Product Change Notification: ALAN-15VWLO673

Date:

10-Oct-2024

Product Category:

16-Bit - Microcontrollers And Digital Signal Controllers, 32-Bit Microcontrollers

Notification Subject:

CCB 6825 Final Notice: Qualification of MMT as an additional assembly site for selected PIC24FJ128Gxx, PIC24FJ256Gxx, PIC24FJ32Gxx, PIC24FJ512Gxx, PIC24FJ64Gxx, and PIC32MM0xx device families available in 48L UQFN (6x6x0.6mm) package.

Affected CPNs:

ALAN-15VWLO673_Affected_CPN_10102024.pdf
ALAN-15VWLO673_Affected_CPN_10102024.csv

PCN Status: Final Notification

PCN Type: Manufacturing Change

Microchip Parts Affected: Please open one of the files found in the Affected CPNs section.
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 PIC24FJ128Gxx, PIC24FJ256Gxx, PIC24FJ32Gxx, PIC24FJ512Gxx, PIC24FJ64Gxx, and PIC32MM0xx device families available in 48L UQFN (6x6x0.6mm) package.

Pre and Post Summary Changes:

	Pre Change	**Post Change**	
Assembly Site	Amkor Assembly & Test (Shanghai) Co., LTD (ANAC)	Amkor Assembly & Test (Shanghai) Co., LTD (ANAC)	Microchip Technology Thailand (Branch) (MMT)

Wire Material	CuPdAu	CuPdAu	Au
Die Attach Material	CRM1085A	CRM1085A	QMI519
Molding Compound Material	G631BQF	G631BQF	G700LTD
Lead-Frame Material	C7025	C7025	EFTEC64T
Lead Lock	No	No	Yes
Lead-Frame Paddle Size	193x193	193x193	193x193
DAP Surface Prep	Bare Cu	Bare Cu	Cu-RT
Lead Frame Design	See Pre and Post change for comparison.		

Impacts to Datasheet: None

Change Impact: None

Reason for Change: To improve manufacturability by qualifying MMT as an additional assembly site.

Change Implementation Status: In Progress

Estimated First Ship Date: 29 November 2024 (date code: 2448)

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

Timetable Summary:

	April 2024				>	**October 2024**					**November 2024**			
Work Week	14	15	16	17		40	41	42	43	44	45	46	47	48
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 02, 2024: Issued initial notification.
October 10, 2024: Issued Final Notification. Attached the Qualification Report. Provided estimated first ship date to be on November 29, 2024.

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

Attachments:

PCN_ALAN-15VWLO673 Qual Report.pdf
PCN_ALAN-15VWLO673_Pre and Post Change_Summary.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)

PIC24FJ512GU405-I/M4
PIC24FJ128GL405-E/M4
PIC24FJ256GL405-E/M4
PIC24FJ128GU405T-I/M4
PIC24FJ256GU405T-I/M4
PIC24FJ512GU405-E/M4
PIC24FJ512GL405-E/M4
PIC24FJ128GU405-E/M4
PIC24FJ256GU405-E/M4
PIC24FJ128GA705T-I/M4
PIC24FJ64GA705T-I/M4
PIC32MM0064GPM048T-I/M4
PIC32MM0128GPM048T-I/M4
PIC32MM0256GPM048T-I/M4
PIC24FJ128GL405-I/M4
PIC24FJ256GL405-I/M4
PIC24FJ512GL405-I/M4
PIC24FJ128GU405-I/M4
PIC24FJ128GL305-E/M4
PIC24FJ64GL305-E/M4
PIC24FJ64GA705T-E/M4
PIC24FJ32GP205T-I/M4
PIC24FJ64GU205-I/M4
PIC24FJ32GU205-I/M4
PIC24FJ64GP205-I/M4
PIC24FJ32GP205-I/M4
PIC24FJ64GP205T-I/M4
PIC24FJ64GP205-E/M4
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PIC24FJ64GU205T-I/M4
PIC24FJ32GU205-E/M4
PIC24FJ64GU205-E/M4
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PIC24FJ256GA705T-I/M4
PIC24FJ128GL405T-I/M4
PIC24FJ256GL405T-I/M4
PIC24FJ512GL405T-I/M4
PIC32MM0256GPM048T-I/M4C48
PIC32MM0256GPM048T-I/M4D48
PIC24FJ512GU405T-I/M4
PIC24FJ256GU405-I/M4
PIC24FJ256GA705-I/M4
PIC24FJ128GA705-I/M4
PIC24FJ64GA705-I/M4
PIC32MM0064GPM048-I/M4

PIC32MM0128GPM048-I/M4

PIC32MM0256GPM048-I/M4

PIC24FJ256GA705-E/M4

PIC24FJ128GA705-E/M4

PIC24FJ64GA705-E/M4

PIC32MM0064GPM048-E/M4

PIC32MM0128GPM048-E/M4

PIC32MM0256GPM048-E/M4

PIC24FJ128GL305T-I/M4

PIC24FJ64GL305T-I/M4

PIC24FJ64GL305-I/M4

PIC24FJ128GL305-I/M4

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QUALIFICATION REPORT SUMMARY
RELIABILITY LABORATORY

PCN#: ALAN-15VWLO673

Date:
September 26, 2024

Qualification of MMT as an additional assembly site for selected PIC24FJ128Gxx, PIC24FJ256Gxx, PIC24FJ32Gxx, PIC24FJ512Gxx, PIC24FJ64Gxx, and PIC32MM0xx device families available in 48L UQFN (6x6x0.6mm) package. This is a Q100 Grade 1 qualification.

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PACKAGE QUALIFICATION REPORT

Purpose	Qualification of MMT as an additional assembly site for selected PIC24FJ128Gxx, PIC24FJ256Gxx, PIC24FJ32Gxx, PIC24FJ512Gxx, PIC24FJ64Gxx, and PIC32MM0xx device families available in 48L UQFN (6x6x0.6mm) package. This is a Q100 Grade 1 qualification.
CN	E000217173
QUAL ID	R2400531 Rev. A
MP CODE	SAB054PTXFXF
Part No.	PIC24FJ512GU405-E/M4
Bonding No.	BD-002136 Rev. 01
CCB No.:	6825

Package

Type	48L UQFN-CA
Package size	6 x 6 x 0.6 mm

Lead Frame

Paddle size	193 x 193 mils
Material	EFTECT64T
Surface	Cu-RT
Process	ETCHED
Lead Lock	Yes
Part Number	10104827

Material

Epoxy	QMI519
Wire	Au wire
Mold Compound	G700LTD
Plating Composition	MATTE Sn

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PACKAGE QUALIFICATION REPORT

Manufacturing Information

Assembly Lot No.	Wafer Lot No.	Date Code
MMT-244900782.000	SCB1923528839.220	2410CR2
MMT-244900783.000	SCB1923528839.220	2410EMV
MMT-244900784.000	SCB1923528839.220	2410G6C

Result ☒ Pass ☐ Fail ☐ ____________________

48L UQFN-CA (6x6x0.6 mm) assembled by MMT pass reliability test per QCI-39000. This package was qualified the Moisture/Reflow Sensitivity Classification Level 1 at 260°C reflow temperature per IPC/JEDEC J-STD-020E standard.

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:** +25°C, 85°C and 125°C System: J750	JESD22-A113	693(0)	0/693	Pass	Good Devices
	Bake 150°C, 24 hrs. System: CHINEE	JIP/ IPC/JEDEC J-STD-020E		693		
	85°C/85%RH Moisture Soak 168 hrs. System: TABAI ESPEC Model PR-3SPH			693		
	3x Convection-Reflow 265°C max System: Vitronics Soltec MR1243			693		
	Electrical Test: +25°C, 85°C and 125°C System: J750		693(0)	0/693	Pass	

PACKAGE QUALIFICATION REPORT

Test Number (Reference)	Test Condition	Standard/ Method	Qty. (Acc.)	Def/SS.	Result	Remarks
Temp Cycle	**Stress Condition:** -55°C to +150°C, 1000 Cycles System: TABAI ESPEC TSA-70H	JESD22-A104		0/231		Parts had been pre-conditioned at 260°C
	Electrical Test: +25°C, 85°C and 125°C System: J750		231(0)	0/231	Pass	77 units / lot
	Bond Strength: Wire Pull (>2.50 grams)		15(0)	0/15	Pass	
UNBIASED-HAST	**Stress Condition:** +130°C/85%RH, 96 hrs. System: HAST 6000X	JESD22-A118		0/231		Parts had been pre-conditioned at 260°C
	Electrical Test: +25°C System: J750		231(0)	0/231	Pass	77 units / lot
HAST	**Stress Condition:** +130°C/85%RH, 96 hrs. **Bias Volt:** 3.6 Volts,1.8 Volts, System: HAST 6000X	JESD22-A110		0/231		Parts had been pre-conditioned at 260°C
	Electrical Test: +25°C, 85°C and 125°C System: J750		231(0)	0/231	Pass	77 units / lot

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: TPS Bake Oven	JESD22-A103		0/45		45 units
	Electrical Test: +25°C, 85°C and 125°C System: J750		45(0)	0/45	Pass	
Solderability Temp 245°C	**Steam Aging:** Temp 93°C,8Hrs System: SAS-3000	J-STD-002	22(0)	0/22		
	Solder Dipping:Solder Temp.245°C Solder material:Pb Free Sn 95.5Ag3.9 Cu0.6 System: ERSA RA 2200D			0/22		
	Visual Inspection: External Visual Inspection			0/22	Pass	
Bond Strength Data Assembly	Wire Pull (>2.50 grams)	Mil. Std. 883-2011	30(0) Wires	0/30	Pass	
	Bond Shear (>15.00 grams)	CDF-AEC-Q100-001	30(0) bonds	0/30	Pass	

CCB 6825

Pre and Post Change Summary

PCN# ALAN-15VWLO673

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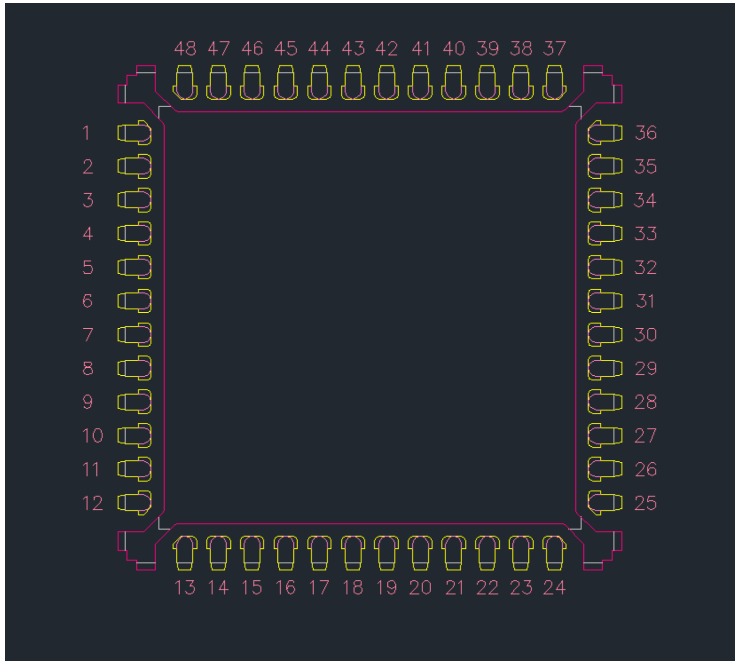
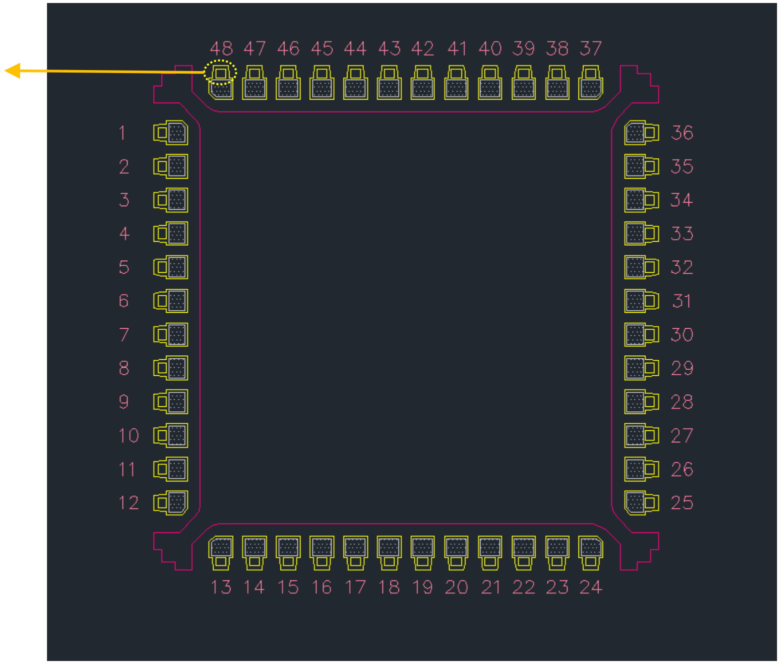
Pre and Post Change Summary

ANAC



Lead-Frame Material	C7025
Lead Lock	No
DAP Surface Prep	Bare Cu

MMT



Lead-lock

Lead-Frame Material	EFTEC64T
Lead Lock	Yes
DAP Surface Prep	Cu-RT

*Not fit to scale