PCI Development Platform for HD video processing based on PNX1005

Based on the latest PNX1005 from NXP Semiconductors, the OM4965 development board enables a software engineer to develop a range of algorithms and applications on the PNX1005, while using a standard and easy development environment on a PC. The development board comes with a range of inputs and outputs for audio and video, in both analog and digital way, providing the developer with the flexibility, needed to develop a wide range of software components.

Key features

▸ Based on PNX1005 TriMedia DSP media processor.
▸ HDMI up to 1080p/60 input an output
▸ Analog 4 channel composite video input
▸ Audio analog stereo input and input
▸ Ethernet
▸ USB
▸ Standard PCI form factor
▸ On board connectors for GPIO, EJTAG, I2C
▸ Schematics, Gerber files available

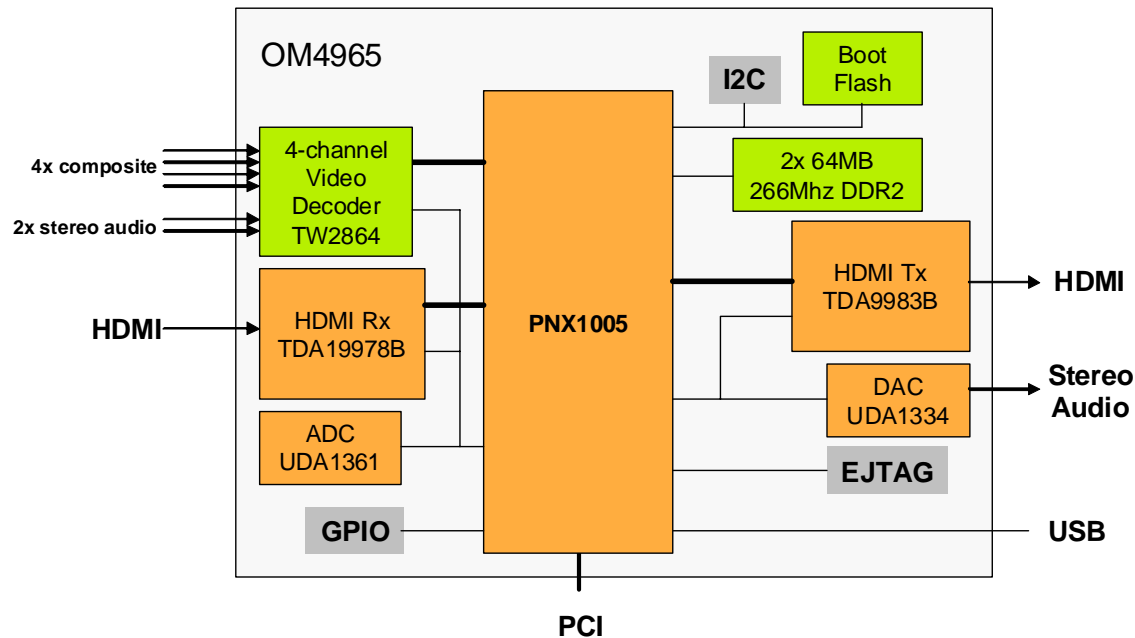## Key benefits

▸ Easily integrates in any standard PC
▸ PCI connection allows for fast debugging, access to files and network on the PC
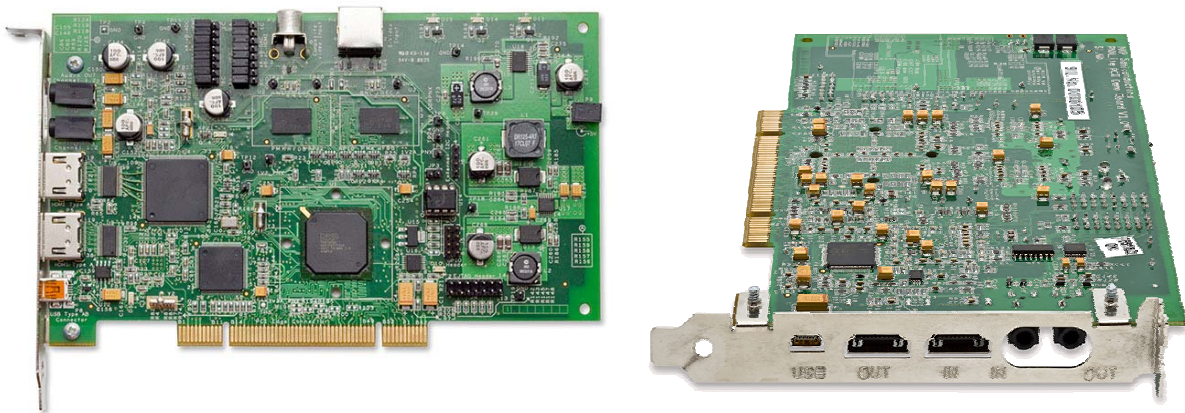▸ HDMI in/out enables zero-loss video inputs and outputs

Applications

▸ Video compression and decompression algorithms
▸ Video analytics for security
▸ Video optimization : intra-frame calculation and enhanced deinterlacing
▸ Algorithms for multi-channel acoustic procession
▸ USB and Network components

NXP
founded by Philips

Block diagram

OM4965

4x composite → 4-channel Video Decoder TW2864

2x stereo audio →

HDMI → HDMI Rx TDA19978B

ADC UDA1361

GPIO

PNX1005

I2C — Boot Flash

2x 64MB 266Mhz DDR2

HDMI Tx TDA9983B → HDMI

DAC UDA1334 → Stereo Audio

EJTAG

USB

PCI

Front and side view

Specifications

- Processor: PNX1005E/400 400Mhz
- Memory: 128 MB DDR2 333Mhz DRAM operating at 266Mhz clock (533Mhz data rate)
- Analog audio/video input : Techwell TW2864 4-channel video decoder
- Digital audio/video input : NXP TDA19978B HDMI receiver (up to 1080p with 8 channel audio)
- Video audio/output : NXP TDA9983B HDMI transmitter (up to 1080p with 8 channel audio)
- Analog audio input/output: NXP UDA1361 and UDA1334 stereo ADC and DAC
- USB 2.0 High-Speed OTG with a mini-AB connector
- General Purpose I/O : 8 GPIO lines on 1" pitch IDC header
- EJTAG interface, I2C interface and jumper blocks
- PCI Interface : Universal 3.3/5V signaling card, PCI 2.2 compliant, supports 66Mhz operation
- Dimensions: Full height, half length PCI card