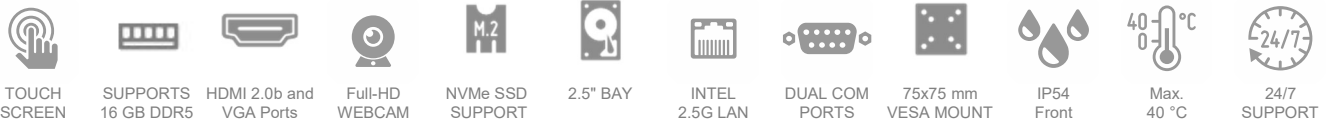## SYSTEM
XPC all-in-one
IoT P2500PA
8 GB RAM, 120 GB M.2 SSD, Win10 IoT OS

COMPACT ALL-IN-ONE PC FOR POS AND CONTROL APPLICATIONS

The Shuttle IoT P2500PA is an all-in-one system with Windows 10 operating system. It comes with a 11.6" multi-touch display and is positioned as a space-saving POS system or control device for media playback or automation. The adjustable stand allows for flexible viewing and operation angles, while it can also be VESA-mounted to appropriate stands or walls. The front panel is protected from splashing of water and dust according to the IP54 rating. A cable collector box on the back side helps avoid clutter. Thanks to its passive cooling, the system is virtually noise-less, maintenance-free and approved for 24/7 nonstop operation.

TOUCH SCREEN	SUPPORTS 16 GB DDR5	HDMI 2.0b and VGA Ports	Full-HD WEBCAM	NVMe SSD SUPPORT	2.5" BAY

INTEL 2.5G LAN	DUAL COM PORTS	75x75 mm VESA MOUNT	IP54 Front	Max. 40 °C	24/7 SUPPORT

COMMON FEATURES
■ IP54 compliant front panel ■ Dimensions: 299 x 207 x 59 mm (WHD)
■ Supports 24/7 Nonstop Operation ■ 75x75 mm VESA mount capable
■ Operating temperature: 0~40 °C ■ Fanless heatpipe cooling system

DISPLAY & GRAPHICS
■ 29.5 cm (11.6") LC Display, 1366 x 768 pixel, 250 Nits ■ Capacitive 10-point multitouch screen ■ Integrated graphics ■ HDMI 2.0b & VGA

OPERATING SYSTEM
■ Windows 10 IoT Enterprise 2021 LTSC (64-bit)

PROCESSOR
■ Intel N100, Quad Core, clock rate: 3.4 GHz, 6 MB Cache
■ Intel Generation 12 "Alder Lake-N" TDP: 6 W

STORAGE (not included)
■ 8 GB DDR5-4800 SO-DIMM memory
■ 120 GB SSD in M.2-2280 format, supports PCIe/ NVMe
■ Supports one 2.5" SATA hard disk/SSD, max. 9 mm in height

CONNECTIVITY
■ HDMI 2.0b ■ D-Sub/VGA ■ 2x USB 3.2 Gen 2 (10 Gbps) ■ 4x USB 3.2 Gen 1 (5 Gbps) ■ Gigabit 2.5G LAN (Intel 226LM) ■ 2x RS232 COM ports ■ 2x Audio (Mic & Headphones) ■ Power Button ■ Power and HDD LED ■ Hole with Clear CMOS Button ■ DC-in (2.5/5.5 mm, supports 12&19V)

NETWORK
■ 2.5 Gbps LAN, Intel 226LM Ethernet Controller
■ Built-in: WLAN card RTL8821CE supports WLAN 802.11ac (WiFi 5) und BT 4.2 with 2 internal antennas

BUILT-IN
■ 1080p (2 MP) Full-HD webcam
■ 2 W speaker ■ Electret Condenser Microphone

POWER SUPPLY
■ External 65W / 19V power adapter

OPTIONAL ACCESSORIES
■ WLN-M1: WLAN Upgrade Kit with WLAN card Intel AX200 supports WLAN 802.11ax (Wi-Fi 6) & BT 5.2 with two external antennas

MODELS OF THE P25N SERIES

Product	Type	Processor	RAM	M.2 SSD	Operating System	Bar Code
P25N	Barebone	Intel N100	—	—	—	887993006536
POS P250	Complete system without OS	Intel N100	8 GB DDR5	120 GB	—	4046047104123
IoT P2500PA	Complete system with OS	Intel N100	8 GB DDR5	120 GB	Win10 IoT Enterprise 2021	4046047104130
P2500T	BTO System Configuration	Intel N100	BTO	BTO	BTO	—

Front and Back Panel

Right Side	Front View	Left Side

Rear View

Bottom

1. 2x Perforation for optional antennas
2. Hole for Kensington lock
3. Line Collector Box
4. Detachable stand
5. Webcam
6. LED Indicator for Webcam
7. Multi-touch LCD display
8. Microphone
9. Power-on LED
10. Hard disk LED

11. Power-on button
12. Microphone input
13. Audio Line-out (headphones)
14. Hole with Clear CMOS button
15. 2x USB 3.2 Gen 2 (10 Gbps, red)
16. Detachable chassis cover
17. Detachable VESA cover
18. Mono speaker (2 W)
19. Screw holes according to the 75x75 mm VESA mount standard

20. 2x serial COM port (D-Sub, RS232)
21. D-Sub/VGA video output
22. 4x USB 3.2 Gen 1 (5 Gbps, blue)
23. 2.5G LAN port (RJ45)
24. HDMI video output
25. DC-input for power adapter
26. 2x rubber foot

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Product Comparison: Shuttle XPC All-in-One Models

Chassis	Display Pixel / Type	CPU Type	Product Name by Intel processor-generations				Chassis Colour
			Gen. 7 Kaby Lake	Gen. 8 Whiskey Lake	Gen. 10 Comet Lake	Gen. 12 Alder Lake	
	11.6" 1366 x 768 Capacitive Multitouch	Celeron or N100	**P20U**	—	**P22U**	**P25N**	Black
	15.6" 1366 x 768 Resistive Singletouch	Celeron	**X50V6**	**X50V7** X50V7L *)	**X50V8**	**X50V9**	Black, White
		Core i3	**X50V6U3**	**X50V7U3** X50V7U3L *)	**X50V8U3**	**X50V9U3**	Black, White
	15.6" 1920 x 1080 Capacitive Multitouch	Celeron	—	**P51U**	**P52U**	TBA	Black
		Core i3	—	**P51U3**	**P52U3**	TBA	Black
	19.5" 1600 x 900 Capacitive Multitouch	Celeron	**P90U**	—	**P92U**	—	Black, White
		Core i3	**P90U3**	—	**P92U3**	—	Black, White
		Core i5	**P90U5**	—	**P92U5**	—	Black

X50V7L and **X50V7U3L** are model variants without WLAN module

SHUTTLE XPC all-in-one System IoT P2500PA — SPECIFICATIONS

FANLESS AND SILENT	Passive heatpipe cooling, absolutely no fan noise Perfect for noise-sensitive environments Fanless, dust-free and thus virtually maintenance-free
24/7 NONSTOP OPERATION	This device is approved for 24/7 permanent operation. Requirements: - 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.
IP54 PROTECTED	The front panel is dust-protected and protected from splashing of water according to protection class IP54.
CHASSIS	Colour: black Dimensions: 29.9 x 20.7 x 5.9 cm (W x H x D) 75x75 mm VESA mount capable Mounting hole for Kensington lock Weight: 1.95 kg net, 3.14 kg gross
OPERATING SYSTEM	Windows 10 IoT Enterprise 2021 LTSC (64-Bit)
TOUCHSCREEN	Touchscreen function supports fingertip input Capacitive Touch Panel with 10-point multi-touch Supports input with gloves (PVC, cotton, cotton/linen) Stylus pen not supported
11.6" DISPLAY	29.5 cm / 11.6" LCD TN display Aspect ratio: 16:9 widescreen Resolution: 1366 x 768 = 1.05 Megapixel Backlight unit: LED, Luminance: 250 cd/sqm (typ.) Glass thickness: 3 mm
PROCESSOR	Model: Intel N100 System-on-a-chip architecture (SoC): no chipset required FCBGA1264 package - directly soldered onto the mainboard Code name: Alder Lake-N (12th Generation Intel Core) Cores / Threads: 4 / 4 Turbo clock rate: max. 3.4 GHz Smart Cache: 6 MB TDP wattage: 6 W Manufacturing process: Intel 7 Maximum Tjunction Temperature: 105 °C
INTEGRATED GRAPHICS	Intel UHD Graphics GPU clock frequency: max. 750 MHz Execution Units (EUs): 24 Supports DirectX 12.1
SUPPORTS TRIPLE DISPLAY	Two video ports support two additional independent screens: 1) HDMI 2.0b supports 3840 x 2160 @ 60 Hz 2) VGA / D-Sub analog video supports 1920 x 1080 @ 60 Hz Special conditions for operation in Multi-Monitor mode: 1) Clone mode: all displays show the same content at 1366x768 resolution 2) Extended mode: all displays show different content
BIOS	AMI BIOS in 32 MByte EEPROM with SPI interface Supports Power fail resume / always on Supports Wake-on-LAN (WOL) from S3, S4, S5 ACPI states Supports hardware monitoring and Watchdog functionality Supports Firmware TPM v2.0 functionality
MEMORY	8 GB DDR5-4800 (PC5-38400) SDRAM i SO-DIMM format This PC supports a maximum capacity of 16 GB
M.2-SSD CARD	120 GB SSD flash memory M.2-2280 card with PCI-Express interface supports NVMe
2.5" BAY FOR HDD/SSD	Supports one SATA hard disk or one SATA SSD drive in 6.35 cm / 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 9.5 mm in height SATA cable pre-installed
WEBCAM	Integrated Full HD webcam (1920 x 1080 pixels = 2 MP)

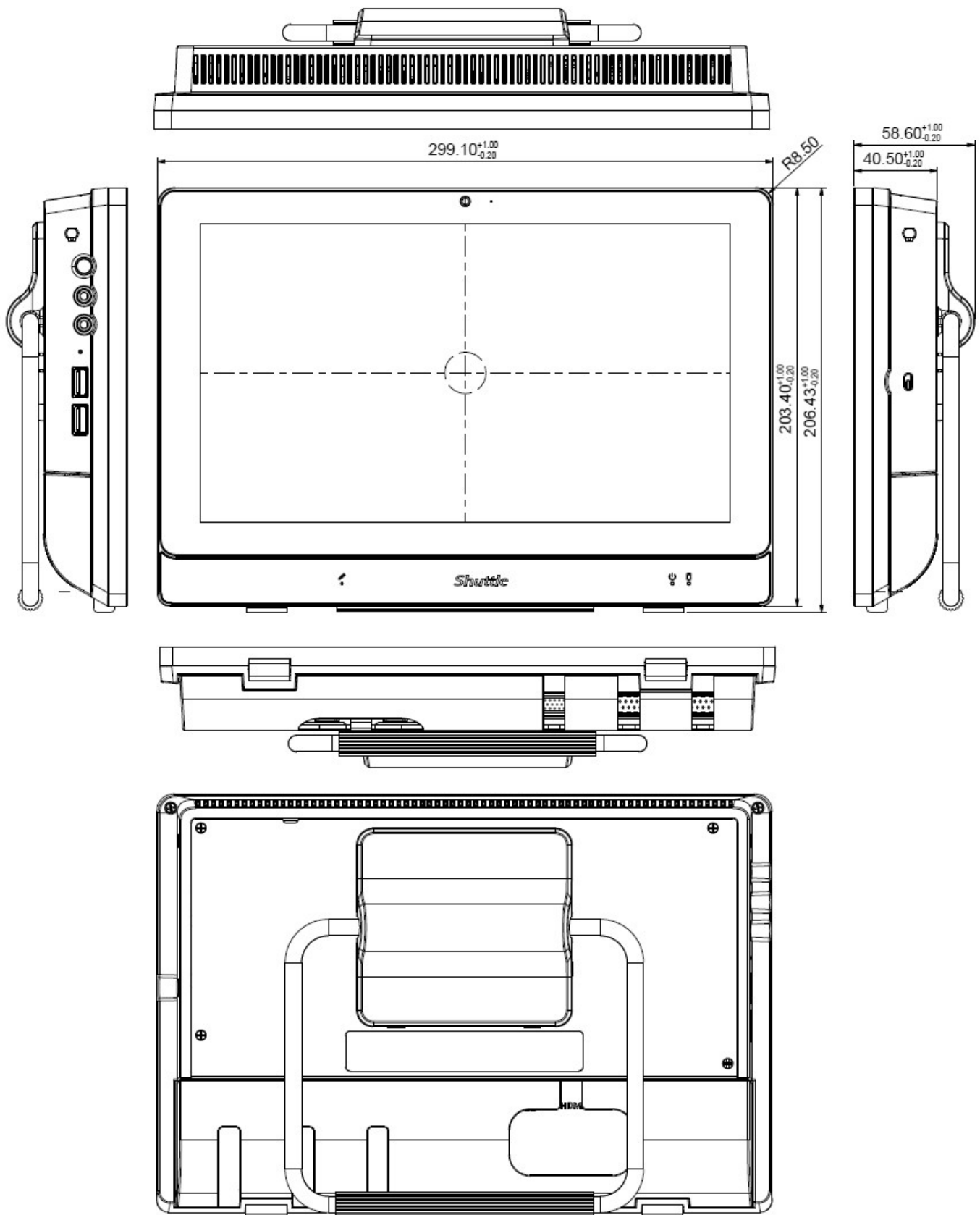|	
MICROPHONE AND SPEAKERS	With integrated Electret Condenser Microphone and 2 W speaker
INTEGRATED AUDIO	Realtek ALC888S (HD-Audio) Two analog audio connectors (3.5 mm) on the left side: 1) Line-out (head-phones) 2) Microphone input Digital multi-channel audio output is supported via HDMI.
WIRED NETWORK	Intel i226LM Ethernet Controller Supports 10 / 100 / 1.000 / 2500 Mbps operation Supports WAKE ON LAN (WOL) from S3/S4/S5 modes Supports network boot by Preboot eXecution Environment (PXE)
WIRELESS NETWORK (WLAN)	Built-in M.2-2230-E WLAN card with two internal antennas WLAN Controller Realtek RTL8821CE Supports WiFi IEEE 802.11b/g/n/ac on the 2.4 / 5 GHz band, 1T1R Supports 20 / 40 / 80 MHz channel bandwidth Security: supports WPA(-PSK), WPA2(-PSK), WEP 64/128 bit, IEEE 802.11x, IEEE 802.11i Supports Bluetooth 4.2 on the 2.4 GHz band
HOLES FOR OPTIONAL ANTENNAS	The chassis features two perforated 6.5 mm holes for optional antennas mounted with an (RP-)SMA connector for wireless network such as WLAN
FRONT LEDs	Power LED (blue) Hard disk LED (orange)
CONNECTORS LEFT SIDE	Power button 2x USB 3.2 Gen 2 (type A, red, max. 10 Gbps) Audio Line-out / headphones (3.5 mm jack) Microphone input (3.5 mm jack) Hole with Clear CMOS button
CONNECTORS RIGHT SIDE	Mounting hole for Kensington lock
CONNECTORS BOTTOM SIDE	HDMI 2.0b (supports digital video and digital audio) VGA connector (D-Sub 15 pol., analog video) 4x USB 3.2 Gen 2 (type A, blue, max. 5 Gbps) 2.5G Network (LAN, RJ45) 2x COM port (RS232) DC input for external power adapter (5.5 / 2.5 mm)
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 cable, ca. 170cm, 5.5 / 2.5 mm plug AC cable, ca. 170 cm, 3-pin Micky MM C6 and Schuko earthed safety plug
DC INPUT CONNECTOR	DC Input Connector: 5.5 / 2.5 mm (outer/inner diameter) The DC-input of the computer supports an external power source with either 12V ±5 % or 19V ± 5%.
SUPPLIED ACCESSORIES	Quick Installation Guide Windows 10/11 Driver DVD External Power Adapter (65W / 19V) with 3-pin AC cable
OPTIONAL ACCESSORIES	**WLN-M1:** WLAN kit with Intel AX200 WLAN card (supports WLAN-ax / Wi-Fi 6) and two external antennas Note: a WLAN-ac / Wi-Fi 5 module with two internal antennas is already pre-installed by default.
ENVIRONMENTAL SPECIFICATIONS	Operating temperature: 0~40 °C Humidity: 10~90 %
CERTIFICATIONS / COMPLIANCE	EMI: CE, UKCA, FCC, BSMI, RCM, VCCI Safety: CB (IEC 60950/62368), cTUVus (UL 62368-1:2014), BSMI Other compliances: RoHS, ErP Lot3, Energy Star v8.0

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 directives: (1) 2014/30/EU relating to electromagnetic compatibility (EMC), (2) 2014/35/EU 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) (4) 2014/53/EU Radio Equipment Directive (RED)

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P25N Drawings with stand

299.10$^{+1.00}_{-0.20}$

R8.50

58.60$^{+1.00}_{-0.20}$

40.50$^{+1.00}_{-0.20}$

203.40$^{+1.00}_{-0.20}$

206.43$^{+1.00}_{-0.20}$

P25N Drawings without stand

299.10$^{+1.00}_{-0.20}$

R8.50

40.70$^{+1.00}_{-0.20}$

40.50$^{+1.00}_{-0.20}$

203.40$^{+1.00}_{-0.20}$

206.43$^{+1.00}_{-0.20}$

112.05±0.80

75.00±0.50

M4.0XL8.0(X4)

27.50±0.80

75.00±0.50

HDMI