

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

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

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

Ordering P/N: (See PN listing XLS in PCN ZIP file)

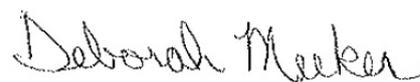
CHANGE FROM: Devices with WLP processing in Maxim's Dallas Texas Bump Fab	CHANGE TO: Devices to be processed for WLP at: ASEK (Advanced Semiconductor Engineering Group, Kaohsiung Taiwan)
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**JUSTIFICATION:** Maxim is closing its Dallas Texas bump fab 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.

There are no changes to the form, fit, or function of the devices.  
Maxim has completed qualification (CQ) of ASEK and the qualification plan and results are published in tables 1 & 2.

**TRACEABILITY:** Maxim Integrated maintains full traceability by device marking, packaging labels and shipment documents.

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

Table 1:

## 1) QUALIFICATION REQUIREMENTS/ ACCEPTANCE CRITERIA FOR ASE WLP QUALS

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

**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)

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: Summary of Reliability Qualification (CQ) Results**

Qual Vehicle	WLP Array	Reflow	HTOL		BHAST	THB		TCT			HTS		UHAST	Drop Test Results per Pitch & Array
			500hrs	1000hrs		500hrs	1000hrs	250x	500x	1000x	500hrs	1000hrs		
MAX77843 CL43A-0C	9x11 RDL	0/148	0/80			0/80	0/80	0/80	0/80		0/80	0/80	0/80	TP90 (0.3, 8x8 array) 0/60
		0/149	0/74			0/80	0/80	0/80	0/80		0/80	0/80	0/80	
		0/148	0/80			0/80	0/80	0/80	0/80		0/80	0/80	0/80	
MAX98721 AX97A-0A	5x6 RDL	0/150	0/80		0/80			0/80	0/80		0/80	0/80	0/80	
		0/150	0/80		0/80			0/80	0/80		0/80	0/80	0/80	
		0/150	0/80		0/80			0/80	0/80		0/80	0/80	0/80	
MAX8986 PR61A-02A	9x9 RDL	0/149	0/77	0/77	0/74			0/77	0/77		0/77	0/77	0/77	
		0/148	0/77	0/77	0/76			0/77	0/77		0/77	0/77	0/77	
		0/150	0/77	0/77	0/72			0/77	0/77		0/77	0/77	0/71	
MAX5394 DP36B-0A	2x4 RDL	0/150	0/77	0/77	0/77			0/77	0/77	0/77	0/77	0/77	0/77	
		0/150	0/77	0/77	0/77			0/77	0/77	0/77	0/77	0/77	0/77	
		0/150	0/77	0/77	0/77			0/77	0/77	0/77	0/77	0/77	0/77	
MAX98304 AX46Y Std	3x3 RDL	0/150	0/77	0/77	0/77			0/77	0/77	0/77	0/77	0/77	0/77	
		0/150	0/76	0/76	0/77			0/77	0/77	0/77	0/77	0/77	0/77	
		0/150	0/77	0/77	0/77			0/77	0/77	0/77	0/77	0/77	0/77	
MAX98304 AX46Y Thin	3x3 RDL	0/150			0/77			0/77	0/77		0/77	0/77	0/77	
		0/149			0/75			0/77	0/77		0/77	0/77	0/77	
		0/150			0/74			0/77	0/77		0/77	0/77	0/77	
MAX9879 AX13Z	5x6 BOP	0/148	0/77		0/75			0/77	0/77		0/77		0/77	
		0/150	0/77		0/75			0/77	0/77		0/77		0/77	
		0/147	0/77		0/70			0/77	0/77		0/77		0/77	
MAX8839 PR41Y	4x4 BOP	0/150			0/77			0/77	0/77		0/77		0/77	
		0/150			0/77			0/77	0/77		0/77		0/77	
		0/150			0/77			0/77	0/77		0/77		0/77	