

## PRODUCT / PROCESS CHANGE NOTIFICATION

PCN-000791

Date: MAR-08-2022

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Semtech Corporation, 200 Flynn Road, Camarillo CA 93012

### Change Details

#### Part Number(s) Affected:

Please see the next page for a list of affected part numbers.

Customer Part Number(s) Affected: ☒ N/A

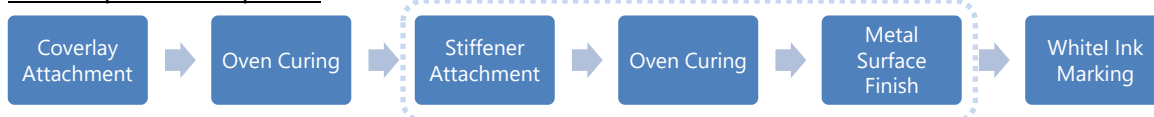
#### Description, Purpose and Effect of Change:

Semtech's tier 2 supplier has changed their manufacturing process sequence to improve the flex's robustness. The color of the flex plating area has also been changed, but the thickness dimension remains unchanged.

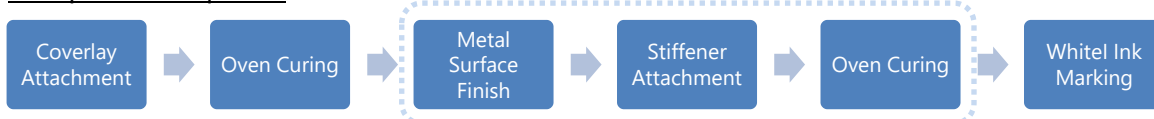
Flex is one of ROSA's BOM materials. There has been no change to the ROSA assembly process.

- Change in process sequence**

##### Current process sequence

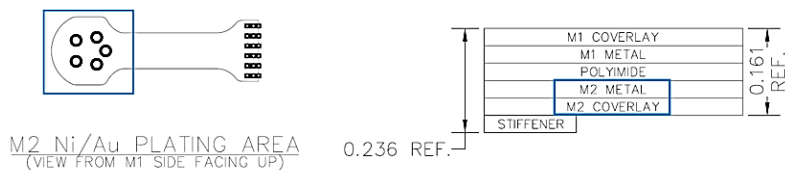


##### New process sequence

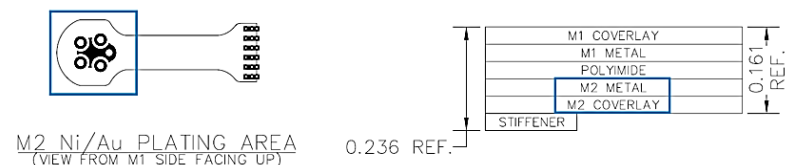


- Change in color of the flex plating area (M2 Ni/Au)**

##### Current



##### New





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|                                                                                                                                                                       |                                                                          |                                            |                                                                     |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------|--------------------------------------------|---------------------------------------------------------------------|
| <b>Change Classification</b>                                                                                                                                          | <input checked="" type="checkbox"/> Major <input type="checkbox"/> Minor | <b>Impact to Form, Fit, Function</b>       | <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No |
| <b>Impact to Data Sheet</b>                                                                                                                                           | <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No      | <b>New Revision or Date</b>                | <input checked="" type="checkbox"/> N/A                             |
| <b>Impact to Performance, Characteristics or Reliability:</b>                                                                                                         |                                                                          |                                            |                                                                     |
| The changes mentioned above have no impact on performance, characteristics, or reliability.                                                                           |                                                                          |                                            |                                                                     |
| <b>Implementation Date</b>                                                                                                                                            | <b>JUN-08-2022</b>                                                       | <b>Work Week</b>                           | <b>24</b>                                                           |
| <b>Last Time Ship (LTS)</b><br>Of unchanged product                                                                                                                   | <b>N/A</b>                                                               | <b>Affecting Lot No. / Serial No. (SN)</b> | <b>N/A</b>                                                          |
| <b>Sample Availability</b>                                                                                                                                            | <b>Available Upon Request</b>                                            | <b>Qualification Report Availability</b>   | <b>See pages below</b>                                              |
| <b>Supporting Documents for Change Validation/Attachments:</b>                                                                                                        |                                                                          |                                            |                                                                     |
| <ul style="list-style-type: none"> <li>Please see the pages below for the evaluation result.</li> </ul>                                                               |                                                                          |                                            |                                                                     |
| <b>Issuing Authority</b>                                                                                                                                              |                                                                          |                                            |                                                                     |
| <b>Semtech Business Unit:</b>                                                                                                                                         | Signal Integrity Product Group (SIP)                                     |                                            |                                                                     |
| <b>Semtech Contact Info:</b>                                                                                                                                          | Pedro Jr. Bernas<br>pbernas@semtech.com<br>(289) 856-9326 x1162          |                                            |                                                                     |
| FOR FURTHER INFORMATION & WORLDWIDE SALES COVERAGE: <a href="http://www.semtech.com/contact/index.html#support">http://www.semtech.com/contact/index.html#support</a> |                                                                          |                                            |                                                                     |

• **Part Number(s) Affected:**

|   |                  |    |                  |    |                  |    |                  |
|---|------------------|----|------------------|----|------------------|----|------------------|
| 1 | GN3357-3EB9AQ9E3 | 8  | GN3368-3EC8AN4E3 | 12 | GN3358-3EF8AT9E3 | 15 | GN3257-3EB9AU2E3 |
| 2 | GN3357-3EB9AS6E3 | 9  | GN3368-3EC8AT6E3 | 13 | GN3358-3EF8AU2E3 | 16 | GN3270-3EC7AV8E3 |
| 3 | GN3357-3EB9AT6E3 | 10 | GN3368-3EC8AT8E3 | 14 | GN3358-3EF9AU2E3 | 17 | GN3289-3ED7BC2E3 |
| 4 | GN3357-3EB9AU2E3 | 11 | GN3368-3EC8AU8E3 |    |                  |    |                  |
| 5 | GN3357-3EB9AU4E3 |    |                  |    |                  |    |                  |
| 6 | GN3357-3EB9AU7E3 |    |                  |    |                  |    |                  |
| 7 | GN3357-3ED9AU2E3 |    |                  |    |                  |    |                  |

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- **Evaluation Result:**

- **S-parameter Test**

- The sample consisted of GN3357 ROSAs with old and new flex.
- The test specification was met.
  - When comparing new and old flex, there is no significant difference in bandwidth (BW) / RF measurement.
  - When comparing new and old flex, there is no significant difference in sensitivity performance (URS).

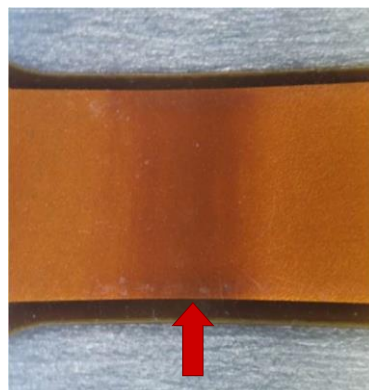
| Sensitivity (dBm)  | Old flex | New flex | Variance |
|--------------------|----------|----------|----------|
| Upper limit: -25.5 |          |          |          |
| Sample#1           | -27.5    | -27.56   | 0.06     |
| Sample#2           | -27.75   | -27.49   | -0.26    |
|                    |          |          |          |
| Bandwidth (GHz)    | Old flex | New flex | Variance |
| Typical: 7         |          |          |          |
| Sample#1           | 6.94     | 7.03     | -0.09    |
| Sample#2           | 7.22     | 7.19     | 0.03     |

- **Bending Test**

- Condition: Bending radius 0.4mm, 180 degrees, 25 times
- Samples: 11 units
- Result: The open/short test and visual inspection at the bending area both passed.



Bending area



Bending area

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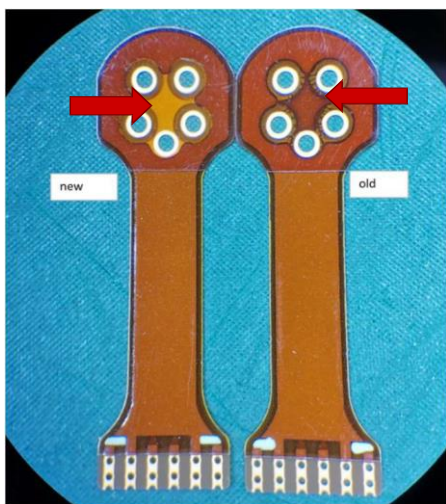
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### Visual Inspection

- A slight color difference can be seen in the center of the back side, left photo. There is no color difference on the front side, as shown in the right photo.
- Visual inspection passed Semtech criteria.

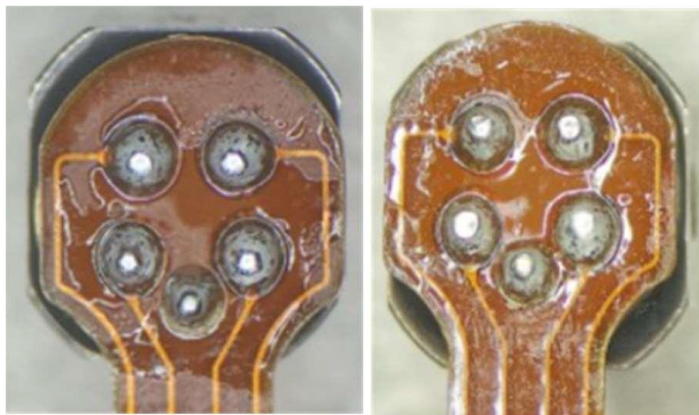


Back side

Flex attached to ROSA

New

Old

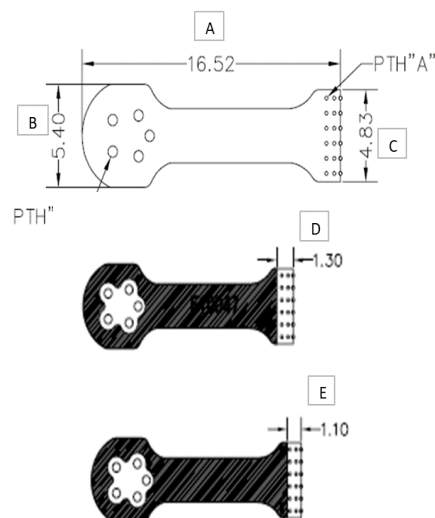


Front side

### Dimension Measurement

- Measuring the critical dimensions
- Result: Passed

| Unit: mm    | A     | B    | C    | D    | E    |
|-------------|-------|------|------|------|------|
| Upper limit | 16.62 | 5.50 | 4.93 | 1.40 | 1.20 |
| Lower limit | 16.42 | 5.30 | 4.73 | 1.20 | 1.00 |
| 1           | 16.53 | 5.40 | 4.84 | 1.33 | 1.11 |
| 2           | 16.53 | 5.41 | 4.83 | 1.32 | 1.12 |
| 3           | 16.53 | 5.41 | 4.84 | 1.31 | 1.13 |
| 4           | 16.52 | 5.41 | 4.83 | 1.31 | 1.13 |
| 5           | 16.54 | 5.41 | 4.84 | 1.30 | 1.12 |
| 6           | 16.53 | 5.42 | 4.84 | 1.32 | 1.13 |
| 7           | 16.52 | 5.41 | 4.84 | 1.33 | 1.12 |
| 8           | 16.54 | 5.41 | 4.84 | 1.32 | 1.13 |
| 9           | 16.54 | 5.41 | 4.84 | 1.30 | 1.13 |
| 10          | 16.54 | 5.41 | 4.84 | 1.32 | 1.13 |
| Max         | 16.54 | 5.42 | 4.84 | 1.33 | 1.13 |
| Min         | 16.52 | 5.40 | 4.83 | 1.30 | 1.11 |
| Result      | Pass  | Pass | Pass | Pass | Pass |



Tolerance: +/- 0.1mm