3.5” Single Board Computer

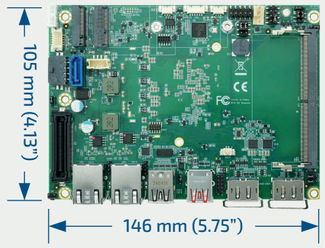
Kontron offers a range of 3.5" single board computers of the high quality, long-term availability and competitiveness to fulfill most different requirements for various applications from diverse vertical markets like Industrial Automation, POS/POI, KIOSK, Digital Signage, Medical, Casino Gaming, Video Surveillance or Transportation.

Kontron’s 3.5” single board computers support latest processors and utilize advanced technology components. They are designed for continuous operation (24/7) under harsh operating conditions and on high system load. Most of them come up with two different operating temperature variants: Standard (0 °C ~ 60 °C) and industrial (-40 °C ~ 85 °C), to cover various environmental conditions of different application scenarios.

Kontron’s 3.5” single board computers ensure an extended long-term availability of up to 10 years from the release date, based on embedded key components. In addition, a corresponding portfolio of I/O expansion boards (3.5”-eIO Series) and related 3rd party accessories is also available. Furthermore, Kontron offers many value-added services like detailed documentation, a professional life-cycle management and customizing tools.

3.5”-SBC Family

- Same mechanical design gen-over-gen
- CE / FCC Class B compliant & UR certification
- USB, DP and Ethernet with max. performance



mm / inch

3.5“ ECX
146 mm x 105 mm
5.75“ x 4.13“

3.5”-eIO Series

The comprehensive 3.5" single board computer portfolio is rounded out by a series of I/O and function expansion boards, named 3.5"-eIO.

The 3.5”-eIO expansion boards are designed for Kontron’s new generation of 3.5” single board computers with a board-to-board connector soldered on them and can be used to stack additional rear I/O connectors, internal connectors, and expansion slots on the single board computer.

This off-the-shelf expansion board can help system designers reduce time-to-market and development costs. It also minimizes technical risks and creates a more reliable system.


1


2


3

Article DC In	DP	2.5 GbE	DC In	Operating Temperature
3.5”-eIO-GPA-0 1	2	2	1	0 °C ~ 60 °C / 32 °F ~ 140 °F
3.5”-eIO-GPA-1 2	2	2	-	0 °C ~ 60 °C / 32 °F ~ 140 °F
3.5”-eIO-GPA-2-XT 1	2	2	1	-40 °C ~ 85 °C / -40 °F ~ 185 °F
3.5”-eIO-GPA-3	-	2	-	0 °C ~ 60 °C / 32 °F ~ 140 °F
3.5”-eIO-GPA-4-XT	-	2	-	-40 °C ~ 85 °C / -40 °F ~ 185 °F
3.5”-eIO-2ETH	-	2	-	-40 °C ~ 85 °C / -40 °F ~ 185 °F
3.5”-eIO-4ETH 3	-	4	-	-40 °C ~ 85 °C / -40 °F ~ 185 °F

About Kontron

Kontron AG (www.kontron.com, ISIN AT0000A0E9W5, WKN A0X9EJ, KTN) is a leading IoT technology company. For more than 20 years, Kontron has been helping companies from a wide range of industries achieve their business goals with intelligent solutions. From automated industrial processes, smarter and safer transport to advanced communication, connectivity, medical and energy solutions, the company provides its customers with value-adding technologies. With the acquisition of Katek SE at the beginning of 2024, Kontron significantly strengthens its portfolio with the new GreenTec division in the areas of solar energy and eMobility and employs around 7,000 people in more than 20 countries worldwide. Kontron is listed on the SDAX® and TecDAX® of Deutsche Börse.

For more information, please visit: **www.kontron.com**

About the Intel® Partner Alliance

From modular components to market-ready systems, Intel and the over 1,000+ global member companies of the Intel® Partner Alliance provide scalable, interoperable solutions that accelerate deployment of intelligent devices and end-to-end analytics. Close collaboration with Intel and each other enables Alliance members to innovate with the latest IoT technologies, helping developers deliver first-in-market solutions.

intel prestige partner

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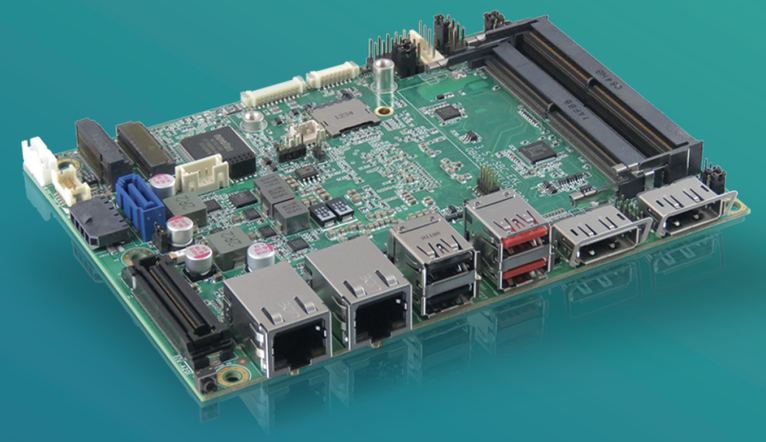
kontron
The Power of IoT

3.5“

3.5” Single Board Computer

The Board for Compact and Portable IoT Edge Systems



Low Power Consumption

Perfect for fanless & energy-efficient applications

Commercial & Industrial Operating Temperature

For all environmental conditions

Small Form Factor

Ideal to be integrated into a variety of compact & portable systems

5G Ready | 3.5“ ECX | -40° 85°C Operating Temperature | kontron OS | 10 Years Availability | 24/7 Continuous Operation | Fanless Operation

3.5”-SBC Family

3.5” Single Board Computer

3.5”-SBC-RPL
3.5”-SBC-RPH

3.5”-SBC-TGL

3.5”-SBC-AML/ADN
3.5”-SBC-AMH/ADH

3.5”-SBC-EKL

		3.5”-SBC-RPL / 3.5”-SBC-RPH	3.5”-SBC-TGL	3.5”-SBC-AML/ADN / 3.5”-SBC-AMH/ADH	3.5”-SBC-EKL
SYSTEM	PROCESSOR	**Intel® Core™** i7-1365UE (10C, 12M, 1.7/4.9 GHz, 12↔15→28 W) i5-1345UE (10C, 12M, 1.4/4.6 GHz, 12↔15→28 W) i3-1315UE (6C, 10M, 1.2/4.5 GHz, 12↔15→28 W) i7-1365URE (10C, 12M, 1.7/4.9 GHz, 12↔15→28 W) i5-1345URE (10C, 12M, 1.4/4.6 GHz, 12↔15→28 W) i3-1315URE (6C, 10M, 1.2/4.5 GHz, 12↔15→28 W) **Intel®** U300E (5C, 8M, 1.1/4.3 GHz, 12↔15→28 W)	**Intel® Core™** i7-1185G7E (4C, 12M, 1.8/4.4 GHz, 12↔15→28 W) i5-1145G7E (4C, 8M, 1.5/4.1 GHz, 12↔15→28 W) i3-1115G4E (2C, 6M, 2.2/3.9 GHz, 12↔15→28 W) i7-1185GRE (4C, 12M, 1.8/4.4 GHz, 12↔15→28 W) i5-1145GRE (4C, 8M, 1.5/4.1 GHz, 12↔15→28 W) **Intel® Celeron®** 6305E (2C, 4M, 1.8 GHz, 15 W)	**Intel Atom®** x7211RE (2C, 6M, 1.0/3.2 GHz, 6 W) x7433RE (4C, 6M, 1.5/3.4 GHz, 9 W) x7835RE (8C, 6M, 1.3/3.6 GHz, 12 W) **Intel® Core™** i3-N305 (8C, 6M, 1.8/3.8 GHz, 9↔15 W) **Intel®** N97 (4C, 6M, 2.0/3.6 GHz, 12	**Intel Atom®** x6211E (2C, 1.5M, 1.3/3.0 GHz, 6 W) x6212RE (2C, 1.5M, 1.2 GHz, 6 W) x6425RE (4C, 1.5M, 1.9 GHz, 12 W) **Intel® Celeron®** J6413 (4C, 1.5M, 1.8/3.0 GHz, 10 W)
	MEMORY	2x DDR5 5200 SO-DIMM	2x DDR4 3200 SO-DIMM	1x DDR5 4800 SO-DIMM	2x DDR4 3200 SO-DIMM
VIDEO	GRAPHICS CONTROLLER	Intel® Iris® Xe Graphics	Intel® Iris® Xe Graphics (Core™ i7 / i5) Intel® UHD Graphics (Core™ i3 / Celeron®)	Intel® UHD Graphics Gen12	Intel® UHD Graphics Gen11
	LVDS / EDP+LVDS COMBO	0 / 1 (2 lane, 24bit 2ch 2k60)	1 (24bit 2ch 2K60) / 0	0 / 1 (2 lane, 24bit 2ch 2k60)	1 (24bit 2ch 2K60) / 0
	DP / HDMI 2.0	2 (8K60 on rear) / 0 (RPL) 1 (8K60 on rear) / 1 (4K60 on rear) (RPH)	2 (8K60* on rear) / 0	2 (4K60 on rear) / 0 (AML/ADN) 1 (4K60 on rear) / 1 (4K60 on rear) (AMH/ADH)	2 (4K60 on rear) / 0
AUDIO	SPEAKER-OUT	1 (Stereo) on request	1 (Stereo)	1 (Stereo) on request	1 (Stereo)
	LINE-IN / LINE-OUT / MIC-IN	1 / 1 / 1 on request	1 / 1 / 1	1 / 1 / 1 on request	1 / 1 / 1
	S/PDIF-OUT	1 on request	0	1 on request	0
NETWORK CONNECTION	ETHERNET CONTROLLER	Intel® I226-LM/IT	Intel® I226-LM/IT & Intel® I210-AT/IT	Intel® I226-V/IT	Intel® I226-LM/IT
	2.5 GBE / GBE	2 (on rear, TSN support*) / 0	1 (on rear, TSN support**) / 1 (on rear)	2 (on rear, TSN support*) / 0	2 (on rear, TSN support*) / 0
PERIPHERAL CONNECTION	USB TYPE-C	0	0	1 (on rear, v3.2 G2 w/ DP & PD 5 V / 3 A)	0
	USB 3.2 GEN 2 / 3.2 GEN 1 / 2.0	4 (on rear) / 0 / 3	4 (on rear) / 0 / 4	2 (on rear) / 0 / 3 (1x on rear)	2 (on rear) / 0 / 6 (2x on rear)
	UART	2x RS232 (Tx / Rx only)	2x RS232/RS484/RS422	2x RS232 (Tx / Rx only)	2x RS232/RS484/RS422
	DIO	8	8	8	8
	CAN / SPI / I²C	2 / 0 / 0 on request	0 / 0 / 0	0 / 0 / 0	2 (w/ Intel® PSE) / 1 (GP-SPI, w/ Intel® PSE) / 1
STORAGE & EXPANSION	SATA	1 (v3.0)	1 (v3.0)	1 (v3.0)	1 (v3.0)
	M2. KEY B	1 (PCIe x1 / USB 2.0 / SATA 3.0 / UIM)	1 (PCIe x1 / USB 2.0 / SATA 3.0 / UIM)	1 (PCIe x1 / USB 2.0 / UIM)	1 (PCIe x1 / USB 2.0 / UIM)
	M.2 KEY E	1 (PCIe x1 / USB 2.0 / CNVi)	1 (PCIe x1 / USB 2.0 / CNVi)	1 (PCIe x1 / USB 2.0 / CNVi)	1 (PCIe x1 / USB 2.0 / SDIO / UART / I²C)
	M.2 KEY M	1 (PCIe x4)	1 (PCIe x4)	1 (SATA 3.0 (default)	1 (SATA 3.0)
	BOARD-TO-BOARD CONNECTOR	1 (2xDDI/PCIex2/PCIex1/SM Bus/I 2 C/UART/GSPI)	1 (2xDDI/PCIex2/PCIex1/SM Bus/I²C/UART/GSPI)	1 (PCIex1/SM Bus/I²C/UART/GSPI)	1 (2x PCIex2/SM Bus/I²C/UART/GSPI)
POWER	INPUT VOLTAGE	DC 9 V ~ 36 V	DC 12 V	DC 9 V ~ 36 V	DC 12 V
SECURITY	SECURITY	TPM 2.0	TPM 2.0	TPM 2.0	TPM 2.0
SOFTWARE	OS SUPPORT	Windows 11, Windows 10, Linux	Windows 10, Linux	Windows 11, Windows 10, Linux	Windows 10, Linux
ENVIRONMENTAL	OPERATING TEMPERATURE	0 °C ~ 60 °C / 32 °F ~ 140 °F (Standard) -40 °C ~ 85 °C / -40 °F ~ 185 °F (Industrial)	0 °C ~ 60 °C / 32 °F ~ 140 °F (Standard) -40 °C ~ 85 °C / -40 °F ~ 185 °F (Industrial)	0 °C~ 60 °C / 32 °F ~ 140 °F (Standard) -40 °C ~ 85 °C / -40 °F ~ 185 °F (Industrial)	0 °C ~ 60 °C / 32 °F ~ 140 °F (Standard) -40 °C ~ 85 °C / -40 °F ~ 185 °F (Industrial)
COMPLIANCE	EMC	CE, FCC, ICES, UKCA Class B	CE, FCC, ICES Class B	CE, FCC, ICES, UKCA Class B	CE, FCC, ICES, UKCA Class B
	SAFETY	UR (UL Recognized)	-	UR (UL Recognized)	UR (UL Recognized), CSA

* TSN support only for Core™

* 2x8K for Core™ i7 / i5, 1x8K for Core™ i3 / Celeron®
** TSN support only for Core™ GRE Series

* TSN support only for Atom®

* TSN support only for Atom® RE Series

Kontron Software-Tools

We provide smart functional solutions through our software, hardware and expertise, helping you implement changes effectively. By combining our smart software with IoT/IIoT solutions, we enable you to build and enhance smarter machines.

We also work with you to develop new secure system solutions and business models for today's challenges based on the following tools:

KontronOS

- Secure hardened Linux® based operating system KontronOS for edge devices
- Platform for secure operation of customer applications
- For use in demanding industrial environments and supporting remoting functionalities

BSPs & SDKs

- Specific board support package for all products
- Windows and Linux support
- Regular BIOS updates
- Custom packages

KontronGrid

- IoT device management solution for managing and monitoring globally distributed edge devices
- Ideal for scalable and secure container and native application deployment
- Integrated remote support, mass updates, and condition monitoring
- Supports secure VPN tunneling, remote access (SSH, RDP) and Docker Compose

Kontron ToolSuite

- Comprehensive management solution for BIOS modifications and updates
- Used for hardware monitoring and system configuration across multiple client devices from a central server
- Other features like fan settings, monitoring of active client devices and observation of key system parameters