

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

EXPERIMENTAL

(Nature of Service)

WR9XUG

(Call Sign)

XT MO

(Class of Station)

0721-EX-ST-2021

(File Number)

NAME Kepler Communications 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:

To conduct preparatory testing and proof-of-concept demonstrations of communications between Keplers satellite network and Earth Stations on Vessels in motion.

Station Locations

(1) MOBILE: Maritime regions of Honolulu, HI and San Diego, CA

Frequency Information

MOBILE: Maritime regions of Honolulu, HI and San Diego, CA

Frequency	Station Class	Emission Designator	Authorized Power	Frequency Tolerance (+/-)
14.1875-14.3125 GHz	MO	125MG7W 40M0G7W	21527.8 W (ERP)	0.001 %

Special Conditions:

- (1) In lieu of frequency tolerance, the occupied bandwidth of the emission shall not extend beyond the band limits set forth above.
- (2) Licensee should be aware that other stations may be licensed on these frequencies and if any interference occurs, the licensee of this authorization will be subject to immediate shut down.

This authorization effective June 01, 2021 and
will expire 3:00 A.M. EST November 01, 2021

**FEDERAL
COMMUNICATIONS
COMMISSION**



Special Conditions:

- (3) ESIM operation in the 14.0-14.5 GHz band may not cause unacceptable interference to, or claim protection from, geostationary-satellite networks in accordance with Footnote NG527A.
- (4) Further requests for extension of the authority granted herein must be filed on Form 442, "Application for New or Modified Radio Station Authorization under Part 5 of FCC Rules - Experimental Radio Service." Future STA requests to extend this authorization will not be considered.
- (5) Licensee is authorized to conduct tests on a 0.65m Cobham Sailor 600 antenna on-board Vessels (ESV) in the 14.1875-14.3125 GHz frequency band.
- (6) Points of Communication: Kepler Communications Inc. ("Kepler")'s non-geostationary orbit ("NGSO") satellite constellation (call sign S2981) operating in the 14-14.5 GHz frequency band.
- (7) The ESV must be self-monitoring and, should a condition occur that causes it to exceed EIRP and EIRP density limits, the ESV will automatically cease transmissions within 100 milliseconds and not resume transmissions until the condition that caused the experimental ESV to exceed those limits is corrected.
- (8) Operations of the authorized ESV are subject to the footnote NG527A(c) of Section 2.106 of the Commission rules. In the band 14.0-14.5 GHz (Earth-to-space), ESV authorized to communicate with Kepler's nongeostationary satellites must not cause unacceptable interference to, or claim protection from, geostationary satellite networks.
- (9) Operations of the authorized antenna on-board Vessels (ESVs) operating in the 14.1875-14.3125 GHz band must comply with the following conditions:
 - a. Licensee's ESV must employ a tracking algorithm that is resistant to capturing and tracking adjacent satellite signals, and each station must be capable of inhibiting its own transmission in the event it detects unintended satellite tracking.
 - b. Licensee's ESV must be monitored and controlled by a ground-based network control and monitoring center. Such stations must be able to receive "enable transmission" and "disable transmission" commands from the network control center and must cease transmission immediately after receiving a "parameter change" command until receiving an "enable transmission" command from the network control center. The network control center must monitor operation of each earth station to determine if it is malfunctioning, and each earth station must self-monitor and automatically cease transmission on detecting an operational fault that could cause harmful interference to a fixed satellite service network.
 - c. Licensee must maintain a point of contact available 24 hours per day, seven days per week, with the authority and ability to terminate operations authorized herein, for discussing interference concerns with other licensees, and must submit a letter to be included in its license file with the name and telephone number of the point of contact prior to commencing operation.