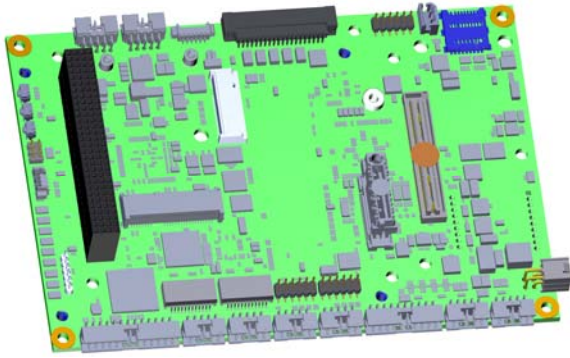


Elton™ Carrier for NVidia® AGX Xavier™



Elton™ utilizes the NVIDIA® Jetson™ AGX Xavier™ embedded computer module to deliver unmatched performance for AI, machine learning, image processing, and other compute-intensive tasks.

Elton provides numerous sockets for I/O expansion. An industry-standard camera module socket supports the attachment of up to 8 CSI cameras (up to 4 cameras with 4K resolution). An M.2 socket supports the use of PCIe x4 NVMe flash storage up to 256GB. An LTE module socket supports the use of NimbeLink SkyWire cellular modems, featuring a broad range of solutions with worldwide compatibility. Most notably, a full PCI/104-Express expansion socket enables the use of PCI-104 and PCIe/104 expansion modules with up to PCIe x8 bandwidth.

All I/O is provided on pin headers that are compatible with both common non-latching and rugged latching mating cables, making Elton ideal for applications in environments subject to high shock and vibration.

Jetson AGX Xavier

The NVIDIA Jetson AGX Xavier is an embedded system-on-module that integrates an NVidia 8-core Carmel 64-bit ARM-8 CPU with a 512-core Volta GPU with Tensor Cores. It includes dual Deep Learning Accelerators, 16GB 256-bit LPDDR4 RAM with 137GB/s bandwidth, 16 lanes of PCIe, and 16 MIPI CSI-2 camera lanes.

NVidia Meets PC/104

Unique among NVIDIA computing module carriers, Elton employs a PCI/104-Express expansion socket. The socket provides support for PCI-104, PCIe/104 type 2 (x8 lane), and PCIe/104 OneBank expansion modules (4 x1 lanes), enabling rapid creation of truly rugged, custom-configured, high performance, PCIe-based solutions using off-the-shelf I/O modules from a large number of manufacturers worldwide. Typical PCIe/104 I/O expansion includes 1G/10G Ethernet, video capture, and high-resolution video display.

Features

On-board features:

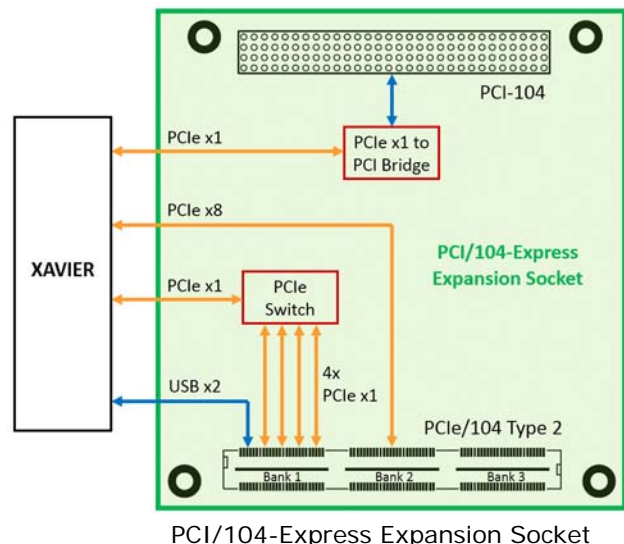
- ◆ 2x USB 3.1
- ◆ 2x USB 2.0
- ◆ 2x Gigabit Ethernet
- ◆ 1x HDMI
- ◆ 1x LVDS LCD
- ◆ 4x RS-232/422/485
- ◆ 2x CAN 1Mbps
- ◆ HD audio
- ◆ Data acquisition circuit:
 - 6 12-bit A/D, 0-3.3V input range, up to 1MSPS sampling rate
 - 2 12-bit D/A, 0-3.3V output range
 - 13 GPIO, 3.3V logic levels

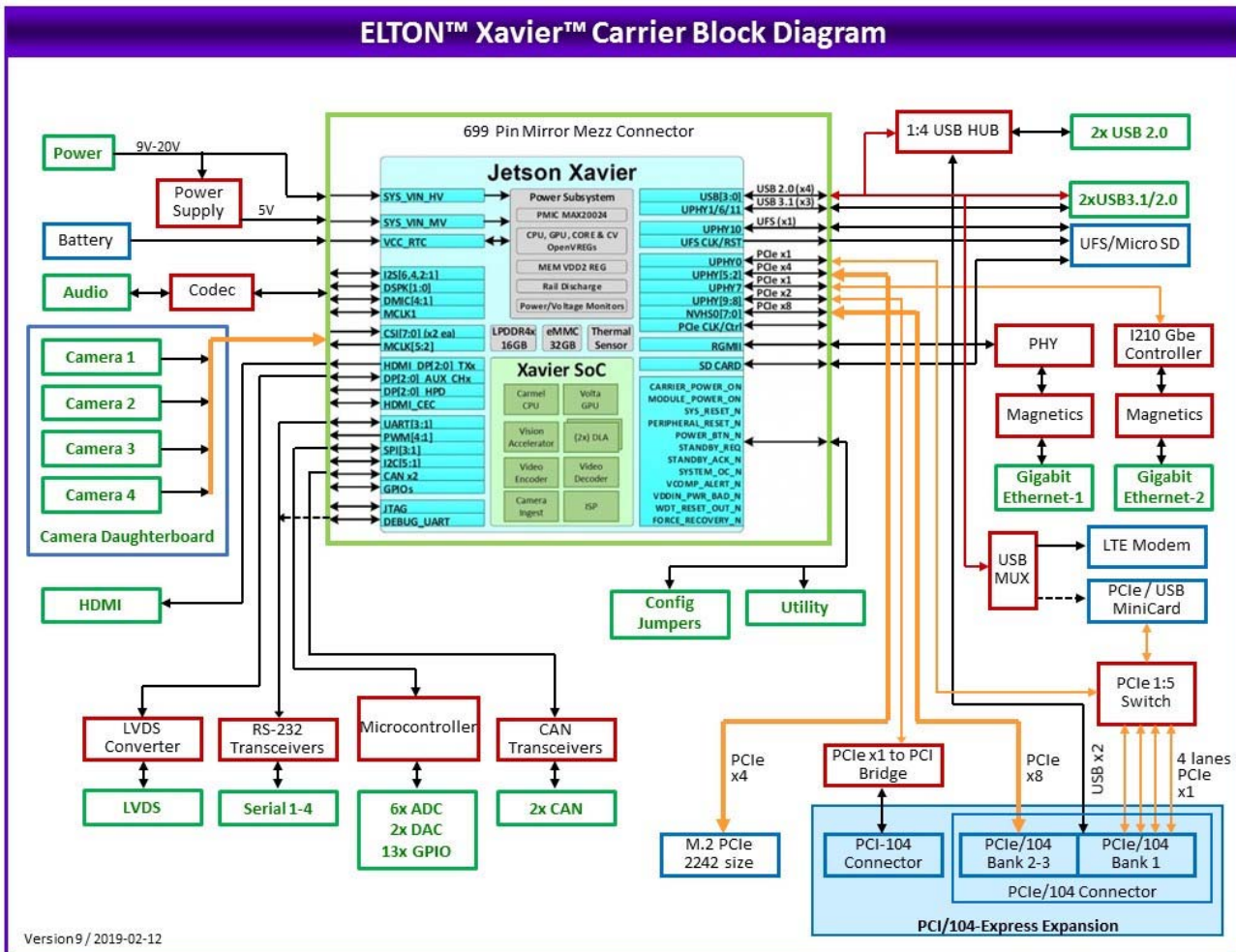
Socketed features:

- ◆ Camera module connector supports up to 8x 2-lane CSI cameras
- ◆ UFS / Micro SD flash socket
- ◆ M.2 PCIe x4 NVME flash socket
- ◆ PCI-104 Express expansion socket
 - PCI-104 connector for PCI bus
 - 3-bank PCIe/104 Type 2 connector with 1x PCIe x8 and 4x PCIe x1

Miscellaneous:

- ◆ Input voltage: 5-20VDC
- ◆ 4.00"H x 6.00HW / 102 x 152mm
- ◆ -40 to +85°C operation
- ◆ Conduction cooling with bottom-mounted heat spreader





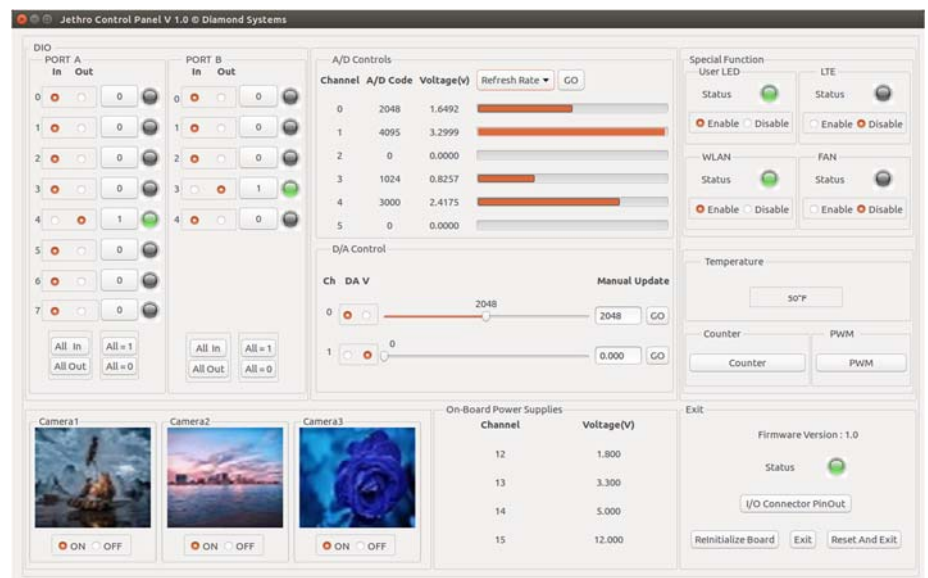
Data Acquisition

A built-in data acquisition circuit provides 12-bit A/D up to 1MSPS, 12-bit D/A, and 3.3V GPIO. Diamond's free C-language programming library simplifies application development, while a GUI control panel offers convenient control and monitoring of real-world processes as well as ready-to-run data logging capability.

Ordering Information:

ELT-001

Elton carrier board for NVidia Jetson AGX Xavier system on module (module and heatsink / fan sink not included)



GUI Data Acquisition monitor and logging software