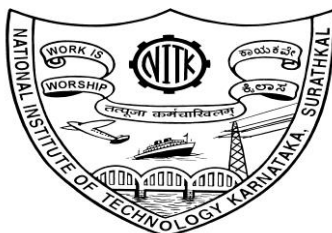


NATIONAL INSTITUTE OF TECHNOLOGY KARNATAKA, SURATHKAL

DEPARTMENT OF MECHANICAL ENGINEERING
 POST SRINIVASNAGAR, MANGALORE – 575 025 (D K)
 Phone: (0824) 2474000. Fax: (0824) 2474033
 E- mail: info@nitk.ac.in Website: <http://www.nitk.ac.in>



NOTICE INVITING QUOTATION

Notification. No: **NITK/ME/IRG/RIO/04**

dated: 21/12/2021

Name of Goods	Portable reconfigurable input output device
Estimated Amount:	Eighty thousand rupees (Rs. 80,000/-)
Time for Supply of item after release of Purchase order	15 Days
Document Download / Sale Start Date	22/12/2021 at 4.00 PM
Clarification Start Date	22/12/2021 at 4.00 PM
Clarification End Date	29/12/2021 at 4.00 PM
Bid Submission Start Date	22/12/2021 at 4.00 PM
Last Date for submission of bids	05/01/2022 before 3.00 PM
Bid Opening Date	05/01/2022 at 4.00 PM
Address for Submission of	Department of Mechanical engineering, NITK Surathkal, Mangalore - 575025 Dr. Somasekhara Rao Todeti, Contact No.: +91 7981338900, Email: ssrao@nitk.edu.in



NATIONAL INSTITUTE OF TECHNOLOGY KARNATAKA, SURATHKAL
DEPARTMENT OF MECHANICAL ENGINEERING

POST SRINIVASNAGAR, MANGALORE – 575 025

Phone: (0824) 2474000

Fax: (0824) 2474033

E- mail: info@nitk.ac.in

Website: http://www.nitk.ac.in

Notification No: **NITK/ME/IRG/RIO/04**

Date: 21/12/2021

NOTICE INVITING QUOTATION (NIQ)

The National Institute of Technology Karnataka, Surathkal (in short – NITK, Surathkal) is an Institute Of National Importance Under Ministry of Education Govt of India, imparting Technical Education and engaged in Research Activities. It is proposed to procure the items for the departmental academic/research activities.

Sealed Quotations as per the Price Schedule given in this NIQ are invited for the following items subject to the terms and conditions, from the reputed manufacturers or its authorised dealers so as to reach on or before scheduled date and time. The quotations in the firm's Business letter head should be address to the "Director, NITK, Surathkal". The envelope shall be superscribed with the Quotation Notification Number and the Name of the Goods for which quotation is submitted.

Name of Goods	Portable reconfigurable input output device
Estimated Amount:	Eighty thousand rupees (Rs. 80,000/-)
Time for Supply of item after release of Purchase order	15 Days
Document Download / Sale Start Date	22/12/2021 at 4.00 PM
Clarification Start Date	22/12/2021 at 4.00 PM
Clarification End Date	29/12/2021 at 4.00 PM
Bid Submission Start Date	22/12/2021 at 4.00 PM
Last Date for submission of bids	05/01/2022 before 3.00 PM
Bid Opening Date	05/01/2021 at 4.00 PM

Sd/-
HOD

Note: Institute shall not be responsible for any postal delay about non-receipt /non-delivery of the bids or due to wrong addressee.

SECTION-1
Terms and Conditions

1. The rates should be quoted for preferably FOR destination from supply within India.
2. The bidder shall indicate the excise duty exemption for the goods if applicable.
3. The rate quoted should be on unit basis. Taxes and other charges should be quoted separately, considering exemptions if any. The rate should be quoted in INR only
4. Rate quoted should be inclusive of Testing, commissioning and Installation of equipment and Training.
5. Payment: No advance payment will be made. Payment will be made only after the supply of the item in good and satisfactory condition and receipt of performance security by supplier.
6. Guarantee/Warranty period should be specified for the complete period should be specified in section 3 of this tender document.
7. Period requirement for the supply and installation of item should be specified in section 3 of this tender document.
8. In case of dispute, the matter will be subject to Mangalore Jurisdiction only.

SECTION-2
SCHEDULE OF REQUIREMENTS, SPECIFICATIONS AND ALLIED DETAILS
[To be filled up by the Department / Centre of NITK, Surathkal]

Item(s) Name to be Procured	:	Portable reconfigurable input output device
Brief Specifications of the Item(s) (Attach Additional Sheet if necessary)	:	Annexure
Quantity	:	01
Any other details / requirement	:	NIL
Warranty Period required	:	3 Years
Delivery Schedule expected after placement of Purchase order (in Weeks)	:	2 Weeks

SECTION 3
PRICE SCHEDULE

[To be used by the bidder for submission of the quotation]

-
1. Item Name :
 2. Specifications
(Conforming to Schedule of requirements
Enclose additional sheets if necessary) :
 3. Currency and Unit Price :
 4. Quantity :
 5. Item Cost (Sl No. 3 * Sl. No. 4) :
 6. Taxes and Other Charges :
(i) Specify the type of taxes and duties
in percentages and also in figures.
(ii) Specify Other Charges in figures.
 7. **Warranty Period** :
(Conforming to the Schedule of requirements)
 8. Delivery Schedule :
(Conforming to the Schedule of requirements)
 9. Name and address of the Firm for
placing purchase order :
 10. Name and address of Indian authorized
agent (in case of imports only) :

Signature of the Bidder: _____

Name and Designation: _____

Business Address : _____

Place:

Date:

Seal of the Bidder's Firm

SECTION 4
CONTRACT FORM

[To be provided by the bidder in the business letter head]

1. (Name of the Supplier's Firm) hereby abide by the delivery schedule mentioned in this document for supply of the items if the purchase order is awarded.
2. The item will be supplied conforming to the specifications stated in this document without any defect and deviations.
3. Warranty will be given for the period mentioned in this document and service will be rendered to the satisfaction of NITK, Surathkal during this period.

Signature of the Bidder: _____

Name : _____

Business Address : _____

Place :
Date :

Seal of the Bidder's Firm

Annexure

Specifications of portable Reconfigurable Input Output Device

1. FPGA, wi-fi enabled and inbuilt accelerometer

2. Processor

Cores	2 or more
Speed	667 MHz or more

3. Digital Input/Output with MXP and MSP Connectors (40 Nos.)

Each DIO line must be individually programmable as input or output

MSP connector	01 port or more of 08 DIO lines
MXP connector	02 ports or more of 16 DIO lines with at least one UART.TX and UART.RX line per connector

4. Accelerometer

Range	$\pm 8g$ or more
Resolution	12 bits or more
Number of axes	3
Sampling rate	800 S/s or more

5. Analog input with MSP, MXP connector (10 Nos.), and Audio input

Resolution	12 bits or more
Sampling rate	500 kS/s or more

MSP Connector

Input impedance	Up to 100nA
Range	± 10 V
Accuracy	± 200 mV
Configuration	Two differential channels
Bandwidth	Minimum 20 kHz, >50 kHz typical
Working voltage	$\pm 10V$ of AGND

MXP Connector

Input impedance	>500k Ω at 500kS/s
Range	0 V to +5 V
Accuracy	± 50 mV
Configuration	Four single-ended channels per connector
Bandwidth	>300 kHz

Audio Input

Input impedance	10 k Ω at DC
Range	± 2.5 V
Configuration	One stereo input consisting of two AC-coupled, single-ended channels
Bandwidth	2 Hz to >20 kHz

6. Analog output with MSP. MXP connectors (6 Nos.), and Audio output

Resolution	12 bits or more
Start-up voltage	0 V after FPGA initialization

Max. update rates

All AO channels on MSP connector	345 kS/s
All AO channels on MXP connector	345kS/s
Audio o/p channels	345 kS/s

MSP Connector

Current drive	2 mA
Range	± 10 V
Accuracy	± 200 mV
Configuration	Two single-ended channels
Slew rate	2 V/ μ s

MXP Connector

Current drive	3 mA
Range	0 V to +5 V
Accuracy	50 mV
Configuration	Two single-ended channels per connector
Slew rate	0.3 V/ μ s

Audio Output

Output impedance	100 Ω in series with 22 μ F
Bandwidth	70Hz to >50 kHz into 32 Ω load 2 Hz to >50 kHz into high-impedance load
Configuration	One stereo output consisting of two AC-coupled, single-ended channels

7. FPGA

FPGA type	Xilinx Z-7010
-----------	---------------

8. Memory

DDR3 Memory	256 MB or more
DDR3 clock frequency	533 MHz or more
DDR3 data bus width	16 bits or more

9. Wireless Characteristics

Outdoor range	Up to 150 m
Frequency band	ISM 2.4 GHz
Radio mode	IEEE 802.11 b,g,n
Channel width	20 MHz or more
Antenna directivity	Omnidirectional
TX power	+10 dBm max

10. USB Ports

USB host port	USB 2.0 Hi-Speed
---------------	------------------

USB device port USB 2.0 Hi-Speed

11. Power requirement

Power consumption 14 W or more

Power supply voltage range Between 6 and 20 VDC

12. Power Output

+3.3 V power output

Output voltage 3 to 3.6 V

Maximum current on each connector 150 mA

+5V power output

Output voltage 4.75 to 5.25 V

Maximum current on each connector 100 mA

±15 V power output

Output voltage ±15 to ±16 V

Maximum current 32 mA

- 13. Accessories**
- a. Power supply adaptor for the device for the power.
 - b. MSP connector for the device
 - c. Panel mounting kit for the device
 - d. MXP breakout boards for the device (set of five)

- 14. Consumable Sensors**
- Force sensing resistor, i) round-shaped 12 mm or above active area (quantity = 04)
- ii) square-shaped 38 mm or above active area (quantity = 04)

Warranty	The equipment and Accessories listed in the specification should have Minimum of 3 years of Warranty.
Connectivity	Suitable wires, BNC Connectors, USB cables etc. of sufficient Length/size should be Provided for connectivity Within modules.
NOTE: All the instruments must be compatible and programmable with the existing NI Instruments and LabVIEW software.	

WARRANTY

THE EQUIPMENT AND ACCESSORIES LISTED IN THE SPECIFICATION SHOULD HAVE MINIMUM OF 3 YEARS OF WARRANTY

SUITABLE WIRES, BNC CONNECTORS, USB CABLES, etc. OF SUFFICIENT LENGTH/SIZE SHOULD BE PROVIDED FOR CONNECTIVITY WITHIN MODULES

CONNECTIVITY

