

**PCN #: 1594\_PRE-PCN**  
**DATE: 08DEC2015**  
**PROPOSED SHIP DATE: June 2016**

**Quality Assurance**  
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 San Jose, CA 95134

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- PROCESS CHANGE NOTICE**
- PRODUCT CHANGE NOTICE**

**MAXIM INTEGRATED HEREBY ISSUES NOTIFICATION OF CHANGE  
 THAT MAY AFFECT THE FOLLOWING CATEGORIES:**

<input type="checkbox"/> <b>DESIGN</b>	<input checked="" type="checkbox"/> <b>WAFER FAB</b>	<input type="checkbox"/> <b>ASSEMBLY</b>	<input type="checkbox"/> <b>TEST</b>	<input type="checkbox"/> <b>ELEC/MECH SPECS</b>
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**AFFECTED PRODUCT:**

<b>Ordering P/N:</b> ( See PN listing XLS in PCN Zip file)
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<p><b>CHANGE FROM:</b>          Devices with WLP processing in Maxim's Dallas Texas Bump Fab</p>	<p><b>CHANGE TO:</b>          Devices to be processed for WLP at:  <b>ASEK</b> (Advanced Semiconductor Engineering Group, Kaohsiung Taiwan) and/or  <b>JCAP</b> (Jiangyin Changdian Advanced Packaging Co. Ltd, China)</p>
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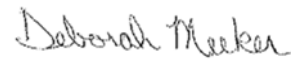
**JUSTIFICATION:** This is a PRE-PCN to advise Maxim is closing its Dallas Texas bump fab facility. The last production lots are planned for completion by the end of October CY2016. The facility is planned to close no later than the end of January CY2017. All single sourced devices processed in Dallas will be moved to ASE and/or JCAP.

Maxim expects to complete qualification of ASE by the end of March CY2016 and JCAP at the end of June CY2016. At that time, the formal PCNs with qualification results will be published. Attached is the proposed qualification plan, Table 1.

In addition, some devices have a bump material and/or ball size change. See the attached Table 2 for a listing of these devices.

**TRACEABILITY:** Maxim Integrated maintains full traceability by device marking and the packaging labels or shipment packing slip.


Maxim Integrated's Change Notification System is designed to keep our customer base apprised of major product, manufacturing, or facility improvements.



Deborah Meeker / PCN Coordinator

For further Information, please contact either of the people listed below.

**Contact your local Maxim Integrated** or Deborah Meeker, PCN Coordinator  
**Company Representative** 408-601-5618 / [pcn.coordinator@maximintegrated.com](mailto:pcn.coordinator@maximintegrated.com)

 <b>maxim integrated™</b>	<b>TITLE: Notification Only PCN</b>		
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## 1) QUALIFICATION REQUIREMENTS/ ACCEPTANCE CRITERIA FOR ASE/JCAP WLP QUALS

The reliability test plan and acceptance criteria are defined as follows:

**Table 1: Qualification Tests**

Standard Stress Tests	Test Conditions	Sampling Plan
<b>Component Level Tests:</b>		
Convection Reflow	MSL 1 (85°C/ 85% RH, 168 hours) followed by 3X solder reflow at 260°C Tp. WLP is mounted on 0.031" FR4 PCB.	0/150
<b>HTOL</b> - High Temp. Operating Life Test	135°C, 1000 hours. WLP is mounted on 0.031" FR4 PCB.	0/77
<b>THB</b> - Temperature Humidity Biased Test	85°C / 85% R.H. 1000 hours. WLP is mounted on 0.031" FR4 PCB.	0/77
<b>TC</b> - Temperature Cycle	-40°C to 125°C, 500 cycles for array size 7x7 or larger, 1000 cycles for array size 6x6 and below. Slow ramp rate 11°C/min, 15 min dwell, 1 cycle/hour. WLP is mounted on 0.031" FR4 PCB.	77 (*1)
<b>HTS</b> - High Temperature Storage	150°C, 1000 hours. WLP is mounted on 0.031" FR4 PCB.	0/77
<b>uHAST</b> - Accelerated Moisture Resistance	130°C / 85% R.H. 96 hours, unbiased	0/77
<b>Daisy Chain Level Tests:</b>		
Drop Test (Daisy Chain)	Per JESD22-B111, 1500Gs, 0.5ms duration, half-sine pulse. PCB (132x77x1.0mm). 4 boards with 15 daisy chain WLP die per board. Number of drops 150. No under fill was applied to the PCB.	60 (*2)
<b>TC</b> - Temperature Cycle (Daisy Chain)	Per JESD22-A104C, -40°C to 125°C, 15 min ramp and 15 min dwell, one cycle per hour cycle rate. 4 boards with 8daisy chain WLP die per board.	32 (*1)

Note: \*1 - Failure rate lower than 5% after TCT end point with 90% probability.

\*2 - Failure rate lower than 5% at 150 drops with 90% probability.

Table 2: Devices with bump material change and/or ball diameter changes

Device	Location Move from Dallas to ASE/JCAP	Location Move from Dallas to ASE/JCAP & Bump Material change from LF45 to LF35	Location Move from Dallas to ASE/JCAP & Bump Material change from LF45 to LF35 & Ball Diameter change from 350 to 300um
DS2431X+U	X	X	
DS2431X-105-00+T	X	X	
DS2431X-S+	X	X	
DS2431X-S+TW	X	X	
DS2432X+U	X	X	
DS2432X-101-4D+T	X	X	
DS2432X-S+	X	X	
DS2432X-S+TW	X	X	
DS2482X-100+T	X	X	
DS2482X-100+U	X	X	
DS2482X-101+T	X	X	
DS2482X-101+U	X	X	
DSRB2X-C41+T&R	X	X	
DSRB2X-C71+T&R	X	X	
MAX13035EEBE+T	X	X	X
MAX13042EEBC+T	X	X	X
MAX14526EEWP+TCJ8	X	X	
MAX16072RS29D2+	X	X	
MAX16072RS29D2+T	X	X	
MAX16074RS17D2+T	X	X	
MAX16074RS29D3+T	X	X	
MAX1819EBL25+T	X	X	X
MAX1819EBL33+T	X	X	X
MAX3002EBP+T	X	X	X
MAX3206EEWL+T	X	X	
MAX3228AEEWV+T	X	X	
MAX3229AEEWV+T	X	X	
MAX3230AEEWV+T	X	X	
MAX3373EEBL+T	X	X	X
MAX3378EEBC+T	X	X	X
MAX3391EEBC+T	X	X	X
MAX3394EEBL+T	X	X	X
MAX4038EBL+T	X	X	X
MAX4039EBL+T	X	X	X
MAX4163EBL+T	X	X	X
MAX4231ART+T	X	X	
MAX4233ABC+T	X	X	X
MAX4252EBL+T	X	X	X
MAX4252EBL+TG45	X	X	X
MAX4253EBC+	X	X	X
MAX4253EBC+T	X	X	X
MAX4292EBL+T	X	X	X
MAX4372FEBT+T	X	X	X
MAX4372TEBT+T	X	X	X
MAX4372TEBT+TG45	X	X	X
MAX4410EBE+T	X	X	X

Table 2: Devices with bump material change and/or ball diameter changes

Device	Location Move from Dallas to ASE/JCAP	Location Move from Dallas to ASE/JCAP & Bump Material change from LF45 to LF35	Location Move from Dallas to ASE/JCAP & Bump Material change from LF45 to LF35 & Ball Diameter change from 350 to 300um
MAX4684EBC+T	X	X	X
MAX4717EBC+T	X	X	X
MAX4721EBL+T	X	X	X
MAX4722EBL+T	X	X	X
MAX4737EBE+T	X	X	X
MAX4739EBE+T	X	X	X
MAX4762EBC+T	X	X	X
MAX4903EBL+T	X	X	X
MAX4903EBL+TG2B	X	X	X
MAX4948ERA+T	X	X	
MAX6023EBT12+	X	X	X
MAX6023EBT12+T	X	X	X
MAX6023EBT25+T	X	X	X
MAX6023EBT30+T	X	X	X
MAX6023EBT45+T	X	X	X
MAX6401BS29+T	X	X	X
MAX6402BS22+T	X	X	X
MAX77271EWL+T	X	X	
MAX8531EBTGG+T	X	X	X
MAX8649EWE+T	X	X	
MAX8698CEWO+T	X	X	
MAX8834YEWP+T	X	X	
MAX8893CEWV+T	X	X	
MAX8896EREE+T	X	X	
MAX8899EWZ+T	X	X	
MAX8899GEWZ+T	X	X	
MAX8952EWE+T	X	X	
MAX8983EWE+T	X	X	
MAX8983EWE+TCAW	X	X	
MAX9025EBT+T	X	X	X
MAX9025EBT+TG45	X	X	X
MAX9026EBT+T	X	X	X
MAX9027EBT+T	X	X	X
MAX9028EBT+T	X	X	X