



SOLE SOURCE CERTIFICATE AND POSTING NOTICE

(Greater than \$150,000)

A sole source procurement is when you make a request to purchase product(s) and/or service(s) without competition when competition is otherwise required. This means that product/service is unique and that the supplier is the only supplier that can provide the product or service. In accordance with the authority granted under applicable Florida law and UCF Regulation 7.130, the following documentation is submitted in support of this request.

This form and related documentation shall be submitted through Workday Help using case type Waivers and Sole Source. Please do not attach to a requisition or send via email for review and approval.

WD case subject title should have common structure for easy tracking, to include:

- Exemption type (Sole Source)
- Supplier name
- Purchase amount

The completed sole source must be approved in the following order. **Please be sure to obtain all required signatures before submitting the form to Procurement Services.**

- PI/Researcher/Director/Chair
- President/Vice President/Dean
- Procurement Specialist
- Procurement Services Manager or Associate Director
- Assistant Vice President for Tax, Payables & Procurement, who will review and provide a recommendation to approve or disapprove the sole source to:
- Chief Financial Officer, who will either directly approve or disapprove the sole source, or forward it to the Provost and Executive Vice President for goods/services related to academia for input prior to making the final decision.

Once the completed sole source is received, Procurement Services in collaboration with kNEXT reviews the documentation provided and determines whether the sole source is valid or if there are additional suppliers that may be able to provide the requested product or service. The sole source review and approval process varies based on the nature of the product/service being requested and the information provided in the requestor's justification, among other factors, so please keep this in mind when submitting the form.

Contingent upon the approval of all the officers/individuals listed, the sole source shall be posted on the UCF Procurement Services website for seventy-two (72) hours. Upon expiration of said posting period, Procurement Services will process a purchase order upon receipt of the requisition.

The usual bidding process shall be conducted if sole source approval is not granted.

PART I: DEPARTMENT AND SUPPLIER INFORMATIONDepartment Name: CREOL

Contact & Phone: _____

Product/Service Cost: \$160,000

___ One Time Purchase ___ Term Contract: _____

___ Multiple Purchases ___ Duration: _____

Company Name: Tower SemiconductorEmail: mike.scott@towersemi.comContact Person: Michael ScottTitle: Sr. Director & GM – Aerospace & DefenseProduct and/or Service: IC and photonics foundry**PART II: SOLE SOURCE JUSTIFICATION (see pages 4-5)**

Only justifications submitted on this form and in the below format will be reviewed for approval. All the listed points MUST be fully answered on the following pages and any additional attached pages as needed. Failure to submit justification as outlined in the format below will result in the form being returned without review.

PART III: SOLE SOURCE CERTIFICATIONS

A. In my professional opinion, this is the only product or service that can reasonably meet my requirement(s)/specification(s), and this is the only supplier who can provide the product or service. I further certify that the information contained herein is true and correct to the best of my knowledge and belief and would withstand any audit or supplier protest.

B. I, the undersigned, certify that I and/or the user do not have a financial interest in the above named supplier or contractor, and that I am unaware of any conflict of interest related to this purchase.

Guifang Li Digitally signed by Guifang Li
Date: 2025.09.30 12:02:48
+04'00'

SignatureGuifang Li**Printed Name and Title (PI/Researcher/Director/Chair)**9/30/2025**Date**

David J Hagan Digitally signed by David J
Hagan
Date: 2025.09.30 13:37:43
-04'00'

SignatureDavid Hagan**Printed Name and Title (President/Vice President/Dean)**9/30/25**Date**

(Delegations not allowed; emails from absent approvers are acceptable)

I, the undersigned, hereby concur with the above justification and support a sole source approval for the above product(s) and/or service(s). Approvals may be documented and supported via email.

ch143436 Digitally signed by ch143436
Date: 2025.10.06 16:17:58
-04'00'

SignatureCharles Nicholas**Printed Name and Title (Procurement Specialist)**10/6/2025**Date****Signature**

**Printed Name and Title
(Procurement Services Manager or Associate Director)**

Date**Signature**

**Printed Name and Title
(Asst. Vice President for Tax, Payables & Procurement)**

Date

Signature

Printed Name and Title (Chief Financial Officer)

Date

POSTING NOTICE

10/21/2025 9:00am

Date/Time Posted

10/24/2025

Posting End Date

2602

UCF Control No.

Chuck Nicholas

Procurement Specialist

SOLE SOURCE JUSTIFICATION

Please answer the questions below and attach additional documentation if needed.

1. Describe the product(s) and/or service(s) and anticipated use thereof in layman's language.

We are developing silicon-based photonic circuits that use light to process information. These circuits accelerate AI training and improve the performance of communication systems in data centers and optical networks. Silicon photonics enables scalable, reliable, and robust solutions for next-generation computing and communications.

2. Describe the required specifications or requirements and why are they essential to the accomplishment of your work.

In designing silicon photonic circuits, fabrication resolution directly impacts performance by reducing excess optical loss and improving efficiency in optical computing and communication systems. A foundry that offers higher resolution and more design mask layers enables finer features, lower loss, and the integration of more complex functions within a compact area. Compared to others, TOWER Semiconductor provides clear advantages in scalability, performance, and the ability to realize sophisticated photonic circuits essential for next-generation computing and communication.

Provide the names of other suppliers, products and/or services that you have investigated and explain why they do not meet the required specifications or requirements. It may be helpful to present your information in a table like the one below.

Required Specifications	Tower	AMF	Imec	Supplier 4
Silicon tip with <100 nm	Y	N	N	Y/N
SiN tip with < 100 nm	Y	N	N	Y/N
2 Nitride Layers	Y	N	N	Y/N
3 Metal Layres	Y	N	Y/N	Y/N

3. State in detail why only this and no other product(s)/service(s) will satisfy the department's requirements. Description may include unique features, compatibility, specifications, availability, delivery time frame etc. (For example, please list the features or special conditions that are unique and only available from one supplier. Note: Price is not a valid reason.)

For our application, Tower is the only foundry whose process features align with our performance and integration needs. Its silicon layer resolution of 100 nm outperforms AMF (140 nm) and IMEC (140 nm), enabling lower optical loss and higher efficiency. The first silicon nitride layer also offers finer resolution (100 nm versus 210 nm at AMF), which is essential for minimizing excess loss. Critically, Tower is the only foundry that provides a second silicon nitride layer, allowing for advanced multi-layer photonic designs that are central to our work. In addition, Tower offers three metal layers (compared to two at AMF and IMEC), enabling more compact and complex routing, and uniquely provides two MIM capacitor layers, which are unavailable at the other foundries and necessary for our circuit functionality. These combined features make Tower the only viable option to meet the technical demands of our application.

4. Are there resellers or distributors? If yes, please list names and contact information.

No

5. Will this purchase obligate UCF to this vendor for future purchases such as maintenance, licensing, or continuing need? ☐ Yes ☒ No

If yes, please provide details regarding future obligations and/or needs to include number of years and total spending amount of obligations:

6. What efforts have been made to obtain the best pricing available? Please provide an explanation to support the belief that the price is fair and reasonable.

We wrote a proposal to Tower to obtained educational discount for defense/aerospace-related research. The price quoted is a significant discount from what industry pays.

Date: October 6, 2025

To: Brian Sargent

From: Chuck Nicholas

Subject: Sole Source Request: C0145045 Tower Semiconductor

Amount: \$160,000

Dept. Statement: CREOL is developing new semiconductor photonic circuits and requires the services of an IC foundry¹ to develop the circuitry “masks” that are required to manufacture integrated circuits to their specifications.

Department Requirements: CREOL’s circuit design requires very high resolution and uses multiple mask layers to achieve it’s design performance while minimizing optical loss.

Research Conducted: The researchers received proposals from Tower, AMF and Imec and charted their performance in a four-element matrix:

Required Specifications	Tower	AMF	Imec	Supplier 4
Silicon tip with <100 nm	Y	N	N	Y/N
SiN tip with < 100 nm	Y	N	N	Y/N
2 Nitride Layers	Y	N	N	Y/N
3 Metal Layres	Y	N	Y/N	Y/N

The proposal documents that the competitive offerings only reached 140nm in resolution in the silicon layer. Tower is the only proposal that offers the critical 2 nitride layer, and a 3-layer metal strata that allows a design feature to function properly.

Proposal Analysis: The Tower proposal is \$160K versus AMF at \$340K and the Imec quote of 350 euros (\$410K as of 10/6/25), for an average cost savings of \$143K. A search of GovtSpend failed to return any RFPs or contracts with Tower, AMF or Imec.

Recommendation: CREOL has exacting performance requirements for their new circuit design and the Tower proposal meets all of them, and at a much lower cost. I recommend we approve this waiver request as submitted.

¹. Foundry is the term for a specialized company that manufactures integrated circuits based on designs provided by clients.

May 19, 2025

Guifang Li
CREOL, The College of Optics & Photonics
University of Central Florida
4304 Scorpius St., Orlando, FL 32816
(407) 823-6811 (p) (407) 823-6880 (f)
li@ucf.edu

Quote Reference Number: QA07013

Dear Guifang,

Thank you very much for considering Tower Semiconductor as your foundry of choice. We sincerely appreciate the opportunity to present you with this quote. Tower Semiconductor is proud to offer you our foundry services. Should you have any questions or concerns at any time, please do not hesitate to contact Tower Semiconductor Sales directly.

Note: Please reference this quotation number on your purchase orders.

Process Description:

Process Flow	# of Photo Masks	# of Photo Layers	Fab	Wafer Size	Comment
PH18MA or PH18MX	27/28	28/29	Fab 3	200mm	none

Please refer to Tower eBizz portal, <https://portal.towersemi.com>, for detailed documentations for each Process Flow.

Mask Tooling Charges for a Full Mask-set & Eng Lot wafers

Customer confirms that its adjusted GDSII data will be provided by Tower Semiconductor to a qualified mask supplier, for the purpose of manufacturing the reticles required for photolithography.

Complete Mask Set and Engineering Lot (E-Lot) for each one of three 2025 submissions:

Process Flow	Charge	Invoice Date
NRE - PH18M* Design Service Support	\$140,000	100% on Mock/Initial tape in
10 Wafer E-Lot	\$20,000	Due at lot delivery: \$20,000
Total	\$160,000	

- **NOTE: The above price is for a full mask set and 10 Engineering Lot wafers.**
- **NOTE: A one-time management concession has been applied to the overall charges for the Engineering Lot included in this quote.**
 - **First PO of \$160,000 must be received no later than June 30, 2025.**
 - **Mock/initial tape in must also be received no later than June 30, 2025.**
- **NOTE: This quote is valid for 3 PH18M* tape ins and 10 wafer eng lots in 2025.**
- Mask Charges are subject to local Use/Sales Tax (see Additional Terms of Sales and TS Group Terms and Conditions of Sale attached hereto and incorporated herein)
- For payment terms, please refer to Additional Terms of Sales section.
- Single ITAR mask replacement: \$8,584 per mask (plus tax).
- For current mask lead-times, please contact your Customer Solutions Account Manager. Lead time is considered after approved GDS data file has been sent to mask shop.
- Mask expedite options and pricing: It is essential to have first 3 masks on site in order to start processing a prototype lot. A limited number of expedited delivery options may be available. Please note that the pricing of mask expedite options may change depending on mask vendor requirements. We highly recommend you to work with your Customer Solutions Account Manager to discuss availability and latest pricing of such expedite options.
 - Option 1: Pricing: 40% premium for a standard expedite. Premium applies to just those masks requiring expedite
 - Option 2: Pricing: 75% premium for a super hot expedite. Premium applies to just those masks requiring expedite

Prototype Lot / Engineering Wafers (ELOT):

- Prototype lot is mandatory for any new tape out.
- Lot Charges are subject to Sales or UseTax (see Terms and Conditions below)
- Fab 3 Minimum Lot Start size is 10 Wafers. Lot Start size may be increased in increments of 5 with the Lot and Expedite charges increasing proportionately.
- Lot pricing includes ability to split and hold wafers prior to metallization (hold quantity must be in increments of 5 wafers.
 - Remaining wafers may be held in the manufacturing line for up to 120 days
 - This split and hold activity is performed without any additional fee.
- Standard Corner Splits are allowed on Prototype/ELOTS. However, it should be noted that Superhot priority expedites are not available for lots involving process splits (e.g. Corner splits).
- An additional NRE may be charged based on any special engineering work needed or non-standard splits requested.
- Prototype/ELOT wafers are governed under the same cycle time of production wafers.

- Prototype/ELOT wafers may be expedited to SUPERHOT/HOT priority level upon availability as defined in the below pricing table.
- Expedite Lot Charge -- please show as a separate line item on Purchase Order -- 100% billed on first wafer shipment independent of splits and lot yield.
- Please take into consideration that priority allocation is very limited and dependent on the FABs available slots. Priority is not guaranteed and will be considered only at the time of the lot start.
- Held wafers originally started as part of a Priority lot, when restarted, will not receive Priority Lot status. An expedite may be requested for held wafers. Price will be determined and quoted at the time of the request.
- Final commit date for held wafers will be made at time lot is restarted.
- Tower Semiconductor will invoice a full Lot charge with shipment of the first split.
- Tower Semiconductor guarantees delivery of at least 80% of the wafers started in the lot. For example, minimum of 8 wafers will be delivered if 10 Wafer Lot Start is purchased. A prorated amount will be credited per wafer in the rare event that less than 80% of the wafer lot is shipped.
- Wafer acceptance criteria will be based on the Tower Semiconductor PCM (Process Control Monitor) specification.
- Price does not include wafer back grind, dicing or probe.
- Optical PCM testing, if available and requested, will take additional time. Please contact your account manager for the lead time.

Priority	Price
HOT	50% premium over lot price
SUPERHOT	100% premium over lot price

Optical Test Services:

- \$300/hr Engineering
- \$250/hr Equipment – this may increase if additional capital equipment investment is required.
- \$550/hr Engineer using equipment.
- A separate quotation will be provided upon request for test program development NRE and necessary consumables, if applicable (probe card, any special accessories etc.)

Automotive Manufacturing:

In regard with manufacturing automotive products, there is a 15% adder to the wafer prices listed above. Customer must add a clear note at PO that the product is rated as Automotive.

Additional Terms of Sales:

These additional terms of sales apply to Tower Semiconductor Ltd. and its affiliates (collectively "TS Group").
Tower Semiconductor shall be in compliance with ITAR.

IP Charges:

This quote does not cover any licenses to any third-party software or IPs.

IP Declaration Form:

Customer shall mark and sign a written description of any use in its product design(s) of any IP, listed in TS Group IP declaration form, which shall be made available to Customer on the Customer support website (eBizz) during the tape out process.

KYC / Credit application form

Acceptance of PO is subject to TS Group's approval of customer's KYC (credit application) form and a written purchase order acknowledgement (POA) issued by TS Group Customer Support team.

Validity:

This quotation is valid for 365 days, unless terminated earlier in written by TS Group.

Shipping terms are Ex Works (as defined in INCOTERMS 2020) from TS Group's production facility, and FCA (INCOTERMS 2020) from Italy facility.

Payment terms:

All payments are due in full within thirty (36) days (Net36) of TS Group invoice date, as a default, unless otherwise defined by TS Group

All payments shall be in US dollars and shall be electronically transferred to a bank of TS Group's choice.

Taxes:

All prices exclude all types of taxes.

The applicable sales tax will be separately itemized on TS Group's invoice.

Address for POs' submission:

1. Orders for FAB-3 shall be issued to Tower Semiconductor Newport Beach, Inc., 4321 Jamboree Road, Newport Beach, CA 92660, USA, to PONPB@Towersemi.com.

Anti-Fraud procedure

Due to the risk of cyber frauds that are being perpetrated on a regular basis around the world, we would like to remind you that any official changes to instructions about remittance to our company shall always be accompanied by an applicable formal letter from the bank indicating the details of TS Group new account. Furthermore, in any case of change to bank details, please call our Accounts Receivable and/or Customer Solutions representative to verbally verify the requested changes.

The Terms and Conditions

THE STANDARD TS GROUP TERMS AND CONDITIONS, WHICH ARE ATTACHED, SHALL APPLY TO THIS QUOTATION. BY PLACING A PURCHASE ORDER WITH TS GROUP, THE CUSTOMER HAS ACCEPTED ALL TERMS AND CONDITIONS ATTACHED AND STATED HEREIN. NO NEW TERMS AND CONDITIONS FROM EITHER TS GROUP OR THE CUSTOMER INCLUDING TERMS AND CONDITIONS FROM THE CUSTOMER'S PURCHASE ORDER WILL BE ACCEPTED WITHOUT WRITTEN CONSENT FROM BOTH PARTIES

GOVERNMENT CONTRACT PROVISIONS AND CLAUSES: In the event any material purchased hereunder is incorporated into a product sold under a United States Government Contract, the Government clauses required to be passed on to the Seller are not accepted. Except as otherwise provided in writing, Seller's commercial terms in lieu of any government subcontract requirements shall apply.

These commodities, technology, or software were exported from United States in accordance with Export Administration Regulations. Diversion contrary to U.S. law prohibited.

They may not be shipped to any/of the following destinations without authorization: Cuba, Iran, Iraq, Libya, North Korea, Sudan or any country to which shipment is prohibited: nor to end-use(r)s involved in chemical, biological, nuclear, or weapons activity.

These items are controlled by the U.S. government and authorized for export only to the country of ultimate destination for use by the ultimate consignee or end-user(s) herein identified. They may not be resold, transferred, or otherwise disposed of, to any other country or to any person other than the authorized ultimate consignee or end-user(s), either in their original form or after being incorporated into other items, without first obtaining approval from the U.S. government or as otherwise authorized by U.S. law and regulations.

The offeror has completed the annual representations and certifications electronically via the federal government's System for Award Management (SAM) at <http://www.sam.gov>. (DUNS number 133259890, Cage Code 4DSX7).

Tower Semiconductor will provide on request a "Suppliers Assertion of Commerciality" –supporting a determination that this quotation is commercial as defined in FAR 2.101.

Sincerely,

Matt Shreve
Sr. Director – Tower Semiconductor Aerospace and Defense
Tower Semiconductor
4321 Jamboree Road
Newport Beach, CA 92660

TS GROUP
TERMS AND CONDITIONS OF SALE

1. **SCOPE.** These Terms and Conditions of Sale (these "Terms") apply to all quotations, offers, agreements and other documents ("Quote(s)") made by Tower Semiconductor Ltd. ("Tower") and its affiliates, (referred to herein separately and collectively as "TS Group") and all purchase orders ("PO(s)"), agreements and other documents accepted by Tower Group for the manufacture and sale of wafers, dies and other products and any services provided by TS Group (collectively, the "Products") to a TS Group customer ("Customer"). The obligations and warranties under these Terms are provided solely by the entity that manufactured the Products (i.e. Tower, Tower NPB, TPSCo, Tower SA, or any of their affiliates). In the event that more than one of the aforementioned entities manufactured a portion of any Product(s), each entity separately shall be responsible solely for the portion of the Product that it manufactured.

These Terms supersede and replace in their entirety all of the terms and conditions of any POs and other procurement documents issued by a Customer (whether provided by Customer prior or subsequent to delivery of these Terms), if any, to the extent inconsistent with these Terms and to the extent any such terms and conditions place additional burdens or obligations on TS Group. TS Group's acceptance of Customer's PO is expressly conditioned upon Customer's acceptance of these Terms, whether by Customer's written acknowledgment, by implication, or by Customer's acceptance of or payment for Products. TS Group's failure to object to conflicting terms and conditions affixed to any PO or other communication from Customer shall not be deemed a waiver of these Terms. To be effective, any addition, deletion or modification of these Terms (including, but not limited to, any non-warranty wafer acceptance criteria, such as defect density, yield or non-standard PCM) must be agreed to in a separate writing signed by an authorized corporate officer of TS Group and Customer. To the extent Products consist of or include software in any form not provided by Customer to TS Group, including without limitation as embedded in firmware, such software is not sold to Customer, but licensed on a non-exclusive basis in the unmodified form delivered to Customer for use integrally with the associated Products, only. All references to "sell", "purchase" or similar terms herein, when applied to such software, shall be deemed to mean such limited, non-exclusive license to use the software only with the relevant Product. Topics such as wafer price, cycle time, order procedures, tape-out procedures, pilot runs, hot lots, production runs, Process Change Notice (PCN) procedures, reliability, quality and return material authorization procedures (RMA) may be addressed in TS Group's Quote(s) submitted to the Customer or the area of TS Group's web site made available specifically for Customer on a password-protected basis (the "Customer support website").

2. **ACCEPTANCE OF POs; DELIVERY.** POs from Customer shall be in writing and shall include (a) quantity ordered; (b) TS Group approved price and reference to TS Group's price Quote number, if applicable (c) requested delivery date ("CRD") (if the CRD is missing the order may be processed in accordance with the average then current lead-time) and (d) requested shipment destination. Only the POs that TS Group accepts and confirms in writing (including by e-mail) to Customer shall bind TS Group. TS Group is under no obligation to accept POs from Customer. Accepted POs shall constitute binding contracts that incorporate only these Terms, unless additional terms are agreed in writing and executed by an authorized representative of TS Group. All POs must be for the minimum quantity specified to Customer by TS Group in the quotation then in effect. Subject to section 19 below, delivery dates under accepted POs may not be rescheduled and accepted POs may not be cancelled. TS Group will make reasonable efforts to advance or meet Customer's requested delivery dates as set forth in the PO but shall assume no liability for late shipments. In the case of any constraints in manufacturing capacity, TS Group may in its sole discretion allocate capacity among TS Group's customers, including Customer. TS Group reserves the right to make deliveries of Products in installments or partial deliveries and these Terms shall apply to all such installments and partial deliveries. Delivery delay or default with respect to any installment shall not relieve Customer of its obligation to accept and pay for remaining deliveries of Products. Customer acknowledges that TS Group may run additional wafers in order to ensure that wafers ordered by the Customer in its PO may be delivered and Customer agrees to pay for such additional wafers.

3. **LIMITED WARRANTY; CONFORMITY OF PRODUCTS.**

- 3.1. **LIMITED WARRANTY.** Subject to these Terms, including without limitation, the procedures, acknowledgments, representations, limitations, indemnity obligations and exclusions set forth in this Section 3, TS Group warrants that, for a period of one (1) year from date of delivery to Customer, Products delivered after initial qualification and

customer approval to release to production, as represented by a PO or otherwise, are processed in material conformity with TS Group's applicable process specifications in accordance with TS Group's manufacturing procedures, solely as measured by conformance with TS Group's electrical test specifications (the "Limited Warranty").

- 3.2. **LIMITATIONS AND EXCLUSIONS.** The Limited Warranty extends to Customer only, as the original purchaser from TS Group. Customer may not transfer this warranty to any third party, and TS Group shall have no obligation to accept warranty claims or returns directly from Customer's customers or any other users of Customer's products. The Limited Warranty does not apply to: (a) any Products that have been subject to abnormal physical, thermal or electrical stress, abuse, misuse, neglect, negligence or accident, or which have been altered; (b) non-conformities that result from (i) Customer's design or process, (ii) improper handling or storage during or after shipment (i.e. not in compliance with the instructions provided by TS Group on the package label or otherwise); (iii) improper packaging or testing procedures not previously agreed in writing by TS Group, (iv) packaging or testing performed by someone other than TS Group, (v) improper installation, operation or use, (vi) use in conditions outside specification, or (vii) unauthorized repair or alteration by someone other than TS Group; (c) any Products provided by TS Group as, or that are intended to be, test chips, prototypes, risk production or engineering products (all of which are provided "AS IS" without warranty of any kind); (d) any Products used in unauthorized or improper applications or contrary to any instructions given by TS Group; or (e) any defects or claims caused by (i) acts not performed by TS Group, (ii) acts or omissions of Customer or third-party or (iii) by combination of any Product with another product.
- 3.3. **PROCEDURES.** Customer shall inform TS Group of any discrepancies regarding quantity or type of products existing at delivery, within thirty (30) days following each delivery of Products. TS Group shall not be responsible for any claims made relating to quantity and type of products after such 30-day period. Customer may not reject Products unless the Products fail to conform to the Limited Warranty within (1) year from date of delivery. If Customer believes that Products do not conform to the Limited Warranty, Customer shall promptly notify TS Group in writing, specifying in detail the alleged non-compliance and, at TS Group's request, return the Products freight prepaid to TS Group's designated location or allow TS Group to inspect the Products at Customer's facilities. To return non-conforming Products, Customer must request and obtain a return material authorization ("RMA") from TS Group. In no case, shall TS Group be obligated to accept returned Products without an RMA. All Products for which refund and/or replacement is sought and all returns shall be handled pursuant to TS Group's then-current return policy and procedures. Customer shall bear all risk of loss, damage, and destruction to the Products rejected by Customer until the Products are received by TS Group. TS Group shall retest the Products and, to the extent TS Group reasonably determines that any Products fail to meet the Limited Warranty, TS Group shall, at TS Group's sole discretion, and as TS Group's sole obligation and Customer's sole remedy for non-conforming Products, either credit Customer for the price of the Products or replace the Products with conforming Products. The parties will discuss in good faith which of these two remedies is the most appropriate; provided, however, that if they cannot agree, TS Group may choose in its sole discretion between these two available remedies.
- 3.4. **CUSTOMER ACKNOWLEDGMENTS AND REPRESENTATIONS.** Customer acknowledges that the functionality of Products is contingent upon Customer's design, packaging and testing, and therefore that no warranty applies to the functionality of Products manufactured for, or sold to, Customer. Customer is not relying on any statements or information in TS Group's sales or marketing literature and Customer shall test all parts and applications under extended field and laboratory conditions as appropriate. Notwithstanding any cross-reference or statements of compatibility, functionality, interchangeability or the like, Products, embedded devices and processes may differ from similar products, devices and processes manufactured by other vendors in performance, function or operation, or with respect to certain matters, ranges and conditions, whether or not stated in TS Group's written specifications; Customer acknowledges and agrees that TS Group makes no warranties with respect to such compatibility, functionality or interchangeability.
- 3.5. **INTELLECTUAL PROPERTY COMPONENTS.** TS Group makes no warranty related to any reusable semiconductor intellectual property components used in Products ("IP"), including without limitation those listed in TS Group's IP catalog, any blocks, libraries, tools, and documentation therefor, whether licensed to Customer by TS Group or by the individual IP vendors. Customer represents that: (i) it is not relying on any statements or information

provided by TS Group in connection with such IP, (ii) Customer shall fully verify that all IP is appropriate for the Products and compatible with and suitable for Customer's intended purpose and applications.

- 3.6. SOLE AND EXCLUSIVE WARRANTY; EXCLUSIONS OF WARRANTIES. THE LIMITED WARRANTY IS THE SOLE AND EXCLUSIVE WARRANTY BY OR ON BEHALF OF TS GROUP, ITS AFFILIATES AND SUPPLIERS, AND IS PROVIDED IN LIEU OF ANY AND ALL OTHER WARRANTIES, WHETHER EXPRESS, IMPLIED OR STATUTORY, INCLUDING WITHOUT LIMITATION ANY IMPLIED WARRANTIES OF MERCHANTABILITY, FITNESS FOR A PARTICULAR PURPOSE OR APPLICATION, NON-INFRINGEMENT OR QUIET ENJOYMENT.
- 3.7. NO MODIFICATION AND CUSTOMER INDEMNITY FOR ADDITIONAL WARRANTY. The foregoing Limited Warranty may not be modified or amended except in a writing signed by an authorized officer of TS Group and by Customer. Customer is not relying upon any other warranty or representation. Customer shall indemnify, defend and hold TS Group (including without limitation its employees, agents, affiliates and suppliers) harmless from and against any and all loss, costs (including without limitation attorneys' fees and costs), expenses, liabilities and damages arising out of or related to any other warranty claims, regardless of whether such claims were put forth by Customer, Customer's customers or by any third party.
4. PAYMENT. Pricing, sales, delivery and the related respective obligations of Customer and TS Group are Ex Works (as defined in INCOTERMS 2020) TS Group's production or warehouse facility from which the relevant Products are first delivered to a carrier for shipment to Customer. Unless specific shipping instructions and designated carrier have been agreed upon in writing by TS Group and Customer, TS Group may exercise its discretion as to choice of carrier. Each delivery of Products shall be considered a separate and independent transaction for which payment is required to be made. All payments shall be in United States dollars and shall be electronically transferred to a bank or other financial institution of TS Group's choice. All payments are due in full within thirty (30) days of invoice, except as otherwise provided herein. Unless expressly waived by TS Group, late payments shall be subject to a late payment charge calculated from the due date until paid at (i) the three months LIBOR rate (as it may vary from time to time) plus two percent; or (ii) the maximum rate allowed by applicable law, whichever is less. If Customer does not make payment in accordance with the terms of payment specified, TS Group may at its option (i) cancel any outstanding PO(s) and/or (ii) refuse to perform further under these Terms unless Customer shall immediately pay for all Products which have been delivered and pay in advance for all Products to be delivered. The Customer is not entitled to withhold payment. A set-off shall be limited to counterclaims, which are accepted by TS Group or confirmed by a final court decision. If TS Group determines that it is necessary to bring legal action to collect delinquent accounts, Customer shall pay or reimburse TS Group for the reasonable costs of suit, collection and attorney's fees. In addition, in the sole discretion of TS Group based on the financial condition of Customer or any default by Customer, TS Group may require different terms of payment or credit as a condition of accepting a PO, cancel or reduce outstanding orders, deliver on a C.O.D. basis and/or require Customer to post a letter of credit, bank guarantee or other security. TS Group hereby reserves and Customer hereby grants to TS Group, a purchase money security interest in the Products and the proceeds thereof, including, without limitation, accounts receivable, until Customer has paid in full the purchase price (and all other amounts due hereunder) for the Products. Customer agrees to execute any financing statements, continuation statements and other documents as TS Group requests to maintain and protect TS Group's security interest. In addition, Customer hereby appoints TS Group as its agent and attorney-in-fact to execute any such financing statements under the Uniform Commercial Code and any appropriate amendments thereto on Customer's behalf which TS Group deems necessary to protect TS Group's interest in the Products.
5. TAXES. All quoted prices are exclusive of and shall be paid by Customer free and clear of all taxes, deductions, withholdings and governmental charges applicable to the manufacture, storage, use, sale and delivery of any Products (except taxes on TS Group's net income), including without limitation any present or future sales or use tax; revenue, gross-basis or value-added tax; withholding tax on payments internationally; and import duty (including without limitation brokerage fees). If a tax, deduction, withholding or governmental charge is required by law, Customer shall pay such amount to TS Group in addition to the quoted prices, to ensure that the amount received by TS Group net of such amount is equal to the amount it would have received had no such tax, deduction, withholding or charge been made. Additionally, in the event TS Group is required by applicable law to collect and remit any such amount to the relevant authorities, the

Customer shall immediately reimburse TS Group upon TS Group's delivery of an invoice to the Customer for such payment made by TS Group to the relevant authority.

6. EXCLUSION AND LIMITATION OF DAMAGES.

6.1. EXCLUSION OF DAMAGES. IN NO EVENT ARISING OUT OF OR RELATED TO THESE TERMS, THE MANUFACTURE, STORAGE, SALE, DELIVERY OR USE OF ANY PRODUCTS OR ANY TRANSACTION OR SERIES OF TRANSACTIONS BETWEEN CUSTOMER AND TS GROUP, SHALL TS GROUP BE LIABLE FOR (I) COST OF SUBSTITUTE PRODUCTS, OR (II) ANY SPECIAL, INDIRECT, INCIDENTAL, EXEMPLARY, PUNITIVE OR CONSEQUENTIAL DAMAGES OF ANY KIND (INCLUDING WITHOUT LIMITATION LOST PROFITS, LOST REVENUES AND LOSS OF USE, OPPORTUNITY, MARKET POTENTIAL AND GOODWILL), EVEN IF TS GROUP HAS BEEN ADVISED OF THE POSSIBILITY OF SUCH COSTS OR DAMAGES AND REGARDLESS OF THE LEGAL THEORY UNDERLYING ANY ASSERTION OF SUCH LIABILITY.

6.2. LIMIT ON TOTAL LIABILITY. TS GROUP'S TOTAL LIABILITY FOR ALL CLAIMS ARISING OUT OF OR RELATED TO THESE TERMS, THE MANUFACTURE, SALE, STORAGE, DELIVERY OR USE OF ANY PRODUCTS OR ANY TRANSACTION OR SERIES OF TRANSACTIONS BETWEEN CUSTOMER AND TS GROUP, REGARDLESS OF THE LEGAL THEORY UNDERLYING SUCH CLAIMS, SHALL BE LIMITED TO REFUND OF THE PURCHASE PRICE OR REPLACEMENT OF ANY PURCHASED PRODUCTS (RETURNED TO TS GROUP FREIGHT PREPAID) TO WHICH SUCH CLAIMS RELATE. NOTWITHSTANDING THE ABOVE, IN NO EVENT SHALL TS GROUP'S AGGREGATE LIABILITY EXCEED THE LESSER OF (A) TOTAL AMOUNT ACTUALLY PAID TO TS GROUP BY CUSTOMER FOR PRODUCTS PURCHASED UNDER THE RELEVANT PURCHASE ORDER DURING THE SIX (6) MONTHS PRECEDING THE DATE SUCH LIABILITY ARISES OR (B) ONE (1) MILLION USD.

6.3. NRE; PROTOTYPE, RISK PRODUCTION AND OTHER START-UP COSTS. In the event TS Group charges and Customer pays non-recurring engineering fees ("NRE") in consideration of TS Group's efforts to develop test, prototype or risk production chips ("Prototypes"), TS Group agrees to make commercially reasonable efforts to develop such Prototypes, subject to these Terms, including without limitation the ownership provisions and covenants set forth in Section 9; provided, however, that all Prototypes are developed and provided strictly "as is," with no warranties, either expressed or implied, including without limitation any implied warranties of merchantability, non-infringement and fitness for use, and, notwithstanding anything to the contrary in these Terms, TS Group shall have no liability of any kind relating to the development, failure to develop, functionality, lack of functionality, or performance of any Prototype.

7. LIMITATIONS, DISCLAIMERS AND INDEMNITY. Customer acknowledges and agrees that the Products are not authorized, designed, or intended for use that involves fatal risks or dangers that could lead directly to death, personal injury, severe physical damage, or other significant loss ("Safety Critical Use"). Safety Critical Use includes but is not limited to use in chemical, biological or nuclear activity or equipment, aircraft flight control systems, air traffic control systems, aviation, weaponry, mass transport control systems, military applications, life support or life critical medical devices or systems, including but not limited to use in any surgical implant into the human body. Customer shall not use Products for Safety Critical Use, except with TS Group's written approval. In addition, TS Group shall not be liable to Customer and/or any third party for any claims or damages arising out of or in connection with Safety Critical Use of the Products. Customer shall indemnify, defend and hold TS Group (including its employees, agents and affiliates) harmless from and against any and all loss, cost, expense (including, without limitation, attorneys' fees and costs), liabilities or damages associated with any claims, actions or proceedings brought against TS Group related in any way to such use of Products.

8. **CUSTOMER'S PRODUCTS AND INDEMNITY.** Notwithstanding anything else herein, and except for TS Group's obligations under the Limited Warranty, Customer acknowledges and agrees that it takes full responsibility to test, support and commercialize its products. Customer agrees to indemnify, defend and hold TS Group, its employees, agents, suppliers and affiliates, harmless from and against any and all loss, costs (including, without limitation, attorneys' fees and costs), expenses, liability or damages related to any claims, actions or proceedings brought by third parties related to or arising out of the sale, distribution or use by Customer or third parties of Products, or Customer's products that incorporate Products, whether based in contract, tort, products liability or otherwise.
9. **INTELLECTUAL PROPERTY.** All patent rights, copyrights, trademarks, service marks, trade names, trade dress, designs, mask works, trade secrets, know-how, ideas, proprietary information, confidential information, inventions, technical data, and other information or materials commonly recognized as intellectual property in the semiconductor industry (collectively, "Intellectual Property Rights") owned by either TS Group or Customer (or their respective licensors) will continue to be owned by such parties, and no license is granted herein, except that Customer grants to TS Group, under all Intellectual Property Rights with respect to which Customer can grant a license or sublicense, all rights necessary for TS Group to manufacture the Products for, and sell the Products to, Customer. For absence of doubt and regardless of anything to the contrary, all processes, recipes and manufacturing, fabrication, assembly and test techniques, together with all related improvements ("Process Technology") provided and/or developed by or on behalf of TS Group shall be wholly owned by and the property of TS Group, and TS Group shall not be limited or restricted by these Terms with respect to any Process Technology unless clearly stated to the contrary in a written agreement signed by an officer of TS Group identifying the specific information in precise detail. Customer shall provide to TS Group a full and accurate written description of any use in its Product design(s) of any IP (as defined in Section 3.5 of these Terms) listed in TS Group's IP declaration form, which shall be made available to Customer on the Customer support website. As between the parties, all mask sets, processing information and any Intellectual Property Rights used by (except for those Customer rights licensed by Customer to TS Group under the first sentence of this Section 9) or developed by or for TS Group in TS Group's performance hereunder shall be and remain the sole property of TS Group. Notwithstanding the provisions of the previous sentence, TS Group agrees that it will not use mask sets developed for Customer to make products for any other TS Group customer. TS Group may, in its sole discretion, elect to charge Customer for storage of any mask or mask set developed for Customer that has not been used to fabricate products for at least twelve (12) months, or, alternatively, may elect to destroy such mask or mask set after providing Customer with sixty (60) days' notice of TS Group's requirement of storage fees with respect to such mask or mask set and Customer's failure to pay such fees within such time. Customer's use of any design tools, libraries or IP provided by TS Group may require a separate license agreement with TS Group or its licensor(s).
10. **CONFIDENTIAL INFORMATION.** All prices and terms quoted by TS Group shall constitute Confidential Information of TS Group and all chip design databases provided to TS Group by Customer and masks developed for Customer's Products shall constitute Confidential Information of Customer. Notwithstanding anything in these Terms or any other agreement between Customer and TS Group: (i) TS Group may provide Customer's chip design database(s), in original or modified form and format, to a third-party mask shop for mask making subject to a written non-disclosure obligation between TS Group and such mask shop, (ii) TS Group may provide Multi Project Wafers (MPWs) to subcontractors for the purpose of providing services to any customer that has dies on the MPW (iii) if, under the terms of any development or license agreement by which any third party has developed any products or licensed to TS Group any rights required in order for TS Group to manufacture Products for Customer, TS Group is required to provide production or other information (including without limitation information regarding specific IP (as defined in Section 3.5 of these Terms) used in the Customer's chip design) for the purposes of complying with TS Group's obligations to such third party under such agreement, Customer authorizes TS Group to make such disclosure, so long as the information so disclosed is subject to a written non-disclosure obligation between TS Group and such developer or licensor.

10.1. No Reverse Engineering

Customer agrees that it will not reverse engineer, translate, or create derivative works from any of the Products or from any of the IPs provided by TS Group or derive, attempt to derive or direct others to derive the physical structure or the technical properties of any Product or IP.

However, performing limited physical failure analysis (such as cross-sections, delayering, SEM top view), solely for the purpose of process and yield improvement is permitted.

11. INFRINGEMENT. The parties agree to cooperate with respect to any third-party claim of Intellectual Property Rights infringement against Customer or TS Group with respect to any Products. For absence of doubt, TS GROUP DISCLAIMS ANY WARRANTY OF NON-INFRINGEMENT, AND THE PARTIES AGREE THAT TS GROUP SHALL HAVE NO LIABILITY AND NO OBLIGATION OF DEFENSE OR INDEMNITY OF CUSTOMER OR ITS CUSTOMERS WITH RESPECT TO ANY ACTUAL OR ALLEGED INTELLECTUAL PROPERTY INFRINGEMENT RELATING TO ANY PRODUCTS. Customer represents and warrants that TS Group's production and sale of Products under these Terms pursuant to Customer's specification and/or designs shall not misappropriate or infringe any Intellectual Property Right of any third party. Customer agrees to indemnify, defend and hold TS Group (including without limitation its employees, agents and affiliates) harmless from and against any and all losses, costs, expenses (including, without limitation, attorneys' fees and costs), liabilities or damages associated with any claims, actions or proceedings brought against TS Group arising in relation to TS Group's production of any Products pursuant to and in compliance with Customer's design, instruction or specification with respect to such Products under these Terms, including without limitation any third party claims for Intellectual Property Rights infringement. In the event TS Group receives a well-founded claim or evidence that Customer has or is likely to become a party to any infringement or misappropriation action or dispute, TS Group may, at its sole discretion, immediately terminate or suspend performance. THIS SECTION 11 STATES THE ENTIRE OBLIGATION AND LIABILITY OF CUSTOMER TO TS GROUP AND OF TS GROUP TO CUSTOMER FOR INFRINGEMENT OF INTELLECTUAL PROPERTY RIGHTS THROUGHOUT THE WORLD, IS EXPRESSLY SUBJECT TO SECTION 6 (EXCLUSION AND LIMITATION OF DAMAGES) AND IS STATED IN LIEU OF ANY OTHER EXPRESS, IMPLIED, OR STATUTORY WARRANTY AGAINST INFRINGEMENT OF INTELLECTUAL PROPERTY RIGHTS.
12. COMPLIANCE WITH LAWS AND EXPORT CONTROL. The Products and related technical data may be subject to export controls under the laws and regulations of the United States, Israel, Japan and other countries. Customer agrees that it shall comply with all applicable laws and regulations in connection with any technical data provided or disclosed to Customer and in connection with the purchase, use, distribution or sale of the Products, including without limitation the U.S., Israel and Japan export laws and all relevant laws of any other applicable jurisdictions. Customer agrees to provide TS Group with accurate and complete export classification and end-use information, and to allow the provision of such information, including CI, to the applicable export control regulator(s), including use thereof during the export license process. TS Group's manufacture, sale and delivery obligations shall become effective only if and when all necessary permits or licenses required for export of the Products or other performance required hereunder shall have been obtained. In order to avoid doubt, in the event that export of the Products or related technical data contemplated under any Quote(s) issued by TS Group prompts any trade sanctions and/or export control obstacle or barrier, the relevant Quote(s) is deemed cancelled immediately and TS Group shall not assume any liability with regard thereto.
13. ANTI-CORRUPTION
Each party hereto agrees to comply, and to cause its affiliates to comply, with the U.S. Foreign Corrupt Practices Act (FCPA) and any other applicable anti-corruption laws.
Each party hereto represents, warrants, and covenants that it has not and will not make or offer any payments to, or confer or offer any benefit upon any third party, including any person or firm employed by or on behalf of any governmental entity, government official or employee, political party, employee of any political party, or political candidate with the intent to influence the conduct of such third party in any manner relating to the subject of these Terms. Each party hereto shall immediately notify the other party if such party has any knowledge or suspicion that there may be a violation of the FCPA or any other anti-corruption law in connection with the performance of these Terms.
Any breach of the foregoing obligations, in whole or in part, shall be considered a fundamental breach of these Terms and the Quote and shall provide the other party with the right to terminate their engagement hereunder immediately, without assuming any liability with regard thereto.
14. GOVERNMENT CONTRACT PROVISIONS AND CLAUSES. In the event any material purchased hereunder is incorporated into a product sold under a United States Government Contract, the Government clauses required to be passed on to TS Group are not accepted. Except as otherwise provided in writing, TS Group's commercial terms in lieu of any government subcontract requirements shall apply.

15. **USE OF TRADEMARKS.** Any use by Customer or its customers or its other licensees of TS Group trademarks, trade names or product names is expressly prohibited without a separate written agreement with TS Group.
16. **FORCE MAJEURE.** Except for Customer's obligation to pay amounts due under these Terms, neither party shall be responsible for any loss, damage or claim resulting from any delay or failure to perform under these Terms or Quote due to causes beyond its reasonable control, including but not limited to acts of God, war, threat of war, warlike conditions, riot, sabotage, acts of terrorism, insurrections, hostilities, looting, governmental orders or restrictions, embargoes, sanctions, acts of civil or military authorities, fire, floods, earthquakes, pandemics, epidemics or quarantines, other natural disasters, unusually severe weather, accidents, outages of electrical power, strikes or shortages of transportation, facilities, fuel, energy, labor or materials, or inability to secure necessary parts or materials. In the event of any such delay, the anticipated delivery dates for Products shall be deemed extended for a period of time equal to the time lost due to any delay excusable under this provision. TS Group shall also be entitled to an extension of time for other commercially reasonable delays.
17. **APPLICABLE LAW; CHOICE OF VENUE.** Recognizing that the market for semiconductors and their fabrication is a world-wide market, that TS Group has affiliates in California, and that at least some of Customer's potential market for its products is in California, whether or not Customer or its affiliates are located in California, the parties agree that: (i) these Terms shall be governed by and construed under the substantive laws of the State of California without giving effect to its provisions regarding conflicts of laws; (ii) the application of the United Nations Convention on Contracts for the International Sale of Goods is expressly excluded in its entirety from application to these Terms; and (iii) any dispute between Customer and TS Group arising out of or related to: (a) these Terms, (b) the manufacture, distribution, sale or use of Products, or (c) any transaction or series of transactions between Customer and TS Group, shall be resolved only in a state court sitting in Santa Clara County, California or in a United States District Court sitting in the Northern District of California, and in no other venue. With respect to any such proceeding, the parties waive any and all rights to a jury trial on any issue, Customer irrevocably submits itself to the personal jurisdiction of such state and federal courts, and Customer irrevocably waives any objection to any such venue.
18. **BREACH.** If Customer is in breach of its obligations under these Terms or Quote or agreement and fails to cure such breach within seven (7) days following notice thereof from TS Group, TS Group may, at its option, suspend TS Group's further performance, terminate agreement, quote and all POs as to any undelivered portion or continue to perform. In each case, however, Customer shall remain liable for all unpaid amounts due to TS Group and shall reimburse TS Group for all damages suffered or incurred by TS Group as a result of Customer's breach. The remedies provided herein shall be in addition to all other legal rights and remedies available to TS Group.
19. **CANCELLATION**
- 19.1. **CANCELLATION BEFORE PROCESS START:** Customer may request to cancel an order hereunder in whole or in part, before the start date of processing of wafers, by written notice to TS Group. TS Group shall, in its sole discretion, approve or reject such request. If approved by TS Group, Customer will pay as cancellation charges, 100% of the cost of any unique materials procured especially for the Customer or pursuant to Customer's specifications.
- 19.2. **CANCELLATION AFTER PROCESS START:** Customer may request to cancel an order hereunder in whole or in part, after the start date of processing of wafers, by written notice to TS Group. TS Group shall, in its sole discretion, approve or reject such request. If approved, TS Group will scrap the cancelled wafers. In the event of such cancellation, Customer will pay charges based on the point of cancellation in the manufacturing process (the "Cancellation Charges"). The charges will be calculated on a lot-by-lot basis in accordance with the following formula.

Cost of Starting Material + {(Wafer price - Cost of Starting Material) / number of photo layers} * number of photo layers the lot passed

In addition, should Customer cancel an order hereunder with respect to any product, a higher unit price may be applied retroactively in accordance with the applicable price for the quantity of wafers actually purchased. The difference between the total price due and the total price paid will be invoiced by TS Group and paid by Customer in accordance with these terms and conditions above.

19.3. RESCHEDULING OR HOLD OF PRODUCTION WAFERS: Unless by separate written agreement between the Customer and TS Group, suspension of processing production wafers or re-schedule of the delivery of Products to be furnished hereunder after TS Group's order acceptance is prohibited. However, customer may hold production wafers in line up to 3 months due to significant engineering problems. The Customer must immediately notify TS Group in writing regarding all production wafers for which processing was suspended, whether to: (i) process the wafers to completion; or (ii) scrap in place (the Cancellation Charges will be calculated as per Section 19.2 above). In the event no instruction is provided by the Customer, TS Group shall scrap the wafers at the end of such 3 months period and invoice the Customer the Cancellation Charges.

19.4. HOLD LOT POLICY FOR ENGINEERING (NON-PRODUCTION) WAFERS: With respect to any engineering lots for which processing is suspended, TS Group will invoice Customer for one hundred percent (100%) of the price of any such engineering lot upon delivery of the first wafers from the lot or thirty (30) days from the Customer suspension date, whichever comes first. Not later than one hundred twenty (120) days from the Customer suspension date, Customer must notify TS Group in writing, regarding all engineering lots for which processing was suspended, whether to: (i) scrap in place; or (ii) process the lot to completion. In the event no instructions are provided by the Customer TS Group shall scrap the wafers at the end of such 4 months period.

20. ASSIGNMENT. Customer may not assign its rights under these Terms, any PO accepted under these Terms or any Quote issued to Customer by TS Group, without the prior written consent of TS Group, and any attempted assignment without such consent shall be null and void. Subject to the previous sentence, these Terms and any PO accepted under these Terms shall be binding upon and inure to the benefit of the parties, their successors and permitted assigns. Any PO received and accepted by TS Group may be assigned by TS Group to Intel following the consummation of the merger transaction.

21. ENTIRE AGREEMENT. These Terms constitute the entire agreement between the parties with respect to the subject matter herein and supersede all previous and contemporaneous communications, written or oral, with respect thereto. No representations or statements of any kind made by any representative of TS Group that are not stated herein shall be binding on TS Group. No course of dealing or usage of trade or course of performance shall be relevant to explain or supplement any terms expressed herein. No failure or delay on the part of either party in the exercise of any power, right or privilege hereunder shall operate as a waiver thereof, nor shall any single or partial exercise of any such power, right or privilege preclude any further exercise thereof, or of any other right, power or privilege. If any term or provision of these Terms is found by a court of competent jurisdiction to be invalid, illegal or otherwise unenforceable, such finding will not affect the other terms or provisions of these Terms or the whole of these Terms, but such term or provision found to be invalid, illegal or otherwise unenforceable will be deemed modified or narrowed to the extent necessary to render such term or provision enforceable, and the rights and obligations of the parties will be construed and enforced accordingly, preserving to the fullest permissible extent the intent set forth in these Terms. WITHOUT LIMITING THE FOREGOING, IT IS EXPRESSLY UNDERSTOOD AND AGREED THAT EACH AND EVERY PROVISION OF THESE TERMS WHICH PROVIDES FOR A LIMITATION OF LIABILITY, DISCLAIMER OF WARRANTIES, INDEMNIFICATION OF A PARTY OR EXCLUSION OF DAMAGES OR OTHER REMEDIES IS INTENDED BY THE PARTIES TO BE SEVERABLE AND INDEPENDENT OF ANY OTHER PROVISION AND TO BE ENFORCED AS SUCH. FURTHER, IT IS EXPRESSLY UNDERSTOOD AND AGREED THAT IF ANY REMEDY HEREUNDER IS DETERMINED TO HAVE FAILED OF ITS ESSENTIAL PURPOSE, ALL LIMITATIONS OF LIABILITY AND EXCLUSIONS OF DAMAGES OR OTHER REMEDIES SET FORTH HEREIN SHALL REMAIN IN EFFECT.

22. NOTICES. Any notice herein required or permitted to be given shall be in writing and may be personally given or sent by email, overnight delivery service or first-class mail. Such notice shall be deemed to have been given: (i) if personally given, sent by overnight delivery service, when received, (ii) if by email, when opened by a user at the proper email

address, or (iii) if mailed, three (3) business days after deposit in the United States mail with first-class postage prepaid and properly addressed. For purposes hereof, the address of the Customer (until a notice of change thereof is given as provided in this Section 22) shall be as set forth in the books and records of TS Group. TS Group's address for notice purposes (until a notice of change is given as provided in this Section 22) shall be as follows:

Tower Semiconductor Ltd.
Ramat Gavriel Industrial Park
P.O. Box 619, Migdal Haemek
23105, Israel
Fax: +972-4-654-7788
Attn: Legal Department

23. ENGLISH LANGUAGE: These Terms shall be written and executed in, and all other communications under or in connection with these Terms shall be in, the English language. Any translation into any other language shall not be an official version thereof, and in the event of any conflict in interpretation between the English version and such translation, the English version shall control.

Ver: 23'Q1F

Michael Heeke

From: Loo Peng Peng <loopp@advmf.com>
Sent: Tuesday, March 4, 2025 1:50 AM
To: Guifang Li
Subject: RE: PTA3_(CFA) - CFAC Run 2025

Hi Prof Guifang,

Thank you for your reply.

I see. I am just estimating as the main difference is the Cu Bumps.
Active run without SiN will cost about \$ 340k.

Is there a need to have split?
If no split, it will be lower price.

S/N	Layer Description	Split 1 -2 Wfr : 4 pcs	Split 3 Wfr : 2 pcs
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So \$530k is not enough to do 2 Active runs.
What is your plan?

Best Regards



Peng Peng
Account Manager

11 Science Park Road | Science Park 2 | Singapore 117685
Email • loopp@advmf.com

From: Guifang Li <li@ucf.edu>
Sent: Tuesday, 4 March 2025 2:32 pm
To: Loo Peng Peng <loopp@advmf.com>
Subject: RE: PTA3_(CFA) - CFAC Run 2025

Hi Peng Peng,
The total budget for the two runs was \$530,000, basically twice as PTA1. So, we definitely don't have \$360k. I am surprised that the second run would be anywhere close to \$360k as we don't have the modulators and no bumps.
Thanks,
Guifang

From: Loo Peng Peng <loopp@advmf.com>
Sent: Tuesday, March 4, 2025 12:04 AM
To: Guifang Li <li@ucf.edu>
Subject: RE: PTA3_(CFA) - CFAC Run 2025

Hi Prof Guifang,

Thank you for your reply.

I remove the "Passive" so it is not confusing. What is your budget left? \$360k?

Please help to sign on pg 3 so I can upload the file for approval to get cost.

Best Regards



Peng Peng
Account Manager

11 Science Park Road | Science Park 2 | Singapore 117685

Email • loopp@advmf.com

From: Guifang Li <li@ucf.edu>
Sent: Tuesday, 4 March 2025 12:24 pm
To: Loo Peng Peng <loopp@advmf.com>; Fatemeh Ghaedi Vanani <Fatemeh.GhaediVanani@ucf.edu>
Cc: Alireza Fardoost <Alireza.Fardoost@ucf.edu>
Subject: RE: PTA3_Passive+ (CFA)

Hi Peng Peng,

Yes, we anticipated that the price will be much more than purely passive. Please give us a ballpark number first so that we can determine if we can afford it.

Thanks,
Guifang

From: Loo Peng Peng <loopp@advmf.com>
Sent: Monday, March 3, 2025 10:27 PM
To: Fatemeh Ghaedi Vanani <Fatemeh.GhaediVanani@ucf.edu>
Cc: Alireza Fardoost <Alireza.Fardoost@ucf.edu>; Guifang Li <li@ucf.edu>
Subject: RE: PTA3_Passive+ (CFA)

Hello Fatemeh,

Seems like this is not actually Passive run. There are implants and Ge. So this costing will not be a lot lower.

Can you please confirm?

S/N	Layer Description	Split 1 -2 Wfr : 4 pcs	Split 3 Wfr : 2 pcs
1	10 - RIB 193	✓	✓
2	11 - GRAT	✓	✓
3	12 - SLAB	✓	✓
4	20 - PP	✓	✓
5	21 - PCONT	✓	✓
6	40 - GeEP	✓	✓
7	41 - NPPGE	✓	✓
8	50 - WG_SIN	✓	✓
9	100 - VIA1	✓	✓
10	105 - MT1	✓	✓
11	115 - HTR	✓	✓
12	120 - VIA2	✓	✓
13	125 - MT2	✓	✓
14	150 - PAD	✓	✓
15	152 - OXIMP	✓	✓
16	160 - DT	✓	✓

Our typical Passive run is something like this (those with “V”):

S/N	Layer Description	MPW Passive
1	10 - RIB 193	V
2	11 - GRAT	V
3	12 - SLAB	V
4	20 - PP	
5	21 - PCONT	
6	22 - NCONT	
7	23 - PIM	
8	24 - NIM	
9	25 - IPD	
10	26 - IND	
11	83 - PIM_MR	
12	84 - NIM_MR	
13	86 - NIM_HE	
14	40 - GeEP	
15	41 - NPPGE	
16	53 - SINWIN1	V
17	54 - SINWG1	V
18	55 - SINWINREV1	V
19	100 - VIA1	
20	105 - MT1	
21	106 - MT1REV	
22	115 - HTR	V
23	120 - VIA2	V
24	125 - MT2	V
25	150 - PAD	V
26	151 - OX_OPEN	Optional
27	160 - DT	V

Look forward to your reply.

Best Regards



Peng Peng

Account Manager

11 Science Park Road | Science Park 2 | Singapore 117685

Email • loopp@advmf.com

From: Fatemeh Ghaedi Vanani <Fatemeh.GhaediVanani@ucf.edu>
Sent: Monday, 3 March 2025 10:26 am
To: Loo Peng Peng <loopp@advmf.com>
Cc: Alireza Fardoost <Alireza.Fardoost@ucf.edu>; Guifang Li <li@ucf.edu>
Subject: Re: PTA3_Passive+ (CFA)

Hello Peng Peng,

Hopefully, it gets approved!

If not, yes, we will proceed with the sent FSRF.

Thanks,
Fateme

From: Loo Peng Peng <loopp@advmf.com>
Sent: Friday, February 28, 2025 8:25 PM
To: Fatemeh Ghaedi Vanani <Fatemeh.GhaediVanani@ucf.edu>
Cc: Alireza Fardoost <Alireza.Fardoost@ucf.edu>; Guifang Li <li@ucf.edu>
Subject: Re: PTA3_Passive+ (CFA)

Hello Fateme,

Thank you for your reply.

I will discuss with my boss to get approval if you are allowed to do such low loss process on this new passive run. It was rejected for the active run.

If it is not approved, are you able to proceed as per FSRF sent?

Have a nice weekends.

From: Fatemeh Ghaedi Vanani <Fatemeh.GhaediVanani@ucf.edu>
Sent: Saturday, 1 March 2025 12:05:57 am
To: Loo Peng Peng <loopp@advmf.com>
Cc: Alireza Fardoost <Alireza.Fardoost@ucf.edu>; Guifang Li <li@ucf.edu>
Subject: Re: PTA3_Passive+ (CFA)

Hello Peng Peng,

We are looking for low-loss waveguides for silicon and Silicon nitride, but our main focus is silicon loss of less than 1dB/cm in the C band

For the Silicon nitride waveguide, we are looking for less than 0.2 dB/cm in the C band.

Thanks,
FatemeH

From: Guifang Li <li@ucf.edu>
Sent: Thursday, February 27, 2025 10:52 PM
To: Loo Peng Peng <loopp@advmf.com>; FatemeH Ghaedi Vanani <FatemeH.GhaediVanani@ucf.edu>
Cc: Alireza Fardoost <Alireza.Fardoost@ucf.edu>
Subject: RE: PTA3_Passive+ (CFA)

Hi Peng Peng,

As to timeline, we would like to submit the GDS end of March/beginning of April. We want the fabrication to start as soon as it clears DRC. Since this is a short loop, we hope to get the wafers back within 3 months

FatemeH will answer your questions regarding low loss waveguides.

Thanks,
Guifang

From: Loo Peng Peng <loopp@advmf.com>
Sent: Thursday, February 27, 2025 8:44 PM
To: FatemeH Ghaedi Vanani <FatemeH.GhaediVanani@ucf.edu>
Cc: Guifang Li <li@ucf.edu>; Alireza Fardoost <Alireza.Fardoost@ucf.edu>
Subject: RE: PTA3_Passive+ (CFA)

Hello FatemeH,

Thank you for the email and FSRF.

Yes, for any dedicated run, the MOQ is 6 wafers.

I sent to ask our technical team if you can do low loss at this run.

This is not fully released for customer to use.

Are you looking at Si loss or SiN loss? What is the loss value you are looking at?

What is the timeline you are looking at for this passive run?

When do you plan to upload the GDS and when do you plan to get the wafers?

Look forward to your reply.

Best Regards



Peng Peng
Account Manager

11 Science Park Road | Science Park 2 | Singapore 117685
Email • loopp@advmf.com

From: Fatemeh Ghaedi Vanani <Fatemeh.GhaediVanani@ucf.edu>
Sent: Friday, 28 February 2025 7:15 am
To: Loo Peng Peng <loopp@advmf.com>
Cc: Guifang Li <li@ucf.edu>; Alireza Fardoost <Alireza.Fardoost@ucf.edu>
Subject: PTA3_Passive+

Hello Peng Peng,

Attached is the FSRF for our next tape out. Compared to PTA2, we do not have modulator-related masks and no CuP bumps.

What is the minimum number of wafers for the passive run? Is it still six?

That would be great if we could try the low-loss treatment in this run.

Please let me know if any modifications are needed.

Thanks,
Fatemeh

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Michael Heeke

From: Andim Stassen (imec) <Andim.Stassen@imec.be>
Sent: Friday, August 8, 2025 12:00 PM
To: Guifang Li
Cc: Leili Shiramin (imec)
Subject: Re: University of Central Florida: ISIPP200

Dear Guifang,

I could not get back to you earlier due to the holiday period. Thank you for your patience.

After reviewing your request, we can offer a standalone run starting with half a lot, with a minimum delivery of ~10 wafers.

The price for this project would be 350K Euros, and the delivery time would be approximately 8-9 months.

Please let us know if you are interested,

Best regards,
Andim

ANDIM STASSEN

Senior Business Development Manager

M +32 487522847 | T +32 16 28 78 72

andim.stassen@imec.be | www.imec-int.com | [LinkedIn imec](#)

Kapeldreef 75 | 3001 Leuven | Belgium

[imec e-mail disclaimer](#)



From: Guifang Li <li@ucf.edu>
Sent: Tuesday, July 01, 2025 16:52
To: Andim Stassen (imec) <Andim.Stassen@imec.be>
Cc: Leili Shiramin (imec) <Leili.Shiramin@imec.be>
Subject: RE: University of Central Florida: ISIPP200

Dear Andim,
I accepted your invitation.
Thanks,
Guifang

From: Andim Stassen (imec) <Andim.Stassen@imec.be>
Sent: Tuesday, July 1, 2025 10:01 AM
To: Guifang Li <li@ucf.edu>
Cc: Leili Shiramin (imec) <Leili.Shiramin@imec.be>
Subject: Re: University of Central Florida: ISIPP200

Dear Guifang,

We are currently developing the proposal for your bilateral request. We require a minimum of 15 wafers for our foundry services. Unfortunately, we cannot accommodate any requests for fewer wafers. We would like to have a short call to go through your request with our technical expert. I just shared a placeholder for tomorrow at 11:30. Would it be possible for you to join that call?

Kind regards,
Andim

From: Guifang Li <li@ucf.edu>
Sent: 28 May 2025 19:52
To: Andim Stassen (imec) <Andim.Stassen@imec.be>; Mulham Khoder (imec) <Mulham.Khoder@imec.be>
Cc: Nora Maene (imec) <Nora.Maene@imec.be>
Subject: RE: University of Central Florida: ISIPP200

Hi Andim,
Yes, that time works for me.
I have sent out a Zoom invite. You may forward it to Nora, Mulham if necessary.
Thanks,
Guifang

From: Andim Stassen (imec) <Andim.Stassen@imec.be>
Sent: Wednesday, May 28, 2025 1:49 PM
To: Guifang Li <li@ucf.edu>; Mulham Khoder (imec) <Mulham.Khoder@imec.be>
Cc: Nora Maene (imec) <Nora.Maene@imec.be>
Subject: Re: University of Central Florida: ISIPP200

Dear Li,

Likewise, nice to meet you. This week Thursday and Friday imec will be closed. Would Tuesday 3rd of June, 10am EDT (4pm CET) suit you ?

Kind regards,
Andim

From: Guifang Li <li@ucf.edu>
Sent: Tuesday, May 27, 2025 22:00
To: Mulham Khoder (imec) <Mulham.Khoder@imec.be>; Andim Stassen (imec) <Andim.Stassen@imec.be>

Cc: Nora Maene (imec) <Nora.Maene@imec.be>

Subject: RE: University of Central Florida: ISIPP200

Hi Mulham,
Thank you for the introduction.

Hi Andim,
Nice meeting you. Let me know a time at your earliest convenience that we can have a discussion on Zoom/TEAMS.
Thanks,
Guifang

From: Mulham Khoder (imec) <Mulham.Khoder@imec.be>

Sent: Friday, May 23, 2025 9:17 AM

To: Andim Stassen (imec) <Andim.Stassen@imec.be>

Cc: Guifang Li <li@ucf.edu>; Nora Maene (imec) <Nora.Maene@imec.be>

Subject: University of Central Florida: ISIPP200

Hello Andim,
I would like to put you in contact prof Guifang Li University of Central Florida,
He is interested in isipp200 bilateral run, and he has provided the following info

- What process modules (which wavelength): [standard process modules passive modulators and photodetector](#)
- Which wavelength? [C and O bands](#)
- Do you need anything not standard for iSiPP200 (MTP and of what ? flip-chip bonding ? etc) : [Maybe](#)
 - [LPCVD SiN platform with a thickness of 300nm](#)
 - [SiN minimum width <200nm, if possible.](#)
 - [Custom implant doping level for the modulator](#)
- What is your application use case of the PIC (if they can share) : [photonics accelerators and free-space optical communication](#)
- desired timing of the tape-out: [ASAP](#)
- Do you have enough budget ? Or is it coupled to a US funded project (Darpa or others) ? [funded project from Army Research Office and NSF.](#)
- any need for an EIC as well (cfr ASIC services) ? [no](#)
- [Special requirement \(as large as possible reticle size, current design uses 24 mm x 29 mm, and fewer number of wafers if possible\)](#)

Could you pls follow up on this with him?
Thanks!

Best Regards,
Mulham

Mulham Khoder, PhD

[R&D Project Leader](#)

M +32 483 49 49 66 | T +32 16 28 36 55

Mulham.Khoder@imec.be | www.imec-int.com | [LinkedIn imec](#)

Kapeldreef 75 | 3001 Leuven | Belgium

[imec e-mail disclaimer](#)



RE: C0145045:Sole Source - Tower Semiconductor

From Brian Sargent <Brian.Sargent@ucf.edu>
Date Mon 10/20/2025 1:47 PM
To Chuck Nicholas <charles.nicholas@ucf.edu>

Hi Chuck,

Please let the end user know of the approval and start the public posting process, if you haven't already.

FYI - Nellie and I are out the first part of this week for an off-site meeting...back Wednesday.

Regards,

Brian

From: Albert Francis <Bert.Francis.III@ucf.edu>
Sent: Thursday, October 16, 2025 7:16 PM
To: Joel Levenson <Joel.Levenson@ucf.edu>
Cc: Chuck Nicholas <charles.nicholas@ucf.edu>; Brian Sargent <Brian.Sargent@ucf.edu>
Subject: Re: C0145045:Sole Source - Tower Semiconductor

I agree!

Bert

Bert Francis, CPA

Acting Chief Financial Officer

University Treasurer

Administration and Finance

University of Central Florida

4635 Andromeda Loop N

MH384

Orlando, FL 32816

Tel: (407) 882-1075

Email: Albert.Francis@UCF.Edu

From: Joel Levenson <Joel.Levenson@ucf.edu>
Sent: Thursday, October 16, 2025 9:03 AM
To: Albert Francis <Bert.Francis.III@ucf.edu>
Cc: Chuck Nicholas <charles.nicholas@ucf.edu>; Brian Sargent <Brian.Sargent@ucf.edu>
Subject: RE: C0145045:Sole Source - Tower Semiconductor

Good Morning Bert,

I agree with this sole source as well. The justification provided lists out the requirements of the department's purchase which shows the suggested supplier meets all criteria.

If you agree, reply all to this email and indicate as such. If you have any additional questions, let me know.

I know this is your first review of a sole source in your role. I'm happy to walk you through the process.

From: Brian Sargent <Brian.Sargent@ucf.edu>
Sent: Wednesday, October 15, 2025 4:04 PM
To: Joel Levenson <Joel.Levenson@ucf.edu>
Cc: Chuck Nicholas <charles.nicholas@ucf.edu>
Subject: C0145045:Sole Source - Tower Semiconductor

Good morning Joel,

I also support this sole source to Tower Semiconductor. CREOL has a need for silicon-based photonic circuits that use light to process information. Research was conducted into other sources but it was determined that only Tower can fully meet all of CREOL's requirements, specifically, Tower is the only proposal that meets the requirement of a critical 2 nitride layer, and 3-layer metal strata that allows a design feature to function properly.

The third attachment is Chuck's review and write up for reference. Please approve/disapprove and let me know if you have any questions.

Regards,

Brian

