

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

EXPERIMENTAL

(Nature of Service)

WL9XCC

(Call Sign)

XT FX MO

(Class of Station)

1298-EX-ST-2017

(File Number)

NAME NovaWurks Inc.

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:

Spaceflight test of new type of spacecraft bus constructed from multiple sub-units (satlets), assembled aboard the ISS.

Station Locations

- (1) MOBILE: Circular orbit plane 420 Km, 51.65 deg. inclined
- (2) MOBILE: 420 Km Circular Orbit 51.65 deg. inclination
- (3) MOBILE: 420 Km Circular Orbit 51.65 degree Inclination
- (4) Los Alamitos (ORANGE), CA - NL 33-48-20; WL 118-03-28
- (5) Avalon (LOS ANGELES), CA - NL 33-22-11; WL 118-07-16
- (6) Yermo (SAN BERNARDINO), CA - NL 34-57-39; WL 116-49-34
- (7) MOBILE: VHF Downlink
- (8) MOBILE: Low Earth Orbit

Frequency Information

MOBILE: Circular orbit plane 420 Km, 51.65 deg. inclined

Frequency	Station Class	Emission Designator	Authorized Power	Frequency Tolerance (+/-)
2400-2483.5 MHz	MO	1M00F7D	0.00135 W (ERP)	0.02 %

This authorization effective October 02, 2017 and
will expire 3:00 A.M. EST April 02, 2018

**FEDERAL
COMMUNICATIONS
COMMISSION**



Frequency Information

MOBILE: 420 Km Circular Orbit 51.65 deg. inclination

Frequency	Station Class	Emission Designator	Authorized Power	Frequency Tolerance (+/-)
5150-5250 MHz	MO	100MGXW	96 mW (ERP)	0.02 %

MOBILE: 420 Km Circular Orbit 51.65 degree Inclination

Frequency	Station Class	Emission Designator	Authorized Power	Frequency Tolerance (+/-)
2275-2276.8 MHz	MO	1M80G1D	6.57 W (ERP)	0.001 %

Los Alamitos (ORANGE), CA - NL 33-48-20; WL 118-03-28

Frequency	Station Class	Emission Designator	Authorized Power	Frequency Tolerance (+/-)
2097.57-2097.83 MHz	FX	256KG1D	60831 W (ERP)	0.001 %

Avalon (LOS ANGELES), CA - NL 33-22-11; WL 118-07-16

Frequency	Station Class	Emission Designator	Authorized Power	Frequency Tolerance (+/-)
2097.57-2097.83 MHz	FX	256KG1D	60831 W (ERP)	0.001 %

Frequency Information

Yermo (SAN BERNARDINO), CA - NL 34-57-39; WL 116-49-34

Frequency	Station Class	Emission Designator	Authorized Power	Frequency Tolerance (+/-)
2097.57-2097.83 MHz	FX	256KG1D	60831 W (ERP)	0.001 %

MOBILE: VHF Downlink

Frequency	Station Class	Emission Designator	Authorized Power	Frequency Tolerance (+/-)
145.817-145.833 MHz	MO	16K0F2D	2.439 W (ERP)	0.001 %

MOBILE: Low Earth Orbit

Frequency	Station Class	Emission Designator	Authorized Power	Frequency Tolerance (+/-)
144.382-144.398 MHz	MO	16K0F2D	2.439 W (ERP)	0.001 %

Special Conditions:

- (1) Following launch of the satellite, the licensee must notify the FCC through electronic submission to the license file, of the status of the satellite (transmissions commenced, etc.), not later than 7 days after commencement or expected commencement of transmissions, and of termination of transmissions, not later than three months after such termination.
- (2) All NovaWurks Inc. operations granted on an experimental basis shall be on an unprotected, non-interference basis to authorized federal stations.
- (3) Operation of the 2097.57-2097.83 MHz downlink transmitter shall be limited to periods of time when the spacecraft is within view of the associated ground stations located in California.

Special Conditions:

- (4) As soon as possible, but no later than 10 business days prior to the planned deployment from the International Space Station (ISS), NovaWurks Inc. is required to provide, at a minimum, deployment date/time/window to Scott Galbraith (vincent.s.galbraith@nasa.gov, NASA GSFC SMO), and Cathy Sham (catherine.c.sham@nasa.gov, NASA JSC SMO). In the event of last minute changes, 48-hour notice is required.
- (5) Upon receipt of a conjunction warning from the JSpOC or other source, the licensee must review the warning and take all possible steps to assess and, if necessary, to mitigate collision risk, including, but not limited to: contacting the operator of any active spacecraft involved in such warning; sharing ephemeris data and other appropriate operational information with any such operator; modifying spacecraft attitude and/or operations.
- (6) POINT OF COMMUNICATION: SIMPL/QUICOM1
- (7) Uplink operations in the 2097.57-2097.83 MHz frequency band from either the Los Alamitos, CA, Avalon, CA, or Yermo, CA ground stations to the SIMPL CubeSat shall not occur when the NASA International Space Station (ISS) (NORAD designation 25544 or international spacecraft ID 1998-067A) is within horizon to horizon view of that ground station.
- (8) Advanced notification of planned operational dates and times, including uplink transmission cessation times required to comply with the previous condition, shall be provided to the NASA Johnson Space Center (JSC) Spectrum Manager, Cathy Sham (catherine.c.sham@nasa.gov), and NASA JSC Deputy Spectrum Manager, Alan Chu (alan.h.chu@nasa.gov), at least 14 days prior to operations.
- (9) NovaWurks is solely responsible for ensuring the operators of the Los Alamitos, CA, Avalon, CA, and Yermo, CA ground stations comply with the required uplink transmission cessation times, and assumes full liability for any adverse impacts to federal system resulting from non-compliant operations.
- (10) A Stop Buzzer POC for each of the Los Alamitos, CA, Avalon, CA, and Yermo, CA ground stations shall be provided to the NASA JSC Spectrum Manager, Cathy Sham (catherine.c.sham@nasa.gov), and NASA JSC Deputy Spectrum Manager, Alan Chu (alan.h.chu@nasa.gov). This phone shall be manned at all times during ground station uplink operations.