

AI-PC BAREBONE
XPC slim
DN11H9

Intel® Core™ Ultra 9 Processor 185H

VERSATILE 1.3-LITRE AI PC WITH EXCEPTIONAL CONNECTIVITY

The Shuttle DN11H-series AI-PC is a 1.3-liter barebone PC powered by an Intel® Core™ Ultra series processor, delivering significantly upgraded performance from everyday tasks to business applications. This AI-focused platform integrates CPU, GPU, and a specialized NPU designed to accelerate neural network computations, offering up to 34 TOPS of total system performance to support complex AI workloads. The DN11H stands out with its exceptional connectivity, including four 2.5G LAN ports for high-bandwidth networking, eight high-speed USB-C/USB-A ports, four ports for UHD-displays and three M.2-2280 slots for SSD cards, making it ideal for data-intensive environments. The DN11H excels in diverse modern business and industrial scenarios, such as network video recorders, image processing and data visualization, virtual reality simulations, multimedia production, industrial process control, and more.



Intel Core
ULTRA CPU

Supports
4 DISPLAYS

Max. 96 GB
DDR5

3x
Supports
3x M.2-SSD

QUAD
LAN 2.5G

2x USB-C
Gen2x2, 3A

6x USB 3.2

External Power
Button Support

VESA
Mount

WLAN / LTE
optional

Max.
50 °C

Supports
24/7

SLIM DESIGN

■ Slim 1.35-litre metal chassis, black ■ Dimensions: 190 x 165 x 43 mm (LWH) ■ Weight: 1.23 kg net, 2.46 kg gross ■ Including VESA mount (75/100 mm) ■ Supports 24/7 Nonstop Operation ■ Operating temperature: 0~50 °C (non-condensing)

OPERATING SYSTEM

■ An operating system is not included
■ Supports Windows 11 and Linux (64-bit)

PROCESSOR

■ Intel® Core™ Ultra 9 Processor 185H, code name "Meteor Lake-H"
■ Intel 4 process, TDP Base: 28 W
■ 6x P-Cores, 8x E-Cores, 2x Low-Power E-Cores, 24 MB L3 Cache
■ NPU with 11.5 TOPS AI performance (NPU+CPU+GPU: 34 TOPS)
■ Cooling system with 80 mm CPU fan

INTEGRATED GRAPHICS ENGINE

■ Intel® Arc™ graphics accelerator with 8 Xe cores (128 EUs)
■ supports four independent UHD displays at 60 Hz

MEMORY SUPPORT

■ 2x 262-pin SO-DIMM slot ■ Supports up to 2x 48 GB DDR5-5600

Four M.2 SLOTS

■ 3x M.2-2280M slot supports PCIe 4.0 x4 NVMe SSDs (80 mm length)
Two slots also support SATA
Supports RAID level 0, 1 and 5 (level 5 for PCIe SSDs only)
The third slot supports an optional 4G/5G accessory (WWN04).
■ 1x M.2-2230E for optional WLAN module

CONNECTORS

■ 2x HDMI 2.1 ■ 2x DisplayPort 1.4a ■ 6x USB 3.2 Gen 2 (Type-A)
■ 2x USB 3.2 Gen 2x2 (Type-C), 3A Power Delivery (PD)
■ 4x Intel 2.5G LAN (i226LM) ■ 2x audio (line out, mic)
■ Connector for external power button ■ "Always on" Jumper

POWER SUPPLY

■ External 120W/19V power adapter

OPTIONAL ACCESSORIES

■ WLAN Module with two external antennas (WLN-M1) ■ 4G/5G-kit with four external antennas (WWN04) ■ DIN-Rail mounting kit (DIR01)
■ Rackmount kit (PRM01) ■ Cable for external power button (CXP01)
■ Vertical Stand (PS02)



MODELS OF THE DN11H SERIES

Product	Intel Processor	P-Cores / Threads	E-Cores	Low Power E-Cores	L3 Cache	Intel Arc Graphics	Base TDP	UPC Code
DN11H5	Core Ultra 5 – 125H	4 / 8	8	2	18 MB	7 Xe Cores	28 W	887993007298
DN11H7	Core Ultra 7 – 155H	6 / 12	8	2	24 MB	8 Xe Cores	28 W	887993007304
DN11H9	Core Ultra 9 – 185H	6 / 12	8	2	24 MB	8 Xe Cores	45 W	887993007311

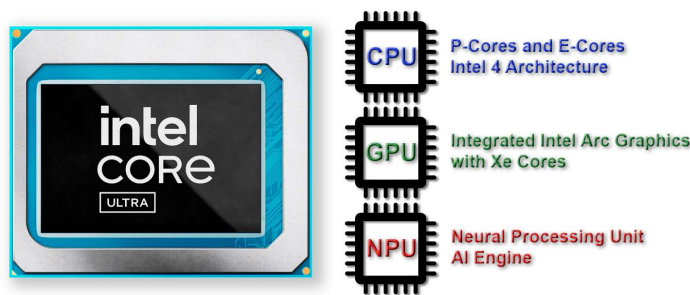
PRODUCT FEATURES



Quad 4K/UHD Display support

DN11H9 features four digital video outputs:
2x HDMI 2.1 and 2x DisplayPort 1.4a.

This allows for the connection of four independent displays at 4K resolution (3840 x 2160), leveraging hardware decoding and encoding for popular video codecs including AV1 and H.265 and supports flexible multi-display arrangements e.g. 1x4 horizontal or 4x1 vertical setups with the help of the IGCC software application. Using four displays can be a game-changer in various applications, enhancing productivity and providing a more immersive experience. This is advantageous for scenarios such as: Financial Trading, Software Development, Graphic Design, Video Editing, Gaming, Command Centers, Surveillance.

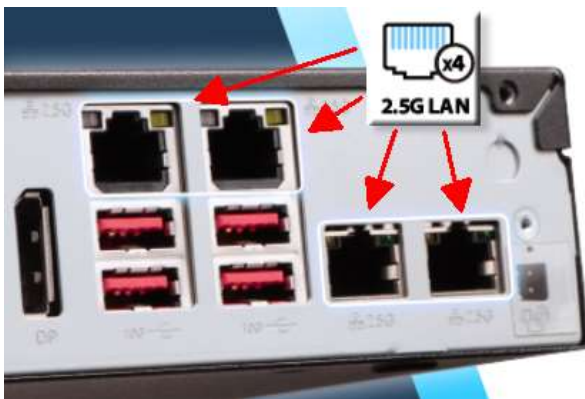


Intel® Core™ Ultra Processor

The DN11H9's advanced Intel® Core™ Ultra Processor supercharges productivity across diverse scenarios. In data analysis, it speeds up complex calculations, while in scientific simulations, it enables real-time modeling. For content creators, AI-enhanced tools accelerate video editing and 3D rendering, significantly reducing production time.

The integrated top-tier Intel Arc graphics (GPU) with Xe cores is one the fastest of its kind and performs competitively in games and real-life applications – best choice if graphics performance is crucial for you.

The integrated Neural Processing Unit (NPU) is designed to accelerate artificial intelligence (AI) and machine learning tasks. It boast a top maximum performance of 11.5 trillion operations per second (TOPS). Additionally, the full processor performance scales up to 34 TOPS, making it a powerful profile suited for demanding and diverse industrial computing workloads.



Quad 2.5G LAN Ports

DN11H9 is equipped with four 2.5G network ports for seamless integration into modern network environments for numerous applications, such as:

- as a firewall/router solution, where the four LAN ports can securely separate the network into four areas: WAN (Internet), internal network, guest network and DMZ for the public.
- in conjunction with virtual machines (VMs) that require dedicated network interfaces, e.g. as a backbone for different areas of the company.
- for setting up a high-performance gateway to connect multiple networks at high speeds, e.g. VPN gateways for external employees or as an industrial IoT gateway that connects sensors, machine controls and a central ERP system.
- for IP video surveillance, using dedicated ports for different camera groups and for a NAS system.
- for the simulation of network topologies, network devices and software in isolated environments before it is used productively.
- as a high-performance NAS system in conjunction with three M.2 SSD cards in a RAID configuration.



Exceptional Connectivity

In addition to the four graphics ports and four network ports, this small 1.3L mini PC offers numerous other I/O connections and expansion options:

- **Two USB-C 3.2 Gen2x2** for up to 20 Gbit/s speed, enables power delivery (PD) for connected devices up to 3A.
- **Six USB 3.2 Gen2** (red color) for even more fast connections up to 10 Gbit/s.
- **Three M.2-2280 slot** for PCIe Gen4 SSD cards, which can also be operated in a RAID array (0, 1 or 5) for more performance and/or data security.
- **Supports up to 96 GB DDR5 RAM** with two SO-DIMM slots
- **Four external antennas** are supported for optional expansion with **WLAN or 4G/5G** mobile communications.

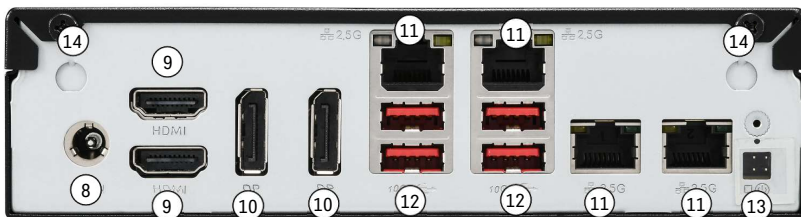
Product Views

Front Panel



1. Microphone input
2. Headphones output
3. LED indicator for power state
4. LED indicator for storage activity
5. Power button
6. 2x USB 3.2 Gen 2 port (Type-A)
7. 2x USB 3.2 Gen 2x2 port (Type-C)
supports Power Delivery (PD max. 5V / 3A)

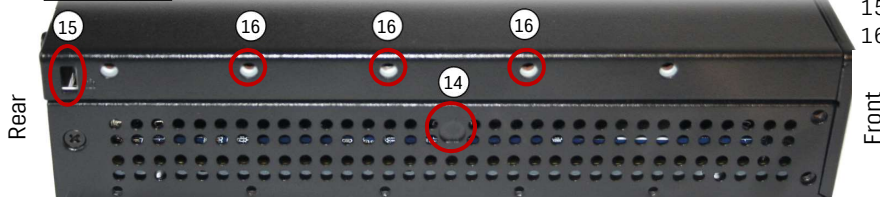
Back Panel



8. DC-in connector for power adapter
9. 2x HDMI 2.1
10. 2x DisplayPort 1.4a
11. 4x 2.5G LAN Port (RJ45)
12. 4x USB 3.2 Gen 2 port (Type-A)
13. 4-pin connector (2.54 mm pitch)
for external power button, Clear CMOS button
and 5V DC voltage

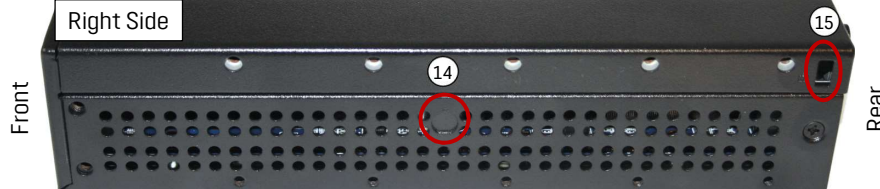
2	●	4	1	Clear CMOS Button
1	■	3	2	+5V DC for Power LED
Mainboard			3	Ground (Common)
			4	Ext. Power Button

Left Side



14. 4x Perforation for optional antenna
15. 2x Hole for the Kensington Lock
16. Several threaded holes (M3)

Right Side



VESA Mount

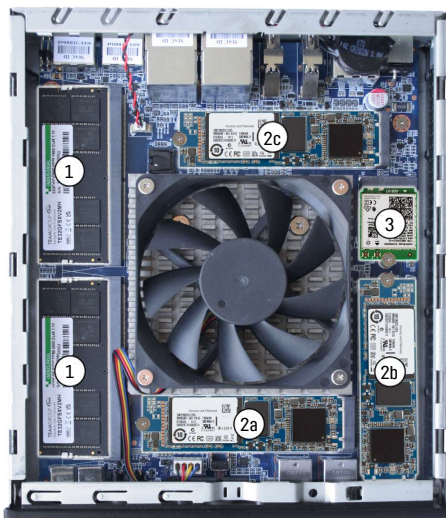


17. 2x VESA mount bracket included
supports 75x75 and 100x100 mm

REQUIRED COMPONENTS

The following components need to be added to make it a fully-configured Mini PC:

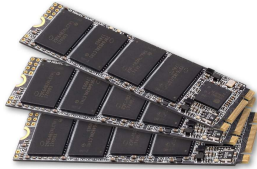
Inside View



(1) Memory Modules

Supports two SO-DIMM DDR5 memory modules

- Type: DDR5-5600 (or higher clock rate)
- Form factor: SO-DIMM with 262 pins
- Max. capacity per module: 48 GB
- Total capacity of two modules: max. 96 GB



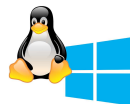
(2) up to three M.2 SSD Card

- Form factor: M.2-2280 (the length is 80 mm)
- interface: PCI-Express (supports PCIe Gen4x4 / NVMe)
- Slot 2a and slot 2b also support SATA interface



(3) M.2 WLAN Card (optional)

- Supports one WLAN card in M.2-2230 (E-Key) format
- The housing has four perforations for installing external antennas



(4) Operating System

Windows 11 or Linux (64-bit only)

For installation please refer the Quick Installation Guide.

OPTIONAL ACCESSORIES FROM SHUTTLE



WLAN-Accessory

WLN-M1

M.2-2230 card supports WLAN-ax (Wi-Fi 6) and Bluetooth. Including 2 antennas.



Cable CXP01

Cable for external push button switch (button not included)



Kit for 4G/5G Adapter

WWN04

allows the installation of an 4G/5G card and a nano SIM card (occupies slot "2c" on the photo). Including 4 antennas.

Note: The 4G/5G card and the Nano SIM card are not included.



DIN-Rail Kit DIR01

This mounting kit allows the installation on a standard 35 mm DIN-Rail



Rack Mount Kit PRM01

2U front plate to install two 1.3L Shuttle XPCs in a 19" cabinet.









As an option, up to four external antennas can be installed.



Vertical Stand PS02

For vertical operating position

Shuttle AI-PC Product Overview

	NA10H Series	NT10H Series	DN11H Series
Product Models Processor-Type	NA10H7 – AMD Ryzen R7-8845HS CPU code name "Hawk Point" (Zen-4)	NT10H5 – Intel Core Ultra 5-125H NT10H9 – Intel Core Ultra 9-185H CPU code name "Meteor Lake-H"	DN11H5 – Intel Core Ultra 5-125H DN11H7 – Intel Core Ultra 7-155H DN11H9 – Intel Core Ultra 9-185H CPU code name "Meteor Lake-H"
Chassis Dimensions	Nano Chassis 132 x 143 x 55 mm (WDH) = 1.04 L	Nano Chassis 132 x 143 x 55 mm (WDH) = 1.04 L	Slim Chassis 165 x 190 x 43 mm (WDH) = 1.35 L
Operation System Support	Windows 11 and Linux (64-bit) Windows drivers as download-link	Windows 11 and Linux (64-bit) Windows drivers as download-link	Windows 11 and Linux (64-bit) Windows drivers included (DVD)
M.2 Slots for SSD Cards	1x Slot M.2-2280 supports PCIe Gen4 x4 / NVMe (SATA not supported)	1x Slot M.2-2280 supports PCIe Gen4 x4 / NVMe (SATA not supported)	3x Slots M.2-2280 supports PCIe Gen4 x4 / NVMe supports NVMe Raid 0, 1 and 5 supports SATA (only 2 slots) supports SATA Raid 0 and 1
RAM Support	max. 2x 48 GB DDR5-5600 (SO-DIMM)	max. 2x 48 GB DDR5-5600 (SO-DIMM)	max. 2x 48 GB DDR5-5600 (SO-DIMM)
Integrated Graphics	AMD Radeon™ 780M supports 4x UHD-Displays 2x HDMI 2.0 2x USB4 Type-C (with DP 1.4)	Intel® Arc™ mit Xe-Cores supports 4x UHD-Displays 2x HDMI 2.0 2x USB4 Type-C (with DP 1.4)	Intel® Arc™ mit Xe-Cores supports 4x UHD-Displays 2x HDMI 2.1 2x DisplayPort 1.4
USB Ports	2x USB4 Type-C (DP 1.4 graphics) 5x USB 3.2 Gen 2 Type-A 1x USB 2.0	2x USB4 Type-C (DP 1.4 graphics) 5x USB 3.2 Gen 2 Type-A 1x USB 2.0	2x USB 3.2 Gen 2x2 Type-C 6x USB 3.2 Gen 2 Type-A
Audio Ports	Audio Combo Port (3.5 mm) supports Microphone and Line-out	Audio Combo Port (3.5 mm) supports Microphone and Line-out	1x Microphone Input (3.5 mm) 1x Line-out Output (3.5 mm)
SD Card-Reader	Yes	Yes	—
LAN Ports	Dual LAN – Realtek RTL8125B 2x 2.5 Gbps RJ45 Ports	Dual LAN – Intel i226V 2x 2.5 Gbps RJ45 Ports	Quad LAN – Intel i226LM 4x 2.5 Gbps RJ45 Ports
WLAN	prepared *)	prepared *)	optional (WLN-M1)
VESA Mount (75x75, 100x100 mm)	included	included	included
Power Adapter	120 W, 19V	120 W, 19V	120 W, 19V
Optional Accessories	—	—	Cable for ext. Power Button (CXP01) 2U Rack Mount Kit (PRM01) DIN-Rail Mount (DIR01) Vertical Stand (PS02) WLAN Kit with ext. ant. (WLN-M1) 4G/5G Kit with 4 ant. (WWN04)
Front View			
Rear View			

*) Supports one WLAN card in M.2-2230 (E-Key) form factor, which is not included in the scope of delivery (possible models: e.g. Intel AX200, AX210 or AzureWave AW-XB547NF, AW-XB591NF or similar). Two internal antennas are pre-installed, so you just need to install the WLAN module and connect the antennas.

SHUTTLE XPC slim BAREBONE DN11H9 – SPECIFICATIONS

CHASSIS	<p>Slim PC with black chassis made of metal</p> <p>Dimensions: 190 x 165 x 43 mm (LWH) = 1.35-litre</p> <p>Weight: 1.23 kg net and 2.46 kg gross</p> <p>Two holes for Kensington Locks and numerous threaded holes (M3) on both sides of the chassis</p> <p>Includes VESA mount for 75x75 and 100x100 mm standard</p>
OPERATION SYSTEM	<p>This barebone system comes without operating system.</p> <p>It is compatible with:</p> <ul style="list-style-type: none"> - Windows 11, 64-bit - Linux, 64-bit <p>Windows 11 driver download: go.shuttle.eu/DN11H</p>
PROCESSOR	<p>Model: Intel® Core™ Ultra 9 Processor 185H</p> <p>Code name "Meteor Lake-H" (Intel Core Ultra processors - Series 1)</p> <p>System-on-a-chip architecture (SoC) with integrated memory and graphics controller</p> <p>Lithography: Intel 4 process (7 nm) and TSMC N5/N6</p> <p>Performance-cores (P-Cores): 6 cores, 12 threads, clock rate: 2.3 - 5.1 GHz</p> <p>Efficient-cores (E-Cores): 8 cores, clock rate: 1.8 - 3.8 GHz</p> <p>Low Power Efficient-cores: 2 cores, clock rate: 0.7 - 2.5 GHz</p> <p>Total Threads: 22</p> <p>Smart-Cache (L3): 24 MB</p> <p>Base Power (TDP): 45 W</p> <p>Neural Processing Unit (NPU): Intel® AI Boost</p> <p>NPU AI performance: 11.5 TOPS (NPU+CPU+iGPU: 34 TOPS) [1]</p> <p>Maximum operating temperature: 110 °C</p> <p>FCBGA2049 package - directly soldered onto the mainboard</p>
COOLING SYSTEM	<p>Heat-pipe cooling system with 80-mm fan</p> <p>Supports temperature-controlled RPM fan speed</p>
INTEGRATED GRAPHICS SUPPORTS QUAD 4K	<p>Intel® Arc™ graphics engine</p> <p>Xe-cores: 8 (128 EUs)</p> <p>Dynamic graphics clock rate: max. 2.35 GHz</p> <p>Supports DirectX 12.2, OpenGL 4.6, OpenCL 3.0</p> <p>This PC supports up to four independent screens with up to 4K/60Hz (Ultra HD 3840×2160 resolution at 60 frames per second)</p> <p>Graphics ports:</p> <ul style="list-style-type: none"> - 2x HDMI 2.1 - 2x DisplayPort 1.4a <p>Allows flexible multi-display arrangements e.g. 1x4 horizontal or 4x1 vertical setups with the help of the IGCC software application (Intel® Graphics Command Center).</p>
UEFI FIRMWARE (BIOS)	<p>AMI UEFI Firmware (BIOS)</p> <p>Supports various power-on functions</p> <ul style="list-style-type: none"> - Power on after power fail - Wake-on-LAN (WOL) - Power on by real time clock (RTC)
TPM FUNCTION	<p>Supports Firmware-TPM (fTPM) v2.0</p> <p>The TPM function can be switched on/off in the "Advanced" BIOS setup.</p>
MEMORY SUPPORT	<p>2x SO-DIMM slot with 262 pins</p> <p>Supports DDR5-5600 (PC5-44800) SDRAM at 1.1 V</p> <p>Supports Dual Channel mode</p> <p>Supports a maximum of 48 GB per DIMM, maximum total size: 96 GB</p> <p>Supports two unbuffered DIMM modules (no ECC or registered)</p>

THREE M.2-2280M SLOTS FOR SSD CARDS	<p>Three slots for SSD cards in M.2-2280 form factor (length: 80 mm)</p> <p>Supports M.2 cards with M key or B+M key</p> <p>The following standards are supported:</p> <table><tr><th>Slot</th><th>Position</th><th>PCIe Gen4 x4 / NVMe</th><th>SATA Gen3</th><th>WWN04 *)</th></tr><tr><td>1</td><td>Front</td><td>Yes</td><td>Yes</td><td>—</td></tr><tr><td>2</td><td>Front/Side</td><td>Yes</td><td>Yes</td><td>—</td></tr><tr><td>3</td><td>Rear</td><td>Yes</td><td>—</td><td>Yes</td></tr></table> <p>Supports NVMe Raid level 0, 1 and 5</p> <p>Supports SATA Raid level 0 and 1</p> <p>*) WWN04 is an optional accessory to provide 4G/5G functionality</p>	Slot	Position	PCIe Gen4 x4 / NVMe	SATA Gen3	WWN04 *)	1	Front	Yes	Yes	—	2	Front/Side	Yes	Yes	—	3	Rear	Yes	—	Yes
Slot	Position	PCIe Gen4 x4 / NVMe	SATA Gen3	WWN04 *)																	
1	Front	Yes	Yes	—																	
2	Front/Side	Yes	Yes	—																	
3	Rear	Yes	—	Yes																	
AUDIO	<p>Audio Realtek® ALC888S High-Definition Audio</p> <p>Two analog audio connectors (3.5 mm) on the front panel:</p> <p>1) 2-channel line-out (head-phones)</p> <p>2) microphone input</p> <p>Digital multi-channel audio output: by HDMI and DisplayPort</p>																				
QUAD 2.5G LAN	<p>Four RJ45 ports</p> <p>Ethernet Controller: Intel i226LM</p> <p>Supports 10 / 100 / 1.000 / 2.500 MBit/s operation (max. 2.5 Gbps)</p> <p>Supports WAKE ON LAN (WOL)</p> <p>Supports network boot by Preboot eXecution Environment (PXE)</p>																				
M.2-2230-SLOT FOR WLAN CARDS	<p>M.2-2230E slot supports WLAN expansion cards</p> <p>Interfaces: PCI-Express X1, USB 2.0, CNVi</p> <p>Supports M.2 cards with a width of 22 mm and a length of 30 mm (type 2230)</p> <p>Supports WLAN expansion cards (optional Shuttle accessory: e.g. WLN-M1)</p> <p>The chassis has four perforations for optional external antennas</p>																				
FRONT PANEL CONNECTORS	<p>Microphone input</p> <p>Audio Line-out (headphones)</p> <p>2x USB 3.2 Gen 2 Type A (red), max. 10 Gbps, connected with hub</p> <p>2x USB 3.2 Gen 2x2 Type C, max. 20 Gbps, supports 3A Power Delivery (PD)</p> <p>Power button</p> <p>Power LED (blue)</p> <p>HDD LED (yellow)</p>																				
BACK PANEL CONNECTORS	<p>2x HDMI 2.1</p> <p>2x DisplayPort 1.4</p> <p>4x USB 3.2 Gen 2 Type A (red), max. 10 Gbps, connected with hub</p> <p>4x 2.5G Ethernet LAN (RJ45, Intel i226LM)</p> <p>1x DC-Eingang für externes Netzteil (5,5 / 2,5 mm)</p> <p>1x 4-pin connector (2.54 mm pitch) supports:</p> <ul style="list-style-type: none">- external power on button- Clear CMOS function- +5V DC voltage for external components <p>2x perforation for optional externe antennas (for WLAN or 4G/5G)</p>																				
OPENINGS ON THE SIDE	<p>2x perforation for optional externe antennas (for WLAN or 4G/5G)</p> <p>2x hole for Kensington Lock</p>																				
ONBOARD JUMPER	<p>Jumper JP1 for power-on-after-power-fail (hardware solution) [2]</p>																				
POWER ADAPTER	<p>Power Adapter</p> <p>External 120 W power adapter (fanless)</p> <p>Input: 100~240 V AC, 50-60 Hz, max. 1.8 A</p> <p>Output: 19.0 V DC, max. 6.32 A, max. 120 W</p> <p>DC cable ca. 170 cm with coaxial connector: 5.5 / 2.5 mm (outer/inner diameter)</p> <p>The DC-input of the computer supports 19V ± 5%.</p> <p>AC cable, ca. 170 cm, 3-pin Micky MM C6 and Schuko earthed safety plug</p>																				
SUPPLIED ACCESSORIES	<ul style="list-style-type: none">- Multi-language Quick Installation Guide- VESA mount for 75/100 mm standard (two metal brackets)- Four screws M3 x 5 mm (screws together VESA mount and PC)- Four screws M4 x 10 mm (to affix VESA mount on the PC)- Four screws M3 x 5 mm (silver colour, to mount two M.2 cards)- Power adapter 120 W with AC power cord (with earthing contact)- DVD with Windows 11 drivers (driver download: go.shuttle.eu/DN11H)																				

OPTIONAL ACCESSORIES	CXP01: adapter cable for external power button PRM01: 2U rack mount front plate for one or two Shuttle XPC slim DIR01: mounting kit for 35 mm DIN-Rail PS02: Stand for vertical operation WLN-M1: WLAN kit with Intel AX200 WLAN card (supports Wi-Fi 6, BT 5.2) and 2 external antennas WWN04: 4G/5G kit with M.2 adapter card and 4 external antennas - enables the use of an optional 4G/5G card in M.2 format and a nano SIM card
ENVIRONMENTAL SPECIFICATIONS	Operating temperature range: 0~50 °C Relative humidity range: 10~90% (non-condensing)
CERTIFICATIONS / COMPLIANCE	EMI: CE, FCC, BSMI Safety: CB IEC62368, cTUVus (UL 62368), BSMI Other: RoHS, Energy Star, ErP This device is classed as a technical information equipment (ITE) in class B and is intended for use in living room and office. The CE-mark approves the conformity by the EU directives: (1) 2004/108/EC relating to electromagnetic compatibility (EMC), (2) 2006/95/EC relating to Electrical Equipment designed for use within certain voltage limits (LVD), (3) 2009/125/EC relating to ecodesign requirements for energy-related products (ErP)

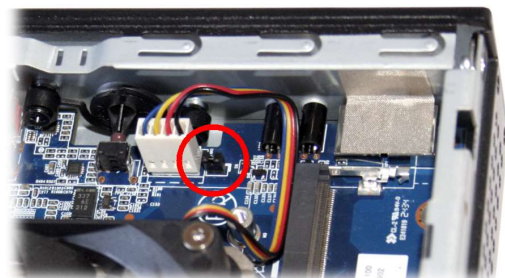
Footnotes:

[1] AI performance

Processors with the support of artificial intelligence (AI) and machine learning (ML) can process many calculations, especially audio, image and video processing, much faster than classic processors. The AI performance is given in the number (trillions) of arithmetic operations per second (TOPS). The processor used in this product integrates the Intel® AI Boost NPU with 11.5 TOPS performance. The Total AI performance (Platform TOPS) is a measure of the aggregate performance of all the processing units in the processor: CPU, NPU and GPU (graphics).

[2] Power on after power fail

The BIOS setup provides a "Power-On after Power Fail" function that can be found under "Power Management Configuration". As the name indicates, this function determines the PC's behaviour after power failure: (1) unconditional power on, (2) restore former status or (3) keep system turned off. As a matter of the nature of this function, it may fail after short power failures. This is why this PC also comes with a hardware-based solution. By removing Jumper JP1 (on the mainboard near to the power button) the system will start unconditionally once power is supplied.



Jumper JP1