

### Your ultimate gaming PC in cube format

On the lookout for a reliable high-end gaming PC at a size that really matters? Look no further, it's here: the R8 1710GA in a stylish aluminium case! A huge NVIDIA GeForce GTX 1080 graphics card and a powerful Core i7-6700 processor make this your lethal weapon in the next battle while it's still three times smaller than a conventional ATX tower PC. This Shuttle XPC boots up in the blink of an eye thanks to a M.2 SSD. If its 2 TB hard drive isn't plenty enough for your games collection, simply add three more 3.5 inch drives up to a whopping total capacity of 40 TB. Dive into your favourite games at the highest of framerates and crystal clear, contrast-rich images. R8 1710GA - get yours now!

## Shuttle Gaming Mini-PC **R8 1710GA**



Feature Highlights	
<b>R8 Chassis</b>	<ul style="list-style-type: none"> <li>Black aluminium chassis (14.2 litre)</li> </ul>
<b>CPU</b>	<ul style="list-style-type: none"> <li>Intel® Core™ i7-6700 Processor (3.4 / 4.0 GHz) Codename "Skylake" (6<sup>th</sup> gen), Socket LGA1151</li> <li>Shuttle I.C.E. heatpipe cooling system</li> </ul>
<b>Chipset</b>	<ul style="list-style-type: none"> <li>Intel Z170 PCH</li> </ul>
<b>Operating System</b>	<ul style="list-style-type: none"> <li>Windows 10 Home 64 Bit</li> </ul>
<b>Graphics Card</b>	<ul style="list-style-type: none"> <li>NVIDIA GeForce GTX 1080 graphics card</li> <li>8 GB 256-bit GDDR5X VRAM graphics memory</li> <li>Dual slot PCI-Express X16</li> </ul>
<b>Memory</b>	<ul style="list-style-type: none"> <li>16 GB DDR4-2133 memory</li> <li>Upgradeable up to 64 GB</li> </ul>
<b>Storage</b>	<ul style="list-style-type: none"> <li>256 GB SSD, M.2-2280 card</li> <li>2 TB hard disk, 3.5" format, SATA 6G interface</li> <li>Expandable with three additional 3.5" drives</li> </ul>
<b>Other Connectors</b>	<ul style="list-style-type: none"> <li>Onboard Video: HDMI and 2x DisplayPort</li> <li>Audio: 7.1-ch Line-out, Line-in, Microphone</li> <li>Intel GigaBit LAN (RJ45)</li> <li>8x USB 3.0, External SATA</li> </ul>
<b>Optional</b>	<ul style="list-style-type: none"> <li>Optionaler COM-Port und Wireless LAN Modul</li> </ul>
<b>PSU</b>	<ul style="list-style-type: none"> <li>500 Watt power supply (80 PLUS Silver)</li> </ul>



Intel Core i7-6700

Heatpipe Cooling

NVIDIA GTX 1080

14-Litre Alu Cube



256 GB M2. SSD

2 TB Hard Disk

16 GB DDR4

Windows 10 Home

Images for illustration purposes only. Manufacturer and connectors of built-in graphics card may vary.



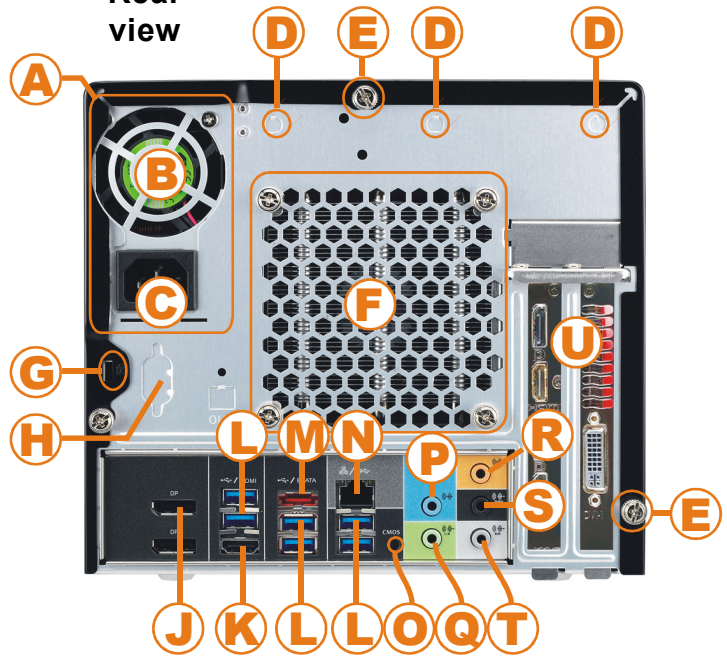
Shuttle Gaming Mini-PC R8 1710P – Connectors

Front view



- 1 Hard disk LED indicator
- 2 Power button  
Power LED indicator
- 3 2x USB 3.0 port
- 4 Microphone input
- 5 Headphone output

Rear view

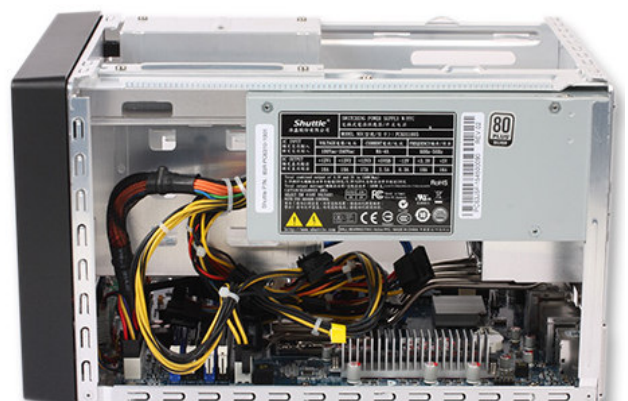


- A Power supply
- B Power supply fan
- C AC power connector
- D Perforation for optional WLAN module
- E Three thumbscrews
- F Heatpipe cooling system
- G Hole for Kensington Lock
- H COM / RS232 (optional)
- J 2x DisplayPort output
- K 1x HDMI output
- L 6x USB 3.0
- M External Serial-ATA
- N Gigabit LAN (RJ45)
- O Clear-CMOS-Button
- P Audio Line-in
- Q Audio Surround Front
- R Audio Center/Bass
- S Audio Surround Rear
- T Audio Surround Side
- U PCI-E Graphics Card

Interior view (without components installed)



left side



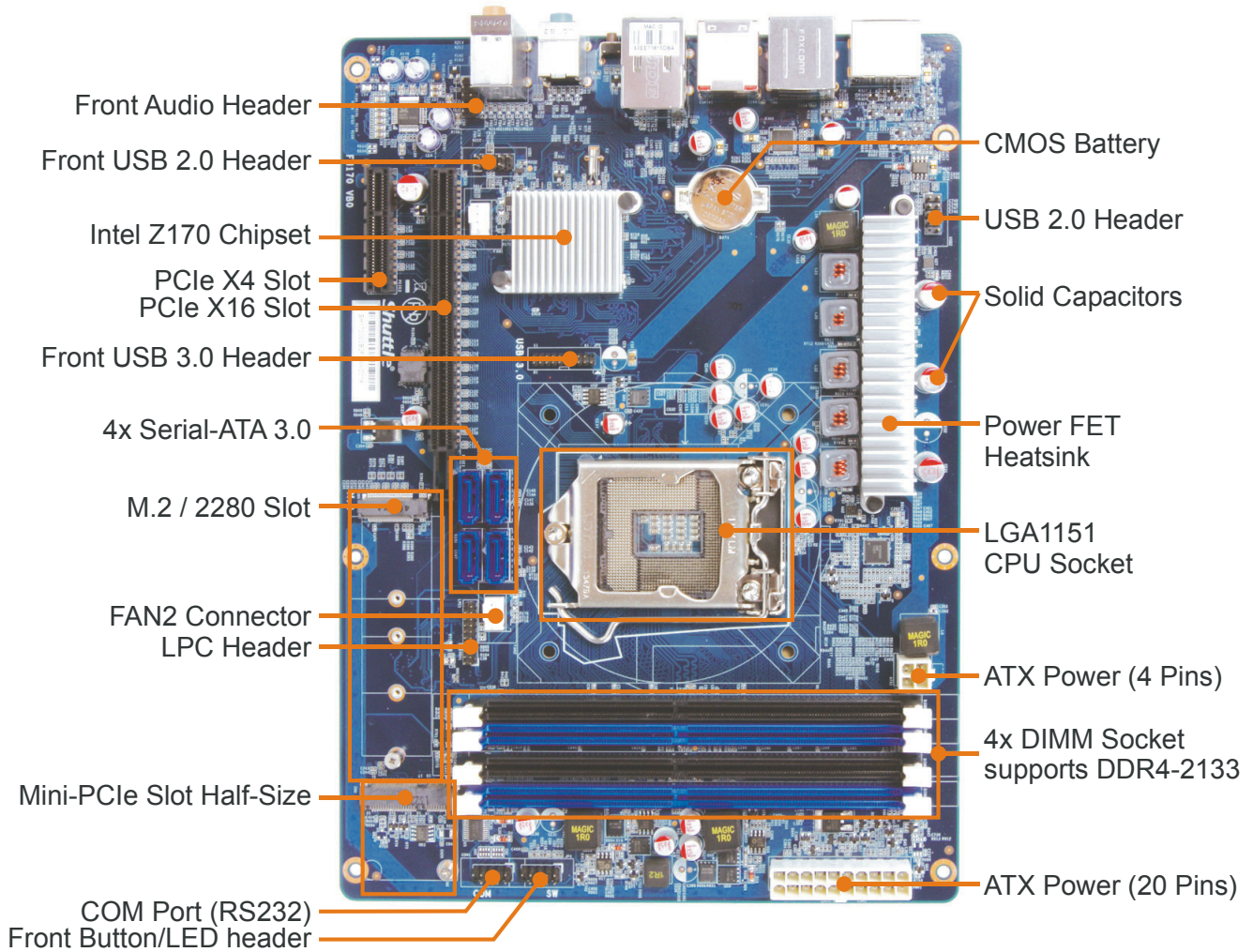
right side

Images for illustration purposes only.

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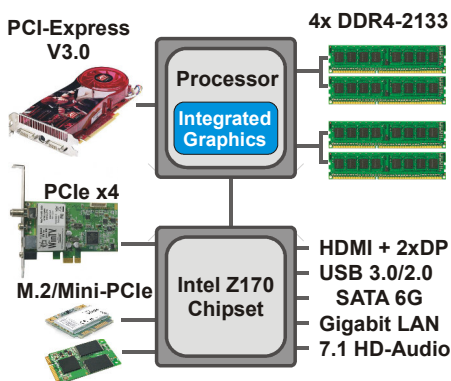
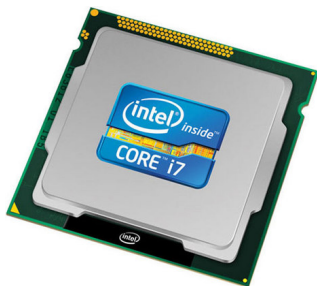
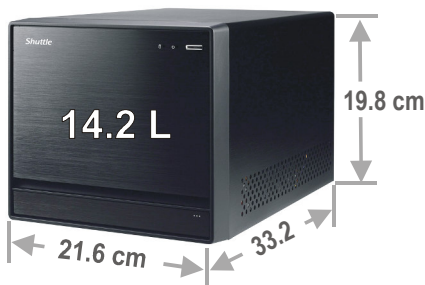
Shuttle Gaming Mini-PC R8 1710P – Mainboard

Back Panel Connectors



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## Shuttle Gaming Mini-PC R8 1710P – Product Features



### The R8 chassis design: stylish and sophisticated

The R8 is the case design of choice when it comes to flexible storage solutions thanks to its four-hard-drive support. At the same time it provides even more room for large state-of-the-art graphics cards. With no drive doors on the front, the case appears more uniform and elegant as ever before with Shuttle Gaming Mini-PCs. Its high-quality finish and aesthetics remain untouched - the R8 case uses light aluminium as its stylish base material and the brushed surfaces are truly eye-catching.

### Small, but easy to extend

Shuttle Gaming Mini-PCs offer the performance of a desktop PC at a third of the size while using standard desktop components. Shuttle keeps the concept of being futureproof in mind when designing the new R8 chassis. The meticulously designed internal layout already comes with appropriate cables supplied to reduce clutter, increase airflow and make the installation of components easy.

### 6<sup>th</sup> generation Intel Core i7 Skylake Processor

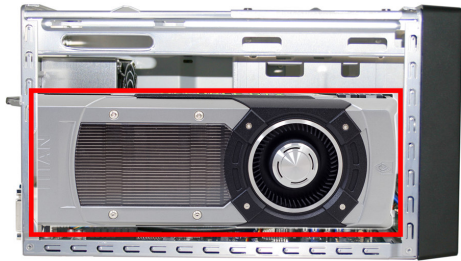
The Shuttle Gaming Mini-PC R8 1710P is powered by the Intel® Core™ i7 6700 processor. This 6<sup>th</sup> generation Intel® Core™ i7 processor (known as "Skylake" series) delivers a new class of computing with a host of new features. Expect lightning fast speeds and peak performance through even the toughest of tasks and games.

### Integrated Cooling Engine (I.C.E.)

In order to ensure proper airflow inside such a small case, more advanced cooling technologies have been developed and implemented. Shuttle's industry-leading I.C.E. heatpipe technology delivers efficient cooling and is exceptionally quiet.

### Single-Chip Chipset: Intel Z170

The Shuttle Gaming Mini-PC R8 1710P sports Intel's Z170 Platform Controller Hub (PCH) which is part of the 100 Series "Sunrise Point" chipset. The Z170 chipset consists of a single chip and integrates the hard drive controller, network controller, firmware interface, PCIe links, USB and other connectors.



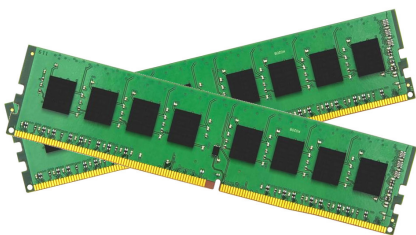
### NVIDIA GeForce GTX 1080 graphics card

Despite the small housing, the R8 1710P is equipped with a dual-slot (double-width) high-performance PCI Express graphics card: the NVIDIA GeForce GTX 1080, which provides an elite gaming experience. It is powered by next-generation NVIDIA® Pascal™ architecture and delivers incredible performance, unmatched power efficiency, plus cutting-edge features. Thanks to Shuttle's special 500W power supply you can enjoy rock-stable gaming performance.



### Connect even more displays

The Shuttle Gaming Mini-PC R8 1710P can combine the graphics ports of the integrated and the discrete PCI-Express graphics card, based on the Switchable Graphics feature. Expand your Windows desktop across many monitors, but note it does not support a 2x2 configuration or clone mode with the monitors connected.



### Ultrafast DDR4 memory

The Shuttle Gaming Mini-PC R8 1710P sports 16 GB DDR4-2133 Dual Channel memory. The system provides four DIMM sockets which support a maximum size of 64 GB. The DDR4 technology offers stunning memory read/write performance through efficient prefetching algorithms, lower latency, and higher memory bandwidth as compared to previous generations.



### SSD card in M.2 form factor

Solid-state drives (SSDs) are migrating from 2.5" format to even smaller flash memory modules. The Shuttle Gaming Mini-PC R8 1710P comes with the most modern M.2 format.. This kind of storage is used for the system partition to accelerate the boot process as well as application startup.



### Expandable with three additional hard disks

The Shuttle Gaming Mini-PC R8 1710P comes with one hard disk installed. Furthermore, users can install up to four 3.5" hard disks (or SSDs). An integrated 80mm fan in front of the hard disk rack ensures low operating temperatures for more reliability. Thanks to the integrated RAID controller, different configurations are possible. For example, a RAID 10 array with four 10 TB hard disks can turn your R8 1710P into a professional storage system with an overall capacity of 40 TB of disk space. Besides, it may also be your powerful graphics workstation or gaming PC at the same time.



Additional power plugs for graphics cards with 6 and 6+2 pins

### 500W power supply with 80 Plus Silver efficiency

The Shuttle Gaming Mini-PC R8 1710P is equipped with a rock-stable 500W power supply which has been tested with some of the latest graphics cards and powerful Core i3/i5/i7 processors. Its 80 Plus Silver logo indicates that it provides more than 85/89/85% of energy efficiency at 20/50/100% of rated load which reduces energy consumption and increases the computer's reliability. In addition, the power supply uses a 50mm cooling fan providing the same airflow, but spins slower than previous 40mm models to make the system run even more quietly.



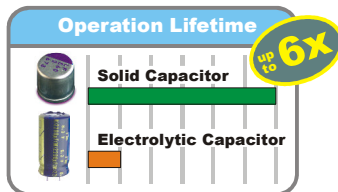
### 8x USB 3.0

The Shuttle Gaming Mini-PC R8 1710P sports eight USB 3.0 ports (2x front, 6x rear). USB 3.0 achieves a maximum data transfer rate of up to 5.0Gbps (640MBytes/sec) which is ten times faster than USB 2.0. USB 3.0 is fully downward compatible to USB 2.0.



### 7.1 HD Audio capabilities

The Shuttle Gaming Mini-PC R8 1710P supports 7.1 channel audio either via four analog stereo audio ports or digitally through the HDMI and DisplayPort connectors that combine high bandwidth video with digital audio in one single port.



### Solid Capacitors

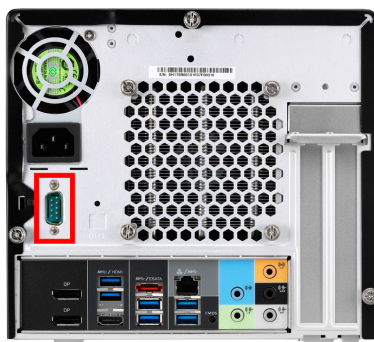
By using all-solid capacitors (except the audio part) Shuttle mainboards are long-life and provide industry leading stability and reliability. The average lifespan of one solid capacitor is more than six times greater than the more common and less expensive electrolytic capacitors.

## Optional Accessories



### Wireless LAN (Accessory WLN-C / WLN-P)

The Shuttle XPC accessory WLN-C/-P is a wireless LAN kit consisting of a Mini-PCIe card, two antennas and appropriate cables. Using this, the Shuttle Gaming Mini-PC R8 1710P can be equipped with a wireless LAN module according to IEEE 802.11n standards and WPA2 with AES encryption is supported, too. WLN-P also supports IEEE 802.11ac and Bluetooth 4.0.



### Serial RS-232 port (Accessory H-RS232)

Add one serial COM port (RS232) to the back panel. While it is no longer found on today's consumer PCs, as it has been superseded by USB, it is still commonly used for applications of industrial automation systems, scientific analysis and POS systems.

## Shuttle Gaming Mini-PC R8 1710P - Specifications

<p><i>R8-Chassis</i></p>	<p>Black aluminium chassis                  Front panel: brushed aluminium                  Front doors for USB ports                  Kensington Security Slot at the back panel (also called K-Slot or Kensington lock) as a part of an anti-theft system                  Dimensions: 33.2 x 21,6 x 19.8 cm (LWH), 14.2 litre                  Weight: 3.5 kg net / 5.0 kg gross</p>
<p><i>Mainboard and Chipset</i></p>	<p>Shuttle "FZ170", Shuttle Form Factor proprietary design for XPC cube R8 1710P                  Dimensions: 270 x 195 mm                  Chipset: Intel® Z170 Chipset (Intel® GL82Z170 PCH, code name "Sunrise Point")                  Platform Controller Hub (PCH) as Single-Chip-Solution                  Solid Capacitors for sensitive areas provide excellent heat resistance for enhanced system durability</p>
<p><i>BIOS</i></p>	<p>AMI BIOS, SPI Interface, 32 MBit Flash-ROM with SPI interface                  Supports PnP, ACPI 3.0, Hardware Monitoring                  Supports Unified Extensible Firmware Interface (UEFI)                  Supports boot up from external USB flash memory</p>
<p><i>Power Supply</i></p>	<p>Built in 500 Watt mini switching power supply (PC63J)                  AC input voltage: supports 100~240V, 50~60 Hz                  80 PLUS Silver [9] compliant: the PSU provides at least 85/89/85% of efficiency at 20/50/100% of load.                  Active PFC circuit (Power Factor Correction)                  ATX main power connectors: 2x10 and 2x2 pins                  Graphics power connector: 6 pins and 8 pins                  Other connectors: 4x SATA, 2x Molex, 1x Floppy</p>
<p><i>Operation System</i></p>	<p>Windows 10 Home 64 bit</p>
<p><i>Processor</i></p>	<p>Intel Core i7-6700 processor                  Socket LGA 1151, Codename "Skylake", 14nm process technology                  Clock frequency: 3.4 GHz, Turbo clock: 4.0 GHz                  CPU cores: 4, Threads: 8 (Hyper-Threading)                  Intel Smart Cache: 8 MB                  Power consumption (TDP): 65W                  Supports Intel Virtualization Technology VT-x/VT-d</p>
<p><i>Processor Cooling</i></p>	<p>Shuttle I.C.E. (Integrated Cooling Engine)                  Advanced I.C.E. Heatpipe technology with 3 pipes                  Temperature controlled 92 mm fan                  SilentX cooling and noise reduction technology with Active Airflow</p>

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<p><i>Memory</i></p>	<p>16 GB DDR4-2133 memory modules with 1.2V 4 x 288-pin slots support 2+2 Dual Channel mode with max. 16 GB per DIMM, maximum total size: 64 GB</p>
<p><i>Integrated graphics</i></p>	<p>Intel HD Graphics 530 Supports DirectX 12, OGL 5.x, OCL 2.x The integrated graphics features three digital video outputs: - HDMI v1.4 (supports 1080p/60 and 2160p/30) - 2x DisplayPort v1.2 (support 1080p/60 and 2160p/60) The integrated graphics function can be combined with the discrete PCI-Express graphics card.</p>
<p><i>PCI-Express- Graphics Card</i></p>	<p>NVIDIA GeForce™ GTX 1080 Dual-Slot PCI-Express v3.0 x16 graphics card Graphics memory: 8 GB 256-bit GDDR5X VRAM (320GB/s) Powered by NVIDIA Pascal™ architecture (16 nm FinFET) GPU/Turbo clock: 1607/1633 MHz, Shader cores: 2560 DirectX 12, Direct3D 12_1, OpenGL 4.5, CUDA, OpenCL HDMI 2.0b, DisplayPort 1.4, DualLink DVI Maximum digital resolution: 4K@120Hz, 5K@60Hz Note: Manufacturer and connectors of built-in graphics card may vary.</p>
<p><i>Mass Storage</i></p>	<p>1) Boot drive: 256 GB SSD, M.2-2280 form factor, SATA 6G interface 2) 2 TB hard disk, 3.5" form factor, SATA 6G interface This system can be upgraded with three additional 3.5" hard disks.</p>
<p><i>7.1 Channel Audio</i></p>	<p>7.1 channel High Definition Audio with Realtek ALC892 codec Analog: line-out (7.1-ch), line-in, microphone, AUX input (onboard) Digital Audio via HDMI and DisplayPort outputs</p>
<p><i>Gigabit-LAN Controller</i></p>	<p>Intel i219LM PHY connected to the MAC of the processor Supports 10 / 100 / 1.000 MBit/s operation Supports WAKE ON LAN (WOL) Supports network boot by Preboot eXecution Environment (PXE)</p>
<p><i>Front panel Connectors and Buttons</i></p>	<p>Microphone input, Headphone output (line-out) 2x USB 3.0 Power button Power indicator (blue LED), Hard disk drive indicator (yellow LED)</p>
<p><i>Back Panel Connectors</i></p>	<p>HDMI v1.4 and 2x DisplayPort v1.2 [4] 6x USB 3.0, GigaBit LAN (RJ45) External Serial ATA (eSATA 6 Gb/s) 7.1-ch Audio line-out (2x rear/front, bass/center, surround/back) Audio Line-in Clear CMOS button Optional: serial port RS-232 (Accessory: H-RS232) 3x perforation for optional WLAN antennas</p>

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<p><i>Other Connectors (onboard)</i></p>	<p>2x USB 2.0 (2x 5-pin)                  1x RS232 (2x 5-pin) for optional accessory H-RS232                  2x fan connectors (4pin), one connector is occupied                  Low Pin Count header (LPC, 2x 10-pin, 2 mm pitch size)                  Occupied front connectors: USB 3.0, USB 2.0, audio, power buttons, LEDs</p>
<p><i>Optional Accessories</i></p>	<p>H-RS232: Backpanel COM port adapter for RS232 serial interface                  WLN-C: Wireless LAN 802.11n module with external antennas                  Several graphics adaptors</p>
<p><i>Environmental Spec</i></p>	<p>Operating temperature range: 0~40°C                  Relative humidity range: 10~90% (non-condensing)</p>
<p><i>Certifications Compliance</i></p>	<p>EMI: FCC, CE, BSMI, C-Tick                  Safety: ETL, CB, 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)</p>
<p><i>Warranty</i></p>	<p>2 years of Pick-up-and-Return Service</p>

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