



Product Change Notification - GBNG-24WZVV475

Date:

31 Jul 2019

Product Category:

Others; Hot Swap Controller; Linear Regulators; Power MOSFET Drivers; Switching Regulators; Wireless IC; Driver / Interface ICs; Power Management - Power Switches; Power Management - PWM Controllers; Clock and Timing - Clock and Data Distribution; Power Management - System Supervisors/Voltage Detectors

Affected CPNs:**Notification subject:**

CCBs 2784.002, 2784.003, 2784.004, 3910, 3910.001, 3911, 3911.001, 3914, and 3915: Urgent PCN: Discontinuance of UNIB assembly site as a qualified location for selected products available in 8/14/16L PDIP, 20/28L SSOP, and 14/16/20L SOIC, packages.

Notification text:**PCN Status:**

Urgent PCN notification.

PCN Type:

Manufacturing Change

Microchip Parts Affected:

Please open one of the files found in the Affected CPNs section above to see all listed items.

Please see attachments below for a categorized CPN list by package and site.

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

Description of Change:

Discontinuance of UNIB assembly site as a qualified location for selected products available in 8/14/16L PDIP, 20/28L SSOP, and 14/16/20L SOIC, packages.

Due to unforeseen circumstances, that are out of Microchip's control, for some of the products affected full qualification will be made available at a date after shipment from a different location as Microchip plans to continue to fulfill orders by shipping product from other assembly locations as soon as possible as to not disrupt customer orders.

Pre-Change:

Assembled at UNIB assembly site.

Post Change:

Assembled at MMT, MTAI, LPI, and ANAP assembly sites.

Note: Please see categorized list attached below for affected catalog parts by site and package.

Pre and Post Change Summary:

	Pre-Change	Post Change			
Package	All	8/14/16L PDIP and 14/16L SOIC	20/28L SSOP	20L SOIC	16L SOIC
Assembly Site	Unisem (B) Batam, Indonesia (UNIB)	Microchip Technology Thailand (Branch) (MMT)	Microchip Technology Thailand (HQ) (MTAI)	Amkor Technology Philippine (ANAP)	Lingsen Precision Industires, Taiwan. (LPI)

**Impacts to Data Sheet:**

None

Change Impact:

None

Reason for Change:

Due to unforeseen business conditions the UNIB location will be discontinued by Unisem as an assembly site. Effective immediately.

Change Implementation Status:

In Progress

Estimated Qualification Completion Dates:

- 8/14/16 PDIP: Qualification completed.
- All remaining qualifications: October 2019.

Note: Please be advised the qualification completion times may be extended because of unforeseen business conditions. Also note that after the estimated first ship date guided customers may receive pre and post change parts.

Estimated First Ship Dates:

- 8/14/16L PDIP at MMT: August 7, 2019. Qualification Report attached.
- 20/28L SSOP at MTAI: September 20, 2019
- 14/16L SOIC at MMT: September 20, 2019
- 16L SOIC at LPI: September 18, 2019
- 20L SOIC at ANAP: September 18, 2019

Microchip will make every attempt to complete full qualification prior to shipping from the respective assembly site but to ensure continuity of supply and because of the circumstances which are out of our control Microchip will ship some products prior to full qualification completion although we believe the risk is very low because the same packages are already qualified as other Microchip products at these locations.

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

Method to Identify Change:

Traceability code

Qualification Plan:

Please open the attachments included with this PCN labeled as PCN_#_Qual_Plan.

Note: there are separate qualification plans for 20/28L SSOP at MTAI, 14/16L SOIC at MMT, 16L SOIC at LPI, and 20L SOIC at ANAP.

Qualification Report:

Please open the attachments included with this PCN labeled as PCN_#_Qual_Report.

Note: Currently only the report for the 8/14/16L PDIP at MMT is available and attached. Reports that are not attached will be made available upon request after they are available. Please review and correlate the attached parts affected list below to determine the package/site combinations to the catalog part number.

Revision History:

July 25, 2019: Issued urgent PCN notification.

July 31, 2019: Re-issued urgent PCN notification. Updated Estimated First Ship Dates field to reflect only one estimated first ship date for all affected CPNs. Revised affected CPN list under 16L SOIC at LPI to remove CPNs not covered by the scope.

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



Attachment(s):

[8 14 16L PDIP at MMT Qual Report.pdf](#)
[PCN GBNG-24WZVV475 14L 16L SOIC at MMT Qual Plan .pdf](#)
[PCN GBNG-24WZVV475 16L SOIC at LPI Qual Plan.pdf](#)
[PCN GBNG-24WZVV475 20L SOIC at ANAP Qual Plan.pdf](#)
[PCN GBNG-24WZVV475 20L 28L SSOP at MTAI Qual Plan.pdf](#)
[PCN GBNG-24WZVV475 Affected CPN.pdf](#)
[PCN GBNG-24WZVV475 Affected CPN.xlsx](#)

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)

MICRF009YM-TR
MICRF011YM
MIC2183YM-TR
MIC38HC42-1YM-TR
MIC2183YM
MIC2586R-2YM
SY100S834LZG-TR
MIC2566-0YM
MICRF002YM
SY100EL34ZG
SY100EL57LZG
MIC2595-1YM
MIC2595R-1YM
MIC2595R-2YM-TR
MIC2589-2YM-TR
MICRF001YM-TR
MIC2182-5.0YM
MIC2182YM
MIC9131YM
MIC2537-1YM-TR
MIC38C43-1YM
SY100EL15LZG
SY100EL34LZG
MIC2186YM-TR
MIC2589-1YM
MIC2595R-2YM
MIC2589-1YM-TR
MICRF009YM
MIC38HC43-1YM
MIC9131YM-TR
MIC2186YM
MIC4468ZWM
835-5043-014
MIC4467ZWM
MIC4467YWM-TR
MIC4425ZWM-TR
MIC4423ZWM
MIC4469YWM-TR
MIC4424ZWM
MIC4469ZWM
MIC4468YN
MIC4469ZN
MIC5011YN
MIC5891YN
MIC5156-5.0YN
MIC5014YN

GBNG-24WZVV475 - CCBs 2784.002, 2784.003, 2784.004, 3910, 3910.001, 3911, 3911.001, 3914, and 3915: Urgent PCN: Discontinuance of UNIB assembly site as a qualified location for selected products available in 8/14/16L PDIP, 20/28L SSOP, and 14/16/20L SOIC, packages.

MIC4427ZN

MIC4428YN

MIC4428ZN

MIC4429ZN

MIC38C42YN

MIC4469YN

LM2574-3.3YN

LP2951-02YN

MIC4421ZN

MIC4422AYN

LM2575-5.0YN

LM2575-3.3YN

LM2575YN

MIC4574-5.0YN

Y30442D

MIC4423YN

MIC2172YN

MIC2568-1YSM-TR

MIC2179YSM

MIC2179-5.0YSM

MIC2563A-1YSM

MIC2568-0YSM

MIC2568-1YSM

MIC2563A-1YSM-TR

MIC2179YSM-TR

MIC2179-3.3YSM

MIC2563A-0YSM

MIC2563A-0YSM-TR

MIC2179-5.0YSM-TR

MIC2568-0YSM-TR

MIC2179-3.3YSM-TR

MIC2595-2YM-TR

MIC2589R-1YM-TR

MIC4468YWM

MIC4425ZWM

MIC4425YWM

MIC4423YWM

MIC4468YWM-TR

MIC4424YWM-TR

MIC4468ZWM-TR

MIC4424YWM

MIC4424ZWM-TR

MIC4467YWM

MIC4469YWM

MIC4425YWM-TR

MIC4423ZWM-TR

MIC4423YWM-TR

MIC4467ZWM-TR

MIC4469ZWM-TR

GBNG-24WZVV475 - CCBs 2784.002, 2784.003, 2784.004, 3910, 3910.001, 3911, 3911.001, 3914, and 3915: Urgent PCN: Discontinuance of UNIB assembly site as a qualified location for selected products available in 8/14/16L PDIP, 20/28L SSOP, and 14/16/20L SOIC, packages.

MIC59P60YWM

MIC59P60YWM-TR

MIC38HC44-1YM-TR

MIC38HC42-1YM

MIC5157YM-TR

MIC38C44-1YM-TR

MIC2537-1YM

MIC2561-0YM

MIC2561-1YM

MIC38C45-1YM

MIC2546-1YM

MIC2546-2YM

MIC2562A-0YM

MIC2547-2YM-TR

MIC2586R-1YM

MIC2562A-1YM

SY100EL34ZG-TR

MIC9130YM

MIC2595-2YM

MIC2595-1YM-TR

MIC2182YM-TR

MIC38HC43-1YM-TR

MIC5158YM-TR

MIC5800YM-TR

MIC9130YM-TR

MIC38C44-1YM

MIC38C42-1YM-TR

MIC2182-5.0YM-TR

MIC2537-2YM

MIC2561-1YM-TR

MIC2547-1YM

MIC2185YM

MIC2595R-1YM-TR

MICRF001YM

MICRF002YM-TR

MIC2182-3.3YM

MIC38HC45-1YM

MIC5158YM

MIC5157YM

MIC2182-3.3YM-TR

MIC2561-0YM-TR

161-699102-4

MIC2547-1YM-TR

MIC2562A-1YM-TR

SY100S834LZG

SY100EL34LZG-TR

SY100EL15LZG-TR

MIC2566-1YM

SPN860018Y

GBNG-24WZVV475 - CCBs 2784.002, 2784.003, 2784.004, 3910, 3910.001, 3911, 3911.001, 3914, and 3915: Urgent PCN: Discontinuance of UNIB assembly site as a qualified location for selected products available in 8/14/16L PDIP, 20/28L SSOP, and 14/16/20L SOIC, packages.

MIC2185YM-TR

MIC2589R-2YM

MICRF011YM-TR

MIC38HC44-1YM

MIC38HC45-1YM-TR

MIC5800YM

MIC38C42-1YM

MIC2184YM

MIC2184YM-TR

MIC2537-2YM-TR

MIC38C43-1YM-TR

MIC38C45-1YM-TR

MIC2546-2YM-TR

MIC2547-2YM

MIC2546-1YM-TR

MIC2562A-0YM-TR

SPN860018Y-TR

MIC2589-2YM

MIC2589R-1YM

MIC2589R-2YM-TR

MIC3172YN

MIC5158YN

MIC4467ZN

MICRF011YN

MIC38HC43-1YN

MIC4426YN

MIC38C44YN

MIC38C43YN

MIC38C44-1YN

MIC38C45YN

LM2575-12YN

MIC4425YN

MIC4452YN

MIC4424YN

MIC38HC45YN

MIC38HC44-1YN

MIC4426ZN

MIC4574-3.3YN

MIC4574YN

MIC4424ZN

MIC4423ZN

MIC2545A-2YN

MIC4468ZN

MICRF001YN

MIC5822YN

MIC4420YN

LP2951-03YN

MIC2545A-1YN

MIC4421AZN

GBNG-24WZVV475 - CCBs 2784.002, 2784.003, 2784.004, 3910, 3910.001, 3911, 3911.001, 3914, and 3915: Urgent PCN: Discontinuance of UNIB assembly site as a qualified location for selected products available in 8/14/16L PDIP, 20/28L SSOP, and 14/16/20L SOIC, packages.

LM2574-5.0YN

LM2574YN

MIC4420ZN

MIC5013YN

MIC38HC45-1YN

MIC38HC43YN

MIC38HC42YN

MIC5821YN

MIC5156-3.3YN

MIC5157YN

MIC4422YN

MIC4451YN

MIC4421AYN

MIC4422AZN

MIC2951-03YN

MIC4422ZN

MIC5021YN

MIC5156YN

MIC5015YN

MIC5800YN

MIC4427YN

LM2574-12YN

MIC1232NY

MIC4429YN

MIC1832NY

MIC4421YN

MIC38HC42-1YN

MIC38HC44YN

CCBs 2784.002-.004,3910,3910.001, 3911,3911.001,3914,3915 Urgent PCN: Discontinuance of UNIB assy site as a qualified loc for selected products available in 8/14/16L PDIP, 20/28L SSOP and 14/16/20L SOIC packages.

Affected Catalog Part Numbers (CPN)

PCN_GBNG-24WZVV475					
Lead-count and Package	8/14/16L PDIP	20/28L SSOP	14/16L SOIC	16L SOIC	20L SOIC
Post Assembly Site	MMT	MTAI	MMT	LPI	ANAP
Catalog Part Numbers (CPNs)	MIC4468YN	MIC2568-1YSM-TR	MIC2595-2YM-TR	MIC4468ZWM	MIC59P60YWM
	MIC4469ZN	MIC2179YSM	MIC2589R-1YM-TR	835-5043-014	MIC59P60YWM-TR
	MIC5011YN	MIC2179-5.0YSM	MIC38HC44-1YM-TR	MIC4467ZWM	
	MIC5891YN	MIC2563A-1YSM	MIC38HC42-1YM	MIC4467YWM-TR	
	MIC5156-5.0YN	MIC2568-0YSM	MIC5157YM-TR	MIC4425ZWM-TR	
	MIC5014YN	MIC2568-1YSM	MIC38C44-1YM-TR	MIC4423ZWM	
	MIC4427ZN	MIC2563A-1YSM-TR	MIC2537-1YM	MIC4469YWM-TR	
	MIC4428YN	MIC2179YSM-TR	MIC2561-0YM	MIC4424ZWM	
	MIC4428ZN	MIC2179-3.3YSM	MIC2561-1YM	MIC4469ZWM	
	MIC4429ZN	MIC2563A-0YSM	MIC38C45-1YM	MIC4468YWM	
	MIC38C42YN	MIC2563A-0YSM-TR	MIC2546-1YM	MIC4425ZWM	
	MIC4469YN	MIC2179-5.0YSM-TR	MIC2546-2YM	MIC4425YWM	
	LM2574-3.3YN	MIC2568-0YSM-TR	MIC2562A-0YM	MIC4423YWM	
	LP2951-02YN	MIC2179-3.3YSM-TR	MIC2547-2YM-TR	MIC4468YWM-TR	
	MIC4421ZN		MIC2586R-1YM	MIC4424YWM-TR	
	MIC4422AYN		MIC2562A-1YM	MIC4468ZWM-TR	
	LM2575-5.0YN		SY100EL34ZG-TR	MIC4424YWM	
	LM2575-3.3YN		MIC9130YM	MIC4424ZWM-TR	
	LM2575YN		MIC2595-2YM	MIC4467YWM	
	MIC4574-5.0YN		MIC2595-1YM-TR	MIC4469YWM	
	Y30442D		MIC2182YM-TR	MIC4425YWM-TR	
	MIC4423YN		MIC38HC43-1YM-TR	MIC4423ZWM-TR	
	MIC2172YN		MIC5158YM-TR	MIC4423YWM-TR	
	MIC3172YN		MIC5800YM-TR	MIC4467ZWM-TR	
	MIC5158YN		MIC9130YM-TR	MIC4469ZWM-TR	
	MIC4467ZN		MIC38C44-1YM		
	MICRF011YN		MIC38C42-1YM-TR		
	MIC38HC43-1YN		MIC2182-5.0YM-TR		
	MIC4426YN		MIC2537-2YM		
	MIC38C44YN		MIC2561-1YM-TR		
	MIC38C43YN		MIC2547-1YM		
	MIC38C44-1YN		MIC2185YM		
	MIC38C45YN		MIC2595R-1YM-TR		
	LM2575-12YN		MICRF001YM		
	MIC4425YN		MICRF002YM-TR		
	MIC4452YN		MIC2182-3.3YM		
	MIC4424YN		MIC38HC45-1YM		
	MIC38HC45YN		MIC5158YM		
	MIC38HC44-1YN		MIC5157YM		
	MIC4426ZN		MIC2182-3.3YM-TR		
	MIC4574-3.3YN		MIC2561-0YM-TR		
	MIC4574YN		161-699102-4		
	MIC4424ZN		MIC2547-1YM-TR		
	MIC4423ZN		MIC2562A-1YM-TR		
	MIC2545A-2YN		SY100S834LZG		
	MIC4468ZN		SY100EL34LZG-TR		
	MICRF001YN		SY100EL15LZG-TR		
	MIC5822YN		MIC2566-1YM		
	MIC4420YN		SPN860018Y		
	LP2951-03YN		MIC2185YM-TR		
MIC2545A-1YN		MIC2589R-2YM			

CCBs 2784.002-.004,3910,3910.001, 3911,3911.001,3914,3915 Urgent PCN: Discontinuance of UNIB assy site as a qualified loc for selected products available in 8/14/16L PDIP, 20/28L SSOP and 14/16/20L SOIC packages.

Affected Catalog Part Numbers (CPN)

PCN_GBNG-24WZVV475					
Lead-count and Package	8/14/16L PDIP	20/28L SSOP	14/16L SOIC	16L SOIC	20L SOIC
Post Assembly Site	MMT	MTAI	MMT	LPI	ANAP
Catalog Part Numbers (CPNs)	MIC4421AZN		MICRF011YM-TR		
	LM2574-5.0YN		MIC38HC44-1YM		
	LM2574YN		MIC38HC45-1YM-TR		
	MIC4420ZN		MIC5800YM		
	MIC5013YN		MIC38C42-1YM		
	MIC38HC45-1YN		MIC2184YM		
	MIC38HC43YN		MIC2184YM-TR		
	MIC38HC42YN		MIC2537-2YM-TR		
	MIC5821YN		MIC38C43-1YM-TR		
	MIC5156-3.3YN		MIC38C45-1YM-TR		
	MIC5157YN		MIC2546-2YM-TR		
	MIC4422YN		MIC2547-2YM		
	MIC4451YN		MIC2546-1YM-TR		
	MIC4421AYN		MIC2562A-0YM-TR		
	MIC4422AZN		SPN860018Y-TR		
	MIC2951-03YN		MIC2589-2YM		
	MIC4422ZN		MIC2589R-1YM		
	MIC5021YN		MIC2589R-2YM-TR		
	MIC5156YN		MICRF009YM-TR		
	MIC5015YN		MICRF011YM		
	MIC5800YN		MIC2183YM-TR		
	MIC4427YN		MIC38HC42-1YM-TR		
	LM2574-12YN		MIC2183YM		
	MIC1232NY		MIC2586R-2YM		
	MIC4429YN		SY100S834LZG-TR		
	MIC1832NY		MIC2566-0YM		
	MIC4421YN		MICRF002YM		
	MIC38HC42-1YN		SY100EL34ZG		
	MIC38HC44YN		SY100EL57LZG		
			MIC2595-1YM		
			MIC2595R-1YM		
			MIC2595R-2YM-TR		
			MIC2589-2YM-TR		
			MICRF001YM-TR		
			MIC2182-5.0YM		
			MIC2182YM		
			MIC9131YM		
			MIC2537-1YM-TR		
			MIC38C43-1YM		
			SY100EL15LZG		
		SY100EL34LZG			
		MIC2186YM-TR			
		MIC2589-1YM			
		MIC2595R-2YM			
		MIC2589-1YM-TR			
		MICRF009YM			
		MIC38HC43-1YM			
		MIC9131YM-TR			
		MIC2186YM			



QUALIFICATION PLAN SUMMARY

PCN #: GBNG-24WZVV475

**Date:
July 25, 2019**

**Discontinuance of UNIB assembly site as a qualified location
for selected products available in 8/14/16L PDIP, 20/28L
SSOP, 14/16/20L SOIC, and 48L LQFP packages.**

Purpose: Discontinuance of UNIB assembly site as a qualified location for selected products available in 8/14/16L PDIP, 20/28L SSOP, 14/16/20L SOIC, and 48L LQFP packages.

<u>Misc.</u>	Assembly site	MMT
	BD Number	BDM-002198
	MP Code (MPC)	238017D7XA04
	Part Number (CPN)	MIC2547-2YM
	MSL information	MSL-1
	Assembly Shipping Media (T/R, Tube/Tray)	Tube
	Base Quantity Multiple (BQM)	48 units
	Reliability Site	MTAI
	CCB No	3911 and 3911.001
<u>Lead-Frame</u>	Paddle size	90 x160 mils
	Material	CDA194
	Surface	Ag Spot plated
	Treatment	None
	Process	Stamped
	Lead-lock	Yes
	Part Number	10101603
	Lead Plating	Matte Tin
<u>Bond Wire</u>	Material	Au
<u>Die Attach</u>	Part Number	8390A
	Conductive	Yes
<u>MC</u>	Part Number	G600V
<u>PKG</u>	PKG Type	SOIC
	Pin/Ball Count	16
	PKG width/size	150 mils
<u>Die</u>	Die Thickness	15 mils
	Die Size	Die 1:83.46 x 39.37 mils Die 2:83.46 x 39.37 mils
	Fab Process (site)	BCD12

Note: The 14L SOIC will qualify by similarity.

Test Name	Conditions	Sample Size	Min. Qty of Spares per Lot (should be properly marked)	Qty of Lots	Total Units	Fail Accept Qty	Est. Dur. Days	Test Site	Special Instructions
Wire Bond Pull - WBP	Mil. Std. 883-2011	5	0	3	15	0 fails after TC	5	MTAI	30 bonds from a minimum of 5 devices.
Wire Bond Shear - WBS	CDF-AEC-Q100-001	5	0	3	15	0	5	MTAI	30 bonds from a minimum of 5 devices.
Wire Sweep		5	0	3	15	0		MTAI	Required for any reduction in wire bond thickness.
External Visual	Mil. Std. 883-2009/2010	All devices prior to submission for qualification testing	0	3	ALL	0	5	MTAI	
HTSL (High Temp Storage Life)	+175 C for 504 hours. Electrical test pre and post stress at +25°C and hot temp.	45	5	1	50	0	25	MTAI Pre/Post test at UNIS	
Preconditioning - Required for surface mount devices	+150°C Bake for 24 hours, moisture loading requirements per MSL level + 3X reflow at peak reflow temperature per Jedec-STD-020E for package type; Electrical test pre and post stress at +25°C. MSL1 @ 260°C	231	15	3	738	0	15	MTAI Pre/Post test at UNIS	Spares should be properly identified. 77 parts from each lot to be used for HAST, Autoclave, Temp Cycle test.
HAST	+130°C/85% RH for 96 hours. Electrical test pre and post stress at +25°C and hot temp.	77	5	3	246	0	10	MTAI Pre/Post test at UNIS	Spares should be properly identified. Use the parts which have gone through Pre-conditioning. Please decap/ inspect 5 units for anomalies.

Test Name	Conditions	Sample Size	Min. Qty of Spares per Lot (should be properly marked)	Qty of Lots	Total Units	Fail/Accept Qty	Est. Dur. Days	Test Site	Special Instructions
Unbiased HAST	+130°C/85% RH for 96 hrs. Electrical test pre and post stress at +25°C.	77	5	3	246	0	10	MTAI Pre/Post test at UNIS	Spares should be properly identified. Use the parts which have gone through Pre-conditioning.
Temp Cycle	-65°C to +150°C for 500 cycles. Electrical test pre and post stress at hot temp; 3 gram force WBP, on 5 devices from 1 lot, test following Temp Cycle stress.	77	5	3	246	0	15	MTAI Pre/Post test at UNIS	Spares should be properly identified. Use the parts which have gone through Pre-conditioning.



QUALIFICATION PLAN SUMMARY

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**Date:
July 25, 2019**

**Discontinuance of UNIB assembly site as a qualified location
for selected products available in 8/14/16L PDIP, 20/28L
SSOP, 14/16/20L SOIC, and 48L LQFP packages.**

Purpose: Discontinuance of UNIB assembly site as a qualified location for selected products available in 8/14/16L PDIP, 20/28L SSOP, 14/16/20L SOIC, and 48L LQFP packages.

Lead-Frame Package/Die Data:

<u>Misc.</u>	Assembly site	LPI
	BD Number	MIC4468Y
	MP Code (MPC)	24807TD9XBA1
	Part Number (CPN)	MIC4468YWM-TR
	MSL information	MSL 2 (260)
	Assembly Shipping Media (T/R, Tube/Tray)	Tube
	Base Quantity Multiple (BQM)	1000
	Reliability Site	MTAI
	CCB No	3914
	<u>Lead-Frame</u>	Paddle size
Material		C194
DAP Surface Prep		Without Ag plating
Treatment		No
Process		stamp
Lead-lock		Yes
Part Number		09S001669S0
Lead Plating		Ag
Strip Size		0.7177x7.413 inch
Strip Density		14 units/strip
<u>Bond Wire</u>	Material	Au
<u>Die Attach</u>	Part Number	8340
	Conductive	Yes
<u>MC</u>	Part Number	EME-G600
<u>PKG</u>	PKG Type	SOIC
	Pin/Ball Count	16L
	PKG width/size	300mils
<u>Die</u>	Die Thickness	12mils
	Die Size	96x112mils
	Fab Process (site)	Tempe/Gresham 8"

Test Name	Conditions	Sample Size	Min. Qty of Spares per Lot (should be properly marked)	Qty of Lots	Total Units	Fail Accept Qty	Est. Dur. Days	ATE Test Site	REL Test Site	Pkg. Type	Special Instructions
Standard Pb-free Solderability	J-STD-002D ; Perform 8 hour steam aging for Matte tin finish and 1 hour steam aging for NiPdAu finish prior to testing. Standard Pb-free: Matte tin/ NiPdAu finish, SAC solder, wetting temp 245°C for both SMD & through hole packages.	22	5	1	27	> 95% lead coverage	5	UNIS	MTAI	SOIC	Standard Pb-free solderability is the requirement. SnPb solderability (backward solderability- SMD reflow soldering) is required for any plating related changes and highly recommended for other package BOM changes.
Wire Bond Pull - WBP	Mil. Std. 883-2011	5	0	1	5	0 fails after TC	5	UNIS	MTAI	SOIC	30 bonds from a min. 5 devices.
Wire Bond Shear - WBS	CDF-AEC-Q100-001	5	0	1	5	0	5	UNIS	MTAI	SOIC	30 bonds from a min. 5 devices.
Wire Sweep		5	0	3	15	0		UNIS	MTAI	SOIC	Required for any reduction in wire bond thickness.
Physical Dimensions	Measure per JESD22 B100 and B108	10	0	3	30	0	5	UNIS	MTAI	SOIC	
External Visual	Mil. Std. 883-2009/2010	All devices prior to submission for qualification testing	0	3	ALL	0	5	UNIS	MTAI	SOIC	
HTSL (High Temp Storage Life)	+175 C for 504 hours or 150°C for 1008 hrs. Electrical test pre and post stress at +25C and hot temp.	45	5	1	50	0	10	UNIS	MTAI	SOIC	Must be in progress at time of package release to production, but completion is not required for release to production.

Test Name	Conditions	Sample Size	Min. Qty of Spares per Lot (should be properly marked)	Qty of Lots	Total Units	Fail Accept Qty	Est. Dur. Days	ATE Test Site	REL Test Site	Pkg. Type	Special Instructions
Preconditioning - Required for surface mount devices	+150°C Bake for 24 hours, moisture loading requirements per MSL level + 3X reflow at peak reflow temperature per Jedec-STD-020E for package type; Electrical test pre and post stress at +25°C. MSL2 @ 260°C	231	15	3	738	0	15	UNIS	MTAI	SOIC	Spares should be properly identified. 77 parts from each lot to be used for HAST, Autoclave, Temp Cycle test.
HAST	+130°C/85% RH for 96 hours. Electrical test pre and post stress at +25°C and hot temp.	77	5	3	246	0	10	UNIS	MTAI	SOIC	Spares should be properly identified. Use the parts which have gone through Pre-conditioning.
UHAST	+130°C/85% RH for 96 hrs. Electrical test pre and post stress at +25°C	77	5	3	246	0	10	UNIS	MTAI	SOIC	Spares should be properly identified. Use the parts which have gone through Pre-conditioning.
Temp Cycle	-65°C to +150°C for 500 cycles. Electrical test pre and post stress at hot temp; 3 gram force WBP, on 5 devices from 1 lot, test following Temp Cycle stress.	77	5	3	246	0	15	UNIS	MTAI	SOIC	Spares should be properly identified. Use the parts which have gone through Pre-conditioning.



QUALIFICATION PLAN SUMMARY

PCN #: GBNG-24WZVV475

**Date:
July 25, 2019**

Discontinuance of UNIB assembly site as a qualified location for selected products available in 8/14/16L PDIP, 20/28L SSOP, 14/16/20L SOIC, and 48L LQFP packages.

Purpose: Discontinuance of UNIB assembly site as a qualified location for selected products available in 8/14/16L PDIP, 20/28L SSOP, 14/16/20L SOIC, and 48L LQFP packages.

Lead-Frame Package/Die Data:

<u>Misc.</u>	Assembly site	ATP
	BD Number	MIC59P60
	MP Code (MPC)	208507G5XA01
	Part Number (CPN)	MIC59P60YWM
	MSL information	MSL 2 (260)
	Assembly Shipping Media (T/R, Tube/Tray)	Tube
	Base Quantity Multiple (BQM)	38
	Reliability Site	MTAI
	CCB No	3915
<u>Lead-Frame</u>	Paddle size	160x200
	Material	C194
	DAP Surface Prep	Ag plated
	Treatment	None
	Process	Stamped
	Lead-lock	Yes
	Part Number	101310053
	Lead Plating	Spot Ag
<u>Bond Wire</u>	Material	Au
<u>Die Attach</u>	Part Number	8290
	Conductive	No
<u>MC</u>	Part Number	G600
<u>PKG</u>	PKG Type	SOIC
	Pin/Ball Count	20L
	PKG width/size	300mils
<u>Die</u>	Die Thickness	12mils
	Die Size	139x142mils
	Fab Process (site)	Tempe 8"

Test Name	Conditions	Sample Size	Min. Qty of Spares per Lot (should be properly marked)	Qty of Lots	Total Units	Fail Accept Qty	Est. Dur. Days	ATE Test Site	REL Test Site	Pkg. Type	Special Instructions
Standard Pb-free Solderability	J-STD-002D ; Perform 8 hour steam aging for Matte tin finish and 1 hour steam aging for NiPdAu finish prior to testing. Standard Pb-free: Matte tin/ NiPdAu finish, SAC solder, wetting temp 245°C for both SMD & through hole packages.	22	5	1	27	> 95% lead coverage	5	UNIS	MTAI	SOIC	Standard Pb-free solderability is the requirement. SnPb solderability (backward solderability- SMD reflow soldering) is required for any plating related changes and highly recommended for other package BOM changes.
Wire Bond Pull - WBP	Mil. Std. 883-2011	5	0	1	5	0 fails after TC	5	UNIS	MTAI	SOIC	30 bonds from a min. 5 devices.
Wire Bond Shear - WBS	CDF-AEC-Q100-001	5	0	1	5	0	5	UNIS	MTAI	SOIC	30 bonds from a min. 5 devices.
Wire Sweep		5	0	3	15	0		UNIS	MTAI	SOIC	Required for any reduction in wire bond thickness.
Physical Dimensions	Measure per JESD22 B100 and B108	10	0	3	30	0	5	UNIS	MTAI	SOIC	
External Visual	Mil. Std. 883-2009/2010	All devices prior to submission for qualification testing	0	3	ALL	0	5	UNIS	MTAI	SOIC	
Preconditioning - Required for surface mount devices	+150°C Bake for 24 hours, moisture loading requirements per MSL level + 3X reflow at peak reflow temperature per Jedec-STD-020E for package type; Electrical test pre and post stress at +25°C. MSL2 @ 260°C	231	15	3	738	0	15	UNIS	MTAI	SOIC	Spares should be properly identified. 77 parts from each lot to be used for HAST, Autoclave, Temp Cycle test.

Test Name	Conditions	Sample Size	Min. Qty of Spares per Lot (should be properly marked)	Qty of Lots	Total Units	Fail Accept Qty	Est. Dur. Days	ATE Test Site	REL Test Site	Pkg. Type	Special Instructions
HAST	+130°C/85% RH for 96 hours. Electrical test pre and post stress at +25°C and hot temp.	77	5	3	246	0	10	UNIS	MTAI	SOIC	Spares should be properly identified. Use the parts which have gone through Pre-conditioning.
UHAST	+130°C/85% RH for 96 hrs. Electrical test pre and post stress at +25°C	77	5	3	246	0	10	UNIS	MTAI	SOIC	Spares should be properly identified. Use the parts which have gone through Pre-conditioning.
Temp Cycle	-65°C to +150°C for 500 cycles. Electrical test pre and post stress at hot temp; 3 gram force WBP, on 5 devices from 1 lot, test following Temp Cycle stress.	77	5	3	246	0	15	UNIS	MTAI	SOIC	Spares should be properly identified. Use the parts which have gone through Pre-conditioning.



QUALIFICATION PLAN SUMMARY

PCN #: GBNG-24WZVV475

**Date:
July 25, 2019**

**Discontinuance of UNIB assembly site as a qualified location
for selected products available in 8/14/16L PDIP, 20/28L
SSOP, 14/16/20L SOIC, and 48L LQFP packages.**

Purpose: Discontinuance of UNIB assembly site as a qualified location for selected products available in 8/14/16L PDIP, 20/28L SSOP, 14/16/20L SOIC, and 48L LQFP packages.

Misc.	Assembly site	MTAI
	BD Number	BDM-002194/A
	MP Code (MPC)	24816TN2XA01
	Part Number (CPN)	MIC2563A-0YSM-TR
	MSL	MSL-1/260C
	Assembly Shipping Media (T/R, Tube/Tray)	Tube
	Base Quantity Multiple (BQM)	47 units/tube
	Reliability Site	MTAI
	CCB No	3910 and 3910.001
Lead-Frame	Paddle size	153x200 mils
	Material	CDA194
	Surface	Bare Cu
	Treatment	None
	Process	Stamped
	Lead-lock	Yes
	Part Number	10102834
	Lead Plating	Matte Tin
Bond Wire	Material	Au
Die Attach	Part Number	3280
	Conductive	Yes
MC	Part Number	G600
PKG	PKG Type	SSOP
	Pin/Ball Count	28
	PKG width/size	209 mils
Die	Die Thickness	15 mils
	Die Size	137.01x79.13 mils
	Fab Process (site)	BCDSI

Note: The 20L SSOP will qualify by similarity.

Test Name	Conditions	Sample Size	Min. Qty of Spares per Lot (should be properly marked)	Qty of Lots	Total Units	Fail Accept Qty	Est. Dur. Days	Test Site	Special Instructions
Wire Bond Pull - WBP	Mil. Std. 883-2011	5	0	3	15	0 fails after TC	5	MTAI	30 bonds from a minimum of 5 devices.
Wire Bond Shear - WBS	CDF-AEC-Q100-001	5	0	3	15	0	5	MTAI	30 bonds from a minimum of 5 devices.
Wire Sweep		5	0	3	15	0		MTAI	Required for any reduction in wire bond thickness.
External Visual	Mil. Std. 883-2009/2010	All devices prior to submission for qualification testing	0	3	ALL	0	5	MTAI	
HTSL (High Temp Storage Life)	+175 C for 504 hours. Electrical test pre and post stress at +25°C and hot temp.	45	5	1	50	0	25	MTAI Pre/Post test at UNIS	For hot temp testing, pre/post test 1 lot at 85°C and 125°C (if applicable)
Preconditioning - Required for surface mount devices	+150°C Bake for 24 hours, moisture loading requirements per MSL level + 3X reflow at peak reflow temperature per Jedec-STD-020E for package type; Electrical test pre and post stress at +25°C. MSL1 @ 260°C	231	15	3	738	0	15	MTAI Pre/Post test at UNIS	Spares should be properly identified. 77 parts from each lot to be used for HAST, Autoclave, Temp Cycle test.
HAST	+130°C/85% RH for 96 hours. Electrical test pre and post stress at +25°C and hot temp.	77	5	3	246	0	10	MTAI Pre/Post test at UNIS	Spares should be properly identified. Use the parts which have gone through Pre-conditioning. Please decap/ inspect 5 units for anomalies.

Test Name	Conditions	Sample Size	Min. Qty of Spares per Lot (should be properly marked)	Qty of Lots	Total Units	Fail Accept Qty	Est. Dur. Days	Test Site	Special Instructions
Unbiased HAST	+130°C/85% RH for 96 hrs. Electrical test pre and post stress at +25°C.	77	5	3	246	0	10	MTAI Pre/Post test at UNIS	Spares should be properly identified. Use the parts which have gone through Pre-conditioning.
Temp Cycle	-65°C to +150°C for 500 cycles. Electrical test pre and post stress at hot temp; 3 gram force WBP, on 5 devices from 1 lot, test following Temp Cycle stress.	77	5	3	246	0	15	MTAI Pre/Post test at UNIS	Spares should be properly identified. Use the parts which have gone through Pre-conditioning.



MICROCHIP

QUALIFICATION REPORT SUMMARY

PCN #: KSRA-21MVRA169

Date:

May 26, 2017

Qualification of MMT assembly site for selected Micrel products available in 20L PDIP package using CRM-1064L die attach and GE800 mold compound material. The 18L PDIP package will qualify by similarity at MMT assembly site.

Device Description:

Device	MIC59P60YN
Mask#	20850
Process	BCDM

Package Information

Package Type	PDIP-20L
Package Body Size	300 mils
Package Code	G6X
MP Codes	208507G6XA01

Subcon Location	MMT (Thailand)
Lead frame	
• Paddle size	160x200 mils
• Material	CDA194
• Surface	Ag Spot Plated
• Treatment	None
• Process	Stamped
• Lead lock	Yes
• Part Number	10102009
Wire	
• Material	Au
Die Attach Epoxy	
• Part Number	CRM-1064L
• Conductive	Yes
Mold Compound	
• Part Number	GE800
Lead finish	100% Matte Tin

Manufacturing Information

Assembly Lot No.	Wafer Lot No.	Date Code
MMT-174100818.000	TMPE217178950.210	1701C35
MMT-174100819.000	TMPE217178950.210	1701C36
MMT-174100820.000	TMPE217178950.210	1701E60

Qualification Data:

PACKAGE QUALIFICATION RESULTS						
TEST DESCRIPTION	METHOD CONDITIONS	TRACE CODE	LOT ID.	96 HR Rej / Pass	COMMENTS	
UHAST	JESD22-A118 Ta = +130°C/85%RH	1701C35	MMT-174100818.000	0/82		
		1701C36	MMT-174100819.000	0/82		
		1701E60	MMT-174100820.000	0/82		
TEST DESCRIPTION	METHOD CONDITIONS	TRACE CODE	LOT ID.	500 CYC Rej / Pass	COMMENTS	
TEMP CYCLE	JESD22-A104 Ta = -65°C / +150°C	1701C35	MMT-174100818.000	0/82		
		1701C36	MMT-174100819.000	0/82		
		1701E60	MMT-174100820.000	0/82		
TEST DESCRIPTION	METHOD CONDITIONS	TRACE CODE	LOT ID.	1008 HR Rej / Pass	COMMENTS	
HTSL	JESD22-A103 Ta = +150°C	1701C35	MMT-174100818.000	0/50		
		1701C36	MMT-174100819.000	0/50		
		1701E60	MMT-174100820.000	0/50		
TEST DESCRIPTION	METHOD CONDITIONS	TRACE CODE	LOT ID.	Rej / Pass	Pass/Fail	COMMENTS
Wire Bond Pull	Mil. Std 883, Method 2011	1701C35	MMT-174100818.000	0/35 wires	Pass	
		1701C36	MMT-174100819.000	0/35 wires	Pass	
		1701E60	MMT-174100820.000	0/35 wires	Pass	
TEST DESCRIPTION	METHOD CONDITIONS	TRACE CODE	LOT ID.	Rej / Pass	Pass/Fail	COMMENTS
Wire Bond Shear	AEC-Q100-001	1701C35	MMT-174100818.000	0/35 bonds	Pass	
		1701C36	MMT-174100819.000	0/35 bonds	Pass	
		1701E60	MMT-174100820.000	0/35 bonds	Pass	