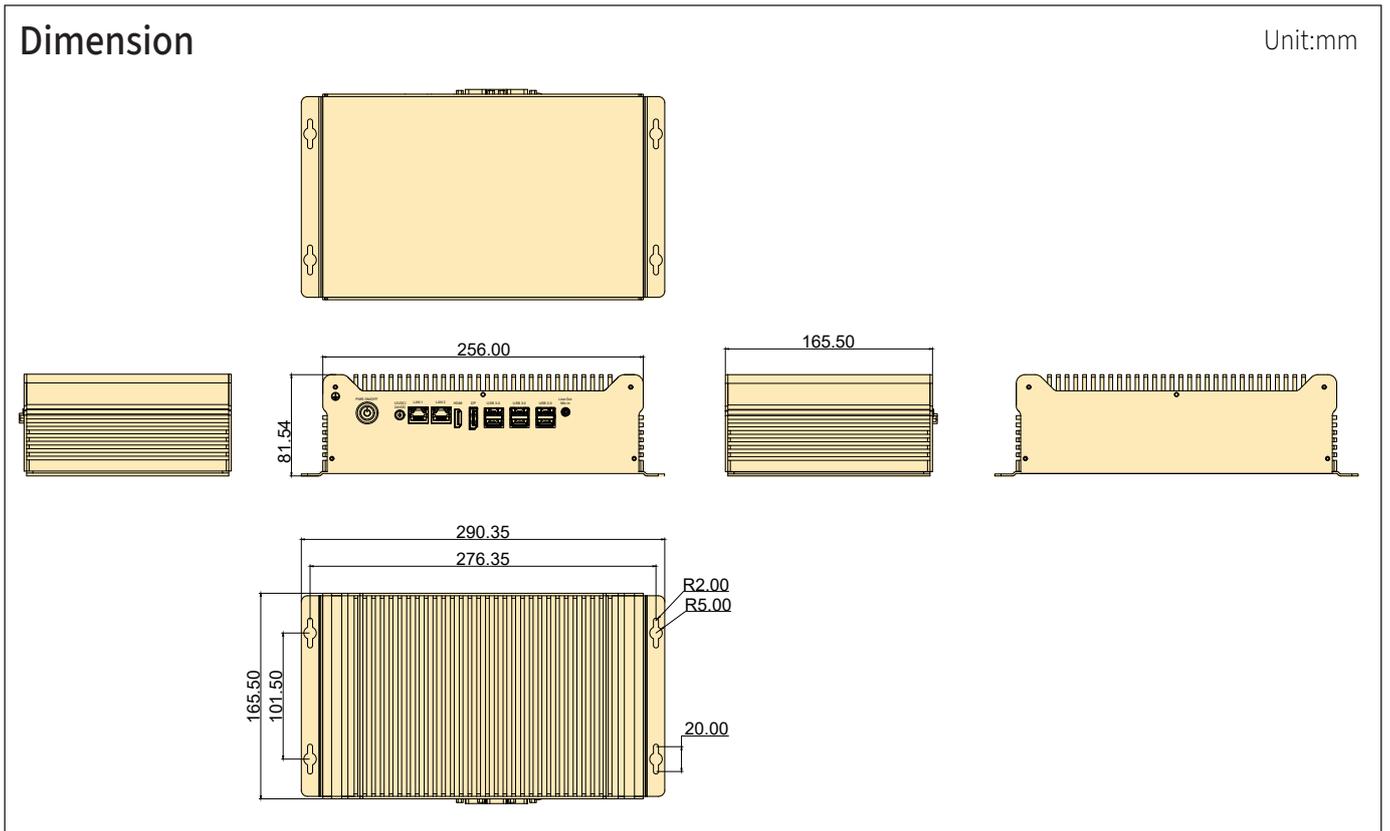# IBOX-205SBC-12TH

- Support up to new Intel® Iris® Xe graphics, the platform offers up to 2.47x times faster graphics performance vs. 11th Gen Intel® Core™ Processors;

- Fast AI with hardware acceleration and Xe Architecture, up to 96 EUs and Vector Neural Network Instructions (VNNI) on the CPU for a high degree of parallelization in AI workloads;

- The HDMI support 4096*2160@30Hz and DP++ support 4096*2304@60Hz;

- Up to two video decode boxes, support for up to 48 simultaneous 1080p streams;

- Full sealed and aluminum alloy cooling enclosure, dustproof, anti-vibration and anti-interferenceand fully enclosed with fanless cooling system;

- Modular Expansion for Easy Maintenance, it comes with three M.2 slots for wireless cards (5G/4G, Wi-Fi, Bt, and GNSS) and M.2 SSD
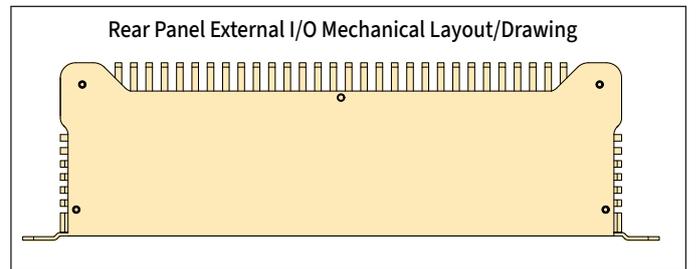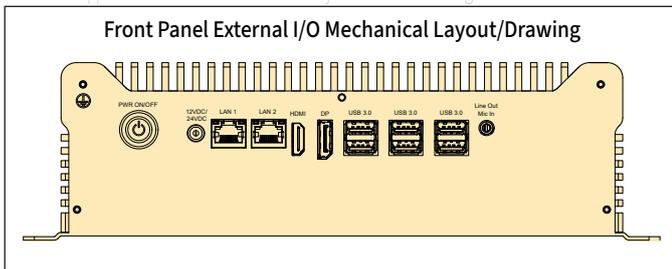
The actual appearance is subject to the final configuration.

Specifications

Model	IBOX-205SBC-12TH		
Supported OS	Win 10, Win11, Linux (Ubuntu, Debian, Kali, CentOS, etc.), Win 10 IoT		
CPU	Socket	Intel® Mobile Professor socket FCBGA1744		
	Series	Intel® Core™ i3-1215U Processor, TDP 15W	Intel® Core™ i5 - 1235U Processor, TDP 15W	Intel® Core™ i7 - 1255U Processor, TDP 15W
	Graphics	Intel® UHD Graphics, up to 64 EUs, 1.10 GHz	Intel® Iris® Xe Graphics, up to 80 EUs, 1.20 GHz	Intel® Iris® Xe Graphics, up to 96 EUs, 1.25 GHz
RAM	Type & Qty	1 * non-ECC SO-DIMM Slot	1 * non-ECC SO-DIMM Slot	1 * non-ECC SO-DIMM Slot
	Frequency	DDR4-3200 MHz	DDR4-3200 MHz	DDR4-3200 MHz
	Capacity	Up to 32GB	Up to 32GB	Up to 32GB
Storage Device	SATA	1*SATA3.0 7P slot on board (6Gb/s) , with 1* SATA Power Wafer		
	M.2	1*M.2 (NGFF) 2280 M-Key Slot (SATA/PCIe x4, support PCIe x4 NVMe SSD)		
I/O Interface	COM	2*RS232 (COM1/2, Wafer, Full lanes); 3*RS232/TTL (COM3/4/5, Wafer, 3 lanes); 1 * RS232/RS485/TTL (COM6, Wafer, 3 lanes);		
	Ethernt	2 * Intel® GbE LAN Chip (10/100/1000 Mbps, RJ45)		
	USB	6 * USB3.0 (TYPE-A, Rear IO); 3 * USB2.0 (Wafer, Internal);		
	Video	1* HDMI, Support 4096*2160@30Hz; 1* DP++, Support 4096*2304@60Hz;		
	Audio	Realtek Audio HAD Codec, 1*Line-Out + MIC 2in1, 1*Amplifier Wafer, 3-W (per channel) into a 4-Ω Loads		
	SIM	1*SIM Card Wafer		
	Power Supply	DC12V/24V Auto Detect (BOM optional only support DC 24V or 12V) , 1 * DC 12V/24V Power Input Φ2.5mm Thread Jack (2P 3.5mm/5.08mm Terminal Block Optional)		
	Other	1 * 8-bit GPIO Wafer; 1 * Front Panel Wafer; 1 * System FAN Wafer; 1 * CPU FAN Wafer; 1 * CMOS Clear Jumper		
Extended Capabilities	Additional Internal Interface	1 * M.2 Key-E Slot (PCIE+USB2.0, Default PCIE, Support WIFI, 2230) 1 * M.2 Key-B Slot (PCIE + USB3.0 + USB2.0, Support 5G/4G, 2242/3052)		
	Functionality Extension	WiFi, 4G, 5G, CANBus		
Environment	Operating Temp.	0 ~ 60 °C (0°F ~ 140°F)		
	Storage Temp.	-20~75 °C (-40~167 °F)		
	Relative Humidity	(Operation) 10%~90%, (Storage) 5%~95%, non-condensingw		
Physical Characteristics	Dimensions	290.35* 81.54* 165.5 mm (W* H* D)		
	Net Weight	2.5 KG (The actual weight is subject to the final configuration)		
Regulation	EMC	CE/FCC Class B, CCC		
	Safety	CE-LVD, RoHS, CCC		

Dimension

Unit:mm

The actual appearance and dimensions are subject to the final configuration

Front Panel External I/O Mechanical Layout/Drawing	Rear Panel External I/O Mechanical Layout/Drawing

Ordering Information

SO-DIMM Socket	SATA 3.0 7P	M.2 2242/3052 B-Key Slot	M.2 2280 M-key Slot	M.2 2230 E-key Slot	RS232	RS232/TTL	RS232/RS485/TTL
1	1	1	1	1	2	3	1

1.0 GbE LAN	USB 3.0	Internal USB 2.0	HDMI	DP++	Line-Out + MIC 2in1 Jack	8-bit GPIO	Power Supply
2	6	3	1	1	1	1	12V DC/24V DC

Processors Info & Available List

CPU	Code Name	Total Cores	Total Threads	Max Turbo Frequency	Base Frequency	Cache	TDP	Memory Types	Integrated Graphics
Intel® Core™ i3 - 1215U	Alder Lake	6	8	4.40 GHz	1.2 GHz	10 MB Intel® Smart Cache	15W	DDR4	Intel® UHD Graphics
Intel® Core™ i5 - 1235U	Alder Lake	10	12	4.40 GHz	1.3 GHz	12 MB Intel® Smart Cache	15W	DDR4	Intel® Iris® Xe Graphics
Intel® Core™ i7 - 1255U	Alder Lake	10	12	4.70 GHz	1.7 GHz	12 MB Intel® Smart Cache	15W	DDR4	Intel® Iris® Xe Graphics

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TO BE YOUR PARTNER OF INDUSTRIAL PC

Packing list

Deafult Items	Qty		Optional Items	Qty
IBOX-205SBC-12TH Unit	1		Power cable 3-pin 150cm, USA type	-
AC-to-DC Adapter	1		Power cable 3-pin 150cm, EU type	-
Power cable 3-pin 150cm	1		Power cable 3-pin 150cm, UK type	-

Optional accessories or internal modules for unit

Optional Items	Max Qty	Description
Isolated RS-232	6	DB9 or Phoenix Terminal connector, connected by header
4G Module	1	Connected by M.2 interface
5G Module	1	Connected by M.2 interface
WiFi Module without AP mode	1	Connected by M.2 interface
Dual channel CAN-Bus Module	1	Connected by M.2 interface
Ignition Switch Module	1	Phoenix Terminal connector, connected by internal power switch and 4-pin ATX power connector

‼️ Note: As this product has expansion slots, please consult sales for the specific maximum number of expandable interfaces.