KA258 SES-STA-20140212-00068 IB2014000261
Intelsat License LLC

Approved by OMB
3060–0678

APPLICATION FOR EARTH STATION SPECIAL TEMPORARY AUTHORITY

APPLICANT INFORMATIONEnter a description of this application to identify it on the main menu:
Request for STA for Hagerstown, Maryland Earth Station KA258

1. Applicant

Name:	Intelsat License LLC	**Phone Number:**	202–944–7848
DBA Name:		**Fax Number:**	202–944–7870
Street:	c/o Intelsat Corporation	**E–Mail:**	susan.crandall@intelsat.com
	3400 International Drive, N.W.		
City:	Washington	**State:**	DC
Country:	USA	**Zipcode:**	20008 –3006
Attention:	Susan H. Crandall		

GRANTED
International Bureau

File: SES-STA-20140212-00068
Call Sign KA258 Grant Date 3-5-14
(or other identifier)
Term Dates
From 3-13-14 To: 4-1-24
Approved:

Applicant: Intelsat License LLC
Call Sign: KA258
File No.: SES-STA-20140212-00068
Special Temporary Authority (STA)

Intelsat License LLC is granted, under the following conditions, STA for 30 days, commencing upon launch of the Astra-5B satellite to use its earth station at Hagerstown, Maryland to provide launch and early orbit phase (LEOP) services for the Luxembourg licensed Astra-5B satellite at its permanent orbital location 31.5° E.L. The in-orbit testing will be 43.5° E.L. Intelsat currently expects to launch the Astra-5B satellite on March 13, 2014.

1. Uplink to Astra-5B satellite on 17308.00 MHz and 18091.5 MHz (CP) within coordinated emission and power limits.

2. Downlink from Astra-5B satellite on 11709.5 MHz, 12490.0 MHz (CP).

3. The LEOP operations must be coordinated with all operators of satellites that use the same frequency bands and are in the LEOP path. All operators of satellites in that path will be provided with an emergency phone number where the licensee can be reached in the event that harmful interference occurs. Currently the 24x7 contact information for the Astra-5B LEOP mission is as follows: Ph.: (202) 944-7701 - East Coast Operations Center (primary); (310) 525-5900 - West Coast Operations Center (back-up). Request to speak with Harry Burnham or Kevin Bell.

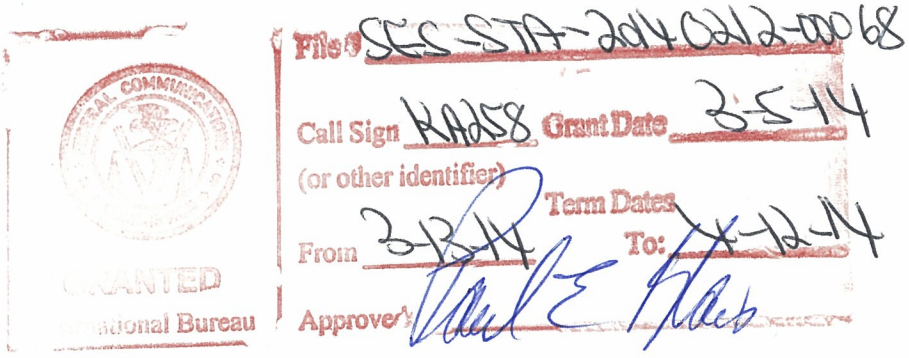
4. All operations shall be on an unprotected and non-harmful interference basis, Intelsat License LLC, KA258, shall not cause harmful interference to, and shall not claim protection from, interference caused to it by any other lawfully operating station and it shall cease transmission(s) immediately upon notice of such interference.

5. All operations under this grant of special temporary authority must be on an unprotected and non-harmful interference basis, *i.e.,* Intelsat License LLC must not cause harmful interference to, and shall not claim protection from interference caused to it by, any other lawfully operating station.

6. In the event of any harmful interference under this grant of special temporary authority, Intelsat License LLC must cease operations immediately upon notification of such interference, and must inform the Commission, in writing, immediately of such an event.

7. Any action taken or expense incurred as a result of operations pursuant to this special temporary authority is solely at Intelsat License LLC's risk.

8. This action is issued pursuant to Section 0.261 of the Commission's rules on delegated authority, 47 C.F.R. § 0.261, and is effective immediately.



2. Contact

Name:	Susan H. Crandall	**Phone Number:**	202-944-7848
Company:	Intelsat Corporation	**Fax Number:**	202-944-7870
Street:	3400 International Drive, N.W.	E-Mail:	susan.crandall@intelsat.com
City:	Washington	**State:**	DC
Country:	USA	**Zipcode:**	20008 -3006
Attention:		**Relationship:**	Legal Counsel

(If your application is related to an application filed with the Commission, enter either the file number or the IB Submission ID of the related application. Please enter only one.)
3. Reference File Number or Submission ID

4a. Is a fee submitted with this application?
◉ If Yes, complete and attach FCC Form 159. If No, indicate reason for fee exemption (see 47 C.F.R.Section 1.1114).
○ Governmental Entity ○ Noncommercial educational licensee
○ Other(please explain):

4b. Fee Classification CGX – Fixed Satellite Transmit/Receive Earth Station

5. Type Request

○ Use Prior to Grant ○ Change Station Location ◉ Other

6. Requested Use Prior Date	
7. CityHagerstown	8. Latitude (dd mm ss.s h) 39 35 54.0 N

9. State MD	10. Longitude (dd mm ss.s h) 77 45 33.0 W

11. Please supply any need attachments.

Attachment 1: STA Request Attachment 2: Exhibit A Attachment 3: Exhibit B

12. Description. (If the complete description does not appear in this box, please go to the end of the form to view it in its entirety.)

Intelsat License LLC herein requests a grant of Special Temporary Authority for 30 days, commencing March 13, 2014, to use its Hagerstown, Maryland Ku-band earth station, call sign KA258, to provide launch and early orbit phase services for the Astra-5B satellite that is now expected to be launched on March 13, 2014.

13. By checking Yes, the undersigned certifies that neither applicant nor any other party to the application is subject to a denial of Federal benefits that includes FCC benefits pursuant to Section 5301 of the Anti–Drug Act of 1988, 21 U.S.C. Section 862, because of a conviction for possession or distribution of a controlled substance. See 47 CFR 1.2002(b) for the meaning of "party to the application" for these purposes.

◉ Yes ○ No

14. Name of Person Signing Susan H. Crandall	15. Title of Person Signing Assoc. General Counsel, Intelsat Corporation

WILLFUL FALSE STATEMENTS MADE ON THIS FORM ARE PUNISHABLE BY FINE AND / OR IMPRISONMENT (U.S. Code, Title 18, Section 1001), AND/OR REVOCATION OF ANY STATION AUTHORIZATION (U.S. Code, Title 47, Section 312(a)(1)), AND/OR FORFEITURE (U.S. Code, Title 47, Section 503).

FCC NOTICE REQUIRED BY THE PAPERWORK REDUCTION ACT

The public reporting for this collection of information is estimated to average 2 hours per response, including the time for reviewing instructions, searching existing data sources, gathering and maintaining the required data, and completing and reviewing the collection of information. If you have any comments on this burden estimate, or how we can improve the collection and reduce the burden it causes you, please write to the Federal Communications Commission, AMD–PERM, Paperwork Reduction Project (3060–0678), Washington, DC 20554. We will also accept your comments regarding the Paperwork Reduction Act aspects of this collection via the Internet if you send them to PRA@fcc.gov. PLEASE DO NOT SEND COMPLETED FORMS TO THIS ADDRESS.

Remember – You are not required to respond to a collection of information sponsored by the Federal government, and the government may not conduct or sponsor this collection, unless it displays a currently valid OMB control number or if we fail to provide you with this notice. This collection has been assigned an OMB control number of 3060–0678.

THE FOREGOING NOTICE IS REQUIRED BY THE PAPERWORK REDUCTION ACT OF 1995, PUBLIC LAW 104–13, OCTOBER 1, 1995, 44 U.S.C. SECTION 3507.

Exhibit A

PETITION FOR WAIVER OF SECTIONS 25.137 AND 25.114

Pursuant to Section 25.137 of the Federal Communications Commission's ("Commission" or "FCC") rules, earth station applicants "requesting authority to operate with a non-U.S. licensed space station *to serve the United States*" must demonstrate that effective competitive opportunities exist and must provide the same technical information required by Section 25.114 for U.S.-licensed space stations.[1] Intelsat License LLC ("Intelsat") herein seeks authority to provide launch and early orbit phase ("LEOP") services -- not commercial services -- to the United States, and thus believes that Section 25.137 does not apply.[2]

To the extent the Commission determines, however, that Intelsat's request for authority to provide LEOP services on a special temporary basis is a request to serve the United States with a non U.S.-licensed satellite, Intelsat respectfully requests a waiver of Sections 25.137 and 25.114 of the Commission's rules.[3] The Commission may grant a waiver for good cause shown.[4] The Commission typically grants a waiver where the particular facts make strict compliance inconsistent with the public interest.[5] In granting a waiver, the Commission may take into account considerations of hardship, equity, or more effective implementation of overall policy on an individual basis.[6] Waiver is therefore appropriate if special circumstances warrant a deviation from the general rule, and such a deviation will serve the public interest.

In this case, good cause exists for a waiver of both Section 25.137 and Section 25.114. With respect to Section 25.114, Intelsat seeks authority only to provide LEOP services for the Astra-5B satellite. The information sought by Section 25.114 is not relevant to LEOP services. Moreover, Intelsat does not have – and would not easily be able to obtain -- such information because Intelsat is not the operator of the Astra-5B satellite, nor is Intelsat in contractual privity with that operator. Rather, an affiliate of Intelsat has a contract with EADS Astrium, the manufacturer of the Astra-5B satellite, to conduct LEOP services for the satellite.

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[1] 47 C.F.R. § 25.137 (emphasis added).

[2] *See EchoStar Satellite Operating Company Application for Special Temporary Authority Related to Moving the EchoStar 6 Satellite from the 77° W.L. Orbital Location to the 96.2° W.L. Orbital Location, and to Operate at the 96.2° W.L. Orbital Location*, DA 13-593, File No. SAT-STA-20130220-00023 (released Apr. 1, 2013) (noting that operating TT&C earth stations in the United States with a foreign-licensed satellite does not constitute "DBS service").

[3] 47 C.F.R. §§ 25.137 and 25.114.

[4] 47 C.F.R. §1.3.

[5] *N.E. Cellular Tel. Co. v. FCC*, 897 F.2d 1164, 1166 (D.C. Cir. 1990) ("*Northeast Cellular*").

[6] *WAIT Radio v. FCC*, 418 F.2d 1153, 1159 (D.C. Cir. 1969); *Northeast Cellular*, 897 F.2d at 1166.

The information that Intelsat is not including is not required to determine potential harmful interference. The Schedule S information for this satellite would pertain to the operation of the Astra-5B satellite at its final orbital location. However, the present application for LEOP services involves communications *prior* to the satellite attaining its final location in the geostationary orbit. In other words, during the LEOP mission, the earth station will not be communicating with a satellite located in the geostationary orbit. Rather, it will be transmitting to a satellite traveling on its "transfer orbit" or "LEOP path," which starts immediately following its separation from a launch vehicle, and ends when the satellite reaches its geostationary orbital location. Moreover, as with any STA, Intelsat will perform the LEOP services on a non-interference basis.

Because it is not relevant to the service for which Intelsat seeks authorization, and because obtaining the information would be a hardship, Intelsat seeks a waiver of all the information required by Section 25.114. Intelsat has provided in this STA request the required technical information that is relevant to the LEOP services for which Intelsat seeks authorization.

Good cause also exists to waive Section 25.137. Section 25.137 is designed to ensure that "U.S.-licensed satellite systems have effective competitive opportunities to provide analogous services" in other countries. Here, there is no service being provided by the satellite; it is simply being placed in its orbital location after separating from the launch vehicle. Thus, the purpose of the information required by Section 25.137 is not implicated here. For example, Section 25.137(d) requires earth station applicants requesting authority to operate with a non-U.S.-licensed space station that is not in orbit and operating to post a bond.[7] The underlying purpose in having to post a bond—*i.e.*, to prevent warehousing of orbital locations by operators seeking to serve the United States—would not be served by requiring Intelsat to post a bond in order to provide approximately ten days of LEOP services to the Astra-5B satellite.

It is Intelsat's understanding that Astra-5B is licensed by Luxembourg, which is a WTO-member country. Thus, the purposes of Section 25.137—to ensure that U.S. satellite operators enjoy "effective competitive opportunities" to serve foreign markets and to prevent warehousing of orbital locations serving the United States—will not be undermined by grant of this waiver request.

Finally, Intelsat notes that it expects to operate with the Astra-5B satellite using its U.S. earth station for a period of approximately ten days. Requiring Intelsat to obtain copious technical and legal information from an unrelated party, where there is no risk of harmful interference and the operations will cease after approximately ten days, would pose undue hardship without serving underlying policy objectives. Given these particular facts, the waiver sought herein is plainly appropriate.

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[7] *See* 47 C.F.R. §25.137(d)(4).

February 12, 2014

Ms. Marlene H. Dortch
Secretary
Federal Communications Commission
445 12th Street, S.W.
Washington, D.C. 20554

INTELSAT

Re: Request for Special Temporary Authority
Hagerstown, Maryland Earth Station KA258

Dear Ms. Dortch:

Intelsat License LLC ("Intelsat") herein requests a grant of Special Temporary Authority ("STA")[1] for 30 days, commencing March 13, 2014, to use its Hagerstown, Maryland Ku-band earth station -- call sign KA258 -- to provide launch and early orbit phase ("LEOP") services for the Astra-5B satellite that is now expected to be launched on March 13, 2014.[2] The LEOP period is expected to last approximately ten days.[3] The Astra-5B satellite was initially expected to launch on December 6, 2013. The Commission previously granted STA to Intelsat for Astra-5B LEOP operations, which initial grant expired on January 5, 2014.[4]

The Astra-5B LEOP operations will be performed in the following frequency bands: 17308.0 MHz and 18091.5 in the uplink (CP), and 11709.5 MHz and 12490.0 MHz in the downlink (CP). The LEOP operations will be coordinated with all operators of satellites that use the same frequency bands and are in the LEOP path.[5] All operators of satellites in that path will be provided with an emergency phone number where the licensee can be reached in the event that harmful interference occurs.

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[1] Intelsat has filed its STA request, an FCC Form 159, a $180.00 filing fee and this supporting letter electronically via the International Bureau's Filing System ("IBFS").

[2] The permanent orbital location for Astra-5B, which Intelsat understands is licensed by Luxembourg, will be 31.5° E.L. The in-orbit testing location will be 43.5° E.L.

[3] Intelsat is seeking authority for 30 days to accommodate possible further launch delays.

[4] *See Satellite Communications Services Information; Actions Taken*, Report No. SES-01601, File No. SES-STA-20131105-00938 (Nov. 27, 2013) (Public Notice).

[5] EADS Astrium ("Astrium"), the manager of the Astra-5B LEOP mission, will handle the coordination.

Intelsat Corporation
3400 International Drive NW, Washington DC 20008-3006 USA **www.intelsat.com** T +1 202-944-6800 F +1 202-944-7898

The 24x7 contact information for the Astra-5B LEOP mission is as follows:

Ph.: (202) 944-7701 – East Coast Operations Center (primary)
(310) 525-5900 – West Coast Operations Center (back-up)

Request to speak with Harry Burnham or Kevin Bell.

In addition, Intelsat attaches Exhibits A and B, which contain a waiver request as well as technical information indicating that the operation of the earth station will be compatible with its electromagnetic environment and will not cause harmful interference into any lawfully operating terrestrial or government facility. In the extremely unlikely event that harmful interference should occur due to transmissions to or from its earth station, Intelsat will take all reasonable steps to eliminate the interference. Intelsat also notes that for purposes of the Astra-5B LEOP mission, it is seeking to operate in the frequencies listed in the request at power levels not to exceed 23.5 dBW.

Finally, Intelsat clarifies that during the Astra-5B launch, the spacecraft will be controlled by Astrium. Astrium will build and send the commands to the Intelsat antenna, which will process and execute the commands. Telemetry received by Intelsat will be forwarded to Astrium. Intelsat will remain in control of the baseband unit, RF equipment and antenna.

Grant of this STA request will allow Intelsat to help launch the Astra-5B satellite. This, in turn, will help ensure continuity of service at the 31.5° E.L. orbital location and thereby promotes the public interest.

Please direct any questions regarding this STA request to the undersigned at (202) 944-7848.

Respectfully submitted,

Susan H. Crandall
Associate General Counsel
Intelsat Corporation

cc: Paul Blais

Prepared By

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

Prepared For

Intelsat License LLC
Hagerstown, Maryland
Temporary Transmit-Only Earth Station
Operation Dates: 02/19/2014 - 06/06/2014

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 11, 2014.

Company

ADAMS COUNTY EMERGENCY MANAGEMENT AGENCY
ALLEGANY COUNTY GOVERNMENT
APC Realty and Equipment CO LLC
Airband Communications Inc
Arlington County Emergency Comm Ctr
B.F. SAUL COMPANY
BUSINESS INFORMATION GROUP, INC.
Believe Wireless, LLC
Blaze Broadband
Blue Ridge Carriers
Boeing Company
CAMP HILL SCHOOL DISTRICT
CBS Broadcasting Inc
CBS Communications Services Inc.
CECIL COUNTY PUBLIC SCHOOLS
CHESAPEAKE TELEVISION LICENSEE, LLC
CNG Transmission Corporation
CRISPUS ATTUCKS ASSOCIATION
Cable Of The Carolinas
Calvert, County of
Cambria, County of
Cape May County Municipal Utilities Auth
Cape May County, MIS Department
Carlisle Area School District
City of Altoona
Clearwire Spectrum Holdings III, LLC
Commissioners of Caroline County
Conterra Ultra Broadband, LLC
Cumberland County, New Jersey
Cumberland Valley School District

Company (Continued)

DELAWARE RIVER & BAY AUTHORITY
DOVER AREA SCHOOL DISTRICT
Delmarva Power & Light Company
ECW Wireless, LLC
East Pennsboro Area School
Eastern Lancaster County School District
Enoch Pratt Free Library
Federal Communications Commission
Franklin County Dept. of Emergency Servi
Fundamental Broadcasting LLC
GETWIRELESS.NET
George Washington University
Glenville State University
HALIFAX AREA SCHOOL DISTRICT
Harrison County Emergency Services
High Voltage Communications LLC
Homes Sales Co, Inc
Hope Gas, Inc.
LANCASTER GENERAL HOSPITAL
Last Mile Inc.
Loudoun Wireless LLC
Loudoun, County of
MLS Engineering
MVC Research. LLC
Maryland Port Administration
Maryland, State Of - MDOT - MTA
MetroPCS AWS, LLC
NBC Telemundo License LLC
NEXSTAR BROADCASTING, INC.
National Radio Astronomy Observatory
National Tower Company
Netrepid, Inc.
New Cingular Wireless PCS LLC - AZ
New Cingular Wireless PCS - Maryland
New Cingular Wireless PCS LLC- WV/NC/SC
New Cingular Wireless PCS, LLC - PA
Northern York County School District
Old Dominion LLC
PEG Bandwidth
PENNSYLVANIA TURNPIKE COMMISSION
Plexicomm, LLC
Prince William, County of
Radio One Inc
RapidDSL & Wireless, Inc.
Red Rose Transit Authority
Red Zebra Broadcasting Licensee, LLC
Roadstar Internet, Inc.
SHIPPENSBURG AREA SCHOOL DISTRICT
SOMERSET COUNTY
SUSQUEHANNA TOWNSHIP SCHOOL DISTRICT

Company (Continued)

Shenandoah Personal Communications, LLC
Sprint Spectrum L.P
State of WV DHHR/BPH STECS
Steelton-Highspire School District
T-Mobile License LLC
THE HERSHEY COMPANY
Telecom Transport Management, Inc
Telegia Communications Inc.
WASHINGTON CABLE SYSTEMS INC
WKYSFM, INC
Washington Metro Area Transit Police Dep
West Virginia PCS Alliance, L.C.
Western PA Internet Access, Inc.
Windstream D&E Systems, Inc.
Wireless Internetwork LLC
World Class Wireless LLC
York County Dept of Emergency Services
York Water Co

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

The following 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

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

Date:	01/24/2014
Job Number:	140111COMSJC01

Administrative Information

Status	TEMPORARY (Operation from 02/19/2014 to 06/06/2014)
Call Sign	TEMP06
Licensee Code	INTELS
Licensee Name	Intelsat License LLC

Site Information — HAGERSTOWN, MARYLAND

Venue Name	
Latitude (NAD 83)	39° 35' 54.0" N
Longitude (NAD 83)	77° 45' 33.0" W
Climate Zone	A
Rain Zone	2
Ground Elevation (AMSL)	174.65 m / 573.0 ft

Link Information

Satellite Type	Geostationary
Mode	TO - Transmit-Only
Modulation	Digital
Satellite Arc	6° W to 149° West Longitude
Azimuth Range	101.9° to 257.8°
Corresponding Elevation Angles	5.3° / 5.7°
Antenna Centerline (AGL)	9.45 m / 31.0 ft

Antenna Information — Transmit

Manufacturer		TIW
Model		14.2 Meter
Gain / Diameter		65.1 dBi / 14.2 m
3-dB / 15-dB Beamwidth		0.10° / 0.20°
Max Available RF Power	(dBW/4 kHz)	-0.4
	(dBW/MHz)	23.6
Maximum EIRP	(dBW/4 kHz)	64.7
	(dBW/MHz)	88.7
	(dBW)	88.0
Interference Objectives:	Long Term	-154.0 dBW/4 kHz 20%
	Short Term	-131.0 dBW/4 kHz 0.0025%

Frequency Information — Transmit 18.0 GHz

Emission / Frequency Range (MHz)	850KFXD / 17308.0 850KFXD / 18091.5
Max Great Circle Coordination Distance	444.4 km / 276.1 mi
Precipitation Scatter Contour Radius	186.6 km / 116.0 mi

COMSEARCH

Earth Station Data Sheet

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

Coordination Values	**HAGERSTOWN, MD**	
Licensee Name	Intelsat License LLC	
Latitude (NAD 83)	39° 35' 54.0" N	
Longitude (NAD 83)	77° 45' 33.0" W	
Ground Elevation (AMSL)	174.65 m / 573.0 ft	
Antenna Centerline (AGL)	9.45 m / 31.0 ft	
Antenna Model	TIW 14.2 Meter	
Antenna Mode	Transmit 18.0 GHz	
Interference Objectives: Long Term	-154.0 dBW/4 kHz	20%
Short Term	-131.0 dBW/4 kHz	0.0025%
Max Available RF Power	-0.4 (dBW/4 kHz)	

Transmit 18.0 GHz

Azimuth (°)	Horizon Elevation (°)	Antenna Discrimination (°)	Horizon Gain (dBi)	Coordination Distance (km)
0	0.00	101.81	-10.00	152.75
5	0.00	96.84	-10.00	152.75
10	0.00	91.86	-10.00	152.75
15	0.00	86.88	-10.00	152.75
20	0.00	81.90	-10.00	152.75
25	0.00	76.92	-10.00	152.75
30	0.00	71.95	-10.00	152.75
35	0.00	66.97	-10.00	152.75
40	0.00	62.00	-10.00	152.75
45	0.00	57.03	-10.00	152.75
50	0.00	52.06	-10.00	152.75
55	0.00	47.09	-9.82	153.31
60	0.00	42.14	-8.62	157.23
65	0.00	37.19	-7.26	162.24
70	0.00	32.26	-5.72	167.47
75	0.00	27.34	-3.92	173.65
80	0.00	22.47	-1.79	181.18
85	0.00	17.65	0.83	190.66
90	0.00	12.98	4.17	202.98
95	0.00	8.66	8.56	220.51
100	0.00	5.61	13.27	444.41
105	0.00	6.15	12.28	302.62
110	0.00	9.60	7.45	215.96
115	0.00	13.27	3.93	202.04
120	0.00	16.89	1.31	192.42
125	0.00	20.41	-0.75	184.91
130	0.00	23.83	-2.43	178.90
135	0.00	27.11	-3.83	173.98
140	0.00	30.23	-5.01	169.88
145	0.00	33.14	-6.01	166.47
150	0.00	35.82	-6.85	163.61
155	0.00	38.20	-7.55	161.26
160	0.00	40.26	-8.12	159.37
165	0.00	41.93	-8.56	157.41
170	0.00	43.16	-8.88	156.38
175	0.00	43.92	-9.07	155.76
180	0.00	44.18	-9.13	155.55

COMSEARCH

Earth Station Data Sheet

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

Coordination Values	**HAGERSTOWN, MD**	
Licensee Name	Intelsat License LLC	
Latitude (NAD 83)	39° 35' 54.0" N	
Longitude (NAD 83)	77° 45' 33.0" W	
Ground Elevation (AMSL)	174.65 m / 573.0 ft	
Antenna Centerline (AGL)	9.45 m / 31.0 ft	
Antenna Model	TIW 14.2 Meter	
Antenna Mode	Transmit 18.0 GHz	
Interference Objectives: Long Term	-154.0 dBW/4 kHz	20%
Short Term	-131.0 dBW/4 kHz	0.0025%
Max Available RF Power	-0.4 (dBW/4 kHz)	

Transmit 18.0 GHz

Azimuth (°)	Horizon Elevation (°)	Antenna Discrimination (°)	Horizon Gain (dBi)	Coordination Distance (km)
185	0.00	43.92	-9.07	155.76
190	0.00	43.16	-8.88	156.38
195	0.00	41.93	-8.56	157.41
200	0.00	40.26	-8.12	159.37
205	0.00	38.20	-7.55	161.26
210	0.00	35.81	-6.85	163.62
215	0.00	33.14	-6.01	166.47
220	0.00	30.22	-5.01	169.89
225	0.00	27.11	-3.83	173.98
230	0.00	23.83	-2.43	178.90
235	0.00	20.42	-0.75	184.91
240	0.00	16.89	1.31	192.44
245	0.00	13.28	3.92	202.03
250	0.00	9.59	7.46	216.01
255	0.00	6.33	11.96	312.84
260	0.00	6.11	12.35	426.25
265	0.00	9.18	7.93	217.91
270	0.00	13.46	3.77	201.46
275	0.00	18.11	0.55	189.65
280	0.00	22.90	-2.00	180.44
285	0.00	27.76	-4.09	173.08
290	0.00	32.66	-5.85	167.00
295	0.00	37.59	-7.38	161.85
300	0.00	42.53	-8.72	156.90
305	0.00	47.48	-9.91	153.03
310	0.00	52.44	-10.00	152.75
315	0.00	57.40	-10.00	152.75
320	0.00	62.37	-10.00	152.75
325	0.00	67.34	-10.00	152.75
330	0.00	72.31	-10.00	152.75
335	0.00	77.28	-10.00	152.75
340	0.00	82.26	-10.00	152.75
345	0.00	87.23	-10.00	152.75
350	0.00	92.21	-10.00	152.75
355	0.00	97.18	-10.00	152.75

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.

Jeffrey E. Cowles

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