

SYSTEM

XPC all-in-one

IoT X50NPA Black

Intel N150, 128 GB SSD, 8 GB RAM, Windows 11 IoT

15.6" ALL-IN-ONE COMPLETE SYSTEM FOR POS, POI AND KIOSK APPLICATIONS

This fully configured All-in-One system with 15.6-inch touch display comes with the efficient Intel N150 processor. Thanks to its passive heatpipe cooling, the system is virtually noiseless, maintenance-free and 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.



TOUCH
SCREEN



8GB DDR5



HDMI + VGA
Ports



128 GB SSD
NVMe



2.5" BAY



Wi-Fi 5
(WLAN-ac)



VESA MOUNT
SUPPORT



IP54



Max.
40 °C



Fanless



24/7
SUPPORT



Windows 11
IoT

COMMON FEATURES

- IP54 compliant front panel
- Dimensions: 391 x 327 x 42 mm (WHD)
- Supports 24/7 Nonstop Operation
- 100 mm VESA mount capable
- Operating temperature: 0~40 °C
- Fanless heatpipe cooling system

DISPLAY & GRAPHICS

- 39.6 cm (15.6") LC Display, 1366 x 768 pixel resolution
- Resistive touchscreen
- Integrated Intel UHD graphics
- HDMI 2.0b & VGA

OPERATING SYSTEM

- Windows 11 IoT Enterprise Entry - 64-bit

PROCESSOR

- Intel N150 SoC processor, 4 Cores, max. 3.6 GHz, 6 MB Cache, TDP: 6W
- Code name "Twin Lake"
- Intel 7 (10 nm) process

STORAGE (not included)

- 8 GB DDR5-4800 SO-DIMM RAM
- 128 GB SSD card in M.2-2280 format, supports PCIe/NVMe
- Supports one 2.5" SATA drive (hard disk or SSD), max. 9.5 mm height
- Supports internal USB stick (USB 2.0, type A)

CONNECTIVITY

- HDMI 2.0b
- D-Sub/VGA
- 2x USB 3.2 Gen 2 (max. 10 Gbps, red)
- 4x USB 3.2 Gen 1 (max. 5 Gbps, blue)
- internal: 1x USB 2.0 (Type A)
- 2.5 Gbps LAN (Intel)
- 2x Audio (Mic & headphones)
- 2x COM (RS232)
- Power button
- Clear CMOS button
- Power LED and HDD LED
- DC Input

BUILT-IN

- 2.0 Megapixel FHD webcam
- Electret Condenser Microphone
- 2x 2 W speakers
- Wi-Fi 5 Wireless Network with two internal Antennas (supports WLAN 802.11ac and Bluetooth 4.2)

POWER SUPPLY

- External 65 W / 19 V power adapter (DC-in supports 12 or 19 V)

OPTIONAL ACCESSORIES

- **WLN-M12:** WLAN upgrade kit (Intel AX210 card supports 802.11ax with two external antennas)
- **POV21:** Robust Dual VESA Stand for one or two AIO PCs / Displays



MODELS OF THE X50N-SERIES

Category	Product	Intel CPU	OS	M.2 SSD	DDR5 RAM	COM-Port	Color	UPC/EAN-Code
Barebone	X50N	Intel N150	—	—	—	—	Black	887993008592
							White	887993008622
System without OS (fixed configuration)	POS X50N	Intel N150	—	128 GB	8 GB	2x COM	Black	4046047104529
							White	4046047104512
System with Windows (fixed configuration)	IoT X50NPA	Intel N150	Windows 11 IoT Enterprise	128 GB	8 GB	2x COM	Black	4046047104536
							White	Not available [1]

[1] To customize your configuration, visit the Shuttle System Configurator at <https://shop.shuttle.eu/en>

PRODUCT 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.



24/7 nonstop operation

The Shuttle XPC all-in-one IOT X50NPA 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 - 40 °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 IOT X50NPA uses a passive thermal module to lead heat out of the case quickly and evenly. The unique fanless design makes it perfect to be used in noise-sensitive environments. 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.



Protection Class IP54

The front panel of the Shuttle XPC all-in-one IOT X50NPA 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 now 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: the power button and two USB ports.



Connects up to two displays

The Shuttle XPC all-in-one IOT X50NPA features two video outputs: one analog D-Sub/VGA connector and one HDMI 2.0b connector, which even supports UHD/4K resolution. Two separate displays can be connected in extended mode. Now add the built-in display of the IOT X50NPA and there are three displays showing different content.



Hidden Power Button

The power button can be deactivated by Jumper JP1 to prevent unauthorised use.

Still, it can be used with a straightened paper clip (see photo).

A hidden Clear CMOS is also available in order to reset the BIOS settings.



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.

*) VESA mount is not included. Shuttle recommends the optional Shuttle Stand POV21.



Black and White versions available

Choose the right colour for your application. As a rule, black is preferred for use in the office, as a POS system in retail or as a control unit in manufacturing. The white version is often used in the health sector, in the kitchen area or as a POS system in the cosmetics/massage studio.

Front and Back Panel



- | | | |
|---|---------------------------------------|-------------------------------------|
| 1. Stand | 8. Power button | 18. D-Sub/VGA video output |
| (a) Stand mounting plate | 9. Hole for hidden power button | 19. DC-input for power adapter |
| (b) VESA cover | 10. 4x USB 3.2 Gen 2 (10 Gbps, red) | 20. HDMI 2.0b video output |
| (c) 100 x 100 mm VESA mount | 11. Hole for hidden Clear CMOS button | 21. RJ45 network port (2.5G LAN) |
| 2. 4x Perforation for external antennas | 12. Power LED | 22. 4x USB 3.2 Gen 1 (5 Gbps, blue) |
| 3. Full HD Webcam | 13. Hard disk LED | 23. Audio Line-out (headphones) |
| 4. Microphone | 14. Openings for ventilation | 24. Microphone input |
| 5. Touchscreen LC-display | 15. Name plate (rating label) | |
| 6. 2x speakers (stereo) | 16. Hole for Kensington lock | |
| 7. Stylus with holder | 17. 2x D-Sub COM port | |

Range of Applications (Examples)

Digital Signage

Visual advertising,
Info Terminal



POS

Checkout system in Retail Stores,
Restaurants, Hotels



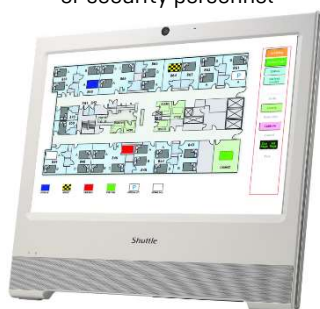
POS Radio

Playing advertising
and music



Call System

e.g. for nurses (hospital)
or security personnel



Smart Home Control

Surveillance,
Home Automation



Device Control

e.g. for copy
machines



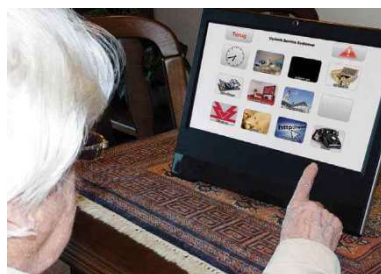
Device Control

e.g. for health services or fitness
equipment



Communication Device

e.g. for the elderly



Visualisation

e.g. for industrial production machines



On a boat

e.g. for navigation and entertainment



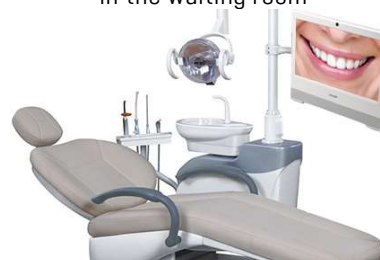
Data Collector

e.g. Recording of
working hours



Entertainment

e.g. at the dentist or
in the waiting room



Product Comparison: Shuttle XPC All-in-One Models

Chassis	Display Size / Pixel / Type	Processor Type	Product Name by Intel processor-generations			Chassis Colour
			Gen. 10	Gen. 12/13	Twin Lake-N	
	11.6" 1366 x 768 Capacitive Multitouch	Celeron (P25N: N-Series processor)	P22U	P25N	—	Black
	15.6" 1366 x 768 Resistive Singletouch	Celeron or N-Series	X50V8	X50V9	X50N	Black, White
		Core i3	X50V8U3	X50V9U3	—	Black, White
	15.6" 1920 x 1080 Capacitive Multitouch	Celeron or N-Series	P52U	P55U	P56N	Black
		Core i3	P52U3	P55U3	—	Black
	19.5" 1600 x 900 Capacitive Multitouch	Celeron	P92U	—	—	Black, White
		Core i3	P92U3	—	—	Black, White
		Core i5	P92U5	—	—	Black

SHUTTLE XPC all-in-one BAREBONE IOT X50NPA Black — SPECIFICATIONS

FANLESS AND SILENT	Passive heatpipe cooling, no fan noise at all Perfect to be used in 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: 391 x 327 x 42 mm (W x H x D) 100mm VESA mount capable Mounting hole for Kensington lock Weight: 3.26 kg net, 4.5 kg gross
OPERATING SYSTEM	Windows 11 IoT Enterprise Entry - 64-bit
TOUCHSCREEN	Touchscreen function supports fingertip input Resistive 5-wire single-touch technology Stylus for the built-in touchscreen
15.6" DISPLAY	39.6 cm / 15.6" LC-display, ratio: 16:9 wide-screen panel Resolution: 1366 x 768 = 1.05 Megapixel Backlight unit: High power LED, Luminance: 220 cd/sqm Glass thickness: 3.2 mm
PROCESSOR	Model: Intel® Processor N150 Max. Turbo clock frequency: 3.6 GHz Code name: "Twin Lake" (Alder Lake-N series) Intel 7 (10 nm) process, BGA1264 package (soldered) CPU cores / Threads: 4 / 4 L2 Cache: 6 MB Thermal Design Power (TDP): 6 W System-on-Chip processor (SoC) with integrated graphics processor, no chipset required Passive processor cooling without fan
INTEGRATED GRAPHICS	Intel® Graphics GPU clock frequency: max. 1000 MHz Execution Units (EUs): 24 Supports DirectX 12.1, OpenGL 4.6, OpenCL 3.0
SUPPORTS TRIPLE DISPLAY	Up to three displays simultaneously Two video ports support two additional independent screens: 1) HDMI 2.0b digital audio/video port supports up to 3840 x 2160 pixels resolution at 60 Hz refresh rate (2160p60) 2) VGA / D-Sub analog video port supports 1920 x 1080 pixels resolution at 60 Hz refresh rate (1080p60) 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 SO-DIMM memory
SSD CARD	128 GB SSD card in M.2-2280 form factor support NVMe
2.5" BAY FOR HDD/SSD	Hard disk drive / 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 data/power cable pre-installed

WEBCAM	Integrated Full HD webcam (1920 x 1080 pixels) USB interface
MICROPHONE AND SPEAKERS	Front panel with integrated Electret Condenser Microphone and 2x 2 W speakers
INTEGRATED AUDIO	Realtek ALC888S (HD-Audio) Two analog audio connectors (3.5 mm) on the bottom side: 1) Line-out (head-phones) 2) Microphone input Digital Audio is supported via the HDMI output.
WIRED NETWORK	Intel i226LM Ethernet Controller Supports 100 / 1.000 / 2.500 MBit/s operation Supports WAKE ON LAN (WOL) from S3, S4 modes Supports network boot by Preboot eXecution Environment (PXE)
WIRELESS NETWORK (WLAN)	WLAN controller Card: Realtek RTL8821CE WLAN antennas: two internal antennas 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 The M.2-2230 Key A+E slot supports PCIe Gen3 x1, USB 2.0 und CNVi
FRONT LEDs	Power LED (blue) HDD/SSD LED (orange)
CONNECTORS LEFT SIDE	Power button 2x USB 3.2 Gen 2 (max. 10 Gbps, red) Hole with hidden power button (onboard micro switch) Hole with hidden Clear CMOS button (onboard micro switch)
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 1 (max. 5 Gbps, blue) Gigabit Network (2.5G LAN, RJ45, Intel i226LM) Audio Line-out / head-phones (3.5 mm jack) Microphone input (3.5 mm jack) DC input for external power adapter (5.5 / 2.5 mm) 2x COM/serial RS232 D-Sub
CONNECTORS ONBOARD	Internal USB 2.0 type A connector for a USB stick Serial ATA (6 Gbps) data/power connector Other available connectors are occupied by integrated components.
OPTIONAL ANTENNAS	The chassis features four perforated 6.5 mm holes for optional antennas mounted with an (RP-)SMA connector for wireless network such as WLAN or WWAN (e.g. 4G/5G) (see section "Optional Accessories")
POWER ADAPTER	External 65 W AC/DC power adapter (fanless) AC Input: 100 ~ 240 V AC, 50 ~ 60 Hz, max. 1.5 A, C6 connector Automatic AC voltage adjust DC Output: 19 V, max. 3.42 A, max. 65 W DC Connector: 5.5 / 2.5 mm (outer/inner diameter) DC cable length: ca. 170 cm AC cable length: ca. 170 cm AC cable with 3-pin Micky MM C5 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	Multilingual Quick Guide Driver DVD for Windows 11 External Power Adapter (65W / 19V) AC Power cord with protective-earth contacts 1x M3x4 silver screws for mounting one M.2 SSD card 4x M3x4 black screws for mounting a 2.5" SATA drive Thermal pad 70 x 20 x 5.25 mm for cooling an M.2 SSD card

OPTIONAL ACCESSORIES	1) WLAN Kit WLN-M12 (Intel AX210 card + two external antennas) An 802.11ac (1T1R) WLAN function with internal antennas is already pre-installed and can be upgraded to 802.11ax (2T2R) with two external antennas with this kit. 2) Robust VESA Stand POV21: supports one or two AIO-PCs/Displays with 75x75 or 100x100 mm VESA (max. 21.5" display size and 20 kg total weight).
ENVIRONMENTAL SPECIFICATIONS	Operating temperature: 0~40 °C Humidity: 10~90 %, non-condensing
CERTIFICATIONS / COMPLIANCE	EMI: CE, UKCA, FCC, BSMI, RCM, VCCI Safety: CB (IEC 60950/62368), cTUVus (UL 62368), 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 eco design requirements for energy-related products (ErP), (4) 2014/53/EU Radio Equipment Directive (RED)

Optional Shuttle Accessory: Robust Dual VESA Stand **POV21**

The flexible design supports one or two AIO-PCs or Displays with 75x75 mm or 100x100 mm VESA mount up to 21.5" display size and a total weight of up to 20 kg. POV21 features optimised cable management with magnetic back cover and is flexible and easy to adjust.



X50N Series – Technical Drawings

