Approved by OMB
3060–0678

APPLICATION FOR EARTH STATION SPECIAL TEMPORARY AUTHORITY

APPLICANT INFORMATIONEnter a description of this application to identify it on the main menu:
Rota STA Request 11/6/2019

1. Applicant

Name:	Hawaii Pacific Teleport, L.P.	**Phone Number:**	808–674–9157
DBA Name:		**Fax Number:**	808–674–1826
Street:	P.O. Box 429	**E–Mail:**	lsmith–ryland@hawaiiteleport.com
City:	Makawao	**State:**	HI
Country:	USA	**Zipcode:**	96768 –
Attention:	Ms Leeana A Smith–Ryland		

FEDERAL COMMUNICATIONS COMMISSION
GRANTED
International Bureau

File # SES-STA 20191107-01447
Call Sign NA Grant Date 11/4/2019
(or other identifier)
Term Dates
From 11/04/2019 To: 1/2/2020
Approved: Paul E Blais

All operations are on a non-interference and non-protected basis and without prejudice to actions on future applications.
PEB

2. Contact

Name:	Michelle A. McClure	**Phone Number:**	703-812-0484
Company:	Fletcher, Heald & Hildreth, PLC	**Fax Number:**	703-812-0486
Street:	1300 North 17th St.	E-Mail:	mcclure@fhhlaw.com
	11th Floor		
City:	Arlington	**State:**	VA
Country:	USA	**Zipcode:**	22209 -
Attention:		**Relationship:**	Legal Counsel

(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 11/07/2019	
7. City	8. Latitude (dd mm ss.s h) 0 0 0.0

9. State	10. Longitude (dd mm ss.s h) 0 0 0.0

11. Please supply any need attachments.

Attachment 1: Schedule B Attachment 2: STA Request Attachment 3: Radiation Hazard Rep

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.)

Hawaii Pacific Teleport, L.P., requests 60 day special temporary authority to operate a fixed earth station at Rota, Northern Mariana Islands, to communicate with JSAT 2B in the C-band.

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.

(●) Yes ( ) No

14. Name of Person Signing Leeana Smith-Ryland	15. Title of Person Signing Chief Executive Officer

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.

APPLICATION FOR SPECIAL TEMPORARY AUTHORIZATION

Hawaii Pacific Teleport, L.P. ("HPT") pursuant to Section 25.120 of the Commission's rules, 47 C.F.R. § 25.120, respectfully requests 60-day special temporary authorization ("STA") to operate a 4.8m fixed earth station (the "4.8m station") located at Rota Cable Landing Station in Rota, the southernmost island of the United States Commonwealth of the Northern Mariana Islands. The 4.8m station will communicate with JSAT 2B in the C-band.

HPT will file a request for regular authority in the service as soon as the frequency coordination information is available. The current request is being made to restore telecommunications services to the area. During a tropical storm, several large boulders rolled onto the main carrier undersea cable connecting to Rota. This caused an island-wide outage for Rota. While the population of Rota is small, with an estimated population of 3,283 (based on census information from 2000), the people there depend on connectivity for their livelihood and educational needs. An island-wide outage of this magnitude affects mobile phone access, as well as, land line telephones, internet, and cable TV service. Since the outage, the carrier has been able to obtain limited access to an alternate cable, but this is not a total solution. HPT would like to erect the 4.8m station on Rota to restore services until the cable can be fixed. HPT would then maintain the antenna as a backup in the future.

Section 25.120(a) provides that STA requests should be filed at least three working days prior to the date of the proposed operations and a request received within less than 3 working days may be accepted only upon due showing of extraordinary reasons for the delay in submitting the request which could not have been earlier foreseen by the applicant. Here, HPT is proposing to commence operations as soon as possible to help alleviate the emergency situation Rota is experiencing following the undersea cable break. The undersea cable break due to

boulders rolling onto the cable during a tropical storm and the subsequent island-wide communications difficulties was unforeseeable. Additionally, the Commission may grant a 60-day STA without placing it on public notice if the applicant plans to file a request for regular authority for the operations. As discussed above, HPT will file an application when the frequency coordination reports are available. We are including with this STA request a Radiation Hazard Report and a temporary coordination exhibit.

Grant of the STA is in the public interest. Due to the magnitude of the telecommunications difficulties on Rota due to the fiber cut, it is in the public interest to grant the STA to allow for restoration of vital communications services to the people of Rota.

Finally, HPT is aware of the C-band filing freeze and will file a waiver request with its license application for the operations. However, acceptance of and grant of this STA request in these extraordinary circumstances, would not undermine the objectives of the C-band filing freeze and would serve the public interest by promoting the telecommunications and the associated vital interests of Rota. Also, as the STA would be granted on a non-interference and unprotected basis, there would be no adverse impact to the grant of the STA.

In view of the foregoing, the public interest would be served by a grant of a 60-day STA to allow HPT to provide C-band services utilizing JSAT 2B commencing as soon as possible.

Approved by OMB
3060-0678

Date & Time Filed:
File Number: ---
Callsign/Satellite ID:

APPLICATION FOR EARTH STATION AUTHORIZATIONS FCC 312 MAIN FORM FOR OFFICIAL USE ONLY	FCC Use Only

APPLICANT INFORMATION

Enter a description of this application to identify it on the main menu:
DRAFT FORM TO SUPPORT 90-DAY STA REQUEST FOR ROTA

1-8. Legal Name of Applicant

Name: Hawaii Pacific Teleport, L.P.
DBA Name:
Street: P.O. Box 429
City: Makawao
Country: USA
Attention: Ms Leeana A Smith-Ryland

Phone Number: 808-674-9157
Fax Number: 808-674-1826
E-Mail: lsmith-ryland@hawaiiteleport.com
State: HI
Zipcode: 96768 -

9-16. Name of Contact Representative

Name: Michelle A. McClure
Company: Fletcher, Heald & Hildreth, PLC
Street: 1300 North 17th St.
11th Floor
City: Arlington
Country: USA
Attention:

Phone Number: 703-812-0484
Fax Number: 703-812-0486
E-Mail: mcclure@fhhlaw.com
State: VA
Zipcode: 22209-
Relationship: Legal Counsel

CLASSIFICATION OF FILING

17. Choose the button next to the classification that applies to this filing for both questions a. and b. Choose only one for 17a and only one for 17b.

a.
(•) a1. Earth Station
(N/A) a2. Space Station

b.
(•) b1. Application for License of New Station
( ) b2. Application for Registration of New Domestic Receive-Only Station
(N/A) b3. Amendment to a Pending Application
(N/A) b4. Modification of License or Registration
(N/A) b5. Assignment of License or Registration
(N/A) b6. Transfer of Control of License or Registration
(N/A) b7. Notification of Minor Modification
(N/A) b8. Application for License of New Receive-Only Station Using Non-U.S. Licensed Satellite
(N/A) b9. Letter of Intent to Use Non-U.S. Licensed Satellite to Provide Service in the United States
( ) b10. Other (Please specify)
( ) b11. Application for Earth Station to Access a Non-U.S.satellite Not Currently Authorized to Provide the Proposed Service in the Proposed Frequencies in the United States.

17c. 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): DRAFT

17d.
Fee Classification

18. If this filing is in reference to an existing station, enter:	19. If this filing is an amendment to a pending application enter:
(a) Call sign of station: Not Applicable	(a) Date pending application was filed: Not Applicable
	(b) File number of pending application: Not Applicable

TYPE OF SERVICE

20. NATURE OF SERVICE: This filing is for an authorization to provide or use the following type(s) of service(s): Select 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)

21. STATUS: Choose the button next to the applicable status. Choose only one.
○ Common Carrier ◉ Non-Common Carrier

22. If earth station applicant, check all that apply.
☑ Using U.S. licensed satellites
☐ Using Non-U.S. licensed satellites

23. If applicant is providng INTERNATIONAL COMMON CARRIER service, see instructions regarding Sec. 214 filings. Choose one.
Are these facilities:
○ Connected to a Public Switched Network ○ Not connected to a 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) ☐ b. Ku-Band (12/14 GHz)
c.Other (Please specify upper and lower frequencies in MHz.)
Frequency Lower: Frequency Upper:

TYPE OF STATION

25. CLASS OF STATION: Choose the button next to the class of station that applies. Choose only one.
◉ a. Fixed Earth Station
○ b. Temporary-Fixed Earth Station
○ c. 12/14 GHz VSAT Network
○ d. Mobile Earth Station
(N/A) e. Geostationary Space Station
(N/A) f. Non-Geostationary Space Station
○ g. Other (please specify)

26. TYPE OF EARTH STATION FACILITY: Choose only one.
◉ Transmit/Receive ○ Transmit-Only ○ Receive-Only ○ N/A

PURPOSE OF MODIFICATION

27. The purpose of this proposed modification is to: (Place an 'X' in the box(es) next to all that apply.)
Not Applicable

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.A Radiation Hazard Study must accompany all applications for new transmitting facilities, major modifications, or major amendments. ○ **Yes** ◉ **No**

ALIEN OWNERSHIP Earth station applicants not proposing to provide broadcast, common carrier, aeronautical en route or aeronautical fixed radio station services are not required to respond to Items 30-34.

29. Is the applicant a foreign government or the representative of any foreign government?	○ **Yes** ◉ **No**
30. Is the applicant an alien or the representative of an alien?	○ **Yes** ○ **No** ◉ **N/A**
31. Is the applicant a corporation organized under the laws of any foreign government?	○ **Yes** ○ **No** ◉ **N/A**

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 thereof or by any corporation organized under the laws of a foreign country?	○ Yes ○ No ◉ N/A
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?	○ Yes ○ No ◉ N/A
34. If any answer to questions 29, 30, 31, 32 and/or 33 is Yes, attach as an exhibit an 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 exceptions with supporting documents.	○ Yes ◉ No
36. Has the applicant or any party to this application or amendment 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 explination of circumstances.	○ Yes ◉ No
37. Has the applicant, or any party to this application or amendment, 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 explination of circumstances.	○ Yes ◉ No
38. Has any court finally adjudged the applicant, or any person directly or indirectly controlling the applicant, guilty of unlawfully monopolizing or attemptiing unlawfully to monopolize radio communication, directly or indirectly, through control of manufacture or sale of radio apparatus, exclusive traffic arrangement or any other means or unfair methods of competition?If Yes, attach as an exhibit, an explanation of circumstances	○ Yes ◉ 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 exhinit, an explanation of the circumstances.	○ Yes ◉ No
40. If the applicant is a corporation and is applying for a space station license, attach as an exhibit the names, address, and citizenship of those stockholders owning a record and/or voting 10 percent or more of the Filer's voting stock and the percentages so held. 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.	
41. 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.*	◉ Yes ○ 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.	○ Yes ◉ 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). 60-day STA request.	
43a. Geographic Service Rule Certification By selecting A, the undersigned certifies that the applicant is not subject to the geographic service or geographic coverage requirements specified in 47 C.F.R. Part 25.	◉ A
By selecting B, the undersigned certifies that the applicant is subject to the geographic service or geographic coverage requirements specified in 47 C.F.R. Part 25 and will comply with such requirements.	○ B
By selecting C, the undersigned certifies that the applicant is subject to the geographic service or geographic coverage requirements specified in 47 C.F.R. Part 25 and will not comply with such requirements because it is not feasible as a technical matter to do so, or that, while technically feasible, such	○ C

services would require so many compromises in satellite design and operation as to make it economically unreasonable. A narrative description and technical analysis demonstrating this claim are attached.

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): (Choose the button next to applicable response.)

- ○ Individual
- ○ Unincorporated Association
- • Partnership
- ○ Corporation
- ○ Governmental Entity
- ○ Other (please specify)

45. Name of Person Signing	46. Title of Person Signing
Leeana Smith-Ryland	Chief Executive Officer

47. Please supply any need attachments.

Attachment 1:	Attachment 2:	Attachment 3:

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).

SATELLITE EARTH STATION AUTHORIZATIONS
FCC Form 312 - Schedule B:(Technical and Operational Description)

FOR OFFICIAL USE ONLY

Location of Earth Station Site

E1: Site Identifier:	1	E5. Call Sign:	
E2: Contact Name	Mark DeSantis	E6. Phone Number:	908-930-0554
E3. Street:	Rota Cable Landing Station	E7. City:	Rota
		E8. County:	
E4. State	MP	E9. Zip Code	96951
E10. Area of Operation:		CONUS, Alaska, Hawaii and Northern Mariana Islands	
E11. Latitude:	14 ° 8 ' 27.6 " N		
E12. Longitude:	145 ° 8 ' 24.0 " E		
E13. Lat/Lon Coordinates are:		○ NAD-27	• NAD-83 ○ N/A
E14. Site Elevation (AMSL):		2.63 meters	

E15. 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 measurement? If NO, provide asa technical analysis showing compliance with two-degree spacing policy.	• Yes ○ No ○ N/A
E16. 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	○ Yes ○ No • N/A

qualification measurements?	
E17. Is the facility operated by remote control? If YES, provide the location and telephone number of the control point.	(•) Yes ( ) No
E18. Is frequency coordination required? If YES, attach a frequency coordination report as	(•) Yes ( ) No
E19. Is coordination with another country required? If YES, attach the name of the country(ies) and plot of coordination contours as	( ) Yes (•) No
E20. FAA Notification - (See 47 CFR Part 17 and 47 CFR 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 CFR PARTS 17 AND 25 WILL RESULT IN THE RETURN OF THIS APPLICATION.	( ) Yes (•) No

POINTS OF COMMUNICATION

Satellite Name:JCSAT-2B | JCSAT-2B | 154 E.L. If you selected OTHER, please enter the following:	
E21. Common Name:	E22. ITU Name:
E23. Orbit Location:	E24. Country:

POINTS OF COMMUNICATION (Destination Points)

E25. Site Identifier: 1	
E26. Common Name:	E27. Country:USA

ANTENNA

Site ID	E28. Antenna Id	E29. Quantity	E30. Manufacturer	E31. Model	E32. Antenna Size	E41/42. Antenna GainTransmint and/or Recieve(____dBi at _____GHz)
1	4.8M	1	RSI Satcom	4.8M	4.8	44.2 dBi at 4
						45.9 dBi at 6

E28. Antenna Id	E33/34. Diameter Minor/Major(meters)	E35. Above Ground Level (meters)	E36. Above Sea Level (meters)	E37. Building Height Above Ground Level (meters)	E38. Total Input Power at antenna flange (Watts)	E39. Maximum Antenna Height Above Rooftop (meters)	E40. Total EIRP for al carriers (dBW)
4.8M	0.0/0.0	5.0	7.63	0.0	162.0	0.0	68.0

FREQUENCY

E28. Antenna Id	E43/44. Frequency Bands(MHz)	E45. T/R Mode	E46. Antenna Polarization(H,V,L,R)	E47. Emission Designator	E48. Maximum EIRP per Carrier(dBW)	E49. Maximum ERIP Density per Carrier(dBW/4kHz)
4.8M	4092 4128	R	Horizontal and Vertical	36M0G7W	0.0	0.0
E50. Modulation and Services Digital traffic, various FEC, data rates and modulation						
4.8M	6317 6353	T	Horizontal and Vertical	36M0G7W	68.0	28.5
E50. Modulation and Services Digital traffic, various FEC, data rates and modulation						

FREQUENCY COORDINATION

E28. Antenna Id	E51. Satellite Orbit Type	E52/53. Frequency Limits(MHz)	E54/55. Range of Satellite Arc	E56. Earth Station Azimuth Angle	E57. Antenna Elevation Angle Eastern	E58. Earth Station Azimuth Angle	E59. Antenna Elevation Angle Western	E60. Maximum EIRP Density toward the Horizon(dBW/4kHz)

			E/W Limit	Eastern Limit	Limit	Western Limit	Limit	
4.8M	Geostationary	4092 4128	154.0/ 154.0	147.4	70.5	147.4	70.5	0.0
	Geostationary	6317 6335	154.0/ 154.0	147.4	70.5	147.4	70.5	-24.0

REMOTE CONTROL POINT LOCATION

REMOTE CONTROL POINT LOCATION

E61. Call Sign NOTE: Please enter the callsign of the controlling station, not the callsign for which this application is being filed.			E65. Phone Number 917-750-5358
E62. Street Address 91-340 Farrington Hwy			
E63. City Kapolei	E67. County Honolulu	E64/68. State/Country HI/ USA	E66. Zip Code 96707

FCC NOTICE REQUIRED BY THE PAPERWORK REDUCTION ACT

The public reporting for this collection of information is estimated to average 0.25 - 24 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.

COMSEARCH®
19700 Janelia Farm Boulevard
Ashburn, Virginia 20147
(703)-726-5500
Fax: (703)-726-5600

November 06, 2019

Re: Hawaii Pacific Teleport, L.P.
ROTA, MP
Temporary Transmit-Receive Earth Station
Operation Dates: 11/08/2019 - 05/08/2020
Job Number: 191106COMSTC09

Dear Frequency Coordinator:

On behalf of Hawaii Pacific Teleport, L.P., we are forwarding the attached coordination data for a Temporary Transmit-Receive Earth Station to be located at the site referenced above.

This earth station will transmit and receive on the satellite(s) and frequency or frequencies as described in the attached data.

If there are any questions concerning this coordination notice, please contact Comsearch.

Sincerely,

COMSEARCH

Timothy O. Crutcher
Frequency Planner
tcrutche@comsearch.com

Enclosure(s)

COMSEARCH

Earth Station Data Sheet

19700 Janelia Farm Boulevard, Ashburn, VA 20147
(703)726-5665 http://www.comsearch.com

Date:	11/06/2019
Job Number:	191106COMSTC09

Administrative Information

Status	TEMPORARY (Operation from 11/08/2019 to 05/08/2020)
Licensee Name	Hawaii Pacific Teleport, L.P.

Site Information — ROTA, MP

Latitude (NAD 83)	14° 8' 27.6" N
Longitude (NAD 83)	145° 8' 24.0" E
Climate Zone	B
Rain Zone	4
Ground Elevation (AMSL)	2.63 m / 8.6 ft

Link Information

Satellite Type	Geostationary
Mode	TR - Transmit-Receive
Modulation	Digital
Satellite Arc	206° W to 206° West Longitude
Azimuth Range	147.4° to 147.4°
Corresponding Elevation Angles	70.5° / 70.5°
Antenna Centerline (AGL)	3.0 m / 9.8 ft

Antenna Information		Receive		Transmit	
Manufacturer		General Dynamics		General Dynamics	
Gain / Diameter		44.2 dBi / 4.8 m		45.9 dBi / 4.8 m	
3-dB / 15-dB Beamwidth		1.00° / 2.00°		0.80° / 1.60°	
Max Available RF Power	(dBW/4 kHz)			-17.4	
	(dBW/MHz)			6.6	
Maximum EIRP	(dBW/4 kHz)			28.5	
	(dBW/MHz)			52.5	
	(dBW)			68.0	
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 4.0 GHz	Transmit 6.1 GHz
Emission / Frequency Range (MHz)	36M0G7W / 4110.0	36M0G7W / 6335.0
Max Great Circle Coordination Distance	412.2 km / 256.1 mi	135.1 km / 84.0 mi
Precipitation Scatter Contour Radius	100.0 km / 62.1 mi	100.0 km / 62.1 mi

Coordination Values	**ROTA, MP**			
Licensee Name	Hawaii Pacific Teleport, L.P.			
Latitude (NAD 83)	14° 8' 27.6" N			
Longitude (NAD 83)	145° 8' 24.0" E			
Ground Elevation (AMSL)	2.63 m / 8.6 ft			
Antenna Centerline (AGL)	3.0 m / 9.8 ft			
Antenna Mode	Receive 4.0 GHz		Transmit 6.1 GHz	
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%
Max Available RF Power			-17.4 (dBW/4 kHz)	

			Receive 4.0 GHz		Transmit 6.1 GHz	
Azimuth (°)	Horizon Elevation (°)	Antenna Discrimination (°)	Horizon Gain (dBi)	Coordination Distance (km)	Horizon Gain (dBi)	Coordination Distance (km)
0	0.00	97.29	-10.00	412.20	-10.00	133.59
5	0.00	101.98	-10.00	412.20	-10.00	133.59
10	0.00	104.26	-10.00	412.20	-10.00	133.59
15	0.00	103.05	-10.00	412.20	-10.00	133.59
20	0.00	101.73	-10.00	412.20	-10.00	133.59
25	0.00	100.34	-10.00	412.20	-10.00	133.59
30	0.41	99.05	-10.00	346.00	-10.00	133.59
35	2.05	98.07	-10.00	197.81	-10.00	133.59
40	2.77	96.53	-10.00	172.06	-10.00	133.59
45	3.69	94.88	-10.00	147.29	-10.00	133.59
50	5.15	93.10	-10.00	129.76	-10.00	133.59
55	6.23	91.06	-10.00	120.50	-10.00	133.59
60	6.90	88.86	-10.00	118.93	-10.00	133.59
65	8.21	86.49	-10.00	117.73	-10.00	133.59
70	8.76	84.09	-10.00	116.52	-10.00	133.59
75	9.00	81.71	-10.00	115.97	-10.00	133.59
80	8.55	79.60	-10.00	116.98	-10.00	133.59
85	7.56	77.83	-10.00	117.43	-10.00	133.59
90	6.95	76.11	-10.00	118.83	-10.00	133.59
95	6.80	74.31	-10.00	119.18	-10.00	133.59
100	6.54	72.70	-10.00	119.78	-10.00	133.59
105	6.31	71.23	-10.00	120.31	-10.00	133.59
110	5.59	70.30	-10.00	125.15	-10.00	133.59
115	4.87	69.59	-10.00	132.58	-10.00	133.59
120	2.94	70.17	-10.00	166.60	-10.00	133.59
125	1.73	70.41	-10.00	213.09	-10.00	133.59
130	0.78	70.65	-10.00	279.94	-10.00	100.00
135	0.25	70.69	-10.00	395.25	-10.00	100.00
140	0.00	70.63	-10.00	412.20	-10.00	100.00
145	0.00	70.48	-10.00	412.20	-10.00	100.00
150	0.00	70.48	-10.00	412.20	-10.00	100.00
155	0.00	70.64	-10.00	412.20	-10.00	100.00
160	0.00	70.95	-10.00	412.20	-10.00	100.00
165	0.28	71.14	-10.00	383.87	-10.00	100.00
170	0.71	71.36	-10.00	290.18	-10.00	100.00
175	0.95	71.92	-10.00	260.07	-10.00	100.00
180	1.03	72.78	-10.00	252.29	-10.00	100.00
185	0.99	73.86	-10.00	255.13	-10.00	100.00

Coordination Values	**ROTA, MP**			
Licensee Name	Hawaii Pacific Teleport, L.P.			
Latitude (NAD 83)	14° 8' 27.6" N			
Longitude (NAD 83)	145° 8' 24.0" E			
Ground Elevation (AMSL)	2.63 m / 8.6 ft			
Antenna Centerline (AGL)	3.0 m / 9.8 ft			
Antenna Mode	Receive 4.0 GHz		Transmit 6.1 GHz	
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%
Max Available RF Power			-17.4 (dBW/4 kHz)	

			Receive 4.0 GHz		Transmit 6.1 GHz	
Azimuth (°)	Horizon Elevation (°)	Antenna Discrimination (°)	Horizon Gain (dBi)	Coordination Distance (km)	Horizon Gain (dBi)	Coordination Distance (km)
190	0.98	73.27	-10.00	256.60	-10.00	100.00
195	0.94	68.65	-10.00	261.47	-10.00	124.98
200	0.87	64.05	-10.00	268.81	-10.00	133.59
205	0.78	59.44	-10.00	280.05	-10.00	133.59
210	1.95	54.87	-10.00	202.16	-10.00	133.59
215	3.08	50.36	-10.00	162.49	-10.00	133.59
220	3.69	45.92	-10.00	147.46	-9.55	135.14
225	2.00	41.48	-10.00	199.45	-8.45	133.53
230	1.26	37.00	-10.00	238.81	-7.20	102.01
235	0.00	32.41	-10.00	412.20	-5.77	100.00
240	0.00	27.77	-10.00	412.20	-4.09	100.00
245	0.00	22.79	-10.00	412.20	-1.94	100.00
250	0.00	18.83	-10.00	412.20	0.13	100.00
255	0.00	15.46	-10.00	412.20	2.27	100.00
260	0.00	13.65	-10.00	412.20	3.62	100.00
265	0.00	13.49	-10.00	412.20	3.75	100.00
270	0.00	15.16	-10.00	412.20	2.49	100.00
275	0.00	17.75	-10.00	412.20	0.77	100.00
280	0.00	21.03	-10.00	412.20	-1.07	100.00
285	0.00	25.15	-10.00	412.20	-3.01	100.00
290	0.00	29.78	-10.00	412.20	-4.85	100.00
295	0.00	34.59	-10.00	412.20	-6.47	100.00
300	0.00	39.64	-10.00	412.20	-7.95	100.00
305	0.00	44.51	-10.00	412.20	-9.21	100.00
310	0.00	49.47	-10.00	412.20	-10.00	100.00
315	0.00	54.49	-10.00	412.20	-10.00	100.00
320	0.00	59.37	-10.00	412.20	-10.00	100.00
325	0.00	64.19	-10.00	412.20	-10.00	100.00
330	0.00	69.11	-10.00	412.20	-10.00	115.63
335	0.00	73.83	-10.00	412.20	-10.00	133.59
340	0.00	78.51	-10.00	412.20	-10.00	133.59
345	0.00	83.20	-10.00	412.20	-10.00	133.59
350	0.00	87.89	-10.00	412.20	-10.00	133.59
355	0.00	92.59	-10.00	412.20	-10.00	133.59

Coordination data for this temporary fixed earth station was sent to the below listed carriers with a letter dated 11/06/2019.

Coordination data for this fixed earth station was sent to the below listed carriers with a letter dated 11/06/2019.

Company
Federal Communication Commission
Micronesian Telecommunications Corp
PTI Pacifica Inc.

Prepared By:
COMSEARCH
19700 Janelia Farm Boulevard
Ashburn, VA 20147
November 06, 2019

Analysis of Non-Ionizing Radiation for a 4.8-Meter Earth Station System

This report analyzes the non-ionizing radiation levels for a 4.8-meter earth station system. The analysis and calculations performed in this report comply with the methods described in the FCC Office of Engineering and Technology Bulletin, No. 65 first published in 1985 and revised in 1997 in Edition 97-01. The radiation safety limits used in the analysis are in conformance with the FCC R&O 96-326. Bulletin No. 65 and the FCC R&O specifies that there are two separate tiers of exposure limits that are dependant on the situation in which the exposure takes place and/or the status of the individuals who are subject to the exposure. The Maximum Permissible Exposure (MPE) limits for persons in a General Population/Uncontrolled environment are shown in Table 1. The General Population/Uncontrolled MPE is a function of transmit frequency and is for an exposure period of thirty minutes or less. The MPE limits for persons in an Occupational/Controlled environment are shown in Table 2. The Occupational MPE is a function of transmit frequency and is for an exposure period of six minutes or less. The purpose of the analysis described in this report is to determine the power flux density levels of the earth station in the far-field, near-field, transition region, between the subreflector or feed and main reflector surface, at the main reflector surface, and between the antenna edge and the ground and to compare these levels to the specified MPEs.

Table 1. Limits for General Population/Uncontrolled Exposure (MPE)

Frequency Range (MHz)	Power Density (mW/cm^2)
30-300	0.2
300-1500	Frequency (MHz)*(0.8/1200)
1500-100,000	1.0

Table 2. Limits for Occupational/Controlled Exposure (MPE)

Frequency Range (MHz)	Power Density (mW/cm^2)
30-300	1.0
300-1500	Frequency (MHz)*(4.0/1200)
1500-100,000	5.0

Table 3. Formulas and Parameters Used for Determining Power Flux Densities

Parameter	Symbol	Formula	Value	Units
Antenna Diameter	D	Input	4.8	m
Antenna Surface Area	$A_{surface}$	$\pi D^2 / 4$	18.10	m^2
Subreflector Diameter	D_{sr}	Input	66.0	cm
Area of Subreflector	A_{sr}	$\pi D_{sr}{}^2/4$	3421.19	cm^2
Frequency	F	Input	6175	MHz
Wavelength	λ	300 / F	0.048583	m
Transmit Power	P	Input	162.00	W
Antenna Gain (dBi)	G_{es}	Input	45.9	dBi
Antenna Gain (factor)	G	$10^{Ges/10}$	38904.5	n/a
Pi	π	Constant	3.1415927	n/a
Antenna Efficiency	η	$G\lambda^2/(\pi^2 D^2)$	0.40	n/a

1. Far Field Distance Calculation

The distance to the beginning of the far field can be determined from the following equation:

Distance to the Far Field Region

$$R_{ff} = 0.60\ D^2 / \lambda = 284.5\ m \quad (1)$$

The maximum main beam power density in the far field can be determined from the following equation:

On-Axis Power Density in the Far Field

$$S_{ff} = G\ P / (4\ \pi\ R_{ff}^2) = 6.195\ W/m^2 = 0.619\ mW/cm^2 \quad (2)$$

2. Near Field Calculation

Power flux density is considered to be at a maximum value throughout the entire length of the defined Near Field region. The region is contained within a cylindrical volume having the same diameter as the antenna. Past the boundary of the Near Field region, the power density from the antenna decreases linearly with respect to increasing distance.

The distance to the end of the Near Field can be determined from the following equation:

Extent of the Near Field

$$R_{nf} = D^2 / (4\ \lambda) = 118.6\ m \quad (3)$$

The maximum power density in the Near Field can be determined from the following equation:

Near Field Power Density

$$S_{nf} = 16.0\ \eta\ P / (\pi\ D^2) = 14.461\ W/m^2 = 1.446\ mW/cm^2 \quad (4)$$

3. Transition Region Calculation

The Transition region is located between the Near and Far Field regions. The power density begins to decrease linearly with increasing distance in the Transition region. While the power density decreases inversely with distance in the Transition region, the power density decreases inversely with the square of the distance in the Far Field region. The maximum power density in the Transition region will not exceed that calculated for the Near Field region. The power density calculated in Section 1 is the highest power density the antenna can produce in any of the regions away from the antenna. The power density at a distance R_t can be determined from the following equation:

Transition Region Power Density

$$S_t = S_{nf}\ R_{nf} / R_t = 1.446\ mW/cm^2 \quad (5)$$

4. Region between the Main Reflector and the Subreflector

Transmissions from the feed assembly are directed toward the subreflector surface, and are reflected back toward the main reflector. The most common feed assemblies are waveguide flanges, horns or subreflectors. The energy between the subreflector and the reflector surfaces can be calculated by determining the power density at the subreflector surface. This can be determined from the following equation:

Power Density at the Subreflector

$$S_{sr} = 4000\ P / A_{sr} = 189.408\ mW/cm^2 \quad (6)$$

5. Main Reflector Region

The power density in the main reflector is determined in the same manner as the power density at the subreflector. The area is now the area of the main reflector aperture and can be determined from the following equation:

Power Density at the Main Reflector Surface

$$S_{surface} = 4\ P / A_{surface} = 35.810\ W/m^2 = 3.581\ mW/cm^2 \quad (7)$$

6. Region between the Main Reflector and the Ground

Assuming uniform illumination of the reflector surface, the power density between the antenna and the ground can be determined from the following equation:

Power Density between Reflector and Ground

$$S_g = P / A_{surface} = 8.952\ W/m^2 = 0.895\ mW/cm^2 \quad (8)$$

7. Summary of Calculations

Table 4. Summary of Expected Radiation levels for Uncontrolled Environment

Region		Calculated Maximum Radiation Power Density Level (mW/cm^2)	Hazard Assessment
1. Far Field (R_{ff} = 284.5 m)	S_{ff}	0.619	Satisfies FCC MPE
2. Near Field (R_{nf} = 118.6 m)	S_{nf}	1.446	Potential Hazard
3. Transition Region ($R_{nf} < R_t < R_{ff}$)	S_t	1.446	Potential Hazard
4. Between Main Reflector and Subreflector	S_{sr}	189.408	Potential Hazard
5. Main Reflector	$S_{surface}$	3.581	Potential Hazard
6. Between Main Reflector and Ground	S_g	0.895	Satisfies FCC MPE

Table 5. Summary of Expected Radiation levels for Controlled Environment

Region		Calculated Maximum Radiation Power Density Level (mW/cm^2)	Hazard Assessment
1. Far Field (R_{ff} = 284.5 m)	S_{ff}	0.619	Satisfies FCC MPE
2. Near Field (R_{nf} = 118.6 m)	S_{nf}	1.446	Satisfies FCC MPE
3. Transition Region ($R_{nf} < R_t < R_{ff}$)	S_t	1.446	Satisfies FCC MPE
4. Between Main Reflector and Subreflector	S_{sr}	189.408	Potential Hazard
5. Main Reflector	$S_{surface}$	3.581	Satisfies FCC MPE
6. Between Main Reflector and Ground	S_g	0.895	Satisfies FCC MPE

It is the applicant's responsibility to ensure that the public and operational personnel are not exposed to harmful levels of radiation.

8. Conclusions

Based on the above analysis it is concluded that the FCC MPE guidelines have been exceeded (or met) in the regions of Table 4 and 5. The applicant proposes to comply with the MPE limits by one or more of the following methods.

Means of Compliance Uncontrolled Areas

This antenna will be located in a fenced area. The area will be sufficient to prohibit access to the areas that exceed the MPE limited. The general public will not have access to areas within ½ diameter removed from the edge of the antenna.

Since one diameter removed from the main beam of the antenna or ½ diameter removed from the edge of the antenna the RF levels are reduced by a factor of 100 or 20 dB. None of the areas exceeding the MPE levels will be accessible by the general public.

Radiation hazard signs will be posted while this earth station is in operation.

The applicant will ensure that no buildings or other obstacles will be in the areas that exceed the MPE levels.

Means of Compliance Controlled Areas

The earth stations operational will not have access to the areas that exceed the MPE levels while the earth station is in operation.

The transmitters will be turned off during antenna maintenance.