NATIONAL INSTITUTE OF TECHNOLOGY SILCHAR

Silchar – 788 010 (ASSAM)

No: NITS/PS-663/ECE/Equip/Communication Lab/19   Date: 14 /03 /2019

NOTICE INVITING TENDER

FOR SUPPLY AND INSTALLATION OF EQUIPMENT FOR COMMUNICATION LAB, ECE

DEPARTMENT AT NIT SILCHAR

LAST DATE & TIME OF SUBMISSION	:	05/04/2019 up-to 01.00 PM
DATE & TIME OF OPENING	:	05/04/2019 at 03.30 PM

NATIONAL INSTITUTE OF TECHNOLOGY

SILCHAR - 788 010

Tel.No. Director: (03842) 224879   Fax: (03842) 224797

NOTICE INVITING TENDER

No: NITS/PS-663/ECE/Equip/Communication Lab/19

Sealed Tenders are invited from reputed Firms/Agencies/Manufacturer/Authorized Dealer **FOR SUPPLY AND INSTALLATION OF EQUIPMENT FOR COMMUNICATION LAB, ECE DEPARTMENT AT NIT SILCHAR along with Earnest Money Deposit (EMD) @2% of the total bid value in the form of Demand Draft/Bank Guarantee in favour of "The Director, NIT Silchar", Payable at Silchar. No Interest shall be paid on EMD at the time of return. Bidders registered as NSIC/SSI/MSME are exempted. Necessary Certificate in support must be furnished where applicable.**

Detail specification of required item/items are given in **(Annexure–A).**

Tender document can be obtained from Purchase Section, NIT Silchar or may be downloaded from our website www.nits.ac.in or http://eprocure.gov.in. **The cost of tender document is Rs.1,000/-** (Non-refundable) to be submitted in the form of DD in favour of The Director, NIT Silchar-788010, Payable at Silchar. The last date and time for submission of Tender document will be _05_/_04_/**2019 up**-to **01.00PM** and tender (technical bid) will be opened on the same date at **03.30 PM** in office of HOD, ECE Dept., NIT SILCHAR. Price bid of technically qualified bidders only shall be opened in a later date with prior intimation.

The offers without Cost of Tender & Earnest Money Deposit (EMD) shall out rightly be rejected.

Director, NIT Silchar reserves the right to extend the date or cancel the tender, accept or reject any/all tenders or not to purchase all or any of the items.

Tenders are to be sent/submitted in sealed covers addressed to:-

> **The Faculty-In-Charge, Purchase**
> **National Institute of Technology, Silchar-788 010, Cachar, Assam**
> **Email : purchasecell.nits@gmail.com**

Registrar, NIT Silchar

NOTICE INVITING TENDER

Credential Criteria:

- The bidder should have provided similar nature of services to IITs/NITs/Govt. Departments/Semi Govt. Departments/PSU/Educational Institutions of National Importance etc. during last 3(three) years. **Duly certified copies are to be enclosed.**

- Tender/Quotations are to be submitted in **TWO PARTS** i.e. **(a) Technical Bid and (b) Price Bid**, in two separate properly sealed covers; and both these covers will have to be again put in to a single sealed cover. Also, the full address of the firm submitting the tender/quotation must appear distinctly with PIN on both the inner sealed covers, indicating also **TECHNICAL BID/ PRICE BID** as may be applicable. The outer most cover shall be super scribed as

- **"QUOTATION FOR SUPPLY & INSTALLATION OF** ....**FOR** .... **NIT SILCHAR.**

- **VIDE TENDER REF NO NITS/PS-**..., DATED..

  DATE OF OPENING ....

  [The bid will summarily be rejected & returned to the bidder if the sealed envelope containing the quotation is not super scribed as above].

- **Genuine Pricing** (Both foreign & indigenous) :Vendor is to ensure that quoted price is not more than the price offered to any other customer in India to whom this particular item has been sold recently, particularly to IIT/Institutes and other Government Organization.
- **No Part Delivery:** Part shipment for any items will not be allowed.
- **Any Optional item quoted by the supplier will not be entertained.**
- **Termination for default :** Default is said to have occurred -
- If the supplier fails to deliver any or all of the items/services within the time period(s) specified in the purchase order or any extension thereof granted by NIT Silchar, the Institute may terminate the contract / purchase order in whole or in part and forfeit the EMD/PBG as applicable.

TERMS & CONDITIONS:

1. The bidding agency should be reputed firm and having all necessary certificates, viz. GST registration certificate, PAN, Registration, Sale Tax clearance Certificate, Authorized Dealership/Distributorship certificate, etc. The photocopies of all the certificates should be attached with the tender.

2. The firm should be an original equipment manufacturer (OEM) in the business of manufacture or supply of equipment for minimum 3-5 years. The firm should submit audited financial statements for latest three financial years in support of this claim.

3. The items being quoted should be of Original Manufacturer and no non-standard item should be quoted. All detailed specifications with make & model no. of the items accompanied by proper leaflets should be clearly mentioned and attached with the offer. In case of **proprietary** or **patented** item, necessary certificates in support of the same should be attached. The bidder must submit the Compliance Statement and Deviation Statement of technical specification.

4. The firm should have satisfactorily manufactured or supplied equipment, as requisitioned in this tender, to IITs/NITs/Govt. Departments/Semi Govt. Departments/PSU/Educational Institutions of National Importance etc. during the last 3(three) years ending the last day of March 2018.

5. **The rate quoted must be both in words and figures and F.O.R. / Destination National Institute of Technology Silchar -788010, Assam inclusive of all charges i.e. packing, forwarding, octroi, surcharge, insurance, installation, demonstration and other charges if any. Educational discount, if any should be indicated clearly. Tenderer(s) may note that the Government of India exempts this Institute from paying custom duty/excise duty. Charges of Custom Duty (after concession as per govt. of India), IGST, Custom Clearance without any fine /demurrage/ penalty shall be paid by the Institute on actual basis subject to submission of original supporting bill/ vouchers. Necessary**

documentation like **DSIR, CDE, GST Concession Certificate, Declaration Certificate, Authorization letter regarding transportation of cleared consignment up-to NIT Silchar shall be provided by the Institute on submission of Order Acceptance and Proforma Invoice. Necessary documents will be furnished if required on demand by the Tenderer(s). Rate quoted for any other destination shall not be accepted and the bid will summarily be rejected. All the CUSTOM CLEARING ISSUES and delivery of ordered items up-to destination i.e. NIT Silchar must be handled by the Supplier only.**

6. **Quoted rate should be inclusive of all taxes. Nothing extra will be paid by the Institution. If there is any increase / decrease of statutory taxes will be reimbursed accordingly.**

7. **Payment: Payment 100% shall be made only after receipt of ordered items as per specification and quantity and after successful installation, demonstration, training (where applicable) and commissioning.**

   • **Payment: In connections to foreign items payment shall be made through wire transfer / irrevocable Letter of Credit (90% through LC and 10% after receipt of ordered items as per specification, quantity, successful installation, demonstration, training (where applicable) and commissioning).**

8. Manufacturer's/Company's name, it's trademark should be mentioned in the tender and illustrative leaflets giving technical particulars, etc. should be attached in the tender.

9. Tenderer(s) registered with the State/Central Government must quote his registration numbers, if any, and submit a xerox copy of registration along with the tender.

10. Guarantee/Warranty period offered for the tendered item is to be clearly specified.

11. The rates to be quoted by the agency should be valid for a period of **6(six) months** after the deadline date specified in the tender.

12. The quantity against each item mentioned in the tender may vary according to the actual requirements at the time of placing Purchase Order.

13. **Each bidder should clearly specify that the bidder agrees to abide by the conditions of this tender document on their printed letter head duly sealed & signed by an authorized person.**

14. **Bid Price**

    a) **The contract shall be for the full quantity as described above. Corrections, if, shall be made by crossing out, initialing dating and rewriting.**

    b) **The bidder should quote the total price for each item inclusive of packing and forwarding, all duties, levies, insurance, installation, demonstration and any other charges, etc. only taxes & (discount if any) should be mentioned/shown separately.**

    c) **The rates quoted by the bidder shall be fixed for the duration of the contract and shall not be subject to adjustment on any account.**

15. Each bidder shall submit only one quotation.

16. All necessary documents shall be furnished along with the bid.

17. **Validity:** Tenders/Quotations shall remain valid for a period not less than **6 (six) months** after the deadline date specified for submission of tender.

18. **Packing**

a) The Supplier shall provide such packing of the Goods as is required to prevent their damage or deterioration during transit to their final destination as indicated in the Contract. The packing shall be sufficient to withstand, without limitation, rough handling during transit and exposure to extreme temperatures, salt and precipitation during transit and open storage. Packing case size and weights shall have to be taken into consideration, where appropriate, the remoteness of the Goods' final destination and the absence of heavy handling facilities at all points in transit.

b) The packing, marking and documentation within and outside the packages shall comply strictly with such special requirements as shall be provided for in the Contract including additional requirements.

19. **Evaluation of Quotations :**

NIT Silchar will evaluate and compare the tender/quotations determined to be substantially responsive i.e. which

a)   are properly signed

b)   Conform to the terms and conditions, and specifications.

20. **Award of contract:**

NIT Silchar will award the contract to the bidder whose tender/quotation has been determined to be substantially responsive and who has offered the lowest evaluated quotation price.

a)   The bidder whose bid is accepted will be notified of the award of contract by the NIT Silchar prior to expiration of the quotation validity period. The terms of the accepted offer shall be incorporated in the purchase order.

b)   Normal commercial warranty/guarantee shall be applicable to the supplied goods.

c)   The goods (both indigenous & imported) should be insured against theft, loss or breakage during transit till destination.

d)   Upon delivery of goods, the supplier shall submit Suppliers Invoice, Insurance certificate, Warranty Certificate, Installation Certificate, Performance Bank Guarantee (where applicable) or any other document as required/demand.

21. **Acknowledgement of the Purchase Order**: The supplier shall give an acknowledgement of the Purchase Order within 15(fifteen) days of the date of the Purchase Order. In case, the supplier fails to acknowledge the Purchase Order within the stipulated time, the Institute is at liberty to cancel the Purchase Order.

22. No alternations in tender forms shall be made by the bidder and if any such alteration is made, the tender is liable to be rejected.

a) Delivery Schedule and Penalty for Delay: Delivery of equipment should be made **within 30(thirty) days OR as per terms and condition of Purchase Order** from the date of issue of Purchase Order. **Penalty at the rate of 0.5% or part thereof of the order value per week, subject to a maximum of 2.5% will be imposed for delayed delivery and installation.**

23. **Demurrages and penalty, if any, paid by the supplier shall not be borne by the Institute.**

24. The tenders submitted shall clearly mention the name of the firm/person in whose favour the purchase order is to be placed.

25. Contact details of the person for all post sales/installation maintenance support should clearly be given with **Name & Designation, Phone No, Fax No, Mobile, E-mail and official address.**

26. National Institute of Technology Silchar is not liable for non-receipt of the tender forms in time due to wrong address/ any delivery delay of the mail service provider/ force majeure. Tender documents received after the last date and time for receiving tenders will be summarily rejected.

27. **Successful bidder shall give a performance security @10% or (as per Purchase Order) of the total order value in the form of Bank Guarantee.** The performance security shall be furnished along with the Bill / Invoice after the order for supply is placed and before the final payment. Validity of the Performance Security shall cover the warranty period.
     - The proceeds of the Performance Security shall be payable to the purchaser as compensation for any loss resulting from the suppliers failure to complete its obligations under the contract.

28. All legal disputes shall be under the jurisdiction of the Silchar Courts of Cachar District in the state of Assam.

Registrar, NIT Silchar

DECLARATION

        I / We hereby declare that no case is pending with the police/ court against the proprietor/ firm/ partner or the company (Agency). Also I /We have not been suspended / blacklisted by any PSU / Government Department / Financial Institution / Court.

(Signature & seal of the contractor)

Place:

Date:

NO DEVIATION CERTIFICATE

Notwithstanding anything mentioned in our bid, we hereby accept all the terms and conditions of this tender and we do not have any deviation to this tender enquiry. We hereby undertake and confirm that we have understood the scope of work properly and shall be carried out as mentioned in this tender enquiry.

(Signature & seal of the contractor)

Place:

Date:

BIDDERS DETAILS

Name of the Contractor /Party/ Firm	:	
Name of Authorized Representative	:	
Phone Nos.	:	
Mobile Nos.	:	
Fax No.	:	
E-Mail Address	:	
Web Site Address (If Any)	:	

(Signature & seal of the contractor)

Place:

Date:

TECHNO-COMMERCIAL BID

Sl. No.	Name of item with Specification, Make & Model	QTY.	Rate per Unit in	Taxes in %	Total Amount in
			Sub Total Amount		
			Discount (if any)		
			Taxes (if any)		
			Other Charges (if any)		
			Grand Total Amount		

NAME OF THE WORK: Supply and Installation of …………………………….. at NIT Silchar
TENDER NO. : NITS/PS-………………………., Dtd…………..……………., LOS : ……………………………..

(AMOUNT IN WORDS)

I/ we have gone through all the Special & General Conditions and the contractor's obligations enclosed with this tender document and agree to abide by these.

Note: In case of discrepancy in rates between figure & words the higher will be taken for evaluation of bid and lower value will be taken for award of work.

(Signature & seal of the contractor)

Place:
Date:

CHECK-LIST (TECHNICAL BID)

SUMMARY OF COMPLIANCE TO REQUIREMENT OF TENDER

Sl. No.	Description of Requirement	Yes / No / NA	Page No.
1.	Tender Cost Rs.1000/- (Non-refundable) in the form of Demand Draft in favour of "Director, NIT Silchar" in a separate envelope		
2.	EMD @2% of total bid value in the form of Demand Draft /Bank Guarantee in favour of "Director, NIT Silchar" in a separate envelope		
3.	Copy of Manufacturer/ Authorized Supplier Certificate		
4.	Audited financial statement for the last 3 years		
5.	Copy of the PAN card.		
6.	Copy of GST registration certificate		
7.	Copies of previous work order of similar work with completion certificate (if any)		
8.	Declaration certificate		
9.	No Deviation certificate		
10.	Bidder's details		
11.	Technical Specification		
12.	NSIC/SSI/MSME Certificate where applicable		
13.	All the pages of tender document have been signed		
14.	Price bid in separate sealed envelope.		
15.	Complete copy of Techno Commercial Bid submit along with the Price Bid.		

(Signature & seal of the contractor)

Place:

Date:

Technical Specification

Sl.No.	Specification of Articles	Number/Qty.
1.	NI ELVIS II+ EMONA DATEX Board for ELVIS-II	03
2.	Tektronix 2 Channel 100 MHz Digital Oscilloscope	10
3.	Tektronix and Keithley DC Power Supplies	10
4.	RSoft OptSIM v 2018.03 Software, 3 Users 4 years term network Academic License for Windows 7/10	01

Detailed Technical Specification

1) NI ELVIS II

Platform Features	• Open architecture for third-party plug-in boards • Hi-Speed USB plug-and-play connectivity • 1.25 MS/s oscilloscope with 100 MS/s option on NI ELVIS II+ • 51/2-digit isolated digital multimeter • ±15 and +5 V power supply • Manual control - function generator and variable power supply • Circuit protection with resettable fuse
Integrated Suite of 12 Virtual Instruments	• Oscilloscope • Function generator (manual control) • Digital multimeter (DMM) • Arbitrary waveform generator • Bode analyser • 2-wire current voltage analyser • 3-wire current voltage analyzer • Dynamic signal analyzer (DSA) • Impedance analyzer • Digital reader • Digital writer • Variable power supply (manual control)
Recommended Software	• LabVIEW • NI Circuit Design Suite
Driver Software (included)	• NI-ELVISmx • LabVIEW Signal Express

EMONA DATEX Board for ELVIS-II

NI ELVIS Functions	**Digital I/0:** Digital inputs D IN -0 to IN-3; Digital outputs D OUT-0 to OUT-3 **Function Generator:** Input VCO IN; Outputs FUNCTION OUT and SYNC OUT **Analog I/O :** Inputs ACH0 and ACHI ; Outputs DAC0 and DAC1 **Variable Power Supplies**: Outputs "+" and "-"
ETT-202 Functional Modeling	**Adder 1:** Dual input, Variable gain from 0 to 2 (inverting), Bandwidth approx. 600kHz **Adder 2:**

Blocks	Dual input, Fixed gain of 1, Bandwidth approx. 600kHz
	Amplifier: Bandwidth: DC to approx. 600kHz; Gain: 0.2 to 10 **Channel Module:** 1.CHANNEL BPF, Fcenter = 1 OOkHz;Passband = 24kHz; (from 88 kHz & 112 kHz), Stopband = 140kHz, -35dB (approximately at 30kHz & 170kHz); Gain =1; Type: 6th order Chebychev with 0.1dB ripple 2. BASEBAND LPF, F cut-off= 1.6 kHz;Gain = 0.9;Type: 4th order Butterworth **Dual Analog Switch & Sample/Hold** Analog Input Bandwidth 50kHz, Maximum CONTROL clock 100kHz CONTROL Input Levels digital-level only, 0V and 5V, Maximum Analog Input Level 4Vpk-pk **Headphone Amplifier** Output power 125mW, stereo socket, Headphone Type and Connector 3.5mm stereo, > 8ohm impedance **Line Code Encoder** Input data from SEQUENCE GENERATOR "X" data sequence CLK same digital-level clock as SEQUENCE GENERATOR CLK signal, fmax > 100kHz, Line codes: NRZ-L, RZ-AMI, Bi-phase, NRZ-M Output LINE-CODE signal +/-2Vp-p **Master Signals:** Output Frequencies carrier: 100kHz in quadrature and a third digital signal, sample clock 8.333kHz (sub-multiple of the carrier), message: 2.083kHz sinusoidal and digital, Output Levels 4V pk-pk, analog (+/- 5%) Digital level, 0V to 5V **Multipliers:** 3 independent dual input multipliers, Bandwidth approx 600kHz, Characteristic k.X(t), Y(t), k approx 1 **Noise Generator:** Bandwidth 10Hz to < 240kHz, "white" noise, Maximum level approx 4.8Vrms, Attenuator steps 0dB (approx 4.8Vrms), -6dB (approx 2.4Vrms) and -20dB (approx 0.48Vrms) **PCM Encoder:** Input Vin +/-2Vpk, DC coupled, Bit Clock Input> 128kHz, digital-level Output Signal serial, digital-level data stream in offset binary format. Output Format 8 bits data, Frame Synchronization FS synchronization signal coincident with frame's LSB, TDM Mode two input Time Division Multiplex system, No anti-aliasing filters **PCM Decoder:** Input PCM DATA serial, digital-level data stream in offset binary format Input Format 8 bits, Bit Clock Input <128kHz, digital-level; Output Signal approximately +/-2Vpk, DC coupled, TDM Mode two channel TDM system, Outputs do no include reconstruction filters **Phase Shifter:** Bandwidth> 200kHz, Frequency Ranges two regions, HI approx., 00kHz; LO approx. 2kHz, Auto detect HI/LO boundary approx. 40kHz **Sequence Generator:** Input Clock Range TTL 1Hz to 100kHz; Number of Sequences 2: X and Y Sequence Lengths X = 31 bits, Y = 255 bits; Sync indicates start of sequence X **Serial to Parallel:** Inputs SERIAL digital-level data;CLK is the digital-level clock signal; Maximum CLK Rate approx 100kHz; Outputs bipolar parallel data output **Speech:** Microphone electret-type with frequency response of 300Hz to 3kHz Output typically 0.6 Vrms **Tunable LPF** Filter Range 600 Hz to 12 kHz;Filter Order 8th order, Elliptic;Stopband Attenuation> -50dB at 1.4 fc and Passband Ripple < 0.5dB;Gain Control 0 to 1.6 **Twin Pulse Generator:** Clock Frequency Range < 8kHz;Pulse WIDTH 5us < tw < 40us;Pulse DELAY Q2-Q1 50us < td <

	300us
	Utilities:
	1.COMPARATOR:Operating Range> 100kHz, TTL Output Risetime 500nsec (typically)
	2.RECTIFIER:Bandwidth DC to 100kHz (approx)
	3.DIODE & LPF:LPF -3dB 2.6kHz (approx),
	4.RC LPF:LPF -3dB 2.6kHz (approx)
System Specifications	**MANUAL/PC-CONTROL MODES**
	All front panel controls can be varied either manually or via PC-control.
	PC-control can only be implemented by NI Lab VIEW and DAQmx interface via NI ELVIS edge connector
	PC-control software interfaces:
	DATEx SFP, DATEx Toolbar SFP and DATEx low level VIs
	STANDARD ACCESSORIES
	Patch Cords 20 x 2mm-2mm stackable patch cords
	Scope leads 3 x 2mm-to-BNC coaxial oscilloscope leads
	DMM leads 2 x 2mm-to-4mm patch cords
	Headphones 1 x lightweight stereo headphones,
	24 ohm, 3.5mm male stereo plug
	Documentation 1 x User Manual; 1 x Experiment Manual
	COMMON ELECTRICAL SPECIFICATIONS
	Input impedance: 50kohm; Analog signals: 330 ohm; Digital signals: 47 ohm Maximum allowable input voltage: +/- 12V;Maximum output voltage: +/-12V
	POWER SUPPLY
	Power Source supplied via NI ELVIS edge connector +5, + 15, -15 rails consume <200mA each
	ENVIRONMENTAL
	Operating Temperature Range: 10 to 30 degrees C;Storage Temperature Range: 5 to 40 degrees C;Humidity up to 90% RH, non-condensing
	PHYSICAL
	Dimensions front panel 280 x 215mm;

2) Tektronix 2 Channel 100 MHz Digital Oscilloscope

Key performance specifications	• 200MHz, 150 MHz, 100 MHz, 70 MHz, 50 MHz, and 30 MHz 1 bandwidth models
	• 2-channel models
	• Up to 2 GS/s sample rate on all channels
	• 2.5k point record length on all channels
	• Advanced triggers including pulse and line-selectable video triggers
	• Dual channel frequency counter
	• Zoom Function
	• Automated, extended data logging feature
	• Autoset and auto-ranging functions

3) Tektronix and Keithley DC Power Supplies

Key Features	All channels have isolated outputs
	All channels are independently controlled
	All channels have remote sensing
	Two 30V channels can be combined either in seriesor in parallel
	Low noise, linear regulation
	Voltage and current outputs for all channels are displayed simultaneously

	Front panel numerical keypad entry
	Store frequently used configurations in any of 30 setup memory locations
	Per-channel output timer

4) RSoft OptSIM v 2018.03 Software

RSoft OptSIM v 2018.03 Software, 3 Users 4 Years Term Network Academic License for Windows 7/10	Support design and simulation of optical communication systems at the signal propagation level Support for multiple parameter-scans-based optimization. Only design tool with multiple engines implementing both the Time Domain Split Step and the Frequency Domain Split Step for 'the most accurate and efficient simulation of any optical link architecture. MATLAB interface makes it easy to develop custom user models using the m-file language and/or the Simulink modeling environment. Interfaces with laboratory test equipment such as Agilent and Luna to merge simulation with experiment. Co-simulation with embedded SPICE engine, and interfaces with EDA tools such as Synopsys HSPICE for a mixed-domain electrical and optical simulation. Application Programming Interface (API) for programming languages such as C/C++ for the development of custom user models. Extensive library of predefined manufacturer components makes it easy to model commercially available devices. Intuitive and flexible measurement post-processing graphical interface acts like a virtual laboratory instrument.