Product Change Notification / CAAN-12DLTL031

## Date:

14-Dec-2022

## Product Category:

Microprocessors

## PCN Type:

Manufacturing Change

## Notification Subject:

CCB 6010 Initial Notice: Qualification of ASEK as an additional assembly site for selected AT91SAM9G45xx, AT91SAM9G46xx, AT91SAM9M10xx and AT91SAM9M11xx device families available in 324L TFBGA (15x15x1.2mm) package.

## Affected CPNs:

CAAN-12DLTL031_Affected_CPN_12142022.pdf
CAAN-12DLTL031_Affected_CPN_12142022.csv

## Notification Text:

**PCN Status:**Initial 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 ASEK as an additional assembly site for selected AT91SAM9G45xx, AT91SAM9G46xx, AT91SAM9M10xx and AT91SAM9M11xx device families available in 324L TFBGA (15x15x1.2mm) package.

**Pre and Post Change Summary:**

| | Pre Change | Post Change | |
|---|---|---|---|
| Assembly Site | ATX Semiconductor (Shanghai)Co. Ltd (ASSH) | ATX Semiconductor (Shanghai)Co. Ltd (ASSH) | ASE Inc. (ASEK) |
| Substrate Core Material | CCL-HL832NX | CCL-HL832NX | CCL-HL832NX(A-HS) |
| SM Material | PSR 4000 AUS-308 | PSR 4000 AUS-308 | PSR4000 AUS308 |
| Die Attach Material | 2100AS | 2100AS | 2100AC |
| Wire Material | CuPd | CuPd | CuPdAu |
| Molding Compound Material | KE-G1250LKDS | KE-G1250LKDS | KE-G1250NAS |

**Impacts to Data Sheet:**None

**Change Impact**None

**Reason for Change:**To improve manufacturability by qualifying ASEK as an additional assembly site.

**Change Implementation Status:**In Progress

**Estimated Qualification Completion Date:**April 2023

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:**

| | December 2022 | | | | | > | April 2023 | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Workweek | 49 | 50 | 51 | 52 | 53 | | 13 | 14 | 15 | 16 | 17 | 18 |
| 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:**December 14, 2022: 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.

## Attachments:

PCN_CAAN-12DLTL031_Qualification 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.

CAAN-12DLTL031 - CCB 6010 Initial Notice: Qualification of ASEK as an additional assembly site for selected AT91SAM9G45xx, AT91SAM9G46xx, AT91SAM9M10xx and AT91SAM9M11xx device families available in 324L TFBGA (15x15x1.2mm) package.

Affected Catalog Part Numbers (CPN)

AT91SAM9G45B-CU
AT91SAM9M10C-CU
AT91SAM9G45C-CU
AT91SAM9M10C-CU-100
AT91SAM9G46B-CU-101
AT91SAM9G46B-CU
AT91SAM9M11B-CU
AT91SAM9G45C-CU-999
AT91SAM9M10C-CU-999
AT91SAM9M10C-CU-101

# QUALIFICATION PLAN SUMMARY

## PCN#: CAAN-12DLTL031

**Date:**
**December 8, 2022**

**Qualification of ASEK as an additional assembly site for selected AT91SAM9G45xx, AT91SAM9G46xx, AT91SAM9M10xx and AT91SAM9M11xx device families available in 324L TFBGA (15x15x1.2mm) package.**

**Purpose: Qualification of ASEK as an additional assembly site for selected AT91SAM9G45xx, AT91SAM9G46xx, AT91SAM9M10xx and AT91SAM9M11xx device families available in 324L TFBGA (15x15x1.2mm) package.**

**CCB No: 6010**

| | | |
|---|---|---|
| Misc. | Assembly site | ASEK |
| | MP Code (MPC) | 910087BJBC09 |
| | Part Number (CPN) | AT91SAM9G45C-CU |
| | MSL information | MSL3 260 |
| | Assembly Shipping Media (T/R, Tube/Tray) | Tray PN#: KS-8808 |
| | Base Quantity Multiple (BQM) | 126 |
| | Reliability Site | MTHAI |
| Substrate | Core Material | CCL-HL832NX(A-HS) |
| | SM Material | PSR4000 AUS308 |
| Bond Wire | Material | CuPdAu |
| Die Attach | Part Number | 2100AC |
| | Conductive | Yes |
| MC | Part Number | KE-G1250NAS |
| PKG | PKG Type | TFBGA |
| | Pin/Ball Count | 324 |
| | PKG width/size | 15x15x1.2mm |

| 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 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Wire Bond Pull - WBP | Mil. Std. 883-2011 | 5 | 0 | 1 | 5 | 0 fails after TC | 5 | | | | 30 bonds from a min. 5 devices. |
| Wire Bond Shear - WBS | CDF-AEC-Q100-001 | 5 | 0 | 1 | 5 | 0 | 5 | | | | 30 bonds from a min. 5 devices. |
| Solder Ball Shear | JESD22B117A | 5 | 0 | 3 | 15 | 0 | 5 | | | | 10 balls/5 units. Parts should gone Preconditioning |
| Coplanarity | JESD22B108A/POD | 5 | 0 | 3 | 15 | 0 | | | | | All units |
| Physical Dimensions | Measure per JESD22 B100 | 10 | 0 | 3 | 30 | 0 | 5 | | | | |
| High Temperature Storage Life (HTSL) | JESD22-A103. +150°C for 1008 hours. Read points at 0, 504, and 1008 hours.<br><br>Electrical test pre and post stress at +25°C and hot temp (85°C) | 45 | 5 | 1<br><br>3 (Cu wire qual) | 50<br><br>150 (Cu wire qual) | 0 | 45 | MTHAI | MTHAI | | Spare should be properly identified.<br><br>3 lots are required for Cu wire qual. |

| 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 | JESD22-A113. +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. JESD22A113.<br><br>MSL3 260c | 231 | 15 | 3 | 738 | 0 | 15 | MTHAI | MTHAI | | Spares should be properly identified. 231 parts from each lot to be used for HAST, uHAST & Temp Cycle test. |
| Unbiased HAST | JESD22-A118. +110°C/85% RH for 264 hours.<br><br>Electrical test pre and post stress at +25°C. | 77 | 5 | 3 | 246 | 0 | 10 | MTHAI | MTHAI | | Spares should be properly identified. Use the parts which have gone through Pre-conditioning. |
| Temp Cycle | JESD22-A104. -55°C to +125°C for 1000 cycles Electrical test pre and post stress at hot temp (85°C). WBP, on 5 devices from 1 lot, test following Temp Cycle stress. | 77 | 5 | 3 | 246 | 0 | 30 | MTHAI | MTHAI | | Spares should be properly identified. Use the parts which have gone through Pre-conditioning. |