

**United States of America
FEDERAL COMMUNICATIONS COMMISSION
EXPERIMENTAL
SPECIAL TEMPORARY AUTHORIZATION**

EXPERIMENTAL

(Nature of Service)

WH9XVR

(Call Sign)

XT MO

(Class of Station)

0104-EX-ST-2016

(File Number)

NAME Orbital ATK, Incorporated

This Special Temporary Authorization is granted upon the express condition that it may be terminated by the Commission at any time without advance notice or hearing if in its discretion the need for such action arises. Nothing contained herein shall be construed as a finding by the Commission that the authority herein granted is or will be in the public interest beyond the express terms hereof.

This Special Temporary Authorization shall not vest in the grantee any right to operate the station nor any right in the use of the frequencies designated in the authorization beyond the term hereof, nor in any other manner than authorized herein. Neither the authorization nor the right granted hereunder shall be assigned or otherwise transferred in violation of the Communications Act of 1934. This authorization is subject to the right of use of control the Government of the United States conferred by Section 706 of the Communications Act of 1934.

Special Temporary Authority is hereby granted to operate the apparatus described below:

Purpose Of Operation:

Orbital ATK will utilize the Antares Launch Vehicle to deliver the Cygnus Spacecraft to Low Earth Orbit. Radio Frequency emitters on the launch vehicle serve 2 purposes for operation. One

Station Locations

- (1) MOBILE: From WFF, VA...launch into low earth orbit., centered around NL 37-50-02; WL 75-29-16
- (2) MOBILE: From WFF, VA launch into low earth orbit., centered around NL 37-50-02; WL 75-29-16
- (3) MOBILE: From WFF, VA launch into low earth orbit., centered around NL 37-50-02; WL 75-29-16

Frequency Information

MOBILE: From WFF, VA...launch into low earth orbit., centered around NL 37-50-02; WL 75-29-16

Frequency	Station Class	Emission Designator	Authorized Power	Frequency Tolerance (+/-)
2239.76-2243.24 MHz	MO	3M48F1D	9.9 W (ERP)	0.002 %
2266.6-2272.4 MHz	MO	5M80F1D	5.2 W (ERP)	0.002 %

This authorization effective May 16, 2016 and
will expire 3:00 A.M. EST November 16, 2016

**FEDERAL
COMMUNICATIONS
COMMISSION**



Frequency Information

MOBILE: From WFF, VA launch into low earth orbit., centered around NL 37-50-02; WL 75-29-16

Frequency	Station Class	Emission Designator	Authorized Power	Frequency Tolerance (+/-)
2285.6-2291.4 MHz	MO	5M80F1D	3.8 W (ERP)	0.002 %

MOBILE: From WFF, VA launch into low earth orbit., centered around NL 37-50-02; WL 75-29-16

Frequency	Station Class	Emission Designator	Authorized Power	Frequency Tolerance (+/-)
5758-5772 MHz	MO	14M0P0N	546 W (ERP)	0.05 %

Special Conditions:

(1)

1. All Orbital-ATK Antares operations are granted on an experimental basis and shall be on an unprotected, non-interference basis to authorized federal stations.
2. Orbital-ATK shall be aware that future launches of Antares with > 5 MHz necessary bandwidth downlink channels and transmission in the 2290- 2300 MHz frequency band will not be considered.
3. For all future Antares launches, telemetry signal bandwidth must comply with the < = 5 MHz necessary bandwidth limitation for 2200-2290 MHz downlinks.
4. For all future launches, no operation in the 2290-2300 MHz band is permitted *and* that proper filtering is required for any flight whose trajectory takes them within line of sight of a DSN station.
5. All operations shall be limited to telemetry and tracking. This STA is limited to the single Antares launch scheduled for no earlier than 6 July, 2016 to support the delivery of the Cygnus spacecraft to Low Earth Orbit, as part of the NASA Commercial Cargo Resupply program. This STA will expire as soon as the launch has been completed or by (license grant date + 6 months), whichever occurs first. Any future launches will need to submit applications to the FCC to be re-coordinated with the NTIA.
6. All transmissions in the band 2200-2290 MHz shall comply with national and international power flux density limits, unless otherwise coordinated and agreed. PFD analysis and exceedances shall be provided in the FCC application and provided to the NTIA for US Government review.
7. Due to potential harmful interference to naval activities, Orbital-ATK RF operations plan shall be submitted, at least 60 days prior to planned launch date, to the Naval Surface Warfare Center, Dahlgren Division (NSWCDD), Mr. James Moneyhon (540) 653-3477, or james.moneyhon@navy.mil, for assessment. A blackout zone of 1500 nautical mile radius, centered at 22N160W, shall be assumed, unless otherwise coordinated with, and agreed to, by the NSWCDD. Orbital-ATK must also comply with any and all restrictions that may be levied by the Naval Surface Warfare Center, Dahlgren Division (NSWCDD).
8. As soon as possible, but no later than 20 business days prior to the planned launch, Orbital-ATK is required to provide, as a minimum, launch date/time/window/duration and planned first- and second-stage trajectory, transmission frequencies with associated duration/cut-off time to Jimmy Nguyen (jimmy.nguyen@us.af.mil, AFSMO), Felipe Arroyo (felipe.arroyo-1@nasa.gov, NASA/WFF), Scott Galbraith (vincent.s.galbraith@nasa.gov, NASA/GSFC), Vip Vipavetz (keven.g.vipavetz@nasa.gov, NASA/LaRC), NOAA Satellite Operations Control Center (philip.l.whaley@noaa.gov), Johnnie Best, (johnnie.w.best1@navy.mil, NMSC) and Cathy Sham (catherine.c.sham@nasa.gov). In the event of last-minute changes, 48-hour notice is required.
9. Prior to transmitting at Wallops Flight Facility (WFF), Wallops Island, VA, Orbital-ATK shall coordinate and schedule their operations through NASA POCs, as specified in NASA/OSC service agreement, and copy WFF Spectrum Manager, Felipe Arroyo, (felipe.arroyo-1@nasa.gov) and Scott Galbraith

Special Agent (vincent.s.galbraith@nasa.gov).

10. The STOP BUZZER POC information for launch operations shall be provided to NTIA (bmitchell@ntia.doc.gov). This phone shall be manned 24/7.

11. Orbital-ATK shall keep a log of all transmissions in the band 2200-2290 MHz and provide to the NTIA after the mission. This log shall include, as a minimum, date, time, frequency, eirp density, pointing direction of all antennas. The log shall be provided to the following NTIA personnel no later than three (3) weeks after completing the mission: bmitchell@ntia.doc.gov and edrocella@ntia.doc.gov <mailto:edrocella@ntia.doc.gov> .