



PROCESS CHANGE NOTIFICATION

PCN1808

Alternate Assembly Site for Selected Enpirion® Power SoC Devices

Change Description:

Intel® Programmable Solutions Group ("Intel PSG", formerly Altera) is announcing the qualification of Unisem as an alternate assembly site of selected Enpirion Power SoC devices.

Unisem is a long-time qualified assembly site for multiple Intel PSG products and packages.

Table 1: Assembly Site Change

	Current Site	Added Alternate Site
Assembly Site	Lingsen	Unisem
Country of Origin	Taiwan	Malaysia

The affected devices are assembled at Unisem with a different solder paste and internal inductor. These Bill of Materials (BOM) changes have already been covered by [PCN1512](#) and [PCN1505](#) respectively. The SAC305 solder paste and LGA internal inductor have already been qualified and implemented in Enpirion products for over two years.

Please see Table 2 for the specific BOM changes.

Table 2: Changes to BOM

OPN	Affected Material	Change From	Change To
EP5358HUA/ EP5358LUA	Leadframe	C7025 (with Ag plating on pad)	C194 (without Ag plating on pad)
	Solder Paste	Indium NC- SQM51	Indium 8.5LS SAC305
EP53A8HQA/ EP53A8LQA	Leadframe	C7025 (with Ag plating on pad)	C194 (without Ag plating pad)
	Solder Paste	Indium NC-SQM51	Indium 8.5LS SAC305
	Inductor	Mag Layers GMPI-252005 non-LGA type	FDK MIPSUZ2520G LGA type

Note: The rest of the BOM remains the same.

Products Affected:

Table 3

Product Family	OPN	Package – Pin Count
Enpirion Power SoC	EP5358HUA	uQFN - 16
	EP5358LUA	uQFN - 16
	EP53A8HQA	QFN - 16
	EP53A8LQA	QFN - 16

Recommended Action

Customers are requested to:

1. Acknowledge receipt of this notification.
2. Review and provide approval of this change at the earliest convenience.

Please refer to the “Product Transition Dates” for the key milestones.

Upon implementation, Intel PSG will ship materials from either site.

Product Transition Dates:

Customers are requested to take note of the key dates shown in the table below.

Table 4

Milestone	Date
Last date to acknowledge receipt of this notification ¹	June 18, 2018
Estimated earliest shipment date of changed products ²	Jan 1, 2019

Note 1: J-STD-046, section 3.2.3.1b, stipulates that lack of acknowledgement of the PCN within 30 days constitutes acceptance of the change.

Note 2: Effective the earliest ship date listed above, Intel PSG may begin the shipment of changed products.

Intel PSG reserves the right to continue shipment of pre-change product after the change implementation date, and customers will receive shipments of either pre-change or post-change product.

Reason for Change:

The qualification of an additional production assembly site for the affected devices supports supply chain risk mitigation.

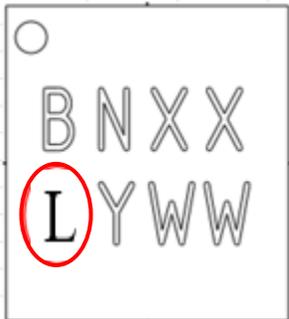
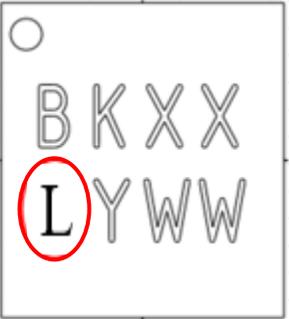
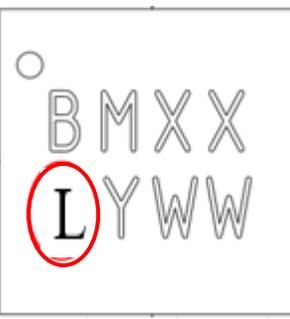
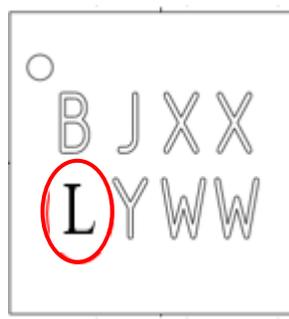
Impact and Benefit of Change:

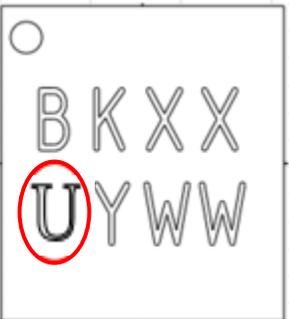
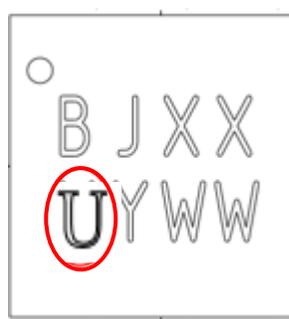
The change will not impact the form, fit, and function of the product. Product datasheet and package specifications remain the same.

Additional qualification is being performed to further evaluate the quality and reliability performance of affected products assembled at Unisem (See Qualification Data Section, Table 5).

Method to Identify Change Product:

The assembly site of a device can be identified by the lettering on the bottom left hand corner of the top mark.

Current Top Mark (Lingsen)			
EP5358HUA	EP5358LUA	EP53A8HQA	EP53A8LQA
			

Alternate Top Mark (Unisem)			
EP5358HUA	EP5358LUA	EP53A8HQA	EP53A8LQA
			

Upon implementation, Intel PSG will ship materials from either site.

Qualification Data:

Qualification testing is being performed to further evaluate the quality and reliability performance of affected products assembled at Unisem. (See Table 5).

Table 5: Qualification Data

Test	Time point	Conditions	# of Lots	SS/lot	Schedule of Completion
Temperature Cycle Test (TCB) ^{Note 1}	1000X	-55°C /125°C	4	77	Mid-May 2018
Biased Humidity (THB) ^{Note 1}	1000hrs	85°C / 85%RH with bias	4	77	
Power Temperature Cycling (PTC) ^{Note 1}	1000X	-40°C /105°C	2	45	
High Temperature Storage Life (HTSL)	1000hrs	150°C	2	45	
Unbiased Highly Accelerated Stress Test (uHAST) ^{Note 1}	96hrs	130°C / 85%RH	4	77	
High Temperature Operating Life (HTOL)	1000hrs	125°C	2	77	

Note 1: Preconditioning performed according to J-STD-020, MSL3 @ 260C.

Table 4a: Vehicle Devices

Package	Device
QFN - 16	EP53A8LQA
uQFN - 16	EP5358HUA

Note 2: Qualification vehicles were selected to represent various die and package combinations

Contact

For more information, please contact Sales or Customer Quality Engineering (CQE) in your region, or submit a Service Request at Intel PSG's [mySupport](#) website.

Customer Notifications Subscription

Customers that have subscribed to Intel PSG's customer notification mailing list will receive the PCN document automatically via email.

If you would like to receive customer notifications by email, please subscribe to our customer notification mailing list at:

<https://www.altera.com/subscriptions/email/signup/eml-index.jsp>

Intel PSG references J-STD-046 guidelines for PCN.

In accordance with J-STD-046, this change is deemed acceptable to the customer if no acknowledgement is received within 30 days from date of notification.

Revision History

Date	Rev	Description
05/04/2018	1.0.0	Initial Release

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