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

PRODUCT/PROCESS CHANGE NOTICE (PCN)

PCN #: **A1908-01** DATE: **13-Sep-2019**

Product Affected: 4RCD0232KC1
4DB0232KC2
(Refer to attachment II for affected part#)

Date Effective: **13-Dec-2019**

MEANS OF DISTINGUISHING CHANGED DEVICES:

☐ Product Mark
☒ Back Mark
☐ Date Code
☐ Other

Lot # will have:
"D" prefix for ATK, Korea and substrate material used is traceable from lot#

Contact: IDT PCN DESK

E-mail: idt-pcn@lm.renesas.com

Attachment: ☒ Yes ☐ No

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

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, Korea as an alternate assembly and add SIMMTECH as alternate substrate at the existing assembly STATS ChipPAC Korea (SCK).

There is no change to the moisture performance.

Attachment I details the qualification results.

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: ____________________

ATTACHMENT I - PCN # : A1908-01

PCN Type: Manufacturing Site - Alternate Assembly Location & Alternate material sets

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, Korea as an alternate assembly and add SIMMTECH as alternate substrate at the existing assembly STATS ChipPAC Korea (SCK).

The material set details of the current and alternate assembly location is as shown in Table 1.

There is no change to the moisture performance.

Table 1: Assembly Material Sets for The Existing and Alternate Assembly Location

	Existing Assembly (ASECL, Taiwan) + UMTC substrate	**Existing Assembly (SCK, Korea) + Kinsus substrate**	**Alternate Assembly (AMKOR, Korea) + UMTC substrate**	**Alternate Substrate (SCK, Korea) + SIMMTECH substrate**
Die Bump	Copper Pillar 40Cu/3Ni/27SnAg	Copper Pillar 40Cu/3Ni/27SnAg	Copper Pillar 40Cu/3Ni/27SnAg	Copper Pillar 40Cu/3Ni/27SnAg
Mold Compound	EME-G311A Type C	KE-G1250FC-K	MUF 32	KE-G1250FC-K
Substrate	HL830NS+SR1	HL830NS+SR1	HL830NS+SR1	HL830NS+SR1
Solder Balls	LF35	LF35	LF35	LF35

ATTACHMENT I - PCN # : A1908-01

Qualification Information and Qualification Data:

Affected Packages: FCCSP-253

Assembly Material: Shown on page 2 of this attachment.

Qual Plan & Results: Tests are in accordance with JEDEC47 recommended tests.

Qualification Vehicle: FCCSP-253

(I) AMKOR, Korea

Test Description	Test Method	Test Results (Rej / SS)		
		Lot 1	Lot 2	Lot 3
* Temperature Cycling (-55°C to 125°C, 700 cycles)	JESD22-A104	0/25	0/25	0/25
* HAST - unbiased (130 °C/85% RH, 96 Hrs)	JESD22-A118	0/25	0/25	0/25
High Temperature Storage Bake (150°C, 1000 Hrs)	JESD22-A103	0/25	0/25	0/25
Moisture Sensitivity Level, MSL	J-STD-20 / MSL 3, 260 °C	0/25	0/25	-

* Tests were subjected to Preconditioning per JESD22-A113 prior to stress test

(II) SCK, Korea

Test Description	Test Method	Test Results (Rej / SS)		
		Lot 1	Lot 2	Lot 3
* Temperature Cycling (-55°C to 125°C, 700 cycles)	JESD22-A104	0/25	0/25	0/25
* HAST - unbiased (130 °C/85% RH, 96 Hrs)	JESD22-A110	0/25	0/25	0/25
High Temperature Storage Bake (150°C, 1000 Hrs)	JESD22-A103	0/25	0/25	0/25
Moisture Sensitivity Level, MSL	J-STD-20 / MSL 3, 260 °C	0/25	0/25	-

* Tests were subjected to Preconditioning per JESD22-A113 prior to stress test

ATTACHMENT II - PCN # : A1908-01

Affected Part Numbers

Part Number	Part Number	Part Number	Part Number
4DB0232KC2AVG	4DB0232KC2AVG/M	4RCD0232KC1ATG	4RCD0232KC1ATG/M
4DB0232KC2AVG8	4DB0232KC2AVG8/M	4RCD0232KC1ATG8	4RCD0232KC1ATG8/M