

	<b>INDIAN INSTITUTE OF TECHNOLOGY MADRAS</b> <b>Chennai 600 036</b>  Telephone: (044) 2257 4426 E-mail: rganti@ee.iitm.ac.in	
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Prof. Radhakrishna Ganti  
Project Coordinator

Ref: ELE/2020/RADA/PTPGM  
Dated: 30.01.2020

Limited Tender No: ELE/2020/RADA/PTPGM

**Due Date: 19.02.2020, 3:00pm**

**Pre-Bid meeting: - Not required.**

**Technical Bid opening meeting on Due Date: 19.02.2020, 4:00pm**

Dear Sir/Madam,

On behalf of the Indian Institute of Technology Madras, offers are invited for the supply of “**GRAND MASTER**” conforming to the specifications given in (**Annexure-I**).

**Terms and Conditions of Limited Tender**

1. **Preparation of Bids:** - The Limited tenders should be submitted under **Two bid system** (i.e.) Technical- and -Financial bid.
2. **Delivery of the tender:** - The tender shall be sent to the below-mentioned addresses either by post or by courier (duly sealed and super scribed on the envelope with the reference No and due date) so as to reach the following address before the due date and time specified in our Schedule:  
**CSD 400 (5G Lab)**  
**Department of Electrical Engineering,**  
**IIT Madras**  
**Chennai - 600 036**
3. **Price:** - The price should be quoted in net per unit (after breakup) and must include all packing and delivery charges to **Department of Electrical Engineering.**
  - a. The offer/bid should be exclusive of taxes and duties. The percentage of tax & duties should be clearly indicated separately. IIT Madras is eligible for concessional GST and relevant certificate will be issued.
  - b. In case of import supply, the price should be quoted without custom duty. IIT Madras is exempted from levy of IGST on Imports and eligible for concessional custom duty (not exceeding 5%) and the price should be quoted on EX-WORKS and CIP (stating the Cost, Insurance, Freight separately) and indicating the mode of shipment.
4. **Terms of Delivery:** - The item should be supplied to our Departments as per Purchase Order. In case of import supply, the item should be delivered at the cost of the supplier to our Institution. The Installation/Commissioning should be completed as specified in our important conditions.
5. **Catalogue:** Original catalogue (not any photocopy) of the quoted model duly signed must accompany the quotation in the Technical bid
6. **Late offer:** - The offers received after the due date and time will not be considered

7. **Payment:** - No Advance payment will be made for Indigenous purchase. However, 90% Payment against Delivery and 10% after installation are agreed to wherever the installation is involved. In case of import supplies the payment will be made only through 100% Letter of Credit i.e. (90% payment will be released against shipping documents and 10% after successful installation wherever the installation is being done).
8. **Advance Payment:** - No advance payment is generally admissible. In case of specific percentage of advance payment is required, the Foreign Vendor has to submit a Bank Guarantee equal to the amount of advance payment and it should be routed through the Beneficiary Bank to the end user Bank. Otherwise, the Indian Agent of the foreign vendor has to submit a Bank Guarantee through a Nationalized Bank of India.
9. **On-site Installation:** - The equipment or machinery has to be installed or commissioned by the successful bidder within number of days (as prescribed by PI's) from the date of receipt of the item at site of IIT Madras.
10. **Warranty/Guarantee:** - The offer should clearly specify the warranty or guarantee period for the machinery/equipment.
11. **Validity:** Validity of Quotation not less than 60 days from the due date of tender
12. **Technical Bid Opening:** The technical bid will be opened on **19.02.2020, 4:00pm** at the Department of Electrical Engineering, IIT Madras and the **financial bids** of those tenders who are technically qualified will be opened at a **later date under intimation to them.**
13. **Performance Security:** -The successful bidder should submit Performance Security for an amount of 5% of the value of the contract/supply within 21 days from the issue of work/purchase order. The Performance Security should be furnished in the form of an Account Payee DD / FD Receipt from the commercial bank (or) Bank Guarantee from any nationalized bank in India.
14. **Accept /Reject:** IIT Madras reserves the full right to accept / reject any tender at stage without assigning any reason.
15. **Settlement of Disputes:** Any legal disputes arising out of any breach of contract pertaining to this tender shall be settled in the court of competent jurisdiction located within the city of Chennai in Tamil Nadu.
16. **Risk Purchase Clause:** - In the event of failure of supply of the item/equipment within the stipulated delivery schedule, the purchaser has all the right to purchase the item/equipment from other sources on the total risk of the supplier under risk purchase clause.
17. **Unsolicited offers:** "This notice is being published **for information only** and is not an open invitation to quote in this limited tender. Participation in this tender is by invitation only and is limited to the selected registered suppliers. Unsolicited offers are liable to be ignored. However, suppliers who desire to participate in such tenders in future may apply for registration as per procedure." The Website for Registration of vendors is <http://web.iitm.ac.in/supplier/> and the mail address for queries is "[workflow@rt.iitm.ac.in](mailto:workflow@rt.iitm.ac.in)".

Yours sincerely,

**Prof. Radhakrishna Ganti**  
**Department of Electrical Engineering,**  
**IIT Madras**  
**Chennai - 600 036.**

**TECHNICAL SPECIFICATIONS AND QUNATITIES**

1 Unit of PTP grand Master

IEEE 1588v2 PTP grandmaster	Yes (Support for multiple profiles)
5G support	Yes (in terms of usage for fronthaul synchronization).
SyncE	Yes
NTP support	Yes
GNSS support	GPS, GLONASS
Primary Reference Time Clock (PRTC)	Class A and Class B support
PRTC fully compliant with ITU-T G.8272	Fully compliant with ITU-T G.8272
PTP time stamps	Accurate to 2 ns RMS
Frequency accuracy:	Conforms with ITU-T G.811
Oscillator	OCXO
Support for multiple IEEE 1588v2 profiles /unit	Yes
# of PTP sessions	>50 clients
ITU-T G.8273.2 PTP Boundary-Clock Class C (10 ns cTE) and D (better than 5 ns (MaxTEI)	Yes
SyncE	Yes (as a master)
10GE port	At least 4 (sfp+)
10 MHz/1PPS input/output ports	2
Input power	-48V DC
Operating temperature	Till 60 deg C.
FCC compliance	Yes
GPS accessories	
Cable	125 feet (Total)
Active Antenna	Support GPS/Galileo/GLONASS, - IP67 -With the mounting bracket.
GNSS inline amplifier	As required
Lightning arrester	Yes