

PROCESS CHANGE NOTIFICATION

PCN1807

Alternate Assembly Sites for Selected Enpirion® Power SoC Devices in QFN Modules with Metal Lids

This is not a new PCN issuance. This is an update to PCN1807; please see the [revision history](#) table for information specific to this update

Change Description:

Intel Programmable Solutions Group (“Intel PSG”, formerly Altera) is announcing the qualification of Advanced Semiconductor Engineering Inc., Kaohsiung (ASEK) and Unisem as alternate assembly sites of selected Enpirion Power SoC devices in QFN modules with metal lids.

Unisem and ASEK are both long-time qualified assembly sites for multiple Intel PSG products and packages.

Table 1: Assembly Site Change

	Current Site	Added Alternate Site	Added Alternate Site
Assembly Site	Hana	Advanced Semiconductor Engineering Inc., Kaohsiung (ASEK)	Unisem
Country of Origin	Thailand	Taiwan	Malaysia

Products Affected:

Table 2

Product Family	OPN	Package – Pin Count
Enpirion Power SoC	EM2260P01QI	QFN - 152
	EM2280P01QI	QFN - 152
	EM2030L01QI	QFN - 100
	EM2120H01QI	QFN - 100
	EM2120L01QI	QFN - 100
	EM2130H01QI	QFN - 100
	EM2130L01QI	QFN - 100
	EM2130L02QI	QFN - 100
	EM2140P01QI	QFN - 100

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 any of the three sites.

Product Transition Dates:

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

Table 3

Milestone	Date
Last date to acknowledge receipt of this notification ¹	June 11, 2018
Estimated earliest shipment date of changed products ²	September 29, 2018 (Unisem) January 1, 2019 (ASEK)

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 additional production assembly sites for metal lid modules supports supply chain risk mitigation.

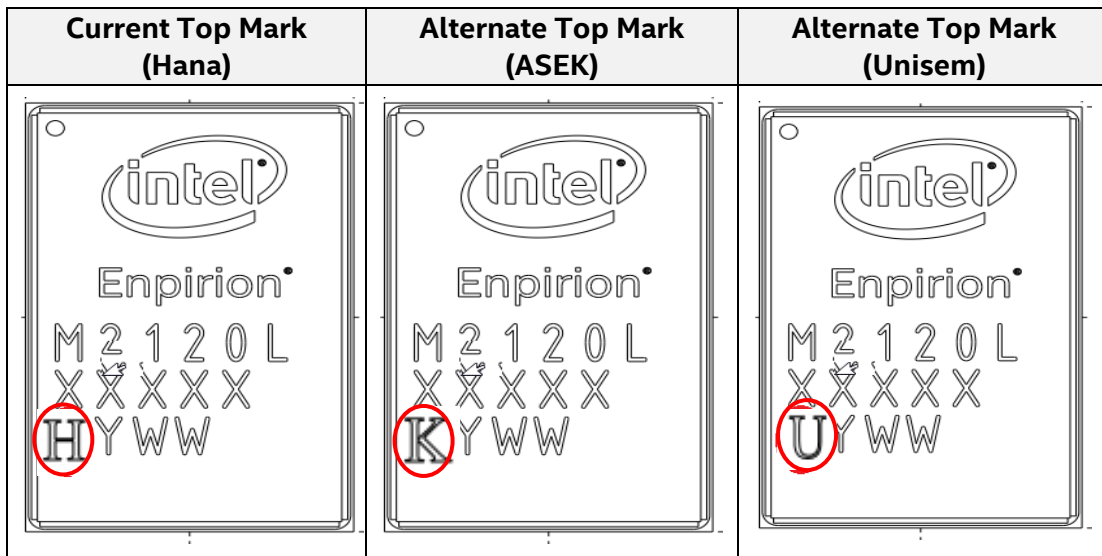
Impact and Benefit of Change:

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 and ASEK (See Qualification Data Section, Table 4).

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.



Upon implementation, Intel PSG will ship materials from any of the three sites.

Qualification Data:

Qualification testing is being performed to further evaluate the quality and reliability performance of affected products assembled at Unisem and ASEK (See Table 4).

Table 4: Qualification Data

Assembly Site	Test	Time point	Conditions	# of Lots	SS/lot	Results (Fail/Total SS)
Unisem	Temperature Cycle Test (TCB)	1000X	-55°C / 125°C	3	45	0/45
	Biased Humidity (THB)	1000hrs	85°C / 85%RH with bias	3	45	0/45
	Unbiased Highly Accelerated Stress Test (uHAST)	96hrs	130°C / 85%RH	3	45	0/45

Note: Preconditioning (J-STD-020, MSL3 @ 260°C) performed on all samples prior to each reliability test.

Table 4: Qualification Data (cont.)

Assembly Site	Test	Time point	Conditions	# of Lots	SS/lot	Schedule of Completion
ASEK	Temperature Cycle Test (TCB)	1000X	-55°C / 125°C	3	45	End of 2018
	Biased Humidity (THB)	1000hrs	85°C / 85% RH with bias	3	45	
	Unbiased Highly Accelerated Stress Test (uHAST)	96hrs	130°C / 85%RH	3	45	

Note: Preconditioning (J-STD-020, MSL3 @ 260°C) performed on all samples prior to each reliability test.

Table 4a: Vehicle Devices

Assembly Site	Package	Device
Unisem	QFN - 100	EM2130QI
ASEK	QFN - 152	EM2260QI

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

Contact

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<https://www.intel.com/content/www/us/en/programmable/my-intel/mail-emailsub/technical-updates.html>

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
08/17/2018	1.1.0	<ul style="list-style-type: none">Unisem Qualification Data Update and ASEK Qualification Schedule UpdateUpdate Estimated Earliest Shipment Dates of Changed Products from June 15, 2018 to September 29, 2018 for Unisem, and from August 1, 2018 to January 1, 2019 for ASEK (Table 3)

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