

**United States of America
FEDERAL COMMUNICATIONS COMMISSION
EXPERIMENTAL
RADIO STATION CONSTRUCTION PERMIT
AND LICENSE**

EXPERIMENTAL

(Nature of Service)

WO2XFO

(Call Sign)

XR MO

(Class of Station)

1551-EX-CN-2023

(File Number)

NAME Hubble Network Inc.

Subject to the provisions of the Communications Act of 1934, subsequent acts, and treaties, and all regulations heretofore or hereafter made by this Commission, and further subject to the conditions and requirements set forth in this license, the licensee hereof is hereby authorized to use and operate the radio transmitting facilities hereinafter described for radio communications in accordance with the program of experimentation described by the licensee in its application for license.

Operation: In accordance with Sec. 5.3(j) of the Commission's Rules

Station Locations

(1) MOBILE:within 24.14 km, centered around NL 33-27-11; WL 96-46-17

Frequency Information

MOBILE:within 24.14 km, centered around NL 33-27-11; WL 96-46-17

Frequency	Station Class	Emission Designator	Authorized Power	Frequency Tolerance (+/-)
2482.710675-2483.424 MHz	MO	25K0F1D	100 mW (ERP)	0.002 %

Special Conditions:

- (1) 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.
- (2) The station identification requirements of Section 5.115 of the Commission's Rules are waived.
- (3) Operation is subject to prior coordination with the local Society of Broadcast Engineers, Inc. (SBE) frequency coordinator. Consult the list at <http://sbe.org/resources/frequency-coordination/> to find the appropriate coordinator.
- (4) In lieu of frequency tolerance, the occupied bandwidth of the emission shall not extend beyond the band limits set forth above.
- (5) Licensee coordinate with the Fixed Microwave Service licensees in the proposed areas in accordance with 47 C.F.R, Part 101.103(d) prior to performing the experimental operations.

This authorization effective February 22, 2024 and
will expire 3:00 A.M. EST March 01, 2029

**FEDERAL
COMMUNICATIONS
COMMISSION**



Special Conditions:

- (6) Licensee is authorized to conduct testing for one Hubble terrestrial Endpoint located at a center point of geographical coordinates 33°27'11" N, 96°46'17" W and a radius of 24.14 km in Gunter, TX, to transmit to Spire's Hubble-1, Hubble-2, and Hubble-3 non-geostationary orbit ("NGSO") satellites in the 2482.710675-2483.424 MHz frequency band (Earth-to-space).
- (7) Point of Communication: Spire's Hubble-1, Hubble-2, and Hubble-3 NGSO satellites (Call Sign S3182).
- (8) Experimental operation must be on an unprotected and non-interference basis (NIB), i.e., licensee must not cause harmful interference to and must not claim protection from interference caused to it by, any other lawfully operating stations.
- (9) Experimental station must use the minimum power level necessary to establish communications links to minimize potential interference to licensed users.
- (10) Licensee should be aware that that the 2482.710675-2483.424 MHz frequency band is not allocated for satellite operations. Reception by Hubble 1, 2, and 3 in this frequency band is limited to up to 3 minutes each during a single pass by each satellite every 12 hours, and in no instance may operations be conducted on a commercial basis.
- (11) Licensee ensure that transmissions in the 2482.710675-2483.424 MHz frequency band will not overlap Bluetooth (using 2481 MHz as the operational bandedge), Wi-Fi (using 2482 MHz as the operational band edge), Zigbee (using 2482.5 MHz as the operational band edge), Globalstar (using 2483.5 MHz as the operational band edge), or grandfathered fixed and mobile service operators (using 2483.5 MHz as the operational band edge) and will have a maximum ERP of 20 dBm. Additionally, the Endpoint will use low data rates and enlist air control coding and can use at least fifteen frequency channel hops.
- (12) Licensee should be aware that operation in the 2482.710675-2483.424 MHz frequency band is allocated to fixed and mobile radio services on a primary basis, and the experimental operation must be in compliance with power limits as defined in the Commission's rule 47 CFR § 25.204(a) to protect authorized stations in the fixed and mobile radio services.
- (13) Licensee must, at all times, take all necessary measures to ensure that the experimental operation at the referenced location does not create potential exposure of humans to radio frequency radiation in excess of the FCC exposure limits defined in the Commission's rule 47 CFR § 1.1307(b), 1.1310 wherever such exposures might occur. Measures must be taken to ensure compliance with limits for both general population/uncontrolled exposure and for occupational/controlled exposure, as defined in those rule sections. The FCC's OET Bulletin 65 (available online at www.fcc.gov/oet/rfsafety) provides information on predicting exposure levels and on methods for ensuring compliance, including the use of warning and alert signs and protective equipment for workers.
- (14) This authorization is subject to experimental operation consistent with the associated space station authorization(s) or grant(s) of U.S. market access, including all conditions, waivers, and findings therein.
- (15) This authorization is without prejudice to any determination that the Commission may make regarding pending or future experimental space and/or earth station applications.
- (16) Any action taken, or expense incurred, as a result of testing pursuant to this experimental operation is solely at licensee's risk.

Special Conditions:

- (17) The designated point-of-contact to terminate transmissions if interference occurs is:
Mr. Alex Haro at 909-499-0402 (phone) and alex@hubblenetwork.com (email).