

Item no.: 375264

## XH510G2 - XPC slim

from **267,40 EUR**

Item no.: 375264  
shipping weight: 3.60 kg  
Manufacturer: Shuttle



 [Product Description](#)

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The Shuttle XPC Barebone XH510G2 is a 4.7-litre PC with two slots for PCI Express plug-in cards. Together with an LGA1200 Intel Core desktop processor of the Intel Core Generation 10/11, this platform is perfect where performance, flexibility and compact design are required. For example, a multiport graphics card, a video capture card or I/O card can be installed to set up a mini PC for video wall presentation, graphics workstation, audio/video recording, surveillance, POS system, POI and various network and industrial applications. Even gaming is possible. Enclosure- Flat X enclosure type, colour: black - Dimensions: 25 x 20 x 9.5 cm (LWH), volume: approx. 4.7 litres- Weight: 2.98 kg net, 3.49 kg gross- Open front - without cover flaps for front panel connections- Opening for the Kensington Lock on the rear of the device Operating position- (1) horizontally on the feet- (2) vertically with the supplied VESA mount Power supply- External 180 W power supply (fanless)- Input: 100-240 V AC, 50-60 Hz, max. 2.5 A- Output: 19.5 V DC, max. 9.23 A, max. 180 W output power- AC plug with earthing contact, approx. 1.7 m long cable- DC plug: 5.5 / 2.5 mm (outer/inner diameter)- Dimensions: approx. 167 x 82 x 25.5 mm = 350 ml Operating system- This system is supplied without an operating system.- It is compatible with Windows 10, Windows 7 and Windows 8. It is compatible with Windows 10, Windows 11 and Linux (64 bit). Processor support- Processor socket LGA1200- Supports Intel Core i9 / i7 / i5 / i3, Pentium Gold and Celeron processors- Supports the 10th and 11th generation Intel Core processors with the codenames "Comet Lake-S" and "Rocket Lake-S" with 14 nm technology- Maximum supported processor power dissipation (TDP) = 65 W.- Up to 10 CPU cores, 20 threads and 20 MB L3 cache- Does not support the unlock function of Intel K-series processors.- The processor integrates the controllers for PCI-Express X16, RAM and graphics function (The performance features depend on the processor model. [6])- For detailed information on compatible processors, please refer to the support list at global.shuttle.com.- Not compatible with older socket L16 processors. Not compatible with older socket LGA1151 (v2) processors.- Processor heatpipe cooling- Processor cooling with heatpipe technology and two fans (6 cm) Mainboard / Chipset- Mainboard in Shuttle format - special design for XPC Barebone XH510G2- Chipset/Southbridge: Intel® H510- Passive chipset cooling with heat sink- The Northbridge is integrated in the processor.- With solid electrolytic capacitors. With solid electrolytic capacitors (solid capacitors) - these capacitors are more heat-resistant and durable. BIOS- AMI BIOS, SPI interface, 16 MB flash EPROM device- Supports hardware monitoring and watchdog function- Supports firmware TPM (fTPM) v2.0 [5]- Supports booting from external flash memory via USB- Supports the Unified Extensible Firmware Interface (UEFI)- Supports restart after power failure (Power-On-after-Power-Fail) [1] Memory support- 2x SO-DIMM slot with 260 pins- The maximum DDR4 clock frequency depends on the processor type used: Gen. 11 "Rocket Lake" supports DDR4-3200 (PC4-25600U) Gen. 10 "Comet Lake" Core i7/i9 supports DDR4-2933 (PC4-23433U)- other Gen. 10 "Comet Lake" support DDR4-2666 (PC4-21300U)- Supports dual-channel mode- Supports maximum 32 GB per slot- Total capacity maximum 64 GB- Supports unbuffered DIMM modules (no ECC or registered) Integrated graphics function- The properties of the integrated Intel UHD graphics function- depend on the processor type used. [6]- The PC offers two video outputs: HDMI v2.0a (only HDMI v1.4b with Gen. 10 "Comet Lake" processors) DisplayPort v1.4- Both ports support 4K displays with 3840 x 2160 Ultra HD resolution at 60 Hz refresh rate (2160p60) and support multi-channel digital audio over the same cable (HDMI v1.4b supports Ultra HD at 30 Hz only).- Supports two independent displays via the integrated graphics function- Optional analogue D-Sub/VGA video output [4] Two PCIe slots- A pre-installed 90° riser card provides two PCI Express slots: 1x PCI Express X16 v4.0 slot- (only PCIe v3.0 with Gen. 10 "Comet Lake" processors)- 1x PCI-Express X1 v3.0 slot- Graphics cards with double slot width are supported, in this case, however, the second PCI-Express slot cannot be used.- The PCIe X16 expansion card used must fulfil the following conditions: 1) Maximum dimensions: 208 mm x 120 mm x 45 mm 2) Maximum power dissipation: 75 W (optionally up to 225 W [8])- For special applications, a 5V auxiliary voltage (max. 2 A) is provided via a 4-pin Molex connection cable for special applications. Audio function- Audio Realtek® ALC662/888/897 High-Definition Audio- Two analogue 3.5 mm audio connections on the front: - (1) Microphone input- (2) Headphone output (line-out)- Digital 7.1 audio output possible via the HDMI and DisplayPort connection Gigabit network controller- Intel i219LM network chip- Supports 10 / 100 / 1.000 MBit/s data transfer rate- Supports WAKE ON LAN (WOL)- Supports booting from the network via Preboot eXecution Environment (PXE) 2.5" drive bay- This system has a 2.5" drive bay that is accessible from the bottom.- It supports a hard disk or an SSD. It supports a hard disk or an SSD drive in 2.5" / 6.35 cm format with max. 9.5 mm height.- A data/power cable is already pre-installed [3]- The connection supports SATA III with max. 6 Gbit/s. Two M.2 slots for SSD cards- This system has two M.2-2280M slots.- Both M.2 slots support M.2 cards with Key M or Key B+M. Both M.2 slots support SSD cards with a SATA interface. One of the slots also supports SSDs with a PCI Express interface and NVMe support. M.2 slot 1: - Located at the bottom of the system. Slot 1: - located inside the housing- supports M.2 cards with 42, 60 or 80 mm length (type 2242, 2260, 2280)- supports SATA v3.0 (6 Gbit/s) or PCIe v3.0 X4 (NVMe) M.2 slot 2: - is accessible from the underside of the housing- supports M.2 cards with 80 mm length (type 2242, 2260, 2280). cards with 80 mm length (type 2280)- supports SATA v3.0 (6 Gbit/s) M.2-2230E slot The M.2-2230E slot offers the following interfaces: - PCI-Express v2.0 X1- USB 2.0- M.2 plug-in cards used must be 22 mm wide and 30 mm long. This slot is intended for WLAN cards. Front connections- 1x microphone input (3.5 mm)- 1x headphone output (3.5 mm, line-out)- 2x USB 3.2 Gen 1 (blue, max. 5 Gbit/s)- 2x USB 2.0- 1x on/off button with power indicator LED (blue)- 1x hard drive LED (yellow) Rear connections- 1x HDMI 2.0a supports screw fastening- (only supports HDMI v1.4b with Gen. 10 "Comet Lake" processors)- 1x DisplayPort 1.4- 2x USB 3.2 Gen 1 (blue, max. 5 Gbit/s)- 2x USB 2.0- 1x GigaBit LAN (RJ45, Intel i219LM)- 1x DC input for external power supply (supports 19.5 V)- 1x 4-pin connector (2.54 mm pitch) supports: - external power button- Clear CMOS function- 5V DC voltage for external components 1x perforation for an optional VGA or COM port [4] 2x perforation for optional wireless LAN antennas 1x opening for Kensington lock Further onboard connections- 2-pin onboard ATX connector with 5V (max. 2 A) auxiliary voltage with 4-pin Molex adapter cable- Power-on-after-power-fail (hardware solution with jumper) [1]- RS232 COM port connector (2x 5 pins, 2 mm pitch)- Analogue VGA graphics output CN1 (2x10 pins, 1 mm pitch) [4]- Front panel connector for power button, LEDs, USBs and audio ports- 4-pin fan connector (used for the CPU cooling system)- 4-pin USB 2.0 connector (for the optional WWN03 accessory)- 2x 5-pin debug connector Supplied accessories- Multilingual installation guide (DE, EN, FR, ES, JP, KR, SC, TC)- Driver DVD- Drive bracket for a 2.5" drive- Four M3 x 4 mm screws (for mounting a 2.5" drive into the bracket)- Three M2 x 5 mm screws (for mounting the drive bracket)- VESA bracket (two-part) made of metal supports 75x75 and 100x100 mm VESA standard- Four M3 x 5 mm screws (connects VESA bracket to PC)- Four M4 x 10 mm screws (connects VESA bracket to external mounting)- Three M3 x 5 mm screws (silver-coloured, for mounting up to three M.2-cards)- Internal adapter cable (15 cm) with 4-pin Molex connector for 5V/2A auxiliary voltage- External power supply unit with 1.7 m AC power cable (with earthing contact)- Protective cap for the CPU socket (do not use if heatpipe or cooler is installed)- CPU heatpipe cooling system with thermal paste Optional accessories- WLAN-M/WLAN-M1: WLAN module supports WLAN and Bluetooth, with 2 external antennas- WWN03: LTE adapter kit with antennas, but without LTE card [7]- PCP11: Backpanel COM port adapter for serial RS232 interface [4]- PVG01: Optional D-Sub VGA video output [4]- CXP01: Adapter cable for an external power button- PRC01: Expansion kit to support a second external power supply unit (PE90 or PE180) for more powerful graphics cards [8] Environmental parameters- Permissible operating temperature range: 0-50 °C [2]- Permissible relative humidity: 10-90 % (non-condensing) Conformity and certificates- EMI: CE, FCC, BSMI, VCCI, RCM- Safety: CB, cTUVus, BSMI- Other: RoHS, Energy Star v8.0, ErP- This device is categorised as Class B information technology equipment (ITE) and is primarily intended for use in residential and office environments. The CE mark confirms conformity with the following EU directives: (1) Directive 2014/30/EU on electromagnetic compatibility (EMC) (2) Directive 2014/35/EU on the safety of electrical equipment (LVD) (3) Directive 2009/125/EC on the ecodesign of energy-related products (ErP) Footnotes: [1] Power-On-after-Power-Fail The BIOS setup under "Power Management Configuration" contains the "Power-On-after-Power-Fail" function, which defines how the PC reacts after a power failure: (1) switch on unconditionally, (2) restore the status before the power failure or (3) leave switched off. In principle, however, this function can fail in the event of very short power failures, so that the XH510G2 also has a pure hardware solution. If you remove jumper JP1 (on the mainboard in the corner next to the DIMM slots), the PC will start as soon as the power supply is established. [2] High ambient temperature SSD drives are recommended instead of hard drives for high ambient temperatures above 40 °C. [3] Power supply for SATA drives The supplied power cable for the SATA drive provides a 5V line. In rare cases, however, 2.5" hard drives also require a 12V line (e.g. Seagate Constellation® series). This is not supported as standard. [4] Optional COM or VGA connection There is a perforation on the rear of the housing for the optional installation of a D-Sub connection - either an analogue VGA connection (adapter PVG01) or a serial RS232 connection (adapter PCP11). The required adapter is not included in the scope of delivery and can be purchased as a Shuttle accessory. Note: Although three monitor connections are available when a VGA connection is installed, only two of these can be used simultaneously. [5] TPM function This product already has a firmware TPM (fTPM) v2.0. It is also prepared for a hardware TPM chip, so that it can be equipped with this ex works on special order. [6] Intel processors without integrated graphics function can be recognised by the letter "F" in the processor designation, e.g. Core i7-10700F. A graphics card is required when using this CPU. [7] Optional accessories WWN03 (LTE kit) You can equip this PC with an LTE/4G function for mobile networks using the Shuttle XPC accessory WWN03 accessory kit. The WWN03 adapter board is screwed to the inside of the XH510G2 housing wall and connected to an onboard USB interface. An LTE module in M.2-3042 format and a nano SIM card are still required and are not included in the scope of delivery. [8] Expansion kit PRC01 The Shuttle XPC accessory PRC01 allows you to equip this PC with a second DC input to connect a second external power supply unit. This allows the operation of even more powerful graphics cards. Graphics cards with 75W power loss are supported as standard. With an additional 90W or 180W power supply unit, this value increases to 150W or 225W.

## Specifications

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