

VAR-AM35CustomBoard v2.3



CONTENT

PAGE NO.	SCHEMATIC PAGE
1	COVER PAGE
2	Block Diagram
3	SOM DIMM CONNECTOR
4	USB2.0 OTG ,HOST ,HUB
5	LCD, HDMI, TV OUT,LVDS,TOUCH
6	Audio, UART,Ethernet ,SDIO, GPIO
7	Extension connectors
8	Power

Disclaimer:

SchematicS are for reference only.
 Variscite LTD provides no warranty for the use of
 these schematics.
 Schematics are subject to change without notice.

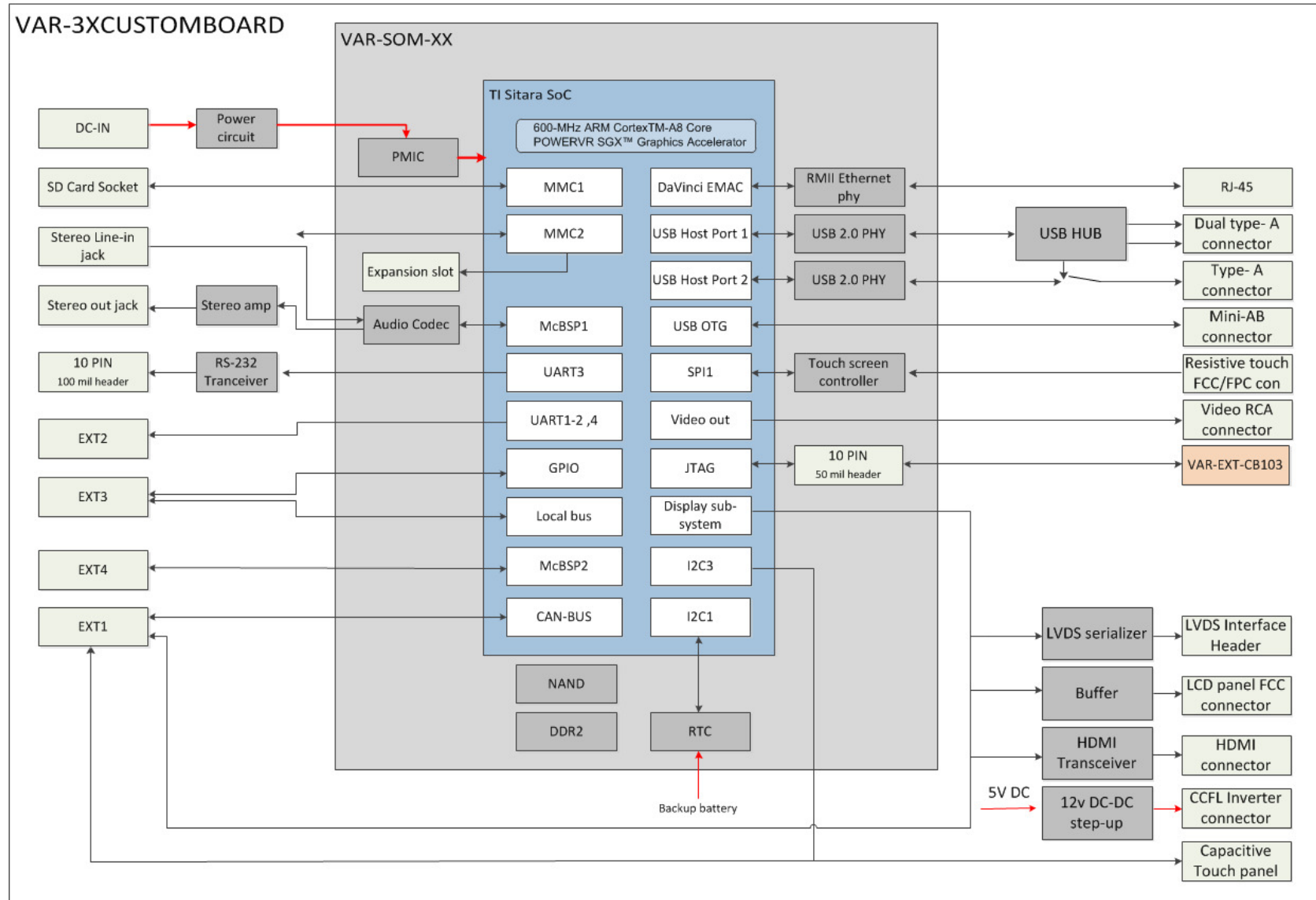
Revision History

Rev 2.0	Added Features: 3 Port USB Composite Video Out VAR-SOM-37xx Support
Rev 2.0 A	VAR-SOM-37xx Assembly
Rev 2.0 B	VAR-SOM-35xx Assembly
Rev 2.1	VAR-SOM-AM35xx Assembly option
Rev 2.1 A	VAR-SOM-37xx Assembly
Rev 2.1 B	VAR-SOM-35xx Assembly
Rev 2.2	Adding GPIO level translator , Line in improvements
Rev 2.2 A	VAR-SOM-37xx Assembly
Rev 2.2 B	VAR-SOM-35xx Assembly
Rev 2.21	SD Card Connector Replace J1.123 switched with J1.121 (USBHOST2_DM /USBHOST2_DP)
Rev 2.3	Extension connectors part number change J1.158 changed to GPIO64



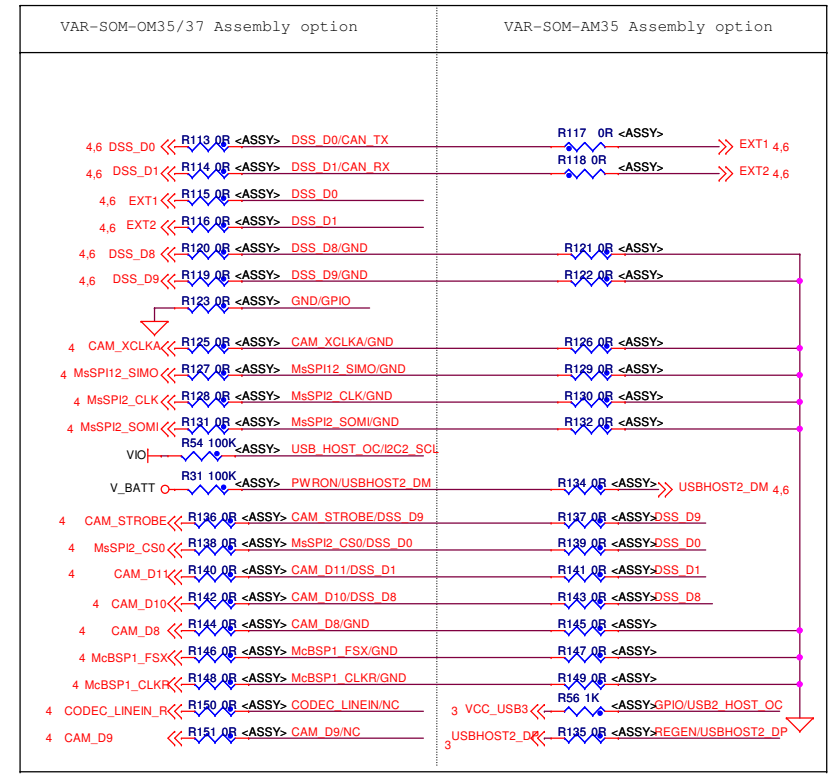
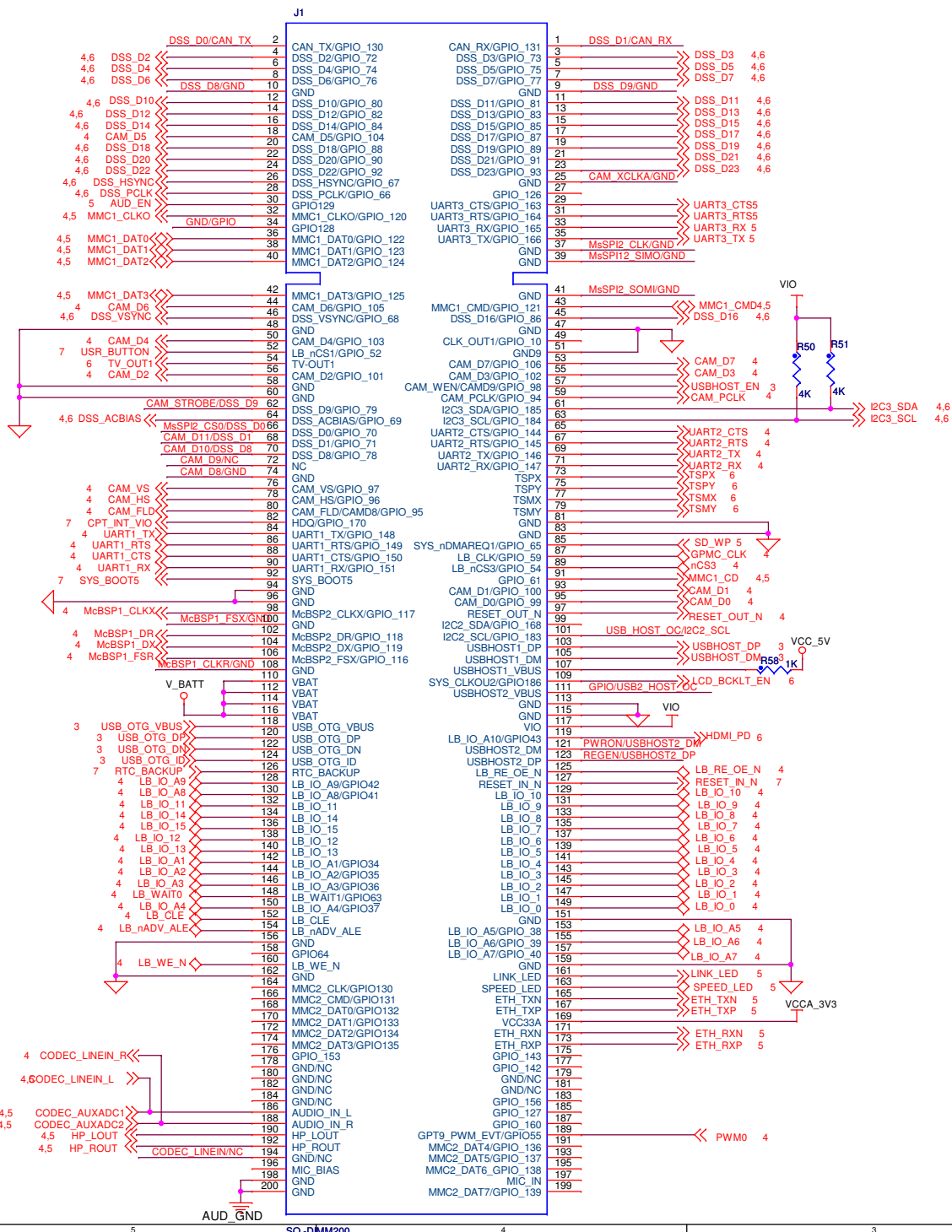
Title 1. Cover			
Size A3	Document Number VAR-AM35CustomBoard v2.21	Project VAR-AM35CustomBoard	Rev 2.3
Designer: Date:	<Designer> Thursday, August 18, 2011	Approved By: Sheet	<Approved By> 1 of 8

02 - Block Diagram



Title 2. Block Diagram			
Size A3	Document Number VAR-AM35CustomBoard v2.21	Project VAR-AM35CustomBoard	Rev 2.3
Designer: Date:	<Designer> Thursday, August 18, 2011	Approved By: Sheet	<Approved By> 2 of 8

03 - VAR-SOM-AM35 Connector



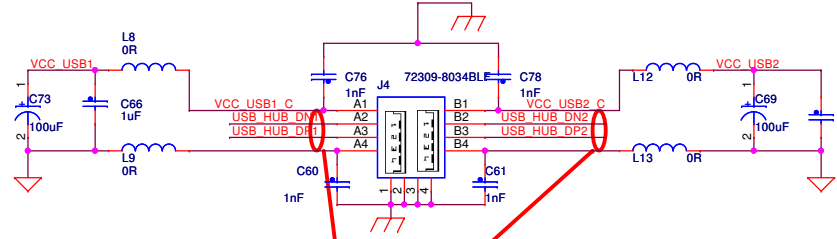
Variscite

Title: 03 - VAR-SOM-AM35 Connector

Size: A3	Document Number: VAR-AM35CustomBoard v2.21	Project: VAR-AM35CustomBoard	Rev: 2.3
Designer: <Designer>	Approved By: <Approved By>		
Date: Thursday, August 18, 2011	Sheet: 3	of 8	

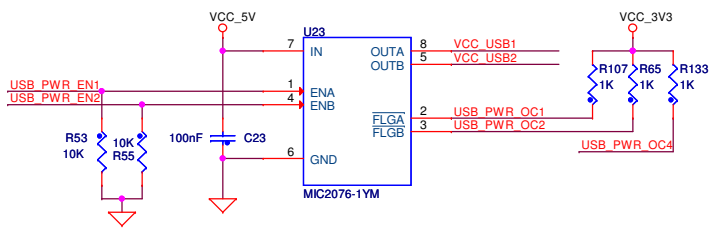
4. USB2.0 OTG ,HOST , HUB

USB PORT 1-2 : 2 x USB 2.0 Host - Dual Type A

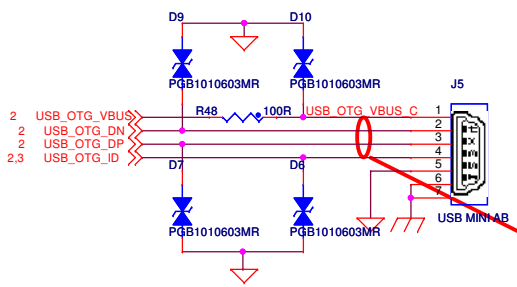


LAYOUT NOTE:
 USB 2.0 Differential Pair, annotated with a ring around the pair. Follow USB 2.0 routing guidelines.
 Length Match: +/- 100 mils
 Differential Impedance: 90 ohms

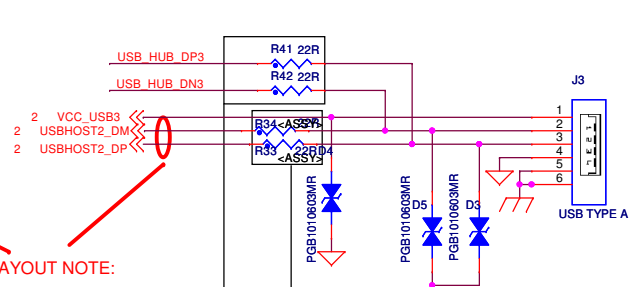
Power Distribution



USB 2.0 OTG



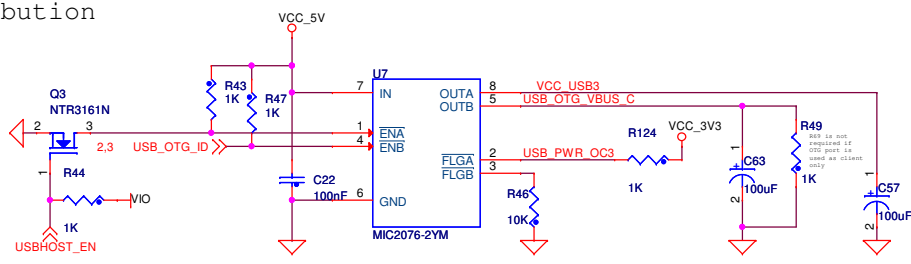
USB 2.0 PORT 3



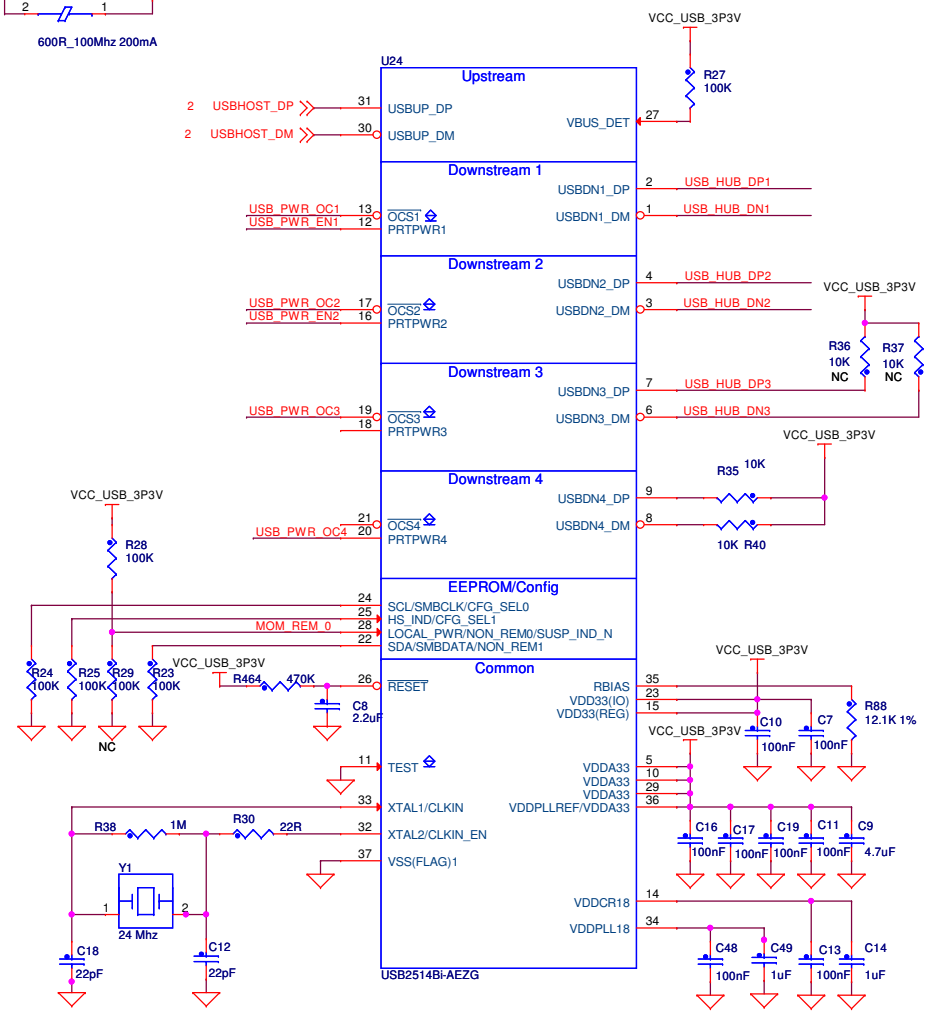
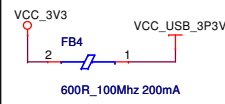
LAYOUT NOTE:
 USB 2.0 Differential Pair, annotated with a ring around the pair. Follow USB 2.0 routing guidelines.
 Length Match: +/- 100 mils
 Differential Impedance: 90 ohms

Assembly option:
 AM35xx dedicated USB HOST
 DM3730 USB hub port 3

Power Distribution



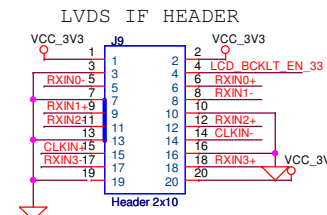
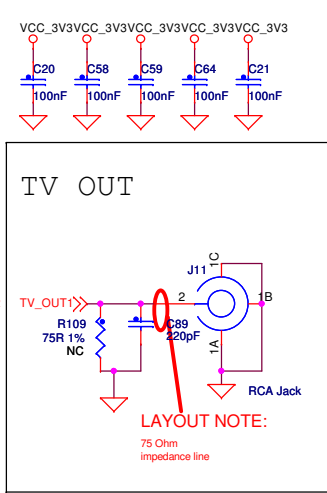
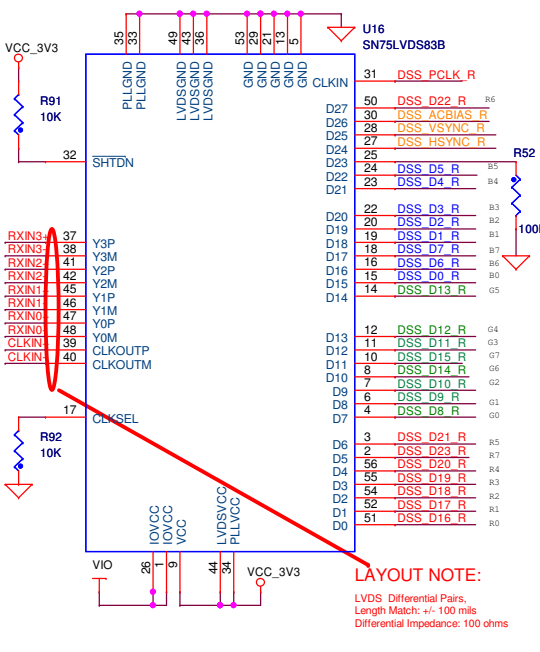
USB 2.0 HUB



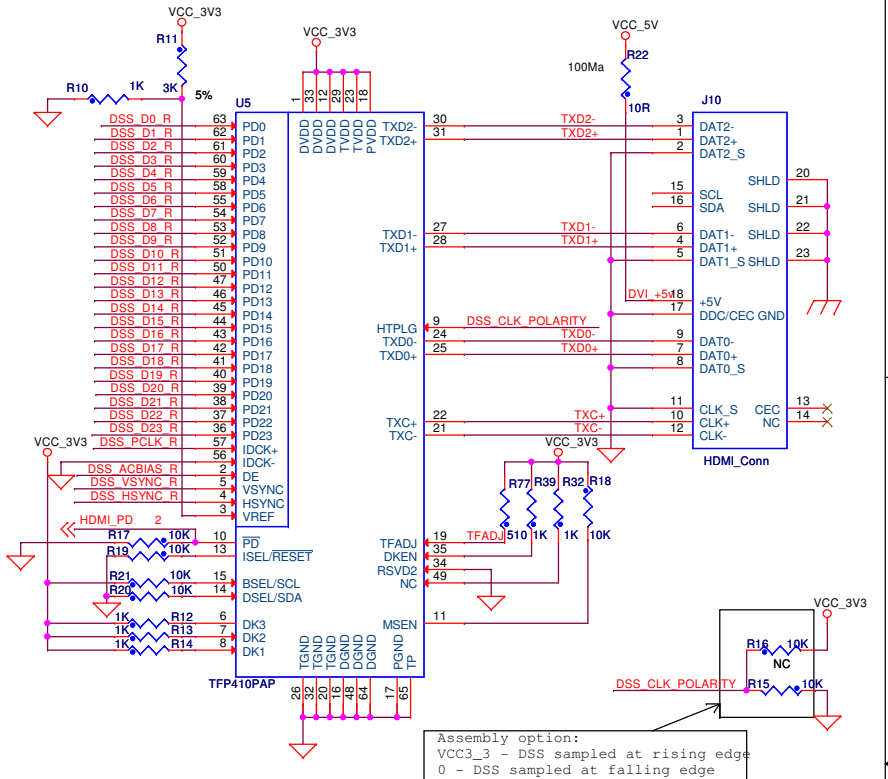
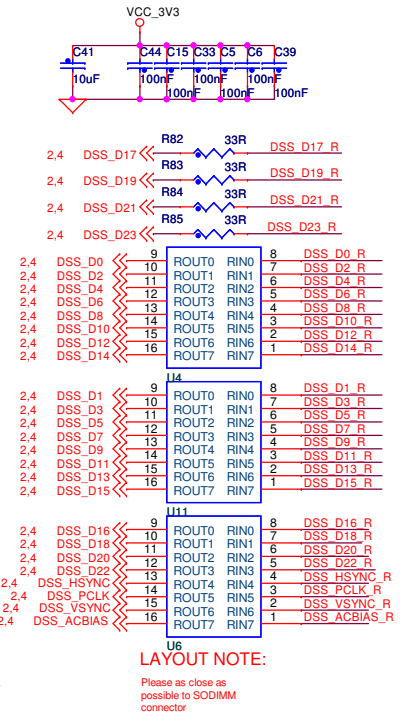
4. USB2.0 OTG ,HOST ,HUB			
Size A3	Document Number VAR-AM35CustomBoard v2.21	Project VAR-AM35CustomBoard	Rev 2.3
Designer: <Designer>		Approved By: <Approved By>	
Date: Thursday, August 18, 2011		Sheet 4 of 8	

5. LCD, HDMI, TV OUT, LVDS, TOUCH

24BIT LVDS serializer

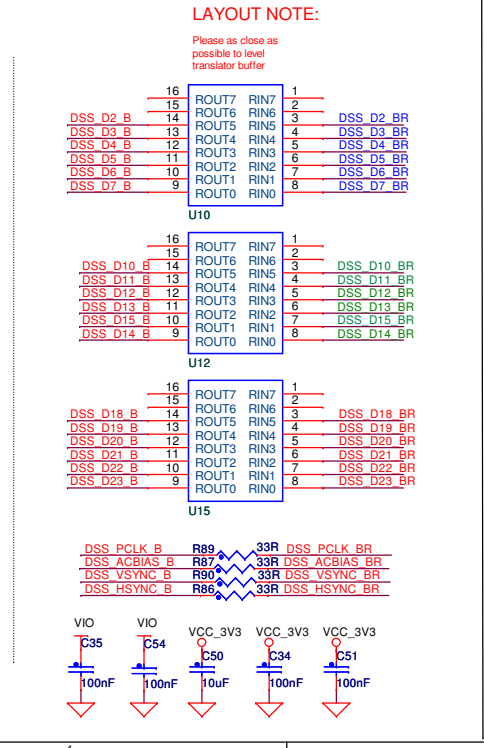
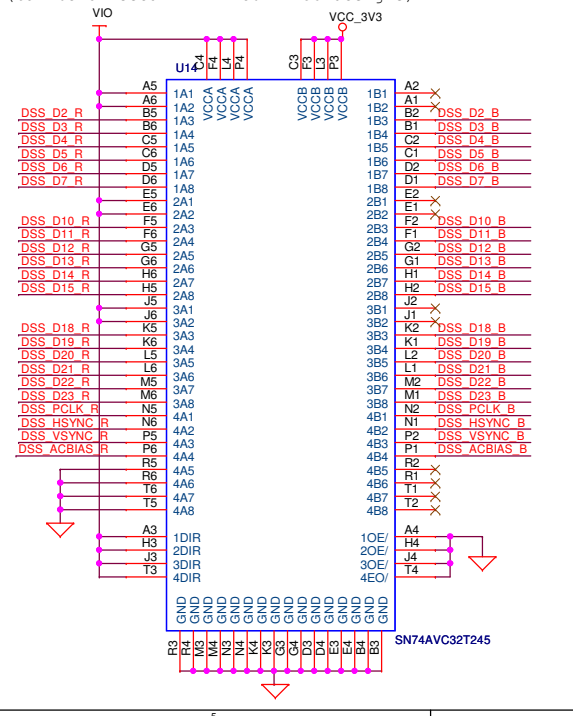


HDMI IF

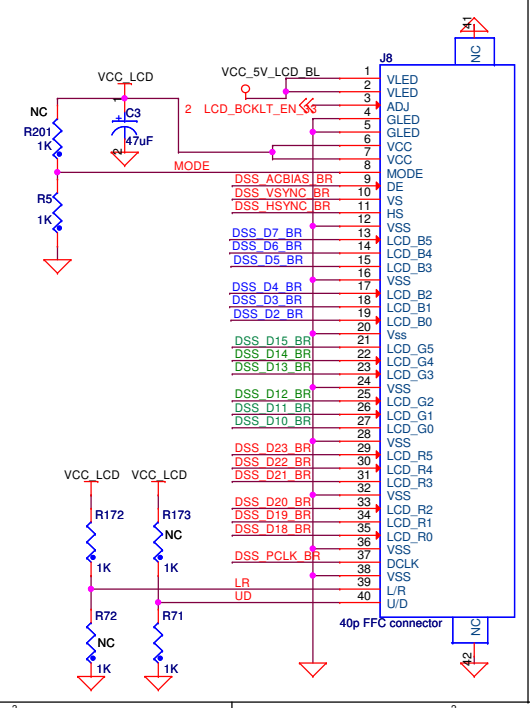


VIO --> 3.3V Level Translator

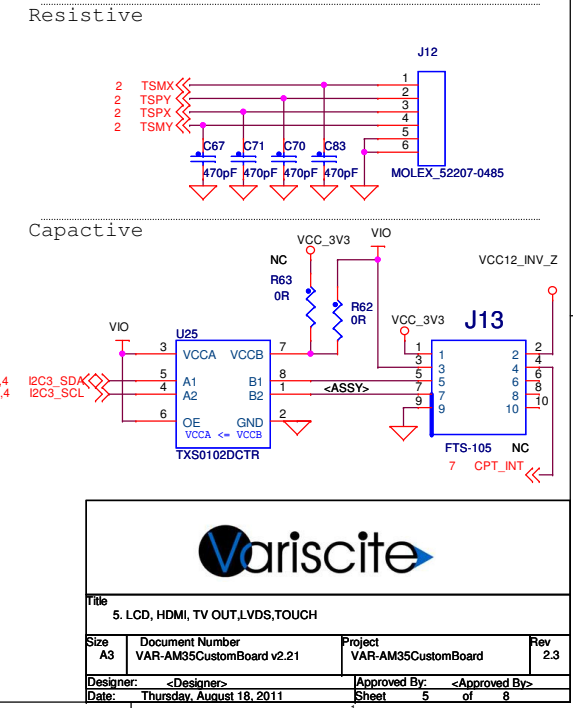
(Can be omitted in VAR-SOM-AM35 designs)



Parallel BUS FCC Connector



Touch Panel



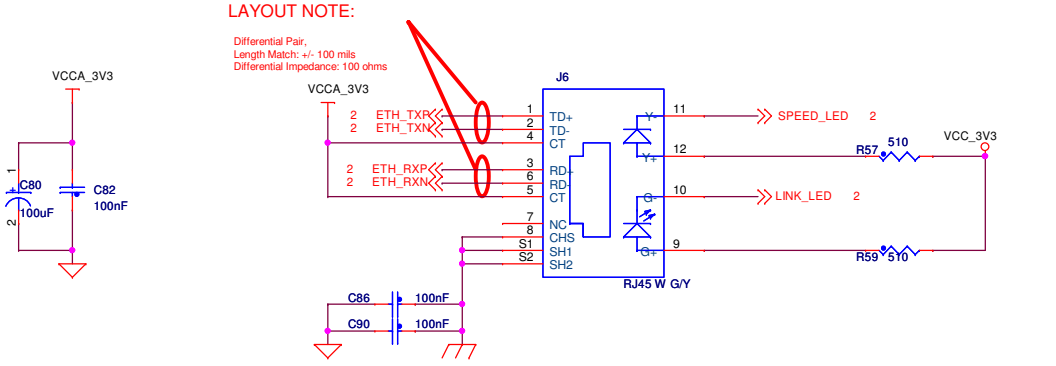
Variscite

File: 5. LCD, HDMI, TV OUT, LVDS, TOUCH

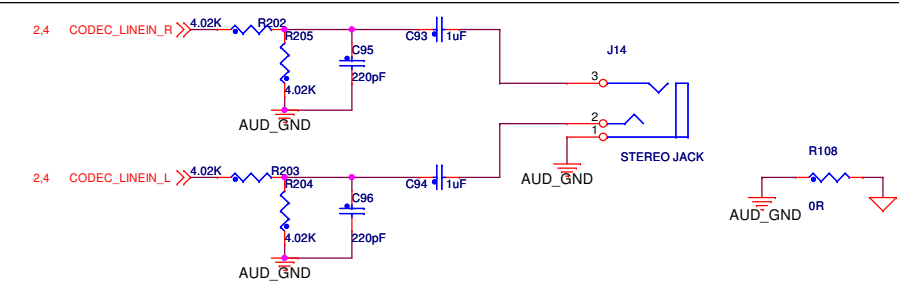
Size: A3	Document Number: VAR-AM35CustomBoard v2.21	Project: VAR-AM35CustomBoard	Rev: 2.3
Designer: <Designer>	Approved By: <Approved By>		Sheet: 5 of 8
Date: Thursday, August 18, 2011			

6. Audio / UART / Ethernet / SDIO / GPIO

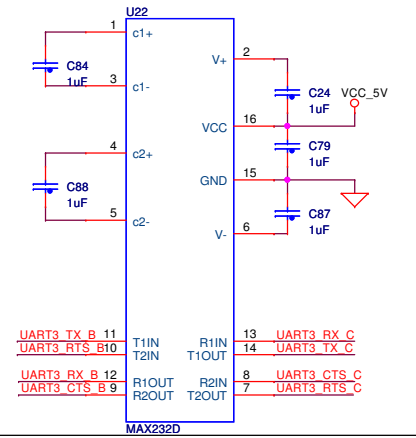
Ethernet



AUDIO IN

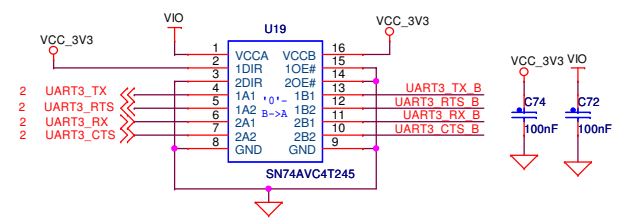


RS-232 TRX

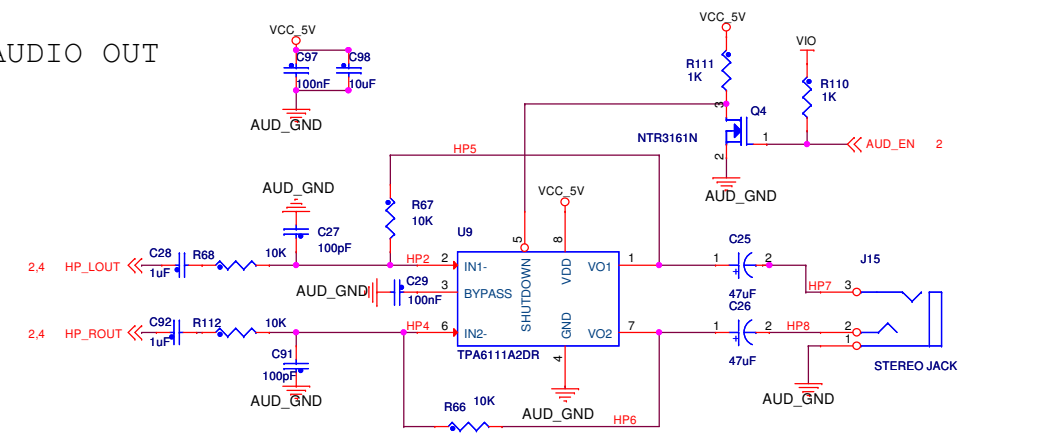


VIO --> 3.3V Level Translator

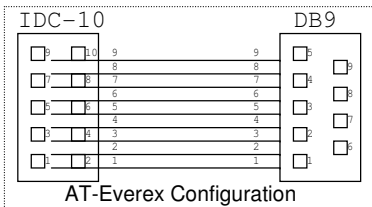
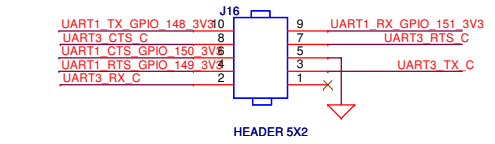
(Can be omitted in VAR-SOM-AM35 designs)



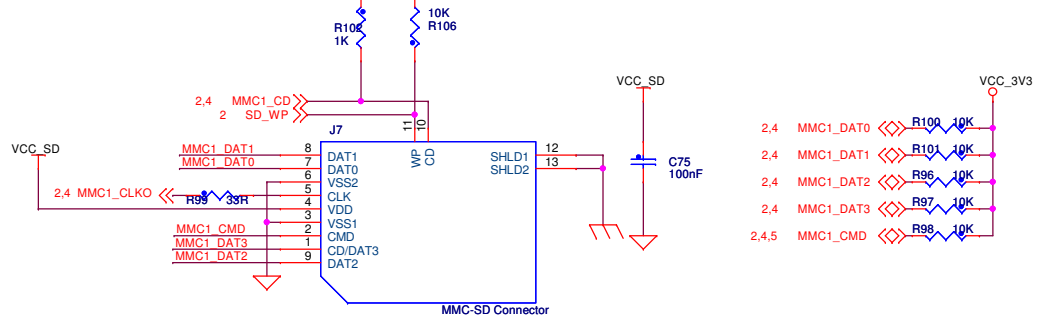
AUDIO OUT



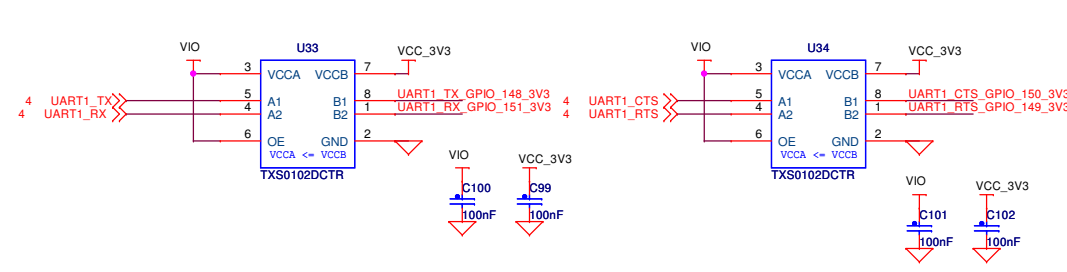
Debug Connector



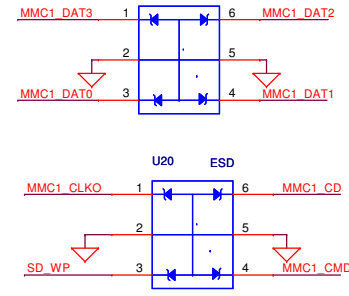
SD-Card



GPIO/UART1 VIO <--> 3.3V Level Translator



SD / MMC ESD protection

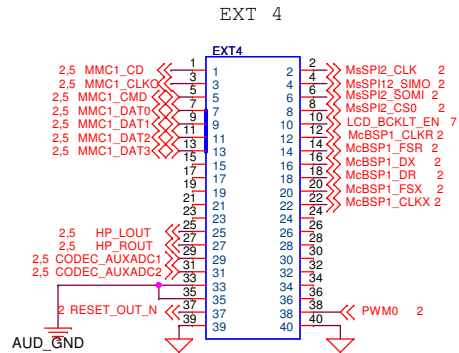
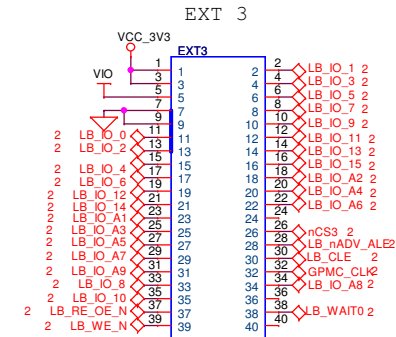
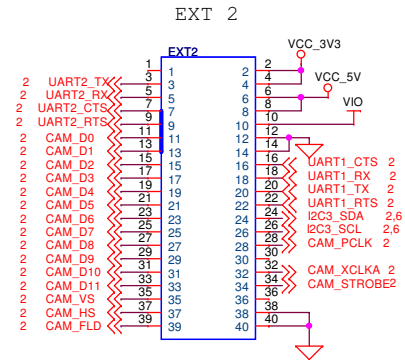
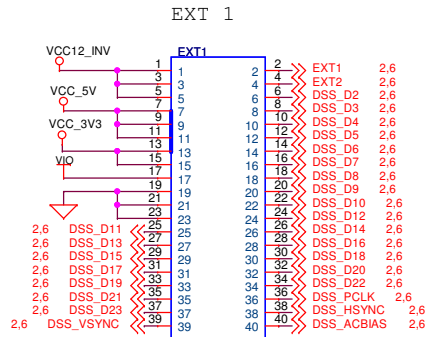



Variscite

Title 6. Audio, UART, Ethernet, SDIO / GPIO			
Size A3	Document Number VAR-AM35CustomBoard v2.2	Project VAR-AM35CustomBoard	Rev 2.3
Designer: Date: Thursday, August 18, 2011		Approved By: Sheet 6 of 8	

07 - Extension Connectors

Mechanics

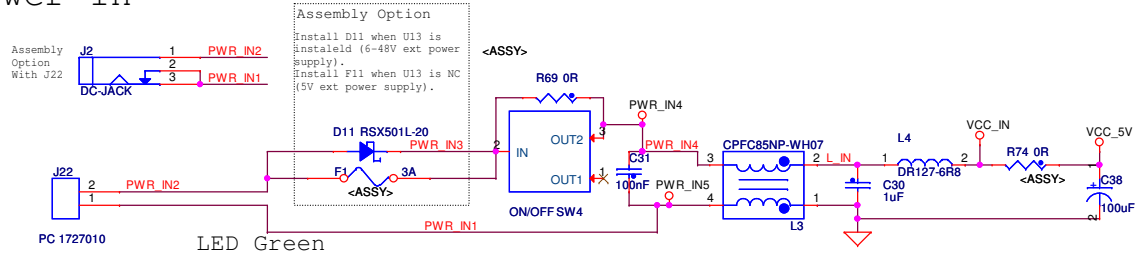




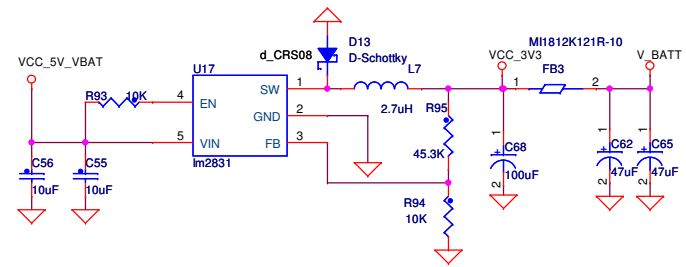
Title: 7 - Extension Connectors			
Size: A3	Document Number: VAR-AM35CustomBoard v2.21	Project: VAR-AM35CustomBoard	Rev: 2.3
Designer: <Designer>	Approved By: <Approved By>		Date: Thursday, August 18, 2011
Sheet: 7		of 8	

8. Power

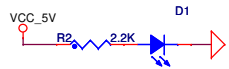
Power In



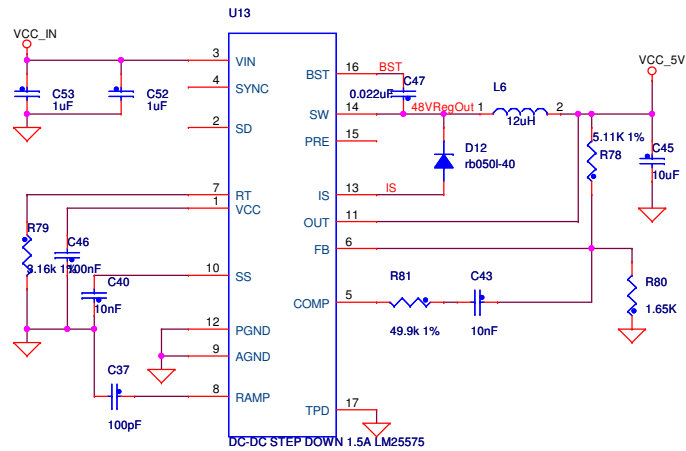
3.3v regulator



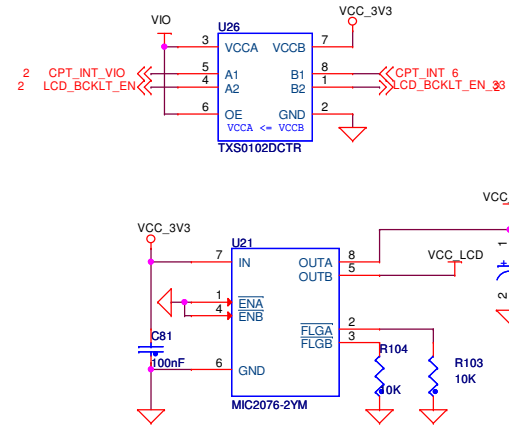
Main Power LED



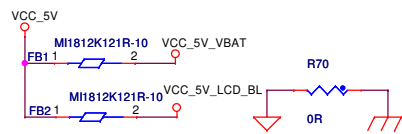
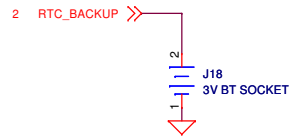
6-48v input regulator



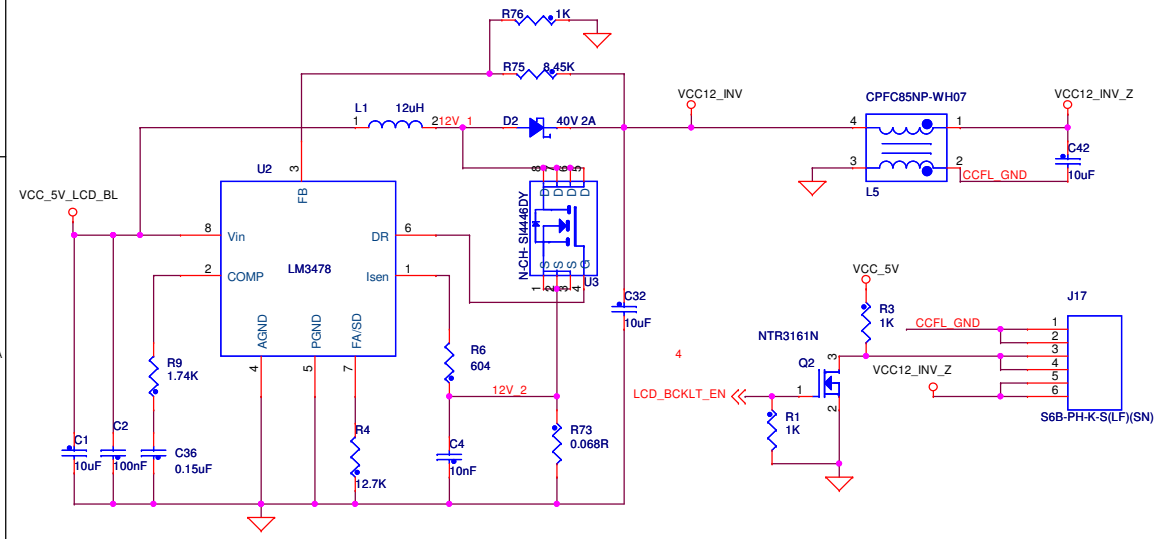
SD card & LCD power supply



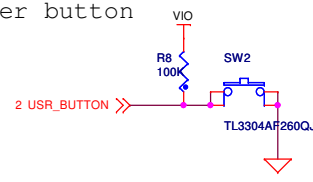
RTC Backup Battery



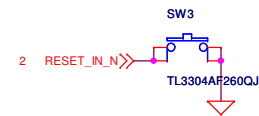
0.5A 12V Regulator for CCFL inverter



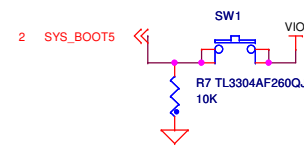
User button



Hard - Reset button



Sys-boot select button



Title 8. Power			
Size A3	Document Number VAR-AM35CustomBoard v2.21	Project VAR-AM35CustomBoard	Rev 2.3
Designer: Date: Thursday, August 18, 2011		Approved By: Sheet 8 of 8	