

Industrial Motherboards for OEM/ODM

ONYX IMBA-Q170A

ATX with 7th/6th Generation Intel® Core™ Processor



Features

- 6th/7th Generation Intel® Core™ LGA1151 Processor
- DDR4 DRAM Support, 2400 MHz, Max. 64GB
- Three Independent Display: HDMI x 2, VGA x 1
- Dual Intel® Gigabit Ethernet, LAN1 Supports iAMT 11.0
- PCIe [x16] x 1, PCIe [x4] x 2, PCI x 3
- USB 3.2 Gen 1 Port x 10, USB 2.0 Port x 3
- M.2 Slot (M key) x 1, M.2 Slot (E key) x 1



Specifications

System

Processor	7th/6th Generation Intel® Core™ i7/i5/i3/Pentium®/Celeron® 14nm LGA1151 Socket Processor
Chipset	Intel® Q170
Memory	288-pin DIMM x 4, max. 64GB, DDR4 2400/2133/1867, dual-channel
I/O Chipset	NCT6791D, F81216HD
Ethernet	LAN1: Intel® PHY I219LM Gb LAN (supports iAMT 11.0), LAN2: Intel® I211AT Gb LAN
Audio	Realtek® ALC887 (Colay with ALC886)
TPM	Nuvoton NPCT6xx TPM2.0 (Optional)
Expansion Slots	SKU1: PCIe [x16] x 1, PCIe [x4] (open edge) x 2, PCI x 3, M.2 E key (22 x 30mm) x 1, M.2 M key (22 x 80mm, for SATA) x 1 SKU2: PCIe [x16] x 1, PCIe [x4] (open edge) x 1, PCI x 3, M.2 E key x 1, M.2 M key (for SATA & PCIe4) x 1
BIOS	128M bit Flash ROM x 1, AMI BIOS
H/W Monitor	Temperature Monitor on CPU/Chassis, Voltage Monitor on Vcore/5V/3.3V/12V, Fan Monitor on CPU/Chassis
WatchDog Timer	1~255 steps by software program
Smart Fan Control	CPU Fan x 1 / Chassis Fan X 2
Wake on LAN/ PXE	Yes (WOL / PXE)
Power State	S3, S4, S5

Graphics

Graphics Chipset	Intel® HD Graphics
Graphics Multi Display	VGA+HDMI, HDMI+HDMI, VGA+HDMI+HDMI
VGA	Up to 1920 x 1200 @60Hz
DVI	—
HDMI	HDMI 1.4 up to 4096 x 2304 @30Hz
Display Port	—
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	ATX, 12" x 9.6" (305mm x 244mm)
Weight	1.76 lb (0.8 Kg)
MTBF (Hours)	219,970

Rear Panel I/O Ports

USB	USB 3.2 Gen 1 port x 10
Display I/O	HDMI x 2, VGA x 1
Audio I/O	Line-in, Mic-in, Line-out
LAN I/O	RJ-45 x 2
Serial Port	DB-9COM x1 supports RS-232/422/485,5V/12V/RI
PS/2 Port	Stack Port (Keyboard & Mouse) x 1
Others	—

Internal I/O Connectors

Storage	Supports RAID 0/1/5/10 SKU1: SATA 6.0Gb/s x 3, M.2 M key (SATA) x 1 SKU2: SATA 6.0Gb/s x 4, M.2 M key (PCIe4) x 1
USB	USB 2.0 x 3
Display I/O	—
Audio I/O	Speaker header x 1 (Line-out)
Serial Port	RS-232 header x 5
PS/2 Port	—
Parallel Port	—
DIO	8-bit DIO x 1 (In/Out programmable)
FAN	4-pin CPU Fan x 1, 4-pin Chassis Fan x 2
Power	—
Others	Front panel header x 1, Clear CMOS jumper x 1, BIOS flash header (2[x4]P p=1.27mm) x 1, Chassis Intrusion x 1, AT/ATX mode select jumper x 1
OS Support	Windows® 7 32/64-bit (not supported when a Kaby Lake processor is used), Windows® 8.1 64-bit (not supported when a Kaby Lake processor is used), Windows® 10 64-bit, Linux Fedora 64bit