



**IMEC**  
**Kapeldreef 75**  
**B-3001 Leuven, Belgium**

Ref No.: 150130\_assepm\_TQFP64L  
 Jan 30, 2015

**UCLA**  
 Andrew Peck

Dear Mr Peck,

IMEC is pleased to provide the following budgetary price offering for the assembly of approx. 1,600 prototype parts "LTC-COMP" in Onsemi tech in ASE's **TQFP64L** package.

**Subcontractor:** ASE Assembly Factory  
**Project:** LTC-COMP

ITEM	DESCRIPTION	PRICE
	<b>TQFP64L 14x14 mm ( 2mm footprint )</b> <ul style="list-style-type: none"> <li>• 1.2 mm max height</li> <li>• Open Tool Package</li> <li>• Copper Wire</li> <li>• die-attach: EN-4900F</li> <li>• mold: EME-G631H</li> <li>• Tip to tip 16mm</li> <li>• Lead pitch 0.8mm</li> </ul> <b>OnSemiconductor, 0.7um, 6Inch wafers</b>	
1	NRE: Bonding scheme preparation PRESERVE – check by ASE starting from EXCEL sheet	<b>1,700 USD</b>
2	NRE: Design & Tooling	<b>n.a.</b>
3	Set-up cost per batch or build: <ul style="list-style-type: none"> <li>• First build NRE – engineering build (MPW parts in wafer packs)</li> </ul>	<b>2,450 USD</b>
4	Wafer grinding, 6", >= 9 Mils	<b>10 USD/wafer</b>
5	Unit pricing TQFP64L 14x14 , Copper wire <ul style="list-style-type: none"> <li>• &lt;2,000 parts</li> <li>• MOQ.</li> </ul>	<b>0.9 USD/pc n.a.</b>
	<b>Notes:</b> <ul style="list-style-type: none"> <li>• The EME 6650RA mold previously used (ASAT) it not available at ASE. Also die coating is not possible. Imec cannot give any guarantee on the functionality of the circuit after packaging.</li> <li>• Lead time for engineering builds : ~14 working days</li> <li>• Different markings on a package mean a different build</li> <li>• Some samples will be used for setup and validation of the quality of the material supplied</li> <li>• Parts supplied in wafer packs need to have optimal quality. When the quality of the parts is not sufficient to enable packaging the set-up fee will still be charged.</li> </ul>	
	<b>Assembly Price = NRE + batch set-up + wafer grinding price + number of pieces * unit price</b>	

Notes:

- to be confirmed after approval of bonding scheme by ASE
- STD process & BOM

**Specific QuotationTerms :**

1. IMEC is only liable for the added-value (=packaging and test), not for wafers or dies, in case something goes wrong during assembly or test.
2. Payment conditions:
  - NRE : 100%, cash with order
  - Assembly : 100% at delivery, net 30 days
3. Prices: Ex-works, Excl. any VAT
4. Engineering samples : If engineering hours exceed 12 hours above estimated hours, customer will be informed and re-quoted before production is released to the line.
5. Any material (raw material like dies, wafers, material in progress or finished goods) to be stored at ASE warehouse for a longer period than 3 months will be subject to warehouse charge
6. Dedicated shipments on Sundays or public holidays or dedicated car transport will be subject to extra shipment charges
7. Any purchase order based in whole or in part on this Quote shall also be subject to "Terms and Conditions regarding Assembly at ASE facilitated by ISE Europe through IMEC" - attached. By placing a purchase order, the customer has accepted all Terms and Conditions as described in this Quotation, and no new terms and conditions from either customer and IMEC will be accepted, including terms and conditions from the customer's purchase order, without a specific written consent signed by both the customer and IMEC pertaining to any new terms and conditions.
8. Validity : IMEC may, at its option, terminate the validity of this Quotation if no order pursuant to this Quotation is accepted in writing by a Purchase Order (PO) within 30 days of the date of this Quotation.
9. The prices set forth herein are net of any and all taxes and duties. Customer shall pay all applicable taxes and duties regardless of whether or not they are itemized on the invoice(s).
10. Unless otherwise specified in this Quotation, this Quotation supersedes and replaces any and all prior quotations for the technologies, devices, services and materials described in this Quotation.

In case you have any further questions or requests, please feel free to contact me.

Thanks you for your interest in EUROPRACTICE manufacturing services of assembly at ASE. Please kindly quote our reference number when issuing P.O for this quote.

Yours



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## Terms and Conditions regarding Assembly at ASE facilitated by ISE Europe through IMEC

### I. General – scope –hierarchy of the Terms

1. The Terms and Conditions regarding Assembly at ASE facilitated by ISE Europe<sup>1</sup> through IMEC (“**Terms**”) are applicable to all orders placed by customers (the “**Customer**”) with IMEC vzw (“**IMEC**”) in response to a quotation of IMEC (hereafter referred to as “**Quotation**”) regarding assembly performed at ASE facilitated by ISE Europe (ASE and ISE Europe hereafter together referred to as “**Assembly Factory**”). (For the purpose of the Terms, the order placed by Customer with IMEC as indicated in the previous sentence shall be referred to as “**Order**”).
2. No interlineations, deletions, modifications or amendments to these Terms shall be binding on IMEC unless agreed to in writing by IMEC. The specific terms and conditions of IMEC expressed on the Quotation (hereafter referred to as “**Quotation Terms**”) shall however prevail to the present Terms in the event the first are conflicting with the latter.
3. In line with the above, any terms and conditions of the Customer shall only be applicable if IMEC expressly accepts such in writing. Therefore IMEC’s silence about variant terms and conditions shall not be considered recognition or approval of such terms. The present Terms shall apply in lieu of any terms and conditions of the Customer’s purchase order or other purchasing document, even if, in accordance with the Customer’s purchase order terms and conditions, the acceptance of an order constitutes unconditional recognition of such Customer’s terms and conditions. The Customer recognizes by placing an Order that it waives any legal objections derived from its own terms and conditions.
4. “**Goods**” for the purpose of the Terms shall mean the dies or packaged chips, resulting from assembly by Assembly Factory following the placement of an Order with IMEC.

### II. Assembly by Assembly Factory through IMEC – Delivery of Goods

1. Before initiation of any work, it is required that IMEC has received: (a) an Order of Customer indicating the applicable Quotation, confirming the amounts of (i) the Price, (ii) any additional costs and (iii) any applicable advance payments, and (b) the advance payments which are stipulated in the Terms or the Quotation Terms.
2. Customer recognizes and accepts that following an Order placed with IMEC all assembly shall be prepared and performed by Assembly Factory at the premises of Assembly Factory and under the control of Assembly Factory.
3. Customer recognizes and accepts that delivery of Goods hereunder shall be EX WORKS (IMEC premises) in accordance with the Incoterms 2000.
4. In any event, Customer shall acquire full legal ownership of any Goods only after fulfillment of any payments due to IMEC regarding the relating Order.

### III. Financial conditions

#### A Payment terms:

1. Unless otherwise indicated in the Terms or Quotation Terms, any payment shall become payable at delivery of the Goods and shall be made within 30 days following the date mentioned on the invoice of IMEC to the bank account indicated on such invoice.
2. In any event, advance payments shall be made by Customer in respect of the following :
  - a. All development costs (like BGA substrate design, etc.);
  - b. In case of substrate minimum order quantities (hereafter referred to as “**MOQ**”), as per Annex 2, MOQ will be invoiced against substrate cost before any assembly; The same shall apply for additional substrate volume production; No substrate inventory will be taken based on forecasts. (The foregoing implies that after assembly, only assembly charges shall be invoiced.)
3. In the event of late payment of any sums due by Customer, a late payment fee shall be due automatically at a monthly interest rate of 1 %.
4. Fees payable to IMEC under this Agreement are net fees, exclusive of any taxes, such as sales, use, consumption, value-added and similar transaction taxes, which may be imposed in accordance with any applicable laws as a result of the services and products received hereunder. Customer shall be responsible for all such taxes.
5. Customer is responsible for all bank charges resulting from any transfers.

#### B Pricing terms:

1. The price for assembly indicated in the Quotation (hereafter referred to as “**Price**”) is subject to supply by Customer of die in probed wafer form. Assembly Factory shall supply lead frames, molding compound, bakeable shipping trays or anti-static shipping tubes, and indirect materials and labors, which are included in the Price.
2. The Price includes BGA royalties, which are cleared by Assembly Factory.
3. The Price may be changed based on actual package requirements and substrate designs.
4. For BGA, the maximum gold wire count included in the Price shall not exceed 1.1 times of ball count.
5. Gold Wire Adder (as per Annex 1) :
  - Pricing in the Quotation is based on gold price of US\$ 850 per ounce.
  - The Gold Wire Adder will be applied by Assembly Factory to prior month’s total shipments from Assembly Factory based on the prior month’s Average Gold Price. For example: For the month of April, the Average Gold Price published by the London Bullion Market Association shall be applied to for shipments for that month for each package type. A billing overview will be sent out accompanied by the invoice after the closing of each month.
  - The Average Gold Price as indicated above will be based on the London Bullion Market Association’s London Gold Fixings monthly average and will be

<sup>1</sup> ASE, Inc., 26, Chin 3rd Rd, NEPZ, Nantze, Kaohsiung, Taiwan, R.O.C.

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rounded up / down to the nearest whole number (for example: \$651.12 = \$651 or \$687.50 = \$688).

- The Gold Wire Adder is applicable to the total unit cost (substrate and assembly).
  - BGA group includes PBGA and HSBGA.
  - BGA (Dofu/Map) includes all other BGA-types.
  - Other Lead Frame group includes PLCC / SOP / BCC / QFN.
  - The Gold Wire Adder will only be applicable when the Average Gold Price rises above \$900 per ounce.
  - The website for the London Bullion Market Association is <http://www.lbma.org.uk>.
6. IMEC reserves the right to revise and modify the Price any time Assembly Factory will adapt its pricing.

#### IV. Liability

Customer, by placing an Order, expressly acknowledges the following limitations of liability:

1. The delivery of Goods following the Order placed with IMEC shall depend on the output and services delivered by the Assembly Factory, for which IMEC in no event can be held responsible or liable. IMEC will act on a reasonable efforts basis.
2. IMEC or Assembly Factory shall give no warranties as for the merchantability or fitness for any particular purpose with respect to any products or services provided hereunder, or with respect to the use of such products or services. Any products and services provided hereunder and any information contained therein are provided "AS IS".
3. IMEC or Assembly Factory shall not be liable for delays in delivery of Goods caused by inability to obtain transportation, equipment, or material, failure or breakdown of components, insurrection, fires, flood, storms, embargoes, action of military or civil authorities, or compliance with any law, regulation or order of any governmental body, strikes, labor difficulties, lockouts, acts of God, or other similar or different circumstances beyond their reasonable control.
4. IMEC or Assembly Factory shall not be liable for any direct, indirect, incidental or consequential damages arising directly or indirectly from the sale, use or failure of any products or services, part of products or services or any information contained therein, which are provided following any Order placed with IMEC.
5. IMEC or Assembly Factory assume no obligation or liability of any kind with respect to any claims of infringement of patents, copyrights, trademarks or other proprietary rights arising out of or relating to Customer's purchase, importation, use, possession, sale, or delivery of any products, part of products or services provided to Customer. Customer shall indemnify, defend and hold IMEC and Assembly Factory harmless from any and all such claims and liabilities, damages and expenses.
6. IMEC and Assembly Factory take no responsibility or liability for any materials, products or equipment provided by Customer, whether they are in transit or stored at or on behalf of IMEC or Assembly Factory and Customer shall be responsible for taking out insurance coverage for all consigned materials and products or equipment in transit or at the premises of IMEC or Assembly Factory.
7. In case it is shown that Goods have been damaged during the process of dicing or the assembly of the Goods has been done wrongly, IMEC's and Assembly Factory's total liability shall be limited to the "value added", meaning Customer shall be entitled to provide new silicon and Assembly Factory will perform again the work without any additional payments by Customer. In such case, IMEC must receive all claims in writing within twenty (20) days of delivery of the Goods. Customer acknowledges that IMEC's authorization is required before Customer may

return the Goods to IMEC and Assembly Factory may perform any rework and/or credit.

#### V. Initiation of Insolvency or Composition Proceedings - Suspension of Payments

1. Customer acknowledges and agrees that in the event of any petition for insolvency or bankruptcy proceeding or comparable proceedings filed by the Customer or any suspension of payments by the Customer IMEC shall be entitled, upon its own discretion, to (a) rescind the contract at any time or (b) make the delivery of the Goods subject to advance payment of the entire Price and all additional costs. If the Goods have already been delivered, the payment of any fees due shall be due immediately in the aforementioned cases.
2. The provisions pursuant to this section shall also apply if IMEC previously accepted checks or any bills of exchange towards payment and the issuer files a petition for insolvency or bankruptcy proceeding or comparable proceedings and/or suspends its payments.

#### VI. Applicable Law – Dispute Resolution

1. The transactions between IMEC and the Customer are governed by the laws of Belgium, (with exception of the provisions of conflict of law).
2. Any controversy or claim between IMEC and the Customer relating to the Terms and any Order subject to these Terms, shall be settled by the Court of Leuven, Belgium.

#### VII. Miscellaneous

1. Severability. In the event any provision hereof is determined by a court to be or becomes invalid, unenforceable or illegal, such provision shall be (i) modified to be made valid, enforceable and legal in such a manner as to best effectuate the intention or meaning of this provision; or (ii) be deemed eliminated where such modification is not practicable; and (iii) the remainder of the Terms shall remain in effect in accordance with its terms as modified by such modification or deletion.
2. Entire Agreement. These Terms together with the Quotation Terms constitute the sole contractual terms between the Customer and IMEC regarding the Order. No other terms, conditions, or understanding, whether oral or written, shall be binding upon the IMEC, unless hereafter made in writing and signed by the IMEC's authorized representative.
3. No Waiver. The failure of any party to enforce any provisions of these Terms or the Quotation Terms for any period of time shall not be deemed a waiver of future enforcement of that or any other provision.
4. Independent Contractors. The relationship of the parties is that of independent contractors. Nothing contained in these terms shall be construed to constitute a partnership between the parties as partners, a joint-venture, a co-ownership or otherwise as participants in a joint or common undertaking, or to give a party the power to represent another party or to direct or control the day-to-day activities of the other party.
5. Descriptive Headings. Any headings included herein are for convenience only and shall not be considered in interpreting these Terms.

