



## Product Change Notification - LIAL-11DISH151

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**Date:**

03 Oct 2019

**Product Category:**

Ethernet Switches; Ethernet Controllers

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

CCB 3733 Final Notice: Qualification of ASE as a new assembly site for selected Micrel products of KSZ8841 and KSZ8842 device families available in 128L LQFP (14x14x1.4mm) package

**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 ASE as a new assembly site for selected Micrel products of KSZ8841 and KSZ8842 device families available in 128L LQFP (14x14x1.4mm) package.

**Pre Change:**

Assembled at OSE using 8340 die attach and CEL-9200HF mold compound material

**Post Change:**

Assembled at ASE using EN-4900G die attach and EME-G631H mold compound material

**Pre and Post Change Summary:**

	Pre Change	Post Change
<b>Assembly Site</b>	Orient Semiconductor Electronics, Ltd (OSE)	ASE Inc. (ASE)
<b>Wire material</b>	Au	Au
<b>Die attach material</b>	8340	EN-4900G
<b>Molding compound material</b>	CEL-9200HF	EME-G631H
<b>Lead frame material</b>	C7025	C7025
<b>Die attach paddle</b>	Spot	Double Ring

**Impacts to Data Sheet:**

None

**Change Impact:**

None

**Reason for Change:**

To improve productivity by qualifying ASE as a new assembly site

**Change Implementation Status:**

In Progress

**Estimated First Ship Date:**

November 4, 2019 (date code: 1945)

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



post change parts

**Time Table Summary:**

Workweek	March 2019					-->	October 2019					November 2019			
	09	10	11	12	13		40	41	42	43	44	45	46	47	48
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 22, 2019:** Issued initial notification.

**October 3, 2019:** Issued final notification. Attached the qualification report. Provided estimated first ship date to be on November 4, 2019.

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 LIAL-11DISH151 Qual Report.pdf](#)

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

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## **QUALIFICATION REPORT SUMMARY**

**PCN #: LIAL-11DISH151**

**Date:**

**September 16, 2019**

**Qualification of ASE as a new assembly site for selected Micrel products of KSZ8841 and KSZ8842 device families available in 128L LQFP (14x14x1.4mm) package.**

**Purpose: Qualification of ASE as a new assembly site for selected Micrel products of KSZ8841 and KSZ8842 device families available in 128L LQFP (14x14x1.4mm) package.**

**I. Summary:**

The purpose of this report is to qualify TARA1(KSZ8841-16MVL) in LQFP 128 LD 14x14x1.4 mm at ASE, Taiwan per CCB# 3733 and following guidelines established in Microchip specification QCI-39000, "Worldwide Quality Conformance Requirements".

**II. Conclusion:**

Based on the results, TARA1(KSZ8841-16MVL) in LQFP 128 LD 14x14x1.4 mm at ASE complies with the reliability guidelines implemented in the qualification plan. Therefore, this part/package can be released to production as per guidelines established in Microchip specification QCI-39000, "Worldwide Quality Conformance Requirements".

**III. Device Description:**

Device	KSZ8841-16MVL
Document Control Number	ML0920190054
Document Revision	A
CCB No.	3733

**IV. Qualification Material:**

Test Lot	Lot 1	Lot 2	Lot 3
WAFER LOT	TC05919468130.200	TC05919468130.200	TC0 5919468130.200
ASSEMBLY LOT	ASE195200259.000	ASE195200260.000	ASE195200261.000
PACKAGE	LQFP 128 LD 14x14x1.4mm	LQFP 128 LD 14x14x1.4mm	LQFP 128 LD 14x14x1.4mm
QUAL TESTS	PRECOND, HTSL, UHAST, TC	PRECOND, UHAST, TC	PRECOND, UHAST, TC

**V. Bill of Materials:**

Misc.	Assembly site	ASE
	BD Number	AAH@A080170282-0
	MP Code (MPC)	TARA17J5XA01
	Part Number (CPN)	KSZ8841-16MVL1
Lead-Frame	Paddle size	240x240
	Material	C7025
	DAP Surface Prep	Double Ring
	Treatment	None
	Process	Stamped
	Lead-lock (Y/N)	No
	Part Number	1100336121
	Lead Plating	Matte Sn
Bond Wire	Material	Au
Die Attach	Part Number	EN-4900G
	Conductive	Yes
MC	Part Number	EME-G631H
PKG	PKG Type	LQFP
	Pin/Ball Count	128
	PKG width/size	14x14x1.4mm
Die	Die Thickness	14
	Die Size	120x190
	Fab Process (site)	TSMC 0.15um

## VI. Qualification Data:

### Package Preconditioning

Test Method/Condition	JEDEC J-STD-020D and JESD22-A113F, MSL Level 3 soak and 260°C peak Reflow Temperature
Lot #	Results (Fail/Pass) Min SS = 154
Lot 1	0/170
Lot 2	0/170
Lot 3	0/170

Pre and Post testing was conducted at +25°C

### UNBIASED HAST

Test Method/Condition	JESD22-A118, Ta = +130°C/85%RH, 96HRS Min SS = 77 units
Lot #	Results (Fail/Pass)
Lot 1	0/82 @ 96 hrs
Lot 2	0/82 @ 96 hrs
Lot 3	0/82 @ 96 hrs

Pre and Post testing was conducted at +25°C

### Temperature Cycling

Test Method/Condition	JESD22-A104, Ta = -65°C/+150 °C, 500 CYC Min SS = 77 units
Lot #	Results (Fail/Pass)
Lot 1	0/82 @500 cyc ; WBP after TCY: 0 fail/5
Lot 2	0/82 @500 cyc
Lot 3	0/82 @500 cyc

Pre and Post testing was conducted at +85°C

### High Temperature Storage Life

Test Method/Condition	JESD22-A103, Ta = +150 °C, 504 HRS and 1008 HRS Min SS = 45 units
Lot #	Results (Fail/Pass)
Lot 1	0/50 @ 504 HRS and 0/50 @ 1008 hrs

Pre and Post testing was conducted at +25°C, +85°C

**VII. Wire Pull/Ball Shear/Solderability**

**Lot #1:**

Test Item	Sample Size/ Unit	Comment
Wire Pull	30 wires /5 units	Pass
Ball Shear	35 balls /5 units	Pass
Solderability	22	Pass

**Lot #2**

Test Item	Sample Size/ Unit	Comment
Wire Pull	30 wires /5 units	Pass
Ball Shear	35 balls /5 units	Pass
Solderability	22	Pass

**Lot #3**

Test Item	Sample Size/ Unit	Comment
Wire Pull	30 wires /5 units	Pass
Ball Shear	35 balls /5 units	Pass
Solderability	22	Pass

**VIII. Physical Dimension:**

Test Method/Condition	JESD22 -B100 and B108, Min SS = 10 units/lot
Lot #	Results (Fail/Pass)
Lot 1	0/10 PASS
Lot 2	0/10 PASS
Lot 3	0/10 PASS

Affected Catalog Part Numbers (CPN)

KSZ8841-16MVL  
K SZ8841-16MVLI  
K SZ8841-16MVLI-TR  
K SZ8841-16MVL-TR  
K SZ8841-32MVL  
K SZ8841-32MVLI  
K SZ8842-16MVL  
K SZ8842-16MVLI  
K SZ8842-16MVLI-TR  
K SZ8842-16MVL-TR  
K SZ8842-32MVL  
K SZ8842-32MVLI