EXHIBIT 3: PAS-5 Ku-BAND LINK BUDGETS

UPLINK BEAM INFORMATION						
Uplink Beam Name	Pacific	Pacific	Pacific	Pacific	Pacific	Pacific
Uplink Frequency (MHz)	14236	14236	14236	14236	14236	14236
Uplink Beam Polarization	Horizontal	Horizontal	Horizontal	Horizontal	Horizontal	Horizontal
Uplink Relative Contour Level (dB)	-6	-6	-6	-6	-6	-6
Uplink Contour G/T (dB/K)	-6	-6	-6	-6	-6	-6
Uplink SFD (dBW/m^2)	-81.0	-81.0	-81.0	-82.0	-82.0	-82.0
Rain Rate (mm/hr)	95.0	95.0	95.0	95.0	95.0	95.0
DOWNLINK BEAM INFORMATION						
Downlink Beam Name	SE Asia	SE Asia	SE Asia	SE Asia	SE Asia	SE Asia
Downlink Frequency (MHz)	12486	12486	12486	12486	12486	12486
Downlink Beam Polarization	Vertical	Vertical	Vertical	Vertical	Vertical	Vertical
Downlink Relative Contour Level (dB)	-6	-6	-6	-6	-6	-6
Downlink Contour EIRP (dBW)	48.2	48.2	48.2	50.0	50.0	50.0
Rain Rate (mm/hr)	42.0	42.0	42.0	42.0	42.0	42.0
ADJACENT SATELLITE 1						
Satellite 1 Orbital Location	164 EL	164 EL	164 EL	164 EL	164 EL	164 EL
Uplink Power Density (dBW/Hz)	-45.0	-45.0	-45.0	-45.0	-45.0	-45.0
Uplink Polarization Advantage (dB)	0	0	0	0	0	0
Downlink EIRP Density (dBW/Hz)	-18.7	-18.7	-18.7	-18.7	-18.7	-18.7
Downlink Polarization Advantage (dB)	0	0	0	0	0	0
ADJACENT SATELLITE 2						
Satellite 2 Orbital Location	168 EL	168 EL	168 EL	168 EL	168 EL	168 EL
Uplink Power Density (dBW/Hz)	-45.0	-45.0	-45.0	-45.0	-45.0	-45.0
Uplink Polarization Advantage (dB)	0	0	0	0	0	0
Downlink EIRP Density (dBW/Hz)	-18.7	-18.7	-18.7	-18.7	-18.7	-18.7
Downlink Polarization Advantage (dB)	0	0	0	0	0	0
CARRIER INFORMATION						
Carrier ID	36M0F3F	36M0F3F	36M0F3F	30M1G7W	30M1G7W	30M1G7W
Carrier Modulation	TV/FM	TV/FM	TV/FM	QPSK	QPSK	QPSK
Peak to Peak Bandwidth of EDS (MHz)	4	4	4	n/a	n/a	n/a
Information Rate (kbps)	n/a	n/a	n/a	36863	36863	36863
Code Rate	n/a	n/a	n/a	3/4 - RS	3/4 - RS	3/4 - RS
Occupied Bandwidth (kHz)	36000	36000	36000	30133	30133	30133
Allocated Bandwidth (kHz)	36000	36000	36000	36000	36000	36000
Minimum C/N, Clear Sky (dB)	10.0	10.0	10.0	6.1	6.1	6.1
Minimum C/N, Rain (dB)	10.0	10.0	10.0	6.1	6.1	6.1
UPLINK EARTH STATION						
Earth Station Diameter (meters)	7	7	7	7	7	7
Earth Station Gain (dBi)	58.1	58.1	58.1	58.1	58.1	58.1
Earth Station Elevation Angle	20	20	20	20	20	20
DOWNLINK EARTH STATION						
Earth Station Diameter (meters)	3.0	3.0	3.0	1.2	1.2	1.2
Earth Station Gain (dBi)	49.6	49.6	49.6	41.7	41.7	41.7
Earth Station G/T (dB/K)	27.1	27.1	24.1	19.2	19.2	16.6
Earth Station Elevation Angle	20	20	20	20	20	20
LINK FADE TYPE	Clear Sky	Uplink Fade	Downlink Fade	Clear Sky	Uplink Fade	Downlink Fade
UPLINK PERFORMANCE						
Uplink Earth Station EIRP (dBW)	81.9	81.9	81.9	80.9	80.9	80.9
Uplink Path Loss, Clear Sky (dB)	-207.5	-207.5	-207.5	-207.5	-207.5	-207.5
Uplink Rain Attenuation (dB)	0.0	-4.5	0.0	0.0	-5.6	0.0
Satellite G/T (dB/K)	-6.0	-6.0	-6.0	-6.0	-6.0	-6.0
Boltzman Constant (dBW/K-Hz)	228.6	228.6	228.6	228.6	228.6	228.6
Carrier Noise Bandwidth (dB-Hz)	-75.6	-75.6	75.6	-74.8	-74.8	-74.8
Uplink C/N (dB)	21.5	17.0	21.5	21.2	15.6	21.2
DOWNLINK PERFORMANCE						
Downlink EIRP per Carrier (dBW)	48.2	47.8	48.2	50.0	49.1	50.0
Antenna Pointing Error (dB)	-0.5	-0.5	-0.5	-0.5	-0.5	-0.5
Downlink Path Loss, Clear Sky (dB)	-206.3	-206.3	-206.3	-206.3	-206.3	-206.3
Downlink Rain Attenuation (dB)	0.0	0.0	-4.2	0.0	0.0	-3.1
Earth Station G/T (dB/K)	27.1	27.1	24.1	19.2	19.2	16.6
Boltzman Constant (dBW/K-Hz)	228.6	228.6	228.6	228.6	228.6	228.6
Carrier Noise Bandwidth (dB-Hz)	-75.6	-75.6	-75.6	-74.8	-74.8	-74.8
Downlink C/N (dB)	21.5	21.0	14.3	16.1	15.3	10.5
COMPOSITE LINK PERFORMANCE						
C/N Uplink (dB)	21.5	17.0	21.5	21.2	15.6	21.2
C/N Downlink (dB)	21.5	21.0	14.3	16.1	15.3	10.5
C/I Intermodulation (dB)	n/a	n/a	n/a	n/a	n/a	n/a
C/I Uplink Co-Channel (dB)*	24.0	19.5	24.0	24.0	18.4	24.0
C/I Downlink Co-Channel (dB)*	24.0	23.6	24.0	24.0	23.1	24.0
C/I Uplink Adjacent Satellite 1 (dB)	27.3	22.8	27.3	27.1	21.5	27.1
C/I Downlink Adjacent Satellite 1 (dB)	18.8	18.4	18.8	12.5	11.7	12.5
C/I Uplink Adjacent Satellite 2 (dB)	27.3	22.8	27.3	27.1	21.5	27.1
C/I Downlink Adjacent Satellite 2 (dB)	20.0	19.6	20.0	15.5	14.6	15.5
C/(N+I) Composite (dB)	13.1	11.0	11.0	8.9	7.1	7.1
Required System Margin (dB)	-1.0	-1.0	-1.0	-1.0	-1.0	-1.0
Net C/(N+I) Composite (dB)	12.1	10.0	10.0	7.9	6.1	6.1
Minimum Required C/N (dB)	-10.0	-10.0	-10.0	-6.1	-6.1	-6.1
Excess Link Margin (dB)	2.1	0.0	0.0	1.8	0.0	0.0
Number of Carriers	1	1	1	1	1	1
Carrier Density Levels						
Uplink Power Density (dBW/Hz)	-42.2	-42.2	-42.2	-52.0	-52.0	-52.0
Downlink EIRP Density At Beam Peak (dBW/Hz)	-11.8	-12.2	-11.8	-18.8	-19.7	-18.8

*The C/I level is adjusted depending on the signal level and transponder mode of operation.

EXHIBIT 3: PAS-5 Ku-BAND LINK BUDGETS (continued)

UPLINK BEAM INFORMATION						
Uplink Beam Name	Pacific	Pacific	Pacific	Pacific	Pacific	Pacific
Uplink Frequency (MHz)	14236	14236	14236	14236	14236	14236
Uplink Beam Polarization	Horizontal	Horizontal	Horizontal	Horizontal	Horizontal	Horizontal
Uplink Relative Contour Level (dB)	-6	-6	-6	-6	-6	-6
Uplink Contour G/T (dB/K)	-6	-6	-6	-6	-6	-6
Uplink SFD (dBW/m^2)	-78	-78	-78	-78	-78	-78
Rain Rate (mm/hr)	95.0	95.0	95.0	42.0	42.0	42.0
DOWNLINK BEAM INFORMATION						
Downlink Beam Name	SE Asia	SE Asia	SE Asia	SE Asia	SE Asia	SE Asia
Downlink Frequency (MHz)	12486	12486	12486	12486	12486	12486
Downlink Beam Polarization	Vertical	Vertical	Vertical	Vertical	Vertical	Vertical
Downlink Relative Contour Level (dB)	-6	-6	-6	-6	-6	-6
Downlink Contour EIRP (dBW)	50.0	50.0	50.0	50.0	50.0	50.0
Rain Rate (mm/hr)	42.0	42.0	42.0	42.0	42.0	42.0
ADJACENT SATELLITE 1						
Satellite 1 Orbital Location	164 EL	164 EL	164 EL	164 EL	164 EL	164 EL
Uplink Power Density (dBW/Hz)	-45.0	-45.0	-45.0	-45.0	-45.0	-45.0
Uplink Polarization Advantage (dB)	0	0	0	0	0	0
Downlink EIRP Density (dBW/Hz)	-18.7	-18.7	-18.7	-18.7	-18.7	-18.7
Downlink Polarization Advantage (dB)	0	0	0	0	0	0
ADJACENT SATELLITE 2						
Satellite 2 Orbital Location	168 EL	168 EL	168 EL	168 EL	168 EL	168 EL
Uplink Power Density (dBW/Hz)	-45.0	-45.0	-45.0	-45.0	-45.0	-45.0
Uplink Polarization Advantage (dB)	0	0	0	0	0	0
Downlink EIRP Density (dBW/Hz)	-18.7	-18.7	-18.7	-18.7	-18.7	-18.7
Downlink Polarization Advantage (dB)	0	0	0	0	0	0
CARRIER INFORMATION						
Carrier ID	8M35G7W	8M35G7W	8M35G7W	1M23G7W	1M23G7W	1M23G7W
Carrier Modulation	QPSK	QPSK	QPSK	BPSK	BPSK	BPSK
Peak to Peak Bandwidth of EDS (MHz)	n/a	n/a	n/a	n/a	n/a	n/a
Information Rate (kbps)	6000	6000	6000	512	512	512
Code Rate	1/2	1/2	1/2	1/2	1/2	1/2
Occupied Bandwidth (kHz)	8348	8348	8348	1229	1229	1229
Allocated Bandwidth (kHz)	9000	9000	9000	1450	1450	1450
Minimum C/N, Clear Sky (dB)	4.1	4.1	4.1	3.4	3.4	3.4
Minimum C/N, Rain (dB)	4.1	4.1	4.1	2.7	2.7	2.7
UPLINK EARTH STATION						
Earth Station Diameter (meters)	7	7	7	7	7	7
Earth Station Gain (dBi)	58.1	58.1	58.1	58.1	58.1	58.1
Earth Station Elevation Angle	20	20	20	20	20	20
DOWNLINK EARTH STATION						
Earth Station Diameter (meters)	1.8	1.8	1.8	1.8	1.8	1.8
Earth Station Gain (dBi)	45.2	45.2	45.2	45.2	45.2	45.2
Earth Station G/T (dB/K)	22.7	22.7	19.2	22.7	22.7	19.5
Earth Station Elevation Angle	20	20	20	20	20	20
LINK FADE TYPE	Clear Sky	Uplink Fade	Downlink Fade	Clear Sky	Uplink Fade	Downlink Fade
UPLINK PERFORMANCE						
Uplink Earth Station EIRP (dBW)	72.3	72.3	72.3	61.2	61.2	61.2
Uplink Path Loss, Clear Sky (dB)	-207.5	-207.5	-207.5	-207.5	-207.5	-207.5
Uplink Rain Attenuation (dB)	0.0	-4.5	0.0	0.0	-2.7	0.0
Satellite G/T (dB/K)	-6.0	-6.0	-6.0	-6.0	-6.0	-6.0
Boltzman Constant (dBW/K-Hz)	228.6	228.6	228.6	228.6	228.6	228.6
Carrier Noise Bandwidth (dB-Hz)	-69.2	-69.2	-69.2	-60.9	-60.9	-60.9
Uplink C/N (dB)	18.2	13.7	18.2	15.5	12.8	15.5
DOWNLINK PERFORMANCE						
Downlink EIRP per Carrier (dBW)	42.0	37.9	42.0	31.0	28.4	31.0
Antenna Pointing Error (dB)	-0.5	-0.5	-0.5	-0.5	-0.5	-0.5
Downlink Path Loss, Clear Sky (dB)	-206.3	-206.3	-206.3	-206.3	-206.3	-206.3
.Downlink Rain Attenuation (dB)	0.0	0.0	-6.9	0.0	0.0	-5.0
Earth Station G/T (dB/K)	22.7	22.7	19.2	22.7	22.7	19.5
Boltzman Constant (dBW/K-Hz)	228.6	228.6	228.6	228.6	228.6	228.6
Carrier Noise Bandwidth (dB-Hz)	-69.2	-69.2	-69.2	-60.9	-60.9	-60.9
Downlink C/N (dB)	17.3	13.2	6.9	14.5	11.9	6.4
COMPOSITE LINK PERFORMANCE						
C/N Uplink (dB)	18.2	13.7	18.2	15.5	12.8	15.5
C/N Downlink (dB)	17.3	13.2	6.9	14.5	11.9	6.4
C/I Intermodulation (dB)	18.5	17.1	18.5	15.8	13.3	15.8
C/I Uplink Co-Channel (dB)*	25.6	21.1	25.6	22.5	19.8	22.5
C/I Downlink Co-Channel (dB)*	25.6	21.5	25.6	22.5	19.8	22.5
C/I Uplink Adjacent Satellite 1 (dB)	24.0	19.5	24.0	21.3	18.7	21.3
C/I Downlink Adjacent Satellite 1 (dB)	14.2	10.1	14.2	11.5	8.8	11.5
C/I Uplink Adjacent Satellite 2 (dB)	24.0	19.5	24.0	21.3	18.7	21.3
C/I Downlink Adjacent Satellite 2 (dB)	16.2	12.1	16.2	13.4	10.8	13.4
C/(N+I) Composite (dB)	9.1	5.1	5.1	6.3	3.7	3.7
Required System Margin (dB)	-1.0	-1.0	-1.0	-1.0	-1.0	-1.0
Net C/(N+I) Composite (dB)	8.1	4.1	4.1	5.3	2.7	2.7
Minimum Required C/N (dB)	-4.1	-4.1	-4.1	-3.4	-2.7	-2.7
Excess Link Margin (dB)	4.0	0.0	0.0	1.9	0.0	0.0
Number of Carriers	2.8	2.8	2.8	24.8	24.8	24.8
Carrier Density Levels						
Uplink Power Density (dBW/Hz)	-55.0	-55.0	-55.0	-57.8	-57.8	-57.8
Downlink EIRP Density At Beam Peak (dBW/Hz)	-21.2	-25.3	-21.2	-23.9	-26.5	-23.9

*The C/I level is adjusted depending on the signal level and transponder mode of operation.

EXHIBIT 3: PAS-5 Ku-BAND LINK BUDGETS (continued)

UPLINK BEAM INFORMATION						
Uplink Beam Name	Pacific	Pacific	Pacific	Pacific	Pacific	Pacific
Uplink Frequency (MHz)	14236	14236	14236	14236	14236	14236
Uplink Beam Polarization	Horizontal	Horizontal	Horizontal	Horizontal	Horizontal	Horizontal
Uplink Relative Contour Level (dB)	-6	-6	-6	-6	-6	-6
Uplink Contour G/T (dB/K)	-6	-6	-6	-6	-6	-6
Uplink SFD (dBW/m^2)	-78	-78	-78	-78	-78	-78
Rain Rate (mm/hr)	42.0	42.0	42.0	95.0	95.0	95.0
DOWNLINK BEAM INFORMATION						
Downlink Beam Name	SE Asia	SE Asia	SE Asia	SE Asia	SE Asia	SE Asia
Downlink Frequency (MHz)	12486	12486	12486	12486	12486	12486
Downlink Beam Polarization	Vertical	Vertical	Vertical	Vertical	Vertical	Vertical
Downlink Relative Contour Level (dB)	-6	-6	-6	-6	-6	-6
Downlink Contour EIRP (dBW)	50.0	50.0	50.0	50.0	50.0	50.0
Rain Rate (mm/hr)	42.0	42.0	42.0	42.0	42.0	42.0
ADJACENT SATELLITE 1						
Satellite 1 Orbital Location	164 EL	164 EL	164 EL	164 EL	164 EL	164 EL
Uplink Power Density (dBW/Hz)	-45.0	-45.0	-45.0	-45.0	-45.0	-45.0
Uplink Polarization Advantage (dB)	0	0	0	0	0	0
Downlink EIRP Density (dBW/Hz)	-18.7	-18.7	-18.7	-18.7	-18.7	-18.7
Downlink Polarization Advantage (dB)	0	0	0	0	0	0
ADJACENT SATELLITE 2						
Satellite 2 Orbital Location	168 EL	168 EL	168 EL	168 EL	168 EL	168 EL
Uplink Power Density (dBW/Hz)	-45.0	-45.0	-45.0	-45.0	-45.0	-45.0
Uplink Polarization Advantage (dB)	0	0	0	0	0	0
Downlink EIRP Density (dBW/Hz)	-18.7	-18.7	-18.7	-18.7	-18.7	-18.7
Downlink Polarization Advantage (dB)	0	0	0	0	0	0
CARRIER INFORMATION						
Carrier ID	307KG7W	307KG7W	307KG7W	70K4G7W	70K4G7W	70K4G7W
Carrier Modulation	BPSK	BPSK	BPSK	QPSK	QPSK	QPSK
Peak to Peak Bandwidth of EDS (MHz)	n/a	n/a	n/a	n/a	n/a	n/a
Information Rate (kbps)	128	128	128	64	64	64
Code Rate	1/2	1/2	1/2	1/2-S	1/2-S	1/2-S
Occupied Bandwidth (kHz)	307.0	307.0	307.0	70.4	70.4	70.4
Allocated Bandwidth (kHz)	400.0	400.0	400.0	100.0	100.0	100.0
Minimum C/N, Clear Sky (dB)	3.4	3.4	3.4	5.3	5.3	5.3
Minimum C/N, Rain (dB)	2.7	2.7	2.7	4.4	4.4	4.4
UPLINK EARTH STATION						
Earth Station Diameter (meters)	1.8	1.8	1.8	7	7	7
Earth Station Gain (dBi)	46.4	46.4	46.4	58.1	58.1	58.1
Earth Station Elevation Angle	20	20	20	20	20	20
DOWNLINK EARTH STATION						
Earth Station Diameter (meters)	7.0	7.0	7.0	1.8	1.8	1.8
Earth Station Gain (dBi)	57.4	57.4	57.4	45.2	45.2	45.2
Earth Station G/T (dB/K)	35.0	35.0	31.0	22.7	22.7	19.1
Earth Station Elevation Angle	20	20	20	20	20	20
LINK FADE TYPE	Clear Sky	Uplink Fade	Downlink Fade	Clear Sky	Uplink Fade	Downlink Fade
UPLINK PERFORMANCE						
Uplink Earth Station EIRP (dBW)	50.9	50.9	50.9	52.4	52.4	52.4
Uplink Path Loss, Clear Sky (dB)	-207.5	-207.5	-207.5	-207.5	-207.5	-207.5
Uplink Rain Attenuation (dB)	0.0	-2.4	0.0	0.0	-4.5	0.0
Satellite G/T (dB/K)	-6.0	-6.0	-6.0	-6.0	-6.0	-6.0
Boltzman Constant (dBW/K-Hz)	228.6	228.6	228.6	228.6	228.6	228.6
Carrier Noise Bandwidth (dB-Hz)	-54.9	-54.9	-54.9	-48.5	-48.5	-48.5
Uplink C/N (dB)	11.2	8.7	11.2	19.0	14.6	19.0
DOWNLINK PERFORMANCE						
Downlink EIRP per Carrier (dBW)	20.7	18.3	20.7	22.2	17.7	22.2
Antenna Pointing Error (dB)	-0.5	-0.5	-0.5	-0.5	-0.5	-0.5
Downlink Path Loss, Clear Sky (dB)	-206.3	-206.3	-206.3	-206.3	-206.3	-206.3
,Downlink Rain Attenuation (dB)	0.0	0.0	-11.5	0.0	0.0	-7.6
Earth Station G/T (dB/K)	35.0	35.0	31.0	22.7	22.7	19.1
Boltzman Constant (dBW/K-Hz)	228.6	228.6	228.6	228.6	228.6	228.6
Carrier Noise Bandwidth (dB-Hz)	-54.9	-54.9	-54.9	-48.5	-48.5	-48.5
Downlink C/N (dB)	22.6	20.1	7.2	18.1	13.6	7.0
COMPOSITE LINK PERFORMANCE						
C/N Uplink (dB)	11.2	8.7	11.2	19.0	14.6	19.0
C/N Downlink (dB)	22.6	20.1	7.2	18.1	13.6	7.0
C/I Intermodulation (dB)	11.5	9.1	11.5	19.4	14.9	19.4
C/I Uplink Co-Channel (dB)*	17.8	15.3	17.8	25.2	20.8	25.2
C/I Downlink Co-Channel (dB)*	17.8	15.3	17.8	25.2	20.8	25.2
C/I Uplink Adjacent Satellite 1 (dB)	17.0	14.6	17.0	24.9	20.4	24.9
C/I Downlink Adjacent Satellite 1 (dB)	20.1	17.7	20.1	15.0	10.6	15.0
C/I Uplink Adjacent Satellite 2 (dB)	17.0	14.6	17.0	24.9	20.4	24.9
C/I Downlink Adjacent Satellite 2 (dB)	20.7	18.2	20.7	17.0	12.5	17.0
C/(N+I) Composite (dB)	6.1	3.7	3.7	9.9	5.4	5.4
Required System Margin (dB)	-1.0	-1.0	-1.0	-1.0	-1.0	-1.0
Net C/(N+I) Composite (dB)	5.1	2.7	2.7	8.9	4.4	4.4
Minimum Required C/N (dB)	-3.4	-2.7	-2.7	-5.3	-4.4	-4.4
Excess Link Margin (dB)	1.7	0.0	0.0	3.6	0.0	0.0
Number of Carriers	90.0	90.0	90.0	270.2	270.2	270.2
Carrier Density Levels						
Uplink Power Density (dBW/Hz)	-50.3	-50.3	-50.3	-54.2	-54.2	-54.2
Downlink EIRP Density At Beam Peak (dBW/Hz)	-28.2	-30.6	-28.2	-20.3	-24.8	-20.3

*The C/I level is adjusted depending on the signal level and transponder mode of operation.