

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

The Shuttle XPC all-in-one X50V5 is the latest addition to the X50 Series. The model X50V5U3 is powered by Intel's Core i3-6100U 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

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 Core i3-6100U, 2.3 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 **X50V5U3 Black**



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

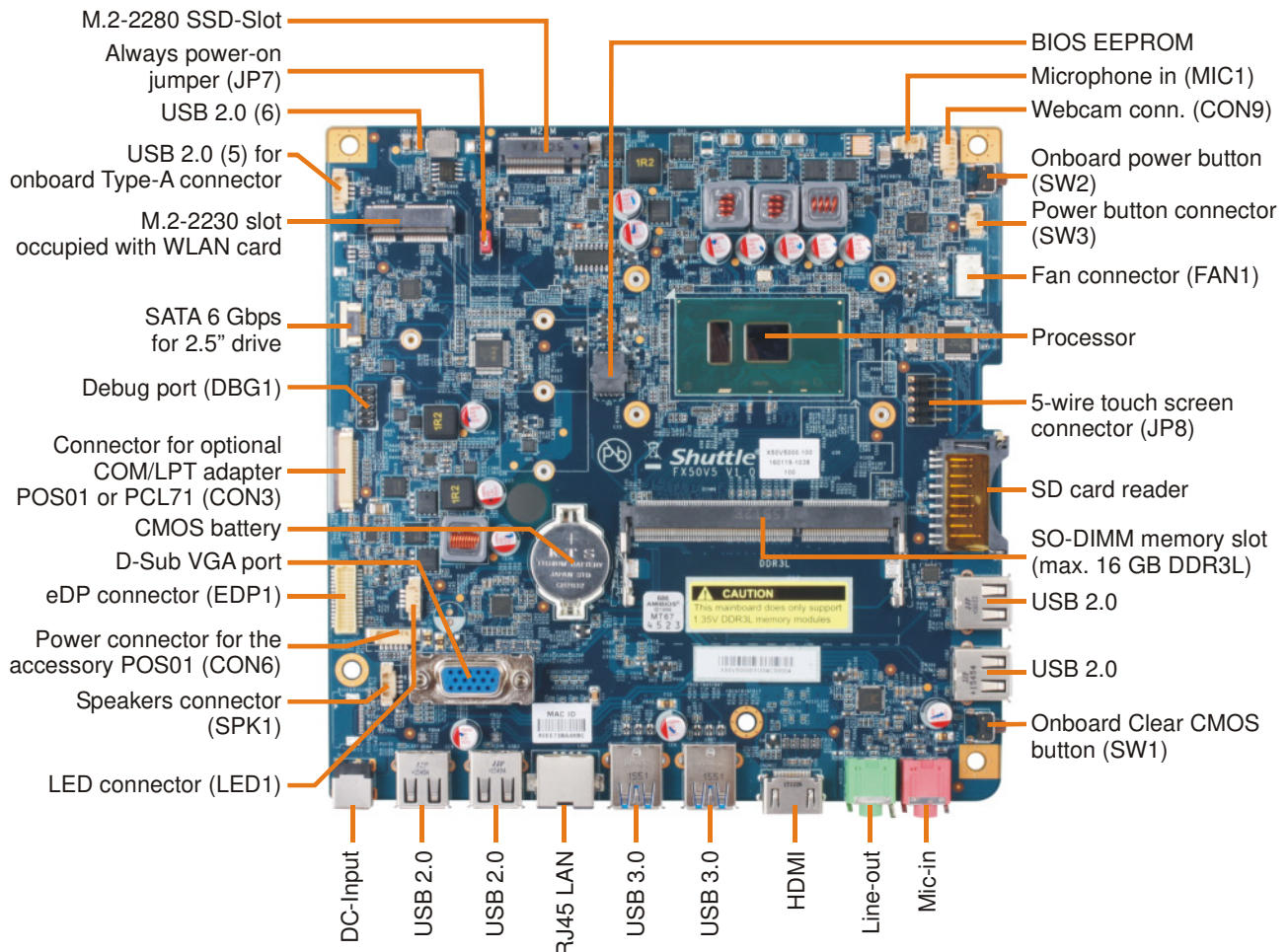


Shuttle XPC all-in-one X50V5U3 – Overview

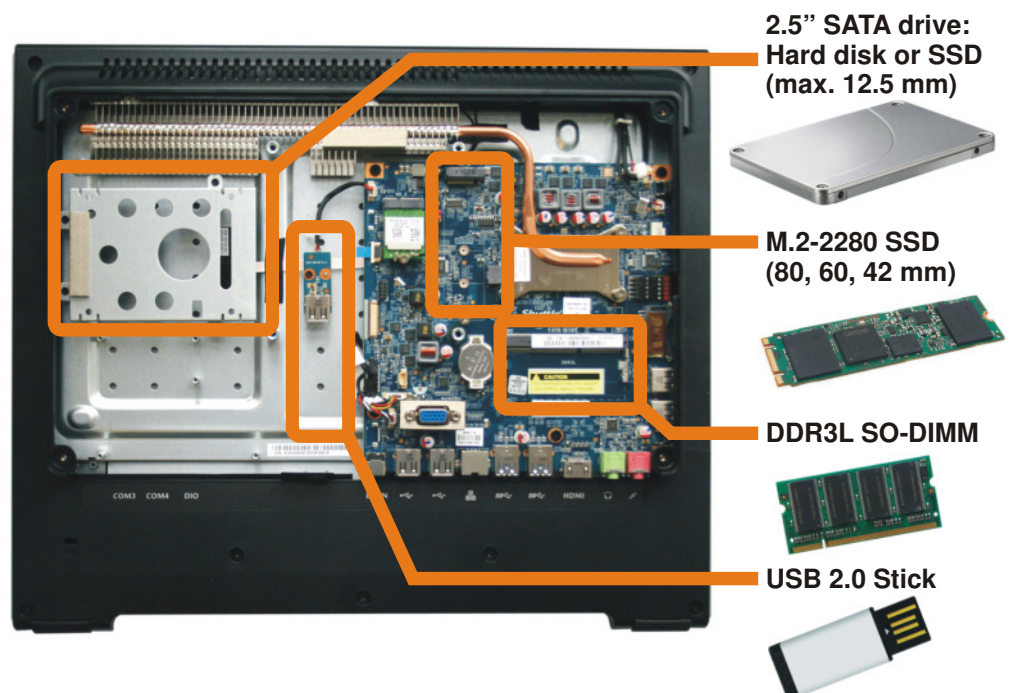


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|---------------------------|-----------------------------------|--------------------------------------|
| 1 Touchscreen LCD display | 10 SD Card Reader | 19 Opt: 4xCOM, LPT, RJ11 (POS01) |
| 2 Webcam | 11 2x USB 2.0 | 20 Perforation for TV antenna (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 X50V5U3 – Mainboard



Installable Components:



Shuttle XPC all-in-one X50V5U3 – Special Features



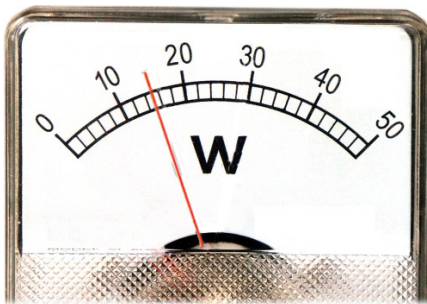
All applications at your fingertips

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 X50V5U3 barely consumes about 15 Watt in idle mode. Running the device*) 5 days a week for eight hours a day, the annual consumption would amount to approx. 31 kWh which would mean just 8 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 X50V5U3 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 X50V5U3 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 X50V5U3 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 X50V5U3 and there are three displays showing different content.



Protection Class IP54

The front panel of the Shuttle XPC all-in-one X50V5U3 is dust-protected and protected from splashing of water according to IP protection 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.



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.



Optimised Cable Management

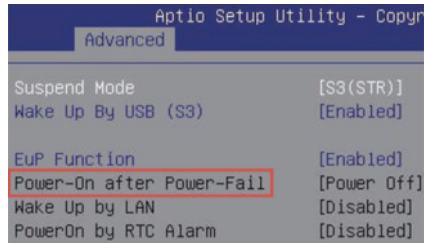
Most of the connectors are located at the back panel facing down. This leads to an effective cable management making for a clean, tidy appearance on the desk.

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



PCL71

POS01

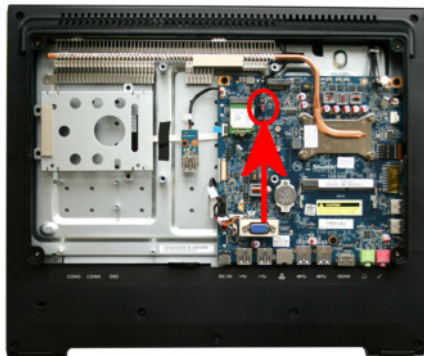


Optional COM, LPT, DIO ports

Shuttle offers two optional accessories in order to add legacy ports to the Shuttle XPC all-in-one X50V5U3. 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.

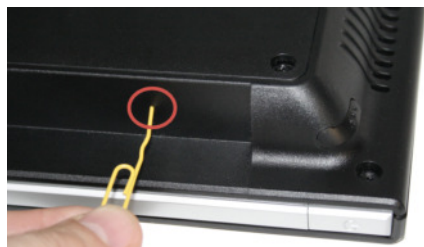
Power on after Power fail

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 X50V5U3 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 Shuttle XPC all-in-one X50V5U3 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 X50V5U3 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

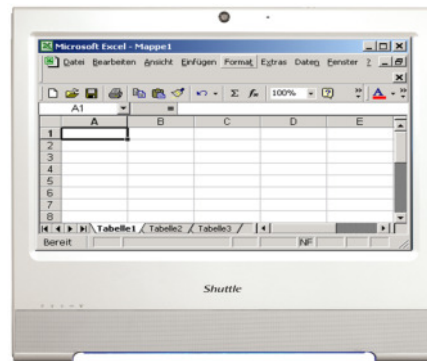
The practical stand can be pulled upwards to also serve as a handle making the Shuttle XPC all-in-one X50V5U3 easy to carry. Clever!

Shuttle XPC all-in-one X50V5U3 – 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 X50V5U3 – Specifications

<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. 15 W (idle mode)</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: black</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: 3.08 kg net, 4.24 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>

Processor	<p>Model: Intel Core i3-6100U (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 / 4</p> <p>Clock rate: 2.3 GHz</p> <p>L1/L2/L3 Cache: 128 kB / 512 kB / 3072 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, Hyper-Threading, 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 520 (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: 300~1000 MHz</p> <p>Execution Units (EU): 24</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>

<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>

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 X50V5U3 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.