JH-7110I AVL

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Legal Statements

Important legal notice before reading this documentation.

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Contents

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List of Tables

Preface

About this guide and technical support information.

About this document

This document mainly provides the users with the basic introductions and features for StarFive next generation industrial SoC platform - JH-7110I.

Revision History

Table 0-1 Revision History

Version	Released	Revision
1.13	2024/09/25	Added a new LPDDR4 type.
1.12	2024/07/24	Added a new LPDDR4 type.
1.11	2024/04/25	Added a new LPDDR4 type.
1.1	2023/11/07	Added a new LPDDR4 type.
1.0	2023/10/25	The first official release.

Notes and notices

The following notes and notices might appear in this guide:

- **Tip:**

  Suggests how to apply the information in a topic or step.

- **Note:**

  Explains a special case or expands on an important point.

- **Important:**

  Points out critical information concerning a topic or step.

- **CAUTION:**

  Indicates that an action or step can cause loss of data, security problems, or performance issues.

- **Warning:**

  Indicates that an action or step can result in physical harm or cause damage to hardware.

1. Introduction

JH-7110 is a high-performance RISC-V SoC for featuring high-performance, low-power-consumption, rich interface options, and powerful image and video processing capabilities.

JH-7110 is equipped with a 64-bit high-performance quad-core RISC-V processor core sharing 2 MB of cache coherency, whose working frequency is 1.5 GHz. JH-7110 has a rich high-speed native interface, supports the Linux operating system, and has powerful image and video processing system. The StarFive ISP is compatible with mainstream camera sensors, built-in image/video processing subsystem supports H.264/H.265/JPEG codec. The integrated GPU makes its image processing capabilities stronger, such as 3D rendering. With high-performance, OpenCL/OpenGL ES/Vulkan support, JH-7110 can further enhance intelligence and efficiency. JH-7110 can complete a variety of complex image/video processing and intelligent visual calculations. Also, it meets multiple visual real-time processing requirements at the edge.

JH-7110I is the industrial variant of JH-7110. It is released to solution customers after severe industrial tests, thus compliant with industrial standards including the junction temperature of -40 to 85 ℃. Other than the meeting of industrial requirements, all the rest features and specifications of the JH-7110I remain the same with JH-7110.

2. Compatibility List

The following table is the compatibility list of JH-7110I of each module.

> **Note:**
>
>   • This list just includes the tested devices. If your device is not included in this list, it does not necessarily mean it is not supported, please contact your StarFive sales consultant or technical support for clarification.
>
>   • The types in the commercial grade devices have not yet undergone industrial grade test, but it does not mean that they are not suitable for industrial grade scenarios.

> **Note:**
>
> √: Full tested, applicable; N/A: Not applicable.

Table 2-1 Compatibility List

Interface	Manufacturer	Type Specification	Description(size)	Status	Notes
LPDDR4	DW MICRO	DWCT536HLT0	2GB	√	1
		DWCTA36HLT0	4GB	√	
		DWCT636HLT0	1GB	√	
	SK hynix	H54G56BYYVX046	4GB	√	
	Micron	MT53E1G32D2FW-046 IT:B	4GB	√	
		MT53E256M32D2DS-053	1GB	√	
QSPI Flash	GigaDevice	GD25LQ128EWIG	16MB	√	2
EEPROM	Giantec	GT24C02A	2KB	√	
		GT24C04A	4KB	√	
eMMC	Micron	MTFC16GAPALBH-IT	16GB	√	1
GMAC PHY	Motorcomm	YT8531C	10/100/1000GB	√	
		YT8521SC	10/100/1000GB	√	
PCIe	PCIe to USB Hub	VL805	USB3.0/2.0	√	
	PCIe to Ethernet	TP-LINK TG-3269E (RTL8168H)	1000Mbps	√	
		INTEL 82574L	1000Mbps	√	3
		AQC107	10Gbps	√	
		WX1860AL2	2-port 1000Mbps	√	
	PCIe to WiFi	AX210	Intel® Wi-Fi 6E (Gig+)	√	
	PCIe to SATA	JMB585	5-port SATA 6Gbps	√	
MIPI-CSI	Sony	IMX219	8MP sensor (crop 1080p)	√	
DVP	SmartSens	SC2235	1080P	√	
MIPI-DSI	Waveshare	4.3 inches DSI LCD	2-Lane 4.3 inches 800×480	√	4
		7 inches DSI LCD (B)	2-Lane 7 inches 800×480	√	

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Table 2-1 Compatibility List (continued)

Interface	Manufacturer	Type Specification	Description(size)	Status	Notes
		5 inches DSI LCD	2-Lane 5 inches 800×480	√	
		2 inches + 0.96 inch OLED dual LCD	2 inches 240×320; 0.96 inch 128×64		
	Radxa	Radxa Display 8 HD	4-Lane 8 inches 800×1280	√	
Audio I2S	X-Powers	AC108	Voice capture ADC	√	
	Wolfson	WM8960	Audio codec	√	
	Everest	ES8316	Audio codec	√	
HDMI	Waveshare	10.1 inches QLED	10.1 LCD	√	
	G-Story	13.3 inches IPS	Portable screen 13.3 inches IPS	√	
	NewTV	13.3 inches IPS	Portable screen 13.3 inches IPS	√	
	Eimio	E16U	Portable screen 15.6 inches 4K	√	
	DELL	S2421HS (2K)	24 LCD	√	
		SE2423DS (2K)	24 LCD	√	
		U2722DX (2K)	27 LCD	√	
		AOCQ2790PQ	27 LCD	√	
		U2720QM	27 LCD	√	
		U2719D	27 LCD	√	
		S3221QS	32 inches curved screen	√	
		U2723QE (4K)	27 inches	√	
	SAMSUNG	S24A600UCC	24 LCD	√	
		S27A800UJC (4K)	27 LCD	√	
	LG	27UP850 (4K)	27 LCD	√	
		27UL650	27 LCD	√	
	Redmi	27 inches 2K	27 LCD	√	
		RMMNT27NU	27 LCD	√	
	Xiaomi	L75M9-SP (4K)	75 inches	√	
	BENQ	PD2700Q	27 LCD	√	
		PD27006U	27 LCD	√	
	Haier	MOOKA U75A6	75 inches	√	
	AOC	AOCQ2790PQ	27 LCD	√	
	ThinkVision	T27Q-20	27 LCD	√	
	Xiaomi	Mi'TV	75 inches	√	

Table 2-1 Compatibility List (continued)

Interface	Manufacturer	Type Specification	Description(size)	Status	Notes
SSD	KIOXIA	RC20	500GB	√	
	Kingston	NV1	250GB	√	
	Western Digital	SN570	250GB	√	
	Colorful	CN600	128GB	√	
	SanDisk	SDSSDH3N	500GB	√	
	SAMSUNG	970EVOPlus	250GB	√	
	Lenovo		128GB	√	
	ZHITAI	PC005Active	256GB	√	
UVC Camera	Logitech	Logitech C270	720P	√	
		Logitech Pro C920	1080P	√	
TF card	DM		16GB	√	
	Sandisk		16GB	√	
			32GB	√	
			64GB	√	
			128GB	√	
	lexar		32GB	√	
			64GB	√	
	Kingston		32GB	√	
		SDCS2/64GBSP	64GB	√	
		SDCS2/128GBSP	128GB	√	
	SAMSUNG	MB-MC64KA/CN	64GB	√	
		MB-MC128KA/CN	128GB	√	
	KIOXIA	LMEX1L032GC4	32GB	√	
		LMEX1L064GC4	64GB	√	
	Netac		64GB	√	
	HIKSEMI	HS-TF-C2 (green)	32GB	√	
		HS-TF-D2 (blue)	32GB	√	
	Kodak	EKMSDM32GHC10HPRK	32GB	√	
		EKMSDM64GXC10HPRK	64GB	√	
	Maxell	MXMSDE-64G	64GB	√	
		MXMSDX-128G	128GB	√	
USB	Wired keyboard/Mouse	DELL	KB216T MS116P	√	
		Lenovo	SM8823 wired mouse	√	
			SM8823 wired keyboard	√	

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Table 2-1 Compatibility List (continued)

Interface	Manufacturer	Type Specification	Description(size)	Status	Notes
		RZAER	RZ01-0385 (mouse) RZ01-0147 (keyboard)	√	
		Philips	SPT6264	√	
		Cherry	DC2000	√	
	Wireless key-board/Mouse	Rapoo	E9300G/E9300M/M200G	√	
		A4tech	FG1010	√	
		Logitech	MK220	√	
		Cherry	DW3000	√	
	USB flash disk	TECLAST USB3.1	64GB	√	
		Kingston2.0	16GB	√	
		Data-traveler	16GB	√	
		Thinkplus TU100 Pro USB3.1	128GB/500GB	√	
		Sandisk USB3.0	32GB	√	
		Sandisk USB3.0	64GB	√	
		Kingston USB3.2	64GB	√	
	Portable hard disk	LACIE HDD USB2.0	250GB	√	
		OCZ SSD+UGREEN USB3.0	120GB	√	
		SAMZHE YQX-03H mobile hard disk interface		√	

Note:

- 1: These types has passed industrial grade test (operating temperature range: $-40℃$ to $+85℃$) and can be used in industrial scenarios.

- 2: The QSPI Flash particles need to support the Read Data Bytes at Higher Speed (Fast Read) (0BH) command for reading BootROM. Thus please be aware of this requirement when designing your device based on JH-7110.

- 3: The types require users to open their own Linux configuration and recompile.

- 4: Please confirm with the merchant that the device is support VisionFive 2 when you buy an LCD screen.

3. Buy Now

Click on this tab to find all the online shops and compatible accessories.

Buy SBC

Use the following page to find your nearest sales channel or the global channels for purchasing a VisionFive 2 Single Board Computer (SBC).

- [Buy VisionFive 2](#)

Buy Parts

Use the following page to find the parts that are tested as compatible with VisionFive 2.

- [Buy Accessory](#)

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