



Data Sheet

BRICK2 X11 PCI

BRICK2 X11 is the latest generation ADAS / AD measurement platform for the acquisition, processing and recording of high bandwidth data.

The application areas for this platform are demanding processing and recording tasks for driver assistance systems (ADAS) or automated and autonomous driving.

BRICK2 X11 is a modular platform for a very flexible adaption and integration for sensor and ECU development and validation systems. Due to the optimized architecture, a recording performance up to 40 Gbit/s opens a wide range of validation use cases. The PCI Express Add on offers 3 PCIe expansion slots.

Highlights

- Massive I/O Bandwidth 6x 10GBase-T Ethernet, 3x 1000Base-T Ethernet, 4x USB3.1 Gen2
- 3 PCI Express expansion slots
- Time Synchronization System XTSS (g)PTP
- Hardware Platform Time Synchronization
- Intel® XEON® W Processor, 64 GB RAM
- Integrated Intel® UHD graphics
- Optimized PCI Express architecture for high bandwidth recording up to 40 Gbit/s
- High integrated hardware platform designed for harsh environment
- x8 STORAGE, very robust and removable high performance mass storage
- Encryption Ready



Figure 1.1: BRICK2 X11 PCI (PCIe cards not included)



Features






| | | |
|----------------------------------|--|---|
| Ethernet | 6x 10GBase-T, RJ45, 3x 1000Base-T, RJ45 | (g) PTP IEEE 802.1AS-2020 |
| System Management | 1x 2.5GBase-T, RJ45 | Standard Ethernet port, prior for system management |
| External Time Synchronization | Rx/Tx NMEA, PPS | Input or output |
| Video | DP interface | Integrated Intel® GPU |
| GNSS | Integrated GNSS module | 24h backup cap for fast position fix |
| I/O | SYSCTRL (Ignition), 4x GPI, 4x GPO | |
| USB | 4x USB A 3.1 Gen2, 4x USB A 2.0 | |
| STORAGE | PCIe 3.0 x8 STORAGE expansion slot | 22 mm slot for x8 STORAGE |
| Recording Performance | Up to 40 Gbit/s sustained write speed | With x8 STORAGE NVMe |
| BRICK2 X11 PCI (standard config) | 2x PCIe 3.0 x4 slot (mech. x16) 1x PCIe 3.0 x8 slot (mech. x16), double slot card | flexible riser system for up to 4 PCIe cards and up to 250W power, full height and 210mm length), so a various range of measurement, GPUs or Ethernet cards can be integrated |
| System Management | Microcontroller based health management | Use SIODI API for system access and monitoring |

Specifications




| | | |
|--|--|---|
| CPU | Intel® XEON® W Processor W-11865MRE | Intel® Use Condition Industrial, 24/7 Operation |
| GPU | UHD Graphics for 11th Gen Intel® Processors | Intel® Use Condition Industrial, 24/7 Operation |
| GPU (optional) | GeForce RTX 5060ti industrial | 4608 CUDA cores, 16GB GDDR7, turbine cooling, industrial design |
| Memory | RAM, 64 GB DDR4-3200, 512 GB M.2 internal | Extended temp specification |
| Ethernet | 6x 10G Base-T, 10GBase-T controller, 3x 1000Base-T | Hardware based platform time synchronization for highest accuracy, (g)PTP |
| Ethernet extension (optional) | Up to 3x 4 10Base-T RJ45 Ethernet ports | 3x b-plus QX550, (g)PTP |
| Operating System | Windows 10 IoT Enterprise LTSC, Linux 64 | Other on request |
| Electrical Specification | | |
| Supply Voltage | 12 V vehicle power (9 - 32 V DC permanent) | 6 V cranking safe, for 24 V vehicle power an external load dump is required |
| Power Consumption Base Unit | 150 W (typ.) | @max CPU performance |
| Power Consumption x8 STORAGE | up to 100 W | |
| Power Consumption PCI Add on | 250 W maximum | 75W per Slot, with GPU 180 W + 2x 30 W |
| Automotive Tests | LV124 | 12 V power profile (partly) |
| Environment Specification | | |
| Operating Temperature with GPU RTX5060ti | -20 °C to +60 °C | @full performance, all interfaces active |
| Non Operating | -10 °C to +50 °C | reduced GPU performance @ > 50°C |
| Relative Air Humidity | -40 °C to +85 °C | |
| Relative Air Humidity | Max. 90 % non-condensing | |
| Shock / Vibration | IEC 60068-2-27:2008 / IEC 60068-2-64:2008 | |
| Mechanical Specification | | |
| Dimensions | 320 mm (W) x 250 mm (D) x132 mm (H) | BRICK2 X11 PCI |
| Weight | 9 kg | BRICK2 X11 PCI |
| Approvals | CE, FCC, RoHS, REACH | other on request |



Order Information

| Name | Part Number | Description |
|---|---------------------|---|
| BRICK2 X11 PCI  | B17049-B2C-104-0001 | BRICK2 Measurement and Recording Platform for ADAS and AD Development PCI Add on configuration 0001 (2x x4 G3 and 1x x8 G3) |
| x8 STORAGE Gen3 E1.S  | B17102-8Sx-xxx-xxxx | x8 STORAGE Gen3 E1.S is a Removable Mass Storage Device with up to 48 Gbit/s* Sustained Write Performance, Encryption Ready (Need License) *Depends on Host System (Up to 40 Gbit/s on BRICK2 X11) |
| b-plus QX550 Slave  | B21583-XTS-001-0002 | Quad 10 GbE Card, XTSS, (g)PTP, 4x 10GBASE-T |
| GeForce RTX 5060Ti  | A1008431 | GPU extension for BRICK2 X11 PCI & LOGifyer B2 PCI Systems |
| Thunder Dock x8  | B17102-TD8-100-0000 | Docking Station for x8 STORAGE |

Order Information

| Name | Part Number | Description |
|---|---------------------|---|
| Connector Kit DC Power  | B17049-ACC-009-0000 | BRICK2 and MDLake Power Connector Set AWD8 |
| 750 W AC/DC Power Supply  | B09003-PWR-003-0750 | Desktop Type Power Supply 750 W, In: 90 - 264 V AC, Out: 12 V DC / 62,5 A |
| BRICK Protection Bar 66 mm | B17575-ACC-008-0066 | Set of 2 Pieces: Protection and Handle Bar 66 mm for BRICK2 |
| BRICK2 Cable Guard  | B17049-ACC-008-0000 | Cable Guard 66 mm with 66 mm Handle Bar and Cable Ties |
| BRICK Installation Set 66, 88, 110 mm for ITEM Profile 20 | B17575-BIM-001-00xx | Installation Set 66, 88, 110 mm for BRICK System Components |
| BRICK2 Accessories Set 001 for Car Installation | B17049-ACC-001-0001 | Accessories Set Including all Car Installation Cables and GPS Antenna (Part of the Initial Scope of Delivery) |