

## Tender Details

**Tender No:** SCL/PS2/2017E0085401

**Tender Date:** 11/12/2017

**Purchase Entity:** Pur\_Entity2

## Tender Notice

E-Procurement Tender No. SCL/PS2/2017E0085401 dated 11.12.2017. SEMI-CONDUCTOR LABORATORY [SCL] invites ONLINE offers in Two Part through e-tender portal <https://eprocure.isro.gov.in> for On-wafer RF Characterization Setup with Semi-automatic Wafer Prober. Tender documents can be downloaded from 13.12.2017 - 1601 hrs. to 18.01.2018 upto 1500 hrs. The vendors need to get registered in the e-tender portal to access tender and submit their offer online. Vendors need to have Digital Signature Certificate as detailed on our e-portal and corporate e-mail ID to register on the above portal. Only online tenders will be accepted. No Manual/Postal/courier/e-mail/fax tender will be entertained. Please note Tender fee shall not be applicable for tenders submitted on-line through this portal.

A Pre-bid conference shall be held with the prospective bidders at SCL on 03.01.2018 at 1100 hours (IST) to clarify issues regarding the specifications and other associated technical details of the subject procurement. The prospective bidders must, therefore, ensure that they or their authorized representatives attend the said pre-bid conference at SCL as per the given schedule. In order to enable meaningful discussions in the Pre-bid conference, the prospective Bidders are requested to list the queries/clarifications planned to be sought by them on this Tender in the Pre-bid conference, in a Query Sheet and send us the said Query Sheet in advance to reach us at least one day before the Pre-bid Conference.

Before submitting the bids, all prospective bidders are requested to go through the minutes of proceeding of the pre-bid conference which shall be placed at our website and take the same into account while submitting the bids. Please note that Tender of a firm who has not attended the Pre-bid

conference shall be disqualified. Vendors interested to participate in this e-Tender are required to register themselves as vendors, if not already registered, in our e-procurement portal <https://eprocare.isro.gov.in> by downloading plugins and help demos listed on the home page of the e-procurement link mentioned above to complete the vendor registration process. They can seek help from help desk 020 25315555 / 9167969601 (Email: [support.isro@nextenders.com](mailto:support.isro@nextenders.com)) also the home page of e-procurement portal may be accessed for any technical help for registration and subsequent process. Vendors may please note that without registering in our E-procurement portal they will not be able to quote for this tender.

## Tender Attachments

### Technical Write-up/Drawings

#### Attachment - I:

IDT00149100000000000isro05401.pdf

#### Attachment - II:

#### Attachment - III:

#### Attachment - IV:

#### Attachment - V:

### Instructions to Tenderers (PT)

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1. Interested tenderers may, at their option, login to <http://eprocure.isro.gov.in> and submit offers as per details in the tender notification.

#### 2. Pre-Bid Conference:

A Pre-bid conference shall be held with the prospective bidders as per schedule given in the Tender Notification at Semi-Conductor Laboratory, S.A.S. Nagar (Mohali), Punjab, India to clarify issues regarding the specifications and other associated technical details of the subject procurement. The prospective bidders must, therefore, ensure that they or their authorized representatives attend the said pre-bid meeting at SCL as per the given schedule.

In order to enable meaningful discussions in the Pre-bid conference, the prospective Bidders are requested to list the queries/clarifications planned to be sought by them on this Tender in the Pre-bid conference, in a Query Sheet and send us the said Query Sheet in advance to reach us at least one day before the Pre-bid Conference.

Foreign bidders to intimate their willingness to attend the Pre -bid conference well in advance in the prescribed standard format to arrange for their Security clearance.

Please note that Tender of a firm who has not attended the Pre -bid conference shall be disqualified.

In the event where the vendor is unable to attend the Pre-Bid Conference physically, and he does not have establishment/representative in India, a Pre -Bid Conference through Video Conference / Skype / Conference Call shall be arranged by SCL upon the request from the vendor(s).

3. Request for the extension of the due date will not be considered.
4. SCL reserves the right to accept or reject any / or all the tenders in part or full without assigning any reasons thereof. The bidder is at liberty to seek information related to bidding conditions, bidding process and/or rejection of its bid.
5. In this tender either the Indian Agent on behalf of the Principal/OEM or the Principal/OEM itself can bid, but both cannot bid simultaneously for the same item. Indian agents while quoting on behalf of their principals shall provide necessary latest authorization letter obtained from their Principals/Manufacturers in their bid.
6. If an agent submits bid on behalf of the Principal/OEM, the same agent shall not submit a bid on behalf of another Principal/OEM in the tender for the same item. If submitted, all offers submitted by the said agent shall be excluded from the procurement process.
7. The tenders of vendors who have not agreed to furnish Security Deposit and Performance Bank Guarantee as sought vide this tender shall be excluded from the procurement process.
8. The tenders of bidders where the validity of the tender is shorter than the period specified in the tender enquiry shall be excluded from the procurement process.
9. Late tenders, delayed tenders, fax quotations and e-mail quotations are not considered.
10. SCL reserves the right to verify all claims made by the bidder.
11. SCL reserves the right to change any milestone date of the tendering activity / tender schedule.
12. Tender which is not submitted in terms of instructions mentioned herein is liable to be rejected.
13. If tender opening date happens to be a public holi day, tender will be opened on the next working day and interested bidders may depute their representatives to attend the Tender Opening, with proper authorization.
14. The purchaser shall be under no obligation to accept the lowest or any tender and reserves the right of acceptance of the whole or any part of the tender or portions of the quantity offered and the tenderer shall supply the same at the rates quoted.

15. It is expressly agreed that the acceptance of the Stores Contracted for is subject to final approval in writing by the Purchaser.
16. It is to be noted that the drawings, specifications, end-use, etc., given by the purchaser, are confidential and shall not be disclosed to any third party.
17. Prices are required to be quoted according to the units indicated in the tender. When quotations are given in terms of units other than those specified in the tender form, relationship between the two sets of units must be furnished.
18. The Prices are to be mentioned both in figures as well as in words. The taxes, duties etc. are to be calculated and indicated in the column provided in online forms explicitly.
19. Bidders are expected to comply with commercial and other terms and conditions given in vendor specified terms of this tender. In case of any deviation, the reasons thereof should be clearly specified in the vendor specified terms column.
20. All available technical literature, catalogues and other data in support of the specifications and details of the items should be furnished along with the offer.
21. Samples, if called for, should be submitted free of all charges by the tenderer and the Purchaser shall not be responsible for any loss or damage thereof due to any reason whatsoever. In the event of non-acceptance of tender, the tenderer will have to remove the samples at his own expense.
22. Approximate net and gross weight of the items offered shall be indicated in your offer. If dimensional details are available the same should also be indicated in your offer.
23. Specifications: Stores offered should strictly confirm to our specifications. Deviations, if any, should be clearly indicated by the tenderer in his bid. The tenderer should also indicate the Make/Type number of the stores offered and provide catalogues, technical literature and samples, wherever necessary, along with the quotations. Test Certificates, wherever necessary, should be forwarded along with supplies. Wherever options have been called for in our specifications, the tenderer should address all such options. Wherever specifically mentioned by us, the tenderer could suggest changes to specifications with appropriate response for the same.
24. The tenderer should supply along with his tender, the name of his bankers as well as the latest Income-Tax clearance certificate duly countersigned by the Income-Tax Officer of the Circle concerned under the seal of his office, if required by the Purchaser.
25. The Purchaser reserves the right to place order on the successful tenderer for additional quantities up to 25% of the quantity offered by them at the rates quoted.
26. The contractor shall also undertake the supply of additional number of items covered by the order as considered necessary by the purchaser at a later date, the actual price to be paid shall be mutually agreed to after negotiations.

27. Subletting and Assignment: The contractor/supplier cannot sublet, transfer or assign the order/Contract or any part thereof or interests therein or benefit or advantage thereof in any manner whatsoever, to any other party save with the previous written consent of the purchaser. Such consent by the purchaser, however, shall not relieve or discharge the contractor/supplier from any obligation, duty or responsibility under the Purchase Order/ Contract.

28. The contractor/supplier shall indemnify the purchaser against Workmen Compensation Act.

29. The authority of the person submitting the tender, if called for, should be produced.

30. This being a two part tender -Technical and Commercial part separate, the Technical part should not contain Pricing information. The tenders containing Price details in Technical part will be treated as unsolicited offers and rejected.

31. The bids shall be opened as per schedule indicated in the Tender in the presence of the bidders/their authorized representatives who may like to attend the tender opening against presentation of Authorization letter.

The schedule of opening of Price bids shall be intimated separately to the technically qualified bidders only.

32. Definitions:

a) The term Purchaser shall mean the Director, Semi-Conductor Laboratory or his successors or assignees.

b)The term Contractor shall mean, the person, firm or company with whom or with which the order for the supply of stores is placed and shall be deemed to include the Contractors Successors, representatives, heirs, executors and administrators unless excluded by the Contract.

c) The term Purchase Order shall mean the communication signed on behalf of the Purchaser by an officer duly authorised intimating the acceptance on behalf of the Purchaser on the terms and conditions mentioned or referred to in the said communication accepting the Tender or offer of the Contractor for supply of stores of plant, machinery, Software or equipment or part thereof.

d) The term Stores shall mean all that the Contractor agrees to supply under the Contract as specified in the Purchase Order including its installation, testing and commissioning as per the specifications.

33. PROCEDURE FOR EVALUATION OF TENDERS:

Technical Evaluation Criteria:

Vendor meeting the eligibility criteria and basic technical specifications mentioned in SCL Tender shall be considered to be technically qualified.

Evaluation of Price Bids

The following elements shall be considered for evaluation of Price Bids:

- a. Price quoted by the bidder in the price bid template for meeting the functionalities given in the Tender and Technical Specifications sheet.
- b. Compliance with the Payment Terms prescribed in this tender document. In the event, the bidder offers Payment Terms stringent than SCL prescribed Payment Terms, the bid of the bidder shall be loaded based on MCLR of SBI prevailing on the date of opening of price bids.
- c. Item wise cost of recommended essential spares and consumables required for two (02) year of operation shall not be taken into account for evaluation of price bids.
- d. Post warranty comprehensive (labour & parts) AMC charge for three (03) years shall not be taken into account for evaluation of price bids.
- e). Calibration charges at user site after warranty shall not be taken into account for evaluation of price bids.

#### **Terms and Conditions - Imported Items**

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1. The Tenderers should submit the bids through e-procurement portal <http://eprocure.isro.gov.in> and complete in all respects with technical specifications, including pamphlets and catalogues.
2. The bid should contain the following information:-
  - a. The FCA value for import by Air Freight upto IGI Airport, New Delhi.
  - b. Agency Commission: Bidders are required to provide the following information in respect of their authorised Indian Agent, if any, alongwith technical bid as the same is mandatory as is required for consideration of the bid. Name, Address, Telephone no. , fax no., email of the Indian Agent including the contact person. A letter from the Manufacturer/supplier in the current date certifying that the said Indian Agent is their authorised Indian Agent and also indicating the responsibilities/role of the Indian Agent under the proposed purchase. Renumeration/service charges payable to the Indian Agent under the proposed purchase. The amount of agency commission included in the price and payable to Indian Agent of the contractor shall be paid directly to the Indian Agents by the Purchasers in equivalent in Indian rupees on the basis of an invoice from him applying TT buying rate of exchange ruling on the date of placement of the Purchase Order and which shall not be subject to any further exchange variations. The payment will be released to the Indian Agents within 30 days from the date of acceptance of the goods.
  - c. The earliest delivery period and country of origin of the Stores.
  - d. Bankers name and address of the contractor.

- e. The approximate net and gross weight and dimensions of packages/cases.
  - f. Details of any technical service, if required for erection, assembly, commissioning and demonstration as applicable.
3. The FCA prices quoted should be inclusive of all taxes, levies, duties arising in the tenderers country.
  4. The offer should be valid for a minimum period of 120 days from the due date of opening of the tender.
  5. Samples, if called for should be sent free of all charges.
  6. Bids will not be entertained after the due date and time.
  7. Offers made by Indian Agents on behalf of their Principals, should be supported by the necessary authorization letter from their Principals.
  8. The details of Import License will be furnished in the Purchase Order.
  9. The Authority of person submitting the tender, if called for, shall be produced.
  10. Instruction/operation manual containing all assembly details including wiring diagrams should be sent wherever necessary in duplicate. All documents/correspondence should be in English Language only.
  11. The Purchaser reserves the right to accept or reject the lowest or any other offer in whole or in part without assigning any reason.
  - 12 It is expressly agreed that the acceptance of the stores contracted for is subject to final approval in writing by the Purchaser.
  - 13 a. Part shipment is not allowed unless specifically agreed to by us.  
b. As far as possible, stores should be dispatched by Indian Flagged Vessels/ Air India or through any Agency nominated by us.
  14. Inspection/Test Certificates should be provided for the goods after testing it thoroughly at the Contractors works. If any inspection by Lloyds or any other testing agency is considered necessary, it shall be arranged by Contractors.
  15. Where erection or assembly or commissioning is a part of the contract, it should be done immediately on notification. The Contractor shall be responsible for any loss / damages sustained due to delay in fulfilling this responsibility.
  16. For items having shelf life / those with maximum shelf should be supplied, if order is placed.



## Bid Templates

### Document Solicited from Vendor

Attachment 1:

Attachment 2:

### Technical Specifications of Vector Network Analyzer (VNA)

#### Item Specifications

Sl. No	Specifications	Compliance (Yes /No)	Offered Specifications	Re
1	VNA Frequency range:10MHz to 12GHz or better			
2	VNA Number of ports :4 (to meet requirements mentioned at S.No. 13,14,15,16 at attached Technical Specification Document)			
3	VNA Number of independent sources :Minimum 2 or more			
4	VNA Max. Output Power:+10dBm			
5	VNA Minimum settable power: -80dBm			

6	VNA Number of measurement points: 2 to >20,000			
7	VNA Dynamic Range (At test port): Greater than equal to 100 dB			
8	VNA Test port noise floor : Better than -100dBm			
9	VNA Cross Talk: Less than equal to -75dB			
10	VNA Phase Noise @ 1kHz Offset:Less than equal to-75dBc/Hz @12GHz			
11	VNA Maximum safe input power level:+25 dBm and DC 30V			
12	VNA Source, Receiver Attenuator & Bias Tees:Internal Source & Receiver Attenuator with internal Bias Tees for 4 Ports.			
13	P1dB measurement: Measure linear gain, compression gain, input and output power at compression, and also the return loss under compression over the specified frequency range			
14	Noise Figure: Measure noise figure for low gain devices with low noise figure (<2dB). Any accessories required for noise figure measurement			

	to be provided by vendor.			
15	IMD Measurement: 3rd order IMD Measurement capability. Spectrum Analyzer mode be provided for easier trouble-shooting and seeing the frequency spectrum.			
16	Load Pull Measurements: VNA should be capable of making measurements like amplifier output power, match, gain, and PAE under different load conditions			
17	Display: Color display controls for VNA measurements			
18	Software: •Software controlled automated calibration of on-wafer devices. •Support calibration standards like SOLT, TRL, and LRRM and other industry standards. •All compatible software drivers required for standalone DC/AC/RF measurements between VNA/B1500 and semi-auto prober without using Master control software			
19	Operating System: Windows 7 or above			
20	Standard Calibration kit: Compatible electronic			

	calibration kit should be supplied along with male & Female and adapters			
21	Supply Voltage: 230V +/- 10%, 1 PHASE, 50Hz +/- 5%			
22	Power Supply: •Two channel •Programmable with Integrated 2/4-quadrant source and measurement capabilities •0 to ± 20V / 0 to ±3 A preferably from same company and rated to work with VNA.			
23	Please refer attached Technical specification document for scope of supply, installation, and acceptance procedure of the equipment.			

### Semi-Automatic Probe station

#### Item Specifications -I

Sl. No	Specifications	Compliance (Yes /No)	Offered Specifications	Re
1	Wafer Prober 1.1 Wafer Size Capability: 200 mm, 150 mm, 100 mm wafers 1.2 Wafer Handling: Single wafer, manual feed type or auto loading 1.3 Semi-automation: One step manual align teach and automatic die stepping			

2	<p>2.Chuck XY Stage :2.1 Travel: 203 mm x 203 mm (8 in. x 8 in.)2.2 Resolution: Plus/minus 1um or better2.3 Accuracy: Less than equal to 2.5um2.4 Speed: Greater than equal to 30 mm/s</p>			
3	<p>3.Chuck Z Stage3.1 Travel Greater than equal to 5mm3.2 Resolution 1um or better3.3 Accuracy Less than equal to 2um</p>			
4	<p>4.Theta Stage4.1 Travel: plus/minus 5 degree range of motion4.2 Resolution: 0.01 degree motorized stage movement4.3:Accuracy: 0.1degree</p>			
5	<p>Chuck5.1 Chuck Flatness : Less than equal to 10um5.2 Thermal Operation in the Range : - 55 degree centigrade to 180degree centigrade (plus/minus 1degree centigrade )5.3: Chuck Leakage: Less than equal to 25fA5.4 Residual Capacitance : Less than equal to 100 pF</p>			
6	<p>Platen6.1 Lift: Greater than equal to 5 mm or software features for setting separation, contact and over travel for safe probing distance.6.2</p>			

	Connectors: Triaxial to co-axial and vice-versa			
7	DC Micro-positioners7.1 Feature Resolution : Less than equal to 2 um7.2 Travel in X, Y, Z axis :Greater than equal to 8mm7.3 Probe Arms and Cables: Six number fully shielded triaxial up to probe tip7.4 Probe Tips : 18-22 um (Quantity. 100 number)7.5 Base: Vacuum/Magnetic7.6 Application: IV and CV probing 7.7 Quantity: Six numbers			
8	RF Micro-positioners8.1 Feature Resolution: Less than equal to 2um8.2 Travel in X, Y, Z axis: Greater than equal to 8mm8.3 Probe Arms and Cables : East-West configuration fully shielded triaxial up to probe tip8.4 Base: Vacuum/Magnetic8.5 Application: 40GHz RF probing for interfacing with VNA8.6 Quantity :4 nos.			
9	Probes: GSG Probes9.16 nos. GSG probes with 150um pitch9.2 Probe cleaning feature9.3 Compatible ISS substrate for probes to be provided.			

10	<p>Micro chamber</p> <p>10.1 EMI shielding: Greater than equal to 20 dB 0.5-20 GHz</p> <p>10.2 System AC noise: Less than equal to 15mVp-p (Less than equal to 1GHz)</p>			
11	<p>Microscope &amp; Video Camera</p> <p>11.1 Type: High magnification 3-colour CCD/CMOS digital microscope system</p> <p>11.2 Field of View: 5mm x 5mm or more at 1x magnification</p> <p>11.3 Maximum Magnification: 200x</p> <p>11.4 Translation Stage for Digital Microscope: Greater than 5cm horizontal movement in each X and Y direction. The vibration free movement of translation stage to ensure safe probing.</p> <p>11.5 Video Display: 24" LCD monitor for probe viewing and computer display</p>			
12	<p>Vibration :</p> <p>12.1 Table Top: Steel (shall be provided by Vendor)</p> <p>12.2 Isolation Vertical &amp; Horizontal</p> <p>Natural Frequency: Typical performance better than 0dB at 6Hz, with -6 dB per octave roll-off to 48Hz and &gt;-18 dB attenuation above 48Hz (with a semi-automatic 8" probe station</p>			

	or equivalent load)			
13	<p>Probe Card Compatibility</p> <p>13.1 Probe Card Holder: Rectangular probe card Holder (To be provided by Vendor)</p> <p>13.2 Dimension: Rectangular 4.5 inch (Width) and 8 inch long</p> <p>13.3 Clearance Space Between Probe Card Holder and Platen: Greater than 7.5 mm</p>			
14	<p>Computer</p> <p>14.1 Operating System: Windows 7 or higher</p> <p>14.2 Processor: Intel i5 or better</p> <p>14.3 RAM and HDD: Greater than equal to 4 GB and 240GB</p>			
15	<p>Software</p> <p>15.1 On-wafer RF measurement calibration: 1, 2, 3 and 4-port calibration algorithms Compatible with prober control software Support multiple Industry calibration standard like LRRM, SOLT, TRL etc.</p> <p>15.2: Prober control software automated wafer-level measurements of semiconductor devices Integrable with VNA and DC (Keysight's B1500 Semiconductor Device Analyzer) measurement equipment in setup wafer map synchronization and automated monitoring of</p>			



	RF calibration			
16	General Requirements 16.1 Repeatability wafer-level measurements 16.2 System configuration pre-validated to meet SCL application 16.3 Integrated installation to meet pre-defined acceptance criteria 16.4 Single point of contact for support 16.5 Solution expert for system optimization 16.6 Independent vacuum hole pattern for ISS substrate			
17	Please refer attached technical specification document for scope of supply installation and acceptance criteria of the equipment.			

**Integrated setup requirements**

**Item Specifications -II**

Sl. No	Specifications	Compliance (Yes /No)	Offered Specifications	Re
1	INSTALLATION: System to be installed and commissioned at SCL premises by the vendor. Vendor to supply guidelines for preparation of installation of site and list of items to be supplied during installation by the			

	customer.			
2	<p>SYSTEM CAPABILITY</p> <p>Features of Master control software to integrate DC/RF measurements:1.By controlling required equipment like semi-auto prober, VNA to carry out automatic multi-site wafer probing, including automated testing of selected sites and sub-sites across a full wafer in a pre-defined sequence using Wafer Map in a single touchdown.2.GUI based test program development environment for building DC/RF test plan to execute multi-site wafer probing with provision for running multiple test programs on different test structures.3.Automated RF calibration using Impedance standard substrate (ISS) and ability to periodically checking the status of system calibration during measurements.4.Measure d data files must be compatible to file format required by standard Device modeling software's such ICCAP, BSIMProPlus for device modeling.5.Control of B1500 semiconductor parameter analyzer by</p>			

	Master control software is desirable.			
3	Computer :H/W required for Master Control Software such as PC etc. with latest configuration shall be provided by the vendor.			
4	PRE-SHIPMENT INSPECTION :Pre-shipment inspection may be done at vendor's premises at SCL's option; however, final acceptance would be done at SCL after installation.			
5	ACCESSORIES, SPARES AND CONSUMABLES1. Vendor to provide the essential tool kit and accessories required during routine operation and maintenance.2. Vendor to include any other item(s) that is needed for successful operation of the system for its intended applications.3. Vendor to provide itemized Quote for recommended essential spares and consumables for two years of operation along with typical consumption pattern of each item.			

**Vendor Specified Terms**

Description	Vendor Terms
<p>1.1 For imported stores, prices shall be quoted on FCA nearest International airport basis.</p> <p>1.2 For indigenous stores, prices shall be quoted on F.O.R destination basis i.e. SCL, S.A.S. Nagar, Mohali, Punjab exclusive of taxes as may be applicable.</p> <p>1.3 For indigenous stores, please indicate the rate of GST /any other Govt levy as applicable.</p> <p>1.4 Purchaser is entitled to concessional CGST of 2.5 % and IGST of 5 % as per Ministry of Finance, Department of Revenue, Notification Nos. 45/ 2017 Central Tax (Rate) and 47/2017 Integrated Tax (Rate) both dated 14th November, 2017 respectively and would accordingly issue Exemption Certificate in favour of the contractor quoting in Indian Rupees. The bidder should take note of the same while quoting the prices in Indian Rupees.</p> <p>1.5 The prices of the indigenous items shall also be exclusive of transit insurance which shall be arranged by the Purchaser and shall be to Purchaser account.</p> <p>1.6 For imported materials, the Purchaser is entitled to issue Customs duty exemption certificate (CDEC) to the contractor under customs notification no.51/96 dated 23.07.1996 and subsequent amendments to enable the contractor to avail off the benefit of concessional rate of customs duty under this notification. CVD under this notification is nil. In addition to the above CDEC, any documentary support requested by the contractor from the purchaser for customs clearance of goods against the above CDEC shall be provided by the purchaser.</p>	
<p>2. SECURITY DEPOSIT:</p> <p>2.1 On acceptance of the tender, the Contractor shall submit security deposit for ten percent (10 percent) of the value of the Contract within 15 days from the date of purchase order. If the Contractor fails to provide the security within the period specified, such failure shall constitute a breach of the Contract, and the Purchaser shall be entitled to make other arrangements for the re-purchase of the stores contracted at the cost and risk of the Contractor.</p>	

2.2 Security Deposit shall be submitted through Demand Draft / Bankers Cheque/ fixed deposit receipt or Bank Guarantee from any of the Scheduled Banks executed on non-judicial stamp paper of appropriate value, and shall be valid for a period of sixty (60) days beyond the date for completion of the Purchase Order/Contract.

2.3 In case the contractor fails to furnish the security deposit within the specified date or extended due date, the Purchase Order/Contract shall be cancelled, and the EMD, if any, made earlier shall be forfeited, and, in addition, appropriate penal action may also be considered.

2.4 After the Purchase Order/Contract is successfully executed in all respects, the Bank Guarantee towards Security Deposit may be discharged and retained amount and / or EMD refunded to vendors.

2.5 In the event of non-execution of the Purchase order/Contract or breach of any terms and conditions of the Purchase Order, the Security Deposit shall be forfeited.

3. DELIVERY PERIOD:

The bidder shall specify the total time required for execution of the Purchase Order including supply, installation & commissioning as per the tendered specifications.

4. GUARANTEE & REPLACEMENT:

(a) The Contractor shall guarantee that the stores supplied shall comply fully with the specifications laid down, for material, workmanship and performance.

(b) For a period of twenty four (24) months after the acceptance of the stores, if any defects are discovered therein or any defects therein found to have developed under proper use, arising from faulty stores design or workmanship, the Contractor shall remedy such defects at his own cost provided he is called upon to do so within a period of 26 months from the date of acceptance thereof by the purchaser who shall state in writing in what respect the stores or any part thereof are faulty.

(c) If, in the opinion of the purchaser, it becomes necessary to replace

or renew any defective stores such replacement or renewal shall be made by the Contractor free of all costs to the purchaser, provided the notice informing the Contractor of the defect is given by the purchaser in this regard within the said period of 26 months from the date of acceptance thereof.

(d) Should the Contractor fail to rectify the defects, the purchaser shall have the right to reject or repair or replace at the cost of the Contractor the whole or any portion of the defective stores.

(e) The decision of the purchaser notwithstanding any prior approval or acceptance or inspection thereof on behalf of the purchaser, as to whether or not the stores supplied by the Contractor are defective or any defect has developed within the said period of 24 months or as to whether the nature of the defects requires renewal or replacement, shall be final, conclusive and binding on the Contractor.

(f) PERFORMANCE BANK GUARANTEE:

To fulfil guarantee conditions outlined in clause 4 (a) to (e) above, the Contractor shall furnish a Bank Guarantee (as per format given by purchaser) from any scheduled bank/ bank approved by the Purchaser for an amount equivalent to 10% of the value of the Contract and shall be valid for a period of 60 days beyond the expiry date of warranty period. On the performance and completion of the Contract in all respects, the Bank Guarantee will be returned to the Contractor without any interest.

(g) All the replacement stores shall also be guaranteed for a period of 24 months from the date of arrival of the stores at purchasers site.

(h) Even while the 24 months guarantee applies to all stores, in case where a greater period is called for by our specifications then such a specification shall apply in such cases the period of 26 months referred to in clause 6 (b) & (c) shall be the asked for guarantee period plus two months.

#### 5. INSTALLATION, COMMISSIONING AND TRAINING:

5.1. Installation as per Purchasers tendered specifications shall be carried out by the Contractor at Purchasers site at S.A.S. Nagar, Punjab, India at no extra cost to the purchaser. The contractor shall provide in

advance guidelines for preparation of the installation site and list of items to be supplied by the Purchaser during installation. On receipt of intimation from the Purchaser, the Contractor shall depute its engineer(s) to the Purchasers site within two weeks to carry out installation and commissioning and will demonstrate the functionality of the tendered equipment to Purchasers specifications as per the Scope of Installation, Testing and Commissioning and Acceptance Criteria given in Technical specifications sheet. The Contractor shall be responsible for any loss/damages sustained due to delay on the part of the Contactor to send its engineer for installation and commissioning.

5.2. Training:

During commissioning of set-up, vendor should provide on-site hands-on training to the concerned SCL personnel on calibration, measurement flow, test program setup, measurement routine operations, software, trouble-shooting and preventive maintenance of the set-up.

The training shall be extensively conducted in 2 or more parts as per SCL requirements covering above mentioned aspects.

5.3 Calibration:

Vendor shall provide calibration certificate of all test & measurement equipments.

The validity of calibration certificates should be at least twelve months from the date of successful installation of the equipment at SCL.

6. SUPPLY OF SPARES AND SERVICES:

The contractor shall guarantee supply of spares and services support for a period of at least Ten (10) years post installation of the equipment. In the event of breach of this commitment on the part of the Contractor, Purchaser reserves the right to take appropriate measures including legal action claiming suitable compensation etc.

The bidder shall also quote for the following:

i) Itemized quote for recommended essential spares and consumables required for two (02) year of operation alongwith typical consumption

pattern of each item.

ii) Post warranty comprehensive (labour & parts) AMC charge for three (03) years.

iii) Calibration charges at user site after warranty.

The quote for the above shall be uploaded as a separate pdf file under tab Supporting documents from vendors (Commercial).

(However it may please be noted that prices of items at Sr. no.i) to iii) above are for reference purpose only and shall not be considered for commercial evaluation of bids).

**7. NEW MACHINE CERTIFICATE:**

The contractor shall submit a certificate alongwith the equipment as well as with the documents for claiming payment indicating the date of manufacture and certifying that the equipment supplied is brand new equipment and not used/refurbished/remanufactured/reconditioned equipment.

**8. TERMS OF PAYMENT IN CASE OF OVERSEAS SUPPLIER[S]:**

8.1 Being a Department of the Government of India, the normal terms of payment are by Sight Draft. The payment shall be remitted as under:

90% of the value of the materials supplied shall be paid within 30 days of the receipt of the materials at purchaser site and the balance 10% amount shall be payable on successful installation, commissioning and acceptance of the equipment at Purchaser site against an Acceptance Certificate to be issued by the Purchaser.

8.2 While the purchasers bank charges shall be borne by the purchaser, the contractor shall bear the bank charges payable to his banker.

**9. TERMS OF PAYMENT IN CASE OF INDIGENOUS SUPPLIER[S]:**

90% of the value of the materials supplied shall be paid within 30 days of the receipt of the materials at purchaser site and the balance 10%



<p>amount shall be payable on successful installation, commissioning and acceptance of the equipment at Purchaser site against an Acceptance Certificate to be issued by the Purchaser.</p> <p>While the purchasers bank charges shall be borne by the purchaser, the contractor shall bear the bank charges payable to his banker.</p>	
<p>10. ADDRESS OF INDIAN AGENT:, if any</p>	
<p>11. VALIDITY:</p> <p>The tender must be valid for a minimum period of 120 days from the date of opening of bids.</p>	
<p>12. ACCEPTANCE CRITERIA:</p> <p>Vendor shall demonstrate complete functionality of the supplied system for on-wafer DC/RF measurements including master control software to make automated site-to-site RF measurements with VNA and Prober as specified in section-2: Scope of Installation, Testing and Commissioning. Vendor has to supply the details of acceptance test procedures to SCL. Equipment will be accepted as per mutually agreed acceptance test procedures. Vendor should provide the proposed acceptance plan along with the bid. Pre-shipment inspection may be done at vendors premises at SCL option; however, final acceptance would be done at SCL after installation.</p>	
<p>13. INSPECTION AND ACCEPTANCE TEST:</p> <p>13.1 The Purchasers representatives shall also be entitled at all reasonable times during manufacture to inspect, examine and test on the Contractors premises the material and workmanship of all stores to be supplied under this Contract and if part of the said stores is being manufactured on other premises, the Contractor shall obtain for the purchasers representative permission to inspect, examine and test as if the equipment were being manufactured on the Contractors premises.</p>	

<p>Such inspection, examination and testing shall not release the Contractor from the obligations under this Contract.</p> <p>13.2 For tests on the premises of the Contractor or of any of his sub-Contractors, the Contractor shall provide free of cost assistance, labour, material, electricity, fuel and instruments as may be required or as may be reasonably needed by the purchasers representative to carry out the tests efficiently.</p> <p>13.3 When the stores have passed the specified test, the purchasers representative shall furnish a certificate to the effect in writing to the Contractor. The Contractor shall provide copies of the test/s certificates to the purchaser as may be required.</p>	
<p>14. MODE OF DESPATCH:</p> <p>Generally, stores should be despatched through Indian Flagged Vessel / Air India or through any other Agency nominated by the purchaser whose contact details shall be indicated in the purchase order.</p> <p>A copy of the invoice and packing list should invariably be kept inside each of the packages.</p>	
<p>15. INSURANCE OF THE STORES:</p> <p>Insurance wherever necessary, will be arranged by the Purchaser. The necessity or otherwise of insurance will be as indicated in the Purchase Order/Contract.</p>	
<p>16. TECHNICAL DOCUMENTATION:</p> <p>The vendor shall provide Soft and Hard copy of technical documentation covering operation, maintenance and schematic as specified in the specification sheet.</p> <p>All documentation shall be in English language only.</p>	
<p>17. CONTRACTORS DEFAULT LIABILITY:</p>	

<p>The purchaser may upon written notice of default to the Contractor terminate the Contract in whole or in part in circumstances detailed hereunder:</p> <p>a) If in the judgement of the Purchaser the Contractor fails to make delivery of Stores within the time specified in the Contract/ agreement or within the period for which extension has been granted by the Purchaser to the Contractor.</p> <p>b) If in the judgment of the Purchaser the Contractor fails to comply with any of the other provisions of this Contract.</p>	
<p>18. In the event the Purchaser terminates the Contract in whole or in part as provided in Clause 17, the Purchaser reserves the right to Purchase, upon such terms and in such a manner as he may deem appropriate, stores similar to that terminated and the Contractor shall be liable to the Purchaser for any additional costs for such similar stores and/or for liquidated damages for delay as defined in Clause 22 until such reasonable time as may be required for the final supply of stores.</p> <p>18.1 If this Contract is terminated as provided in Clause 17 the Purchaser in addition to any other rights provided in this Article, may require the Contractor to transfer title and deliver to the Purchaser under any of the following clauses in the manner and as directed by the Purchaser:</p> <p>a) Any completed stores.</p> <p>b) Such partially completed stores, drawing, information and Contract rights (hereinafter called manufacturing material) as the Contractor has specifically produced or acquired for the performance of the Contract as terminated. The Purchaser shall pay to the Contractor the Contract price for completed stores delivered to and accepted, by the purchaser and for manufacturing material delivered and accepted.</p> <p>18.2 In the event the Purchaser does not terminate the Contract as provided in Clause 16, the Contractor shall continue the performance of the Contract in which case he shall be liable to the purchaser for liquidated damages for delay as set out in Clause 22 until the stores are accepted</p>	

<p><b>19. REPLACEMENT:</b></p> <p>If the stores or any portion thereof is damaged or lost during transit, the Purchaser shall give notice to the Contractor setting forth particulars of such stores damaged or lost during transit. The replacement of such stores shall be effected by the Contractor within a reasonable time to avoid unnecessary delay in the intended usage of the Stores. In case the purchaser agrees, the price towards replacement items shall be paid by the purchaser on the basis of original price quoted in the tender or as reasonably worked out from the tender.</p>	
<p><b>20. REJECTION:</b></p> <p>In the event that any of the stores supplied by the Contractor is found defective in material or workmanship or otherwise not in conformity with the requirements of the Contract specifications, the purchaser shall either reject the stores or request the Contractor, in writing, to rectify the same. The Contractor, on receipt of such notification, shall either rectify or replace the defective stores free of cost to the purchaser. If the Contractor fails to do so, the purchaser may at his option either:</p> <p>a) replace or rectify such defective stores and recover the extra cost so involved from the Contractor, or</p> <p>b) terminate the Contract for default as provided under clause 17 above, or</p> <p>c) acquire the defective stores at a reduced price considered equitable under the circumstances. The provision of this article shall not prejudice the Purchaser's rights under clause 22.</p>	
<p><b>21. EXTENSION OF TIME:</b></p> <p>If the completion of supply of stores is delayed due to reason of force majeure such as acts of god, acts of public enemy, acts of Government, fires, floods, epidemics, quarantine restriction, strikes, freight embargoes, etc., the Contractor shall give notice within 15 days to the</p>	

purchaser in writing of his claim for an extension of time. The purchaser on receipt of such notice after verification, if necessary, may agree to extend the Contract delivery date as may be reasonable but without prejudice to other terms and conditions of the Contract.

**22. DELAY IN COMPLETION/LIQUIDATED DAMAGES:**

If the Contractor fails to deliver the stores within the time specified in the Contract or any extension thereof, the purchaser shall recover from the Contractor as liquidated damages a sum of one-half of one percent (0.5 percent) of the Contract price of the undelivered stores for each calendar week of delay. The total liquidated damages shall not exceed ten percent (10 percent) of the Contract price of the unit or units so delayed. Stores will be deemed to have been delivered only when all their component parts are also delivered. If certain components are not delivered in time, the stores will be considered as delayed until such time as the missing parts are delivered.

Delivery of stores shall be complete on Installation, commissioning, Testing and Acceptance.

**23. PACKING:**

a) The Contractor wherever applicable shall pack and crate all stores for sea /air/road shipment as applicable in a manner suitable for export to a tropical humid climate, in accordance with internationally accepted export practices and in such a manner so as to protect it from damage and deterioration in transit by road, rail, air or sea. The Contractor shall be held responsible for all damages due to improper packing.

b) The Contractor shall ensure that each box / unit of shipment is legible and properly marked for correct identification. The failure to comply with this requirement shall make the Contractor liable for additional expenses involved.

c) The Contractor shall notify the purchaser of the date of shipment from the port of embarkation as well as the expected date of arrival of such shipment at the designated port of arrival.

d) The Contractor shall give complete shipment information

concerning the weight, size, content of each packages, etc.

e) Trans-shipment of equipment shall not be permitted except with the written permission of the purchaser.

f) Apart from the despatch documents negotiated through Bank, the following documents shall also be airmailed to the purchaser within 7 days from the date of shipment by sea and within 3 days in case of air-consignments:

a) Commercial Bill of Lading / Air Way Bill / Post parcel Receipt. (Two non-negotiable copies)

b) Invoice (3 copies)

c) Packing List (3 copies)

d) Test Certificate (3 copies)

e) Certificate of Origin, wherever applicable.

The Contractor shall also ensure that one copy of the packing list is enclosed in each case.

**24. ARBITRATION:**

If at any time any question, dispute or difference whatsoever shall arise between the purchaser and the Contractor upon or in connection with this Contract, either party may forthwith give to the other notice in writing of the existence of such question, dispute or difference and the same shall be referred to the adjudication of two arbitrators, one to be nominated by purchaser, other by a Contractor and in the event of any difference of opinion, the arbitrators will refer the matter to the umpire. The arbitration shall be conducted in accordance with the rules and procedure for arbitration of the International Chamber of Commerce at Paris. The expenses of the arbitrators and umpire shall be paid as may be determined by them. However, the venue of such arbitration should be in India.

In case of dispute arises with domestic/Indian suppliers, the applicable Arbitration procedure shall be as per Indian Arbitration & Conciliation Act, 1996.

<p><b>25. INDEMNITY:</b></p> <p>The Contractor shall warrant and be deemed to have warranted that all Stores supplied against this Contract are free and clean of infringement of any patent, copyright or trade mark and shall at all times indemnify the purchaser against all claims which may be made in respect of stores for infringement of any right protected by Patent, Registration of design or Trade Mark and shall take all risk of accident or damage which may cause a failure of the supply from whatever cause arising and the entire responsibility for the sufficiency of all the means used by him for the fulfilment of the Contract.</p>	
<p><b>26. COUNTER TERMS AND CONDITIONS OF SUPPLIERS:</b></p> <p>Where counter terms and conditions/printed or cyclostyled conditions have been offered by the supplier, the same shall not be deemed to have been accepted by the purchaser unless specific written acceptance thereof is obtained.</p>	
<p><b>27. APPLICABLE LAW:</b></p> <p>The Contract shall be interpreted, construed and governed by the laws of India.</p>	
<p><b>28. Any Other Term:</b></p> <p>The vendor shall provide compliance to Eligibility Criteria, Safety Standards and Other Conditions as specified in the Technical Specifications sheet.</p> <p>Documentary evidence in support of Eligibility Criteria shall be uploaded alongwith technical bid as a separate pdf file under tab Supporting documents from vendors.</p>	

**Supporting Documents from Vendor**

**Attachment - I:**

**Attachment - II:**

**Price Bid Form**

<b>Item Description</b>	<b>Slab Range</b>	<b>Qty</b>	<b>UOM</b>	<b>Currency</b>	<b>Unit Price</b>
On-wafer RF characterization Setup with Semi- automatic wafer Prober	-	1	No.	-	-

Break-up of other taxes and other costs should be specified in respective narration columns.

Sum of these Break-up values should be specified in respective value columns.

**Supporting Documents from Vendor (Commercial)**

**Document attachment with price bid**

**Attachment - I:**

**Attachment - II:**