

<input type="checkbox"/>	Semtech Corporation, 200 Flynn Road, Camarillo CA 93012
<input checked="" type="checkbox"/>	Semtech Canada Corporation, 4281 Harvester Road, Burlington, Ontario L7L 5M4 Canada
<input type="checkbox"/>	Semtech Irvine, 5141 California Ave., Suite 100, Irvine CA 92617
<input type="checkbox"/>	Semtech Neuchatel Sarl, Route des Gouttes d'Or 40, CH-2000 Neuchatel Switzerland
<input type="checkbox"/>	Semtech Bristol - EMEA Limited, Block B, St James Court, Great Park Road, Bristol BS32 4QJ, UK
<input type="checkbox"/>	Semtech Corpus Christi SA de CV, Carretera Matamorros Edificio 7, Reynosa, Tamaulipas, Mexico 88780
<input type="checkbox"/>	Semtech Plano, 1101 Resource Drive, Suite 121, Plano TX 75074
<input type="checkbox"/>	

### Change Details

<b>Part Number(s) Affected:</b>  GX3290-CBE3, GX3246-CBE3, GX3202-CBE3, GX3190-CBE3, GX3146-CBE3, GX3074-CBE3	<b>Customer Part Number(s) Affected:</b> <input checked="" type="checkbox"/> N/A
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### Description, Purpose and Effect of Change:

**Description:**

Semtech has qualified a second source for final marking of the GX3290-family of products. Final marking can now be completed at either HGM Device Dynamics or new qualified vendor MiQro Innovation Collaborative Centre (C2MI). The images to the right show the marking from the different suppliers.

HGM Device Dynamics      C2MI



**Purpose:**

A second source for marking was added to ensure Semtech always has a reliable source of supply for marking.

**Effect of Change:**

The change is transparent to the customer. All material is 100% tested after marking and prior to shipment.

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

### Impact to Performance, Characteristics or Reliability:

The change is transparent to the customer. There is no impact to performance, characteristics or reliability. All material is 100% tested and inspected after marking and prior to shipment.

<b>Implementation Date</b>	<b>27 May 2019</b>	<b>Work Week</b>	<b>WW22</b>
<b>Last Time Ship (LTS)</b> Of unchanged product		<b>Affecting Lot No. / Serial No. (SN)</b>	
<b>Sample Availability</b>		<b>Qualification Report Availability</b>	

### Supporting Documents for Change Validation/Attachments:

- Marking qualification, see following pages.
-



# PRODUCT / PROCESS CHANGE NOTIFICATION

PCN-000550

Date: April 25, 2019

P2/2

## Issuing Authority

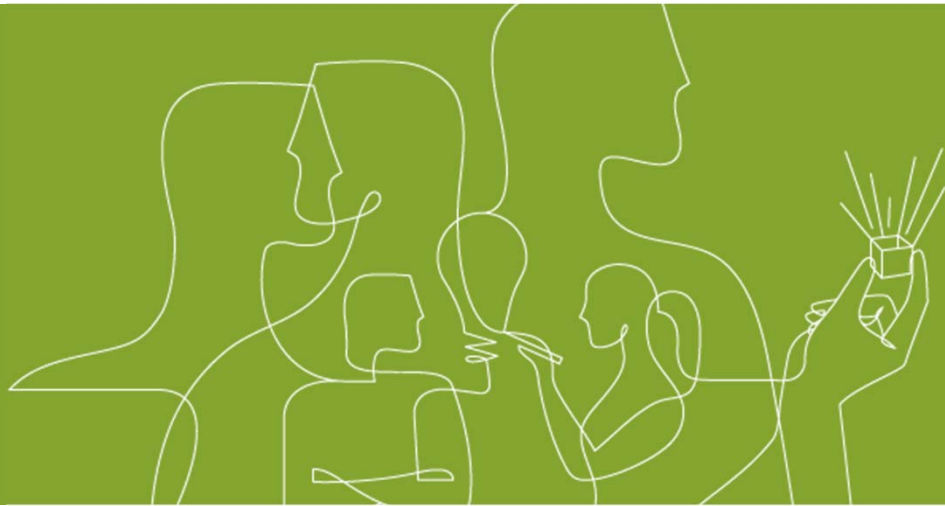
Semtech Business Unit:

Signal Integrity Products

Semtech Contact Info:

Dusanka Hewlett  
QMS Engineer, Quality Assurance  
Semtech Canada Corporation  
4281 Harvester Road  
Burlington, ON L7L 5M4  
Canada  
289-856-9272  
dhewlett@semtech.com

FOR FURTHER INFORMATION & WORLDWIDE SALES COVERAGE: <http://www.semtech.com/contact/index.html#support>



Enabling Brilliance™

## **MiQro Innovation Collaborative Centre (C2MI) Qualification for Marking GX3290-family**

Post-test marking

April 16, 2019

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All other product or service names are the property of their respective owners.



# Background and Motivation

## Background

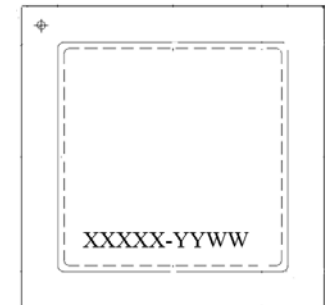
- The GX3290 family the product goes through a 2-stage marking process, pre-test and post-test.
- Pre-Test Marking is done during assembly
- Post-Test Marking is done after Final Test and Burn-in.

## Motivation for Additional Marking Supplier

- The primary motivation for change is to have 2 qualified marking sources.

## Proposal

- The proposal is to add C2MI to the list of qualified marking suppliers for the GX3290-family of products. In order to make the move we must qualify both the process as well as the vendor for regular production.



Before Test Marking  
GENDOC-055762



Post-Test Marking  
GENDOC-055763

# Qualification Plan

## Vendor Qualification Plan

1. Complete “Business Environmental and Social Responsibility Survey” (SEMDOC001642)
2. Supply ISO certificate
3. Confirm documented ESD program in place

## Process Qualification Plan

1. Provide process flow:
  - a) Incoming inspection
  - b) Marking process
  - c) Touch points - to assess risk of part damage due to handling including ESD, ball damage, scratches etc
  - d) Outgoing inspection (Semtech reject criteria provided to C2MI)
2. Confirm capability on bring-up sample

# Qualification Results

## Vendor Qualification Plan

- ✓ Complete “Business Environmental and Social Responsibility Survey” (SEMDOC001642)
- ✓ Supply ISO certificate
- ✓ Confirm documented ESD program in place

## Process Qualification Plan

- ✓ Provide process flow:
  - a) Incoming inspection – inspection guide provided
  - b) Marking process
  - c) Touch points - to assess risk of part damage due to handling including ESD, ball damage, scratches etc – See Traveler
  - d) Outgoing inspection (Semtech reject criteria provided to C2MI)
- ✓ Confirm capability on bring-up sample

# C2MI ISO 9001:2015 Certificate

**Certificate of Registration**

**nqa** global assurance

This is to certify that the Quality Management System of:

**Centre de Collaboration MiQro Innovation – C2MI**  
45 boulevard de l'Aéroport  
Bromont QC J2L 1S8  
Canada

applicable to:

**Manufacture of microelectronic components sold to customers who expect to receive repeatable services.**

has been assessed and approved by  
National Quality Assurance, U.S.A., against the provisions of:

**ISO 9001:2015**

*[Signature]*

For and on behalf of NQA, USA

**ANAB**  
ACCREDITED  
ISO/IEC 17021  
MANAGEMENT SYSTEMS  
CERTIFICATION BODY

Certificate Number: 18126  
EAC Code: 19  
Certified Since: March 5, 2019  
Valid Until: March 4, 2022  
Cycle Issued: March 5, 2019

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This approval is subject to the company maintaining its system to the required standard, which will be monitored by NQA, USA, 289 Great Road, Suite 105, Acton, MA 01720, an accredited organization under the ANSI-ASQ National Accreditation Board.



# C2MI ESD Program

- ESD program:
  - All ESD apparatus (Bracelet, connecting cord, table, ionizer fan, table monitor) is checked at least once per two years
    - Managed by a maintenance schedule
    - Monthly sampling
  - Training schedule
    - Each operator is trained and a refresh is performed each two (2) year
    - Each eng staff is trained once.
  - ESD standard
    - Based on ANSI S20.20 2014
  - ESD containment measures :
    - Each employee use dissipative shoes
    - The entry door handle of the FAB shows the operator if ESD level is acceptable.
    - Use of dissipative smock
    - Ionizer fan on workstation with downstream flow
    - In the process of changing finger cots for a better dissipative coefficient (Black finger cots instead of pink)



# GX3290 C2MI Marking Traveler

IDX	OPERATION
1	RECEIVE PACKAGE FROM EXTERNAL CARRIER
2	VISUAL INCOMING INSPECTION OF PACKAGING
3	PARTS UNBOXING
4	CHECK LABELING CONFORMANCE WITH PO
5	PO TO PART NUMBER CONFIRMATION
6	COLLECT AND FILE LOT DOCUMENTATION
7	MOVE PARTS TO LAS
8	STORAGE IN DRY AIR CABINET (UAAA)
9	LOT START
10	RUNCARD PRINT
11	TRANSFERT TO MARKING DRY AIR CABINET (UZZZ)
12	PART UNWRAPING
13	VISUAL INSPECTION
14	LASER SCRIBER FUNCTION ASSESSMENT
15	SCRIBE PARTS
16	STORAGE IN DRY AIR CABINET (UZZZ)
17	VISUAL INSPECTION OF LASER SCRIBE
18	COMPLETE COFC
19	VACUUM SEAL (LAS)
20	BAG LABELING
21	TRAY BOXING
22	SHIPPING

## Marking Capability

Below shows a comparison of Device Dynamics (POR) and C2MI marking of the GX3290. In general the size and depth/darkness of the marking are the same. Any differences were found to be acceptable.

HGH Device Dynamics

C2MI



### Differences Observed

1. "gennum" is slightly thicker in C2MI samples
2. Text font is not 100% match.
3. Text spacing is slightly tighter in C2MI sample



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## Conclusions

1. C2MI has met all of the system requirements for qualified, quality vendor.
2. C2MI has proven capability to perform the post-test marking for the GX3290-family of products.

C2MI is now considered an approved vendor for the GX3290-family of products for post-test marking.