Care Weather Technologies
144 W 400 N
Provo, UT 84601
www.careweather.com

August 6, 2020

FCC Office of Engineering and Technology
445 12th Street SW
Washington, DC 20554

SUBJECT: (FCC application 1267-EX-ST-2020).

To whom it may concern:

Please find details on our radio communications system test below.

Points of Contact

Primary contact who can terminate ALL transmissions.

Point of Contact Name:	Patrick Walton
Organization Name:	Care Weather Technologies
Role:	CEO, Mission Manager
Address:	144 W 400 N, Provo, UT 84601
Email:	patrick@careweather.com
Telephone Number:	(801) 227-4740

Secondary contact who can terminate ALL transmissions.

Point of Contact Name:	Alex Laraway
Organization Name:	Care Weather Technologies
Role:	CTO, Principal Satellite Engineer
Email:	alex@careweather.com
Telephone Number:	(801) 636-3388

Project Description

Care Weather Technologies is developing a radio communication system to be eventually implemented in a nanosatellite. We intend to perform long duration link testing of this communication system on the ground. A copy of our radio will be positioned at a fixed location (point A) and periodically communicate to our ground station (point B). This testing is important to ensuring communication system robustness through a variety of conditions and over a long timeframe.

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License Details

The license is intended to parallel conditions proposed in FCC application #0997-EX-ST-2020. We are requesting authorization to use these same frequencies on the ground to conduct representative link tests for validation of our custom satellite radio and ground station systems. This testing is conducted with equipment at two fixed locations (Point A and Point B) separated XX miles from each other. Point A is designed to test the satellite downlink frequency requested in #0997-EX-ST-2020 (468.45-469.0 MHz).

Point B is designed to test the ground station uplink frequency requested in #0997-EX-ST-2020 (459.0-459.075 MHz) and the same ground station proposed in #0997-EX-ST-2020 will be used for this test. This band is allocated for satellite uplink at Brigham Young University (BYU) for the Passive Inspection CubeSats mission. Brigham Young University is 1 mile away from Care Weather headquarters and BYU's ground station has been authorized for a much higher transmit power than Care Weather is requesting (1.6kW vs. 10W). BYU has agreed to coordinate with Care Weather on shared, local use of this band, and a letter from BYU confirming this has been submitted to the FCC experimental licensing system.

Additional Data

Transceiver located at Point A:

- Location: 40°-14'-22" North, 111°-39'-41" West, Provo, UT
- Polarization: linear
- Orientation: horizontal, at heading 143° (facing point A)
- Dimension:
    - Gain: 2.15 dBi
    - Beamwidth: 360° (half-wave dipole)
    - Elevation: 1390 m
    - Mounted on rooftop. Rooftop height above sea level: 1395 m
    - Top of antenna above sea level: 1395 m

Transceiver located at Point B:

- Location: 40° 9' 45" North, 111° 34' 40" West, Springville, UT
- Polarization: Right-hand Circular
- Orientation: horizontal at heading -47° (facing point B)
- Dimension:

- Gain: 10.8 dBi
- Half-power Beamwidth: 42.6°
- Elevation: 1457 m
- Mounted on rooftop. Rooftop height above sea level: 1461 m
- Top of antenna above sea level: 1462 m