

Product Change Notification - GBNG-09OYDQ688

Date:

25 Jun 2020

Product Category:

8-bit Microcontrollers

Affected CPNs:

Notification subject:

CCB 3992.002 Final Notice: Qualification of MMT as an additional assembly site for selected Atmel products available in 24L VQFN (4x4x0.9mm) package.

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 an additional assembly site for selected Atmel products available in 24L VQFN (4x4x0.9mm) package.

Pre Change:

Assembled at ASCL using EN-4900G die attach with MSL 3 classification.

Post Change:

Assembled at ASCL using EN-4900G die attach with MSL 3 classification or assembled at MMT using 3280 die attach with MSL 1 classification.

Pre and Post Change Summary:

	Pre Change		Post Change	
Assembly Site	ASE Group Chung-Li (ASCL)	ASE Group Chung-Li (ASCL)	Microchip Technology Thailand (Branch) - (MMT)	
Wire material	CuPdAu	CuPdAu	CuPdAu	
Die attach material	EN-4900G	EN-4900G	3280	
Molding compound material	G700	G700	G700	
Lead frame material	C194	C194	C194	
MSL Classification	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 MMT as an additional assembly site.

Change Implementation Status:

In Progress

Estimated First Ship Date:

June 30, 2020 (date code: 2027)



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

Time Table Summary:

	June 2020				
Workweek	23	24	25	26	27
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:

June 25, 2020: Issued final notification. Attached the Qualification Report. Provided estimated first ship date to be on June 30, 2020.

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-09OYDQ688_Qual_Report.pdf](#)

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

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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)

ATTINY1607-MF
ATTINY807-MF
ATTINY1607-MN
ATTINY807-MN
ATTINY1607-MNR
ATTINY807-MNR
ATTINY1607-MFR
ATTINY807-MFR
ATTINY1617-MF
ATTINY1617-MZ-VAO
ATTINY1617-MN
ATTINY1617-MB-VAO
ATTINY1617-MNR
ATTINY1617-MBT-VAO
ATTINY1617-MFR
ATTINY1617-MZT-VAO
ATTINY417-MF
ATTINY817-MF
ATTINY417-MN
ATTINY817-MN
ATTINY817-MB-VAO
ATTINY817-MNR
ATTINY417-MNR
ATTINY417-MBT-VAO
ATTINY817-MBT-VAO
ATTINY817-MFR
ATTINY417-MFR
ATTINY417-MZT-VAO
ATTINY817-MZT-VAO
ATTINY3217-MF
ATTINY3217-MN
ATTINY3217-MNR
ATTINY3217-MFR

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Affected Catalog Part Numbers(CPN)

ATTINY1607-MF
ATTINY807-MF
ATTINY1607-MN
ATTINY807-MN
ATTINY1607-MNR
ATTINY807-MNR
ATTINY1607-MFR
ATTINY807-MFR
ATTINY1617-MF
ATTINY1617-MZ-VAO
ATTINY1617-MN
ATTINY1617-MB-VAO
ATTINY1617-MNR
ATTINY1617-MBT-VAO
ATTINY1617-MFR
ATTINY1617-MZT-VAO
ATTINY417-MF
ATTINY817-MF
ATTINY417-MN
ATTINY817-MN
ATTINY817-MB-VAO
ATTINY817-MNR
ATTINY417-MNR
ATTINY417-MBT-VAO
ATTINY817-MBT-VAO
ATTINY817-MFR
ATTINY417-MFR
ATTINY417-MZT-VAO
ATTINY817-MZT-VAO
ATTINY3217-MF
ATTINY3217-MN
ATTINY3217-MNR
ATTINY3217-MFR



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QUALIFICATION REPORT SUMMARY
RELIABILITY LABORATORY

PCN #:GBNG-09OYDQ688

Date
May 21, 2020

Qualification of MMT as an additional assembly site for selected Atmel products available in 24L VQFN (4x4x0.9mm) package. This is a Q006 Grade 1 qualification.



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Package Qualification Report

Purpose: Qualification of MMT as an additional assembly site for selected Atmel products available in 24L VQFN (4x4x0.9mm) package. This is a Q006 Grade 1 qualification.

<u>Misc.</u>	Assembly site	MMT
	BD Number	BDM-002177 rev. B
	MP Code (MPC)	59B17YU3BVA1
	Part Number (CPN)	ATTINY3217-MZT-VAO
	Qual ID	QTP4010 Rev. A
	CCB No.	3992 and 3992.002
<u>Lead-Frame</u>	Paddle size	114 X 114 mils
	Material	C194
	DAP Surface Prep	Ag selective plated
	Treatment	Yes
	Process	Etched
	Lead-lock	No
	Part Number	10102401
	Lead Plating	Matte Tin
	Strip Size	70 x 250 mm
Strip Density	700 units/strip	
<u>Bond Wire</u>	Material	CuPdAu
<u>Die Attach</u>	Part Number	3280
	Conductive	Yes
<u>Mold Compound</u>	Part Number	G700
<u>PKG</u>	PKG Type	VQFN Wettable flank
	Pin/Ball Count	24
	PKG width/size	4x4x0.9 mm



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Package Qualification Report

Manufacturing Information:

Assembly Lot No.
MMT-203100837.000
MMT-203001222.000
MMT-203001226.000

Result

Pass

Fail



59B17 in 24L VQFN-WFS 4x4 at MMT Passed Moisture/ Reflow Sensitivity Classification Level 1 per IPC/JEDEC J-STD-020E standard and QUALIFIED AEC Q006 Grade 1. No delamination were 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 MSL-1	Electrical Test : +25°C	JESD22-A113,	693(0)			Good Devices
	External Visual Inspection System: Luxo Lamp	JIP/IPC/JEDEC J-STD-020E	693(0)	0/693	Pass	
	Bake 150°C, 24 hrs System: HERAEUS		693(0)			
	Moisture Soak 85°C/85%RH Moisture Soak 168hrs. System: Climats Excal 5423-HE		693(0)			
	Reflow 3x Convection-Reflow 260°C max System: Mancorp CR.5000F		693(0)	0/693		
	Electrical Test : +25°C		693(0)	0/693	Pass	

Temp Cycle	Stress Condition: (Standard) -65°C to +150°C, 500 Cycles System: VOTSCH VT 7012 S2	JESD22-A104	231(0)			Parts had been pre-conditioned at 260°C
	Electrical Test: +85°C, +125°C		231(0)	0/231	Pass	
	Bond Strength: Wire Pull Bond Shear		15(0)	0/15	Pass	
	Stress Condition: (Standard) -65°C to +150°C, 1000 Cycles System: VOTSCH VT 7012 S2		231(0)			
	Electrical Test: +85°C, +125°C		231(0)	0/231	Pass	
	Bond Strength: Wire Pull Bond Shear		15(0)	0/15	Pass	

Test Number (Reference)	Test Condition	Standard / Method	Qty. (Acc.)	Def/S S	Result	Remarks
UNBIASED-HAST	Stress Condition: (Standard) +130°C/85%RH, 96 hrs. System: HIRAYAMA HASTEST PC-422R8	JESD22-A118	231(0)			Parts had been pre-conditioned at 260°C
	Electrical Test: +25°C		231(0)	0/231	Pass	
	Stress Condition: (Standard) +130°C/85%RH, 192 hrs. System: HIRAYAMA HASTEST PC-422R8		231(0)			
	Electrical Test: +25°C		231(0)	0/231	Pass	
BIASED-HAST	Stress Condition: (Standard) +130°C/85%RH, 96 hrs. System: HIRAYAMA HASTEST PC-422R8	JESD22-A110	231(0)			
	Electrical Test: +25°C, +85°C, +125°C		231(0)	0/231	Pass	
	Bond Strength: Wire Pull Bond Shear		15(0)	0/15	Pass	
	Stress Condition: (Standard) +130°C/85%RH, 192 hrs. System: HIRAYAMA HASTEST PC-422R8		231(0)			
	Electrical Test: +25°C, +85°C, +125°C		231(0)	0/231	Pass	
	Bond Strength: Wire Pull Bond Shear		15(0)	0/15	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, 500 hrs System: HERAEUS	JESD22- A103	135 (0)	0/135	Pass	
	Electrical Test : +25°C, +85°C, +125°C		135 (0)			
	Stress Condition: Bake 175°C, 1000 hrs System: HERAEUS	132 (0)	0/132	Pass		
	Electrical Test : +25°C, +85°C,+125 °C	132(0)				
Solderability Temp 245°C	Bake: Temp 155°C,4Hrs System:Oven Solder Bath: Temp.245°C	J-STD-002	22 (0)	0/22	Pass	Performed at MPHIL
Physical Dimensions	Physical Dimension, 10 units from 3 lot	JESD22- B100/B108	30(0)	0/30	Pass	
Bond Strength Data Assembly	Wire Pull 1 lot, 30 wires from 5 units min	M2011.8 MIL-STD- 883	30(0) Wires	0/30	Pass	
Bond Strength Data Assembly	Bond Shear 1 lot, 30 bonds from 5 units min	M2011.8 MIL-STD- 883	30(0) bonds	0/30	Pass	