

PCN # 1776A

DATE: August 20, 2019

EXPECTED PCN SHIP DATE: August 20, 2019



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:

<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)
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<p>CHANGE FROM: - Products: MAX16543/45, MAX16550, MAX20710/30/31/34/35/43, VT505</p> <p>Current Assembler for products in Flip Chip QFN (FCQFN) package using 1P1M bump process (One layer of Polyimide/Metal)</p>	<p>CHANGE TO: - Products using 2P2M bump process (Two layers of Polyimide/Metal) will be assembled at UTAC THAI LIMITED / THAILAND (UTL)</p>
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JUSTIFICATION: The 2P2M bump process change is required improve the quality and reliability of Maxim's Flip chip QFN package. Maxim has qualified UTL to perform final assembly using the new bump process flow.
Related qualification reports and results are attached (ref. R40238)
There are no changes to the form, fit or 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
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Maxim Integrated
160 Rio Robles,
San Jose, CA 95134

Package Qualification Rel Project #: R40238

SUMMARY:

Qualification lots assembled in UTL into P154A9F+1 (15L FCQFN) package have passed reliability qualification (Full Qualification Requirements/Acceptance Criteria). UTL has been fully approved to process FCQFN with 2P2M bump structure packages under TS181P3MTP24LT5 fab process. This package, as tested (MSL1), is not moisture sensitive and does not require bake and dry pack.

1) **PURPOSE**

Qualify new 2P2M bump structure; Bump at JCAP B2; Assembly at UTL. With part number 87-J0735+X01/MAX20735EPL+; package code P154A9F+1 (15L FCQFN/ 4.15x9.00x0.95mm) was used as the reliability vehicle.

2) **QUALIFICATION REQUIREMENTS AND RESULTS**

Rel#			R40238A	R40238B	R40238C
Lot#			GJB17167AA-ENG	GJB17168AA-ENG	GJB17169AA-ENG
Device:			MAX20735	MAX20735	MAX20735
Die Type:			VT36B-0A	VT36B-0A	VT36B-0A
Package Type:			15L FCQFN	15L FCQFN	15L FCQFN
Stress Test	Read Point	Sampling Plan	Result	Result	Result
MSL1 *1,3 24hrs bake 125C +168 hrs soak 85C/85%RH+3X reflow 260°C Peak	Post MSL1	0/400	0/400	0/400	0/400
HAST*1,3 130°C /85%RH	96 hrs	0/77	0/77	0/77	0/77
Un biased HAST*1,3 130°C /85%RH	96 hrs	0/77	0/77	0/77	0/77
Temperature Cycle *1, 3 -55°C to 125°C	1000 cyc.	0/77	0/77	0/77	0/77
HTS*1,3 150C	1000 cyc	0/77	0/77	0/77	0/77
HTOL *3 125°C	1000 hrs.	0/77	0/77	0/77	0/77

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 UTL into P154A9F+1 (15L FCQFN) package have passed reliability qualification (Full Qualification Requirements/Acceptance Criteria). UTL has been fully approved to process FCQFN with 2P2M bump structure packages under TS181P3MTP24LT5 fab process. This package, as tested (MSL1), is not moisture sensitive and does not require bake and dry pack.

4) **Package Coverage**

The following package codes are covered under this qualification.

PACKAGE CODE	Die Type	Pin Count/size
P123A4F+2	VS78	12L 3.75x4x0.95mm
P154A6F+1	VT34	15L 4.15x6.0x0.95mm
P154A8F+1	VT56 and VT54	15L 4.15x8.0x0.95mm
P184A4F+1	VS80	18L 4x4.5x0.95mm
P224A6F+1	VS67	22L 4x6.5x0.95mm

Affected MPN #:
MAX16545BGPF+

PCN Proposed Ship Date
20-Aug-19