

 <p>IIT PALAKKAD</p>	<p>भारतीय प्रौद्योगिकी संस्थान पालक्काड  <b>Indian Institute of Technology Palakkad</b>  अहलिआ एकीकृत कैम्पस, कोज़िहपारा  Ahalia Integrated Campus, Kozhipara  पालक्काड- 678557  Palakkad – 678 557</p>	<p>दूरभाषसंख्या/ Phone no:  04923 – 226300/ 590/ 586</p> <p>ईमेल/ Email :  purchase@iitpkd.ac.in</p>
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Ref No: IITPKD/ELE /SS/109/2017

Date: 24.01.2018

Due Date of the tender: 08.02.2018 @ 3 PM

**TENDER FOR INVITING QUOTATIONS**

Dear Sirs,

On Behalf of Indian Institute of Technology Palakkad quotations are invited for **the following items**

Sl No	Item Description	Quantity
PART A	Solid State Power Amplifier	2 Nos.
PART B	Low Noise Amplifier	2 Nos.
PART C	High Power Circulator	1 No.
PART D	Mixer	2 Nos.
PART E	Band Pass Filter	1 No.

- Preparation of Bids:** - The tenders should be submitted **under two-bid system** (i.e.) Technical bid and Financial bid. The technical bid should consist of all technical details along with commercial terms and conditions. No prices should be included in technical bid. Financial Bid should indicate item – wise prices for the items mentioned in the technical bid. The technical and the financial bids should be put in separate cover and sealed. Both sealed covers should be put into a bigger cover.
- Compliance sheet for the specification & OEM Brochure has to be attached along with Technical bid. Vendor has to fill the compliance sheet and mention page number or reference number in OEM brochure. Unfilled / partial filled sheets lead to disqualification.**
- The Quotations duly sealed and superscribed on the envelope **with the reference No. and due date, should be addressed to the undersigned so as to reach him on or before the due date stipulated above. Fax and Email quotation are not acceptable.**
- The price should be quoted per unit and packing and delivery charges should be indicated separately. The offer/bids should be exclusive of Taxes and Duties, which will be paid by the purchaser as applicable. However the percentage and of taxes and duties as on date should be clearly indicated.
- The Quotations should be valid for **sixty days** from the due date and the period of delivery required should also be clearly indicated.
- Local Firms:** Quotations should be for free delivery to this Institute. If Quotations for Ex-Godown delivery charges should be indicated separately.

7. **Outside Palakkad:** Quotations should be for **F.O.R. at IIT Palakkad**. If F.O.R. consignor station, freight charges by passenger train / lorry transport must be indicated. If Ex-Godown, packing, forwarding and freight charges must be indicated.
8. Goods shall not be supplied without an official supply order.
9. **Custom Duty:** Custom Duty which will be paid at a concessional rate against duty exemption certificate.
10. **Concessional GST: Concessional GST@ 5% will be paid extra as per GOI Notification No. 47/2017, dated 14.11.2017**
11. **Payment:** Every attempt will be made to make payment within 30 days from the date of receipt of bill / acceptance of goods, whichever is later. No advance payment will be made. The Tenderer have to furnish the bank details along with tender like Account No, Account Name, IFSC Code, Bank address etc.
12. **Submission of Bids:** Quotation should be sent to the following address “**The Registrar, Indian Institute of Technology Palakkad, Ahalia Integrated Campus, Kozhipara, Palakkad -678 557, Kerala**”, Phone No: 04923 226 586/590, Email: [purchase@iitpkd.ac.in](mailto:purchase@iitpkd.ac.in).
13. **Delivery Period: Delivery Clause should be indicated clearly.**
14. **Warranty : Warranty condition should be indicated.**
15. **Delay in Supply or Liquidate damages:** If the supplier fails to deliver the stores within the time specified in the purchase order, the purchaser will recover from the supplier as liquidated damages a sum of one- half of one percent (0.5%) of the P.O value of the undelivered stores for each calendar week of delay. The total liquidated damages shall not exceed five percent (5%) of the P.O price of the unit or units so delayed. Stores will be deemed to have been delivered only when all their component parts are also delivered. If certain components are not delivered in time, the stores will be considered as delayed until such time as the missing parts are delivered.
16. **Late offer:** The quotation received after due date will not be considered. Please ensure that your offer is sent well in advance to reach the Institute by the due date.
17. **Loading and unloading charges will be borne by the supplier.**
18. **Acceptance and Rejection:** IIT Palakkad has the right to accept the whole or any parts of the Tender or portion of the quantity offered or reject it in full without assigning any reason.

Yours faithfully,

Encl: Specifications

**Registrar, IIT Palakkad**

**Power Amplifiers, Low Noise Amplifiers, mixers, High power circulators, band pass filter**

Part A

<b>Solid state Power Amplifier</b>	
<b>Quantity</b>	2 nos.
Frequency Range	8.5 GHz (or lower) to 11 GHz (or higher)
Small signal gain	>30 dB
Gain flatness	better than 0.75 dB
Output at 1 dB compression point	≥35 dBm
Noise figure	better than 5 dB
Input and output VSWR	better than 2:1
Operating DC voltage	15 V or lower
Operating temperature range	10 C (or lower) to 50 C (or higher)
Dimensions	less than 10 cm on each side
Connector type	SMA connectorised

Part B

<b>Low Noise Amplifier</b>	
<b>Quantity</b>	2 nos.
Frequency Range	8 GHz (or lower) to 12 GHz (or higher)
Small signal gain	>25 dB
Gain flatness	better than 0.75 dB
Output at 1 dB compression point	≥10 dBm
Noise figure	better than 2.2 dB
Input and output VSWR	better than 2:1
Operating DC voltage	15 V or lower
Operating temperature range	10 C (or lower) to 50 C (or higher)
Dimensions	less than 10 cm on each side
Connector type	SMA connectorised

Part C

<b>High Power Cirulator</b>	
<b>Quantity</b>	1 nos.
Frequency range	7 Ghz (or lower) to 12 Ghz (or higher)
Insertion loss	<1 dB
VSWR	better than 1.25:1
Isolation	≥20 dB
Number of ports	3
Forward and reverse power	50 W or more
Connector type	SMA
Operating temperature range	10 C (or lower) to 50 C (or higher)

<b>Part D</b>	
<b>Mixer</b>	
<b>Quantity</b>	2 nos.
RF Frequency range	5 to 18 GHz
IF Frequency range	DC to 4 GHz
LO Frequency range	5 to 18 GHz
conversion loss	<7 dB
LO to RF Isolation	>20 dB
LO to IF Isolation	>20 dB
LO input power	>=10 dBm
Power handling capacity	better than 20 dBm
Operating temperature range	10 C (or lower) to 50 C (or higher)
Connector type	SMA
<b>Part E</b>	
<b>Band Pass Filter</b>	
<b>Quantity</b>	1 nos.
Frequency range	9.5 to 10.5 GHz
Insertion loss	<=1 dB
Passband VSWR	better than 1.4:1
S11	more than 20 dB
Connector type	SMA

The bidder may quote for one or more parts (Part A, Part B, Part C, Part D and Part E). Technical and Financial bid for each part must be enclosed in separate envelopes. EMD for each part should be enclosed in the respective financial bid. All the financial and technical bids must be put in one big envelope and delivered to the purchase section. The evaluation will be done for each part separately and purchase order will be given to the technically qualified bidder, who quotes the lowest price for the respective part. For each of the parts the technical evaluation will be done based on the mandatory requirements for that part mentioned in the specifications.

### **Who can participate in the bid?**

Only those bidders fulfilling the following criteria should respond to the tender.

1. The bidder should be either an Original Equipment Manufacturer (OEM) of microwave components (power amplifier or low noise amplifier or circulators etc) or should be an authorized representative (provide documentary proof) of an OEM.
2. The bidder should be a company registered under the Companies Act, 1956/2013 OR a Limited Liability Partnership /a registered partnership firm OR a sole-proprietorship entity. Appropriate Registration incorporation certificate must be submitted.
3. The bidder must have a registered office in Karnataka/Tamil Nadu/Telangana/Andhra Pradesh/Maharashtra or Kerala. Certificate of registration for the offices to be provided.
4. The bidder must be in existence in the business of microwave components (power amplifier or low noise amplifier or circulators etc) or allied fields for a minimum period of 3 previous financial years (before or since 01 April 2014). Documentary evidences of experience must be provided.
6. The bidder should have implemented orders of microwave components (power amplifier or low noise amplifier or circulators etc) worth exceeding INR 3 lakhs during previous three financial years (01 April 2014 – 31 March 2017). Copies of the most recent purchase orders and certificates of successful implementation must be included. Copies of financial statements or evidence of turnover must be furnished.
7. The bidder should have documentary evidence of having supplied at least 10 No. of microwave components (power amplifier or low noise amplifier or circulators etc) to a Centrally Funded Technical Institution (e.g., IIT, NIT, IISc, IISER, etc.) or ISRO, DRDO in the last three and half years (01 April 2014 – 31 Oct 2017). The bidder must provide a certificate of satisfactory performance of the supplied component from the institute to which they have recently supplied. Contact details of the faculty-in-charge of the installed setup must also be provided.
8. The bidder must provide detailed specification of each equipment/item. Model numbers, data sheets and brochures must be included for each quoted equipment/accessories/item. Specifications corresponding to quoted model number must be available publicly via OEM's website for scrutiny. If not, bid can be disqualified on technical grounds.