SYSTEM
XPC nano
NC5010BA

Intel N150, 8 GB DDR5, 128 GB SSD, WLAN
Windows 11 Pro Entry

AFFORDABLE NANO PC COMPLETE SYSTEM WITH WINDOWS 11

The Shuttle complete PC system NC5010XA is based on the NC50N barebone and comes with efficient Intel N150 Quad-Core processor, codenamed "Twin Lake-N". Despite the nano format with only 850 ml volume, it offers enormous connection variety and expansion options. Thus, up to two UHD displays (4K/60Hz) and up to seven USB 3.2 devices can be connected. 8 GB DDR5 RAM and a 128 GB M.2 SSD with Windows 11 operating system are already installed, and there is still room for a second M.2 SSD card as well as one 2.5" HDD/SSD (up to 15 mm thickness). The NC5010XA series is ideal for Digital Signage, POS, control, office or even multimedia.

Windows 11 Pro Entry | 8 GB DDR5 RAM | 128 GB M.2 SSD | Dual Display SUPPORT | HDMI 2.0b | DISPLAY-PORT 1.4a | 1x USB-C | 6x USB 3.2 TYPE-A PORTS | INTEL 2.5G LAN PORT | Wi-Fi 6E Bluetooth 5.2 | 2.5" HDD/SSD SUPPORT | VESA MOUNT

NANO DESIGN
■ Slim plastic chassis, black ■ Dimensions: 142 x 142 x 42 mm (LWH), 850 ml ■ Including VESA mount (75/100 mm) ■ Optional stand
■ Operating temperature: 0~40 °C (non-condensing)

OPERATING SYSTEM
■ Windows 11 Pro Entry (64-Bit)

PROCESSOR
■ Intel N150 processor, code name "Twin Lake-N"
■ 4 Cores, max. 3.6 GHz, 6 MB Smart Cache
■ Soldered SoC with 6 W TDP, Intel 7 process (10 nm)

GRAPHICS
■ Integrated Intel graphics, GPU clock up to 1 GHz
■ Supports two Ultra-HD displays at 60 Hz via HDMI and DisplayPort

RAM MEMORY SUPPORT
■ 8 GB DDR5-4800 SO-DIMM memory

STORAGE – M.2 / 2.5"
■ 128 GB SSD-card installed
■ Expandable with a second M.2-2280 SSD card (NVMe, not SATA)
■ 2.5" bay for SATA hard disk (max. 15 mm) or SSD

CONNECTORS
■ HDMI 2.0b ■ DisplayPort 1.4a ■ 7x USB 3.2 Gen 1 (1x USB-C)
■ 1x Intel 2.5G LAN (Intel 226LM) ■ 2x Audio (Microphone-in + Line-out)
■ DC input 19 V

WLAN
■ Intel AX210 supports Wi-Fi 6E (802.11ax) and Bluetooth 5.2

POWER SUPPLY
■ External 65W / 19V power adapter

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MODELS BASED ON NC50N

Category	Shuttle Model	Operating System (OS)	Intel Processor	RAM	M.2 SSD	WLAN	UPC / EAN Bar Code
Barebone	**NC50N**	–	Intel N150	–	–	–	887993009544
System without OS	**NC5010XA**	–	Intel N150	8 GB DDR5	128 GB NVMIe	Wi-Fi 6E	4046047104598
System with OS	**NC5010BA**	Windows 11 Pro Entry	Intel N150	8 GB DDR5	128 GB NVMIe	Wi-Fi 6E	4046047104604

Front and Back Panel

Front Panel

1. 2x USB 3.2 Gen 1 Port (blue)
2. USB-C (USB 3.2 Gen 1)
3. Microphone input
4. Headphones output
5. LED indicator for storage activity
6. Power button
7. LED indicator for power state

Back Panel

8. DC-in connector for power adapter
9. DisplayPort 1.4a audio/video output
10. HDMI 2.0b audio/video output
11. 4x USB 3.2 Gen 1 Port (blue)
12. RJ45 2.5G LAN Port (Intel 226LM)
13. Ventilation openings
14. Mounting holes for optional vertical stand

Side View

15. 2x perforation for optional WLAN antennas
16. Hole for the Kensington Lock
17. VESA mount (two parts with screws)

VESA Mounting

Shuttle Product Comparison: NW10U and NC50N versus predecessor NC40U

MODEL	NW10U Series	NC50N	NC40U Series
Chassis	Plastic chassis, black LWH: 103 x 97 x 36.5 mm (365 ml)	Plastic chassis, black LWH: 142 x 142 x 42 mm (847 ml)	Plastic chassis, black LWH: 142 x 142 x 42 mm (847 ml)
Processor	**NW10U3:** Intel Core 3 304 **NW10U3:** Intel Core 5 320 **NW10U3:** Intel Core 7 350 Intel "Wildcat Lake-U" Technology: 18A (1.8 nm), TDP: 15 W	**NC50N:** Intel N150 Processor Intel "Twin Lake-N" Technology: Intel 7 (10 nm), TDP: 6 W	**NC40U:** Intel Celeron 7305 **NC40U3:** Intel Core i3-1215U **NC40U5:** Intel Core i5-1235U **NC40U7:** Intel Core i7-1255U Intel "Alder Lake-U" (12th Gen Core) Technology: 10 nm, TDP: 15 W
RAM Suppport	1x SO DIMM (262-pins) max. 1x 64 GB DDR5-6400	1x SO DIMM (262-pins) max. 1x 16 GB DDR5-4800 (or higher)	2x SO DIMM (260-pins) max. 2x 32 GB DDR4-3200
2.5" bay	—	Supports 2.5" SATA drive max. height: 15 mm	Supports 2.5" SATA drive max. height: 15 mm
M.2-2280 slot	Two M.2-2280M slots: 1) supports PCIe Gen4 X2 2) supports PCIe Gen4 X2 No SATA support	Two M.2-2280M slots: 1) supports PCIe Gen3 X2 2) supports PCIe Gen3 X2 No SATA support	Two M.2-2280M slots: 1) supports PCIe Gen3 X4 and SATA 2) supports PCIe Gen4 X4 Supports Intel VMD Raid function
Video	Supports Triple 4K/UHD Display via HDMI 2.1 and 2x DP 2.1 (USB-C)	Supports Dual 4K/UHD Display via HDMI 2.0b and DP 1.4a	Supports Triple 4K/UHD Display via HDMI 2.0b and 2x DP 1.4a (1x USB-C)
Audio	C-Media CM6542 (USB)	C-Media CM6542 (USB)	C-Media CM6542 (USB)
LAN (Network)	Supports Gigabit (Intel i219LM)	Supports 2.5G (Intel 226LM)	Supports Gigabit (Intel i219)
WLAN (M.2-2230 Slot)	Prepared for optional WLAN card M.2-2230E slot onboard 2x internal antennas pre-installed	Prepared for optional WLAN card M.2-2230E slot onboard 2x internal antennas pre-installed	Prepared for optional WLAN card M.2-2230E slot onboard 2x internal antennas pre-installed
Front Panel	On/Off button Power LED, HDD LED 2x USB 3.2 Gen 2, Type A 3.5 mm Combo Audio (Mic + Headph.)	On/Off button Power LED, HDD LED 2x USB 3.2 Gen 1, Type A 1x USB 3.2 Gen 1, Type C 2x 3.5 mm Audio (Mic + Headphones)	On/Off button Power LED, HDD LED 2x USB 3.2 Gen 1, Type A 1x DP 1.4a / USB 3.2 Gen 1, Type C 2x 3.5 mm Audio (Mic + Headphones)
Back Panel	HDMI 2.1 2x DP 2.1 / USB 3.2 Gen 2, Type-C 2x USB 2.0 RJ45 Gigabit LAN (i219LM) DC-Input for power adapter	HDMI 2.0b DisplayPort 1.4 4x USB 3.2 Gen 1, Type A RJ45 2.5G LAN (i226LM) DC-Input for power adapter	HDMI 2.0b DisplayPort 1.4a 2x USB 3.2 Gen 2, Type A 2x USB 3.2 Gen 1, Type A RJ45 Gigabit LAN (i219) DC-Input for power adapter
Right Side	—	2x Perforation for optional ext. antennas	2x Perforation for optional ext. antennas
Power Adapter	65 W (19 V, 3.42 A)	65 W (19 V, 3.42 A)	65 W (19 V, 3.42 A)
Vertical Stand	—	Optional	included
VESA Mount	Included (75x75 mm)	included (75x75 / 100x100 mm)	included (75x75 / 100x100 mm)
Optional Accessories	—	**WLN-M12:** WLAN kit with ext. antennas **PS02:** Vertical Stand	**WLN-M12:** WLAN kit with ext. antennas
Front View			
Back View			

SHUTTLE XPC nano SYSTEM NC5010XA — SPECIFICATIONS

CHASSIS	PC with a black plastic chassis Dimensions: 142 x 142 x 42 mm (LWH) = 847 ml Weight: 0.4 kg net, 1.2 kg gross Hole for Kensington Lock Includes vertical stand and 75 / 100 mm VESA mount
OPERATION POSITION	1) Horizontal 2) Vertical with optional stand (Accessory PS02) 3) VESA-mounted behind an appropriate monitor
OPERATION SYSTEM	Windows 11 Pro Entry (64-Bit)
PROCESSOR	Model: Intel® Processor N150 Max. Turbo clock frequency: 3.6 GHz Code name: "Twin Lake" 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
COOLING FAN	Built-in CPU cooling fan with 4-pin connector Supports temperature-controlled RPM fan speed
INTEGRATED GRAPHICS	Intel® Graphics GPU clock frequency: max. 1000 MHz Execution Units (EUs): 24 Supports DirectX 12.1, OpenGL 4.6, OpenCL 3.0 Two video ports supports up to two independent screens with up to 4K/60Hz (Ultra HD 3840×2160 resolution): 1) DisplayPort (DP 1.4a) 2) HDMI-Port (HDMI 2.0b)
UEFI FIRMWARE (BIOS)	AMI BIOS in 32 MByte EEPROM with SPI interface Supports resume after power failure Supports Wake on LAN (WOL) Supports Power on by RTC Alarm Supports Hardware Monitoring and Watchdog function Supports Unified Extensible Firmware Interface (UEFI)
BUTTON CELL BATTERY	The product contains a built-in 3V button cell battery For further information see footnote **[4]**
TPM	Supports Firmware TPM v2.0 (fTPM) (Hardware TPM 2.0 chip optional, on project request only)
RAM MEMORY	8 GB DDR5-4800 SO-DIMM memory Supports a maximum capacity of 16 GB
2.5" DRIVE BAY	2.5" Drive Bay supports one Serial ATA hard disk or one SATA SSD drive in 6.35 cm / 2.5" format Device height: 15 mm (max.) Supports Serial-ATA III, 6 Gb/s (max. 600 MB/s) bandwidth Pre-installed SATA/power cable
Two M.2-2280M SSD SLOTs	128 GB SSD card in M.2-2280 format with PCIe interface supports NVMe This PC supports a second SSD card in M.2-2280 format with PCIe (no SATA supported)
AUDIO	C-Media CM6542 Audio Codec with USB interface Two analog audio connectors (3.5 mm) on the front side: 1) Line-out (head-phones) 2) Microphone input Digital multi-channel audio output: via HDMI and DisplayPort
2.5G LAN	Ethernet Controller Intel i226LM Supports 100 / 1.000 / 2.500 MBit/s operation (up to 2.5 Gbps) Supports WAKE ON LAN (WOL) Supports network boot by Preboot eXecution Environment (PXE)

Wi-Fi 6E WLAN SUPPORT	WLAN card: Intel® Wi-Fi 6E AX210 M.2 non vPro (in M.2-2230 form factor) supports WiFi 6E (802.11ax) and Bluetooth 5.2 with two internal antennas
FRONT PANEL CONNECTORS	1x USB-C (USB 3.2 Gen 1 at max. 5 GBit/s, no DisplayPort) 2x USB 3.2 Gen 1 Type A (max. 5 GBit/s, blue) Audio line-out / headphones (3.5 mm jack plug) Microphone input (3.5 mm jack plug) Power button Power LED (blue) Hard Disk LED (orange)
BACK PANEL CONNECTORS	DisplayPort 1.4a [1] HDMI 2.0b 4x USB 3.2 Gen 1 Type A (max. 5 GBps, blue) RJ45 port supports 2.5G LAN (Intel i226LM chip) 1x DC-input connector for external power adapter (5.5 / 2.5 mm)
RIGHT SIDE	2x perforation (6.5 mm diameter) for optional external WLAN antennas
ALWAYS-ON JUMPER	By removing Jumper JP1 (please refer to the Quick Installation Guide) the system will start unconditionally once power is applied. **[3]**
CLEAR CMOS JUMPER	Short Jumper JP2 for about 10 seconds to restore factory settings of BIOS.
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. 180 cm with coaxial connector: 5.5 / 2.5 mm (outer/inner diameter) The DC-input of the computer supports 19V±5%. AC cable, ca. 180 cm, 3-pin Micky MM C5 plug and Schuko earthed safety plug
SUPPLIED ACCESSORIES	Mehrsprachige Installationsanleitung Treiber-DVD für Windows 11 Zweiteiliges VESA-Halterungs-Set aus Stahl, unterstützt 75x75mm & 100x100mm Halterung für ein 2,5"-Laufwerk Zwei Standfüße aus Aluminium (110 mm breit) für den vertikalen Betrieb Externes 65W-Netzteil mit AC-Netzkabel
OPTIONAL ACCESSORIES	**PS02:** two feet for vertical operation
ENVIRONMENTAL SPECIFICATIONS	Operating temperature range: 0~40 °C **[2]** Relative humidity range: 10~90% (non-condensing)
CERTIFICATIONS / COMPLIANCE	EMI: CE, UKCA, FCC, BSMI, RCM, VCCI Safety: CB IEC60950/62368, cTUVus (UL 62368), BSMI Other: RoHS, Energy Star, ErP 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) 2004/108/EC relating to electromagnetic compatibility (EMC), (2) 2006/95/EC 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)

[1] How to convert DisplayPort into HDMI/DVI
The DisplayPort outputs can be converted to HDMI or DVI by an additional, passive adapter cable. For example:
DELOCK 82590: 1 m, DisplayPort (male, 20p) to HDMI-A (male, 19p)
DELOCK 82435: 5 m, DisplayPort (male, 20p) to DVI-D (male, 24p)
The integrated graphics automatically detects the connected display and puts out the appropriate electric signal - either DisplayPort (without an adapter) or HDMI/DVI (with an adapter).

[2] Caution: For high ambient temperatures over 35 °C we strongly recommend to use SSDs (supporting at least 70 °C) instead of hard disks. Ensure free circulation of air amongst the PC and ventilation holes must stay clear.

[3] Power-on after Power Fail:
The BIOS setup provides a "Power-on after Power Fail" function that can be found under "Power Management Configuration". This function determines the PC's behaviour after power failure. As a matter of the nature of this function, it may fail after short power failures. This is why this PC also comes with a hardware-based solution. By removing Jumper JP1 (please refer to the Quick Installation Guide), the system will start unconditionally once power is applied.

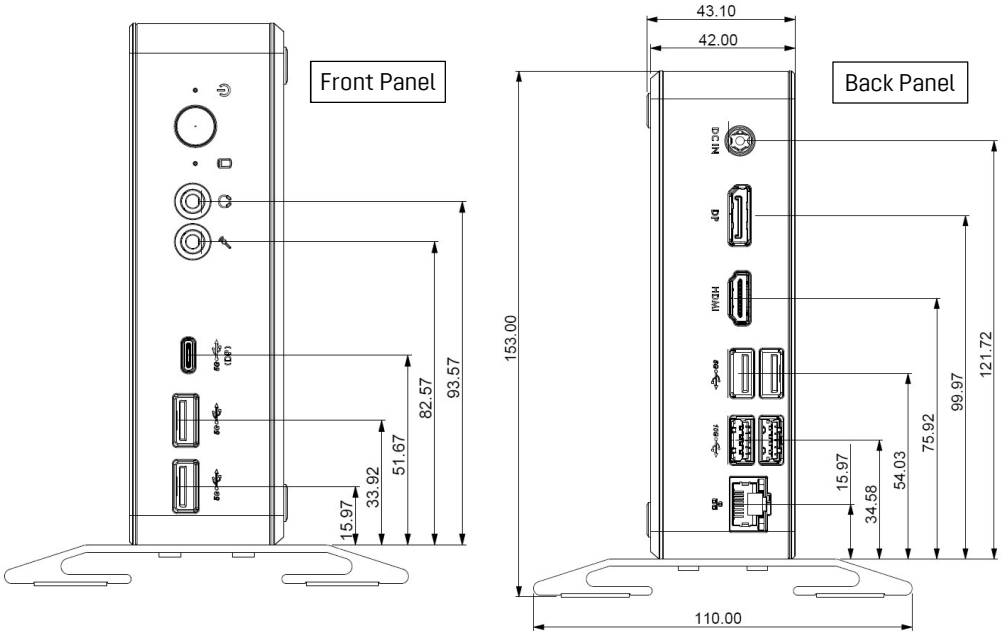
[4] Button Cell Battery

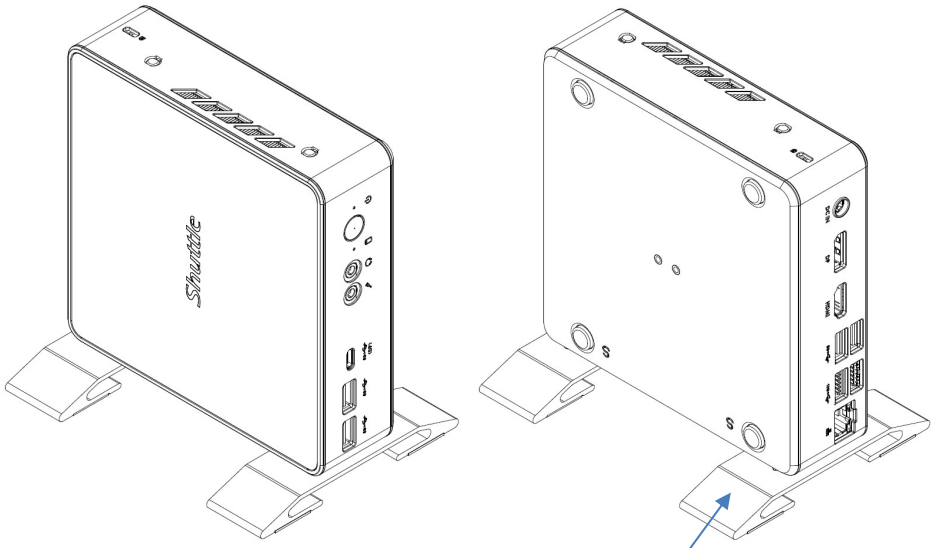
- Purpose:
  The built-in button cell battery on the mainboard supplies the CMOS memory and the Real-Time Clock (RTC) with power so that certain settings are retained and the internal clock continues to run – even if the PC is completely switched off or disconnected from the power supply.
- Specification:
  Model: Lixing KTS CR2032 with cable and connector (Molex 51021-8602, 2-pin, 1.25 mm pitch)
  Type: Lithium metal battery, non-rechargeable, transport identification: UN 3091 (battery is built-in)
  Nominal voltage: 3.0V, nominal capacity: 220 mAh (0.66 Wh)
  Dimensions: 20 mm diameter, 3.2 mm thickness
  Weight: 3.2 g, of which 0.063 g lithium (2.1%)
  Manufacturer: Wuhan Lixing (Torch) Power Sources Co, Ltd, Address: No. 7 Plot, Guandong, Science and Technology Industrial Park, East Lake Development Zone, Wuhan, Hubei, China
- Certificates:
  Material Safety Data Sheet (MSDS), UN38.3 test report, ISO 9001 of the manufacturer, EU DoC
  Download here: https://go.shuttle.eu/Py1Jn
- Replace the battery:
  If the PC issues error messages about the clock or CMOS when starting up, the system's CMOS battery probably needs to be replaced. Use a model with the same technical characteristics as a replacement battery or contact our technical support at support@shuttle.eu.
  The replacement of a CMOS battery may only be carried out by qualified specialist personnel. Improper handling can lead to damage to the mainboard, loss of data or electrical risks. Disconnect the device from the power supply before opening it. Make sure that you do not injure yourself on the sharp metal edges inside the computer. Open the device according to the Quick Installation Guide supplied. Find the battery and pull on the connecting cable so that the plug comes off the mainboard (see photo below). Before pulling out, pay attention to the polarity based on the cable colours (red and black). Carefully remove the old battery, which is stuck on with an adhesive pad. With the new battery, remove the protective film from the adhesive pad and stick the battery in the same position, connect the cable and reassemble the PC. When switching on for the first time, press the "DEL" key, load the "Default Settings" in the BIOS and make any other necessary settings before saving the settings and exiting the BIOS setup.

Photo:
Position of the button cell battery
with the computer housing open.
(on the top of the housing)

- Disposal:
  Batteries are classified as hazardous waste and must be disposed of properly. Do not throw them in the household trash. Dispose of batteries at the designated collection points prescribed by law in your country, e.g. at the dealers' collection points.
- Safety instructions:
  This product contains a lithium button cell battery that can cause serious or fatal injury within 2 hours if swallowed. Not intended for children under the age of three.

Technical Drawings





The vertical stand is not included but is available as an optional accessory PS02.

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