

FREQUENCY COORDINATION AND INTERFERENCE ANALYSIS REPORT

Prepared for
Hawaii Pacific Teleport, L.P.
PULANTAT, GU
Satellite Earth Station

Prepared By:
COMSEARCH
19700 Janelia Farm Boulevard
Ashburn, VA 20147
February 07, 2022

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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.

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 01/26/2022.

Company

DoCoMo Pacific, Inc.
Guam Educational Telecom Corp
Guam Power Authority
PTI Pacifica 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.

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Earth Station Data Sheet

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

Date: 02/07/2022
Job Number: 220126COMSGE01

Administrative Information

Status ENGINEER PROPOSAL
Call Sign E190068
Licensee Code HAWPAC
Licensee Name Hawaii Pacific Teleport, L.P.

Site Information PULANTAT, GU

Venue Name
Latitude (NAD 83) 13° 25' 4.8" N
Longitude (NAD 83) 144° 45' 6.2" E
Climate Zone C
Rain Zone 4
Ground Elevation (AMSL) 109.13 m / 358.0 ft

Link Information

Satellite Type Geostationary
Mode TR - Transmit-Receive
Modulation Digital
Satellite Arc 140° W to 291° West Longitude
Azimuth Range 93.5° to 266.6°
Corresponding Elevation Angles 5.7° / 5.2°
Antenna Centerline (AGL) 2.74 m / 9.0 ft

Antenna Information

Manufacturer GD Satcom
Model 4.8 meter
Gain / Diameter 53.5 dBi / 4.8 m
3-dB / 15-dB Beamwidth 0.34° / 0.68°

Receive - FCC32

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

Maximum EIRP (dBW/4 kHz)
(dBW/MHz)

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

Transmit - FCC32

GD Satcom
4.8 meter
55.2 dBi / 4.8 m
0.28° / 0.56°

-14.0
10.0

41.2
65.2

-154.0 dBW/4 kHz 20%
-131.0 dBW/4 kHz 0.0025%

Frequency Information

Emission / Frequency Range (MHz) 1M00G7D - 10M0G7D / 10950.0 - 11200.0
1M00G7D - 10M0G7D / 11450.0 - 11700.0
1M00G7D - 10M0G7D / 12500.0 - 12750.0

Receive 11.0 GHz

Transmit 14.0 GHz

1M00G7D - 10M0G7D / 14000.0 - 14500.0

Max Great Circle Coordination Distance 869.8 km / 540.4 mi
Precipitation Scatter Contour Radius 420.4 km / 261.2 mi

476.9 km / 296.3 mi
100.0 km / 62.1 mi

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Coordination Values		PULANTAT, GU			
Licensee Name		Hawaii Pacific Teleport, L.P.			
Latitude (NAD 83)		13° 25' 4.8" N			
Longitude (NAD 83)		144° 45' 6.2" E			
Ground Elevation (AMSL)		109.13 m / 358.0 ft			
Antenna Centerline (AGL)		2.74 m / 9.0 ft			
Antenna Model		GD Satcom 4.8 meter			
Antenna Mode		Receive 11.0 GHz		Transmit 14.0 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		-14.0 (dBW/4 kHz)			

Azimuth (°)	Horizon Elevation (°)	Antenna Discrimination (°)	Receive 11.0 GHz		Transmit 14.0 GHz	
			Horizon Gain (dBi)	Coordination Distance (km)	Horizon Gain (dBi)	Coordination Distance (km)
0	1.99	80.70	-10.00	203.26	-10.00	100.00
5	1.20	83.29	-10.00	258.98	-10.00	100.00
10	1.14	85.72	-10.00	263.86	-10.00	100.00
15	1.03	78.54	-10.00	272.91	-10.00	100.00
20	0.67	73.56	-10.00	332.64	-10.00	100.00
25	0.47	68.59	-10.00	376.86	-10.00	100.00
30	0.46	63.62	-10.00	378.82	-10.00	100.00
35	0.66	58.63	-10.00	334.46	-10.00	100.00
40	0.65	53.66	-10.00	337.32	-10.00	100.00
45	0.22	48.73	-10.00	471.52	-10.00	100.00
50	0.00	43.79	-9.03	493.34	-10.00	100.00
55	0.00	38.85	-7.73	512.24	-10.00	100.00
60	0.00	33.92	-6.26	538.08	-10.00	100.00
65	0.00	29.01	-4.56	563.84	-10.00	100.00
70	0.00	24.14	-2.57	594.53	-10.00	100.00
75	0.00	19.32	-0.15	632.19	-10.00	100.00
80	0.00	14.62	2.87	671.41	-10.00	100.00
85	0.00	10.21	6.78	740.20	-10.00	100.00
90	0.00	6.67	11.40	837.56	-10.00	100.00
95	0.00	5.87	12.78	869.77	-10.00	100.00
100	0.00	8.63	8.61	776.64	-10.00	100.00
105	0.00	12.81	4.31	695.30	-10.00	100.00
110	0.00	17.43	0.97	649.84	-10.00	100.00
115	0.00	22.21	-1.66	608.56	-10.00	100.00
120	0.00	27.03	-3.80	575.59	-10.00	116.24
125	0.00	31.83	-5.57	548.53	-10.00	151.75
130	0.00	75.19	-7.09	525.61	-10.00	124.65
135	0.00	74.33	-8.41	502.30	-10.00	107.42
140	0.00	73.84	-9.58	485.60	-10.00	119.94
145	0.00	73.56	-10.00	479.75	-10.00	160.31
150	0.00	73.57	-10.00	479.75	-10.00	193.13
155	0.00	59.66	-10.00	479.75	-10.00	193.13
160	0.00	63.87	-10.00	479.75	-10.00	193.13
165	0.00	67.74	-10.00	479.75	-10.00	193.13
170	0.00	71.03	-10.00	479.75	-10.00	193.13
175	0.00	73.85	-10.00	479.75	-10.00	193.13
180	0.00	74.23	-10.00	479.75	-10.00	193.13
185	0.00	73.36	-10.00	479.75	-10.00	193.13

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Earth Station Data Sheet

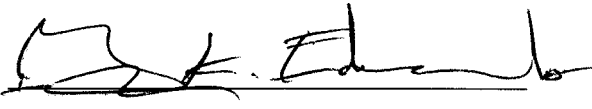
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Short Term		-146.0 dBW/MHz	0.01%	-131.0 dBW/4 kHz 0.0025%
Max Available RF Power		-14.0 (dBW/4 kHz)		

Azimuth (°)	Horizon Elevation (°)	Antenna Discrimination (°)	Receive 11.0 GHz		Transmit 14.0 GHz	
			Horizon Gain (dBi)	Coordination Distance (km)	Horizon Gain (dBi)	Coordination Distance (km)
190	0.00	71.03	-10.00	479.75	-10.00	193.13
195	0.00	67.74	-10.00	479.75	-10.00	193.13
200	0.00	63.87	-10.00	479.75	-10.00	193.13
205	0.00	59.66	-10.00	479.75	-10.00	193.13
210	0.00	55.24	-10.00	479.75	-10.00	193.13
215	0.35	50.60	-10.00	415.64	-10.00	193.13
220	0.55	45.91	-9.55	360.22	-9.58	195.69
225	0.67	41.18	-8.37	348.97	-8.41	202.82
230	0.51	36.48	-7.05	393.16	-7.09	208.93
235	0.39	31.73	-5.54	455.52	-5.57	218.16
240	0.59	26.89	-3.74	414.38	-3.80	229.24
245	0.81	22.01	-1.57	390.30	-1.66	242.98
250	1.11	17.11	1.17	367.60	1.00	260.76
255	1.27	12.26	4.79	386.83	4.55	283.34
260	1.31	7.67	9.88	435.42	9.87	327.48
265	1.36	2.83	16.52	513.53	20.72	440.23
270	1.52	2.06	14.55	463.49	24.17	476.87
275	1.74	6.91	8.08	366.29	11.02	469.40
280	1.97	13.75	3.54	300.16	5.25	469.40
285	2.25	18.60	0.26	253.52	1.50	469.40
290	2.33	23.54	-2.30	230.72	-1.28	469.40
295	2.45	28.50	-4.37	212.98	-3.49	231.19
300	3.01	33.44	-6.11	171.27	-5.32	219.72
305	3.99	38.39	-7.61	126.91	-6.88	210.20
310	4.43	43.38	-8.93	115.25	-8.23	203.90
315	4.30	48.38	-10.00	111.14	-9.44	192.68
320	4.40	50.28	-10.00	110.17	-10.00	109.77
325	4.26	54.92	-10.00	111.55	-10.00	108.22
330	3.89	59.43	-10.00	117.37	-10.00	133.47
335	3.54	63.85	-10.00	128.30	-10.00	132.30
340	3.90	73.38	-10.00	117.10	-10.00	107.25
345	4.30	78.38	-10.00	111.09	-10.00	100.00
350	3.52	83.38	-10.00	129.06	-10.00	100.00
355	2.93	88.38	-10.00	150.07	-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: 

Gary K. Edwards
Senior Manager
COMSEARCH
19700 Janelia Farm Boulevard
Ashburn, VA 20147

DATED: February 07, 2022