



Product Change Notification / GBNG-16LFXC744

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**Date:**

22-Jun-2021

**Product Category:**

8-bit Microcontrollers

**PCN Type:**

Manufacturing Change

**Notification Subject:**

CCB 3430.005 Final Notice: Qualification of MTAI as an additional assembly site for selected PIC16F1919x, PIC16LF1919x, PIC18F6xxx and PIC18LF6xxx device families available in 64L QFN (9x9x0.9mm) package.

**Affected CPNs:**

[GBNG-16LFXC744\\_Affected\\_CPN\\_06222021.pdf](#)

[GBNG-16LFXC744\\_Affected\\_CPN\\_06222021.csv](#)

**Notification Text:**

**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 MTAI as an additional assembly site for selected PIC16F1919x, PIC16LF1919x, PIC18F6xxx and PIC18LF6xxx device families available in 64L QFN (9x9x0.9mm) package.

**Pre and Post Change Summary:**

	Pre Change		Post Change		
<b>Assembly Site</b>	UTAC Thai Limited (UTL-1) LTD. (NSEB)		UTAC Thai Limited (UTL-1) LTD. (NSEB)		Microchip Technology Thailand (HQ) (MTAI)
<b>Wire material</b>	Au		Au		Au
<b>Die attach material</b>	8600		8600		3280
<b>Molding compound material</b>	G700LTD		G700LTD		G700LTD
<b>Lead frame material</b>	EFTEC-64T		EFTEC-64T		C194
<b>Lead frame DAP surface prep</b>	Ag	Bare Cu	Ag	Bare Cu	Bare Cu
<b>Lead frame design</b>	See attached pre and post change comparison				

**Impacts to Data Sheet:**

None

**Change Impact:**

None

**Reason for Change:**

To improve manufacturability by qualifying MTAI as an additional assembly site.

**Change Implementation Status:**

In Progress or complete

**Estimated First Ship Date:**

July 10, 2021 (date code: 2128)

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

**Time Table Summary:**

	June 2021					July 2021			
Workweek	23	24	25	26	27	28	29	30	31
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:**

**June 22, 2021:** Issued final notification. Attached the Qualification Report. Provided estimated first ship date to be on July 10, 2021.

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-16LFXC744\\_Qual\\_Report.pdf](#)

[PCN\\_GBNG-16LFXC744\\_Pre and Post Change\\_Summary.pdf](#)

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

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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)

PIC18F65K40-E/MR  
PIC18F66K40-E/MR  
PIC18LF65K40-E/MR  
PIC18LF66K40-E/MR  
PIC18F65K40-I/MR  
PIC18F66K40-I/MR  
PIC18LF65K40-I/MR  
PIC18LF66K40-I/MR  
PIC18F65K40T-I/MR  
PIC18F66K40T-I/MR  
PIC18LF65K40T-I/MR  
PIC18LF66K40T-I/MR  
PIC16F19195-E/MR  
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PIC16F19197-E/MR  
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PIC16LF19196-I/MR  
PIC16LF19197-I/MR  
PIC16LF19195T-I/MR  
PIC16LF19196T-I/MR  
PIC16LF19197T-I/MR  
PIC16LF19196T-E/MRVAO  
PIC18F67K40-E/MR  
PIC18LF67K40-E/MR  
PIC18F67K40-I/MR  
PIC18LF67K40-I/MR  
PIC18F67K40T-I/MR  
PIC18LF67K40T-I/MR

GBNG-16LFXC744 - CCB 3430.005 Final Notice: Qualification of MTAI as an additional assembly site for selected PIC16F1919x, PIC16LF1919x, PIC18F6xxx and PIC18LF6xxx device families available in 64L QFN (9x9x0.9mm) package.

Affected Catalog Part Numbers(CPN)

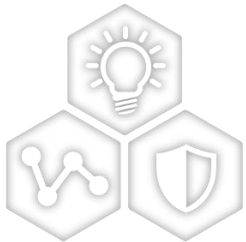
PIC18F65K40-E/MR  
PIC18F66K40-E/MR  
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PIC18F66K40-I/MR  
PIC18LF65K40-I/MR  
PIC18LF66K40-I/MR  
PIC18F65K40T-I/MR  
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PIC16LF19197-I/MR  
PIC16LF19195T-I/MR  
PIC16LF19196T-I/MR  
PIC16LF19197T-I/MR  
PIC16LF19196T-E/MRVAO  
PIC18F67K40-E/MR  
PIC18LF67K40-E/MR  
PIC18F67K40-I/MR  
PIC18LF67K40-I/MR  
PIC18F67K40T-I/MR  
PIC18LF67K40T-I/MR

**CCB 3430.005**  
**Pre and Post Change Summary**  
**PCN #: GBNG-16LFXC744**



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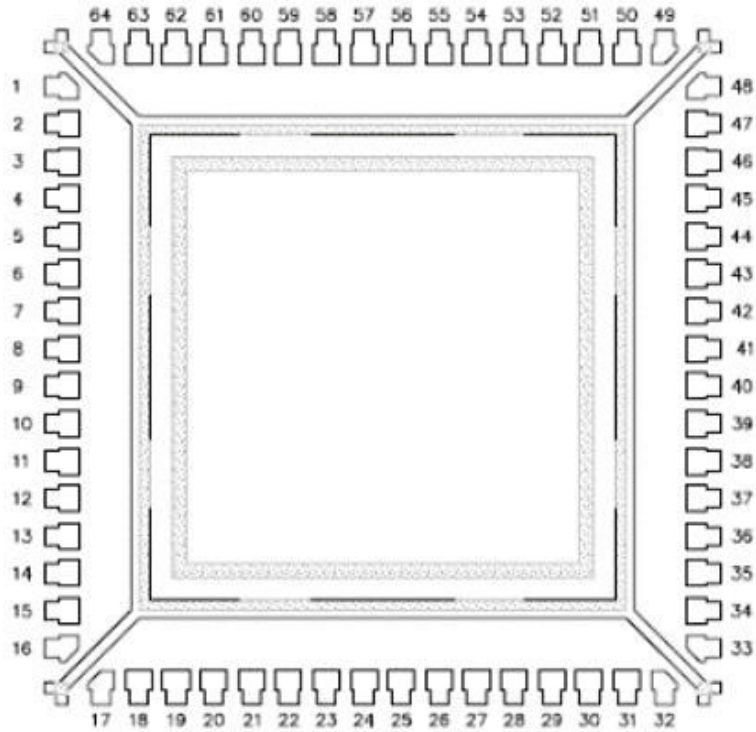
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SMART | CONNECTED | SECURE

# LEAD FRAME COMPARISON

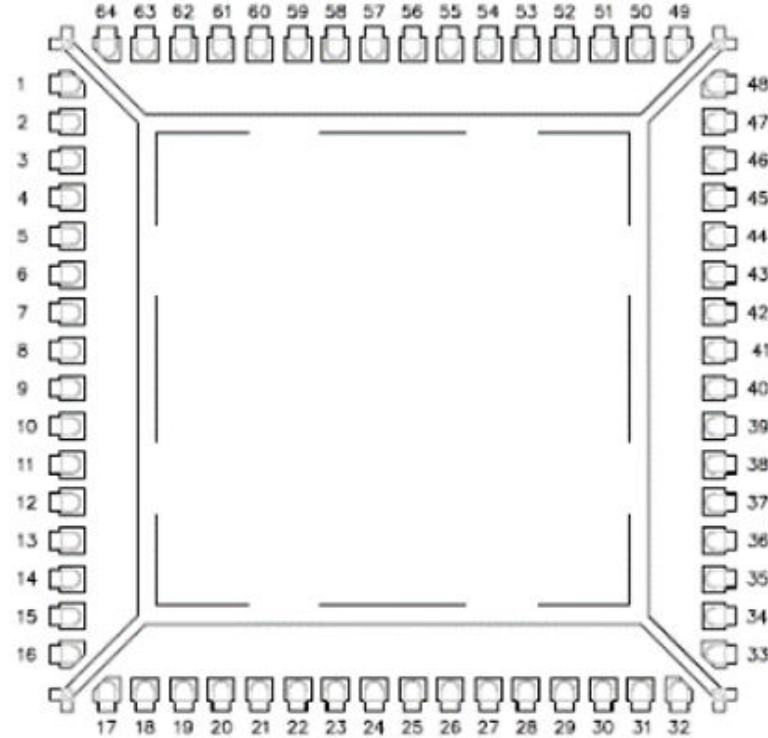
## NSEB



Lead frame DAP surface prep

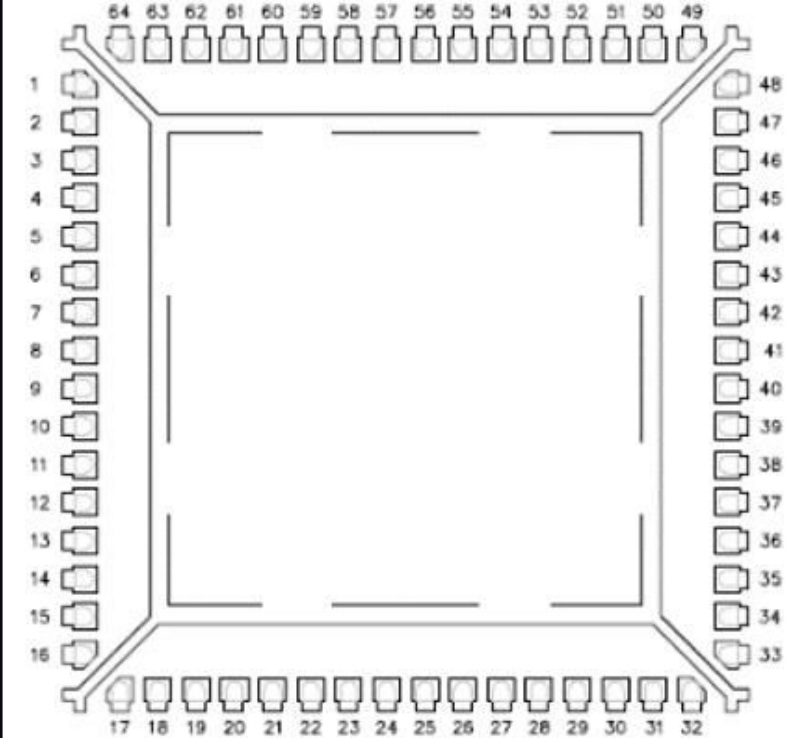
Ag

## MTAI



Lead frame DAP surface prep

Bare Cu



Lead frame DAP surface prep

Bare Cu



**MICROCHIP**

**QUALIFICATION REPORT SUMMARY**  
RELIABILITY LABORATORY

**PCN #: GBNG-16LFXC744**

**Date**

**Sep 21, 2018**

**Qualification of MTAI as an additional assembly site for selected PIC16F1919x, PIC16LF1919x, PIC18F6xxx and PIC18LF6xxx device families available in 64L QFN (9x9x0.9mm) package. This is a qualification by similarity (QBS) and a Q100 grade 1 qualification.**





## MICROCHIP PACKAGE QUALIFICATION REPORT

**Purpose** Qualification of MTAI as an additional assembly site for selected PIC16F1919x, PIC16LF1919x, PIC18F6xxx and PIC18LF6xxx device families available in 64L QFN (9x9x0.9mm) package. This is a qualification by similarity (QBS) and a Q100 grade 1 qualification.

<b>CCB No.</b>	3430 and 3430.005
<b>CN</b>	ES221246
<b>QUAL ID</b>	Q18125 Rev. A
<b>MP CODE</b>	MVAJ145LXVL1
<b>Part No.</b>	PIC16LF19196-E/5LXVAO
<b>Bonding No.</b>	BDM-001820 Rev A
<b><u>Package</u></b>	
<b>Type</b>	64L VQFN-WFS (Wettable flank)
<b>Package size</b>	9 x 9 x 1 mm
<b><u>Lead Frame</u></b>	
<b>Paddle size</b>	264 x 264 mils
<b>Material</b>	C194
<b>Surface</b>	Bare Cu DAP
<b>Process</b>	Etched
<b>Lead Lock</b>	No
<b>Part Number</b>	10106409
<b>Treatment</b>	Roughening
<b><u>Material</u></b>	
<b>Epoxy</b>	3280
<b>Wire</b>	Au
<b>Mold Compound</b>	G700LTD
<b>Plating Composition</b>	Matte Tin



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

**Manufacturing Information**

<b>Assembly Lot No.</b>	<b>Wafer Lot No.</b>	<b>Date Code</b>
MTAI191403570.000	TMPE218237901.211	18278DP
MTAI191404149.000	TMPE218237901.211	1827JB8
MTAI191502417.000	TMPE218237901.211	1828JH4

**Result**

Pass

Fail

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64L VQFN 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-020E standard.

## PACKAGE QUALIFICATION REPORT

Test Number (Reference)	Test Condition	Standard/ Method	Qty. (Acc.)	Def/SS	Result	Remarks
<b>Moisture/Reflow Sensitivity Classification Test (At MSL Level 1)</b>	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-020E)	IPC/JEDEC C J-STD- 020E	135	0/135	Pass	

<b><u>Precondition Prior Perform Reliability Tests</u></b> (At MSL Level 1)	<b>Electrical Test:</b> +25°C, 125°C and -40°C System: J750	JESD22- A113	693(0)	693		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		
	<b>Electrical Test:</b> +25°C and 125°C System: J750			0/693		

## PACKAGE QUALIFICATION REPORT

Test Number (Reference)	Test Condition	Standard/ Method	Qty. (Acc.)	Def/SS.	Result	Remarks	
<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: + 125°C</b>  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		
<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: +25°C</b> 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: 3.6 Volts</b> System: HAST 6000X	JESD22- A110		231		Parts had been pre-conditioned at 260°C	
	<b>Electrical Test: +25°C and 125°C</b> 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, 504 hrs System: SHEL LAB	JESD22-A103		45		45 units
	<b>Electrical Test</b> :+25°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 (> 2.5 grams)	M2011	30 (0) Wires	0/30	Pass	
	Bond Shear (>15.00 grams)	JESD22-B116	30 (0) bonds	0/30	Pass	