



RETURN BIDS TO:

RETOURNER LES SOUMISSIONS À:

Public Works and Government Services Canada
Canada Place/Place du Canada
10th Floor/10e étage
9700 Jasper Ave/9700 ave Jasper
Edmonton
Alberta
T5J 4C3
Bid Fax: (780) 497-3510

**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

Public Works and Government Services Canada
Canada Place/Place du Canada
10th Floor/10e étage
9700 Jasper Ave/9700 ave Jasper
Edmonton
Alberta
T5J 4C3

Title - Sujet Spectrum Analyzer	
Solicitation No. - N° de l'invitation W2671-19VB06/A	Amendment No. - N° modif. 001
Client Reference No. - N° de référence du client W2671-19VB06	Date 2019-12-10
GETS Reference No. - N° de référence de SEAG PW-\$EDM-034-11738	
File No. - N° de dossier EDM-9-42138 (034)	CCC No./N° CCC - FMS No./N° VME
Solicitation Closes - L'invitation prend fin at - à 02:00 PM on - le 2020-01-06	Time Zone Fuseau horaire Mountain Standard Time MST
F.O.B. - F.A.B. Plant-Usine: <input type="checkbox"/> Destination: <input type="checkbox"/> Other-Autre: <input type="checkbox"/>	
Address Enquiries to: - Adresser toutes questions à: Nigam, Nidhi	Buyer Id - Id de l'acheteur edm034
Telephone No. - N° de téléphone (587) 532-8142 ()	FAX No. - N° de FAX (780) 497-3510
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

This amendment is issued to provide a response to the questions received by the industry.

Q1. Would you please provide further clarification of what is required or being asked for in this mandatory specification request?

Annex B – Compliance Matrix – Minimum Mandatory Performance Specifications

Item 3: *“Has a measurement uncertainty less or equal to 0.5dB at 100MHz”*

R1. The measurement uncertainty is calculated with the contributions of the absolute amplitude uncertainty at the reference frequency and the frequency response uncertainty relative to the reference frequency, for a 95th percentile confidence level, at room temperature (approximately 25 degrees Celsius).

Please refer to revised Annex B, Minimum Mandatory Performance Specifications.

Delete: Annex B, Minimum Mandatory Performance Specifications. (In its entirety)

Insert: Annex B, Minimum Mandatory Performance Specifications.

ANNEX ``B``

Minimum Mandatory Performance Specifications

Compliance Matrix

A complete list of the minimum mandatory performance specifications are detailed below in the “Compliance matrix”. Bidders are to clearly demonstrate compliance with each mandatory specification.

1. Bidders to show compliance by addressing each performance specification in the Compliance Matrix, whether the product offered “meets” or “doesn’t meet”.
2. Bidders are requested to indicate how they meet each performance specification by recording this information under the Performance Specification Offered column in the Compliance Matrix.
3. It is requested that supporting technical documentation, including but not limited to, specification sheets, technical brochures, photographs or illustrations be provided with the bid at solicitation close and be cross-referenced on the Compliance Matrix for each performance specification to outline where in the supporting technical documentation it demonstrates compliance. It is the Bidders responsibility to ensure that the submitted supporting technical documentation provides detail to prove that the proposed product(s) meet the requirements of the Performance Specification. If published supporting technical document is not available, the Bidder should prepare a written narrative complete with a detailed explanation of how its bid demonstrates technical compliance.
4. If the supporting documentation referenced above has not been provided at bid closing, the Contracting Authority will notify the Bidder that they must provide supporting documentation within two (2) business days following notification. Failure to comply with the request of the Contracting Authority within that time period, will deem the bid non-responsive and the bid will be given no further consideration.
5. Bidders must address any concerns with the performance specifications in written detail to the Contracting Authority before bid closing as outlined in the Request for Proposal (RFP) document.
6. Failure to meet each mandatory performance specification will result in the bid being deemed non-responsive, and be given no further consideration.

COMPLIANCE MATRIX – MINIMUM MANDATORY PERFORMANCE SPECIFICATIONS:

Item #	Mandatory Performance Specification	Performance Specification Met?		Performance Specification Offered: Bidder should indicate how they meet the performance specification by recording this information in this column	Cross Reference: In this column, Bidders should cross-reference where this performance specification is indicated in their supporting documents.
		Yes	No		
1	Provides spectrum measurement over frequency range from 60 Hz to 26 GHz				
2	Has an amplitude resolution less or equal to 0.01 dB at 100 MHz				
3	Has a measurement uncertainty less or equal to 0.5 dB at 100 MHz				
4	Has a displayed average noise level less or equal to -161 dBm/Hz at 1 GHz				
5	Has a real time spectrum analysis bandwidth higher than 100 MHz				
6	Has intermediate frequency (IF) bandwidths from 1 Hz to 8 MHz				
7	Has a sample rate for real time analysis higher or equal to 200 MSa				
8	Meets environmental specifications for class 3 test equipment as per MIL-PRF-28800F, dated 24 June, 1996				

9	Can operate on AC power, from 90 VAC to 132 VAC at 60 Hz				
10	Has an instrument weight of no more than 25 kg				
11	Has a GPIB (IEEE 488) interface with external bus connector				

Additional information:

The measurement uncertainty is calculated with the contributions of the absolute amplitude uncertainty at the reference frequency and the frequency response uncertainty relative to the reference frequency, for a 95th percentile confidence level, at room temperature (approximately 25 degrees Celsius).

The measurement uncertainty for a 95th percentile confidence level of a normal distribution is estimated as the product of twice the total standard deviation of the measurement:

$$u_{\text{measurement}} \cong 2 \times \sigma_{\text{total}}$$

The total standard deviation is the square root of the sum of the standard deviation values squared:

$$\sigma_{\text{total}} = \sqrt{\sigma_1^2 + \sigma_2^2}$$

Where σ_1 is the standard deviation of the absolute amplitude uncertainty at the reference frequency, and σ_2 is the standard deviation of the frequency response uncertainty relative to the reference frequency.

For example, if a measurement has an absolute amplitude uncertainty of 0.3 dB at 50 MHz for a 95th percentile confidence level, the standard deviation of the absolute amplitude uncertainty at 50 MHz is estimated to:

$$\sigma_1 \cong \frac{u_1}{2} = \frac{0.3}{2} = 0.15 \text{ dB}$$

If the same measurement has a frequency response uncertainty relative to 50 MHz of 0.4 dB at 100 MHz for a 95th percentile confidence level, the standard deviation of the frequency response uncertainty relative to 50 Mhz is estimated to:

$$\sigma_2 \cong \frac{u_2}{2} = \frac{0.4}{2} = 0.2 \text{ dB}$$

The total standard deviation of the measurement is:

$$\sigma_{\text{total}} = \sqrt{\sigma_1^2 + \sigma_2^2} = \sqrt{0.15^2 + 0.2^2} = 0.25 \text{ dB}$$

The measurement uncertainty at 100 MHz for a 95th percentile confidence level is therefore:

$$u_{\text{measurement}} \cong 2 \times \sigma_{\text{total}} = 2 \times 0.25 = 0.5 \text{ dB}$$

ALL OTHER TERMS AND CONDITIONS REMAIN THE SAME AND IN FULL EFFECT.