



Product Change Notification: CAAN-27VKXJ630

Date:

09-Apr-2025

Product Category:

8-Bit Microcontrollers, Capacitive Touch Sensors

Notification Subject:

CCB 6849 Final Notice: Qualification of STA as an additional assembly site for selected AT42QT1x, AT42QT21, AT42QT41, ATmega16, ATmega32, ATmega48, ATmega8x, ATtiny26, ATtiny46, ATtiny8x, QT60160 and QT60240 device families available in 32L VQFN (5x5x1mm) package.

Affected CPNs:

[CAAN-27VKXJ630_Affected_CPN_04092025.pdf](#)

[CAAN-27VKXJ630_Affected_CPN_04092025.csv](#)

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 STA as an additional assembly site for selected AT42QT1x, AT42QT21, AT42QT41, ATmega16, ATmega32, ATmega48, ATmega8x, ATtiny26, ATtiny46, ATtiny8x, QT60160 and QT60240 device families available in 32L VQFN (5x5x1mm) package.

Pre and Post Summary Changes:

	Pre Change		Post Change			
Assembly Site	Amkor Assembly & Test (Shanghai) Co., LTD (ANAC)		Amkor Assembly & Test (Shanghai) Co., LTD (ANAC)	STATS Chippac Ltd. (STA)		
Wire Material	Au	CuPd	Au	CuPd	Au	CuPdAu

Die Attach Material	8290	8290	EN4900GC
Molding Compound Material	G700	G700	G700E
Lead-Frame Material	C194	C194	C194
Lead-Frame Paddle Size	146X146mils	146X146mils	138X138mils
Lead-Frame Lead Lock	No	No	Yes
Lead-Frame Design	See Pre and Post Change Summary		

Impacts to Datasheet: None

Change Impact: None

Reason for Change: To improve on time delivery performance by qualifying STA as an additional assembly site.

Change Implementation Status: In Progress

Estimated First Ship Date: 09 May 2025 (date code: 2519)

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

Timetable Summary:

	March 2024					>	April 2025				May 2025				
Work Week	10	11	12	13	14		14	15	16	17	18	19	20	21	22
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 04, 2024: Issued initial notification.

June 25, 2024: Re-issued initial notification. Updated Die attach material from 8290 to EN4900GC.

Updated affected part list to remove catalog part number ATTINY861A-MU based on the updated scope. Updated qual plan to reflect the die attach material change and include wire sweep test.

April 09, 2025: Issued final notification. Attached Qualification Report. Provided Estimated First Ship Date on May 09, 2025.

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

Attachments:

PCN_CAAN-27VKXJ630_Pre and Post Change Summary.pdf

PCN_CAAN-27VKXJ630_Qualification Report.pdf

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

Terms and Conditions:

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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.

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Affected Catalog Part Numbers (CPN)

AT42QT1110-MUR
AT42QT1244-MU
AT42QT1244-MUR
AT42QT1245-MU
AT42QT1245-MUR
AT42QT2100-MUR
AT42QT4160-MUR
ATMEGA168-20MQ
ATMEGA168-20MQR
ATMEGA168-20MU
ATMEGA168-20MUR
ATMEGA168A-MU
ATMEGA168A-MUR
ATMEGA168P-20MQ
ATMEGA168P-20MQR
ATMEGA168P-20MU
ATMEGA168P-20MUR
ATMEGA168PA-MN
ATMEGA168PA-MNR
ATMEGA168PA-MURA2
ATMEGA168PV-10MU
ATMEGA168PV-10MUR
ATMEGA168V-10MQ
ATMEGA168V-10MQR
ATMEGA168V-10MQR610
ATMEGA168V-10MU
ATMEGA168V-10MUR

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ATMEGA168V-10MUR598

ATMEGA328-MU

ATMEGA328-MUR

ATMEGA328P-MN

ATMEGA328P-MNR

ATMEGA328P-MUA2

ATMEGA48-20MU

ATMEGA48-20MUR

ATMEGA48A-MU

ATMEGA48A-MUR

ATMEGA48P-20MU

ATMEGA48P-20MUR

ATMEGA48PA-MN

ATMEGA48PA-MNR

ATMEGA48PV-10MU

ATMEGA48PV-10MUR

ATMEGA48V-10MU

ATMEGA48V-10MUR

ATMEGA48V-10MURA3

ATMEGA8-16MU

ATMEGA8-16MUR

ATMEGA88-20MU

ATMEGA88-20MUR

ATMEGA88A-MU

ATMEGA88A-MUR

ATMEGA88P-20MU

ATMEGA88P-20MUR

ATMEGA88PA-MN

ATMEGA88PA-MNR

ATMEGA88PA-MURA6

Date: Tuesday, April 8, 2025

CAAN-27VKXJ630 - CCB 6849 Final Notice: Qualification of STA as an additional assembly site for selected AT42QT1x, AT42QT21, AT42QT41, ATmega16, ATmega32, ATmega48, ATmega8x, ATtiny26, ATtiny46, ATtiny8x, QT60160 and QT60240 device families available in 32L VQFN (5x5x1mm) package.

ATMEGA88PV-10MU

ATMEGA88PV-10MUR

ATMEGA88V-10MU

ATMEGA88V-10MUR

ATMEGA88V-10MURA1

ATMEGA8A-MN

ATMEGA8A-MNR

ATMEGA8A-MU

ATMEGA8A-MUR

ATMEGA8A-MURA7

ATMEGA8L-8MU

ATMEGA8L-8MUA4

ATMEGA8L-8MUR

ATTINY26-16MQR

ATTINY26-16MU

ATTINY26-16MUR

ATTINY261A-MF

ATTINY261A-MFR

ATTINY26L-8MU

ATTINY26L-8MUR

ATTINY461-20MU

ATTINY461-20MUR

ATTINY461V-10MU

ATTINY461V-10MUR

ATTINY828-MU

ATTINY828-MUR

ATTINY861-20MU

ATTINY861-20MUR

ATTINY861V-10MU

ATTINY861V-10MUR

Date: Tuesday, April 8, 2025

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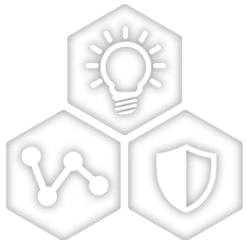
QT60160-ISG

QT60240-ISG

CCB 6849
Pre and Post Change Summary
PCN #: CAAN-27VKXJ630



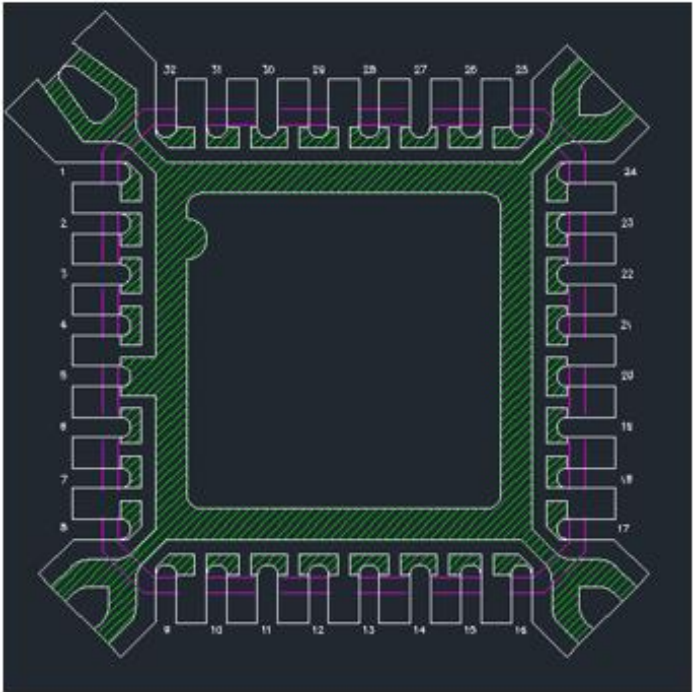
A Leading Provider of Smart, Connected and Secure Embedded Control Solutions



SMART | CONNECTED | SECURE

LEAD FRAME COMPARISON

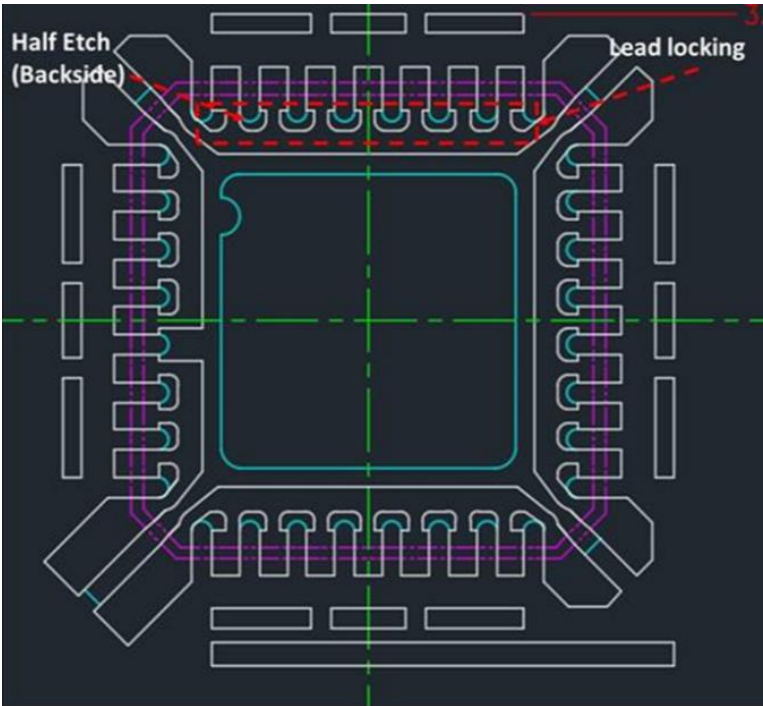
ANAC



Note: Not to scale

Wire Material	Au	CuPd
Lead-Frame Paddle Size	146X146mils	
Lead-Frame Material	C194	
Lead-Frame Lead Lock	No	

STA



Note: Not to scale

Wire Material	Au	CuPdAu
Lead-Frame Paddle Size	138X138mils	
Lead-Frame Material	C194	
Lead-Frame Lead Lock	Yes	



QUALIFICATION REPORT SUMMARY

RELIABILITY LABORATORY

PCN #: CAAN-27VKXJ630

Date:
March 31, 2025

Qualification of STA as an additional assembly site for selected AT42QT1x, AT42QT21, AT42QT41, ATmega16, ATmega32, ATmega48, ATmega8x, ATtiny26, ATtiny46, ATtiny8x, QT60160 and QT60240 device families available in 32L VQFN (5x5x1mm) package.



Purpose: Qualification of STA as an additional assembly site for selected AT42QT1x, AT42QT21, AT42QT41, ATmega16, ATmega32, ATmega48, ATmega8x, ATtiny26, ATtiny46, ATtiny8x, QT60160 and QT60240 device families available in 32L VQFN (5x5x1mm) package.

CCB No.: 6849

<u>Misc.</u>	Assembly site	STA
	BD Number	BD-002159-03
	MP Code (MPC)	355E77S4BC04
	Part Number (CPN)	ATMEGA168-20MU
	MSL information	MSL1
	Assembly Shipping Media (T/R, Tube/Tray)	Tray
	Base Quantity Multiple (BQM)	490
	Reliability Site	MPHIL
<u>Lead-Frame</u>	Paddle size	138X138mils
	Exposed Pad size	122X122 mils
	Material	C194
	DAP Surface Prep	Ring
	Treatment	Roughened
	Process	Etched
	Lead-lock	Yes
	Part Number	R002-A232X
	Lead Plating	Matte Sn
	Strip Size	250*70mm
	Strip Density	216 units/strip
<u>Bond Wire</u>	Material	CuPdAu
<u>Die Attach</u>	Part Number	EN4900GC
	Conductive	Yes
<u>MC</u>	Part Number	G700E
<u>PKG</u>	Package Type	VQFN
	Pin/Ball Count	32L
	PKG width/size	5X5X1mm



Manufacturing Information:

Assembly Lot No.
2441A5D/STA-252800006.000
2441A5M/STA-252800007.000
2441A5T/STA-252800008.000

☒ **Pass** ☐ **Fail** ☐ _____

Qualification of 355E7 MCSO 350nm mask in 32L VQFN 5x5x1mm CuPdAu 0.8 mil wire at STA is qualified Moisture/ Reflow Sensitivity Classification Level 1 at 260°C reflow temperature per IPC/JEDEC J-STD-020E standard. Pre-Conditioning, HAST, UHAST, TCT and HTSL Passed.

Package Qualification Report						
Test Number (Reference)	Test Condition	Standard/ Method	Qty. (Acc.)	Def/SS	Result	Remarks
Precondition Prior Perform Reliability Tests MSL-1 @ 260°C	External Visual inspection System: Luxo Lamp	JESD22-A113 JIP/ IPC/JEDEC J-STD-020E 231 units per Lot	693(0)	0/693	Pass	Good Devices
	Bake: 150°C, 24hrs System: HERAEUS		693(0)			
	Moisture Soak: 85°C/85%RH Moisture Soak 168hrs. System: Climats Excal 5423-HE		693(0)			
	Reflow: 3x Convection-Reflow 260°C max System: Mancorp CR.5000F		693(0)			
	Electrical Test: 25°C, 85°C ATE Testing: AMKOR, Shanghai		693(0)	0/693	Pass	

Test Number (Reference)	Test Condition	Standard/ Method	Qty. (Acc.)	Def/SS	Result	Remarks
Temp Cycle	Stress Condition: -65°C to +150°C, 500 Cycles System: VOTSCH VT 7012 S2	JESD22-A104	231(0)			Parts had been pre-conditioned at 260°C
	Electrical Test: 85°C AMKOR, Shanghai		231(0)	0/231	Pass	
	Bond Strength: Wire Pull (min. bond strength of 3gram)		30bonds (0)	0/30		
UFAST	Stress Condition: +130°C/85%RH, 96H System: HIRAYAMA HASTEST PC-422R8	JESD22-A110	231(0)			Parts had been pre-conditioned at 260°C
	Electrical Test: 25°C AMKOR, Shanghai		231(0)	0/231	Pass	
HAST	Stress Condition: +130°C/85%RH, 96H System: HIRAYAMA HASTEST PC-422R8	JESD22-A118	231(0)			Parts had been pre-conditioned at 260°C
	Electrical Test: 25°C, 85°C AMKOR, Shanghai		231(0)	0/231	Pass	
HTSL	Stress Condition: Bake 175°C, 504H System: HERAEUS	JESD22-A103	45 (0)			
	Electrical Test: 25°C, 85°C AMKOR, Shanghai		45 (0)	0/45	Pass	
Solderability Temp 245°C	Bake: Temp 155°C, 4Hrs System: Oven Solder Bath: Temp. 245°C	J-STD-002	22 (0)	0/22	Pass	
Bond Strength	Wire Pull 1 lot, 30 bonds from 5 units min	M2011.8 MIL-STD-883	30(0) bonds	0/30	Pass	
	Bond Shear 1 lot, 20 bonds from 5 units min	M2011.8 MIL-STD-883	20(0) bonds	0/30	Pass	