Product Change Notification
ENP-PCN-2010-01 Rev 01
June 28, 2010

PCN Overview

PCN Original Issue Date: April 12, 2010
Type of Change Notification: Assembly material & site change
Qualification Complete: June 15, 2010
Sample Availability: June 15, 2010
Expected First Ship Date: August 15, 2010
Last Date to Buy Pre-Change Product: N/A
Affected Products: EN5322QI, EA102BCM, EN103INT, EN106AMN
Reference Documents: JEDEC Standard JESD46C
Prod Mark Spec OP-L01a_V9-02.pdf

PCN Revision History:
Revision Date: April 12, 2010  Revision Number: 00  Reason: initial issue
Revision Date: June 28, 2010  Revision Number: 01  Reason: qualification complete

Description of Change

Enpirion has qualified copper bond material for QFN devices at HANA Semiconductor, Thailand.

Enpirion reserves the right to ship devices with either gold or copper wire bonds.

Customer Impact of Change and Recommended Action

There is no customer impact since there is no change in form, fit, function, reliability and quality of the products.

Reason for Change

Copper wire is increasingly becoming the material of choice for wire bonding in the semiconductor industry due to the spiraling cost of gold. Addition of copper wire as a qualified material for assembly is an integral part of Enpirion’s cost containment strategy while enabling manufacturing flexibility and ensuring long term continuity of supply.

Product Identification

Products with copper wire will be easily identifiable by the letter C at the end of the Lot Number on the second row of the device marking.
### Product Qualification Data

Devices manufactured with copper wire bonds at HANA Semiconductor, Thailand

<table>
<thead>
<tr>
<th>Item</th>
<th>Reliability Test</th>
<th>Test Condition &amp; Standard</th>
<th>Test Results (Qty: Pass/Fail)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>High Temperature Operating Life (HTOL)</td>
<td>JESD22-A100 (125°C, Vin-max, 1000 hours)</td>
<td>Lot #1</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>26/0</td>
</tr>
<tr>
<td>2</td>
<td>High Temperature Storage (HTS)</td>
<td>JESD22-A103-C (150°C, 1000 hours, Condition B)</td>
<td>80/0</td>
</tr>
<tr>
<td>3</td>
<td>Pre-Conditioning</td>
<td>JESD22-A-113 and J-STD-020</td>
<td>200/0</td>
</tr>
<tr>
<td>4</td>
<td>Temperature Humidity Bias with Pre-Conditioned Devices from Item 3</td>
<td>JESD22-A101 (65°C/85%RH, Vin-max, 500 hours)</td>
<td>40/0</td>
</tr>
<tr>
<td>5</td>
<td>Autoclave with Pre-Conditioned Devices from Item 3</td>
<td>JESD22-A102-C (100%RH, 121°C, 96 hours, Condition C)</td>
<td>80/0</td>
</tr>
<tr>
<td>6</td>
<td>Temperature Cycle with Pre-Conditioned Devices from Item 3</td>
<td>–65°C to +150°C / 500 cycles JESD22-A104, Condition C, Soak Mode 5</td>
<td>80/0</td>
</tr>
</tbody>
</table>

Product characterization data and product samples are available on request.

### Customer Acknowledgement

Customers are requested to acknowledge this notification within 30 days of its issue date. Lack of response within 30 days of PCN release will constitute an acceptance of the change.

Please contact Enpirion at customerservice@enpirion.com, your manufacturers’ representative, or distributor if you have any issues with this PCN or require additional information.

Customer: _________________________   Name: ____________________________
Title: ____________________ Phone: _______________ Email: ________________
Customer Comments: _________________________________________________________
Customer Signature: ___________________  Date: _______________________