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**Date:** 10 Jun 2011

**Product Category:** Touch Sensing Technologies; Analog (Thermal, Power Management & Safety); Analog (Linear & Mixed Signal) AND Interface; 8-bit Microcontrollers

**Device Family:** 

**Notification subject:** CCB 1029.02: Qualification of 16 & 20L QFN (4x4) packages with EFTEC-64T leadframe at NSEB (UTL)

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

Microchip Parts Affected:  
See attachments of affected catalog part numbers (CPN) labeled as...  
PCN\_CYER-07UMLO591\_Affected\_CPN.xls  
PCN\_CYER-07UMLO591\_Affected\_CPN.pdf

Description of Change:  
Qualification of 16 & 20L QFN (4x4) packages with EFTEC-64T leadframe at NSEB (UTL).

Pre Change:  
C194

Post Change:  
EFTEC-64T

Impacts to Data Sheet:  
None

Reason for Change:  
Improve manufacturability

Change Implementation Status:  
Not initiated

Estimated First Ship Date:  
June 30, 2011 (Date code 1123)

NOTE: Please be advised that during the transition period customers may receive pre and post change parts, due to existing inventory of the pre changed parts.

Markings to Distinguish Revised from Unrevised Devices:  
Traceability code

PCN CYER-07YNRE108 Document Revision History:  
February 22, 2011: Initial notice issued.

June 10, 2011: Issue final notice. Add qualification report. Revise estimated first ship date.

**Attachment(s):**

[PCN\\_CYER-07UMLO591\\_Affected\\_CPN.pdf](#) [PCN\\_CYER-07UMLO591\\_Affected\\_CPN.xls](#)  
[PCN\\_CYER-07UMLO591\\_Qual Report.pdf](#)

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## Product Change Notification - CYER-07UMLO591



PCN_CYER-07UMLO591
CATALOG_PART_NBR
AR1010-I/ML
AR1010T-I/ML
AR1020-I/ML
AR1020T-I/ML
HA0121-I/ML
HA0121T-I/ML
HA1218-I/ML
HA1218T-I/ML
HA1379-I/ML
HA1379T-I/ML
MCP1631-E/ML
MCP1631T-E/ML
MCP1631V-E/ML
MCP1631VT-E/ML
MCP23008-E/ML
MCP23008T-E/ML
MCP23S08-E/ML
MCP23S08-E/MLV02
MCP23S08T-E/ML
MCP23S08T-E/MLV02
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MCP73871T-3CAI/ML
MCP73871T-3CCI/ML
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PS810-I/ML

Parts Affected

AR1010  
AR1020  
MCP1631  
MCP1631V  
MCP23008  
MCP23S08  
MCP2515  
MCP3901  
MCP4231  
MCP4241  
MCP4251  
MCP4261  
MCP4331  
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PIC16F720

PIC16F721

PIC16F785

PIC18F13K22

PIC18F14K22

PS810



**MICROCHIP**

**QUALIFICATION REPORT  
RELIABILITY LABORATORY**

**PCN #: CYER-07UMLO591**

Date

April 25, 2011

**Qualification of 16 & 20L QFN (4x4) packages with EFTEC-64T lead frame at  
NSEB (UTL)**

Distribution

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## MICROCHIP PACKAGE QUALIFICATION REPORT

<b>Purpose</b>	Qualification of 16 & 20L QFN (4x4) packages with EFTEC-64T lead frame at NSEB (UTL)
<b>CN</b>	BC110566
<b>QUAL ID</b>	Q11024
<b>MP CODE</b>	YHAB17D5XA00
<b>Part No.</b>	MCP73861-I/ML
<b>Bonding No.</b>	BDM-000019 Rev. A (Engineering Bonding)
<b>CCB No.</b>	1029.02
<b><u>Package</u></b>	
<b>Type</b>	16L QFN
<b>Package size</b>	4X4x0.9 mm
<b>Die thickness</b>	11 mils
<b>Die size</b>	76.7 x 96.6 mils
<b><u>Lead Frame</u></b>	
<b>Paddle size</b>	110 x 110 mils
<b>Material</b>	EFTEC-64T
<b>Surface</b>	Copper with Ag ring on lead only
<b>Lead Lock</b>	Yes
<b>Part Number</b>	FR0224
<b><u>Die attach material</u></b>	
<b>Epoxy</b>	8200T / Ablestik (USA)
<b>Wire</b>	Au wire / Tanaka (Malaysia)
<b>Mold Compound</b>	G770HCD / Sumitomo (Singapore)
<b>Plating Composition</b>	Matte Tin



# MICROCHIP PACKAGE QUALIFICATION REPORT

## Manufacturing Information

Assembly Lot No.	Wafer Lot No.	Trace Code
NSEB114900203	TSMC906268713.500	1110Y18
NSEB114900204	TSMC906268713.500	1110Y1A
NSEB114900205	TSMC906268713.500	1110Y1C

**Result**       Pass       Fail       \_\_\_\_\_

16L QFN (4x4x0.9 mm) with new leadframe supplier assembled by UTL (NSEB) 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-020C standard.

**Prepared By:** \_\_\_\_\_ **Date:** April 25, 2011 **(Reliability Engineer)**

(Mr.Udom Suksansakul)

**Approved By:** \_\_\_\_\_ **Date:** April 25, 2011 **(Reliability Manager)**

(Mr.Surasit Phurikhup)



# PACKAGE QUALIFICATION REPORT

Test Number (Reference)	Test Condition	Microchip Spec	Qty. (Acc.)	Date in	Date Out	Def/SS.	Result	Remarks
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<b><u>MSL</u></b>								
MSL Level 1/260°C	85°C/ 85%RH Moisture Soak 168 hrs. System: TABAI ESPEC Model PR-3SPH 3x Convection-Reflow 260°C max System: Vitronics Soltec MR1243 ( IPC/JEDEC J-STD-020C)	S12/14/16 (PDC)	135	03/19/11	03/29/11	0/135	Pass	

<b><u>Precondition</u></b>								
Electrical Test	Electrical Test : +25°C and 85°C System: TTS	S12/14/16 (PDC)	693(0)	03/16/11	03/18/11	693		Good Devices
Bake	Bake 150°C, 24 hrs System: CHINEE	PI-92014B		03/19/11	03/21/11	693		
Moisture Soak	85°C/85%RH Moisture Soak 168 hrs. System: TABAI ESPEC Model PR-3SPH	PI-91173B		03/21/11	03/28/11	693		
Convection-Reflow	3x Convection-Reflow 260°C max System: Vitronics Soltec MR1243	PI-91160B		03/28/11	03/28/11	693		
Electrical Test	Electrical Test : +25°C and 85°C System: TTS	S12/14/16 (PDC)		03/28/11	03/29/11	0/693	Pass	

# PACKAGE QUALIFICATION REPORT

Test Number (Reference)	Test Condition	Microchip Spec	Qty. (Acc.)	Date in	Date Out	Def/SS.	Result	Remarks
<b>Temp Cycle</b>	<b>Stress Condition:</b> -65°C to +150°C, 500 Cycles System : TABAI ESPEC TSA-70H Inspection: External crack inspection all units under 40X Optical magnification	PI-91020B		03/29/11	04/10/11	231		Parts had been pre-conditioned at 260°C
		QCI-33003	30(0)	04/10/11	04/10/11	0/30		
	<b>Electrical Test:</b> + 85°C System: TTS	S12/14/16 (PDC)	231(0)	04/10/11	04/18/11	0/231	Pass	77 units / lot
		<b>Bond Strength:</b> Bond Shear (9.50 grams) Wire Pull (> 3 grams)	QCI-91022	15 (0) 15 (0)	04/18/11 04/18/11	04/19/11 04/19/11	0/15 0/15	Pass Pass
<b>UNBIASED-HAST</b>	<b>Stress Condition:</b> +130°C, 85% RH, 15 PSI, 96 hrs. System: HIRAYAMA TPC-422R	PI-91261B		03/29/11	04/05/11	231		Parts had been pre-conditioned at 260°C
		S12/14/16 (PDC)	231(0)	04/05/11	04/06/11	0/231	Pass	77 units / lot

# PACKAGE QUALIFICATION REPORT

Qual Report : Q11024

Test Number (Reference)	Test Condition	Microchip Spec	Qty. (Acc.)	Date in	Date Out	Def/SS.	Result	Remarks
<b>HAST</b>	<b>Stress Condition:</b> +130°C/85%RH, 96 hrs. System: HAST 6000X	PI-92010B		03/29/11	04/05/11	231		Parts had been pre-conditioned at 260°C
	<b>Electrical Test:</b> +25°Cand 85°C System: TTS	S12/14/16 (PDC)	231(0)	04/05/11	04/07/11	0/231	Pass	77 units / lot
<b>High Temperature Storage Life</b>	<b>Stress Condition:</b> Bake 175°C, 504 hrs System: SHEL LAB	PI-92014B S12/14/16		03/18/11	04/10/11	45		45 units
	<b>Electrical Test:</b> +25°Cand 85°C System:TTS	(PDC)	45(0)	04/10/11	04/18/11	0/45	Pass	
<b>Solderability Temp 245°C</b>	<b>Steam Aging:</b> Temp 93°C,8Hrs System: SAS-3000	QCI-31003	22 (0)	03/18/11	03/19/11	22		
	<b>Solder Dipping:</b> Solder Temp.245°C Solder material: Pb Free Sn 95.5Ag3.9 Cu0.6 System: ERSA RA 2200D			03/19/11	03/19/11	22		
	Visual Inspection: External Visual Inspection			03/19/11	03/19/11	0/22	Pass	
<b>Bond Strength Data Assembly</b>	Bond Shear (9.50 grams)		30 (0) bonds	-	-	0/30	Pass	
	Wire Pull (> 4 grams)	QCI-91022	30 (0) wires	-	-	0/30	Pass	