

**GOVERNMENT OF INDIA
DEPARTMENT OF SPACE
SEMI-CONDUCTOR LABORATORY (SCL)
CHANDIGARH**

Tender for Procurement of Photomask for wafer fabrication

Bids to be submitted online

Tender No.: SCL/PurUnit -1/SC202100006601 dated 23-09-2021

A. Tender Details

Tender No : **SCL/PurUnit -1/SC202100006601**

Tender Date : **23-09-2021**

Tender Classification: **GOODS**

Purchase Entity : **PurUnit -1**

Centre : **SEMI-CONDUCTOR LABORATORY (SCL)**

Procurement of Photomask for wafer fabrication

E-Procurement Tender No. SCL/PurUnit-1/SC202100006601 SEMI-CONDUCTOR LABORATORY [SCL] invites ONLINE offers in TWO part system through e-tender portal <https://eproc.vssc.gov.in> for supply of Photomasks. 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.

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://eproc.vssc.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 (Tel: 91471 2565454/2527, e-mail: eproc@vssc.gov.in) and also the home page of eprocurement 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.

In case of Public Tender, the bids shall be opened in the presence of the bidders/their authorized representatives who may like to attend the tender opening against presentation of Authorization letter. In case of 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.

In case bidder encounters any technical snag pertaining to e-procurement system while acting on the

tender, computer screen shot of the error message with date time stamp on the web-browser along with the query shall be e-mailed by the bidder to the help desk, for resolution of the problem, at least 2 working days before the due date and time of bid submission. The contact detail of the help desk is available on the home page of the e-procurement website.

Purchaser will make all efforts to resolve technical queries reported by the bidders but will not be bound to do so if the problems are reported beyond the time mentioned above. Purchaser will not be responsible for non-submission of bids for such cases.

The time taken to ascertain, evaluate and suggest a solution for the problem reported by bidder may vary from case to case. Hence bidders are advised to submit the bid well in advance before closing date and time to avoid last minute issues. Any issues or problems shall be communicated before 48 hours of closing date and time of bid submission. Any issue reported with less than 48 hours are not binding on the Purchaser i.e SCL.

A.1 Tender Schedule

Bid Submission Start Date : **23-09-2021 18:00**

Bid Clarification Due Date : **05-10-2021 14:00**

Bid Submission Due Date : **25-10-2021 14:00**

Bid Opening Date : **25-10-2021 14:30**

Price Bid Opening Date : **11-11-2021 14:00**

B. Tender Attachments

Technical Write-up/Drawings

Document : Photomask procurement specifications For 5 inch 7 inch and 9 inch Reticles

Document : Photomask procurement specifications For 6 inch Reticles

Instructions To Vendors

3. Instruction to Tenderers (PT)

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

2. This being a two part tender i.e. Technical and Commercial part separate, the Technical part should not contain Pricing information of the Tendered stores. The tenders containing Price details of the Tendered stores in Technical part will be summarily rejected. Prices should be indicated in the Price Bid template only.

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. SCL reserves the right to exclude the bidder from procurement process who have not agreed to furnish Security Deposit and Performance Bank Guarantee as sought vide this tender.

6. In case the bidder gives shorter validity than the period specified in the tender enquiry. SCL reserves the right to exclude the bidder from procurement process.

7. Late tenders, delayed tenders, fax quotations and e-mail quotations are not considered. Only tender submitted through ISRO e-procurement portal shall be considered.

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

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

10. Tender which is not submitted as per the instructions mentioned herein is liable to be rejected.

11.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.

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

13. 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.

14.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.

15.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.

16.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.

17.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.

18.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.

19.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.

20.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.

21.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.

22.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 without 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.

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

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

25.In case of Public Tender, the bids shall be opened in the presence of the bidders/their authorized representatives who may like to attend the tender opening against presentation of Authorization letter. In case of 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 are likely to 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 is 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 with interest.

4. TERMS CONDITIONS OF TENDER

1.DEFINITIONS:

(a) The term PURCHASER shall mean the President of India or his successors or assigns.

(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, representative, heirs, executors and administrators unless excluded by the Contract.

(c) The term STORES shall mean what the Contractor agrees to supply under the Contract as specified in the Purchase Order including erection of plants machinery and subsequent testing, should such a condition is included in the Purchase Order.

(d) 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 or plant, machinery or equipment or part thereof.

2.PRICES:

Tender offering firm prices will be preferred. Where a price variation clause is insisted upon by a tenderer, quotation 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 variation/s.

3.ACCEPTANCE OF STORES:

(a) The stores shall be tendered by the Contractor for inspection at such places as may be specified by the purchaser at the Contractors own risk, expense and cost.

(b) It is expressly agreed that the acceptance of the stores Contracted for, is subject to final approval by the purchaser, whose decision shall be final.

(c) If, in the opinion of the purchaser, all or any of the stores do not meet the performance or quality requirements specified in the Purchase Order, they shall be rejected.

(d) If the whole or any part of the stores supplied are rejected in accordance with Clause No. 7 (c) above, the purchaser shall be at liberty, with or without notice to the Contractor, to purchase in the open market at the expense of the Contractor stores meeting the necessary performance and quality Contracted for in place of those rejected, provided that either the purchase, or the agreement to purchase, from another supplier is made within six months from the date of rejection of the stores as aforesaid.

4.REJECTED STORES:

Rejected stores will remain at destination at the Contractors risk and responsibility. If instructions for their disposal are not received from the Contractor within a period of 14 days from the date of receipt of the advice of rejection, the purchaser or his representative has, at his discretion, the right to scrap or sell or consign the rejected stores to Contractors address at the Contractors entire risk and expense, freight being payable by the Contractor at actuals.

5.DELIVERY:

(a) The time for and the date of delivery of the stores stipulated in the Purchase Order shall be deemed to be the essence of the Contract and delivery must be completed on or before the specified dates.

(b) Should the Contractor fail to deliver the stores or any consignment thereof within the period prescribed for such delivery, the purchaser shall be entitled at his option either.

(i) to recover from the Contractor as agreed liquidated damages and not by way of penalty, a sum of 0.5% per week of the price of any stores which the Contractor has failed to deliver as aforesaid or during which the delivery of such store may be in arrears subject to a minimum of 10%, or

(ii) to purchase from elsewhere, without notice to the Contractor on the account and at the risk of the Contractor, the stores not delivered or others of a similar description (where others exactly complying with the particulars, are not, in the opinion of the purchaser, readily procurable, such opinion being final) without cancelling the Contract in respect of the consignment (s) not yet due for delivery, or

(iii) to cancel the Contract or a portion thereof and if so desired to purchase or authorize the purchase of stores not so delivered or others of a similar description (where others exactly if complying with the particulars are not, in the opinion of the purchaser, readily procurable, such opinion final) at the risk

and cost of the Contractor.

In the event of action being taken under sub-clause (ii) (iii) of clause 5 (b) above, the Contractor shall be liable for any loss which the purchaser may sustain on that account, provided that the re-purchase or if there is an agreement to repurchase then such agreement is made within six months from the date of such failure. But the Contractor shall not be entitled to any gain on such re-purchase made against default. The manner and method of such re purchase shall be at the discretion of the purchaser, whose decision shall be final. It shall not be necessary for the purchaser to serve a notice of such re purchase on the defaulting Contractor. This right shall be without prejudice to the right of the purchaser to recover damages for breach of Contract by the Contractor.

6.EXTENSION OF TIME:

As soon as it is apparent that the Contract dates cannot be adhered to, an application shall be sent by the Contractor to the purchaser. If failure, on the part of the Contractor, to deliver the stores in proper time shall have arisen from any cause which the purchaser may admit as reasonable ground for an extension of the time (and his decision shall be final) he may allow such additional time as he considers it to be justified by circumstances, of the case without prejudice to the purchasers right to recover liquidated damages. The purchaser reserves the right to reject or accept the vendors request for extension of time.

7.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.

8.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 Trademark, and shall at all times indemnify the purchaser against all claims which may be made in respect of the stores for infringement of any right protected by Patent Registration of design or Trade mark and shall take all risk of accidents or damage which may cause a failure of the supply from whatever cause arising and the entire responsibility for sufficiency of all means used by him for the fulfilment of the contact.

9.COUNTER TERMS AND CONDITION 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.

10.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.

11. Indemnity:

Contractor shall have no obligation or any liability to Purchaser for any claim arising out of or related to:

(i) modification or adaption to the Stores

(ii) the use of the Stores in combination with any other product, service, or device, if the claim would have been avoided by the use of the Stores without such other product, service, or device

(iii) compliance with Purchaser specifications, instructions, functions, features, or requirements, or any customization of an Indemnified Product made for or on behalf of Purchaser

(iv) use or exploitation of the Stores other than as set forth in this Agreement

(v) negligence or more culpable act or omission (including recklessness or willful misconduct) by Purchaser; or bad faith failure by Purchaser to comply with its obligations set forth in this Agreement.

Purchaser shall give Contractor prompt written notice (a Claim Notice) of any Losses or discovery of facts on which Purchaser intends to base a request for indemnification. In no event shall Contractor be liable for any Losses that result directly from a delay in providing a Claim Notice, which delay materially prejudices the defense of the related third-party claim. Each Claim Notice must contain a description of the third-party claim and the nature and amount of the related losses (to the extent that the nature and amount of the losses are known at the time). Purchaser shall furnish promptly to Vendor/Contractor copies of all papers and official documents received in respect of any losses.

C. Bid Templates

C.1 Technical Bid - Procurement of Photomask for wafer fabrication

1. Grade 6A Mask for 180nm CMOS Technology

Item specifications for Grade 6A Mask for 180nm CMOS Technology

SI No	Specification	Value	Compliance	Offered Specification	Remark
1	Mask Grade:	Grade 6A mask for 180nm CMOS	Yes / No / Explain		
2	SCL's Exp. Tool	5X Stepper	Yes / No / Explain		
3	Mask size:	6" +/- 0.03" Square Quartz Binary	Yes / No / Explain		
4	Mask thickness:	0.25"	Yes / No / Explain		
5	Flatness:	2 um	Yes / No / Explain		
6	Pinhole:	< 0.5 um	Yes / No / Explain		
7	Printing:	Chrome side down	Yes / No / Explain		
8	Grid standard:	Vendor's standard (traceable to NIST/ any global standard)	Yes / No / Explain		
9	CD standard:	Vendor's standard (traceable to NIST/ any global standard)	Yes / No / Explain		
10	Pellicle:	Single (Chrome side)	Yes / No / Explain		
11	Pellicle transmission:	Minimum 99% at 436 & 365nm	Yes / No / Explain		
12	Array centre vs reticle centre (Max.):	500 um	Yes / No / Explain		
13	Array parallel to reticle edge:	1 degree	Yes / No / Explain		
14	Min. Line/Space (L/S) :	4 um	Yes / No / Explain		
15	Min. Contact/Hole (C/H) :	5 um	Yes / No / Explain		

16	Max. Defect size Iso/Edge :	2 um	Yes / No / Explain		
17	Max. Defect size corner :	2.5 um	Yes / No / Explain		
18	CD Mean to Nominal (+/-) :	0.25 um	Yes / No / Explain		
19	Registration +/- :	0.4 um	Yes / No / Explain		
20	Pellicle Type	As per following or Equivalent: Mitsui Petrochemical LTD. N62FP-IC1 MLI: NIK43P-122-1017(H)FLC NIK49P-122-1017(H)FLC	Yes / No / Explain		
21	Mask Blank material	Vendor to specify Part Number used.	Yes / No / Explain		

2. Grade 6E Mask for 180nm CMOS Technology

Item specifications for Grade 6E Mask for 180nm CMOS Technology

SI No	Specification	Value	Compliance	Offered Specification	Remark
1	Mask Grade:	Grade 6E mask for 180nm CMOS	Yes / No / Explain		
2	SCL's Exp. Tool	5X Stepper	Yes / No / Explain		
3	Mask size:	6" +/- 0.03" Square Quartz Binary	Yes / No / Explain		
4	Mask thickness:	0.25"	Yes / No / Explain		
5	Flatness:	2 um	Yes / No / Explain		
6	Pinhole:	< 0.5 um	Yes / No / Explain		
7	Printing:	Chrome side down	Yes / No / Explain		
8	Grid standard:	Vendor's standard (traceable to NIST/ any global standard)	Yes / No / Explain		

9	CD standard:	Vendor's standard (traceable to NIST/ any global standard)	Yes / No / Explain		
10	Pellicle:	Single (Chrome side)	Yes / No / Explain		
11	Pellicle transmission:	Minimum 99% at 436 & 365nm	Yes / No / Explain		
12	Array centre vs reticle centre (Max.):	500 um	Yes / No / Explain		
13	Array parallel to reticle edge:	1 degree	Yes / No / Explain		
14	Min. Line/Space (L/S) :	3 um	Yes / No / Explain		
15	Min. Contact/Hole (C/H) :	4 um	Yes / No / Explain		
16	Max. Defect size Iso/Edge :	1.25 um	Yes / No / Explain		
17	Max. Defect size corner :	1.5 um	Yes / No / Explain		
18	CD Mean to Nominal (+/-) :	0.2 um	Yes / No / Explain		
19	Registration +/- :	0.3 um	Yes / No / Explain		
20	Pellicle Type:	As per following or Equivalent: Mitsui Petrochemical LTD. N62FP-IC1 MLI: NIK43P-122-1017(H)FLC NIK49P-122-1017(H)FLC	Yes / No / Explain		
21	Mask Blank material	Vendor to specify Part Number used.	Yes / No / Explain		

3. Grade 6G Mask for 180nm CMOS Technology

Item specifications for Grade 6G Mask for 180nm CMOS Technology

SI No	Specification	Value	Compliance	Offered Specification	Remark
1	Mask Grade:	Grade 6G mask for 180nm CMOS	Yes / No / Explain		

2	SCL's Exp. Tool	5X Stepper	Yes / No / Explain		
3	Mask size:	6" +/- 0.03" Square Quartz Binary	Yes / No / Explain		
4	Mask thickness:	0.25"	Yes / No / Explain		
5	Flatness:	2 um	Yes / No / Explain		
6	Pinhole:	< 0.5 um	Yes / No / Explain		
7	Printing:	Chrome side down	Yes / No / Explain		
8	Grid standard:	Vendor's standard (traceable to NIST/ any global standard)	Yes / No / Explain		
9	CD standard:	Vendor's standard (traceable to NIST/ any global standard)	Yes / No / Explain		
10	Pellicle:	Single (Chrome side)	Yes / No / Explain		
11	Pellicle transmission:	Minimum 99% at 436 & 365nm	Yes / No / Explain		
12	Array centre vs reticle centre (Max.):	500 um	Yes / No / Explain		
13	Array parallel to reticle edge:	1 degree	Yes / No / Explain		
14	Min. Line/Space (L/S) :	2 um	Yes / No / Explain		
15	Min. Contact/Hole (C/H) :	3 um	Yes / No / Explain		
16	Max. Defect size Iso/Edge :	0.75 um	Yes / No / Explain		
17	Max. Defect size corner :	1.0 um	Yes / No / Explain		
18	CD Mean to Nominal (+/-) :	0.1 um	Yes / No / Explain		
19	CD 3 sigma:	0.1 um	Yes / No / Explain		
20	Registration +/- :	0.15 um	Yes / No / Explain		

21	Pellicle Type	As per following or Equivalent: Mitsui Petrochemical LTD. N62FP-IC1 MLI: NIK43P-122-1017(H)FLC NIK49P-122-1017(H)FLC	Yes / No / Explain		
22	Mask Blank Material	Vendor to specify Part Number used.	Yes / No / Explain		

4. Grade 6I Mask for 180nm CMOS Technology

Item specifications for Grade 6I Mask for 180nm CMOS Technology

SI No	Specification	Value	Compliance	Offered Specification	Remark
1	Mask Grade:	Grade 6I mask for 180nm CMOS	Yes / No / Explain		
2	SCL's Exp. Tool	4X Scanner	Yes / No / Explain		
3	Mask size:	6" +/- 0.03" Square Quartz Binary	Yes / No / Explain		
4	Mask thickness:	0.25"	Yes / No / Explain		
5	Flatness:	1 um	Yes / No / Explain		
6	Pinhole:	< 0.5 um	Yes / No / Explain		
7	Printing:	Chrome side down	Yes / No / Explain		
8	Grid standard:	Vendor's standard (traceable to NIST/ any global standard)	Yes / No / Explain		
9	CD standard:	Vendor's standard (traceable to NIST/ any global standard)	Yes / No / Explain		
10	Pellicle:	Single (Chrome side)	Yes / No / Explain		
11	Pellicle transmission:	Minimum 99% at 365nm & 248nm	Yes / No / Explain		
12	Array centre vs reticle centre (Max.):	500 um	Yes / No / Explain		

13	Array parallel to reticle edge:	1 degree	Yes / No / Explain		
14	Min. Line/Space (L/S) :	1.2 um	Yes / No / Explain		
15	Min. Contact/Hole (C/H) :	1.6 um	Yes / No / Explain		
16	Max. Defect size Iso/Edge :	0.35 um	Yes / No / Explain		
17	Max. Defect size corner :	0.5 um	Yes / No / Explain		
18	CD Mean to Nominal (+/-) :	0.075 um	Yes / No / Explain		
19	CD 3 sigma:	0.1 um	Yes / No / Explain		
20	Registration +/- :	0.1 um	Yes / No / Explain		
21	Pellicle Type	As per following or Equivalent: 1)Shin-etsu 6A2HF-EXN 2)INKO DUV-HF-1A Dimensions: 149mm x 113mm x 5mm	Yes / No / Explain		
22	Mask Blank Material	Vendor to specify Part Number used.	Yes / No / Explain		

5. Grade 6K Mask for 180nm CMOS Technology

Item specifications for Grade 6K Mask for 180nm CMOS Technology

SI No	Specification	Value	Compliance	Offered Specification	Remark
1	Mask Grade:	Grade 6K mask for 180nm CMOS	Yes / No / Explain		
2	SCL's Exp. Tool	4X Scanner	Yes / No / Explain		
3	Mask size:	6" +/- 0.03" Square Quartz Binary	Yes / No / Explain		
4	Mask thickness:	0.25"	Yes / No / Explain		
5	Flatness:	1 um	Yes / No / Explain		

6	Pinhole:	< 0.5 um	Yes / No / Explain		
7	Printing:	Chrome side down	Yes / No / Explain		
8	Grid standard:	Vendor's standard (traceable to NIST/ any global standard)	Yes / No / Explain		
9	CD standard:	Vendor's standard (traceable to NIST/ any global standard)	Yes / No / Explain		
10	Pellicle:	Single (Chrome side)	Yes / No / Explain		
11	Pellicle transmission:	Minimum 99% at 365nm & 248nm	Yes / No / Explain		
12	Array centre vs reticle centre (Max.):	500 um	Yes / No / Explain		
13	Array parallel to reticle edge:	1 degree	Yes / No / Explain		
14	Min. Line/Space (L/S) :	1.0 um	Yes / No / Explain		
15	Min. Contact/Hole (C/H) :	1.2 um	Yes / No / Explain		
16	Max. Defect size Iso/Edge :	0.25 um	Yes / No / Explain		
17	Max. Defect size corner :	0.45 um	Yes / No / Explain		
18	CD Mean to Nominal (+/-) :	0.04 um	Yes / No / Explain		
19	CD 3 sigma:	0.06 um	Yes / No / Explain		
20	X-Y +/-	0.015 um	Yes / No / Explain		
21	Registration +/- : Mag, Orthogonality	1.5 ppm	Yes / No / Explain		
22	Reg Residual difference	0.05 (3 sigma)	Yes / No / Explain		
23	Transmission repaired point:	93-104 %	Yes / No / Explain		
24	Dimension on repaired point:	94-106 %	Yes / No / Explain		
25	Transmission inspection method:	Starlight	Yes / No / Explain		

26	PCI measurement	PCI mark is to be measured in frame for X-Y measurements in 9 locations around the frame as mentioned in mask order form.	Yes / No / Explain		
27	Pellicle Type	As per the following or Equivalent: 1)Shin-etsu 6A2HF-EXN 2)INKO DUV-HF-1A Dimensions: 149mm x 113mm x 5mm	Yes / No / Explain		
28	Mask Blank Material	Vendor to specify Part Number used.	Yes / No / Explain		

6. Grade 6L Mask for 180nm CMOS Technology

Item specifications for Grade 6L Mask for 180nm CMOS Technology

SI No	Specification	Value	Compliance	Offered Specification	Remark
1	Mask Grade:	Grade 6L mask for 180nm CMOS	Yes / No / Explain		
2	SCL's Exp. Tool	4X Scanner	Yes / No / Explain		
3	Mask size:	6" +/- 0.03" Square Quartz Binary	Yes / No / Explain		
4	Mask thickness:	0.25"	Yes / No / Explain		
5	Flatness:	1 um	Yes / No / Explain		
6	Pinhole:	< 0.5 um	Yes / No / Explain		
7	Printing:	Chrome side down	Yes / No / Explain		
8	Grid standard:	Vendor's standard (traceable to NIST/ any global standard)	Yes / No / Explain		
9	CD standard:	Vendor's standard (traceable to NIST/ any global standard)	Yes / No / Explain		
10	Pellicle:	Single (Chrome side)	Yes / No / Explain		

11	Pellicle transmission:	Minimum 99% at 365nm & 248nm	Yes / No / Explain		
12	Array centre vs reticle centre (Max.):	500 um	Yes / No / Explain		
13	Array parallel to reticle edge:	1 degree	Yes / No / Explain		
14	Min. Line/Space (L/S) :	0.8 um	Yes / No / Explain		
15	Min. Contact/Hole (C/H) :	1.0 um	Yes / No / Explain		
16	Max. Defect size Iso/Edge :	0.2 um	Yes / No / Explain		
17	Max. Defect size corner :	0.4 um	Yes / No / Explain		
18	Optical proximity correction:	Yes	Yes / No / Explain		
19	CD Mean to Nominal (+/-) :	0.03 um	Yes / No / Explain		
20	CD 3 sigma:	0.045 um	Yes / No / Explain		
21	X-Y +/-	0.012 um	Yes / No / Explain		
22	Registration +/- : Mag, Orthogonality	1.5 ppm	Yes / No / Explain		
23	Reg Residual difference	0.04 (3 sigma)	Yes / No / Explain		
24	Transmission repaired point:	93-104 %	Yes / No / Explain		
25	Dimension on repaired point:	94-106 %	Yes / No / Explain		
26	Transmission inspection methon:	Starlight	Yes / No / Explain		
27	PCI Measurement	PCI mark is to be measured in frame for X-Y measurements in 9 locations around the frame as mentioned in mask order form.	Yes / No / Explain		

28	Pellicle Type:	As per following or Equivalent: 1)Shin-etsu 6A2HF-EXN 2)INKO DUV-HF-1A Dimensions: 149mm x 113mm x 5mm	Yes / No / Explain		
29	Mask Blank Material	Vendor to specify Part Number used.	Yes / No / Explain		

7. Grade 6LH Mask for 180nm CMOS Technology

Item specifications for Grade 6LH Mask for 180nm CMOS Technology

SI No	Specification	Value	Compliance	Offered Specification	Remark
1	Mask Grade:	Grade 6LH mask for 180nm CMOS	Yes / No / Explain		
2	SCL's Exp. Tool	4X Scanner	Yes / No / Explain		
3	Mask size:	6" +/- 0.03" Square Quartz Att. PSM	Yes / No / Explain		
4	Mask thickness:	0.25"	Yes / No / Explain		
5	Flatness:	1 um	Yes / No / Explain		
6	Pinhole:	< 0.5 um	Yes / No / Explain		
7	Printing:	Chrome side down	Yes / No / Explain		
8	Grid standard:	Vendor's standard (traceable to NIST/ any global standard)	Yes / No / Explain		
9	CD standard:	Vendor's standard (traceable to NIST/ any global standard)	Yes / No / Explain		
10	Pellicle:	Single (Chrome side)	Yes / No / Explain		
11	Pellicle transmission:	Minimum 99% at 365nm & 248nm	Yes / No / Explain		
12	Array centre vs reticle centre (Max.):	500 um	Yes / No / Explain		
13	Array parallel to reticle edge:	1 degree	Yes / No / Explain		

14	MoSi Transparency:	6% +/- 0.5% (MoSi vs. quartz)	Yes / No / Explain		
15	Phase shift:	180° +/- 5°	Yes / No / Explain		
16	Min. Line/Space (L/S) :	0.7 um	Yes / No / Explain		
17	Min. Contact/Hole (C/H) :	0.8 um	Yes / No / Explain		
18	Max. Defect size Iso/Edge :	0.2 um	Yes / No / Explain		
19	Max. Defect size corner :	0.4 um	Yes / No / Explain		
20	PSM	Yes	Yes / No / Explain		
21	Optical proximity correction:	Yes	Yes / No / Explain		
22	CD Mean to Nominal (+/-) :	0.03 um	Yes / No / Explain		
23	CD 3 sigma:	0.045 um	Yes / No / Explain		
24	X-Y +/-	0.012 um	Yes / No / Explain		
25	Registration +/- : Mag, Orthogonality	1.5 ppm	Yes / No / Explain		
26	Reg Residual difference	0.04 (3 sigma)	Yes / No / Explain		
27	Transmission repaired point:	93-104 %	Yes / No / Explain		
28	Dimension on repaired point:	94-106 %	Yes / No / Explain		
29	Transmission inspection tool:	AIMS wavelength 248nm	Yes / No / Explain		
30	Pellicle Type:	As per the following or Equivalent: 1) Shin etsu 6A2HF EXN 2) INKO DUV HF 1A Dimensions: 149mm x 113mm x 5mm	Yes / No / Explain		
31	Mask Blank Material:	Vendor to specify Part Number used.	Yes / No / Explain		

32	PCI Measurement	PCI marks to be measured in the frame for X-Y measurement at 9 location mentioned in mask order form.	Yes / No / Explain		
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8. Grade 7M mask for 1X mask aligner -

Item specifications for Grade 7M mask for 1X mask aligner -

SI No	Specification	Value	Compliance	Offered Specification	Remark
1	Mask Grade:	Grade 7M mask for 1X mask aligner	Yes / No / Explain		
2	SCI's Exp. Tool:	1X mask aligner	Yes / No / Explain		
3	Material:	7"x7"x0.120" Sodalime with AR Chrome.	Yes / No / Explain		
4	Minimum Feature Size (MFS) :	>5.0 um	Yes / No / Explain		
5	Critical Dimension(CD) Tolerance :	+/- 1.0 um	Yes / No / Explain		
6	Registration:	± 0.4 um	Yes / No / Explain		
7	Defect Density :	Max 3 defects /inch ² > 2um	Yes / No / Explain		
8	Anti stick coating:	None.	Yes / No / Explain		
9	Pellicle :	None.	Yes / No / Explain		
10	Data :	Data will be provided in GDSII format.	Yes / No / Explain		
11	Inspection :	Die-to-die or Die-to-Database	Yes / No / Explain		
12	Pattern Generation Method :	E-beam / Laser	Yes / No / Explain		
13	Quality Area :	100% inspection required within image field.	Yes / No / Explain		

9. Grade 5M mask for 5X projection stepper -

Item specifications for Grade 5M mask for 5X projection stepper -

SI No	Specification	Value	Compliance	Offered Specification	Remark
1	Mask Grade:	Grade 5M mask for 5X projection stepper	Yes / No / Explain		
2	SCI's Exp. Tool:	5X projection stepper	Yes / No / Explain		
3	Material:	5" x 5" x 0.09" Quartz with AR Chrome.	Yes / No / Explain		
4	Minimum Feature Size (MFS) :	6-12.5 um	Yes / No / Explain		
5	Critical Dimension(CD) Tolerance :	± 0.2 um	Yes / No / Explain		
6	Registration:	± 0.12 um	Yes / No / Explain		
7	Defect Density :	Max 0 defects /inch ² > 0.6 um	Yes / No / Explain		
8	Flatness & optical density:	2 um & OD > 2.5	Yes / No / Explain		
9	Data :	Data will be provided in GDSII format.	Yes / No / Explain		
10	Inspection :	Die-to-die or Die-to-database	Yes / No / Explain		
11	Quality Area :	100% inspection required within image field.	Yes / No / Explain		
12	Pattern Generation Method :	E-beam / Laser	Yes / No / Explain		
13	Pellicle :	Yes, Required on both sides (Chrome and Glass).	Yes / No / Explain		
14	Pellicle Transmission:	High Transmission (>99%) at i line (365nm).	Yes / No / Explain		
15	Pellicle Type:	Preferably GC 52P 5211H for GCA Stepper and AS501P 5211D/AS506P/G 5011H for ASM Steppers.	Yes / No / Explain		

10. Grade 5D mask for 5X projection stepper -

Item specifications for Grade 5D mask for 5X projection stepper -

SI No	Specification	Value	Compliance	Offered Specification	Remark
1	Mask Grade:	Grade 5D mask for 5X projection stepper	Yes / No / Explain		
2	SCI's Exp. Tool:	5X projection stepper	Yes / No / Explain		
3	Material:	5" x 5" x 0.09" Quartz with AR Chrome.	Yes / No / Explain		
4	Minimum Feature Size (MFS) :	4 um	Yes / No / Explain		
5	Critical Dimension(CD) Tolerance :	± 0.1 um	Yes / No / Explain		
6	Registration:	± 0.12 um	Yes / No / Explain		
7	Defect Density :	Max 0 defects /inch ² > 0.6 um	Yes / No / Explain		
8	Flatness & optical density:	2 um & OD > 2.5	Yes / No / Explain		
9	Data :	Data will be provided in GDSII format.	Yes / No / Explain		
10	Inspection :	Die-to-die or Die-to-database	Yes / No / Explain		
11	Quality Area :	100% inspection required within image field.	Yes / No / Explain		
12	Pattern Generation Method :	E-beam / Laser	Yes / No / Explain		
13	Pellicle :	Yes, Required on both sides (Chrome and Glass).	Yes / No / Explain		
14	Pellicle Transmission:	High Transmission (>99%) at i line (365nm).	Yes / No / Explain		
15	Pellicle Type:	Preferably GC 52P 5211H for GCA Stepper and AS501P 5211D/AS506P/G 5011H for ASM Steppers.	Yes / No / Explain		

11. Grade 7MX mask for 1X mask aligner -

Item specifications for Grade 7MX mask for 1X mask aligner -

SI No	Specification	Value	Compliance	Offered Specification	Remark
1	Mask Grade:	Grade 7MX mask for 1X mask aligner	Yes / No / Explain		
2	SCI's Exp. Tool:	1X mask aligner	Yes / No / Explain		
3	Material:	7"x7"x0.120" Sodalime with AR Chrome.	Yes / No / Explain		
4	Minimum Feature Size (MFS) :	>5.0 um	Yes / No / Explain		
5	Critical Dimension(CD) Tolerance :	+/- 1.0 um	Yes / No / Explain		
6	Registration:	± 0.4 um	Yes / No / Explain		
7	Defect Density :	Max 3 defects /inch ² > 2um	Yes / No / Explain		
8	Anti stick coating:	Yes (Preferably X.301)	Yes / No / Explain		
9	Pellicle :	None.	Yes / No / Explain		
10	Data :	Data will be provided in GDSII format.	Yes / No / Explain		
11	Inspection :	Die-to-die or Die-to-Database	Yes / No / Explain		
12	Pattern Generation Method :	E-beam / Laser	Yes / No / Explain		
13	Quality Area :	100% inspection required within image field.	Yes / No / Explain		

12. Grade 7Q mask for 1X mask aligner -

Item specifications for Grade 7Q mask for 1X mask aligner -

SI No	Specification	Value	Compliance	Offered Specification	Remark
1	Mask Grade:	Grade 7Q mask for 1X mask aligner	Yes / No / Explain		
2	SCI's Exp. Tool:	1X mask aligner	Yes / No / Explain		
3	Material:	7"x7"x0.120" Quartz with AR Chrome.	Yes / No / Explain		

4	Minimum Feature Size (MFS) :	>5.0 um	Yes / No / Explain		
5	Critical Dimension(CD) Tolerance :	+/- 1.0 um	Yes / No / Explain		
6	Registration:	± 0.15 um	Yes / No / Explain		
7	Defect Density :	Max 3 defects /inch2 > 2um	Yes / No / Explain		
8	Anti stick coating:	None.	Yes / No / Explain		
9	Pellicle :	None.	Yes / No / Explain		
10	Data :	Data will be provided in GDSII format.	Yes / No / Explain		
11	Inspection :	Die-to-die or Die-to-Database	Yes / No / Explain		
12	Pattern Generation Method :	E-beam / Laser	Yes / No / Explain		
13	Quality Area :	100% inspection required within image field.	Yes / No / Explain		

13. Grade 7QA mask for 1X mask aligner -

Item specifications for Grade 7QA mask for 1X mask aligner -

SI No	Specification	Value	Compliance	Offered Specification	Remark
1	Mask Grade:	Grade 7QA mask for 1X mask aligner	Yes / No / Explain		
2	SCI's Exp. Tool:	1X mask aligner	Yes / No / Explain		
3	Material:	7"x7"x0.120" Quartz with AR Chrome.	Yes / No / Explain		
4	Minimum Feature Size (MFS) :	> 0.7 um	Yes / No / Explain		
5	Critical Dimension(CD) Tolerance :	± 0.2 um	Yes / No / Explain		
6	Registration:	± 0.15 um	Yes / No / Explain		
7	Defect Density :	Max 3 defects /inch2 > 2um	Yes / No / Explain		

8	Anti stick coating:	None.	Yes / No / Explain		
9	Pellicle :	None.	Yes / No / Explain		
10	Data :	Data will be provided in GDSII format.	Yes / No / Explain		
11	Inspection :	Die-to-die or Die-to-database	Yes / No / Explain		
12	Pattern Generation Method :	E-beam / Laser	Yes / No / Explain		
13	Quality Area :	100% inspection required within image field.	Yes / No / Explain		

14. Grade 7QX mask for 1X mask aligner - -

Item specifications for Grade 7QX mask for 1X mask aligner - -

SI No	Specification	Value	Compliance	Offered Specification	Remark
1	Mask Grade:	Grade 7QX mask for 1X mask aligner	Yes / No / Explain		
2	SCI's Exp. Tool:	1X mask aligner	Yes / No / Explain		
3	Material:	7"x7"x0.120" Quartz with AR Chrome.	Yes / No / Explain		
4	Minimum Feature Size (MFS) :	> 5 um	Yes / No / Explain		
5	Critical Dimension(CD) Tolerance :	± 1.0 um	Yes / No / Explain		
6	Registration:	± 0.15 um	Yes / No / Explain		
7	Defect Density :	Max 3 defects /inch ² > 2um	Yes / No / Explain		
8	Anti stick coating:	Yes (Preferably X.301)	Yes / No / Explain		
9	Pellicle :	None.	Yes / No / Explain		
10	Data :	Data will be provided in GDSII format.	Yes / No / Explain		
11	Inspection :	Die-to-die or Die-to-Database	Yes / No / Explain		

12	Pattern Generation Method :	E-beam / Laser	Yes / No / Explain		
13	Quality Area :	100% inspection required within image field.	Yes / No / Explain		

15. Grade 7QAX mask for 1X mask aligner -

Item specifications for Grade 7QAX mask for 1X mask aligner -

SI No	Specification	Value	Compliance	Offered Specification	Remark
1	Mask Grade:	Grade 7QAX mask for 1X mask aligner	Yes / No / Explain		
2	SCI's Exp. Tool:	1X mask aligner	Yes / No / Explain		
3	Material:	7"x7"x0.120" Quartz with AR Chrome.	Yes / No / Explain		
4	Minimum Feature Size (MFS) :	> 0.7 um	Yes / No / Explain		
5	Critical Dimension(CD) Tolerance :	± 0.2 um	Yes / No / Explain		
6	Registration:	± 0.15 um	Yes / No / Explain		
7	Defect Density :	Max 3 defects /inch ² > 2um	Yes / No / Explain		
8	Anti stick coating:	Yes (Preferably X.301)	Yes / No / Explain		
9	Pellicle :	None.	Yes / No / Explain		
10	Data :	Data will be provided in GDSII format.	Yes / No / Explain		
11	Inspection :	Die-to-die or Die-to-Database	Yes / No / Explain		
12	Pattern Generation Method :	E-beam / Laser	Yes / No / Explain		
13	Quality Area :	100% inspection required within image field.	Yes / No / Explain		

16. Grade 9QA mask for 1X mask aligner -

Item specifications for Grade 9QA mask for 1X mask aligner -

SI No	Specification	Value	Compliance	Offered Specification	Remark
1	Mask Grade:	Grade 9QA mask for 1X mask aligner	Yes / No / Explain		
2	SCI's Exp. Tool:	1X mask aligner	Yes / No / Explain		
3	Material:	9" x 9" x 0.120" Quartz with AR Chrome.	Yes / No / Explain		
4	Minimum Feature Size (MFS) :	> 0.7 um	Yes / No / Explain		
5	Critical Dimension(CD) Tolerance :	± 0.2 um	Yes / No / Explain		
6	Registration:	± 0.2 um	Yes / No / Explain		
7	Defect Density :	Max 3 defects /inch ² > 2um	Yes / No / Explain		
8	Anti stick coating:	None.	Yes / No / Explain		
9	Pellicle :	None.	Yes / No / Explain		
10	Data :	Data will be provided in GDSII format.	Yes / No / Explain		
11	Inspection :	Die-to-die or Die-to-Database	Yes / No / Explain		
12	Pattern Generation Method :	E-beam / Laser	Yes / No / Explain		
13	Quality Area :	100% inspection required within image field.	Yes / No / Explain		

17. Grade 9QAX mask for 1X mask aligner -

Item specifications for Grade 9QAX mask for 1X mask aligner -

SI No	Specification	Value	Compliance	Offered Specification	Remark
1	Mask Grade:	Grade 9QAX mask for 1X mask aligner	Yes / No / Explain		
2	SCI's Exp. Tool:	1X mask aligner	Yes / No / Explain		
3	Material:	9" x 9" x 0.120" Quartz with AR Chrome.	Yes / No / Explain		

4	Minimum Feature Size (MFS) :	> 0.7 um	Yes / No / Explain		
5	Critical Dimension(CD) Tolerance :	± 0.2 um	Yes / No / Explain		
6	Registration:	± 0.2 um	Yes / No / Explain		
7	Defect Density :	Max 3 defects /inch2 > 2um	Yes / No / Explain		
8	Anti stick coating:	Yes (Preferable X.301)	Yes / No / Explain		
9	Pellicle :	None.	Yes / No / Explain		
10	Data :	Data will be provided in GDSII format.	Yes / No / Explain		
11	Inspection :	Die-to-die or Die-to-Database	Yes / No / Explain		
12	Pattern Generation Method :	E-beam / Laser	Yes / No / Explain		
13	Quality Area :	100% inspection required within image field.	Yes / No / Explain		

Common Specifications (Applicable for all items)

SI No	Specification	Value	Compliance	Offered Specification	Remark
1	A. Eligibility Criteria	Parties fulfilling the following requirements are eligible to participate in the tender.	Yes / No / Explain		
2	A.1. Eligibility Criteria:	Bidder shall be manufacturer or supplier of Photomasks of all grades mentioned in RFP and preferably to be manufactured in India.	Yes / No / Explain		
3	A.2. Eligibility Criteria:	The supplier must be Class-I / Class-II supplier as per (GoI order P-45021/2/2017-PP (BE-II) dated 16th Sept, 2020) Make In India (MII) policy and shall confirm the same in the Bid.	Yes / No / Explain		

4	A.3. Eligibility Criteria:	Bidder shall have adequate infrastructure for manufacturing or for value addition of photomask fabrication for all the grades mentioned in RFP.	Yes / No / Explain		
5	A.4. Eligibility Criteria:	Bidder shall provide details pertaining to the available infrastructure like Class & Area of Cleanroom(s) for fabrication / measurements of photomasks mentioned in RFP, Name Make & Model of processes / metrology equipments, being used for fabrication.	Yes / No / Explain		
6	A.5. Eligibility Criteria:	Bidder should have supplied similar photomasks to at least three customers (domestic /foreign) in the past five years. The list shall be duly supported with documentary proofs and to be submitted along with the bid.	Yes / No / Explain		
7	A.6. Eligibility Criteria:	Bidder shall fully comply with the tendered specifications of the photomasks.	Yes / No / Explain		
8	A.7. Specific requirements:	The estimated photo mask quantities per type in the RFP are tentative and may change as per the actual requirement during the period of two years, in such case an amendment PO will be issued by SCL at no additional cost to SCL. The scope of the PO should also include the PO extension by appropriate period on mutually agreed terms & conditions for all mask grades.	Yes / No / Explain		

9	A.8. Specific requirements:	SCL is looking for single vendor for all its photo-mask requirements provided in RFP for the requirement of two years. All the photo mask categories/grades should meet the specifications enclosed in the RFP. The vendor has to supply the Mask types upon receiving mask order forms over the aforementioned two years period as and when required.	Yes / No / Explain		
10	A.9. Specific requirements:	Vendors' bids will be evaluated based on the lowest overall price offered for the photo mask requirements as per RFP issued by SCL.	Yes / No / Explain		
11	A.10. Specific requirements:	For each Mask order, SCL will send the mask data as per mutually agreed tooling forms. Vendor shall provide MEBES data (mask writing tool data) for the final approval from SCL before initiating mask fabrication.	Yes / No / Explain		
12	A.11. Specific requirements:	The fabricated Masks against each Mask order shall be delivered by the vendor in multi-shipments as per SCL requirement to enable timely delivery for seamless wafer fabrication activities at SCL.	Yes / No / Explain		
13	A.12. Specific requirements:	A typical fabrication time (cycle time) for any mask-set, consisting of 23-32 mask plates, should be within 3-4 weeks. i.e. 6-8 masks per week from the date of MEBES data approval.	Yes / No / Explain		

14	A.13. Specific requirements:	Vendor shall arrange logistics for all the shipments to SCL stores, S.A.S Nagar, India. Preferably, delivery time for each Mask shipment shall be 3-4 working days from the date of shipment from mask facility. SCL will support for any documents required during shipment in transit.	Yes / No / Explain		
15	A.14. Specific requirements:	Vendor will provide hard and soft copy of Conformance certificate (CoA) for each mask as per the SCL specification requirements and Mask Order Form (MoF).	Yes / No / Explain		
16	A.15. Specific requirements:	SCL may increase or decrease quantity of a particular photomask category during the contract period and in such case amendment of PO will be issued to vendor. Vendor to keep the pricing same as Original PO for such amendments if any.	Yes / No / Explain		
17	A.16. Specific requirements:	After release of Purchase Order, SCL will evaluate initial order for qualification and based on the evaluation further orders will be exercised during the contract period. In case of failure in qualification, SCL will have full rights to cancel the contract without any financial implication to SCL.	Yes / No / Explain		
18	A.17. Specific requirements:	SCL may visit the photomask facility in India as a part of technical evaluation for assessment of local content added in fabrication of photomask against each mask grade.	Yes / No / Explain		

19	B. General Technical Specifications for all Items:	Requirements	Yes / No / Explain		
20	B.1. MEASUREMENT:	Critical Dimension (CD) Measurement : Frame CD Cell is placed at four corners of the frame and in the center if possible. The Mask shop is requested to measure all five cells in the frames.	Yes / No / Explain		
21	B.2. MEASUREMENT:	For grades 6A-6H, four corners and center CD cells of frame is to be inspected including CD cell placed in prime die if exist. For the rest of the grade, CD uniformity is to be measured at particular locations that will be provided with each product.	Yes / No / Explain		
22	B.3. MEASUREMENT:	For mask grade 6K-6LH, X-Y delta CD is to be measured.	Yes / No / Explain		
23	B.4. MEASUREMENT:	CD measurements are to comply with the paper work otherwise order should be placed on hold.	Yes / No / Explain		
24	B.5. MEASUREMENT:	The vendor has to provide CD measurements of four corners and center in the order as mentioned in S.No. 2.4 of the attached CMOS spec document.	Yes / No / Explain		
25	B.6. Defect Inspection:	After pellicle mounting, On top of pattern surface shield area, particles of mobile characters shall be 0.	Yes / No / Explain		
26	B.7. Defect Inspection:	Pellicle is to be placed symmetrically to enable mask picks usage by SCL.	Yes / No / Explain		
27	B.8. Defect Inspection:	No defects bigger than 15 um are allowed on pellicle.	Yes / No / Explain		
28	B.9. Defect Inspection:	Any abnormal findings including repairs are to be reported to SCL with each mask.	Yes / No / Explain		

29	B.10. Aerial Imaging Monitoring System (AIMS) :	AIMS only required on features less than 1.0 um in size. AIMS spec is +/- 10% CD variation on all features/repairs.	Yes / No / Explain		
30	B.11. Layer Names and Revisions :	Every device must have a layer name and a revision letter digitized in every mask (Refer S.No. 2.6.5 of the attached CMOS spec document). If the layout digitized in a mask has been modified, the revision letter for that layer must change. Mask shop is requested to inspect layer revisions to assure proper data was used.	Yes / No / Explain		
31	B.12. General Requirement:	Mask shop must retain data of all mask orders for a period as specified in purchase order (PO).	Yes / No / Explain		
32	B.13. General Requirement:	Any products based upon the design and other information provided by SCL should not be disclose/sold to any 3rd party without the express permission of SCL.	Yes / No / Explain		
33	B.14. Data support:	Mask shop will have technical capability to support data manipulation such as performing Boolean functions with different layers, sizing and other front end capabilities (fracture; job deck, etc).	Yes / No / Explain		
34	B.15. Data support:	In case of off grid, mask shop is required to notify SCL before manufacturing Masks.	Yes / No / Explain		
35	B.16. Data support:	Work Plate Nominal (WPN) CD's, Registration measurements and Defect detection log shall be sent with the mask (including a list of repairs and their locations).	Yes / No / Explain		

36	B.17. Data support:	Mask shop needs to provide % chrome or % Clear report for every mask (% chrome/Clear is calculated with frame extents). Data is provided during data preparation step. Mask shop needs to alert SCL in the following cases: a) % Chrome of GC mask is (less 14% or greater 40%) OR (% Clear is greater 86% or less 60%). b) % Chrome of M1 is (less 20% or greater 70%) OR (% Clear is greater 80% or less 30%). c) % Chrome of M2/3 and ML is less 20% OR % Clear is greater 80%.	Yes / No / Explain		
37	B.18. Data support:	SCL will provide the Backcloth data in GDSII format to the vendor along with location, size, orientation information. Vendor has to retain the data & information for the duration of contract. SCL will modify the data & information as and when required.	Yes / No / Explain		
38	B.19. Responsibility of Mask Shop:	In order to ensure proper cycle time is met, the mask shops are required to monitor its own cycle time from the moment the order was received until the masks were sent to SCL.	Yes / No / Explain		
39	B.20. Responsibility of Mask Shop:	Technical data will be sent (hard copy and electronically) with each Mask by the Mask Shop. The technical data shall contain information regarding mask Registration, Defects and CD measurements.	Yes / No / Explain		

40	B.21. Responsibility of Mask Shop	SCL requires to be informed of any equipment down, or process change, or any raw material change that potentially may affect SCL photomasks.	Yes / No / Explain		
41	B.22. Responsibility of Mask Shop:	Mask shop needs to fill and send back to SCL, the order inspection check-list as specified in S.No. 2.6.6 of the attached document before commencing the production.	Yes / No / Explain		
42	B.23. Delivery:	Vendor shall arrange shipments on DAP-SCL, S.A.S. Nagar, India. Each mask-set comprising of 24-32 masks shall be scheduled for shipment in 3-4 weeks (at least 8 masks per week) from the date of MEBES data approval. Preferably, delivery time for a mask (excluding time for custom clearance) shall be 5-6 working days from the date of shipment from mask facility. SCL will provide the required custom clearance documents/support.	Yes / No / Explain		
43	B.24. Warranty:	Mask shop should provide warranty of mask to be free from defects in material and workmanship for period of atleast 1 year from the date of acceptance.	Yes / No / Explain		
44	B.25. Warranty:	SCL requires that the products will be free from defects in materials and workmanship under normal use. In case of discrepancies of products compared to the agreed products specifications, SCL will return products with description of the discrepancies.	Yes / No / Explain		

45	B.26. Warranty:	It is mask vendor's responsibility to repair, replace for the defective products. In this case mask shop shall defray the total cost including transportation cost, custom duty etc. already paid by SCL.	Yes / No / Explain		
46	B.27. Warranty:	SCL requires that as part of problem solving and handling for masks found defective in SCL, the Mask shop would not wait for ship back and analysis in order to make a replacement mask.	Yes / No / Explain		
47	B.28. SHELF LIFE:	Vendor to specify separately for pellicle and glass plate.	Yes / No / Explain		
48	B.29. PACKING REQUIREMENTS :	Packaging shall be ESD protected. Each reticle shall be packed in a separate box and properly sealed. For each reticle please place the label on the bag or use removable labels to enable SCL to reuse the compact.	Yes / No / Explain		
49	B.30. PACKING REQUIREMENTS :	Photomasks/reticles to be packed in individual Class-1 compatible cleanroom compact packages with following markings on the package: "PHOTOMASK INSIDE, CLASS-1 MATERIAL, NOT TO BE EXPOSED TO NORMAL ATMOSPHERE".	Yes / No / Explain		
50	B.31. PACKING REQUIREMENTS :	Packaging box for each reticle should be equivalent or smaller than DMS Reticle Box P/N. DMS 6 x 250 Black Antistatic Compact with total box thickness of approximately 39 mm and overall size of 187.1 mm (one side w/o hinges)	Yes / No / Explain		

51	B.32. SAFETY/HANDLING :	Appropriate labeling to be applied on the outside of the box in order to inform the transportation companies and customs to handle the box with care. Labeling can be like: "CAUTION! - DO NOT OPEN THE BOX. Material inside will be used in Semiconductor fabrication in highly clean CLASS-1 ENVIRONMENT".	Yes / No / Explain		
52	B.33. SAFETY/HANDLING :	Shipment confirmation should be sent via E-mail to SCL.	Yes / No / Explain		
53	B.34. SAFETY/HANDLING :	Mask Shops are required to maintain lead time according to contract. The reticles are to be sent in a sequential order, from first layer to the last, first and second together or as per the SCL requirements.	Yes / No / Explain		
54	B.35. STORAGE CONDITIONS :	Vendor to specify	Yes / No / Explain		
55	B.36. TEST SPECIFICATIONS :	Vendor has to provide the certificate of acceptance conforming to the specifications as specified.	Yes / No / Explain		
56	B.37. TEST SPECIFICATIONS :	Mask vendors are required to specify the name of the tools which they will be using for defect inspection, exposure etc., for each of the mask category.	Yes / No / Explain		
57	B.38. Defect Inspection	No. of defects of size greater than 10µm must be zero inside fiducial.	Yes / No / Explain		

Supporting Documents required from Vendor

1. As per the requirements mentioned in the specification documents and RFP.

5 additional documents can be uploaded by the vendor

C.2 Commercial Terms / Bid

Sl. No.	Description	Compliance	Vendor Terms
1	As an when Design GDSII are supplied for photomask fabrication, delivery to be done as per delivery terma and meeting all technical specifications.	Yes / No / Explain	
2	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 summarily rejected. The prices should be quoted in Price-Bid Form only.	Yes / No / Explain	
3	Delivery Term: Price shall be quoted on F.O.R SCL, S.A.S Nagar basis exclusive of GST as may be applicable.	Yes / No / Explain	
4	GST: Purchaser is eligible to issue concessional GST exemption certificate to avail concessional GST of 5 percent for supply portion 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 vendor.	Yes / No / Explain	

5	<p>Security Deposit (SD): On acceptance of the tender, the Vendor shall submit security deposit for three percent (3 percent 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 till execution of PO and should remain 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>Note: Vendor to ensure that Banker gives Bank Guarantee (BG) confirmation over email from their Domain directly, immediately after issuance of the same at the following email IDs:</p> <p>njain at scl.gov.in</p> <p>CC: abudhwar at scl.gov.in ashishk at scl.gov.in dc at scl.gov.in</p> <p>In addition the banker may send a scanned copy of the BG as an attachment.</p>	Yes / No / Explain	
6	<p>DELIVERY PERIOD: (i) A typical fabrication time (cycle time) for any mask-set, consisting of 24-32 mask plates, shall be within 3-4 weeks. i.e. 6-8 masks per week from the date of MEBES data approval.</p> <p>(ii) Vendor shall arrange logistic for all the shipment to SCL stores, S.A.S Nagar, Punjab. Preferably delivery time for each mask set shipment shall be 3-4 working days from the date of shipment from Mask facility.</p>	Yes / No / Explain	

7	<p>Liquidated Damages (LD): If the Vendor fails to deliver the stores within the time specified in the contract or any extension thereof, the purchaser shall recover from the Vendor as liquidated damages a sum of one-half of one percent (0.5 percent) of the Contract price for each calendar week of delay. The total liquidated damages shall not exceed ten percent (10 percent) of the Contract price.</p> <p>Delivery of stores means supply, Installation, commissioning, training and acceptance as applicable.</p>	Yes / No / Explain	
8	<p>Terms of payment(S): Within 30 days for the supplied material after receipt & acceptance of material at purchasers site.</p>	Yes / No / Explain	
9	<p>Replacement: If the stores or any portion thereof is damaged or lost during transit, the Purchaser shall give notice to the Vendor setting forth particulars of such stores damaged or lost during transit. The replacement of such stores shall be effected by the vendor within a reasonable time to avoid unnecessary delay in the intended usage of the Stores.</p> <p>Delivery term being F.O.R, SCL, S.A.S Nagar basis, any damage or lost during transit shall be replaced by the Vendor without any cost to SCL.</p>	Yes / No / Explain	
10	<p>Rejection: In the event that any of the stores supplied by the Vendor 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.</p>	Yes / No / Explain	
11	<p>Validity: The offer should be valid for a minimum period of 120 days from the date of opening of Tehno Commercial bid and 90 days after opening of Price Bid.</p>	Yes / No / Explain	
12	<p>Mode of Dispatch: Vendor responsibility.</p>	Yes / No / Explain	

13	<p>Packing Forwarding: The Contractor will be responsible for the stores being sufficiently and properly packed for transport by rail, road, sea or air to withstand transit hazards and ensure safe arrival at the destination. The packing and marking of packages shall be done by and at the expense of the Contractor. The purchaser will not pay separately for transit insurance, all risks in transit being exclusively of the Contractor and the Purchaser shall pay only for such stores as are actually received in good condition in accordance with the Contract.</p>	Yes / No / Explain	
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14	<p>ARBITRATION: In the event of any dispute/s, difference/s or claim/s arising out of or relating to the interpretation and application of the Contract, such dispute/s or difference/s or claim/s shall be settled amicably by mutual consultations of the good Offices of the respective Parties and recognizing their mutual interests attempt to reach a solution satisfactory to both the parties. If such a resolution is not possible, within 30 days from the date of receipt of written notice of the existence of such dispute/s, then the unresolved dispute/s or difference/s or claim/s shall be referred to the Sole Arbitrator appointed by the Parties by mutual consent in accordance with the rules and procedures of Arbitration and Conciliation Act 1996 as amended from time to time. The arbitration shall be conducted in New Delhi in the Arbitration and Conciliation Centre New Delhi (Domestic and International) as per its rules and regulations. The expenses for the Arbitration shall be shared equally or as may be determined by the Arbitrator. The considered and written decision of the Arbitrator shall be final and binding between the Parties. The applicable language for Arbitration shall be English only. Work under the Contract shall be continued by the CONTRACTOR during the pendency of arbitration proceedings, without prejudice to a final adjustment in accordance with the decision of the Arbitrator unless otherwise directed in writing by the Purchaser or unless the matter is such that the works cannot be possibly continued until the decision (whether final or interim) of the Arbitrator is obtained</p>	Yes / No / Explain	
15	<p>Applicable Law: The Contract shall be interpreted, construed and governed by the laws of India.</p>	Yes / No / Explain	
16	<p>Indicate the Name and address of the vendor for placing purchase order along with their e-mail id , contact person name and designation , Telephone no. and fax no.</p>	Yes / No / Explain	

17	The participating Vendors/Suppliers/Service Providers shall indicate specifically whether they fall in the category of Class-1 local supplier or Class-II local supplier or Non-local supplier for evaluation as per Ministry of Commerce and Industry office order no. P-45021/2/2017-PP(BE-II) dt. 16th September, 2020. The vendor/supplier/Service Provider shall submit declaration as documentary proof in this regard. The provisions of the order shall apply to this tender. As per the provisions of the order, the vendors should indicate the percentage of local content and also the location where the value addition is done for our evaluation.	Yes / No / Explain	
18	Government of India by Finance Act 2021 has widened the Scope of Tax Deduction at source (i.e.) TDS w.e.f. 1st July 2021 by introducing provision (A) Section 194Q-TDS on purchase of goods. The provisions of this act will apply to this tender.	Yes / No / Explain	
19	MSME participating in the tender will be eligible for exemption as per Government of India as applicable and updated from time to time. Necessary documentary proof shall be submitted in this regard.	Yes / No / Explain	
20	Any Other Term:	Yes / No / Explain	

C.3 Price Bid

Sl. No.	Item	Quantity	Unit Price	Currency	Total Price	Remark
1	Grade 6A Mask for 180nm CMOS Technology	50.00 Nos.		-		
2	Grade 6E Mask for 180nm CMOS Technology	25.00 Nos.		-		
3	Grade 6G Mask for 180nm CMOS Technology	756.00 Nos.		-		

4	Grade 6I Mask for 180nm CMOS Technology	25.00 Nos.		-		
5	Grade 6K Mask for 180nm CMOS Technology	81.00 Nos.		-		
6	Grade 6L Mask for 180nm CMOS Technology	156.00 Nos.		-		
7	Grade 6LH Mask for 180nm CMOS Technology	56.00 Nos.		-		
8	Grade 7M mask for 1X mask aligner -	118.00 Nos.		-		
9	Grade 5M mask for 5X projection stepper -	50.00 Nos.		-		
10	Grade 5D mask for 5X projection stepper -	12.00 Nos.		-		
11	Grade 7MX mask for 1X mask aligner -	25.00 Nos.		-		
12	Grade 7Q mask for 1X mask aligner -	20.00 Nos.		-		
13	Grade 7QA mask for 1X mask aligner -	78.00 Nos.		-		
14	Grade 7QX mask for 1X mask aligner - -	10.00 Nos.		-		
15	Grade 7QAX mask for 1X mask aligner -	2.00 Nos.		-		
16	Grade 9QA mask for 1X mask aligner -	3.00 Nos.		-		

17	Grade 9QAX mask for 1X mask aligner -	2.00 Nos.		-		
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