Joshua Kirschenheiter, 2100 Commonwealth Blvd., Ann Arbor, MI 48105,

United States of America
FEDERAL COMMUNICATIONS COMMISSION
EXPERIMENTAL
SPECIAL TEMPORARY AUTHORIZATION

EXPERIMENTAL	WM9XAS
(Nature of Service)	(Call Sign)
XT MO	0526-EX-ST-2019
(Class of Station)	(File Number)

NAME SRI International

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:
Testing an experimental S-band radar system on a high-altitude balloon.

Station Locations
(1) MOBILE: 42N-46N lat, 95W-97W long, 5000 to 60,000 ft
(2) MOBILE: 42N-46N lat, 95W-97W long, 5,000 to 60,000 ft
(3) MOBILE: 40N-48N lat, 88W-104W long, 60,000 ft
(4) MOBILE: 40N-48N lat, 88W-98W long, 60,000 ft
(5) MOBILE: 40N-48N lat, 88W-104W long, 60,000 ft

Frequency Information

MOBILE: 42N-46N lat, 95W-97W long, 5000 to 60,000 ft

Frequency	Station Class	Emission Designator	Authorized Power	Frequency Tolerance (+/-)
910-920 MHz	MO	10M0F3D	2 W (ERP)	0.00001 %
910-920 MHz	MO	10M0F3D	22 W (ERP)	0.00001 %

This authorization effective May 01, 2019 and
will expire 3:00 A.M. EST November 01, 2019

FEDERAL COMMUNICATIONS COMMISSION

Frequency Information

MOBILE: 42N-46N lat, 95W-97W long, 5,000 to 60,000 ft

Frequency	Station Class	Emission Designator	Authorized Power	Frequency Tolerance (+/-)
2.93625-3.35 GHz	MO	200MM3N	7500 W (ERP)	0.00001 %

MOBILE: 40N-48N lat, 88W-104W long, 60,000 ft

Frequency	Station Class	Emission Designator	Authorized Power	Frequency Tolerance (+/-)
910-920 MHz	MO	10M0F3D	2 W (ERP)	0.00001 %
910-920 MHz	MO	10M0F3D	22 W (ERP)	0.00001 %

MOBILE: 40N-48N lat, 88W-98W long, 60,000 ft

Frequency	Station Class	Emission Designator	Authorized Power	Frequency Tolerance (+/-)
2.93625-3.35 GHz	MO	200MM3N	7500 W (ERP)	0.00001 %

MOBILE: 40N-48N lat, 88W-104W long, 60,000 ft

Frequency	Station Class	Emission Designator	Authorized Power	Frequency Tolerance (+/-)
1616-1626.5 MHz	MO	10M5M7D	14 W (ERP)	0.00001 %

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.

Special Conditions:

(2) Licensee is required to coordinate operations with existing microwave users in the area to avoid interference.

(3) SRI International must operate in accordance with the attachment in order to avoid potential interference.

(4) SRI International must notch out and not interfere with 2995 MHz (+/- 2.3 MHz).

(5) Prior to commencing any operations, SRI International must obtain consent from the following within 350 miles of the contours of the testing area:
Location & Monitoring Service licensees (902-928 MHz).

(6) Experimental station shall use the minimum power level necessary to establish communications links to minimize potential interference to licensed users.

(7) POINT OF COMMUNICATION: Inmarsat and Iridium.

(8) Stop Buzzer: Lauren Wye: 650-678-9184 or Simon Lee: 805-801-9223.

(9) The operations must be in compliance with EIRP density as defined in §25.212(d) and §25.216 of the Commission's Rules.

(10) Operation pursuant to this authorization must be in compliance with the terms of coordination agreements between the Inmarsat operating in the C-band frequency band and operators of other C-band geostationary space stations within six angular degrees of those space stations. In the event that another GSO FSS space station commences operation in the C-band at a location within six degrees of any of these space stations, balloon radar stations operating pursuant to this temporary authority shall cease transmitting to that space station unless and until such operation has been coordinated with the new space station's operator or Licensee demonstrates that such operation will not cause harmful interference to the new co-frequency space station.

(11) Communications between the balloon radar stations and Inmarsat and/or Iridium space stations must be in compliance with all existing and future space station coordination agreements reached between Inmarsat and Iridium satellite operators and Globalstar satellite operator.

(12) Licensee's balloon radar stations 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.

(13) Licensee's balloon radar stations 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 balloon radar station to determine if it is malfunctioning, and each balloon radar station must self-monitor and automatically cease transmission on detecting an operational fault that could cause harmful interference to a fixed satellite service network.

(14) Operations must comply with Sections 25.203(e), (f), and (g) of the Commission's Rules.

(15) Prior to any radiation, SRI International must notify the NRAO VLA/VLBA Frequency Coordinator, Daniel "Mert" Mertely, via e-mail at nrao-rfi@nrao.edu