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NOV - 6 2008

Federal Communications Commission  
Office of the Secretary

November 6, 2008

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Ms. Marlene Dortch  
Secretary  
Federal Communications Commission  
445 12<sup>th</sup> Street, S.W.  
Washington, D.C. 20554

RECEIVED

NOV 12 2008

Satellite Division  
International Bureau

**RE: SES-LIC-20080306-00242 (Call Sign E080059)**  
**SES-MFS-20080228-00207 (Call Sign KA25)**  
**Revision to Coordination Reports**

Dear Ms. Dortch:

Please find attached two revised Coordination Reports for the applications referenced above.

Please do not hesitate to contact the undersigned at 202-248-5155 with any clarifications or questions about this letter.

Respectfully submitted,

/s/

Diane Cornell  
Director, Inmarsat Hawaii Inc.

cc: Scott Kotler, International Bureau  
Shahnaz Ghavami, International Bureau

# FREQUENCY COORDINATION AND INTERFERENCE ANALYSIS REPORT

Prepared for  
**Inmarsat PLC**  
**PAUMALU, HI**  
**Satellite Earth Station**

Prepared By:  
COMSEARCH  
19700 Janelia Farm Boulevard  
Ashburn, VA 20147  
November 6, 2008

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# 1. CONCLUSIONS

An interference study considering all existing, proposed and prior coordinated microwave facilities within the coordination contours of the proposed earth station demonstrates that this site will operate satisfactorily with the common carrier and operational fixed microwave environment. To avoid conflict at a University of Hawaii 6 GHz receiver at Mt Kaala, the transmit band and transmit power of the earth station will be limited around this receive site to avoid interference. Further, there will be no other restrictions of its operation due to interference considerations.

The Coordination for the proposed 16.4 meter earth stations were completed at a central set of coordinates, Latitude: 21-40-10.7, Longitude: 158-01-59.4, in order to cover both antennas. The individual coordinates of each 16.4 earth station antenna fall within the one second by one second coordinate block created by the central set of coordinates. The individual earth station coordinates are as follows:

16m HAW1 (South Antenna)  
Latitude 21 40 10.4 N  
Longitude 158 01 59.4W

16m HAW2 (North Antenna)  
Latitude 21 40 11.3 N  
Longitude 158 01 59.6W

## 2. SUMMARY OF RESULTS

A number of great circle interference cases were identified during the interference study of the proposed earth station. Each of the cases, which exceeded the interference objective on a line-of-sight basis, was profiled and the propagation losses estimated using NBS TN101 (Revised) techniques. The losses were found to be sufficient to reduce the signal levels to acceptable magnitudes in every case with the exception of the case with the University of Hawaii 6 GHz receiver at Mt Kaala. The transmit band and transmit power of the earth station will be limited around this receive site to avoid conflict.

No other carriers reported potential interference cases.

### 3. SUPPLEMENTAL SHOWING

Pursuant to Part 25.203(c) of the FCC Rules and Regulations, the satellite earth station proposed in this application was coordinated by Comsearch using computer techniques and in accordance with Part 25 of the FCC Rules and Regulations.

Coordination data for this earth station was sent to the below listed carriers with a letter dated 01/24/2008 and 11/06/2008.

Company

AERONAUTICAL RADIO INC - ARINC  
AT&T CORP  
Casper  
Citywide News Network  
Global Microwave System  
HARMER RADIO & ELECTRONICS, INC.  
Hawaii State  
HAWAIIAN ELECTRIC CO INC  
Hawaiian Telcom  
Heiden  
HONOLULU CITY & COUNTY  
HONOLULU CITY & COUNTY DEPT OF INFO TECH  
KAUAI COUNTY DEPARTMENT OF POLICE  
MAUI ELECTRIC COMPANY LTD  
MAUI, COUNTY OF  
MID PACIFIC COMMUNICATIONS INC  
New Cingular Wireless PCS LLC - Hawaii  
Nextel WIP License Corp.  
Pacific Lightnet, Inc.  
SANDWICH ISLES COMMUNICATIONS INC.  
University of Hawaii  
Verizon Hawaii  
3G Wireless, LLC  
AERIAL VIDEO SYSTEMS  
Broadcast Sports Enterprises Inc  
GOODYEAR TIRE AND RUBBER COMPANY  
On Scene Video Production  
Onboard Images  
Production & Satellite Services, Inc  
REMOTE FACILITIES CONSULTING SERVICES  
RF Film, Inc  
RF Technology Inc.  
Total RF Marketing Inc  
Universal Satellite Communications Inc  
WOLFE AIR AVIATION  
Western Technical Services

## **4. EARTH STATION COORDINATION DATA**

This section presents the data pertinent to frequency coordination of the proposed earth station that was circulated to all carriers within its coordination contours.

# COMSEARCH

## Earth Station Data Sheet

19700 Janelia Farm Boulevard, Ashburn, VA 20147  
(703)726-5500 <http://www.comsearch.com>

Date: 11/06/2008  
Job Number: 080124COMSGE01

### Administrative Information

Status: ENGINEER PROPOSAL  
Call Sign: PAUMALU  
Licensee Code: IMMSAT  
Licensee Name: Inmarsat PLC

### Site Information

#### PAUMALU, HI

Venue Name: PAUMALU, HI  
Latitude (NAD 83): 21° 40' 10.7" N  
Longitude (NAD 83): 158° 1' 59.4" W  
Climate Zone: C  
Rain Zone: 4  
Ground Elevation (AMSL): 144.78 m / 475.0 ft

### Link Information

Satellite Type: GEO with TT&C operation  
Mode: TR - Transmit-Receive  
Modulation: Digital  
Minimum Elevation Angle: 5.0°  
Azimuth Range: 0.0° to 360°  
Antenna Centerline (AGL): 10.06 m / 33.0 ft

### Antenna Information

#### Receive - FCC32

#### Transmit - FCC32

Manufacturer	Vertex	Vertex
Model	16.4 THC	16.4 THC
Gain / Diameter	54.8 dBi / 16.4 m	59.0 dBi / 16.4 m
3-dB / 15-dB Beamwidth	0.32° / 0.68°	0.19° / 0.40°

Max Available RF Power	(dBW/4 kHz)	(1) 6.8	(2) 4.1
	(dBW/MHz)	30.8	28.1

Maximum EIRP	(dBW/4 kHz)	65.8	63.1
	(dBW/MHz)	89.8	87.1

Interference Objectives:	Long Term	-164.0 dBW/MHz	20%	-154.0 dBW/4 kHz	20%
	Short Term	-151.1 dBW/MHz	0.01%	-131.0 dBW/4 kHz	0.0025%

### Frequency Information

#### Receive 4.0 GHz

#### Transmit 6.1 GHz

Emission / Frequency Range (MHz)	K750G7D - 20M0X2D / 3550.0 - 3700.0	(1) K750G7D - 20M0X2D / 6170.0 - 6180.0
	K750G7D - 20M0X2D / 3945.0 - 3955.0	(1) K750G7D - 20M0X2D / 6338.0 - 6342.0
		(1) K750G7D - 20M0X2D / 6420.0 - 6530.0
		(2) K750G7D - 20M0X2D / 6530.0 - 6560.0
		(1) K750G7D - 20M0X2D / 6560.0 - 6575.0

Max Great Circle Coordination Distance	941.3 km / 584.8 mi	736.8 km / 457.8 mi
Precipitation Scatter Contour Radius	351.7 km / 218.5 mi	237.6 km / 147.6 mi



# COMSEARCH

## Earth Station Data Sheet

19700 Janelia Farm Boulevard, Ashburn, VA 20147  
(703)726-5500 <http://www.comsearch.com>

### Coordination Values

### PAUMALU, HI

Licensee Name	Inmarsat PLC				
Latitude (NAD 83)	21° 40' 10.7" N				
Longitude (NAD 83)	158° 1' 59.4" W				
Ground Elevation (AMSL)	144.78 m / 475.0 ft				
Antenna Centerline (AGL)	10.06 m / 33.0 ft				
Antenna Model	Vertex 16.4 Meter				
Antenna Mode	Receive 4.0 GHz		Transmit 6.1 GHz		
Interference Objectives:	Long Term	-164.0 dBW/MHz	20%	-154.0 dBW/4 kHz	20%
	Short Term	-151.1 dBW/MHz	0.01%	-131.0 dBW/4 kHz	0.0025%
Max Available RF Power	6.8 (dBW/4 kHz)				

Azimuth (°)	Horizon Elevation (°)	Antenna Discrimination (°)	Receive 4.0 GHz		Transmit 6.1 GHz	
			Horizon Gain (dBi)	Coordination Distance (km)	Horizon Gain (dBi)	Coordination Distance (km)
0	0.00	72.41	4.50	941.30	4.50	736.80
5	0.00	70.74	4.50	941.30	4.50	736.80
10	0.00	69.21	4.50	941.30	4.50	736.80
15	0.00	67.83	4.50	941.30	4.50	736.80
20	0.00	66.61	4.50	941.30	4.50	736.80
25	0.00	65.58	4.50	941.30	4.50	736.80
30	0.00	64.73	4.50	941.30	4.50	736.80
35	0.00	64.09	4.50	941.30	4.50	736.80
40	0.00	63.66	4.50	941.30	4.50	736.80
45	0.00	63.44	4.50	941.30	4.50	736.80
50	0.30	63.74	4.50	941.30	4.50	736.80
55	0.00	63.65	4.50	941.30	4.50	736.80
60	0.41	64.48	4.50	941.30	4.50	736.80
65	0.79	65.47	4.50	941.30	4.50	736.80
70	1.00	66.48	4.50	941.30	4.50	736.80
75	1.07	67.52	4.50	941.30	4.50	736.80
80	1.79	69.27	4.50	941.30	4.50	736.80
85	1.60	70.41	4.50	743.10	4.50	513.90
90	2.15	72.23	4.50	692.50	4.50	460.30
95	2.44	73.94	4.50	665.80	4.50	432.20
100	3.00	75.89	4.50	611.90	4.50	375.50
105	2.74	77.44	4.50	578.90	4.50	340.50
110	2.74	79.23	4.50	551.80	4.50	311.80
115	3.54	81.37	4.50	562.70	4.50	323.30
120	3.34	83.17	4.50	514.00	4.50	271.40
125	3.27	85.07	4.50	523.20	4.50	281.30
130	3.30	87.03	4.50	507.40	4.50	264.30
135	3.35	89.00	4.50	515.80	4.50	273.30
140	2.47	91.01	4.50	544.90	4.50	304.40
145	2.41	93.05	4.50	588.80	4.50	350.90
150	2.25	95.10	4.50	593.00	4.50	355.40
155	2.26	97.10	4.50	600.00	4.50	362.80
160	2.11	99.11	4.50	606.30	4.50	369.50
165	2.57	100.82	4.50	534.80	4.50	293.60
170	2.49	102.66	4.50	561.20	4.50	321.80
175	2.27	104.51	4.50	575.70	4.50	337.10
180	1.93	106.36	4.50	571.80	4.50	333.00
185	2.38	107.59	4.50	587.90	4.50	350.00

# COMSEARCH

## Earth Station Data Sheet

19700 Janelia Farm Boulevard, Ashburn, VA 20147  
(703)726-5500 <http://www.comsearch.com>

### Coordination Values

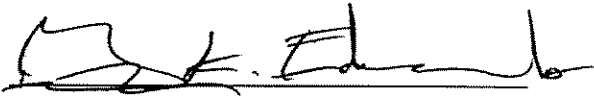
### PAUMALU, HI

Licensee Name Inmarsat PLC  
Latitude (NAD 83) 21° 40' 10.7" N  
Longitude (NAD 83) 158° 1' 59.4" W  
Ground Elevation (AMSL) 144.78 m / 475.0 ft  
Antenna Centerline (AGL) 10.06 m / 33.0 ft  
Antenna Model Vertex 16.4 Meter  
Antenna Mode Receive 4.0 GHz Transmit 6.1 GHz  
Interference Objectives: Long Term -164.0 dBW/MHz 20% -154.0 dBW/4 kHz 20%  
Short Term -151.1 dBW/MHz 0.01% -131.0 dBW/4 kHz 0.0025%  
Max Available RF Power 6.8 (dBW/4 kHz)

Azimuth (°)	Horizon Elevation (°)	Antenna Discrimination (°)	Receive 4.0 GHz		Transmit 6.1 GHz	
			Horizon Gain (dBi)	Coordination Distance (km)	Horizon Gain (dBi)	Coordination Distance (km)
190	2.17	109.14	4.50	608.20	4.50	371.50
195	2.06	110.49	4.50	620.70	4.50	384.70
200	1.72	111.89	4.50	644.00	4.50	409.30
205	1.48	113.07	4.50	676.50	4.50	443.50
210	1.43	113.92	4.50	706.90	4.50	475.60
215	0.79	115.14	4.50	764.20	4.50	536.30
220	0.31	116.04	4.50	941.30	4.50	736.80
225	0.29	116.27	4.50	941.30	4.50	736.80
230	0.00	116.56	4.50	941.30	4.50	736.80
235	0.00	116.35	4.50	941.30	4.50	736.80
240	0.00	115.92	4.50	941.30	4.50	736.80
245	0.00	115.28	4.50	941.30	4.50	736.80
250	0.00	114.43	4.50	941.30	4.50	736.80
255	0.00	113.40	4.50	941.30	4.50	736.80
260	0.00	112.19	4.50	941.30	4.50	736.80
265	0.00	110.81	4.50	941.30	4.50	736.80
270	0.00	109.28	4.50	941.30	4.50	736.80
275	0.00	107.61	4.50	941.30	4.50	736.80
280	0.00	105.82	4.50	941.30	4.50	736.80
285	0.00	103.93	4.50	941.30	4.50	736.80
290	0.00	101.94	4.50	941.30	4.50	736.80
295	0.00	99.88	4.50	941.30	4.50	736.80
300	0.00	97.75	4.50	941.30	4.50	736.80
305	0.00	95.57	4.50	941.30	4.50	736.80
310	0.00	93.36	4.50	941.30	4.50	736.80
315	0.00	91.13	4.50	941.30	4.50	736.80
320	0.00	88.90	4.50	941.30	4.50	736.80
325	0.00	86.66	4.50	941.30	4.50	736.80
330	0.00	84.45	4.50	941.30	4.50	736.80
335	0.00	82.28	4.50	941.30	4.50	736.80
340	0.00	80.15	4.50	941.30	4.50	736.80
345	0.00	78.08	4.50	941.30	4.50	736.80
350	0.00	76.10	4.50	941.30	4.50	736.80
355	0.00	74.20	4.50	941.30	4.50	736.80

## 5. CERTIFICATION

I HEREBY CERTIFY THAT I AM THE TECHNICALLY QUALIFIED PERSON RESPONSIBLE FOR THE PREPARATION OF THE FREQUENCY COORDINATION DATA CONTAINED IN THIS APPLICATION, THAT I AM FAMILIAR WITH PARTS 101 AND 25 OF THE FCC RULES AND REGULATIONS, THAT I HAVE EITHER PREPARED OR REVIEWED THE FREQUENCY COORDINATION DATA SUBMITTED WITH THIS APPLICATION, AND THAT IT IS COMPLETE AND CORRECT TO THE BEST OF MY KNOWLEDGE AND BELIEF.

BY: 

Gary K. Edwards  
Manager  
COMSEARCH  
19700 Janelia Farm Boulevard  
Ashburn, VA 20147

DATED: November 6, 2008

# FREQUENCY COORDINATION AND INTERFERENCE ANALYSIS REPORT

Prepared for  
**Intelsat North America LLC**  
**PAUMALU, HI**  
**(19 Meter)**  
**Satellite Earth Station**

Prepared By:  
COMSEARCH  
19700 Janelia Farm Boulevard  
Ashburn, VA 20147  
November 6, 2008

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5. CERTIFICATION .....	10

## 1. CONCLUSIONS

An interference study considering all existing, proposed and prior coordinated microwave facilities within the coordination contours of the proposed earth station demonstrates that this site will operate satisfactorily with the common carrier microwave environment, based upon the restrictions noted in the Summary of Results (Section 2).

## 2. SUMMARY OF RESULTS

A number of great circle interference cases were identified during the interference study of the proposed earth station. Each of the cases, which exceeded the interference objective on a line-of-sight basis, was profiled and the propagation losses estimated using NBS TN101 (Revised) techniques. The losses were found to be sufficient to reduce the signal levels to acceptable magnitudes in every case.

The following companies reported potential great circle interference conflicts that did not meet the objectives on a line-of-sight basis. When over-the-horizon losses and frequency offset are considered on the interfering paths, sufficient losses exist to negate harmful interference from occurring with the proposed transmit and receive earth station. Further the frequency spectrums will be limited to frequencies 3600.0 - 3700.0 MHz, 3945.0 to 3955.0 MHz, and 6425.0 to 6575.0 MHz.

Company

None

No carriers reported potential interference cases.

### 3. SUPPLEMENTAL SHOWING

Pursuant to Part 25.203(c) of the FCC Rules and Regulations, the satellite earth station proposed in this application was coordinated by Comsearch using computer techniques and in accordance with Part 25 of the FCC Rules and Regulations.

Coordination data for this earth station was sent to the below listed carriers with a letter dated 08/18/2008 and 11/06/2008

#### Company

AERONAUTICAL RADIO INC - ARINC  
AT&T CORP  
Casper  
Citywide News Network  
Global Microwave System  
HARMER RADIO & ELECTRONICS, INC.  
Hawaii State  
HAWAIIAN ELECTRIC CO INC  
Hawaiian Telcom  
Heiden  
HONOLULU CITY & COUNTY  
HONOLULU CITY & COUNTY DEPT OF INFO TECH  
KAUAI COUNTY DEPARTMENT OF POLICE  
MAUI ELECTRIC COMPANY LTD  
MAUI, COUNTY OF  
MID PACIFIC COMMUNICATIONS INC  
New Cingular Wireless PCS LLC - Hawaii  
Nextel WIP License Corp.  
Pacific Lightnet, Inc.  
SANDWICH ISLES COMMUNICATIONS INC.  
University of Hawaii  
Verizon Hawaii  
3G Wireless, LLC  
AERIAL VIDEO SYSTEMS  
Broadcast Sports Enterprises Inc  
GOODYEAR TIRE AND RUBBER COMPANY  
On Scene Video Production  
Onboard Images  
Production & Satellite Services, Inc  
REMOTE FACILITIES CONSULTING SERVICES  
RF Film, Inc  
RF Technology Inc.  
Total RF Marketing Inc  
Universal Satellite Communications Inc  
WOLFE AIR AVIATION  
Western Technical Services



## **4. EARTH STATION COORDINATION DATA**

This section presents the data pertinent to frequency coordination of the proposed earth station that was circulated to all carriers within its coordination contours.

**COMSEARCH**  
**Earth Station Data Sheet**

19700 Janelia Farm Boulevard, Ashburn, VA 20147  
(703)726-5500 <http://www.comsearch.com>

Date: 08/22/2008  
Job Number: 080818COMSGE01

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**Administrative Information**

Status ENGINEER PROPOSAL  
Call Sign KA25  
Licensee Code INTNOA  
Licensee Name Intelsat North America LLC

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**Site Information PAUMALU, HI**

Venue Name  
Latitude (NAD 83) 21° 40' 14.6" N  
Longitude (NAD 83) 158° 2' 3.1" W  
Climate Zone C  
Rain Zone 4  
Ground Elevation (AMSL) 144.78 m / 475.0 ft

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**Link Information**

Satellite Type Low Earth Orbit  
Mode TR - Transmit-Receive  
Modulation Digital  
Minimum Elevation Angle 5.0°  
Azimuth Range 0.0° to 360°  
Antenna Centerline (AGL) 10.06 m / 33.0 ft

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**Antenna Information**

		<b>Receive - FCC32</b>	<b>Transmit - FCC32</b>
Manufacturer		TIW	TIW
Model		19.0 Meter	19.0 Meter
Gain / Diameter		55.6 dBi / 19.0 m	59.2 dBi / 19.0 m
3-dB / 15-dB Beamwidth		0.20° / 0.40°	0.20° / 0.40°
Max Available RF Power	(dBW/4 kHz) (dBW/MHz)		10.8 34.8
Maximum EIRP	(dBW/4 kHz) (dBW/MHz)		70.0 94.0
Interference Objectives:	Long Term	-164.0 dBW/MHz 20%	-154.0 dBW/4 kHz 20%
	Short Term	-144.0 dBW/MHz 0.01%	-131.0 dBW/4 kHz 0.0025%

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**Frequency Information**

	<b>Receive 4.0 GHz</b>	<b>Transmit 6.1 GHz</b>
Emission / Frequency Range (MHz)	750HG7D - 200KG7D / 3600.0 - 3700.0 750HG7D - 200KG7D / 3945.0 - 3955.0	750HG7D - 200KG7D / 6425.0 - 6575.0 4M00X2D - 20M0X2D / 6425.0 - 6575.0
Max Great Circle Coordination Distance	941.3 km / 584.8 mi	736.8 km / 457.8 mi
Precipitation Scatter Contour Radius	349.1 km / 216.9 mi	324.1 km / 201.4 mi

# COMSEARCH

## Earth Station Data Sheet

19700 Janelia Farm Boulevard, Ashburn, VA 20147  
(703)726-5500 <http://www.comsearch.com>

### Coordination Values

### PAUMALU, HI

Licensee Name	Intelsat North America LLC				
Latitude (NAD 83)	21° 40' 14.6" N				
Longitude (NAD 83)	158° 2' 3.1" W				
Ground Elevation (AMSL)	144.78 m / 475.0 ft				
Antenna Centerline (AGL)	10.06 m / 33.0 ft				
Antenna Model	TIW 19.0 Meter				
Antenna Mode	Receive 4.0 GHz		Transmit 6.1 GHz		
Interference Objectives:	Long Term	-164.0 dBW/MHz	20%	-154.0 dBW/4 kHz	20%
	Short Term	-144.0 dBW/MHz	0.01%	-131.0 dBW/4 kHz	0.0025%
Max Available RF Power	10.8 (dBW/4 kHz)				

Azimuth (°)	Horizon Elevation (°)	Antenna Discrimination (°)	Receive 4.0 GHz		Transmit 6.1 GHz	
			Horizon Gain (dBi)	Coordination Distance (km)	Horizon Gain (dBi)	Coordination Distance (km)
0	0.00	72.41	4.50	941.30	4.50	736.80
5	0.00	70.74	4.50	941.30	4.50	736.80
10	0.00	69.21	4.50	941.30	4.50	736.80
15	0.00	67.83	4.50	941.30	4.50	736.80
20	0.00	66.61	4.50	941.30	4.50	736.80
25	0.00	65.58	4.50	941.30	4.50	736.80
30	0.00	64.73	4.50	941.30	4.50	736.80
35	0.00	64.09	4.50	941.30	4.50	736.80
40	0.00	63.66	4.50	941.30	4.50	736.80
45	0.00	63.44	4.50	941.30	4.50	736.80
50	0.00	63.44	4.50	941.30	4.50	736.80
55	0.30	63.95	4.50	941.30	4.50	736.80
60	0.00	64.08	4.50	941.30	4.50	736.80
65	0.41	65.11	4.50	941.30	4.50	736.80
70	0.76	66.26	4.50	941.30	4.50	736.80
75	0.91	67.39	4.50	941.30	4.50	736.80
80	1.17	68.77	4.50	941.30	4.50	736.80
85	1.53	70.36	4.50	743.10	4.50	513.90
90	1.63	71.86	4.50	692.50	4.50	460.30
95	1.91	73.61	4.50	665.80	4.50	432.20
100	2.72	75.73	4.50	611.90	4.50	375.50
105	3.01	77.58	4.50	578.90	4.50	340.50
110	2.73	79.23	4.50	551.80	4.50	311.80
115	3.30	81.29	4.50	562.70	4.50	323.30
120	3.18	83.13	4.50	514.00	4.50	271.40
125	3.09	85.04	4.50	523.20	4.50	281.30
130	3.32	87.03	4.50	507.40	4.50	264.30
135	3.25	89.00	4.50	515.80	4.50	273.30
140	2.64	91.00	4.50	544.90	4.50	304.40
145	2.17	93.08	4.50	588.80	4.50	350.90
150	2.21	95.11	4.50	593.00	4.50	355.40
155	2.26	97.11	4.50	600.00	4.50	362.80
160	2.26	99.06	4.50	606.30	4.50	369.50
165	2.47	100.87	4.50	534.80	4.50	293.60
170	2.27	102.77	4.50	561.20	4.50	321.80
175	2.00	104.67	4.50	575.70	4.50	337.10
180	2.20	106.19	4.50	571.80	4.50	333.00
185	2.01	107.85	4.50	587.90	4.50	350.00

# COMSEARCH

## Earth Station Data Sheet

19700 Janelia Farm Boulevard, Ashburn, VA 20147  
(703)726-5500 <http://www.comsearch.com>

### Coordination Values

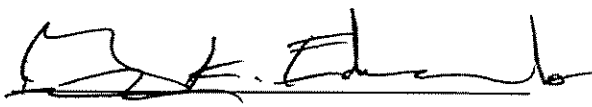
### PAUMALU, HI

Licensee Name Intelsat North America LLC  
Latitude (NAD 83) 21° 40' 14.6" N  
Longitude (NAD 83) 158° 2' 3.1" W  
Ground Elevation (AMSL) 144.78 m / 475.0 ft  
Antenna Centerline (AGL) 10.06 m / 33.0 ft  
Antenna Model TIW 19.0 Meter  
Antenna Mode Receive 4.0 GHz Transmit 6.1 GHz  
Interference Objectives: Long Term -164.0 dBW/MHz 20% -154.0 dBW/4 kHz 20%  
Short Term -144.0 dBW/MHz 0.01% -131.0 dBW/4 kHz 0.0025%  
Max Available RF Power 10.8 (dBW/4 kHz)

Azimuth (°)	Horizon Elevation (°)	Antenna Discrimination (°)	Receive 4.0 GHz		Transmit 6.1 GHz	
			Horizon Gain (dBi)	Coordination Distance (km)	Horizon Gain (dBi)	Coordination Distance (km)
190	1.81	109.41	4.50	608.20	4.50	371.50
195	1.60	110.87	4.50	620.70	4.50	384.70
200	1.38	112.19	4.50	644.00	4.50	409.30
205	0.95	113.56	4.50	676.50	4.50	443.50
210	0.71	114.60	4.50	706.90	4.50	475.60
215	0.36	115.56	4.50	764.20	4.50	536.30
220	0.30	116.05	4.50	941.30	4.50	736.80
225	0.00	116.56	4.50	941.30	4.50	736.80
230	0.21	116.35	4.50	941.30	4.50	736.80
235	0.00	116.35	4.50	941.30	4.50	736.80
240	0.00	115.92	4.50	941.30	4.50	736.80
245	0.00	115.28	4.50	941.30	4.50	736.80
250	0.00	114.43	4.50	941.30	4.50	736.80
255	0.00	113.40	4.50	941.30	4.50	736.80
260	0.00	112.19	4.50	941.30	4.50	736.80
265	0.00	110.81	4.50	941.30	4.50	736.80
270	0.00	109.28	4.50	941.30	4.50	736.80
275	0.00	107.61	4.50	941.30	4.50	736.80
280	0.00	105.82	4.50	941.30	4.50	736.80
285	0.00	103.93	4.50	941.30	4.50	736.80
290	0.00	101.94	4.50	941.30	4.50	736.80
295	0.00	99.88	4.50	941.30	4.50	736.80
300	0.00	97.75	4.50	941.30	4.50	736.80
305	0.00	95.57	4.50	941.30	4.50	736.80
310	0.00	93.36	4.50	941.30	4.50	736.80
315	0.00	91.13	4.50	941.30	4.50	736.80
320	0.00	88.89	4.50	941.30	4.50	736.80
325	0.00	86.66	4.50	941.30	4.50	736.80
330	0.00	84.45	4.50	941.30	4.50	736.80
335	0.00	82.28	4.50	941.30	4.50	736.80
340	0.00	80.15	4.50	941.30	4.50	736.80
345	0.00	78.08	4.50	941.30	4.50	736.80
350	0.00	76.10	4.50	941.30	4.50	736.80
355	0.00	74.20	4.50	941.30	4.50	736.80

## 5. CERTIFICATION

I HEREBY CERTIFY THAT I AM THE TECHNICALLY QUALIFIED PERSON RESPONSIBLE FOR THE PREPARATION OF THE FREQUENCY COORDINATION DATA CONTAINED IN THIS APPLICATION, THAT I AM FAMILIAR WITH PARTS 101 AND 25 OF THE FCC RULES AND REGULATIONS, THAT I HAVE EITHER PREPARED OR REVIEWED THE FREQUENCY COORDINATION DATA SUBMITTED WITH THIS APPLICATION, AND THAT IT IS COMPLETE AND CORRECT TO THE BEST OF MY KNOWLEDGE AND BELIEF.

BY: 

Gary K. Edwards  
Senior Manager  
COMSEARCH  
19700 Janelia Farm Boulevard  
Ashburn, VA 20147

DATED: November 06, 2008