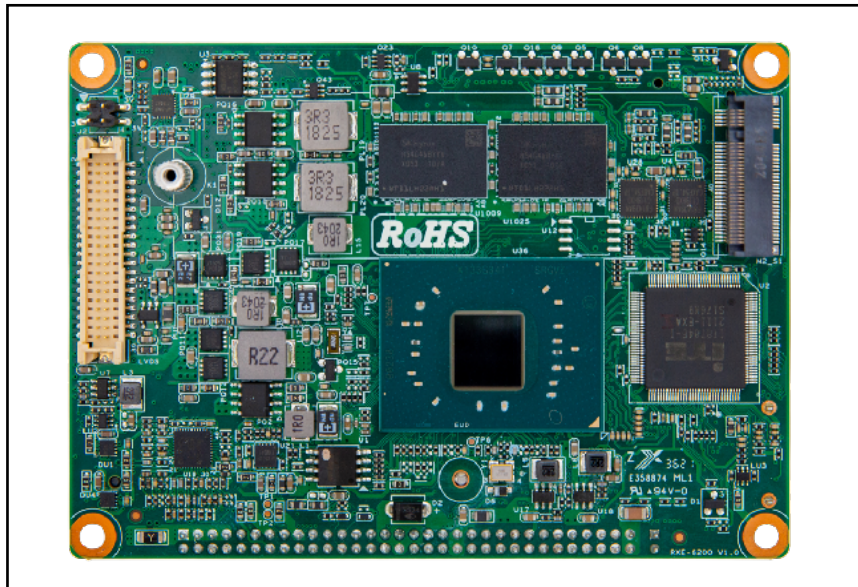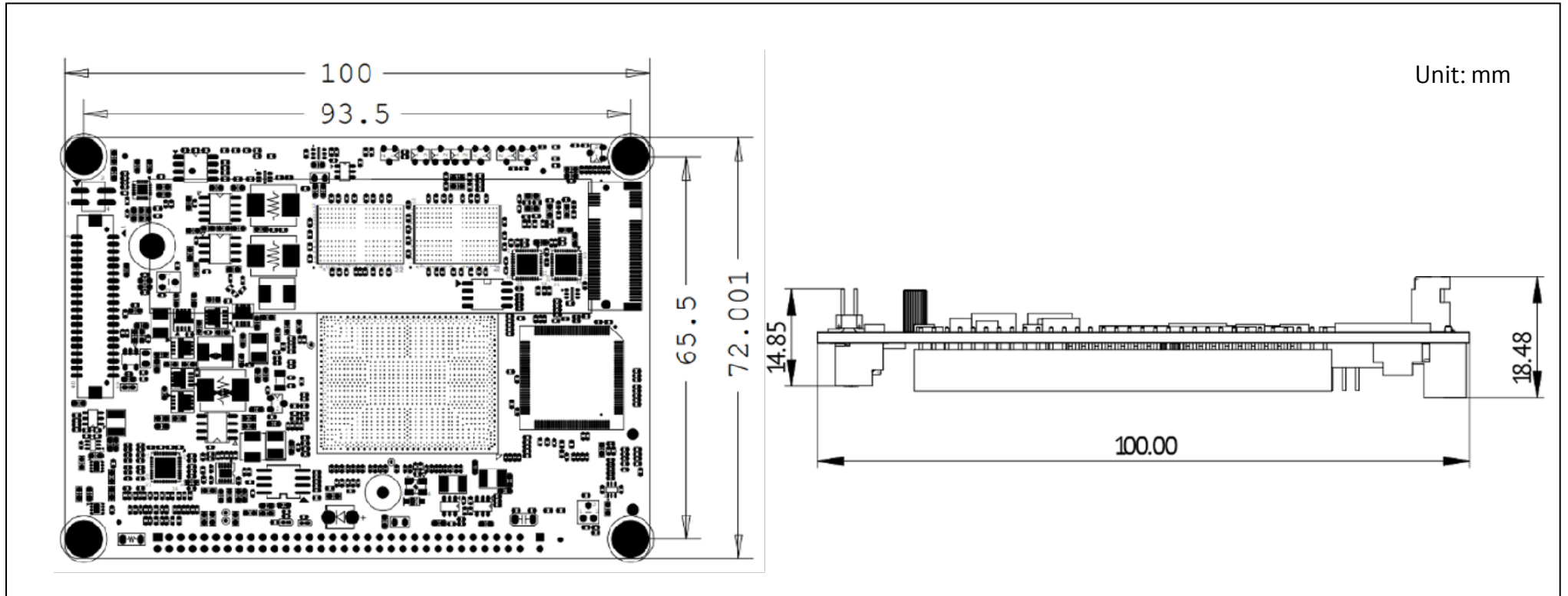# IEM-2160 Single Board Computer

- Intel Apollo Lake N3350/N4200/J3355/J3455/J4205 SoC
- Up to 8G LPDDR4 Soldered RAM
- Support Intel Gen 7 DirectX 11.1
- Dual Independent Display: 48-bit LVDS, VGA, DP/HDMI
- 1 x Full-size Mini-PCIe, 1 x Micro-SIM
- 2 x COM, 1 x SATA, 1 x M.2, 5 x USB, 1 x GbE LAN
- 1 x Board to Board Connector
- 2 x 64 Pin Connectors
- Support Watch Dog
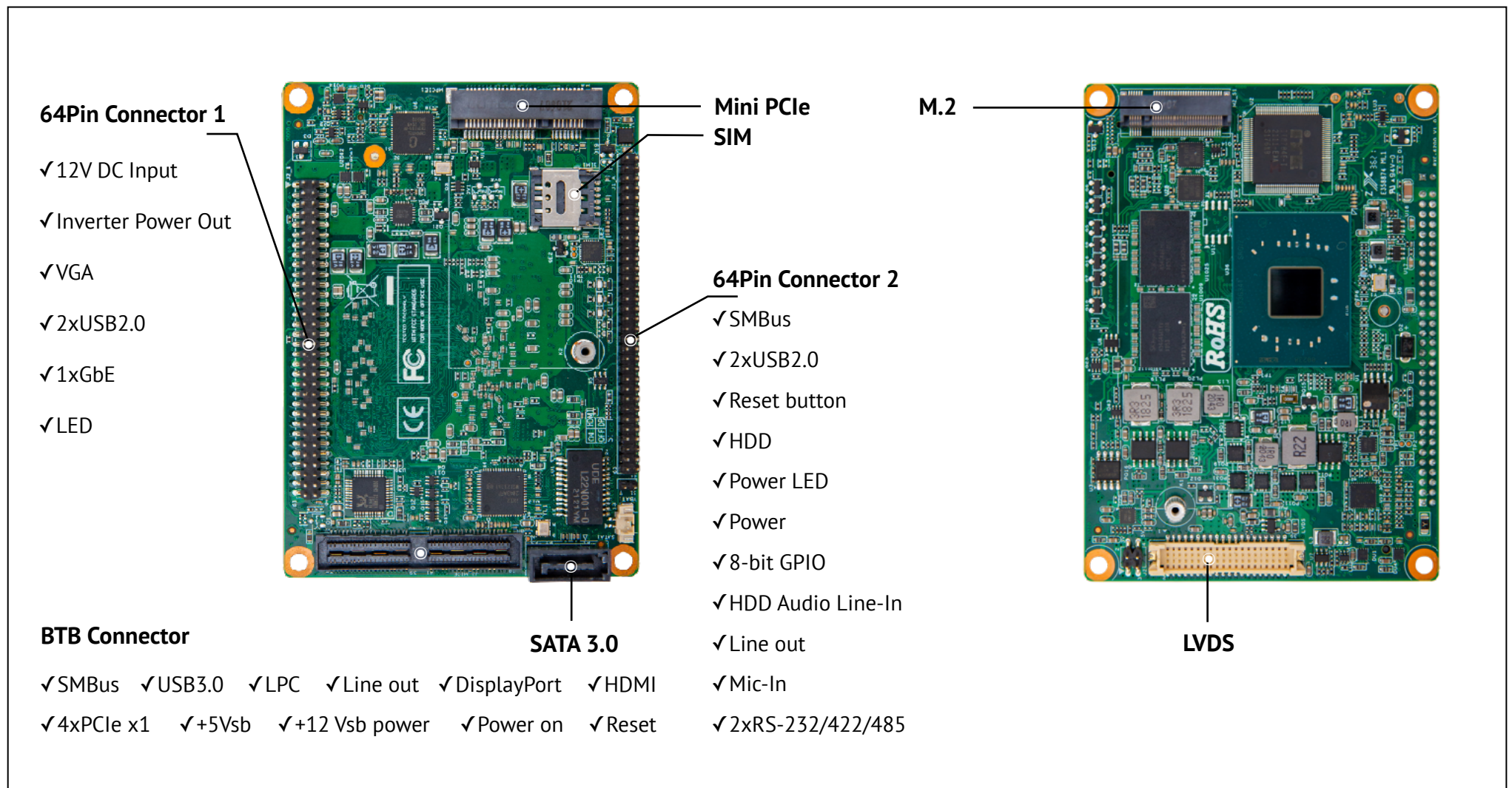- Windows 10 IoT、Linux OS
- Dimensions：100 x 72 mm

- **Specifications 规格信息**

Item	Sub-Items	Description
Processor System	CPU	Intel Apollo Lake N3350/N4200/J3355/J3455/J4205 SoC
	TDP	10W
	BIOS	AMI UEFI BIOS at 64 Mbit SPI
Memory	Technology	LPDDR4 （-40°C~95°C Optional）
	Capacity	4 GB
Graphics	Controller	Intel HD Graphics
Display	DP/HDMI(Optional)	1 (Resolution up to 4096 x 2304 @ 60 Hz)
	LVDS	1 (Resolution up to 1920 x 1200 @ 60 Hz)
	VGA	1 (Resolution up to 1920 x 1200 @ 60 Hz)
	Dual-Display	DP+LVDS or DP+VGA or LVDS+VGA
Ethernet	Interface	10/100/1000 Mbps
	Controller	GbE LAN1: Intel I211-AT or I210-AT
Audio	Controller	ALC662-VD0-GR (Co-lay ALC897)
Storage	M.2	2280 Support >1T SSD
	SATA	1 (600M/S)
Expansion	64-Pin connector 1	12V DC input/Inverter/VGA/2XUSB2.0/1GbE/LED
	64-Pin connector 2	SMBus/I2C/ Power/Reset button/HDD/Power LED/2 x USB2.0/8-bit GPIO/ HD Audio Line-in/ Line out/ Mic-in/ 2 x RS-232/422/485
	BTB Connector	SMBus/USB3.0/LPC/4 x PCIe x1/Line out/DisplayPort/HDMI*/ +5 Vsb/+12 Vsb power/Power On/Reset
	Mini-PCIe	1 x Full-size
Power Requirement	Test Environment	Intel Apollo lake N4200 LPDDR4 2GB X2
Environment	Temperature	Operating 0 ~ 60 °C (32 ~ 140 °F) Non-Operating -40 ~ 85 °C (-40 ~ 185 °F)
	Humidity	Operating 40 °C @ 95% RH Non-condensing Non-Operating 60 °C @ 95% RH Non-condensing
Physical Characteristics	Dimensions (L x H)	100 x 72 mm

• Dimensions 尺寸

Unit: mm

100
93.5
65.5
72.001
14.85
100.00
18.48

• Interface 接口

64Pin Connector 1

✓12V DC Input

✓Inverter Power Out

✓VGA

✓2xUSB2.0

✓1xGbE

✓LED

Mini PCIe
SIM

64Pin Connector 2

✓SMBus

✓2xUSB2.0

✓Reset button

✓HDD

✓Power LED

✓Power

✓8-bit GPIO

✓HDD Audio Line-In

✓Line out

✓Mic-In

✓2xRS-232/422/485

M.2

LVDS

BTB Connector

✓SMBus ✓USB3.0 ✓LPC ✓Line out ✓DisplayPort ✓HDMI

✓4xPCIe x1 ✓+5Vsb ✓+12 Vsb power ✓Power on ✓Reset

SATA 3.0

• Ordering Information 订购信息

Part Number	CPU	Mem	LVDS	SATA 3.0	Mini PCIe	M.2	64Pin Connector1	64Pin Connector2	BTB Connector
IEM-2160-1200	J3355	4G	1	1	1	1	1	1	1
IEM-2160-2200	J3455	4G	1	1	1	1	1	1	1
IEM-2160-3200	J4205	4G	1	1	1	1	1	1	1