X-CARRIER

NVIDIA Tegra X1 and X2 Carrier Module

SYSTEM-ON-MODULE

Top

Bottom
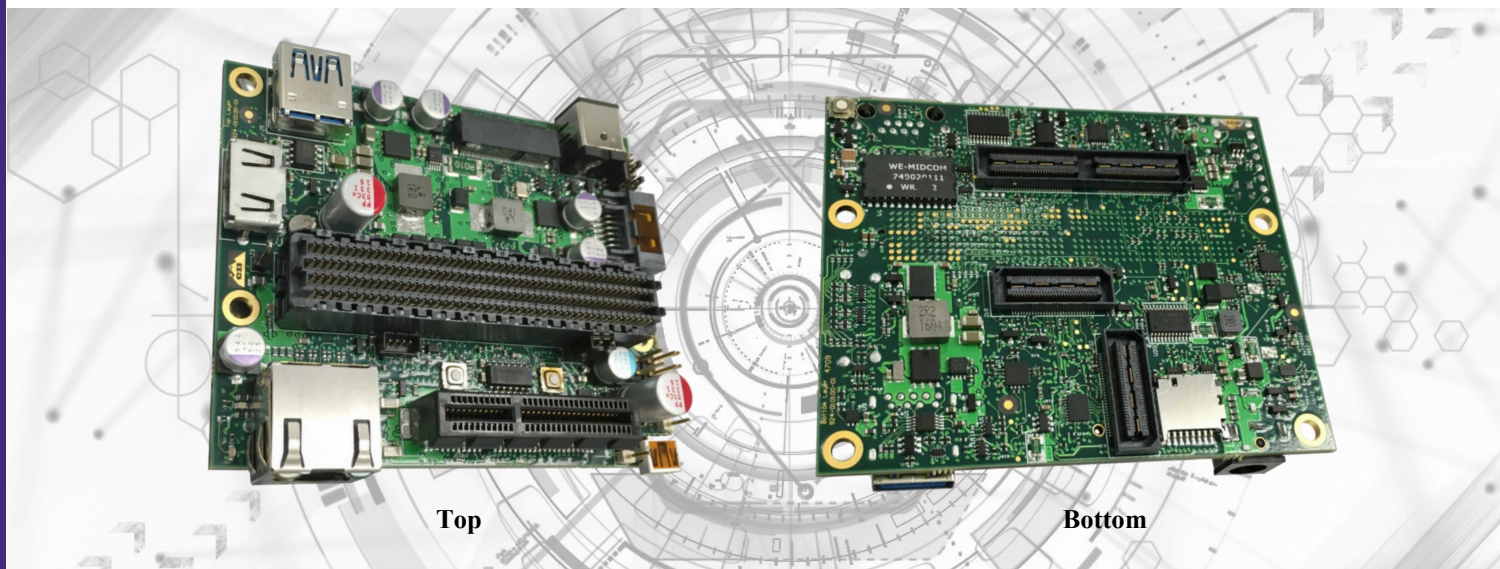
PRODUCT DESCRIPTION

The TX1/TX2 Carrier Board is the latest of CEI's exciting embedded NVIDIA products! Designed to bring the power of the new Tegra X1 Maxwell Architecture to the embedded market, the TX1/TX2 Carrier features a plethora of I/O to integrate into your system: including MIPI CSI-2, USB, Ethernet, PCIe, WiFi, Bluetooth, UART, SPI, I2C, I2S, and GPIO.

The Carrier is perfect for video analytics, featuring a mind-blowing 1 TFLOPs (FP16), and can process 4K video at up to 60 FPS using hard H.265 and H.264 encoding and decoding. The Carrier features a quad core A57 in a big.LITTLE architecture for power optimized use. Using NVIDIA's well developed software ecosystem, developers can create complex computer vision applications with ease using cuDNN and the Deep Learning GPU Training System (DIGITS), as well as other libraries from CUDA 7.5. The Carrier can also be used in other demanding compute applications including security, medical, and robotics.

FEATURES

Components
- 256 CUDA Cores
- 8 CPU cores, 64-bit (4x Cortex A57)
- NVIDIA Maxwell Architecture
- 4 GB LPDDR4-3200
- 16 GB eMMC 5.1
- 802.11ac 2x2 MIMO WiFi and Bluetooth
- 1 TFLOPs (FP16)
- Onboard IMU
- Auto power up

I/O
- 6x CSI (12 lanes, 6 cameras)
- HDMI 2.0
- MicroSD and SATA 2.0
- USB 3.0, USB 2.0
- 1 GbE
- x1 and x4 PCIe Gen 2
- 2x UART, 2x SPI, 3x I2C, 3x I2S, GPIOs

Software
- Ubuntu Linux (Linux4Tegra)
- NVIDIA CUDA 7.5
- OpenCV
- OpenCX
- Caffe
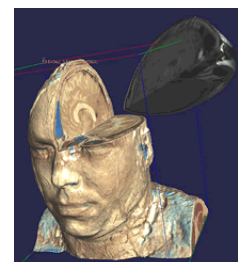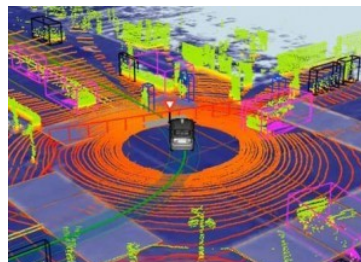- Theano
- Torch
- cuDNN, cuBLAS, etc
- C/C++
- Python & PyCUDA

APPLICATIONS

- Computer vision
- Deep learning
- Smart city
- Security
- Medical
- Robotics
- IoT, M2M

Jetson X1/X2

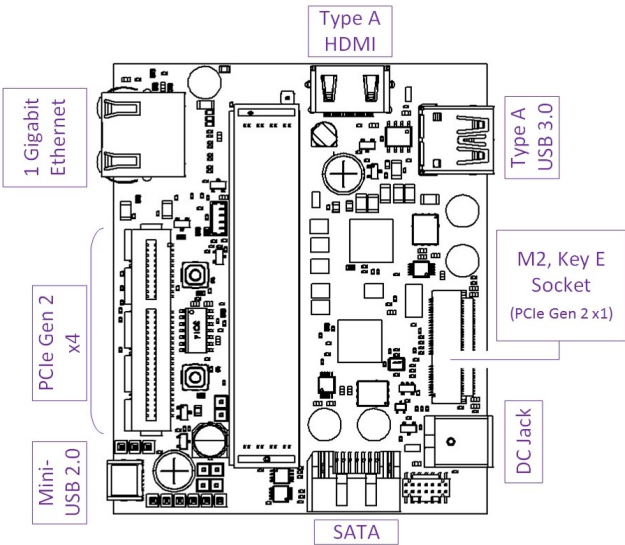## Not quite what you need? Need a custom version? CEI offers custom NVIDIA Jetson solutions.
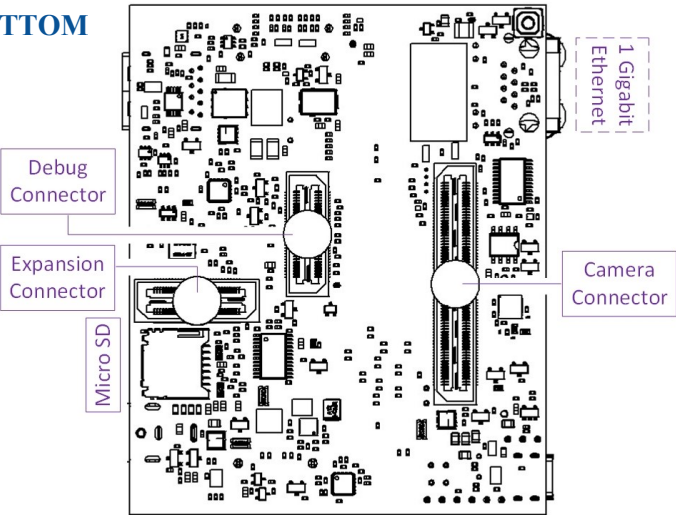
SPECIFICATIONS

Dimensions/Weight	Power	Environmentals	Warranty
• Length: 8.7 cm / 3.43 in • Width: 7.1 cm / 2.8 in • Height: 2.1 cm / .83 in • 6.5 g / .23 oz	• 12-19 V	• 10 year life cycle support • Automotive grade • Operating -20° C to 55° C • Storage : -40° C to 75° C • 10G shock • Custom temperature testing available	• Standard 30 days • Extended options available

Computer Vision, Deep Learning, Smart City, Security, Medical, IoT

TOP

Type A HDMI

1 Gigabit Ethernet

Type A USB 3.0

PCIe Gen 2 x4

M2, Key E Socket

(PCIe Gen 2 x1)

Mini-USB 2.0

DC Jack

SATA

BOTTOM

1 Gigabit Ethernet

Debug Connector

Expansion Connector

Camera Connector

Micro SD

Need OEM Quantities or Custom Designs?
Contact us!

COLORADO ENGINEERING, Inc.

NVIDIA