



## Product Change Notification / LIAL-10HDQI000

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**Date:**

10-Jun-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\\_06102022.pdf](#)

[LIAL-10HDQI000\\_Affected\\_CPN\\_06102022.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



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.

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.

## Terms and Conditions:

If you wish to receive Microchip PCNs via email please register for our PCN email service at our [PCN home page](#) select register then fill in the required fields. You will find instructions about registering for Microchips PCN email service in the [PCN FAQ](#) section.

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)

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

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



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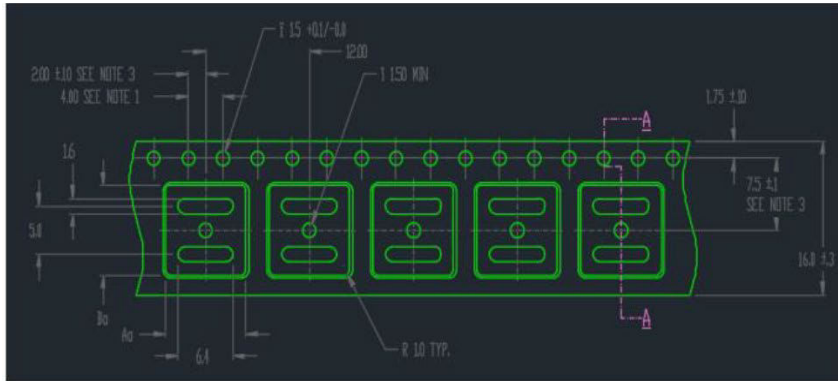
SMART | CONNECTED | SECURE

# Tape and Reel - BQM and Pin 1 Orientation

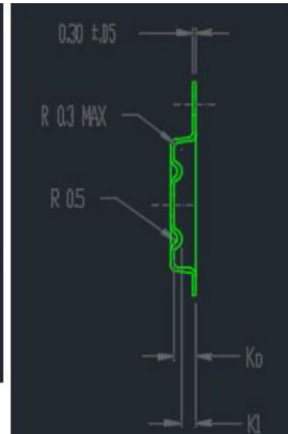
	ANAP	MPHL
Base Quantity Multiple (BQM)	2000	2000
Pin 1 orientation	Quadrant 1	Quadrant 1

# Tape and Reel - Carrier Tape

**ANAP**



1. 10 SPROCKET HOLE PITCH CUMULATIVE TOLERANCE  $\pm 0.2$
2. CAMBER IN COMPLIANCE WITH ETA 481
3. POCKET POSITION RELATIVE TO SPROCKET HOLE MEASURED AS TRUE POSITION OF POCKET, NOT POCKET HOLE

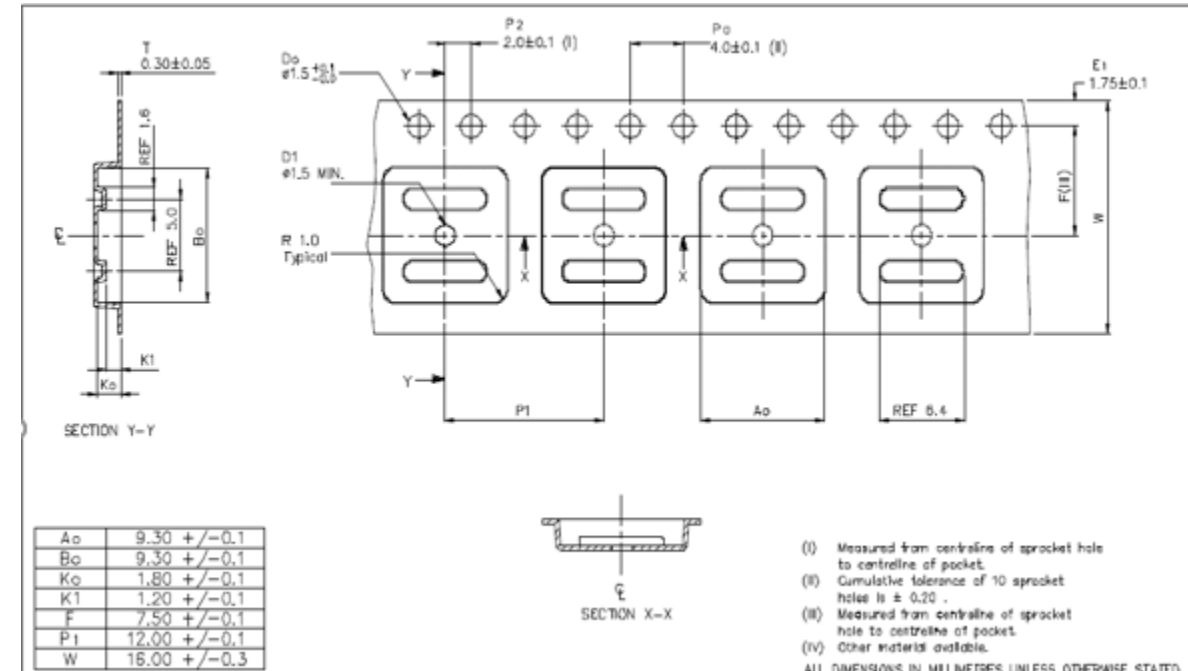


SECTION A - A

W	P	Ao	Bo	Ko	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



W: 16 mm

P1: 12 mm

A0: 9.30 mm

B0: 9.30 mm

K0: 1.80 mm

K1: 1.20 mm

# 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

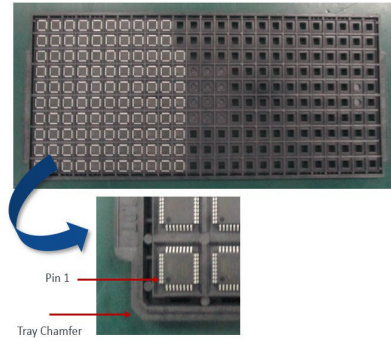
Final Test Site	ANAP	MPHL
Desiccant		
Antistatic Bag		
Boxes		

# Tray - BQM and Pin 1 Orientation

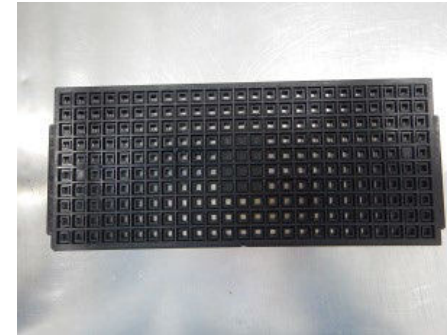
	ANAP	MPHL
Base Quantity Multiple (BQM)	250	250
Pin 1 orientation	Pin1 near Tray Chamfer	Pin1 near Tray Chamfer

# Tray







ANAP



MPHL



# Tray – Packaging

Final Test Site	ANAP	MPHL
Desiccant		
Antistatic Bag		
Boxes		



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