Design Enhancement for the XC18V00 PROMs Manufactured at STMicroelectronics

PCN2004-17 (v1.1) October 25, 2004 Product/Process Change Notice

Overview

This notification describes a design enhancement to the commercial members of the XC18V00™ family of In-System Programmable Configuration PROMs manufactured at STMicroelectronics in Catania, Italy. This notification does not affect the XC18V00™ family of In-System Programmable Configuration PROMs manufactured at UMC in Hsin Chu, Taiwan.

Description

This design enhancement addresses the intermittent sync word issue detailed in Customer Advisory CA2003-08 and the errata items detailed in DS026-E01. (NOTE: To view errata, you must be a registered user with the Xilinx MySupport web site.)

The new STMicroelectronics offerings are form, fit, and function compatible with the current product.

Products Affected

This notification only applies to the following part numbers manufactured at STMicroelectronics. Reference the *Traceability* section for further information on identifying these products.

XC18V512PC20C	XC18V01PC20C	XC18V02PC44C	XC18V04PC44C
XC18V512SO20C	XC18V01SO20C	XC18V02VQ44C	XC18V04VQ44C
XC18V512VQ44C	XC18V01VQ44C		

Table 1: **Products Affected**

Key Dates

Xilinx will begin shipping production devices manufactured at STMicroelectronics with this design enhancement starting November 9, 2004**.** After this date, customers ordering the standard part number may receive product manufactured with or without the design enhancement.

Qualification samples for product manufactured at STMicroelectronics with the design enhancement are now available. Use the sample ordering code ES when placing orders for these sample units. To use sample ordering code ES, append "ES" to the end of the standard ordering part number (e.g., XC18V04VQ44CES). The sample ordering code ES will be marked on the package topmark.

Customers who would like to receive only the enhanced product manufactured at STMicroelectronics beyond the onset of device cross-shipment (November 9, 2004) should use special ordering code SCD0936. To use SCD0936, append "0936" to the end of the standard ordering part number (e.g., XC18V04VQ44C0936). The ordering code 0936 will *not* be marked on the package topmark. Only product manufactured at STMicroelectronics with this design enhancement will be used to fulfill SCD0936 orders.

Customers who need devices without the design enhancement beyond the onset of device cross-shipment (November 9, 2004) may do so on a short-term basis only by using special ordering code SCD0901. To use SCD0901, append “0901” to the end of the standard part ordering number (e.g., XC18V04VQ44C0901). Only

product manufactured without the design enhancement will be used to fulfill SCD0901 orders. SCD0901 is currently available for use and will be discontinued after March 1, 2005. The ordering code 0901 will *not* be marked on the package topmark.

Traceability

The devices manufactured at STMicroelectronics with the design enhancement can be distinguished both visually and electrically.

Visually: The devices can be distinguished visually by a 3-letter code located on the package topmark after the package/pin code. The first letter in this 3-letter code indicates the Design Circuit Revision and will be a "**B**" for product manufactured with the design enhancement. The Design Circuit Revision will be an "**A**" for product manufactured without the design enhancement. The 2nd letter of this 3-letter code indicates the fabrication location, and will be an "**R**" for product manufactured at STMicroelectronics. See the example below.

Sample Topmark for 44-Pin VQFP and PLCC Packages

Figure 1: ***Without*** **Design Enhancement**

Figure 2: ***With*** **Design Enhancement**

Sample Topmark for 20-Pin SOIC Package

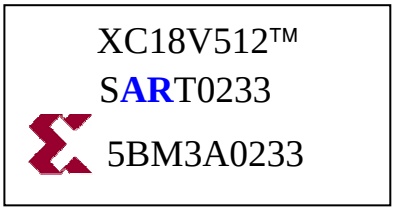

Figure 3: ***Without*** **Design Enhancement**

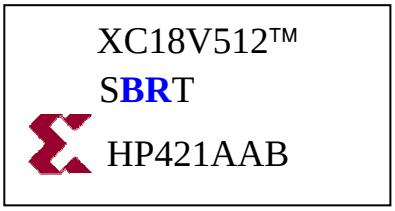

Figure 4: ***With*** **Design Enhancement**

Sample Topmark for 20-Pin PLCC Package

Figure 5: ***Without*** **Design Enhancement**

Figure 6: ***With*** **Design Enhancement**

Electrically: The devices can be distinguished electrically by the **IDCODE**:

Device	STMicroelectronics IDCODE *without* Design Enhancement	STMicroelectronics IDCODE *with* Design Enhancement
XC18V512	**0**5033093h	**F**5033093h
XC18V01	**0**5034093h	**F**5034093h
XC18V02	**0**5035093h	**F**5035093h
XC18V04	**0**5036093h	**F**5036093h

Table 2: **IDCODEs**

The current version of the programming algorithm ignores this revision field (1st character in bold above) so customers need not update their programming algorithms.

Qualification Data

Part	Test	Sample	Hours/Cycles	Fails	Status
XC18V04	HTOL @140°C	77	1000	0	Pass
XC18V04	Temp Cycle, Condition C -65°C to 150°C	76	1000	0	Pass
XC18V04	HTS, 150°C	77	1000	0	Pass
XC18V04	Temperature/Humidity Bias Test - Hast 130°C/85%RH	77	96	0	Pass
XC18V04	ESD - HBM JESD22-A-114	12	2000 volts	0	Pass
XC18V04	Latchup – EIA/JESD78	6	200 mA	0	Pass

Table 3: **Reliability Qualification Data**

Recommendation

No response is required to this PCN. Contact your Xilinx Sales Representative for assistance in obtaining sample or production devices. For additional information or questions, 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
8/9/04	1.0	Initial Xilinx release.
10/25/04	1.1	Revised errata URL to reflect new location.