

PCN Number:	20160906001		PCN Date:	Sept 8, 2016
Title:	Die Revision Change on Select MSP430FRxxxx MCU Devices			
Customer Contact:	PCN Manager		Dept:	Quality Services
Proposed 1st Ship Date:	Dec 8, 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 MSP430FRxxxx MCU devices. A routing change was performed in order to increase TEST pin noise robustness and correct PMM24 and PMM27 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

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

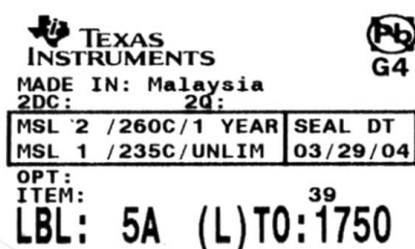
None

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]
A	B

Sample product shipping label (not actual product label)

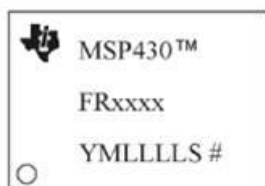


(1P) SN74LS07NSR
 (Q) 2000 (D) 0336
 (31T) LOT: 3959047MLA
 (4W) TKY (1T) 7523483SI2
 (P)
 (2P) REV: (V) 0033317
 (20L) CSO: SHE (21L) CCO:USA
 (22L) ASO: MLA (23L) ACO: MYS

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

DGG56

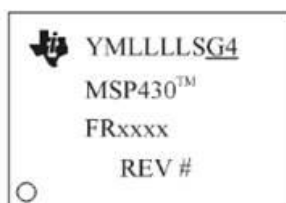
(DGG), 56 Pin



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

PM64

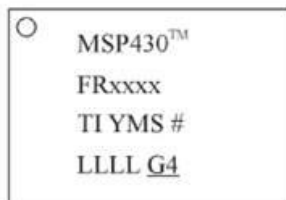
LQFP (PM), 64 Pin



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

RGC64

QFN (RGC), 64 pin



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

Product Affected			
MSP430FR5870IPMR	MSP430FR59721IPMR	MSP430FR68721IPMR	MSP430FR6922IPMR
MSP430FR5870IRGCR	MSP430FR59721IRGCR	MSP430FR68721IRGCR	MSP430FR6922IRGCR
MSP430FR58721IPMR	MSP430FR59721IPM	MSP430FR68721IPMR	MSP430FR6922IRGCT
MSP430FR58721IRGCR	MSP430FR59721IPMR	MSP430FR68721IRGCR	MSP430FR6970IPMR
MSP430FR58721IPMR	MSP430FR59721IRGCR	MSP430FR6920IG56R	MSP430FR6970IRGCR
MSP430FR58721IRGCR	MSP430FR6820IG56R	MSP430FR6920IPMR	MSP430FR69721IPM
MSP430FR59221IG56R	MSP430FR6820IPMR	MSP430FR6920IRGCR	MSP430FR69721IPMR
MSP430FR59221IPMR	MSP430FR6820IRGCR	MSP430FR69221IG56	MSP430FR69721IRGCR
MSP430FR59221IRGCR	MSP430FR68221IG56R	MSP430FR69221IG56R	MSP430FR69721IRGCT
MSP430FR59221IG56R	MSP430FR68221IPMR	MSP430FR69221IPM	MSP430FR69721IPM
MSP430FR59221IPM	MSP430FR68221IRGCR	MSP430FR69221IPMR	MSP430FR69721IPMR
MSP430FR59221IPMR	MSP430FR68221IG56R	MSP430FR69221IRGCR	MSP430FR69721IRGCR
MSP430FR59221IRGCR	MSP430FR68221IPMR	MSP430FR69221IRGCT	MSP430FR69721IRGCT
MSP430FR5970IPMR	MSP430FR68221IRGCR	MSP430FR69221IG56	
MSP430FR5970IRGCR	MSP430FR6870IPMR	MSP430FR69221IG56R	
MSP430FR59721IPM	MSP430FR6870IRGCR	MSP430FR69221IPM	

**Qualification Report
 Die Revision Change on Select MSP430FRxxxx MCU Devices**

Qual Approved: 8/17/2016

Product Attributes

Attributes	Qual Device: MSP430FR6972IPM Rev. B	QBS Device #1: MSP430FR5969IRGZ Rev. H	QBS Device #2: MSP430FR5969IRGZ Rev. F
Assembly Site	TI-PHILIPPINES	TI-CLARK	TI-CLARK
Package Family	LQFP	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	HPE035

- QBS: Qual By Similarity
- MSP430FR6989IPZ, MSP430FR5969IRGZ, MSP430FR5969IRGZ qualified at LEVEL3-260CG

Qualification Results

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

Type	Test Name / Condition	Duration	Qual Device: MSP430FR6972IPM Rev. B	QBS Device #1: MSP430FR5969IRGZ Rev. H	QBS Device #2: MSP430FR5969IRGZ Rev. F
HTOL**	High Temperature Operating Life 125C	1000 Hours	QBS Device #1, 2	1 / 77 / 0	3 / 231 / 0
FRAM**	Intrinsic Endurance - 40C	1E13 Cycles	QBS Device #2	N / A	3 / 36 / 0
FRAM**	Intrinsic Endurance 125C	1E13 Cycles	QBS Device #2	N / A	3 / 36 / 0
FRAM**	Intrinsic Endurance 25C	1E13 Cycles	QBS Device #2	N / A	3 / 36 / 0
FRAM**	Intrinsic Endurance 85C	1E13 Cycles	QBS Device #2	N / A	3 / 36 / 0
HBM	ESD - HBM	500, 1000*, 2000*, 4000* V	1 / 3 / 0	N / A	N / A
CDM	ESD - CDM	250, 500* V	1 / 3 / 0	N / A	N / A
LU	Latchup 1.5*Vmax 25C	200mA	1 / 3 / 0	N / A	N / A
LU	Latchup 1.5*Vmax 85C	100mA	1 / 3 / 0	N / A	N / A

- * Indicates readpoint extends beyond that for standard qualification. This is supplementary information only.
- ** Indicates preconditioning to MSL-3 performed prior to these tests.
- 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
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