



Product Change Notification - LIAL-22KDWM778

Date:

23 Jul 2019

Product Category:

8-bit Microcontrollers

Affected CPNs:**Notification subject:**

CCB 3789 Initial Notice: Qualification of MMT as an additional assembly site for selected Atmel products of the 59.91k wafer technology available in 14L SOIC (.150in) package.

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 MMT as an additional assembly site for selected Atmel products of the 59.91k wafer technology available in 14L SOIC (.150in) package.

Pre Change:

Assembled at ASCL using ATB-125 die attach, G700LA mold compound and C194 lead frame material

Post Change:

Assembled at ASCL using ATB-125 die attach, G700LA mold compound material and C194 lead frame material or assembled at MMT using 8390A die attach, G600V mold compound and A194 lead frame material.

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	ATB-125	ATB-125	8390A
Molding compound material	G700LA	G700LA	G600V
Lead frame material	C194	C194	A194

**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 Qualification Completion Date:

September 2019

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:

	July 2019					-->	September 2019				
Workweek	27	28	29	30	31		36	37	38	39	40
Initial PCN Issue Date				X							
Qual Report Availability									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:

July 23, 2019: 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_LIAL-22KDWM778_QUAL_PLAN.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)

ATTINY1614-SSF
ATTINY1614-SSFR
ATTINY1614-SSN
ATTINY1614-SSNR
ATTINY204-SSF
ATTINY204-SSFR
ATTINY204-SSN
ATTINY204-SSNR
ATTINY214-SSF
ATTINY214-SSFR
ATTINY214-SSN
ATTINY214-SSNR
ATTINY404-SSF
ATTINY404-SSFR
ATTINY404-SSN
ATTINY404-SSNR
ATTINY414-SSF
ATTINY414-SSFR
ATTINY414-SSN
ATTINY414-SSNR
ATTINY814-SSF
ATTINY814-SSFR
ATTINY814-SSN
ATTINY814-SSNR



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QUALIFICATION PLAN SUMMARY

PCN #: LIAL-22KDWM778

Date

June 14, 2019

Qualification of MMT as an additional assembly site for selected Atmel products of the 59.91k wafer technology available in 14L SOIC (.150in) package. This is a Q006 grade 1 qualification.

Purpose: Qualification of MMT as an additional assembly site for selected Atmel products of the 59.91k wafer technology available in 14L SOIC (.150in) package. This is a Q006 grade 1 qualification.

Miscellaneous	Assembly site	MMT
	BD Number	BDM-002169B
	MP Code (MPC)	59B15YD3XVA1
	Part Number (CPN)	ATTINY1614-SSZT-VA0
	CCB No.	3789
<u>Lead-Frame</u>	Paddle size	104x150
	Material	A194
	Surface	Bare Cu
	Treatment	Brown oxide treatment; Ag on leads
	Process	Etched
	Lead-lock	No
	Part Number	10101413
	Lead Plating	Matte Tin
	Strip Size	70x x250
	Strip Density	112
	<u>Bond Wire</u>	Material CuPdAu
<u>Die Attach</u>	Part Number	8390A
	Conductive	Yes
Mold Compound	Part Number	G600V
<u>PKG</u>	PKG Type	SOIC
	Pin/Ball Count	14
	PKG width/size	.150in
<u>Die</u>	Die Thickness	8 mils
	Die Size	2.314 x 2.354mm
	Fab Process (site)	59.91K / UMC 8D
<u>MSL</u>	MSL	1

Test Name	Conditions	Reliability Stress Read Point Grade 1: -40°C to +125°C (MCHP E Temp)	Pre & Post Reliability Stress Test Temperature Grade 1: -40°C to +125°C (MCHP E Temp)	Sample Size	Min. Qty of Spares per Lot (should be properly marked)	Qty of Lots	Total Units	Fail Accept Qty	Est. Dur. Days	Special Instructions
Wire Bond Pull - WBP	Mil. Std. 883-2011			3	0	3	Pull/shear as many as is possible per the number of wires per device to be qualified up to a maximum of 30 wires/balls from the total sample size specified.	0 fails after TC	5	Wire pull / ball shear is performed after stress testing and decapsulation.
Wire Bond Shear - WBS	CDF-AEC-Q100-001			3	0	3	Pull/shear as many as is possible per the number of wires per device to be qualified up to a maximum of 30 wires/balls from the total sample size specified.	0	5	
External Visual	Mil. Std. 883-2009/2010			All devices prior to submission for qualification testing	0	3	ALL	0	5	
HTSL (High Temp Storage Life)	JESD22-A103 +150°C 2x Stress	<u>1st Readpoint:</u> Grade 1: 1000 hrs (150°C) <u>2nd Readpoint:</u> Grade 1: 2000 hrs (150°C)	Grade 1: +25°C, +85°C, +125°C	45	5	3	150	0	21 - 167	Perform per the requirements in AEC- Q100/Q101. Spares should be properly identified.
Preconditioning - Required for surface mount devices	J-STD-020 JESD22-A113 +150°C Bake for 24 hours, moisture loading requirements per MSL 1 level + 3X reflow at peak reflow temperature per Jedec-STD-020E for package type.		Grade 1: +25°C	231 + 45 (for devices requiring PTC)	15 + 5 (for devices requiring PTC)	3	738 + 50 (for devices requiring PTC)	0	15	Spares should be properly identified. 77 units from each lot to be used for HAST, Autoclave, Temp Cycle test.
HAST	JESD22-A101 or A110 +110°C/85%RH for 264 hrs 2x Stress	<u>1st Readpoint:</u> Grade 1: 264 hrs (+110°C/85%RH) <u>2nd Readpoint:</u> Grade 1: 528 hrs (+110°C/85%RH)	Grade 1: +25°C, +85°C, +125°C	77	5	3	246	0	10 - 22	Perform per the requirements in AEC- Q006. Spares should be properly identified.
uHAST	JESD22-A102, A118, or A101 +110°C/85% RH for 264 hrs	Grade 1: 264 hrs (+110°C/85% RH)	Grade 1: +25°C	77	5	3	246	0	10	Spares should be properly identified. Use the parts which have gone through Pre- conditioning.

Temp Cycle	JESD22-A104 -65°C to +150°C 2x Stress	<u>1st Readpoint:</u> Grade 1: 500 cycles (-65°C to 150°C) <u>2nd Readpoint:</u> Grade 1: 1000 cycles (-65°C to 150°C)	Grade 1: +105°C, +125°C	77	5	3	246	0	15 - 120	Perform per the requirements in AEC-Q006. Spares should be properly identified.
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