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Find the *Aitech Defense Systems EV176* at our website: ***Click HERE***

EV176

Development System for A176 Cyclone

Aitech
Embedded Computing *without* Compromise



The EV176 evaluation system is based on the NVIDIA Jetson System on Module, with 256 CUDA cores reaching 1 TFLOPS at a remarkable level of energy efficiency.

Develop your application on the EV176, and run it right away on Aitech's A176 Cyclone – Rugged GPGPU Fanless Small FF RediBuilt™ Supercomputer.



Rugged GPGPU is Aitech

- **NVIDIA® Jetson™ TX2 System on Module**
  - Pascal™ Architecture GPU w/256 CUDA® cores
  - NVIDIA Denver 2 Dual-Core ARM® CPU + Cortex® A57 Quad-Core ARM® CPU
  - 1 TFLOPS
  - H.264/H.265 HW Encoder
  - Best Available Performance per Watt – 60 GFLOPS/W
- **8 GB LPDDR4**
- **eMMC Flash + SD Card Slot**
- **Video Capture**
  - SDI (SD/HD) w/dedicated H.264 encoder
  - Composite (RS-170A [NTSC]/PAL), 8 channels available simultaneously
- **I/O**
  - Gigabit Ethernet
  - UART Serial
  - USB 3.0
  - SATA
  - Discretes
  - DVI/HDMI Output
  - Composite Input
  - SDI Input
- **CUDA, OpenGL, OpenGL ES, EGL**
- **Low Power Consumption**



EV176

Development System for A176 Cyclone

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System Architecture

System on Module	NVIDIA Jetson TX2
GPU	• NVIDIA Pascal GPU Architecture • 256 Shaders/CUDA cores • > 1 TFLOPS (fp16) • CUDA • OpenGL • OpenGL ES
CPU	ARMv8 (64-bit) heterogeneous multi-processing (HMP) architecture with two CPU clusters (6 processor cores) • NVIDIA Denver 2 Dual-Core @ 2.0 GHz, 128 KB L1 instruction cache + 64 KB L1 data cache per core, 2 MB L2 Unified Cache • ARM® Cortex® A57 Quad-Core @ 2.0 GHz, 48 KB L1 instruction cache + 32 KB L1 data cache per core, 2 MB L2 Unified Cache
System Resources	• Multi-standard Video/JPEG Decoder/Encoder, HW Encoding for H.264/H.265 • Dynamic voltage and frequency scaling

Memory Resources

RAM	8 GB LPDDR4 @ 1866 MHz, 128-bit interface
eMMC	32 GB eMMC 5.1 (boot source)
SD Slot	Full Size SD Card Slot
SATA	SATA I/O port for external disk

I/O

USB 3.0	1
Gigabit Ethernet (10/100/1000Base-T)	1
SATA	1
Serial Ports (TTL UART)	2
Discrete I/O (Single-Ended)	4
DVI/HDMI Output	1
Composite Input (RS-170A [NTSC]/PAL)	8 (all channels available simultaneously)
SDI Input (SD & HD resolutions)	1 (with dedicated H.264 encoder)
Wireless	802.11ac Wi-Fi and Bluetooth

Software

- Linux OS pre-installed – L4T (Linux for Tegra), a lightly modified Ubuntu-based distribution
- Video capture drivers and sample applications pre-installed

Power

Power Supply	AC wall adaptor included (100-240 V, 50/60 Hz AC input)
Power Consumption	• ≤ 5 W idle • 8-10 W under typical CUDA load • 17 W when System on Module is fully utilized

EV176

Development System for A176 Cyclone

Aitech
Embedded Computing *without* Compromise

The EV176 is an evaluation system based on NVIDIA's Jetson TX2 developer kit, with Aitech's HW and SW customizations.
The comparison table below provides a summary of EV176 and A176 Cyclone feature compatibility.

Aitech EV176 Evaluation System	Aitech A176 Cyclone	
NVIDIA Jetson TX2 SoM	NVIDIA Jetson TX2 SoM	✓
SATA interface for external disk	SATA SSD with Secure Erase/Quick Erase	✓
1 x Gigabit Ethernet	1-2 x Gigabit Ethernet	✓
2 x UART	2 x UART	✓
4 x Discretes	4 x Discretes	✓
DVI/HDMI OUT	DVI/HDMI OUT	✓
8 x Composite IN (RS-170A [NTSC]/PAL)	8 x Composite IN (RS-170A [NTSC]/PAL)	✓
1 x SD-SDI/HD-SDI IN w/dedicated H.264 encoder	1 x SD-SDI/HD-SDI IN w/dedicated H.264 encoder	✓
CUDA, OpenGL, OpenGL ES, EGL	CUDA, OpenGL, OpenGL ES, EGL	✓
Wi-Fi and Bluetooth	N/A	

Ordering Information

EV176 - 0 [ ] - [ ] [ ]

Reserved

System On Module
1 = NVIDIA Jetson TX2
0 = NVIDIA Jetson TX1
TX1 is not recommended for new designs, contact an Aitech representative for more info

Configuration No.
To be assigned by Aitech

Example: EV176-01-00

Rugged GPGPU is Aitech

Contact Aitech

Contact your Aitech sales representative for additional product information, and for inquiries regarding customized configurations of the EV176 and additional software support.



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