

3.5"-SBC-SKL

4K ULTRA HD SUPPORT



3.5" SINGLE BOARD COMPUTER WITH 6TH GEN INTEL® CORE™ / CELERON® U-SERIES PROCESSORS

- ▶ 1x LVDS, 1x HDMI 2.0, 1x DP for display output
- ▶ 2x GbE LAN for Ethernet
- ▶ 4x USB 3.0, 2x USB 2.0, 2x RS232/422/485, 1x 8-bit DIO for peripherals
- ▶ 2x SATA 3.0 for storage
- ▶ 1x mPCIe, 1x M.2 for expansion

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Kontron 3.5"-SBC-SKL is a 3.5" single board computer based on 6th Generation Intel® Core™ / Celeron® U-Series Processors, providing system integrators with a high performance upgrade option.

Three valuable features which distinguishes the 3.5"-SBC-SKL from its counterparts are:

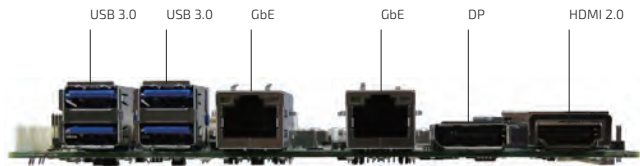
- ▶ **Faster read and write speeds:**
2x SATA 3.0 doubles the read and write speeds.

- ▶ **Supporting 4K UHD resolutions:**
Intel® HD Graphics 520 / 510 integrated GPU + 1x DP + 1x HDMI 2.0 supporting 4K Ultra HD resolutions.

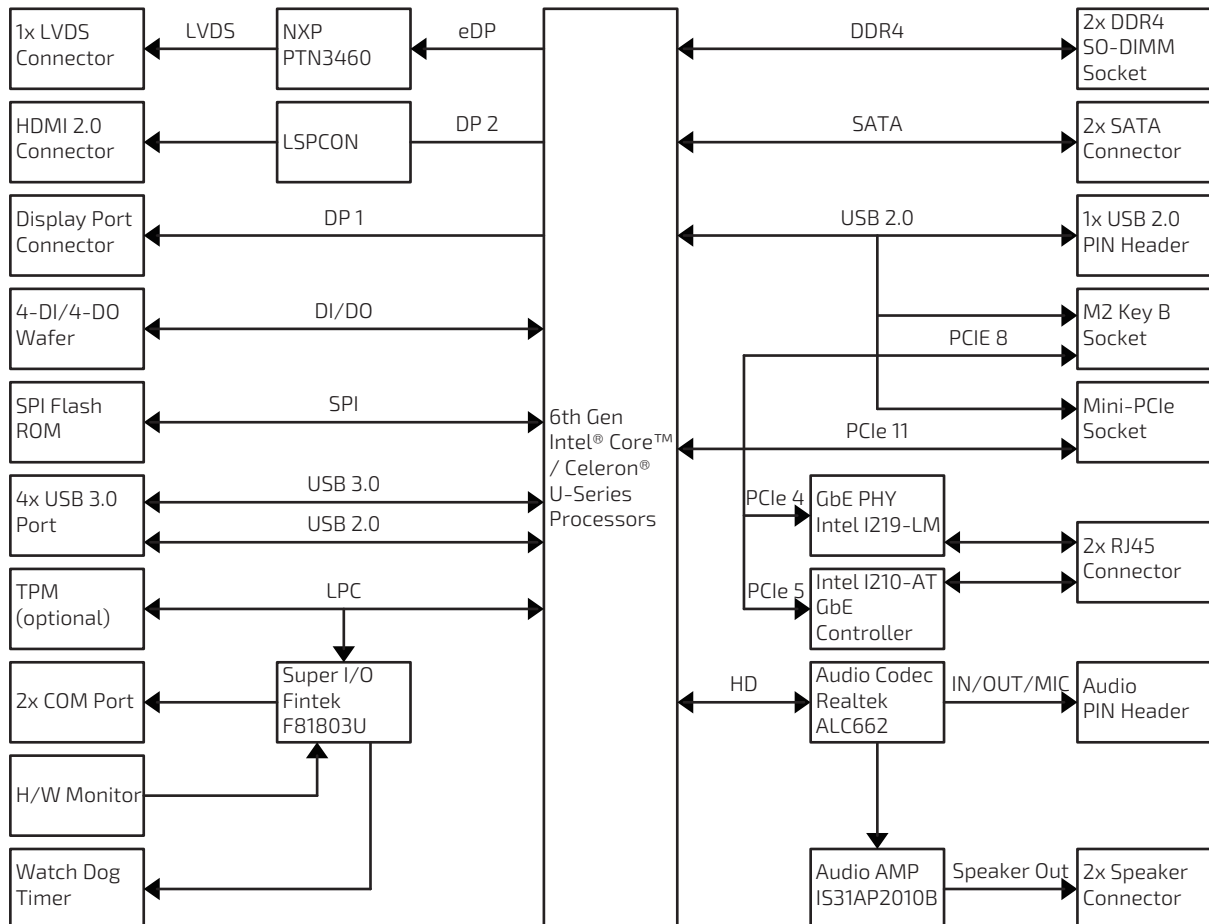
- ▶ **Multi-functional integration:**
1x M.2 (Key B) provides more expansion possibilities, such as USB, WWAN (3G, 4G ...), GNSS (GPS ...) and SSDs.

▶ PRODUCT HIGHLIGHTS

- ▶ 6th Generation Intel® Core™ / Celeron® U-Series Processors
- ▶ 2x DDR4 SO-DIMM memory socket
- ▶ 1x LVDS, 1x DP, 1x HDMI 2.0 for triple display support
- ▶ 2x GbE LAN for Ethernet
- ▶ 4x USB 3.0, 2x USB 2.0 for USB device connection
- ▶ 2x RS232/422/485 for serial device connection
- ▶ 8-bit DIO for device / signal control
- ▶ 2x SATA 3.0 for storage
- ▶ 1x mPCIe, 1x M.2 Key B for expansion
- ▶ Extended temperature model available: -20 °C – 70 °C



▶ BLOCK DIAGRAM



TECHNICAL INFORMATION

SYSTEM	PROCESSOR	Intel® Core™ i7-6600U (Dual Core, 4M Cache, up to 3.40 GHz, FCBGA1356, 15 W TDP) Intel® Core™ i5-6300U (Dual Core, 3M Cache, up to 3.00 GHz, FCBGA1356, 15 W TDP) Intel® Celeron® 3955U (Dual Core, 2M Cache, 2.00 GHz, FCBGA1356, 15 W TDP)
	MEMORY	2x DDR4 2133 SO-DIMM up to 32 GByte
VIDEO	GRAPHICS	Intel® HD Graphics 520 (Core™ CPU) Intel® HD Graphics 510 (Celeron® CPU)
	DISPLAY INTERFACE	1x LVDS (24-bit, 2-ch) 1x DP (on rear, 4096 x 2304 @ 60 Hz) 1x HDMI 2.0 (on rear, 3840 x 2160 @ 60 Hz)
	MULTIPLE DISPLAY	Triple Display
AUDIO	AUDIO CODEC	Realtek ALC662
	AUDIO INTERFACE	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, 1x Intel® I219-LM, 1x Intel® I210-AT)
PERIPHERAL CONNECTION	USB	4x USB 3.0 (Type A on rear) 2x USB 2.0 (by header)
	SERIAL PORT	2x RS232/422/485 (by header, w/ auto flow control for RS485)
	OTHER I/Os	1x 8-bit DIO (by header)
STORAGE & EXPANSION		2x SATA 3.0 1x mPCIe (full size) 1x M.2 Key B Socket (mixed w/ USB 2.0 or SATA) 1x SIM Card Cage (by wafer, switchable for mPCIe or M.2)
POWER	CONNECTOR	1x 4-pin Wafer (Straight & Right Angle dual-footprint)
	INPUT VOLTAGE	DC 12 V
FIRMWARE	BIOS	AMI uEFI BIOS w/ 128 Mb SPI Flash
	WATCHDOG	Programmable WDT to generate system reset event
	H/W MONITOR	Voltages, Temperatures
	REAL TIME CLOCK	Processor integrated RTC
	TPM	Supported by default for Core™ i7 / i5 models, optional for others (Infineon SLB 9660 TPM 1.2)
	iAMT	Supported for Core™ i7 / i5 models
SYSTEM CONTROL & MONITORING	FRONT PANEL HEADER	1x Header for Reset button, HDD LED & External Speaker 1x Header for Power button, Power LED & SM bus 1x Header for mPCIe activity LED 1x Header for M.2 activity LED
COOLING	FAN	1x Header for System Fan
SOFTWARE	OS SUPPORT	Windows 7, Windows 8, Windows 10, Linux
MECHANICAL	DIMENSION (L x W)	ECX (146 mm x 105 mm / 5.75" x 4.13")
ENVIRONMENTAL	OPERATION TEMPERATURE	0 °C ~ 60 °C / 32 °F ~ 140 °F (Standard) -20 °C ~ 70 °C / -4 °F ~ 158 °F (Extended)
	STORAGE TEMPERATURE	-20 °C ~ 80 °C / -4 °F ~ 176 °F (Standard) -40 °C ~ 85 °C / -40 °F ~ 185 °F (Extended)
	HUMIDITY	0 % ~ 95 %
CERTIFICATION	EMC & SAFETY	CE Class B, FCC Class B

▶ ORDERING INFORMATION

ARTICLE	DESCRIPTION
3.5"-SBC-SKL-6600U	Intel® Core™ i7-6600U, w/ TPM, Operating temperature: 0 °C ~ 60 °C
3.5"-SBC-SKL-6300U	Intel® Core™ i5-6300U, w/ TPM, Operating temperature: 0 °C ~ 60 °C
3.5"-SBC-SKL-3955U	Intel® Celeron® 3955U, w/o TPM, Operating temperature: 0 °C ~ 60 °C
3.5"-SBC-SKL-6300U-ET	Intel® Core™ i5-6300U, w/ TPM, Operating temperature: -20 °C ~ 70 °C

OPTIONAL ACCESSORIES - CABLING

COM PORT CABLE	10-pin pitch = 1.25 mm to DB-9 connector, L = 35 cm
DIO CABLE	D-SUB-9P (Female) to MX51021-10P 1x10P 1.25 pitch, L = 8 cm
USB CABLE (2 PORT)	2.54 mm 2x5P to 2x USB connectors, L = 34 cm
SATA POWER CABLE	PH 2.54 HSG 1x4P to SATA 1x15P Pitch: 1.27 mm, L = 460 mm
SATA CABLE	7-pin connector with lock, L = 46 cm
AUDIO CABLE	WL6008H 2x6P 2.54 pitch to EAR phone jack x3 pitch: 3.5 mm, L = 35 cm
DC IN CABLE	2.5 DC Jack w/ 2 mm nut, 0.5 mm washer to H-300F-XX 1x4P 3.0 pitch, L = 30 cm
3G MINI SIM CARD HOLDER KIT	W/ SIM card holder x1, 3G SIM card cable x1