



## **Differences Between the Hi3520A and the Hi3521**

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# About This Document

## Purpose

This document describes the differences between the Hi3520A and the Hi3521 from the aspects of specifications, software development kit (SDK), operating system (OS), and driver.

## Related Versions

The following table lists the product versions related to this document.

Product Name	Version
Hi3520A	V100
Hi3521	V100

## Intended Audience

This document is intended for:

- Technical support personnel
- Board hardware engineers

## Change History

Changes between document issues are cumulative. Therefore, the latest document issue contains all changes made in previous issues.

### Issue 02 (2012-08-30)

This issue is the second official release, which incorporates the following changes:

#### Chapter 1 Difference Descriptions

In Table 1-1, the decoding specifications for the Hi3521 are updated, and the number of CVBS interfaces of the Hi3520A is changed from 1 to 2.

In Table 1-3, the VO and frame buffer specifications are unified for the Hi3521 and Hi3520A.



## Issue 01 (2012-08-09)

This issue is the first official release.



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# 1 Difference Descriptions



## CAUTION

This document prevails if there are differences between the Hi3520A and the Hi3521 during development. Except the differences, the *Hi3521 H.264 Codec Processor Data Sheet* applies to the Hi3520A.

## 1.1 Specifications

Table 1-1 describes the differences between the specifications of the Hi3520A and the Hi3521.

**Table 1-1** Differences between the specifications of the Hi3520A and the Hi3521

Item	Hi3520A	Hi3521
Performance	4xD1 encoding+4xD1 decoding 8xCIF encoding+8xCIF decoding 16xCIF encoding+16xCIF decoding	8xD1 encoding+4xD1 decoding 8x960H encoding+1x960H decoding 16xD1 NVR 4x720p NVR
Decoding	JPEG/MJPEG decoding supported H.264 High Profile decoding supported Maximum decoding resolution: 1920x2048 H.264 decoding by field not supported H.264 B frame decoding not supported	H.264 Baseline Profile Level 5.0 H.264 Main Profile Level 5.0 H.264 High profile Level5.0 MPEG4 SP Levels 0–3 MPEG4 ASP Levels 0–5/MPEG4 short header MJPEG/JPEG Baseline



Item	Hi3520A	Hi3521
Double-data rate (DDR)	16-bit DDR	32-bit DDR
TCP/IP offload engine (TOE)	No TOE is provided.	TOE acceleration
Peripheral Interface	Composite video broadcast signal (CVBS) interface x 2	CVBS interface x 2

## 1.2 SDKs

Table 1-2 describes the differences between the SDKs of the Hi3520A and the Hi3521.

**Table 1-2** Differences between the SDKs of the Hi3520A and the Hi3521.

Component	Hi3520A	Hi3521
GCC	gcc-4.4 compiler	gcc-4.4 compiler
Linux	The common code of the Hi3520A Linux and Hi3521 Linux is the same. However, the chip configurations of the Hi3520A and the Hi3521 are different.	Linux-3.0.y, supporting single-core Cortex A9
U-boot	The common code of the Hi3520A U-boot and Hi3521 U-boot is the same. However, the chip configurations of the Hi3520A and the Hi3521 are different.	
Driver	Same	
Media processing platform (MPP)	The Hi3520A and Hi3521 MPP programming interfaces (MPIs) are the same. However, some MPIs are restricted. For details, see Table 1-3.	

Table 1-3 describes the MPI differences between the Hi3520A and the Hi3521 by module. For details, see the *HiMPP Media Processing Software Development Reference*.

**Table 1-3** MPI differences between the Hi3520A and the Hi3521 by module

Module	Change Extent of the Hi3520A Compared with the Hi3521	Description
System control	Same	None





Module	Change Extent of the Hi3520A Compared with the Hi3521	Description
Input/Output (I/O) binding	Same	None
Video input (VI)	Same	None
Video output (VO)	Same	None
Video pre-processing (VPP)	Same	None
On-screen display (OSD) overlay	Same	None
Video encoding (VENC)	Same	None
Video decoding (VDEC)	Slight different	The Hi3520A does not support MPEG2/MPEG4 decoding, B frame decoding, and decoding by field. The maximum decoding resolution is 1920x2048.
Motion detection (MD)	Same	None
Intelligent video engine (IVE)	Same	None
Audio functions are added.	Same	None
Frame buffer	Same	None
Two-dimensional engine (TDE)	Same	None

## 1.3 OSs and Drivers

Table 1-4 describes differences between the OSs and drivers of the Hi3520A and the Hi3521.

**Table 1-4** Differences between the OSs and drivers of the Hi3520A and the Hi3521

Item	Hi3520A	Hi3521
U-boot table	reg_info_Hi3520A_930_310_620_ddr.bin	reg_info_930_310_620_ddr0_slow.bin



## 1 Difference Descriptions

Item	Hi3520A	Hi3521
Kernel	None	None
Ethernet port driver	Gigabit media access control (GMAC) driver. It is statically compiled into the kernel.	TOE driver. It is compiled as a module for mode selection.
File system	No <b>hitoe</b> folder is provided in the root directory.	The <b>hitoe</b> folder is provided in the root directory.