

Industrial Motherboards for OEM/ODM

ONYX IMBM-Q87A

Micro-ATX Industrial Motherboard with 4th Generation Intel® LGA1150 Processor



Features

- 4th Generation Intel® Core™ i7/i5/i3 22nm LGA 1150 Socket Processor
- Three/Dual Independent Display: VGA, DVI-D, DP x 2
- Dual Gigabit Ethernet, LAN1 Supports iAMT 9.0
- SATA 6.0 Gb/s x 5, USB 3.2 Gen 1 x 4, USB 2.0 x 8
- Rich Expansion Slot: PCI-E [x16] x 1, PCI-E [x4] x 1, PCI x 2, Mini-Card (or Optional mSATA) x 1
- TPM Optional (Via Pin Header)



Specifications

System

Processor	4th Generation Intel® Core™ i7/i5/i3/Pentium®/ Celeron® 22nm LGA 1150 socket Processor
Chipset	Intel® Q87 Express Chipset
Memory	240-pin DIMM x 4, max. 32GB, DDR3 1600/1333 MHz, non-ECC, un-buffered memory, dual-channel memory architecture
I/O Chipset	NCT6791D, F81216HD
Ethernet	Intel® PHY I217LM Gb LAN (supports iAMT 9.0) x 1, Intel® I210AT Gb LAN x 1, RJ-45 x 2
Audio	Realtek® ALC887 (Colay with ALC886)
TPM	20-1 PIN header for TPM1.2/FW3.19
Expansion Slots	PCIe 3.0/2.0[x16] Slot x 1, PCIe 2.0 [x4] Slot x 1, PCI x 2, Half size Mini-Card x 1 (PCIe + USB) or mSATA optional
BIOS	64Mbit Flash ROM x 2, AMI BIOS
H/W Monitor	Temperature Monitor on CPU/System, Voltage Monitor on Vcore/5V/12V, Fan Monitor on CPU/Chassis
WatchDog Timer	1~255 steps 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® HD Graphics
Graphics Multi Display	DVI-D+DP, DP+DP, VGA+DVI-D, VGA+DP, DVI-D+DP+DP, VGA+DP+DP
VGA	Up to 1920 x 1200 @60Hz
DVI	Up to 1920 x 1200 @60Hz
HDMI	—
Display Port	DP 1.2, up to 3840 x 2160 @60Hz
LVDS	—
eDP	—
Backlight Control	—

Environment / Power / ME

Battery	Lithium battery
Power Requirement	24-pin ATX connector x 1, 8-pin ATX 12V Power connector x 1
Operation Temp.	32°F ~ 140°F (0°C ~ 60°C)
Storage Temp.	-40°F ~ 185°F (-40°C ~ 85°C)
Operation Humidity	0% ~ 90% RH, non-condensing
Certificate	CE & FCC (Class A)
Form Factor	Micro-ATX, 9.6" x 9.6" (244mm x 244mm)
Weight	1.76 lb (0.8 Kg)
MTBF (Hours)	100,000

Rear Panel I/O Ports

USB	USB 3.2 Gen 1 port x 4, USB 2.0 port x 6
Display I/O	DVI-D x 1, DP x 2, VGA x 1
Audio I/O	Audio Jack x 3: Line-in, Mic-in, Line-out
LAN I/O	LAN (RJ-45) port x 2
Serial Port	—
PS/2 Port	PS/2 Combo Port (Keyboard & Mouse) x 1
Others	—

Internal I/O Connectors

Storage	SATA3 (6.0Gb/s) port x 5, supports RAID 0/1/5/10; Half size Mini-Card (PCIe + USB, or mSATA optional) x 1
USB	USB 2.0 connector x 1 supports additional 2 USB ports
Display I/O	—
Audio I/O	—
Serial Port	RS-232 header x 5, RS-232/422/485 DB-9 connector x 1 (COM1, supports 5/12V on RI pin)
PS/2 Port	—
Parallel Port	—
DIO	8-bit Digital I/O interface x 1 (In/Out programmable)
FAN	CPU Fan connector(s) (4-pin) x 1, Chassis Fan connector(s) (4-pin) x 2
Power	—
Others	Front panel header x 1, Clear CMOS jumper x 1, TPM header x 1, BIOS flash header (2[x4]P p=1.27mm) x 1, Chassis Intrusion x 1
OS Support	Windows® 7 32/64-bit, Windows® 8.1 32/64-bit, Windows® 10 32/64-bit, Linux Fedora