

Statement of Requirement (SOR)

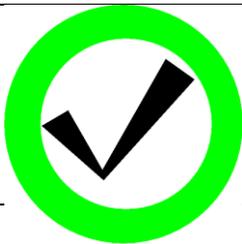
The Multi Band Satellite Simulator System

(X, Ku & Ka)

Date: 25-November-2022

Prepared by:

Naval External Communications Systems
Major Surface Combatant MSC 2-3
National Defence / Government of Canada
455 Blvd de la Carrière
Gatineau, QC JG8 1K7



NOTICE

This documentation has been reviewed by the Technical Authority and does not contain controlled goods.

AVIS

Cette documentation a été révisée par l'Autorité technique et ne contient pas de marchandises contrôlées.

TABLE OF CONTENTS

1. SCOPE..... 3

1.1. Objective 3

1.2. Background 3

1.3. Terminology 3

2. REFERENCE DOCUMENTS 3

3. REQUIREMENTS 4

3.1. Scope..... 4

3.2. Tasks..... 5

3.3. Constraints 7

3.4. Support Provided by Canada 7

3.5. Time Frame and Delivery Dates 7

3.6. Contractor Qualifications 7

4. DELIVERABLES 7

1. SCOPE

1.1. Objective

1.1.1. The purpose of this Statement of Requirement (SOR) is to define the technical requirements for a Multi Band Satellite Simulator System

1.2. Background

1.2.1 The Fleet Maintenance Facility (FMF) Cape Breton and Fleet Maintenance Facility (FMF) Cape Scott are field units within the Canadian Armed Forces (CAF) with the mandate to provide the Royal Canadian Navy (RCN) with specialized, technology-based investigative services and maintenance of fleet assets. It has been determined that a Satellite Simulator System designed to provide a loop-back test would enable troubleshooting and validating of earth station terminals without the need to access the satellite.

1.3. Terminology

CAF	Canadian Armed Forces
RCN	Royal Canadian Navy
CSA	Canadian Standards Association
IEC	International Electrotechnical Commission
ISO	International Organization for Standardization
OEM	Original Equipment Manufacturer
RCN	Royal Canadian Navy
RF	Radio Frequency
SOR	Statement of Requirement
VAC	Volts Alternating Current

Table 1-1 Acronyms and Abbreviations

2. REFERENCE DOCUMENTS

2.1. The following standards, references and documents apply to this SOW:

2.1.1. ISO/IEC 17025:2005 General requirements for the competence of testing and calibration laboratories¹

2.1.2. Schedules of the Prohibition of Certain Toxic Substances Regulations, 2012 (SOR/2012-285); or toxic substance included in Schedule 1 of the Canadian Environmental Protection Act, 1999²

¹ http://www.iso.org/iso/iso_catalogue/catalogue_tc/catalogue_detail.htm?csnumber=39883

² <https://laws-lois.justice.gc.ca/eng/regulations/SOR-2012-285/index.html>

3. REQUIREMENTS

3.1. Scope

- 3.1.1. The RCN has a requirement of a portable Tri-Band Satellite Simulator with Beacons for X, Ku & Ka Bands including protective transit case(s).
- 3.1.2. General Requirements:
 - 3.1.2.1. The Equipment (end product) must be certified by Underwriters Laboratories (UL), Canadian Standards Association (CSA) or the Conformité Européenne (CE).
 - 3.1.2.2. The system must not contain prohibited substance listed in the Schedules of the Prohibition of Certain Toxic Substances Regulations, 2012 (SOR/2012-285); or toxic substance included in Schedule 1 of the Canadian Environmental Protection Act, 1999.'
 - 3.1.2.3. The Equipment must be capable of being operated from a 120 VAC/60 Hz mains power supply.
 - 3.1.2.4. The supplied Tri-Band Satellite Simulator must be a standalone turnkey system not requiring any additional devices with the exception of remote control and monitoring through Ethernet. The turnkey satellite simulator is a ready-for-use system that:
 - (a) has been advertised for sale in the required configuration or configurable through advertised options (e.g. as described in published product catalogues, brochures, specifications, data sheets, or web site descriptions).
 - 3.1.2.5. The Equipment must meet the more stringent of the technical specifications stated in this Statement of Requirement or the manufacturer's published specifications.
 - 3.1.2.6. The Equipment must meet the manufacturer's published specifications for any functional or performance parameter not specified in this Statement of Requirement.
 - 3.1.2.7. The Equipment must be covered by the manufacturer's standard warranty for a minimum period of 12 months.
- 3.1.3. Basic Functional and Performance Requirements: The Equipment must at a minimum be capable of meeting all of the following capabilities either through the inherent features of the basic instrument, or through supplied options:
 - (a) X Band Operation
 - (1) Input Frequency: 7900-8400MHz
 - (2) Output Frequency: 7250-7750MHz
 - (b) Ku Band Operation
 - (1) Input Frequency: 14000-14500MHz

ANNEX "A" – Statement of Requirement for Multi Band Satellite Simulator System

(2) Output Frequency: 10950-12750MHz

(c) Ka Band Operation

(1) Input Frequency: 30000-31000MHz

(2) Output Frequency: 20200-21200MHz

(d) Continuous Wave (CW) Signal Beacons

(1) Mid of each band X, Ku & Ka

(e) Antenna Beam Width

(1) 30 degrees nominal for all bands (X, Ku & Ka)

(f) Polarisation

(1) Linear

(g) Remote Control: The instrument must be capable of remote computer control via a network interface

3.1.4. Accessories – The contractor must provide all accessories necessary to operate the Equipment for its intended design function as requested, including:

3.1.4.1. Cables and Connectors - All cables associated must be connected and retained using fasteners or other means to ensure mechanical and electrical integrity of the connection while allowing ease of disconnection for installation and servicing.

3.2. Tasks

3.2.1. Service Support

3.2.1.1. Availability – The Contractor must:

(a) provide Canada with a one year written notification prior to the Equipment parts no longer being available, and failing such notification, the Contractor must provide Canada sufficient notice to ensure that Canada may purchase the parts that are no longer available.

3.2.1.2. Service support – A toll-free service support function must be provided to help Canada in answering questions with respect to the Equipment that includes, at a minimum:

(a) telephone technical support during normal business hours, Monday to Friday, excluding public holidays;

(b) e-mail technical support with a response within 48 hours excluding weekends and public holidays; and

ANNEX "A" – Statement of Requirement for Multi Band Satellite Simulator System

- (c) on-line help resources, including contact information, product information and documentation downloads (e.g. product brochures, technical manuals).
 - 3.2.1.3. Product Notifications – Canada must be advised in writing as soon as reasonably possible in the event of:
 - (a) any safety-related product recalls or advisories, component defects, and other similar events;
 - (b) any security vulnerabilities that are subsequently discovered; and
 - (c) any hidden or previously unknown defects that are subsequently discovered that may adversely affect product performance and/or functionality.
 - 3.2.1.4. Software Support:
 - (a) Any provided proprietary software must be of the most current version and must be provided with a full end-user licence not limited in time, and provided with a backup CD/DVD disk(s)/USB.
- 3.2.2. Equipment Certifications
 - 3.2.2.1. Certificate of Conformance – The Contractor must provide a Certificate of Conformance to attest that the delivered equipment has been manufactured according to the Contractor's published specifications and has been verified to function as designed. The Certificate must identify the location and date of completion of manufacturing and must be signed by an authorized representative of the manufacturer.
 - 3.2.2.2. Statement of Compliance – The Contractor must provide a Statement of Compliance to attest that the delivered equipment meets the requirements of the Contract. The Statement of Compliance may be provided within the Certificate of Conformance or as a separate document.
 - 3.2.2.3. Statement of Continued Production and Support – The Contractor must provide a Statement of Continued Production to attest that the equipment is neither manufacturer-discontinued nor is there an intent to discontinue the manufacturing of the Equipment within two (2) years. The Statement must also attest that the Contractor will continue to provide technical support and spare parts supply for a minimum of seven (7) years following delivery of the Equipment.
- 3.2.3. Equipment Documentation – The Contractor must provide the following documentation in support of the delivered Equipment
 - 3.2.3.1. User Operations Manual – provides detailed information about the functionality and operation of the Equipment and the care and

ANNEX "A" – Statement of Requirement for Multi Band Satellite Simulator System

maintenance of the Equipment that is normally performed by the user.

3.3. Constraints

3.3.1. None.

3.4. Support Provided by Canada

3.4.1. None required.

3.5. Time Frame and Delivery Dates

3.5.1. Equipment delivery – within ten (10) weeks after contract award.

3.5.2. Equipment documentation – at the time of equipment delivery.

3.5.3. Certifications – at the time of equipment delivery.

3.6. Contractor Qualifications

3.6.1. The Contractor must be an approved supplier of the Original Equipment Manufacturer (OEM). If the Contractor is not the OEM, then the Contractor must provide a letter from the OEM confirming that the Contractor is an approved supplier.

4. DELIVERABLES

4.1 Equipment. The Contractor must provide the following deliverables:

4.1.1 Tri-Band Satellite Simulators for X, Ku & Ka: Quantity of two (2)

4.1.2 Certificate of Conformance: Quantity of two (2) in electronic format. One (1) certificate for each supplied system tied to equipment serial number.

4.1.3 Statement of Compliance: Quantity of one (1) in electronic format

4.1.4 Statement of Continued Production and Support : Quantity of one (1) in electronic format

4.1.5 User Operations Manual: Quantity of one (1) in electronic format

4.1.6 Warranty Period: Minimum of one (1) year

4.2 Format for Documentation

4.2.1 Equipment documentation, reports, certificates and compliance statements must be provided in English.

4.2.2 Equipment documentation and reports may be provided in Contractor format.

4.2.3 Unless otherwise specified, certificates and compliance statements may be provided in Contractor format.

ANNEX "A" – Statement of Requirement for Multi Band Satellite Simulator System

- 4.2.4 Electronic copies of deliverable documents may be delivered by e-mail to the Technical Authority or on CD/DVD or USB memory devices.
- 4.2.5 Document files provided in electronic format must provide users with the capability to search documents (e.g. keyword search).
- 4.2.6 Unless otherwise specified, document files must be provided in PDF format.