



Product Change Notification / LIAL-10HDQI000

Date:

21-Mar-2022

Product Category:

8-bit Microcontrollers

PCN Type:

Manufacturing Change

Notification Subject:

CCB 3104.005 Initial 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_03212022.pdf](#)
[LIAL-10HDQI000_Affected_CPN_03212022.csv](#)

Notification Text:

PCN Status:Initial 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
Moisture Sensitivity Level (MSL)		3	1
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 Qualification Completion Date:March 2022

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:

	March 2022
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Workweek	1 0	1 1	1 2	1 3	1 4
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:March 21, 2022: Issued initial notification.

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_Qual Plan.pdf](#)

[PCN_LIAL-10HDQI000_Pre and Post Change Summary.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.

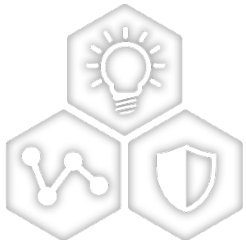
Affected Catalog Part Numbers (CPN)

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



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



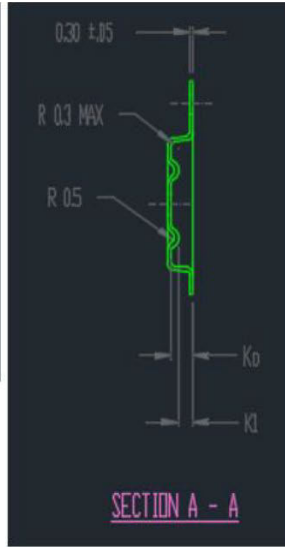
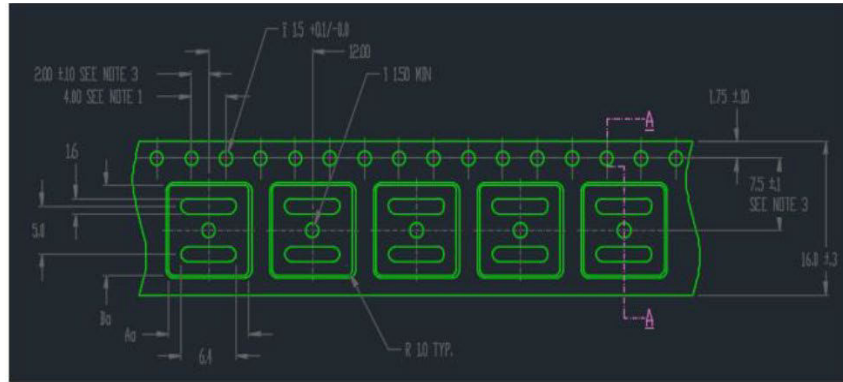
SMART | CONNECTED | SECURE

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



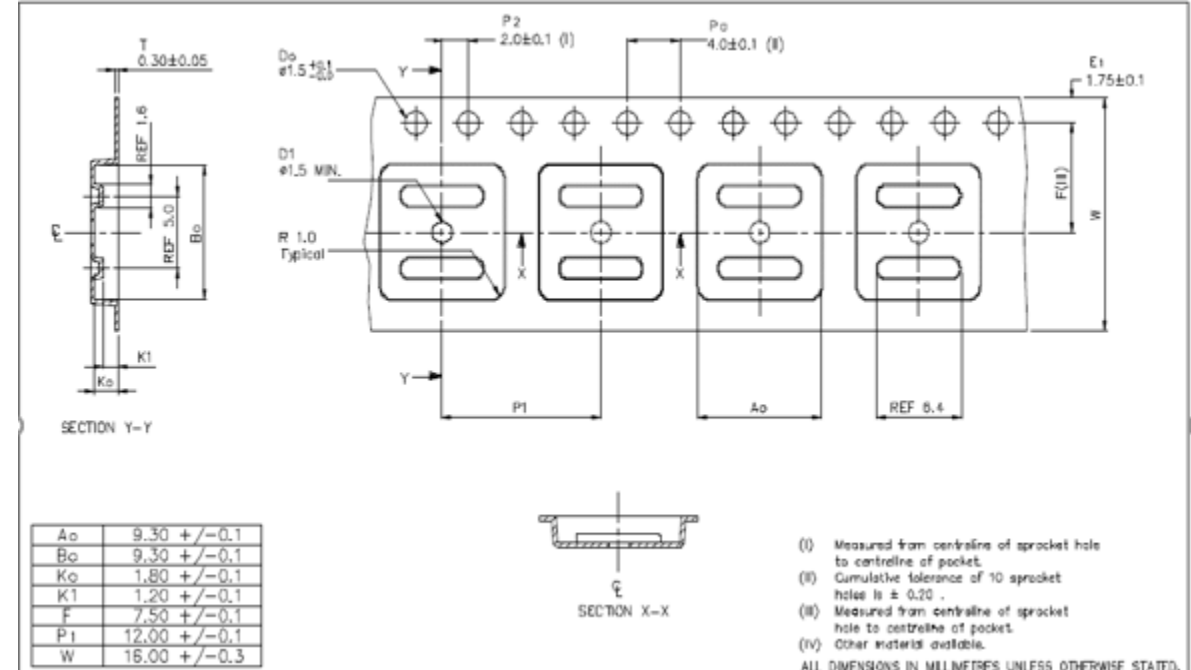
NOTES:

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

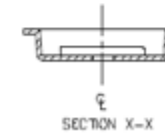
W	P	Ao	Bo	Ko	K1
16.00 (+/- 0.30)	12.00 (+/- 0.10)	9.30 (+/- 0.10)	9.30 (+/- 0.10)	1.80 (+/- 0.10)	1.20 (+/- 0.10)

Thickness	Color
0.30 (+/- 0.05)	Black

MPLH



Ao	9.30 +/- 0.1
Bo	9.30 +/- 0.1
Ko	1.80 +/- 0.1
K1	1.20 +/- 0.1
F	7.50 +/- 0.1
P1	12.00 +/- 0.1
W	16.00 +/- 0.3



- (I) Measured from centreline of sprocket hole to centreline of pocket.
 - (II) Cumulative tolerance of 10 sprocket holes is ± 0.20 .
 - (III) Measured from centreline of sprocket hole to centreline of pocket.
 - (IV) Other material available.
- ALL DIMENSIONS IN MILLIMETRES UNLESS OTHERWISE STATED.

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

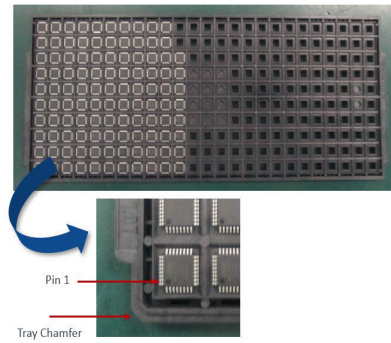
Final Test Site	ANAP	MPHL
Desiccant		
Antistatic Bag		
Boxes		

Tray - BQM and Pin 1 Orientation

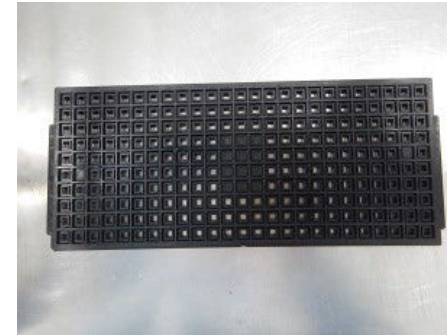
	ANAP	MPHL
Base Quantity Multiple (BQM)	250	250
Pin 1 orientation	Pin1 near Tray Chamfer	Pin1 near Tray Chamfer

Tray







ANAP



MPHL



Tray – Packaging

Final Test Site	ANAP	MPHL
Desiccant		
Antistatic Bag		
Boxes		



MICROCHIP

QUALIFICATION PLAN SUMMARY

PCN #: LIAL-10HDQI000

Date

February 17, 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
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
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
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%
Test stability	<ul style="list-style-type: none"> • 50 loop test performed with no datalog delays • Accept on 0 fails
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