



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

Name: Kongsberg Satellite Services AS

Call Sign: E120025

Authorization Type: Modification of License

File Number: SES-MOD-20170621-00669

Non Common Carrier

Grant date: 08/09/2017

Expiration Date: 12/06/2027



Nature of Service: Earth Exploration Satellite Service

Class of Station: Fixed Earth Stations

A) Site Location(s)

#	Site ID	Address	Latitude	Longitude	Elevation (Meters)	Special Provisions NAD (Refer to Section H)
1)	RGS-FB-1	GCI Communications Corp. 1300 Van Horn Road Fairbanks, Fairbanks North Star, AK 99701	64°48'47.4"N	147°44'0.2"W	134	83 9025 9026 9027 9028
2)	RGS-FB-2	c/o GCI Communications Corp. 1300 Van Horn Road Fairbanks, Fairbanks North Star, AK 99701 Licensee certifies antenna(s) comply with gain patterns specified in Section 25.209	64°48'47.4"N	147°44'0.2"W	134	83

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 December 6, 2012 (3 AM Eastern Standard Time) and ending December 6, 2027 (3 AM Eastern Standard Time) . The required date of completion of construction and commencement of operation is August 9, 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)	8379.8720-8380.1280	H,V	256KG1D	Rx	0.00	0.00	ES 1		Digital/Telemetry
2)	8374.8720-8375.1280	H,V	256KG1D	Rx	0.00	0.00	ES 1		Digital/Telemetry
3)	8374.7440-8375.2560	R	512KF1D	Rx			ES 1		BPSK TELEMETRY
4)	8295.0000-8355.0000	H,V	60M0G1D	Rx	0.00	0.00	ES 1		Digital/Data Downlink
5)	8170.0000-8230.0000	H,V	60M0G1D	Rx	0.00	0.00	ES 1		Digital/Data Downlink



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6)	8045.0000-8105.0000	H,V	60M0G1D	Rx	0.00	0.00	ES 1		Digital/Data Downlink
7)	2082.8970-2083.1030	H,V	110KF1D	Tx	42.50	24.80	ES 1		Digital/Telecommand
8)	2080.8970-2081.1030	H,V	110KF1D	Tx	42.50	24.80	ES 1		Digital/Telecommand
9)	8379.7440-8380.2560	R	512KF1D	Rx			ES 2		BPSK TELEMETRY
10)	8295.0000-8355.0000	R	60M0G1D	Rx			ES 2		MPSK DATA DOWNLINK
11)	8170.0000-8230.0000	R	60M0G1D	Rx			ES 2		MPSK DATA DOWNLINK
12)	8045.0000-8105.0000	R	60M0G1D	Rx			ES 2		MPSK DATA DOWNLINK
13)	2082.9380-2081.0620	R	124KF1D	Tx	42.50	27.60	ES 2		FSK TELECOMMAND

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)	2082.8970-2083.1030		NGSO	05.0	05.0	000.0	360.0	9.8	ES 1
2)	8045.0000-8105.0000		NGSO	00.0	00.0	000.0	360.0	0	ES 1
3)	8170.0000-8230.0000		NGSO	00.0	00.0	000.0	360.0	0	ES 1
4)	8295.0000-8355.0000		NGSO	00.0	00.0	000.0	360.0	0	ES 1
5)	8374.8720-8375.1280		NGSO	00.0	00.0	000.0	360.0	0	ES 1
6)	8379.8720-8380.1280		NGSO	00.0	00.0	000.0	360.0	0	ES 1
7)	2080.8970-2081.1030		NGSO	05.0	05.0	000.0	360.0	9.8	ES 1
8)	2082.9380-2083.0620		NGSO	05.0	05.0	000.0	360.0	6.7	ES 2
9)	2082.9380-2081.0620		NGSO	05.0	05.0	000.0	360.0	6.7	ES 2

D) Points of Communications

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

- 1) RGS-FB-I to SKYSAT (S2862) Non-Geo (U.S.-licensed satellite)
- 2) RGS-FB-I to SKYSAT (S2862) Non-Geo (U.S.-licensed satellite)



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D) Points of Communications

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

- 3) RGS-FB-2 to SKYSAT (S2862) Non-Geo (U.S.-licensed satellite)
- 4) RGS-FB-2 to SKYSAT (S2862) Non-Geo (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)
RGS-FB-1	ES 1	1	2.4	ORBITAL SYSTEMS LLC	2.4TSX1	134	4.88 AGL/ 138.88 AMSL	
Max Gains(s):		43.5 dBi @	8.2000 GHz	32.0 dBi @	2.1000 GHz			
Maximum total input power at antenna flange (Watts) =					15.80			
Maximum aggregate output EIRP for all carriers (dBW) =					42.50			
RGS-FB-2	ES 2	1	2.4	ORBITAL SYSTEMS LLC	2.4TSX1	134	4.88 AGL/ 138.88 AMSL	
Max Gains(s):		43.5 dBi @	8.2000 GHz	32.0 dBi @	2.1000 GHz			
Maximum total input power at antenna flange (Watts) =					15.80			
Maximum aggregate output EIRP for all carriers (dBW) =					42.50			

F) Remote Control Point:

RGS-FB-1 PRESTVANNVEIEN Call Sign: TNOC
 TROMSO, TROMSO, 9011
 +47 77 60 02 68

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:

- 4 --- Licensee must ensure that a current listing of the name, title, mailing address, email address, and telephone number of the responsible point of contact are on file at the FCC. Any changes must be filed electronically in the International Bureau Filing System (IBFS) in the "Other Filings" tab within 10 days of the change.



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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:

5 --- Licensee must notify the Commission when an earth station is no longer operational or when it has not been used to provide any service during any 6-month operation.

6 --- Licensee must comply with the license modification and notification requirements of 47 CFR § 25.118 to change the coordinates of its authorized earth station.

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).

9025 --- Earth Station may only operate with satellites in compliance with the 47 C.F.R. Table of Allocations Footnote US90, " In the band 2025-2110 MHz, the power flux-density at the Earth's surface produced by emissions from a space station in the space operation, Earth exploration-satellite, or space research service that is transmitting in the space-to-space direction, for all conditions and all methods of modulation, shall not exceed the following values in any 4 kHz sub-band:
(a) -154 dBW/m² for angles of arrival above the horizontal plane (Sigma) of 0° to 5°,
(b) -154 + 0.5(Sigma-5) dBW/m² for Sigma of 5° to 25°, and
(c) -144 dBW/m² for Sigma of 25° to 90°."

9026 --- Earth Station may only operate in compliance with the 47 C.F.R. Section 2.106, Table of Allocations Footnote US347, " US347 In the band 2025-2110 MHz, non-Federal Earth-to-space and space-to-space transmissions may be authorized in the space research and Earth exploration-satellite services subject to such conditions as may be applied on a case-by-case basis. Such transmissions shall not cause harmful interference to Federal and non-Federal stations operating in accordance with the Table of Frequency Allocations."

9027 --- This authorization is in compliance with 47 C.F.R Table of Allocations Footnote US258, "US258 In the bands 8025-8400 MHz and 25.5-27 GHz, the Earth exploration-satellite service (space-to-Earth) is allocated on a primary basis for non-Federal use. Authorizations are subject to a case-by-case electromagnetic compatibility analysis."

9028 --- Operations in the 8025-8400 MHz frequency band are not protected from current and future Federal terrestrial and earth station transmitters.

90397 --- Telemetry, tracking and command (TT&C) operations identified in part B, Particulars of Operation in this authorization may be transmitted within the assigned bands that are not at a band edge only if the transmissions cause no greater interference and require no greater protection from harmful interference than the communications traffic on the satellite network or have been coordinated with operators of authorized co-frequency space stations at orbital locations within six degrees of the assigned orbital location. Frequencies, polarization, and coding of telemetry, tracking, and command transmissions must be selected to minimize interference into other satellite networks.



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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:

- 90398 --- Changes to previously authorized transmitting facilities, operations and devices regulated by the Commission that may have significant environmental impact, and are not excluded by §1.1306, require the preparation of an Environmental Assessment (EA) by the licensee. (See 47 C.F.R. §§1.1307, 1.1308 and 1.1311)
- 90399 --- The licensee shall, at all times, take all necessary measures to ensure that operation of this (these) authorized earth station(s) 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. Physical 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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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.

