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Product Change Notification - LIAL-22YHTT084

Date:	19 Feb 2018
Product Category:	8-bit PIC Microcontrollers
Notification subject:	CCB 3227, 3227.001 Initial Notice: Qualification of CuPdAu bond wire in selected products of the 150K and 160K wafer technologies available in 8L SOIC package at GTK assembly site.

Notification text:

PCN Status:
Initial notification

PCN Type:
Manufacturing Change

Microchip Parts Affected:
Please open the attachments found in the attachments field below labeled as PCN_#_Affected_CPN.

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 in selected products of the 150K and 160K wafer technologies available in 8L SOIC package at GTK assembly site.

Pre Change:

Using gold (Au) bond wire, CRM-1076DJ die attach and G600 mold compound material

Post Change:

Using palladium coated copper with gold flash (CuPdAu)

bond wire, 4900GC die attach and G700 mold compound material.

Pre and Post Change Summary:

	Pre Change	**Post Change**
Assembly Site	Greatek Electronic Inc. (GTK)	Greatek Electronic Inc. (GTK)
Wire material	Au	CuPdAu
Die attach material	CRM-1076DJ	4900GC
Molding compound material	G600	G700
Lead frame material	A194	A194

Impacts to Data Sheet:
None

Change Impact:
None

Reason for Change:
To improve manufacturability by qualifying palladium coated copper with gold flash (CuPdAu) bond wire.

Change Implementation Status:
In Progress

Estimated Qualification Completion Date:
June 2018

Note: Please be advised the qualification completion times may be extended because of unforeseen business conditions however implementation will not occur until after qualification has completed and a final PCN has been issued. The final PCN will include the qualification report and estimated first ship date. Also note that after

the estimated first ship date guided in the final PCN customers may receive pre and post change parts.

Time Table Summary:

	February 2018					-->	June 2018			
Workweek	05	06	07	08	09		23	24	25	26
Initial PCN Issue Date	X									
Qual Report Availability							X			
Final PCN Issue Date							X			

Method to Identify Change:
Traceability code

Qualification Plan:
Please open the attachments included with this PCN labeled as PCN_#_Qual Plan.

Revision History:
February 01, 2018: Issued initial notification
February 19, 2018: Revised the PCN to update the affected part list

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

Attachment(s):

PCN_LIAL-22YHTT084_ Qual_Plan.pdf
PCN _LIAL-22YHTT084_ Affected CPN.pdf
PCN_LIAL-22YHTT084_Affected CPN.xls

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QUALIFICATION PLAN SUMMARY

PCN#: LIAL-22YHTT084

Date
December 13, 2017

Qualification of palladium coated copper with gold flash (CuPdAu) bond wire in selected products of the 150K and 160K wafer technologies available in 8L SOIC package at GTK assembly site.

Purpose: **Qualification of palladium coated copper with gold flash (CuPdAu) bond wire in selected products of the 150K and 160K wafer technologies available in 8L SOIC package at GTK assembly site.**

CCB No.: **3227 and 3227.001**

		Qualification Report
Misc.	**Assembly site**	GREATEK ELECTRONICS INC.
	BD Number	BDM—001618B
	MP Code (MPC)	C50234C2XB04
	Part Number (CPN)	PIC12F675-E/SN
	MSL	1
PKG	**PKG Type**	SOIC
	Pin/Ball Count	8LD
	PKG width/size	150 mil
	PKG code	C2X
Die	**Die Thickness**	15
	Die Size	80.4x88.2
	Fab Process (site)	150K
Leadframe	**Paddle size**	95x130 (140u/strip)
	Material	A194
	Lead-lock (y/n)	No
	Shipped strip / singulated	Strip
	Part Number	11-0208N-030 (95x130)
Bond Wire	**Material**	CuPdAu
Die Attach	**Part Number**	13-10002-004
	Conductive	4900GC
MC	**Part Number**	G700
Lead Finish	**Plating**	Pure Matte Tin

Test Name	Conditions	Sample Size	Min. Qty of Spares per Lot (should be properly marked)	Qty of Lots	Total Units	Fail Accept Qty	Est. Dur. Days	Test Site	Special Instructions
Standard Pb-free Solderability	JESD22B-102E; Perform 8 hours of steam aging for Matte tin finish and 1 hour steam aging for NiPdAu finish prior to testing. Standard Pb-free: Matte tin/ NiPdAu finish, SAC solder, wetting temp 245°C for both SMD & through hole packages.	22	5	1	27	>95% lead coverage	5		Standard Pb-free solderability is the requirement. SnPb solderability (backward solderability- SMD reflow soldering) is required for any plating related changes and highly recommended for other package BOM changes.
Wire Bond Pull - WBP	Mil. Std. 883-2011	5	0	1	5	0 fails after TC	5		Wire pull / ball shear is performed after stress testing and decapsulation.
Wire Bond Shear - WBS	CDF-AEC-Q100-001	5	0	1	5	0	5		Wire pull / ball shear is performed after stress testing and decapsulation.
External Visual	Mil. Std. 883-2009/2010	All devices prior to submission for qualification testing	0	3	ALL	0	5		
HTSL (High Temp Storage Life)	+175°C, 2x Stress (500hrs and 1000 hrs) Electrical test pre and post stress at +25°C and hot temp at 125°C	45	5	3	150	0	10		Spares should be properly identified.
Preconditioning - Required for surface mount devices	+150°C Bake for 24 hours, moisture loading requirements per MSL level + 3X reflow at peak reflow temperature per Jedec-STD-020D for package type. Electrical test pre and post stress at 25°C and hot temp 125°C MSL1 @+260°C	231	15	3	738	0	15		Spares should be properly identified. 77 parts from each lot to be used for HAST, Autoclave, Temp Cycle test.
HAST	'+130°C/85% RH for 96hrs + 192hrs. Electrical test pre and post stress at +25°C and hot temp at 125°C	77	5	3	246	0	10		Spares should be properly identified
UHAST	+130°C/85% RH for 96 /192hrs. Electrical test pre and post stress at 25°C	77	5	3	246	0	10		Spares should be properly identified.

LIAL-22YHTT084 CCB 3227, 3227.001 Initial Notice: Qualification of palladium coated copper with gold flash (CuPdAu) bond wire in selected products of the 150K and 160K wafer technologies in 8L SOIC package at GTK site

Catalog Part Numbers (CPN)

PCN_ LIAL-22YHTT084
CATALOG_PART_NBR
PIC12F675-C/SN
PIC12F675-E/SN
PIC12F675-I/SN
PIC12F675-I/SN102
PIC12F675-I/SN112
PIC12F675-I/SN166
PIC12F675-I/SN172
PIC12F675-I/SN177
PIC12F675-I/SN202
PIC12F675-I/SNC15
PIC12F675T-C/SN
PIC12F675T-E/SN
PIC12F675T-E/SN073
PIC12F675T-E/SN082
PIC12F675T-E/SN091
PIC12F675T-I/SN
PIC12F675T-I/SN026
PIC12F675T-I/SN049
PIC12F675T-I/SN075
PIC12F675T-I/SN079
PIC12F675T-I/SN085
PIC12F675T-I/SN121
PIC12F675T-I/SN131
PIC12F675T-I/SN145
PIC12F675T-I/SN150
PIC12F675T-I/SN152
PIC12F675T-I/SN153
PIC12F675T-I/SN166
PIC12F675T-I/SN172
PIC12F675T-I/SN173
PIC12F675T-I/SN178
PIC12F675T-I/SN179
PIC12F675T-I/SN185
PIC12F675T-I/SN190
PIC12F675T-I/SN191
PIC12F675T-I/SN194
PIC12F675T-I/SN195
PIC12F675T-I/SN199
PIC12F675T-I/SN200
PIC12F675T-I/SN201
PIC12F675T-I/SN202
PIC12F675T-I/SN206
PIC12F675T-I/SN207
PIC12F675T-I/SNC15
PIC12F683-E/SN
PIC12F683-E/SN084

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Catalog Part Numbers (CPN)

PCN_ LIAL-22YHTT084
CATALOG_PART_NBR
PIC12F683-I/SN
PIC12F683-I/SN075
PIC12F683-I/SNAU
PIC12F683T-E/SN
PIC12F683T-E/SN040
PIC12F683T-E/SN079
PIC12F683T-E/SN084
PIC12F683T-E/SN092
PIC12F683T-E/SN097
PIC12F683T-E/SN098
PIC12F683T-I/SN
PIC12F683T-I/SN061
PIC12F683T-I/SN062
PIC12F683T-I/SN072
PIC12F683T-I/SN091
PIC12F683T-I/SNAU