

19700 Janelia Farm Boulevard

Ashburn, VA 20147

(703) 726-5500

Fax (703) 726-5600



<http://www.comsearch.com>

October 29, 2012

*** CLIENT COPY ***
*** PLEASE MAIL ***
*** TO CUSTOMER ***

Re: Universal Space Network, Inc.
North Pole, Alaska
2 GHz Band Transmit/Receive Earth Station
Job Number: 121029COMSJC06

***** EXPEDITED FREQUENCY COORDINATION *****
***** RESPONSE REQUESTED BY NOVEMBER 7, 2012 *****

Dear Frequency Coordinator:

This notice is being provided in accordance with Section 25.203(c) of the FCC Rules and Regulations. We are forwarding the attached expedited coordination data on behalf of Universal Space Network, Inc. for the purpose of obtaining a STA to provide support services during the launch and early orbit testing of a new satellite from their existing transmit/receive earth station in North Pole, Alaska.

The coordination notice is being circulated to the owners (or their protection agents) of all existing or proposed terrestrial facilities operating in a shared frequency band within the coordination contours of the station(s).

Please update your database with the attached information.

We respectfully request that you examine this data for its interference potential with your system(s). In the event that your analysis identifies potential interference cases that have not been resolved, please contact Comsearch by November 7, 2012.

If there are any questions concerning this coordination notice, please contact Comsearch.

Sincerely,

COMSEARCH

Jeffrey E. Cowles
Engineer III, Telecommunications
jcowles@comsearch.com

Enclosure(s)

COMSEARCH**Earth Station Data Sheet**

19700 Janelia Farm Boulevard, Ashburn, VA 20147
(703)726-5660 <http://www.comsearch.com>

Date: 10/29/2012
Job Number: 121029COMSJC06

Administrative Information

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

Site Information**NORTH POLE, ALASKA**

Venue Name
Latitude (NAD 83) 64° 48' 15.3" N
Longitude (NAD 83) 147° 30' 0.8" W
Climate Zone A
Rain Zone 2
Ground Elevation (AMSL) 140.66 m / 461.5 ft

Link Information

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

Antenna Information**Receive****Transmit**

Manufacturer		Datron		Datron	
Model		1453		1453	
Gain / Diameter		46.9 dBi / 13.0 m		45.9 dBi / 13.0 m	
3-dB / 15-dB Beamwidth		0.78° / 1.46°		0.76° / 1.46°	
Max Available RF Power	(dBW/4 kHz)			9.1	
	(dBW/MHz)			33.1	
Maximum EIRP	(dBW/4 kHz)			55.0	
	(dBW/MHz)			79.0	
	(dBW)			68.0	
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%

Frequency Information**Receive 2.2 GHz****Transmit 2.0 GHz**

Emission / Frequency Range (MHz)	236KG2D / 2269.2000	80K0G2D / 2089.555
Max Great Circle Coordination Distance	559.9 km / 347.9 mi	476.4 km / 296.0 mi
Precipitation Scatter Contour Radius	100.0 km / 62.1 mi	263.4 km / 163.7 mi

COMSEARCH**Earth Station Data Sheet**

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(703)726-5660 <http://www.comsearch.com>**Coordination Values****NORTH POLE, AK**

Licensee Name	Universal Space Network, Inc.		
Latitude (NAD 83)	64° 48' 15.3" N		
Longitude (NAD 83)	147° 30' 0.8" W		
Ground Elevation (AMSL)	140.66 m / 461.5 ft		
Antenna Centerline (AGL)	8.54 m / 28.0 ft		
Antenna Model	Datron 1453		
Antenna Mode	Receive 2.2 GHz		Transmit 2.0 GHz
Interference Objectives: Long Term	-156.0 dBW/MHz	20%	-154.0 dBW/4 kHz
Short Term	-146.0 dBW/MHz	0.01%	-131.0 dBW/4 kHz
Max Available RF Power			9.1 (dBW/4 kHz)

Azimuth (°)	Horizon Elevation (°)	Antenna Discrimination (°)	Receive 2.2 GHz		Transmit 2.0 GHz	
			Horizon Gain (dBi)	Coordination Distance (km)	Horizon Gain (dBi)	Coordination Distance (km)
0	0.85	5.00	4.50	436.30	4.50	340.80
5	1.20	5.00	4.50	414.80	4.50	317.10
10	1.19	5.00	4.50	415.30	4.50	317.70
15	1.02	5.00	4.50	425.10	4.50	328.60
20	0.94	5.00	4.50	430.20	4.50	331.10
25	0.76	5.00	4.50	422.90	4.50	348.10
30	0.75	5.00	4.50	443.60	4.50	348.90
35	0.48	5.00	4.50	467.90	4.50	375.60
40	0.32	5.00	4.50	487.20	4.50	396.90
45	0.00	5.00	4.50	559.90	4.50	476.40
50	0.00	5.00	4.50	559.90	4.50	476.40
55	0.00	5.00	4.50	559.90	4.50	476.40
60	0.00	5.00	4.50	559.90	4.50	476.40
65	0.00	5.00	4.50	559.90	4.50	476.40
70	0.00	5.00	4.50	559.90	4.50	476.40
75	0.00	5.00	4.50	559.90	4.50	476.40
80	0.00	5.00	4.50	559.90	4.50	476.40
85	0.00	5.00	4.50	559.90	4.50	476.40
90	0.00	5.00	4.50	559.90	4.50	476.40
95	0.00	5.00	4.50	559.90	4.50	476.40
100	0.00	5.00	4.50	559.90	4.50	476.40
105	0.00	5.00	4.50	559.90	4.50	476.40
110	0.00	5.00	4.50	559.90	4.50	476.40
115	0.00	5.00	4.50	559.90	4.50	476.40
120	0.00	5.00	4.50	559.90	4.50	476.40
125	0.00	5.00	4.50	559.90	4.50	476.40
130	0.00	5.00	4.50	559.90	4.50	476.40
135	0.00	5.00	4.50	559.90	4.50	476.40
140	0.00	5.00	4.50	559.90	4.50	476.40
145	0.00	5.00	4.50	559.90	4.50	476.40
150	0.00	5.00	4.50	559.90	4.50	476.40
155	0.00	5.00	4.50	559.90	4.50	476.40
160	0.00	5.00	4.50	559.90	4.50	476.40
165	0.00	5.00	4.50	559.90	4.50	476.40
170	0.00	5.00	4.50	559.90	4.50	476.40
175	0.00	5.00	4.50	559.90	4.50	476.40
180	0.00	5.00	4.50	559.90	4.50	476.40
185	0.00	5.00	4.50	559.90	4.50	476.40

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Antenna Centerline (AGL)	8.54 m / 28.0 ft					
Antenna Model	Datron 1453					
Antenna Mode	Receive 2.2 GHz			Transmit 2.0 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				9.1 (dBW/4 kHz)		

Azimuth (°)	Horizon Elevation (°)	Antenna Discrimination (°)	Receive 2.2 GHz		Transmit 2.0 GHz	
			Horizon Gain (dBi)	Coordination Distance (km)	Horizon Gain (dBi)	Coordination Distance (km)
190	0.00	5.00	4.50	559.90	4.50	476.40
200	0.00	5.00	4.50	559.90	4.50	476.40
205	0.00	5.00	4.50	559.90	4.50	476.40
210	0.00	5.00	4.50	559.90	4.50	476.40
215	0.00	5.00	4.50	559.90	4.50	476.40
220	0.00	5.00	4.50	559.90	4.50	476.40
225	0.00	5.00	4.50	559.90	4.50	476.40
230	0.00	5.00	4.50	559.90	4.50	476.40
235	0.00	5.00	4.50	559.90	4.50	476.40
240	0.00	5.00	4.50	559.90	4.50	476.40
245	0.00	5.00	4.50	559.90	4.50	476.40
250	0.00	5.00	4.50	559.90	4.50	476.40
255	0.00	5.00	4.50	559.90	4.50	476.40
260	0.00	5.00	4.50	559.90	4.50	476.40
265	0.00	5.00	4.50	559.90	4.50	476.40
270	0.00	5.00	4.50	559.90	4.50	476.40
275	0.00	5.00	4.50	559.90	4.50	476.40
280	0.00	5.00	4.50	559.90	4.50	476.40
285	0.00	5.00	4.50	559.90	4.50	476.40
290	0.00	5.00	4.50	559.90	4.50	476.40
295	0.00	5.00	4.50	559.90	4.50	476.40
300	0.00	5.00	4.50	559.90	4.50	476.40
305	0.00	5.00	4.50	559.90	4.50	476.40
310	0.35	5.00	4.50	483.20	4.50	392.50
315	0.96	5.00	4.50	428.90	4.50	327.70
320	0.60	5.00	4.50	456.10	4.50	362.70
325	0.80	5.00	4.50	439.90	4.50	344.80
330	0.82	5.00	4.50	438.40	4.50	343.20
335	0.69	5.00	4.50	448.40	4.50	354.20
340	0.94	5.00	4.50	430.20	4.50	334.10
345	1.16	5.00	4.50	417.00	4.50	319.50
350	1.18	5.00	4.50	415.90	4.50	318.30
355	1.23	5.00	4.50	413.10	4.50	315.30