

**Department of Physics, University of Kerala, Kariavattom,
Thiruvananthapuram, Kerala, India – 695581, Ph: 91 471 2308920**

No. Pl.A1/Phy-4/17

Dated 01.12.2017

E-Tender Notice

Department of Physics, University of Kerala, Kariavattom, invites tenders for the purchase of accessories for microwave measurements with following specifications.

Last date and time for submission of tender online	:16.12.2017 AT 5.30 P.M
Date and time of opening of tender	: 20.12.2017 AT 11 A.M
For technical details contact	Dr. Subodh G. Assistant Professor and Head, Department of Physics, University of Kerala, Thiruvananthapuram, Ph. No. 9633983404 E-Mail: gsubodh@gmail.com

For further details logon to www.etenders.kerala.gov.in

TECHNICAL SPECIFICATIONS

Item No. 1: Shield effect measuring system using waveguide method and measurement software

- (i) Shield effect measurement system using waveguide method in the frequency range: 5.85 -8.2 GHz (C band)**
- (ii) Software (should be available in English language) capable of measuring reflection and transmission scattering parameters S_{11} , S_{12} , S_{21} and S_{22} , complex permittivity, complex permeability and EMI SE for all frequency range using Vector Network Analyser (VNA) .**


Item No. 2: Coaxial tube type measurement system capable of measuring scattering parameters, permittivity, loss tangent and permeability by transmission method and measurement software


- (i) Coaxial tube type measurement kit suitable for transmission method in the frequency range of 500 MHz - 18 GHz.**
- (ii) Suitable fixing equipment for coaxial tube and sample punching device.**
- (iii) Windows calculation software (should be available in English language) suitable for transmission mode measurement with coaxial tube, capable of measuring reflection and transmission scattering parameters S_{11} , S_{12} , S_{21} and S_{22} , complex permittivity, loss tangent and complex permeability for all frequency range using Vector Network Analyser (VNA).**
- (iv) The precision and accuracy requirements of parameters are as follows.,**

- (a) **Complex permittivity** : - ϵ_r' : - **Precision (repeatability) : $\pm 3\%$ or better**
Precision + accuracy (to true value) : $\pm 10\%$ or better
 ϵ_r'' : - **Precision : $\pm 6\%$ or better**
Precision + accuracy (to true value) : $\pm 20\%$ or better
- (b) **Loss tangent** : - **Precision: $\pm 6\%$ or better**
Precision + accuracy (to true value): $\pm 20\%$ or better
- (c) **Complex permeability** : - μ_r' : - **Precision: $\pm 3\%$ or better**
Precision + accuracy (to true value) : $\pm 10\%$ or better
 μ_r'' : -**Precision : $\pm 6\%$ or better**
Precision + accuracy (to true value) : $\pm 20\%$ or better
- (v) **Two coaxial cables with adaptors suitable for transmission method type measurement.**


Warranty: at least one year.


General Conditions:


 The tender shall be submitted in the two bids viz. Technical Bid and Financial Bid. Only those qualified in technical bid will be eligible for participating in financial bid. A presentation regarding the technical specification and item to be supplied shall be done before the technical evaluation committee if requested.

 The bidder should be a manufacturer or their dealer specifically authorized by the manufacturer to quote on their behalf for this tender as per Manufacturer Authorization From and Indian agents of foreign principals, if any, who must have designed, manufactured, tested and supplied the equipment(s) similar to the type specified in the “Technical Specification”. Such equipment must be of the most recent series/models incorporating the latest improvements in


design. The models should be in successful operation for at least one year as on date of Bid Opening.


 **Compliance Statement:** Along with the technical details provide a tabular column indicating whether the equipment quoted by you meets the specifications by indicating 'YES' or 'NO'. If 'YES', support the claim by providing original brochures. **Venders should provide clear brochures/data sheets about the equipment and its working. Also include adequate proof for the claim regarding the performance.**


 **Reference:** Names of Institutes with contact person and telephone/ email where similar equipment supplied by you in India [Preferably South India] shall be mentioned in the bid.


 Incomplete & conditional tenders and tenders received after the due date will be summarily rejected without assigning any reasons thereof.


 **Every tenderer should submit Tender fee of Rs. 2,500/-**

 The price should be inclusive of all taxes, duties, transportation, insurance, installation etc. Nothing extra will be paid in addition to the quoted rate. Any amount in Indian rupees for installation, commission, labour, spares, service etc shall be entered in item 2 of BoQ.


 **Payment Terms:** Payment shall be made through TT transfer.


 **Validity of tender:** Tender submitted shall remain valid at least for 120 days from the date of opening the tender. Validity beyond 120 days, from the date of opening of the tender shall be by mutual consent.

 **Delivery and installation:** Proposed delivery schedule should be mentioned clearly. Delivery and installation and training (one week) should be made at the Department of Physics, University of Kerala, Kariavattom campus, Trivandrum without extra cost. University of Kerala will provide customs duty exemption certificates if required.




 **Service facility:** Supplier should mention their details of service setup and manpower in Thiruvananthapuram who are responsible for after sales support.




 The model number, make, and a printed literature of the product shall submit positively.

 In case of any dispute, the decision of the University authority shall be final and binding on the bidders.

 The undersigned reserves the right to reject any or all of the tenders received without assigning any reason thereof.

 The quoted item should be under **comprehensive warranty for 5 years** or more.

   If any component is found to be defective during the warranty period, the vendor has to replace the defective item immediately at their own cost.

   For any queries please contact, Dr. Subodh G. Assistant Professor and Head, Department of Physics, University of Kerala, Thiruvananthapuram, Ph. No. 9633983404 E-Mail: gsubodh@gmail.com

Documents to be Uploaded

1 Signed Compliance Matrix



Detailed Technical Brochure



Under taking of support for next 10 Years



BoQ



DD/Hard copy of Bank Guarantee if opted

**The Registrar,
University of Kerala,
Senate House campus, Palayam
Trivandrum- 695 034, Kerala.**