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**IDT<sup>®</sup>**  
**Migrating from the PLX PCI**  
**6140 to the Tsi340<sup>™</sup>**  
**PCI-to-PCI Bridge**

80E3000\_AN002\_02

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6024 Silver Creek Valley Road San Jose, California 95138

Telephone: (408) 284-8200 • FAX: (408) 284-3572

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# 1. Migrating from the PLX PCI 6140 to the Tsi340 PCI-to-PCI Bridge

This application note details the differences between the Tsi340™ and the PLX™ PCI 6140. It is intended to help easily migrate designs from the PCI 6140 to the Tsi340 by highlighting any differences between the devices.

This document discusses the following:

- “Overview” on page 3
- “Feature Compatibility” on page 4
- “Software Compatibility” on page 4
- “Pin Compatibility” on page 5

## Revision History

### **80E300\_AN002\_02, Formal, September 2009**

This document was rebranded as IDT. It does not include any technical changes.

### **80E300\_AN002\_01, Formal, November 2006**

This is the first revision of this document.

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## 1.1 Overview

The Tsi340 is pin out and package compatible with the PCI 6140 PCI-to-PCI Bridge. The Tsi340 can be used as a drop in replacement for the PCI 6140 without any modifications to the system board.

The Tsi340 and PCI 6140 are available in a 128-pin PQFP package with similar mechanical parameters that allow both these chips to be soldered on to a common foot print on the system board.

## 1.2 Feature Compatibility

The Tsi340 is feature compatible with the PCI 6140. The Tsi340 implements the additional features listed in [Table 1](#).

**Table 1: Tsi340 vs. PLX PCI 6140 Feature Comparison**

Feature	Tsi340	PCI 6140
PCI Local Bus Specification	Revision 2.3	Revision 2.1
66MHz Capable	yes	no
Speculative read ahead pre-fetching	yes	no
Extended Commercial Temp. (0 to 85C)	yes	no (0 to 70C)

## 1.3 Software Compatibility

The Tsi340 and PCI 6140 are fully software compatible within the standard PCI configuration space, with the exception of the values returned by the Vendor ID, Device ID, and Revision ID registers (see [Table 2](#)).



For more information on using device specific features and registers which are outside the standard PCI configuration space, refer to the *Tsi340 User Manual*.

**Table 2: PCI Standard Configuration Space Register Differences**

Register	Tsi340	PCI 6140
Vendor ID	0x10E3	0x3388
Device ID	0x8140	0x0021
Revision ID	0x00	0x10

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## 1.4 Pin Compatibility

Table 3 shows the differences in the pin list between the two devices as well as any design implications caused by these differences. The pin list is in numerical order.

**Table 3: Pin List Differences**

Pin#	Tsi340 Pin Name	PCI 6140 Pin Name	Implication
65	SCAN_TM_N	No Connect	None, the Tsi340 has an internal pull-up on the SCAN_TM_N input.
106	SCAN_EN	S_IDEN (Reserved)	None, the Tsi340 SCAN_EN is an output when SCAN_TM_N is sampled high.



**CORPORATE HEADQUARTERS**  
6024 Silver Creek Valley Road  
San Jose, CA 95138

**for SALES:**  
800-345-7015 or 408-284-8200  
fax: 408-284-2775  
[www.idt.com](http://www.idt.com)

**for Tech Support:**  
email: [ssdhelp@idt.com](mailto:ssdhelp@idt.com)  
phone: 408-284-8208  
document: 80E3000\_AN002\_02