

National Defence

Défense nationale

National Defence Headquarters Ottawa, Ontario K1A 0K2

Quartier général de la Défense nationale Ottawa (Ontario) K1A 0K2

REQUEST FOR PROPOSAL DEMANDE DE PROPOSITION

RETURN BIDS TO: RETOURNER LES SOUMISSIONS À :

Director Services Contracting 4 (D Svcs C 4) Direction – Contrats de services 4 (DC Svcs 4) Attention/ Aux soins de : Jeremy Quattrocchi By e-mail to/ Par courriel au: DSvcsC4Contracting-DCSvcs4Contrats@forces.gc.ca

Proposal To: National Defence Canada

We hereby offer to sell to Her Majesty the Queen in right of Canada, in accordance with the terms and conditions set out herein, referred to herein or attached hereto, the goods and services listed herein and on any attached sheets at the price(s) set out therefore.

Proposition à : Défense nationale Canada

Nous offrons par la présente de vendre à Sa Majesté la Reine du chef du Canada, aux conditions énoncées ou incluses par référence dans la présente et aux annexes ci-jointes, les biens et services énumérés ici et sur toute feuille ci-annexée, au(x) prix indiqué(s).

Comments - Commentaires

THIS DOCUMENT DOES NOT CONTAIN A SECURITY REQUIREMENT. DOCUMENT NE CONTIENT PAS D'EXIGENCES RELATIVES À LA SÉCURITÉ.

Solicitation (Closes	-
L'invitation	prend	fin

At: - à:

02:00 PM Eastern Daylight Time (EDT)

On: - le:

5 September 2018

Title – Titre	Solicitation No. – Nº de l'invitation	
Radio Frequency Components	W6369-18-X033	
Date of Solicitation - Date de l'invitati	ion	
23 July 20, 2018		
Address Enquiries to: - Adresser toute	es questions à :	
Jeremy Quattrocchi by e-mail to/ par courriel au Jeremy.Quattrocchi@forces.gc.ca		
T-1	FAVNI NO J. C	
Telephone No. – Nº de téléphone 819-939-4282	FAX No. – Nº de fax	
Destination		
Specified herein.		
Précisé dans les présentes.		

Instructions: Municipal taxes are not applicable. Unless otherwise specified herein all prices quoted must include all applicable Canadian customs duties, GST/HST, excise taxes and are to be delivered Delivery Duty Paid including all delivery charges to destination(s) as indicated. The amount of the Goods and Services Tax/Harmonized Sales Tax is to be shown as a separate item.

Instructions: Les taxes municipales ne s'appliquent pas. Sauf indication contraire, les prix indiqués doivent comprendre les droits de douane canadiens, la TPS/TVH et la taxe d'accise. Les biens doivent être livrés « rendu droits acquittés », tous frais de livraison compris, à la ou aux destinations indiquées. Le montant de la taxe sur les produits et services/taxe de vente harmonisée doit être indiqué séparément.

120 Days after Contract Award		
[Date to be specified in the resulting		
Contract]		
Vendor Name and Address - Raison so	ciale et adresse du fournisseur	
Name and title of person authorized to	sign on behalf of vendor (type or	
print) – Nom et titre de la personne autorisée à signer au nom du fournisseur		
(caractère d'imprimerie)	C .	
_		
Name - Nom	Title – Titre	
Gt.	D 4	
Signature	Date	

Delivery Required – Livraison exigée | Delivery Offered – Livraison proposée

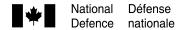
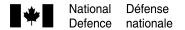


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PART 1 - GENERAL INFORMATION

1.1 Security Requirements

There is no security requirement associated with this bid solicitation.

1.2 Statement of Requirement

- 1.2.1 The requirement is detailed in Annex "A", Statement of Requirement
- 1.2.2 The Department of National Defence (DND) has a requirement to procure commercial-of-theshelf radio frequency components as part of an in-house developed research tool.

1.3 Debriefings

Bidders may request a debriefing on the results of the bid solicitation process. Bidders should make the request to the Contracting Authority within 15 working days from receipt of the results of the bid solicitation process. The debriefing may be in writing, by telephone or in person.

1.4 Trade Agreements

The requirement is subject to the provisions of the, the North American Free Trade Agreement (NAFTA), the, and the Canadian Free Trade Agreement (CFTA), Canada Chile Free Trade Agreement, Canada Columbia Free Trade Agreement, Canada Honduras Free Trade Agreement, Canada Korea Free trade Agreement, Canada Panama Free Trade Agreement, and Canada Peru Free Trade Agreement.

PART 2 - BIDDER INSTRUCTIONS

2.1 Standard Instructions, Clauses and Conditions

All instructions, clauses and conditions identified in the bid solicitation by number, date and title are set out in the Standard Acquisition Clauses and Conditions Manual (https://buyandsell.gc.ca/policy-and-guidelines/standard-acquisition-clauses-and-conditions-manual) issued by Public Works and Government Services Canada.

Bidders who submit a bid agree to be bound by the instructions, clauses and conditions of the bid solicitation and accept the clauses and conditions of the resulting contract.

The <u>2003 (2018-05-22)</u> Standard Instructions - Goods or Services - Competitive Requirements, are incorporated by reference into and form part of the bid solicitation, with the following modifications:

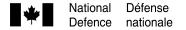
Section 02, **Procurement Business Number**, is deleted in its entirety.

Section 05, **Submission of Bids** – Subsection 2(d), is deleted and replaced by:

It is the Bidder's responsibility to:

(d) Send its bid only to Department of National Defence (DND) organization receiving the bids as specified on Page 1 of the bid solicitation.

Section 05, **Submission of Bids – Subsection 4,** is amended as follows:



Delete: 60 days

Insert: 90 calendar days.

Section 06, Late Bids, is deleted in its entirety.

Section 07, **Delayed Bids**, is deleted in its entirety and replaced with the following:

It is the Bidder's responsibility to ensure that its entire submission has been received. Misrouting or other electronic delivery issues resulting in the late submission of bids are not acceptable reasons for the bid to be accepted by the Department of National Defence.

Section 08, Transmission by facsimile or by epost Connect, is deleted in its entirety.

Section 13, **Communications—Solicitation Period**, is deleted in its entirety and replaced with the following:

To ensure the integrity of the competitive bid process, enquiries and other communications regarding the bid solicitation must be directed only as indicated on page 1 of the solicitation. Failure to comply with this requirement may result in the bid being declared non-responsive.

Canada will send all significant enquiries received and their replies directly to invited Bidders by electronic mail. For further information, consult subsection 3 of the Submission of bids section.

Subsection 2 of Section 20, Further Information is deleted in its entirety.

2.1.1 SACC Manual Clauses

SACC Manual clause B3000T (2006-06-16) Equivalent Products applies to and forms part of the Contract.

SACC Manual clause B1000T (2014-06-26), Condition of Material - Bid applies to and forms part of the Contract.

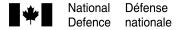
2.2 Submission of Bids

Unless specified otherwise in the RFP or otherwise directed by the Contracting Authority, bids must be submitted to the Department of National Defence organization by electronic mail by the date and time indicated on page 1 of the solicitation.

Electronic Submissions: Individual e-mails that may include certain scripts, formats, embedded macros and/or links, or those that exceed five (5) megabytes may be rejected by Canada's e-mail system and/or firewall(s) without notice to the Bidder or Contracting Authority. Larger bids may be submitted through more than one e-mail. Canada will confirm receipt of documents. It is the Bidder's responsibility to ensure that its entire submission has been received. Bidders should not assume that all documents have been received unless Canada confirms receipt of each document. In order to minimize the potential for technical issues to affect bid receipt, bidders are requested to allow sufficient time before the closing date and time to confirm receipt. Canada will not accept any bids submitted after the closing date and time.

2.3 Enquiries - Bid Solicitation

All enquiries must be submitted in writing to the Contracting Authority no later than ten (10) calendar days before the bid closing date. Enquiries received after that time may not be answered.



Bidders should reference as accurately as possible the numbered item of the bid solicitation to which the enquiry relates. Care should be taken by Bidders to explain each question in sufficient detail in order to enable Canada to provide an accurate answer. Technical enquiries that are of a proprietary nature must be clearly marked "proprietary" at each relevant item. Items identified as "proprietary" will be treated as such except where Canada determines that the enquiry is not of a proprietary nature. Canada may edit the question(s) or may request that the Bidder do so, so that the proprietary nature of the question(s) is eliminated, and the enquiry can be answered to all Bidders. Enquiries not submitted in a form that can be distributed to all Bidders may not be answered by Canada.

2.4 Applicable Laws

Any resulting contract must be interpreted and governed, and the relations between the parties determined, by the laws in force in Ontario.

Bidders may, at their discretion, substitute the applicable laws of a Canadian province or territory of their choice without affecting the validity of their bid, by deleting the name of the Canadian province or territory specified and inserting the name of the Canadian province or territory of their choice. If no change is made, it acknowledges that the applicable laws specified are acceptable to the Bidders.

PART 3 - BID PREPARATION INSTRUCTIONS

3.1 Bid Preparation Instructions

Canada requests that Bidders provide their bid in separately bound sections as follows:

Section I: Technical Bid (one (1) soft copy submitted by electronic mail)

Section II: Financial Bid (one (1) soft copy submitted by electronic mail)

Section III: Certifications not included in the Technical Bid (one (1) soft copy submitted by electronic

mail)

Prices must appear in the financial bid only. No prices must be indicated in any other section of the bid.

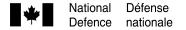
Format of the Bid: Canada requests that Bidders follow the format instructions described below in the preparation of their bid:

- a. use 8.5 x 11 inch (216 mm x 279 mm) page size;
- b. use a numbering system that corresponds to the bid solicitation;

Canada's Policy on Green Procurement: The policy directing federal departments and agencies to take the necessary steps to incorporate environmental considerations into the procurement process See the Policy on Green Procurement (http://www.tpsgc-pwgsc.gc.ca/ecologisation-greening/achats-procurement/politique-policy-eng.html). To assist Canada in reaching its objectives, bidders are encouraged to use an environmentally-preferable format including black and white instead of colour.

Section I: Technical Bid

In their technical bid, Bidders should explain and demonstrate how they propose to meet the requirements and how they will carry out the Work.



Section II: Financial Bid

Bidders must submit their financial bid in accordance with Annex "B" - Basis of Payment.

- (a) Pricing: Bidders must submit their financial bid in accordance with Annex "B" Basis of Payment.
- (b) All Costs to be Included: The financial bid must include all costs for the requirement described in the bid solicitation for the entire Contract Period, including any option years. The identification of all necessary equipment, software, peripherals, cabling and components required to meet the requirements of the bid solicitation and the associated costs of these items is the sole responsibility of the Bidder.
- (c) **Blank Prices:** Bidders are requested to insert "\$0.00" for any item for which it does not intend to charge or for items that are already included in other prices set out in the tables. If the Bidder leaves any price blank, Canada will treat the price as "\$0.00" for evaluation purposes and may request that the Bidder confirm that the price is, in fact, \$0.00. No bidder will be permitted to add or change a price as part of this confirmation. Any bidder who does not confirm that the price for a blank item is \$0.00 will be declared non-responsive.

3.1.1 Electronic Payment of Invoices – Bid

If you are willing to accept payment of invoices by Electronic Payment Instruments, complete Annex "C" Electronic Payment Instruments, to identify which ones are accepted.

If Annex "C" Electronic Payment Instruments is not completed, it will be considered as if Electronic Payment Instruments are not being accepted for payment of invoices.

Acceptance of Electronic Payment Instruments will not be considered as an evaluation criterion.

3.1.2 Exchange Rate Fluctuation

C3011T (2013-11-06) Exchange Rate Fluctuations

Section III: Certifications

Bidders must submit the certifications and additional information required under Part 5.

PART 4 - EVALUATION PROCEDURES AND BASIS OF SELECTION

4.1 Evaluation Procedures

- (a) Bids will be assessed in accordance with the entire requirement of the bid solicitation including the technical and financial evaluation criteria.
- (b) An evaluation team composed of representatives of Canada will evaluate the bids.

4.1.1 Technical Evaluation

All bids must be completed in full and provide all of the information requested in the bid solicitation to enable full and complete evaluation.

4.1.1.1 Mandatory Technical Criteria

Mandatory Technical Criteria are detailed in Section 3.0 – Deliverables of Annex "A" - Statement of Requirement.

4.1.2 Financial Evaluation

The financial evaluation will be conducted by calculating the Evaluated Price in accordance with Annex "B" - Basis of Payment.

Evaluation of Price - Bid

The price of the bid will be evaluated in Canadian dollars, Applicable Taxes excluded, Delivered Duty Paid. Canadian customs duties and excise taxes included.

Unless the bid solicitation specifically requires bids to be submitted in Canadian currency, bids submitted in foreign currency will be converted to Canadian currency for evaluation purposes. The rate given by the Bank of Canada in effect on the bid solicitation closing date, or on another date specified in the bid solicitation, will be applied as a conversion factor to the bids submitted in foreign currency.

4.2 Basis of Selection – Multiple Items

A bid must comply with the requirements of the bid solicitation and meet all mandatory technical evaluation criteria to be declared responsive. The responsive bid with the lowest evaluated price on **an aggregate basis** will be recommended for award of a contract.

PART 5 – CERTIFICATIONS AND ADDITIONAL INFORMATION

Bidders must provide the required certifications and additional information to be awarded a contract.

The certifications provided by Bidders to Canada are subject to verification by Canada at all times. Unless specified otherwise, Canada will declare a bid non-responsive, or will declare a contractor in default if any certification made by the Bidder is found to be untrue whether made knowingly or unknowingly, during the bid evaluation period or during the contract period.

The Contracting Authority will have the right to ask for additional information to verify the Bidder's certifications. Failure to comply and to cooperate with any request or requirement imposed by the Contracting Authority will render the bid non-responsive or constitute a default under the Contract.

5.1 Certifications Required with the Bid

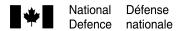
Bidders must submit the following duly completed certifications as part of their bid.

5.1.1 Integrity Provisions - Declaration of Convicted Offences

In accordance with the Integrity Provisions of the Standard Instructions, all bidders must provide with their bid, **if applicable**, the declaration form available on the Forms for the Integrity Regime website (http://www.tpsgc-pwgsc.gc.ca/ci-if/declaration-eng.html), to be given further consideration in the procurement process, but should mail it directly to the address specified on the form and should not include it with its offer submission by email.

5.2 Certifications Precedent to Contract Award and Additional Information

The certifications and additional information listed below should be submitted with the bid, but may be submitted afterwards. If any of these required certifications or additional information is not completed and submitted as requested, the Contracting Authority will inform the Bidder of a time frame within which to provide the information. Failure to provide the certifications or the additional information listed below within the time frame provided will render the bid non-responsive.



5.2.1 Integrity Provisions – Required Documentation

In accordance with the <u>Ineligibility and Suspension Policy</u> (http://www.tpsgc-pwgsc.gc.ca/ci-if/politique-policy-eng.html), the Bidder must provide the required documentation, as applicable, to be given further consideration in the procurement process.

5.2.2 Federal Contractors Program for Employment Equity - Bid Certification

By submitting a bid, the Bidder certifies that the Bidder, and any of the Bidder's members if the Bidder is a Joint Venture, is not named on the Federal Contractors Program (FCP) for employment equity "FCP Limited Eligibility to Bid" list available at the bottom of the page of the Employment and Social
Development Canada (ESDC) - Labour's website
Labour's website
(http://www.esdc.gc.ca/en/jobs/workplace/human rights/employment equity/federal contractor program.page? ga=1.229006812.1158694905.1413548969).

Canada will have the right to declare a bid non-responsive if the Bidder, or any member of the Bidder if the Bidder is a Joint Venture, appears on the "FCP Limited Eligibility to Bid" list at the time of contract award.

PART 6 - RESULTING CONTRACT CLAUSES

The following clauses and conditions apply to and form part of any contract resulting from the bid solicitation.

6.1 Security Requirements

There is no security requirement applicable to the Contract.

6.2 Statement of Requirement

The Contractor must provide the items detailed under the "Requirement" at Annex "A".

6.3 Standard Clauses and Conditions

All clauses and conditions identified in the Contract by number, date and title are set out in the <u>Standard Acquisition Clauses and Conditions Manual (https://buyandsell.gc.ca/policy-and-guidelines/standard-acquisition-clauses-and-conditions-manual)</u> issued by Public Works and Government Services Canada.

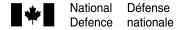
6.3.1 General Conditions

<u>2010A</u> (2018-06-21), General Conditions - Goods (Medium Complexity), apply to and form part of the Contract.

In section 01, Interpretation, "Canada", "Crown", "Her Majesty" or "the Government",

Delete: Minister of Public Works and Government Services

Insert: Minister of National Defence



6.4 Term of Contract

6.4.1 Period of the Contract

The period of the Contract is from date of Contract Award to three (3) months after anticipated delivery date date to be specified in the resulting Contract.

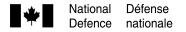
6.4.2 Delivery Date

All the deliverables must be received within 120 days after Contract Award [date to be specified in the resulting Contract].

6.4.3 Delivery Points

Delivery of the requirement will be made to delivery point(s) specified at Annex "A" Section 5 – Delivery Location of the Contract.

6.5	Authorities	
[Detail:	s on the authorities to	pe specified in the resulting Contract]
6.5.1	Contracting Authority	
The Co	ntracting Authority for th	e Contract is:
Organiz Name:	zation:	
Title an Addres	d Designation: s:	National Defence Headquarters 101 Colonel By Drive Ottawa ON K1A 0K2
Telepho E-mail	one: address:	
Contract work in	ct must be authorized in	consible for the management of the Contract and any changes to the writing by the Contracting Authority. The Contractor must not perform scope of the Contract based on verbal or written requests or instructions intracting Authority.
6.5.2	Procurement Authorit	<i>,</i>
The Pro	ocurement Authority for t	ne Contract is:
Organiz Name:		
Addres	d Designation: s:	National Defence Headquarters 101 Colonel By Drive Ottawa ON K1A 0K2
Telepho E-mail	one: address:	



The Procurement Authority is the representative of the department or agency for whom the Work is being carried out under the Contract. The Procurement Authority is responsible for the implementation of tools and processes required for the administration of the Contract. The Contractor may discuss administrative matters identified in the Contract with the Procurement

6.5.3 Technical Authority

The Technical Authority fo	r the Contract is:
Organization:	
Name:	
Title and Designation:	National Defendance I have been decreased
Address:	National Defence Headquarters 101 Colonel By Drive
	Ottawa ON
	K1A 0K2
Telephone:	KIA UKZ
E-mail address:	
a add. 555.	
carried out under the Cont Work under the Contract. ⁻ Project Authority has no au	the representative of the department or agency for whom the Work is being ract and is responsible for all matters concerning the technical content of the Fechnical matters may be discussed with the Project Authority; however the uthority to authorize changes to the scope of the Work. Changes to the scope ade through a contract amendment issued by the Contracting Authority.
6.5.4 Contractor's Rep	resentative
The Contractor's Represer	ntative for the Contract is:
Organization:	
Name:	
Title:	
Address:	
Telephone:	
Facsimile:	
E-mail address:	

6.6 Payment

6.6.1 Basis of Payment - Firm Unit Price

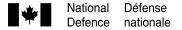
In consideration of the Contractor satisfactorily completing all of its obligations under the Contract, the Contractor will be paid firm unit prices, as specified in the contract for a cost of \$[amount to be specified in the resulting Contract] Customs duties are included Applicable Taxes are extra.

Canada will not pay the Contractor for any design changes, modifications or interpretations of the requirement, unless they have been approved, in writing, by the Contracting Authority before their incorporation into the requirement.

6.6.2 Electronic Payment of Invoices – Contract

The Contractor accepts to be paid using any of the following Electronic Payment Instrument(s):

- a. Visa Acquisition Card:
- b. MasterCard Acquisition Card;



- c. Direct Deposit (Domestic and International);
- d. Electronic Data Interchange (EDI);
- e. Wire Transfer (International Only);
- f. Large Value Transfer System (LVTS) (Over \$25M)

6.6.3 Taxes – Foreign-Based Contractor

SACC Manual clause C2000C (2007-11-30), Taxes - Foreign-Based Contractor

6.7 Method of Payment

Canada will pay the Contractor upon completion and delivery of units in accordance with the payment provisions of the Contract if:

- a. An accurate and complete invoice and any other documents required by the Contract have been submitted in accordance with the invoicing instructions provided in the Contract;
- b. All such documents have been verified by Canada;
- c. The Work delivered has been accepted by Canada.

6.8 Invoicing Instructions

The Contractor must submit invoices in accordance with the section entitled "Invoice Submission" of the general conditions. Invoices cannot be submitted until all work identified in the invoice is completed.

Invoices must be distributed as follows:

- a. The original and one (1) copy must be forwarded to the address shown on page 1 of the Contract for certification and payment; and
- b. One (1) copy must be forwarded to the Contracting Authority identified under the section entitled "Authorities" of the Contract.

6.9 Certifications and Additional Information

6.9.1 Compliance

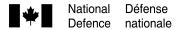
Unless specified otherwise, the continuous compliance with the certifications provided by the Contractor in its bid or precedent to contract award, and the ongoing cooperation in providing additional information are conditions of the Contract and failure to comply will constitute the Contractor in default. Certifications are subject to verification by Canada during the entire period of the Contract.

6.10 Applicable Laws

The Contract must be interpreted and governed, and the relations between the parties determined, by the laws in force in Ontario.

6.11 Priority of Documents

If there is a discrepancy between the wordings of any documents that appear on the list, the wording of the document that first appears on the list has priority over the wording of any document that subsequently appears on the list:



- (a) These Articles of Agreement;
- (b) The General Conditions 2010A (2018-06-21), General Conditions Goods (Medium Complexity))
- (c) Annex A, Statement of Requirement;
- (d) Annex B, Basis of Payment;
- (e) The Contractor's bid dated [_____] [insert date of bid], as amended [_____] [insert date(s) of amendment(s) if applicable].

6.12 Defence Contract

SACC Manual clause A9006C (2012-07-16), Defence Contract

6.13 SACC Manual Clauses

SACC Manual clause B7500C (2006-06-16), Excess Goods applies to and forms part of the Contract.

SACC Manual clause G1005C (2016-01-28), Insurance applies to and forms part of the Contract.

SACC Manual clause D2000C (2007-11-30), Marking applies to and forms part of the Contract.

SACC Manual clause D2001C (2007-11-30), Labelling applies to and forms part of the Contract.

6.14 Condition of Material

The Contractor must provide material that is new production of current manufacture supplied by the principal manufacturer or its accredited agent. The material must conform to the latest issue of the applicable drawing, specification and part number, as applicable, that was in effect on the bid closing date.

6.15 Packaging Requirement using Specification D-LM-008-036/SF-000

The Contractor must prepare item numbers 1-18 for delivery in accordance with the latest issue of the Canadian Forces Packaging Specification *D-LM-008-036/SF-000*, DND Minimum Requirements for Manufacturer's Standard Pack.

The Contractor must package item numbers 1-18 in quantities of one (1) by package.

6.16 Shipping Instructions - Delivered Duty Paid

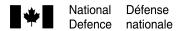
Goods must be consigned to the destination specified in the Contract and delivered:

Delivered Duty Paid (DDP) Ottawa, Ontario, Incoterms 2010 for shipments from a commercial contractor.

The Contractor will be responsible for all delivery charges, administration, costs and risk of transport and customs clearance, including the payment of customs duties and taxes.

6.17 Inspection and Acceptance

The Technical Authority is the Inspection Authority. All reports, deliverable items, documents, goods and all services rendered under the Contract are subject to inspection by the Inspection Authority or



representative. Should any report, document, good or service not be in accordance with the requirements of the Statement of Requirement and to the satisfaction of the Inspection Authority, as submitted, the Inspection Authority will have the right to reject it or require its correction at the sole expense of the Contractor before recommending payment.

ANNEX "A" STATEMENT OF REQUIREMENT

1.0 TITLE

RADIO FREQUENCY COMPONENTS

2.0 ACRONYMS

DRDC Defence Research and Development Canada

SOR Statement of Requirement

TA Technical Authority

GHz Giga Hertz
MHz Mega Hertz
N/A Not/Applicable
Max. Maximum
Min. Minimum

3.0 DELIVERABLES

The Contractor must provide commercial-off-the-shelf Radio Frequency Components meeting the listed quantities and specifications as follows:

3.1

Specifications	Value
Manufacturer Part #	JS4-30004000-30-8P, Or Equivalent
Description	Amplifier
Frequency range	30 GHz to 40 GHz
Gain	25 dB
Gain Flatness	3 dB max
Noise Figure	4 dB max
P1dB out	8 dBm +/- 1dBm
Voltage	15 VDC
RF connector type	2.92 mm female
Quantity	Four (4)

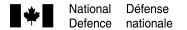
Specifications	Value
Manufacturer Part #	AFS2-00100800-40-10P-2, Or Equivalent
Description	Amplifier
Frequency range	0.1 GHz to 8 GHz
Gain	20 dB
Gain Flatness	2 dB max
Noise Figure	4 dB max
P1dB out	10 dBm +/- 1 dBm
Voltage	15 VDC
RF connector type	SMA female
Quantity	Four (4)

Specifications	Value
Manufacturer Part #	AFS4-06001800-22-10P-4, Or Equivalent
Description	Amplifier
Frequency range	6 GHz to 18 GHz
Gain	25 dB
Gain Flatness	2 dB max
Noise Figure	3 dB max
P1dB out	10 dBm +/- 1 dBm
Voltage	15 VDC
RF connector type	SMA female
Quantity	Four (4)

3.4

Specifications	Value
Manufacturer Part #	AFD2-020060-45, Or Equivalent
Description	Amplifier
Frequency range	2 GHz to 6 GHz
Gain	17 dB
Gain Flatness	2 dB max
Noise Figure	5 dB max
P1dB out	10 dBm +/- 1dBm
Voltage	15 VDC
RF connector type	SMA female
Quantity	Four (4)

Specifications	Value
Manufacturer Part #	AFS2-00100200-10-12P-2, Or Equivalent
Description	Amplifier
Frequency range	0.1 GHz to 2 GHz
Gain	23 dB
Gain Flatness	1 dB max
Noise Figure	1 dB max
P1dB out	12 dBm +/- 1 dBm
Voltage	15 VDC
RF connector type	SMA female
Quantity	Eight (8)

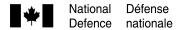


Specifications	Value
Manufacturer Part #	AMF-3F-18002650-60-20P, Or Equivalent
Description	Amplifier
Frequency range	16 GHz to 26.5 GHz
Gain	13 dB
Gain Flatness	3 dB max
Noise Figure	6 dB max
P1dB out	20 dBm +/- 1 dBm
Voltage	15 VDC
RF connector type	SMA female
Quantity	Two (2)

3.7

Specifications	Value
Manufacturer Part #	AMF-3D-02001800-60-20P, Or Equivalent
Description	Amplifier
Frequency range	2 GHz to 18 GHz
Gain	17 dB
Gain Flatness	3 dB max
Noise Figure	6 dB max
P1dB	20 dBm +/- 1dBm
Voltage	15 VDC
RF connector type	SMA female
Quantity	Two (2)

Specifications	Value
Manufacturer Part #	TB0440LW1, Or Equivalent
Description	Mixer
RF Frequency	4 GHz to 40 GHz
LO Frequency	4 GHz to 40 GHz
IF Frequency	0.5 GHz to 20 GHz
Conversion loss	12 dB max
LO to RF Isolation	20 dB
LO to IF Isolation	25 dB
RF to IF Isolation	30 dB
LO Power	13 dBm
P1dB out	-5 dBm
RF connector type	2.92 mm female
Quantity	Four (4)



Specifications	Value
Manufacturer Part #	DMX0618L, Or Equivalent
Description	Mixer
RF Frequency	5 GHz to 18 GHz
LO Frequency	5 GHz to 18 GHz
IF Frequency	DC to 7 GHz
Conversion loss	5 dB
LO to RF Isolation	35 DB min
LO to IF Isolation	35 dB min
RF to IF Isolation	35 dB min
LO Power	10 dBm
P1dB out	-2 dBm
RF connector type	SMA female
Quantity	Four (4)

Specifications	Value
Manufacturer Part #	TB0218LW2, Or Equivalent
Description	Mixer
RF Frequency	2 GHz to 18 GHz
LO Frequency	2 GHz to 18 GHz
IF Frequency	.05 GHz to 8 GHz
Conversion loss	7.5 dB
LO to RF Isolation	25 DB min
LO to IF Isolation	20 dB min
RF to IF Isolation	20 dB min
LO Power	13 dBm
P1dB out	-2.5 dBm
RF connector type	SMA female
Quantity	Four (4)

Specifications	Value
Manufacturer Part #	DM0208LW2, Or Equivalent
Description	Mixer
RF Frequency	2 GHz to 8 GHz
LO Frequency	2 GHz to 8 GHz
IF Frequency	DC to 2 GHz
Conversion loss	7 dB
LO to RF Isolation	40 DB min
LO to IF Isolation	30 dB min
RF to IF Isolation	40 dB min
LO Power	10 dBm
P1dB out	-4 dBm
RF connector type	SMA female
Quantity	Four (4)

3.12

Specifications	Value
Manufacturer Part #	4226-10, Or Equivalent
Description	Directional coupler
Frequency range	0.5 GHz to 18 GHz
Coupling	10 dB
Insertion loss	1.5 dB
RF connector type	SMA female
Quantity	Four (4)

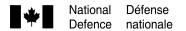
Specifications	Value
Manufacturer Part #	4229-10, Or Equivalent
Description	Directional coupler
Frequency range	1 GHz to 40 GHz
Coupling	10 dB
Insertion loss	2.4 dB
RF connector type	2.92 mm female
Quantity	Two (2)

Specifications	Value
Manufacturer Part #	4246B-10, Or Equivalent
Description	Directional coupler
Frequency range	6 GHz to 18 GHz
Coupling	10 dB
Insertion loss	0.5 dB
RF connector type	SMA female
Quantity	Four (4)

3.15

Specifications	Value
Manufacturer Part #	4244-10, Or Equivalent
Description	Directional coupler
Frequency range	2 GHz to 8 GHz
Coupling	10 dB
Insertion loss	0.9 dB
RF connector type	SMA female
Quantity	Four (4)

Specifications	Value
Manufacturer Part #	BCO-010-08000-4-15P-OP15 (Configured from the MITEQ BCO series), Or
	Equivalent
Description	Oscillator
Output frequency	8000 MHz
Output power	15 dBm
Reference frequency	10 MHz
Reference power	0 dBm
Phase noise	-110 dBm min. @ 100 kHz
Voltage	15 VDC
RF connector type	SMA female
Quantity	Two (2)



Specifications	Value
Manufacturer Part #	DLCRO-010-23000-4-15P (Configured from the MITEQ DLCRO series) , Or
	Equivalent
Description	Oscillator
Output frequency	23000 MHz
Output power	15 dBm
Reference frequency	10 MHz
Reference power	0 dBm
Phase noise	-110 dBm min. @ 100 kHz
Voltage	15 VDC
RF connector type	SMA female
Quantity	Two (2)

3.18

Specifications	Value
Manufacturer Part #	4217C-2, Or Equivalent
Description	1:2 Power divider
Frequency range	18 GHz to 26.5 GHz
Insertion loss	1 dB
RF connector type	SMA female
Quantity	Two (2)

4.0 DELIVERY DATE

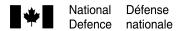
Deliverables 3.1 to 3.18: Delivery date is within 120 days after Contract Award [date to be specified in the resulting Contract].

5.0. DELIVERY LOCATION

Defence Research and Development Canada – Ottawa Research Centre 3701 Carling Ave, Building 29 Ottawa, Ontario K1A 0Z4 Canada **ANNEX "B" BASIS OF PAYMENT**

The Contractor will be paid in accordance with the following:

Deliverable Number	Part Number	Qty. (A)	Unit Price (B)	Total Extended Price (C) (AxB=C)
3.1	JS4-30004000-30-8P, Or Equivalent	4		
3.2	AFS2-00100800-40-10P-2, Or Equivalent	4		
3.3	AFS4-06001800-22-10P-4, Or Equivalent	4		
3.4	AFD2-020060-45, Or Equivalent	4		
3.5	AFS2-00100200-10-12P-2, Or Equivalent	8		
3.6	AMF-3F-18002650-60-20P, Or Equivalent	2		
3.7	AMF-3D-02001800-60-20P, Or Equivalent	2		
3.8	TB0440LW1, Or Equivalent	4		
3.9	DMX0618L, Or Equivalent	4		
3.10	TB0218LW2, Or Equivalent	4		
3.11	DMX0208LW2, Or Equivalent	4		
3.12	4226-10, Or Equivalent	4		
3.13	4229-10, Or Equivalent	2		
3.14	4246B-10, Or Equivalent	4		
3.15	4244-10, Or Equivalent	4		
3.16	BCO-010-08000-4-15P-OP15, Or Equivalent	2		
3.17	DLCRO-010-23000-4-15P, Or Equivalent	2		
3.18	4217C-2, Or Equivalent	2		
Sub-Total Sub-Total			\$	
Applicable Taxes			\$	
Total Price				\$



ANNEX "C" ELECTRONIC PAYMENT INSTRUMENTS

The Bidder accepts any of the following Electronic Payment Instrument(s):		
() VISA Acquisition Card;		
() MasterCard Acquisition Card;		
() Direct Deposit (Domestic and International);		
() Electronic Data Interchange (EDI);		
() Wire Transfer (International Only);		

() Large Value Transfer System (LVTS) (Over \$25M)