Product Change Notification - LIAL-22GYRH791

Date:

25 Oct 2018

Product Category:

8-bit Microcontrollers

Affected CPNs:

Notification subject:

CCB 3314 Final Notice: Qualification of MMT as a new assembly site for selected Atmel products of 33K, 35.5K, 35.8K, 35.9K and 37K technologies available in 44L PLCC package.

Notification text:

PCN Status:

Final notification.

PCN Type:

Manufacturing Change

Microchip Parts Affected:

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

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

Description of Change:

Qualification of MMT as a new assembly site for selected Atmel products of 33K, 35.5K, 35.8K, 35.9K and 37K technologies available in 44L PLCC package.

Pre Change:

Assembled at ANAP using CRM-1076E die attach and C194 lead frame material or assembled at LPI using CRM-1033BF die attach and C151 lead frame material.

Post Change:

Assembled at MMT using 3280 die attach and C151 lead frame material.

Pre and Post Change Summary:

	Pre Change		Post Change
Assembly Site	Amkor Technology Philippine (P1/P2), INC. (ANAP)	Lingsen Precision Industires, LTD. (LPI)	Microchip Technology Thailand (Branch) (MMT)
Wire material	Au	Au	Au
Die attach material	CRM-1076E	CRM-1033BF	3280
Molding compound material	G600	G600	G600
Lead frame material	C194	C151	C151

Impacts to Data Sheet:

None

Change Impact:
None

Reason for Change:
To improve on-time delivery performance by qualifying MMT as a new assembly site

Change Implementation Status:
In Progress

Estimated First Ship Date:
November 12, 2018 (date code: 1846)

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

Time Table Summary:

	April 2018						October 2018					November 2018			
Workweek	14	15	16	17	18		40	41	42	43	44	45	46	47	58
Initial PCN Issue Date	X														
Qual Report Availability									X						
Final PCN Issue Date									X						
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:
April 4, 2018: Issued initial notification.
October 25, 2018: Issued final notification. Updated the affected CPN list. Updated the notification subject and description of change to correct the affected wafer technology. Attached the qualification report. Provided estimated first ship date to be on November 12, 2018.

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_LIAL-22GYRH791_QUAL REPORT.pdf

Please contact your local Microchip sales office with questions or concerns regarding this notification.

Terms and Conditions:

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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.

Affected Catalog Part Numbers (CPN)

AT89C51RC-24JU
AT89C55WD-24JU
AT89C55WD-24JUR
AT89LP3240-20JU
AT89LP51-20JU
AT89LP51ED2-20JU
AT89LP51IC2-20JU
AT89LP51ID2-20JU
AT89LP51RB2-20JU
AT89LP51RC2-20JU
AT89LP51RD2-20JU
AT89LP52-20JU
AT89LP52QS840-20JUR840
AT89LP6440-20JU
AT89LS51-16JU
AT89LS52-16JU
AT89S51-24JU
AT89S51-24JUR
AT89S52-24JU
AT89S52-24JUR
AT89S8253-24JU
AT89S8253-24JU-182
AT89S8253-24JUR
ATMEGA8515-16JU
ATMEGA8515-16JUR
ATMEGA8515L-8JU
ATMEGA8515L-8JUR
ATMEGA8535-16JU
ATMEGA8535-16JUR
ATMEGA8535L-8JU
ATMEGA8535L-8JUR

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QUALIFICATION PLAN SUMMARY

PCN #: LIAL-22GYRH791

Date

October 3, 2018

Qualification of MMT as a new assembly site for selected Atmel products of 33K, 35.5K, 35.8K, 35.9K and 37K wafer technologies available in 44L PLCC package.

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Package Qualification Report

Purpose: **Qualification of MMT as a new assembly site for selected Atmel products of 33K, 35.5K, 35.8K, 35.9K and 37K wafer technologies available in 44L PLCC package.**

CCB No.: **3314**

Miscellaneous.	**CN**	ES184249-25334
	Assembly site	MMT
	BD Number	BDM-001711A rev. A
	MP Code (MPC)	336017T2XC01
	Part Number (CPN)	AT89C51RC-24JU
Lead-Frame	**Paddle size**	230x230 mils
	Material	CDA151
	Surface	Ag Spot plated
	Treatment	None
	Process	Stamped
	Lead-lock	No
	Part Number	10104409
	Lead Plating	Matte Tin
Bond Wire	**Material**	Au
Die Attach	**Part Number**	3280
	Conductive	Yes
Mold Compound	**Part Number**	G600
PKG	**PKG Type**	PLCC
	Pin/Ball Count	44
Die	**Die Thickness**	15 mils
	Die Size	178.0x124.0 mils
	Fab Process (site)	33.6K/MCSO
MSL Classification		L1/245C

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Package Qualification Report

Manufacturing Information

Assembly Lot No.	Wafer Lot No.	Date Code
MMT-190101770.000	MCSO518518266.000	1814Y4E
MMT-190101771.000	MCSO518518266.000	1814Y4G
MMT-190201173.000	MCSO518518266.000	1815Y4H

Result ☒ Pass ☐ Fail ☐ ____________________

44L PLCC package for wafer mask 33601 assembled at MMT using Au wire is qualified at Moisture/ Reflow Sensitivity Classification Level 1 per IPC/JEDEC J-STD-020D standard. No delamination was observed on all the units.

PACKAGE QUALIFICATION REPORT

Test Number (Reference)	Test Condition	Standard/ Method	Qty. (Acc.)	Def/SS	Result	Remarks
Precondition Prior Perform Reliability Tests **(At MSL Level 1)**	**Electrical Test:** +90°C	JESD22-A113	810(0)	0/810	Passed	Good Devices
	Bake 150°C, 24 hrs System: HERAEUS		810			
	85°C/85%RH Moisture Soak 168 hrs. System: Climats Excal 5423-HE	IPC/JEDEC J-STD-020D	810			
	3x Convection-Reflow 245°C max System: Mancorp CR.5000F		810			
	Electrical Test: +90°C			0/810	Passed	
Temp Cycle	**Stress Condition:** (Standard) 65°C to +150°C, 500 Cycles System: VOTSCH VT 7012 S2	JESD22-A104	243			Parts had been pre-conditioned at 245°C
	Electrical Test: +90°C System: Maverick Tester		243(0)	0/243	Passed	
	Bond Strength:					
	Wire Pull (> 6.00 grams) Bond Shear (>22.00 grams)		15(0)	0/15	Passed	

PACKAGE QUALIFICATION REPORT

Test Number (Reference)	Test Condition	Standard/ Method	Qty. (Acc.)	Def/SS	Result	Remarks
UNBIASED-HAST	**Stress Condition:** (Standard) +130°C/85%RH, 96 hrs. System: HIRAYAMA HASTEST PC-422R8	JESD22-A118	243			Parts had been pre-conditioned at 245°C
	Electrical Test: +90°C System: Maverick Tester		243(0)	0/243	Passed	
High Temperature Storage Life	**Stress Condition:** Bake 175°C, 504 hrs System: HERAEUS	JESD22-A103	54			54 units
	Electrical Test: +90°C		54(0)	54(0)	Passed	
Solderability **Temp 245°C**	**Bake:** Temp 155°C,4Hrs System: Oven Solder Bath: Temp.245°C Solder material: SnPb Visual Inspection: External Visual Inspection	J-STD-002	15 (0)	0/15	Passed	
Physical Dimensions	Physical Dimension, 10 units from 3 lot	JESD22-B100/B108	30(0) Units	0/30	Passed	
Bond Strength **Data Assembly**	Wire Pull (> 6.00 grams)	M2011.8 MIL-STD-883	30(0) Wires	0/30	Passed	
Bond Strength **Data Assembly**	Bond Shear (>22.00 grams)	M2011.8 MIL-STD-883	30 (0) bonds 30 (0) bonds	0/30	Passed	