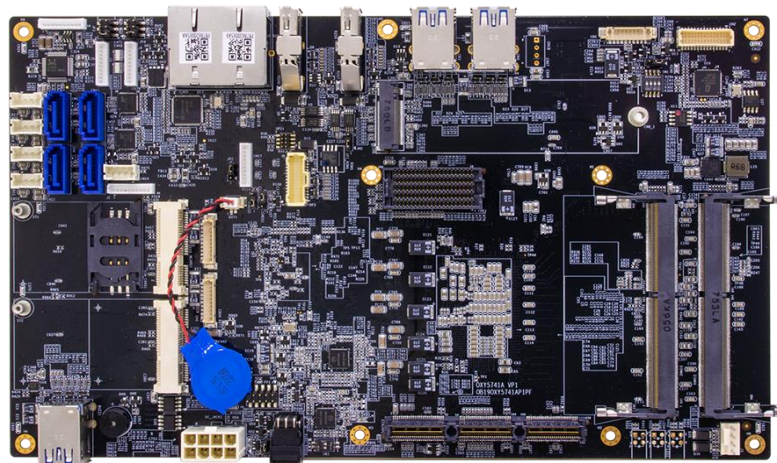




# OXY5741A

Ruggedised open-standard EBX SBC expansion,  
Extended temperature -40°C to 85°C



- Intel® Core™ i7-9850HE Processor
- 9th / 8th Gen Intel® Xeon® / Core™ processor with up to 6 Intel® Xeon® E-2276ME / Xeon®E-2276ML / Core™ i7-9850HE / Core™ i7-9850HL / Core™ i5-8400H
- PCIe/104 stackable bus structure(Type 2)
- FPE connector ( 1\*PCIe x 16 or 2\*PCIe x 8 or 1\*PCIe x 8+2\*PCIe x 4)
- 4 x DDR4-2666MHz, up to 128GB, ECC for Xeon® SKU
- Multi display" Triple simultaneous displays with 48-bit LVDS+DP
- 1 x M.2 2280 M-key, 2 x Full size mPCIe, 1 x PCIe/104, 1 x FPE
- Dual GbE, 4 x SATA III, 2x RS232/422/485
- 6 x USB 3.0, 4 x USB 2.0
- Extended operating temp. -40 to 85°C

# Specifications

## System

CPU	Intel® Core™ i7-9850HE Processor (6 Cores/12 Threads, 9M Cache, up to 4.40 GHz), 45W Intel® Core i7-9850HL ( (6 Cores/12 Threads, 9M Cache, up to 4.10 GHz), 25W XEON E-2276M ( (4 Cores/8 Threads, 12M Cache, up to 4.70 GHz), 45W Intel® Core™ i5-8400H Processor (6 Cores/12 Threads, 8M Cache, up to 4.20 GHz) TDP: 45W
Memory type	4 x DDR4 2666MHz SODIMM up to 64GB
Chipset	CM246
BIOS Core	AMI® UEFI BIOS
BIOS Flash	SPI Flash
Super I/O	ITE 8786
TPM	SLB9665 TPM 2.0
iAMT	iAMT 12.0
Watchdog	1-255 sec. or 1-255 min. software programmable and can be generate system reset

## Display

Display Port	Resolution up to 4096 x 2304
Chipset	Intel® UHD Graphics 630
Video Memory	Shared Memory
LVDS	1* Dual Channel 24bit LVDS (w/auto-dimming support)

## Audio

Codec	ALC887
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## Expansion Slot

M.2	1 x M.2 (M-key, type:2280, SATA/PCIe 3.0x4 NVMe)
miniPCIe	2 x Full size (PCIe x1,USB 2.0 and micro SIM Card)
PCIe/104	TYPE 2
FPE	1 x FPE slot.

## Ethernet

Chipset	Intel® I210 & I219LM GbE LAN (10/100/1000 Mbps supported )
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2 x 100Base-FX port supported

Disable LAN through BIOS Yes

WOL Yes

Boot from LAN Yes for PXE

## Rear I/O

Display Port 2\*DIP Display Port Female 20P 90D UPRIGHT

USB3.0 2\*DIP Double USB3.0 A Type

LAN CONN DIP RJ45 1x2 Tab up w/Transformer 10/100/1000 Base-T w/LED Female

## FRONT I/O

USB3.0(2.0) 1\*DIP Double USB3.0(2.0), A Type

Power Button 1 (with LED)

## Internal I/O header (No Edge I/O Needed)

SATA 4x SATAIII (RAID 0,1,5) , from 2 up to 4 ports

SATA power 4

LVDS 1 (1 x 30pin) or equal ---> W/Auto-dimming supports), Brightlight control

Inverter connector 1 (1 x 10pin)

VGA N/A

DVI-I N/A

DisplayPort 1 x DP from CPU

8 bit GPIO 1 (1 x 10pin)

COM 2 x RS232/422/485 (2 x 10pin)

SIM card holder 1 (Micro SIM) in mPCI slot

USB 2.0 2 x (2x5Pin) box header

USB 3.0 N/A

LAN N/A

LAN LED N/A

LPC 1

Front Panel	1 (2 x 5pin) Power BTN/HDD LED/Reset BTN/PWR LED
Smart Fan	1 x CPU Fan --->1 x 4-pin for CPU(PWM mode)
Audio (Line-out, MIC)	1 (1 x 10pin)
Battery	1---> 1 x RTC battery holder
Power Connector	1 (4 x 2pin) horizontal type

### **Mechanical and Environmental**

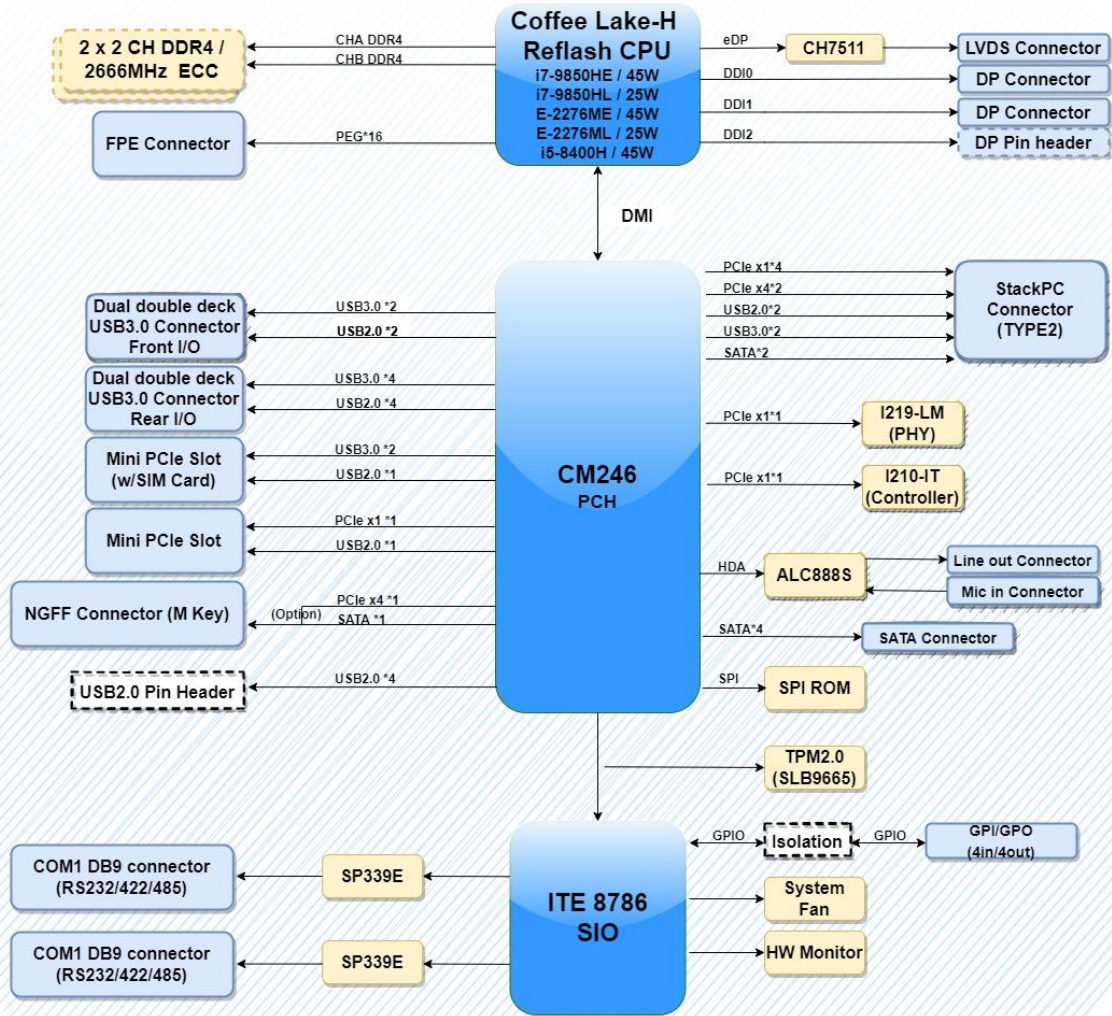
Form Factor	EBX
Power Type	DC-12V
Power Consumption	250W
Dimension	146 mmX 243mm
Operating Temperature	-20°C ~ 60°C
Storage Temperature	-40°C ~ 85°C
Relative humidity	10% to 90%, non-condensing

### **Standard Compliance**

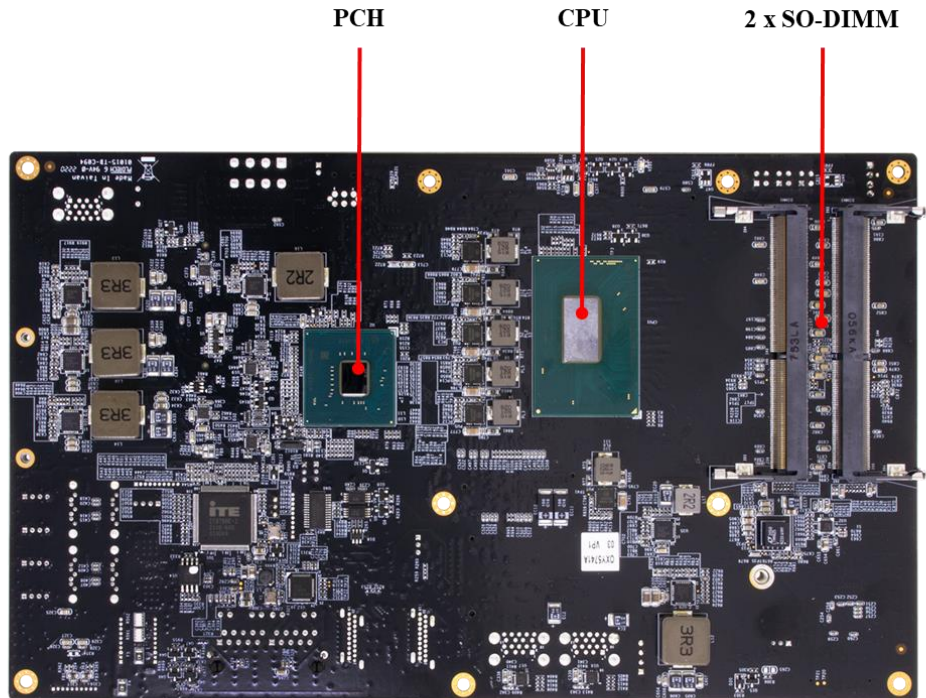
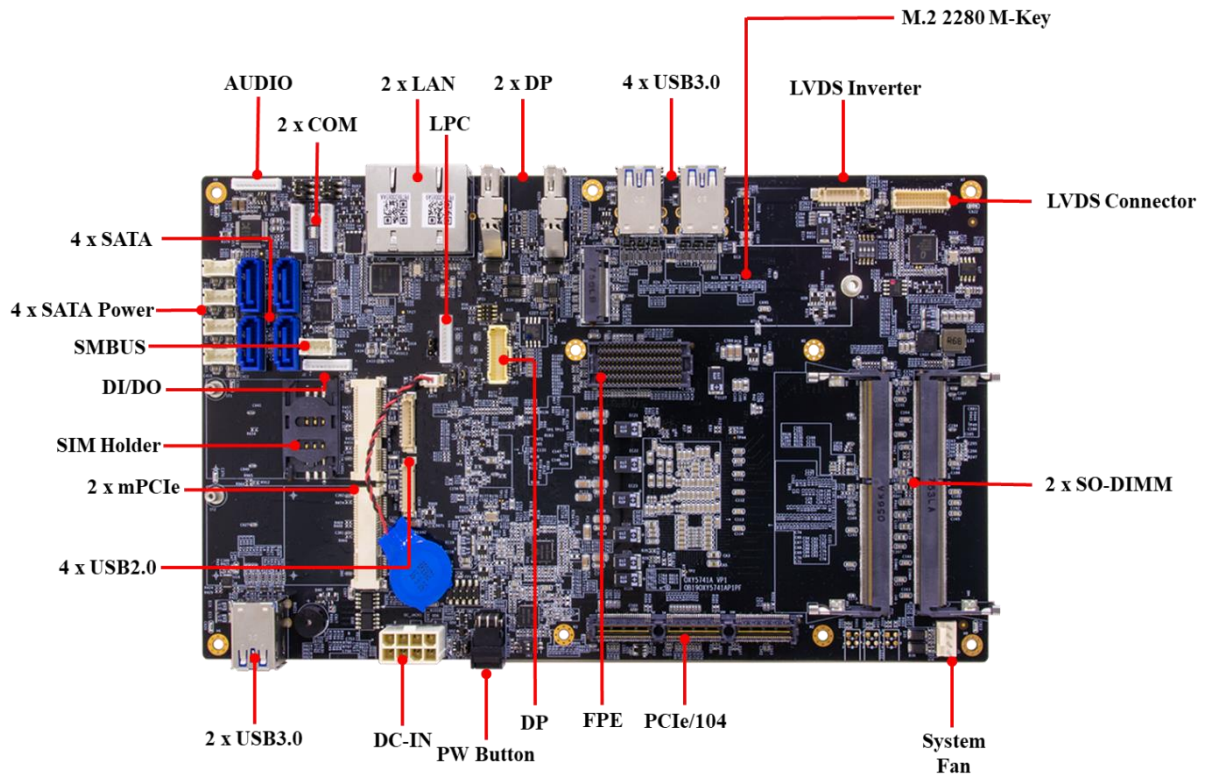
Standard Compliance	CE/FCC
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## **Block Diagram**

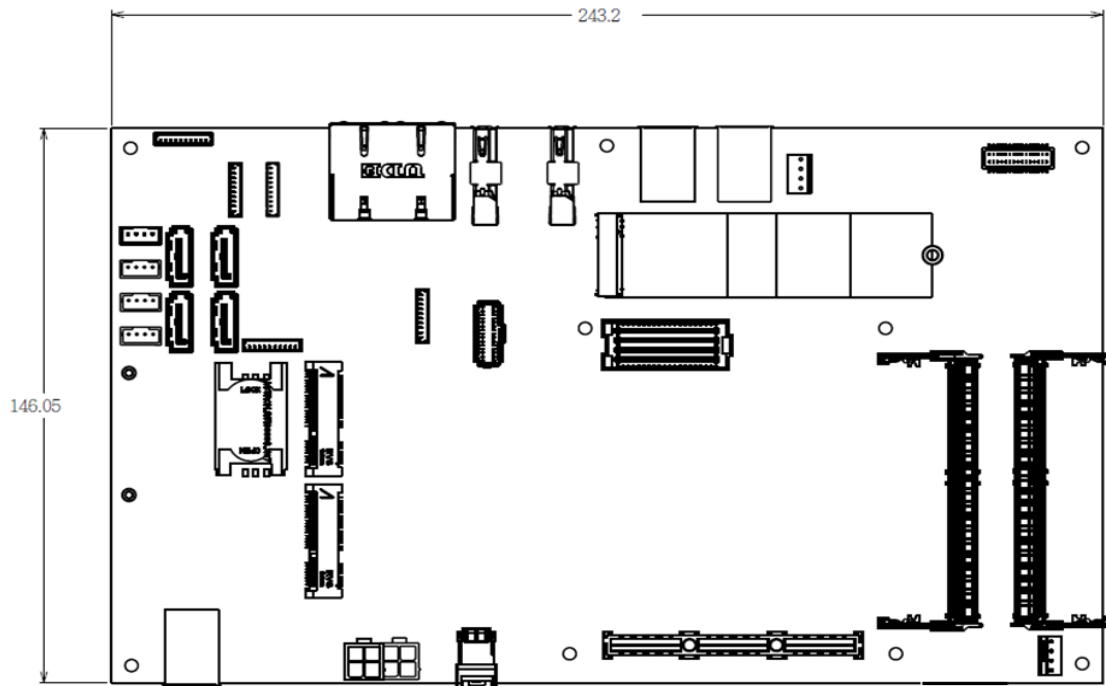




# Board Placement



# Mechanical Dimensions



## Ordering Information

Model	Description
OXY5741A-01ET	EBX Industrial Motherboard Intel Intel® 14nm Coffee Lake-H Processor I7-9850HE(Embedded) BGA(FCBGA1440) with 4 x DDR4 SO-DIMM, Dual Intel® GbE LAN, PCIe/104 Type2 & FPE, 12V (-20°C ~ 70°C)
OXY5741A-02ET	EBX Industrial Motherboard Intel Intel® 14nm Coffee Lake-H Processor I7-9850HL(Embedded) BGA(FCBGA1440) with 4 x DDR4 SO-DIMM, Dual Intel® GbE LAN, PCIe/104 Type2 & FPE, 12V (-20°C ~ 70°C)
OXY5741A-03ET	EBX Industrial Motherboard Intel Intel® 14nm Coffee Lake-H Processor E-2276ME(Embedded) BGA(FCBGA1440) with 4 x DDR4 SO-DIMM, Dual Intel® GbE LAN, PCIe/104 Type2 & FPE, 12V (-20°C ~ 70°C)
OXY5741A-04ET	EBX Industrial Motherboard Intel Intel® 14nm Coffee Lake-H Processor E-2276ML(Embedded) BGA(FCBGA1440) with 4 x DDR4 SO-DIMM, Dual Intel® GbE LAN, PCIe/104 Type2 & FPE, 12V (-20°C ~ 70°C)
OXY5741A-05ET	EBX Industrial Motherboard Intel Intel® 14nm Coffee Lake-H Processor I5-8400H(Embedded) BGA(FCBGA1440) with 4 x DDR4 SO-DIMM, Dual Intel® GbE LAN, PCIe/104 Type2 & FPE, 12V (-20°C ~ 70°C)
OXY5741A-01UT	EBX Industrial Motherboard Intel Intel® 14nm Coffee Lake-H Processor I7-9850HE(Embedded) BGA(FCBGA1440) with 4 x DDR4 SO-DIMM, Dual Intel® GbE LAN, PCIe/104 Type2 & FPE, 12V (-40°C ~ 85°C)



OXY5741A-02UT	EBX Industrial Motherboard Intel Intel® 14nm Coffee Lake-H Processor I7-9850HL(Embedded) BGA(FCBGA1440) with 4 x DDR4 SO-DIMM, Dual Intel® GbE LAN, PCIe/104 Type2 & FPE, 12V (-40°C ~ 85°C)
OXY5741A-03UT	EBX Industrial Motherboard Intel Intel® 14nm Coffee Lake-H Processor E-2276ME(Embedded) BGA(FCBGA1440) with 4 x DDR4 SO-DIMM, Dual Intel® GbE LAN, PCIe/104 Type2 & FPE, 12V (-40°C ~ 85°C)
OXY5741A-04UT	EBX Industrial Motherboard Intel Intel® 14nm Coffee Lake-H Processor E-2276ML(Embedded) BGA(FCBGA1440) with 4 x DDR4 SO-DIMM, Dual Intel® GbE LAN, PCIe/104 Type2 & FPE, 12V (-40°C ~ 85°C)
OXY5741A-05UT	EBX Industrial Motherboard Intel Intel® 14nm Coffee Lake-H Processor I5-8400H(Embedded) BGA(FCBGA1440) with 4 x DDR4 SO-DIMM, Dual Intel® GbE LAN, PCIe/104 Type2 & FPE, 12V (-40°C ~ 85°C)