

Summary

Xilinx will be adding a 2D barcode to the topside marking for all Xilinx[®] 7 series, Zynq[®]-7000, Zynq[®] UltraScale+[™], UltraScale[™], and UltraScale+ commercial / industrial "XC", Automotive "XA", and Defense-grade "XQ" devices. The addition of this 2D barcode allows for improved device-level traceability. This will be a phased introduction. Specific transition updates to the products will be communicated through this document. Please refer to [XCN16014](#) for details.

To aid in device identification, speed, temperature grade, and specification control document (SCD) information will continue to be provided in a human readable format on the moisture barrier bag labels, box labels, and invoice. An example of the device marking will also be included on the bag label as a visual guide to aid in inspection.

Through the enhanced device-level traceability provided to customers using the 2D barcode, Xilinx as a 2nd phase will be improving its delivery support and manufacturing scalability by removing selected topside marking information (line 4 speed, temperature grade and SCD information).

Enhanced device-level traceability also allows for improved material selection and combination rules based on individual device performance rather than date code and lot number. As such, Xilinx will be combining devices in shipments based on the devices performance characteristics rather than controlling combinations by lot or date codes.

The 2D barcode contains a unique serial number that can be scanned to determine the serial number. The device's speed grade, temperature grade, and SCD that were previously found on line 4 can only be retrieved using the unique serial number through an internet based application either on a mobile device or through a web browser using a portal. Scanning the existing License Plate Number (LPN) provided on the inner box and bag label will allow access to all device information and codes contained within a specific bag or box using the same portal.

FAQs

Q: What's happening?

Xilinx is making 4 key changes:

- 1) Adding a 2D barcode to all Xilinx 7 series, Zynq-7000, Zynq UltraScale+, UltraScale, and UltraScale+ commercial / industrial "XC", Automotive "XA", and Defense-grade "XQ" devices
- 2) Removing line 4 marking for all Xilinx 7 series, Zynq-7000, Zynq UltraScale+, UltraScale, and UltraScale+ commercial / industrial "XC" and Automotive "XA" devices
 - a. UltraScale+ products will no longer have date code and lot number included in the top mark at production
- 3) Changing bag and box labels to add a representation of the device marking
- 4) Updating lot combination rules to take advantage of the new device level traceability

Q: What is 2D barcode marking?

2D barcode marking is a serialized identifier unique to each die marked on the top side of the device. This marking can be read using industry standard scanners (which are direct part marking capable) to retrieve device information & processing details from either a web application on Xilinx.com or a mobile application.

Q: Is this part of an industry trend toward device-level traceability?

Xilinx introduced ‘Device DNA’ through e-FUSE serialization starting with Virtex®-5 devices. Many companies have been marking a serialized 2D barcode on their devices for years. Some customers have implemented OCR / scan systems in their manufacturing to capture and track these kinds of codes.

Q: Why is Xilinx making these changes?

Xilinx is making this change to improve device-level traceability, delivery support, and supply chain safety.

Q: What is the benefit to customers?

This change will improve traceability and delivery support for customers. Customers can integrate the use device level identifiers present in the 2D barcode to more quickly track material and diagnose issues.

Q: Which products are affected?

This change affects all package, speed, and temperature grade variations for all Xilinx 7 series, Zynq-7000, Zynq UltraScale+, UltraScale, and UltraScale+ commercial / industrial “XC”, Automotive “XA”, and Defense-grade “XQ” devices, including SCD product. All new 7 series, Zynq-7000, Zynq UltraScale+, UltraScale, and UltraScale+ products such as Spartan-7 and Zynq single-core offerings will include the updated markings upon initial release.

Table 1: Addition of 2D Barcode to Top Mark

Product Line	Device	Anticipated Shipments
XC	Zynq UltraScale+, and UltraScale+	Now – Shipping Engineering Samples (ES)
XC	7 series, Zynq-7000, and UltraScale	November 2016
XA	7 series, Zynq-7000, and Zynq UltraScale+	November 2016
XQ	7 series, Zynq-7000, UltraScale, Zynq UltraScale+, and UltraScale+	November 2016

Table 2: Marking Simplification (line 4 speed, grade, and SCD)

Product Line	Device	Anticipated Shipments
XC	Zynq UltraScale+,* and UltraScale+*	Upon Production Release
XC	7 series, Zynq-7000, and UltraScale	May 2017
XA	7 series, Zynq-7000, and Zynq UltraScale+*	July 2017

*Note: UltraScale+ products will not be marked with lot number or date code.

Q: When will this change take effect?

Please refer to [Table 1](#) and [Table 2](#) for the cutover dates.

Q: Does this change impact material qualification?

No, this change does not impact the reliability of the product.

Q: What do customers have to do in response to this announcement?

No response is required.

Q: Are manufacturing changes required?

Customers are encouraged to review internal inspection and manufacturing practices to ensure the new 2D marking can be fully integrated.

Q: What information is being removed from the standard marking?

Line 4 – Speed, temperature grade, and SCD. Speed, temperature grade, and SCD information will still reside on the bag label.

Note: For UltraScale+ at production release, Line 3 (Lot number) and part of Line 2 (date code) will no longer be marked.

Q: How can a customer access 2D barcode information?

There are three methods to retrieve 2D barcode information. An overview is provided with an on-line [video](#).

Please note some data fields may be blank during initial release. Export Control Classification Numbers (ECCN) will be populated after March 2017 and Device DNA (JTAG e-FUSE) will be populated for 16nm production release starting Q3CY2017.

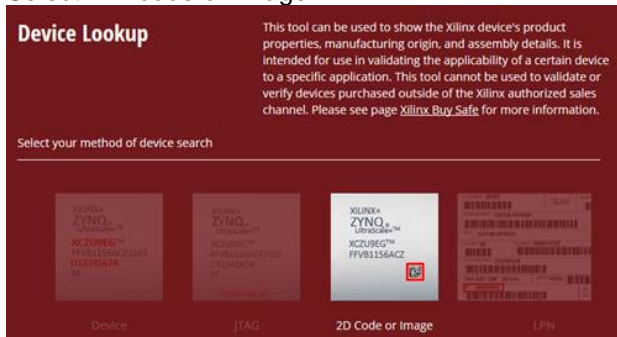
Scanning the existing License Plate Number (LPN) provided on the inner box and bag label will allow access to all device information and codes contained within a specific bag or box using the same portal. Initially this will return data common to all devices within package such as device type, speed, temperature grade, lot, and date code. By March 2017, additional features will be enabled listing individual device ID for all units in the box.

- 1) Xilinx.com web application
 - See instructions on using web tool in section below
- 2) Mobile app
 - The 2D barcode can be read using the [Device Lookup](#) application on Xilinx.com or through the [XilinxGO Mobile App](#) (available on iTunes App Store and Google Play)
 - If you have an existing account on Xilinx.com mobile application users will still be required to register
 - Registration can take up to 15 minutes to activate
- 3) B2B data feed
 - For B2B integration options please contact 2dbarcodehelp@xilinx.com

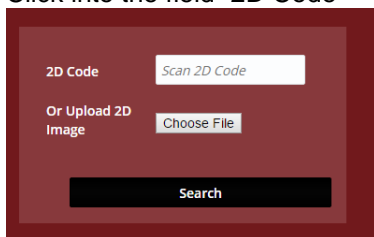
Please note: mobile application users with password access issues should email 2Dbarcodehelp@xilinx.com

Q: What are the steps to retrieve information using the web tool?

- 1) Open the web tool using the following [Link](#)
- 2) Select “2D code or Image”



- 3) Click into the field “2D Code”



- 4) Scan your devices 2D barcode and click search

Q: How can the 2D codes provided on the inner box and bag label in a single License Plate Number (LPN) be obtained?

Upon mark simplification, the 2D codes will be made available when the LPN is scanned via the customer applications.

Q: What shipments are considered part of the Xilinx supply chain?

Xilinx direct shipments or those through authorized Xilinx distributors.

Q: Will a tray be the same speed, temp, and SCD?

Yes.

Q: Will there be more than one lot number allowed per shipment?

Yes, it is the current practice.

Q: Will there be more than one date code allowed per shipment?

Yes, it is the current practice.

Q: How big is the barcode?

The barcode is a Data Matrix ECC-200 2D barcode which follows the GS2 standard and is 4mm x 4mm or larger.

Q: Who will support customer questions regarding the application?

Support will be provided through normal Xilinx processes. Please submit a Service Request via the [Service Portal](#) on www.xilinx.com.

Q: During what time windows will support be available (24/7)?

24/7 support is available.

Q: Does a customer have to keep logging in?

- B2B instance & intranet installs are ‘trusted’ (no login required).
- Mobile application currently logs out after 8 hours.
 - Known devices will have option to remain logged in by Q1CY2017.
- Registered (remembered) machines through web application will only require login at set-up.
- Not registered machine: Web application will timeout after 8 hours (if the IP address doesn’t change).

Q: My Company does not allow access to phones or internet. How can they look-up device identification?

Customers can contact 2dbarcodehelp@xilinx.com to set-up B2B data feeds and for more information.

Q: How will the 2D barcode be marked?

2D barcodes are laser marked.

Q: How do my inspectors verify that a mark is correct?

A representation of the marking will be provided on the bag label and has been provided in [XCN16014](#). If further identification is required please contact 2dbarcodehelp@xilinx.com.

Q: How do I find out more?

Please submit a Service Request via the [Service Portal](#) on www.xilinx.com.

Customer Quality Engineering: Contact 2dbarcodehelp@xilinx.com

Sales: Contact your sales representative

Revision History

The following table shows the revision history for this document:

Date	Version	Description of Revisions
07/04/2016	1.0	Initial release.
02/13/2017	1.1	Updated 2D barcode access information

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