

STEVAL-PCC005V1

Hard disk drive (HDD) bridge demonstration board based on the STR9 microcontroller

Data Brief

Features

- Based on the STR912 (ARM966E-S) microcontroller with in-build external memory interface (EMI)
- USB interface available for USB hard disk application
- Acts as mass-storage device using native Microsoft Windows[®] OS drivers
- On-board power supply for hard disk
- Option of using external power supply
- On-board JTAG connector for microcontroller firmware upgrade and changes
- Additional ESD protection device on USB
- LED indication for power, read and write operation and system health check

Description

The STEVAL-PCC005V1 works as a USB-based hard disk implemented using the STR912FAW44 microcontroller. The board consists of two main sections: 1) the interface of the hard-disk to the STR912FAW44 through an external memory interface (EMI), and 2) the hard disk, appearing as a removable drive on the PC, which is made possible by USB mass-storage implementation.

The on-board power supply unit can be used for powering the hard disk. The board functions with a PC as the USB host. In addition to the on-board power supply, a separate SMPS power supply can be used to power the board and the hard disk.

The LEDs available on the demonstration board indicate read or write operation.

For further information contact your local STMicroelectronics sales office.

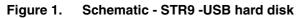
The board also features a JTAG interface for debugging purpose.

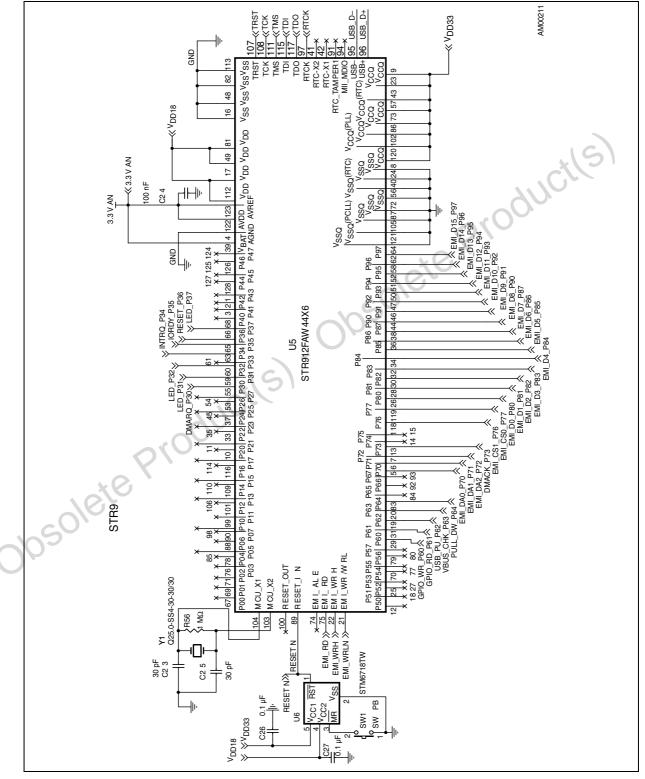


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1 Block diagram





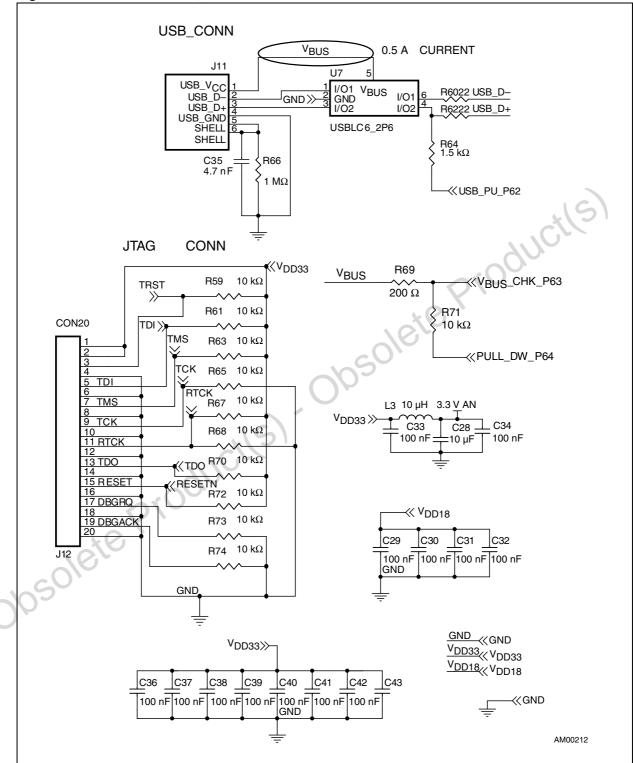


Figure 2. Schematic - USB, JTAG connectors

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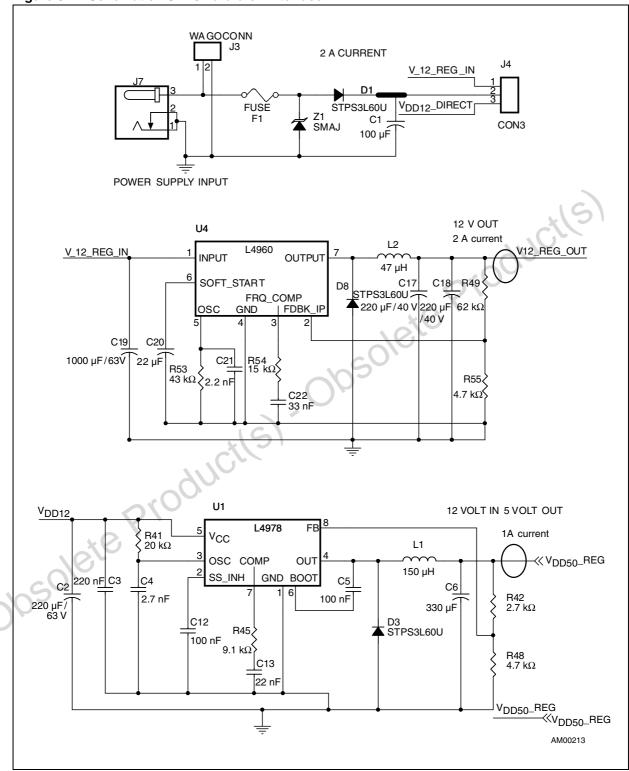
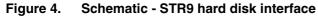
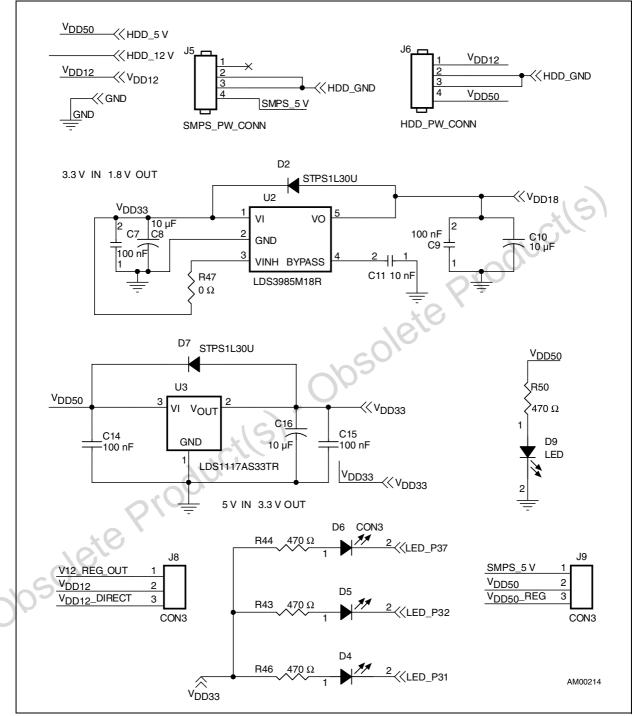


Figure 3. Schematic - STR9 hard disk interface







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Figure	5. Schematic -hard disk connector with termination resistor
	4 (HDD_GND 4 (EML_DB_P91 8 33.0 (EML_D10_P92 10 R10 33.0 (EML_D11_P93 12 R10 33.0 (EML_D11_P93 12 R10 33.0 (EML_D11_P93 12 R10 33.0 (EML_D11_P93 12 R10 33.0 (EML_D13_P95 14 R12 33.0 (EML_D14_P96 18 R16 33.0 (EML_D13_P95 20 R18 33.0 (EML_D14_P96 22 (HDD_GND (EML_D15_P97 22 (HDD_GND (EML_D15_P97 23 (EML_D16_GND (EML_D12_P76 24 (HDD_GND (EML_D12_P76 23 (HDD_GND (EML_D12_P76 24 (HDD_GND (EML_D12_P76 23 (HDD_GND (EML_D12_P76 34 (EML_D2_GND (EML_D12_P76 34 (EML_D2_GND (EML_D2_P16^P1) 35 (EML_D2_GND (EML_D2_P16^P1) 36 (EML_D2_P16^P1) (EML_D2_P16^P1)
J1 HARD-DISK 40 PIN CONN	HDD_GND HDD_DATA 9 HDD_DATA 10 HDD_DATA 11 HDD_DATA 12 HDD_DATA 13 HDD_DATA 13 HDD_ATA 15 HDD_ATA 15 HDD_KEY HDD_CRD HDD_GND HDD_GND HDD_GND HDD_GND HDD_GND HDD_CS16-
1 HARD-DISI	1 HDD_RESET 5 HDD_DATA 6 F 7 HDD_DATA 6 F 9 HDD_DATA 6 F 11 HDD_DATA 5 H 11 HDD_DATA 5 H 11 HDD_DATA 5 H 12 HDD_DATA 2 H 13 HDD_DATA 2 H 11 HDD_DATA 2 H 12 HDD_DATA 1 H 13 HDD_DATA 1 H 19 HDD_DATA 0 H 19 HDD_DATA 0 H 19 HDD_DOR 23 23 HDD_IOR 23 33 HDD_IOR 1 35 HDD_IOR 1 36 HDD_IOR 1 37 HDD_ORD 1 38 HDD_DA1 0 H 39 HDD_ORD 1 10 CON1A 1 11 MILWIN 1 12 HDD_DA1 0 1 13 HDD_DA1 0 1 14 10 1 15 HDD_DA1 0 1 160 MILWIN 1 17 MILWIN 1
	ESET_P36 R1 33 1 M1 D6_P86 R2 33 1 M1 D6_P86 R2 33 1 M1 D4_P84 R2 33 1 M1 D2_P82 M1 D2_P82 M1 D2_P82 M1 D1_P81 M1 D0_P80 R17 33 1 M1 D0_P80 R2 23 1 M1 D0_P80 R2 23 1 M1 D0_P80 R2 23 1 M1 D0_P80 R2 23 1 M1 D1_P81 R2 23 1 M1 D1 P81 R2 23 1 M1
2059	EMI_D7_P87 FMI_D7_P87 FMI_D7_P87 FMI_0 FMI_0 FMI
	DMARQ_P30 >> 5.6 kg2 5.6 kg2 HDD_GND >> HDD_GND >> 10 HDD_GND >>

Figure 5. Schematic -hard disk connector with termination resistor

Block diagram

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2 Revision history

Table 1.Document revision history

Date	Revision	Changes
02-Sep-2008	1	Initial release

obsolete Product(s). Obsolete Product(s)



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