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LPC812 Demo Board

LabTool add-on board to LPC-Link 2

Rev A

Removed J5 and J12. R4-R9 changed to UL. Removed current measurement.

Redesigned LPC812 demo signals.

Rev PA3

Corrected package pinning on U13/U18. Added R103-R108. Changed R36, R39, R92, R94-R96. Removed C92, C93, U7, C16.

Rev PA2

Redesign of several parts

Rev PA1

First rev



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TITLE: LabTool rev A

Document Number:

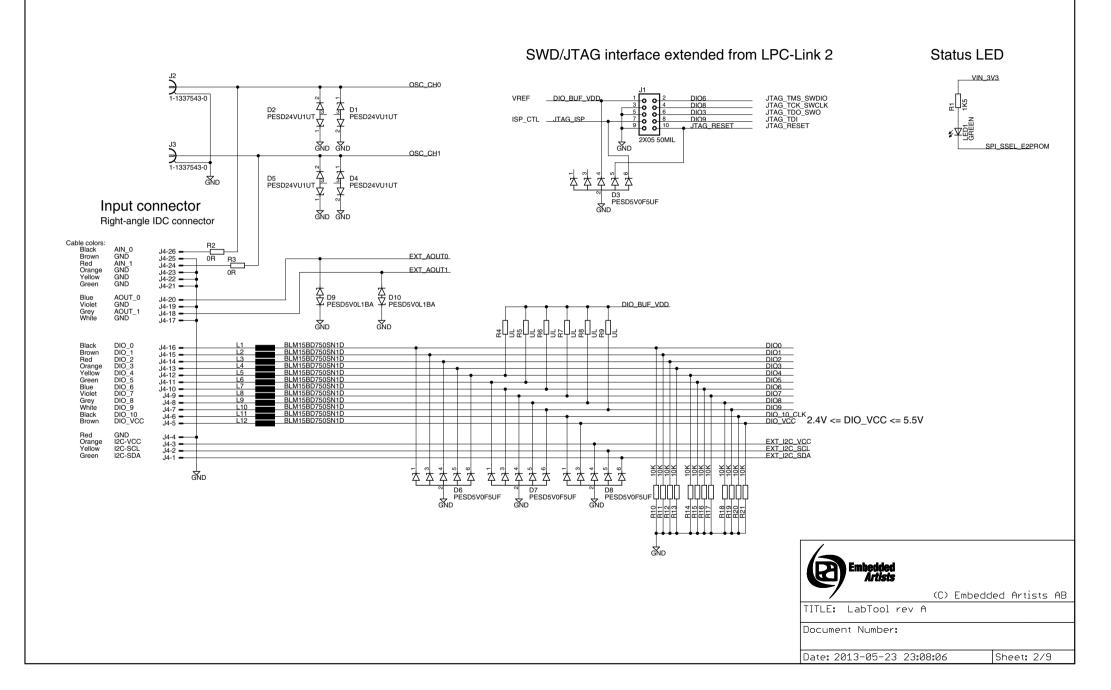
Date: 2013-05-23 23:08:06

Sheet: 1/9

UL = UnLoaded = normally not mounted component.

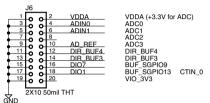
Default jumper settings are indicated in the schematic. However, always check jumper positions on actual boards since there is no guarantee that all jumpers are in default place.

External Connectors and ESD protection



Connectors (x3) to LPC-Link 2

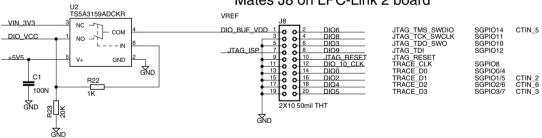
Analog and Digital signals (female connector, 50 mil pitch) Mates J4 on LPC-Link 2 board



Serial Expansion Connector (female connector, 50 mil pitch) Mates J3 on LPC-Link 2 board









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TITLE: LabTool rev A

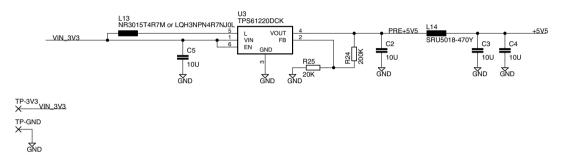
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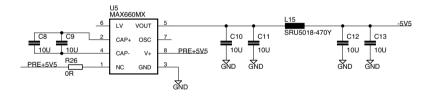
Sheet: 3/9

Power supplies

+5.5V, 150mA Supply



-5.5V, 100mA Supply





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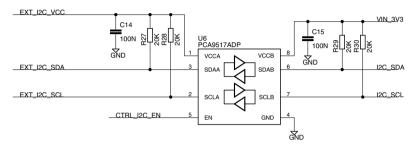
TITLE: LabTool rev A

Document Number:

Date: 2013-05-23 23:08:06 Sheet: 4/9

I2C buffer

0.9-5.5V VCC range Max 400kHz





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TITLE: LabTool rev A

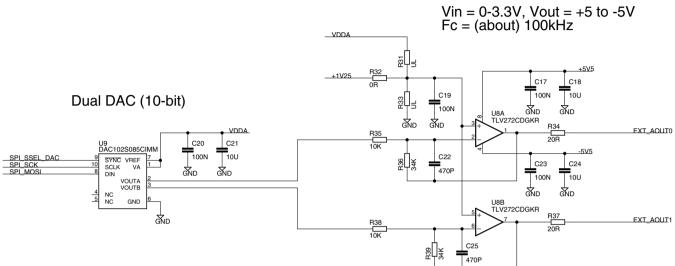
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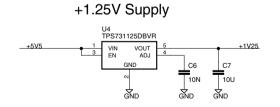
Sheet: 5/9

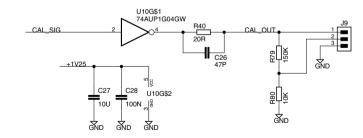
Analog Outputs and Calibration Signal

Analog outputs Vin = 0-3.3V. V



Calibration output







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TITLE: LabTool rev A

Document Number:

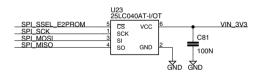
Date: 2013-05-23 23:08:06 She

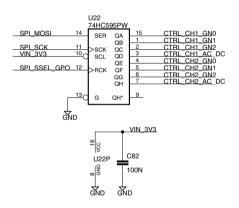
Sheet: 6/9

Oscilloscope inputs +-25V x0.016/0.2, 1M imp. x1/2.5/5/10 +-0.4V AD_REF(0.5V)+-0.4V x2/4/8/20 C29 C30 K2 CPC1017N T_{10U} 100N VIN 3V3 R105 20R ₫ND άνρ CTRL_CH1_AC_DC AD8057ARTZ U14B AD8066ARMZ U13 ADG659YRUZ OSC CHO ADIN0 2K87 S1A S2A S3A S4A S1 S2 C32 C80 UL 20P CTRL_CH1_GN2_6 S1B S2B S3B S4B GND C34 10P D11 A C38 C39 C35 ďΝD C40 100N 10U 68P GND 100N 100N GND U14A AD8066ARMZ 6-30P gND CTRL_CH1_GN0_10 CTRL_CH1_GN1_9 GND GND GND A0 A1 C41 C42 C44 100N EN GND 1000P. 1% GND GND GND U7 AP7217D +5V5 -5V5 GND GND C45 C46 C47 VIN 100N 110 75 150 150 150 +5V5 100N C92 10U C16 C48 C49 C50 C51 10U 50 H GND GND 10U 10U 100N 10U 100N ďν ₫ND GND U15 LMV721M5 GND GND GND GND GND _AD_REF AD_REF_BUF GND GND C53 100N GND GND C54 C55 K4 CPC1017N C56 100N R107 20R GND άνρ CTRL_CH2_AC_DC GND GND U16 U19B AD8066ARMZ AD8057ARTZ U18 ADG659YRUZ U17 ADG619BRM OSC_CH1 ADIN1 2K87 150R 12 536R 14 1K65 15 S1A S2A S3A S4A C58 C90 +5V5 CTRL_CH2_GN2_6 20P IN1 S1B S2B S3B S4B 10P GND 150R D12 A C64 C65 C62 BAV199 C66 100N 100N 100N 10U GND GND U19A AD8066ARMZ 6-30P +5V5 CTRL_CH2_GN0_10 CTRL_CH2_GN1_9 GND άνρ GND άΝD A0 A1 C67 C68 C69 100N EN GND 1000P, 1% GND GND GND GND C71 20 PE -5V5 +5V5 100N 10U C73 C74 C75 GND GND 100N 10U 100N 10U (C) Embedded Artists AB GND ďΝD GND GND GND connector (Keystone 5016K) TITLE: LabTool rev A Document Number: GND Date: 2013-05-23 23:08:06 Sheet: 7/9

Control signals

4kbit EEPROM







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Sheet: 8/9

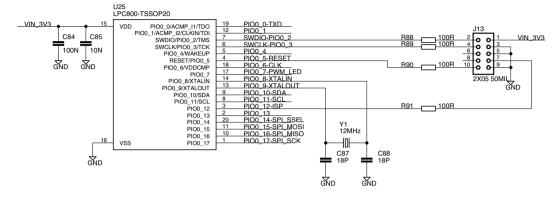
TITLE: LabTool rev A

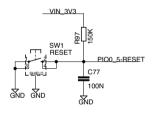
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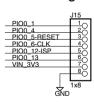
LPC812 Demo Board

SWD interface

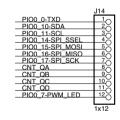




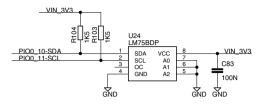
Internal signals



Connector for demo signals

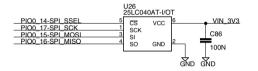


I2C Temperature Sensor (LM75)



I2C address (0x90/91): 1.0.0.1.0.0.0.RW

SPI E2PROM



PWM-controlled LED



Counter

