



QUALIFICATION REPORT SUMMARY

RELIABILITY LABORATORY

PCN #: CENO-11RHAR559

Date:
December 3, 2024

Qualification of QMI519 as a new die attach material for selected LAN9353, LAN9250, LAN9252, LAN9253 device families and LAX9252I/ML catalog part number (CPN) available in 64L QFN (9x9x0.9mm) package at MTAI assembly site. This is a Grade 2 Q006 qualification.

The qualification of MTAI as an additional assembly site for selected USX2532R, USX2534R, USB4604, USB4624 and USX4705 device families available in 36L SQFN (6x6x1.0mm) and 48L QFN (7x7x1.0mm) packages will qualify by similarity (QBS).



MICROCHIP

PACKAGE QUALIFICATION REPORT

Purpose

Qualification of QMI519 as a new die attach material for selected LAN9353, LAN9250, LAN9252, LAN9253 device families and LAX9252I/ML catalog part number (CPN) available in 64L QFN (9x9x0.9mm) package at MTAI assembly site. This is a Grade 2 Q006 qualification. The qualification of MTAI as an additional assembly site for selected USX2532R, USX2534R, USB4604, USB4624 and USX4705 device families available in 36L SQFN (6x6x1.0mm) and 48L QFN (7x7x1.0mm) packages will qualify by similarity (QBS).

CN	E000235827
QUAL ID	R2400901 Rev. B.
MP CODE	XA8011R4XA0C
Part No.	LAN9252/ML
Bonding No.	BD-002483 Rev. 01
CCB No.	7028 and 7028.005

Package

Type	64L QFN
Package size	9 x 9 mm

Lead Frame

Paddle size	244 x 244 mils
Material	A194
Surface	Ag ring plated
Treatment	Roughening
Process	Etched
Lead Lock	No
Part Number	10106416

Material

Epoxy	QMI519
Wire	CuPdAu
Mold Compound	G700LTD
Plating Composition	Matte Sn



MICROCHIP **PACKAGE QUALIFICATION REPORT**

Manufacturing Information

Assembly Lot No.	Wafer Lot No.	Date Code
MTAI251301704.000	TC14923292824.500	2426QU0
MTAI251301823.000	TC14923292824.500	2426RR4
MTAI251301829.000	TC14923292824.500	2426RSB

Result

☒ Pass ☐ Fail ☐ _____

64L QFN (9x9 mm) assembled by MTAI pass reliability test per QCI-39000.
This package was qualified the Moisture/Reflow Sensitivity Classification Level 1 at 260°C
reflow temperature per IPC/JEDEC J-STD-020E standard.

PACKAGE QUALIFICATION REPORT

Test Number (Reference)	Test Condition	Standard/ Method	Qty. (Acc.)	Def/SS	Result	Remarks
Moisture/Reflow Sensitivity Classification Test (At MSL Level 1)	85°C/ 85%RH Moisture Soak 168 hrs. System: TABAI ESPEC Model PR-3SPH 3x Convection-Reflow 265°C max System: Vitronics Soltec MR1243 (IPC/JEDEC J-STD-020E)	IPC/JEDEC C J-STD- 020E	135(0)	0/135	Pass	
<u>Precondition</u> <u>Prior Perform</u> <u>Reliability Tests</u> (At MSL Level 1)	Electrical Test: +25°C, 85°C and 105°C System: EX_DIGITAL Bake 150°C, 24 hrs System: CHINEE 85°C/85%RH Moisture Soak 168 hrs. System: TABAI ESPEC Model PR-3SPH 3x Convection-Reflow 265°C max System: Vitronics Soltec MR1243 Electrical Test: +25°C, 85°C, and 105°C System: EX_DIGITAL	JESD22- A113	693(0)	0/693 693 693 693 0/693	Pass Pass	Good Devices

PACKAGE QUALIFICATION REPORT

Test Number (Reference)	Test Condition	Standard/ Method	Qty. (Acc.)	Def/SS.	Result	Remarks
Temp Cycle	Stress Condition: -55°C to +125°C, 1000 Cycles System : VOTSCH Electrical Test: +25°C, 85°C, and 105°C System: EX_DIGITAL	JESD22-A104		231		Parts had been pre-conditioned at 260°C
			231(0)	0/231	Pass	
	Stress Condition: -55°C to +125°C, 2000 Cycles System: VOTSCH Electrical Test: +25°C, 85°C, and 105°C System: EX_DIGITAL		231(0)	0/231	Pass	

PACKAGE QUALIFICATION REPORT

Test Number (Reference)	Test Condition	Standard/ Method	Qty. (Acc.)	Def/SS.	Result	Remarks
HAST	Stress Condition: +130°C/85%RH, 96 hrs. Bias Volt: PS1=1.2 Volts; PS3=3.3 Volts System: HAST 6000X	JESD22-A110		231		Parts had been pre-conditioned at 260°C
	Electrical Test: +25°C, 85°C, and 105°C System: EX_DIGITAL		231(0)	0/231	Pass	77 units / lot
	Stress Condition: +130°C/85%RH, 192 hrs. Bias Volt: PS1=1.2 Volts; PS3=3.3 Volts System: HAST 6000X			231		
	Electrical Test: +25°C, 85°C, and 105°C System: EX_DIGITAL		231(0)	0/231	Pass	

PACKAGE QUALIFICATION REPORT

Test Number (Reference)	Test Condition	Standard/ Method	Qty. (Acc.)	Def/SS.	Result	Remarks
UNBIASED-HAST	Stress Condition: +130°C/85%RH, 96 hrs. System: HAST 6000X	JESD22-A118		231		Parts had been pre-conditioned at 260°C
	Electrical Test: +25°C System: EX_DIGITAL		231(0)	0/231	Pass	77 units / lot
High Temperature Storage Life	Stress Condition: Bake 150°C, 500 hrs System: CHINEE	JESD22-A103		135		45 units / lot
	Electrical Test: +25°C, 85°C, and 105°C System: EX_DIGITAL		135(0)	0/135	Pass	
	Stress Condition: Bake 150°C, 1000 hrs System: CHINEE			135		
	Electrical Test: +25°C, 85°C, and 105°C System: EX_DIGITAL		135(0)	0/135	Pass	
Bond Strength Data Assembly	Wire Pull (> 3.00 grams)	Mil. Std. 883-2011	30 (0) Wires	0/30	Pass	
	Bond Shear (>8.00 grams)	CDF-AEC-Q100-001	30 (0) bonds	0/30	Pass	