

NATIONAL INSTITUTE OF TECHNOLOGY  
GOA -403401

(Form to be used for purchases above Rs.2.50 lakhs and below Rs. 25 lakhs)

Limited Tender Enquiry

Enquiry No: NITGOA/LT/ECE/PROJ/SERB/2017/OW/ 482.

Date: 20/07/2017.

Important Dates

To
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Event	Date	Time
Pre-bid Conference	-	-
Last Date of submission of quotation	<b>09-08-2017</b>	<b>03:00PM</b>
Technical Bid Opening date	<b>09-08-2017</b>	<b>03:30PM</b>
Financial Bid Opening date	<b>10-08-2017</b>	<b>10:00AM</b>

Dear Sir,

We intend to purchase the commodities specified below and invite quotations in accordance with the terms and conditions detailed in the bid document. If you are interested, kindly send your offer with prices and complete terms within the time mentioned above.

Please send your quotation to:

Director NATIONAL INSTITUTE OF TECHNOLOGY GOA-403401
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Yours sincerely,



**Director**

National Institute of Technology  
Goa

Encl:

- (1) Schedule of requirement, specifications, dates etc.
- (2) Bid document containing detail terms and conditions.

1. **Schedule of requirements**

Sl. No.	Name of Equipment	No's Required
1.	S-Parameter measuring set (Spectrum analyzer cum vector signal analyzer+ Tracking Generator+Directional coupler)	01
2.	SMA Connector (10 pcs) and cables (5 pcs)	10 pcs and 5 pcs respectively
3.	Turn Table with Radiation Pattern measurement Software	01
4.	Horn Antenna (4-6 GHz), 20 dBiGain	01

2. **Specifications and allied Technical Details**

**Enclosed at Annexure – I,II,III,IV**

3. **Format of Quotation (tick appropriate box)**

It is a Single bid; please give all technical specifications and price bid in one envelope.

OR

It is a two-part bid with separate techno-commercial and price bids. Please see item 1.12 of instructions for method of bidding.

4. The bid envelope should be super-scribed with

**Bid for Fabrication and Measurement Solution of Micro-strip Antenna Enquiry No. NITGOA/LT/ECE/PROJ/SERB/2017/OW/ 482**

5. Quotations should be valid for a period of 90 days from the closing date of the bid.

6. **Some important dates:**

i.	Pre-bid Conference:	Date: <u>    </u> - <u>    </u> - <u>    </u>	Time: <u>    </u> - <u>    </u>
ii.	Last date for receipt of quotation:	Date: 09-08-2017	Time: 03.00 P.M.
iii.	Opening of techno-commercial bid:	Date: 09-08-2017	Time: 03.30 P.M.
iv.	Opening of Financial bid:	Date: 10-08-2017	Time: 10.00 A.M.

7. **Warranty** as applicable must be provided.
- 8(a) **GST:** The Institute is not authorized to give C or D form. GST should be charge according to applicable rates.
- 8(b) **Entry Tax:** The State of Goa charges entry tax on all goods entering the State. Please include it in your quotation.
- 8 (c) **Custom and Excise Duty:** The Institute is authorized to give Custom and Excise Duty Exemption Certificate. **Custom and Excise Duty** should be charge accordingly.
9. **Bid Security** (See Item 2.8 of instructions): **30,000/-**.
10. **Performance Security** (See Item 2.10 of instructions): **05%** of gross order value.
11. Please go through the enclosed "bid document" carefully for other bidding instructions.
- 12(a) Please send your quotations by Registered/Speed Post to:

Director National Institute of Technology Goa -403401
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OR

(b) drop the quotation in the office of the normal working hours of the Institute.

13. For clarifications if any, please mail to [snanirban@nitgoa.ac.in](mailto:snanirban@nitgoa.ac.in)

(Contd.)

**NATIONAL INSTITUTE OF TECHNOLOGY  
GOA-403401**

**BID DOCUMENT**

**1. Instructions to the bidders**

- 1.1 Sealed bids are invited on behalf of the Director, National Institute of Technology (NIT), Goa – 403401, from the intending bidders for supply of the goods/stores/ equipments/ services for the Institute as detailed in the enquiry letter.
- 1.2 The bidders should quote the technical and financial bid separately in two separate envelopes duly superscripted on the envelope as **Technical bid/ financial bid for Fabrication and Measurement Solution of Micro-strip Antenna** and their offer/rates in clear terms without ambiguity and EMD should be enclosed in Technical Bid envelope.
- 1.3 The rates should be quoted both in figures and words and legibly written without any over-writings. In case of any correction, the same must be attested by the bidder with full signature. However, no over-writing is permissible. Manufacturer's price-list, where applicable, should be submitted along with the bid.
- 1.4 In case of any discrepancy between the rates in figures and that in words, the rate in words will be accepted as correct.
- 1.5 The last date for receipt of the bid is marked in the enquiry. In case the above date is declared a holiday for NIT Goa, and the bids will be received up to the appointed time on the next working day.
- 1.6 There may be a pre-bid conference in the office of the Department as per schedule given under at the top of the document. NIT Goa for clarifying issues and clearing doubts, if any, about the specification and other allied technical details of the plant, equipment and machinery projected in the bidding document. The prospecting bidders may attend this pre-bid conference at the appointed date, time and place. In case the said date is declared a holiday for the NIT Goa, the pre-bid conference shall be held at the appointed time and place on the next working day.
- 1.7 The bids may be sent by registered or speed post, so as to reach the office NIT Goa before the last date of receipt, or alternatively, be dropped in the office of the normal working hours of the Institute.
- 1.8 If a prospective bidder requires any clarification in regard to the bidding documents, he may mail to [snanirban@nitgoa.ac.in](mailto:snanirban@nitgoa.ac.in) at least 15 days before the deadline for receipt of bids.
- 1.9 Bids received after the deadline of receipt indicated in para 1.5 above, shall not be taken in to consideration.
- 1.10 Each bidder shall submit only one bid. A bidder, who submits more than one bid, shall be disqualified and considered non-responsive.

- 1.11 The cover containing the bid must be sealed and super-scribed "Bid **Fabrication and Measurement Solution of Micro-strip Antenna** vide Enquiry No. . . . NITGOA/LT/ECE/PROJ/SERB/2017/OW/ 482 dated 22/07/2017 as given under item of the enquiry.
- 1.12 The bids shall be opened in the office at the date and time given on the top of the document. The bidders may send their authorized representatives to attend the bid opening, if they so desire. In the event of the above bid opening date being declared holiday for the NIT Goa, and then the bids will be opened at the appointed time and place on the next working day.
- 1.13 The bidder has to put seal and sign in full at all pages of the bidding document including all annexures and price bid failing which the bidder will be disqualified.
- 1.14 The Director NIT GOA and its successors reserves the right to reject any or all tenders, wholly or partly or close the tender at any stage prior to award of contract without assigning any reason whatsoever.

## 2. Conditions of the bid

- 2.1 The rates quoted should preferably be net, inclusive of all taxes and duties, packing, forwarding, freight, Insurance and all other incidental charges mentioned separately.
- 2.2 The goods are required to be delivered at the indenting Department of NIT Goa, and must be dispatched within 15 days from the date of placement of the supply of order under the risk and arrangement of the bidder and offers with delivery beyond the above period shall be treated as unresponsive. In case the delivery time is higher, the same must be mentioned clearly in the quotation.
- 2.3 If insisted, samples shall be provided by the supplier at the entire cost and risk of the supplier. The installation of the equipments and training cum demo should be provided.
- 2.4 The bid should remain valid for a period of 90 days from the date of opening. In case your offer has a different validity period that should be clearly mentioned in the quotation.
- 2.5 Conditional discount, if any, offered by the bidder shall not be considered at the time of evaluation.
- 2.6 The goods offered should strictly conform to the specification and technical details mentioned in Para below.
- 2.7 The Institute may like to conduct pre-dispatch inspection of goods, where applicable.
- 2.8 The bid is to be accompanied with "Bid Security" (*Earnest Money*) for an amount stated in the enquiry, in the form of Account Payee Demand Draft, in favour of Director, NIT Goa from any Commercial Bank with validity period of 30 days beyond the final bid validity period. The bid security shall be forfeited, if the bidder withdraws during the bid validity period.
- 2.9 Any Liability regarding GST will be of supplier of products.
- 2.10 Period of guarantee/warranty, where applicable, should be specified in the bid.
- 2.11 The successful bidder must furnish "Performance Security" for an amount specified in the enquiry, in the form of Account Payee Demand Draft, and/or unconditional Bank guarantee en-cashable on demand from the Director, NIT Goa, from a Commercial Bank with validity period of sixty days beyond the date of completion of all contractual obligations of supplier including guarantee/ warranty obligations. The Performance

Security is to be furnished in favour of the Director, National Institute of Technology ,Goa, within ten days of intimation, failing which his bid security will be forfeited. Alternatively, fixed percentage of the cost of the stores as stated in the enquiry may be retained by the Institute in its Maintenance Fund towards performance security, which will be released One month after the completion of warranty period.

- 2.12 If the successful bidder, on receipt of the supply order, fails to execute the order within the stipulated period, in full or part, it will be open to the Director, NIT Goa to recover liquidated damage from the firm at the rate of 1 percent of the value of undelivered goods per month or part thereof, subject to a maximum of 5 percent of the value of undelivered goods. Alternatively, it will also be opened to the Director, to arrange procurement of the required goods from any other source at the risk and expenses of the bidder.
- 2.13 The successful bidder may be required to execute a contract, where applicable.
- 2.14 Payment (*100 percent*) will be made by Account Payee Cheque/Bank Draft, within 30 days from the installation or receipt of the goods in good condition or receipt of the bill, commissioning of the equipment, where applicable, whichever is later/latest.
- 2.15 In the event of any dispute arising out of the bid or from the resultant contract, the decision of the Director, NIT Goa shall be final.
- 2.16 The Director NIT GOA and its successors reserves the right to reject any or all tenders, wholly or partly or close the tender at any stage prior to award of contract without assigning any reason whatsoever.
- 2.17 The bid document/resultant contract will be interpreted under Indian Laws.
- 2.18 Any disputes arising out of this enquiry shall be dealt in the Goa jurisdiction.
- 2.19 Criteria for Evaluation in Technical Bid  
a) Proof of establishment of Firms/shop/business/ manufacturing unit etc.  
b) Valid EMD  
c) PAN No: ..... (With photo copy) of firms/proprietor.  
d) Photocopy of VAT/GST/CST Registration Certificate duly renewed by corresponding commercial tax office.
- 2.20 Criteria for Evaluation in Financial Bid  
The financial bid(s) shall be evaluated on the basis of the total lowest rates quoted for all the equipments mentioned in schedule of requirements.  
The words in price bid such as extra will entitle for disqualification of bidders.  
Conditional bids will not be accepted and will be liable for disqualification.



**Director**  
NIT-Goa

## Annexure-I

Name of the Equipment: S-parameter measuring set (Spectrum analyzer cum vector signal analyzer+ Tracking Generator+Directional coupler)

Sl.No	Parameters	Vendor	
		Technical specification (YES / NO)	Remark
<b>A.</b>	<b><u>Spectrum Analyzer</u></b>		
1.	Frequency: 100kHz – 12.4 GHz		
2.	Frequency Accuracy: ± 1 ppm		
3.	Amplitude : -150 to +10 dBm		
4.	Resolution Bandwidth: 1Hz - 250kHz and 6MHz		
5.	Maximum Input Level : +20 dBm		
6.	SSB PHASE NOISE AT 10 GHz : -80dBc/Hz @ 1kHz		
7.	Interfaces : USB		
8.	Software : Windows with api compatibility		
9.	Power supply : USB power is preferred		
10.	Analysis modes : Real time, Zero span, Phase noise plot, Emission mask, spectrogram, Channel power, Occupied BW measurement		
11.	Modulation analysis: Analog Modulation : AM, FM, PM. Digital demodulations : BPSK, DBPSK, QPSK, DQPSK, OQPSK, $\pi/4$ DQPSK, 8PSK, D8PSK, and QAM16  It should also support : <ul style="list-style-type: none"> <li>• Constellation diagram</li> <li>• EVM measurement</li> <li>• Eye diagrams</li> </ul>		
<b>B. Tracking Generator</b>			
1.	<b>Tracking Generator</b>		
	Frequency range: 100 kHz to 12.4 GHz		
2.	Frequency Accuracy: ±1ppm		
3.	Frequency steps: 10 Hz to 10 MHz		
4.	Amplitude range: -30 dBm to -12 dBm		
5.	Amplitude accuracy: ± 2.0 dB		
6.	Amplitude steps: 1 dB		

7.	HARMONICS: < -10dBc		
8.	RF Output Port: SMA female		
9.	Ext Time base: 10 MHz output		
10.	Power supply: USB powered		
11.	Software: Required Software has to be supplied with package		
<b>C.</b>	<b>Directional Coupler</b>		
1.	Frequency range: 500 MHz to 18 GHz		
2.	Directivity: 0.5 to 4GHz : 22 dB, 4 to 12.4GHz : 17 dB		
3.	Return Loss (in and out): 0.5 to 4GHz : 23 dB, 4 to 12.4GHz : 17 dB		

Note: The above format should be on letter head of the firm with the signature of Authorized Signatory.

## Annexure-II

Name of the Item: SMA Connector and cables

S.No	Specification of Item	Vendor	
		Technical specification (YES / NO)	Remark
1.	SMA Connector and cables,		

Note: The above format should be on letter head of the firm with the signature of Authorized Signatory.

## Annexure-III

Name of the Item: Turn Table with Radiation Pattern measurement Software

S.No	Specification of Item	Vendor	
		Technical specification (YES / NO)	Remark
1.	Micro Controller Based		
2.	Programmable, Minimum resolution : 1 degree		
3.	Motorized		
4.	Rotation along with X-Y plane		
5.	Software for Polar Plot		

Note: The above format should be on letter head of the firm with the signature of Authorized Signatory.

## Annexure-IV

Name of the Item: Horn Antenna (4-6 GHz)

S.No	Specification of Item	Vendor	
		Technical specification (YES / NO)	Remark
1.	Frequency range: 4 to 6 GHz		
2.	VSWR: 2 : 1		
3.	Radiation: Directional		
4.	Gain: 20 dBi		

Note: The above format should be on letter head of the firm with the signature of Authorized Signatory.

## Price Bid

S.No	Name of item with Description	Rate/Unit	Quantity	Total in Rs.
<u>1</u>	S-Parameter measuring set (Spectrum analyzer cum vector signal analyzer+ Tracking Generator+ Directional coupler)		01	
<u>2</u>	SMA Connector (10 pcs) and cables (5 pcs)		10 pcs and 5 pcs respectively	
<u>3</u>	Turn Table with Radiation Pattern measurement Software		01	
<u>4</u>	Horn Antenna (4-6 GHz), 20 dBiGain		01	
Total				
Taxes				
Installation charges, Training charges/Demo charges (if any)				
Others charges if any, please specify				
<b>Grand Total Amount in Rs.</b>				

Note: The above format should be on letter head of the firm with the signature of Authorized Signatory