



PRODUCT / PROCESS CHANGE NOTIFICATION

PCN-000783

Date: MAY-18-2022

P1/1

Semtech Corporation, 200 Flynn Road, Camarillo CA 93012

Change Details

Part Number(s) Affected: Please see full list below.	Customer Part Number(s) Affected: <input checked="" type="checkbox"/> N/A
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Description, Purpose, and Effect of Change:

Semtech has qualified additional test locations to the current test locations of the affected part numbers as part of the ongoing Supply Security Program. Please see the pages below for a complete list of current and additional test locations for each part number.

This is to ensure a minimum of three approved test locations and to increase production capacity.

KYEC, Giga, and Greatek are already approved suppliers of test services for many high-volume products.

Change Classification	<input type="checkbox"/> Major <input checked="" type="checkbox"/> Minor	Impact to Form, Fit, Function	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Impact to Data Sheet	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	New Revision or Date	<input checked="" type="checkbox"/> N/A

Impact to Performance, Characteristics or Reliability:


No impact.

Implementation Date	AUG-18-2022	Work Week	34
Last Time Ship (LTS) Of unchanged product	N/A	Affecting Lot No. / Serial No. (SN)	N/A
Sample Availability	Available upon request	Qualification Report Availability	MAY-18-2022

Supporting Documents for Change Validation/Attachments:

- PRODDOC026550 Qualification Report for Additional OSAT Introduction (Greatek, KYEC, and GIGA)

Issuing Authority

Semtech Business Unit:	Signal Integrity Product Group (SIP)		
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FOR FURTHER INFORMATION & WORLDWIDE SALES COVERAGE: <http://www.semtech.com/contact/index.html#support>

No.	Part Number	Current test location (s)	Additional test location (s)
1	GN2154-IBE3	Greatek	KYEC, Giga
2	GN1086-CHIP	KYEC	Greatek, Giga
3	GN1088-CHIP	KYEC	Greatek, Giga
4	GN1157BINE3	KYEC, Greatek	Giga
5	GN1157BINTE3Z	KYEC, Greatek	Giga
6	GN1157-INE3	KYEC, Greatek	Giga
7	GN1157-INTE3Z	KYEC, Greatek	Giga
8	GN1158-INE3	KYEC, Greatek	Giga
9	GN1158-INTE3Z	KYEC, Greatek	Giga
10	GN1159-INE3	KYEC	Greatek, Giga
11	GN1159-INTE3Z	KYEC	Greatek, Giga
12	GN1160-INE3	KYEC, Greatek	Giga
13	GN1160-INTE3Z	KYEC, Greatek	Giga
14	GN1161-INE3	KYEC	Greatek, Giga
15	GN1161-INTE3Z	KYEC	Greatek, Giga
16	GN1196-INE3	Greatek	KYEC, Giga
17	GN1196-INTE3Z	Greatek	KYEC, Giga
18	GN1411AINE3	KYEC	Greatek, Giga
19	GN1411AINTE3D	KYEC	Greatek, Giga
20	GN1412AINE3	KYEC	Greatek, Giga
21	GN1412BINE3	KYEC	Greatek, Giga
22	GN1412BINTE3D	KYEC	Greatek, Giga
23	GN1444-INE3	KYEC	Greatek, Giga
24	GN1444-INTE3D	KYEC	Greatek, Giga
25	GN1444SINE3	KYEC	Greatek, Giga
26	GN1444SINTE3D	KYEC	Greatek, Giga
27	GN2010D-INE3	KYEC	Greatek, Giga
28	GN2010D-INTE3D	KYEC	Greatek, Giga
29	GN2010EAINE3	KYEC	Greatek, Giga
30	GN2010EAINTE3D	KYEC	Greatek, Giga
31	GN2012AINE3	KYEC	Greatek, Giga
32	GN2012AINTE3D	KYEC	Greatek, Giga
33	GN2017AINE3	KYEC	Greatek, Giga
34	GN2017AINTE3Z	KYEC	Greatek, Giga
35	GN2040-INE3	KYEC	Greatek, Giga
36	GN2040-INTE3D	KYEC	Greatek, Giga
37	GN2042-INE3	KYEC	Greatek, Giga
38	GN2042-INTE3D	KYEC	Greatek, Giga
39	GN2044-INE3	KYEC	Greatek, Giga
40	GN2044-INTE3D	KYEC	Greatek, Giga
41	GN2044SINE3	KYEC	Greatek, Giga
42	GN2044SINTE3D	KYEC	Greatek, Giga
43	GN2104SA-IBE3	KYEC	Greatek, Giga

No.	Part Number	Current test location (s)	Additional test location (s)
44	GN2104SA-IBTE3D	KYEC	Greatek, Giga
45	GN2104S-IBE3	KYEC	Greatek, Giga
46	GN2104S-IBTE3D	KYEC	Greatek, Giga
47	GN2105B-IBE3	KYEC	Greatek, Giga
48	GN2105B-IBTE3D	KYEC	Greatek, Giga
49	GN2105B-IBTE3Z	KYEC	Greatek, Giga
50	GN2106-INE3	KYEC	Greatek, Giga
51	GN2106ST-IBE3	KYEC	Greatek, Giga
52	GN2108S-CHIP	Giga	KYEC, Greatek
53	GN2109S-CHIP	Giga	KYEC, Greatek
54	GN2110S-CHIP	Giga	KYEC, Greatek
55	GN2146-IBE3	KYEC	Greatek, Giga
56	GN2146-IBTE3D	KYEC	Greatek, Giga
57	GN2147B-CHIP	Giga	KYEC, Greatek
58	GN2147-CHIP	Giga	KYEC, Greatek
59	GN2148-CHIP	Giga	KYEC, Greatek
60	GN2149-CHIP	Giga	KYEC, Greatek
61	GN2154-IBTE3D	Greatek	KYEC, Giga
62	GN24L60-CSP-TR	KYEC	Greatek, Giga
63	GN24L61-CSP-TR	KYEC	Greatek, Giga
64	GN24L80-GRP6	KYEC	Greatek, Giga
65	GN24L80-GRP6UV	KYEC	Greatek, Giga
66	GN24L80-WP	KYEC	Greatek, Giga
67	GN24L81-GRP6	KYEC	Greatek, Giga
68	GN24L81-WP	KYEC	Greatek, Giga
69	GN2504A-INE3	KYEC	Greatek, Giga
70	GN2504C-INE3	KYEC	Greatek, Giga
71	GN2504-INE3	KYEC	Greatek, Giga
72	GN25L94-QFN-TR	Greatek	KYEC, Giga
73	GN25L95B-QFN-TR	KYEC, Greatek	Giga
74	GN25L95C-QFN-TR	KYEC, Greatek	Giga
75	GN25L95-QFN-TR	KYEC, Greatek	Giga
76	GN25L96-QFN-TR	KYEC, Greatek	Giga
77	GN25L98-QFN-TR	KYEC, Greatek	Giga
78	GN25L99-QFN-TR	Greatek	KYEC, Giga
79	GN28L95-QFN-TR	KYEC, Greatek	Giga
80	GN28L96-QFN-TR	KYEC, Greatek	Giga
81	GN28L97B-QFN-TR	KYEC, Greatek	Giga
82	GN28L97-QFN-TR	KYEC, Greatek	Giga
83	GN2904S-IBE3	KYEC	Greatek, Giga
84	GN2904S-IBTE3D	KYEC	Greatek, Giga
85	GN7055B-CHIP	KYEC	Greatek, Giga
86	GN7055B-GRP6R	KYEC	Greatek, Giga

No.	Part Number	Current test location (s)	Additional test location (s)
87	GN7056B-CHIP	KYEC	Greatek, Giga
88	GN7056B-GRP6R	KYEC	Greatek, Giga
89	GN7151-INE3	KYEC	Greatek, Giga
90	GN7151-QFN-TR	KYEC	Greatek, Giga
91	GN7152-INE3	KYEC, Greatek	Giga
92	GN7152-QFN-TR	KYEC, Greatek	Giga
93	GN7153B-INE3	Greatek	KYEC, Giga
94	GN7153B-INTE3Z	Greatek	KYEC, Giga
95	GN7153-INE3	Greatek	KYEC, Giga
96	GN7153-INTE3Z	Greatek	KYEC, Giga
97	GN7154A-INE3	Greatek	KYEC, Giga
98	GN7154A-INTE3Z	Greatek	KYEC, Giga
99	GN7154B-INE3	Greatek	KYEC, Giga
100	GN7154B-INTE3Z	Greatek	KYEC, Giga
101	GN7155B-INE3	Greatek	KYEC, Giga
102	GN7155B-INTE3Z	Greatek	KYEC, Giga
103	GS12081-INE3	KYEC	Greatek, Giga
104	GS12081-INTE3	KYEC	Greatek, Giga
105	GS12081-INTE3Z	KYEC	Greatek, Giga
106	GS12090-INE3	KYEC	Greatek, Giga
107	GS12090-INTE3	KYEC	Greatek, Giga
108	GS12090-INTE3Z	KYEC	Greatek, Giga
109	GS12141-INE3	KYEC	Greatek, Giga
110	GS12141-INTE3	KYEC	Greatek, Giga
111	GS12141-INTE3Z	KYEC	Greatek, Giga
112	GS12142-INE3	KYEC	Greatek, Giga
113	GS12142-INTE3	KYEC	Greatek, Giga
114	GS12142-INTE3Z	KYEC	Greatek, Giga
115	GS12150-INE3	KYEC	Greatek, Giga
116	GS12150-INTE3	KYEC	Greatek, Giga
117	GS12150-INTE3Z	KYEC	Greatek, Giga
118	GS12181-INE3	KYEC	Greatek, Giga
119	GS12181-INTE3	KYEC	Greatek, Giga
120	GS12181-INTE3Z	KYEC	Greatek, Giga
121	GS12182-INE3	KYEC	Greatek, Giga
122	GS12182-INTE3	KYEC	Greatek, Giga
123	GS12182-INTE3Z	KYEC	Greatek, Giga
124	GS12241-INE3	KYEC	Greatek, Giga
125	GS12241-INTE3	KYEC	Greatek, Giga
126	GS12241-INTE3Z	KYEC	Greatek, Giga
127	GS12281-INE3	KYEC	Greatek, Giga
128	GS12281-INTE3	KYEC	Greatek, Giga
129	GS12281-INTE3Z	KYEC	Greatek, Giga

No.	Part Number	Current test location (s)	Additional test location (s)
130	GS3241-INTE3	KYEC	Greatek, Giga
131	GS3241-INTE3Z	KYEC	Greatek, Giga
132	GS3281-INE3	KYEC	Greatek, Giga
133	GS3281-INTE3	KYEC	Greatek, Giga
134	GS3281-INTE3Z	KYEC	Greatek, Giga
135	GS3590-INE3	KYEC	Greatek, Giga
136	GS3590-INTE3	KYEC	Greatek, Giga
137	GS3590-INTE3Z	KYEC	Greatek, Giga



Report for Additional OSAT Introduction

GREATEK

GIGA

KYEC

Description

Introduction of Greatek, KYEC and GIGA as an additional test facility




Revision History

Date	Revision	Change Details	Author
May 06, 2022	1.0	Release	Tanja Zvizdic



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	Title Report for Additional OSAT Introduction – KYEC, Greatek and GIGA	Document Number: PRODDOC026550	
		Revision: 1.0	Date: May 06, 2022
	Security Level: N/A	Author: Tanja Zvizdic	P1

1 Introduction

This report details the qualification procedure and correlation analysis performed on **GN1086, GN2044, GN2104S, GN2105B, GN2110S, GN25L99, GN7152** and **GS12281**, which were used as qualification vehicles to qualify KYEC, Greatek and GIGA as additional test locations for products that include the same test platform and tester resources.

1.1 Process Change Summary

	Current	Future
Test Location	KYEC or Giga or Greatek	KYEC, Greatek, and GIGA
Test Platform	93K	93K

1.2 Products affected

The full list of all P/Ns using test solutions which share the same test platform and tester resources as the vehicles specified above, is included in the table under the “Conclusions” section.

2 Qualification Components


Qualification consisted of the following 2 components:

- 1) Gauge R&R testing
- 2) Large volume trial lot testing as a sanity check

2.1 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.

For non-data-sheet test parameters that do not meet the GR&R test requirements, the means compare plot (generated by the GR&R analysis package) usually indicates a measurement offset that can easily be corrected with a test limit adjustment.

	Title Report for Additional OSAT Introduction – KYEC, Greatek and GIGA	Document Number: PRODDOC026550	
		Revision: 1.0	Date: May 06, 2022
	Security Level: N/A	Author: Tanja Zvizdic	P2

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

- 12 Known good samples
- 1 Test platform
- 1 Loadboard per platform
- Multiple Test site per Loadboard
- 2 insertions
- 10 loops for repeatability

2.2 Large volume trial


Large volume of fresh material for vehicle devices listed above was tested at KYEC, Greatek, and GIGA for a final yield comparison.

3 GR&R Analysis Results

No concerns - GRR analysis for all vehicles passed.

4 Trial Run

No concerns – All vehicles have comparable yields across multiple test locations.

	Title Report for Additional OSAT Introduction – KYEC, Greatek and GIGA	Document Number: PRODDOC026550	
		Revision: 1.0	Date: May 06, 2022
	Security Level: N/A	Author: Tanja Zvizdic	P3

5 Conclusions

All evaluated test locations (KYEC, Greatek and GIGA) are already used for high volume production of the affected parts. This qualification additionally introduces interchangeable use of all 3 test locations.

The affected parts are using test solutions based on the same test platform and tester resources as **GN1086, GN2044, GN2104S, GN2105B, GN2110S, GN25L99, GN7152 and GS12281** variants used as qualification vehicles.