

PCN Number:	20160627003		PCN Date:	06/29/2016	
Title:	Die Revision Change on Select MSP430FR5xxx MCU Devices				
Customer Contact:	PCN Manager		Dept:	Quality Services	
Proposed 1st Ship Date:	09/29/2016	Estimated Sample Availability:	Date provided at sample request.		
Change Type:					
<input type="checkbox"/>	Assembly Site	<input type="checkbox"/>	Assembly Process	<input type="checkbox"/>	Assembly Materials
<input checked="" type="checkbox"/>	Design	<input type="checkbox"/>	Electrical Specification	<input type="checkbox"/>	Mechanical Specification
<input type="checkbox"/>	Test Site	<input type="checkbox"/>	Packing/Shipping/Labeling	<input type="checkbox"/>	Test Process
<input type="checkbox"/>	Wafer Bump Site	<input type="checkbox"/>	Wafer Bump Material	<input type="checkbox"/>	Wafer Bump Process
<input type="checkbox"/>	Wafer Fab Site	<input type="checkbox"/>	Wafer Fab Materials	<input type="checkbox"/>	Wafer Fab Process
<input type="checkbox"/>		<input type="checkbox"/>	Part number change		

PCN Details

Description of Change:

This notification is to inform of a die revision change to select MSP430FR5xxx MCU devices. A routing change was performed in order to increase TEST pin noise robustness and correct PMM24 Errata. The design change does not affect the form fit or function of the device and therefore it represents an application drop-in replacement. There will be no accompanying changes to the device specifications.

For the GANG programmer, it is recommended to use the latest programmer SW version available under

http://software-dl.ti.com/msp430/msp430_public_sw/mcu/msp430/MSP_GANG/latest/index_FDS.html.

Affected devices are listed in the product affected section of this document.

Reason for Change:

Improved Test pin noise robustness and PMM24 Errata fix

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

None

Changes to product identification resulting from this PCN:

Die Rev designator for the affected devices will change as shown in the table and sample label below:

Current	New
Die Rev [2P]	Die Rev [2P]
G	H

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



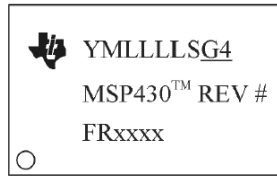


(1P) SN74LS07NSR
(Q) 2000 (D) 0336
(31T) LOT: 3959047MLA
(4W) TKY (1T) 7523483S12
(2P) REV: (V) 0033317
(20L) CSO: SHE (21L) CCO: USA
(22L) ASO: MLA (23L) ACO: MYS

Topside Symbolization for the affected devices will be as shown below:

DA38

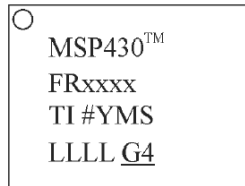
TSSOP (DA), 38 Pin



YM = Year and Month Date Code
 S = Assembly Site Code
 # = Die Revision
 LLLL = Assembly Lot Code
 ○ = Pin 1

RHA40

QFN (RHA), 40 Pin



YM = Year and Month Date Code
 S = Assembly Site Code
 # = Die Revision
 LLLL = Assembly Lot Code
 ○ = Pin 1

Product Affected

MSP430FR58471IRHAR	MSP430FR5857IRHAT	MSP430FR59471IRHAR	MSP430FR5957IRHAT
MSP430FR58471IRHAT	MSP430FR5858IDA	MSP430FR59471IRHAT	MSP430FR5958IDA
MSP430FR5847IDA	MSP430FR5858IDAR	MSP430FR5947IDA	MSP430FR5958IDAR
MSP430FR5847IDAR	MSP430FR5858IRHAR	MSP430FR5947IDAR	MSP430FR5958IRHAR
MSP430FR5847IRHAR	MSP430FR5858IRHAT	MSP430FR5947IRHAR	MSP430FR5958IRHAT
MSP430FR5847IRHAT	MSP430FR5859IDA	MSP430FR5947IRHAT	MSP430FR5959IDA
MSP430FR5848IDA	MSP430FR5859IDAR	MSP430FR5948IDA	MSP430FR5959IDAR
MSP430FR5848IDAR	MSP430FR5859IRHAR	MSP430FR5948IDAR	MSP430FR5959IRHAR
MSP430FR5848IRHAR	MSP430FR5859IRHAT	MSP430FR5948IRHAR	MSP430FR5959IRHAT
MSP430FR5848IRHAT	MSP430FR58671IRGZR	MSP430FR5948IRHAT	MSP430FR5967IRGZR
MSP430FR5849IDA	MSP430FR58671IRGZT	MSP430FR5949IDA	MSP430FR5967IRGZT
MSP430FR5849IDAR	MSP430FR5867IRGZR	MSP430FR5949IDAR	MSP430FR5968IRGZR
MSP430FR5849IRHAR	MSP430FR5867IRGZT	MSP430FR5949IRHAR	MSP430FR5968IRGZT
MSP430FR5849IRHAT	MSP430FR5868IRGZR	MSP430FR5949IRHAT	MSP430FR59691IRGZR
MSP430FR5857IDA	MSP430FR5868IRGZT	MSP430FR5957IDA	MSP430FR59691IRGZT
MSP430FR5857IDAR	MSP430FR5869IRGZR	MSP430FR5957IDAR	MSP430FR5969IRGZR
MSP430FR5857IRHAR	MSP430FR5869IRGZT	MSP430FR5957IRHAR	MSP430FR5969IRGZT

Qualification Report
Die Revision Change on Select MSP430FR5xxx MCU Devices
Qual Approved 6/13/2016

Product Attributes

Attributes	Qual Device: MSP430FR5969IRGZ Rev H	Supporting QBS #1: MSP430FR5969IRGZ Rev G	Supporting QBS #2: MSP430FR5739IRHA
Assembly Site	TI-CLARK	TI-CLARK	TI-CLARK
Package Family	VQFN	VQFN	VQFN
Flammability Rating	UL 94 V-0	UL 94 V-0	UL 94 V-0
Wafer Fab Site	TI-DMOS6	TI-DMOS6	TI-DMOS6
Wafer Fab Process	HPE035	HPE035	E035

- QBS: Qual By Similarity
- Qual Device MSP430FR5969IRGZ is qualified at LEVEL3-260CG

Qualification Results

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

Type	Test Name / Condition	Duration	Qual Device: MSP430FR5969IRGZ Rev H	Supporting QBS #1: MSP430FR5969IRGZ Rev G	Supporting QBS #2: MSP430FR5739IRHA
AC	Autoclave 121C	96 Hours	QBS to #2	N / A	3 / 231 / 0
HAST	HAST 110C/85% RH	264 Hours	QBS to #2	N / A	3 / 231 / 0
TC	Temperature Cycle - 65/150C	500 Cycles	QBS to #2	N / A	3 / 231 / 0
HTSL	High Temperature Storage Life 125C	1000 Hours	QBS to #1	3 / 231 / 0	N / A
HTOL	High Temperature Operating Life 125C	1000Hours	QBS to #1	3 / 231 / 0	N / A
HBM	ESD - HBM	500V, 1000V, 1500V	1 / 3 / 0	N / A	N / A
CDM	ESD - CDM	250V	1 / 3 / 0	N / A	N / A
LU	Latch Up 25C / 1.5 x Vcc	+/- 200mA	1 / 6 / 0	N / A	N / A
LU	Latch Up 85C / 1.5 x Vcc	+/- 100mA	1 / 6 / 0	N / A	N / A
EDR	Endurance Test Low Temp	1E13 Cycles	QBS to #1	3 / 36 / 0	N / A
EDR	Endurance Test High Temp	1E13 Cycles	QBS to #1	3 / 36 / 0	N / A
EDR	Endurance Test Room Temp	1E13 Cycles	QBS to #1	3 / 36 / 0	N / A

- Preconditioning was performed for 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
- 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 you can contact 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