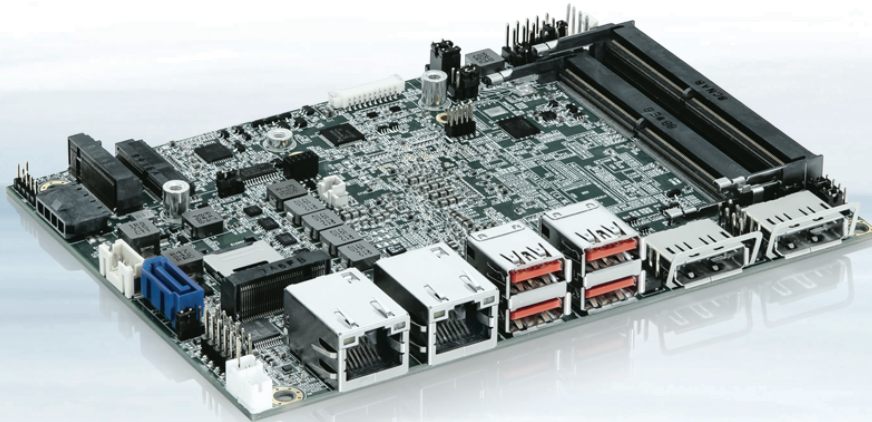


# 3.5"-SBC-WLU

## MORE CONNECTED PLATFORM FOR IoT APPLICATIONS

---



### 3.5" SINGLE BOARD COMPUTER WITH 8TH GENERATION INTEL® CORE™ U-SERIES PROCESSORS

- ▶ 1x LVDS, 2x DP++ for triple display support
- ▶ 2x GbE LAN for Ethernet
- ▶ 4x USB 3.2 Gen 2, 4x USB 2.0, 2x RS232/422/485 for USB & serial device connection
- ▶ 8x DIO for device / signal control
- ▶ 1x SATA 3.0, 1x M.2 Key B, 1x M.2 Key E, 1x M.2 Key M for storage & expansion

POSSIBILITIES START HERE



## 3.5"-SBC-WLU

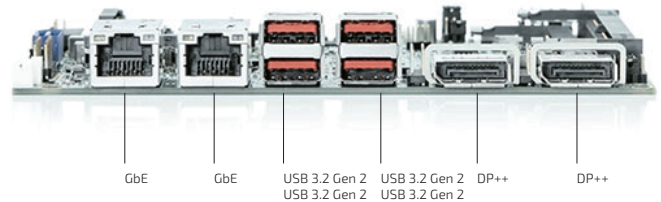
### 3.5" SINGLE BOARD COMPUTER WITH 8TH GENERATION INTEL® CORE™ U-SERIES PROCESSORS

3.5"-SBC-WLU is a 3.5" single board computer based on 8th Generation Intel® Core™ U-Series processors. Besides computing / graphics performance enhancement, the board supports many new-generation interfaces, including (1) faster DDR4 memory sockets; (2) HDMI- / DVI-output-supported DP++ ports; (3) high-speed SATA 3.0 drive socket; and (4) highly-integrated M.2 expansion slots.

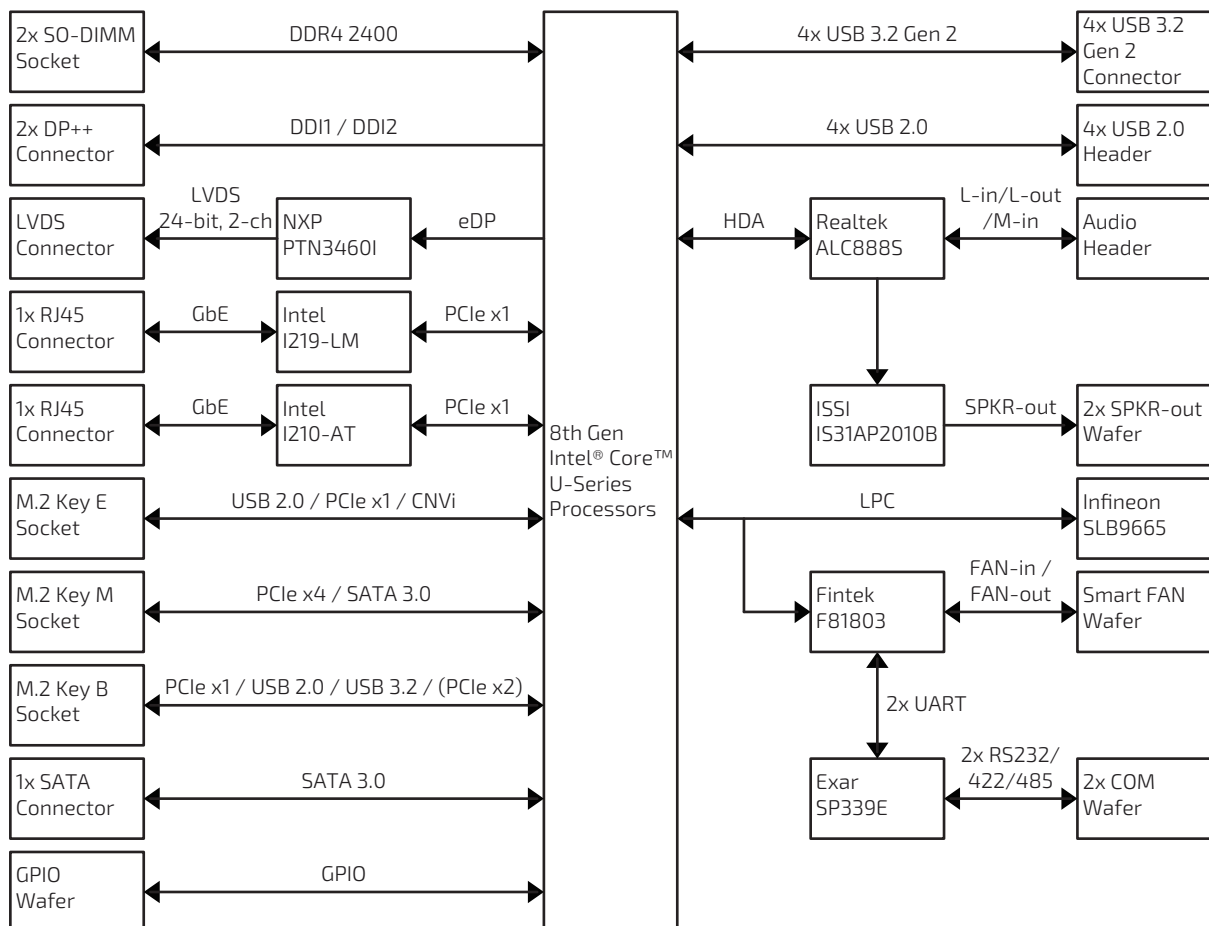
Most importantly, 3.5"-SBC-WLU supports Intel® Wireless-AC via new Intel's new CNVi interface integrated in the M.2 Key E socket, which can deliver up to 12x faster Wi-Fi speeds depending on the model that is installed when compared to legacy Wi-Fi devices. It is a more connected embedded computing platform ideal for IoT wireless applications.

#### ▶ PRODUCT HIGHLIGHTS

- ▶ 8th Generation Intel® Core™ U-Series processors
- ▶ Intel® Celeron® 4000 Series processors
- ▶ 2x DDR4 SO-DIMM memory socket
- ▶ 1x LVDS, 2x DP++ for triple display support
- ▶ 2x GbE LAN for Ethernet
- ▶ 4x USB 3.2 Gen 2, 4x USB 2.0 for USB device connection
- ▶ 2x RS232/422/485 for serial device connection
- ▶ 8x DIO for device / signal control
- ▶ 1x SATA 3.0 for storage device
- ▶ 1x M.2 Key B, 1x M.2 Key E, 1x M.2 Key M for SSD, WLAN, WWAN, etc.
- ▶ TPM 2.0 support



#### ▶ BLOCK DIAGRAM



► TECHNICAL INFORMATION

<b>SYSTEM</b>	<b>PROCESSOR</b>	Intel® Core™ i7-8665UE (Quad Core, 8M Cache, 1.7 / 4.4 GHz, FCBGA1528, 15 W TDP) Intel® Core™ i5-8365UE (Quad Core, 6M Cache, 1.6 / 4.1 GHz, FCBGA1528, 15 W TDP) Intel® Core™ i3-8145UE (Dual Core, 4M Cache, 2.2 / 3.9 GHz, FCBGA1528, 15 W TDP) Intel® Celeron® 4305UE (Dual Core, 2M Cache, 2.00 GHz, FCBGA1528, 15 W TDP)
	<b>MEMORY</b>	2x DDR4 2400 1.2 V SO-DIMM up to 64 GByte (Core™ i models) 2x DDR4 2133 1.2 V SO-DIMM up to 64 GByte (Celeron® models)
<b>VIDEO</b>	<b>GRAPHICS</b>	Intel® UHD Graphics 620 (Core™ i models)
	<b>DISPLAY INTERFACE</b>	Intel® UHD Graphics 610 (Celeron® models) 1x LVDS (24-bit, 2-ch, 1920 x 1200 @ 60 Hz)
	<b>MULTIPLE DISPLAY</b>	2x DP++ (4096 x 2304 @ 60 Hz, on rear) Triple Display
<b>AUDIO</b>	<b>AUDIO CODEC</b>	Realtek ALC888S
	<b>AUDIO INTERFACE</b>	1x Speaker-out (Stereo, 3 W) 1x Line-in (by header) 1x Line-out (by header) 1x Mic-in (by header)
<b>NETWORK CONNECTION</b>	<b>ETHERNET</b>	2x GbE LAN (RJ45 on rear, Intel® I219-LM, Intel® I210-AT)
<b>PERIPHERAL CONNECTION</b>	<b>USB</b>	4x USB 3.2 Gen 2 (Type A on rear) 4x USB 2.0 (by header)
	<b>SERIAL PORT</b>	2x RS232/422/485 (by header)
	<b>OTHER I/Os</b>	8x DIO (by header)
<b>STORAGE &amp; EXPANSION</b>	<b>SATA</b>	1x SATA 3.0
	<b>M.2</b>	1x M.2 Key B (Type 2242, w/ PCIe x1 / USB 2.0 / USB 3.2 / UIM) 1x M.2 Key E (Type 2230, w/ PCIe x1 / USB 2.0 / CNVi) 1x M.2 Key M (Type 2280 / 2242, w/ PCIe x4 / SATA 3.0)
	<b>SIM CARD HOLDER</b>	1x SIM Card Holder (Micro type)
<b>POWER</b>	<b>CONNECTOR</b>	1x4-pin pitch 3.0 mm Wafer
	<b>INPUT VOLTAGE</b>	DC 12 V
<b>FIRMWARE</b>	<b>BIOS</b>	AMI uEFI BIOS w/ 256 Mb SPI Flash
	<b>WATCHDOG</b>	Programmable WDT to generate system reset event
	<b>H/W MONITOR</b>	Voltages, Temperatures
	<b>REAL TIME CLOCK</b>	Processor integrated RTC
	<b>SECURITY</b>	TPM 2.0 Support (Infineon SLB 9665)
<b>SYSTEM CONTROL &amp; MONITORING</b>	<b>FP HEADER</b>	1x Header for Reset Button, HDD LED & External Speaker 1x Header for Power Button, Power LED & SM Bus 1x Header for M.2 Key B activity LED 1x Header for M.2 Key E activity LED
<b>COOLING</b>	<b>FAN</b>	1x Wafer for Smart Fan
<b>SOFTWARE</b>	<b>OS SUPPORT</b>	Windows 10, Linux
<b>MECHANICAL</b>	<b>DIMENSION (L x W)</b>	ECX (146 mm x 105 mm / 5.75" x 4.13")
<b>ENVIRONMENTAL</b>	<b>OPERATING TEMPERATURE</b>	0 °C ~ 60 °C / 32 °F ~ 140 °F (Standard) -20 °C ~ 70 °C / -4 °F ~ 158 °F (Extended)
	<b>STORAGE TEMPERATURE</b>	-20 °C ~ 80 °C / -4 °F ~ 176 °F (Standard) -40 °C ~ 85 °C / -40 °F ~ 185 °F (Extended)
	<b>HUMIDITY</b>	0 % ~ 95 %
<b>COMPLIANCE</b>	<b>EMC &amp; SAFETY</b>	CE Class B, FCC Class B

## ▶ ORDERING INFORMATION

ARTICLE	DESCRIPTION
3.5"-SBC-WLU-0-i5-8365UE	Intel® Core™ i5-8365UE
3.5"-SBC-WLU-1-i3-8145UE	Intel® Core™ i3-8145UE
3.5"-SBC-WLU-2-i7-8665UE	Intel® Core™ i7-8665UE
3.5"-SBC-WLU-3-4305UE	Intel® Celeron® 4305UE

### ACCESSORIES

ARTICLE	PART NO.	DESCRIPTION
DC IN CABLE	0C5020000004220L	2.5 mm DC Jack w/ 2 mm nut, 0.5 mm washer to H-300F-XX 1x4P 3.0 pitch, L = 300 mm
COM PORT CABLE*	0C5020000005130L	10-pin pitch = 1.25 mm to DB9 connector, L = 350 mm
DIO CABLE*	0C5020000003360L	D-SUB-9P (Female) to MX51021-10P 1x10P 1.25 pitch, L = 200 mm
USB CABLE (2 PORT)*	0C5020000005700L	2.54 mm 2x5P to 2x USB connectors, L = 250 mm
SATA POWER CABLE*	0C5020000004230L	PH 2.0 HSG 1x4P 2.0 mm pitch to SATA 1x15P Pitch: 1.27 mm, L = 460 mm
SATA CABLE*	0C5020000004240L	1x7-pin connector with lock, pitch = 1.27 mm, L = 460 mm
AUDIO CABLE*	0C5020000002050L	WL6008H 2x6P 2.54 pitch to EAR phone jack x3 pitch: 3.5 mm, L = 350 mm
COOLER*	0H05XX000002270L	Cooler with Thermal PAD for 3.5"-SBC-WLU

(\*: Optional)

## ▶ GLOBAL HEADQUARTERS

Kontron Europe GmbH

Gutenbergstraße 2  
 85737 Ismaning, Germany  
 Tel.: + 49 821 4086-0  
 Fax: + 49 821 4086-111  
 info@kontron.com  
[www.kontron.com](http://www.kontron.com)