Approved by OMB 3060–0678

Date & Time Filed: May 28 2021 5:44:51:300PM File Number: SES-MOD-INTR2021-02055

FCC APPLICATION FOR SPACE AND EARTH STATION:MOD OR AMD – MAIN FORM	FCC Use Only
FCC 312 MAIN FORM FOR OFFICIAL USE ONLY	

APPLICANT INFORMATION Enter a description of this application to identify it on the main menu: Orbit GX46; Honeywell MCS8562

1–8. Legal Name of A	pplicant		
Name:	ISAT US Inc.	Phone Number:	202-248-5150
DBA Name:		Fax Number:	
Street:	1441 L Street, NW	E-Mail:	brennan.price@inmarsat.com
	Suite 610		
City:	Washington	State:	DC
Country:	USA	Zipcode:	20005 –
Attention:	Brennan Price		

9–16. Name of Contact	Representative		
Name:	Brennan Price	Phone Number:	703–223–3327
Company:	ISAT US Inc.	Fax Number:	
Street:	1441 L St NW	E-Mail:	brennan.price@inmarsat.com
	Suite 610		
City:	Washington	State:	DC
Country:	USA	Zipcode:	20005-
Attention:	Brennan Price	<b>Relationship:</b>	Same
CLASSIFICATION C	OF FILING		
<ul> <li>17. Choose the button r classification that appli both questions a. and b. for 17a and only one for al. Earth Station</li> <li>a1. Earth Station</li> <li>a2. Space Station</li> </ul>	es to this filing for . Choose only one or 17b.	Satellite (N/A) b9. Letter of Intent to Use Non–U.S. States (N/A) b10. Other (Please specify)	ew Domestic Receive–Only Station on tion ration Receive–Only Station Using Non–U.S. Licensed Licensed Satellite to Provide Service in the United o Access a Non–U.S.satellite Not Currently Authorized osed Frequencies in the United States

17c. 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 ONOncommercial educational licensee				
• Other(please explain):				
17d.				
Fee Classification CGB – Mobile Satellite Earth Stations				
18. If this filing is in reference to an existing station, enter:19. If this filing is an amendment to a pending application enter both fields, if this filing is a modification please enter only the file number:				
(a) Call sign of station:	(a) Date pending application was filed:	(b) File number:		
E140114				
		SESMOD2020060500595		

## TYPE OF SERVICE

20. NATURE OF SERVICE: This filing is for an authorization to provide or use the following type(s) of service(s): Select all that apply:						
a. Fixed Satellite						
b. Mobile Satellite						
c. Radiodetermination Satellite						
d. Earth Exploration Satellite						
e. Direct to Home Fixed Satellite						
f. Digital Audio Radio Service						
g. Other (please specify)						
21. STATUS: Choose the button next to the applicable status. Choose	22. If earth station applicant, check all that apply.					
only one.	Using U.S. licensed satellites					
○ Common Carrier	Using Non–U.S. licensed satellites					
23. If applicant is providing INTERNATIONAL COMMON CAPPIER	service, see instructions regarding Sec. 214 filings. Choose one. Are these					
facilities:	service, see instructions regarding Sec. 214 mings. Choose one. Are mese					
• Connected to a Public Switched Network • Not connected to a	Public Switched Network 👩 N/A					
24. FREQUENCY BAND(S): Place an 'X' in the box(es) next to all applicable frequency band(s).						
a. C–Band (4/6 GHz) b. Ku–Band (12/14 GHz)						
c.Other (Please specify upper and lower frequencies in MHz.)						
Frequency Lower: 19700 Frequency Upper: 30000	(Please specify additional frequencies in an attachment)					

## TYPE OF STATION

25. CLASS OF STATION: Choose the button next to the class of station that applies. Choose only one.			
• a. Fixed Earth Station			
• b. Temporary–Fixed Earth Station			
o c. 12/14 GHz VSAT Network			
O d. Mobile Earth Station			
• e. Geostationary Space Station			
• f. Non–Geostationary Space Station			
• g. Other (please specify)			
26. TYPE OF EARTH STATION FACILITY:			
Transmit/Receive     Transmit–Only     Receive–Only     N/A			
"For Space Station applications, select N/A."			

### PURPOSE OF MODIFICATION



### ENVIRONMENTAL POLICY

28. Would a Commission grant of any proposal in this application or amendment have a significant environmental impact as defined by 47 CFR 1.1307? If YES, submit the statement as required by Sections 1.1308 and 1.1311 of the Commission's rules, 47 C.F.R. 1.1308 and 1.1311, as an exhibit to this application. A Radiation Hazard Study must accompany all applications for new transmitting facilities, major modifications, or major amendments.						
ALIEN OWNERSHIP Earth station applicants not proposing to provide broadcast, common carrier, aerona aeronautical fixed radio station services are not required to respond to Items 30–34.	autic	al en	rou	te or	•	
29. Is the applicant a foreign government or the representative of any foreign government?	0	Yes	۲	No		
30. Is the applicant an alien or the representative of an alien?	0	Yes	0	No	۲	N/A
31. Is the applicant a corporation organized under the laws of any foreign government?	0	Yes	0	No	۲	N/A
32. Is the applicant a corporation of which more than one–fifth of the capital stock is owned of record or voted by aliens or their representatives or by a foreign government or representative thereof or by any corporation organized under the laws of a foreign country?	0	Yes	0	No	۲	N/A

33. Is the applicant a corporation directly or indirectly controlled by any other corporation of which more than	0	Yes	0	No	۲	N/A
one-fourth of the capital stock is owned of record or voted by aliens, their representatives, or by a foreign					~~	
government or representative thereof or by any corporation organized under the laws of a foreign country?						

34. If any answer to questions 29, 30, 31, 32 and/or 33 is Yes, attach as an exhibit an identification of the aliens or foreign entities, their nationality, their relationship to the applicant, and the percentage of stock they own or vote.

### BASIC QUALIFICATIONS

35. Does the Applicant request any waivers or exemptions from any of the Commission's Rules? If Yes, attach as an exhibit, copies of the requests for waivers or exceptions with supporting documents.	• Yes	O No
36. Has the applicant or any party to this application or amendment had any FCC station authorization or license revoked or had any application for an initial, modification or renewal of FCC station authorization, license, or construction permit denied by the Commission? If Yes, attach as an exhibit, an explination of circumstances.	O Yes	No
	Exhibit D	

37. Has the applicant, or any party to this application or amendment, or any party directly or indirectly controlling the applicant ever been convicted of a felony by any state or federal court? If Yes, attach as an exhibit, an explination of circumstances.	O Yes	● No
38. Has any court finally adjudged the applicant, or any person directly or indirectly controlling the applicant, guilty of unlawfully monopolizing or attempting unlawfully to monopolize radio communication, directly or indirectly, through control of manufacture or sale of radio apparatus, exclusive traffic arrangement or any other means or unfair methods of competition? If Yes, attach as an exhibit, an explanation of circumstances	O Yes	● No
39. Is the applicant, or any person directly or indirectly controlling the applicant, currently a party in any pending matter referred to in the preceding two items? If yes, attach as an exhinit, an explanation of the circumstances.	• Yes	O No
40. If the applicant is a corporation and is applying for a space station license, attach as an exhibit the names, address, and citizenship of those stockholders owning a record and/or voting 10 percent or more of the Filer's voting stock and the percentages so held. In the case of fiduciary control, indicate the beneficiary(ies) or class of beneficiaries. Also list the names and addresses of the officers and directors of the Filer.		

41. 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.

42a. Does the applicant intend to use a non–U.S. licensed satellite to provide service in the United States? If Yes, answer 42b and attach an exhibit providing the information specified in 47 C.F.R. 25.137, as appropriate. If No, proceed to question 43.



O No

Yes

42b. What administration has licensed or is in the process of licensing the space station? If no license will be issued, what administration has coordinated or is in the process of coordinating the space station?United Kingdom

43. Description. (Summarize the nature of the application and the services to be provided). (If the complete description does not appear in this box, please go to the end of the form to view it in its entirety.)

ISAT US seeks to modify its GX Aeronautical ESIM blanket license to add two new terminal and antenna types, as described in Exhibit A.

Exhibit A

43a. Geographic Service Rule Certification By selecting A, the undersigned certifies that the applicant is not subject to the geographic service or geographic coverage requirements specified in 47 C.F.R. Part 25.	● A
By selecting B, the undersigned certifies that the applicant is subject to the geographic service or geographic coverage requirements specified in 47 C.F.R. Part 25 and will comply with such requirements.	<b>О</b> <sup>В</sup>
By selecting C, the undersigned certifies that the applicant is subject to the geographic service or geographic coverage requirements specified in 47 C.F.R. Part 25 and will not comply with such requirements because it is not feasible as a technical matter to do so, or that, while technically feasible, such services would require so many compromises in satellite design and operation as to make it economically unreasonable. A narrative description and technical analysis demonstrating this claim are attached.	<b>O</b> C

### CERTIFICATION

The Applicant waives any claim to the use of any particular frequency or of the electromagnetic spectrum as against the regulatory power of the United States because of the previous use of the same, whether by license or otherwise, and requests an authorization in accordance with this application. The applicant certifies that grant of this application would not cause the applicant to be in violation of the spectrum aggregation limit in 47 CFR Part 20. All statements made in exhibits are a material part hereof and are incorporated herein as if set out in full in this application. The undersigned, individually and for the applicant, hereby certifies that all statements made in this application and in all attached exhibits are true, complete and correct to the best of his or her knowledge and belief, and are made in good faith.

44. Applicant is a (an): (Choose the button next to applicable response.)				
O Individual				
O Unincorporated Association				
• Partnership				
• Corporation				
Governmental Entity				
Other (please specify)				
45. Name of Person Signing	46. Title of Person Signing			
Brennan T. Price	Director, Regulatory Affairs			
>				
	I ARE PUNISHABLE BY FINE AND / OR IMPRISONMENT EVOCATION OF ANY STATION AUTHORIZATION FORFEITURE (U.S. Code, Title 47, Section 503).			

### SATELLITE EARTH STATION AUTHORIZATIONS FCC Form 312 – Schedule B:(Technical and Operational Description) FOR OFFICIAL USE ONLY

Location of Earth Station S	Site			
E1: Site Identifier: Aero	6 E5. Call Sign:	E140114		
E2: Contact Name Anan	da Mishra E6. Phone Number:	8086385820		
E3. Street: Aboa	rd Aircraft E7. City:			
	E8. County:			
E4. State	E9. Zip Code			
E10. Area of Operation:	CONUS, OCON	JUS		
E11. Latitude: $0 \circ 0$	'0.0 "			
E12. Longitude: $0 \circ 0$	'0.0 "			
E13. Lat/Lon Coordinates	are: • NAD-27	● NAD-83	N/A	
E14. Site Elevation (AMS)	L): 0.0 meters			

E15. If the proposed antenna(s) operate in the Fixed Satellite Service (FSS) with geostationary satellites, do(es) the proposed antenna(s) comply with the antenna gain patterns specified in Section 25.209(a) and (b) as demonstrated by the manufacturer's qualification measurement? If NO, provide as a technical analysis showing compliance with two–degree spacing policy.	• Yes • No	<b>O</b> <sup>N/A</sup>
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E16. If the proposed antenna(s) do not operate in the Fixed Satellite Service (FSS), or if they operate in the Fixed Satellite Service (FSS) with non–geostationary satellites, do(es) the proposed antenna(s) comply with the antenna gain patterns specified in Section 25.209(a2) and (b) as demonstrated by the manufacturer's qualification measurements?	O Yes	O <sup>No</sup>	● N/A
E17. Is the facility operated by remote control? If YES, provide the location and telephone number of the control point.	• Yes	0	No

E18. Is frequency coordination required? If YES, attach a frequency coordination report as	0	Yes	۲	No
E19. Is coordination with another country required? If YES, attach the name of the country(ies) and plot of coordination contours as	0	Yes	۲	No
E20. FAA Notification – (See 47 CFR Part 17 and 47 CFR part 25.113(c)) Where FAA notification is required, have you attached a copy of a completed FCC Form 854 and/or the FAA's study regarding the potential hazard of the structure to aviation? FAILURE TO COMPLY WITH 47 CFR PARTS 17 AND 25 WILL RESULT IN THE RETURN OF THIS APPLICATION.	0	Yes	۲	No

POINTS OF COMMUNICATION

Satellite Name: INMARSAT 5F3   INMARSAT 5F3   179.6 E.L. If y	ou selected OTHER, please enter the following:
E21. Common Name:	E22. ITU Name:
E23. Orbit Location:	E24. Country:

Satellite Name: INMARSAT 5F2 | INMARSAT 5F2 | 55.0 W.L. If you selected OTHER, please enter the following:

E21. Common Name:	E22. ITU Name:
E23. Orbit Location:	E24. Country:

Satellite Name: INMARSAT 5F1   INMARSAT 5F1   63 E.L. If you see	elected OTHER, please enter the following:
E21. Common Name:	E22. ITU Name:
E23. Orbit Location:	E24. Country:
POINTS OF COMMUNICATION (Destination Points)	
E25. Site Identifier:	
E26. Common Name:	E27. Country:

# ANTENNA

Site ID	E28. Antenna Id	E29. Quantity	E30. Manufacturer	E31. Model	E32. Antenna Size <meters></meters>	E41/42. Antenna Gain Transmint and/or Recieve (dBi at GHz)
Aero 6	Aero 6	4000	Honeywell	MCS8562	0.61	36.8 dBi at 19.7
Aero 6	Aero 6	4000	Honeywell	MCS8562	0.61	36.9 dBi at 20.2
Aero 6	Aero 6	4000	Honeywell	MCS8562	0.61	39.8 dBi at 29.5
Aero 6	Aero 6	4000	Honeywell	MCS8562	0.61	39.8 dBi at 30.0
Aero 6	Aero 6	4000	Honeywell	MCS8562	0.61	36.9 dBi at 19.95

Aero 6	Aero 6	4000	Honeywell	MCS8562	0.61	39.8 dBi at 29.75	
						=>e	

Id	Diameter		· · · ·	Height Above Ground Level	Input Power at antenna flange	E39. Maximum Antenna Height Above Rooftop (meters)	EIRP for al
Aero 6	0.61/0.61	0.0	0.0	0.0	12.6	0.0	50.8

# FREQUENCY

	E43/44. Frequency Bands (MHz)	E45. T/R Mode			E48. Maximum EIRP per Carrier (dBW)	E49. Maximum ERIP Density per Carrier (dBW/4kHz)
Aero 6	19700 20200	R	Left and Right Circular	32M0G7W	0.0	0.0

E50. Modulation and Services (If the complete description does not appear in this box, please go to the end of the form to view it in its entirety.)

Various	modulations	up to	32 APSK; Di	gital Data Link	5		
co 6					1		
	29500		•	Left and Right	460KG7W	44.6	24.0

E50. Modulation entirety.)	on and Services	(If the complete d	escription does not appear	in this box, please	go to the end of t	he form to view it in its
Various m	nodulations u	p to 32 APSK	; Digital Data Lir	ık		
Aero 6	29500 30000	Т	Left and Right Circular	5M00G1W	7.0	-24.0
E50. Modulation entirety.)	on and Services	(If the complete de	escription does not appear	in this box, please	go to the end of t	he form to view it in its
Various n	nodulations u	p to 32 APSK	; Digital Data Lir	ık		
Aero 6	29500 30000	Т	Left and Right Circular	7M34G7W	46.0	13.4
E50. Modulation entirety.)	on and Services	(If the complete d	escription does not appear	in this box, please	go to the end of t	he form to view it in its
Various n	odulations u	p to 32 APSK	; Digital Data Lir	ık		

FREQUENCY COORDINATION

E28. Antenna Id	E51. Satellite Orbit Type	E52/53. Frequency Limits(MHz)	E54/55. Range of Satellite Arc Eastern/West ern Limit	E56. Earth Station Azimuth Angle Eastern Limit	E57. Antenna Elevation Angle Eastern Limit	E58. Earth Station Azimuth Angle Western Limit	E59. Antenna Elevation Angle Western Limit	E60. Maximum EIRP Density toward the Horizon (dBW/4kHz)
Aero 6	Geostationary	19700 20200	0.0/360.0	0.0	5.0	0.0	5.0	0.0
	Geostationary	29500 30000	0.0/360.0	0.0	5.0	0.0	5.0	10.0
REMOTE CO	NTROL POIN	T LOCATION					•	•
	gn se enter the calls ich this application	•	•		. Phone Number			
E62. Street A	Address			I				
E63. City E68. County		7		E67/68. State/Country /	E	64. Zip Code		

SATELLITE EARTH STATION AUTHORIZATIONS	
FCC Form 312 – Schedule B:(Technical and Operational Description)	
FOR OFFICIAL USE ONLY	

Location of Earth St	ation Site						
E1: Site Identifier:	Aero 7	E5. Call Sign:	E140114				
E2: Contact Name	Ananda Mishra	E6. Phone Number:	8086385820				
E3. Street:	Aboard Aircraft	E7. City:					
		E8. County:					
E4. State		E9. Zip Code					
E10. Area of Operat	tion:	CONUS, OCONUS	5				
E11. Latitude:	0 °0 '0.0 "						
E12. Longitude:	0 °0 '0.0 "						
E13. Lat/Lon Coordinates are:		● NAD-27	O NAD−83	● N/A			
E14. Site Elevation (AMSL):		0.0 meters					

two-degree spacing poncy.	
proposed antenna(s) comply with the antenna gain patterns specified in Section 25.209(a) and (b) as demonstrated by the manufacturer's qualification measurement? If NO, provide as a technical analysis showing compliance with two-degree spacing policy.	No O <sup>N/A</sup>

E17. Is the facility operated by remote control? If YES, provide the location and telephone number of the control		
point.	• Yes	O No

E18. Is frequency coordination required? If YES, attach a frequency coordination report as	0	Yes	۲	No
E19. Is coordination with another country required? If YES, attach the name of the country(ies) and plot of coordination contours as	0	Yes	۲	No
E20. FAA Notification – (See 47 CFR Part 17 and 47 CFR part 25.113(c)) Where FAA notification is required, have you attached a copy of a completed FCC Form 854 and/or the FAA's study regarding the potential hazard of the structure to aviation? FAILURE TO COMPLY WITH 47 CFR PARTS 17 AND 25 WILL RESULT IN THE RETURN OF THIS APPLICATION.	0	Yes	۲	No

POINTS OF COMMUNICATION

Satellite Name: INMARSAT 5F1   INMARSAT 5F1   63 E.L. If	If you selected OTHER, please enter the following:
E21. Common Name:	E22. ITU Name:
E23. Orbit Location:	E24. Country:

Satellite Name: INMARSAT 5F3   INMARSAT 5F3   179.6 E.L. If yo	u selected OTHER, please enter the following:
E21. Common Name:	E22. ITU Name:
E23. Orbit Location:	E24. Country:

Satellite Name: INMARSAT 5F2 | INMARSAT 5F2 | 55.0 W.L. If you selected OTHER, please enter the following:

E21. Common Name:	E22. ITU Name:
E23. Orbit Location:	E24. Country:
POINTS OF COMMUNICATION (Destination Points)	
E25. Site Identifier:	
E26. Common Name:	E27. Country:

### ANTENNA

Site ID	E28. Antenna Id	E29. Quantity	E30. Manufacturer	E31. Model	E32. Antenna Size <meters></meters>	E41/42. Antenna Gain Transmint and/or Recieve (dBi at GHz)
Aero 7	Aero 7	4000	Orbit	GX46	0.46	37.7 dBi at 19.7
Aero 7	Aero 7	4000	Orbit	GX46	0.46	37.9 dBi at 20.2
Aero 7	Aero 7	4000	Orbit	GX46	0.46	41.2 dBi at 30.0
Aero 7	Aero 7	4000	Orbit	GX46	0.46	42.1 dBi at 29.5
Aero 7	Aero 7	4000	Orbit	GX46	0.46	37.8 dBi at 19.95
Aero 7	Aero 7	4000	Orbit	GX46	0.46	41.7 dBi at 29.75

E28. Antenna Id	E33/34. Diameter Minor/Major (meters)	E35. Above Ground Level (meters)		bove Sea meters)	E37. Buil Height A Ground I (meters)	bove	E38. Total Input Powe antenna flar (Watts)		E39. Maximum Antenna Heig Above Roofto (meters)	ht EIRP for al
Aero 7	0.46/0.46	0.0	0.0		0.0		12.6		0.0	56.5
FREQUENCY			1		1		L		ł	•
E28. Antenna Id	E43/44. Frequency Ba (MHz)	nds E45. T/R M	lode	E46. Anto Polarizat L,R)		E47. E Design	mission ator		Maximum P per Carrier W)	E49. Maximum ERIP Density per Carrier (dBW/4kHz)
Aero 7	19700 20200	R		Left and I Circular	Right	32M0C	37W	0.0		0.0
Aero 7	29500 30000	Т		Left and I Circular	Right	460KG	7W	44.5		23.9
entirety.)	nodulation up	(If the complete of to 32 APSK	•		**	this bo	x, please go to	o the	end of the form	to view it in its

Aero 7	29500 30000	Т	Left and Right Circular	5M00G1W	7.0	-24.0		
E50. Modulation and Services (If the complete description does not appear in this box, please go to the end of the form to view it in its entirety.)								
Various modulation up to 32 APSK; Digital Data Link								
Aero 7	29500 30000	Т	Left and Right Circular	7M34G7W	56.5	23.9		
E50. Modulation and Services (If the complete description does not appear in this box, please go to the end of the form to view it in its entirety.)          Various modulation up to 32 APSK; Digital Data Link								

# FREQUENCY COORDINATION

E28. Antenna Id	E51. Satellite Orbit Type	Frequency	E54/55. Range of Satellite Arc Eastern/West ern Limit	Station Azimuth Angle	E57. Antenna Elevation Angle Eastern Limit	E58. Earth Station Azimuth Angle Western Limit	E59. Antenna Elevation Angle Western Limit	E60. Maximum EIRP Density toward the Horizon (dBW/4kHz)
Aero 7	Geostationary	29500 30000	0.0/360.0	0.0	5.0	0.0	5.0	-7.6

REMOTE CONTROL POINT LOCATION

E61. Call Sign	E66. Phone Number			
NOTE: Please enter the callsign of the contro callsign for which this application is being filed.				
E62. Street Address				
E63. City	E68. County		E67/68. State/Country	E64. Zip Code
			/	

#### 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.

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