# Product Change Notification - GBNG-28DDEL176

**Date:**

02 Dec 2019

**Product Category:**

Ethernet PHYs

**Affected CPNs:**

**Notification subject:**

CCB 3735.001 Final Notice: Qualification of ASE as a new assembly site for selected Micrel products of KSZ9021xx device family available in 128L PQFP (14x20x2.72mm) 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 KSZ9021xx device family available in 128L PQFP (14x20x2.72mm) package.

**Pre Change:**

Assembled at TICP assembly site using CEL-9200 molding compound material.

**Post Change:**

Assembled at ASE assembly site using EME-G631H molding compound material.

**Pre and Post Change Summary:**

| | **Pre Change** | **Post Change** |
|---|---|---|
| **Assembly Site** | Taiwan IC Packing Corp (TICP) | ASE Inc. (ASE) |
| **Wire material** | Au | Au |
| **Die attach material** | EN4900 | EN4900 |
| **Molding compound material** | CEL-9200 | EME-G631H |
| **Lead frame material** | C7025 | C7025 |

**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:**

December 31, 2019 (date code: 1952)

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

**Time Table Summary:**

| | November 2019 | | | | | December 2019 | | | |
|---|---|---|---|---|---|---|---|---|---|
| Workweek | 44 | 45 | 46 | 47 | 48 | 49 | 50 | 51 | 52 |
| 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:**

**December 2, 2019:** Issued final notification. Attached the Qualification Report. Provided estimated first ship date to be on December 31, 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_GBNG-28DDEL176_Qual_Report.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)

KSZ9021GQ
KSZ9021GQI

MICROCHIP

# QUALIFICATION RESULT SUMMARY

## PCN#: GBNG-28DDEL176

**Date:**
**September 16, 2019**

**Qualification of ASE as a new assembly site for selected Micrel products of KSZ9021xx device family available in 128L PQFP (14x20x2.72mm) package.**

## Purpose: Qualification of ASE as a new assembly site for selected Micrel products of KSZ9021xx device family available in 128L PQFP (14x20x2.72mm) package.

### I. Summary:

The purpose of this report is to qualify TARA1(KSZ8841-32MQL) in QFP 128 LD 14x20x2.72 mm at ASE, Taiwan per CCB# 3735 and following guidelines established in Microchip specification QCI-39000, “Worldwide Quality Conformance Requirements”.

### II. Conclusion:

Based on the results, TARA1(KSZ8841-32MQL) in QFP 128 LD 14x20x2.72mm at ASE complies with the reliability guidelines implemented in the qualification plan. Therefore, this part/package can be released to production.

### III. Device Description:

| | |
|---|---|
| Device | KSZ8841-32 MQL |
| Document Control Number | ML0920190053 |
| Document Revision | A |
| CCB No. | 3735 and 3735.001 |

### IV. Qualification Material:

| Test Lot | Lot 1 | Lot 2 | Lot 3 |
|---|---|---|---|
| **WAFER LOT** | TC05919468130.100 | TC05919468130.100 | TC05919468130.100 |
| **ASSEMBLY LOT** | ASE195000432.000 | ASE195000525.000 | ASE195100005.000 |
| **PACKAGE** | QFP 128 LD<br>14x20x2.72mm | QFP 128 LD<br>14x20x2.72mm | QFP 128 LD<br>14x20x2.72mm |
| **QUAL TESTS** | PRECOND, HTSL, UHAST, TC | PRECOND, UHAST, TC | PRECOND, UHAST, TC |

## V. Bill of Materials:

| | | |
|---|---|---|
| Misc. | Assembly site | ASE |
| | BD Number | AAH@K-I-0128-70A644-0 |
| | MP Code (MPC) | TARA11C2AA02 |
| | Part Number (CPN) | KSZ8841-32MQL |
| Lead-Frame | Paddle size | 236x236 |
| | Material | C7025 |
| | DAP Surface Prep (Spot/Ring/DRP) | Double Ring Plating |
| | Treatment (roughened/ brown oxide (BOT) /micro-etched/ none) | None |
| | Process (stamped/Etched) | Stamped |
| | Lead-lock (Y/N) | No |
| | Part Number | 1100566141 |
| | Lead Plating (Matte Sn, SnPb, PPF) | Matte Sn |
| | Strip Size | 90x270 |
| Bond Wire | Material | Au |
| Die Attach | Part Number | EN-4900G |
| | Conductive | Yes |
| MC | Part Number | EME-G631H |

## 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)<br>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<br>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<br>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<br>Min SS = 45 units |
| Lot # | Results (Fail/Pass) |
| Lot 1 | 0/50 @ 504 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 | 30wires/<br>5 units | Pass |
| Ball Shear | 35 balls /<br>5 units | Pass |
| Solderabilty | 22 | Pass |

**Lot #2**

| Test Item | Sample Size/ Unit | Comment |
|---|---|---|
| Wire Pull | 30wires/<br>5 units | Pass |
| Ball Shear | 35 balls /<br>5 units | Pass |
| Solderabilty | 22 | Pass |

**Lot #3**

| Test Item | Sample Size/ Unit | Comment |
|---|---|---|
| Wire Pull | 30wires/<br>5 units | Pass |
| Ball Shear | 35 balls /<br>5 units | Pass |
| Solderabilty | 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 |