

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

The Shuttle All-in-One PC Barebone X50V4 is the latest addition to the X50 Series and is powered by Intel's Celeron 2957U processor. The latest 22nm Haswell 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.

### Shuttle All-in-One PC Barebone X50V4 White



Images for illustration purposes only.

Feature Highlights	
<b>All-in-One Design</b>	<ul style="list-style-type: none"> <li>All-in-One PC Barebone with touchscreen</li> <li>Small: 391 x 327 x 42 mm (WHL)</li> <li>Stand can also be used as a handle</li> <li>100mm VESA mount capable</li> <li>IP54 dust and water resistant (front panel)</li> <li>Approved for 24/7 nonstop operation</li> </ul>
<b>Display &amp; Graphics</b>	<ul style="list-style-type: none"> <li>39.6cm (15.6") resistive touchscreen with 1366x768 resolution</li> <li>Integrated Intel HD graphics</li> <li>HDMI 1.4 + D-Sub/VGA Video output</li> </ul>
<b>CPU &amp; Cooling</b>	<ul style="list-style-type: none"> <li>Intel Celeron 2957U, 1.4 GHz, 15W TDP</li> <li>Fanless heatpipe cooling system</li> </ul>
<b>Storage (not included)</b>	<ul style="list-style-type: none"> <li>Supports max. 8 GB DDR3L-1600 SO-DIMM</li> <li>Supports one 2.5" SATA hard disk / SSD</li> <li>Supports mSATA SSD drive</li> </ul>
<b>Operating System</b>	<ul style="list-style-type: none"> <li>Operating system is not included</li> <li>Supports Windows 7 / 8.1 / 10 (Emb.), Linux</li> </ul>
<b>Connectivity</b>	<ul style="list-style-type: none"> <li>HDMI 1.4, D-Sub/VGA</li> <li>2x USB 3.0, 4x USB 2.0, internal: 2x USB 2.0</li> <li>Microphone input, head phone output</li> <li>Gigabit LAN, Wireless LAN 802.11n</li> <li>Optional: 4x RS232, 1x LPT, 1x RJ11</li> </ul>
<b>Built-in</b>	<ul style="list-style-type: none"> <li>SD card reader</li> <li>2.0 Megapixel HD webcam</li> <li>2x 2W speakers</li> <li>Electret Condenser Microphone</li> </ul>
<b>Power Supply</b>	<ul style="list-style-type: none"> <li>External fanless power adapter, 65W</li> </ul>
<b>Warranty</b>	<ul style="list-style-type: none"> <li>24 months Bring-in Service</li> </ul>



15.6" Touchscreen



Nonstop operating



Fanless cooling



Front protected: dust & water



Up to four COM ports



Windows 7/8/10 and Linux



Wireless and Wired Network



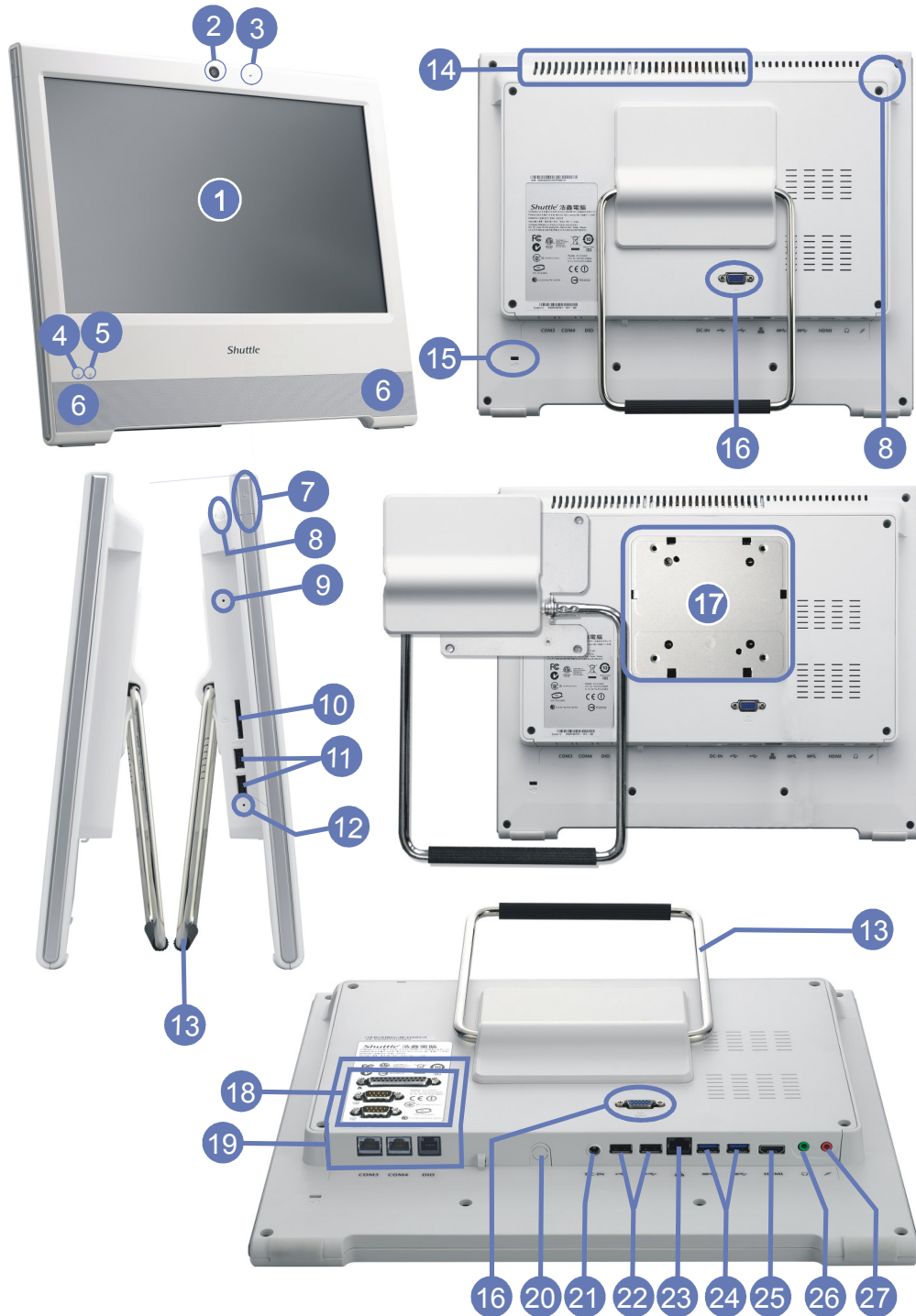
2x USB 3.0  
4x USB 2.0



Watchdog Hardware



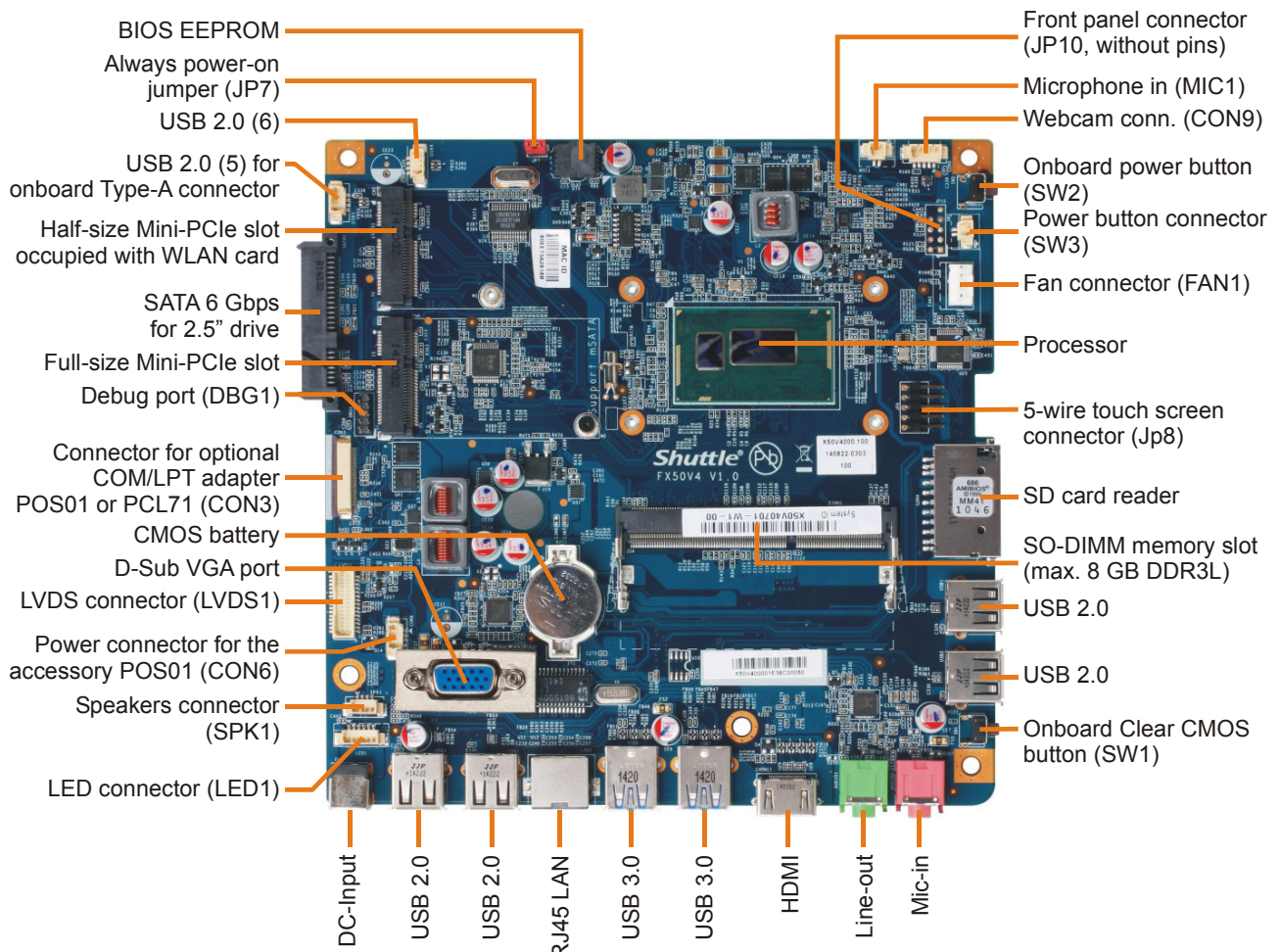
Shuttle All-in-One PC Barebone X50V4 – Overview



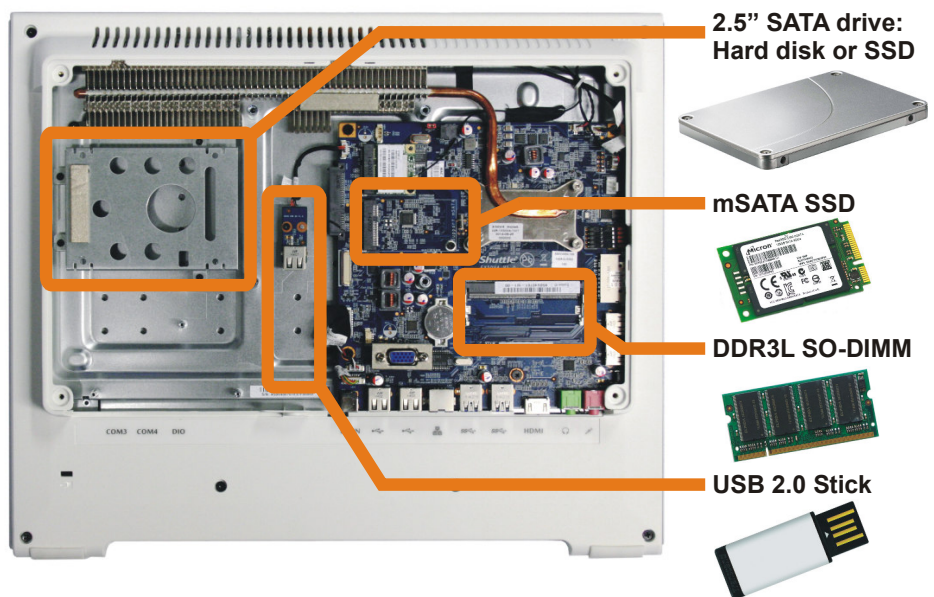
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|---|-------------------------|----|--------------------------------|----|-----------------------------------|
| 1 | Touchscreen LCD display | 10 | SD Card Reader                 | 19 | Opt: 4xCOM, LPT, RJ11 (POS01)     |
| 2 | Webcam                  | 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 (Head Phone)       |
| 9 | Power Button            | 18 | Optional: 2xCOM, 1xLTP (PCL71) | 27 | Microphone Input                  |

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Shuttle All-in-One PC Barebone X50V4 – Mainboard



Installable components:



## Shuttle All-in-One PC Barebone X50V4 – Special Features



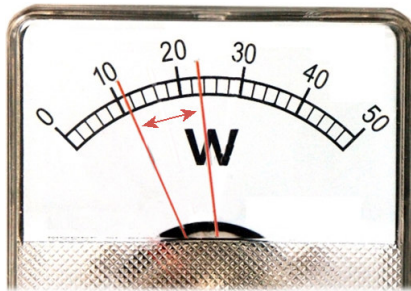
### All applications at your fingertips

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 All-in-One PC Barebone X50V4 barely consumes, depending on system load, about 11 ~ 22.5 Watts. Running the device\*) 5 days a week for eight hours a day, the annual consumption would amount to approx. 23~47 kWh which would mean just 6~12 Euros on the power bill (25 Euro ct/kWh) - way less than a conventional desktop PC draws.

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

### 24/7 nonstop operation

The Shuttle All-in-One PC Barebone X50V4 is officially approved for 24/7 permanent operation. Thanks to its low power consumption and completely passively 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 clear
- If a hard disk is installed, this must also be approved for permanent operation by its manufacturer.





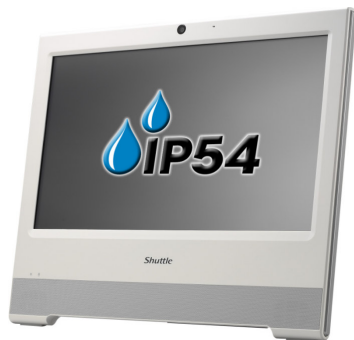
### Fanless and quiet

The Shuttle All-in-One PC Barebone X50V4 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 All-in-One PC Barebone X50V4 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 X50V4 and there are three displays showing different content.



### Protection Class IP54

The front panel of the Shuttle All-in-One PC Barebone X50V4 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.



### Optimised Cable Management

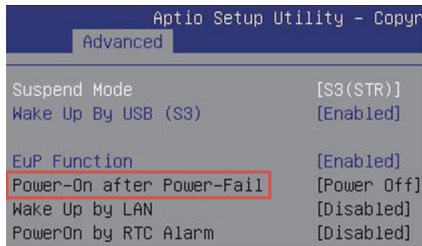
Most of the connectors are located at the back panel facing down. This leads to an effective cable management making for a clean, tidy appearance on the desk.

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



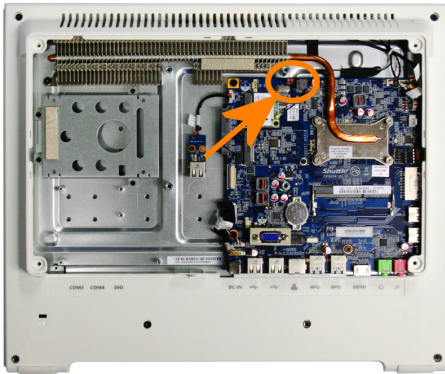
### Optional COM, LPT, DIO ports

Shuttle offers two optional accessories in order to add legacy ports to the Shuttle All-in-One PC Barebone X50V4. 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 All-in-One PC Barebone X50V4 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 usage. 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 All-in-One PC Barebone X50V4 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 All-in-One PC Barebone X50V4 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 the finger.



### Kensington Lock

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



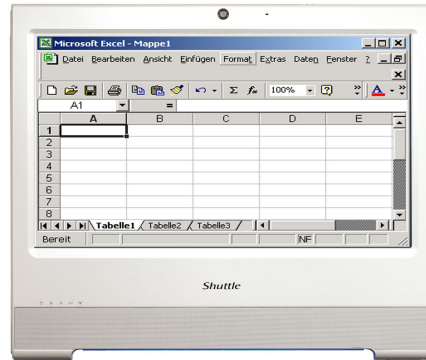
### Carrying handle

The practical stand can be pulled upwards to also serve as a handle making the Shuttle All-in-One PC Barebone X50V4 easy to carry. Clever!

Shuttle All-in-One PC Barebone X50V4 – Range of Applications



**Entertainment**  
 Music, Movies,  
 Photo gallery, TV\*  
 \*) TV tuner USB stick  
 required



**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



**Digital Signage**  
 Visual advertising,  
 entertainment, displaying  
 information in public areas

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## Shuttle All-in-One PC Barebone X50V4 – Specifications

<i>Fanless and silent</i>	<p>Passive heatpipe cooling, no fan noise at all                  Perfect to be used in noise-sensitive environments                  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.                  Requirements:                  - Free circulation of air amongst the PC must be guaranteed.                  - Ventilation holes must be clear.                  - If a hard disk is installed, this must also be approved for permanent operation by its manufacturer.</p>
<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. 11 W (idle mode) and ca. 22.5 W (full load)                  When switched off: 0.25W (S5 mode with EUP=on)                  (Configuration: 4 GB RAM, 60 GB SSD and Windows 7)</p>
<i>Chassis</i>	<p>Colour: white                  Dimensions: 391 x 327 x 42 mm (WxHxL)                  100mm VESA mount capable                  Mounting hole for Kensington lock                  Weight: 3.08 kg net, 4.24 kg gross</p>
<i>Operation System</i>	<p>This system comes without operating system. It is compatible with:                  - Windows 7 (including Embedded [1]), 32- and 64-bit                  - Windows 8 / 8.1 (including Embedded [1]), 32- and 64-bit                  - Windows 10, 32- and 64-bit                  - Linux, 32 and 64 Bit [2]</p>
<i>Touchscreen</i>	<p>Touchscreen function supports fingertip input                  Resistive 5-wire single-touch technology                  Including stylus for the touchscreen</p>
<i>15.6" Display</i>	<p>39.6cm / 15.6" LCD display, ratio: 16:9 widescreen panel                  Resolution: 1366x768 = 1.05 Megapixel                  Backlight unit: High power LED, Luminance: 220 cd/sqm                  Glass thickness: 0.5 mm</p>

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<p><i>Processor</i></p>	<p>Intel® Celeron® Processor 2957U (ultra low voltage)            SOC with integrated chipset including controller for memory and graphics            22 nm manufacturing process, FCBGA1168 package            4th Generation Intel® Core™ Processor (Codename "Haswell")            Dual Core (two threads),            Core frequency: 1.4 GHz            L1/L2/L3 Cache size: 128 kB, 512 kB, 2 MB            Max. Thermal Design Power (TDP): 15 W            Supports 64-bit instructions, Execute Disable Bit            Intel® Virtualization Technology (VT-x) with Extended Page Tables (EPT)            Enhanced Intel SpeedStep® Technology            Thermal Monitoring Technologies            Passive cooling without any fan</p>
<p><i>Integrated Graphics</i></p>	<p>The Graphics Processing Unit (GPU) is integrated in the processor            Intel® HD Graphics core            10 Execution Units (EUs) clocked at 200 - 1000 MHz            Supports Intel® Quick-Sync-Video and Intel® Clear-Video            Supports DirectX 11.1, OpenCL 1.2 and OpenGL 4.0, Shader 5.0            Shared Memory technology</p>
<p><i>Up to three displays</i></p>	<p>Two video outputs: HDMI v1.4 and D-Sub (VGA)            Supports triple display: the integrated display plus two external displays            1) Clone mode: all displays show the same content at 1366x768 resolution            2) Extended mode: all displays show different content, while the external displays run at Full HD resolution (1920x1080) maximum.</p>
<p><i>BIOS</i></p>	<p>AMI BIOS in 8 MByte EEPROM with SPI interface            Supports Power fail resume / always on            Supports Wake-on-LAN (WOL) from S3, S3, S5 ACPI states            Supports hardware monitoring and watch dog functionality</p>
<p><i>Memory</i></p>	<p>1x SO-DIMM slot with 204 pins            Supports one module DDR3L-1333/1600 (PC3-10600/12800) at 1.35V            Maximum capacity: 8 GB            Caution: This mainboard does only support 1.35V DDR3L memory modules.            Note: DDR3L has a lower operation voltage compared to DDR3</p>
<p><i>Storage</i></p>	<p>Supports one SATA hard disk or one SATA SSD drive in 6.35cm/2.5" format            The SATA 3.0 interface supports up to 600MB/s data transfer speed (6 Gbit/s).            Supports one drive with up to 12.5 mm height</p>
<p><i>Mini-Slots</i></p>	<p>This devices comes with two mini expansion slots:            1) the half-size slot is occupied with a WLAN module            2) the full-size slot supports a mSATA flash memory card (max. 6 Gbit/s)</p>
<p><i>Card Reader</i></p>	<p>Integrated card reader supports SD, SDHC and SDXC memory flash cards</p>
<p><i>Webcam</i></p>	<p>Integrated 2.0 Megapixel (1600x1200) HD webcam</p>

<b>Microphone Speakers</b>	Front panel with integrated Electret Condenser Microphone and 2x 2W speakers
<b>Audio</b>	Realtek ALC269 Audio Codec Two analog audio connectors (3.5mm): 1) Line-out (head phone) 2) Microphone input Digital Audio is supported via HDMI.
<b>Wired Network</b>	RJ45 connector supports Gigabit LAN at 10/100/1000 Mbit/sec. Network controller Realtek 8111G Supports Wake-on-LAN (WOL) from S3, S3, S5 ACPI states Supports network boot by Preboot eXecution Environment (PXE)
<b>Wireless Network</b>	WLAN chip: Realtek 8188EE Supports IEEE 802.11b/g/n, max. 150Mbps up-/downstream Security: WPA/WPA2, WEP Half-size Mini-PCIe-Card
<b>Front LEDs</b>	Power LED (blue) Hard disk LED (orange)
<b>Connectors left side</b>	Power button 2x USB 2.0 SD card reader Hole with power button Hole with Clear CMOS button
<b>Connectors bottom side</b>	HDMI 1.4 (supports digital video and digital audio) 2x USB 3.0 2x USB 2.0 Gigabit Network (LAN, RJ45) Audio Line-out /head phone (3.5 mm jack socket) Microphone input (3.5 mm jack socket) DC input for external power adapter ( 5.5 / 2.5 mm) Perforation for optional TV/3G antenna (diameter: 9 mm) Optional: 2x COM/serial (RJ45), DIO (RJ11) for cash drawer (assessory POS01)
<b>Connectors back side</b>	VGA connector (D-Sub 15 pol., analog video) Optional: 2x COM/serial (D-Sub), 1x LPT/parallel (accessory: PCL71 or POS01)
<b>Connectors onboard</b>	Serial ATA (6 Gbps) Serial ATA power connector 4x USB 2.0 header (three occupied, one free) Fan connector (4-pin) LVDS header (Low Voltage Differential Signaling) LPC header (Low Pin Count)

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<b>Power Adapter</b>	<p>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)</p>
<b>Included Accessories</b>	<p>Quick Guide          Driver DVD          External Power Adapter (65W) with Power cord          Serial ATA cable for the 2.5" drive          Screws</p>
<b>Optional Accessories</b>	<p><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</p>
<b>Environmental criteria</b>	<p>Operating temperature: 0~40°C          Humidity: 10~90%</p>
<b>Certification and Compliance</b>	<p>EMI: CE, FCC, BSMI, C-Tick          Safety: CB, BSMI, ETL, CCC          Other compliances: RoHS, ErP Lot6, Energy Star v5.0</p>
<b>Conformity</b>	<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-guidelines:          - EMV-guideline 89/336/EWG electromagnetic tolerance          - LVD-guideline 73/23/EWG use of electric devices within certain voltage limits</p>

**[1] Note regarding supported Windows Embedded versions:**

Supports Embedded versions based on Windows 7/8:

- Windows 7 Ultimate for Embedded Systems
- Windows 7 Professional for Embedded Systems
- Windows Embedded Standard 7
- Windows Embedded POSReady 7
- Windows Embedded 8.1
- Windows Embedded 8/8.1 Industry

Do not support Embedded versions based on Windows XP:

- Windows XP Embedded
- Windows XP Professional for Embedded Systems
- Windows Embedded Standard 2009
- Windows Embedded POSReady 2009
- Windows Embedded for Point of Service (WEPOS)

**[2] Linux compatibility**

tested with Ubuntu Fedora 20 x64, Ubuntu 14.04 x64 und OpenSuse 13.1 x64

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	<b>Atom D510</b> 1,66 GHz TDP: 15W Cache: 1 MB	<b>Atom D525</b> 1,8 GHz TDP: 13W Cache: 1 MB	<b>Atom D2700 [1]</b> 2,13 GHz TDP: 10W Cache: 1 MB	<b>Atom D2550 [1]</b> 1,86 GHz TDP: 10W Cache: 1 MB	<b>Celeron 2957U</b> "Haswell-U" 1,4 GHz TDP: 15W Cache: 2 MB	<b>Celeron or Core i3/i5/i7 [3]</b> "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.