



NATIONAL INSTITUTE OF TECHNOLOGY
ROURKELA-769008 (ODISHA)
An Institute of National Importance under Ministry of HRD, GOI

NOTICE INVITING TENDER

Tender Notification No: NITR/PW-SR/BM/2019/164 **Dated: 11/11/2019**

The National Institute of Technology, Rourkela invites bids from the eligible bidders for procurement of PCB fabrication unit.

Last date of Submission of Bid **: 02/12/2019 at 03:00 PM**

Date of opening of techno-commercial Bid: 03/12/2019 at 03:00 PM

For Details:

http://nitrkl.ac.in/OldWebsite/Jobs_Tenders/9Equipment/Default.aspx

Contact:

Prof. Kunal Pal, BM;

Ph: 0661-2462289;

Email: palkl@nitrkl.ac.in

Bidding through: <https://eprocure.gov.in/eprocure/app>

sd/-
REGISTRAR



**NATIONAL INSTITUTE OF TECHNOLOGY
ROURKELA-769008, ODISHA**

OPEN TENDER NOTICE NO.: NITR/PW-SR/BM/2019/164

Date:- 11/11/2019

(PROCUREMENT OF PCB Fabrication Unit)

Sl. No.	Description of Goods/Service	Quantity
01.	PCB fabrication unit (Detailed specification as per Annexure – I)	01 unit

1. Quantity required : **As mentioned above (All information provided in technical specification)**
2. Delivery : Within 90 days from the date of purchase order
3. **Last Date of submission of Bid** : **02/12/2019 at 03:00 PM**
4. **Date of opening of techno-commercial bid** : **03/12/2019 at 03:00 PM**
5. The firm should not have been black listed at any time.
6. The submission of following bids by the tenderer should be through <https://eprocure.gov.in/eprocure/app> Please follow the guidelines as per the portal.

PROCUREMENT OF PCB FABRICATION UNIT

(Tender Notice No.: NITR/PW-SR/BM/2019/164 dated: **11/11/2019**) Due on 02/12/2019 at 03:00 PM

7. **Liquidated damage** will be charged for any delay in supply of goods.
8. The validity of the tender shall be **90 days** from the date of opening of the bids.
9. Detailed advertisement including all tender documents is also available in our website at http://nitrkl.ac.in/OldWebsite/Jobs_Tenders/9Equipment/Default.aspx .
10. NIT reserves the right to qualify or deny prequalification of any or all applicants without assigning any reasons.

(REGISTRAR)

NIT, Rourkela

Fax No- 0661-2462022

Ph. No -0661-2462021

Compulsory items

#	Specifications	Number of units
1	PCB XY plotter	1
	<ul style="list-style-type: none"> • Material: Acrylic Plate, Aluminum Rod • Control Board: Mana SE or similar product • Communication Port: MircoUSB • Stepper Motor: 42H34S-1304A or similar product • Power Input: AC 110-240V 50/60Hz • Working Voltage: DC 12V • Working Current: DC 5A • System Support: Window 7/8/10 • Control Software System: EleksCAM or InkSpace • Working Accuracy: $\leq 0.01\text{mm}$ • Continuous Working Time: 10 Hours or more • Working Area: 28 x 20 cm or more • Drawing tool: Marker pen (to be provided) 	
2	PCB CNC milling machine with dust suction attachment	1
	<ul style="list-style-type: none"> • Frame Material: Aluminum Alloy • Working Area: 340x160 mm or more • Control Software for Spindle: GrblControl • Adapter Input Voltage: AC 110-240V 50/60Hz • Working Voltage: DC 24V • Spindle Motor: 775 Spindle Motor (12-36V) 24V: 7000r/min, 36V: 9000r/min • Stepper Motor: 42 Stepper Motor, Voltage: 12V, Phase Current 1.3A, Torque 0.25 N.m • Drill bits (to be provided) • Computer interface: USB 	
3	PCB laser CNC machine	1
	<ul style="list-style-type: none"> • Laser: to be provided (Laser power: 2500mW, Laser Wavelength: 445nm) • Material: Acrylic Plate, Aluminum Rod • Control Board: Mana SE or similar product • Communication Port: MircoUSB • Stepper Motor: 42H34S-1304A or similar product • Power Input: AC 110-240V 50/60Hz • Working Voltage: DC 12V • Working Current: DC 5A • System Support: Window 7/8/10 • Control Software System: EleksCAM or InkSpace • Working Accuracy: $\leq 0.01\text{mm}$ • Working Area: 30 x 40 cm or more 	
4	5 KVA online UPS-1 h backup	2
	<ul style="list-style-type: none"> • On-Line UPS Capacity: 5 KVA • Battery backup time at full load: 60 Minutes • Minimum VAH: 8193 VAH • Output waveform: Pure sine wave • Inbuilt OVCD (Over Voltage Cut-Off Device) With Surge Protection • Protection <ul style="list-style-type: none"> ➤ Short circuit protection: Yes ➤ Overload protection: Yes ➤ Over-temperature protection: Yes ➤ Input low/high voltage control: Yes ➤ DC low/high voltage trip: Yes • Batteries shall be supplied with rack • Installation and commissioning: Yes • Power Requirement: 220V AC, 50-60 Hz 	

5	Mini Bench Drill Press Machine With High-Speed Angle Drill	1
	<ul style="list-style-type: none"> • Mini Desktop Drill Press Bench • 0.3-4mm Drill Chunk • Bench Drill Stand • Carbide drill bits (Size: 1 mm (2 pcs), 1.5 mm (2 pcs), 2 mm (2 pcs), 2.5 mm (2 pcs), and 3 mm (2 pcs); Overall Length: 38mm or more) • Power Requirement: 220V AC, 50-60 Hz 	
6	SMD rework station	5
	<ul style="list-style-type: none"> • Autocut SMD rework station • Type: Hot Air Gun • Temperature Setting: 150 °C to 500 °C or better • Capacity: up to 24 L/min or more • Hot air temperature: 100 - 420°C • Air Pump – Diaphragm • Overload Protection Included: Yes • Number of Nozzle Included: 3 • Power Requirement: 220V AC, 50-60 Hz 	
7	Soldering station	2
	<ul style="list-style-type: none"> • 60 W Digital soldering Iron Station with Nichrome heating element • Variable temperature controlled • Temperature: 200 to 480 °C • Power Requirement: 220V AC, 50-60 Hz 	
8	Industrial PCB microscope	2
	<ul style="list-style-type: none"> • Image sensor: 34 megapixels or greater CMOS sensor • Pixel size: 1.335µm × 1.335µm or better • Image format: jpg/ tiff/ png • Video format: MOV/ MP4/ any other Windows compatible format • Frame rate: ≤60fps • Definition: FULL HD • Housing: metal • Lens: C/CS • Digital Zoom support • Brightness control: Auto/manual • Color: R/G/B adjustable • Film and record support • Cross cursor: Support multi-color, size adjustable • TF card interface: Max 64G • HDMI interface: Standard HDMI output (Type A) • USB interface: Standard USB2.0 interface (Type B) • 60-LED ring light source with the power box • 8 Inch Monitor: Type-TFT LED, Physical Resolution: 800 × 600, Display Ratio: 4: 3 • C-mount Lens: 0.5X C-mount adapter, Objective Magnification Power by 0.7 - 4.5X (about 10 - 180X on the display) • Camera Stand • Software • Language support: English • Power Requirement: 220V AC, 50-60 Hz 	
9	Etching station	2
	<ul style="list-style-type: none"> • Type of movement: Reciprocating • Speed control: Analog • The top plate should be fitted with anti-slip rubber mat • The top plate should be able to accommodate tray of size (At least): 34 cm x 27 cm x 8 cm • Plastic tray of size (Minimum): 34 cm x 27 cm x 8 cm • Power Requirement: 220V AC, 50-60 Hz 	

10	UV chamber for PCB masking	1
	<ul style="list-style-type: none"> Cabinet material: Wooden Internal size of the cabinet: 15 inch x 20 inch x 12 inch (Minimum) UV light: 12 inch size, the wavelength in the range of 252 to 312 nm Attached with 6 UV tubes Power Requirement: 220V AC, 50-60 Hz 	
11	Air conditioning system	1
	<ul style="list-style-type: none"> Air conditioning system for keeping the instrument in pollution and the dust-free environment with the following specification: Reputed brand, Split, Inverter, 2.0Ton, voltage stabilizer 	
12	±12V power supply	10
	<ul style="list-style-type: none"> Type: Transformer-based Fixed voltage portable power supply Output voltage: DC ±12V Current rating: 2 A Power Requirement: 220V AC, 50-60 Hz 	
13	3D printer for making casings for the designed PCBs	1
	<ul style="list-style-type: none"> Modelling technology: FDM Printing size: 300 mm x 300 mm x 400mm or higher Travelling speed: 180 mm/s or lower Filament: 1.75 mm PLA, TPU, ABS Layer thickness: 0.1-0.4 mm or better Nozzle diameter: 0.4 mm Print speed: 200 mm/s (max) Precision: ±0.1 mm File format: STL, OBJ, G-code, PROE, Solid-works Working mode: Online or offline (SD card) Operating software: CURA, Repetier-Host, simplify 3D or any other freeware Printing platform: Glass top Power Requirement: 100-265V AC, 50-60 Hz 	

Optional items

#	Specifications	Number of units
14	USB multifunction device	1
	<ul style="list-style-type: none"> Two-channel USB digital oscilloscope (±25V, differential, 14 or higher-bit, 100MS/s+, 30MHz+ bandwidth) Two-channel arbitrary function generator (±5V, 14 or higher -bit, 100MS/s+, 12MHz+ bandwidth) 16-channel digital logic analyzer (3.3V CMOS and 1.8V or 5V tolerant, 100MS/s+) Digital Bus Analyzers (SPI, I²C, UART, Parallel) Single-channel voltmeter (AC, DC, ±25V) Network Analyzer – Bode, Nyquist, Nichols transfer diagrams of a circuit. Range: 1Hz to 10MHz Spectrum Analyzer – power spectrum and spectral measurements (noise floor, SFDR, SNR, THD, etc.) Data Logger - Exportable data and plot functionality Two programmable power supplies (0 to +5V, 0 to -5V) 	
15	Impedance measurement breakout board	1
	<ul style="list-style-type: none"> 2-wire Impedance Analyzer 50pF - 500µF or greater Capacitance Measurement Range 10µH - 1000mH or greater Inductance Measurement Range 1Hz - 15MHz or greater Excitation Frequency Range Data Logger – Impedance and phase values in the testing frequency range Compatible to USB multifunction device (Sl. No. 14) 	