



Product Change Notification: MAAN-18PQPC647

Date:

09-Jul-2026

Product Category:

Linear Regulators

Notification Subject:

CCB 7581.002 and 7581.003 Final Notice: Qualification of ATP7 as an additional assembly site for selected MIC5501, MIC5502, MIC5503, MIC5504, MIC5524 and MIC5528 device families available in 4L UDFN (1.0x1.0x0.6mm) and 6L UDFN (1.2x1.2x0.6mm) packages.

Affected CPNs:

[MAAN-18PQPC647_Affected_CPN_07092026.pdf](#)

[MAAN-18PQPC647_Affected_CPN_07092026.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 ATP7 as an additional assembly site for selected MIC5501, MIC5502, MIC5503, MIC5504, MIC5524 and MIC5528 device families available in 4L UDFN (1.0x1.0x0.6mm) and 6L UDFN (1.2x1.2x0.6mm) packages.

Pre and Post Summary Changes:

	Pre Change	Post Change		Change (Yes/No)
Assembly Site	Unisem Chengdu Co.,Ltd. (UNIC)	Unisem Chengdu Co.,Ltd. (UNIC)	Amkor Technology Philippines (P3/P4),	Yes

			INC. (ATP7)	
Wire Material	Au	Au	CuPdAu	Yes
Die Attach Material	8290 (PFAS)	8290 (PFAS)	CDF215 (PFAS-free)	Yes
Molding Compound Material	G770HP	G770HP	G631BQF	Yes
Lead-Frame Material	C194	C194	C7025	Yes
Lead-Frame Design	See Pre and Post Change Summary attachment for comparison.			Yes

Impacts to Datasheet: None

Change Impact: None

Reason for Change: To improve on time delivery performance by qualifying ATP7 as an additional assembly site.

Change Implementation Status: In Progress

Estimated First Ship Date: 01 August 2026 (date code: 2631)

Note Below EFSD: 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.

Timetable Summary:

	August 2025					>	June 2026					>	August 2026				
Work Week	32	33	34	35	36		23	24	25	26	27		31	32	33	34	35
Initial PCN Issue Date			x														
Qual Report Availability											x						
Final PCN Issue Date											x						

Estimated Implementation Date												X				
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Affected Catalog Part Numbers (CPN):

MIC5504-2.2YMT-T5
MIC5504-1.8YMT-T5
MIC5504-1.0YMT-T5
MIC5503-1.8YMT-T5
MIC5502-2.8YMT-T5
MIC5502-3.0YMT-TR
MIC5501-1.8YMT-TR
MIC5504-3.0YMT-T5
MIC5501-3.0YMT-T5
MIC5524-3.0YMT-T5
MIC5524-1.8YMT-T5
MIC5524-1.2YMT-T5
MIC5501-3.0YMT-TZ
MIC5501-3.0YMT-TR
MIC5524-2.8YMT-TZ
MIC5524-3.3YMT-TZ
MIC5524-3.3YMT-TR
MIC5504-1.2YMT-TR
MIC5503-1.8YMT-TR
MIC5503-1.2YMT-TZ
MIC5503-1.2YMT-TR
MIC5502-3.0YMT-TZ
MIC5502-2.8YMT-TZ
MIC5502-2.8YMT-TR
MIC5502-1.8YMT-TZ
MIC5502-1.8YMT-TR
MIC5502-1.8YMT-T5
MIC5501-1.8YMT-T5
MIC5504-2.5YMT-T5
MIC5524-3.0YMT-TZ
MIC5524-1.2YMT-TZ
MIC5504-2.2YMT-TZ

MIC5504-1.0YMT-TR

MIC5503-1.8YMT-TZ

MIC5504-2.2YMT-TR

MIC5504-1.8YMT-TZ

MIC5504-2.8YMT-T5

MIC5504-1.2YMT-T5

MIC5528-3.3YMT-T5

MIC5528-3.3YMT-TR

MIC5501-1.8YMT-TZ

MIC5524-3.3YMT-T5

MIC5504-3.1YMT-T5

MIC5524-2.8YMT-T5

MIC5524-2.5YMT-TZ

MIC5524-2.5YMT-T5

MIC5504-3.3YMT-TZ

MIC5504-3.3YMT-TR

MIC5504-3.3YMT-T5

MIC5504-3.1YMT-TZ

MIC5504-3.1YMT-TR

MIC5504-3.0YMT-TZ

MIC5504-3.0YMT-TR

MIC5504-2.8YMT-TZ

MIC5504-2.5YMT-TZ

MIC5504-2.5YMT-TR

MIC5504-1.8YMT-TR

MIC5504-1.2YMT-TZ

MIC5524-1.8YMT-TZ

MIC5504-2.8YMT-TR

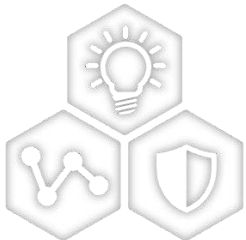
CCB 7581.002 & 7581.003

Pre and Post Change Summary

PCN #: MAAN-18PQPC647

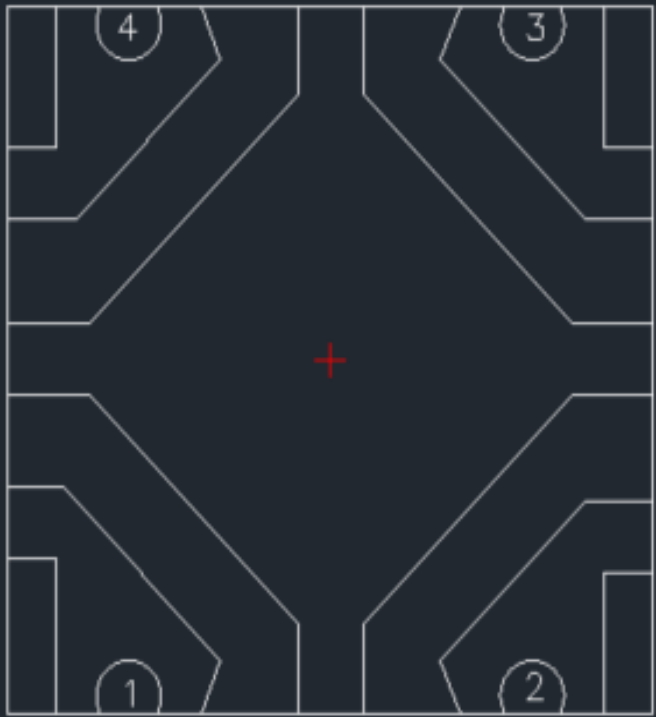
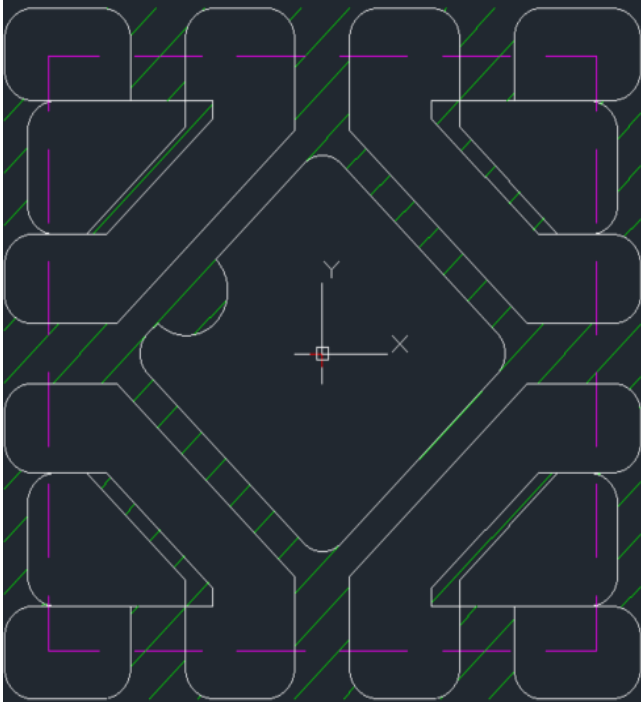


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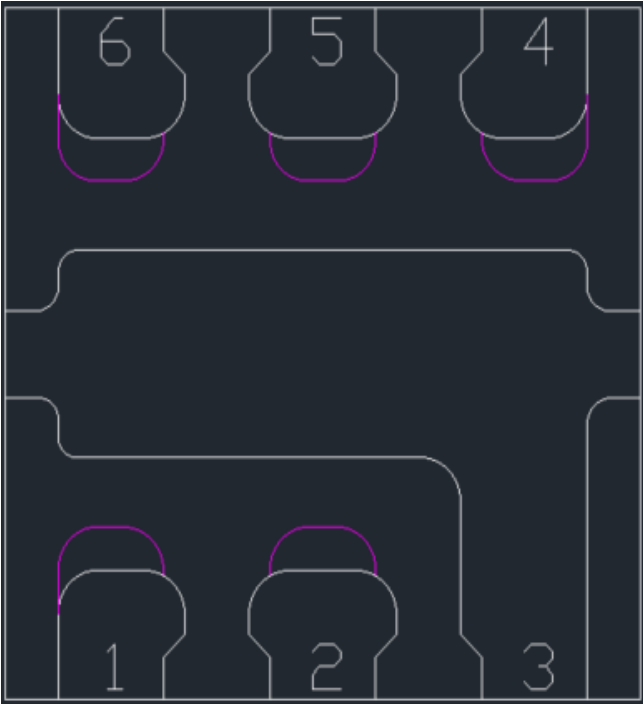
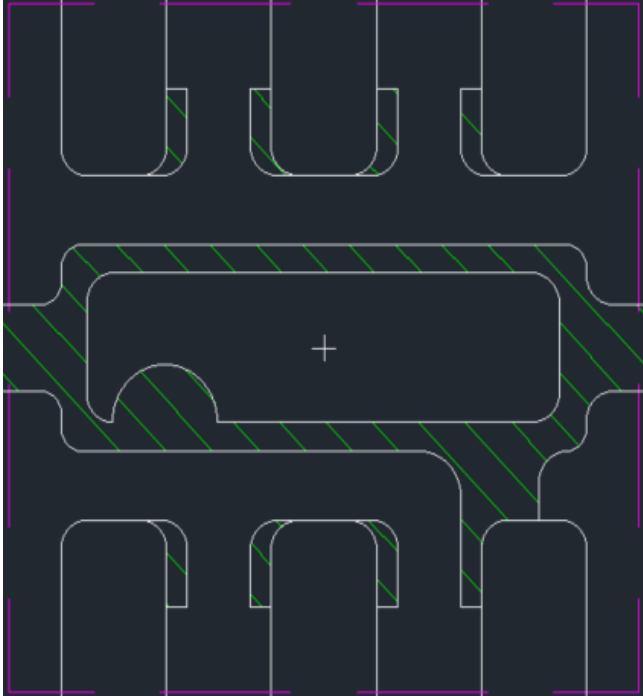
SMART | CONNECTED | SECURE

Lead Frame Comparison - 4L UDFN (1.0x1.0x0.6mm)

UNIC	ATP7								
 The diagram shows a square lead frame with a central diamond-shaped cavity. A red crosshair is centered in the diamond. Four circular pads are located at the corners, labeled 1, 2, 3, and 4. The frame has a complex, multi-layered structure with various notches and tabs.	 The diagram shows a square lead frame with a central diamond-shaped cavity. A coordinate system with X and Y axes is centered in the diamond. The frame has a complex, multi-layered structure with various notches and tabs. The pads are rectangular and labeled with numbers 1 through 16.								
<table><tr><td>Lead-Frame Material</td><td>C194</td></tr><tr><td>Lead-Frame Treatment</td><td>Non-rough</td></tr></table>	Lead-Frame Material	C194	Lead-Frame Treatment	Non-rough	<table><tr><td>Lead-Frame Material</td><td>C7025</td></tr><tr><td>Lead-Frame Treatment</td><td>Rough</td></tr></table>	Lead-Frame Material	C7025	Lead-Frame Treatment	Rough
Lead-Frame Material	C194								
Lead-Frame Treatment	Non-rough								
Lead-Frame Material	C7025								
Lead-Frame Treatment	Rough								

Note: Not to scale

Lead Frame Comparison - 6L UDFN (1.2x1.2x0.6mm)

UNIC	ATP7								
									
<table><tr><td>Lead-Frame Material</td><td>C194</td></tr><tr><td>Lead-Frame Treatment</td><td>Non-rough</td></tr></table>	Lead-Frame Material	C194	Lead-Frame Treatment	Non-rough	<table><tr><td>Lead-Frame Material</td><td>C7025</td></tr><tr><td>Lead-Frame Treatment</td><td>Rough</td></tr></table>	Lead-Frame Material	C7025	Lead-Frame Treatment	Rough
Lead-Frame Material	C194								
Lead-Frame Treatment	Non-rough								
Lead-Frame Material	C7025								
Lead-Frame Treatment	Rough								

Note: Not to scale



Qualification Report Summary

RELIABILITY LABORATORY

PCN #: MAAN-18PQPC647

Date: June 16, 2026

Qualification of ATP7 as an additional assembly site for selected MIC5501, MIC5502, MIC5503, MIC5504, MIC5524 and MIC5528 device families available in 4L UDFN (1.0x1.0x0.6mm) and 6L UDFN (1.2x1.2x0.6mm) packages. This is qualification by similarity (QBS).

PACKAGE QUALIFICATION REPORT

Purpose:

Qualification of ATP7 as an additional assembly site for selected MIC5501, MIC5502, MIC5503, MIC5504, MIC5524 and MIC5528 device families available in 4L UDFN (1.0x1.0x0.6mm) and 6L UDFN (1.2x1.2x0.6mm) packages. This is qualification by similarity (QBS).

QUAL ID:	R2600042 Rev. A
MP CODE:	TKLA1YHSAA02
Part No.:	MIC2790N-04VMT-TR
Bonding No.:	BD-003149-03
CCB No.:	7581

Lead Frame

Paddle Size:	67x39mils
Material:	C7025
Surface:	PPF
Process:	Etch
Lead Lock:	Yes
Part Number:	101431352
Plating Composition:	NiPdAu

Bond Wire

Wire:	CuPdAu wire
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Die Attach Material

Epoxy:	CDF215
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Mold Compound

Mold Compound:	G631BQF
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Package

Type:	6L UDFN
Package Size:	2x2x0.6mm

PACKAGE QUALIFICATION REPORT

Manufacturing Information

Assembly Lot No.
ATP7262600006.000
ATP7262600007.000
ATP7262600008.000

Result: **Pass**

Conclusion:

Qualification of TKLA1 mask / MIC2790N-04VMT-TR product / CuPdAu wire in 6L UDFN 2x2x0.6mm package at ATP7 site is qualified for MSL1 at 260°C as per JEDEC J-STD-020 standard and is passed in accordance to Specified JEDEC and Mil Standards

PACKAGE QUALIFICATION REPORT

Test	Test Condition	Standard / Method	Qty. (Acc.)	Def/SS	Result	Remarks
Moisture Soak Precondition Prior to Stresses	MSL1: 150°C 24 hours Bake, 168 hours Moisture Soak at 85°C/85%RH, 3x Reflow at 260°C Electrical Test: 25°C Tester: TMT	JESD22-A113, JEDEC J-STD-020	231 units each lot / 3 lots	0/231 (R26 00042-1), 0/231 (R26 00042-2), 0/231 (R26 00042-3)	Pass	Electrical Results (Fail/Pass): 0/231 each lot;

Test	Test Condition	Standard / Method	Qty. (Acc.)	Def/SS	Result	Remarks
High Temp Storage	175°C / 504 hours Electrical Test: 25°C Tester: TMT	JESD22-A103	45 units / 3 lots	0/45 (R260 0042-1), 0/45 (R260 0042-2), 0/45 (R260 0042-3)	Pass	Electrical Results (Fail/Pass): 0/45 each lot

Test	Test Condition	Standard / Method	Qty. (Acc.)	Def/SS	Result	Remarks
Temperature Cycling	-65°C / +150°C Air to Air / 500 Cycles Electrical Test: 25°C Tester: TMT	JESD22-A104	77 units each lot / 3 lots	0/77 (R260 0042-1), 0/77 (R260 0042-2), 0/77 (R260 0042-3)	Pass	Electrical Results (Fail/Pass): 0/77 each lot; WBP (Fail/Pass): 0/5 (R2600042-1), N/A, N/A

Test	Test Condition	Standard / Method	Qty. (Acc.)	Def/SS	Result	Remarks
Biased HAST	+130°C / 85%RH / 96 hours / Bias Voltage: 5.5V Electrical Test: 25°C Tester: TMT	JESD22-A110	77 units each lot / 3 lots	0/77 (R260 0042-1), 0/77 (R260 0042-2), 0/77 (R260 0042-3)	Pass	Electrical Results (Fail/Pass): 0/77 each lot

PACKAGE QUALIFICATION REPORT

Test	Test Condition	Standard / Method	Qty. (Acc.)	Def/SS	Result	Remarks
Unbiased HAST	+130°C / 85%RH / 96 hours Electrical Test: 25°C Tester: TMT	JESD22-A118	77 units each lot / 3 lots	0/77 (R260 0042-1), 0/77 (R260 0042-2), 0/77 (R260 0042-3)	Pass	Electrical Results (Fail/Pass): 0/77 each lot

Test	Test Condition	Standard / Method	Qty. (Acc.)	Def/SS	Result	Remarks
Solderability (0 Hr) Method 1: Dip and Look	Pb-free 1 hours Steam age. Dip at 215°C, 100% leads >95% lead coverage	J-STD-002 / JESD22B-102	22 units / 1 lot	0/22	Pass	Visual Result (Fail/Pass): 0/22

Test	Test Condition	Standard / Method	Qty. (Acc.)	Def/SS	Result	Remarks
Solderability (0 Hr) Method 1: Dip and Look	Pb-free 1 hours Steam age. Dip at 245°C, 100% leads >95% lead coverage	J-STD-002 / JESD22B-102	22 units / 1 lot	0/22	Pass	Visual Result (Fail/Pass): 0/22

Test	Test Condition	Standard / Method	Qty. (Acc.)	Def/SS	Result	Remarks
Physical Dimension (0Hr)	Within package diagram dimension	JESD22 B100 and B108	10 units each lot / 3 lots	0/30	Pass	Result (Fail/Pass): 0/30

Test	Test Condition	Standard / Method	Qty. (Acc.)	Def/SS	Result	Remarks
Wire Pull	Bond Strength Data Assembly	Mil. Std. 883-2011	5 units / 1 lot	0/5	Pass	Result (Fail/Pass): 0/5

Test	Test Condition	Standard / Method	Qty. (Acc.)	Def/SS	Result	Remarks
Bond Shear	Bond Strength Data Assembly	CDF-AEC-Q100 -001	5 units / 1 lot	0/5	Pass	Result (Fail/Pass): 0/5

Test	Test Condition	Standard / Method	Qty. (Acc.)	Def/SS	Result	Remarks
Bond Line Thickness	0.60-1.50mils	SPI-45528	5 units each lot / 3 lots	0/15	Pass	Result (Fail/Pass): 0/15

Test	Test Condition	Standard / Method	Qty. (Acc.)	Def/SS	Result	Remarks
Wire Sweep	15%	X-ray	15 wires each lot / 3 lots	0/45	Pass	Result (Fail/Pass): 0/45

Eliminating PFAS from Microchip ICs



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Microchip
August 2025

Eliminating PFAS from MCHP ICs

- **What is PFAS**
- **Microchip's Environmental Stewardship**
- **Microchip Products with PFAS**
- **Time Frame to PFAS-Free Die Attach**
- **What is Die Attach**
- **Will clients be required to switch to PFAS free products**
- **Risk Assessment**

What is PFAS: Poly(Per) FluoroAlkyL Substances (**PFAS**)

Poly(Per) FluoroAlkyL Substances (PFAS)

- There may be 12,000 or more PFAS chemicals that are used in small amounts in many different items
 - PFAS can be in the product itself.
 - PFAS can also be used to manufacture products while not in the product itself

PFAS is the new “buzzword” throughout many industries

- Often nicknamed “forever chemicals” because once released into the environment, it never degrades and will accumulate over time
- As PFAS accumulates in the environment over long periods of time, there can be increasing toxicity and polluting effects
- Therefore, government agencies around the globe are considering legislation toward removal of PFAS although PFAS legislations are not fully defined yet

Microchip's Environmental Stewardship

Although very few laws have been enacted regarding PFAS to date, there is a rapidly growing movement among governments around the world to eliminate PFAS

- Initial legislation has targeted on clothing and food products
- Additional legislation and their timings continue to evolving

Companies such as Microchip, which are committed to addressing contaminants in water, air, food, and living organisms, are proactively working to remove PFAS even in the absence of specific legal requirements.

Microchip's suppliers are also taking proactive steps to eliminate PFAS chemicals from the materials they provide to Microchip.

Microchip believes it is prudent to take immediate action toward offering PFAS-free products to all clients, regardless of application, industry, country, or current regulatory requirements.

Achieving “PFAS-Free” status may serve as a competitive advantage for both Microchip and its clients.

Microchip products with PFAS

The primary material in Microchip products containing PFAS is known as die attach. PFAS-free die attach is not new to either Microchip or the industry; in fact, Microchip has shipped hundreds of millions of units utilizing PFAS-free die attach.

Both PFAS and PFAS-free die attach materials are currently in use because PFAS was not previously identified as a substance of concern.

The change announced in this Product Change Notification (PCN) for Microchip-owned factories involves transitioning to the same PFAS-free die attach that has already been qualified and used in other products.

Time Frame to PFAS-Free Die Attach

Qualification of products assembled at Microchip-owned factories has been completed.

While inventory containing PFAS die attach will continue to be shipped, the implementation of PFAS-free die attach in the assembly process is scheduled to begin as early as September 3, 2025.

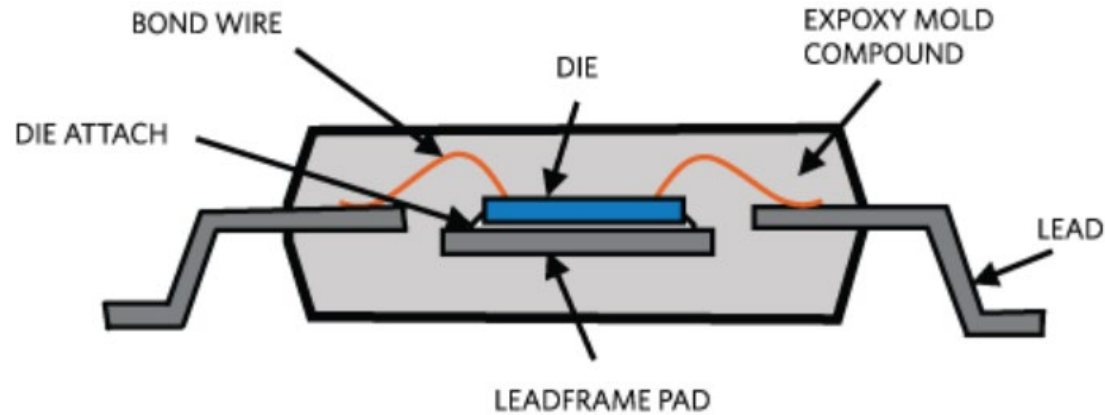
Microchip will consume all existing inventory and die attach, so the exact implementation date will depend on when current inventories are depleted.

- For PPAP clients IMDS/CAMDS material content declarations will be updated.

Schedules for assembly locations not owned by Microchip (subcontractors or "subcons") are currently under review. We anticipate a similar mix of products already utilizing both PFAS and PFAS-free die attach at these locations.

Product Change Notifications (PCNs) announcing die attach changes at subcontractor sites will be issued once schedules are finalized. We expect these timelines to be similar to those for our internal factories.

What is die attach



A thin layer of epoxy between the silicon die and copper pad portion of the lead frame.

- Holds the die in place during the wire bond and mold encapsulation processes
- The bottom of the die has no transistors or active circuits.
- The interface is identical regardless of device type, fab location, technology node, wire material etc.
- **Therefore, allows extremely broad range of products to be grouped into a single qualification.**

Will Clients be required to switch to PFAS-Free Products

The timeline for legislation to eliminate PFAS chemicals remains uncertain; however, regulatory action is anticipated.

Suppliers of PFAS chemicals and raw materials containing PFAS are already announcing end-of-life plans in advance of any formal legislation.

It is expected that suppliers will discontinue offering die attach materials containing PFAS within the next two years, regardless of when government regulations take effect.

While Microchip is committed to providing as much transition time as possible for our clients, we strongly encourage you to begin planning now to avoid potential supply interruptions.

Risk Assessment:



Microchip does not anticipate that this change will impact our clients for the following reasons:

- Microchip has been using PFAS-free die attach material for several years.
- We have shipped hundreds of millions of units utilizing this material without incident.
- Die Attach is not application relevant.

Given these factors, Microchip believes there is minimal cause for concern regarding this change, and additional client qualifications would be redundant and time-consuming. However, if you have any questions that are not addressed in the PCN or this presentation, please do not hesitate to contact us.

