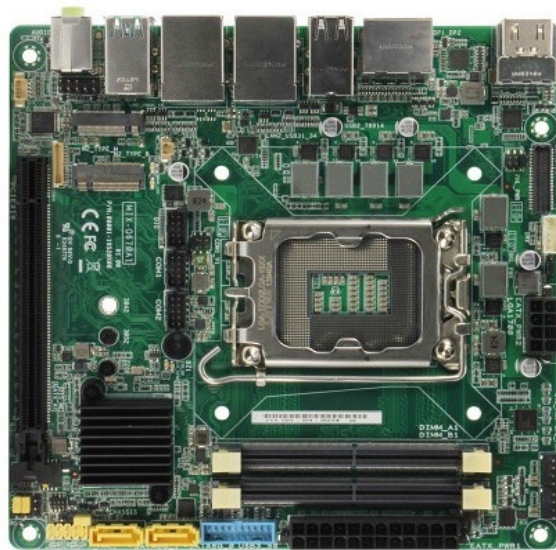


The4thware Industrial Board (MITX)

12th/13th Generation Intel Core Series Platform

T4WA-Q670E-MITX1



PRODUCT SPECIFICATION

SYSTEM	
PROCESSOR	13th & 12th Gen Intel® Core™ Processors (Raptor Lake-S/Alder Lake-S)
CHIPSET	Q670E
MEMORY	Dual-Channel DDR5 4800MHz SODIMM x 2, Max. 64GB
I/O CHIPSET	Intel® UHD Graphics
ETHERNET	Intel® GbE LAN 219LM x 1 Intel® GbE LAN 210AT x 1
AUDIO	Realtek® ALC897 with Amp
TPM	Onboard TPM 2.0 IC
EXPANSION SLOT	PCIe Gen 5 [x16] x 1 A10: 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 4096 x 2160 @60Hz (HDMI 2.0)
DISPLAYPORT	Up to 4096 x 2160 @60 Hz
LVDS	Up to 1920 x 1080 @60Hz, Dual Channel 18/24 bit
EDP	UP to 1920x 1080 @60Hz (via CH7513) co-layout LVDS

PRODUCT SPECIFICATION

BACKLIGHT CONTROL	PWM
ENVIRONMENTAL & POWER & ME	
BATTERY	Lithium battery
POWER REQUIREMENT	ATX
OPERATING TEMPERATURE	32°F ~140°F (0°C ~ 60°C)
STORAGE TEMPERATURE	-40°F ~185°F (-40°C ~85°C)
OPERATING HUMIDITY	0%~90%RH, non-condensing
CERTIFICATION	CE & FCC
FORM FACTOR	Mini-ITX: 6.7" x 6.7" (170mm x 170mm)
WEIGHT	1.1 lb (0.5 Kg)
MTBF (HOURS)	—
REAR 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
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	USB 3.0 Pin Header x 1 (Supports additional USB 3.2 Gen 1 x 2)
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)

PRODUCT SPECIFICATION

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, Buzzer onboard x 1, CMOS jumper x 1
OS	
OS SUPPORT	Windows® 10 64-bit, Windows® 11 64bit