BAREBONE
XPC all-in-one
P55U3 Black

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

The Shuttle XPC all-in-one PC series P55U comes with a capacitive 15.6" multi-touch-screen in Full-HD resolution and is powered by a Gen12/13 Intel ULV processor. The modern processor architecture has a very positive effect on power consumption and computing performance. The existing WLAN function can optionally be supplemented with a 4G/5G function with up to 4 antennas. 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.

CAPACITIVE MULTI TOUCH · FULL-HD 1920x1080 · 2x 48 GB SUPPORT · HDMI VGA · Full HD WEBCAM · NVMe SSD SUPPORT · Wi-Fi 5 BT 4.2 · VESA MOUNT · IP54 FRONT · Max. 40 °C · 24/7 SUPPORT · FANLESS COOLING

COMMON FEATURES
■ IP54 compliant front panel ■ Dimensions: 394 x 273 x 40 mm (WHD)
■ Supports 24/7 Nonstop Operation ■ 100 mm VESA mount capable
■ Operating temperature: 0~40 °C ■ Fanless cooling system

DISPLAY & GRAPHICS
■ 39.6 cm (15.6") LC Display, 1920x1080 pixel ■ Capacitive 10-point multi-touch ■ Integrated Intel UHD graphics ■ HDMI 2.0b & VGA

OPERATING SYSTEM
■ An operating system is not included
■ Supports Windows 10/11 (64-bit) and Linux (64-bit)

PROCESSOR
■ Intel Core i3-1315U processor (Intel Core Gen. 13 "Raptor Lake-U")
■ Processor cores: 2x P-Cores, 4x E-Cores, TDP: 15W, Cache: 10 MB

RAM Memory
■ 2x 262-pin SO-DIMM slot ■ Supports DDR5-5200 ■ max. 2x 48 GB

M.2 SLOTS FOR SSD CARDS
■ First M.2-2280 slot supports one SSD card (PCIe X4/ NVMe or SATA)
■ Second M.2-2280 slot supports one SSD card (SATA) or one optional 4G/5G module (WWN04 required)

CONNECTIVITY
■ HDMI 2.0b ■ D-Sub/VGA ■ 2x USB 3.2 Gen 2 ■ 4x USB 3.2 Gen 1
■ 2x Serial COM ports (RS232 and RS232/422/485)
■ Gigabit LAN (Intel i219V) ■ 2x Audio (for microphone & headphones)

BUILT-IN
■ 2.0 Megapixel FHD webcam ■ 2x 2 W speakers ■ Electret Condenser Microphone ■ WLAN-ac (Wi-Fi 5, RTL8821CE) with two internal antennas

POWER SUPPLY
■ External 90W / 19V power adapter ■ DC-input supports 12V and 19V

OPTIONAL ACCESSORIES
■ **WLN-M1:** WLAN kit (Intel AX200, WiFi-6) with two external antennas
■ **WWN04:** 4G/5G kit with four external antennas (supports one WAN card and one Nano SIM card – not included)

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MODELS OF THE P55U SERIES

Product	Intel Processor	Intel Generation	P-Cores / Threads	E-Cores / Threads	L3 Cache	max. RAM supported	Graphics clock max.	EUs	UPC Code
P55U	Celeron 7305	Gen 12	1 / 1	4 / 4	8 MB	2x 32 GB DDR5-4800	1100 MHz	48	887993007113
P55U3	Core i3-1315U	Gen 13	2 / 4	4 / 4	10 MB	2x 48 GB DDR5-5200	1250 MHz	64	887993007120

PRODUCT FEATURES

All applications at your fingertips - 10-point multi-touch

The innovative touchscreen technology delivers the simplest operation possible and makes the screen the centre of action. Its high-quality design gives you access to all capabilities of the PC - by just touching the screen.

24/7 nonstop operation

The Shuttle XPC all-in-one P55U3 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

Fanless and quiet

The Shuttle XPC all-in-one P55U3 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 P55U3 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 two USB connectors which need to be accessed from the front.

Connects up to two external displays

The Shuttle XPC all-in-one P55U3 features two video outputs: One analog D-Sub/VGA connector and one HDMI 2.0 connector. Two separate displays can be connected in extended mode. Now add the built-in display of the P55U3 and there are three displays showing different content.

VESA mount *)

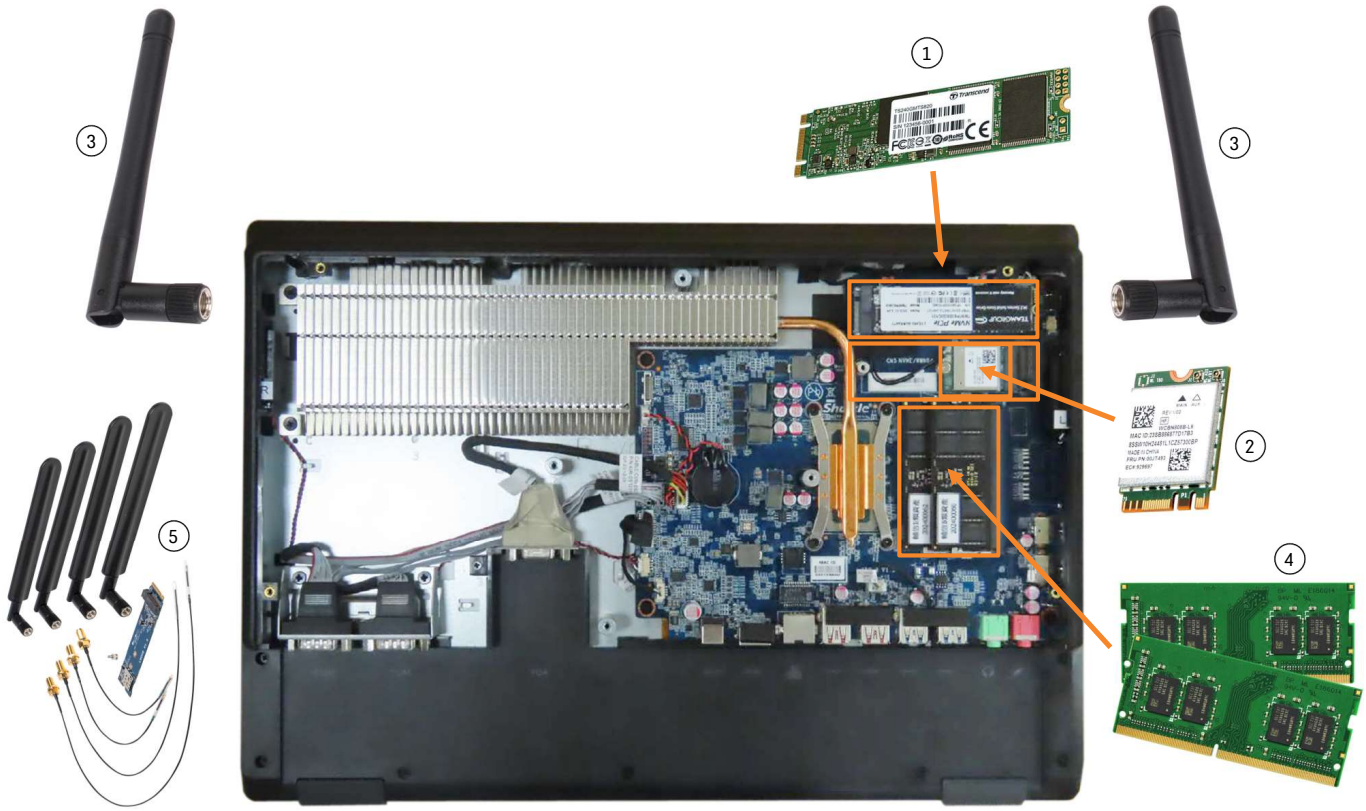
The stand on the rear can easily be removed to unveil four VESA mounting screw holes (100 x 100 mm) that can be used for mounting arms and other mounting devices from a variety of manufacturers.

*) VESA mount is not included

Front and Back Panel

1. 2x Perforation for external antenna
2. 2x speakers (stereo)
3. Hole for Kensington lock
4. Stand
   (a) Stand mounting plate
   (b) VESA cover
   (c) 100 x 100 mm VESA mount
5. Power button
6. 2x USB 3.2 Gen 1 (5 Gbps, blue)
7. Hole with Clear CMOS button
8. Microphone
9. Full HD Webcam
10. LED indicates Webcam activity
11. Touchscreen LCD display
12. Power LED
13. Hard disk LED
14. 2x COM ports (Sub-D)
15. D-Sub/VGA video output
16. DC-input for power adapter
17. HDMI video output
18. RJ45 Gigabit LAN port
19. 2x USB 3.2 Gen 2 (10 Gbps, red)
20. 2x USB 3.2 Gen 1 (5 Gbps, blue)
21. Audio Line-out (headphones)
22. Microphone input
23. Rubber feet

Installable Components



1. **M.2-2280 SSD Card**
   The upper M.2-2280 slot can be equipped with a M.2 SSD card (80 mm length) which can have PCIe/NVMe or SATA interface. There is another M.2-2280 slot, which can either be used for an additional M.2 SSD (SATA only) or for the 4G/5G accessory (5)
2. **M.2-2230 WLAN Card**
   P55U is supplied with a WLAN function as standard. For this purpose, there is a pre-installed Wi-Fi 5 (WLAN-ac) card in the M.2-2230 slot. The card is connected to two internal antennas.
3. **WLAN Ugrade Kit**
   The pre-installed WLAN function can be upgraded with the optional WLN-M1 accessory. This kit includes a Wi-Fi 6 (WLAN-ax) card with two external antennas.
4. **DDR5 SO-DIMM memory**
   P55U supports two SO-DIMM memory modules; with a maximum of 32 GB DDR5-4800 each (or higher data rate).
5. **4G/5G Kit WWN04**
   This kit includes an adapter board for the lower M.2-2280 slot (CN5) and four external antennas. For data transmission in the mobile network, the these additional components are required
   - a 4G/LTE card in M.2-3042 format or a 5G card in M.2-3052 format
   - an activated nano SIM card

Shuttle Product Comparison: P55U versus predecessors

MODEL	P55U Series	P52U Series	P51U Series
Processor	Intel Core Gen 12/13, TDP=15W Codename: "Alder/Raptor Lake-U" **P55U:** Celeron 7305 **P55U3:** Core i3-1315U	Intel Core Gen 10, TDP=15W Codename: "Comet Lake-U" **P52U:** Celeron 5205U **P52U3:** Core i3-10110U	Intel Core Gen 8, TDP=15W Codename: "Whiskey Lake-U" **P51U:** Celeron 4205U **P51U3:** Core i3-8145U
Operating System Support	Windows 11 – 64-bit Windows 10 – 64-bit Linux – 64-bit	Windows 11 – 64-bit Windows 10 – 64-bit Linux – 64-bit	Windows 11 – 64-bit Windows 10 – 64-bit Linux – 64-bit
RAM memory (max.)	Supports 2x DDR5 SO-DIMM modules **P55U:** max. 2x 32GB DDR5-4800 **P55U3:** max. 2x 48GB DDR5-5200	Max. 2x 32 GB SO-DIMM Celeron: DDR4-2400 Core i3: DDR4-2666	Max. 2x 32 GB SO-DIMM Celeron: DDR4-2133 Core i3: DDR4-2400
M.2 Slot	Two M.2-2280 slots for M.2-SSDs 1) supports PCIe/NVMe or SATA 2) supports SATA or 4G/5G kit	M.2-2280 slot for M.2-SSD **P52U:** PCIe X4 Gen 2 / SATA **P52U3:** PCIe X4 Gen 3 / SATA	M.2-2280 slot for M.2-SSD **P51U:** PCIe X4 Gen 2 / SATA **P51U3:** PCIe X4 Gen 3 / SATA
2.5" bay	–	2.5" bay (max. 9.5 mm, SATA)	2.5" bay (max. 9.5 mm, SATA)
LAN	Intel 219 Gigabit LAN	Intel 219 Gigabit LAN	Intel i211 Gigabit LAN
WLAN	Realtek RTL8821CE supports WLAN-ac and BT 4.2 2x internal antenna	No WLAN module (2 internal antennas pre-installed)	Realtek RTL8821CE-CG supports WLAN-ac and BT 4.2 2x internal antenna
Audio	Realtek ALC888S (HD Audio)	C-Media CM6542 (USB) or Realtek ALC269 (HD Audio)	Realtek ALC269 (HD Audio)
Connectors Left side	Power button 2x USB 3.2 Gen 1 Hole with Clear CMOS button 2x Perforation for ext. antennas	Power button 2x USB 3.2 Gen 1 Hole with Clear CMOS button 1x Perforation for ext. antennas SD card reader	Power button 2x USB 3.2 Gen 1 Hole with Clear CMOS button 1x Perforation for ext. antennas SD card reader
Connectors Right side	Hole for Kensington Lock 2x Perforation for ext. antennas	Hole for Kensington Lock 1x Perforation for ext. antennas Optional: 2x COM (D-Sub)	Hole for Kensington Lock 1x Perforation for ext. antennas Optional: 2x COM (D-Sub)
Connectors Bottom	HDMI 2.0b VGA/D-Sub 2x USB 3.2 Gen 2 2x USB 3.2 Gen 1 2x COM (RS232+RS232/422/485) Gigabit LAN (Intel) Audio Line-Out Microphone Input DC input (supports 12V and 19V)	HDMI 1.4b VGA/D-Sub 2x USB 3.2 Gen 1 2x USB 2.0 2x COM (RS232) Gigabit LAN (Intel) Audio Line-Out Microphone Input DC input (supports 12V and 19V)	HDMI 1.4b VGA/D-Sub 2x USB 3.2 Gen 1 2x USB 2.0 2x COM (RS232) Gigabit LAN (Intel) Audio Line-Out Microphone Input DC input (supports 12V and 19V)
Power Adapter	90 W / 19 V 3-pin AC plug	65 W / 19 V 2-pin AC plug	65 W / 19 V 2-pin AC plug
Optional Shuttle Accessories	**WLN-M1** (WLAN-ax-kit / Wi-Fi 6 with two external antennas) **WWN04** (4G/5G kit for mobile network with 4 antennas)	**WLN-M1** (WLAN-ax-kit / Wi-Fi 6 with two external antennas) **2x PCP11** (COM port)	**WLN-M1** (WLAN-ax-kit / Wi-Fi 6 with two external antennas) **2x PCP11** (COM port)

Product Comparison: Shuttle XPC All-in-One Models

Chassis	Display Size / Pixel / Type	Processor Type	Product Name by Intel processor-generations			Chassis Colour
			Gen. 8	Gen. 10	Gen. 12/13	
	11.6″ 1366 x 768 Capacitive Multitouch	Celeron (P25N: N-Series processor)	—	**P22U**	**P25N**	**Black**
	15.6″ 1366 x 768 Resistive Singletouch	Celeron	**X50V7** X50V7L *)	**X50V8**	**X50V9**	**Black, White**
		Core i3	**X50V7U3** X50V7U3L *)	**X50V8U3**	**X50V9U3**	**Black, White**
	15.6″ 1920 x 1080 Capacitive Multitouch	Celeron	**P51U**	**P52U**	**P55U**	**Black**
		Core i3	**P51U3**	**P52U3**	**P55U3**	**Black**
	19.5″ 1600 x 900 Capacitive Multitouch	Celeron	—	**P92U**	—	**Black, White**
		Core i3	—	**P92U3**	—	**Black, White**
		Core i5	—	**P92U5**	—	**Black**

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

SHUTTLE XPC all-in-one BAREBONE P55U3 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.
IP54 PROTECTED	The front panel is dust-protected and protected from splashing of water according to protection class IP54.
CHASSIS	Colour: black Dimensions: 393.6 x 272.5 x 39.8 mm (W x H x D) 100 mm VESA mount with installed hinged stand Hole for optional Kensington lock (right side) Weight: 3.25 kg net, 4.5 kg gross
OPERATING SYSTEM	This system comes without operating system. It is compatible with: - Windows 11 - 64-bit - Windows 10 - 64-bit - Linux - 64-bit
TOUCHSCREEN	Capacitive Touch Panel with 10-point multi-touch
15.6″ DISPLAY	39.6 cm / 15.6" LC display, IPS technology Ratio: 16:9 wide-screen panel Native resolution: 1920 x 1080 = 2 Megapixel (Full HD / 1080p) Brightness: 250 cd/sqm
PROCESSOR	Model: Intel Core i3-1315U Code name: Raptor Lake-U (13th generation Intel Core) Performance-cores (P-Cores): 2 cores (4 threads), Basic/Turbo clock: 1.2-4.5 GHz Efficient-cores (E-Cores): 4 cores (4 threads), Basic/Turbo clock: 0.9-3.3 GHz Smart-Cache (L3): 10 MB Base Power (PL1 TDP): max. 15 W Maximum Tjunction Temperature: 100 °C System-on-a-chip architecture (SoC) with integrated memory and graphics controller BGA1700 package - directly soldered onto the mainboard Lithography: Intel 7 process (10 nm Enhanced SuperFin)
INTEGRATED GRAPHICS	Intel UHD Graphics GPU clock frequency: max. 1250 MHz Execution Units (EUs): 64
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: - Clone mode: all displays show the same content at 1920 x 1080 resolution - 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 SUPPORT	2x SO-DIMM slot with 262 pins Supports DDR5-5200 (PC5-41600) SDRAM at 1.1 V Supports memory modules with higher frequency rating Supports Dual Channel mode Supports a maximum of 48 GB per DIMM, maximum total size: 96 GB Supports two unbuffered DIMM modules (no ECC or registered) Two thermal pads for the RAM modules are included

TWO M.2 SLOTS FOR SSD CARDS

This product features two M.2-2280 Key-M slots
- it supports M.2 cards with a width of 22 mm and a length of 80 mm (type 2280)
- one M.2 SSD card with PCIe/NVMe interface is supported
- the second M.2 SSD card must have SATA interface
- the second slot can also be used for the optional WWN04 kit to support a 4G/5G wireless network card

The following configurations are supported:

M.2 Slot	Inferfaces	Config 1	Config 2	Config 3
Slot 1 CN6, above	PCIe Gen4 x4 and SATA 3.0	M.2 SSD card (SATA)	M.2 SSD card (PCIe/NVMe)	M.2 SSD card (SATA)
Slot 2 CN5, below	PCIe Gen4 x4 and USB 3.2 Gen2 *)	M.2 SSD card (PCIe/NVMe)	optional WWN04 kit	optional WWN04 kit

*) the USB 3.2 interface can only be used with the Shuttle Accessory WWN04

Two thermal pads for the M.2 SSDs are included (size: 70 x 20 x 5.5 mm).

WEBCAM

Integrated Full HD webcam (1920 x 1080 pixels)

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 i219V Ethernet Controller
Supports 10 / 100 / 1.000 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 1 (max. 5 Gbps, blue)
Hole with hidden Clear CMOS button (onboard micro switch)
2x perforation for optional external antenna
Connectors right side
2x perforation for optional external antenna
Hole for optional Kensington lock

CONNECTORS BOTTOM SIDE

HDMI 2.0b (supports digital video and digital audio)
VGA connector (D-Sub 15 pol., analog video)
2x USB 3.2 Gen 2 (max. 10 Gbps, red)
2x USB 3.2 Gen 1 (max. 5 Gbps, blue)
Gigabit Network (LAN, RJ45, Intel i219V)
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 D-Sub (1x RS232, 1x RS232/422/485)

HOLES FOR ANTENNAS

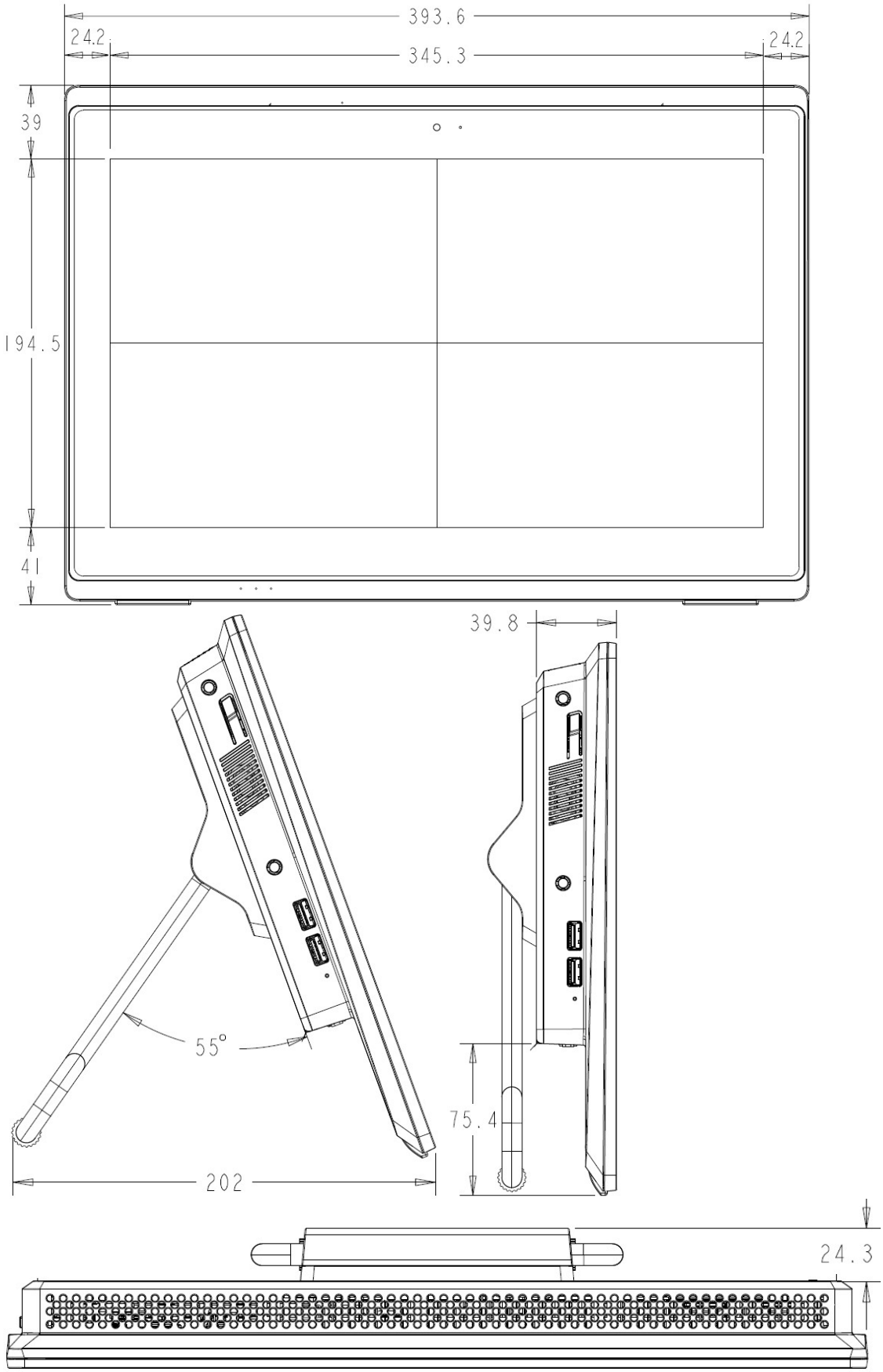
Opening holes for four optional antennas:
The chassis features four perforated 6.5 mm holes
for optional antennas mounted with an (RP-)SMA connector
for wireless network such as WLAN or WWAN (e.g. 4G/5G)
(see section "Optional Accessories")

POWER ADAPTER

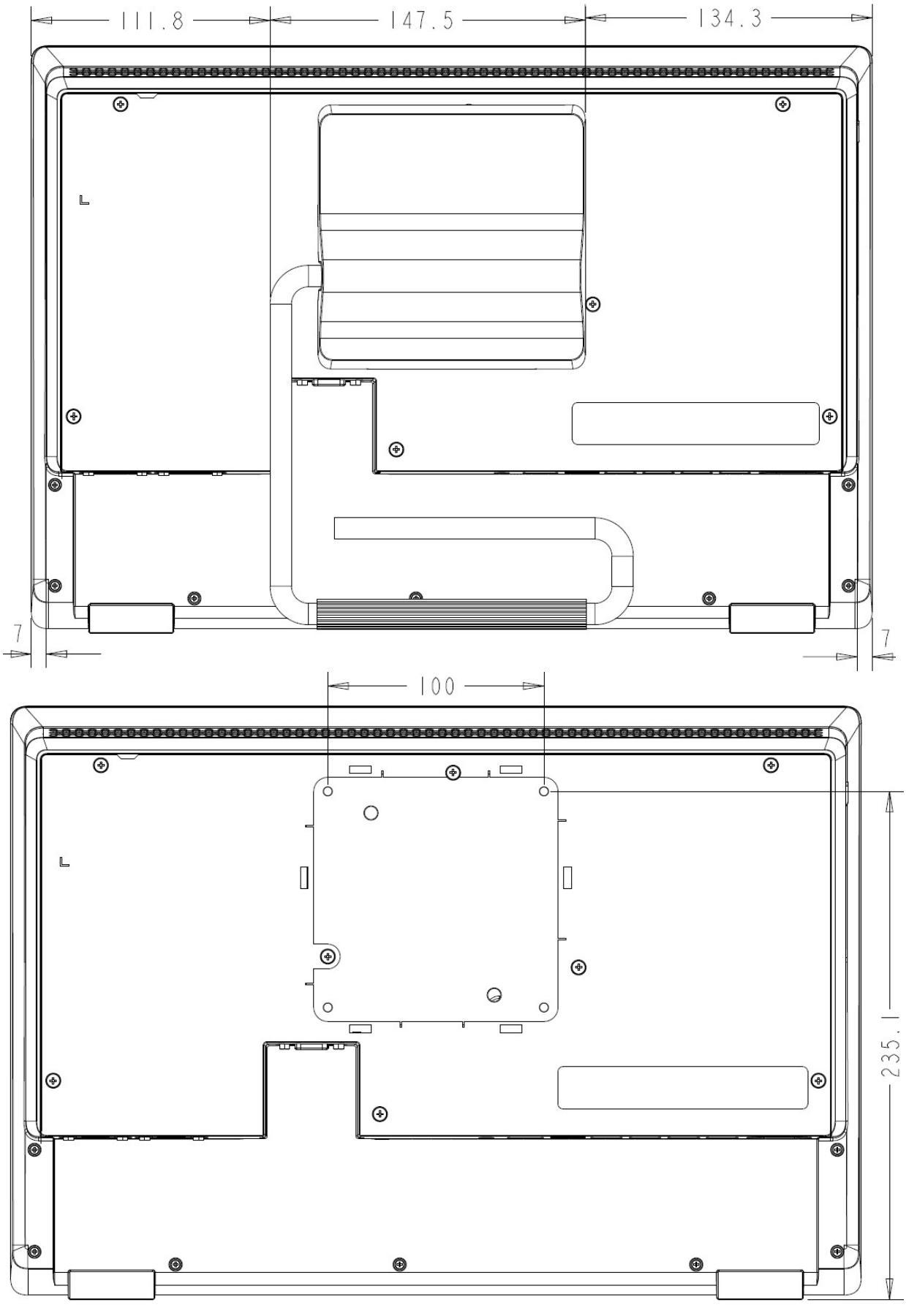
External 90 W power adapter (fanless)
Input: 100~240 V AC, 50/60 Hz, max. 1.6 A
Output: 19 V DC, max. 4.74 A, max. 90 W
DC cable length: ca. 170 cm
AC cable length: ca. 170 cm (3-pin Micky MM C6 and Schuko earthed safety plug)

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	Multilingual Quick Guide Driver DVD for Windows External Power Adapter (90W / 19V) 3-pin AC Power cord with protective-earth contacts 2x Thermal Pads for SSD M.2 cards: 70 x 20 x 5.25 mm 2x Thermal Pads for RAM modules: 50 x 15 x 2.25 mm and 70 x 20 x 4 mm 3x M3x4 silver screws for mounting M.2 SSD cards
OPTIONAL ACCESSORIES	**1) WLAN kit WLN-M1 (Intel AX200 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) 4G/5G kit WWN04** This kit includes an adapter board for the lower M.2-2280 slot (CN5) and four external antennas. For data transmission in the mobile network, the these additional components are required - a 4G/LTE card in M.2-3042 format or a 5G card in M.2-3052 format - an activated nano SIM card **3) COM port adapter 2x PCP11** provides two serial COM ports (1x RS232, 1x RS232/422/485) on the bottom side
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)

P55U Series – Technical Drawings



P55U Series – Technical Drawings



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