

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**

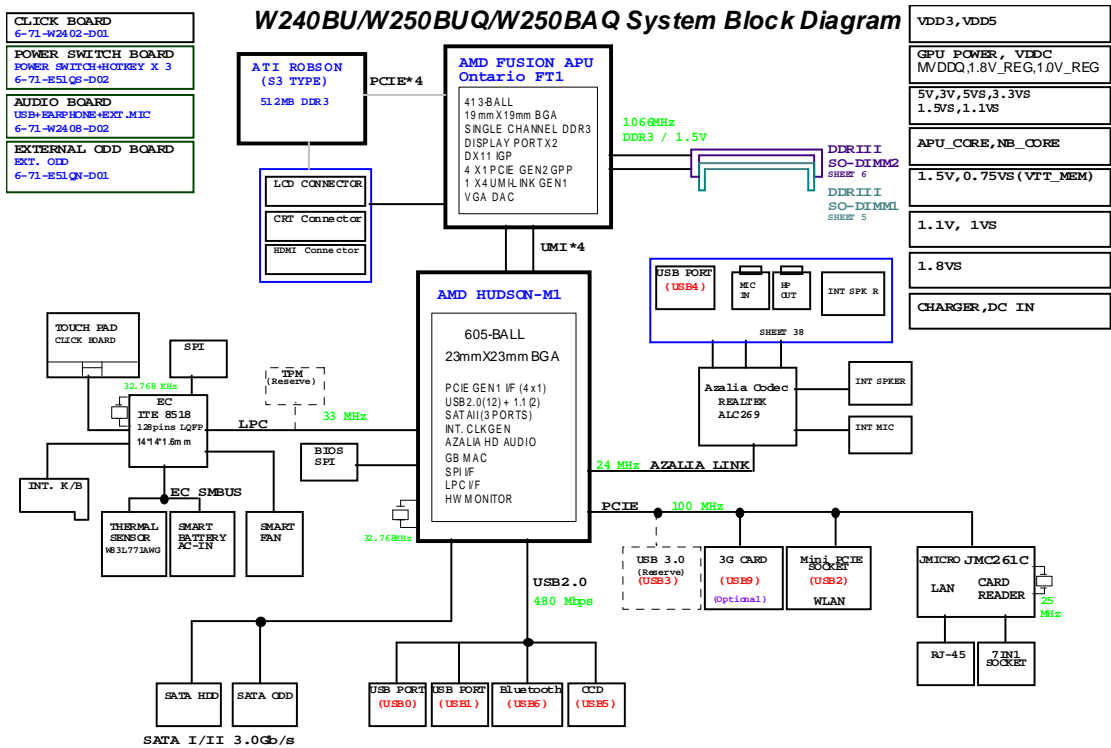


Version Note

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).

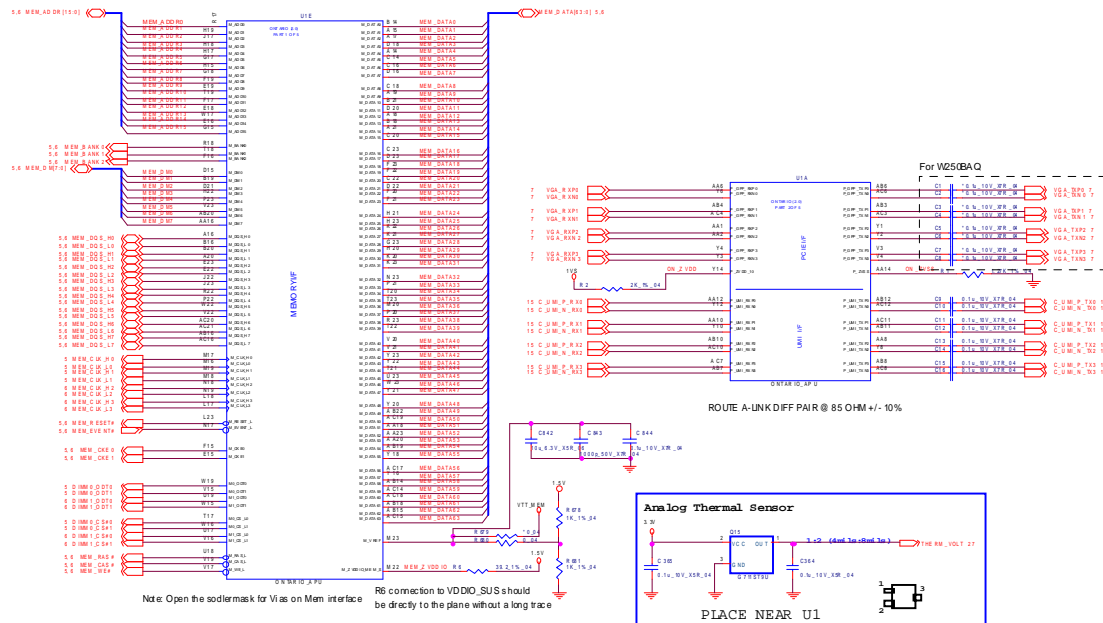
System Block Diagram

Sheet 1 of 41
System Block
Diagram



ONTARIO MEM & PCIE I/F, AP

ONTARIO MEM & PCIE I/F, AP



ONTATIO DISPLAY/ CLK/ MISC

The diagram illustrates the electrical connections for the Ontario APU board. Key components and connections include:

- Power and Grounding:** 1.8V, 3.3V, and 1.8V_S supply rails with associated resistors (R1, R2, R3, R4, R5, R6, R7, R8, R9, R10, R11, R12, R13, R14, R15, R16, R17, R18, R19, R20, R21, R22, R23, R24, R25, R26, R27, R28, R29, R30, R31, R32, R33, R34, R35, R36, R37, R38, R39, R40, R41, R42, R43, R44, R45, R46, R47, R48, R49, R50, R51, R52, R53, R54, R55, R56, R57, R58, R59, R60, R61, R62, R63, R64, R65, R66, R67, R68, R69, R70, R71, R72, R73, R74, R75, R76, R77, R78, R79, R80, R81, R82, R83, R84, R85, R86, R87, R88, R89, R90, R91, R92, R93, R94, R95, R96, R97, R98, R99, R100) and capacitors (C1, C2, C3, C4, C5, C6, C7, C8, C9, C10, C11, C12, C13, C14, C15, C16, C17, C18, C19, C20, C21, C22, C23, C24, C25, C26, C27, C28, C29, C30, C31, C32, C33, C34, C35, C36, C37, C38, C39, C40, C41, C42, C43, C44, C45, C46, C47, C48, C49, C50, C51, C52, C53, C54, C55, C56, C57, C58, C59, C60, C61, C62, C63, C64, C65, C66, C67, C68, C69, C70, C71, C72, C73, C74, C75, C76, C77, C78, C79, C80, C81, C82, C83, C84, C85, C86, C87, C88, C89, C90, C91, C92, C93, C94, C95, C96, C97, C98, C99, C100).
- APU/SIC:** Connections for the APU/SIC (APU/SIC) and APU/SIC (APU/SIC) components.
- LDT:** Connections for the LDT (LDT) and LDT (LDT) components.
- Headers:** Connections for various headers including HDMI, LVDS, HD+, and APU/SIC.
- Reserve:** A section at the bottom of the diagram labeled "Reserve" with connections for APU/SIC, LDT, and APU/SIC.

ONTARIO POWER & DECOUPLING



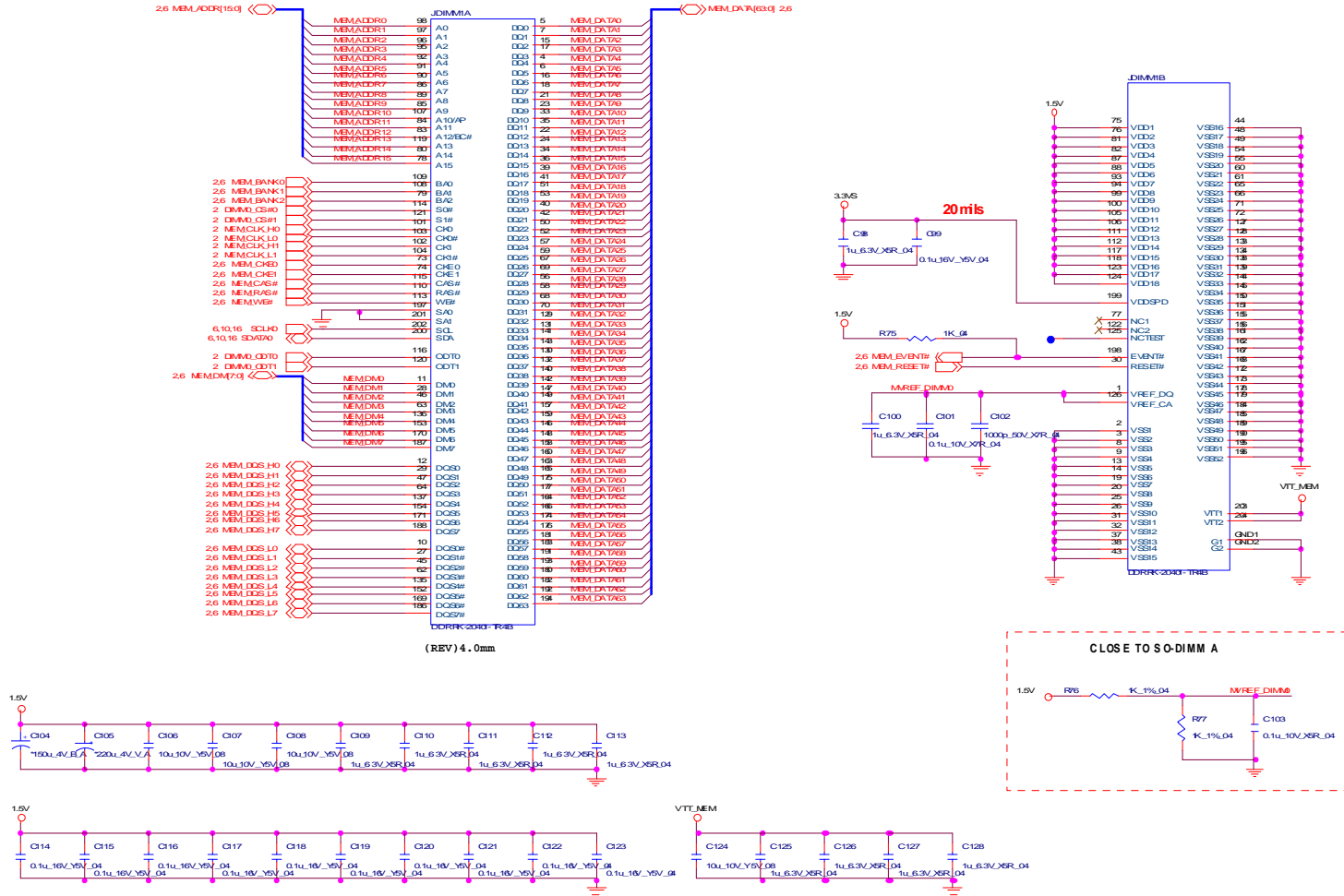
INAGUA DDR3 SO-DIMMS A

SO-DIMM A

INAGUA DDR3 SO-DIMMS A

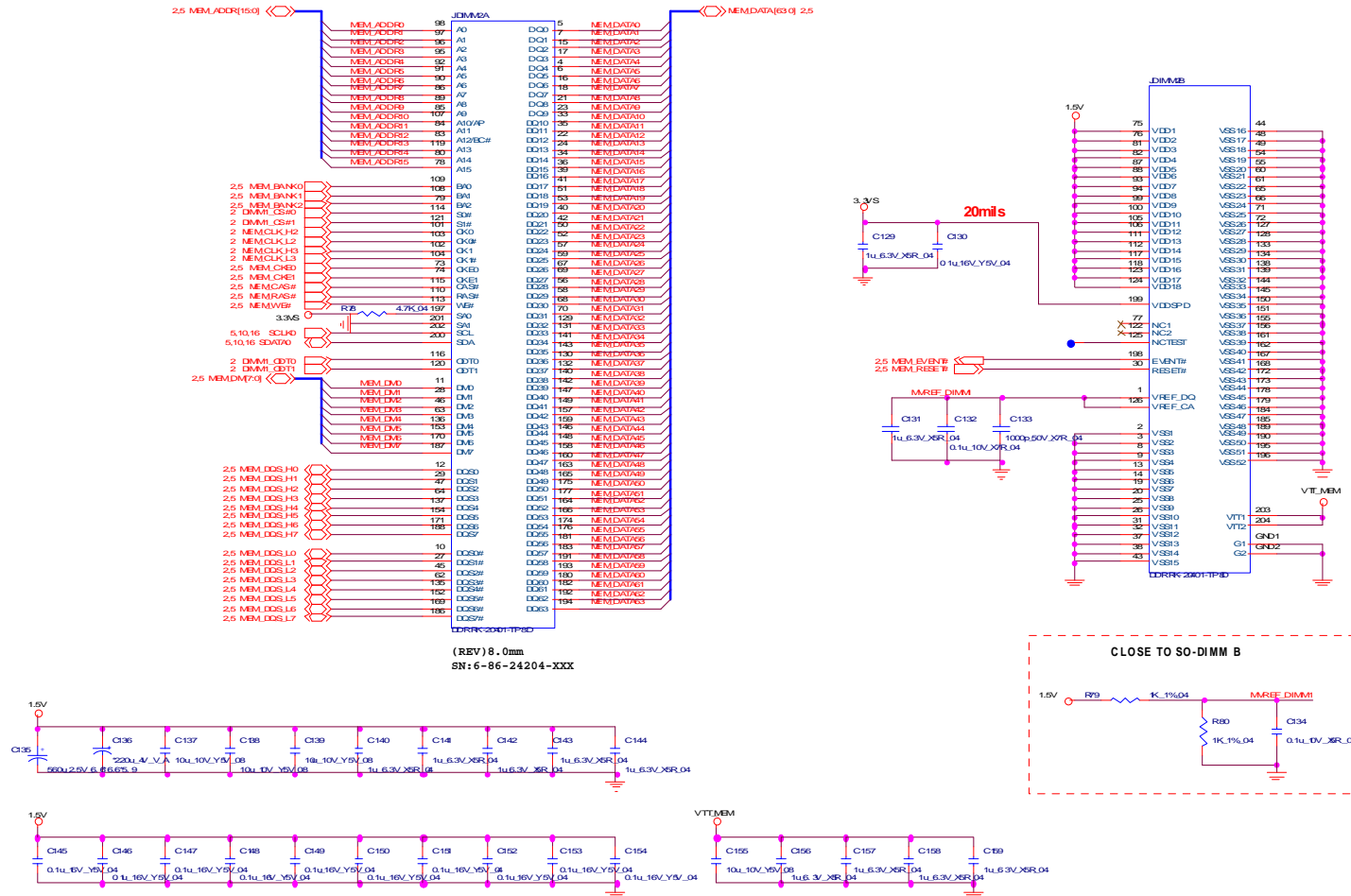
Sheet 5 of 41
INAGUA DDR3 SO-DIMMS A

B.Schematic Diagrams



SO-DIMM B

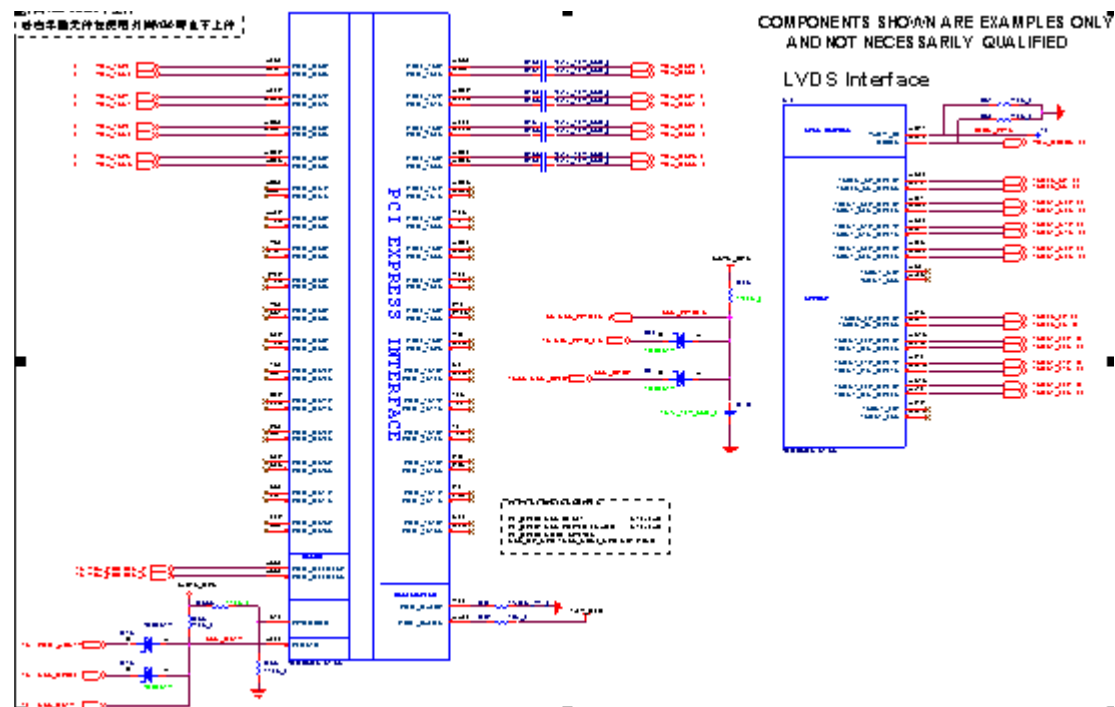
INAGUA DDR3 SO-DIMMS B



Schematic Diagrams

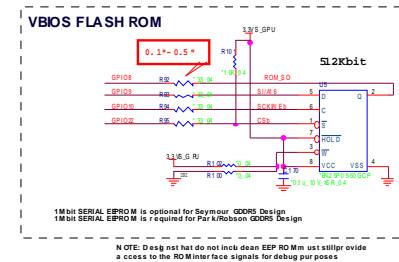
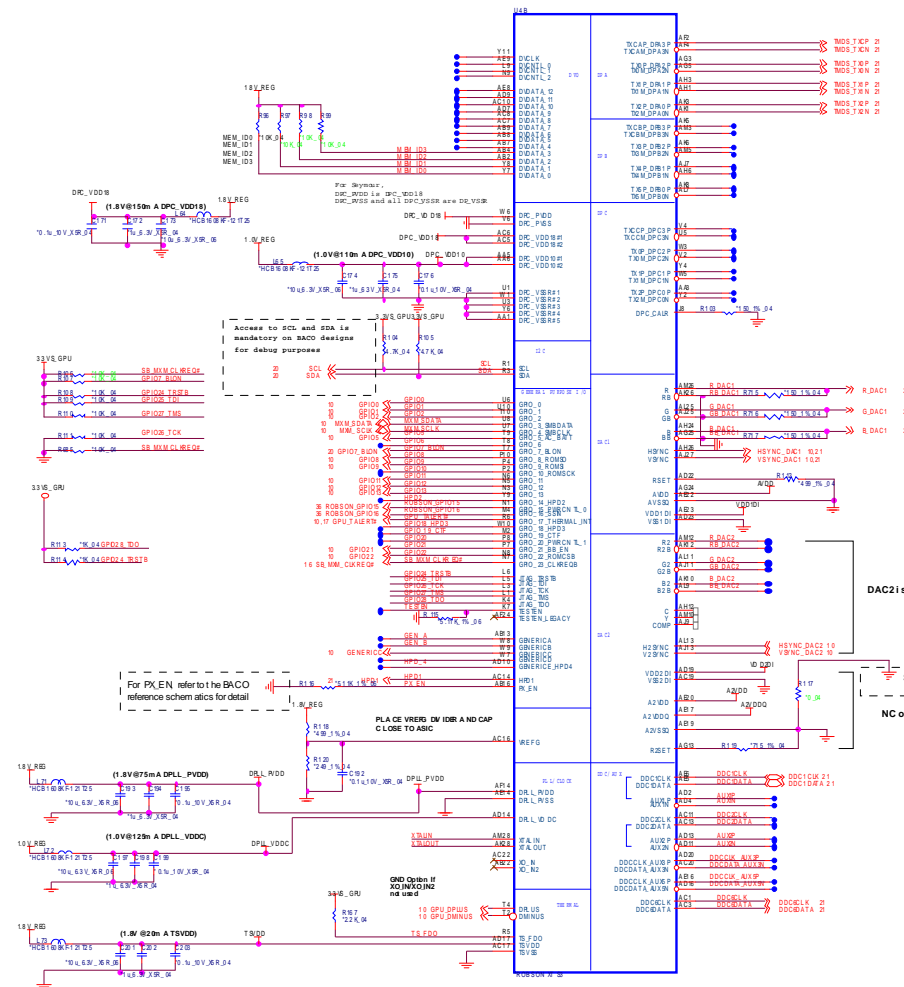
Robson S3 PCIE/ LVDS 1/6

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Robson S3 PCIE/
LVDS 1/6

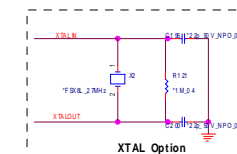
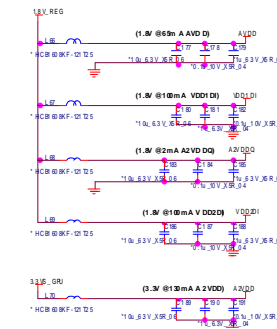


Robson S3 MAIN 2/6

COMPONENTS SHOWN ARE EXAMPLES ONLY
AND NOT NECESSARILY QUALIFIED

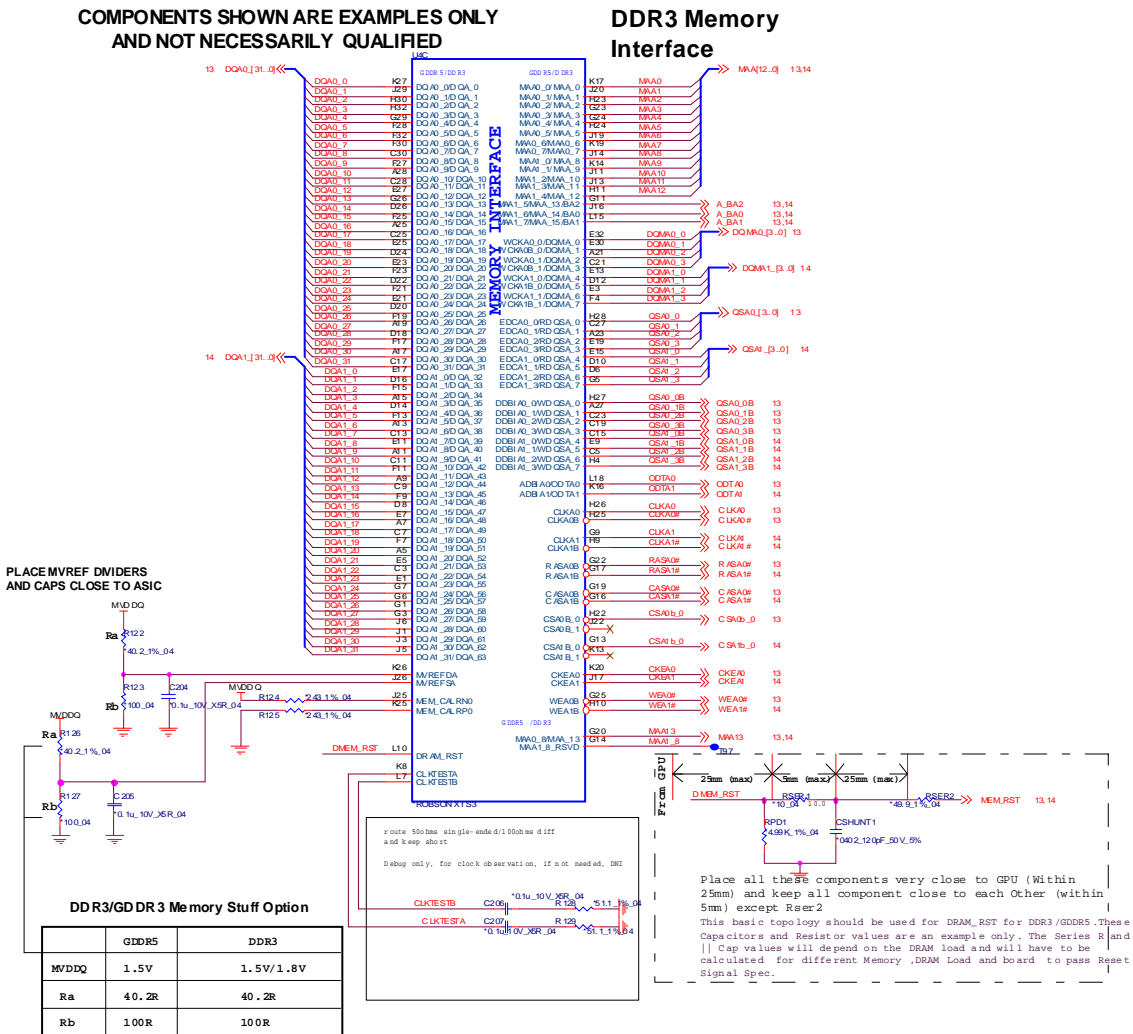


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Robson S3 MAIN 2/
6



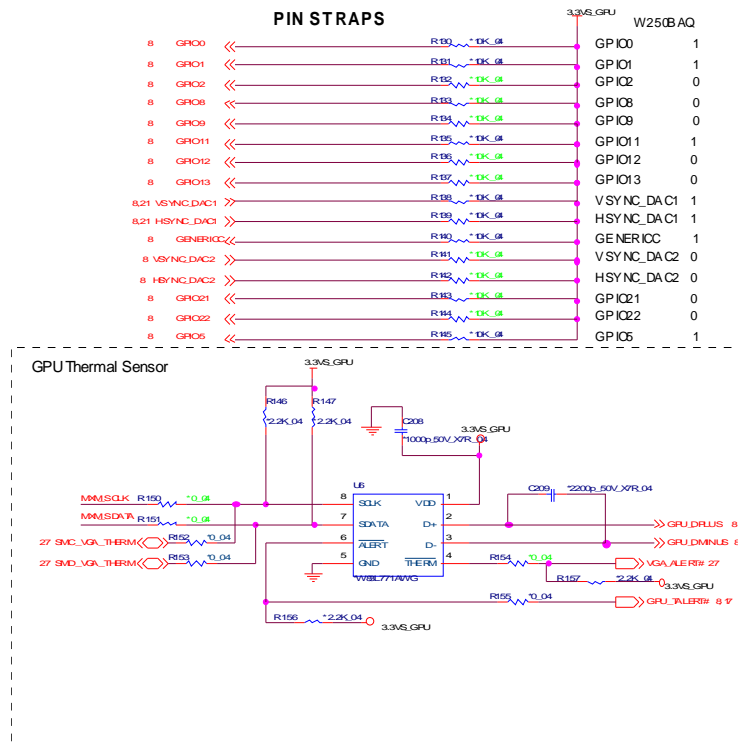
Schematic Diagrams

Robson S3 MEM Interface 3/6



Robson S3 Straps 4/6

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

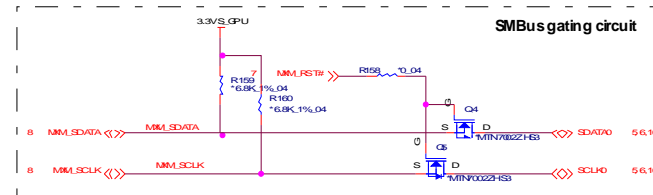


CONFIGURATION STRAPS-- SEE EACH DATABOOK FOR STRAP DETAILS ALLOW FOR PULLUP PADS FOR THESE STRAPS AND IF THESE GPIOs ARE USED, THEY MUST NOT CONFLICT DURING RESET			RECOMMENDED SETTINGS 0=DO NOT INSTALL RESISTOR 1=INSTALL 3K RESISTOR X=DESIGNDEPENDANT NA=NOT APPLICABLE
STRAPS	PIN	DESCRIPTION OF DEFAULT SETTINGS	
TX_PWRS_ENB	GPIO	PCI FULL TX OUTPUT SWING	
TX_DEMUR_LBN	GPIO	PCI TRANSMITTER DE-MURPHYS ENABLED	X
RSVD	GPIO	RESERVED	
RSVD	GPIO	RESERVED	
BIF_VGADIS	GPIO	VGA ENABLED	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 SeymourWhistle)	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.

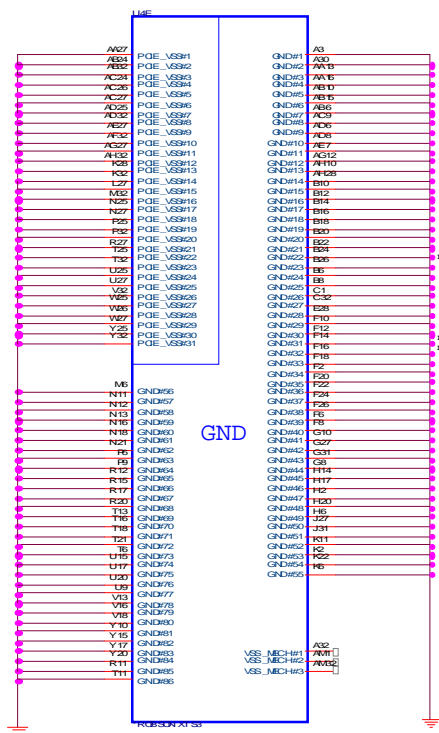
GPIO21 H2SYNC GENERICC GPIO0 GPIO2

Sheet 10 of 41
Robson S3 Straps
4/6

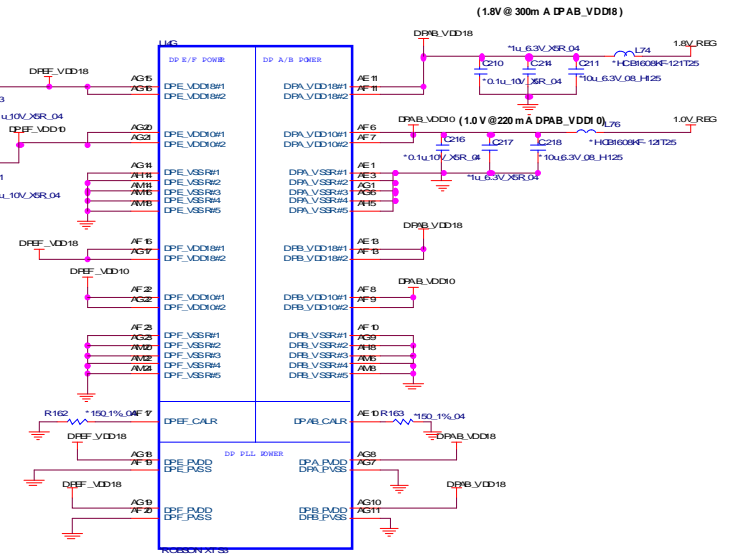
Schematic Diagrams

Robson S3 Power 5/6

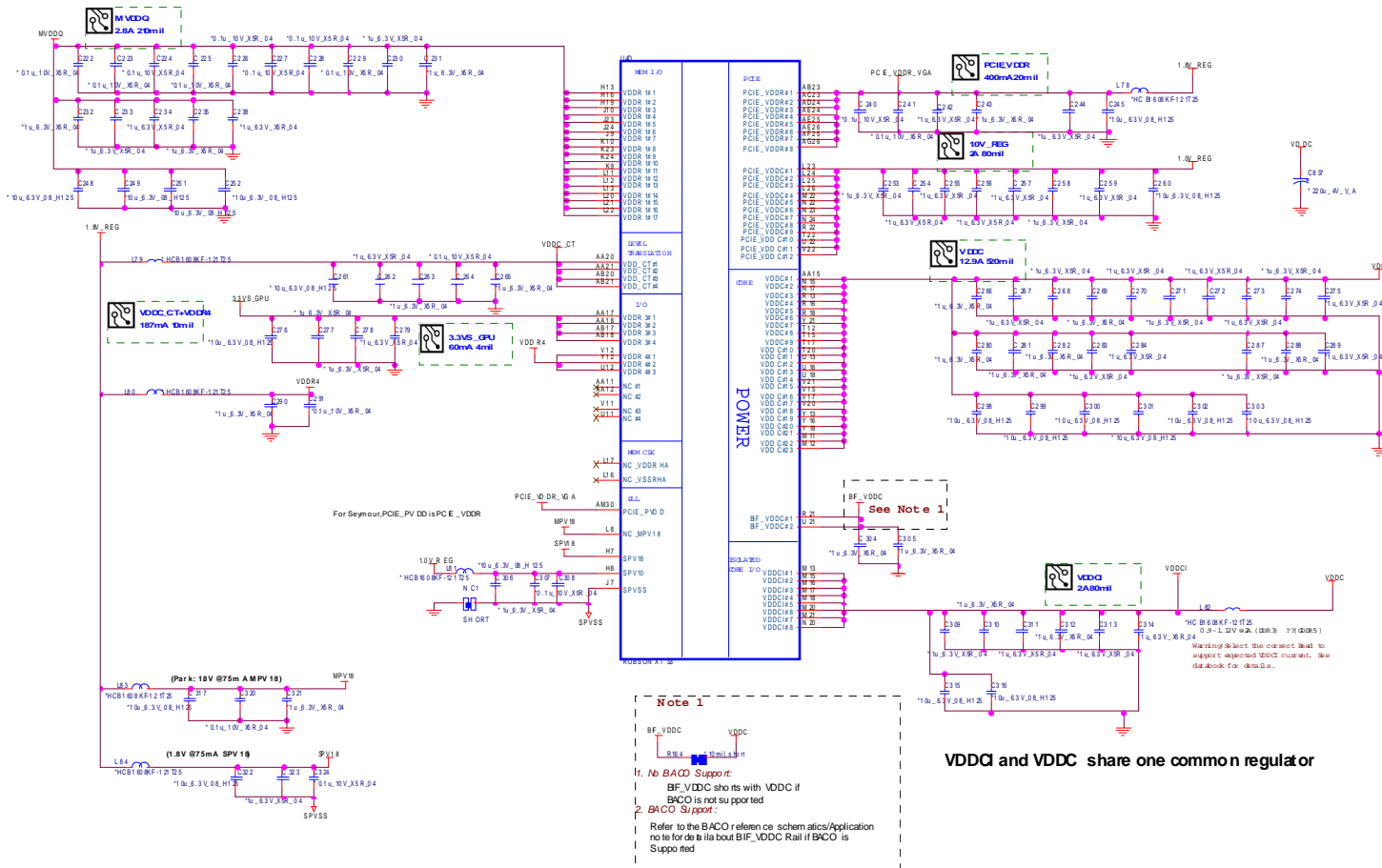
Sheet 11 of 41
Robson S3 Power
5/6



PARK/ROBSON- S3 (DP Power)



Robson S3 Power 6/6

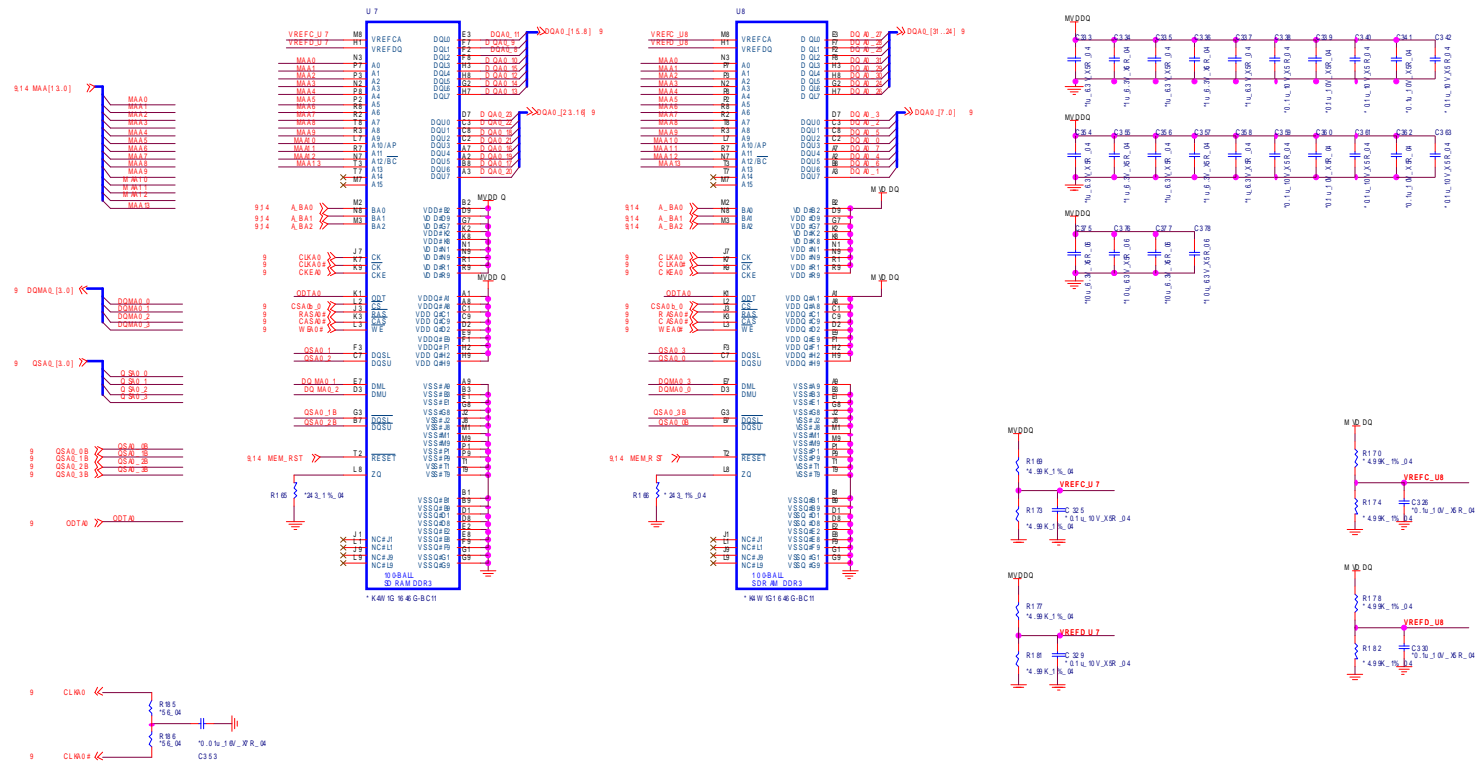


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Robson S3 Power
6/6

Schematic Diagrams

Robson DDR3 MEM CH-A

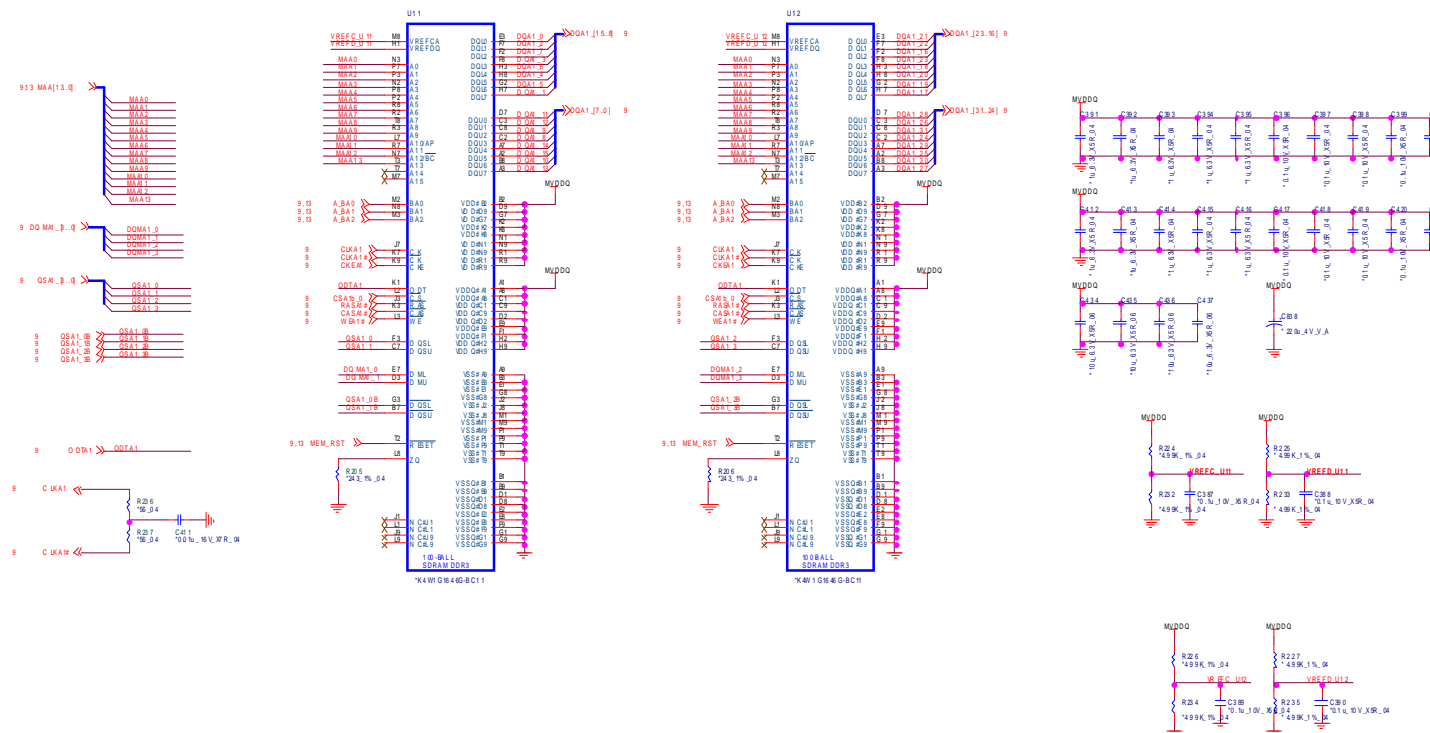
CHANNEL A: 64M X 16 bit X8 DDR3 (RANK0)

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)

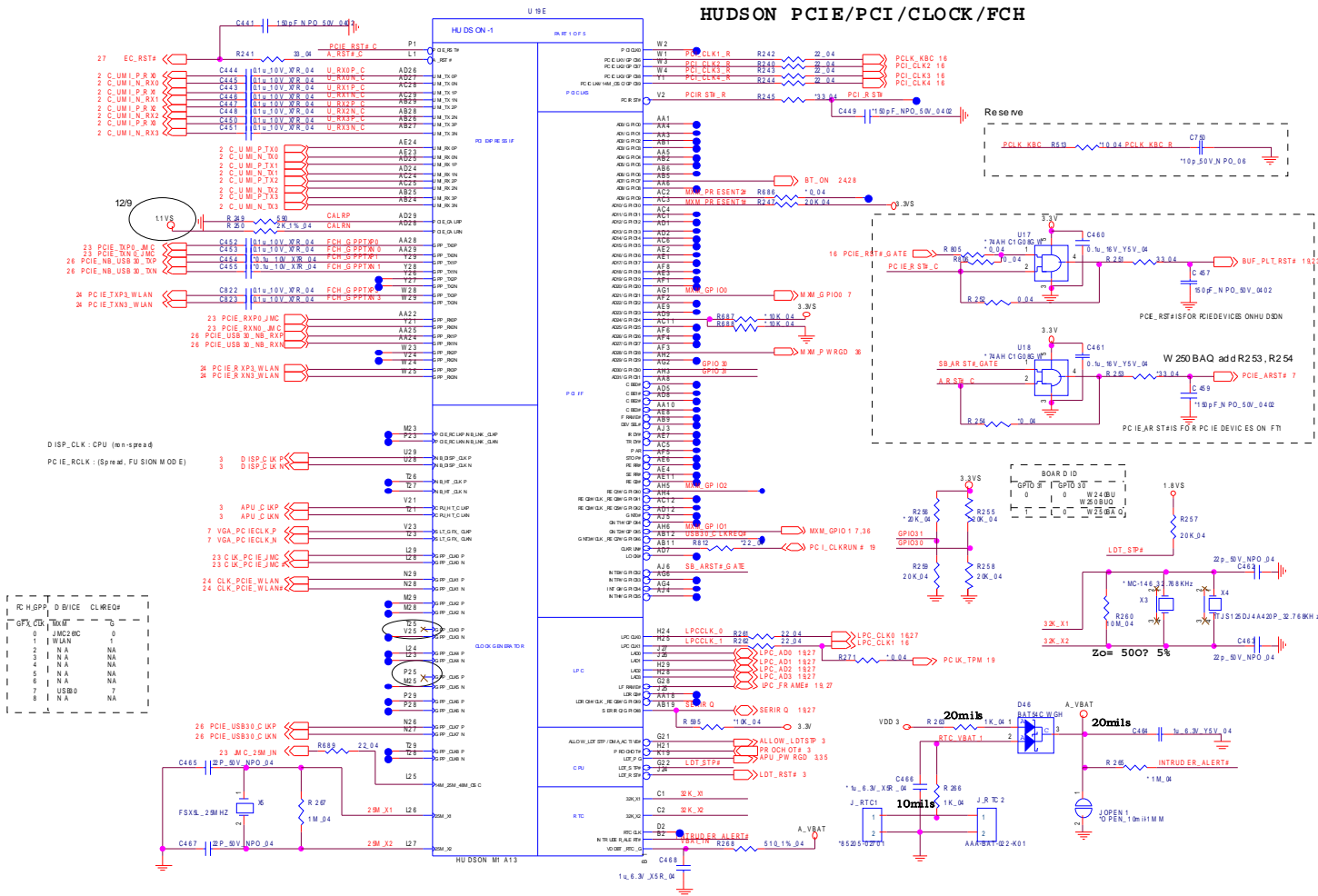


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Robson DDR3 MEM
CH-B

Schematic Diagrams

HUDSON PCIE/ PCI/ CLOCK/ FCH

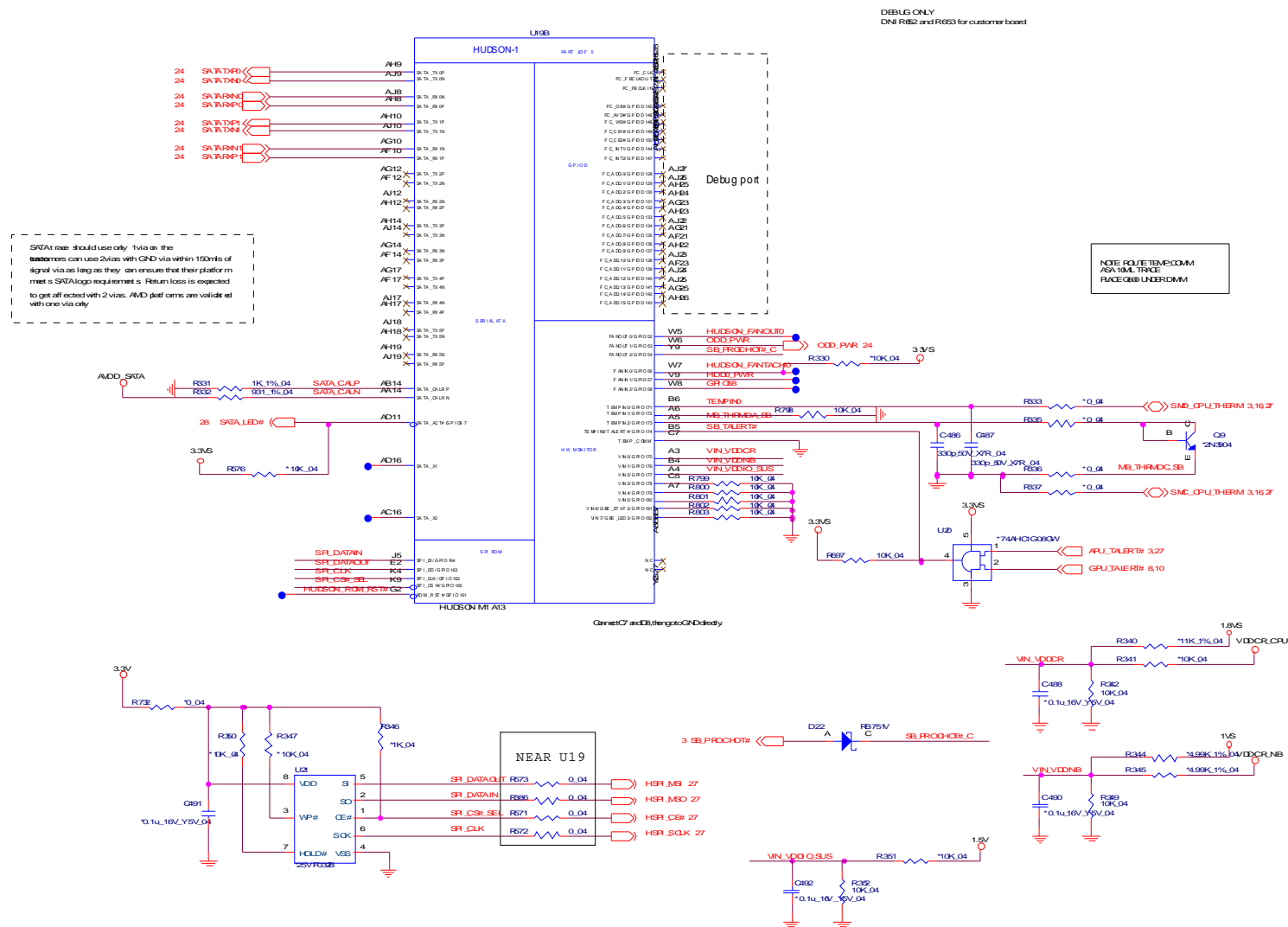
Sheet 15 of 41
HUDSON PCIE/
PCI/ CLOCK/ FCH



HUDSON GPIO/USB/AUDIO/STRAP

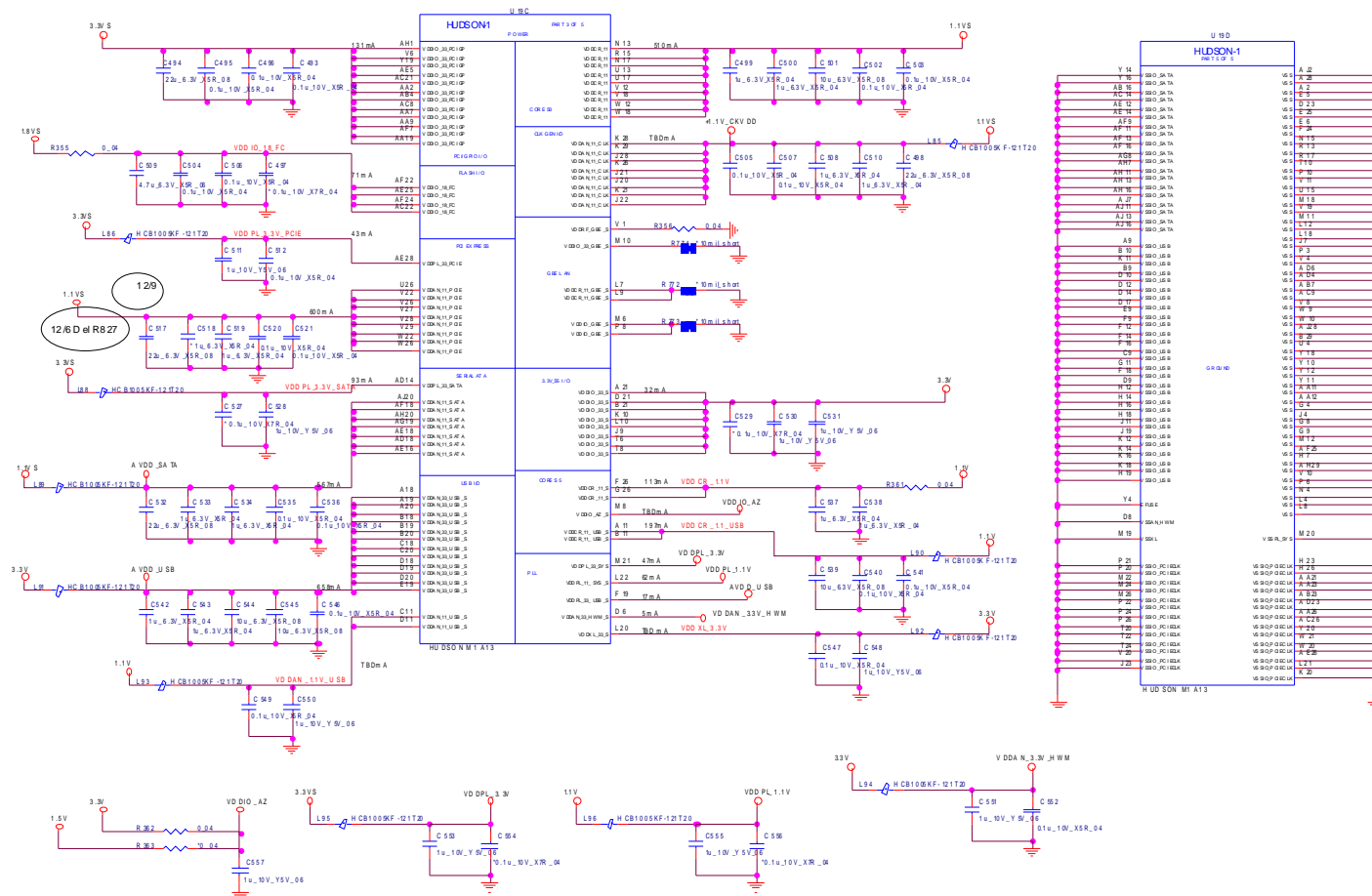


HUDSON SATA/DEBUG IO/SPI



HUDSON POWER DECOUPLING

HUDSON POWER DECOUPLING

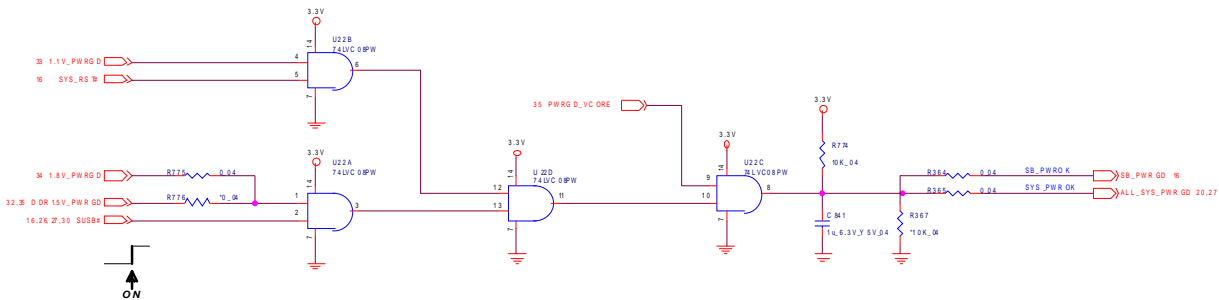


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HUDSON POWER
DECOUPLING

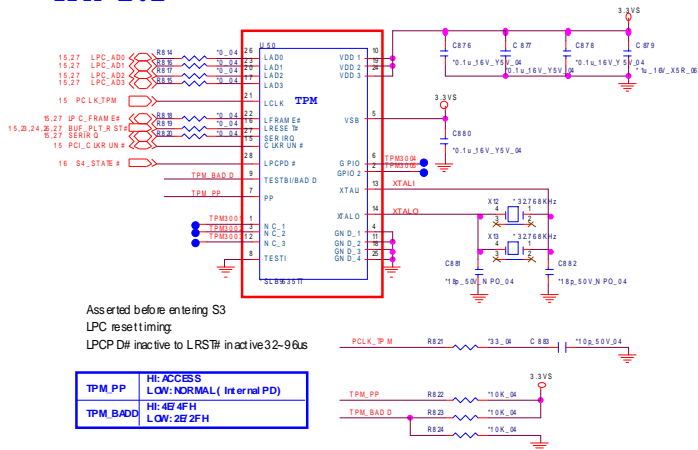
Schematic Diagrams

POWERGOOD/ TPM

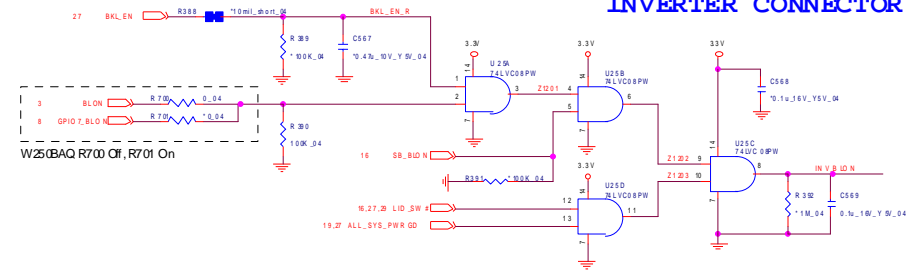
Sheet 19 of 41
POWERGOOD/
TPM



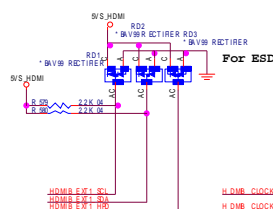
TPM 1.2



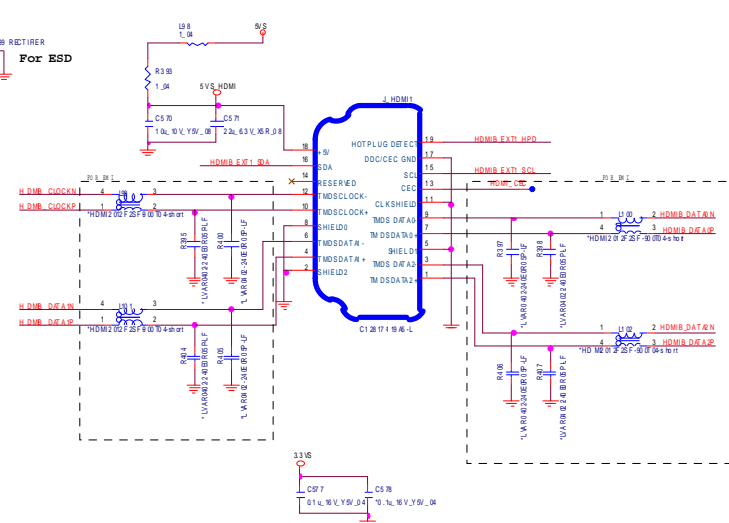
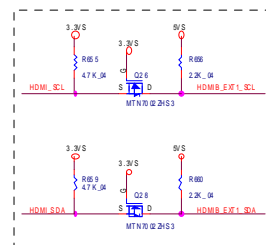
LVDS, INVERTER B - 21



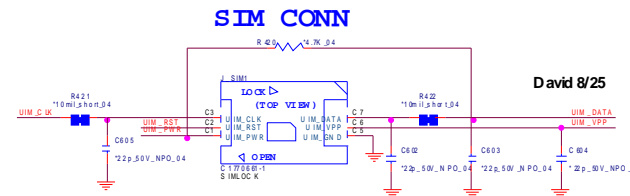
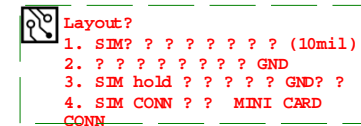
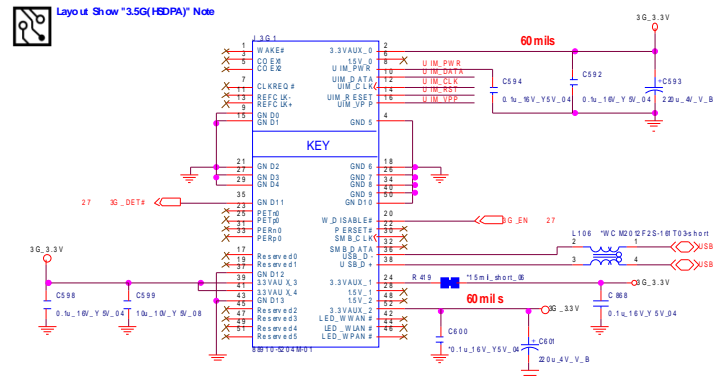
HDMI PORT



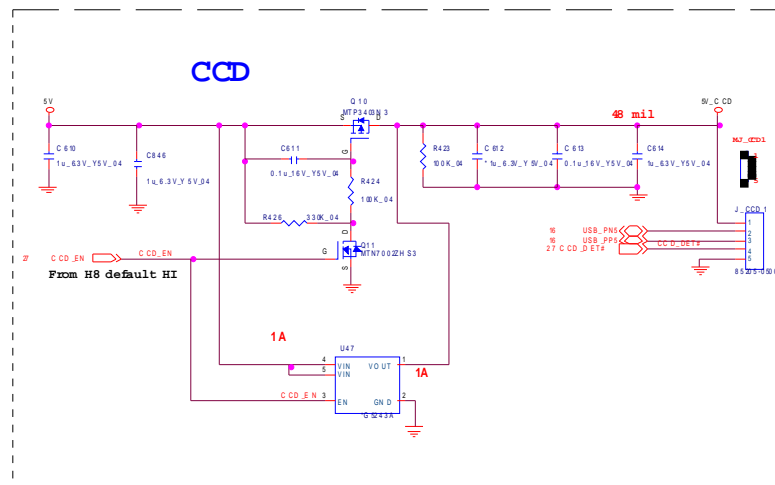
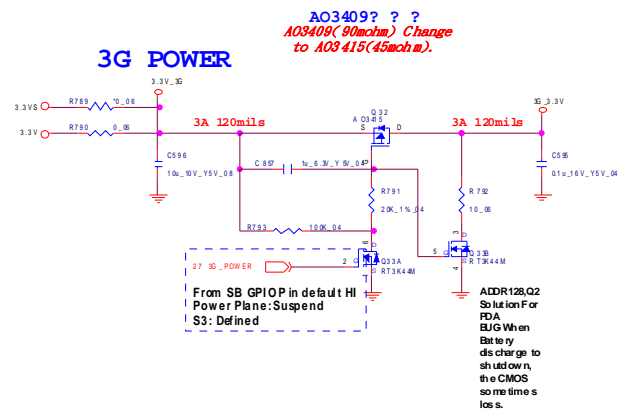
CLOSE TO HDMI CONN.

[illegible]

MINI CARD 3G (Port 6)



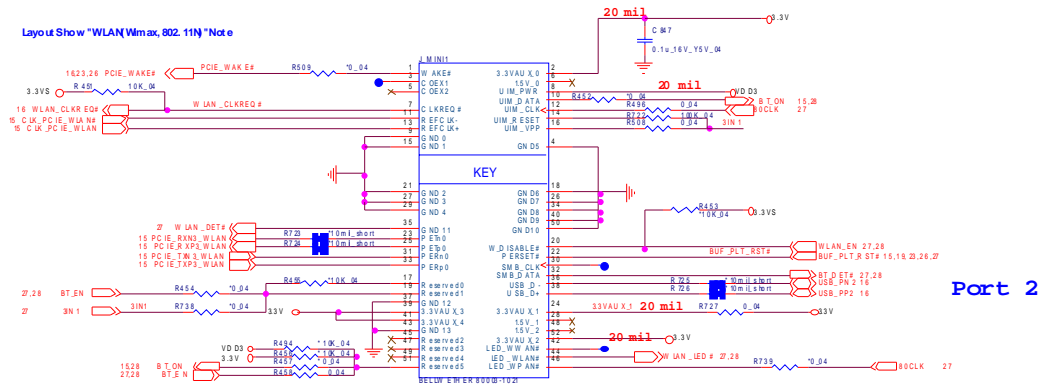
Sheet 22 of 41
CCD/ 3G



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Card Reader/ LAN
JMC261C

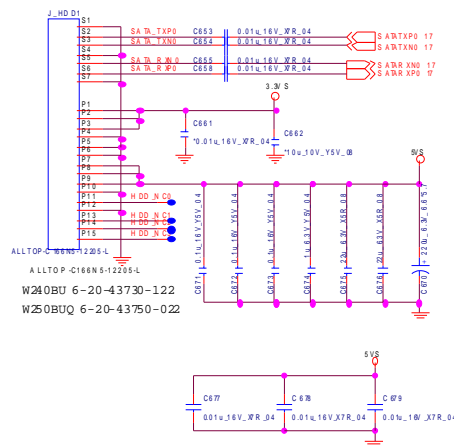
MINI PCIE/ SATA HDD/ ODD

MINI CARD (WLAN,Port 5)

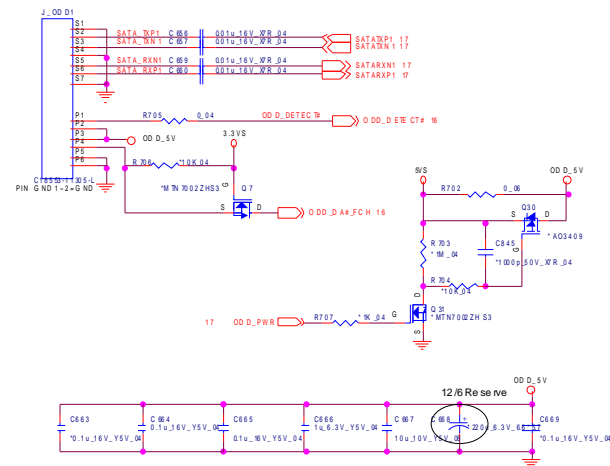


Sheet 24 of 41
MINI PCIE/ SATA
HDD/ ODD

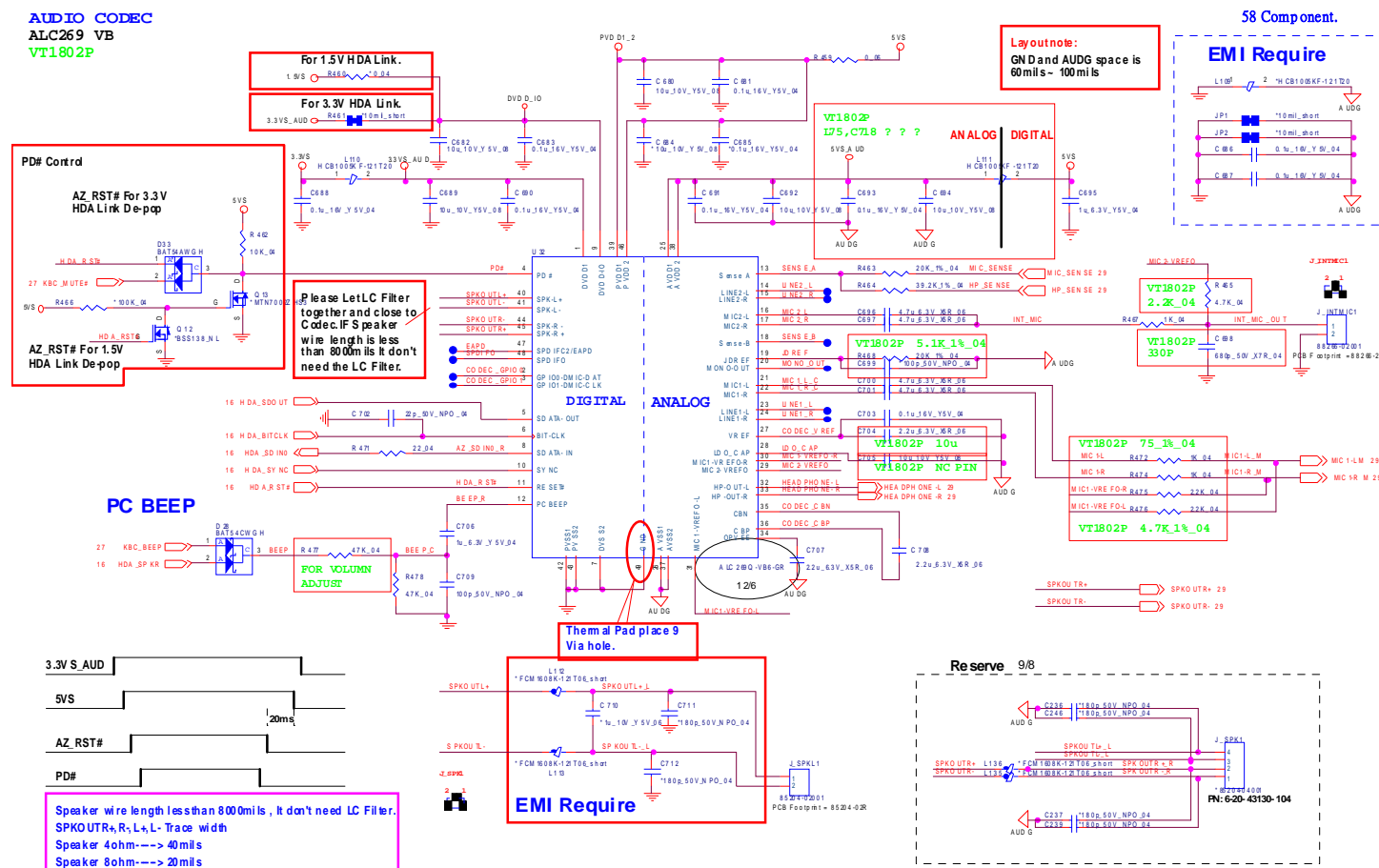
SATA HDD



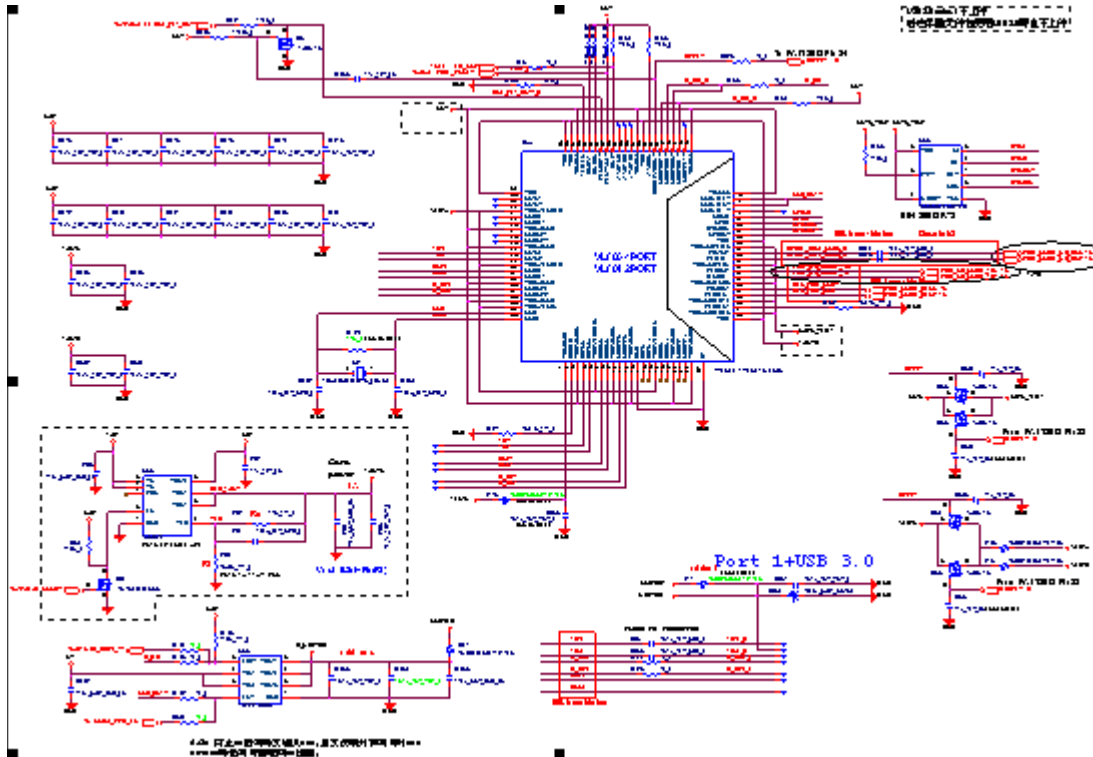
SATA ODD



Sheet 25 of 41
AUDIO CODEC
ALC261C

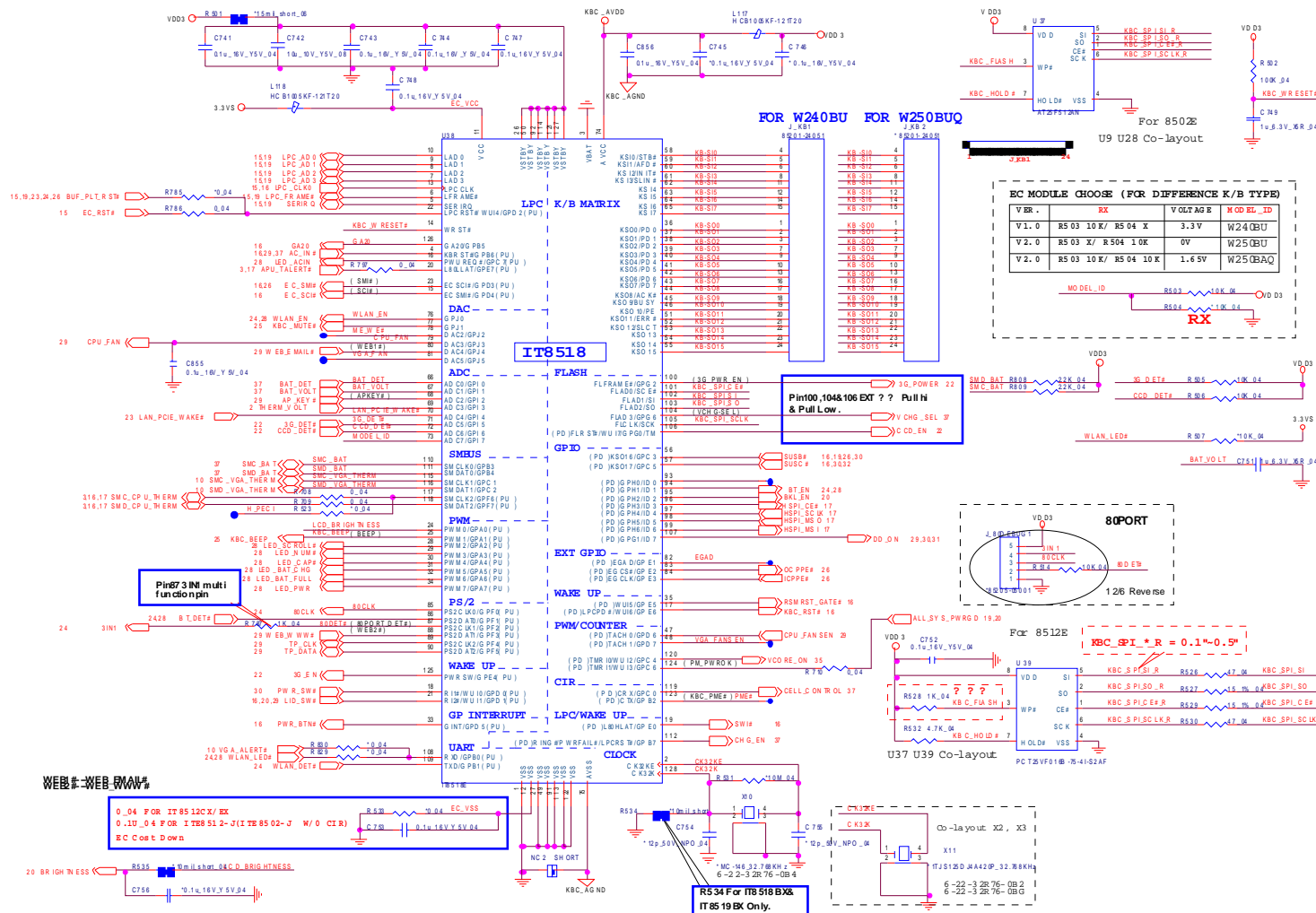


USB 3.0 VL800 B - 27



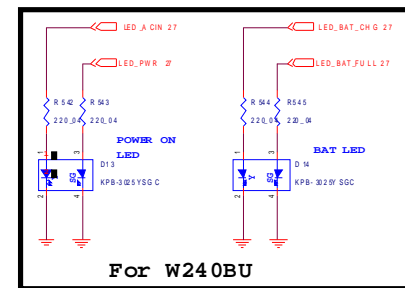
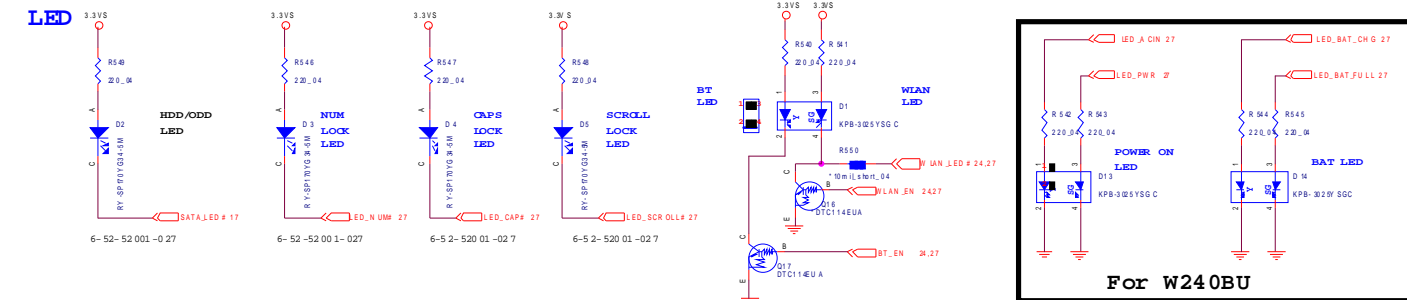
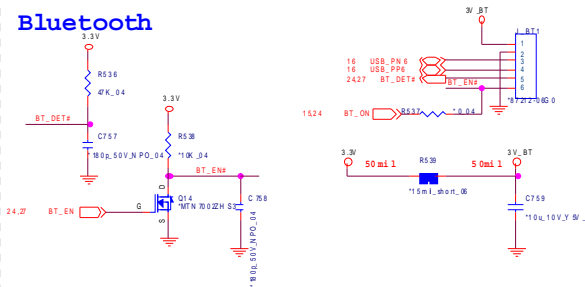
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USB 3.0 VL800

B - 28 KBC- ITE IT8518

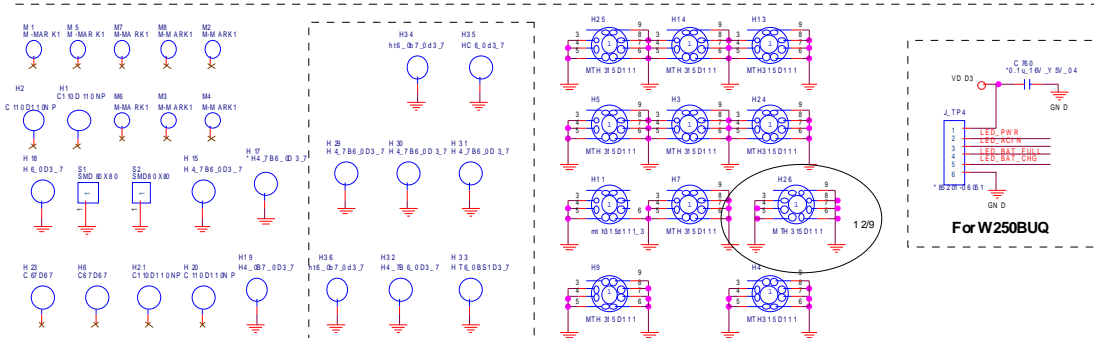


LED/ MDC/ BT

Bluetooth

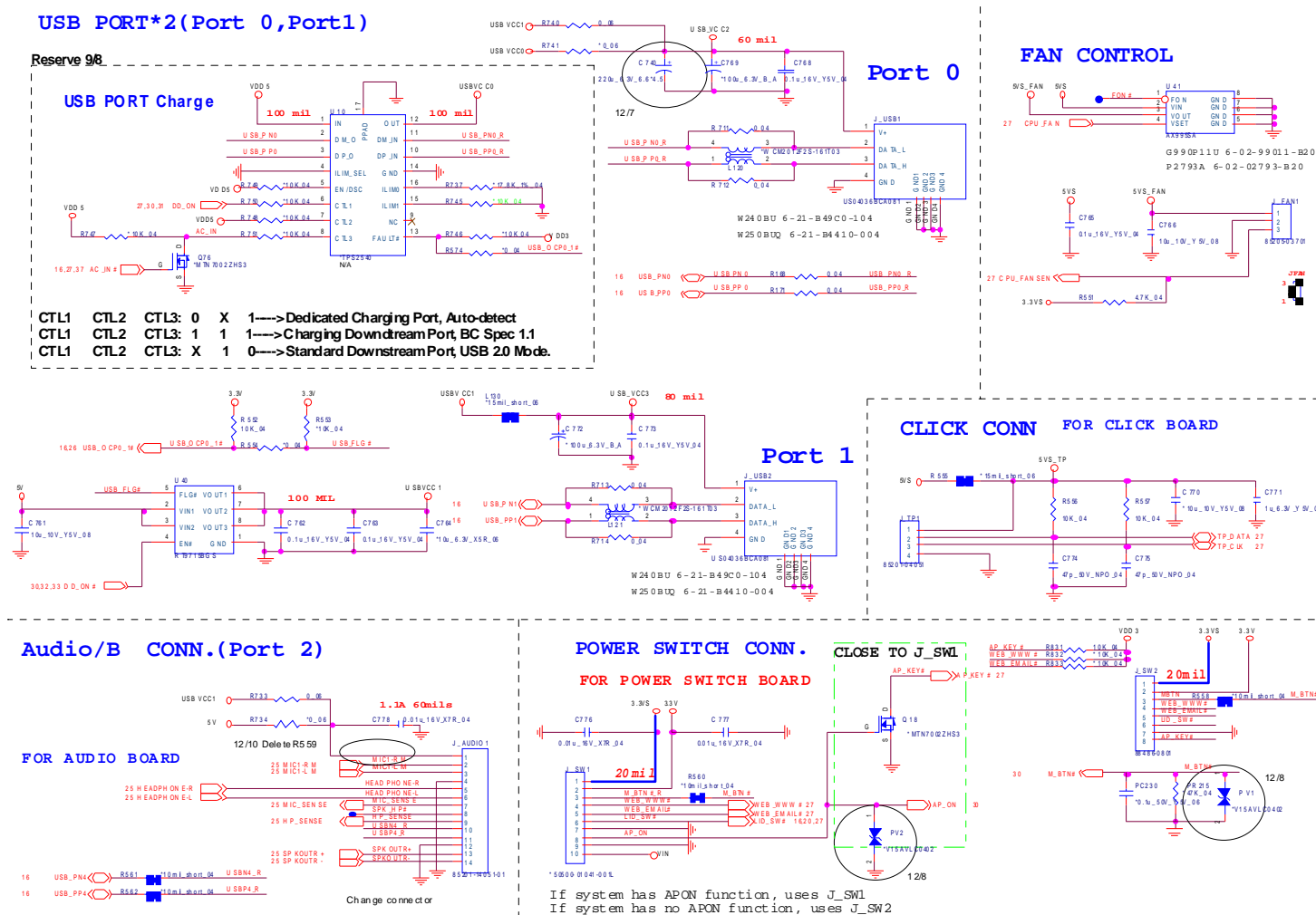


For W240BU

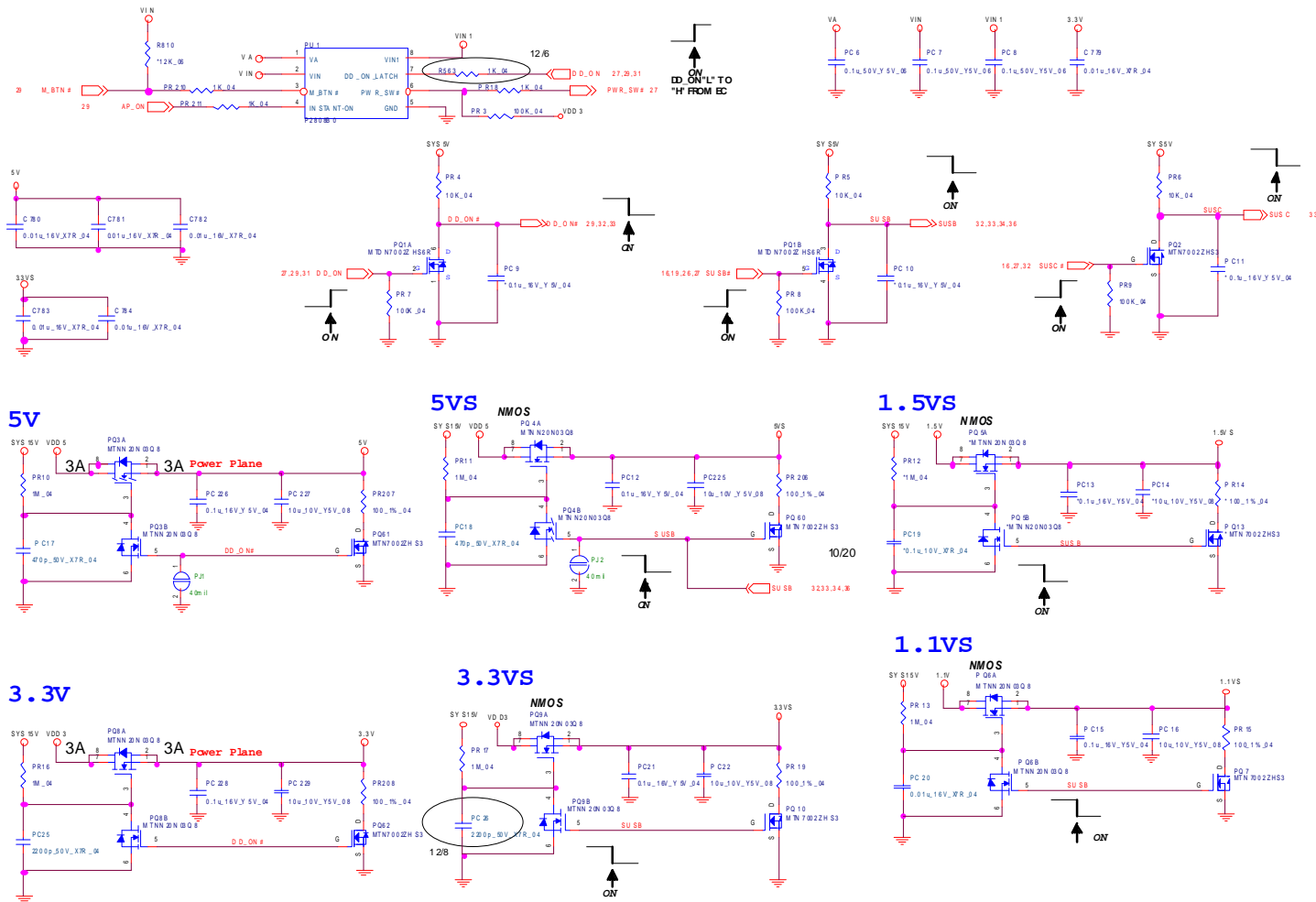


Sheet 28 of 41
LED/ MDC/ BT

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



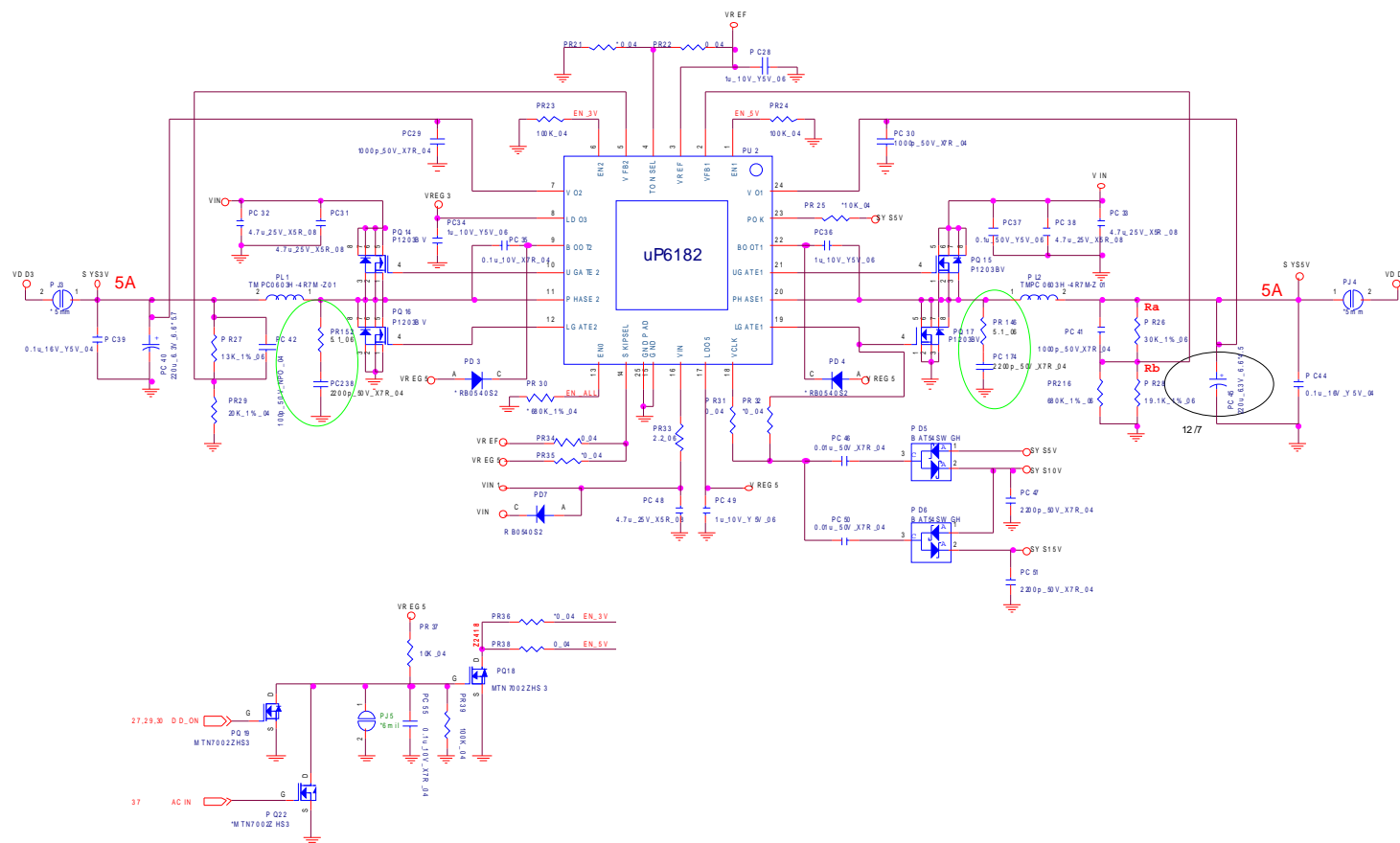
5VS/ 3.3VS/ 1.8VS/ 1.5VS/ 1.1VS



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

B.Schematic Diagrams

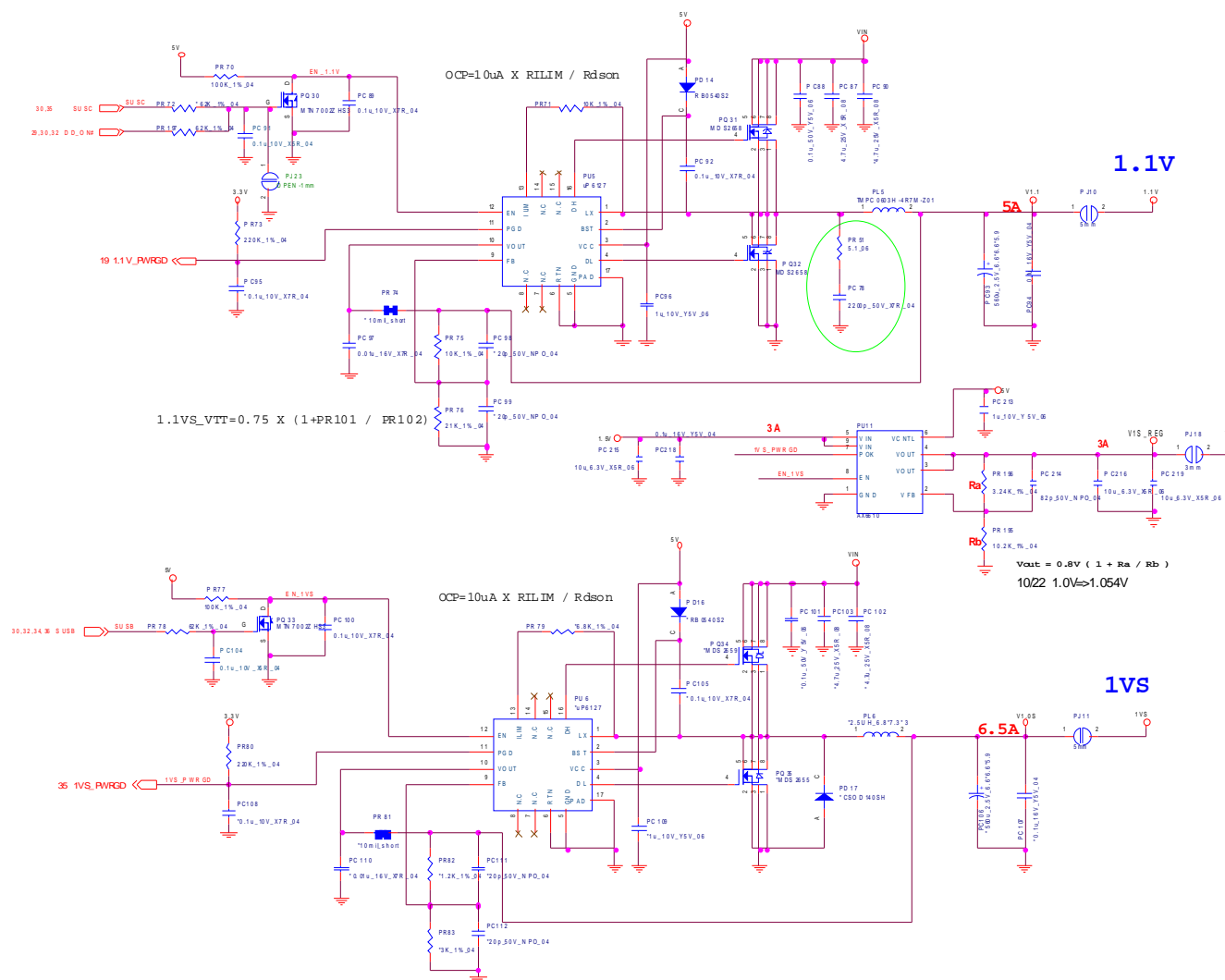
Sheet 31 of 41
**POWER VDD3/
VDD5**

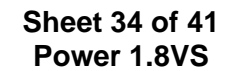


V

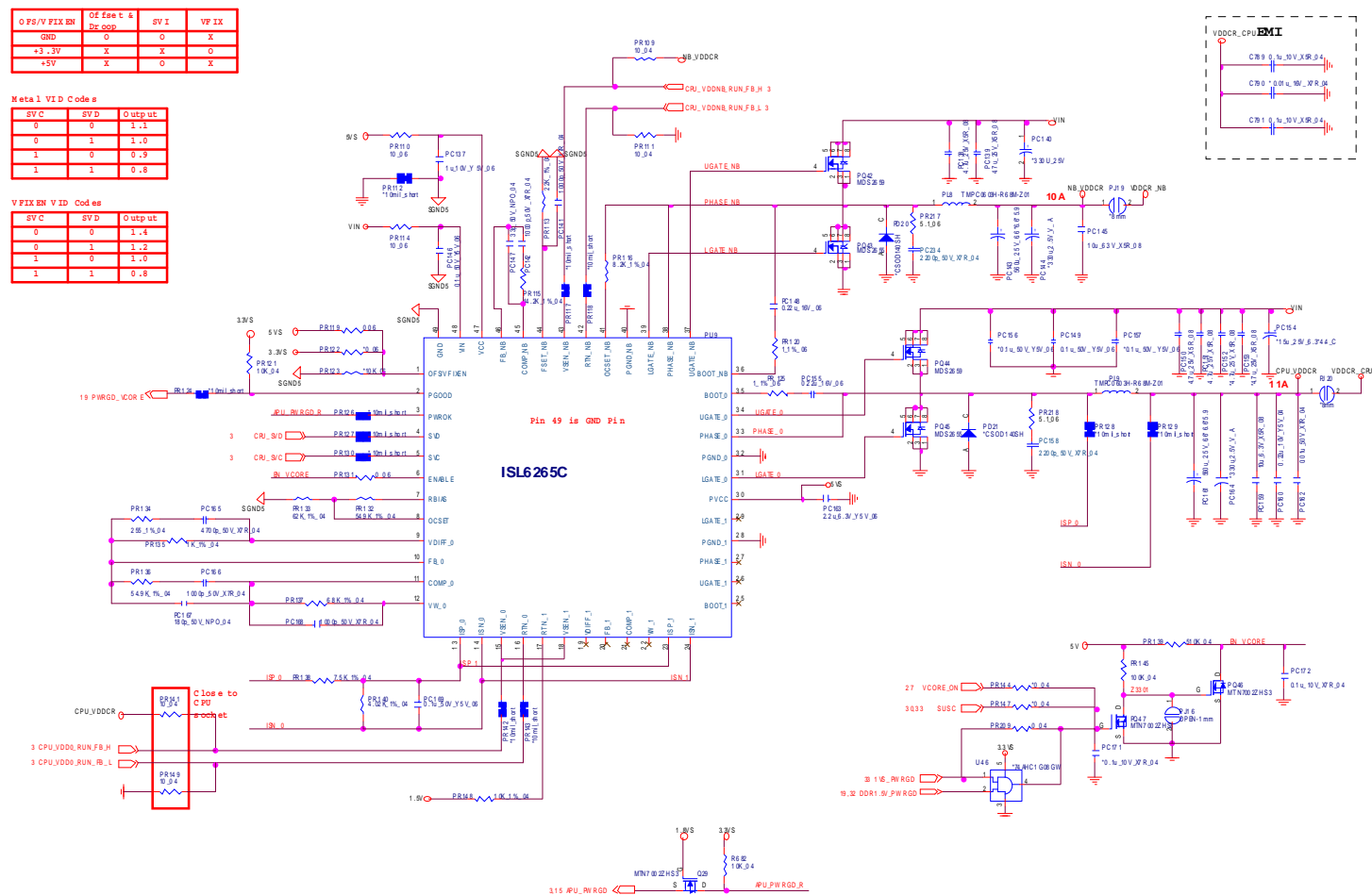
B.Schematic Diagrams

Sheet 33 of 41
Power 1.1V/ 1VS



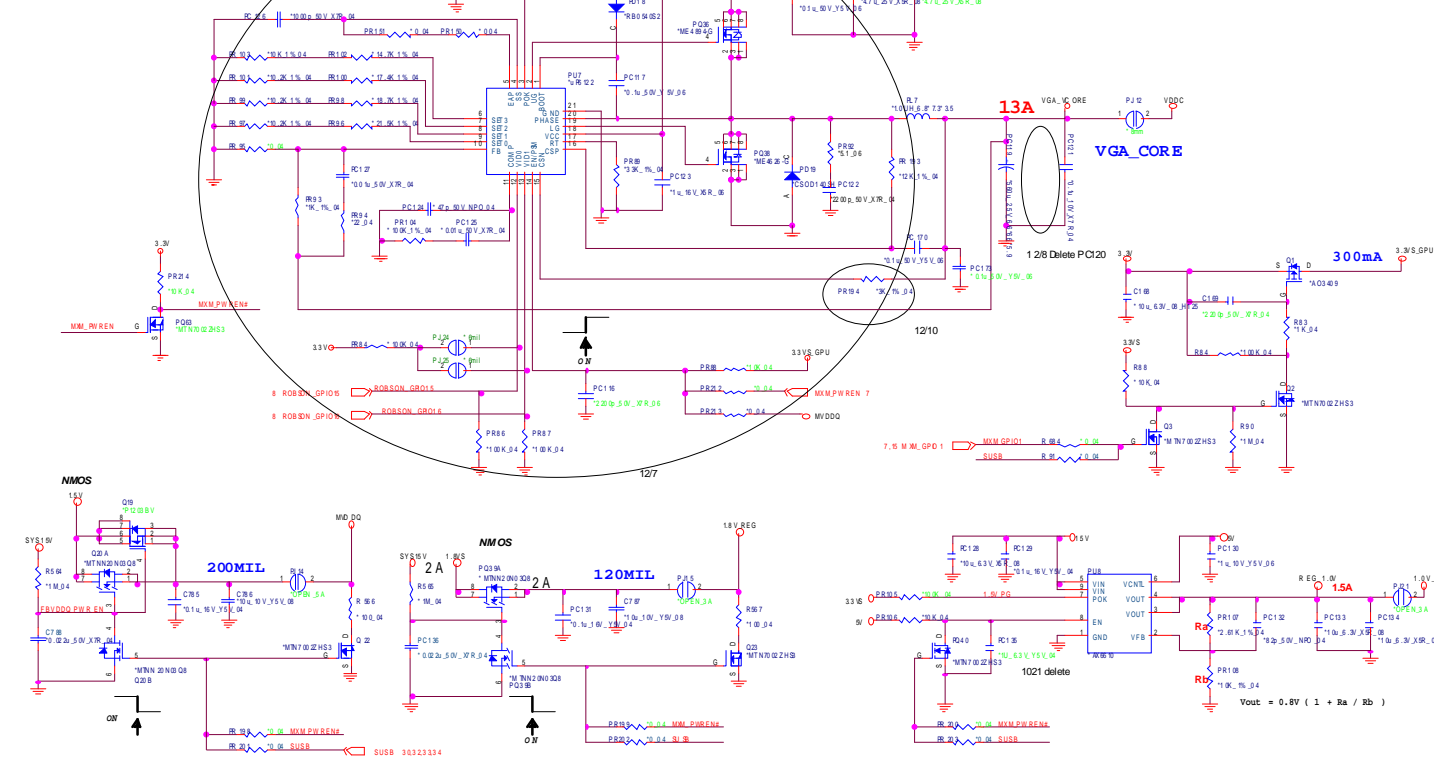
Power 1.8VS B - 35

Sheet 35 of 41
APU CORE/ NB
CORE



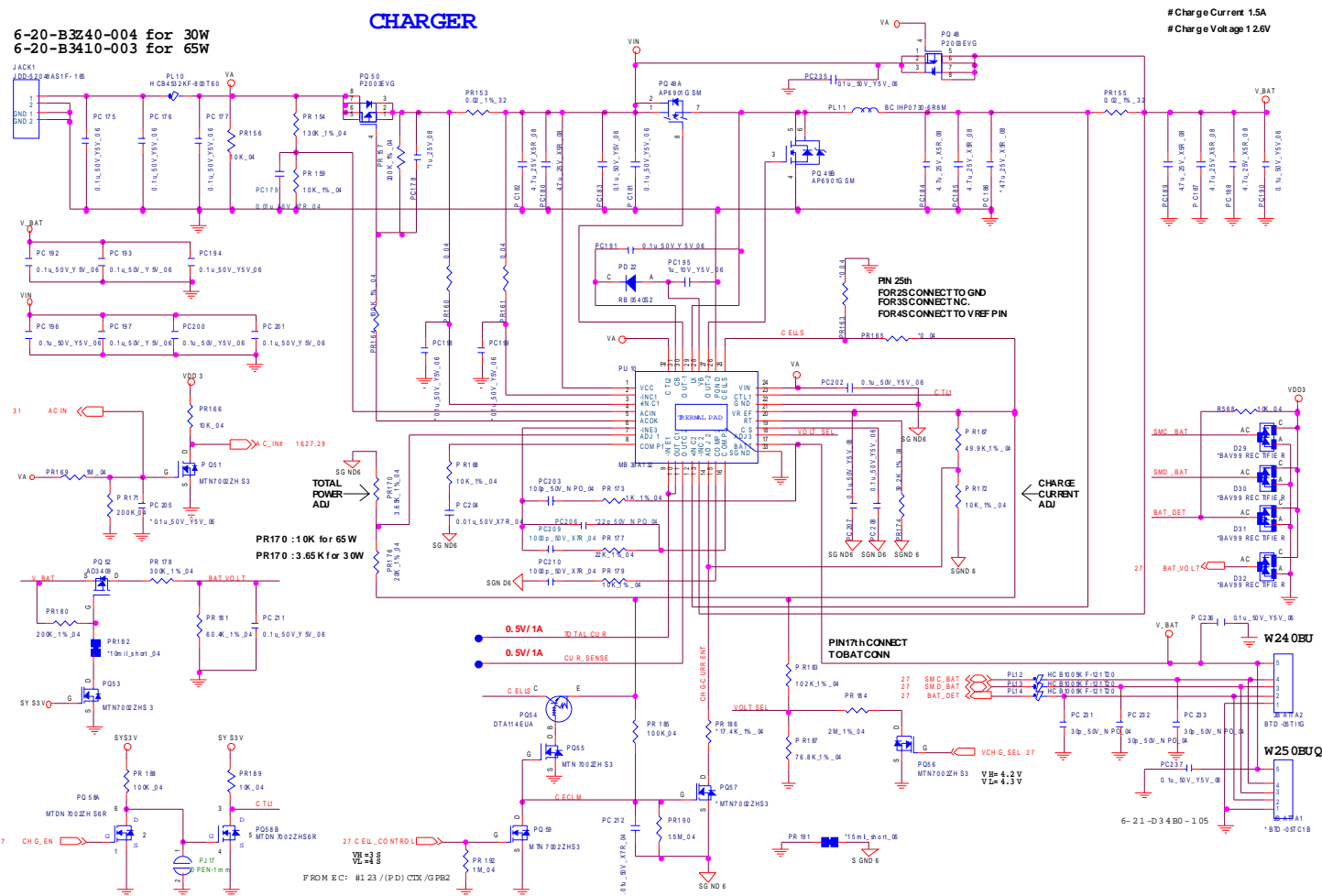
VGA POWER B - 37

	1.15V	1.05V	1.0V	0.9V
VID0	0	1	0	1
VID1	0	0	1	1

[illegible]

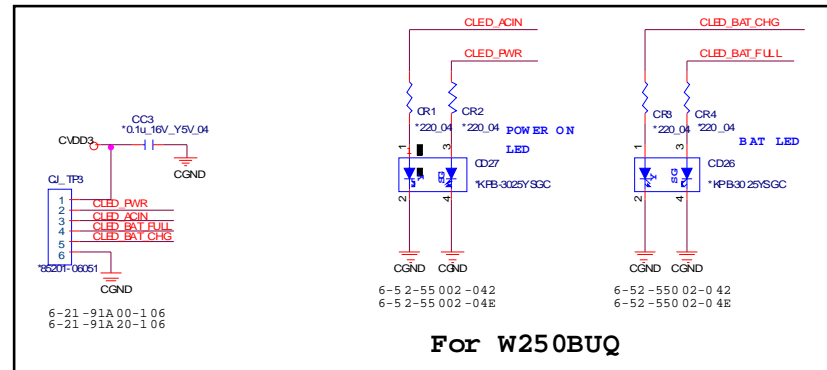
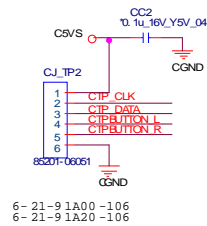
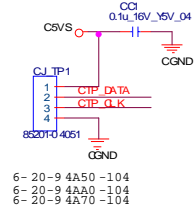
CHARGER/ DC IN

Sheet 37 of 41
CHARGER/ DC IN



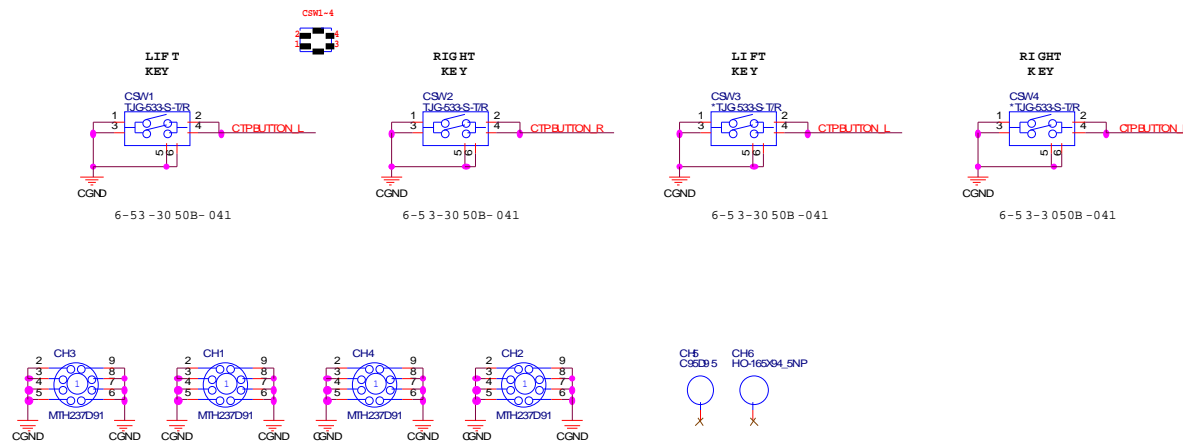
Click Board

CLICK BOARD



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Click Board

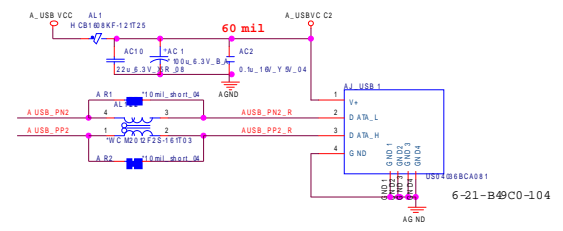
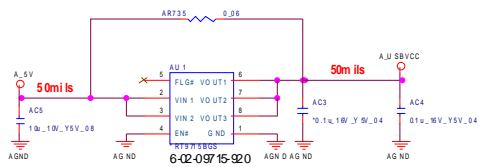
B.Schematic Diagrams



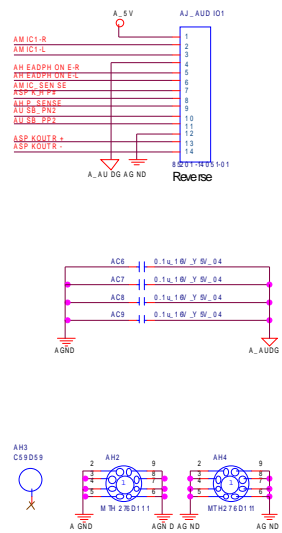
Schematic Diagrams

Audio Board/ USB

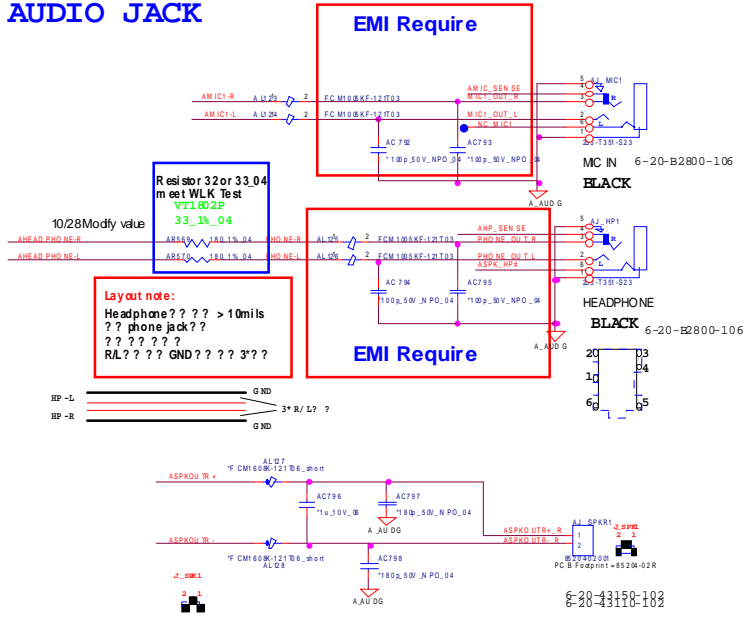
USB PORT



TO M/B



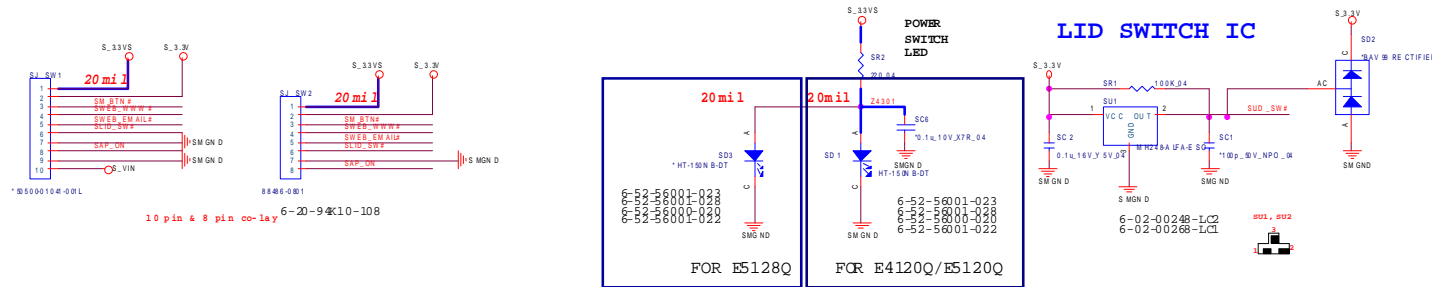
AUDIO JACK



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Audio Board/ USB

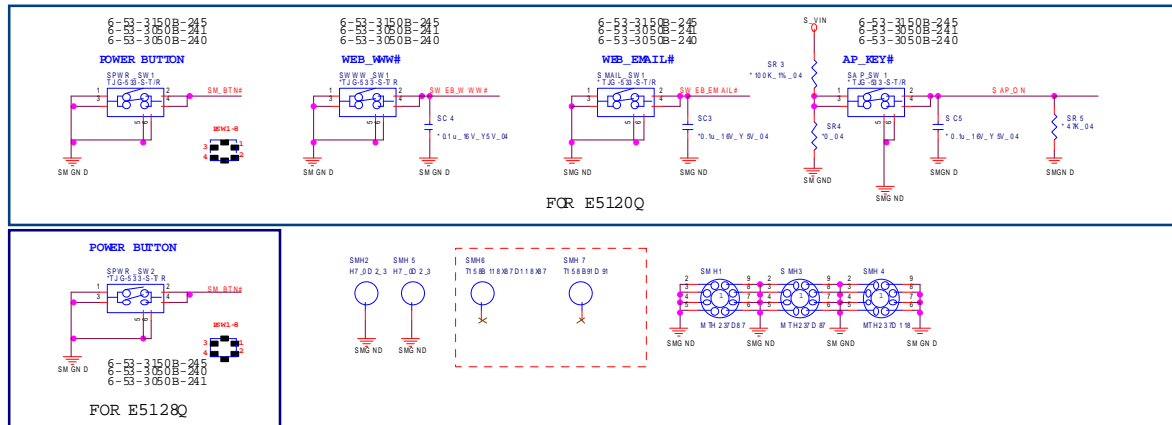
Power Switch & LID Board

POWER SW & LED & HOT KEY

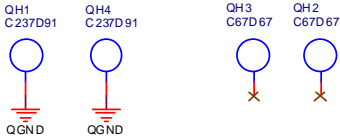
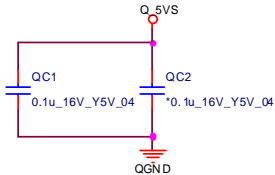


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Power Switch & LID
Board

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.