

All-in-One PC for POS, POI, Kiosk Applications

The Shuttle XPC all-in-one X50V5 is the latest addition to the X50 Series and is powered by Intel's Celeron 3855U processor. The all-new 14nm Skylake architecture helps improve on power consumption and computing power. Thanks to its passive cooling, the system is virtually noiseless, maintenance-free and is approved for 24/7 nonstop operation. Particularly suitable for vertical applications is the arrangement of connectors at the bottom and the IP54 compliant front panel which is dust-protected and protected from splashing of water.

Feature Highlights

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| All-in-One Design | <ul style="list-style-type: none"> • XPC all-in-one with touchscreen • Small: 391 x 327 x 42 mm (WHL) • Stand can also be used as a handle • 100mm VESA mount capable • IP54 compliant front panel • Approved for 24/7 nonstop operation |
| Display & Graphics | <ul style="list-style-type: none"> • 39.6cm (15.6") resistive touchscreen with a 1366x768 resolution • Integrated Intel HD graphics • HDMI 1.4 + D-Sub/VGA Video output |
| CPU & Cooling | <ul style="list-style-type: none"> • Intel Celeron 3855U, 1.6 GHz, 15W TDP • Fanless heatpipe cooling system |
| Storage (not included) | <ul style="list-style-type: none"> • Supports max. 16 GB DDR3L-1600 SO-DIMM • Supports one 2.5" SATA hard disk / SSD • Supports one M.2-2280 SSD (SATA / PCIe) • Supports internal USB stick (USB 2.0, type A) |
| Operating System | <ul style="list-style-type: none"> • Operating system is not included • Supports Windows 7 / 8.1 / 10, Linux 64 Bit |
| Connectivity | <ul style="list-style-type: none"> • HDMI 1.4, D-Sub/VGA • 2x USB 3.0, 4x USB 2.0, internal: 2x USB 2.0 • Microphone input, headphones output • Gigabit LAN, Wireless LAN 802.11ac, BT 4.0 • Optional: 4x RS232, 1x LPT, 1x RJ11 |
| Built-in | <ul style="list-style-type: none"> • SD card reader • 2.0 Megapixel HD webcam • 2x 2W speakers • Electret Condenser Microphone |
| Power Supply | <ul style="list-style-type: none"> • External fanless power adapter, 65W |
| Warranty | <ul style="list-style-type: none"> • 24 months Bring-in Service |

XPC all-in-one Barebone **X50V5 White**



Images for illustration purposes only.



15.6"
Touchscreen



Nonstop
operating



Fanless
cooling



Front
protected:
dust & water



Up to four
COM ports



Windows 7/8/10
& Linux 64 Bit



Wireless and
Wired Network



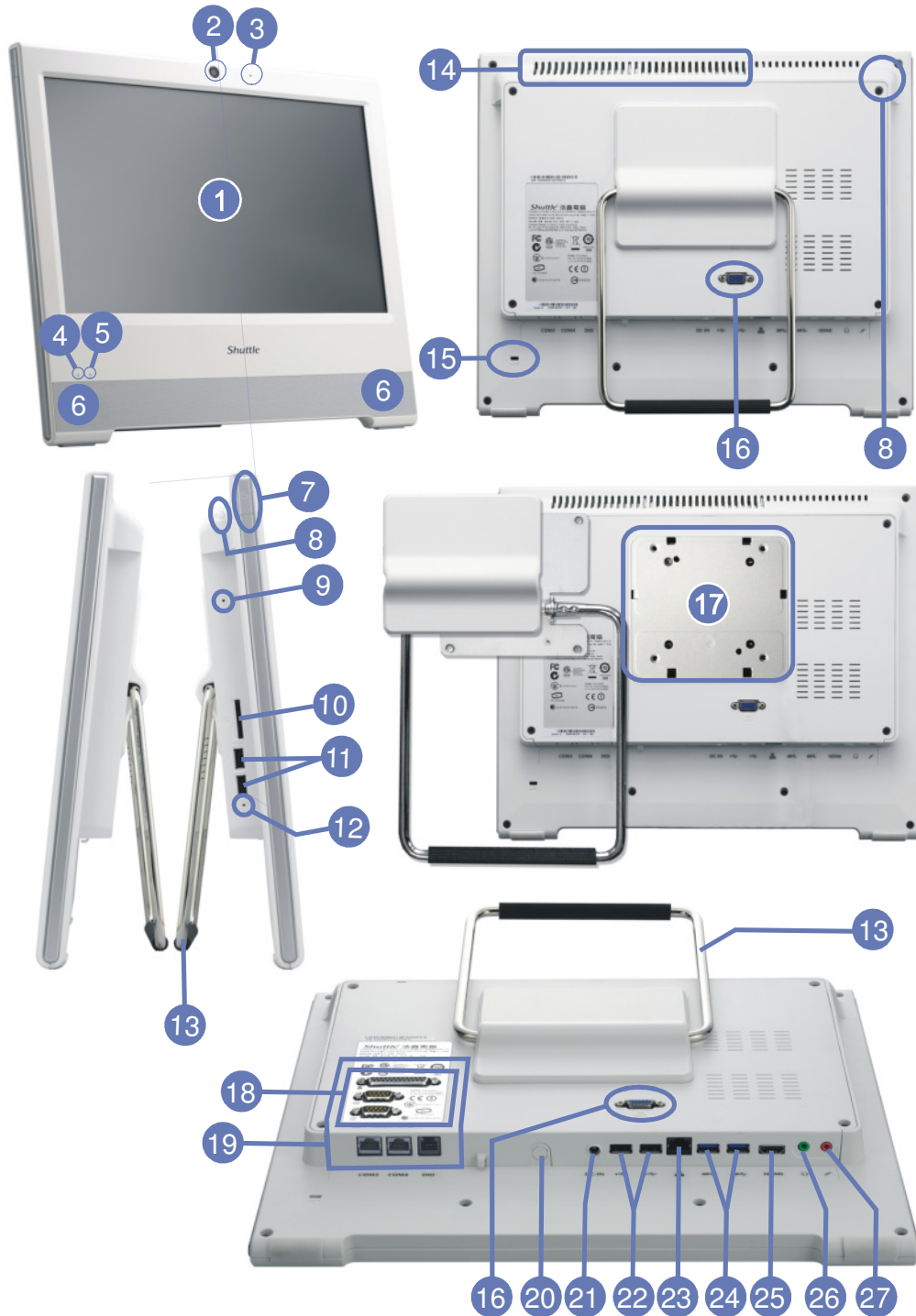
2x USB 3.0
4x USB 2.0



Watchdog
Hardware

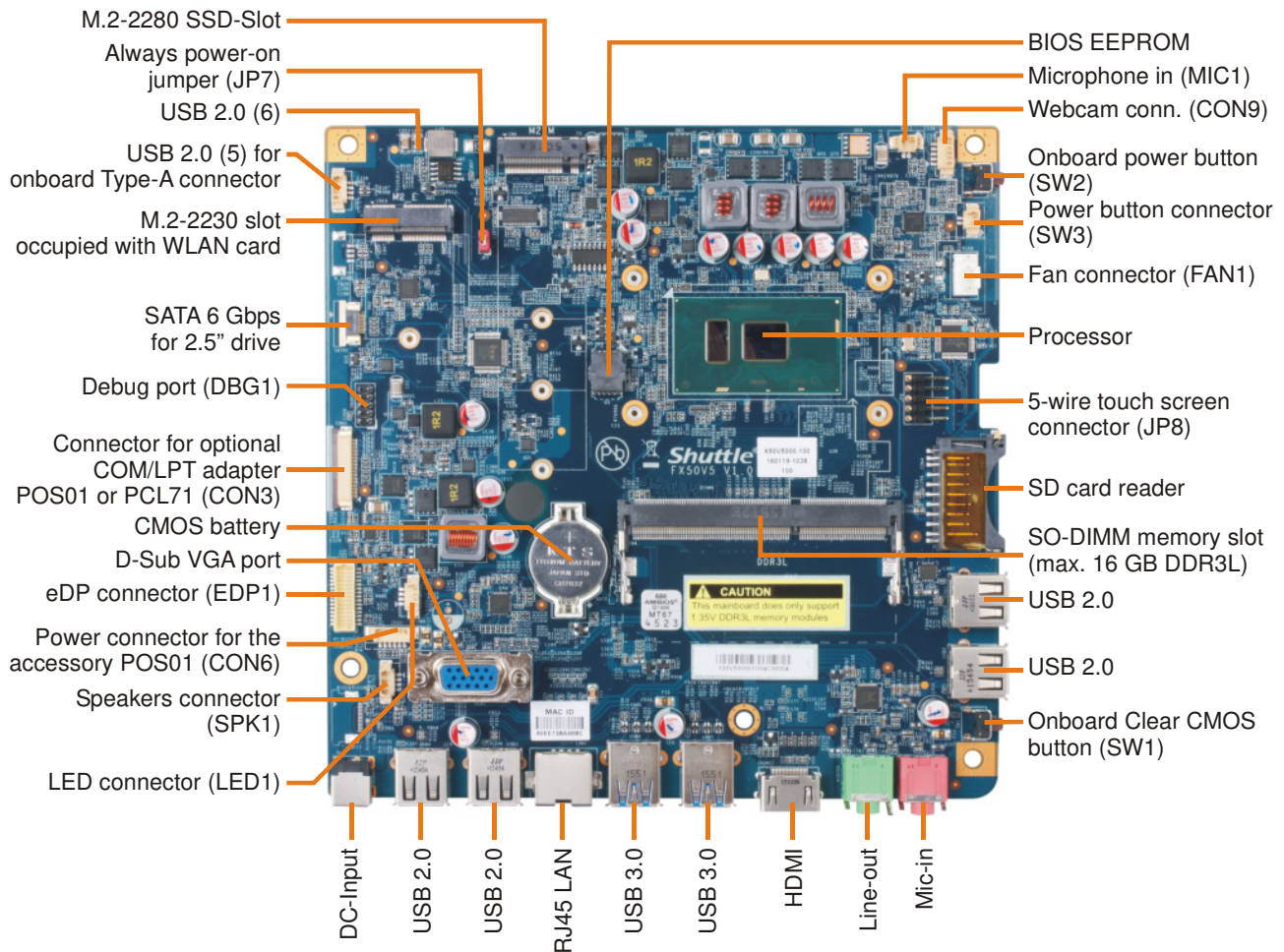


Shuttle XPC all-in-one X50V5 – Overview

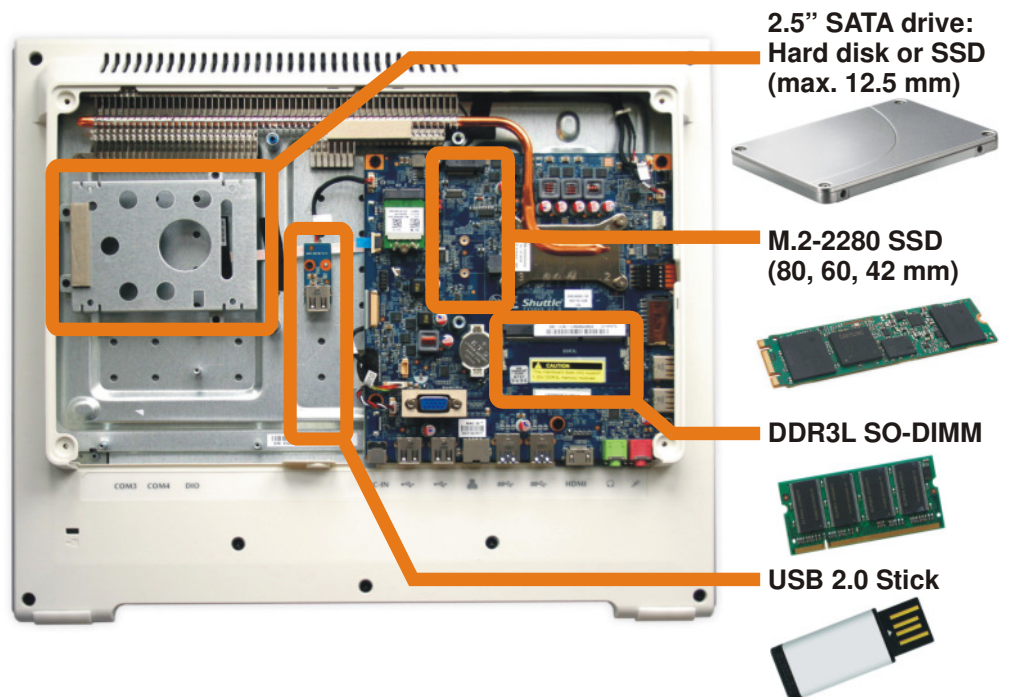


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|---------------------------|-----------------------------------|--------------------------------------|
| 1 Touchscreen LCD display | 10 SD Card Reader | 19 Opt: 4xCOM, LPT, RJ11 (POS01) |
| 2 Webcam | 11 2x USB 2.0 | 20 Perforation for TV antenna (9 mm) |
| 3 Microphone | 12 Clear CMOS Button | 21 DC-input for Power Adapter |
| 4 Power on LED | 13 Stand (handle) | 22 2x USB 2.0 |
| 5 Hard disk LED | 14 Cooling Vents | 23 RJ45 Gigabit LAN |
| 6 Stereo speakers | 15 Kensington lock | 24 2x USB 3.0 |
| 7 Power-on button | 16 D-Sub/VGA Video Output | 25 HDMI Video Output |
| 8 Stylus with holder | 17 Vesa Mount 100x100mm | 26 Audio Line-out (headphones) |
| 9 Power Button | 18 Optional: 2xCOM, 1xLTP (PCL71) | 27 Microphone Input |

Shuttle XPC all-in-one X50V5 – Mainboard



Installable Components:



Shuttle XPC all-in-one X50V5 – Special Features



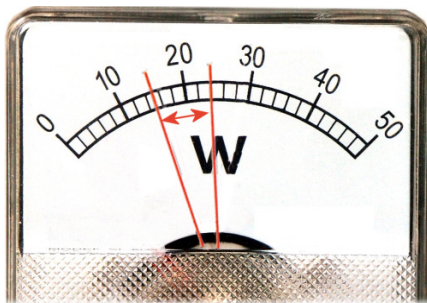
All applications at your fingertips

The innovative touchscreen technology delivers the simplest operation possible and makes the screen the centre of action. Its high-quality design lets you control the whole range of multimedia - music, movies, video playback and web browsers start by just touching the screen.



All-in-One PC

Your complete PC system with many components already built in comes in just one single device! This includes the webcam, microphone, mainboard, display, touchscreen input interface, wireless LAN module and speakers. It helps you save space, looks simply stylish and reduces cable clutter.



Highly energy-saving

The Shuttle XPC all-in-one X50V5 barely consumes, depending on system load, about 14.7 ~ 24.1 Watt. Running the device*) 5 days a week for eight hours a day, the annual consumption would amount to approx. 31 ~ 50 kWh which would mean just 8~13 Euros on the power bill (25 Euro ct/kWh) - way less than a conventional desktop PC.

*) Based on a configuration with 4 GB of memory, 60 GB SSD and Windows 7 Professional 64-bit.

24/7 nonstop operation

The Shuttle XPC all-in-one X50V5 is officially approved for 24/7 permanent operation. Thanks to its low power consumption and completely passive cooling, this PC runs highly reliable making it perfectly suitable for digital signage and POI/POS applications.



Conditions for permanent use:

- Ambient temperature while under load: 5-35°C
- Air humidity while under load: 10-80% (not condensing)
- Free circulation of air amongst the PC must be guaranteed
- Ventilation holes must be kept clear
- If a hard disk is installed, this must also be approved for permanent operation by its manufacturer.



Fanless and quiet

The Shuttle XPC all-in-one X50V5 uses a passive thermal module with heatpipes to lead heat out of the case quickly and evenly. The unique fanless design makes it perfect to be used in noise-sensitive environments such as living rooms, hospitals, libraries etc. As an additional benefit, fanless cases rarely gather dust on the inside and stay cleaner than others. So it's not only quiet and low in energy use, but also virtually maintenance-free.



Connects to two external Full HD displays

The Shuttle XPC all-in-one X50V5 features two video outputs: One analog D-Sub/VGA connector and one HDMI connector. Two external Full HD displays can be connected in extended mode. Now add the built-in display of the X50V5 and there are three displays showing different content.



Protection Class IP54

The front panel of the Shuttle XPC all-in-one X50V5 is dust-protected and protected from splashing of water according to IPprotection class 54. Consequently, this All-in-One PC can be used for those indoor applications, where the touchscreen may be exposed to humidity and occasional splashing of water. This is particularly welcome in restaurants, laboratories, production or other places.



Optimised Cable Management

Most of the connectors are located at the back panel facing down. This leads to an effective cable management making for a clean, tidy appearance on the desk.

On the left side sit those connectors which need to be accessed from the front side: card reader and two USB ports.



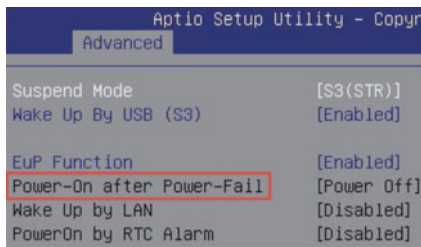
Supports high-performance M.2 SSD sticks

The M.2 slot (type 2280) is fully-equipped with 4X PCI-Express v3.0 lanes and SATA 3.0 interfaces. Modern M.2 SSDs with PCI Express interface (PCIe) and NVMe access provide a significant higher bandwidth compared to the usual SATA standard. Type 2280 means it supports the usual M.2 cards with a width of 22mm and a length of 80mm, but also 2242 and 2260 standard cards are supported.



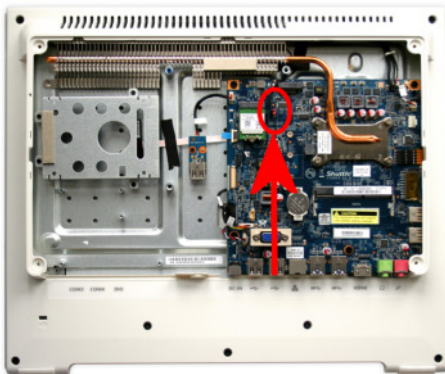
Optional COM, LPT, DIO ports

Shuttle offers two optional accessories in order to add legacy ports to the Shuttle XPC all-in-one X50V5. While the Shuttle Accessory **PCL71** adds two serial COM ports and one parallel LPT port, the **POS01** adds two more COM ports (with RJ45 connector) and one Digital I/O 12V/24V (RJ11) for a cash drawer for example. COM ports are still commonly used for applications such as industrial automation systems, scientific analysis, POS systems and other industrial applications.



Power on after Power fail

The BIOS setup provides a "Power-On after Power Fail" function that can be found under "Power Management Configuration" where the PC's behaviour after power failure can be determined.



Always Power-on Jumper

The Shuttle XPC all-in-one X50V5 also comes with a hardware-based solution. By removing Jumper 7 (see picture), the system will start unconditionally once power is applied.



Hidden Power Button

The power button can be deactivated to prevent unauthorized use. Still it can be used with a straightened paper clip as shown on the left.



Internal USB Slot and perforation for external antenna

The Shuttle XPC all-in-one X50V5 features an internal USB 2.0 connector (type A) for an USB stick of max. 9 cm in length and a 9 mm perforation for an optional antenna. The internal USB connector for expansion sticks (such as flash memory, DVB-T, SAT, 3G) or other USB devices like a radio module for home automation or RFID. Furthermore, there is a free USB header available on the mainboard.



VESA mount

The stand on the rear can easily be removed to unveil four VESA mounting screw holes that can be used for mounting arms and other mounting devices from a variety of manufacturers.



Stylus for the touchscreen

The Shuttle XPC all-in-one X50V5 is equipped with a 5-wire resistive touchscreen for simple operation by finger (even with gloves) or stylus. The stylus comes supplied as standard and sits in an opening located at the top of the chassis. Using the stylus results in a smoother and more precise input than just using a finger.



Kensington Lock

This is a small, metal-reinforced hole as part of an anti-theft system. (Lock and cable not included.)



Carrying handle

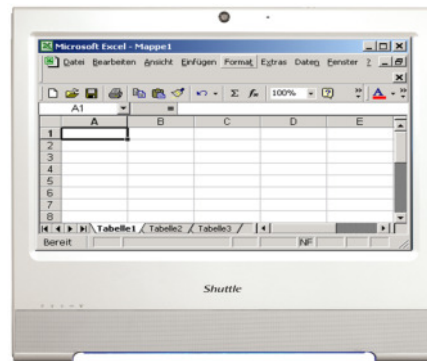
The practical stand can be pulled upwards to also serve as a handle making the Shuttle XPC all-in-one X50V5 easy to carry. Clever!

Shuttle XPC all-in-one X50V5 – Range of Applications



Digital Signage

Visual advertising,
entertainment, displaying
information in public areas



Office Work

Word and spreadsheet
processing, email, internet



P.O.S.

Point of sales



Control

Surveillance,
Home Automation,
Control device



Communication

Email, VoIP, Messenger,
Blog, Video Conferencing



Instore Radio

Playing advertising
and music

Shuttle XPC all-in-one X50V5 – Specifications

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|-------------------------------|---|
| <i>Fanless and silent</i> | <p>Passive heatpipe cooling, no fan noise at all</p> <p>Perfect to be used in noise-sensitive environments</p> <p>Fanless, dust-free and thus virtually maintenance-free</p> |
| <i>24/7 nonstop operation</i> | <p>This device is approved for 24/7 permanent operation.</p> <p>Requirements:</p> <ul style="list-style-type: none"> - Free circulation of air amongst the PC must be guaranteed. - Ventilation holes must be kept clear. - If a hard disk is installed, this must also be approved for permanent operation by its manufacturer. |
| <i>IP54 protected</i> | <p>The front panel is dust-protected and protected from splashing of water according to protection class IP54.</p> |
| <i>Low power consumption</i> | <p>Power consumption: ca. 14.7 W (idle mode) and ca. 24.1 W (full load)</p> <p>When switched off: 0.13 W (S5 mode with EUP=on)</p> <p>(Configuration: 4 GB RAM, 60 GB SSD and Windows 7)</p> |
| <i>Chassis</i> | <p>Colour: white</p> <p>Dimensions: 391 x 327 x 42 mm (W x H x D)</p> <p>100mm VESA mount capable</p> <p>Mounting hole for Kensington lock</p> <p>Weight: 3.6 kg net, 4.8 kg gross</p> |
| <i>Operation System</i> | <p>This system comes without operating system.</p> <p>It is compatible with:</p> <ul style="list-style-type: none"> - Windows 7, 8.1, 10 with 64-Bit - Linux 64-Bit |
| <i>Touchscreen</i> | <p>Touchscreen function supports fingertip input</p> <p>Resistive 5-wire single-touch technology</p> <p>Stylus for the touchscreen included</p> |
| <i>15.6" Display</i> | <p>39.6cm / 15.6" LCD display, ratio: 16:9 widescreen panel</p> <p>Resolution: 1366x768 = 1.05 Megapixel</p> <p>Backlight unit: High power LED, Luminance: 220 cd/sqm</p> <p>Glass thickness: 0.5 mm</p> |

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| Processor | <p>Model: Intel Celeron 3855U (ULV)</p> <p>System-on-a-chip architecture (SoC): no chipset required</p> <p>BGA1356 package - directly soldered onto the mainboard</p> <p>Code name: Skylake-U (6th Generation Intel Core)</p> <p>Cores / Threads: 2 / 2</p> <p>Clock rate: 1.6 GHz</p> <p>L1/L2/L3 Cache: 128 kB / 512 kB / 2048 kB</p> <p>Memory controller: DDR3L-1600 Dual Channel (1.35V)</p> <p>TDP wattage: 15 W maximum</p> <p>Manufacturing process: 14 nm</p> <p>Maximum Tjunction Temperature: 100°C</p> <p>Supports 64-bit, VT-x (EPT), VT-d, Enhanced SpeedStep, NX bit, AES-NI, SSE 4.1/4.2</p> <p>Integrated graphics engine</p> |
| Integrated Graphics | <p>Intel HD graphics 510 (Intel HD Gen. 9)</p> <p>Two digital audio/video ports support two independent screens:</p> <p>1) HDMI 1.4 supports 1920x1080 @ 60Hz or 4096x2304 @ 24Hz</p> <p>2) VGA / D-Sub analog video</p> <p>GPU clock rate: 300~900 MHz</p> <p>Execution Units (EU): 12</p> <p>Supports DirectX 12, OpenGL 4.4</p> <p>Supports full h264, h265 8/10 bit, VP8/9, VC-1, AVC hardware decoding</p> <p>Supports Quick Sync Video and Clear Video HD technology</p> <p>Supports HD video plus multi-channel digital audio via a single cable</p> <p>Dynamic, shared memory: up to 1.7 GB</p> |
| Up to three displays | <p>Two video outputs: HDMI v1.4 and D-Sub (VGA)</p> <p>Supports triple display: the integrated display plus two external displays</p> <p>1) Clone mode: all displays show the same content at 1366x768 resolution</p> <p>2) Extended mode: all displays show different content, while the external displays run at Full HD resolution (1920x1080) maximum.</p> |
| BIOS | <p>AMI BIOS in 8 MByte EEPROM with SPI interface</p> <p>Supports Power fail resume / always on</p> <p>Supports Wake-on-LAN (WOL) from S3, S3, S5 ACPI states</p> <p>Supports hardware monitoring and watch dog functionality</p> |
| Memory | <p>1x SO-DIMM slot with 204 pins</p> <p>Supports one module DDR3L-1600 (PC3-12800) at 1.35V</p> <p>Maximum capacity: 16 GB</p> <p><u>Caution:</u> This mainboard does only support 1.35V DDR3L memory modules.</p> <p>DDR3L has a lower operation voltage compared to DDR3</p> |
| Storage | <p>Supports one SATA hard disk or one SATA SSD drive in 6.35cm/2.5" format</p> <p>The SATA 3.0 interface supports up to 600MB/s data transfer speed (6 Gbit/s).</p> <p>Supports one drive with up to 12.5 mm in height</p> |

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| <i>M.2-2280 Slot</i> | <p>The M.2 2280 BM slot provides the following interfaces:</p> <ul style="list-style-type: none"> - PCI-Express v3.0 X4 supports NVMe SSDs - SATA v3.0 (max. 6 Gbps) <p>It supports M.2 cards with a width of 22 mm and a length of 42, 60 or 80 mm (type 2242, 2260, 2280). Supports M.2 SSDs with SATA or PCIe interface.</p> |
| <i>Card Reader</i> | Integrated card reader supports SD, SDHC and SDXC memory flash cards |
| <i>Webcam</i> | Integrated 2.0 Megapixel (1600x1200) HD webcam |
| <i>Microphone Speakers</i> | Front panel with integrated Electret Condenser Microphone and 2x 2W speakers |
| <i>Audio</i> | <p>Realtek ALC269 Audio Codec</p> <p>Two analog audio connectors (3.5mm):</p> <p>1) Line-out (head phones) 2) Microphone input</p> <p>Digital Audio is supported via HDMI.</p> |
| <i>Wired Network</i> | <p>Intel i219LM PHY connected to the MAC of the processor</p> <p>Supports 10 / 100 / 1.000 MBit/s operation</p> <p>Supports WAKE ON LAN (WOL)</p> <p>Supports network boot by Preboot eXecution Environment (PXE)</p> |
| <i>Wireless Network</i> | <p>WLAN expansion card (M.2- 2230-AE) with two internal antennas</p> <p>Chip: Realtek RTL8821AE</p> <p>Supports Wireless LAN IEEE 802.11b/g/n/ac 1T1R, 2,4 GHz or 5 GHz</p> <p>Max. speed: 150 Mbps (2.4 GHz) or 433 Mbps (5 GHz)</p> <p>Supports Bluetooth 4.0</p> |
| <i>Front LEDs</i> | <p>Power LED (blue)</p> <p>Hard disk LED (orange)</p> |
| <i>Connectors left side</i> | <p>Power button</p> <p>2x USB 2.0</p> <p>SD card reader</p> <p>Hole with power button</p> <p>Hole with Clear CMOS button</p> |
| <i>Connectors bottom side</i> | <p>HDMI 1.4 (supports digital video and digital audio)</p> <p>2x USB 3.0</p> <p>2x USB 2.0</p> <p>Gigabit Network (LAN, RJ45)</p> <p>Audio Line-out /head phone (3.5 mm jack socket)</p> <p>Microphone input (3.5 mm jack socket)</p> <p>DC input for external power adapter (5.5 / 2.5 mm)</p> <p>Perforation for optional TV/3G antenna (diameter: 9 mm)</p> <p>Optional: 2x COM/serial (RJ45), DIO (RJ11) for cash drawer (accessory POS01)</p> |

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| Connectors rear side | VGA connector (D-Sub 15 pol., analog video) Optional: 2x COM/serial (D-Sub), 1x LPT/parallel (accessory: PCL71 or POS01) |
| Connectors onboard | Serial ATA (6 Gbps) Serial ATA power connector 4x USB 2.0 header (three occupied, one free) Fan connector (4-pin) eDP connector (Embedded DisplayPort) - occupied by the display Connector for optional COM/LPT adapter POS01 or PCL71 |
| Power Adapter | External 65 W power adapter (fanless) Input: 100~240 V AC, 50/60 Hz, max. 1.6 A Output: 19 V DC, max. 3.42 A, max. 65 W DC Connector: 5.5 / 2.5 mm (outer/inner diameter) Note: The X50V5 also supports a 60W power adapter with 12V DC output voltage |
| Included Accessories | Quick Guide Driver DVD External Power Adapter (65W / 19V) with Power cord Serial ATA cable for the 2.5" drive Screws |
| Optional Accessories | <u>PCL71</u> : COM / LPT adapter: - 1x Parallel (25p D-Sub) - 2x Serial RS232 (9p D-Sub) supports 0 / 5 / 12V <u>POS01</u> : COM / LPT adapter: - 1x Parallel (25p D-Sub) - 2x Serial RS232 (9p D-Sub) supports 0 / 5 / 12V - 2x Serial RS232 (8p RJ45) - 1x DIO/RJ11 connector for cash drawer supports 12 / 24V <u>PF55</u> : Carrying bag |
| Environmental criteria | Operating temperature: 0~40°C Humidity: 10~90% |
| Certification and Compliance | EMI: CE, FCC, BSMI Safety: CB, BSMI, ETL Other compliances: RoHS, ErP Lot6, Energy Star v5.0 |
| Conformity | 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-guidelines: - EMV-guideline 89/336/EEG electromagnetic tolerance - LVD-guideline 73/23/EEG use of electric devices within certain voltage limits |

Shuttle XPC all-in-one X50 Series

Product Comparison

| Model | X50V2 | X50V2 Plus | X50V3 | X50V3L | X50V4 | X50V5 /U3 /U5 /U7 |
|---------------------------------------|--|---|--|--|--|--|
| Lifetime | 01/2010 - 05/2011 | 04/2011 - Q1/2015 | Q2/2012 - Q4/2012 | Q1/2013 - Q1/2015 | from 01/2015 | from Q2/2016 |
| Processor | Atom D510 1,66 GHz TDP: 15W Cache: 1 MB | Atom D525 1,8 GHz TDP: 13W Cache: 1 MB | Atom D2700 [1] 2,13 GHz TDP: 10W Cache: 1 MB | Atom D2550 [1] 1,86 GHz TDP: 10W Cache: 1 MB | Celeron 2957U "Haswell-U" 1,4 GHz TDP: 15W Cache: 2 MB | Celeron or Core i3/i5/i7 [3] "Skylake-U" TDP: 15W |
| Operating System Compatibility | Win XP, Vista, 7 Linux (32 bit) | Win XP, Vista, 7 Linux (32 bit) | Windows 7 (32 bit) only | | Win 7, 8.1, 10, Linux (32&64 bit) | Win 7, 8.1, 10, Linux (64 bit only) |
| Integr. Graphics | GMA3150, DX9 | GMA3150, DX9 | GMA3650, DX9 [2] | | Intel HD, DX11.1 | HD510/520, DX12 |
| Cooling | Passive | Passive | Passive | | Passive | Passive |
| South Bridge | Intel NM10 2.5W | Intel NM10 2.5W | Intel NM10 2.5W | | - | - |
| LAN chip | JMicron JMC261 | JMicron JMC261 | Realtek RTL8411 | | Realtek 8111G | Intel i219LM |
| WLAN-Module | Mini-PCIe (Half) RTL8191SE WLAN-n | Mini-PCIe (Half) RTL8191SE or RTL 8188CE WLAN-n | Mini-PCIe (Half) RTL8188CE-VL WLAN-n | | Mini-PCIe (Half) RTL 8188EE WLAN-n | M.2-2230 RTL 8821AE WLAN-ac / BT4.0 |
| Memory | Max. 2x 2GB DDR2-800/667 SO-DIMMs 200p | Max. 2x 2GB DDR3-800/667 SO-DIMMs 204p | Max. 2x 2GB or 1x 4GB DDR3-1066/800 SO-DIMMs 204p | | Max. 1x 8GB DDR3L-1600 SO-DIMMs 204p | Max. 1x 16GB DDR3L-1600 SO-DIMMs 204p |
| Webcam | 1,3 MP | 2,0 MP | 2,0 MP | | 2,0 MP | 2,0 MP |
| SSD Mini Slot | - | - | - | | mSATA | M.2-2280 |
| Connectors | D-Sub VGA 4x USB 2.0 RJ45 (10/100) 2x Audio Card reader 2x RS232 1x LPT (parallel) | D-Sub VGA 4x USB 2.0 RJ45 (10/100) 2x Audio Card reader | HDMI 1.3 D-Sub VGA 4x USB 2.0 RJ45 (Gigabit) 2x Audio Card reader | | HDMI 1.4 D-Sub VGA 2x USB 3.0 4x USB 2.0 RJ45 (Gigabit) 2x Audio Card reader | HDMI 1.4 D-Sub VGA 2x USB 3.0 4x USB 2.0 RJ45 (Gigabit) 2x Audio Card reader |
| Internal USB | - | - | - | | Yes (type A) | Yes (type A) |
| COM/LPT port | Included | Optional (PCL68) | Optional (PCL69) | | Optional (PCL71/POS01) | Optional (PCL71/POS01) |
| Power consumption (Idle/Full) | 19 - 22 W | 19 - 22 W | 20 - 27 W | | 11 - 22.5 W | X50V5U3: 14.7 – ca. 30 W |
| Power Adapter | 40 W | 40 W | 40 W | | 65 W | 65 W |
| H/W control Webcam, WLAN | Control AP Software | Control AP Software | BIOS settings | | BIOS settings | BIOS settings |
| Chassis / Dimensions | Glossy 391 x 327 x 36 | Glossy 391 x 327 x 36 | Non-Glossy 391 x 327 x 42 | | Non-Glossy 391 x 327 x 42 | Non-Glossy 391 x 327 x 42 |
| Back cover with embossed Shuttle-logo | Yes | Yes | - | | - | - |
| Light bar at the bottom | Yes | Yes | - | | - | - |
| 24/7 approved | Yes | Yes | Yes | | Yes | Yes |
| IP54 compliant | - | - | - | | Yes (Front) | Yes (Front) |

[1] In 2012, Intel phased out the Atom D2700 processor and introduced the D2550 as its successor.

This new model comes with a slightly reduced clock rate, while any other features are maintained.

[2] Intel offers sophisticated graphics driver for the integrated Intel GMA3650 graphics for Windows 7 32-bit only.

[3] Available as standard SKU's are the models **X50V5** (with Celeron 3855U) and **X50V5U3** (with Core i3-6100U). The models **X50V5U5** (with Core i5-6200U) and **X50V5U7** (with Core i7-6500U) are available upon request only.