

रामन अनुसंधान संस्थान  
RAMAN RESEARCH INSTITUTE  
सी.वी. रामन अवेन्यू, सदशिवनगर  
C.V. Raman Avenue, Sadashivanagar  
बेंगलूरु Bengaluru – 560080



जड़.वाई.एन.क्यू 7020 आधारित एफ.पी.जी.ए का डिज़ाइन एवं  
विकास और आपूर्ति के लिए निविदा

**TENDER FOR DESIGN, DEVELOPMENT AND SUPPLY OF  
ZYNQ 7020 BASED FPGA**

निविदा प्रलेख  
**TENDER DOCUMENT  
2023 -2024**

26.06.2023



Due date for submission of Tender: 20.07.2023

The Raman Research Institute invites sealed Tenders for **Design and Development of ZYNQ 7020 based FPGA**, directly from the manufacturers or their authorized agents, adhering to the specification, terms and conditions given below:

Sl. No.	Item Description	UOM	Qty.
01	<p><b>Design and Development of ZYNQ 7020 based FPGA (System on Modules) and associated carrier cards for existing developed precision laser controllers at the Institute</b></p> <p><b><u>ZYNQ SOM Features</u></b></p> <ul style="list-style-type: none"> <li>• XC7Z020 CLG484 Industrial grade FPGA</li> <li>• 512MB DDR3 Memory</li> <li>• 128 MB QSPI FLASH</li> <li>• 4 GB EMMC</li> <li>• Gigabit Ethernet PHY</li> <li>• Mode Select Pins</li> <li>• 33.3333MHz Clock</li> <li>• On Board Power supplies (3.3v, 2.5v, 1.8v, 1.5, 1v)</li> <li>• USB UART (power source to SOM)</li> <li>• JTAG Header</li> <li>• Reset Button</li> <li>• 1 PS LED, 1 Power LED, 1 Done LED</li> <li>• 2 high Speed Board to Board Header 100 Pin each</li> <li>• 8 PS I/O</li> <li>• 120 PL I/O (40 Differential pairs and 40 single ended)</li> <li>• 5V External Power Supply Pin</li> <li>• Flexible I/O voltage pin for PL bank</li> <li>• Ethernet PHY output lines</li> </ul>		
	<p><b><u>Carrier Card 1 features</u></b></p> <ul style="list-style-type: none"> <li>• 2 high Speed Board to Board Header 100 Pin each</li> <li>• 4 to 8 signal conditioning circuit with SMA Connector</li> <li>• USB 3.0 communication interface</li> <li>• RJ45 connector with magnetics</li> <li>• External Power DC connector</li> <li>• 8 PS I/O and 50 PL I/O available in the 2-row connector</li> </ul>		



	<p><b><u>Carrier Card 2 Features</u></b></p> <ul style="list-style-type: none"> <li>• 250MSPS 2 channel ADC x 2</li> <li>• 4 to 8 signal conditioning circuit with SMA Connector</li> <li>• Voltage regulators for 250MSPS ADC</li> <li>• External Clock input (optional)</li> <li>• 1 to 5 MSPS ADC 4 channel 14 to 16 bit</li> <li>• 1 to 5 MSPS DAC 4 channel 14 to 16 bit</li> <li>• Slow speed ADC 4 to 8 channel 24 bit</li> <li>• USB 3.0 communication interface</li> <li>• RJ45 connector with magnetics</li> <li>• External Power DC connector</li> <li>• 8 PS I/O and 20 PL I/O available in the 2-row connector</li> </ul>		
	<p><b><u>First Stage Deliverables</u></b></p> <p><b>(Within 2 Months from the date of issue of Purchase Order)</b></p> <p><b>ZYNQ SOM – Quantities – 5 Nos.</b></p> <p><b>Carrier Card 1 – Quantities – 3 Nos</b></p>	<p><b>Nos</b></p> <p><b>Nos</b></p>	<p><b>05</b></p> <p><b>03</b></p>
	<p><b><u>Second Stage Deliverables</u></b></p> <p><b>(Within 4 Months from the date of issue of Purchase Order)</b></p> <p><b>Carrier Card 2 – Quantities – 2 Nos</b></p>	<p><b>Nos</b></p>	<p><b>02</b></p>
	<p><b><u>Note:</u> Final Schematics will be shared upon signing of NDA and NC</b></p> <p><b>(Design, Schematics and Gerber should be surrendered to RRI)</b></p>		

General features of the SOM and carrier card are disclosed to acquire quotation. There may be changes incorporated during the development of the overall design without changing the design topology. The SOM should be designed as per the Xilinx FPGA PCB Design guidelines (UG933).



### **Eligibility Criteria:**

1. Details with contact information and telephone numbers for service support of the products should be provided. Escalation matrix with contact information and telephone numbers should also be provided.
2. The bidder must not be blacklisted by Central Government, State Government or any Organization in India. A certificate or undertaking to this effect must be submitted.
3. The vendor should enter into (Non-Disclosure Agreement) NDA and (Non-Compete) NC with the Institute.
4. I) As per the Government of India, Ministry of Commerce and Industry and Department for Promotion of Industry and Internal Trade (Public Procurement Section) Order No. P-45021/2/2017-PP (BE-II) dated 04 June 2020
  - a) The Bidder shall produce a certificate whether he/she belong to "Class – I' and 'Class – II supplier' and Non – Local suppliers.
  - b) Class – I' and 'Class – II supplier' and Non – Local suppliers as classified under above mentioned Order are eligible to submit the offer. While finalising the quotation, the instructions given in the above order shall prevail.
- II) As per the Government of India, Ministry of Finance and Department of Expenditure, Public Procurement Division – Office Memorandum No. F.No.6/18/2019-PPD dated 23.07.2020, the Institute reserves the right by order in writing, impose restrictions, including prior registration and/or screening, on procurement from bidders from a country or countries, or a class of countries, on grounds of Defence of India, or matters directly or indirectly related thereto including national security; no procurement shall be made in violation of such restrictions.

### **EVALUATION OF BIDS:**

- The bids conforming to the eligibility criteria will be considered for further evaluation.
- The bids will be shortlisted on the basis of technical parameters, features, standards compliance of all materials and equipment used, etc.
- For Technical evaluation, bidders have to ensure the availability of appropriate expert, along with every type of documentation from their organization for interacting with the Institute



## OTHER TERMS AND CONDITIONS:

The Institute is eligible to issue Central Excise Duty Exemption Certificate or Customs Duty Concession Certificate. The Institute is not eligible to issue State Goods and Service Tax/ Central Goods and Service Tax Concession Certificate.

1. The quotation shall be divided into two parts:
  - I) The first part should be "Technical" Bid containing only detailed specifications for tendered supply of **Design and Development of ZYNQ 7020 based FPGA**.

The details include:

- a) Detailed literature including Data Sheets of quoted products.
  - b) Supporting Documents as per the Eligibility Criteria.
  - c) The first part (Technical Bid) shall not contain any financial aspects of the offer. It shall contain only a cross reference to the second part (Financial Bid).
  - II) The Second part (Financial Bid) shall contain detailed financial outlay with List of deliverables / Bill of materials / Bill of Quantities and services, unit price of items as in the technical bid (i.e., First Part).
2. The quotations should be complete in all respects and the details specified in this request should be adhered to and **submitted on or before 20.07.2023** and the Bid will be **opened on 21.07.2023 at 4.00 PM**.
  3. Quotations should be valid for **180** days from the due date.
  4. EMD of **Rs. 20,000/- (Rupees Twenty Thousand only)** should accompany the tender enclosed along with the technical bid (envelope). Payment should be by way of DD / Banker's cheque only, drawn in favour of "**Raman Research Institute, Bengaluru**". No other form of payment will be accepted. The Tenders without the EMD will be rejected.
  5. The MSME Units/Enterprises claiming exemption of EMD should submit MSME UDYOG AADHAAR MEMORANDUM or registration certificate issued by District Industries Centre (DIC) / Khadi & Industries board (KVIB) / Coir board / National Small Industries Corporation (NSIC) / Directorate of Handicrafts and handlooms or any other body specified by Ministry of MSME. The memorandum / certificate submitted should be for the scheduled items of this tender and shall be valid as on due date /extended due date of the Tender. However, MSME Unit/Enterprises must submit a duly signed Bid Security Declaration in lieu of EMD as per the Form of Bid-Security Declaration.
  6. EMD of successful tenderer will be returned / adjusted on satisfactory completion of order.
  7. The refund of EMD for unsuccessful tenderers will be made through Cheque or Electronic mode within a month after expiration of the Bid Validity period or any extension to it.
  8. The Financial Bids will be opened only of those technical bids found suitable and approved by our technical evaluation committee.
  9. The Institute reserves the right to modify the technical specification or the required quantity at any time but within one week before the due date and will be notified in the Institute website
  10. The Institute reserves the right to reject any or all of the quotations received without



- assigning any reason. It also reserves the right to accept an offer other than the lowest.
11. The final order quantity can be lower or higher than that mentioned in the request.
  12. The Institute reserves the right to postpone/extend the due date for submission of the quotation without assigning any reason.
  13. **Security Deposit:** On award of the work, the bidder shall provide **3%** (Three percent) of the order value as Security Deposit in the form of a Bank Guarantee towards satisfactory performance. The PBG should be valid through-out the period the warranty period plus six months as claim period. The said Security Deposit shall be refunded to the vendor after satisfactory completion of the purchase order placed as well as warranty period as per the terms of Purchase Order. In case of failure to render the contracted service, either at the time of execution or during the warranty period or non-compliance of due performance of contract, the Security Deposit will be forfeited.
  14. **Warranty:** Standard Warranty: with Next Business Day response time. The Charges for additional Three (3) and/or Five (5) Year Warranty should be indicated separately.
  15. **Test Certificates:** On completion of installation test certificates are to be provided by the Vendor, countersigned by the certified supervisor under whose direct supervision the installation was carried out.
  16. All deliveries should be completed within the stipulated delivery time of the purchase order due date. While the Institute reserves the right not to accept delivery in part or full, beyond the due date of delivery, liquidated damages at 0.5% per every week of delay will be levied. Exceptions: Force Majeure.
  17. Delivery of goods should be made at our stores located on campus near Mekhri Circle, Bengaluru – 560 080, at suppliers cost and risk.
  18. The Institute reserves the right to call potential suppliers for technical discussions and product demonstrations.
  19. Any Technical clarification required towards submission of offer may please be mailed to [purchase@rri.res.in](mailto:purchase@rri.res.in)
  20. All disputes, arbitration, if any are subject to jurisdiction of courts in Bengaluru only.



## CHECKLIST

**SELF ATTESTED COPIES OF THE FOLLOWING DOCUMENTS SHOULD BE SUBMITTED ALONG WITH TECHNICAL BID, FAILING WHICH THE TENDERS ARE LIABLE TO BE REJECTED**

SL. NO	CRITERIA / SPECIFICATION / CONDITION	YES / NO
1.	Details with contact information and telephone numbers for service support of the products should be provided. Escalation matrix with contact information and telephone numbers provided.	
2.	The bidder must not be blacklisted by Central Government, State Government or any Organization in India. A certificate or undertaking to this effect submitted.	
3.	EMD of <b>Rs. 20,000.00</b> enclosed along with the technical bid (envelope). Payment by way of DD / Banker's cheque only, drawn in favour of " <b>Raman Research Institute, Bengaluru</b> ".	
4.	Quotations valid for <b>180</b> days from the date of opening.	
5.	<p>(I) As per the Government of India, Ministry of Commerce and Industry and Department for Promotion of Industry and Internal Trade (Public Procurement Section) Order No. P-45021/2/2017-PP (BE-II) dated 04 June 2020</p> <p>a. The Bidder shall produce a certificate whether he/she belong to "Class – I" and 'Class – II supplier' and Non – Local suppliers.</p> <p>b. Class – I' and 'Class – II supplier' and Non – Local suppliers as classified under above mentioned Order are eligible to submit the offer. While finalising the quotation, the instructions given in the above order shall prevail.</p> <p>(II) As per the Government of India, Ministry of Finance and Department of Expenditure, Public Procurement Division – Office Memorandum No. F.No.6/18/2019-PPD dated 23.07.2020, the Institute reserves the right by order in writing, impose restrictions, including prior registration and/or screening, on procurement from bidders from a country or countries, or a class of countries, on grounds of defence of India, or matters directly or indirectly related thereto including national security; no procurement shall be made in violation of such restrictions</p>	



## FORM OF BID-SECURITY DECLARATION

[The Bidder should fill in this Form on Letter Head in accordance with the instructions indicated]

To

The Administrative Officer (i/c),  
Raman Research Institute,  
C.V. Raman Avenue, Sadashivanagar,  
Bengaluru – 560 080.

Ref: Tender document No. **NIT – PR – 230429 dated 26.06.2023**

We, the undersigned declare that:

We know that the bid should be supported by a Bid Security Declaration in accordance with your conditions.

We hereby declare that the prices offered by us against RRI Tender Document No **NIT – PR – 230429 dated 26.06.2023** for supply of **Design and Development of ZYNQ 7020 based FPGA”** will be firm for a period of 180 days or the date when the tenders are finalised, whichever is earlier.

We accept to automatically be suspended from being eligible for bidding in any contract in RRI for a period of 3 years from the date of opening of Bid, if we are in breach of our obligation(s) under the bid conditions, because we:

After having been notified of the acceptance of our bid by the Contracting Authority within the period of bid validity:

1) We failed or refused to furnish a Performance Security in accordance with the Condition of the Tender Document No. **NIT – PR – 230429 dated 26.06.2023**

OR

2) We failed or refused to sign the contract.

We know that this Bid – Security Declaration will expire, if contract is not awarded to us, upon:

- 1) Our receipt of your notification to us of the name of the successful bidder or
- 2) Twenty – eight days after the expiration of our Bid validity period of 180 days or any extension to it

Dated this \_\_\_\_\_ day of \_\_\_\_\_

For and on behalf of M/s. \_\_\_\_\_

Address:

Signature

Name

In the capacity of

