

## 1. PCI Engineering Change Notice – PCI-X Card Identification Requirements

<b>TITLE:</b>	PCI-X Card Identification Requirements
<b>DATE:</b>	July 25, 2000
<b>AFFECTED DOCUMENT(S):</b>	PCI-X Addendum to the PCI Local Bus Specification, Revision 1.0, September 22, 1999
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### 1.1. Clarification

This ECN adds a new mechanical specification to the *PCI-X Addendum to the PCI Local Bus Specification, Revision 1.0*. It requires the hardware system vendor and the add-in card vendor to label their PCI-X designs to improve usability.

The hardware system labeling requirements apply to all system designs that provide PCI slots with the capability to operate in PCI-X mode.

The add-in card labeling requirements apply to all PCI add-in cards capable of operating in PCI-X mode. This requirement applies to all PCI add-in card form factors including standard, Low Profile, and Mini PCI add-in cards. The label must identify the card as a PCI-X design, and must give the maximum operating clock frequency the card supports, which is either 66 MHz or 133 MHz.

### 1.2. Benefits

With the use of labeling, the user is more able to match the card performance with the system slot performance.

### 1.3. PCI-X Addendum to the PCI Local Bus Specification, Rev. 1.0 Changes

Chapter 1, page 14 change item 6 as follows:

6. Add-in card mechanical specification, except new identification requirement (see Section X.1).

Chapter 9, after page 198 insert a new chapter entitled Mechanical Specification as follows:

## X. Mechanical Specification

The PCI-X mechanical specification is identical to the conventional PCI 3.3V mechanical specification, except for identification requirements. The following mechanical form factor requirements are the same as for conventional PCI:

### Add-in Card Requirements

- Raw card dimensions and form factors
  - a. Standard length
  - b. Short length (fixed and variable height)
  - c. Low Profile PCI
  - d. Mini PCI
- Card edge connector dimensions and tolerances defined for both 32-bit and 64-bit interfaces

- [3.3V or universal keying](#)
- [Mounting brackets](#)
- [Card thickness](#)
- [Height requirement for both the component side and the backside](#)

#### [System Slot Requirements](#)

- [64-bit and 32-bit 3.3V slot connectors](#)
- [Slot spacing](#)
- [Board and system mountings](#)

### [X.1 Identification Requirements](#)

[PCI system and add-in cards capable of operating in PCI-X mode are required to identify that the system or the add-in card is capable of operating in PCI-X mode.](#)

#### [X.1.1 System Requirement](#)

[A system that includes one or more PCI slots capable of operating in PCI-X mode must indicate to the user which of the two maximum operating frequencies supported by PCI-X add-in cards the slot is optimized for. For example, a system that includes a slot operating at 60 MHz in PCI-X mode would indicate that the slot is optimized for PCI-X 66 add-in cards. A system that includes slots operating at 100 MHz in PCI-X mode would indicate that the slots are optimized for PCI-X 133 add-in cards. The method by which the system indicates this is not specified.](#)

#### [X.1.2 Add-in Card Requirements](#)

[Add-in cards capable of operating in PCI-X mode must be clearly marked to indicate their capabilities using one of the following methods:](#)

- [Silkscreen image](#)
- [Adhesive label](#)

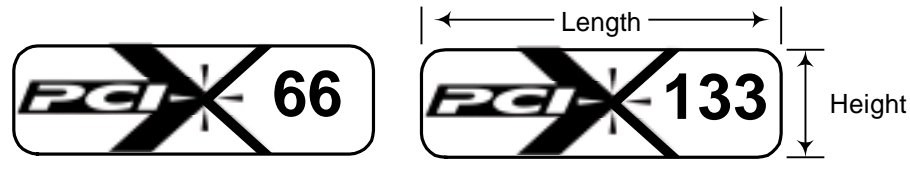
[The following rules apply to this PCI-X identification marking:](#)

- [At least one marking must appear on either the component side or backside of the card.](#)
- [Marking must be a faithful representation of the image shown in Figure 1.](#)

[A PCI-X identification marking is permitted to be any size, but must be clearly legible. The recommended minimum height and length for the adhesive and the silkscreen add-in card marking is 0.25" for its height and 0.75" for its length. This minimum height and length guideline is the same for all PCI form factors including standard, Low Profile, and Mini PCI add-in cards.](#)

[PCI-X identification marking must use high contrast colors, for example, for adhesive labels black ink on white background or for silkscreen marking a white silkscreen image on a green raw card. Furthermore the silkscreen marking must be bordered.](#)

[Figure 1 shows the requirement for PCI-X 66MHz and 133MHz add-in card identification marking. Notice that the PCI-X identification logo uses a solid color, rather than the gray scale fading on the standard PCI-X logo.](#)



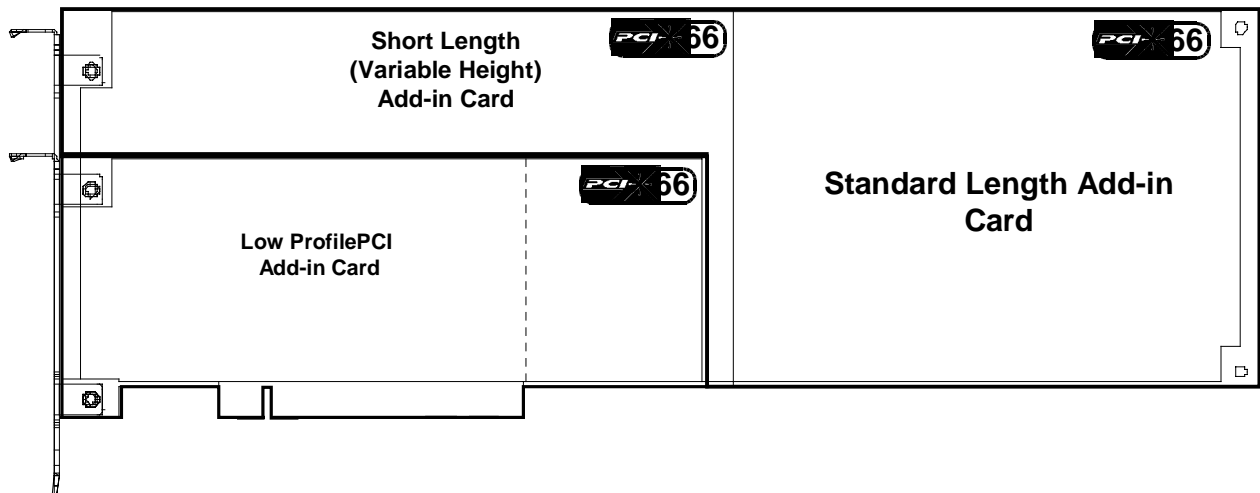
**Figure X-1: PCI-X Add-in Card Identification Marking Requirement**

If a side of an add-in card does not utilize a silkscreen process, the add-in card identification marking is permitted to appear on that side on an external copper layer. External copper layer marking must meet all other marking requirements.

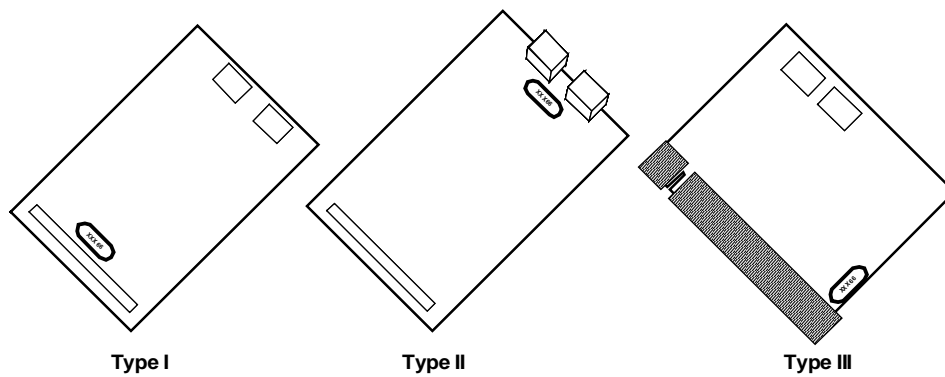
**X.1.2.1 Placement of Marking**

Markings are permitted at any location on either the component side or backside of the PCI add-in card. Marking is recommended to be placed near the top edge of standard length, short length, and Low Profile PCI add-in cards, to allow visibility of the marking when the card is seated in a PCI slot. Figure 4, illustrates placement of the marking while the card is seated in a PCI slot.

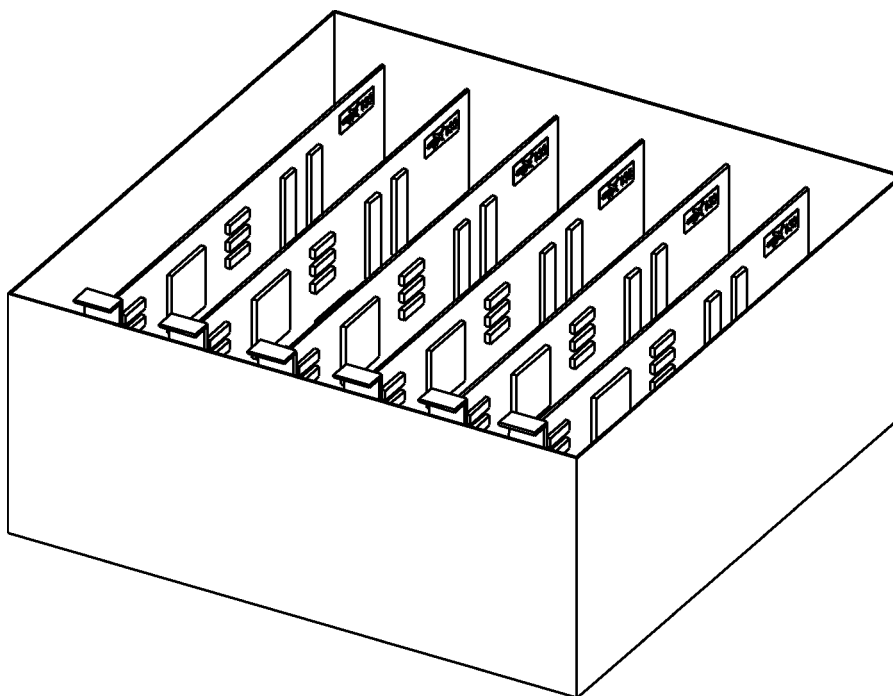
Figure 2 illustrates PCI-X markings on standard and Low Profile PCI add-in cards. Figure 3 illustrates PCI-X markings on Type I, Type II, and Type III Mini PCI add-in cards.



**Figure X-2: 32-bit 3.3V Low Profile, Short (Variable Height) and Standard Length Add-in Card with PCI-X Marking**



**Figure X-3: Mini PCI Type I, Type II, and Type III Add-in Cards with PCI-X Marking**



**Figure X-4: Multiple Add-in Cards in Slots**