

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: Single sourced WLP devices at:
 ASEK (Advanced Semiconductor Engineering Group, Kaohsiung
 Taiwan

 CHANGE TO: Adding a second source for WLP assembly at
 JCAP (JIANGYIN CHANGDIAN ADVANCED PACKAGING
 CO.LTD, Jiangsu China)


JUSTIFICATION: Maxim is adding JCAP as a second source for a second wave of selected high volume WLP devices.

There is no change to the form, fit or function of the devices.

Maxim has completed qualification (FQ) of JCAP. The qualification plan and results are published in tables 1 and 2 attached.

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

QUALIFICATION REQUIREMENTS/ ACCEPTANCE CRITERIA FOR JCAP WLP QUALS

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

Table 1: Qualification Tests

Standard Stress Tests	Test Conditions	Sampling Plan
Component Level Tests:		
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
HTOL - High Temp. Operation Life Test	135°C, 1000 hours. WLP is mounted on 0.031" FR4 PCB.	0/77
THB - Temperature Humidity Biased Test	85°C / 85% R.H. 1000 hours. WLP is mounted on 0.031" FR4 PCB.	0/77
TC - 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)
HTS - High Temperature Storage	150°C, 1000 hours. WLP is mounted on 0.031" FR4 PCB.	0/77
uHAST - Accelerated Moisture	130°C / 85% R.H. 96 hours, unbiased	0/77
Daisy Chain Level Tests:		
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 (FQ) RESULTS

Qual Vehicle	WLP Array	Reflow	HTOL		BHAST	TCT		HTS		UHAST	Drop Test (150 drops)
			500hrs	1000hrs		250x	500x	500hrs	1000hrs		
MAX77843 CL43A-0C	9x11 RDL	0/140	0/77	0/77	0/77	0/77	0/77	0/77	0/77	0/77	TEG0566 (0.5 mm, 12X12 array) 0/60 ME02 (0.4 mm, 9X9 array) 0/60
		0/140	0/77	0/77	0/73	0/77	0/77	0/77	0/77	0/77	
		0/133	0/77	0/77	0/75	0/77	0/77	0/77	0/77	0/77	
MAX8986 PR61A-02A	9x9 RDL	0/148	0/77	0/76(1)	0/75	0/77	0/77	0/77	0/77	0/77	
		0/148	0/77	0/76(1)	0/77	0/77	0/77	0/77	0/77	0/77	
		0/150	0/77	0/77	0/76	0/77	0/77	0/77	0/77	0/77	
MAX77686EWE+ PR87D-0A	12x12 RDL	0/143			0/77	0/77	0/77	0/77	0/77	0/77	
		0/87			0/77	0/77	0/77	0/77	0/77	0/77	
		0/98			0/77	0/77	0/77	0/77	0/77	0/77	
MAX98730EWJ+T CGT AX49B-0G	7x7 RDL	0/150			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	
		0/150			0/77	0/77	0/77	0/77	0/77	0/77	

Note: (1) LGA Lifted Pad; invalid