Datasheet BRICK2

ADAS and AD measurement and recording platform

BRICK2

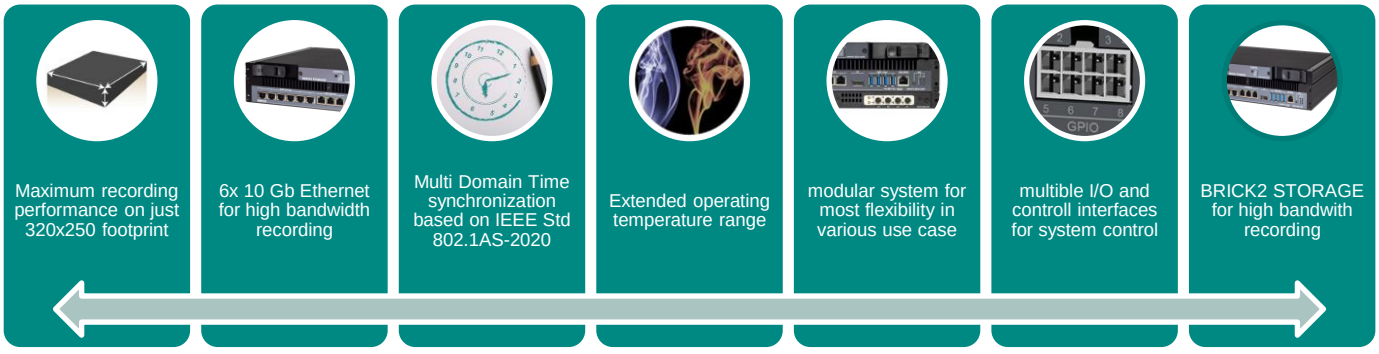
BRICK2 is the next generation ADAS and AD measurement platform for the acquisition, processing and recording of high bandwidth data.

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

BRICK2 is a modular platform for a very flexible adaption and integration in sensor and ECU development and validation systems

Highlights

- Massive I/O Bandwidth 6x 10Gb Ethernet, 3x 1Gb Ethernet, 4x USB3.1 Gen1
- Time Synchronization System XTSS
  Platform Time sync: All Ethernet interfaces are hardware time synchronized,
  Cluster Time sync: Time synchronization via IEEE 1588v2 802.1AS-2020 multi domain
- Hexa Core Processor, 64GB RAM, integrated GPU
- Optimized PCIe 3.0 architecture for high bandwidth recording
- Most integrated and compact hardware platform designed for harsh environment
- Modular system for measurement add on
- BRICK2 STORAGE, very compact and removable high performance RAID system with >24Gb/s permanent writing speed
- BRICK2 STORAGE Link, dual 100Gb/s Ethernet interface (NVMe, RoCE) for external storage devices



b-plus GmbH ▪ Ulrichsberger Straße 17 ▪ D-94469 Deggendorf ▪ Tel. +49 991 270302-0 ▪ Fax -99 ▪ services@b-plus.com ▪ www.b-plus.com

automotive | mobile automation | embedded systems

Datasheet BRICK2

ADAS and AD measurement and recording platform

Technical information

Interfaces

- 6x 10GBase-T Ethernet capture port for high bandwidth connectivity, hardware time synchronized supporting PTP multi domain IEEE 802.1AS-2020
- 3x 1000Base-T Ethernet capture port, hardware time synchronized, supporting PTP and multi domain IEEE 802.1AS-2020
- External time master via Ethernet or serial / PPS
- DisplayPort Video Interface
- 4x USB 3.1 Gen1 Host / 4x USB 2.0 Host (backside)
- M.2 industrial grade boot device (mass storage)
- SYSCTRL (Ignition In, CAN-Bus for system control and board management controller)
- GPIO 4x In, 4x Out
- GPS for Position and time, internal power buffer for fast position fix and nonvolatile configuration backup
- connectivity for external USB gateway solutions
- Independent system management controller for safe operation and system control

BRICK2 STORAGE Extension

Extension slot for 22mm flat BRICK STORAGE devices

- BRICK2 STORAGE with >24Gb/s and up to 62 TB
- BRICK2 STORAGE link 2x 100GbE uplink connection
- BRICK STORAGEplus (need modification)
- BRICK STORAGE Cartridge (need modification)

Measurement Add-On

Add on for BRICK Measurement Cards BMC

- BMC-ETH, 6x 1000Base-T PoE Ethernet port hardware time synchronized supporting PTP and multi domain 802.1AS-2020
- BMC-VB2, up to 8x CAN-FD, time synchronization

Add on for Standard PCIe Cards (SPC)

- Extension for up to 2 x8 PCIe cards (60W max)

Processor and main memory

- Hexa Core Intel® Core™ i7-9850HE Processor
- 64 GB DDR4-2666 RAM
- 512 GB internal M.2 SSD

Time synchronization XTSS

- Hardware designed Platform time synchronization
- Cluster time synchronization, IEEE Std 802.1AS-2020, IEEE 1588v2 PTP
- Time relay to synchronize external devices
- internal GPS or oscillator
- NMEA and PPS input / output for external grand master clock or IMU systems

Software support

- Preinstalled x64 operating system

High-End-ADAS Frameworks

- Application ready for the AVETO toolchain
- AVETO.app Recording, AVETO.app Visualization
- AVETO.app Connect
- Open x64 Platform for 3rd party frameworks

Power Supply

- 12V (6V – 32V) wide range cranking save
- Typical Power consumption ca. 150 - 220Watt (including Storage) depends on configuration
- 60W for measurement Add on (BMC or SPC)
- Maximal power consumption 350W

Operating Temperature Range

Active cooled in the closed finned heat sink

- At typical performance (6x 2,7GHz):
  -20°C ~ +60°C

Housing

- Robust aluminum profile housing
- B:320mm, H:66mm (1,5HE), T:250mm
- 22mm or 44mm BRICK Measurement Card (BMC) Add On

Certification

- CE / FCC / VCCI / ICES
- RoHS / REACH
- KC (on request)

Name	Order-no.	Description
BRICK2	B17049-B2C-100-0000	BRICK2 measurement and Recording platform for ADAS and AD development
BRICK2 STORAGE	B17049-B2S-1xx-0000	BRICK2 STORAGE removable cartridge for high bandwidth recording up to 62TB capacity
BRICK2 STORAGE Link	B24004-ICO-004-2211	Storage Link 2100, 1m DAC, NVMe-oF License
MDLake Connection Set - BRICK2, 2x 100GbE	B24004-ICO-004-2210	Storage Link 2100, 1m DAC, Linux only

b-plus GmbH ▪ Ulrichsberger Straße 17 ▪ D-94469 Deggendorf ▪ Tel. +49 991 270302-0 ▪ Fax -99 ▪ services@b-plus.com ▪ www.b-plus.com