

Revised Specifications after pre-bid conference for File: CSIO/3(13)/2017-Pur

Item Name: Parametric Analyzer for HEMTs Based Electrical Sensors

Specifications:

1. General features:

- o PC based instrument with Microsoft Windows operating system and IV, CV, pulse IV analyzer software.
- o Single box solution for current-voltage (IV), capacitance-voltage (CV), pulse IV capability.
- o Nine (or more) slot system for Source measure units (SMUs)
- o Medium Power SMUs = 03
- o System should have touch **screen/knob**, USB keyboard & mouse and GPIB, LAN port for instrument control.

2. System should have following Sourcing and Measurement capabilities.

IV Measurement:

System should have at least three SMUs with following capabilities for IV Measurement.

Voltage:

- o Voltage Source and measure capability: $\geq \pm 100$ V
- o Ranges: 0.5 V or less to 100V or more
- o Source/Force resolution: 25 μ V or less
- o Measure resolution: 0.5 μ V or less

Current:

- o Max Current measure capability: $\geq \pm 100$ mA
- o Current ranges : 100 nA or less to 100 mA or more
- o Min Source/Force resolution: 5 pA or less
- o Min Measure resolution: 100fA or less

3. SMUs must have accessory to support 100 Aa or less of measurement resolution.

4. CV measurement capability (one unit)

- o Frequency Range : 1 KHz or less to 5 MHz or more
- o DC Voltage: 25 V or more
- o Resolution: 1kHz or less

5. Pulse measurement unit with following specifications:

- o System should able to generate and measure:
 - a) +/- 40V amplitude pulse with minimum measure window of 5 microsecond or less, and
 - b) +/-10V amplitude pulse with minimum measure window of 100 nanosecond or less
- o System should have current measurement facility

6. Accessory to switch the measurements (IV, CV and pulse) without changing the connections must be quoted.

7. Provided software should have support for transistor, MOSFET/CMOS, Nano devices, Solar cell, etc. libraries/applications.

8. Standard software features for parameter extraction facility and analyses should be available. System should be compatible to connect standard probes (BNC/TRX) connectors.

9. Vendor should have repair, maintenance and upgradation support in India.

10. Warranty: Minimum three years.

11. All cable, connector and appropriate accessories required for full functioning of the system and required accessories should be quoted.

Optional items (Rate to be quoted separately)

1. Please quote for followings

- o TRX female to TRX female connector: 04 No.
- o BNC female to BNC female connector: 04 No.
- o TRX male to BNC female connector: 04 No.
- o BNC male to TRX female connector: 04 No.
- o TRX cable with alligator clips: 4 No.
- o Test fixture for package devices: 01 No.
- o Device Modelling Software: 01 No.
- o Any other item(s) to work properly for the system as well as fully installation of the system.
- o Free software upgrade during warranty period.