

FREQUENCY COORDINATION AND INTERFERENCE ANALYSIS REPORT

Prepared for
Universal Space Network, Inc.
NAALEHU, HI
Satellite Earth Station

Prepared By:
COMSEARCH
21515 Ridgetop Circle, Suite 300
Sterling, VA 20166
August 4, 2025

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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 07/14/2025.

Company

3G Wireless, LLC
Accelerated Media Technologies
Aerial Video Systems
Ascent Media Network Services, LLC
Bellsouth Telecommunications, Inc.
Borgeson, Tom R.
Broadcast Sports Inc.
Carolina Telephone and Telegraph Co
Casper, John
Chicago Comnet Corp
Cowboys Stadium LP
CP Communications
DCI II, INC.
Fine Satellites & Fiber, LLC
Frontier California Inc.
Global Telecom & Technology Americas, In
Goodyear Tire & Rubber Company
Gray Television Licensee, LLC
HF Enterprises, Inc
Hawaii Public Television Foundation
Hawaiian Telecom Inc.
Heiden, William
Indiana Bell Telephone Company
KITV, Inc
Kentucky RSA #3 Cellular General Partner
Kentucky RSA #4 Cellular General Partner
KTBV License LLC
Lehman, Ronald G
Lumen Technologies Inc
Michigan Bell Telephone Company
Microwave Video Systems, LLC
NorthWest Suburbs Community Access Corp
Ohio Bell GTelephone Company
Onboard Images
Pacific Bell Tel Com dba AT&T California
Quick Link Connections Inc.
Qwest Corporation
RCC Minnesota Inc. - MN NE ND SD
RF Film, Inc
Remote Facilities Consulting Services

SayRabbit LLC
SBE Coordinator
Southwestern Bell Telephone L.P.
TTWN Networks, LLC
VERIZON SOUTH INC.
Verizon Maryland, Inc.
Verizon New England Inc.
Verizon New Jersey, Inc.
Verizon New York, Inc.
Verizon North Inc.
Verizon Northwest Inc.
Verizon Pennsylvania, Inc.
Verizon Virginia, Inc.
Verizon Washington DC, Inc.
Winged Vision Inc
Wisconsin Bell Telephone Company
Wolfe Air Aviation

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
21515 Ridgetop Circle, Suite 300
Sterling, VA 20166
(703)726-5500 <http://www.comsearch.com>

Date: 07/14/2025
Job Number: 250714COMSGE02

Administrative Information

Status ENGINEER PROPOSAL
Call Sign
Licensee Code UNSPNE
Licensee Name Universal Space Network, Inc.

Site Information

NAALEHU, HI (HI-13M-1)
Venue Name GAGANYAAN-1, GAGANYAAN-2
Latitude (NAD 83) 19° 0' 50.0" N
Longitude (NAD 83) 155° 39' 47.9" W
Climate Zone C
Rain Zone 4
Ground Elevation (AMSL) 373.0 m / 1223.8 ft

Link Information

Satellite Type Low Earth Orbit
Mode TO - Transmit-Only
Modulation Digital
Minimum Elevation Angle 5.0°
Azimuth Range 0.0° to 360°
Antenna Centerline (AGL) 8.54 m / 28.0 ft

Antenna Information**Transmit - FCC32**

Manufacturer Datron
Model 1453
Gain / Diameter 45.9 dBi / 13.0 m
3-dB / 15-dB Beamwidth 0.76° / 1.46°

Max Available RF Power (dBW/4 kHz) 2.7
(dBW/MHz) 26.7

Maximum EIRP (dBW/4 kHz) 48.6
(dBW/MHz) 72.6

Interference Objectives: Long Term -154.0 dBW/4 kHz 20%
Short Term -131.0 dBW/4 kHz 0.0025%

Frequency Information**Transmit 2.0 GHz**

Emission / Frequency Range (MHz)
350KG2D - 2M70G1D / 2040.0
350KG2D - 2M70G1D / 2053.0
350KG2D - 2M70G1D / 2066.35
350KG2D - 2M70G1D / 2085.65
350KG2D - 2M70G1D / 2088.45
350KG2D - 2M70G1D / 2103.7

Max Great Circle Coordination Distance 293.2 km / 182.2 mi
Precipitation Scatter Contour Radius 100.0 km / 62.1 mi

COMSEARCH

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Short Term	-131.0 dBW/4 kHz 0.0025%
Max Available RF Power	2.7 (dBW/4 kHz)

Azimuth (°)	Horizon Elevation (°)	Antenna Discrimination (°)	Transmit 2.0 GHz	
			Horizon Gain (dBi)	Coordination Distance (km)
0	2.83	76.36	4.50	293.25
5	2.67	74.62	4.50	293.25
10	2.48	72.95	4.50	293.25
15	2.36	71.44	4.50	293.25
20	2.17	69.98	4.50	293.25
25	1.97	68.65	4.50	293.25
30	1.73	67.42	4.50	293.25
35	1.00	65.89	4.50	293.25
40	0.40	64.63	4.50	293.25
45	0.00	63.74	4.50	293.25
50	0.00	63.44	4.50	293.25
55	0.00	63.37	4.50	293.25
60	0.00	63.51	4.50	293.25
65	0.00	63.87	4.50	293.25
70	0.00	64.44	4.50	293.25
75	0.00	65.22	4.50	293.25
80	0.00	66.19	4.50	293.25
85	0.00	67.34	4.50	293.25
90	0.00	68.67	4.50	293.25
95	0.00	70.15	4.50	293.25
100	0.00	71.78	4.50	293.25
105	0.00	73.53	4.50	293.25
110	0.00	75.39	4.50	293.25
115	0.00	77.35	4.50	293.25
120	0.00	79.40	4.50	293.25
125	0.00	81.51	4.50	293.25
130	0.00	83.67	4.50	293.25
135	0.00	85.87	4.50	293.25
140	0.00	88.10	4.50	293.25
145	0.00	90.34	4.50	293.25
150	0.00	92.58	4.50	293.25
155	0.00	94.80	4.50	293.25
160	0.00	96.99	4.50	293.25
165	0.00	99.14	4.50	293.25
170	0.00	101.24	4.50	293.25
175	0.00	103.26	4.50	293.25
180	0.00	105.19	4.50	293.25
185	0.00	107.02	4.50	293.25

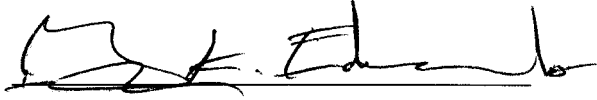
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Short Term	-131.0 dBW/4 kHz 0.0025%
Max Available RF Power	2.7 (dBW/4 kHz)

Azimuth (°)	Horizon Elevation (°)	Antenna Discrimination (°)	Transmit 2.0 GHz	
			Horizon Gain (dBi)	Coordination Distance (km)
190	0.00	108.73	4.50	293.25
195	0.00	110.32	4.50	293.25
200	0.00	111.75	4.50	293.25
205	0.00	113.03	4.50	293.25
210	0.00	114.13	4.50	293.25
215	0.00	115.04	4.50	293.25
220	0.00	115.75	4.50	293.25
225	0.00	116.26	4.50	293.25
230	0.00	116.56	4.50	293.25
235	0.00	116.63	4.50	293.25
240	0.00	116.49	4.50	293.25
245	0.00	116.13	4.50	293.25
250	0.00	115.56	4.50	293.25
255	0.00	114.78	4.50	293.25
260	0.27	113.57	4.50	293.25
265	0.44	112.29	4.50	293.25
270	0.62	110.85	4.50	293.25
275	0.95	109.16	4.50	293.25
280	1.11	107.50	4.50	293.25
285	1.16	105.78	4.50	293.25
290	1.21	103.98	4.50	293.25
295	1.39	102.02	4.50	293.25
300	1.51	100.04	4.50	293.25
305	1.66	98.00	4.50	293.25
310	1.95	95.90	4.50	293.25
315	2.16	93.81	4.50	293.25
320	2.38	91.74	4.50	293.25
325	2.45	89.69	4.50	293.25
330	2.55	87.65	4.50	293.25
335	2.61	85.64	4.50	293.25
340	2.74	83.68	4.50	293.25
345	2.78	81.76	4.50	293.25
350	3.21	80.05	4.50	293.25
355	3.02	78.18	4.50	293.25

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
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DATED: August 04, 2025

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Goodyear Tire & Rubber Company
Gray Television Licensee, LLC
HF Enterprises, Inc
Hawaii Public Television Foundation
Hawaiian Telecom Inc.
Heiden, William
Indiana Bell Telephone Company
KITV, Inc
Kentucky RSA #3 Cellular General Partner
Kentucky RSA #4 Cellular General Partner
KTBV License LLC
Lehman, Ronald G
Lumen Technologies Inc
Michigan Bell Telephone Company
Microwave Video Systems, LLC
NorthWest Suburbs Community Access Corp
Ohio Bell GTelephone Company
Onboard Images
Pacific Bell Tel Com dba AT&T California
Quick Link Connections Inc.
Qwest Corporation
RCC Minnesota Inc. - MN NE ND SD
RF Film, Inc
Remote Facilities Consulting Services

SayRabbit LLC
SBE Coordinator
Southwestern Bell Telephone L.P.
TTWN Networks, LLC
VERIZON SOUTH INC.
Verizon Maryland, Inc.
Verizon New England Inc.
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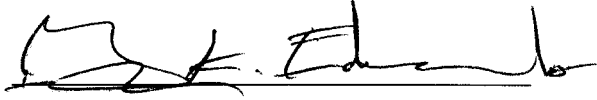
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320	2.38	91.74	4.50	293.25
325	2.45	89.69	4.50	293.25
330	2.55	87.65	4.50	293.25
335	2.61	85.64	4.50	293.25
340	2.74	83.68	4.50	293.25
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