



Integrated Device Technology, Inc.  
6024 Silver Creek Valley Road  
San Jose, CA 96138

## PRODUCT/PROCESS CHANGE NOTICE (PCN)

<b>PCN #:</b> <b>A0903-04</b> <b>DATE:</b> <b>May 8, 2009</b> <b>Product Affected:</b> 9 mm x 9 mm VFQFPN-64 10 mm x 10 mm VFQFPN-72  <b>Date Effective:</b> <b>August 8, 2009</b>	<b>MEANS OF DISTINGUISHING CHANGED DEVICES:</b> <input type="checkbox"/> Product Mark <input checked="" type="checkbox"/> Back Mark      Lot # will have a "Y" suffix <input type="checkbox"/> Date Code <input type="checkbox"/> Other
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<b>Contact:</b> Bimla Paul <b>Title:</b> Product Quality Assurance <b>Phone #:</b> (408) 574-6419 <b>Fax #:</b> (408) 284-8362 <b>E-mail:</b> <a href="mailto:Bimla.Paul@idt.com">Bimla.Paul@idt.com</a>	<b>Attachment:</b> <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No  <b>Samples:</b> Contact your local IDT sales representative for sample requests.
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**DESCRIPTION AND PURPOSE OF CHANGE:**

<input type="checkbox"/> Die Technology <input type="checkbox"/> Wafer Fabrication Process <input type="checkbox"/> Assembly Process <input type="checkbox"/> Equipment <input checked="" type="checkbox"/> Material <input type="checkbox"/> Testing <input checked="" type="checkbox"/> Manufacturing Site <input type="checkbox"/> Data Sheet <input type="checkbox"/> Other	<p>This notification is to advise our customers that IDT is adding Carsem, Malaysia ( 9 mm x 9 mm VFQFPN-64 ) and Chipmos, Taiwan ( 9 mm x 9 mm VFQFPN-64 and 10 mm x 10 mm VFQFPN-72 ) as alternate assembly facilities for Copper Bond Wire process.</p> <p>A follow-up notification with complete qualification data will be sent prior to first customer shipment.</p> <p>Attachment 1 outlines the qualification plans and results. Attachment 2 shows all the affected part numbers.</p>
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**RELIABILITY/QUALIFICATION SUMMARY:**  
Please refer to qualification data in Attachment 1

**CUSTOMER ACKNOWLEDGMENT OF RECEIPT:**  
IDT records indicate that you require written notification of this change. Please use the acknowledgement below or E-Mail to grant approval or request additional information. If IDT does not receive acknowledgement within 30 days of this notice it will be assumed that this change is acceptable.  
IDT reserves the right to ship either version manufactured after the process change effective date until the inventory on the earlier version has been depleted.

Customer: _____	<input type="checkbox"/> <i>Approval for shipments prior to effective date.</i>
Name/Date: _____	E-Mail Address: _____
Title: _____	Phone# /Fax# : _____

**CUSTOMER COMMENTS:** \_\_\_\_\_

**IDT ACKNOWLEDGMENT OF RECEIPT:**  
RECD. BY: \_\_\_\_\_      DATE: \_\_\_\_\_



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### ATTACHMENT 1 - PCN # : A0903-04

**PCN Type:** Manufacturing Site & Material - Alternate Assembly Location & Copper Bond Wire

**Data Sheet Change:** None

**Detail Of Change:**

This notification is to advise our customers that IDT is adding Carsem, Malaysia ( 9 mm x 9 mm VFQFPN-64 ) and Chipmos, Taiwan ( 9 mm x 9 mm VFQFPN-64 and 10 mm x 10 mm VFQFPN-72 ) as alternate assembly facilities for Copper Bond Wire process.

IDT has already successfully qualified Copper wire bond process and has been shipping products assembled at PT Unisem, Indonesia for 9 mm x 9 mm VFQFPN-64 package type, and Carsem, Malaysia and PT Unisem, Indonesia for 10 mm x 10 mm VFQFPN-72 package type.

Copper bond wire process is presently used by selective semiconductor suppliers due to the following key advantages:

- A. Better electrical performance- higher current handling capability - 18% improvement in resistance for 1 mil bond wire.
- B. Better high temperature bake performance. Minimal intermettalic compound build up.
- C. Higher Ball shear and wire pull test result- smaller bond pad real estate is now possible.
- D. Stiffer Wire- minimize wire swaying , longer wires than gold is now possible.

A follow-up notification with complete qualification data will be sent prior to first customer shipment.

Customers may expect to receive shipments with Cu wire process no sooner than 90 days from the date of this notification, May 8, 2009. Product assembled with Au and Cu wire will be shipped during the transition period or until the Au wire inventory has been depleted. Please note that product assembled with Au and Cu wire will not be mixed in one tray stack, or tape and reel.

We request you to acknowledge receipt of this notification within 30 days of the date of this PCN notification. If you require samples to conduct evaluations, please make your sample request within 30 days as samples are not built ahead of the change for all device options. You may contact your local sales representative to acknowledge this PCN and request samples.



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### ATTACHMENT 1 - PCN # : A0903-04

**Assembly Material :** There is no change in the mold compound and die attach materials. The material sets used in assembly is in compliance with RoHS 5 (standard products) and RoHS 6 (green products) requirement. There is no change in the moisture sensitivity performance.

**Sample Availability :** Samples are not built ahead of the change for all device types and may not be available for all affected device types.

Please contact your local IDT sales representative for your sample request and availability.

### Qualification Test Plans and Results :

#### 1. Copper Bond Wire Qual Results

- Qual Vehicle: i) 10 mm x 10 mm VFQFPN-72, Carsem, Malaysia  
 ii) 10 mm x 10 mm VFQFPN-72, Chipmos, Taiwan

Test Description	Test Method	Test Results (SS / Rej)	
		Carsem, Malaysia	Chipmos, Taiwan
* High Accelerated Stress Test (Biased, 130 °C/85% RH, 100 Hrs)	JESD22-A110	45/0	Expected completion date June 1, 2009
* Temperature Cycle / Condition B (-55 °C to +125 °C, 1000 Cyc)	JESD22-A104	<sup>1</sup> 44/0	
High Temp. Storage Test (150 °C, 1000 Hrs)	JESD22-A103	77/0	
Ball Shear Test	JESD22-B116	5/0	
Wire Bond Pull Test	Mil-Std-883 M2001	5/0	
X-ray Examination	IDT Spec MAC-3012	45/0	

Note:

\* Test requires moisture pre-conditioning sequence per JESD22-A113C and will use the existing moisture sensitivity level that has been qualified for this material set.

<sup>1</sup> One unit functional die level failure, not related to Cu bond wire process

#### 2. Product Electrical Characterization

Product electrical characterization has been successfully completed on representative product families and copper wire performance was comparable to gold wire performance.



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## PRODUCT/PROCESS CHANGE NOTICE (PCN)

### ATTACHMENT 2 - PCN # : A0903-04

#### Affected Device

Device	Device	Device	Device
954305	9LPRS114	9LPRS395	9LPRS918
954309	9LPRS133	9LPRS397	9LPRS919
9LPR309	9LPRS138	9LPRS470	9LPRS928
9LPR311	9LPRS139	9LPRS471	9LPRS929
9LPR323	9LPRS140	9LPRS472	9LRS3165
9LPR325	9LPRS319	9LPRS474	9LRS3166
9LPR332	9LPRS325	9LPRS476	9LRS4880
9LPR333	9LPRS333	9LPRS477	9LVRS129
9LPR335	9LPRS353	9LPRS478	9LVRS130
9LPR336	9LPRS355	9LPRS480	CLK503J45
9LPR350	9LPRS356	9LPRS488	CV153
9LPR390	9LPRS357	9LPRS501	CV169
9LPR800	9LPRS365	9LPRS910	CV171
9LPR802	9LPRS387	9LPRS911	CV179
9LPRS110	9LPRS390	9LPRS914	
9LPRS113	9LPRS392	9LPRS915	