

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
August 19, 2016

TABLE OF CONTENTS

1. CONCLUSIONS	3
2. SUMMARY OF RESULTS	4
3. SUPPLEMENTAL SHOWING	5
4. EARTH STATION COORDINATION DATA.....	6
5. CERTIFICATION.....	10

1. CONCLUSIONS

An interference study considering all existing, proposed and prior coordinated microwave facilities within the coordination contours of the proposed earth station demonstrates that this site will operate satisfactorily with the common carrier microwave environment. Further, there will be no restrictions of its operation due to interference considerations.

2. SUMMARY OF RESULTS

All great circle interference cases identified during the interference study of the proposed earth station, 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.

3. SUPPLEMENTAL SHOWING

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

Coordination data for this earth station was sent to the below listed carriers with a letter dated 08/19/2016.

Company

AT&T Corp.
Clearwire Hawaii Partners Spectrum LLC
Clearwire Spectrum Holdings III, LLC
Coral Wireless Licenses, LLC
HONOLULU CITY & COUNTY DEPT OF INFO TECH
Harmer Radio and Electronics, Inc.
Hawaii Catholic TV, Inc
Hawaii Dialogix Telecom LLC
Hawaii State
Hawaiian Electric Company, Inc
Hawaiian Telcom, Inc.
Honolulu Board of Water Supply
MID PACIFIC COMMUNICATIONS INC
Maui Electric Company Ltd
Maui Wellness Group LLC
Maui, County of
New Cingular Wireless PCS LLC - Hawaii
Oceanic Time Warner Cable LLC
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: 08/19/2016
Job Number: 160819COMSTC13

Administrative Information

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

Site Information

KAPOLEI, HI

Venue Name
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 206° W to 206° West Longitude
Azimuth Range 251.8° to 251.8°
Corresponding Elevation Angles 31.2° / 31.2°
Antenna Centerline (AGL) 3.0 m / 9.8 ft

Antenna Information

Receive

Manufacturer Vertex/RSI
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) 51K2G7W - 36M0G7W / 11450.0 - 11700.0

Max Great Circle Coordination Distance 253.0 km / 157.2 mi
Precipitation Scatter Contour Radius 352.4 km / 219.0 mi

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Coordination Values

KAPOLEI, HI

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Longitude (NAD 83) 158° 5' 18.0" W
Ground Elevation (AMSL) 36.58 m / 120.0 ft
Antenna Centerline (AGL) 3.0 m / 9.8 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	12.85	107.24	-10.00	100.00
5	12.91	111.96	-10.00	100.00
10	13.00	116.67	-10.00	100.00
15	12.75	121.29	-10.00	100.00
20	12.69	125.90	-10.00	100.00
25	12.49	130.41	-10.00	100.00
30	12.09	134.77	-10.00	100.00
35	11.96	139.11	-10.00	100.00
40	11.94	143.35	-10.00	100.00
45	11.96	147.42	-10.00	100.00
50	11.79	151.12	-10.00	100.00
55	11.67	154.45	-10.00	100.00
60	10.79	156.54	-10.00	100.00
65	9.55	157.35	-10.00	100.00
70	9.24	157.97	-10.00	100.00
75	8.33	156.92	-10.00	100.00
80	6.87	154.41	-10.00	100.00
85	5.81	151.59	-10.00	100.00
90	4.94	148.42	-10.00	100.00
95	0.39	142.13	-10.00	214.03
100	0.00	138.93	-10.00	231.37
105	0.00	135.71	-10.00	231.37
110	0.00	132.24	-10.00	231.37
115	0.00	128.58	-10.00	231.37
120	0.00	124.76	-10.00	231.37
125	0.00	120.83	-10.00	231.37
130	0.00	116.80	-10.00	231.37
135	0.00	112.69	-10.00	231.37
140	0.00	108.53	-10.00	231.37
145	0.00	104.32	-10.00	231.37
150	0.00	100.08	-10.00	231.37
155	0.00	95.82	-10.00	231.37
160	0.00	91.55	-10.00	231.37
165	0.00	87.27	-10.00	231.37
170	0.00	83.00	-10.00	231.37
175	0.00	78.74	-10.00	231.37
180	0.00	74.51	-10.00	231.37
185	0.00	70.31	-10.00	231.37

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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)
190	0.00	66.16	-10.00	231.37
195	0.00	62.08	-10.00	231.37
200	0.00	58.07	-10.00	231.37
205	0.00	54.16	-10.00	231.37
210	0.00	50.39	-10.00	231.37
215	0.00	46.78	-9.75	232.46
220	0.00	43.37	-8.93	236.11
225	0.00	40.23	-8.11	239.81
230	0.00	37.43	-7.33	243.46
235	0.00	35.03	-6.61	246.97
240	0.00	33.15	-6.01	249.85
245	0.00	31.86	-5.58	251.94
250	0.00	31.25	-5.37	252.97
255	0.00	31.35	-5.41	252.80
260	0.00	32.15	-5.68	251.46
265	0.00	33.62	-6.16	249.12
270	0.00	35.65	-6.80	246.07
275	0.56	37.74	-7.42	212.04
280	0.88	40.47	-8.18	195.99
285	0.54	43.96	-9.08	206.29
290	0.84	47.30	-9.87	190.53
295	3.62	49.74	-10.00	116.51
300	4.41	53.48	-10.00	105.09
305	5.12	57.45	-10.00	100.00
310	5.80	61.57	-10.00	100.00
315	8.01	65.51	-10.00	100.00
320	9.38	69.83	-10.00	100.00
325	10.56	74.30	-10.00	100.00
330	10.92	78.93	-10.00	100.00
335	10.90	83.62	-10.00	100.00
340	11.08	88.30	-10.00	100.00
345	11.09	93.00	-10.00	100.00
350	12.33	97.75	-10.00	100.00
355	12.33	102.47	-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.



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

DATED: August 19, 2016