

# CUSTOMER ADVISORY

## ADV1806

### Update to Package Outline Drawing Package Height Specification for Selected Arria®10 FBGA Flip Chip Packages

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#### Change Description:

Intel Programmable Solutions Group (“Intel PSG”, formerly Altera) is notifying customers of an update to the Package Outline Drawing (POD) package height specifications (dimensions A and A2 in the POD) for selected Arria 10 devices in FBGA Flip Chip Packages. This change only applies to the A and A2 specification limits.

This is a correction to the A and A2 specifications to reflect the actual package height distribution of the products. **There is no change to the actual products and materials.**

Please see the below table for the A and A2 dimension changes of each package type. The POD# is hyperlinked to the respective POD document. Please refer to the Affected OPN link under “Products Affected” for the specific POD number for each affected OPN.

**Table 1: Package Height Dimension (A) Change**

Package	POD#	Change From				Change to			
		POD Rev #	A min (mm)	A nom (mm)	A max (mm)	POD Rev #	A min (mm)	A nom (mm)	A max (mm)
F672	<a href="#">04R-00483</a>	1.0	2.95	3.15	3.35	2.1	2.90	3.13	3.35
F780	<a href="#">04R-00477</a>	1.0	2.95	3.15	3.35	2.0	2.90	3.13	3.35
F1152	<a href="#">04R-00467</a>	2.0	3.10	3.30	3.50	3.0	2.90	3.13	3.35
F1152	<a href="#">04R-00462</a>	3.0	3.25	3.45	3.65	4.0	3.05	3.28	3.50
F1517	<a href="#">04R-00460</a>	4.0	3.10	3.30	3.50	5.0	2.90	3.13	3.35
F1517	<a href="#">04R-00461</a>	5.0	3.10	3.30	3.50	6.0	3.05	3.28	3.50
F1932	<a href="#">04R-00459</a>	4.1	3.25	3.45	3.65	5.0	3.05	3.28	3.50

Note: Please refer to the Affected OPN list for the POD number for each OPN

**Table 2: Package Height Dimension (A2) Change**

Package	POD#	Change From				Change to			
		POD Rev #	A2 min (mm)	A2 nom (mm)	A2 max (mm)	POD Rev #	A2 min (mm)	A2 nom (mm)	A2 max (mm)
F672	<a href="#">04R-00483</a>	1.0	2.35	2.65	2.95	2.1	2.30	2.63	2.95
F780	<a href="#">04R-00477</a>	1.0	2.35	2.65	2.95	2.0	2.30	2.63	2.95
F1152	<a href="#">04R-00467</a>	2.0	2.60	2.90	3.20	3.0	2.30	2.63	2.95
F1152	<a href="#">04R-00462</a>	3.0	2.65	2.95	3.25	4.0	2.45	2.78	3.10
F1517	<a href="#">04R-00460</a>	4.0	2.50	2.80	3.10	5.0	2.30	2.63	2.95
F1517	<a href="#">04R-00461</a>	5.0	2.50	2.80	3.10	6.0	2.45	2.78	3.10
F1932	<a href="#">04R-00459</a>	4.1	2.65	2.95	3.25	5.0	2.45	2.78	3.10

Note: Please refer to the Affected OPN list for the POD number for each OPN

Shown below is a sample POD to indicate the location of the POD#, revision number, and package height on the document.

**POD number** (04R-0045) and **Revision number** (-4.1) are highlighted in the header bar.

**Package Information**

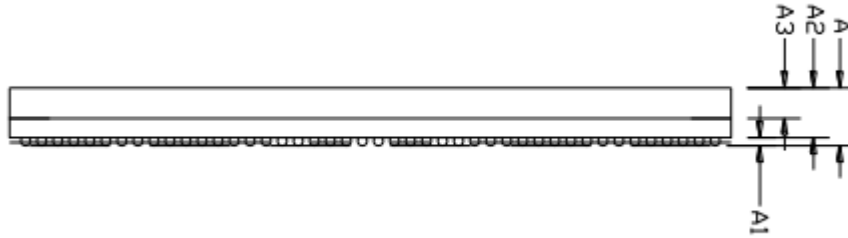
Description	Specification
Ordering Code Reference	F
Package Acronym	FBGA
Substrate Material	BT
Solder ball composition	Regular: 63Sn:37Pb (Typ.) Pb-free: Sn:3Ag:0.5Cu (Typ.)
JEDEC Outline Reference	MS-034 Variation: AAW-1
Lead Coplanarity	0.008 inch (0.20 mm)
Weight	25.5 g (Typ.)
Moisture Sensitivity Level	Printed on moisture barrier bag

**Package Outline Dimension Table**

Symbol	Millimeters		
	Min.	Nom.	Max.
A	3.25	3.45	3.65
A1	0.40	0.50	0.60
A2	2.65	2.95	3.25
A3	1.40	1.45	1.50

**Over-all Package height (A)** and **Package height (A2)** are indicated by blue and purple arrows pointing to the corresponding rows in the dimension table.

Drawing of a component side view to show the A and A2 dimensions.



### Recommended Action

Customers are advised to take note of this change to the Arria 10 POD package height specification and update the appropriate drawings as needed. Please note that this change only applies to the specification limits. There is no change to the products and materials.

### Products Affected:

Table 3

Product Family	Package – Pin Count
Arria 10	FBGA – 672/780/1152/1517/1932

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

[https://www.altera.com/content/dam/altera-www/global/en\\_US/pdfs/literature/pcn/adv1806-opn-list.xlsx](https://www.altera.com/content/dam/altera-www/global/en_US/pdfs/literature/pcn/adv1806-opn-list.xlsx)

### Reason for Change:

It is necessary to update the package drawing height specification limits to reflect the actual package height distribution of the products. It was determined that the previous limits did not represent the actual stack height tolerances of the component materials.

## Change Implementation

Table 4

<b>Milestone</b>	<b>Date</b>
Date of updated POD specification availability	Now

## 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

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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>

## Revision History

<b>Date</b>	<b>Rev</b>	<b>Description</b>
05/25/2018	1.0.0	Initial Release

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