



Difference Between the Hi3520A and the Hi3521 on the Same PCB

Application Notes

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About This Document

Purpose

This document describes the hardware differences when the Hi3520A and the Hi3521 are used on the same printed circuit board (PCB). It describes the precautions to be taken when you replace the Hi3521 with the Hi3520A.

Related Version

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

Product Name	Version
Hi3520A	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 01(2012-09-21)

This issue is the first official release.

The CVBS differences between the Hi3520A and the Hi3521 are deleted.

Issue 00B02 (2012-08-09)

This issue is a draft release.





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1 Difference Descriptions

Note the following hardware differences when you replace the Hi3521 with the Hi3520A:

DDR

Note the following double-data rate (DDR) design to ensure that the Hi3521 PCB is compatible with the Hi3520A:

The bit width of the Hi3521 DDR interface is 32 bits, and the bit width of the Hi3520A DDR interface is 16 bits. When the Hi3520A is used, the upper 16 bits of the DDR interface on the Hi3521 PCB are reserved, and only the lower 16 bits take effect. The address/command signal trace and the trace between the two DDRs form a T-shaped circuit, and their intersection point is called T point. When you design the Hi3521 PCB, you are advised to connect two resistors in series between the T point and the two DDRs based on the schematic diagram of the Hi3521 demo board. This ensures that the upper-16-bit DDR and the series resistor close to the upper-16-bit DDR are removed when the Hi3521 is replaced with the Hi3520A.



CAUTION

Connect the series resistors close to the T point. This ensures that the trace connected to the upper-16-bit DDR is short when the upper-16-bit DDR and its series resistor are not connected.

Power Supply



CAUTION

The 1.0 V core power design for the Hi3521 meets the requirements of the Hi3520A 1.0 V core power. If you want to design the Hi3520A 1.0 V core power, see Table 1-1.

Table 1-1 describes the differences of the 1.0 V core power design between the Hi3520A and the Hi3521.



Table 1-1 Differences of the 1.0 V core power design between the Hi3520A and the Hi3521

1.0 V Core Power Design	Hi3520A	Hi3521
Over-current capability of the power copper plane	≥ 4 A	≥ 5 A
Width of the power copper plane	≥ 160 mils	≥ 200 mils
Current of the DC-DC power supply	≥ 4 A	≥ 5 A