



## Product Change Notification - ASER-30UYYU143

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**Date:**

01 Jun 2020

**Product Category:**

Others; Clock and Timing - Oscillators

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

CCB 3959 Initial Notice: Qualification of new bill of materials (BOM) for selected Micrel products available in 4L VDFN (7x5x0.9mm) 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 (7x5x0.9mm) package at NSEB assembly site.

**Pre Change:**

Assembled at NSEB using 8200T 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.<br>(NSEB) | UTAC Thai Limited LTD.<br>(NSEB) |
| Lead Frame Material       | A194                             | A194                             |
| Bond Wire Material        | Au                               | Au                               |
| Die 1 Attach Material     | 8200T                            | 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.

**June 1, 2020:** Reissued initial notification to update the qualification plan. This is a grade 2 qualification.

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-30UYYU143\\_Qual Plan.pdf](#)

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



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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)

DSC1000AL3-PROG  
DSC1000AL5-PROG  
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DSC1001AC1-024.0000  
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**MICROCHIP**

## **QUALIFICATION PLAN SUMMARY**

**PCN #: ASER-30UYYU143**

**Date:**

**September 10, 2019**

**Qualification of new bill of materials (BOM) for selected  
Micrel products available in 4L VDFN (7x5x0.9mm)  
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 (7x5x0.9mm) package  
at NSEB assembly site. This is a Q100 grade 1 qualification.

**CCB No:** \_\_\_\_\_ 3959

**MP code:** \_\_\_\_\_ 3610R9JZA003

**Part No.:** \_\_\_\_\_ D4BA-L3

**BD No:** \_\_\_\_\_ BDE-005471 Rev.04

**Package:**

**Type:** \_\_\_\_\_ 4L VDFN

**Width or Size:** \_\_\_\_\_ 7.0 x 5.0 x 0.9 mm

**Leadframe:**

**Part Number:** \_\_\_\_\_ FR0264

**Paddle Size:** \_\_\_\_\_ 157 x 106 mils

**Material:** \_\_\_\_\_ A194

**Pad Plating:** \_\_\_\_\_ Roughen NiPdAu

**Process:** \_\_\_\_\_ Etched

**Lead-lock (Y/N):** \_\_\_\_\_ No

**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.<br><br>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.<br><br>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<br>+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<br><br>+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.<br>Use the parts which have gone through Pre-conditioning.                                                                                     |
| UHAST                                                | JESD22-A102, A118, or A101<br><br>+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.<br>Use the parts which have gone through Pre-conditioning.                                                                                     |
| Temp Cycle                                           | JESD22-A104<br><br>-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.<br>Use the parts which have gone through Pre-conditioning.                                                                                     |