Alta Data Technologies’ MPCIE2-1553 provides 1-2 independent, dual redundant 1553 channels on a Full Mini-PCI Express Type 2 interface card. The MPCIE2-1553 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 (MSVS 2005-15 C++, C#, VB .NET) architecture. Ideal for small embedded computers such as COM Express systems.

**AltaCore-1553** is **guaranteed** 1553B Notice II & IV **compliant** and all cards are manufactured to the highest IPC-Level 3 standards and ISO 9001:2008 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. Alta is committed to a risk free integration and will be glad to help with any level of your system development.

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**Alta’s Advanced Software Architecture**

**AltaView & AltaRTVal**

Multi-Protocol Analyzer & 1553 AS4111/4112 5.2 Validation
User’s Application with Modular, Portable *AltaAPI*

**AltaAPI Architecture**

**Layer 2** – Windows Managed DLL
Object Oriented Code for .NET, C#, C++, VB, LabVIEW
Network Client/Server C#

**Layer 1** – Portable ANSI C Application Program Interface (API)
(most applications tie-in here – includes native LabVIEW/LabWindows CVI DLL)

**Layer 0** – OS Device Driver
Windows, Linux, Real-Time Operating Systems, LabVIEW-RT

Hardware – PCI, PCI Express, cPCI, PCCD, XMC, etc...

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**Key Features**

- **1-2 Independent, Dual Redundant 1553 Channels for Mini PCIe F2 Slots**
- Dual Function (BC/Mon or mRT/Mon) or Full Function (BC/mRT/Mon)
- One Mbyte of Memory per Channel
- Fully Compliant to MIL-STD-1553B Notice II/IV, 1553A and Link-16
- Commercial or Industrial Extended Temperature Parts
- **A/D Signal Capture First Channel!** View 1553 Waveforms with *AltaView***
- 8-bit, 50 nSec A/D for Voltage Measurements
- BC Framing/Subframing/Aperiodic
- Common Data Packets (CDP) for BC, RT and Monitor – Complete Message Info
- True HW Playback – HW Sync Channels
- Industry First: 20ns Signal Generation
- Bit Construction – 1553 PHY TX
- Supports RT Validation Testing
- Advanced, Multi-layer *AltaAPI* Provided at No Cost with Source Code
- Windows, x86 Linux, LabVIEW & RT
- IRIG-B RX PAM or RX/TX PPS Ext Clock
- RS-485 Discrete/ Clock & Trigger

**Advanced BIT Features and Dual Temperature Sensors**

- Mini-PCI Express – PCI Express 1.1
- MSI & Legacy HW Interrupt Support
- Full-Mini PCI Express Type F2 Card
- **4.22 +/- 0.38mm Height on Primary Side. This is approximately 1.8mm taller than Specification.**

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www.altadt.com
Single-Channel
MPCIE2-1553 Specifications

**General**
- Mini-PCI Express – PCI Express 1.1
- Full-Mini PCI Express Type F2 Card
- 1-2 Dual Redundant 1553 Channels
- One Megabyte RAM per Channel
- 4.22 +/- 0.38mm Height on Primary Side.
  This is approx. 1.8mm taller than Spec.
- Common Data Packs (CDPs) for all BC, RT and Monitor Functions – Industry First
- MIL-STD-1553B Notice II & IV
  - 1553A and Link-16
- Power Estimate at Full Bandwidth 2W
- Parts Temp (C) : -55 to +120 Storage, 0 to +70 Commercial, -40 to + 85 Extended
- One RS-485 Discrete/Clock/Trg.
  - One Single Ended Trigger
- Loop-Back & User BIT, Dual Temp Sensors
- IRIG-B RX PAM and TX/RX PPS Time Sync
- IPC Class 3 and ISO 9001:2015 Processes

**BC Features**
- Simple One-Shot Lists to Advanced Message Framing and Subframing
- Message Timing with 100 nSec Accuracy
- Infinite Linked CDP Data Buffers
  - 64-Bit, 20 ns Time Tags, Interrupts, Triggers
- Low and High Priority Aperiodic Messages
- Multi Branching Per Message, No-Ops, Delays, Ext Trigger In/Out, Interrupts etc…
- Up to 15 Retries Per Message
- Legal and Reserved Mode Codes
- 1553A and 1553B Support
- Full Error Injection/Detection

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

**Monitor**
- Sequential and RT Mapped Monitoring with Infinite Linked CDP Data Buffers
- Available with All Card Models
- 64-Bit, 20 ns Time Tags, Interrupts, Triggers
- Full Error Detection
- 8-bit, 50 nSec A/D Waveform Signal Capture with Trigger on Words or Errors
  - AltaView Software is Ideal for Signal Display

**Software:** **AltaAPI, AltaView**
- Multi-Layer AltaAPI Architecture to Support Windows and x86 Linux
  - Contact Factory For RTOS Platforms
  - LabVIEW & RT Support
- Optional AltaView is Based on the Latest Windows MS Office User Interface Style with Ribbon-Bar
  - Full Analyzer Integration Tool
  - Multi Language Support

**Part Numbers**
Dual Function: BC/Mon or mRT (Multi RT)/Mon
- MPCIE2-1553-2D
Full Function: BC, mRT (Multi RT) and Monitor
- MPCIE2-1553-2F
**Channel Count Digit:** “1” or “2” Above
Options: -E for Ext Temp Parts (-40 to +85C);
-A for AltaView: -I 1553 TX Inhibit, -N NVRAM Write Disable,
-F Conformal Coating. Options Example (alpha order):
  MPCIE-1553-2F-AEFIN

**5 Year Limited Warranty!**
EU and China RoHS Compliant
Contact Alta for Special Lead Build Configurations
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Rio Rancho, NM 87124 USA
888-429-1553 (in US)
505-994-3111 (outside US)
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