PCN # 2209

DATE: November 1, 2021

EXPECTED PCN SHIP DATE: November 1, 2021

Quality Assurance
160 Rio Robles
San Jose, CA 95134

www.maximintegrated.com

☐ **PROCESS CHANGE NOTICE**

☒ **PRODUCT CHANGE NOTICE**

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

☐ DESIGN	☐ WAFER FAB	☒ ASSEMBLY	☐ TEST	☐ ELEC/MECH SPECS

AFFECTED PRODUCT:

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

CHANGE FROM: -	CHANGE TO: -
Maxim products in SOT23 package manufactured at current subcontractor/additional devices. Maxim package codes impacted K8CN+2/K8SN+1/U6+5/U6CN+2/U6SN+1	Additional Assembler Greatek in Taiwan/R.O.C.

JUSTIFICATION: -

Adding Greatek to expand Maxim's Supply-Chain to meet capacity demands, flexibility and on-time delivery.
Greatek is an established assembly subcontractor and is certified under QS 9000, ISO/TS 16949, ISO 14001.
Qualification results are reflected in the Reliability report attached.
There are no regulatory compliance changes to the material content of the devices.
There are no changes to the form, fit, function of the devices.

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.

Nasser Ali Chaouche

Nasser AliChaouche / PCN Coordinator

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

Contact your local Maxim Integrated Company Representative or Nasser AliChaouche, PCN Coordinator
408-601-5660 / pcn.coordinator@maximintegrated.com

Maxim Integrated
160 Rio Robles,
San Jose, CA 95134

GREATEK Second Source PACKAGE QUALIFICATION (SOT Package)

Rel Project #: R29115FQ

SUMMARY:

Qualification lots assembled in Greatek have passed reliability qualification (Full Qualification Requirements / Acceptance Criteria). Therefore, assembler Greatek is fully qualified to build SOT packages with Au-wire. These packages, as tested MSL1, are not moisture sensitive, therefore, requires no bake-and-bag precautions for shipment and/or storage.

Aldrin Santiago Engineer, MPOC Reliability	Decilon Ortega Sr. Manager, MPOC Reliability	Nikhil Kelkar Executive Director, Reliability

1) PURPOSE

To qualify assembler Greatek to build SOT packages with 0.8/1.0 mil Au-wire. The following reliability test vehicles are used during the qualification:

MAX6414UK31/V+ (MS60Z-2Z) with package code U5+2.
MAX6750KA30/V+ (MS62Y-4Z) with package code K8+5.
MAX5026EUT+ (NP15X) with package code U6SN+1.
MAX3295AUT+T (RT66Z-2Z) with package code U6CN+2.

2) SAMPLE DESCRIPTION

REL#	Device	Die Type	Process	Lot #	Package	Backmark	Date Code
R29115A	MAX6414UK31/V+	MS60Z-2Z	B8EIFW	J8K2EA124KD	U5+2/ 5L SOT 23	CY	1738
R29115B	MAX6414UK31/V+	MS60Z-2Z	B8EIFW	J8K2EA124KE	U5+2/ 5L SOT 23	CY	1738
R29115C	MAX6750KA30/V+	MS62Y-4Z	B8EIFW	JLZ4DA525DC	K8+5 / 8L SOT 23	Z DC	1743
R29115D	MAX6750KA30/V+	MS62Y-4Z	B8EIFW	JLZ4DA525DF	K8+5 / 8L SOT 23	Z DC	1743
R29115E	MAX5026EUT+	NP15X	BCD88	J3I0G3075BF	U6SN+1/ 6L SOT	DT	1744
R29115F	MAX3295AUT+T	RT66Z-2Z	B8EIFW	JDJ2D3135CD	U6CN+2/ 6L SOT	DS	1744

Package Material Information

Operating Temperature	-40°C to 125°C	-40°C to 125°C	-40°C to 85°C	-40°C to 125°C
Temperature Grade	1	1	3	1
Fab Site	MFN 8”	MFN 8”	MFN 6”	MFN 8”
Fab Process	B8EIFW	B8EIFW	BCD88	B8EIFW
Die	MS60Z-2Z	MS62Y-4Z	NP15X	RT66Z-2Z
Die Size (mils)	36x36	24x80	60x41	70x45
Assembly Location	GREATEK	GREATEK	GREATEK	GREATEK
Package Code	U5+2	K8+5	U6SN+1	U6CN+2
Wire Bond Material	1 mil Au	1 mil Au	1 mil Au	1 mil Au
Mold Compound	G600F	G600F	G600F	G600F
Die Attach	CDF-625P	CDF-625P	HR-5104	HR-5104
Lead Finish	CU194	CU194	CU194	CU194

QUALIFICATION REQUIREMENTS AND RESULTS

Rel#			R29115A	R29115B
Lot#			J8K2EA124KD	J8K2EA124KE
Device:			MAX6414UK31/V+	MAX6414UK31/V+
Die Type:			MS60Z-2Z	MS60Z-2Z
Die Size (mils)			36X36 mil	36X36 mil
Package Type (code):			6 LSOT23(U5+2)	6 LSOT23(U5+2)
Date Code:			1738	1738
Topmark:			CY	CY
Stress Test	**Duration**	**Sampling Plan**	**Result**	**Result**
Convection Reflow *1,2,3, **260°C Peak**	MSL 1, 3X	0/400	0/400	0/400
HAST 130°C / 85% R.H. *1,2,3	96 hrs.	0/77	0/77	0/77
Unbiased HAST 130°C / 85% R.H. *1,3	96 hrs.	0/77	0/77	0/77
Temperature Cycle *1,2,3 **-65°C to 150°C (Condition C)**	1000 cyc	0/77	0/77	0/77
High Temperature Storage 150°C *1,2,3	1000 hrs.	0/77	0/77	0/77
HTOL*2,3,4	1000 hrs	0/77	0/77	0/77
C-SAM*1	Post-Precon	0/22	0/22	0/22
Wire Bond Pull Minimum 5 grams-force	Post TCT 500x	0/20	0/20	0/20
Solderability (Lead-Free,245C)	T (0)	0/15	0/15	0/15
Physical Dimension (PD)	T (0)	0/20	0/20	0/20
Bondcrater	Post-Precon	0/20	0/20	0/20
Solder Shock*3	T0	0/15	0/15	0/15

Note:

*1. Convection reflow is used as preconditioning for SMD packages.
*2. Electrical tests pre- and post-stress were performed at +125°C.
*3. Electrical tests pre- and post-stress were performed at +25°C.
*4. Electrical tests pre- and post-stress were performed at -40°C.

Rel#			R29115C	R29115D
Lot#			JLZ4DA525DC	JLZ4DA525DF
Device:			MAX6750KA30/V+	MAX6750KA30/V+
Die Type:			MS62Y-4Z	MS62Y-4Z
Die Size (mils)			24X80 mil	24X80 mil
Package Type (code):			8 LSOT23 (K8+5)	8 LSOT23 (K8+5)
Date Code:			1743	1743
Topmark:			Z DC	Z DC
Stress Test	**Duration**	**Sampling Plan**	**Result**	**Result**
Convection Reflow *1,2,3, **260°C Peak**	MSL 1, 3X	0/400	0/400	0/400
HAST 130°C / 85% R.H. *1,2,3	96 hrs.	0/77	0/77	0/77
Unbiased HAST 130°C / 85% R.H. *1,3	96 hrs.	0/77	0/77	0/77
Temperature Cycle *1,2,3 **-65°C to 150°C (Condition C)**	1000 cyc	0/77	0/77	0/77
High Temperature Storage 150°C *1,2,3	1000 hrs.	0/77	0/77	0/77
HTOL*2,3,4	1000 hrs	0/77	QBE(MS60)	QBE(MS60)
C-SAM*1	Post-Precon	0/22	0/22	0/22
Wire Bond Pull Minimum 5 grams-force	Post TCT 500x	0/20	0/20	0/20
Solderability (Lead-Free,245C)	T (0)	0/15	0/15	0/15
Physical Dimension (PD)	T (0)	0/20	0/20	0/20
Bondcrater	Post-Precon	0/20	0/20	0/20
Solder Shock*3	T0	0/15	0/15	0/15

Note:

*1. Convection reflow is used as preconditioning for SMD packages.
*2. Electrical tests pre- and post-stress were performed at +125°C.
*3. Electrical tests pre- and post-stress were performed at +25°C.
*4. Electrical tests pre- and post-stress were performed at -40°C.

Rel#			R29115E
Lot#			J3I0G3075BF
Device:			MAX5026EUT+
Die Type:			NP15X
Die Size (mils)			60X41 mil
Package Type (code):			6L SOT (U6SN+1)
Date Code:			1744
Topmark:			DT
Stress Test	**Duration**	**Sampling Plan**	**Result**
Convection Reflow *2,3 **260°C Peak**	MSL1, 3X	0/400	0/400
HAST 130°C / 85% R.H. *1,2,3	96 hrs.	0/77	0/77
Unbiased HAST 130°C / 85% R.H. *1,2	96 hrs.	0/77	0/77
Temperature Cycle *1,2,3 **-65°C to 150°C (Condition C)**	1000 cyc	0/77	0/77
High Temperature Storage 150°C *1,2,3	1000 hrs.	0/77	0/77
HTOL*2,3,4	1000 hrs	0/77	0/77
Solderability (Lead-Free,245C)	0/15	0/15	0/15
C-SAM*1	Post-Precon	0/22	0/22
Wire Bond Pull **Minimum 5 grams-force**	T (0)	0/20	0/20
Physical Dimension (PD)	T (0)	0/20	0/20
Bondcrater	Post-Precon	0/20	0/20
Solder Shock*3	T(0)	0/15	0/20

Note:

*1. Convection reflow is used as preconditioning for SMD packages.
*2. Electrical tests pre- and post-stress were performed at +85°C.
*3. Electrical tests pre- and post-stress were performed at +25°C.
*4. Electrical tests pre- and post-stress were performed at -40°C.

Rel#			R29115F
Lot#			JDJ2D3135CD
Device:			MAX3295AUT+T
Die Type:			RT66Z-2Z
Die Size (mils)			70X45 mil
Package Type (code):			6L SOT (U6CN+2)
Date Code:			1744
Topmark:			DS
Stress Test	**Duration**	**Sampling Plan**	**Result**
Convection Reflow *2,3 **260°C Peak**	MSL 1, 3X	0/400	0/400
HAST 130°C / 85% R.H. *1,2,3	96 hrs.	0/77	0/77
Unbiased HAST 130°C / 85% R.H. *1,2	96 hrs.	0/77	0/77
Temperature Cycle *1,2,3 **-65°C to 150°C (Condition C)**	1000 cyc	0/77	0/77
High Temperature Storage 150°C *1,2,3	1000 hrs.	0/77	0/77
HTOL*2,3,4	1000 hrs	0/77	QBE (NP15)
Solderability (Lead-Free,245C)	T(0)	0/15	0/15
C-SAM*1	Post-Precon	0/25	0/25
Wire Bond Pull **Minimum 5 grams-force**	Post TCT 500x	0/20	0/20
Physical Dimension (PD)	T (0)	0/20	0/20
Bondcrater	Post-Precon	0/20	0/20
Solder Shock*3	T(0)	0/15	0/20

Note:

*1. Convection reflow is used as preconditioning for SMD packages.
*2. Electrical tests pre- and post-stress were performed at +125°C.
*3. Electrical tests pre- and post-stress were performed at +25°C.
*4. Electrical tests pre- and post-stress were performed at -40°C.

3) CONCLUSION

Qualification lots assembled in Greatek have passed reliability qualification (Full Qualification Requirements / Acceptance Criteria). Therefore, assembler Greatek is fully qualified to build SOT packages with Au-wire. These packages, as tested MSL1, are not moisture sensitive, therefore, requires no bake-and-bag precautions for shipment and/or storage.

4) Package Coverage

The following packages can be covered by this qualification result.

K8+1	K8CN+2	U3+2	U5+2	U6+4	U6+9
K8+2	K8SN+1	U3+5	U6+1	U6+5	U6CN+2
K8+5	U3+1	U5+1	U6+2	U6+8	U6SN+1

Affected product numbers	Customer part number	PCN Proposed Ship Date
DS2484R+T		1-Nov-21
MAX1036EKA+T		1-Nov-21
MAX1037EKA+T		1-Nov-21
MAX11601EKA+T		1-Nov-21
MAX1522EUT+T		1-Nov-21
MAX1920EUT+T		1-Nov-21
MAX3293AUT+T		1-Nov-21
MAX3294AUT+T		1-Nov-21
MAX3295AUT+T		1-Nov-21
MAX3373EEKA+T		1-Nov-21
MAX40010TAUT+T		1-Nov-21
MAX4510EUT+T		1-Nov-21
MAX4541EKA+T		1-Nov-21
MAX4564EKA+T		1-Nov-21
MAX4599EUT+T		1-Nov-21
MAX4648EUT+T	MAX4648EUT+T	1-Nov-21
MAX4648EUT+T		1-Nov-21
MAX4649EKA+T	MAX4649EKA+T	1-Nov-21
MAX4649EKA+T		1-Nov-21
MAX5407EKA+T		1-Nov-21
MAX5474EKA+T		1-Nov-21
MAX5475EKA+T		1-Nov-21
MAX6070BAUT21+T		1-Nov-21
MAX6366PKA31+T		1-Nov-21
MAX6369KA+T		1-Nov-21
MAX6370KA+T		1-Nov-21
MAX6371KA+T	MAX6371KA+T	1-Nov-21
MAX6371KA+T		1-Nov-21
MAX6373KA+T		1-Nov-21
MAX6374KA+T		1-Nov-21
MAX7044AKA+T		1-Nov-21
MAX8880EUT+T		1-Nov-21
MAX8881EUT33+T		1-Nov-21