



June 2, 2014

**Subject: PCN# 04A-14, 90-Day Notification of Intent to Utilize an Alternate Qualified Material Set for the ICE40 144-pin TQFP Package Devices**

Dear Lattice Customers,

In accordance with our Product Change Notification (PCN) policy, Lattice is providing this 90-day notification of our intent to utilize an alternate qualified material set for the ICE40™ 144-pin Thin Quad Flat Pack (TQFP) package devices.

The Malaysian facility of Advanced Semiconductor Engineering (ASE) has been the primary source of Lattice's ICE40 devices. ASE Malaysia is standardizing the mold compound by moving to an industry standard material set and this is the only change involved with this PCN. ASE Malaysia utilizes industry standard raw materials, assembly and test processes. All external package dimensions and package footprints remain the same and are published on the Lattice web site ([www.latticesemi.com](http://www.latticesemi.com)).

### **AFFECTED DEVICES / PACKAGES**

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

**ICE40HX1K-TQ144**

**ICE40HX4K-TQ144**

### **ALTERNATE QUALIFIED MATERIAL SET**

The complete material set used is described in Exhibit A.

### **QUALIFICATION DATA**

Reliability testing for the qualification of these ASE Malaysia-manufactured devices using the new material set has completed. A summary of the qualification data is available [here](#).

## **DATA SHEET SPECIFICATIONS**

This PCN has no impact on any data sheet specifications.

## **PCN TIMING**

Conversion timing for this PCN is 90 days from the date of this Notice. Initial products with this new material set from ASE Malaysia will ship no earlier than September 2, 2014. Should samples be required to complete evaluation of this PCN, such sample requests must be received **no later than July 2, 2014.**

## **CONVERSION TIMING – Summary**

- **Sample Request Cut-off Date:**       **July 2, 2014**
- **PCN Expiration Date:**               **September 2, 2014**

## **RESPONSE**

In accordance with JESD46-D, 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.

## **CONTACT**

If you have any questions or require additional information, please contact [pcn@latticesemi.com](mailto:pcn@latticesemi.com).

Sincerely,

Lattice Semiconductor PCN Administration

**EXHIBIT "A" – ASE MALAYSIA ALTERNATE QUALIFIED MATERIAL SET**

Package Type	CURRENT					ALTERNATE QUALIFIED				
	Assembly Site	Material Set				Assembly Site	Material Set			
		Die Attach	Mold Compound	Plating	Wire		Die Attach	Mold Compound	Plating	Wire
<b>144-TQFP</b>	ASE Malaysia	Hitachi FH-900T-25_HR9004	CEL9240HF10AK	Matte Sn	Pure Cu	ASE Malaysia	Hitachi FH-900T-25_HR9004	G700SY	Matte Sn	Pure Cu

**Note:** The highlighted cells in the "ALTERNATE QUALIFIED" section identify the changes associated with this PCN.