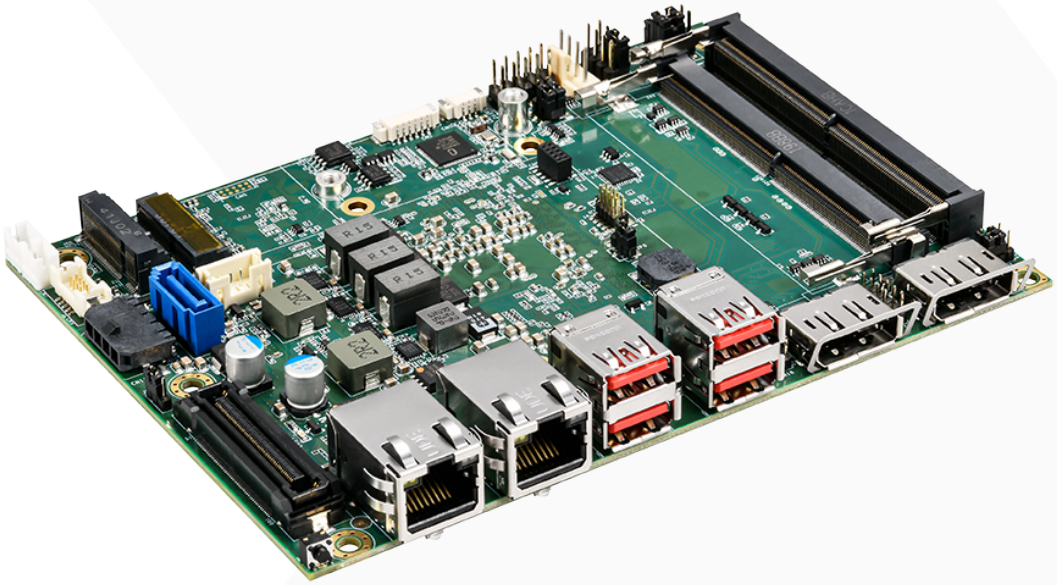
3.5”-SBC-RPL



3.5" Single Board Computer with 13th Gen Intel® Core™ U-Series Processors

- Two DisplayPort connectors on rear I/O panel with 8K UHD video output support
- Time Coordinated Computing / Time Sensitive Networking for real-time control
- Additional Rear I/O expansion via board-to-board connector
- Industrial-grade operating temperature range for extreme environmental conditions
- Wide power input voltage range for more application scenarios

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The Power of IoT

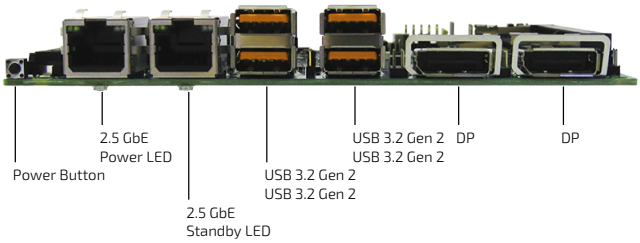
Product Highlights

3.5" Single Board Computer with 13th Gen Intel® Core™ U-Series Processors

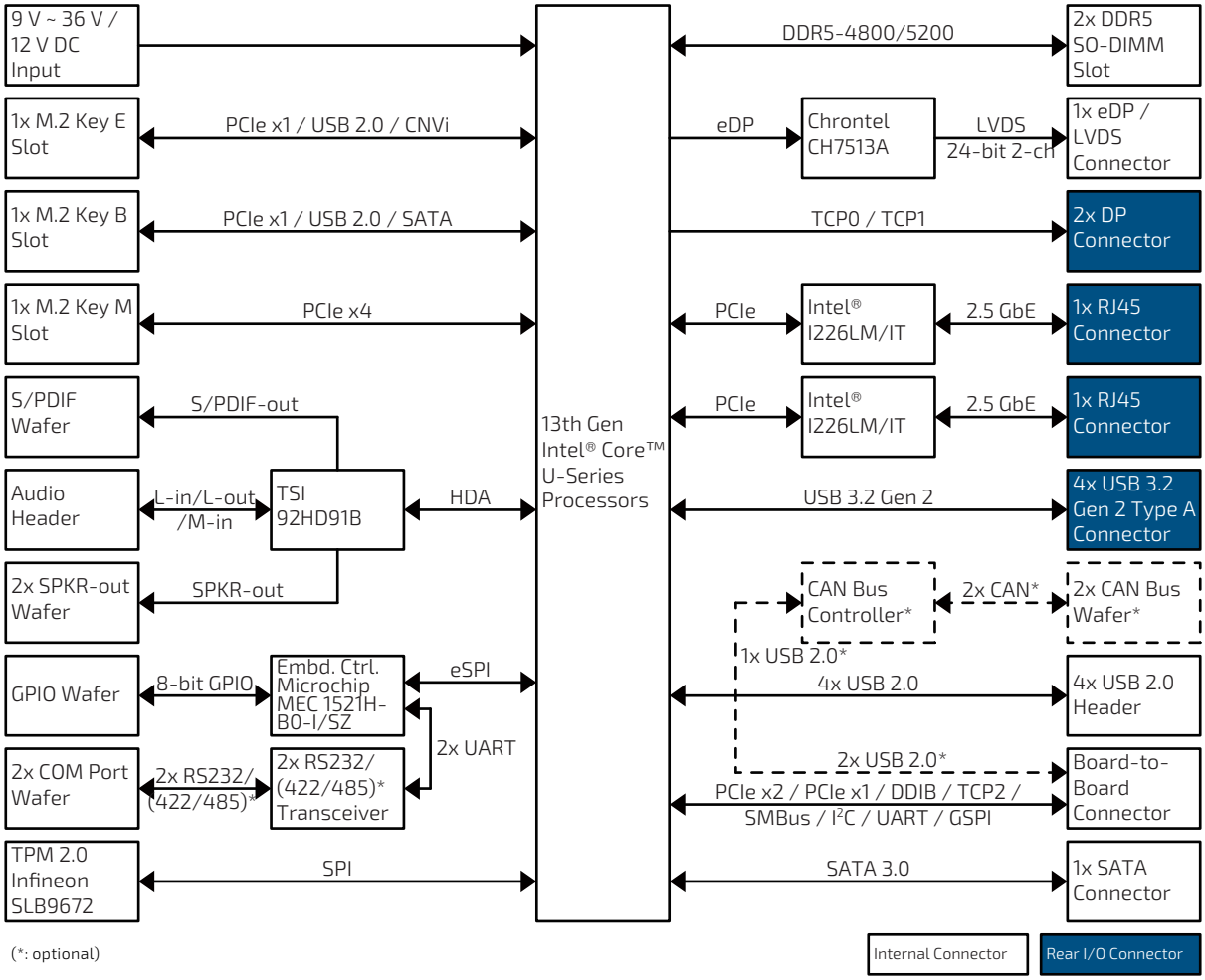
3.5"-SBC-RPL is a 3.5" single board computer powered by 13th Gen Intel® Core™ U-Series processors. Besides great performance improvement in graphics, it features 2.5 GbE with TSN (Time Sensitive Networking) capability and enhanced TPM 2.0 security / encryption support, ideal for a variety of IoT applications, such as industrial automation, retail, smart city and healthcare.

The board supports an extended board-to-board connector, providing additional I/O port expansion to fulfill possible application requirements.

- 13th Gen Intel® Core™ U-Series processors (TDP up to 28 W)
- 2x DDR5 SO-DIMM memory socket
- 2x DP, 1x eDP / LVDS for video output
- 2x 2.5 GbE LAN for Ethernet
- 4x USB 3.2 Gen 2, 4x USB 2.0 for USB device connection
- 2x RS232 or 2x RS232/422/485 for serial device connection
- 8x GPIO for device / signal control
- 1x SATA 3.0 for storage device
- 1x M.2 Key B for SSD, WWAN or other expansion
- 1x M.2 Key E for WLAN, Bluetooth or other expansion
- 1x M.2 Key M for SSD
- 1x board-to-board connector for additional real I/Os
- TPM 2.0 support
- Wide power input voltage range available: DC 9 V ~ 36 V
- Extreme temperature model available: -40 °C ~ 85 °C



Block Diagram



Technical Information

SYSTEM	PROCESSOR	Intel® Core™ i7-1365UE / i7-1365URE (10C, 12M, 1.7 / 4.9 GHz, FCBGA1744, 12 W ← 15 W → 28 W TDP) Intel® Core™ i5-1345UE / i5-1345URE (10C, 12M, 1.4 / 4.6 GHz, FCBGA1744, 12 W ← 15 W → 28 W TDP) Intel® Core™ i3-1315UE / i3-1315URE (6C, 10M, 1.2 / 4.5 GHz, FCBGA1744, 12 W ← 15 W → 28 W TDP) Intel® U300E (5C, 8M, 1.1 / 4.3 GHz, FCBGA1744, 12 W ← 15 W → 28 W TDP)
	MEMORY	2x DDR5 5200 SO-DIMM up to 96 GByte
VIDEO	GRAPHICS	Intel® Iris® Xᵉ Graphics
	DISPLAY INTERFACE	1x eDP / LVDS (2-line, 1920 x 1200 @ 60 Hz / 24-bit, 2-ch, 1920 x 1200 @ 60 Hz) 2x DP (7680 x 4320 @ 60 Hz, on rear)
	MULTIPLE DISPLAY	Quadruple Display (more display I/Os supported via board-to-board connector)
AUDIO	AUDIO CODEC	TSI 92HD91B
	AUDIO INTERFACE	1x Speaker-out (Stereo, 3 W, by header) 1x Line-in (by header) 1x Line-out (by header) 1x Mic-in (by header) 1x S/PDIF Out (by header)
NETWORK CONNECTION	ETHERNET	2x 2.5 GbE LAN (RJ45 on rear, Intel® I226-LM/IT, TSN support*)
PERIPHERAL CONNECTION	USB	4x USB 3.2 Gen 2 (Type A on rear) 4x USB 2.0 (by header, -1 in case of 2x CAN Bus, -2 in case of 2x USB 2.0 in B2B)
	SERIAL PORT	2x RS232 (def.) / RS232/422/485 (opt.) (by header, Tx/Rx only for RS232 signal)
	GPIO	8x GPIO (by header)
	CAN BUS	2x CAN Bus (optional, by header, trade off 1x USB 2.0 header)
STORAGE & EXPANSION	SATA	1x SATA 3.0
	M.2	1x M.2 Key B (Type 2242/3042/3052/2280, w/ PCIe x1 / USB 2.0 / SATA / UIM) 1x M.2 Key E (Type 2230, w/ PCIe x1 / USB 2.0 / CNVi) 1x M.2 Key M (Type 2280, w/ PCIe x4)
	SIM CARD HOLDER	1x SIM Card Holder (by header)
	BOARD-TO-BOARD CONNECTOR	1x DDI 1x TCP 1x PCIe x2 1x PCIe x1 1x SM Bus 1x I²C 1x UART 1x GSPI 2x USB 2.0 (optional, trade off 2x USB 2.0 header)
POWER	INPUT VOLTAGE	DC 9 V ~ 36 V (Configuration 1) DC 12 V (Configuration 2)
	CONNECTOR	1x4-pin pitch 3.0 mm Wafer
FIRMWARE	BIOS	AMI uEFI BIOS w/ 256 Mb SPI Flash
	WATCHDOG	Programmable WDT to generate system reset event
	H/W MONITOR	Voltages, Temperatures
	REAL TIME CLOCK	Processor integrated RTC
	SECURITY	TPM 2.0 Support (Infineon SLB 9672)
SYSTEM CONTROL & MONITORING	FP HEADER	1x Header for Reset Button, HDD LED & External Speaker 1x Header for Power Button, Power LED & SM Bus
	BUTTON, SWITCH & INDICATOR	1x Standby LED (Yellow, on rear) 1x Power LED (Green, on rear) 1x Power Button (on rear)
COOLING	FAN	1x Wafer for Smart Fan
SOFTWARE	OS SUPPORT	Windows 11, Windows 10, Linux
MECHANICAL	DIMENSION (L x W)	ECX (146 mm x 105 mm / 5.75" x 4.13")
ENVIRONMENTAL	OPERATING TEMPERATURE	0 °C ~ 60 °C / 32 °F ~ 140 °F (Standard) -40 °C ~ 85 °C / -40 °F ~ 185 °F (Extreme)
	STORAGE TEMPERATURE	-20 °C ~ 80 °C / -4 °F ~ 176 °F (Standard) -55 °C ~ 85 °C / -67 °F ~ 185 °F (Extreme)
	HUMIDITY	0 % ~ 95 %
COMPLIANCE	EMC	CE Class B, FCC Class B, ICES Class B, UKCA Class B
	SAFETY	UR (UL Recognized), CSA

* TSN support only for models with Core™ URE Series processors

Ordering Information

ARTICLE	ORDERING CODE*	DESCRIPTION		
	EMEA / AMERICA	PROCESSOR	OP. TEMP.	DC IN
3.5"-SBC-RPL-0-i7-1365URE-XT	43020-XT-2006	Intel® Core™ i7-1365URE	-40 °C ~ 85 °C	9 V ~ 36 V
3.5"-SBC-RPL-1-i5-1345URE-XT	43020-XT-2004	Intel® Core™ i5-1345URE	-40 °C ~ 85 °C	9 V ~ 36 V
3.5"-SBC-RPL-2-i3-1315UE	43020-ST-2001	Intel® Core™ i3-1315UE	0 °C ~ 60 °C	9 V ~ 36 V
3.5"-SBC-RPL-3-U300E	43020-ST-2000	Intel® U300E	0 °C ~ 60 °C	9 V ~ 36 V
3.5"-SBC-RPL-4-i5-1345UE	43020-ST-2003	Intel® Core™ i5-1345UE	0 °C ~ 60 °C	9 V ~ 36 V
3.5"-SBC-RPL-5-i3-1315URE-XT	43020-XT-2002	Intel® Core™ i3-1315URE	-40 °C ~ 85 °C	9 V ~ 36 V
3.5"-SBC-RPL-6-i7-1365UE	43020-ST-2005	Intel® Core™ i7-1365UE	0 °C ~ 60 °C	9 V ~ 36 V

* Standard shipment in bulk packaging. For ordering code for APAC or for box packaging, contact your local account manager.

Accessories

NO.	ARTICLE	ORDERING CODE		DESCRIPTION
		EMEA / AMERICA	APAC	
1	DC IN CABLE*	1075-3152	0C50200000001920L	1x4P 3.0 pitch to EHDP-2P 5.08 pitch + JST 110 1x2P, L = 230 mm
2	SATA CABLE	1064-2431	0C50200000004240L	1x7P connector with lock, pitch = 1.27 mm, L = 460 mm
3	SATA POWER CABLE	1064-2430	0C50200000004230L	1x4P 2.0 mm pitch to SATA 1x15P 1.27 mm pitch, L = 460 mm
4	COM PORT CABLE	1064-2427	0C50200000005130L	1x10P 1.25 mm pitch to DB9 connector, L = 350 mm
5	DIO CABLE	1065-3137	0C50200000003360L	D-SUB-9P (Female) to MX51021-10P 1x10P 1.25 mm pitch, L = 200 mm
6	USB CABLE (2 PORT)	1069-7893	0C50200030000010L	2x5P 2.0 mm pitch to 2x USB 2.0 Type A female w/ bracket, L = 27 cm
7	AUDIO CABLE	1070-1245	0C50200000005840L	2x5P 1.25 mm pitch to 3x 3.5 mm ear phone jack, L = 400 mm
8	ADAPTER	1074-9217	0I0902SPU151A02L	Input: AC 100 V ~ 240 V, output: DC 24 V @ 6.25 A Max. 150 W
9	SCREW COPPER PILLAR KIT	TBD	0ZHK35SBC0000002	2x 39.6 mm pillar, 6x 19 mm pillar, 5x 5 mm screw
10	COOLER	1067-5535	0H05XX000002270L	Al heatsink w/ pad, 4-wire PWM controlled fan, Max. 15 W TDP
11	HEATSINK	TBD	0ZHK35SRPL000001	Al +Cu heatsink w/ pad, 4x M3x6L screw
12	I/O CARD (3.5"-eIO-GPA-0)	1069-6159	B35EGPA0-001001T	Refer to 3.5"-eIO-GPA datasheet for supported functions
13	I/O CARD (3.5"-eIO-GPA-1)	1069-6922	B35EGPA0-011001T	Refer to 3.5"-eIO-GPA datasheet for supported functions
14	I/O CARD (3.5"-eIO-GPA-2-XT)	1073-9682	B35EGPAI-021000T	Refer to 3.5"-eIO-GPA datasheet for supported functions
15	I/O CARD (3.5"-eIO-GPA-3)	1073-6700	B35EGPA0-131002T	Refer to 3.5"-eIO-GPA datasheet for supported functions
16	I/O CARD (3.5"-eIO-GPA-4-XT)	1073-8651	B35EGPAI-141002T	Refer to 3.5"-eIO-GPA datasheet for supported functions

* Standard supplied accessories for APAC single-piece box packaging

Starter Kits

ARTICLE	ORDERING CODE		DESCRIPTION
	EMEA / AMERICA	APAC	
STARTER KIT FOR 3.5"-SBC-RPL (ACTIVE)	1074-8826	0ZHK35SRPL000003	Including above accessories table No. 1 ~ 8 & 10
STARTER KIT FOR 3.5"-SBC-RPL (PASSIVE)	1075-2197	0ZHK35SRPL000002	Including above accessories table No. 1 ~ 8, 9 & 11

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The Power of IoT

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