

**National Wind Tunnel Facility**  
**Indian Institute of Technology, Kanpur**

**Tender Type:** Open Tender Enquiry  
**Enquiry No.:** NWTF/BKM/2023-24/01  
**Opening Date:** March 23, 2023  
**Closing Date:** April 06, 2023  
**Extended closing Date:** April 17, 2023

**Subject:** Purchase of High Bandwidth/mixed signal Oscilloscope (Quantity: 1 No.)

Quotation for the item mentioned above are requested in a sealed envelope. The quotation should reach on or before **April 17, 2023** to the address given below.

**Specifications of High Bandwidth/ Mixed Signal Oscilloscope**

A high-quality high end six channel mixed channel oscilloscope of  $\geq 1$ GHz bandwidth upgradable to higher bandwidth is required with following specification:

- Real-time sampling of all channels simultaneously (Analog or Digital):  $\geq 6$  GS/s
- Record length of all Analog or Digital channels greater than 30 million points or better
- Waveform capture rate must be greater than 5 lakh waveforms/s
- Vertical resolution 12-bit Hardware ADC and up to 16-bits in High-Res Mode
- Rise time:  $\leq 450$  ps or better
- Time base Range: 200 ps/div to 1000 s/div
- Vertical Sensitivity: 1 M $\Omega$ : 500  $\mu$ V/div to 10 V/div in a 1-2-5 sequence  
50  $\Omega$ : 500  $\mu$ V /div to 1 V/div in a 1-2-5 sequence
- Standard trigger options: Edge, Pulse Width, Runt, Timeout, Window, Logic, Setup & Hold, Rise/Fall Time, Parallel Bus, Sequence, Visual Trigger.
- Auxiliary Trigger of  $\leq 300 V_{RMS}$
- Standard analysis of measurements more than 30 or better and all can be displayed on Oscilloscope screen simultaneously.
- Spectrum Analysis: It should have DDC based Spectrum Analysis on all channel
- It should have correlated view of DDC Spectrum & Time Domain Analysis simultaneously with DDC span of 18.6 Hz to 312.5 MHz
- Time history, Histogram, and Spectrum plots
- Math operations and search on any trigger criteria
- Simultaneously display of 6 FFT's of all 6 analog channels with cursor measurements on each FFT simultaneously.
- Including Arbitrary/Function Generator of 50 MHz waveform generation including
- Different Waveform for example Arbitrary, Sine, Square, Pulse, Ramp, Triangle, DC Level, Gaussian, Lorentz, Exponential Rise and Fall, Sin(x)/x, Random Noise, Haversine, Cardiac
- Including 4-digit AC RMS, DC, and DC+AC RMS voltage measurements

- With Trigger frequency counter of not less than 8-digit
- Screen size greater than 13" with High Definition (1920 x 1080) Capacitive multi-touch TFT display
- Connectivity required: USB 2.0 Host, USB 2.0 Device more than 4ports; GB Ethernet; HDMI
- Operating System will be closed Linux.
- Internal Storage: 60GB or more
- Product Support: OEM should have NABL accredited Calibration and service facility in India.
- High Voltage Probe: One high voltage probe of bandwidth not less than 75 MHz suitable for measurement of DC Voltage up to 20 kV DC / 40 kV Peak AC with 1000x attenuation, rise time less than 5ns, 100 MΩ/ 3.0 pF (with compensation range), and meeting EMC environment and safety standards.
- Probes: Four 1 GHz passive probes and Four 500 MHz passive probes having loading factor better than 4pF should be supplied

#### **TERMS & CONDITIONS:**

- **PRICES:** FOR IIT Kanpur.
- **DELIVERY:** within 4 months.
- **VALIDITY:** Minimum 60 days.
- **Warranty:** 3 Years or higher.
- **Payment Term:** 90% against delivery and remaining 10% after successful installation.
- Valid authorization letter from OEM should be submitted along with the Bid.
- **Installation & Commissioning:** Free of Cost.
- **Training:** Free of Cost.

#### **Address for correspondence:**

Dr. Bal Krishan Mishra  
(Research Establishment Officer)  
National Wind Tunnel Facility,  
Indian Institute of Technology, Kanpur  
KANPUR-208016 UP  
Email: [bkmishra@iitk.ac.in](mailto:bkmishra@iitk.ac.in)  
Phone: 0512-259-2384