# PRODUCT AND PROCESS CHANGE NOTIFICATION Generic Copy

ISSUE DATE:	10-Jun-2014
NOTIFICATION:	16151
TITLE:	PRIMARY WAFER SITE TRANSFER to TSMC14 and ATMC COPPER WIRE QUALIFICATION for SPC567x 324/416/516PBGA
EFFECTIVE DATE:	08-Sep-2014

# DEVICE(S)

SPC5673FF3MVR2   SPC5673FF3MVR2R   SPC5673FF3MVR3   SPC5673FF3MVV2   SPC5673FF3MVV2R   SPC5673FF3MVV2R   SPC5673FF3MVY2
SPC5673FF3MVR3 SPC5673FF3MVV2 SPC5673FF3MVV2R
SPC5673FF3MVV2 SPC5673FF3MVV2R
SPC5673FF3MVV2R
SPC5673FF3MVY2
SPC5674FF3MVR3
SPC5674FF3MVR3R
SPC5674FF3MVV3
SPC5674FF3MVV3R
SPC5674FF3MVY3
SPC5674FF3MVY3R
SPC5674FF3MVZ2
SPC5674FK0MVR3
SPC5674FK0MVR3R
SPC5674FK0MVV3
SPC5674FK0MVV3R
SPC5674FK0MVY3
SPC5674FK0MVY3R

#### AFFECTED CHANGE CATEGORIES

BILL OF MATERIAL CHANGE (SAME ASSEMBLY SITE)

FAB SITE

# **DESCRIPTION OF CHANGE**

To meet the increasing demand for the SPC567x family of products Freescale is announcing the introduction of Taiwan Semiconductor Manufacturing Company Fab 14 (TSMC14), Tainan, Taiwan as primary wafer manufacturing location for this family. TSMC14 has been qualified with Copper wirebond material.

Approval of GPCN and backlog conversion to TSMC14 is required in order to allow deliveries by the first week of December.

Key Dates						
Pre Alert Issued		12-Mar-14				
Approval	180 Days	8-Sep-14				
Backlog Conversion	45 Days	23-Oct-14				
TSMC14 Deliveries	45 Days	7-Dec-14				

If customer is unable to approve TSMC14 per the table above, allocation of ATMC material will begin first week of December.

To standardize and aid manufacturing flexibility, a change from Gold to Copper Wire has been qualified for Austin Technology Manufacturing Center (ATMC), Austin, USA sourced material.

The change to Cu wire also includes a change in wire diameter as per the table below.

WAFER FAB	ASSEMBLY SITES	PACKAGE TYPE	CURRENT WIRE	NEW WIRE	Current Mold Compound	New Mold Compound
TSMC 14	FSL-KLM-FM	324/416/516PBGA	N/A	PdCu 20um	N/A	SUMITOMO G770SFL
FSL-ATMC	FSL-KLM-FM	324/416/516PBGA	Au 23um	PdCu 20um	SUMITOMO G770SFL	No Change

#### **REASON FOR CHANGE**

The primary wafer manufacturing site transfer to TSMC14 will improve Freescale's ability to meet increasing customer demand, while still maintaining the ability to provide backup supply from the original Fab (ATMC) in case of emergency or demand surges.

The transfer from Gold to Copper wire is required to standardize manufacturing flows and mitigate against raw material cost increases.

# ANTICIPATED IMPACT OF PRODUCT CHANGE(FORM, FIT, FUNCTION, OR RELIABILITY)

There is no impact to form, fit, function or reliability. Reliability is equivalent or improved.

According to JEDEC Standard JESD46, lack of acknowledgement of this PCN within 30 days will be considered acceptance of change. To request further data or inquire about the notification, please enter a <u>Service Request</u>.

For sample inquiries - please go to www.freescale.com

# QUAL DATA AVAILABILITY DATE: 14-Mar-2014

# **QUALIFICATION STATUS:** COMPLETED

#### **QUALIFICATION PLAN:**

Freescale Transfer of Qualified Processes specification for Fab and Assembly Qualifications were followed.

#### **RELIABILITY DATA SUMMARY:**

See attached qualification results.

# ELECTRICAL CHARACTERISTIC SUMMARY:

No change was made to the operating performance of the device. No change to datasheet. Electrical Distribution enclosed. EMC reports available upon request.

#### **CHANGED PART IDENTIFICATION:**

The Tracecode marking on the device includes assembly site and datecode. Freescale will have Copper wire traceability by assembly site and datecode.

Table below provides sample part numbers:

Cu Sample Part Number	Package	Fab
KPC5671LK0VVZ1R	PBGAPGE 324 23SQ1.25P1.0	TSMC14
KPC5673LK0VVZ2R	PBGAPGE 324 23SQ1.25P1.0	TSMC14
KPC5674FK0MVR3	TEPBGA 416 27*27*1.25 P1	TSMC14
KPC5674FK0MVR3R	TEPBGA 416 27*27*1.25 P1	TSMC14
KPC5674FK0MVY3	TEPBGA PGE 516 27*27 P1	TSMC14
KPC5674FK0MVY3R	TEPBGA PGE 516 27*27 P1	TSMC14
KPC5674FK0MVV3	TEPBGA PGE 516 27*27 P1	TSMC14
KPC5674FK0MVV3R	TEPBGA PGE 516 27*27 P1	TSMC14
KPC5671LF3VVZ1R	PBGAPGE 324 23SQ1.25P1.0	ATMC
KPC5673LF3VVZ2R	PBGAPGE 324 23SQ1.25P1.0	ATMC
KPC5674FF3MVR3	TEPBGA 416 27*27*1.25 P1	ATMC
KPC5674FF3MVR3R	TEPBGA 416 27*27*1.25 P1	ATMC
KPC5674FF3MVY3	TEPBGA PGE 516 27*27 P1	ATMC
KPC5674FF3MVY3R	TEPBGA PGE 516 27*27 P1	ATMC
KPC5674FF3MVV3	TEPBGA PGE 516 27*27 P1	ATMC
KPC5674FF3MVV3R	TEPBGA PGE 516 27*27 P1	ATMC

# SAMPLE AVAILABILITY DATE: 06-Jun-2014

#### ATTACHMENT(S):

External attachment(s) FOR this notification can be viewed AT: <u>16151\_PCN16151\_Mamba\_TSMC14\_Transfer\_&\_Cu\_Conv\_Official\_Qual\_Results.pdf</u> <u>16151\_PCN16151\_Mamba\_N31E\_516PBGA\_TSMC\_Cu\_Vs\_ATMC\_Au\_Electrical\_Distribution\_Report.pdf</u> <u>16151 PCN16151 Mamba 516 ATMC Cu Vs Au Electrical Distribution Report.pdf</u> <u>16151 16151 Mamba ATMC Cu Conv Official Qual Results.pdf</u>