



## Product Change Notification / LIAL-27ZUED435

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**Date:**

03-Aug-2020

**Product Category:**

8-bit Microcontrollers, Capacitive Touch Sensors, Simple and Complex Programmable Logic

**PCN Type:**

Manufacturing Change

**Notification Subject:**

CCB 3296.001 Final Notice: Qualification of MTAI as an additional assembly site for selected Atmel products available in 44L TQFP 10x10x1mm package

**Affected CPNs:**

[LIAL-27ZUED435\\_Affected\\_CPN\\_08032020.pdf](#)  
[LIAL-27ZUED435\\_Affected\\_CPN\\_08032020.csv](#)

**Notification Text:**

**PCN Status:** Final Notice

**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 MTAI as an additional assembly site for selected Atmel products available in 44L TQFP 10x10x1mm package.

**Pre Change:**

Assembled at ASE using palladium coated copper with gold flash (CuPdAu) or palladium coated copper (PdCu) or Gold (Au) bond wire, CRM-1076WA or CRM-2288A die attach, G631 or G700 mold compound and C7025 lead frame material or Assembled at LPI using palladium coated copper with gold flash (CuPdAu) or Gold (Au) bond wire, CRM-1033BF die attach , G700 mold compound material and C7025 lead frame material

**Post Change:**

Assembled at ASE using palladium coated copper with gold flash (CuPdAu) or palladium coated copper (PdCu) or Gold (Au) bond wire, CRM-1076WA or CRM-2288A die attach, G631 or G700 mold compound and C7025 lead frame material or Assembled at LPI using palladium coated copper with gold flash (CuPdAu) or Gold (Au) bond wire, CRM-1033BF die attach , G700 mold compound and C7025 lead frame material or Assembled at MTAI using Gold (Au) bond wire, 3280 die attach, G700 mold compound and C7025 lead frame material

**Pre and Post Change Summary:**

	Pre Change					Post Change					
Assembly Site	ASE Inc (ASE)			Lingsen Precision Industries, LTD. (LPI)		ASE Inc (ASE)			Lingsen Precision Industries, LTD. (LPI)		Microchip Technology Thailand (HQ) (MTAI)
Wire material	CuPdAu	PdCu	Au	CuPdAu	Au	CuPdAu	PdCu	Au	CuPdAu	Au	Au
Die attach material	CRM-1076WA		CRM-2288A	CRM-1033BF		CRM-1076WA		CRM-2288A	CRM-1033BF		3280
Molding compound material	G631		G700	G700		G631		G700	G700		G700
Lead frame material	C7025					C7025					C7025
Moisture Sensitivity Level	MSL -3					MSL -3					MSL-1

**Impacts to Data Sheet:**

None

**Change Impact:**None

**Reason for Change:**To improve on time delivery performance by qualifying MTAI as an additional assembly site.

**Change Implementation Status:**In Progress

**Estimated First Ship Date:**

August 24, 2020 (date code: 2035)

NOTE: Please be advised that after the estimated first ship date customers may receive pre and post change parts

**Time Table Summary:**

	August 2020				
Workweek	32	33	34	35	36
Qual Report Availability	X				
Final PCN Issue	X				

Date					
Estimated Implementation Date				X	

**Method to Identify Change:** Traceability code

**Qualification Report:** Please open the attachments included with this PCN labeled as PCN\_#\_Qual\_Report.

**Revision History:** **August 3, 2020:** Issued final notification. Attached the Qualification Report. Provided estimated first ship date to be on August 24, 2020

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

## Attachments:

[PCN\\_LIAL-27ZUED435 Qual Report.pdf](#)

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

## Terms and Conditions:

If you wish to receive Microchip PCNs via email please register for our PCN email service at our [PCN home page](#) select register then fill in the required fields. You will find instructions about registering for Microchips PCN email service in the [PCN FAQ](#) section.

If you wish to change your PCN profile, including opt out, please go to the [PCN home page](#) select login and sign into your myMicrochip account. Select a profile option from the left navigation bar and make the applicable selections.



**MICROCHIP**

**QUALIFICATION REPORT SUMMARY**  
RELIABILITY LABORATORY

**PCN #: LIAL-27ZUED435**

**Date:**  
**July 13, 2018**

**Qualification of MTAI as an additional assembly site for selected  
Atmel products available in 44L TQFP 10x10x1mm package.**



# MICROCHIP PACKAGE QUALIFICATION REPORT

**Purpose:**

Qualification of MTAI as an additional assembly site for selected Atmel products available in 44L TQFP 10x10x1mm package.

<b><u>Misc.</u></b>	Assembly site	MTAI
	BD Number	BDM-001705 rev.A
	MP Code (MPC)	354787T4XC01
	Part Number (CPN)	ATMEGA644
	CCB and	3296 and 3296.001
	QTP No. and Rev	3393 Rev A
<b><u>Lead-Frame</u></b>	Paddle size	180x180 mils
	Material	C7025
	Surface	Bare Cu on paddle
	Treatment	Roughening
	Process	Stamped
	Lead-lock	No
	Part Number	10104412
	Lead Plating	Matte Tin
<b><u>Bond Wire</u></b>	Material	Au
<b><u>Die Attach</u></b>	Part Number	3280
	Conductive	Yes
<b><u>Mold Compound</u></b>	Part Number	G700
<b><u>PKG</u></b>	PKG Type	TQFP
	Pin/Ball Count	44
	PKG width/size	10x10 mm
	MSL	MSL1/260



# MICROCHIP PACKAGE QUALIFICATION REPORT

## Manufacturing Information:

Assembly Lot No.	Wafer No.	Date Code
MTAI184804027.000	MCSO518476707.100	18089QW
MTAI184804028.000	MCSO518476707.100	18089QY
MTAI184804029.000	MCSO518476707.100	18089R0

## Result

Pass     Fail     \_\_\_\_\_

Atmel 35478 using Au wire in 44L TQFP 10x10 package at MTAI is qualified at Moisture/ Reflow Sensitivity Classification Level 1 per IPC/JEDEC J-STD-020D standard. No delamination were observed on all the units.

# PACKAGE QUALIFICATION REPORT

Test Number (Reference)	Test Condition	Standard/ Method	Qty. (Acc.)	Def/SS	Result	Remarks
<b>Precondition Prior Perform Reliability Tests (At MSL Level 1)</b>	<b>Electrical Test : +90°C</b>  0hr CSAM  Bake 150°C, 24 hrs System: HERAEUS	JESD22-A113	958(0)	0/958	Passed	Good Devices
	85°C/85%RH Moisture Soak 168 hrs. System: Climats Excal 5423-HE	IPC/JEDEC J-STD-020D	135(0)	0/135		
	3x Convection-Reflow 265°C max System: Mancorp CR.5000F		958(0)	0/135		
	Post CSAM		135(0)		Passed	
	<b>Electrical Test :+90°C</b>		958(0)	0/958	Passed	
<b>Temp Cycle</b>	<b>Stress Condition:</b> (Standard) 65°C to +150°C, 500 Cycles System : VOTSCH VT 7012 S2	JESD22-A104	252			Parts had been pre-conditioned at 260°C
	<b>Electrical Test:</b> 90°C,  System: MAGNUM05 (Handtest)		252(0)	0/252	Passed	
	<b>Bond Strength:</b> Wire Pull (> 2.50 grams) Bond Shear (>15.00 grams)		15(0)	0/15	Passed	
<b>UNBIASED-HAST</b>	<b>Stress Condition:</b> (Standard) +130°C/85%RH, 96 hrs. System: HIRAYAMA HASTEST PC-422R8	JESD22-A118	252			Parts had been pre-conditioned at 260°C
	<b>Electrical Test:</b> +90°C System: MT9510 Handler:2580		252(0)	0/252	Passed	

# PACKAGE QUALIFICATION REPORT

Test Number (Reference)	Test Condition	Standard/ Method	Qty. (Acc.)	Def/SS.	Result	Remarks
<b>HAST</b>	<b>Stress Condition:</b> (Standard) +130°C/85%RH, 96 hrs. <b>Bias Volt:</b> 5.5 Volts System: HIRAYAMA HASTEST PC-422R8	JESD22- A110	250			Parts had been pre-conditioned at 260°C
	<b>Electrical Test:</b> +90°C System: MT9510 Handler:2580		250(0)	0/250	Passed	
<b>High Temperature Storage Life</b>	<b>Stress Condition:</b> Bake 175°C, 504 hrs System: HERAEUS	JESD22- A103	50			50 units
	<b>Electrical Test</b> :+90°C		50(0)	0/50	Passed	
<b>Solderability Temp 245°C</b>	<b>Bake:</b> Temp 155°C,4Hrs System:Oven Solder Bath: Temp.245°C Solder material: SnPb Visual Inspection: External Visual Inspection	JESD22B- 102E	15 (0)	0/15	Passed	Performed at MPHIL
<b>Bond Strength Data Assembly</b>	Wire Pull (> 2.50 grams)	M2011.8	30(0) Wires		Passed	
	Bond Shear (>15.00 grams)	MIL-STD- 883  M2011.8  MIL-STD- 883	30(0) Wires			



Affected Catalog Part Numbers(CPN)

ATF1500AL-20AU  
ATF1500A-10AU  
ATF1502AS-7AX44  
ATF1502ASL-25AU44  
ATF1502AS-10AU44  
ATF1502AS-7AX44-T  
ATF1502AS-10AU44-T  
ATF1504AS-7AX44  
ATF1504ASL-25AU44  
ATF1504AS-10AU44  
ATF1504AS-10AU44-T  
ATF1504ASL-25AU44-T  
ATF1502ASV-15AU44  
ATF1502ASV-15AU44-153  
ATF1502ASV-15AU44-T  
ATF1504ASVL-20AU44  
ATF1504ASV-15AU44  
AT89C51RC-24AU  
AT89C55WD-24AU  
AT89C55WD-24AUR  
AT89S8253-24AU  
QT6C21-ASG-V3  
QT60326-ASG  
QT6C13-ASG  
QT6C16-ASG  
QT6E22-ASG  
ATMEGA16-16AUA6  
ATMEGA16L-8AUA6  
ATMEGA16L-8AQ  
ATMEGA16L-8AQR45  
ATMEGA16-16AQR  
ATMEGA16L-8AQR  
QT6C12B-ASG  
ATMEGA16L-8AURA0  
ATMEGA16L-8AURA5  
ATMEGA16-16AURA5  
AT89LP52-20AU  
AT89LP51-20AU  
AT89LP51ED2-20AU  
AT89LP51ID2-20AU  
AT89LP51RD2-20AU  
AT89LP51RB2-20AU

AT89LP51RC2-20AU  
ATXMEGA16D4-AU  
ATXMEGA32D4-AUA5  
ATXMEGA16D4-AUA1  
ATXMEGA16A4-AU  
ATXMEGA32D4-AUA0  
ATXMEGA32A4-AU  
ATXMEGA32D4-AUR387  
ATXMEGA16A4-AUR  
ATXMEGA32A4-AUR  
ATXMEGA128D4-AU  
ATXMEGA128A4U-AU  
ATXMEGA64D4-AU  
ATXMEGA128A4U-AUR  
ATXMEGA128D4-AUR  
ATXMEGA128D4-AURA0  
ATXMEGA64D4-AURA0  
ATXMEGA64D4-AUR  
ATXMEGA16A4U-AU  
ATXMEGA32A4U-AU  
ATXMEGA32D4-AUA1  
ATXMEGA16D4-AUA0  
ATXMEGA16A4U-AN  
ATXMEGA32A4U-AN  
ATXMEGA16A4U-ANR  
ATXMEGA32A4U-ANR  
ATXMEGA16A4U-AUR  
ATXMEGA32A4U-AUR  
ATXMEGA32D4-AURA1  
ATXMEGA64A4U-AU  
ATXMEGA64A4U-AUR  
AT89LP6440-20AU  
AT89LP3240-20AU  
ATXMEGA32D4-AUA4  
ATXMEGA16D4-AUA2  
ATXMEGA16C4-AU  
ATXMEGA32C4-AU  
ATXMEGA32D4-AU  
ATXMEGA32D4-AN  
ATXMEGA32D4-ANR  
ATXMEGA16D4-AURA2  
ATXMEGA32D4-AURA4  
ATXMEGA16C4-AUR  
ATXMEGA32C4-AUR  
ATXMEGA16D4-AUR  
ATXMEGA32D4-AUR  
AT89S51-24AU

AT89LS51-16AU  
AT89S52-24AUA0  
AT89S52-24AU  
AT89LS52-16AU  
AT89S52-24AUA1  
AT89S52-24AU-HCM  
AT89S52-24AUR  
AT89LS52-16AUR