

SATA-IP Device Demo Instruction

Rev1.0 20-Nov-08

This document describes SATA-IP Device evaluation procedure using SATA-IP Device reference design bit-file

1. Environment

- For real board evaluation of Device reference design, environment shown at figure 1 is required.

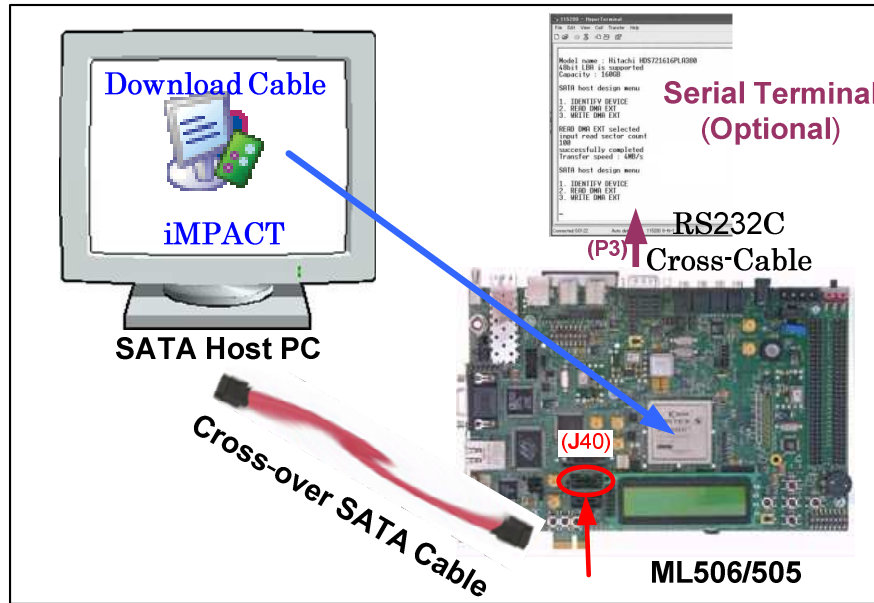
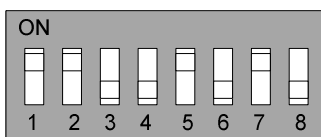


Figure 1 Evaluation environment using reference design bit-file

- (Note) For evaluation version, IP-Core has 1-hour time limitation to use. After 1-hour use, IP-core will stop any data transfer.

2. Hardware Setup

- Check all system is power off, and then connect J40 on ML506/505 and Host PC with cross-over SATA cable which is included in ML506/505 package.
- Connect JTAG pin (J1) on ML506/505 and PC with download cable (such as Platform Cable USB).
- Set SW6 pin 1-8 at the bottom side of ML506/505 board to be “11001010”, as shown following.



- Power on Host PC and wait until OS boot-up finish.
- Power on ML506/505 board and download bit-file to ML506/505 from iMPACT.
- After download bit-file, HDD LED status on Host PC will be ON and OFF, as shown in Figure2
If HDD LED status is ON for long time, try to press CPU reset button (SW7) on ML506/505 board to reconnect with Host PC again.



Figure2 HDD LED status on Host PC

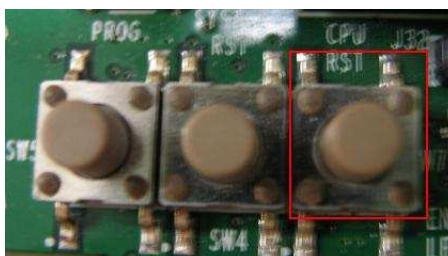


Figure3 CPU reset button on ML506/505

- Check LED status on ML506/505 board at LED0-3 (DS13, DS15-17) and ERR1/2 LED which are near SATA connector that are matched with Table1 and Figure4.

LED	Description
LED0	SATA-PHY clock can be locked. If LED0 is OFF, please check SW6 setting.
LED1	SATA-Host communication can be established. If LED1 is OFF, please check SATA cable type that is cross-over cable and check SATA cable connection
LED2	SATA-Speed type OFF: SATA-I Host PC, ON: SATA-II Host PC
LED3	DDR2 initialization is finished. If LED3 is OFF, please check DDR2 on ML506/505.
ERR1/ ERR2	1-hour SATA-IP timeout. ON when demo system has run for 1-hour and SATA-IP will not able to use until power-off board.

Table1 LED status on ML506/505

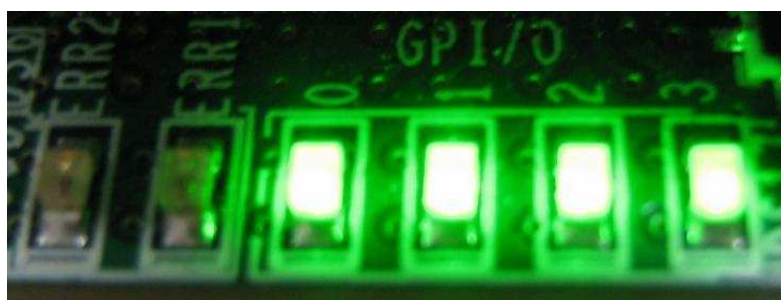


Figure4a LED status if system can be set up with SATA-II HDD

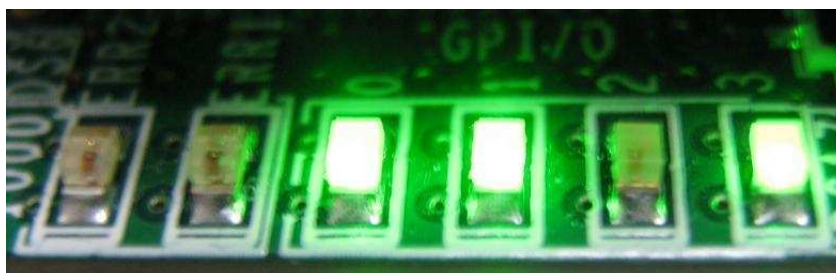


Figure4b LED status if system can be set up with SATA-I HDD

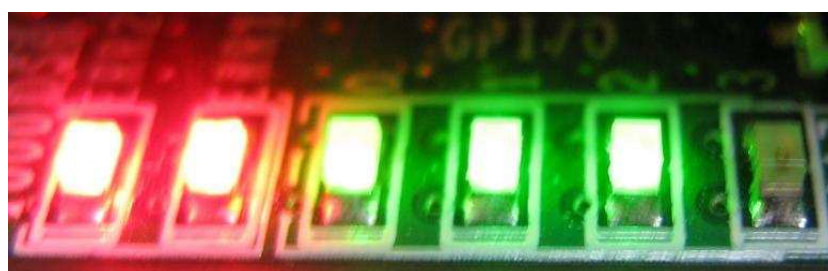


Figure4c LED status if system run more than 1-hour limitation

3. Operation Test on OS

- Open Device Manager on Windows XP and right-click on mouse at Disk drives menu to select “Scan for hardware changes”.
- New SATA-Device disk (DG2008 SATA Device) is detected as shown in Figure5.

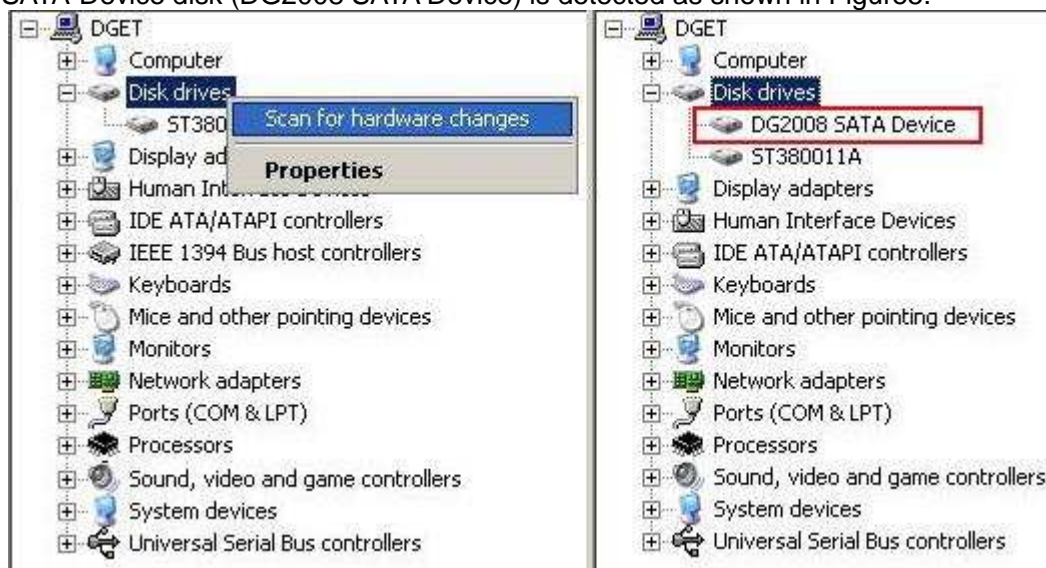


Figure5 Windows XP scan new disk

- Format disk by selecting Computer Management -> Disk Management and Pop-up menu will be displayed as shown in Figure6.



Figure6 New disk detect

- (Note) If no pop-up menu is displayed and disk not initial is displayed instead, as shown in Figure7. Please try to close and reopen Disk Management menu again.

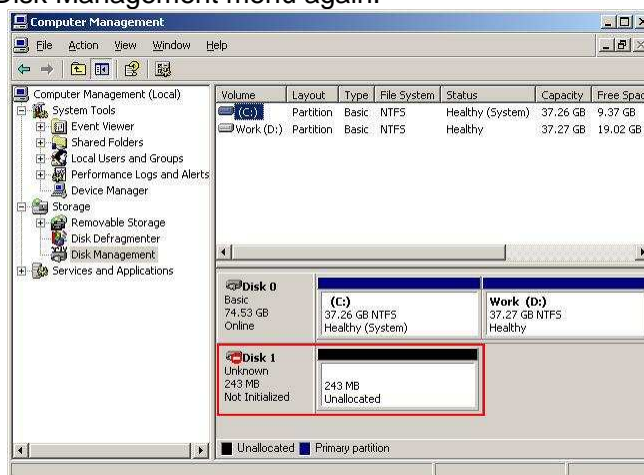


Figure7 Disk is not intialized

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- On pop-up menu, select Next button until disk is initialized. New disk which is unallocated will be displayed as shown in Figure8.

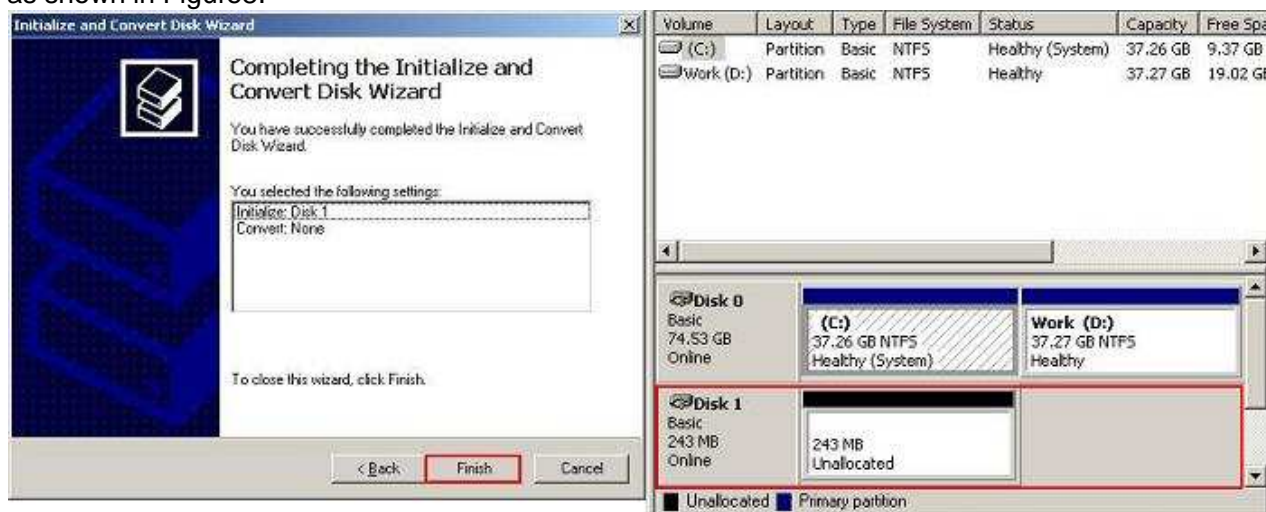


Figure8 Disk is initialized, but unallocated

- Create new partition and format new disk by right-click on mouse at unallocated disk, and then click Next on pop-up menu until disk format is finished.



Figure9 Create new partition and format disk

- After disk partition is finished. New disk is ready to use, as shown in Figure10.

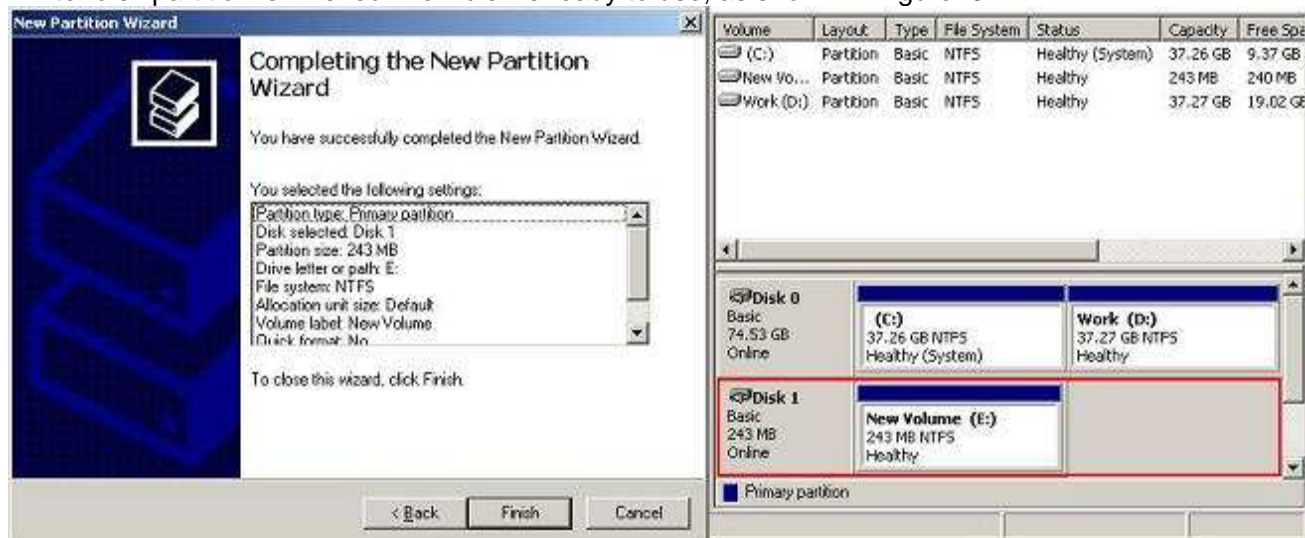


Figure10 New disk is ready

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- Now disk can be read/write by file system operation. Figure11 shows disk speed of SATA-IP comparing with typical SATA disk.

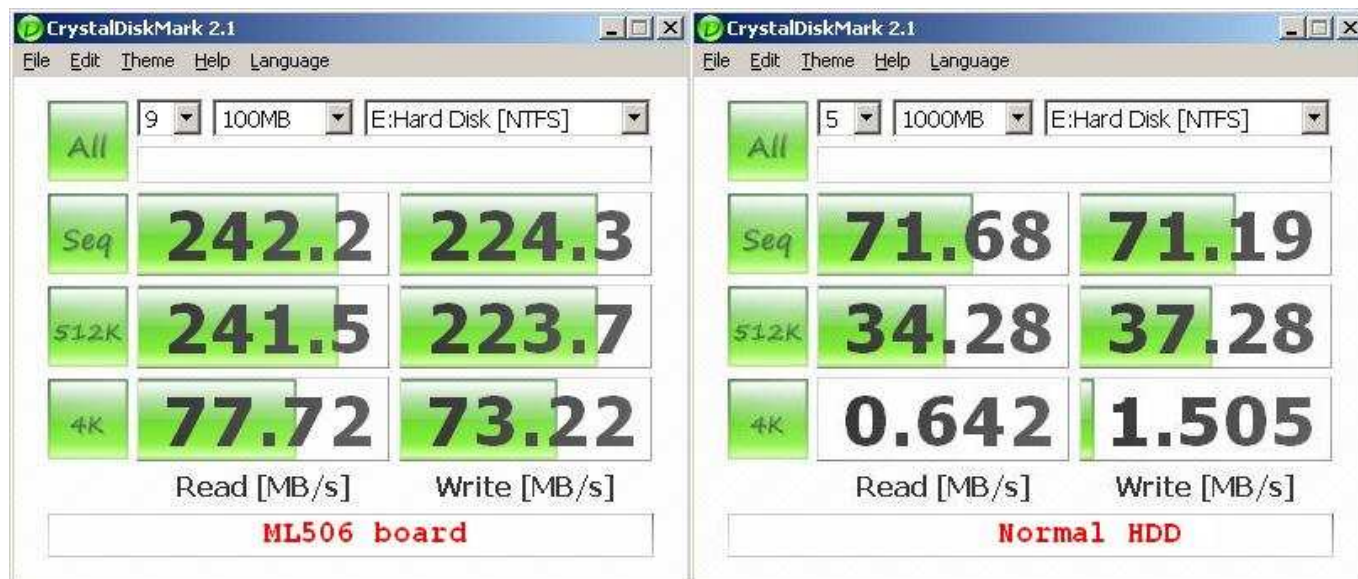


Figure11 Disk performance test by benchmark

4. Revision History

Revision	Date	Description
1.0	20-Nov-08	Initial version release