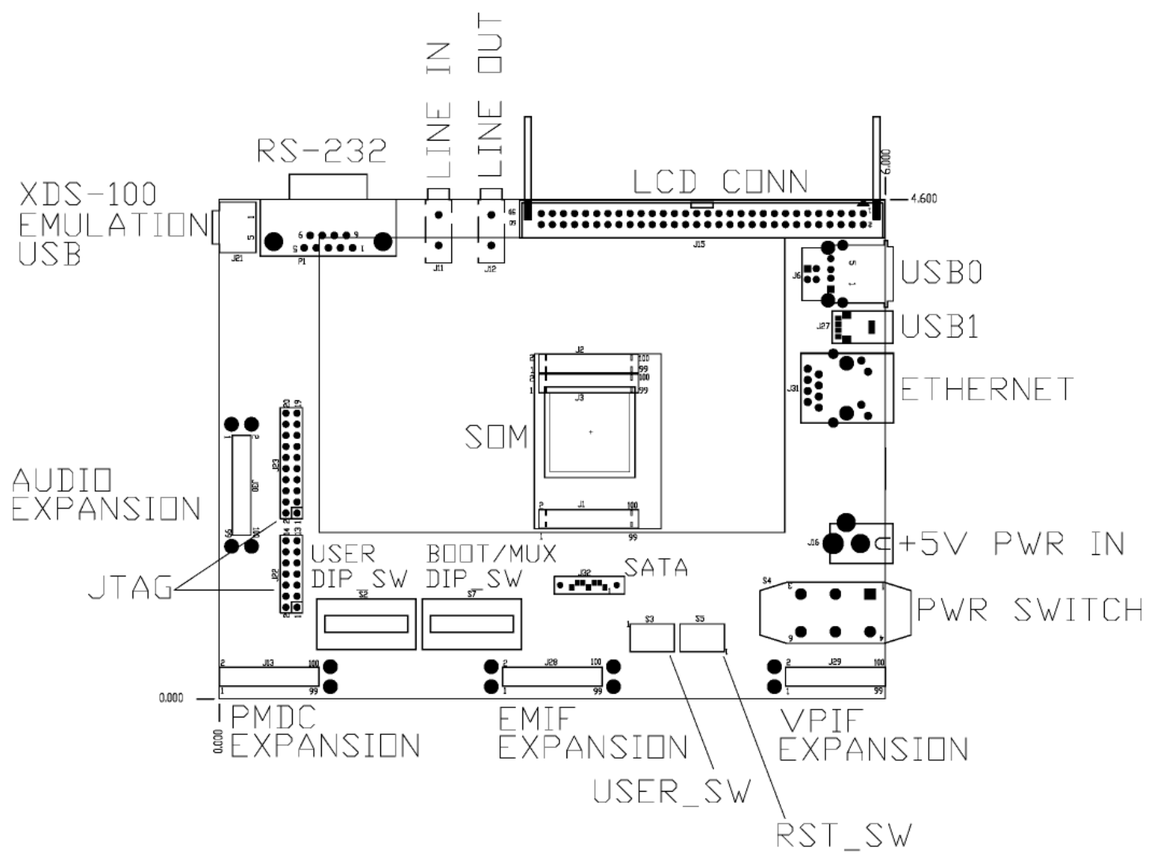
01 - TITLE PAGE

TABLE OF CONTENTS



IMPORTANT NOTES ABOUT THIS SCHEMATIC

DESIGN NOTE: Example text for the design note to show the note inside the colored box.

1) DESIGN NOTES in grey are information notes.

DESIGN NOTE: Example text for the design note to show the note inside the colored box.

2) DESIGN NOTES in red are critical, and must be understood and followed.

IMPORTANT NOTICE:

1. THIS DOCUMENT MAY NOT REFLECT THE MOST RECENT CHANGES IN BOARD DEVELOPMENT AND DEBUG. ANY DEVELOPER INTENDING TO USE THIS SCHEMATIC AS A REFERNCE SHOULD CONTACT THEIR THE LPD WEBSITE (WWW.LOGICPD.COM), REGIONAL SALES OFFICE, OR PROGRAM MANAGER FOR SCHEMATIC UPDATES, DESIGN RECOMMENDATIONS AND PCB LAYOUT GUIDELINES. LPD ALSO RECOMMENDS A DESIGN REVIEW OF BOTH THE SCHEMATIC DIAGRAM AND PCB LAYOUT BEFORE CONSIDERING PRODUCTION.

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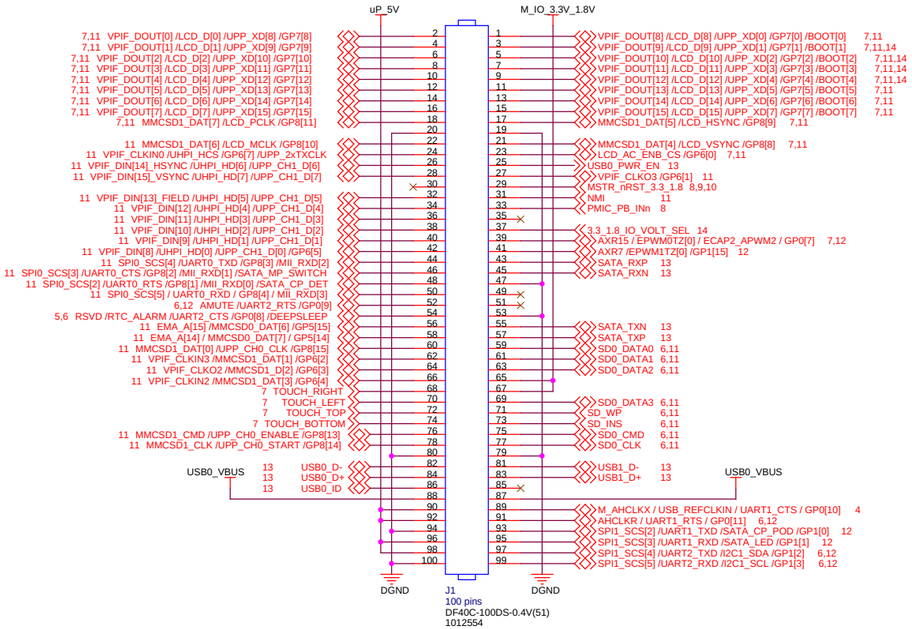
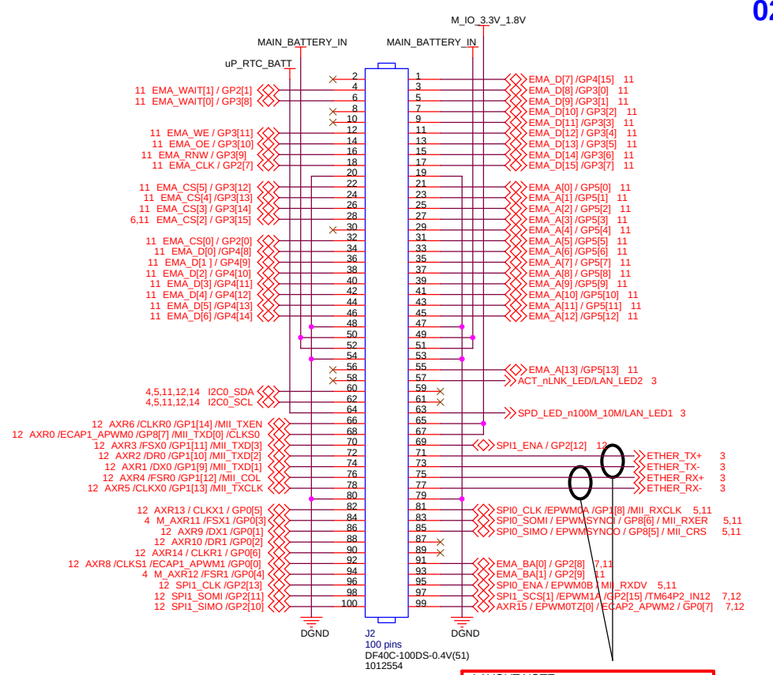
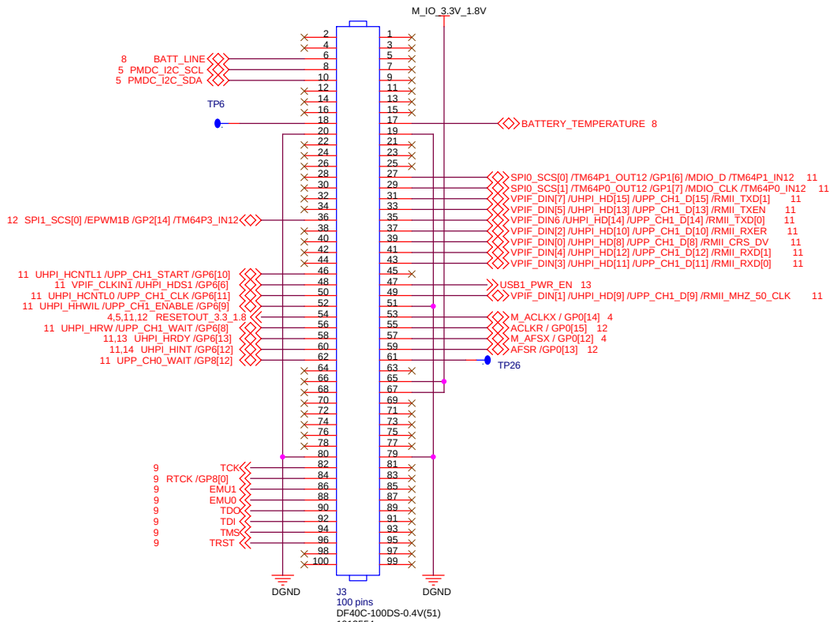
02 - MODULE BUS





LAYOUT NOTE:
ROUTE TX+,TX- AS 100 OHM DIFFERENTIAL PAIR WITH MATCHED TRACE LENGTHS.
ROUTE RX+,RX- AS 100 OHM DIFFERENTIAL PAIR WITH MATCHED TRACE LENGTHS.
TARGET 50 OHMS SINGLE ENDED IMPEDANCE TO GND FOR ALL 4 TRACES.
KEEP AWAY FROM OTHER SIGNALS.



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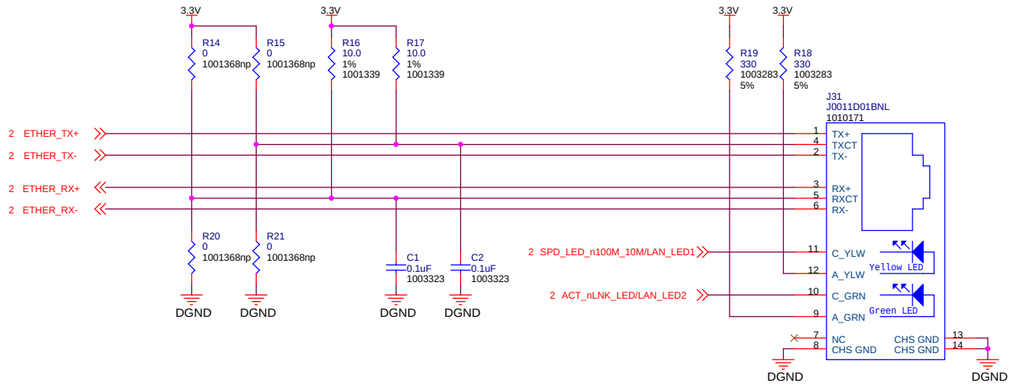
03 - ETHERNET

POPULATION CHART BY ETHERNET CHIP ON MODULE		
LAN8710	R16, R17	ALL OTHER NO POPULATED

DESIGN NOTE: The Ethernet signals are differential pairs with a differential impedance of 100 Ohms. Each pair must be length matched and have a target impedance of 100 Ohms +/- 10%.



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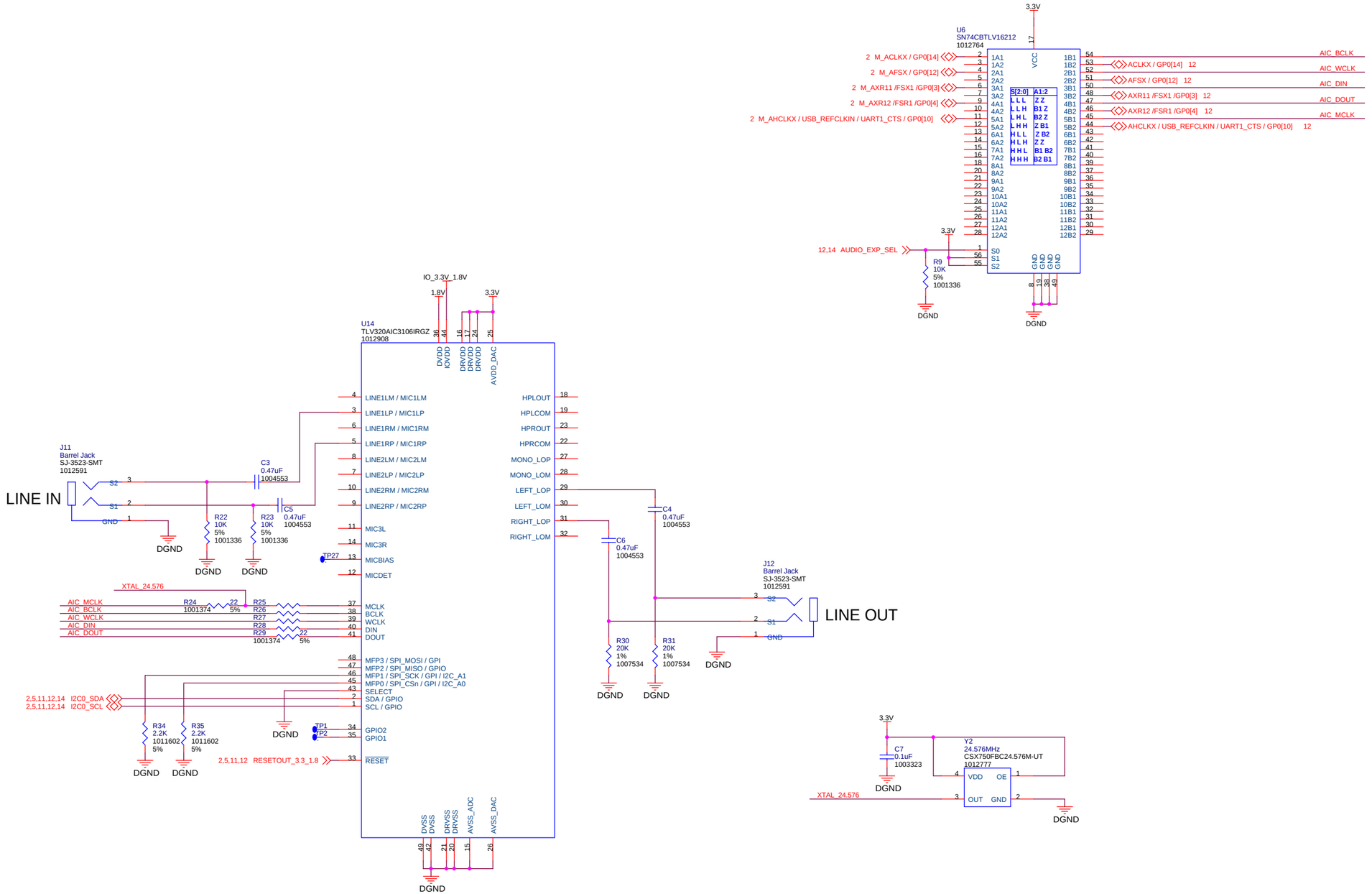
04 - AUDIO



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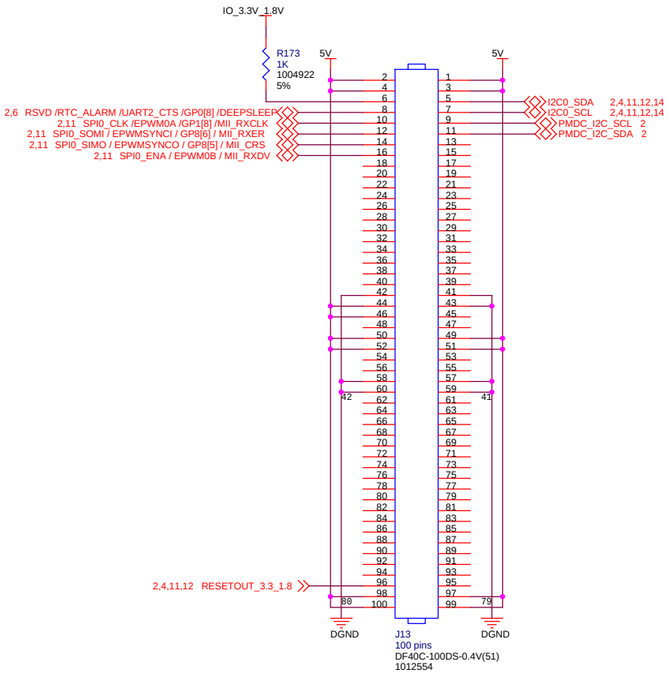
05 - PMDC CONNECTOR



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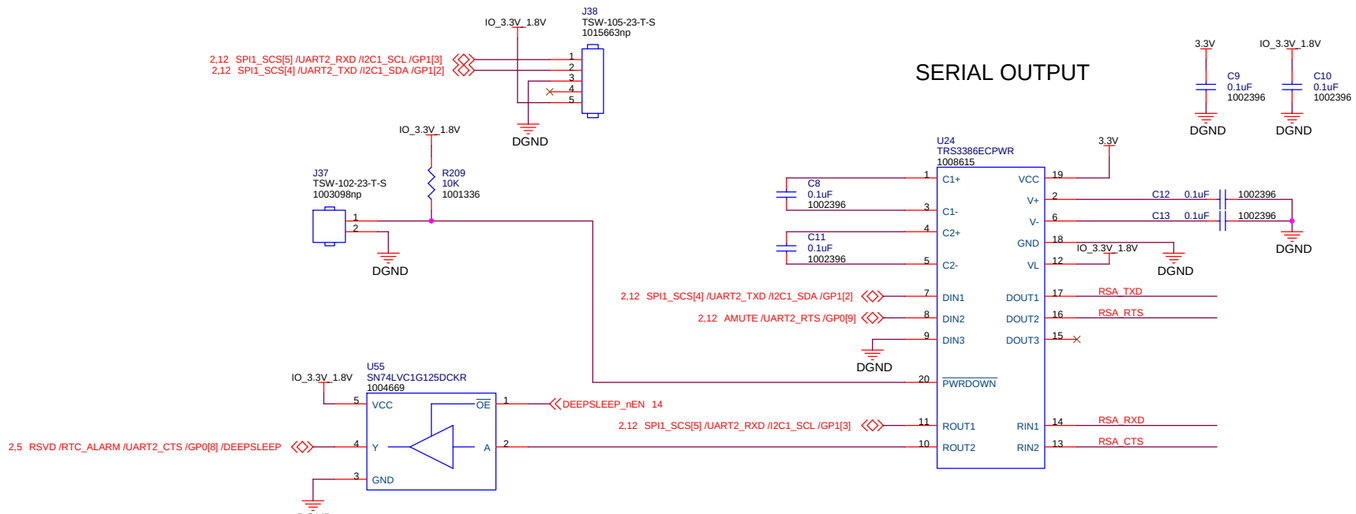
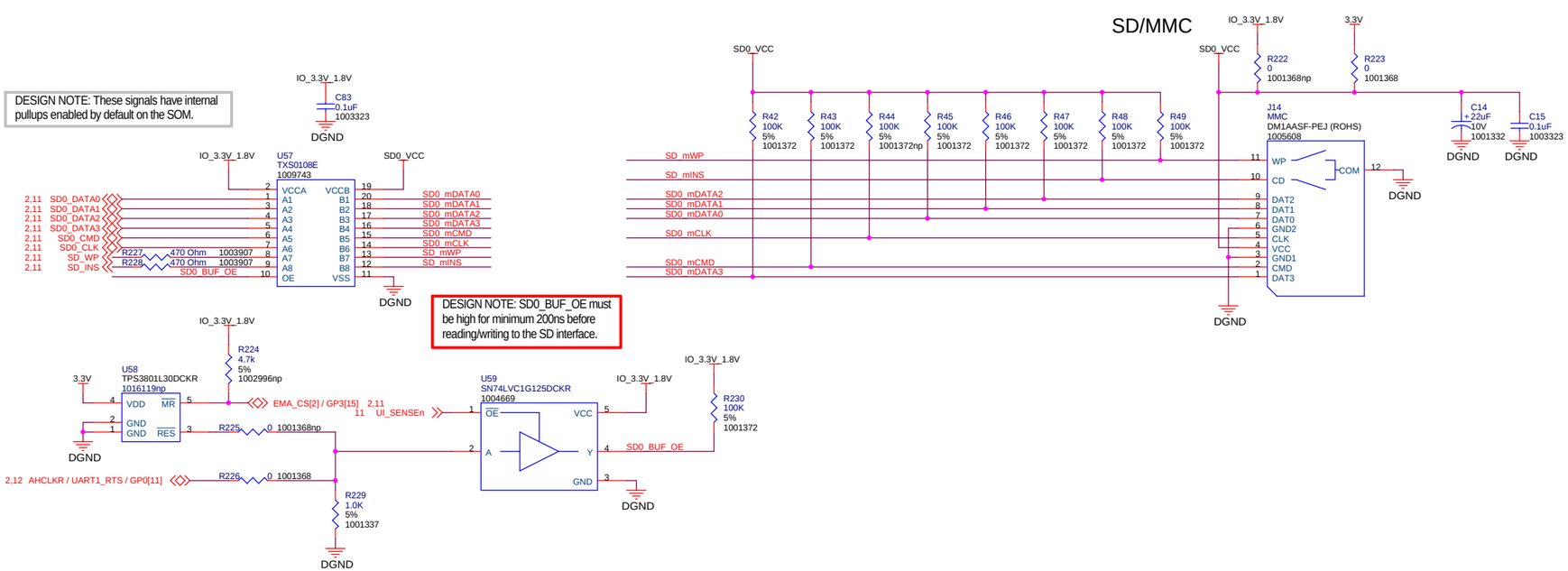
06 - RS232 UART, SD/MMC

SERIAL OUTPUT



SD/MMC



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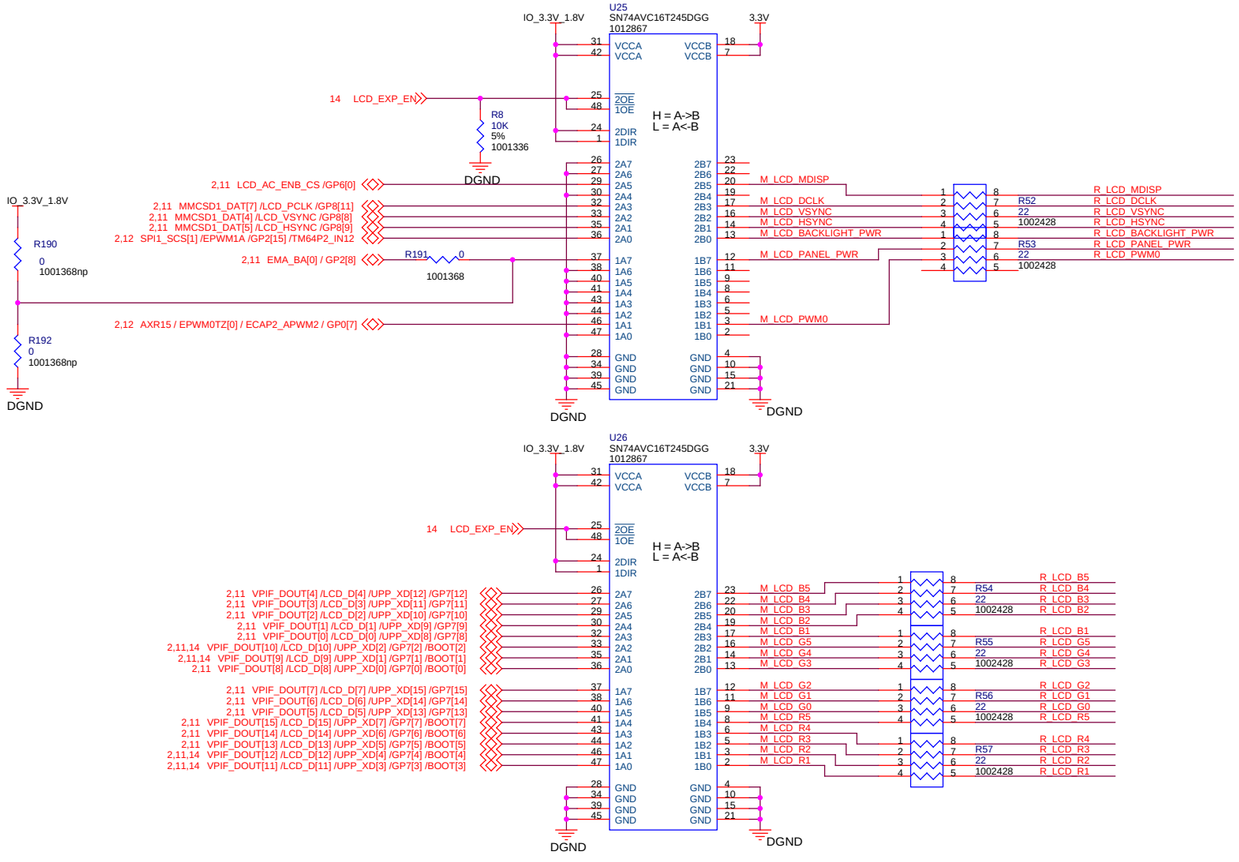
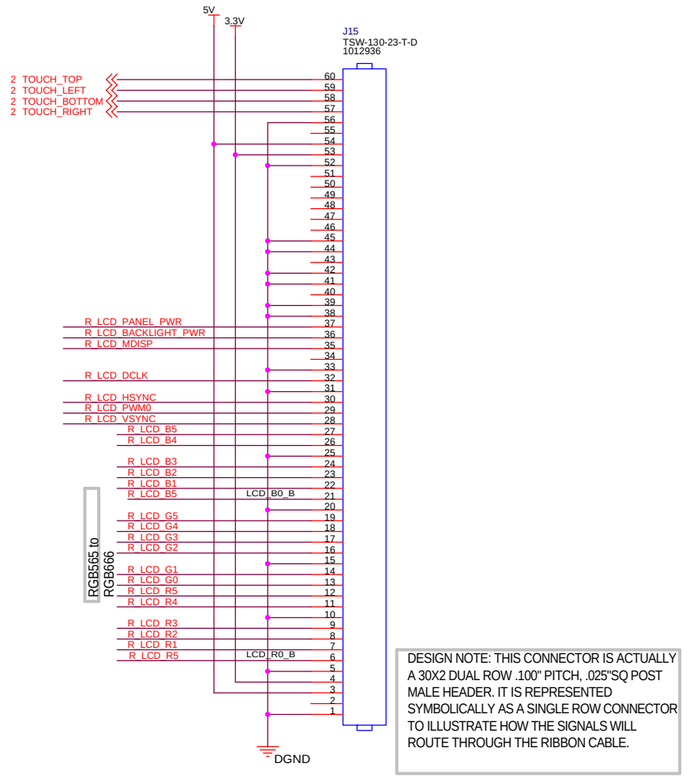
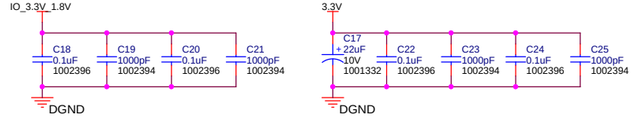
07 - LCD





DESIGN NOTE: THIS CONNECTOR IS ACTUALLY A 30X2 DUAL ROW .100" PITCH, .025"SQ POST MALE HEADER. IT IS REPRESENTED SYMBOLICALLY AS A SINGLE ROW CONNECTOR TO ILLUSTRATE HOW THE SIGNALS WILL ROUTE THROUGH THE RIBBON CABLE.



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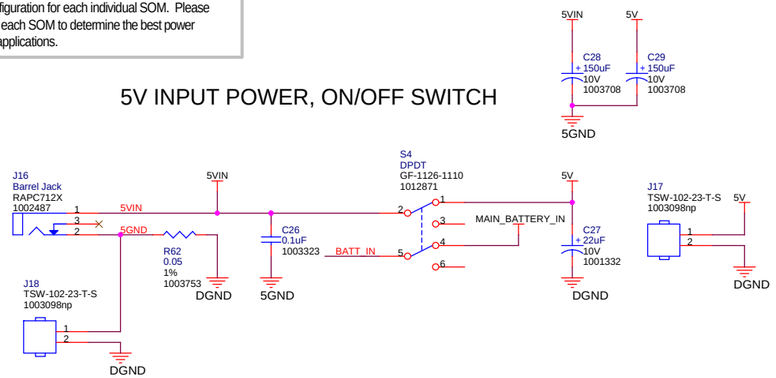
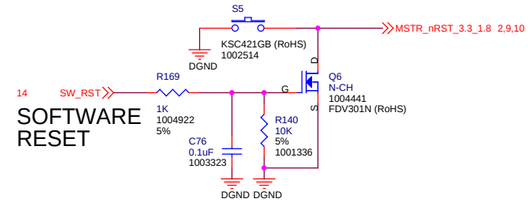
08 - POWER

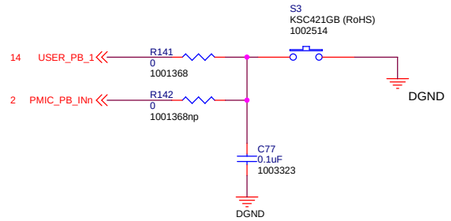
DESIGN NOTE: The power supplies on this page were designed to work with multiple SOMs. They are not designed for maximum efficiency nor are they necessarily the best configuration for each individual SOM. Please consult the documentation for each SOM to determine the best power supply scheme for individual applications.

5V INPUT POWER, ON/OFF SWITCH



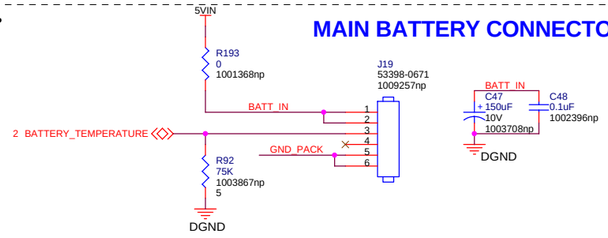
SOFTWARE RESET





MAIN BATTERY CONNECTOR

DNP



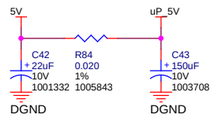
For OMAP-L138 Only:
Applying power to MAIN_BATTERY_IN will not cause SOM to power up immediately. SOM will power up when power is supplied to MAIN_BATTERY_IN, and then PB_IN is pulled low. PB_IN must be pulled low AFTER power is applied to MAIN_BATTERY_IN. MAIN_BATTERY_IN voltage must be within allowable ranges described below.

For startup, MAIN_BATTERY_IN range is:
3.6V < MAIN_BATTERY_IN < 4.2V

At runtime, MAIN_BATTERY_IN range is:
UVLO < MAIN_BATTERY_IN < 4.2V

UVLO = UnderVoltage LockOut
UVLO = 3.0V (default)
2.8V < UVLO < 3.25V (programmable)

SOM POWER



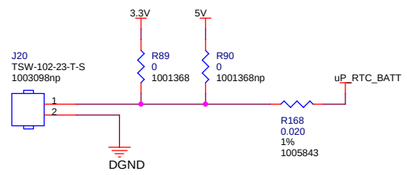
For OMAP-L138 Only:
Applying power to uP_5V will cause SOM to power up immediately.

For startup, up_5V range is:
3.6V < up_5V < 5.8V

At runtime, up_5V range is:
UVLO < up_5V < 5.8V

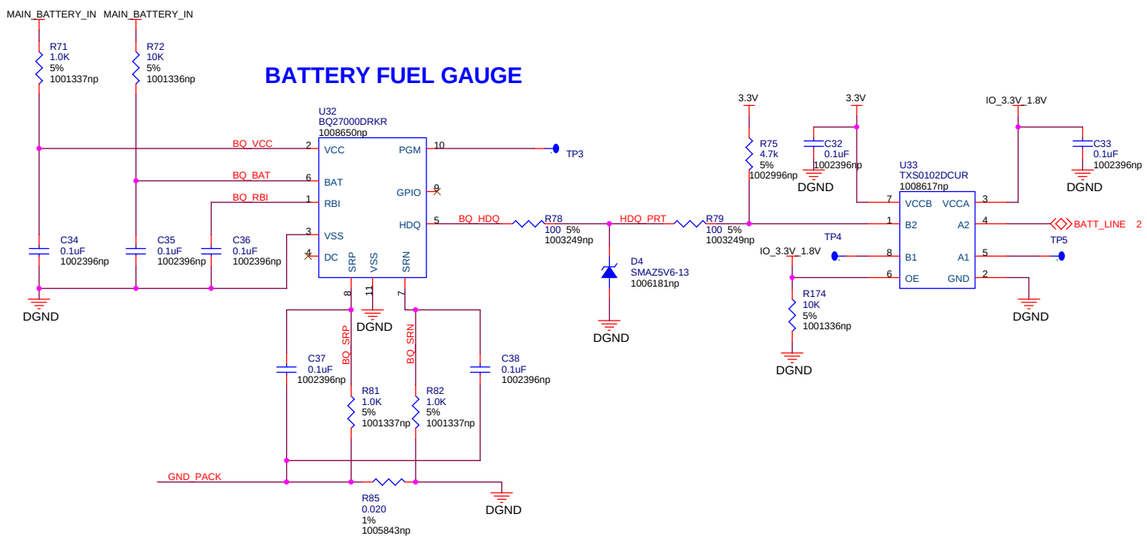
UVLO = UnderVoltage LockOut
UVLO = 3.0V (default)
2.8V < UVLO < 3.25V (programmable)

RTC

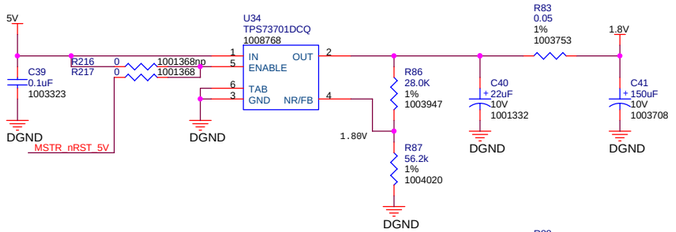


DNP

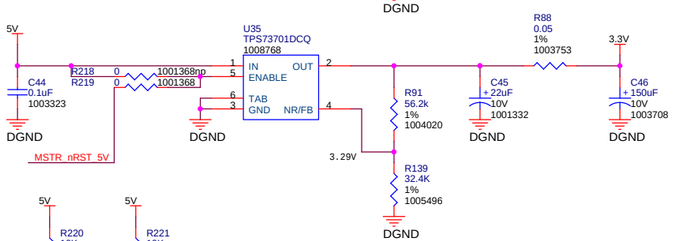
BATTERY FUEL GAUGE

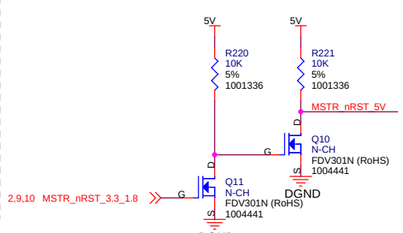


BASEBOARD 1.8V



BASEBOARD 3.3V





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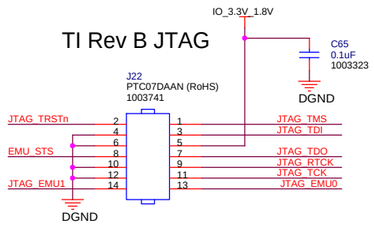
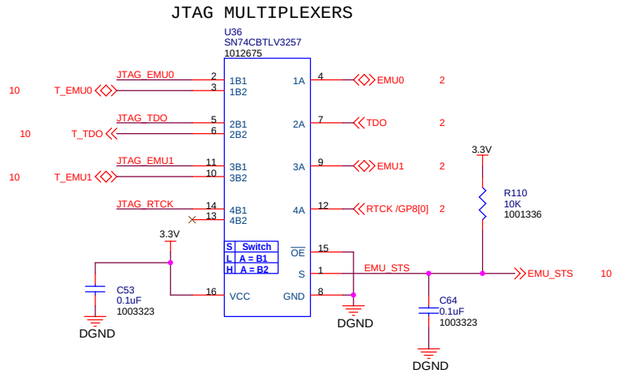
09 - EMULATION: JTAG

TI Rev B JTAG

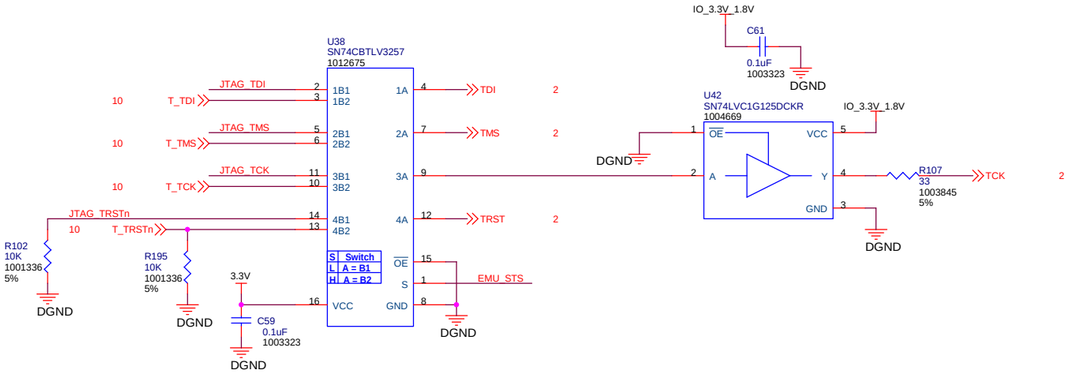


JTAG MULTIPLEXERS

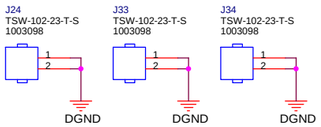


FET MUXES TOGGLE JTAG LINES BETWEEN ON-BOARD EMULATION (XDS100) AND OFF-BOARD EMULATORS (14 PIN OR 20 PIN HEADERS).
THE MUX CONTROL SIGNAL (EMU_STS) IS PULLED HIGH BY DEFAULT, WHICH SELECTS THE ON-BOARD EMULATION.
WHEN ANOTHER EMULATOR IS CONNECTED TO EITHER THE 14 OR 20 PIN CONNECTORS, EMU_STS SHOULD BE PULLED TO GROUND BY THE EMULATOR.

ARM JTAG (Mulit-ICE)



PROBE GND CONNECTOR



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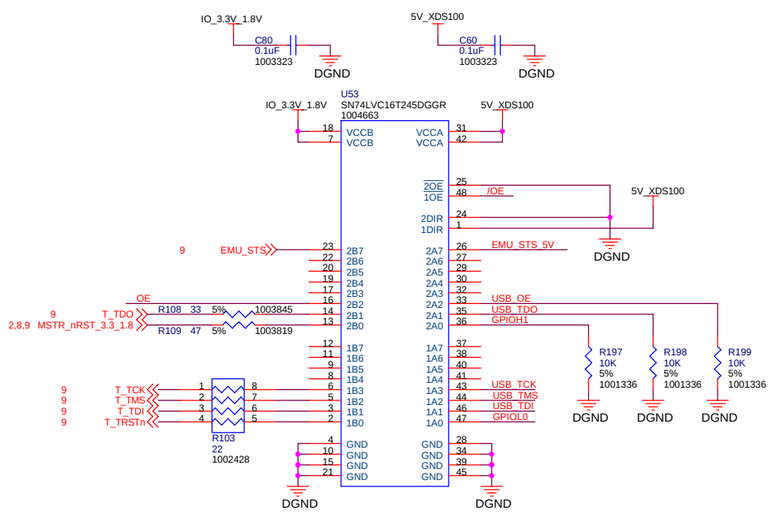
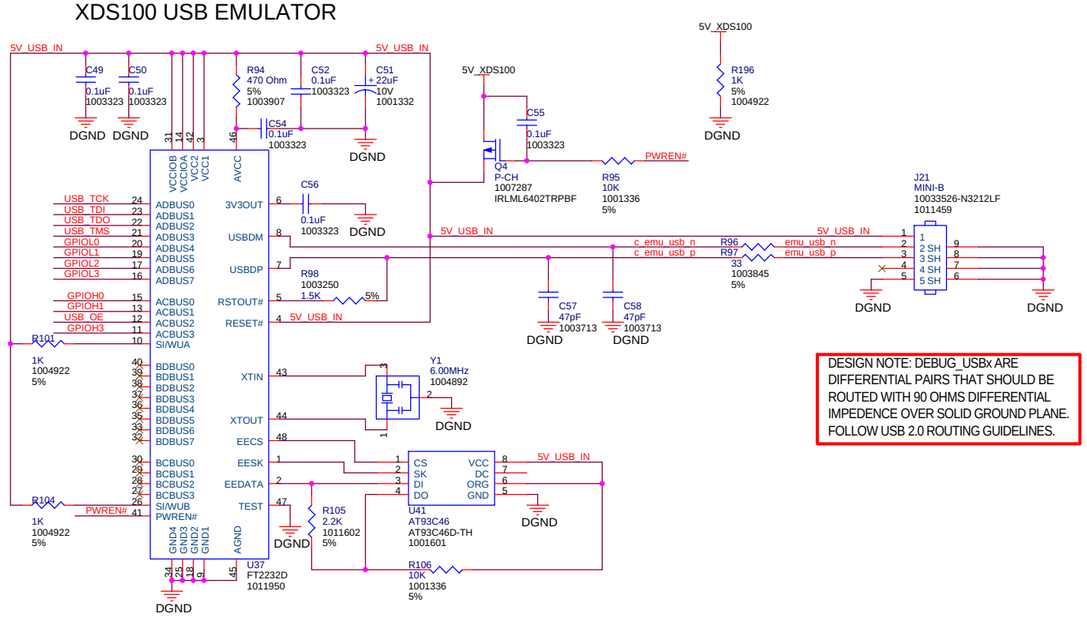
10 - EMULATION: XDS100

DESIGN NOTE: Components on this page are only populated for some versions of the baseboard. Please refer to the baseboard BOM for exact configuration.

XDS100 OUTPUT BUFFERING

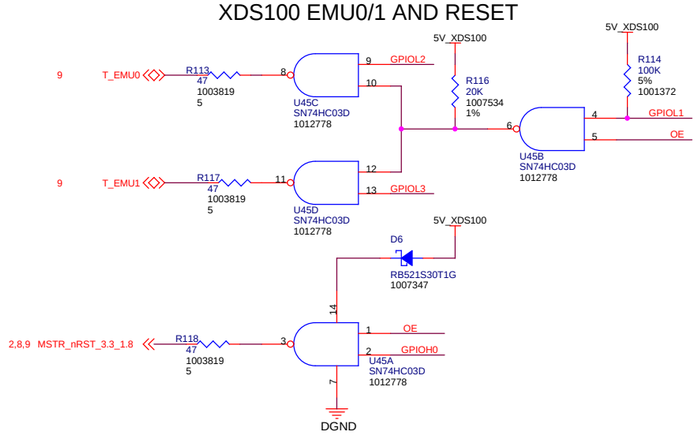


XDS100 USB EMULATOR

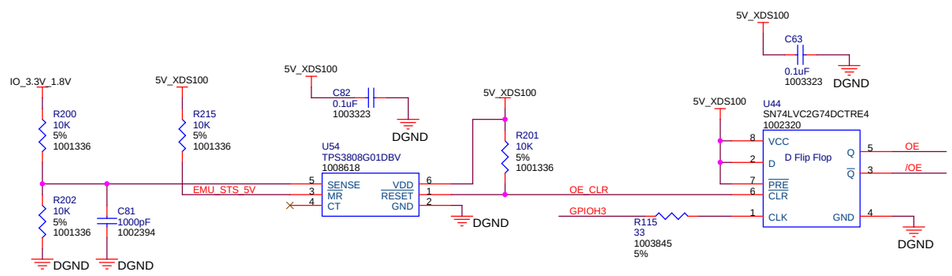


DESIGN NOTE: DEBUG_USBx ARE DIFFERENTIAL PAIRS THAT SHOULD BE ROUTED WITH 90 OHMS DIFFERENTIAL IMPEDENCE OVER SOLID GROUND PLANE. FOLLOW USB 2.0 ROUTING GUIDELINES.

XDS100 EMU0/1 AND RESET



XDS100 OUTPUT ENABLE



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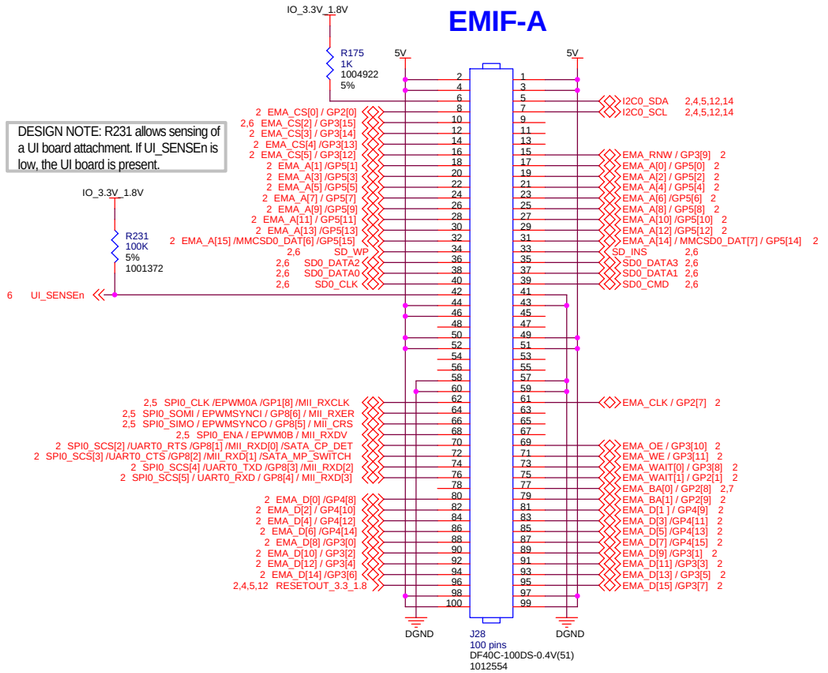
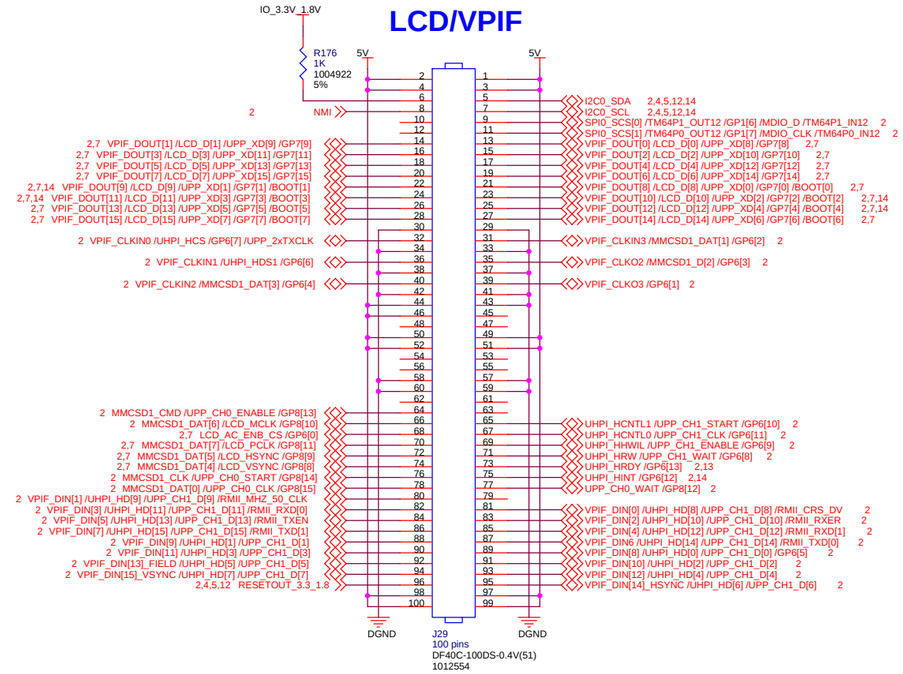
11 - EXPANSION BOARDS

EMIF-A



LCD/VPIF



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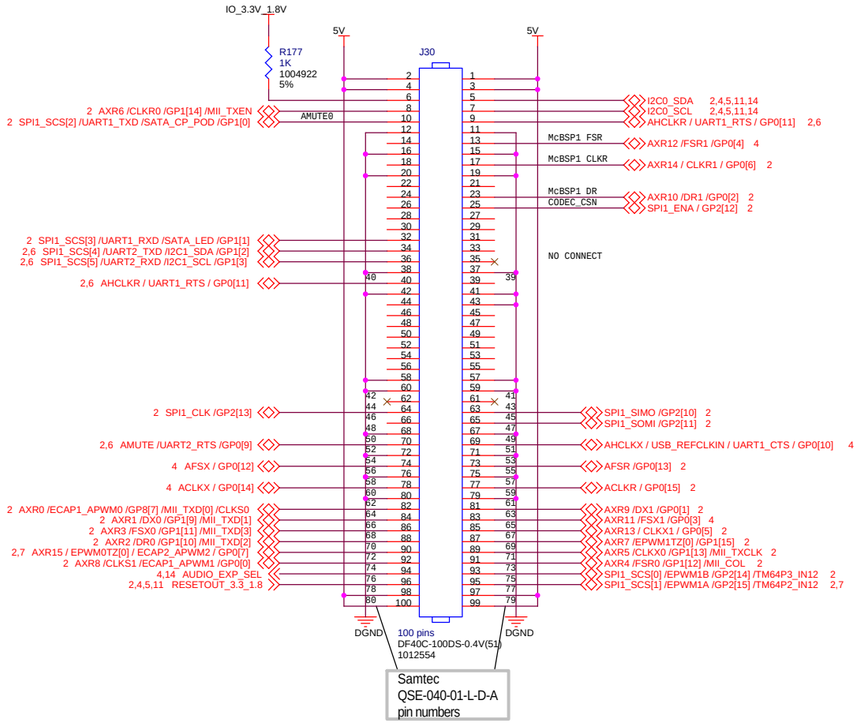
12 - AUDIO EXPANSION BOARD



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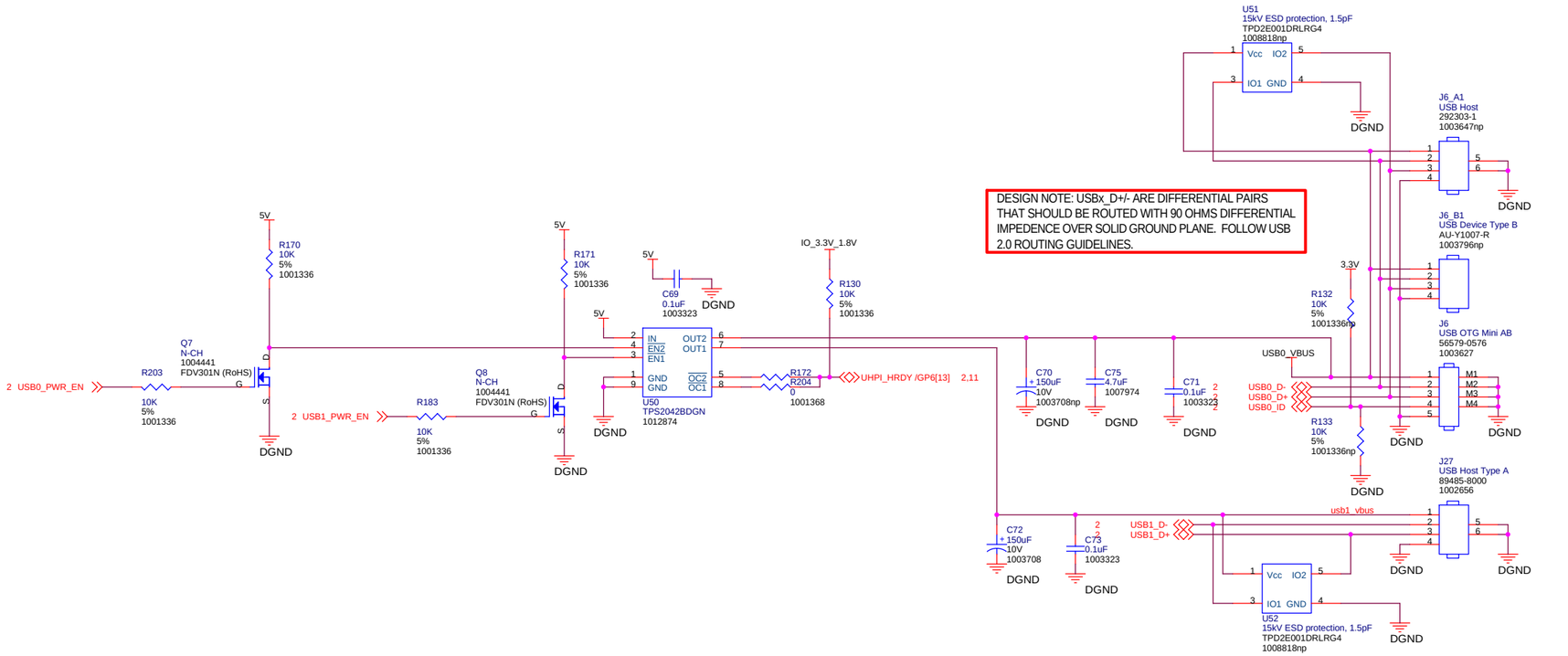
13 - USB, SATA



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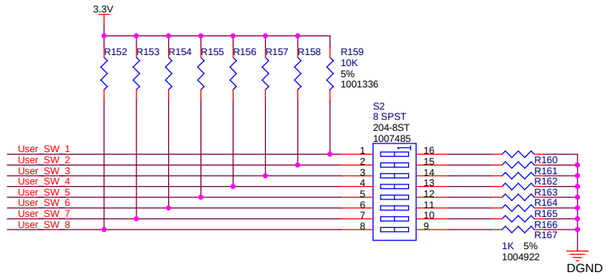
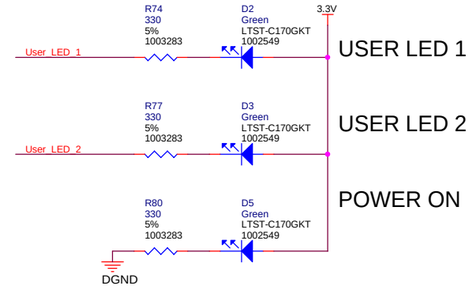
14 - USER LEDS & SWITCHES

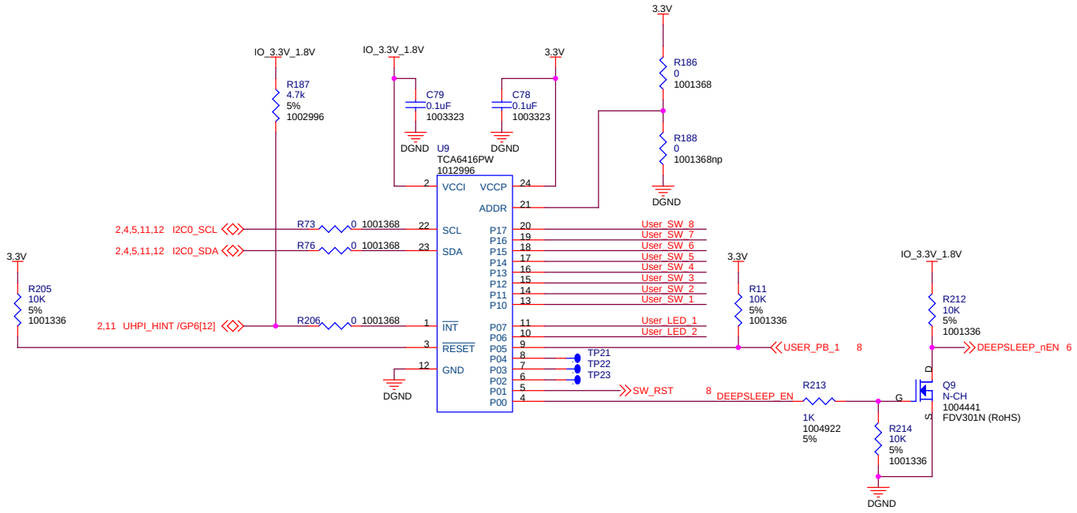
USER DIP SWITCHES

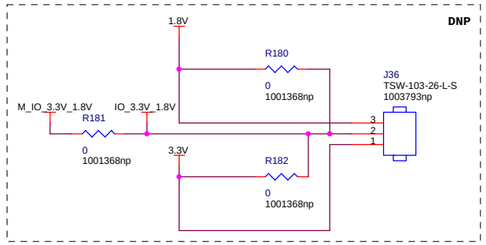


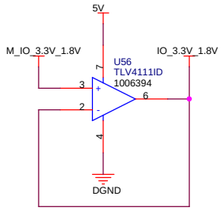
STATUS/USER LEDS

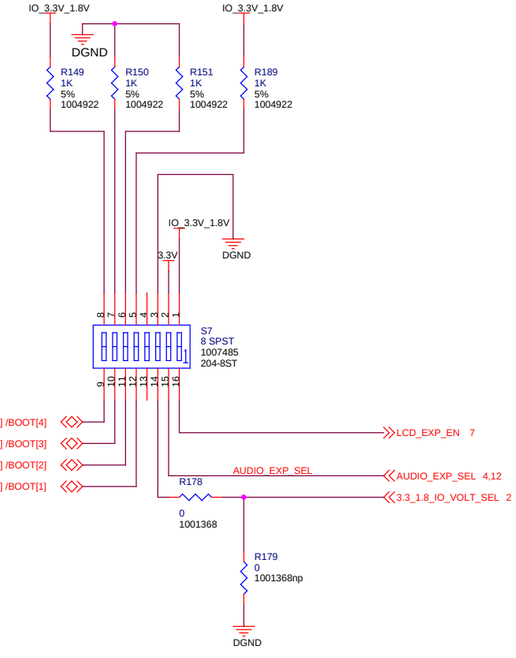


IO EXPANDER









BOOT MODE

BOOT DEVICE OPTIONS

BOOT DEVICE	BOOT BITS[4:1]
NOR EMIFA	0001
NAND-8 EMIFA	0111
SPI0 FLASH	0101
SPI1 FLASH(default)	0110
UART0	1011
UART2	1010
EMULATOR DEBUG	1111

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Revision Control			
Part Number	Rev	Description of Change	Date
1013125	1	Beta Release	06-15-2009
1015171	A	Corrected connection of GND_PACK to U32 Added R216-R221, Q10-Q11 Added SPI1_SCS[0] /EPWM1B /GP2[14] /TM64P3_IN12 to J3.36 Connected AXR15 / EPWM0TZ[0] / ECAP2_APWM2 / GP0[7] to J2.99 and U25.46	03-15-2010
1015171	B	Text updates. No net changes.	04-02-2010
1015653	A	Removed R210 Added J37 and J38 Changed R209 to 10k ohms	04-16-2010
1016572	A	Added U57, U58, C83, R222-R228	08-11-2010
1016572	A_1	Added R229	08-12-2010
1016572	A_2	Added R230, R231, U59	08-12-2010
1016572	B	Changed R132 to np	08-18-2010

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