



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

Name: Vyvx, LLC

Call Sign: E950202

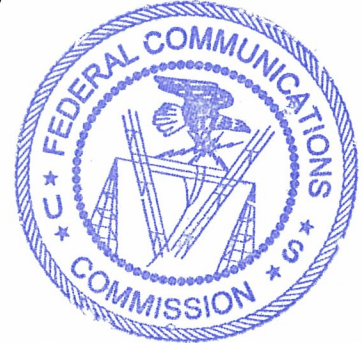
Authorization Type: Modification of License

File Number: SES-MFS-20180102-00001

Common Carrier

Grant date: 10/01/2018

Expiration Date: 09/29/2020



Nature of Service: Domestic Fixed Satellite Service
Nature of Service: Fixed Satellite Service
Nature of Service: International Fixed 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) | 1 | 20021 Santa Rose Mine Road PERRIS, RIVERSIDE, CA 92570 | 33°45'29.4"N | 117°18'53.9"W | 612.65 | 83 |

Licensee certifies antenna(s) comply with gain patterns specified in Section 25.209

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 September 29, 2005 (3 AM Eastern Standard Time) and ending September 29, 2020 (3 AM Eastern Standard Time) . The required date of completion of construction and commencement of operation is October 1, 2019 (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) | 14000.0000-14500.0000 | H,V | 2M05G1D | Tx | 64.80 | 37.70 | 1 | | DIGITAL DATA SCPC |
| 2) | 14000.0000-14500.0000 | H,V | 1M54G1D | Tx | 63.10 | 37.20 | 1 | | T1 DIGITAL DATA SCPC |
| 3) | 14000.0000-14500.0000 | H,V | 8M00G1D | Tx | 70.70 | 37.70 | 1 | | HIGH SPEED DATA SCPC |
| 4) | 14000.0000-14500.0000 | H,V | 36M0G1D | Tx | 76.90 | 37.40 | 1 | | DS3 DIGITAL DATA CARRIER |
| 5) | 14000.0000-14500.0000 | H,V | 128KG1D | Tx | 52.50 | 37.20 | 1 | | LOW RATE DIGITAL DATA SCPC |
| 6) | 14000.0000-14500.0000 | H,V | 36M0F8F | Tx | 76.90 | 49.90 | 1 | | ANALOG TELEVISION AND ASSOCIATED AUDIO |
| 7) | 11700.0000-12200.0000 | H,V | 2M05G1D | Rx | | | 1 | | DIGITAL DATA SCPC |



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| # | 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 |
|-----|-----------------------|-------------------|----------|------------|-------------------------|--------------------------------------|--------------------|---|---|
| 8) | 11700.0000-12200.0000 | H,V | 1M54G1D | Rx | | | 1 | | T1 DIGITAL DATA SCPC |
| 9) | 11700.0000-12200.0000 | H,V | 8M00G1D | Rx | | | 1 | | HIGH SPEED DATA SCPC |
| 10) | 11700.0000-12200.0000 | H,V | 36M0G1D | Rx | | | 1 | | DS3 DIGITAL DATA CARRIER |
| 11) | 11700.0000-12200.0000 | H,V | 128KG1D | Rx | | | 1 | | LOW RATE DIGITAL DATA SCPC |
| 12) | 11700.0000-12200.0000 | H,V | 36M0F8F | Rx | | | 1 | | ANALOG TELEVISION AND ASSOCIATED AUDIO |
| 13) | 14000.0000-14500.0000 | H,V | 2M05G1D | Tx | 64.80 | 37.60 | 2 | | DIGITAL DATA SCPC |
| 14) | 14000.0000-14500.0000 | H,V | 1M54G1D | Tx | 63.10 | 37.20 | 2 | | T1 DIGITAL DATA SCPC |
| 15) | 14000.0000-14500.0000 | H,V | 8M00G7D | Tx | 70.70 | 37.40 | 2 | | DIGITAL DATA CARRIER |
| 16) | 14000.0000-14500.0000 | H,V | 36M0G1D | Tx | 76.90 | 37.40 | 2 | | DS3 DIGITAL DATA CARRIER |
| 17) | 14000.0000-14500.0000 | H,V | 128KG1D | Tx | 52.50 | 37.20 | 2 | | LOW RATE DIGITAL DATA SCPC |
| 18) | 14000.0000-14500.0000 | H,V | 36M0F8F | Tx | 76.90 | 49.90 | 2 | | ANALOG TELEVISION AND ASSOCIATED AUDIO |
| 19) | 14000.0000-14500.0000 | H,V | 36M0G1F | Tx | 76.90 | 37.40 | 2 | | Digital TELEVISION AND ASSOCIATED AUDIO |
| 20) | 14000.0000-14500.0000 | H,V | 8M00G7F | Tx | 70.70 | 37.70 | 2 | | Digital TELEVISION AND ASSOCIATED AUDIO |
| 21) | 13750.0000-14500.0000 | H,V | 8M00G1D | Tx | 70.70 | 37.70 | 2 | | HIGH SPEED DATA SCPC via Nahuel C |
| 22) | 13750.0000-14500.0000 | H,V | 36M0G1D | Tx | 76.90 | 37.40 | 2 | | DS3 DIGITAL DATA CARRIER via Nahuel C |
| 23) | 13750.0000-14500.0000 | H,V | 36M0F8F | Tx | 76.90 | 49.90 | 2 | | ANALOG TELEVISION AND ASSOCIATED AUDIO via Nahuel C |
| 24) | 13750.0000-14000.0000 | H,V | 2M05G1D | Tx | 68.00 | 40.90 | 2 | | DIGITAL DATA SCPC via Nahuel C |
| 25) | 13750.0000-14000.0000 | H,V | 1M54G1D | Tx | 68.00 | 42.15 | 2 | | T1 DIGITAL DATA SCPC via Nahuel C |
| 26) | 13750.0000-14000.0000 | H,V | 128KG1D | Tx | 68.00 | 52.95 | 2 | | LOW RATE DIGITAL DATA SCPC via Nahuel C |



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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 |
|-----|-----------------------|-------------------|----------|------------|-------------------------|--------------------------------------|--------------------|---|--|
| 27) | 11700.0000-12200.0000 | H,V | 8M00G1D | Rx | | | 2 | | HIGH SPEED DATA SCPC |
| 28) | 11700.0000-12200.0000 | H,V | 36M0G1D | Rx | | | 2 | | DS3 DIGITAL DATA CARRIER |
| 29) | 11700.0000-12200.0000 | H,V | 2M05G1D | Rx | 0.00 | 0.00 | 2 | | DIGITAL DATA SCPC |
| 30) | 11700.0000-12200.0000 | H,V | 1M54G1D | Rx | 0.00 | 0.00 | 2 | | T1 DIGITAL DATA SCPC |
| 31) | 11700.0000-12200.0000 | H,V | 128KG1D | Rx | 0.00 | 0.00 | 2 | | LOW RATE DIGITAL DATA SCPC |
| 32) | 11700.0000-12200.0000 | H,V | 36M0F8F | Rx | | | 2 | | ANALOG TELEVISION AND ASSOCIATED AUDIO |
| 33) | 11450.0000-11700.0000 | H,V | 36M0G1D | Rx | | | 2 | | DS3 DIGITAL DATA via Nahuel C |
| 34) | 11450.0000-11700.0000 | H,V | 8M00G1D | Rx | | | 2 | | HIGH SPEED DATA SCPC via Nahuel C |
| 35) | 11450.0000-11700.0000 | H,V | 2M05G1D | Rx | 0.00 | 0.00 | 2 | | DIGITAL DATA SCPC via Nahuel C |
| 36) | 11450.0000-11700.0000 | H,V | 128KG1D | Rx | | | 2 | | LOW RATE DIGITAL DATA SCPC via Nahuel C |
| 37) | 11450.0000-11700.0000 | H,V | 1M54G1D | Rx | 0.00 | 0.00 | 2 | | T1 DIGITAL DATA SCPC via Nahuel C |
| 38) | 11450.0000-11700.0000 | H,V | 36M0F8F | Rx | | | 2 | | ANALOG TELEVISION AND ASSOCIATED AUDIO via Nahuel C |
| 39) | 14126.9260-14126.9260 | H,V | 20M0G7W | Tx | 82.70 | 45.70 | 8.1 | | Digital, QPSK, Various FEC, Various Data Rates, Various Info |
| 40) | 14126.9260-14126.9260 | H,V | 36M0G7W | Tx | 85.20 | 45.70 | 8.1 | | Digital, QPSK, Various FEC, Various Data Rates, Various Info |
| 41) | 11076.9260-11076.9260 | H,V | 20M0G7W | Rx | | | 8.1 | | Digital, QPSK, Various FEC, Various Data Rates, Various Info |
| 42) | 11076.9260-11076.9260 | H,V | 36M0G7W | Rx | | | 8.1 | | Digital, QPSK, Various FEC, Various Data Rates, Various Info |



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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) | 14000.0000-14500.0000 | 60.0W | 143.0W | 18.4 | 42.1 | 109.6 | 220.9 | -9.74 | 1 |
| 2) | 11700.0000-12200.0000 | 60.0W | 143.0W | 18.4 | 42.1 | 109.6 | 220.9 | | 1 |
| 3) | 13750.0000-14500.0000 | 60.0W | 143.0W | 18.4 | 42.1 | 109.6 | 220.9 | -7 | 2 |
| 4) | 11450.0000-12200.0000 | 60.0W | 143.0W | 18.4 | 42.1 | 109.6 | 220.9 | | 2 |
| 5) | 14126.9260-14126.9260 | 188.0W | 188.0W | 07.3 | 07.3 | 259.0 | 259.0 | -14.3 | 8.1 |
| 6) | 11076.9260-11076.9260 | 188.0W | 188.0W | 07.3 | 07.3 | 259.0 | 259.0 | | 8.1 |

D) Points of Communications

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

- 1) 1 to Permitted Space Station List
- 2) 1 to ANIK E1 @ 118.7 degrees W.L. (Canada-licensed)
- 3) 1 to ANIK E2 (S2597) @ 111.1 degrees W.L. (Canada-licensed)
- 4) 1 to SOLIDARIDAD F-1 @ 109.2 W.L. (Mexican-licensed) (Non-U.S.-licensed)
- 5) 1 to SOLIDARIDAD F-2 @ 113.0 W.L. (Mexican-licensed) (Non-U.S.-licensed)
- 6) 1 to EUTELSAT 172A (S2610) @ 174 degrees E.L. (formerly GE-23) (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) |
|---------|------------|--|-------------------|------------------------|------------------------|-------------------------|-----------------------------|---|
| 1 | 1 | 1 | 8.2 | COMSAT RSI | 820KS200 | 612.65 | 10 AGL/ 622.7 AMSL | |
| | | Max Gains(s): | | 58.5 dBi @ 12.0000 GHz | 59.7 dBi @ 14.0000 GHz | | | |
| | | Maximum total input power at antenna flange (Watts) = | | 160.10 | | | | |
| | | Maximum aggregate output EIRP for all carriers (dBW) = | | 81.74 | | | | |
| 1 | 2 | 1 | 6.1 | VERTEX | 6.1KPK | 612.65 | 7 AGL/ 619.7 AMSL | |
| | | Max Gains(s): | | 55.6 dBi @ 12.0000 GHz | 57.0 dBi @ 14.0000 GHz | | | |
| | | Maximum total input power at antenna flange (Watts) = | | 298.10 | | | | |
| | | Maximum aggregate output EIRP for all carriers (dBW) = | | 81.74 | | | | |



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| Site ID | Antenna ID | Units | Diameter (meters) | Manufacturer | Model number | Site Elevation (Meters) | Max Antenna Height (Meters) | Special Provisions (Refer to Section H) |
|--|------------|------------|-------------------|--------------|--------------|-------------------------|-----------------------------|---|
| 1 | 8.1 | 1 | 8.1 | VERTEX | KPK | 612.65 | 9 AGL/ 621.7 AMSL | |
| Max Gains(s): | | 58.0 dBi @ | 11.0760 GHz | 59.8 dBi @ | 14.1260 GHz | | | |
| Maximum total input power at antenna flange (Watts) = | | | | | 350.00 | | | |
| Maximum aggregate output EIRP for all carriers (dBW) = | | | | | 85.20 | | | |

F) Remote Control Point:

1 20021 SANTA ROSE MINE ROAD Call Sign: E950202
RIVERSIDE, PERRIS, CA 92570
404-325-2272

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.
- 5 --- Licensee must notify the Commission when this 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.

385 --- The use of the band 10.7-11.7 GHz (Space-to-Earth) and 12.75-13.25 GHz (Earth-to-Space) by the fixed-satellite service in the geostationary satellite orbit shall be limited to international systems, i.e. other than domestic systems. (NG52)

3453 --- This authorization is subject to the continuance in force of the "protocol concerning the transmission and reception of signals from satellites for the provision of Direct-to-Home Satellites Television Services in the United States of America and the United Mexican States" signed on November 8, 1996, and "protocol concerning the transmission and reception of signals from satellites for the provision of fixed-satellites services in the United States of America and the United Mexican States" signed on October 16, 1997.



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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:

- 3841 --- The use of the frequency bands 10.7-11.7 GHz and 12.75-13.25 GHz in the fixed-satellite service is limited to international systems.
- 5880 --- Use of this facility to provide international service on a common carrier basis requires a separate authorization under Section 214 of the Communication Act of 1934, as amended.
- 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.
- 90405 --- Operations with PERMITTED LIST satellite must comply with §25.212 levels and operations above this levels must coordinate with satellite operators prior to operations.
- 900407 --- The Permitted Space Station List (Permitted List) is a list of all geostationary space stations providing fixed-satellite service pursuant to a Commission license or grant of U.S. market access. The Permitted List currently includes the following frequency bands per §25.103 and §25.115(k)(1):

3600-4200 MHz (space-to-Earth)
5850-6725 MHz (Earth-to-space)
10.95-11.2 GHz (space-to-Earth)
11.45-12.2 GHz (space-to-Earth)
13.75-14.5 GHz (Earth-to-space)
18.3-18.8 GHz (space-to-Earth)
19.7-20.2 GHz (space-to-Earth)
24.75-25.25 GHz (Earth-to-space)
28.35-28.6 GHz (Earth-to-space)
29.25-30.0 GHz (Earth-to-space).

Earth stations with "Permitted List" designated as a point of communication may access any space station on the Permitted List, provided the operations comply with the applicable "routine" uplink and downlink limits, are within the specific frequency bands authorized in the earth station license, have completed coordination with terrestrial stations pursuant to §25.203, and otherwise comply with all terms and conditions of both the earth station license and the space station grant.



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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:

900409 --- Access to satellite networks of Canada shall be in compliance with the satellite coordination agreements reached between the administration of the United States and Canada

900410 --- Access to satellite networks of Mexico shall be in compliance with the satellite coordination agreements reached between the administration of the United States and Mexico.



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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 does not meet each required construction deadline by the required date of completion unless, before such date(s), a specific application is timely filed to request an extension of the construction deadline(s), supported with good cause why that failure to construct 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.