

2H2024 Vol.01

INDUSTRIAL PC PRODUCT GUIDE

Shuttle[®]

Robust, durable, and reliable computing solutions for your future business,
including factory automation, digital healthcare, smart retail, and IoT Edge-related applications

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YOUR INDUSTRY OUR EXPERTISE

I Edge IoT PC

SPCEL02/03	07
SPCEL12	09
Spec. Sheet	11

I Embedded Box PC

BPCAL02 / BPCAL03	15
BPCEL02 / BPCEL03 / BPCEL07	17
Spec. Sheet	19
Flexible I/O Customization with Expansion Kits	22

I HMI / Panel PC

P21AL01 / P15AL01	25
P15EL01	27
Spec. Sheet	29

I Medical Panel PC

M21AL01 / M15AL01	35
M21WL01	37
Spec. Sheet	39

I KIOSK

K11WL02 / K15WL01 / K21WL01 / K27WL04	43
K11RK02 / K15RK01 / K21RK01 / K27RK04	45
Spec. Sheet	47

I Optional Expansion Kit

Spec. Sheet	49
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ABOUT SHUTTLE

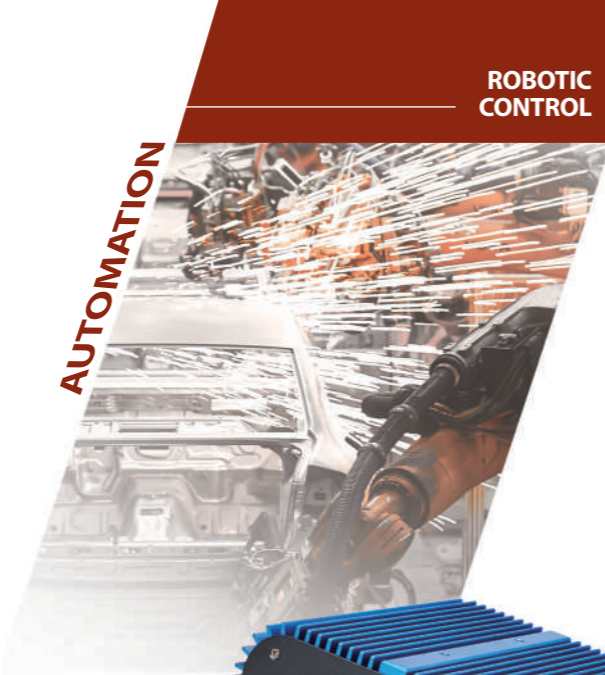
Established in 1983, Shuttle is a leading provider of commercial mini-PCs and industrial PCs. With a history of over four decades of hardware innovation, the company offers dependable and efficient mini-PC and embedded solutions for applications such as Machine Learning, AI, Edge Computing, and Embedded systems.

Shuttle's product lineup encompasses Mini PCs, Embedded Box PCs, Edge computers, HMI/Touch Panel PCs, All-In-One units, and Kiosks, specifically designed for IoT applications like digital signage, self-serve kiosks, surveillance, automation control, and so on.

In response to the continuous advancements in AI and IoT technologies, Shuttle is committed to enhancing its AI PC solutions to address evolving market needs, with a focus on reliability, durability, and performance across diverse industries.

APPLICATIONS

AUTOMATION



ROBOTIC CONTROL

MACHINE VISION



DEFECT DETECTION

IMAGE RECOGNITION



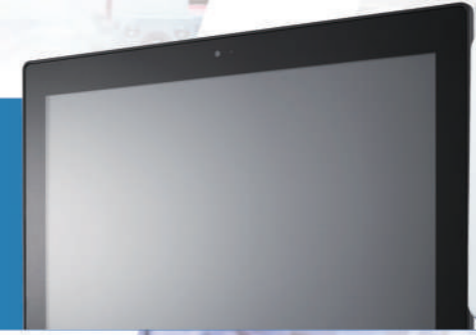
TRAFFIC FLOW ANALYTICS

IP-VIDEO SECURITY



NVR / SURVEILLANCE

IPC Product Line



DIGITAL SIGNAGE



OUTDOOR ADVERTISING

INTERACTIVE KIOSK



SELF-SERVICE TERMINAL

PRO AUDIOVISUAL



CONTROL ROOM MONITORING

INDUSTRIAL HMI



TELEMEDICINE / NURSING STATION

IOT EDGE PC

ULTRA-COMPACT IOT SOLUTION

The Shuttle IoT Edge PC series boasts an ultra-compact, fanless design and reliable performance. Its sturdy metal chassis is intended for DIN-Rail, Ear Mount, and VESA mounting, providing a range of external connection options. This device is well-suited for applications like industrial automation, digital signage, IoT Edge computing, and more.





SPCEL02/03



Unleash IoT Edge Potential

Expandability and Connectivity in an Ultra-Compact Form

Shuttle's SPCEL02/03 redefines compact computing with its exquisite metal design, durable performance, fanless operation, and wide temperature support. With a miniature volume of 450ml, this device offers flexibility in installation with options like DIN rail and VESA mounting, facilitating deployment in constrained spaces. The SPCEL02/03 integrates the Intel® Elkhart Lake processor optimized for IoT applications and supports DDR4-3200 RAM, M.2 SSD cards, and WLAN. Its compact housing provides a range of connections, including dual LAN, COM, and Digital I/O. It is well-suited for applications like edge computing (IoT Gateway), automation, control systems, and video surveillance.



Features

- Intel® Elkhart Lake CPU options with integrated UHD Graphics: Atom® x6000E series, Pentium®, and Celeron® N and J Series
- Fanless operating temperature: 0°C - 40°C (SPCEL02) / -20°C - 60°C (SPCEL03)
- Up to 2.5 GbE Dual LAN support, featuring BIOS Wake on LAN
- Multiple connections of USB 3.2 Gen2, COM, Digital I/O
- M.2 M key expansion for SATA / SSD and E Key for additional WLAN module
- 4K/UHD supports: with 1 x HDMI 2.0b
- In compliance with EN50155 and MIL-STD-810G standards



SPCEL12

Elevate Your Space-Saving Signage Experience

Triple Display, Empowering Connectivity, Limitless Possibilities

The Shuttle SPCEL12 stands out as a specialized solution for digital signage within the Edge IoT SPC series. With 2x HDMI and 1x DisplayPort outputs, it effortlessly enables triple display experiences, making it perfect for advertising, information display, and entertainment in limited spaces. Connectivity is ensured with USB 3.1 gen2 and dual LAN ports, supplemented by an optional M.2 slot for 4G/LTE card expansion. Whether for retail menu boards, traffic schedules, or corporate communications, the compact yet powerful SPCEL12 empowers businesses and professionals alike with impactful content delivery across multiple screens.



Triple Displays



DDR4-3200



Din Rail



4K UHD



M.2

Features

- Intel® Celeron® J Series and Pentium® N Series Processor options with integrated UHD Graphics
- 4K/UHD triple display support with 2 x HDMI 2.0b and 1 x DP 1.4
- Up to 2.5 GbE Dual LAN support, featuring BIOS Wake on LAN
- Multiple installation support: DIN-rail, VESA, Ear Mount
- In compliance with EN50155 and MIL-STD-810G standards
- M.2 M key / B Key expansion for SATA / SSD / 4G / LTE card and E Key for additional WLAN module

		SPCEL02	SPCEL03	SPCEL12	EN01E
COOLING SYSTEM		Fanless	Fanless	Fanless	Fanless
PROCESSOR		Intel® Celeron® J6412	Intel® Atom® x6413E	Intel® Celeron® J6412	Intel® Atom® x5-E3940 9.5W processor
CHIPSET		-	-	-	Integrated in CPU
GRAPHICS		Intel® UHD Graphics for 10 th Gen Intel® Processors	Intel® UHD Graphics for 10 th Gen Intel® Processors	Intel® UHD Graphics for 10 th Gen Intel® Processors	Intel® HD Graphics 500
DISPLAY RESOLUTION MAX.		HDMI 4096 x 2160@60Hz	HDMI 4096 x 2160@60Hz	HDMI 4096 x 2160@60Hz	HDMI 3840 x 2160@30Hz
DISPLAY OUTPUT		1 Display	1 Display	3 Display	1 Display
VIDEO DECODER		-	-	-	MPEG2, WMV9, VC1, H.264, JPEG/MPEG, MVC, HEVC/H.265, VP8, VP9
MEMORY		1 x DDR4 up to 3200 MHz, Max. 32GB RAM socket x 1	1 x DDR4 up to 3200 MHz, Max. 32GB RAM socket x 1	1 x DDR4 up to 3200 MHz, Max. 32GB RAM socket x 1	8GB / LPDDR4 2400 MHz
STORAGE		1 x SATA I/F (2242/2280) With M.2 E-Key WLAN sku, only 2242 can support	1 x SATA I/F (2242/2280) With M.2 E-Key WLAN sku, only 2242 can support	1 x SATA I/F (2242/2280) With M.2 E-Key WLAN sku, only 2242 can support 1 x micro SD card slot	64GB eMMC 1 x micro SD card slot
EXPANSION SLOTS		M.2 2242/2280/2230	M.2 2242/2280/2230	M.2 2242/2280/2230	1 x M.2 3042, B Key
VIDEO OUTPUT	HDMI Port	1 x HDMI 2.0	1 x HDMI 2.0	2 x HDMI 2.0	1 x HDMI 1.4
	DisplayPort	-	-	1x DP 1.4	-
	VGA Port	-	-	-	-
I/O PORT	USB	2 x USB 3.2 Gen2 / 1 x USB 2.0	2 x USB 3.2 Gen2 / 1 x USB 2.0	2 x USB 3.2 Gen2 / 1 x USB 2.0	2 x USB 3.1 Gen1 / 1 x USB 2.0 (Micro A/B)
	Serial Ports	1 x RS232/422/485 (DB-9) / 1 x DI/DO	1 x RS232/422/485 (DB-9) / 1 x DI/DO	-	-
	Audio	-	-	1 x Line-out / 1 x Mic-in	-
	SIM slot	-	-	1 x SIM Card	1 x Nano SIM slot
NETWORK	LAN	2x RJ-45 (Intel® 2.5G Lan)	2x RJ-45 (Intel® 2.5G Lan)	2x RJ-45 (Intel® 2.5G Lan)	1 x Intel® Gigabit LAN 1 x POE-PD or POE-PSE (Optional)
	WLAN	External antenna (Dipole) 1 x M.2 2230 E key Intel® WiFi Module (802.11 a/b/g/n/ac) + BT 5.0 Realtek RTL8821CE (802.11 a/b/g/n/ac) + BT 5.0 (Optional)	External antenna (Dipole) 1 x M.2 2230 E key Intel® WiFi Module (802.11 a/b/g/n/ac) + BT 5.0 Realtek RTL8821CE (802.11 a/b/g/n/ac) + BT 5.0 (Optional)	External antenna (Dipole) 1 x M.2 2230 E key Intel® WiFi Module (802.11 a/b/g/n/ac) + BT 5.0 Realtek RTL8821CE (802.11 a/b/g/n/ac) + BT 5.0 (Optional)	Optional (LN007 + WLN-M)
MOUNTING		VESA 50 x 50 mm / Ear Mount / Din Rail (Optional)	VESA 50 x 50 mm / Ear Mount / Din Rail (Optional)	VESA 50 x 50 mm / Ear Mount / Din Rail (Optional)	Bracket included
DIMENSION (L/W/H) mm		120 x 75 x 51	120 x 75 x 51	120 x 75 x 51	92.4 x 54.4 x 90
WEIGHT	NW (kg)	0.7	0.7	0.7	0.48
	GW (kg)	1.2	1.2	1.6	1.03
CERTIFICATION		Safety: CB, cTUVus, BSMI, UKCA EMC: FCC Class A, CE Mark, VCCI, BSMI, RCM, UKCA, EAC	Safety: CB, cTUVus, BSMI, UKCA EMC: FCC Class A, CE Mark, VCCI, BSMI, RCM, UKCA, EAC	Safety: CB, cTUVus, BSMI, UKCA EMC: FCC Class A, CE Mark, VCCI, BSMI, RCM, UKCA, EAC	CB, CE, BSMI, cTUVus, FCC, RCM, RoHS, VCCI
OPERATING TEMPERATURE (°C)		0°C ~ 40°C	-20°C ~ 60°C	0°C ~ 40°C	-20°C ~ 60°C
CHASSIS		Rugged aluminum chassis	Rugged aluminum chassis	Rugged aluminum chassis	Metal
POWER SUPPLY	Power Input	DC 12~24V, 3-pin terminal block	DC 12~24V, 3-pin terminal block	DC 12~19V	12V~19V DC in
	Power Adapter	19V/65W adapter(optional)	19V/65W adapter(optional)	19V/65W adapter	40W/65W 19V adapter (Optional)
OPERATING SYSTEM		Windows 11 IoT Enterprise 64bit O.S / Linux (base on Elkhart Lake Atom® support OS)	Windows 11 IoT Enterprise 64bit O.S / Linux (base on Elkhart Lake Atom® support OS)	Windows 11 IoT Enterprise 64bit O.S / Linux (base on Elkhart Lake Atom® support OS)	Windows 10 64bit / Linux

EMBEDDED BOX PC



FANLESS, CUSTOMIZABLE, POWERFUL IPC BOOSTS DIVERSE TASKS

Embedded Box PCs combine fanless thermal design with a robust aluminum heat sink enclosure to remain reliable in operation in harsh operating conditions. With a customizable modular design and multiple interfaces, these IPCs are ready to tackle specific tasks.

BPCAL02 , BPCAL03

Intel® Alder Lake-Based

Real-Time Edge Processing with Unmatched Performance

Shuttle's BPCAL02 and BPCAL03 are advanced embedded PCs featuring Intel® 12th Gen Alder Lake processors. With Intel® Iris® Xe graphics and dual-channel DDR5-4800 memory support, providing enhanced computing and loading efficiency, providing reliable solutions for IoT Edge, machine learning, industrial process monitoring, data analysis, and image recognition tasks. Moreover, this device boasts rich connectivity options, supports up to 4 displays, and modular designs for flexible expansions, while the BPCAL03 operates in a wide temperature range -20°C to +60°C.

Features

- 12th Gen. Intel® Alder Lake U-series / 15W Core™ and Celeron® processors
- Max four independent displays via HDMI 2.0 and optional video output expansion kit
- Dual Intel® LAN, 4 x USB 3.2 Gen 2, 4 x USB 2.0, 3 x RS232, M.2 2280 Type M, and M.2 2230 Type E
- Modularity for I/O configurations to meet diverse application needs
- Multiple installation support: VESA, Ear Mount, DIN-rail
- Operating Temperature: BPCAL02: 0°C ~ 40°C BPCAL03: -20°C ~ 60°C

* Intel® Iris® Xe graphics for Core i5 / i7 model only



4K UHD



Dual LAN



Fanless



DDR5



BPCEL02 / BPCEL03 / BPCEL07



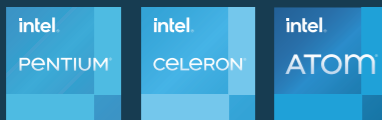
Intel Elkhart Lake-Based Accelerate Your IoT Innovations with Powerful Computing

Shuttle BPCEL02/BPCEL03/BPCEL07 are versatile fanless embedded PCs designed with the Intel® Elkhart Lake platform, offering multiple processor options to meet different performance requirements. The series has a rich set of I/O and expansion interfaces, and its modular design allows for different I/O expansions and replacements to meet various customization needs. Moreover, the aluminum alloy housing design provides excellent heat dissipation and anti-interference capabilities, supporting a broad working temperature range of up to -30°C to +70°C. It is well-suited for several applications, including industrial control, automation, IoT, edge computing, retail, and more.

Features

- CPU options of Intel® Elkhart Lake Pentium® J6426 / Celeron® J6412 / Atom® x6425E
- Dual independent display via HDMI (Support up to triple display through optional video output expansion kit)
- 4 x USB 3.2 Gen 1, 4 x USB 2.0, 3 x RS232, M.2 2280 Type M, and M.2 2230 Type E
- Dual Intel® 2.5G LAN supports Wake On LAN
- Dual DDR4 3200MHz memory, up to 32GB
- Multiple installation support: VESA, Ear Mount, DIN-rail

	BPCEL02	BPCEL03	BPCEL07
PROCESSOR	Pentium® J6426 Celeron® J6412 Atom® x6425E	Pentium® J6426 Celeron® J6412 Atom® x6425E	Atom® x6425E
OPERATING TEMPERATURE	0°C ~ 40°C	-20°C ~ 60°C	-30°C ~ 70°C
BUNDLED ADAPTER	19V/4.74A 90W external adapter	19V/7.89A 150W external adapter	19V/7.89A 150W external adapter



Wide Range Voltage Support (Optional)



Wide Temperature (BPCEL07 Only)



Dual 2.5G LAN



Fanless

		BPCAL02	BPCAL03
SYSTEM	Processor	12 th Gen. Intel® Alder Lake Core™ i3-1215UE (default) Optional: i5-1235U, i5-1245UE, i7-1255U, i7-1265UE, Celeron® 7305E	
	Memory	2 x 262 pin SO-DIMM up to 64GB Dual Channel DDR5 4800 MHz	
	BIOS	AMI UEFI 64 Mbit	
GRAPHICS	Chipset	Intel® UHD or Iris® Xe Graphics	
	Display Interface	2 x HDMI 2.0: 4096 x 2160@60Hz	
	Display Output	Max: 4 independent or clone	
	Video Decoder	WMV, AVC/H264, JPEG/MJPEG, HEVC/H265, VP9, AV1	
STORAGE	Internal	1 x M.2 2280 M key (PCIe NVMe / SATA) 1 x 2.5" HDD / SSD (Optional)	
AUDIO	Audio Codec	Realtek ALC888S-VD 2-channel	
NETWORK	Ethernet	2 x Intel® LAN Support Wake On LAN	
	WLAN	Realtek RTL8821CE 802.11a/b/g/n/ac + Bluetooth 5.0 WLAN card M.2 2230 E key (Optional) External antenna (Dipole) x 2 (Optional)	
I/O INTERFACE	Serial Ports	1 x RS-232 (DB-9) 2 x RS-232/422/485 (DB-9) (RS-232 with power supply: Ring in / 5V (standard) & 12V (with specific optional board))	
	USB	4 x USB3.2 Gen 2 (Type A) 4 x USB2.0	
	Audio	1 x Line-out 1 x Mic-in	
POWER	Bundled Adapter	19V/4.74A 90W external adapter	19V/7.89A 150W external adapter
	Option	With option wide range board, MB support 9-36V DC-in	
WATCHDOG TIMER	Watchdog	Support watchdog	
OS SUPPORT	OS Support	Windows 11 64bit / Linux 64bit	
MECHANISM	Mounting	VESA Mount 75 x 75 mm / Ear Mount 256 x 100 mm / Din Rail	
	Dimension (L/W/H)	245 x 169 x 57	245 x 169 x 57
	Weight	2.85kg	2.85kg
ENVIRONMENT	Operating Temperature	0°C ~ 40°C	-20°C ~ 60°C
	Relative Humidity	20% - 80% RH (non-condensing)	20% - 80% RH (non-condensing)
	EMC	CE, FCC, VCCI, BSMI, RCM	CE, FCC, VCCI, BSMI, RCM
	Safety	CB, CEC, cTUVus, BSMI, EAC	CB, CEC, cTUVus, BSMI, EAC

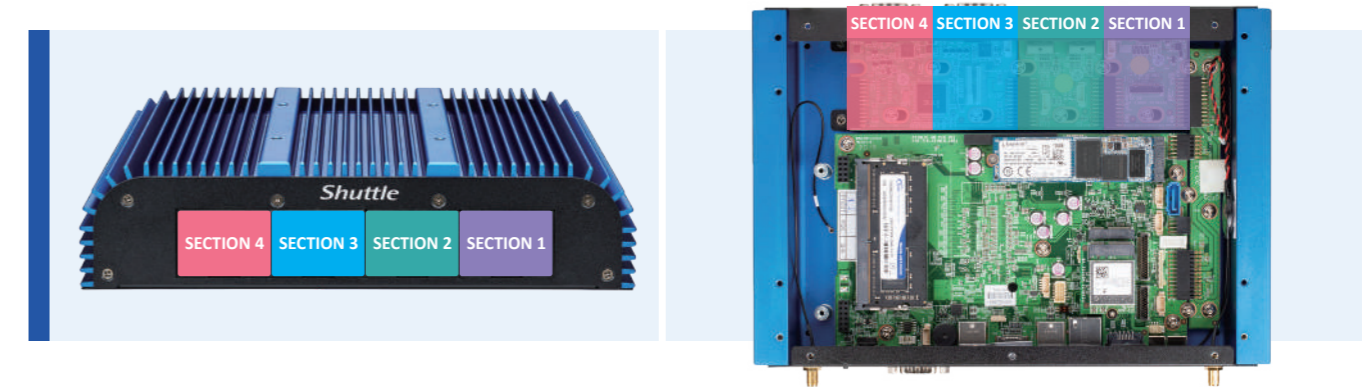
		BPCELO2	BPCELO3	BPCELO7
		Intel® Elkhart Lake Celeron® J6412 (default) Optional: Pentium® J6426, Atom® x6425E		Intel® Elkhart Lake Atom® x6425E
		2 x 260 pin SO-DIMM up to 32GB Dual Channel DDR4 3200 MHz AMI UEFI 64 Mbit		
		Intel® UHD Graphics 2 x HDMI 2.0b: 4096 x 2160@60Hz Max: 3 independent or clone MPEG-2, WMV9/VC1, H.264, JPEG/MJPEG, H.265/HEVC, VP8, VP9		
		1 x M.2 2280 M key (PCIe NVMe / SATA) 1 x 2.5" HDD / SSD (Optional)		
		Realtek ALC888S-VD 2-channel		
		2 x Intel® 2.5 Gb LAN Support Wake On LAN		
		Realtek RTL8821CE 802.11a/b/g/n/ac + Bluetooth 5.0 WLAN card M.2 2230 E key (Optional) External antenna (Dipole) x 2 (Optional)		
		1 x RS-232 (DB-9) 2 x RS-232/422/485 (DB-9) (RS-232 with power supply: Ring in / 5V (standard) & 12V (with specific optional board))		
		4 x USB3.2 Gen 1 (Type A) 4 x USB2.0 1 x Line-out 1 x Mic-in		
POWER	Bundled Adapter	19V/4.74A 90W external adapter	19V/7.89A 150W external adapter	19V/7.89A 150W external adapter
	Option	With option wide range board, MB support 9-36V DC-in		
WATCHDOG TIMER	Watchdog	Support watchdog		
OS SUPPORT	OS Support	Windows 11 64bit / Linux 64bit		
MECHANISM	Mounting	VESA Mount 75 x 75 mm / Ear Mount 256 x 100 mm / Din Rail		
	Dimension (L/W/H)	245 x 169 x 57	245 x 169 x 57	245 x 169 x 57
	Weight	2.85kg	2.85kg	2.85kg
ENVIRONMENT	Operating Temperature	0°C ~ 40°C	-20°C ~ 60°C	-30°C ~ 70°C
	Relative Humidity	20% - 80% RH (non-condensing)	20% - 80% RH (non-condensing)	20% - 80% RH (non-condensing)
	EMC	CE, FCC, VCCI, BSMI, RCM	CE, FCC, VCCI, BSMI, RCM	CE, FCC, VCCI, BSMI, RCM
	Safety	CB, CEC, cTUVus, BSMI, EAC	CB, CEC, cTUVus, BSMI, EAC	CB, CEC, cTUVus, BSMI, EAC

		BPCWL02	BPCWL03
SYSTEM	Processor	8 th Gen. Intel® Whiskey Lake Core™ i3-8145UE (default) Optional: i5-8265U, i5-8365UE, i7-8565U, i7-8665UE, Celeron® 4305UE	
	Memory	2 x 260 pin SO-DIMM up to 64GB Dual Channel DDR4 2666MHz	
	BIOS	AMI UEFI 64 Mbit	
GRAPHICS	Chipset	Intel® UHD Graphics	
	Display Interface	2 x HDMI 1.4b: 4096 x 2160@30Hz	
	Display Output	Max: 3 independent or clone	
	Video Decoder	MPEG2, WMV9/VC1, AVC/H.264, JPEG/MPEG, HEVC/H.265, VP8, VP9	
STORAGE	Internal	1 x M.2 2280 M key (PCIe NVMe / SATA)	
AUDIO	Audio Codec	Realtek ALC662 / ALC888S 2-channel	
NETWORK	Ethernet	2 x Intel® Gigabit LAN Support Wake On LAN	
	WLAN	Realtek RTL8821CE 802.11a/b/g/n/ac + Bluetooth 5.0 WLAN card M.2 2230 E key (Optional) External antenna (Dipole) x 2 (Optional)	
I/O INTERFACE	Serial Ports	1 x RS-232 (DB-9) 2 x RS-232/422/485 (DB-9) (RS-232 with power supply: Ring in / 5V (standard) & 12V (with specific optional board))	
	USB	4 x USB3.2 Gen 1 (Type A) 4 x USB2.0	
	Audio	1 x Line-out 1 x Mic-in	
POWER	Bundled Adapter	19V/4.74A 90W external adapter	19V/7.89A 150W external adapter
	Option	With option wide range board, MB support 9-36V DC-in	
WATCHDOG TIMER	Watchdog	Support watchdog	
OS SUPPORT	OS Support	Windows 10/11 64bit / Linux 64bit	
MECHANISM	Mounting	VESA Mount 75 x 75 mm / Ear Mount 256 x 100 mm / Din Rail	
	Dimension (L/W/H)	245 x 169 x 57	245 x 169 x 57
	Weight	2.85kg	2.85kg
ENVIRONMENT	Operating Temperature	0°C ~ 40°C	-20°C ~ 60°C
	Relative Humidity	20% - 80% RH (non-condensing)	20% - 80% RH (non-condensing)
	EMC	CE, FCC, VCCI, BSMI, RCM	CE, FCC, VCCI, BSMI, RCM
	Safety	CB, CEC, cTUVus, BSMI, EAC	CB, CEC, cTUVus, BSMI, EAC

Flexible I/O Customization with Expansion Kits

Shuttle's Embedded Box PCs offer flexible I/O design, making it easy to customize and optimize IoT applications for maximum efficiency.

The front panel is divided into 4 sections, accommodating optional expansion kits equipped with daughter boards, allowing for the addition of I/O ports. *Expansion must begin with Section 1, with subsequent kits occupying Section 2, and so on.



Guidance for Video Output Port Customized Configuration

BACK PANEL		
	DEFAULT VIDEO OUTPUT	
FRONT PANEL		
	VIDEO OPTIONS (SECTION 1)	VIDEO OPTIONS (SECTION 2)

HMI / PANEL PC



RUGGED FANLESS PANEL PC WITH FRONT IP65 PROTECTION

Shuttle's Industrial HMI/ Panel PCs are built with rugged aluminum housing and come in screen sizes of 15.6 and 21.5 inches, featuring multi-touch technology and flexible computing power. Additionally, the I/O interfaces can be customizable to meet customers' specific desired I/O configuration.

P21AL01 , P15AL01

Industrial-grade Touch Panel PC

Powered by 12th Gen Intel® Core Processors for Versatile AIoT Applications

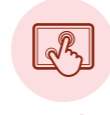
The P21AL01 and P15AL01 are adaptable industrial Panel PCs that utilize Intel® 12th Gen Alder Lake-U/UE processors, incorporating a sophisticated hybrid architecture to enhance productivity and multitasking efficiency. Equipped with Intel® Iris® Xe graphics (Core i5/i7), these models offer superior graphics and computational capabilities suitable for AI workloads. Featuring a modular design with dual-channel DDR5-4800 MHz memory and versatile I/O interfaces, these Panel PCs provide increased system flexibility to accommodate diverse peripheral requirements in a range of industrial settings. Noteworthy features of this series include IP65-rated front panels, VESA compatibility, 1 Intel® 2.5 Gigabit LAN, and 1 Intel® Gigabit LAN, ensuring scalability to address the demands of industrial, commercial, and medical IoT applications.



Fanless



IP65



10-Point Multi-Touch



Dual LAN



Easy Swap Storage



P21AL01



P15AL01

Features

- 15.6/21.5-inch Full HD capacitive, 10-point multi-touch screen
- Dual independent displays: HDMI 2.0 (up to 4096 x 2160 @ 60Hz) and DVI
- Robust design: fanless, IP65 front panel, aluminum chassis, hidden switch
- Versatile Connectivity: 4 x USB 3.2 Gen 2 (Type-A) , 2 x Intel® Gigabit LAN (2.5G and 1G) , and optional 1 x COM (RS-232) or 2 x COM (RS-232/422/485) , 1 x DVI-I port , 1 x VGA , 4 x USB 2.0

	P21AL01	P15AL01
PROCESSOR	12 th Gen. Intel® Alder Lake Core™ i3-1215UE (default) Optional: i5-1235U, i5-1245UE, i7-1255U, i7-1265UE, Celeron® 7305E	12 th Gen. Intel® Alder Lake Core™ i3-1215UE (default) Optional: i5-1235U, i5-1245UE, i7-1255U, i7-1265UE, Celeron® 7305E



P15EL01

15.6-inch HMI Panel PC Boosting Productivity with Intel® Elkhart Lake

Shuttle P15EL01 is a sleek and fanless 15.6-inch Panel PC designed to maximize the Intel® Elkhart Lake Processor's potential for IoT computing. With CPU options like Atom® x6000E, Pentium®, and Celeron® J Series, it supports dual-channel DDR4-3200 MHz memory up to 32GB. Featuring an IP65-rated front panel and customizable I/O configurations, it ensures durability and flexibility. With HDMI 2.0b for sharp graphics and seamless connectivity via default 2.5Gbps LAN and optional second RJ45 LAN ports, it meets diverse IoT application needs like equipment control, self-service kiosks, information terminals, production process monitoring, and more.



IP65 10-Point Multi-Touch Dual LAN Easy Swap Storage

Features

- 15.6-inch Full HD capacitive, 10-point multi-touch screen
- Supports dual independent displays
- Processors: Intel® Atom® x6425E, Intel® Pentium® J6425, Intel® Celeron® J6412
- Robust design: fanless, IP65 front panel, aluminum chassis, hidden switch
- Connections: 4 x 3.2 Gen 2 (Type-A) , 1x COM RS-232, 2x COM RS-232/422/485, 1 x Intel® Gigabit LAN (2.5G or 1G) , 1x HDMI 2.0b, 2x M.2 slot for SSD and WLAN
- Optional interface items: 2nd RJ45 LAN, DVI-I, VGA, USB 2.0, COM RS-485 (Ring/+12V)



		P21AL01	P21EL01	P21WL01
SYSTEM	Processor	12 th Gen. Intel® Alder Lake Core™ i3-1215UE (default) Optional: i5-1235U, i5-1245UE, i7-1255U, i7-1265UE, Celeron® 7305E	Intel® Elkhart Lake Celeron® J6412 (default) Optional : Pentium® J6426, Atom® x6425E	8 th Gen. Intel® Whiskey Lake Core™ i3-8145UE (default) Optional : i5-8265U, i5-8365UE, i7-8565U, i7-8665UE, Celeron® 4305UE
	Memory	2 x 262 pin SO-DIMM up to 64GB Dual Channel DDR5 4800MHz	2 x 260 pin SO-DIMM up to 32GB Dual Channel DDR4 3200MHz	2 x 260 pin SO-DIMM up to 64GB Dual Channel DDR4 2666MHz
	BIOS	AMI UEFI 64bit	AMI UEFI 64bit	AMI UEFI 64bit
DISPLAY AND TOUCH SCREEN	Display	21.5" 1920 x 1080 Full HD TFT LED with 10-Point Projected Capacitive Multi-Touch	21.5" 1920 x 1080 Full HD TFT LED with 10-Point Projected Capacitive Multi-Touch	21.5" 1920 x 1080 Full HD TFT LED with 10-Point Projected Capacitive Multi-Touch
	Viewing Angle (H/V°)	89 (left), 89 (right), 89 (up), 89 (down)	89 (left), 89 (right), 89 (up), 89 (down)	89 (left), 89 (right), 89 (up), 89 (down)
	Brightness	500 / 350 cd/m2	500 / 350 cd/m2	500 / 350 cd/m2
	Contrast	1000 : 1	1000 : 1	1000 : 1
GRAPHICS	Backlight Lifetime	30,000 hrs	30,000 hrs	30,000 hrs
	Chipset	Intel® UHD or Iris® Xe Graphics	Intel® UHD Graphics	Intel® UHD Graphics
	Display Interface	Supports two independent displays 1 x HDMI 2.0: 4096 x 2160@60Hz 1 x DVI: 1920 x 1080@60Hz	Supports two independent displays 1 x HDMI 2.0: 4096 x 2160@60Hz 1 x DVI: 1920 x 1080@60Hz	Supports two independent displays 1 x HDMI 1.4b: 4096 x 2160@30Hz 1 x DVI-I: 1920 x 1080@60Hz
STORAGE	Video Decoder	WMV, AVC/H264, JPEG/MJPEG, HEVC/H265, VP9, AV1	MPEG-2, WMV9/VC1, H.264, JPEG/MJPEG, H.265/HEVC, VP8, VP9	MPEG-2, WMV9/VC1, H.264, JPEG/MJPEG, H.265/HEVC, VP8, VP9
	Internal	1 x M.2 2280 M key (PCIe NVMe / SATA) 1 x Swappable 2.5" SSD SATA 3.0 drive bay (compatible 7mm)	1 x M.2 2280 M key (PCIe NVMe / SATA) 1 x Swappable 2.5" SSD SATA 3.0 drive bay (compatible 7mm)	1 x M.2 2280 M key (PCIe NVMe / SATA) 1 x Swappable 2.5" SSD SATA 3.0 drive bay (compatible 7mm)
AUDIO	Audio Codec	Realtek ALC888S-VD 2-channel	Realtek ALC888S-VD 2-channel	Realtek ALC662/ALC888S 2-channel
NETWORK	Ethernet	1 x Intel®2.5 GbE LAN / 1 x 2nd Lan (optional) / Support Wake On LAN	1 x Intel® 2.5 GbE LAN / 1 x 2nd Lan (optional) / Support Wake On LAN	1 x Intel® Gigabit LAN / 1 x 2nd Lan (optional) / Support Wake On LAN
	WLAN	Realtek RTL8821CE 802.11a/b/g/n/ac + Bluetooth 5.0 (M.2 2230 E key) with 2 internal antenna (default) / external antenna (optional)	Realtek RTL8821CE 802.11a/b/g/n/ac + Bluetooth 5.0 (M.2 2230 E key) with 2 internal antenna (default) / external antenna (optional)	Realtek RTL8821CE 802.11a/b/g/n/ac + Bluetooth 5.0 (M.2 2230 E key) with 2 internal antenna (default) / external antenna (optional)
I/O INTERFACE	Serial Ports	1 x RS-232 (DB-9) 2 x RS-232/422/485 (DB-9) (RS-232 with power supply: Ring in / 5V (standard) & 12V (with specific optional board))	1 x RS-232 (DB-9) 2 x RS-232/422/485 (DB-9) (RS-232 with power supply: Ring in / 5V (standard) & 12V (with specific optional board))	1 x RS-232 (DB-9) 2 x RS-232/422/485 (DB-9) (RS-232 with power supply: Ring in / 5V (standard) & 12V (with specific optional board))
	USB	4 x USB3.2 Gen 2 (Type A)	4 x USB3.2 Gen 1 (Type A)	4 x USB3.2 Gen 1 (Type A)
	Audio	1 x Line-out / 1 x Mic-in	1 x Line-out / 1 x Mic-in	1 x Line-out / 1 x Mic-in
POWER	Bundled Adapter	19V/4.74A 90W external adapter	19V/4.74A 90W external adapter	19V/4.74A 90W external adapter
WATCHDOG TIMER	Watchdog	Support watchdog	Support watchdog	Support watchdog
OS SUPPORT	OS Support	Windows 11 64bit / Linux 64bit	Windows 11 64bit / Linux 64bit	Windows 10/11 64bit / Linux 64bit
MECHANISM	IP Rating	IP65 Front Panel Protection	IP65 Front Panel Protection	IP65 Front Panel Protection
	Mounting	VESA Mount 100 x 100 mm	VESA Mount 100 x 100 mm	VESA Mount 100 x 100 mm
	Dimension (W/H/D) mm	543 x 334 x 49.9	543 x 334 x 49.9	543 x 334 x 49.9
	Weight	7.6kg	7.6kg	7.6kg
ENVIRONMENT	Operating Temperature	0°C ~ 40°C	0°C ~ 40°C	0°C ~ 40°C
	Storage Temperature	-20°C ~ 60°C	-20°C ~ 60°C	-20°C ~ 60°C
	Relative Humidity	20% - 80% RH (non-condensing)	20% - 80% RH (non-condensing)	20% - 80% RH (non-condensing)
	EMC	CE, FCC, VCCI, BSMI, UKCA	CE, FCC, VCCI, BSMI, UKCA	CE, FCC, VCCI, BSMI, UKCA
	Safety	CB, CEC, cTUVus, BSMI, EAC	CB, CEC, cTUVus, BSMI, EAC	CB, CEC, cTUVus, BSMI, EAC
	RF	US, EU, Taiwan	US, EU, Taiwan	US, EU, Taiwan

		P15AL01	P15EL01	P15WL01
SYSTEM	Processor	12 th Gen. Intel® Alder Lake Core™ i3-1215UE (default) Optional: i5-1235U, i5-1245UE, i7-1255U, i7-1265UE, Celeron® 7305E	Intel® Elkhart Lake Pentium J6426 (default) Optional: Atom® x6425E, Celeron® J6412	8 th Gen. Intel® Whiskey Lake Core™ i3-8145UE (default) Optional: i5-8265U, i5-8365UE, i7-8565U, i7-8665UE, Celeron® 4305UE
	Memory	2 x 262 pin SO-DIMM up to 64GB Dual Channel DDR5 4800MHz	2 x 260 pin SO-DIMM up to 32GB Dual Channel DDR4 3200MHz	2 x 260 pin SO-DIMM up to 64GB Dual Channel DDR4 2666MHz
	BIOS	AMI UEFI 64bit	AMI UEFI 64 bit	AMI UEFI 64bit
DISPLAY AND TOUCH SCREEN	Display	15.6" 1920 x 1080 Full HD LED with 10-Point Capacitive Multi-Touch	15.6" 1920 x 1080 Full HD LED with 10-Point Capacitive Multi-Touch	15.6" 1920 x 1080 Full HD LED with 10-Point Capacitive Multi-Touch
	Viewing Angle (H/V°)	85 (left), 85 (right), 85 (up), 85 (down)	85 (left), 85 (right), 85 (up), 85 (down)	85 (left), 85 (right), 85 (up), 85 (down)
	Brightness	350 / 250 cd/m2	350 / 250 cd/m2	350 / 250 cd/m2
	Contrast	1000 : 1	1000 : 1	1000 : 1
GRAPHICS	Backlight Lifetime	50,000 / 15,000 hrs	50,000 / 15,000 hrs	50,000 / 15,000 hrs
	Chipset	Intel® UHD or Iris® Xe Graphics	Intel® UHD Graphics	Intel® UHD Graphics
	Display Interface	Supports two independent displays 1 x HDMI 2.0: 4096 x 2160@60Hz 1 x DVI-I (optional daughter board) 1 x VGA (optional daughter board)	Supports two independent displays 1 x HDMI 2.0: 4096 x 2160@60Hz 1 x DVI-I (optional daughter board) 1 x VGA (optional daughter board)	Supports two independent displays 1 x HDMI 1.4b: 4096 x 2160@30Hz 1 x DVI-I (optional daughter board) 1 x VGA (optional daughter board)
STORAGE	Video Decoder	WMV, AVC/H264, JPEG/MJPEG, HEVC/H265, VP9, AV1	MPEG-2, WMV9/VC1, H.264, JPEG/MJPEG, H.265/HEVC, VP8, VP9	MPEG2, WMV9/VC1, AVC/ H.264, JPEG/MPEG, HEVC/H.265, VP8, VP9
	Internal	1 x M.2 2280 M key (PCIe x4 or SATA, either one) Optional: 1 x M.2 2280 M key SSD, SATA I/F, slidable design 1 x M.2 2280 M key SSD, SATA I/F, fixed design (Either one of above)	1 x M.2 2280 M key (PCIe x4 or SATA, either one) Optional: 1 x M.2 2280 M key SSD, SATA I/F, slidable design 1 x M.2 2280 M key SSD, SATA I/F, fixed design (Either one of above)	1 x M.2 2280 M key (PCIe x4 or SATA, either one) Optional: 1 x M.2 2280 M key SSD, SATA I/F, slidable design 1 x M.2 2280 M key SSD, SATA I/F, fixed design (Either one of above)
AUDIO	Audio Codec	Realtek ALC888S-VD 2-channel	Realtek ALC888S-VD 2-channel	Realtek ALC662/ALC888S 2-channel
NETWORK	Ethernet	1 x Intel® 2.5GbE LAN / 1 x 2nd Lan (optional) / Support Wake On LAN	1 x Intel® Gigabit LAN / 1 x 2nd Lan (optional) / Support Wake On LAN	1 x Intel® Gigabit LAN / 1 x 2nd Lan (optional) / Support Wake On LAN
	WLAN	Realtek RTL8821CE 802.11a/b/g/n/ac + Bluetooth 5.0 (M.2 2230 E key) with 2 internal antenna (default) / external antenna (optional)	Realtek RTL8821CE 802.11a/b/g/n/ac + Bluetooth 5.0 (M.2 2230 E key) with 2 internal antenna (default) / external antenna (optional)	Realtek RTL8821CE 802.11a/b/g/n/ac + Bluetooth 5.0 (M.2 2230 E key) with 2 internal antenna (default) / external antenna (optional)
I/O INTERFACE	Serial Ports	1 x RS-232 (DB-9) 2 x RS-232/422/485 (DB-9) (RS-232 with power supply: Ring in / 5V (standard) & 12V (with specific optional board))	1 x RS-232 (DB-9) 2 x RS-232/422/485 (DB-9) (RS-232 with power supply: Ring in / 5V (standard) & 12V (with specific optional board))	1 x RS-232 (DB-9) 2 x RS-232/422/485 (DB-9) (RS-232 with power supply: Ring in / 5V (standard) & 12V (with specific optional board))
	USB	4 x USB3.2 Gen 2 (Type A)	4 x USB3.2 Gen 1 (Type A)	4 x USB3.2 Gen 1 (Type A)
	Audio	1 x Line-out / 1 x Mic-in	1 x Line-out / 1 x Mic-in	1 x Line-out / 1 x Mic-in
POWER	Bundled Adapter	19V/4.74A 90W external adapter	19V/4.74A 90W external adapter	19V/4.74A 90W external adapter
WATCHDOG TIMER	Watchdog	Support watchdog	Support watchdog	Support watchdog
OS SUPPORT	OS Support	Windows 11 64bit / Linux 64bit	Windows 11 64bit / Linux 64bit	Windows 10/11 64bit / Linux 64bit
MECHANISM	IP Rating	IP65 Front Panel Protection	IP65 Front Panel Protection	IP65 Front Panel Protection
	Mounting	VESA Mount 100 x 100 mm	VESA Mount 100 x 100 mm	VESA Mount 100 x 100 mm
	Dimension (W/H/D) mm	394 x 256 x 48.9	394 x 256 x 48.9	394 x 256 x 48.9
	Weight	4.6kg	4.6kg	4.6kg
ENVIRONMENT	Operating Temperature	0°C ~ 40°C	0°C ~ 40°C	0°C ~ 40°C
	Storage Temperature	-20°C ~ 60°C	-20°C ~ 60°C	-20°C ~ 60°C
	Relative Humidity	20% - 80% RH (non-condensing)	20% - 80% RH (non-condensing)	20% - 80% RH (non-condensing)
	EMC	CE, FCC, VCCI, BSMI, UKCA	CE, FCC, VCCI, BSMI, UKCA	CE, FCC, VCCI, BSMI, UKCA
	Safety	CB, CEC, cTUVus, BSMI, EAC	CB, CEC, cTUVus, BSMI, EAC	CB, CEC, cTUVus, BSMI, EAC
	RF	EU, US, Taiwan	EU, US, Taiwan	EU, US, Taiwan

MEDICAL PANEL PC

COMPLIANT WITH MEDICAL SAFETY STANDARDS

Shuttle's medical-grade panel PCs feature a rugged aluminum chassis with an antibacterial coating and an IP65-rated front panel that aids in hygiene and infection control. The series is well-suited for any healthcare center and has safety IEC/EN 60601-1, CE, and FCC Class-B medical certificates. It also boasts a customizable modular design to enhance system versatility.



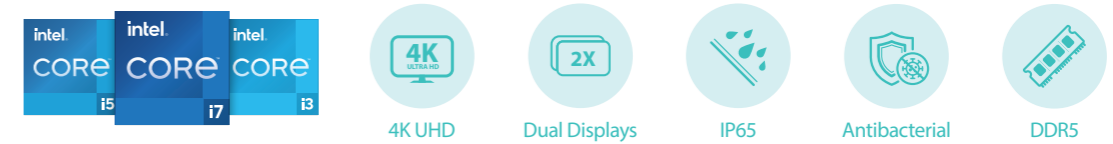
M21AL01 M15AL01



High Performance Medical Panel PC

Function-Rich Adaptability for Healthcare Task

The Shuttle M-Series Touch Panel PCs, powered by Intel® 12th Gen Core® Processors, provide versatile solutions tailored for healthcare. They meet medical safety standards like IEC/EN 60601-1, CE, and FCC class-B certifications. Models such as the M21AL01 (21.5") and the compact M15AL01 (15.6") offer 10-point multi-touch and glove-touch capabilities. These Panel PCs feature a rugged aluminum chassis with anti-bacterial coating and IP65-rated front panels for superior hygiene. Additional features include dual display support, dual LAN, and customizable I/O configurations for seamless integration into various medical applications, making it an invaluable tool in healthcare settings.



Features

- 12th-gen Intel® Alder Lake-U/UE Processors
- Dual displays via HDMI 2.0 (4096 x 2160@60Hz), with optional expansion of DVI-I
- IP65-rated front panel design
- Dual Intel® Gigabit LAN (2.5G and 1G) and WiFi 802.11ac+BT 5.0
- I/O interfaces: 4 x USB 3.2 Gen 2, 1 x RS-232, 2x RS232 /422 /485, RS232 with power supply: ring in/ 5V (standard) &12V (with specific optional board), up to 2xRJ-45, POAG (optional)
- Default in one Intel 2.5G LAN (optional expansion for 2nd LAN 2.5G or 1G) and WiFi 802.11ac+BT 5.0
- Medical Certificate EMC & Safety: FCC Class-B, CE Mark Class-B, IEC / EN 60601-1, BSMI, EAC



M21WL01



Medical-Grade Panel PC

Fanless, Versatile Connectivity, Enhanced Safety Features

M21WL01 is a medical-grade fanless panel PC certified with IEC/EN 60601-1, CE, and FCC class-B medical certificates. It features a 21.5-inch PCAP touchscreen, antibacterial housing, and Intel® Whiskey Lake-U/UE processor for high-performance computing. It offers versatility with flexible connectivity including USB 3.2 Gen1, RS232, dual Intel Gigabit LAN, and WiFi 802.11ac+BT 5.0. It also comes with a POAG connector for grounding and potential equalization, making it ideal for various medical services such as information displays, bedside terminals, medical carts, and nursing station PCs.

Features

- Intel® Whiskey Lake-UE Celeron®, Core™ i3/i5/i7 processors
- Antibacterial substance throughout the front, rear, and cable cover
- IP65 front panel waterproof protection
- I/O interfaces: 1x HDMI 1.4, 1x DVI-I (optional), 4x USB 3.2 Gen1, 1x RS232, 2x RS232 /422 /485, RS232 with power supply: ring in/ 5V (standard) &12V (with specific optional board), 2x RJ-45 LAN, POAG (optional)
- Default in one Intel Gigabit LAN (optional expansion for 2nd LAN) and WiFi 802.11ac+BT 5.0
- Medical Certificate EMC & Safety: FCC Class-B, CE Mark Class-B, IEC/EN 60601-1



Environments



IP65



Antibacterial



Fanless

		M21A101	M15A101	M21WL01
SYSTEM	Processor	12 th Gen. Intel® Alder Lake Core™ i3-1215UE (default) Optional: i5-1235U, i5-1245UE, i7-1255U, i7-1265UE, Celeron® 7305E	12 th Gen. Intel® Alder Lake Core™ i3-1215UE (default) Optional: i5-1235U, i5-1245UE, i7-1255U, i7-1265UE, Celeron® 7305E	8 th Gen. Intel® Whiskey Lake Core™ i3-8145UE (default) Optional: i5-8265U, i5-8365UE, i7-8565U, i7-8665UE, Celeron® 4305UE
	Memory	2 x 262 pin SO-DIMM up to 64GB Dual Channel DDR5 4800MHz	2 x 262 pin SO-DIMM up to 64GB Dual Channel DDR5 4800MHz	2 x 260 pin SO-DIMM up to 64GB Dual Channel DDR4 2666MHz
	BIOS	AMI UEFI 64 bit	AMI UEFI 64 bit	AMI UEFI 64 bit
DISPLAY AND TOUCH SCREEN	Display	21.5" 1920x1080 Full HD TFT LED with 10-Point Projected Capacitive Multi-Touch	15.6" 1920x1080 Full HD LED with 10-Point Capacitive Multi-Touch	21.5" 1920x1080 Full HD TFT LED with Antibacterial 10-Point Projected Capacitive Multi-Touch
	Viewing Angle (H/V°)	89 (left), 89 (right), 89 (up), 89 (down)	85 (left), 85 (right), 85 (up), 85 (down)	89 (left), 89 (right), 89 (up), 89 (down)
	Brightness	500 / 350 cd/m2	350 / 250 cd/m2	500 / 350 cd/m2
	Contrast	1000 : 1	1000 : 1	1000 : 1
GRAPHICS	Backlight Lifetime	30,000 hrs	50,000 / 15,000 hrs	30,000 hrs
	Chipset	Intel® UHD or Iris® Xe Graphics	Intel® UHD or Iris® Xe Graphics	Intel® UHD Graphics
STORAGE	Display Interface	Supports two independent displays 1 x HDMI 2.0: 4096 x 2160@60Hz 1 x DVI-I: 1920 x 1080@60Hz	Supports two independent displays 1 x HDMI 2.0: 4096 x 2160@60Hz 1 x DVI-I (optional daughter board) 1 x VGA (optional daughter board)	Supports two independent displays 1 x HDMI 1.4b: 4096 x 2160@30Hz 1 x DVI-I: 1920 x 1080@60Hz
	Video Decoder	WMV, AVC/H264, JPEG/MJPEG, HEVC/H265, VP9, AV1	WMV, AVC/H264, JPEG/MJPEG, HEVC/H265, VP9, AV1	MPEG2, WMV9/VC1, AVC/H.264, JPEG/MPEG, HEVC/H.265, VP8, VP9
AUDIO	Internal	1 x M.2 2280 M key (PCIe NVMe / SATA) 1 x Swappable 2.5" SSD SATA 3.0 drive bay (compatible 7mm)	1 x M.2 2280 M key (PCIe x4 or SATA, either one) Optional: 1 x M.2 2280 M key SSD, SATA I/F, slidable design 1 x M.2 2280 M key SSD, SATA I/F, fixed design (Either one of above)	1 x M.2 2280 M key (PCIe NVMe / SATA) 1 x Swappable 2.5" SSD SATA 3.0 drive bay (compatible 7mm)
	Audio Codec	Realtek ALC888S-VD 2-channel	Realtek ALC888S-VD 2-channel	Realtek ALC662 / ALC888S 2-channel
NETWORK	Ethernet	1 x Intel®2.5 GbE LAN 1 x 2nd Lan (optional) Support Wake On LAN	1 x Intel®2.5 GbE LAN 1 x 2nd Lan (optional) Support Wake On LAN	1 x Intel® Gigabit LAN 1 x 2nd Lan (optional) Support Wake On LAN
	WLAN	Realtek RTL8821CE 802.11a/b/g/n/ac + Bluetooth 5.0 (M.2 2230 E key) with 2 internal antenna (default) / external antenna (optional)	Realtek RTL8821CE 802.11a/b/g/n/ac + Bluetooth 5.0 (M.2 2230 E key) with 2 internal antenna (default) / external antenna (optional)	Realtek RTL8821CE 802.11a/b/g/n/ac + Bluetooth 5.0 (M.2 2230 E key) with 2 internal antenna (default) / external antenna (optional)
I/O INTERFACE	Serial Ports	1 x RS-232 (DB-9) 2 x RS-232/422/485 (DB-9) (RS-232 with power supply: Ring in / 5V (standard) & 12V (with specific optional board))	1 x RS-232 (DB-9) 2 x RS-232/422/485 (DB-9) (RS-232 with power supply: Ring in / 5V (standard) & 12V (with specific optional board))	1 x RS-232 (DB-9) 2 x RS-232/422/485 (DB-9) (RS-232 with power supply: Ring in / 5V (standard) & 12V (with specific optional board))
	USB	4 x USB3.2 Gen 2 (Type A)	4 x USB3.2 Gen 2 (Type A)	4 x USB3.2 Gen 1 (Type A)
	Audio	1 x Line-out 1 x Mic-in	1 x Line-out 1 x Mic-in	1 x Line-out 1 x Mic-in
	POAG	1 x POAG	1 x POAG	1 x POAG
POWER	Bundled Adapter	19V/4.74A 90W external medical adapter	19V/4.74A 90W external adapter	19V/4.74A 90W external medical adapter
WATCHDOG TIMER	Watchdog	Support watchdog	Support watchdog	Support watchdog
OS SUPPORT	OS Support	Windows 10/11 64bit / Linux 64bit	Windows 11 64bit / Linux 64bit	Windows 10/11 64bit / Linux 64bit
MECHANISM	IP Rating	IP65 Front Panel Protection	IP65 Front Panel Protection	IP65 Front Panel Protection
	Mounting	VESA Mount 100 x 100 mm	VESA Mount 100 x 100 mm	VESA Mount 100 x 100 mm
	Dimension (W/H/D) mm	543 x 334 x 49.9	394 x 256 x 48.9	543 x 334 x 49.9
	Weight	7.6kg	4.6kg	7.6kg
ENVIRONMENT	Operating Temperature	0°C ~ 40°C	0°C ~ 40°C	0°C ~ 40°C
	Storage Temperature	-20°C ~ 60°C	-20°C ~ 60°C	-20°C ~ 60°C
	Relative Humidity	20% - 80% RH (non-condensing)	20% - 80% RH (non-condensing)	20% - 80% RH (non-condensing)
	EMC	CE, FCC CLASS B	CE, FCC, VCCI, BSMI, UKCA	CE, FCC CLASS B
	Safety	cTUVus, CB (IEC / EN 60601-1: 2005+A1: 2012)	CB, CEC, cTUVus, BSMI, EAC	cTUVus, CB (IEC / EN 60601-1: 2005+A1: 2012)
	RF	US, EU	EU, US, Taiwan	US, EU



KIOSK

EMPOWERING BUSINESSES, ENHANCING EXPERIENCE

The interactive kiosk epitomizes cutting-edge computing, seamlessly integrating specialized hardware and software for versatile deployment across diverse venues to realize the diversity of self-service. With intuitive access to certain applications, it streamlines operations and enhances customer engagement.



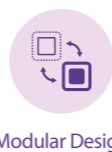
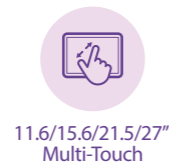
K11WL02 , K15WL01 K21WL01 , K27WL04

X86-Based Self-Service KIOSK

The kiosk is an advanced self-service terminal that seamlessly integrates hardware and software, ensuring business automation and efficiency. Powered by the Intel® 8th Gen Whiskey Lake processors and Intel® UHD Graphics, this x86-based interactive kiosk boasts robust computing capabilities, featuring four USB 3.2 Gen1 ports, an RS232 port, and one Intel® Gigabit LAN. Its modular design is highly customizable and supports a wide range of peripherals such as 1D/2D scanners, thermal printers, NFC readers, IC card readers, payment devices, and webcams, tailored to meet specific business requirements. These applications include ticketing, check-in & queuing, wayfinding, and other information services in entertainment and healthcare settings.

Features

- Intel® Whiskey Lake-U/UE processors
- 11.6 / 15.6 / 21.5 / 27-inch 1080P FHD, PCAP 10-point multi-touch screen
- Connections: 4 x USB 3.2 Gen1, 1 x RS232, 1 x Intel® Gigabit LAN, and WiFi 802.11ac + Bluetooth 4.2
- Support a wide range of peripherals of 1D/2D scanner, thermal printer, NFC/RFID reader, IC card reader, a payment device, and webcam
- Sturdy and robust SECC metal enclosure
- Mounting supports: Counter mount (optional), Pole mount (optional), Wall mount





K15RK01

K11RK02
K15RK01
K21RK01
K27RK04



ARM-Based Self-Service Kiosk

The ARM-based interactive self-service kiosks are designed with functionality in mind and are well-suited for delivering extensive self-service capability for desktop, counter, or wall mount deployment. Equipped with a Rockchip RK3368 Octa-Core processor, the kiosk provides eight USB 2.0, a Realtek Gigabit LAN, and WiFi 802.11 ac & Bluetooth 5.0. In addition, it can house a variety of peripherals of 1D/2D scanner, thermal printer, NFC / RFID reader, IC card reader, a payment device, and a webcam, customizing based on the functional requirements and service purposes to meet needs for ticketing, checkout, self-service rental, information services, etc.

-  11.6/15.6/21.5/27" Multi-Touch
-  IP65
-  Robust Design
-  Modular Design
-  Flexible Customization
-  Android

Features

- Rockchip RK3368 Octa-core Cortex-A53 processor
- 11.6 / 15.6 / 21.5 / 27-inch 1080P FHD, PCAP 10-point multi-touch screen
- Customizable configurations to suit your brand and function
- Mounting supports: Counter mount (optional), Pole mount (optional), Wall mount
- Provide 8 x USB 2.0, Realtek Gigabit LAN, and WiFi 802.11ac + Bluetooth 5.0
- Support with customizable configurations: Thermometer, 1D/2D scanner, RFID / NFC / IC card reader, thermal printer, webcam, and hand sanitizer dispenser

		K11WL02	K15WL01	K21WL01	K27 WL04	K11RK02	K15RK01	K21RK01	K27RK04
SYSTEM	Processor	Intel® Whiskey Lake-U platform, Core™ i7 -8565U / i5-8265UE / i3-8145UE / Celeron-4305UE				Rockchip RK3368 Octa-core 1.5GHz (ARM Cortex-A53)			
	Memory	2 x DDR4 2400 / 2666MHz, Max. 32GB				DDR3L 2GB			
SYSTEM	Storage	1 x 2.5" HDD / SSD SATA3.0 drive bay (max. 7mm) 1 x M.2 2280 B+M Key (PCIe NVMe / SATA)				16GB eMMC onboard 1 x 2.5" HDD / SSD (max. 7mm)			
	Graphics	Intel® UHD Graphics				-			
SYSTEM	Operation System	Windows 10 64bit / Linux 64bit				Android 8.1			
	LCD	11.6" LED	15.6" LED	21.5" LED	27.0" LED	11.6" LED	15.6" LED	21.5" LED	27.0" LED
DISPLAY AND TOUCH	Resolution	1366 x 768 (HD)	1920 x 1080 (Full HD)	1920 x 1080 (Full HD)	1920 x 1080 (Full HD)	1366 x 768 (HD)	1920 x 1080 (Full HD)	1920 x 1080 (Full HD)	1920 x 1080 (Full HD)
	Screen Position	Landscape	Landscape	Portrait	Portrait	Landscape	Landscape	Portrait	Portrait
DISPLAY AND TOUCH	Touch	True-Flat PCAP Multi Touch				True-Flat PCAP Multi Touch			
	Viewing Angle (H/V°)	45 (left), 45 (right), 20 (up), 40 (down)	85 (left), 85 (right), 85 (up), 85 (down)	89 (left), 89 (right), 89 (up), 89 (down)	89 (left), 89 (right), 89 (up), 89 (down)	45 (left), 45 (right), 20 (up), 40 (down)	85 (left), 85 (right), 85 (up), 85 (down)	89 (left), 89 (right), 89 (up), 89 (down)	89 (left), 89 (right), 89 (up), 89 (down)
DISPLAY AND TOUCH	Brightness	250 cd/m2	220 cd/m2	300 cd/m2	300 cd/m2	250 cd/m2	220 cd/m2	300 cd/m2	300 cd/m2
	Contrast	500 : 1	800 : 1	3000 : 1	3000 : 1	500 : 1	800 : 1	3000 : 1	3000 : 1
DISPLAY AND TOUCH	Backlight Lifetime	15,000hrs	15,000 hrs	30,000 hrs	30,000 hrs	15,000 hrs	15,000 hrs	30,000 hrs	30,000 hrs
	Ethernet	1 x Intel® Gigabit LAN				1 x Realtek Gigabit LAN			
COMMUNICATION	Wireless	802.11a/b/g/n/ac + Bluetooth 5.0 with 2 external antenna				802.11b/g/n/ac + Bluetooth 5.0 with 2 external antenna			
	USB	4 x USB3.2 Gen1 (Type A), 2 x USB2.0 (Type A)				8 x USB2.0 for USB Peripherals			
I/O INTERFACE	Serial Port	1 x RS232 (DB-9)				-			
	Audio	2 x Internal 2W speaker				2 x Internal 2W speaker			
PERIPHERALS	Camera	2MP FHD camera				2MP FHD camera			
	IC Card Reader	Friction Type User Card PC / SC 1.0 Standard Approval CPU card and Memory card compliant				Friction Type User Card PC/SC 1.0 Standard Approval CPU card and Memory card compliant			
PERIPHERALS	NFC/RFID Reader	EM compatible 64 bits, A SK Manchester coding or Mifare: ISO14443A standard				EM compatible 64 bits, A SK Manchester coding or Mifare: ISO14443A standard			
	Scanner	1D/2D barcode scanner				1D/2D barcode scanner			
PERIPHERALS	Printer	-	3" thermal printer w/auto cutter, 200mm/sec			-	3" thermal printer w/auto cutter, 200mm/sec		
	Adapter	19V/4.74A 90W external adapter				19V/4.74A 90W external adapter			
POWER	Mounting	Counte-mount (Optional Stand), Pole-mount (Optional Stand), Wall-mount				Counte-mount (Optional Stand), Pole-mount (Optional Stand), Wall-mount			
	Counter Mount	Dimension W/H/D	340 x 225 x 365 mm	435 x 315 x 472 mm	370 x 310 x 825 mm	470 x 370 x 893 mm	340 x 225 x 365 mm	435 x 315 x 472 mm	370 x 310 x 825 mm
MECHANISM	Weight	11Kg	22kg	35kg	36kg	11Kg	22kg	35kg	36kg
	Operating Temperature	0 ~ 35°C				0 ~ 35°C			
ENVIRONMENT	Storage Temperature	-20°C ~ 60°C				-20°C ~ 60°C			
	Relative Humidity	20% - 80% RH (non-condensing)				20% - 80% RH (non-condensing)			

