Hi3516A/Hi3516D GPIO Level Test Report

Issue 01

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About This Document

Purpose

This document describes the GPIO level status of the Hi3516A/Hi3516D before and after each power supply is turned on, when the reset signal takes effect, and when the rest signal is being released.

Related Version

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

Product Name	Version
Hi3516A	V100
Hi3516D	V100

Intended Audience

This document is intended for:

- Technical support engineers
- Board hardware development engineers

Change History

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

Issue 01 (2015-06-10)

This issue is the first official release.

Contents

Figures

1 Test Tool

The test tool is an oscilloscope with 500 MHz bandwidth.

2 Test Items

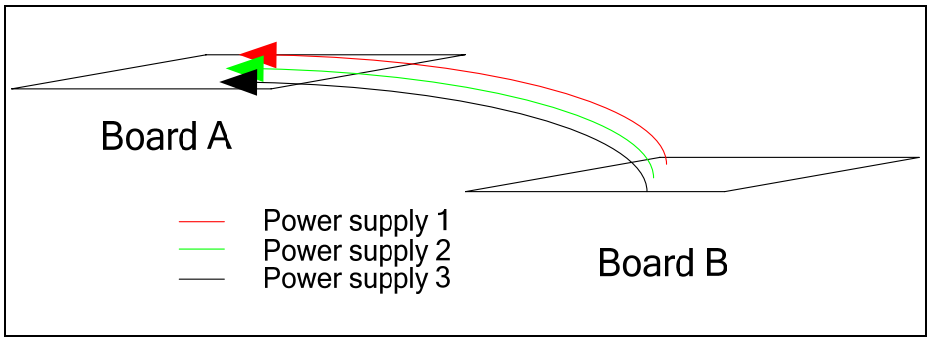
The test items are as follows:

- Level status of each GPIO pin when the board is being powered on
- Level status of each GPIO pin after the board is powered on and when the reset signal is in low level
- Level status of each GPIO pin after the board is powered on and when the reset signal is being released

3 Building the Test Environment

To prevent the test results from being affected by the peripheral circuits on the printed circuit board (PCB), the socket of the master chip is fixed on an empty board (board A), and board B that functions normally is used to supply power for board A, as shown in Figure 3-1. Then all the signals to be tested are led out and tested by using the oscilloscope.

Figure 3-1 Connection mode of the test environment



4 Test Method

Power on the board, and use the oscilloscope to capture the waveform of the GPIO level status. Then view the GPIO level status before and after each power supply is turned on when the reset signal takes effect, and when the rest signal is being released.

5 Test Results

Pin	GPIO Level Status When the 3.3 V Power Is Turned on, the 1.1 V Core Power Is Not Turned on, and the Reset Signal Takes Effect	GPIO Level Status When the 3.3 V Power and 1.1 V Core Power Are Turned on and the Reset Signal Takes Effect	Remarks
GPIO0_0	High impedance	High impedance	
GPIO0_1	High impedance	High impedance	
GPIO0_2	High impedance	High impedance	
GPIO0_3	High impedance	High impedance	
GPIO0_4	High impedance	High impedance	
GPIO0_5	High impedance	High impedance	
GPIO0_6	High impedance	High impedance	
GPIO0_7	High impedance	High impedance	
GPIO1_0	High impedance	High impedance	
GPIO1_1	High impedance	High impedance	
GPIO1_2	High impedance	High impedance	
GPIO1_3	High impedance	High impedance	
GPIO1_4	High impedance	High impedance	
GPIO1_5	High impedance	High impedance	
GPIO1_6	High impedance	High impedance	
GPIO1_7	High impedance	High impedance	
GPIO2_0	High impedance	High impedance	
GPIO2_1	High impedance	High impedance	
GPIO2_2	High impedance	High impedance	
GPIO2_3	High impedance	High impedance	

Pin	GPIO Level Status When the 3.3 V Power Is Turned on, the 1.1 V Core Power Is Not Turned on, and the Reset Signal Takes Effect	GPIO Level Status When the 3.3 V Power and 1.1 V Core Power Are Turned on and the Reset Signal Takes Effect	Remarks
GPIO2_4	High impedance	High impedance	
GPIO2_5	High impedance	High impedance	
GPIO2_6	High impedance	High impedance	
GPIO2_7	High impedance	High impedance	
GPIO3_0 (NF_RDY0)	High impedance	Internal pull-up	
GPIO3_1 (NF_RDY1)	High impedance	Internal pull-up	
GPIO3_2_ NF_REN	High impedance	Output high level	
GPIO3_3 (NF_CSN0)	High impedance	Output high level	
GPIO3_4 (NF_CSN1)	High impedance	Output high level	
GPIO3_5 (NF_CLE)	High impedance	High impedance	
GPIO3_6	High impedance	High impedance	
GPIO3_7 (NF_WEN)	High impedance	Output high level	
GPIO4_0	High impedance	High impedance	
GPIO4_1	High impedance	High impedance	
GPIO4_2	High impedance	High impedance	
GPIO4_3	High impedance	High impedance	
GPIO4_4	High impedance	High impedance	
GPIO4_5	High impedance	High impedance	
GPIO4_6	High impedance	High impedance	
GPIO4_7	High impedance	High impedance	
GPIO5_0	High impedance	High impedance	
GPIO5_1	High impedance	High impedance	
GPIO5_2	High impedance	High impedance	

Pin	GPIO Level Status When the 3.3 V Power Is Turned on, the 1.1 V Core Power Is Not Turned on, and the Reset Signal Takes Effect	GPIO Level Status When the 3.3 V Power and 1.1 V Core Power Are Turned on and the Reset Signal Takes Effect	Remarks
GPIO5_3	High impedance	High impedance	
GPIO5_4	High impedance	High impedance	
GPIO5_5	High impedance	High impedance	
GPIO5_6	High impedance	High impedance	
GPIO5_7	High impedance	High impedance	
GPIO6_0	High impedance	High impedance	
GPIO6_1	High impedance	High impedance	
GPIO6_2	High impedance	High impedance	
GPIO6_3	High impedance	High impedance	
GPIO6_4	High impedance	High impedance	
GPIO6_5	High impedance	High impedance	
GPIO6_6	High impedance	High impedance	
GPIO6_7	High impedance	High impedance	
GPIO7_0	High impedance	High impedance	
GPIO7_1	High impedance	High impedance	
GPIO7_2	High impedance	High impedance	
GPIO7_3	High impedance	High impedance	
GPIO7_4	High impedance	High impedance	
GPIO7_5	High impedance	High impedance	
GPIO7_6	High impedance	High impedance	
GPIO7_7	High impedance	High impedance	
GPIO8_0	High impedance	High impedance	
GPIO8_1	High impedance	High impedance	
GPIO8_2	High impedance	High impedance	
GPIO8_3	High impedance	High impedance	
GPIO8_4	High impedance	High impedance	
GPIO8_5	High impedance	High impedance	
GPIO8_6	High impedance	High impedance	
GPIO8_7	High impedance	High impedance	

Pin	GPIO Level Status When the 3.3 V Power Is Turned on, the 1.1 V Core Power Is Not Turned on, and the Reset Signal Takes Effect	GPIO Level Status When the 3.3 V Power and 1.1 V Core Power Are Turned on and the Reset Signal Takes Effect	Remarks
GPIO9_0	High impedance	High impedance	
GPIO9_1	High impedance	High impedance	
GPIO9_2	High impedance	High impedance	
GPIO9_3	High impedance	High impedance	
GPIO9_4	High impedance	High impedance	
GPIO9_5	High impedance	High impedance	
GPIO9_6	High impedance	High impedance	
GPIO9_7	High impedance	High impedance	
GPIO10_0	High impedance	High impedance	
GPIO10_1	High impedance	High impedance	
GPIO10_2	High impedance	Internal pull-up	
GPIO10_3	High impedance	High impedance	
GPIO10_4	High impedance	Internal pull-up	
GPIO10_5	High impedance	High impedance	
GPIO10_6	High impedance	High impedance	
GPIO10_7	High impedance	High impedance	
GPIO11_0	High impedance	High impedance	
GPIO11_1	High impedance	High impedance	
GPIO11_2	High impedance	High impedance	
GPIO11_3	High impedance	High impedance	
GPIO11_4	High impedance	High impedance	
GPIO11_5	High impedance	High impedance	
GPIO11_6	High impedance	High impedance	
GPIO11_7	High impedance	High impedance	
GPIO12_0	High impedance	High impedance	
GPIO12_1	High impedance	High impedance	
GPIO12_2	High impedance	High impedance	
GPIO12_3	High impedance	High impedance	
GPIO12_4	High impedance	High impedance	

Pin	GPIO Level Status When the 3.3 V Power Is Turned on, the 1.1 V Core Power Is Not Turned on, and the Reset Signal Takes Effect	GPIO Level Status When the 3.3 V Power and 1.1 V Core Power Are Turned on and the Reset Signal Takes Effect	Remarks
GPIO12_5	High impedance	High impedance	
GPIO12_6	High impedance	High impedance	
GPIO12_7	High impedance	High impedance	
GPIO13_0	High impedance	High impedance	
GPIO13_1	High impedance	High impedance	
GPIO13_2	High impedance	High impedance	
GPIO13_3	High impedance	High impedance	
GPIO13_4	High impedance	High impedance	
GPIO13_5	High impedance	High impedance	
GPIO13_6	High impedance	High impedance	
GPIO13_7	High impedance	High impedance	
GPIO14_0	High impedance	High impedance	
GPIO14_1	High impedance	High impedance	
GPIO14_2	High impedance	High impedance	
GPIO14_3	High impedance	High impedance	
GPIO14_4	High impedance	High impedance	
GPIO14_5	High impedance	High impedance	
GPIO14_6	High impedance	High impedance	
GPIO14_7	High impedance	High impedance	
GPIO15_0	High impedance	High impedance	
GPIO15_1	High impedance	High impedance	
GPIO15_2	High impedance	High impedance	

The initial status of the GPIO pins is related to the power-on sequence of the power supplies for the master chip. Therefore, design the board according to the design requirements in the *Hi3516A/Hi3516D Hardware Design User Guide*.