

Data Sheet

BRICK2 X11

BRICK2 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 measurement 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.

Highlights

- Massive I/O Bandwidth 6x 10GBase-T Ethernet, 3x 1000Base-T Ethernet, 4x USB3.1
- Expandable up to 14x 10GBase-T Ethernet Ports
- Time Synchronization System XTSS (g)PTP
- Hardware Platform Time Synchronization
- Intel® XEON® W Processor, 64 GB RAM
- Integrated GPU
- 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 Base System



Features

Ethernet	6x 10GBase-T, RJ45, 3x 1000Base-T, RJ45	(g) PTP IEEE 802.1AS-2020
System Management	1x 2.5 GBase-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 SPC	2x PCIe 3.0 x8 slot (mech. x16 and x8)	PCI express extension for 2 PCIe cards up to 5 A @ 12 V, FHHL (full height, half length)
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
Memory	RAM, 64 GB DDR4-3200, 512 GB M.2 internal	Extended temp specification
Ethernet	3x X550 Dual 10GBase-T controller, 3x I210 1000Base-T	Hardware based platform time synchronization for highest accuracy
Operating System	Windows 10 IoT Enterprise LTSC	Linux 64 on request

Electrical Specification

Supply Voltage	12 V (6 - 32 V DC max, 9 - 32 V DC permanent)	6 V cranking safe for short term, not for 24 V vehicle power; for 24 V an external load dump protection is required X11 SPC
Power Consumption	150 - 220 W including xSTORAGE	Depends on configuration and used xSTORAGE
Maximum Power Consumption	350 W	Incl. measurement add-on and xSTORAGE
Automotive Tests	LV124	12 V power profile (partly)



Environment Specification

Operating Temperature Non Operating	-20 °C to +60 °C -40 °C to +85 °C	@full performance, all interfaces active
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) x 66 / 110 mm (H)	BRICK2 X11 / BRICK2 X11 SPC
Weight	5.5 kg / 7 kg	BRICK2 X11 / BRICK2 X11 SPC
Approvals	CE, RoHS, REACH	FCCI, VCCI, IECS, KC on request

Order Information

Name	Part Number	Description
BRICK2 X11 	B17049-B2C-101-0000	BRICK2 Measurement and Recording Platform for ADAS and AD Development
BRICK2 X11 SPC 	B17049-B2C-103-0000	BRICK2 Measurement and Recording Platform for ADAS and AD Development, Dual Slot PCIe Add-On
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
Thunder Dock x8 	B17102-TD8-100-0000	Docking Station for x8 STORAGE

Order Information

Name	Part Number	Description
360 W AC/DC Power Supply 	B09003-PWR-002-0360	Desktop Type Power Supply 360 W, In: 90 - 264 V AC, Out: 13,8 V DC / 26 A
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
BRICK Protection Bar 44 mm	B17575-ACC-008-0044	Set of 2 Pieces: Protection and Handle Bar 44 mm for Add-On
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
BRICK 19inch 3U Adapter 	B17575-ACC-005-0001	3U Adapter to mount BRICK System Components in a 19" Rack
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)