



February 2, 2023

Ms. Marlene H. Dortch
Secretary
Federal Communications Commission
45 L Street NE
Washington, DC 20554

Re: Request for 30-day Further Extension of Special Temporary Authority
7.3m S-band Antenna, Haleiwa, Hawaii

Dear Ms. Dortch:

Intelsat License LLC ("Intelsat") herein requests an additional 30 days of Special Temporary Authority ("STA")¹ previously granted to Intelsat to use a 7.3m S-band antenna located at its Haleiwa, Hawaii teleport to provide telemetry, tracking, and command ("TT&C") services to the U.S. Air Force Research Laboratory ("AFRL") ASCENT CubeSat during its post-mission operations.² ASCENT was launched on December 7, 2021, and AFRL is currently testing the survivability of the small satellite's components.³ Intelsat intends to continue seeking STA until the AFRL informs us that the support from this antenna is no longer needed.

The TT&C operations will continue in the following frequencies: 2037.5 MHz (RHCP) (uplink) and 2233.0 MHz (RHCP) (downlink).

The 24x7 contact information for the requested operations is as follows:

Ph.: (703) 559-7701 – East Coast Operations Center (primary)
(310) 525-5591 – West Coast Operations Center (back-up)
Request to speak with Glen Jones or Mike Ryan.

In further support of this request, Intelsat incorporates by reference Exhibits A and B of its original request,⁴ which contain technical information that demonstrates that the operation of the earth station will be compatible with its electromagnetic environment and will not cause harmful interference into any lawfully operating commercial terrestrial facility, and a U.S. Air Force/AFRL document supporting the requested ASCENT CubeSat operations, respectively. Additionally,

¹ Intelsat has filed its STA request, an FCC Form 159, a \$210.00 filing fee, and this supporting letter electronically via the International Bureau's Filing System.

² See, e.g., *Satellite Communications Services Information; Actions Taken*, Report No. SES-02492, File No. SES-STA-20220602-00611 (Aug. 17, 2022) (Public Notice).

³ AFRL, *Ascent Satellite Marks End of Mission Objectives* (Oct. 18, 2022), <https://afresearchlab.com>.

⁴ See *Satellite Communications Services Information; Actions Taken*, Report No. SES-02423, File No. SES-STA-20210615-00959 (Dec. 15, 2022) (Public Notice).

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Intelsat incorporates by reference Exhibit C of its previous request, which contains additional antenna information.⁵ For ease of reference, Intelsat herewith attaches copies of the aforementioned exhibits.

Finally, Intelsat clarifies that the U.S. Air Force is in control of the spacecraft. Intelsat remains in control of the baseband unit, RF equipment, and antenna.

Grant of this further STA extension request will allow Intelsat to assist in ensuring the safe flight of the ASCENT CubeSat satellite and thereby promotes the public interest.

Please direct any questions regarding this further STA extension request to the undersigned at (703) 559-6949.

Respectfully submitted,

/s/ Cynthia J. Grady

Cynthia J. Grady
Assistant General Counsel
Intelsat US LLC

cc: Franco Hinojosa

⁵ See *supra*, n. 2.

Prepared By

COMSEARCH

19700 Janelia Farm Boulevard, Ashburn, VA 20147
(703)726-5500 <http://www.comsearch.com>

Prepared For

**Intelsat License LLC
Paumalu, Hawaii**

Temporary Transmit-Only Earth Station
Operation Dates: 02/01/2021 - 08/01/2021

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. Verbal and written coordination was conducted with the below listed carriers on January 4, 2021.

Company

3G Wireless, LLC
AERIAL VIDEO SYSTEMS
Alascom Inc
Borgeson, Tom R.
Broadcast Sports Inc.
Casper, John
Chicago Comnet Corp
Cincinnati Bell Wireless LLC
Citywide News Network, Inc.
CP Communications, LLC
Cowboys Stadium LP
DCI II, INC.
Direct Broadcast Services, Inc.
Frontier California Inc.
Gray Televisions Licensee, LLC (KTVF)
HF Enterprises, Inc
Hallco Unlimited, Inc.
Heiden, William
im360 Entertainment
Information & Display Systems, Inc.
Information Super Station, LLC
International Communications Group, Inc.
International Electronic Information Services, Inc.
Interlink Network Corp.
Loop, Inc.
MERCURY COMMUNICATIONS
Microwave Video systems, LLC
Moreen, Steven K
NEW ENGLAND DIGITAL DISTRIBUTION, INC.
NSM Surveillance
Navajo Communications Company
Onboard Images
Penn Service Microwave Co., Inc.
Plateau Telecommunications, Inc.
Plum TV, LLC

Production & Satellite Services, Inc.
REMOTE FACILITIES CONSULTING SERVICES
RF Central, LLC
RF Film, Inc
Radiofone, Inc.
Randy Hermes Production
Remote Broadcasts, Inc.
SBE Coordinator
Speedshotz, Inc
TTWN Networks, LLC
Unisat, Inc.
United Telephone – Southeast
Vitec Broadcast Services, Inc
Vyvx, LLC
Westar Satellite Services LP
Winged Vision Inc
Wolfe Air Aviation

There are no unresolved interference objections with the station contained in these applications.

The following section presents the data pertinent to frequency coordination of the earth station that was circulated to all carriers within its coordination contours.

COMSEARCH

Earth Station Data Sheet

19700 Janelia Farm Boulevard, Ashburn, VA 20147
(703)726-5500 <http://www.comsearch.com>

Date: 01/04/2021
Job Number: 210104COMSGE09

Administrative Information

Status	TEMPORARY (Operation from 02/01/2021 to 08/01/2021)
Call Sign	TEMP08
Licensee Code	INTELS
Licensee Name	Intelsat License LLC

Site Information

PAUMALU, HI

Venue Name	
Latitude (NAD 83)	21° 40' 14.1" N
Longitude (NAD 83)	158° 2' 7.1" W
Climate Zone	B
Rain Zone	4
Ground Elevation (AMSL)	149.6 m / 490.8 ft

Link Information

Satellite Type	Geostationary
Mode	TO - Transmit-Only
Modulation	Digital
Satellite Arc	83° W to 230° West Longitude
Azimuth Range	95.6° to 263.1°
Corresponding Elevation Angles	5.2° / 8.1°
Antenna Centerline (AGL)	5.49 m / 18.0 ft

Antenna Information

Transmit - FCC32

Manufacturer	Viasat
Model	7.3FPA
Gain / Diameter	40.9 dBi / 7.3 m
3-dB / 15-dB Beamwidth	1.00° / 2.00°

Max Available RF Power	(dBW/4 kHz)	24.1
	(dBW/MHz)	48.1

Maximum EIRP	(dBW/4 kHz)	65.0
	(dBW/MHz)	89.0

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)	4K00G1D - 40K0G1D / 2037.5
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Max Great Circle Coordination Distance	805.7 km / 500.6 mi
Precipitation Scatter Contour Radius	431.2 km / 267.9 mi

Coordination Values	PAUMALU, HI
Licensee Name	Intelsat License LLC
Latitude (NAD 83)	21° 40' 14.1" N
Longitude (NAD 83)	158° 2' 7.1" W
Ground Elevation (AMSL)	149.6 m / 490.8 ft
Antenna Centerline (AGL)	5.49 m / 18.0 ft
Antenna Model	Viasat 7.3 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	24.1 (dBW/4 kHz)

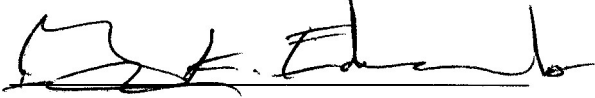
Azimuth (°)	Horizon Elevation (°)	Antenna Discrimination (°)	Transmit 2.0 GHz	
			Horizon Gain (dBi)	Coordination Distance (km)
0	0.00	95.62	-10.00	429.92
5	0.00	90.64	-10.00	429.92
10	0.00	85.66	-10.00	429.92
15	0.00	80.68	-10.00	429.92
20	0.00	75.70	-10.00	429.92
25	0.00	70.72	-10.00	429.92
30	0.00	65.75	-10.00	429.92
35	0.00	60.77	-10.00	429.92
40	0.00	55.80	-10.00	429.92
45	0.00	50.83	-10.00	429.92
50	0.00	45.87	-9.54	434.20
55	0.00	40.92	-8.30	445.59
60	0.22	35.94	-6.89	452.91
65	0.00	31.04	-5.30	451.36
70	0.44	26.05	-3.40	427.87
75	0.83	21.08	-1.10	383.55
80	0.99	16.19	1.77	384.62
85	1.49	11.27	5.70	383.43
90	1.43	6.79	11.20	441.36
95	1.87	3.41	18.68	585.23
100	2.38	5.21	14.09	401.42
105	2.76	9.59	7.46	308.64
110	2.66	14.21	3.18	276.13
115	3.22	18.55	0.29	226.64
120	3.18	23.09	-2.09	212.39
125	3.06	27.63	-4.03	204.11
130	3.13	32.02	-5.64	193.52
135	3.07	36.39	-7.02	187.52
140	2.71	40.79	-8.26	192.86
145	1.99	45.23	-9.39	212.41
150	2.17	49.08	-10.00	200.98
155	1.97	52.85	-10.00	209.14
160	2.24	56.01	-10.00	199.88
165	2.38	58.69	-10.00	194.92
170	2.06	60.98	-10.00	205.55
175	2.04	62.19	-10.00	206.06
180	1.90	62.71	-10.00	212.84
185	1.68	62.53	-10.00	224.70

Coordination Values	PAUMALU, HI
Licensee Name	Intelsat License LLC
Latitude (NAD 83)	21° 40' 14.1" N
Longitude (NAD 83)	158° 2' 7.1" W
Ground Elevation (AMSL)	149.6 m / 490.8 ft
Antenna Centerline (AGL)	5.49 m / 18.0 ft
Antenna Model	Viasat 7.3 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	24.1 (dBW/4 kHz)

Azimuth (°)	Horizon Elevation (°)	Antenna Discrimination (°)	Transmit 2.0 GHz	
			Horizon Gain (dBi)	Coordination Distance (km)
190	1.42	61.49	-10.00	240.08
195	1.25	59.44	-10.00	250.24
200	0.97	56.74	-10.00	272.12
205	0.75	53.48	-10.00	303.60
210	0.36	49.94	-10.00	387.28
215	0.00	46.12	-9.60	433.65
220	0.00	41.97	-8.57	443.07
225	0.00	37.69	-7.40	453.69
230	0.00	33.31	-6.06	442.41
235	0.00	28.87	-4.51	461.68
240	0.00	24.36	-2.67	490.30
245	0.00	19.82	-0.43	533.59
250	0.00	15.41	2.31	598.97
255	0.00	11.47	5.51	709.79
260	0.00	8.69	8.52	792.60
265	0.00	8.32	9.00	805.75
270	0.00	10.61	6.36	733.22
275	0.00	14.33	3.09	643.31
280	0.00	18.66	0.23	547.99
285	0.00	23.25	-2.16	499.31
290	0.00	27.97	-4.17	466.53
295	0.00	32.77	-5.89	444.39
300	0.00	37.62	-7.38	453.87
305	0.00	42.49	-8.71	441.84
310	0.00	47.39	-9.89	430.92
315	0.00	52.31	-10.00	429.92
320	0.00	57.23	-10.00	429.92
325	0.00	62.16	-10.00	429.92
330	0.00	67.10	-10.00	429.92
335	0.00	72.05	-10.00	429.92
340	0.00	76.99	-10.00	429.92
345	0.00	81.94	-10.00	429.92
350	0.00	86.89	-10.00	429.92
355	0.00	91.84	-10.00	429.92

Certification

I hereby certify that I am the technically qualified person responsible for the preparation of the frequency coordination data contained in this report. I am familiar with Parts 101 and 25 of the FCC Rules and Regulations and I have either prepared or reviewed the frequency coordination data submitted with this report, and that it is complete and correct to the best of my knowledge and belief.

BY: 

Gary K. Edwards
Senior Manager
COMSEARCH
19700 Janelia Farm Boulevard
Ashburn, VA 20147

DATED: January 20, 2021



DEPARTMENT OF THE AIR FORCE
AIR FORCE RESEARCH LABORATORY
KIRTLAND AIR FORCE BASE NEW MEXICO

Exhibit B

02 October 2020

MEMORANDUM FOR RECORD

FROM: AFRL/RVEN

SUBJECT: Ascent Mission Commercial Ground

1. BACKGROUND: The Ascent program is a CubeSat flight experiment, owned and operated by the Air Force Research Laboratory Space Vehicles Directorate (AFRL/RV). Ascent is currently manifested as a secondary payload on the STP-3 launch, scheduled for February 2021. The primary mission objective of Ascent is to mature COTS technology for use in GEO. AFRL/RV does not expect the mission length to exceed 12 months in duration.

2. PURPOSE: This memorandum provides background on the Ascent mission for entities supporting the frequency filing of any US-based commercial ground stations baselined for Ascent. Currently, this includes the PAM-S20 aperture in Paumalu, Hawaii, owned by Intelsat, in partnership with Kongsberg Satellite Services (KSAT). The Ascent mission has baselined the use of commercial ground stations, as opposed to the use of traditional government owned ground stations. Most of these commercial ground stations are located outside of the United States. Frequency filings for foreign ground stations will be coordinated with the ITU.

3. SPACECRAFT DESCRIPTION: The Ascent spacecraft will be deployed in a near-geostationary circular orbit. The satellite will use a space-ground link for TT&C, transmitting at 2233.0 MHz for downlink (emission designators 20K0G1D and 180K0G1D) and receiving at 2037.5 MHz for uplink (emission designators 4K0G1D and 40K0G1D).

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COLE C. DOUPE, Lieutenant Colonel, USAF
Branch Chief, AFRL/RVEN

EXHIBIT C

Antenna

Antenna size	7.3m
Transmit Frequencies	2037.5 MHz
Receive Frequencies	2233.0 MHz
Emission Designators	4K00G1D & 40K0G1D
Polarization	Circular
Bandwidth	4.0 kHz & 40.0 kHz
Transmit Gain	40.9 dBi
EIRP Value	65 dBW
Input Power	500 W
Location (NAD83)	158° 2' 7.1" W
	21° 40' 14.1" N