



February 22, 2021

**Subject: PCN#01A-21 Product Change Notification of an Alternate Assembly / Test Supplier for 2.5x2.5mm ICE40UL Device Variants**

**Overview**

Lattice is providing this Product Change Notification (PCN) of our intent of using Advanced Semiconductor Engineering Inc., Malaysia (ASEM) as alternate assembly and test source for select Lattice Semiconductor ICE40UL products in the 2.5x2.5mm body size ball grid array (BGA). There is no change in form, fit or function of the affected products.

**Description**

ASEM has been a primary site for the majority of Lattice’s products in the wirebonded ball grid array (BGA), quad flat package (QFP), and quad flat no-lead (QFN) products for many years. Lattice is qualifying the below listed devices at ASEM.

The listed devices have been in production at Amkor Technology Phils. Inc (ATP).

**Effects to Customer Design**

All affected products have no change in form, fit and function. There will be no impact on customer designs.

**Affected Products**

The Ordering Part Numbers (OPNs) affected by this PCN are listed below. This PCN also affects any custom devices (i.e. factory programmed, special test, tape and reel, non-standard speed grade and package, etc.), which are derived from any of the listed devices.

Item Number
ICE40UL1K-CM36AI
ICE40UL640-CM36AI

## **Material Set Changes**

All devices to be qualified at ASEM will follow standard ASEM Bills of Materials (BOMs) or previously qualified and in use for existing production Lattice devices. This leverages actual Lattice reliability data available on current products that are already in production at ASEM as well as ASEM's high volume production experience across their customer base for these BOMs. The use of ASE's standard BOM will provide high quality and manufacturability.

Please refer to Table 1 below for details of material set changes associated with this PCN:

	<b>ATP</b>	<b>ASEM</b>
<b>Substrate, soldermask</b>	AUS308	AUS308
<b>Substrate, core material</b>	HL832NX-A	HL832NX-A
<b>Substrate, plating finish</b>	NiAu	NiAu
<b>Die attach (DAF)</b>	Lintec LE5000P12AS	HITACHI FH-900T-25_HR9004
<b>Wire type</b>	0.7 mil Pd-Coated Cu	0.7 mil AuPd-coated Cu
<b>Mold compound</b>	GE110LS-V	KE-G1250LKDS
<b>Solder ball</b>	SAC105	SAC105

**Table 1: Bill of Materials**

## **Data Sheet Specifications**

This PCN has no impact on any electrical data sheet performance specifications.

## **Qualification Data**

Qualification report is available upon request from [custreq@latticesemi.com](mailto:custreq@latticesemi.com).

## Device Identification

Devices manufactured and tested at ASEM can be identified by the numeric value (“1”) in the 5<sup>th</sup> position and “R” in the 6<sup>th</sup> position of the datecode, marked on the topside of the devices. See figure 1. This datecode is also marked on the label on the outside of the inventory box, as well as on the anti-static moisture barrier bag within. See device topside marking example below:



Figure 1 – Date Code Identifier for ASEM

## Sample Support

Conversion timing for this PCN is 90 days from the date of this Notice. No action is required (meaning no changes to OPNs, your internal Bills of Material, backlog or orders) unless you plan to do further evaluation.

Should samples be required to complete evaluation of this PCN, **they can be ordered now.** Please contact your normal Lattice Sales channel.

## Conversion Timing Summary

- **Sample Request Cut-off Date:** **March 21, 2021**
- **PCN Expiration Date:** **May 21, 2021**

## Recommended Actions

Please work closely with your normal Lattice Sales contact to provide further clarification on your sample needs.

Customers who have further questions regarding this specification change are encouraged to contact local field support or [sales@latticesemi.com](mailto:sales@latticesemi.com).

## **Response**

In accordance with J-STD-046, this change is deemed accepted by the customer if no acknowledgement is received within 30 days from this Notice. Lattice PCNs are available on the [Lattice PCN web page](#). Please sign up to receive e-mail PCN alerts by registering [here](#). If you already have a Lattice web account and wish to receive PCN alerts, you can do so by logging into [your account](#) and making edits to your subscription options.

Sincerely,

Lattice PCN Administrator