2505211638 EFR32xG22 and EFM32PG22 PFAS-Free Epoxy Change in UTL

PCN Issue Date: May 21, 2025 **Effective Date:** Aug 27, 2025

PCN Type: Assembly

Description of Change

Silicon Labs is pleased to announce the successful qualification of die attach epoxy material MacDermid Alpha 558-2C31. For EFR32xG22 and EFM32PG22 products (32-QFN-4x4 and 40-QFN-5x5), the die attach epoxy will change from Henkel Ablestik 8600 (contains PFAS) to MacDermid Alpha 558-2C31 (PFAS-Free).

As of the effective date of this PCN, Silicon Labs will phase in the new die attach epoxy material.

Reason for Change

PFAS-Free initiative

Impact on Form, Fit, Function, Quality, Reliability

There is no change on form, fit, function, quality or reliability.

Product Identification

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Existing Part #
EFR32BG22C112F352GM32-C
EFR32BG22C112F352GM32-CR
EFR32BG22C112PZ028GM32-C
EFR32BG22C112PZ028GM32-CR
EFR32BG22C112PZ049GM32-C
EFR32BG22C112PZ049GM32-CR
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EFM32PG22C200F64IM32-C
EFM32PG22C200F64IM32-CR
EFM32PG22C200F64IM40-C
EFM32PG22C200F64IM40-CR
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Last Date of Unchanged Product:

Aug 27, 2025

Qualification Samples

Qualification samples available upon request.

Customer Response

Lack of acknowledgment of the PCN within 30 days constitutes acceptance of the change, Ref. JEDEC-J-STD-046.

To request further data or inquire about this notification, please contact your Silicon Labs sales representative. A list of Silicon Labs sales representatives is available at https://www.silabs.com.

Customers may approve early PCN acceptance by emailing approval, along with PCN # to PCN@silabs.com

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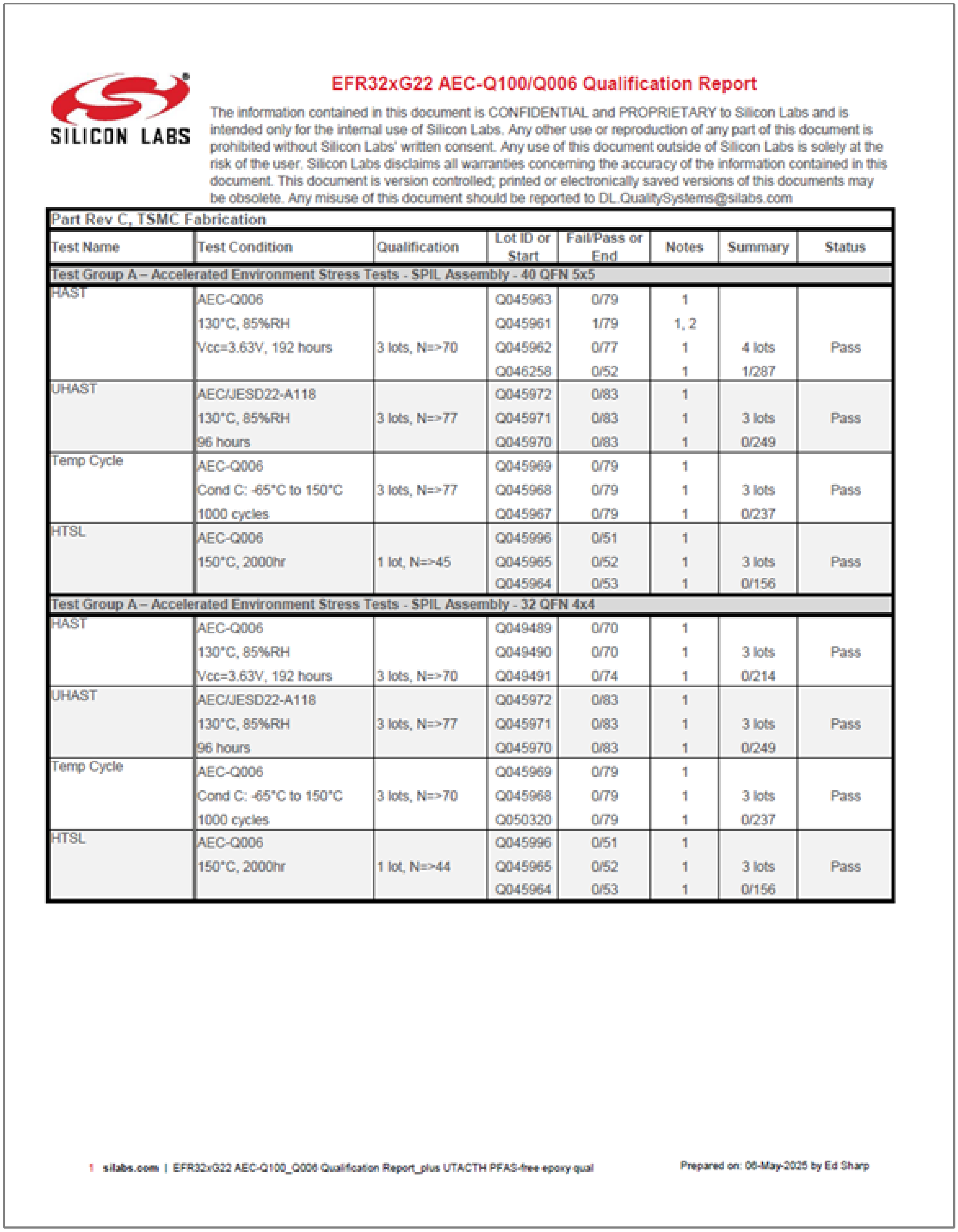
Qualification Data

See attached



EFR32xG22 AEC-Q100/Q006 Qualification Report

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Part Rev C, TSMC Fabrication

Test Name	Test Condition	Qualification	Lot ID or Start	Fail/Pass or End	Notes	Summary	Status
Test Group A – Accelerated Environment Stress Tests - SPIL Assembly - 40 QFN 5x5							
HAST	AEC-Q006		Q045963	0/79	1		
	130°C, 85%RH		Q045961	1/79	1, 2		
	Vcc=3.63V, 192 hours	3 lots, N=>70	Q045962	0/77	1	4 lots	Pass
			Q046258	0/52	1	1/287	
UHAST	AEC/JESD22-A118		Q045972	0/83	1		
	130°C, 85%RH	3 lots, N=>77	Q045971	0/83	1	3 lots	Pass
	96 hours		Q045970	0/83	1	0/249	
Temp Cycle	AEC-Q006		Q045969	0/79	1		
	Cond C: -65°C to 150°C	3 lots, N=>77	Q045968	0/79	1	3 lots	Pass
	1000 cycles		Q045967	0/79	1	0/237	
HTSL	AEC-Q006		Q045996	0/51	1		
	150°C, 2000hr	1 lot, N=>45	Q045965	0/52	1	3 lots	Pass
			Q045964	0/53	1	0/156	
Test Group A – Accelerated Environment Stress Tests - SPIL Assembly - 32 QFN 4x4							
HAST	AEC-Q006		Q049489	0/70	1		
	130°C, 85%RH		Q049490	0/70	1	3 lots	Pass
	Vcc=3.63V, 192 hours	3 lots, N=>70	Q049491	0/74	1	0/214	
UHAST	AEC/JESD22-A118		Q045972	0/83	1		
	130°C, 85%RH	3 lots, N=>77	Q045971	0/83	1	3 lots	Pass
	96 hours		Q045970	0/83	1	0/249	
Temp Cycle	AEC-Q006		Q045969	0/79	1		
	Cond C: -65°C to 150°C	3 lots, N=>70	Q045968	0/79	1	3 lots	Pass
	1000 cycles		Q050320	0/79	1	0/237	
HTSL	AEC-Q006		Q045996	0/51	1		
	150°C, 2000hr	1 lot, N=>44	Q045965	0/52	1	3 lots	Pass
			Q045964	0/53	1	0/156	

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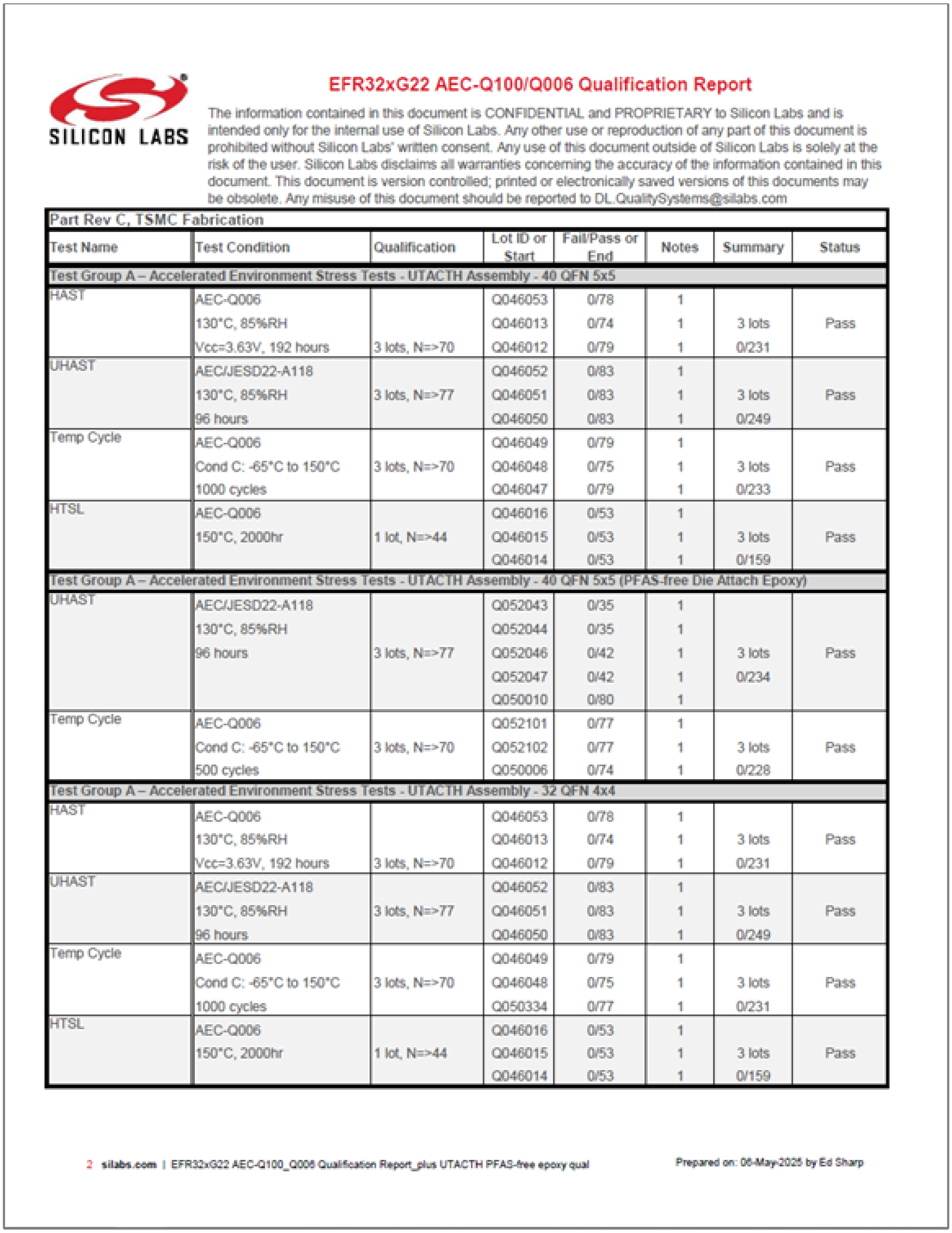

EFR32xG22 AEC-Q100/Q006 Qualification Report

Part Rev C, TSMC Fabrication

Test Name	Test Condition	Qualification	Lot ID or Start	Fail/Pass or End	Notes	Summary	Status
Test Group A – Accelerated Environment Stress Tests - UTACTH Assembly - 40 QFN 5x5							
HAST	AEC-Q006		Q046053	0/78	1		
	130°C, 85%RH		Q046013	0/74	1	3 lots	Pass
	Vcc=3.63V, 192 hours	3 lots, N=>70	Q046012	0/79	1	0/231	
UHAST	AEC/JESD22-A118		Q046052	0/83	1		
	130°C, 85%RH	3 lots, N=>77	Q046051	0/83	1	3 lots	Pass
	96 hours		Q046050	0/83	1	0/249	
Temp Cycle	AEC-Q006		Q046049	0/79	1		
	Cond C: -65°C to 150°C	3 lots, N=>70	Q046048	0/75	1	3 lots	Pass
	1000 cycles		Q046047	0/79	1	0/233	
HTSL	AEC-Q006		Q046016	0/53	1		
	150°C, 2000hr	1 lot, N=>44	Q046015	0/53	1	3 lots	Pass
			Q046014	0/53	1	0/159	
Test Group A – Accelerated Environment Stress Tests - UTACTH Assembly - 40 QFN 5x5 (PFAS-free Die Attach Epoxy)							
UHAST	AEC/JESD22-A118		Q052043	0/35	1		
	130°C, 85%RH		Q052044	0/35	1		
	96 hours	3 lots, N=>77	Q052046	0/42	1	3 lots	Pass
			Q052047	0/42	1	0/234	
			Q050010	0/80	1		
Temp Cycle	AEC-Q006		Q052101	0/77	1		
	Cond C: -65°C to 150°C	3 lots, N=>70	Q052102	0/77	1	3 lots	Pass
	500 cycles		Q050006	0/74	1	0/228	
Test Group A – Accelerated Environment Stress Tests - UTACTH Assembly - 32 QFN 4x4							
HAST	AEC-Q006		Q046053	0/78	1		
	130°C, 85%RH		Q046013	0/74	1	3 lots	Pass
	Vcc=3.63V, 192 hours	3 lots, N=>70	Q046012	0/79	1	0/231	
UHAST	AEC/JESD22-A118		Q046052	0/83	1		
	130°C, 85%RH	3 lots, N=>77	Q046051	0/83	1	3 lots	Pass
	96 hours		Q046050	0/83	1	0/249	
Temp Cycle	AEC-Q006		Q046049	0/79	1		
	Cond C: -65°C to 150°C	3 lots, N=>70	Q046048	0/75	1	3 lots	Pass
	1000 cycles		Q050334	0/77	1	0/231	
HTSL	AEC-Q006		Q046016	0/53	1		
	150°C, 2000hr	1 lot, N=>44	Q046015	0/53	1	3 lots	Pass
			Q046014	0/53	1	0/159	

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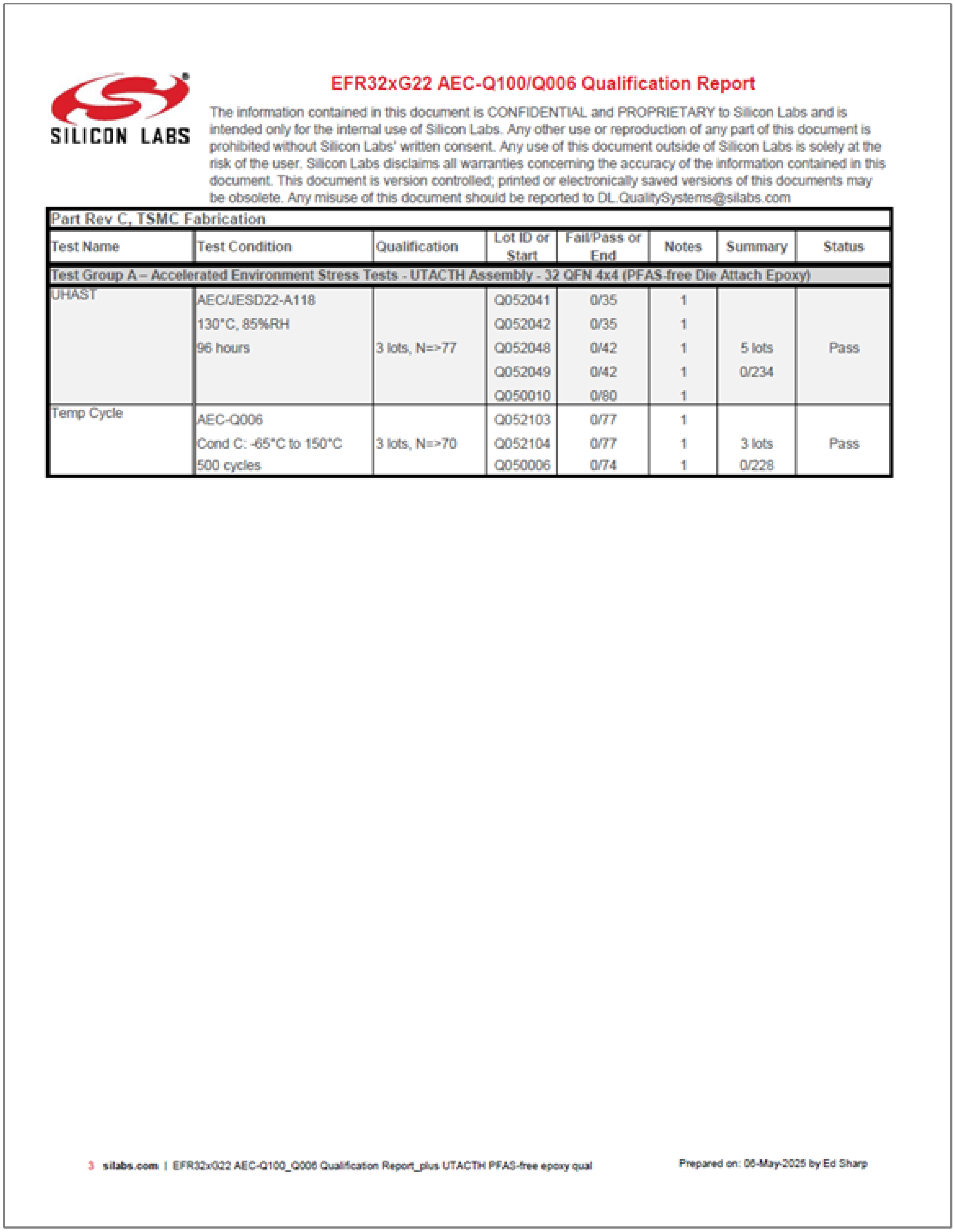

EFR32xG22 AEC-Q100/Q006 Qualification Report

Part Rev C, TSMC Fabrication

Test Name	Test Condition	Qualification	Lot ID or Start	Fail/Pass or End	Notes	Summary	Status
Test Group A – Accelerated Environment Stress Tests - UTACTH Assembly - 32 QFN 4x4 (PFAS-free Die Attach Epoxy)							
UHAST	AEC/JESD22-A118		Q052041	0/35	1		
	130°C, 85%RH		Q052042	0/35	1		
	96 hours	3 lots, N=>77	Q052048	0/42	1	5 lots	Pass
			Q052049	0/42	1	0/234	
			Q050010	0/80	1		
Temp Cycle	AEC-Q006		Q052103	0/77	1		
	Cond C: -65°C to 150°C	3 lots, N=>70	Q052104	0/77	1	3 lots	Pass
	500 cycles		Q050006	0/74	1	0/228	

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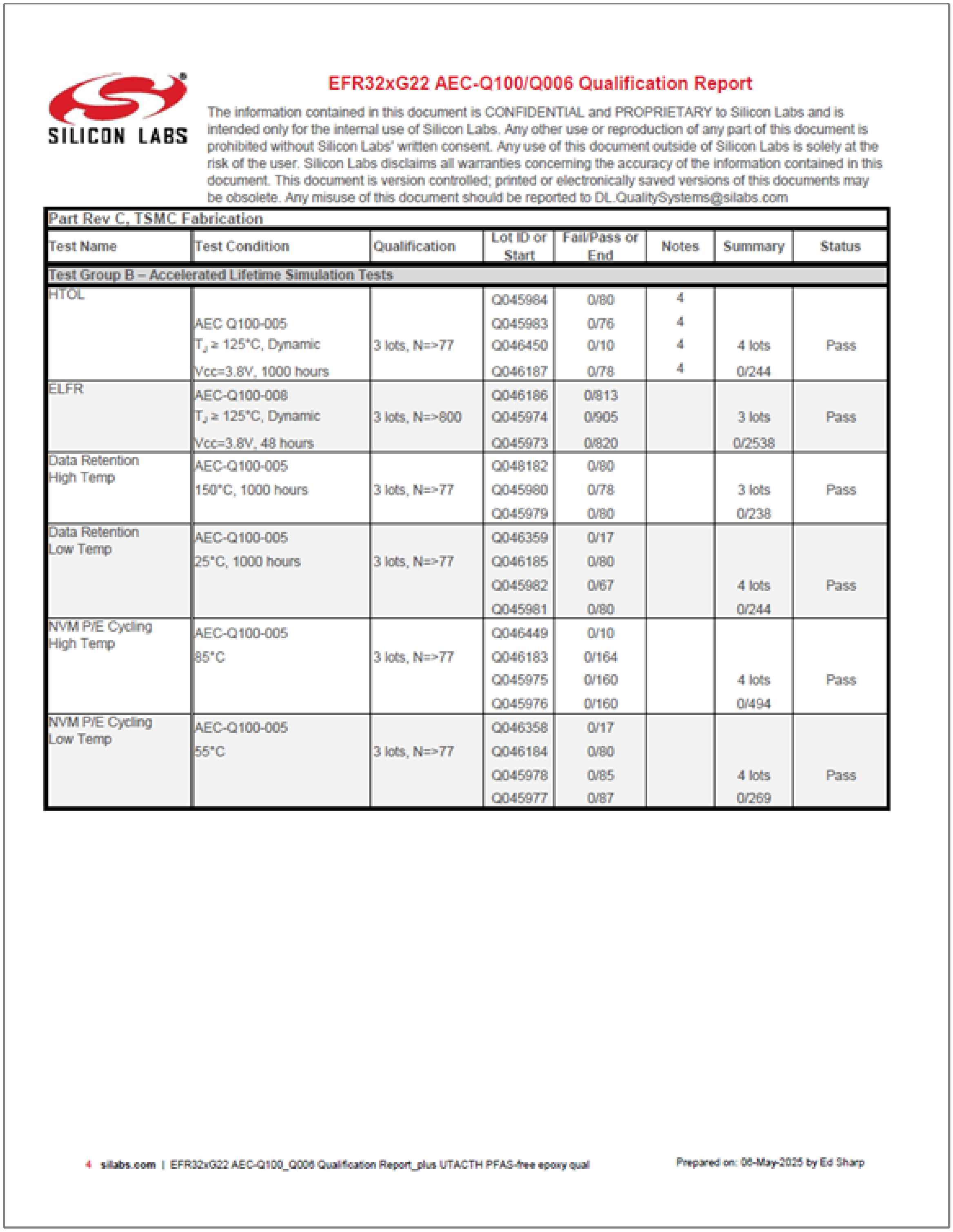

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Part Rev C, TSMC Fabrication

Test Name	Test Condition	Qualification	Lot ID or Start	Fail/Pass or End	Notes	Summary	Status
Test Group B – Accelerated Lifetime Simulation Tests							
HTOL			Q045984	0/80	4		
	AEC Q100-005		Q045983	0/76	4		
	T_J ≥ 125°C, Dynamic	3 lots, N=>77	Q046450	0/10	4	4 lots	Pass
	Vcc=3.8V, 1000 hours		Q046187	0/78	4	0/244	
ELFR	AEC-Q100-008		Q046186	0/813			
	T_J ≥ 125°C, Dynamic	3 lots, N=>800	Q045974	0/905		3 lots	Pass
	Vcc=3.8V, 48 hours		Q045973	0/820		0/2538	
Data Retention High Temp	AEC-Q100-005		Q048182	0/80			
	150°C, 1000 hours	3 lots, N=>77	Q045980	0/78		3 lots	Pass
			Q045979	0/80		0/238	
Data Retention Low Temp	AEC-Q100-005		Q046359	0/17			
	25°C, 1000 hours	3 lots, N=>77	Q046185	0/80			
			Q045982	0/67		4 lots	Pass
			Q045981	0/80		0/244	
NVM P/E Cycling High Temp	AEC-Q100-005		Q046449	0/10			
	85°C	3 lots, N=>77	Q046183	0/164			
			Q045975	0/160		4 lots	Pass
			Q045976	0/160		0/494	
NVM P/E Cycling Low Temp	AEC-Q100-005		Q046358	0/17			
	55°C	3 lots, N=>77	Q046184	0/80			
			Q045978	0/85		4 lots	Pass
			Q045977	0/87		0/269	

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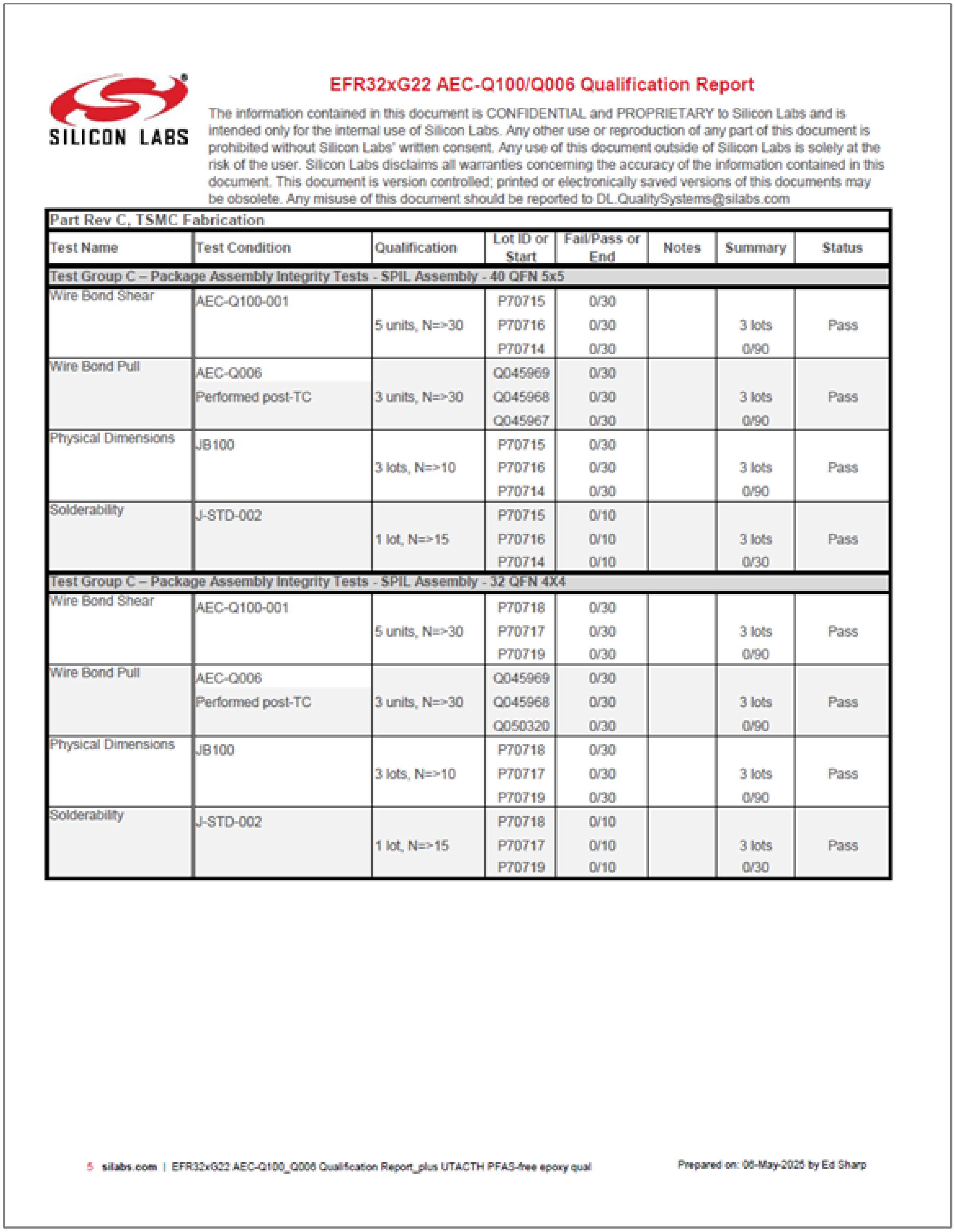

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Part Rev C, TSMC Fabrication							
Test Name	**Test Condition**	**Qualification**	**Lot ID or Start**	**Fail/Pass or End**	**Notes**	**Summary**	**Status**
Test Group C – Package Assembly Integrity Tests - SPIL Assembly - 40 QFN 5x5							
Wire Bond Shear	AEC-Q100-001		P70715	0/30			
		5 units, N=>30	P70716	0/30		3 lots	Pass
			P70714	0/30		0/90	
Wire Bond Pull	AEC-Q006		Q045969	0/30			
	Performed post-TC	3 units, N=>30	Q045968	0/30		3 lots	Pass
			Q045967	0/30		0/90	
Physical Dimensions	JB100		P70715	0/30			
		3 lots, N=>10	P70716	0/30		3 lots	Pass
			P70714	0/30		0/90	
Solderability	J-STD-002		P70715	0/10			
		1 lot, N=>15	P70716	0/10		3 lots	Pass
			P70714	0/10		0/30	
Test Group C – Package Assembly Integrity Tests - SPIL Assembly - 32 QFN 4X4							
Wire Bond Shear	AEC-Q100-001		P70718	0/30			
		5 units, N=>30	P70717	0/30		3 lots	Pass
			P70719	0/30		0/90	
Wire Bond Pull	AEC-Q006		Q045969	0/30			
	Performed post-TC	3 units, N=>30	Q045968	0/30		3 lots	Pass
			Q050320	0/30		0/90	
Physical Dimensions	JB100		P70718	0/30			
		3 lots, N=>10	P70717	0/30		3 lots	Pass
			P70719	0/30		0/90	
Solderability	J-STD-002		P70718	0/10			
		1 lot, N=>15	P70717	0/10		3 lots	Pass
			P70719	0/10		0/30	

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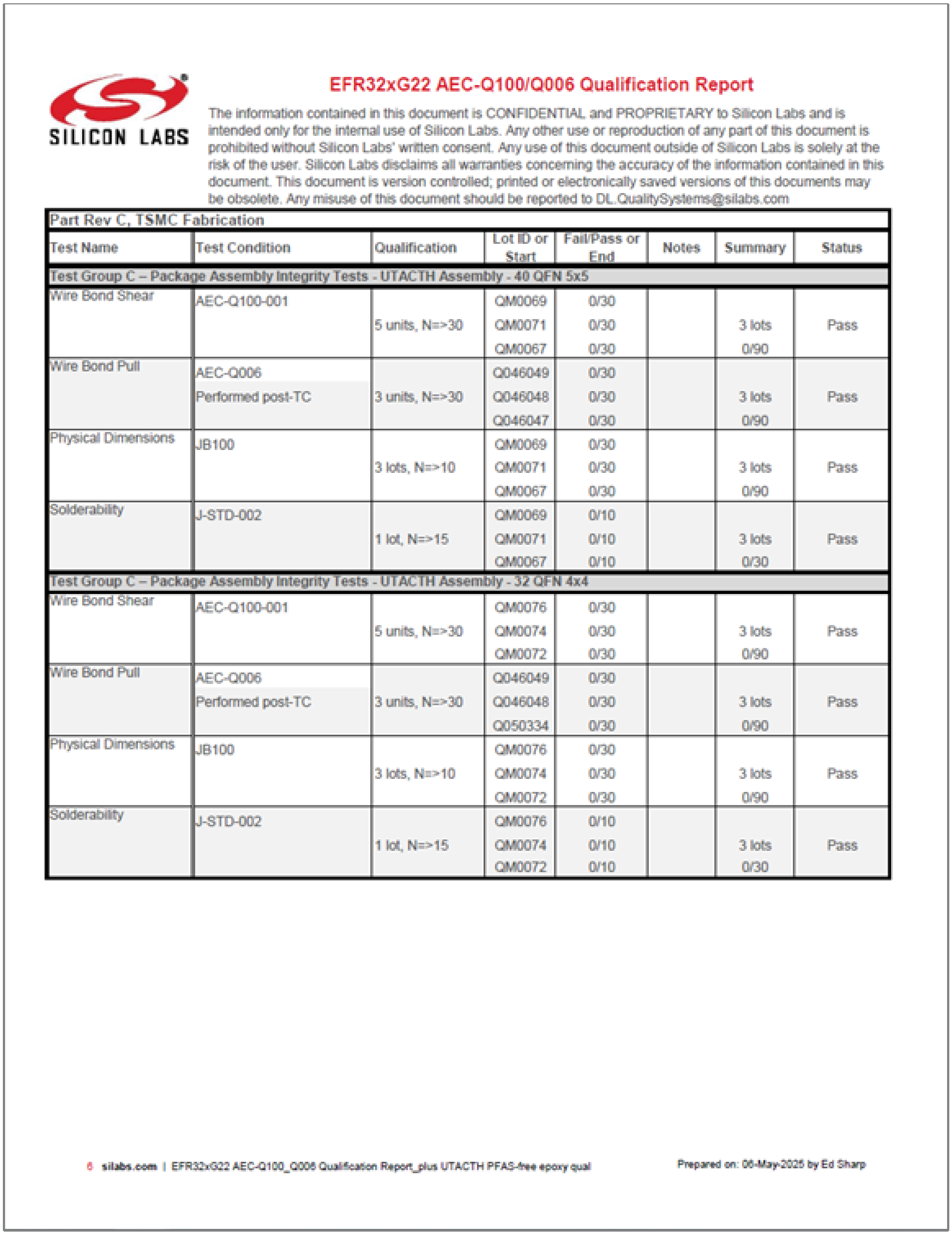

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EFR32xG22 AEC-Q100/Q006 Qualification Report

Part Rev C, TSMC Fabrication							
Test Name	**Test Condition**	**Qualification**	**Lot ID or Start**	**Fail/Pass or End**	**Notes**	**Summary**	**Status**
Test Group C – Package Assembly Integrity Tests - UTACTH Assembly - 40 QFN 5x5							
Wire Bond Shear	AEC-Q100-001	5 units, N=>30	QM0069	0/30			Pass
			QM0071	0/30		3 lots	
			QM0067	0/30		0/90	
Wire Bond Pull	AEC-Q006	3 units, N=>30	Q046049	0/30			Pass
	Performed post-TC		Q046048	0/30		3 lots	
			Q046047	0/30		0/90	
Physical Dimensions	JB100	3 lots, N=>10	QM0069	0/30			Pass
			QM0071	0/30		3 lots	
			QM0067	0/30		0/90	
Solderability	J-STD-002	1 lot, N=>15	QM0069	0/10			Pass
			QM0071	0/10		3 lots	
			QM0067	0/10		0/30	
Test Group C – Package Assembly Integrity Tests - UTACTH Assembly - 32 QFN 4x4							
Wire Bond Shear	AEC-Q100-001	5 units, N=>30	QM0076	0/30			Pass
			QM0074	0/30		3 lots	
			QM0072	0/30		0/90	
Wire Bond Pull	AEC-Q006	3 units, N=>30	Q046049	0/30			Pass
	Performed post-TC		Q046048	0/30		3 lots	
			Q050334	0/30		0/90	
Physical Dimensions	JB100	3 lots, N=>10	QM0076	0/30			Pass
			QM0074	0/30		3 lots	
			QM0072	0/30		0/90	
Solderability	J-STD-002	1 lot, N=>15	QM0076	0/10			Pass
			QM0074	0/10		3 lots	
			QM0072	0/10		0/30	

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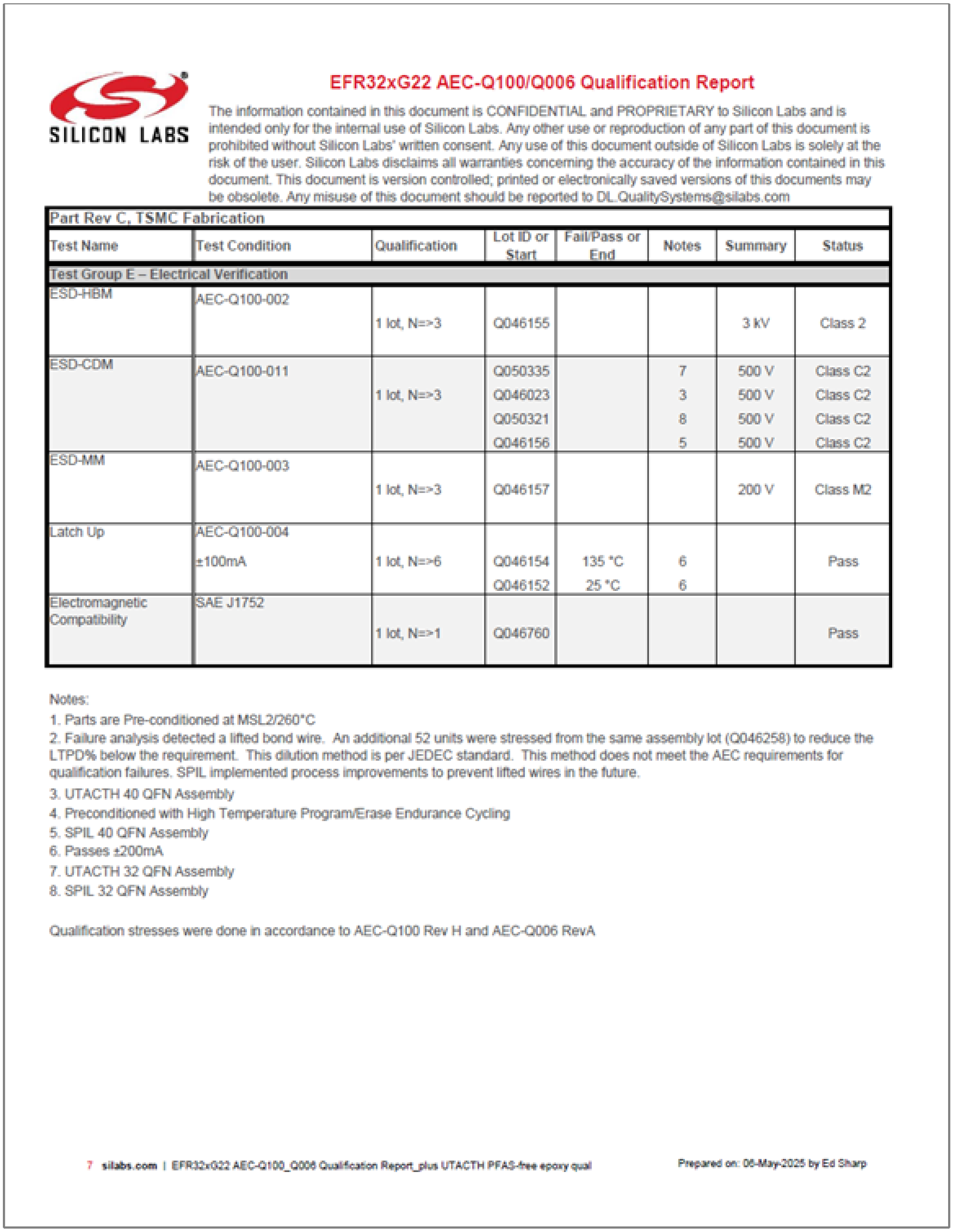

EFR32xG22 AEC-Q100/Q006 Qualification Report

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Part Rev C, TSMC Fabrication

Test Name	Test Condition	Qualification	Lot ID or Start	Fail/Pass or End	Notes	Summary	Status
Test Group E – Electrical Verification							
ESD-HBM	AEC-Q100-002	1 lot, N=>3	Q046155			3 kV	Class 2
ESD-CDM	AEC-Q100-011	1 lot, N=>3	Q050335		7	500 V	Class C2
			Q046023		3	500 V	Class C2
			Q050321		8	500 V	Class C2
			Q046156		5	500 V	Class C2
ESD-MM	AEC-Q100-003	1 lot, N=>3	Q046157			200 V	Class M2
Latch Up	AEC-Q100-004 ±100mA	1 lot, N=>6	Q046154	135 °C	6		Pass
			Q046152	25 °C	6		
Electromagnetic Compatibility	SAE J1752	1 lot, N=>1	Q046760				Pass

Notes:

1. Parts are Pre-conditioned at MSL2/260°C
2. Failure analysis detected a lifted bond wire. An additional 52 units were stressed from the same assembly lot (Q046258) to reduce the LTPD% below the requirement. This dilution method is per JEDEC standard. This method does not meet the AEC requirements for qualification failures. SPIL implemented process improvements to prevent lifted wires in the future.
3. UTACTH 40 QFN Assembly
4. Preconditioned with High Temperature Program/Erase Endurance Cycling
5. SPIL 40 QFN Assembly
6. Passes ±200mA
7. UTACTH 32 QFN Assembly
8. SPIL 32 QFN Assembly

Qualification stresses were done in accordance to AEC-Q100 Rev H and AEC-Q006 RevA

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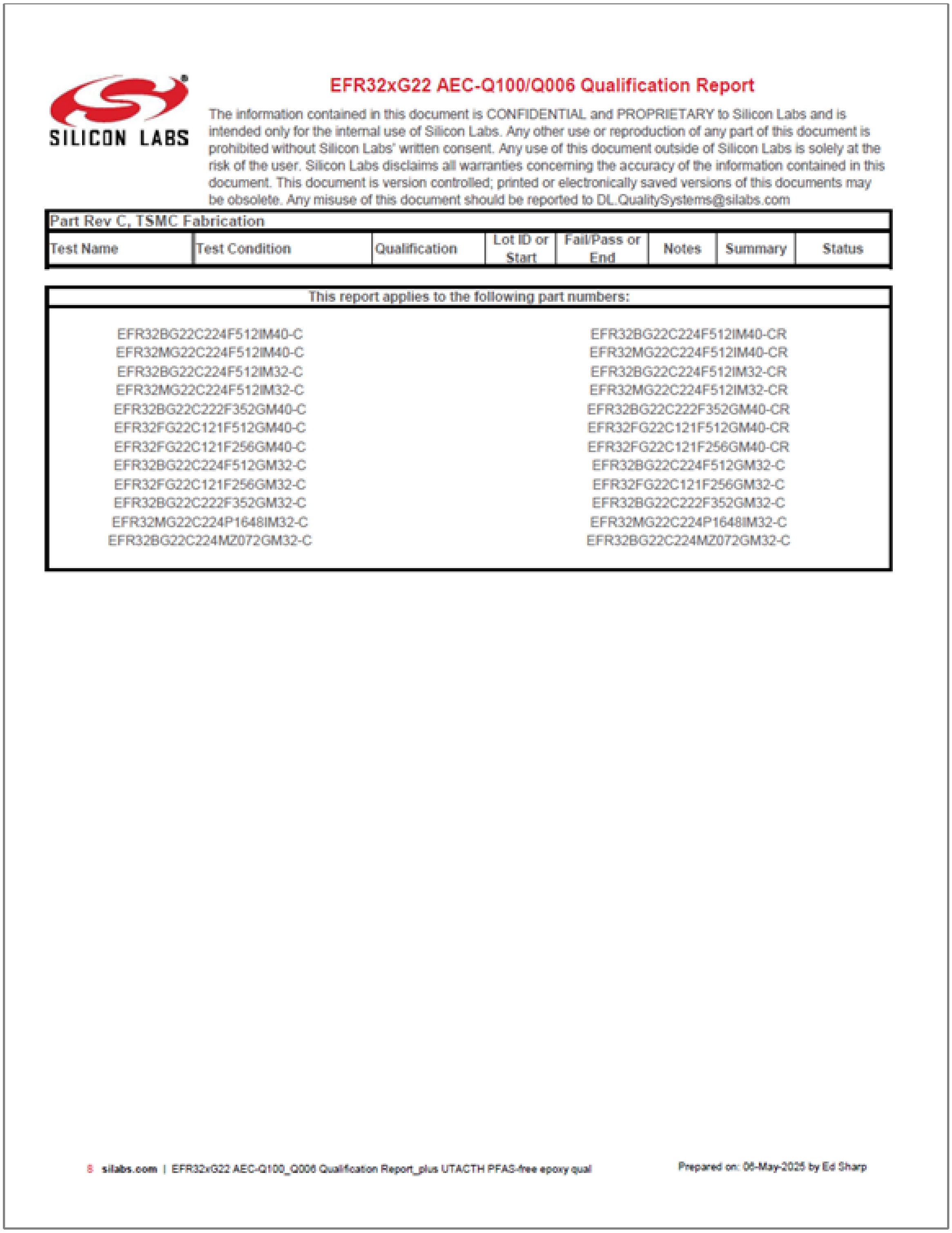

EFR32xG22 AEC-Q100/Q006 Qualification Report

Part Rev C, TSMC Fabrication

Test Name	Test Condition	Qualification	Lot ID or Start	Fail/Pass or End	Notes	Summary	Status

This report applies to the following part numbers:

EFR32BG22C224F512IM40-C
EFR32MG22C224F512IM40-C
EFR32BG22C224F512IM32-C
EFR32MG22C224F512IM32-C
EFR32BG22C222F352GM40-C
EFR32FG22C121F512GM40-C
EFR32FG22C121F256GM40-C
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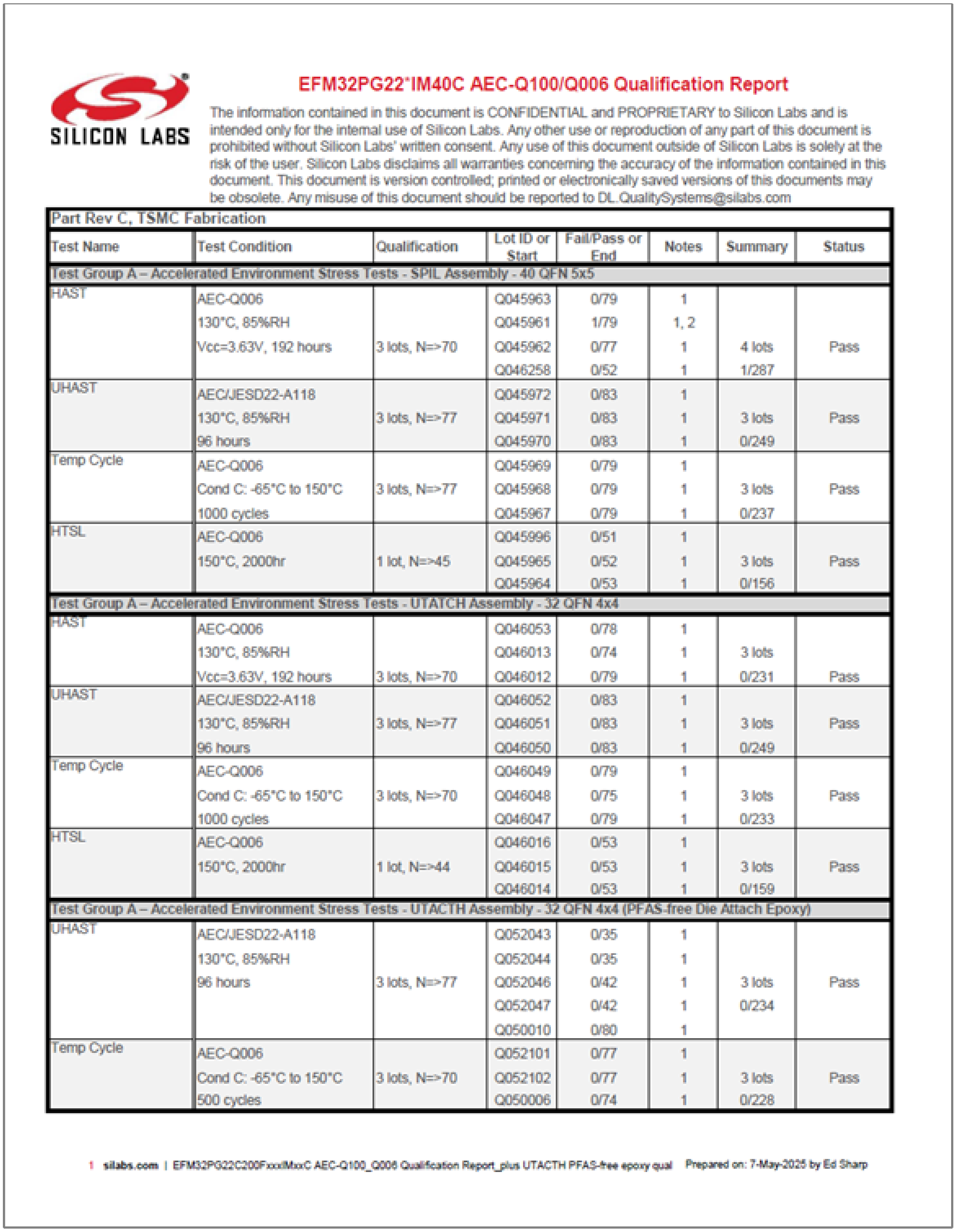

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EFM32PG22*IM40C AEC-Q100/Q006 Qualification Report

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Part Rev C, TSMC Fabrication

Test Name	Test Condition	Qualification	Lot ID or Start	Fail/Pass or End	Notes	Summary	Status
Test Group A – Accelerated Environment Stress Tests - SPIL Assembly - 40 QFN 5x5							
HAST	AEC-Q006		Q045963	0/79	1		
	130°C, 85%RH		Q045961	1/79	1, 2		
	Vcc=3.63V, 192 hours	3 lots, N=>70	Q045962	0/77	1	4 lots	Pass
			Q046258	0/52	1	1/287	
UHAST	AEC/JESD22-A118		Q045972	0/83	1		
	130°C, 85%RH	3 lots, N=>77	Q045971	0/83	1	3 lots	Pass
	96 hours		Q045970	0/83	1	0/249	
Temp Cycle	AEC-Q006		Q045969	0/79	1		
	Cond C: -65°C to 150°C	3 lots, N=>77	Q045968	0/79	1	3 lots	Pass
	1000 cycles		Q045967	0/79	1	0/237	
HTSL	AEC-Q006		Q045996	0/51	1		
	150°C, 2000hr	1 lot, N=>45	Q045965	0/52	1	3 lots	Pass
			Q045964	0/53	1	0/156	
Test Group A – Accelerated Environment Stress Tests - UTATCH Assembly - 32 QFN 4x4							
HAST	AEC-Q006		Q046053	0/78	1		
	130°C, 85%RH		Q046013	0/74	1	3 lots	
	Vcc=3.63V, 192 hours	3 lots, N=>70	Q046012	0/79	1	0/231	Pass
UHAST	AEC/JESD22-A118		Q046052	0/83	1		
	130°C, 85%RH	3 lots, N=>77	Q046051	0/83	1	3 lots	Pass
	96 hours		Q046050	0/83	1	0/249	
Temp Cycle	AEC-Q006		Q046049	0/79	1		
	Cond C: -65°C to 150°C	3 lots, N=>70	Q046048	0/75	1	3 lots	Pass
	1000 cycles		Q046047	0/79	1	0/233	
HTSL	AEC-Q006		Q046016	0/53	1		
	150°C, 2000hr	1 lot, N=>44	Q046015	0/53	1	3 lots	Pass
			Q046014	0/53	1	0/159	
Test Group A – Accelerated Environment Stress Tests - UTACTH Assembly - 32 QFN 4x4 (PFAS-free Die Attach Epoxy)							
UHAST	AEC/JESD22-A118		Q052043	0/35	1		
	130°C, 85%RH		Q052044	0/35	1		
	96 hours	3 lots, N=>77	Q052046	0/42	1	3 lots	Pass
			Q052047	0/42	1	0/234	
			Q050010	0/80	1		
Temp Cycle	AEC-Q006		Q052101	0/77	1		
	Cond C: -65°C to 150°C	3 lots, N=>70	Q052102	0/77	1	3 lots	Pass
	500 cycles		Q050006	0/74	1	0/228	

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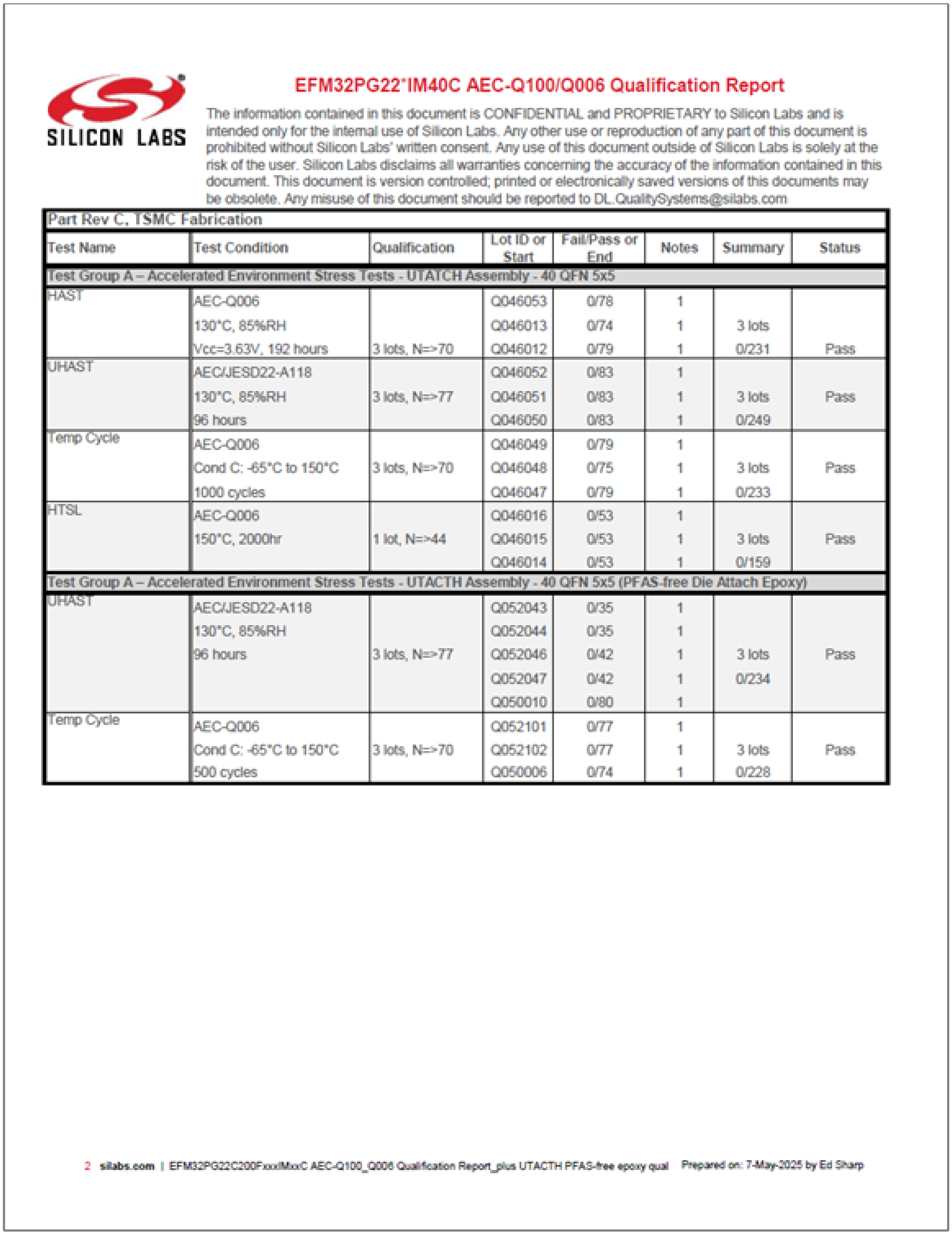

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Part Rev C, TSMC Fabrication

Test Name	Test Condition	Qualification	Lot ID or Start	Fail/Pass or End	Notes	Summary	Status
Test Group A – Accelerated Environment Stress Tests - UTATCH Assembly - 40 QFN 5x5							
HAST	AEC-Q006		Q046053	0/78	1		
	130°C, 85%RH		Q046013	0/74	1	3 lots	
	Vcc=3.63V, 192 hours	3 lots, N=>70	Q046012	0/79	1	0/231	Pass
UHAST	AEC/JESD22-A118		Q046052	0/83	1		
	130°C, 85%RH	3 lots, N=>77	Q046051	0/83	1	3 lots	Pass
	96 hours		Q046050	0/83	1	0/249	
Temp Cycle	AEC-Q006		Q046049	0/79	1		
	Cond C: -65°C to 150°C	3 lots, N=>70	Q046048	0/75	1	3 lots	Pass
	1000 cycles		Q046047	0/79	1	0/233	
HTSL	AEC-Q006		Q046016	0/53	1		
	150°C, 2000hr	1 lot, N=>44	Q046015	0/53	1	3 lots	Pass
			Q046014	0/53	1	0/159	
Test Group A – Accelerated Environment Stress Tests - UTACTH Assembly - 40 QFN 5x5 (PFAS-free Die Attach Epoxy)							
UHAST	AEC/JESD22-A118		Q052043	0/35	1		
	130°C, 85%RH		Q052044	0/35	1		
	96 hours	3 lots, N=>77	Q052046	0/42	1	3 lots	Pass
			Q052047	0/42	1	0/234	
			Q050010	0/80	1		
Temp Cycle	AEC-Q006		Q052101	0/77	1		
	Cond C: -65°C to 150°C	3 lots, N=>70	Q052102	0/77	1	3 lots	Pass
	500 cycles		Q050006	0/74	1	0/228	

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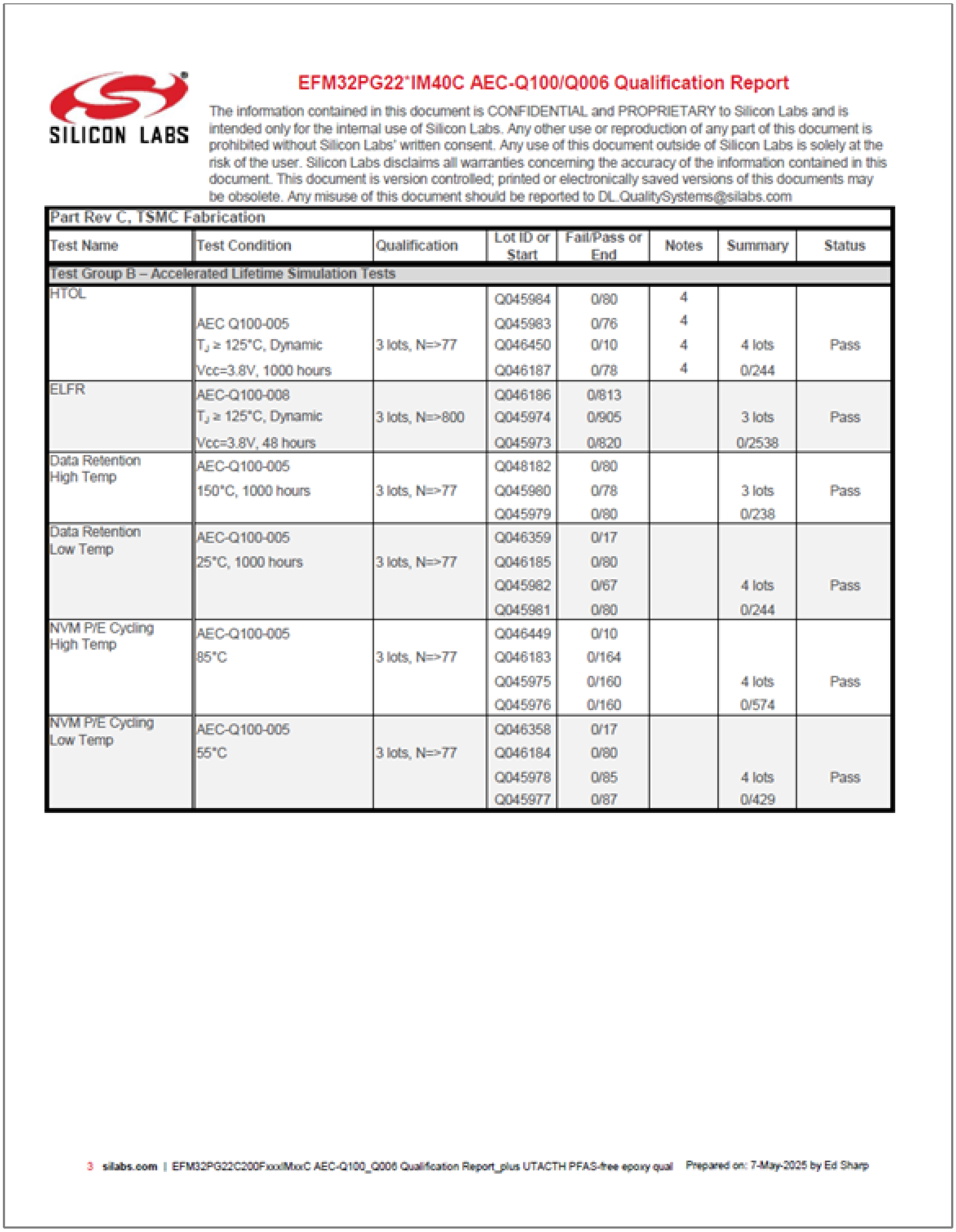

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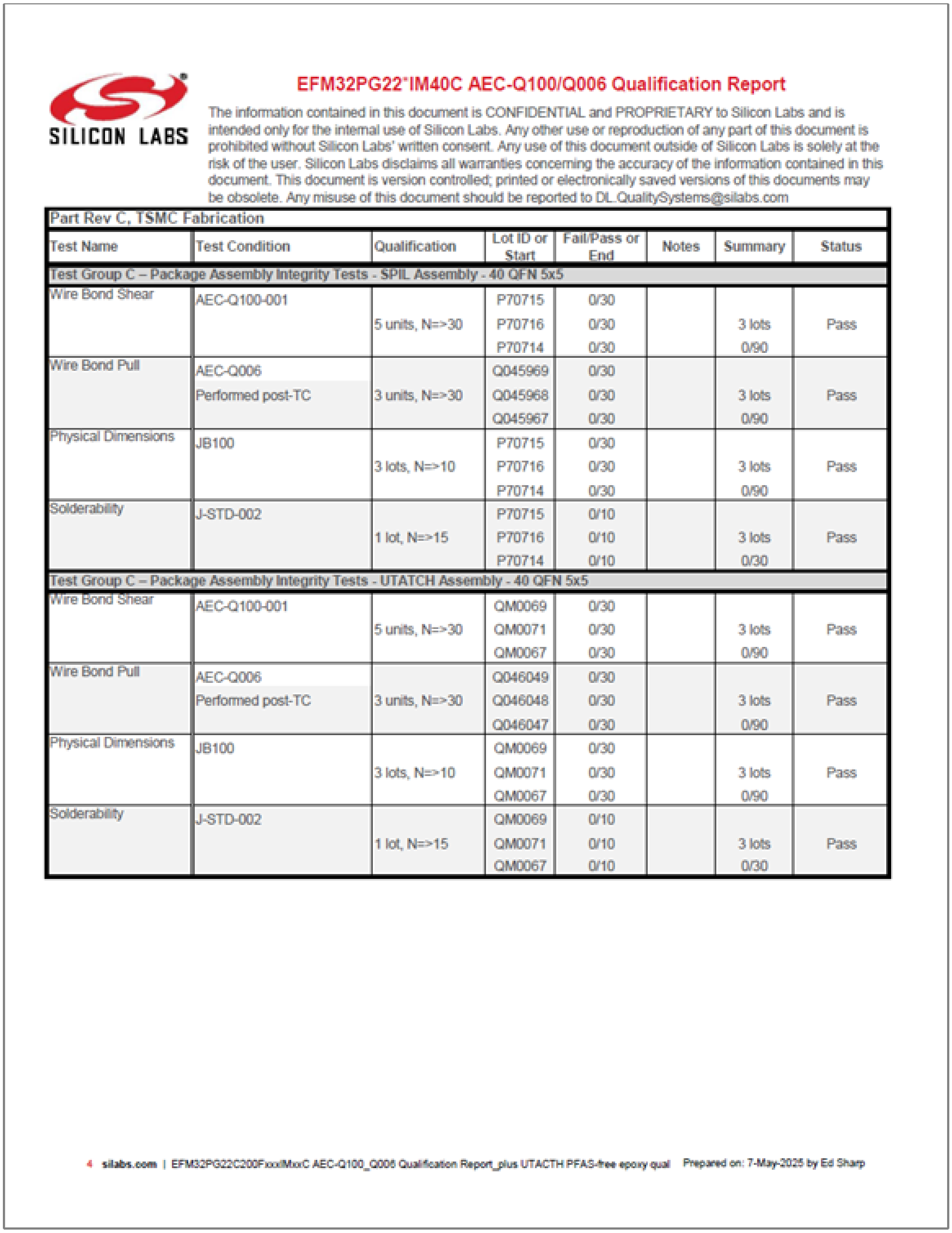
Part Rev C, TSMC Fabrication

Test Name	Test Condition	Qualification	Lot ID or Start	Fail/Pass or End	Notes	Summary	Status
Test Group B – Accelerated Lifetime Simulation Tests							
HTOL	AEC Q100-005 $T_J \geq 125$°C, Dynamic Vcc=3.8V, 1000 hours	3 lots, N=>77	Q045984 Q045983 Q046450 Q046187	0/80 0/76 0/10 0/78	4 4 4 4	4 lots 0/244	Pass
ELFR	AEC-Q100-008 $T_J \geq 125$°C, Dynamic Vcc=3.8V, 48 hours	3 lots, N=>800	Q046186 Q045974 Q045973	0/813 0/905 0/820		3 lots 0/2538	Pass
Data Retention High Temp	AEC-Q100-005 150°C, 1000 hours	3 lots, N=>77	Q048182 Q045980 Q045979	0/80 0/78 0/80		3 lots 0/238	Pass
Data Retention Low Temp	AEC-Q100-005 25°C, 1000 hours	3 lots, N=>77	Q046359 Q046185 Q045982 Q045981	0/17 0/80 0/67 0/80		4 lots 0/244	Pass
NVM P/E Cycling High Temp	AEC-Q100-005 85°C	3 lots, N=>77	Q046449 Q046183 Q045975 Q045976	0/10 0/164 0/160 0/160		4 lots 0/574	Pass
NVM P/E Cycling Low Temp	AEC-Q100-005 55°C	3 lots, N=>77	Q046358 Q046184 Q045978 Q045977	0/17 0/80 0/85 0/87		4 lots 0/429	Pass



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Part Rev C, TSMC Fabrication

Test Name	Test Condition	Qualification	Lot ID or Start	Fail/Pass or End	Notes	Summary	Status
Test Group C – Package Assembly Integrity Tests - SPIL Assembly - 40 QFN 5x5							
Wire Bond Shear	AEC-Q100-001		P70715	0/30			
		5 units, N=>30	P70716	0/30		3 lots	Pass
			P70714	0/30		0/90	
Wire Bond Pull	AEC-Q006		Q045969	0/30			
	Performed post-TC	3 units, N=>30	Q045968	0/30		3 lots	Pass
			Q045967	0/30		0/90	
Physical Dimensions	JB100		P70715	0/30			
		3 lots, N=>10	P70716	0/30		3 lots	Pass
			P70714	0/30		0/90	
Solderability	J-STD-002		P70715	0/10			
		1 lot, N=>15	P70716	0/10		3 lots	Pass
			P70714	0/10		0/30	
Test Group C – Package Assembly Integrity Tests - UTATCH Assembly - 40 QFN 5x5							
Wire Bond Shear	AEC-Q100-001		QM0069	0/30			
		5 units, N=>30	QM0071	0/30		3 lots	Pass
			QM0067	0/30		0/90	
Wire Bond Pull	AEC-Q006		Q046049	0/30			
	Performed post-TC	3 units, N=>30	Q046048	0/30		3 lots	Pass
			Q046047	0/30		0/90	
Physical Dimensions	JB100		QM0069	0/30			
		3 lots, N=>10	QM0071	0/30		3 lots	Pass
			QM0067	0/30		0/90	
Solderability	J-STD-002		QM0069	0/10			
		1 lot, N=>15	QM0071	0/10		3 lots	Pass
			QM0067	0/10		0/30	

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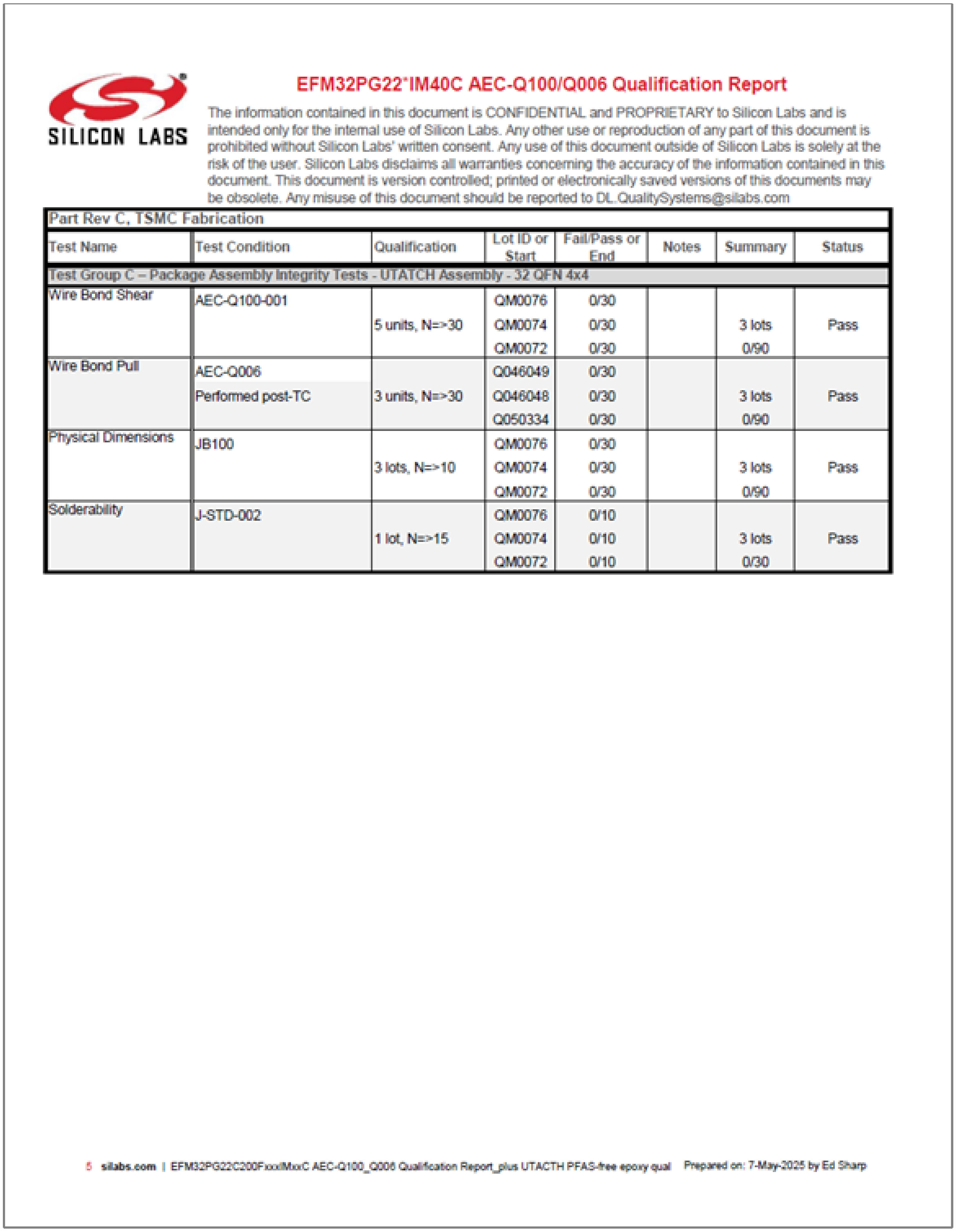

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Part Rev C, TSMC Fabrication

Test Name	Test Condition	Qualification	Lot ID or Start	Fail/Pass or End	Notes	Summary	Status
Test Group C – Package Assembly Integrity Tests - UTATCH Assembly - 32 QFN 4x4							
Wire Bond Shear	AEC-Q100-001	5 units, N=>30	QM0076 QM0074 QM0072	0/30 0/30 0/30		3 lots 0/90	Pass
Wire Bond Pull	AEC-Q006 Performed post-TC	3 units, N=>30	Q046049 Q046048 Q050334	0/30 0/30 0/30		3 lots 0/90	Pass
Physical Dimensions	JB100	3 lots, N=>10	QM0076 QM0074 QM0072	0/30 0/30 0/30		3 lots 0/90	Pass
Solderability	J-STD-002	1 lot, N=>15	QM0076 QM0074 QM0072	0/10 0/10 0/10		3 lots 0/30	Pass

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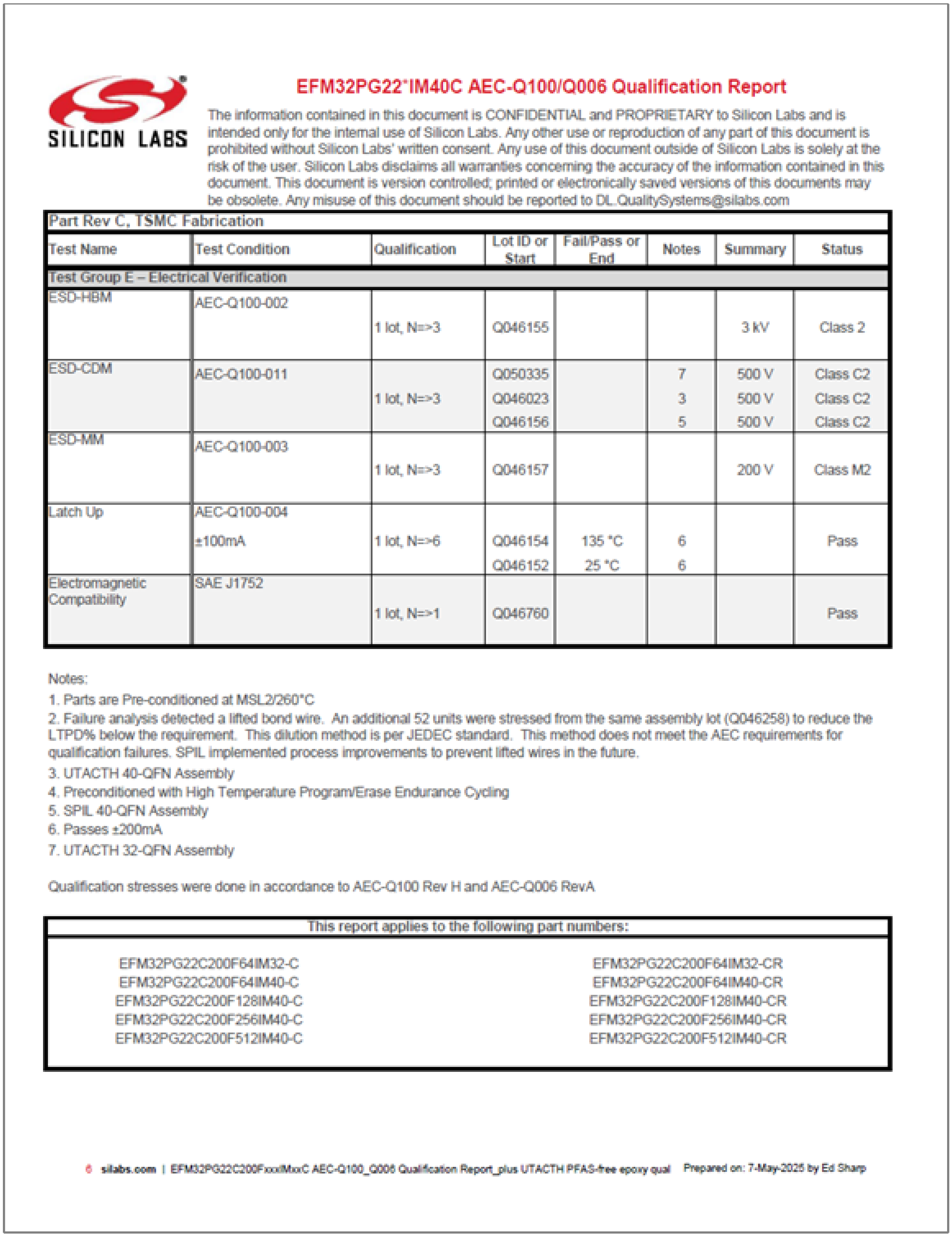

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Part Rev C, TSMC Fabrication

Test Name	Test Condition	Qualification	Lot ID or Start	Fail/Pass or End	Notes	Summary	Status
Test Group E – Electrical Verification							
ESD-HBM	AEC-Q100-002	1 lot, N=>3	Q046155			3 kV	Class 2
ESD-CDM	AEC-Q100-011	1 lot, N=>3	Q050335 Q046023 Q046156		7 3 5	500 V 500 V 500 V	Class C2 Class C2 Class C2
ESD-MM	AEC-Q100-003	1 lot, N=>3	Q046157			200 V	Class M2
Latch Up	AEC-Q100-004 ±100mA	1 lot, N=>6	Q046154 Q046152	135 °C 25 °C	6 6		Pass
Electromagnetic Compatibility	SAE J1752	1 lot, N=>1	Q046760				Pass

Notes:

1. Parts are Pre-conditioned at MSL2/260°C
2. Failure analysis detected a lifted bond wire. An additional 52 units were stressed from the same assembly lot (Q046258) to reduce the LTPD% below the requirement. This dilution method is per JEDEC standard. This method does not meet the AEC requirements for qualification failures. SPIL implemented process improvements to prevent lifted wires in the future.
3. UTACTH 40-QFN Assembly
4. Preconditioned with High Temperature Program/Erase Endurance Cycling
5. SPIL 40-QFN Assembly
6. Passes ±200mA
7. UTACTH 32-QFN Assembly

Qualification stresses were done in accordance to AEC-Q100 Rev H and AEC-Q006 RevA

This report applies to the following part numbers:	
EFM32PG22C200F64IM32-C	EFM32PG22C200F64IM32-CR
EFM32PG22C200F64IM40-C	EFM32PG22C200F64IM40-CR
EFM32PG22C200F128IM40-C	EFM32PG22C200F128IM40-CR
EFM32PG22C200F256IM40-C	EFM32PG22C200F256IM40-CR
EFM32PG22C200F512IM40-C	EFM32PG22C200F512IM40-CR

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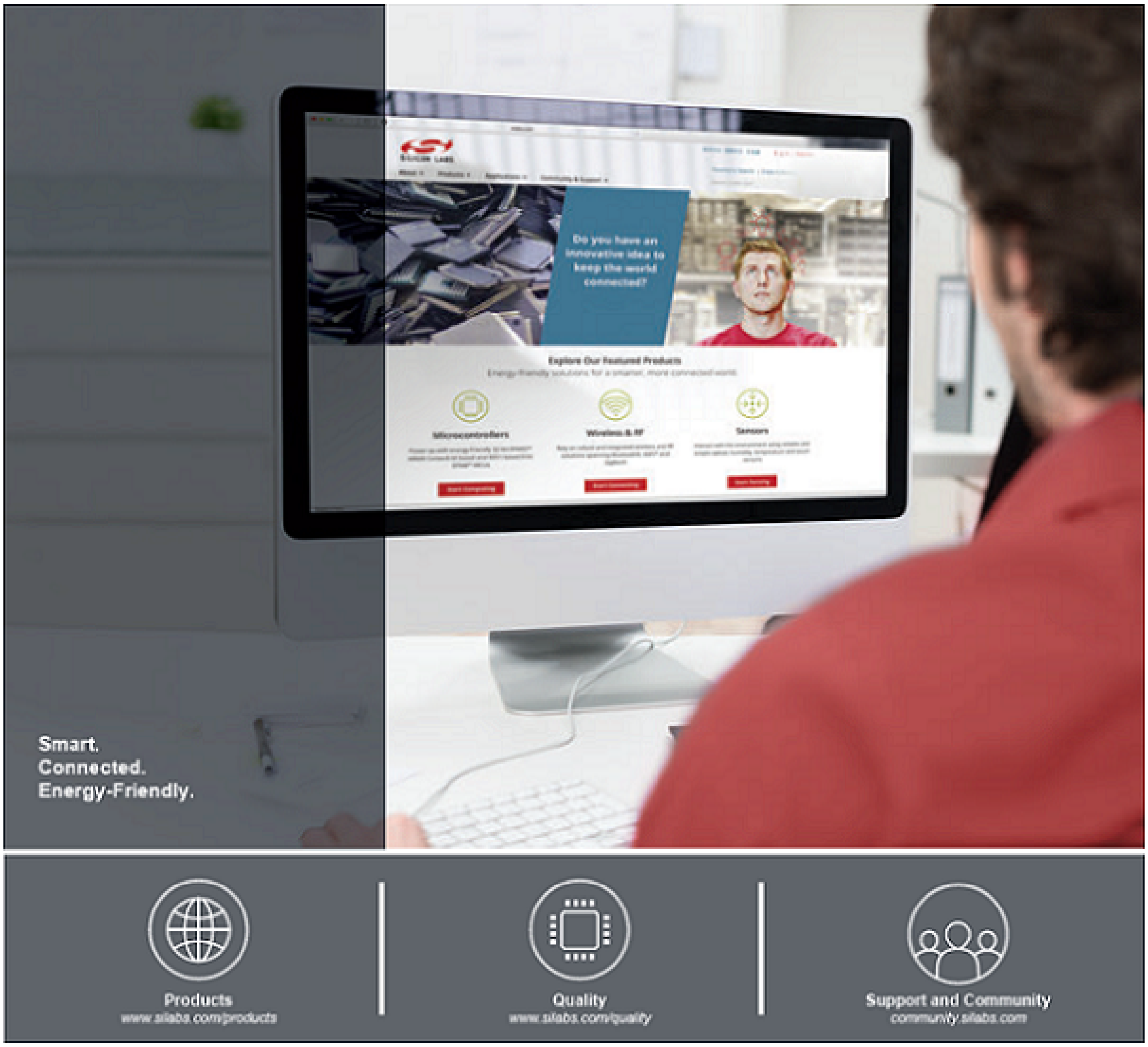

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