JH7110 Support List for Multimedia Format

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Legal Statements

Important legal notice before reading this documentation.

PROPRIETARY NOTICE

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Preface

About this guide and technical support information.

About this document

This document mainly provides the users with the support list for multimedia format of the StarFive SoC JH7110.

Revision History

Table 0-1 Revision History

Version	Released	Revision
1.0	2023/05/19	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

JH7110 is a high-performance RISC-V SoC featuring high-performance, low-power-consumption, rich interface options, and powerful image and video processing capabilities.

JH7110 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. JH7110 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, JH7110 can further enhance intelligence and efficiency. JH7110 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.

2. JH7110 Platform Multimedia Support List

The following sections display the multimedia format support list for JH7110.

Video Decoding Format Support List

Table 2-1 Hard-decoding Format

Format	Profile	Max Resolution	Performance
H265	Main/Main10, all level	• 3840 × 2160 (1-channel) • 1920 × 1080 (4-channel)	• 4K@30fps@8bit • 1080p@30fps@8bit
H264	Baseline/Main/High/High 10, all level	• 3840 × 2160 (1-channel) • 1920 × 1080 (4-channel)	• 4K@30fps@8bit • 1080p@30fps@8bit

Note:

It supports up to 4-lane decoding.

Video Encoding Format Support List

Table 2-2 Video Encoding Format

Format	Profile	Max Resolution	Max Frame Rate
H265	Main/Main10	1920 × 1080	1080p@30fps@8bit

Note:

It only supports 1-lane encoding.

Image Hard-decoding Format Support List

Table 2-3 Image Hard-decoding Format

Format	Profile	Max Resolution	Performance	Color Format
JPEG	Baseline Extended sequential	8192 × 8192 (1-channel) 3840 × 2160 (4-channel)	430M pixel/s@ 4:0; 0 290M pixel/s@ 4:2; 0 210M pixel/s@ 4:2; 2 140M pixel/s@ 4:4; 4	4:0:0 4:2:0 4:2:2 4:4:0 4:4:4

✏️ **Note:**

It supports up to 4-lane decoding.

Image Format Support List

JPG, MJPG, PNG

Audio Codec Format Support List (supported by lib library)

MP3, WAV, AAC, OGG, FLAC, APE, MID

Packaging Format Support List (supported by lib library)

- Video packaging format (muxer): TS, MP4, MKV, MOV, AVI

- Decoding packaging format (demuxer): TS, MP4, MKV, MOV, AVI