


REVISION HISTORY

1. Design Revision V1.0 : Preliminary design.
Date: 29th April 2014
2. Design Revision V1.1 :
- PowerSupplySchDoc : Commented Barrel Power Supply Connector X2 as not assembled.
- Renamed ExpansionPort.SchDoc to ExtensionConnector.SchDoc.
- DigitalPeripheral.SchDoc, ExtensionConnector.SchDoc : Renamed net names from PIN_XXX to SODIMM_XXX for GPIO pins.
- DigitalPeripheral.SchDoc, ExtensionConnector.SchDoc : New SODIMM pins assigned to connector X9 as GPIOs (SODIMM_135, SODIMM_98, SODIMM_133, SODIMM_103, SODIMM_101, SODIMM_97, SODIMM_85, SODIMM_79, SODIMM_45, SODIMM_55, SODIMM_63).
- ExtensionConnector.SchDoc : Connector X9, rearranged PWM signals : PWM_A (Pin _41), PWM_B (Pin _42), PWM_C (Pin _43), PWM_D (Pin _44).
- USB.SchDoc: Added USB client (only) circuit and connector X4 (Micro-B Type). Components not assembled.
- DigitalPeripheral.SchDoc : Updated Note 11, SD Card Boot Mode Option. Only Colibri T20 supports SD Card boot mode.
- Ethernet.SchDoc : Added Note 15, about SODIMM_191 (ETH_AGND) pin. Added error notes for ETH_TX0_P/N signals.
Date: 01th Sept 2014

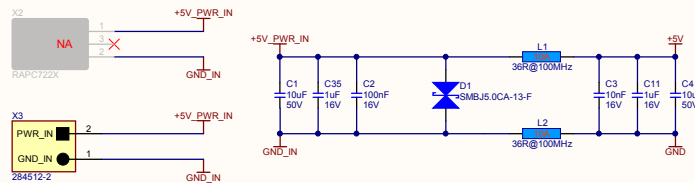
IF IN DOUBT ASK



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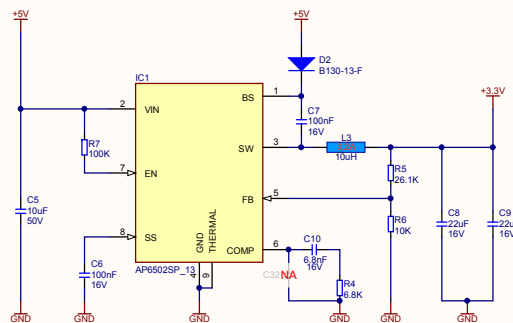
Title <i>Viola</i>			Toradex AG Altsagenstrasse 5 Horn 6048 Switzerland
Size: A3	Number: 2.	Revision: V1.1	
Date: 9/1/2014	Time: 5:28:26 PM	Sheet 2	of 12
File: RevisionHistory.SchDoc			

Input Power- Overvoltage Protection and EMI Filter

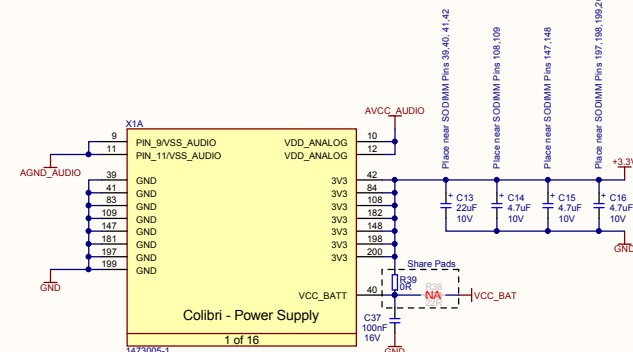


Note 1:
Recommended Power Input:
Voltage: 5V, +/- 0.25V, Current: 5A (MAX)
Important: Power supply is not reverse polarity protected

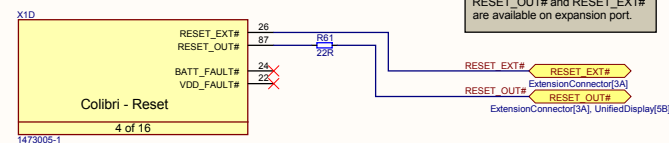
DC/DC Buck Regulator: 5V to 3.3V, 2A



Power Input - Colibri

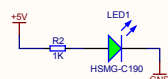


Power Reset and Control - Colibri



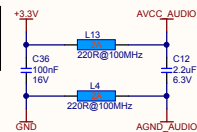
Note 3:
RESET_OUT# and RESET_EXT#
are available on expansion port.

Input Power- Power-On Indication

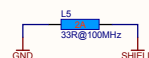


Analogue/Audio Power

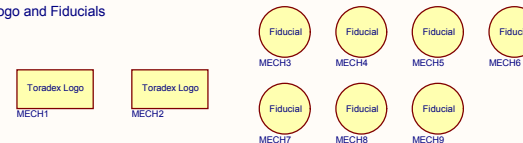
Note 2:
L13 can be replaced by
0R ohm resistor.
Need to test.



ESD Shield

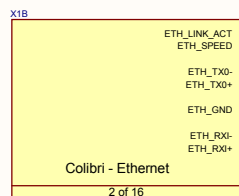


Mechanical - Logo and Fiducials



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Title Viola		Toradex AG Altscheggstrasse 5 Horn 6048 Switzerland	
Size: A3	Number: 3.	Revision: V1.1	
Date: 9/1/2014	Time: 5:28:26 PM	Sheet 3 of 12	
File: PowerSupply_SchDoc			



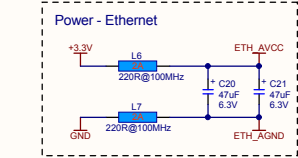
1473005-1

Error :
ETH_TX0_P/N lines are swapped with respect to Colibri standard pin-out. The error won't affect Ethernet operation, since cable diagnostic (polarity detection) and correction are performed by the Ethernet PHY. The error will be fixed in the next hardware revision.

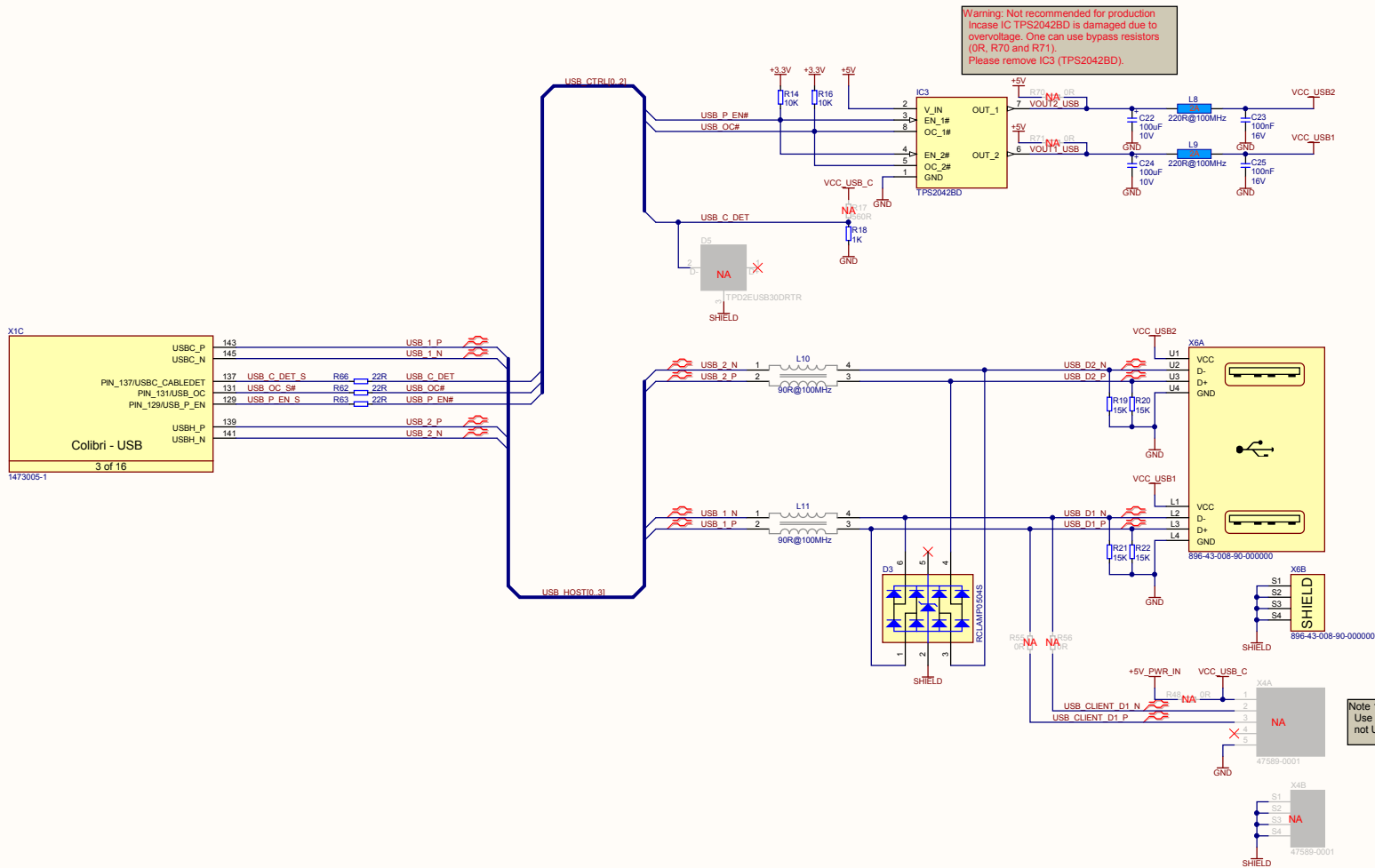
ETHERNET10_0

Note 15:
It is recommended to connect SODIMM_191 (ETH_AGND) pin directly to GND.

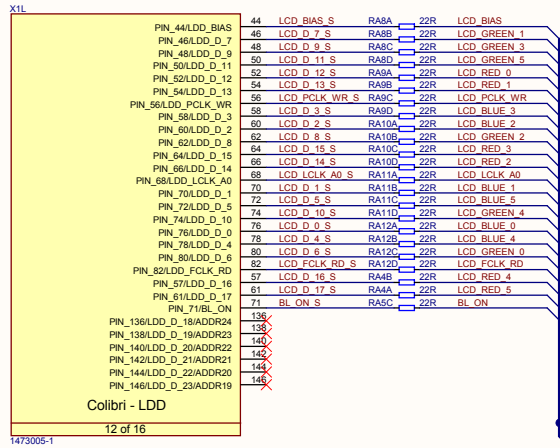
Note 4:
PIN 1-2 = DM9000E ON PXA270
PIN 2-3 = DM9000A/ASIX on other module



Title: Viola		Toradex AG Altsagenstrasse 5 Horn 6048 Switzerland	
Size: A3	Number: 4.	Revision: V1.1	
Date: 9/1/2014	Time: 5:28:26 PM	Sheet 4 of 12	
File: Ethernet.SchDoc			



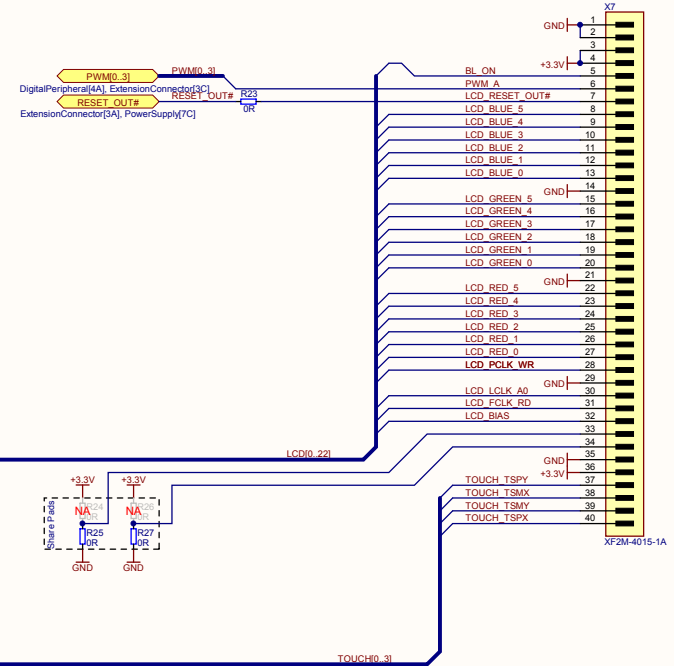
RGB Display Signals - Colibri



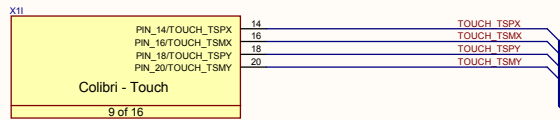
Note 5: LCD COLOR MAPPING 18bps

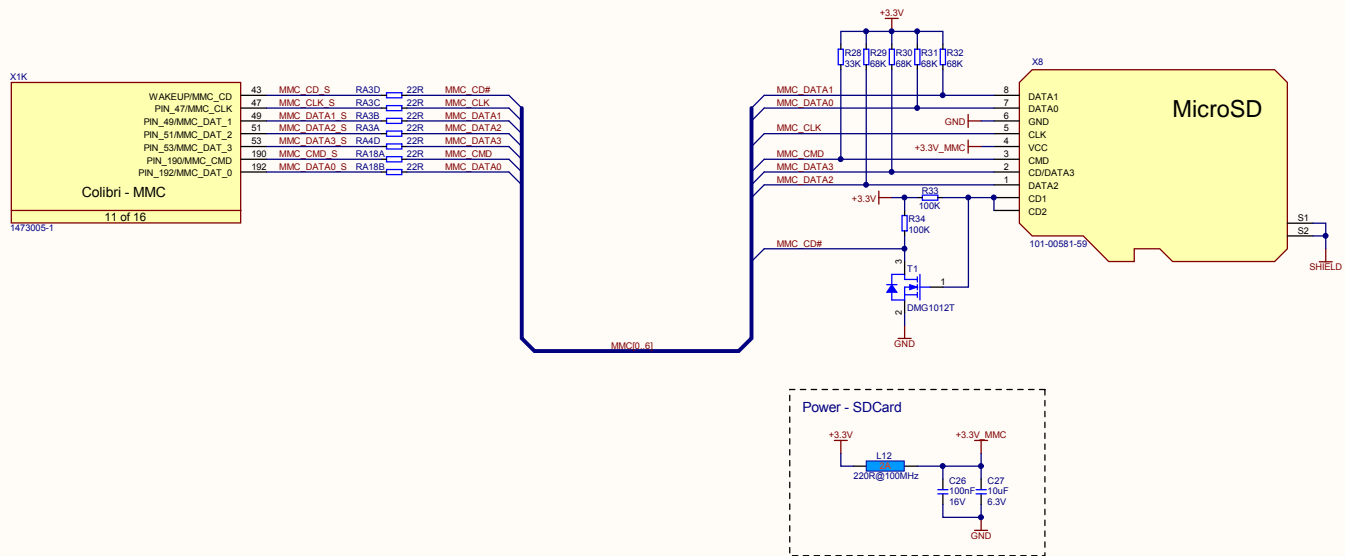
LCD_D_0_S -> LCD_BLUE_0
LCD_D_1_S -> LCD_BLUE_1
LCD_D_2_S -> LCD_BLUE_2
LCD_D_3_S -> LCD_BLUE_3
LCD_D_4_S -> LCD_BLUE_4
LCD_D_5_S -> LCD_BLUE_5
LCD_D_6_S -> LCD_GREEN_0
LCD_D_7_S -> LCD_GREEN_1
LCD_D_8_S -> LCD_GREEN_2
LCD_D_9_S -> LCD_GREEN_3
LCD_D_10_S -> LCD_GREEN_4
LCD_D_11_S -> LCD_GREEN_5
LCD_D_12_S -> LCD_RED_0
LCD_D_13_S -> LCD_RED_1
LCD_D_14_S -> LCD_RED_2
LCD_D_15_S -> LCD_RED_3
LCD_D_16_S -> LCD_RED_4
LCD_D_17_S -> LCD_RED_5

Unified Display Connector

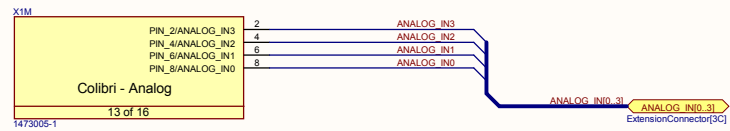


Display Touch Signals - Colibri

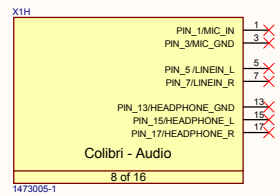




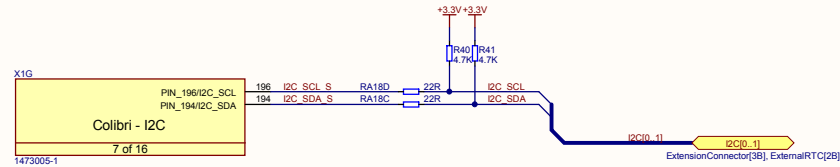
Analog Input -Colibri



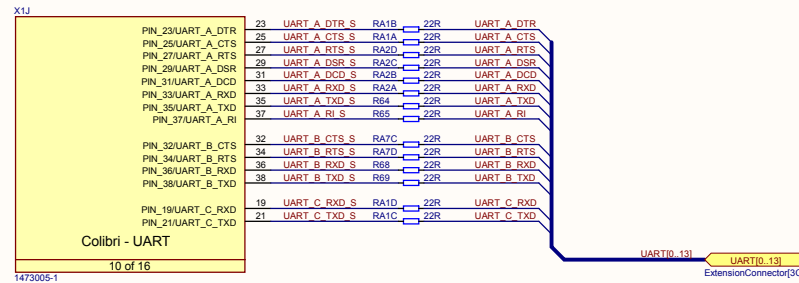
Audio Ouput/Microphone - Colibri



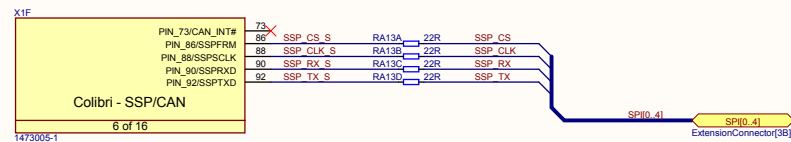
I2C - Colibri



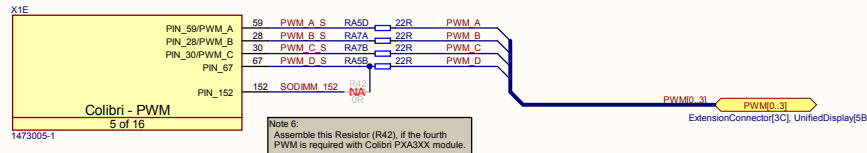
Universal Asynchronous Receiver/Transmitter - Colibri



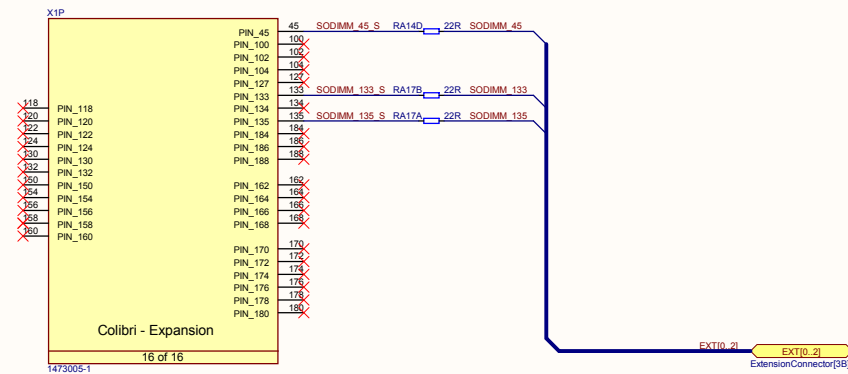
Serial Peripheral Interface/ Controller Area Network - Colibri



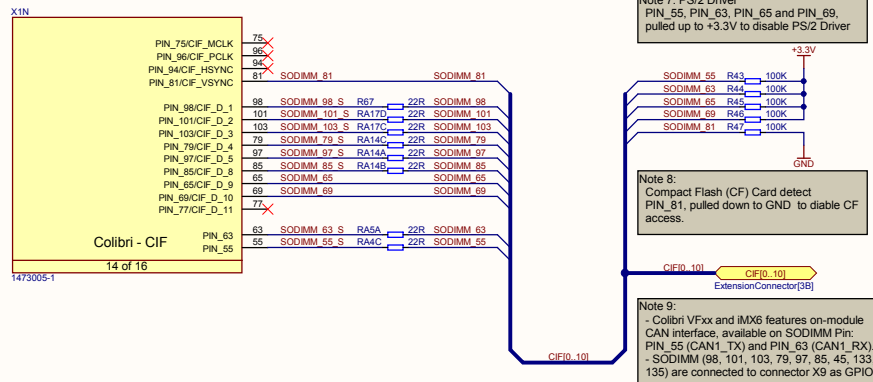
PWM Output - Colibri



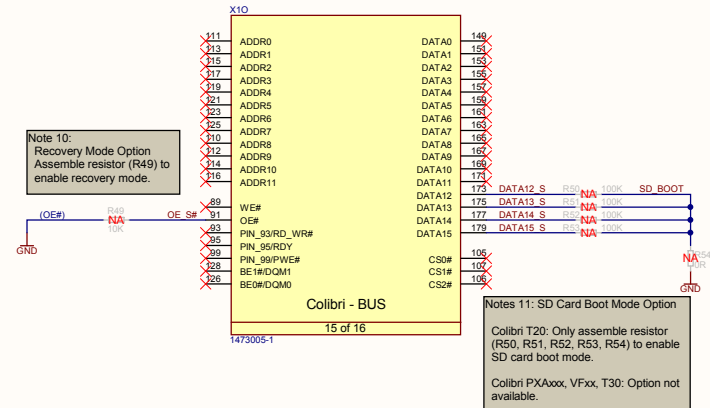
GPIO Output - Colibri



Module Specific (PS/2, CAN) - Colibri



SDCard boot mode, Recovery mode - Colibri



SODIMM Pin Name	LCB, Pulled Up/Down	Colibri PXA270	Colibri PXA300	Colibri PXA310XT	Colibri PXA310	Colibri PXA320	Colibri Txx	Colibri VFxx
SODIMM_55	Disable PS/2 Driver pull up, 100K to +3.3V	GPIO19	GPIO80	GPIO80	GPIO10_2*(2)	GPIO75*(4)	SDA17 (PS2 Mouse GPIO) SCL17 (PS2 Mouse GPIO)	GPIO17B17 / CAN1_TX GPIO17B18 / CAN1_RX
SODIMM_63	pull up, 100K to +3.3V	GPIO14	GPIO31*(1)	GPIO31*(1)	GPIO9_2*(2)	GPIO42 / GPIO105*(5)	CF_DD#> SDA27 (PS2 Mouse GPIO) SCL27 (PS2 Mouse GPIO)	GPIO17B19 / Keyboard_Out<3> GPIO17D30
SODIMM_65	pull up, 100K to +3.3V	GPIO106	GPIO48 / GPIO124	GPIO48 / GPIO124	GPIO48 / GPIO124	GPIO58 / GPIO124*(5)	GPIO75*(4)	GPIO17B19 / Keyboard_Out<3> GPIO17D30
SODIMM_69	pull up, 100K to +3.3V	GPIO20	GPIO77*(1)	GPIO77*(1)	GPIO8_2*(2)	GPIO75*(4)	GPIO75*(4)	GPIO17B19 / Keyboard_Out<3> GPIO17D30
SODIMM_81	Disable Compact Flash Driver pull up, 100K to GND	GPIO84	CF_VSYNC(GPIO52) / GPIO83*(3)	CF_VSYNC(GPIO52) / GPIO83*(3)	CF_VSYNC(GPIO52) / GPIO83*(3)	CF_VSYNC / GPIO81*(5)	CF_VF(VSYNC)	CF_VSYNC / P1B7

*(1) These pins are connected to an SODIMM pin and to an extension connector pin. Be careful by using these pins when using the extension connector.
*(2) These pins are second instance GPIOs. See Colibri PXA300/310 datasheet, chapter 4.5 GPIO for more details.
*(3) These pins don't have GPIO as alternate function 0. See Colibri PXA300/310, chapter 4.5 GPIO for more details.
*(4) For the electrical specification please refer to PXA320 Processor Electrical, Mechanical and Thermal Specification Datasheet.
*(5) See Colibri PXA320, chapter 4.6 GPIO for more details. Multiplexed pin

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Title: **Viola**

Size: A3

Date: 9/1/2014

File: DigitalPeripheral_SchDoc

Number: 10.

Time: 5:28:26 PM

Sheet 10 of 12

Revision: V1.1

