

FREQUENCY COORDINATION AND INTERFERENCE ANALYSIS REPORT

Prepared for
Hawaii Pacific Teleport, L.P.
KAPOLEI, HI
Satellite Earth Station

Prepared By:
COMSEARCH
19700 Janelia Farm Boulevard
Ashburn, VA 20147
November 01, 2019

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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 receive-only earth station.

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 11/01/2019.

Company

AT&T Corp.
Clearwire Hawaii Partners Spectrum LLC
Clearwire Spectrum Holdings III, LLC
Cliffnet, Inc.
Coral Wireless Licenses, LLC
Harmer Radio and Electronics, Inc.
Hawaii Catholic TV, Inc
Hawaii Dialogix Telecom LLC
Hawaii, State of
Hawaiian Electric Company, Inc
Hawaiian Telcom, Inc.
Honolulu Board of Water Supply
Honolulu City & County Dept of Info Tech
Hot Spot Broadband, Inc
Maui Electric Company Ltd
Maui Wellness Group LLC
Maui, County of
Mid Pacific Communications Inc.
NRJ TV Hawaii License Co, LLC
New Cingular Wireless PCS LLC - Hawaii
Oceanic Time Warner Cable LLC
Olympic Wireless, LLC
Scientel Solutions, LLC
Servpac, Inc
Sprint Spectrum L.P.
Sprintcom, Inc
T-Mobile License LLC
Trex Broadband
Verizon Wireless VAW LLC - (Hawaii)

4. EARTH STATION COORDINATION DATA

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

COMSEARCH

Earth Station Data Sheet

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

Date: 11/01/2019
Job Number: 191101COMSTC06

Administrative Information

Call Sign E010236
Licensee Code HAWPAC
Licensee Name Hawaii Pacific Teleport, L.P.

Site Information

KAPOLEI, HI
Latitude (NAD 83) 21° 20' 10.2" N
Longitude (NAD 83) 158° 5' 18.0" W
Climate Zone A
Rain Zone 4
Ground Elevation (AMSL) 36.58 m / 120.0 ft

Link Information

Satellite Type Geostationary
Mode RO - Receive-Only
Modulation Digital
Satellite Arc 133° W to 133° West Longitude
Azimuth Range 127.9° to 127.9°
Corresponding Elevation Angles 52.2° / 52.2°
Antenna Centerline (AGL) 5.0 m / 16.4 ft

Antenna Information

Receive
Manufacturer Vertex
Model KPK
Gain / Diameter 58.0 dBi / 8.1 m
3-dB / 15-dB Beamwidth 0.21° / 0.42°

Interference Objectives: Long Term -156.0 dBW/MHz 20%
Short Term -146.0 dBW/MHz 0.01%

Frequency Information

Receive 11.0 GHz
Emission / Frequency Range (MHz) 36M0F8W / 10950.0 - 11200.0
36M0F8W / 11450.0 - 11700.0

Max Great Circle Coordination Distance 231.4 km / 143.7 mi
Precipitation Scatter Contour Radius 100.0 km / 62.1 mi

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Coordination Values

KAPOLEI, HI

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Longitude (NAD 83) 158° 5' 18.0" W
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Antenna Centerline (AGL) 5.0 m / 16.4 ft
Antenna Mode Receive 11.0 GHz
Interference Objectives: Long Term -156.0 dBW/MHz 20%
Short Term -146.0 dBW/MHz 0.01%

Azimuth (°)	Horizon Elevation (°)	Antenna Discrimination (°)	Receive 11.0 GHz	
			Horizon Gain (dBi)	Coordination Distance (km)
0	12.08	117.98	-10.00	100.00
5	12.14	114.53	-10.00	100.00
10	12.23	110.98	-10.00	100.00
15	11.97	107.25	-10.00	100.00
20	11.91	103.52	-10.00	100.00
25	11.72	99.74	-10.00	100.00
30	11.31	95.93	-10.00	100.00
35	11.19	92.15	-10.00	100.00
40	11.16	88.38	-10.00	100.00
45	11.18	84.61	-10.00	100.00
50	11.01	80.89	-10.00	100.00
55	10.89	77.21	-10.00	100.00
60	10.00	73.78	-10.00	100.00
65	8.75	70.66	-10.00	100.00
70	8.45	67.40	-10.00	100.00
75	7.54	64.57	-10.00	100.00
80	6.07	62.29	-10.00	100.00
85	5.01	60.12	-10.00	100.00
90	4.13	58.16	-10.00	108.64
95	0.30	58.78	-10.00	221.33
100	0.00	57.19	-10.00	231.37
105	0.00	55.62	-10.00	231.37
110	0.00	54.31	-10.00	231.37
115	0.00	53.31	-10.00	231.37
120	0.00	52.62	-10.00	231.37
125	0.00	52.26	-10.00	231.37
130	0.00	52.23	-10.00	231.37
135	0.00	52.55	-10.00	231.37
140	0.00	53.19	-10.00	231.37
145	0.00	54.15	-10.00	231.37
150	0.00	55.41	-10.00	231.37
155	0.00	56.95	-10.00	231.37
160	0.00	58.74	-10.00	231.37
165	0.00	60.76	-10.00	231.37
170	0.00	62.97	-10.00	231.37
175	0.00	65.37	-10.00	231.37
180	0.00	67.91	-10.00	231.37
185	0.00	70.58	-10.00	231.37

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Coordination Values

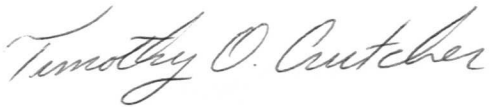
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Interference Objectives: Long Term -156.0 dBW/MHz 20%
Short Term -146.0 dBW/MHz 0.01%

Azimuth (°)	Horizon Elevation (°)	Antenna Discrimination (°)	Receive 11.0 GHz	
			Horizon Gain (dBi)	Coordination Distance (km)
190	0.00	73.36	-10.00	231.37
195	0.00	76.23	-10.00	231.37
200	0.00	79.17	-10.00	231.37
205	0.00	82.16	-10.00	231.37
210	0.00	85.20	-10.00	231.37
215	0.00	88.25	-10.00	231.37
220	0.00	91.32	-10.00	231.37
225	0.00	94.37	-10.00	231.37
230	0.00	97.41	-10.00	231.37
235	0.00	100.41	-10.00	231.37
240	0.00	103.36	-10.00	231.37
245	0.00	106.24	-10.00	231.37
250	0.00	109.03	-10.00	231.37
255	0.00	111.72	-10.00	231.37
260	0.00	114.28	-10.00	231.37
265	0.00	116.70	-10.00	231.37
270	0.00	118.94	-10.00	231.37
275	0.00	120.99	-10.00	231.37
280	0.47	123.20	-10.00	206.75
285	0.00	124.38	-10.00	231.37
290	0.56	126.20	-10.00	203.94
295	3.22	129.78	-10.00	123.47
300	4.01	131.33	-10.00	110.20
305	4.72	132.45	-10.00	101.37
310	5.39	133.15	-10.00	100.00
315	7.61	134.95	-10.00	100.00
320	8.99	135.44	-10.00	100.00
325	10.17	135.22	-10.00	100.00
330	10.53	133.78	-10.00	100.00
335	10.51	131.64	-10.00	100.00
340	10.30	129.06	-10.00	100.00
345	10.31	126.39	-10.00	100.00
350	11.55	124.23	-10.00	100.00
355	11.55	121.06	-10.00	100.00

5. CERTIFICATION

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



BY: _____

Timothy O. Crutcher
Frequency Planner
COMSEARCH
19700 Janelia Farm Boulevard
Ashburn, VA 20147

DATED: November 01, 2019