



Product Change Notification - ASER-30EHFB658

Date:

20 Nov 2019

Product Category:

Others; Clock and Timing - Oscillators

Affected CPNs:**Notification subject:**

CCB 3960 Initial Notice: Qualification of new bill of materials (BOM) for selected Micrel products available in 4L VDFN (5.0x3.2x0.9mm) package at NSEB assembly site.

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 new bill of materials (BOM) for selected Micrel products available in 4L VDFN (5.0x3.2x0.9mm) package at NSEB assembly site.

Pre Change:

Assembled at NSEB using NEX-130CT die 1 attach material, 8200T die 2 attach material, G770HCD molding compound, and Q3-6646 die coat.

Post Change:

Assembled at NSEB using HR-5104 die 1 attach material, 2200D die 2 attach material, G700LTD molding compound, and JCR6109 die coat.

Pre and Post Change Summary:

| | Pre Change | Post Change |
|----------------------------------|----------------------------------|----------------------------------|
| Assembly Site | UTAC Thai Limited LTD. (NSEB) | UTAC Thai Limited LTD. (NSEB) |
| Lead Frame Material | A194 | A194 |
| Bond Wire Material | Au | Au |
| Die 1 Attach Material | NEX-130CT | HR-5104 |
| Die 2 Attach Material | 8200T | 2200D |
| Molding compound material | G770HCD | G700LTD |
| Die Coat | Q3-6646 | JCR6109 |

Impacts to Data Sheet:

None.



Change Impact:

None.

Reason for Change:

To improve manufacturability by qualifying a new die attach material, molding compound, and die coat.

Change Implementation Status:

In Progress

Estimated Qualification Completion Date:

January 2020

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:

| | November 2019 | | | | | --> | January 2020 | | | | |
|--------------------------|---------------|----|----|----|----|-----|--------------|----|----|----|----|
| Workweek | 44 | 45 | 46 | 47 | 48 | | 01 | 02 | 03 | 04 | 05 |
| 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:

November 20, 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_ASER-30EHFB658_Qual_Plan.pdf](#)

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

Terms and Conditions:

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[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.



MICROCHIP

QUALIFICATION PLAN SUMMARY

PCN #: ASER-30EHFB658

Date:

September 24, 2019

**Qualification of new bill of materials (BOM) for selected
Micrel products available in 4L VDFN (5.0x3.2x0.9mm)
package at NSEB assembly site.
This is a Q100 grade 1 qualification.**

Purpose: _____ Qualification of new bill of materials (BOM) for selected Micrel products available in 4L VDFN (5.0x3.2x0.9mm) package at NSEB assembly site. This is a Q100 grade 1 qualification.

CCB No: _____ 3960

MP code: _____ 3610R9H6A003

Part No.: _____ D4BB-L3

BD No: _____ BDE-005830 Rev.02

Package:

Type: _____ 4L VDFN COL

Width or Size: _____ 5.0 x 3.2 x 0.9 mm

Leadframe:

Part Number: _____ FR0293

Paddle Size: _____ COL

Material: _____ A194

Pad Plating: _____ Roughen NiPdAu

Process: _____ Etched

Lead-lock (Y/N): _____ Yes

Lead Finish: _____ NiPdAu

LF Thickness: _____ 8 mils

Wire:

Material: _____ Au

Die Attach Epoxy:

Part Number: _____ HR-5104

Conductive: _____ No

Part Number: _____ 2200D

Conductive: _____ Yes

Mold Compound: _____ G700LTD

Die Coat: _____ JCR6109

| Test Name | Conditions | Reliability Stress Read Point | Pre & Post Reliability Stress Test Temperature | Sample Size | Min. Qty of Spares per Lot (should be properly marked) | Qty of Lots | Total Units | Fail Accept Qty | Special Instructions |
|--------------------------------|---|---------------------------------|--|---|--|-------------|-------------|--------------------|---|
| Standard Pb-free Solderability | J-STD-002D ; Perform 8 hours of 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 | 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 | 30 bonds from a min. 5 devices. |
| Wire Bond Shear - WBS | CDF-AEC-Q100-001 | | | 5 | 0 | 1 | 5 | 0 | 30 bonds from a min. 5 devices. |
| Physical Dimensions | Measure per JESD22 B100 and B108 | | | 10 | 0 | 3 | 30 | 0 | |
| External Visual | Mil. Std. 883-2009/2010 | | | All devices prior to submission for qualification testing | 0 | 3 | ALL | 0 | |
| HTSL (High Temp Storage Life) | JESD22-A103 +150°C | Grade 1: 1000 hrs (150°C) | Grade 1: +25°C & +125°C | 45 | 5 | 1 | 50 | 0 | Spares should be properly identified. |

| Test Name | Conditions | Reliability Stress Read Point | Pre & Post Reliability Stress Test Temperature | Sample Size | Min. Qty of Spares per Lot (should be properly marked) | Qty of Lots | Total Units | Fail Accept Qty | Special Instructions |
|--|--|--------------------------------------|--|-------------------------------------|--|-------------|-------------------------------------|-----------------|--|
| Preconditioning - Required for surface mount devices | J-STD-020JESD22-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. MSL 1@260°C | | Grade 1: +25°C | 231+ 45 (for devices requiring PTC) | 15+ 5 (for devices requiring PTC) | 3 | 738+ 50 (for devices requiring PTC) | 0 | Spares should be properly identified. 77 parts from each lot to be used for HAST, uHAST, Temp Cycle test. 45 parts from one lot to be used for PTC test (for devices requiring PTC). |
| HAST | JESD22-A101 or A110 +130°C/85% RH for 96 hrs | Grade 1: 96 hrs (+130°C/85% RH) | Grade 1: +25°C & +125°C | 77 | 5 | 3 | 246 | 0 | Spares should be properly identified. Use the parts which have gone through Pre-conditioning. |
| UHAST | JESD22-A102, A118, or A101 +130°C/85% RH for 96 hrs | Grade 1: 96 hrs (+130°C/85% RH) | Grade 1: +25°C | 77 | 5 | 3 | 246 | 0 | Spares should be properly identified. Use the parts which have gone through Pre-conditioning. |
| Temp Cycle | JESD22-A104 -65°C to +150°C | Grade 1: 500 cycles (-65°C to 150°C) | Grade 1: +125°C | 77 | 5 | 3 | 246 | 0 | Spares should be properly identified. Use the parts which have gone through Pre-conditioning. |

ASER-30EHFB658 - CCB 3960 Initial Notice: Qualification of new bill of materials (BOM) for selected Micrel

Affected Catalog Part Numbers(CPN)

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DSC1000BL5-PROG
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