



May 04, 2023

Re: Universal Space Network, Inc.
NAALEHU, HI
S-Band Transmit Only Earth Station
Job Number: 230504COMSGE02

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 coordination data on behalf of Universal Space Network, Inc., 417 Caredean Drive, Suite A Horsham, PA 19044 for the purpose of obtaining an STA to provide launch and early orbit support of the Chandrayaan 3 satellite from their existing Earth Station located in NAALEHU, HI.

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 proposed station(s).

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 us by June 08, 2023.

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

Sincerely,

COMSEARCH

Gary K. Edwards
Senior Manager
gedwards@comsearch.com

Enclosure(s)

Date: 05/03/2023
Job Number: 230504COMSGE02

Administrative Information

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

Site Information

Venue Name	NAALEHU, HI
Latitude (NAD 83)	CHANDRAYAAN 3
Longitude (NAD 83)	19° 0' 50.0" N
Climate Zone	155° 39' 47.9" W
Rain Zone	C
Ground Elevation (AMSL)	4
	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

Manufacturer	Transmit - FCC32
Model	Datron
Gain / Diameter	1453
3-dB / 15-dB Beamwidth	46.3 dBi / 13.0 m
	0.76° / 1.46°

Max Available RF Power	(dBW/4 kHz)	0.6
	(dBW/MHz)	24.6

Maximum EIRP	(dBW/4 kHz)	46.9
	(dBW/MHz)	70.9

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

Frequency Information

Emission / Frequency Range (MHz)	Transmit 2.0 GHz
	1M00G2D / 2088.45
	1M00G2D / 2064.14
	500KG2D / 2103.699
	500KG2D / 2028.78

Max Great Circle Coordination Distance	293.2 km / 182.2 mi
Precipitation Scatter Contour Radius	107.7 km / 66.9 mi

Coordination Values	NAALEHU, HI	
Licensee Name	Universal Space Network, Inc.	
Latitude (NAD 83)	19° 0' 50.0" N	
Longitude (NAD 83)	155° 39' 47.9" W	
Ground Elevation (AMSL)	373.0 m / 1223.8 ft	
Antenna Centerline (AGL)	8.54 m / 28.0 ft	
Antenna Model	Datron 13 meter	
Antenna Mode	Transmit 2.0 GHz	
Interference Objectives: Long Term	-154.0 dBW/4 kHz	20%
Short Term	-131.0 dBW/4 kHz	0.0025%
Max Available RF Power	0.6 (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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Antenna Model	Datron 13 meter	
Antenna Mode	Transmit 2.0 GHz	
Interference Objectives: Long Term	-154.0 dBW/4 kHz	20%
Short Term	-131.0 dBW/4 kHz	0.0025%
Max Available RF Power	0.6 (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