Raytheon Company
d/b/a Raytheon Systems Company
Sensors and Electronic Systems
Commercial Space Systems Department
6600 Chase Oaks Boulevard
Mail Station 8497
Plano, TX 75023
Telephone: (972) 575-5135
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Federal Communications Commission
Experimental Radio Services
P.O. Box 358320
Pittsburgh, PA 15251-5320

Re: Request for a Special Temporary Authority

To the Commission:

Raytheon Company ("Raytheon"), d/b/a Raytheon Systems Company, hereby requests Special Temporary Authority ("STA"), beginning March 22, 1999, to operate experimental radio facilities as described below.

In accordance with Section 5.61 of the Commission's Rules, the following information is provided in support of this request:

1) Name and Address of the Applicant:

Raytheon Company
d/b/a Raytheon Systems Company
Sensors and Electronic Systems
Commercial Space Systems Department
6600 Chase Oaks Boulevard
Mail Station 8497
Plano, TX 75023

Technical Contact:
Mr. Ted Jones, Program Manager
Telephone: (972) 575-5135
Fax: (972) 575-6112

2) Need for Special Action:

Raytheon seeks to begin the proposed experimentation on March 22, 1999. Accordingly, it respectfully requests an STA by that date. An FCC Form 442 (Application for New or Modified Radio Station Authorization Under Part 5 of FCC Rules - Experimental Radio Service) is being filed concurrently seeking authorization to continue the experimentation over the next two years.

3) Description and Purpose of Operation:

Raytheon intends to test the proposed 900 MHz data link for use to exchange aircraft position, equipment performance data, and control signals between the fixed ground station and a mobile aircraft station. This link is part of a project to develop wideband high-speed digital telecommunication systems operating in the 27.5 GHz to 40 GHz frequency range and used in future low earth satellite and stratospheric telecommunication systems.

4) Time and Dates of Operation:

Raytheon proposes operation under the STA beginning March 22, 1999, through September 22, 1999. Intermittent operation is planned in support of the Angel flight test program. Flights of 2 to 3 hours duration is planned during each equipment development flight test. Data operation will be intermittent during each flight test with data transmissions lasting 1 to 15 minutes during each data collection period.

5) Classes of Station:

Fixed and mobile.

6) Location of Operation:

The base station will be located at the following site in Texas:

33-03-56.2 N, 96-41-41.4 W

The mobiles will operate within a 50-NM radius of the base station.

7) Equipment to be Used:

Raytheon proposes to use the following equipment:

Manufacturer	Equipment Type	Model No.	No. of Units
UtiliCom	Transceiver	Long Ranger 2020	1 Ground
UtiliCom	Transceiver	ISM900-4C297	1 Aircraft
Freewave Technologies	Amplifier	AA5W	1 Ground

The equipment is capable of station identification pursuant to Section 5.115 of the Commission's Rules and will be labeled as follows:

FCC STATEMENT

Permission to operate this device has been granted under experimental authority issued by the Federal Communications Commission to Raytheon Company is strictly temporary and may be cancelled at any time. Operation is subject to the condition that it not cause harmful interference. This device has not been approved by the FCC and is not, and may not be, offered for sale or sold until the approval of the FCC has been obtained. Thus, the user does not hold a property right in the device and may be required to return the device.

8) Frequencies Desired:

909.70 MHz - 919.70 MHz

Raytheon recognizes that the proposed operation must not cause harmful interference to authorized facilities. It therefore will coordinate its activities with all licensed users in the proposed band. Should such interference occur, Raytheon will take reasonable steps to resolve the interference, including, if necessary, arranging for the discontinuance of operation.

9) Maximum Power:

The maximum effective radiated power will not exceed 150 watts for the base station and 5 watts for the aircraft station.

10) Type of Emission:

F9D. The modulation will be BPSK/QPSK direct sequence, programmable, asynchronous modulation up to 32 kbps, ½ rate convolution encoder modulated with a 4.6 mbps pseudo random code. The bandwidth is 10 MHz measured.

11) Overall Heights of Antennas Above Ground:

Raytheon will comply with all FCC and FAA antenna requirements. The antennas will be mounted either: (1) not higher than 20 feet above ground or 20 feet above a building; (2) on an FAA-approved structure in a manner that will not exceed the approved height (e.g., side mounted below the approved height); or (3) in a manner that does not require FAA approval.

13) 47 C.F.R. § 1.2002 Certification:

Raytheon hereby certifies that it, its officers and directors, and any party with five percent or greater interest in this request for special temporary authorization is not subject to a denial of the Federal benefits requested herein pursuant to Section 5301 of the Anti Drug Abuse Act of 1988, 21 U.S.C. § 862.

Raytheon submits that issuance of an STA is in the public interest, convenience, and necessity as it will help Raytheon in developing advanced telecommunication systems.

Enclosed is a check for $45.00 to cover the filing fee (Fee Type Code "EAE"), along with a completed Form 159.

If you have questions, please call our engineering consultant Tom Dombrowsky of Wiley, Rein & Fielding at (202) 719-7236.

Respectfully submitted,

_____/s/_____

John M. Wright
Vice President, Emerging Businesses
Raytheon Company
Sensors and Electronic Systems

Date: _____