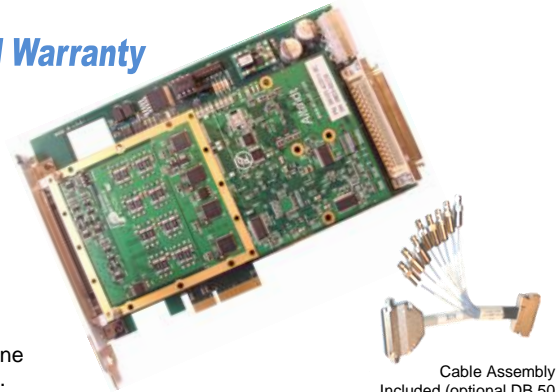


**Key Features for PCIEC4L-1553:**

- One to Four Independent, Dual Redundant MIL-STD-1553 Channels
- Dual Function (BC/Mon or mRT/Mon) or Full Function (BC/mRT/Mon)
- One Mbyte of QDR Memory per Channel
- Fully Compliant to MIL-STD-1553B Notice II/IV, MIL-STD-1760, 1553A and Link-16
- Commercial, Industrial (Extended) Temperature and Conduction Cooled
- **\*\*Industry First\*\***
  - Full Loop-Back Transmission Verification
- Advanced 32-bit BC, RT and Monitor FPGA Design – Full 32 bit Memory.
- BC Framing/Subframing/Aperiodic
- Common Data Packets for BC, RT and Monitor
- Advanced, Multi-layer **AltaAPI** Provided at No Cost with Source Code
- Windows, Linux, RTOS, Labview Support
  - .NET 2.0 Client/Server
  - Contact Factory for Latest RTOS Support
- True HW Playback (BC)
- Industry First: 20ns Signal Generation
  - Bit Construction
  - Supports RT Validation Testing
- IRIG-B or PPS Ext Clock
- Avionics/ RS-485 Discrettes
  - 1760 Ext RT Addressing
- Advanced BIT Features and Temperature Sensors
- Full HW Interrupt Features
- ½ Size, 4 Lane PCI Express
  - PCI Express 1.1

**5 Year Limited Warranty**



½ Size, 4 Lane PCI Express. PCIEC4L-1553

Cable Assembly Included (optional DB 50 for I/O Shown)

Alta Data Technologies' PCIEC4L-1553 interface modules (PMC on ½ size, 4 Lane PCI Express Carrier) is a multi-channel (1-4) 1553 card supported by the latest software technologies. The PCI Express 1553 card is based on the industry's most advanced 32-bit 1553 FPGA protocol engine, **AltaCore™**, and by a feature-rich application programming interface, **AltaAPI™**, which is a multi-layer ANSI C and Windows .NET 2.0 (MSVS 2005 C++, C#, VB .NET) architecture. The card and software package provides increased system performance and reduces integration time.

The PCIEC4L-1553's BC capability, including variable message framing/subframing with transmission scheduling provides the most advanced BC control operations. RT, Monitor, Playback and Signal Generator functions also include industry leading functions to meet the most demanding requirements.

**AltaCore** is guaranteed 1553B Notice II & IV compliant and all cards are manufactured to the highest IPC-Level 3 standards and certified ISO-9001 processes. Cards are available in dual-function (BC/Mon or multi-RT/Monitor) or full-function (BC, mRT and Mon) configurations. Playback and Signal Generation are part of BC operations. We are committed to a risk free integration and will be glad to help with any level of your system development.

Interface Cards are Provided with the Advanced **AltaAPI** for ANSI C/Linux/RTOS and .NET 2.0. Optional **AltaView** Analyzer & **AltaRTVal™**

**AltaView**  
Multi-Protocol Analyzer GUI with XML db, Real-time Views, Controls and Archiving  
Customer Windows GUI/Application/Labview

**AltaAPI** Architecture  
Layer 2: Windows Managed DLL  
OOB for .Net 2.0, C#, C++, VB, Labview  
Network Client/Server Layer

Layer 1: Portable ANSI C API  
Real-time & Linux Applications

Layer 0: OS Device Driver  
Windows, Linux, RTOS

Hardware - PCI, PCI Express or Other

Information in this data sheet is subject to change without notice. Alta is not responsible for errors or omissions. All trademarks are reserved by their respective owners. AltaCore, AltaAPI, AltaView and AltaRTVal are trademarks of Alta Data Technologies. Page 1/2 - 16July2009

# Multi-Channel (1-4) *AltaCore* 1553 PCIEC4L-1553 Specifications

## General

- ½ Size, 4 Lane PCI Express Card
  - PCI Express 1.1
- Fast Memory - QD RAM
  - One Megabyte per Channel
  - Common Data Packets (CDPs) for all BC, RT and Monitor Functions
- MIL-STD-1553B Notice II & IV
  - MIL-STD-1760, 1553A and Link-16
- Weight: 4oz/120grams
- Power (Estimated @ Max Bandwidth)
  - 1CH@5.5W, 2CH@6.5W, 3CH@7.5W, 4CH@8.5W
- Parts Temp (C) : -55 to +120 Storage, 0 to +70 Commercial, -40 to + 85 Extended
- Cable Assembly with 1553 3-Plug Stub Cables Provided. DB50 Optional for I/O Discretes/Time.
  - SCSI-3 or P4 Connector on Card
- 14 Avionics and Two RS-485 Discretes
  - 1 Channel 1760 Ext RT Address
- Power-Up, Loop-Back and User BIT
- IRIG-B PAM and PPS Time Sync Input
- IPC Level 3 and ISO-9001 Manufacturing

## BC Features

- Variable Framing and Subframing
- Up to 15 Retries Per Message
- Schedule Message Timing in Frames\_or Intermessage Gap Spacing
- Low and High Priority Aperiodic Scheduling
- Infinite Linked Data Buffers
- Real-time Assignment of CDP data Lists for Messages
- Interrupts, No-Ops, Ext Trigger
- Legal and Reserved Mode Codes
  - 1553A and 1553B Support
- 64-Bit, 20 ns Time Tags
- Full Error Injection/Detection

## Playback/Signal Vector (BC)

- Real Hardware Playback from Archive Files
- Accurate Timing to 1 usec.
- Signal Vector Generation at 20 nsecs
  - \*\*INDUSTRY FIRST\*\*
    - Construct 1553 Bit Signals at 20 nsecs
    - \*\*AS4111 5.2 RT Val Protocol Capability

## RT Features

- Infinite Linked Data Buffers
- Legal and Reserved Mode Codes
  - 1553A and 1553B Support
  - Full Buffering of All Mode Codes
- 64-Bit, 20 ns Time Tags
- Full Error Injection/Detection

## Monitor

- Sequential and RT Mapped Monitor
  - Available with All Card Models
  - Hardware Trigger
- 64 bit, 20ns Time Tags

## AltaAPI, AltaView, AltaRTVal Software

- Multi-Layer *AltaAPI* Architecture to Support Windows (.Net 2.0) and ANSI C Linux
  - For RTOS Platforms, Contact Factory
- Optional *AltaView* is Based on the Latest Windows MS Office 2007 User Interface Style with Ribbon-Bar
  - Full Analyzer Integration Tool
  - Multi Language Support
- Optional *AltaRTVal* provides full AS4111 and AS4112 5.2 Protocol RT Validation GUI and Reports – Releases Q4 2007

## Part Numbers (1-4 Channels)

Dual Function: BC/Mon or mRT/Mon

- PCIEC4L-1553-1D/2D/3D/4D

Full Function: BC, mRT and Monitor

- PCIEC4L-1553-1F/2F/3F/4F

- AltaView Analyzer Software Add “-A” as Suffix.
- AltaRTVal RT Validation Software Add “-B” as Suffix.

Environment Options

- -E for Ext Temp Parts (-40 to +85C)

## 5 Year Limited Warranty (Alta Portion Only)

EU and China RoHS Compliant

Contact Alta for Special Lead Build Configurations

*AltaAPI* Software with ANSI C Source and .Net 2.0 DLL with Client/Server provided at No Cost.



Alta Data Technologies LLC  
4901 Rockaway Blvd., Building A  
Rio Rancho, NM 87124 USA  
(In US): 888-429-1553  
(Outside US): 505-994-3111  
Fax: 805-504-8588  
Cage Code: 4RK27 • NAICS: 334418  
www.altadt.com • alta.sales@altadt.com