EM TRUST
systems you can trust

TB-M2

APPLICATIONS

The **modular EM ToughBox** is the perfect Plug&Play system solution, especially designed for low-power and noiseless applications since no fans or other rotating devices are used. It is a german engineered and high quality industrial computer system, offering the highest performance in tough environments.

_ Rugged Industrial Systems
_ Medical Solutions
_ Automatic Control Panels
_ Information Systems
_ Measurement & Quality Control
_ Public Terminal
_ Vending
_ Reverse Vending

HIGH QUALITY
MADE IN GERMANY

10 years availability according to CPU manufacturers specification

AMD RYZEN Embedded

E.E.P.D. ...just embedded!

SPECIFICATIONS

CPU	AMD Ryzen™ embedded V1000/R1000/R2000
BIOS	UEFI-BIOS
Max. memory	R1000, V1000: up to 32 GB DDR4 memory, R2000: up to 64 GB DDR4 memory; max. Datarate 3200MT/s with ECC-support
Gigabit Ethernet	Up to 3 Intel® I225 (V1404I, I226-IT) with IEEE1588
M.2 socket	1 Key B, 30 mm x 42 mm with onboard SIM Card socket 1 Key E, 22 mm x 30 mm 2 Key M, 22 mm x 80 mm (for NVME only)
GPIO	4 GPIOs (3.3 V) and max. 3 GPIOs with PWM (3.3 V) 50 kHz
USB rear	2 USB3.1 Gen2 (10 Gb/s, OCP = 900 mA each) 4 USB3.1 Gen1 (5 Gb/s, OCP = 900 mA each) 1 USB2.0 (OCP = 900 mA each)
USB front	2 USB-C (10 Gb/s, DP Alt-mode, OCP = 3000 mA) 1 USB-B for debug purposes
Serial Port	1 RS-232
Sound	HDA with MIC in/Headphone out, 3.5mm Jack Stereo LINE In/Line Out (internal Molex)
fTPM / TPM	AMD firmware Trusted Platform; TPM 2.0 support (Infineon SLB 9670) (OEM only)
Status / Control LEDs	Yes
Power supply	Min. 10.8 V / Max. 26.4 V (DC) | KL15 (ignition)
Max. operating temp.	0 °C to +60 °C ambient commercial grade; -40 °C to +60 °C with AMD V1404I
Max. storage temp.	-40 °C to +85 °C
Max. rel. humidity	95 % @ 40 °C, non-condensing
FAN	1 connector for external 12V Fan (PWM + Tacho)
Housing	Aluminum case
Mounting	Stand alone or DIN rail
Size approx.	194 x 128 x 54 mm
Weight approx.	1190 grams + options
OS support	Microsoft® Windows® 10; Microsoft® Windows® 10 IoT Enterprise; Microsoft® Windows® 11 (R2000 only) Linux Ubuntu 22.04 LTS

Ordering code	Description	Type / Size
TB-M2_V1404I	SBC	V1404I | 4C | 8T | 2.0 GHz - 3.6 GHz | 12 - 25 W - OEM/ODM only
TB-M2_V1605	SBC	V1605B | 4C | 8T | 2.0 GHz - 3.6 GHz | 12 - 25 W
TB-M2_V1756	SBC	V1756B | 4C | 8T | 3.25 GHz - 3.6 GHz | 35 - 54* W
TB-M2_V1807	SBC	V1807B | 4C | 8T | 3.35 GHz - 3.8 GHz | 35 - 54* W - OEM/ODM only
TB-M2_R1305	SBC	R1305 | 2C | 4T | 1.5 GHz - 2.8 GHz | 8 - 10 W
TB-M2_R1505	SBC	R1505 | 2C | 4T | 2.4 GHz - 3.3 GHz | 12 - 25 W
TB-M2_R2312	SBC	R2312 | 2C | 4T | 2.7 GHz - 3.5 GHz | 12 - 25 W
TB-M2_R2314	SBC	R2314 | 4C | 4T | 2.1 GHz - 3.5 GHz | 12 - 25 W
TB-M2_R2514	SBC	R2514 | 4C | 8T | 2.1 GHz - 3.7 GHz | 12 - 35 W
TB-M2_R2544	SBC	R2544 | 4C | 8T | 3.35 GHz - 3.7 GHz | 35 - 54* W
4GB-TB-M2	Main Memory	4GB
8GB-TB-M2	Main Memory	8GB
16GB-TB-M2	Main Memory	16GB
32GB-TB-M2	Main Memory	32GB

*TB-M2 supports max. 45 W TDP

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