



MICROCHIP

**QUALIFICATION REPORT
RELIABILITY LABORATORY**

PCN #: JAON-22WRZE808

**Date
April 16, 2015**

**Qualification of G700LTD Mold Compound and 8600 Die
Attach in various QFN packages using EFTC64T LF at NSEB
(UTL).**

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MICROCHIP **PACKAGE QUALIFICATION REPORT**

Purpose	Qualification of G700LTD Mold Compound and 8600 Die Attach in various QFN packages using EFTC64T LF at NSEB (UTL).
CN	BC150694
QUAL ID	Q14210
MP CODE	XGA01TY5XA00
Part No.	RNG2C547T-I/NQ
Bonding No.	BDM-000664_A
CCB No.:	1476
<u>Package</u>	
Type	72L VQFN
Package size	10x10x0.9 mm
Die thickness	11 mils
Die size	199.2 x 250.4 mils
<u>Lead Frame</u>	
Paddle size	330 x 330 mils
Material	EFTEC-64T
Surface	Double ring
Process	Etched
Lead Lock	Yes
Part Number	FR0715
Treatment	None
<u>Die attach material</u>	
Epoxy	8600
Wire	Au wire
Mold Compound	G700LTD
Plating Composition	Matte Tin



MICROCHIP PACKAGE QUALIFICATION REPORT

Manufacturing Information

Assembly Lot No.	Wafer Lot No.	Date Code
NSEB153200653.000	GF06915296645.100	1445J8J
NSEB153200657.000	GF06915296645.100	1445J9C
NSEB153200658.000	GF06915296645.100	1445J9E

Result Pass Fail _____

72L VQFN (10x10x0.9 mm) assembled by UTL (NSEB) 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-020D standard.

Note: Found Puncture damage after HAST 96 hrs. refer FA#15-01250 See attachment6

Prepared By:  **Date:** April 16, 2015 (Sr. Reliability Engineer)

(Mr. Udom Suksansakul)

Approved By:  **Date:** April 16, 2015 (Reliability Manager)

(Mr. Somnuek Thongprasert)

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-020D)	IPC/JEDEC J-STD-020D	135	0/135	Pass	

Precondition Prior Perform Reliability Tests (At MSL Level 1)	Electrical Test :+25°C and 85°C System: LTX_D10RF	JESD22-A113	693(0)	693	Pass	Good Devices
	Bake 150°C, 24 hrs System: CHINEE			693		
	85°C/85%RH Moisture Soak 168 hrs. System: TABAI ESPEC Model PR-3SPH			693		
	3x Convection-Reflow 265°C max System: Vitronics Soltec MR1243			693		
	Electrical Test :+25°C and 85°C System: LTX_D10RF			0/693		

PACKAGE QUALIFICATION REPORT

Test Number (Reference)	Test Condition	Standard/ Method	Qty. (Acc.)	Def/SS.	Result	Remarks
Temp Cycle	Stress Condition: -65°C to +150°C, 500 Cycles System : TABAI ESPEC TSA-70H	JESD22-A104		231		Parts had been pre-conditioned at 260°C 77 units / lot
	Electrical Test: + 85°C System: LTX_D10RF		231(0)	0/231	Pass	
	Bond Strength: Wire Pull (> 3.0 grams) Bond Shear (>10.00 grams)		15 (0)	0/15	Pass	
UNBIASED-HAST	Stress Condition: +130°C/85%RH, 96 hrs. System: HAST 6000X	JESD22-A118		231		Parts had been pre-conditioned at 260°C 77 units / lot
	Electrical Test: +25°C System: LTX_D10RF		231(0)	0/231	Pass	
HAST	Stress Condition: +130°C/85%RH, 96 hrs. Bias Volt: 1.2 Volts System: HAST 6000X	JESD22-A110		231		Parts had been pre-conditioned at 260°C 77 units / lot
	Electrical Test: +25°C and 85°C System: LTX_D10RF		231(0)	0/231	Pass	
High Temperature Storage Life	Stress Condition: Bake 175°C, 504 hrs System: SHEL LAB	JESD22-A103		135		45 units / lot
	Electrical Test :+25°C and 85°C System: LTX_D10RF		135(0)	0/135	Pass	

PACKAGE QUALIFICATION REPORT

Test Number (Reference)	Test Condition	Standard/ Method	Qty. (Acc.)	Def/SS.	Result	Remarks
Bond Strength Data Assembly	Wire Pull (> 3.0 grams)	M2011	30 (0) Wires	0/30	Pass	
	Bond Shear (>10.00 grams)	JESD22- B116	30 (0) bonds	0/30	Pass	