



Product Change Notification / RMES-21XSGR557

Date:

01-Dec-2020

Product Category:

8-bit Microcontrollers

PCN Type:

Manufacturing Change

Notification Subject:

CCB 4242 Final Notice: Qualification of MMT as a new assembly site for selected Atmel products available in 40L PDIP (600 mils) package.

Affected CPNs:

[RMES-21XSGR557_Affected_CPN_12012020.pdf](#)
[RMES-21XSGR557_Affected_CPN_12012020.csv](#)

Notification Text:**PCN Status:**

Final 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 MMT as a new assembly site for selected Atmel products available in 40L PDIP (600 mils) package.

Pre Change:

Assembled at LPI using CRM-1033BF die attach and G600 molding compound material

Post Change:

Assembled at MMT using CRM-1064L die attach and GE800 molding compound material

Pre and Post Change Summary:

	Pre Change	Post Change
Assembly Site	Lingsen Precision Industries, Taiwan (LPI)	Microchip Technology Thailand (Branch) (MMT)
Wire material	CuPdAu	CuPdAu
Die attach material	CRM-1033BF	CRM-1064L
Molding compound material	G600	GE800
Lead frame material	CDA194	CDA194

Impacts to Data Sheet:

None

Change Impact:

None

Reason for Change:

To improve productivity by qualifying MMT as a new assembly site. Due to unforeseen business conditions the LPI location will be discontinued as an assembly site for 40L PDIP package.

Change Implementation Status:

In Progress

Estimated First Ship Date:

December 21, 2020 (date code: 2052)

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

Time Table Summary:

Workweek	May 2020					->	December 2020			
	18	19	20	21	22		49	50	51	52
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:

May 22, 2020: Issued initial notification.

December 01, 2020: Issued final notification. Attached the Qualification Report. Provided estimated first ship date to be on December 21, 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_RMES-21XSGR557_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.

Affected Catalog Part Numbers (CPN)

AT89C51RB2-3CSUM

AT89C51RC2-3CSUM

AT89C51RB2-3CSUL

AT80C51RD2-3CSUM



QUALIFICATION REPORT SUMMARY
RELIABILITY LABORATORY

PCN #: RMES-21XSGR557

Date
November 20, 2020

**Qualification of MMT as a new assembly site for selected
Atmel products available in 40L PDIP (600 mils) package.**

Package Qualification Report

Purpose: Qualification of MMT as a new assembly site for selected Atmel products available in 40L PDIP (600 mils) package.

Misc.	Assembly site	MMT
	BD Number	BDM-002455/A
	MP Code (MPC)	568TE7S2XC03
	Part Number (CPN)	AT89C51RB2-3CSUM
	Assembly Shipping Media (T/R, Tube/Tray)	Tube
	Base Quantity Multiple (BQM)	10
	Reliability Site	MPH
	Qual ID	QTP4182 Rev. A
	CCB No	4242
Lead-Frame	Paddle size	200x200 mils
	Material	CDA194
	DAP Surface Prep	Ag Spot Plated
	Treatment	None
	Process	Stamped
	Lead-lock	Yes
	Part Number	10104001
	Lead Plating	Matte Tin
	Strip Size	158.50x57.66mm
	Strip Density	6 units/strip
Bond Wire	Material	CuPdAu
Die Attach	Part Number	CRM-1064L
	Conductive	Yes
MC	Part Number	GE800
	Manufacturer	Hitachi
PKG	PKG Type	PDIP
	Pin/Ball Count	40
	PKG width/size	600 mils



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Package Qualification Report

Manufacturing Information

Assembly Lot Number
MMT-211000722.000
MMT-211000723.000
MMT-210901732.000

Result

Pass

Fail

56.8K wafer using CuPdAu wire on 40L PDIP at MMT assembly using 0.8 mil CuPdAu wire is qualified per QCI-39000

PACKAGE QUALIFICATION REPORT

Test Number (Reference)	Test Condition	Standard/ Method	Qty. (Acc.)	Def/SS	Result	Remarks
Temp Cycle	Stress Condition: (Standard) -65°C to +150°C, 500 Cycles System: VOTSCH VT 7012 S2	JESD22-A104	239			
	Electrical Test: +85°C System: MAV1_PT_314 / MT85XX-1830		239(0)	0/239	Pass	
	Bond Strength: Wire Pull (> 6.00 grams) Bond Shear (>22.00 grams)		15(0)	0/15	Pass	
	Stress Condition: (Standard) -65°C to +150°C, 1000 Cycles System: VOTSCH VT 7012 S2	JESD22-A104	222			
	Electrical Test: +25°C System: MAV1_PT_314 / MT85XX-1830		222(0)	0/222	Pass	
	Bond Strength: Wire Pull (> 6.00 grams) Bond Shear (>22.00 grams)		15(0)	0/15	Pass	

PACKAGE QUALIFICATION REPORT

Test Number	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	240			
	Electrical Test: +25°C System: MAV1_PT_314 / MT85XX-1830		240(0)		0/240	Pass
	Stress Condition: (Standard) +130°C/85%RH, 192 hrs. System: HIRAYAMA HASTEST PC-422R8	JESD22- A110	219			
	Electrical Test: +25°C System: MAV1_PT_314 / MT85XX-1830		219(0)	0/219	Pass	
BIASED-HAST	Stress Condition: (Standard) +130°C/85%RH, 96 hrs. Bias Volt: 5.5 Volts System: HIRAYAMA HASTEST PC-422R8	JESD22- A118	237			
	Electrical Test: +25°C System: MAV1_PT_314 / MT85XX-1830		237(0)	0/237	Pass	
	Stress Condition: (Standard) +130°C/85%RH, 192 hrs. Bias Volt: 5.5 Volts System: HIRAYAMA HASTEST PC-422R8	JESD22- A110	223			
	Electrical Test: +25°C System: MAV1_PT_314 / MT85XX-1830		223(0)	0/223	Pass	

PACKAGE QUALIFICATION REPORT

Test Number (Reference)	Test Condition	Standard/ Method	Qty. (Acc.)	Def/SS.	Result	Remarks
High Temperature Storage Life	Stress Condition: Bake 175°C, 504 hrs System: HERAEUS	JESD22- A103	50	0/50	Pass	50 units/Lot
	Electrical Test :+25°C , +85°C System: MAV1_PT_314 / MT85XX-1830		50(0)			1 Lot
Physical Dimensions	Physical Dimension, 10 units from 3 lot	JESD22- B100/B108	0/30	0/30	Pass	
Bond Strength Data Assembly	Wire Pull (> 6.00 grams)	M2011.8	0/30	0/30	Pass	
	Bond Shear (>22.00 grams)	MIL-STD- 883	0/30	0/30	Pass	