



**UNITED STATES OF AMERICA
FEDERAL COMMUNICATIONS COMMISSION
RADIO STATION AUTHORIZATION**

Name: Higher Ground LLC
 Authorization Type: License
 Non Common Carrier

Call Sign: E150095
 File Number: SES-LIC-20150616-00357
 Grant date: 01/18/2017 Expiration Date: 01/18/2032

Nature of Service: Domestic Mobile-Satellite Service
 Nature of Service: Fixed Satellite Service

Class of Station: Blanket Earth Stations

A) Site Location(s)

#	Site ID	Address	Latitude	Longitude	Elevation (Meters)	Special Provisions NAD (Refer to Section H)
1)	SATPAQ	AK, HI, PR, VI, (0.07M.) REMOTE CONUS, US,				NA

Licensee certifies antenna(s) do not comply with Section 25.209. Please refer to Section E for special conditions placed upon antennas at this site.

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 January 18, 2017 (3 AM Eastern Standard Time) and ending January 18, 2032 (3 AM Eastern Standard Time). The required date of completion of construction and commencement of operation is January 18, 2018 (3 AM Eastern Standard Time). Grantee must file with the Commission a certification upon completion of construction and commencement of operation.

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)	5925.0000-6425.0000	H,V	4M00G1D	Tx	9.00	-21.00	REMOTE		TDMA, Spread Spectrum
2)	5925.0000-6425.0000	H,V	8M00G1D	Tx	9.00	-24.00	REMOTE		TDMA, Spread Spectrum
3)	3700.0000-4200.0000	H,V	250KG1D	Rx			REMOTE		TDMA, Spread Spectrum
4)	3700.0000-4200.0000	H,V	250KG1D	Rx			REMOTE		TDMA, Spread Spectrum





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C) Frequency Coordination Limits

#	Frequency Limits (MHz)	Satellite Arc (Deg. Long.)		Elevation (Degrees)		Azimuth (Degrees)		Max EIRP Density toward Horizon (dBW/4kHz)	Associated Antenna(s)
		East Limit	West Limit	East Limit	West Limit	East Limit	West Limit		
1)	5925.0000-6425.0000	60.0W	143.0W	15.0	15.0	000.0	360.0	-21	REMOTE
2)	3700.0000-4200.0000	60.0W	143.0W	15.0	15.0	000.0	360.0		REMOTE

D) Points of Communications

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

- 1) SATPAQ to GALAXY 12 (S2422) @ 129 W.L. (U.S.-licensed satellite)
- 2) SATPAQ to GALAXY 3C (S2381) @ 95.05 W.L. (U.S.-licensed)
- 3) SATPAQ to GALAXY 19 (S2647) @ 97 W.L.(U.S.-licensed satellite)

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)
SATPAQ	REMOTE	50000	0.07	Higher Ground LLC	SatPaq		3 AGL	
Max Gains(s):		9.0 dBi @ 5.9500 GHz						
Maximum total input power at antenna flange (Watts) =					1.00			
Maximum aggregate output EIRP for all carriers (dBW) =					9.00			

F) Remote Control Point:

SATPAQ	961 Anselmo Court Napa, Napa, CA 94588 (707) 251-1100	Call Sign: E970391
SATPAQ	17625 Technology Blvd. Hagerstown, Washington, MD 21740 (240) 420-8990	Call Sign: E050048



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F) Remote Control Point:

SATPAQ 17625 Technology Blvd.
Hagerstown, Washington, MD 21740
(240) 420-8990

Call Sign: E050049

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:

- 2300 --- Authority is granted to operate this station by remote control provided that: (1) the parameters of the transmissions of this station monitored at the remote control point, and the operational functions sufficient to ensure that the operations of this station are in full compliance with the station authorization at all times; (2) upon detection by the grantee, or upon notification from the Commission, of a deviation of the operation of this station, transmissions shall be immediately suspended until the deviation is corrected, except that transmissions concerning the immediate safety of life or property may be conducted for the duration of such emergency; and (3) the grantee shall have available, at all times, the technical personnel necessary to perform the technical servicing and maintenance of this station expeditiously. See also Public Notice "The International Bureau Provides Guidance Concerning the Relocation of Earth Station Remote Control Points", DA 06-978 (rel. May 4, 2006).
- 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).
- 5208 --- The licensee shall take all necessary measures to ensure that the antenna does not create potential exposure of humans to radiofrequency radiation in excess of the FCC exposure limits defined in 47 CFR 1.1307(b) and 1.1310 wherever such exposures might occur. Measures must be taken to ensure compliance with limits for both occupational/controlled exposure and for general population/uncontrolled exposure, as defined in these rule sections. Compliance can be accomplished in most cases by appropriate restrictions, such as fencing. Requirements for restrictions can be determined by predictions based on calculations, modeling, or by field measurements. The FCC's OET Bulletin 65 (available on-line at www.fcc.gov/oet/rfsafety) provides information on predicting exposure levels and on methods for ensuring compliance, including the use of warning and alerting signs and protective equipment for workers.



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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:

90375 --- In accordance with FCC Order and Authorization DA 17-80 Higher Ground is granted a blanket license to operate up to 50,000 SatPaq terminals communicating with the Galaxy 3-C (Call Sign S2381) at 95.05° W.L., Galaxy 12 (Call Sign S2422) at 129.0° W.L., and Galaxy 19 (Call Sign S2647) at 97.0° W.L. subject to the following parameters for emissions in the Earth-to-space direction:

Emission: 8M00G1D
Max EIRP/Carrier: 9 dBW
Max EIRP Density/Carrier: -24 dBW/4 kHz
No more than 100 SatPaq terminals may transmit concurrently within any 8 MHz band, consistent with 47 CFR § 25.218(d).

Emission: 4M00G1D
Max EIRP/Carrier: 9 dBW
Max EIRP Density/Carrier: -21 dBW/4 kHz
No more than 50 SatPaq terminals may transmit concurrently within any 4 MHz band, consistent with 47 CFR § 25.218(d).

90376 --- Higher Ground may only deploy a maximum of 5,000 new SatPaq terminals each quarter during the first year following authorization. Thereafter, Higher Ground may deploy additional terminals up to the 50,000 total authorized number, but is required to notify the Commission when it has deployed: (1) 30,000 terminals, (2) 40,000 terminals, and (3) 50,000 terminals.

90377 --- Higher Ground operations must not cause harmful interference to any current or future authorized station operating in compliance with the Table of Frequency Allocations in the 3700-4200 MHz (space-to-Earth) and 5925-6425 MHz band (Earth-to-space) bands (see 47 CFR § 2.106), and must accept interference caused by current and future authorized stations in these bands. Higher Ground must immediately cease operation of its SatPaq terminals upon notification of such harmful interference from its operations.

90378 --- Higher Ground must maintain a 24/7 point-of-contact with capability to remotely control and shut down SatPaq terminal operations, and remedy any interference problems or terminate operations. The Commission may suspend or terminate deployment authority at any time if it finds that the Higher Ground system causes unresolved harmful interference to protected users of the band.

90379 --- Higher Ground must respond promptly to requests for information, coordination and interference resolution by the Commission and other authorized operators in these bands, and must cooperate in good faith with efforts to identify and resolve interference.

90380 --- Higher Ground's automated coordination system must log the date, time, location, frequency, and satellite point of communication of each SatPaq terminal transmission. This log of each transmission must be maintained for a period of not less than one year. Higher Ground must make this coordination data available to any FS operator, FSS operator, or the Commission, upon request.

90381 --- Higher Ground SatPaq terminals must request reauthorization from the automated coordination system upon a change in coordinates of more than 1 second in latitude or longitude.



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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:

- 90382 --- Higher Ground must maintain a log recording all incidents of alleged harmful radio interference. The log must document the nature of each incident, the parties involved, and the outcome. The log must be maintained for a five year period after each incident, and must be made available to the Commission upon request.
- 90383 --- Higher Ground must submit to the Commission an annual report indicating the number of SatPaq terminals actually brought into service under its blanket licensing authority. The first of these reports is due one year after the date of grant and these reports are required upon deployment of 30,000, 40,000 and 50,000 SatPaqs, or annually until the 50,000 authorized SatPaqs have been deployed.
- 90384 --- Higher Ground must continue to update daily its Channel Master database of C-band FS operations, including the database embedded in the SatPaq terminals, from the Commission's Universal Licensing System (ULS) database. In the event of an outage of the ULS database, Higher Ground must update its database promptly once the ULS database is back on-line. If Higher Ground's Channel Master database is not updated accordingly, the devices may not transmit except on the non-interfering hailing frequency.
- 90385 --- Higher Ground must promptly report to the Commission any changes in its Channel Master automated coordination system software algorithm or assumptions that impact the interference threshold or calculated interference level to FS systems.
- 90386 --- Higher Ground's automated coordination methods must adapt to any changes in configuration to the Commission's current ULS database or any future applicable database adopted by the Commission. Higher Ground's automated coordination methods must also comply with any applicable future automated coordination system best practices and any applicable rules adopted by the Commission.



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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.

