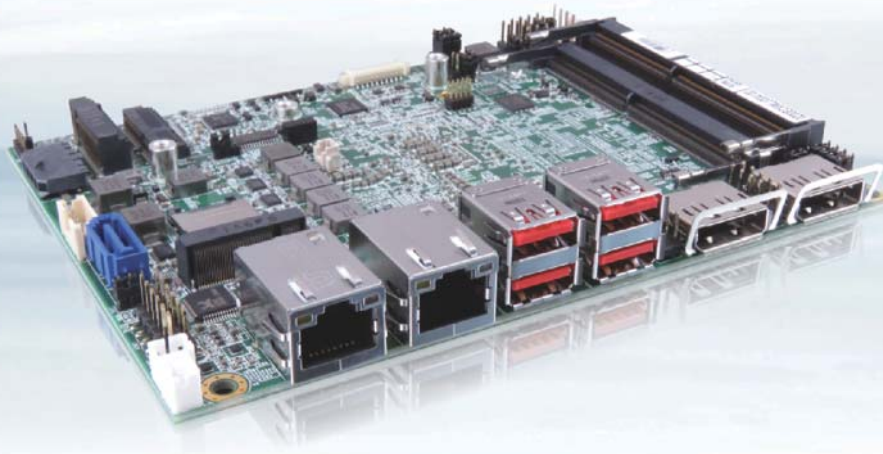# 3.5"–SBC–WLU
MORE CONNECTED PLATFORM FOR IoT APPLICATIONS

▼

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 3.1, 4x USB 2.0, 2x RS232/422/485 for USB & serial device connection
▶ 8-bit 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

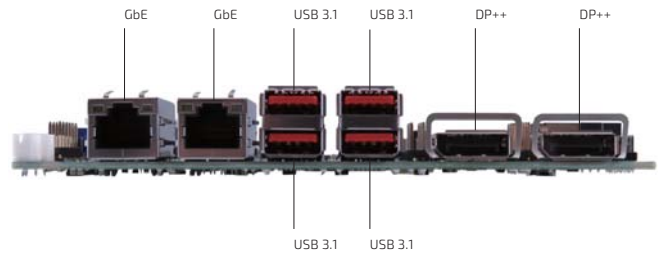POSSIBILITIES START HERE   **kontron**
S&T Group

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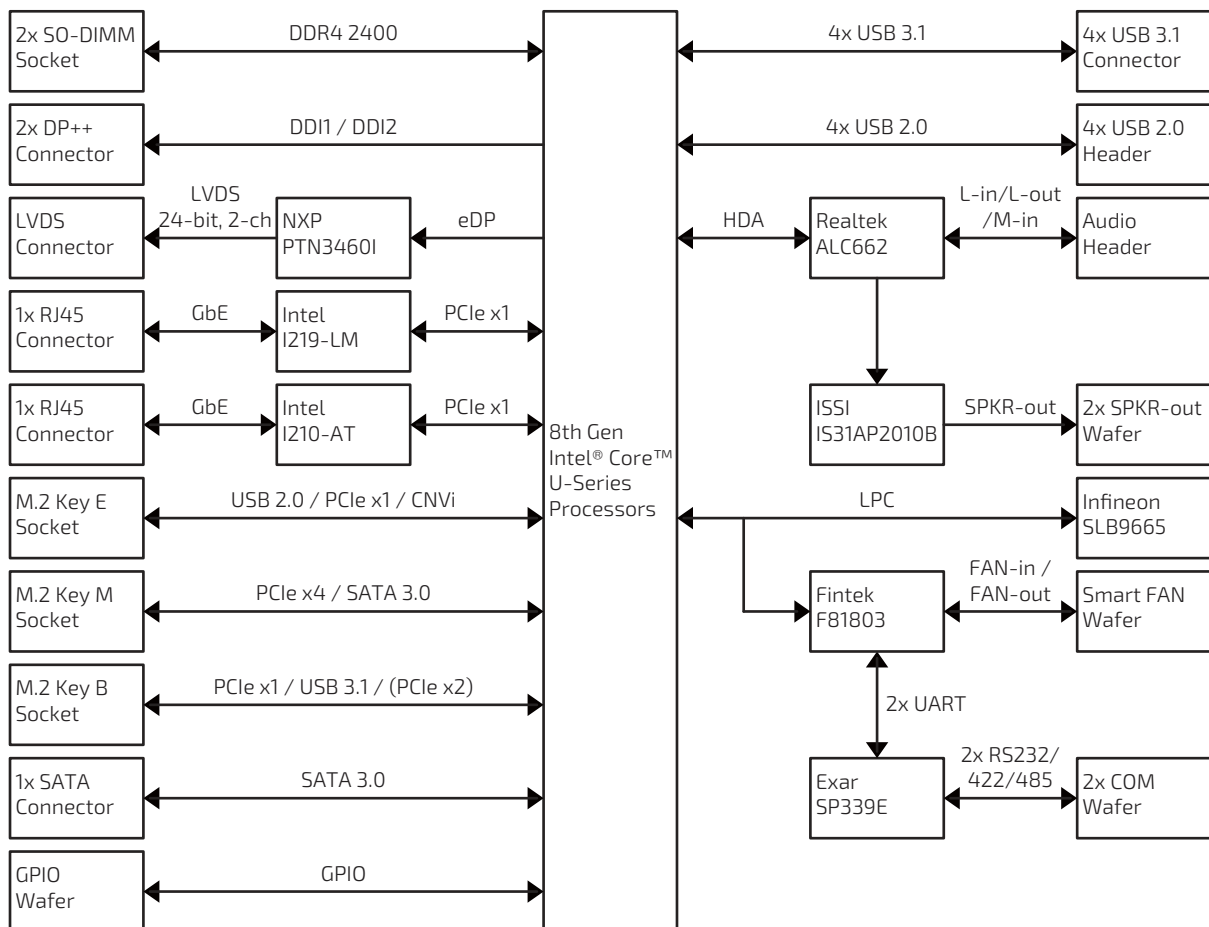
Most importantly, 3.5"-SBC-WLU supports Intel® Wireless-AC via new Intel's new CNVi interface integrated in the M.2 Key E socket, which can deliver up to 12x faster Wi-Fi speeds depending on the model that is installed when compared to legacy Wi-Fi devices. It is a more connected embedded computing platform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

▶ PRODUCT HIGHLIGHTS

- ▶ 8th Generation Intel® Core™ U-Series Processors (up to 25 W TDP)
- ▶ 2x DDR4 SO-DIMM memory socket
- ▶ 1x LVDS, 2x DP++ for triple display support
- ▶ 2x GbE LAN for Ethernet
- ▶ 4x USB 3.1, 4x USB 2.0 for USB device connection
- ▶ 2x RS232/422/485 for serial device connection
- ▶ 8-bit DIO for device / signal control
- ▶ 1x SATA 3.0 for storage device
- ▶ 1x M.2 Key B, 1x M.2 Key M, 1x M.2 Key E for SSD, WLAN & WWAN
- ▶ TPM 2.0 support

▶ BLOCK DIAGRAM

TECHNICAL INFORMATION

SYSTEM	**PROCESSOR**	Intel® Core™ i7-8665UE (Quad Core, 8M Cache, up to 4.4 GHz, FCBGA1528, 15 W TDP) Intel® Core™ i5-8365UE (Quad Core, 6M Cache, up to 4.1 GHz, FCBGA1528, 15 W TDP) Intel® Core™ i3-8145UE (Dual Core, 4M Cache, up to 3.9 GHz, FCBGA1528, 15 W TDP) Intel® Celeron® 4305UE (Dual Core, 2M Cache, 2.00 GHz, FCBGA1528, 15 W TDP)
	MEMORY	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)
VIDEO	**GRAPHICS**	Intel® UHD Graphics 620 (Core™ i models) Intel® UHD Graphics 610 (Celeron® models)
	DISPLAY INTERFACE	1x LVDS (24-bit, 2-ch, 1920 x 1200 @ 60 Hz) 2x DP++ (4096 x 2304 @ 60 Hz, on rear)
	MULTIPLE DISPLAY	Triple Display
AUDIO	**AUDIO CODEC** **AUDIO INTERFACE**	Realtek ALC662 2x Speaker-out (3 W) 1x Line-in (by header) 1x Line-out (by header) 1x Mic-in (by header)
NETWORK CONNECTION	**ETHERNET**	2x GbE LAN (RJ45 on rear, Intel® I219-LM, Intel® I210-AT)
PERIPHERAL CONNECTION	**USB**	4x USB 3.1 (Type A on rear) 4x USB 2.0 (by header)
	SERIAL PORT **OTHER I/Os**	2x RS232/422/485 (by header) 1x 8-bit DIO (by header)
STORAGE & EXPANSION		1x SATA 3.0 1x M.2 Key B (Type 2242, mixed w/ PCIe x1 / USB 3.1) 1x M.2 Key M (Type 2280 / 2242, mixed w/ PCIe x4 / SATA 3.0) 1x M.2 Key E (Type 2230, mixed w/ PCIe x1 / USB 2.0, Intel CNVi support) 1x Micro SIM Card Holder (connected to M.2 Key B)
POWER	**CONNECTOR** **INPUT VOLTAGE**	1x4-pin pitch 3.0 mm Wafer DC 12 V
FIRMWARE	**BIOS** **WATCHDOG** **H/W MONITOR** **REAL TIME CLOCK** **TPM**	AMI uEFI BIOS w/ 256 Mb SPI Flash Programmable WDT to generate system reset event Voltages, Temperatures Processor integrated RTC Supported (Infineon SLB 9665 TPM 2.0)
SYSTEM CONTROL & MONITORING	**FP HEADER**	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
COOLING	**FAN**	1x Wafer for Smart Fan
SOFTWARE	**OS SUPPORT**	Windows 10, Linux
MECHANICAL	**DIMENSION (L x W)**	ECX (146 mm x 105 mm / 5.75" x 4.13")
ENVIRONMENTAL	**OPERATION TEMPERATURE** **STORAGE TEMPERATURE** **HUMIDITY**	0 °C ~ 60 °C / 32 °F ~ 140 °F (Standard) -20 °C ~ 80 °C / -4 °F ~ 176 °F (Standard) 0 % ~ 95 %
CERTIFICATION	**EMC & SAFETY**	CE, FCC Class B

▶ ORDERING INFORMATION

ARTICLE	DESCRIPTION
3.5"-SBC-WLU-8665UE	Intel® Core™ i7-8665UE
3.5"-SBC-WLU-8365UE	Intel® Core™ i5-8365UE
3.5"-SBC-WLU-8145UE	Intel® Core™ i3-8145UE
3.5"-SBC-WLU-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 = 30 cm
COM PORT CABLE*	0C5020000005130L	10-pin pitch = 1.25 mm to DB-9 connector, L = 35 cm
DIO CABLE*	0C5020000003360L	D-SUB-9P (Female) to MX51021-10P 1x10P 1.25 pitch, L = 20 cm
USB CABLE (2 PORT)*	0C5040000000110L	2.54 mm 2x5P to 2x USB connectors, L = 34 cm
SATA POWER CABLE*	0C5020000005260L	PH 2.54 HSG 1x4P to SATA 1x15P Pitch: 1.27 mm, L = 46 cm
SATA CABLE*	0C5020000004240L	7-pin connector with lock, L = 46 cm
AUDIO CABLE*	0C5020000002050L	WL6008H 2x6P 2.54 pitch to EAR phone jack x3 pitch: 3.5 mm, L = 35 cm
COOLER*	0H05XX000002270L	Cooler with Thermal PAD for 3.5"-SBC-WLU

(*: Optional)

▶ GLOBAL HEADQUATERS

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