



## Product Change Notification / GBNG-18IDVA860

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### Date:

10-Aug-2020

### Product Category:

8-bit Microcontrollers, Capacitive Touch Sensors

### PCN Type:

Manufacturing Change

### Notification Subject:

CCB 4181, 4181.001 and 4181.002 Final Notice: Qualification of MMT as an additional assembly site for selected products available in 40L (5x5x0.5mm), 28L (4x4x0.55mm) and 16L UQFN (4x4x0.5mm) packages.

### Affected CPNs:

[GBNG-18IDVA860\\_Affected\\_CPN\\_08102020.pdf](#)

[GBNG-18IDVA860\\_Affected\\_CPN\\_08102020.csv](#)

### 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 products available in 40L (5x5x0.5mm), 28L (4x4x0.55mm) and 16L UQFN (4x4x0.5mm) packages.

#### Pre Change:

Assembled at NSEB assembly site.

#### Post Change:

Assembled at NSEB assembly site or assembled at MMT assembly site.

**Pre and Post Change Summary:**

	Pre Change	Post Change	
<b>Assembly Site</b>	UTAC Thai Limited LTD (NSEB)	UTAC Thai Limited LTD (NSEB)	Microchip Technology Thailand (Branch) / MMT
<b>Wire material</b>	Au	Au	Au
<b>Die attach material</b>	8600	8600	8600
<b>Molding compound material</b>	G700LTD	G700LTD	G700LTD
<b>Lead frame material</b>	EFFECT 64T	EFFECT 64T	EFFECT 64T

**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:**

August 17, 2020 (date code: 2034)

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

**Time Table Summary:**

	March 2020					-->	August 2020				
	10	11	12	13	14		31	32	33	34	35
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:March 19, 2020:** Issued initial notification.

**August 10, 2020:** Issued final notification. Attached the Qualification Report. Revised the affected parts list. Provided estimated first ship date to be on August 17, 2020.

The change described in this PCN does not alter Microchip's current regulatory compliance regarding the material content

of the applicable products.

## **Attachments:**

[PCN\\_GBNG-18IDVA860\\_Qual\\_Report.pdf](#)

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

## **Terms and Conditions:**

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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)

PIC16LF1904-I/MV  
PIC16LF1907-I/MV  
PIC16LF1904T-I/MV022  
PIC16LF1904T-I/MV  
PIC16LF1907T-I/MV  
PIC16LF1567-E/MV  
PIC16LF1567-I/MV  
PIC16LF1567T-I/MV  
PIC18F46K20-E/MV  
PIC18F46K20-I/MV  
PIC16F727-I/MV  
PIC16F1937-E/MV  
PIC16F1937-I/MV  
PIC16F1937T-I/MV  
PIC16F1934-I/MV  
PIC16F1934T-I/MV  
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PIC16LF19156T-I/MV



**MICROCHIP**

**QUALIFICATION REPORT SUMMARY**  
RELIABILITY LABORATORY

**PCN#: GBNG-18IDVA860**

**Date**  
**July 29, 2020**

**Qualification of MMT as an additional assembly site for selected products available in 40L (5x5x0.5mm) UQFN package. The selected products available 28L (4x4x0.55mm) and 16L UQFN (4x4x0.5mm) packages will qualify by similarity (QBS).**



## MICROCHIP PACKAGE QUALIFICATION REPORT

<b>Purpose</b>	Qualification of MMT as an additional assembly site for selected products available in 40L (5x5x0.5mm) UQFN package. The selected products available 28L (4x4x0.55mm) and 16L UQFN (4x4x0.5mm) packages will qualify by similarity (QBS).
<b>CN</b>	ES338705
<b>QUAL ID</b>	R2000374 Rev. A
<b>MP CODE</b>	LEDC14S5XAXX
<b>Part No.</b>	PIC16F1777-E/MV
<b>Bonding No.</b>	BDM-002381 Rev. A
<b>CCB No.</b>	4181, 4181.001 and 4181.002
<b><u>Package</u></b>	
<b>Type</b>	40L UQFN
<b>Package size</b>	5x5x0.5 mm
<b>Die thickness</b>	5 mils
<b>Die size</b>	133.1 x 138.7 mils
<b><u>Lead Frame</u></b>	
<b>Paddle size</b>	154 x 154 mils
<b>Material</b>	EFFECT 64T
<b>Surface</b>	Bare Cu with BOT
<b>Process</b>	Etched
<b>Lead Lock</b>	No
<b>Part Number</b>	10104014
<b><u>Material</u></b>	
<b>Epoxy</b>	8600
<b>Wire</b>	Au wire
<b>Mold Compound</b>	G700LTD
<b>Plating Composition</b>	Matte Tin





**MICROCHIP**  
**PACKAGE QUALIFICATION REPORT**

**Manufacturing Information**

Assembly Lot No.	Wafer Lot No.	Date Code
MMT-211001472.000	GRSM420460658.310	2023GCK
MMT-211100706.000	GRSM420460658.320	2024GCP
MMT-211100707.000	GRSM420460658.300	2024GCQ

**Result**

Pass  Fail  \_\_\_\_\_

40L UQFN (5x5x0.5 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
<b>Precondition Prior Perform Reliability Tests (At MSL Level 1)</b>	<b>Electrical Test:</b> +25°C, 85°C and 125°C System: J750	JESD22-A113	693(0)	693		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		
	<b>Electrical Test:</b> +25°C, 85°C and 125°C System: J750			0/693	Pass	
<b>Temp Cycle</b>	<b>Stress Condition:</b> -65°C to +150°C, 500 Cycles System : TABAI ESPEC TSA-70H	JESD22-A104		231		Parts had been pre-conditioned at 260°C
	<b>Electrical Test:</b> +85°C and 125°C System: J750		231(0)	0/231	Pass	77 units / lot
	<b>Bond Strength:</b> Wire Pull (> 2.5 grams) Bond Shear (>15.00 grams)		15 (0)	0/15	Pass	
			15 (0)	0/15	Pass	
<b>UNBIASED-HAST</b>	<b>Stress Condition:</b> +130°C/85%RH, 96 hrs. System: HAST 6000X	JESD22-A118		231		Parts had been pre-conditioned at 260°C
	<b>Electrical Test:</b> +25°C System: J750		231(0)	0/231	Pass	77 units / lot
<b>HAST</b>	<b>Stress Condition:</b> +130°C/85%RH, 96 hrs. <b>Bias Volt:</b> 5.5 Volts System: HAST 6000X	JESD22-A110		231		Parts had been pre-conditioned at 260°C
	<b>Electrical Test:</b> +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
<b>High Temperature Storage Life</b>	<b>Stress Condition:</b> Bake 175°C, 500 hrs System: SHEL LAB	JESD22-A103		45		45 units
	<b>Electrical Test:</b> +25°C, 85°C and 125°C System: J750		45(0)	0/45	Pass	
<b>Solderability Temp 215°C</b>	<b>Steam Aging:</b> Temp 93°C,8Hrs System: SAS-3000 Solder Dipping: Solder Temp.215°C Solder material: SnPb Sn63,Pb37 System: ERSA RA 2200D Visual Inspection: External Visual Inspection	J-STD-002	22 (0)	22 22 0/22	Pass	
<b>Solderability Temp 245°C</b>	<b>Steam Aging:</b> Temp 93°C,8Hrs System: SAS-3000 Solder Dipping:Solder Temp.245°C Solder material:Pb Free Sn 95.5Ag3.9 Cu0.6 System: ERSA RA 2200D Visual Inspection: External Visual Inspection	J-STD-002	22 (0)	22 22 0/22	Pass	
<b>Physical Dimensions</b>	Physical Dimension, 10 units from 1 lot	JESD22-B100/B108	30(0) Units	0/30	Pass	
<b>Bond Strength Data Assembly</b>	Wire Pull (> 2.50 grams)	M2011	30 (0) Wires	0/30	Pass	
	Bond Shear (>12.60 grams)	JESD22-B116	30 (0) bonds	0/30	Pass	