

E960131 SES-STA-20161013-00838 IB2016002258  
Iridium Satellite LLC

Approved by OMB  
3060-0678

APPLICATION FOR EARTH STATION SPECIAL TEMPORARY AUTHORITY

APPLICANT INFORMATION Enter a description of this application to identify it on the main menu:  
Extension of LEOP STA E960131 Tempe

1. Applicant

<b>Name:</b>	Iridium Satellite LLC	<b>Phone Number:</b>	703-287-7518
<b>DBA Name:</b>		<b>Fax Number:</b>	
<b>Street:</b>	1750 Tysons Boulevard	<b>E-Mail:</b>	maureen.mclaughlin@iridium.com
	Suite 1400		
<b>City:</b>	McLean	<b>State:</b>	VA
<b>Country:</b>	USA	<b>Zipcode:</b>	22102 -
<b>Attention:</b>	Ms Maureen C McLaughlin		



File # SES-STA-20161013-00838

Call Sign E960131 Grant Date 12/05/14  
(or other identifier)

Term Dates

From: 12/5/14 To: 06/3/2017

Approved: [Signature]

Conditions: (1) NIB/NPB  
(2) Not prejudicial to future decisions.  
[Signature]

<b>2. Contact</b>	
<b>Name:</b> Joseph A. Godles Esq.	<b>Phone Number:</b> 202-429-4900
<b>Company:</b> Goldberg, Godles, Wiener & Wright LLP	<b>Fax Number:</b> 202-429-4912
<b>Street:</b> 1229 Nineteenth St. N.W.	<b>E-Mail:</b> jgodles@g2w2.com
<b>City:</b> Washington	<b>State:</b> DC
<b>Country:</b> USA	<b>Zipcode:</b> 20036
<b>Attention:</b>	<b>Relationship:</b> 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 SESSTA2016080400719 or Submission ID	
4a. Is a fee submitted with this application?	
<input checked="" type="radio"/> If Yes, complete and attach FCC Form 159. If No, indicate reason for fee exemption (see 47 C.F.R. Section 1.1114).	
<input type="radio"/> Governmental Entity <input type="radio"/> Noncommercial educational licensee	
<input type="radio"/> Other (please explain):	
4b. Fee Classification CGX – Fixed Satellite Transmit/Receive Earth Station	
5. Type Request	
<input type="radio"/> Use Prior to Grant <input type="radio"/> Change Station Location <input checked="" type="radio"/> Other	
6. Requested Use Prior Date	

7. City	Tempe	8. Latitude (dd mm ss.s h)	33	20	32.2
9. State	AZ	10. Longitude (dd mm ss.s h)	111	53	48.5
11. Please supply any need attachments.					
Attachment 1: STA extension		Attachment 2:		Attachment 3:	
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.)					
Iridium Satellite LLC ('Iridium') pursuant to 47 CFR ss 25.120, and for the reasons set forth herein, requests special temporary authority ('STA') to operate its gateway earth station E960131 in Tempe, AZ in the manner described during the launch and early operations phase ('LEOP') of the Iridium NEXT constellation of satellites.					
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 &quot;party to the application&quot;; for these purposes.					
Yes <input checked="" type="radio"/> No <input type="radio"/>					
14. Name of Person Signing		15. Title of Person Signing			
Maureen C. McLaughlin		Vice President, Public Policy			
<b>WILLFUL FALSE STATEMENTS MADE ON THIS FORM ARE PUNISHABLE BY FINE AND / OR IMPRISONMENT</b> (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).					

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## REQUEST FOR EXTENSION OF SPECIAL TEMPORARY AUTHORITY

Iridium Satellite LLC and Iridium Constellation LLC (collectively, "Iridium"), pursuant to Section 25.120 of the Commission's Rules, hereby request an extension of special temporary authority ("STA") to operate their gateway earth stations located in Tempe, Arizona; Chandler, Arizona; and Fairbanks, Alaska, in the manner identified below.<sup>1</sup> Iridium seeks an extension of 180 days commencing on October 16, 2016.

Iridium's request is supported by good cause. The Commission previously granted STAs, for a period of 30 days, for Iridium to operate its gateway earth stations in the manner proposed herein.<sup>2</sup> These STAs enable Iridium to satisfy system requirements for TT&C during the launch and early operation phase ("LEOP") of Iridium NEXT. TT&C transmissions are essential to the implementation, health and safety of Iridium's constellation. By granting Iridium's initial STA requests, the Commission already has determined that the operations proposed in this extension request are in the public interest. Grant of an extension will provide continuing authority for these operations.

Iridium is not able to provide a launch schedule for Iridium NEXT at this time. The launches have been delayed pending completion of an investigation into the explosion on the launch pad of a SpaceX Falcon 9 rocket on September 1, 2016. Iridium will provide updates to the Commission concerning its launch schedule as additional information becomes available to it.

The following operating parameters and non-interference showing were submitted with Iridium's initial STA requests and are repeated here for the convenience of the Commission:

Iridium's Tempe, Chandler, and Fairbanks gateway earth stations transmit and receive the feeder links and tracking, telemetry, and command ("TT&C") links for Iridium's non-geostationary satellite orbit, mobile satellite service constellation (call sign : S 2110).

The Iridium NEXT telecommand signals are transmitted on two carriers, a 29.102 GHz carrier and a 29.298 GHz carrier, using a bandwidth of 1 MHz and a 1M00F9D emission designator. Iridium seeks an STA extension authorizing it to transmit these

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<sup>1</sup> The call signs for these gateway earth stations are E050282, E060300, E960131, and E960244. The licensee of the first three call signs is Iridium Satellite LLC. The licensee of the fourth call sign is Iridium Constellation LLC. This exhibit accompanies separate STA requests that Iridium is filing for each call sign.

<sup>2</sup> Call sign E960244, SES-STA-20160804-00716; call sign E060300, SES-STA-20160804-00717; call sign E050282, SES-STA-20160804-00718; and call sign E960131, SES-STA-20160804-00719.

carriers at 69.1 dBW EIRP and a 69.1 dBW/MHz EIRP density with a transmitter power of 11.7 dBW.

Iridium also seeks an extension of authority to operate both Iridium NEXT uplink carriers from its gateway earth station in Chandler, Arizona. Iridium's license for Chandler includes the 29.1-29.25 GHz portion of Iridium's feeder link band that encompasses the 29.102 GHz Iridium NEXT TT&C frequency, but does not include the 29.25-29.3 GHz portion of Iridium's feeder link band that encompasses the 29.298 GHz Iridium NEXT TT&C frequency.

In addition, Iridium seeks an extension of authority to use its Tempe, Chandler, and Fairbanks gateway earth stations to receive 13 Iridium NEXT telemetry carriers spaced at 400 kHz with center frequencies from 19400.2 to 19405 MHz. The emission designator for these telemetry carriers is 200KF9D.

Operating in the manner requested in this filing, moreover, presents no concerns of interference to the LMDS stations, Fixed Service stations, and Fixed-Satellite Service stations that share Iridium's TT&C/feeder link band.

**LMDS stations.** Iridium shares the 29.1-29.25 GHz portion of its uplink TT&C/feeder link band with LMDS. Iridium has coordinated its proposed uplink operations with LMDS licensees; coordination reports prepared by Comsearch were attached to the initial STA requests.

**Fixed Service stations.** Iridium shares its 19.4-19.6 GHz downlink TT&C/feeder link band with the Fixed Service. Iridium has coordinated its proposed downlink operations with Fixed Service licensees. Coordination reports prepared by Comsearch concerning those operations were attached to the initial STA requests.<sup>3</sup>

**Geostationary Satellite Orbit ("GSO") Fixed-Satellite Service ("FSS") stations.** The 29.25-29.3 GHz band Iridium uses to uplink its feeder link and TT&C transmissions is shared on a co-primary basis with GSO FSS stations. Iridium's Tempe and Fairbanks gateway earth stations have been operating on these frequencies for years.<sup>4</sup>

In order to avoid interference to Iridium's satellites, GSO FSS earth stations operate in the 29.25-29.3 GHz band only in areas that are widely separated from Iridium's gateway earth stations. There are fixed separations in the case of

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<sup>3</sup> Please note that the coordinates shown for Iridium's gateway earth stations in the Comsearch reports all are based on NAD83. The coordinates shown in the FCC license for Iridium's Chandler gateway earth stations are based on NAD27, and Comsearch converted the coordinates to NAD83.

<sup>4</sup> Although Iridium's Chandler earth station has not been operating in the 29.25-29.3 GHz band, it is located only 8.5 km (*i.e.*, 5.3 miles) from Iridium's Tempe earth station, which has been operating in the 29.25-29.3 GHz band.

individually-licensed GSO FSS earth stations and exclusion zones around Iridium gateway earth stations in the case of blanket-licensed GSO FSS earth stations.

The separation distances required to avoid interference from GSO FSS earth stations to Iridium's satellites are far greater than the separation distances that are required to avoid interference from Iridium gateway earth stations to GSO FSS satellites. The locations at which GSO FSS stations transmit in the 29.25-29.3 GHz band, therefore, of necessity are locations that protect GSO FSS satellites against interference from Iridium gateway earth stations. In any event, the Iridium NEXT LEOP operations pursuant to the requested STA extensions will be on a secondary, unprotected, non-interference basis.

### **Conclusion**

Accordingly, and for good cause shown, Iridium respectfully asks that its requests for STA extension be granted.