

Rev	Date	Notes
A	7/28/2010	ECN-13097 - Released to Rev. A
A1	7/30/2010	ECN-13101 - No wiring changes, changed the UX10 symbol to reflect the Micron LPDDR2 device
A2	8/11/2010	ECN-13113 - No wiring changes, changed the LPDDR2 back to Elpida, DNI J2, correct notes on sh. 14 for WLAN_EN and BT_EN.
B	8/13/2010	ECN-13116 - Enable FM operation (sheet 14 - DNI R61, install R14, R15, R19, R62, and R63)
B1	9/22/2010	ECN-13116 - Change out to new Pandaboard title blocks and add comments

Table of Contents

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-
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 - 2 - Input Power
 - 3 - Phoenix Power Component
 - 4 - Phoenix Audio Component
 - 5 - OMAP4430 Symbol A
 - 6 - OMAP4430 Symbol B
 - 7 - OMAP4430 Symbol C
 - 8 - OMAP4430 Debug Interface
 - 9 - SDMMC Card Interface + USB Phy (Hub)
 - 10 - DVI & HDMI Connector
 - 11 - Debug Ethernet
 - 12 - Audio Jack/RS-232 Connection
 - 13 - Expansion Connectors
 - 14 - WLAN Subsystem

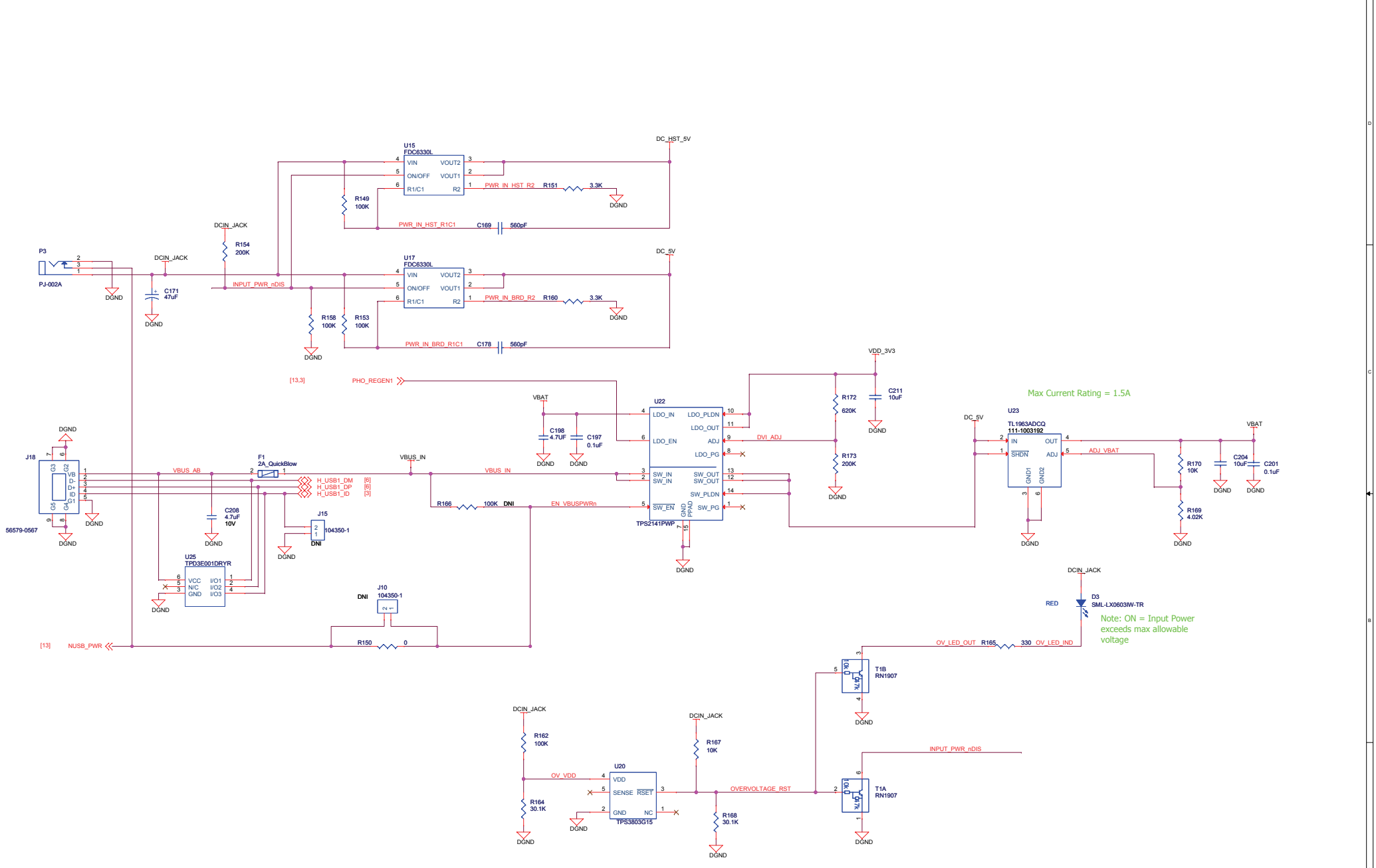
NOTES LEGEND:

Schematic Page Titles

Functional Block Labels

Circuit design notes

		pandaboard.org	
OMAP4430 Panda Board, 8-Layer			
Title Page			
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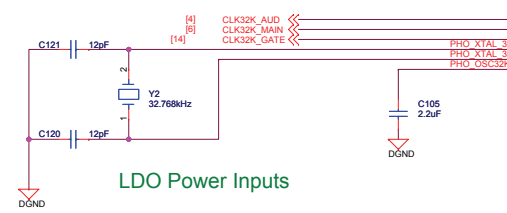
Max Current Rating = 1.5A

Note: ON = Input Power exceeds max allowable voltage

OMAP4 Power Management

Component ROOM = PMIC

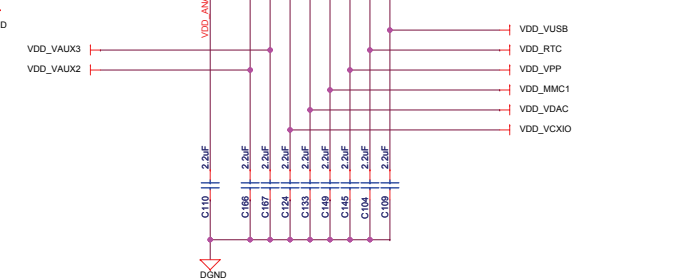
RTC Clock Ref



LDO Power Inputs

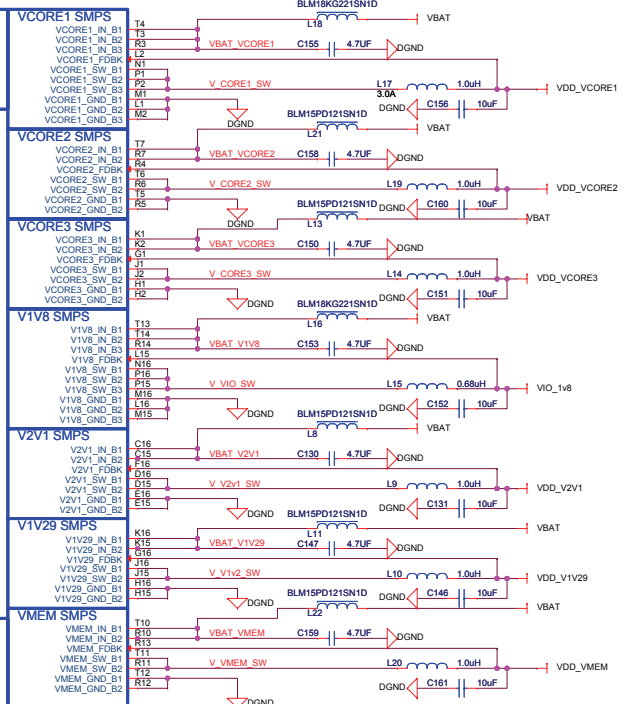


LDO Outputs



BOOT3 = '0' -> Disable VAUX1 LDO @ Boot-up
 BOOT2 = '1' -> VAUX1 LDO default = 1.8V
 BOOT1 = '1' -> VMEM = 1.2V (S4b LPDDR2 used)
 BOOT0 = '0' -> High battery thresholds for VBATMIN

SMPS Power Inputs & Outputs




Phoenix PMIC

FBGA 7x7 mm
 16x16 package
 0.4mm pitch

111-1003382

Phoenix Power Management IC



pandaboard.org

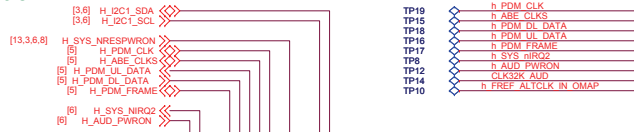
OMAP4430 Panda Board, 8-Layer
 Phoenix Power IC

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OMAP4 Audio Interfaces

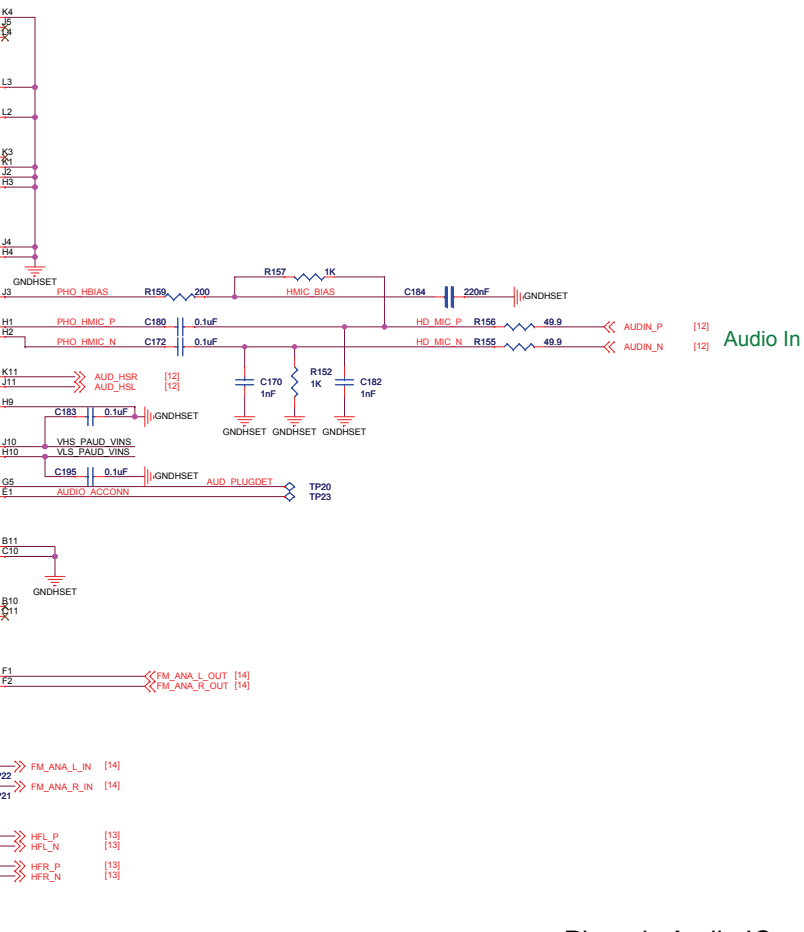
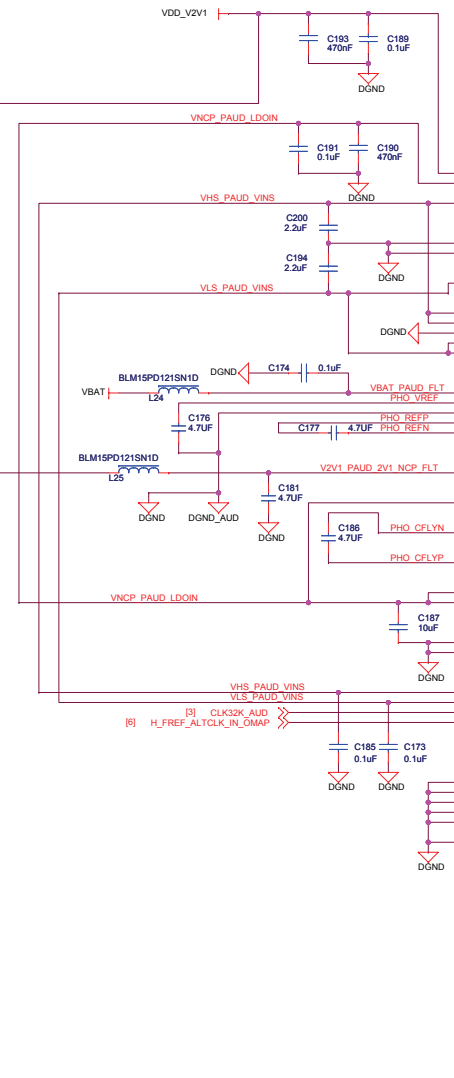
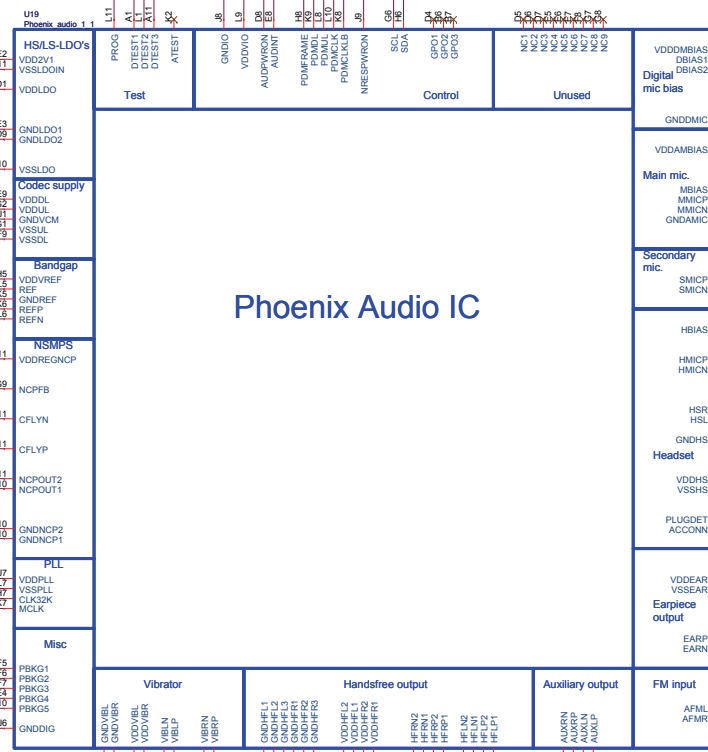
Component ROOM = PAUD

Controls



TP19	h_PDM_CLK
TP15	h_ABE_CLKS
TP18	h_PDM_DL_DATA
TP16	h_PDM_UL_DATA
TP17	h_PDM_FRAME
TP8	h_SYS_NIRQ2
TP12	h_AUD_PWRON
TP14	CLK32K_AUD
TP10	h_FREQ_ALTCLK_IN OMAP

Phoenix Audio IC



Phoenix Audio IC

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Phoenix Audio IC

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EXPANSION

PDM

USB3.1

SD/MMC1

BT

RS-232

HDMI

OMAP4430

U10A

Pin-to-pin connection table for OMAP4430 and U10A. Columns include pin number, pin name, and signal name. Rows are grouped by expansion type: EXPANSION, PDM, USB3.1, SD/MMC1, BT, RS-232, and HDMI.

OMAP4430 GP 12x12mm, FCOPOP1 (547 Bottom Balls, 0.4mm Pitch, 216 Top Pads)

U10 111-1003122 ED806481PB-80-F 8Gb POP MEMORY (MOUNT ON TOP OF OMAP4430)

WLAN

WLAN

CAMERA SENSOR

CAMERA SENSOR

CVID_OUT [8]

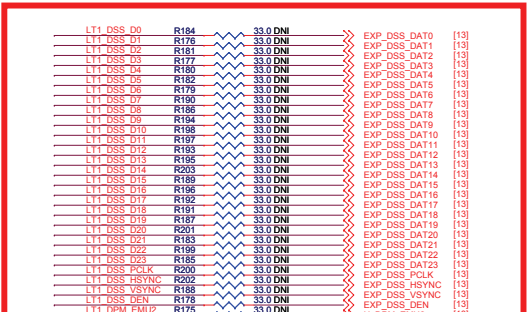
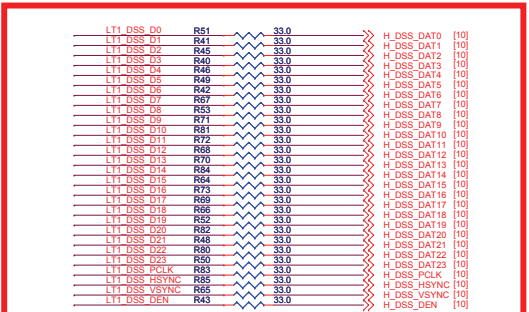
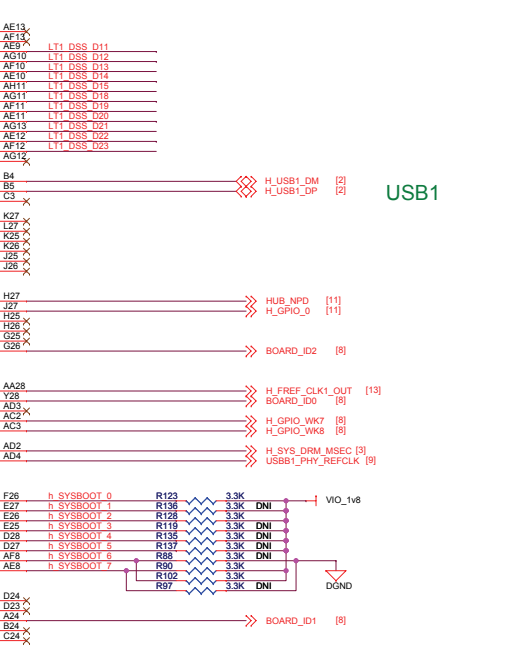
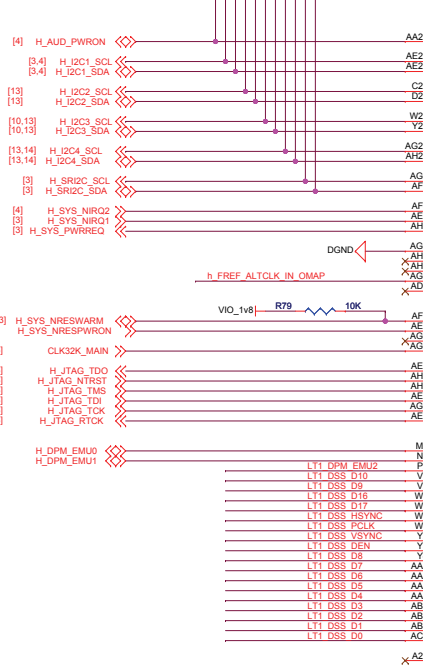
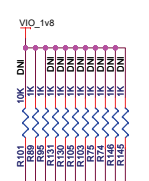
Pin-to-pin connection table for U10A. Columns include pin number, pin name, and signal name. Rows include various expansion types like WLAN, CAMERA SENSOR, and CVID_OUT.

PandaBoard.org logo and OMAP4430 Panda Board, 8-Layer product information. Includes document number 750-2152-001-SCH, date Wednesday, September 22, 2010, and sheet 5 of 14.

12C

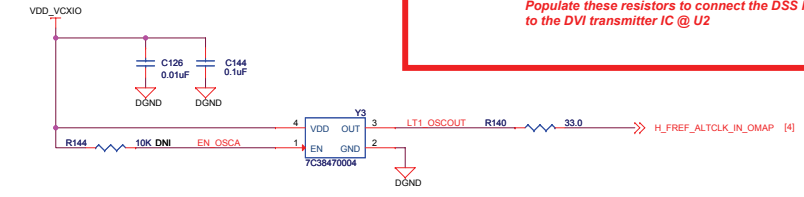
JTAG

Reference Clock

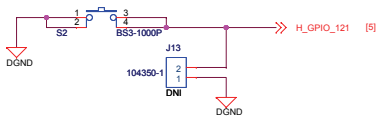
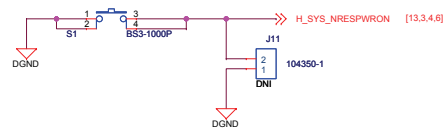


Populate these resistors to connect the DSS lines to the DVI transmitter IC @ U2

Populate these resistors to connect the DSS lines to the Expansion Connectors @ J1 & J4

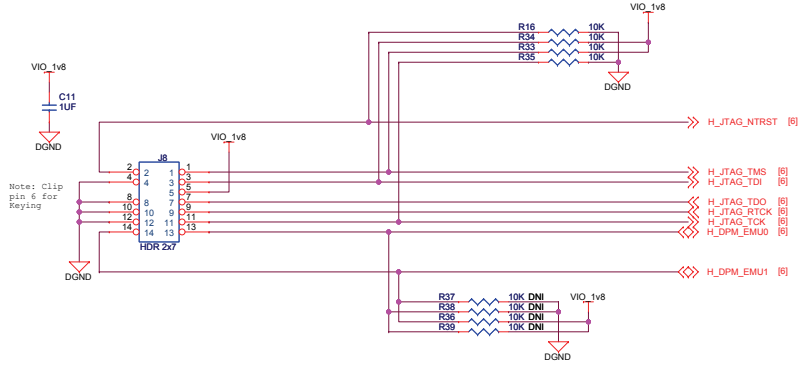
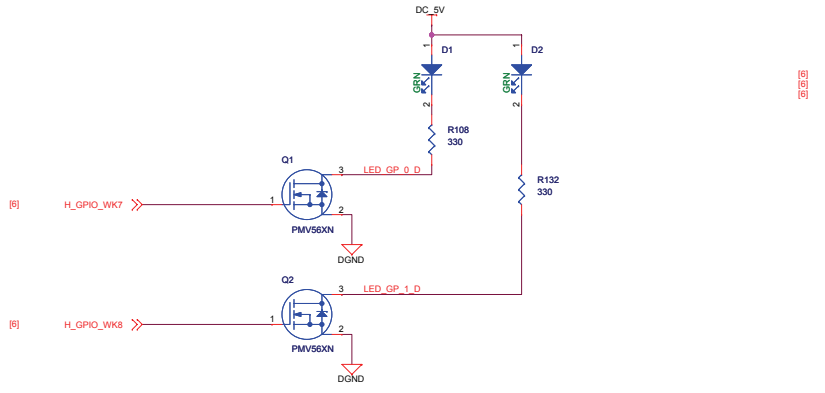


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 OMAP B
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These three OMAP GPIOs are intended for use as board ID indicators, allowing up to 8 unique Panda builds/variants.

Initial value of 001, which will allow S/W to differentiate this board from 6-layer board (which would read 000).

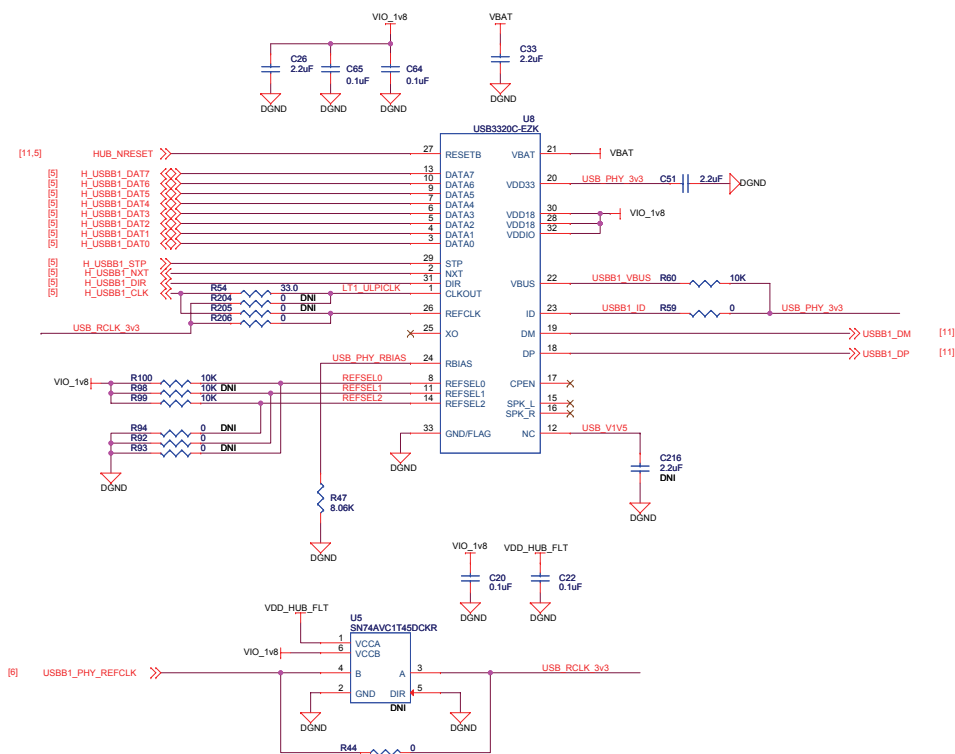
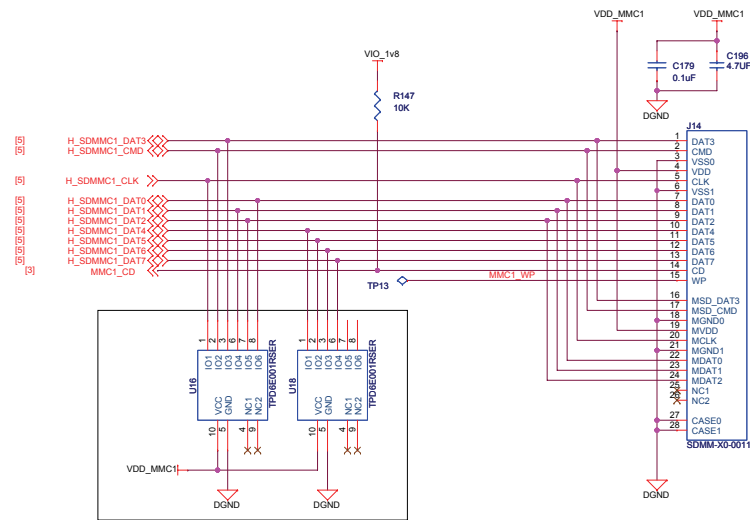


Note: Clip pin 6 for Keying

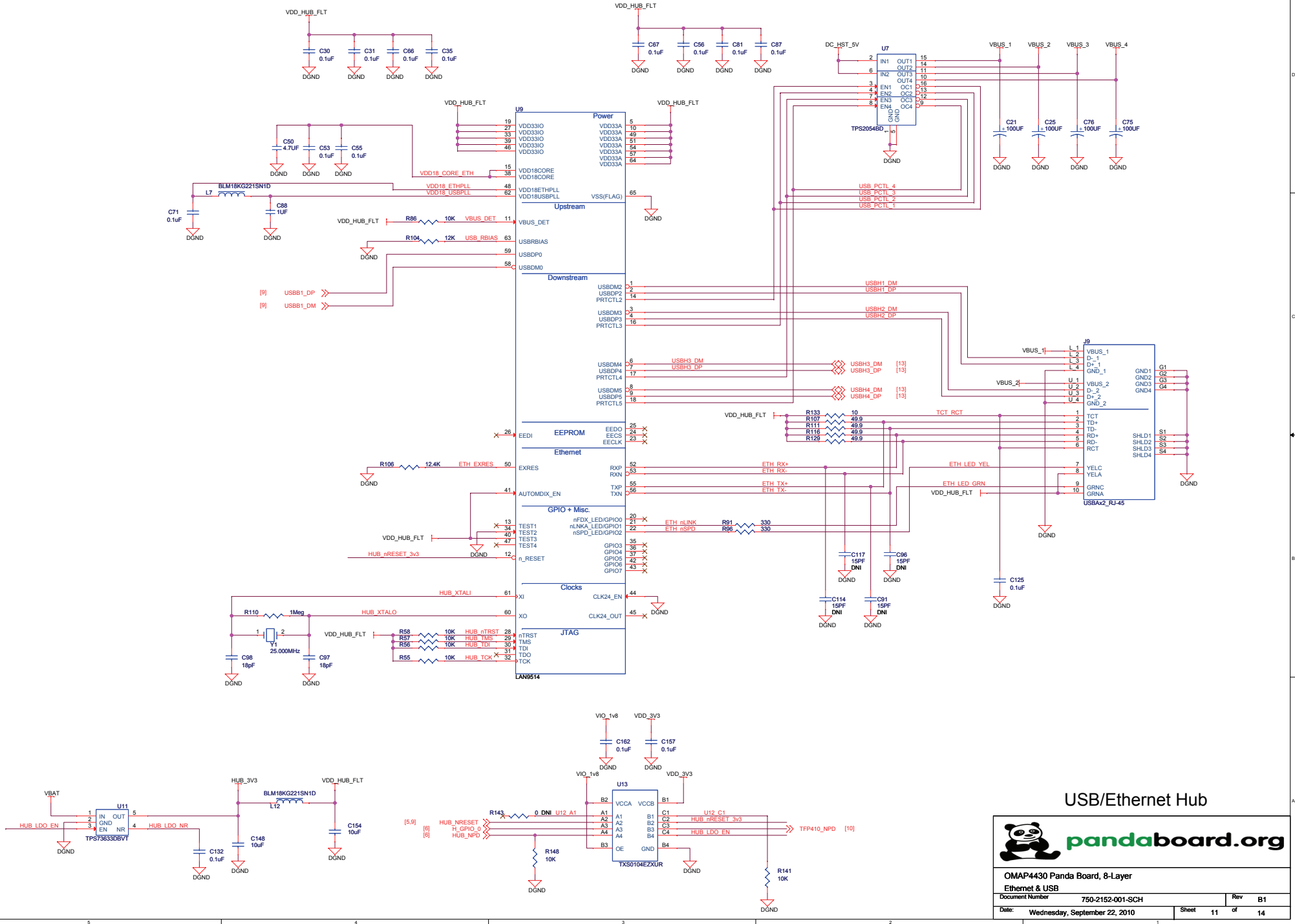
OMAP Debug IF - JTAG Connectors



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JTAG Debug Connector	
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USB + Ethernet Hub

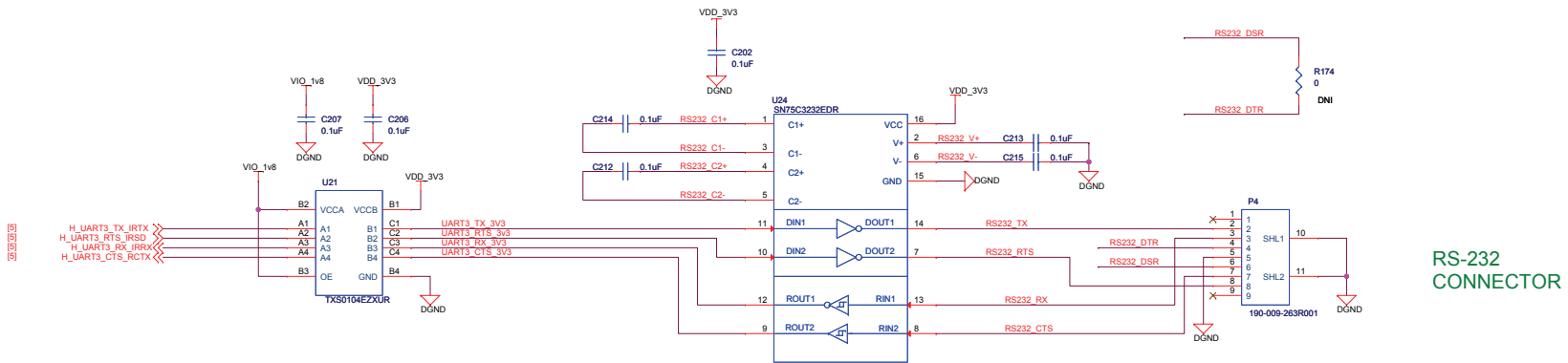
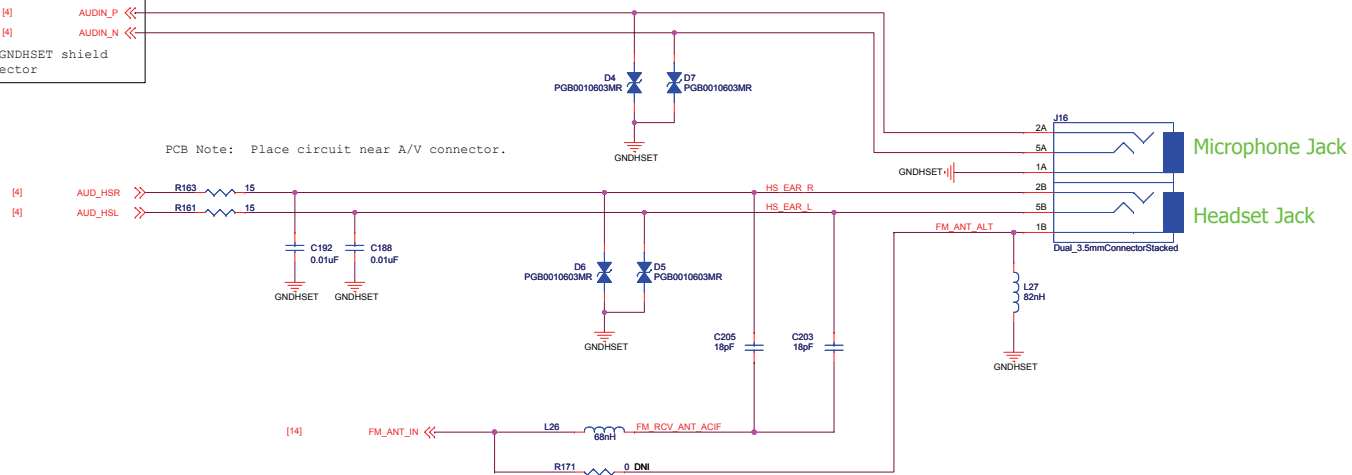


USB/Ethernet Hub




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 Ethernet & USB
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[4] AUDIN_P
 [4] AUDIN_N
 PCB Note:
 Traces surrounded by GNDHSET shield
 & routed diff to connector



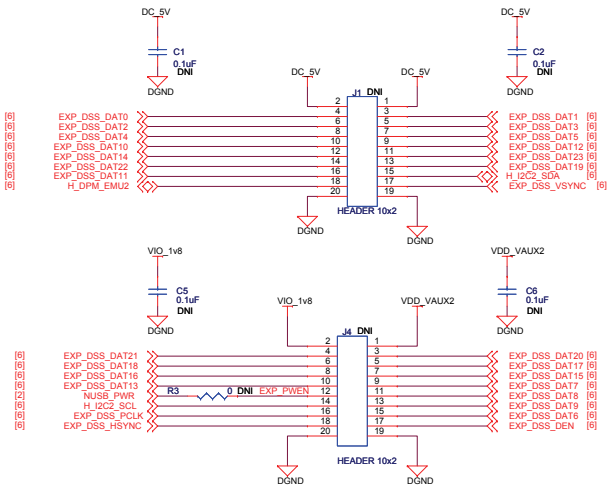
3.5mm Audio Conn + RS-232 I/F

 **pandaboard.org**

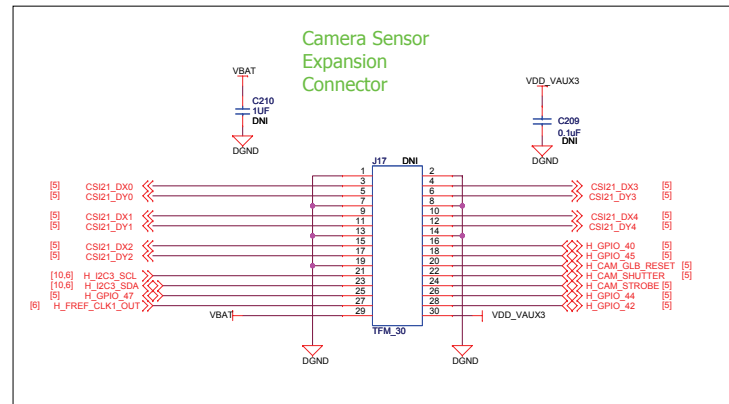
OMAP4430 Panda Board, 8-Layer
 Audio Jack & RS-232 Connector

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LCD Expansion Connectors (Beagle Legacy)



Camera Sensor Expansion Connector



Expansion Connectors

