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Gatineau, Québec K1A 0S5
Bid Fax: (819) 997-9776

SOLICITATION AMENDMENT
MODIFICATION DE L'INVITATION

The referenced document is hereby revised; unless otherwise indicated, all other terms and conditions of the Solicitation remain the same.

Ce document est par la présente révisé; sauf indication contraire, les modalités de l'invitation demeurent les mêmes.

Comments - Commentaires

Vendor/Firm Name and Address
Raison sociale et adresse du fournisseur/de l'entrepreneur

Issuing Office - Bureau de distribution

Electrical & Electronics Products Division
11 Laurier St./11, rue Laurier
7B3, Place du Portage, Phase III
Gatineau, Québec K1A 0S5

Title - Sujet Arbitrary Waveform Generator	
Solicitation No. - N° de l'invitation W7714-176219/A	**Amendment No. - N° modif.** 005
Client Reference No. - N° de référence du client W7714-176219	**Date** 2017-03-13
GETS Reference No. - N° de référence de SEAG PW-$$HN-465-72016	
File No. - N° de dossier hn465.W7714-176219	**CCC No./N° CCC - FMS No./N° VME**
Solicitation Closes - L'invitation prend fin **at - à 02:00 PM** **on - le 2017-03-21**	**Time Zone** **Fuseau horaire** Eastern Daylight Saving Time EDT
F.O.B. - F.A.B. **Plant-Usine:** ☐ **Destination:** ☑ **Other-Autre:** ☐	
Address Enquiries to: - Adresser toutes questions à: Nadeau, Alexandra	**Buyer Id - Id de l'acheteur** hn465
Telephone No. - N° de téléphone (819) 420-2859 ( )	**FAX No. - N° de FAX** (819) 953-4944
Destination - of Goods, Services, and Construction: **Destination - des biens, services et construction:**	

Instructions: See Herein

Instructions: Voir aux présentes

Delivery Required - Livraison exigée	**Delivery Offered - Livraison proposée**
Vendor/Firm Name and Address **Raison sociale et adresse du fournisseur/de l'entrepreneur** **Telephone No. - N° de téléphone** **Facsimile No. - N° de télécopieur**	
Name and title of person authorized to sign on behalf of Vendor/Firm (type or print) **Nom et titre de la personne autorisée à signer au nom du fournisseur/ de l'entrepreneur (taper ou écrire en caractères d'imprimerie)** **Signature** **Date**	

Canada

This amendment 005 is being raised to address questions submitted by potential bidders, to modify some evaluation criteria, and to request a pre-production sample for testing of some requirements prior to acceptance for production of the final deliverable.

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1. Questions and Answers, All questions appear in their original format and language. The T.A's response appears in ***BOLD AND ITALIC***.

Q1) In the Amendment 2, DRDC suggested that Agilent Signal Generator E8267D be used for the external 100 MHz clock.

Even an extremely expensive lab instrument (such as the E8267D) has a phase noise that is ***significantly worse*** than the phase noise profile of the external clock that DRDC wants to use and hence the phase noise spec that needs to be demonstrated prior to proposal submission.

Even with an almost $22k Enhanced ultra phase noise option (see price list from Keysight website – attached), the phase noise at 100 MHz (for the E8267D) is -64dBc/Hz at 1 Hz offset and -123 dBc/Hz at 1kHz offset (page 13 of the E8267D manual attached– 2nd table from the top). DRDC's phase noise profile (for the clock) is -90 dBc/Hz at 1 Hz offset & -135 dBc/Hz at 1kHz offset (see RFP – page 14). The difference is even more significant if the comparison is made with the standard phase noise of the signal generator (without the enhanced ultra phase noise option, see page 12 phase noise only given for offset >20 kHz).

Also, measuring a -90dBc/Hz phase noise at 1Hz offset is probably next to impossible as the measuring equipment needs to be about 5 to 10 dB better than what is being measured.

This is the rationale for asking for a waiver for the demonstrating the phase noise as well as the close-in SFDR (which will also be impacted by the phase noise) at proposal submission.

We suggest that DRDC undertakes the verification of this requirement as part of the acceptance testing (at the time of delivery) with the external clock that they intend to use.

A1) The requirements have been moved to Phase 1 of the Contract for the testing and acceptance of the pre-production sample.

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2. On page 14 of 22 of the solicitation, Annex A – Statement of Requirement Section 5.1.

DELETE:

Measured SFDR	As part of their bid, the contractor shall provide measured single-tone SFDR results for carrier frequencies of 3 MHz, 10 MHz, 20 MHz, 30 MHz, and 40 MHz, clearly showing that the above SFDR requirements (i) and (ii) are met.
Measured Phase Noise	As part of their bid, the contractor shall provide measured SSB phase noise results at offset frequencies of 1 Hz, 10 Hz, 100 Hz, 1 kHz, and 10 kHz for each of the following generated carrier-frequencies of 3 MHz, 10 MHz, 20 MHz, 30 MHz, and 40 MHz, clearly showing that the above phase noise requirement is met. The contractor shall also provide (i) the make and model of the external 100 MHz clock used, and (ii) the measured SSB phase noise of the clock at the above offset frequencies.
Image Attenuation	Images of the desired RF signals shall be attenuated by at least 70 dB.

INSERT:

Measured SFDR	The contractor shall provide a pre-production sample for DRDC to measure single-tone SFDR results for carrier frequencies of 3 MHz, 10 MHz, 20 MHz, 30 MHz, and 40 MHz, that must meet the above SFDR requirements (i) and (ii).
Measured Phase Noise	The contractor shall provide a pre-production sample for DRDC to measure SSB phase noise results at offset frequencies of 1 Hz, 10 Hz, 100 Hz, 1 kHz, and 10 kHz for each of the following generated carrier-frequencies of 3 MHz, 10 MHz, 20 MHz, 30 MHz, and 40 MHz, that must meet the above phase noise requirement.
Image Attenuation	Images of the desired RF signals must be attenuated by at least 70 dB when the DAC device is used with a 100 MHz clock.

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3. On page 19 of 22 of the solicitation, Annex C – Evaluation Criteria.

DELETE: M17, M19, and M21

INSERT:

M21	Image Attenuation	Images of the desired RF signals must be attenuated by at least 70 dB when the DAC device is used with a 100 MHz clock.

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4. On page 8 of 22 of the solicitation, Part 6 – Resulting Contract Clauses.

DELETE:

6.2 Requirement

The contractor must provide the goods and services in accordance with the technical requirements stated in Annex "A" Statement of Requirement.

INSERT:

6.2 Requirement

Phase 1:
The contractor must provide one (1) pre-production sample in accordance with the technical requirements stated in Annex "A" Statement of Requirement.

Phase 2:
The contractor must provide the goods in accordance with the technical requirements stated in Annex "A" Statement of Requirement, as and when requested by Canada during the period of the Contract.

6.2.1 Work Authorization

Despite any other condition of the contract, the Contractor is only authorized to perform the work required to complete Phase 1 of the Contract at no cost to Canada. Upon completion of Phase 1, the goods will be tested and evaluated before the Contractor is authorized to commence any work for Phase 2.

The Contractor must carry out all required inspection and tests to verify conformance to the technical requirements of the Contract. The Contractor must provide the sample, and a copy of the inspection and test report(s), to the Technical Authority, transportation charges prepaid, and without charge to Canada. The approved sample submitted by the Contractor may be used toward the final deliverable.

The Contractor must not commence or continue with production of the goods and must not make any deliveries until the Contractor has received notification from the Contracting Authority that the sample is acceptable. Any production of items before sample acceptance will be at the sole risk of the Contractor.

Depending on the results of the review and evaluation of the goods, Canada will decide at its discretion whether to continue with the work.

If Canada decides to continue with Phase 2, the Contracting Authority will advise the Contractor in writing that they are authorized to commence work on Phase 2. The contractor must immediately comply with the notice.

If Canada decides not to proceed with Phase 2, the Contracting Authority will advise the Contractor in writing of the decision and the Contract will be considered completed at no cost to Canada. In no event will the Contractor be paid any cost incurred for unauthorized work.

ALL REMAINING TERMS AND CONDITIONS ARE UNCHANGED