

Notebook Computer

**W241BU/W241BUQ/W240BU/W245BUQ/W248BUQ/
W249BUQ**

Service Manual

Appendix B: Schematic Diagrams

This appendix has circuit diagrams of the *W241BU/W241BUQ/W240BU/W245BUQ/W248BUQ/W249BUQ* notebook's PCB's. The following table indicates where to find the appropriate schematic diagram.

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**Schematic
Diagrams**

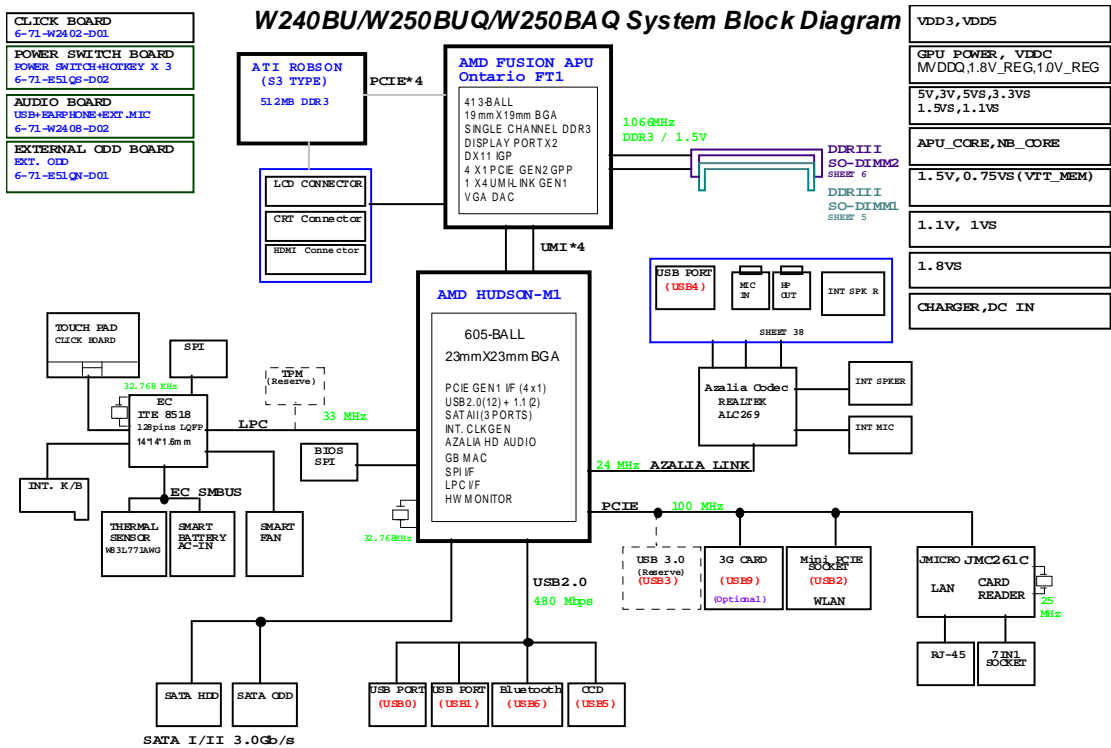


Version Note

The schematic diagrams in this chapter are based upon version 6-7P-W2405-003. If your mainboard (or other boards) are a later version, please check with the Service Center for updated diagrams (if required).

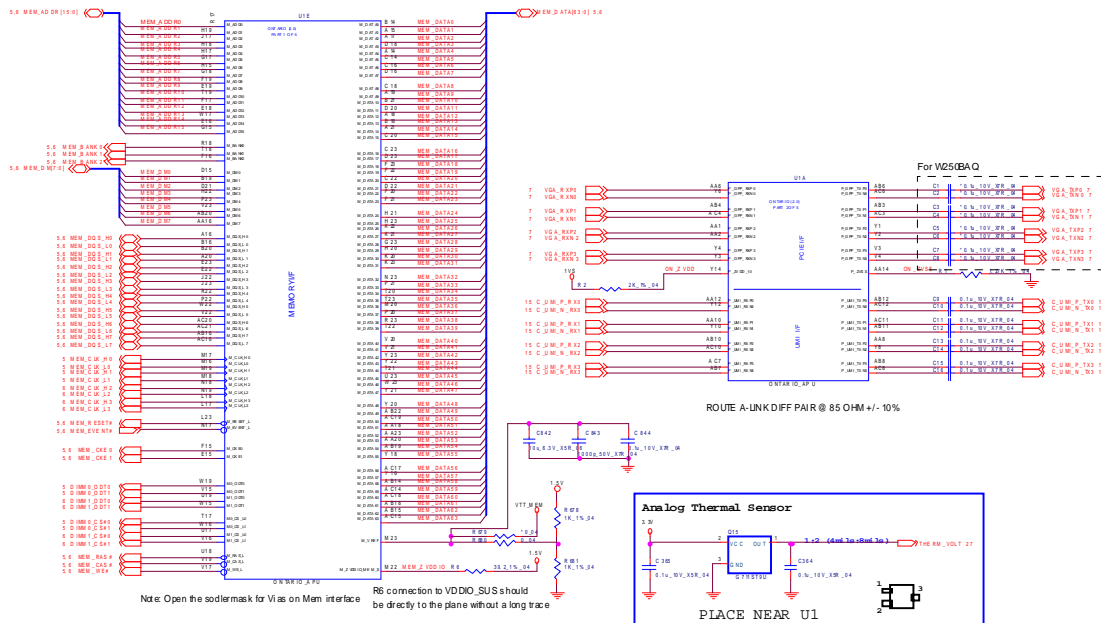
System Block Diagram

Sheet 1 of 41
System Block
Diagram



ONTARIO MEM & PCIE I/F, AP

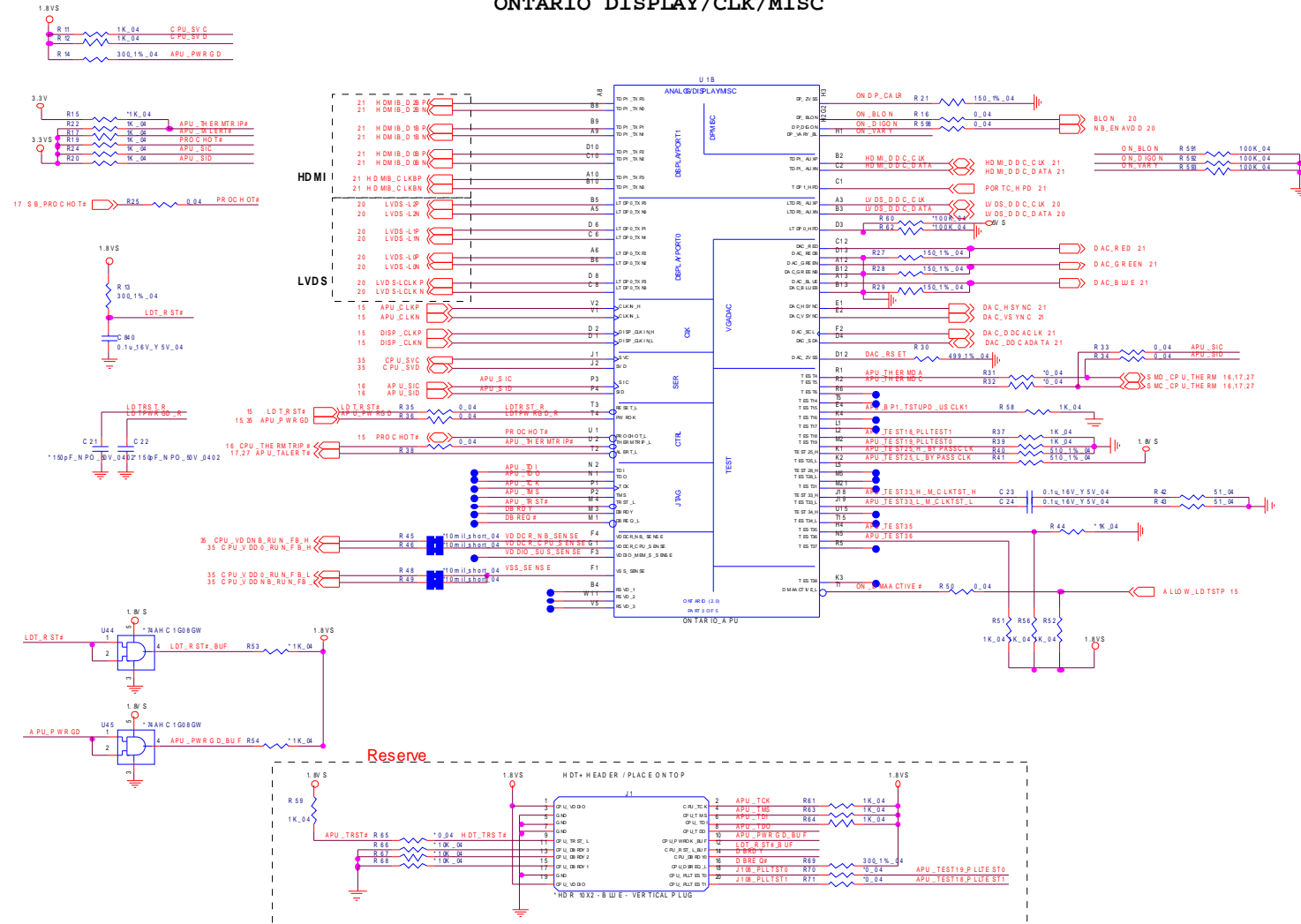
ONTARIO MEM & PCIE I/F, AP



Schematic Diagrams

ONTATIO DISPLAY/ CLK/ MISC

ONTARIO DISPLAY/CLK/MISC

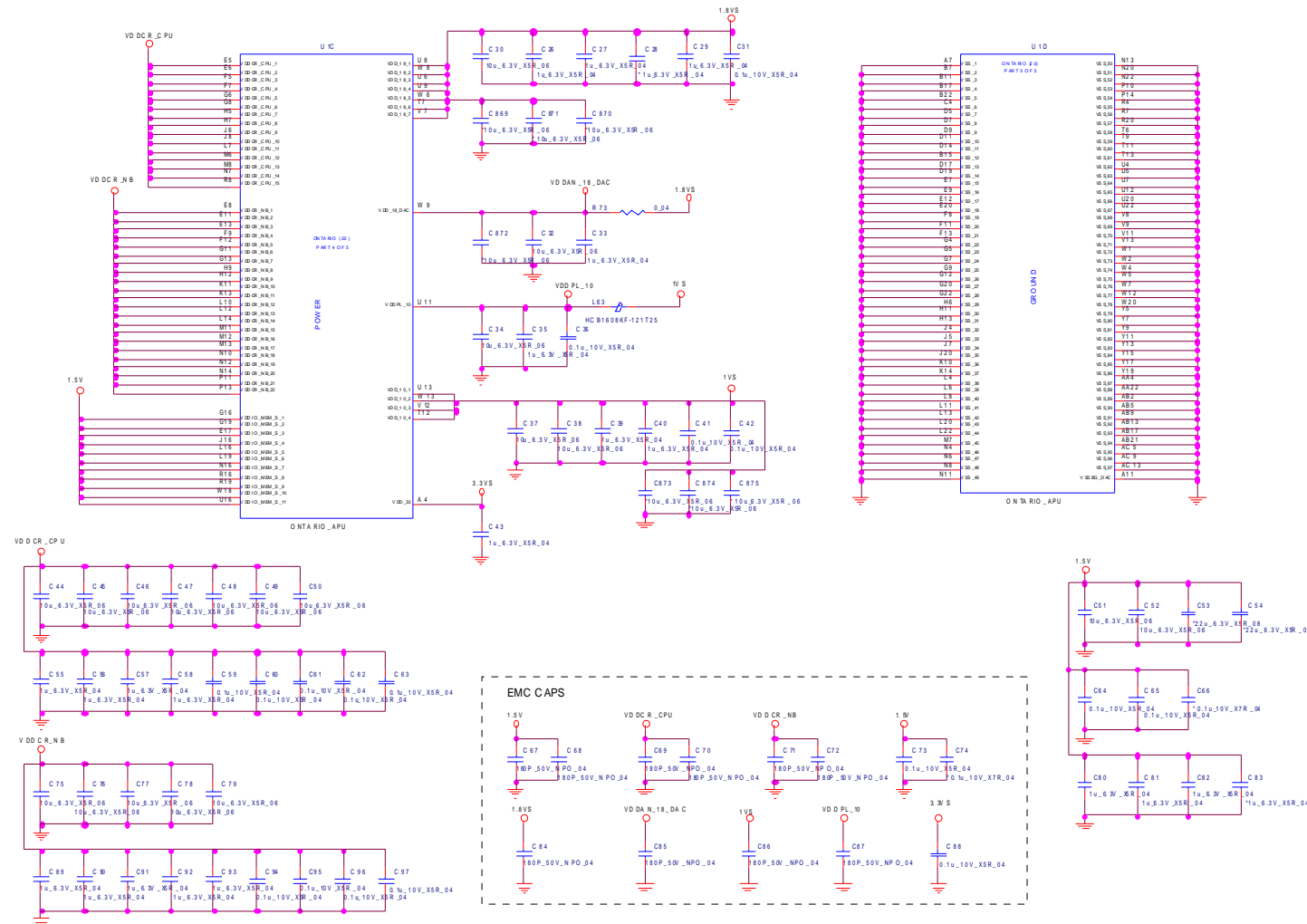


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ONTATIO
DISPLAY/ CLK/
MISC

B.Schematic Diagrams

ONTARIO POWER & DECOUPLING

ONTARIO POWER & DECOUPLING

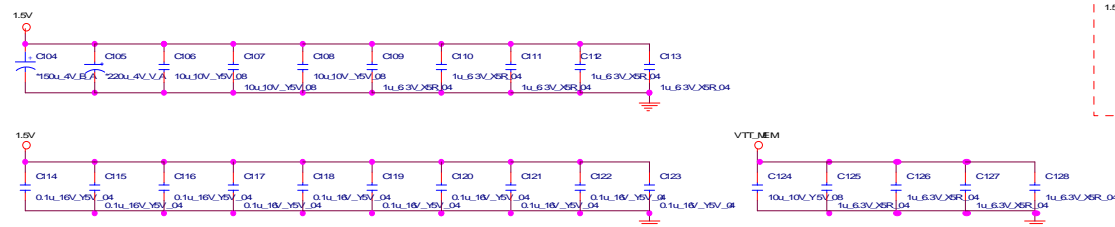
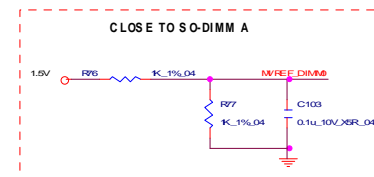
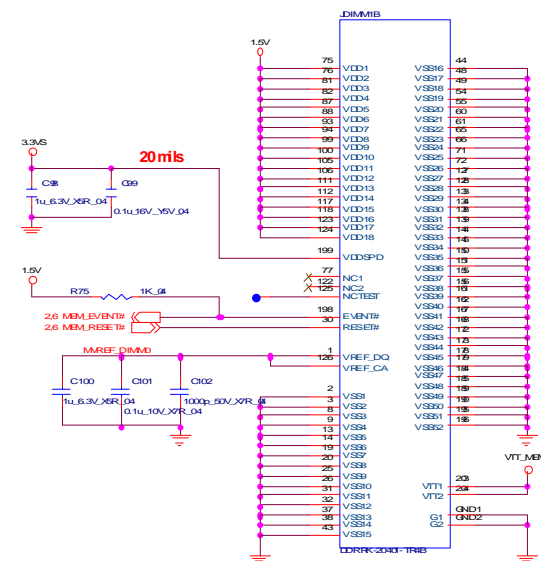
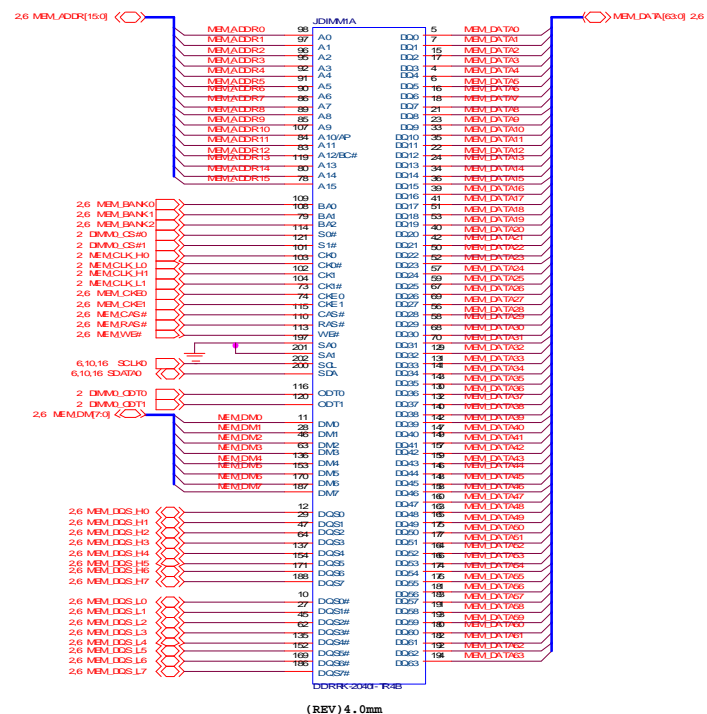


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ONTARIO POWER
& DECOUPLING

INAGUA DDR3 SO-DIMMS A

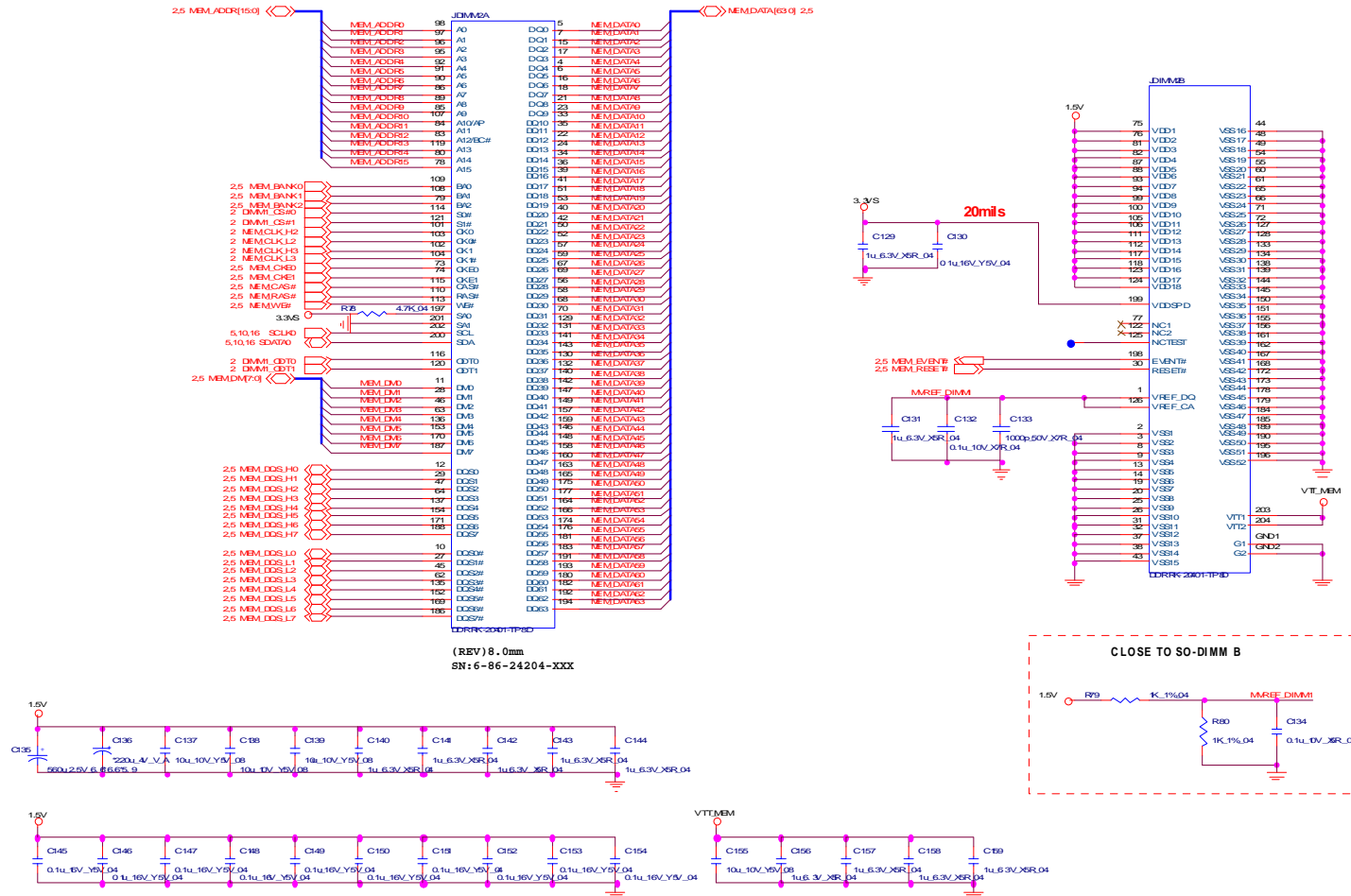
SO-DIMM A

INAGUA DDR3 SO-DIMMS A

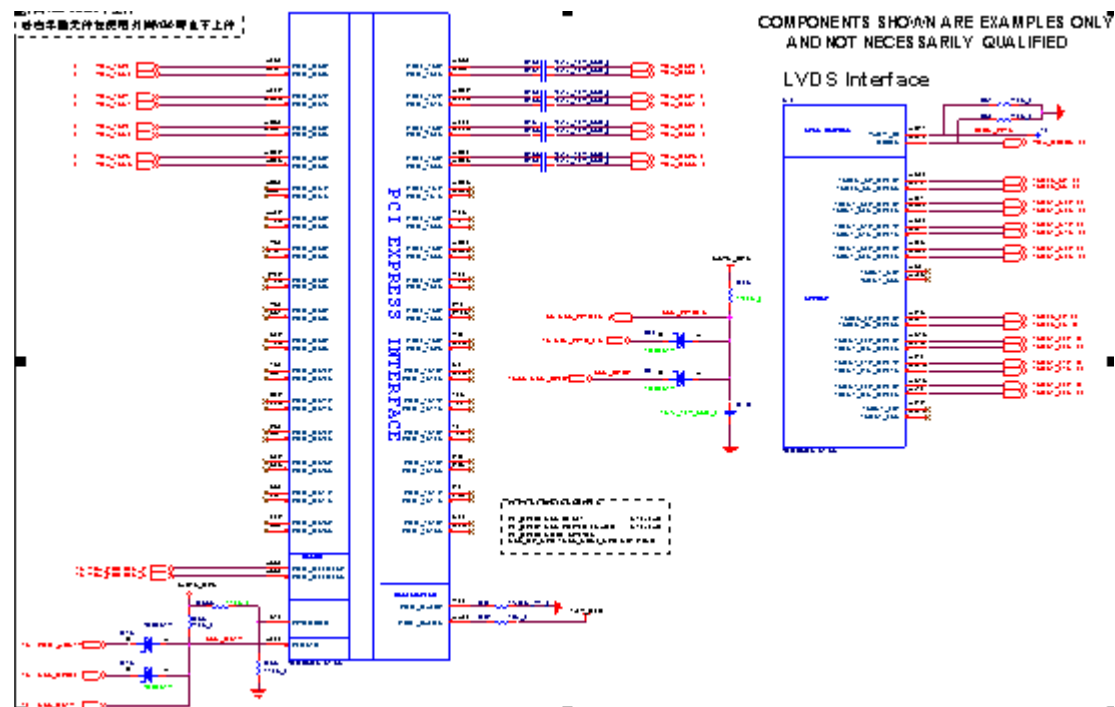


SO-DIMM B

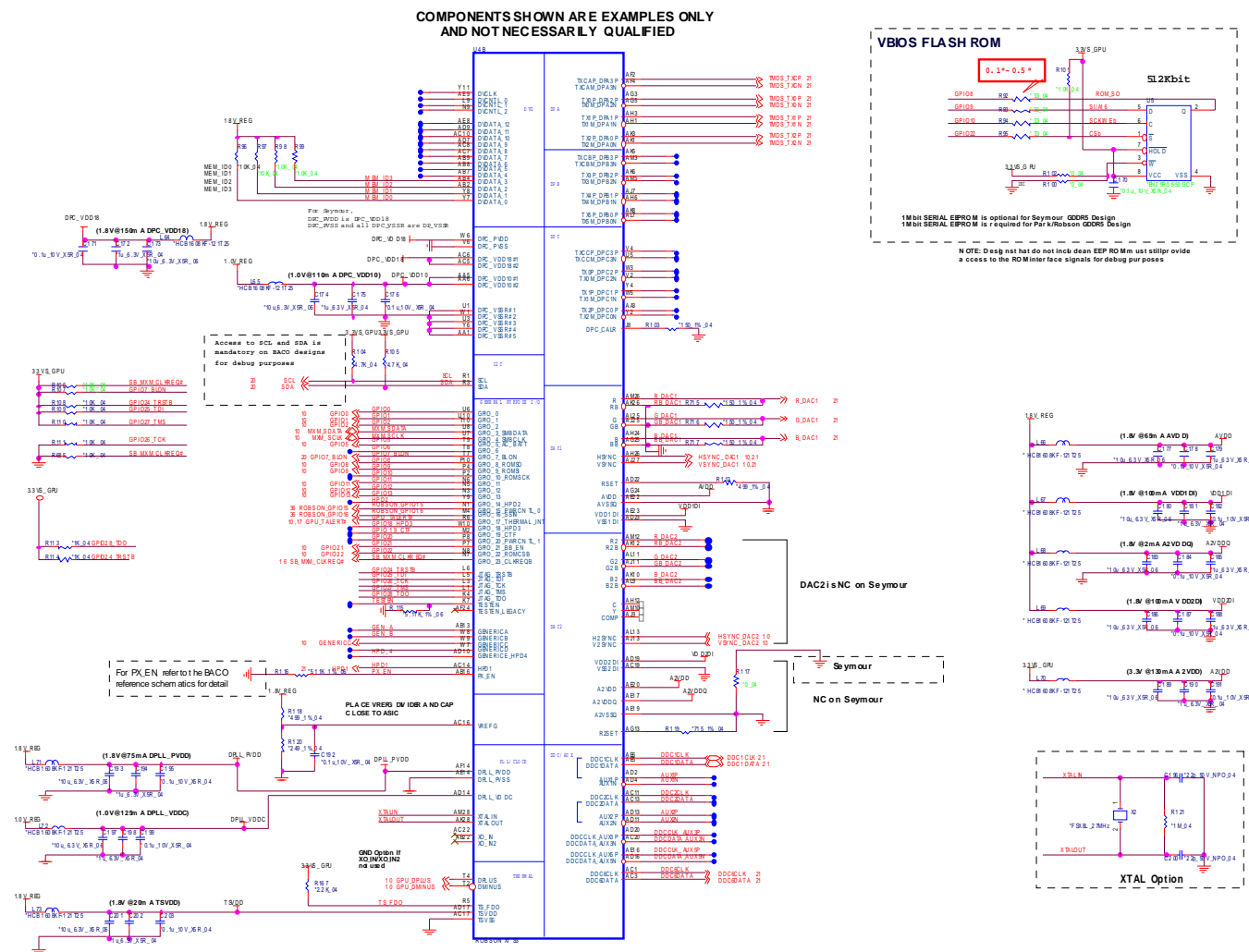
INAGUA DDR3 SO-DIMMS B



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Robson S3 PCIE/
LVDS 1/6



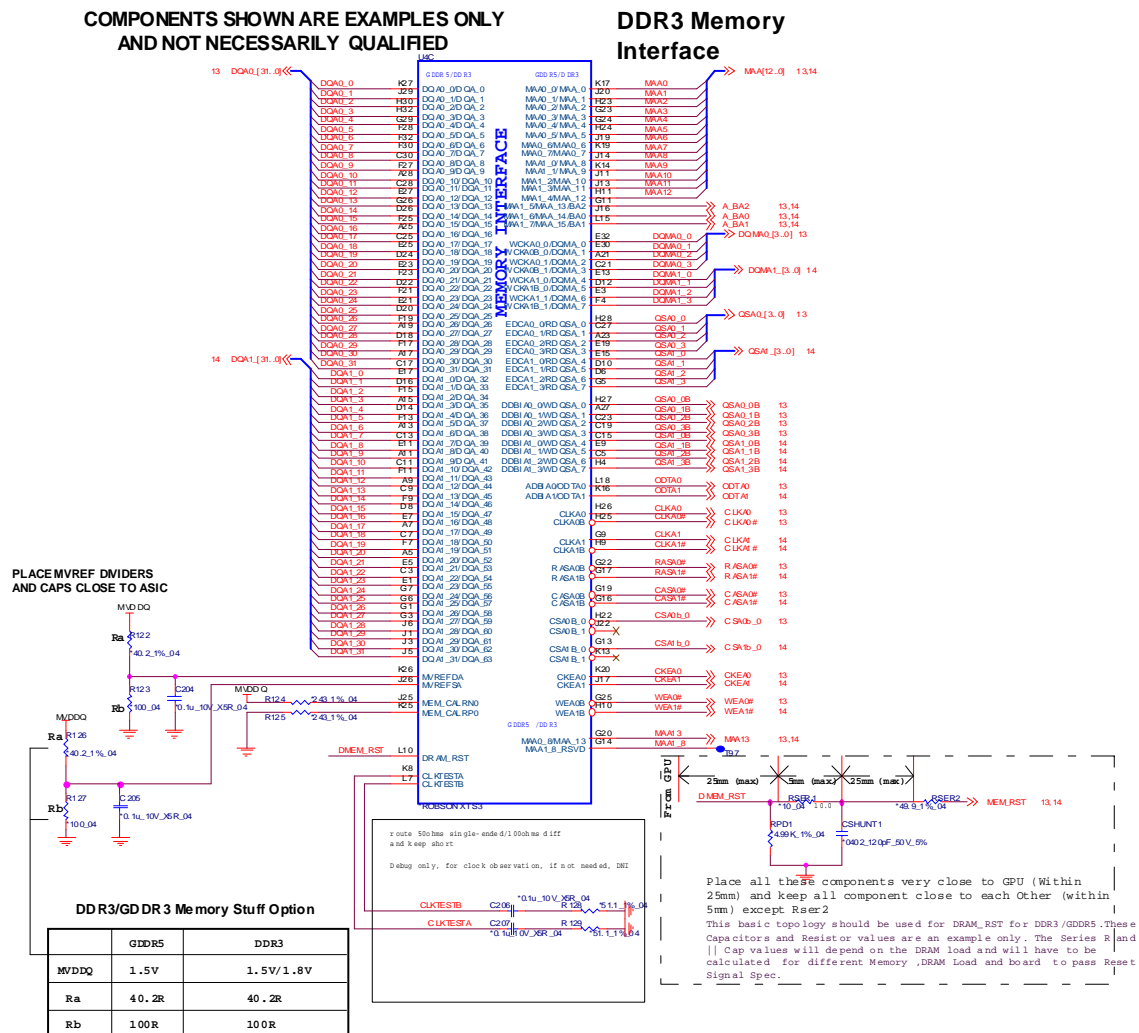
Robson S3 MAIN 2/6 B - 9



Schematic Diagrams

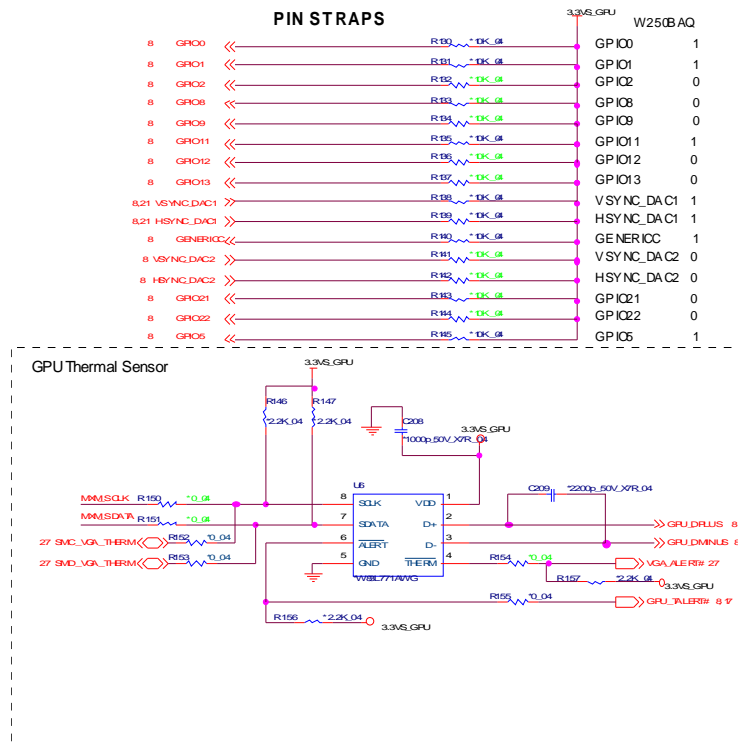
Robson S3 MEM Interface 3/6

Sheet 9 of 41
Robson S3 MEM
InTERFACE 3/6



Robson S3 Straps 4/6

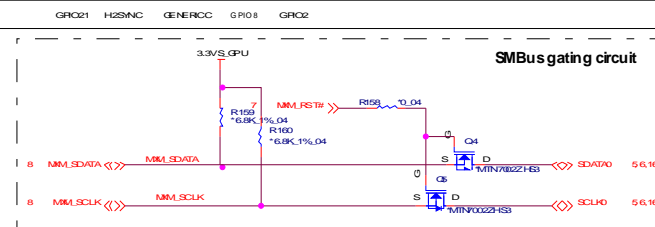
GPIO21 MUST BE LOW DURING PERSTB WHEN BEING USED TO CONTROL MVDDQ



CONFIGURATION STRAPS-- SEE EACH DATABOOK FOR STRAP DETAILS ALLOW FOR PULLUP PADS FOR THESE STRAPS AND IF THESE GPIOs ARE USED, THEY MUST NOT CONFLICT DURING RESET			RECOMMENDED SETTINGS 0=DO NOT INSTALL RESISTOR 1=INSTALL 3K RESISTOR X=DESIGNDEPENDANT NA=NOT APPLICABLE
STRAPS	PIN	DESCRIPTION OF DEFAULT SETTINGS	
TXPWRSEN	GPIO	PCI FULL TX OUTPUT SWING	
TXDEMPHLEN	GPIO	PCI TRANSMITTER DEEMPHASIS ENABLED	X
RSVD	GPIO	RESERVED	
RSVD	GPIO	RESERVED	
BIF_VGADIS	GPIO	VGAENABLED	0
RSVD	GPIO	RESERVED	0
BIOS_ROMEN	GPIO22_ROMCSB	ENABLE EXTERNAL BIOS ROM	X
ROMDCFG20	GPIO21	SERIAL ROM TYPE OR MEMORY APERTURE SIZE SELECT	X X X
VIP_DEVICE_STRAP_ENA	VSYNC	IGNORE VIP DEVICE STRAPS (Removed on SeymourWhistler)	X
RSVD	HSYNC	RESERVED	0
ALD[1]	HSYNC	SEE DATABOOK FOR DETAIL	X
ALD[0]	VSYNC	SEE DATABOOK FOR DETAIL	X
RSVD	GENERICC	RESERVED	0

NOTE1: AMD RESERVED CONFIGURATION STRAPS

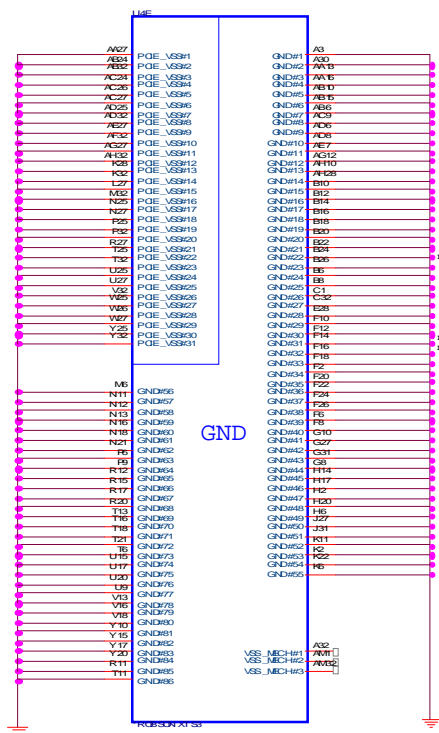
ALLOW FOR PULLUP PADS FOR THESE STRAPS BUT DO NOT INSTALL RESISTOR. IF THESE GPIOs ARE USED, THEY MUST KEEP "LOW" AND NOT CONFLICT DURING RESET.

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Robson S3 Straps
4/6

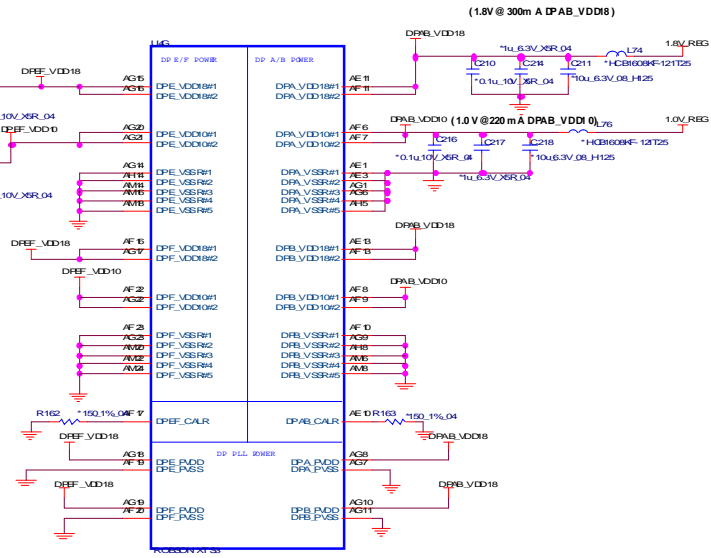
Schematic Diagrams

Robson S3 Power 5/6

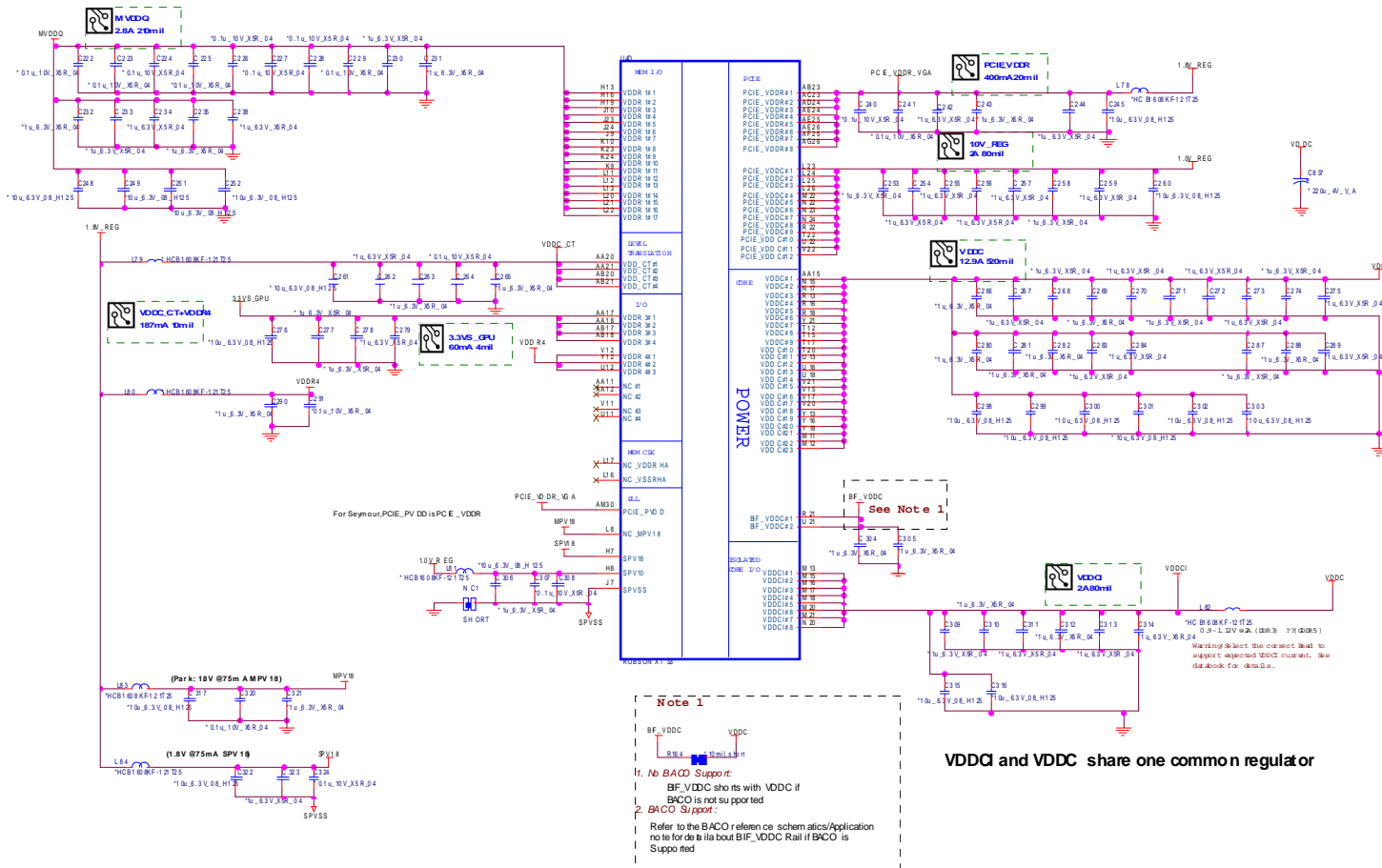
Sheet 11 of 41
Robson S3 Power
5/6



PARK/ROBSON- S3 (DP Power)



Robson S3 Power 6/6

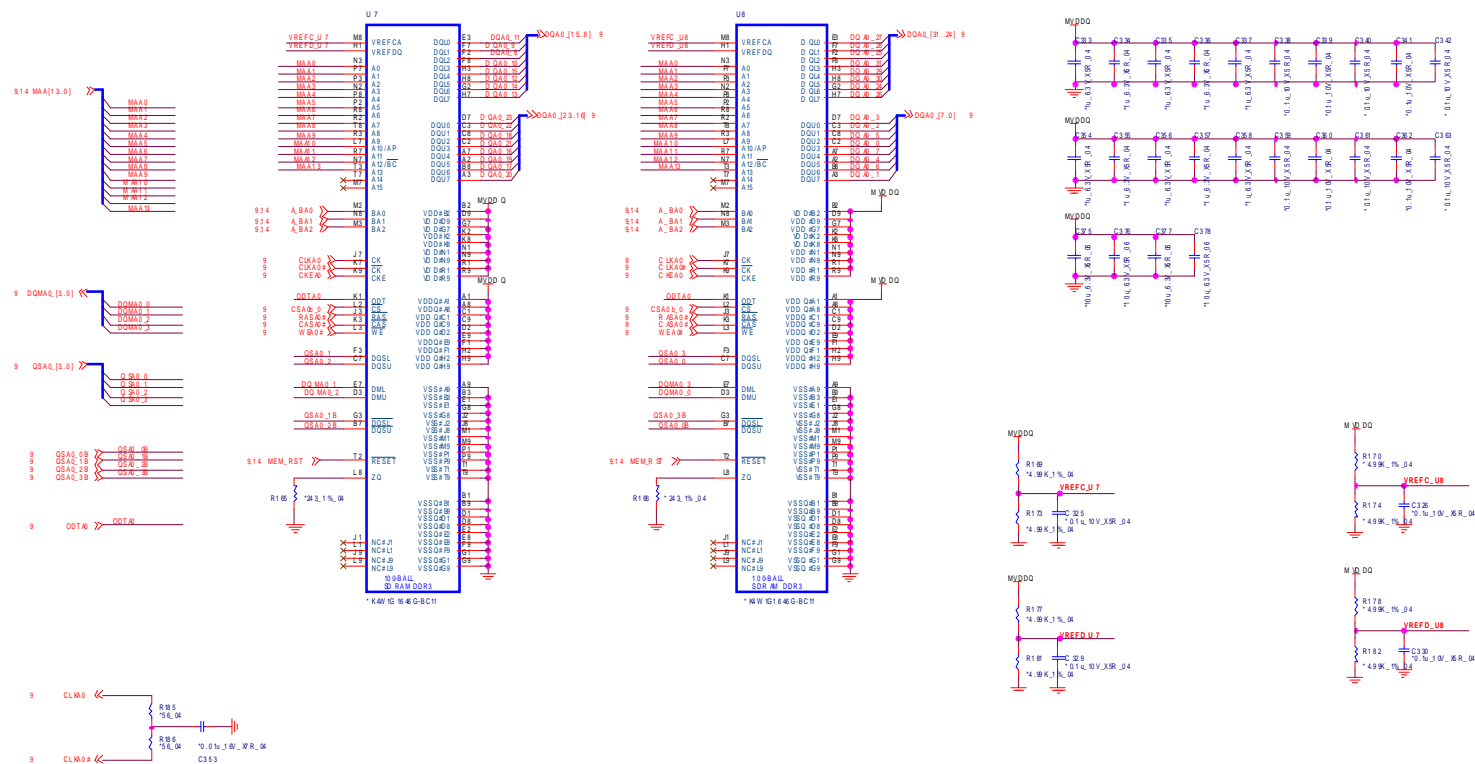


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Robson S3 Power
6/6

Schematic Diagrams

Robson DDR3 MEM CH-A

CHANNEL A: 64M X 16 bit X8 DDR3 (RANK0)

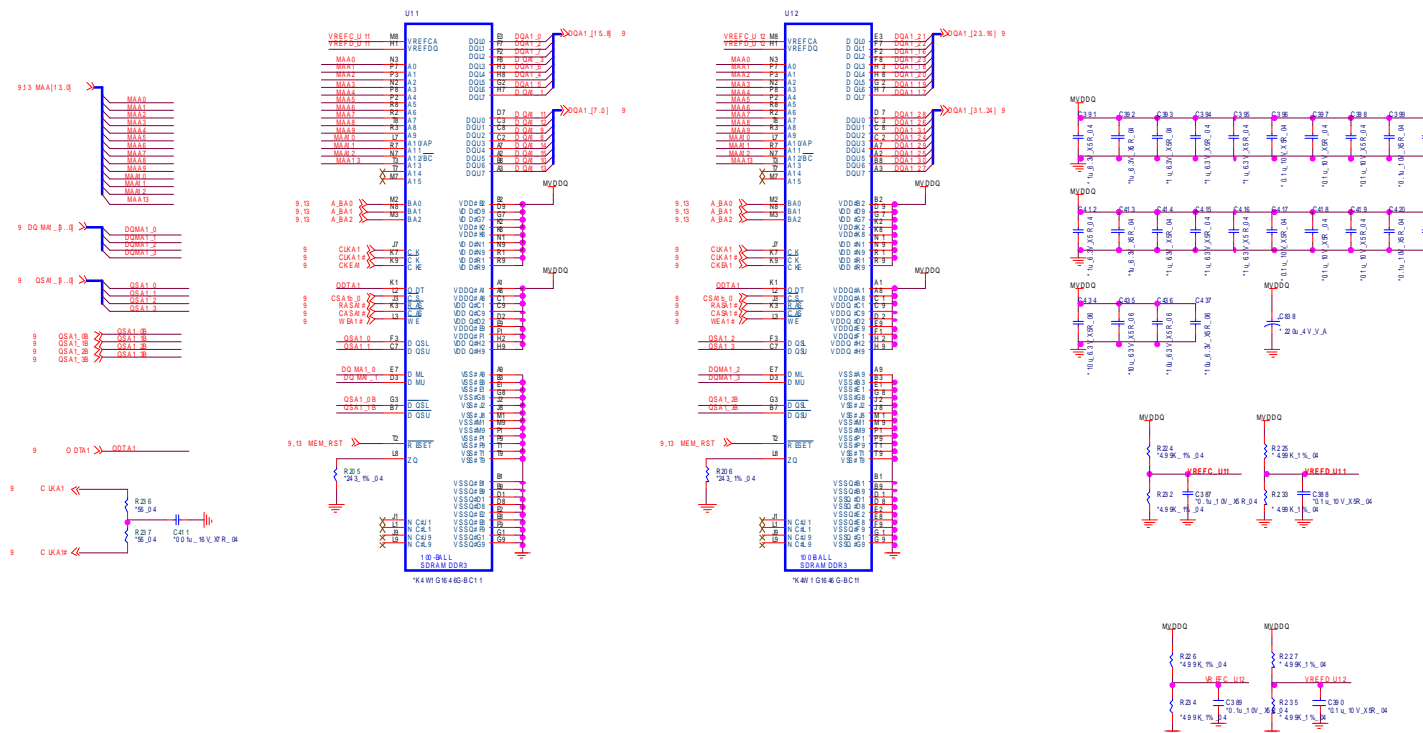
COMPONENTS SHOWN ARE EXAMPLES ONLY
AND NOT NECESSARILY QUALIFIEDSheet 13 of 41
Robson DDR3 MEM
CH-A

Robson DDR3 MEM CH-B

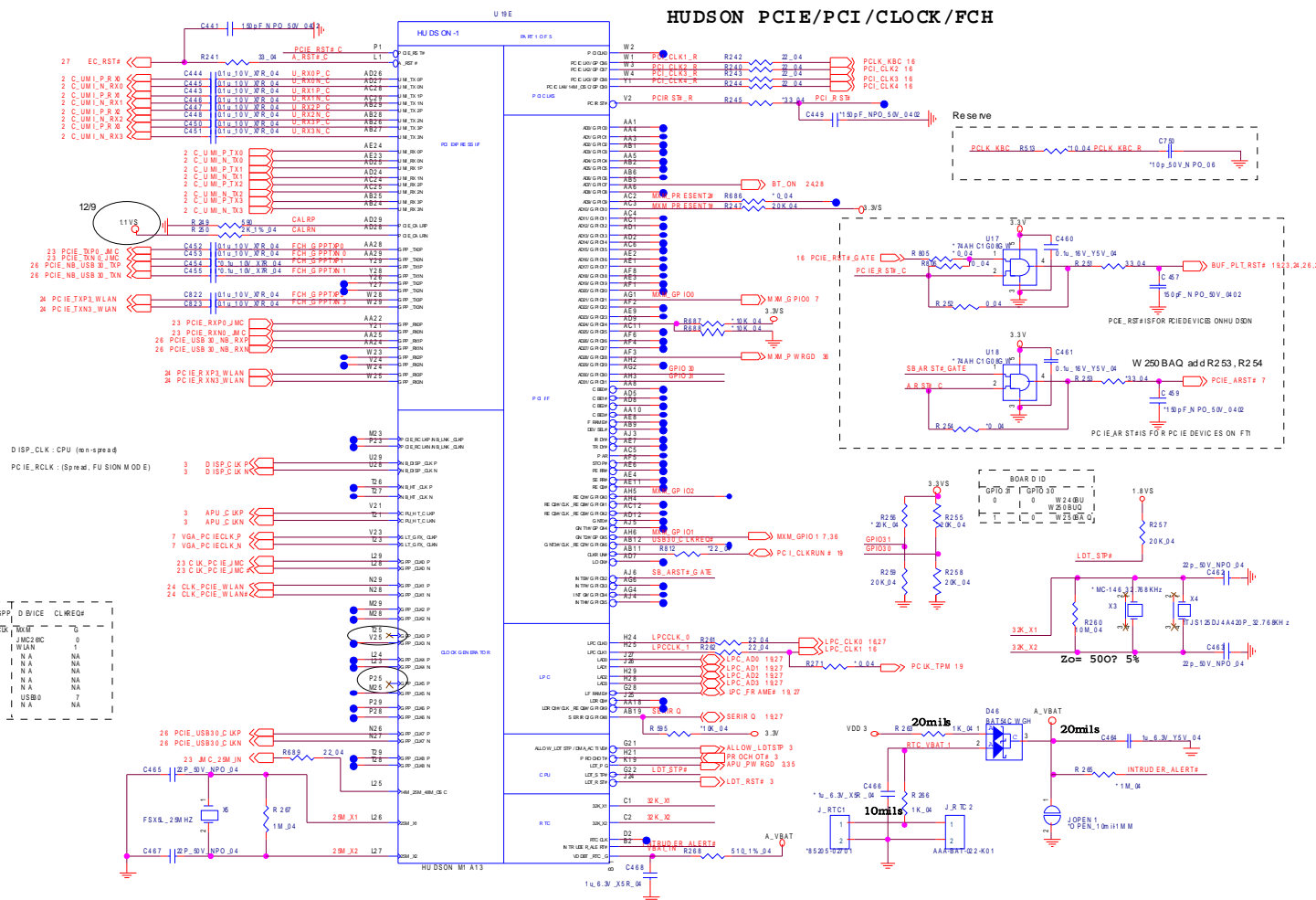
COMPONENTS SHOWN ARE EXAMPLES ONLY
AND NOT NECESSARILY QUALIFIED

CHANNEL A: 64M X 16 bit X8 DDR3 (RANK1)

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Robson DDR3 MEM
CH-B



B - 16 HUDSON PCIE/ PCI/ CLOCK/ FCH



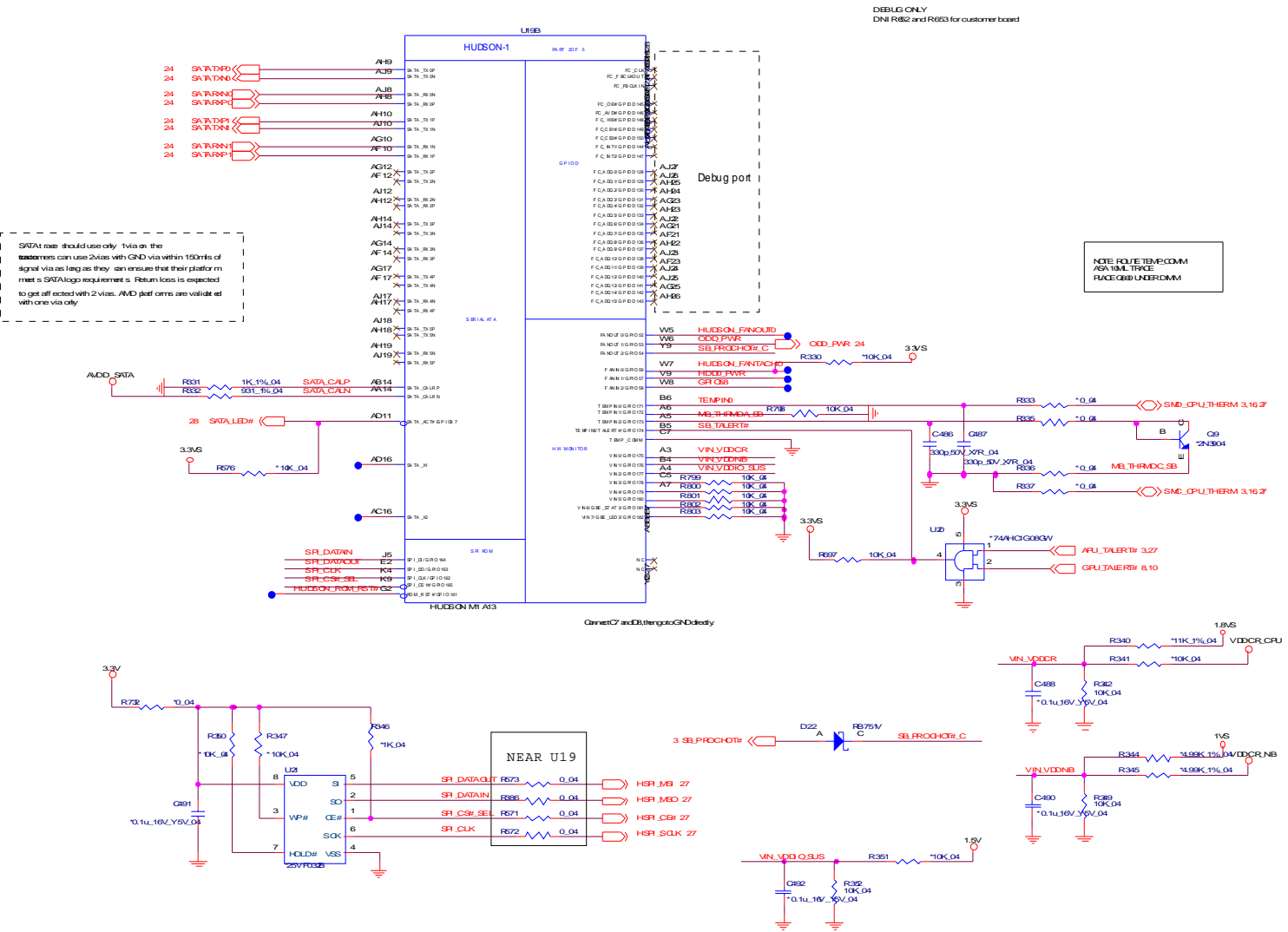
HUDSON GPIO/USB/AUDIO/STRAP



Schematic Diagrams

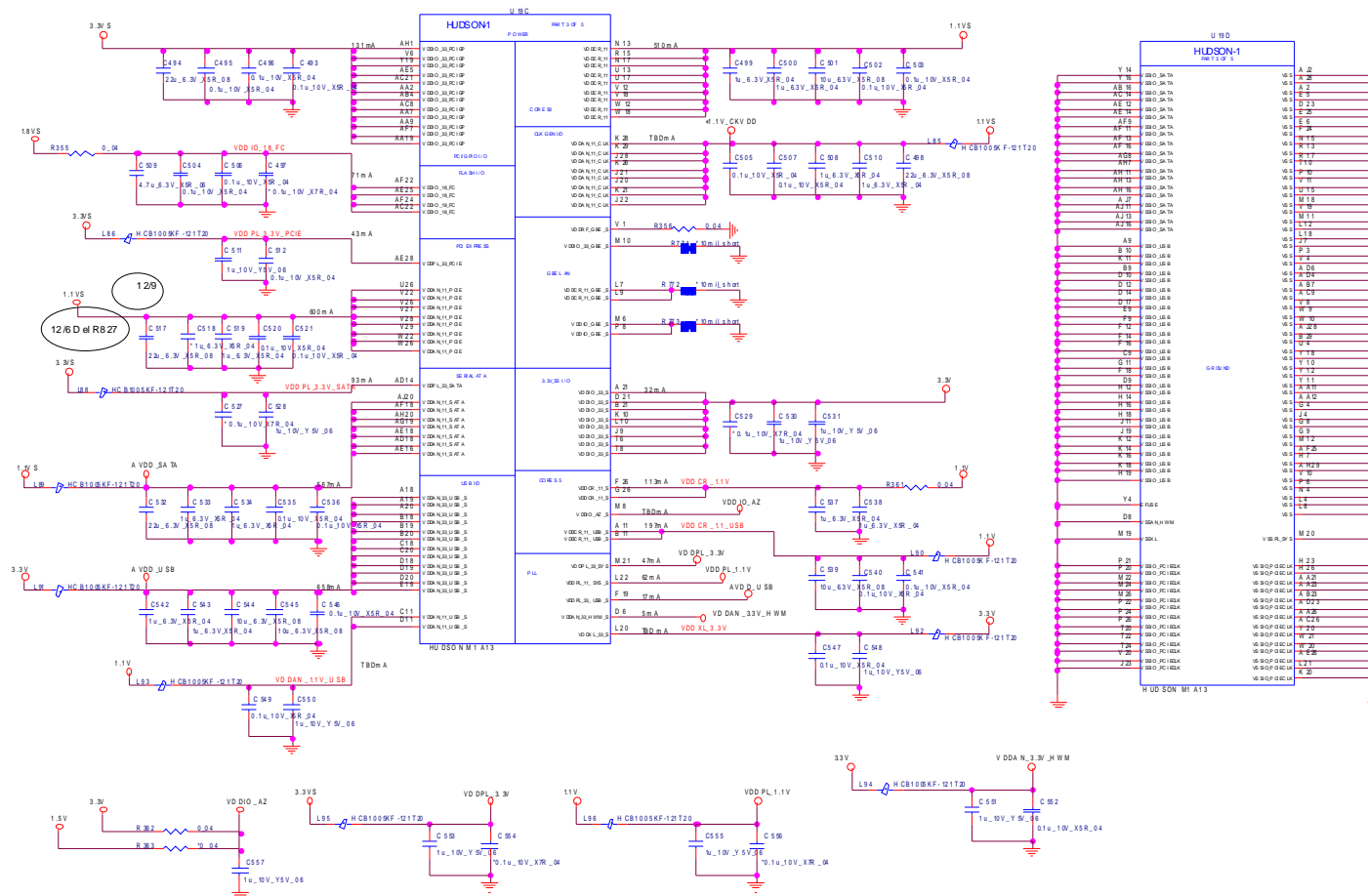
HUDSON SATA/ DEBUG IO/ SPI

HUDSON SATA/DEBUG IO/SPI

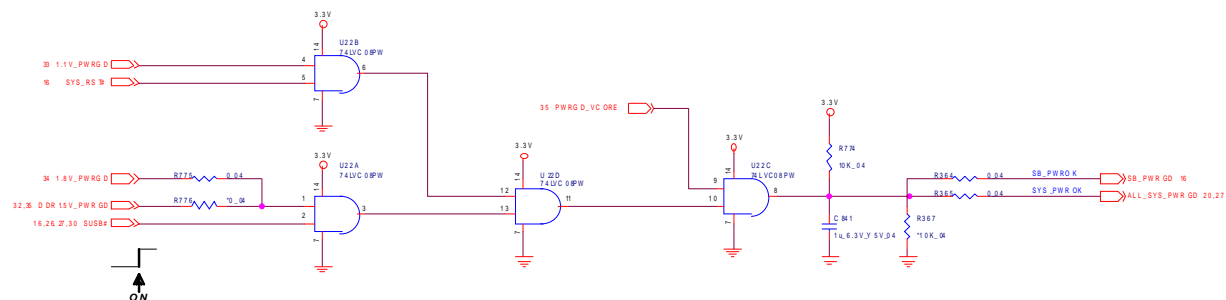


HUDSON POWER DECOUPLING

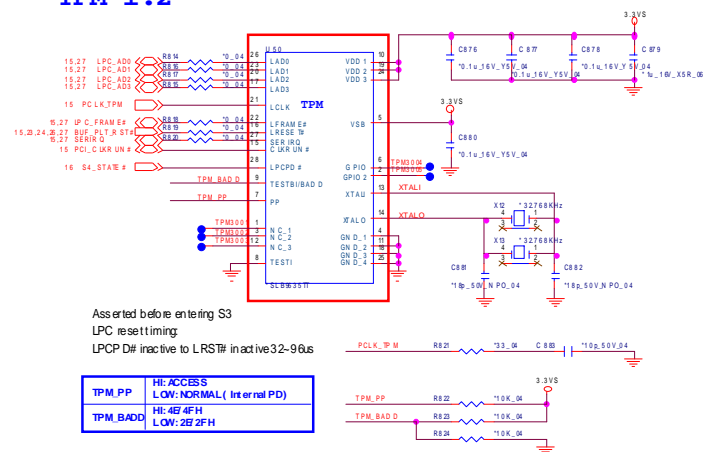
HUDSON POWER DECOUPLING



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HUDSON POWER
DECOUPLING



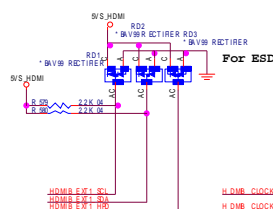
TPM 1.2



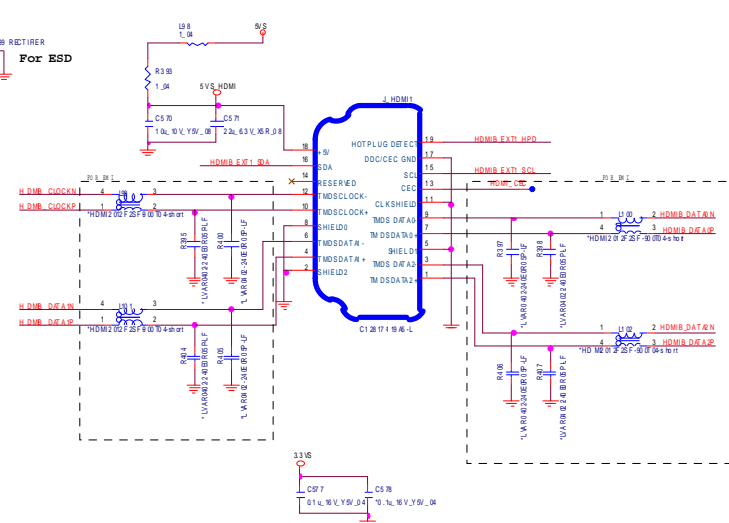
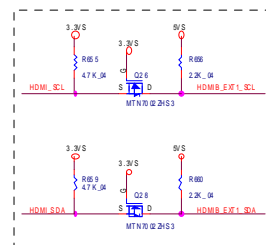
LVDS, INVERTER B - 21



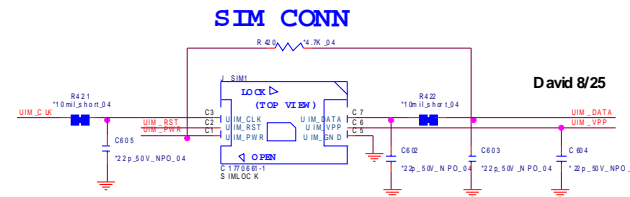
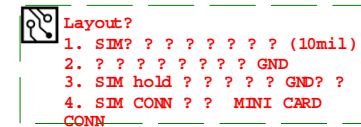
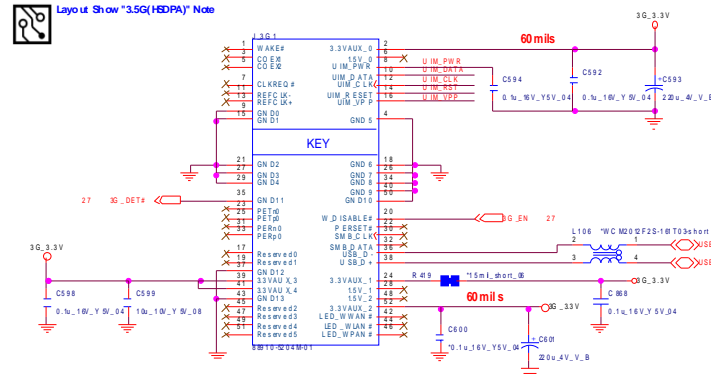
HDMI PORT



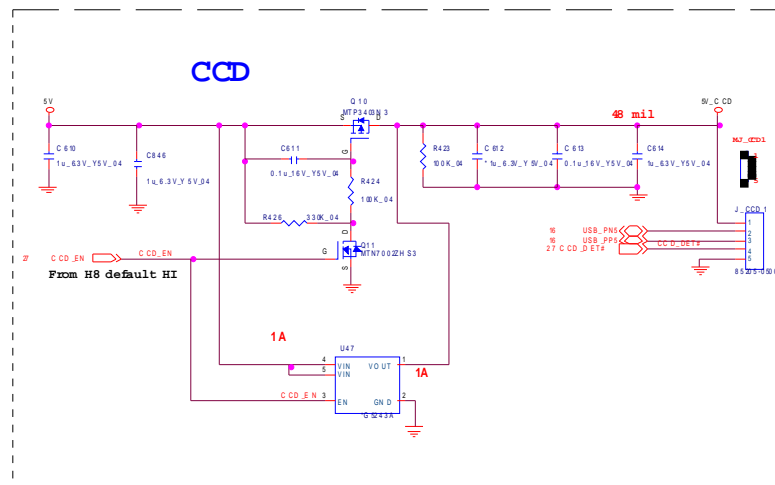
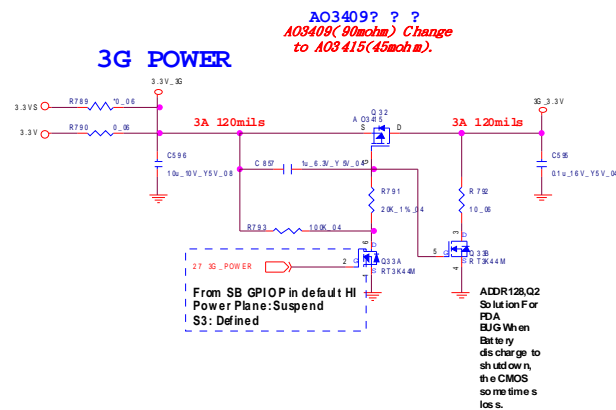
CLOSE TO HDMI CONN.

[illegible]

MINI CARD 3G (Port 6)



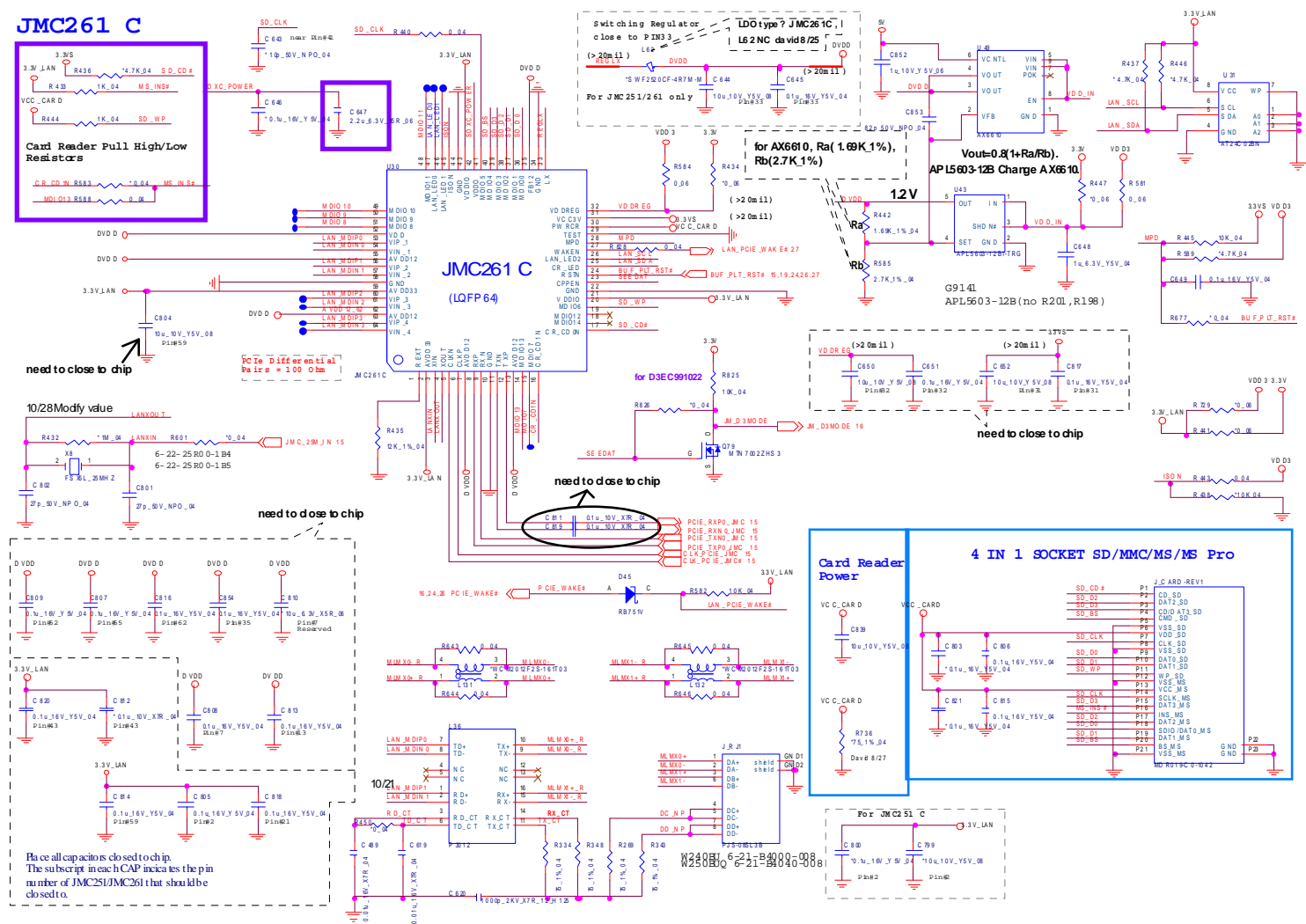
Sheet 22 of 41
CCD/ 3G



Schematic Diagrams

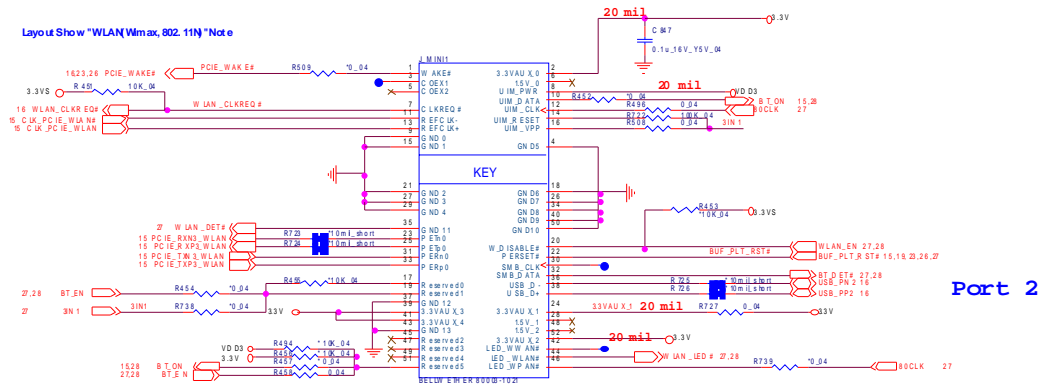
Card Reader/ LAN JMC261C

Sheet 23 of 41
Card Reader/ LAN
JMC261C



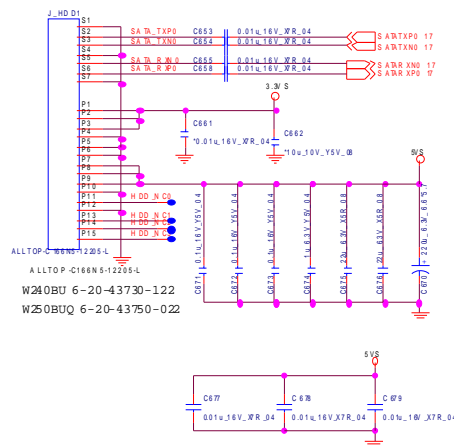
MINI PCIE/ SATA HDD/ ODD

MINI CARD (WLAN,Port 5)

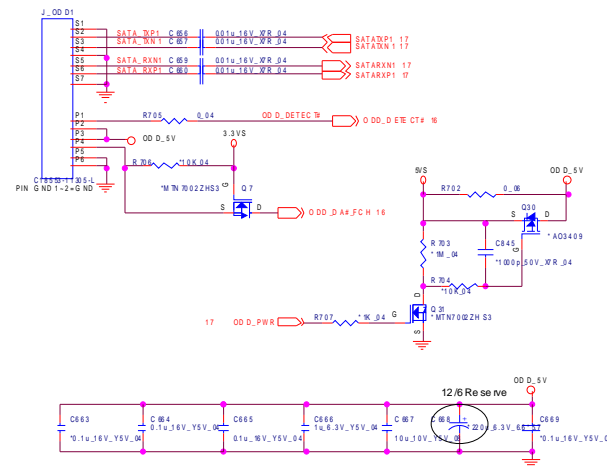


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MINI PCIE/ SATA
HDD/ ODD

SATA HDD



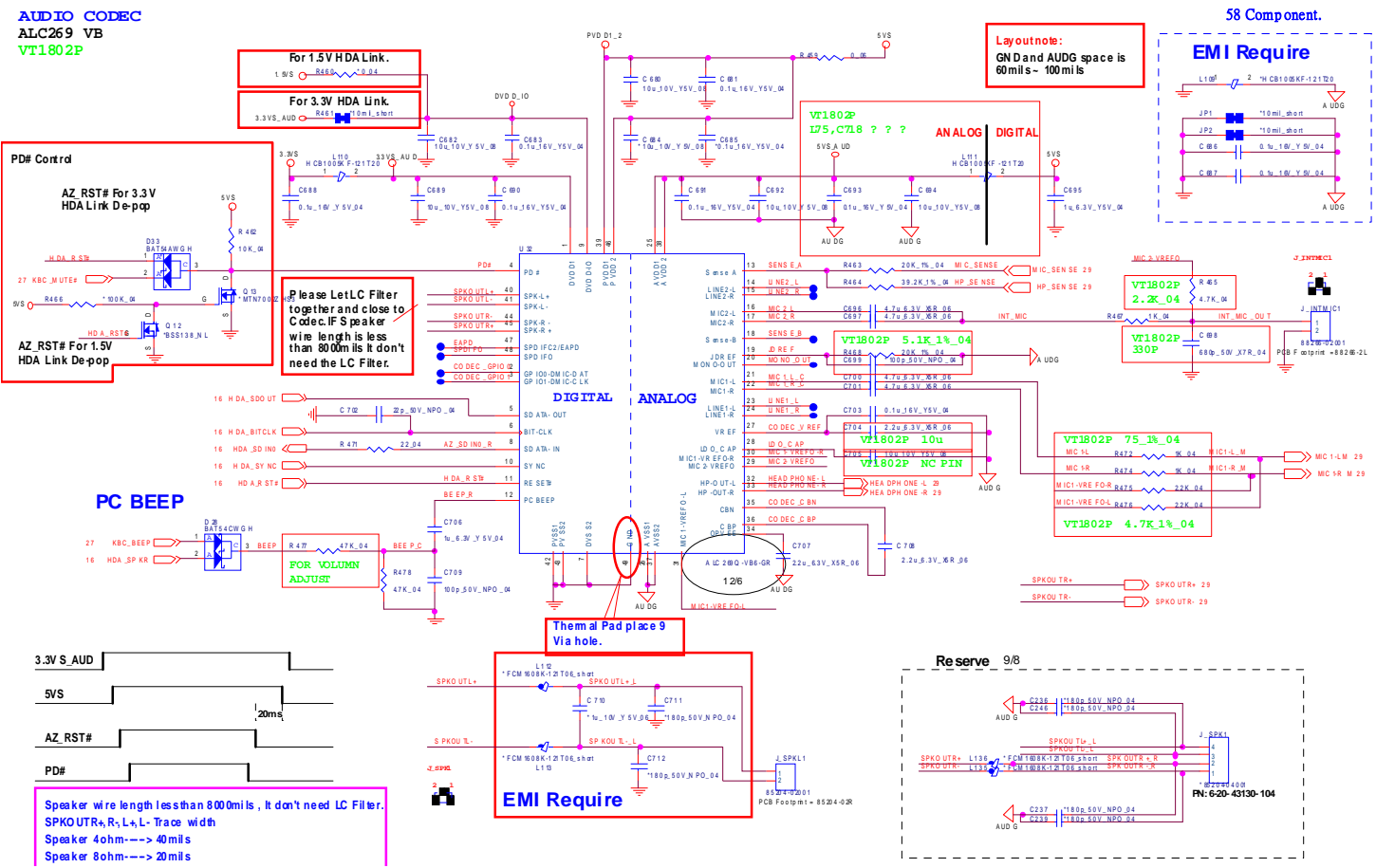
SATA ODD



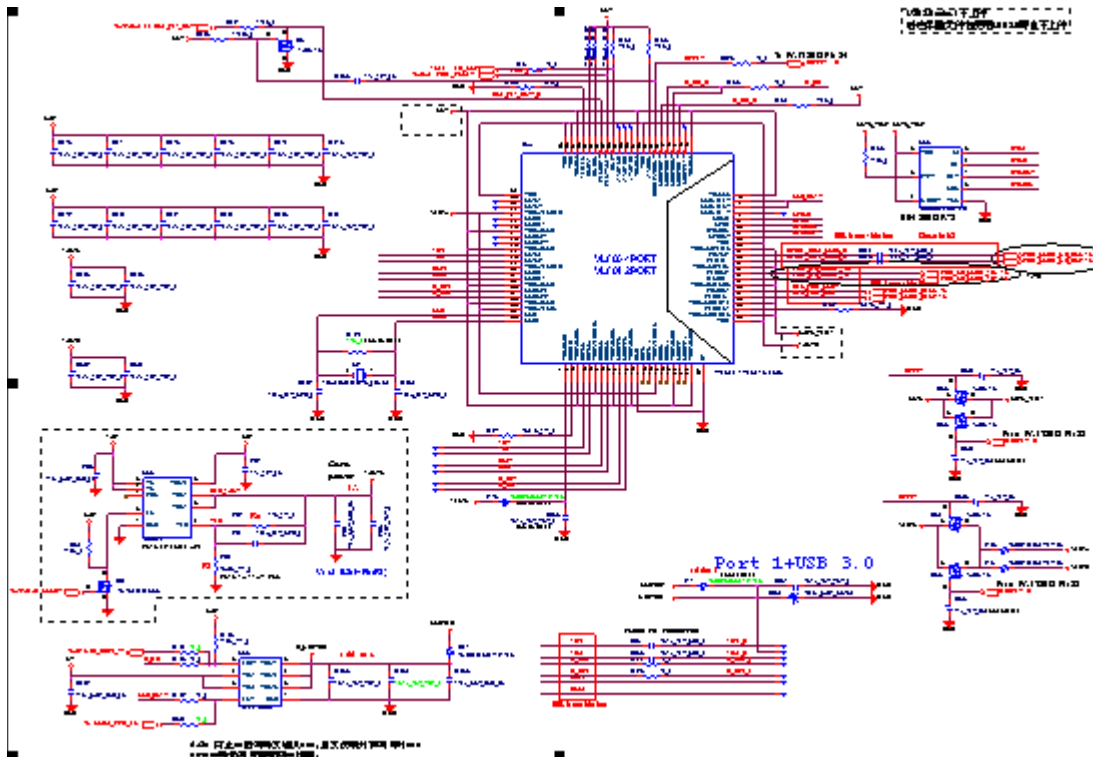
Schematic Diagrams

AUDIO CODEC ALC261C

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AUDIO CODEC
ALC261C

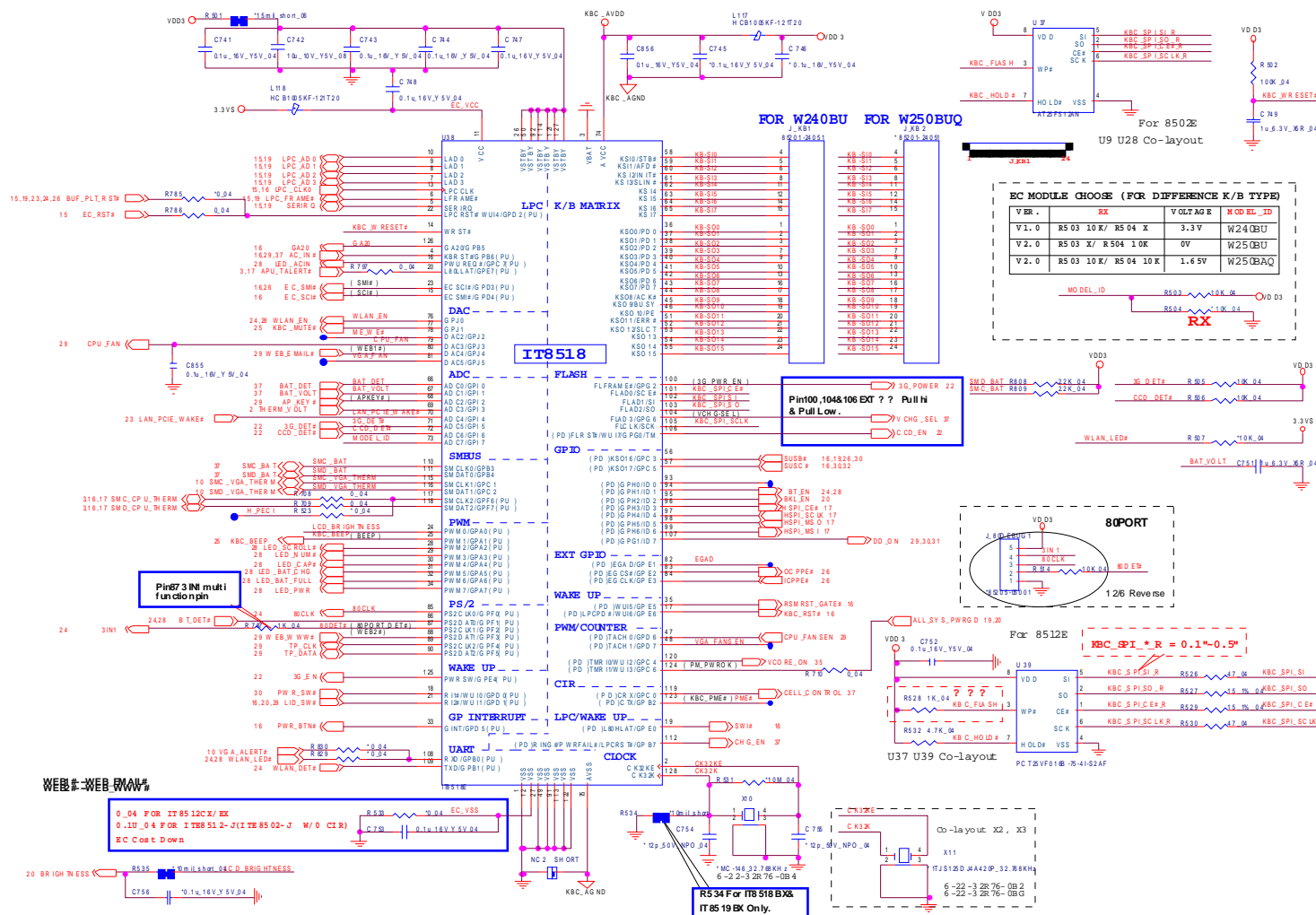


USB 3.0 VL800



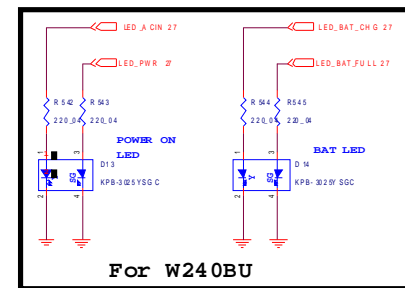
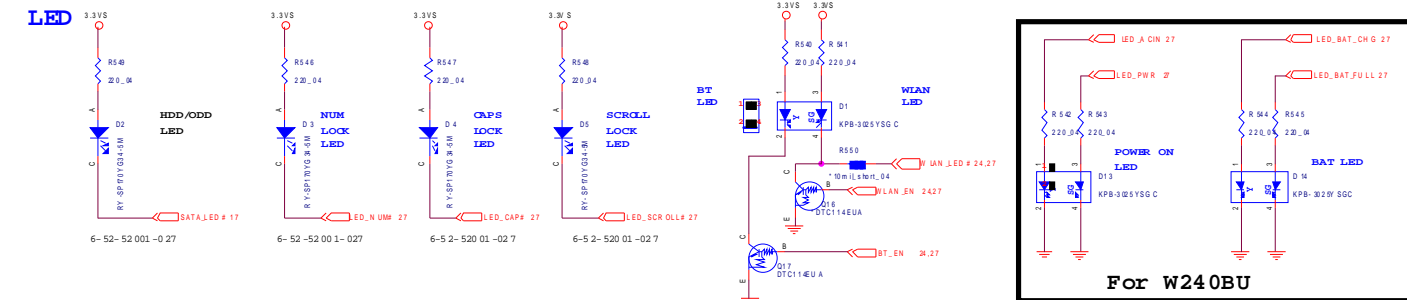
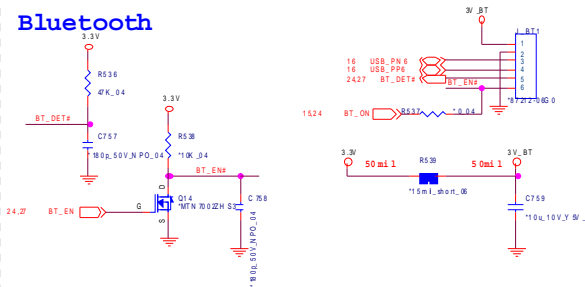
Sheet 26 of 41
USB 3.0 VL800

B - 28 KBC- ITE IT8518

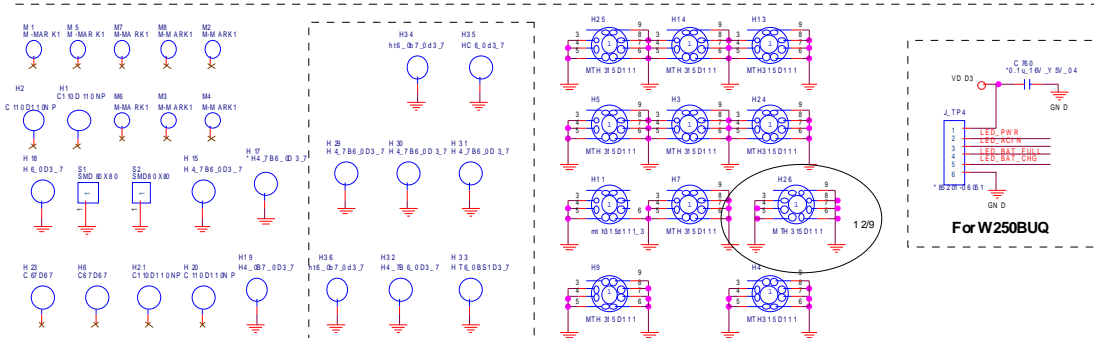


LED/ MDC/ BT

Bluetooth

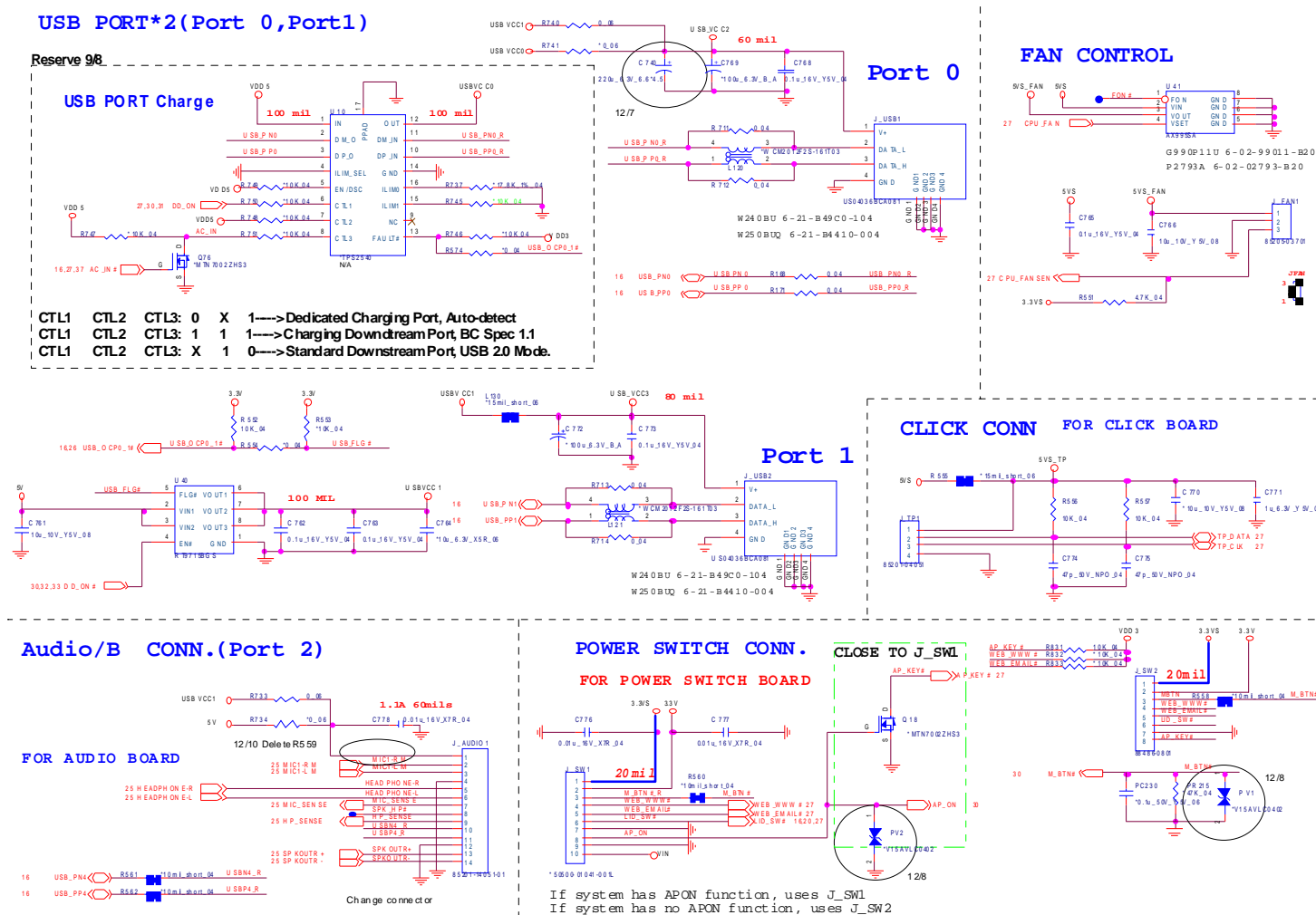


For W240BU

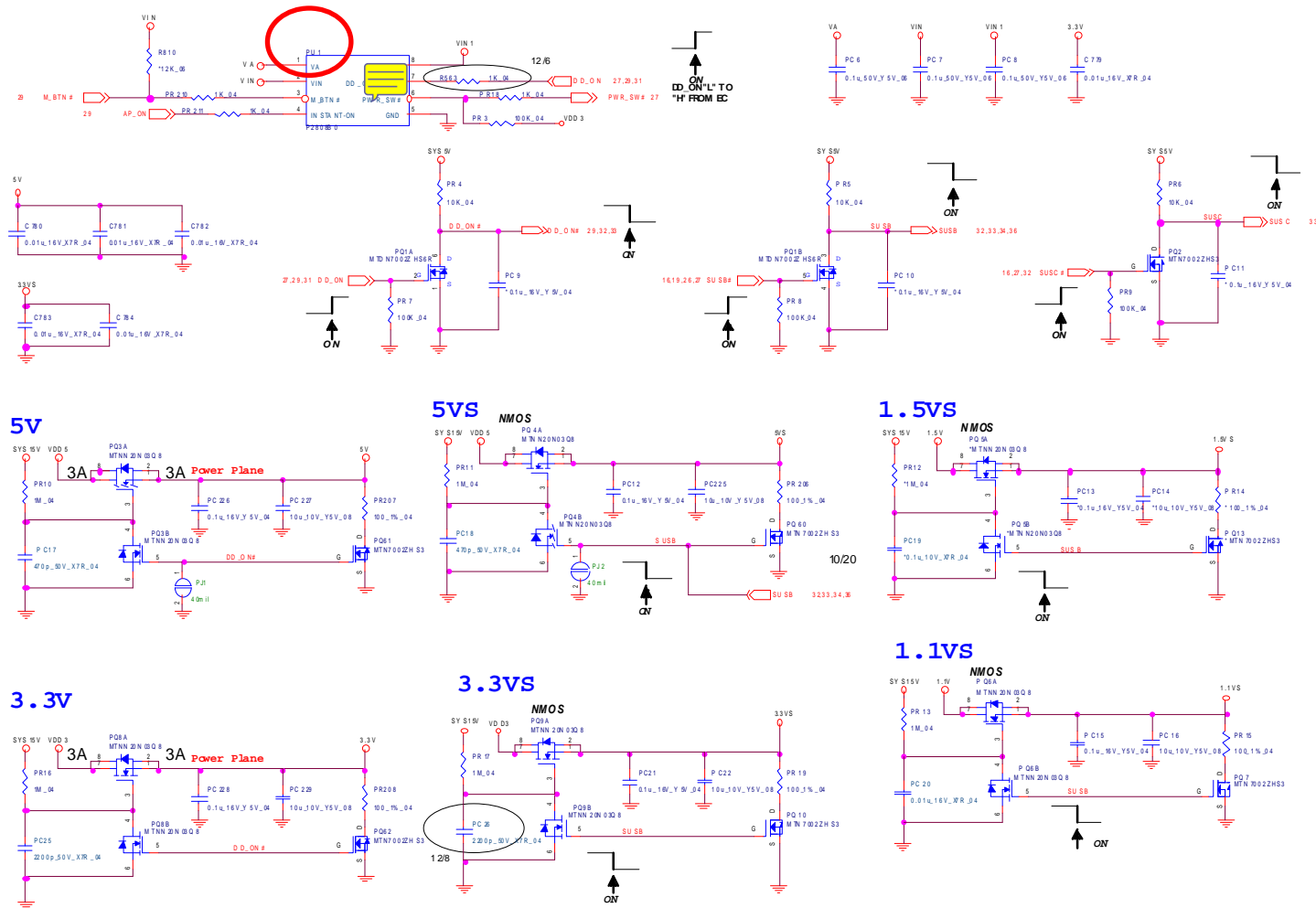


Sheet 28 of 41
LED/ MDC/ BT

Sheet 29 of 41
USB/ FAN/ TP/
MULTI CON



5VS/ 3.3VS/ 1.8VS/ 1.5VS/ 1.1VS

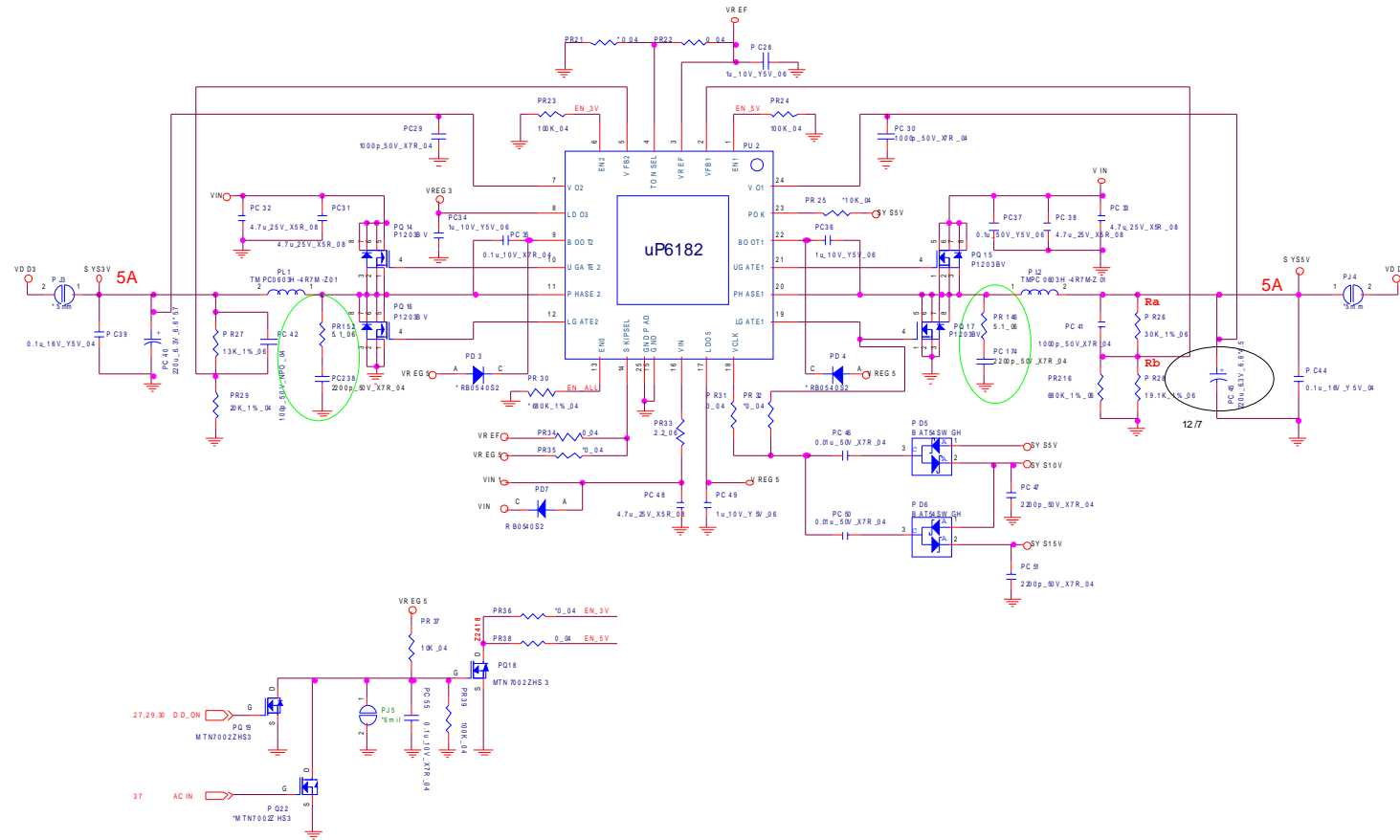


Sheet 30 of 41
5VS/ 3.3VS/ 1.8VS/
1.5VS/ 1.1VS

Schematic Diagrams

POWER VDD3/ VDD5

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POWER VDD3/
VDD5



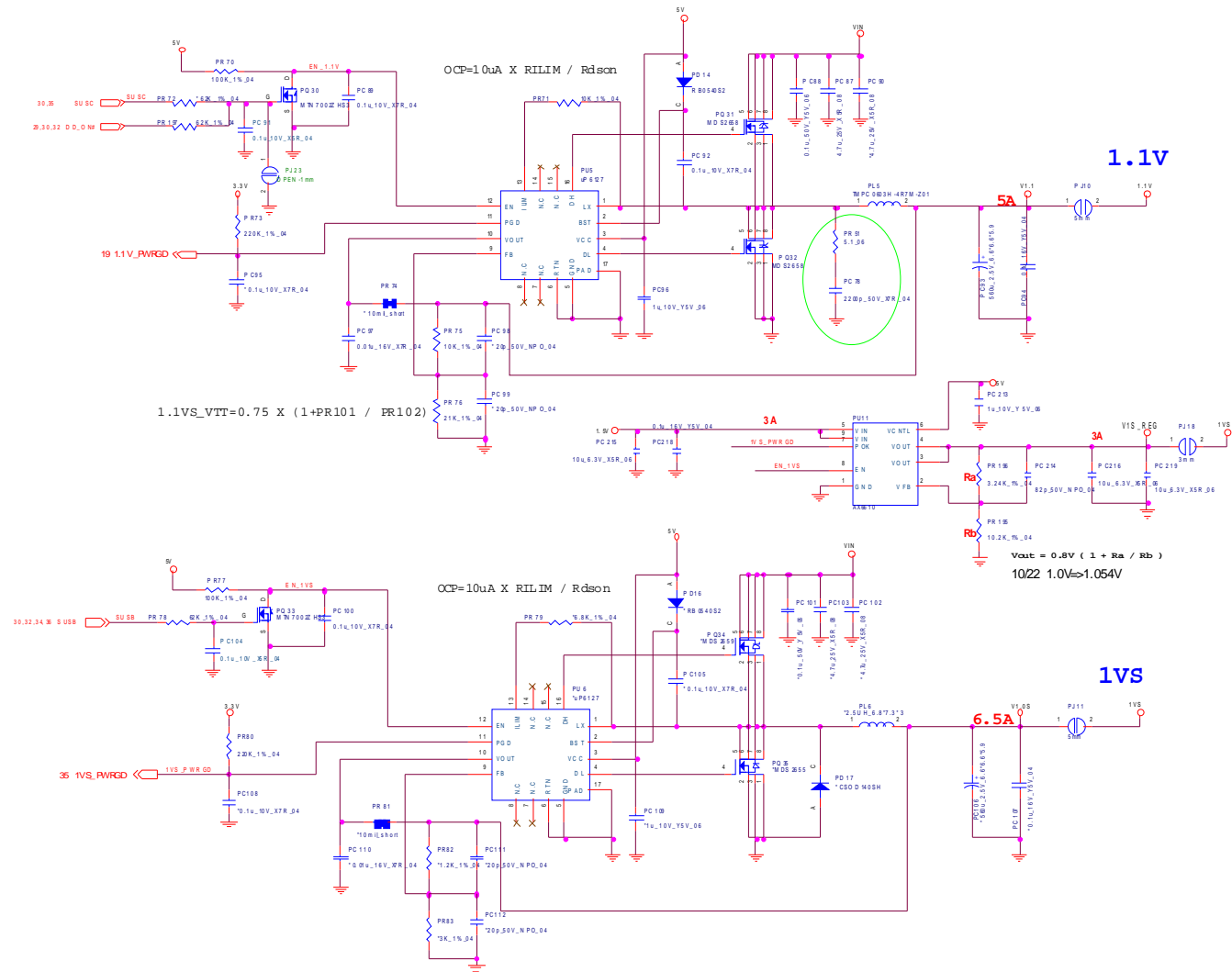
V

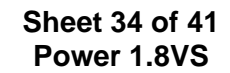
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Schematic Diagrams

Power 1.1V/ 1VS

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Power 1.1V/ 1VS



Power 1.8VS B - 35

Schematic Diagrams

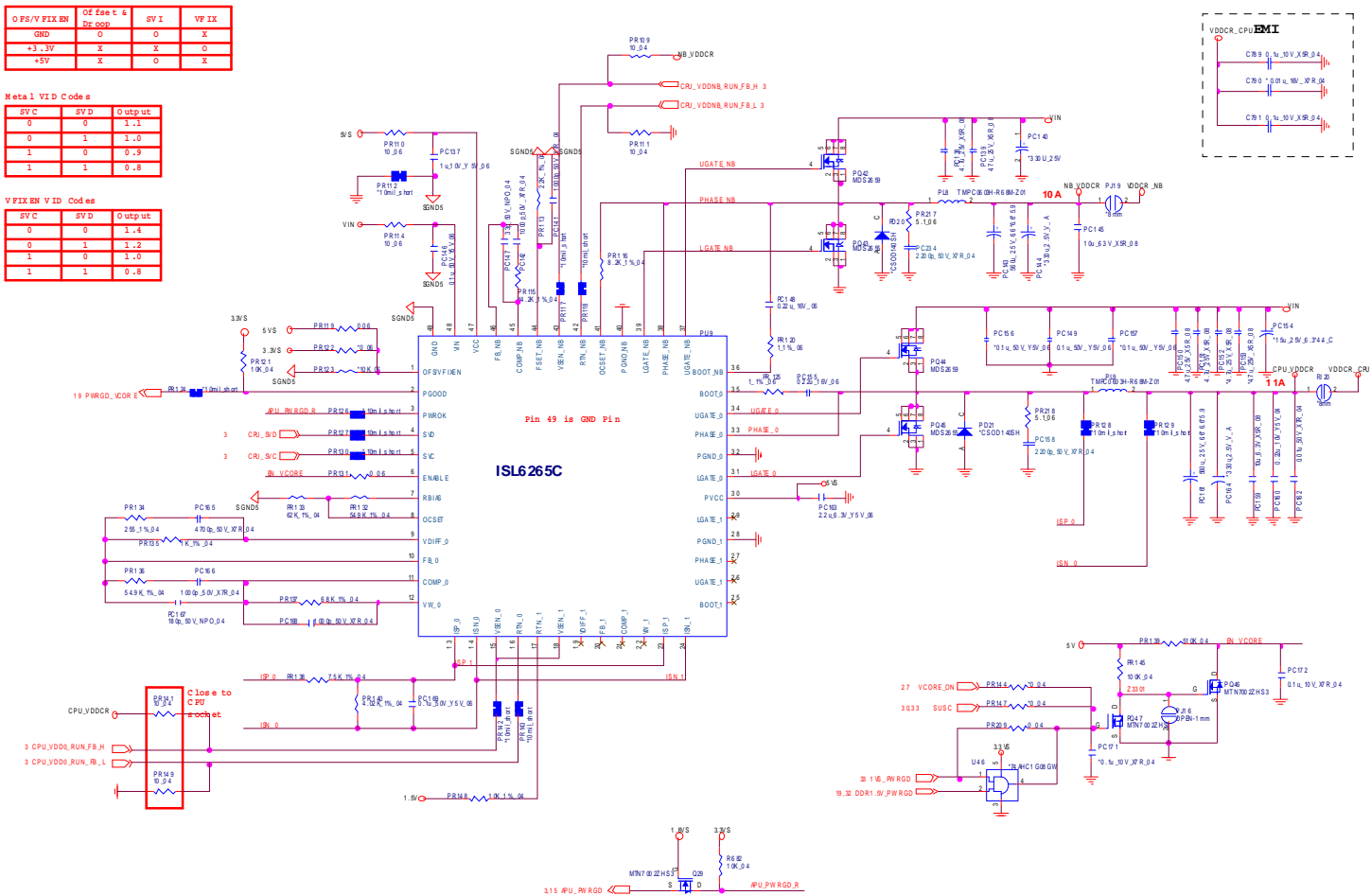
APU CORE/ NB CORE

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APU CORE/ NB
CORE

OPS/VFIXEN	Offset & Droop	SVI	VP1X
GND	0	0	X
+3.3V	X	X	0
+5V	X	0	X

Meta1 VID Codes		
SVI	SVI	Output
0	0	1.1
0	1	1.0
1	0	0.9
1	1	0.8

VFIXEN VID Codes		
SVI	SVI	Output
0	0	1.4
0	1	1.2
1	0	1.0
1	1	0.8

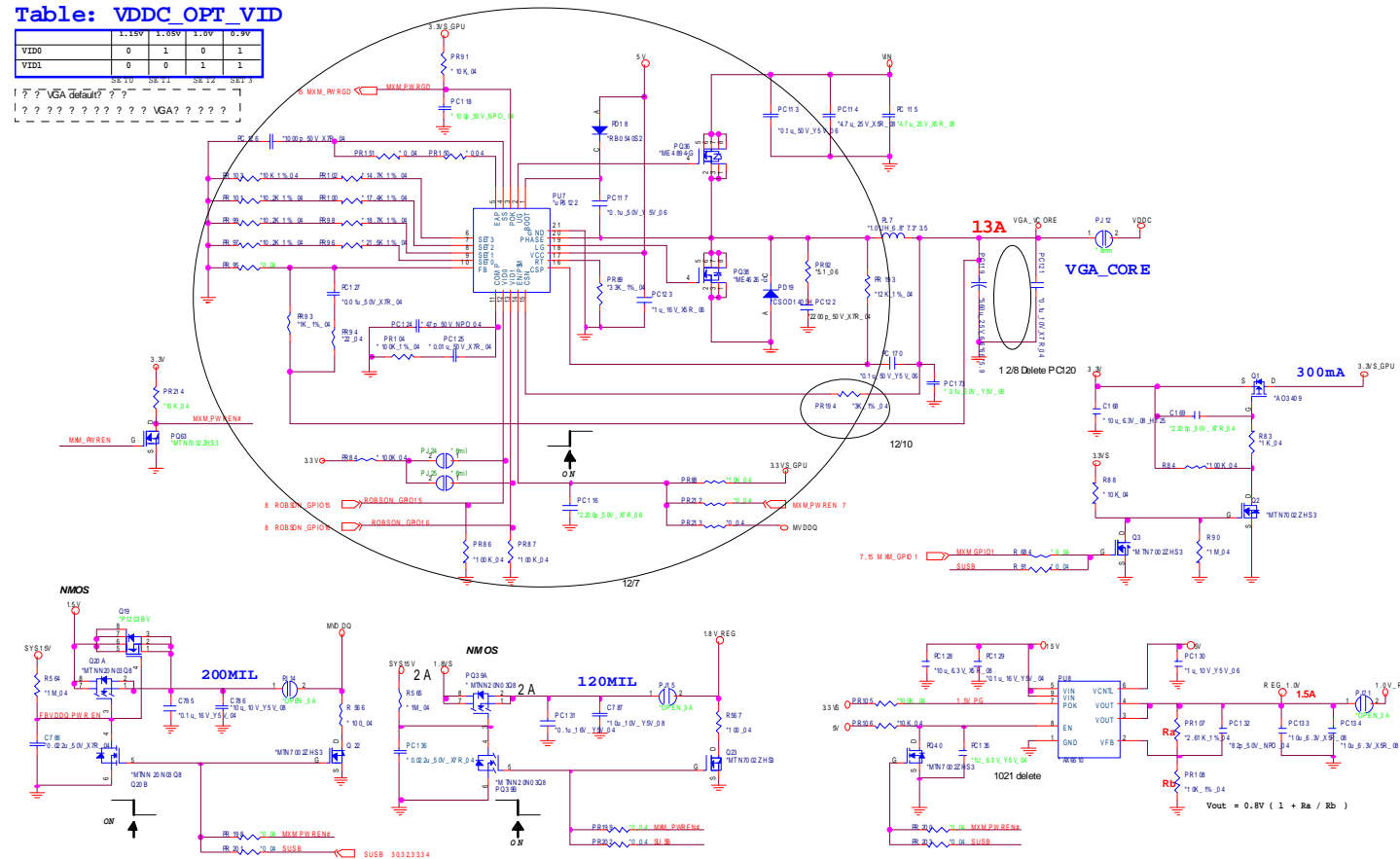


VGA POWER

Table: VDDC_OPT_VID

	1.15V	1.05V	1.0V	0.9V
VDD	0	1	0	1
VDD1	0	0	1	1

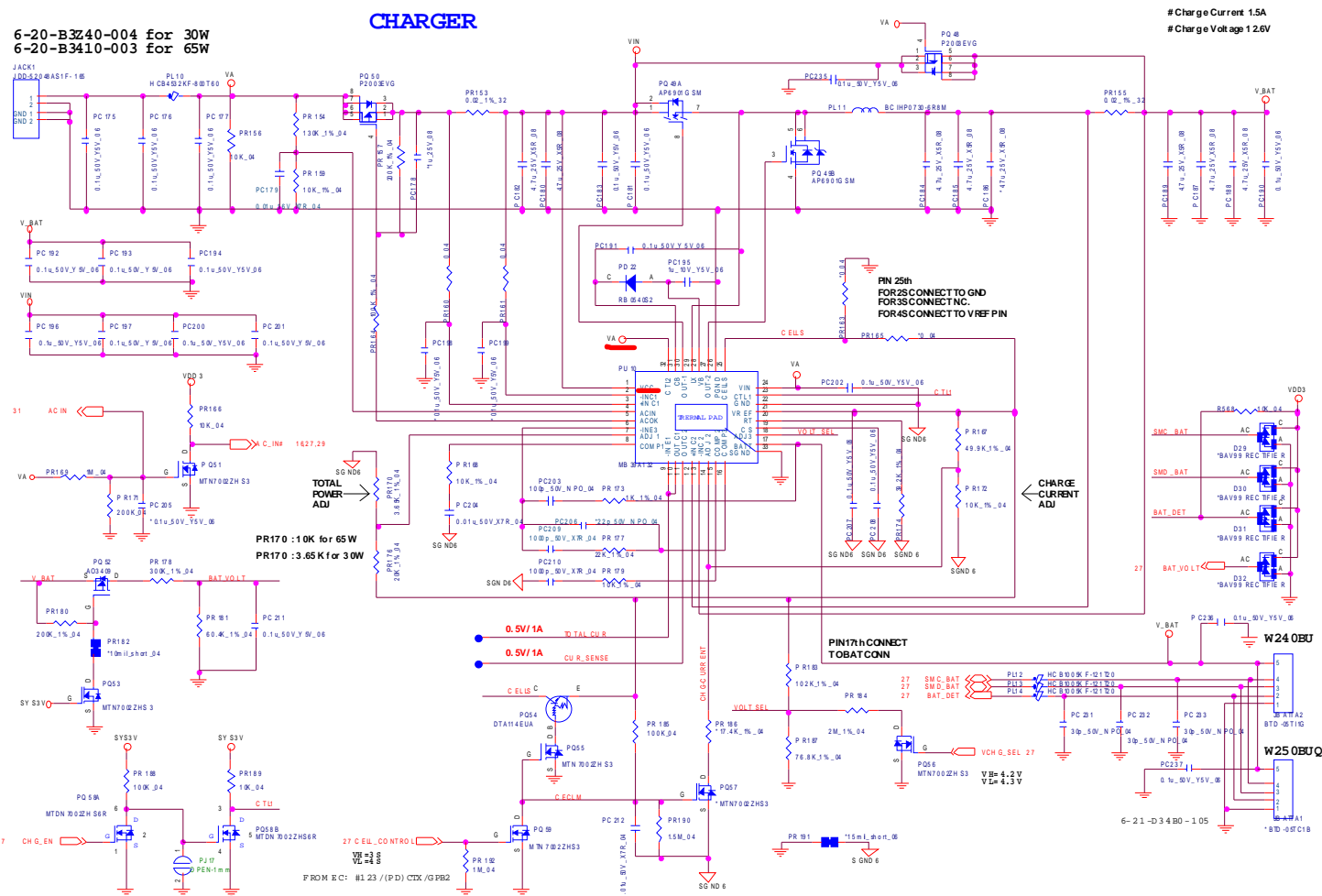
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VGA POWER

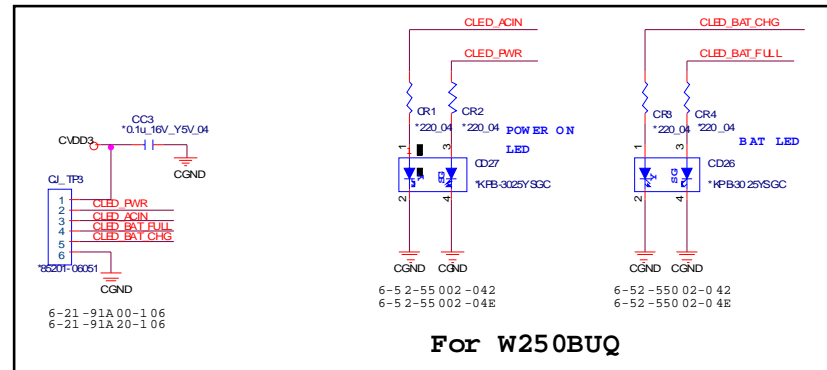
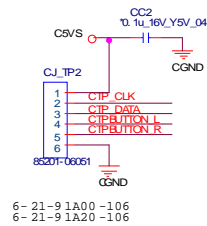
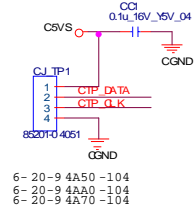
CHARGER/ DC IN

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CHARGER/ DC IN



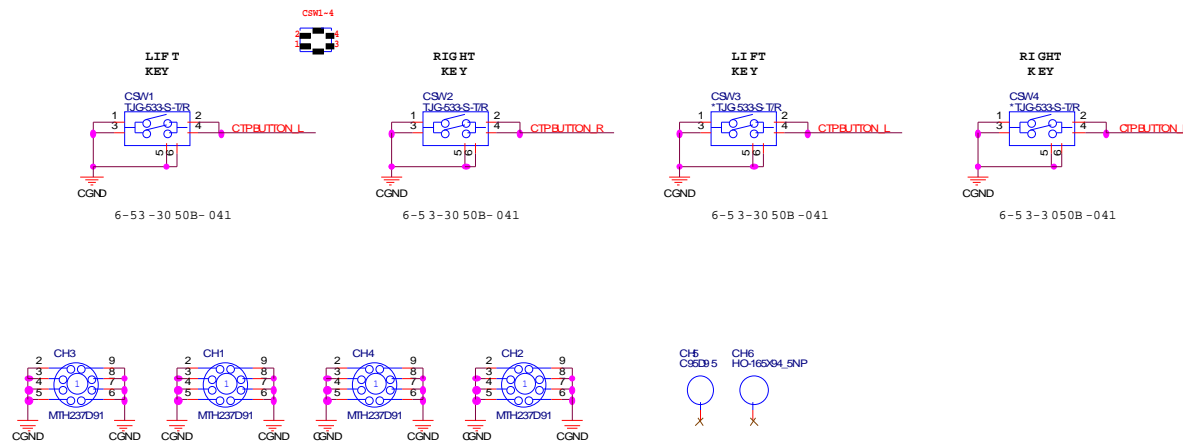
Click Board

CLICK BOARD



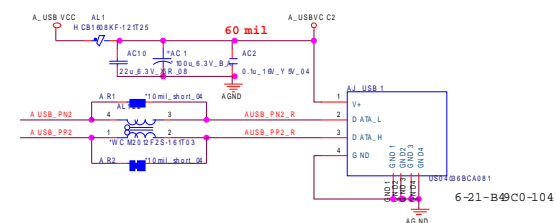
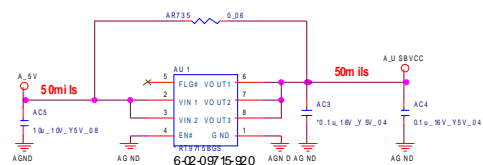
Sheet 38 of 41
Click Board

B.Schematic Diagrams



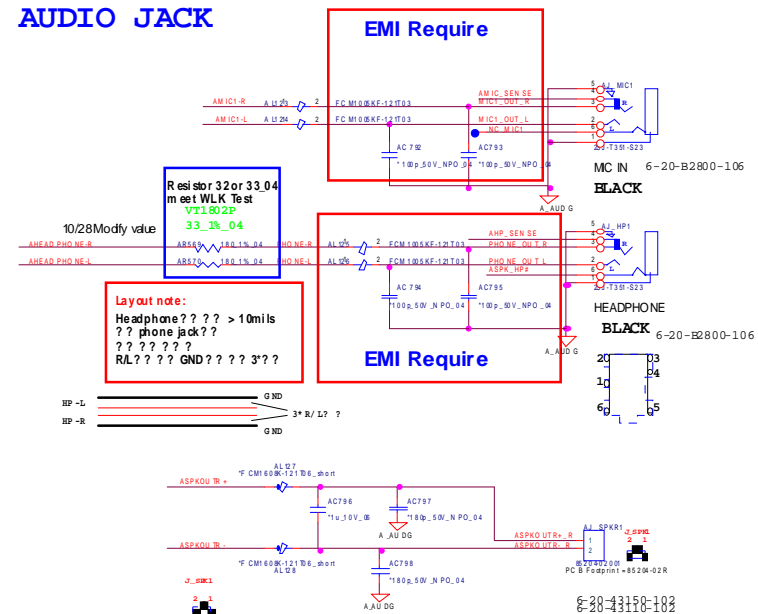
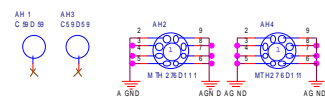
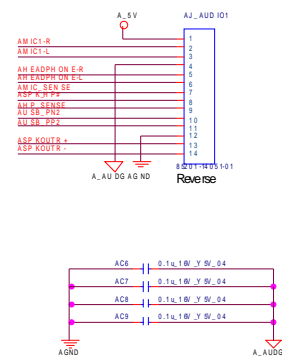
Audio Board/ USB

USB PORT



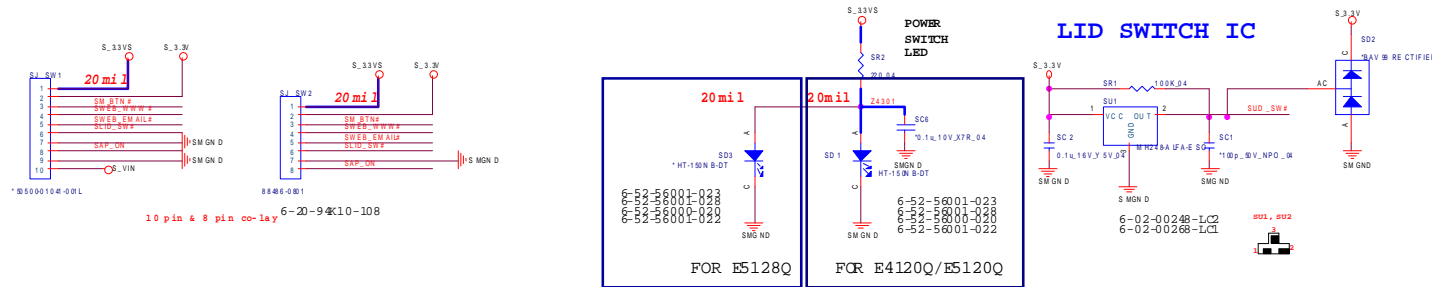
TO M/B

AUDIO JACK



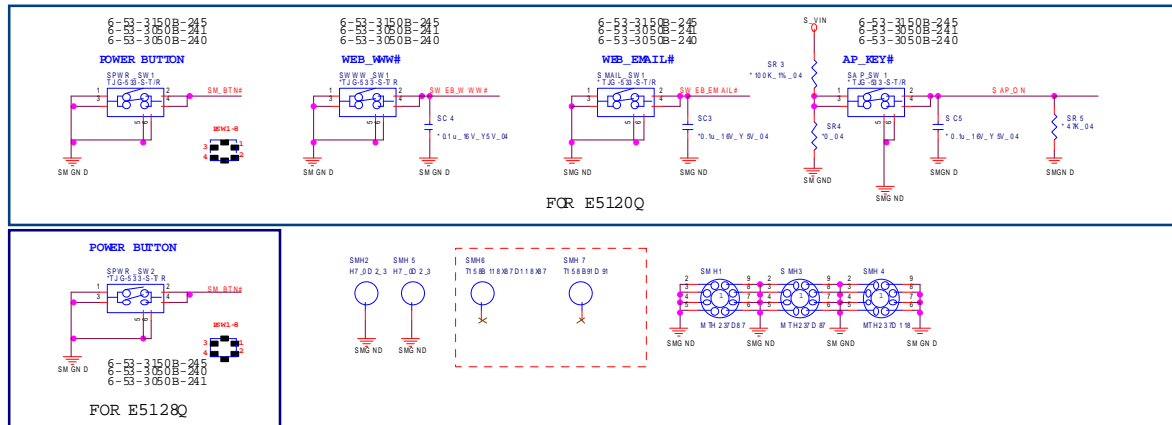
Power Switch & LID Board

POWER SW & LED & HOT KEY

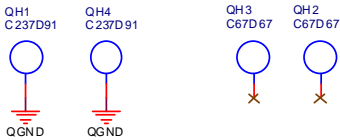
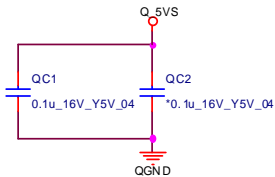


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Power Switch & LID
Board

HOT KEY



EXTERNAL ODD Board



Appendix C: Updating the FLASH ROM BIOS

To update the FLASH ROM BIOS you must:

- Download the BIOS update from the web site.
- Unzip the files onto a bootable CD/DVD/USB Flash Drive.
- Reboot your computer from an external CD/DVD/USB Flash Drive.
- Use the flash tools to update the flash BIOS using the commands indicated below.
- Restart the computer booting from the HDD and press **F2** at startup enter the BIOS.
- Load setup defaults from the BIOS and save the default settings and exit the BIOS to restart the computer.
- After rebooting the computer you may restart the computer again and make any required changes to the default BIOS settings.

Download the BIOS

1. Go to www.clevo.com.tw and point to **E-Services** and click **E-Channel**.
2. Use your user ID and password to access the appropriate download area (BIOS), and download the latest BIOS files (the BIOS file will be contained in a batch file that may be run directly once unzipped) for your computer model (see sidebar for important information on BIOS versions).

Unzip the downloaded files to a bootable CD/DVD/ or USB Flash drive

1. Insert a bootable CD/DVD/USB flash drive into the CD/DVD drive/USB port of the computer containing the downloaded files.
2. Use a tool such as Winzip or Winrar to unzip all the BIOS files and refresh tools to your bootable CD/DVD/USB flash drive (you may need to create a bootable CD/DVD with the files using a 3rd party software).

Set the computer to boot from the external drive

1. With the bootable CD/DVD/USB flash drive containing the BIOS files in your CD/DVD drive/USB port, restart the computer and press **F2** (in most cases) to enter the BIOS.
2. Use the arrow keys to highlight the **Boot** menu.
3. Use the “+” and “-” keys to move boot devices up and down the priority order.
4. Make sure that the CD/DVD drive/USB flash drive is set first in the boot priority of the BIOS.
5. Press **F4** to save any changes you have made and exit the BIOS to restart the computer.



BIOS Version

Make sure you download the latest correct version of the BIOS appropriate for the computer model you are working on.

You should only download BIOS versions that are V1.01.XX or higher as appropriate for your computer model.

Note that BIOS versions are not backward compatible and therefore **you may not downgrade your BIOS to an older version** after upgrading to a later version (e.g if you upgrade a BIOS to ver 1.01.05, you **MAY NOT** then go back and flash the BIOS to ver 1.01.04).

BIOS Update

Use the flash tools to update the BIOS

1. Make sure you are not loading any memory management programs such as HIMEM by holding the **F8** key as you see the message “**Starting MS-DOS**”. You will then be prompted to give “**Y**” or “**N**” responses to the programs being loaded by DOS. Choose “**N**” for any memory management programs.
2. You should now be at the DOS prompt e.g: `DISK C:\>` (C is the designated drive letter for the CD/DVD drive/USB flash drive).
3. **Type the following command** at the DOS prompt:

C:\> Flash.bat

4. The utility will then proceed to flash the BIOS.
5. You should then be prompted to press any key to restart the system or turn the power off, and then on again but make sure you remove the CD/DVD/USB flash drive from the CD/DVD drive/USB port before the computer restarts.

Restart the computer (booting from the HDD)

1. With the CD/DVD/USB flash drive removed from the CD/DVD drive/USB port the computer should restart from the HDD.
2. Press **F2** as the computer restarts to enter the BIOS.
3. Use the arrow keys to highlight the **Exit** menu.
4. Select **Load Setup Defaults** (or press **F3**) and select “**Yes**” to confirm the selection.
5. Press **F4** to save any changes you have made and exit the BIOS to restart the computer.

Your computer is now running normally with the updated BIOS

You may now enter the BIOS and make any changes you require to the default settings.