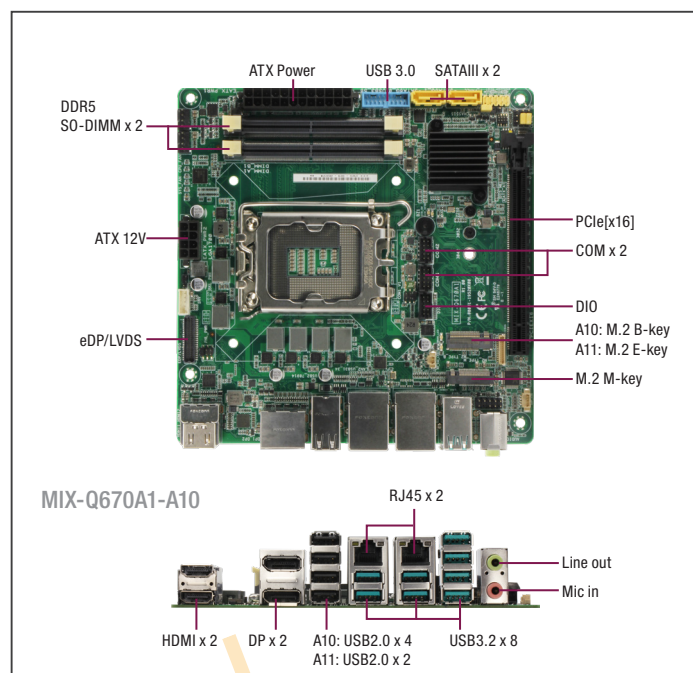




MIX-Q670A1

MIX with 12th/13th/14th Gen Intel® Core™ Processors



Specifications

System	
Processor	12th/13th/14th Gen Intel® Core™ Processors
Chipset	Intel® Q670E Chipset
Memory	Dual-Channel DDR5 4800MHz SODIMM x 2, Max. 64GB
I/O Chipset	Intel® UHD Graphics
Ethernet	Intel® Ethernet Connection I219-LM x 1 Intel® Ethernet Controller I210-AT x 1
Audio	Realtek® ALC897 with Amp
TPM	Onboard TPM 2.0 IC
Expansion Slots	PCIe Gen 5 [x16] x 1 A10/A13-AN: M.2 3042/3052 B-Key x 1 A11-EK: M.2 2230 E-Key x 1
BIOS	256Mbit Flash ROM, AMI BIOS
H/W Monitor	Temperature Monitor on CPU/Chassis, Voltage Monitor on Vcore/5V/12V, Fan Monitor on CPU/Chassis
WatchDog Timer	1~255 step by software program
Smart Fan Control	CPU Fan/Chassis Fan
Wake On LAN/ PXE	Yes (WOL/PXE)
Power State	S3, S4, S5
Graphics	
Graphics Chipset	Intel® UHD Graphics
Graphics Multi Display	HDMI x 2 + DP x 2, HDMI x 2 + DP x 1 + LVDS x 1, HDMI x 2 + DP x 1 + eDP x 1, HDMI x 1 + DP x 2 + LVDS x 1, HDMI x 1 + DP x 2 + eDP x 1
VGA	—
DVI	—
HDMI	Up to 3840 x 2160 @60Hz (HDMI 2.0)
Display Port	Up to 3840 x 2160 @60Hz
LVDS	Up to 1920 x 1080 @60Hz, Dual-Channel 18/24 bit
eDP	Up to 1920 x 1080 @60Hz (via CH7513), co-layout LVDS
Backlight Control	PWM
Environment & Power & ME	
Battery	Lithium Battery
Power Requirement	ATX Voltage/Current(A) requirement: +3.3V/0.06A; +5V/11.65A; +12V/17.68A; +5VS B/0.14A
Operating Temperature	32°F ~ 140°F (0 ~ 60°C) (Operational humidity: 60°C @ 90% RH Non-Condensing)
Storage Temperature	-40°F ~ 185°F (-40°C ~ 85°C)
Certificate	CE & FCC
Form Factor	Mini-ITX: 6.7" x 6.7" (170mm x 170mm)
Weight	1.1 lb. (0.5Kg)

Features

- 12th/13th/14th Gen Intel® Core™ Processors
- DDR5 SODIMM, 4800MHz, Max. 64GB
- HDMI 2.0 x 2 + DP 1.2 x 2
- M.2 M-Key x 1, M.2 B-Key x 1 (A10/A13-AN), M.2 E-Key x 1 (A11-EK)
- USB 3.2 Port x 10, USB 2.0 Port x 4 (A10)
- USB 3.2 Port x 10, USB 2.0 Port x 2 (A11-EK)
- USB 3.2 Port x 6, USB 2.0 Port x 8 (A13-AN)
- Intel GbE LAN x 2
- SATA 6.0 Gb/s x 2
- PCIe Gen 5 [x16] x 1



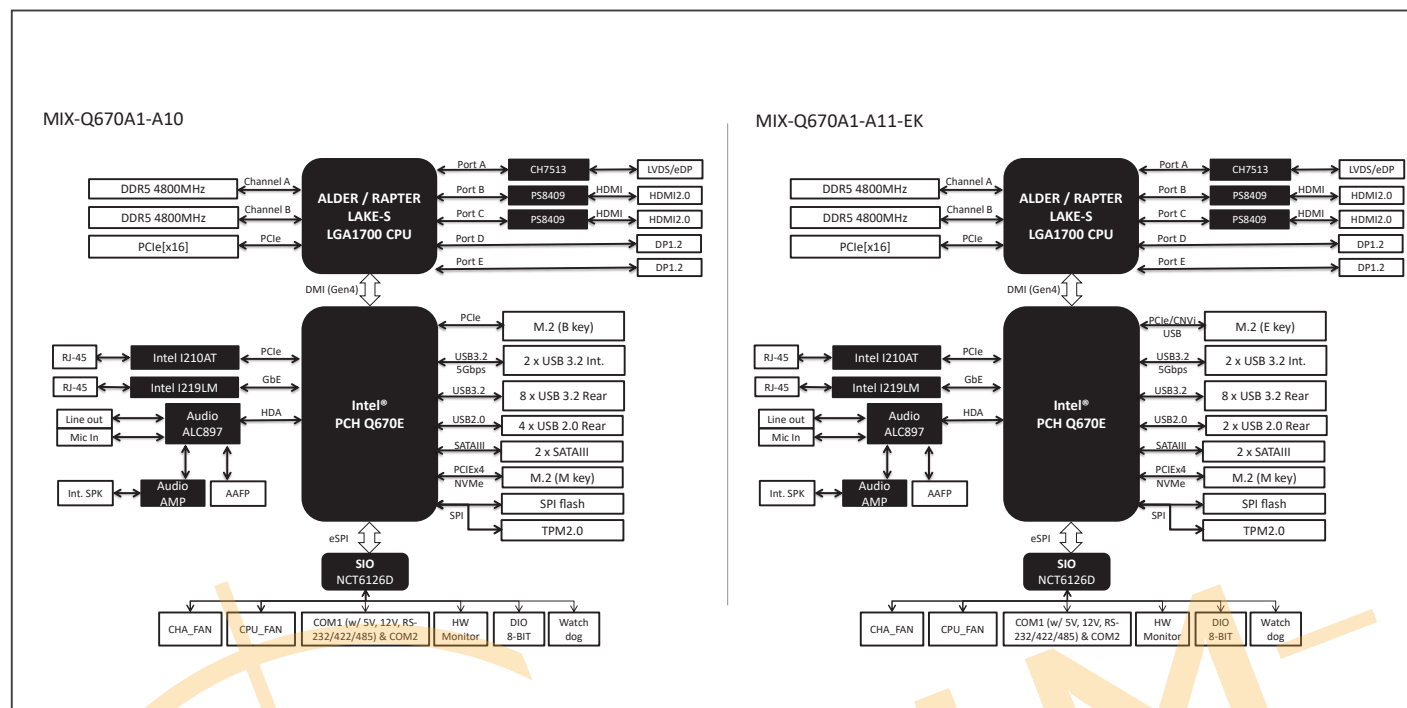
MTBF (Hours)	366,590
Rear Panel I/O Ports	
USB	A10: USB 3.2 Gen 2 x 8 + USB 2.0 x 4 A11-EK: USB 3.2 Gen 2 x 8 + USB 2.0 x 2 A13-AN: USB 3.2 Gen 2 x 4 (available by request)
Display I/O	HDMI x 2, DP x 2
Audio I/O	Mic-in x 1, Line-out x 1
LAN I/O	LAN Port x 2 (RJ-45)
Serial Port	—
PS/2 Port	—
Others	SIM Socket x 1 (A10 only)
Internal I/O Connectors	
Storage	SATA III x 2 (6.0Gb/s), M.2 2280 M-Key
USB	A10/A11-EK: USB 3.2 Gen 1 x 2 ports A13-AN: USB 3.2 Gen 1 x 2 ports + USB 2.0 x 8 ports (available by request)
Display I/O	—
Audio I/O	AAFP x 1, Speaker x 1
Serial Port	Box Header for COM x 1 (RS-232/422/485) Box Header for COM x 1 (RS-232)
PS/2 Port	—
Parallel Port	—
DIO	Digital I/O Box Header x 1
FAN	4-pin CPU Fan Connector x 1, 4-pin Chassis Fan Connector x 1
Power	—
Others	Front Panel Connector x 1, Chassis Intrusion x 1, Onboard Buzzer x 1, CMOS Jumper x 1
OS	
OS Support	Windows® 10 64-bit, Windows® 11 64-bit

Packing List

- I/O Shield
- SATA Cable
- MIX-Q670A1

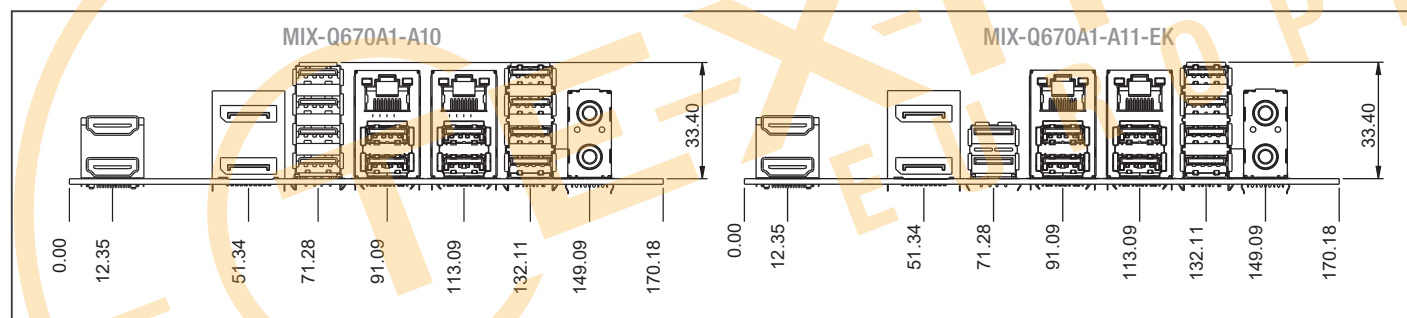


Block Diagram



Dimension

Unit: mm



Ordering Information

Part Number	CPU	RAM	Fan/Fanless	Display	LVDS/eDP	Storage	LAN	USB	RS-232	RS-232/422/485	Expansion Slot	Power	TPM	Temp.
MIX-Q670A1-A10	Socket	SODIMM x 2	Fan	HDMIx2, DPx2, LVDS/eDPx1	1	SATA3 x2, M.2(M-key)	GbE x 2	USB2.0 x 4, USB3.2 x 10	1	1	PCIe slot [x16] x 1, M.2(B-Key) x 1	ATX	2.0	0~60°C
MIX-Q670A1-A11-EK	Socket	SODIMM x 2	Fan	HDMIx2, DPx2, LVDS/eDPx1	1	SATA3 x2, M.2(M-key)	GbE x 2	USB2.0 x 2, USB3.2 x 10	1	1	PCIe slot [x16] x 1, M.2(E-Key) x 1	ATX	2.0	0~60°C
MIX-Q670A1-A13-AN (available by request)	Socket	SODIMM x 2	Fan	HDMIx2, DPx2, LVDS/eDPx1	1	SATA3 x2, M.2(M-key)	GbE x 2	USB2.0 x 8, USB3.2 x 6	1	1	PCIe slot [x16] x 1, M.2(B-Key) x 1	ATX	2.0	0~60°C

Optional Accessories

Part Number	Description
1701100206	COM Cable (200MM, p=2.00mm)
AP-FNTH11700020	(TF).1U CPU cooler for LGA1700,TDP up to 125W.12V.5400RPM.Smart FAN.90°90°25mm.Ablecom.ACL-D11122
AP-FNTH11700030	(TF).2U CPU cooler for LGA1700,TDP up to 125W.12V.8400RPM.Smart FAN.95°95°63.5mm.Ablecom.ACL-D21120
AP-FNTH11700010	(TF).2U CPU cooler for LGA1700,TDP up to 95W.12V.2500RPM.Smart FAN.91°91°.Ablecom.ACL-S41120
1709100201	USB 2.0 Cable (10P, 200mm, p=2.00mm, w/bracket)
1700100491	USB 2.0 Cable (10P, 490mm, p=2.00mm)
1709050201	USB 2.0 Cable (5P, 220mm, p=2.00mm)

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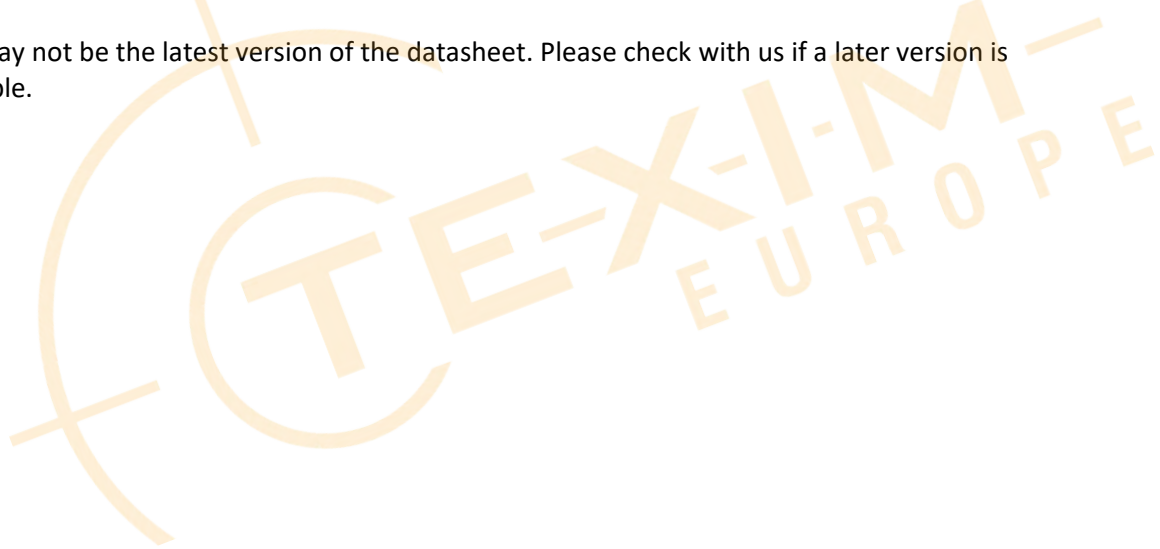
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All operating parameters, including typical parameters, must be validated for each customer application by the customer's technical experts.

Please contact us if you have any questions about the contents of the datasheet.

This may not be the latest version of the datasheet. Please check with us if a later version is available.





Headquarters & Warehouse

Elektrostraat 17
NL-7483 PG Haaksbergen
The Netherlands

T: +31 (0)53 573 33 33
E: info@texim-europe.com
Homepage: www.texim-europe.com



The Netherlands

Elektrostraat 17
NL-7483 PG Haaksbergen

T: +31 (0)53 573 33 33
E: nl@texim-europe.com



Belgium

Zuiderlaan 14, box 10
B-1731 Zellik

T: +32 (0)2 462 01 00
E: belgium@texim-europe.com



UK & Ireland

St Mary's House, Church Lane
Carlton Le Moorland
Lincoln LN5 9HS

T: +44 (0)1522 789 555
E: uk@texim-europe.com



Germany

Bahnhofstrasse 92
D-25451 Quickborn

T: +49 (0)4106 627 07-0
E: germany@texim-europe.com



Germany

Martin-Kollar-Strasse 9
D-81829 München

T: +49 (0)89 436 086-0
E: muenchen@texim-europe.com



Austria

Martin-Kollar-Strasse 9
D-81829 München

T: +49 (0)89 436 086-0
E: austria@texim-europe.com



Nordic

Stockholmsgade 45
2100 Copenhagen

T: +45 88 20 26 30
E: nordic@texim-europe.com



Italy

Martin-Kollar-Strasse 9
D-81829 München

T: +49 (0)89 436 086-0
E: italy@texim-europe.com