



Overview

This notification is a revision to the previously issued PCN2002-06 and the previously issued PCN2002-06A. The original PCN was issued to notify customers of a change in the diameter of wafers used to manufacture the XC2V4000, XC2V6000, and XC2V1000 members (C-grade & I-grade) of the Virtex™-II product family ([Virtex-II Family - the Platform FPGA](#)).

Note: PCN2002-06A is obsolete and has been removed from the Xilinx website. PCN2002-06 (v1.1) contains information that was previously included in PCN2002-06A.

Description

The XC2V4000, XC2V6000, and XC2V1000 are manufactured using a 0.15μ 1.5/3.3V 8-layer metal process on 12-inch wafers at UMC, Taiwan. The Virtex-II family was previously manufactured using a 0.15μ 1.5/3.3V 8-layer metal process on 8-inch wafers at UMC, Taiwan. The following table summarizes the status of the different Virtex-II family members.

Xilinx Device	Change Description
XC2V40	No change. Remains on 8-inch wafers.
XC2V80	No change. Remains on 8-inch wafers.
XC2V250	No change. Remains on 8-inch wafers.
XC2V500	No change. Remains on 8-inch wafers.
XC2V1000	Transitioned from 8-inch wafers to 12-inch wafers at UMC, Taiwan in September 2002.
XC2V1500	No change. Manufactured on 12-inch wafers.
XC2V2000	No change. Manufactured on 12-inch wafers.
XC2V3000	No change. Manufactured on 12-inch wafers.
XC2V4000	Transitioned from 8-inch wafers to 12-inch wafers at UMC, Taiwan in May 2002
XC2V6000	Transitioned from 8-inch wafers to 12-inch wafers at UMC, Taiwan in May 2002
XC2V8000	No change. Manufactured on 12-inch wafers.

This change was initiated to accommodate the high-volume demand, enhance the product capabilities, and enable Xilinx to support this product more effectively.

The devices from the 12-inch wafer fab are pin, timing, function, supply voltage, and programming file compatible with the 8-inch wafer Virtex-II devices, but incorporate the following incremental improvements:

- Devices manufactured on 12-inch wafers support the enhanced multiplier performance. Details of the multiplier performance are included in the [Virtex-II Data Sheet](#).
- Devices manufactured on 12-inch wafers support a reduced bitstream length (12-inch wafer devices do not require the +10% bitstream programming file that is required for 8-inch wafers). Note that devices manufactured on 12-inch wafers accept and correctly configure with either the standard bitstream programming file or the +10% bitstream programming file.

All other key features remain unchanged.

Key Dates and Ordering Information

After the availability of 12-inch wafer production units in 2002, customers can expect to receive XC2V4000, XC2V6000 and XC2V1000 devices manufactured on either the 8-inch or 12-inch wafers when ordering the standard part number. Xilinx will continue to cross-ship either the 8-inch or 12-inch wafer material as standard product until the 8-inch material is depleted.

Qualification units of the XC2V4000 and XC2V6000 devices manufactured on the 12-inch wafers were available in June 2002, and qualification units of the XC2V1000 device manufactured on the 12-inch wafers were available in September 2002. The special ordering number “SCD0765” must be used when placing orders for the 12-inch wafer units. To use SCD0765, append “0765” to the end of the standard ordering part number (e.g., XC2V4000-4FF1152C**0765**). SCD0765 can be used as an ordering code until further notice from Xilinx via either a PCN or a PDN.

The four-digit SCD number (0765) is top-marked on the device (see the example in the Traceability section). The following table summarizes SCD usage.

SCD #	SCD DESCRIPTION	EXAMPLE OF ORDERING PART #	DATE SCD AVAILABLE	DATE SCD DISCONTINUED
SCD0765	12-inch wafers	XC2V4000-4FF1152C0765	June 2002	Either a new PCN is issued or a PDN is issued
SCD0769	8-inch wafers	XC2V4000-4FF1152C0769	June 2002	December 31, 2002

Qualification Data

Mask qualification data is available in the [Device Reliability Report](#). The information in the following table is the process qualification data for the 0.15µm 1.5/3.3V 8-layer metal process on 12-inch wafers at UMC, Taiwan.

Lot #	Part	Package	Test	Qty	Hours/Cy	Fails	Status
X0194LT	XC2V1000	FG256	HTOL	74	48	0	continue
			@125°C		168	0	continue
					256	0	continue
					500	0	continue
					1000	0	complete
X0239LT	XC2V1000	FG256	HTOL	66	48	0	continue
			@125°C		168	0	continue
					256	0	continue
					500	0	continue
					1000	0	complete
X0306LT	XC2V1000	FG256	HTOL	68	48	0	continue
			@125°C		168	0	continue
					256	0	continue
					500	0	continue
					1000	0	complete

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X0029TC	XC2V1000	FG256	Temp Cycle	76	200	0	continue
			@-55°C / +125°C		500	0	continue
			Condition C		1000	0	complete
X0035BK	XC2V1000	FG256	High Temp Storage	76	168	0	continue
			@150°C		500	0	continue
					1000	0	complete
X0028MS	XC2V1000	FG256	85°C / 85%RH	76	168	0	continue
					500	0	continue
					1000	0	complete
X0034MS	XC2V1000	FG256	85°C / 85%RH	76	168	0	continue
					500	0	continue
					1000	0	complete

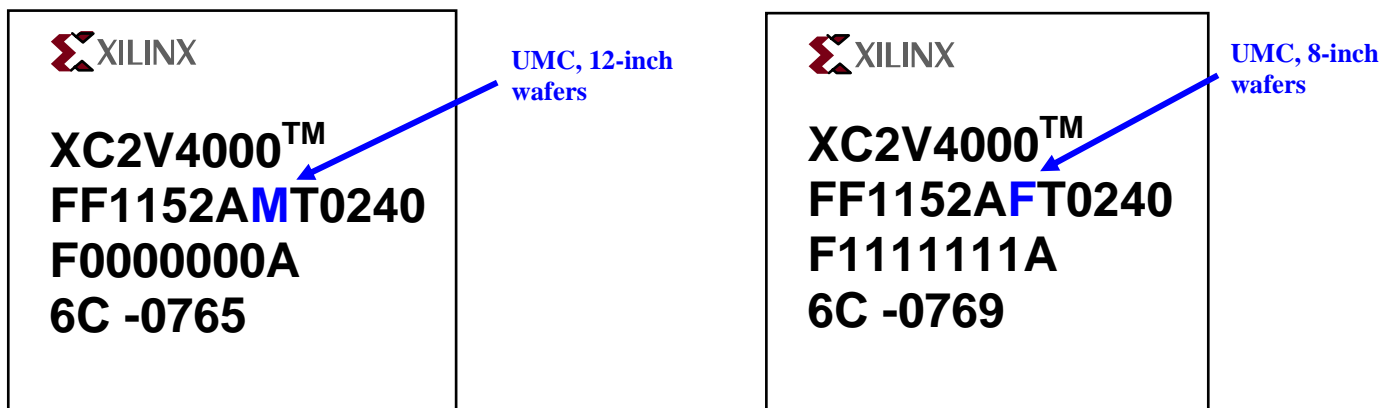
Traceability

The devices manufactured on the 8-inch or 12-inch wafers can be distinguished both visually and electrically.

The devices manufactured on the 8-inch wafers or 12-inch wafers are visually identified by a three-letter code on the second line of the package top-mark in between the package/pin code and the date code. The second letter in this three-letter code is an "M" for devices manufactured on the 12-inch wafers. The second letter is an "F" for devices manufactured on the 8-inch wafers (see the example in the figure below.)

To enhance the Xilinx traceability system, a new wafer fabrication code "G" was added in October 2002 to identify all material manufactured at the UMC 12-inch wafer fabrication facility. The second letter of the three-letter code is a "G" for any device built at the UMC 12-inch wafer fabrication facility.

The following examples illustrate the package top-mark.



The devices are distinguished electrically by the JTAG IDCODE. The IDCODE is a unique identifier hard-coded into a device. This code can be read back through the Test Access Port. The following table shows the IDCODE for three devices.

Device	Description	IDCODE (binary)	IDCODE (hex)
XC2V1000	8-inch wafers	0010	2
	12-inch wafers	0011	3
XC2V4000	8-inch wafers	0000	0
	12-inch wafers	0001	1
XC2V6000	8-inch wafers	0011	3
	12-inch wafers	0100	4

Recommendation

No response is required. This notification is an update and clarification to a previously issued PCN. For additional information or questions, please contact [Xilinx Technical Support](#).

Important Notice:

Xilinx Customer Notifications (PCN, PDN, and Quality Alerts) can be delivered via e-mail alerts sent by the MySupport website (<http://www.xilinx.com/support>). Register today and personalize your "MyAlerts" to include Customer Notifications. This change provides many benefits, including the ability to receive alerts for new and updated information about specific products, as well as alerts for other publications such as data sheets, errata, application notes, and so forth. For instructions on how to sign up, refer to [Xilinx Answer Record 18683](#).

Revision History

The following table shows the revision history for this document.

Date	Version	Revision
5/15/02	1.0	Initial release under PCN2002-06.
7/15/05	1.1	Revised original PCN to correct cross-ship date and indicate continued availability of ordering code SCD0765. Incorporated information from PCN2002-06A in order to obsolete PCN2002-06A. Removed references to 8-inch wafer ordering code SCD0769 (this SCD is now obsolete). Clarified the bitstream programming file length paragraph. Added traceability information: fab code designator G for UMC 12" wafer fab and Tables with JTAG ID code information. Modified Response and Contact Section.