# PROFIVE® NUCU – Hardware Reference Manual

Copyright © 2026 E.E.P.D. GmbH. All rights reserved.

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

## Manufacturer

E.E.P.D. Electronic Equipment Produktion & Distribution GmbH
Gewerbering 3
85258 Weichs

Phone: +49 8136 2282 – 0
Web: https://www.eepd.de
E-Mail: sales@eepd.de

## General Notes

This user manual is for your information.

The information contained herein has been checked carefully and is believed to be reliable. However, E.E.P.D. GmbH gives no guarantee or warranty concerning the accuracy of spoken information and shall not be responsible for any loss or damage of any nature resulting from the usage of or from reliance upon it.

We are thankful for all suggestions or improvements at any time.

**E.E.P.D. GmbH reserves the right to make changes in the products or specifications, or both, at any time without notice.**

04/2026 Version 3.1



Copyright © 2026 E.E.P.D. GmbH. All rights reserved.

## Copyright Notice

Copyright© 2026 E.E.P.D. GmbH. ALL RIGHTS RESERVED!

E.E.P.D. GmbH copyrights this document. You may not reproduce, transmit, transcribe, store in a retrieval system, or translate into any language, in any form or by any means, or otherwise, any part of this publication without the express written permission of E.E.P.D. GmbH.

## Trademark Acknowledgement

Intel, Core, Celeron and Atom are registered trademarks of Intel Corporation.

AMD, Ryzen and Radeon are registered trademarks of Advanced Micro Devices, Inc.

Panel Link and TMDS are registered trademarks of Silicon Image, Inc.

VESA is a registered trademark of Video Electronics Standard Association.

Windows 10/11 is a registered trademark of Microsoft Corporation.

PROFIVE® and E.E.P.D.® are registered trademarks of E.E.P.D. Electronic Equipment Produktion and Distribution GmbH.

**All rights reserved. All other mentioned trademarks are registered trademarks of their owners.**

## Disclaimer

This document is provided for the general information of the customer. It describes the general functionality of the board and is not considered as assured characteristics. The written declarations in this specification are not constituent part of any contract.

E.E.P.D. GmbH reserves the right to modify the information contained in this manual as necessary and the customer should ensure that he has the most recent revision of this document.

E.E.P.D. GmbH makes no warranty for the use of its products and bears no responsibility for any errors, which may appear in this document. The customer should be on notice that the field of personal computers is the subject of many patents held by different parties. Customer must ensure that they take appropriate action so that their use of the products does not infringe upon any patents. It is the policy of E.E.P.D. GmbH to respect the valid patent rights of third parties and not to infringe upon or assist others to infringe upon such rights.

E.E.P.D. GmbH assumes no responsibility for circuits, descriptions and tables within this document as far as patents or other rights of third parties are concerned.

## Life Support Applications

E.E.P.D. GmbH products are not intended for using as critical components in life support appliances, devices or systems in which the failing of an E.E.P.D. GmbH product could be expected to result in personal injury.



Copyright © 2026 E.E.P.D. GmbH. All rights reserved.

## FCC and CE Disclaimer

This product cannot be used as a stand-alone product!

Therefore, it has to be integrated together with other products like power supplies, mass storage devices (i. e. hard disks), etc. to be functional.

To meet FCC and/or CE requirements every component as well as the combination of all components has to be validated against all standards required for the end product.

In order to meet FCC and/or CE requirements this product has to be integrated into a proper housing, which provides appropriate shielding and insulation.

It is on the customer's sole responsibility to assure that this end-product meets all required standards.

E.E.P.D. GmbH gives no warranty at all that their products will meet the FCC and CE standards when used in combination with other third-party products or when used in any other way than specified.

## Limited Warranty

This product will be free from defects in workmanship and material under normal and proper use for the period of time defined in our General Terms of Business, effective the date of the original shipment from E.E.P.D. GmbH.

In the event of a warranty claim for defects, which appear within the warranty period, customer shall deliver the product along with proof of purchase to the original place of purchase, shipping prepaid. Repair, replacement or refund of the purchase price of the defective product will be at the sole option of the manufacturer. All transportation risks and costs in connection with warranty service are the responsibility of the customer.
THIS WARRANTY IS IN LIEU OF ALL OTHER WARRANTIES, EXPRESS OR IMPLIED, INCLUDING WITHOUT LIMITATION, IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE, TO ANY CUSTOMER, CONSUMER, END USER, PURCHASER, OR OTHERWISE. IN NO EVENT SHALL MANUFACTURER BE LIABLE FOR LOSS OF PROFITS, INDIRECT, SPECIAL, INCIDENTAL, OR CONSEQUENTIAL DAMAGES ARISING OUT OF ANY BREACH OF CONTRACT OR WARRANTY, NEGLIGENCE, STRICT LIABILITY OR OTHERWISE.

The remedies for defects in this product are limited to those set forth above. If this limitation of remedies is held by any court to be void or unenforceable, or if no warranty is made, manufacturers liability shall in no event exceed the purchase price of the product giving rise to the claim, regardless of whether such claim is brought in breach of contract or warranty, negligence, strict liability or otherwise.



Copyright © 2026 E.E.P.D. GmbH. All rights reserved.

## Product Returns

If you return the product to E.E.P.D. GmbH please remove all connections and peripheral equipment.

Protect the unit through a suitable packaging, preferably use the original packaging.

## Packaging

The product is in a protective package to avoid damage during transport.

This protective package should be environmentally friendly recycled after use.

## Disposal of Device

At the end of the lifetime please dispose and/or recycle the components of the device accordingly.

## Technical Support

For technical information about hardware and software please contact: **support@eepd.de**



Copyright © 2026 E.E.P.D. GmbH. All rights reserved.

# Revision History

| Date | Version | Changes | Proofed |
|---|---|---|---|
| 12.02.2026 | 3.0 | First release; covers HW Rev.2 and Rev.3 | |
| 21.04.2026 | 3.1 | USB-C Power budget clarified | |
| | | | |



Copyright © 2026 E.E.P.D. GmbH. All rights reserved.

# Table of Contents

**General Notes** ..... **1**
**Revision History** ..... **5**
**Used Symbols** ..... **7**
**1 Product Description** ..... **8**
1.1 Feature Overview ..... 8
1.2 Environmental Specification ..... 10
**2 System Overview** ..... **11**
**3 Assembly** ..... **12**
3.1 Product Views ..... 12
3.2 Mechanical Mounting ..... 13
3.3 Dimensions ..... 14
**4 Feature Details** ..... **15**
4.1 Connection Overview ..... 16
4.2 Mini-DP++ Connectors ..... 18
4.3 2.5 Gigabit Ethernet Ports ..... 18
4.4 Dual-USB 3.2 Ports ..... 19
4.5 USB4 Ports ..... 19
4.6 Internal USB 2.0 Connectors ..... 20
4.7 DDR5 SO-DIMM Sockets ..... 20
4.8 Power Connector ..... 21
4.9 M.2 Sockets ..... 22
4.10 OCuLink Connector ..... 23
4.11 Audio Jack ..... 23
4.12 Feature Connector ..... 23
4.13 RS232/485 Connector ..... 24
4.14 Battery Connector ..... 24
4.15 FAN Connectors ..... 25
4.16 Power Button, Power and SSD Activity LEDs ..... 26
4.17 Power Button Connector ..... 26
**5 BIOS** ..... **27**
5.1 Entering Setup ..... 27
5.2 Most Common Settings ..... 27
5.3 Main Menu ..... 28
5.4 Advanced Menu ..... 29
5.5 AMD CBS ..... 36
5.6 AMD PBS Menu ..... 42
5.7 Boot Menu ..... 43
5.8 Power Menu ..... 44
5.9 Exit Menu ..... 45
5.10 Security Menu ..... 46
**Index of Figures** ..... **48**
**Index of Tables** ..... **50**
**Terminology** ..... **51**
**Classified Index** ..... **52**



Copyright © 2026 E.E.P.D. GmbH. All rights reserved.

## Used Symbols

The red danger sign warns you when a wrong or missing action dramatically endangers your life or health. The used components as well as the peripheral components could be destroyed.

The orange warning sign warns you when a wrong or missing action could seriously harm your health or destroy the used components.

The yellow caution sign warns you when a wrong or missing action could damage the component.

The yellow ESD sign draws your attention that static sensitive parts of the component could be destroyed. Unpack shielded components only with ESD protections like an ESD wrist strap.

The information sign gives you more information and advice for optimal use of this product. For example, it helps you to purchase necessary or optional accessories.



Copyright © 2026 E.E.P.D. GmbH. All rights reserved.

# 1 Product Description

In the first chapter you will get a glance of all the integrated features. For further information and a brief description of all possible changes and extensions please refer to the corresponding chapter.

## 1.1 Feature Overview

### Power Supply

Designed for min. 10.8 V to max. 26.4 V (DC) single power supply, 10 A fused, If 12 V Fan is used input voltage must be min. 13.2 V.

CPU variants with TDP up to 30 W: min. 90 W / recommended 120 W,
CPU variants with TDP up to 54 W: min 120 W / recommended 150 W.

Current rating of the power supply has to exceed the expected current draw depending on the system configuration, CPU variant and its TDP settings, and peripheral devices used with the system. Power supplies might derate due to lower efficiency at higher operating temperature. Insufficient power supply might lead to the system instability, shutdown and data loss.

### Power Connector

2-pin barrel connector for external DC power and ground.

CUI devices power plug ID 2.5 mm, AD 5.5 mm, max. 7 A.

### Power Limit

Internal and external 3.3 V power max. 25 W.

Internal and external 5 V power max. 45 W.

Internal and external power is related to m.2 connectors, USB, FAN and display.

### Processor Support

AMD Ryzen™ Embedded 8040 series:

8845HS Pro / 8C / 16T / 3.8 GHz - 5.1 GHz / 45 W (35 – 54 W)

8645HS Pro / 6C / 12T / 4.3 GHz - 5.0 GHz / 45 W (35 – 54 W)

8840U Pro / 8C / 16T / 3.3 GHz - 5.1 GHz / 28 W (15 – 30 W)

8640U Pro / 6C / 12T / 3.5 GHz - 4.9 GHz / 28 W (15 – 30 W)

AMD Ryzen™ 8000 series:

8440U / 4C / 8T / 3.3 GHz - 4.7 GHz / 15 W (15 – 30 W)

AMD Ryzen™ PRO 8000 Series:

8540U / 6C / 12T / 3.2 GHz - 4.9 GHz / 28 W (15 - 30 W)

### Ethernet Controller

2x Intel® i226-V 2.5 Gbit/s Ethernet PCI Express® controllers with IEEE1588, Wake-on-LAN supported by ETH 1.

Other i226 variants on request.

### RAM Support

2x 32 GB dual channel up to DDR5-5600 SO-DIMM memory with ECC support (ECC not available with 8440U).

### Display

2x Mini-DP++ connector, v1.4, up to 3840 x 2160 @ 60 Hz.

2x USB-C Alt Mode, up to 3840 x 2160 @ 60 Hz at the rear side.



Copyright © 2026 E.E.P.D. GmbH. All rights reserved.

### USB Support

1x Dual-USB 3.2 Gen2 (10 Gb/s, OCP = 1.5 A each), Type A at the front side.

2x USB4 Gen3x2 (40 Gb/s, OCP = 3 A each/4.5 A both ports combined) or USB-C Alt Mode, Type C at the rear side.

2x USB 2.0 (480 Mb/s, OCP = 900 mA each) on Molex (PicoBlade) connector.

### Storage Support

1x M.2 Key M, 2280, PCIe Gen4 x4 NVMe.

### Expansion Slots

1x Key E, 2230, support for PCIe Gen4 x2 or x1 / USB 2.0, e. g. for WLAN/BT.

1x Key B, 3042, support for PCIe Gen4 x2 / USB 2.0, e. g. for WWAN.

1x OCuLink x4 (SFF-8621 / SFF-9402) connector, PCIe Gen4 x4 interface (3.3 V / 5 V power on request).

### Serial Ports

1x RS-232/485 (FDX|HDX) port on internal Molex (PicoBlade) connector.

### Audio

HDA Codec with MIC IN, stereo headphone OUT on 3.5 mm audio jack.

### Cooling

CPU fan, 12 V, max. 250 mA, not fused

Optional auxiliary fan, 12 V, max. 250 mA, not fused

### OS Support

Microsoft® Windows® 11

Linux Ubuntu 24.04 LTS

### Extended Features

Onboard µ-Controller-IC for:

- Input voltage level detection
- Power-up sequencing and timing
- System reset management
- Temperature monitoring, fan control and watchdog
- Power button input

Feature connector (4x GPIO [3.3 V], max. 3x GPO [open drain/50 kHz], not fused)

Power and status LEDs

Power button onboard

Power button connector

RTC battery connector

AMD firmware Trusted Platform Module

TPM 2.0 support (Infineon SLB 9670)

Size approx. 102 x 102 mm

Weight approx. 110 g + options



Copyright © 2026 E.E.P.D. GmbH. All rights reserved.

## 1.2 Environmental Specification

### Max. Operating Temperature

0 °C to +60 °C ambient commercial grade

Adequate cooling provided, depending on variant and cooling system

CPU throttling may occur at higher ambient temperatures.

### Max. Storage Temperature

-40 °C to +85 °C, non-condensing

### Max. rel. Humidity for all versions

95 % @ 40 °C non-condensing while stored, 89% while working



Copyright © 2026 E.E.P.D. GmbH. All rights reserved.

# 2 System Overview

This chapter describes the main hardware components of the NUCUX board.

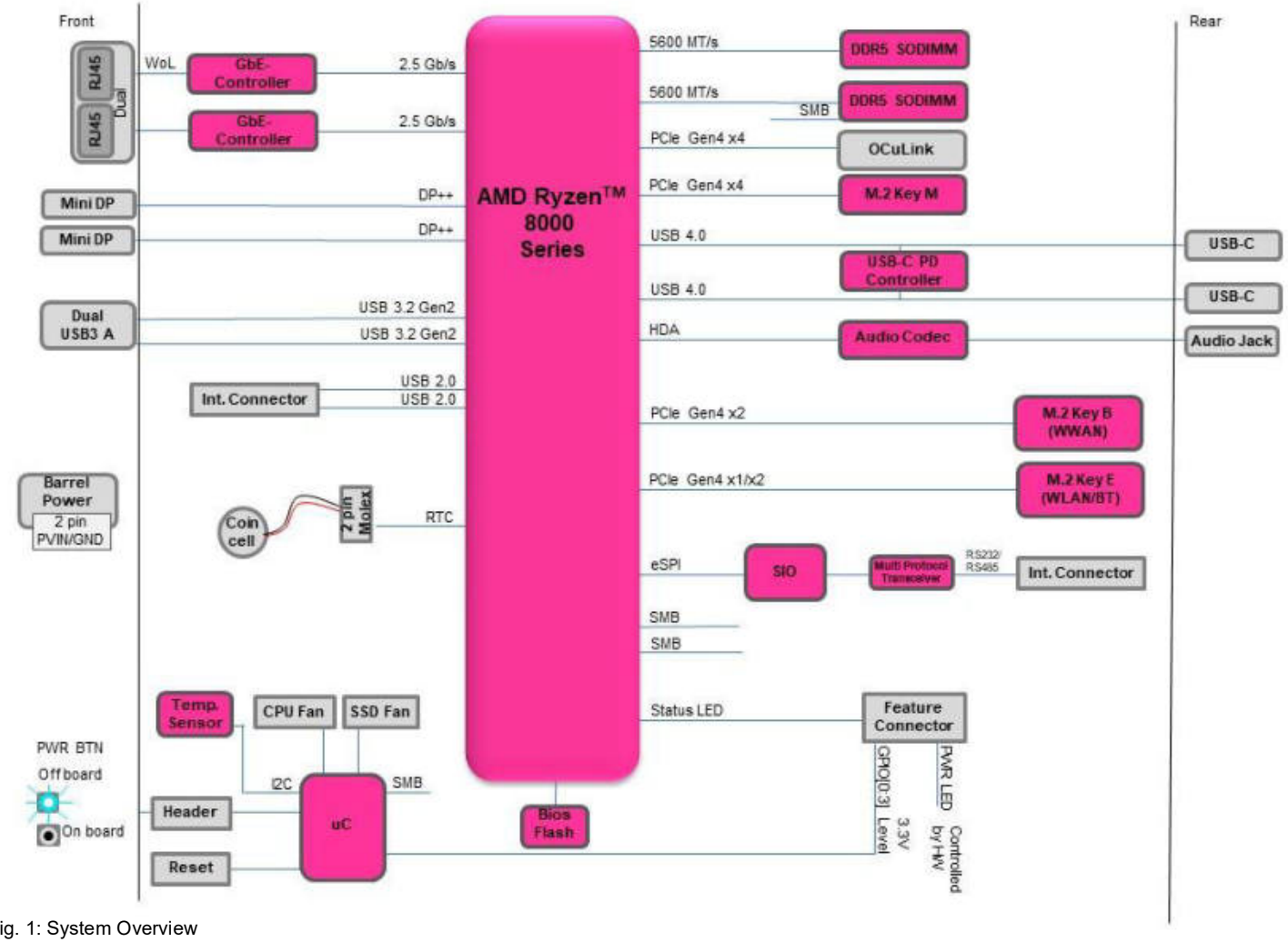



Fig. 1: System Overview



Copyright © 2026 E.E.P.D. GmbH. All rights reserved.

# 3 Assembly

The board must be mounted in a stable case. The mechanical mounting points according to chapter 3.2 must be used.
The available sockets and connector for system build-up are specified in chapter 4.

E.E.P.D. recommends M3 Torx screws (Metric strength class 5.6 or better) with a screw locking coating and a **maximum tightening torque of 0.5 Nm**.

## 3.1 Product Views

### Top View

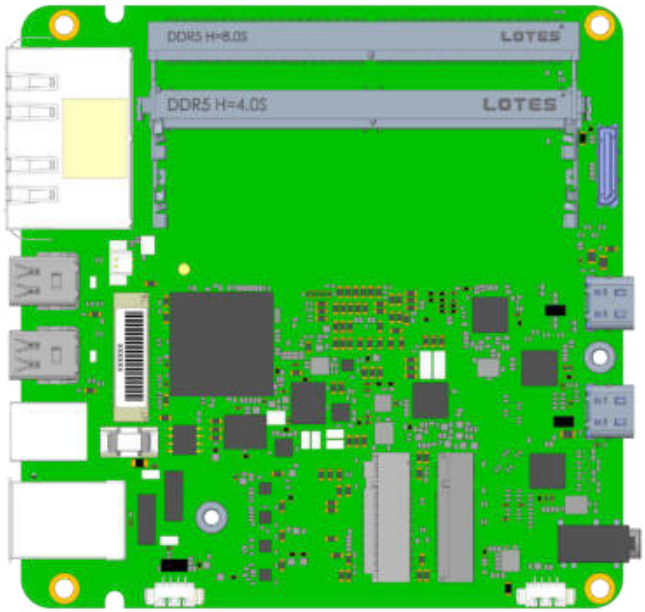



Fig. 2: Top View

### Bottom View

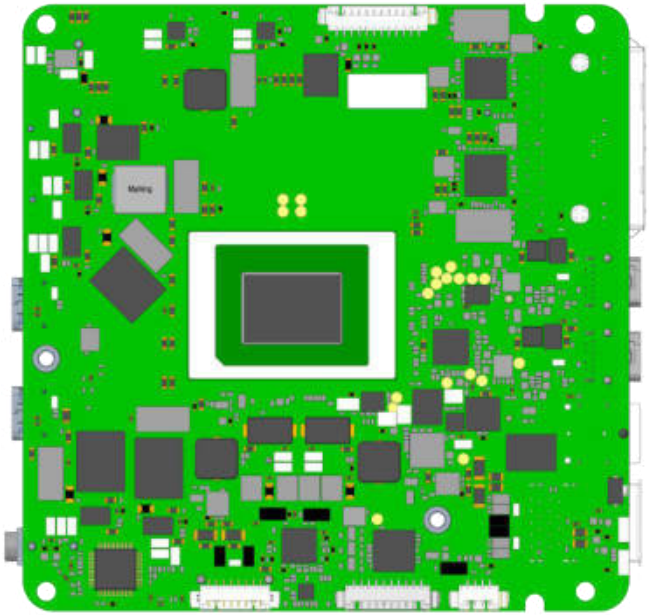


Fig. 3: Bottom View



Copyright © 2026 E.E.P.D. GmbH. All rights reserved.

### Front View

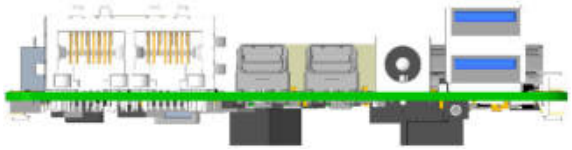


Fig. 4: Front View

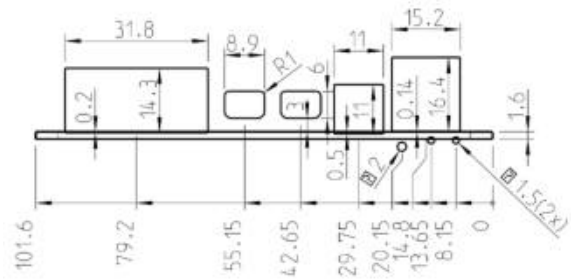



Fig. 5: Recommended cutouts front panel, values [mm]

### Rear View

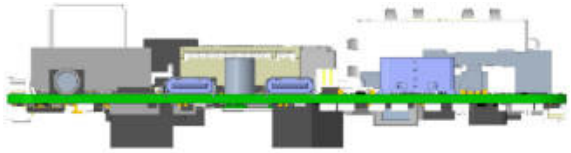


Fig. 6: Rear View

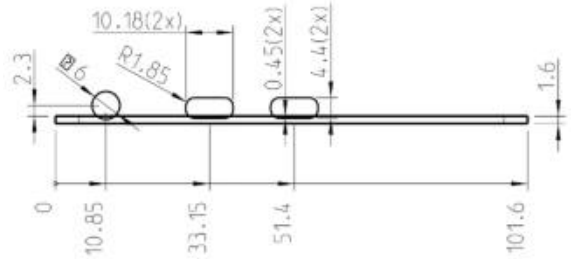



Fig. 7: Recommended cutouts rear panel, values [mm]

## 3.2 Mechanical Mounting

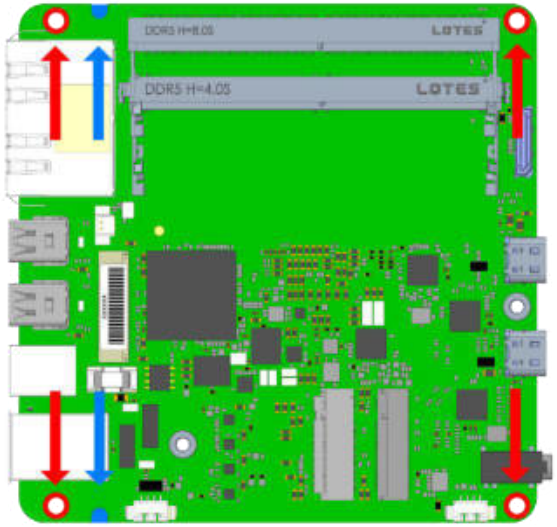


Fig. 8: Mechanical Mounting

Please use the 4 mounting points (red outline) to fasten the base board. In order to prevent short circuit use distance bolts with a minimum length of 15.24 mm (0.6 inches).

The blue marked areas can be used for additional mounting in order to improve the mechanical concept or housing situation.



Copyright © 2026 E.E.P.D. GmbH. All rights reserved.

## 3.3 Dimensions

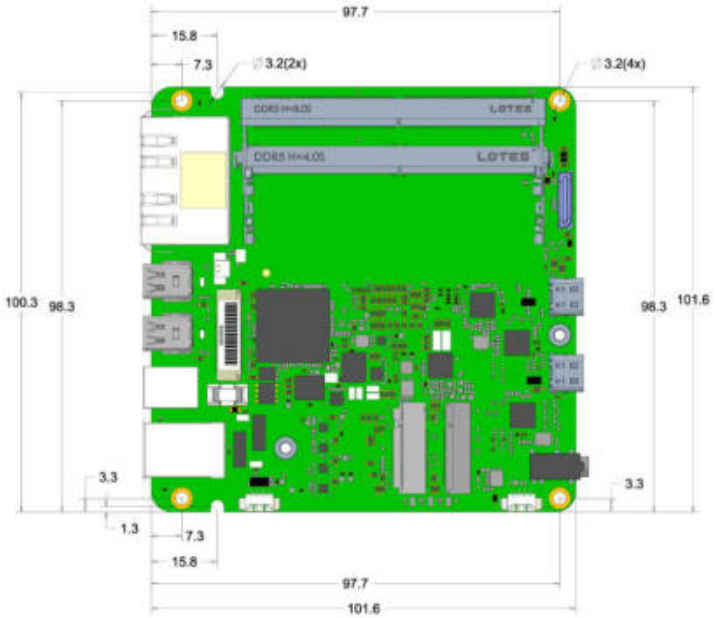



Fig. 9: Dimensions of the board, values [mm]

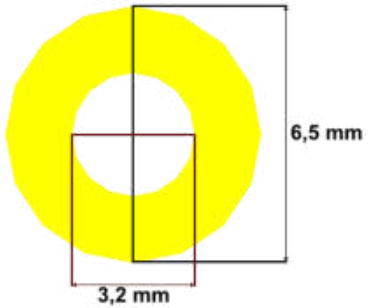



Fig. 10: Dimensions of the mounting points, values [mm]

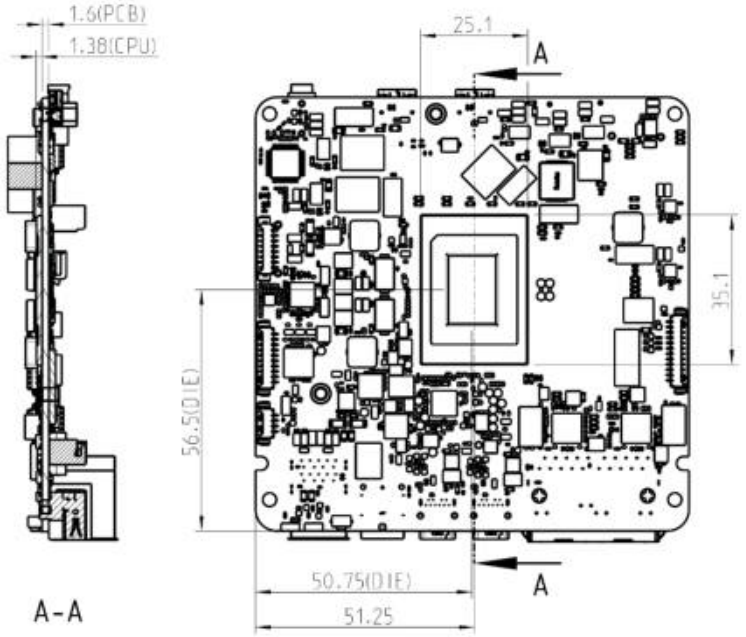



Fig. 11: Dimensions of the CPU, values [mm]

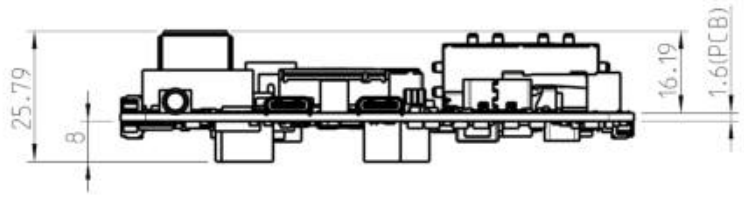



Fig. 12: Height of the board, values [mm]



Copyright © 2026 E.E.P.D. GmbH. All rights reserved.

# 4 Feature Details

The following schedule contains all the necessary information to connect the board to your peripheral equipment.

On the left side of the page, you will see the position on the board (red mark) and on the right side a magnified image of the explained item.

The explanation provides general information, electrical specifications and a pin assignment table.

| All voltages are DC: | |
|---|---|
| VCC | 5 V +/- 5% |
| P3V3 | 3.3 V +/- 5% |
| P12V_FAN | 12 V +/- 5% |
| PVIN (min. – max.) | 10.8 – 26.4 V |
| VDD_FAN | 12 V +/- 5% |



Copyright © 2026 E.E.P.D. GmbH. All rights reserved.

## 4.1 Connection Overview

### Top Side

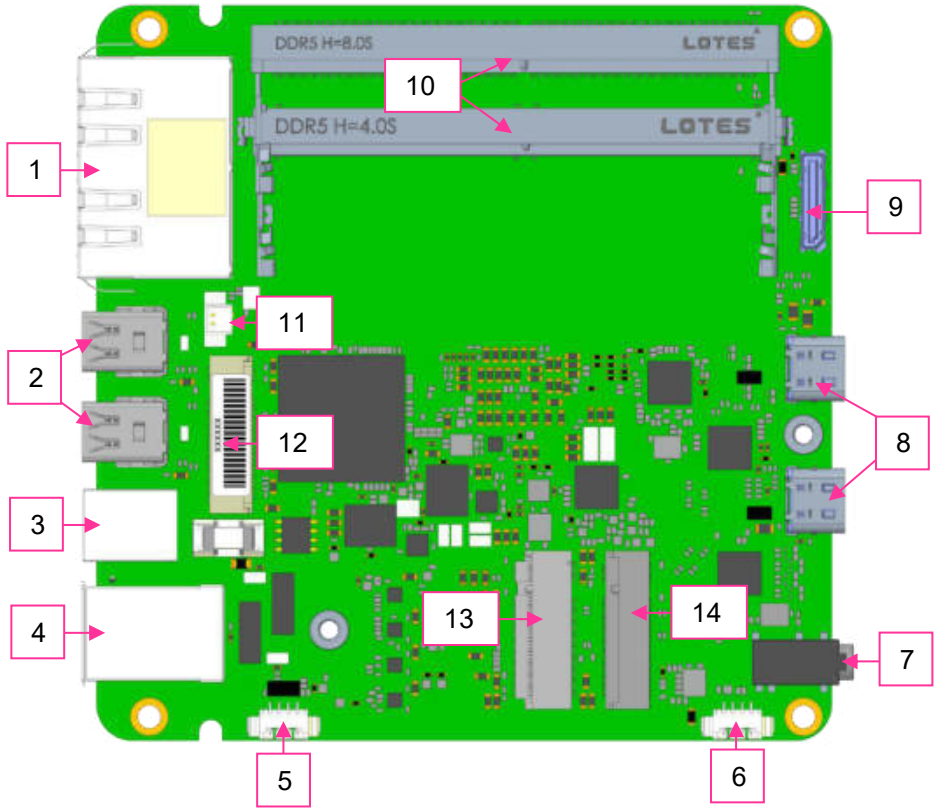



Fig. 13: Connection Overview Top Side

**1** – 2.5 Gigabit Ethernet ports, see chapter *4.3*
**2** – Mini Display port, see chapter *4.2*
**3** – Power connector, see chapter *4.8*
**4** – Dual-USB, see chapter *4.4*
**5** – Auxiliary fan connector, see chapter *4.15*
**6** – Power button connector, see chapter *4.17*
**7** – Audio jack, see chapter *4.11*
**8** – USB-C 4.0 ports, see chapter *4.5*
**9** – OCuLink connector, see chapter *4.10*
**10** – DDR5 SO-DIMM sockets, see chapter *4.7*
**11** – Battery connector, see chapter *4.14*
**12** – M.2 Key M socket, see chapter *4.9*
**13** – M.2 Key E socket, see chapter *4.9*
**14** – M.2 Key B socket, see chapter *4.9*



Copyright © 2026 E.E.P.D. GmbH. All rights reserved.

### Bottom Side

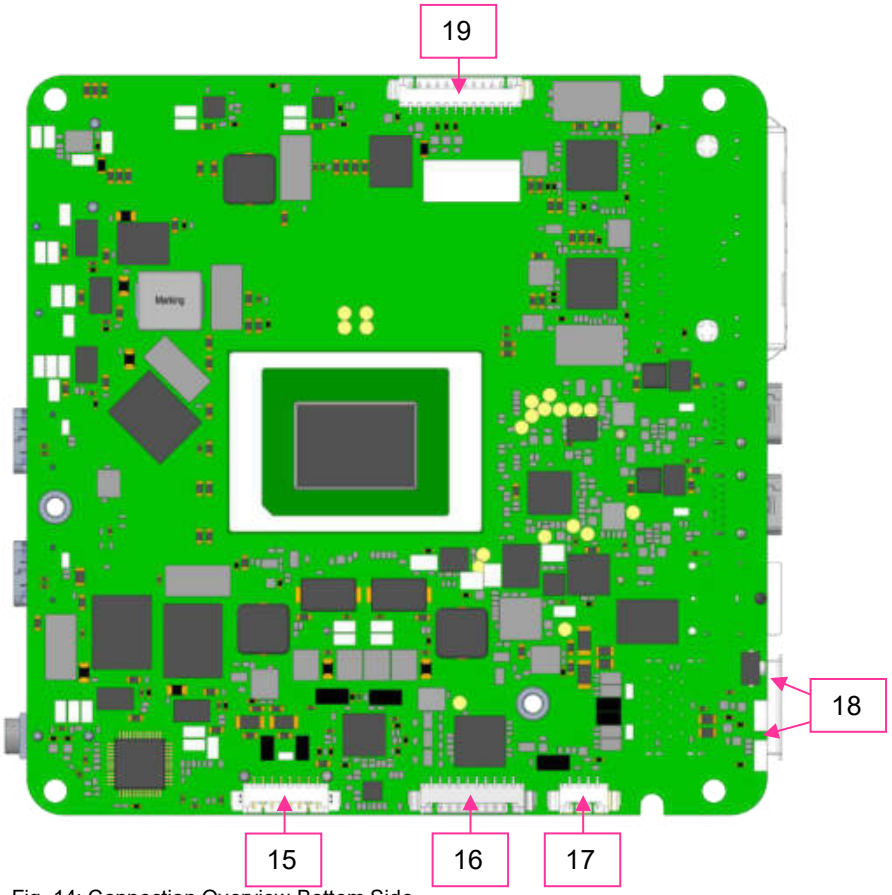



Fig. 14: Connection Overview Bottom Side

**15** – internal USB 2.0 connector, see chapter *4.6*

**16** – RS22/485 connector, see chapter *4.13*

**17** – CPU fan connector, see chapter *4.15*

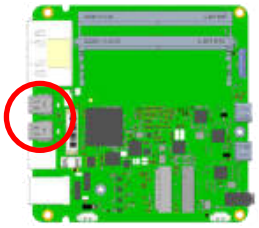
**18** – Power button, Power and SSD Activity LEDs, see chapter *4.16*

**19** – Feature connector, see chapter *4.12*



Copyright © 2026 E.E.P.D. GmbH. All rights reserved.

## 4.2 Mini-DP++ Connectors



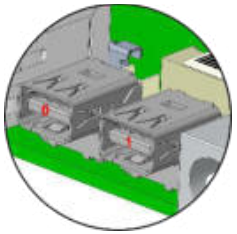


Fig. 15: Mini-DP++ Connectors Detail

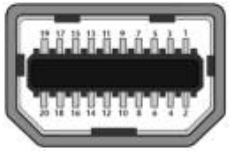


Fig. 16: Mini-DP++ Connector Schematic

CAUTION

Important Note:

There are two types of DisplayPort cables:

If you connect the display directly to the Mini DP, please use cable with Pin 20 not connected.

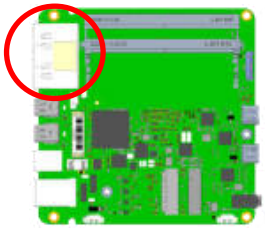
If you use active cables/adapters (e.g. Mini DP to DP, Mini DP to HDMI), please use cable with Pin 20 (supply voltage) on both ends that are connected.

Possible effects if wrong cable is used:

System might not start up properly.
Dongle does not work properly (black display).

## 4.3 2.5 Gigabit Ethernet Ports

The Dual-Ethernet socket uses two Intel® i226 controllers. Ethernet port 1 supports Wake-on-LAN.



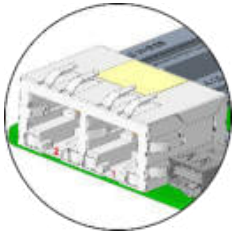


Fig. 17: Ethernet Dual-Port Detail

**Yellow LED**
Speed-LED is on during 2.5 and 1 Gbit transmission and switched off during 10/100 Mb/s transmission.

**Green LED**
Link-/Activity-LED is permanently on to indicate an active connection on the Ethernet port. LED blinks during communication with the Ethernet network.

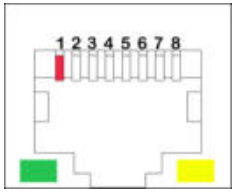



Fig. 18: Ethernet Port Schematic



Copyright © 2026 E.E.P.D. GmbH. All rights reserved.

## 4.4 Dual-USB 3.2 Ports

USB 3.2 type A ports providing max. 1.5 A per port (OCP).
Support for USB 2.0 and USB 3.2 Gen1/Gen2 (up to 10 Gb/s).

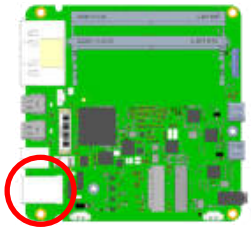


Fig. 19: Dual-USB-A 3.2 Port Detail

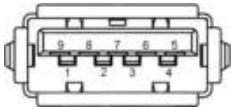
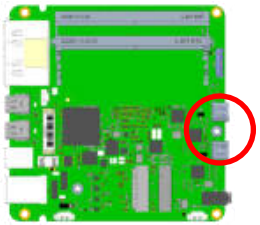


Fig. 20: USB-A 3.2 Port Schematic

## 4.5 USB4 Ports

USB4 Gen3x2 (40 Gb/s) type C ports providing max. 3 A per port (OCP). Where the 2 type C ports together support max. 4.5 A.



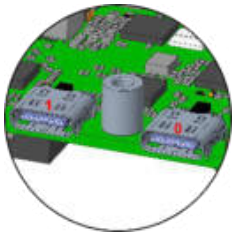


Fig. 21: USB-C Ports Detail

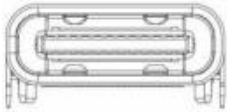


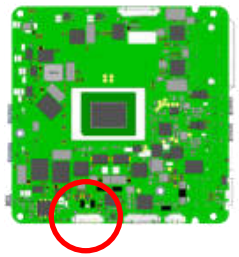
Fig. 22: USB-C Port Schematic



Copyright © 2026 E.E.P.D. GmbH. All rights reserved.

## 4.6 Internal USB 2.0 Connectors

USB 2.0 (480 Mb/s) internal connectors providing max. 900 mA (OCP).



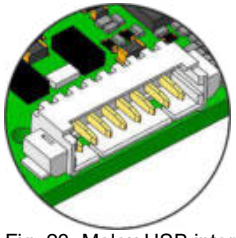


Fig. 23: Molex USB internal Connector Detail

Counterpart – plug:

MOLEX Pico Blade
0510210900

Fig. 24: Molex USB internal Connector Schematic

| Pin | Signal |
|---|---|
| 1 | VCC_USB2_6 → 5V +/- 5%, OCP = 900 mA |
| 2 | USB2_6_N |
| 3 | USB2_6_P |
| 4 | GND |
| 5 | VCC_USB2_7 → 5V +/-5%, OCP = 900 mA |
| 6 | USB2_7_N |
| 7 | USB2_7_P |
| 8 | GND |

Tab. 1: USB internal Connector

## 4.7 DDR5 SO-DIMM Sockets

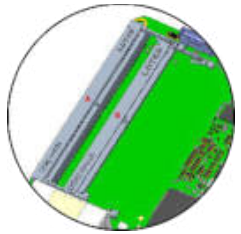


Fig. 25: DDR5 SO-DIMM Sockets Detail

Use only DDR5 SO-DIMM modules compliant with the DDR5 Standard.
Dual channel DDR5 SO-DIMM memory, max. 2x 32 GB, up to 5600 MT/s, with ECC support.

**Assembly:**

First slide RAM module into the RAM socket.
Then press the module in direction to the board till you hear it snap.

**Disassembly:**

First press both clamps outwards.
Then the RAM module will set upright automatically.
Remove the module from the socket.

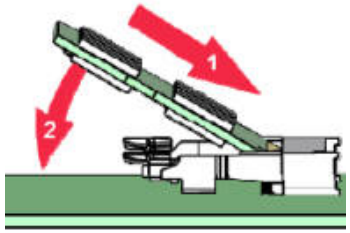



Fig. 26: RAM Assembly



Copyright © 2026 E.E.P.D. GmbH. All rights reserved.

## 4.8 Power Connector

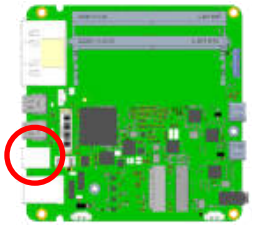
CAUTION

For a stable operation:

For CPU variants with TDP up to 30 W:
Please ensure a system power supply of min. 90 W.
E.E.P.D. recommends a system power supply of 120 W.

For CPU variants with TDP up to 54 W:
Please ensure a system power supply of min. 120 W.
E.E.P.D. recommends a system power supply of 150 W.

Power source must be capable to respond to fast load changes!
Supply voltage (PVIN) min. 10.8 V / max. 26.4 V (DC)



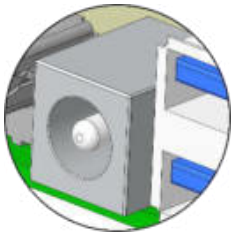


Fig. 27: Power Connector Detail

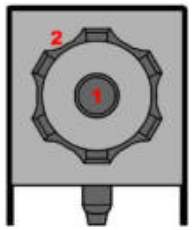



Fig. 28: Power Connector Schematic

Counterpart – plug:

CUI Devices Power Plug ID 2.5 mm, AD 5.5 mm, max. 7A

Ordering number: PP3-002B

| Pin | Signal |
|---|---|
| 1 | PVIN |
| 2 | GND |

Tab. 2: Power Connector



Copyright © 2026 E.E.P.D. GmbH. All rights reserved.

## 4.9 M.2 Sockets

### M.2 Socket Key M

2280, PCIe Gen4 x4 NVMe, P3V3 max. 3.5 A, not fused

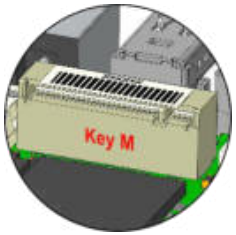



Fig. 29: M.2 Key M Connector Detail

### M.2 Socket Key E

2230, PCIe Gen4 x1 or x2 and USB 2.0, P3V3 max. 2 A, not fused

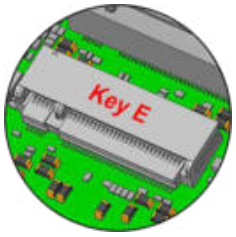
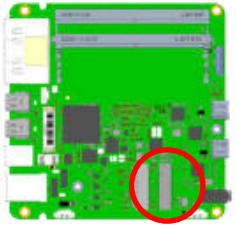



Fig. 30: M.2 Key E Connector Detail

### M.2 Socket Key B

3042, PCIe Gen4 x2 and USB 2.0, P3V3 max. 2.5 A, not fused



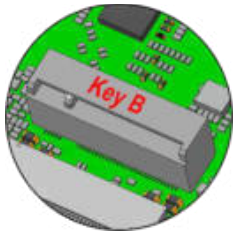



Fig. 31: M.2 Key B Connector Detail

### Installing M.2 modules

Insert the M.2 module into the corresponding slot at an angle. Press it down on the side that protrudes and secure it with the screw provided.

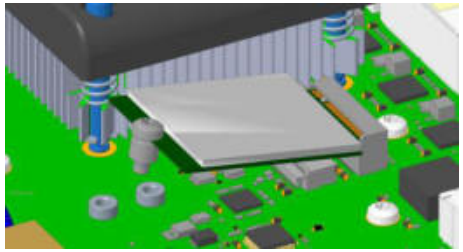


Fig. 32: M.2 module assembly example

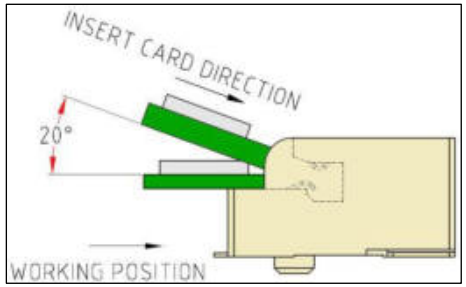
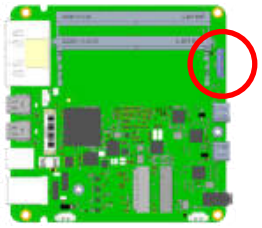



Fig. 33: M.2 module assembly angle



Copyright © 2026 E.E.P.D. GmbH. All rights reserved.

## 4.10 OCuLink Connector



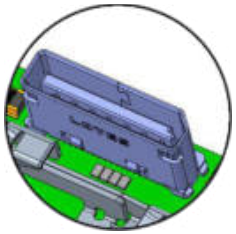


Fig. 34: OCuLink Connector Detail

Counterpart – plug:

OCuLink cable SFF-8611

## 4.11 Audio Jack

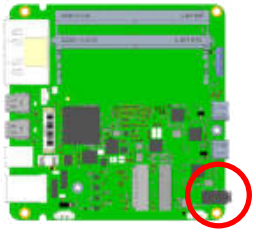


Fig. 35: Audio Jack Detail

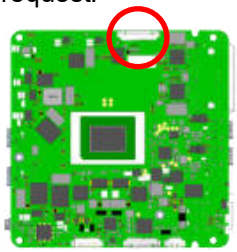
CAUTION

For optimum audio performance:

Please ensure to use cables provided by E.E.P.D.

## 4.12 Feature Connector

This feature requires Linux driver or Windows Library for OEM customers on request.



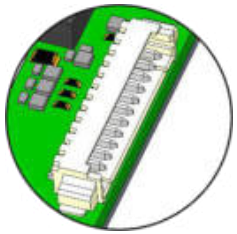


Fig. 36: Molex Feature Connector Detail

Counterpart – plug:

MOLEX Pico Blade
0510211200

Fig. 37: Molex Feature Connector Schematic

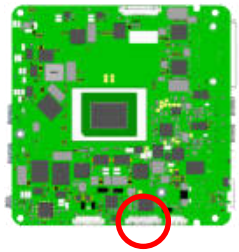
| Pin | Signal | |
|---|---|---|
| 1 | 3.3 V +/- 5% \| 200 mA max.\| not fused | |
| 2 | P12V_FAN: 12 V +/-5% \| 250 mA max. \| not fused | |
| 3 | GPIO0 | max. 3.3 V / max. 15 mA sink/source |
| 4 | GPIO1 | |
| 5 | GPIO2 | |
| 6 | GPIO3 | |
| 7 | GPO4 | PWM open drain outputs with 100 Ω series resistor. $I_{sink}$ max. = 25 mA |
| 8 | GPO5 | |
| 9 | GPO6 | |
| 10 | STATUS_LED_ANODE 3.3 V +/- 5% with 100 Ω series resistor (1/16W), 33 mA max., not fused | |
| 11 | STATUS_LED_CATHODE | |
| 12 | GND | |

Tab. 3: Feature Connector



Copyright © 2026 E.E.P.D. GmbH. All rights reserved.

## 4.13 RS232/485 Connector



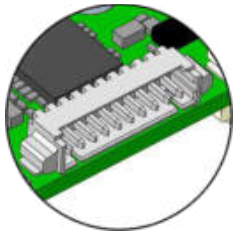


Fig. 38: Molex RS232/485 Connector Bottom Side Detail

Counterpart – plug:

MOLEX Pico Blade
0510211000

Fig. 39: Molex RS232/485 Connector Schematic

| Pin | Signal RS232* | Signal RS485/FDX* | Signal RS485/HDX for Windows 10/11 only* |
|---|---|---|---|
| 1 | DCD | RS485-TX_N | RS485-RX/TX_N |
| 2 | DSR | - | - |
| 3 | RXD | RS485-TX_P | RS485-RX/TX_P |
| 4 | RTS | - | - |
| 5 | TXD | RS485-RX_P | - |
| 6 | CTS | - | - |
| 7 | DTR | RS485-RX_N | - |
| 8 | - | - | - |
| 9 | VCC 5 V +/-5%, max. 500 mA not fused | VCC 5 V +/-5%, max. 500 mA not fused | VCC 5 V +/-5%, max. 500 mA not fused |
| 10 | GND | GND | GND |

Tab. 4: RS232/485 Connector

*See BIOS setting chapter 5.4.7.1 UART Port 1 Configuration

## 4.14 Battery Connector

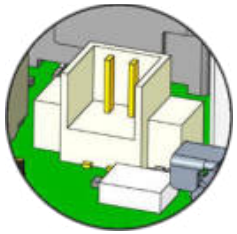


Fig. 40: Molex Battery Connector Detail

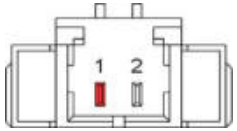



Fig. 41: Molex Battery Connector Schematic

Counterpart – plug:

MOLEX Pico Blade 0510210200
Battery with cable ordering number: W-BATCR1A

| Pin | Signal |
|---|---|
| 1 | BATT |
| 2 | GND |

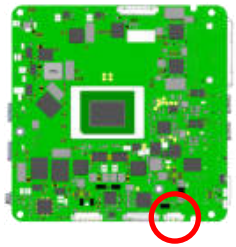
Tab. 5: Battery Connector



Copyright © 2026 E.E.P.D. GmbH. All rights reserved.

## 4.15 FAN Connectors

### CPU FAN



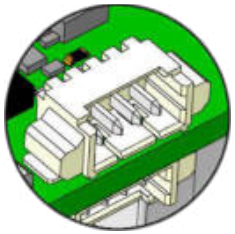


Fig. 42: Molex CPU FAN Connector Detail

Counterpart – plug:

MOLEX Pico Blade
0510210400

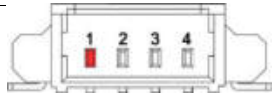
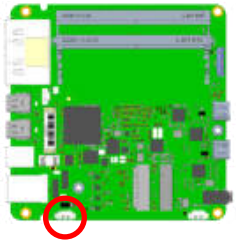



Fig. 44: Molex FAN Connector Schematic

### Auxiliary FAN (e. g. for SSD)



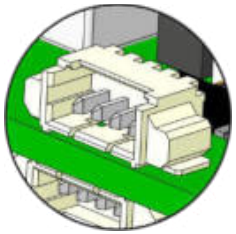


Fig. 43: Molex Auxiliary FAN Connector Detail

| Pin | Signal |
|---|---|
| 1 | GND |
| 2 | VDD_FAN 12V +/- 5% \| max. 250 mA \| not fused |
| 3 | FAN_TACHO |
| 4 | FAN_PWM |

Tab. 6: FAN Connectors

CAUTION

An incorrectly connected fan can cause damage to the fan and the board!



Copyright © 2026 E.E.P.D. GmbH. All rights reserved.

## 4.16 Power Button, Power and SSD Activity LEDs

Press power button once to start up.
Press power button to shut down into S3/S4/S5 (Standby/Hibernate/OFF; depending on OS setting).
Hold power button (> 4 sec.) for hard shut down into S5 (OFF), may result in data loss.

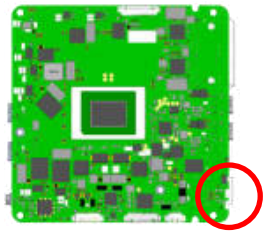
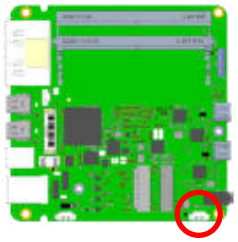


Fig. 45: Power Button/Power and SSD Activity LEDs Detail

## 4.17 Power Button Connector

Press power button once to start up.
Press power button to shut down into S3/S4/S5 (Standby/Hibernate/OFF; depending on OS setting).
Hold power button (> 4 sec.) for hard shut down into S5 (OFF). May result in data loss.



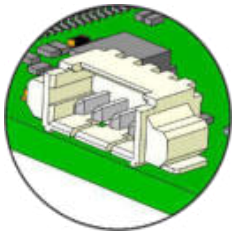


Fig. 46: Molex Power Button Connector Detail

Counterpart – plug:

MOLEX Pico Blade
0510210400

Fig. 47: Molex Power Button Connector Schematic

| Pin | Signal |
|---|---|
| 1 | PWR_LED_ANODE 3.3V +/- 5%<br>with 100 Ω series resistor \| max. 33 mA, not fused |
| 2 | PWR_LED_CATHODE |
| 3 | GND |
| 4 | POWERBUTTON |

Tab. 7: Power Button Connector



Copyright © 2026 E.E.P.D. GmbH. All rights reserved.

# 5 BIOS

The following description shows a snapshot of the BIOS setup. Later BIOS updates may change the content slightly.

Asterisk (*) indicates default setting.

## 5.1 Entering Setup

Power on the board and press and hold [ESC] immediately to enter Setup.

## 5.2 Most Common Settings

Firmware / BIOS Version:
Setup Utility → Main (chapter *5.3*)
or Setup Utility → AMD PBS → AMD Firmware Version (chapter *5.6.1*)

2. Boot / PXE Boot:
Boot Manager
or Setup Utility → Boot (chapter *5.7*)

3. TDP, fan control, boost mode:
TDP setting (chapter *5.5.5*):
Setup Utility → AMD CBS → SMU Common Options → System Configuration

Fan control (chapter *5.5.5.1*):
Setup Utility → AMD CBS → SMU Common Options → CPU and Auxiliary Fan Control

Boost mode (chapter *5.5.1*):
Setup Utility → AMD CBS → CPU Common Options → Core Performance Boost

4. Change shared graphics memory
Setup Utility → AMD CBS → NBIO Common Options → GFX Configurations → UMA Frame Buffer Size (chapter *5.5.2.1*)

5. USB power
USB Power off in S5 (chapter *5.4.6*):
Setup Utility → Advanced → NUCU Options → USB Power off in S5
or
USB VCC control (chapter *5.4.3.1*):
Setup Utility → Advanced → USB Configuration



Copyright © 2026 E.E.P.D. GmbH. All rights reserved.

## 5.3 Main Menu

Once you enter the Setup Utility, the Main Menu will appear on the screen:

Fig. 48: Main Menu

This setup menu shows an overview of board configuration, CPU type, memory and firmware revisions.

| BIOS Settings | Options | Description |
|---|---|---|
| System Time | No options | Set the time. Use Tab to switch between time elements [hour:min:sec]. Valid range is from 0 to 23, 0 to 59, 0 to 59. INCREASE/REDUCE: +/-. |
| System Date | No options | Set the date. Use Tab to switch between date elements [month/day/year]. Valid range is from 1 to 12, 1 to 31, 2000 to 2099. (Error checking will be done against month/day/year combinations that are not supported.) INCREASE/REDUCE: +/-. |
| About this Software | | |

Tab. 8: Main Menu



Copyright © 2026 E.E.P.D. GmbH. All rights reserved.

## 5.4 Advanced Menu

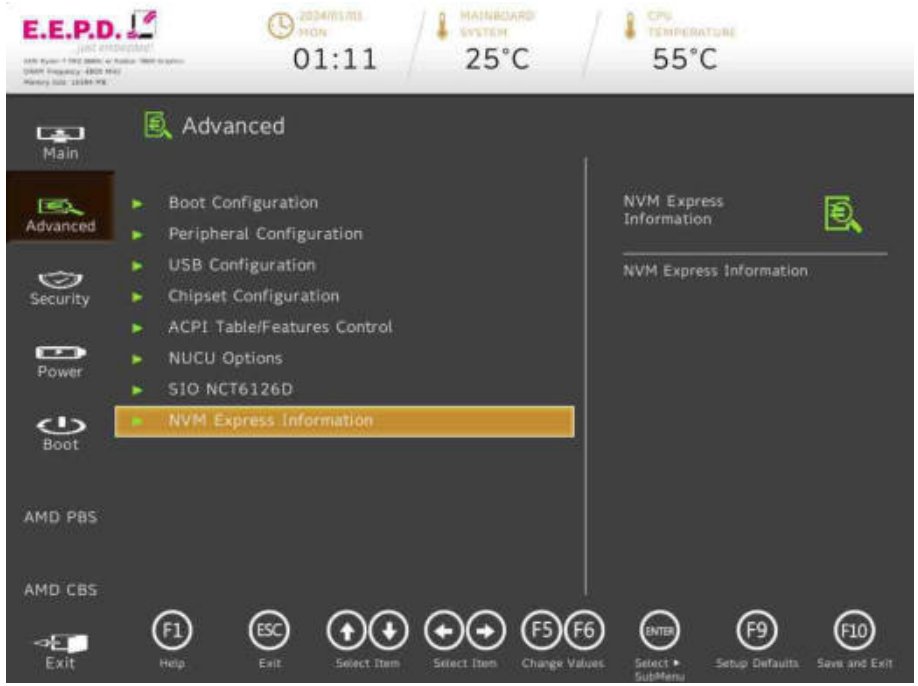


Fig. 49: Advanced Menu

| BIOS Settings | Options | Description |
|---|---|---|
| Boot Configuration | See submenu | Configures Boot Settings. |
| Peripheral Configuration | See submenu | Configures the peripheral devices. |
| USB Configuration | See submenu | Configure the USB support |
| Chipset Configuration | See submenu | Advanced Chipset Configuration Options. |
| ACPI Table/Features Control | See submenu | Configures ACPI Tables/Features setting. |
| NUCU Options | See submenu | Configure:<br>PIC Watchdog,<br>Wake on LAN |
| SIO NCT6126D | See submenu | SIO NCT6126D configuration menu |
| NVMe Information | Info page | This function shows the connected NVMe devices. |

Tab. 9: Advanced Menu



Copyright © 2026 E.E.P.D. GmbH. All rights reserved.

### 5.4.1 Boot Configuration

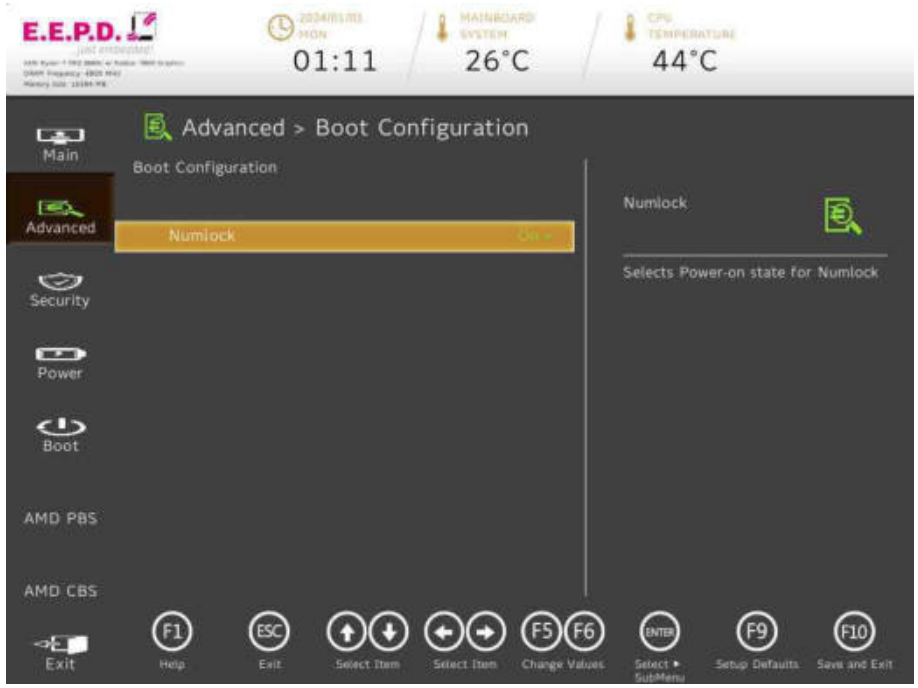



Fig. 50: Boot Configuration

| BIOS Settings | Options | Description |
|---|---|---|
| Numlock | <Off><br><On>* | Configuration of Numlock key at power up. |

Tab. 10: Boot Configuration

### 5.4.2 Peripheral Configuration

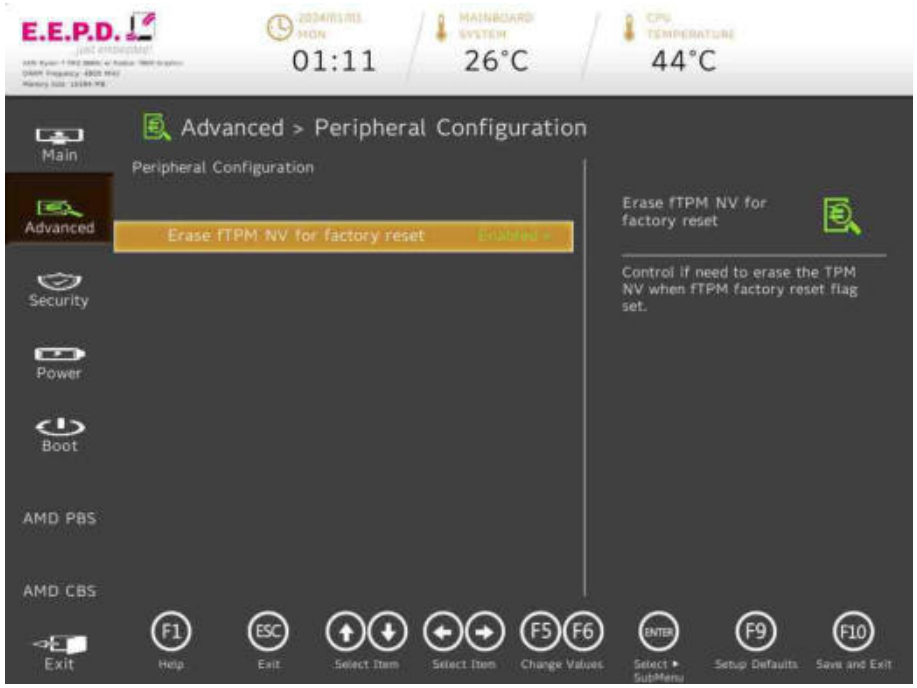



Fig. 51: Peripheral Configuration

| BIOS Settings | Options | Description |
|---|---|---|
| Erase fTPM NV for factory reset | <Disabled><br><Enabled>* | Control if need to erase the TPM NV when fTPM factory reset flag set. |

Tab. 11: Peripheral Configuration



Copyright © 2026 E.E.P.D. GmbH. All rights reserved.

### 5.4.3 USB Configuration

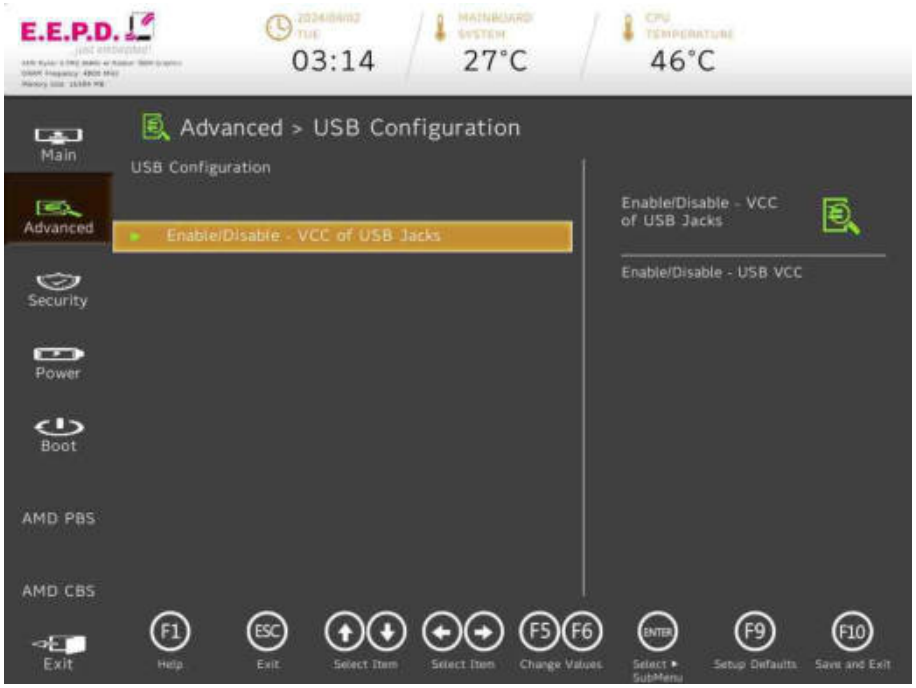



Fig. 52: USB Configuration

| BIOS Settings | Options | Description |
|---|---|---|
| Enable/Disable – VCC of USB Jacks | See submenu | Enable/Disable – USB VCC |

Tab. 12: USB Configuration

Note:
In order to not exclude yourself from the BIOS setup, at least one USB port should be enabled at all times.

#### 5.4.3.1 Enable/Disable – VCC of USB Jacks

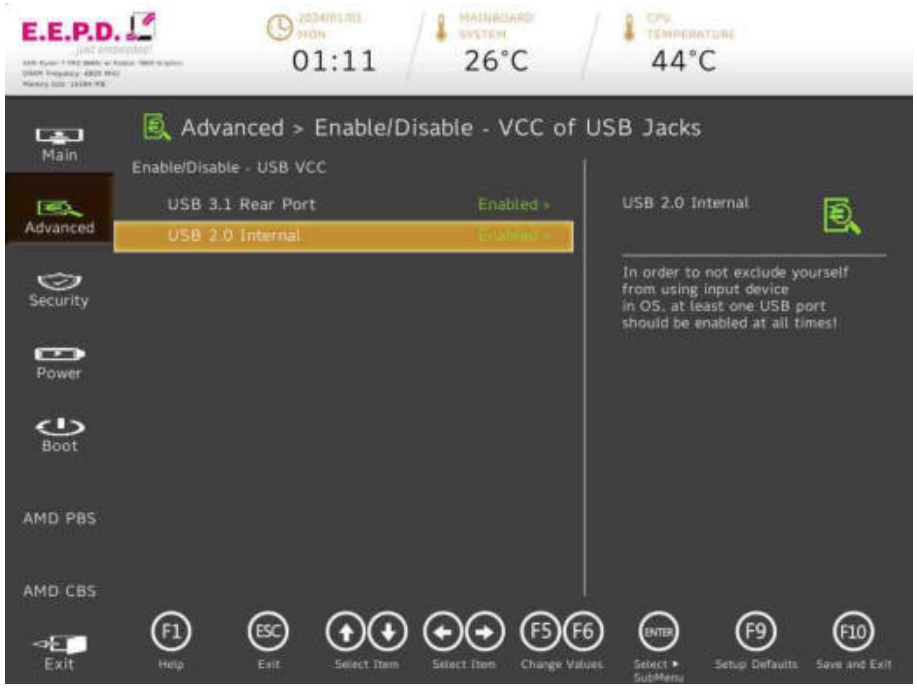



Fig. 53: USB Ports

| BIOS Settings | Options | Description |
|---|---|---|
| USB 3.1 Rear Port | <Disabled> <Enabled>* | This function allows you to enable or disable the power for the Rear USB port. |
| USB 2.0 Internal | <Disabled> <Enabled>* | This function allows you to enable or disable the power for the internal USB port. |

Tab. 13: USB Ports



Copyright © 2026 E.E.P.D. GmbH. All rights reserved.

### 5.4.4 Chipset Configuration

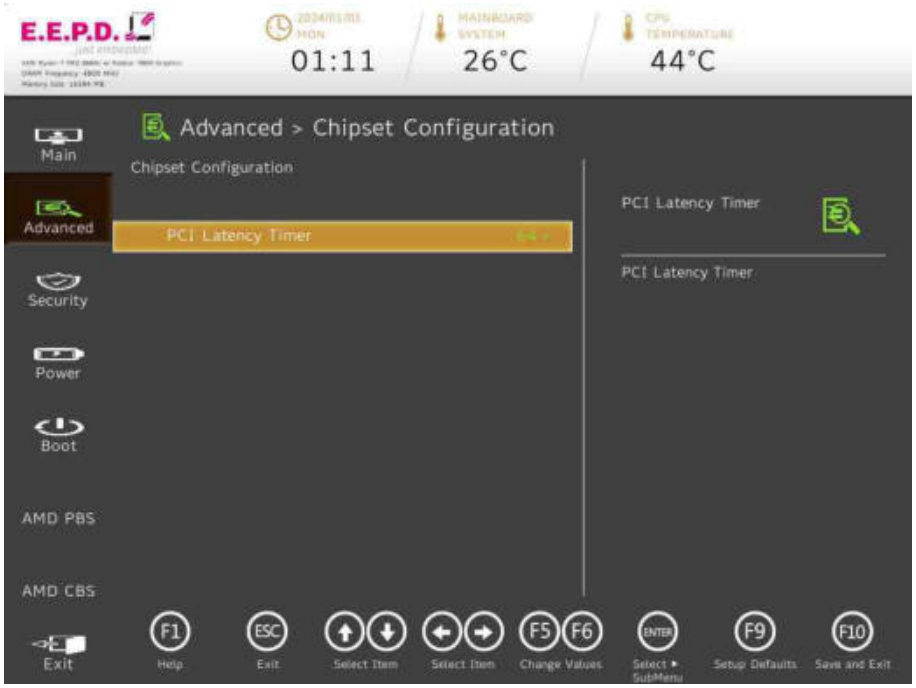



Fig. 54: Chipset Configuration

| BIOS Settings | Options | Description |
|---|---|---|
| PCI Latency Timer | <32><br><64>*<br><96><br><128><br><160><br><192><br><224><br><248> | PCI Latency Timer |

Tab. 14: Chipset Configuration

### 5.4.5 ACPI Table/Features Control

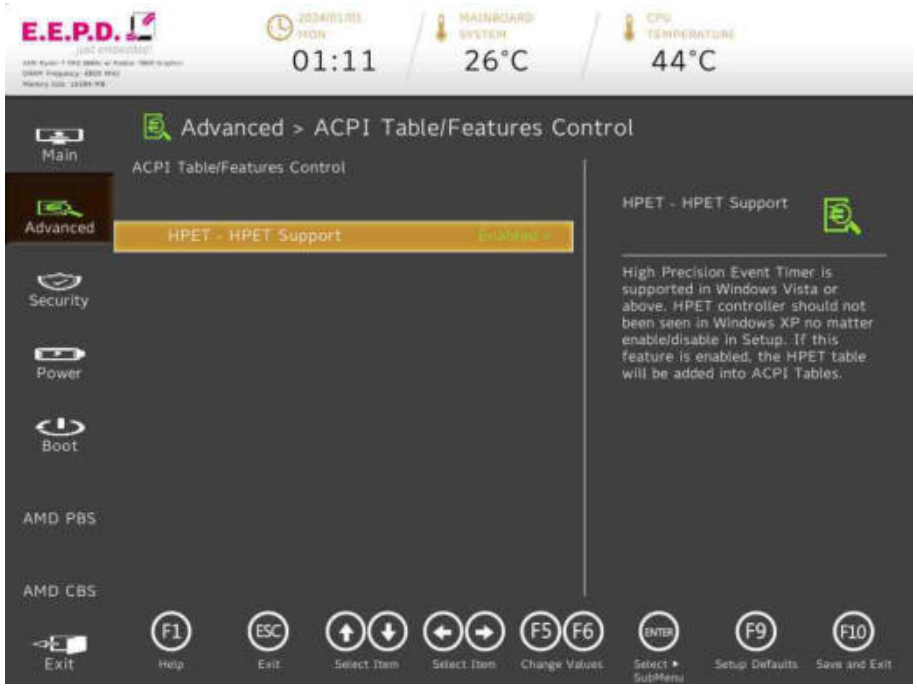



Fig. 55: ACPI Table

| BIOS Settings | Options | Description |
|---|---|---|
| HPET - HPET Support | <Disabled><br><Enabled>* | High Precision Event Timer is supported in Windows Vista or above. HPET controller should not been seen in Windows XP no matter enable/disable in SCU. If this feature is enabled, the HPET table will be added into ACPI Tables. |

Tab. 15: ACPI Table



Copyright © 2026 E.E.P.D. GmbH. All rights reserved.

### 5.4.6 NUCU Options

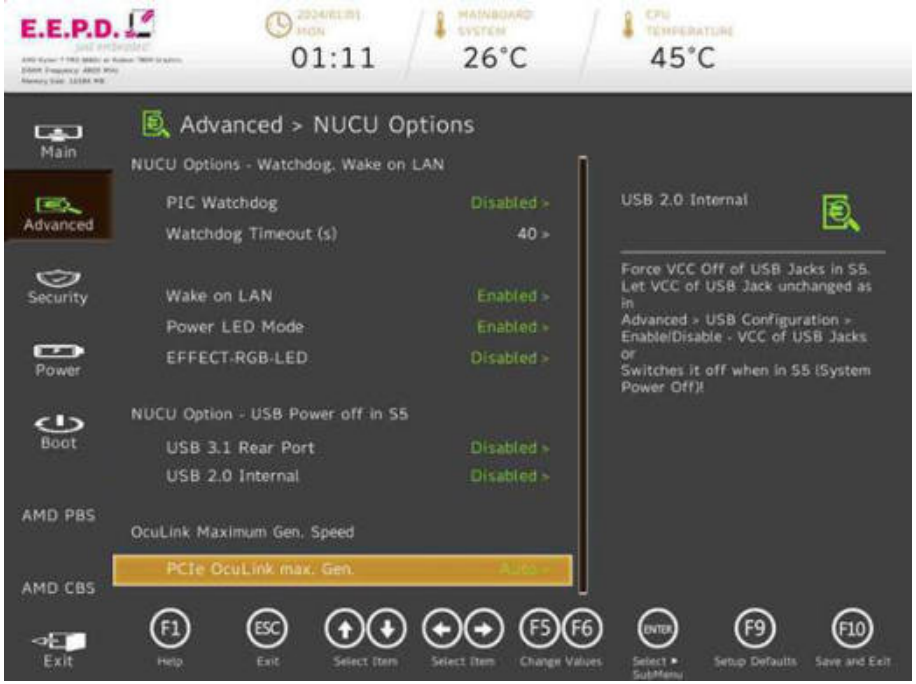


Fig. 56: NUCU Options

CAUTION

Enabling watchdog leads to the reset of the board after time out. Please contact EEPD for further instructions.

| BIOS Settings | Options | Description |
|---|---|---|
| PIC Watchdog | <Disabled>*<br><Enabled> | Enable/Disable the PIC watchdog |
| Watchdog Timeout (s) | Adjust value [30-254]<br>Default value [40]* | Seconds before PIC watchdog times out.<br>Range 30-254 seconds. |
| Wake on LAN | <Disabled><br><Enabled>* | Enable/Disable Wake on LAN |
| Power LED Mode | <Disabled><br><Enabled>* | Set Power LED Mode (Enable/Disable) |
| EFFECT-RGB-LED | <Disabled>*<br><Enabled> | Set GPO [4:6] LED Mode:<br>Enabled = Temperature dependent RGB-LED for Indication of heat<br>Disabled = normal GPO function |
| USB 3.1 Rear Port | <Disabled>*<br><Enabled> | Force USB VCC Off in S5.<br>[Disabled]: Leaves VCC of USB Jack unchanged as in Advanced > USB Configuration > Enable/Disable - VCC of USB Jacks<br>[Enabled]: Switches USB VCC off in S5 (System Power Off)! |
| USB 2.0 Internal | <Disabled>*<br><Enabled> | |
| PCIe OcuLink max. Gen. | <Auto>*<br><Gen1><br><Gen2><br><Gen3><br><Gen4> | Set PCIe OcuLink max. Gen. |

Tab. 16: NUCU Options



Copyright © 2026 E.E.P.D. GmbH. All rights reserved.

### 5.4.7 SIO NCT6126D

Fig. 57: SIO NCT6126D

| BIOS Settings | Options | Description |
|---|---|---|
| UART Port 1 Configuration | See submenu | UART Configuration |

Tab. 17: SIO NCT6126D



Copyright © 2026 E.E.P.D. GmbH. All rights reserved.

### 5.4.7.1 UART Port 1 Configuration

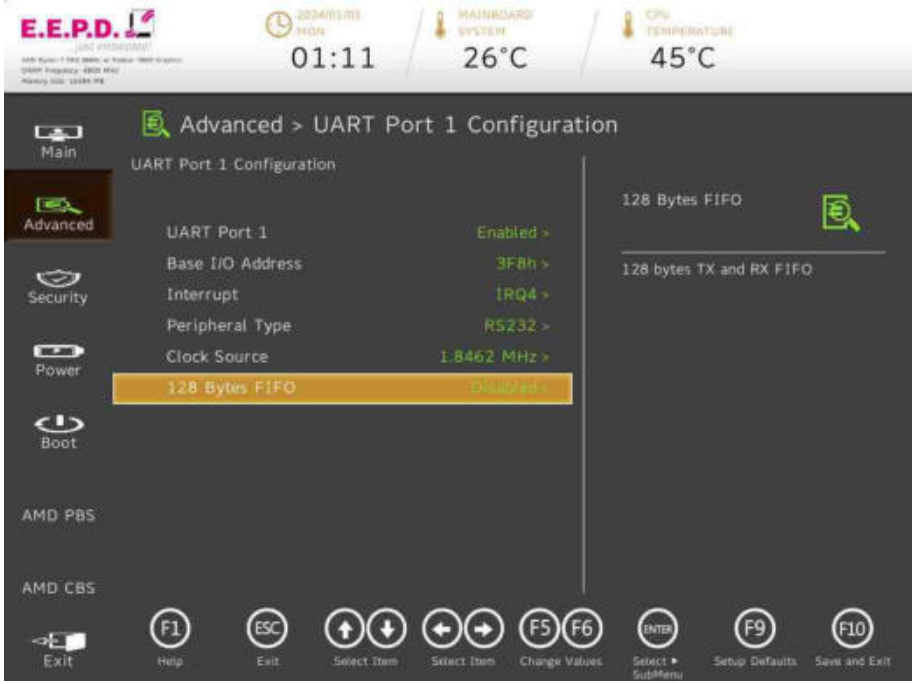



Fig. 58: UART Port 1 Configuration

| BIOS Settings | Options | Description |
|---|---|---|
| UART Port 1 | <Disabled><br><Enabled>* | Configure UART port using options:<br>[Disabled] Disable device<br>[Enabled] Enable device and use below settings |
| Base I/O Address | <3F8h>*<br><2F8h><br><3E8h><br><2E8h><br><338h><br><228h><br><220h><br><238h> | System I/O base resources |
| Interrupt | <IRQ3><br><IRQ4>*<br><IRQ6><br><IRQ7><br><IRQ11> | System interrupt resources |
| Peripheral Type | <RS232>*<br><RS422><br><RS485 FULL DUPLEX><br><RS485 HALF DUPLEX> | Choose Port Mode<br>RS232<br>RS422<br>RS485 Full Duplex<br>RS485 Half Duplex |
| Clock Source | <1.8462 MHz>*<br><2 MHz><br><24 MHz><br><14.769 MHz> | Clock Source |
| 128 Bytes FIFO | <Disabled>*<br><Enabled> | 128 bytes TX and RX FIFO |

Tab. 18: UART Port 1 Configuration



Copyright © 2026 E.E.P.D. GmbH. All rights reserved.

## 5.5 AMD CBS

Fig. 59: AMD CBS

| BIOS Settings | Options | Description |
|---|---|---|
| CPU Common Options | See submenu | CPU Common Options |
| NBIO Common Options | See submenu | NBIO Common Options |
| FCH Common Options | See submenu | FCH Common Options |
| SMU Common Options | See submenu | SMU Common Options |
| SOC Miscellaneous Control | See submenu | SOC Miscellaneous Control |

Tab. 19: AMD CBS

### 5.5.1 CPU Common Options

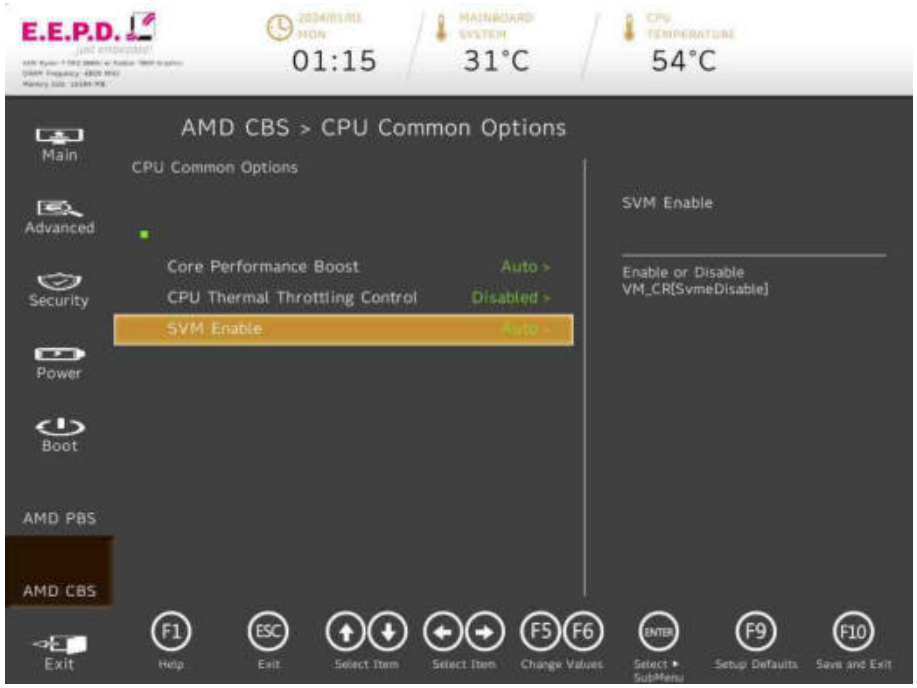



Fig. 60: CPU Common Options

| BIOS Settings | Options | Description |
|---|---|---|
| Core Performance Boost | <Disabled><br><Auto>* | This allows the processor to dynamically adjust and control the processor operating frequency to enable performance improvement, provided the processor has sufficient power and is within temperature specifications. |
| CPU Thermal Throttling Control | <Disabled>*<br><Enabled> | CPU Thermal Throttling Enable/Disable |
| SVM Enable | <Enabled><br><Disabled><br><Auto>* | Enable or disable the secure virtual machine |

Tab. 20: CPU Common Options



Copyright © 2026 E.E.P.D. GmbH. All rights reserved.

### 5.5.2 NBIO Common Options

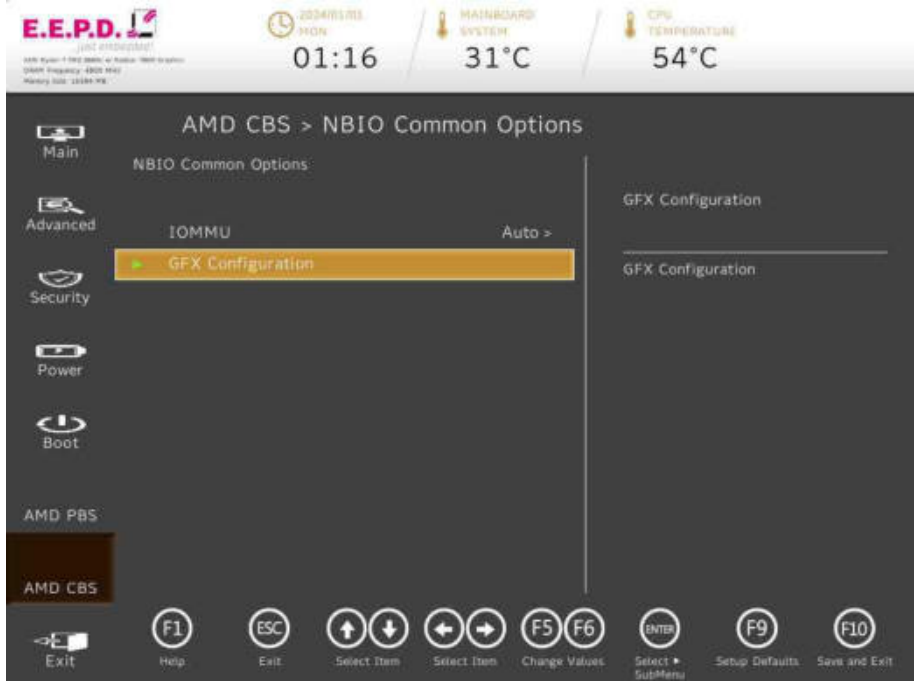



Fig. 61: NBIO Common Options

| BIOS Settings | Options | Description |
|---|---|---|
| IOMMU | <Disabled><br><Enabled><br><Auto>* | Enable/Disable I/O Memory Management Unit |
| GFX Configurations | See submenu | GFX Configuration |

Tab. 21: NBIO Common Options



Copyright © 2026 E.E.P.D. GmbH. All rights reserved.

### 5.5.2.1 GFX Configurations

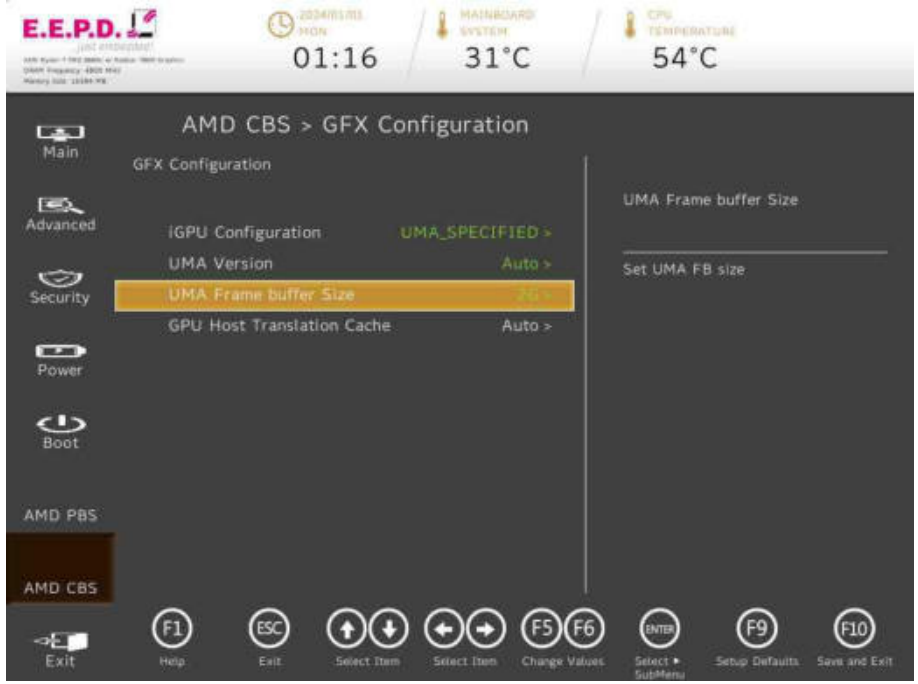



Fig. 62: GFX Configurations

| BIOS Settings | Options | Description |
|---|---|---|
| iGPU Configuration | <UMA_SPECIFIED>*<br><UMA_AUTO> | UMA Mode.<br>Select UMA_SPECIFIED to set UMA Frame Buffer Size. |
| UMA Version | <Legacy><br><Non-Legacy><br><Auto>* | UMA Legacy Version<br>UMA Non-Legacy Version<br>Hybrid Secure |
| UMA Frame Buffer Size | <Auto><br><512M><br><768M><br><1G><br><2G>*<br><3G><br><4G><br><8G><br><16G> | This allows the system to manage the amount of shared memory for graphics. For systems equipped with 8GB of RAM or more, set the UMA buffer size to 1GB or 2GB. |
| GPU Host Translation Cache | <Disabled><br><Enabled><br><Auto>* | Option to disable GPU Host Translation Cache |

Tab. 22: GFX Configurations



Copyright © 2026 E.E.P.D. GmbH. All rights reserved.

### 5.5.3 FCH Common Options

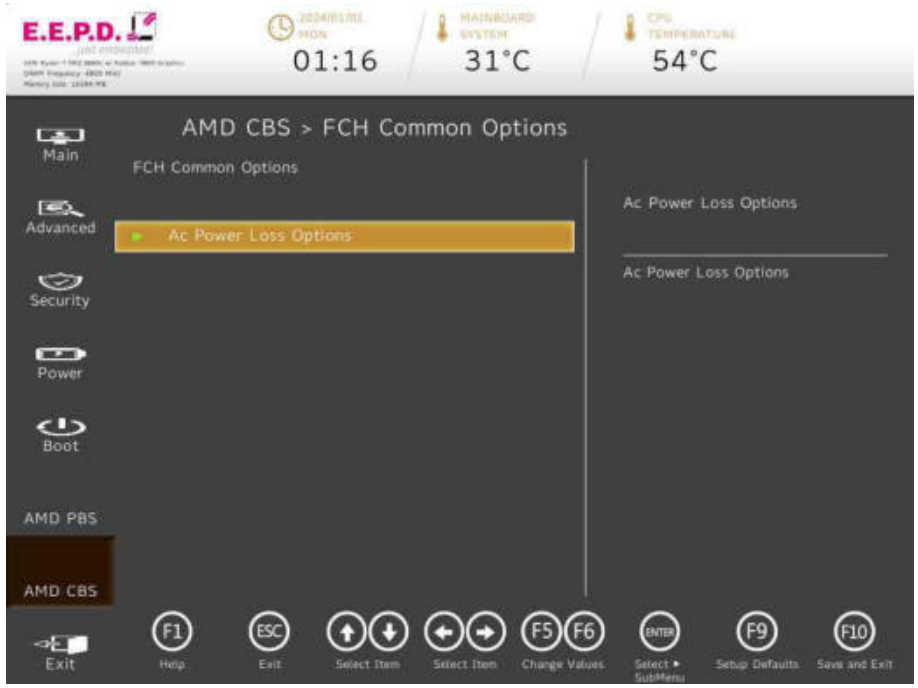



Fig. 63: FCH Common Options

| BIOS Settings | Options | Description |
|---|---|---|
| Ac Power Loss Options | See submenu | Ac Power Loss Options |

Tab. 23: FCH Common Options

### 5.5.4 Ac Power Loss Options

Fig. 64: Ac Power Loss Options

| BIOS Settings | Options | Description |
|---|---|---|
| Ac Loss Control | <Always Off><br><Always On>*<br><Previous> | This function allows you to set the power status after a power failure. Select [Always Off] to keep the system power off after a power failure. Select [Always On] to turn the system power after a power failure. Select [Previous] to allow the system to resume its last power state before a power failure. |

Tab. 24: Ac Power Loss Options



Copyright © 2026 E.E.P.D. GmbH. All rights reserved.

### 5.5.5 SMU Common Options

Fig. 65: SMU Common Options

| BIOS Settings | Options | Description |
|---|---|---|
| CPU and Auxiliary Fan Control | See submenu | CPU and Auxiliary Fan Control |
| System Configuration | <15W-54W POR Configuration> (depending on the system)<br>R8640U (15-30W,28W*)<br>R8840U (15-30W,28W*)<br>R8645HS (35-54W,45W*)<br>R8845HS (35-54W,45W*) | Warning:<br>Select System Configuration may cause the system to hang, as some System Configuration may not be supported by your OPN. |

Tab. 25: SMU Common Options

### 5.5.5.1 CPU and Auxiliary Fan Control

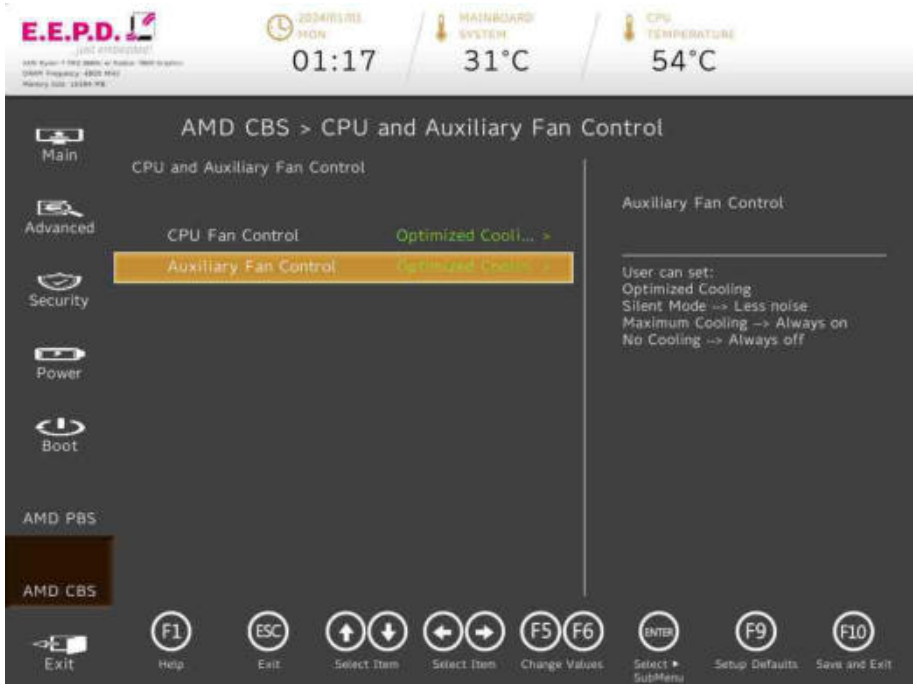



Fig. 66: CPU and Auxiliary Fan Control

| BIOS Settings | Options | Description |
|---|---|---|
| CPU Fan Control | <Optimized Cooling>*<br><Silent Mode><br><Maximum Cooling><br><No Cooling> | Optimized Cooling → Automatic PWM control depending on temperature<br>Silent Mode → Less noise (30%)<br>Maximum Cooling → Always on (100%)<br>No Cooling → Always off |
| Auxiliary Fan Control | | |

Tab. 26: CPU and Auxiliary Fan Control



Copyright © 2026 E.E.P.D. GmbH. All rights reserved.

### 5.5.6 SOC Miscellaneous Control

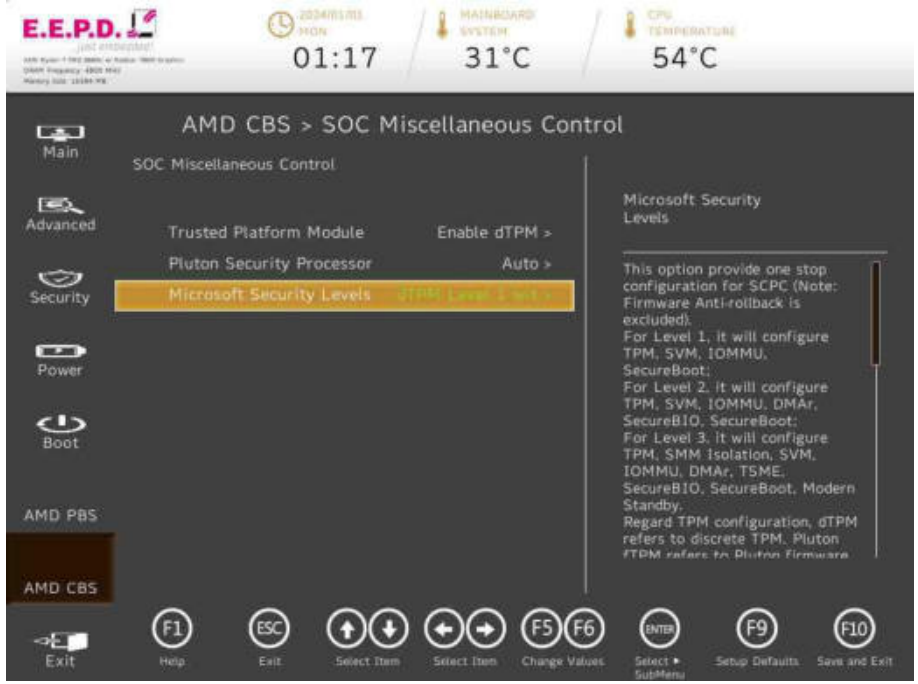



Fig. 67: SOC Miscellaneous Control

| BIOS Settings | Options | Description |
|---|---|---|
| Trusted Platform Module | <Auto><br><Disabled><br><Enable dTPM>*<br><Enable ASP fTPM><br><Enable Pluton fTPM> | Enable/Disable TPM physical presence. |
| Pluton Security Processor | <Auto>*<br><Disabled><br><Enabled> | This option is used to enable/disable Pluton Security Processor |

| | |
|---|---|
| BIOS Settings | Microsoft Security Levels |
| Options | <Customized><br><dTPM Level 1 without Pluton Security Processor>*<br><dTPM Level 2 without Pluton Security Processor><br><dTPM Level 3 without Pluton Security Processor><br><Pluton fTPM Level 1><br><Pluton fTPM Level 2><br><Pluton fTPM Level 3><br><dTPM Level 1 with Pluton Security Processor><br><dTPM Level 2 with Pluton Security Processor><br><dTPM Level 3 with Pluton Security Processor><br><ASP fTPM Level 0><br><ASP fTPM Level 1><br><ASP fTPM Level 2> |
| Description | This option provides one stop configuration for SCPC (Note: Firmware Anti-rollback is excluded).<br>For Level 1, it will configure TPM, SVM, IOMMU, SecureBoot;<br>For Level 2, it will configure TPM, SVM, IOMMU, DMAr, SecureBIO, SecureBoot;<br>For Level 3, it will configure TPM, SMM Isolation, SVM, IOMMU, DMAr, TSME, SecureBIO, SecureBoot, Modern Standby.<br>Regard TPM configuration, dTPM refers to discrete TPM. Pluton fTPM refers to Pluton firmware TPM. ASP fTPM refers to ASP firmware TPM.<br>NOTE: FAR is required for Level3 and please enable it manually in CBS-> SOC Miscellaneous Control / Firmware Anti-rollback (FAR) / FAR Switch.<br><br>dTPM with Pluton security processor is recommend configuration for Level1/2/3 |

Tab. 27: SOC Miscellaneous Control



Copyright © 2026 E.E.P.D. GmbH. All rights reserved.

## 5.6 AMD PBS Menu

Fig. 68: AMD PBS Menu

| BIOS Settings | Options | Description |
|---|---|---|
| AMD Firmware Version | See submenu | Show all of AMD Firmware Version |
| WWAN Power Control | <Enabled>*<br><Disabled> | Enable/disable Power of M.2 Key B Slot (WWAN) |
| WWAN Radio Operation | <Enabled>*<br><Disabled> | Enable/disable Radio operation of M.2 Key B Slot (WWAN) |
| WLAN Radio Operation | <Enabled>*<br><Disabled> | Enable/disable WLAN radio operation of M.2 Key E Slot |
| BT Radio Operation | <Enabled>*<br><Disabled> | Enable/disable Bluetooth (BT) radio operation of M.2 Key E Slot |
| USB-C Port 0 | <Disabled><br><Enabled>* | Enable/Disable PD USB4/PCIe Tunnel support;<br>If USB4/PCIe Tunneling is disabled, the port operates in standard USB-C mode |
| USB-C Port 1 | <Disabled><br><Enabled>* | |

Tab. 28: AMD PBS Menu



Copyright © 2026 E.E.P.D. GmbH. All rights reserved.

### 5.6.1 AMD Firmware Version

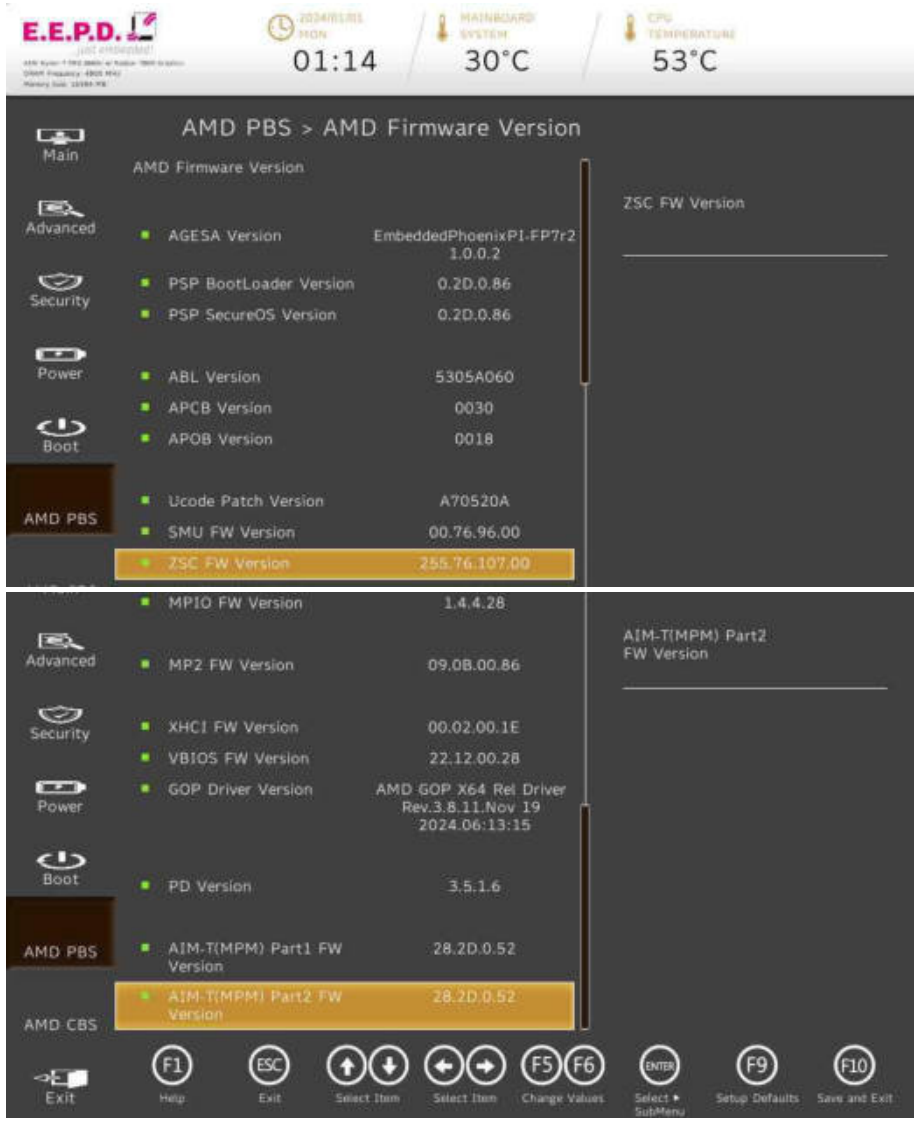



Fig. 69: AMD Firmware Version

## 5.7 Boot Menu

Fig. 70: Boot Menu

| BIOS Settings | Options | Description |
|---|---|---|
| Quick Boot | <Enabled>*<br><Disabled> | Allows InsydeH2O to skip certain tests while booting. This will decrease the time needed to boot the system. |
| Quiet Boot | <Enabled>*<br><Disabled> | Disables or enables booting in Text Mode. |



Copyright © 2026 E.E.P.D. GmbH. All rights reserved.

| | | |
|---|---|---|
| Network Stack | <Disabled>*<br><Enabled> | Network Stack Support:<br>Windows 8 BitLocker Unlock<br>UEFI IPv4/IPv6 PXE<br>Legacy PXE OPROM |
| PXE Boot capability | <Disabled>* | Disabled: Support Network Stack<br>UEFI PXE: IPv4/IPv6<br>Legacy: Legacy PXE OPROM only |
| Add Boot Options | <First>*<br><Last><br><Auto> | Position in Boot Order for Shell, Network and Removables |
| USB Boot | <Enabled>*<br><Disabled> | Disables or enables booting to USB boot devices. |
| UEFI OS Fast Boot | <Enabled>*<br><Disabled> | If enabled the system firmware does not initialize keyboard and check for firmware menu key. |
| USB Hot Key Support | <Disabled><br><Enabled>* | Enable/Disable to support USB hot key while booting. This will decrease the time needed to boot the system. |
| Timeout | Adjust value [0-10]<br>Default value [10]* | The number of seconds that the firmware will wait before booting the original default boot selection. |
| Automatic Failover | <Disabled><br><Enabled>* | Enable: if boot to default device fail, it will directly try to boot next device.<br>Disable: if boot to default device fail, it will pop warning message then go into firmware UI. |
| Group Boot Options | <Grouped><br><Non-Grouped>* | Boot options are grouped or not. |
| Sync Order | <Disabled>*<br><Sync Boot Order><br><Sync Boot Device Type Order> | Disabled: No effect.<br>Sync Boot Order: Group boot options in Boot Order is adjusted to follow boot device type priority.<br>Sync Boot Device Type Order: Boot device type order is adjusted to follow the order of group boot options in Boot Order. |
| Adjust Non-BIOS Boot Options | <Disabled><br><Enabled>* | When enabled, position of Non-BIOS created boot options will be adjusted to follow boot options position policy each time before enumerate boot devices. |

Tab. 29: Boot Menu

## 5.8 Power Menu

Fig. 71: Power Menu

| BIOS Settings | Options | Description |
|---|---|---|
| Auto Wake on S5 | <Disabled>*<br><By Every Day><br><By Day of Month> | Auto wake on S5, By Day of Month or Fixed time of every day |

Tab. 30: Power Menu



Copyright © 2026 E.E.P.D. GmbH. All rights reserved.

## 5.9 Exit Menu

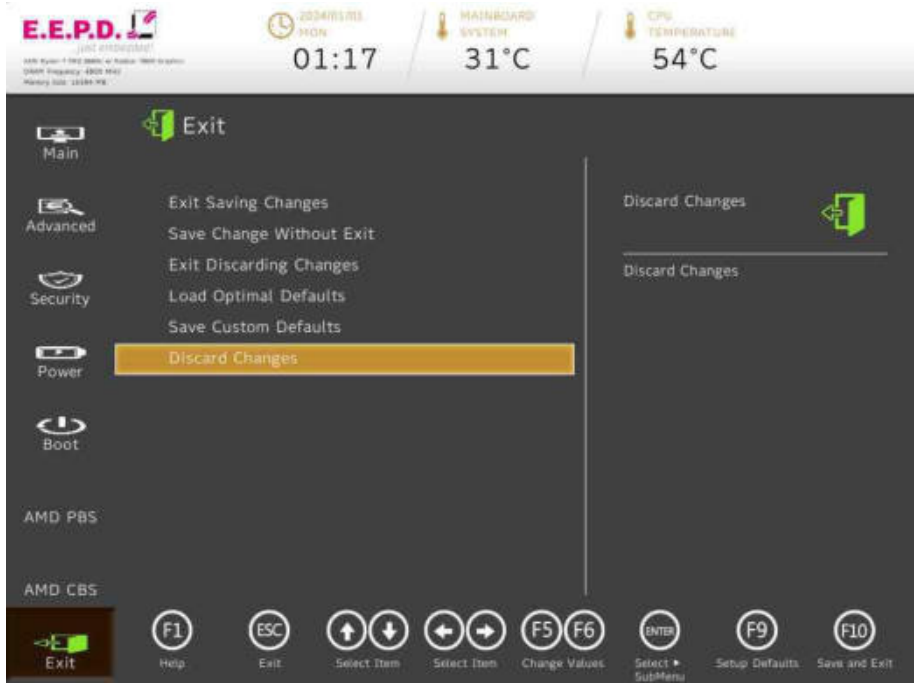



Fig. 72: Exit Menu

| BIOS Settings | Options | Description |
|---|---|---|
| Exit Saving Changes | | Exit system setup after saving your changes. |
| Save Change Without Exit | | Save your changes without exiting system. |
| Exit Discarding Changes | | Exit system setup without saving your changes. |
| Load Optimal Defaults | | Load Optimal Defaults to all the setup options. |
| Save Custom Defaults | | Save changes done so far as Custom Defaults. |
| Discard Changes | | Discard changes done so far to any of the setup options. |

Tab. 31: Exit Menu



Copyright © 2026 E.E.P.D. GmbH. All rights reserved.

## 5.10 Security Menu

Fig. 73: Security Menu

| BIOS Settings | Options | Description |
|---|---|---|
| Current TPM Device | <Not Detected><br><TPM 1.2><br><TPM 2.0 (IFX)>* | Current TPM Device: TPM1.2, or TPM2.0.<br><br>Go to *SoC Misc. Control* to select TPM device (*5.5.6)* |
| TrEE Protocol Version | <1.0><br><1.1>* | TrEE Protocol Version: 1.0 or 1.1 |
| TPM Availability | <Available>*<br><Hidden> | When hidden, don't expose TPM to OS<br>Warning: If Supervisor/User password is verified with TPM, change this option will disable password automatically |
| TPM Operation | <No Operation>*<br><Enable><br><SetPCRBanks(Algorithm)><br><LogAllDigests><br><SetPPRequiredForClear_True><br><SetPPRequiredForClear_False><br><SetPPRequiredForTurnOn_False><br><SetPPRequiredForTurnOn_True><br><SetPPRequiredForTurnOff_False><br><SetPPRequiredForTurnOff_True><br><SetPPRequiredForChangePCRs_False><br><SetPPRequiredForChangePCRs_True><br><SetPPRequiredForChangeEPS_False><br><SetPPRequiredForChangeEPS_True><br><ChangeEPS> | Select one of the supported operations to change TPM2 state. |
| Clear TPM | […]<br>[ X ] | Clear TPM. Removes all TPM context associated with a specific Owner. |
| Set Supervisor Password | None | Install or change the password and the length of password must be greater than one character. |

Tab. 32: Security Menu



Copyright © 2026 E.E.P.D. GmbH. All rights reserved.

### 5.10.1 Storage Password Setup Page

Fig. 74: Storage Password Setup Page

| BIOS Settings | Options | Description |
|---|---|---|
| TCG Storage Action | <No Operation>*<br><Enable_BlockSIDFunc><br><Disable_BlockSIDFunc><br><PPRequiredForEnableBlockSID_True><br><PPRequiredForEnableBlockSID_False><br><PPRequiredForDisableBlockSID_True><br><PPRequiredForDisableBlockSID_False> | Change BlockSID actions, includes enable or disable BlockSID, Require or not require physical presence when remote enable or disable BlockSID |

Tab. 33: Storage Password Setup Page



Copyright © 2026 E.E.P.D. GmbH. All rights reserved.

# Index of Figures

Fig. 1: System Overview ..... 11
Fig. 2: Top View ..... 12
Fig. 3: Bottom View ..... 12
Fig. 4: Front View ..... 13
Fig. 5: Recommended cutouts front panel, values [mm] ..... 13
Fig. 6: Rear View ..... 13
Fig. 7: Recommended cutouts rear panel, values [mm] ..... 13
Fig. 8: Mechanical Mounting ..... 13
Fig. 9: Dimensions of the board, values [mm] ..... 14
Fig. 10: Dimensions of the mounting points, values [mm] ..... 14
Fig. 11: Dimensions of the CPU, values [mm] ..... 14
Fig. 12: Height of the board, values [mm] ..... 14
Fig. 13: Connection Overview Top Side ..... 16
Fig. 14: Connection Overview Bottom Side ..... 17
Fig. 15: Mini-DP++ Connectors Detail ..... 18
Fig. 16: Mini-DP++ Connector Schematic ..... 18
Fig. 17: Ethernet Dual-Port Detail ..... 18
Fig. 18: Ethernet Port Schematic ..... 18
Fig. 19: Dual-USB-A 3.2 Port Detail ..... 19
Fig. 20: USB-A 3.2 Port Schematic ..... 19
Fig. 21: USB-C Ports Detail ..... 19
Fig. 22: USB-C Port Schematic ..... 19
Fig. 23: Molex USB internal Connector Detail ..... 20
Fig. 24: Molex USB internal Connector Schematic ..... 20
Fig. 25: DDR5 SO-DIMM Sockets Detail ..... 20
Fig. 26: RAM Assembly ..... 20
Fig. 27: Power Connector Detail ..... 21
Fig. 28: Power Connector Schematic ..... 21
Fig. 29: M.2 Key M Connector Detail ..... 22
Fig. 30: M.2 Key E Connector Detail ..... 22
Fig. 31: M.2 Key B Connector Detail ..... 22
Fig. 32: M.2 module assembly example ..... 22
Fig. 33: M.2 module assembly angle ..... 22
Fig. 34: OCuLink Connector Detail ..... 23
Fig. 35: Audio Jack Detail ..... 23
Fig. 36: Molex Feature Connector Detail ..... 23
Fig. 37: Molex Feature Connector Schematic ..... 23
Fig. 38: Molex RS232/485 Connector Bottom Side Detail ..... 24
Fig. 39: Molex RS232/485 Connector Schematic ..... 24
Fig. 40: Molex Battery Connector Detail ..... 24
Fig. 41: Molex Battery Connector Schematic ..... 24
Fig. 42: Molex CPU FAN Connector Detail ..... 25
Fig. 43: Molex Auxiliary FAN Connector Detail ..... 25
Fig. 44: Molex FAN Connector Schematic ..... 25
Fig. 45: Power Button/Power and SSD Activity LEDs Detail ..... 26
Fig. 46: Molex Power Button Connector Detail ..... 26
Fig. 47: Molex Power Button Connector Schematic ..... 26
Fig. 48: Main Menu ..... 28
Fig. 49: Advanced Menu ..... 29
Fig. 50: Boot Configuration ..... 30
Fig. 51: Peripheral Configuration ..... 30
Fig. 52: USB Configuration ..... 31
Fig. 53: USB Ports ..... 31
Fig. 54: Chipset Configuration ..... 32
Fig. 55: ACPI Table ..... 32
Fig. 56: NUCU Options ..... 33
Fig. 57: SIO NCT6126D ..... 34
Fig. 58: UART Port 1 Configuration ..... 35
Fig. 60: AMD CBS ..... 36
Fig. 61: CPU Common Options ..... 36
Fig. 62: NBIO Common Options ..... 37
Fig. 63: GFX Configurations ..... 38
Fig. 64: FCH Common Options ..... 39
Fig. 65: Ac Power Loss Options ..... 39
Fig. 66: SMU Common Options ..... 40



Copyright © 2026 E.E.P.D. GmbH. All rights reserved.

Fig. 67: CPU and Auxiliary Fan Control ..... 40
Fig. 68: SOC Miscellaneous Control ..... 41
Fig. 69: AMD PBS Menu ..... 42
Fig. 70: AMD Firmware Version ..... 43
Fig. 71: Boot Menu ..... 43
Fig. 72: Power Menu ..... 44
Fig. 73: Exit Menu ..... 45
Fig. 74: Security Menu ..... 46
Fig. 75: Storage Password Setup Page ..... 47



Copyright © 2026 E.E.P.D. GmbH. All rights reserved.

# Index of Tables

Tab. 1: USB internal Connector ..... 20
Tab. 2: Power Connector ..... 21
Tab. 3: Feature Connector ..... 23
Tab. 4: RS232/485 Connector ..... 24
Tab. 5: Battery Connector ..... 24
Tab. 6: FAN Connectors ..... 25
Tab. 7: Power Button Connector ..... 26
Tab. 8: Main Menu ..... 28
Tab. 9: Advanced Menu ..... 29
Tab. 10: Boot Configuration ..... 30
Tab. 11: Peripheral Configuration ..... 30
Tab. 12: USB Configuration ..... 31
Tab. 13: USB Ports ..... 31
Tab. 14: Chipset Configuration ..... 32
Tab. 15: ACPI Table ..... 32
Tab. 16: NUCU Options ..... 33
Tab. 17: SIO NCT6126D ..... 34
Tab. 18: UART Port 1 Configuration ..... 35
Tab. 20: AMD CBS ..... 36
Tab. 21: CPU Common Options ..... 36
Tab. 22: NBIO Common Options ..... 37
Tab. 23: GFX Configurations ..... 38
Tab. 24: FCH Common Options ..... 39
Tab. 25: Ac Power Loss Options ..... 39
Tab. 26: SMU Common Options ..... 40
Tab. 27: CPU and Auxiliary Fan Control ..... 40
Tab. 28: SOC Miscellaneous Control ..... 41
Tab. 29: AMD PBS Menu ..... 42
Tab. 30: Boot Menu ..... 44
Tab. 31: Power Menu ..... 44
Tab. 32: Exit Menu ..... 45
Tab. 33: Security Menu ..... 46
Tab. 34: Storage Password Setup Page ..... 47



Copyright © 2026 E.E.P.D. GmbH. All rights reserved.

## Terminology

| | |
|---|---|
| **BT** | Bluetooth |
| **CPU** | Central Processing Unit or processor |
| **DC** | Direct Current |
| **DDR5** | Fifth generation „Double Data Rate” memory technology |
| **DP** | Display port |
| **ECC** | Error Correcting Code |
| **2.5 Gigabit Ethernet** | Ethernet connection with a frame transfer speed up to 2500 Mbit/s |
| **GND** | Ground |
| **MIC** | Microphone |
| **M.2** | Next generation mSATA |
| **OCP** | Over Current Protection |
| **PWM** | Pulse-Width Modulation |
| **RAM** | Random Access Memory |
| **RS-232** | Serial standard interface |
| **RS-485** | Serial standard interface |
| **SoC** | System on a Chip means the integration of all or a large part of the functions of a programmable electronic system on a single chip |
| **SO-DIMM** | Small Outline Dual Inline Memory Module |
| **SSD** | Solid State Drive |
| **USB** | Universal Serial Bus |
| **Watchdog** | A watchdog (timer) is a computer hardware timing device that triggers a system reset if the main program hangs, in order to keep the computer running |
| **WLAN** | Wireless Local Area Network |
| **WWAN** | Wireless Wide Area Network |



Copyright © 2026 E.E.P.D. GmbH. All rights reserved.

# Classified Index


**–A–**

Advanced Menu ..... 29
AMD CBS ..... 36
AMD PBS Menu ..... 42
Assembly ..... 12
Audio Jack ..... 23

**–B–**

Battery Connector ..... 24
Boot Menu ..... 43

**–C–**

Connection Overview ..... 16

**–D–**

DDR5 SO-DIMM Sockets ..... 20
Dimensions ..... 14
Dual-USB 3.2 Ports ..... 19

**–E–**

Entering Setup ..... 27
Environmental Specification ..... 10
Exit Menu ..... 45

**–F–**

FAN Connectors ..... 25
Feature Connector ..... 23
Feature Details ..... 15
Feature Overview ..... 8

**–G–**

Gigabit Ethernet Ports ..... 18

**–M–**

M.2 Sockets ..... 22
Main Menu ..... 28
Mechanical Mounting ..... 13
Mini-DP++ Connectors ..... 18
Most Common Settings ..... 27

**–N–**

NUCU Options ..... 33

**–O–**

OCuLink Connector ..... 23

**–P–**

Power Button Connector ..... 26
Power Button, Power and SATA/SSD Act. LEDs ..... 26
Power Connector ..... 21
Power Menu ..... 44
Product Views ..... 12

**–R–**

RS232/485 Connector ..... 24

**–S–**

Security Menu ..... 46
System Overview ..... 11

**–U–**

USB 2.0 Connectors ..... 20
USB4 Ports ..... 19




Copyright © 2026 E.E.P.D. GmbH. All rights reserved.

E.E.P.D. GmbH | Gewerbering 3 | 85258 Weichs

Copyright © E.E.P.D. GmbH. All rights reserved.

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