12500 TI Boulevard, MS 8640, Dallas, Texas 75243

PCN# 20160119001
Qualification of UTAC as Additional Assembly and Test Site for Select PQFN Package Devices
Change Notification / Sample Request

Date: 1/25/2016
To: TOKYO ELECTRON DEVICE (DSTR) PCN

Dear Customer:

This is an announcement of a change to a device that is currently offered by Texas Instruments. The details of this change are on the following pages.

We request you acknowledge receipt of this notification within **30** days of the date of this notice. Lack of acknowledgement of this notice within 30 days constitutes acceptance of the change. If you require samples or additional data to support your evaluation, please request within 30 days.

The changes discussed within this PCN will not take effect any earlier than **90** days from the date of this notification, unless customer agreement has been reached on an earlier implementation of the change. This notification period is per TI's standard process.

This notice does not change the end-of-life status of any product. Should product affected be on a previously issued product withdrawal/discontinuance notice, this notification does not extend the life of that product or change the life time buy offering/discontinuance plan.

For questions regarding this notice, contact your local Field Sales Representative or the PCN Manager (PCN_ww_admin_team@list.ti.com).

Sincerely,

PCN Team
SC Business Services

20160119001
Attachment: 1

Products Affected:

The devices listed on this page are a subset of the complete list of affected devices. According to our records, these are the devices that you have purchased within the past twenty-four (24) months. The corresponding customer part number is also listed, if available.

DEVICE	CUSTOMER PART NUMBER
MSP430F5524IRGCR	null

Technical details of this Product Change follow on the next page(s).

PCN Number:	20160119001	**PCN Date:**	01/25/2016
Title:	Qualification of UTAC as Additional Assembly and Test Site for Select PQFN Package Devices		
Customer Contact:	PCN Manager	**Dept:**	Quality Services
Proposed 1st Ship Date:	04/25/2016	**Estimated Sample Availability:**	Date Provided at Sample request

Change Type:

☒	Assembly Site	☐	Design	☐	Wafer Bump Site
☐	Assembly Process	☐	Data Sheet	☐	Wafer Bump Material
☐	Assembly Materials	☐	Part number change	☐	Wafer Bump Process
☐	Mechanical Specification	☒	Test Site	☐	Wafer Fab Site
☒	Packing/Shipping/Labeling	☐	Test Process	☐	Wafer Fab Materials
				☐	Wafer Fab Process

PCN Details

Description of Change:

Texas Instruments Incorporated is announcing the qualification of UTAC as Additional Assembly and Test Site for select devices listed in the "Product Affected" Section. Current assembly sites and Material differences are as follows.

Assembly Site	Assembly Site Origin	Assembly Country Code	Assembly Site City
TI Malaysia	MLA	MY	Kuala Lumpur
UTAC	**NSE**	**TH**	**Bangkok**

Material Differences:

	TI Malaysia	UTAC
Mount Compound	4205846	PZ0035
Lead finish	NiPdAu	NiPdAuAg

Test coverage, insertions, conditions will remain consistent with current testing and verified with test MQ.

Reason for Change:

Continuity of supply.

Anticipated impact on Form, Fit, Function, Quality or Reliability (positive / negative):

None

Anticipated impact on Material Declaration

☐	No Impact to the Material Declaration	☒	Material Declarations or Product Content reports are driven from production data and will be available following the production release. Upon production release the revised reports can be obtained from the TI ECO website.

Changes to product identification resulting from this PCN:

Assembly Site		
TI-MALAYSIA	Assembly Site Origin (22L)	ASO: MLA
UTAC	Assembly Site Origin (22L)	ASO: NSE

Sample product shipping label (not actual product label)

TEXAS INSTRUMENTS
G4
MADE IN: Malaysia
2DC: 2Q:

MSL 2 /260C/1 YEAR MSL 1 /235C/UNLIM	SEAL DT 03/29/04

OPT:
ITEM: 39
LBL: 5A (L)TO:1750

(1P) SN74LS07NSR
(Q) 2000 (D) 0336
(31T)LOT: 3959047MLA
(4W) TKY(1T) 7523483SI2
(P)
(2P) REV: (V) 0033317
(20L) CSO: SHE (21L) CCO:USA
(22L) ASO: MLA (23L) ACO: MYS

ASSEMBLY SITE CODES: TI-MALAYSIA = K , UTAC = J

Product Affected:

ASP00886IRGCR	MSP430F5326IRGCR	MSP430F5522IRGCT	MSP430V356IRGCR
ASP00886IRGCT	MSP430F5326IRGCT	MSP430F5524IRGCR	MSP430V357IRGCR
MSP430A132IRGCR	MSP430F5328IRGCR	MSP430F5524IRGCT	MSP430V375IRGCR
MSP430A133IRGCR	MSP430F5328IRGCT	MSP430F5526IRGCR	MSP430V390IRGCR
MSP430A134IRGCR	MSP430F5513IRGCR	MSP430F5526IRGCT	MSP430V397IRGCR
MSP430A145IRGCR	MSP430F5514IRGCR	MSP430F5528IRGCR	
MSP430F5324IRGCR	MSP430F5514IRGCT	MSP430F5528IRGCT	
MSP430F5324IRGCT	MSP430F5522IRGCR	MSP430V355IRGCR	

Qualification Report

UTAC VQFN transfer using MSP430F5528IRGC
Qualification Approved on 1/13/2016

Product Attributes

Attributes	Qual Device: MSP430F5528IRGC	QBS Device #1: MSP430F5438AIPZ	QBS Device #2: MSP430F5529IPN
Assembly Site	UTAC	TAI	TAI
Package Family	QFN	LQFP	LQFP
Flammability Rating	UL94 V-0	UL 94 V-0	UL 94 V-0
Wafer Fab Site	TSMC-WF11	TSMC-WF11	TSMC-WF11
Wafer Fab Process	TSMC 0.18um Embedded Flash	TSMC 0.18um Embedded Flash	TSMC 0.18um Embedded Flash

- QBS: Qual By Similarity
- Qual Device MSP430F5528IRGC is qualified at LEVEL2-260CG

Qualification Results

Data Displayed as: Number of lots / Total sample size / Total failed

Type	Test Name / Condition	Duration	Qual Device: MSP430F5528IRGC	QBS Device #1: MSP430F5438AIPZ	QBS Device #2: MSP430F5529IPN
HAST	HAST 110C / 85% RH	264 Hours	3 / 77 / 0	NA	NA
AC	Autoclave 121C, 100% RH,15PSI	96 Hours	3 / 231 / 0	NA	NA
TC	Temperature Cycle -65/150C	500 Cycles	3 / 231 / 0	NA	NA
HTSL	High Temperature Storage Life 170C	420 Hours	3 / 231 / 0	NA	NA
CDM	ESD - CDM	250V, 500*V	1 / 3 / 0	NA	NA
MQ	Manufacturability	Per Spec	Pass	NA	NA

HBM	ESD - HBM	500V, 1000V, 2000*, 4000*V	QBS to #2	NA	1 / 3 / 0
HTOL	High Temperature Operating Life 150C	300 Hours	QBS to #1, #2	3 / 231 / 0	1 / 77 / 0
LU	Latch Up 25C	100mA	QBS to #2	NA	1 / 3 / 0
EDR	Endurance Test -40C	1E13 Cycles	QBS to #1	3 / 36 / 0	NA
EDR	Endurance Test 25C	1E13 Cycles	QBS to #1	3 / 36 / 0	NA
EDR	Endurance Test 85C	1E13 Cycles	QBS to #1	3 / 36 / 0	NA

* Indicates read point extends beyond that for standard qualification. This is supplementary information only.

- Preconditioning was performed for HTOL, Autoclave, Unbiased HAST, THB/Biased HAST, Temperature Cycle, Thermal Shock, and HTSL, as applicable

- The following are equivalent HTOL options based on an activation energy of 0.7eV : 125C/1k Hours, 140C/480 Hours, 150C/300 Hours, and 155C/240 Hours
- The following are equivalent HTSL options based on an activation energy of 0.7eV : 150C/1k Hours, and 170C/420 Hours
- The following are equivalent Temp Cycle options per JESD47 : -55C/125C/700 Cycles and -65C/150C/500 Cycles

Quality and Environmental data is available at TI's external Web site: http://www.ti.com/
Green/Pb-free Status:
Qualified Pb-Free(SMT) and Green

For questions regarding this notice, e-mails can be sent to the regional contacts shown below or your local Field Sales Representative.

Location	**E-Mail**
USA	PCNAmericasContact@list.ti.com
Europe	PCNEuropeContact@list.ti.com
Asia Pacific	PCNAsiaContact@list.ti.com
Japan	PCNJapanContact@list.ti.com