



## Change in Wafer Fabrication Facility for XC95144XL and XC9572XL CPLDs

XC�05003 (v1.0) January 31, 2005

Product/Process Change Notice

### Overview

The purpose of this notification is to communicate a change in the wafer fabrication facility for the XC95144XL and XC9572XL CPLD devices.

### Description

The XC95144XL and XC9572XL CPLD devices will transition from a 0.35 $\mu$ m four-layer metal Flash CMOS process at UMC, Taiwan to a 0.35 $\mu$ m four-layer metal Flash CMOS process at He Jian Technology Company, China. This change improves the ability of Xilinx to support this product effectively, competitively, and to accommodate our customers' high volume demands. There is no difference in fit, form, or function between the latest revision of these devices currently fabricated by UMC versus He Jian.

Upon availability of production units from He Jian of XC95144XL and XC9572XL on April 25, 2005, customers can expect to receive devices fabricated by either UMC or He Jian until the UMC material is depleted.

### Products Affected

This change affects all speed, package, and temperature variations of the commercial and industrial grade XC95144XL and XC9572XL devices. Q grade devices are not affected by this PCN. Affected part numbers are included in the following tables:

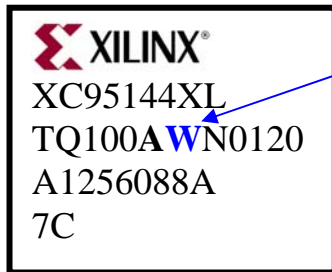
XC95144XL-5CS144C	XC95144XL-5TQ100C	XC95144XL-5TQ144C
XC95144XL-7CS144C	XC95144XL-7TQ100C	XC95144XL-7TQ144C
XC95144XL-10CS144C	XC95144XL-10TQ100C	XC95144XL-10TQ144C
XC95144XL-7CS144I	XC95144XL-7TQ100I	XC95144XL-7TQ144I
XC95144XL-10CS144I	XC95144XL-10TQ100I	XC95144XL-10TQ144I
XC95144XL-5CSG144C	XC95144XL-5TQG100C	XC95144XL-5TQG144C
XC95144XL-7CSG144C	XC95144XL-7TQG100C	XC95144XL-7TQG144C
XC95144XL-10CSG144C	XC95144XL-10TQG100C	XC95144XL-10TQG144C
XC95144XL-7CSG144I	XC95144XL-7TQG100I	XC95144XL-7TQG144I
XC95144XL-10CSG144I	XC95144XL-10TQG100I	XC95144XL-10TQG144I

XC9572XL-5CS48C	XC9572XL-5PC44C	XC9572XL-5TQ100C	XC9572XL-5VQ44C	XC9572XL-5VQ64C
XC9572XL-7CS48C	XC9572XL-7PC44C	XC9572XL-7TQ100C	XC9572XL-7VQ44C	XC9572XL-7VQ64C
XC9572XL-10CS48C	XC9572XL-10PC44C	XC9572XL-10TQ100C	XC9572XL-10VQ44C	XC9572XL-10VQ64C
XC9572XL-7CS48I	XC9572XL-7PC44I	XC9572XL-7TQ100I	XC9572XL-7VQ44I	XC9572XL-7VQ64I
XC9572XL-10CS48I	XC9572XL-10PC44I	XC9572XL-10TQ100I	XC9572XL-10VQ44I	XC9572XL-10VQ64I
XC9572XL-5CSG48C	XC9572XL-5PCG44C	XC9572XL-5TQG100C	XC9572XL-5VQG44C	XC9572XL-5VQG64C
XC9572XL-7CSG48C	XC9572XL-7PCG44C	XC9572XL-7TQG100C	XC9572XL-7VQG44C	XC9572XL-7VQG64C
XC9572XL-10CSG48C	XC9572XL-10PCG44C	XC9572XL-10TQG100C	XC9572XL-10VQG44C	XC9572XL-10VQG64C
XC9572XL-7CSG48I	XC9572XL-7PCG44I	XC9572XL-7TQG100I	XC9572XL-7VQG44I	XC9572XL-7VQG64I
XC9572XL-10CSG48I	XC9572XL-10PCG44I	XC9572XL-10TQG100I	XC9572XL-10VQG44I	XC9572XL-10VQG64I

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## Traceability

These devices can be distinguished by the second letter in the 3-letter code located in the middle of the second line of the package topmark. The 2<sup>nd</sup> letter is “W” for product fabricated at He Jian, and ‘M’ for product fabricated at UMC. Please reference the diagram below.



### Fab Code:

M = UMC, Taiwan

W = He Jian, China

## Key Dates

Qualification samples of XC95144XL and XC9572XL devices fabricated at He Jian are available now. When placing orders for sample units, use special ordering code 0962 by appending “0962” to the end of the standard ordering part number (for example, XC95144XL-10TQ100C0962). The ordering code 0962 will not be marked on the package topmark.

Upon availability of production units from He Jian of the XC95144XL and the XC9572XL devices on April 25, 2005, customers may expect to receive devices fabricated by either UMC or He Jian until the UMC material is depleted. The last time buy (LTB) date for product specifically fabricated at UMC in Taiwan is October 24, 2005, with shipment requested before January 23, 2006 (Last Time Ship - LTS). Please contact your [Xilinx Sales Representative](#) to obtain qualification samples or production devices. Note that the last time buy date of October 24, 2005 is absolutely firm. Xilinx will not take any orders for the UMC fabricated material after that date.

## Qualification Data

### Product Reliability Data:

Test	Test conditions	Device	Package	Results
ESD	HBM JESD22-A-114	XC95144XL	TQ144	6/6 passed 2000 V
		XC9572XL	TQ100	6/6 passed 2000 V
Latch up	JESD78	XC95144XL	TQ144	6/6 passed 200 mA @125°C
		XC9572XL	TQ100	6/6 passed 200 mA @125°C
HTOL	3.8V, 125°C	XC95144XL	TQ144	0 fails/77 after 1500 hrs
		XC95144XL	TQ144	0 fails/77 after 1010 hrs
		XC95144XL	TQ144	0 fails/75 after 964 hrs
Temp Cycle	JESD22-A104-B Condition B	XC95144XL	TQ144	0 fails/77 after 1500 cycles
Temperature Humidity Test	85°C/85%(un biased)	XC95144XL	TQ144	0 fails/77 after 1030 hrs
	85°C/85%RH (biased)	XC95144XL	CS144	0 fails/75 after 1000 hrs
Data Retention Bake	150°C	XC95144XL	TQ144	0 fails/77 after 2000 hrs
Endurance Test	25°C	XC95144XL	TQ144	0 fails/32 after 10,000 cycles

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## Process Reliability Data: 0.35 $\mu$ m He Jian Process Reliability Data (Wafer Level Reliability Data)

Mechanism	Sample Size	Stress Condition	Condition of Quoted Results	Type	Product Life Time (Years)
HCI	3 lots, 20 units/lot	25°C, 1.1Vcc	-55°C	NMOS/LV	2.71E+04
				PMOS/LV	6.08E+07
				NMOS/HV	8.74E+05
				PMOS/HV	1.50E+08
TDDB	3 lots, 20 units/lot	3 voltages / 3 temperatures, 120°C to 160°C	80°C	N-WELL (HV)	6.79E+04
				P-WELL (HV)	2.76E+05
				N-WELL (LV)	1.56E+10
				P-WELL (LV)	1.32E+05
EM	3 lots, 20 units/lot	210°C to 250°C	125°C	M1	2.20E+03
				M2	1.84E+02
				TM	2.07E+03
				Contact	4.00E+01
				V1	2.83E+02
				TV	1.84E+02

## Recommendation

No response is required to this PCN. For additional information or questions, please contact [Xilinx Technical Support](#).

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## Revision History

The following table shows the revision history for this document.

Date	Version	Revision
01/31/05	1.0	Initial release.