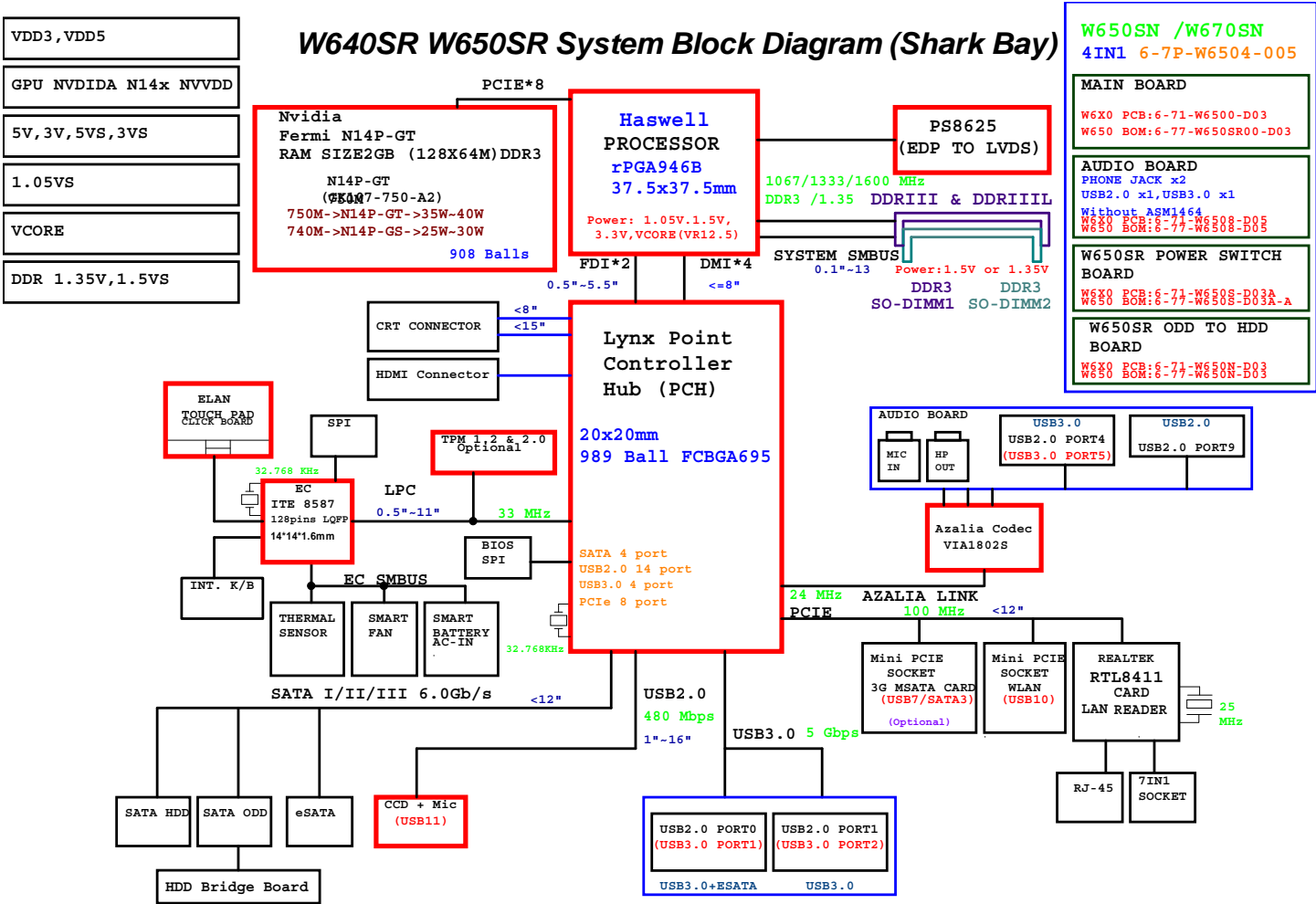


System Block Diagram

Sheet 1 of 46  
System Block  
Diagram





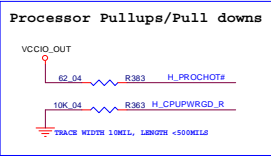




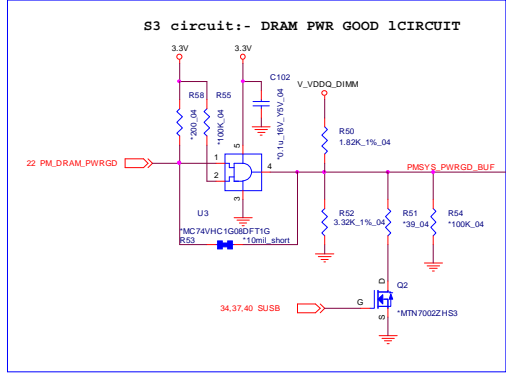
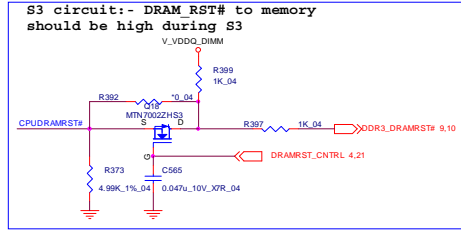
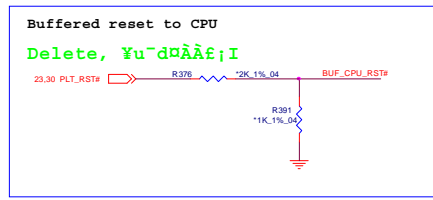
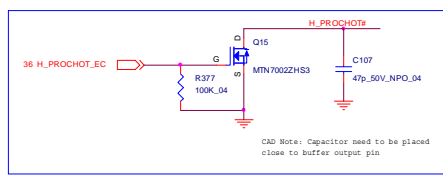
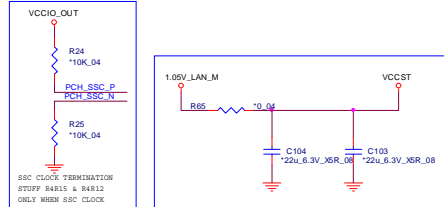
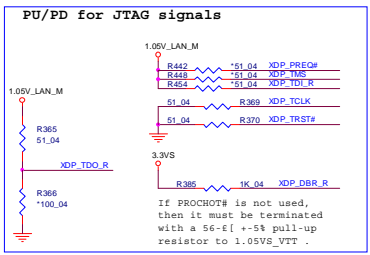
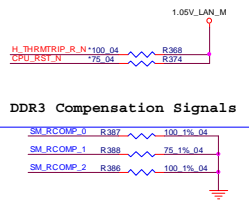
Schematic Diagrams

Processor 2/7- CLK, MISC

Sheet 3 of 46  
Processor 2/7-CLK,  
MISC



Haswell Processor 2/7 ( CLK,MISC,JTAG )

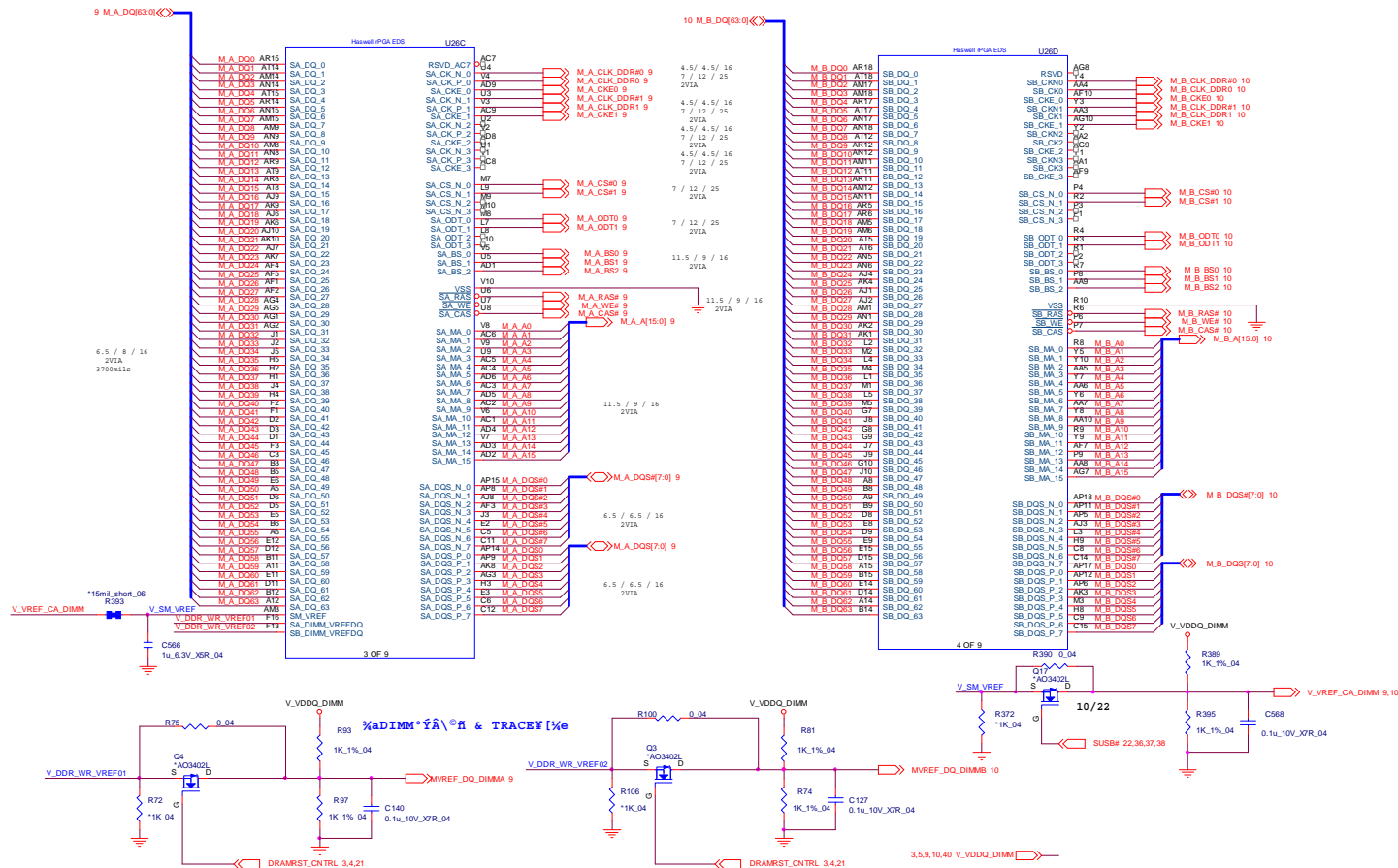


- 4,5,9,10,40 V\_VDDQ\_DIMM
- 6,8 VCCIO\_OUT
- 6,26,27,28,41,42,1,05V\_LAN\_M
- 2,12,17,20,24,25,27,28,29,31,33,35,37,38,40,42,3,3V
- 6,9,10,11,12,19,20,21,22,23,24,26,27,28,29,30,31,32,33,34,35,36,37,41,3,3V



## Processor 3/7- (DDR3)

## Haswell Processor 3/7 ( DDR3 )



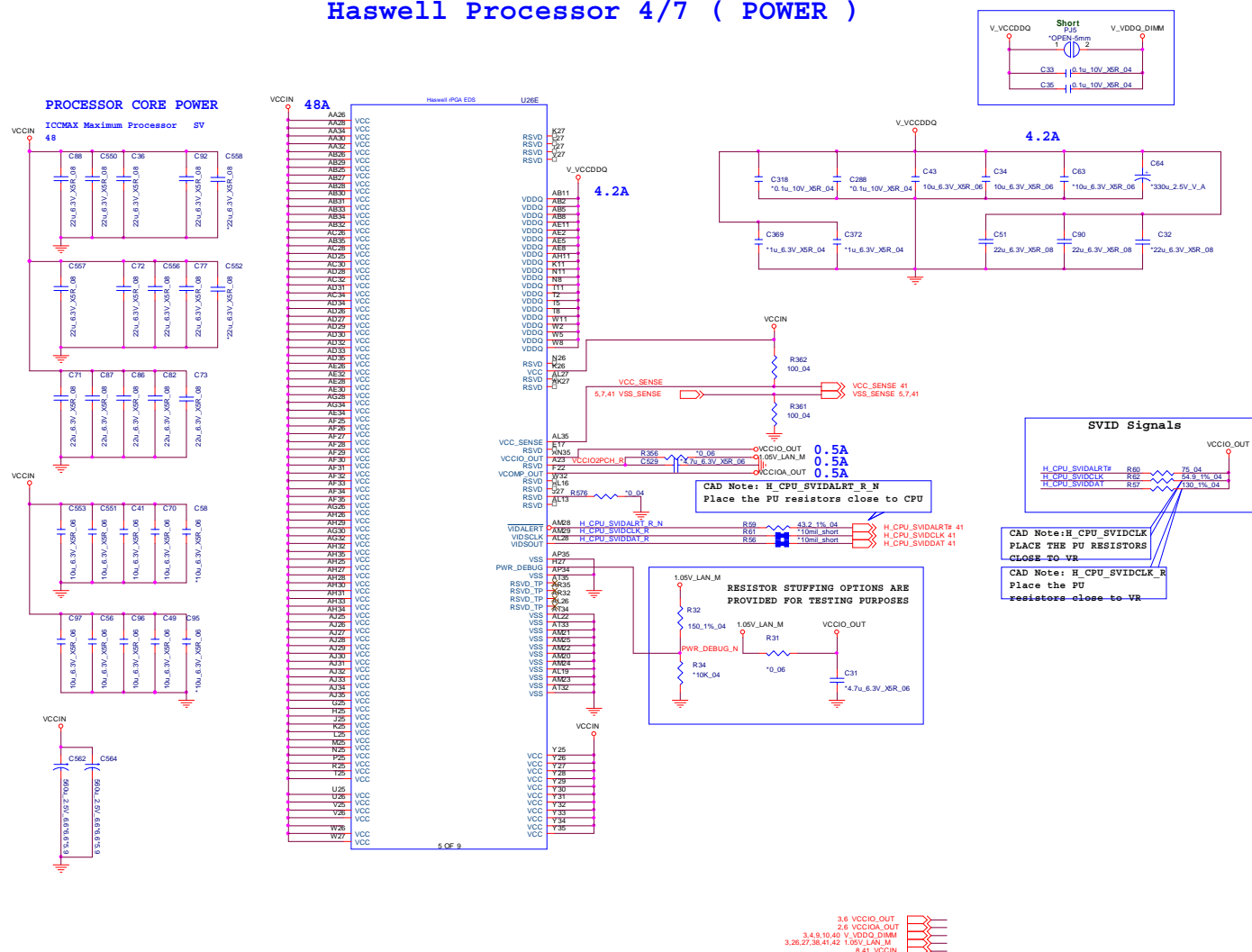
Sheet 4 of 46  
Processor 3/7-  
(DDR3)



## Processor 4/7- Power

**Sheet 5 of 46**  
**Processor 4/7-**  
**Power**

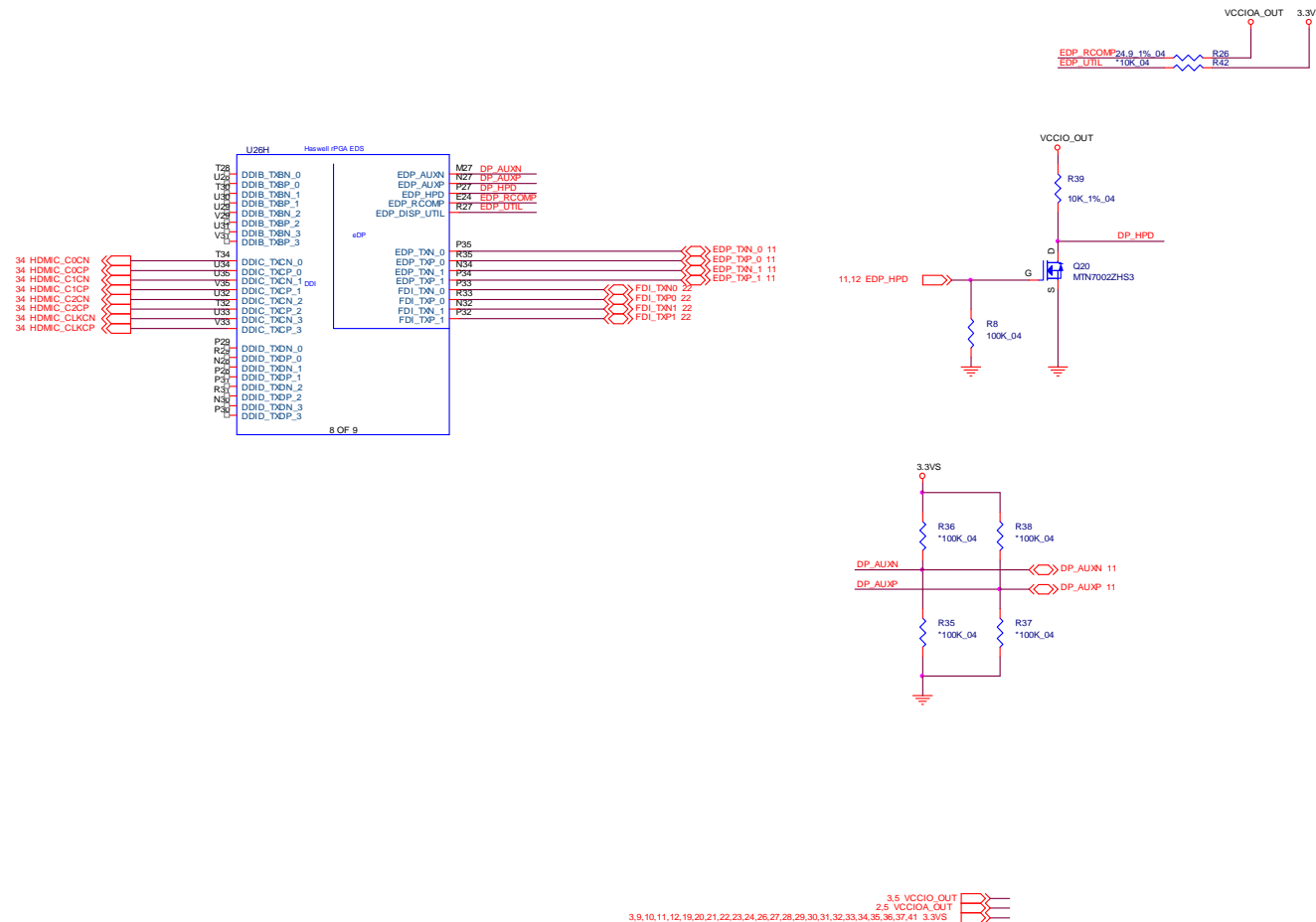
Haswell Processor 4/7 ( POWER )





# Processor 5/7- GFX PWR

## Haswell Processor 5/7 ( GRAPHICS POWER )



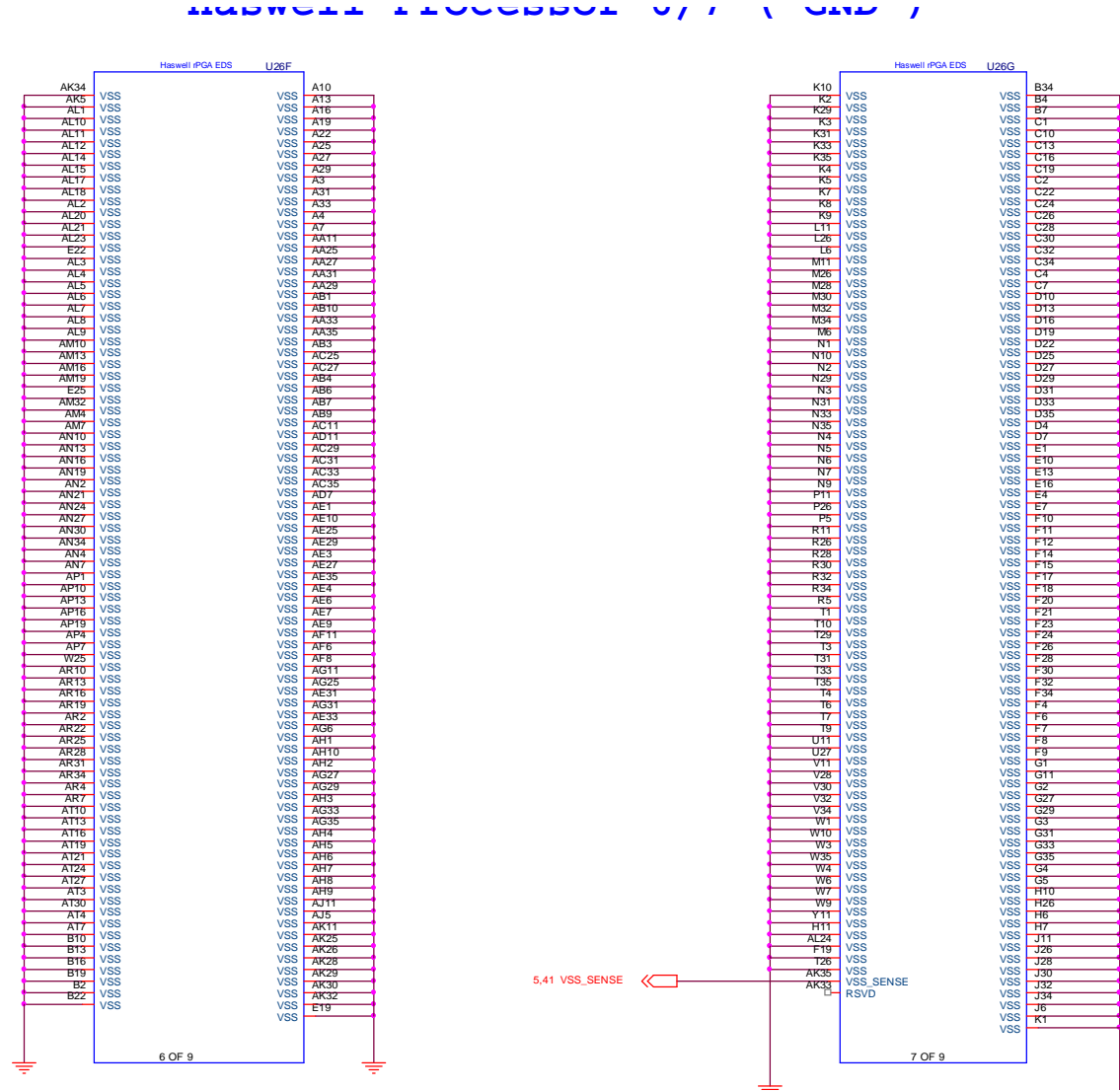
Sheet 6 of 46  
Processor 5/7- GFX  
PWR



Schematic Diagrams

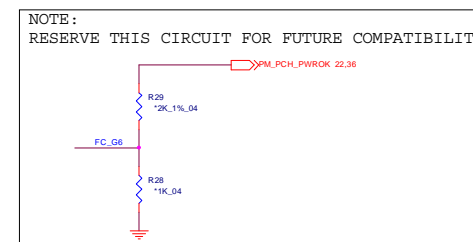
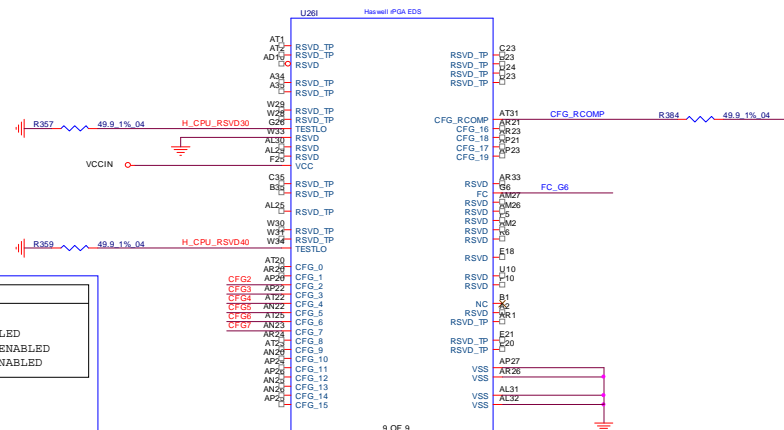
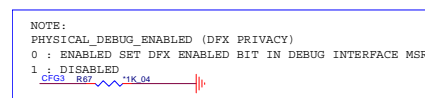
Processor 6/7- GND

Sheet 7 of 46  
Processor 6/7- GND





Haswell Processor 7/7 ( RESERVED )



Sheet 8 of 46  
Processor 7/7-  
RSVD



## DDR3 SO-DIMM\_1

## CHANGE TO STANDARD

**Layout Note:**  
signal/space/signal:  
85 ohm

[illegible]

3.3VS

C30 2.2uF\_6.3V\_X5R\_04

C29 0.1uF\_10V\_X5R\_04

20mils

M/REF DIMA 0

C44 10k 6.3V\_XSR\_04

C38 0.1u 10V\_XSR\_04

C169 1u 6.3V\_XSR\_04

Ground symbol

**CLOSE TO JDIMM1**

V\_VDDQ\_DIMM

1K\_1%\_04

R46

The diagram shows a red wire connected to a red circle labeled V\_VDDQ\_DIMM. A blue zigzag line representing a resistor is connected to the bottom of the red circle. The resistor is labeled 1K\_1%\_04 and R46.

3,4,5,10,40 V\_VDDQ\_DIMM  
10,40 VDDQ\_VTT  
3,6,10,11,12,19,20,21,22,23,24,26,27,28,29,30,31,32,33,34,35,36,37,41 3.3VS



\_\_\_\_\_

---



**PS8625**

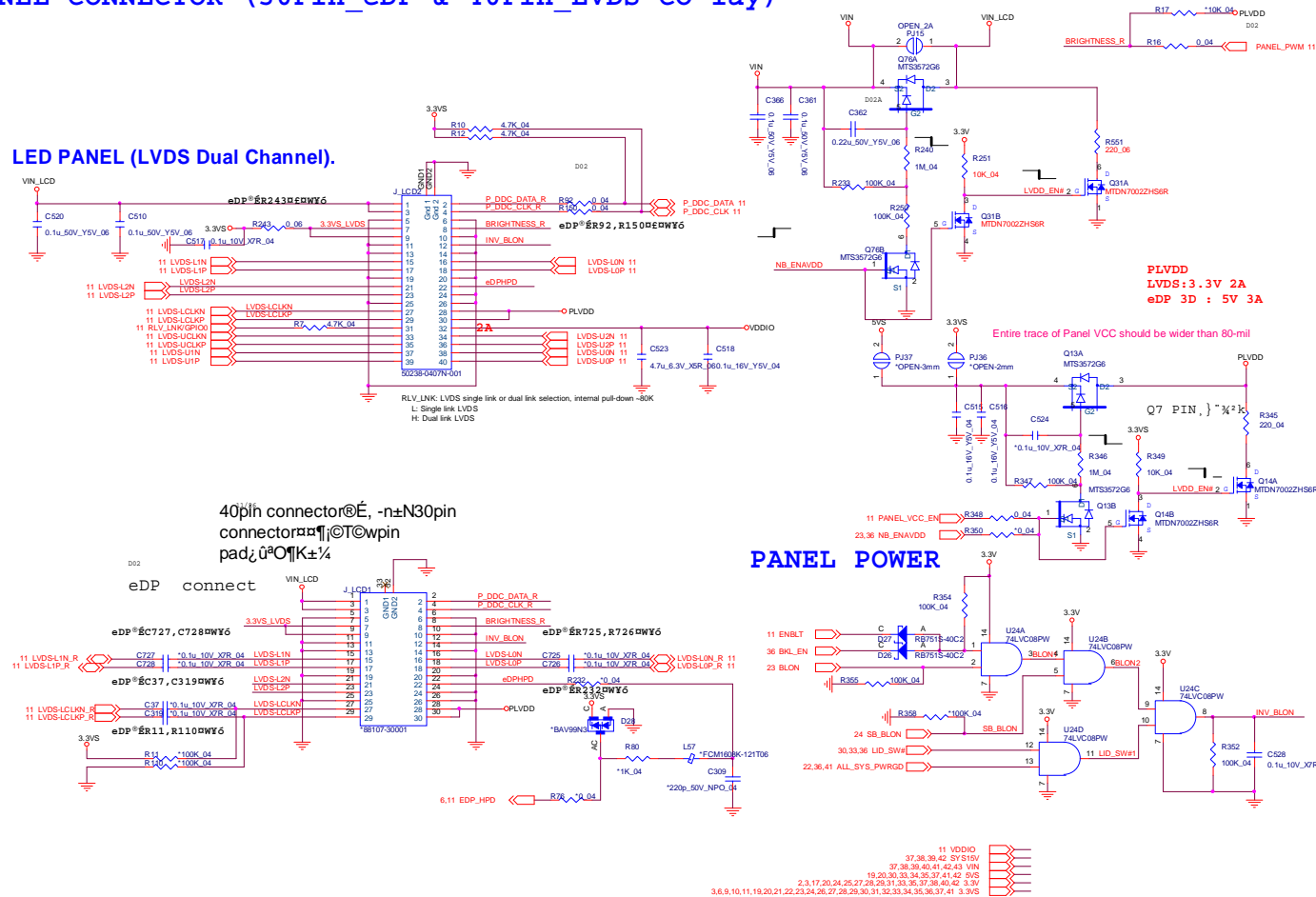
## B. Schematic Diagrams

[illegible]



## Schematic Diagrams

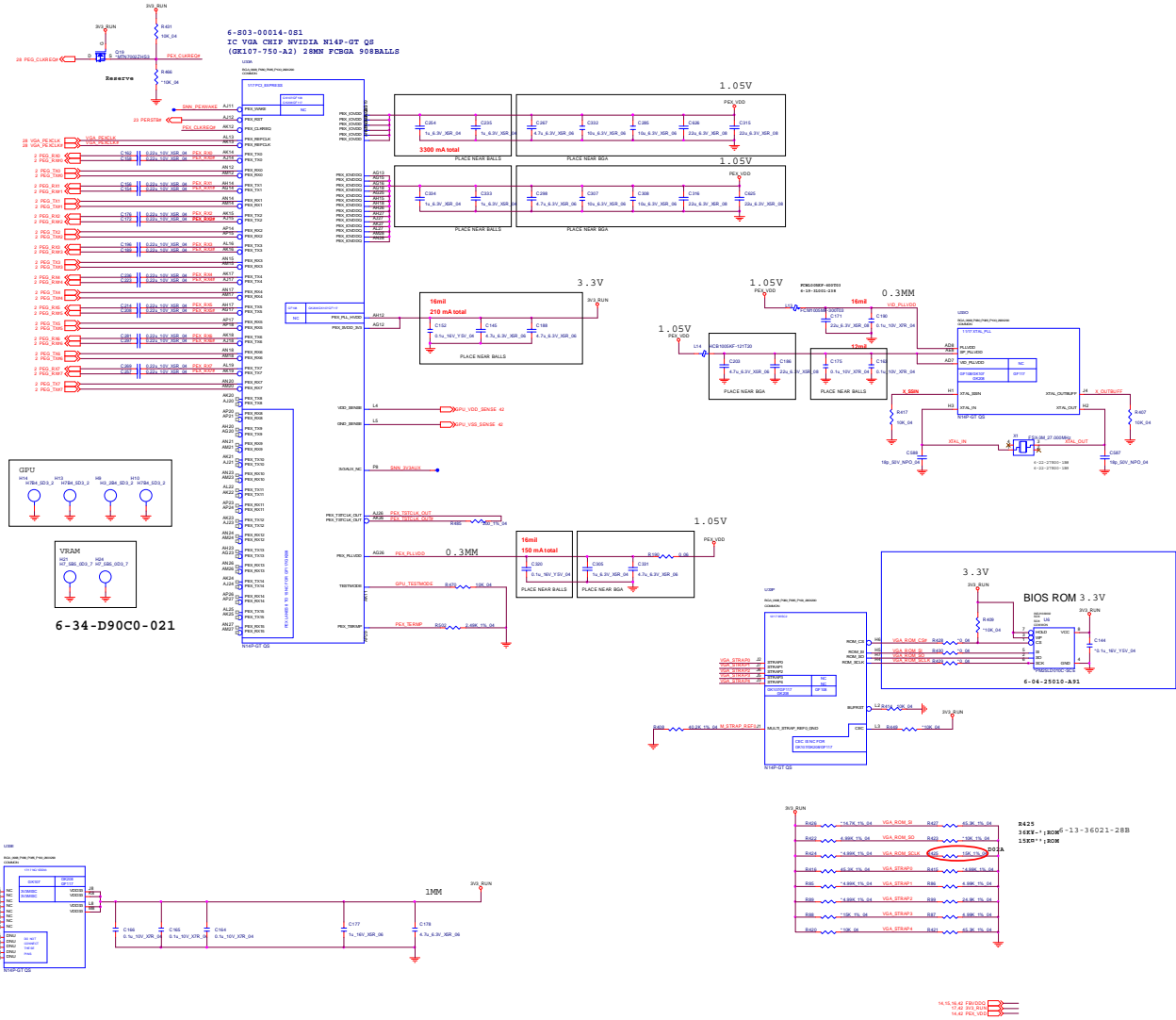
## BRIGHTNESS



## PANEL, INVERTER B - 13



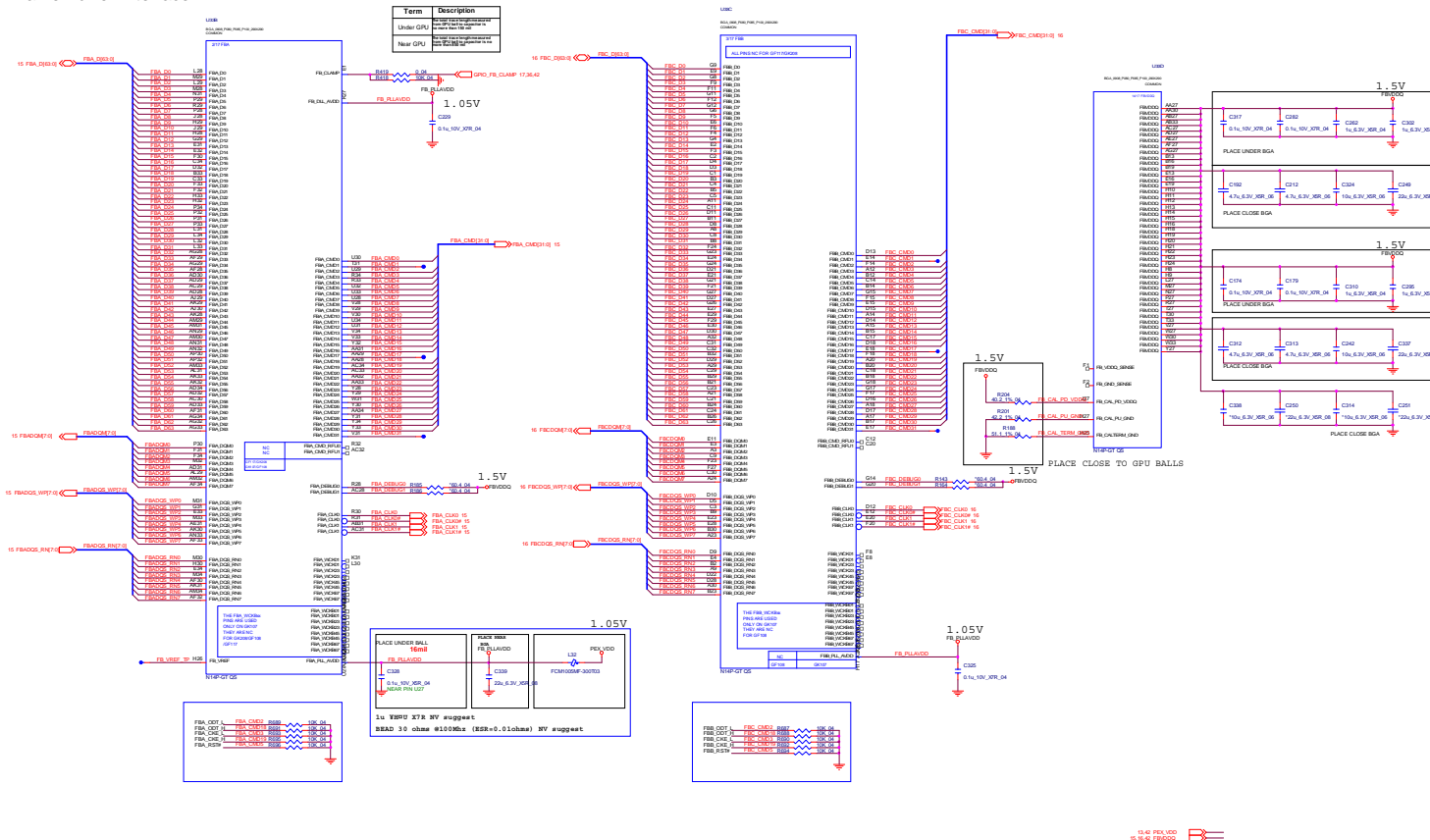
# VGA PCI-E Interface





## VGA Frame Buffer Interface

## Frame Buffer Interface



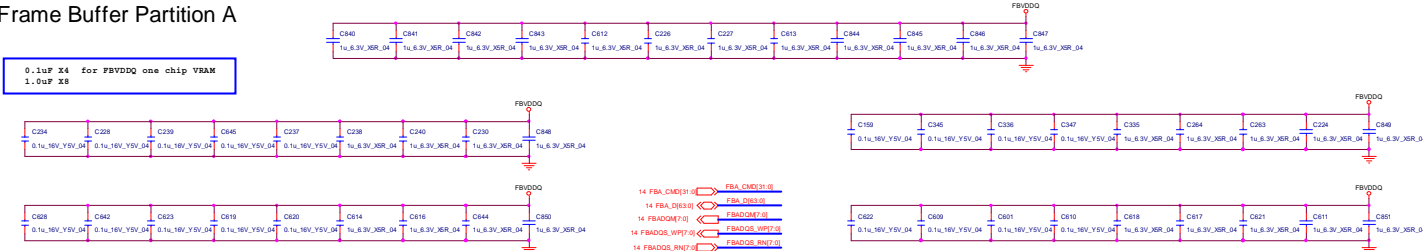
**Sheet 14 of 46**  
**VGA Frame Buffer**  
**Interface**



\_\_\_\_\_

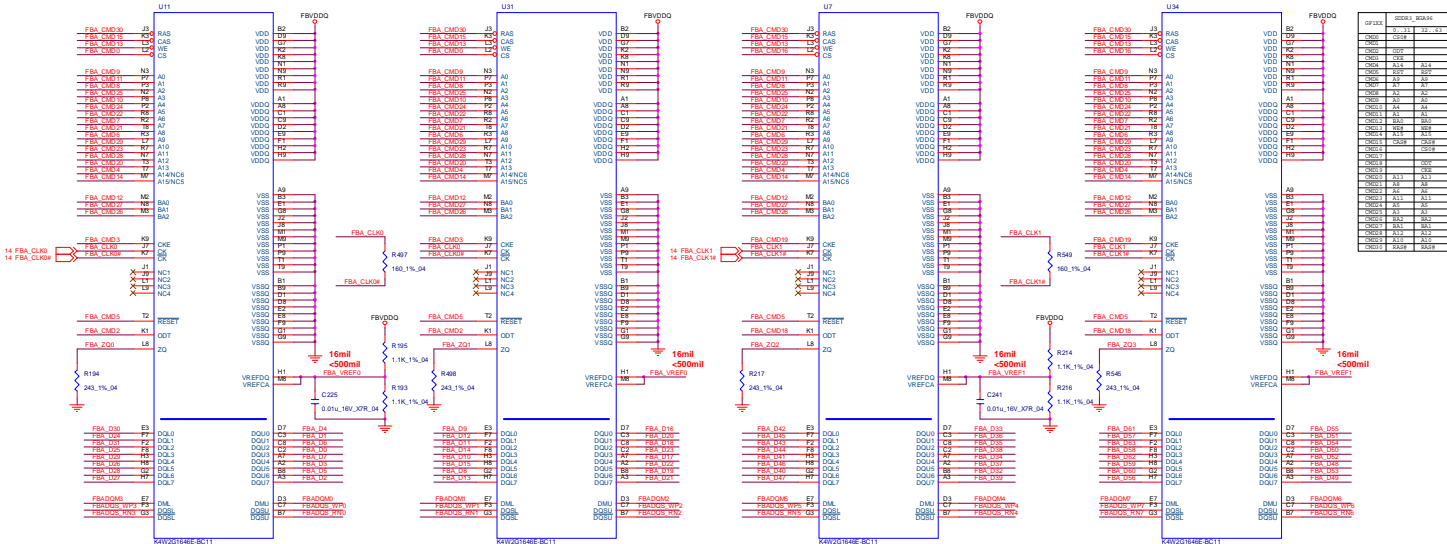
# VGA Frame Buffer A

### Frame Buffer Partition A



## B. Schematic Diagrams

Sheet 15 of 46  
VGA Frame Buffer  
A



14,16,42 FBVDDQ 



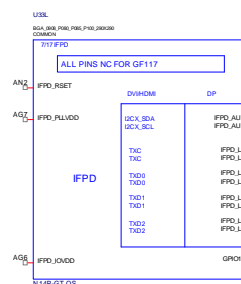
### Frame Buffer Partition B



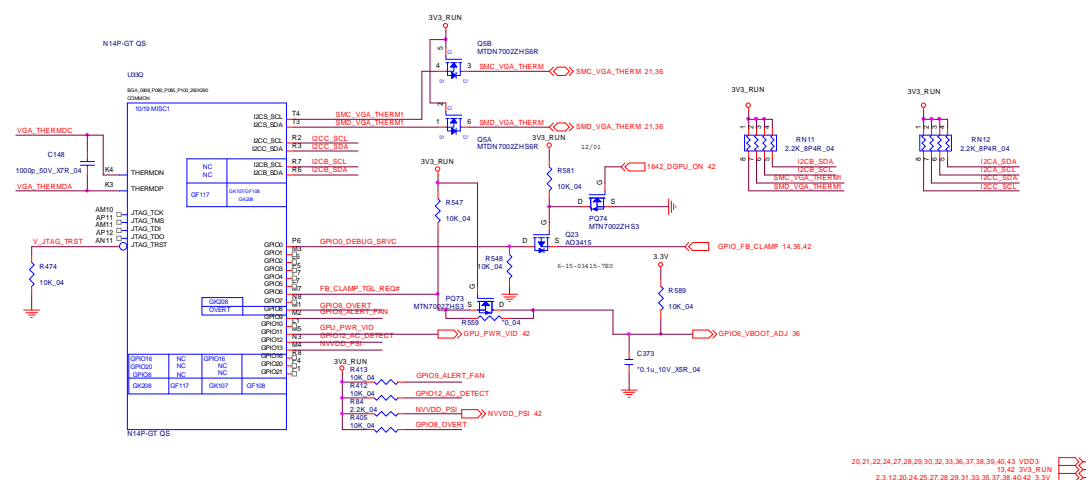
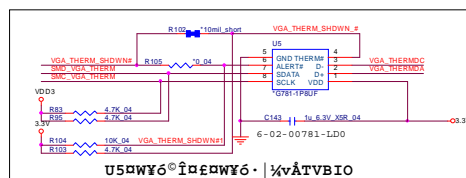
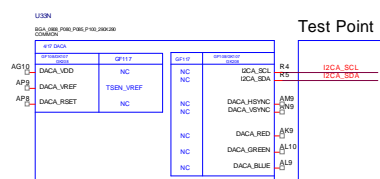
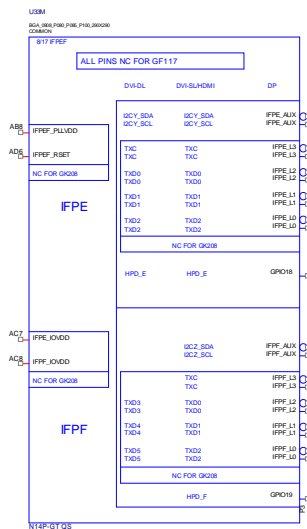


## VGA I/O

Sheet 17 of 46  
VGA I/O



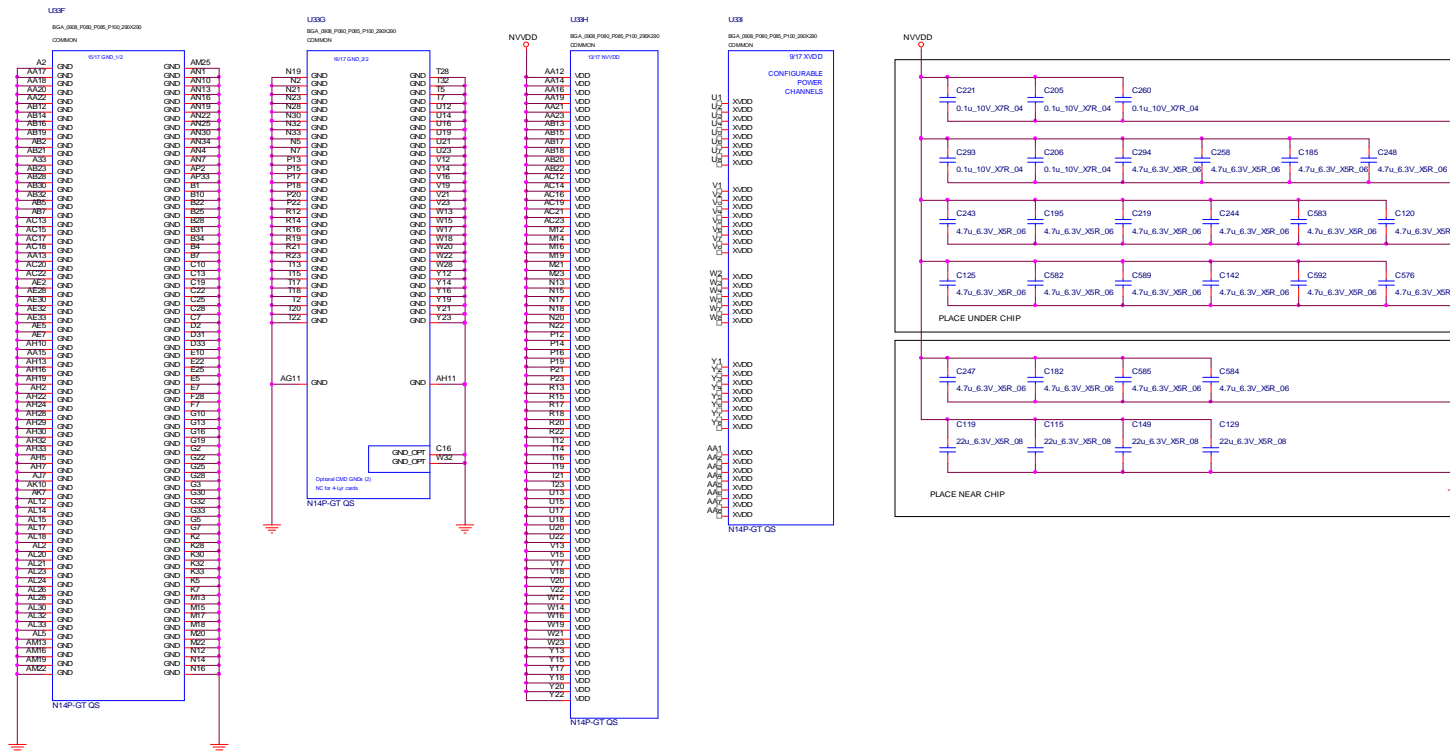
Term	Description
Under GPU	The total trace length measured from GPU ball to capacitor is no more than 150 mil
Near GPU	The total trace length measured from GPU ball to capacitor is more than 150 mil





## Schematic Diagrams

## VGA NVVDD Decoupling

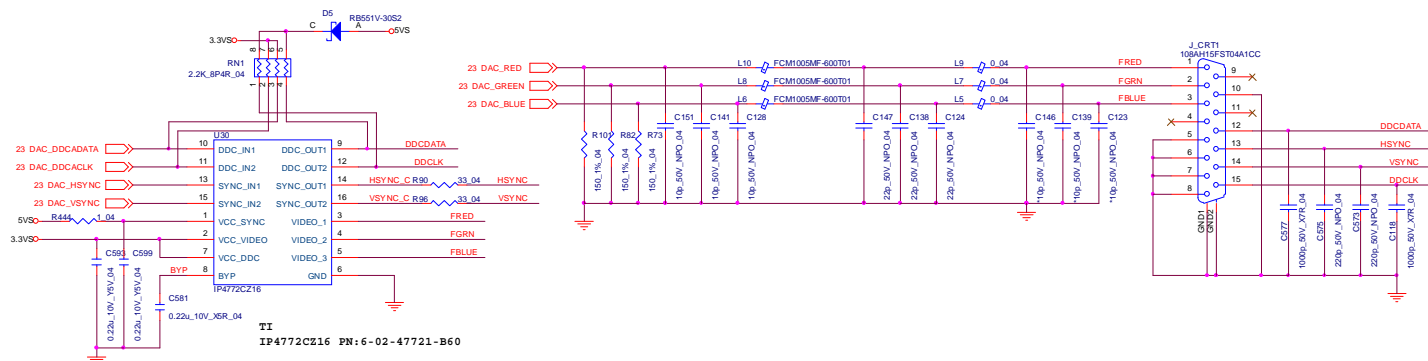


**Sheet 18 of 46**  
**VGA NVVDD**  
**Decoupling**

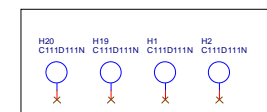
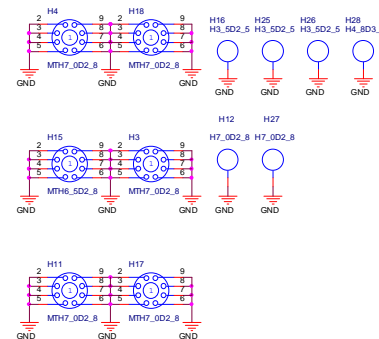
## B.Schematic Diagrams



## CRT



**Sheet 19 of 46**  
**CRT, Holes**

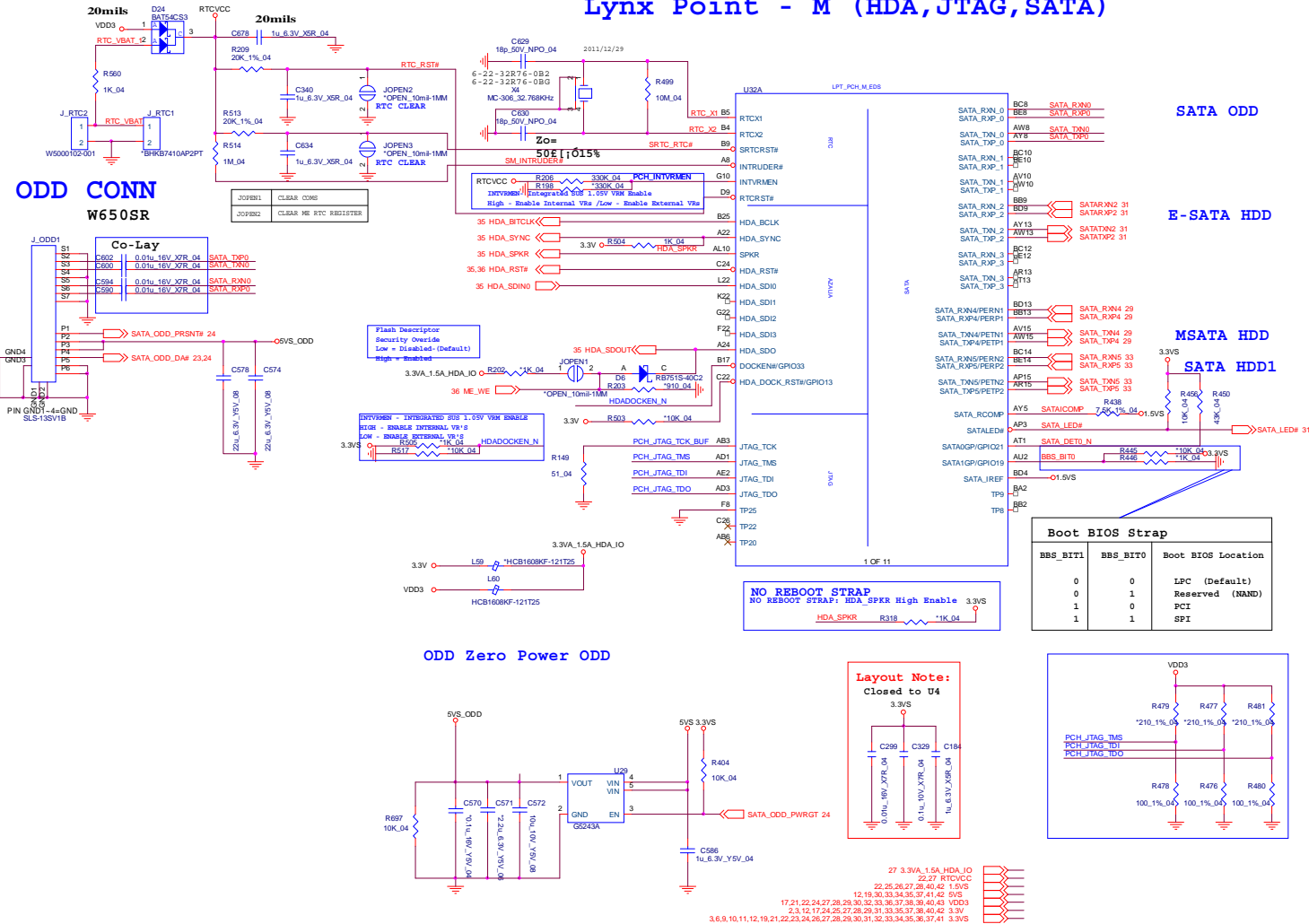


3,6,9,10,11,12,20,21,22,23,24,26,27,28,29,30,31,32,33,34,35,36,37,41 3.3VS  
12 20 30 33 34 35 37 41 42 5VS



## Lynx 1/9

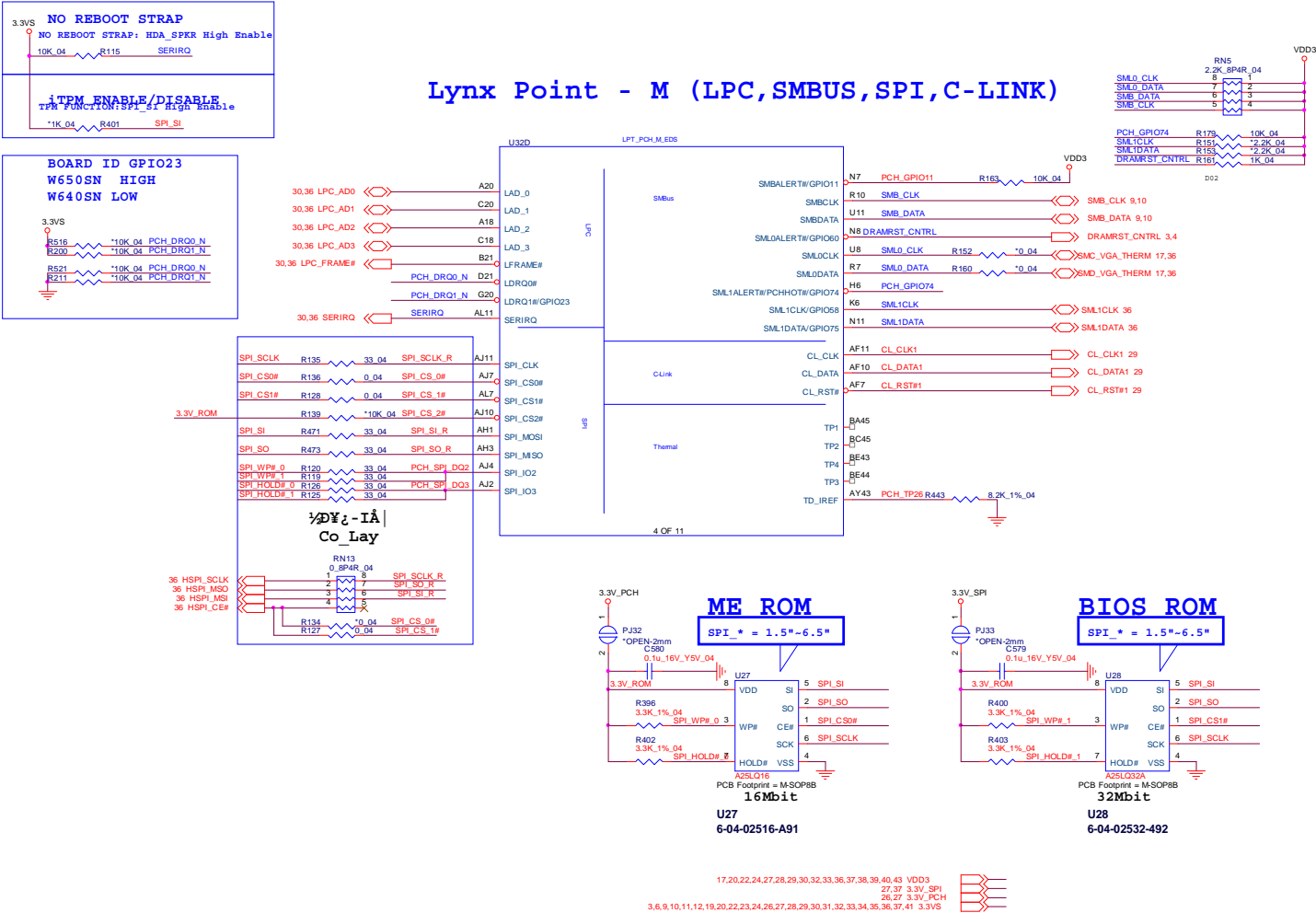
## Lynx Point - M (HDA, JTAG, SATA)

Sheet 20 of 46  
Lynx 1/9



Lynx 2/9

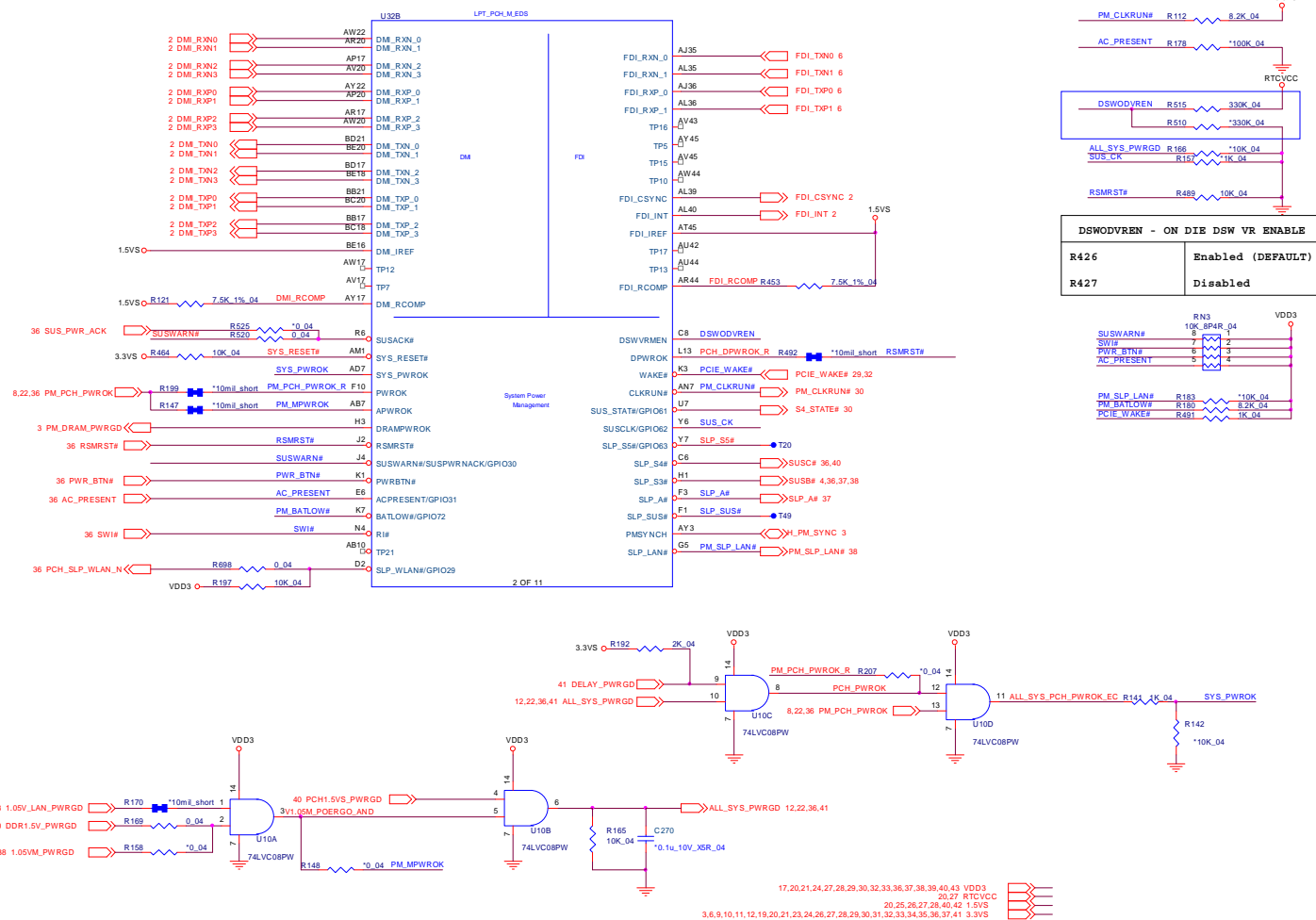
Sheet 21 of 46  
Lynx 2/9





## Lynx 3/9

### Lynx Point -M (DMI,FDI,PWRGD)



Sheet 22 of 46  
Lynx 3/9

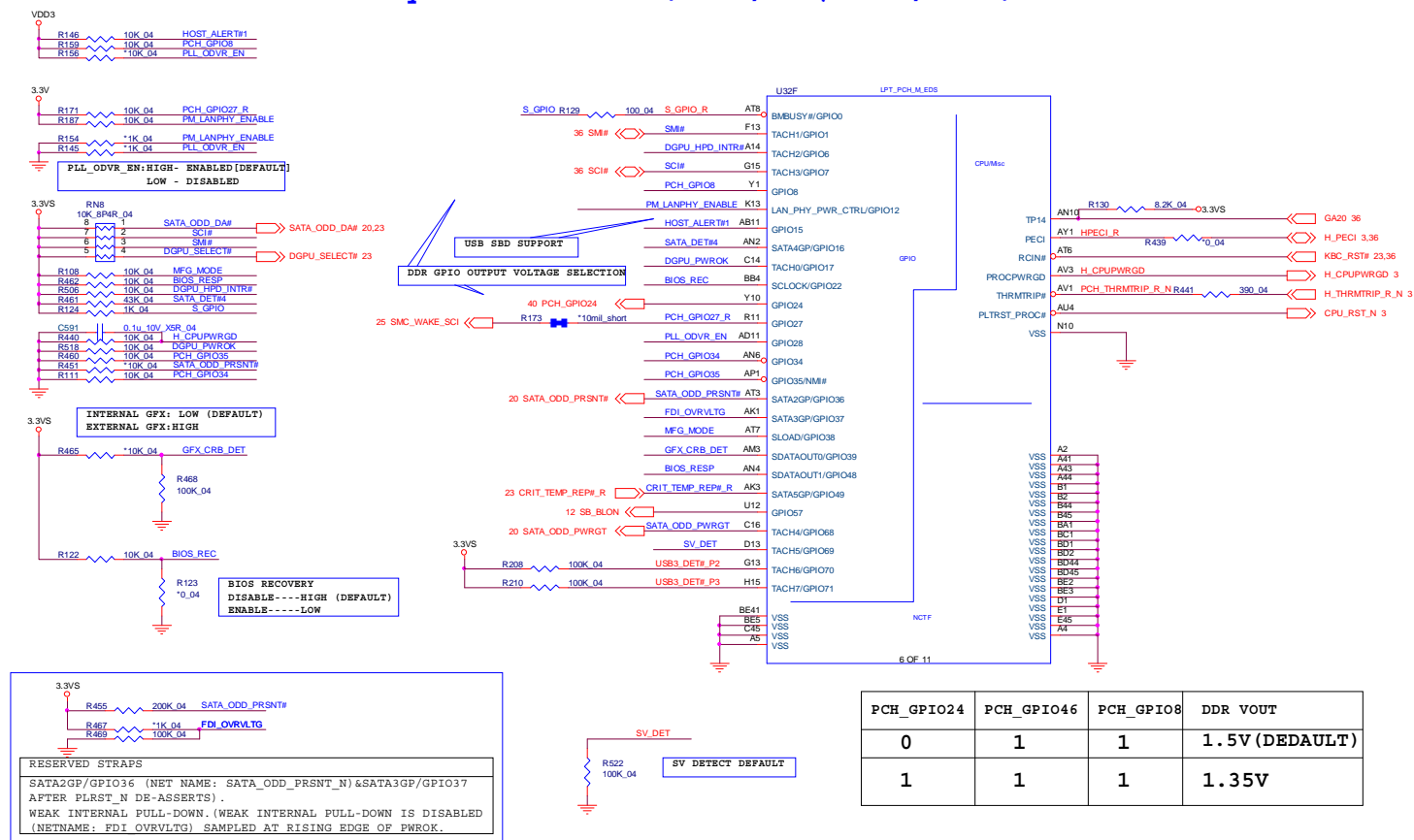


```
Lynx Point -M (CRT,LVDS,PCI,DISPLAY)
```



# Lynx 5/9

## Lynx Point - M (GPIO,CPU/MISC,NCTF)



Sheet 24 of 46  
Lynx 5/9



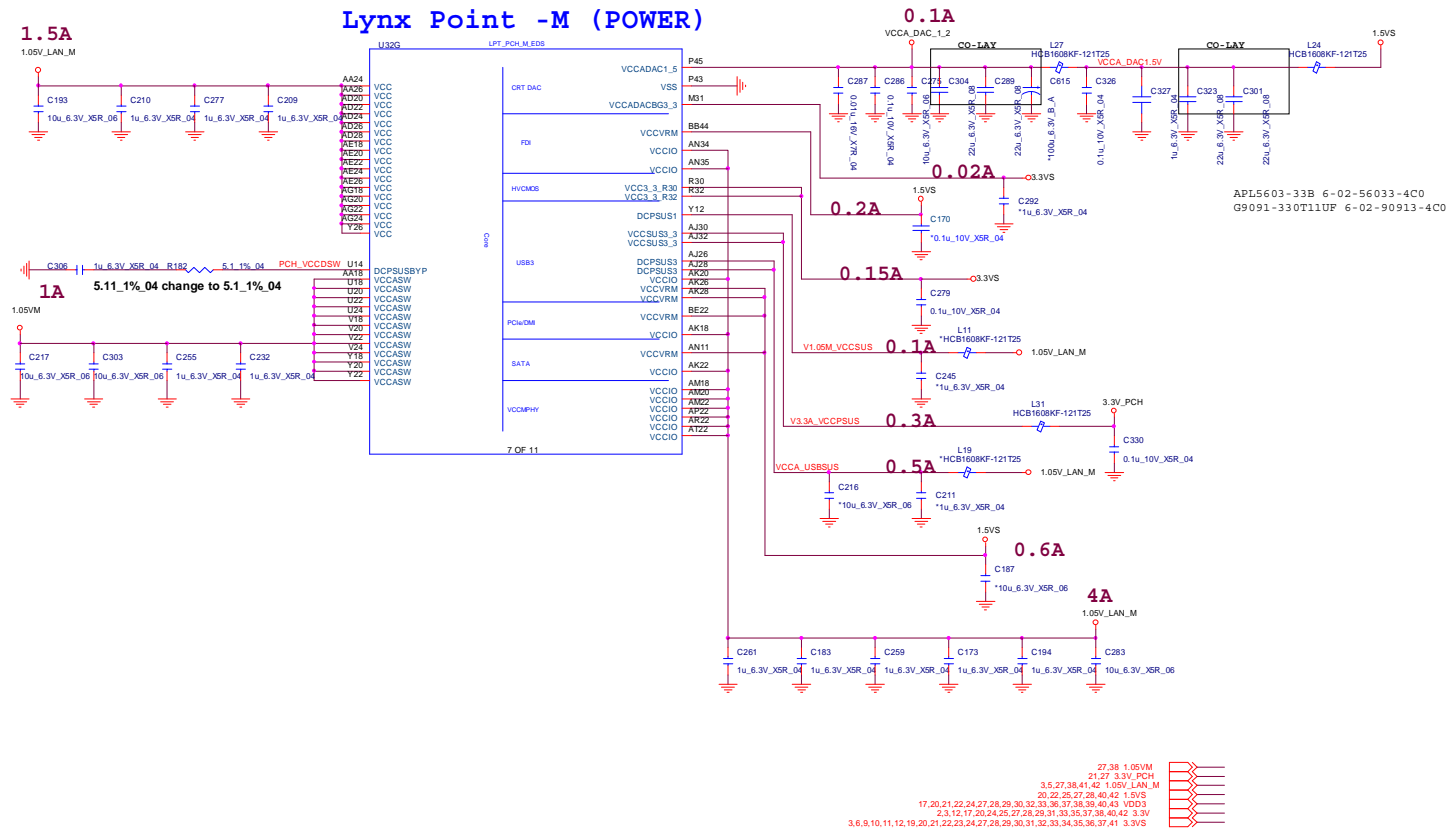
## Lynx 6/9

Sheet 25 of 46  
Lynx 6/9





## Lynx 7/9

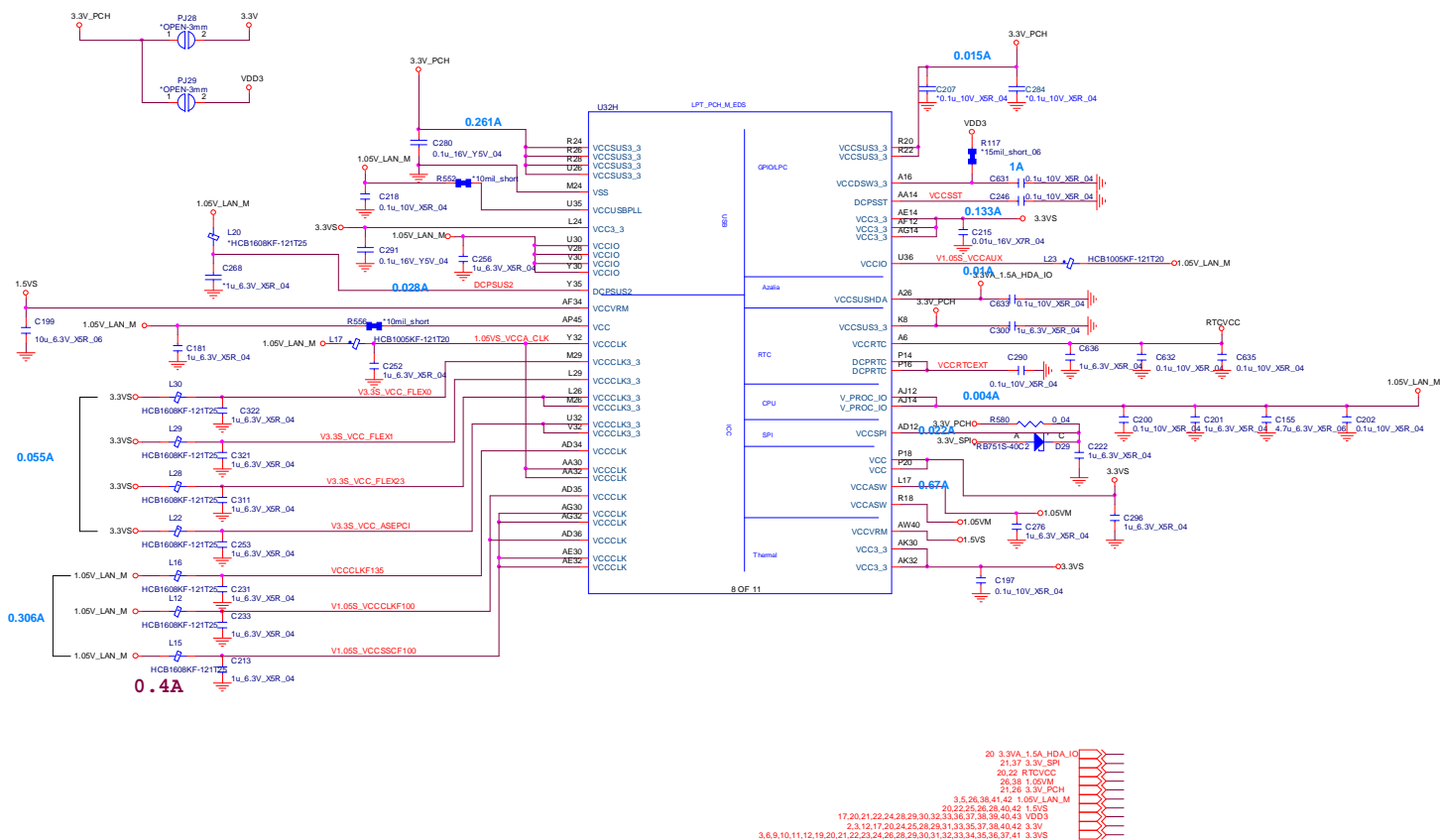
Sheet 26 of 46  
Lynx 7/9



## Lynx 8/9

## B. Schematic Diagrams

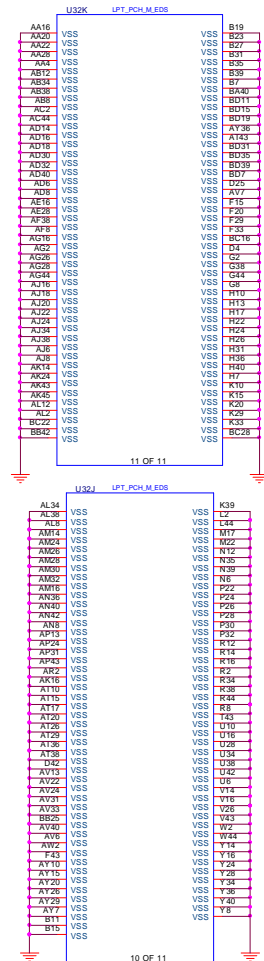
Sheet 27 of 46  
Lynx 8/9



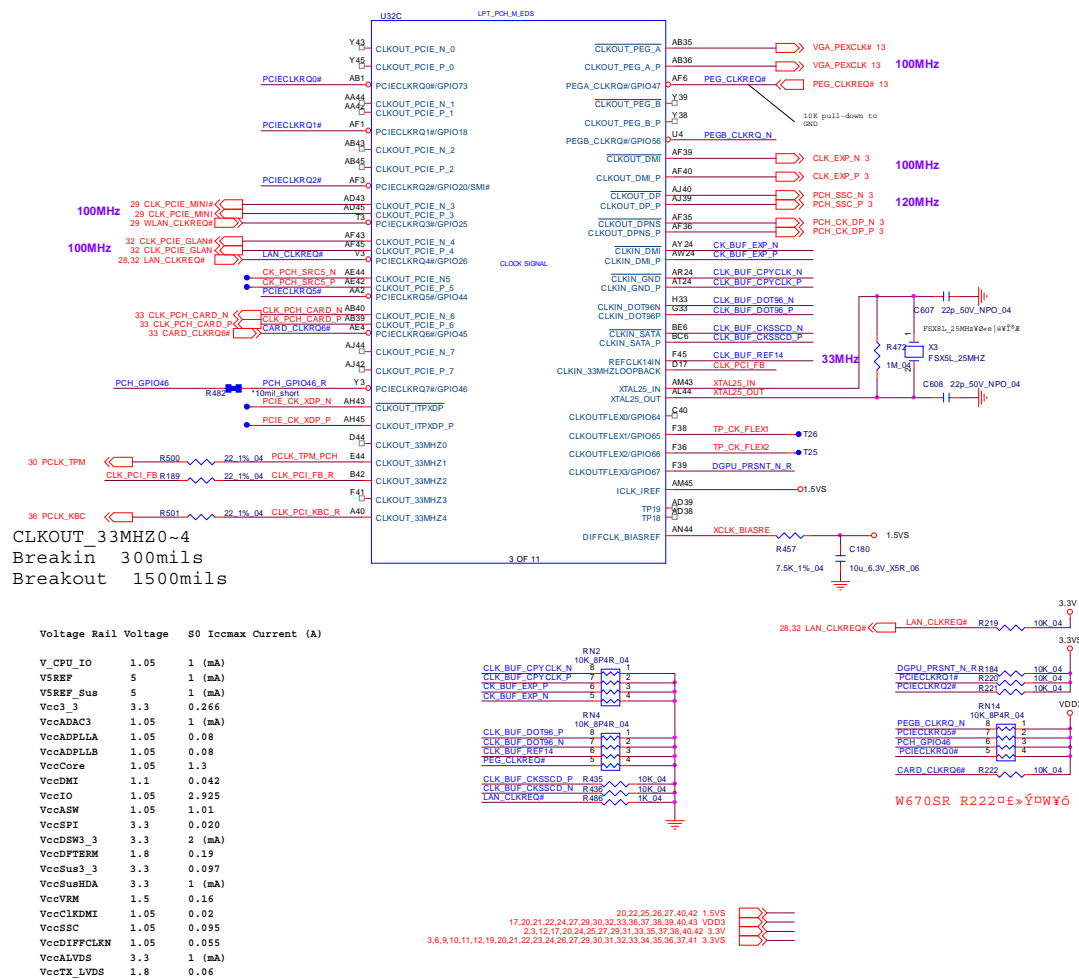


## Lynx 9/9

Lynx Point -M (GND)



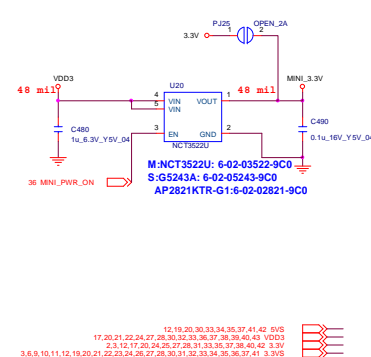
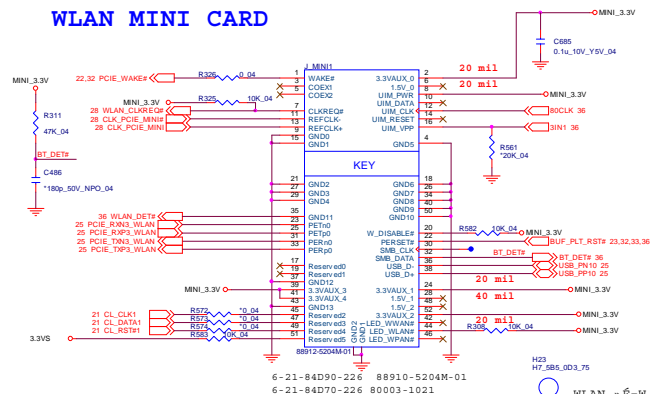
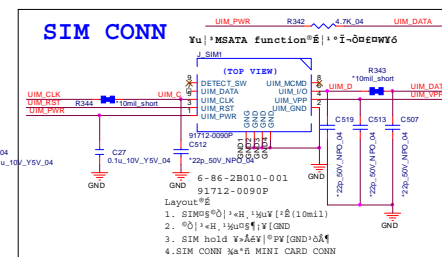
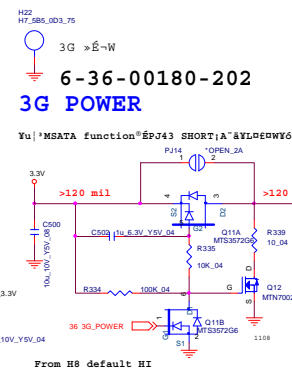
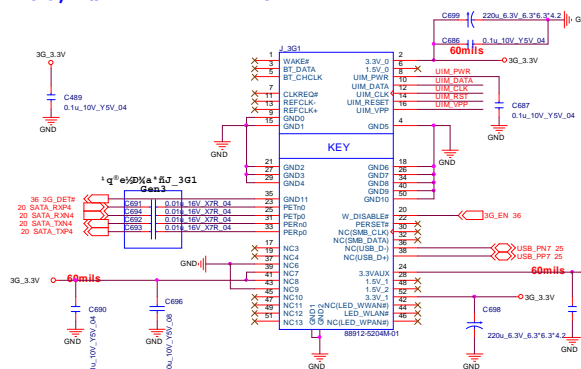
Lynx Point -M (CLK)

Sheet 28 of 46  
Lynx 9/9



## B. Schematic Diagrams

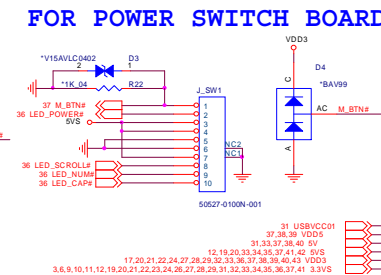
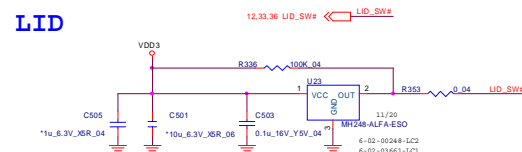
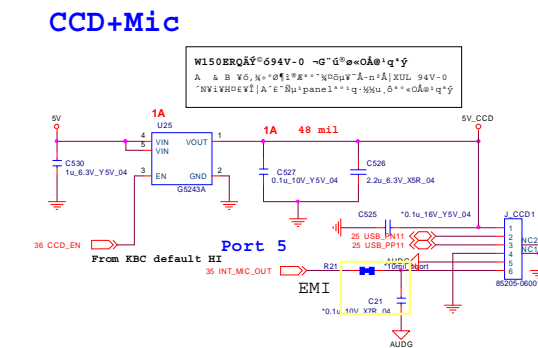
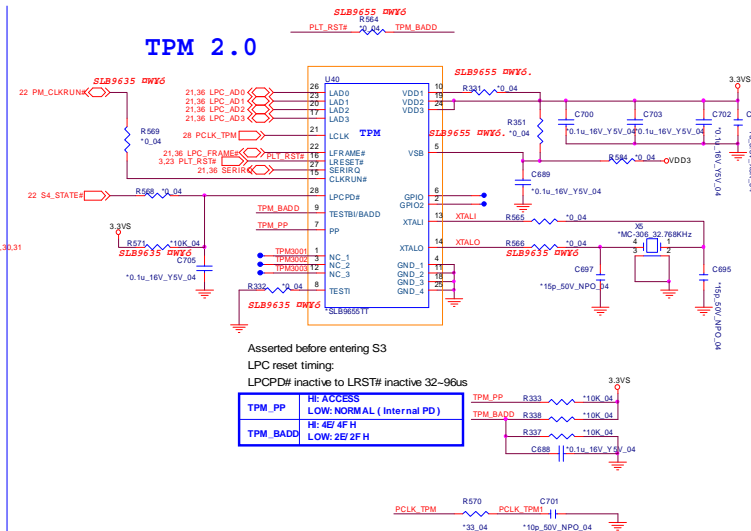
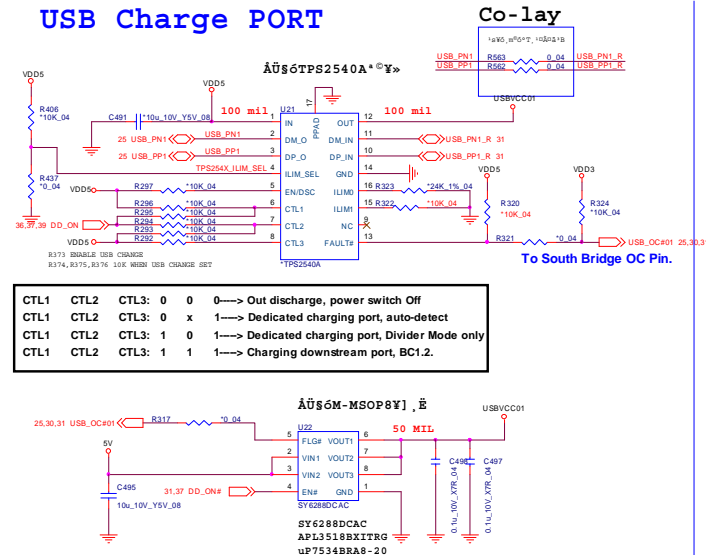
**Sheet 29 of 46**  
**3G, WLAN, PCIE,**  
**CON**





## Schematic Diagrams

## USB Charge, CCD, TPM, Power Con



Sheet 30 of 46  
USB Charge, CCD,  
TPM, Power Con

## B.Schematic Diagrams

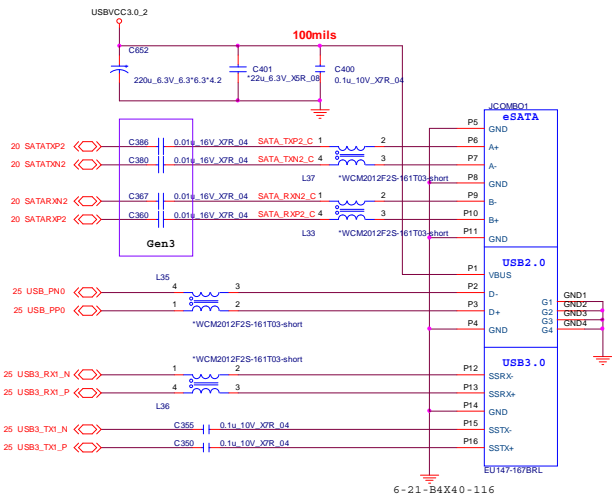


Schematic Diagrams

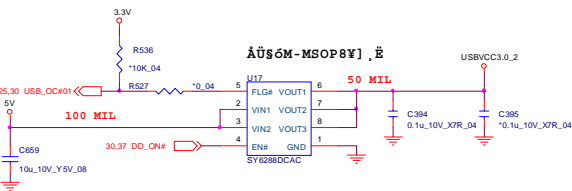
eSATA/USB3.0, LED

Sheet 31 of 46  
eSATA/USB3.0,  
LED

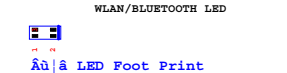
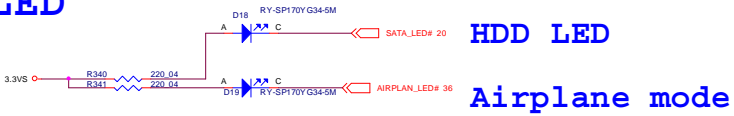
ESATA+USB3.0 USB3.0 PORT(PORT1)



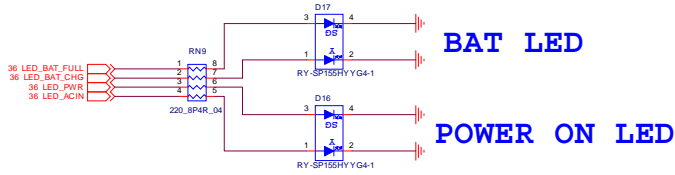
USB POWER SWITCH



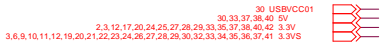
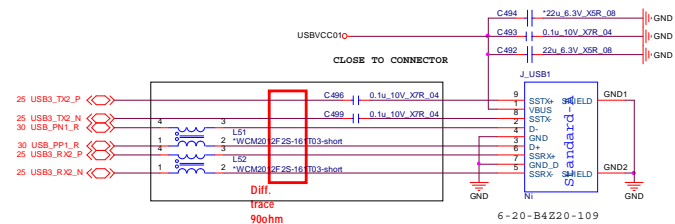
LED



	WLAN ON	WLAN LED
Windows 7	WLAN ON	LED ON
Windows 7	WLAN OFF	LED OFF
Windows 8	Airplane ON	LED ON
Windows 8	Airplane OFF	LED OFF

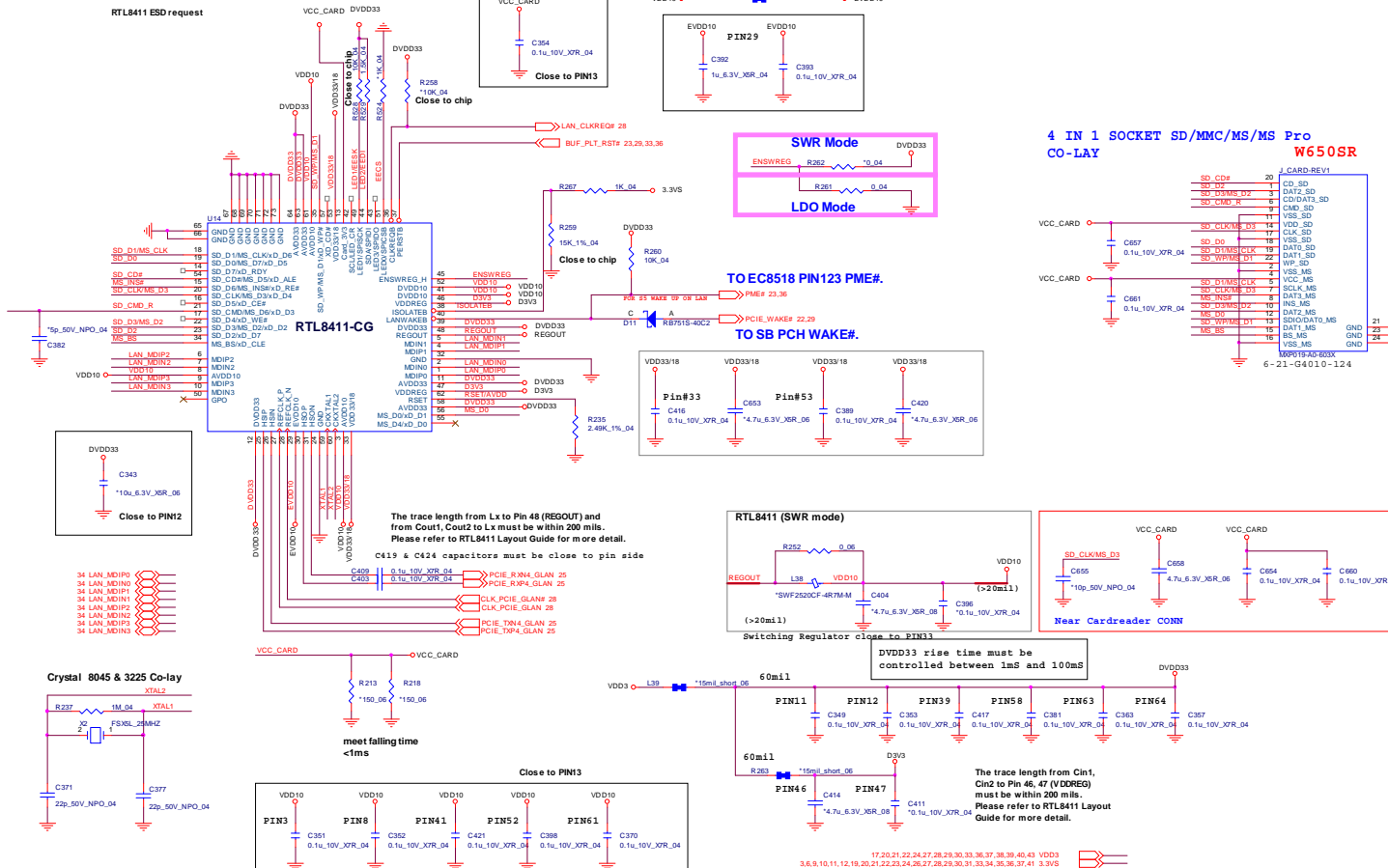


USB3.0 PORT(PORT3)





**Sheet 32 of 46**  
**Card Reader**  
**(RTL8411)**



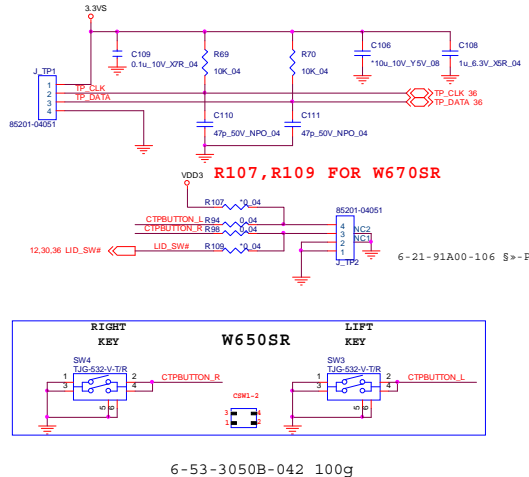


Schematic Diagrams

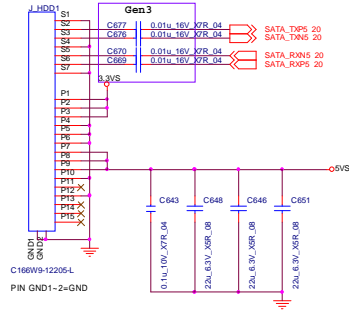
HDD, TP, Audio, USB

Sheet 33 of 46  
HDD, TP, Audio, USB

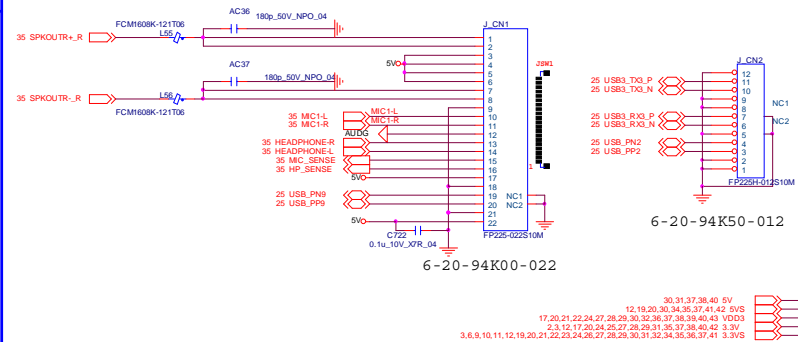
CLICK TP



HDD CONNECT1 (MASTER)

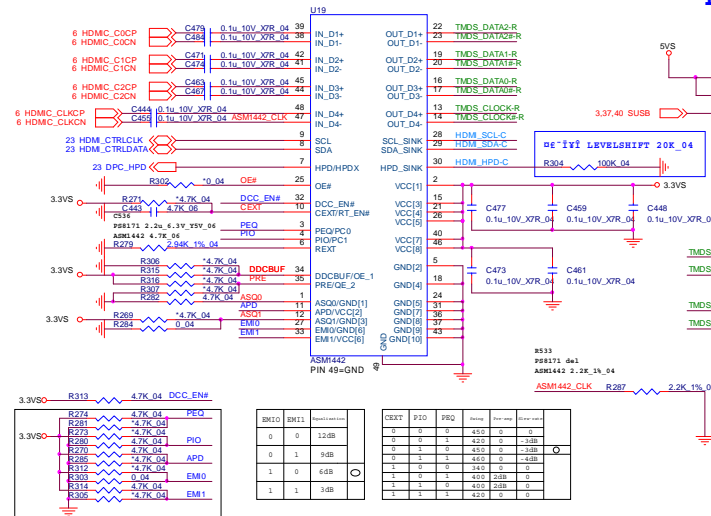


FOR AUDIO BOARD





## HDMI LEVEL SHIFT



5V5

C161

5V5\_KBC

0.1u\_10V\_X7R\_D4

KBC194205-A

KBC\_LED 36

5V5\_KBC

C153

10u\_10V\_Y5V\_08

J\_KBC\_LED1

50501-0006N

12, 19, 30, 33, 35, 37, 41, 42, 5V5

3, 6, 8, 10, 11, 12, 19, 20, 21, 22, 23, 24, 26, 27, 28, 30, 31, 32, 33, 34, 36, 37, 41, 33V

5V\_FAN

5V\_FAN

C563

10k/10V\_Y5V\_08

36 CPU\_FAN

3.3V

0.39K

4.7K

FAN

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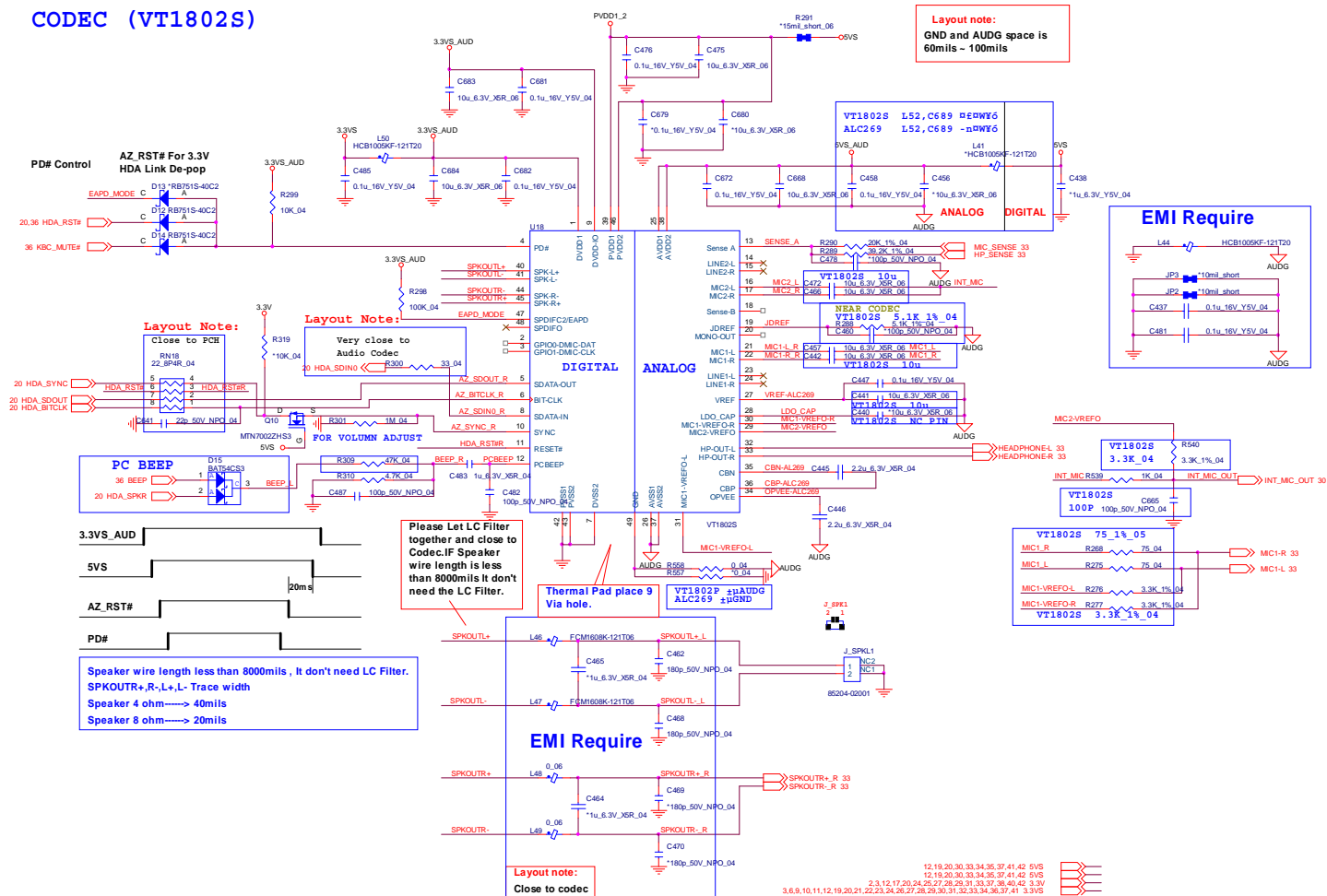
437

438

439

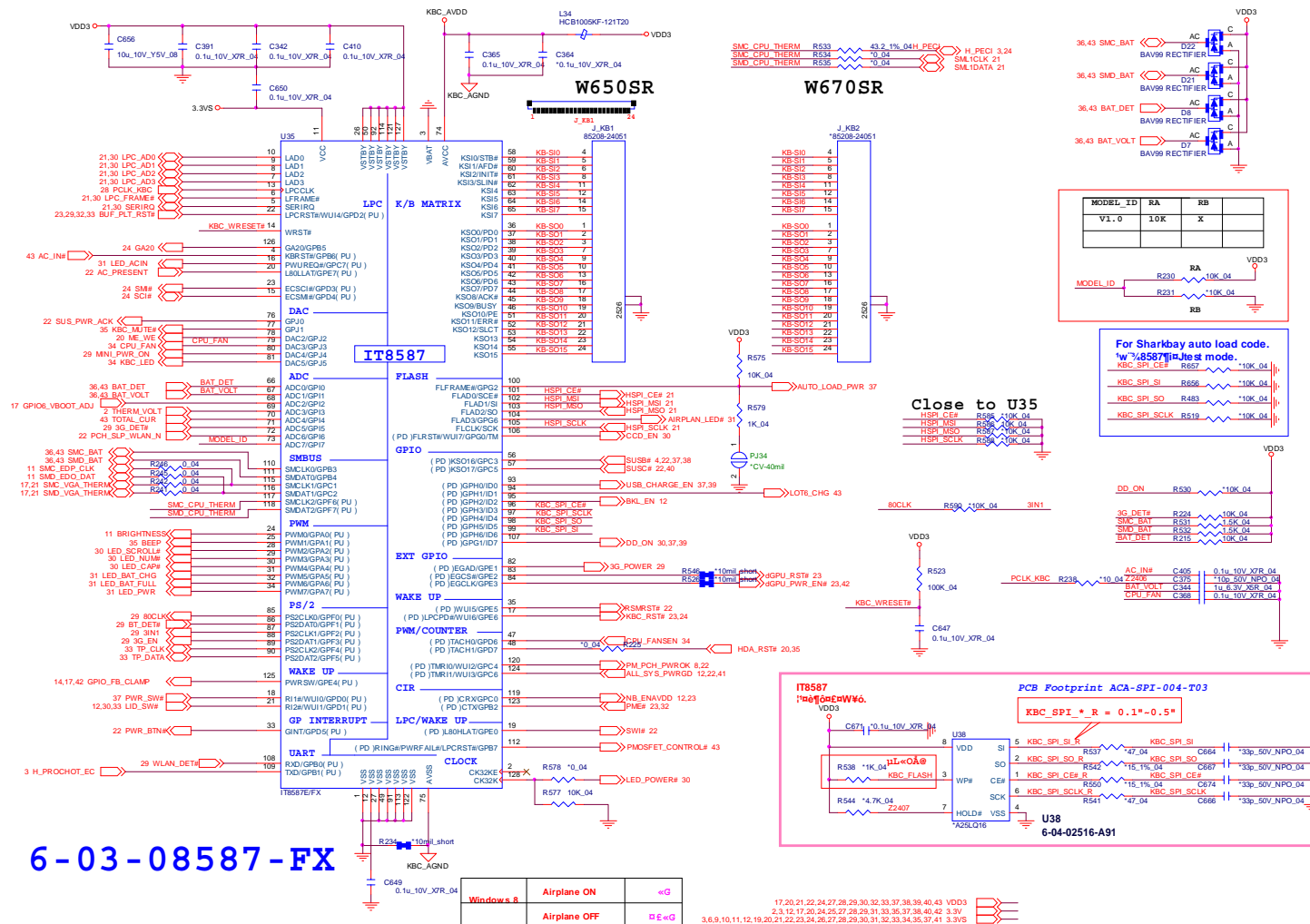


## CODEC (VT1802S)





## KBC-ITE IT8587



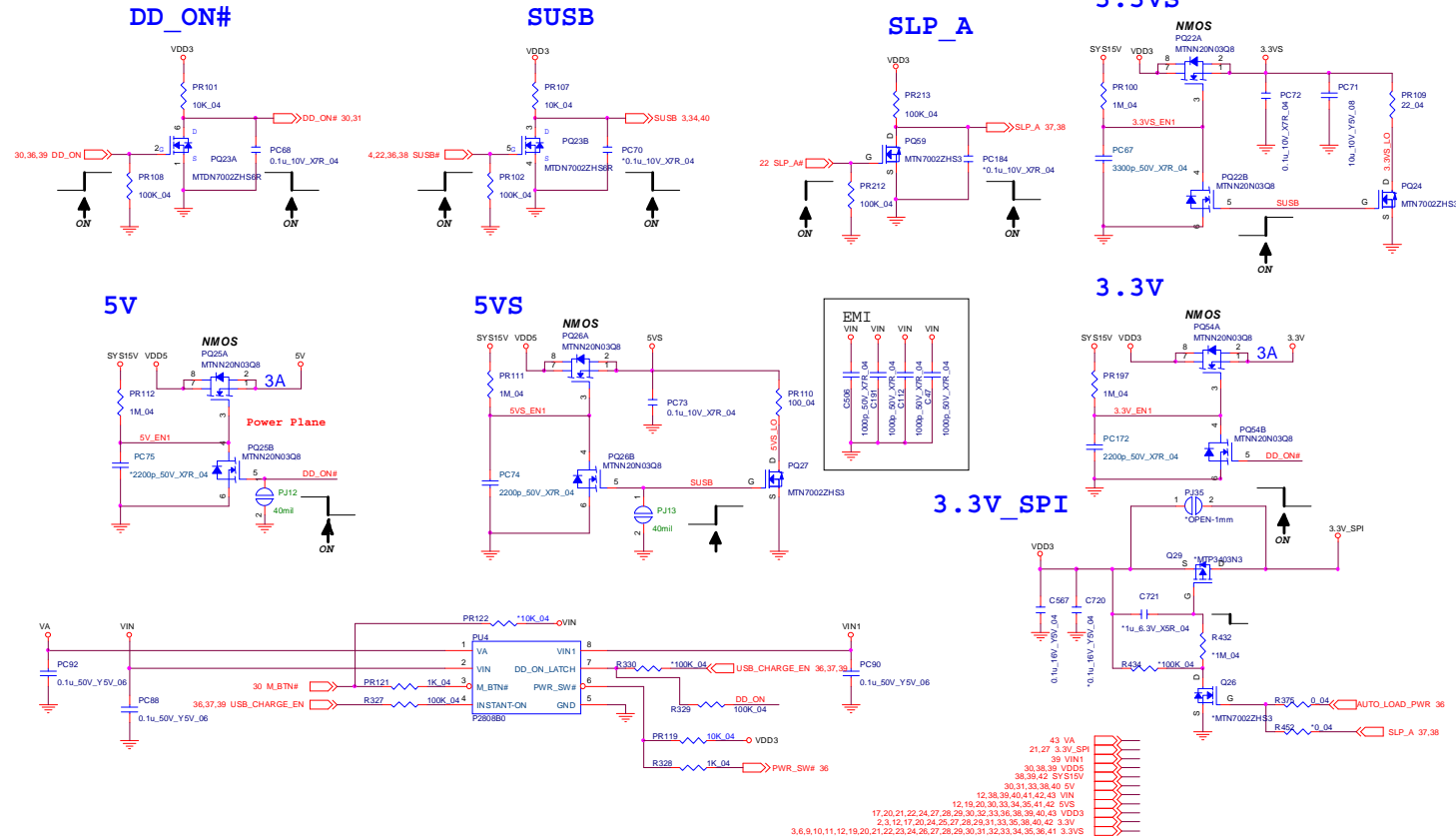
Sheet 36 of 46  
KBC-ITE IT8587



## Schematic Diagrams

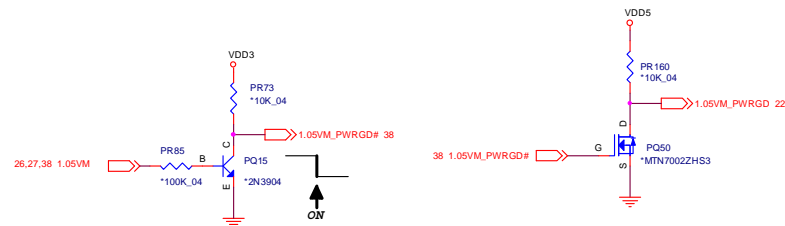
## 5VS, 3VS, 3.3VM, 5VM

Sheet 37 of 46  
5VS, 3VS, 3.3VM,  
5VM





## B.Schematic Diagrams



- 26,27,38 1.05VM  
30,37,39 VDD5  
37,39,42 SY5V  
30,31,33,37,40 5V  
3,5,26,27,41,42 1.05V\_LAN\_M  
12,37,39,40,41,42,43 VIN  
17,20,21,22,24,27,28,29,30,32,33,36,37,39,40,43 VDD3  
2,3,12,17,20,24,25,27,28,29,31,33,35,37,40,42 3.3V

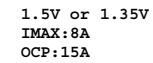


## VDD3, VDD5

**Sheet 39 of 46**  
**VDD3, VDD5**



1.5V or 1.35V/0.75VS



```
1.35V
ICC_MAX_VDDQ=4.2A
```

PCH_GPIO24	PCH_GPIO46	PCH_GPIO8	DDR VOUT
0	1	1	1.5V (DEDAULT)
1	1	1	1.35V

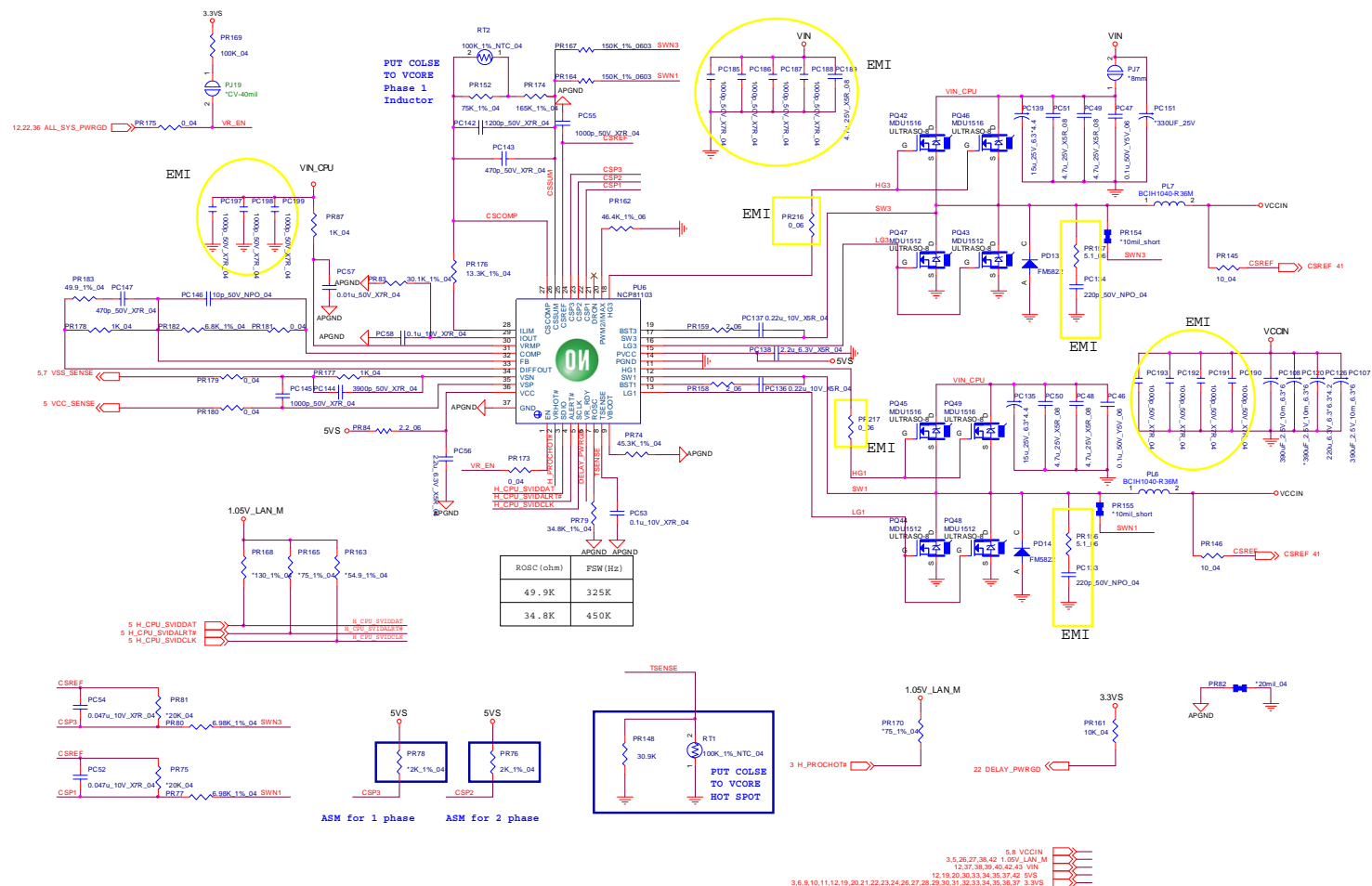


rise time= 3.3ms



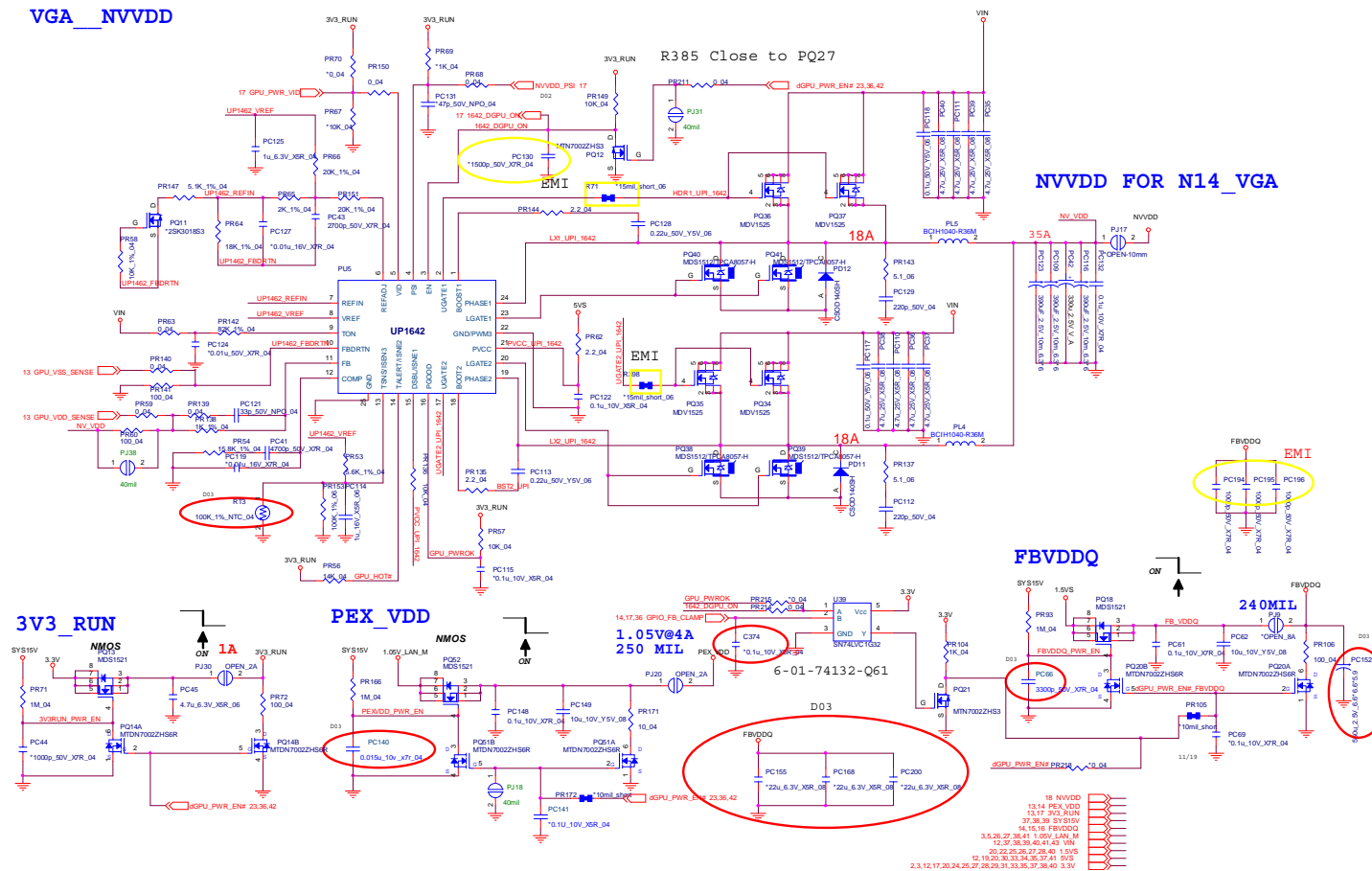
## POWER VCORE

Sheet 41 of 46  
POWER VCORE





Sheet 42 of 46  
N14P,NVVDD,PEX,  
FBVDDQ





## AC IN, CHARGER

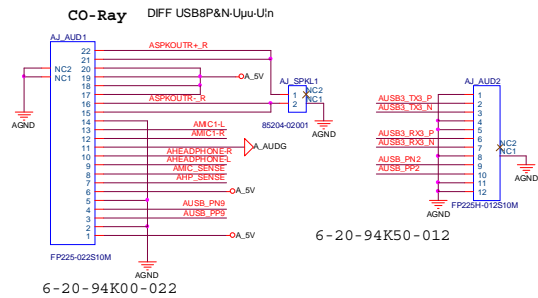
## B. Schematic Diagrams

Sheet 43 of 46  
AC IN, CHARGER

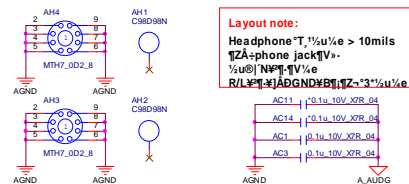


## AUDIO BOARD

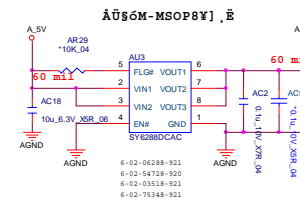
6-71-W6508-D05

AUDIO BOARD  
Connect

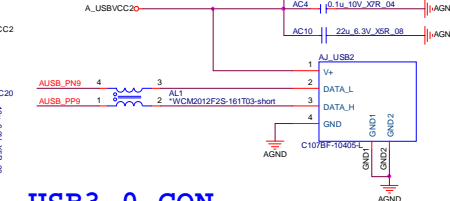
## AUDIO JACK



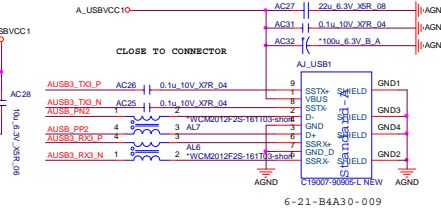
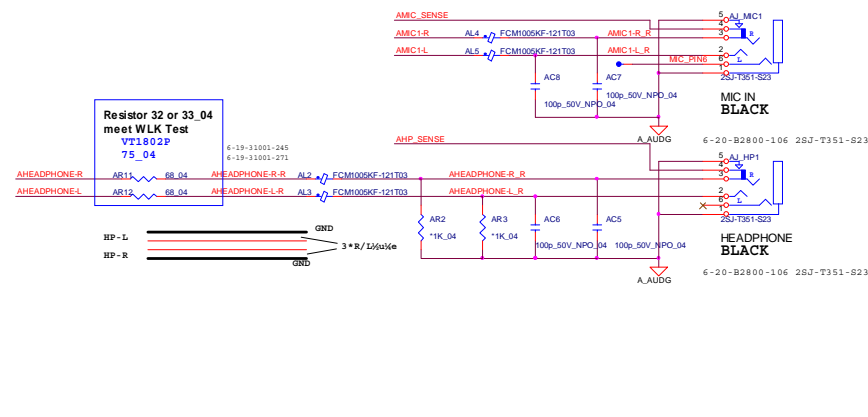
## USB PORT (PORT9)



## USB2.0 CON



## USB3.0 CON

Sheet 44 of 46  
AUDIO BOARD

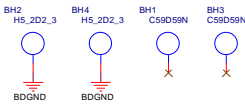
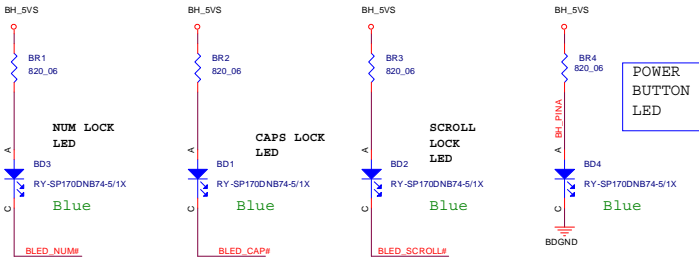
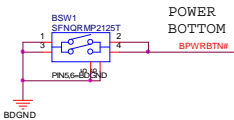
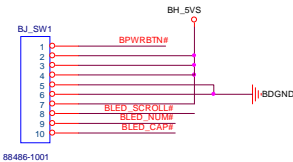


POWER SWITCH BOARD

Sheet 45 of 46  
POWER SWITCH  
BOARD

POWER & LED BOARD

6-71-W650S-D03-A

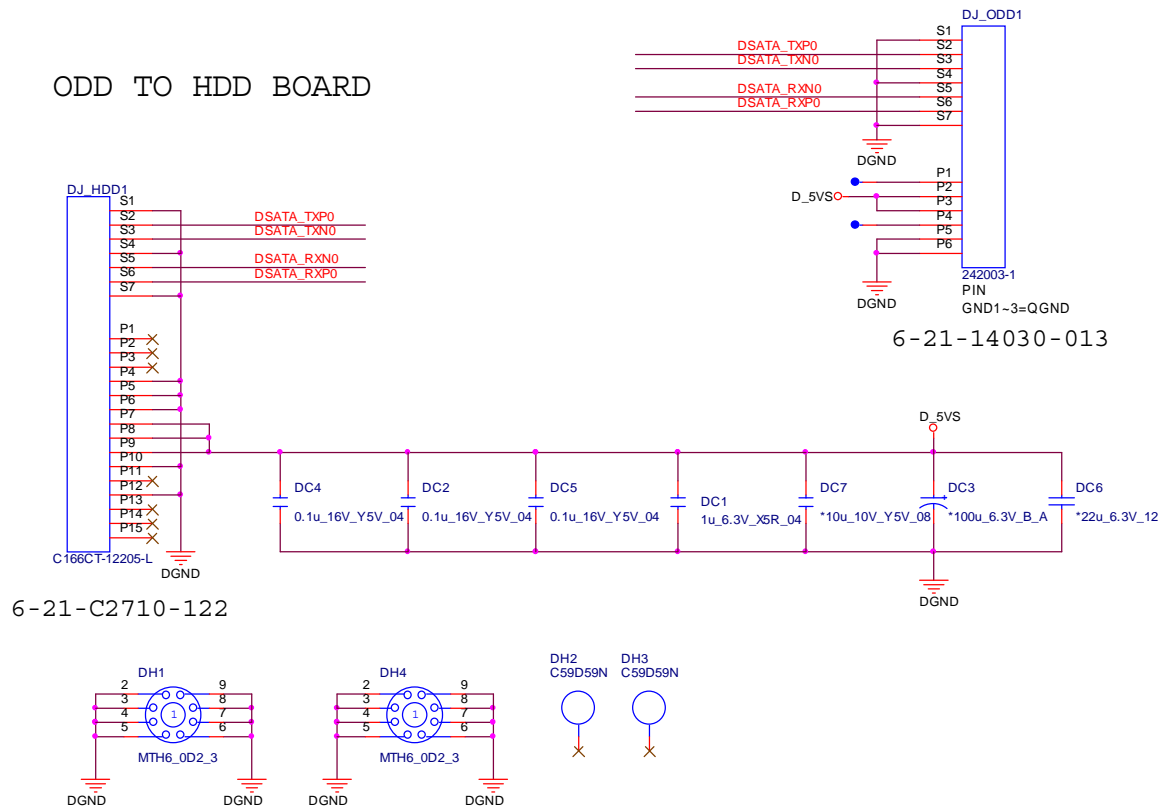




# ODD to HDD BOARD

6-71-W650N-D03

ODD TO HDD BOARD



Sheet 46 of 46  
ODD to HDD  
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](http://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 **F10** 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 **F9**) and select “**Yes**” to confirm the selection.
5. Press **F10** 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.