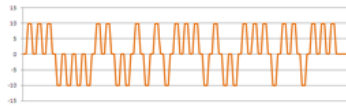




# MPCIE-A429

## ARINC Interface For Mini PCI Express Systems



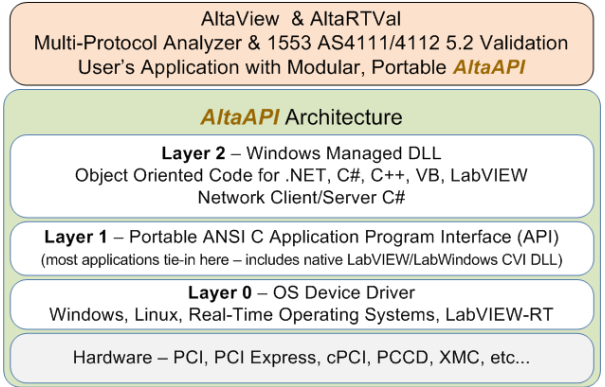
Wave Form Data Shown on ExcelGraph  
Auto Signal Capture with AltaView!

Alta Data Technologies' MPCIE-A429 Mini PCI Express F1 interface module offers a variety of ARINC-429/575/717 channel configurations with software selectable RX/TX channels, baud rates, bit encoding and word configurations (Start/Sync/Stop length, Parity, bits/word, MSB/LSB). Encode or decode almost any ARINC-429 transceiver compatible signal.

The card design is based on the industry's most advanced 32-bit ARINC FPGA protocol engine, **AltaCore™**, and a feature-rich application programming interface, **AltaAPI™**, which is a multi-layer ANSI C and Windows .NET (MSVS 2005/08/10 C++, C#, VB .NET, LabVIEW, RTOS) architecture.

The MPCIE-A429 Transmit capability includes both simple and complete frequency control options for each channel and Playback and Signal Generator modes. Three Receive (RX) functions including channel and multi channel levels.

**AltaCore** is guaranteed ARINC-419/429/575/573/717 compliant and all cards are manufactured to the highest IPC-610 Class 3 standards and ISO 9001:2008 processes. Alta is committed to provide each customer with a risk free integration and will help with any level of your system development.



Alta's Advanced Software Architecture

### Key Features:

- ARINC-419/429/575/573/717 Configurations:
  - 4 RX/TX Shared Channels
  - 2 RX Channels
  - For Shared Channels, RX Function is Always Available and TX is Software Selectable (Tri-State).
  - Channels Can Be Fixed on Request
- A/D Signal Capture on First RX!
- One ARINC-717 RX/TX Shared
  - Replaces Corresponding 429 Channels
- Fully Programmable Label/Word Encoding and Decoding
  - Word Length, Start/Sync/Stop Bits, MSB/LSB, RX/TX Bit (Baud) Rates, Parity, Bit Encoding Types.
- Commercial, Industrial (Extended) Temp
- Channel Independent TX Label/Word Frequency Control. One Shot or List Control.
- Three RX Modes for Channel and Multi-Channel Buffering, each with 64-bit, 20 nsec Time Tags
- Advanced, Multi-layer **AltaAPI** Provided at No Cost with Source Code
- Windows, Linux, RTOS, LabVIEW & RT
  - .NET Managed DLLs
  - Contact Factory for Latest RTOS Support
- True HW Playback
- Industry First: 1 uSec Signal Generation
  - Bit Construction
  - Supports Advanced Validation Testing
- IRIG-B RX PAM or RX/TX PPS Ext Clock
- Eight Avionics & One TTL Bi-Directional
- Advanced BIT Features and Temp Sensors
- Full HW Interrupt Features
- Mini-PCI Express – PCI Express 1.1
- Full-Mini PCI Express Type F1 Card

# Multi-Channel MPCIE-A429 Specifications

## General

- Mini-PCI Express – PCI Express 1.1
- Full-Mini PCI Express Type F1 Card
- Encode or Decode Almost any ARINC-429 Physical Layer Signal.
- 8-bit, 1 uSec A/D Signal Capture on First RX!
- One Megabyte RAM
- Weight: 3oz/90grams
- Parts Temp (C) : -55 to +120 Storage, 0 to +70 Commercial, -40 to + 85 Extended
- Flying Lead Cable Provided (User Configured)
- Full Word/Label Encoding/Decoding
  - Bit Rates 500 to 200K
  - Bit Types, Length, Start/Stop and Parity Settings (most advanced in industry)
- 8 Avionics Discrettes and One TTL
- Power-Up, Loop-Back and User BIT
- IRIG-B RX PAM and RX/TX PPS Time Sync
- IPC Level 3 and ISO 9001:2008 Processes

## TX Features

- Simple or Detailed Frequency (Hz) Control Per Label/Word List
- ARINC-717 Frame Support
- Interrupts, External Trigger
- Full Error Injection

## RX Features – Three Buffering Modes

- Channel Level Label/Word Tables
- Channel Level Current Value Tables
- Multi Channel Data Tables for All Channels
- ARINC 717 Frame Support
- 64-Bit, 20 nsec Time Tags
- Interrupts, External Trigger
- Full Error Detection

## Playback/Signal Generator (TX)

- Real Hardware Playback from Archive Files
- H/W Playback Timing to 10 usec.
- Signal Vector Generation at 1 uSec  
\*\*INDUSTRY FIRST\*\*
  - Construct Bit Encoding
  - Ideal for Test Validation

## Software: *AltaAPI & AltaView*

- Multi-Layer *AltaAPI* Architecture to Support Windows and C Linux, VxWorks, LabVIEW, etc..
  - Contact Factory For RTOS Platforms
- Optional *AltaView* is Based on the Latest Windows MS Office 2007 User Interface Style with Ribbon-Bar
  - Full Analyzer Integration Tool
  - Multi Language Support

## Part Numbers

### MPCIE-A429-6

- 4 Shared RX/TX ARINC-429 Channels
- 2 RX ARINC-429 Channels
- One RX/TX Channels 717
  - (717 TX or RX Replaces Two 429 Channels)

Options: -E for Ext Temp Parts (-40 to +85C); -F for Conformal Coating; -A for AltaView; -N for NVRAM Write Protect. Example: MPCIE-A429-6-AEFN.

NOTE: On shared channels: TX lines have an extra RX load; when powered-off, RX channels can have severe voltage drain – use only dedicated RX channels for critical systems.

## 5 Year Limited Warranty!

EU and China RoHS Compliant

Contact Alta for Special Lead Build Configurations

*AltaAPI* Software with ANSI C Source, .Net and LabVIEW & RT provided at No Cost.

**Alta**dt  
data technologies

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