



PRODUCT / PROCESS CHANGE NOTIFICATION

PCN-001090

Date: SEP-10-2026

Change Details			
Part Number(s) Affected:		Customer Part Number(s) Affected: ☒ N/A	
GS1674-INE3	GS2994-INTE3		
GS1674-INTE3	GS2994-INTE3Z		
GS2984-INE3	GS3440-INE3		
GS2984-INTE3	GS3440-INTE3		
GS2984-INTE3D	GS3440-INTE3Z		
GS2984-INTE3Z	GV8601-INE3		
GS2994-INE3	GV8601AINE3		
Description, Purpose and Effect of Change:			
<u>ALTERNATIVE FINAL ELECTRICAL TESTING LOCATIONS AND TEST PLATFORM</u>			
In an effort to boost supply chain efficiency and enhance supply security, Semtech has qualified alternative <i>final electrical testing locations</i> , KYEC and GREATEK, and <i>test platform</i> , Advantest 93K, for the abovementioned part numbers.			
	CURRENT (As-Is)	FUTURE (To-Be)	
Testing Location	ASE - Malaysia	ASE - Malaysia	KYEC & GREATEK - Taiwan
Test Platform	LTX Fusion	LTX Fusion	Advantest 93K
- KYEC and GREATEK are already approved final electrical testing locations for many high volume products. - Advantest 93K is a widely used and well-supported test platform in the semiconductor industry.			
Change Classification	☐ Major ☒ Minor	Impact to Form, Fit, Function	☐ Yes ☒ No



PRODUCT / PROCESS CHANGE NOTIFICATION

PCN-001090

Date: SEP-10-2026

Impact to Data Sheet	☐ Yes ☒ No	New Revision or Date	☒ N/A
Impact to Performance, Characteristics or Reliability: - There is no impact to form, fit, function, characteristics, or reliability. The product is not changing. - The existing test coverage was duplicated and qualified on the Advantest 93K at KYEC and GREATEK.			
Implementation Date	OCT-10-2026	Work Week	41
Last Time Ship (LTS) Of unchanged product	N/A	Affecting Lot No. / Serial No. (SN)	N/A
Sample Availability	OCT-10-2026	Qualification Report Availability	Included in this PCN
Supporting Documents for Change Validation/Attachments: - PRODDOC036198: KYEC/GREATEK QUALIFICATION REPORT - GS2984, GS1674, GV8601 - GS2994 - GS3440, GV8601A			

Quality Assurance		
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	Title:	GS2984, GS1674, GV8601 KYEC/GREATEK Qualification Report	Project Name:	GS2984, GS1674, GV8601
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	Author(s):	Arturo Sosa		



GS2984, GS1674, GV8601

KYEC/GREATEK QUALIFICATION REPORT

Project: GS2984, GS1674, GV8601

Revision Date: 8/31/2026

Status: Active

Revision: 1.0

Author(s): Arturo Sosa

Creation Date: 8/31/2026

Location: Semtech Burlington

Document No: PRODDOC036198

	Title:	GS2984, GS1674, GV8601 KYEC/GRETEK Qualification Report	Project Name:	GS2984, GS1674, GV8601
	Document No:	PRODDOC036198	Document Status:	Active
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Author(s):	Arturo Sosa		

Revision History

Status	Date	Rev. #	Reviser/Group	Description
Release	08/31/2026	1.0	Arturo Sosa	Initial Release



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1 Process Changes

1.1 Process Change Summary

Semtech is implementing additional sources for final electrical testing of GS2984 to improve security of supply and increase supply chain efficiency. This change will require qualification of a new test platform. Due to similarity, GS2984 results will be bridged to GS1674 and GV8601. Final electrical testing was previously performed at ASE Malaysia on the LTX test platform. Future testing will have the option of testing on a Verigy 93k (V93k) test platform at KYEC or Greatek. This report details the qualification procedure and correlation analysis performed to qualify the new test facility and test platform.

KYEC will be the primary target test facility and will be used to generate qualification results and PCN samples. Greatek will be added as an additional source by bridging as per the approach used under PCN-000783.

Test coverage for both test platforms (LTX and V93K) is similar but not identical.

	Current(single source)	Future (multiple source)
Test Location	ASEM	ASEM, KYEC, and Greatek
Test Platform	LTX	V93K and LTX

1.2 Affected Products

Final Products:

GS1674-INE3
GS1674-INTE3

GS2984-INE3
GS2984-INTE3
GS2984-INTE3D
GS2984-INTE3Z

GV8601-INE3

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2 Qualification Procedure

2.1 Procedure

Qualification of the V93k test platform at KYEC/GREATEK consisted of 3 main components:

- 1) Correlation testing
- 2) Gauge R&R (GR&R) testing
- 3) Large volume trial lot testing

Correlation testing was completed by testing many devices on the reference tester (LTX) and then testing these same units on the new tester (V93K). The correlation units consisted of both passing units and reject units captured from all major failure bin categories and from multiple foundry lots. The test data was then compared to ensure tester to tester correlation using the metrics detailed in section 3. Gauge R&R testing was performed to verify stability of the new test solution. Finally, a large volume trial lot was tested at KYEC to ensure that the final test program was adequate for mass production testing.

2.2 Qualification Devices

The sample size for correlation of test results on the LTX to the new platform at KYEC is summarized in Table 1.

TABLE 1: LIST OF QUALIFICATION PARTS USED

Function	Test Part	Quantity	Comment
Yield Correlation	GS2984 GS1674 GV8601	1,000 parts (each product) on new tester	Compared to two-year historical data.
Bin Correlation	GS2984	641 units	Results show no concerns.
GR&R	GS2984	12 units (passing)	Another 12 passing units were available as a backup
Trial lot	GS2984	1,000 units each	Fresh material



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	GS1674		
	GV8601		
QA run	GS2984	988 units	Yield comparable to historical
	GS1674	969 units	
	GV8601	995 units	



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3 Analysis

The correlation exercise consisted of several types of analysis to ensure correlation between the Reference Test System (LTX) and the New Test System (V93K). Yield comparison and bin-to-bin correlation were completed over a large volume of correlation parts. Key parametric parameters were compared to ensure the results aligned between both testers. A visual verification of the individual test histograms was also completed to ensure consistent distributions. Based on the correlation results, test limits were adjusted on the new tester to ensure that parts were binned identically on both testers.

3.1 Yield Comparison

Overall yields were compared between the Reference Test System (LTX) and the New Test System (V93K).

Results

The correlation units tested had comparable yield on LTX at ASEM and V93k at KYEC.

3.2 Bin Correlation

The GS2984 final test program consists of multiple pass and fail software bins. The correlation units were tested on both test platforms, and a bin correlation table was created to identify if parts were binned identically on both test systems.

Results

It was found that all parts were binned equivalently on both test solutions.

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3.3 Gauge R&R

GR&R analysis is a statistical method of systematically comparing the repeatability and reproducibility variances between two measurement systems. This is accomplished by using ANOVA (Analysis of Variance) to calculate the percentages of the repeatability and reproducibility variance components to the pass windows as defined by the test program limits. The goal of GR&R is to demonstrate that the new system will match or exceed the current benchmark, production test system performance on all critical parameters. The GRR maximum allowed for the total tolerance is 30%, which is an industry standard. This includes combined reproducibility and repeatability.

For this qualification, the GR&R experiment was conducted with the following control factors:

- 1 Test platforms
- 1 Loadboard per platform
- 2 insertions
- Different test sites per Loadboard
- 10 loops for repeatability
- 12 Known good samples

3.3.1 Results

The comparison of the LTX and V93k GRR showed no discrepancies between test results. See Table 2 for more details.

TABLE 2: GRR RESULTS.

Test category	GR&R Total Tolerance Acceptance Criteria	V93K GR&R	Yield comparison	Bin correlation
Continuity	<30%	Pass	Pass	Pass
IIL/IIH	<30%	Pass	Pass	Pass
Current/Power Test	<30%	Pass	Pass	Pass
Die Temperature Test	<30%	Pass	Pass	Pass
Eye Parametrics	<30%	Pass	Pass	Pass



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3.4 Large Volume Trial Test Run

A final trial lot test run of 1,000 fresh units was completed at KYEC using the final V93k test program. Review of this data showed that yields and failure Pareto were as expected and comparable to LTX production history data.



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4 Conclusion

The V93K test platform provides equivalent test coverage to the ASEM LTX test platform.

The V93K test platform is deemed qualified for production testing of the GS2984, GS1674 and GV8601.



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GS2994

KYEC/GREATEK QUALIFICATION REPORT

Project: GS2994

Revision Date: 8/31/2026

Status: Active

Revision: 1.0

Author(s): Arturo Sosa

Creation Date: 8/31/2026

Location: Semtech Burlington

Document No: PRODDOC036198

Title:	GS2994 KYEC/GREATEK Qualification Report	Project Name:	GS2994
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Revision History

Status	Date	Rev. #	Reviser/Group	Description
Release	08/31/2026	1.0	Arturo Sosa	Initial Release

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1 Process Changes

1.1 Process Change Summary

Semtech is implementing additional sources for final electrical testing of GS2994 to improve security of supply and increase supply chain efficiency. This change will require qualification of a new test platform. Final electrical testing was previously performed at ASE Malaysia on the LTX test platform. Future testing will have the option of testing on a Verigy 93k (V93k) test platform at KYEC or Greatek. This report details the qualification procedure and correlation analysis performed to qualify the new test facility and test platform.

KYEC will be the primary target test facility and will be used to generate qualification results and PCN samples. Greatek will be added as an additional source by bridging as per the approach used under PCN-000783.

Test coverage for both test platforms (LTX and V93K) is similar but not identical.

	Current(single source)	Future (multiple source)
Test Location	ASEM	ASEM, KYEC, and Greatek
Test Platform	LTX	V93K and LTX

1.2 Affected Products

Final Products

GS2994-INE3
GS2994-INTE3
GS2994-INTE3Z

2 Qualification Procedure

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2.1 Procedure

Qualification of the V93k test platform at KYEC/GREATEK consisted of 3 main components:

- 1) Correlation testing
- 2) Gauge R&R (GR&R) testing
- 3) Large volume trial lot testing

Correlation testing was completed by testing many devices on the reference tester (LTX) and then testing these same units on the new tester (V93K). The correlation units consisted of both passing units and reject units captured from all major failure bin categories and from multiple foundry lots. The test data was then compared to ensure tester to tester correlation using the metrics detailed in section 3. Gauge R&R testing was performed to verify stability of the new test solution. Finally, a large volume trial lot was tested at KYEC to ensure that the final test program was adequate for mass production testing.

2.2 Qualification Devices

The sample size for correlation of test results on the LTX to the new platform at KYEC is summarized in Table 1.

TABLE 1: LIST OF QUALIFICATION PARTS USED

Function	Test Part	Quantity	Comment
Yield Correlation	GS2994	1,000 units	Compared to two year historical data.
Bin Correlation	GS2994	237 units	Results show no concerns.
GR&R	GS2994	12 units (passing)	Another 12 passing units were available as a backup
Trial lot	GS2994	1,000 units	Fresh material, yield comparable to historical
QA run	GS2994	988 units	Yield comparable to historical

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3 Analysis

The correlation exercise consisted of several types of analysis to ensure correlation between the Reference Test System (LTX) and the New Test System (V93K). Yield comparison and bin-to-bin correlation were completed over a large volume of correlation parts. Key parametric parameters were compared to ensure the results aligned between both testers. A visual verification of the individual test histograms was also completed to ensure consistent distributions. Based on the correlation results, test limits were adjusted on the new tester to ensure that parts were binned identically on both testers.

3.1 Yield Comparison

Overall yields were compared between the Reference Test System (LTX) and the New Test System (V93K).

Results

The correlation units tested had comparable yield on LTX at ASEM and V93k at KYEC.

3.2 Bin Correlation

The GS2994 final test program consists of multiple pass and fail software bins. The correlation units were tested on both test platforms, and a bin correlation table was created to identify if parts were binned identically on both test systems.

Results

It was found that all parts were binned equivalently on both test solutions.

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3.3 Gauge R&R

GR&R analysis is a statistical method of systematically comparing the repeatability and reproducibility variances between two measurement systems. This is accomplished by using ANOVA (Analysis of Variance) to calculate the percentages of the repeatability and reproducibility variance components to the pass windows as defined by the test program limits. The goal of GR&R is to demonstrate that the new system will match or exceed the current benchmark, production test system performance on all critical parameters. The GRR maximum allowed for the total tolerance is 30%, which is an industry standard. This includes combined reproducibility and repeatability.

For this qualification, the GR&R experiment was conducted with the following control factors:

- 1 Test platforms
- 1 Loadboard per platform
- 2 insertions
- Different test sites per Loadboard
- 10 loops for repeatability
- 12 Known good samples

3.3.1 Results

The comparison of the LTX and V93k GRR showed no discrepancies between test results. See Table 2 for more details.

TABLE 2: GRR RESULTS.

Test category	GR&R Total Tolerance Acceptance Criteria	V93K GR&R	Yield comparison	Bin correlation
Continuity	<30%	Pass	Pass	Pass
IIL/IIH	<30%	Pass	Pass	Pass
Current/Power Test	<30%	Pass	Pass	Pass
Die Temperature Test	<30%	Pass	Pass	Pass
Eye Parametrics	<30%	Pass	Pass	Pass



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3.4 Large Volume Trial Test Run

A final trial lot test run of 1,000 fresh units was completed at KYEC using the final V93k test program. Review of this data showed that yields and failure Pareto were as expected and comparable to LTX production history data.



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4 Conclusion

The V93K test platform provides equivalent test coverage to the ASEM LTX test platform.

The V93K test platform is deemed qualified for production testing of the GS2994.



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GS3440, GV8601A

KYEC/GREATEK QUALIFICATION REPORT

Project: GS3440, GV8601A

Revision Date: 9/1/2026

Status: Active

Revision: 1.0

Author(s): Arturo Sosa

Creation Date: 9/1/2026

Location: Semtech Burlington

Document No: PRODDOC036198



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Revision History

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Release	09/01/2026	1.0	Arturo Sosa	Initial Release

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1 Process Changes

1.1 Process Change Summary

Semtech is implementing additional sources for final electrical testing of GS3440 to improve security of supply and increase supply chain efficiency. Due to similarity, GV8601A results will be bridged to GS3440. This change will require qualification of a new test platform. Final electrical testing was previously performed at ASE Malaysia on the LTX test platform. Future testing will have the option of testing on a Verigy 93k (V93k) test platform at KYEC or Greatek. This report details the qualification procedure and correlation analysis performed to qualify the new test facility and test platform.

KYEC will be the primary target test facility and will be used to generate qualification results and PCN samples. Greatek will be added as an additional source by bridging as per the approach used under PCN-000783.

Test coverage for both test platforms (LTX and V93K) is similar but not identical.

	Current(single source)	Future (multiple source)
Test Location	ASEM	ASEM, KYEC, and Greatek
Test Platform	LTX	V93K and LTX

1.2 Affected Products

Final Products

GS3440-INE3
GS3440-INTE3
GS3440-INTE3Z

GV8601AINE3

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2 Qualification Procedure

2.1 Procedure

Qualification of the V93k test platform at KYEC/GREATEK consisted of 3 main components:

- 1) Correlation testing
- 2) Gauge R&R (GR&R) testing
- 3) Large volume trial lot testing

Correlation testing was completed by testing many devices on the reference tester (LTX) and then testing these same units on the new tester (V93K). The correlation units consisted of both passing units and reject units captured from all major failure bin categories and from multiple foundry lots. The test data was then compared to ensure tester to tester correlation using the metrics detailed in section 3. Gauge R&R testing was performed to verify stability of the new test solution. Finally, a large volume trial lot was tested at KYEC to ensure that the final test program was adequate for mass production testing.

2.2 Qualification Devices

The sample size for correlation of test results on the LTX to the new platform at KYEC is summarized in Table 1.

TABLE 1: LIST OF QUALIFICATION PARTS USED

Function	Test Part	Quantity	Comment
Yield Correlation	GS3440	593 units	A mix of bin 1 and 8 were used.
Bin Correlation	GS3440	517 units (failing)	Results show no concerns.
GR&R	GS3440	12 units (passing)	Another 12 passing units were available as a backup
Trial lot	GS3440	1000 units	Fresh material
QA run	GS3440	911 units	Yield comparable to historical



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3 Analysis

The correlation exercise consisted of several types of analysis to ensure correlation between the Reference Test System (LTX) and the New Test System (V93K). Yield comparison and bin-to-bin correlation were completed over a large volume of correlation parts. Key parametric parameters were compared to ensure the results aligned between both testers. A visual verification of the individual test histograms was also completed to ensure consistent distributions. Based on the correlation results, test limits were adjusted on the new tester to ensure that parts were binned identically on both testers.

3.1 Yield Comparison

Overall yields were compared between the Reference Test System (LTX) and the New Test System (V93K).

Results

The correlation units tested had comparable yield on LTX at ASEM and V93k at KYEC.

3.2 Bin Correlation

The GS3440 final test program consists of multiple pass and fail software bins. The correlation units were tested on both test platforms, and a bin correlation table was created to identify if parts were binned identically on both test systems.

Results

It was found that all parts were binned equivalently on both test solutions.

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3.3 Gauge R&R

GR&R analysis is a statistical method of systematically comparing the repeatability and reproducibility variances between two measurement systems. This is accomplished by using ANOVA (Analysis of Variance) to calculate the percentages of the repeatability and reproducibility variance components to the pass windows as defined by the test program limits. The goal of GR&R is to demonstrate that the new system will match or exceed the current benchmark, production test system performance on all critical parameters. The GRR maximum allowed for the total tolerance is 30%, which is an industry standard. This includes combined reproducibility and repeatability.

For this qualification, the GR&R experiment was conducted with the following control factors:

- 1 Test platforms
- 1 Loadboard per platform
- 2 insertions
- Different test sites per Loadboard
- 10 loops for repeatability
- 12 Known good samples

3.3.1 Results

The comparison of the LTX and V93k GRR showed no discrepancies between test results. See Table 2 for more details.

TABLE 2: GRR RESULTS.

Test category	GR&R Total Tolerance Acceptance Criteria	V93K GR&R	Yield comparison	Bin correlation
Continuity	<30%	Pass	Pass	Pass
IIL/IIH	<30%	Pass	Pass	Pass
Current/Power Test	<30%	Pass	Pass	Pass
Die Temperature Test	<30%	Pass	Pass	Pass
Eye Parametrics	<30%	Pass	Pass	Pass



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3.4 Large Volume Trial Test Run

A final trial lot test run of 1000 fresh units was completed at KYEC using the final V93k test program. Review of this data showed that yields and failure Pareto were as expected and comparable to LTX production history data.



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4 Conclusion

The V93K test platform provides equivalent test coverage to the ASEM LTX test platform.

The V93K test platform is deemed qualified for production testing of the GS3440 and GV8601A.