



# INDIAN INSTITUTE OF TECHNOLOGY KHARAGPUR – 721 302

**Sub: Procurement of SDR KIT**

Tender Notice No.: **IIT/EE/OTG/SM/EQ/2018-19/12** Date: **08.01.2019**

Indian Institute of Technology Kharagpur, an Institute of National Importance, invites sealed quotations from reputed Original Equipment Manufacturers (OEMs) or their Authorized representatives and General Suppliers for the purchase of **SDR KIT** for the Department of Electrical Engineering at IIT Kharagpur.

Interested vendors are requested to send their sealed bids under a **two cover system** as per requirement mentioned in tender document, along with the Technical Specifications & Compliance Certificate (as mentioned in **Annexure– I**) of the tender document.

Details are also mentioned in the Institute website [www.iitkgp.ac.in](http://www.iitkgp.ac.in) [link: **Tenders**].

The proposal has to be sent in a sealed packet, containing two separate sealed envelopes (**Technical Bid** and **Price Bid**) duly superscripted with Reference Number (**Tender Notice No. IIT/EE/OTG/SM/EQ/2018-19/12** Date: **08.01.2019**) to the office of **Prof. Siddhartha Mukhopadhyay**, Indian Institute of Technology, Kharagpur, P.O. Kharagpur Technology, PIN:721302 **on or before 29.01.2019 at 3.00pm**.

The **technical bids will be opened on 29.01.2019 at 4.00pm in the Office of Prof. Siddhartha Mukhopadhyay, Department of Electrical Engineering, IIT Kharagpur** in the presence of the vendors/or their authorized representatives. Price bids will be opened (to be notified separately) only of those firms, who will be found technically qualified/shortlisted, after evaluation of their technical bids.

**Prof. Siddhartha Mukhopadhyay**  
PI, CNE\_OTG, IIT Kharagpur  
Electrical Engineering Department

**Encl: Annexure–I & II**

**Copy to:**

- 1. Institutewebsite**
- 2. Jt. Registrar(Stores&Purchase)**
- 3. CPP Portal**
- 4. Chairman,PurchaseCommittee**
- 5. NoticeBoard**

## PROCUREMENT OF SDR KIT

It will consist the following components as per the specification given in ANNEXURE-I

SN.	EQUIPMENTS	QTY.
1.	SDR KIT with DC power supply	20 nos.
2.	Dual Band 2.4 to 2.48 GHz and 4.9 to 5.9 GHz omni-directional vertical antenna, at 3dBi Gain	80 nos.
3.	850 MHz to 6.5 GHz Log Periodic PCB directional antenna, at 5-6dBi Gain	80 nos.
4.	Corresponding SMA-M to SMA-M cable of 1m length	80 nos.

### SCOPE OF WORK

1. Delivery of all mentioned equipment at IIT Kharagpur Campus.
2. The bidder must install the entire connection including all hardware and software installations as per specifications given in Annexure-1. Bidder must provide all necessary cables (network and power) and other accessories for installing and connecting the equipment supplied.
3. Bidder to ensure that the hardware and software components are compatible with each other, and provide all necessary cables, any other accessories, hardware or software, necessary for connecting and installing the supplied components. No additional cost will be paid for this during and after installation.

## **ANNEXURE –I**

### **1. Description and specification of the SDR KIT**

SDR Kit - Dual Channel Transceiver (70 MHz - 6GHz)

SN.	Minimum Required Specifications
1.	Full duplex, MIMO (2 Tx& 2 Rx) operation with up to 56 MHz of real-time bandwidth (61.44MS/s quadrature)
2.	Must be a fully integrated, two-channel SDR KIT device with continuous RF coverage from 70 MHz – 6 GHz
3.	Fully-coherent 2x2 MIMO capability
4.	SDR KIT must have an open and reconfigurable Spartan 6 XC6SLX150 FPGA
5.	Up to 56 MHz of instantaneous bandwidth in 1x1
6.	Up to 30.72 MHz of instantaneous bandwidth in 2x2
7.	SDR must support GNU Radio and Open BTS through the open-source SDR KIT Hardware Driver
8.	ADC Sample Rate (max) : 61.44 MS/s
9.	ADC Resolution : 12b
10.	ADC Wideband SFDR : 78 dBc
11.	DC Input : 6V
12.	Fast and convenient Super Speed USB 3.0 connectivity
13.	GPIO capability

### **2: Description of Omni-Directional Antenna**

SN.	Minimum Required Specifications
1.	Dual Band 2.4 to 2.48 GHz and 4.9 to 5.9 GHz omni-directional vertical antenna, at 3dBi Gain

### **3: Description of Directional Antenna**

SN.	Minimum Required Specifications
1.	850 MHz to 6.5 GHz Log Periodic PCB directional antenna, at 5-6dBi Gain

### **4: Description of SMA Cables**

SN.	Minimum Required Specifications
1.	SMA-M to SMA-M cable of minimum 1m length

## TERMS AND CONDITIONS

1. All licenses must be perpetual with free upgrades for the entire warranty period. All updates of licensed software components must be provided free of cost for the entire warranty period.
2. The bidder should preferably be ISO certified by ISO 9001.
3. Technical bid should contain all relevant technical details; printed technical leaflet of models quoted and other details, which may be necessary to ensure that the offer is complete in all respects, e.g., technical specifications, etc.
4. Technical bid should also contain a Compliance Certificate duly signed by the bidder.
5. PRICE may be quoted either in INR or in foreign currency. Where tenderer intends to quote in Indian Rupees (INR), the price should be quoted "FOR IIT Kharagpur" basis. The price should be all inclusive including GST. The unit price without tax and the tax breakups should be shown separately for each item (if applicable). Prices for software components, if any, must be shown as separate line items. Price quoted should be for supply, installation and commissioning at I.I.T. Kharagpur.
6. IIT Kharagpur is registered under DSIR, Govt. of India. GST rate for scientific goods is 5% as per the Notification No. 47/2017 - Integrated Tax (Rate) dated 14th November, 2017. Necessary certificate in this regard will be issued as per requirement and on request of the successful bidder.
7. Where tenderer intends to quote in foreign currency FCA/FOB source port price by Air/Sea to be quoted. In case of comparison between FOR IIT Kharagpur (quoted in INR) and FOB/FCA price (quoted in foreign currency) 20% will be added on FOB/FCA price after conversion to INR.
8. IIT Kharagpur is eligible for exemption for payment of Customs Duties in terms of Government of India Notification No.51/96-Customs dated 23.07.96. Necessary certificate in this regard will be issued as per requirement and on request of the successful bidder.
9. Price of each components or options (in case equipment) must be specified individually.
10. Payment Terms: 90% Payment shall be made after successful installation of the Equipment/Accessories duly certified by PI, CNE\_OTG. Balance 10% may be released against submission of Performance Bank Guarantee to the tune of 10% of the total purchase order value. The Performance Bank Guarantee shall be issued from any Commercial Bank, which must remain valid for a period sixty days beyond the expiry of the Warranty Period. Bid security will be refunded back on submission of performance Security. Through Letter of Credit / Wire Transfer (after receipt of stores) for foreign principal. In case of Letter of Credit 90% payment will be made on submission of shipping documents and balance 10% payment will be made on installation, commissioning and submission of Performance Bank Guarantee for performance period. On behalf of the Principal, Indian Agent must be able to provide Performance Bank Guarantee.
11. Warranty: Should be valid for **(05)five years** for all items including third party items from the date of successful installation of the equipment.

12. Delivery Period: The equipment should be supplied **within 8 weeks** from the date of receipt of the Purchase Order.
13. Liquidated Damage: In the event of failure to deliver the stores beyond the specified date, liquidated damages @ 1% per month or part thereof in respect of the value of stores will be deducted, subject to a maximum of 5%; alternately the order will be cancelled and the undelivered stores purchased from elsewhere at the risk and expense of the vendor.
14. Tender Fee: An amount of **Rs 1,000.00 (Rupees One Thousand only)** as tender fee (nonrefundable) is to be paid. The payment shall be made by Demand Draft from any Bank in favour of "Indian Institute of Technology Kharagpur", payable at "Kharagpur". Quotation will not be accepted without the Tender Fee. Tender fee should be enclosed separately in an envelope and stapled with the Technical Bid.
15. Earnest Money Deposit (EMD): An amount of **Rs. 63,000.00 (Rupees Sixty-Three Thousand only)** only (Refundable) in the form of Demand Draft drawn in favour of "Indian Institute of Technology Kharagpur", payable at Kharagpur or Bank Guarantee as per format at Annexure-II is to be submitted. E.M.D. should be enclosed separately in an envelope and stapled with the Technical Bid document superscribed with the tender no. The validity of the EMD should be 6 (six) months from the date of issue. Any bid without EMD will summarily be rejected. No interest is payable on EMD. EMD will be refunded to the unsuccessful bidder after finalization of the tender process. No interest is payable on Security Deposit. Security Deposit shall be forfeited if the selected vendor fails to execute the contract after receiving the same.  
[NOTE: IIT Kharagpur will give exemption for submission of tender fee and EMD who are registered with MSME or Central Purchase Organization or startups as recognized by DIPP as per revised rule 170 of GFR-2017 only. However proper and valid document in this regard must be submitted by the bidders in support of their claim.]
16. Bid Submission: Technical Bid and Price Bid should be submitted in two separate sealed envelopes quoting reference number on the top of the envelope. Technical bid should have a copy of the price bid with costs blanked out. Tender Fee and EMD should be enclosed with the Technical Bid documents, in separate sealed envelopes, stapled with the packet containing Technical Bid documents.
17. Acceptance of Tender: The authority of IIT, Kharagpur reserves the right to accept/reject any or the entire tender bids received without assigning any reason thereof.
18. Conditional offer will not be accepted.
19. Period of Validity: Bids shall remain valid for acceptance for a period of 120 days from the date of opening of the price bid. The benefit of downward prices (revision on account of budget/financial policy, tax revision, etc.) should be given to IIT Kharagpur by the selected OEM/vendor.
20. Past performance of the vendors will be judged at the time of Technical Evaluation.
21. The Institute does not bind itself to offer any explanation to those bidders whose technical bid has not been found acceptable by the Technical Evaluation Committee of the Institute.
22. Bidders should enclose the following documents:

- i. Earnest Money Deposit (EMD).
  - ii. Certificate of Registration/Trade License.
  - iii. PAN number and GST registration number.
  - iv. IT returns for the last three years.
  - v. Copy of product literature technical leaflet, wherever applicable for which the prices have been quoted should invariably be enclosed.
  - vi. Signed copy of the tender document, with company seal, agreeing to the terms & conditions and declaration.
23. **All tenders are to be submitted or handed over to the office of Prof. Siddhartha Mukhopadhyay, Department of Electrical Engineering, IIT Kharagpur.** The bids (technical and price bids) once submitted shall be the property of the Institute and shall not be returned to the vendor in future.
24. **The person/officer signing** the tender/bid documents should be delegated with an appropriate authority.
25. **Opening of Price Bids:** The Price Bid(s) of only those vendor(s) who are found technically qualified will be opened and the same will be opened before the technically qualified vendor(s). **The date for opening of price bids will be notified separately.**
26. Bidder or his/her authorized representative (with proper authorization letter for opening of technical bids and also for opening of price bids) may choose to be present at the time of opening of Technical Bids/Price Bids.
27. The addendum/corrigendum if any shall be published on Institute's Website and on CPP Portal.
28. The Institute at its discretion may change the quantity at any time before placing the order.
29. Copy of mandatory test reports, national testing/reliability and endurance test reports etc., certified or conducted at the manufacturing site, granted by the bureaus/quality control departments/national testing laboratories, as appropriate, should be enclosed.
30. Deviation from Specifications: It is in the interest of the tenderer to study the specifications in the tender schedule thoroughly before quoting so that, if the tenderer makes any deviations, the same are prominently brought out in the body of the tender. If you need to add any optional items to your system in order to meet our specifications, you are requested to quote for the total including the option required to suit our requirements. Otherwise, your tender will not be considered at all.
31. Guarantee: The tenderer has to declare that the goods sold to the buyer under this contract shall be of the best quality and workmanship and shall be strictly in accordance with the specifications.
32. Jurisdiction: All questions, disputes, or differences arising under, out of or in connection with the contract, if concluded, shall be subject to the exclusive jurisdiction at the place from which the acceptance of Tender is issued i.e. Jurisdiction of KOLKATA HIGH COURT. Acceptance to this effect is also necessary at the time of opening of Technical Bid.
33. Agency Commission, if any will be paid to the Indian agents in Rupees on receipt of the equipment and after satisfactory installation. Agency Commission will not be paid in foreign

currency under any circumstances.

**34. Tenderer(s), who are Indian Agents of OEMs:**

(a) Bidders should enclose / furnish the following documents / details:

- Port of shipment and Country of origin is to be provided for each item.
- Purchase order to be placed on: Should be mentioned in the quotation with full address.
- Complete address and tele links for contact persons of principals and Indian agent offices dealing with this purchase.
- Name and full address of the OEM's Banker and their swift code.

(b) Should furnish a clear declaration as follows: We declare that I am/we are Accredited Agents of the suppliers aboard. DGS&D enlistment certificate needs to be attached (applicable only for the Indian Agents)

**35. Important**

(a) Bids submitted with false information will not only be rejected but also the OEM/vendor will be debarred from participation in future tendering process.

(b) The OEMs/Vendors need to submit a certificate that they are not currently debarred or blacklisted in IIT Kharagpur for any supplies, products or services, or at present in any national organization or educational institute/university.

(c) In case of any dispute, the decision of the Director of this Institute shall be final and binding on the bidders.

(d) For any query pertaining to this bid document, correspondence be addressed to:

*Dr. Debarati Sen,*

*G. S. Sanyal School of Telecommunications,*

*Indian Institute of Technology Kharagpur-721302*

*[Ph.: 03222-282265, 3222-283908].*

(e) In case the due date for submitting tender **happens to be a holiday, the same will be accepted on the next working day.** The timings will however remain unchanged. **Please Note that the Institute remains closed during Saturdays & Sundays.**