UNITED STATES OF AMERICA
FEDERAL COMMUNICATIONS COMMISSION

RADIO STATION AUTHORIZATION

Name: Iridium Satellite LLC
Call Sign: E960132
Authorization Type: Modification of License
File Number: SES-MOD-20130416-00322
Non Common Carrier **Grant date:** 03/02/2016 **Expiration Date:** 11/01/2021

Nature of Service: Aeronautical Mobile-Satellite Service
Nature of Service: Mobile Satellite Service

Class of Station: Mobile Earth Station

A) Site Location(s)

#	Site ID	Address	Latitude	Longitude	Elevation (Meters)	NAD	Special Provisions (Refer to Section H)
1)	AMS(R)S	20,000 AMS(R)S terminals Operating aboard aircraft McLean, Fairfax, VA 22102				NA	
2)	LiveTV	50,000 (0.407 Mobile units) (LiveTV)				NA	
3)	METS	(200,000) Handheld Operating in the US&P			0	NA	
4)	OpenPort	50,000 (0.525 Mobile units)				NA	

Subject to the provisions of the Communications Act of 1934, The Communications Satellite Act of 1962, subsequent acts and treaties, and all present and future regulations made by this Commission, and further subject to the conditions and requirements set forth in this license, the grantee is authorized to construct, use and operate the radio facilities described below for radio communications for the term beginning November 1, 2006 (3 AM Eastern Standard Time) and ending November 1, 2021 (3 AM Eastern Standard Time) . The required date of completion of construction and commencement of operation is March 2, 2017 (3 AM Eastern Standard Time) . Grantee must file with the Commission a certification upon completion of construction and commencement of operation.

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B) Particulars of Operations

The General Provision 1010 applies to all receiving frequency bands.
The General Provision 1900 applies to all transmitting frequency bands.
For the text of these provisions, refer to Section H.

#	Frequency (MHz)	Polarization Code	Emission	Tx/Rx Mode	Max EIRP /Carrier (dBW)	Max EIRP Density /Carrier (dBW/4kHz)	Associated Antenna	Special Provisions (Refer to Section H)	Modulation/ Services
1)	1618.7250-1626.5000	R	41K7Q7W	Rx			AMS(R)S-1		Voice and Data; DQPSK
2)	1618.7250-1626.5000	R	41K7Q7W	Tx	9.00	-10.80	AMS(R)S-1	90266	Voice and Data; DQPSK
3)	1618.7250-1626.5000	R	41K7Q7W	Rx			AMS(R)S-2		Voice and Data; DQPSK
4)	1618.7250-1626.5000	R	41K7Q7W	Tx	8.00	-11.80	AMS(R)S-2	90266	Voice and Data; DQPSK
5)	1618.7250-1626.5000	R	41K7Q7W	Rx			AMS(R)S-3		Voice and Data; DQPSK
6)	1618.7250-1626.5000	R	41K7Q7W	Tx	9.00	-10.80	AMS(R)S-3	90266	Voice and Data; DQPSK
7)	1618.7250-1626.5000	R	41K7Q7W	Rx			AMS(R)S-4		Voice and Data; DQPSK
8)	1618.7250-1626.5000	R	41K7Q7W	Tx	9.00	-10.80	AMS(R)S-4	90266	Voice and Data; DQPSK
9)	1618.7250-1626.5000	R	41K7Q7W	Rx			AMS(R)S-5		Voice and Data; DQPSK
10)	1618.7250-1626.5000	R	41K7Q7W	Tx	6.00	-13.80	AMS(R)S-5	90266	Voice and Data; DQPSK
11)	1618.7250-1626.5000	R	41K7Q7W	Rx			AMS(R)S-6		Voice and Data; DQPSK
12)	1618.7250-1626.5000	R	41K7Q7W	Tx	9.00	-10.80	AMS(R)S-6	90266	Voice and Data; DQPSK
13)	1618.7250-1626.5000	R	41K7Q7W	Rx			AMS(R)S-7		Voice and Data; DQPSK
14)	1618.7250-1626.5000	R	41K7Q7W	Tx	9.00	-10.80	AMS(R)S-7	90266	Voice and Data; DQPSK
15)	1618.7250-1626.5000	R	41K7Q7W	Rx			AMS(R)S-8		Voice and Data; DQPSK
16)	1618.7250-1626.5000	R	41K7Q7W	Tx	8.50	-11.30	AMS(R)S-8	90266	Voice and Data; DQPSK
17)	1618.7250-1626.5000	R	41K7Q7W	Rx			AMS(R)S-9		Voice and Data; DQPSK
18)	1618.7250-1626.5000	R	41K7Q7W	Tx	8.50	-11.30	AMS(R)S-9	90266	Voice and Data; DQPSK
19)	1618.7250-1626.5000	R	41K7Q7W	Rx			Handheld		DQPSK
20)	1618.7250-1626.5000	R	41K7Q7W	Tx	11.95	3.99	Handheld	90263	DQPSK
21)	1618.7250-1626.5000	R	667KQ7W	Rx			LiveTV		FDMA/TDMA/TDD
22)	1618.7250-1626.5000	R	667KQ7W	Tx	6.40	-13.60	LiveTV	90265	FDMA/TDMA/TDD
23)	1618.7250-1626.5000	R	667KQ7W	Tx	9.40	-10.60	OpenPort	90264	FDMA/TDMA/TDD
24)	1618.7250-1618.7250	R	667KQ7W	Rx			OpenPort		FDMA/TDMA/TDD

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C) Frequency Coordination Limits

#	Frequency Limits (MHz)	Satellite Arc (Deg. Long.) East Limit	Satellite Arc (Deg. Long.) West Limit	Elevation (Degrees) East Limit	Elevation (Degrees) West Limit	Azimuth (Degrees) East Limit	Azimuth (Degrees) West Limit	Max EIRP Density toward Horizon (dBW/4kHz)	Associated Antenna(s)
1)	1618.7250-1626.5000	NGSO							Handheld
2)	1618.7250-1626.5000	NGSO							OpenPort
3)	1618.7250-1626.5000	NGSO							LiveTV
4)	1618.7250-1626.5000	NGSO							AMS(R)S-1
5)	1618.7250-1626.5000	NGSO							AMS(R)S-2
6)	1618.7250-1626.5000	NGSO							AMS(R)S-3
7)	1618.7250-1626.5000	NGSO							AMS(R)S-6
8)	1618.7250-1626.5000	NGSO							AMS(R)S-4
9)	1618.7250-1626.5000	NGSO							AMS(R)S-5
10)	1618.7250-1626.5000	NGSO							AMS(R)S-7
11)	1618.7250-1626.5000	NGSO							AMS(R)S-8
12)	1618.7250-1626.5000	NGSO							AMS(R)S-9

D) Points of Communications

The following stations located in the Satellite orbits consistent with Sections B and C of this Entry:

1) METS to IRIDIUM NGSO satellite system (S2110) (U.S.-licensed)
2) OpenPort to IRIDIUM NGSO satellite system (S2110) (U.S.-licensed)
3) LiveTV to IRIDIUM NGSO satellite system (S2110) (U.S.-licensed)
4) AMS(R)S to IRIDIUM NGSO satellite system (S2110) (U.S.-licensed)

E) Antenna Facilities

Site ID	Antenna ID	Units	Diameter (meters)	Manufacturer	Model number	Site Elevation (Meters)	Max Antenna Height (Meters)	Special Provisions (Refer to Section H)
AMS(R)S	AMS(R)S-1	20000		Aero Antenna	AT1621-23 Dual Patch			

Max Gains(s): 2.0 dBi @ 1.6210 GHz
Maximum total input power at antenna flange (Watts) = 5.16
Maximum aggregate output EIRP for all carriers (dBW) = 9.00

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E) Antenna Facilities

Site ID	Antenna ID	Units	Diameter (meters)	Manufacturer	Model number	Site Elevation (Meters)	Max Antenna Height (Meters)	Special Provisions (Refer to Section H)
AMS(R)S	AMS(R)S-2	1	0.089	Aero Antenna	AT2775-110 Single Pa			
	Max Gains(s): 1.0 dBi @ 1.6210 GHz							
	Maximum total input power at antenna flange (Watts) = 5.16							
	Maximum aggregate output EIRP for all carriers (dBW) = 8.00							
AMS(R)S	AMS(R)S-3	1	0.089	Sensor Systems	S67-1575-409 Single			
	Max Gains(s): 2.0 dBi @ 1.6210 GHz							
	Maximum total input power at antenna flange (Watts) = 5.16							
	Maximum aggregate output EIRP for all carriers (dBW) = 9.00							
AMS(R)S	AMS(R)S-4	1	0.21	Sensor Systems	S67-1575-365 Dual Pa			
	Max Gains(s): 2.0 dBi @ 1.6210 GHz							
	Maximum total input power at antenna flange (Watts) = 5.16							
	Maximum aggregate output EIRP for all carriers (dBW) = 9.00							
AMS(R)S	AMS(R)S-5	1	0.21	Sensor Systems	S67-1575-168 Single			
	Max Gains(s): -1.0 dBi @ 1.6210 GHz							
	Maximum total input power at antenna flange (Watts) = 5.16							
	Maximum aggregate output EIRP for all carriers (dBW) = 6.00							
AMS(R)S	AMS(R)S-6	1	0.21	Sensor Systems	S67-1575-160 Single			
	Max Gains(s): 2.0 dBi @ 1.6210 GHz							
	Maximum total input power at antenna flange (Watts) = 5.16							
	Maximum aggregate output EIRP for all carriers (dBW) = 9.00							
AMS(R)S	AMS(R)S-7	1	0.089	Cobham	Comant CI 490-1 Sing			
	Max Gains(s): 2.0 dBi @ 1.6210 GHz							
	Maximum total input power at antenna flange (Watts) = 5.16							
	Maximum aggregate output EIRP for all carriers (dBW) = 9.00							

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E) Antenna Facilities

Site ID	Antenna ID	Units	Diameter (meters)	Manufacturer	Model number	Site Elevation (Meters)	Max Antenna Height (Meters)	Special Provisions (Refer to Section H)
AMS(R)S	AMS(R)S-8	1	0.001	Antcom	S4IR16RR-P-XX-X Sing			
	Max Gains(s):	1.5 dBi @	1.6210 GHz					
	Maximum total input power at antenna flange (Watts) =				5.16			
	Maximum aggregate output EIRP for all carriers (dBW) =				8.50			
AMS(R)S	AMS(R)S-9	1	0.102	Antcom	S5GIR121RR-AP-XI Si			
	Max Gains(s):	1.5 dBi @	1.6210 GHz					
	Maximum total input power at antenna flange (Watts) =				5.16			
	Maximum aggregate output EIRP for all carriers (dBW) =				8.50			
METS	Handheld	200000	0	MOTOROLA (200,000)	TIME DOMAIN DUPLEX	0	0 AGL/ 0 AMSL	
	Max Gains(s):	3.5 dBi @	1.6210 GHz					
	Maximum total input power at antenna flange (Watts) =				7.00			
	Maximum aggregate output EIRP for all carriers (dBW) =				11.95			
LiveTV	LiveTV	50000	0.407	LiveTV	LV16-100301-101			
	Max Gains(s):	7.7 dBi @	1.6210 GHz					
	Maximum total input power at antenna flange (Watts) =				.74			
	Maximum aggregate output EIRP for all carriers (dBW) =				6.40			
OpenPort	OpenPort	50000	0.525	CELESTICA	AT7521-2-A			
	Max Gains(s):	10.7 dBi @	1.6210 GHz					
	Maximum total input power at antenna flange (Watts) =				.74			
	Maximum aggregate output EIRP for all carriers (dBW) =				9.40			

F) Remote Control Point:

AMS(R)S 8440 South River Parkway **Call Sign:**
Tempe, Maricopa, AZ 85284
1-480-752-5111

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F) Remote Control Point:

LiveTV	8440 South River Parkway Tempe, Maricopa, AZ 85284 (240) 515-0148	**Call Sign:**
METS	8440 South River Parkway Tempe, Maricopa, AZ 85284 (240) 515-0148	**Call Sign:**
OpenPort	8440 South River Parkway Tempe, Maricopa, AZ 85284 (240) 515-0148	**Call Sign:** E960131

G) Antenna Structure marking and lighting requirements:

None unless otherwise specified under Special and General Provisions

H) Special and General Provisions

A) This RADIO STATION AUTHORIZATION is granted subject to the following special provisions and general conditions:

1010 --- Applicable to all receiving frequency bands. Emission designator indicates the maximum bandwidth of received signal at associated station(s). Maximum EIRP and maximum EIRP density are not applicable to receive operations.

1900 --- Applicable to all transmitting frequency bands. Authority is granted to transmit any number of RF carriers with the specified parameters on any discrete frequencies within associated band in accordance with the other terms and conditions of this authorization, subject to any additional limitations that may be required to avoid unacceptable levels of inter-satellite interference.

2916 --- Transmitter(s) must be turned off during antenna maintenance to ensure compliance with the FCC-specified safety guidelines for human exposure to radiofrequency radiation in the region between the antenna feed and the reflector. Appropriate measures must also be taken to restrict access to other regions in which the earth station's power flux density levels exceed the specified guidelines.

3219 --- All existing transmitting facilities, operations and devices regulated by the Commission must be in compliance with the Commission's radiofrequency (RF) exposure guidelines, pursuant to Section 1.1307(b)(1) through (b)(3) of the Commission's rules, or if not in compliance, file an Environmental Assessment (EA) as specified in Section 1.1311. See 47 CFR § 1.1307 (b) (5).

90145 --- The licensee must commence operations and notify the Commission within twelve months of the date of grant of this authorization. See 47 C.F.R. § 25.133(a)(2).

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H) Special and General Provisions

A) This RADIO STATION AUTHORIZATION is granted subject to the following special provisions and general conditions:

90263 --- The Max EIRP/Carrier for Antenna ID "Handheld" reflects the sum of the maximum flange power and the antenna gain. The Handheld Max EIRP Density/Carrier reflects the Max EIRP/Carrier (11.95 dBW) divided by the occupied bandwidth of 25kHz normalized to a 4kHz bandwidth.

90264 --- The Max EIRP/Carrier for Antenna ID "OpenPort" reflects the sum of the maximum flange power adjusted for the transmitted duty cycle and the antenna gain. The OpenPort Max EIRP Density/Carrier reflects the maximum EIRP (9.4 dBW) divided by 16 times the occupied subcarrier bandwidth of 25kHz, which each equals 400 kHz, normalized to a 4kHz bandwidth.

90265 --- The Max EIRP/Carrier for Antenna ID "LiveTV " reflects the sum of the maximum flange power adjusted for the transmitted duty cycle and the antenna gain. The Live TV Max EIRP Density/Carrier reflects the maximum EIRP (6.4 dBW) divided by carrier bandwidth of 25kHz normalized to a 4kHz segment.

90266 --- The Max EIRP/Carrier for Antenna ID "AMS(R)S-X" reflects the sum of the maximum flange power adjusted for the transmitted duty cycle and the antenna gain. The AMS(R)S Max EIRP Density/Carrier reflects the maximum EIRP (dBW) divided by occupied bandwidth of 35kHz normalized to a 4kHz.

90267 --- Operations are subject to ITU Radio Regulations 5.364, 5.365, 5.366, 5.367, and 5.368.

90268 --- Site ID AMS(R)S authorizes both AMSS and AMS(R)S operations. AMSR(S) operations are limited to remote, oceanic, and polar regions

90294 --- Operations shall comply with Section 25.213 of the Commission rules, 47 C.F.R. § 25.213.

90299 --- 20,000 AMS(R)S terminals are authorized for operation aboard U.S commercial aircraft, wherever located, and aboard non-U.S. commercial aircraft located in U.S. and over adjacent waters.

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B) This RADIO STATION AUTHORIZATION is granted subject to the additional conditions specified below:

This authorization is issued on the grantee's representation that the statements contained in the application are true and that the undertakings described will be carried out in good faith.

This authorization shall not be construed in any manner as a finding by the Commission on the question of marking or lighting of the antenna system should future conditions require. The grantee expressly agrees to install such marking or lighting as the Commission may require under the provisions of Section 303(q) of the Communications Act. 47 U.S.C. § 303(q).

Neither this authorization nor the right granted by this authorization shall be assigned or otherwise transferred to any person, firm, company or corporation without the written consent of the Commission. This authorization is subject to the right of use or control by the government of the United States conferred by Section 706 of the Communications Act. 47 U.S.C. § 706. Operation of this station is governed by Part 25 of the Commission's Rules. 47 C.F.R. Part 25.

This authorization shall not vest in the licensee any right to operate this station nor any right in the use of the designated frequencies beyond the term of this license, nor in any other manner than authorized herein.

This authorization is issued on the grantee's representation that the station is in compliance with environmental requirements set forth in Section 1.1307 of the Commission's Rules. 47 C.F.R. § 1.1307.

This authorization is issued on the grantee's representation that the station is in compliance with the Federal Aviation Administration (FAA) requirements as set forth in Section 17.4 of the Commission's Rules. 47 C.F.R.§ 17.4.

The following condition applies when this authorization permits construction of or modifies the construction permit of a radio station.

This authorization shall be automatically forfeited if the station is not ready for operation by the required date of completion of construction unless an application for modification of authorization to request additional time to complete construction is filed by that date, together with a showing that failure to complete construction by the required date was due to factors not under control of the grantee.

Licensees are required to pay annual regulatory fees related to this authorization. The requirement to collect annual regulatory fees from regulatees is contained in Public Law 103-66, "The Omnibus Budget Reconciliation Act of 1993." These regulatory fees, which are likely to change each fiscal year, are used to offset costs associated with the Commission's enforcement, public service, international and policy and rulemaking activities. The Commission issues a Report and Order each year, setting the new regulatory fee rates. Receive only earth stations are exempt from payment of regulatory fees.