

**CENTRE FOR DEVELOPMENT OF ADVANCED COMPUTING
(C-DAC)**

**(A Scientific Society under the Department of Information Technology,
Ministry of Communications and IT, Govt. of India)
No.1, CDAC Knowledge Park, Old Madras Road,
Byappanahalli, Bangalore-560038
Ph: 080-66116400-03 Fax: 080-25247724**

Ref No: C-DACB/R&D/Oscilloscope/11-12

January 24, 2011

TENDER NOTICE

**Supply, Installation, testing and Commissioning of 20GHz Digital Storage
Oscilloscope with probes**

C-DAC, Bangalore (A Scientific Society under Ministry of Communications & Information Technology, Govt. of India) invites sealed tenders in Two-Bid system either from the Original Equipment Manufacturers (OEM) or their authorized Direct Distributors / Indian Agents towards supply, installation, testing and commissioning of “ 01 No. of 20GHz Digital Storage Oscilloscope with 3 years warranty with calibration and 02 Nos. of Probes”. Interested bidders may either download the detailed tender document from <http://www.cdacb.in/tenders> or collect it during 24-01-2012 to 13-02-2012 from our above mentioned address between 10.00 am and 5.00 pm on all working days and submit the same as per the given schedule in this tender document.

Joint Director (Admin)

TENDER SCHEDULE

TENDER NO: C-DACB/R&D/Oscilloscope/11-12

Date of issue of Tender documents	January 24, 2012
Last date of submission of bids	February 14, 2012, 15.00 Hrs
Date of opening of Technical bids	February 14, 2012, 15.30 Hrs
Tender Fee (Non-Refundable)	Rs.1,000/- (Rupees One Thousand Only) in the form of Demand Draft favoring CDAC, payable at Bangalore. In case the documents are downloaded from the website, Demand Draft for an amount of Rs.1,000/- in favor of C-DAC, payable at Bangalore should be enclosed along with Technical Bid. Non submission of tender fee will render the tender as invalid and will be rejected outrightly.
Earnest Money Deposit	Rs.1,00,000/- (Rupees One Lakh Only) in the form of Demand Draft favoring C-DAC, payable at Bangalore
Date of Opening of Commercial Bids	Shall be notified later to the technically qualified bidders.

All the pages of tender document should be duly signed and stamped by the competent authority.

SECTION I: INVITATION FOR BIDS (IFB)

1. Centre for Development of Advanced Computing invites sealed bids for Supply, Installation, testing and commissioning of 01 No. of 20GHz Digital Storage Oscilloscope with 3 years warranty with calibration and 2 Nos. of Probes at C-DAC Knowledge Park, Bangalore.

2. Two Bid System :

The two bid system will be followed for this tender. In this system bidders must submit their offer in two separate sealed envelopes as explained below

• Envelope No.1: “Technical Bid” shall contain :

- a) The Demand draft towards Earnest Money Deposit for Rs.1,00,000/-
- b) Duly filled Technical Bid with proper seal and signature of authorized person on each page of the bid submitted.
- c) The detailed Bill of Materials, technical specification, make & model and compliance to the Schedule of Requirement (Section IV) for which bid is submitted.
- d) The soft copy of Technical Bid (.doc / .xls format) in a CDR (except certificates, brochures, order copies etc.)
- e) Copy of the Un-Priced Commercial Bid with commercial terms and conditions as attached in the “Commercial Bid” without mentioning any price.
- f) Undertaking to the effect that a Security Deposit of 5% of the order value will be submitted in case C-DAC decides to place the Purchase Order.
- g) If the bid is in foreign currency, the name and address of supplier abroad on whom the order is to be placed and LC is to be opened. In this case a letter from supplier abroad is required stating that they would have no objection if C-DAC places a Purchase Order on them through the bidder. Also an undertaking from the bidder is required to the effect that the order and LC will be placed on supplier abroad only for administrative purpose and the bidder is responsible and single point contact for the effective execution of Purchase Order.

h) Other related documents as mentioned in the tender document but not listed here.

• **Envelope 2 : “Commercial Bid” shall contain:**

Price Schedule completed in all respects with proper seal and signature of the authorized person with the same commercial terms and conditions as submitted with technical bid.

Both the technical bid and commercial bid envelopes should be sealed separately and clearly marked as “Envelope No. 1 – Technical Bid” and “Envelope No. 2 – Commercial Bid” and addressed to:

The Joint Director (Admin)
Centre for Development of Advanced Computing (C-DAC),
C-DAC Knowledge Park, No.1 Old Madras Road,
Byappanahalli,
Bangalore – 560 038

Please write the tender number on each envelope and seal all the envelopes.

Note: Please do not put “Commercial Bid” (prices quoted) in the technical bid envelope. If the price quoted is submitted with technical bid the tender will be rejected.

4. Date of Submission of bids and opening of the technical bids.

Last date for submission of bids is February 14, 2012 up to 1500 hrs at

Centre for Development of Advanced Computing (C-DAC),
C-DAC Knowledge Park, No.1 Old Madras Road,
Byappanahalli,
Bangalore – 560 038

Technical bid will be opened on February 14, 2012 at 15.30 Hrs.

The bid can be submitted in person or through post/courier (C-DAC shall not be responsible for any postal delays resulting in disqualification / rejection of any bid) so as to reach on or before the due date and time.

The representative(s) of bidders may choose to attend the opening of the technical bids. In case bidder requires any clarification / information they may contact C-DAC at the address mentioned above.

The technical bids will be evaluated to shortlist the eligible bidders. The technical bids of only the short listed eligible bidders shall be considered for technical evaluation.

Bidder whose technical bid is found to be acceptable and meeting the eligibility requirements as specified in this tender will be informed about the date and time of the opening of commercial bid.

5 Opening of Commercial Bid

The Commercial bids of the short listed bidders only will be opened, in the presence of the bidders or their authorized representative, who choose to attend, at the time, place and date to be informed later.

The authorized representative of bidder, present at the time of opening of the bids shall be required to sign an attendance register as a proof of having attended the commercial bid opening.

The bidder's name, bid prices, discounts and such other details considered as appropriate by C-DAC, will be announced at the time of opening of the bids.

(Technically accepted competitive bids ONLY will be considered for the opening of Commercial Bids)

END OF SECTION I

SECTION II: INSTRUCTION TO BIDDERS (ITB)**1. Delivery Period / Timelines**

The Supply, Installation, Testing and Commissioning at site must be completed within 6 weeks, after placement of Purchase order or opening of LC, as the case may be.

2. Location for the Supply, Installation & Warranty Services.

The 20GHz Digital Storage Oscilloscope and other items covered by this document are required to be supplied and installed at C-DAC, CDAC Knowledge Park, Bangalore-560038.

3. Order Placement and Release of Payment

The Purchase Order and payment shall be processed by:

Centre for Development of Advanced Computing (C-DAC),
C-DAC Knowledge Park, No.1 Old Madras Road,
Byappanahalli,
Bangalore – 560 038

4. Eligible Bidders:

1.1 The bidder should be either a principle manufacturer or authorized distributor/reseller for all the items as mentioned in the tender document.

1.2 Bidders should not be under a declaration of ineligibility for corrupt and fraudulent practices.

1.3 Bidders should be registered with Sales Tax / Income Tax Department of Government of India and should hold a valid VAT registration certificate, as applicable.

1.4 The bidder should submit the relevant and necessary documents along with the technical bid.

1.5 The Bidder should have the main / branch office at Bangalore to ensure satisfactory after sales service support.

Note: C-DAC reserves the right to award/reject the orders to any particular bidder without assigning any reasons thereof.

5. Amendment to Bidding Documents:

- 5.1 At any time prior to the deadline for submission of bids, C-DAC may, for any reason, whether on its own initiative or in response to the clarification request by a prospective bidder, modify the bid document.
- 5.2 The amendments, if any, will be notified in writing to the bidders and such amendments/modifications will be binding on bidders.
- 5.3 C-DAC at its discretion may extend the deadline for the submission of bids if the bid document undergoes changes during the bidding period, in order to give prospective bidders time to incorporate the amendments while preparing the bids.

A. PREPARATION OF BIDS:

Bidders should avoid, as far as possible, corrections, overwriting, erasures or postscripts in the bid documents. In case however any corrections, alterations, changes, erasures, amendments and/or addition have to be made in the bids, they should be supported by dated signatures of the same authorized person signing the bid documents.

6. Earnest Money Deposit (EMD)

- 6.1 The tender documents must be accompanied by Earnest Money Deposit of Rs.1,00,000/- (Rupees One Lacs only) in the form of Demand Draft (DD) drawn in favour of C-DAC payable at Bangalore.

Bids submitted without EMD will stand rejected. EMD will not be accepted in the form of cash/cheque/FDR/BG or any other form except DD. No interest shall be payable on EMD.

- 6.2 The EMD will be returned to the bidder(s) whose offer is not accepted by C-DAC within 30 days from the date of opening of commercial bids. In case of the bidder(s) whose offer is accepted, the EMD will be returned on submission of Security Deposit (Refer clause 3 of Section III). However, if the return of EMD is delayed for any reason, no interest/penalty shall be payable to the bidder.
- 6.3 The successful bidder, on award of contract / order must send the contract / order acceptance in writing within 10 days of award of contract/order, failing which the EMD will be forfeited and the order will be placed on the next successful bidder.

6.4 The EMD shall be forfeited:

- 6.4.1 If the bidder withdraws the bid during the period of bid validity specified in the tender.
- 6.4.2 In case a successful bidder, fails to furnish the security deposit (Refer clause 3 of Section III)
- 6.4.3 If the bidder fails to furnish the acceptance in writing, within 10 days of award of contract/order.

7. Period of validity of bids:

- 7.1 Bids shall be valid for a minimum 120 days from the date of submission. A bid valid for a shorter period shall stand rejected.
- 7.2 C-DAC may ask for the bidder's consent to extend the period of validity. Such request and the response shall be made in writing only. The bidder is free not to accept such request without forfeiting EMD. A bidder agreeing to the request for extension will not be permitted to modify his bid.

B. SUBMISSION OF BIDS

The bid should be neatly arranged, pages numbered and secured properly. Each page of the bid should be signed by the authorized representative. They should not contain any terms and conditions, printed or otherwise, which are not applicable to the bid. The conditional bid will be summarily rejected. Insertions, postscripts, additions and alterations shall not be recognized, unless confirmed by bidder's signature.

8. Deadline for Submission of Bids:

- 8.1 Bids must be received by C-DAC before the due date and time at the address specified in the tender document. In the event of the specified date for the submission of bids being declared as a holiday for C-DAC, the bid-closing deadline will stand extended to the next working day up to the same time.
- 8.2 C-DAC may extend this deadline for submission of bids by amending the bid document and the same shall be suitably notified to the bidders.

9. Late Bids:

- 9.1 Any bid inadvertently received by C-DAC after the deadline for submission of bids, will not be accepted and returned unopened to the bidder.

c. BID OPENING AND EVALUATION OF BIDS**10. Opening of Bids:**

- 10.1 The technical bids will be evaluated to shortlist the eligible bidders. The technical bids of only the eligible bidders shall be considered for further processing (Technical evaluation)
- 10.2 During the evaluation process, C-DAC may seek clarification from the bidder, if required. The bidder may submit clarification as required and / or submit the documents, catalogs, literature etc., in response to the clarifications. However, any changes in make/model quoted, quantity offered, configuration, capacity, speed etc., will not be permitted.
- 10.3 Bidder whose technical bid is found to be acceptable and meeting the eligibility requirements as specified in this tender will be informed about the date and time of the opening of the commercial bid.
- 10.4 C-DAC will open commercial bids of only the technically short listed bids, in the presence of the bidder or their authorized representative who choose to attend the bid opening, at the time and date to be informed later.
- 10.5 The bidder's authorized representative who attends the bid opening shall sign an attendance register as a proof of having attended the bid opening.
- 10.6 The bidder's name, bid prices, discounts and such other details considered as appropriate by C-DAC, will be announced at the time of opening of the commercial bids.

11. Comparison of Bids:

- 11.1 Only the short-listed bids from the technical evaluation shall be considered for commercial comparison.
- 11.2 The Schedule of Requirements stipulates the system requirements and features only and is not complete Bill of Materials. The commercial comparison will include all such items that are required to achieve the system requirements. Bidders, in their own interest, should quote for all the items essential for this purpose.
- 11.3 In case of optional items, only the technically qualifying options will be considered for commercial comparison.

- 11.4 The prices for the complete solution (all essential items put together) only will be compared.
- 11.5 For the purpose of comparison, the exchange rate as on the date of opening of commercial bids will be considered.
- 11.6 The comparative statement shall also indicate the delivery schedule offered in the technical bid. The bid not adhering to the delivery/installation period as mentioned in Clause 1 of Section II will stand rejected.

D. AWARD OF CONTRACT

12. Award Criteria

- 12.1 C-DAC shall award the contract to the eligible bidder whose technical bid has been accepted and determined as the lowest evaluated commercial bid.
- 12.2 If more than one bidder happens to quote the same lowest price, C-DAC reserves the right to split the order and award the contract to more than one bidder.

13. Purchaser's Right to amend / cancel

- 13.1 If, for any unforeseen reasons, C-DAC is required to change/reduce the Scope of Supply, this change shall be acceptable to the bidder without change in the unit price quoted.
- 13.2 C-DAC reserves the right to cancel the tender without assigning any reasons there for.

14. Corrupt or Fraudulent Practices.

- 14.1 It is expected that the bidders who wish to bid for this project have highest standards of ethics.
- 14.2 C-DAC will reject bid if it is revealed that the bidder has engaged in corrupt and / or fraudulent practices while competing for this contract
- 14.3 C-DAC may also declare a bidder ineligible, either indefinitely or for a stated duration, for participating in C-DAC's tender process, if it is revealed that the bidder has engaged in corrupt and / or fraudulent practices while competing for this contract.

15. Interpretation of the clauses in the Tender Document / Contract Document:

- 15.1 In case of any ambiguity / dispute in the interpretation of any of the clauses in this tender document, interpretation of Executive Director, CDAC, Bangalore shall be final and binding on all parties.

END OF SECTION II

SECTION III: SPECIAL CONDITIONS OF CONTRACT (SCC)**1. Prices**

- 1.1 The prices quoted shall be considered firm and no price escalation will be permitted during the validity of the bids.
- 1.2 Bidder may bid in Foreign Currencies or in INR or partly in foreign currency & partly in INR. If bidder chooses to bid in foreign currency, the bidder must provide the name and address of the supplier abroad on whom the purchase order is to be placed. The LC would be opened, if applicable, favoring the same supplier abroad. The payment in foreign currency shall be made only if the order and LC is in the name of supplier abroad.
- 1.3 The prices quoted should be inclusive of freight, insurance & packing till C-DAC, Bangalore. The packing shall be transport worthy so as to prevent their damage or deterioration to goods during transit to their final destination.

2. Taxes and Duties:

- 2.1 The prices quoted should be inclusive of applicable taxes and duties, except customs duty and/or Central Excise Duty, as applicable. The items being imported in India are exempted from payment of Customs duty under Customs Notification No. 51/96 as amended by 24/2007, dated 1.3.2007. The Customs Duty Exemption Certificate shall be arranged by C-DAC as & when required. The Excise Duty exemption certificate will be issued under Notification No. 16/2007-Central Excise, dated 1.3.2007. The Customs duty payable after availing exemption, will be extra at actual.
- 2.2 Bidder shall arrange to clear the consignment after following customs formalities at port of landing in India and arrange to deliver the consignment to C-DAC, Bangalore. The cost and risk of the consignment rests with the bidder till it is delivered to C-DAC Bangalore.
- 2.3 If the taxes and duties are quoted separately, the exact rates and amounts of taxes should be mentioned. No concessional tax form (C/D) will be given by C-DAC.

3. Security Deposit (SD)

The successful bidder will be required to furnish the Security Deposit for 5% of the order value within 10 days of receipt of Purchase Order. The Security Deposit will be in INR and shall be submitted in the form of Demand Draft drawn in favor of C-DAC payable at Bangalore. The Security Deposit will be returned upon completion of installation & commissioning and submission of Performance Bank Guarantee (PBG). The Security deposit from the Indian representative is acceptable.

4. Performance Bank Guarantee (PBG)

The successful bidder will be required to furnish the Performance Bank Guarantee for the 10% amount of the Purchase Order, as per the format attached to this document (Refer Annexure – B) on successful installation & commissioning of the system. This bank guarantee shall remain valid for the entire period of warranty. This Performance Bank Guarantee must be in INR, issued by any Indian bank only. In case of order in foreign currency, for calculating the equivalent amount in INR, the RBI exchange rate as on date of invoice shall be considered.

5. Completeness Responsibility

Notwithstanding the scope of work, engineering, supply and services stated in bid document, any equipment or material, engineering or technical services which might not be even specifically mentioned under the scope of supply of the vendor and which are not expressly excluded there from but which are necessary for the performance of the system in accordance with the specifications and executing the contract to establish achievement of performance guarantee parameters, are to be provided for and rendered by the vendor without any extra charge.

6. Warranty & Support

All the items offered / ordered, shall carry minimum 3 (three) years on site comprehensive warranty & Support with calibration from the date of acceptance. The Warranty and support should be provided by OEM. The repairing/ rectification/ replacement/ configuration required, if any, of the items under warranty must be done at site only at free of charge, including to and fro transportation costs of the items. These items shall not be allowed to be taken outside country for warranty repairs.

During the warranty, all complaints should be rectified within 48 hours from the time of complaint. Beyond 48 hours, an equivalent or better standby will

have to be provided within 72 hours from the time of complaint. Failure to do so would result in the invoking of the PBG. The PBG will be released only after the submission of satisfactory performance certificate issued by C-DAC after the completion of warranty period.

7. Payments:

7.1 **In case of orders in INR** - 80% of the payment will be made against receipt of material at site and 10% against successful installation & commissioning duly certified by C-DAC.

Balance 10% payment will be made on the completion of warranty period OR against submission of Bank Guarantee of equivalent amount from any Indian bank valid for the entire period of warranty.

7.2 **In case of orders in foreign currencies** – 80% Payment shall be made against irrevocable Letter of Credit (LC) at sight and 10% payment will be made by sight draft, against successful installation & commissioning of the system duly certified by C-DAC. The balance 10% shall be paid against submission of Performance Bank Guarantee as per clause 5 of Section III given above. In case of foreign bidder, the Performance Bank Guarantee submitted by bidder's Indian office/ representative/ distributor will be acceptable.

8. Training:

The Bidder should give training to a group of CDAC personnel on Hardware & other features etc., The training must be arranged at CDAC, Bangalore

9. C-DAC, Bangalore reserves the right to increase or decrease the Bill of Material as per the requirement without any change in the quoted rates.

10. Penalty for delayed Deliveries / Services.

C-DAC reserves the right to levy penalty @ of 0.5% of order value per week of delay beyond the scheduled deliveries / execution of the order successfully, subject to maximum of 10% of the order value.

C-DAC reserves the right to cancel the order in case the delay is more than 10 weeks.

The penalties, if any shall be recovered from Security Deposit / Performance Bank Guarantee.

11. Responsibilities:

In case the bid is submitted by Indian Representative or authorized distributor/reseller, with the instruction to place the purchase order on their principles, all the terms and conditions stipulated in this document shall apply to the principles on whose name the Purchase Order is placed.

12. Jurisdiction:

The disputes, legal matters, court matters, if any shall be subject to Bangalore jurisdiction only.

13. Force Majeure:

C-DAC may consider relaxing the penalty and delivery requirements, as specified in this document, if and to the extent that, the delay in performance or other failure to perform its obligations under the contract is the result of a Force Majeure. Force Majeure is defined as an event of effect that cannot reasonably be anticipated such as acts of God (like earthquakes, floods, storms etc.), acts of states, the direct and indirect consequences of wars (declared or undeclared), hostilities, national emergencies, civil commotion and strikes at successful Bidder's premises.

14. Arbitration & Laws

Except where otherwise provided for in the contract, all questions and disputes relating to interpretation and application of the provisions of the contract shall be settled mutually within thirty (30 only) days (or such longer period as may be mutually agreed upon) from the date that either party notifies in writing that such dispute or disagreement exists, under the Rules of India Arbitration and Conciliation Act, 1996. The venue of Arbitration shall be specified in the purchase agreement. The jurisdiction of the courts shall be specified in the purchase agreement.

END OF SECTION III

ANNEXURE A

Checklist: Eligibility Criteria for Bidders

Bidders to indicate whether the following are enclosed by striking out the non-relevant option.

1.	The Demand Draft for Rs.1,00,000/- towards Earnest Money Deposit	Yes/No
2.	Undertaking that the successful bidder agrees to submit the Security Deposit amounting to 5% of the order Value	Yes/No
3.	Undertaking that the successful bidder agrees to give a Performance Bank Guarantee amounting to 10% of the Purchase order Value.	Yes/No
4.	Duly filled Technical Bid with proper seal and signature of authorized person on each page of the bid submitted	Yes/No
5.	Duly filled Financial Bid with Proper Seal and signature of authorized person on each page of the bid submitted	Yes/No
6.	Self Attested copy of Tax Registration Certificate(s) as applicable	Yes/No
7.	Self Attested copy of Sales Tax, Service Tax & other required authorities as applicable	Yes/No
8.	A copy of the Un-priced Financial Bid	Yes/No
9.	Compliance sheet with any deviation	Yes/No

ANNEXURE – B

(ON STAMP PAPER)

PERFORMANCE BANK GUARANTEE:

To,
The Director General
Center for Development of Advanced Computing,
C-DAC Knowledge Park
No. 1, Old Madras Road
Byappanahalli
Bangalore 560 038.

In consideration of Center for Development of Advanced Computing (hereinafter called the Purchaser) having agreed on the terms and conditions of Order No. : _____ dated: (hereinafter called the Contract) made between M/s. (Vendor), having its Registered Office at: _____, and corporate office at _____, (hereinafter called the Contractor) and the Purchaser in connection with supply of _____ materials, the Purchaser stipulated in the contract that the balance 10% (Ten Percent only) payment of the purchase price shall be payable to the contractor only against a Bank Guarantee for 10% (Ten percent only) value of order valid till warranty period contained in the purchase order i.e. 36 months min. from the date of commissioning or min. 40 months from the date of despatch.

We, _____ (bank name & full address), (hereinafter referred to as the Guarantor), do hereby undertake and agree to indemnify and keep indemnified the Purchaser from time to time to the extent of Rs. _____ /-(Rs. _____ Only) against any cost, charges and expenses suffered by the Purchaser by reasons of any breach or breaches committed by the said Contractor of any of the terms and conditions contained in the contract and the improper performance of the products during the warranty period and unconditionally pay the amount claimed by the Purchaser on demand and without demur to the aforesaid.

We, (bank name) further agree that the Purchaser shall be the sole judge of and as to whether the said Contractor has committed any breach or breaches of any of the terms and conditions of the said contract and the extent of costs, charges and expenses suffered by the Purchaser on account thereof and the decision of the Purchaser that the said contractor has committed such breach or breaches and as to the amount or amounts of costs, charges and expenses suffered by the Purchaser from time to time, shall be final and binding on us.

We, (bank name), further agree that the Guarantee herein contained shall remain in full force and effect during the period that would be taken for the performance of the said contract subject, however, that the Purchaser shall have no claim under this Guarantee after the expiry of the warranty period as mentioned in the Order No.: _____.

The Purchaser shall have the fullest liberty without affecting in any way the liability of the Bank under this Guarantee or Indemnity from time to time to vary any of the terms and conditions of the said Contract or to the extent the time of performance by the said Contractor or to postpone for any time and from time to time any of the powers exercisable by it against the said Contractor and either to enforce or forbear from enforcing any of the

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Date: 24.01.2012

terms and conditions governing the said contract or securities available to the Purchaser and the said Bank shall not be released from its responsibilities under these presents by any exercise by the Purchaser to the said contractor or of any other matter or thing whatsoever which under the Law relating to securities would but for this provision have the effect of so releasing the Bank from its such liability.

It shall not be necessary for the Purchaser to proceed against the Contractor before proceeding against the Bank and the Guarantee herein contained shall be enforceable against the Bank, notwithstanding any securities which the Purchaser may have obtained from the Contractor, shall at the time when proceeding are taken against the Bank hereunder be outstanding or unrealized.

We, the said bank, lastly undertake not to revoke this Guarantee during its Currency except with the previous consent of the Purchaser in writing and agree that any change in the constitution of the said contractor or the said bank shall not discharge or liability hereunder.

Notwithstanding anything to the contrary contained hereinbefore our liability under this guarantee is restricted to Rs._____/ - (Rs., in words), our liability under this Guarantee shall remain in force until (date). Unless a demand or claim is made on us in writing, within the said period, that is on or before (date). All rights of the Purchaser under the said Guarantee shall be forfeited and we shall be relieved and discharged from all liabilities.

This Guarantee should be returned to us on expiry.

Dates this _____ day of (month) of ____ (year).

Sd/- (Bankers)
Authorized signatory
With bank seal & full address.

SECTION IV – Schedule of Requirements

Specifications for Digital Storage Oscilloscope – Quantity 1 No.	
Feature	Specification
Bandwidth	20 GHz with Upgradable option upto 30 GHZ
Rise Time	≤17psec (20-80 %)
No. Of Channels	4
Sampling type	Real Time Sampling
Sample Rate	≥40GSa/s on all 4 channels simultaneously
Record Length	250 Mpts
Vertical Resolution	≥ 8 bits
Input Range	100mV to 5V
Vertical Sensitivity	Atleast 10 mv/div to 500 mv/div
Time Base Range	Atleast 20 psec/div to 128 s/div
Noise floor	< = 5 mV or 0.56% Full scale at 20GHZ
ENOB	≥ 5 bits
Time Base Accuracy	≤ 1.5 ppm
Jitter Measurement Noise Floor	290 fsec or less
Trigger Jitter	≤1psRMS
Jitter analysis	Complete jitter analysis is required
Clock recovery	Required
Acquisition Mode	Support for all acquisition modes is required
Input Coupling	DC(50Ohms) and option for 1M coupling
Trigger Modes/types	Multiple trigger options are required including option to trigger sequence of events along with visual trigger
Trigger with mask	Required
Waveform Processing/Math	Math functions, eye pattern, histogram, filters etc
Measurements	Atleast 5 simultaneous displays
Display	XGA LCD
Screen Size	≥12.1 inches
Input/output Ports	LAN, serial port, 3 USB ports
Protocol debugging and electrical compliance capabilities	10G Ethernet, PCI express Gen3, I2C , SPI and USB2, SATA/SAS and DDR3
Probe deembedding	Required
Probe Specification – Quantity 2 Nos.	
Active/ Passive	Active
Single Ended/Differential	Differential
Measurement type	Voltage
Bandwidth	20GHz
Rise Time	≤18psec at 20 - 80 %

Compatibility with above scope	compatible
Probe Input Resistance (Differential)	$\geq 50\text{K}\Omega$
Probe Input Capacitance (Max)	$< 0.2\text{pF}$
Probe Length	Atleast 1 m
Probe Attenuation	4.5x or better
Signal Amplitude	1.6V peak to peak
Dynamic Range	1.6V peak - Peak
Warranty for the above items	3 years warranty with calibration