



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

For more information, please contact Sales in your region, or submit a Service Request at the [My Intel](#) support page.

Customer Notifications Subscription

Customers that have subscribed to Intel Programmable solutions Group (PSG) 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.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

©2021 Intel Corporation. All rights reserved. Intel, the Intel logo, Altera, Arria, Cyclone, Enpirion, Max, Nios, Quartus and Stratix words and logos are trademarks of Intel Corporation or its subsidiaries in the U.S. and/or other countries. Other marks and brands may be claimed as the property of others. Intel reserves the right to make changes to any products and services at any time without notice. Intel assumes no responsibility or liability arising out of the application or use of any information, product, or service described herein except as expressly agreed to in writing by Intel. Intel customers are advised to obtain the latest version of device specifications before relying on any published information and before placing orders for products or services.

OPN	MMID
EP3C25F256C6	973103
EP3C25F256C6N	972382
EP3C25F256C7	970106
EP3C25F256C7N	967221
EP3C25F256C8	966883
EP3C25F256C8N	970548
EP3C25F256C8NSZ	969494
EP3C25F256C8SZ	974038
EP3C25F256I7	972383
EP3C25F256I7N	971612
EP3C25F256I7NGB	971613
EP3C10M164C7N	973092
EP3C10M164C8N	969933
EP3C10M164I7N	974320
EP3C5M164C7N	970148
EP3C5M164C8N	966953
EP3C5M164I7	973115
EP3C5M164I7N	972399
EP3C16U256C6	974329
EP3C16U256C6N	973098
EP3C16U256C7	969944
EP3C16U256C7N	973099
EP3C16U256C8	974330
EP3C16U256C8N	972379
EP3C16U256I7	973100
EP3C16U256I7N	972380