

## BAREBONE XPC slim XH810

### AFFORDABLE 3.5-LITRE PC FOR DEMANDING TASKS

The Shuttle XPC slim Barebone XH810 is a real roomster considering its small footprint - two 2.5" (or one 3.5") storage drives and two M.2 SSD cards can be installed into the robust steel chassis. In addition, it supports the powerful Intel Core Ultra 200 series desktop processors with socket LGA1851. The built-in heatpipe cooling ensures the system runs quietly at maximum stability. Thanks to its great connectivity it meets the requirements of many applications that extends from office PC up to industrial applications. The system supports three digital displays (VGA optional), dual Intel LAN (2.5G + 1G), four USB 3.2 and four USB 2.0 ports and up to six serial ports. With this high level of efficiency and flexibility - who needs a bulky tower PC anyway?



Supports INTEL CORE ULTRA



1x HDMI 2.1 (8K) 1x HDMI 2.0 (4K)



DP 1.4a



DUAL LAN 2.5G + 1G



2x 48 GB DDR5 SUPPORT



2x NVMe SSD SUPPORT



2x 2.5" or 1x 3.5" HDD/SSD Bay



UP TO 6 COM PORTS



HEATPIPE COOLING



ALWAYS-ON-JUMPER



MAX. 50 °C



24/7 SUPPORT

### SLIM DESIGN

- Robust black steel chassis with open front (without I/O covers)
- Dimensions: 23.8 x 20 x 7.25 cm (LWH), ca. 3.5-litre
- Supports 24/7 Nonstop Operation
- Operating temperature: 0~50 °C (non-condensing)
- Mini-ITX Mainboard (17 x 17 cm)
- Hole for Kensington Lock
- VESA mount bracket included

### OPERATING SYSTEM

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

### PROCESSOR SUPPORT

- Socket LGA1851 supports Intel Core Ultra 200 series 9/7/5 processors (code name "Arrow Lake-S"), max. 65W TDP
- Advanced heatpipe cooling system with two 70 mm fans

### CHIPSET

- Intel H810 Chipset

### MEMORY SUPPORT

- 2x 262-pin SO-DIMM slot
- Supports DDR5-5600
- max. 2x 48 GB = 96 GB in total

### STORAGE BAYS AND M.2 SLOTS

- 2x 2.5" bay for SATA hard disk or SSD (or 1x 3.5" drive)
- 2x M.2-2280M slot for M.2 SSDs (1x Gen4x4/SATA, 1x Gen4x2)
- 1x M.2-2230E slot supports an optional M.2 WLAN card

### CONNECTORS

- HDMI 2.1 (8K)
- HDMI 2.0
- DisplayPort 1.4a
- Dual Intel LAN (2.5G and 1G)
- 2x USB 3.2 Gen2
- 2x USB 3.2 Gen1 (1x Type-C)
- 4x USB 2.0
- 3x COM (2x RS232 and 1x RS232/422/485)
- 2x Audio Ports (3.5 mm): Line-out and Mikrofon-Eingang
- Connector for external Power Button
- "Always-On" Jumper
- DC-Input (supports 12V and 19V)

### POWER SUPPLY

- External power adapter: 120 W / 19 V

### OPTIONAL ACCESSORIES

- WLAN kit with Wi-Fi 6 module and external antennas (WLN-M1/M12)
- Vertical Stand (PS01)
- Cable for external power button (CXP01)
- Additional three RS232 COM port (PCM31)
- VGA port (PVG01)



### Shuttle XPC slim PCs with Intel 800 series chipset

Product	Vol.	PCIe Slots	Chip	HDMI 2.x	DP 1.4a	DP 1.4a/USB4	VGA Port	max. Displays	LAN (Intel)	M.2 SSD Gen4/5	USB 3.2 Gen2/1	USB 2.0	COM Port	Pwr Adap.	DC-In	VESA Mount
<b>DH810S</b>	1.35 L	—	H810	1	2	—	opt.	3	1G	1 / 0	2+2	4	1	120W	12V+19V	incl.
<b>DH810</b>	1.35 L	—	H810	1	1	1	opt.	3	1G+2.5G	1 / 0	2+2	4	2	120W	12V+19V	incl.
<b>DB860</b>	1.35 L	—	B860	2	1	1	opt.	4	1G+2.5G	0 / 1	4+4	0	2	180W	12V+19V	incl.
<b>XH810</b>	3.5L	X16	H810	2	1	—	opt.	3	1G+2.5G	2 / 0	2+2	4	3	120W	12V+19V	incl.
<b>XB860G2</b>	4.5L	X16+X1	B860	2	1	—	opt.	4	1G+2.5G	2 / 1	2+4	2	0	180W	19V	incl.

## PRODUCT FEATURES



### A clean and modern look

Shuttle has always placed great emphasis on the interior and exterior aesthetics of their Mini-PCs with the belief that a good blend of style and form factor allow the Mini-PC to be attractive, versatile and work well in almost any environment. And the Shuttle XPC slim Barebone XH810 was designed just like that and shines in a clean and modern appearance. This tiny tot barely stands 7.25 cm in height (without feet) with a volume of 3.5 litres.



### Low noise thanks to heatpipe cooling system

An active dual-fan heatpipe cooling system ensures whisper-quiet operation and system stability.



### Supports extended temperature range and 24/7 operation

The Shuttle XPC slim Barebone XH810 is officially approved for 24/7 permanent operation. Thanks to its efficient cooling, this PC runs highly reliably making it perfectly suitable for digital signage and POI/POS applications - even at ambient temperatures of up to 50 °C (non-condensing).

**Caution:** For high ambient temperatures over 40 °C we strongly recommend to use SSDs.



### Supports Socket LGA1851 Intel® Core™ Ultra processors

"Arrow Lake-S" is the codename for Intel's Core Ultra 200 series Generation of Intel® Core™ Ultra Desktop Processors for socket LGA1851 introduced along with the 800-Series chipsets. These processors feature up to 24 cores (8 Performance-cores and 16 Efficient-cores), up to 4 Intel Xe graphics cores and integrates a Neural Processing Unit (NPU).



### Supports three digital displays and optional VGA

The XH810 features three digital video outputs: HDMI 2.1, HDMI 2.0 and DisplayPort (DP 1.4) which all can run at 4K (3840 x 2160 / 2160p) high resolution at 60 Hz frames per second. The HDMI 2.1 port can even support 8K resolution at 60 Hz. As an option, the XH810 has also be equipped with an additional VGA port. The PC supports a maximum of three displays.



### Two M.2-Slots for SSD cards

XH810 offers two M.2-2280 slots which support M.2 SSD storage card with NVMe/PCIe interface (one of them also supports the SATA standard). Type 2280 means, it supports the usual M.2 cards with a width of 22 mm and a length of 80 mm.



### Flexible options for drives

XH810 offers the following options for the installation of SATA drives:

- (1) up to two 2.5" drives (hard disks or SSDs) with RAID 0 and 1 support or
- (2) one large 3.5" hard disk drive



### Dual Network (Intel 1G + 2.5G)

The Shuttle XPC slim Barebone XH810 supports Dual LAN with Intel network adapters, which are popular for their excellent performance and driver compatibility and are the preferred choice for professional environments. One LAN port even supports up to 2.5Gbps. With XH810 you can expand your network's bandwidth and reduce digital bottlenecks.



### 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 (3) keep system turned off (4) Power-On by LAN or (5) Power-On by Real-Time-Clock. As a matter of the nature of this function, it may fail after short power failures. This is why the XH810 also comes with a hardware-based solution. By removing Jumper JP1 the system will start unconditionally once power is applied.



### External power button by separate remote line

If, because of space constraints (e.g. in case of fixed installation), the machine cannot be switched on by pressing the front power button, it can be powered on by a separate remote line. You will find an appropriate four-pin connector at the back panel of the XH810 (pitch 2.54 mm). Furthermore, this connector provides a Clear CMOS function and +5V DC voltage supply for external devices.

- +5V voltage (2)  (4) Power Button  
Clear CMOS (1)  (3) Ground

## REQUIRED COMPONENTS

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

Shuttle XPC slim Barebone XH810



### LGA1851 Processor

Intel Core Ultra 5/7/9 - 200 series  
Code name "Arrow Lake-S"  
TDP max. 65 W



### Memory Modules

Up to two DDR5-5600 (or higher)  
SO-DIMM memory modules max. 48 GB each  
Total capacity: 96 GB



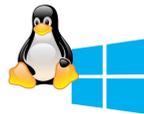
### M.2 SSDs

Supports two M.2-2280 slots for SSD cards  
- Slot 1 supports PCIe x4 and SATA  
- Slot 2 supports PCIe x2



### One or two 2.5" HDD/SSDs or one 3.5" HDD

Supports two hard disks or SSDs in 2.5" form factor with SATA interface.  
Instead, you can also install one 3.5" hard disk drive.



### Operating System

Windows 11 or Linux (64-bit only)

## OPTIONAL ACCESSORIES FROM SHUTTLE



### WLAN-Accessory

**WLN-M1/M12**  
Intel AX200/AX210 WLAN card with two external antennas supports WLAN 802.11ax (Wifi-6) and Bluetooth



### Cable CXP01

Cable for external push button switch (without button)



### 4G/5G Adapter Kit

**WWN04**  
allows the installation of a 4G or 5G card and nano SIM card (occupies one M.2-2280 slot)



### VGA port adapter PVG01

This accessory will add an analog VGA video output. Please note that a maximum of three video outputs can be active at the same time.



### Triple COM-Port PCM31

Adds three additional RS232 COM ports to the front



### Vertical Stand PS01

for the vertical operation

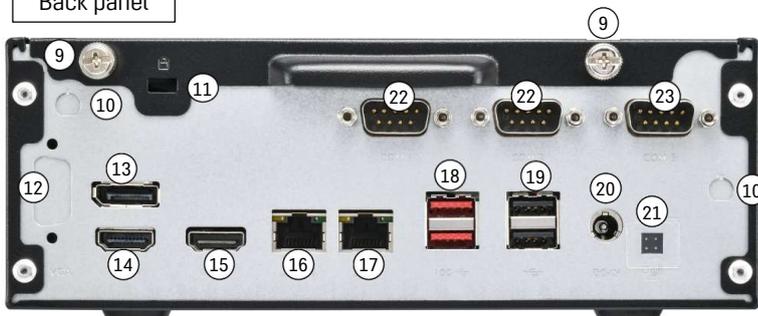
## Front and Back Panel and Mainboard

Front panel



1. Location for three additional COM ports (optional accessory PCM31)
2. 2x USB 2.0
3. USB 3.2 Gen 1 Type-A
4. Microphone input
5. Headphones output
6. USB 3.2 Gen 1 Type-C
7. Power button with Power LED indicator
8. LED indicator for storage activity

Back panel

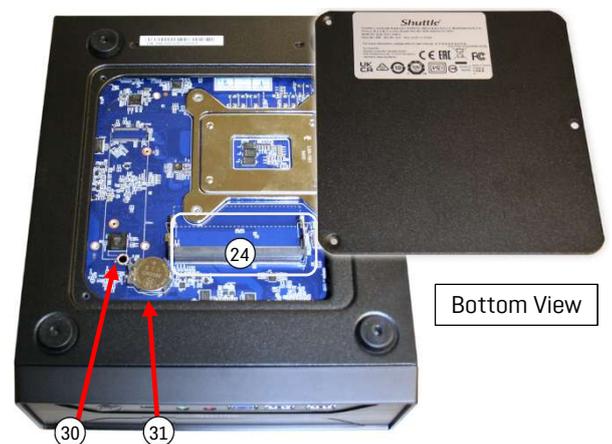


9. 2x Thumbscrew
10. 2x Perforation for optional WLAN antenna
11. Hole for Kensington Lock
12. Optional VGA port (accessory PVG01)
13. DisplayPort 1.4
14. HDMI 2.0 port
15. HDMI 2.1 port (support 8K/60)
16. 2.5G LAN port (RJ45)
17. Gigabit LAN port (RJ45)
18. 2x USB 3.2 Gen 2 port
19. 2x USB 2.0 port
20. DC-in connector for power adapter
21. 4-pin connector (2.54 mm pitch) for external power button, Clear CMOS button and 5V DC voltage
22. RS232 COM port
23. RS232/422/485 COM port

Mainboard



24. 2x SO-DIMM sockets for DDR5 memory (One slot is located on the underside of the mainboard.)
25. M.2-2280M slot for a M.2 SSD card supports PCIe Gen4 x2 (NVMe) and USB 3.2
26. M.2-2280M slot for a M.2 SSD card supports PCIe Gen4 x4 (NVMe) and SATA
27. M.2-2230E slot for optional WLAN module
28. CPU socket for LGA1851 processors
29. Heatsink of the CPU heat-pipe cooling system
30. Flash EPROM for the BIOS
31. CMOS battery
32. Always-on-Jumper (JP1)



Bottom View

## Product Comparison: Shuttle XPC slim PCs with Intel 800 series chipset

MODEL	DH810(S) *	DB860	XH810	XB860G2
Processor Support	Intel Core Ultra Processors 2xx "Arrow Lake-S" Socket LGA1851, TDP max. 65W			
OS Support	Windows 11 & Linux – 64-bit			
Chipset	Intel H810 Supports Triple Display	Intel B860 Supports <b>Quad</b> Display	Intel H810 Supports Triple Display	Intel B860 Supports <b>Quad</b> Display
Memory	Supports max. 2x 48 GB DDR5-5600 S0-DIMM (262 Pins)			
PCIe Slots	–	–	–	1x PCIe Gen5 x16 1x PCIe Gen4 x1
Drive Bays	1x 2.5" bay supports SATA Raid 0+1	1x 2.5" bay supports SATA Raid 0+1	2x 2.5" bay (or 1x 3.5") supports SATA Raid 0+1	–
M.2 Slots for SSDs	1x M.2-2280 (PCIe X4, SATA)	1x M.2-2280 (PCIe X4, SATA)	1x M.2-2280 (PCIe X4, SATA) 1x M.2-2280 (PCIe X2, USB3.2)	3x M.2-2280 (PCIe X4) one also supports SATA
Front Panel Ports	2x USB 3.2 Gen 2 (1x Type-C) 1x USB 2.0 2x Audio Power-Button Power-LED, HDD-LED	4x USB 3.2 Gen 2 (1x Type-C) 2x Audio Power-Button Power-LED, HDD-LED	2x USB 3.2 Gen 1 (1x Type-C) 2x USB 2.0 2x Audio Power-Button Power-LED, HDD-LED	2x USB 3.2 Gen 1 (1x Type-C) 2x USB 2.0 2x Audio Power-Button Power-LED, HDD-LED
Back Panel Ports	HDMI 2.1 (8K) DisplayPort 1.4 *) USB4/DisplayPort (USB-C) *) 2x USB 3.2 Gen 1 (blue) 2x USB 2.0 2x Intel LAN (1G and 2.5G) *) 2x COM RS232 (1x RS422/485) *) DC input (supports 12V and 19V) Header for ext. power button	HDMI 2.1 (8K) HDMI 2.0 DisplayPort 1.4 USB4/DisplayPort (USB-C) 4x USB 3.2 Gen 2 (red) 2x Intel LAN (1G and 2.5G) 2x COM RS232 (1x RS422/485) DC input (supports 19.5V) Header for ext. power button	HDMI 2.1 (8K) HDMI 2.0a DisplayPort 1.4 2x USB 3.2 Gen 2 (red) 2x USB 2.0 2x Intel LAN (1G and 2.5G) 3x COM RS232 (1x RS422/485) DC input (supports 12V and 19V) Header for ext. power button	HDMI 2.1 (8K) HDMI 2.0a DisplayPort 1.4 2x USB 3.2 Gen 2 (red) 2x USB 3.2 Gen 1 (blue) 2x Intel LAN (1G and 2.5G) DC input (supports 19.5V) Header for ext. power button
Power Adap.	120 W / 19 V DC-Input supports 12V and 19V	180 W / 19.5 V DC-Input supports 12V and 19	120 W / 19 V DC-Input supports 12V and 19V	180 W / 19.5 V
Optional Accessories	Vertical stand (PS02) Power Button cable (CXP01) VGA-Port (PVG01) WLAN kit (WLN-M1/M12) 4G kit (WWN03) DIN-Rail Kit (DIR01) Rack-Mount Kit (PRM01)	Vertical stand (PS02) Power Button cable (CXP01) VGA-Port (PVG01) WLAN kit (WLN-M1/M12) 4G kit (WWN03) DIN-Rail Kit (DIR01) Rack-Mount Kit (PRM01)	Vertical stand (PS01) Power Button cable (CXP01) 3x COM Ports (PCM31) VGA-Port (PVG01) WLAN kit (WLN-M1/M12) 4G/5G kit (WWN04)	Power Button cable (CXP01) VGA-Port (PVG01) WLAN kit (WLN-M1/M12) 4G/5G kit (WWN04) Upgrade kit supports second power adapter (PRC02)
VESA Mount	included	included	included	included
Chassis Dimensions	19 x 16.5 x 4.3 cm (ca. 1.3 L)	19 x 16.5 x 4.3 cm (ca. 1.3 L)	23.8 x 20 x 7.25 cm (ca. 3.5 L)	23.7 x 20 x 9.5 cm (ca. 4.5 L)
Front View				
Back View	<p>DH810:</p>  <p>DH810S:</p> 			

\*) DH810S features 2x DisplayPort 1.4, but no USB4, 2.5G LAN and only one Serial COM port (RS232)

## Shuttle Product Comparison with the predecessor: XH810 and XH610(V)

MODEL	<b>XH810</b>	XH610 / XH610V
Processor Support	Intel Core Ultra Processors 2xx "Arrow Lake-S" Socket LGA1851, TDP max. 65W	Intel Core Processors Gen 12/13/14 "Alder Lake-S" / "Raptor Lake-S (Refr)" Socket LGA1700, TDP max. 65W
OS Support	Windows 11 & Linux – 64-bit	Windows 10/11 & Linux – 64-bit
Chipset	Intel H810 Supports Triple Display	Intel H610 Supports Triple Display
Memory (max.)	2x 48 GB DDR5-5600 SO-DIMM (262 Pins)	2x 32 GB DDR4-3200/2666/2400 SO-DIMM (260 pins)
Drive Bays	2x 2.5" bay (or 1x 3.5")	1x 5.25" Slimline ODD bay (12.7 mm) 2x 2.5" bay (12.5 & 9.5 mm)
M.2 Slots for SSDs	1x M.2-2280 Slot (PCIe X4, SATA) 1x M.2-2280 Slot (PCIe X2, USB3.2)	1x M.2-2280 SSD slot (PCIe X4, SATA)
Front Panel Ports	2x USB 3.2 Gen 1 (1x Type-C) 2x USB 2.0, 2x Audio Power-Button, Power-LED, HDD-LED	2x USB 3.2 Gen 1 (1x Type-C) 2x USB 2.0, 2x Audio Power-Button, Power-LED, HDD-LED
Back Panel Ports	HDMI 2.1 (8K) HDMI 2.0a DisplayPort 1.4 2x USB 3.2 Gen 2 (red) 2x USB 2.0 2x Intel LAN (1G and 2.5G) 3x COM RS232 (1x RS422/485) DC input (supports 12V and 19V) 4-pin header for ext. power button	HDMI 2.0b DisplayPort 1.4 D-Sub/VGA 2x USB 3.2 Gen 1 (blue) 2x USB 2.0 2x Intel LAN (1G and 2.5G) 2x COM RS232 (1x RS422/485) DC input (supports 12V and 19V) 4-pin header for ext. power button
Power Adapter	120 W / 19 V	120 W / 19 V
Optional Accessories	Vertical stand (PS01) Power Button cable (CXP01) 3x COM Ports (PCM31) VGA-Port (PVG01) WLAN kit (WLN-M1/M12) 4G/5G kit (WWN04)	Vertical stand (PS01) VESA mount (PV02) Power Button cable (CXP01) 3x COM Ports (PCM31) for XH610 Slimline bay cover (MY01) for XH610V 3.5" HDD rack (PHD4) WLAN kit (WLN-M1/M12) 4G kit (WWN03)
VESA Mount	included	optional (PV02)
Chassis Dimensions	23.8 x 20 x 7.25 cm (ca. 3.5 L)	23.8 x 20 x 7.25 cm (ca. 3.5 L)
Front View (open front)	XH810 – open front 	XH610 – open front 
Front View (with front doors)		XH610V – with front doors 
Back View		

## SHUTTLE XPC SLIM BAREBONE XH810 – SPECIFICATIONS

<b>CHASSIS</b>	<p>Slim 3.5-litre chassis, colour: black  Dimensions: 238 x 200 x 72.5 mm (LWH without rubber feet and thumbscrews) = ca. 3.5-litre  Length including thumbscrews: 250 mm  Height including rubber feet: 73.3 mm  Weight: 1.9 kg net, 3.2 kg gross  Hole for Kensington Lock at the backpanel  Operation position horizontal or vertical with the included VESA mount</p>
<b>POWER ADAPTER</b>	<p>External 120 W power adapter (fanless)  Input: 100~240 V AC, 50/60 Hz  Output: 19 V DC, max. 6.32 A, max. 120 W output wattage  DC Connector: 5.5 / 2.5mm (outer/inner diameter)  AC mains cable: 3 pins, ca. 1.8 m length, with C5/C6 coupler (called "Mickey Mouse" or "Clover-leaf") for the power adapter and CEE-7/7 plug with earth-contact (type E+F) for the power outlet  Remark: the DC-input of the computer supports an external power source with either 12V±5% or 19V±5%.</p>
<b>OPERATING SYSTEM</b>	<p>This system comes without operating system.  It is compatible with Windows 11 and Linux (64-bit)</p>
<b>PROCESSOR SUPPORT</b>	<p>Processor Socket LGA1851  Supports Intel Core Ultra 200 series 9/7/5 processors  Code name "Arrow Lake-S"  Maximum supported processor power consumption (Base TDP) = 65 W  Does not support the unlock-function of Intel K-Series processors.  Up to 24 cores (8 Performance-cores and 16 Efficient-cores)  Neural Processing Unit (NPU) with 13 TOPS AI-Performance</p>
<b>PROCESSOR COOLING</b>	<p>Processor cooling with heat-pipe technology and two fans (6cm)</p>
<b>MAINBOARD, CHIPSET, BIOS</b>	<p>Mainboard in Mini-ITX form factor 17 x 17 cm  Chipset: Intel® H810  AMI BIOS in 32 MB EEPROM  All capacitors are high quality solid capacitors  Supports hardware monitoring and Watchdog functionality  Supports Unified Extensible Firmware Interface (UEFI)  Supports power on after power failure <b>[1]</b>  Supports Firmware TPM v2.0 (fTPM)</p>
<b>MEMORY SUPPORT</b>	<p>2x SO-DIMM slot with 262 pins  Supports DDR5-5600 (PC5-44800) SDRAM at 1.1 V  Supports Dual Channel mode  Supports a maximum of 48 GB per DIMM, maximum total size: 96 GB  Note: Supports two unbuffered DIMM modules (no ECC or registered)</p>
<b>INTEGRATED GRAPHICS</b>	<p>The features of the integrated Intel graphics function with Xe cores depend on the processor type used. <b>[4]</b>  The PC features these graphics outputs:  - HDMI 2.1 supports 8K UHD with max. 7680x4320 Pixel at 60 Hz (4320p60)  - HDMI 2.0 supports 4K UHD with max. 4096x2160 Pixel at 60 Hz (2160p60)  - DisplayPort supports 4K UHD with max. 4096x2160 Pixel at 60 Hz (2160p60)  - optional one analog Sub-D/VGA port (optional Accessory PVG01)  Supports up to three independent displays with the integrated graphics function.  If the HDMI 2.1 port is operated with an 8K monitor, the second HDMI port cannot be used.  DisplayPort and HDMI support multi-channel digital audio over the same cable.</p>
<b>AUDIO</b>	<p>Audio Realtek® ALC 888S High-Definition Audio  Two analog audio connectors (3.5 mm) on the front panel:  1) 2-channel line-out (head-phones)  2) microphone input  Digital multi-channel audio output: by HDMI and DisplayPort</p>

DUAL LAN	<p>Dual network with two RJ45 ports with two status LEDs each</p> <p>Used network chips:</p> <ol style="list-style-type: none"> <li>1) Intel 226LM (left RJ45 port) supports 100 / 1.000 / 2.500 Mbps data transfer rate</li> <li>2) Intel 219LM (right RJ45 port) supports 10 / 100 / 1.000 Mbps data transfer rate</li> </ol> <p>Supports WAKE ON LAN (WOL) <b>[6]</b></p> <p>Supports network boot by Preboot eXecution Environment (PXE)</p>
M.2-2280M SSD SLOT	<p>Two M.2 2280M slots provides the following interfaces:</p> <ul style="list-style-type: none"> <li>- Slot 1 (in the middle): supports PCIe Gen4 x4 (NVMe) and SATA (max. 6 Gbps)</li> <li>- Slot 2 (at the edge): supports PCIe Gen4 x2 (NVMe) and USB3.2 Gen1 (max. 5 Gbps)</li> </ul> <p>Both support M.2 cards with a width of 22 mm and a length of 80 mm (type 2280). Slot 2 also supports the optional WWNO4 accessory for 4G/5G WAN cellular cards.</p>
M.2-2230E SLOT FOR WLAN CARDS	<p>Interfaces: PCI-Express Gen4 X1, USB 2.0 and 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</p> <p>Optional Shuttle accessory: WLN-M1/M12 <b>[3]</b></p>
STORAGE BAYS	<p>Supports up to two 2.5" storage drives (SSD or HDD) or one 3.5" hard disk.</p> <p>Two Serial-ATA connectors onboard, supports max. 6 Gbps</p> <p>Two pre-installed power cables for the SATA storage drives</p> <p>Supports SATA Raid 0+1</p>
FRONT PANEL CONNECTORS	<p>Microphone input</p> <p>Audio Line-out (headphones)</p> <p>1x USB 3.2 Gen 1 Type A (max. 5 Gbps, blue)</p> <p>1x USB 3.2 Gen 1 Type C (max. 5 Gbps)</p> <p>2x USB 2.0 (black)</p> <p>Power button</p> <p>Power LED (blue)</p> <p>HDD LED (yellow)</p>
BACK PANEL CONNECTORS	<p>1x HDMI 2.1 (right side)</p> <p>1x HDMI 2.0 (left side)</p> <p>1x DisplayPort 1.4a <b>[2]</b></p> <p>2x USB 3.2 Gen 2 Type A (max. 10 Gbps, red)</p> <p>2x USB 2.0 (black)</p> <p>1x 2.5G LAN (RJ45 port, Intel 226LM chip)</p> <p>1x Gigabit LAN (RJ45 port, Intel 219LM chip)</p> <p>3x COM / Serial port (D-Sub, supports 2x RS232 and 1x RS232/422/485)</p> <p>1x DC-input connector for external power adapter (supports 12V±5% or 19V±5%)</p> <p>1x 4-pin connector (2.54 mm pitch) supports:</p> <ul style="list-style-type: none"> <li>- external power on button (see optional accessory CXP01)</li> <li>- Clear CMOS function</li> <li>- +5V DC voltage for external components</li> </ul> <p>2x Perforation for Wireless LAN antennas</p> <p>1x Perforation for optional VGA port (optional Accessory PVG01)</p> <p>1x Hole for Kensington Lock</p>
OTHER ONBOARD CONNECTORS	<p>Jumper J1 for power-on-after-power-fail (hardware solution) <b>[1]</b></p> <p>Front connectors for power button, LEDs, USBs, audio ports</p> <p>6x COM port (2x5-pin header, 2 mm pitch) - 3x occupied</p> <p>4-pin fan connector (occupied by the CPU cooling system)</p> <p>Two SATA power connectors: 5V (4-pin) and 12V (3-pin)</p> <p>Two SATA connectors with pre-installed cables</p> <p>Header for an optional VGA port "VGA1" (optional Accessory PVG01)</p>
SUPPLIED ACCESSORIES	<p>Multi-language installation guide (EN, DE, FR, ES, JP, KR, SC, TC)</p> <p>DVD with Windows 11 driver software and manuals in PDF format</p> <p>External power adapter with ca. 1.8m AC power cord (with protective-earth contacts)</p> <p>Protector cap for the CPU socket (do not use if heat-pipe or fan is mounted)</p> <p>CPU heatpipe cooling system pre-installed with heatsink compound</p> <p>SATA and power cables for two 2.5" drives or one 3.5" drive</p> <p>12 screws (M3x4, silver) for installation of up to two SATA storage drives and two M.2 SSDs</p> <p>VESA mount (metal) supports 75x75 and 100x100 mm VESA standard</p> <p>Four screws M3 x 5 mm (screws together VESA mount and PC)</p> <p>Four screws M4 x 10 mm (to affix VESA mount on the back of a monitor)</p>

<b>OPTIONAL ACCESSORIES</b>	<ul style="list-style-type: none"> <li>- <b>PS01:</b> Vertical stand</li> <li>- <b>CXP01:</b> adapter cable for external power button</li> <li>- <b>PCM31:</b> Adapter for three additional RS232 COM ports</li> <li>- <b>PVG01:</b> Adapter for a VGA port</li> <li>- <b>WLN-M1/M12</b> (802.11ax, Wifi 6): WLAN module with two antennas <b>[3]</b></li> <li>- <b>WWN04:</b> Adapter/Antenna kit for 4G/5G expansion card</li> </ul>
<b>ENVIRONMENTAL SPECIFICATIONS</b>	<p>Operating temperature range: 0~50°C <b>[5]</b>            Relative humidity range: 10~90% (non-condensing)</p>
<b>CERTIFICATIONS / COMPLIANCE</b>	<p>EMI: CE, UKCA, FCC, BSMI, RCM, VCCI            Safety: CB 60950/62368, cTUVus, BSMI            Other: RoHS, Energy Star, ErP</p> <p>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:</p> <ol style="list-style-type: none"> <li>(1) 2004/108/EC relating to electromagnetic compatibility (EMC),</li> <li>(2) 2006/95/EC relating to Electrical Equipment designed for use within certain voltage limits (LVD),</li> <li>(3) 2009/125/EC relating to ecodesign requirements for energy-related products (ErP)</li> </ol>

#### **[1] 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 the appropriate jumper JP1, the system will start unconditionally once power is supplied.

#### **[2] How to convert DisplayPort into HDMI/DVI**

The DisplayPort output supports Dual-mode (DP++) and can be converted to HDMI or DVI by an additional, passive adapter cable. For example:

DELOCK 82590: 1m, DisplayPort (male, 20p) to HDMI-A (male, 19p)

DELOCK 82435: 5m, DisplayPort (male, 20p) to DVI-D (male, 24p)

The integrated graphics automatically detects the connected display and puts out the appropriate electric signal - either DisplayPort (without an adapter) or HDMI/DVI (with an adapter). Please note that DVI/HDMI monitors are only operated in single-link mode, i.e. max. 1920x1200 with 60 Hz. However, a monitor with a DisplayPort connector cannot be connected to the HDMI port with a simple, passive adapter.

#### **[3] Optional Wireless LAN module:**

This slim PC can optionally be upgraded with WLAN/Bluetooth functionality. Shuttle offers the suitable accessory kit "WLN-M1/M12", consisting of a WLAN card in M.2-2230 format and two external antennas with appropriate antenna cables.

**[4] Intel processors without integrated graphics** (ID ends with "F", e.g. Core Ultra 7 265F) are not compatible.

#### **[5] High ambient temperature**

For high ambient temperature over 40°C we strongly recommend to use SSDs instead of hard disk drives.

#### **[6] Note on the Wake-on-LAN function**

**Summary:** Please use the 2.5G network connection for the WOL function.

**Explanation:** This PC has two network connections (LAN ports):

(1) 1.0G (Intel 219 chip)

(2) 2.5G (Intel 226 chip)

The PC supports the Wake-on-LAN function (WOL) to start the switched-off computer (from S5 mode) via the network. The following settings can be found in the 'Advanced' BIOS setup:

(1) Wake Up by LAN = Enabled (this activates WOL)

(2) Power-On after Power-Fail = Power On by LAN

The second setting defines the behaviour after a power failure - in this case, the PC should not switch on immediately as soon as power is restored, but should wait for the power-on signal via the network connection. However, after a power failure, switching on via the network (WOL) only works via the 2.5G network port for technical reasons. Do not use the 1.0G network port for the WOL function if you expect that the PC's power supply could be interrupted.

## INTEL CORE ULTRA GEN. 2 DESKTOP PROCESSOR FAMILY

Socket LGA1851, Code Name "Arrow Lake-S" processor overview (Date: May 2025)

Each processor containing an NPU capable of upto 13 TOPS

Processors with a TDP of more than 65W and processors without graphics function (ID ends with "F") are not supported by XH810 (marked in red).

PROCESSOR	MODEL	P-CORES/ THREADS	P-CORES Base/Turbo2.0	E- CORES	E-CORES Base/Turbo2.0	SMART CACHE	BASE TDP	MEMORY SUPPORT	Intel® Graphics Xe Cores / Clock Rate
Core Ultra 9	<b>285K</b>	8 / 8	3.7 – 5.5 GHz	16	3.2 – 4.6 GHz	36 MB	<b>125 W</b>	DDR5-5600/6400	4 Cores, max. 2.00 GHz
	<b>285</b>	8 / 8	3.7 – 5.4 GHz	16	1.9 – 4.6 GHz	36 MB	65 W	DDR5-5600/6400	4 Cores, max. 2.00 GHz
	<b>285T</b>	8 / 8	1.4 – 5.3 GHz	16	1.2 – 4.6 GHz	36 MB	35 W	DDR5-5600/6400	4 Cores, max. 2.00 GHz
Core Ultra 7	<b>265K</b>	8 / 8	3.9 – 5.4 GHz	8	3.3 – 4.6 GHz	30 MB	<b>125 W</b>	DDR5-5600/6400	4 Cores, max. 2.00 GHz
	<b>265KF</b>	8 / 8	3.9 – 5.4 GHz	8	3.3 – 4.6 GHz	30 MB	<b>125 W</b>	DDR5-5600/6400	<b>None</b>
	<b>265</b>	8 / 8	2.4 – 5.2 GHz	8	1.8 – 4.6 GHz	30 MB	65 W	DDR5-5600/6400	4 Cores, max. 1.95 GHz
	<b>265F</b>	8 / 8	2.4 – 5.2 GHz	8	1.8 – 4.6 GHz	30 MB	65 W	DDR5-5600/6400	<b>None</b>
	<b>265T</b>	8 / 8	1.5 – 5.2 GHz	8	1.2 – 4.6 GHz	30 MB	35 W	DDR5-5600/6400	4 Cores, max. 1.95 GHz
Core Ultra 5	<b>245K</b>	6 / 6	4.2 – 5.2 GHz	8	3.6 – 4.6 GHz	24 MB	<b>125 W</b>	DDR5-5600/6400	4 Cores, max. 1.90 GHz
	<b>245KF</b>	6 / 6	4.2 – 5.2 GHz	8	3.6 – 4.6 GHz	24 MB	<b>125 W</b>	DDR5-5600/6400	<b>None</b>
	<b>245</b>	6 / 6	3.5 – 5.1 GHz	8	3.0 – 4.5 GHz	24 MB	65 W	DDR5-5600/6400	4 Cores, max. 1.90 GHz
	<b>245T</b>	6 / 6	2.5 – 5.1 GHz	8	1.9 – 4.5 GHz	24 MB	35 W	DDR5-5600/6400	4 Cores, max. 1.90 GHz
	<b>235</b>	6 / 6	3.4 – 5.0 GHz	8	2.9 – 4.4 GHz	24 MB	65 W	DDR5-5600/6400	3 Cores, max. 2.00 GHz
	<b>235T</b>	6 / 6	2.2 – 5.0 GHz	8	1.6 – 4.4 GHz	24 MB	35 W	DDR5-5600/6400	3 Cores, max. 2.00 GHz
	<b>225</b>	4 / 4	3.3 – 4.9 GHz	4	1.8 – 4.4 GHz	20 MB	65 W	DDR5-5600/6400	2 Cores, max. 1.80 GHz
	<b>225F</b>	4 / 4	3.3 – 4.9 GHz	4	2.7 – 4.4 GHz	20 MB	65 W	DDR5-5600/6400	<b>None</b>
<b>225T</b>	4 / 4	2.5 – 4.9 GHz	4	2.7 – 4.4 GHz	20 MB	35 W	DDR5-5600/6400	2 Cores, max. 1.80 GHz	

**K** = unlocked, **T** = Power optimized lifestyle, **F** = without integrated graphics, **Base TDP** = Base Thermal Design Power (max. Base Power Consumption).

Note: The Shuttle XPC slim Barebone **XH810** does not support the Unlock-function of Intel **K-Series** processors.

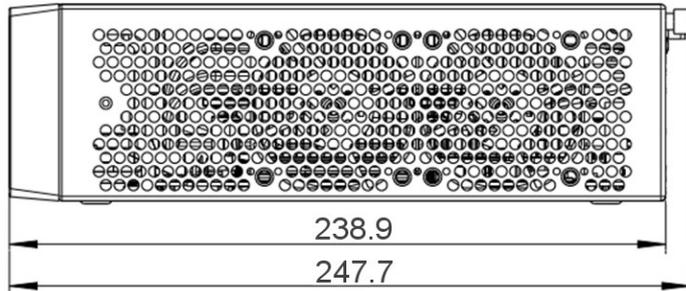
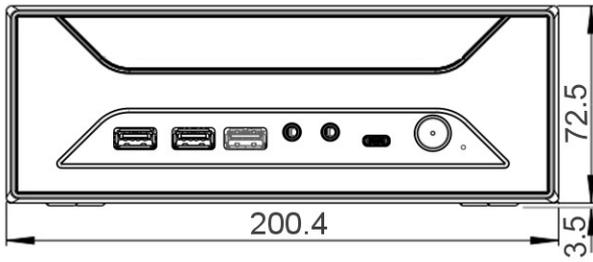
**P-Cores:** Performance-Cores (without Hyper-Threading/SMT support), **E-Cores:** Efficient-Cores

**Core Clock:** the listed core frequency ranges from Base Frequency to Turbo Boost 2.0 Frequency (Turbo Boost 3.0/TVB Frequency is not mentioned here)

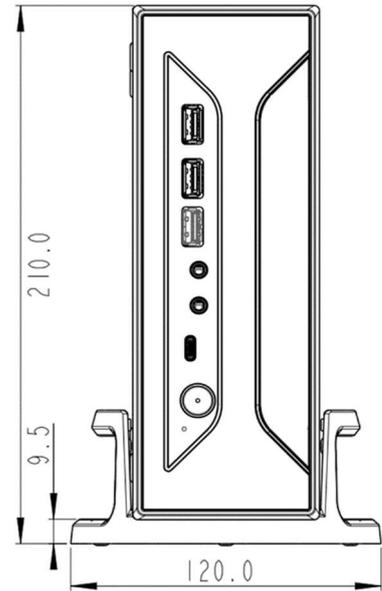
**Base TDP:** Processor Base Power dissipation that the processor is validated to not exceed at Base Frequency (Max. Turbo Power is not mentioned here)

Please refer to the support list for detailed processor support information at [global.shuttle.com](https://global.shuttle.com).

## Chassis Drawing XH810:



With Optional Stand PS01



With VESA mount (included)

