



PROCESS CHANGE NOTIFICATION

PCN2129

Alternate Assembly Site for Selected Cyclone® III Devices

Change Description:

Intel® is announcing the addition of Advanced Semiconductor Engineering Inc., Malaysia (ASEM) as an alternate assembly site for selected Cyclone III devices.

ASEM is a long-time qualified, high-volume assembly site for Cyclone 10 LP devices, which have the same package type as Cyclone III.

Table 1: Added Assembly Sites

	Current Site	Added Alternate Site
Assembly Site	Amkor Technology Korea (ATK)	Advanced Semiconductor Engineering Inc., Malaysia (ASEM)
Country of Origin (COO)	Korea	Malaysia

Note 1: There are no changes to the Bill of Materials (BOM)

Products Affected:

Table 2

Product Family	Package – Pin Count
Cyclone III	MBGA-164
	UBGA-256
	FBGA-256

The list of affected OPNs can be downloaded in Excel form:

<https://www.intel.com/content/dam/www/programmable/us/en/pdfs/literature/pcn/pcn2129-opn-list.xlsx>

Recommended Action

Customers are requested to:

1. Acknowledge receipt of this notification.
2. Review and inform us, at the earliest convenience, of any questions or concerns regarding this change.

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

Upon implementation, Intel will ship either pre-change or post-change materials.

Product Transition Dates:

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

Table 3: Key Dates

<i>Milestone</i>	<i>Date</i>
Last date to acknowledge receipt of this notification ¹	September 20, 2021
Earliest change implementation	March 1, 2022

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.

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:

There is no impact to fit, function, form (except for COO top mark), quality, and reliability of the product. The products will meet existing electrical and mechanical specifications.

Qualification has been performed to evaluate the quality and reliability performance of ASEM for the products specific to this PCN (See Qualification Data Section, Table 4).

Method to Identify Change Product:

The changed product can be identified by the following:

- COO (Country of Origin) is Malaysia on the top mark and label for ASEM parts as indicated on Table 1

Qualification Data:

Qualification testing was performed to further evaluate the quality and reliability performance of ASEM for the products specific to this PCN.

Table 4: Reliability Test Data

- All tests passed with zero failures
- Vehicle devices are Cyclone 10 LP devices which are of the same technology and package Bill of Materials (BOM).

Test	Time point	Conditions	Vehicle Device	# of Lots	SS/Lot	Results (Fail/Total SS)
Temperature Cycle Test (TCB)	1000 Cycles	-55°C /125°C	10CL080U484	3	45	0/135
			10CL016M164	3	45	0/135
Temperature Humidity Bias (THB)	1000hrs	85°C/85% RH	10CL080U484	3	45	0/135
			10CL016M164	3	45	0/135
Unbiased Highly Accelerated Stress Test (uHAST)	96hrs	130°C / 85%RH	10CL080U484	3	45	0/135
			10CL016M164	3	45	0/135
High Temp Storage (Bake)	2000hrs	150°C	10CL080U484	3	45	0/135
			10CL016M164	3	45	0/135

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

Note 2: Rel#: 17120015, 17120016, 18060019, 18060020

Note 3: Qualification testing and sample size based on standard J-STD-020 requirements

Contact

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

Intel 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
08/06/2021	1.0.0	Initial Release

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