

# PROCESS CHANGE NOTIFICATION

## PCN1201

### ADDITIONAL ASSEMBLY SOURCE (ASE) FOR THE MAX V DEVICE FAMILY

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#### Change Description

Altera<sup>®</sup> will introduce Advanced Semiconductor Engineering (ASE) as an additional assembly source for the MAX<sup>®</sup> V devices.

#### Recommended Action

No action is recommended as a result of this change. Altera's product qualification methodology is a rigorous process that is used to ensure products meet or exceed the Quality and Reliability requirements. Supporting reliability data are included in this notification.

This change does not affect the form, fit or function as defined in the product data sheets and is backwards compatible with existing devices.

#### Reason for Change

Altera is implementing this change to strengthen supply-chain risk-mitigation by establishing the capability to produce equivalent product from multiple qualified suppliers. Adding second source suppliers provides supply chain continuity and protection against unforeseen events. Amkor and ASE are fully qualified manufacturers for Altera products.

#### Products Affected

The product lines affected by this change are listed in Table 1. Appendix 1 contains a list of the current ordering part numbers.

**Table 1: Affected Product Lines**

Product Family	Product Line	Package Type	Estimated Sample Availability	Estimated Earliest Shipment Date
<b>MAX<sup>®</sup>V</b>	5M80Z	T100	April 2012	July 2012
	5M160Z	M100	May 2012	August 2012
		T100	April 2012	July 2012
	5M240Z	M100	May 2012	August 2012
		T100	April 2012	July 2012
	5M570Z	T144	April 2012	July 2012
		M100	May 2012	August 2012
		T100	April 2012	July 2012
		T144	April 2012	July 2012
	5M1270Z	F256	May 2012	August 2012
		T144	May 2012	August 2012
		F324	May 2012	August 2012
	5M2210Z	F256	May 2012	August 2012
		F324	May 2012	August 2012

*Note: Earliest shipment is 90 days from sample availability  
Please visit Altera's sample request page for availability.*

For device samples please visit <http://www.samplecomponents.com/scripts/SampleCenter.dll?Altera>

## Product Traceability and Transition Dates

The earliest shipment of affected products could occur in July 2012. Customers may receive products beginning with a date-code marking of 1231 or later on the top of the package, refer to Figure 1. The 1231 date-code marking indicates the earliest date products could ship from the assembly site. However, initial samples may have an earlier date code marking.

The ASE assembly location can be identified by the country of origin on the topside marking, refer to Table 2.

**Figure 1: Date-code Marking**

### Altera Date-code Marking Format

A XβZαα**1231**T

**Table 2: Assembly Site Traceability**

Assembly	Date Code Example	Country of Origin
ASE	A XβZαα1231T	Malaysia
		Taiwan

## Qualification Data

ASE assembly site is an already qualified manufacturing source for Altera products. Quality and Reliability data is summarized in Table 3.

**Table 3: Summary of initial Qualification Data**

Product Line	Package	Qualification Test	Readout	Results
EPM1270	T144	High Temp Bake @ 150C	1000 hrs	0/ 40
		Biased HAST (130C / 85%RH)	96 hrs	0/ 80
		Unbiased HAST (130C / 85%RH)	96 hrs	0/ 80
		Temperature Cycle "B" (-55C to 125C)	1000 cyc	0/ 80
EPM2210	F256	Life Test @ 125C	1000 hrs	0/ 77
		High Temp Bake @ 150C	1000 hrs	0/30
		Biased HAST (130C / 85%RH)	96 hrs	0/ 79
		Unbiased HAST (130C / 85%RH)	96 hrs	0/ 80
		Temperature Cycle "B" (-55C to 125C)	1000 cyc	0/ 80
EPM2210	F256	Life Test @ 125C	1000 hrs	0/ 72
		High Temp Bake @ 150C	1000 hrs	0/ 29
		Biased HAST (130C / 85%RH)	96 hrs	0/ 78
		Unbiased HAST (130C / 85%RH)	96 hrs	0/ 80
		Temperature Cycle "B" (-55C to 125C)	1000 cyc	0/ 79
EPM2210	F256	Life Test @ 125C	1000 hrs	0 /78

## Contact

For more information, please contact Altera Technical Support by submitting a Service Request at Altera's [mySupport](#) website.

## Customer Notifications Subscription

Customers that have subscribed to Altera's customer notification mailing list will receive updates automatically via email.

If you would like to receive customer notifications by e-mail, please subscribe to our customer notification mailing list at <https://www.altera.com/subscriptions/email/signup/eml-index.jsp>

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*In accordance with JESD46-D, this change is deemed acceptable to the customer if no acknowledgement is received within 30 days from this notification.*

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## Revision History

Date	Rev	Description
04/18/2012	1.0.0	Initial Release

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## Appendix 1: Affected Ordering Part Numbers



5M80ZT100C4N	5M240ZT100A5N	5M1270ZT144A5N	5M2210ZF256C4N
5M80ZT100A5N	5M240ZT100C4N	5M1270ZT144C4N	5M2210ZF256C5N
5M80ZT100C5N	5M240ZT100C5N	5M1270ZT144C5N	5M2210ZF256I5
5M80ZT100I5N	5M240ZT100I5N	5M1270ZT144I5N	5M2210ZF256I5N
	5M240ZT144C4N	5M1270ZF256A5N	5M2210ZF324C4N
5M160ZM100C4N	5M240ZT144C5N *	5M1270ZF256C4N	5M2210ZF324C5N
5M160ZM100C5N	5M240ZT144I5N	5M1270ZF256C5N	5M2210ZF324I5N
5M160ZM100I5N		5M1270ZF256I5N	
5M160ZT100C4N	5M570ZM100C4N	5M1270ZF324C4N	
5M160ZT100C5N *	5M570ZM100C5N	5M1270ZF324C5N	
5M160ZT100I5N	5M570ZM100I5N	5M1270ZF324I5N	
	5M570ZT100A5N		
5M240ZM100C4N	5M570ZT100C4N		
5M240ZM100C5N	5M570ZT100C5N		
5M240ZM100I5N	5M570ZT100I5N		
	5M570ZT144C4N		
	5M570ZT144C5N *		
	5M570ZT144I5N		
	5M570ZF256C4N		
	5M570ZF256C5N *		
	5M570ZF256I5N		

*Note: \* Also include part numbers which contain a suffix.*