

Tender Details

Tender No: SCL/PS4/2018E0108001

Tender Date: 23/07/2018

Purchase Entity: Pur_Entity4

Tender Notice

E-Procurement Tender No. SCL/PS4/2018E0108001 dated 23.07.2018 SEMI-CONDUCTOR LABORATORY [SCL] invites ONLINE offers in TWO part system through e-tender portal <https://eprocure.isro.gov.in> for Supply, Installation and Commissioning of High Temperature High Humidity Climatic Chamber . Tender documents can be downloaded from 24.07.2018 - 1101 hrs. to 27.08.2018 upto 1030 hrs. The vendors need to get enrolled 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. 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://eprocure.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) 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:

IDT0018080000000000isro05401.pdf

Attachment - II:

IDT0018080000000000isro05402.pdf

Attachment - III:

Attachment - IV:

Attachment - V:

Instructions to Tenderers (PT):

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

2. Bid /Open Authorization shall be submitted on-line only complying specified schedule and complete in all respects with technical specifications, including pamphlets and catalogues.

3. 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. Prices should be indicated in the Price Bid format only.

4. 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 Principal/manufacturers in their bid.

5. 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.

6.Request for the extension of the due date will not be considered.7.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.

8.Bids submitted other than the EGPS mode shall not be considered.

9.SCL reserves the right to verify all claims made by the bidder.

10.SCL reserves the right to change any milestone date of the tendering activity / tender schedule.

11.Tender which is not submitted in terms of instructions mentioned herein is liable to be rejected.

12.If tender opening date happens to be a public holiday, tender will be opened on the next working day and interested bidders may depute their representatives to attend the tender opening, with proper authorization.

13.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.

14. It is expressly agreed that the acceptance of the Stores Contracted for is subject to final approval in writing by the Purchaser.

15.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.

16.Prices are required to be quoted according to the units indicated in the tender. Where 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.

17. The quote should indicate quantity wise unit rate separately which have to be filled online. 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.

18.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.

19.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.

20.Specifications: Stores offered should strictly conform to our specifications. Deviations, if any, should be clearly indicated by the tenderer in their 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. Whenever options are 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.

21.The approximate net and gross weight and dimensions of the items offered shall be indicated in your offer. If dimensional details are available, the same should also be indicated in your offer.

22.The Tenderer would provide, the name of his banker as well as latest income test clearance certificate duly counter signed by the income tax officer of the circle concerned under the seal of his office, if required by the purchaser duly evaluation of the tender.

23.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.

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

25.The bids shall be opened on 1st day of opening schedule as 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.

Due to any breakdown in Server/Link bid opening will be continued on the following dates.The schedule of opening of Price bids shall be intimated separately to the technically qualified bidders only.

26.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 Priced Commercial offer:

a. Price quoted by the bidder in the price bid template for meeting the functionalities given in the Tender and Technical Specifications sheet.

b. Bid shall be evaluated on overall cost basis.

c. AMC charges, recommended spares and consumable charges, if sought in this tender shall not be taken into account for evaluation of price bid.

d. 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 suitability.

e. In the event of the bidder seeking a confirmed Letter of Credit, the bidders bid shall be loaded at the rate of 0.5 percent of the LC value towards confirmation charges.

f. In the event of the bidder requiring SCL to bear bank charges outside India (foreign bank charges), the bidders bid shall be loaded at the rate 0.5 percent of the quoted value towards bank charges outside India.

27.The bid should contain the following information:

28.a. Agency Commission: Bidders are required to provide the following information in respect of their authorised Indian Agent, if any, along with 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.

b. Details of any technical service, if required for installation and demonstration.

29.Part shipment is not allowed unless specifically agreed to by us.

30.All documents/correspondence should be in English Language only.

Standard Terms and Conditions.:

1.DEFINITIONS:

a)The term Purchaser shall mean the President of India 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 or equipment of part thereof.

d)The term Stores shall mean what the Contractor agrees to supply under the Contract as specified in the Purchase Order.

2.PRICES:

Tenders offering firm prices will be preferred. Where a price variation clause is insisted upon by a tenderer, quotations with a reasonable ceiling should be submitted. Such offers should invariably be supported by the base price taken into account at the time of tendering and also the formula for any such variations.

3.DEMURRAGE:

Supplier shall bear demurrage charges, if any, incurred by the purchaser due to delayed presentation of shipping documents as prescribed in para 3.2 to the bankers within a reasonable time (say within 10-12 days) from the date of bill of lading for sea consignments and within 3-4 days from the date of Air Way Bill for air consignments.

4.GUARANTEED TIME DELIVERY:

The time for and the date of delivery stipulated in the Purchase Order shall be deemed to be the essence of the Contract. Delivery must be completed within the date specified therein.

5.INSPECTION AND ACCEPTANCE TEST:

5.1The 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. Such inspection, examination and testing shall not release the Contractor from the obligations under this Contract.

5.2For 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.

5.3When 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.

6.PORT OF ENTRY:

New Delhi (for air shipment) / Mumbai (for sea shipment)

7.CONSIGNEE:

Purchase and Stores Officer, Stores,

8.SHIPPING MARKS.

The mark on the shipping documents such as invoice, bill of lading and on the packages should be as follow:

PURCHASE ORDER NO.

DATED

GOVERNMENT OF INDIA

DEPARTMENT OF SPACE

(name of the Centre/Unit)

Destination:

9. Port of Entry:

10.CONTRACTORS DEFAULT LIABILITY:

The purchaser may upon written notice of default to the Contractor terminate the Contract in whole or in part in circumstances detailed hereunder:

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.

b)If in the judgment of the Purchaser the Contractor fails to comply with any of the other provisions of this Contract.

11.In the event the Purchaser terminates the Contract in whole or in part as provided in Contractor Default Liability, 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 LD Clause until such reasonable time as may be required for the final supply of stores.

11.1If this Contract is terminated as provided in Clause Contractor Default Liability, 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:

a.Any completed stores.

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.

11.2 In the event the Purchaser does not terminate the Contract as provided in Contractor Default Liability, 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 LD Clause until the stores are accepted.

12. REJECTION :

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 –

- a. replace or rectify such defective stores and recover the extra cost so involved from the Contractor, or
- b. terminate the Contract for default as provided under Contractor Default Liability, above, or
- 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 LD Clause

13. EXTENSION OF TIME:

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 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.

14. GUARANTEE AND 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 twelve months after the acceptance of the stores, if any defects are discovered therein or any defects therein are found to have developed under proper use arising from faulty materials, 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 parts thereof are faulty.
- c. If in the opinion of the purchaser it becomes necessary to replace or renew any defective stores, such replacements or renewals 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 defects 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.To fulfill guarantee conditions outlined in Guarantee and Replacement above, the Contractor shall, at the option of the purchaser, furnish a Bank Guarantee (as prescribed by the purchaser - Bank Guarantee format enclosed) from a Bank approved by the purchaser for an amount equivalent to 10% of the value of the Contract along with first shipment documents. 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 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, and in such cases, the period of 26 months referred to in Guarantee and Replacement shall be asked for guarantee period plus two months.

15.REQUIREMENT OF ADDITIONAL NUMBERS OF THE STORES/SPARE PARTS ORDERED:

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.

16.PACKING:

a.The Contractor wherever applicable shall pack and crate all stores for sea /air 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 or sea for space qualified stores. The Contractors 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. Transshipment 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 airtailed 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.

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

17. LANGUAGE AND MEASURES:

All documents pertaining to the Contract including specification, schedule, notice, correspondence, operating and maintenance instructions, drawings or any other writings shall be written in English language. The metric system of measurement shall be used exclusively in the Contract.

18. INDEMNITY:

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 fulfillment of the Contract.

19. COUNTER TERMS AND CONDITIONS OF SUPPLIERS:

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.

20. SECURITY INTEREST:

On each item to be delivered under this Contract, including an item of work in progress in respect of which payments have been made in accordance with the terms of the Contract, purchaser shall have a security interest in such items which shall be deemed to be released only at the time when the applicable deliverable item is finally accepted and delivered to the purchaser in accordance with the terms of the Contract. Such security interest of the purchaser shall constitute a prior charge as against any other charge or interest created in respect of such items by any entity.

21.TRAINING:

The Contractor shall, if required by the purchaser, provide facilities for the practical training of Purchasers engineering / technical personnel from India and for their active association on the manufacturing processes throughout the manufacturing period of the Contract / stores, number of such personnel to be mutually agreed upon.

22.RECOVERY OF SUM DUE:

Whenever any claim for the payment of, whether liquidated or not, money arising out of or under this Contract against the Contractor, the purchaser shall be entitled to recover such sum by appropriating in part or whole, the security deposited by the Contractor, if a security is taken against the Contract. In the event of the security being insufficient or if no security has been taken from the Contractor, then the balance or the total sum recoverable as the case may be shall be deducted from any sum then due or which at any time thereafter may become due to the Contractor under this or any other Contract with the purchaser. Should this sum be not sufficient to cover the full amount recoverable, the Contractor shall pay to the purchaser on demand the remaining balance due. Similarly, if the purchaser has or makes any claim, whether liquidated or not, against the Contractor under any other Contract with the purchaser, the payment of all moneys payable under the Contract to the Contractor including the security deposit shall be withheld till such claims of the purchaser are finally adjudicated upon and paid by the Contractor.

23.SECURITY FOR PURCHASE OF MATERIALS:

Successful tenderer will have to furnish in the form of a bank guarantee or any other form as called for by the purchaser towards adequate security for the materials and properties provided by the Purchaser for the due execution of the Contract.

Bid Templates

Document Solicited from Vendor

Attachment 1:

Attachment 2:

SCOPE OF WORK & ACCEPTANCE PROCEDURE

Item Specifications

Sl. No	Specifications	Compliance (Yes /No)	Offered Specifications	Remarks
1	<p>1.00.00SCOPE OF WORK</p> <p>Vendor's scope of work shall cover supply, installation & commissioning of High Temperature High Humidity Climatic Chamber for Moisture resistance test of Semiconductor devices, physical sensors (e. g. Humidity sensor, Temperature sensor etc), Electronic boards / packages & other component. The scope of work shall include the following:</p> <p>-Supply of High Temperature High Humidity Climatic Chamber as per the required</p>			

	<p>specifications.</p> <p>-Supply of all support accessories for proper functioning of the equipment.</p> <p>-Installation of the equipment and Support tools (if any), including all utility connections.</p> <p>-Commissioning of the equipment and demonstration of its functionality as per the required specifications.</p> <p>-On-site training to concerned SCL personnel on Operations, Maintenance & Trouble shooting of the equipment.</p> <p>It is not the intent of this document to completely specify all details of design and construction. Nevertheless the system shall conform in all respects to high standards of engineering, design and workmanship and shall be capable of performing the operations in a safe and efficient manner as per industry norms/codes.</p>			
2	<p>1.01.00ELIGIBILITY CRITERIA</p> <p>1.01.01 Supplier's experience: the vendor shall have experience in the</p>			

	<p>manufacturing and maintenance support of High Temperature High Humidity Climatic Chamber system, and shall have supplied similar system(s) with similar features in all respects to Semi conductor industries, Space industries during the last seven (7) years. The vendor shall submit, along with the offer, the necessary technical details like P.O copy, specification and scope of work etc., to substantiate their experience. Failure to meet the above requirement shall lead to rejection of the offer.</p>			
3	<p>1.01.02 Service Centre: Supplier should have service centre or authorized service centre with trained service engineers in India. Service centre address, contact person details, phone/fax numbers, email should be provided along with the offer. Offers without this information will be treated as incomplete and will be rejected.</p>			
4	<p>1.01.03 Original manufacturer: Only OEMs (Original Equipment Manufacturers) or their authorized Indian agents of "High Temperature</p>			

	High Humidity Climatic Chamber” are eligible to participate in the tender. Offers from traders / resellers will not be considered.			
5	1.01.04 Certificate of Origin: Vendor shall provide the Original Equipment Manufacturer certificate for the offered chamber along with the quote.			
6	1.02.00 SCOPE OF SUPPLY 1.02.01 Vendor shall supply the equipment, including support accessories required for proper functioning of the equipment. The equipment shall be supplied as per the Technical Specifications (Refer clause 3.00.00).			
7	1.02.02 Vendor shall supply all the auxiliary items like interconnect matching cables for electrical connections; interconnect fittings, vacuum line etc. for support tool installations as may be required to complete the installation and commissioning of the equipment. Any items not specifically mentioned in the specifications but required for safe and efficient operations of the system shall deem to be included in the scope of supply of the			

	vendor unless explicitly indicated in the bid by the vendor.			
8	<p>1.03.00SCOPE OF INSTALLATION AND COMMISSIONING:</p> <p>1.03.01It shall be the responsibility of the vendor to ensure installation & commissioning of the equipment at SCL.</p>			
9	1.03.02Vendor shall provide guidelines for preparation of installation site including pedestals for distribution of equipment load on to the existing concrete floor.			
10	1.03.03Vendor shall also supply the installation drawings giving detailed information regarding the port size& type for the utility connections wherever required.			
11	1.03.04Vendor shall uncrate the equipment, move the same to the respective area(s) and install the equipment on foundations, etc. SCL will provide utilities hook-up to the system.			
12	1.03.05Vendor shall commission the systems with the required utilities (to be supplied by SCL) and demonstrate the functionality of the equipment supplied, at SCL			

	site.			
13	1.03.06 Vendor shall bring all necessary tools/instruments/special tools etc. that may be required for successful commissioning/ installation/ verification/ acceptance of the tool and sub tools of the equipment.			
14	1.04.00 TRAINING: 1.04.01 During commissioning of the equipment, vendor shall provide on-site hands-on training to the concerned SCL personnel (including classroom training) on Operations/Process, application software, related applications, troubleshooting and Preventive Maintenance of the tool supplied. The training shall be extensive enough so that quick diagnostics of problems and remedial actions is possible at SCL.			
15	2.00.00 ACCEPTANCE PROCEDURE: SCL shall have the option for Pre-shipment inspection at vendor's premises. Final acceptance, however, will be done after installation and demonstration of the functionality of the			

	equipment at SCL, as per the following acceptance procedure:			
16	2.01.00 Vendor to perform complete standard Acceptance Test Procedures (ATP) as per their equipment acceptance guidelines.			
17	2.02.00 Besides standard ATP, Vendor shall demonstrate the functionality of High Temperature High Humidity Climatic Chamber with multiple set points of dry temperature (Typically 5 or more temperature points at approximately equal gaps) between -70degC to 180degC and multiple set points of relative humidity (Typically 5 or more humidity points at approximately equal gaps) between 10% to 95%.			

TECHNICAL SPECIFICATIONS

Item Specifications - I

Sl. No	Specifications	Compliance (Yes /No)	Offered Specifications	Remarks
18	3.00.00TECHNICAL SPECIFICATIONS: Following are the detailed technical specifications of the required system. Vendor has to provide relevant			

	<p>printed standard product catalogue in support of quoted model for proper evaluation of the details mentioned in specification. Vendor has to provide clause by clause technical compliance statement for all our specification from 1.00.00 to 9.00.00. Merely writing "Complied, Agree, Yes, OK" against each of the specification points is not sufficient. Instead, the exact numerical values and relevant technical information shall be mentioned by vendor. Also, the numerical values and relevant technical information mentioned by vendor in the offered specification should be available in supporting document.</p>			
19	<p>3.01.00APPLICATION: High Temperature High Humidity Climatic Chamber is required to perform moisture resistance test on semiconductor devices, physical Sensors (e.g. Humidity sensor, Temperature sensor etc.), Electronic boards / packages & other components as per MIL-STD-883 (Latest version). Moisture resistance test is one of the environment test is required for Screening and</p>			

	Qualification of all Space grade IC's / Devices to evaluate the resistance of component parts and constituent materials to the deteriorative effects of the high- humidity and heat conditions.			
20	<p>3.02.00SYSTEM REQUIREMENT:</p> <p>The complete system shall be supplied and integrated by the vendor. The system shall be capable to perform moisture resistance test on semi conductor devices, physical Sensors (e.g. Humidity sensor, Temperature sensor etc.), Electronic boards / packages & other components as per MIL-STD-883 (Latest version).</p>			
21	<p>3.03.00 SPECIFICATION DETAILS:</p> <p>1. Test space volume: (250 - 300) litres</p>			
22	<p>2. Test space dimensions (Interior dimension):</p> <p>Width: (600 mm);</p> <p>Depth: (630 mm);</p> <p>Height: (750 mm) (Approximately)</p>			
23	<p>3. Nominal operating temperature range:</p>			

	-70 °C to +180 °C			
24	4. Temperature fluctuation from the set point after stabilization: +/- 1 °C or better			
25	5. Temperature uniformity after stabilization: +/- 2 °C or better			
26	6. Heating and cooling rate in the temperature range of -70 °C to +180 °C (when the test space is empty): Upto 15°C / minute or better (Heating and cooling ramp rate (entered in time or °C / minute) should be programmable on requirement basis.))			
27	7. Operating Relative Humidity Range: 10% to 95% RH within the temperature range of +10 °C to 95 °C.			
28	8. Relative Humidity (RH) fluctuation from the set point after stabilization: +/-5 percent Max.			
29	9. Temperature fluctuation from the set point after stabilization during Climatic test: +/- 1 °C or better			

30	10. Temperature uniformity after stabilization during Climatic test: +/- 2 °C or better			
31	11. Dew point temperature range: - 10 °C to +90 °C.			
32	12. RH Measuring Method: Wet & dry bulb (psychometric)			
33	13. Heating System: (i)Heating shall be achieved by non-corrosive and long life electrical heaters.			
34	(ii)The heaters shall be baffled from test space to prevent direct heat radiation on test article.			
35	(iii)The heaters shall be of easily removable type for maintenance/ replacement.			
36	(iv) The heating system shall have over temperature protection for test space by power isolation.			
37	14. Cooling system: (i)Cooling shall be achieved by two stage cascade refrigeration system or better.			
38	(ii)Refrigeration system unit shall be charged with environmental friendly			

	refrigerant (e.g. R449A) which is likely to be in service for next 15 years. Vendor to specify refrigerants used in the offer.			
39	(iii)Compressors shall be of Scroll / Hermetic / Semi-hermetic type. It should on anti-vibration mounts (acoustic isolation) for safe, efficient and long running.			
40	(iv)Condenser shall be of Water cooled type.			
41	(v)Evaporator shall preferably have copper tubes and Aluminium fins.			
42	(vi)Auto defrosting provision to keep the evaporator frost free.			
43	(vii) The refrigeration system shall be fitted with electrical over loads, temperature over loads and safety pressure cut outs etc.			
44	15. Humidification system: Humidification system shall be designed to maintain temperature & humidity simultaneously during transition and stabilized condition. Vendor to specify the method for adding humidity to test space.			
45	16. Dehumidification system: Dehumidification system			

	<p>should have the following two methods:</p> <p>(i) Dehumidification by cold surface (Dehumidification coil):</p> <p>This method should ensure no moisture condensation on the test specimens throughout the chamber operation in temperature mode.</p>			
46	(ii) Dehumidification by dry nitrogen purging system in Temperature mode.			
47	<p>17. Test space conditioning:</p> <p>(i) Test space shall be conditioned using suitable fan / blower to achieve specified temperature uniformity.</p>			

TECHNICAL SPECIFICATIONS

Item Specifications -II

Sl. No	Specifications	Compliance (Yes /No)	Offered Specifications	Remarks
48	(ii) The test space conditioning unit shall not cause any kind of contamination into the chamber.			
49	(iii) Any part of test space conditioning unit shall not protrude into the usable test space volume.			

50	<p>18. Interior:</p> <p>(i)The complete construction of the inner test space shall be made of Stainless steel AISI 304 or equivalent.</p> <p>(ii)All the joints shall be continuous seam welded to form a vapour-tight hermetically sealed unit in order to prevent external moisture migration.</p> <p>(iii) The inner shell shall have good structural rigidity to withstand the load of test article.</p>			
51	<p>19. Exterior:</p> <p>The exterior housing must be made from lightweight, self-supporting, corrosion resistant, double coated galvanized steel-sheet with outside primed and painted to a standard finish with high quality materials.</p>			
52	<p>20. Insulation:</p> <p>The space between interior and exterior shall be insulated using environmental friendly, low thermal conductivity, high density, non hygroscopic and fire resistant material.</p>			
53	<p>21. Access ports:</p>			

	<p>The chamber must be provided with Approx. (50 – 100) mm Ø port on one side and Approximate (100 – 150) mm Ø port on other side wall of the chamber along with Thermally treated Standard rubber (e.g. Silicon rubber) plugs to close the port air tight. The Ports must be centrally located on sides.</p>			
54	<p>22. Door:</p> <p>The chamber shall have single door fully openable (180deg or more) at front side of the chamber and provided with high quality insulation.</p>			
55	<p>23. Door Seal:</p> <p>The door must be provided with high quality double continuous seal rings of silicone rubber to ensure perfect sealing throughout the operating temperature and pressure ranges.</p>			
56	<p>24. Door locks:</p> <p>Suitable numbers of locks / clamps shall be provided to ensure uniform pressure and air tightness of the chamber.</p>			
57	<p>25. Door heating:</p> <p>Suitable heating method shall be incorporated to chamber door outside to</p>			

	maintain temperature at or above 15°C in order to avoid moisture freezing at the outside of door during cold cycle/soak.			
58	26. Observation window: The chamber door shall have multi-pane observation window 0.4m X 0.4m Approx or more.			
59	27. Chamber Shelf and Floor: The chamber must be provided with one AISI 304 stainless steel or equivalent material adjustable shelf (Load carrying capacity Of 10 Kg approximately) which is easily removable and adjustable to any height in the test space (in increments of 50/60 mm). The chamber floor shall have the load carrying capacity of 40 kg approximately.			
60	28. Test space lighting: The chamber must be provided with a light and a switch to illuminate the test space during the test to assist visual inspection.			
61	29. Humidity/Condensation water drain: A backpressure free automatic drain shall be provided to remove humidity/condensation			

	water from the chamber.			
62	30. Control, Data acquisition, Monitoring and Printing: The chamber shall have the followings: (i) Suitable microprocessor based system for controlling parameters such as temperature, humidity, display of set point and measurement of data.			
63	(ii) Touch screen based navigation for general operations.			
64	(iii) Memory capacity to store 100 programs or more with 100 Program steps or better each and 1000 repetition cycles or better each.			
65	(iv) Graphical display for running test.			
66	(v) USB interface on front panel for USB stick or printer.			
67	31. Chamber control features: (i) Settable High and Low alarm/abort limits to provide safety to the specimen under test.			
68	(ii) It shall have control to enable / disable the Control Power, Circulator Fan, Light, Heating, Cooling, Humidity and Dehumidifying			

	functions.			
69	(iii) Protection to retain controller parameters and programs in the event of a power failure and restart the test where it was interrupted.			
70	32. Programming features: (i) Program management for production cycles and tests.			
71	(ii) Easy creation of test programs.			
72	(iii) Looping feature to allow repeating complete or partial programs.			
73	(iv) Guaranteed soak feature to let process variable reach set point before going to the next step.			
74	(v) Operation of the chamber shall be by entering set points for immediate execution or by entering sequences of steps (set points, times, rates, etc.) for timed automatic operation.			
75	33. Software: (i) Licensed operating system with CD media.			
76	(ii) Licensed GUI based software for control, monitoring with visual flow diagram for chamber parameters (Temperature and RH) visualization			

	(Installation software to be provided on CD media).			
77	(iii)Software with fault diagnosing capability to be provided for verifying various sensors, valves etc.			

TECHNICAL SPECIFICATIONS

Item Specifications -III

Sl. No	Specifications	Compliance (Yes /No)	Offered Specifications	Remarks
78	(iv)Computer communications, networking, data-logging software.			
79	(v)All parametric data of temperature and humidity should be logged preferably in a database for archival and analysis. Vendor to specify the computer detail compatible with software. That will be arranged by SCL.			
80	34. Run time meter: Run time counter shall be provided for recording the total running time in hours of the chamber.			

81	<p>35. Conditioning fan + Chamber space heater and refrigeration system interlock:</p> <p>Chamber heater and refrigeration system shall be interlocked with conditioning fan. When fan is switched off, chamber heater and refrigeration system shall stop.</p>			
82	<p>36. Conditioning fan + Door interlock:</p> <p>The door and conditioning fan shall be interlocked. On door opening, conditioning fan shall stop.</p>			
83	<p>37. Temperature protection:</p> <p>Auto Safety over and under temperature protection, independent of chamber control system shall be employed to switch off / trip the main contactor when the chamber temperature exceeds the maximum set limit or drops below the minimum set limit.</p>			
84	<p>38. Test Specimen protection:</p> <p>Separate free movable sensor, independent of chamber control system shall be employed in the</p>			

	test space to adjust Temperature Limiter Tmin/Tmax for protection of test specimen.			
85	39. MCB protection: MCB protection for mains and individual circuits.			
86	40. Noise level: Noise level of the chamber shall be less than 70 dB (A). (Typically at 1 m distance from chamber).			
87	41. Wiring: (i) All the wires shall be suitably numbered or labelled for easy identifications and documentation. The wires shall be strapped / bundled and routed through the ducts. (ii) All electrical circuits shall have reliable safety devices like fuse or circuit breaker.			
88	42. Lifting lug: Lifting lugs shall be provided at the appropriate locations on the chamber to facilitate easy lifting of the chamber.			
89	43. Fork lifting: Chamber shall have a provision for its handling			

	by forklift.			
90	44. Casters: The test chamber shall be moved easily to different locations using 4 castor wheels out of which 2 should be preferably fitted with brakes.			
91	45. Operating Environment: The Test Chamber must be operational continuously under the ambient condition ranging from +20degC to 30degC and relative humidity 20% to 90% RH.			

CALIBRATION-WARRANTY-POST WARRANTY-SPARES-SAFETY-DOCUMENTATION

Item Specifications -IV

Sl. No	Specifications	Compliance (Yes /No)	Offered Specifications	Remarks
92	4.00.00 CALIBRATION: Vendor shall provide factory calibration certificate of the system along with the system. Guidelines to be provided regarding calibration procedure, along with a list of tools required for calibration.			

93	<p>5.00.00WARRANTY:</p> <p>Vendor to provide a comprehensive part and labor warranty for a period of 24 months after acceptance of the system at SCL. Vendor to guarantee 95% uptime for the tool based on 24 hours working, 7 days a week. Vendor to give minimum two Preventive Maintenance and Calibration Visits in the Warranty Period of the tool.</p>			
94	<p>6.00.00POST WARRANTY SYSTEM SUPPORT:</p> <p>Spares and maintenance support is required for 10 years after the expiry of warranty period. Vendor to quote separately for Post-warranty 'labor-only' AMC charges inclusive of onsite Calibration. This is for reference only.</p>			
95	<p>7.00.00RECOMMENDED SPARES AND CONSUMABLES:</p> <p>Vendor to provide separate itemized list for recommended essential spares and consumables which may be required for meeting the essential above stated tool uptime.</p>			

96	<p>8.00.00SAFETY:</p> <ul style="list-style-type: none"> •Appropriate safety mechanism in terms of alarms shall be provided for operator safety. Vendor to provide the details. •The system shall be design to be compliant with CE standards or other Industrial safety standard. •Fitted with all necessary safety interlocks (Hardware and software) for safe operation. 			
97	<p>9.00.00TECHNICAL DOCUMENTATION:</p> <p>Hard /and Soft copy of the following documents / information, but not limited to, are required to be submitted by the vendor along with the chamber. Language of all documents shall be English:</p> <ol style="list-style-type: none"> 1.System user manuals 2.System Hardware / Software manuals. 3.Maintenance /Diagnostic / Trouble shooting manuals including safety guidelines, calibration, schematics Circuit diagram (Electrical & Plumbing) along with Parts for all 			

	<p>spares.</p> <p>4.OEM system/subsystem/accessories manuals</p> <p>5.Vendor shall supply all additional information such as application development notes, paper published/process information etc. related to the system.</p>			
98	<p>10.00.00 UTILITY REQUIREMENT:</p> <p>Vendor to Provide utilities requirement as applicable to the equipment as per Annexure-A.</p>			

Vendor Specified Terms

Description	Vendor Terms
<p>1.Delivery Terms:</p> <p>For imported stores, prices shall be quoted on FOB/FCA nearest International/Gateway airport basis inclusive of all taxes, levies, duties arising in the tenderer country.</p> <p>For Indigenous stores, prices shall be quoted on F.O.R. destination basis i.e. SCL, S.A.S. Nagar, Mohali, Punjab exclusive of GST as may be applicable.</p>	
<p>2.GST:</p> <p>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</p>	

<p>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>3.For imported materials, 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. (Purchaser will provide Customs Duty Exemption Certificate in case of Import Orders/ imported supplies/ High Sea Sales).</p>	
<p>4.Delivery Period:</p> <p>The contractor shall specify their best delivery period inclusive of all Govt. formalities of the exporting country.</p>	
<p>5.Security Deposit (SD):</p> <p>On acceptance of the tender, the Contractor shall submit security deposit for ten percent (10 percent) value of the Purchase Order (PO) within 15 days from the date of PO towards successful execution of the PO. 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.</p> <p>(This will be returned by SCL immediately on execution of the PO satisfactorily as per order terms. If not, the amount will be forfeited).</p> <p>Central PSUs/PSEs/PSEs/Autonomous Bodies/MSEs shall be exempted from the payment of Security Deposit, and instead, an Indemnity Bond shall be secured from them in lieu of the Security Deposit.</p>	
<p>6.Terms of Payment in case of overseas supplier(s):</p> <p>Being a Department of the Government of India, the normal terms of payment are by Sight Draft. The payment shall be remitted as Under:</p> <p>90% of the PO value shall be paid within 30 days of receipt of material at Purchaser site against presentation of shipping documents to SCL</p>	

<p>banker routed through contractor bank and the balance 10% amount shall be payable on successful installation, commissioning and acceptance of the entire project at Purchasers site against a Performance Bank Guarantee.</p> <p>In the event of the contractor not being able to provide the Performance Bank Guarantee the payment of balance 10% amount shall be made after the expiry of the warranty period.</p> <p>All bank charges outside India related to the payment shall be borne by the Contractor and all bank charges in India shall be borne by the purchaser .</p> <p>Indian agent remuneration/service charge shall be payable by the Purchaser directly to the Indian agent in Indian Rupees based on T.T buying rate of exchange prevailing on the date of placement of purchase order within 30 days of acceptance of material at purchaser site.</p>	
<p>7.Terms of payment in case of indigenous supplier(S):</p> <p>The payment shall be remitted as under:</p> <p>90% of the PO value 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 entire project at Purchasers site against a Performance Bank Guarantee.</p> <p>In the event of the contractor not being able to provide the Performance Bank Guarantee the payment of balance 10% amount shall be made after the expiry of the warranty period.</p>	
<p>8.Performance Bank Guarantee (PBG):</p> <p>The Contractor shall furnish a Bank Guarantee (as per format given by purchaser) from any nationalized/scheduled bank 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.</p>	
<p>9.Warranty:</p> <p>The Contractor shall provide for the tendered equipment comprehensive warranty for parts as well as labour for a period of 24</p>	

<p>months from the date of successful installation, commissioning, testing and acceptance of the equipment at Purchaser site at no extra charges against any manufacturing defect/faulty workmanship. In case any defect/faulty workmanship arises during warranty period, the Contractor should replace/rectify the same at its own cost at site/works.</p> <p>All expenses on the visit(s) of the contractor engineer such as To and Fro travel costs, local transportation, boarding and lodging etc. during warranty shall be borne by the contractor.</p> <p>Contractor to guarantee 95% uptime for the equipment based on 24 hours working, 7 days a week.</p> <p>Contractor has to provide minimum two preventative visits and Calibration visits during warranty period.</p>	
<p>10.Warranty Replacements:</p> <p>If in the opinion of the purchaser it becomes necessary to replace or repair defective equipment during the warranty period, such replacement or repair 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 period of 26 months from the date of acceptance thereof.</p> <p>All replacement parts during the warranty period shall be supplied by the Contractor, free-of-cost on DDP (Delivery Duty Paid) basis with freight and insurance upto Purchaser site at S.A.S. Nagar, Punjab and customs duty applicable in India to the Contractor account including compliance with the customs procedure in India. The indigenous replacement parts, if any, shall be supplied by the Contractor free of cost on F.O.R. Purchaser site at SAS Nagar, Punjab basis.</p> <p>All defective parts including the imported parts shall be returned by Purchaser to the Contractor, if requested, on Freight to pay basis.</p>	
<p>11.Replacement:</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</p>	

<p>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>12.Validity:</p> <p>The offer should be valid for a minimum period of 120 from the date of opening of Tehno-Commercial bid and 90 days after opening of Price Bid.</p>	
<p>13.Installation and Commissioning:</p> <p>Installation, commissioning, and demonstration of performance of the tendered stores as per Purchaser tendered specifications shall be carried out by the Contractor at Purchaser s site at S.A.S. Nagar, Punjab, India.</p> <p>The contractor shall provide in advance guidelines for preparation of installation site and list of items to be supplied by Purchaser during installation.</p> <p>On receipt of intimation from the Purchaser, the Contractor shall depute its engineer to the Purchaser site within two weeks to carry out installation and commissioning and will demonstrate the functionality of the tendered equipment to Purchaser specifications as per mutually agreed acceptance procedure. 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.</p> <p>Failure to commission the tendered equipment successfully shall entitle Purchaser to full refund of the payment made and the interest thereon. Decision regarding successful installation and commissioning shall rest solely with the Purchaser.</p>	
<p>14.Liquidated Damages (LD):</p> <p>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.</p>	
<p>15.Mode of Despatch:</p> <p>In case of foreign orders, stores should be despatched by Indian Flag</p>	

<p>Vessels/Air India or through any Agency nominated by us whose contact details shall be indicated in the purchase order.</p>	
<p>16. Insurance of 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>17. Packing & Forwarding:</p> <p>The Contractor shall pack and crate all stores for air/sea/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 Contractors shall be responsible for all damages due to improper packing.</p>	
<p>18. Arbitration:</p> <p>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>	
<p>19. Applicable Law:</p> <p>The Contract shall be interpreted, construed and governed by the laws of India.</p>	
<p>20. Address if Indian Agent, if any:</p>	
<p>21. Any Other Term:</p>	

Supporting Documents from Vendor

Attachment - I:

Attachment - II:

Price Bid Form

Item Description	Slab Range	Qty	UOM	Currency	Unit Price	Total Price
Supply, Installation & Commissioning of High Temperature High Humidity Climatic Chamber	-	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: