



## Product Change Notification - GBNG-10TTAV974

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**Date:**

24 Jun 2019

**Product Category:**

Others; Ethernet PHYs

**Affected CPNs:****Notification subject:**

CCB 3782 Initial Notice: Qualification of MTAI as an additional assembly site for selected Micrel products of the 0.18 um wafer technology at DBHU available in 48L TQFP (7x7x1.0mm) package.

**Notification text:****PCN Status:**

Initial 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 MTAI as an additional assembly site for selected Micrel products of the 0.18 um wafer technology at DBHU available in 48L TQFP (7x7x1.0mm) package.

**Pre Change:**

Assembled at ASE using CRM-1076WA die attach and G631H molding compound material.

**Post Change:**

Assembled at ASE using CRM-1076WA die attach and G631H molding compound material or assembled at MTAI using 3280 die attach and G700HA molding compound material.

**Pre and Post Change Summary:**

	Pre Change	Post Change	
<b>Assembly Site</b>	ASE INC. (ASE)	ASE INC. (ASE)	Microchip Technology Thailand (HQ) (MTAI)
<b>Wire material</b>	Au	Au	Au
<b>Die attach material</b>	CRM-1076WA	CRM-1076WA	3280
<b>Molding compound material</b>	G631H	G631H	G700HA
<b>Lead frame material</b>	C7025	C7025	C7025

**Impacts to Data Sheet:**

None

**Change Impact:**

None

**Reason for Change:**

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

**Change Implementation Status:**

In Progress

**Estimated Qualification Completion Date:**

July 2019

Note: Please be advised the qualification completion times may be extended because of unforeseen business conditions however implementation will not occur until after qualification has completed and a final PCN has been issued. The final PCN will include the qualification report and estimated first



ship date. Also note that after the estimated first ship date guided in the final PCN customers may receive pre and post change parts.

**Time Table Summary:**

	June 2019					July 2019				
Workweek	22	23	24	25	26	27	28	29	30	31
Initial PCN Issue Date					X					
Qual Report Availability						X				
Final PCN Issue Date						X				

**Method to Identify Change:**

Traceability code

**Qualification Plan:**

Please open the attachments included with this PCN labeled as PCN\_#\_Qual Plan.

**Revision History:**

**June 24, 2019:** Issued initial notification.

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\\_GBNG-10TTAV974\\_Qual\\_Plan.pdf](#)

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

**Terms and Conditions:**

If you wish to receive Microchip PCNs via email please register for our PCN email service at our [PCN home page](#) select register then fill in the required fields. You will find instructions about registering for Microchips PCN email service in the [PCN FAQ](#) section.

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)

KSZ8041FTL  
KSZ8041FTLI  
KSZ8041FTLI-TR  
KSZ8041FTL-S  
KSZ8041FTL-TR  
KSZ8041TL  
KSZ8041TLI  
KSZ8041TLI-S  
KSZ8041TLI-TR  
KSZ8041TL-TR  
SPNY801037  
SPNY801049  
SPNY801066  
SPNY801066-TR  
SPNZ801037  
SPNZ801037-TR  
SPNZ801049  
SPNZ801053  
SPNZ801053-TR  
SPNZ801066-TR  
SPNZ801087



# **QUALIFICATION PLAN SUMMARY**

**PCN #: GBNG-10TTAV974**

**Date  
April 3, 2019**

**Qualification of MTAI as an additional assembly site for selected Micrel products of the 0.18 um wafer technology at DBHU available in 48L TQFP (7x7x1.0mm) package.**

**Purpose: Qualification of MTAI as an additional assembly site for selected Micrel products of the 0.18 um wafer technology at DBHU available in 48L TQFP (7x7x1.0mm) package.**

**CCB No: 3782**

		New Data (new Qual)
<u>Misc.</u>	Assembly site	MTAI
	BD Number	BDM-002103 rev.A
	MP Code (MPC)	TKDA17CQAA02
	Part Number (CPN)	KSZ8041TLI-A4-AI-X
<u>Lead-Frame</u>	Paddle size	200 x 200 mils
	Material	C7025
	DAP Surface Prep	Ag ring plated
	Treatment	Yes
	Process	Stamped
	Lead-lock	No
	Part Number	10104806
	Lead Plating	Matte Tin
	Strip Size	70 x 218 mm
	Strip Density	70 units/strip
<u>Bond Wire</u>	Material	Au
<u>Die Attach</u>	Part Number	3280
	Conductive	Yes
<u>MC</u>	Part Number	G700HA
<u>PKG</u>	PKG Type	TQFP
	Pin/Ball Count	48
	PKG width/size	7x7x1.0 mm
<u>Die</u>	Die Thickness	11 mils
	Die Size	61.9 x 54.7
	Fab Process (site)	0.18um Dongbu

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	Special Instructions
Standard Pb-free Solderability	JESD22B-102E; Perform 8 hour steam aging for Matte tin finish and 1 hour steam aging for NiPdAu finish prior to testing.	22	5	1	27	> 95% lead coverage	5	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.
Backward Solderability	JESD22B-102E; Perform 8 hours steam aging for Matte tin finish and 1 hour steam aging for NiPdAu finish prior to testing.  Backward: Matte tin/ NiPdAu finish, SnPb solder, wetting temp 215°C for SMD.	22	5	1	27	> 95% lead coverage	5	
Wire Bond Pull - WBP	Mil. Std. 883-2011	5	0	3	24	0 fails after TC	5	30 bonds from a minimum of 5 devices.
Wire Bond Shear - WBS	CDF-AEC-Q100-001	5	0	3	24		5	30 bonds from a minimum of 5 devices.
Wire Sweep		5	0	3	15	0		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	
HTSL (High Temp Storage Life)	+175 C for 504 hours. Electrical test pre and post stress at +25°C and hot temp.85°C,	45	5	1	50	0	10	Must be in progress at time of package release to production, but completion is not required for release to production.
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-020D for package type; Electrical test pre and post stress at +25°C. (MSL1/260)	231	15	3	738	0	15	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	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	Spares should be properly identified. Use the parts which have gone through Pre-conditioning.
Unbiased HAST	+130°C/85% RH for 96 hrs. Electrical test pre and post stress at +25°C.	77	5	3	246	0	10	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	Spares should be properly identified. Use the parts which have gone through Pre-conditioning.