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ODYSSEY-X86i31125G4 Powerful Edge Platform powered by 11th Gen Intel® Core™ i3 1125G4

SKU B102110608

ODYSSEY X86i31125G4 is an ODYSSEY X86 v2 board and powered by the quad-core Intel® Core™ 11th Gen. i3 1125G4 and Intel UHD Graphics 48EUs (400 - 1250 MHz), which delivers high CPU and AI performance for various applications. The x86 board has two high-speed 2.5-Gigabit Ethernet ports and supports hybrid connectivity including 5G, LoRa, BLE and WiFi. There is also an onboard ATSAMD21 coprocessor, an ARM Cortex-M0+ MCU that allows you to program Arduino on the x86 platform.

PRODUCT DETAILS

Features

- Powered by 11th Gen Intel® Core™ i3 1125G4 CPU running up to 3.70GHz and Intel UHD Graphics 48EUs running up to 1.25 GHz
- Rich peripherals including dual® 2.5-Gigabit Ethernet ports, USB 3.2 Type-A port, USB 2.0 Type-A port, HDMI port and DP port
- Support hybrid connectivity including 5G, LoRa, BLE and WiFi (5G, LoRa, BLE and WiFi need additional modules)
- Dual SATA III 6.0 Gbps data connectors for hard disk drives
- Embedded Arduino Coprocessor ATSAMD21G18 32-Bit ARM® Cortex-M0+
- M.2 B-Key/ M-Key/ E-Key for expandability such as SSD, LTE/4G/5G/LoRaWAN/WiFi/BLE modules
- Support both Windows OS and Linux OS

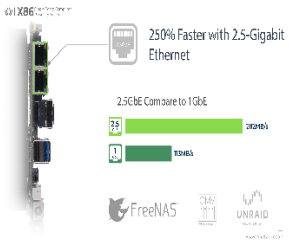
Description

ODYSSEY is a series of SBC (Single Board Computer)，there are already ODYSSEY-X86J4125 in this series as the mian core of the mini pc, reComputer. Here, we would like to introduce our new ODYSSEY board - the ODYSSEY-X86 v2 board.
ODYSSEY X86i31125G4, as one of the main cores of reServer series, is a high-performing yet cost-efficient board from the edge to the cloud.

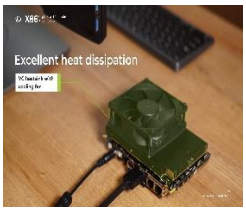
By supporting both Windows OS and Linux OS, ODYSSEY-X86i31125G4 allows you to build applications efficiently and easily no matter for commercial, industrial, or other uses.

ODYSSEY X86i31125G4 is an ODYSSEY X86 v2 board and powered by the quad-core Intel® Core™ 11th Gen. i3 1125G4 running up 3.70GHz and Intel UHD Graphics 48EUs (400 - 1250 MHz) running up to 1.25GHz, which delivers high CPU and AI performance for various applications.

It comes with two high-speed 2.5-Gigabit Ethernet ports and supports hybrid connectivity including 5G, LoRa, BLE and WiFi. It enables up to 250% faster performance than Gigabit Ethernet with compatible hardware and provides the transition speed up to 5Gbps using link aggregation.



ODYSSEY X86i31125G4 is equipped with a large scale of heatsink to ensure stable operations under heavy load, while providing excellent heat dissipation to enable the power of CPU.

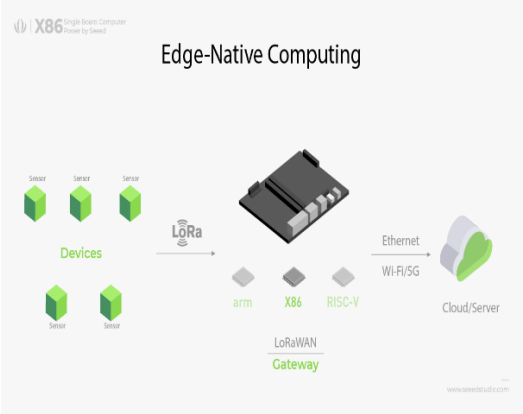


Vapor Chambers heatsink dissipates heat by phase transition of liquid. It can work more efficiently to maintain the bestoperating temperature of CPU. Compared with cooper board, VC board of the same size improves the heat-sinking performance by at least 40%. At the same time, VC heatsink has less limits for working space and angles.

Having dual SATA III 6.0Gbps data connectors, ODYSSEY X86i31125G4 is able to equip up to two SATA hard disk drives to acquire more storage.
It also has M.2 adapters to connect to various SSDs for faster read and write speeds.
* SATA Hard Disk Drives are not included. SSD is not included in some versions.

There is an onboard ATSAMD21 Core, an ARM Cortex-M0+ MCU that allows you to program Arduino on the x86 platform, which provides endless possibilities of using the X86 i3 1125G4

The X86 board supports LoRa technology which makes it possible to connect to a wide range of sensors. It can be applied as an edge computing center for all scenarios that require vast data to collect and process at the edge. The expandability of 5G technology is useful in places where there isn't always reliable internet connectivity, such as on a farm or in a location with spotty service.
*To get LoRa and 5G connectivity, optional modules are needed.



Place it in the artistic, suitable enclosure which is of the compact and delicate structure to have a neat work space.

Get a reServer, the X86 board with a nice enclosure.

Specifications

Versions		Basic Versions			High Performance Versions	
Platform	Processor	Intel® Core™ 11th Gen. i3 1115G4	Intel® Core™ 11th Gen. i3 1125G4	Intel® Core™ 11th Gen. i5 1135G7	Intel® Core™ vPro® 11th Gen. i5 1145GRE	Intel® Core™ vPro® 11th Gen. i7 1185GRE
	Cores/Threads	2C/4T	4C/8T	4C/8T	4C/8T	4C/8T
	Frequency	Up to 4.10 GHz	Up to 3.70 GHz	Up to 4.20 GHz	1.50 GHz ~ 4.10 GHz	1.80 GHz ~ 4.40 GHz
	Co-processor	Microchip® ATSAMD21G18 32-Bit ARM® Cortex-M0+ @ 48MHz			Raspberry Pi® RP2040 32-Bit Dual ARM Cortex-M0+ @ 133MHz	
Memory	Technology	Dual Channels DDR4-3200				
	Capacity	Support up to 64GB				
	ECC Memory Supported	NO			YES	
Graphics	Controller	Intel® UHD Graphics 48EUs	Intel® UHD Graphics 48EUs	Intel® Iris Xe Graphics G7	Intel® Iris Xe Graphics G7	Intel® Iris Xe Graphics G7

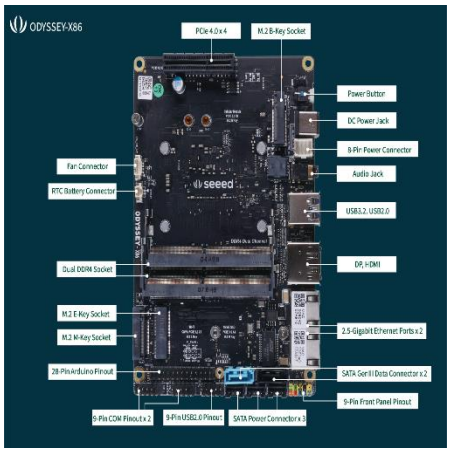
Versions		Basic Versions			High Performance Versions	
		(400 - 1250MHz)	(400 - 1250MHz)	80EUs(400 -1300MHz)	80EUs(400 -1300MHz)	96EUs(400 -1300MHz)
Advanced Technologies	Intel® vPro®	NO			YES	
	Intel® Total Memory Encryption	NO			YES	
Network	Controller	Intel® Ethernet Controller I225-V			Intel® Ethernet Controller I225-LM	
Wireless	WiFi	M.2 E-Key(PCIE & CNVi Support), Intel® Wi-Fi 6 AX201(Optional)				
	Bluetooth	Bluetooth 5.0, BLE(Optional)				
Display	LCD	eDP 40-Pin 4 Lane Connector				
	HDMI	1 x HDMI 2.0b, up to 4Kx2Kx24bpp@60Hz				
	DP	1 x DP1.4a 7680x4320x24bpp@60Hz				
	Multiple Display	4 simultaneous displays with each display interface combination				

Versions		Basic Versions	High Performance Versions
External I/O	Ethernet	2 x 2.5GbE LAN ports (RJ45, supports 10/100/1000/2500 Mbps), Intel® i225	
	HDMI/DP	One/One	
	USB Type-C	N/A	USB PD / USB 4.0 / Thunderbolt 4
	USB Type-A	USB2.0 Type A x1 ; USB3.2 Type A x1	USB2.0 Type A x2 ; USB3.2 Type A x1
	LED	Power Status	
	Power Supply	1x5.5x2.5mm DC Jack / Wafer 2.0mm 8pin	
	Micro Sim Card Slot	1	
Internal I/O	SATA	2 x SATA Gen III 6.0 Gb/s Data Connectors + 3 x SATA Power Connectors	
	COM Port	1 x RS-232/422/485, 1 x RS-232	
	GPIO	28-Pin Arduino Co-processor 2.54mm header	30-Pin Raspberry Pi Co-processor 2.54mm header

Versions		Basic Versions	High Performance Versions
	Audio	Realtek High Definition Audio, Microphone + headphone Combo Connector	
	USB2.0	USB2.0 9-pin Header x2 480Mbps	
	Fan	2 x 12V 4-wire Fan header, PWM Control	
	Front Panel Control	Power-on, Reset, Power Status LED, SATA Status LED	
	S/PDIF	3-Pin 2.54mm Header	
	SATA Power	WAFER4-Pin 2.0 pitch Connector	
	Co-CPU. Debug Port	6-Pin 0.5mm FPC Connector (SWD)	
Expansion	M.2 M-Key	1 x M-Key 2242/2280(PCIe 3.0 x4)	
	M.2 E-Key	1 x E-Key 2230(PCIe 3.0 x1; USB2.0 x1;Intel CNVi)	
	M.2 B-Key	1 x B-Key2242/2252/2280(PCIe 3.0 x2; USB2.0 x1)	
	High Speed I/O	1 X PCIe x4 Gen4	1 X PCIe 3.0 x4/SMBus/LPC/USB 2.0/CPU GPIO etc.

Versions		Basic Versions	High Performance Versions
Power	Supply Voltage	DC Jack: 12V	DC Jack: 12V-19V
	RTC Battery	Lithium 3V/210mAH	
Certification	EMC	CE,FCC,KC,TELEC	

Hardware Overview



Part List

ODYSSEY-X86i31125G4 x 1

User Manual x 1

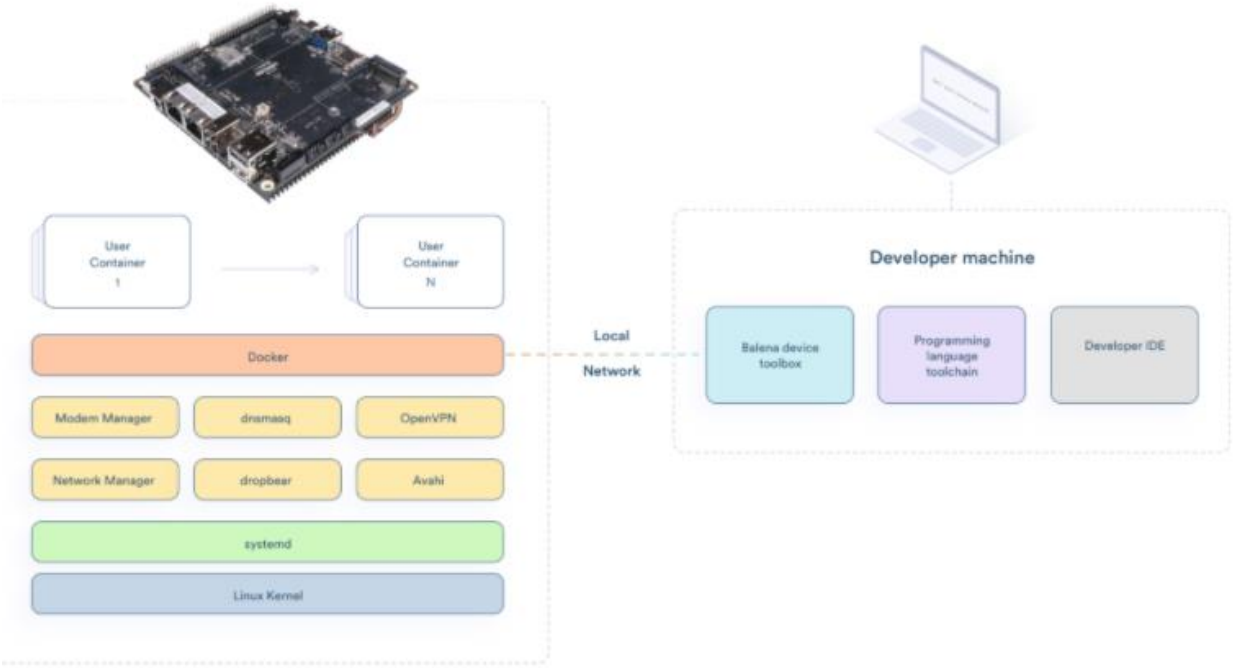
Screwdriver x1

LEARN AND DOCUMENTS

Learn

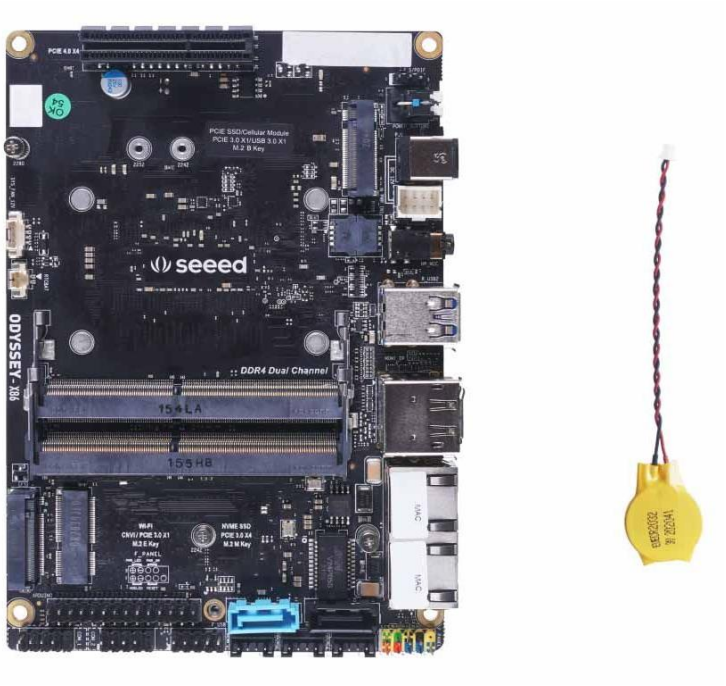
[Wiki] What is x86 Architecture and its difference between x64?

Have you ever come across x86 and x64 but do not know what they mean? No worries, as this blog will cover everything you need to know about x86 and its architecture together with x64 and their differences between each other.



[Wiki] Getting Started with BalenaOS on ODYSSEY - X86 Boards

Some operations about BalenaOS on ODYSSEY - X86 Boards, including some basic information, installing steps, compiling code etc.



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The IoT Hardware Enabler