MICROCHIP

QUALIFICATION REPORT SUMMARY

RELIABILITY LABORATORY

PCN#: MAAN-23JRFM038

Date:
March 18, 2026

Qualification of C194 as a new lead-frame material and G631HQ as a new molding compound material for PM4351-RGI catalog part number (CPN) available in 80L MQFP (14x14x2.0mm) package.

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Package Qualification Report

Purpose: **Qualification of C194 as a new lead-frame material and G631HQ as a new molding compound material for PM4351-RGI catalog part number (CPN) available in 80L MQFP (14x14x2.0mm) package.**

CCB No.: **7687**

Misc.	**Assembly site**	ANAP
	BD Number	BD-003501-01
	MP Code (MPC)	U00317X4XA01
	Part Number (CPN)	PM4351-LGI
	Assembly Shipping Media (T/R, Tube/Tray)	Tray (TECREACH)
	Base Quantity Multiple (BQM)	90
Lead-Frame	**Paddle size**	331X331 (8.4x8.4mm)
	Material	C194
	DAP Surface Prep	Ring
	Treatment	Non-Roughened
	Process	Etched
	Lead-lock	No
	Part Number	101400633
	Lead Plating	Matte Sn
	Strip Size	80X250mm
Bond Wire	**Material**	Au
Die Attach	**Part Number**	3230
	Conductive	Yes
MC	**Part Number**	G631HQ
PKG	**PKG Type**	LQFP
	Pin/Ball Count	80
	PKG width/size	14X14X1.4mm

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Package Qualification Report

Manufacturing Information

Assembly Lot No.
ANAP261400032.000
ANAP261400033.000
ANAP261400034.000

Result:

U0031 TSMC 0.35um in 80L LQFP 14x14x1.4mm package and assembled at ANAP pass reliability test that was conducted at MPHL rel lab. This package is qualified Moisture/Reflow Sensitivity Classification Level 3 at 260°C reflow temperature per IPC/JEDEC J-STD-020E standard.

PACKAGE QUALIFICATION REPORT

Moisture Soak Precondition Prior to Stresses

Test Method	JESD22-A113; IPC/JEDEC J-STD-020
Test Condition	MSL3: 150ºC 24-hour Bake 192 hour moisture soak at 30ºC/60%RH. 3x Reflow at 260ºC max.
Required Sample Size	231 / 3 lots
Electrical Results at 25ºC (Fail / Pass)	0/231 All Pass

- Electrical test at D10I_UC.

High Temp Storage

Test Method	JESD22-A103
Test Condition	175 C for 504 hours
Required Sample Size	45 / 3 Lot
Electrical Results at 25C (Fail / Pass)	0/135 All Pass

- Electrical test at D10I_UC.

Temperature Cycling

Test Method	JESD22-A104
Test Condition	-65°C to +150°C Air to Air / 500 Cycles
Required Sample Size	77 each lot / 3 lots; Visual & WBP, 5 each lot / 1 lot
Electrical Results (Fail / Pass)	0/231 All Pass
WBP (Fail/Pass)	0/5 All Pass ANAP261400033.000

- Electrical test at D10I_UC.

Unbiased HAST

Test Method	JESD22-A104
Test Condition	+130°C / 85% RH / 96 hours
Required Sample Size	77 each lot / 3 lots; Visual , 5 each lot / 1 lot
Electrical Results at 25C (Fail / Pass)	0 / 231
Test Condition	+130°C / 85% RH / 96 hours
Required Sample Size	77 each lot / 3 lots; Visual , 5 each lot / 1 lot
Electrical Results at 25C (Fail / Pass)	0 / 231

- Electrical test at D10I_UC.

Solderability:

Test Method	J-STD-002 / JESD22B-102
Test Condition / Criteria	Pb-free 1-hr steam age. Dip at 245C. 100% leads >95% lead coverage.
Required Sample Size	22 / 1 lot
Visual Result (Fail / Pass)	0/22 all Pass ANAP261400034.000

Physical Dimension

Test Method	JESD22 B100 and B108
Test Criteria	Within package diagram dimension
Required Sample Size	10 units / 3 lots
Result (Fail / Pass)	Pass

Mechanical Data

Test Method	Mil. Std. 883-2011 and CDF-AEC-Q100-001
Required Sample Size	30 bonds from a min. 5 devices.
Result (Pass/Fail)	Pass