

FREQUENCY COORDINATION AND INTERFERENCE ANALYSIS REPORT

Prepared for
Hawaii Pacific Teleport, L.P.
ROTA, MP
Satellite Earth Station

Prepared By:
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December 03, 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.

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 11/06/2019.

Company

Micronesian Telecommunications Corp
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.

Date: 12/03/2019
Job Number: 191106COMSTC07

Administrative Information

Status ENGINEER PROPOSAL
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

Manufacturer
Gain / Diameter
3-dB / 15-dB Beamwidth

Receive

General Dynamics
44.2 dBi / 4.8 m
1.00° / 2.00°

Transmit

General Dynamics
45.9 dBi / 4.8 m
0.80° / 1.60°

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

-17.4
6.6

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

28.5
52.5
68.0

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

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

Frequency Information

Emission / Frequency Range (MHz)

Receive 4.0 GHz

51K2G7W - 36M0G7W / 3770.0 - 4200.0

Transmit 6.1 GHz

51K2G7W - 36M0G7W 5825.0 - 6425.0

Max Great Circle Coordination Distance
Precipitation Scatter Contour Radius

412.2 km / 256.1 mi
100.0 km / 62.1 mi

135.1 km / 84.0 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
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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)

Azimuth (°) (km)	Horizon Elevation (°)	Antenna Discrimination (°)	Receive 4.0 GHz		Transmit 6.1 GHz	
			Horizon Gain (dBi)	Coordination Distance (km)	Horizon Gain (dBi)	Coordination Distance
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

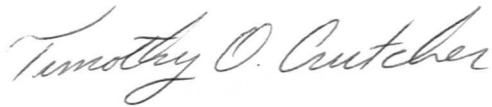
Coordination Values**ROTA, MP**

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 Max Available RF Power -17.4 (dBW/4 kHz)

Azimuth (°) (km)	Horizon Elevation (°)	Antenna Discrimination (°)	Receive 4.0 GHz		Transmit 6.1 GHz	
			Horizon Gain (dBi)	Coordination Distance (km)	Horizon Gain (dBi)	Coordination Distance
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

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
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DATED: December 03, 2019