



Product Change Notification / LIAL-10HDQI000

Date:

15-Jul-2022

Product Category:

8-bit Microcontrollers

PCN Type:

Manufacturing Change

Notification Subject:

CCB 3104.005 Final Notice: Qualification of MPHL as a new final test site for selected ATMEGA48xx, ATMEGA88xx and ATMEGA168xx device families available in 32L TQFP (7x7x1mm) package.

Affected CPNs:

[LIAL-10HDQI000_Affected_CPN_07152022.pdf](#)
[LIAL-10HDQI000_Affected_CPN_07152022.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 MPHL as a new final test site for selected ATMEGA48xx, ATMEGA88xx and ATMEGA168xx device families available in 32L TQFP (7x7x1mm) package.

Pre and Post Change Summary:

	Pre Change	Post Change
Final Test Site	Amkor Technology Philippine (P1/P2), INC.	Microchip Technology Operations Corporation

		(ANAP)	(MPHL)
Base Quantity Multiple (BQM)	Tray	250	250
	Tape and Reel	2000	2000
Pin1 Orientation	Tray	Near tray chamfer	Near tray chamfer
	Tape and Reel	Q1	Q1
Carrier Tape		With minor dimensional changes See attached Pre and Post Change Summary for comparison.	
Reel	Color	White	White
	Dimension	With minor dimensional changes See attached Pre and Post Change Summary for comparison.	
Packing Method		See attached Pre and Post Change Summary for comparison.	

Impacts to Data Sheet:None

Change Impact:None

Reason for Change:To improve manufacturability by qualifying MPHL as a new final test site.

Change Implementation Status:In Progress

Estimated First Ship Date:July 18, 2022 (date code: 2230)

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

Time Table Summary:

	March 2022					>	June 2022					July 2022				
Workweek	1 0	1 1	1 2	1 3	1 4		2 3	2 4	2 5	2 6	2 7	28	29	30	31	32
Initial PCN Issue Date				X												
Qual Report Availability								X								

Final PCN Issue Date								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 21, 2022: Issued initial notification.

June 10, 2022: Issued final notification. Attached the qualification report. Provided estimated first ship date to be on July 18, 2022.

July 15, 2022: Re-issued the final notification to remove the MSL information.

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

Attachments:

[PCN_LIAL-10HDQI000_Pre and Post Change Summary.pdf](#)

[PCN_LIAL-10HDQI000_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.



MICROCHIP

QUALIFICATION REPORT SUMMARY

PCN #: LIAL-10HDQI000

Date
June 2, 2022

**Qualification of MPHL as a new final test site for selected
ATMEGA48xx, ATMEGA88xx and ATMEGA168xx device families
available in 32L TQFP (7x7x1mm) package.**

Purpose: Qualification of MPHL as a new final test site for selected ATMEGA48xx, ATMEGA88xx and ATMEGA168xx device families available in 32L TQFP (7x7x1mm) package.

CCB No.: 3104.005

Test / Evaluation	Test Conditions / Parameters	RESULT
Datalog/Bin Comparison	<ul style="list-style-type: none">• Compare test numbers, test names, test sequence bin assignments & pass/fail results• Accept if all match or justify the differences	PASS
Site by Site verification	<ul style="list-style-type: none">• Verifies the channel map has the correct site assignments and tester/handler communications work correctly	PASS
Correlation lot report	<ul style="list-style-type: none">• Yield at each step and reject analysis between systems. 3K units are tested as lot correlation• Accept on yield match within 0.1%	PASS
Test stability	<ul style="list-style-type: none">• 50 loop test performed with no datalog delays• Accept on 0 fails	PASS
Parametric test stability verification	<ul style="list-style-type: none">• Use Real Time Statistics software to create CPK report of all parametric tests• Accept on Cpk > 1.67 or explainable	PASS

CCB 3104.005
Pre and Post Change Summary
PCN#: LIAL-10HDQI000



A Leading Provider of Smart, Connected and Secure Embedded Control Solutions



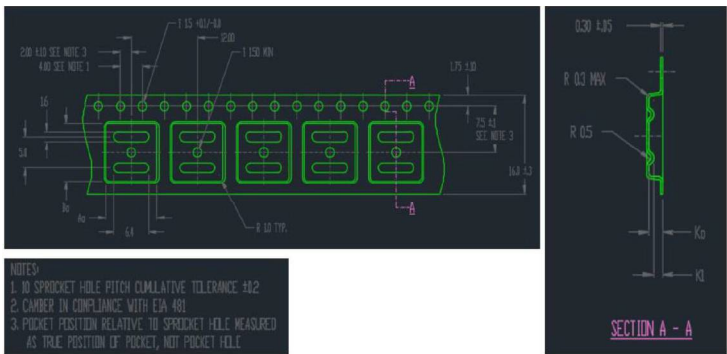
SMART | CONNECTED | SECURE

Tape and Reel - BQM and Pin 1 Orientation

	ANAP	MPHL
Base Quantity Multiple (BQM)	2000	2000
Pin 1 orientation	Quadrant 1	Quadrant 1

Tape and Reel - Carrier Tape

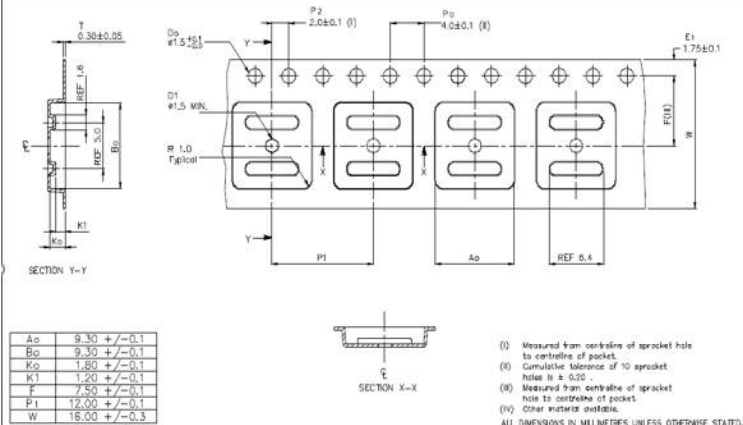
ANAP



W	P	A0	B0	K0	K1
16.00 (+/- 0.30)	12.00 (+/- 0.10)	9.30 (+/- 0.10)	9.30 (+/- 0.10)	1.80 (+/- 0.10)	1.20 (+/- 0.10)

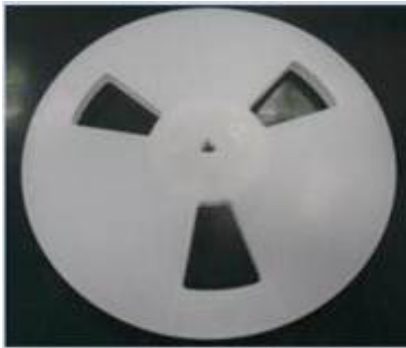
Thickness	Color
0.30 (+/- 0.05)	Black

MPHL



Tape and Reel – Plastic Reel

ANAP



Width	Outer Diameter	Inner Diameter
16	330.2 (+/- 2.0)	100

Color: White

MPHL



Color: White
D: 13"
Hub: 4"
W1: 17.5 mm
W2: 21.5 mm

Tape and Reel – Packaging

Final Test Site	ANAP	MPHL
Desiccant		
Antistatic Bag		
Boxes		

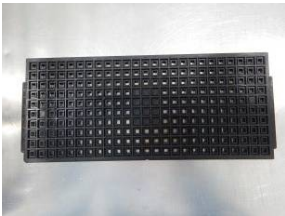
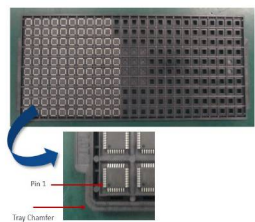
Tray - BQM and Pin 1 Orientation

	ANAP	MPHL
Base Quantity Multiple (BQM)	250	250
Pin 1 orientation	Pin1 near Tray Chamfer	Pin1 near Tray Chamfer







Tray

ANAP

MPHL



Tray – Packaging

Final Test Site	ANAP	MPHL
Desiccant		
Antistatic Bag		
Boxes		

LIAL-10HDQI000 - CCB : ATMEGA88xx and ATMEGA168xx device families available in 32L TQFP (7x7x1m

Affected Catalog Part Numbers(CPN)

ATMEGA48V-10AU
ATMEGA48-20AU
ATMEGA48V-10AUR
ATMEGA48V-10AURA4
ATMEGA48-20AUR
ATMEGA88V-10AU
ATMEGA88-20AU
ATMEGA88V-10AUR
ATMEGA88-20AUR
ATMEGA168-20AU
ATMEGA168V-10AU
ATMEGA168-20AUR
ATMEGA168V-10AUR
ATMEGA168-20AURA0