



Product Change Notification - GBNG-10GPNP631

Date:

16 Apr 2018

Product Category:

32-bit PIC Microcontrollers; Touchscreen Controllers

Affected CPNs:**Notification subject:**

CCB 3265 Initial Notice: Qualification of UMC Fab 8N (U08N) as an additional fabrication site for selected Atmel products manufactured with the 66.11K process technology.

Notification text:**PCN Status:**

Initial notification

PCN Type:

Manufacturing Change

Microchip Parts Affected:

Please open one of the icons found in the Affected CPNs section above.

NOTE: For your convenience Microchip includes identical files in two formats (.pdf and .xls).

Description of Change:

Qualification of UMC Fab 8N (U08N) as an additional fabrication site for selected Atmel products manufactured with the 66.11K process technology.

Pre Change:

Fabricated at United Microelectronics Corporation - UMC Fab 8D (U08D) or Fab 8S (U08S) site.

Post Change:

Fabricated at United Microelectronics Corporation - UMC Fab 8D (U08D), Fab 8S (U08S) or Fab 8N (U08N) site.

Pre and Post Change Summary:

	Pre Change		Post Change		
Fabrication Supplier and Location	United Microelectronics Corporation – Fab 8D Hsin-Chu Taiwan (U08D)	United Microelectronics Corporation – Fab 8S Hsin-Chu Taiwan (U08S)	United Microelectronics Corporation – Fab 8D Hsin-Chu Taiwan (U08D)	United Microelectronics Corporation – Fab 8S Hsin-Chu Taiwan (U08S)	United Microelectronics Corporation – Fab 8N ZuZhou China (U08N)
Technology	ISO/TS16949	ISO/TS16949	ISO/TS16949	ISO/TS16949	ISO/TS16949
Die Size	No change	No change	No change	No change	No change



Wafer Diameter	8 inches	8 inches	8 inches	8 inches	8 inches
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Impacts to Data Sheet:

None

Change Impact:

None

Reason for Change:

To improve manufacturability and on-time delivery performance by qualifying UMC Fab 8N (U08N) as an additional fabrication site.

Change Implementation Status:

In Progress

Estimated Qualification Completion Date:

July 2018

Note: Please be advised the qualification completion times may be extended because of unforeseen business conditions however implementation will not occur until after qualification has completed and a final PCN has been issued. The final PCN will include the qualification report and estimated first ship date. Also note that after the estimated first ship date guided in the final PCN customers may receive pre and post change parts.

Time Table Summary:

2018	April 2018					->	July 2018
	14	15	16	17	18		
Initial PCN Issue Date			X				
Qualification Report Available							X
Final PCN Issue Date							X

Method to Identify Change:

Traceability code

Qualification Plan:

Please open the attachments included with this PCN labeled as PCN_#_Qual Plan.

Revision History:

April 16, 2018: Issued initial notification.

The change described in this PCN does not alter Microchip's current regulatory compliance regarding the material content of the applicable products.

Attachment(s):

[PCN_GBNG-10GPNP631_Qual_Plan.pdf](#)

Please contact your local [Microchip sales office](#) with questions or concerns regarding this notification.

Terms and Conditions:



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Affected Catalog Part Numbers (CPN)

ATSAMC21E15A-MNT
ATSAMC21E15A-MUT
ATSAMC21E15A-MUTDY
ATSAMC21E16A-ANT
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MICROCHIP

QUALIFICATION PLAN SUMMARY

PCN #: GBNG-10GPNP631

Date

November 08, 2017

**Qualification of UMC Fab 8N (U08N) as an additional
fabrication site for selected Atmel products manufactured
with the 66.11K process technology.**

Purpose: Qualification of UMC Fab 8N (U08N) as an additional fabrication site for selected Atmel products manufactured with the 66.11K process technology.

CCB NO.: 3265

Qualification	Test	Sampling	
		Lots	Wafers/Lot
WLR Qualification Test			
HCI Reliability (low voltage, all devices)	Hot Carrier Induced Degradation (HCI)	3	1
NBTI Reliability	Negative Bias Temperature Instability (NBTI)	3	3
Dielectric Reliability (GOI)	FEOL Ramped Voltage (V-ramp) - Area	3	25+(2*10)
	FEOL Ramped Voltage (V-ramp) - Edge	3	25+(2*10)
	FEOL Time Dependent Dielectric Breakdown (TDDB)	3	4
Electromigration	Metal ½ & TM	1	3
Passivation Integrity	Passivation pinhole test	1	3
Characterization Tests using PCMs			
High Voltage SOA for embedded NVM	Safe Operating Area (SOA)	1	3
NVM	Data Retention	1	2
	Endurance	1	1
	Characterization vs VM & prg time	1	1
SPICE Validation for 2nd sourcing			
SPICE Model Check (2 nd source projects only)	Device scaling curves: 10xL & Wx10	1	1
	Room and High temperature leakage behavior	1	1
	Special device characterization	1	1
Wafer Level Data Retention			
Wafer sort (cp1 +cp2)			4
Pre-cycling (2cycles) @RT Write CKB			4
Bake at 25°C/150°C/250°C/300°C			4
Read-out @RT T=0/48H/168H/500H/1000H			4

Test Name / Test Conditions	Method	Qty of Lots	Sample Size/Lot
Packaged Die Product Qualification			
Early Failure Rate 24h 150°C	AEC-Q100-008	3	800
Precycling 1k flash HTOL 150°C 168h 500h 1000h	JESD22 A108	3	80
Precycling 1k flash Data-Ret 175°C - 500h		3	80
Precycling 10k Flash Data-Ret 25°C - 1000h		3	80
UNL Endurance Flash 25°C - 25K		3	80
UNL Endurance Flash 85°C - 25K		3	80
UNL Endurance Flash 105°C - 25K *		3	80
UNL Endurance Flash 125°C - 25K *		3	80
UNL Endurance Flash -40°C - 25K		3	80
Electrostatic Discharge, Human Body Model (ESD HBM)		AEC-Q100-002	1
Electrostatic Discharge, Charged Device Model (ESD CDM)	AEC-Q100-011	1	3
Latch up (LU)	AEC-Q100-004	1	6
High temperature storage 175°C – 500H	JESD22 A103	3	80
Moisture sensitivity MSL3	J-STD-020	3	320
HAST 131°C/85%RH biased 96h / 198h	JESD22 A110	3	80
UHAST 131°C / 85% RH no bias 96h	JESD22 A118	3	80
TC –65°C/150°C (500 cycles)	JESD22 A104	3	80
Humidity 85°C, 85%RH, 3.7V bias 1000h	JESD22-A101	3	80