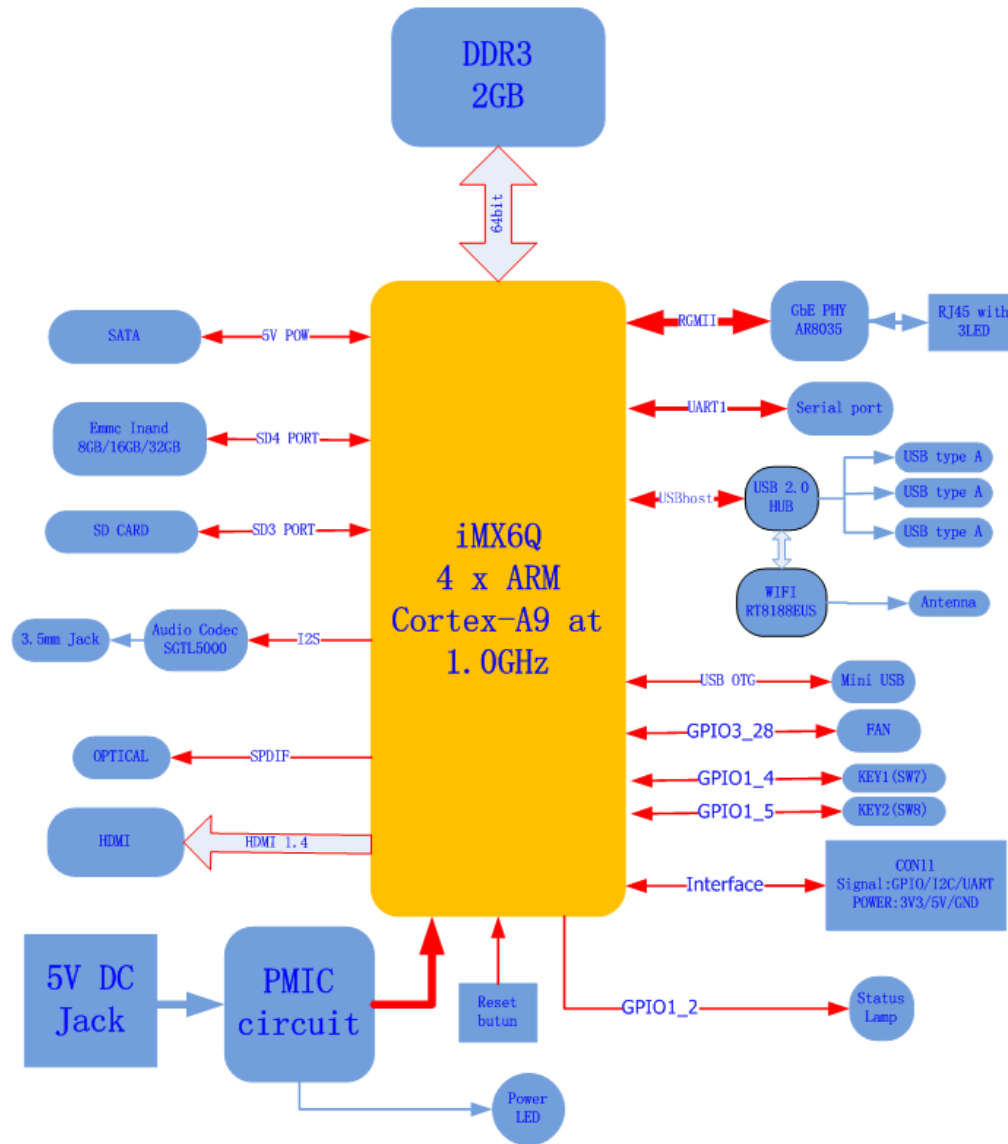
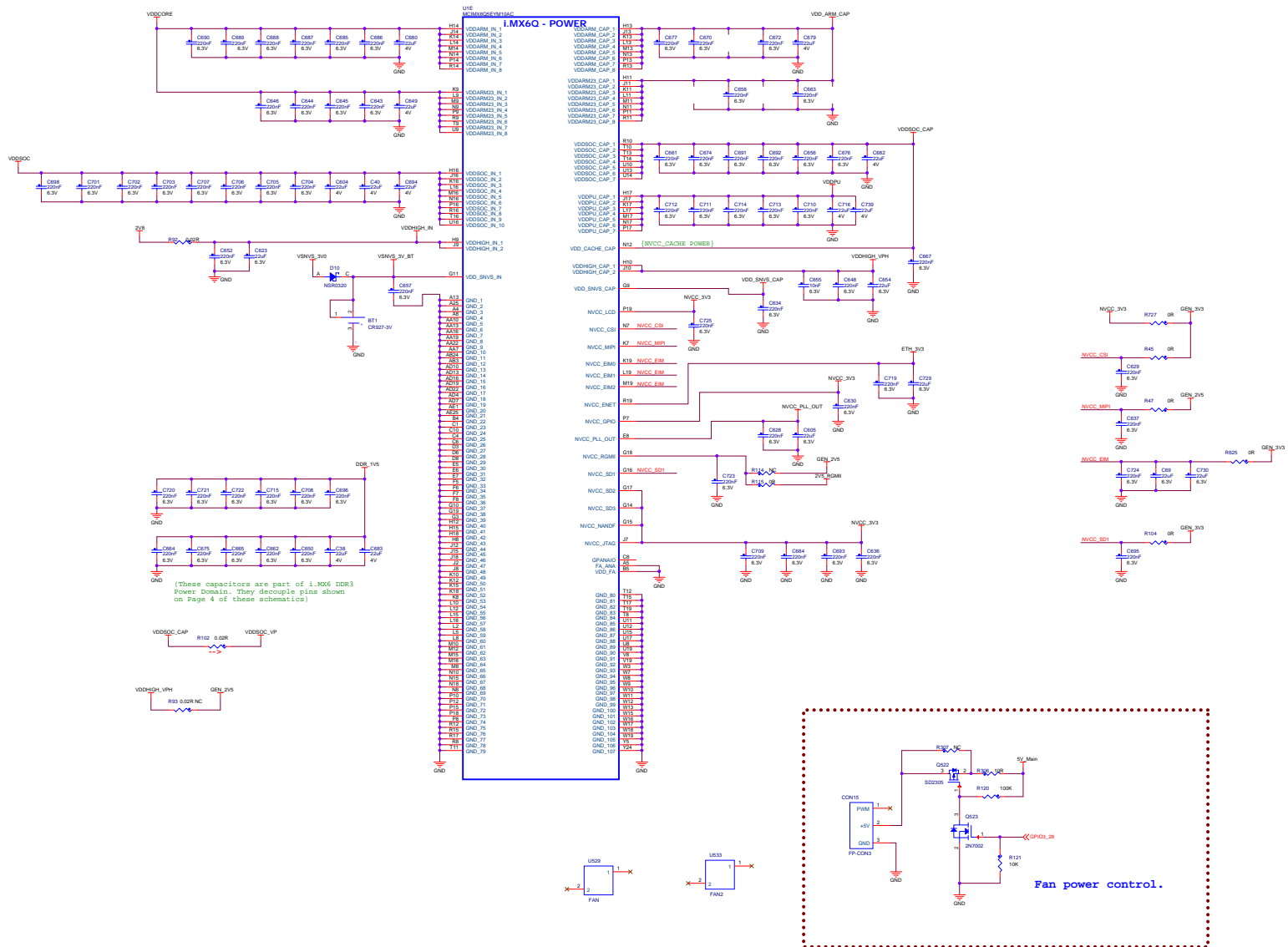


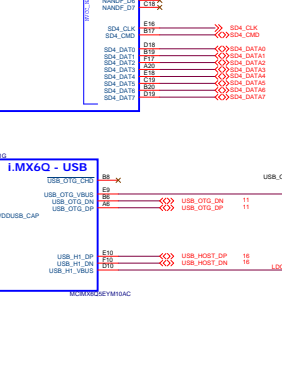
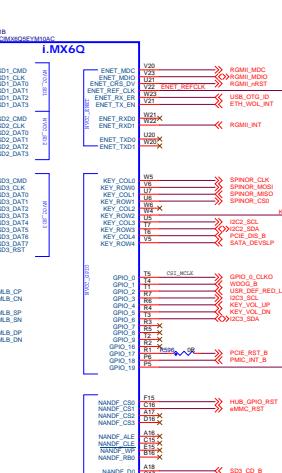
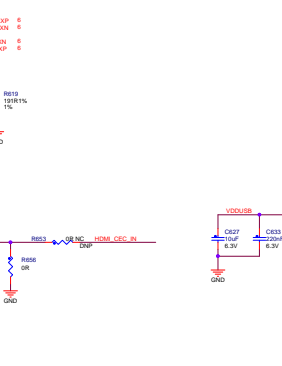
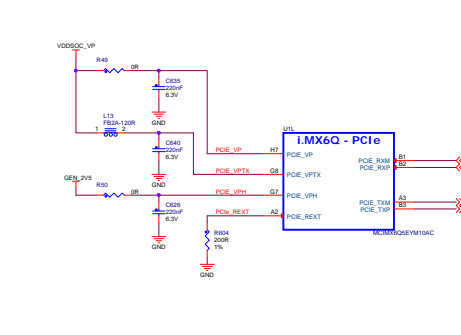
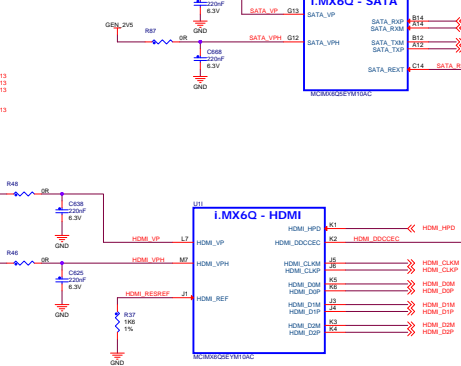
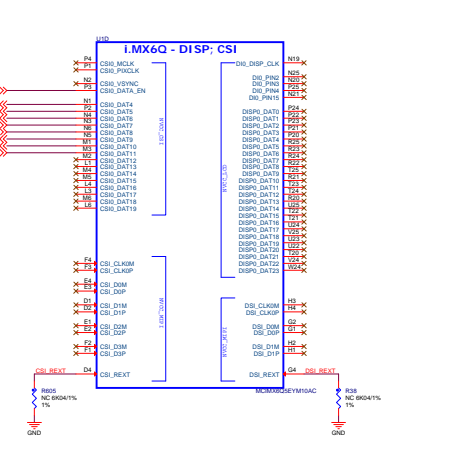
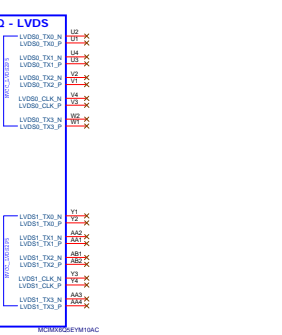
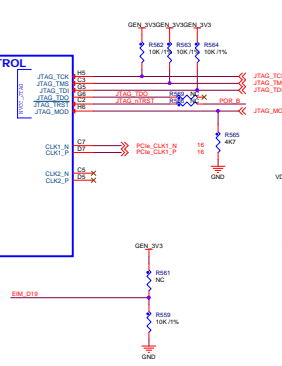
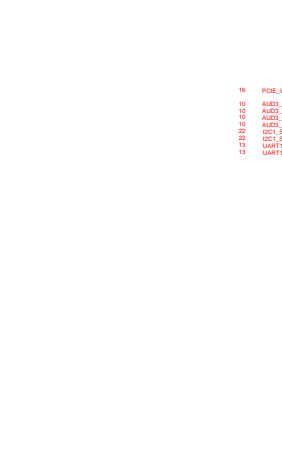
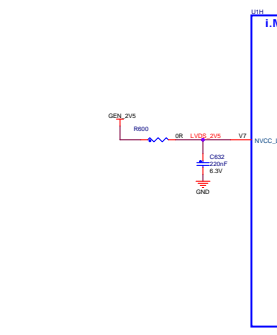
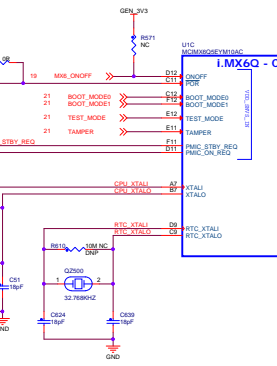
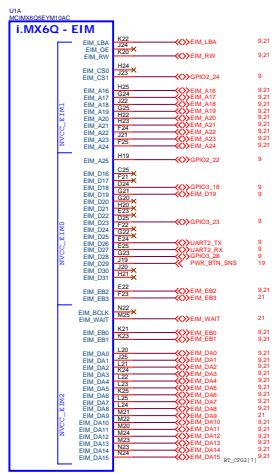
# Matrxi ARM mini PC (TBS2910)



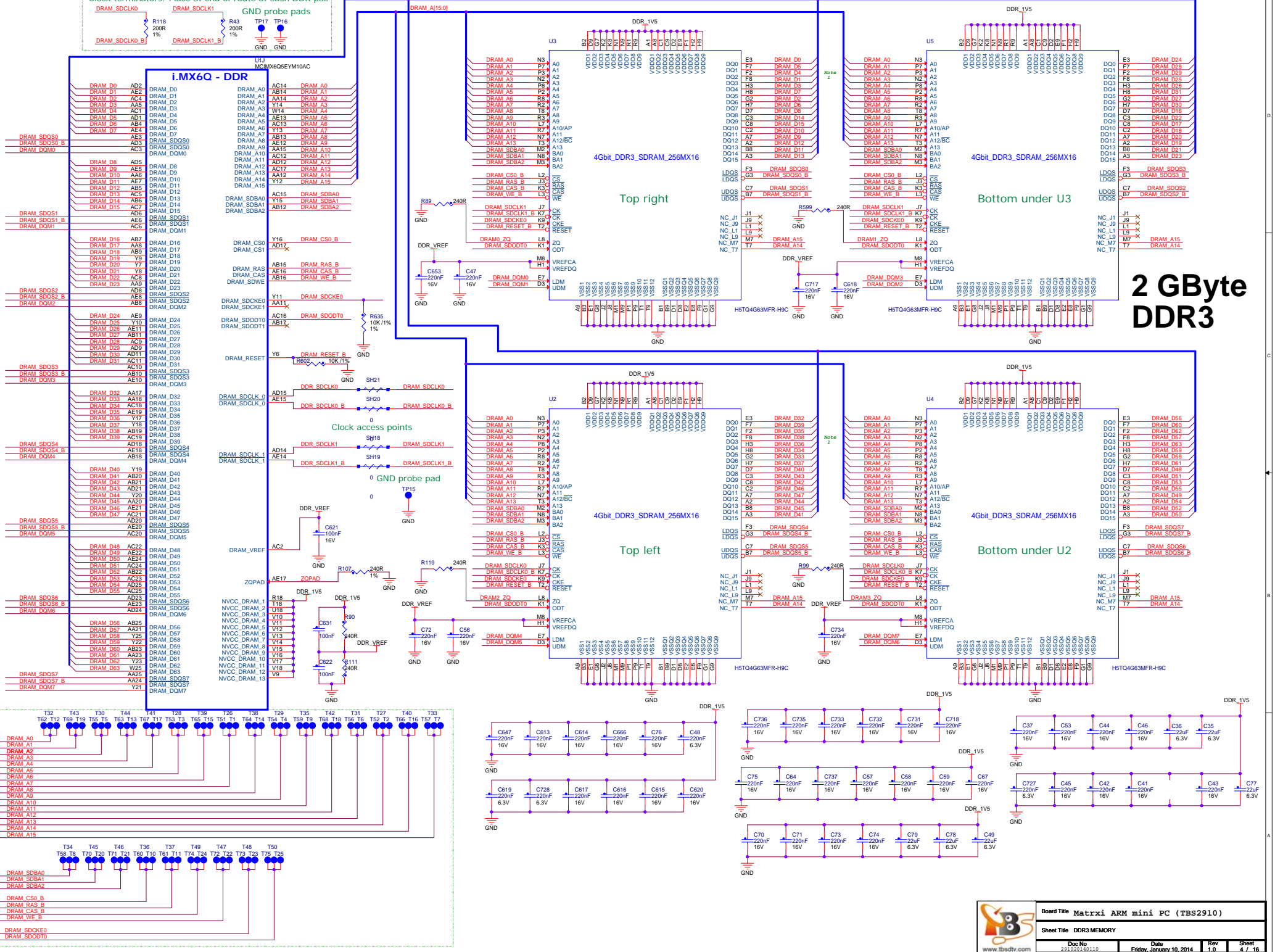
Board Title <b>Matrxi ARM mini PC (TBS2910)</b>			
Sheet Title <b>Updated instructions</b>			
Doc No 291020140110	Date Friday, January 10, 2014	Rev 1.0	Sheet / 16



(These capacitors are part of i.MX6 DDR3 Power Domain. They decouple pins shown on Page 4 of these schematics)

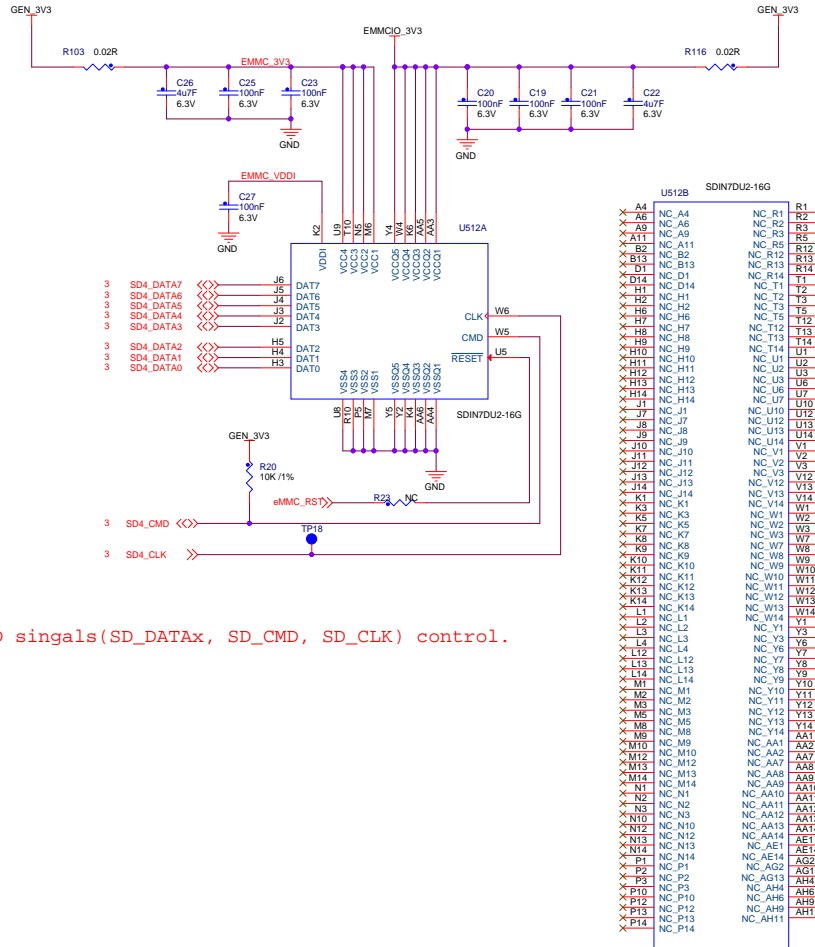


Clock terminators: Place at end of route at each DDR pair



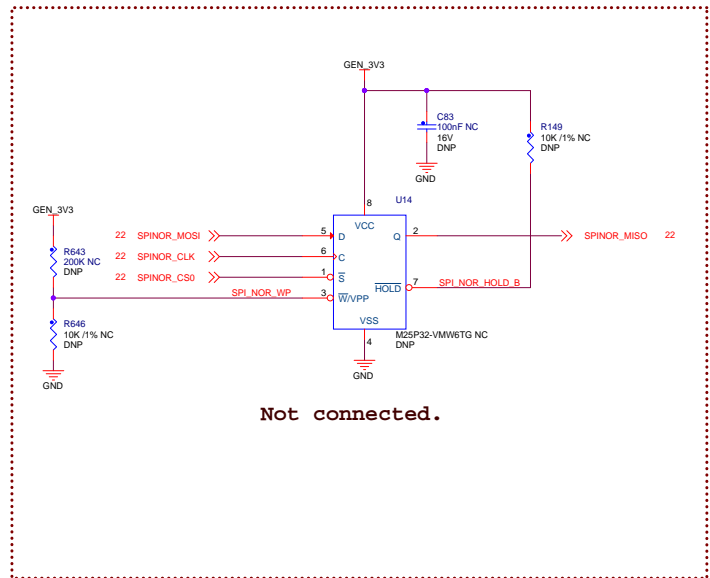
# 2 GByte DDR3

# 16GB eMMC MEMORY



Layout:  
50ohm, SD singals(SD\_DATAx, SD\_CMD, SD\_CLK) control.

# 4MB SPI NOR FLASH



Not connected.

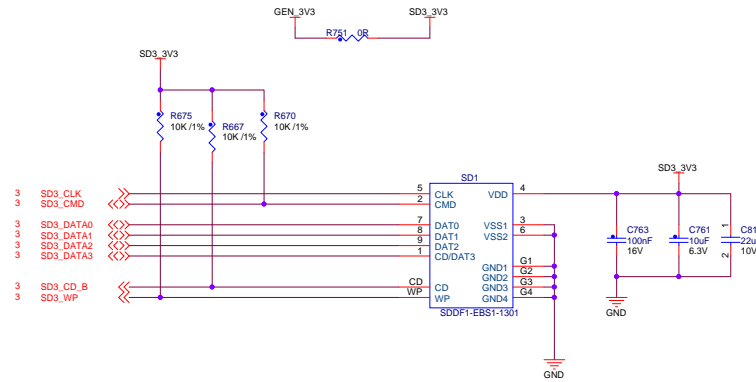


Board Title Matrxii ARM mini PC (TBS2910)

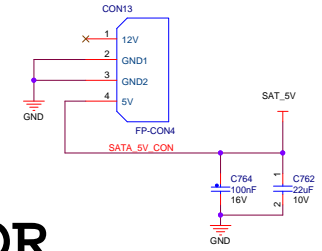
Sheet Title eMMC SPI

Doc No 291020140110 Date Friday, January 10, 2014 Rev 1.0 Sheet 5 / 16

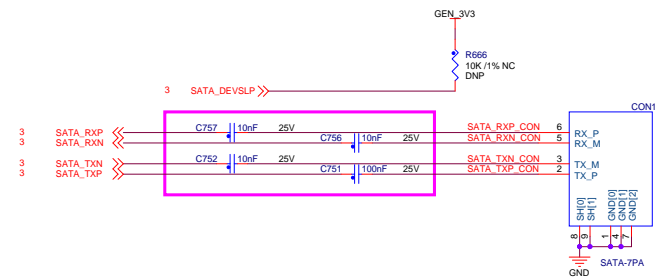
# SD CARD SOCKET



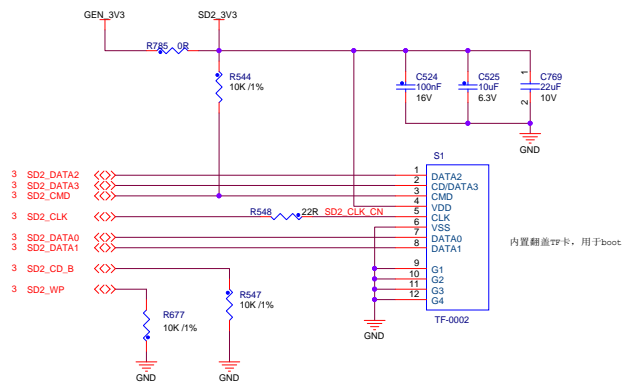
# SATA POWER



# SATA CONNECTOR

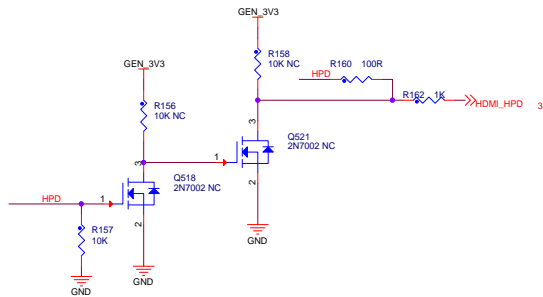
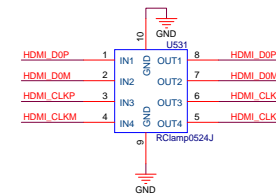
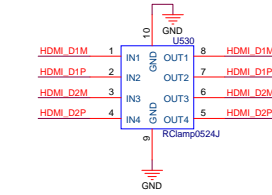
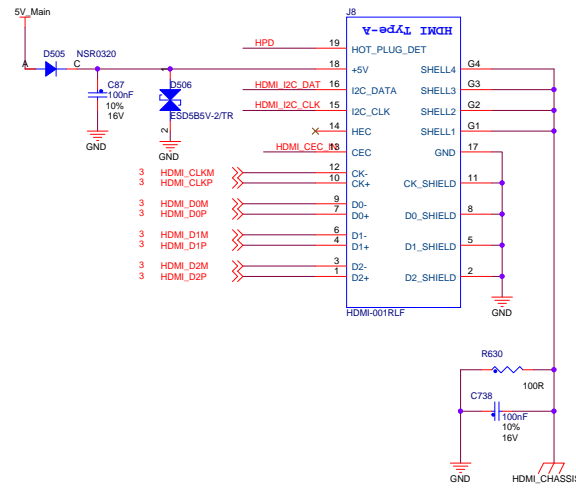
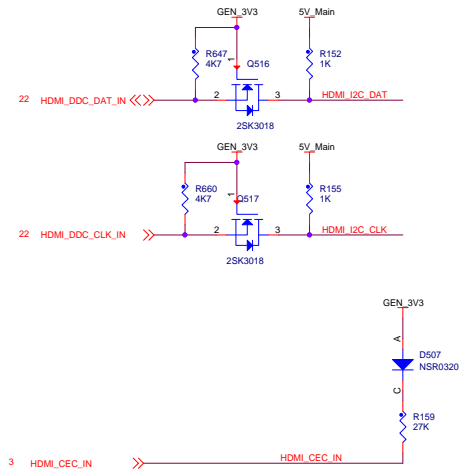


**TF CARD SOCKET**  
Place on bottom layer.

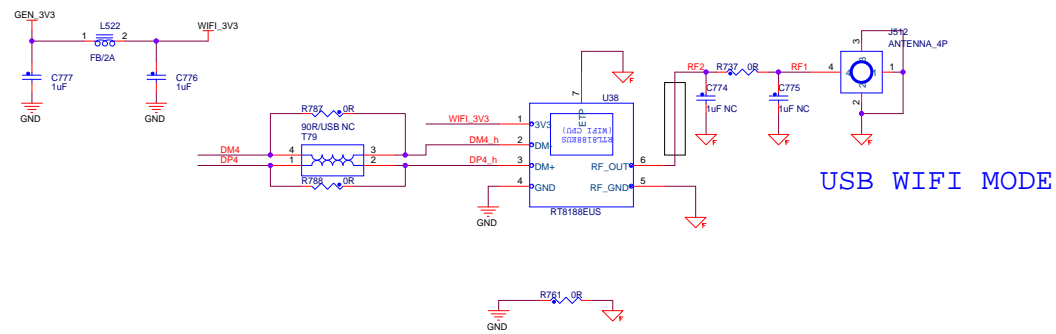
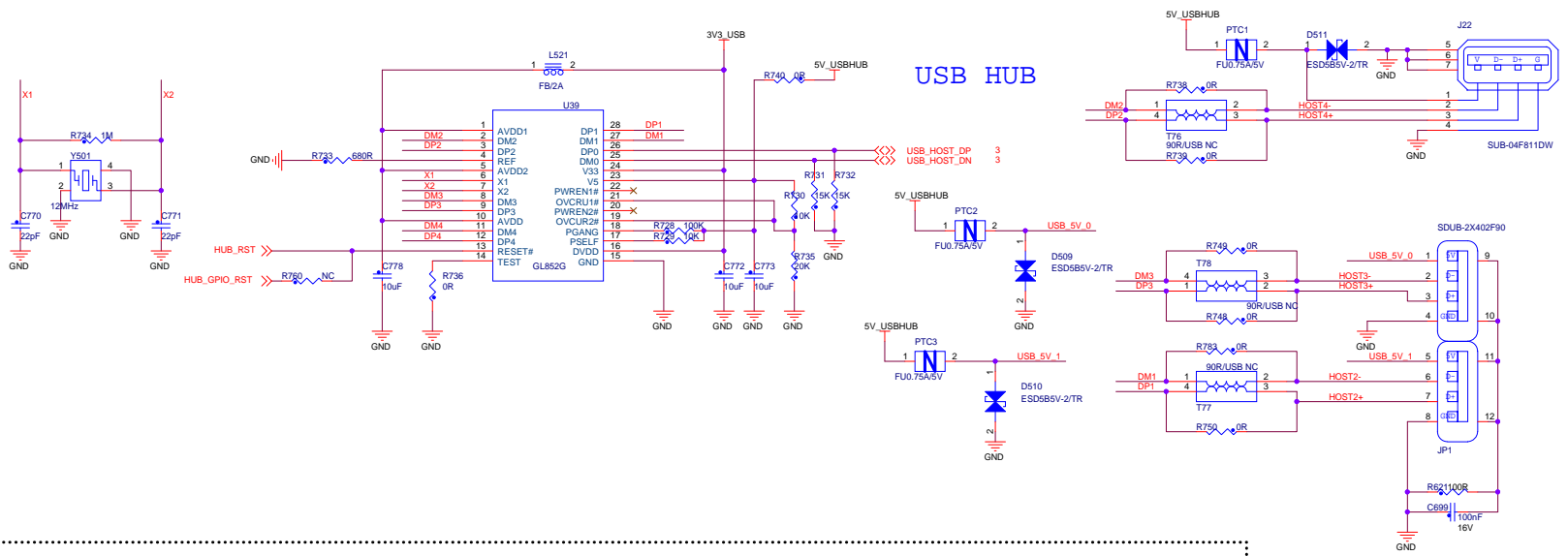
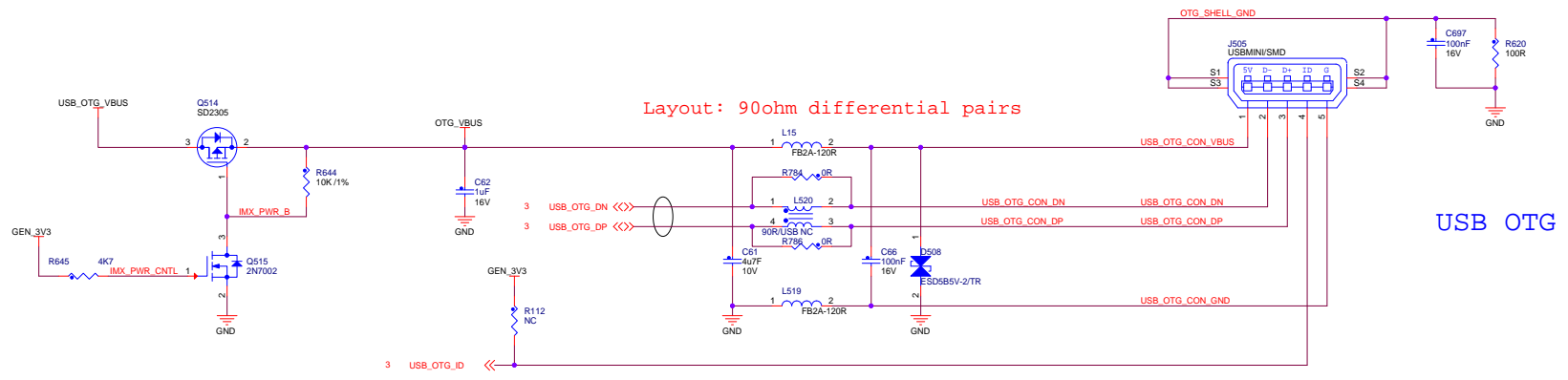


Board Title	Matrxi ARM mini PC (TBS2910)		
Sheet Title	SD TF SATA		
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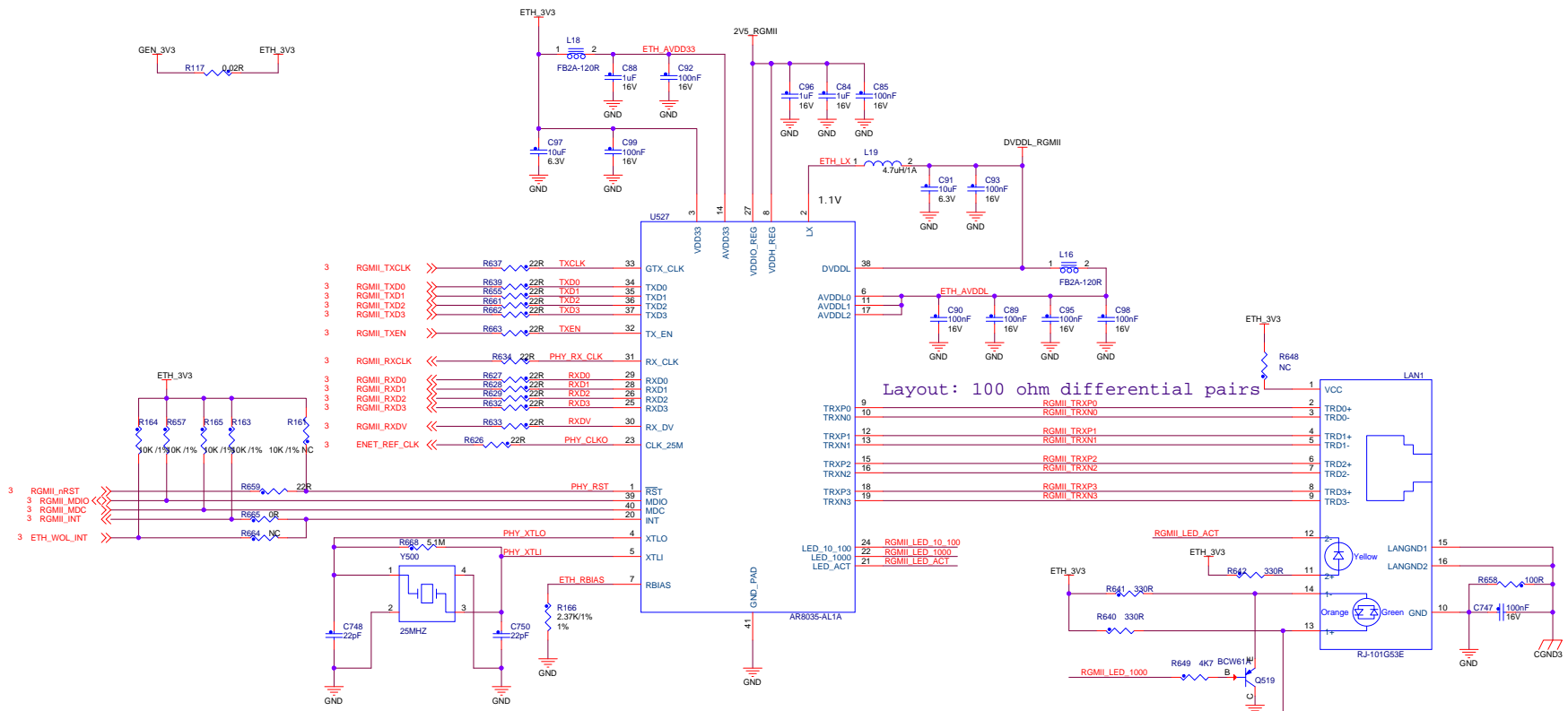
# HDMI



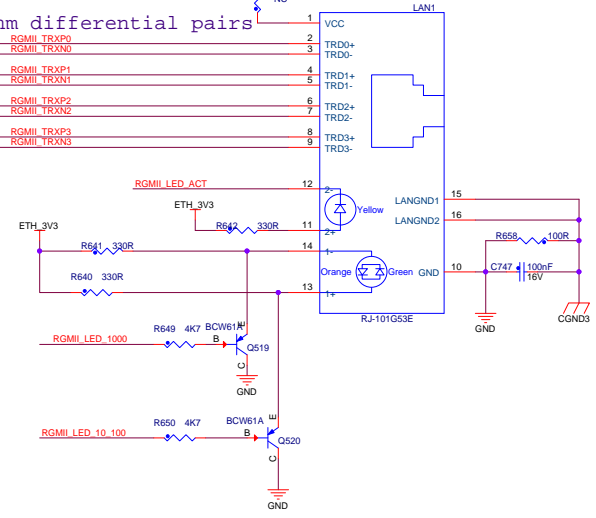
Board Title	Matrxii ARM mini PC (TBS2910)		
Sheet Title	HDMI		
Doc No	291020140110	Date	Friday, January 10, 2014
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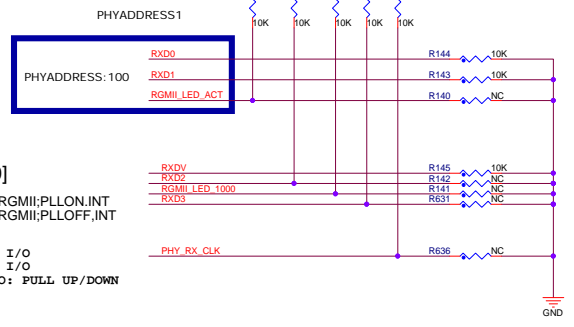




Layout: 100 ohm differential pairs



**Power-on Strapping Pins**



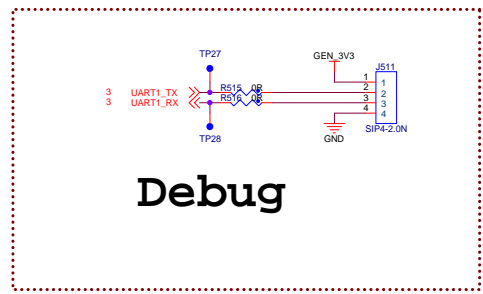
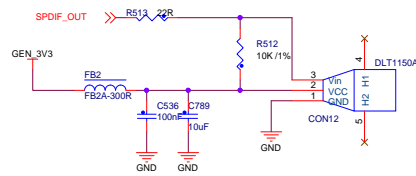
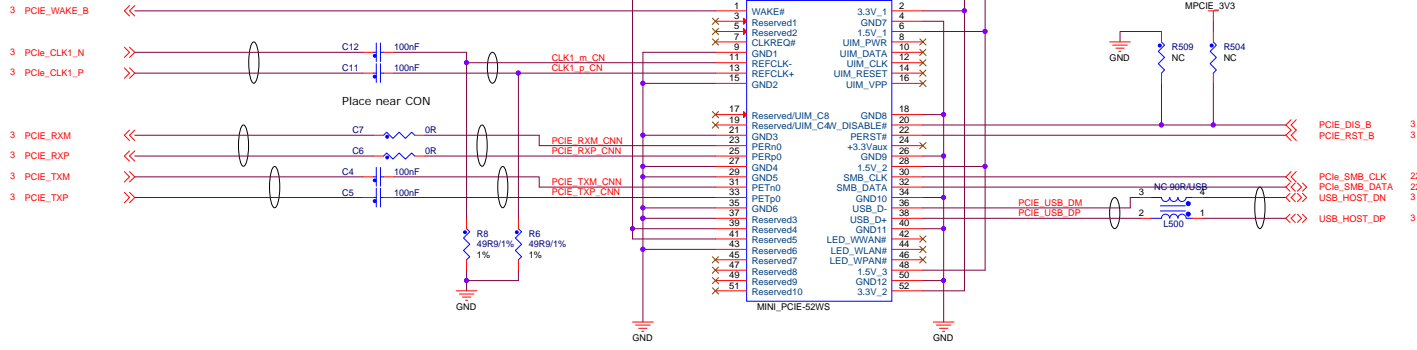
MODE[3:0]  
 1110 BaseT, RGMII; PLLON, INT  
 1100 BaseT, RGMII; PLLOFF, INT  
 0 : 1.5V I/O  
 1 : 1.8V I/O  
 2.5V I/O: PULL UP/DOWN



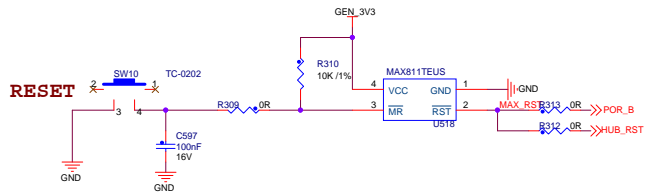
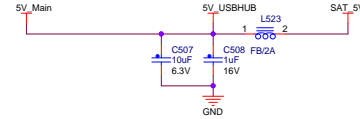
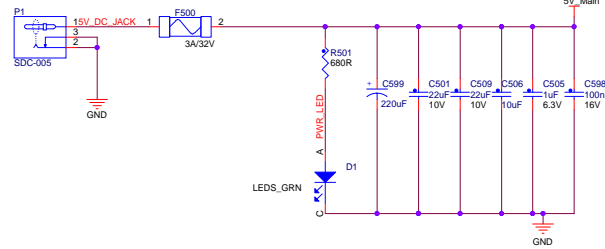
# Mini-PCIE



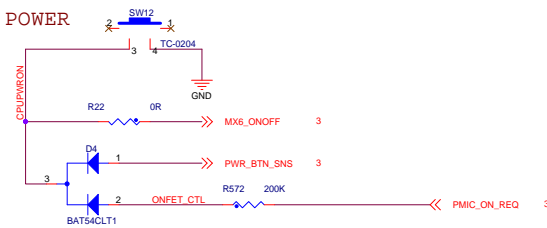
Layout: 100 ohm differential pairs



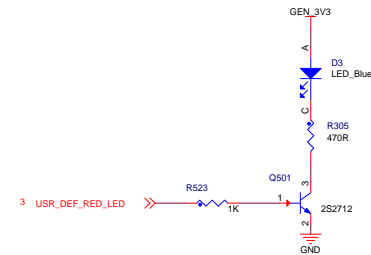
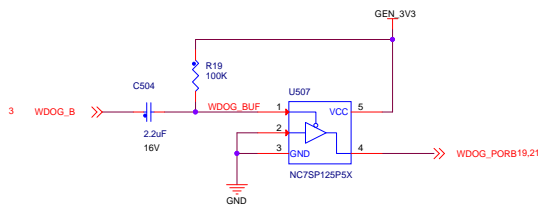
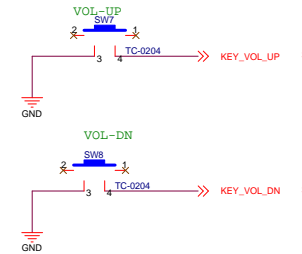
**External Power  
5 Vdc**



**POWER**



**U/I KEY**

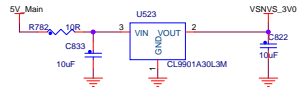


Board Title **Matrxi ARM mini PC (TBS2910)**

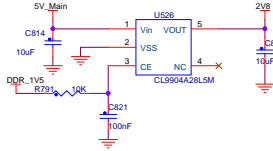
Sheet Title **POWER INPUT**

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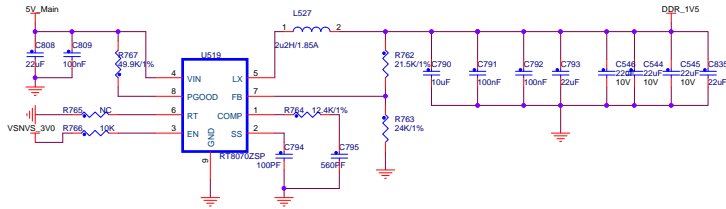
# VDD\_SNVS



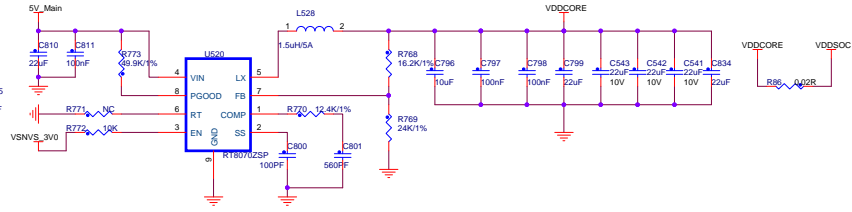
# VDDHIGH\_IN 2.8V



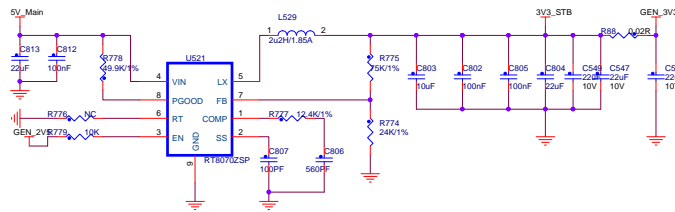
# DDR POWER



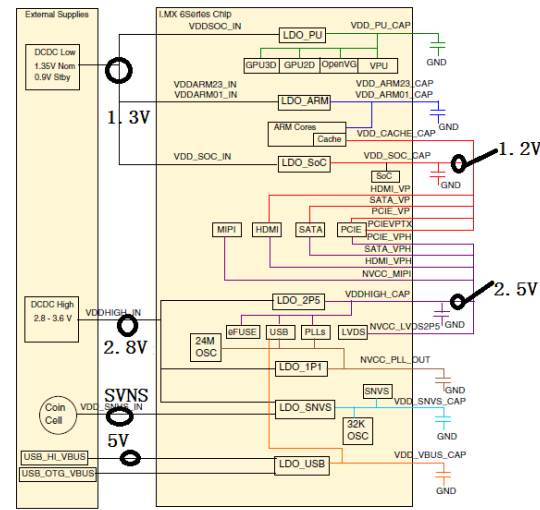
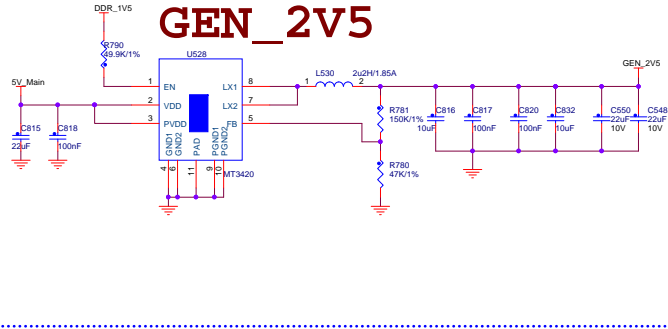
# VCORE 1.2--1.3V



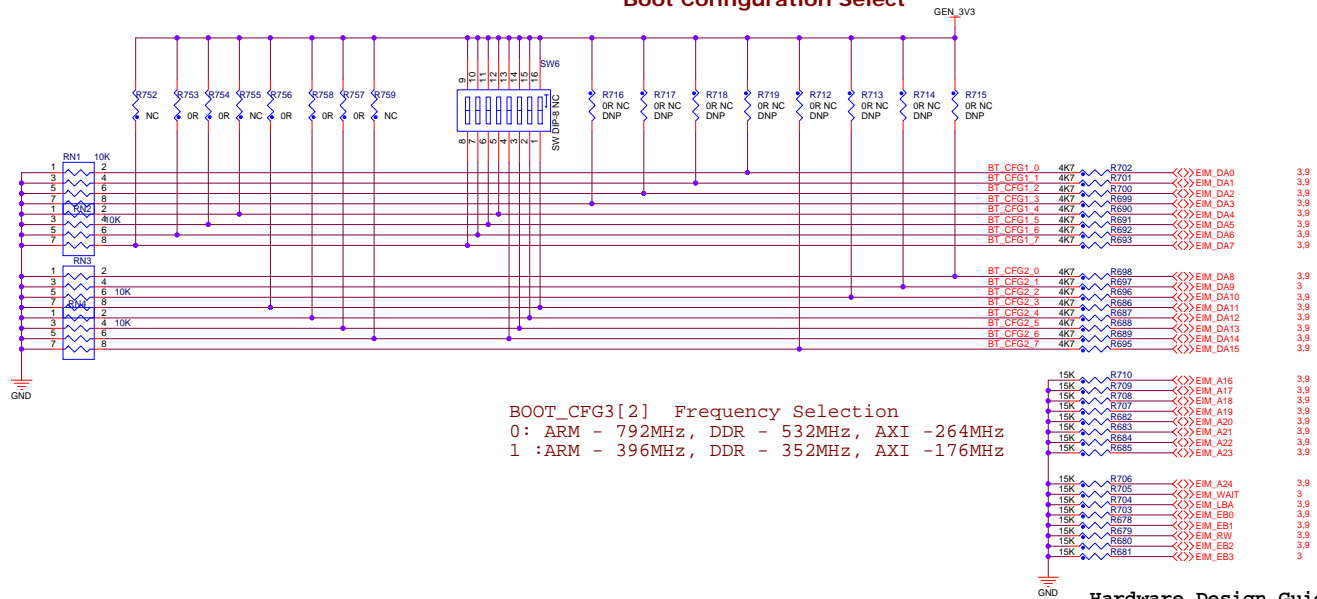
# GEN\_3V3



# GEN\_2V5



## Boot Configuration Select



**BOOT\_CFG3[2] Frequency Selection**  
 0: ARM - 792MHz, DDR - 532MHz, AXI - 264MHz  
 1: ARM - 396MHz, DDR - 352MHz, AXI - 176MHz

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resistors and/or switchers; see Figure 1-1. Each configured EIM boot signal sees either a 14.7 kΩ pulldown or a 4.7 kΩ pullup. For each switch-enabled pulled-up signal, the supply is presented with a 10 kΩ current load.

#### NOTE:

- Place series resistors so as to minimize EIM portion of trace length. Two layout possibilities include:
  - As close to processor as possible.
  - Close to other components using EIM signals.

#### Boot Select Table

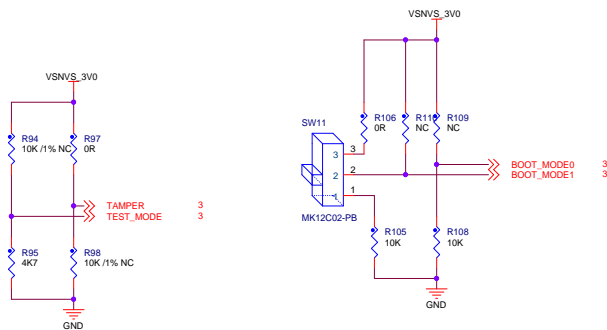
8	7	6	5	4	3	2	1
BT_CFG1_7	BT_CFG1_6	BT_CFG1_5	BT_CFG1_4	BT_CFG2_6	BT_CFG2_5	BT_CFG2_4	BT_CFG2_3
011X = MMC/eMMC Boot				X0 = 1-bit X1 = 4-bit 10 = 8-bit	01 = SD2 Boot 10 = SD3 Boot 11 = SD4 Boot		
010X = SD/eSD Boot				X0 = 1-bit X1 = 4-bit	01 = SD2 Boot 10 = SD3 Boot 11 = SD4 Boot		
0010 = SATA Boot				X	X	X	0

## 7 Bootup from MMC/SD

i.MX 6Quad and i.MX 6DualLite SABRE SD board boot from eMMC.

Boot Switch:

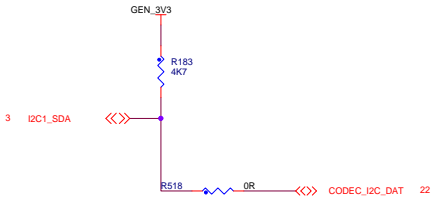
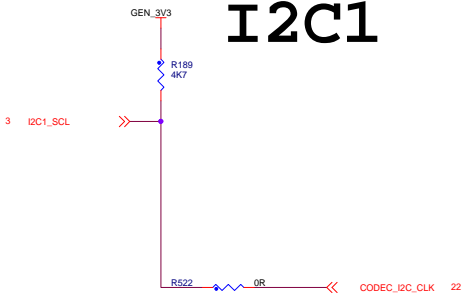
download Mode(MFGTool mode)	(SW6) 00001100 (from 1-8 bit)
eMMC(MMC3) boot	(SW6) 11100110 (from 1-8 bit)
MMC4 (SD2) boot	(SW6) 10000010 (from 1-8 bit)
MMC2 (SD3) boot	(SW6) 01000010 (from 1-8 bit)



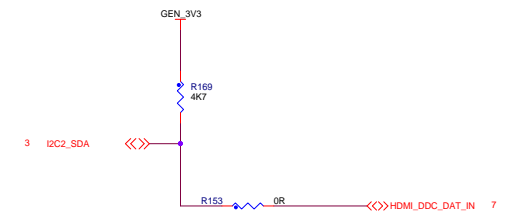
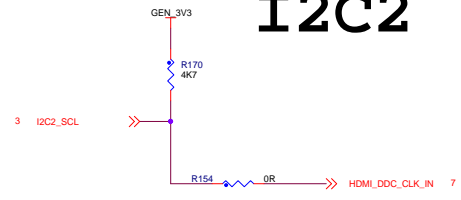
[1:0]  
**BOOT MODES:**  
 00 Boot from fuses  
 01 Serial downloader  
 10 Boot from board settings  
 11 Reserved



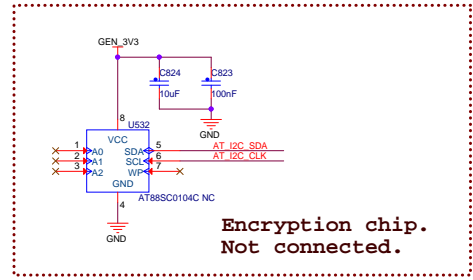
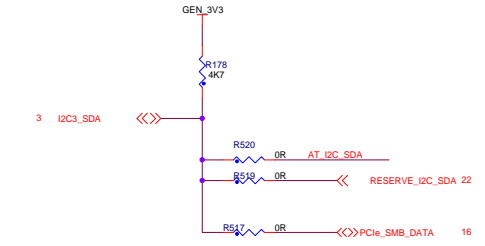
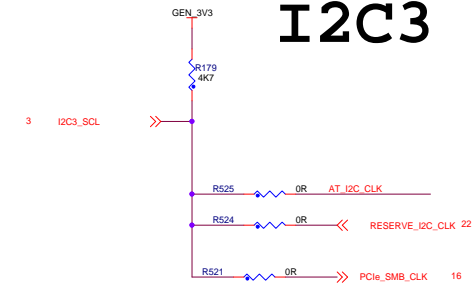
# I2C1



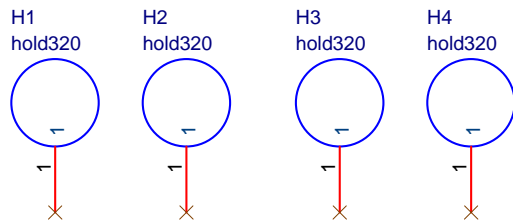
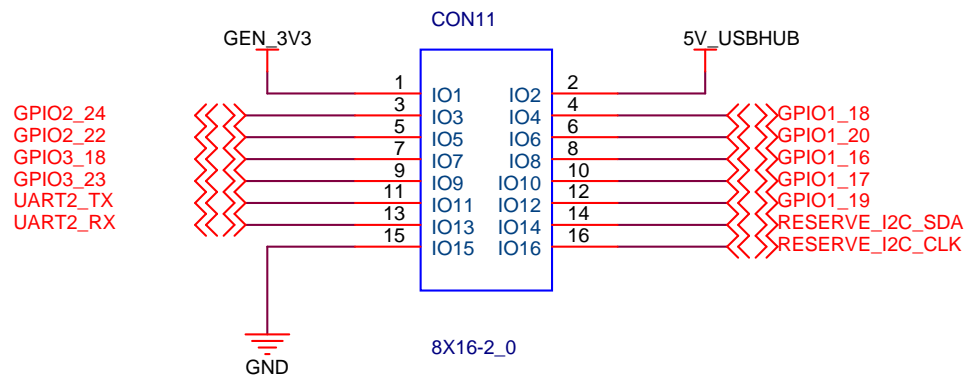
# I2C2



# I2C3



Board Title				Matrxii ARM mini PC (TBS2910)			
Sheet Title				NET_I2C			
Doc No	Date	Rev	Sheet	Doc No	Date	Rev	Sheet
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Board Title **Matrx-i ARM mini PC (TBS2910)**

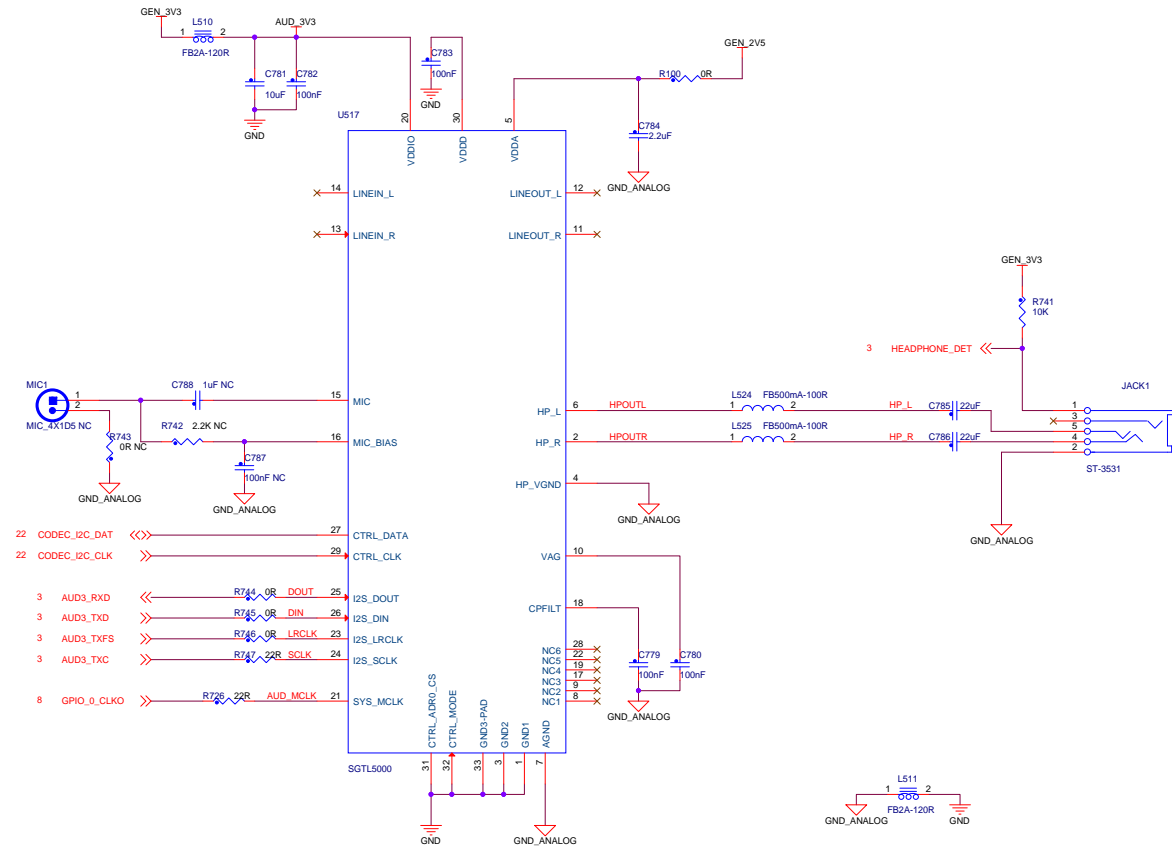
Sheet Title **I/O Reserved**

Doc No  
291020140110

Date  
Friday, January 10, 2014

Rev  
1.0

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Sheet Title	AUDIO		
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