

**NATIONAL INSTITUTE OF ELECTRONICS AND
INFORMATION TECHNOLOGY**

(A Centre of NIELIT, New Delhi)

(An Autonomous Scientific Society of Dept. of Electronics & Information Technology,
Ministry of Communications & IT, Govt. of India)

P.B. NO.5, NIT Campus P.O., CALICUT-673 601, KERALA

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LIMITED TENDER ENQUIRY

Ref. No. 2(1051)/2016-17/VLSI/ICDU/PCB

Date: 24.06.2016

DUE DATE : 15-07-2016

1. Quotations are invited for the supply of the items as per Annexure, under Rate Contract.
2. The quotations duly **SIGNED, 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. Quotations received after the due date will not be considered.
3. The quotations should be valid for acceptance for a period of **sixty days** from the due date and the time required for delivery should also be clearly indicated.
4. Quotations will not be accepted by Fax, Email or any such electronic data transfer form.
5. The quotations should be for goods exactly conforming to our requirements and specifications.
6. If the item is under DGS&D Rate contract, the number and the price applicable must be mentioned. It may also please be indicated whether the supply can be made direct to us at the **DGS&D Rate Contract Price**.
7. Relevant literature pertaining to the items quoted with full specifications and drawings, if any should be sent along with the quotations, wherever applicable. Samples, if called for, should be submitted free of charges and collected back at the supplier's expenses.
8. Copy of Manufacturing licence, Principal or Authorized Distributor/Dealer Certificate, and Proprietary Certificate, as applicable, should be enclosed.
9. Quotations should be for **free delivery** at our Centre and should clearly specify the **delivery period**. If delivery quoted is Ex-Godown/Consignor Station, delivery charges consisting of freight, packing & forwarding charges, insurance etc. should be indicated separately. Goods should be supplied duly carriage paid and insured.
10. Sales Tax Forms "**C or D**" **will not be issued to parties**. CST may be charged at the concessional rates applicable for purchase of scientific goods for educational institutions.
11. Security Deposit @5% of the Purchase Order/Invoice value shall be retained, in case order/contract value exceeds ₹1lakh, which will be released after the expiry of warranty period.
12. Goods shall not be supplied without an official purchase order.
13. Payment : Payment will be made after completion of supply, installation/assembly and commissioning of the items covered by the order along with necessary spares supplied to the entire satisfaction of NIELIT, CALICUT. Payment against invoices shall normally be made within 30 days of receipt and acceptance of equipment/materials at our office. **No advance payment will be made under any circumstance.**
14. Incomplete quotations and quotations which do not comply with all the above instructions are liable to be summarily rejected.
15. NIELIT, CALICUT does not bind itself to accept the lowest or any such quotation and has the right to accept or reject whole or any part of tenders or a portion of the supply of goods without assigning any reasons. No correspondence in case of rejected tenders will be entertained.
16. Earnest Money Deposit (E.M.D.) for **NIL** shall be sent along with the quotation by way of DD in favour of Director, National Institute of Electronics and Information Technology, Calicut drawn on State Bank of India, CREC Calicut Branch, NIT Campus, Chathamangalam, Calicut – 673 601, failing which the quotation will be rejected.

Yours faithfully,

Purchase In-charge
For Executive Director

Encl: Annexure
Form No. CDS/CA/7.4.1/F 05/R2

ANNEXURE TO ENQUIRY

Our Quotation No. 22(1051)/2016-17/VLSI/ICDU/PCB

Date : 20.06.2016

1	Name of item(s)#	PCB Layout Design and supply of Populated Printed Circuit Boards under Rate Contract for two years.
2.	<u>Specifications</u> (As per detailed specifications sheet attached)	
3 .	Price per unit in Rs. (in Figures & words)	Attach separate list, if required.
4	Total Price in Rupees (in figures & words)	
5	Delivery Period	
6	Terms of Delivery	
7	Taxes, Duties, Octroi & Any other statutory levies or charges	
8	Transportation, Insurance, Packing & Forwarding etc	
9	Discount/off etc. if any	
10	Payment Terms	
11	Validity of Tender	
12	Warranty	
13	Any other remarks (Please specify make)	
14	Signature of the Tenderer with Name and Date	
15	Address, Email & Mobile No.	
16.	Central Public Procurement Portal (www.eprocure.gov.in) Registration, Email login ID	

NB: (1) In cases where the supply involves both Sales Tax and Service Tax, the quotation should indicate separately the break-up of Sales Tax and Service Tax applicable to the respective components/service. It may be noted that dual taxation, i.e., charging both Sales Tax as well as Service Tax to the same component or service (in respect of software etc) is not allowed. **The prices quoted should be Academic/Educational Prices wherever applicable.**

(2) Enquiry for the above items and specifications can also be downloaded from our website www.calicut.nielit.in or www.eprocure.gov.in.

(3) **Please register at www.eprocure.gov.in and intimate login details without fail. Watch websites for regular updates.**

QUOTATION FORMAT – NIELIT CALICUT
RATE CONTRACT FOR PCB LAYOUT DESIGN AND SUPPLY OF POPULATED PRINTED CIRCUIT
BOARDS

Duration : 2 Years

1. Printed Circuit Board (PCB's) Specifications:

Sl. No.	Description	Required Specification	Offered Specification Compliance Yes/No	Vendor's Terms and Conditions (If different)	Remarks
(a)	Type	Type I: Rigid PCB (Commercial Grade)			
(b)	Max Board Size	400 mm x 400 mm (Multilayer/Double sided PTH)			
(c)	Quantity	1 – 5 each type			
(d)	No of Layers	2 to 20 layers (with nominal finished thickness of 1.6 mm/2.4 mm)			
(e)	PCB/Cu Thickness	i. 1.6 mm/ 35 micron ii. 2.4 mm/ 70 micron			
(f)	PCB Material	FR-4, Glass Epoxy material			
(g)	Min PTH diameter	0.2 mm (~8 mil), Tol. 10%			
(h)	Min Trace width/ spacing	4 mil / 4 mil			
(i)	Solder Mask Color	Blue/ Red/ Green			
(j)	Operating Temperature Range	(- 40°C to + 85°C)			
(k)	Testing & Inspection of PCB	i. BBT (Bare Board Testing) ii. Visual Inspection of Populated PCB			

2. PCB Layout Design Charges : (IPC-2220 Design standards)

# Layers	Rate: Rs. Per Sq. Cm. (No. of major components)										Remarks
	<5	<10	<15	<20	<25	<30	<35	<40	<45	<50	
2											
4											
6											
8											
10											
12											
14											
16											
18											
20											

Trace Length Matching Cost : Rs..... /trace
Signal Integration (SI) analysis Cost : Rs /net
Thermal Analysis (TA) Cost : Rs /board

3. Fabrication Charges:

# Layers	NRSC-Type-I: Rs./type	Rate: Rs. per Sq. Cm Type-I (PCB/Cu Thickness)		Remarks
		1.6 mm/35 micron	2.4 mm/70 micron	
2				
4				
6				
8				
10				
12				
14				
16				
18				
20				

Note: NRSC is Non-recurring setup charges

4. Additional Fabrication Charges:

Sl. No.	Parameter	Options	Rate	Remarks
1	Surface Finish (Rate: Rs. per Sq. Cm)	Lead free HASL		
		Immersion Silver		
		Electroless Nickel Immersion Gold (ENIG)		
2	Gold Plating for Edge Connectors (Rate: Rs. Per Pin)			
3	Impedance Control (Rate: Rs. Per Trace)			
4	via hole plugging (Rate: Rs. Per via)			

5. Component Procurement:

Component Procurement charge: % of total component cost
(See Terms and Conditions section for more details on component purchase)

6. PCB Population Charge:

Sl. No.	Type	Rate: Rs. Per soldering point
1	Through Hole	
2	BGA	
3	Others (SOIC, TSOC, QFN, SOT etc.)	

7. Minor modification up to addition of 10% and any deletion of 10%: **NO CHARGE**

8. Addition of pins or nets up to 20% and any deletion of 20%:% of design charges

9. Price reduction for higher quantity ranges :% less for >10 Nos.
:% less for >20 Nos.

10. Bare Board Testing –Rate : Rs. NIL

11. Board bring-up support charge : Rs..... /day

12. PCB Layout Design Software used by contractor (Cadence is preferred)
:

13. Whether the contractor is a premier partner of Xilinx? :

TERMS & CONDITIONS OF PCB RATE CONTRACT

The contractor is required to carry out the following services either all together or in parts as required in each individual case.

1. The Contract Services

Contract Services	Compiled / Not compiled	Comments
1. PCB Layout designing work.		
2. Signal integrity (SI) analysis and simulation (both pre-route and post-route) for selected nets.		
3. Thermal Analysis (TA) analysis.		
4. PCB fabrication (with impedance control for selected traces).		
5. Bare board testing		
6. Component Procurement.		
7. PCB Population & Visual Inspection.		
8. Delivery of Populated PCB.		
9. Delivery of all design documents, associated design files, and test reports.		

2. PCB Layout design work, SI/TA Simulations & PCB Fabrication

Terms	Compiled / Not compiled	Comments
1. Layout Design should be in accordance to IPC-2220 design standards .		
2. User's approval has to be taken for placement, routing and net-list after routing and before filming.		
3. Strictly adhere to NIELIT, Calicut schematic and specification.		
4. Contractor should adhere to the topology and termination scheme suggested by NIELIT, Calicut.		
5. Length matching should be carried out for required nets.		

Terms	Compiled / Not compiled	Comments
6. Signal Integrity Analysis should be carried out for requested nets and all the corresponding reports should be submitted to NIELIT, Calicut by Contractor.		
7. Thermal Analysis simulations should be carried out and all the corresponding reports should be submitted to NIELIT, Calicut by Contractor.		
8. The Fabricator tolerances and capabilities of fabrication vendor to support the design should be found out.		
9. Contractor has to make sure that the PCB design engineer work closely with fabrication vendor in order to determine feasibility of design constraints.		
10. Impedance control should be carried out for selected nets and all the corresponding reports should be submitted to NIELIT, Calicut by Contractor.		
11. Filming, Masking, Bare board testing (BBT), Legend printing (LP) etc. should be a part of the fabrication charges only and charges are not indicated separately.		

3. Component Procurement & PCB Population work

Terms	Compiled / Not compiled	Comments
1. Contractor should procure all the components as per the BOM submitted by NIELIT Calicut.		
2. All the components should be original and purchased from authorized dealers.		
3. All the purchase bills should be submitted to NIELIT, Calicut.		
4. All the components should be mounted on PCB by the contractor.		

4. Testing & Inspection

Terms	Compiled / Not compiled	Comments
1. Bare Board Test		
2. Solderability.		
3. Visual Inspection of Populated PCB.		
4. The final test reports should be submitted to NIELIT, Calicut.		

5. Techno-Commercial Terms

Terms	Complied/Not complied	Comments
1. PCB Schematic and PCB Specifications will be provided by NIELIT, Calicut. All the other resources should be arranged by the Contractor.		
2. Contractor's quotation must be on the basis of delivery at NIELIT, Calicut.		
3. Vendors should quote in the enclosed FORMAT only. Otherwise quote is liable to be rejected.		
4. The contractor shall be entered in to on RATE CONTRACT basis only. The quoted rates should be valid for 24 months from the date of placing the order.		
5. Inspection and acceptance shall normally be at NIELIT, Calicut, however whenever and wherever required NIELIT, Calicut representative shall carry out inspection at manufacturers plant.		
6. Design is NIELIT, Calicut property. All the design & output files should be handed over to NIELIT, Calicut after completion of the job.		
7. Contractor will have to sign a NDA (Non-disclosure agreement) prepared by NIELIT Calicut.		

6. Standard Deliverables

Deliverables	Complied/Not complied	Comments
1. Populated PCB.		
2. Final Schematic and placement on USB Flash Drive.		

Deliverables	Complied/Not complied	Comments
3. Gerber Spool files & IPC-D-356 Net list on USB Flash Drive.		
4. PCB design file data on USB Flash Drive.		
5. Foot print library files of designs on USB Flash Drive.		
6. Board files of the designs on USB Flash Drive.		
7. Assembly Drawing on USB Flash Drive.		
8. A detailed report in wave-forms should be Submitted on signal integrity analysis and simulation where ever required.		
9. A detailed report on Thermal analysis should be submitted where ever required.		
10. A detailed report on Impedance Control on requested nets should be submitted.		
11. The delivery should accompany bare board test reports, QC test report, Populated PCB Inspection Reports and Component Purchase Bills.		
12. CAD designer is to be deputed whenever required at NIELIT, Calicut.		

7. General terms and conditions

Terms and conditions	Complied/Not complied	Comments
1. Vendor should have minimum ten years experience in the same field for NIELIT/Central government establishments and should submit proof along with tender.		
2. Vendor should have annual turnover of minimum 1 Crore over the period of last three years and submit proof along with tender.		

Authorized Signatory

Seal