



**MICROCHIP**

**QUALIFICATION REPORT SUMMARY**  
RELIABILITY LABORATORY

**PCN #: JAON-13CUTO660**

**Date:**  
**July 30, 2019**

**Qualification of MMT as a new assembly site for selected  
SMSC COM20019I and COM20020I device families available  
in 28L PLCC (11.5x11.5x4.4mm) package.**



## MICROCHIP PACKAGE QUALIFICATION REPORT

**Purpose** Qualification of MMT as a new assembly site for selected SMSC COM20019I and COM20020I device families available in 28L PLCC (11.5x11.5x4.4mm) package.

**CN** ES289264

**QUAL ID** Q19044 rev. A

**MP CODE** ZG1017L4XA00

**Part No.** COM20019I-DZD

**Bonding No.** BDM-002089 Rev. A

**CCB No.** 3755

### Package

**Type** 28L PLCC

**Die thickness** 15 mils

**Die size** 129.5 x 144.5 mils

### Lead Frame

**Paddle size** 200 x 200 mils

**Material** A194

**Surface** Ag ring plated

**Process** Stamped

**Lead Lock** No

**Part Number** 10102832

**Treatment** None

### Material

**Epoxy** 3280

**Wire** Au wire

**Mold Compound** G600V

**Plating Composition** Matte Tin



# MICROCHIP PACKAGE QUALIFICATION REPORT

## Manufacturing Information

Assembly Lot No.	Wafer Lot No.	Date Code
MMT-195001628.000	GF02919426386.100	1911J66
MMT-195001629.000	GF02919426386.100	1911J67
MMT-195001968.000	GF02919426386.100	1911SR1

### Result

Pass     Fail     \_\_\_\_\_

28L PLCC assembled by MMT pass reliability test per QCI-39000. This package was qualified the Moisture/Reflow Sensitivity Classification Level 1 at 245°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
<b>Moisture/Reflow Sensitivity Classification Test (At MSL Level 1)</b>	85°C/ 85%RH Moisture Soak 168 hrs. System: TABAI ESPEC Model PR-3SPH 3x Convection-Reflow 250°C max System: Vitronics Soltec MR1243  ( IPC/JEDEC J-STD-020E)	IPC/JEDEC J-STD-020E	135	0/135	Pass	

<b>Precondition Prior Perform Reliability Tests (At MSL Level 1)</b>	<b>Electrical Test</b> :+25°C and 110°C System: LTX_D10	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 250°C max System: Vitronics Soltec MR1243			693		
	<b>Electrical Test</b> :+25°C and 110°C System: LTX_D10			0/693		

# PACKAGE QUALIFICATION REPORT

Test Number (Reference)	Test Condition	Standard/ Method	Qty. (Acc.)	Def/SS.	Result	Remarks
<b>Temp Cycle</b>	<b>Stress Condition:</b> -65°C to +150°C, 500 Cycles System : TABAI ESPEC TSA-70H <b>Electrical Test:</b> +110°C System: LTX_D10  <b>Bond Strength:</b> Wire Pull (> 2.5 grams) Bond Shear (>15.00 grams)	JESD22- A104		231		Parts had been pre-conditioned at 245°C  77 units / lot
			231(0)	0/231	Pass	
			15 (0)	0/15	Pass	
<b>UNBIASED-HAST</b>	<b>Stress Condition:</b> +130°C/85%RH, 96 hrs. System: HAST 6000X  <b>Electrical Test:</b> +25°C System: LTX_D10	JESD22- A118		231		Parts had been pre-conditioned at 245°C  77 units / lot
			231(0)	0/231	Pass	
<b>HAST</b>	<b>Stress Condition:</b> +130°C/85%RH, 96 hrs. <b>Bias Volt:</b> 3.3 Volts System: HAST 6000X  <b>Electrical Test:</b> +25°C and 110°C System: DTX_D10	JESD22- A110		231		Parts had been pre-conditioned at 245°C  77 units / lot
			231(0)	0/231	Pass	

## PACKAGE QUALIFICATION REPORT

Test Number (Reference)	Test Condition	Standard/ Method	Qty. (Acc.)	Def/SS.	Result	Remarks
<b>High Temperature Storage Life</b>	<b>Stress Condition:</b> Bake 175°C, 504 hrs System: SHEL LAB	JESD22- A103		45		45 units
	<b>Electrical Test</b> :+25°C and 110°C System: LTX_D10		45(0)	0/45	Pass	
<b>Physical Dimensions</b>	Physical Dimension, 10 units from 1 lot	JESD22- B100/B108	30(0) Units	0/30	Pass	
<b>Bond Strength Data Assembly</b>	Wire Pull (> 2.5 grams)	M2011	30 (0) Wires	0/30	Pass	
	Bond Shear (>15.00 grams)	JESD22- B116	30 (0) bonds	0/30	Pass	