

# Ka-Band Earth Station – Kapolei, HI

## Frequency Coordination Report

28 GHz



Prepared on Behalf of  
Hawaii Pacific Teleport,  
L.P.

May 18, 2018



**COMSEARCH**  
A CommScope Company

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## 1. Summary of Results

On behalf of Hawaii Pacific Teleport, L.P., Comsearch performed a coordination notice for all existing and proposed terrestrial licenses within the coordination contours of their proposed Ka-Band earth station in Kapolei, HI, which will transmit at 28 GHz<sup>1</sup>. Prior-notification letters were sent to the licensees and a copy of the notification data is provided in section four of this report. The earth station coordination was finalized on May 18, 2018.

No objections were received from any of the incumbent 28 GHz licensees. Our notification to the incumbents was performed under the assumption that the earth station would be operating on a secondary basis to LMDS Block A operations and a contact at Hawaii Pacific Teleport, L.P. has been provided in case any concerns may arise in the future.

## 2. 28 GHz Common Carrier and LTTS Coordination

In accordance with FCC Rules and Regulations, the Ka-Band earth station in Kapolei, HI was prior-coordinated by Comsearch. A notification letter and datasheets for this earth station were sent to the following 28 GHz common carrier fixed microwave licensees. These licensees are authorized to operate temporary fixed operations from 27.5 – 29.5 GHz on a nationwide basis or local basis.

Licensee	Authorized Geographic Area
Frontier Southwest Incorporated	Nationwide
Hawaiian Telcom, Inc	Statewide: Hawaii
PRINCETON SCIENTIFIC CAPITAL MANAGEMENT CORP.	Discrete link in Honolulu, HI

A notification letter and datasheets for the Ka-Band earth station in Kapolei, HI were also sent to the following 28 GHz local television transmission licensee. This licensee is authorized to operate temporary fixed operations from 27.5 – 29.5 GHz on a nationwide basis.

Licensee	Authorized Geographic Area
Information Super Station, LLC	Continental US

No objections were received from the common carrier or local television transmission service incumbents.

<sup>1</sup> The proposed earth station will operate in the 27.5 – 29.5 GHz portion of the Ka-Band.

### **3. 28 GHz LMDS Coordination**

There were no 28 GHz LMDS licensees identified within the coordination area. The proposed earth station will operate on frequencies that overlap Block A of the LMDS service. The total frequency allocation for Block A of the LMDS spectrum appears below.

**Block A:** 27.500-28.350 GHz  
29.100-29.250 GHz  
31.075-31.225 GHz

## **4. Earth Station Coordination Data**

This section presents the data pertinent to the proposed Ka-Band earth station in Kapolei, HI. This data was circulated to all incumbent licensees in the shared 28 GHz frequency ranges.

**COMSEARCH**

**Earth Station Data Sheet**

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

Date: 04/17/2018  
Job Number:

**Administrative Information**

Call Sign E150010  
Licensee Code HAWPAC  
Licensee Name Hawaii Pacific Teleport, L.P.

**Site Information KAPOLEI, HI**

Venue Name  
Latitude (NAD 83) 21° 20' 12.0" N  
Longitude (NAD 83) 158° 5' 25.2" W  
Climate Zone A  
Rain Zone 4  
Ground Elevation (AMSL) 37.2 m / 122.1 ft

**Link Information**

Satellite Type Geostationary  
Mode TR - Transmit-Receive  
Modulation Digital  
Satellite Arc 188° W to 188° West Longitude  
Azimuth Range 237.7° to 237.7°  
Corresponding Elevation Angles 48.0° / 48.0°  
Antenna Centerline (AGL) 8.0 m / 26.3 ft

**Antenna Information**

Manufacturer GDS Satcom  
Gain / Diameter 61.5 dBi / 9.2 m  
3-dB / 15-dB Beamwidth 0.21° / 0.42°

**Transmit**

GDS Satcom  
64.1 dBi / 9.2 m  
0.16° / 0.34°

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

51M1G7W - 133MG7W  
-28.5 -28.4  
4.5 -4.4

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

35.7 35.7  
59.7 59.7  
76.7 80.9

Ma

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

-151.0 dBW/4 kHz 20%  
-128.0 dBW/4 kHz 0.0025%

**Frequency Information**

Emission / Frequency Range (MHz) Receive 18.0 GHz  
51M1G7W / 18400.0 - 19700.0  
133MG7W / 18400.0 - 19700.0

**Transmit 28.0 GHz**

51M1G7W / 27500.0 - 29500.0  
133MG7W / 27500.0 - 29500.0

Max Great Circle Coordination Distance 136.2 km / 84.6 mi  
Precipitation Scatter Contour Radius 100.0 km / 62.1 mi

100.0 km / 62.1 mi  
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<b>Coordination Values</b>	<b>KAPOLEI, HI</b>		
Licensee Name	Hawaii Pacific Teleport, L.P.		
Latitude (NAD 83)	21° 20' 12.0" N		
Longitude (NAD 83)	158° 5' 25.2" W		
Ground Elevation (AMSL)	37.2 m / 122.1 ft		
Antenna Centerline (AGL)	8.0 m / 26.3 ft		
Antenna Model	FCC Reference 32-25LOG(THETA)		
Antenna Mode	Receive 18.0 GHz	Transmit 28.0 GHz	
Interference Objectives: Long Term	-156.0 dBW/MHz	20%	-151.0 dBW/4 kHz
Short Term	-146.0 dBW/MHz	0.01%	-128.0 dBW/4 kHz
Max Available RF Power			20%
			0.0025%
			-28.4 (dBW/4 kHz)

Azimuth (°)	Horizon Elevation (°)	Antenna Discrimination (°)	Receive 18.0 GHz		Transmit 28.0 GHz	
			Horizon Gain (dBi)	Coordination Distance (km)	Horizon Gain (dBi)	Coordination Distance (km)
0	12.27	115.71	-10.00	100.00	-10.00	100.00
5	13.58	119.99	-10.00	100.00	-10.00	100.00
10	14.78	124.26	-10.00	100.00	-10.00	100.00
15	15.21	128.15	-10.00	100.00	-10.00	100.00
20	14.56	131.30	-10.00	100.00	-10.00	100.00
25	14.58	134.60	-10.00	100.00	-10.00	100.00
30	13.32	136.70	-10.00	100.00	-10.00	100.00
35	13.20	139.22	-10.00	100.00	-10.00	100.00
40	12.17	140.54	-10.00	100.00	-10.00	100.00
45	11.12	141.26	-10.00	100.00	-10.00	100.00
50	10.47	141.76	-10.00	100.00	-10.00	100.00
55	8.64	140.53	-10.00	100.00	-10.00	100.00
60	7.53	139.43	-10.00	100.00	-10.00	100.00
65	6.28	137.72	-10.00	100.00	-10.00	100.00
70	5.34	135.89	-10.00	100.00	-10.00	100.00
75	5.19	134.42	-10.00	100.00	-10.00	100.00
80	4.80	132.37	-10.00	100.00	-10.00	100.00
85	4.54	130.12	-10.00	100.00	-10.00	100.00
90	3.61	127.12	-10.00	100.00	-10.00	100.00
95	2.31	123.72	-10.00	100.00	-10.00	100.00
100	0.64	120.03	-10.00	108.30	-10.00	100.00
105	0.00	116.95	-10.00	136.18	-10.00	100.00
110	0.00	114.12	-10.00	136.18	-10.00	100.00
115	0.00	111.17	-10.00	136.18	-10.00	100.00
120	0.00	108.10	-10.00	136.18	-10.00	100.00
125	0.00	104.94	-10.00	136.18	-10.00	100.00
130	0.00	101.72	-10.00	136.18	-10.00	100.00
135	0.00	98.44	-10.00	136.18	-10.00	100.00
140	0.00	95.13	-10.00	136.18	-10.00	100.00
145	0.00	91.79	-10.00	136.18	-10.00	100.00
150	0.00	88.45	-10.00	136.18	-10.00	100.00
155	0.00	85.12	-10.00	136.18	-10.00	100.00
160	0.00	81.80	-10.00	136.18	-10.00	100.00
165	0.00	78.52	-10.00	136.18	-10.00	100.00
170	0.00	75.29	-10.00	136.18	-10.00	100.00
175	0.00	72.13	-10.00	136.18	-10.00	100.00
180	0.00	69.06	-10.00	136.18	-10.00	100.00
185	0.00	66.09	-10.00	136.18	-10.00	100.00



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Antenna Model	FCC Reference 32-25LOG(THETA)		
Antenna Mode	Receive 18.0 GHz	Transmit 28.0 GHz	
Interference Objectives: Long Term	-156.0 dBW/MHz	20%	-151.0 dBW/4 kHz 20%
Short Term	-146.0 dBW/MHz	0.01%	-128.0 dBW/4 kHz 0.0025%
Max Available RF Power	-28.4 (dBW/4 kHz)		

Azimuth (°)	Horizon Elevation (°)	Antenna Discrimination (°)	Receive 18.0 GHz		Transmit 28.0 GHz	
			Horizon Gain (dBi)	Coordination Distance (km)	Horizon Gain (dBi)	Coordination Distance (km)
190	0.00	63.25	-10.00	136.18	-10.00	100.00
195	0.00	60.56	-10.00	136.18	-10.00	100.00
200	0.00	58.05	-10.00	136.18	-10.00	100.00
205	0.00	55.75	-10.00	136.18	-10.00	100.00
210	0.00	53.70	-10.00	136.18	-10.00	100.00
215	0.00	51.91	-10.00	136.18	-10.00	100.00
220	0.00	50.43	-10.00	136.18	-10.00	100.00
225	0.00	49.29	-10.00	136.18	-10.00	100.00
230	0.00	48.50	-10.00	136.18	-10.00	100.00
235	0.00	48.10	-10.00	136.18	-10.00	100.00
240	0.00	48.08	-10.00	136.18	-10.00	100.00
245	0.00	48.46	-10.00	136.18	-10.00	100.00
250	0.00	49.22	-10.00	136.18	-10.00	100.00
255	0.00	50.33	-10.00	136.18	-10.00	100.00
260	0.00	51.79	-10.00	136.18	-10.00	100.00
265	0.00	53.55	-10.00	136.18	-10.00	100.00
270	0.78	55.00	-10.00	102.25	-10.00	100.00
275	0.00	57.88	-10.00	136.18	-10.00	100.00
280	0.32	60.17	-10.00	127.79	-10.00	100.00
285	0.00	63.05	-10.00	136.18	-10.00	100.00
290	0.53	65.61	-10.00	112.72	-10.00	100.00
295	1.15	68.34	-10.00	100.00	-10.00	100.00
300	1.60	71.33	-10.00	100.00	-10.00	100.00
305	2.17	74.42	-10.00	100.00	-10.00	100.00
310	2.99	77.61	-10.00	100.00	-10.00	100.00
315	3.30	81.03	-10.00	100.00	-10.00	100.00
320	4.03	84.48	-10.00	100.00	-10.00	100.00
325	5.15	88.03	-10.00	100.00	-10.00	100.00
330	6.22	91.73	-10.00	100.00	-10.00	100.00
335	7.78	95.58	-10.00	100.00	-10.00	100.00
340	8.50	99.47	-10.00	100.00	-10.00	100.00
345	9.03	103.37	-10.00	100.00	-10.00	100.00
350	10.35	107.49	-10.00	100.00	-10.00	100.00
355	12.42	111.90	-10.00	100.00	-10.00	100.00





## **5. Contact Information**

For questions or information regarding the 28 GHz Frequency Coordination Report, please contact:

Contact person:	Dennis Jimeno
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