

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:																
<input checked="" type="checkbox"/>	Assembly Site	<input type="checkbox"/>	Design	<input type="checkbox"/>	Wafer Bump Site											
<input type="checkbox"/>	Assembly Process	<input type="checkbox"/>	Data Sheet	<input type="checkbox"/>	Wafer Bump Material											
<input type="checkbox"/>	Assembly Materials	<input type="checkbox"/>	Part number change	<input type="checkbox"/>	Wafer Bump Process											
<input type="checkbox"/>	Mechanical Specification	<input checked="" type="checkbox"/>	Test Site	<input type="checkbox"/>	Wafer Fab Site											
<input checked="" type="checkbox"/>	Packing/Shipping/Labeling	<input type="checkbox"/>	Test Process	<input type="checkbox"/>	Wafer Fab Materials											
		<input type="checkbox"/>		<input type="checkbox"/>	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.																
<table border="1"> <thead> <tr> <th>Assembly Site</th> <th>Assembly Site Origin</th> <th>Assembly Country Code</th> <th>Assembly Site City</th> </tr> </thead> <tbody> <tr> <td>TI Malaysia</td> <td>MLA</td> <td>MY</td> <td>Kuala Lumpur</td> </tr> <tr> <td>UTAC</td> <td>NSE</td> <td>TH</td> <td>Bangkok</td> </tr> </tbody> </table>					Assembly Site	Assembly Site Origin	Assembly Country Code	Assembly Site City	TI Malaysia	MLA	MY	Kuala Lumpur	UTAC	NSE	TH	Bangkok
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																
<input type="checkbox"/>	No Impact to the Material Declaration	<input checked="" type="checkbox"/>	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:																
<table border="1"> <thead> <tr> <th colspan="4">Assembly Site</th> </tr> </thead> <tbody> <tr> <td>TI-MALAYSIA</td> <td>Assembly Site Origin (22L)</td> <td>ASO: MLA</td> <td></td> </tr> <tr> <td>UTAC</td> <td>Assembly Site Origin (22L)</td> <td>ASO: NSE</td> <td></td> </tr> </tbody> </table>					Assembly Site				TI-MALAYSIA	Assembly Site Origin (22L)	ASO: MLA		UTAC	Assembly Site Origin (22L)	ASO: NSE	
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)



MADE IN: Malaysia
2DC: 20:



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

OPT:
ITEM: 39
LBL: 5A (L)T0:1750

(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