



Product Change Notification / NTDO-13ZFJZ174

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**Date:**

28-Mar-2022

**Product Category:**

8-bit Microcontrollers, Digital Temperature Sensors, Digital to Analog Converters, Memory, Real-Time Clock/Calendar

**PCN Type:**

Manufacturing Change

**Notification Subject:**

CCB 5028 Final Notice: Qualification of palladium coated copper with gold flash (CuPdAu) bond wire for selected products available in 8L TSSOP (4.4mm) package assembled at MMT assembly site.

**Affected CPNs:**

[NTDO-13ZFJZ174\\_Affected\\_CPN\\_03282022.pdf](#)

[NTDO-13ZFJZ174\\_Affected\\_CPN\\_03282022.csv](#)

**Notification Text:**

**PCN Status:**Final Notification

**PCN Type:**Manufacturing Change

**Microchip Parts Affected:**Please open one of the files found in the Affected CPNs section.

Note: For your convenience Microchip includes identical files in two formats (.pdf and .xls)

**Description of Change:**Qualification of palladium coated copper with gold flash (CuPdAu) bond wire for selected products available in 8L TSSOP (4.4mm) package assembled at MMT assembly site.

**Pre and Post Change Summary:**

	Pre Change	Post Change
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Assembly Site	Microchip Technology Thailand (Branch) (MMT)	Microchip Technology Thailand (Branch) (MMT)
Wire Material	Au	CuPdAu
Die Attach Material	2200D	2200D
Molding Compound Material	G600	G600
Lead-Frame Material	C7025	C7025

**Impacts to Data Sheet:**None

**Reason for Change:**To improve on-time delivery performance by qualifying palladium coated copper with gold flash (CuPdAu) bond wire.

**Change Implementation Status:**In Progress

**Estimated First Ship Date:**March 17, 2022 (date code: 2212)

Note: Please be advised that after the estimated first ship date customers may receive pre and post change parts.

**Time Table Summary:**

	March 2022				
Workweek	10	11	12	13	14
Final PCN Issue Date			x		
Qual Report Availability			x		
Estimated Implementation Date			x		

**Method to Identify Change:**Traceability code

**Qualification Report:**

Please open the attachments included with this PCN labeled as PCN\_#\_Qual\_Report.

**Revision History:**

**March 15, 2022:** Issued final notification.**March 28, 2022:** Re-issued final notification. Updated the affected CPN list to remove duplicates.

The change described in this PCN does not alter Microchip's current regulatory compliance regarding the material content of the applicable products.

## Attachments:

[PCN\\_NTDO-13ZFJZ174\\_Qual Report.pdf](#)

Please contact your local [Microchip sales office](#) with questions or concerns regarding this notification.

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If you wish to change your PCN profile, including opt out, please go to the [PCN home page](#) select login and sign into your myMicrochip account. Select a profile option from the left navigation bar and make the applicable selections.

Affected Catalog Part Numbers (CPN)

24LC256-E/ST  
24LC256-E/STRVE  
24LC256-I/ST  
24LC256-I/STA31  
24AA256-I/ST  
24AA256-I/STRVE  
24LC256T-I/ST  
24LC256T-I/STA31  
24AA256T-I/ST  
24AA256T-I/STRVE  
24LC256T-E/ST  
24LC256T-E/STRVE  
24LC128-E/ST  
24LC128-I/ST  
24AA128-I/ST  
24LC128T-I/ST  
24LC128T-I/STDLL  
24AA128T-I/ST  
24LC128T-E/ST  
24FC128-I/ST  
24FC128-I/STA31  
24FC128T-I/ST  
24FC128T-I/STA31  
24AA64X/ST  
24LC64-E/ST  
24LC64X-E/ST  
24LC64-I/ST  
24LC64X-I/ST  
24LC64-I/STRVE  
24AA64-I/ST  
24AA64-I/STB31  
24AA64X-I/ST  
24LC64X-I/STRVE  
24AA64XT/ST  
24LC64T-I/ST  
24LC64XT-I/ST  
24LC64T-I/STRVE  
24AA64T-I/ST  
24AA64XT-I/ST  
24LC64XT-I/STRVE  
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24LC64XT-E/ST  
24AA01-I/ST  
24AA01T-I/ST  
24LC02B/ST  
24AA02/ST

24LC02B-E/ST  
24LC02B-I/ST  
24LC02B-I/STA31  
24AA02-I/ST  
24LC02BT/ST  
24LC02BT-I/ST  
24LC02BT-I/STA31  
24AA02T-I/ST  
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24AA04T-I/ST  
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24LC32A-E/ST  
24LC32AX-E/ST  
24LC32A-I/ST  
24LC32AX-I/ST  
24LC32A-I/STA31  
24AA32A-I/ST  
24AA32AX-I/ST  
24AA32A-I/STB31  
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24AA32AT-I/ST  
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24AA32AT-I/STB31  
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24LC32AXT-E/ST  
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25AA160B-I/ST  
25LC160BT-I/ST  
25AA160BT-I/ST  
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25LC080B-I/ST  
25AA080B-I/ST  
25LC080BT-I/ST  
25AA080BT-I/ST  
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25LC080A-E/ST  
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25AA080A-I/ST  
25LC080AT-I/ST  
25AA080AT-I/ST

25LC080AT-E/ST  
25LC160A-E/ST  
25LC160A-I/ST  
25AA160A-I/ST  
25LC160AT-I/ST  
25AA160AT-I/ST  
25LC160AT-E/ST  
93LC46A/ST  
93LC46A-E/ST  
93LC46A-I/ST  
93AA46A-I/ST  
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93LC46AT-I/ST  
93AA46AT-I/ST  
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93LC46C-E/ST  
93LC46C-I/ST  
93AA46C-I/ST  
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93LC56B/ST  
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93LC66C-E/ST  
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25LC040AXT-E/ST  
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24LC08BT-I/ST  
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24AA08H-I/ST  
24LC08BHT-I/ST  
24AA08HT-I/ST  
24LC08BHT-E/ST  
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24LC16B-E/ST  
24AA16-E/ST  
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24LC16B-I/ST

24AA16-I/ST  
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24LC16BT-I/ST116  
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24LC16BT-I/STA31  
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24AA16T-E/ST  
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24LC16BH-I/ST  
24AA16H-I/ST  
24LC16BHT-I/ST  
24AA16HT-I/ST  
24LC16BHT-E/ST  
24LC32AF-E/ST  
24LC32AF-I/ST  
24AA32AF-I/ST  
24LC32AFT-I/ST  
24AA32AFT-I/ST  
24LC32AFT-E/ST  
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24FC64-I/ST  
24FC64T-I/ST  
24AA64T-E/ST  
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24AA64F-I/ST  
24FC64F-I/ST  
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24AA128T-E/ST  
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24AA04H-I/ST  
24LC04BHT-I/ST  
24AA04HT-I/ST  
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24LC512-E/ST  
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24AA512-I/ST  
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24AA512T-I/ST  
24FC512T-I/ST  
24LC512T-E/ST  
24AA256-E/ST  
24FC256-E/ST  
24FC256-I/ST  
24FC256T-I/ST  
24AA256T-E/ST  
24FC256T-E/ST  
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MCP98243T-BE/ST  
MCP9843-BE/ST  
MCP9843T-BE/ST  
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24AA01HT-I/ST  
24LC01BHT-E/ST  
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24AA02H-I/ST  
24LC02BHT-I/ST  
24AA02HT-I/ST  
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24LCS52/ST  
24LCS52-I/ST  
24AA52-I/ST  
24LCS52T/ST  
24LCS52T-I/ST  
24AA52T-I/ST  
24LC024/ST  
24LC025/ST  
24VL024/ST  
24VL025/ST  
24LC024-E/ST  
24LC025-E/ST  
24LC024-I/ST160  
24LC024-I/ST184  
24LC024-I/ST185  
24LC024-I/ST186  
24LC024-I/ST187  
24LC024-I/ST

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24LC025-I/ST  
24AA025-I/ST  
24LC024T/ST  
24VL024T/ST  
24VL025T/ST  
24LC024T-I/ST160  
24LC024T-I/ST178  
24LC024T-I/ST183  
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24LC024T-I/ST185  
24LC024T-I/ST186  
24LC024T-I/ST187  
24LC024T-I/ST  
24AA024T-I/ST  
24LC025T-I/ST  
24AA025T-I/ST  
24LC024T-E/ST  
24LC025T-E/ST  
24VL014/ST  
24LC014-E/ST  
24LC014-I/ST  
24AA014-I/ST  
24VL014T/ST  
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24AA014T-I/ST  
24LC014T-E/ST  
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24C02C-I/ST  
24C02CT/ST  
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24C01CT-E/ST  
24VL014H/ST  
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MCP79400T-I/ST  
MCP79401T-I/ST  
MCP79402T-I/ST  
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MCP47FEB01A3-E/ST  
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MCP47FEB01A2T-E/ST  
MCP47FEB01A3T-E/ST  
MCP47FEB11A0T-E/ST  
MCP47FEB11A1T-E/ST  
MCP47FEB11A2T-E/ST  
MCP47FEB11A3T-E/ST  
MCP47FEB21A0T-E/ST  
MCP47FEB21A1T-E/ST  
MCP47FEB21A2T-E/ST  
MCP47FEB21A3T-E/ST  
MCP47FEB02A0T-E/ST  
MCP47FEB02A1T-E/ST  
MCP47FEB02A2T-E/ST  
MCP47FEB02A3T-E/ST  
MCP47FEB12A0T-E/ST  
MCP47FEB12A1T-E/ST  
MCP47FEB12A2T-E/ST  
MCP47FEB12A3T-E/ST  
MCP47FEB22A0T-E/ST  
MCP47FEB22A1T-E/ST  
MCP47FEB22A2T-E/ST  
MCP47FEB22A3T-E/ST



**MICROCHIP**

## **QUALIFICATION REPORT SUMMARY**

**PCN #: NTDO-13ZFJZ174**

**Date**

**July 12, 2018**

**Qualification of CuPdAu for selected PIC16F616 device family available in 14L TSSOP (4.4 mm) assembled at MMT assembly. The qualification of palladium coated copper with gold flash (CuPdAu) bond wire for selected products available in 8L TSSOP (4.4mm) package assembled at MMT assembly site will qualify by similarity (QBS).**



## MICROCHIP PACKAGE QUALIFICATION REPORT

<b>Purpose</b>	Qualification of CuPdAu for selected PIC16F616 device family available in 14L TSSOP (4.4 mm) assembled at MMT assembly. The qualification of palladium coated copper with gold flash (CuPdAu) bond wire for selected products available in 8L TSSOP (4.4mm) package assembled at MMT assembly site will qualify by similarity (QBS).
<b>CN</b>	ES172735
<b>QUAL ID</b>	Q18088 Rev A.
<b>MP CODE</b>	DECF14D4XB04
<b>Part No.</b>	PIC16F616
<b>Bonding No.</b>	A-053581 Rev. B
<b>CCB:</b>	3291 and 5028
<b><u>Package</u></b>	
<b>Type</b>	14L TSSOP
<b>Package size</b>	4.4 mils
<b><u>Lead Frame</u></b>	
<b>Paddle size</b>	118 x 153 mils
<b>Material</b>	C7025
<b>Surface</b>	Bare Cu
<b>Process</b>	Stamped
<b>Lead Lock</b>	No
<b>Part Number</b>	10101406
<b>Treatment</b>	BOT
<b><u>Material</u></b>	
<b>Epoxy</b>	2200D
<b>Wire</b>	CuPdAu
<b>Mold Compound</b>	G600
<b>Plating Composition</b>	Matte Tin



# MICROCHIP PACKAGE QUALIFICATION REPORT

## Manufacturing Information

Assembly Lot No.	Wafer Lot No.	Date Code
MMT-190400675.000	TMPE218278714.100	18177C6
MMT-190401146.000	TMPE218278714.100	1817AKD
MMT-190401343.000	TMPE218278714.100	1817C03

### Result

Pass  Fail  \_\_\_\_\_

14L TSSOP 4.4 assembled by MMT 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
<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 265°C max System: Vitronics Soltec MR1243  ( IPC/JEDEC J-STD-020E)	IPC/JEDEC C 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 125°C System: J750	JESD22- A113	693(0)	693		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		
	<b>Electrical Test</b> :+25°C and 125°C System: J750			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> + 25°C System: J750	JESD22-A104		231		Parts had been pre-conditioned at 260°C 77 units / lot	
			231(0)	0/231	Pass		
	<b>Stress Condition:</b> -65°C to +150°C, 1000 Cycles System : TABAI ESPEC TSA-70H <b>Electrical Test:</b> 25°C and 125°C System: J750			231			
	<b>Bond Strength:</b> Wire Pull (> 2.5 grams) Bond Shear (>15.00 grams)		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: J750	JESD22-A118		231		Parts had been pre-conditioned at 260°C 77 units / lot	
			231(0)	0/231	Pass		
	<b>Stress Condition:</b> +130°C/85%RH, 192 hrs. System: HAST 6000X <b>Electrical Test:</b> + 25°C System J750			231			
<b>HAST</b>	<b>Stress Condition:</b> +130°C/85%RH, 96 hrs. <b>Bias Volt:</b> 5.5 Volts System: HAST 6000X <b>Electrical Test:</b> + 25°C and 125°C System: J750	JESD22-A110		231		Parts had been pre-conditioned at 260°C 77 units / lot	
			231(0)	0/231	Pass		
	<b>Stress Condition:</b> +130°C/85%RH, 192 hrs. <b>Bias Volt:</b> 5.5 Volts System: HAST 6000X <b>Electrical Test:</b> + 25°C and 125°C System: J750			231			
			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 125°C System: J750		45(0)	0/45	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	



**MICROCHIP**

## **QUALIFICATION REPORT SUMMARY**

**PCN #: NTDO-13ZFJZ174**

**Date**  
**May 20, 2021**

**Qualification of MMT as assembly site for selected LX3301AQPW device family available in 14L TSSOP (4.4mm). The qualification of palladium coated copper with gold flash (CuPdAu) bond wire for selected products available in 8L TSSOP (4.4mm) package assembled at MMT assembly site will qualify by similarity (QBS). This is Q100 Grade 1 qualification.**





## **MICROCHIP PACKAGE QUALIFICATION REPORT**

<b>Purpose</b>	Qualification of MMT as assembly site for selected LX3301AQPW device family available in 14L TSSOP (4.4mm). The qualification of palladium coated copper with gold flash (CuPdAu) bond wire for selected products available in 8L TSSOP (4.4mm) package assembled at MMT assembly site will qualify by similarity (QBS). This is Q100 Grade 1 qualification.
<b>CN</b>	ES351114
<b>QUAL ID</b>	R2100172 Rev. A
<b>MP CODE</b>	VXBF14D4XVA1
<b>Part No.</b>	LX3301AQPW
<b>Bonding No.</b>	BDM-002766 Rev. A
<b>CCB No.</b>	4485 and 5028
<b><u>Package</u></b>	
<b>Type</b>	14L TSSOP
<b>Package size</b>	4.4 mm
<b><u>Lead Frame</u></b>	
<b>Paddle size</b>	126 x 150 mils
<b>Material</b>	C7025
<b>Surface</b>	Bare Copper-Selective Ag
<b>Process</b>	Etched
<b>Lead Lock</b>	None
<b>Part Number</b>	10101417
<b>Treatment</b>	BOT
<b><u>Material</u></b>	
<b>Epoxy</b>	2200D
<b>Wire</b>	Au wire
<b>Mold Compound</b>	G600
<b>Plating Composition</b>	Matte Sn



# MICROCHIP PACKAGE QUALIFICATION REPORT

## Manufacturing Information:

Assembly Lot No.	Wafer Lot No.	Date Code
MMT-213802276.000	XFML921037397.100	2051H33
MMT-213802275.000	XFML921037397.100	2051EJT
MMT-213802273.000	XFML921037397.100	2051644

## Result

Pass

Fail

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14L TSSOP (4.4 mm) assembled by MMT 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
<u>Precondition</u> <u>Prior Perform</u> <u>Reliability Tests</u> (At MSL Level 1)	<p><b>Electrical Test:</b> +25°C and 125°C System: TMT_SNR_XP</p> <p>Bake 150°C, 24 hrs System: CHINEE</p> <p>85°C/85%RH Moisture Soak 168 hrs. System: TABAI ESPEC Model PR-3SPH</p> <p>3x Convection-Reflow 265°C max System: Vitronics Soltec MR1243</p> <p><b>Electrical Test:</b> +25°C and 125°C System: TMT_SNR_XP</p>	<p>JESD22- A113</p> <p>JIP/ IPC/JEDEC J-STD-020E</p>	<p>693(0)</p>	<p>693</p> <p>693</p> <p>693</p> <p>693</p> <p>0/693</p>	<p>Pass</p>	<p>Good Devices</p>

# 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	JESD22-A104		231		Parts had been pre-conditioned at 260°C
	<b>Electrical Test:</b> +125°C System: TMT_SNR_XP		231(0)	0/231	Pass	77 units / lot
	<b>Bond Strength:</b> Wire Pull (> 2.5 grams) Bond Shear (>15.00 grams)		15 (0)	0/15	Pass	
<b>UNBIASED-HAST</b>	<b>Stress Condition:</b> +130°C/85%RH, 96 hrs. System: HAST 6000X	JESD22-A118		231		Parts had been pre-conditioned at 260°C
	<b>Electrical Test:</b> +25°C System: TMT_SNR_XP		231(0)	0/231	Pass	77 units / lot
<b>HAST</b>	<b>Stress Condition:</b> +130°C/85%RH, 96 hrs. <b>Bias Volt:</b> 5.6 Volts System: HAST 6000X	JESD22-A110		231		Parts had been pre-conditioned at 260°C
	<b>Electrical Test:</b> +25°C and 125°C System: TMT_SNR_XP		231(0)	0/231	Pass	77 units / lot

# 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 125°C System: TMT_SNR_XP		45(0)	0/45	Pass	
<b>Solderability Temp 245°C</b>	<b>Steam Aging:</b> Temp 93°C,8Hrs System: SAS-3000 Solder Dipping:Solder Temp.245°C Solder material:Pb Free Sn 95.5Ag3.9 Cu0.6 System: ERSA RA 2200D Visual Inspection: External Visual Inspection	J-STD-002	22 (0)	22  22  0/22	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 (>4.00 grams)	Mil. Std. 883-2011	30 (0) Wires	0/30	Pass	
	Bond Shear (>18.00 grams)	CDF-AEC-Q100-001	30 (0) bonds	0/30	Pass	