



Revision 1.2.0
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CUSTOMER ADVISORY

ADV1828

Readiness Plan: EU RoHS Exemption 15 Scope Change

This is not a new ADV issuance. This is an update to ADV1828; please see the [revision history](#) table for information specific to this update

Change Description:

Intel® is notifying customers of the readiness plan addressing the EU Restriction of Hazardous Substances (RoHS) Directive Exemption 15 scope change.

Exemption 15 scope for electronic products originally covered:

Lead in solders to complete a viable electrical connection between semiconductor die and carrier within integrated circuit flip chip packages

Upon revision, the scope of Exemption 15a will only cover:

Lead in solders to complete a viable electrical connection between the semiconductor die and carrier within integrated circuit flip chip packages where at least one of the following criteria applies:

- a semiconductor technology node of 90 nm or larger;
- a single die of 300 mm² or larger in any semiconductor technology node;
- stacked die packages with die of 300 mm² or larger, or silicon interposers of 300 mm² or larger.

Changes will affect Field Programmable Grid Array (FPGA) Flip Chip products that currently use leaded solder bumps on the 1st level interconnect.

- Selected products will be converted to the leadfree SnAg1.8 solder bumps, replacing the 63/37 Sn-Pb bumps.
- There will also be a selected set of products that will not transition to leadfree solder bumps and will eventually be discontinued.

See Table 1 for the conversion plan and Table 2 for important information about the converted products.

Table 1: Leadfree Solder Bumps Conversion Plan

Conversion Timeline	Converting in 2019 <i>Immediately impacted with latest Ex15 scope change</i>	Converting in 2020 <i>Applicable Ex15a extension to year 2021</i>	Converting in 2021 <i>Applicable Ex15a extension to year 2021</i>
Product Family	<ul style="list-style-type: none"> • Arria® II GX • Arria® V (small die) • Stratix® III (small die) • Stratix® IV (small die) 	<ul style="list-style-type: none"> • Arria® II GZ • Arria® V (large die) • Stratix® III (large die) • Stratix® IV (large die) • Stratix® V 	<ul style="list-style-type: none"> • Stratix® II & Stratix® II GX* • Arria® GX*
Samples and Production Timeline	In production	Converted samples can be ordered now	Samples availability date to be advised

Note:

1. Small die is < 300mm²; Large die is ≥ 300mm²
2. The following products are **not converting**: HardCopy II, HardCopy III, HardCopy IV, HardCopy Si Pro

Table 2: Important Information About the Converted Products

Ordering Code	<p>New Ordering Part Numbers (OPNs) with the “G” suffix will be assigned to converted products.</p> <p>Existing OPNs with leaded solder bumps will eventually be retired and a separate Product Discontinuation Notice (PDN) will be issued to officially notify customers.</p>
Quality and Reliability Qualification Status	Package reliability qualification testing has been successfully completed except Arria® GX, Stratix® II & Stratix® II GX.

Table 2 (continued): Important Information About the Converted Products

Assembly Site	The assembly sites are the same: ASE Taiwan and Amkor Korea.
Bill of Materials	<p>The 63/37 Sn-Pb leaded bumps will be replaced with leadfree SnAg1.8 bumps.</p> <p>The leadfree solder bumps necessitated changes to other materials within the BOM (Bill of Materials) to meet manufacturability and package reliability requirements.</p>
Package Form and Fit	<p>There will be modifications to the package form and fit for the following product families: Stratix® III & Arria® II GX (lidless package).</p> <p>Applicable Package Outline Drawings (POD) for the converted products are available upon request.</p>
Function and Electrical Specification	The change does not impact the function and electrical specifications of the affected products.

Recommended Action:

It is recommended for customers to switch to the fully lead-free converted products (with the “G” suffix). Please see the link provided in the “Products Affected” section where the new OPNs of the converted parts are listed.

Products Affected:

The link below contains the list of affected OPNs with the corresponding conversion status and new OPN (where applicable).

<https://www.intel.com/content/dam/www/programmable/us/en/pdfs/literature/pcn/dv1828-opn-list.xlsx>

Reason for Change:

This change is in preparation for the RoHS Directive Exemption 15 scope change. This change also aligns with Intel’s long-standing commitment to preserving the environment, health, and safety.

Contact

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

Revision History

Date	Rev	Description
01/18/2019	1.0.0	Initial Release
09/06/2019	1.1.0	<ul style="list-style-type: none">Update Exemption Status from EX15a to Expired for the following OPNs: HC4E25FF780NAA, HC4E25FF780NAB, HC4E25FF780NAC, HC4E25FF780NAE, HC4E35FF1152NAL, HC4E35FF1152NAM, HC4E35FF1152NAW, HC4E35FF1152NAX, HC4E35FF1517NAR, HC4E35LF1152NAH, HC4E35LF1152NAQ, HC4E35LF1152NAS, HC4E35LF1152NAV, HC4E35LF1152NAYRemove the following OPNs: HC210WF484NAB, HC210WF484NAD, HC210WF484NAJ
04/03/2020	1.2.0	<ul style="list-style-type: none">Updated status of affected part listUpdated Table 1: Arria® GX, Stratix® II & Stratix® II GX samples availability to be advised.Updated Table 2: Package reliability qualification testing completed except for Arria® GX, Stratix® II & Stratix® II GX

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