, beam edge (dBW/m2)	: -80.8		
SFD, toward Tx ES (dBW/m2)	: -80.8		

----- OPERATING CONDITIONS -----

Attenuator Setting (dB)	: 5	Nominal Uplink Co-Chan C/I (dB)	: 27.0
Input Backoff (dB)	: 8.2	Nominal Dnlink Co-Chan C/I (dB)	: 27.0
Output Backoff (dB)	: *	Minimum Uplink Rain Margin (dB)	: 0.5*
(C/Im) - Nominal (dB)	: *	Actual Uplink Rain Margin (dB)	: 2.4
Min. System Margin (dB)	: 1.0	Uplink Power Control Margin (dB)	: .0
Max No Carriers / Trans:	: *	Minimum Dnlink Rain Margin (dB)	: 0.5*
Required Link Availability:	: 99.5	Actual Dnlink Rain Margin (dB)	: 3.1
		Dnlink Pointing Error (dB)	: 0.5

----- ADJACENT SATELLITE INTERFERENCE ----- Sat. No. 1 ----- Sat. No. 2 -----

Interfering Satellite Name	:	SAT-1	SAT-2
Interfering Satellite Location (deg)	:	64.0E	68.0E
Uplink Interference (dB or dBW/Hz)	:	-38.7	-38.7
Uplink Polarization Advantage (dB)	:	0.0	0.0
Downlink Interference (dB or dBW/Hz)	:	-30	-30
Downlink Polarization Advantage (dB)	:	0.0	0.0
Rx E/S Topocentric Angle (deg)	:	2.09	2.09
Rx E/S Pointing Error (deg)	:	-0.15	0.15
Rx E/S Off-Axis Angle (deg)	:	1.94	2.24
Rx E/S Adj. Sat. Discrimination (dB)	:	25.2	26.8

----- CARRIER PARAMETERS -----

Modem Type	: CS701	C/N (operating, dB)	: 2.99
Modulation	: QPSK	Eb/No (operating, dB)	: 3.7
Code Rate	: 1/2x239/256-V	C/N (threshold, dB)	: 2.79
Info Rate (kbps)	: 64	Eb/No (threshold, dB)	: 3.5
Occupied Bandwidth (kHz)	: 75.4		
Allocated Bandwidth (kHz)	: 100		

----- Transmit Earth Station -----

Location: -6_dB_Gain_Contour
Latitude (deg): *
Longitude (deg): *
Rain Rate (mm/hr): 42*
E/S Type or Model No:
E/S Manufacturer : STANDARD
E/S Diam. (m): 7.0
E/S Freq (nom, GHz): 6.175
E/S Tx Gain (dBi): 51.0
ULPC Margin (dB): .0

----- Receive Earth Station -----

Location: -4_dB_Gain_Contour
Latitude (deg): *
Longitude (deg): *
Rain Rate (mm/hr): 42*
E/S Type or Model No:
E/S Manufacturer : STANDARD
E/S Diam. (m): 2.4
E/S Freq (nom, GHz): 11.95
E/S Gain (nom, dBi): 47.5
E/S Feed Loss (dB): 0.25
E/S Ant. Temp(deg K): 45
E/S LNA Temp (deg K): 110
E/S G/T (nom, dB/K): *

SATOPT5 (Version 5.68) (C) 2004 TEL/COM Sciences, Inc. All Rights Reserved.
6-Dec-08 10:56
PanAmSat, Customer Support Engineering.

SATELLITE DATA	Satellite : INTELSAT_702 Uplink Beam: CSPOT Uplink POL: , Dnlink POL: , EIRP, beam center: 29.5 dBW G/T:-1.0 dB/K, SFD:-78.3 dBW/m2 Dnlink EIRP: 25.5 dBW	Location: 66.0E Dnlink Beam: GLOBAL
TRANSPONDER DATA	Trans Bandwidth :36 MHz Uplink Frequency:6.175 GHz IBO (Nominal) : 5.0 dB	Trans Type: LTWTA Dnlink Freq: 3.950 GHz OBO (Nominal): 0.6 dB
CARRIER DATA	Type: TV/FM, Format: PAL, PreEmphasis+Weighting: 15.6dB RF BW: 30.0 MHz, P-Dev: 9.0 MHz, VideoBW: 6.0 MHz,	
LINK BUDGET		
		CLR SKY UP FADE DN FADE
UPLINK PERFORMANCE	Earth Station EIRP (dBW)	79.6 n/a n/a
	- Uplink Path Loss, clear sky (dB)	-200.2 n/a n/a
	- Uplink Rain Attenuation (dB)	0.0 n/a n/a
	+ Satellite G/T (dB/K)	-1.0 n/a n/a
	- Boltzman's Constant (dBW/K-Hz)	228.6 n/a n/a
	- Carrier Noise Bandwidth (dB-Hz)	-74.8 n/a n/a
	C/N Uplink (dB)	32.2 n/a n/a
DOWNLINK PERFORMANCE	Satellite Saturation EIRP (dBW)	25.5 n/a n/a
	- Carrier Output Backoff (dB)	-0.6 n/a n/a
	Downlink EIRP per carrier (dBW)	24.9 n/a n/a
	- Earth Station Pointing Error (dB)	-0.5 n/a n/a
	- Downlink Path Loss, clear sky (dB)	-196.3 n/a n/a
	- Downlink Rain Attenuation (dB)	0.0 n/a n/a
	+ Earth Station G/T (dB/K)	33.0 n/a n/a
	- Boltzman's Constant (dBW/K-Hz)	228.6 n/a n/a
	- Carrier Noise Bandwidth (dB-Hz)	-74.8 n/a n/a
		C/N Dnlink (dB)
COMPOSITE PERFORMANCE	C/N Uplink (dB)	32.2 n/a n/a
	C/N Dnlink (dB)	14.9 n/a n/a
	C/I Uplink Co-channel (dB)	27.8 n/a n/a
	C/I Dnlink Co-channel (dB)	27.8 n/a n/a
	C/I Uplink Adj. Sat. (SAT-1) (dB)	21.5 n/a n/a
	C/I Dnlink Adj. Sat. (SAT-1) (dB)	18.0 n/a n/a
	C/I Uplink Adj. Sat. (SAT-2) (dB)	21.5 n/a n/a
	C/I Dnlink Adj. Sat. (SAT-2) (dB)	18.9 n/a n/a
	C/(N+I) COMPOSITE (dB)	11.0 n/a n/a
	- Required System Margin (dB)	-1.0 n/a n/a
	Net C/(N+I) COMPOSITE (dB)	10.0 n/a n/a
	- Minimum Required C/N (dB)	-10.0 n/a n/a
	Excess Link Margin (dB)	0.0 n/a n/a
	Video Signal-to-Noise Ratio (dB)	43.9 n/a n/a
	Audio Signal-to-Noise Ratio (dB)	57.7 n/a n/a
TRANSMIT EARTH STATION	Loc: -4_dB_Gain_Contour ID: AZ: 0.0 Elev: 20.0 LAT: * LON: * ALT: 0.0m RainRate: 42.0mm/hr Carrier Power: 208.8 watts	
RECEIVE EARTH STA.	Loc: -4_dB_Gain_Contour ID: AZ: 0.0 Elev: 20.0 LAT: * LON: * ALT: 0.0m RainRate: 42.0mm/hr	
DENSITY INFORMATION	Uplink Pwr Den: -51.6 dBW/Hz, Dnlink EIRP Den: -45.9 dBW/Hz Max Dnlink PFD: -172.7 dB(W/m2/4kHz) @ Beam Center	
LOSS IN C/(N+I) DUE TO ADJ SAT INTF: SAT-1 = 1.5dB, SAT-2 = 1.3dB		

CSPOT-GLOBAL (36 MHz): 30M0F3F
[Input Data]

----- SATELLITE -----

Satellite Name	: INTELSAT_702	Location (deg)	: 66.0E
Uplink Beam	: CSPOT	Dnlink Beam	: GLOBAL
Trans. BW (MHz)	: 36 MHz	Trans. Type	: LTWTA
Uplink Pol.	:	Dnlink Pol.	:
Uplink Chan.	:	Dnlink Chan.	:
Uplink Frequency (GHz)	: 6.175	Dnlink Frequency (GHz)	: 3.950
G/T, beam center (dB/K)	: 3.0	EIRP, beam center (dBW)	: 29.5
G/T, beam edge (dB/K)	: -1.0	EIRP, beam edge (dBW)	: 25.5
G/T, toward Tx ES (dB/K)	: -1.0	EIRP, toward Rx ES (dBW)	: 25.5
SFD, beam edge (dBW/m2)	: -78.3		
SFD, toward Tx ES (dBW/m2)	: -78.3		

----- OPERATING CONDITIONS -----

Attenuator Setting (dB)	: 14	Nominal Uplink Co-Chan C/I (dB)	: 27.0
Input Backoff (dB)	: 5	Nominal Dnlink Co-Chan C/I (dB)	: 27.0
Output Backoff (dB)	: *	Minimum Uplink Rain Margin (dB)	: 0.0
(C/Im) - Nominal (dB)	: *	Actual Uplink Rain Margin (dB)	: n/a
Min-System-Margin (dB)	: -1.0	Uplink Power Control Margin (dB)	: .0
Max No Carriers / Trans:	1	Minimum Dnlink Rain Margin (dB)	: 0.0
		Actual Dnlink Rain Margin (dB)	: n/a
		Dnlink Pointing Error (dB)	: 0.5

-- ADJACENT SATELLITE INTERFERENCE ----- Sat. No. 1 ----- Sat. No. 2 -----

Interfering Satellite Name	:	SAT-1	SAT-2
Interfering Satellite Location (deg)	:	64E	68E
Uplink Interference (dB or dBW/Hz)	:	-38.7	-38.7
Uplink Polarization Advantage (dB)	:	0.0	0.0
Downlink Interference (dB or dBW/Hz)	:	-36.3	-36.3
Downlink Polarization Advantage (dB)	:	0.0	0.0
Rx E/S Topocentric Angle (deg)	:	2.09	2.09
Rx E/S Pointing Error (deg)	:	-0.08	0.08
Rx E/S Off-Axis Angle (deg)	:	2.01	2.17
Rx E/S Adj. Sat. Discrimination (dB)	:	31.6	32.4

----- TV/FM CARRIER PARAMETERS -----

Video Format	: PAL	Peak Deviation (MHz)	: 9.0
RF Noise BW (MHz)	: 30.0	PreEmphasis+Weighting (dB)	: 15.6
Video BW (MHz)	: 6.0	Threshold C/N (dB)	: 10.0

----- AUDIO SUB-CARRIER PARAMETERS -----

Sub-Carrier Freq (MHz)	: 6.6	Highest Audio Freq (kHz)	: 15.0
P-Dev of Video by Audio (MHz)	: 2.0	Companding Advantage (dB)	: 0.0
Peak Dev of Audio (kHz)	: 75.0		

----- Transmit Earth Station -----

Location: -4_dB_Gain_Contour
Latitude (deg): *
Longitude (deg): *
Rain Rate (mm/hr): 42*
E/S Type or Model No:
E/S Manufacturer : STANDARD
E/S Diam. (m): 13.0
E/S Freq (nom, GHz): 6.175
E/S Tx Gain (dBi): 56.4
ULPC Margin (dB): .0

----- Receive Earth Station -----

Location: -4_dB_Gain_Contour
Latitude (deg): *
Longitude (deg): *
Rain Rate (mm/hr): 42*
E/S Type or Model No:
E/S Manufacturer : STANDARD
E/S Diam. (m): 13.1
E/S Freq (nom, GHz): 3.95
E/S Gain (nom, dBi): 53.5
E/S Feed Loss (dB): 0.20
E/S Ant. Temp (deg K): 30
E/S LNA Temp (deg K): 65
E/S G/T (nom, dB/K): *

SATOPT5 (Version 5.68) (C) 2004 TEL/COM Sciences, Inc. All Rights Reserved.
5-Dec-08 14:59
PanAmSat, Customer Support Engineering.

SATELLITE DATA	Satellite : INTELSAT_702 Uplink Beam: CSPOT Uplink POL: , Dnlink POL: , EIRP, beam center: 29.5 dBW G/T:-1.0 dB/K, SFD:-88.3 dBW/m2	Location: 66.0E Dnlink Beam: GLOBAL Dnlink EIRP: 25.5 dBW
TRANSPONDER DATA	Trans Bandwidth :36 MHz Uplink Frequency:6.175 GHz IBO (Nominal) : 0.0 dB	Trans Type: LTWTA Dnlink Freq: 3.950 GHz OBO (Nominal): 0.0 dB
CARRIER DATA	Type: NTC26%, Info Rate: 24575 kbps, Mod: QPSK, 1/2x188/204 BWo: 30133kHz, BWa: 36000kHz, C/N: 3.36dB, C/N_thresh: 3.36	
LINK BUDGET		
		CLR SKY UP FADE DN FADE
UPLINK PERFORMANCE	Earth Station EIRP (dBW)	74.6 n/a n/a
	- Uplink Path Loss, clear sky (dB)	-200.2 n/a n/a
	- Uplink Rain Attenuation (dB)	0.0 n/a n/a
	+ Satellite G/T (dB/K)	-1.0 n/a n/a
	- Boltzman's Constant (dBW/K-Hz)	228.6 n/a n/a
	- Carrier Noise Bandwidth (dB-Hz)	-74.8 n/a n/a
	C/N Uplink (dB)	27.2 n/a n/a
DOWNLINK PERFORMANCE	Satellite Saturation EIRP (dBW)	25.5 n/a n/a
	- Carrier Output Backoff (dB)	0.0 n/a n/a
	Downlink EIRP per carrier (dBW)	25.5 n/a n/a
	- Earth Station Pointing Error (dB)	-5 n/a n/a
	- Downlink Path Loss, clear sky (dB)	-196.3 n/a n/a
	- Downlink Rain Attenuation (dB)	0.0 n/a n/a
	+ Earth Station G/T (dB/K)	26.2 n/a n/a
	- Boltzman's Constant (dBW/K-Hz)	228.6 n/a n/a
	- Carrier Noise Bandwidth (dB-Hz)	-74.8 n/a n/a
	C/N Dnlink (dB)	8.7 n/a n/a
COMPOSITE PERFORMANCE	C/N Uplink (dB)	27.2 n/a n/a
	C/N Dnlink (dB)	8.7 n/a n/a
	C/I Uplink Co-channel (dB)	27.0 n/a n/a
	C/I Dnlink Co-Channel (dB)	27.0 n/a n/a
	C/I Uplink Adj. Sat. (SAT-1) (dB)	16.5 n/a n/a
	C/I Dnlink Adj. Sat. (SAT-1) (dB)	11.0 n/a n/a
	C/I Uplink Adj. Sat. (SAT-2) (dB)	16.5 n/a n/a
	C/I Dnlink Adj. Sat. (SAT-2) (dB)	12.9 n/a n/a
	C/(N+I) COMPOSITE (dB)	5.0 n/a n/a
	- Required System Margin (dB)	-1.0 n/a n/a
	Net C/(N+I) COMPOSITE (dB)	4.0 n/a n/a
	- Minimum Required C/N (dB)	-3.4 n/a n/a
	Excess Link Margin (dB)	.7 n/a n/a
TRANSPONDER UTILIZATION	% BW/CARR: 100.00, % PWR/CARR: 100.00, Max No. Carriers: 1.0 Downlink EIRP per carrier toward beam center: 29.5 dBW	
TRANSMIT EARTH STATION	Loc: -4 dB Gain Contour ID: AZ: 0.0 Elev: 20.0 LAT: * LON: * ALT: 0.0m RainRate: 42.0mm/hr Carrier Power: 229.0 watts	
RECEIVE EARTH STA.	Loc: -4 dB Gain Contour ID: AZ: 0.0 Elev: 20.0 LAT: * LON: * ALT: 0.0m RainRate: 42.0mm/hr	
DENSITY INFORMATION	Uplink Pwr Den: -51.2 dBW/Hz, Dnlink EIRP Den: -45.3 dBW/Hz Max Dnlink PFD: -172.2 dB(W/m2/4kHz) @ Beam Center	
LOSS IN C/(N+I) DUE TO ADJ SAT INTF:	SAT-1 = 1.7dB, SAT-2 = 1.2dB	

CSPOT-GLOBAL (36 MHz): 36MOG7W
[Input Data]

----- SATELLITE -----

Satellite Name	: INTELSAT_702	Location (deg)	: 66.0E
Uplink Beam	: CSPOT	Dnlink Beam	: GLOBAL
Trans. BW (MHz)	: 36 MHz	Trans. Type	: LTWTA
Uplink Pol.	:	Dnlink Pol.	:
Uplink Chan.	:	Dnlink Chan.	:
Uplink Frequency (GHz)	: 6.175	Dnlink Frequency (GHz)	: 3.950
G/T, beam center (dB/K)	: 3.0	EIRP, beam center (dBW)	: 29.5
G/T, beam edge (dB/K)	: -1.0	EIRP, beam edge (dBW)	: 25.5
G/T, toward Tx ES (dB/K)	: -1.0	EIRP, toward Rx ES (dBW)	: 25.5
SFD, beam edge (dBW/m2)	: -88.3		
SFD, toward Tx ES (dBW/m2)	: -88.3		

----- OPERATING CONDITIONS -----

Attenuator Setting (dB)	: 4	Nominal Uplink Co-Chan C/I (dB)	: 27.0
Input Backoff (dB)	: 0.0	Nominal Dnlink Co-Chan C/I (dB)	: 27.0
Output Backoff (dB)	: *	Minimum Uplink Rain Margin (dB)	: 0.0
(C/Im) - Nominal (dB)	: *	Actual Uplink Rain Margin (dB)	: n/a
Min. System Margin (dB)	: 1.0	Uplink Power Control Margin (dB)	: 0
Max No Carriers / Trans	: 1	Minimum Dnlink Rain Margin (dB)	: 0.0
		Actual Dnlink Rain Margin (dB)	: n/a
		Dnlink Pointing Error (dB)	: 0.5

--- ADJACENT SATELLITE INTERFERENCE ----- Sat. No. 1 ----- Sat. No. 2 -----

Interfering Satellite Name	:	SAT-1	SAT-2
Interfering Satellite Location (deg)	:	64E	68E
Uplink Interference (dB or dBW/Hz)	:	-38.7	-38.7
Uplink Polarization Advantage (dB)	:	0.0	0.0
Downlink Interference (dB or dBW/Hz)	:	-36.3	-36.3
Downlink Polarization Advantage (dB)	:	0.0	0.0
Rx E/S Topocentric Angle (deg)	:	2.09	2.09
Rx E/S Pointing Error (deg)	:	-0.18	0.18
Rx E/S Off-Axis Angle (deg)	:	1.91	2.27
Rx E/S Adj. Sat. Discrimination (dB)	:	24.0	25.9

----- CARRIER PARAMETERS -----

Modem Type	: NTC26%	C/N (operating, dB)	: 3.36
Modulation	: QPSK	Eb/No (operating, dB)	: 4.2
Code Rate	: 1/2x188/204-V	C/N (threshold, dB)	: 3.36
Info Rate (kbps)	: 24575	Eb/No (threshold, dB)	: 4.2
Occupied Bandwidth (kHz)	: 30133		
Allocated Bandwidth (kHz)	: 36000		

----- Transmit Earth Station -----

Location: -4_dB_Gain_Contour
Latitude (deg): *
Longitude (deg): *
Rain Rate (mm/hr): 42*
E/S Type or Model No:
E/S Manufacturer : STANDARD
E/S Diam. (m): 7.0
E/S Freq (nom, GHz): 6.175
E/S Tx Gain (dBi): 51.0
ULPC Margin (dB): .0

----- Receive Earth Station -----

Location: -4_dB_Gain_Contour
Latitude (deg): *
Longitude (deg): *
Rain Rate (mm/hr): 42*
E/S Type or Model No:
E/S Manufacturer : STANDARD
E/S Diam. (m): 6.1
E/S Freq (nom, GHz): 3.95
E/S Gain (nom, dBi): 46.5
E/S Feed Loss (dB): 0.20
E/S Ant. Temp(deg K): 25
E/S LNA Temp (deg K): 65
E/S G/T (nom, dB/K): *

SATOPT5 (Version 5.68) (C) 2004 TEL/COM Sciences, Inc. All Rights Reserved.
5-Dec-08 14:51
PanAmSat, Customer Support Engineering.

SATELLITE DATA	Satellite : INTELSAT_702 Uplink Beam: CSPOT Uplink POL: , Dnlink POL: , EIRP, beam center: 29.5 dBW G/T:-1.0 dB/K, SFD:-82.3 dBW/m2	Location: 66.0E Dnlink Beam: GLOBAL Dnlink EIRP: 25.5 dBW
TRANSPONDER DATA	Trans Bandwidth :36 MHz Uplink Frequency:6.175 GHz IBO (Nominal) : 8.2 dB	Trans Type: LTWTA Dnlink Freq: 3.950 GHz OBO (Nominal): 3.5 dB
CARRIER DATA	Type: EF9000, Info Rate: 6000 kbps, Mod: QPSK, 1/2x188/204- BWo: 6771.1kHz, Bwa: 10300kHz, C/N: 3.87dB, C/N_thresh: 3.5	
LINK BUDGET		
		CLR SKY UP FADE DN FADE
UPLINK PERFORMANCE	Earth Station EIRP (dBW)	68.6 n/a n/a
	- Uplink Path Loss, clear sky (dB)	-200.2 n/a n/a
	- Uplink Rain Attenuation (dB)	0.0 n/a n/a
	+ Satellite G/T (dB/K)	-1.0 n/a n/a
	- Boltzman's Constant (dBW/K-Hz)	228.6 n/a n/a
	- Carrier Noise Bandwidth (dB-Hz)	-68.3 n/a n/a
	C/N Uplink (dB)	27.7 n/a n/a
DOWNLINK PERFORMANCE	Satellite Saturation EIRP (dBW)	25.5 n/a n/a
	- Carrier Output Backoff (dB)	-7.3 n/a n/a
	Downlink EIRP per carrier (dBW)	18.2 n/a n/a
	- Earth Station Pointing Error (dB)	-0.5 n/a n/a
	- Downlink Path Loss, clear sky (dB)	-196.3 n/a n/a
	- Downlink Rain Attenuation (dB)	0.0 n/a n/a
	+ Earth Station G/T (dB/K)	26.6 n/a n/a
	- Boltzman's Constant (dBW/K-Hz)	228.6 n/a n/a
	- Carrier Noise Bandwidth (dB-Hz)	-68.3 n/a n/a
		C/N Dnlink (dB)
COMPOSITE PERFORMANCE	C/N Uplink (dB)	27.7 n/a n/a
	C/N Dnlink (dB)	8.3 n/a n/a
	C/I Intermod (dB)	20.1 n/a n/a
	C/I Uplink Co-channel (dB)	28.7 n/a n/a
	C/I Dnlink Co-Channel (dB)	28.7 n/a n/a
	C/I Uplink Adj. Sat. (SAT-1) (dB)	17.0 n/a n/a
	C/I Dnlink Adj. Sat. (SAT-1) (dB)	11.4 n/a n/a
	C/I Uplink Adj. Sat. (SAT-2) (dB)	17.0 n/a n/a
C/I Dnlink Adj. Sat. (SAT-2) (dB)	13.0 n/a n/a	
COMPOSITE PERFORMANCE	C/(N+I) COMPOSITE (dB)	4.9 n/a n/a
	- Required System Margin (dB)	-1.0 n/a n/a
	Net C/(N+I) COMPOSITE (dB)	3.9 n/a n/a
	- Minimum Required C/N (dB)	-3.9 n/a n/a
	Excess Link Margin (dB)	0.0 n/a n/a
TRANSPONDER UTILIZATION	% BW/CARR: 28.61, % PWR/CARR: 41.86, Max No. Carriers: 2.4 Downlink EIRP per carrier toward beam center: 22.2 dBW	
TRANSMIT EARTH STATION	Loc: -4_dB_Gain_Contour ID: AZ: 0.0 Elev: 20.0 LAT: * LON: * ALT: 0.0m RainRate: 42.0mm/hr Carrier Power: 57.8 watts	
RECEIVE EARTH STA.	Loc: -4_dB_Gain_Contour ID: AZ: 0.0 Elev: 20.0 LAT: * LON: * ALT: 0.0m RainRate: 42.0mm/hr	
DENSITY INFORMATION	Uplink Pwr Den: -50.7 dBW/Hz, Dnlink EIRP Den: -46.1 dBW/Hz Max Dnlink PFD: -173.0 dB(W/m2/4kHz) @ Beam Center	
LOSS IN C/(N+I) DUE TO ADJ SAT INTF: SAT-1 = 1.4dB, SAT-2 = 1.1dB		

CSPOT-GLOBAL (36 MHz): 10M3G7W
[Input Data]

----- SATELLITE -----

Satellite Name	: INTELSAT_702	Location (deg)	: 66.0E
Uplink Beam	: CSPOT	Dnlink Beam	: GLOBAL
Trans. BW (MHz)	: 36 MHz	Trans. Type	: LTWTA
Uplink Pol.	:	Dnlink Pol.	:
Uplink Chan.	:	Dnlink Chan.	:
Uplink Frequency (GHz)	: 6.175	Dnlink Frequency (GHz)	: 3.950
G/T, beam center (dB/K)	: 3.0	EIRP, beam center (dBW)	: 29.5
G/T, beam edge (dB/K)	: -1.0	EIRP, beam edge (dBW)	: 25.5
G/T, toward Tx ES (dB/K)	: -1.0	EIRP, toward Rx ES (dBW)	: 25.5
SFD, beam edge (dBW/m2)	: -82.3		
SFD, toward Tx ES (dBW/m2)	: -82.3		

----- OPERATING CONDITIONS -----

Attenuator Setting (dB)	: 10	Nominal Uplink Co-Chan C/I (dB)	: 27.0
Input Backoff (dB)	: 8.2*	Nominal Dnlink Co-Chan C/I (dB)	: 27.0
Output Backoff (dB)	: *	Minimum Uplink Rain Margin (dB)	: 0.0
(C/Im) - Nominal (dB)	: *	Actual Uplink Rain Margin (dB)	: n/a
Min. System Margin (dB)	: -1.0	Uplink Power Control Margin (dB)	: -0
Max No Carriers / Trans:	: *	Minimum Dnlink Rain Margin (dB)	: 0.0
		Actual Dnlink Rain Margin (dB)	: n/a
		Dnlink Pointing Error (dB)	: 0.5

----- ADJACENT SATELLITE INTERFERENCE ----- Sat. No. 1 ----- Sat. No. 2 -----

Interfering Satellite Name	:	SAT-1	SAT-2
Interfering Satellite Location (deg)	:	64E	68E
Uplink Interference (dB or dBW/Hz)	:	-38.7	-38.7
Uplink Polarization Advantage (dB)	:	0.0	0.0
Downlink Interference (dB or dBW/Hz)	:	-36.3	-36.3
Downlink Polarization Advantage (dB)	:	0.0	0.0
Rx E/S Topocentric Angle (deg)	:	2.09	2.09
Rx E/S Pointing Error (deg)	:	-0.15	0.15
Rx E/S Off-Axis Angle (deg)	:	1.94	2.24
Rx E/S Adj. Sat. Discrimination (dB)	:	25.2	26.8

----- CARRIER PARAMETERS -----

Modem Type	: EF9000	C/N (operating, dB)	: 3.87
Modulation	: QPSK	Eb/No (operating, dB)	: 4.4
Code Rate	: 1/2x188/204-V	C/N (threshold, dB)	: 3.57
Info Rate (kbps)	: 6000	Eb/No (threshold, dB)	: 4.1
Occupied Bandwidth (kHz)	: 6771.1		
Allocated Bandwidth (kHz)	: 10300		

----- Transmit Earth Station ----- ----- Receive Earth Station -----

Location: -4_dB_Gain_Contour	Location: -4_dB_Gain_Contour
Latitude (deg): *	Latitude (deg): *
Longitude (deg): *	Longitude (deg): *
Rain Rate (mm/hr): 42*	Rain Rate (mm/hr): 42*
E/S Type or Model No:	E/S Type or Model No:
E/S Manufacturer : STANDARD	E/S Manufacturer : STANDARD
E/S Diam. (m): 7.0	E/S Diam. (m): 7.0
E/S Freq (nom, GHz): 6.175	E/S Freq (nom, GHz): 3.95
E/S Tx Gain (dBi): 51.0	E/S Gain (nom, dBi): 47.5
ULPC Margin (dB): .0	E/S Feed Loss (dB): 0.15
	E/S Ant. Temp(deg K): 45
	E/S LNA Temp (deg K): 65
	E/S G/T (nom, dB/K): *

SATOPT5 (Version 5.68) (C) 2004 TEL/COM Sciences, Inc. All Rights Reserved.
5-Dec-08 14:57
PanAmSat, Customer Support Engineering.

SATELLITE DATA	Satellite : INTELSAT_702 Uplink Beam: CSPOT Uplink POL: , Dnlink POL: , EIRP, beam center: 29.5 dBW G/T:-1.0 dB/K, SFD:-82.3 dBW/m2 Dnlink EIRP: 25.5 dBW	Location: 66.0E Dnlink Beam: GLOBAL
TRANSPONDER DATA	Trans Bandwidth :36 MHz Uplink Frequency:6.175 GHz IBO (Nominal) : 8.2 dB	Trans Type: LTWTA Dnlink Freq: 3.950 GHz OBO (Nominal): 3.5 dB
CARRIER DATA	Type: CS701, Info Rate: 64 kbps, Mod: QPSK, 1/2x239/256-V BWo: 75.4kHz, BWa: 100kHz, C/N: 2.99dB, C/N_thresh: 2.79dB	
LINK BUDGET		
		CLR SKY UP FADE DN FADE
UPLINK PERFORMANCE	Earth Station EIRP (dBW)	48.2 n/a n/a
	- Uplink Path Loss, clear sky (dB)	-200.2 n/a n/a
	- Uplink Rain Attenuation (dB)	0.0 n/a n/a
	+ Satellite G/T (dB/K)	-1.0 n/a n/a
	- Boltzman's Constant (dBW/K-Hz)	228.6 n/a n/a
	- Carrier Noise Bandwidth (dB-Hz)	-48.8 n/a n/a
	C/N Uplink (dB)	26.8 n/a n/a
DOWNLINK PERFORMANCE	Satellite Saturation EIRP (dBW)	25.5 n/a n/a
	- Carrier Output Backoff (dB)	-27.7 n/a n/a
	Downlink EIRP per carrier (dBW)	-2.2 n/a n/a
	- Earth Station Pointing Error (dB)	- .5 n/a n/a
	- Downlink Path Loss, clear sky (dB)	-196.3 n/a n/a
	- Downlink Rain Attenuation (dB)	0.0 n/a n/a
	+ Earth Station G/T (dB/K)	26.6 n/a n/a
	- Boltzman's Constant (dBW/K-Hz)	228.6 n/a n/a
	- Carrier Noise Bandwidth (dB-Hz)	-48.8 n/a n/a
		C/N Dnlink (dB)
COMPOSITE PERFORMANCE	C/N Uplink (dB)	26.8 n/a n/a
	C/N Dnlink (dB)	7.4 n/a n/a
	C/I Intermod (dB)	19.2 n/a n/a
	C/I Uplink Co-channel (dB)	28.4 n/a n/a
	C/I Dnlink Co-Channel (dB)	28.4 n/a n/a
	C/I Uplink Adj. Sat. (SAT-1) (dB)	16.1 n/a n/a
	C/I Dnlink Adj. Sat. (SAT-1) (dB)	10.5 n/a n/a
	C/I Uplink Adj. Sat. (SAT-2) (dB)	16.1 n/a n/a
	C/I Dnlink Adj. Sat. (SAT-2) (dB)	12.1 n/a n/a
	C/(N+I) COMPOSITE (dB)	4.0 n/a n/a
- Required System Margin (dB)	-1.0 n/a n/a	
Net C/(N+I) COMPOSITE (dB)	3.0 n/a n/a	
- Minimum Required C/N (dB)	-3.0 n/a n/a	
	Excess Link Margin (dB)	0.0 n/a n/a
TRANSPONDER UTILIZATION	% BW/CARR: 0.28, % PWR/CARR: 0.38, Max No. Carriers: 263.0 Downlink EIRP per carrier toward beam center: 1.8 dBW	
TRANSMIT EARTH STATION	Loc: -4_dB_Gain_Contour ID: AZ: 0.0 Elev: 20.0 LAT: * LON: * ALT: 0.0m RainRate: 42.0mm/hr Carrier Power: 0.5 watts	
RECEIVE EARTH STA.	Loc: -4_dB_Gain_Contour ID: AZ: 0.0 Elev: 20.0 LAT: * LON: * ALT: 0.0m RainRate: 42.0mm/hr	
DENSITY INFORMATION	Uplink Pwr Den: -51.6 dBW/Hz, Dnlink EIRP Den: -47.0 dBW/Hz Max Dnlink PFD: -173.9 dB(W/m2/4kHz) @ Beam Center	
LOSS IN C/(N+I) DUE TO ADJ SAT INTF:	SAT-1 = 1.5dB, SAT-2 = 1.1dB	

CSPOT-GLOBAL (36 MHz): 100KG7W
[Input Data]

----- SATELLITE -----

Satellite Name	: INTELSAT_702	Location (deg)	: 66.0E
Uplink Beam	: CSPOT	Dnlink Beam	: GLOBAL
Trans. BW (MHz)	: 36 MHz	Trans. Type	: LTWTA
Uplink Pol.	:	Dnlink Pol.	:
Uplink Chan.	:	Dnlink Chan.	:
Uplink Frequency (GHz)	: 6.175	Dnlink Frequency (GHz)	: 3.950
G/T, beam center (dB/K)	: 3.0	EIRP, beam center (dBW)	: 29.5
G/T, beam edge (dB/K)	: -1.0	EIRP, beam edge (dBW)	: 25.5
G/T, toward Tx ES (dB/K)	: -1.0	EIRP, toward Rx ES (dBW)	: 25.5
SFD, beam edge (dBW/m2)	: -82.3		
SFD, toward Tx ES (dBW/m2)	: -82.3		

----- OPERATING CONDITIONS -----

Attenuator Setting (dB)	: 10	Nominal Uplink Co-Chan C/I (dB)	: 27.0
Input Backoff (dB)	: 8.2*	Nominal Dnlink Co-Chan C/I (dB)	: 27.0
Output Backoff (dB)	: *	Minimum Uplink Rain Margin (dB)	: 0.0
(C/Im) - Nominal (dB)	: *	Actual Uplink Rain Margin (dB)	: n/a
Min. System Margin (dB)	: 1.0	Uplink Power Control Margin (dB)	: 0.0
Max No Carriers / Trans:	: *	Minimum Dnlink Rain Margin (dB)	: 0.0
		Actual Dnlink Rain Margin (dB)	: n/a
		Dnlink Pointing Error (dB)	: 0.5

-- ADJACENT SATELLITE INTERFERENCE ----- Sat. No. 1 ----- Sat. No. 2 -----

Interfering Satellite Name	:	SAT-1	SAT-2
Interfering Satellite Location (deg)	:	64E	68E
Uplink Interference (dB or dBW/Hz)	:	-38.7	-38.7
Uplink Polarization Advantage (dB)	:	0.0	0.0
Downlink Interference (dB or dBW/Hz)	:	-36.3	-36.3
Downlink Polarization Advantage (dB)	:	0.0	0.0
Rx E/S Topocentric Angle (deg)	:	2.09	2.09
Rx E/S Pointing Error (deg)	:	-0.15	0.15
Rx E/S Off-Axis Angle (deg)	:	1.94	2.24
Rx E/S Adj. Sat. Discrimination (dB)	:	25.2	26.8

----- CARRIER PARAMETERS -----

Modem Type	: CS701	C/N (operating, dB)	: 2.99
Modulation	: QPSK	Eb/No (operating, dB)	: 3.7
Code Rate	: 1/2x239/256-V	C/N (threshold, dB)	: 2.79
Info Rate (kbps)	: 64	Eb/No (threshold, dB)	: 3.5
Occupied Bandwidth (kHz)	: 75.4		
Allocated Bandwidth (kHz)	: 100		

----- Transmit Earth Station -----

Location: -4_dB_Gain_Contour
Latitude (deg): *
Longitude (deg): *
Rain Rate (mm/hr): 42*
E/S Type or Model No:
E/S Manufacturer : STANDARD
E/S Diam. (m): 7.0
E/S Freq (nom, GHz): 6.175
E/S Tx Gain (dBi): 51.0
ULPC Margin (dB): .0

----- Receive Earth Station -----

Location: -4_dB_Gain_Contour
Latitude (deg): *
Longitude (deg): *
Rain Rate (mm/hr): 42*
E/S Type or Model No:
E/S Manufacturer : STANDARD
E/S Diam. (m): 7.0
E/S Freq (nom, GHz): 3.95
E/S Gain (nom, dBi): 47.5
E/S Feed Loss (dB): 0.15
E/S Ant. Temp (deg K): 45
E/S LNA Temp (deg K): 65
E/S G/T (nom, dB/K): *

SATOPT5 (Version 5.68) (C) 2004 TEL/COM Sciences, Inc. All Rights Reserved.
5-Dec-08 14:57
PanAmSat, Customer Support Engineering.

SATELLITE DATA	Satellite : INTELSAT_702 Uplink Beam: CSPOT Uplink POL: , Dnlink POL: , EIRP, beam center: 37.5 dBW G/T:-1.0 dB/K, SFD:-78.3 dBW/m2	Location: 66.0E Dnlink Beam: HEMI Dnlink EIRP: 31.5 dBW
TRANSPONDER DATA	Trans Bandwidth :36 MHz Uplink Frequency:6.175 GHz IBO (Nominal) : 7.0 dB	Trans Type: LTWTA Dnlink Freq: 3.950 GHz OBO (Nominal): 1.6 dB
CARRIER DATA	Type: TV/FM, Format: PAL, PreEmphasis+Weighting: 15.6dB RF BW: 30.0 MHz, P-Dev: 9.0 MHz, VideoBW: 6.0 MHz,	
LINK BUDGET		
		CLR SKY UP FADE DN FADE
UPLINK PERFORMANCE	Earth Station EIRP (dBW)	77.6 n/a n/a
	- Uplink Path Loss, clear sky (dB)	-200.2 n/a n/a
	- Uplink Rain Attenuation (dB)	0.0 n/a n/a
	+ Satellite G/T (dB/K)	-1.0 n/a n/a
	- Boltzman's Constant (dBW/K-Hz)	228.6 n/a n/a
	- Carrier Noise Bandwidth (dB-Hz)	-74.8 n/a n/a
	C/N Uplink (dB)	30.2 n/a n/a
DOWNLINK PERFORMANCE	Satellite Saturation EIRP (dBW)	31.5 n/a n/a
	- Carrier Output Backoff (dB)	-1.6 n/a n/a
	Downlink EIRP per carrier (dBW)	29.9 n/a n/a
	- Earth Station Pointing Error (dB)	-.5 n/a n/a
	- Downlink Path Loss, clear sky (dB)	-196.3 n/a n/a
	- Downlink Rain Attenuation (dB)	0.0 n/a n/a
	+ Earth Station G/T (dB/K)	28.4 n/a n/a
	- Boltzman's Constant (dBW/K-Hz)	228.6 n/a n/a
	- Carrier Noise Bandwidth (dB-Hz)	-74.8 n/a n/a
		C/N Dnlink (dB)
COMPOSITE PERFORMANCE	C/N Uplink (dB)	30.2 n/a n/a
	C/N Dnlink (dB)	15.3 n/a n/a
	C/I Uplink Co-channel (dB)	27.8 n/a n/a
	C/I Dnlink Co-Channel (dB)	27.8 n/a n/a
	C/I Uplink Adj. Sat. (SAT-1) (dB)	19.5 n/a n/a
	C/I Dnlink Adj. Sat. (SAT-1) (dB)	20.2 n/a n/a
	C/I Uplink Adj. Sat. (SAT-2) (dB)	19.5 n/a n/a
	C/I Dnlink Adj. Sat. (SAT-2) (dB)	21.6 n/a n/a
	C/(N+I) COMPOSITE (dB)	11.4 n/a n/a
	- Required System Margin (dB)	-1.0 n/a n/a
COMPOSITE PERFORMANCE	Net C/(N+I) COMPOSITE (dB)	10.4 n/a n/a
	- Minimum Required C/N (dB)	-10.0 n/a n/a
	Excess Link Margin (dB)	.4 n/a n/a
	Video Signal-to-Noise Ratio (dB)	44.3 n/a n/a
	Audio Signal-to-Noise Ratio (dB)	58.1 n/a n/a
TRANSMIT EARTH STATION	Loc: -4_dB_Gain_Contour ID: AZ: 0.0 Elev: 20.0 LAT: * LON: * ALT: 0.0m RainRate: 42.0mm/hr Carrier Power: 223.8 watts	
RECEIVE EARTH STA.	Loc: -6_dB_Gain_Contour ID: AZ: 0.0 Elev: 20.0 LAT: * LON: * ALT: 0.0m RainRate: 42.0mm/hr	
DENSITY INFORMATION	Uplink Pwr Den: -51.3 dBW/Hz, Dnlink EIRP Den: -38.9 dBW/Hz Max Dnlink PFD: -165.8 dB(W/m2/4kHz) @ Beam Center	
LOSS IN C/(N+I) DUE TO ADJ SAT INTF: SAT-1 = 1.5dB, SAT-2 = 1.2dB		

CSPOT-HEMI (36 MHz): 30M0F3F
[Input Data]

----- SATELLITE -----

Satellite Name	: INTELSAT_702	Location (deg)	: 66.0E
Uplink Beam	: CSPOT	Dnlink Beam	: HEMI
Trans. BW (MHz)	: 36 MHz	Trans. Type	: LTWTA
Uplink Pol.	:	Dnlink Pol.	:
Uplink Chan.	:	Dnlink Chan.	:
Uplink Frequency (GHz)	: 6.175	Dnlink Frequency (GHz)	: 3.950
G/T, beam center (dB/K)	: 3.0	EIRP, beam center (dBW)	: 37.5
G/T, beam edge (dB/K)	: -1.0	EIRP, beam edge (dBW)	: 31.5
G/T, toward Tx ES (dB/K)	: -1.0	EIRP, toward Rx ES (dBW)	: 31.5
SFD, beam edge (dBW/m2)	: -78.3		
SFD, toward Tx ES (dBW/m2)	: -78.3		

----- OPERATING CONDITIONS -----

Attenuator Setting (dB)	: 14	Nominal Uplink Co-Chan C/I (dB)	: 27.0
Input Backoff (dB)	: 7	Nominal Dnlink Co-Chan C/I (dB)	: 27.0
Output Backoff (dB)	: *	Minimum Uplink Rain Margin (dB)	: 0.0
(C/Im) - Nominal (dB)	: *	Actual Uplink Rain Margin (dB)	: n/a
Min. System Margin (dB)	: 1.0	Uplink Power Control Margin (dB)	: .0
Max No Carriers / Trans	: 1	Minimum Dnlink Rain Margin (dB)	: 0.0
		Actual Dnlink Rain Margin (dB)	: n/a
		Dnlink Pointing Error (dB)	: 0.5

-- ADJACENT SATELLITE INTERFERENCE ----- Sat. No. 1 ----- Sat. No. 2 -----

Interfering Satellite Name	:	SAT-1	SAT-2
Interfering Satellite Location (deg)	:	64E	68E
Uplink Interference (dB or dBW/Hz)	:	-38.7	-38.7
Uplink Polarization Advantage (dB)	:	0.0	0.0
Downlink Interference (dB or dBW/Hz)	:	-38	-38
Downlink Polarization Advantage (dB)	:	0.0	0.0
Rx E/S Topocentric Angle (deg)	:	2.09	2.09
Rx E/S Pointing Error (deg)	:	-0.13	0.13
Rx E/S Off-Axis Angle (deg)	:	1.96	2.22
Rx E/S Adj. Sat. Discrimination (dB)	:	27.1	28.5

----- TV/FM CARRIER PARAMETERS -----

Video Format	: PAL	Peak Deviation (MHz)	: 9.0
RF Noise BW (MHz)	: 30.0	PreEmphasis+Weighting (dB)	: 15.6
Video BW (MHz)	: 6.0	Threshold C/N (dB)	: 10.0

----- AUDIO SUB-CARRIER PARAMETERS -----

Sub-Carrier Freq (MHz)	: 6.6	Highest Audio Freq (kHz)	: 15.0
P-Dev of Video by Audio (MHz)	: 2.0	Companding Advantage (dB)	: 0.0
Peak Dev of Audio (kHz)	: 75.0		

----- Transmit Earth Station -----

Location: -4_dB_Gain_Contour
Latitude (deg): *
Longitude (deg): *
Rain Rate (mm/hr): 42*
E/S Type or Model No:
E/S Manufacturer : STANDARD
E/S Diam. (m): 10.0
E/S Freq (nom, GHz): 6.175
E/S Tx Gain (dBi): 54.1
ULPC Margin (dB): .0

----- Receive Earth Station -----

Location: -6_dB_Gain_Contour
Latitude (deg): *
Longitude (deg): *
Rain Rate (mm/hr): 42*
E/S Type or Model No:
E/S Manufacturer : STANDARD
E/S Diam. (m): 8.1
E/S Freq (nom, GHz): 3.95
E/S Gain (nom, dBi): 49.3
E/S Feed Loss (dB): 0.15
E/S Ant. Temp (deg K): 45
E/S LNA Temp (deg K): 65
E/S G/T (nom, dB/K): *

SATOPT5 (Version 5.68) (C) 2004 TEL/COM Sciences, Inc. All Rights Reserved.
5-Dec-08 15:21
PanAmSat, Customer Support Engineering.

SATELLITE DATA	Satellite : INTELSAT_702 Uplink Beam: CSPOT Uplink POL: , Dnlink POL: , EIRP, beam center: 37.5 dBW G/T:-1.0 dB/K, SFD:-88.3 dBW/m2 Dnlink EIRP: 31.5 dBW	Location: 66.0E Dnlink Beam: HEMI		
TRANSPONDER DATA	Trans Bandwidth :36 MHz Uplink Frequency:6.175 GHz IBO (Nominal) : 0.0 dB	Trans Type: LTWTA Dnlink Freq: 3.950 GHz OBO (Nominal): 0.0 dB		
CARRIER DATA	Type: NTC26%, Info Rate: 24575 kbps, Mod: QPSK, 1/2x188/204 BWo: 30133kHz, BWa: 36000kHz, C/N: 3.36dB, C/N_thresh: 3.36			
LINK BUDGET				
UPLINK PERFORMANCE	Earth Station EIRP (dBW)	74.6	n/a	n/a
	- Uplink Path Loss, clear sky (dB)	-200.2	n/a	n/a
	- Uplink Rain Attenuation (dB)	0.0	n/a	n/a
	+ Satellite G/T (dB/K)	-1.0	n/a	n/a
	- Boltzman's Constant (dBW/K-Hz)	228.6	n/a	n/a
	- Carrier Noise Bandwidth (dB-Hz)	-74.8	n/a	n/a
	C/N Uplink (dB)	27.2	n/a	n/a
DOWNLINK PERFORMANCE	Satellite Saturation EIRP (dBW)	31.5	n/a	n/a
	- Carrier Output Backoff (dB)	0.0	n/a	n/a
	Downlink EIRP per carrier (dBW)	31.5	n/a	n/a
	- Earth Station Pointing Error (dB)	-.5	n/a	n/a
	- Downlink Path Loss, clear sky (dB)	-196.3	n/a	n/a
	- Downlink Rain Attenuation (dB)	0.0	n/a	n/a
	+ Earth Station G/T (dB/K)	21.0	n/a	n/a
	- Boltzman's Constant (dBW/K-Hz)	228.6	n/a	n/a
	- Carrier Noise Bandwidth (dB-Hz)	-74.8	n/a	n/a
	C/N Dnlink (dB)	9.5	n/a	n/a
COMPOSITE PERFORMANCE	C/N Uplink (dB)	27.2	n/a	n/a
	C/N Dnlink (dB)	9.5	n/a	n/a
	C/I Uplink Co-channel (dB)	27.0	n/a	n/a
	C/I Dnlink Co-Channel (dB)	27.0	n/a	n/a
	C/I Uplink Adj. Sat. (SAT-1) (dB)	16.5	n/a	n/a
	C/I Dnlink Adj. Sat. (SAT-1) (dB)	11.0	n/a	n/a
	C/I Uplink Adj. Sat. (SAT-2) (dB)	16.5	n/a	n/a
	C/I Dnlink Adj. Sat. (SAT-2) (dB)	15.8	n/a	n/a
	C/(N+I) COMPOSITE (dB)	5.7	n/a	n/a
	- Required System Margin (dB)	-1.0	n/a	n/a
	Net C/(N+I) COMPOSITE (dB)	4.7	n/a	n/a
	- Minimum Required C/N (dB)	-3.4	n/a	n/a
	Excess Link Margin (dB)	1.4	n/a	n/a
TRANSPONDER UTILIZATION	% BW/CARR: 100.00, % PWR/CARR: 100.00, Max No. Carriers: 1.0 Downlink EIRP per carrier toward beam center: 37.5 dBW			
TRANSMIT EARTH STATION	Loc: -4_dB_Gain_Contour ID: AZ: 0.0 Elev: 20.0 LAT: * LON: * ALT: 0.0m RainRate: 42.0mm/hr Carrier Power: 229.0 watts			
RECEIVE EARTH STA.	Loc: -6_dB_Gain_Contour ID: AZ: 0.0 Elev: 20.0 LAT: * LON: * ALT: 0.0m RainRate: 42.0mm/hr			
DENSITY INFORMATION	Uplink Pwr Den: -51.2 dBW/Hz, Dnlink EIRP Den: -37.3 dBW/Hz Max Dnlink PFD: -164.2 dB(W/m2/4kHz) @ Beam Center			
LOSS IN C/(N+I) DUE TO ADJ SAT INTF: SAT-1 = 2.0dB, SAT-2 = 0.9dB				

CSPOT-HEMI (36 MHz): 36MOG7W
[Input Data]

----- SATELLITE -----

Satellite Name	: INTELSAT_702	Location (deg)	: 66.0E
Uplink Beam	: CSPOT	Dnlink Beam	: HEMI
Trans. BW (MHz)	: 36 MHz	Trans. Type	: LTWTA
Uplink Pol.	:	Dnlink Pol.	:
Uplink Chan.	:	Dnlink Chan.	:
Uplink Frequency (GHz)	: 6.175	Dnlink Frequency (GHz)	: 3.950
G/T, beam center (dB/K)	: 3.0	EIRP, beam center (dBW)	: 37.5
G/T, beam edge (dB/K)	: -1.0	EIRP, beam edge (dBW)	: 31.5
G/T, toward Tx ES (dB/K)	: -1.0	EIRP, toward Rx ES (dBW)	: 31.5
SFD, beam edge (dBW/m2)	: -88.3		
SFD, toward Tx ES (dBW/m2)	: -88.3		

----- OPERATING CONDITIONS -----

Attenuator Setting (dB)	: 4	Nominal Uplink Co-Chan C/I (dB)	: 27.0
Input Backoff (dB)	: 0.0	Nominal Dnlink Co-Chan C/I (dB)	: 27.0
Output Backoff (dB)	: *	Minimum Uplink Rain Margin (dB)	: 0.0
(C/Im) - Nominal (dB)	: *	Actual Uplink Rain Margin (dB)	: n/a
Min. System Margin (dB)	: -1.0	Uplink Power Control Margin (dB)	: -0.0
Max No Carriers / Trans	: 1	Minimum Dnlink Rain Margin (dB)	: 0.0
		Actual Dnlink Rain Margin (dB)	: n/a
		Dnlink Pointing Error (dB)	: 0.5

--- ADJACENT SATELLITE INTERFERENCE ----- Sat. No. 1 ----- Sat. No. 2 -----

Interfering Satellite Name	:	SAT-1	SAT-2
Interfering Satellite Location (deg)	:	64E	68E
Uplink Interference (dB or dBW/Hz)	:	-38.7	-38.7
Uplink Polarization Advantage (dB)	:	0.0	0.0
Downlink Interference (dB or dBW/Hz)	:	-38	-38
Downlink Polarization Advantage (dB)	:	0.0	0.0
Rx E/S Topocentric Angle (deg)	:	2.09	2.09
Rx E/S Pointing Error (deg)	:	-0.31	0.31
Rx E/S Off-Axis Angle (deg)	:	1.78	2.40
Rx E/S Adj. Sat. Discrimination (dB)	:	16.3	21.1

----- CARRIER PARAMETERS -----

Modem Type	: NTC26%	C/N (operating, dB)	: 3.36
Modulation	: QPSK	Eb/No (operating, dB)	: 4.2
Code Rate	: 1/2x188/204-V	C/N (threshold, dB)	: 3.36
Info Rate (kbps)	: 24575	Eb/No (threshold, dB)	: 4.2
Occupied Bandwidth (kHz)	: 30133		
Allocated Bandwidth (kHz)	: 36000		

----- Transmit Earth Station -----

Location: -4_dB_Gain_Contour
Latitude (deg): *
Longitude (deg): *
Rain Rate (mm/hr): 42*
E/S Type or Model No:
E/S Manufacturer : STANDARD
E/S Diam. (m): 7.0
E/S Freq (nom, GHz): 6.175
E/S Tx Gain (dBi): 51.0
ULPC Margin (dB): .0

----- Receive Earth Station -----

Location: -6_dB_Gain_Contour
Latitude (deg): *
Longitude (deg): *
Rain Rate (mm/hr): 42*
E/S Type or Model No:
E/S Manufacturer : STANDARD
E/S Diam. (m): 3.5
E/S Freq (nom, GHz): 3.95
E/S Gain (nom, dBi): 41.1
E/S Feed Loss (dB): 0.15
E/S Ant. Temp(deg K): 25
E/S LNA Temp (deg K): 65
E/S G/T (nom, dB/K): *

SATOPT5 (Version 5.68) (C) 2004 TEL/COM Sciences, Inc. All Rights Reserved.
5-Dec-08 15:13
PanAmSat, Customer Support Engineering.

SATELLITE DATA	Satellite : INTELSAT_702 Uplink Beam: CSPOT Uplink POL: , Dnlink POL: , EIRP, beam center: 37.5 dB G/T:-1.0 dB/K, SFD:-83.3 dBW/m2	Location: 66.0E Dnlink Beam: HEMI Dnlink EIRP: 31.5 dBW		
TRANSPONDER DATA	Trans Bandwidth :36 MHz Uplink Frequency:6.175 GHz IBO (Nominal) : 8.2 dB	Trans Type: LTWTA Dnlink Freq: 3.950 GHz OBO (Nominal): 3.5 dB		
CARRIER DATA	Type: EF9000, Info Rate: 6000 kbps, Mod: QPSK, 1/2x188/204- Bwo: 6771.1kHz, BWa: 10300kHz, C/N: 3.87dB, C/N_thresh: 3.5			
LINK BUDGET				
UPLINK PERFORMANCE	Earth Station EIRP (dBW)	67.6	n/a	n/a
	- Uplink Path Loss, clear sky (dB)	-200.2	n/a	n/a
	- Uplink Rain Attenuation (dB)	0.0	n/a	n/a
	+ Satellite G/T (dB/K)	-1.0	n/a	n/a
	- Boltzman's Constant (dBW/K-Hz)	228.6	n/a	n/a
	- Carrier Noise Bandwidth (dB-Hz)	-68.3	n/a	n/a
	C/N Uplink (dB)	26.7	n/a	n/a
DOWNLINK PERFORMANCE	Satellite Saturation EIRP (dBW)	31.5	n/a	n/a
	- Carrier Output Backoff (dB)	-7.3	n/a	n/a
	Downlink EIRP per carrier (dBW)	24.2	n/a	n/a
	- Earth Station Pointing Error (dB)	-0.5	n/a	n/a
	- Downlink Path Loss, clear sky (dB)	-196.3	n/a	n/a
	- Downlink Rain Attenuation (dB)	0.0	n/a	n/a
	+ Earth Station G/T (dB/K)	21.0	n/a	n/a
- Boltzman's Constant (dBW/K-Hz)	228.6	n/a	n/a	
- Carrier Noise Bandwidth (dB-Hz)	-68.3	n/a	n/a	
C/N Dnlink (dB)	8.7	n/a	n/a	
COMPOSITE PERFORMANCE	C/N Uplink (dB)	26.7	n/a	n/a
	C/N Dnlink (dB)	8.7	n/a	n/a
	C/I Intermod (dB)	20.1	n/a	n/a
	C/I Uplink Co-channel (dB)	28.7	n/a	n/a
	C/I Dnlink Co-Channel (dB)	28.7	n/a	n/a
	C/I Uplink Adj. Sat. (SAT-1) (dB)	16.0	n/a	n/a
	C/I Dnlink Adj. Sat. (SAT-1) (dB)	10.3	n/a	n/a
	C/I Uplink Adj. Sat. (SAT-2) (dB)	16.0	n/a	n/a
	C/I Dnlink Adj. Sat. (SAT-2) (dB)	15.0	n/a	n/a
	C/(N+I) COMPOSITE (dB)	4.9	n/a	n/a
- Required System Margin (dB)	-1.0	n/a	n/a	
Net C/(N+I) COMPOSITE (dB)	3.9	n/a	n/a	
- Minimum Required C/N (dB)	-3.9	n/a	n/a	
Excess Link Margin (dB)	0.0	n/a	n/a	
TRANSPONDER UTILIZATION	% BW/CARR: 28.61, % PWR/CARR: 42.07, Max No. Carriers: 2.4 Downlink EIRP per carrier toward beam center: 30.2 dBW			
TRANSMIT EARTH STATION	Loc: -4_dB_Gain_Contour ID: AZ: 0.0 Elev: 20.0 LAT: * LON: * ALT: 0.0m RainRate: 42.0mm/hr Carrier Power: 46.1 watts			
RECEIVE EARTH STA.	Loc: -6_dB_Gain_Contour ID: AZ: 0.0 Elev: 20.0 LAT: * LON: * ALT: 0.0m RainRate: 42.0mm/hr			
DENSITY INFORMATION	Uplink Pwr Den: -51.7 dBW/Hz, Dnlink EIRP Den: -38.1 dBW/Hz Max Dnlink PFD: -165.0 dB(W/m2/4kHz) @ Beam Center			
LOSS IN C/(N+I) DUE TO ADJ SAT INTF: SAT-1 = 2.0dB, SAT-2 = 0.8dB				

CSPOT-HEMI (36 MHz): 10M3G7W
[Input Data]

----- SATELLITE -----

Satellite Name	: INTELSAT_702	Location (deg)	: 66.0E
Uplink Beam	: CSPOT	Dnlink Beam	: HEMI
Trans. BW (MHz)	: 36 MHz	Trans. Type	: LTWTA
Uplink Pol.	:	Dnlink Pol.	:
Uplink Chan.	:	Dnlink Chan.	:
Uplink Frequency (GHz)	: 6.175	Dnlink Frequency (GHz)	: 3.950
G/T, beam center (dB/K)	: 3.0	EIRP, beam center (dBW)	: 37.5
G/T, beam edge (dB/K)	: -1.0	EIRP, beam edge (dBW)	: 31.5
G/T, toward Tx ES (dB/K)	: -1.0	EIRP, toward Rx ES (dBW)	: 31.5
SFD, beam edge (dBW/m2)	: -83.3		
SFD, toward Tx ES (dBW/m2)	: -83.3		

----- OPERATING CONDITIONS -----

Attenuator Setting (dB)	: 9	Nominal Uplink Co-Chan C/I (dB)	: 27.0
Input Backoff (dB)	: 8.2*	Nominal Dnlink Co-Chan C/I (dB)	: 27.0
Output Backoff (dB)	: *	Minimum Uplink Rain Margin (dB)	: 0.0
(C/Im) - Nominal (dB)	: *	Actual Uplink Rain Margin (dB)	: n/a
Min. System Margin (dB)	: 1.0	Uplink Power Control Margin (dB)	: 0
Max No Carriers / Trans:	*	Minimum Dnlink Rain Margin (dB)	: 0.0
		Actual Dnlink Rain Margin (dB)	: n/a
		Dnlink Pointing Error (dB)	: 0.5

-- ADJACENT SATELLITE INTERFERENCE ----- Sat. No. 1 ----- Sat. No. 2 -----

Interfering Satellite Name	:	SAT-1	SAT-2
Interfering Satellite Location (deg)	:	64E	68E
Uplink Interference (dB or dBW/Hz)	:	-38.7	-38.7
Uplink Polarization Advantage (dB)	:	0.0	0.0
Downlink Interference (dB or dBW/Hz)	:	-38	-38
Downlink Polarization Advantage (dB)	:	0.0	0.0
Rx E/S Topocentric Angle (deg)	:	2.09	2.09
Rx E/S Pointing Error (deg)	:	-0.31	0.31
Rx E/S Off-Axis Angle (deg)	:	1.78	2.40
Rx E/S Adj. Sat. Discrimination (dB)	:	16.3	21.1

----- CARRIER PARAMETERS -----

Modem Type	: EF9000	C/N (operating, dB)	: 3.87
Modulation	: QPSK	Eb/No (operating, dB)	: 4.4
Code Rate	: 1/2x188/204-V	C/N (threshold, dB)	: 3.57
Info Rate (kbps)	: 6000	Eb/No (threshold, dB)	: 4.1
Occupied Bandwidth (kHz)	: 6771.1		
Allocated Bandwidth (kHz)	: 10300		

----- Transmit Earth Station -----

Location: -4_dB_Gain_Contour
Latitude (deg): *
Longitude (deg): *
Rain Rate (mm/hr): 42*
E/S Type or Model No:
E/S Manufacturer : STANDARD
E/S Diam. (m): 7.0
E/S Freq (nom, GHz): 6.175
E/S Tx Gain (dBi): 51.0
ULPC Margin (dB): .0

----- Receive Earth Station -----

Location: -6_dB_Gain_Contour
Latitude (deg): *
Longitude (deg): *
Rain Rate (mm/hr): 42*
E/S Type or Model No:
E/S Manufacturer : STANDARD
E/S Diam. (m): 3.5
E/S Freq (nom, GHz): 3.95
E/S Gain (nom, dBi): 41.1
E/S Feed Loss (dB): 0.15
E/S Ant. Temp(deg K): 25
E/S LNA Temp (deg K): 65
E/S G/T (nom, dB/K): *

SATOPT5 (Version 5.68) (C) 2004 TEL/COM Sciences, Inc. All Rights Reserved.
5-Dec-08 15:17
PanAmSat, Customer Support Engineering.

SATELLITE DATA	Satellite : INTELSAT_702 Uplink Beam: CSPOT Uplink POL: , Dnlink POL: , EIRP, beam center: 37.5 dBW G/T:-1.0 dB/K, SFD:-83.3 dBW/m2	Location: 66.0E Dnlink Beam: HEMI Dnlink EIRP: 31.5 dBW
TRANSPONDER DATA	Trans Bandwidth :36 MHz Uplink Frequency:6.175 GHz IBO (Nominal) : 8.2 dB	Trans Type: LTWTA Dnlink Freq: 3.950 GHz OBO (Nominal): 3.5 dB
CARRIER DATA	Type: CS701, Info Rate: 64 kbps, Mod: QPSK, 1/2x239/256-V BWo: 75.4kHz, Bwa: 100kHz, C/N: 2.99dB, C/N_thresh: 2.79dB	
LINK BUDGET		
		CLR SKY UP FADE DN FADE
UPLINK PERFORMANCE	Earth Station EIRP (dBW)	47.2 n/a n/a
	- Uplink Path Loss, clear sky (dB)	-200.2 n/a n/a
	- Uplink Rain Attenuation (dB)	0.0 n/a n/a
	+ Satellite G/T (dB/K)	-1.0 n/a n/a
	- Boltzman's Constant (dBW/K-Hz)	228.6 n/a n/a
	- Carrier Noise Bandwidth (dB-Hz)	-48.8 n/a n/a
	C/N Uplink (dB)	25.8 n/a n/a
DOWNLINK PERFORMANCE	Satellite Saturation EIRP (dBW)	31.5 n/a n/a
	- Carrier Output Backoff (dB)	-27.7 n/a n/a
	Downlink EIRP per carrier (dBW)	3.8 n/a n/a
	- Earth Station Pointing Error (dB)	-0.5 n/a n/a
	- Downlink Path Loss, clear sky (dB)	-196.3 n/a n/a
	- Downlink Rain Attenuation (dB)	0.0 n/a n/a
	+ Earth Station G/T (dB/K)	21.0 n/a n/a
	- Boltzman's Constant (dBW/K-Hz)	228.6 n/a n/a
	- Carrier Noise Bandwidth (dB-Hz)	-48.8 n/a n/a
		C/N Dnlink (dB)
COMPOSITE PERFORMANCE	C/N Uplink (dB)	25.8 n/a n/a
	C/N Dnlink (dB)	7.8 n/a n/a
	C/I Intermod (dB)	19.2 n/a n/a
	C/I Uplink Co-channel (dB)	28.4 n/a n/a
	C/I Dnlink Co-Channel (dB)	28.4 n/a n/a
	C/I Uplink Adj. Sat. (SAT-1) (dB)	15.2 n/a n/a
	C/I Dnlink Adj. Sat. (SAT-1) (dB)	9.4 n/a n/a
	C/I Uplink Adj. Sat. (SAT-2) (dB)	15.2 n/a n/a
	C/I Dnlink Adj. Sat. (SAT-2) (dB)	14.1 n/a n/a
	C/(N+I) COMPOSITE (dB)	4.0 n/a n/a
- Required System Margin (dB)	-1.0 n/a n/a	
Net C/(N+I) COMPOSITE (dB)	3.0 n/a n/a	
- Minimum Required C/N (dB)	-3.0 n/a n/a	
	Excess Link Margin (dB)	0.0 n/a n/a
TRANSPONDER UTILIZATION	% BW/CARR: 0.28, % PWR/CARR: 0.38, Max No. Carriers: 261.7 Downlink EIRP per carrier toward beam center: 9.8 dBW	
TRANSMIT EARTH STATION	Loc: -4 dB Gain Contour ID: AZ: 0.0 Elev: 20.0 LAT: * LON: * ALT: 0.0m RainRate: 42.0mm/hr Carrier Power: 0.4 watts	
RECEIVE EARTH STA.	Loc: -6 dB Gain Contour ID: AZ: 0.0 Elev: 20.0 LAT: * LON: * ALT: 0.0m RainRate: 42.0mm/hr	
DENSITY INFORMATION	Uplink Pwr Den: -52.6 dBW/Hz, Dnlink EIRP Den: -39.0 dBW/Hz Max Dnlink PFD: -165.9 dB(W/m2/4kHz) @ Beam Center	
LOSS IN C/(N+I) DUE TO ADJ SAT INTF:	SAT-1 = 2.0dB, SAT-2 = 0.8dB	

CSPOT-HEMI (36 MHz): 100KG7W
[Input Data]

----- SATELLITE -----

Satellite Name	: INTELSAT_702	Location (deg)	: 66.0E
Uplink Beam	: CSPOT	Dnlink Beam	: HEMI
Trans. BW (MHz)	: 36 MHz	Trans. Type	: LTWTA
Uplink Pol.	:	Dnlink Pol.	:
Uplink Chan.	:	Dnlink Chan.	:
Uplink Frequency (GHz)	: 6.175	Dnlink Frequency (GHz)	: 3.950
G/T, beam center (dB/K)	: 3.0	EIRP, beam center (dBW)	: 37.5
G/T, beam edge (dB/K)	: -1.0	EIRP, beam edge (dBW)	: 31.5
G/T, toward Tx ES (dB/K)	: -1.0	EIRP, toward Rx ES (dBW)	: 31.5
SFD, beam edge (dBW/m2)	: -83.3		
SFD, toward Tx ES (dBW/m2)	: -83.3		

----- OPERATING CONDITIONS -----

Attenuator Setting (dB)	: 9	Nominal Uplink Co-Chan C/I (dB)	: 27.0
Input Backoff (dB)	: 8.2*	Nominal Dnlink Co-Chan C/I (dB)	: 27.0
Output Backoff (dB)	: *	Minimum Uplink Rain Margin (dB)	: 0.0
(C/Im) - Nominal (dB)	: *	Actual Uplink Rain Margin (dB)	: n/a
Min. System Margin (dB)	: 1.0	Uplink Power Control Margin (dB)	: 0.0
Max No Carriers / Trans:	*	Minimum Dnlink Rain Margin (dB)	: 0.0
		Actual Dnlink Rain Margin (dB)	: n/a
		Dnlink Pointing Error (dB)	: 0.5

--- ADJACENT SATELLITE INTERFERENCE ----- Sat. No. 1 ----- Sat. No. 2 -----

Interfering Satellite Name	:	SAT-1	SAT-2
Interfering Satellite Location (deg)	:	64E	68E
Uplink Interference (dB or dBW/Hz)	:	-38.7	-38.7
Uplink Polarization Advantage (dB)	:	0.0	0.0
Downlink Interference (dB or dBW/Hz)	:	-38	-38
Downlink Polarization Advantage (dB)	:	0.0	0.0
Rx E/S Topocentric Angle (deg)	:	2.09	2.09
Rx E/S Pointing Error (deg)	:	-0.31	0.31
Rx E/S Off-Axis Angle (deg)	:	1.78	2.40
Rx E/S Adj. Sat. Discrimination (dB)	:	16.3	21.1

----- CARRIER PARAMETERS -----

Modem Type	: CS701	C/N (operating, dB)	: 2.99
Modulation	: QPSK	Eb/No (operating, dB)	: 3.7
Code Rate	: 1/2x239/256-V	C/N (threshold, dB)	: 2.79
Info Rate (kbps)	: 64	Eb/No (threshold, dB)	: 3.5
Occupied Bandwidth (kHz)	: 75.4		
Allocated Bandwidth (kHz)	: 100		

----- Transmit Earth Station ----- ----- Receive Earth Station -----

Location: -4_dB_Gain_Contour	Location: -6_dB_Gain_Contour
Latitude (deg): *	Latitude (deg): *
Longitude (deg): *	Longitude (deg): *
Rain Rate (mm/hr): 42*	Rain Rate (mm/hr): 42*
E/S Type or Model No:	E/S Type or Model No:
E/S Manufacturer : STANDARD	E/S Manufacturer : STANDARD
E/S Diam. (m): 7.0	E/S Diam. (m): 3.5
E/S Freq (nom, GHz): 6.175	E/S Freq (nom, GHz): 3.95
E/S Tx Gain (dBi): 51.0	E/S Gain (nom, dBi): 41.1
ULPC Margin (dB): .0	E/S Feed Loss (dB): 0.15
	E/S Ant. Temp(deg K): 25
	E/S LNA Temp (deg K): 65
	E/S G/T (nom, dB/K): *

SATOPT5 (Version 5.68) (C) 2004 TEL/COM Sciences, Inc. All Rights Reserved.
5-Dec-08 15:19
PanAmSat, Customer Support Engineering.

SATELLITE DATA	Satellite : INTELSAT_702 Uplink Beam: CSPOT Uplink POL: , Dnlink POL: , EIRP, beam center: 36.3 dBW G/T:-1.0 dB/K, SFD:-78.3 dBW/m2	Location: 66.0E Dnlink Beam: CSPOT Dnlink EIRP: 32.3 dBW
TRANSPONDER DATA	Trans Bandwidth :36 MHz Uplink Frequency:6.175 GHz IBO (Nominal) : 5.9 dB	Trans Type: LTWTA Dnlink Freq: 3.950 GHz OBO (Nominal): 1.0 dB
CARRIER DATA	Type: TV/FM, Format: PAL, PreEmphasis+Weighting: 15.6dB RF BW: 30.0 MHz, P-Dev: 9.0 MHz, VideoBW: 6.0 MHz,	
LINK BUDGET		
		CLR SKY UP FADE DN FADE
UPLINK PERFORMANCE	Earth Station EIRP (dBW)	78.7 n/a n/a
	- Uplink Path Loss, clear sky (dB)	-200.2 n/a n/a
	- Uplink Rain Attenuation (dB)	0.0 n/a n/a
	+ Satellite G/T (dB/K)	-1.0 n/a n/a
	- Boltzman's Constant (dBW/K-Hz)	228.6 n/a n/a
	- Carrier Noise Bandwidth (dB-Hz)	-74.8 n/a n/a
	C/N Uplink (dB)	31.3 n/a n/a
DOWNLINK PERFORMANCE	Satellite Saturation-EIRP (dBW)	32.3 n/a n/a
	- Carrier Output Backoff (dB)	-1.0 n/a n/a
	Downlink EIRP per carrier (dBW)	31.3 n/a n/a
	- Earth Station Pointing Error (dB)	-0.5 n/a n/a
	- Downlink Path Loss, clear sky (dB)	-196.3 n/a n/a
	- Downlink Rain Attenuation (dB)	0.0 n/a n/a
	+ Earth Station G/T (dB/K)	26.6 n/a n/a
- Boltzman's Constant (dBW/K-Hz)	228.6 n/a n/a	
- Carrier Noise Bandwidth (dB-Hz)	-74.8 n/a n/a	
C/N Dnlink (dB)	14.9 n/a n/a	
COMPOSITE PERFORMANCE	C/N Uplink (dB)	31.3 n/a n/a
	C/N Dnlink (dB)	14.9 n/a n/a
	C/I Uplink Co-channel (dB)	27.8 n/a n/a
	C/I Dnlink Co-Channel (dB)	27.8 n/a n/a
	C/I Uplink Adj. Sat. (SAT-1) (dB)	20.6 n/a n/a
	C/I Dnlink Adj. Sat. (SAT-1) (dB)	18.0 n/a n/a
	C/I Uplink Adj. Sat. (SAT-2) (dB)	20.6 n/a n/a
C/I Dnlink Adj. Sat. (SAT-2) (dB)	19.6 n/a n/a	
C/(N+I) COMPOSITE (dB)	11.0 n/a n/a	
- Required System Margin (dB)	-1.0 n/a n/a	
Net C/(N+I) COMPOSITE (dB)	10.0 n/a n/a	
- Minimum Required C/N (dB)	-10.0 n/a n/a	
Excess Link Margin (dB)	0.0 n/a n/a	
	Video Signal-to-Noise Ratio (dB)	43.9 n/a n/a
	Audio Signal-to-Noise Ratio (dB)	57.6 n/a n/a
TRANSMIT EARTH STATION	Loc: -4_dB_Gain_Contour ID: AZ: 0.0 Elev: 20.0 LAT: * LON: * ALT: 0.0m RainRate: 42.0mm/hr Carrier Power: 288.3 watts	
RECEIVE EARTH STA.	Loc: -4_dB_Gain_Contour ID: AZ: 0.0 Elev: 20.0 LAT: * LON: * ALT: 0.0m RainRate: 42.0mm/hr	
DENSITY INFORMATION	Uplink Pwr Den: -50.2 dBW/Hz, Dnlink EIRP Den: -39.5 dBW/Hz Max Dnlink PFD: -166.4 dB(W/m2/4kHz) @ Beam Center	
LOSS IN C/(N+I) DUE TO ADJ SAT INTF: SAT-1 = 1.6dB, SAT-2 = 1.2dB		

CSPOT-CSPOT (36 MHz): 30M0F3F
[Input Data]

----- SATELLITE -----

Satellite Name	: INTELSAT_702	Location (deg)	: 66.0E
Uplink Beam	: CSPOT	Dnlink Beam	: CSPOT
Trans. BW (MHz)	: 36 MHz	Trans. Type	: LTWTA
Uplink Pol.	:	Dnlink Pol.	:
Uplink Chan.	:	Dnlink Chan.	:
Uplink Frequency (GHz)	: 6.175	Dnlink Frequency (GHz)	: 3.950
G/T, beam center (dB/K)	: 3.0	EIRP, beam center (dBW)	: 36.3
G/T, beam edge (dB/K)	: -1.0	EIRP, beam edge (dBW)	: 32.3
G/T, toward Tx ES (dB/K)	: -1.0	EIRP, toward Rx ES (dBW)	: 32.3
SFD, beam edge (dBW/m2)	: -78.3		
SFD, toward Tx ES (dBW/m2)	: -78.3		

----- OPERATING CONDITIONS -----

Attenuator Setting (dB)	: 14	Nominal Uplink Co-Chan C/I (dB)	: 27.0
Input Backoff (dB)	: 6, 5.9	Nominal Dnlink Co-Chan C/I (dB)	: 27.0
Output Backoff (dB)	: *	Minimum Uplink Rain Margin (dB)	: 0.0
(C/Im) - Nominal (dB)	: *	Actual Uplink Rain Margin (dB)	: n/a
Min. System Margin (dB)	: 1.0	Uplink Power Control Margin (dB)	: .0
Max No Carriers / Trans	: 1	Minimum Dnlink Rain Margin (dB)	: 0.0
		Actual Dnlink Rain Margin (dB)	: n/a
		Dnlink Pointing Error (dB)	: 0.5

--- ADJACENT SATELLITE INTERFERENCE ----- Sat. No. 1 ----- Sat. No. 2 -----

Interfering Satellite Name	:	SAT-1	SAT-2
Interfering Satellite Location (deg)	:	64E	68E
Uplink Interference (dB or dBW/Hz)	:	-38.7	-38.7
Uplink Polarization Advantage (dB)	:	0.0	0.0
Downlink Interference (dB or dBW/Hz)	:	-36.3	-36.3
Downlink Polarization Advantage (dB)	:	0.0	0.0
Rx E/S Topocentric Angle (deg)	:	2.09	2.09
Rx E/S Pointing Error (deg)	:	-0.15	0.15
Rx E/S Off-Axis Angle (deg)	:	1.94	2.24
Rx E/S Adj. Sat. Discrimination (dB)	:	25.2	26.8

----- TV/FM CARRIER PARAMETERS -----

Video Format	: PAL	Peak Deviation (MHz)	: 9.0
RF Noise BW (MHz)	: 30.0	PreEmphasis+Weighting (dB)	: 15.6
Video BW (MHz)	: 6.0	Threshold C/N (dB)	: 10.0

----- AUDIO SUB-CARRIER PARAMETERS -----

Sub-Carrier Freq (MHz)	: 6.6	Highest Audio Freq (kHz)	: 15.0
P-Dev of Video by Audio (MHz)	: 2.0	Companding Advantage (dB)	: 0.0
Peak Dev of Audio (kHz)	: 75.0		

----- Transmit Earth Station -----

Location: -4_dB_Gain_Contour
Latitude (deg): *
Longitude (deg): *
Rain Rate (mm/hr): 42*
E/S Type or Model No:
E/S Manufacturer : STANDARD
E/S Diam. (m): 10.0
E/S Freq (nom, GHz): 6.175
E/S Tx Gain (dBi): 54.1
ULPC Margin (dB): .0

----- Receive Earth Station -----

Location: -4_dB_Gain_Contour
Latitude (deg): *
Longitude (deg): *
Rain Rate (mm/hr): 42*
E/S Type or Model No:
E/S Manufacturer : STANDARD
E/S Diam. (m): 7.0
E/S Freq (nom, GHz): 3.95
E/S Gain (nom, dBi): 47.5
E/S Feed Loss (dB): 0.15
E/S Ant. Temp(deg K): 45
E/S LNA Temp (deg K): 65
E/S G/T (nom, dB/K): *

SATOPT5 (Version 5.68) (C) 2004 TEL/COM Sciences, Inc. All Rights Reserved.
5-Dec-08 15:36

PanAmSat, Customer Support Engineering.

SATELLITE DATA	Satellite : INTELSAT_702 Uplink Beam: CSPOT Uplink POL: , Dnlink POL: , EIRP, beam center: 36.3 dBW G/T:-1.0 dB/K, SFD:-88.3 dBW/m2 Dnlink EIRP: 32.3 dBW	Location: 66.0E Dnlink Beam: CSPOT
TRANSPONDER DATA	Trans Bandwidth :36 MHz Uplink Frequency:6.175 GHz IBO (Nominal) : 0.0 dB	Trans Type: LTWTA Dnlink Freq: 3.950 GHz OBO (Nominal): 0.0 dB
CARRIER DATA	Type: NTC26%, Info Rate: 24575 kbps, Mod: QPSK, 1/2x188/204 BWo: 30133kHz, BWa: 36000kHz, C/N: 3.36dB, C/N_thresh: 3.36	
LINK BUDGET		
		CLR SKY UP FADE DN FADE
UPLINK PERFORMANCE	Earth Station EIRP (dBW)	74.6 n/a n/a
	- Uplink Path Loss, clear sky (dB)	-200.2 n/a n/a
	- Uplink Rain Attenuation (dB)	0.0 n/a n/a
	+ Satellite G/T (dB/K)	-1.0 n/a n/a
	- Boltzman's Constant (dBW/K-Hz)	228.6 n/a n/a
	- Carrier Noise Bandwidth (dB-Hz)	-74.8 n/a n/a
	C/N Uplink (dB)	27.2 n/a n/a
DOWNLINK PERFORMANCE	Satellite Saturation EIRP (dBW)	32.3 n/a n/a
	- Carrier Output Backoff (dB)	0.0 n/a n/a
	Downlink EIRP per carrier (dBW)	32.3 n/a n/a
	- Earth Station Pointing Error (dB)	-0.5 n/a n/a
	- Downlink Path Loss, clear sky (dB)	-196.3 n/a n/a
	- Downlink Rain Attenuation (dB)	0.0 n/a n/a
	+ Earth Station G/T (dB/K)	21.0 n/a n/a
	- Boltzman's Constant (dBW/K-Hz)	228.6 n/a n/a
	- Carrier Noise Bandwidth (dB-Hz)	-74.8 n/a n/a
		C/N Dnlink (dB)
COMPOSITE PERFORMANCE	C/N Uplink (dB)	27.2 n/a n/a
	C/N Dnlink (dB)	10.3 n/a n/a
	C/I Uplink Co-channel (dB)	27.0 n/a n/a
	C/I Dnlink Co-Channel (dB)	27.0 n/a n/a
	C/I Uplink Adj. Sat. (SAT-1) (dB)	16.5 n/a n/a
	C/I Dnlink Adj. Sat. (SAT-1) (dB)	10.1 n/a n/a
	C/I Uplink Adj. Sat. (SAT-2) (dB)	16.5 n/a n/a
	C/I Dnlink Adj. Sat. (SAT-2) (dB)	14.9 n/a n/a
	C/(N+I) COMPOSITE (dB)	5.6 n/a n/a
	- Required System Margin (dB)	-1.0 n/a n/a
COMPOSITE PERFORMANCE	Net C/(N+I) COMPOSITE (dB)	4.6 n/a n/a
	- Minimum Required C/N (dB)	-3.4 n/a n/a
	Excess Link Margin (dB)	1.3 n/a n/a
TRANSPONDER UTILIZATION	% BW/CARR: 100.00, % PWR/CARR: 100.00, Max No. Carriers: 1.0 Downlink EIRP per carrier toward beam center: 36.3 dBW	
TRANSMIT EARTH STATION	Loc: -4 dB Gain Contour ID: AZ: 0.0 Elev: 20.0 LAT: * LON: * ALT: 0.0m RainRate: 42.0mm/hr Carrier Power: 229.0 watts	
RECEIVE EARTH STA.	Loc: -4 dB Gain Contour ID: AZ: 0.0 Elev: 20.0 LAT: * LON: * ALT: 0.0m RainRate: 42.0mm/hr	
DENSITY INFORMATION	Uplink Pwr Den: -51.2 dBW/Hz, Dnlink EIRP Den: -38.5 dBW/Hz Max Dnlink PFD: -165.4 dB(W/m2/4kHz) @ Beam Center	
LOSS IN C/(N+I) DUE TO ADJ SAT INTF:	SAT-1 = 2.5dB, SAT-2 = 1.0dB	

CSPOT-CSPOT (36 MHz): 36MOG7W
[Input Data]

----- SATELLITE -----

Satellite Name	: INTELSAT_702	Location (deg)	: 66.0E
Uplink Beam	: CSPOT	Dnlink Beam	: CSPOT
Trans. BW (MHz)	: 36 MHz	Trans. Type	: LTWTA
Uplink Pol.	:	Dnlink Pol.	:
Uplink Chan.	:	Dnlink Chan.	:
Uplink Frequency (GHz)	: 6.175	Dnlink Frequency (GHz)	: 3.950
G/T, beam center (dB/K)	: 3.0	EIRP, beam center (dBW)	: 36.3
G/T, beam edge (dB/K)	: -1.0	EIRP, beam edge (dBW)	: 32.3
G/T, toward Tx ES (dB/K)	: -1.0	EIRP, toward Rx ES (dBW)	: 32.3
SFD, beam edge (dBW/m2)	: -88.3		
SFD, toward Tx ES (dBW/m2)	: -88.3		

----- OPERATING CONDITIONS -----

Attenuator Setting (dB)	: 4	Nominal Uplink Co-Chan C/I (dB)	: 27.0
Input Backoff (dB)	: 0.0	Nominal Dnlink Co-Chan C/I (dB)	: 27.0
Output Backoff (dB)	: *	Minimum Uplink Rain Margin (dB)	: 0.0
(C/Im) - Nominal (dB)	: *	Actual Uplink Rain Margin (dB)	: n/a
Min. System Margin (dB)	: 1.0	Uplink Power Control Margin (dB)	: .0
Max-No-Carriers-/Trans:	1	Minimum Dnlink Rain Margin (dB)	: 0.0
		Actual Dnlink Rain Margin (dB)	: n/a
		Dnlink Pointing Error (dB)	: 0.5

-- ADJACENT SATELLITE INTERFERENCE ----- Sat. No. 1 ----- Sat. No. 2 -----

Interfering Satellite Name	:	SAT-1	SAT-2
Interfering Satellite Location (deg)	:	64E	68E
Uplink Interference (dB or dBW/Hz)	:	-38.7	-38.7
Uplink Polarization Advantage (dB)	:	0.0	0.0
Downlink Interference (dB or dBW/Hz)	:	-36.3	-36.3
Downlink Polarization Advantage (dB)	:	0.0	0.0
Rx E/S Topocentric Angle (deg)	:	2.09	2.09
Rx E/S Pointing Error (deg)	:	-0.31	0.31
Rx E/S Off-Axis Angle (deg)	:	1.78	2.40
Rx E/S Adj. Sat. Discrimination (dB)	:	16.3	21.1

----- CARRIER PARAMETERS -----

Modem Type	: NTC26%	C/N (operating, dB)	: 3.36
Modulation	: QPSK	Eb/No (operating, dB)	: 4.2
Code Rate	: 1/2x188/204-V	C/N (threshold, dB)	: 3.36
Info Rate (kbps)	: 24575	Eb/No (threshold, dB)	: 4.2
Occupied Bandwidth (kHz)	: 30133		
Allocated Bandwidth (kHz)	: 36000		

----- Transmit Earth Station -----

Location: -4_dB_Gain_Contour
Latitude (deg): *
Longitude (deg): *
Rain Rate (mm/hr): 42*
E/S Type or Model No:
E/S Manufacturer : STANDARD
E/S Diam. (m): 7.0
E/S Freq (nom, GHz): 6.175
E/S Tx Gain (dBi): 51.0
ULPC Margin (dB): .0

----- Receive Earth Station -----

Location: -4_dB_Gain_Contour
Latitude (deg): *
Longitude (deg): *
Rain Rate (mm/hr): 42*
E/S Type or Model No:
E/S Manufacturer : STANDARD
E/S Diam. (m): 3.5
E/S Freq (nom, GHz): 3.95
E/S Gain (nom, dBi): 41.1
E/S Feed Loss (dB): 0.15
E/S Ant. Temp (deg K): 25
E/S LNA Temp (deg K): 65
E/S G/T (nom, dB/K): *

SATOPT5 (Version 5.68) (C) 2004 TEL/COM Sciences, Inc. All Rights Reserved.
5-Dec-08 15:30
PanAmSat, Customer Support Engineering.

SATELLITE DATA	Satellite : INTELSAT_702 Uplink Beam: CSPOT Uplink POL: , Dnlink POL: , EIRP, beam center: 36.3 dBW G/T:-1.0 dB/K, SFD:-82.3 dBW/m2 Dnlink EIRP: 32.3 dBW	Location: 66.0E Dnlink Beam: CSPOT
TRANSPONDER DATA	Trans Bandwidth :36 MHz Uplink Frequency:6.175 GHz IBO (Nominal) : 8.2 dB	Trans Type: LTWTA Dnlink Freq: 3.950 GHz OBO (Nominal): 3.5 dB
CARRIER DATA	Type: EF9000, Info Rate: 6000 kbps, Mod: QPSK, 1/2x188/204- BWo: 6771.1kHz, BWa: 10300kHz, C/N: 3.87dB, C/N_thresh: 3.5	
LINK BUDGET		
		CLR SKY UP FADE DN FADE
UPLINK PERFORMANCE	Earth Station EIRP (dBW)	68.6 n/a n/a
	- Uplink Path Loss, clear sky (dB)	-200.2 n/a n/a
	- Uplink Rain Attenuation (dB)	0.0 n/a n/a
	+ Satellite G/T (dB/K)	-1.0 n/a n/a
	- Boltzman's Constant (dBW/K-Hz)	228.6 n/a n/a
	- Carrier Noise Bandwidth (dB-Hz)	-68.3 n/a n/a
	C/N Uplink (dB)	27.7 n/a n/a
DOWNLINK PERFORMANCE	Satellite Saturation EIRP (dBW)	32.3 n/a n/a
	- Carrier Output Backoff (dB)	-7.3 n/a n/a
	Downlink EIRP per carrier (dBW)	25.0 n/a n/a
	- Earth Station Pointing Error (dB)	-0.5 n/a n/a
	- Downlink Path Loss, clear sky (dB)	-196.3 n/a n/a
	- Downlink Rain Attenuation (dB)	0.0 n/a n/a
	+ Earth Station G/T (dB/K)	21.0 n/a n/a
	- Boltzman's Constant (dBW/K-Hz)	228.6 n/a n/a
	- Carrier Noise Bandwidth (dB-Hz)	-68.3 n/a n/a
		C/N Dnlink (dB)
COMPOSITE PERFORMANCE	C/N Uplink (dB)	27.7 n/a n/a
	C/N Dnlink (dB)	9.4 n/a n/a
	C/I Intermod (dB)	20.1 n/a n/a
	C/I Uplink Co-channel (dB)	28.6 n/a n/a
	C/I Dnlink Co-Channel (dB)	28.6 n/a n/a
	C/I Uplink Adj. Sat. (SAT-1) (dB)	17.0 n/a n/a
	C/I Dnlink Adj. Sat. (SAT-1) (dB)	9.3 n/a n/a
	C/I Uplink Adj. Sat. (SAT-2) (dB)	17.0 n/a n/a
	C/I Dnlink Adj. Sat. (SAT-2) (dB)	14.1 n/a n/a
	C/(N+I) COMPOSITE (dB)	4.9 n/a n/a
	- Required System Margin (dB)	-1.0 n/a n/a
	Net C/(N+I) COMPOSITE (dB)	3.9 n/a n/a
	- Minimum Required C/N (dB)	-3.9 n/a n/a
	Excess Link Margin (dB)	0.0 n/a n/a
TRANSPONDER UTILIZATION	% BW/CARR: 28.61, % PWR/CARR: 41.48, Max No. Carriers: 2.4 Downlink EIRP per carrier toward beam center: 29.0 dBW	
TRANSMIT EARTH STATION	Loc: -4_dB_Gain_Contour ID: AZ: 0.0 Elev: 20.0 LAT: * LON: * ALT: 0.0m RainRate: 42.0mm/hr Carrier Power: 57.2 watts	
RECEIVE EARTH STA.	Loc: -4_dB_Gain_Contour ID: AZ: 0.0 Elev: 20.0 LAT: * LON: * ALT: 0.0m RainRate: 42.0mm/hr	
DENSITY INFORMATION	Uplink Pwr Den: -50.7 dBW/Hz, Dnlink EIRP Den: -39.3 dBW/Hz Max Dnlink PFD: -166.2 dB(W/m2/4kHz) @ Beam Center	
LOSS IN C/(N+I) DUE TO ADJ SAT INTF:	SAT-1 = 2.4dB, SAT-2 = 0.9dB	

CSPOT-CSPOT (36 MHz): 10M3G7W
[Input Data]

----- SATELLITE -----

Satellite Name	: INTELSAT_702	Location (deg)	: 66.0E
Uplink Beam	: CSPOT	Dnlink Beam	: CSPOT
Trans. BW (MHz)	: 36 MHz	Trans. Type	: LTWTA
Uplink Pol.	:	Dnlink Pol.	:
Uplink Chan.	:	Dnlink Chan.	:
Uplink Frequency (GHz)	: 6.175	Dnlink Frequency (GHz)	: 3.950
G/T, beam center (dB/K)	: 3.0	EIRP, beam center (dBW)	: 36.3
G/T, beam edge (dB/K)	: -1.0	EIRP, beam edge (dBW)	: 32.3
G/T, toward Tx ES (dB/K)	: -1.0	EIRP, toward Rx ES (dBW)	: 32.3
SFD, beam edge (dBW/m2)	: -82.3		
SFD, toward Tx ES (dBW/m2)	: -82.3		

----- OPERATING CONDITIONS -----

Attenuator Setting (dB)	: 10	Nominal Uplink Co-Chan C/I (dB)	: 27.0
Input Backoff (dB)	: 8.2*	Nominal Dnlink Co-Chan C/I (dB)	: 27.0
Output Backoff (dB)	: *	Minimum Uplink Rain Margin (dB)	: 0.0
(C/Im) - Nominal (dB)	: *	Actual Uplink Rain Margin (dB)	: n/a
Min. System Margin (dB)	: 1.0	Uplink Power Control Margin (dB)	: 0.0
Max No Carriers / Trans:	: *	Minimum Dnlink Rain Margin (dB)	: 0.0
		Actual Dnlink Rain Margin (dB)	: n/a
		Dnlink Pointing Error (dB)	: 0.5

----- ADJACENT SATELLITE INTERFERENCE ----- Sat. No. 1 ----- Sat. No. 2 -----

Interfering Satellite Name	:	SAT-1	SAT-2
Interfering Satellite Location (deg)	:	64E	68E
Uplink Interference (dB or dBW/Hz)	:	-38.7	-38.7
Uplink Polarization Advantage (dB)	:	0.0	0.0
Downlink Interference (dB or dBW/Hz)	:	-36.3	-36.3
Downlink Polarization Advantage (dB)	:	0.0	0.0
Rx E/S Topocentric Angle (deg)	:	2.09	2.09
Rx E/S Pointing Error (deg)	:	-0.31	0.31
Rx E/S Off-Axis Angle (deg)	:	1.78	2.40
Rx E/S Adj. Sat. Discrimination (dB)	:	16.3	21.1

----- CARRIER PARAMETERS -----

Modem Type	: EF9000	C/N (operating, dB)	: 3.87
Modulation	: QPSK	Eb/No (operating, dB)	: 4.4
Code Rate	: 1/2x188/204-V	C/N (threshold, dB)	: 3.57
Info Rate (kbps)	: 6000	Eb/No (threshold, dB)	: 4.1
Occupied Bandwidth (kHz)	: 6771.1		
Allocated Bandwidth (kHz)	: 10300		

----- Transmit Earth Station -----

Location: -4_dB_Gain_Contour
Latitude (deg): *
Longitude (deg): *
Rain Rate (mm/hr): 42*
E/S Type or Model No:
E/S Manufacturer : STANDARD
E/S Diam. (m): 7.0
E/S Freq (nom, GHz): 6.175
E/S Tx Gain (dBi): 51.0
ULPC Margin (dB): .0

----- Receive Earth Station -----

Location: -4_dB_Gain_Contour
Latitude (deg): *
Longitude (deg): *
Rain Rate (mm/hr): 42*
E/S Type or Model No:
E/S Manufacturer : STANDARD
E/S Diam. (m): 3.5
E/S Freq (nom, GHz): 3.95
E/S Gain (nom, dBi): 41.1
E/S Feed Loss (dB): 0.15
E/S Ant. Temp (deg K): 25
E/S LNA Temp (deg K): 65
E/S G/T (nom, dB/K): *

SATOPT5 (Version 5.68) (C) 2004 TEL/COM Sciences, Inc. All Rights Reserved.
5-Dec-08 15:31
PanAmSat, Customer Support Engineering.

SATELLITE DATA	Satellite : INTELSAT_702 Uplink Beam: CSPOT Uplink POL: , Dnlink POL: , EIRP, beam center: 36.3 dBW G/T:-1.0 dB/K, SFD:-82.3 dBW/m2 Dnlink EIRP: 32.3 dBW	Location: 66.0E Dnlink Beam: CSPOT		
TRANSPONDER DATA	Trans Bandwidth :36 MHz Uplink Frequency:6.175 GHz IBO (Nominal) : 8.2 dB	Trans Type: LTWTA Dnlink Freq: 3.950 GHz OBO (Nominal): 3.5 dB		
CARRIER DATA	Type: CS701, Info Rate: 64 kbps, Mod: QPSK, 1/2x239/256-V BWo: 75.4kHz, BWa: 100kHz, C/N: 2.99dB, C/N_thresh: 2.79dB			
LINK BUDGET				
UPLINK PERFORMANCE	Earth Station EIRP (dBW)	48.2	n/a	n/a
	- Uplink Path Loss, clear sky (dB)	-200.2	n/a	n/a
	- Uplink Rain Attenuation (dB)	0.0	n/a	n/a
	+ Satellite G/T (dB/K)	-1.0	n/a	n/a
	- Boltzman's Constant (dBW/K-Hz)	228.6	n/a	n/a
	- Carrier Noise Bandwidth (dB-Hz)	-48.8	n/a	n/a
	C/N Uplink (dB)	26.8	n/a	n/a
DOWNLINK PERFORMANCE	Satellite Saturation EIRP (dBW)	32.3	n/a	n/a
	- Carrier Output Backoff (dB)	-27.8	n/a	n/a
	Downlink EIRP per carrier (dBW)	4.5	n/a	n/a
	- Earth Station Pointing Error (dB)	- .5	n/a	n/a
	- Downlink Path Loss, clear sky (dB)	-196.3	n/a	n/a
	- Downlink Rain Attenuation (dB)	0.0	n/a	n/a
	+ Earth Station G/T (dB/K)	21.0	n/a	n/a
	- Boltzman's Constant (dBW/K-Hz)	228.6	n/a	n/a
	- Carrier Noise Bandwidth (dB-Hz)	-48.8	n/a	n/a
		C/N Dnlink (dB)	8.5	n/a
COMPOSITE PERFORMANCE	C/N Uplink (dB)	26.8	n/a	n/a
	C/N Dnlink (dB)	8.5	n/a	n/a
	C/I Intermod (dB)	19.2	n/a	n/a
	C/I Uplink Co-channel (dB)	28.3	n/a	n/a
	C/I Dnlink Co-channel (dB)	28.3	n/a	n/a
	C/I Uplink Adj. Sat. (SAT-1) (dB)	16.1	n/a	n/a
	C/I Dnlink Adj. Sat. (SAT-1) (dB)	8.4	n/a	n/a
	C/I Uplink Adj. Sat. (SAT-2) (dB)	16.1	n/a	n/a
	C/I Dnlink Adj. Sat. (SAT-2) (dB)	13.2	n/a	n/a
	C/(N+I) COMPOSITE (dB)	4.0	n/a	n/a
- Required System Margin (dB)	-1.0	n/a	n/a	
Net C/(N+I) COMPOSITE (dB)	3.0	n/a	n/a	
- Minimum Required C/N (dB)	-3.0	n/a	n/a	
	Excess Link Margin (dB)	0.0	n/a	n/a
TRANSPONDER UTILIZATION	% BW/CARR: 0.28, % PWR/CARR: 0.38, Max No. Carriers: 265.4 Downlink EIRP per carrier toward beam center: 8.5 dBW			
TRANSMIT EARTH STATION	Loc: -4_dB_Gain_Contour ID: AZ: 0.0 Elev: 20.0 LAT: * LON: * ALT: 0.0m RainRate: 42.0mm/hr Carrier Power: 0.5 watts			
RECEIVE EARTH STA.	Loc: -4_dB_Gain_Contour ID: AZ: 0.0 Elev: 20.0 LAT: * LON: * ALT: 0.0m RainRate: 42.0mm/hr			
DENSITY INFORMATION	Uplink Pwr Den: -51.6 dBW/Hz, Dnlink EIRP Den: -40.2 dBW/Hz Max Dnlink PFD: -167.1 dB(W/m2/4kHz) @ Beam Center			
LOSS IN C/(N+I) DUE TO ADJ SAT INTF:	SAT-1 = 2.4dB, SAT-2 = 0.9dB			

CSPOT-CSPOT (36 MHz): 100KG7W
[Input Data]

----- SATELLITE -----

Satellite Name	: INTELSAT_702	Location (deg)	: 66.0E
Uplink Beam	: CSPOT	Dnlink Beam	: CSPOT
Trans. BW (MHz)	: 36 MHz	Trans. Type	: LTWTA
Uplink Pol.	:	Dnlink Pol.	:
Uplink Chan.	:	Dnlink Chan.	:
Uplink Frequency (GHz)	: 6.175	Dnlink Frequency (GHz)	: 3.950
G/T, beam center (dB/K)	: 3.0	EIRP, beam center (dBW)	: 36.3
G/T, beam edge (dB/K)	: -1.0	EIRP, beam edge (dBW)	: 32.3
G/T, toward Tx ES (dB/K)	: -1.0	EIRP, toward Rx ES (dBW)	: 32.3
SFD, beam edge (dBW/m2)	: -82.3		
SFD, toward Tx ES (dBW/m2)	: -82.3		

----- OPERATING CONDITIONS -----

Attenuator Setting (dB)	: 10	Nominal Uplink Co-Chan C/I (dB)	: 27.0
Input Backoff (dB)	: 8.2*	Nominal Dnlink Co-Chan C/I (dB)	: 27.0
Output Backoff (dB)	: *	Minimum Uplink Rain Margin (dB)	: 0.0
(C/Im) - Nominal (dB)	: *	Actual Uplink Rain Margin (dB)	: n/a
Min. System Margin (dB)	: 1.0	Uplink Power Control Margin (dB)	: .0
Max No Carriers / Trans:	*	Minimum Dnlink Rain Margin (dB)	: 0.0
		Actual Dnlink Rain Margin (dB)	: n/a
		Dnlink Pointing Error (dB)	: 0.5

--- ADJACENT SATELLITE INTERFERENCE ----- Sat. No. 1 ----- Sat. No. 2 -----

Interfering Satellite Name	:	SAT-1	SAT-2
Interfering Satellite Location (deg)	:	64E	68E
Uplink Interference (dB or dBW/Hz)	:	-38.7	-38.7
Uplink Polarization Advantage (dB)	:	0.0	0.0
Downlink Interference (dB or dBW/Hz)	:	-36.3	-36.3
Downlink Polarization Advantage (dB)	:	0.0	0.0
Rx E/S Topocentric Angle (deg)	:	2.09	2.09
Rx E/S Pointing Error (deg)	:	-0.31	0.31
Rx E/S Off-Axis Angle (deg)	:	1.78	2.40
Rx E/S Adj. Sat. Discrimination (dB)	:	16.3	21.1

----- CARRIER PARAMETERS -----

Modem Type	: CS701	C/N (operating, dB)	: 2.99
Modulation	: QPSK	Eb/No (operating, dB)	: 3.7
Code Rate	: 1/2x239/256-V	C/N (threshold, dB)	: 2.79
Info Rate (kbps)	: 64	Eb/No (threshold, dB)	: 3.5
Occupied Bandwidth (kHz)	: 75.4		
Allocated Bandwidth (kHz)	: 100		

----- Transmit Earth Station ----- ----- Receive Earth Station -----

Location: -4_dB_Gain_Contour	Location: -4_dB_Gain_Contour
Latitude (deg): *	Latitude (deg): *
Longitude (deg): *	Longitude (deg): *
Rain Rate (mm/hr): 42*	Rain Rate (mm/hr): 42*
E/S Type or Model No:	E/S Type or Model No:
E/S Manufacturer : STANDARD	E/S Manufacturer : STANDARD
E/S Diam. (m): 7.0	E/S Diam. (m): 3.5
E/S Freq (nom, GHz): 6.175	E/S Freq (nom, GHz): 3.95
E/S Tx Gain (dBi): 51.0	E/S Gain (nom, dBi): 41.1
ULPC Margin (dB): .0	E/S Feed Loss (dB): 0.15
	E/S Ant. Temp (deg K): 25
	E/S LNA Temp (deg K): 65
	E/S G/T (nom, dB/K): *

SATOPT5 (Version 5.68) (C) 2004 TEL/COM Sciences, Inc. All Rights Reserved.
5-Dec-08 15:33
PanAmSat, Customer Support Engineering.

SATELLITE DATA	Satellite : INTELSAT_702 Uplink Beam: ZONE Uplink POL: , Dnlink POL: , EIRP, beam center: 37.5 dBW G/T:-3.0 dB/K, SFD:-74.9 dBW/m2	Location: 66.0E Dnlink Beam: HEMI Dnlink EIRP: 31.5 dBW		
TRANSPONDER DATA	Trans Bandwidth :36 MHz Uplink Frequency:6.175 GHz IBO (Nominal) : 8.5 dB	Trans Type: LTWTA Dnlink Freq: 3.950 GHz OBO (Nominal): 2.8 dB		
CARRIER DATA	Type: TV/FM, Format: PAL, PreEmphasis+Weighting: 15.6dB RF BW: 30.0 MHz, P-Dev: 9.0 MHz, VideoBW: 6.0 MHz,			
LINK BUDGET				
UPLINK PERFORMANCE	Earth Station EIRP (dBW)	79.5	n/a	n/a
	- Uplink Path Loss, clear sky (dB)	-200.2	n/a	n/a
	- Uplink Rain Attenuation (dB)	0.0	n/a	n/a
	+ Satellite G/T (dB/K)	-3.0	n/a	n/a
	- Boltzman's Constant (dBW/K-Hz)	228.6	n/a	n/a
	- Carrier Noise Bandwidth (dB-Hz)	-74.8	n/a	n/a
	C/N Uplink (dB)	30.1	n/a	n/a
	Satellite Saturation-EIRP (dBW)	31.5	n/a	n/a
	- Carrier Output Backoff (dB)	-2.8	n/a	n/a
	DOWNLINK PERFORMANCE	Downlink EIRP per carrier (dBW)	28.7	n/a
- Earth Station Pointing Error (dB)		-0.5	n/a	n/a
- Downlink Path Loss, clear sky (dB)		-196.3	n/a	n/a
- Downlink Rain Attenuation (dB)		0.0	n/a	n/a
+ Earth Station G/T (dB/K)		28.4	n/a	n/a
- Boltzman's Constant (dBW/K-Hz)		228.6	n/a	n/a
- Carrier Noise Bandwidth (dB-Hz)		-74.8	n/a	n/a
C/N Dnlink (dB)		14.1	n/a	n/a
C/N Uplink (dB)		30.1	n/a	n/a
C/N Dnlink (dB)		14.1	n/a	n/a
COMPOSITE PERFORMANCE	C/I Uplink Co-channel (dB)	27.8	n/a	n/a
	C/I Dnlink Co-Channel (dB)	27.8	n/a	n/a
	C/I Uplink Adj. Sat. (SAT-1) (dB)	21.4	n/a	n/a
	C/I Dnlink Adj. Sat. (SAT-1) (dB)	19.1	n/a	n/a
	C/I Uplink Adj. Sat. (SAT-2) (dB)	21.4	n/a	n/a
	C/I Dnlink Adj. Sat. (SAT-2) (dB)	20.4	n/a	n/a
	C/(N+I) COMPOSITE (dB)	11.0	n/a	n/a
	- Required System Margin (dB)	-1.0	n/a	n/a
	Net C/(N+I) COMPOSITE (dB)	10.0	n/a	n/a
	- Minimum Required C/N (dB)	-10.0	n/a	n/a
Excess Link Margin (dB)	0.0	n/a	n/a	
Video Signal-to-Noise Ratio (dB)		43.9	n/a	n/a
Audio Signal-to-Noise Ratio (dB)		57.7	n/a	n/a
TRANSMIT EARTH STATION	Loc: -4 dB Gain Contour ID: AZ: 0.0 Elev: 20.0 LAT: * LON: * ALT: 0.0m RainRate: 42.0mm/hr Carrier Power: 256.9 watts			
RECEIVE EARTH STA.	Loc: -6 dB Gain Contour ID: AZ: 0.0 Elev: 20.0 LAT: * LON: * ALT: 0.0m RainRate: 42.0mm/hr			
DENSITY INFORMATION	Uplink Pwr Den: -50.7 dBW/Hz, Dnlink EIRP Den: -40.0 dBW/Hz Max Dnlink PFD: -166.9 dB(W/m2/4kHz) @ Beam Center			
LOSS IN C/(N+I) DUE TO ADJ SAT INTF: SAT-1 = 1.2dB, SAT-2 = 1.0dB				

ZONE-HEMI (36 MHz): 30M0F3F
[Input Data]

----- SATELLITE -----

Satellite Name	: INTELSAT_702	Location (deg)	: 66.0E
Uplink Beam	: ZONE	Dnlink Beam	: HEMI
Trans. BW (MHz)	: 36 MHz	Trans. Type	: LTWTA
Uplink Pol.	:	Dnlink Pol.	:
Uplink Chan.	:	Dnlink Chan.	:
Uplink Frequency (GHz)	: 6.175	Dnlink Frequency (GHz)	: 3.950
G/T, beam center (dB/K)	: 1.0	EIRP, beam center (dBW)	: 37.5
G/T, beam edge (dB/K)	: -3.0	EIRP, beam edge (dBW)	: 31.5
G/T, toward Tx ES (dB/K)	: -3.0	EIRP, toward Rx ES (dBW)	: 31.5
SFD, beam edge (dBW/m2)	: -74.9		
SFD, toward Tx ES (dBW/m2)	: -74.9		

----- OPERATING CONDITIONS -----

Attenuator Setting (dB)	: 14	Nominal Uplink Co-Chan C/I (dB)	: 27.0
Input Backoff (dB)	: 8.5	Nominal Dnlink Co-Chan C/I (dB)	: 27.0
Output Backoff (dB)	: *	Minimum Uplink Rain Margin (dB)	: 0.0
(C/Im) - Nominal (dB)	: *	Actual Uplink Rain Margin (dB)	: n/a
Min. System Margin (dB)	: 1.0	Uplink Power Control Margin (dB)	: .0
Max No Carriers / Trans	: 1	Minimum Dnlink Rain Margin (dB)	: 0.0
		Actual Dnlink Rain Margin (dB)	: n/a
		Dnlink Pointing Error (dB)	: 0.5

----- ADJACENT SATELLITE INTERFERENCE ----- Sat. No. 1 ----- Sat. No. 2 -----

Interfering Satellite Name	:	SAT-1	SAT-2
Interfering Satellite Location (deg)	:	64E	68E
Uplink Interference (dB or dBW/Hz)	:	-38.7	-38.7
Uplink Polarization Advantage (dB)	:	0.0	0.0
Downlink Interference (dB or dBW/Hz)	:	-38	-38
Downlink Polarization Advantage (dB)	:	0.0	0.0
Rx E/S Topocentric Angle (deg)	:	2.09	2.09
Rx E/S Pointing Error (deg)	:	-0.13	0.13
Rx E/S Off-Axis Angle (deg)	:	1.96	2.22
Rx E/S Adj. Sat. Discrimination (dB)	:	27.1	28.5

----- TV/FM CARRIER PARAMETERS -----

Video Format	: PAL	Peak Deviation (MHz)	: 9.0
RF Noise BW (MHz)	: 30.0	PreEmphasis+Weighting (dB)	: 15.6
Video BW (MHz)	: 6.0	Threshold C/N (dB)	: 10.0

----- AUDIO SUB-CARRIER PARAMETERS -----

Sub-Carrier Freq (MHz)	: 6.6	Highest Audio Freq (kHz)	: 15.0
P-Dev of Video by Audio (MHz)	: 2.0	Companding Advantage (dB)	: 0.0
Peak Dev of Audio (kHz)	: 75.0		

----- Transmit Earth Station ----- Receive Earth Station -----

Location: -4_dB_Gain_Contour	Location: -6_dB_Gain_Contour
Latitude (deg): *	Latitude (deg): *
Longitude (deg): *	Longitude (deg): *
Rain Rate (mm/hr): 42*	Rain Rate (mm/hr): 42*
E/S Type or Model No:	E/S Type or Model No:
E/S Manufacturer : STANDARD	E/S Manufacturer : STANDARD
E/S Diam. (m): 11.0	E/S Diam. (m): 8.1
E/S Freq (nom, GHz): 6.175	E/S Freq (nom, GHz): 3.95
E/S Tx Gain (dBi): 55.4	E/S Gain (nom, dBi): 49.3
ULPC Margin (dB): .0	E/S Feed Loss (dB): 0.15
	E/S Ant. Temp(deg K): 45
	E/S LNA Temp (deg K): 65
	E/S G/T (nom, dB/K): *

SATOPT5 (Version 5.68) (C) 2004 TEL/COM Sciences, Inc. All Rights Reserved.
6-Dec-08 8:55

PanAmSat, Customer Support Engineering.

SATELLITE DATA	Satellite : INTELSAT_702 Uplink Beam: ZONE Uplink POL: , Dnlink POL: , EIRP, beam center: 37.5 dBW G/T:-3.0 dB/K, SFD:-87.9 dBW/m2 Dnlink EIRP: 31.5 dBW	Location: 66.0E Dnlink Beam: HEMI
TRANSPONDER DATA	Trans Bandwidth :36 MHz Uplink Frequency:6.175 GHz IBO (Nominal) : 0.0 dB	Trans Type: LTWTA Dnlink Freq: 3.950 GHz OBO (Nominal): 0.0 dB
CARRIER DATA	Type: NTC26%, Info Rate: 24575 kbps, Mod: QPSK, 1/2x188/204 BWo: 30133kHz, BWa: 36000kHz, C/N: 3.36dB, C/N_thresh: 3.36	
LINK BUDGET		
		CLR SKY UP FADE DN FADE
UPLINK PERFORMANCE	Earth Station EIRP (dBW)	75.0 n/a n/a
	- Uplink Path Loss, clear sky (dB)	-200.2 n/a n/a
	- Uplink Rain Attenuation (dB)	0.0 n/a n/a
	+ Satellite G/T (dB/K)	-3.0 n/a n/a
	- Boltzman's Constant (dBW/K-Hz)	228.6 n/a n/a
	- Carrier Noise Bandwidth (dB-Hz)	-74.8 n/a n/a
	C/N Uplink (dB)	25.6 n/a n/a
DOWNLINK PERFORMANCE	Satellite Saturation EIRP (dBW)	31.5 n/a n/a
	- Carrier Output Backoff (dB)	0.0 n/a n/a
	Downlink EIRP per carrier (dBW)	31.5 n/a n/a
	- Earth Station Pointing Error (dB)	-.5 n/a n/a
	- Downlink Path Loss, clear sky (dB)	-196.3 n/a n/a
	- Downlink Rain Attenuation (dB)	0.0 n/a n/a
	+ Earth Station G/T (dB/K)	21.0 n/a n/a
	- Boltzman's Constant (dBW/K-Hz)	228.6 n/a n/a
	- Carrier Noise Bandwidth (dB-Hz)	-74.8 n/a n/a
		C/N Dnlink (dB)
COMPOSITE PERFORMANCE	C/N Uplink (dB)	25.6 n/a n/a
	C/N Dnlink (dB)	9.5 n/a n/a
	C/I Uplink Co-channel (dB)	27.0 n/a n/a
	C/I Dnlink Co-Channel (dB)	27.0 n/a n/a
	C/I Uplink Adj. Sat. (SAT-1) (dB)	16.9 n/a n/a
	C/I Dnlink Adj. Sat. (SAT-1) (dB)	11.0 n/a n/a
	C/I Uplink Adj. Sat. (SAT-2) (dB)	16.9 n/a n/a
	C/I Dnlink Adj. Sat. (SAT-2) (dB)	15.8 n/a n/a
	C/(N+I) COMPOSITE (dB)	5.8 n/a n/a
	- Required System Margin (dB)	-1.0 n/a n/a
COMPOSITE PERFORMANCE	Net C/(N+I) COMPOSITE (dB)	4.8 n/a n/a
	- Minimum Required C/N (dB)	-3.4 n/a n/a
	Excess Link Margin (dB)	1.4 n/a n/a
TRANSPONDER UTILIZATION	% BW/CARR: 100.00, % PWR/CARR: 100.00, Max No. Carriers: 1.0 Downlink EIRP per carrier toward beam center: 37.5 dBW	
TRANSMIT EARTH STATION	Loc: -4 dB Gain Contour ID: AZ: 0.0 Elev: 20.0 LAT: * LON: * ALT: 0.0m RainRate: 42.0mm/hr Carrier Power: 251.1 watts	
RECEIVE EARTH STA.	Loc: -6 dB Gain Contour ID: AZ: 0.0 Elev: 20.0 LAT: * LON: * ALT: 0.0m RainRate: 42.0mm/hr	
DENSITY INFORMATION	Uplink Pwr Den: -50.8 dBW/Hz, Dnlink EIRP Den: -37.3 dBW/Hz Max Dnlink PFD: -164.2 dB(W/m2/4kHz) @ Beam Center	
LOSS IN C/(N+I) DUE TO ADJ SAT INTF:	SAT-1 = 2.0dB, SAT-2 = 0.8dB	

ZONE-HEMI (36 MHz): 36MOG7W
[Input Data]

----- SATELLITE -----

Satellite Name	: INTELSAT_702	Location (deg)	: 66.0E
Uplink Beam	: ZONE	Dnlink Beam	: HEMI
Trans. BW (MHz)	: 36 MHz	Trans. Type	: LTWTA
Uplink Pol.	:	Dnlink Pol.	:
Uplink Chan.	:	Dnlink Chan.	:
Uplink Frequency (GHz)	: 6.175	Dnlink Frequency (GHz)	: 3.950
G/T, beam center (dB/K)	: 1.0	EIRP, beam center (dBW)	: 37.5
G/T, beam edge (dB/K)	: -3.0	EIRP, beam edge (dBW)	: 31.5
G/T, toward Tx ES (dB/K)	: -3.0	EIRP, toward Rx ES (dBW)	: 31.5
SFD, beam edge (dBW/m2)	: -87.9		
SFD, toward Tx ES (dBW/m2)	: -87.9		

----- OPERATING CONDITIONS -----

Attenuator Setting (dB)	: 1	Nominal Uplink Co-Chan C/I (dB)	: 27.0
Input Backoff (dB)	: 0.0	Nominal Dnlink Co-Chan C/I (dB)	: 27.0
Output Backoff (dB)	: *	Minimum Uplink Rain Margin (dB)	: 0.0
(C/Im) - Nominal (dB)	: *	Actual Uplink Rain Margin (dB)	: n/a
Min. System Margin (dB)	: 1.0	Uplink Power Control Margin (dB)	: .0
Max. No. Carriers / Trans:	1	Minimum Dnlink Rain Margin (dB)	: 0.0
		Actual Dnlink Rain Margin (dB)	: n/a
		Dnlink Pointing Error (dB)	: 0.5

-- ADJACENT SATELLITE INTERFERENCE ----- Sat. No. 1 ----- Sat. No. 2 -----

Interfering Satellite Name	:	SAT-1	SAT-2
Interfering Satellite Location (deg)	:	64E	68E
Uplink Interference (dB or dBW/Hz)	:	-38.7	-38.7
Uplink Polarization Advantage (dB)	:	0.0	0.0
Downlink Interference (dB or dBW/Hz)	:	-38	-38
Downlink Polarization Advantage (dB)	:	0.0	0.0
Rx E/S Topocentric Angle (deg)	:	2.09	2.09
Rx E/S Pointing Error (deg)	:	-0.31	0.31
Rx E/S Off-Axis Angle (deg)	:	1.78	2.40
Rx E/S Adj. Sat. Discrimination (dB)	:	16.3	21.1

----- CARRIER PARAMETERS -----

Modem Type	: NTC26%	C/N (operating, dB)	: 3.36
Modulation	: QPSK	Eb/No (operating, dB)	: 4.2
Code Rate	: 1/2x188/204-V	C/N (threshold, dB)	: 3.36
Info Rate (kbps)	: 24575	Eb/No (threshold, dB)	: 4.2
Occupied Bandwidth (kHz)	: 30133		
Allocated Bandwidth (kHz)	: 36000		

----- Transmit Earth Station -----

Location: -4_dB_Gain_Contour
Latitude (deg): *
Longitude (deg): *
Rain Rate (mm/hr): 42*
E/S Type or Model No:
E/S Manufacturer : STANDARD
E/S Diam. (m): 7.0
E/S Freq (nom, GHz): 6.175
E/S Tx Gain (dBi): 51.0
ULPC Margin (dB): .0

----- Receive Earth Station -----

Location: -6_dB_Gain_Contour
Latitude (deg): *
Longitude (deg): *
Rain Rate (mm/hr): 42*
E/S Type or Model No:
E/S Manufacturer : STANDARD
E/S Diam. (m): 3.5
E/S Freq (nom, GHz): 3.95
E/S Gain (nom, dBi): 41.1
E/S Feed Loss (dB): 0.15
E/S Ant. Temp (deg K): 25
E/S LNA Temp (deg K): 65
E/S G/T (nom, dB/K): *

SATOPT5 (Version 5.68) (C) 2004 TEL/COM Sciences, Inc. All Rights Reserved.
6-Dec-08 8:46
PanAmSat, Customer Support Engineering.

SATELLITE DATA	Satellite : INTELSAT_702 Uplink Beam: ZONE Uplink POL: , Dnlink POL: , EIRP, beam center: 37.5 dBW G/T:-3.0 dB/K, SFD:-82.9 dBW/m2	Location: 66.0E Dnlink Beam: HEMI Dnlink EIRP: 31.5 dBW		
TRANSPONDER DATA	Trans Bandwidth :36 MHz Uplink Frequency:6.175 GHz IBO (Nominal) : 8.2 dB	Trans Type: LTWTA Dnlink Freq: 3.950 GHz OBO (Nominal): 3.5 dB		
CARRIER DATA	Type: EF9000, Info Rate: 6000 kbps, Mod: QPSK, 1/2x188/204- BW: 6771.1kHz, BWa: 10300kHz, C/N: 3.87dB, C/N_thresh: 3.5			
LINK BUDGET				
UPLINK PERFORMANCE	Earth Station EIRP (dBW)	68.0	n/a	n/a
	- Uplink Path Loss, clear sky (dB)	-200.2	n/a	n/a
	- Uplink Rain Attenuation (dB)	0.0	n/a	n/a
	+ Satellite G/T (dB/K)	-3.0	n/a	n/a
	- Boltzman's Constant (dBW/K-Hz)	228.6	n/a	n/a
	- Carrier Noise Bandwidth (dB-Hz)	-68.3	n/a	n/a
	C/N Uplink (dB)	25.1	n/a	n/a
DOWNLINK PERFORMANCE	Satellite Saturation EIRP (dBW)	31.5	n/a	n/a
	- Carrier Output Backoff (dB)	-7.3	n/a	n/a
	Downlink EIRP per carrier (dBW)	24.2	n/a	n/a
	- Earth Station Pointing Error (dB)	- .5	n/a	n/a
	- Downlink Path Loss, clear sky (dB)	-196.3	n/a	n/a
	- Downlink Rain Attenuation (dB)	0.0	n/a	n/a
	+ Earth Station G/T (dB/K)	21.0	n/a	n/a
	- Boltzman's Constant (dBW/K-Hz)	228.6	n/a	n/a
	- Carrier Noise Bandwidth (dB-Hz)	-68.3	n/a	n/a
		C/N Dnlink (dB)	8.6	n/a
COMPOSITE PERFORMANCE	C/N Uplink (dB)	25.1	n/a	n/a
	C/N Dnlink (dB)	8.6	n/a	n/a
	C/I Intermod (dB)	20.1	n/a	n/a
	C/I Uplink Co-channel (dB)	28.6	n/a	n/a
	C/I Dnlink Co-Channel (dB)	28.6	n/a	n/a
	C/I Uplink Adj. Sat. (SAT-1) (dB)	16.4	n/a	n/a
	C/I Dnlink Adj. Sat. (SAT-1) (dB)	10.2	n/a	n/a
	C/I Uplink Adj. Sat. (SAT-2) (dB)	16.4	n/a	n/a
	C/I Dnlink Adj. Sat. (SAT-2) (dB)	15.0	n/a	n/a
	C/(N+I) COMPOSITE (dB)	4.9	n/a	n/a
- Required System Margin (dB)	-1.0	n/a	n/a	
Net C/(N+I) COMPOSITE (dB)	3.9	n/a	n/a	
- Minimum Required C/N (dB)	-3.9	n/a	n/a	
	Excess Link Margin (dB)	0.0	n/a	n/a
TRANSPONDER UTILIZATION	% BW/CARR: 28.61, % PWR/CARR: 41.62, Max No. Carriers: 2.4 Downlink EIRP per carrier toward beam center: 30.2 dBW			
TRANSMIT EARTH STATION	Loc: -4_dB_Gain_Contour ID: AZ: 0.0 Elev: 20.0 LAT: * LON: * ALT: 0.0m RainRate: 42.0mm/hr Carrier Power: 50.0 watts			
RECEIVE EARTH STA.	Loc: -6_dB_Gain_Contour ID: AZ: 0.0 Elev: 20.0 LAT: * LON: * ALT: 0.0m RainRate: 42.0mm/hr			
DENSITY INFORMATION	Uplink Pwr Den: -51.3 dBW/Hz, Dnlink EIRP Den: -38.1 dBW/Hz Max Dnlink PFD: -165.0 dB(W/m2/4kHz) @ Beam Center			
LOSS IN C/(N+I) DUE TO ADJ SAT INTF:	SAT-1 = 2.0dB, SAT-2 = 0.8dB			

ZONE-HEMI (36 MHz): 10M3G7W
[Input Data]

----- SATELLITE -----

Satellite Name	: INTELSAT_702	Location (deg)	: 66.0E
Uplink Beam	: ZONE	Dnlink Beam	: HEMI
Trans. BW (MHz)	: 36 MHz	Trans. Type	: LTWTA
Uplink Pol.	:	Dnlink Pol.	:
Uplink Chan.	:	Dnlink Chan.	:
Uplink Frequency (GHz)	: 6.175	Dnlink Frequency (GHz)	: 3.950
G/T, beam center (dB/K)	: 1.0	EIRP, beam center (dBW)	: 37.5
G/T, beam edge (dB/K)	: -3.0	EIRP, beam edge (dBW)	: 31.5
G/T, toward Tx ES (dB/K)	: -3.0	EIRP, toward Rx ES (dBW)	: 31.5
SFD, beam edge (dBW/m2)	: -82.9		
SFD, toward Tx ES (dBW/m2)	: -82.9		

----- OPERATING CONDITIONS -----

Attenuator Setting (dB)	: 6	Nominal Uplink Co-Chan C/I (dB)	: 27.0
Input Backoff (dB)	: 8.2*	Nominal Dnlink Co-Chan C/I (dB)	: 27.0
Output Backoff (dB)	: *	Minimum Uplink Rain Margin (dB)	: 0.0
(C/Im) - Nominal (dB)	: *	Actual Uplink Rain Margin (dB)	: n/a
Min. System Margin (dB)	: -1.0	Uplink Power Control Margin (dB)	: .0
Max No Carriers / Trans:	: *	Minimum Dnlink Rain Margin (dB)	: 0.0
		Actual Dnlink Rain Margin (dB)	: n/a
		Dnlink Pointing Error (dB)	: 0.5

-- ADJACENT SATELLITE INTERFERENCE ----- Sat. No. 1 ----- Sat. No. 2 -----

Interfering Satellite Name	:	SAT-1	SAT-2
Interfering Satellite Location (deg)	:	64E	68E
Uplink Interference (dB or dBW/Hz)	:	-38.7	-38.7
Uplink Polarization Advantage (dB)	:	0.0	0.0
Downlink Interference (dB or dBW/Hz)	:	-38	-38
Downlink Polarization Advantage (dB)	:	0.0	0.0
Rx E/S Topocentric Angle (deg)	:	2.09	2.09
Rx E/S Pointing Error (deg)	:	-0.31	0.31
Rx E/S Off-Axis Angle (deg)	:	1.78	2.40
Rx E/S Adj. Sat. Discrimination (dB)	:	16.3	21.1

----- CARRIER PARAMETERS -----

Modem Type	: EF9000	C/N (operating, dB)	: 3.87
Modulation	: QPSK	Eb/No (operating, dB)	: 4.4
Code Rate	: 1/2x188/204-V	C/N (threshold, dB)	: 3.57
Info Rate (kbps)	: 6000	Eb/No (threshold, dB)	: 4.1
Occupied Bandwidth (kHz)	: 6771.1		
Allocated Bandwidth (kHz)	: 10300		

----- Transmit Earth Station ----- ----- Receive Earth Station -----

Location: -4_dB_Gain_Contour	Location: -6_dB_Gain_Contour
Latitude (deg): *	Latitude (deg): *
Longitude (deg): *	Longitude (deg): *
Rain Rate (mm/hr): 42*	Rain Rate (mm/hr): 42*
E/S Type or Model No:	E/S Type or Model No:
E/S Manufacturer : STANDARD	E/S Manufacturer : STANDARD
E/S Diam. (m): 7.0	E/S Diam. (m): 3.5
E/S Freq (nom, GHz): 6.175	E/S Freq (nom, GHz): 3.95
E/S Tx Gain (dBi): 51.0	E/S Gain (nom, dBi): 41.1
ULPC Margin (dB): .0	E/S Feed Loss (dB): 0.15
	E/S Ant. Temp(deg K): 25
	E/S LNA Temp (deg K): 65
	E/S G/T (nom, dB/K): *

SATOPT5 (Version 5.68) (C) 2004 TEL/COM Sciences, Inc. All Rights Reserved.
6-Dec-08 8:49
PanAmSat, Customer Support Engineering.

SATELLITE DATA	Satellite : INTELSAT_702 Uplink Beam: ZONE Uplink POL: , Dnlink POL: , EIRP, beam center: 37.5 dBW G/T:-3.0 dB/K, SFD:-82.9 dBW/m2	Location: 66.0E Dnlink Beam: HEMI Dnlink EIRP: 31.5 dBW
TRANSPONDER DATA	Trans Bandwidth :36 MHz Uplink Frequency:6.175 GHz IBO (Nominal) : 8.2 dB	Trans Type: LTWTA Dnlink Freq: 3.950 GHz OBO (Nominal): 3.5 dB
CARRIER DATA	Type: CS701, Info Rate: 64 kbps, Mod: QPSK, 1/2x239/256-V BWo: 75.4kHz, BWa: 100kHz, C/N: 2.99dB, C/N_thresh: 2.79dB	
LINK BUDGET		
		CLR SKY UP FADE DN FADE
UPLINK PERFORMANCE	Earth Station EIRP (dBW)	47.6 n/a n/a
	- Uplink Path Loss, clear sky (dB)	-200.2 n/a n/a
	- Uplink Rain Attenuation (dB)	0.0 n/a n/a
	+ Satellite G/T (dB/K)	-3.0 n/a n/a
	- Boltzman's Constant (dBW/K-Hz)	228.6 n/a n/a
	- Carrier Noise Bandwidth (dB-Hz)	-48.8 n/a n/a
	C/N Uplink (dB)	24.2 n/a n/a
DOWNLINK PERFORMANCE	Satellite Saturation EIRP (dBW)	31.5 n/a n/a
	- Carrier Output Backoff (dB)	-27.7 n/a n/a
	Downlink EIRP per carrier (dBW)	3.8 n/a n/a
	- Earth Station Pointing Error (dB)	- .5 n/a n/a
	- Downlink Path Loss, clear sky (dB)	-196.3 n/a n/a
	- Downlink Rain Attenuation (dB)	0.0 n/a n/a
	+ Earth Station G/T (dB/K)	21.0 n/a n/a
	- Boltzman's Constant (dBW/K-Hz)	228.6 n/a n/a
	- Carrier Noise Bandwidth (dB-Hz)	-48.8 n/a n/a
		C/N Dnlink (dB)
COMPOSITE PERFORMANCE	C/N Uplink (dB)	24.2 n/a n/a
	C/N Dnlink (dB)	7.7 n/a n/a
	C/I Intermod (dB)	19.2 n/a n/a
	C/I Uplink Co-channel (dB)	28.3 n/a n/a
	C/I Dnlink Co-Channel (dB)	28.3 n/a n/a
	C/I Uplink Adj. Sat. (SAT-1) (dB)	15.5 n/a n/a
	C/I Dnlink Adj. Sat. (SAT-1) (dB)	9.3 n/a n/a
	C/I Uplink Adj. Sat. (SAT-2) (dB)	15.5 n/a n/a
	C/I Dnlink Adj. Sat. (SAT-2) (dB)	14.1 n/a n/a
	C/(N+I) COMPOSITE (dB)	4.0 n/a n/a
	- Required System Margin (dB)	-1.0 n/a n/a
	Net C/(N+I) COMPOSITE (dB)	3.0 n/a n/a
	- Minimum Required C/N (dB)	-3.0 n/a n/a
	Excess Link Margin (dB)	0.0 n/a n/a
TRANSPONDER UTILIZATION	% BW/CARR: 0.28, % PWR/CARR: 0.38, Max No. Carriers: 264.5 Downlink EIRP per carrier toward beam center: 9.8 dBW	
TRANSMIT EARTH STATION	Loc: -4_dB_Gain_Contour ID: AZ: 0.0 Elev: 20.0 LAT: * LON: * ALT: 0.0m RainRate: 42.0mm/hr Carrier Power: 0.5 watts	
RECEIVE EARTH STA.	Loc: -6_dB_Gain_Contour ID: AZ: 0.0 Elev: 20.0 LAT: * LON: * ALT: 0.0m RainRate: 42.0mm/hr	
DENSITY INFORMATION	Uplink Pwr Den: -52.2 dBW/Hz, Dnlink EIRP Den: -39.0 dBW/Hz Max Dnlink PFD: -165.9 dB(W/m2/4kHz) @ Beam Center	
LOSS IN C/(N+I) DUE TO ADJ SAT INTF:	SAT-1 = 2.0dB, SAT-2 = 0.8dB	

ZONE-HEMI (36 MHz): 100KG7W
[Input Data]

----- SATELLITE -----

Satellite Name	: INTELSAT_702	Location (deg):	66.0E
Uplink Beam	: ZONE	Dnlink Beam	: HEMI
Trans. BW (MHz)	: 36 MHz	Trans. Type	: LTWTA
Uplink Pol.	:	Dnlink Pol.	:
Uplink Chan.	:	Dnlink Chan.	:
Uplink Frequency (GHz)	: 6.175	Dnlink Frequency (GHz)	: 3.950
G/T, beam center (dB/K)	: 1.0	EIRP, beam center (dBW)	: 37.5
G/T, beam edge (dB/K)	: -3.0	EIRP, beam edge (dBW)	: 31.5
G/T, toward Tx ES (dB/K)	: -3.0	EIRP, toward Rx ES (dBW)	: 31.5
SFD, beam edge (dBW/m2)	: -82.9		
SFD, toward Tx ES (dBW/m2)	: -82.9		

----- OPERATING CONDITIONS -----

Attenuator Setting (dB)	: 6	Nominal Uplink Co-Chan C/I (dB)	: 27.0
Input Backoff (dB)	: 8.2*	Nominal Dnlink Co-Chan C/I (dB)	: 27.0
Output Backoff (dB)	: *	Minimum Uplink Rain Margin (dB)	: 0.0
(C/Im) - Nominal (dB)	: *	Actual Uplink Rain Margin (dB)	: n/a
Min. System Margin (dB)	: 1.0	Uplink Power Control Margin (dB)	: 0
Max No Carriers / Trans:	*	Minimum Dnlink Rain Margin (dB)	: 0.0
		Actual Dnlink Rain Margin (dB)	: n/a
		Dnlink Pointing Error (dB)	: 0.5

-- ADJACENT SATELLITE INTERFERENCE ----- Sat. No. 1 ----- Sat. No. 2 -----

Interfering Satellite Name	:	SAT-1	SAT-2
Interfering Satellite Location (deg)	:	64E	68E
Uplink Interference (dB or dBW/Hz)	:	-38.7	-38.7
Uplink Polarization Advantage (dB)	:	0.0	0.0
Downlink Interference (dB or dBW/Hz)	:	-38	-38
Downlink Polarization Advantage (dB)	:	0.0	0.0
Rx E/S Topocentric Angle (deg)	:	2.09	2.09
Rx E/S Pointing Error (deg)	:	-0.31	0.31
Rx E/S Off-Axis Angle (deg)	:	1.78	2.40
Rx E/S Adj. Sat. Discrimination (dB)	:	16.3	21.1

----- CARRIER PARAMETERS -----

Modem Type	: CS701	C/N (operating, dB)	: 2.99
Modulation	: QPSK	Eb/No (operating, dB)	: 3.7
Code Rate	: 1/2x239/256-V	C/N (threshold, dB)	: 2.79
Info Rate (kbps)	: 64	Eb/No (threshold, dB)	: 3.5
Occupied Bandwidth (kHz)	: 75.4		
Allocated Bandwidth (kHz)	: 100		

----- Transmit Earth Station -----

Location: -4_dB_Gain_Contour
Latitude (deg): *
Longitude (deg): *
Rain Rate (mm/hr): 42*
E/S Type or Model No:
E/S Manufacturer : STANDARD
E/S Diam. (m): 7.0
E/S Freq (nom, GHz): 6.175
E/S Tx Gain (dBi): 51.0
ULPC Margin (dB): .0

----- Receive Earth Station -----

Location: -6_dB_Gain_Contour
Latitude (deg): *
Longitude (deg): *
Rain Rate (mm/hr): 42*
E/S Type or Model No:
E/S Manufacturer : STANDARD
E/S Diam. (m): 3.5
E/S Freq (nom, GHz): 3.95
E/S Gain (nom, dBi): 41.1
E/S Feed Loss (dB): 0.15
E/S Ant. Temp(deg K): 25
E/S LNA Temp (deg K): 65
E/S G/T (nom, dB/K): *

SATOPT5 (Version 5.68) (C) 2004 TEL/COM Sciences, Inc. All Rights Reserved.
6-Dec-08 8:50
PanAmSat, Customer Support Engineering.

SATELLITE DATA	Satellite : INTELSAT_702 Uplink Beam: ZONE Uplink POL: , Dnlink POL: , EIRP, beam center: 36.5 dBW G/T:-3.0 dB/K, SFD:-74.9 dBW/m2 Dnlink EIRP: 32.5 dBW	Location: 66.0E Dnlink Beam: ZONE
TRANSPONDER DATA	Trans Bandwidth :36 MHz Uplink Frequency:6.175 GHz IBO (Nominal) : 7.8 dB	Trans Type: LTWTA Dnlink Freq: 3.950 GHz OBO (Nominal): 2.2 dB
CARRIER DATA	Type: TV/FM, Format: PAL, PreEmphasis+Weighting: 15.6dB RF BW: 30.0 MHz, P-Dev: 9.0 MHz, VideoBW: 6.0 MHz,	
LINK BUDGET		
		CLR SKY UP FADE DN FADE
UPLINK PERFORMANCE	Earth Station EIRP (dBW)	80.2 n/a n/a
	- Uplink Path Loss, clear sky (dB)	-200.2 n/a n/a
	- Uplink Rain Attenuation (dB)	0.0 n/a n/a
	+ Satellite G/T (dB/K)	-3.0 n/a n/a
	- Boltzman's Constant (dBW/K-Hz)	228.6 n/a n/a
	- Carrier Noise Bandwidth (dB-Hz)	-74.8 n/a n/a
	C/N Uplink (dB)	30.8 n/a n/a
DOWNLINK PERFORMANCE	Satellite Saturation EIRP (dBW)	32.5 n/a n/a
	- Carrier Output Backoff (dB)	-2.2 n/a n/a
	Downlink EIRP per carrier (dBW)	30.3 n/a n/a
	- Earth Station Pointing Error (dB)	-0.5 n/a n/a
	- Downlink Path Loss, clear sky (dB)	-196.3 n/a n/a
	- Downlink Rain Attenuation (dB)	0.0 n/a n/a
	+ Earth Station G/T (dB/K)	26.6 n/a n/a
	- Boltzman's Constant (dBW/K-Hz)	228.6 n/a n/a
	- Carrier Noise Bandwidth (dB-Hz)	-74.8 n/a n/a
		C/N Dnlink (dB)
COMPOSITE PERFORMANCE	C/N Uplink (dB)	30.8 n/a n/a
	C/N Dnlink (dB)	13.9 n/a n/a
	C/I Uplink Co-channel (dB)	27.8 n/a n/a
	C/I Dnlink Co-channel (dB)	27.8 n/a n/a
	C/I Uplink Adj. Sat. (SAT-1) (dB)	22.1 n/a n/a
	C/I Dnlink Adj. Sat. (SAT-1) (dB)	18.7 n/a n/a
	C/I Uplink Adj. Sat. (SAT-2) (dB)	22.1 n/a n/a
	C/I Dnlink Adj. Sat. (SAT-2) (dB)	20.3 n/a n/a
	C/(N+I) COMPOSITE (dB)	11.0 n/a n/a
	- Required System Margin (dB)	-1.0 n/a n/a
	Net C/(N+I) COMPOSITE (dB)	10.0 n/a n/a
	- Minimum Required C/N (dB)	-10.0 n/a n/a
	Excess Link Margin (dB)	0.0 n/a n/a
	Video Signal-to-Noise Ratio (dB)	43.9 n/a n/a
	Audio Signal-to-Noise Ratio (dB)	57.7 n/a n/a
TRANSMIT EARTH STATION	Loc: -4_dB_Gain_Contour ID: AZ: 0.0 Elev: 20.0 LAT: * LON: * ALT: 0.0m RainRate: 42.0mm/hr Carrier Power: 301.9 watts	
RECEIVE EARTH STA.	Loc: -4_dB_Gain_Contour ID: AZ: 0.0 Elev: 20.0 LAT: * LON: * ALT: 0.0m RainRate: 42.0mm/hr	
DENSITY INFORMATION	Uplink Pwr Den: -50.0 dBW/Hz, Dnlink EIRP Den: -40.5 dBW/Hz Max Dnlink PFD: -167.4 dB(W/m2/4kHz) @ Beam Center	
LOSS IN C/(N+I) DUE TO ADJ SAT INTF: SAT-1 = 1.2dB, SAT-2 = 0.9dB		

ZONE-ZONE (36 MHz): 30MOF3F
[Input Data]

----- SATELLITE -----

Satellite Name	: INTELSAT_702	Location (deg)	: 66.0E
Uplink Beam	: ZONE	Dnlink Beam	: ZONE
Trans. BW (MHz)	: 36 MHz	Trans. Type	: LTWTA
Uplink Pol.	:	Dnlink Pol.	:
Uplink Chan.	:	Dnlink Chan.	:
Uplink Frequency (GHz)	: 6.175	Dnlink Frequency (GHz)	: 3.950
G/T, beam center (dB/K)	: 1.0	EIRP, beam center (dBW)	: 36.5
G/T, beam edge (dB/K)	: -3.0	EIRP, beam edge (dBW)	: 32.5
G/T, toward Tx ES (dB/K)	: -3.0	EIRP, toward Rx ES (dBW)	: 32.5
SFD, beam edge (dBW/m2)	: -74.9		
SFD, toward Tx ES (dBW/m2)	: -74.9		

----- OPERATING CONDITIONS -----

Attenuator Setting (dB)	: 14	Nominal Uplink Co-Chan C/I (dB)	: 27.0
Input Backoff (dB)	: 7.8	Nominal Dnlink Co-Chan C/I (dB)	: 27.0
Output Backoff (dB)	: *	Minimum Uplink Rain Margin (dB)	: 0.0
(C/Im) - Nominal (dB)	: *	Actual Uplink Rain Margin (dB)	: n/a
Min. System Margin (dB)	: 1.0	Uplink Power Control Margin (dB)	: 0
Max No Carriers / Trans	: 1	Minimum Dnlink Rain Margin (dB)	: 0.0
		Actual Dnlink Rain Margin (dB)	: n/a
		Dnlink Pointing Error (dB)	: 0.5

-- ADJACENT SATELLITE INTERFERENCE ----- Sat. No. 1 ----- Sat. No. 2 -----

Interfering Satellite Name	:	SAT-1	SAT-2
Interfering Satellite Location (deg)	:	64E	68E
Uplink Interference (dB or dBW/Hz)	:	-38.7	-38.7
Uplink Polarization Advantage (dB)	:	0.0	0.0
Downlink Interference (dB or dBW/Hz)	:	-38	-38
Downlink Polarization Advantage (dB)	:	0.0	0.0
Rx E/S Topocentric Angle (deg)	:	2.09	2.09
Rx E/S Pointing Error (deg)	:	-0.15	0.15
Rx E/S Off-Axis Angle (deg)	:	1.94	2.24
Rx E/S Adj. Sat. Discrimination (dB)	:	25.2	26.8

----- TV/FM CARRIER PARAMETERS -----

Video Format	: PAL	Peak Deviation (MHz)	: 9.0
RF Noise BW (MHz)	: 30.0	PreEmphasis+Weighting (dB)	: 15.6
Video BW (MHz)	: 6.0	Threshold C/N (dB)	: 10.0

----- AUDIO SUB-CARRIER PARAMETERS -----

Sub-Carrier Freq (MHz)	: 6.6	Highest Audio Freq (kHz)	: 15.0
P-Dev of Video by Audio (MHz)	: 2.0	Companding Advantage (dB)	: 0.0
Peak Dev of Audio (kHz)	: 75.0		

----- Transmit Earth Station -----

Location: -4_dB_Gain_Contour
Latitude (deg): *
Longitude (deg): *
Rain Rate (mm/hr): 42*
E/S Type or Model No:
E/S Manufacturer : STANDARD
E/S Diam. (m): 11.0
E/S Freq (nom, GHz): 6.175
E/S Tx Gain (dBi): 55.4
ULPC Margin (dB): .0

----- Receive Earth Station -----

Location: -4_dB_Gain_Contour
Latitude (deg): *
Longitude (deg): *
Rain Rate (mm/hr): 42*
E/S Type or Model No:
E/S Manufacturer : STANDARD
E/S Diam. (m): 7.0
E/S Freq (nom, GHz): 3.95
E/S Gain (nom, dBi): 47.5
E/S Feed Loss (dB): 0.15
E/S Ant. Temp (deg K): 45
E/S LNA Temp (deg K): 65
E/S G/T (nom, dB/K): *

SATOPT5 (Version 5.68) (C) 2004 TEL/COM Sciences, Inc. All Rights Reserved.
6-Dec-08 9:11
PanAmSat, Customer Support Engineering.

SATELLITE DATA	Satellite : INTELSAT_702 Uplink Beam: ZONE Uplink POL: , Dnlink POL: , EIRP, beam center: 36.5 dBW G/T:-3.0 dB/K, SFD:-87.9 dBW/m2	Location: 66.0E Dnlink Beam: ZONE Dnlink EIRP: 32.5 dBW
TRANSPONDER DATA	Trans Bandwidth :36 MHz Uplink Frequency:6.175 GHz IBO (Nominal) : 0.0 dB	Trans Type: LTWTA Dnlink Freq: 3.950 GHz OBO (Nominal): 0.0 dB
CARRIER DATA	Type: NTC26%, Info Rate: 24575 kbps, Mod: QPSK, 1/2x188/204 BWo: 30133kHz, BWa: 36000kHz, C/N: 3.36dB, C/N_thresh: 3.36	
LINK BUDGET		
		CLR SKY UP FADE DN FADE
UPLINK PERFORMANCE	Earth Station EIRP (dBW)	75.0 n/a n/a
	- Uplink Path Loss, clear sky (dB)	-200.2 n/a n/a
	- Uplink Rain Attenuation (dB)	0.0 n/a n/a
	+ Satellite G/T (dB/K)	-3.0 n/a n/a
	- Boltzman's Constant (dBW/K-Hz)	228.6 n/a n/a
	- Carrier Noise Bandwidth (dB-Hz)	-74.8 n/a n/a
	C/N Uplink (dB)	25.6 n/a n/a
DOWNLINK PERFORMANCE	Satellite Saturation EIRP (dBW)	32.5 n/a n/a
	- Carrier Output Backoff (dB)	0.0 n/a n/a
	Downlink EIRP per carrier (dBW)	32.5 n/a n/a
	- Earth Station Pointing Error (dB)	-0.5 n/a n/a
	- Downlink Path Loss, clear sky (dB)	-196.3 n/a n/a
	- Downlink Rain Attenuation (dB)	0.0 n/a n/a
	+ Earth Station G/T (dB/K)	21.0 n/a n/a
	- Boltzman's Constant (dBW/K-Hz)	228.6 n/a n/a
	- Carrier Noise Bandwidth (dB-Hz)	-74.8 n/a n/a
	C/N Dnlink (dB)	10.5 n/a n/a
COMPOSITE PERFORMANCE	C/N Uplink (dB)	25.6 n/a n/a
	C/N Dnlink (dB)	10.5 n/a n/a
	C/I Uplink Co-channel (dB)	27.0 n/a n/a
	C/I Dnlink Co-Channel (dB)	27.0 n/a n/a
	C/I Uplink Adj. Sat. (SAT-1) (dB)	16.9 n/a n/a
	C/I Dnlink Adj. Sat. (SAT-1) (dB)	12.0 n/a n/a
	C/I Uplink Adj. Sat. (SAT-2) (dB)	16.9 n/a n/a
	C/I Dnlink Adj. Sat. (SAT-2) (dB)	16.8 n/a n/a
	C/(N+I) COMPOSITE (dB)	6.6 n/a n/a
	- Required System Margin (dB)	-1.0 n/a n/a
	Net C/(N+I) COMPOSITE (dB)	5.6 n/a n/a
	- Minimum Required C/N (dB)	-3.4 n/a n/a
	Excess Link Margin (dB)	2.2 n/a n/a
TRANSPONDER UTILIZATION	% BW/CARR: 100.00, % PWR/CARR: 100.00, Max No. Carriers: 1.0 Downlink EIRP per carrier toward beam center: 36.5 dBW	
TRANSMIT EARTH STATION	Loc: -4 dB Gain Contour ID: AZ: 0.0 Elev: 20.0 LAT: * LON: * ALT: 0.0m RainRate: 42.0mm/hr Carrier Power: 251.1 watts	
RECEIVE EARTH STA.	Loc: -4 dB Gain Contour ID: AZ: 0.0 Elev: 20.0 LAT: * LON: * ALT: 0.0m RainRate: 42.0mm/hr	
DENSITY INFORMATION	Uplink Pwr Den: -50.8 dBW/Hz, Dnlink EIRP Den: -38.3 dBW/Hz Max Dnlink PFD: -165.2 dB(W/m2/4kHz) @ Beam Center	
LOSS IN C/(N+I) DUE TO ADJ SAT INTF:	SAT-1 = 2.0dB, SAT-2 = 0.9dB	

ZONE-ZONE (36 MHz): 36M0G7W
[Input Data]

----- SATELLITE -----

Satellite Name	: INTELSAT_702	Location (deg)	: 66.0E
Uplink Beam	: ZONE	Dnlink Beam	: ZONE
Trans. BW (MHz)	: 36 MHz	Trans. Type	: LTWTA
Uplink Pol.	:	Dnlink Pol.	:
Uplink Chan.	:	Dnlink Chan.	:
Uplink Frequency (GHz)	: 6.175	Dnlink Frequency (GHz)	: 3.950
G/T, beam center (dB/K)	: 1.0	EIRP, beam center (dBW)	: 36.5
G/T, beam edge (dB/K)	: -3.0	EIRP, beam edge (dBW)	: 32.5
G/T, toward Tx ES (dB/K)	: -3.0	EIRP, toward Rx ES (dBW)	: 32.5
SFD, beam edge (dBW/m2)	: -87.9		
SFD, toward Tx ES (dBW/m2)	: -87.9		

----- OPERATING CONDITIONS -----

Attenuator Setting (dB)	: 1	Nominal Uplink Co-Chan C/I (dB)	: 27.0
Input Backoff (dB)	: 0.0	Nominal Dnlink Co-Chan C/I (dB)	: 27.0
Output Backoff (dB)	: *	Minimum Uplink Rain Margin (dB)	: 0.0
(C/Im) - Nominal (dB)	: *	Actual Uplink Rain Margin (dB)	: n/a
Min. System Margin (dB)	: 1.0	Uplink Power Control Margin (dB)	: .0
Max No Carriers / Trans	: 1	Minimum Dnlink Rain Margin (dB)	: 0.0
		Actual Dnlink Rain Margin (dB)	: n/a
		Dnlink Pointing Error (dB)	: 0.5

-- ADJACENT SATELLITE INTERFERENCE ----- Sat. No. 1 ----- Sat. No. 2 -----

Interfering Satellite Name	:	SAT-1	SAT-2
Interfering Satellite Location (deg)	:	64E	68E
Uplink Interference (dB or dBW/Hz)	:	-38.7	-38.7
Uplink Polarization Advantage (dB)	:	0.0	0.0
Downlink Interference (dB or dBW/Hz)	:	-38	-38
Downlink Polarization Advantage (dB)	:	0.0	0.0
Rx E/S Topocentric Angle (deg)	:	2.09	2.09
Rx E/S Pointing Error (deg)	:	-0.31	0.31
Rx E/S Off-Axis Angle (deg)	:	1.78	2.40
Rx E/S Adj. Sat. Discrimination (dB)	:	16.3	21.1

----- CARRIER PARAMETERS -----

Modem Type	: NTC26%	C/N (operating, dB)	: 3.36
Modulation	: QPSK	Eb/No (operating, dB)	: 4.2
Code Rate	: 1/2x188/204-V	C/N (threshold, dB)	: 3.36
Info Rate (kbps)	: 24575	Eb/No (threshold, dB)	: 4.2
Occupied Bandwidth (kHz)	: 30133		
Allocated Bandwidth (kHz)	: 36000		

----- Transmit Earth Station -----

----- Receive Earth Station -----

Location: -4_dB_Gain_Contour	Latitude (deg): *	Longitude (deg): *	Rain Rate (mm/hr): 42*	E/S Type or Model No:	E/S Manufacturer : STANDARD	E/S Diam. (m): 7.0	E/S Freq (nom, GHz): 6.175	E/S Tx Gain (dBi): 51.0	ULPC Margin (dB): .0
Location: -4_dB_Gain_Contour	Latitude (deg): *	Longitude (deg): *	Rain Rate (mm/hr): 42*	E/S Type or Model No:	E/S Manufacturer : STANDARD	E/S Diam. (m): 3.5	E/S Freq (nom, GHz): 3.95	E/S Gain (nom, dBi): 41.1	E/S Feed Loss (dB): 0.15
				E/S Ant. Temp(deg K): 25	E/S LNA Temp (deg K): 65	E/S G/T (nom, dB/K): *			

SATOPT5 (Version 5.68) (C) 2004 TEL/COM Sciences, Inc. All Rights Reserved.
6-Dec-08 9:03

PanAmSat, Customer Support Engineering.

SATELLITE DATA	Satellite : INTELSAT_702 Uplink Beam: ZONE Uplink POL: , Dnlink POL: , EIRP, beam center: 36.5 dBW G/T:-3.0 dB/K, SFD:-85.9 dBW/m2 Dnlink EIRP: 32.5 dBW	Location: 66.0E Dnlink Beam: ZONE
TRANSPONDER DATA	Trans Bandwidth :36 MHz Uplink Frequency:6.175 GHz IBO (Nominal) : 8.2 dB	Trans Type: LTWTA Dnlink Freq: 3.950 GHz OBO (Nominal): 3.5 dB
CARRIER DATA	Type: EF9000, Info Rate: 6000 kbps, Mod: QPSK, 1/2x188/204- Bwo: 6771.1kHz, Bwa: 10300kHz, C/N: 3.87dB, C/N_thresh: 3.5	
LINK BUDGET		
UPLINK PERFORMANCE	Earth Station EIRP (dBW) - Uplink Path Loss, clear sky (dB) - Uplink Rain Attenuation (dB) + Satellite G/T (dB/K) - Boltzman's Constant (dBW/K-Hz) - Carrier Noise Bandwidth (dB-Hz) C/N Uplink (dB)	CLR SKY UP FADE DN FADE 64.9 n/a n/a -200.2 n/a n/a 0.0 n/a n/a -3.0 n/a n/a 228.6 n/a n/a -68.3 n/a n/a 22.0 n/a n/a
DOWNLINK PERFORMANCE	Satellite Saturation EIRP (dBW) - Carrier Output Backoff (dB) Downlink EIRP per carrier (dBW) - Earth Station Pointing Error (dB) - Downlink Path Loss, clear sky (dB) - Downlink Rain Attenuation (dB) + Earth Station G/T (dB/K) - Boltzman's Constant (dBW/K-Hz) - Carrier Noise Bandwidth (dB-Hz) C/N Dnlink (dB)	32.5 n/a n/a -7.4 n/a n/a 25.1 n/a n/a -0.5 n/a n/a -196.3 n/a n/a 0.0 n/a n/a 21.0 n/a n/a 228.6 n/a n/a -68.3 n/a n/a 9.6 n/a n/a
COMPOSITE PERFORMANCE	C/N Uplink (dB) C/N Dnlink (dB) C/I Intermod (dB) C/I Uplink Co-channel (dB) C/I Dnlink Co-channel (dB) C/I Uplink Adj. Sat. (SAT-1) (dB) C/I Dnlink Adj. Sat. (SAT-1) (dB) C/I Uplink Adj. Sat. (SAT-2) (dB) C/I Dnlink Adj. Sat. (SAT-2) (dB) C/(N+I) COMPOSITE (dB) - Required System Margin (dB) Net C/(N+I) COMPOSITE (dB) - Minimum Required C/N (dB) Excess Link Margin (dB)	22.0 n/a n/a 9.6 n/a n/a 20.0 n/a n/a 28.6 n/a n/a 28.6 n/a n/a 13.3 n/a n/a 11.1 n/a n/a 13.3 n/a n/a 15.9 n/a n/a 4.9 n/a n/a -1.0 n/a n/a 3.9 n/a n/a -3.9 n/a n/a 0.0 n/a n/a
TRANSPONDER UTILIZATION	% BW/CARR: 28.61, % PWR/CARR: 40.92, Max No. Carriers: 2.4 Downlink EIRP per carrier toward beam center: 29.1 dBW	
TRANSMIT EARTH STATION	Loc: -4 dB Gain Contour ID: AZ: 0.0 Elev: 20.0 LAT: * LON: * ALT: 0.0m RainRate: 42.0mm/hr Carrier Power: 24.6 watts	
RECEIVE EARTH STA.	Loc: -4 dB Gain Contour ID: AZ: 0.0 Elev: 20.0 LAT: * LON: * ALT: 0.0m RainRate: 42.0mm/hr	
DENSITY INFORMATION	Uplink Pwr Den: -54.4 dBW/Hz, Dnlink EIRP Den: -39.2 dBW/Hz Max Dnlink PFD: -166.1 dB(W/m2/4kHz) @ Beam Center	
LOSS IN C/(N+I) DUE TO ADJ SAT INTF: SAT-1 = 2.1dB, SAT-2 = 1.1dB		

ZONE-ZONE (36 MHz): 10M3G7W
[Input Data]

----- SATELLITE -----

Satellite Name	: INTELSAT_702	Location (deg)	: 66.0E
Uplink Beam	: ZONE	Dnlink Beam	: ZONE
Trans. BW (MHz)	: 36 MHz	Trans. Type	: LTWTA
Uplink Pol.	:	Dnlink Pol.	:
Uplink Chan.	:	Dnlink Chan.	:
Uplink Frequency (GHz)	: 6.175	Dnlink Frequency (GHz)	: 3.950
G/T, beam center (dB/K)	: 1.0	EIRP, beam center (dBW)	: 36.5
G/T, beam edge (dB/K)	: -3.0	EIRP, beam edge (dBW)	: 32.5
G/T, toward Tx ES (dB/K)	: -3.0	EIRP, toward Rx ES (dBW)	: 32.5
SFD, beam edge (dBW/m2)	: -85.9		
SFD, toward Tx ES (dBW/m2)	: -85.9		

----- OPERATING CONDITIONS -----

Attenuator Setting (dB)	: 3	Nominal Uplink Co-Chan C/I (dB)	: 27.0
Input Backoff (dB)	: 8.2*	Nominal Dnlink Co-Chan C/I (dB)	: 27.0
Output Backoff (dB)	: *	Minimum Uplink Rain Margin (dB)	: 0.0
(C/Im) - Nominal (dB)	: *	Actual Uplink Rain Margin (dB)	: n/a
Min. System Margin (dB)	: -1.0	Uplink Power Control Margin (dB)	: .0
Max No Carriers / Trans:	: *	Minimum Dnlink Rain Margin (dB)	: 0.0
		Actual Dnlink Rain Margin (dB)	: n/a
		Dnlink Pointing Error (dB)	: 0.5

-- ADJACENT SATELLITE INTERFERENCE ----- Sat. No. 1 ----- Sat. No. 2 -----

Interfering Satellite Name	:	SAT-1	SAT-2
Interfering Satellite Location (deg)	:	64E	68E
Uplink Interference (dB or dBW/Hz)	:	-38.7	-38.7
Uplink Polarization Advantage (dB)	:	0.0	0.0
Downlink Interference (dB or dBW/Hz)	:	-38	-38
Downlink Polarization Advantage (dB)	:	0.0	0.0
Rx E/S Topocentric Angle (deg)	:	2.09	2.09
Rx E/S Pointing Error (deg)	:	-0.31	0.31
Rx E/S Off-Axis Angle (deg)	:	1.78	2.40
Rx E/S Adj. Sat. Discrimination (dB)	:	16.3	21.1

----- CARRIER PARAMETERS -----

Modem Type	: EF9000	C/N (operating, dB)	: 3.87
Modulation	: QPSK	Eb/No (operating, dB)	: 4.4
Code Rate	: 1/2x188/204-V	C/N (threshold, dB)	: 3.57
Info Rate (kbps)	: 6000	Eb/No (threshold, dB)	: 4.1
Occupied Bandwidth (kHz)	: 6771.1		
Allocated Bandwidth (kHz)	: 10300		

----- Transmit Earth Station -----

Location: -4_dB_Gain_Contour
Latitude (deg): *
Longitude (deg): *
Rain Rate (mm/hr): 42*
E/S Type or Model No:
E/S Manufacturer : STANDARD
E/S Diam. (m): 7.0
E/S Freq (nom, GHz): 6.175
E/S Tx Gain (dBi): 51.0
ULPC Margin (dB): .0

----- Receive Earth Station -----

Location: -4_dB_Gain_Contour
Latitude (deg): *
Longitude (deg): *
Rain Rate (mm/hr): 42*
E/S Type or Model No:
E/S Manufacturer : STANDARD
E/S Diam. (m): 3.5
E/S Freq (nom, GHz): 3.95
E/S Gain (nom, dBi): 41.1
E/S Feed Loss (dB): 0.15
E/S Ant. Temp (deg K): 25
E/S LNA Temp (deg K): 65
E/S G/T (nom, dB/K): *

SATOPT5 (Version 5.68) (C) 2004 TEL/COM Sciences, Inc. All Rights Reserved.
6-Dec-08 9:07
PanAmSat, Customer Support Engineering.

SATELLITE DATA	Satellite : INTELSAT_702 Uplink Beam: ZONE Uplink POL: , Dnlink POL: , EIRP, beam center: 36.5 dBW G/T:-3.0 dB/K, SFD:-85.9 dBW/m2 Dnlink EIRP: 32.5 dBW	Location: 66.0E Dnlink Beam: ZONE
TRANSPONDER DATA	Trans Bandwidth :36 MHz Uplink Frequency:6.175 GHz IBO (Nominal) : 8.2 dB	Trans Type: LTTWA Dnlink Freq: 3.950 GHz OBO (Nominal): 3.5 dB
CARRIER DATA	Type: CS701, Info Rate: 64 kbps, Mod: QPSK, 1/2x239/256-V BWo: 75.4kHz, Bwa: 100kHz, C/N: 2.99dB, C/N_thresh: 2.79dB	
LINK BUDGET		
		CLR SKY UP FADE DN FADE
UPLINK PERFORMANCE	Earth Station EIRP (dBW)	44.5 n/a n/a
	- Uplink Path Loss, clear sky (dB)	-200.2 n/a n/a
	- Uplink Rain Attenuation (dB)	0.0 n/a n/a
	+ Satellite G/T (dB/K)	-3.0 n/a n/a
	- Boltzman's Constant (dBW/K-Hz)	228.6 n/a n/a
	- Carrier Noise Bandwidth (dB-Hz)	-48.8 n/a n/a
	C/N Uplink (dB)	21.1 n/a n/a
DOWNLINK PERFORMANCE	Satellite Saturation EIRP (dBW)	32.5 n/a n/a
	- Carrier Output Backoff (dB)	-27.8 n/a n/a
	Downlink EIRP per carrier (dBW)	4.7 n/a n/a
	- Earth Station Pointing Error (dB)	-0.5 n/a n/a
	- Downlink Path Loss, clear sky (dB)	-196.3 n/a n/a
	- Downlink Rain Attenuation (dB)	0.0 n/a n/a
	+ Earth Station G/T (dB/K)	21.0 n/a n/a
	- Boltzman's Constant (dBW/K-Hz)	228.6 n/a n/a
	- Carrier Noise Bandwidth (dB-Hz)	-48.8 n/a n/a
	C/N Dnlink (dB)	8.7 n/a n/a
COMPOSITE PERFORMANCE	C/N Uplink (dB)	21.1 n/a n/a
	C/N Dnlink (dB)	8.7 n/a n/a
	C/I Intermod (dB)	19.1 n/a n/a
	C/I Uplink Co-channel (dB)	28.3 n/a n/a
	C/I Dnlink Co-channel (dB)	28.3 n/a n/a
	C/I Uplink Adj. Sat. (SAT-1) (dB)	12.4 n/a n/a
	C/I Dnlink Adj. Sat. (SAT-1) (dB)	10.2 n/a n/a
	C/I Uplink Adj. Sat. (SAT-2) (dB)	12.4 n/a n/a
	C/I Dnlink Adj. Sat. (SAT-2) (dB)	15.0 n/a n/a
	C/(N+I) COMPOSITE (dB)	4.0 n/a n/a
	- Required System Margin (dB)	-1.0 n/a n/a
	Net C/(N+I) COMPOSITE (dB)	3.0 n/a n/a
	- Minimum Required C/N (dB)	-3.0 n/a n/a
	Excess Link Margin (dB)	0.0 n/a n/a
TRANSPONDER UTILIZATION	% BW/CARR: 0.28, % PWR/CARR: 0.37, Max No. Carriers: 269.1 Downlink EIRP per carrier toward beam center: 8.7 dBW	
TRANSMIT EARTH STATION	Loc: -4 dB Gain Contour ID: AZ: 0.0 Elev: 20.0 LAT: * LON: * ALT: 0.0m RainRate: 42.0mm/hr Carrier Power: 0.2 watts	
RECEIVE EARTH STA.	Loc: -4 dB Gain Contour ID: AZ: 0.0 Elev: 20.0 LAT: * LON: * ALT: 0.0m RainRate: 42.0mm/hr	
DENSITY INFORMATION	Uplink Pwr Den: -55.3 dBW/Hz, Dnlink EIRP Den: -40.1 dBW/Hz Max Dnlink PFD: -167.0 dB(W/m2/4kHz) @ Beam Center	
LOSS IN C/(N+I) DUE TO ADJ SAT INTF:	SAT-1 = 2.1dB, SAT-2 = 1.1dB	

ZONE-ZONE (36 MHz): 100KG7W
[Input Data]

----- SATELLITE -----

Satellite Name	: INTELSAT_702	Location (deg)	: 66.0E
Uplink Beam	: ZONE	Dnlink Beam	: ZONE
Trans. BW (MHz)	: 36 MHz	Trans. Type	: LTWTA
Uplink Pol.	:	Dnlink Pol.	:
Uplink Chan.	:	Dnlink Chan.	:
Uplink Frequency (GHz)	: 6.175	Dnlink Frequency (GHz)	: 3.950
G/T, beam center (dB/K)	: 1.0	EIRP, beam center (dBW)	: 36.5
G/T, beam edge (dB/K)	: -3.0	EIRP, beam edge (dBW)	: 32.5
G/T, toward Tx ES (dB/K)	: -3.0	EIRE, toward Rx ES (dBW)	: 32.5
SFD, beam edge (dBW/m2)	: -85.9		
SFD, toward Tx ES (dBW/m2)	: -85.9		

----- OPERATING CONDITIONS -----

Attenuator Setting (dB)	: 3	Nominal Uplink Co-Chan C/I (dB)	: 27.0
Input Backoff (dB)	: 8.2*	Nominal Dnlink Co-Chan C/I (dB)	: 27.0
Output Backoff (dB)	: *	Minimum Uplink Rain Margin (dB)	: 0.0
(C/Im) - Nominal (dB)	: *	Actual Uplink Rain Margin (dB)	: n/a
Min. System Margin (dB)	: 1.0	Uplink Power Control Margin (dB)	: 0.0
Max No Carriers / Trans:	: *	Minimum Dnlink Rain Margin (dB)	: 0.0
		Actual Dnlink Rain Margin (dB)	: n/a
		Dnlink Pointing Error (dB)	: 0.5

--- ADJACENT SATELLITE INTERFERENCE ----- Sat. No. 1 ----- Sat. No. 2 -----

Interfering Satellite Name	:	SAT-1	SAT-2
Interfering Satellite Location (deg)	:	64E	68E
Uplink Interference (dB or dBW/Hz)	:	-38.7	-38.7
Uplink Polarization Advantage (dB)	:	0.0	0.0
Downlink Interference (dB or dBW/Hz)	:	-38	-38
Downlink Polarization Advantage (dB)	:	0.0	0.0
Rx E/S Topocentric Angle (deg)	:	2.09	2.09
Rx E/S Pointing Error (deg)	:	-0.31	0.31
Rx E/S Off-Axis Angle (deg)	:	1.78	2.40
Rx E/S Adj. Sat. Discrimination (dB)	:	16.3	21.1

----- CARRIER PARAMETERS -----

Modem Type	: CS701	C/N (operating, dB)	: 2.99
Modulation	: QPSK	Eb/No (operating, dB)	: 3.7
Code Rate	: 1/2x239/256-V	C/N (threshold, dB)	: 2.79
Info Rate (kbps)	: 64	Eb/No (threshold, dB)	: 3.5
Occupied Bandwidth (kHz)	: 75.4		
Allocated Bandwidth (kHz)	: 100		

----- Transmit Earth Station -----

Location: -4_dB_Gain_Contour
Latitude (deg): *
Longitude (deg): *
Rain Rate (mm/hr): 42*
E/S Type or Model No:
E/S Manufacturer : STANDARD
E/S Diam. (m): 7.0
E/S Freq (nom, GHz): 6.175
E/S Tx Gain (dBi): 51.0
ULPC Margin (dB): .0

----- Receive Earth Station -----

Location: -4_dB_Gain_Contour
Latitude (deg): *
Longitude (deg): *
Rain Rate (mm/hr): 42*
E/S Type or Model No:
E/S Manufacturer : STANDARD
E/S Diam. (m): 3.5
E/S Freq (nom, GHz): 3.95
E/S Gain (nom, dBi): 41.1
E/S Feed Loss (dB): 0.15
E/S Ant. Temp(deg K): 25
E/S LNA Temp (deg K): 65
E/S G/T (nom, dB/K): *

SATOPT5 (Version 5.68) (C) 2004 TEL/COM Sciences, Inc. All Rights Reserved.
6-Dec-08 9:08
PanAmSat, Customer Support Engineering.

SATELLITE DATA	Satellite : INTELSAT_702 Uplink Beam: ZONE Uplink POL: , Dnlink POL: , EIRP, beam center: 47.2 dBW G/T:-3.0 dB/K, SFD:-74.9 dBW/m2 Dnlink EIRP: 43.2 dBW	Location: 66.0E Dnlink Beam: KSPOT
TRANSPONDER DATA	Trans Bandwidth :77.0 MHz Uplink Frequency:6.175 GHz IBO (Nominal) : 8.3 dB	Trans Type: LTWTA Dnlink Freq: 11.950 GHz OBO (Nominal): 3.2 dB
CARRIER DATA	Type: TV/FM, Format: PAL, PreEmphasis+Weighting: 15.6dB RF BW: 30.0 MHz, P-Dev: 9.0 MHz, VideoBW: 6.0 MHz,	
LINK BUDGET		
		CLR SKY UP FADE DN FADE
UPLINK PERFORMANCE	Earth Station EIRP (dBW)	76.5 76.5 76.5
	- Uplink Path Loss, clear sky (dB)	-200.2 -200.2 -200.2
	- Uplink Rain Attenuation (dB)	0.0 -1.5 0.0
	+ Satellite G/T (dB/K)	-3.0 -3.0 -3.0
	- Boltzman's Constant (dBW/K-Hz)	228.6 228.6 228.6
	- Carrier Noise Bandwidth (dB-Hz)	-74.8 -74.8 -74.8
	C/N Uplink (dB)	27.1 25.6 27.1
DOWNLINK PERFORMANCE	Satellite Saturation EIRP (dBW)	43.2 43.2 43.2
	- Carrier Output Backoff (dB)	-6.4 -7.7 -6.4
	Downlink EIRP per carrier (dBW)	36.8 35.5 36.8
	- Earth Station Pointing Error (dB)	-.5 -.5 -.5
	- Downlink Path Loss, clear sky (dB)	-205.9 -205.9 -205.9
	- Downlink Rain Attenuation (dB)	0.0 0.0 -1.6
	+ Earth Station G/T (dB/K)	33.1 33.1 31.4
	- Boltzman's Constant (dBW/K-Hz)	228.6 228.6 228.6
	- Carrier Noise Bandwidth (dB-Hz)	-74.8 -74.8 -74.8
		C/N Dnlink (dB)
COMPOSITE PERFORMANCE	C/N Uplink (dB)	27.1 25.6 27.1
	C/N Dnlink (dB)	17.3 16.0 13.9
	C/I Uplink Co-channel (dB)	27.9 26.5 27.9
	C/I Dnlink Co-Channel (dB)	27.9 26.7 27.9
	C/I Uplink Adj. Sat. (SAT-1) (dB)	18.4 16.9 18.4
	C/I Dnlink Adj. Sat. (SAT-1) (dB)	25.7 24.4 25.7
	C/I Uplink Adj. Sat. (SAT-2) (dB)	18.4 16.9 18.4
	C/I Dnlink Adj. Sat. (SAT-2) (dB)	26.3 25.1 26.3
	C/(N+I) COMPOSITE (dB)	12.4 11.0 11.0
	- Required System Margin (dB)	-1.0 -1.0 -1.0
COMPOSITE PERFORMANCE	Net C/(N+I) COMPOSITE (dB)	11.4 10.0 10.0
	- Minimum Required C/N (dB)	-10.0 -10.0 -10.0
	Excess Link Margin (dB)	1.4 0.0 0.0
	Video Signal-to-Noise Ratio (dB)	45.3 43.9 43.9
	Audio Signal-to-Noise Ratio (dB)	59.1 57.7 57.7
TRANSMIT EARTH STATION	Loc: -4_dB_Gain_Contour ID: AZ: 0.0 Elev: 20.0 LAT: * LON: * ALT: 0.0m RainRate: 42.0mm/hr Carrier Power: 199.0 watts	
RECEIVE EARTH STA.	Loc: -4_dB_Gain_Contour ID: AZ: 0.0 Elev: 20.0 LAT: * LON: * ALT: 0.0m RainRate: 42.0mm/hr	
DENSITY INFORMATION	Uplink Pwr Den: -51.8 dBW/Hz, Dnlink EIRP Den: -34.0 dBW/Hz Max Dnlink PFD: -160.9 dB(W/m2/4kHz) @ Beam Center	
AVAILABILITY	Uplink: 99.983 %, Dnlink: 99.553 %, Composite Link: 99.537	
LOSS IN C/(N+I) DUE TO ADJ SAT INTF:	SAT-1 = 1.5dB, SAT-2 = 1.5dB	

ZONE-KSPOT (77 MHz): 30MOF3F
[Input Data]

----- SATELLITE -----

Satellite Name	: INTELSAT_702	Location (deg)	: 66.0E
Uplink Beam	: ZONE	Dnlink Beam	: KSPOT
Trans. BW (MHz)	: 77.0 MHz	Trans. Type	: LTWTA
Uplink Pol.	:	Dnlink Pol.	:
Uplink Chan.	:	Dnlink Chan.	:
Uplink Frequency (GHz)	: 6.175	Dnlink Frequency (GHz)	: 11.950
G/T, beam center (dB/K)	: 1.0	EIRP, beam center (dBW)	: 47.2
G/T, beam edge (dB/K)	: -3.0	EIRP, beam edge (dBW)	: 43.2
G/T, toward Tx ES (dB/K)	: -3.0	EIRP, toward Rx ES (dBW)	: 43.2
SFD, beam edge (dBW/m2)	: -74.9		
SFD, toward Tx ES (dBW/m2)	: -74.9		

----- OPERATING CONDITIONS -----

Attenuator Setting (dB)	: 14	Nominal Uplink Co-Chan C/I (dB)	: 27.0
Input Backoff (dB)	: 8.2*, 8.34	Nominal Dnlink Co-Chan C/I (dB)	: 27.0
Output Backoff (dB)	: *	Minimum Uplink Rain Margin (dB)	: 0.5*
(C/Im) - Nominal (dB)	: *	Actual Uplink Rain Margin (dB)	: 1.5
Min. System Margin (dB)	: 1.0	Uplink Power Control Margin (dB)	: .0
Max No Carriers / Trans	: 2	Minimum Dnlink Rain Margin (dB)	: 0.5*
Required Link Availability	: 99.5	Actual Dnlink Rain Margin (dB)	: 3.3
		Dnlink Pointing Error (dB)	: 0.5

----- ADJACENT SATELLITE INTERFERENCE ----- Sat. No. 1 ----- Sat. No. 2 -----

Interfering Satellite Name	:	SAT-1	SAT-2
Interfering Satellite Location (deg)	:	64.0E	68.0E
Uplink Interference (dB or dBW/Hz)	:	-38.7	-38.7
Uplink Polarization Advantage (dB)	:	0.0	0.0
Downlink Interference (dB or dBW/Hz)	:	-30	-30
Downlink Polarization Advantage (dB)	:	0.0	0.0
Rx E/S Topocentric Angle (deg)	:	2.09	2.09
Rx E/S Pointing Error (deg)	:	-0.06	0.06
Rx E/S Off-Axis Angle (deg)	:	2.03	2.15
Rx E/S Adj. Sat. Discrimination (dB)	:	33.7	34.3

----- TV/FM CARRIER PARAMETERS -----

Video Format	: PAL	Peak Deviation (MHz)	: 9.0
RF Noise BW (MHz)	: 30.0	PreEmphasis+Weighting (dB)	: 15.6
Video BW (MHz)	: 6.0	Threshold C/N (dB)	: 10.0

----- AUDIO SUB-CARRIER PARAMETERS -----

Sub-Carrier Freq (MHz)	: 6.6	Highest Audio Freq (kHz)	: 15.0
P-Dev of Video by Audio (MHz)	: 2.0	Companding Advantage (dB)	: 0.0
Peak Dev of Audio (kHz)	: 75.0		

----- Transmit Earth Station -----

Location: -4_dB_Gain_Contour
Latitude (deg): *
Longitude (deg): *
Rain Rate (mm/hr): 42*
E/S Type or Model No:
E/S Manufacturer : STANDARD
E/S Diam. (m): 9.2
E/S Freq (nom, GHz): 6.175
E/S Tx Gain (dBi): 53.5
ULPC Margin (dB): .0

----- Receive Earth Station -----

Location: -4_dB_Gain_Contour
Latitude (deg): *
Longitude (deg): *
Rain Rate (mm/hr): 42*
E/S Type or Model No:
E/S Manufacturer : STANDARD
E/S Diam. (m): 6.1
E/S Freq (nom, GHz): 11.95
E/S Gain (nom, dBi): 55.5
E/S Feed Loss (dB): 0.25
E/S Ant. Temp (deg K): 40
E/S LNA Temp (deg K): 110
E/S G/T (nom, dB/K): *

SATOPT5 (Version 5.68) (C) 2004 TEL/COM Sciences, Inc. All Rights Reserved.
6-Dec-08 11:16
PanAmSat, Customer Support Engineering.

SATELLITE DATA	Satellite : INTELSAT_702 Uplink Beam: ZONE Uplink POL: , Dnlink POL: , EIRP, beam center: 47.2 dBW G/T:-3.0 dB/K, SFD:-87.9 dBW/m2 Dnlink EIRP: 43.2 dBW	Location: 66.0E Dnlink Beam: KSPOT
TRANSPONDER DATA	Trans Bandwidth :77.0 MHz Uplink Frequency:6.175 GHz IBO (Nominal) : 0.0 dB	Trans Type: LTWTA Dnlink Freq: 11.950 GHz OBO (Nominal): 0.0 dB
CARRIER DATA	Type: NTC26%, Info Rate: 52550 kbps, Mod: QPSK, 1/2x188/204 BWo: 64435kHz, BWa: 77000kHz, C/N: 3.36dB, C/N_thresh: 3.36	
LINK BUDGET		
		CLR SKY UP FADE DN FADE
UPLINK PERFORMANCE	Earth Station EIRP (dBW)	75.0 75.0 75.0
	- Uplink Path Loss, clear sky (dB)	-200.2 -200.2 -200.2
	- Uplink Rain Attenuation (dB)	0.0 -3.6 0.0
	+ Satellite G/T (dB/K)	-3.0 -3.0 -3.0
	- Boltzman's Constant (dBW/K-Hz)	228.6 228.6 228.6
	- Carrier Noise Bandwidth (dB-Hz)	-78.1 -78.1 -78.1
	C/N Uplink (dB)	22.3 18.7 22.3
DOWNLINK PERFORMANCE	Satellite Saturation EIRP (dBW)	43.2 43.2 43.2
	- Carrier Output Backoff (dB)	0.0 -.2 0.0
	Downlink EIRP per carrier (dBW)	43.2 43.0 43.2
	- Earth Station Pointing Error (dB)	-.5 -.5 -.5
	- Downlink Path Loss, clear sky (dB)	-205.9 -205.9 -205.9
	- Downlink Rain Attenuation (dB)	0.0 0.0 -1.6
	+ Earth Station G/T (dB/K)	22.3 22.3 20.6
	- Boltzman's Constant (dBW/K-Hz)	228.6 228.6 228.6
	- Carrier Noise Bandwidth (dB-Hz)	-78.1 -78.1 -78.1
	C/N Dnlink (dB)	9.5 9.3 6.2
COMPOSITE PERFORMANCE	C/N Uplink (dB)	22.3 18.7 22.3
	C/N Dnlink (dB)	9.5 9.3 6.2
	C/I Uplink Co-channel (dB)	27.0 23.4 27.0
	C/I Dnlink Co-Channel (dB)	27.0 26.8 27.0
	C/I Uplink Adj. Sat. (SAT-1) (dB)	13.6 10.0 13.6
	C/I Dnlink Adj. Sat. (SAT-1) (dB)	17.3 17.1 17.3
	C/I Uplink Adj. Sat. (SAT-2) (dB)	13.6 10.0 13.6
	C/I Dnlink Adj. Sat. (SAT-2) (dB)	19.4 19.2 19.4
	C/(N+I) COMPOSITE (dB)	6.2 4.4 4.4
	- Required System Margin (dB)	-1.0 -1.0 -1.0
COMPOSITE PERFORMANCE	Net C/(N+I) COMPOSITE (dB)	5.2 3.4 3.4
	- Minimum Required C/N (dB)	-3.4 -3.4 -3.4
	Excess Link Margin (dB)	1.9 0.0 0.0
TRANSPONDER UTILIZATION	% BW/CARR: 100.00, % PWR/CARR: 100.00, Max No. Carriers: 1.0 Downlink EIRP per carrier toward beam center: 47.2 dBW	
TRANSMIT EARTH STATION	Loc: -4 dB Gain Contour ID: AZ: 0.0 Elev: 20.0 LAT: * LON: * ALT: 0.0m RainRate: 42.0mm/hr Carrier Power: 251.1 watts	
RECEIVE EARTH STA.	Loc: -4 dB Gain Contour ID: AZ: 0.0 Elev: 20.0 LAT: * LON: * ALT: 0.0m RainRate: 42.0mm/hr	
DENSITY INFORMATION	Uplink Pwr Den: -54.1 dBW/Hz, Dnlink EIRP Den: -30.9 dBW/Hz Max Dnlink PFD: -157.8 dB(W/m2/4kHz) @ Beam Center	
AVAILABILITY	Uplink: 99.998 %, Dnlink: 99.560 %, Composite Link: 99.558	
LOSS IN C/(N+I) DUE TO ADJ SAT INTF:	SAT-1 = 1.3dB, SAT-2 = 1.1dB	

ZONE-KSPOT (77 MHz): 77MOG7W
[Input Data]

----- SATELLITE -----

Satellite Name	: INTELSAT_702	Location (deg)	: 66.0E
Uplink Beam	: ZONE	Dnlink Beam	: KSPOT
Trans. BW (MHz)	: 77.0 MHz	Trans. Type	: LTWTA
Uplink Pol.	:	Dnlink Pol.	:
Uplink Chan.	:	Dnlink Chan.	:
Uplink Frequency (GHz)	: 6.175	Dnlink Frequency (GHz)	: 11.950
G/T, beam center (dB/K)	: 1.0	EIRP, beam center (dBW)	: 47.2
G/T, beam edge (dB/K)	: -3.0	EIRP, beam edge (dBW)	: 43.2
G/T, toward Tx ES (dB/K)	: -3.0	EIRP, toward Rx ES (dBW)	: 43.2
SFD, beam edge (dBW/m2)	: -87.9		
SFD, toward Tx ES (dBW/m2)	: -87.9		

----- OPERATING CONDITIONS -----

Attenuator Setting (dB)	: 1	Nominal Uplink Co-Chan C/I (dB)	: 27.0
Input Backoff (dB)	: 0.0	Nominal Dnlink Co-Chan C/I (dB)	: 27.0
Output Backoff (dB)	: *	Minimum Uplink Rain Margin (dB)	: 0.5*
(C/Im) Nominal (dB)	: *	Actual Uplink Rain Margin (dB)	: 3.6
Min. System Margin (dB)	: 1.0	Uplink Power Control Margin (dB)	: .0
Max No Carriers / Trans	: 1	Minimum Dnlink Rain Margin (dB)	: 0.5*
Required Link Availability	: 99.5	Actual Dnlink Rain Margin (dB)	: 3.3
		Dnlink Pointing Error (dB)	: 0.5

-- ADJACENT SATELLITE INTERFERENCE ----- Sat. No. 1 ----- Sat. No. 2 -----

Interfering Satellite Name	:	SAT-1	SAT-2
Interfering Satellite Location (deg)	:	64.0E	68.0E
Uplink Interference (dB or dBW/Hz)	:	-38.7	-38.7
Uplink Polarization Advantage (dB)	:	0.0	0.0
Downlink Interference (dB or dBW/Hz)	:	-30	-30
Downlink Polarization Advantage (dB)	:	0.0	0.0
Rx E/S Topocentric Angle (deg)	:	2.09	2.09
Rx E/S Pointing Error (deg)	:	-0.20	0.20
Rx E/S Off-Axis Angle (deg)	:	1.89	2.29
Rx E/S Adj. Sat. Discrimination (dB)	:	22.2	24.3

----- CARRIER PARAMETERS -----

Modem Type	: NTC26%	C/N (operating, dB)	: 3.36
Modulation	: QPSK	Eb/No (operating, dB)	: 4.2
Code Rate	: 1/2x188/204-V	C/N (threshold, dB)	: 3.36
Info Rate (kbps)	: 52550	Eb/No (threshold, dB)	: 4.2
Occupied Bandwidth (kHz)	: 64435		
Allocated Bandwidth (kHz)	: 77000		

----- Transmit Earth Station ----- Receive Earth Station -----

Location: -4_dB_Gain_Contour	Location: -4_dB_Gain_Contour
Latitude (deg): *	Latitude (deg): *
Longitude (deg): *	Longitude (deg): *
Rain Rate (mm/hr): 42*	Rain Rate (mm/hr): 42*
E/S Type or Model No:	E/S Type or Model No:
E/S Manufacturer : STANDARD	E/S Manufacturer : STANDARD
E/S Diam. (m): 7.0	E/S Diam. (m): 1.8
E/S Freq (nom, GHz): 6.175	E/S Freq (nom, GHz): 11.95
E/S Tx Gain (dBi): 51.0	E/S Gain (nom, dBi): 44.8
ULPC Margin (dB): .0	E/S Feed Loss (dB): 0.25
	E/S Ant. Temp(deg K): 45
	E/S LNA Temp (deg K): 110
	E/S G/T (nom, dB/K): *

SATELLITE DATA	Satellite : INTELSAT_702 Uplink Beam: ZONE Uplink POL: , Dnlink POL: , EIRP, beam center: 47.2 dBW G/T:-3.0 dB/K, SFD:-82.9 dBW/m2	Location: 66.0E Dnlink Beam: KSPOT Dnlink EIRP: 43.2 dBW
TRANSPONDER DATA	Trans Bandwidth :77.0 MHz Uplink Frequency:6.175 GHz IBO (Nominal) : 8.2 dB	Trans Type: LTWTA Dnlink Freq: 11.950 GHz OBO (Nominal): 5.1 dB
CARRIER DATA	Type: EF9000, Info Rate: 6000 kbps, Mod: QPSK, 1/2x188/204- BWo: 6771.1kHz, BWa: 10300kHz, C/N: 3.87dB, C/N_thresh: 3.5	
LINK BUDGET		
		CLR SKY UP FADE DN FADE
UPLINK PERFORMANCE	Earth Station EIRP (dBW)	64.7 64.7 64.7
	- Uplink Path Loss, clear sky (dB)	-200.2 -200.2 -200.2
	- Uplink Rain Attenuation (dB)	0.0 -2.5 0.0
	+ Satellite G/T (dB/K)	-3.0 -3.0 -3.0
	- Boltzman's Constant (dBW/K-Hz)	228.6 228.6 228.6
	- Carrier Noise Bandwidth (dB-Hz)	-68.3 -68.3 -68.3
	C/N Uplink (dB)	21.8 19.3 21.8
DOWNLINK PERFORMANCE	Satellite Saturation EIRP (dBW)	43.2 43.2 43.2
	- Carrier Output Backoff (dB)	-12.2 -13.0 -12.2
	Downlink EIRP per carrier (dBW)	31.0 30.2 31.0
	- Earth Station Pointing Error (dB)	- .5 - .5 - .5
	- Downlink Path Loss, clear sky (dB)	-205.9 -205.9 -205.9
	- Downlink Rain Attenuation (dB)	0.0 0.0 -1.5
	+ Earth Station G/T (dB/K)	25.0 25.0 23.4
	- Boltzman's Constant (dBW/K-Hz)	228.6 228.6 228.6
	- Carrier Noise Bandwidth (dB-Hz)	-68.3 -68.3 -68.3
		C/N Dnlink (dB)
COMPOSITE PERFORMANCE	C/N Uplink (dB)	21.8 19.3 21.8
	C/N Dnlink (dB)	9.9 9.1 6.7
	C/I Intermod (dB)	26.6 26.6 26.6
	C/I Uplink Co-channel (dB)	28.7 26.1 28.7
	C/I Dnlink Co-channel (dB)	28.7 27.9 28.7
	C/I Uplink Adj. Sat. (SAT-1) (dB)	13.1 10.6 13.1
	C/I Dnlink Adj. Sat. (SAT-1) (dB)	17.9 17.1 17.9
	C/I Uplink Adj. Sat. (SAT-2) (dB)	13.1 10.6 13.1
	C/I Dnlink Adj. Sat. (SAT-2) (dB)	19.5 18.7 19.5
	C/(N+I) COMPOSITE (dB)	6.2 4.6 4.6
- Required System Margin (dB)	-1.0 -1.0 -1.0	
Net C/(N+I) COMPOSITE (dB)	5.2 3.6 3.6	
- Minimum Required C/N (dB)	-3.9 -3.6 -3.6	
	Excess Link Margin (dB)	1.3 0.0 0.0
TRANSPONDER UTILIZATION	% BW/CARR: 13.38, % PWR/CARR: 19.57, Max No. Carriers: 5.1 Downlink EIRP per carrier toward beam center: 35.0 dBW	
TRANSMIT EARTH STATION	Loc: -4_dB_Gain_Contour ID: AZ: 0.0 Elev: 20.0 LAT: * LON: * ALT: 0.0m RainRate: 42.0mm/hr Carrier Power: 23.5 watts	
RECEIVE EARTH STA.	Loc: -4_dB_Gain_Contour ID: AZ: 0.0 Elev: 20.0 LAT: * LON: * ALT: 0.0m RainRate: 42.0mm/hr	
DENSITY INFORMATION	Uplink Pwr Den: -54.6 dBW/Hz, Dnlink EIRP Den: -33.3 dBW/Hz Max Dnlink PFD: -160.2 dB(W/m2/4kHz) @ Beam Center	
AVAILABILITY	Uplink: 99.995 %, Dnlink: 99.508 %, Composite Link: 99.503	
LOSS IN C/(N+I) DUE TO ADJ SAT INTF:	SAT-1 = 1.4dB, SAT-2 = 1.3dB	

ZONE-KSPOT (77 MHz): 10M3G7W
[Input Data]

----- SATELLITE -----

Satellite Name	: INTELSAT_702	Location (deg)	: 66.0E
Uplink Beam	: ZONE	Dnlink Beam	: KSPOT
Trans. BW (MHz)	: 77.0 MHz	Trans. Type	: LTWTA
Uplink Pol.	:	Dnlink Pol.	:
Uplink Chan.	:	Dnlink Chan.	:
Uplink Frequency (GHz)	: 6.175	Dnlink Frequency (GHz)	: 11.950
G/T, beam center (dB/K)	: 1.0	EIRP, beam center (dBW)	: 47.2
G/T, beam edge (dB/K)	: -3.0	EIRP, beam edge (dBW)	: 43.2
G/T, toward Tx ES (dB/K)	: -3.0	EIRP, toward Rx ES (dBW)	: 43.2
SFD, beam edge (dBW/m2)	: -82.9		
SFD, toward Tx ES (dBW/m2)	: -82.9		

----- OPERATING CONDITIONS -----

Attenuator Setting (dB)	: 6	Nominal Uplink Co-Chan C/I (dB)	: 27.0
Input Backoff (dB)	: 8.2*	Nominal Dnlink Co-Chan C/I (dB)	: 27.0
Output Backoff (dB)	: *	Minimum Uplink Rain Margin (dB)	: 0.5*
(C/Im) - Nominal (dB)	: *	Actual Uplink Rain Margin (dB)	: 2.5
Min. System Margin (dB)	: 1.0	Uplink Power Control Margin (dB)	: .0
Max No Carriers / Trans	: *	Minimum Dnlink Rain Margin (dB)	: 0.5*
Required Link Availability	: 99.5	Actual Dnlink Rain Margin (dB)	: 3.1
		Dnlink Pointing Error (dB)	: 0.5

-- ADJACENT SATELLITE INTERFERENCE ----- Sat. No. 1 ----- Sat. No. 2 -----

Interfering Satellite Name	:	SAT-1	SAT-2
Interfering Satellite Location (deg)	:	64.0E	68.0E
Uplink Interference (dB or dBW/Hz)	:	-38.7	-38.7
Uplink Polarization Advantage (dB)	:	0.0	0.0
Downlink Interference (dB or dBW/Hz)	:	-30	-30
Downlink Polarization Advantage (dB)	:	0.0	0.0
Rx E/S Topocentric Angle (deg)	:	2.09	2.09
Rx E/S Pointing Error (deg)	:	-0.15	0.15
Rx E/S Off-Axis Angle (deg)	:	1.94	2.24
Rx E/S Adj. Sat. Discrimination (dB)	:	25.2	26.8

----- CARRIER PARAMETERS -----

Modem Type	: EF9000	C/N (operating, dB)	: 3.87
Modulation	: QPSK	Eb/No (operating, dB)	: 4.4
Code Rate	: 1/2x188/204-V	C/N (threshold, dB)	: 3.57
Info Rate (kbps)	: 6000	Eb/No (threshold, dB)	: 4.1
Occupied Bandwidth (kHz)	: 6771.1		
Allocated Bandwidth (kHz)	: 10300		

----- Transmit Earth Station ----- ----- Receive Earth Station -----

Location: -4_dB_Gain_Contour		Location: -4_dB_Gain_Contour	
Latitude (deg)	: *	Latitude (deg)	: *
Longitude (deg)	: *	Longitude (deg)	: *
Rain Rate (mm/hr)	: 42*	Rain Rate (mm/hr)	: 42*
E/S Type or Model No:		E/S Type or Model No:	
E/S Manufacturer	: STANDARD	E/S Manufacturer	: STANDARD
E/S Diam. (m)	: 7.0	E/S Diam. (m)	: 2.4
E/S Freq (nom, GHz)	: 6.175	E/S Freq (nom, GHz)	: 11.95
E/S Tx Gain (dBi)	: 51.0	E/S Gain (nom, dBi)	: 47.5
ULPC Margin (dB)	: .0	E/S Feed Loss (dB)	: 0.25
		E/S Ant. Temp (deg K)	: 45
		E/S LNA Temp (deg K)	: 110
		E/S G/T (nom, dB/K)	: *

SATELLITE DATA	Satellite : INTELSAT_702 Uplink Beam: ZONE Uplink POL: , Dnlink POL: , EIRP, beam center: 47.2 dBW G/T:-3.0 dB/K, SFD:-82.9 dBW/m2 Dnlink EIRP: 43.2 dBW	Location: 66.0E Dnlink Beam: KSPOT
TRANSPONDER DATA	Trans Bandwidth :77.0 MHz Uplink Frequency:6.175 GHz IBO (Nominal) : 8.2 dB	Trans Type: LTWTA Dnlink Freq: 11.950 GHz OBO (Nominal): 5.1 dB
CARRIER DATA	Type: CS701, Info Rate: 64 kbps, Mod: QPSK, 1/2x239/256-V BWo: 75.4kHz, BWa: 100kHz, C/N: 2.99dB, C/N_thresh: 2.79dB	
LINK BUDGET		
		CLR SKY UP FADE DN FADE
UPLINK PERFORMANCE	Earth Station EIRP (dBW)	44.4 44.4 44.4
	- Uplink Path Loss, clear sky (dB)	-200.2 -200.2 -200.2
	- Uplink Rain Attenuation (dB)	0.0 -2.4 0.0
	+ Satellite G/T (dB/K)	-3.0 -3.0 -3.0
	- Boltzman's Constant (dBW/K-Hz)	228.6 228.6 228.6
	- Carrier Noise Bandwidth (dB-Hz)	-48.8 -48.8 -48.8
	C/N Uplink (dB)	21.0 18.6 21.0
DOWNLINK PERFORMANCE	Satellite Saturation EIRP (dBW)	43.2 43.2 43.2
	- Carrier Output Backoff (dB)	-32.5 -33.4 -32.5
	Downlink EIRP per carrier (dBW)	10.7 9.8 10.7
	- Earth Station Pointing Error (dB)	-.5 -.5 -.5
	- Downlink Path Loss, clear sky (dB)	-205.9 -205.9 -205.9
	- Downlink Rain Attenuation (dB)	0.0 0.0 -1.5
	+ Earth Station G/T (dB/K)	25.0 25.0 23.4
	- Boltzman's Constant (dBW/K-Hz)	228.6 228.6 228.6
	- Carrier Noise Bandwidth (dB-Hz)	-48.8 -48.8 -48.8
		C/N Dnlink (dB)
COMPOSITE PERFORMANCE	C/N Uplink (dB)	21.0 18.6 21.0
	C/N Dnlink (dB)	9.1 8.2 5.9
	C/I Intermod (dB)	25.8 24.9 25.8
	C/I Uplink Co-channel (dB)	28.5 26.0 28.5
	C/I Dnlink Co-channel (dB)	28.5 27.6 28.5
	C/I Uplink Adj. Sat. (SAT-1) (dB)	12.3 9.9 12.3
	C/I Dnlink Adj. Sat. (SAT-1) (dB)	17.1 16.3 17.1
	C/I Uplink Adj. Sat. (SAT-2) (dB)	12.3 9.9 12.3
	C/I Dnlink Adj. Sat. (SAT-2) (dB)	18.7 17.8 18.7
	- Required System Margin (dB)	5.4 3.8 3.8
Net C/(N+I) COMPOSITE (dB)	4.4 2.8 2.8	
- Minimum Required C/N (dB)	-3.0 -2.8 -2.8	
	Excess Link Margin (dB)	1.4 0.0 0.0
TRANSPONDER UTILIZATION	% BW/CARR: 0.13, % PWR/CARR: 0.18, Max No. Carriers: 549.5 Downlink EIRP per carrier toward beam center: 14.7 dBW	
TRANSMIT EARTH STATION	Loc: -4_dB_Gain_Contour ID: AZ: 0.0 Elev: 20.0 LAT: * LON: * ALT: 0.0m RainRate: 42.0mm/hr Carrier Power: 0.2 watts	
RECEIVE EARTH STA.	Loc: -4_dB_Gain_Contour ID: AZ: 0.0 Elev: 20.0 LAT: * LON: * ALT: 0.0m RainRate: 42.0mm/hr	
DENSITY INFORMATION	Uplink Pwr Den: -55.4 dBW/Hz, Dnlink EIRP Den: -34.1 dBW/Hz Max Dnlink PFD: -161.0 dB(W/m2/4kHz) @ Beam Center	
AVAILABILITY	Uplink: 99.995 %, Dnlink: 99.508 %, Composite Link: 99.503	
LOSS IN C/(N+I) DUE TO ADJ SAT INTF:	SAT-1 = 1.4dB, SAT-2 = 1.3dB	

ZONE-KSPOT (77 MHz): 100KG7W
[Input Data]

----- SATELLITE -----

Satellite Name : INTELSAT_702 Location (deg): 66.0E
Uplink Beam : ZONE Dnlink Beam : KSPOT
Trans. BW (MHz): 77.0 MHz Trans. Type : LTWTA
Uplink Pol. : Dnlink Pol. :
Uplink Chan. : Dnlink Chan. :
Uplink Frequency (GHz): 6.175 Dnlink Frequency (GHz): 11.950
G/T, beam center (dB/K): 1.0 EIRP, beam center (dBW): 47.2
G/T, beam edge (dB/K): -3.0 EIRP, beam edge (dBW): 43.2
G/T, toward Tx ES (dB/K): -3.0 EIRP, toward Rx ES (dBW): 43.2
SFD, beam edge (dBW/m2): -82.9
SFD, toward Tx ES (dBW/m2): -82.9

----- OPERATING CONDITIONS -----

Attenuator Setting (dB): 6 Nominal Uplink Co-Chan C/I (dB): 27.0
Input Backoff (dB): 8.2* Nominal Dnlink Co-Chan C/I (dB): 27.0
Output Backoff (dB): * Minimum Uplink Rain Margin (dB): 0.5*
(C/Im) - Nominal (dB): * Actual Uplink Rain Margin (dB): 2.4
Min. System Margin (dB): 1.0 Uplink Power Control Margin (dB): .0
Max No Carriers / Trans: * Minimum Dnlink Rain Margin (dB): 0.5*
Required Link Availability: 99.5 Actual Dnlink Rain Margin (dB): 3.1
Dnlink-Pointing-Error (dB): -0.5

----- ADJACENT SATELLITE INTERFERENCE ----- Sat. No. 1 ----- Sat. No. 2 -----

Interfering Satellite Name	:	SAT-1	SAT-2
Interfering Satellite Location (deg):	:	64.0E	68.0E
Uplink Interference (dB or dBW/Hz):	:	-38.7	-38.7
Uplink Polarization Advantage (dB):	:	0.0	0.0
Downlink Interference (dB or dBW/Hz):	:	-30	-30
Downlink Polarization Advantage (dB):	:	0.0	0.0
Rx E/S Topocentric Angle (deg):	:	2.09	2.09
Rx E/S Pointing Error (deg):	:	-0.15	0.15
Rx E/S Off-Axis Angle (deg):	:	1.94	2.24
Rx E/S Adj. Sat. Discrimination (dB):	:	25.2	26.8

----- CARRIER PARAMETERS -----

Modem Type	:	CS701	C/N (operating, dB): 2.99
Modulation	:	QPSK	Eb/No (operating, dB): 3.7
Code Rate	:	1/2x239/256-V	C/N (threshold, dB): 2.79
Info Rate (kbps):	:	64	Eb/No (threshold, dB): 3.5
Occupied Bandwidth (kHz):	:	75.4	
Allocated Bandwidth (kHz):	:	100	

----- Transmit Earth Station ----- ----- Receive Earth Station -----

Location: -4_dB_Gain_Contour	Location: -4_dB_Gain_Contour
Latitude (deg): *	Latitude (deg): *
Longitude (deg): *	Longitude (deg): *
Rain Rate (mm/hr): 42*	Rain Rate (mm/hr): 42*
E/S Type or Model No:	E/S Type or Model No:
E/S Manufacturer : STANDARD	E/S Manufacturer : STANDARD
E/S Diam. (m): 7.0	E/S Diam. (m): 2.4
E/S Freq (nom, GHz): 6.175	E/S Freq (nom, GHz): 11.95
E/S Tx Gain (dBi): 51.0	E/S Gain (nom, dBi): 47.5
ULPC Margin (dB): .0	E/S Feed Loss (dB): 0.25
	E/S Ant. Temp(deg K): 45
	E/S LNA Temp (deg K): 110
	E/S G/T (nom, dB/K): *

SATOPT5 (Version 5.68) (C) 2004 TEL/COM Sciences, Inc. All Rights Reserved.
6-Dec-08 11:13
PanAmSat, Customer Support Engineering.

SATELLITE DATA	Satellite : INTELSAT_702 Uplink Beam: KSPOT Uplink POL: , Dnlink POL: , EIRP, beam center: 47.2 dBW G/T:6.0 dB/K, SFD:-75.2 dBW/m2	Location: 66.0E Dnlink Beam: KSPOT Dnlink EIRP: 43.2 dBW
TRANSPONDER DATA	Trans Bandwidth :112.0 MHz Uplink Frequency:14.250 GHz IBO (Nominal) : 8.2 dB	Trans Type: LTWTA Dnlink Freq: 11.950 GHz OBO (Nominal): 5.1 dB
CARRIER DATA	Type: TV/FM, Format: PAL, PreEmphasis+Weighting: 15.6dB RF BW: 30.0 MHz, P-Dev: 9.0 MHz, VideoBW: 6.0 MHz,	
LINK BUDGET		
		CLR SKY UP FADE DN FADE
UPLINK PERFORMANCE	Earth Station EIRP (dBW)	75.4 75.4 75.4
	- Uplink Path Loss, clear sky (dB)	-207.5 -207.5 -207.5
	- Uplink Rain Attenuation (dB)	0.0 -4.5 0.0
	+ Satellite G/T (dB/K)	6.0 6.0 6.0
	- Boltzman's Constant (dBW/K-Hz)	228.6 228.6 228.6
	- Carrier Noise Bandwidth (dB-Hz)	-74.8 -74.8 -74.8
	C/N Uplink (dB)	27.7 23.2 27.7
	Satellite Saturation EIRP (dBW)	43.2 43.2 43.2
	- Carrier Output Backoff (dB)	-9.2 -11.7 -9.2
DOWNLINK PERFORMANCE	Downlink EIRP per carrier (dBW)	34.0 31.5 34.0
	- Earth Station Pointing Error (dB)	-0.5 -0.5 -0.5
	- Downlink Path Loss, clear sky (dB)	-205.9 -205.9 -205.9
	- Downlink Rain Attenuation (dB)	0.0 0.0 -1.9
	+ Earth Station G/T (dB/K)	34.6 34.6 32.7
	- Boltzman's Constant (dBW/K-Hz)	228.6 228.6 228.6
	- Carrier Noise Bandwidth (dB-Hz)	-74.8 -74.8 -74.8
	C/N Dnlink (dB)	15.9 13.5 12.1
COMPOSITE PERFORMANCE	C/N Uplink (dB)	27.7 23.2 27.7
	C/N Dnlink (dB)	15.9 13.5 12.1
	C/I Intermod (dB)	24.7 25.1 24.7
	C/I Uplink Co-channel (dB)	28.6 24.1 28.6
	C/I Dnlink Co-Channel (dB)	28.6 26.1 28.6
	C/I Uplink Adj. Sat. (SAT-1) (dB)	28.6 24.1 28.6
	C/I Dnlink Adj. Sat. (SAT-1) (dB)	24.4 21.9 24.4
	C/I Uplink Adj. Sat. (SAT-2) (dB)	28.6 24.1 28.6
	C/I Dnlink Adj. Sat. (SAT-2) (dB)	25.0 22.5 25.0
	C/(N+I) COMPOSITE (dB)	13.7 11.0 11.0
	- Required System Margin (dB)	-1.0 -1.0 -1.0
	Net C/(N+I) COMPOSITE (dB)	12.7 10.0 10.0
	- Minimum Required C/N (dB)	-10.0 -10.0 -10.0
	Excess Link Margin (dB)	2.7 0.0 0.0
	Video Signal-to-Noise Ratio (dB)	46.6 43.9 43.9
	Audio Signal-to-Noise Ratio (dB)	60.3 57.7 57.7
TRANSMIT EARTH STATION	Loc: -4_dB_Gain_Contour ID: AZ: 0.0 Elev: 20.0 LAT: * LON: * ALT: 0.0m RainRate: 42.0mm/hr Carrier Power: 53.1 watts	
RECEIVE EARTH STA.	Loc: -4_dB_Gain_Contour ID: AZ: 0.0 Elev: 20.0 LAT: * LON: * ALT: 0.0m RainRate: 42.0mm/hr	
DENSITY INFORMATION	Uplink Pwr Den: -57.5 dBW/Hz, Dnlink EIRP Den: -36.8 dBW/Hz Max Dnlink PFD: -163.7 dB(W/m2/4kHz) @ Beam Center	
AVAILABILITY	Uplink: 99.839 %, Dnlink: 99.660 %, Composite Link: 99.500	
LOSS IN C/(N+I) DUE TO ADJ SAT INTF:	SAT-1 = 0.5dB, SAT-2 = 0.5dB	

KSPOT-KSPOT (112 MHz): 30M0F3F
[Input Data]

----- SATELLITE -----

Satellite Name : INTELSAT_702 Location (deg): 66.0E
Uplink Beam : KSPOT Dnlink Beam : KSPOT
Trans. BW (MHz): 112.0 MHz Trans. Type : LTWTA
Uplink Pol. : Dnlink Pol. :
Uplink Chan. : Dnlink Chan. :
Uplink Frequency (GHz): 14.250 Dnlink Frequency (GHz): 11.950
G/T, beam center (dB/K): 10 EIRP, beam center (dBW): 47.2
G/T, beam edge (dB/K): 6 EIRP, beam edge (dBW): 43.2
G/T, toward Tx ES (dB/K): 6.0 EIRP, toward Rx ES (dBW): 43.2
SFD, beam edge (dBW/m2): -75.2
SFD, toward Tx ES (dBW/m2): -75.2

----- OPERATING CONDITIONS -----

Attenuator Setting (dB): 14 Nominal Uplink Co-Chan C/I (dB): 27.0
Input Backoff (dB): 8.2 Nominal Dnlink Co-Chan C/I (dB): 27.0
Output Backoff (dB): * Minimum Uplink Rain Margin (dB): 0.5*
(C/Im) - Nominal (dB): * Actual Uplink Rain Margin (dB): 4.5
Min. System Margin (dB): 1.0 Uplink Power Control Margin (dB): .0
Max No Carriers / Trans: * Minimum Dnlink Rain Margin (dB): 0.5*
Required Link Availability: 99.5 Actual Dnlink Rain Margin (dB): 3.9
Dnlink Pointing Error (dB): 0.5

----- ADJACENT SATELLITE INTERFERENCE ----- Sat. No. 1 ----- Sat. No. 2 -----

Interfering Satellite Name	:	SAT-1	SAT-2
Interfering Satellite Location (deg):		64.0E	68.0E
Uplink Interference (dB or dBW/Hz):		-50	-50
Uplink Polarization Advantage (dB):		0.0	0.0
Downlink Interference (dB or dBW/Hz):		-30	-30
Downlink Polarization Advantage (dB):		0.0	0.0
Rx E/S Topocentric Angle (deg):		2.09	2.09
Rx E/S Pointing Error (deg):		-0.05	0.05
Rx E/S Off-Axis Angle (deg):		2.04	2.14
Rx E/S Adj. Sat. Discrimination (dB):		35.2	35.8

----- TV/FM CARRIER PARAMETERS -----

Video Format : PAL Peak Deviation (MHz): 9.0
RF Noise BW (MHz): 30.0 PreEmphasis+Weighting (dB): 15.6
Video BW (MHz): 6.0 Threshold C/N (dB): 10.0

----- AUDIO SUB-CARRIER PARAMETERS -----

Sub-Carrier Freq (MHz): 6.6 Highest Audio Freq (kHz): 15.0
P-Dev of Video by Audio (MHz): 2.0 Companding Advantage (dB): 0.0
Peak Dev of Audio (kHz): 75.0

----- Transmit Earth Station -----

Location: -4_dB_Gain_Contour
Latitude (deg): *
Longitude (deg): *
Rain Rate (mm/hr): 42*
E/S Type or Model No:
E/S Manufacturer : STANDARD
E/S Diam. (m): 7.0
E/S Freq (nom, GHz): 14.250
E/S Tx Gain (dBi): 58.1
ULPC Margin (dB): .0

----- Receive Earth Station -----

Location: -4_dB_Gain_Contour
Latitude (deg): *
Longitude (deg): *
Rain Rate (mm/hr): 42*
E/S Type or Model No:
E/S Manufacturer : STANDARD
E/S Diam. (m): 7.0
E/S Freq (nom, GHz): 11.95
E/S Gain (nom, dBi): 57.0
E/S Feed Loss (dB): 0.25
E/S Ant. Temp(deg K): 40
E/S LNA Temp (deg K): 110
E/S G/T (nom, dB/K): *

SATOPT5 (Version 5.68) (C) 2004 TEL/COM Sciences, Inc. All Rights Reserved.
6-Dec-08 9:39
PanAmSat, Customer Support Engineering.

SATELLITE DATA	Satellite : INFELSAT_702 Uplink Beam: KSPOT Uplink POL: , Dnlink POL: , EIRP, beam center: 47.2 dBW G/T:6.0 dB/K, SFD:-81.2 dBW/m2 Dnlink EIRP: 43.2 dBW	Location: 66.0E Dnlink Beam: KSPOT
TRANSPONDER DATA	Trans Bandwidth :112.0 MHz Uplink Frequency:14.250 GHz IBO (Nominal) : 0.0 dB	Trans Type: LTWTA Dnlink Freq: 11.950 GHz OBO (Nominal): 0.0 dB
CARRIER DATA	Type: NTC26%, Info Rate: 76436 kbps, Mod: QPSK, 1/2x188/204 BWo: 93724kHz, BWa: 112000kHz, C/N: 3.36dB, C/N_thresh: 3.3	
LINK BUDGET		
		CLR SKY UP FADE DN FADE
UPLINK PERFORMANCE	Earth Station EIRP (dBW)	81.7 81.7 81.7
	- Uplink Path Loss, clear sky (dB)	-207.5 -207.5 -207.5
	- Uplink Rain Attenuation (dB)	0.0 -10.3 0.0
	+ Satellite G/T (dB/K)	6.0 6.0 6.0
	- Boltzman's Constant (dBW/K-Hz)	228.6 228.6 228.6
	- Carrier Noise Bandwidth (dB-Hz)	-79.7 -79.7 -79.7
	C/N Uplink (dB)	29.1 18.8 29.1
DOWNLINK PERFORMANCE	Satellite Saturation EIRP (dBW)	43.2 43.2 43.2
	- Carrier Output Backoff (dB)	0.0 -4.4 0.0
	Downlink EIRP per carrier (dBW)	43.2 38.8 43.2
	- Earth Station Pointing Error (dB)	- .5 - .5 - .5
	- Downlink Path Loss, clear sky (dB)	-205.9 -205.9 -205.9
	- Downlink Rain Attenuation (dB)	0.0 0.0 -3.3
	+ Earth Station G/T (dB/K)	25.0 25.0 22.4
	- Boltzman's Constant (dBW/K-Hz)	228.6 228.6 228.6
	- Carrier Noise Bandwidth (dB-Hz)	-79.7 -79.7 -79.7
		C/N Dnlink (dB)
COMPOSITE PERFORMANCE	C/N Uplink (dB)	29.1 18.8 29.1
	C/N Dnlink (dB)	10.6 6.2 4.7
	C/I Uplink Co-channel (dB)	27.0 16.7 27.0
	C/I Dnlink Co-Channel (dB)	27.0 22.6 27.0
	C/I Uplink Adj. Sat. (SAT-1) (dB)	30.0 19.7 30.0
	C/I Dnlink Adj. Sat. (SAT-1) (dB)	18.7 14.2 18.7
	C/I Uplink Adj. Sat. (SAT-2) (dB)	30.0 19.7 30.0
	C/I Dnlink Adj. Sat. (SAT-2) (dB)	20.2 15.8 20.2
	C/(N+I) COMPOSITE (dB)	9.3 4.4 4.4
	- Required System Margin (dB)	-1.0 -1.0 -1.0
	Net C/(N+I) COMPOSITE (dB)	8.3 3.4 3.4
	- Minimum Required C/N (dB)	-3.4 -3.4 -3.4
	Excess Link Margin (dB)	5.0 0.0 0.0
TRANSPONDER UTILIZATION	% BW/CARR: 100.00, % PWR/CARR: 100.00, Max No. Carriers: 1.0 Downlink EIRP per carrier toward beam center: 47.2 dBW	
TRANSMIT EARTH STATION	Loc: -4_dB_Gain_Contour ID: AZ: 0.0 Elev: 20.0 LAT: * LON: * ALT: 0.0m RainRate: 42.0mm/hr Carrier Power: 229.0 watts	
RECEIVE EARTH STA.	Loc: -4_dB_Gain_Contour ID: AZ: 0.0 Elev: 20.0 LAT: * LON: * ALT: 0.0m RainRate: 42.0mm/hr	
DENSITY INFORMATION	Uplink Pwr Den: -56.1 dBW/Hz, Dnlink EIRP Den: -32.5 dBW/Hz Max Dnlink PFD: -159.4 dB(W/m2/4kHz) @ Beam Center	
AVAILABILITY	Uplink: 99.969 %, Dnlink: 99.861 %, Composite Link: 99.830	
LOSS IN C/(N+I) DUE TO ADJ SAT INTF:	SAT-1 = 0.6dB, SAT-2 = 0.4dB	

KSPOT-KSPOT (112 MHz): 112MG7W
[Input Data]

----- SATELLITE -----

Satellite Name	: INTELSAT_702	Location (deg)	: 66.0E
Uplink Beam	: KSPOT	Dnlink Beam	: KSPOT
Trans. BW (MHz)	: 112.0 MHz	Trans. Type	: LTWTA
Uplink Pol.	:	Dnlink Pol.	:
Uplink Chan.	:	Dnlink Chan.	:
Uplink Frequency (GHz)	: 14.250	Dnlink Frequency (GHz)	: 11.950
G/T, beam center (dB/K)	: 10	EIRP, beam center (dBW)	: 47.2
G/T, beam edge (dB/K)	: 6	EIRP, beam edge (dBW)	: 43.2
G/T, toward Tx ES (dB/K)	: 6.0	EIRP, toward Rx ES (dBW)	: 43.2
SFD, beam edge (dBW/m2)	: -81.2		
SFD, toward Tx ES (dBW/m2)	: -81.2		

----- OPERATING CONDITIONS -----

Attenuator Setting (dB)	: 8	Nominal Uplink Co-Chan C/I (dB)	: 27.0
Input Backoff (dB)	: 0.0	Nominal Dnlink Co-Chan C/I (dB)	: 27.0
Output Backoff (dB)	: *	Minimum Uplink Rain Margin (dB)	: 0.5*
(C/Im) - Nominal (dB)	: *	Actual Uplink Rain Margin (dB)	: 10.3
Min. System Margin (dB)	: 1.0	Uplink Power Control Margin (dB)	: .0
Max No Carriers / Trans	: 1	Minimum Dnlink Rain Margin (dB)	: 0.5*
Required Link Availability	: 99.5	Actual Dnlink Rain Margin (dB)	: 5.9
		Dnlink Pointing Error (dB)	: 0.5

--- ADJACENT SATELLITE INTERFERENCE --- Sat. No. 1 --- Sat. No. 2 ---

Interfering Satellite Name	:	SAT-1	SAT-2
Interfering Satellite Location (deg)	:	64.0E	68.0E
Uplink Interference (dB or dBW/Hz)	:	-50	-50
Uplink Polarization Advantage (dB)	:	0.0	0.0
Downlink Interference (dB or dBW/Hz)	:	-30	-30
Downlink Polarization Advantage (dB)	:	0.0	0.0
Rx E/S Topocentric Angle (deg)	:	2.09	2.09
Rx E/S Pointing Error (deg)	:	-0.15	0.15
Rx E/S Off-Axis Angle (deg)	:	1.94	2.24
Rx E/S Adj. Sat. Discrimination (dB)	:	25.2	26.8

----- CARRIER PARAMETERS -----

Modem Type	: NTC26%	C/N (operating, dB)	: 3.36
Modulation	: QPSK	Eb/No (operating, dB)	: 4.2
Code Rate	: 1/2x188/204-V	C/N (threshold, dB)	: 3.36
Info Rate (kbps)	: 76436	Eb/No (threshold, dB)	: 4.2
Occupied Bandwidth (kHz)	: 93724		
Allocated Bandwidth (kHz)	: 112000		

----- Transmit Earth Station ----- ----- Receive Earth Station -----

Location: -4_dB_Gain_Contour		Location: -4_dB_Gain_Contour	
Latitude (deg)	: *	Latitude (deg)	: *
Longitude (deg)	: *	Longitude (deg)	: *
Rain Rate (mm/hr)	: 42*	Rain Rate (mm/hr)	: 42*
E/S Type or Model No:		E/S Type or Model No:	
E/S Manufacturer	: STANDARD	E/S Manufacturer	: STANDARD
E/S Diam. (m)	: 7.0	E/S Diam. (m)	: 2.4
E/S Freq (nom, GHz)	: 14.250	E/S Freq (nom, GHz)	: 11.95
E/S Tx Gain (dBi)	: 58.1	E/S Gain (nom, dBi)	: 47.5
ULPC Margin (dB)	: .0	E/S Feed Loss (dB)	: 0.25
		E/S Ant. Temp (deg K)	: 45
		E/S LNA Temp (deg K)	: 110
		E/S G/T (nom, dB/K)	: *

SATELLITE	Satellite : INTELSAT_702	Location: 66.0E
DATA	Uplink Beam: KSPOT	Dnlink Beam: KSPOT
	Uplink POL: , Dnlink POL: , EIRP, beam center: 47.2 dBW	
	G/T:6.0 dB/K, SFD:-87.2 dBW/m2	Dnlink EIRP: 43.2 dBW
TRANSPONDER	Trans Bandwidth :112.0 MHz	Trans Type: LTWTA
DATA	Uplink Frequency:14.250 GHz	Dnlink Freq: 11.950 GHz
	IBO (Nominal) : 8.2 dB	OBO (Nominal): 5.1 dB
CARRIER	Type: EF9000, Info Rate: 6000 Kbps, Mod: QPSK, 1/2x188/204-	
DATA	BWo: 6771.1kHz, BWa: 10300kHz, C/N: 3.87dB, C/N_thresh: 3.5	
LINK BUDGET		
	Earth Station EIRP (dBW)	58.6
	- Uplink Path Loss, clear sky (dB)	-207.5
	- Uplink Rain Attenuation (dB)	0.0
UPLINK	+ Satellite G/T (dB/K)	6.0
PERFORMANCE	- Boltzman's Constant (dBW/K-Hz)	228.6
	- Carrier Noise Bandwidth (dB-Hz)	-68.3
	C/N Uplink (dB)	17.5
	Satellite Saturation EIRP (dBW)	43.2
	- Carrier Output Backoff (dB)	-14.0
	Downlink EIRP per carrier (dBW)	29.2
	- Earth Station Pointing Error (dB)	-0.5
DOWNLINK	- Downlink Path Loss, clear sky (dB)	-205.9
PERFORMANCE	- Downlink Rain Attenuation (dB)	0.0
	+ Earth Station G/T (dB/K)	26.7
	- Boltzman's Constant (dBW/K-Hz)	228.6
	- Carrier Noise Bandwidth (dB-Hz)	-68.3
	C/N Dnlink (dB)	9.8
	C/N Uplink (dB)	17.5
	C/N Dnlink (dB)	9.8
	C/I Intermod (dB)	26.4
	C/I Uplink Co-channel (dB)	28.5
	C/I Dnlink Co-Channel (dB)	28.5
	C/I Uplink Adj. Sat. (SAT-1) (dB)	18.3
	C/I Dnlink Adj. Sat. (SAT-1) (dB)	18.0
	C/I Uplink Adj. Sat. (SAT-2) (dB)	18.3
	C/I Dnlink Adj. Sat. (SAT-2) (dB)	19.2
COMPOSITE	C/(N+I) COMPOSITE (dB)	7.3
PERFORMANCE	- Required System Margin (dB)	-1.0
	Net C/(N+I) COMPOSITE (dB)	6.3
	- Minimum Required C/N (dB)	-3.9
	Excess Link Margin (dB)	2.4
TRANSPONDER	% BW/CARR: 9.2, % PWR/CARR: 12.99, Max No. Carriers: 7.7	
UTILIZATION	Downlink EIRP per carrier toward beam center: 33.2 dBW	
TRANSMIT	Loc: -4_dB_Gain_Contour ID: AZ: 0.0 Elev: 20.0	
EARTH	LAT: * LON: * ALT: 0.0m RainRate: 42.0mm/hr	
STATION	Carrier Power: 1.1 watts	
RECEIVE	Loc: -4_dB_Gain_Contour ID: AZ: 0.0 Elev: 20.0	
EARTH STA.	LAT: * LON: * ALT: 0.0m RainRate: 42.0mm/hr	
DENSITY	Uplink Pwr Den: -67.8 dBW/Hz, Dnlink EIRP Den: -35.1 dBW/Hz	
INFORMATION	Max Dnlink PFD: -162.0 dB(W/m2/4kHz) @ Beam Center	
AVAILABILITY	Uplink: 99.797 %, Dnlink: 99.702 %, Composite Link: 99.500	
LOSS IN C/(N+I) DUE TO ADJ SAT INTF:	SAT-1 = 0.8dB, SAT-2 = 0.7dB	

KSPOT-KSPOT (112 MHz): 10M3G7W
[Input Data]

----- SATELLITE -----

Satellite Name	: INTELSAT_702	Location (deg)	: 66.0E
Uplink Beam	: KSPOT	Dnlink Beam	: KSPOT
Trans. BW (MHz)	: 112.0 MHz	Trans. Type	: LTWTA
Uplink Pol.	:	Dnlink Pol.	:
Uplink Chan.	:	Dnlink Chan.	:
Uplink Frequency (GHz)	: 14.250	Dnlink Frequency (GHz)	: 11.950
G/T, beam center (dB/K)	: 10	EIRP, beam center (dBW)	: 47.2
G/T, beam edge (dB/K)	: 6	EIRP, beam edge (dBW)	: 43.2
G/T, toward Tx ES (dB/K)	: 6.0	EIRP, toward Rx ES (dBW)	: 43.2
SFD, beam edge (dBW/m2)	: -87.2		
SFD, toward Tx ES (dBW/m2)	: -87.2		

----- OPERATING CONDITIONS -----

Attenuator Setting (dB)	: 2	Nominal Uplink Co-Chan C/I (dB)	: 27.0
Input Backoff (dB)	: 8.2	Nominal Dnlink Co-Chan C/I (dB)	: 27.0
Output Backoff (dB)	: *	Minimum Uplink Rain Margin (dB)	: 0.5*
(C/Im) - Nominal (dB)	: *	Actual Uplink Rain Margin (dB)	: 3.9
Min. System Margin (dB)	: 1.0	Uplink Power Control Margin (dB)	: .0
Max No Carriers / Trans	: *	Minimum Dnlink Rain Margin (dB)	: 0.5*
Required Link Availability	: 99.5	Actual Dnlink Rain Margin (dB)	: 4.1
		Dnlink Pointing Error (dB)	: -0.5

----- ADJACENT SATELLITE INTERFERENCE ----- Sat. No. 1 ----- Sat. No. 2 -----

Interfering Satellite Name	:	SAT-1	SAT-2
Interfering Satellite Location (deg)	:	64.0E	68.0E
Uplink Interference (dB or dBW/Hz)	:	-50	-50
Uplink Polarization Advantage (dB)	:	0.0	0.0
Downlink Interference (dB or dBW/Hz)	:	-30	-30
Downlink Polarization Advantage (dB)	:	0.0	0.0
Rx E/S Topocentric Angle (deg)	:	2.09	2.09
Rx E/S Pointing Error (deg)	:	-0.12	0.12
Rx E/S Off-Axis Angle (deg)	:	1.97	2.21
Rx E/S Adj. Sat. Discrimination (dB)	:	27.1	28.3

----- CARRIER PARAMETERS -----

Modem Type	: EF9000	C/N (operating, dB)	: 3.87
Modulation	: QPSK	Eb/No (operating, dB)	: 4.4
Code Rate	: 1/2x188/204-V	C/N (threshold, dB)	: 3.57
Info Rate (kbps)	: 6000	Eb/No (threshold, dB)	: 4.1
Occupied Bandwidth (kHz)	: 6771.1		
Allocated Bandwidth (kHz)	: 10300		

----- Transmit Earth Station -----

Location: -4_dB_Gain_Contour
Latitude (deg): *
Longitude (deg): *
Rain Rate (mm/hr): 42*
E/S Type or Model No:
E/S Manufacturer : STANDARD
E/S Diam. (m): 7.0
E/S Freq (nom, GHz): 14.250
E/S Tx Gain (dBi): 58.1
ULPC Margin (dB): .0

----- Receive Earth Station -----

Location: -4_dB_Gain_Contour
Latitude (deg): *
Longitude (deg): *
Rain Rate (mm/hr): 42*
E/S Type or Model No:
E/S Manufacturer : STANDARD
E/S Diam. (m): 3.0
E/S Freq (nom, GHz): 11.95
E/S Gain (nom, dBi): 49.2
E/S Feed Loss (dB): 0.25
E/S Ant. Temp (deg K): 45
E/S LNA Temp (deg K): 110
E/S G/T (nom, dB/K): *

SATOPT5 (Version 5.68) (C) 2004 TEL/COM Sciences, Inc. All Rights Reserved.
6-Dec-08 9:34
PanAmSat, Customer Support Engineering.

SATELLITE DATA	Satellite : INTELSAT_702 Uplink Beam: KSPOT Uplink POL: , Dnlink POL: , EIRP, beam center: 47.2 dBW G/T:6.0 dB/K, SFD:-87.2 dBW/m2	Location: 66.0E Dnlink Beam: KSPOT Dnlink EIRP: 43.2 dBW
TRANSPONDER DATA	Trans Bandwidth :112.0 MHz Uplink Frequency:14.250 GHz IBO (Nominal) : 8.2 dB	Trans Type: LTWTA Dnlink Freq: 11.950 GHz OBO (Nominal): 5.1 dB
CARRIER DATA	Type: CS701, Info Rate: 64 kbps, Mod: QPSK, 1/2x239/256-V BWo: 75.4kHz, BWa: 100kHz, C/N: 2.99dB, C/N_thresh: 2.79dB	
LINK BUDGET		
		CLR SKY UP FADE DN FADE
UPLINK PERFORMANCE	Earth Station EIRP (dBW)	38.4 38.4 38.4
	- Uplink Path Loss, clear sky (dB)	-207.5 -207.5 -207.5
	- Uplink Rain Attenuation (dB)	0.0 -3.9 0.0
	+ Satellite G/T (dB/K)	6.0 6.0 6.0
	- Boltzman's Constant (dBW/K-Hz)	228.6 228.6 228.6
	- Carrier Noise Bandwidth (dB-Hz)	-48.8 -48.8 -48.8
	C/N Uplink (dB)	16.7 12.8 16.7
DOWNLINK PERFORMANCE	Satellite Saturation EIRP (dBW)	43.2 43.2 43.2
	- Carrier Output Backoff (dB)	-34.2 -36.6 -34.2
	Downlink EIRP per carrier (dBW)	9.0 6.6 9.0
	- Earth Station Pointing Error (dB)	-0.5 -0.5 -0.5
	- Downlink Path Loss, clear sky (dB)	-205.9 -205.9 -205.9
	- Downlink Rain Attenuation (dB)	0.0 0.0 -2.1
	+ Earth Station G/T (dB/K)	26.7 26.7 24.7
	- Boltzman's Constant (dBW/K-Hz)	228.6 228.6 228.6
	- Carrier Noise Bandwidth (dB-Hz)	-48.8 -48.8 -48.8
		C/N Dnlink (dB)
COMPOSITE PERFORMANCE	C/N Uplink (dB)	16.7 12.8 16.7
	C/N Dnlink (dB)	9.0 6.7 4.9
	C/I Intermod (dB)	25.7 23.4 25.7
	C/I Uplink Co-channel (dB)	28.3 24.5 28.3
	C/I Dnlink Co-Channel (dB)	28.3 26.0 28.3
	C/I Uplink Adj. Sat. (SAT-1) (dB)	17.6 13.7 17.6
	C/I Dnlink Adj. Sat. (SAT-1) (dB)	17.2 14.9 17.2
	C/I Uplink Adj. Sat. (SAT-2) (dB)	17.6 13.7 17.6
	C/I Dnlink Adj. Sat. (SAT-2) (dB)	18.5 16.2 18.5
	C/(N+I) COMPOSITE (dB)	6.6 3.8 3.8
	- Required System Margin (dB)	-1.0 -1.0 -1.0
	Net C/(N+I) COMPOSITE (dB)	5.6 2.8 2.8
	- Minimum Required C/N (dB)	-3.0 -2.8 -2.8
	Excess Link Margin (dB)	2.6 0.0 0.0
TRANSPONDER UTILIZATION	% BW/CARR: 0.09, % PWR/CARR: 0.12, Max No. Carriers: 821.4 Downlink EIRP per carrier toward beam center: 13.0 dBW	
TRANSMIT EARTH STATION	Loc: -4 dB Gain Contour ID: AZ: 0.0 Elev: 20.0 LAT: * LON: * ALT: 0.0m RainRate: 42.0mm/hr Carrier Power: 0.0 watts	
RECEIVE EARTH STA.	Loc: -4 dB Gain Contour ID: AZ: 0.0 Elev: 20.0 LAT: * LON: * ALT: 0.0m RainRate: 42.0mm/hr	
DENSITY INFORMATION	Uplink Pwr Den: -68.5 dBW/Hz, Dnlink EIRP Den: -35.8 dBW/Hz Max Dnlink PFD: -162.7 dB(W/m2/4kHz) @ Beam Center	
AVAILABILITY	Uplink: 99.791 %, Dnlink: 99.708 %, Composite Link: 99.500	
LOSS IN C/(N+I) DUE TO ADJ SAT INTF:	SAT-1 = 0.8dB, SAT-2 = 0.7dB	

KSPOT-KSPOT (112 MHz): 100KG7W
[Input Data]

----- SATELLITE -----

Satellite Name : INTELSAT_702 Location (deg): 66.0E
Uplink Beam : KSPOT Dnlink Beam : KSPOT
Trans. BW (MHz): 112.0 MHz Trans. Type : LTWTA
Uplink Pol. : Dnlink Pol. :
Uplink Chan. : Dnlink Chan. :
Uplink Frequency (GHz): 14.250 Dnlink Frequency (GHz): 11.950
G/T, beam center (dB/K): 10 EIRP, beam center (dBW): 47.2
G/T, beam edge (dB/K): 6 EIRP, beam edge (dBW): 43.2
G/T, toward Tx ES (dB/K): 6.0 EIRP, toward Rx ES (dBW): 43.2
SFD, beam edge (dBW/m2): -87.2
SFD, toward Tx ES (dBW/m2): -87.2

----- OPERATING CONDITIONS -----

Attenuator Setting (dB): 2 Nominal Uplink Co-Chan C/I (dB): 27.0
Input Backoff (dB): 8.2 Nominal Dnlink Co-Chan C/I (dB): 27.0
Output Backoff (dB): * Minimum Uplink Rain Margin (dB): 0.5*
(C/Im) - Nominal (dB): * Actual Uplink Rain Margin (dB): 3.9
Min. System Margin (dB): 1.0 Uplink Power Control Margin (dB): .0
Max No Carriers / Trans: * Minimum Dnlink Rain Margin (dB): 0.5*
Required Link Availability: 99.5 Actual Dnlink Rain Margin (dB): 4.1
Dnlink Pointing Error (dB): 0.5

----- ADJACENT SATELLITE INTERFERENCE ----- Sat. No. 1 ----- Sat. No. 2 -----

Interfering Satellite Name	:	SAT-1	SAT-2
Interfering Satellite Location (deg):		64.0E	68.0E
Uplink Interference (dB or dBW/Hz):		-50	-50
Uplink Polarization Advantage (dB):		0.0	0.0
Downlink Interference (dB or dBW/Hz):		-30	-30
Downlink Polarization Advantage (dB):		0.0	0.0
Rx E/S Topocentric Angle (deg):		2.09	2.09
Rx E/S Pointing Error (deg):		-0.12	0.12
Rx E/S Off-Axis Angle (deg):		1.97	2.21
Rx E/S Adj. Sat. Discrimination (dB):		27.1	28.3

----- CARRIER PARAMETERS -----

Modem Type	:	CS701	C/N (operating, dB): 2.99
Modulation	:	QPSK	Eb/No (operating, dB): 3.7
Code Rate	:	1/2x239/256-V	C/N (threshold, dB): 2.79
Info Rate (kbps):		64	Eb/No (threshold, dB): 3.5
Occupied Bandwidth (kHz):		75.4	
Allocated Bandwidth (kHz):		100	

----- Transmit Earth Station -----

Location: -4_dB_Gain_Contour
Latitude (deg): *
Longitude (deg): *
Rain Rate (mm/hr): 42*
E/S Type or Model No:
E/S Manufacturer : STANDARD
E/S Diam. (m): 7.0
E/S Freq (nom, GHz): 14.250
E/S Tx Gain (dBi): 58.1
ULPC Margin (dB): .0

----- Receive Earth Station -----

Location: -4_dB_Gain_Contour
Latitude (deg): *
Longitude (deg): *
Rain Rate (mm/hr): 42*
E/S Type or Model No:
E/S Manufacturer : STANDARD
E/S Diam. (m): 3.0
E/S Freq (nom, GHz): 11.95
E/S Gain (nom, dBi): 49.2
E/S Feed Loss (dB): 0.25
E/S Ant. Temp (deg K): 45
E/S LNA Temp (deg K): 110
E/S G/T (nom, dB/K): *

SATOPT5 (Version 5.68) (C) 2004 TEL/COM Sciences, Inc. All Rights Reserved.
6-Dec-08 9:33
PanAmSat, Customer Support Engineering.

SATELLITE DATA	Satellite : INTELSAT_702 Uplink Beam: KSPOT Uplink POL: , Dnlink POL: , EIRP, beam center: 47.2 dBW G/T:6.0 dB/K, SFD:-87.2 dBW/m2 Dnlink EIRP: 43.2 dBW	Location: 66.0E Dnlink Beam: KSPOT
TRANSPONDER DATA	Trans Bandwidth :112.0 MHz Uplink Frequency:14.250 GHz IBO (Nominal) : 8.2 dB	Trans Type: LTWTA Dnlink Freq: 11.950 GHz OBO (Nominal): 5.1 dB
CARRIER DATA	Type: VSAT-Out, Info Rate: 512 kbps, Mod: BPSK, R1/2 BWo: 1229.0kHz, BWa: 1450.0kHz, C/N: 3.4dB, C/N_thresh: 2.7	
LINK BUDGET		
		CLR SKY UP FADE DN FADE
UPLINK PERFORMANCE	Earth Station EIRP (dBW)	50.4 50.4 50.4
	- Uplink Path Loss, clear sky (dB)	-207.5 -207.5 -207.5
	- Uplink Rain Attenuation (dB)	0.0 -3.9 0.0
	+ Satellite G/T (dB/K)	6.0 6.0 6.0
	- Boltzman's Constant (dBW/K-Hz)	228.6 228.6 228.6
	- Carrier Noise Bandwidth (dB-Hz)	-60.9 -60.9 -60.9
	C/N Uplink (dB)	16.6 12.7 16.6
DOWNLINK PERFORMANCE	Satellite Saturation EIRP (dBW)	43.2 43.2 43.2
	- Carrier Output Backoff (dB)	-22.2 -24.5 -22.2
	Downlink EIRP per carrier (dBW)	21.0 18.7 21.0
	- Earth Station Pointing Error (dB)	- .5 - .5 - .5
	- Downlink Path Loss, clear sky (dB)	-205.9 -205.9 -205.9
	- Downlink Rain Attenuation (dB)	0.0 0.0 -2.1
	+ Earth Station G/T (dB/K)	26.7 26.7 24.7
	- Boltzman's Constant (dBW/K-Hz)	228.6 228.6 228.6
	- Carrier Noise Bandwidth (dB-Hz)	-60.9 -60.9 -60.9
		C/N Dnlink (dB)
COMPOSITE PERFORMANCE	C/N Uplink (dB)	16.6 12.7 16.6
	C/N Dnlink (dB)	8.9 6.6 4.8
	C/I Intermod (dB)	25.6 23.4 25.6
	C/I Uplink Co-channel (dB)	28.8 24.9 28.8
	C/I Dnlink Co-Channel (dB)	28.8 26.4 28.8
	C/I Uplink Adj. Sat. (SAT-1) (dB)	17.5 13.6 17.5
	C/I Dnlink Adj. Sat. (SAT-1) (dB)	17.1 14.8 17.1
	C/I Uplink Adj. Sat. (SAT-2) (dB)	17.5 13.6 17.5
	C/I Dnlink Adj. Sat. (SAT-2) (dB)	18.4 16.1 18.4
	C/(N+I) COMPOSITE (dB)	6.5 3.7 3.7
	- Required System Margin (dB)	-1.0 -1.0 -1.0
	Net C/(N+I) COMPOSITE (dB)	5.5 2.7 2.7
	- Minimum Required C/N (dB)	-3.4 -2.7 -2.7
	Excess Link Margin (dB)	2.1 0.0 0.0
TRANSPONDER UTILIZATION	% BW/CARR: 1.29, % PWR/CARR: 1.94, Max No. Carriers: 51.6 Downlink EIRP per carrier toward beam center: 25.0 dBW	
TRANSMIT EARTH STATION	Loc: -4 dB Gain Contour ID: AZ: 0.0 Elev: 20.0 LAT: * LON: * ALT: 0.0m RainRate: 42.0mm/hr Carrier Power: 0.2 watts	
RECEIVE EARTH STA.	Loc: -4 dB Gain Contour ID: AZ: 0.0 Elev: 20.0 LAT: * LON: * ALT: 0.0m RainRate: 42.0mm/hr	
DENSITY INFORMATION	Uplink Pwr Den: -68.6 dBW/Hz, Dnlink EIRP Den: -35.9 dBW/Hz Max Dnlink PFD: -162.8 dB(W/m2/4kHz) @ Beam Center	
AVAILABILITY	Uplink: 99.792 %, Dnlink: 99.707 %, Composite Link: 99.500	
LOSS IN C/(N+I) DUE TO ADJ SAT INTF:	SAT-1 = 0.8dB, SAT-2 = 0.7dB	

KSPOT-KSPOT (112 MHz): 1M45G7W
[Input Data]

----- SATELLITE -----

Satellite Name	: INTELSAT_702	Location (deg)	: 66.0E
Uplink Beam	: KSPOT	Dnlink Beam	: KSPOT
Trans. BW (MHz)	: 112.0 MHz	Trans. Type	: LTWTA
Uplink Pol.	:	Dnlink Pol.	:
Uplink Chan.	:	Dnlink Chan.	:
Uplink Frequency (GHz)	: 14.250	Dnlink Frequency (GHz)	: 11.950
G/T, beam center (dB/K)	: 10	EIRP, beam center (dBW)	: 47.2
G/T, beam edge (dB/K)	: 6	EIRP, beam edge (dBW)	: 43.2
G/T, toward Tx ES (dB/K)	: 6.0	EIRP, toward Rx ES (dBW)	: 43.2
SFD, beam edge (dBW/m2)	: -87.2		
SFD, toward Tx ES (dBW/m2)	: -87.2		

----- OPERATING CONDITIONS -----

Attenuator Setting (dB)	: 2	Nominal Uplink Co-Chan C/I (dB)	: 27.0
Input Backoff (dB)	: 8.2	Nominal Dnlink Co-Chan C/I (dB)	: 27.0
Output Backoff (dB)	: *	Minimum Uplink Rain Margin (dB)	: 0.5*
(C/Im) - Nominal (dB)	: *	Actual Uplink Rain Margin (dB)	: 3.9
Min. System Margin (dB)	: 1.0	Uplink Power Control Margin (dB)	: .0
Max No Carriers / Trans:	: *	Minimum Dnlink Rain Margin (dB)	: 0.5*
Required Link Availability:	: 99.5	Actual Dnlink Rain Margin (dB)	: 4.1
		Dnlink Pointing Error (dB)	: 0.5

----- ADJACENT SATELLITE INTERFERENCE ----- Sat. No. 1 ----- Sat. No. 2 -----

Interfering Satellite Name	:	SAT-1	SAT-2
Interfering Satellite Location (deg)	:	64.0E	68.0E
Uplink Interference (dB or dBW/Hz)	:	-50	-50
Uplink Polarization Advantage (dB)	:	0.0	0.0
Downlink Interference (dB or dBW/Hz)	:	-30	-30
Downlink Polarization Advantage (dB)	:	0.0	0.0
Rx E/S Topocentric Angle (deg)	:	2.09	2.09
Rx E/S Pointing Error (deg)	:	-0.12	0.12
Rx E/S Off-Axis Angle (deg)	:	1.97	2.21
Rx E/S Adj. Sat. Discrimination (dB)	:	27.1	28.3

----- CARRIER PARAMETERS -----

Modem Type	: VSAT-Out	C/N (operating, dB)	: 3.4
Modulation	: BPSK	Eb/No (operating, dB)	: 7.2
Code Rate	: R1/2	C/N (threshold, dB)	: 2.7
Info Rate (kbps)	: 512	Eb/No (threshold, dB)	: 6.5
Occupied Bandwidth (kHz)	: 1229.0		
Allocated Bandwidth (kHz)	: 1450.0		

----- Transmit Earth Station -----

Location: -4_dB_Gain_Contour
Latitude (deg): *
Longitude (deg): *
Rain Rate (mm/hr): 42*
E/S Type or Model No:
E/S Manufacturer : STANDARD
E/S Diam. (m): 7.0
E/S Freq (nom, GHz): 14.250
E/S Tx Gain (dBi): 58.1
ULPC Margin (dB): .0

----- Receive Earth Station -----

Location: -4_dB_Gain_Contour
Latitude (deg): *
Longitude (deg): *
Rain Rate (mm/hr): 42*
E/S Type or Model No:
E/S Manufacturer : STANDARD
E/S Diam. (m): 3.0
E/S Freq (nom, GHz): 11.95
E/S Gain (nom, dBi): 49.2
E/S Feed Loss (dB): 0.25
E/S Ant. Temp (deg K): 45
E/S LNA Temp (deg K): 110
E/S G/T (nom, dB/K): *

SATOPT5 (Version 5.68) (C) 2004 TEL/COM Sciences, Inc. All Rights Reserved.
6-Dec-08 9:32
PanAmSat, Customer Support Engineering.

SATELLITE DATA	Satellite : INTELSAT_702 Uplink Beam: KSPOT Uplink POL: , Dnlink POL: , EIRP, beam center: 47.2 dBW G/T:6.0 dB/K, SFD:-87.2 dBW/m2	Location: 66.0E Dnlink Beam: KSPOT Dnlink EIRP: 43.2 dBW
TRANSPONDER DATA	Trans Bandwidth :112.0 MHz Uplink Frequency:14.250 GHz IBO (Nominal) : 8.2 dB	Trans Type: LTWTA Dnlink Freq: 11.950 GHz OBO (Nominal): 5.1 dB
CARRIER DATA	Type: VSAT-In, Info Rate: 128 kbps, Mod: BPSK, R1/2 BWo: 307.0kHz, BWa: 400.0kHz, C/N: 3.4dB, C/N_thresh: 2.7dB	
LINK BUDGET		
		CLR SKY UP FADE DN FADE
UPLINK PERFORMANCE	Earth Station EIRP (dBW)	39.9 39.9 39.9
	- Uplink Path Loss, clear sky (dB)	-207.5 -207.5 -207.5
	- Uplink Rain Attenuation (dB)	0.0 -2.8 0.0
	+ Satellite G/T (dB/K)	6.0 6.0 6.0
	- Boltzman's Constant (dBW/K-Hz)	228.6 228.6 228.6
	- Carrier Noise Bandwidth (dB-Hz)	-54.9 -54.9 -54.9
	C/N Uplink (dB)	12.1 9.3 12.1
DOWNLINK PERFORMANCE	Satellite Saturation EIRP (dBW)	43.2 43.2 43.2
	- Carrier Output Backoff (dB)	-32.7 -33.9 -32.7
	Downlink EIRP per carrier (dBW)	10.5 9.3 10.5
	- Earth Station Pointing Error (dB)	- .5 - .5 - .5
	- Downlink Path Loss, clear sky (dB)	-205.9 -205.9 -205.9
	- Downlink Rain Attenuation (dB)	0.0 0.0 -3.4
	+ Earth Station G/T (dB/K)	34.6 34.6 31.9
	- Boltzman's Constant (dBW/K-Hz)	228.6 228.6 228.6
	- Carrier Noise Bandwidth (dB-Hz)	-54.9 -54.9 -54.9
		C/N Dnlink (dB)
COMPOSITE PERFORMANCE	C/N Uplink (dB)	12.1 9.3 12.1
	C/N Dnlink (dB)	12.4 11.2 6.3
	C/I Intermod (dB)	21.1 19.9 21.1
	C/I Uplink Co-channel (dB)	23.9 21.1 23.9
	C/I Dnlink Co-channel (dB)	23.9 22.6 23.9
	C/I Uplink Adj. Sat. (SAT-1) (dB)	13.0 10.2 13.0
	C/I Dnlink Adj. Sat. (SAT-1) (dB)	20.9 19.6 20.9
	C/I Uplink Adj. Sat. (SAT-2) (dB)	13.0 10.2 13.0
	C/I Dnlink Adj. Sat. (SAT-2) (dB)	21.4 20.2 21.4
	C/(N+I) COMPOSITE (dB)	6.0 3.7 3.7
- Required System Margin (dB)	-1.0 -1.0 -1.0	
Net C/(N+I) COMPOSITE (dB)	5.0 2.7 2.7	
- Minimum Required C/N (dB)	-3.4 -2.7 -2.7	
	Excess Link Margin (dB)	1.6 0.0 0.0
TRANSPONDER UTILIZATION	% BW/CARR: 0.36, % PWR/CARR: 0.17, Max No. Carriers: 280.0 Downlink EIRP per carrier toward beam center: 14.5 dBW	
TRANSMIT EARTH STATION	Loc: -4_dB_Gain_Contour ID: AZ: 0.0 Elev: 20.0 LAT: * LON: * ALT: 0.0m RainRate: 42.0mm/hr Carrier Power: 0.1 watts	
RECEIVE EARTH STA.	Loc: -4_dB_Gain_Contour ID: AZ: 0.0 Elev: 20.0 LAT: * LON: * ALT: 0.0m RainRate: 42.0mm/hr	
DENSITY INFORMATION	Uplink Pwr Den: -64.7 dBW/Hz, Dnlink EIRP Den: -40.4 dBW/Hz Max Dnlink PFD: -167.3 dB(W/m2/4kHz) @ Beam Center	
AVAILABILITY	Uplink: 99.632 %, Dnlink: 99.868 %, Composite Link: 99.500	
LOSS IN C/(N+I) DUE TO ADJ SAT INTF:	SAT-1 = 1.1dB, SAT-2 = 1.1dB	

----- SATELLITE -----

Satellite Name	: INTELSAT_702	Location (deg)	: 66.0E
Uplink Beam	: KSPOT	Dnlink Beam	: KSPOT
Trans. BW (MHz)	: 112.0 MHz	Trans. Type	: LTWTA
Uplink Pol.	:	Dnlink Pol.	:
Uplink Chan.	:	Dnlink Chan.	:
Uplink Frequency (GHz)	: 14.250	Dnlink Frequency (GHz)	: 11.950
G/T, beam center (dB/K)	: 10	EIRP, beam center (dBW)	: 47.2
G/T, beam edge (dB/K)	: 6	EIRP, beam edge (dBW)	: 43.2
G/T, toward Tx ES (dB/K)	: 6.0	EIRP, toward Rx ES (dBW)	: 43.2
SFD, beam edge (dBW/m2)	: -87.2		
SFD, toward Tx ES (dBW/m2)	: -87.2		

----- OPERATING CONDITIONS -----

Attenuator Setting (dB)	: 2	Nominal Uplink Co-Chan C/I (dB)	: 27.0
Input Backoff (dB)	: 8.2	Nominal Dnlink Co-Chan C/I (dB)	: 27.0
Output Backoff (dB)	: *	Minimum Uplink Rain Margin (dB)	: 0.5*
(C/Im) - Nominal (dB)	: *	Actual Uplink Rain Margin (dB)	: 2.8
Min. System Margin (dB)	: 1.0	Uplink Power Control Margin (dB)	: .0
Max No Carriers / Trans	: *	Minimum Dnlink Rain Margin (dB)	: 0.5*
Required Link Availability	: 99.5	Actual Dnlink Rain Margin (dB)	: 6.1
		Dnlink Pointing Error (dB)	: 0.5

----- ADJACENT SATELLITE INTERFERENCE ----- Sat. No. 1 ----- Sat. No. 2 -----

Interfering Satellite Name	:	SAT-1	SAT-2
Interfering Satellite Location (deg)	:	64.0E	68.0E
Uplink Interference (dB or dBW/Hz)	:	-50	-50
Uplink Polarization Advantage (dB)	:	0.0	0.0
Downlink Interference (dB or dBW/Hz)	:	-30	-30
Downlink Polarization Advantage (dB)	:	0.0	0.0
Rx E/S Topocentric Angle (deg)	:	2.09	2.09
Rx E/S Pointing Error (deg)	:	-0.05	0.05
Rx E/S Off-Axis Angle (deg)	:	2.04	2.14
Rx E/S Adj. Sat. Discrimination (dB)	:	35.2	35.8

----- CARRIER PARAMETERS -----

Modem Type	: VSAT-In	C/N (operating, dB)	: 3.4
Modulation	: BPSK	Eb/No (operating, dB)	: 7.2
Code Rate	: R1/2	C/N (threshold, dB)	: 2.7
Info Rate (kbps)	: 128	Eb/No (threshold, dB)	: 6.5
Occupied Bandwidth (kHz)	: 307.0		
Allocated Bandwidth (kHz)	: 400.0		

----- Transmit Earth Station -----

Location: -4_dB_Gain_Contour
Latitude (deg): *
Longitude (deg): *
Rain Rate (mm/hr): 42*
E/S Type or Model No:
E/S Manufacturer : STANDARD
E/S Diam. (m): 3.0
E/S Freq (nom, GHz): 14.250
E/S Tx Gain (dBi): 49.7
ULPC Margin (dB): .0

----- Receive Earth Station -----

Location: -4_dB_Gain_Contour
Latitude (deg): *
Longitude (deg): *
Rain Rate (mm/hr): 42*
E/S Type or Model No:
E/S Manufacturer : STANDARD
E/S Diam. (m): 7.0
E/S Freq (nom, GHz): 11.95
E/S Gain (nom, dBi): 57.0
E/S Feed Loss (dB): 0.25
E/S Ant. Temp (deg K): 40
E/S LNA Temp (deg K): 110
E/S G/T (nom, dB/K): *

SATELLITE DATA	Satellite : INTELSAT_702 Uplink Beam: KSPOT Uplink POL: , Dnlink POL: , EIRP, beam center: 37.5 dBW G/T:6.0 dB/K, SFD:-75.2 dBW/m2	Location: 66.0E Dnlink Beam: HEMI Dnlink EIRP: 31.5 dBW
TRANSPONDER DATA	Trans Bandwidth :77 MHz Uplink Frequency:14.250 GHz IBO (Nominal) : 8.2 dB	Trans Type: LTWTA Dnlink Freq: 3.950 GHz OBO (Nominal): 5.1 dB
CARRIER DATA	Type: TV/FM, Format: PAL, PreEmphasis+Weighting: 15.6dB RF BW: 30.0 MHz, P-Dev: 9.0 MHz, VideoBW: 6.0 MHz,	
LINK BUDGET		
		CLR SKY UP FADE DN FADE
UPLINK PERFORMANCE	Earth Station EIRP (dBW) - Uplink Path Loss, clear sky (dB) - Uplink Rain Attenuation (dB) + Satellite G/T (dB/K) - Boltzman's Constant (dBW/K-Hz) - Carrier Noise Bandwidth (dB-Hz) C/N Uplink (dB)	75.8 75.8 75.8 -207.5 -207.5 -207.5 0.0 -2.4 0.0 6.0 6.0 6.0 228.6 228.6 228.6 -74.8 -74.8 -74.8 28.2 25.8 28.2
DOWNLINK PERFORMANCE	Satellite Saturation EIRP (dBW) - Carrier Output Backoff (dB) Downlink EIRP per carrier (dBW) - Earth Station Pointing Error (dB) - Downlink Path Loss, clear sky (dB) - Downlink Rain Attenuation (dB) + Earth Station G/T (dB/K) - Boltzman's Constant (dBW/K-Hz) - Carrier Noise Bandwidth (dB-Hz) C/N Dnlink (dB)	31.5 31.5 31.5 -8.8 -9.2 -8.8 22.7 22.3 22.7 -.5 -.5 -.5 -196.3 -196.3 -196.3 0.0 0.0 -.2 33.0 33.0 32.5 228.6 228.6 228.6 -74.8 -74.8 -74.8 12.8 12.3 12.0
COMPOSITE PERFORMANCE	C/N Uplink (dB) C/N Dnlink (dB) C/I Intermod (dB) C/I Uplink Co-channel (dB) C/I Dnlink Co-Channel (dB) C/I Uplink Adj. Sat. (SAT-1) (dB) C/I Dnlink Adj. Sat. (SAT-1) (dB) C/I Uplink Adj. Sat. (SAT-2) (dB) C/I Dnlink Adj. Sat. (SAT-2) (dB) Net C/(N+I) COMPOSITE (dB) - Required System Margin (dB) Net C/(N+I) COMPOSITE (dB) - Minimum Required C/N (dB) Excess Link Margin (dB)	28.2 25.8 28.2 12.8 12.3 12.0 23.5 24.9 23.5 27.4 25.1 27.4 27.4 27.0 27.4 29.1 26.7 29.1 25.7 25.2 25.7 29.1 26.7 29.1 26.5 26.0 26.5 11.5 11.0 11.0 -1.0 -1.0 -1.0 10.5 10.0 10.0 -10.0 -10.0 -10.0 .5 0.0 0.0
	Video Signal-to-Noise Ratio (dB)	44.4 43.9 43.9
	Audio Signal-to-Noise Ratio (dB)	58.2 57.7 57.7
TRANSMIT EARTH STATION	Loc: -4_dB_Gain_Contour ID: AZ: 0.0 Elev: 20.0 LAT: * LON: * ALT: 0.0m RainRate: 42.0mm/hr Carrier Power: 59.3 watts	
RECEIVE EARTH STA.	Loc: -6_dB_Gain_Contour ID: AZ: 0.0 Elev: 20.0 LAT: * LON: * ALT: 0.0m RainRate: 42.0mm/hr	
DENSITY INFORMATION	Uplink Pwr Den: -57.0 dBW/Hz, Dnlink EIRP Den: -46.0 dBW/Hz Max Dnlink PFD: -172.9 dB(W/m2/4kHz) @ Beam Center	
AVAILABILITY	Uplink: 99.522 %, Dnlink: 99.979 %, Composite Link: 99.501	
LOSS IN C/(N+I) DUE TO ADJ SAT INTF:	SAT-1 = 0.3dB, SAT-2 = 0.2dB	

----- SATELLITE -----

Satellite Name	: INTELSAT_702	Location (deg)	: 66.0E
Uplink Beam	: KSPOT	Dnlink Beam	: HEMI
Trans. BW (MHz)	: 77 MHz	Trans. Type	: LTWTA
Uplink Pol.	:	Dnlink Pol.	:
Uplink Chan.	:	Dnlink Chan.	:
Uplink Frequency (GHz)	: 14.250	Dnlink Frequency (GHz)	: 3.950
G/T, beam center (dB/K)	: 10	EIRP, beam center (dBW)	: 37.5
G/T, beam edge (dB/K)	: 6	EIRP, beam edge (dBW)	: 31.5
G/T, toward Tx ES (dB/K)	: 6.0	EIRP, toward Rx ES (dBW)	: 31.5
SFD, beam edge (dBW/m2)	: -75.2		
SFD, toward Tx ES (dBW/m2)	: -75.2		

----- OPERATING CONDITIONS -----

Attenuator Setting (dB)	: 14	Nominal Uplink Co-Chan C/I (dB)	: 27.0
Input Backoff (dB)	: 8.2*	Nominal Dnlink Co-Chan C/I (dB)	: 27.0
Output Backoff (dB)	: *	Minimum Uplink Rain Margin (dB)	: 0.5*
(C/Im) - Nominal (dB)	: *	Actual Uplink Rain Margin (dB)	: 2.4
Min. System Margin (dB)	: 1.0	Uplink Power Control Margin (dB)	: .0
Max No Carriers / Trans	: *	Minimum Dnlink Rain Margin (dB)	: 0.5*
Required Link Availability	: 99.5	Actual Dnlink Rain Margin (dB)	: .7
		Dnlink Pointing Error (dB)	: -0.5

----- ADJACENT SATELLITE INTERFERENCE ----- Sat. No. 1 ----- Sat. No. 2 -----

Interfering Satellite Name	:	SAT-1	SAT-2
Interfering Satellite Location (deg)	:	64.0E	68.0E
Uplink Interference (dB or dBW/Hz)	:	-50	-50
Uplink Polarization Advantage (dB)	:	0.0	0.0
Downlink Interference (dB or dBW/Hz)	:	-46.1	-46.1
Downlink Polarization Advantage (dB)	:	0.0	0.0
Rx E/S Topocentric Angle (deg)	:	2.09	2.09
Rx E/S Pointing Error (deg)	:	-0.08	0.08
Rx E/S Off-Axis Angle (deg)	:	2.01	2.17
Rx E/S Adj. Sat. Discrimination (dB)	:	31.6	32.4

----- TV/FM CARRIER PARAMETERS -----

Video Format	: PAL	Peak Deviation (MHz)	: 9.0
RF Noise BW (MHz)	: 30.0	PreEmphasis+Weighting (dB)	: 15.6
Video BW (MHz)	: 6.0	Threshold C/N (dB)	: 10.0

----- AUDIO SUB-CARRIER PARAMETERS -----

Sub-Carrier Freq (MHz)	: 6.6	Highest Audio Freq (kHz)	: 15.0
P-Dev of Video by Audio (MHz)	: 2.0	Companding Advantage (dB)	: 0.0
Peak Dev of Audio (kHz)	: 75.0		

----- Transmit Earth Station ----- Receive Earth Station -----

Location: -4_dB_Gain_Contour	Location: -6_dB_Gain_Contour
Latitude (deg): *	Latitude (deg): *
Longitude (deg): *	Longitude (deg): *
Rain Rate (mm/hr): 42*	Rain Rate (mm/hr): 42*
E/S Type or Model No:	E/S Type or Model No:
E/S Manufacturer : STANDARD	E/S Manufacturer : STANDARD
E/S Diam. (m): 7.0	E/S Diam. (m): 13.1
E/S Freq (nom, GHz): 14.250	E/S Freq (nom, GHz): 3.95
E/S Tx Gain (dBi): 58.1	E/S Gain (nom, dBi): 53.5
ULPC Margin (dB): .0	E/S Feed Loss (dB): 0.20
	E/S Ant. Temp(deg K): 30
	E/S LNA Temp (deg K): 65
	E/S G/T (nom, dB/K): *

SATELLITE DATA	Satellite : INTELSAT_702 Uplink Beam: KSPOT Uplink POL: , Dnlink POL: , EIRP, beam center: 37.5 dBW G/T:6.0 dB/K, SFD:-81.2 dBW/m2	Location: 66.0E Dnlink Beam: HEMI Dnlink EIRP: 31.5 dBW
TRANSPONDER DATA	Trans Bandwidth :77 MHz Uplink Frequency:14.250 GHz IBO (Nominal) : 0.0 dB	Trans Type: LTWTA Dnlink Freq: 3.950 GHz OBO (Nominal): 0.0 dB
CARRIER DATA	Type: NTC26%, Info Rate: 52550 kbps, Mod: QPSK, 1/2x188/204 BWo: 64435kHz, BWa: 77000kHz, C/N: 3.36dB, C/N_thresh: 3.36	
LINK BUDGET		
		CLR SKY UP FADE DN FADE
UPLINK PERFORMANCE	Earth Station EIRP (dBW)	81.7 81.7 81.7
	- Uplink Path Loss, clear sky (dB)	-207.5 -207.5 -207.5
	- Uplink Rain Attenuation (dB)	0.0 -5.8 0.0
	+ Satellite G/T (dB/K)	6.0 6.0 6.0
	- Boltzman's Constant (dBW/K-Hz)	228.6 228.6 228.6
	- Carrier Noise Bandwidth (dB-Hz)	-78.1 -78.1 -78.1
	C/N Uplink (dB)	30.7 24.9 30.7
DOWNLINK PERFORMANCE	Satellite Saturation EIRP (dBW)	31.5 31.5 31.5
	- Carrier Output Backoff (dB)	0.0 -1.0 0.0
	Downlink EIRP per carrier (dBW)	31.5 30.5 31.5
	- Earth Station Pointing Error (dB)	-0.5 -0.5 -0.5
	- Downlink Path Loss, clear sky (dB)	-196.3 -196.3 -196.3
	- Downlink Rain Attenuation (dB)	0.0 0.0 -0.4
	+ Earth Station G/T (dB/K)	21.0 21.0 20.1
	- Boltzman's Constant (dBW/K-Hz)	228.6 228.6 228.6
	- Carrier Noise Bandwidth (dB-Hz)	-78.1 -78.1 -78.1
		C/N Dnlink (dB)
COMPOSITE PERFORMANCE	C/N Uplink (dB)	30.7 24.9 30.7
	C/N Dnlink (dB)	6.2 5.2 4.9
	C/I Uplink Co-channel (dB)	27.0 21.2 27.0
	C/I Dnlink Co-Channel (dB)	27.0 26.0 27.0
	C/I Uplink Adj. Sat. (SAT-1) (dB)	31.6 25.8 31.6
	C/I Dnlink Adj. Sat. (SAT-1) (dB)	15.8 14.9 15.8
	C/I Uplink Adj. Sat. (SAT-2) (dB)	31.6 25.8 31.6
	C/I Dnlink Adj. Sat. (SAT-2) (dB)	20.6 19.7 20.6
	C/(N+I) COMPOSITE (dB)	5.5 4.4 4.4
	- Required System Margin (dB)	-1.0 -1.0 -1.0
Net C/(N+I) COMPOSITE (dB)	4.5 3.4 3.4	
- Minimum Required C/N (dB)	-3.4 -3.4 -3.4	
	Excess Link Margin (dB)	1.1 0.0 0.0
TRANSPONDER UTILIZATION	% BW/CARR: 100.00, % PWR/CARR: 100.00, Max No. Carriers: 1.0 Downlink EIRP per carrier toward beam center: 37.5 dBW	
TRANSMIT EARTH STATION	Loc: -4_dB_Gain_Contour ID: AZ: 0.0 Elev: 20.0 LAT: * LON: * ALT: 0.0m RainRate: 42.0mm/hr Carrier Power: 229.0 watts	
RECEIVE EARTH STA.	Loc: -6_dB_Gain_Contour ID: AZ: 0.0 Elev: 20.0 LAT: * LON: * ALT: 0.0m RainRate: 42.0mm/hr	
DENSITY INFORMATION	Uplink Pwr Den: -54.5 dBW/Hz, Dnlink EIRP Den: -40.6 dBW/Hz Max Dnlink PFD: -167.5 dB(W/m2/4kHz) @ Beam Center	
AVAILABILITY	Uplink: 99.901 %, Dnlink: 99.993 %, Composite Link: 99.893	
LOSS IN C/(N+I) DUE TO ADJ SAT INTF:	SAT-1 = 0.4dB, SAT-2 = 0.1dB	

KSPOT-HEMI (77 MHz): 77MOG7W
[Input Data]

----- SATELLITE -----

Satellite Name	: INTELSAT_702	Location (deg)	: 66.0E
Uplink Beam	: KSPOT	Dnlink Beam	: HEMI
Trans. BW (MHz)	: 77 MHz	Trans. Type	: LTWTA
Uplink Pol.	:	Dnlink Pol.	:
Uplink Chan.	:	Dnlink Chan.	:
Uplink Frequency (GHz)	: 14.250	Dnlink Frequency (GHz)	: 3.950
G/T, beam center (dB/K)	: 10	EIRP, beam center (dBW)	: 37.5
G/T, beam edge (dB/K)	: 6	EIRP, beam edge (dBW)	: 31.5
G/T, toward Tx ES (dB/K)	: 6.0	EIRP, toward Rx ES (dBW)	: 31.5
SFD, beam edge (dBW/m2)	: -81.2		
SFD, toward Tx ES (dBW/m2)	: -81.2		

----- OPERATING CONDITIONS -----

Attenuator Setting (dB)	: 8	Nominal Uplink Co-Chan C/I (dB)	: 27.0
Input Backoff (dB)	: 0.0	Nominal Dnlink Co-Chan C/I (dB)	: 27.0
Output Backoff (dB)	: *	Minimum Uplink Rain Margin (dB)	: 0.5*
(C/Im) - Nominal (dB)	: *	Actual Uplink Rain Margin (dB)	: 5.8
Min. System Margin (dB)	: 1.0	Uplink Power Control Margin (dB)	: .0
Max No Carriers / Trans	: 1	Minimum Dnlink Rain Margin (dB)	: 0.5*
Required Link Availability	: 99.5	Actual Dnlink Rain Margin (dB)	: 1.3
		Dnlink Pointing Error (dB)	: 0.5

----- ADJACENT SATELLITE INTERFERENCE ----- Sat. No. 1 ----- Sat. No. 2 -----

Interfering Satellite Name	:	SAT-1	SAT-2
Interfering Satellite Location (deg)	:	64.0E	68.0E
Uplink Interference (dB or dBW/Hz)	:	-50	-50
Uplink Polarization Advantage (dB)	:	0.0	0.0
Downlink Interference (dB or dBW/Hz)	:	-46.1	-46.1
Downlink Polarization Advantage (dB)	:	0.0	0.0
Rx E/S Topocentric Angle (deg)	:	2.09	2.09
Rx E/S Pointing Error (deg)	:	-0.31	0.31
Rx E/S Off-Axis Angle (deg)	:	1.78	2.40
Rx E/S Adj. Sat. Discrimination (dB)	:	16.3	21.1

----- CARRIER PARAMETERS -----

Modem Type	: NTC26%	C/N (operating, dB)	: 3.36
Modulation	: QPSK	Eb/No (operating, dB)	: 4.2
Code Rate	: 1/2x188/204-V	C/N (threshold, dB)	: 3.36
Info Rate (kbps)	: 52550	Eb/No (threshold, dB)	: 4.2
Occupied Bandwidth (kHz)	: 64435		
Allocated Bandwidth (kHz)	: 77000		

----- Transmit Earth Station -----

Location: -4_dB_Gain_Contour
Latitude (deg): *
Longitude (deg): *
Rain Rate (mm/hr): 42*
E/S Type or Model No:
E/S Manufacturer : STANDARD
E/S Diam. (m): 7.0
E/S Freq (nom, GHz): 14.250
E/S Tx Gain (dBi): 58.1
ULPC Margin (dB): .0

----- Receive Earth Station -----

Location: -6_dB_Gain_Contour
Latitude (deg): *
Longitude (deg): *
Rain Rate (mm/hr): 42*
E/S Type or Model No:
E/S Manufacturer : STANDARD
E/S Diam. (m): 3.5
E/S Freq (nom, GHz): 3.95
E/S Gain (nom, dBi): 41.1
E/S Feed Loss (dB): 0.15
E/S Ant. Temp (deg K): 25
E/S LNA Temp (deg K): 65
E/S G/T (nom, dB/K): *

SATOPT5 (Version 5.68) (C) 2004 TEL/COM Sciences, Inc. All Rights Reserved.
6-Dec-08 10:21
PanAmSat, Customer Support Engineering.

SATELLITE DATA	Satellite : INTELSAT_702 Uplink Beam: KSPOT Uplink POL: , Dnlink POL: , EIRP, beam center: 37.5 dBW G/T:6.0 dB/K, SFD:-87.2 dBW/m2 Dnlink EIRP: 31.5 dBW	Location: 66.0E Dnlink Beam: HEMI
TRANSPONDER DATA	Trans Bandwidth :77 MHz Uplink Frequency:14.250 GHz IBO (Nominal) : 8.2 dB	Trans Type: LTWTA Dnlink Freq: 3.950 GHz OBO (Nominal): 5.1 dB
CARRIER DATA	Type: EF9000, Info Rate: 6000 kbps, Mod: QPSK, 1/2x188/204- BWO: 6771.1kHz, BWa: 10300kHz, C/N: 3.87dB, C/N_thresh: 3.5	
LINK BUDGET		
		CLR SKY UP FADE DN FADE
UPLINK PERFORMANCE	Earth Station EIRP (dBW) - Uplink Path Loss, clear sky (dB) - Uplink Rain Attenuation (dB) + Satellite G/T (dB/K) - Boltzman's Constant (dBW/K-Hz) - Carrier Noise Bandwidth (dB-Hz) C/N Uplink (dB)	60.4 60.4 60.4 -207.5 -207.5 -207.5 0.0 -2.3 0.0 6.0 6.0 6.0 228.6 228.6 228.6 -68.3 -68.3 -68.3 19.2 16.9 19.2
DOWNLINK PERFORMANCE	Satellite Saturation EIRP (dBW) - Carrier Output Backoff (dB) Downlink EIRP per carrier (dBW) - Earth Station Pointing Error (dB) - Downlink Path Loss, clear sky (dB) - Downlink Rain Attenuation (dB) + Earth Station G/T (dB/K) - Boltzman's Constant (dBW/K-Hz) - Carrier Noise Bandwidth (dB-Hz) C/N Dnlink (dB)	31.5 31.5 31.5 -12.2 -12.8 -12.2 19.3 18.7 19.3 -.5 -.5 -.5 -196.3 -196.3 -196.3 0.0 0.0 -.3 23.6 23.6 22.9 228.6 228.6 228.6 -68.3 -68.3 -68.3 6.4 5.8 5.4
COMPOSITE PERFORMANCE	C/N Uplink (dB) C/N Dnlink (dB) C/I Intermod (dB) C/I Uplink Co-channel (dB) C/I Dnlink Co-channel (dB) C/I Uplink Adj. Sat. (SAT-1) (dB) C/I Dnlink Adj. Sat. (SAT-1) (dB) C/I Uplink Adj. Sat. (SAT-2) (dB) C/I Dnlink Adj. Sat. (SAT-2) (dB) C/(N+I) COMPOSITE (dB) - Required System Margin (dB) Net C/(N+I) COMPOSITE (dB) - Minimum Required C/N (dB) Excess Link Margin (dB)	19.2 16.9 19.2 6.4 5.8 5.4 26.6 26.8 26.6 28.7 26.3 28.7 28.7 28.1 28.7 20.1 17.8 20.1 18.2 17.6 18.2 20.1 17.8 20.1 20.7 20.1 20.7 5.4 4.6 4.6 -1.0 -1.0 -1.0 4.4 3.6 3.6 -3.9 -3.6 -3.6 .5 0.0 0.0
TRANSPONDER UTILIZATION	% BW/CARR: 13.38, % PWR/CARR: 19.61, Max No. Carriers: 5.1 Downlink EIRP per carrier toward beam center: 25.3 dBW	
TRANSMIT EARTH STATION	Loc: -4_dB Gain Contour ID: AZ: 0.0 Elev: 20.0 LAT: * LON: * ALT: 0.0m RainRate: 42.0mm/hr Carrier Power: 1.7 watts	
RECEIVE EARTH STA.	Loc: -6_dB Gain Contour ID: AZ: 0.0 Elev: 20.0 LAT: * LON: * ALT: 0.0m RainRate: 42.0mm/hr	
DENSITY INFORMATION	Uplink Pwr Den: -66.0 dBW/Hz, Dnlink EIRP Den: -43.0 dBW/Hz Max Dnlink PFD: -169.9 dB(W/m2/4kHz) @ Beam Center	
AVAILABILITY	Uplink: 99.512 %, Dnlink: 99.988 %, Composite Link: 99.501	
LOSS IN C/(N+I) DUE TO ADJ SAT INTF:	SAT-1 = 0.4dB, SAT-2 = 0.3dB	

KSPOT-HEMI (77 MHz): 10M3G7W
[Input Data]

----- SATELLITE -----

Satellite Name	: INTELSAT_702	Location (deg)	: 66.0E
Uplink Beam	: KSPOT	Dnlink Beam	: HEMI
Trans. BW (MHz)	: 77 MHz	Trans. Type	: LTWTA
Uplink Pol.	:	Dnlink Pol.	:
Uplink Chan.	:	Dnlink Chan.	:
Uplink Frequency (GHz)	: 14.250	Dnlink Frequency (GHz)	: 3.950
G/T, beam center (dB/K)	: 10	EIRP, beam center (dBW)	: 37.5
G/T, beam edge (dB/K)	: 6	EIRP, beam edge (dBW)	: 31.5
G/T, toward Tx ES (dB/K)	: 6.0	EIRP, toward Rx ES (dBW)	: 31.5
SFD, beam edge (dBW/m2)	: -87.2		
SFD, toward Tx ES (dBW/m2)	: -87.2		

----- OPERATING CONDITIONS -----

Attenuator Setting (dB)	: 2	Nominal Uplink Co-Chan C/I (dB)	: 27.0
Input Backoff (dB)	: 8.2*	Nominal Dnlink Co-Chan C/I (dB)	: 27.0
Output Backoff (dB)	: *	Minimum Uplink Rain Margin (dB)	: 0.5*
(C/Im) - Nominal (dB)	: *	Actual Uplink Rain Margin (dB)	: 2.3
Min. System Margin (dB)	: 1.0	Uplink Power Control Margin (dB)	: .0
Max No Carriers / Trans	: *	Minimum Dnlink Rain Margin (dB)	: 0.5*
Required Link Availability	: 99.5	Actual Dnlink Rain Margin (dB)	: 1.0
		Dnlink Pointing Error (dB)	: 0.5

--- ADJACENT SATELLITE INTERFERENCE --- Sat. No. 1 --- Sat. No. 2 ---

Interfering Satellite Name	:	SAT-1	SAT-2
Interfering Satellite Location (deg)	:	64.0E	68.0E
Uplink Interference (dB or dBW/Hz)	:	-50	-50
Uplink Polarization Advantage (dB)	:	0.0	0.0
Downlink Interference (dB or dBW/Hz)	:	-46.1	-46.1
Downlink Polarization Advantage (dB)	:	0.0	0.0
Rx E/S Topocentric Angle (deg)	:	2.09	2.09
Rx E/S Pointing Error (deg)	:	-0.24	0.24
Rx E/S Off-Axis Angle (deg)	:	1.85	2.33
Rx E/S Adj. Sat. Discrimination (dB)	:	21.1	23.6

----- CARRIER PARAMETERS -----

Modem Type	: EF9000	C/N (operating, dB)	: 3.87
Modulation	: QPSK	Eb/No (operating, dB)	: 4.4
Code Rate	: 1/2x188/204-V	C/N (threshold, dB)	: 3.57
Info Rate (kbps)	: 6000	Eb/No (threshold, dB)	: 4.1
Occupied Bandwidth (kHz)	: 6771.1		
Allocated Bandwidth (kHz)	: 10300		

----- Transmit Earth Station -----

Location: -4_dB_Gain_Contour
Latitude (deg): *
Longitude (deg): *
Rain Rate (mm/hr): 42*
E/S Type or Model No:
E/S Manufacturer : STANDARD
E/S Diam. (m): 7.0
E/S Freq (nom, GHz): 14.250
E/S Tx Gain (dBi): 58.1
ULPC Margin (dB): .0

----- Receive Earth Station -----

Location: -6_dB_Gain_Contour
Latitude (deg): *
Longitude (deg): *
Rain Rate (mm/hr): 42*
E/S Type or Model No:
E/S Manufacturer : STANDARD
E/S Diam. (m): 4.5
E/S Freq (nom, GHz): 3.95
E/S Gain (nom, dBi): 43.9
E/S Feed Loss (dB): 0.20
E/S Ant. Temp (deg K): 25
E/S LNA Temp (deg K): 65
E/S G/T (nom, dB/K): *

SATOPT5 (Version 5.68) (C) 2004 TEL/COM Sciences, Inc. All Rights Reserved.
6-Dec-08 10:23
PanAmSat, Customer Support Engineering.

SATELLITE DATA	Satellite : INTELSAT_702 Uplink Beam: KSPOT Uplink POL: , Dnlink POL: , EIRP, beam center: 37.5 dBW G/T:6.0 dB/K, SFD:-87.2 dBW/m2 Dnlink EIRP: 31.5 dBW	Location: 66.0E Dnlink Beam: HEMI
TRANSPONDER DATA	Trans Bandwidth :77 MHz Uplink Frequency:14.250 GHz IBO (Nominal) : 8.2 dB	Trans Type: LTWTA Dnlink Freq: 3.950 GHz OBO (Nominal): 5.1 dB
CARRIER DATA	Type: CS701, Info Rate: 64 kbps, Mod: QPSK, 1/2x239/256-V BWo: 75.4kHz, BWa: 100kHz, C/N: 2.99dB, C/N_thresh: 2.79dB	
LINK BUDGET		
		CLR SKY UP FADE DN FADE
UPLINK PERFORMANCE	Earth Station EIRP (dBW)	40.2 40.2 40.2
	- Uplink Path Loss, clear sky (dB)	-207.5 -207.5 -207.5
	- Uplink Rain Attenuation (dB)	0.0 -2.3 0.0
	+ Satellite G/T (dB/K)	6.0 6.0 6.0
	- Boltzman's Constant (dBW/K-Hz)	228.6 228.6 228.6
	- Carrier Noise Bandwidth (dB-Hz)	-48.8 -48.8 -48.8
	C/N Uplink (dB)	18.6 16.3 18.6
DOWNLINK PERFORMANCE	Satellite Saturation EIRP (dBW)	31.5 31.5 31.5
	- Carrier-Output-Backoff (dB)	-32.4 -33.1 -32.4
	Downlink EIRP per carrier (dBW)	-.9 -1.6 -.9
	- Earth Station Pointing Error (dB)	-.5 -.5 -.5
	- Downlink Path Loss, clear sky (dB)	-196.3 -196.3 -196.3
	- Downlink Rain Attenuation (dB)	0.0 0.0 -.4
	+ Earth Station G/T (dB/K)	23.6 23.6 22.8
	- Boltzman's Constant (dBW/K-Hz)	228.6 228.6 228.6
	- Carrier Noise Bandwidth (dB-Hz)	-48.8 -48.8 -48.8
		C/N Dnlink (dB)
COMPOSITE PERFORMANCE	C/N Uplink (dB)	18.6 16.3 18.6
	C/N Dnlink (dB)	5.7 5.0 4.6
	C/I Intermod (dB)	25.9 25.2 25.9
	C/I Uplink Co-channel (dB)	28.6 26.3 28.6
	C/I Dnlink Co-Channel (dB)	28.6 27.8 28.6
	C/I Uplink Adj. Sat. (SAT-1) (dB)	19.5 17.1 19.5
	C/I Dnlink Adj. Sat. (SAT-1) (dB)	17.5 16.8 17.5
	C/I Uplink Adj. Sat. (SAT-2) (dB)	19.5 17.1 19.5
	C/I Dnlink Adj. Sat. (SAT-2) (dB)	20.0 19.3 20.0
	- Required System Margin (dB)	-1.0 -1.0 -1.0
Net C/(N+I) COMPOSITE (dB)	3.7 2.8 2.8	
- Minimum Required C/N (dB)	-3.0 -2.8 -2.8	
	Excess Link Margin (dB)	.7 0.0 0.0
TRANSPONDER UTILIZATION	% BW/CARR: 0.13, % PWR/CARR: 0.19, Max No. Carriers: 534.1 Downlink EIRP per carrier toward beam center: 5.1 dBW	
TRANSMIT EARTH STATION	Loc: -4_dB_Gain_Contour ID: AZ: 0.0 Elev: 20.0 LAT: * LON: * ALT: 0.0m RainRate: 42.0mm/hr Carrier Power: 0.0 watts	
RECEIVE EARTH STA.	Loc: -6_dB_Gain_Contour ID: AZ: 0.0 Elev: 20.0 LAT: * LON: * ALT: 0.0m RainRate: 42.0mm/hr	
DENSITY INFORMATION	Uplink Pwr Den: -66.7 dBW/Hz, Dnlink EIRP Den: -43.6 dBW/Hz Max Dnlink PFD: -170.5 dB(W/m2/4kHz) @ Beam Center	
AVAILABILITY	Uplink: 99.509 %, Dnlink: 99.991 %, Composite Link: 99.500	
LOSS IN C/(N+I) DUE TO ADJ SAT INTF:	SAT-1 = 0.4dB, SAT-2 = 0.3dB	

KSPOT-HEMI (77 MHz): 100KG7W
[Input Data]

----- SATELLITE -----

Satellite Name	: INTELSAT_702	Location (deg)	: 66.0E
Uplink Beam	: KSPOT	Dnlink Beam	: HEMI
Trans. BW (MHz)	: 77 MHz	Trans. Type	: LTWTA
Uplink Pol.	:	Dnlink Pol.	:
Uplink Chan.	:	Dnlink Chan.	:
Uplink Frequency (GHz)	: 14.250	Dnlink Frequency (GHz)	: 3.950
G/T, beam center (dB/K)	: 10	EIRP, beam center (dBW)	: 37.5
G/T, beam edge (dB/K)	: 6	EIRP, beam edge (dBW)	: 31.5
G/T, toward Tx ES (dB/K)	: 6.0	EIRP, toward Rx ES (dBW)	: 31.5
SFD, beam edge (dBW/m2)	: -87.2		
SFD, toward Tx ES (dBW/m2)	: -87.2		

----- OPERATING CONDITIONS -----

Attenuator Setting (dB)	: 2	Nominal Uplink Co-Chan C/I (dB)	: 27.0
Input Backoff (dB)	: 8.2*	Nominal Dnlink Co-Chan C/I (dB)	: 27.0
Output Backoff (dB)	: *	Minimum Uplink Rain Margin (dB)	: 0.5*
(C/Im) - Nominal (dB)	: *	Actual Uplink Rain Margin (dB)	: 2.3
Min. System Margin (dB)	: 1.0	Uplink Power Control Margin (dB)	: .0
Max No Carriers / Trans	: *	Minimum Dnlink Rain Margin (dB)	: 0.5*
Required Link Availability	: 99.5	Actual Dnlink Rain Margin (dB)	: 1.2
		Dnlink Pointing Error (dB)	: 0.5

-- ADJACENT SATELLITE INTERFERENCE ----- Sat. No. 1 ----- Sat. No. 2 -----

Interfering Satellite Name	:	SAT-1	SAT-2
Interfering Satellite Location (deg)	:	64.0E	68.0E
Uplink Interference (dB or dBW/Hz)	:	-50	-50
Uplink Polarization Advantage (dB)	:	0.0	0.0
Downlink Interference (dB or dBW/Hz)	:	-46.1	-46.1
Downlink Polarization Advantage (dB)	:	0.0	0.0
Rx E/S Topocentric Angle (deg)	:	2.09	2.09
Rx E/S Pointing Error (deg)	:	-0.24	0.24
Rx E/S Off-Axis Angle (deg)	:	1.85	2.33
Rx E/S Adj. Sat. Discrimination (dB)	:	21.1	23.6

----- CARRIER PARAMETERS -----

Modem Type	: CS701	C/N (operating, dB)	: 2.99
Modulation	: QPSK	Eb/No (operating, dB)	: 3.7
Code Rate	: 1/2x239/256-V	C/N (threshold, dB)	: 2.79
Info Rate (kbps)	: 64	Eb/No (threshold, dB)	: 3.5
Occupied Bandwidth (kHz)	: 75.4		
Allocated Bandwidth (kHz)	: 100		

----- Transmit Earth Station ----- ----- Receive Earth Station -----

Location: -4_dB_Gain_Contour	Location: -6_dB_Gain_Contour
Latitude (deg): *	Latitude (deg): *
Longitude (deg): *	Longitude (deg): *
Rain Rate (mm/hr): 42*	Rain Rate (mm/hr): 42*
E/S Type or Model No:	E/S Type or Model No:
E/S Manufacturer : STANDARD	E/S Manufacturer : STANDARD
E/S Diam. (m): 7.0	E/S Diam. (m): 4.5
E/S Freq (nom, GHz): 14.250	E/S Freq (nom, GHz): 3.95
E/S Tx Gain (dBi): 58.1	E/S Gain (nom, dBi): 43.9
ULPC Margin (dB): .0	E/S Feed Loss (dB): 0.20
	E/S Ant. Temp(deg K): 25
	E/S LNA Temp (deg K): 65
	E/S G/T (nom, dB/K): *

SATOPT5 (Version 5.68) (C) 2004 TEL/COM Sciences, Inc. All Rights Reserved.
6-Dec-08 10:24
PanAmSat, Customer Support Engineering.

SATELLITE DATA	Satellite : INTELSAT_702 Uplink Beam: KSPOT Uplink POL: , Dnlink POL: , EIRP, beam center: 36.5 dBW G/T:6.0 dB/K, SFD:-75.2 dBW/m2	Location: 66.0E Dnlink Beam: ZONE Dnlink EIRP: 32.5 dBW
TRANSPONDER DATA	Trans Bandwidth :77 MHz Uplink Frequency:14.250 GHz IBO (Nominal) : 8.2 dB	Trans Type: LTWTA Dnlink Freq: 3.950 GHz OBO (Nominal): 3.1 dB
CARRIER DATA	Type: TV/FM, Format: PAL, PreEmphasis+Weighting: 15.6dB RF BW: 30.0 MHz, P-Dev: 9.0 MHz, VideoBW: 6.0 MHz,	
LINK BUDGET		
		CLR SKY UP FADE DN FADE
UPLINK PERFORMANCE	Earth Station EIRP (dBW) - Uplink Path Loss, clear sky (dB) - Uplink Rain Attenuation (dB) + Satellite G/T (dB/K) - Boltzman's Constant (dBW/K-Hz) - Carrier Noise Bandwidth (dB-Hz) C/N Uplink (dB)	76.5 76.5 76.5 -207.5 -207.5 -207.5 0.0 -2.4 0.0 6.0 6.0 6.0 228.6 228.6 228.6 -74.8 -74.8 -74.8 28.8 26.5 28.8
DOWNLINK PERFORMANCE	Satellite Saturation EIRP (dBW) - Carrier Output Backoff (dB) Downlink EIRP per carrier (dBW) - Earth Station Pointing Error (dB) - Downlink Path Loss, clear sky (dB) - Downlink Rain Attenuation (dB) + Earth Station G/T (dB/K) - Boltzman's Constant (dBW/K-Hz) - Carrier Noise Bandwidth (dB-Hz) C/N Dnlink (dB)	32.5 32.5 32.5 -6.2 -8.2 -6.2 26.3 24.3 26.3 -0.5 -0.5 -0.5 -196.3 -196.3 -196.3 0.0 0.0 -1.0 31.0 31.0 29.4 228.6 228.6 228.6 -74.8 -74.8 -74.8 14.4 12.3 11.7
COMPOSITE PERFORMANCE	C/N Uplink (dB) C/N Dnlink (dB) C/I Uplink Co-channel (dB) C/I Dnlink Co-Channel (dB) C/I Uplink Adj. Sat. (SAT-1) (dB) C/I Dnlink Adj. Sat. (SAT-1) (dB) C/I Uplink Adj. Sat. (SAT-2) (dB) C/I Dnlink Adj. Sat. (SAT-2) (dB) C/(N+I) COMPOSITE (dB) - Required System Margin (dB) Net C/(N+I) COMPOSITE (dB) - Minimum Required C/N (dB) Excess Link Margin (dB)	28.8 26.5 28.8 14.4 12.3 11.7 28.1 25.7 28.1 28.1 26.0 28.1 29.7 27.3 29.7 25.0 23.0 25.0 29.7 27.3 29.7 26.1 24.0 26.1 13.1 11.0 11.0 -1.0 -1.0 -1.0 12.1 10.0 10.0 -10.0 -10.0 -10.0 2.1 0.0 0.0
	Video Signal-to-Noise Ratio (dB)	46.0 43.9 43.9
	Audio Signal-to-Noise Ratio (dB)	59.8 57.7 57.7
TRANSMIT EARTH STATION	Loc: -4 dB Gain Contour ID: AZ: 0.0 Elev: 20.0 LAT: * LON: * ALT: 0.0m RainRate: 42.0mm/hr Carrier Power: 69.0 watts	
RECEIVE EARTH STA.	Loc: -4 dB Gain Contour ID: AZ: 0.0 Elev: 20.0 LAT: * LON: * ALT: 0.0m RainRate: 42.0mm/hr	
DENSITY INFORMATION	Uplink Pwr Den: -56.4 dBW/Hz, Dnlink EIRP Den: -44.4 dBW/Hz Max Dnlink PFD: -171.3 dB(W/m2/4kHz) @ Beam Center	
AVAILABILITY	Uplink: 99.528 %, Dnlink: 99.998 %, Composite Link: 99.526%	
LOSS IN C/(N+I) DUE TO ADJ SAT INTF:	SAT-1 = 0.4dB, SAT-2 = 0.3dB	

KSPOT-ZONE (77 MHz): 30M0F3F
[Input Data]

----- SATELLITE -----

Satellite Name	: INTELSAT_702	Location (deg):	66.0E
Uplink Beam	: KSPOT	Dnlink Beam	: ZONE
Trans. BW (MHz)	: 77 MHz	Trans. Type	: LTWTA
Uplink Pol.	:	Dnlink Pol.	:
Uplink Chan.	:	Dnlink Chan.	:
Uplink Frequency (GHz)	: 14.250	Dnlink Frequency (GHz)	: 3.950
G/T, beam center (dB/K)	: 10	EIRP, beam center (dBW)	: 36.5
G/T, beam edge (dB/K)	: 6	EIRP, beam edge (dBW)	: 32.5
G/T, toward Tx ES (dB/K)	: 6.0	EIRP, toward Rx ES (dBW)	: 32.5
SFD, beam edge (dBW/m2)	: -75.2		
SFD, toward Tx ES (dBW/m2)	: -75.2		

----- OPERATING CONDITIONS -----

Attenuator Setting (dB)	: 14	Nominal Uplink Co-Chan C/I (dB)	: 27.0
Input Backoff (dB)	: 8.2*	Nominal Dnlink Co-Chan C/I (dB)	: 27.0
Output Backoff (dB)	: *	Minimum Uplink Rain Margin (dB)	: 0.5*
(C/Im) - Nominal (dB)	: *	Actual Uplink Rain Margin (dB)	: 2.4
Min. System Margin (dB)	: 1.0	Uplink Power Control Margin (dB)	: .0
Max No Carriers / Trans:	2	Minimum Dnlink Rain Margin (dB)	: 0.5*
Required Link Availability:	99.5	Actual Dnlink Rain Margin (dB)	: 2.6
		Dnlink Pointing Error (dB)	: -0.5

----- ADJACENT SATELLITE INTERFERENCE ----- Sat. No. 1 ----- Sat. No. 2 -----

Interfering Satellite Name	:	SAT-1	SAT-2
Interfering Satellite Location (deg)	:	64.0E	68.0E
Uplink Interference (dB or dBW/Hz)	:	-50	-50
Uplink Polarization Advantage (dB)	:	0.0	0.0
Downlink Interference (dB or dBW/Hz)	:	-43.6	-43.6
Downlink Polarization Advantage (dB)	:	0.0	0.0
Rx E/S Topocentric Angle (deg)	:	2.09	2.09
Rx E/S Pointing Error (deg)	:	-0.10	0.10
Rx E/S Off-Axis Angle (deg)	:	1.99	2.19
Rx E/S Adj. Sat. Discrimination (dB)	:	29.9	30.9

----- TV/FM CARRIER PARAMETERS -----

Video Format	: PAL	Peak Deviation (MHz)	: 9.0
RF Noise BW (MHz)	: 30.0	PreEmphasis+Weighting (dB)	: 15.6
Video BW (MHz)	: 6.0	Threshold C/N (dB)	: 10.0

----- AUDIO SUB-CARRIER PARAMETERS -----

Sub-Carrier Freq (MHz)	: 6.6	Highest Audio Freq (kHz)	: 15.0
P-Dev of Video by Audio (MHz)	: 2.0	Companding Advantage (dB)	: 0.0
Peak Dev of Audio (kHz)	: 75.0		

----- Transmit Earth Station -----

----- Receive Earth Station -----

Location: -4_dB_Gain_Contour		Location: -4_dB_Gain_Contour	
Latitude (deg): *		Latitude (deg): *	
Longitude (deg): *		Longitude (deg): *	
Rain Rate (mm/hr): 42*		Rain Rate (mm/hr): 42*	
E/S Type or Model No:		E/S Type or Model No:	
E/S Manufacturer : STANDARD		E/S Manufacturer : STANDARD	
E/S Diam. (m): 7.0		E/S Diam. (m): 11.0	
E/S Freq (nom, GHz): 14.250		E/S Freq (nom, GHz): 3.95	
E/S Tx Gain (dBi): 58.1		E/S Gain (nom, dBi): 51.9	
ULPC Margin (dB): /0		E/S Feed Loss (dB): 0.15	
		E/S Ant. Temp (deg K): 45	
		E/S LNA Temp (deg K): 65	
		E/S G/T (nom, dB/K): *	

SATOPT5 (Version 5.68) (C) 2004 TEL/COM Sciences, Inc. All Rights Reserved.
6-Dec-08 10:39
PanAmSat, Customer Support Engineering.

SATELLITE DATA	Satellite : INTELSAT_702 Uplink Beam: KSPOT Uplink POL: , Dnlink POL: , EIRP, beam center: 36.5 dBW G/T:6.0 dB/K, SFD:-81.2 dBW/m2	Location: 66.0E Dnlink Beam: ZONE Dnlink EIRP: 32.5 dBW
TRANSPONDER DATA	Trans Bandwidth :77 MHz Uplink Frequency:14.250 GHz IBO (Nominal) : 0.0 dB	Trans Type: LTWTA Dnlink Freq: 3.950 GHz OBO (Nominal): 0.0 dB
CARRIER DATA	Type: NTC26%, Info Rate: 52550 kbps, Mod: QPSK, 1/2x188/204 BWo: 64435kHz, BWa: 77000kHz, C/N: 3.36dB, C/N_thresh: 3.36	
LINK BUDGET		
		CLR SKY UP FADE DN FADE
UPLINK PERFORMANCE	Earth Station EIRP (dBW)	81.7 81.7 81.7
	- Uplink Path Loss, clear sky (dB)	-207.5 -207.5 -207.5
	- Uplink Rain Attenuation (dB)	0.0 -6.9 0.0
	+ Satellite G/T (dB/K)	6.0 6.0 6.0
	- Boltzman's Constant (dBW/K-Hz)	228.6 228.6 228.6
	- Carrier Noise Bandwidth (dB-Hz)	-78.1 -78.1 -78.1
	C/N Uplink (dB)	30.7 23.9 30.7
DOWNLINK PERFORMANCE	Satellite Saturation EIRP (dBW)	32.5 32.5 32.5
	- Carrier Output Backoff (dB)	0.0 -1.5 0.0
	Downlink EIRP per carrier (dBW)	32.5 31.0 32.5
	- Earth Station Pointing Error (dB)	-0.5 -0.5 -0.5
	- Downlink Path Loss, clear sky (dB)	-196.3 -196.3 -196.3
	- Downlink Rain Attenuation (dB)	0.0 0.0 -0.7
	+ Earth Station G/T (dB/K)	21.0 21.0 19.6
	- Boltzman's Constant (dBW/K-Hz)	228.6 228.6 228.6
	- Carrier Noise Bandwidth (dB-Hz)	-78.1 -78.1 -78.1
		C/N Dnlink (dB)
COMPOSITE PERFORMANCE	C/N Uplink (dB)	30.7 23.9 30.7
	C/N Dnlink (dB)	7.2 5.6 5.1
	C/I Uplink Co-channel (dB)	27.0 20.1 27.0
	C/I Dnlink Co-Channel (dB)	27.0 25.5 27.0
	C/I Uplink Adj. Sat. (SAT-1) (dB)	31.6 24.8 31.6
	C/I Dnlink Adj. Sat. (SAT-1) (dB)	14.3 12.8 14.3
	C/I Uplink Adj. Sat. (SAT-2) (dB)	31.6 24.8 31.6
	C/I Dnlink Adj. Sat. (SAT-2) (dB)	19.1 17.6 19.1
	C/(N+I) COMPOSITE (dB)	6.1 4.4 4.4
	- Required System Margin (dB)	-1.0 -1.0 -1.0
COMPOSITE PERFORMANCE	Net C/(N+I) COMPOSITE (dB)	5.1 3.4 3.4
	- Minimum Required C/N (dB)	-3.4 -3.4 -3.4
	Excess Link Margin (dB)	1.7 0.0 0.0
TRANSPONDER UTILIZATION	% BW/CARR: 100.00, % PWR/CARR: 100.00, Max No. Carriers: 1.0 Downlink EIRP per carrier toward beam center: 36.5 dBW	
TRANSMIT EARTH STATION	Loc: -4 dB Gain Contour ID: AZ: 0.0 Elev: 20.0 LAT: * LON: * ALT: 0.0m RainRate: 42.0mm/hr Carrier Power: 229.0 watts	
RECEIVE EARTH STA.	Loc: -4 dB Gain Contour ID: AZ: 0.0 Elev: 20.0 LAT: * LON: * ALT: 0.0m RainRate: 42.0mm/hr	
DENSITY INFORMATION	Uplink Pwr Den: -54.5 dBW/Hz, Dnlink EIRP Den: -41.6 dBW/Hz Max Dnlink PFD: -168.5 dB(W/m2/4kHz) @ Beam Center	
AVAILABILITY	Uplink: 99.921 %, Dnlink: 99.998 %, Composite Link: 99.919	
LOSS IN C/(N+I) DUE TO ADJ SAT INTF:	SAT-1 = 0.7dB, SAT-2 = 0.2dB	

KSPOT-ZONE (77 MHz): 77MOG7W
[Input Data]

----- SATELLITE -----

Satellite Name	: INTELSAT_702	Location (deg)	: 66.0E
Uplink Beam	: KSPOT	Dnlink Beam	: ZONE
Trans. BW (MHz)	: 77 MHz	Trans. Type	: LTWTA
Uplink Pol.	:	Dnlink Pol.	:
Uplink Chan.	:	Dnlink Chan.	:
Uplink Frequency (GHz)	: 14.250	Dnlink Frequency (GHz)	: 3.950
G/T, beam center (dB/K)	: 10	EIRP, beam center (dBW)	: 36.5
G/T, beam edge (dB/K)	: 6	EIRP, beam edge (dBW)	: 32.5
G/T, toward Tx ES (dB/K)	: 6.0	EIRP, toward Rx ES (dBW)	: 32.5
SFD, beam edge (dBW/m2)	: -81.2		
SFD, toward Tx ES (dBW/m2)	: -81.2		

----- OPERATING CONDITIONS -----

Attenuator Setting (dB)	: 8	Nominal Uplink Co-Chan C/I (dB)	: 27.0
Input Backoff (dB)	: 0.0	Nominal Dnlink Co-Chan C/I (dB)	: 27.0
Output Backoff (dB)	: *	Minimum Uplink Rain Margin (dB)	: 0.5*
(C/Im) - Nominal (dB)	: *	Actual Uplink Rain Margin (dB)	: 6.9
Min. System Margin (dB)	: 1.0	Uplink Power Control Margin (dB)	: .0
Max No Carriers / Trans	: 1	Minimum Dnlink Rain Margin (dB)	: 0.5*
Required Link Availability	: 99.5	Actual Dnlink Rain Margin (dB)	: 2.1
		Dnlink Pointing Error (dB)	: 0.5

----- ADJACENT SATELLITE INTERFERENCE ----- Sat. No. 1 ----- Sat. No. 2 -----

Interfering Satellite Name	:	SAT-1	SAT-2
Interfering Satellite Location (deg)	:	64.0E	68.0E
Uplink Interference (dB or dBW/Hz)	:	-50	-50
Uplink Polarization Advantage (dB)	:	0.0	0.0
Downlink Interference (dB or dBW/Hz)	:	-43.6	-43.6
Downlink Polarization Advantage (dB)	:	0.0	0.0
Rx E/S Topocentric Angle (deg)	:	2.09	2.09
Rx E/S Pointing Error (deg)	:	-0.31	0.31
Rx E/S Off-Axis Angle (deg)	:	1.78	2.40
Rx E/S Adj. Sat. Discrimination (dB)	:	16.3	21.1

----- CARRIER PARAMETERS -----

Modem Type	: NTC26%	C/N (operating, dB)	: 3.36
Modulation	: QPSK	Eb/No (operating, dB)	: 4.2
Code Rate	: 1/2x188/204-V	C/N (threshold, dB)	: 3.36
Info Rate (kbps)	: 52550	Eb/No (threshold, dB)	: 4.2
Occupied Bandwidth (kHz)	: 64435		
Allocated Bandwidth (kHz)	: 77000		

----- Transmit Earth Station ----- ----- Receive Earth Station -----

Location: -4_dB_Gain_Contour	Location: -4_dB_Gain_Contour
Latitude (deg): *	Latitude (deg): *
Longitude (deg): *	Longitude (deg): *
Rain Rate (mm/hr): 42*	Rain Rate (mm/hr): 42*
E/S Type or Model No:	E/S Type or Model No:
E/S Manufacturer : STANDARD	E/S Manufacturer : STANDARD
E/S Diam. (m): 7.0	E/S Diam. (m): 3.5
E/S Freq (nom, GHz): 14.250	E/S Freq (nom, GHz): 3.95
E/S Tx Gain (dBi): 58.1	E/S Gain (nom, dBi): 41.1
ULPC Margin (dB): .0	E/S Feed Loss (dB): 0.15
	E/S Ant. Temp (deg K): 25
	E/S LNA Temp (deg K): 65
	E/S G/T (nom, dB/K): *

SATOPT5 (Version 5.68) (C) 2004 TEL/COM Sciences, Inc. All Rights Reserved.
6-Dec-08 10:31
PanAmSat, Customer Support Engineering.

SATELLITE DATA	Satellite : INTELSAT_702 Uplink Beam: KSPOT Uplink POL: , Dnlink POL: , EIRP, beam center: 36.5 dBW G/T:6.0 dB/K, SFD:-89.2 dBW/m2	Location: 66.0E Dnlink Beam: ZONE Dnlink EIRP: 32.5 dBW
TRANSPONDER DATA	Trans Bandwidth :77 MHz Uplink Frequency:14.250 GHz IBO (Nominal) : 8.2 dB	Trans Type: LTWTA Dnlink Freq: 3.950 GHz OBO (Nominal): 5.1 dB
CARRIER DATA	Type: EF9000, Info Rate: 6000 kbps, Mod: QPSK, 1/2x188/204- BWo: 6771.1kHz, BWa: 10300kHz, C/N: 3.87dB, C/N_thresh: 3.5	
LINK BUDGET		
		CLR SKY UP FADE DN FADE
UPLINK PERFORMANCE	Earth Station EIRP (dBW) - Uplink Path Loss, clear sky (dB) - Uplink Rain Attenuation (dB) + Satellite G/T (dB/K) - Boltzman's Constant (dBW/K-Hz) - Carrier Noise Bandwidth (dB-Hz) C/N Uplink (dB)	58.3 58.3 58.3 -207.5 -207.5 -207.5 0.0 -2.3 0.0 6.0 6.0 6.0 228.6 228.6 228.6 -68.3 -68.3 -68.3 17.1 14.8 17.1
DOWNLINK PERFORMANCE	Satellite Saturation EIRP (dBW) - Carrier Output Backoff (dB) Downlink EIRP per carrier (dBW) - Earth Station Pointing Error (dB) - Downlink Path Loss, clear sky (dB) - Downlink Rain Attenuation (dB) + Earth Station G/T (dB/K) - Boltzman's Constant (dBW/K-Hz) - Carrier Noise Bandwidth (dB-Hz) C/N Dnlink (dB)	32.5 32.5 32.5 -12.3 -12.9 -12.3 20.2 19.6 20.2 -.5 -.5 -.5 -196.3 -196.3 -196.3 0.0 0.0 -.4 23.6 23.6 22.7 228.6 228.6 228.6 -68.3 -68.3 -68.3 7.3 6.7 5.9
COMPOSITE PERFORMANCE	C/N Uplink (dB) C/N Dnlink (dB) C/I Intermod (dB) C/I Uplink Co-channel (dB) C/I Dnlink Co-channel (dB) C/I Uplink Adj. Sat. (SAT-1) (dB) C/I Dnlink Adj. Sat. (SAT-1) (dB) C/I Uplink Adj. Sat. (SAT-2) (dB) C/I Dnlink Adj. Sat. (SAT-2) (dB) C/(N+I) COMPOSITE (dB) - Required System Margin (dB) Net C/(N+I) COMPOSITE (dB) - Minimum Required C/N (dB) Excess Link Margin (dB)	17.1 14.8 17.1 7.3 6.7 5.9 26.4 26.6 26.4 28.5 26.2 28.5 28.5 27.9 28.5 18.0 15.7 18.0 16.6 16.0 16.6 18.0 15.7 18.0 19.1 18.5 19.1 5.5 4.6 4.6 -1.0 -1.0 -1.0 4.5 3.6 3.6 -3.9 -3.6 -3.6 .7 0.0 0.0
TRANSPONDER UTILIZATION	% BW/CARR: 13.38, % PWR/CARR: 18.92, Max No. Carriers: 5.3 Downlink EIRP per carrier toward beam center: 24.2 dBW	
TRANSMIT EARTH STATION	Loc: -4_dB_Gain_Contour ID: AZ: 0.0 Elev: 20.0 LAT: * LON: * ALT: 0.0m RainRate: 42.0mm/hr Carrier Power: 1.0 watts	
RECEIVE EARTH STA.	Loc: -4_dB_Gain_Contour ID: AZ: 0.0 Elev: 20.0 LAT: * LON: * ALT: 0.0m RainRate: 42.0mm/hr	
DENSITY INFORMATION	Uplink Pwr Den: -68.1 dBW/Hz, Dnlink EIRP Den: -44.1 dBW/Hz Max Dnlink PFD: -171.0 dB(W/m2/4kHz) @ Beam Center	
AVAILABILITY	Uplink: 99.507 %, Dnlink: 99.994 %, Composite Link: 99.501	
LOSS IN C/(N+I) DUE TO ADJ SAT INTF:	SAT-1 = 0.6dB, SAT-2 = 0.5dB	

KSPOT-ZONE (77 MHz): 10M3G7W
[Input Data]

----- SATELLITE -----

Satellite Name	: INTELSAT_702	Location (deg)	: 66.0E
Uplink Beam	: KSPOT	Dnlink Beam	: ZONE
Trans. BW (MHz)	: 77 MHz	Trans. Type	: LTWTA
Uplink Pol.	:	Dnlink Pol.	:
Uplink Chan.	:	Dnlink Chan.	:
Uplink Frequency (GHz)	: 14.250	Dnlink Frequency (GHz)	: 3.950
G/T, beam center (dB/K)	: 10	EIRP, beam center (dBW)	: 36.5
G/T, beam edge (dB/K)	: 6	EIRP, beam edge (dBW)	: 32.5
G/T, toward Tx ES (dB/K)	: 6.0	EIRP, toward Rx ES (dBW)	: 32.5
SFD, beam edge (dBW/m2)	: -89.2		
SFD, toward Tx ES (dBW/m2)	: -89.2		

----- OPERATING CONDITIONS -----

Attenuator Setting (dB)	: 0	Nominal Uplink Co-Chan C/I (dB)	: 27.0
Input Backoff (dB)	: 8.2*	Nominal Dnlink Co-Chan C/I (dB)	: 27.0
Output Backoff (dB)	: *	Minimum Uplink Rain Margin (dB)	: 0.5*
(C/Im) - Nominal (dB)	: *	Actual Uplink Rain Margin (dB)	: 2.3
Min. System Margin (dB)	: 1.0	Uplink Power Control Margin (dB)	: .0
Max No Carriers / Trans:	: *	Minimum Dnlink Rain Margin (dB)	: 0.5*
Required Link Availability:	: 99.5	Actual Dnlink Rain Margin (dB)	: 1.4
		Dnlink Pointing Error (dB)	: 0.5

----- ADJACENT SATELLITE INTERFERENCE ----- Sat. No. 1 ----- Sat. No. 2 -----

Interfering Satellite Name	:	SAT-1	SAT-2
Interfering Satellite Location (deg)	:	64.0E	68.0E
Uplink Interference (dB or dBW/Hz)	:	-50	-50
Uplink Polarization Advantage (dB)	:	0.0	0.0
Downlink Interference (dB or dBW/Hz)	:	-43.6	-43.6
Downlink Polarization Advantage (dB)	:	0.0	0.0
Rx E/S Topocentric Angle (deg)	:	2.09	2.09
Rx E/S Pointing Error (deg)	:	-0.24	0.24
Rx E/S Off-Axis Angle (deg)	:	1.85	2.33
Rx E/S Adj. Sat. Discrimination (dB)	:	21.1	23.6

----- CARRIER PARAMETERS -----

Modem Type	: EF9000	C/N (operating, dB)	: 3.87
Modulation	: QPSK	Eb/No (operating, dB)	: 4.4
Code Rate	: 1/2x188/204-V	C/N (threshold, dB)	: 3.57
Info Rate (kbps)	: 6000	Eb/No (threshold, dB)	: 4.1
Occupied Bandwidth (kHz)	: 6771.1		
Allocated Bandwidth (kHz)	: 10300		

----- Transmit Earth Station -----

Location: -4_dB_Gain_Contour
Latitude (deg): *
Longitude (deg): *
Rain Rate (mm/hr): 42*
E/S Type or Model No:
E/S Manufacturer : STANDARD
E/S Diam. (m): 7.0
E/S Freq (nom, GHz): 14.250
E/S Tx Gain (dBi): 58.1
ULPC Margin (dB): .0

----- Receive Earth Station -----

Location: -4_dB_Gain_Contour
Latitude (deg): *
Longitude (deg): *
Rain Rate (mm/hr): 42*
E/S Type or Model No:
E/S Manufacturer : STANDARD
E/S Diam. (m): 4.5
E/S Freq (nom, GHz): 3.95
E/S Gain (nom, dBi): 43.9
E/S Feed Loss (dB): 0.20
E/S Ant. Temp (deg K): 25
E/S LNA Temp (deg K): 65
E/S G/T (nom, dB/K): *

SATOPT5 (Version 5.68) (C) 2004 TEL/COM Sciences, Inc. All Rights Reserved.
6-Dec-08 10:34
PanAmSat, Customer Support Engineering.

SATELLITE DATA	Satellite : INTELSAT_702 Uplink Beam: KSPOT Uplink POL: , Dnlink POL: , EIRP, beam center: 36.5 dBW G/T:6.0 dB/K, SFD:-89.2 dBW/m2	Location: 66.0E Dnlink Beam: ZONE Dnlink EIRP: 32.5 dBW
TRANSPONDER DATA	Trans Bandwidth :77 MHz Uplink Frequency:14.250 GHz IBO (Nominal) : 8.2 dB	Trans Type: LTWTA Dnlink Freq: 3.950 GHz OBO (Nominal): 5.1 dB
CARRIER DATA	Type: CS701, Info Rate: 64 kbps, Mod: QPSK, 1/2x239/256-V BWo: 75.4kHz, Bwa: 100kHz, C/N: 2.99dB, C/N_thresh: 2.79dB	
LINK BUDGET		
		CLR SKY UP FADE DN FADE
UPLINK PERFORMANCE	Earth Station EIRP (dBW)	38.0 38.0 38.0
	- Uplink Path Loss, clear sky (dB)	-207.5 -207.5 -207.5
	- Uplink Rain Attenuation (dB)	0.0 -2.3 0.0
	+ Satellite G/T (dB/K)	6.0 6.0 6.0
	- Boltzman's Constant (dBW/K-Hz)	228.6 228.6 228.6
	- Carrier Noise Bandwidth (dB-Hz)	-48.8 -48.8 -48.8
	C/N Uplink (dB)	16.4 14.1 16.4
	Satellite Saturation EIRP (dBW)	32.5 32.5 32.5
	- Carrier Output Backoff (dB)	-32.5 -33.3 -32.5
DOWNLINK PERFORMANCE	Downlink EIRP per carrier (dBW)	0.0 -0.8 0.0
	- Earth Station Pointing Error (dB)	-0.5 -0.5 -0.5
	- Downlink Path Loss, clear sky (dB)	-196.3 -196.3 -196.3
	- Downlink Rain Attenuation (dB)	0.0 0.0 -0.5
	+ Earth Station G/T (dB/K)	23.6 23.6 22.6
	- Boltzman's Constant (dBW/K-Hz)	228.6 228.6 228.6
	- Carrier Noise Bandwidth (dB-Hz)	-48.8 -48.8 -48.8
	C/N Dnlink (dB)	6.6 5.8 5.1
COMPOSITE PERFORMANCE	C/N Uplink (dB)	16.4 14.1 16.4
	C/N Dnlink (dB)	6.6 5.8 5.1
	C/I Intermod (dB)	25.8 25.0 25.8
	C/I Uplink Co-channel (dB)	28.4 26.1 28.4
	C/I Dnlink Co-Channel (dB)	28.4 27.7 28.4
	C/I Uplink Adj. Sat. (SAT-1) (dB)	17.3 15.0 17.3
	C/I Dnlink Adj. Sat. (SAT-1) (dB)	15.9 15.1 15.9
	C/I Uplink Adj. Sat. (SAT-2) (dB)	17.3 15.0 17.3
	C/I Dnlink Adj. Sat. (SAT-2) (dB)	18.4 17.6 18.4
	C/(N+I) COMPOSITE (dB)	4.9 3.8 3.8
	- Required System Margin (dB)	-1.0 -1.0 -1.0
	Net C/(N+I) COMPOSITE (dB)	3.9 2.8 2.8
	- Minimum Required C/N (dB)	-3.0 -2.8 -2.8
	Excess Link Margin (dB)	.9 0.0 0.0
TRANSPONDER UTILIZATION	% BW/CARR: 0.13, % PWR/CARR: 0.18, Max No. Carriers: 555.8 Downlink EIRP per carrier toward beam center: 4.0 dBW	
TRANSMIT EARTH STATION	Loc: -4 dB Gain Contour ID: AZ: 0.0 Elev: 20.0 LAT: * LON: * ALT: 0.0m RainRate: 42.0mm/hr Carrier Power: 0.0 watts	
RECEIVE EARTH STA.	Loc: -4 dB Gain Contour ID: AZ: 0.0 Elev: 20.0 LAT: * LON: * ALT: 0.0m RainRate: 42.0mm/hr	
DENSITY INFORMATION	Uplink Pwr Den: -68.8 dBW/Hz, Dnlink EIRP Den: -44.8 dBW/Hz Max Dnlink PFD: -171.7 dB(W/m2/4kHz) @ Beam Center	
AVAILABILITY	Uplink: 99.505 %, Dnlink: 99.995 %, Composite Link: 99.500	
LOSS IN C/(N+I) DUE TO ADJ SAT INTF:	SAT-1 = 0.6dB, SAT-2 = 0.5dB	

KSPOT-ZONE (77 MHz): 100KG7W
[Input Data]

----- SATELLITE -----

Satellite Name : INTELSAT_702	Location (deg): 66.0E
Uplink Beam : KSPOT	Dnlink Beam : ZONE
Trans. BW (MHz): 77 MHz	Trans. Type : LTWTA
Uplink Pol. :	Dnlink Pol. :
Uplink Chan. :	Dnlink Chan. :
Uplink Frequency (GHz): 14.250	Dnlink Frequency (GHz): 3.950
G/T, beam center (dB/K): 10	EIRP, beam center (dBW): 36.5
G/T, beam edge (dB/K): 6	EIRP, beam edge (dBW): 32.5
G/T, toward Tx ES (dB/K): 6.0	EIRP, toward Rx ES (dBW): 32.5
SFD, beam edge (dBW/m2): -89.2	
SFD, toward Tx ES (dBW/m2): -89.2	

----- OPERATING CONDITIONS -----

Attenuator Setting (dB): 0	Nominal Uplink Co-Chan C/I (dB): 27.0
Input Backoff (dB): 8.2*	Nominal Dnlink Co-Chan C/I (dB): 27.0
Output Backoff (dB): *	Minimum Uplink Rain Margin (dB): 0.5*
(C/Im) - Nominal (dB): *	Actual Uplink Rain Margin (dB): 2.3
Min. System Margin (dB): 1.0	Uplink Power Control Margin (dB): .0
Max No Carriers / Trans: *	Minimum Dnlink Rain Margin (dB): 0.5*
Required Link Availability: 99.5	Actual Dnlink Rain Margin (dB): 1.5
	Dnlink Pointing Error (dB): 0.5

--- ADJACENT SATELLITE INTERFERENCE --- Sat. No. 1 --- Sat. No. 2 ---

Interfering Satellite Name :	SAT-1	SAT-2
Interfering Satellite Location (deg):	64.0E	68.0E
Uplink Interference (dB or dBW/Hz):	-50	-50
Uplink Polarization Advantage (dB):	0.0	0.0
Downlink Interference (dB or dBW/Hz):	-43.6	-43.6
Downlink Polarization Advantage (dB):	0.0	0.0
Rx E/S Topocentric Angle (deg):	2.09	2.09
Rx E/S Pointing Error (deg):	-0.24	0.24
Rx E/S Off-Axis Angle (deg):	1.85	2.33
Rx E/S Adj. Sat. Discrimination (dB):	21.1	23.6

----- CARRIER PARAMETERS -----

Modem Type : CS701	C/N (operating, dB): 2.99
Modulation : QPSK	Eb/No (operating, dB): 3.7
Code Rate : 1/2x239/256-V	C/N (threshold, dB): 2.79
Info Rate (kbps): 64	Eb/No (threshold, dB): 3.5
Occupied Bandwidth (kHz): 75.4	
Allocated Bandwidth (kHz): 100	

----- Transmit Earth Station -----

Location: -4_dB_Gain_Contour
Latitude (deg): *
Longitude (deg): *
Rain Rate (mm/hr): 42*
E/S Type or Model No:
E/S Manufacturer : STANDARD
E/S Diam. (m): 7.0
E/S Freq (nom, GHz): 14.250
E/S Tx Gain (dBi): 58.1
ULPC Margin (dB): .0

----- Receive Earth Station -----

Location: -4_dB_Gain_Contour
Latitude (deg): *
Longitude (deg): *
Rain Rate (mm/hr): 42*
E/S Type or Model No:
E/S Manufacturer : STANDARD
E/S Diam. (m): 4.5
E/S Freq (nom, GHz): 3.95
E/S Gain (nom, dBi): 43.9
E/S Feed Loss (dB): 0.20
E/S Ant. Temp(deg K): 25
E/S LNA Temp (deg K): 65
E/S G/T (nom, dB/K): *

SATOPT5 (Version 5.68) (C) 2004 TEL/COM Sciences, Inc. All Rights Reserved.
6-Dec-08 10:34
PanAmSat, Customer Support Engineering.