PCN # 1425B

DATE: November 17, 2014

Quality Assurance
160 Rio Robles
San Jose, CA 95134

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[X] PROCESS CHANGE NOTICE
[ ] PRODUCT CHANGE NOTICE

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

[ ] DESIGN	[ ] WAFER FAB	[X] ASSEMBLY	[ ] TEST	[ ] ELEC/MECH SPECS

AFFECTED PRODUCT:

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

CHANGE FROM: Single sourced QFP Assembly Location, Amkor Korea (ATK)	CHANGE TO: Moving to QFP Assembly Location, ASE Kaohsiung (ASEK)

JUSTIFICATION: Amkor Korea plant (ATK) is closing their assembly site by end of 2015. Impacted packages will shut down in stages. The QFP package shutdown is schedule by January 2015. Maxim has qualified ASEK as the alternate site for QFP, where other QFP body sizes and lead counts are already in production volume.

See attached Reliability Report for the ASEK qualification.

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

Assembly Consolidation Qualification
QFP 5x5/7x7/10x10
(Automotive)

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QFP 5x5/7x7/10x10
(Automotive)

Purpose:

Qualify assembler ASE Kaoshiung to build lead-free QFP 5x5, 7x7, and 10x10 package dimensions using Sumitomo G631H molding compound, 100% matte tin finish, copper alloy leadframe, Sumitomo CRM1076WA die attach.

Conclusion:

All qualification lots have passed Maxim's reliability qualification and AEC-Q100 requirements.

AEC-Q100 Qualification Requirements/Acceptance Criteria:

	Stress	ABV	AEC #	#of Lots	SS/Lot	ACC	ATE Temp	Method
Package/ Process Related Tests	Preconditioning	PC	A1	3	77	0	R	J-STD-020 JESD22- A113
	Temperature Humidity Bias	HAST/THB	A2	3	77	0	RH	JESD22- A101 or A110
	Unbiased HAST	UHAST	A3	3	77	0	R	JESD22- A102, A118, or A101
	Temperature Cycle	TC	A4	3	77	0	RH	JESD22-A104 and Appendix 3
	Wire Bond Pull	WBP	C2	3	5	0	N/A	MIL-STD883 Method 2011
	High Temp Storage	HTSL	A6	1	45	0	RH	JESD22- A103
	Solderability	SD	C3	1	15	0	N/A	JESD22-B102
	High Temp Operating Life *2	HTOL	B1	3	77	0	RHC	JESD22-A108

Note *1 – One lot process skewed may be used
*2 – Grade 1 (1000hrs), Grade 2 (500hrs), Grade 3 (192hrs)
*3 – Grade 1 (48hrs), Grade 2 (24hrs), Grade 3 (12hrs)

Test Results/Lot information (Package Technology): ASE KAOSHIUNG

Table 1:

Lot Number:		QS30BA004EQ QPL544667S3		QS30BA060A#		QS30BA060C		QVBZDA014CX	
Part Number:		MAX9248GCM/V+		MAX9248GCM/V+		MAX9248GCM/V+		MAX9259GCB+	
Temperature Grade:		2		2		2		2	
Fab Site:		TSMC		TSMC		TSMC		TSMC	
Fab Process Core:		TS35		TS35		TS35		TS18	
Fab Process Tech:		TS352P4MP 8" 0.35µm		TS352P4MP 8" 0.35µm		TS352P4MP 8" 0.35µm		TS181P6MTO 8" 0.18um	
Metallization/# Layers:		AlCu / 4		AlCu / 4		AlCu / 4		AlCu / 6	
Passivation:		SiN / SiO2		SiN / SiO2		SiN / SiO2		SiN /SiO2	
Die Type:		HS48Z		HS48Z		HS48Z		HS45Z	
Package Assembly Site:		ASE KAOSHIUNG		ASE KAOSHIUNG		ASE KAOSHIUNG		ASE KAOSHIUNG	
Die Size:		134 X 117		134 X 117		134 X 117		139.43 x 139.43	
Package Type:		48L QFP 7X7		48L QFP 7X7		48L QFP 7X7		64L TQFP-EP 10x10	
Wire Bond Material/Dia.:		Au 1.0 mils		Au 1.0 mils		Au 1.0 mils		Au 1.0 mils	
Mold Compound:		G631H		G631H		G631H		G631H	
Die Attach:		CRM-1076WA		CRM-1076WA		CRM-1076WA		CRM-1076WA	
Leadframe Material:		COPPER		COPPER		COPPER		COPPER	
Lead Finish:		100% MATTE TIN		100% MATTE TIN		100% MATTE TIN		100% MATTE TIN	
Date Code:		1310		1315		1310		1305	
Rel Lot Number:		R26554A		R26554B		R26554C		R26382A	
AEC #	**Test**	**Results** *SS*	*Temp*	**Results** *SS*	*Temp*	**Results** *SS*	*Temp*	**Results** *SS*	*Temp*
A1	**Preconditioning**	0/231	R	0/231	R	0/231	R	0/231	R
A2	**HAST**	0/77	RH	0/77	RH	0/77	RH	0/77	RH
A3	**Unbiased HAST**	0/77	R	0/77	R	0/77	R	0/77	R
A4	**Temperature Cycle**	500x – 0/77	RH	500x – 0/77	RH	500x – 0/77	RH	500x – 0/77	RH
C2	**Wire Bond Pull**	0/200	N/A	-	N/A	-	N/A	0/200	N/A
A6	**High Temp Storage**	1000hrs – 0/45	RH	-	N/A	-	N/A	-	N/A
C3	**Solderability**	0/15	N/A	-	N/A	-	N/A	-	N/A
B1	**High Temp Op/Life**	500hrs – 0/77	RHC	-	N/A	-	N/A	1000hr – 0/77	RHC

Test Results/Lot information (Package Technology): ASE KAOSHIUNG

Table 2:

Lot Number:		N7SABA004Q1		N7SABA004Q2		NGM0CA018Q1		NGM0CA018Q2	
Part Number:		MAX3890ECB+		MAX3890ECB+		MAX9950DCCB+		MAX9950DCCB+	
Temperature Grade:		3		3		4		4	
Fab Site:		MFN		MFN		MFN		MFN	
Fab Process Core:		GST20		GST20		HV3		HV3	
Fab Process Tech:		GST20_55 6”		GST20_55 6”		HV3N 6”		HV3N 6”	
Metallization/# Layers:		AlTiW / 3		AlTiW / 3		AlCu / 3		AlCu / 3	
Passivation:		SiN		SiN		SiN		SiN	
Die Type:		HF16Y		HF16Y		AT04Z		AT04Z	
Package Assembly Site:		ASE KAOSHUNG		ASE KAOSHUNG		ASE KAOSHUNG		ASE KAOSHUNG	
Die Size:		116 X 124		116 X 124		212 X 212		212 X 212	
Package Type:		64L QFP – EP 10X10		64L QFP – EP 10X10		64L QFP – EP 10X10		64L QFP – EP 10X10	
Wire Bond Material/Dia.:		Au 1.2 mil		Au 1.2 mil		Au 1.0 mil		Au 1.0 mil	
Mold Compound:		G631H		G631H		G631H		G631H	
Die Attach:		CRM-1076WA		CRM-1076WA		CRM-1076WA		CRM-1076WA	
Leadframe Material:		COPPER		COPPER		COPPER		COPPER	
Lead Finish:		100% MATTE TIN		100% MATTE TIN		100% MATTE TIN		100% MATTE TIN	
Date Code:		1101		1101		1046		1046	
Rel Lot Number:		R25327A		R25327B		R25444A		R25444B	
AEC #	**Test**	**Results** *SS*	*Temp*	**Results** *SS*	*Temp*	**Results** *SS*	*Temp*	**Results** *SS*	*Temp*
A1	**Preconditioning**	0/200	R	0/200	R	0/270	R	0/270	R
A2	**HAST**	0/45 (1)	R	0/45 (2)	R	0/45 (3)	R	0/45 (3)	R
A3	**Unbiased HAST**	-	N/A	-	N/A	-	N/A	-	N/A
A4	**Temperature Cycle**	1000X – 0/77	R	1000X – 0/77	R	1000X – 0/77	R	1000X – 0/77	R
C2	**Wire Bond Pull**	0/200	N/A	0/200	N/A	0/200	N/A	0/200	N/A
A6	**High Temp Storage**	1000hr – 0/77	R	1000hr – 0/77	R	100hr – 0/77	R	100hr – 0/77	R
C3	**Solderability**	0/15	N/A	0/15	N/A	0/15	R	0/15	R
B1	**High Temp Op/Life**	1000hr – 0/45	R	1000hr – 0/45	R	1000hr – 0/77	R	1000hr – 0/77	R

Note:

(1) MAX3891ECB+, Lot# N10ABQ003Q1 (R25327C), DC 1101
(2) MAX3891ECB+, Lot# N10ABQ003Q2 (R25327D), DC 1101
(3) THB performed – 1000hrs (85C/85% RH)

Written By: 

Brian Vuong
Reliability Engineer

Approved By: 

Jeff Aquino
Manager, Reliability

Revision and Release Date	Description of Revision and Author	Approved By	Effective By (Date)
A 04 Sept 2013	Initial release; Brian Vuong	J. Aquino	17 Oct 2013