Integrated Device Technology, Inc.
6024 Silver Creek Valley Road, San Jose, CA - 95138

PRODUCT/PROCESS CHANGE NOTICE (PCN)

PCN #: **A1312-09** DATE **15-Jan-2014**

Product Affected: 21.0mm x 21.0mm FCBGA-400
29.0mm x 29.0mm FCBGA-784
Refer to Attachment II for the affected part numbers

Date Effective: **15-Feb-2014**

MEANS OF DISTINGUISHING CHANGED DEVICES:

- ☐ Product Mark
- ■ Back Mark
- ☐ Date Code
- ☐ Other

Lot# will have a "AT" prefix to denote parts built at Amkor, Taiwan

Contact: IDT PCN DESK

E-mail: pcndesk@idt.com

Attachment: ■ Yes ☐ No

Samples: Please contact your local sales representative for sample request & availability.

DESCRIPTION AND PURPOSE OF CHANGE:

- ☐ Die Technology
- ☐ Wafer Fabrication Process
- ☐ Assembly Process
- ☐ Equipment
- ☐ Material
- ☐ Testing
- ■ Manufacturing Site
- ☐ Data Sheet
- ☐ Other

This notification is to advise our customers that IDT is adding Amkor, Taiwan as an alternate bump and assembly facility.

There is no change to the moisture performance.

Attachment I details the qualification data for this change and Attachment II shows the affected list of part numbers.

RELIABILITY/QUALIFICATION SUMMARY:

Refer to qualification data shown in attachment I.

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: ______________________

☐ ***Approval for shipments prior to effective date.***

Name/Date: ______________________

E-Mail Address: ______________________

Title: ______________________

Phone# /Fax# : ______________________

CUSTOMER COMMENTS: ______________________

IDT ACKNOWLEDGMENT OF RECEIPT:

RECD. BY: ______________________ DATE: ______________________

PRODUCT/PROCESS CHANGE NOTICE (PCN)

ATTACHMENT I - PCN # : A1312-09

PCN Type: Alternate Bump and Assembly Location

Data Sheet Change: None

No change in moisture sensitivity level (MSL)

Detail Of Change:

This notification is to advise our customers that IDT is adding Amkor, Taiwan as an alternate bump and assembly facility.

The material sets used at Amkor, Taiwan are qualified IDT materials.

There is no change to the moisture performance of these packages using the assembly material sets as listed in the below table.

ATTACHMENT I - PCN # : A1312-09

Table 1: Assembly Material Sets for the Existing Assembly & Alternate Assembly

		Existing	**Add**
Package Type	Material Set / Assembly	ASEK, Taiwan	Amkor, Taiwan
BR400, BR784	Heat spreader thermo grease	SE4450	DCL 5
	Adhesive	AA01	MD140
	Die bump	63Sn37Pb	63Sn37Pb
	Underfill	UH12	NAU-27
	Substrate	ABF GX13/ E679 core	ABF GX13/ E679 core
	Solder balls	Sn96.5/Ag3.0/Cu0.5	Sn96.5/Ag3.0/Cu0.5
HR400	Heat spreader thermo grease	SE4450	SHA-1
	Adhesive	SE4450	DCL-4
	Die bump	63Sn37Pb	63Sn37Pb
	Underfill	UH12	NAU-27
	Substrate	ABF GX13/ E679 core	ABF GX13/ E679 core
	Solder balls	Sn96.5/Ag3.0/Cu0.5	Sn96.5/Ag3.0/Cu0.5
HM784	Heat spreader thermo grease	N/A	N/A
	Adhesive	N/A	N/A
	Die bump	63Sn37Pb	63Sn37Pb
	Underfill	UH12	NAU-27
	Substrate	ABF GX13/ E679 core	ABF GX13/ E679 core
	Solder balls	Sn63/Pb37	Sn63/Pb37
RM400, RM784	Heat spreader thermo grease	N/A	N/A
	Adhesive	N/A	N/A
	Die bump	63Sn37Pb	63Sn37Pb
	Underfill	UH12	NAU-27
	Substrate	ABF GX13/ E679 core	ABF GX13/ E679 core
	Solder balls	Sn96.5/Ag3.0/Cu0.5	Sn96.5/Ag3.0/Cu0.5

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Qualification Test Plans and Results :

Qual Plan & Results: The qualification was performed in accordance with JEDEC47 recommended tests

Qual Vehicle: 29.0mm x 29.0mm FCBGA-784 (3 lots)

		Test Results (SS / Rej)		
Test Description	**Test Method**	**Lot 1**	**Lot 2**	**Lot 3**
* Temperature Humidity Biased (85 °C/85% RH, 1000 Hrs)	JESD22-A101	25/0	25/0	25/0
* Temperature Cycle / Condition B (-55 °C to +125 °C, 700 Cyc)	JESD22-A104	30/0	30/0	30/0
High Temp. Storage Test (150 °C, 1000 Hrs)	JESD22-A103	30/0	30/0	30/0
Solder Ball Shear Test (1000 Hrs)	JESD22-B117	10/0	-	-
External Visual Inspection	JESD22-B101	25/0	-	-
X-ray Examination	IDT Spec MAC-3012	45/0	-	-

Note:
* Test requires moisture pre-conditioning sequence per JESD22-A113 prior to stress test

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ATTACHMENT II - PCN # : A1312-09

Affected Part Numbers

Part Number	Part Number	Part Number	Part Number
80HCPS1616CHR	80HCPS1848CBRI	80HSPS1616CHR	80HVPS1616CBRI
80HCPS1616CHR8	80HCPS1848CBRI8	80HSPS1616CHR8	80HVPS1616CBRI8
80HCPS1616CHRI	80HCPS1848CHM	80HSPS1616CHRI	80HVPS1616RM
80HCPS1616CHRI8	80HCPS1848CHM8	80HSPS1616CHRI8	80HVPS1616RM8
80HCPS1616CRM	80HCPS1848CHMI	80HSPS1616CRM	80HVPS1616RMI
80HCPS1616CRM8	80HCPS1848CHMI8	80HSPS1616CRM8	80HVPS1616RMI8
80HCPS1616CRMI	80HCPS1848CRM	80HSPS1616CRMI	80HVPS1848CRM
80HCPS1616CRMI8	80HCPS1848CRM8	80HSPS1616CRMI8	80HVPS1848CRM8
80HCPS1848CBR	80HCPS1848CRMI	80HVPS1616CBR	80HVPS1848CRMI
80HCPS1848CBR8	80HCPS1848CRMI8	80HVPS1616CBR8	80HVPS1848CRMI8