

Approved by OMB
3060-0678

APPLICATION FOR EARTH STATION SPECIAL TEMPORARY AUTHORITY

APPLICANT INFORMATION Enter a description of this application to identify it on the main menu:
Sirius FM5 LEOP support

1. Applicant

| | | | |
|-------------------|-------------------------------|----------------------|----------------------|
| Name: | Universal Space Network, Inc. | Phone Number: | 215-328-9130 |
| DBA Name: | | Fax Number: | 215-328-9132 |
| Street: | 417 Caredean Drive Suite A | E-Mail: | jswank@uspacenet.com |
| City: | Horsham | State: | PA |
| Country: | USA | Zipcode: | 19044 - |
| Attention: | Joanne Swank | | |

With Conditions



File # SES-STA-20090603-00681

Call Sign _____ Grant Date 6/26/09
(or other identifier)

Term Dates
From 6/26/09 To: 7/25/09

Approved: Kathryn Medley
Chief, Satellite Engrs. Branch

Attachment

SES-STA-20090603-00681

Universal Space Network, Inc.'s application for Special Temporary Authority is GRANTED WITH CONDITIONS for a period of 30 days, beginning June 26, 2009.

1. All operations shall be on an unprotected, non-interference basis to both government and non-government operations.
2. All operations shall be limited to telemetry, tracking, and control (TT&C) during launch and LEOP activities of Sirius FM5 spacecraft.

With Conditions



File # SES-STA-20090603-00681

Call Sign _____ Grant Date 6/26/09
(or other identifier)

From 6/26/09 Term Dates To: 7/25/09

Approved: [Signature]
Chief Satellite Entry Branch

| | |
|--|---|
| 2. Contact | |
| Name: Universal Space Network, Inc. | Phone Number: 215-328-9130 |
| Company: | Fax Number: 215-328-9132 |
| Street: 417 Caredean Drive Suite A | E-Mail: jswank@uspacenet.com |
| City: Horsham | State: PA |
| Country: USA | Zipcode: 19044 - |
| Attention: | Relationship: |
| (If your application is related to an application filed with the Commission, enter either the file number or the IB Submission ID of the related application. Please enter only one.) | |
| 3. Reference File Number or Submission ID | |
| 4a. Is a fee submitted with this application? | |
| <input checked="" type="radio"/> If Yes, complete and attach FCC Form 159. If No, indicate reason for fee exemption (see 47 C.F.R. Section 1.1114). <input type="radio"/> Governmental Entity <input type="radio"/> Noncommercial educational licensee <input type="radio"/> Other (please explain): | |
| 4b. Fee Classification CGX – Fixed Satellite Transmit/Receive Earth Station | |
| 5. Type Request | |
| <input checked="" type="radio"/> Use Prior to Grant <input type="radio"/> Change Station Location <input type="radio"/> Other | |
| 6. Requested Use Prior Date 06/29/2009 | |
| 7. City Naalehu | 8. Latitude (dd mm ss.s h) 19 0 49.6 N |

| | |
|--|--|
| 9. State HI | 10. Longitude (dd mm ss.s h) 155 39 46.6 W |
| 11. Please supply any need attachments. Attachment 1: FCC 312 schedule A Attachment 2: FCC 312 Schedule B Attachment 3: Coordination Report | |
| 12. Description. (If the complete description does not appear in this box, please go to the end of the form to view it in its entirety.) <div style="border: 1px solid black; padding: 5px; margin: 5px 0;">Sirius FM5 LEOP activities for launch + 12 days. Launch currently scheduled for June 30, 2009</div> | |
| 13. By checking Yes, the undersigned certifies that neither applicant nor any other party to the application is subject to a denial of Federal benefits that includes FCC benefits pursuant to Section 5301 of the Anti-Drug Act of 1988, 21 U.S.C. Section 862, because of a conviction for possession or distribution of a controlled substance. See 47 CFR 1.2002(b) for the meaning of "party to the application"; for these purposes. <input checked="" type="radio"/> Yes <input type="radio"/> No | |
| 14. Name of Person Signing Joanne Greet-Swank | 15. Title of Person Signing Manager, Compliance & Contracts |
| WILLFUL FALSE STATEMENTS MADE ON THIS FORM ARE PUNISHABLE BY FINE AND / OR IMPRISONMENT (U.S. Code, Title 18, Section 1001), AND/OR REVOCATION OF ANY STATION AUTHORIZATION (U.S. Code, Title 47, Section 312(a)(1)), AND/OR FORFEITURE (U.S. Code, Title 47, Section 503). | |

FCC NOTICE REQUIRED BY THE PAPERWORK REDUCTION ACT

The public reporting for this collection of information is estimated to average 2 hours per response, including the time for reviewing instructions, searching existing data sources, gathering and maintaining the required data, and completing and reviewing the collection of information. If you have any comments on this burden estimate, or how we can improve the collection and reduce the burden it causes you, please write to the Federal Communications Commission, AMD-PERM, Paperwork Reduction Project (3060-0678), Washington, DC 20554. We will also accept your comments regarding the Paperwork Reduction Act aspects of this collection via the Internet if you send them to PRA@fcc.gov. PLEASE DO NOT SEND COMPLETED FORMS TO THIS ADDRESS.

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THE FOREGOING NOTICE IS REQUIRED BY THE PAPERWORK REDUCTION ACT OF 1995, PUBLIC LAW 104-13, OCTOBER 1, 1995, 44 U.S.C. SECTION 3507.

FEDERAL COMMUNICATIONS COMMISSION
APPLICATION FOR SATELLITE SPACE AND EARTH STATION AUTHORIZATIONS

Technical and Operational Description)

(Place an "X" in one of the blocks below)

License of New Station
 Registration of new Domestic Receive-Only Station
 Amendment to a Pending Application
 Modification of License/Registration
 Notification of Minor Modification

B1. Location of Earth Station Site. If temporary-fixed, mobile, or VSAT remote facility, specify area of operation and point of contact. If VSAT hub station, give its location. For VSAT networks attach individual Schedule B, Page 1 sheets for each hub station and each remote station. Individually provide the Location, Points of Communications, and Destination Points for each hub and remote station.

| | | | | | | | | | |
|--|--|---|--|--|------------------------------------|--|---|---|--|
| B1a. Station Call Sign USHI01 | | B1b. Site identifier (HUB, REMOTE1, etc.) | | B1c. Telephone Number (808) 929-8069 | | B1j. Geographic Coordinates N/S, Deg. - Min. - Sec. - E/W | | B1k. Lat./Lon. Coordinates are: | |
| B1d. Mailing Street Address of Station or Area of Operation 93-1704 South Point Road | | | | B1e. Name of Contact Person Joanne Greet-Swank | | Lat. 19° 00' 50.3" N Lon. 155° 39' 46.6" W | | <input type="checkbox"/> NAD-27 <input checked="" type="checkbox"/> NAD-83 | |
| B1f. City Naalehu | | B1g. County Ka'u | | B1h. State HI | B1i. Zip Code 96772-0842 | | B1l. Site Elevation (AMSL) 378.0 meters | | |

B2. Points of Communications: List the names and orbit locations of all satellites with which this earth station will communicate. The entry "ALSAT" is sufficient to identify the names and locations of all satellite facilities licensed by the U.S. All non-U.S. licensed satellites must be listed individually.

| Satellite Name and Orbit Location | Satellite Name and Orbit Location | Satellite Name and Orbit Location |
|---------------------------------------|-----------------------------------|-----------------------------------|
| Sirius FM-5 GTO and parking at 96° WL | | |
| | | |
| | | |

B3. Destination points for communications using non-U.S. licensed satellites. For each non-U.S. licensed satellite facility identified in section B2 above, specify the destination point(s) (countries) where the services will be provided by this earth station via each non-U.S. license satellite system. Use additional sheets as needed.

| Satellite Name | List of Destination Points |
|----------------|----------------------------|
| Sirius FM-5 | |
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FEDERAL COMMUNICATIONS COMMISSION
 APPLICATION FOR SATELLITE SPACE AND EARTH STATION AUTHORIZATIONS
 FCC Form 312 - Schedule B: (Technical and Operational Description)

B7. Particulars of Operation (Full particulars are required for each r.f. carrier): Use additional pages as needed.

| (a) Antenna ID* | (b) Frequency Limits (MHz) | (c) T/R Mode ** | (d) Antenna Polarization (H,V,L,R) | (e) Emission Designator | (f) Maximum EIRP per Carrier (dBW) | (g) Maximum EIRP Density per Carrier (dBW/4kHz) | (h) Description of Modulation and Services |
|--------------------|----------------------------------|--------------------------|--|-------------------------------|--|--|---|
| HI-13M-2 | 2320.5 | R | L, R | 200KG2D | | | 496 BPS PCM/PSK/PM (on 65.535 kHz Subcarrier) |
| HI-13M-2 | 7052.0 | T | L, R | 200KG2D | 85.0 | 68.0 | 1000 BPS is PCM/PSK/PM (on 8 kHz Subcarrier) plus Range Tones |
| HI-13M-2 | 7056.0 | T | L, R | 200KG2D | 85.0 | 68.0 | 1000 BPS is PCM/PSK/PM (on 8 kHz Subcarrier) plus Range Tones |
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Notes: * Provide the ANTENNA-ID from table B4 to identify the antenna to which each frequency band and emission is associated. For VSAT networks, include frequencies and emissions for all HUB and REMOTE units.
 ** Indicate whether the earth station transmits or receives in each frequency band.

**FEDERAL COMMUNICATIONS COMMISSION
APPLICATION FOR SATELLITE SPACE AND EARTH STATION AUTHORIZATIONS
FCC Form 312 - Schedule B: (Technical and Operational Description)**

If VSAT Network, provide the SITE-ID (Item B1b) of the station that B8-B13 are in response to (HUB, REMOTE1, etc.): _____

| | | | | | | | | | | | | | | |
|--|---|---|--|--|--|--|-----------------------|----------------------------|----------------------------|-------------------------|--|---|--|--|
| B8. If the proposed antenna(s) operate in the Fixed Satellite Service (FSS) with geostationary satellites, do(es) the proposed antenna(s) comply with the antenna gain patterns specified in Section 25.209(a) and (b) as demonstrated by the manufacturer's qualification measurements? If NO, provide as an exhibit, a technical analysis showing compliance with two-degree spacing policy. | <input checked="" type="checkbox"/> YES | <input type="checkbox"/> NO | | | | | | | | | | | | |
| B9. If the proposed antenna(s) do not operate in the Fixed Satellite Service (FSS), or if they operate in the Fixed Satellite Service (FSS) with non-geostationary satellites, do(es) the proposed antenna(s) comply with the antenna gain patterns specified in Section 25.209(a2) and (b) as demonstrated by the manufacturer's qualification measurement? | <input checked="" type="checkbox"/> YES | <input type="checkbox"/> NO | | | | | | | | | | | | |
| B10. Is the facility operated by remote control? If YES, provide the location and telephone number of the control point. | <input checked="" type="checkbox"/> YES | <input type="checkbox"/> NO | | | | | | | | | | | | |
| Remote Control Point Location: | | | | | | | | | | | | | | |
| <table border="1" style="width:100%; border-collapse: collapse;"> <tr> <td colspan="4" style="padding: 2px;"> B10a. Street Address 417 Caredean Drive Suite A </td> </tr> <tr> <td style="width:33%; padding: 2px;"> B10b. City Horsham </td> <td style="width:20%; padding: 2px;"> B10c. County Montgomery </td> <td style="width:20%; padding: 2px;"> B10.d. State/Country PA </td> <td style="width:27%; padding: 2px;"> B10e. Zip Code 19044 </td> </tr> <tr> <td style="padding: 2px;"> B10f. Telephone Number 215-328-9130 </td> <td colspan="3" style="padding: 2px;"> B10g. Call Sign of Control Station (if appropriate) </td> </tr> </table> | | | B10a. Street Address 417 Caredean Drive Suite A | | | | B10b. City Horsham | B10c. County Montgomery | B10.d. State/Country PA | B10e. Zip Code 19044 | B10f. Telephone Number 215-328-9130 | B10g. Call Sign of Control Station (if appropriate) | | |
| B10a. Street Address 417 Caredean Drive Suite A | | | | | | | | | | | | | | |
| B10b. City Horsham | B10c. County Montgomery | B10.d. State/Country PA | B10e. Zip Code 19044 | | | | | | | | | | | |
| B10f. Telephone Number 215-328-9130 | B10g. Call Sign of Control Station (if appropriate) | | | | | | | | | | | | | |
| B11. Is frequency coordination required? If YES, attach a frequency coordination report as an exhibit. | <input checked="" type="checkbox"/> YES | <input type="checkbox"/> NO | | | | | | | | | | | | |
| B12. Is coordination with another country required? If YES, attach the name of the country(ies) and plot of coordination contours as an exhibit. | <input type="checkbox"/> YES | <input checked="" type="checkbox"/> NO | | | | | | | | | | | | |
| B13. FAA Notification - (See 47 CFT Part 17 and 47 CFT Part 25.113(c)) Where FAA notification is required, have you attached a copy of a completed FCC Form 854 and/or the FAA's study regarding the potential hazard of the structure to aviation? FAILURE TO COMPLY WITH 47 CFT PARTS 17 AND 25 WILL RESULT IN THE RETURN OF THIS APPLICATION | <input type="checkbox"/> YES | <input checked="" type="checkbox"/> NO | | | | | | | | | | | | |

| | | |
|---|---|------------------------------|
| FCC 312 Main Form FEDERAL COMMUNICATIONS COMMISSION APPLICATION FOR SATELLITE SPACE AND EARTH STATION AUTHORIZATIONS | Approved by CMB 3060-0678 | FCC Use Only File Number: |
| | Est. Avg. Burden Hours Per Response: 11 Hrs. | Call Sign: |
| | | Fee Number: |

APPLICANT INFORMATION

| | | | |
|--|---|--|--|
| 1. Legal Name of Applicant Universal Space Network, Inc. | | 2. Voice Telephone Number (949) 476 - 3432 | |
| 3. Other Name Used for Doing Business (if any) | | 4. Fax Telephone Number (949) 851 - 9485 | |
| 5. Mailing Street Address or P.O. Box 1501 Quail Street, Suite 102 | 6. City Newport Beach | | |
| ATTENTION: JOANNE GREET-SWANK (215) 328-9130 | 7. State/Country (if not U.S.A.) California | 8. Zip Code 92660 | |
| 9. Name of Contact Representative (If other than applicant) | | 10. Voice Telephone Number | |
| 11. Firm or Company Name | | 12. Fax Telephone Number | |
| 13. Mailing Street Address or P.O. Box ATTENTION: | 14. City | | |
| ATTENTION: | 15. State/Country (if not U.S.A.) | 16. Zip Code | |

CLASSIFICATION OF FILING

| | | | |
|---|--|--|--|
| 17. Place an "X" in the box next to the classification that applied to this filing for both questions a. and b. Mark only one box for 17a and only one box for 17b. | | | |
| <input checked="" type="checkbox"/> a1. Earth Station <input type="checkbox"/> a2. Space Station | <input type="checkbox"/> b1. Application for License of New Station <input type="checkbox"/> b2. Application for Registration of New Domestic Receive-Only Station <input type="checkbox"/> b3. Amendment to a Pending Application <input type="checkbox"/> b4. Modification of License or Registration <input type="checkbox"/> b5. Assignment of License or Registration | <input type="checkbox"/> b6. Transfer of Control of License or Registration <input type="checkbox"/> b7. Notification of Minor Modification <input type="checkbox"/> b8. Application for License of New Receive-Only Station Using Non-U.S. Licensed Satellite <input type="checkbox"/> b9. Letter of Intent to Use Non-U.S. Licensed Satellite to provide Service in the United States | <input checked="" type="checkbox"/> b10. Other (Please Specify): <u>Application to Request STA</u> |
| 18. If this filing is in reference to an existing station, enter: Call sign of station: | | 19. If this filing is an amendment to a pending application enter: (a) Date pending application was filed: (b) File number of pending application: | |

TYPE OF SERVICE

20. NATURE OF SERVICE: This filing is for an authorization to provide or use the following type(s) of service(s): Place an "X" in the box(es) next to all that apply.

a. Fixed Satellite c. Radiodetermination Satellite e. Direct to Home Fixed Satellite
 b. Mobile Satellite d. Earth Exploration Satellite f. Digital Audio Radio Service g. Other (Please Specify) Launch and Early Orbit Support (LEOP)

21. STATUS:

a. Common Carrier b. Non-Common Carrier

22. If earth station applicant, place an "X" in the box(es) next to all that apply.

a. Using U.S. licensed satellites b. Using Non-U.S. licensed satellites

23. If applicant is providing INTERNATIONAL COMMON CARRIER service, see instructions regarding Sec. 214 filings. Mark only one box. Are these facilities:

a. Connected to the Public Switched Network b. Not connected the Public Switched Network N/A

24. FREQUENCY BAND(S): Place an "X" in the box(es) next to all applicable frequency band(s).

a. C-Band (4/6 GHz) c. Other (please specify) S-Band and Extended C-band (7 GHz)
 b. Ku-Band (12/14 GHz)

TYPE OF STATION

25. CLASS OF STATION: Place an "X" in the box next to the class of station that applies. Mark only one box.

a. Fixed Earth Station b. Temporary-Fixed Earth Station c. 12/14 GHz VSAT Network d. Mobile Earth Station e. Space Station f. Other (Specify) _____

If space station applicant, go to Question 27.

26. TYPE OF EARTH STATION FACILITY Mark only one box.

a. Transmit/Receive b. Transmit-Only c. Receive-Only

PURPOSE OF MODIFICATION OR AMENDMENT

27. The purpose of this proposed modification or amendment is to: Place an "X" in the box(es) next to all that apply.

a – authorization to add new emission designator and related service
 b – authorization to change emission designator and related service
 c – authorization to increase EIRP and EIRP density
 d – authorization to replace antenna
 e – authorization to add antenna
 f – authorization to relocate fixed station
 g – authorization to change assigned frequency(ies)
 h – authorization to add Points of Communication (satellites & countries)
 i – authorization to change Points of Communication (satellites & countries)
 j – authorization for facilities for which environmental assessment and radiation hazard reporting is required
 k – Other (Please Specify)

ENVIRONMENTAL POLICY

28. Would a Commission grant of any proposal in this application or amendment have a significant environmental impact as defined by 47 CFR 1.1307?
If YES, submit the statement as required by Sections 1.1308 and 1.1311 of the Commission's rules, 47 C.F.R. §§ 1.1308 and 1.1311, as an exhibit to this application.

YES NO

A Radiation Hazard Study must accompany all applications as an exhibit for new transmitting facilities, major modifications, or amendments. Refer to OET Bulletin 65.

ALIEN OWNERSHIP

| | | |
|--|------------------------------|--|
| 29. Is the applicant a foreign government or the representative of any foreign government? | <input type="checkbox"/> YES | <input checked="" type="checkbox"/> NO |
| 30. Is the applicant an alien or the representative of an alien? | <input type="checkbox"/> YES | <input type="checkbox"/> NO |
| 31. Is the applicant a corporation organized under the laws of any foreign government? | <input type="checkbox"/> YES | <input type="checkbox"/> NO |
| 32. Is the applicant a corporation of which more than one-fifth of the capital stock is owned of record or voted by aliens or their representatives or by a foreign government or representative there of or by any corporation organized under the laws of a foreign country? | <input type="checkbox"/> YES | <input type="checkbox"/> NO |
| 33. Is the applicant a corporation directly or indirectly controlled by any other corporation of which more than one-fourth of the capital stock is owned of record or voted by aliens, their representatives, or by a foreign government or representative thereof or by any corporation organized under the laws of a foreign country? | <input type="checkbox"/> YES | <input type="checkbox"/> NO |
| 34. If any answer to questions 29, 30, 31, 32 and/or 33 is Yes, attach as an exhibit, the identification of the aliens or foreign entities, their nationality, their relationship to the applicant, and the percentage of stock they own or vote. | | |

BASIC QUALIFICATIONS

| | | |
|--|---|--|
| 35. Does the applicant request any waivers or exemptions from any of the Commission's Rules? If Yes, attach as an exhibit, copies of the requests for waivers or exception with supporting documents. | <input type="checkbox"/> YES | <input checked="" type="checkbox"/> NO |
| 36. Has the applicant or any party to this application had any FCC station authorization or license revoked or had any application for an initial, modification or renewal of FCC station authorization, license, or construction permit denied by the Commission? If Yes, attach as an exhibit, an explanation of the circumstances. | <input type="checkbox"/> YES | <input checked="" type="checkbox"/> NO |
| 37. Has the applicant, or any party to this application, or any party directly or indirectly controlling the applicant ever been convicted of a felony by any state or federal Court? If Yes, attach as an exhibit, an explanation of the circumstances | <input type="checkbox"/> YES | <input checked="" type="checkbox"/> NO |
| 38. Has any court finally adjudged the applicant, or any person directly or indirectly controlling the applicant, guilty of unlawfully monopolizing or attempting unlawfully to monopolize radio communication, directly or indirectly, through control of manufacture or sale of radios apparatus, exclusive traffic arrangement or any other mean or unfair method of competition? If Yes, attach as an exhibit, an explanation of the circumstances. | <input type="checkbox"/> YES | <input checked="" type="checkbox"/> NO |
| 39. Is the applicant, or any person directly or indirectly controlling the applicant, currently a party in any pending matter referred to in the preceding two items? If Yes, attach as an exhibit, an explanation of the circumstances. | <input type="checkbox"/> YES | <input checked="" type="checkbox"/> NO |
| 40. If the applicant is a corporation and is applying for a space station license, attach as an exhibit the names, addresses, and citizenship of those stockholders owing of record and/ or voting 10 percent or more of the Filer's voting stock and the percentages so help. In the case of fiduciary control, indicate the beneficiary(ies) or class of beneficiaries. Also list the names and addresses of the officers and directions of the Filer. | | |
| 41. By checking Yes, the undersigned certifies, that neither the applicant nor any other party to the application is subject to a denial of Federal benefits that includes FCC benefits pursuant to Section 5301 or the Anti-Drug Act of 1988, 21 U.S.C. Section 862, because of a conviction for possession or distribution of a controlled substance. See 47 CFR 1.2002(b) for the meaning of "party to the application" for these purposes. | <input checked="" type="checkbox"/> YES | <input type="checkbox"/> NO |
| 42a. Does the applicant intend to use a non-U.S. Licensed satellite to provide service in the United States? If yes, answer 42b and attach an exhibit providing the information specified in 47 C.F.R § 25.137, as appropriate. If no, proceed to question 43. | <input type="checkbox"/> YES | <input checked="" type="checkbox"/> NO |
| 42b. What administration has licensed or is in the process of licensing the space station? If no license will be issued, what administration has coordinated or is in the process of coordinating the space station? _____ | | |

43. Description. (Summarize the nature of the application and the services to be provided).

USN's ground station in Hawaii shall be used to assist Space Systems Loral and Sirius XM Radio during the launch and early orbit phase (LEOP) of the Sirius FM-5 spacecraft. Communications shall consist of telemetry, telecommand, data delivery, and control of the satellite. LEOP shall consist of a period no longer than Launch +12 days. The launch is scheduled for June 30, 2009.

| Exhibit No. | Identify all exhibits that are attached to this application. |
|-------------|--|
| A | Frequency Coordination Report |
| | |
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CERTIFICATION

The Applicant waives any claim to the use of any particular frequency or of the electromagnetic spectrum as against the regulatory power of the United States because of the previous use of the same, whether by license or otherwise, and requests an authorization in accordance with this application. The applicant certifies that grant of this application would not cause the applicant to be in violation of the spectrum aggregation limit in 47 CFR Part 20. All statements made in exhibits are a material part hereof and are incorporated herein as if set out in full in this application. The undersigned, individually and for the applicant, hereby certifies that all statements made in this application and in all attached exhibits are true, complete and correct to the best of his or her knowledge and belief, and are made in good faith.

44. Applicant is a (an): (Place an "X" in the box next to applicable response.)
 a. Individual b. Unincorporated Association c. Partnership d. Corporation e. Governmental Entity e. Other
(Please specify) _____

| | |
|--|--|
| 45. Typed Name of Person Signing Joanne Greet-Swank | 46. Title of Person Signing Manager, Compliance |
|--|--|

| | |
|---------------|-------------------------|
| 47. Signature | 48. Date 27 May 2009 |
|---------------|-------------------------|

WILLFUL FALSE STATEMENTS MADE ON THIS FORM ARE PUNISHABLE BY FINE AND/OR IMPRISONMENT (U.S. Code, Title 18, Section 1001), AND/OR REVOCATION OF ANY STATION AUTHORIZATION (U.S. Code, Title 47, Section 312(a)(1)), AND/OR FORFEITURE (U.S. Code, Title 47, Section 503).

FREQUENCY COORDINATION AND INTERFERENCE ANALYSIS REPORT

Prepared for

Universal Space Network, Inc.
Naalehu, Hawaii

Satellite Earth Station

Prepared By:
COMSEARCH
19700 Janelia Farm Boulevard
Ashburn, Virginia 20147
March 16, 2009

TABLE OF CONTENTS

| | |
|--|----|
| 1. CONCLUSIONS | 3 |
| 2. SUMMARY OF RESULTS | 4 |
| 3. SUPPLEMENTAL SHOWING | 5 |
| 4. EARTH STATION COORDINATION DATA | 7 |
| 5. CERTIFICATION | 11 |

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. Further, there will be no restrictions of its operation due to interference considerations.

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 are considered on the interfering paths, sufficient blockage exists to negate harmful interference from occurring with the proposed transmit-only earth station.

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 February 19, 2009.

Company

HITV License Subsidiary, Inc.
HO'ONA'AUAO COMMUNITY TV, INC.
Hearst -Argyle Stations, Inc (KITV-TV)
KHLS INC
KHNL/KFVE License Subsidiary, LLC
Kaiser Ind Corp
NVT Hawaii Licensee, LLC
Oceanic Cablevision Inc.
PACIFICA BROADCASTING COMPANY
PAXSON HAWAII LICENSE INC.
Time Warner Entertainment Company L.P.
Trinity Broadcasting Network Inc
Village Video Production Inc.
NSM Surveillance
Information Superstation LLC
Broadcast Communications Microwave Inc.
Fishman Brothers Enterprises
Global Microwave Systems Inc.
Broadcast Sports Inc.
RF Central, LLC
Dean Relay Press & Radio
MidCom, Inc.
Universal Satellite Communications Incorporated
Casper, John
Regulus Media Services, Inc.
CNG Communications, Inc.
Remote Facilities Consulting Services
Winged Vision Inc.
Goodyear Tire & Rubber Company
Production & Satellite Services, Inc.
Total RF Marketing Inc.
DCI II Inc.
Mexler Video Inc.
3 G Wireless, LLC
Cohen, Elena

Company (Continued)

RF Film, Inc.
Citywide News Network, Inc.
Heiden, Mr. William
Wolfe Air Aviation
RF Technology, LLC
Onboard Images
GSN News, Inc.

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: 03/13/2009
Job Number: 090219COMSJC03

Administrative Information

Status ENGINEER PROPOSAL
Call Sign NAALEHU
Licensee Code UNSPNE
Licensee Name Universal Space Network, Inc.

Site Information

Venue Name **NAALEHU, HAWAII**
Latitude (NAD 83) 19° 0' 50.3" N
Longitude (NAD 83) 155° 39' 46.6" W
Climate Zone C
Rain Zone 4
Ground Elevation (AMSL) 378.0 m / 1240.2 ft

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) 8.53 m / 28.0 ft

Antenna Information

| | Receive | Transmit |
|------------------------|-------------------|-------------------|
| Manufacturer | Datron | Datron |
| Model | 1453 | 1453 |
| Gain / Diameter | 46.9 dBi / 13.0 m | 57.1 dBi / 13.0 m |
| 3-dB / 15-dB Beamwidth | 0.78° / 1.46° | 0.24° / 0.45° |

Max Available RF Power (dBW/4 KHz) 10.9
(dBW/MHz) 27.9

Maximum EIRP (dBW/4 KHz) 68.0
(dBW/MHz) 85.0
(dBW) 85.0

Interference Objectives: Long Term -156.0 dBW/MHz 20% -154.0 dBW/4 KHz 20%
Short Term -146.0 dBW/MHz 0.01% -131.0 dBW/4 KHz 0.0025%

Frequency Information

| | Receive 2.2 GHz | Transmit 7.0 GHz |
|----------------------------------|------------------|------------------|
| Emission / Frequency Range (MHz) | 200KG2D / 2320.5 | 200KG2D / 7052.0 |
| | 200KG2D / 7056.0 | 200KG2D / 7056.0 |

Max Great Circle Coordination Distance 1050.1 km / 652.4 mi 760.0 km / 472.2 mi
Precipitation Scatter Contour Radius 100.0 km / 62.1 mi 330.4 km / 205.3 mi

COMSEARCH

Earth Station Data Sheet

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

Coordination Values

Licensee Name **NALEHU, HI**
 Universal Space Network, Inc.
 Latitude (NAD 83) 19° 0' 50.3" N
 Longitude (NAD 83) 155° 39' 46.6" W
 Ground Elevation (AMSL) 378.0 m / 1240.2 ft
 Antenna Centerline (AGL) 8.53 m / 28.0 ft
 Antenna Model Datron 1453
 Antenna Mode Receive 2.2 GHz
 Interference Objectives: Long Term -156.0 dBW/MHz 20%
 Short Term -146.0 dBW/MHz 0.01%
 Max Available RF Power

Transmit 7.0 GHz
 -154.0 dBW/4 KHz 20%
 -131.0 dBW/4 KHz 0.0025%
 10.9 (dBW/4 KHz)

| Azimuth (°) | Receive 2.2 GHz | | | Transmit 7.0 GHz | | |
|-------------|-----------------------|----------------------------|--------------------|----------------------------|--------------------|----------------------------|
| | Horizon Elevation (°) | Antenna Discrimination (°) | Horizon Gain (dBi) | Coordination Distance (km) | Horizon Gain (dBi) | Coordination Distance (km) |
| 0 | 2.78 | 5.0 | 4.50 | 662.10 | 4.50 | 365.00 |
| 5 | 2.62 | 5.0 | 4.50 | 671.20 | 4.50 | 374.40 |
| 10 | 2.39 | 5.0 | 4.50 | 685.10 | 4.50 | 388.60 |
| 15 | 2.30 | 5.0 | 4.50 | 690.80 | 4.50 | 394.30 |
| 20 | 2.17 | 5.0 | 4.50 | 699.20 | 4.50 | 403.00 |
| 25 | 2.03 | 5.0 | 4.50 | 708.80 | 4.50 | 412.70 |
| 30 | 1.68 | 5.0 | 4.50 | 734.80 | 4.50 | 439.30 |
| 35 | 0.90 | 5.0 | 4.50 | 811.80 | 4.50 | 517.90 |
| 40 | 0.33 | 5.0 | 4.50 | 911.20 | 4.50 | 619.40 |
| 45 | 0.00 | 5.0 | 4.50 | 1050.10 | 4.50 | 760.00 |
| 50 | 0.00 | 5.0 | 4.50 | 1050.10 | 4.50 | 760.00 |
| 55 | 0.00 | 5.0 | 4.50 | 1050.10 | 4.50 | 760.00 |
| 60 | 0.00 | 5.0 | 4.50 | 1050.10 | 4.50 | 760.00 |
| 65 | 0.00 | 5.0 | 4.50 | 1050.10 | 4.50 | 760.00 |
| 70 | 0.00 | 5.0 | 4.50 | 1050.10 | 4.50 | 760.00 |
| 75 | 0.00 | 5.0 | 4.50 | 1050.10 | 4.50 | 760.00 |
| 80 | 0.00 | 5.0 | 4.50 | 1050.10 | 4.50 | 760.00 |
| 85 | 0.00 | 5.0 | 4.50 | 1050.10 | 4.50 | 760.00 |
| 90 | 0.00 | 5.0 | 4.50 | 1050.10 | 4.50 | 760.00 |
| 95 | 0.00 | 5.0 | 4.50 | 1050.10 | 4.50 | 760.00 |
| 100 | 0.00 | 5.0 | 4.50 | 1050.10 | 4.50 | 760.00 |
| 105 | 0.00 | 5.0 | 4.50 | 1050.10 | 4.50 | 760.00 |
| 110 | 0.00 | 5.0 | 4.50 | 1050.10 | 4.50 | 760.00 |
| 115 | 0.00 | 5.0 | 4.50 | 1050.10 | 4.50 | 760.00 |
| 120 | 0.00 | 5.0 | 4.50 | 1050.10 | 4.50 | 760.00 |
| 125 | 0.00 | 5.0 | 4.50 | 1050.10 | 4.50 | 760.00 |
| 130 | 0.00 | 5.0 | 4.50 | 1050.10 | 4.50 | 760.00 |
| 135 | 0.00 | 5.0 | 4.50 | 1050.10 | 4.50 | 760.00 |
| 140 | 0.00 | 5.0 | 4.50 | 1050.10 | 4.50 | 760.00 |
| 145 | 0.00 | 5.0 | 4.50 | 1050.10 | 4.50 | 760.00 |
| 150 | 0.00 | 5.0 | 4.50 | 1050.10 | 4.50 | 760.00 |
| 155 | 0.00 | 5.0 | 4.50 | 1050.10 | 4.50 | 760.00 |
| 160 | 0.00 | 5.0 | 4.50 | 1050.10 | 4.50 | 760.00 |
| 165 | 0.00 | 5.0 | 4.50 | 1050.10 | 4.50 | 760.00 |
| 170 | 0.00 | 5.0 | 4.50 | 1050.10 | 4.50 | 760.00 |
| 175 | 0.00 | 5.0 | 4.50 | 1050.10 | 4.50 | 760.00 |
| 180 | 0.00 | 5.0 | 4.50 | 1050.10 | 4.50 | 760.00 |
| 185 | 0.00 | 5.0 | 4.50 | 1050.10 | 4.50 | 760.00 |

COMSEARCH

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Coordination Values

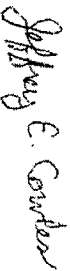
Licensee Name **NALEHU, HI**
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 Ground Elevation (AMSL) 378.0 m / 1240.2 ft
 Antenna Centerline (AGL) 8.53 m / 28.0 ft
 Antenna Model **Datron 1453**

Antenna Mode Receive 2.2 GHz
 Interference Objectives: Long Term -156.0 dBW/MHz 20% Transmit 7.0 GHz -154.0 dBW/4 KHz 20%
 Short Term -146.0 dBW/MHz 0.01% -131.0 dBW/4 KHz 0.0025%
 Max Available RF Power 10.9 (dBW/4 KHz)

| Azimuth (°) | Horizon Elevation (°) | Antenna Discrimination (°) | Receive 2.2 GHz | | Transmit 7.0 GHz | |
|-------------|-----------------------|----------------------------|--------------------|----------------------------|--------------------|----------------------------|
| | | | Horizon Gain (dBi) | Coordination Distance (km) | Horizon Gain (dBi) | Coordination Distance (km) |
| 190 | 0.00 | 5.0 | 4.50 | 1050.10 | 4.50 | 760.00 |
| 195 | 0.00 | 5.0 | 4.50 | 1050.10 | 4.50 | 760.00 |
| 200 | 0.00 | 5.0 | 4.50 | 1050.10 | 4.50 | 760.00 |
| 205 | 0.00 | 5.0 | 4.50 | 1050.10 | 4.50 | 760.00 |
| 210 | 0.00 | 5.0 | 4.50 | 1050.10 | 4.50 | 760.00 |
| 215 | 0.00 | 5.0 | 4.50 | 1050.10 | 4.50 | 760.00 |
| 220 | 0.00 | 5.0 | 4.50 | 1050.10 | 4.50 | 760.00 |
| 225 | 0.00 | 5.0 | 4.50 | 1050.10 | 4.50 | 760.00 |
| 230 | 0.00 | 5.0 | 4.50 | 1050.10 | 4.50 | 760.00 |
| 235 | 0.00 | 5.0 | 4.50 | 1050.10 | 4.50 | 760.00 |
| 240 | 0.00 | 5.0 | 4.50 | 1050.10 | 4.50 | 760.00 |
| 245 | 0.00 | 5.0 | 4.50 | 1050.10 | 4.50 | 760.00 |
| 250 | 0.00 | 5.0 | 4.50 | 1050.10 | 4.50 | 760.00 |
| 255 | 0.00 | 5.0 | 4.50 | 1050.10 | 4.50 | 760.00 |
| 260 | 0.00 | 5.0 | 4.50 | 1050.10 | 4.50 | 760.00 |
| 265 | 0.34 | 5.0 | 4.50 | 908.60 | 4.50 | 616.80 |
| 270 | 0.54 | 5.0 | 4.50 | 866.00 | 4.50 | 573.30 |
| 275 | 0.79 | 5.0 | 4.50 | 826.30 | 4.50 | 532.80 |
| 280 | 1.04 | 5.0 | 4.50 | 795.00 | 4.50 | 500.90 |
| 285 | 0.98 | 5.0 | 4.50 | 802.00 | 4.50 | 508.00 |
| 290 | 1.14 | 5.0 | 4.50 | 784.10 | 4.50 | 489.70 |
| 295 | 1.30 | 5.0 | 4.50 | 768.00 | 4.50 | 473.20 |
| 300 | 1.42 | 5.0 | 4.50 | 757.00 | 4.50 | 461.80 |
| 305 | 1.68 | 5.0 | 4.50 | 734.80 | 4.50 | 439.30 |
| 310 | 1.86 | 5.0 | 4.50 | 721.00 | 4.50 | 425.20 |
| 315 | 2.05 | 5.0 | 4.50 | 707.40 | 4.50 | 411.30 |
| 320 | 2.17 | 5.0 | 4.50 | 699.20 | 4.50 | 403.00 |
| 325 | 2.35 | 5.0 | 4.50 | 687.60 | 4.50 | 391.10 |
| 330 | 2.46 | 5.0 | 4.50 | 681.00 | 4.50 | 384.10 |
| 335 | 2.59 | 5.0 | 4.50 | 673.00 | 4.50 | 376.20 |
| 340 | 2.68 | 5.0 | 4.50 | 667.80 | 4.50 | 370.80 |
| 345 | 2.73 | 5.0 | 4.50 | 664.90 | 4.50 | 367.90 |
| 350 | 3.10 | 5.0 | 4.50 | 644.70 | 4.50 | 347.30 |
| 355 | 2.96 | 5.0 | 4.50 | 652.20 | 4.50 | 354.90 |

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.



Jeffrey E. Cowles
Principal Frequency Planner
COMSEARCH
19700 Janelia Farm Boulevard
Ashburn, Va. 20147

DATED: March 16, 2009