

Date: 27 Nov 2015

Product Category: Analog (Thermal, Power Management & Safety)

Notification subject: CCB 1747 Final Notice: Qualification of non-conductive die attach epoxy 8900NC for selected products available in 8L SOIC package at MTAI assembly site.

Notification text: **PCN Status:**
Final notification

Microchip Parts Affected:

Please open the attachments found in the attachments field below labeled as PCN_#_Affected_CPN.

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

Description of Change:

Qualification of non-conductive die attach epoxy 8900NC for selected products available in 8L SOIC package at MTAI assembly site.

Pre Change:

Using conductive die attach epoxy 8390A.

Post Change:

Using non-conductive die attach epoxy 8900NC.

Pre and Post Change Summary:

	Pre Change	Post Change
Assembly Site	MTAI assembly site	MTAI assembly site
Wire material	Au wire	Au wire
Die attach material	8390A (conductive die attach epoxy)	8900NC (non-conductive die attach epoxy)

Molding compound material	SG-8300GM or G600IMP10 or G600V	G600IMP10 or G600V
Lead frame material	C194	C194

Impacts to Data Sheet:

None

Reason for Change:

To improve manufacturability by qualifying non-conductive die attach epoxy 8900NC at MTAI assembly site.

Change Implementation Status:

In Progress

Estimated First Ship Date:

December 27, 2015 (date code: 1552)

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

Summary Table:

	September 2015					October 2015				November 2015				December 2015				
WW	36	37	38	39	40	41	42	43	44	45	46	47	48	49	50	51	52	53
Initial PCN Issue Date				X														
Qual Report Availability								X										
Final PCN Issue Date													X					
Implementation Date																	X	

Markings to Distinguish Revised from Unrevised Devices:

Traceability code

Revision History:

September 21, 2015: Issued initial notification.

November 27, 2015: Issued final notification. Attached the qualification report. Revised the estimated first ship date from November 30, 2015 to December 27, 2015.

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_JAON-16UWYU638_Qual_Report.pdf](#) [PCN_JAON-16UWYU638_Affected_CPN.pdf](#) [PCN_JAON-16UWYU638_Affected_CPN.xls](#)

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

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Affected Catalog Part Numbers (CPN)

PCN_JAON-16UWYU638
CATALOG_PART_NBR
MCP1406-E/SN
MCP1406T-E/SN
MCP1407-E/SN
MCP1407T-E/SN
MCP1407T-E/SNVAO
TC1410COA
TC1410COA713
TC1410EOA
TC1410EOA713
TC1410NCOA
TC1410NCOA713
TC1410NEOA
TC1410NEOA713
TC1411COA
TC1411COA713
TC1411EOA
TC1411EOA713
TC1411NCOA
TC1411NCOA713
TC1411NEOA
TC1411NEOA713
TC1411NVOA
TC1411NVOA713
TC1411VOA
TC1411VOA713
TC1412COA
TC1412COA713
TC1412EOA
TC1412EOA713
TC1412NCOA
TC1412NCOA713
TC1412NEOA
TC1412NEOA713
TC1413COA
TC1413COA713
TC1413EOA
TC1413EOA713
TC1413NCOA
TC1413NCOA713
TC1413NEOA
TC1413NEOA713
TC429EOA
TC429EOA713
TC4420COA

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Affected Catalog Part Numbers (CPN)

PCN_JAON-16UWYU638
CATALOG_PART_NBR
TC4420COA713
TC4420EOA
TC4420EOA713
TC4420VOA
TC4420VOA713
TC4421AVOA
TC4421AVOA713
TC4421AVOA713-VAO
TC4422AVOA
TC4422AVOA713
TC4422AVOA713-V01
TC4429COA
TC4429COA713
TC4429EOA
TC4429EOA713
TC4429EOAAAC
TC4429VOA
TC4429VOA713
TC4431COA
TC4431COA713
TC4431EOA
TC4431EOA713
TC4431EOA713-V01
TC4431VOA
TC4431VOA713
TC4432COA
TC4432COA713
TC4432EOA
TC4432EOA713
TC4432VOA
TC4432VOA713
TC4451VOA
TC4451VOA713
TC4451VOA713-V01
TC4452VOA
TC4452VOA713



MICROCHIP

**QUALIFICATION REPORT
RELIABILITY LABORATORY**

PCN #: JAON-16UWYU638

**Date
October 26, 2015**

**Qualification of non-conductive die attach epoxy 8900NC for
selected products available in 8L SOIC package at MTAI
assembly site.**

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MICROCHIP PACKAGE QUALIFICATION REPORT

Purpose Qualification of non-conductive die attach epoxy 8900NC for selected products available in 8L SOIC package at MTAI assembly site.

CN BC151933
QUAL ID Q15141
MP CODE Y2AK1BC2XA00
Part No. TC4420EOA
Bonding No. BDE-003137 Rev. 01
CCB No. 1747

Package

Type 8L SOIC
Package size 150 mils
Die thickness 15 mils
Die size 79.1 x 75.0 mils

Lead Frame

Paddle size 95 x 158 mils
Material CDA194
Surface Ag spot
Process Stamped
Lead Lock No
Part Number 10100807
Treatment None

Die attach material

Epoxy 8900NC
Wire Au wire
Mold Compound G600V
Plating Composition Matte Tin



MICROCHIP PACKAGE QUALIFICATION REPORT

Manufacturing Information

Assembly Lot No.	Wafer Lot No.	Date Code
MTAI162401211.000	TMPE216175383.200	1537Y7W
MTAI162401640.000	TMPE216175383.200	15370EA
MTAI162401670.000	TMPE216175383.200	15370GC

Result

Pass Fail _____

8L SOIC (.150") assembled by MTAI 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-020D standard.

Prepared By: Thinnapol Date: October 26, 2015 (Sr. Reliability Engineer)

(Mr. Thinnapol Nakkasun)

Approved By: Som Date: October 26, 2015 (Reliability Manager)

(Mr. Somnuek Thongprasert)

PACKAGE QUALIFICATION REPORT

Test Number (Reference)	Test Condition	Standard/ Method	Qty. (Acc.)	Def/SS	Result	Remarks
Moisture/Reflow Sensitivity Classification Test (At MSL Level 1)	85°C/ 85%RH Moisture Soak 168 hrs. System: TABAI ESPEC Model PR-3SPH 3x Convection-Reflow 265°C max System: Vitronics Soltec MR1243 (IPC/JEDEC J-STD-020D)	IPC/JEDEC C J-STD- 020D	135	0/135	Pass	

Precondition Prior Perform Reliability Tests (At MSL Level 1)	Electrical Test :+25°C,125°C and -40°C System: ETS88	JESD22- A113	693(0)	693	Pass	Good Devices
	Bake 150°C, 24 hrs System: CHINEE			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 and 125°C System: ETS88			0/693		

PACKAGE QUALIFICATION REPORT

Test Number (Reference)	Test Condition	Standard/ Method	Qty. (Acc.)	Def/SS.	Result	Remarks
Temp Cycle	Stress Condition: -65°C to +150°C, 500 Cycles System : TABAI ESPEC TSA-70H	JESD22- A104		231		Parts had been pre-conditioned at 260°C
	Electrical Test: + 125°C System: ETS88		231(0)	0/231	Pass	77 units / lot
	Bond Strength: Wire Pull (> 3.0 grams) Bond Shear (>18.00 grams)		15 (0)	0/15	Pass	
UNBIASED-HAST	Stress Condition: +130°C/85%RH, 96 hrs. System: HAST 6000X	JESD22- A118		231		Parts had been pre-conditioned at 260°C
	Electrical Test: +25°C System: ETS88		231(0)	0/231	Pass	77 units / lot
HAST	Stress Condition: +130°C/85%RH, 96 hrs. Bias Volt: 18 Volts System: HAST 6000X	JESD22- A110		231		Parts had been pre-conditioned at 260°C
	Electrical Test: +25°C and 125°C System: ETS88		231(0)	0/231	Pass	77 units / lot
High Temperature Storage Life	Stress Condition: Bake 175°C, 504 hrs System: SHEL LAB	JESD22- A103		45		45 units
	Electrical Test :+25°C and 125°C System: ETS88		45(0)	0/45	Pass	

PACKAGE QUALIFICATION REPORT

Test Number (Reference)	Test Condition	Standard/ Method	Qty. (Acc.)	Def/SS.	Result	Remarks
Bond Strength Data Assembly	Wire Pull (> 3.0 grams)	M2011	30 (0) Wires	0/30	Pass	
	Bond Shear (>18.00 grams)	JESD22- B116	30 (0) bonds	0/30	Pass	