

APPLICATION FOR EARTH STATION SPECIAL TEMPORARY AUTHORITY

APPLICANT INFORMATION Enter a description of this application to identify it on the main menu:
Sirius FM6

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:	jgreet@uspacenet.com
City:	Horsham	State:	PA
Country:	USA	Zipcode:	19044
Attention:	Joanne Greet		-

File # SES-STA-20131018-00872



Call Sign NA Grant Date 10-16-13
(or other identifier) Term Dates
From 10-16-13 To 11-14-13
Approved Paul E. Hales



UNIVERSAL SPACE NETWORK

18 October 2013

Federal Communications Commission
International Bureau

Attention: Mr. Paul Blais
Chief, Systems Analysis Branch

Subject: Special Temporary Authorization (STA) in Support of the Launch of the SIRIUS FM-6 Space Station (CALLSIGN: S2812)

Reference: Satellite CD Radio FCC File Number: SAT-MOD-20110525-00099
STA from Operations & Emergency Management Division dated 16 October 2013

Dear Paul,

USN received a STA referenced above dated 16 October 2013 from the Operations & Emergency Management Division of the FCC to support the launch of the Sirius FM-6 spacecraft scheduled for launch on 20 October 2013 (see attached authorization)

The FCC has authorized Satellite CD Radio to launch the SIRIUS FM-6 space station to, and operate it at, the 116.15° W.L. orbital location, instead of the 115.2° W.L. orbital location at which the space station was originally authorized. Satellite CD Radio is also authorized to conduct in-orbit testing (IOT) of the SIRIUS FM-6 space station at 120.50° W.L. for a thirty day period commencing twelve days following launch and, upon completion of that testing, to move the satellite from 120.50° W.L. to 116.15° W.L.

USN is requesting to correct our STA to reflect that USN will provide LEOP services upon launch and during IOT at 120.50 W.L. USN will support the IOT phase at 120.50 W.L. then the move from 120.50 W.L to 116.15 W.L. as the spacecraft's final orbital location.

If you have any questions please feel free to contact me at 215-394-0127 or jgreet@uspacenet.com.

Sincerely,

Joanne Greet
Manager, Contracts & Compliance

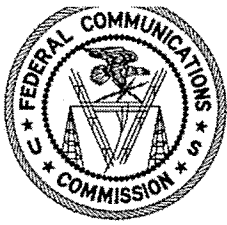


with conditions
File # TBD/IB 2013002185
Call Sign _____ Grant Date 16 Oct 2013
(or other identifier)
Term Dates
From 16 Oct 2013 To: 14 Nov 2013
Approved: Paul Blais

Universal Space Network, Inc.

1501 Quail Street, Suite 102 • Newport Beach, CA 92660 • Phone: +1 949 476 3432 • Fax: +1 949 851 9485
417 Caredean Drive, Suite A • Horsham, PA 19044 • Phone: +1 215 328 9130 • Fax: +1 215 328 9132
www.sscspace.com/usn

1A



Federal Communications Commission

Public Safety & Homeland Security Bureau
Operations & Emergency Management Division
445 12th Street, Southwest
Washington, DC 20024-2101
Phone (202) 418-1122 Fax (202) 418-2813

Date: 16 October 2013

To: Universal Space Network, Inc.
417A Caredean Drive
Horsham PA 19044

From: Federal Communications Commission Operations Center
Public Safety & Homeland Security Bureau
Operations & Emergency Management Division

SUBJECT: SPECIAL TEMPORARY AUTHORIZATION (STA) IN SUPPORT OF THE LAUNCH OF SIRIUS FM-6 SPACE STATION (CALLSIGN: S2812)

Universal Space Network, Inc. (USN) is granted Special Temporary Authority (STA) for a period of 30 days for an earth station in Naalehu, Hawaii, to operate on center frequencies of 7052 MHz and 7056 MHz to provide Launch and Early Orbit Phase support for the launch of the Sirius FM-6 space station (Call Sign S2812) and to support subsequent In-Orbit Testing of Sirius FM-6 at the 115.2 W.L. orbital location. The period of this STA shall commence upon the date of launch of Sirius FM-6, which is planned for October 20, 2013. Operations under this grant of Special Temporary Authority are subject to the following conditions:

1. Operations must be on an unprotected, non-interference basis.
2. USN must have personnel on duty at all times during the period of STA that can be contacted at (215) 394-0155.
3. This STA may be terminated at the Bureau's discretion, without a hearing, if conditions warrant.

This STA may be terminated at the Bureau's discretion, without a hearing, if conditions warrant. Under no circumstances may the facility(ies) authorized herein become a hazard to air navigation or violate the terms of an international agreement or treaty. If an application for permanent authority is on file with the Commission, this action is taken without prejudice to that application. Post and/or retain a copy of this authorization as required by the Commission's Rules.

Point of contact at Universal Space Network, Inc:

Name: Ms. Joanne Greet jgreet@uspacenet.com
Office: (215) 394-0127
PSAP: (215) 620-1123

If you have any questions/issues over the weekend contact the Operations Center 24/7 at (202) 418-1122 or E-mail: FCCOpCenter@FCC.Gov .

Agent Haley Halferty
Watch Officer
FCC Operations Center

1B

2. Contact

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

If Yes, complete and attach FCC Form 159. If No, indicate reason for fee exemption (see 47 C.F.R. Section 1.1114).

Governmental Entity Noncommercial educational licensee

Other (please explain):

4b. Fee Classification CGX – Fixed Satellite Transmit/Receive Earth Station

5. Type Request

Use Prior to Grant Change Station Location Other

6. Requested Use Prior Date
10/20/2013

7. City Naalehu 8. Latitude
(dd mm ss.s h) 19 0 50.3 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 OEM Ltr Attachment 2: USN Modification ltr Attachment 3: 312 and Coord 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;">Support the LEOP & IOT phases of the Sirius FM6 mission scheduled for October 20, 2013. Included is the Emergency Management Office Authorization and letter requesting a modification to the STA to reflect the final orbit location of the spacecraft.</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"; party to the application; for these purposes. Yes <input checked="" type="radio"/> No <input type="radio"/>	
14. Name of Person Signing Joanne Greet	15. Title of Person Signing Manger, Compliance
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.

Remember – You are not required to respond to a collection of information sponsored by the Federal government, and the government may not conduct or sponsor this collection, unless it displays a currently valid OMB control number or if we fail to provide you with this notice. This collection has been assigned an OMB control number of 3060-0678.

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.

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Attention: Joanne Greet	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 type="radio"/> Use Prior to Grant <input type="radio"/> Change Station Location <input checked="" type="radio"/> Other	
6. Requested Use Prior Date	
10/20/2013	
7. CityNaalehu	
8. Latitude (dd mm ss.s h) 19 0 50.3 N	

9. State HI	10. Longitude (dd mm ss.s h) 155 39 46.6 W
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FCC Use Only
File Number:

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 (215) 328-9130		8. Zip Code 92660
9. Name of Contact Representative (If other than applicant)		
11. Firm or Company Name		10. Voice Telephone Number
13. Mailing Street Address or P.O. Box		12. Fax Telephone Number
ATTENTION:		14. City
		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"/> b1. Application for License of New Station
<input type="checkbox"/> a2. Space Station	<input type="checkbox"/> b2. Transfer of Control of License or Registration
	<input type="checkbox"/> b3. Notification of Minor Modification
	<input type="checkbox"/> b4. Application for Registration of New Domestic Receive-Only Station
	<input type="checkbox"/> b5. Amendment to a Pending Application
	<input type="checkbox"/> b6. Application for License of New Receive-Only Station Using Non-U.S. Licensed Satellite
	<input type="checkbox"/> b7. Letter of Intent to Use Non-U.S. Licensed Satellite to provide Service in the United States
	<input checked="" type="checkbox"/> b8. Other (Please Specify): <u>Application to Request Special Temporary Authority</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
- b. Mobile Satellite
- c. Radiodetermination Satellite
- d. Earth Exploration Satellite
- e. Direct to Home Fixed Satellite
- f. Digital Audio Radio Service
- g. Other (Please Specify) Launch, Early Orbit Support (LEOP) & IOT Support

21. STATUS:

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

- a. Common Carrier
- b. Non-Common Carrier
- 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 to the Public Switched Network

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

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

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 OFET 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 checked="" type="checkbox"/> NO
31. Is the applicant a corporation organized under the laws of any foreign government?	<input type="checkbox"/> YES	<input checked="" type="checkbox"/> NO
32. Is the applicant a corporation of which more than one-fifth of the capital stock is owned or voted by aliens or their representatives or by a foreign government or representative thereof or by a foreign country?	<input type="checkbox"/> YES	<input checked="" 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 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 checked="" 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.	<input type="checkbox"/> YES	<input checked="" type="checkbox"/> NO

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 directors of the Filer.	<input type="checkbox"/> YES	<input checked="" type="checkbox"/> NO
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? <u>International Telecommunication Union</u>	<input type="checkbox"/> YES	<input checked="" type="checkbox"/> NO

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

Universal Space Network's ground station in Naalehu, 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-6 spacecraft (Call Sign S2812). Communications shall consist of telemetry, telecommand, data delivery and control of the satellite. LEOP shall last no longer than Launch +12 days. The launch is scheduled for October 20, 2013. The earth station will also be used for In-Orbit-Testing (IOT) of the satellite. Communications in this phase shall consist of telemetry, telecommand, and payload calibration of the satellite. IOT shall last no longer than 28 days after the satellite has been parked. Parking is expected to occur about November 20, 2013.

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

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
- f. Other (Please specify) _____

45. Typed Name of Person Signing
Joanne Greet

46. Title of Person Signing
Manager, Compliance

47. Signature

48. Date

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).

**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.): _____

<p>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.</p>	<input checked="" type="checkbox"/> YES <input type="checkbox"/> NO									
<p>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?</p>	<input checked="" type="checkbox"/> YES <input type="checkbox"/> NO									
<p>B10. Is the facility operated by remote control? If YES, provide the location and telephone number of the control point.</p>	<input checked="" type="checkbox"/> YES <input type="checkbox"/> NO									
<p>Remote Control Point Location:</p> <table border="1" style="width:100%; border-collapse: collapse;"> <tr> <td style="width:40%; padding: 2px;">B10a. Street Address 417 Caredean Drive Suite A</td> <td style="width:20%; padding: 2px;">B10c. State/Country PA</td> <td style="width:40%; padding: 2px;">B10e. Zip Code 19044</td> </tr> <tr> <td style="padding: 2px;">B10b. City Horsham</td> <td colspan="2" style="padding: 2px;">B10g. Call Sign of Control Station (if appropriate)</td> </tr> <tr> <td style="padding: 2px;">B10f. Telephone Number 215-328-9130</td> <td colspan="2"></td> </tr> </table>		B10a. Street Address 417 Caredean Drive Suite A	B10c. State/Country PA	B10e. Zip Code 19044	B10b. City Horsham	B10g. Call Sign of Control Station (if appropriate)		B10f. Telephone Number 215-328-9130		
B10a. Street Address 417 Caredean Drive Suite A	B10c. State/Country PA	B10e. Zip Code 19044								
B10b. City Horsham	B10g. Call Sign of Control Station (if appropriate)									
B10f. Telephone Number 215-328-9130										
<p>B11. Is frequency coordination required? If YES, attach a frequency coordination report as an exhibit.</p>	<input checked="" type="checkbox"/> YES <input type="checkbox"/> NO									
<p>B12. Is coordination with another country required? If YES, attach the name of the country(ies) and plot of coordination contours as an exhibit.</p>	<input type="checkbox"/> YES <input checked="" type="checkbox"/> NO									
<p>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</p>	<input type="checkbox"/> YES <input checked="" type="checkbox"/> NO									

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

June 21, 2013

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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 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.

Expedited coordination data for this earth station was emailed and sent to the below listed carriers with a letter dated June 9, 2013.

Company

3G Wireless, LLC
AERIAL VIDEO SYSTEMS
AT&T California
Alascom Inc
Ascent Media Network Services, LLC
Bellsouth Telecommunications, Inc.
BFI Licenses, LLC
Borgeson, Tom R.
Broadcast Sports Inc.
CNG Communications, Inc.
Carolina Telephone and Telegraph Co
Casper, John
CenturyTel of the Southwest, Inc.
Chicago Comnet Corp
Cincinnati Bell Wireless LLC
Circuit of the Americas, LLC
Citywide News Network, Inc.
Cohen, Elana
Cowboys Stadium LP
CP Communications PA, LLC
DCI II, INC.
Direct Broadcast Services, Inc.
Fishman Brothers Enterprises
GOODYEAR TIRE AND RUBBER COMPANY
GSN New, Inc
Global Microwave Systems Inc
HF Enterprises, Inc
HO'ONA'AUAO COMMUNITY TV, INC.
Hallco Unlimited, Inc.
Hawaii State
Hawaiian Telcom, Inc.
Hearst -Argyle Stations, Inc (KITV-TV)
Heiden, William
Ho Ona Auao Community TV, Inc

Company (Continued)

ION MEDIA HAWAII LICENSE, INC.
Illinois Bell Telephone Company
Indiana Bell Telephone Company
Information & Display Systems, Inc.
Information Super Station, LLC
International Communications Group, Inc.
KHNL/KGMB License Subsidiary, LLC
Kaiser Ind Corp
Kentucky RSA #3 Cellular General Partner
Kentucky RSA #4 Cellular General Partner
MERCURY COMMUNICATIONS
Mauna Kea Broadcasting Company, Inc.
Metro Networks Communications, Inc.
Metrosat Communications, Inc.
Michigan Bell Telephone Company
Moreen, Steven K
NEW ENGLAND DIGITAL DISTRIBUTION, INC.
NEW ENGLAND SATELLITE SYSTEMS INC
NRJ TV Hawaii License Co, LLC
NSM Surveillance
NVT Hawaii Licensee, LLC
Navajo Communications Company
NorthWest Suburbs Community Access Corp
ONE LOVE OUTREACH, INC.
Ohio Bell Telephone Company
On Scene Video Production
Onboard Images
Penn Service Microwave Co., Inc.
Plateau Telecommunications, Inc.
Plum TV, LLC
Production & Satellite Services, Inc.
Public Television Communications Center
QUICK LINK CONNECTIONS INC
QWEST CORPORATION
RCC Minnesota Inc. - MN NE ND SD
REMOTE FACILITIES CONSULTING SERVICES
RF Central, LLC
RF Film, Inc
RF Technology LLC
Radiofone, Inc.
Randy Hermes Production
Regulus Media Services, Inc.
Remote Broadcasts, Inc.
Society of Broadcast Engineers
Southwestern Bell Telephone L.P.
Speedshotz, Inc
Time Warner Entertainment Company L.P.
Total RF Marketing Inc
Trinity Broadcasting Network Inc
Unisat, Inc.
United Telephone - Southeast

Company (Continued)

VERIZON SOUTH INC.
Verizon California Inc.
Verizon Maryland, Inc.
Verizon New England Inc.
Verizon New Jersey, Inc.
Verizon New York, Inc.
Verizon North Inc.
Verizon Northwest Inc.
Verizon Pennsylvania, Inc.
Verizon Virginia, Inc.
Verizon Washington DC, Inc.
Village Video Productions Inc
Vyvx, LLC
Westar Satellite Services LP
Western Technical Services
Wexler Video, Inc.
Winged Vision Inc
Wisconsin Bell, Inc.
Wolfe Air Aviation

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: 06/21/2013
Job Number: 130609COMSJC01

Administrative Information

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

Site Information

NAALEHU, HAWAII
Venue Name
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 TO - Transmit-Only
Modulation Digital
Minimum Elevation Angle 5.0°
Azimuth Range 0.0° to 360°
Antenna Centerline (AGL) 8.53 m / 28.0 ft

Antenna Information

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

Max Available RF Power (dBW/4 kHz) 10.9
(dBW/MHz) 34.9

Maximum EIRP (dBW/4 kHz) 68.0
(dBW/MHz) 92.0
(dBW) 85.0

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

Frequency Information

Transmit 7.0 GHz
Emission / Frequency Range (MHz) 200KG2D / 7052.0
200KG2D / 7056.0

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

COMSEARCH

Earth Station Data Sheet

19700 Janelia Farm Boulevard, Ashburn, VA 20147

(703)726-5500 <http://www.comsearch.com>

Coordination Values	NAALEHU, HI
Licensee Name	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	Transmit 7.0 GHz
Interference Objectives: Long Term	-154.0 dBW/4 kHz 20%
Short Term	-131.0 dBW/4 kHz 0.0025%
Max Available RF Power	10.9 (dBW/4 kHz)

Azimuth (°)	Horizon Elevation (°)	Antenna Discrimination (°)	Transmit 7.0 GHz	
			Horizon Gain (dBi)	Coordination Distance (km)
0	2.78	76.33	4.50	365.00
5	2.62	74.59	4.50	374.40
10	2.39	72.89	4.50	388.60
15	2.30	71.39	4.50	394.30
20	2.17	69.98	4.50	403.00
25	2.03	68.70	4.50	412.70
30	1.68	67.37	4.50	439.30
35	0.90	65.80	4.50	517.90
40	0.33	64.56	4.50	619.40
45	0.00	63.74	4.50	760.00
50	0.00	63.44	4.50	760.00
55	0.00	63.37	4.50	760.00
60	0.00	63.51	4.50	760.00
65	0.00	63.87	4.50	760.00
70	0.00	64.44	4.50	760.00
75	0.00	65.22	4.50	760.00
80	0.00	66.19	4.50	760.00
85	0.00	67.34	4.50	760.00
90	0.00	68.67	4.50	760.00
95	0.00	70.15	4.50	760.00
100	0.00	71.77	4.50	760.00
105	0.00	73.53	4.50	760.00
110	0.00	75.39	4.50	760.00
115	0.00	77.35	4.50	760.00
120	0.00	79.39	4.50	760.00
125	0.00	81.51	4.50	760.00
130	0.00	83.67	4.50	760.00
135	0.00	85.87	4.50	760.00
140	0.00	88.10	4.50	760.00
145	0.00	90.34	4.50	760.00
150	0.00	92.58	4.50	760.00
155	0.00	94.80	4.50	760.00
160	0.00	96.99	4.50	760.00
165	0.00	99.14	4.50	760.00
170	0.00	101.24	4.50	760.00
175	0.00	103.26	4.50	760.00
180	0.00	105.19	4.50	760.00
185	0.00	107.02	4.50	760.00

COMSEARCH

Earth Station Data Sheet

19700 Janelia Farm Boulevard, Ashburn, VA 20147

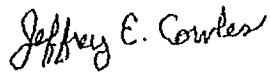
(703)726-5500 <http://www.comsearch.com>

Coordination Values	NAALEHU, HI
Licensee Name	Universal Space Network, Inc.
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Antenna Model	Datron 1453
Antenna Mode	Transmit 7.0 GHz
Interference Objectives: Long Term	-154.0 dBW/4 kHz 20%
Short Term	-131.0 dBW/4 kHz 0.0025%
Max Available RF Power	10.9 (dBW/4 kHz)

Azimuth (°)	Horizon Elevation (°)	Antenna Discrimination (°)	Transmit 7.0 GHz	
			Horizon Gain (dBi)	Coordination Distance (km)
190	0.00	108.73	4.50	760.00
195	0.00	110.32	4.50	760.00
200	0.00	111.75	4.50	760.00
205	0.00	113.03	4.50	760.00
210	0.00	114.13	4.50	760.00
215	0.00	115.04	4.50	760.00
220	0.00	115.75	4.50	760.00
225	0.00	116.26	4.50	760.00
230	0.00	116.56	4.50	760.00
235	0.00	116.63	4.50	760.00
240	0.00	116.49	4.50	760.00
245	0.00	116.13	4.50	760.00
250	0.00	115.56	4.50	760.00
255	0.00	114.78	4.50	760.00
260	0.00	113.81	4.50	760.00
265	0.34	112.37	4.50	616.80
270	0.54	110.91	4.50	573.30
275	0.79	109.28	4.50	532.80
280	1.04	107.54	4.50	500.90
285	0.98	105.89	4.50	508.00
290	1.14	104.01	4.50	489.70
295	1.30	102.06	4.50	473.20
300	1.42	100.07	4.50	461.80
305	1.68	97.99	4.50	439.30
310	1.86	95.92	4.50	425.20
315	2.05	93.83	4.50	411.30
320	2.17	91.75	4.50	403.00
325	2.35	89.69	4.50	391.10
330	2.46	87.64	4.50	384.10
335	2.59	85.64	4.50	376.20
340	2.68	83.67	4.50	370.80
345	2.73	81.74	4.50	367.90
350	3.10	80.01	4.50	347.30
355	2.96	78.15	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
Engineer III, Telecommunications
COMSEARCH
19700 Janelia Farm Boulevard
Ashburn, VA 20147

DATED: June 21, 2013