



The standard lifecycle of desktop motherboards is 12 months to a maximum of 18 months. Taking into consideration the enormous expense necessary for certification and engineering, that time frame is too narrow for many commercial applications. To solve this problem, Kontron offers selected motherboards for an extended lifecycle with min. 36 months.



### SPECIAL FEATURES

The motherboards components of the Extended Lifecycle Series are designed for long-term, continuous operations (24/7) in an extended temperature range and high system load. Extended Lifecycle motherboards are specified for a temperature range between 0 and 50 °Celsius.

Kontron motherboards "Designed by Fujitsu" of the Extended Lifecycle Series are applicable in many branches:

- ▶ Public and Corporate Tenders
- ▶ Video Surveillance
- ▶ Medical Systems
- ▶ Webhosting
- ▶ CAD Workstations

### About Kontron – Member of the S&T Group

Kontron is a global leader in IoT/Embedded Computing Technology (ECT). As a part of technology group S&T, Kontron, together with its sister company S&T Technologies, offers a combined portfolio of secure hardware, middleware and services for Internet of Things (IoT) and Industry 4.0 applications. With its standard products and tailor-made solutions based on highly reliable state-of-the-art embedded technologies, Kontron provides secure and innovative applications for a variety of industries. As a result, customers benefit from accelerated time-to-market, reduced total cost of ownership, product longevity and the best fully integrated applications overall.

For more information, please visit: [www.kontron.com](http://www.kontron.com)

### About the Intel® Internet of Things Solutions Alliance

From modular components to market-ready systems, Intel and the 400+ global member companies of the Intel® Internet of Things Solutions 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.

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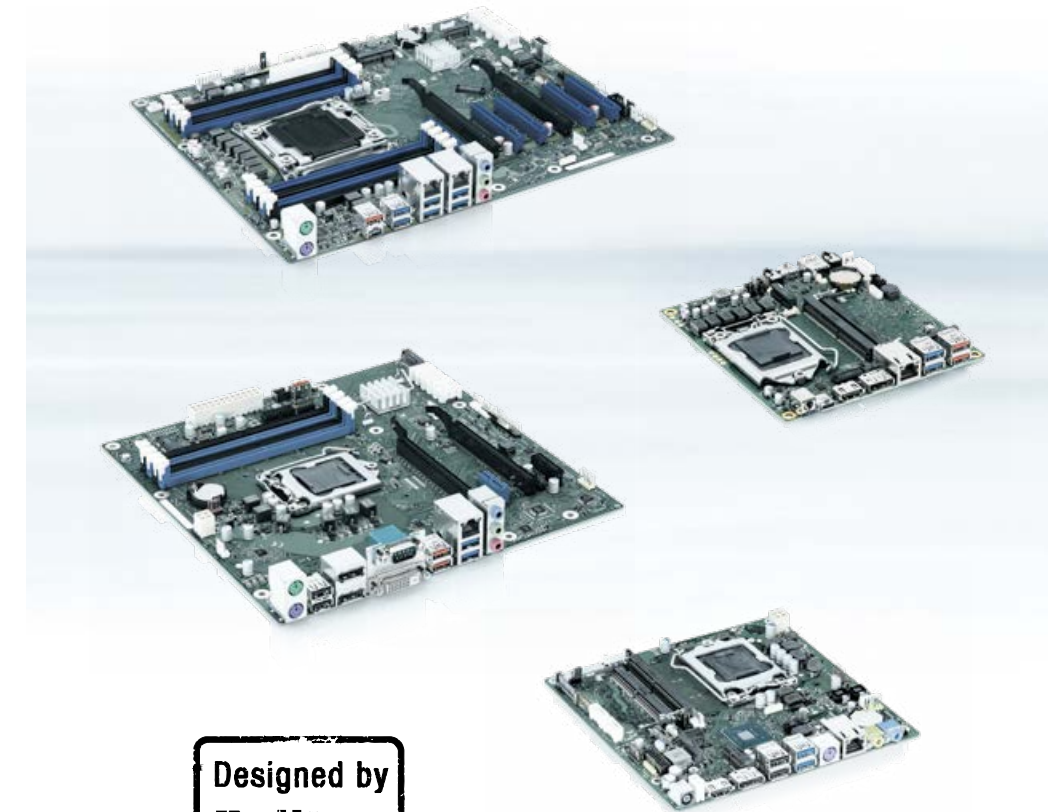
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# The Extended Lifecycle Series MOTHERBOARDS



- ▶ **PROLONGED LIFECYCLE**  
Availability up to 3 years
- ▶ **SEMI-INDUSTRIAL FEATURES**  
24/7 continuous operation at 50°C
- ▶ **PROFESSIONAL LIFECYCLE MANAGEMENT**  
Regular Notifications on Motherboard Updates

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# MOTHERBOARDS

## Extended Lifecycle Series



		D3598-B ATX	D3598-G ATX	D3642-B µATX	D3643-H µATX	D3644-B µATX	D3674-B Thin mITX	D3654-B mSTX	D3664-B mSTX
<b>BASEBOARD</b>	<b>DIMENSIONS</b>	9.6" x 12" (243.8 x 304.8 mm)	9.6" x 12" (243.8 x 304.8 mm)	9.6" x 9.6" (243.8 x 243.8 mm)	9.6" x 9.6" (243.8 x 243.8 mm)	9.6" x 9.6" (243.8 x 243.8 mm)	6.7" x 6.7" (170 x 170 mm)	5.5" x 5.8" (140 x 148 mm)	5.5" x 5.8" (140 x 148 mm)
	<b>CHIPSET</b>	Intel® C422	Intel® X299	Intel® Q370	Intel® B360	Intel® C246	Intel® H310	Intel® H310	Intel® Q370
<b>CPU SUPPORT</b>	<b>PROCESSOR</b>	Intel® Xeon® W-21xx/-22xx Processors Future Intel® Xeon® W Processors	Intel® Core™ i7-78xxX/-98xxX processors Intel® Core™ i9-79xxX/-98xxX/-99xxX/-109xxX Processors Future Intel® Core™ X-Series Processors	Intel® Core™ 8th/9th Gen Processor Series	Intel® Core™ 8th/9th Gen Processor Series	Intel® Core™ 8th/9th Gen & Xeon® Processor Series	Intel® Core™ 8th/9th Gen Processor Series	Intel® Core™ 8th/9th Gen Processor Series	Intel® Core™ 8th/9th Gen Processor Series
	<b>PROCESSOR SOCKET</b>	Intel LGA2066	Intel LGA2066	Intel® LGA1151	Intel® LGA1151	Intel® LGA1151	Intel LGA1151	Intel LGA1151	Intel LGA1151
	<b>MAX. PROCESSOR POWER CONSUMPTION</b>	165 W	165 W	95 W	95 W	95 W	65 W	65 W	65 W
	<b>CPU TDP LIMITING OPTION</b>	-	-	yes	yes	yes	yes	yes	yes
	<b>HIGH EFFICIENCY CORE VOLTAGE REGULATOR</b>	yes	yes	yes	yes	yes	yes	yes	yes
<b>MEMORY</b>	<b>MAX. CAPACITY/NUMBER OF SOCKETS</b>	512 GByte/8 ECC Support	128 GByte/8	64 GByte/4	64 GByte/4	64 GByte/4	32 GByte S0/2	32 GByte S0/2	32 GByte S0/2
	<b>RAM SPEED</b>	DDR4 2666/2933 SDRAM (Quad Channel)	DDR4 2666/2933 SDRAM (Quad Channel)	DDR4 2400/2666	DDR4 2400/2666	DDR4 2400/2666 ECC support	DDR4 2400/2666	DDR4 2400/2666	DDR4 2400/2666
<b>GRAPHICS</b>	<b>ONBOARD GRAPHICS</b>	-	-	Intel® UHD Graphics; DX 12	Intel® UHD Graphics; DX 12	Intel® UHD Graphics; DX 12	Intel® UHD Graphics; DX 12	Intel® UHD Graphics; DX 12	Intel® UHD Graphics; DX 12
	<b>GRAPHICS INTERFACES</b>	-	-	DVI-D/2x DP V 1.2 Optional VGA-Ext. D3653	DVI-D/2x DP V 1.2 Optional VGA-Ext. D3453	DVI-D/2x DP V 1.2 Optional VGA-Ext. D3453	HDMI V 1.4/DP V 1.2	HDMI V 1.4/DP V 1.2	HDMI V 1.4/DP V 1.2 /USB 3.1 Gen2 Type-C (DP Alt Mode)
<b>ETHERNET</b>	<b>ONBOARD LAN CONTROLLER</b>	Intel® i219LM Intel® i210AT	Intel® i219LM Intel® i210AT	Intel® i219LM	Intel® i219LM	Intel® i219LM	Realtek RTL 8111G	Realtek RTL 8111E	Intel® i219LM
	<b>IAMT/VPRO</b>	yes/-	-/-	yes/yes	-/-	yes/yes	-/-	-/-	yes/(yes)
<b>AUDIO</b>	<b>TYPE</b>	5.1 Multich.	5.1 Multich.	5.1 Multich.	5.1 Multich.	5.1 Multich.	5.1 Multich.	Stereo	Stereo
	<b>ONBOARD CONTROLLER</b>	Realtek ALC671	Realtek ALC671	Realtek ALC671	Realtek ALC671	Realtek ALC671	Realtek ALC255	Realtek ALC671	Realtek ALC671
	<b>BUZZER/SPEAKER/S/PDIF HEADER</b>	yes/yes/-	yes/yes/-	-/yes/-	-/yes/-	-/yes/-	-/yes (Stereo)/-	-/yes/-	-/yes/-
<b>EXTENSION SLOTS</b>	<b>PCIe X16/X8/X4/X1/PCI</b>	2/5/-/-/-	2/5/-/-/-	2/-/-/2/-	2/-/-/2/-	2/-/-/2/-	-/-/-/-/-	-/-/-/-/-	-/-/-/-/-
	<b>MINI-PCIe/MSATA</b>	yes/-	yes/-	-	-	-	-	-	-
	<b>M.2 SSD (PCIe AND/OR SATA)</b>	PCIe @ 4lanes; Key-M (2280)	PCIe @ 4lanes; Key-M (2280)	1x M.2 Key M Socket (2280) for PCIe (4 lanes) based M.2 Modules	1x M.2 Key M Socket (2280/22110) for PCIe (4 lanes) based M.2 Modules	1x M.2 Key M Socket (2280) for PCIe (4 lanes) based M.2 Modules	1x M.2 Key M Socket (2280) for PCIe based M.2 Modules (4 lanes)	1x M.2 Key M Socket (2280) for PCIe based M.2 Modules (4 lanes)	1x M.2 Key M Socket (2280) for PCIe based M.2 Modules (4 lanes)
	<b>M.2 WLAN (KEY-E)</b>	-	-	yes	yes	yes	yes	yes	yes
<b>EXTERNAL/INTERNAL CONNECTORS</b>	<b>USB PORTS 3.1 GEN2/3.1 GEN1/2.0/STICK SOCKET</b>	2/10/2/yes	2/10/2/yes	2/6/4/yes	2/4/4/-	2/6/4/yes	-/4/5/-	-/4/4/-	2/5/2/-
	<b>SATA PORTS/SATA RAID COM PORT INT. HEADER/EXT. // PARALLEL PORT INT. HEADER</b>	8/yes 1/- // -	8/yes 1/- // -	6/yes -/1//	4/- -/1//	6/yes -/1//	2/- 1/-//	1/- -/1//	1/- -/1//
<b>POWER SUPPLY OPTIONS</b>	<b>EXTERNAL SUPPLY</b>	-	-	-	-	-	19-24 V 12 V or 19-24 V	19 V -	19 V -
	<b>INTERNAL SUPPLY</b>	ATX PSU	ATX PSU	ATX PSU	ATX PSU	ATX PSU	-	-	-
<b>MISCELLANEOUS</b>	<b>FAN SPEED CUSTOMIZING</b>	yes	yes	yes	-	yes	yes	yes	yes
	<b>TPM V2.0</b>	yes (Infineon)	yes (Infineon)	yes (Infineon)	yes (Intel®)	yes (Infineon)	yes (Intel®)	yes (Intel®)	yes (Intel®)
	<b>CHASSIS INTRUSION SUPPORT</b>	yes	yes	yes	-	yes	yes	-	-
	<b>HW WATCHDOG</b>	yes	yes	yes	-	yes	yes	yes	yes
	<b>MISCELLANEOUS</b>	Intel® VROC Support USB 3.1 Gen2 Type-C, Win7 & Win10 Support 2x PCIe x16 (@16 Lanes) 1x USB Type-C (Rear)	Intel® VROC Support USB 3.1 Gen2 Type-C, Win10 Support 2x PCIe x16 (@16 Lanes) 1x USB Type-C (Rear)	-	M.2 - 2280/2210	-	Onboard LVDS 24bit, M.2 (WLAN/Bluetooth) Key E M.2 SSD - PCIe Key M, GPIO (8Bit) Dual-Range DC Power Supply 12 V/19-24 V	19 V DC Power Supply 1x USB Type-C (Front)	19 V DC Power Supply 1x USB Type-C (front) 1x USB Type-C (Rear, incl. DP Alt Mode)