

Industrial Motherboards for OEM/ODM

ONYX EMB-Q170B

6th/7th Generation Intel® Core™ i Series, LGA1151 Socket Processor



Features

- 6th/7th Generation Intel® Core™ i Series, LGA1151 Socket Processor
- DDR4 SODIMM x 2, Up to 32 GB
- Three Independent Display: DP x 2, eDP x 1, LVDS x 1
- M.2 Slot (E-key) x 1 @Top Side, (M-key) x 1 @Bottom Side
- PCI-Express [x4] x 1
- Low Profile
- 4K for DP/eDP
- LAN1 Supports iAMT11.0



Specifications

System

Processor	6th/7th Generation Intel® Core™ i7/i5/i3, LGA1151 Socket Processor, Max.65W TDPs
Chipset	Intel® Q170
Memory	DDR4 2133/1867 MHz SODIMM x 2, Up to 32GB, Non-ECC, Un-buffered Memory, Dual channel memory architecture
I/O Chipset	NCT6791D
Ethernet	Intel® PCIe Gb LAN 219LM for vPro x 1, Intel® PCIe Gb LAN 211AT x 1
Audio	Realtek® ALC887
TPM	Infineon SLB96XX TT 1.2/2.0 (default: No)
Expansion Slots	PCIe 3.0 [x4] x 1 M.2 M key (22 x 80 mm) at Bottom side x 1 M.2 E key (22 x 30 mm) at Top side x 1
BIOS	128M bit 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 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	2DP + LVDS, DP + eDP + LVDS, 2DP + eDP
VGA	—
DVI	—
HDMI	—
Display Port	Up to 4096 x 2160 @24 Hz / 3840 x 2160 @60 Hz, with Digital Audio
LVDS	Up to 1920 x 1200 @60 Hz, dual-channel 18/24-bit
eDP	UP to 4096 x 2340 @60Hz
Backlight Control	UP to 4096 x 2340 @60Hz

Environment / Power / ME

Battery	Lithium battery
Power Requirement	12VDC
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
Form Factor	Mini-ITX: 6.7" x 6.7" (170mm x 170mm)
Weight	1.1 lb (0.5 Kg)
MTBF (Hours)	292,450

Rear Panel I/O Ports

USB	USB 3.2 Gen 1 (5 Gbps) x 4, USB 2.0 x 2
Display I/O	VGA x 1, DP x 3
Audio I/O	Mic-in x 1, Line-out x 1
LAN I/O	LAN (RJ-45) port x 2
Serial Port	—
PS/2 Port	PS/2 for KB/MS x 1
Others	—

Internal I/O Connectors

Storage	SATA3.0 (6.0Gb/s) x 2, M.2 M-key (22 x 80 mm) at bottom side x 1
USB	USB 2.0 (2 x 5-pin, 2.00mm) x 2 ports support additional 4 USB.
Display I/O	—
Audio I/O	Speaker x 1
Serial Port	Boxer header for COM (RS-232/422/485) x 1, Boxer header for COM (RS-232) x 1
PS/2 Port	—
Parallel Port	—
DIO	Digital I/O header x 1
FAN	4-pin CPU Fan connector x 1, 4-pin Chassis Fan connector x 1
Power	ATX Power Connector x 2, AT/ATX mode select jumper (optional) x 1
Others	Front Panel connector x 1, Chassis Intrusion x 1, CMOS jumper x 1
OS Support	Windows® 7 32/64-bit, Windows® 8.1 32/64-bit, Windows® 10 64-bit, Ubuntu16.04.02/Kernel4.8.0