SERVICE MANUAL

W251HSQ/W251HSQ-C/W255HS/W258HSQ/W25AHS/W251HTQ/W251HTQ-C/W255HT/W258HTQ

notebook

Notebook Computer

W251HSQ / W251HSQ-C / W255HS / W258HSQ / W25AHS / W251HTQ / W251HTQ-C / W255HT / W258HTQ

Service Manual

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Version 1.0
March 2012

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About this Manual

This manual is intended for service personnel who have completed sufficient training to undertake the maintenance and inspection of personal computers.

It is organized to allow you to look up basic information for servicing and/or upgrading components of the ***W251HSQ/ W251HSQ-C/W255HS/W258HSQ/W25AHS/W251HTQ/W251HTQ-C/W255HT/W258HTQ*** series notebook PC.

The following information is included:

Chapter 1, Introduction, provides general information about the location of system elements and their specifications.
Chapter 2, Disassembly, provides step-by-step instructions for disassembling parts and subsystems and how to upgrade elements of the system.

Appendix A, Part Lists
Appendix B, Schematic Diagrams
Appendix C, Updating the FLASH ROM BIOS

IMPORTANT SAFETY INSTRUCTIONS

Follow basic safety precautions, including those listed below, to reduce the risk of fire, electric shock and injury to persons when using any electrical equipment:

1. Do not use this product near water, for example near a bath tub, wash bowl, kitchen sink or laundry tub, in a wet basement or near a swimming pool.
2. Avoid using a telephone (other than a cordless type) during an electrical storm. There may be a remote risk of electrical shock from lightning.
3. Do not use the telephone to report a gas leak in the vicinity of the leak.
4. Use only the power cord and batteries indicated in this manual. Do not dispose of batteries in a fire. They may explode. Check with local codes for possible special disposal instructions.
5. This product is intended to be supplied by a Listed Power Unit with an AC Input of 100 - 240V, 50 - 60Hz, DC Output of 19V, 474A (**90**W) minimum AC/DC Adapter.

CAUTION

This Computer's Optical Device is a Laser Class 1 Product

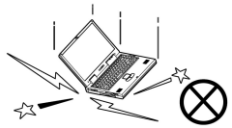
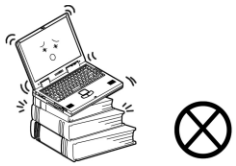
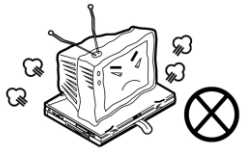
FCC Statement

This device complies with Part 15 of the FCC Rules. Operation is subject to the following two conditions:
This device may not cause harmful interference.
This device must accept any interference received, including interference that may cause undesired operation.

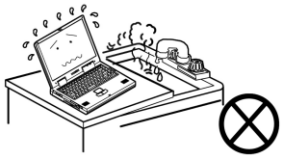
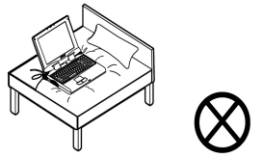
Instructions for Care and Operation

The notebook computer is quite rugged, but it can be damaged. To prevent this, follow these suggestions:

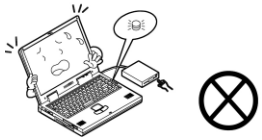
1. **Don't drop it, or expose it to shock.** If the computer falls, the case and the components could be damaged.

Do not expose the computer to any shock or vibration.	*Do not place it on an unstable surface.*	*Do not place anything heavy on the computer.*
		

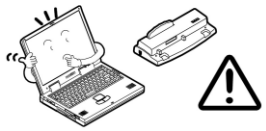
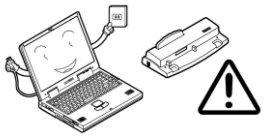
2. **Keep it dry, and don't overheat it.** Keep the computer and power supply away from any kind of heating element. This is an electrical appliance. If water or any other liquid gets into it, the computer could be badly damaged.

Do not expose it to excessive heat or direct sunlight.	*Do not leave it in a place where foreign matter or moisture may affect the system.*	*Don't use or store the computer in a humid environment.*	*Do not place the computer on any surface which will block the vents.*
			

3. **Follow the proper working procedures for the computer**. Shut the computer down properly and don't forget to save your work. Remember to periodically save your data as data may be lost if the battery is depleted.

Do not turn off the power until you properly shut down all programs.	*Do not turn off any peripheral devices when the computer is on.*	*Do not disassemble the computer by yourself.*	*Perform routine maintenance on your computer.*
			

4. **Avoid interference.** Keep the computer away from high capacity transformers, electric motors, and other strong magnetic fields. These can hinder proper performance and damage your data.
5. **Take care when using peripheral devices**.

Use only approved brands of peripherals.	*Unplug the power cord before attaching peripheral devices.*
	

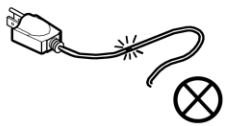
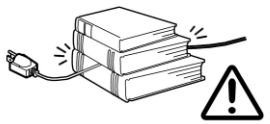
Power Safety

The computer has specific power requirements:

- Only use a power adapter approved for use with this computer.
- Your AC adapter may be designed for international travel but it still requires a steady, uninterrupted power supply. If you are unsure of your local power specifications, consult your service representative or local power company.
- The power adapter may have either a 2-prong or a 3-prong grounded plug. The third prong is an important safety feature; do not defeat its purpose. If you do not have access to a compatible outlet, have a qualified electrician install one.
- When you want to unplug the power cord, be sure to disconnect it by the plug head, not by its wire.
- Make sure the socket and any extension cord(s) you use can support the total current load of all the connected devices.
- Before cleaning the computer, make sure it is disconnected from any external power supplies.

Power Safety Warning

Before you undertake any upgrade procedures, make sure that you have turned off the power, and disconnected all peripherals and cables (including telephone lines). It is advisable to also remove your battery in order to prevent accidentally turning the machine on.

Do not plug in the power cord if you are wet.	*Do not use the power cord if it is broken.*	*Do not place heavy objects on the power cord.*
		

Battery Precautions

- Only use batteries designed for this computer. The wrong battery type may explode, leak or damage the computer.
- Do not continue to use a battery that has been dropped, or that appears damaged (e.g. bent or twisted) in any way. Even if the computer continues to work with a damaged battery in place, it may cause circuit damage, which may possibly result in fire.
- Recharge the batteries using the notebook's system. Incorrect recharging may make the battery explode.
- Do not try to repair a battery pack. Refer any battery pack repair or replacement to your service representative or qualified service personnel.
- Keep children away from, and promptly dispose of a damaged battery. Always dispose of batteries carefully. Batteries may explode or leak if exposed to fire, or improperly handled or discarded.
- Keep the battery away from metal appliances.
- Affix tape to the battery contacts before disposing of the battery.
- Do not touch the battery contacts with your hands or metal objects.

Battery Guidelines

The following can also apply to any backup batteries you may have.

- If you do not use the battery for an extended period, then remove the battery from the computer for storage.
- Before removing the battery for storage charge it to 60% - 70%.
- Check stored batteries at least every 3 months and charge them to 60% - 70%.

Battery Disposal

The product that you have purchased contains a rechargeable battery. The battery is recyclable. At the end of its useful life, under various state and local laws, it may be illegal to dispose of this battery into the municipal waste stream. Check with your local solid waste officials for details in your area for recycling options or proper disposal.

Caution

Danger of explosion if battery is incorrectly replaced. Replace only with the same or equivalent type recommended by the manufacturer. Discard used battery according to the manufacturer's instructions.

Battery Level

Click the battery icon  in the taskbar to see the current battery level and charge status. A battery that drops below a level of 10% will not allow the computer to boot up. Make sure that any battery that drops below 10% is recharged within one week.

Related Documents

You may also need to consult the following manual for additional information:

User's Manual on CD/DVD
This describes the notebook PC's features and the procedures for operating the computer and its ROM-based setup program. It also describes the installation and operation of the utility programs provided with the notebook PC.

System Startup

1. Remove all packing materials.
2. Place the computer on a stable surface.
3. Insert the battery and make sure it is locked in position.
4. Securely attach any peripherals you want to use with the computer (e.g. keyboard and mouse) to their ports.
5. Attach the AC/DC adapter to the DC-In jack at the rear of the computer, then plug the AC power cord into an outlet, and connect the AC power cord to the AC/DC adapter.
6. Use one hand to raise the lid/LCD to a comfortable viewing angle (do not exceed 130 degrees); use the other hand (as illustrated in Figure 1) to support the base of the computer (**Note**: **Never** lift the computer by the lid/LCD).
7. Press the power button to turn the computer "on".

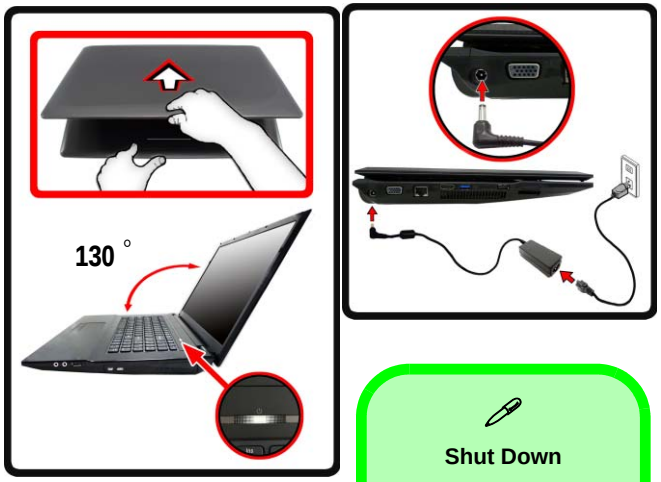


Figure 1
Opening the Lid/LCD/ Computer with AC/DC Adapter Plugged-In

Shut Down

Note that you should always shut your computer down by choosing **Shut Down** from the **Start** Menu.

This will help prevent hard disk or system problems.

Contents

Chapter 1: Introduction

Overview

This manual covers the information you need to service or upgrade the ***W251HSQ/W251HSQ-C/W255HS/W258HSQ/W25AHS/W251HTQ/W251HTQ-C/W255HT/W258HTQ*** series notebook computer. Information about operating the computer (e.g. getting started, and the *Setup* utility) is in the *User's Manual*. Information about dri-vers (e.g. VGA & audio) is also found in the *User's Manual*. The manual is shipped with the computer.

Operating systems (e.g. *Window 7*, etc.) have their own manuals as do application softwares (e.g. word processing and database programs). If you have questions about those programs, you should consult those manuals.

The ***W251HSQ/W251HSQ-C/W255HS/W258HSQ/W25AHS/W251HTQ/W251HTQ-C/W255HT/W258HTQ*** series notebook is designed to be upgradeable. See ***Disassembly on page 2 - 1*** for a detailed description of the upgrade procedures for each specific component. Please take note of the warning and safety information indicated by the "  " symbol.

The balance of this chapter reviews the computer's technical specifications and features.

Specifications

Latest Specification Information

The specifications listed here are correct at the time of sending them to the press. Certain items (particularly processor types/speeds) may be changed, delayed or updated due to the manufacturer's release schedule. Check with your service center for more details.

CPU

The CPU is not a user serviceable part. Accessing the CPU in any way may violate your warranty.

Processor
Note all processor packages are rPGA988B
Intel® Core i7-2860QM (2.5GHz) Quad-Core Mobile Processor 8M L3 Cache, 32nm (32 Nanometer), DDR3-1600MHz, TDP 45W
Intel® Core i7-2820QM (2.3GHz) Quad-Core Mobile Processor 8M L3 Cache, 32nm (32 Nanometer), DDR3-1600MHz, TDP 45W
Intel® Core i7-2760QM (2.4GHz) Quad-Core Mobile Processor 6M L3 Cache, 32nm (32 Nanometer), DDR3-1600MHz, TDP 45W
Intel® Core i7-2720QM (2.2GHz) Quad-Core Mobile Processor 6M L3 Cache, 32nm (32 Nanometer), DDR3-1600MHz, TDP 45W
Intel® Core i7-2670QM (2.2GHz) Quad-Core Mobile Processor 6M L3 Cache, 32nm (32 Nanometer), DDR3-1333MHz, TDP 45W
Intel® Core i7-2630QM (2.0GHz) Quad-Core Mobile Processor 6M L3 Cache, 32nm (32 Nanometer), DDR3-1333MHz, TDP 45W
Intel® Core i7-2640M (2.8GHz) Mobile Processor 4M L3 Cache, 32nm (32 Nanometer), DDR3-1333MHz, TDP 35W

Processor
Intel® Core i7-2620M (2.7GHz) Mobile Processor 4M L3 Cache, 32nm (32 Nanometer), DDR3-1333MHz, TDP 35W
Intel® Core i5-2540M (2.6GHz) Mobile Processor 3M L3 Cache, 32nm (32 Nanometer), DDR3-1333MHz, TDP 35W
Intel® Core i5-2520M (2.5GHz) Mobile Processor 3M L3 Cache, 32nm (32 Nanometer), DDR3-1333MHz, TDP 35W
Intel® Core i5-2430M (2.4GHz) Mobile Processor 3M L3 Cache, 32nm (32 Nanometer), DDR3-1333MHz, TDP 35W
Intel® Core i5-2410M (2.3GHz) Mobile Processor 3M L3 Cache, 32nm (32 Nanometer), DDR3-1333MHz, TDP 35W
Intel® Core i3-2350M (2.3GHz) Mobile Processor 3M L3 Cache, 32nm (32 Nanometer), DDR3-1333MHz, TDP 35W
Intel® Core i3-2330M (2.2GHz) Mobile Processor 3M L3 Cache, 32nm (32 Nanometer), DDR3-1333MHz, TDP 35W
Intel® Core i3-2310M (2.1GHz) Mobile Processor 3M L3 Cache, 32nm (32 Nanometer), DDR3-1333MHz, TDP 35W

Processor
Intel® Pentium® B960 (2.2GHz) 2M L3 Cache, 32nm (32 Nanometer), DDR3-1333MHz, TDP 35W **Intel® Pentium® B950 (2.1GHz)** 2M L3 Cache, 32nm (32 Nanometer), DDR3-1333MHz, TDP 35W **Intel® Pentium® B940 (2.0GHz)** 2M L3 Cache, 32nm (32 Nanometer), DDR3-1333MHz, TDP 35W
Core Logic
Mobile Intel® HM65 Express Chipset
Display
15.6” / 39.62cm HD (1366 * 768) / HD+ (1600 * 900) / FHD (1920 * 1080) 16:9 Backlit Panel
Memory
Dual Channel **DDRIII (DDR3)** Two 204 Pin SO-DIMM sockets supporting DDR3 1333MHz/1600MHz (real operational frequency depends on the FSB of the processor) Memory Expandable up to **8GB** (using 1GB / 2GB / 4GB SO-DIMM Modules)
Card Reader
Embedded Multi-In-1 Card Reader - MMC/ RS MMC - SD/ Mini SD / SDHC/ SDXC - MS/ MS Pro/ MS Duo **Note:** Some of these cards require PC adapters that are usually supplied with the cards.

Video Controller
Intel® Integrated GPU and NVIDIA® GeForce GT 630M Video: ***Supports NVIDIA® Optimus Switchable GPU Technology between iGPU and dGPU*** **Intel® HD Graphics 3000:** Dynamic Frequency DVMT Shared Memory Architecture up to 1748MB Microsoft DirectX®10 Compatible **NVIDIA® GeForce GT 630M Discrete GPU:** 1GB DDR3 Video RAM Supports PCIe * 8 Microsoft DirectX®11 Compatible NVIDIA PhysX™ GeForce CUDA™ Technology NVIDIA® Optimus 1.2 Technology
Intel® Integrated GPU and NVIDIA® GeForce GT 610M Video: ***Supports NVIDIA® Optimus Switchable GPU Technology between iGPU and dGPU*** **Intel® HD Graphics 3000:** Dynamic Frequency DVMT Shared Memory Architecture up to 1748MB Microsoft DirectX®10 Compatible **NVIDIA® GeForce GT 610M Discrete GPU:** 1GB DDR3 Video RAM Supports PCIe * 8 Microsoft DirectX®11 Compatible NVIDIA PhysX™ GeForce CUDA™ Technology NVIDIA® Optimus 1.2 Technology

BIOS
One 32Mb SPI Flash ROM AMI BIOS
Storage
One Changeable 12.7mm(h) Super Multi/Blu-ray Combo Optical Device Drive with SATA Interface (**Factory Option**) One Changeable 2.5" / 9.5 mm (h) HDD with SATA (Serial) Interface
Audio
High Definition Audio Interface Built-In Microphone 2 * Built-In Speakers THX TruStudio Pro
Keyboard, Pointing Device & Buttons
Isolated Keyboard with Numeric Keypad Built-in Touchpad with Multi-Gesture Functionality
Interface
One USB 2.0 Port Two USB 3.0 Ports One eSATA Port One External Monitor Port One HDMI1.4a Out Port (with HDCP) One Headphone-Out Jack One Microphone-In Jack One RJ-45 LAN Jack One DC-In Jack

Slots
Two Mini-Card Slots: **Slot 1** for Half Size WLAN Combo Module with PCIe and USB Interface **Slot 2** for Full Size 3.75G Module with USB Interface
Communication
Built-In 10/100/1000Mb Base-TX **Ethernet LAN** **Intel® Centrino® Advanced-N 6230** (2*2 802.11 a/g/n) Half Mini-Card PCIe WLAN & Bluetooth 3.0 Combo Module (**Factory Option**) **Intel® Centrino® Wireless-N 1030** (1*2 802.11 b/g/n) Half Mini-Card PCIe WLAN & Bluetooth 3.0 Combo Module (**Factory Option**)
3rd Party Combo WLAN (802.11b/g/n) **and Bluetooth v3.0+HS** Half Mini-Card Module with PCIe Interface (**Factory Option**) **3rd Party WLAN** 802.11b/g/n Half Mini-Card Module with PCIe Interface (**Factory Option**) 1.3M/2.0M Pixel **PC Camera Module** with USB interface (**Factory Option**) **==========** UMTS/HSPDA-based **3.75G Module** with USB Half Mini-Card Interface (**Factory Option**) Quad-band GSM/GPRS (850 MHz, 900 MHz, 1800 MHz, 1900 MHz) UMTS WCDMA FDD (2100 MHz) **Note that UMTS modes CAN NOT be used in North America**
Power Management
Supports Wake on LAN Supports Wake on USB Energy Star 5.2

Power
Full Range AC/DC Adapter AC input 100 - 240V, 50 - 60Hz, DC Output 19V, 4.7A (**90** Watts) Removable 6 Cell Smart Lithium Ion Battery Pack 48.84WH Removable 6 Cell Smart Lithium Ion Battery Pack 62.16WH (**Factory Option**)
Security
Security (Kensington® Type) Lock Slot BIOS Password
Operating System
Windows® 7 with Service Pack 1
Design Feature
Painted Style Covers (For Some **Designs Only**) IMR (Injected Molded Resin) LCD Back Covers (For Some **Model Designs**)
Environmental Spec
Temperature Operating: 5°C - 35°C Non-Operating: -20°C - 60°C Relative Humidity Operating: 20% - 80% Non-Operating: 10% - 90%
Dimensions & Weight
374mm (w) * 250mm (d) * 14 - 37.2mm (h) 2.6 kg with ODD & 48.84WH Battery

External Locator - Top View with LCD Panel Open

Figure 1
Top View

1. PC Camera (**Optional**)
2. LCD
3. Power Button
4. LED Status Indicators
5. Keyboard
6. Built-In Microphone
   *Note that the microphone location is dependent upon your model design
7. Touchpad & Buttons

External Locator - Front & Right Side Views

Figure 2
Front View

1. LED Power Indicator

FRONT VIEW

Figure 3
Right Side View

1. Microphone-In Jack
2. Headphone-Out Jack
3. USB 2.0 Port
4. Optical Device Drive Bay
5. Emergency Eject Hole

RIGHT SIDE VIEW

External Locator - Left Side & Rear View

/

LEFT SIDE VIEW

Figure 4
Left Side View

1. DC-In Jack
2. External Monitor Port
3. RJ-45 LAN Jack
4. HDMI-Out Port
5. USB 3.0 Ports
6. Vent
7. Multi-in-1 Card Reader
8. e-SATA Port

REAR VIEW

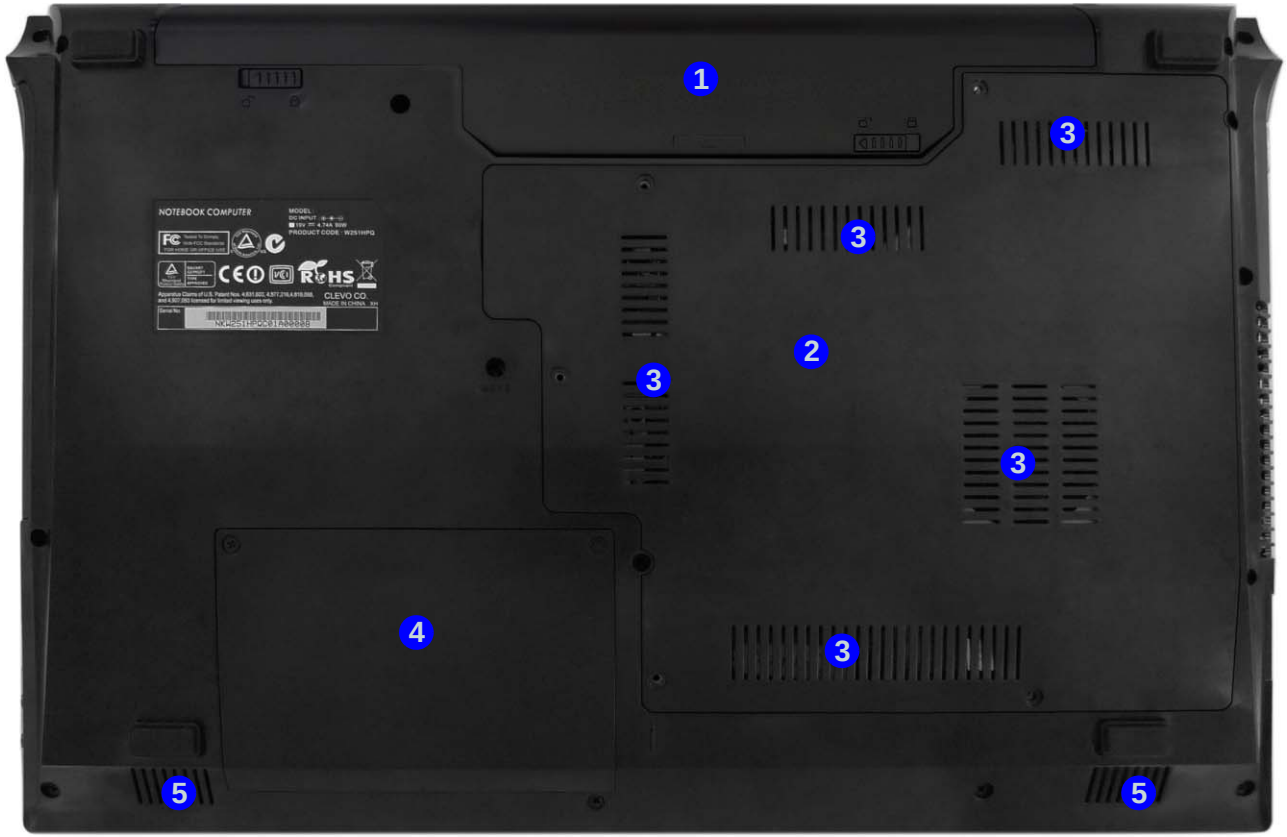
Figure 5
Rear View

1. Security Lock Slot
2. Battery

External Locator - Bottom View

Figure 6
Bottom View

1. Battery
2. Component Bay Cover
3. Vent
4. Hard Disk Bay Cover
5. Speakers



Overheating

To prevent your computer from overheating, make sure nothing blocks any vent while the computer is in use.

Mainboard Overview - Top (Key Parts)

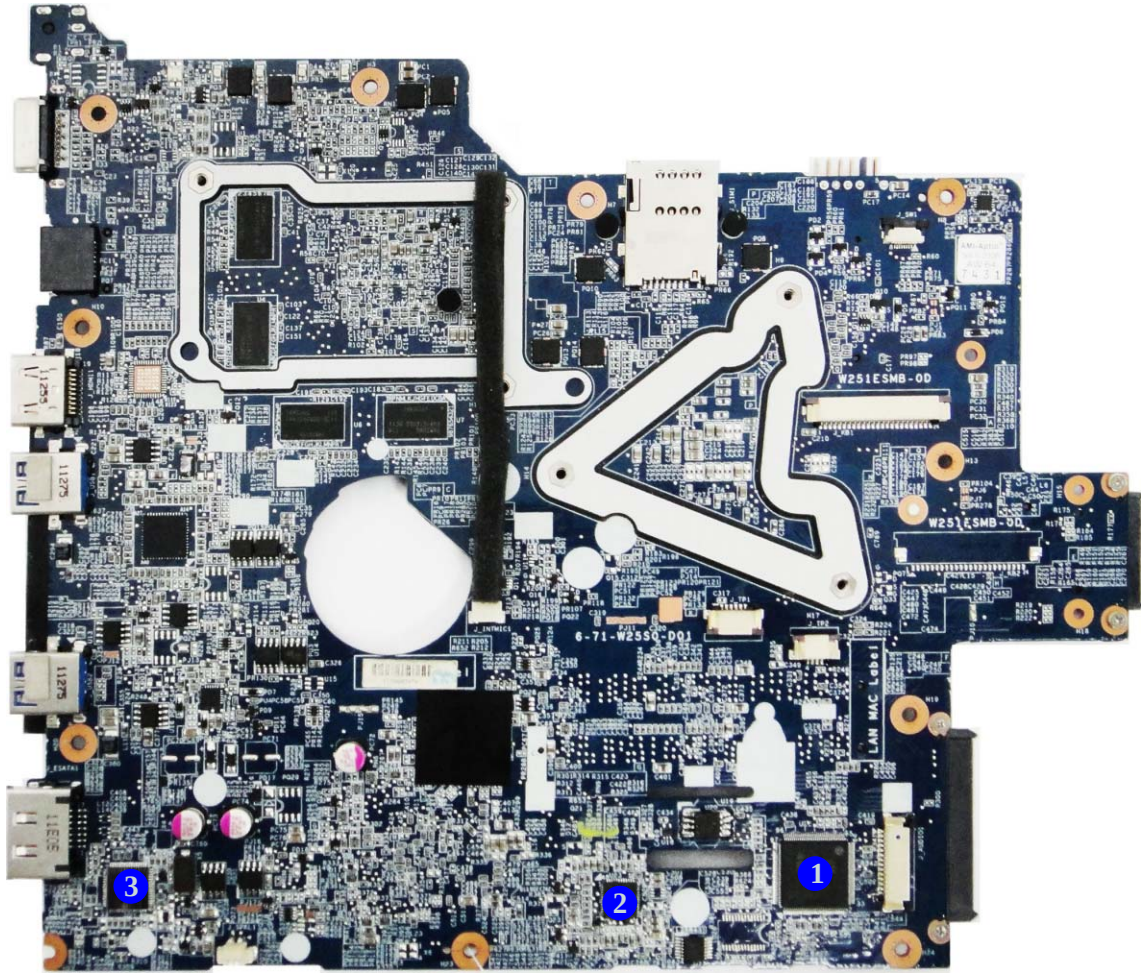


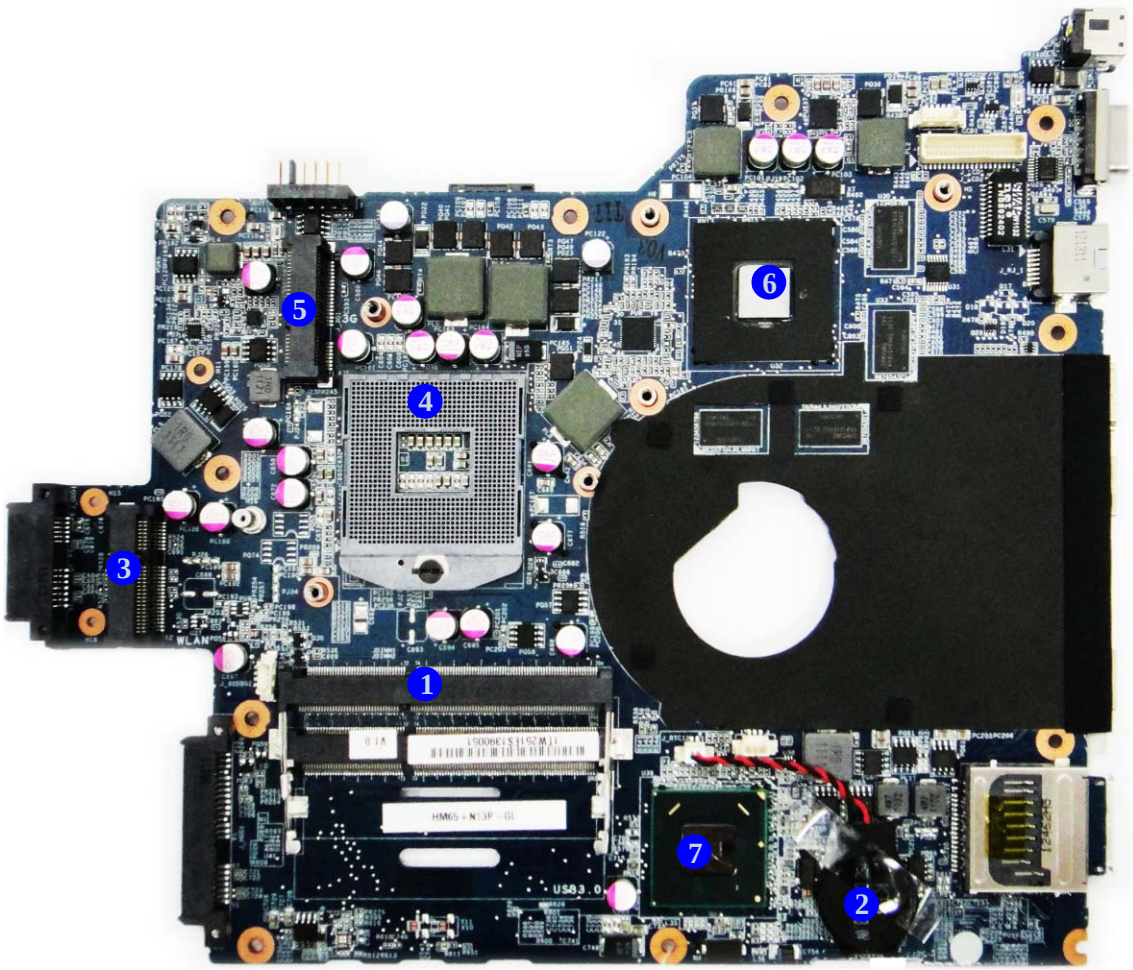
Figure 7
Mainboard Top Key Parts

1. KBC-ITE IT8518
2. VIA VT1802P
3. Realtek RTL8411-CG

Mainboard Overview - Bottom (Key Parts)

Figure 8
Mainboard Bottom Key Parts

1. Memory Slots DDR3 SO-DIMM
2. CMOS Battery
3. Mini-Card Connector (WLAN Module)
4. CPU Socket (no CPU installed)
5. Mini-Card Connector (3G Module)
6. nVIDIA VGA
7. Platform Controller Hub



Mainboard Overview - Top (Connectors)

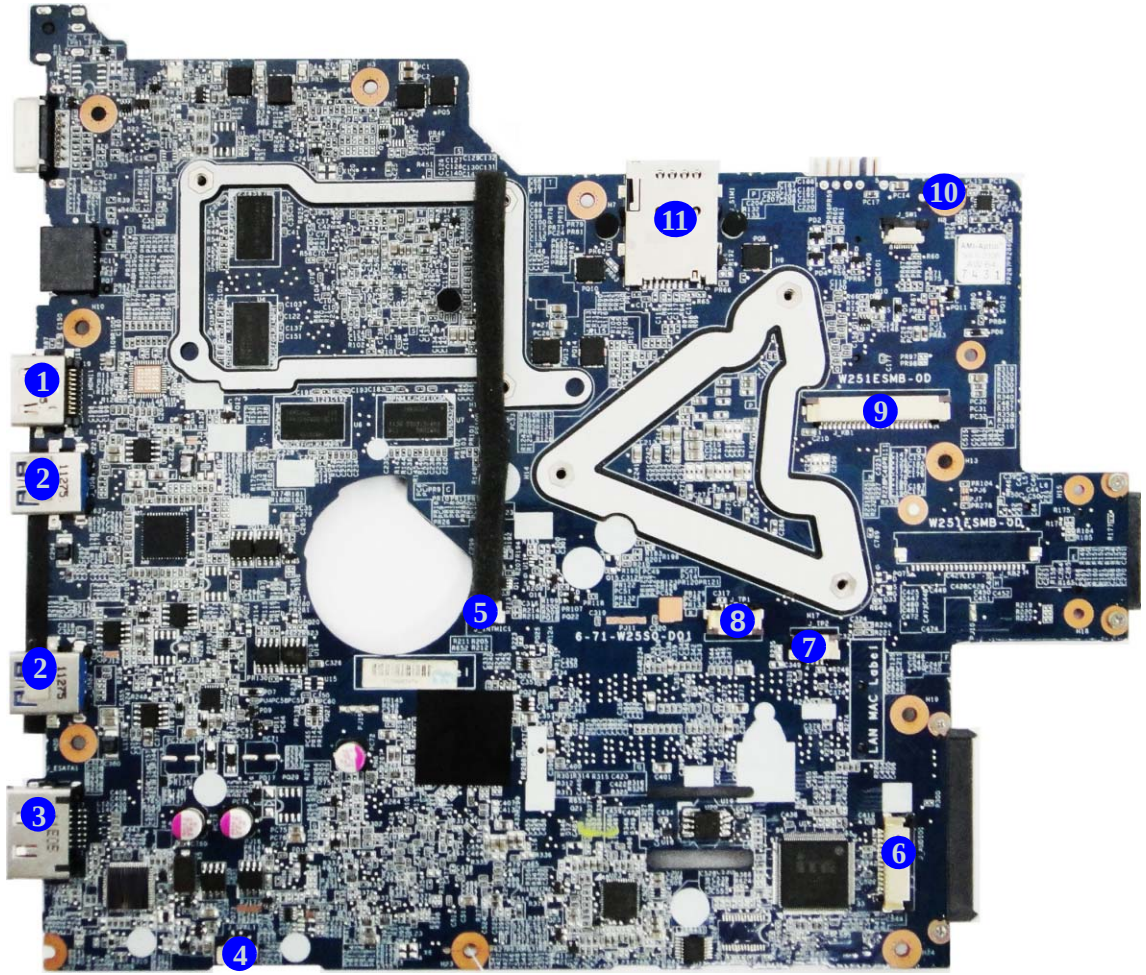


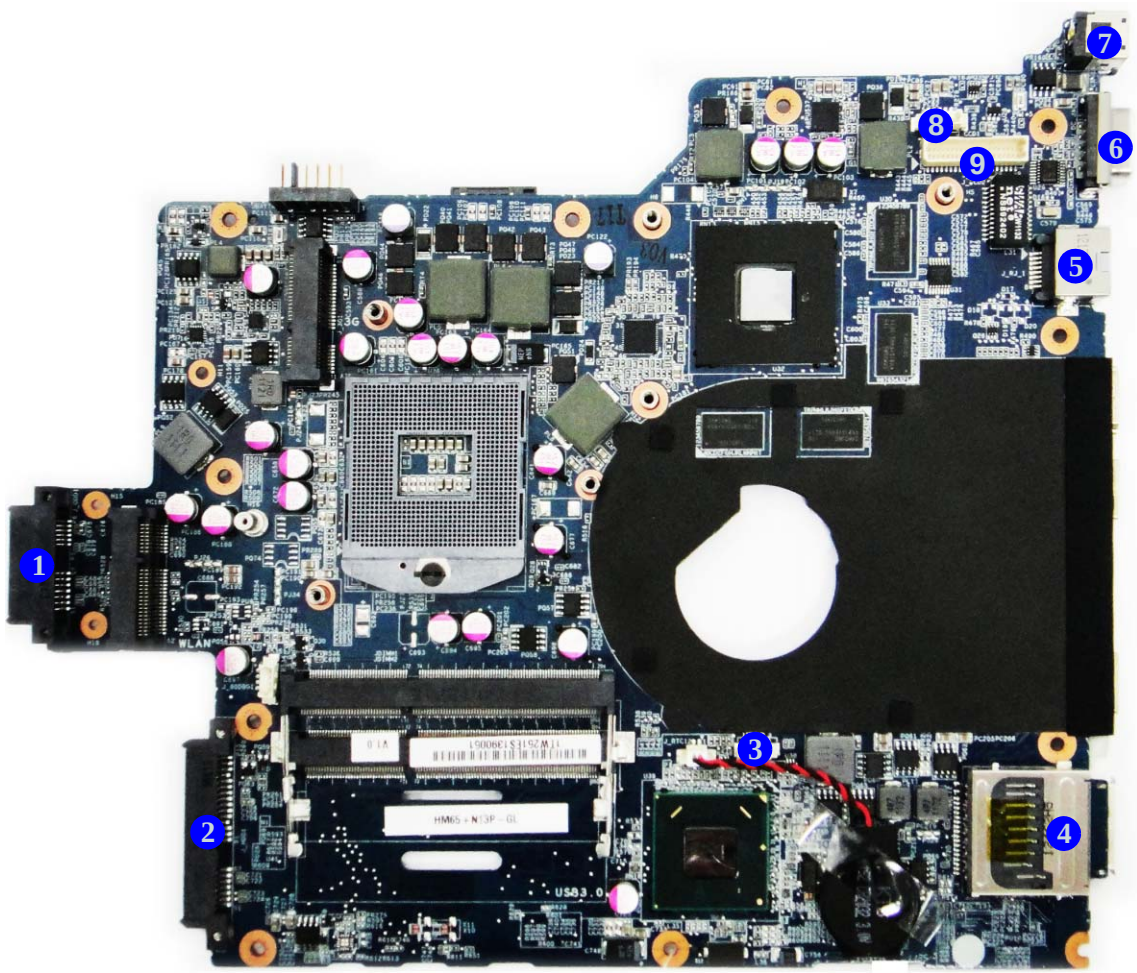
Figure 9
Mainboard Top Connectors

1. HDMI-Out Port
2. USB Port 3.0
3. eSATA Port
4. Speaker Cable Connector
5. Microphone Cable Connector
6. Audio Board Connector
7. TouchPad Cable Connector 1
8. TouchPad Cable Connector 2
9. Keyboard Cable Connector
10. Switch Board Cable Connector
11. SIMLOCK

Mainboard Overview - Bottom (Connectors)

Figure 10
Mainboard Bottom Connectors

1. ODD Connector
2. HDD Connector
3. CPU Fan Cable Connector
4. Multi-in-1 Card Reader
5. RJ-45 LAN Jack
6. External Monitor Port
7. DC-In Jack
8. CCD Cable Connector
9. LCD Cable Connector



Chapter 2: Disassembly

Overview

This chapter provides step-by-step instructions for disassembling the ***W251HSQ/W251HSQ-C/W255HS/W258HSQ/W25AHS/W251HTQ/W251HTQ-C/W255HT/W258HTQ*** series notebook's parts and subsystems. When it comes to re-assembly, reverse the procedures (unless otherwise indicated).

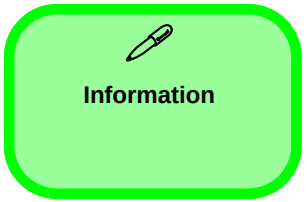
We suggest you completely review any procedure before you take the computer apart.

Procedures such as upgrading/replacing the RAM, optical device and hard disk are included in the User's Manual but are repeated here for your convenience.

To make the disassembly process easier each section may have a box in the page margin. Information contained under the figure # will give a synopsis of the sequence of procedures involved in the disassembly procedure. A box with a  lists the relevant parts you will have after the disassembly process is complete. **Note**: The parts listed will be for the disassembly procedure listed ONLY, and not any previous disassembly step(s) required. Refer to the part list for the previous disassembly procedure. The amount of screws you should be left with will be listed here also.

A box with a  will also provide any possible helpful information. A box with a  contains warnings.

An example of these types of boxes are shown in the sidebar.



NOTE: All disassembly procedures assume that the system is turned **OFF**, and disconnected from any power supply (the battery is removed too).

Maintenance Tools

The following tools are recommended when working on the notebook PC:

- M3 Philips-head screwdriver
- M2.5 Philips-head screwdriver (magnetized)
- M2 Philips-head screwdriver
- Small flat-head screwdriver
- Pair of needle-nose pliers
- Anti-static wrist-strap

Connections

Connections within the computer are one of four types:

Locking collar sockets for ribbon connectors	To release these connectors, use a small flat-head screwdriver to gently pry the locking collar away from its base. When replacing the connection, make sure the connector is oriented in the same way. The pin1 side is usually not indicated.
Pressure sockets for multi-wire connectors	To release this connector type, grasp it at its head and gently rock it from side to side as you pull it out. Do not pull on the wires themselves. When replacing the connection, do not try to force it. The socket only fits one way.
Pressure sockets for ribbon connectors	To release these connectors, use a small pair of needle-nose pliers to gently lift the connector away from its socket. When replacing the connection, make sure the connector is oriented in the same way. The pin1 side is usually not indicated.
Board-to-board or multi-pin sockets	To separate the boards, gently rock them from side to side as you pull them apart. If the connection is very tight, use a small flat-head screwdriver - use just enough force to start.

Maintenance Precautions

The following precautions are a reminder. To avoid personal injury or damage to the computer while performing a removal and/or replacement job, take the following precautions:

1. **Don't drop it**. Perform your repairs and/or upgrades on a stable surface. If the computer falls, the case and other components could be damaged.
2. **Don't overheat it**. Note the proximity of any heating elements. Keep the computer out of direct sunlight.
3. **Avoid interference**. Note the proximity of any high capacity transformers, electric motors, and other strong magnetic fields. These can hinder proper performance and damage components and/or data. You should also monitor the position of magnetized tools (i.e. screwdrivers).
4. **Keep it dry**. This is an electrical appliance. If water or any other liquid gets into it, the computer could be badly damaged.
5. **Be careful with power**. Avoid accidental shocks, discharges or explosions.
   - Before removing or servicing any part from the computer, turn the computer off and detach any power supplies.
   - When you want to unplug the power cord or any cable/wire, be sure to disconnect it by the plug head. Do not pull on the wire.
6. **Peripherals** – Turn off and detach any peripherals.
7. **Beware of static discharge**. ICs, such as the CPU and main support chips, are vulnerable to static electricity. Before handling any part in the computer, discharge any static electricity inside the computer. When handling a printed circuit board, do not use gloves or other materials which allow static electricity buildup. We suggest that you use an anti-static wrist strap instead.
8. **Beware of corrosion**. As you perform your job, avoid touching any connector leads. Even the cleanest hands produce oils which can attract corrosive elements.
9. **Keep your work environment clean**. Tobacco smoke, dust or other air-born particulate matter is often attracted to charged surfaces, reducing performance.
10. **Keep track of the components**. When removing or replacing any part, be careful not to leave small parts, such as screws, loose inside the computer.

Power Safety Warning

Before you undertake any upgrade procedures, make sure that you have turned off the power, and disconnected all peripherals and cables (including telephone lines). It is advisable to also remove your battery in order to prevent accidentally turning the machine on.

Cleaning

Do not apply cleaner directly to the computer, use a soft clean cloth.
Do not use volatile (petroleum distillates) or abrasive cleaners on any part of the computer.

Disassembly Steps

The following table lists the disassembly steps, and on which page to find the related information. **PLEASE PERFORM THE DISASSEMBLY STEPS IN THE ORDER INDICATED.**

To remove the Battery:

1. Remove the battery *page 2 - 5*

To remove the HDD:

1. Remove the battery *page 2 - 5*
2. Remove the HDD *page 2 - 6*

To remove the Optical Device:

1. Remove the battery *page 2 - 5*
2. Remove the Optical device *page 2 - 8*

To remove the System Memory:

1. Remove the battery *page 2 - 5*
2. Remove the system memory *page 2 - 9*

To remove and install a Processor:

1. Remove the battery *page 2 - 5*
2. Remove the processor *page 2 - 11*
3. Install the processor *page 2 - 13*

To remove the 3.75G Module:

1. Remove the battery *page 2 - 5*
2. Remove the 3.75G module *page 2 - 14*

To remove the Wireless LAN Module:

1. Remove the battery *page 2 - 5*
2. Remove the WLAN module *page 2 - 15*

To remove the Keyboard:

1. Remove the battery *page 2 - 5*
2. Remove the keyboard *page 2 - 16*

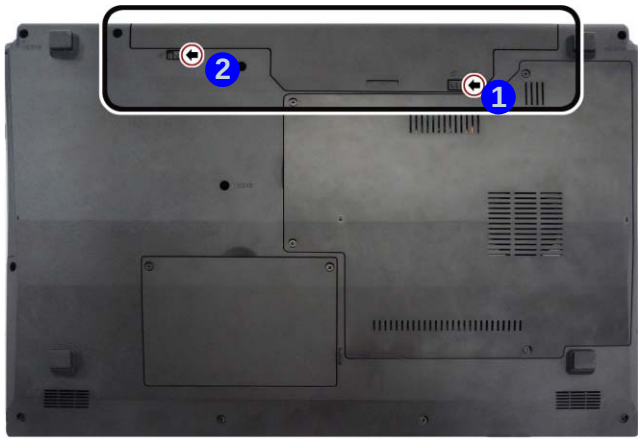
Removing the Battery

1. Turn the computer **off**, and turn it over.
2. Slide the latch 1 in the direction of the arrow (***Figure 1a***).
3. Slide the latch 2 in the direction of the arrow, and hold it in place (***Figure 1a***).
4. Slide the battery 3 in the direction of the arrow 4 (***Figure 1b***).

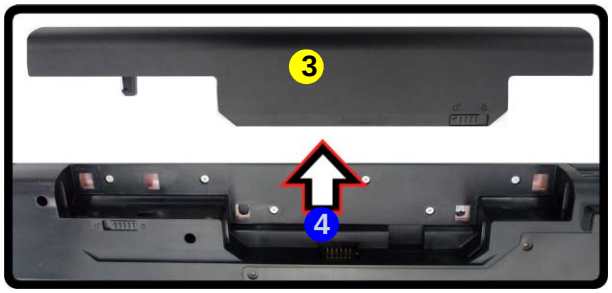
Figure 1
Battery Removal

a. Slide the latch and hold it in place.
b. Slide the battery in the direction of the arrow.

a.



b.



3. Battery

Removing the Hard Disk Drive

Figure 2
HDD Assembly Removal

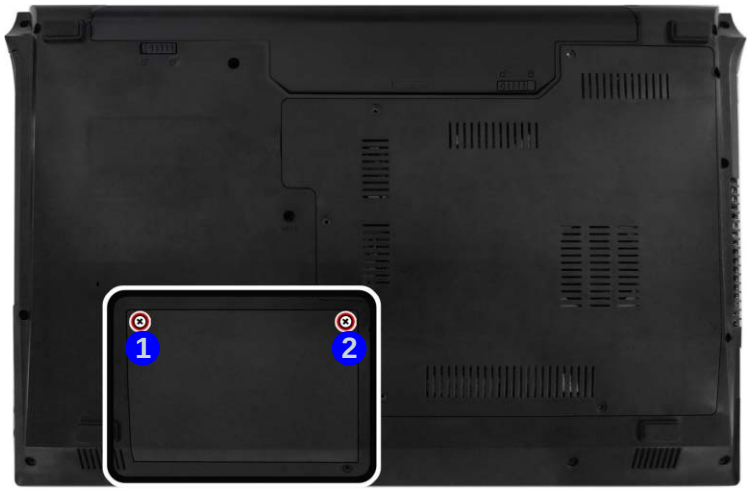
a. Locate the HDD bay cover and remove the screws.

The hard disk drive can be taken out to accommodate other 2.5" serial (SATA) hard disk drives with a height of 9.5mm (h). Follow your operating system's installation instructions, and install all necessary drivers and utilities (as outlined in **Chapter 4 of the User's Manual**) when setting up a new hard disk.

Hard Disk Upgrade Process

1. Turn **off** the computer, and remove the battery (***page 2 - 5***).
2. Locate the hard disk bay cover and remove screws 1 & 2 (***Figure 2a***).

a.



- 2 Screws

HDD System Warning

New HDD's are blank. Before you begin make sure:

You have backed up any data you want to keep from your old HDD.

You have all the CD-ROMs and FDDs required to install your operating system and programs.

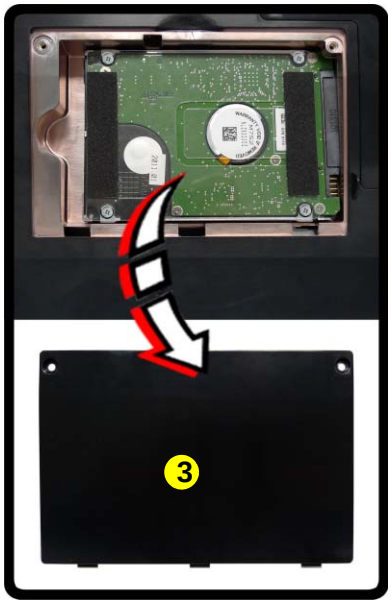
If you have access to the internet, download the latest application and hardware driver updates for the operating system you plan to install. Copy these to a removable medium.

3. Remove the hard disk bay cover 3 (*Figure 3b*).
4. Grip the tab and slide the hard disk in the direction of arrow 4 (*Figure 3c*).
5. Lift the hard disk assembly 5 out of the bay 6 (*Figure 3d*).
6. Remove the screw 7 - 10 and the mylar cover 11 from the hard disk 12 (*Figure 3e*).
7. Reverse the process to install a new hard disk (do not forget to replace all the screws and covers).

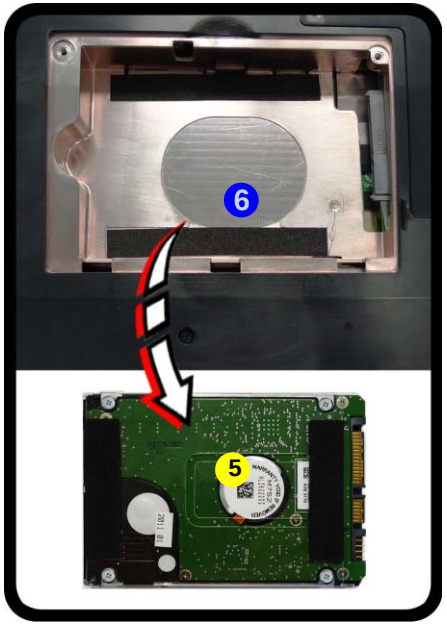
Figure 3
HDD Assembly Removal (cont'd.)

b. Remove the HDD bay cover.
c. Grip the tab and slide the HDD assembly in the direction of the arrow.
d. Lift the HDD assembly out of the bay.
e. Remove the screws and mylar cover.

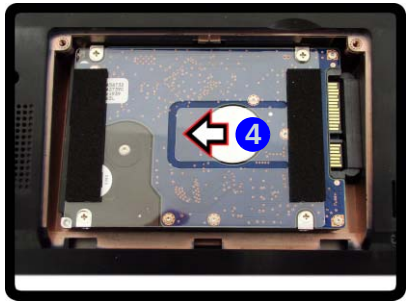
b.



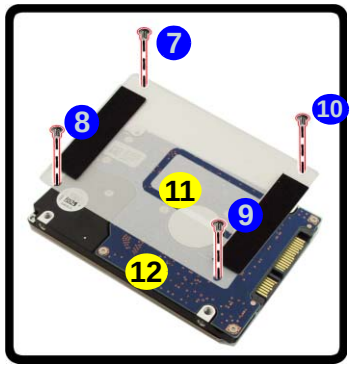
d.



c.



e.



3. HDD Bay Cover
5. HDD Assembly
11. Mylar Cover
12. HDD

- 4 Screws

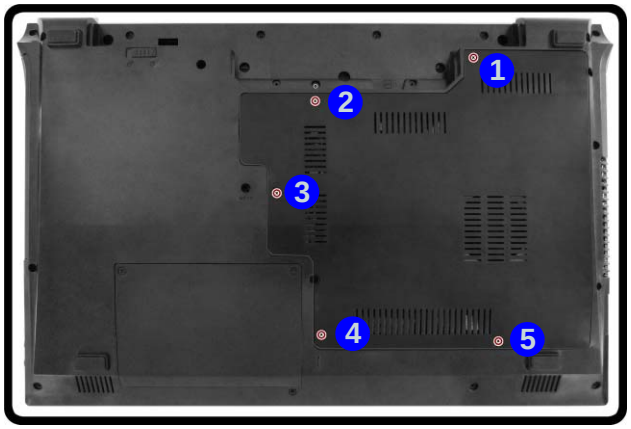
Figure 4
Optical Device Removal

a. Remove the screws.
b. Remove the bay cover.
c. Remove the screw.
d. Use a screwdriver to carefully push out the optical device at point 9.

Removing the Optical (CD/DVD) Device

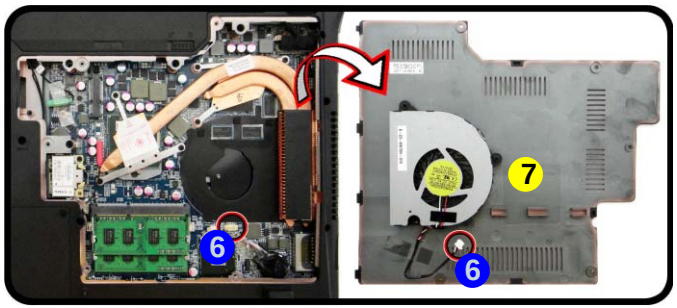
1. Turn **off** the computer, remove the battery (*page 2 - 5*).
2. Locate the component bay cover and remove screws 1 - 5 (*Figure 4a*).
3. Carefully (**a fan and cable are attached to the under side of the cover**) lift up the bay cover.
4. Carefully disconnect the fan cable 6, and remove the cover 7 .
5. Remove the screw 8 .
6. Use a screwdriver to carefully push out the optical device 10 at point 9 (*Figure 4b*).
7. Insert the new device and carefully slide it into the computer (the device only fits one way. DO NOT FORCE IT; The screw holes should line up).
8. Restart the computer to allow it to automatically detect the new device.

a.

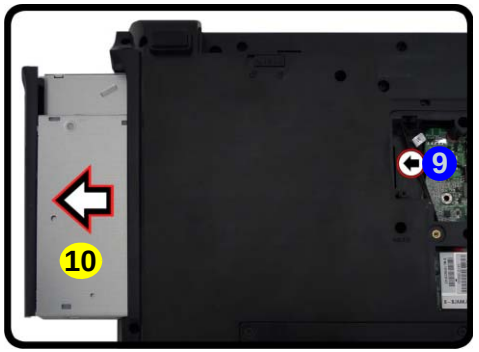


c.

b.



d.



7. Component Bay Cover
10. Optical Device

- 6 Screws

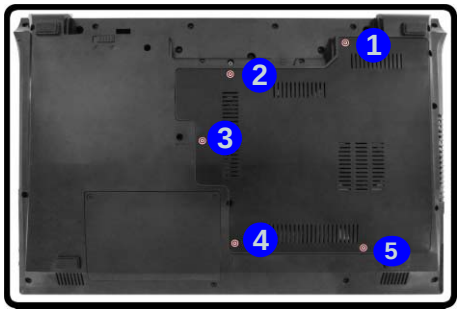
Removing the System Memory (RAM)

The computer has two memory sockets for 204 pin Small Outline Dual In-line Memory Modules (SO-DIMM) supporting DDRIII (DDR3) Up to 1066/1333 MHz. The main memory can be expanded up to 8GB. The SO-DIMM modules supported are 1024MB and 2048MB **DDRIII** Modules. The total memory size is automatically detected by the POST routine once you turn on your computer.

Memory Upgrade Process

1. Turn **off** the computer, turn it over and remove the battery (*page 2 - 5*).
2. Remove screws 1 - 5 from the component bay cover (*Figure 5a*).
3. Carefully (**a fan and cable are attached to the under side of the cover**) lift up the bay cover 6 .
4. Carefully disconnect the fan cable 7, and remove the cover 6 (*Figure 5b*).
5. The RAM modules will be visible at point 8 on the mainboard.

a.



b.

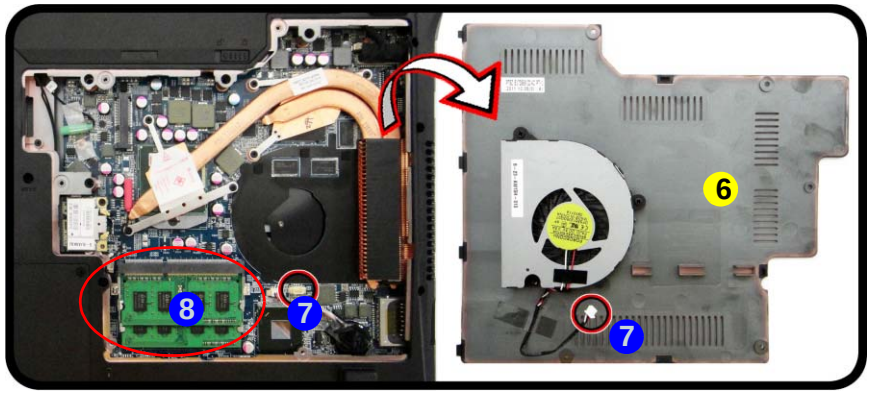


Figure 5
RAM Module Removal

a. Remove the screws from the component bay cover.
b. The RAM modules will be visible at point 5 on the mainboard.
c. Pull the release latches.
d. Remove the module.

Contact Warning

Be careful not to touch the metal pins on the module's connecting edge. Even the cleanest hands have oils which can attract particles, and degrade the module's performance.

- 5 Screws

Figure 6
RAM Module Removal (cont'd)

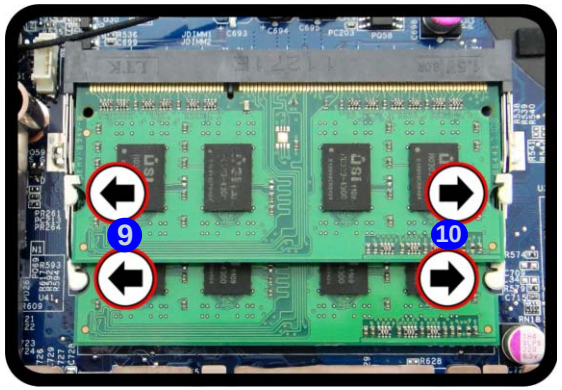
c. Pull the release latches.
d. Remove the module.
e. Replace bay cover.

6. Gently pull the two release latches (9 & 10) on the sides of the memory socket in the direction indicated by the arrows (***Figure 6c***). The RAM module 11 will pop-up (***Figure 6d***), and you can then remove it.
7. Pull the latches to release the second module if necessary.
8. Insert a new module holding it at about a 30° angle and fit the connectors firmly into the memory slot.
9. The module will only fit one way as defined by its pin alignment. Make sure the module is seated as far into the slot as it will go. DO NOT FORCE IT; it should fit without much pressure.
10. Press the module in and down towards the mainboard until the slot levers click into place to secure the module.
11. Replace the bay cover (***Figure 6e***) and the screws (**make sure you reconnect the fan cable before screwing down the bay cover**).
12. Restart the computer to allow the BIOS to register the new memory configuration as it starts up.

Contact Warning

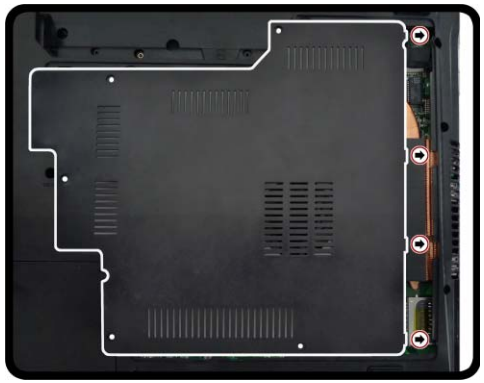
Be careful not to touch the metal pins on the module's connecting edge. Even the cleanest hands have oils which can attract particles, and degrade the module's performance.

c.



d.

e.



11. RAM

Cover Pins

Note that this computer model has **four** cover pins. These pins need to be aligned with slots in the case to insure a proper cover fit, before screwing down the bay cover.

Removing and Installing a Processor

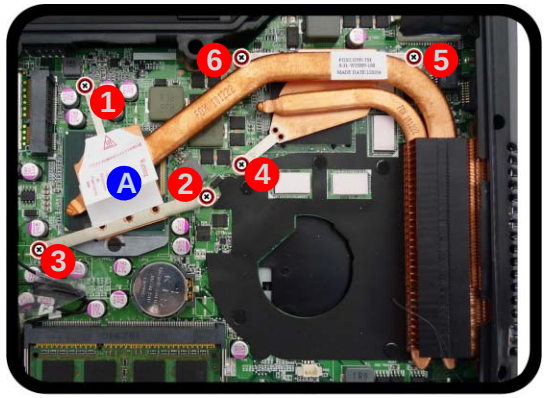
Processor Removal Procedure

1. Turn **off** the computer, turn it over, and remove the battery (*page 2 - 5*) and the component bay cover (*page 2 - 8*).
2. The CPU heat sink will be visible at point A (*Figure 7a*).
3. Loosen the CPU heat sink screws in the order 6, 5, 4, 3, 2 & 1 (the reverse order as indicated on the label *Figure 7a*).
4. Grip the heat sink tab and carefully lift the heat sink 7 up and off the computer (*Figure 7b*).

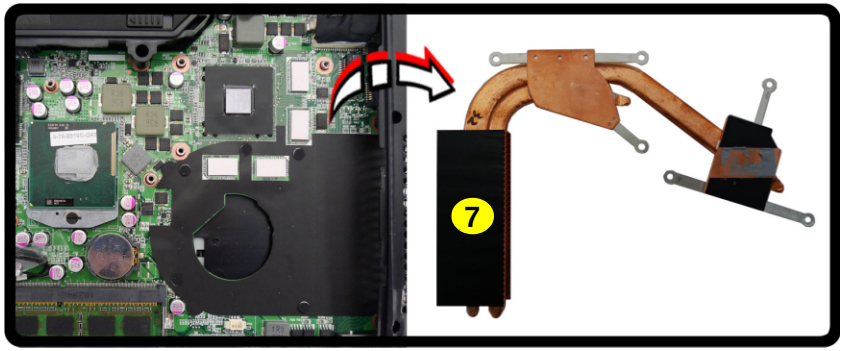
Figure 7
Processor Removal

a. The CPU heat sink will be visible at point A. Remove the screws from the CPU heatsink.
b. Grip the heat sink tab and carefully lift the heat sink up and off the computer.

a.



b.



7. Heat Sink

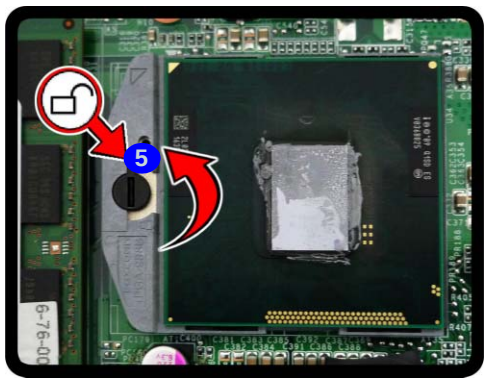
- 6 Screws

Figure 8
Processor Removal (cont'd)

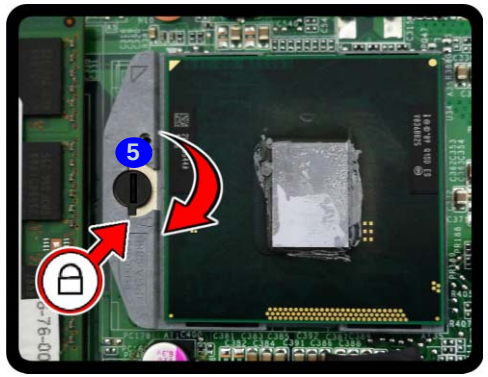
c. Turn the release latch to unlock the CPU.
d. Lift the CPU out of the socket.

5. Turn the release latch 5 towards the unlock symbol to release the CPU (***Figure 8d***).
6. Carefully (it may be hot) lift the CPU 6 up and out of the socket (***Figure 8e***).
7. Reverse the process to install a new CPU.
8. When re-inserting the CPU, pay careful attention to the pin alignment, it will fit only one way (DO NOT FORCE IT!).

c.

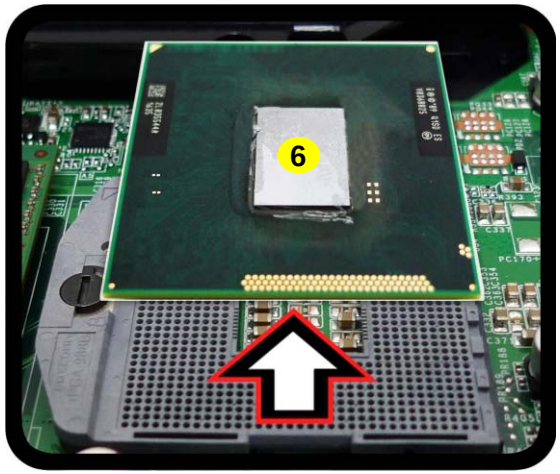


Unlock



Lock

d.



Caution

The heat sink, and CPU area in general, contains parts which are subject to high temperatures. Allow the area time to cool before removing these parts.

6. CPU

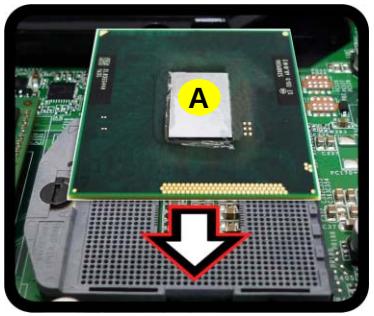
Processor Installation Procedure

1. Insert the CPU A (*Figure 9a*), pay careful attention to the pin alignment, it will fit only one way (DO NOT FORCE IT!), and turn the release latch B towards the lock symbol (*Figure 9b*).
2. **Remove the sticker** C (*Figure 9c*) from the heat sink.
3. Insert the heat sink D as indicated in *Figure 9d*.
4. Tighten the CPU heat sink screws in the order r 1, 2, 3, 4,, 5 & 3 (the order as indicated on the label and *Figure 9d*).
5. Replace the component bay cover (don't forget to replace the fan cable) and tighten the screws (*page 2 - 9*).

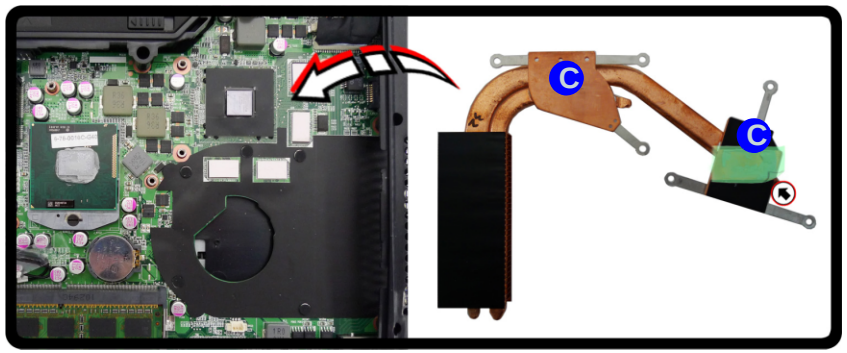
Figure 9
Processor Installation

a. Insert the CPU.
b. Turn the release latch towards the lock symbol.
c. Remove the sticker from the heat sink and insert the heat sink.
d. Tighten the screws.

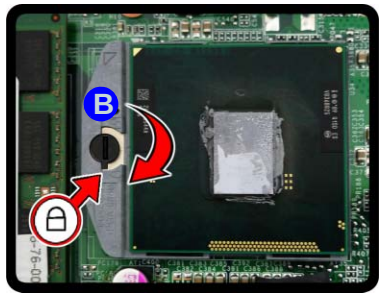
a.



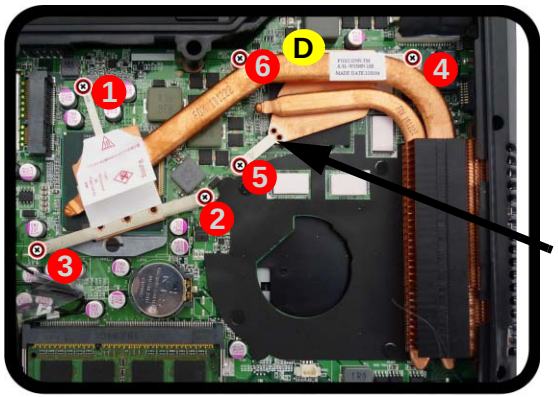
c.



b.



d.



Note:
Tighten the screws in the order as indicated on the label.

A. CPU
D. Heat Sink

- 3 Screws

Figure 10
3G Module Removal

a. Locate the 3.75G module.
b. Disconnect the cable and remove the screw.
c. The module will pop-up.
d. Remove the 3.75G module.

Note: Make sure you reconnect the antenna cable to socket.

4. 3.75G Module

- 1 Screw

Removing the 3.75G Module

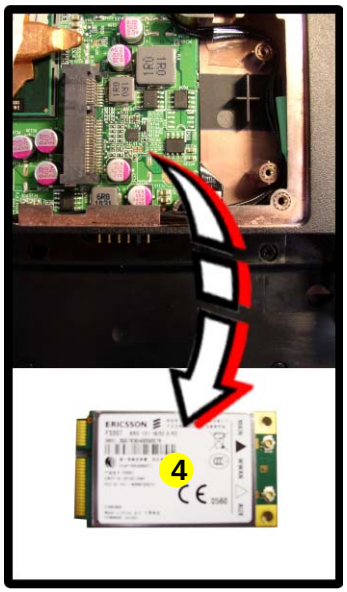
1. Turn **off** the computer, turn it over, and remove the battery (***page 2 - 5***) and the component bay cover (***page 2 - 9***).
2. The 3.75G module will be visible at point 1 on the mainboard (***Figure 10a***).
3. Carefully disconnect the cable 2 , and then remove the screw 3 (***Figure 10b***).
4. The 3.75G module 4 (***Figure 10c***) will pop-up, and you can remove it from the computer (***Figure 10d***).

a.

b.

c.

d.



Removing the Wireless LAN Module

1. Turn **off** the computer, turn it over, and remove the battery (***page 2 - 5***) and the component bay cover (***page 2 - 9***).
2. The Wireless LAN module will be visible at point 1 on the mainboard (***Figure 11a***).
3. Carefully disconnect the cables 2 - 3, and then remove the screw 4 (***Figure 11b***).
4. The Wireless LAN module 4 (***Figure 11c***) will pop-up, and you can remove it from the computer.

a.

b.

c.

Figure 11
Wireless LAN Module Removal

a. Locate the WLAN.
b. Disconnect the cable and remove the screw.
c. The WLAN module will pop up.

Note: Make sure you reconnect the antenna cable to the "1 + 2" socket (***Figure 11b***).

4.Wireless LAN Module

- 2 Screw

Figure 12
Keyboard Removal

a. Remove screws from the bottom of the computer. Press at points 3 to unsnap the LED cover module.
b. Remove the LED cover module and screws from the keyboard.
c. Carefully lift the keyboard up and disconnect the keyboard ribbon cable from the locking collar socket.
d. Remove the keyboard.

Re-Inserting the Keyboard

When re-inserting the keyboard firstly align the **four** keyboard tabs at the bottom (***Figure 12c***) at the bottom of the keyboard with the slots in the case.

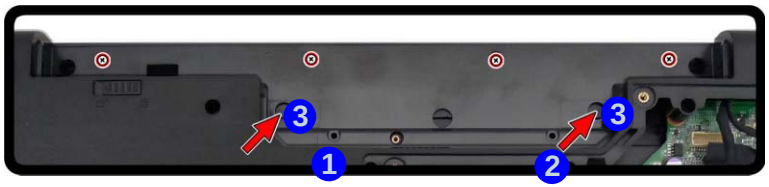
4. LED Cover Module
12. Keyboard

- 7 Screws

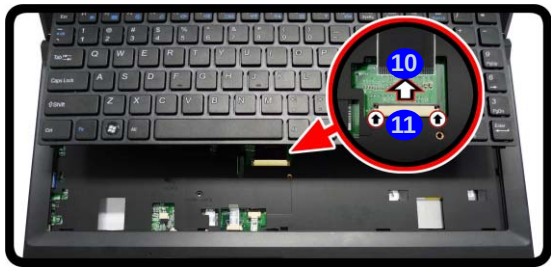
Removing the Keyboard

1. Turn **off** the computer, and remove the battery (***page 2 - 5***).
2. Remove screws 1 - 2 from the bottom of the computer. Press at points 3 to unsnap the LED cover module 4 (you may need to use the Eject Pin Tool to do this (***Figure 12a***).
3. Remove the LED cover module 4 and screws 5 - 9 from the keyboard (***Figure 12b***).
4. Carefully lift the keyboard up, being careful not to bend the keyboard ribbon cable 10. Disconnect the keyboard ribbon cable 10 from the locking collar socket 11 (***Figure 12c***)
5. Carefully lift up the keyboard 12 (***Figure 12d***) off the computer.

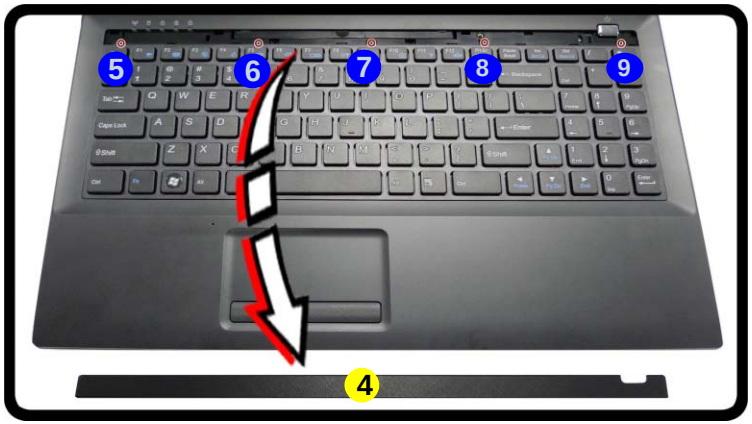
a.



c.



b.



d.

Keyboard Tabs

Appendix A:Part Lists

This appendix breaks down the ***W251HSQ/W251HSQ-C/W255HS/W258HSQ/W25AHS/W251HTQ/W251HTQ-C/W255HT/W258HTQ*** series notebook's construction into a series of illustrations. The component part numbers are indicated in the tables opposite the drawings.

Note: This section indicates the *manufacturer's* part numbers. Your organization may use a different system, so be sure to cross-check any relevant documentation.

Note: Some assemblies may have parts in common (especially screws). However, the part lists DO NOT indicate the total number of duplicated parts used.

Note: Be sure to check any update notices. The parts shown in these illustrations are appropriate for the system at the time of publication. Over the product life, some parts may be improved or re-configured, resulting in *new* part numbers.

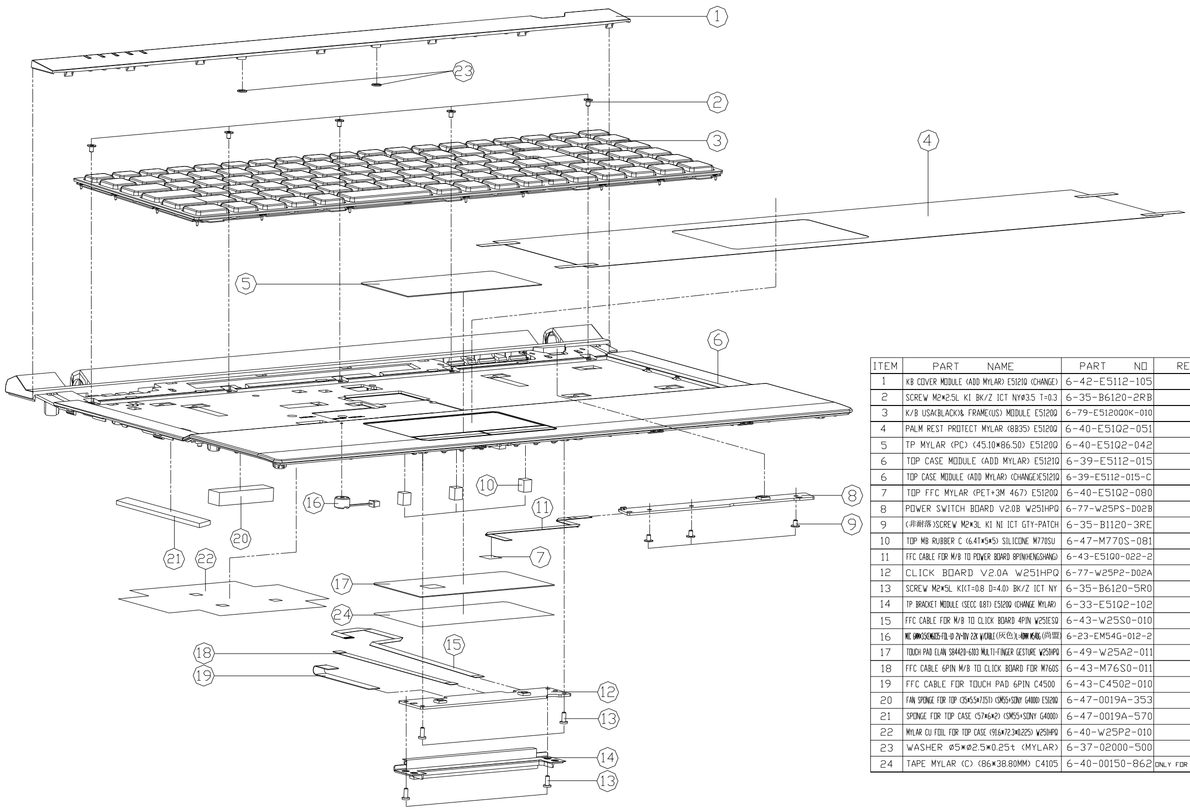
Part List Illustration Location

The following table indicates where to find the appropriate part list illustration.

Table A - 1
Part List Illustration Location

Part	W251HSQ/W251HSQ-C/ W25AHS/W251HTQ/ W251HTQ-C	W255HS/W255HT	W258HSQ/W258HTQ
Top	*page A - 3*	*page A - 4*	*page A - 5*
Bottom	*page A - 6*		
SATA BLU RAY COMBO	*page A - 7*		
DVD Dual Drive	*page A - 8*		
LCD	*page A - 9*		

Top (W251HSQ/W251HSQ-C/W25AHS/W251HTQ/W251HTQ-C)

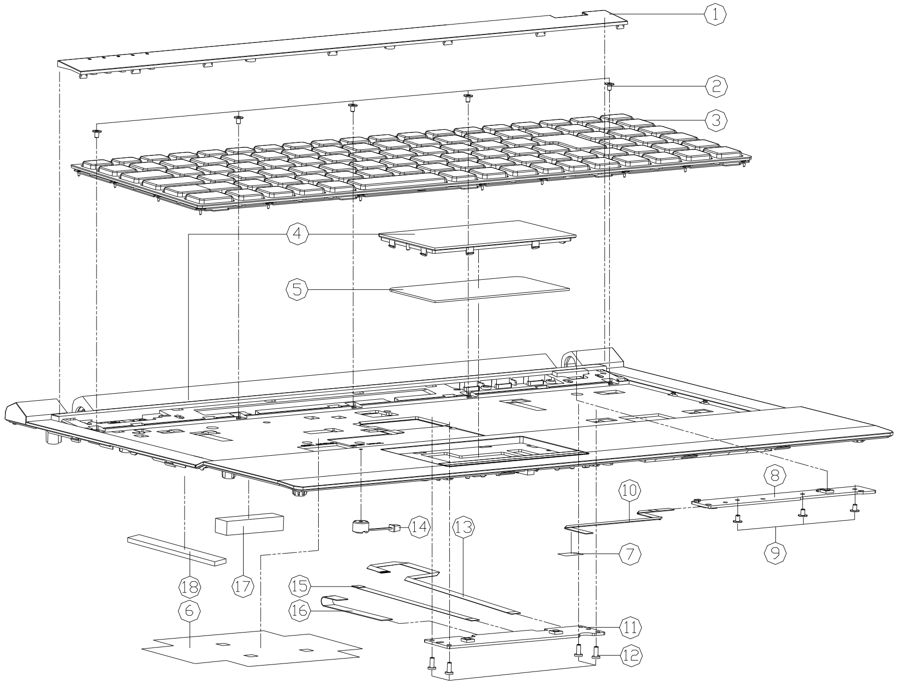


ITEM	PART NAME	PART NO	REMARK
1	KB COVER MODULE (ADD MYLAR) E5121Q (CHANGE)	6-42-E5112-105	
2	SCREW M2*2.5L KI BK/Z ICT NYø3.5 T=0.3	6-35-B6120-2RB	
3	K/B USA(BLACK)& FRAME(US) MODULE E5120Q	6-79-E5120Q0K-010	
4	PALM REST PROTECT MYLAR (8B35) E5120Q	6-40-E51Q2-051	
5	TP MYLAR (PC) (45.10*86.50) E5120Q	6-40-E51Q2-042	
6	TOP CASE MODULE (ADD MYLAR) E5121Q	6-39-E5112-015	
6	TOP CASE MODULE (ADD MYLAR) (CHANGE)E5121Q	6-39-E5112-015-C	
7	TOP FFC MYLAR (PET+3M 467) E5120Q	6-40-E51Q2-080	
8	POWER SWITCH BOARD V2.0B W251HPQ	6-77-W25PS-D02B	
9	(非耐落)SCREW M2*3L K1 NI ICT GTY-PATCH	6-35-B1120-3RE	
10	TOP MB RUBBER C (6.4T*5*5) SILICONE M770SU	6-47-M770S-081	
11	FFC CABLE FOR M/B TO POWER BOARD 8PIN(HENGSHANG)	6-43-E51Q0-022-2	
12	CLICK BOARD V2.0A W251HPQ	6-77-W25P2-D02A	
13	SCREW M2*5L KI(T=0.8 D=4.0) BK/Z ICT NY	6-35-B6120-5R0	
14	TP BRACKET MODULE (SECC 0.8T) E5120Q (CHANGE MYLAR)	6-33-E51Q2-102	
15	FFC CABLE FOR M/B TO CLICK BOARD 4PIN W251ESQ	6-43-W25S0-010	
16	MIC 6MM*3.5(EM6035-FOL-U) 2V~10V 2.2K W/CABLE(灰色)L=40MM M540G(尚盟)	6-23-EM54G-012-2	
17	TOUCH PAD ELAN S8442D-6103 MULTI-FINGER GESTURE W251HPQ	6-49-W25A2-011	
18	FFC CABLE 6PIN M/B TO CLICK BOARD FOR M760S	6-43-M76S0-011	
19	FFC CABLE FOR TOUCH PAD 6PIN C4500	6-43-C4502-010	
20	FAN SPONGE FOR TOP (35*5.5*7.15T) (SM55+SONY G4000) E5120Q	6-47-0019A-353	
21	SPONGE FOR TOP CASE (57*6*2) (SM55+SONY G4000)	6-47-0019A-570	
22	MYLAR CU FOIL FOR TOP CASE (91.6*72.3*0.225) W251HPQ	6-40-W25P2-010	
23	WASHER ø5*ø2.5*0.25t (MYLAR)	6-37-02000-500	
24	TAPE MYLAR (C) (86*38.80MM) C4105	6-40-00150-862	ONLY FOR W251HSQ-C

Figure A - 1
Top (W251HSQ/ W251HSQ-C/ W25AHS/ W251HTQ/ W251HTQ-C)

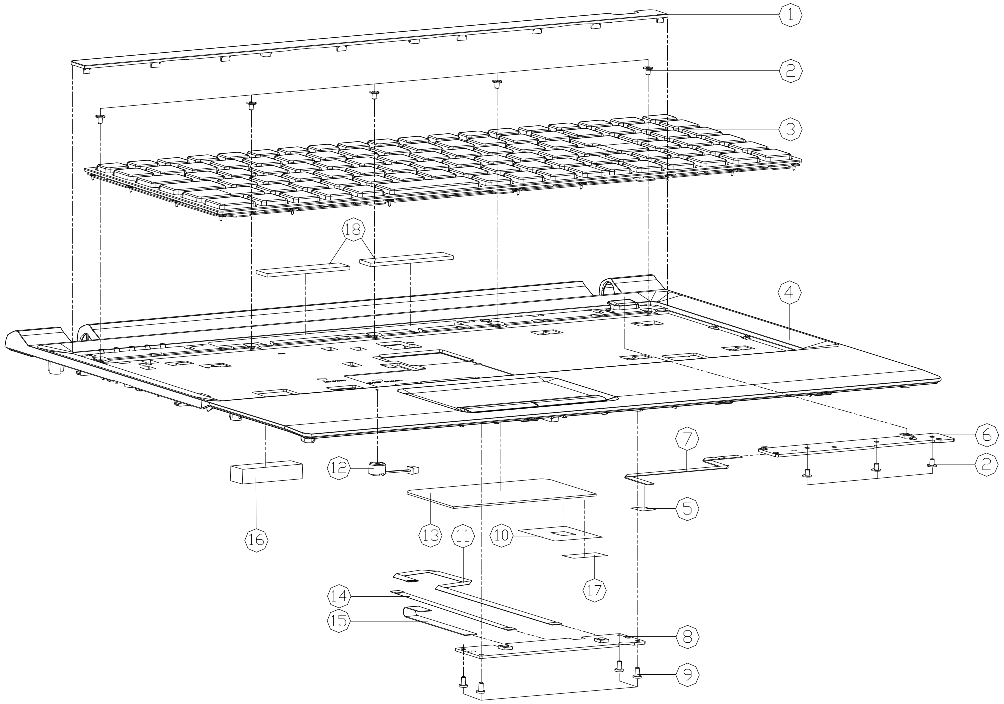
Top (W255HS/W255HT)

Figure A - 2
Top (W255HS/ W255HT)



ITEM	PART NAME	PART NO	REMARK
1	KB COVER MODULE E5125	6-42-E5158-101	
2	SCREW M2*2.5L KI BK/Z ICT NYø3.5 T=0.3	6-35-B6120-2RB	
3	K/B USA(BLACK)& FRAME(US) MODULE E5120Q	6-79-E5120Q0K-010	
4	TOP CASE MODULE E5125	6-39-E5152-112	
5	TOUCH PAD ELAN S8442D-6103 MULTI-FINGER GESTURE W251HPQ	6-49-W25A2-011	
6	MYLAR CU FOIL FOR TOP CASE (91.6*72.3*0.225) W251HPQ	6-40-W25P2-010	
7	TOP FFC MYLAR (PET+3M 467) E5120Q	6-40-E51Q2-080	
8	POWER SWITCH BOARD V2.0B W251HPQ	6-77-W25PS-D02B	
9	(非耐落)SCREW M2*3L K1 NI ICT GTY-PATCH	6-35-B1120-3RE	
10	FFC CABLE FOR M/B TO POWER BOARD 8PIN E5120Q	6-43-E51Q0-022-2	
11	CLICK BOARD V2.0A W251HPQ	6-77-W25P2-D02A	
12	SCREW M2*5L KI(T=0.8 D=4.0) BK/Z ICT NY	6-35-B6120-5R0	
13	FFC CABLE FOR M/B TO CLICK BOARD 4PIN W251ESQ (HB)	6-43-W25S0-010	
14	MIC 6MM*3.5(EM6035-FOL-U) 2V~10V 2.2K W/CABLE (灰色)L=40MM M540G(尚盟)	6-23-EM54G-012-2	
15	FFC CABLE 6PIN M/B TO CLICK BOARD FOR M760S	6-43-M76S0-011	
16	FFC CABLE FOR TOUCH PAD 6PIN C4500	6-43-C4502-010	
17	FAN SPONGE FOR TOP (35*5.5*7.15T) (SM55+SONY G4000) E5120Q	6-47-0019A-353	
18	SPONGE FOR TOP CASE (57*6*2) (SM55+SONY G4000)	6-47-0019A-570	

Top (W258HSQ/W258HTQ)



ITEM	PART NAME	PART NO	REMARK
1	KB COVER PC+ABS(CM6140) E5128Q(NO PAINTING)	6-42-E5182-012	
2	(非耐落)SCREW M2*3L K1 NI ICT GTY-PATCH	6-35-B1120-3RE	
3	K/B USA(BLACK)& FRAME(US) MODULE E5120Q	6-79-E5120Q0K-010	
4	TOP CASE MODULE (TP KNOB NO PAINTING) E5128Q	6-39-E5182-015	
5	TOP FFC MYLAR (PET+3M 467) E5120Q	6-40-E51Q2-080	
6	POWER SWITCH BOARD V2.0B W258HPQ	6-77-W25PS-D02B-A	
7	FFC CABLE FOR M/B TO POWER BOARD 8PIN(HENGSHANG)	6-43-E51Q0-022-2	
8	CLICK BOARD V2.0A W251HPQ	6-77-W25P2-D02A	
9	(非耐落)SCREW M2*4L I BZ ICT GTY-PATCH (T=0.8 D=4)	6-35-C6120-4RB	
10	TP MYLAR PET E5128Q	6-40-E5182-020	
11	FFC CABLE FOR M/B TO CLICK BOARD 4PIN W251ESQ (HB)	6-43-W25S0-010	
12	MIC 6MM*3.5(EM6035-FOL-U) 2V~10V 2.2K W/CABLE(灰色)L=40MM M540G(尚盟)	6-23-EM54G-012-2	
13	TOUCH PAD ELAN S8442D-6103 MULTI-FINGER GESTURE W251HPQ	6-49-W25A2-011	
14	FFC CABLE 6PIN M/B TO CLICK BOARD FOR M760S	6-43-M76S0-011	
15	FFC CABLE FOR TOUCH PAD 6PIN C4500	6-43-C4502-010	
16	FAN SPONGE FOR TOP (35*5.5*7.15T) (SM55+SONY G4000) E5120Q	6-47-0019A-353	
17	AL FOIL FOR TP E5128Q	6-47-E5182-020	
18	RUBBER (52*5*1.8) 5*52*1.8T (SILICON RUBBER HARDNESS 90) W251HPQ	6-47-W25P3-030	

Figure A - 3
Top (W258HSQ/ W258HTQ)

Bottom

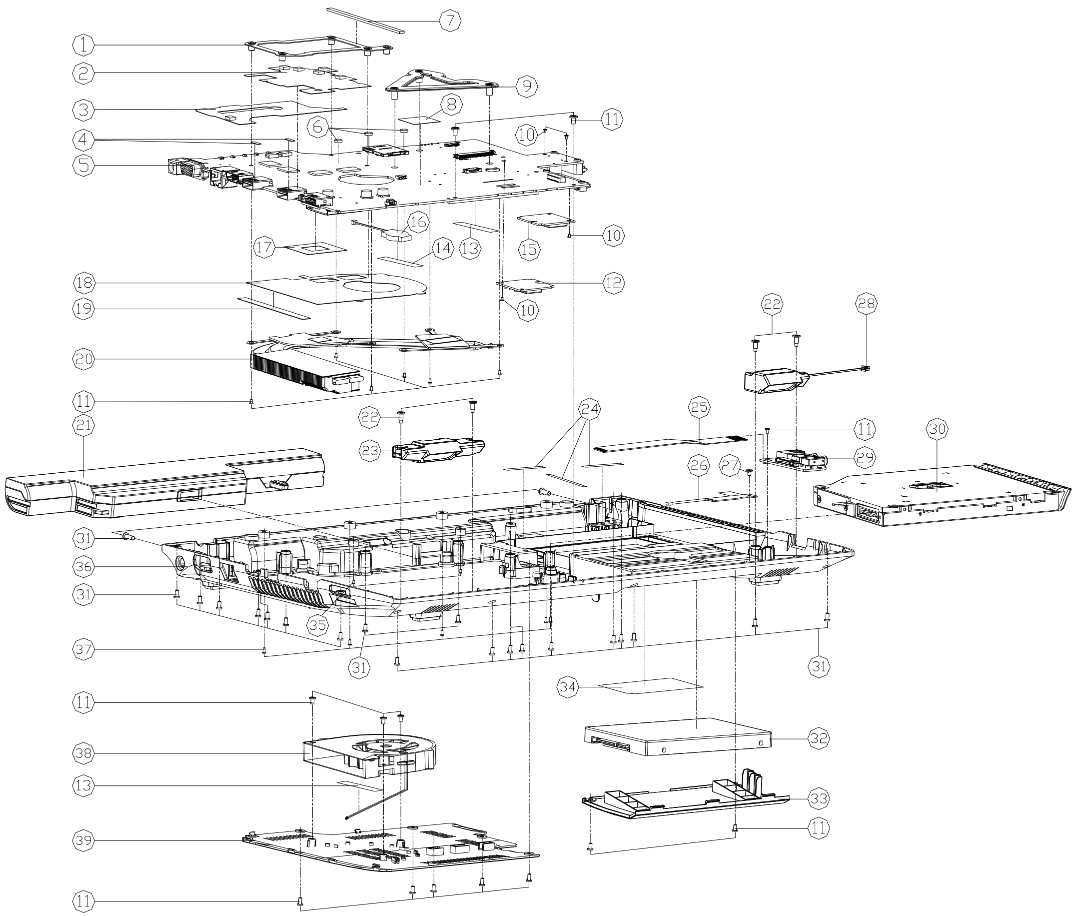
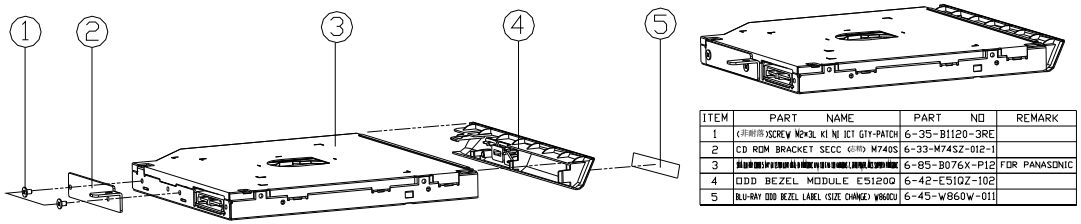


Figure A - 4
Bottom

ITEM	PART NAME	PART NO	REMARK
1	VGA SUPPORTER SECC W270ESQ	6-33-W27SS-010	
2	THERMAL MYLAR 1 MODULE(FR83+5011N+RUBBER) W251HPQ	6-40-W25PS-101	
3	MB MYLAR MODULE(FR83+5011N+RUBBER) W251HPQ	6-40-W25PS-200	
4	GASKET (9*5*0.5) M720S	6-47-00190-096	
5	MAIN BOARD V1.0A (W/3G) W251HSQ	6-77-W25S0-DH1A	
5	MAIN BOARD V1.0A (W/O 3G) W251HSQ	6-77-W25S0-DH1A-1	
5	MAIN BOARD V1.0A (W/3G) W251HTQ	6-77-W25S0-DT1A	
5	MAIN BOARD V1.0A (W/O 3G) W251HTQ	6-77-W25S0-DT1A-1	
6	SIM CARD RUBBER (SILICONE T=1.85MM+5011N T=0.15MM) W251HPQ	6-47-W25PS-010	
7	SPONGE (90*5.5*5) SM55 FOR MB TOP	6-47-0019A-906	
8	AUDIO BOARD MYLAR 20*20*0.15T (黑色 PET+3M 467) C4500	6-40-C450S-030	
9	CPU SUPPORT BRACKET SECC W251HPQ	6-33-W25PS-013	
10	SCREW M2*3L KI BZ ICT NY (DD=ø4.5,DT=0.4)	6-35-B6120-3RD	
11	SCREW M2.5*5L KI BK/Z ICT NY	6-35-B6125-5RA	
12	WLAN+BT COMBO INTEL RAINBOW PEAK WIRELESS-N 6230 2X2 802.11AGN (RBP2)+BT 3.0 HALF MINI-CARD	6-88-P170F-4200	(OPTION)
12	WLAN+BT COMBO INTEL RAINBOW PEAK WIRELESS-N 1030 1X2 802.11BGN (RBP1)+BT 3.0 HALF MINI-CARD P170HM	6-88-P170F-4210	(OPTION)
12	WLAN+BT COMBO AZUREWAVE AW-NB037H 802.11BGN 1X1+BT3.0 HS HALF MINI-CARD P150 AND P151(RTL8188CEBT) C555	6-88-C555F-7001	(OPTION)
12	WLAN+BT COMBO CASTLENET RTL8188CEBT-VL (RTL8188CEBT) 802.11BGN 1X1+BT3.0 HS HALF MINI-CARD RTL8188CE-VL+CSR BC04_AR	6-88-C555F-5301	(OPTION)
12	WLAN INTEL 633AN_HMW MOW 802.11AGN HALF MINI-CARD PCI-E 3X3 PUMA PEAK (WIFI LINK 6300)	6-88-M77C2-4220	(OPTION)
12	WLAN AZUREWAVE AW-NE104H 802.11BGN HALF MINI-CARD PCI-E RTL8191SE R30 DELETE W760C	6-88-W76C2-7001	(OPTION)
12	WLAN+BT COMBO LITEON WCBN608LH-CC (RTL8723AE) 802.11BGN 1X1 (PCI-E) +BT4.0 LE (USB) +REALTEK BT SOFTWARE HALF MINI-CARD	6-88-W345F-9400	(OPTION)
12	WLAN LITEON WN6606LH-CC(VL) RTL8188CE-VL 2 ANT. 802.11BGN 1X1 HALF MINI-CARD PCI-E W250HUQ	6-88-W25H2-9400	(OPTION)
12	WLAN INTEL 633AN_HMW MOW 802.11AGN HALF MINI-CARD PCI-E 3X3 PUMA PEAK (WIFI LINK 6300)	6-88-M77C2-4220	(OPTION)
13	TAPE MYLAR (C),MYLAR M550J	6-40-M55J2-030	
14	TAPE MYLAR (A),MYLAR M550J	6-40-M55J2-010	
15	WCDMA ERICSSON F3307 HSPA FULL MINI-CARD USB	6-88-W24HW-2410	(OPTION)
16	BAT. 20MM 3V 220MAH W/CABLE 55MM BCR2032W5.5KM1GB	6-23-22015-TC0	
17	VGA CHIP MYLAR(30*30) NB9P-GE2 M860TU (新中強)	6-40-M860S-091	
18	MYLAR MB FAN MODULE(FR83+5011N+RUBBER) W251HPQ	6-40-W25PS-400	
19	RUBBER (98.8*11.3*0.5) FOR MB BOTTOM W251HPQ	6-47-W25PS-020	
20	CPU&VGA HEATSINK MODULE (AL FIN) W270ESQ	6-31-W27SN-101	
21	BAT.P S LI 11.1V/4.4AH/48.84WH 3S2P MITAC/LISHEN PSE 541382960004 W244EUQ	6-87-C480S-4G4B	(OPTION)
21	BAT.P S LI 11.1V/5.6AH/62.16WH 3S2P SMP/SDI 980T2033F E4120	6-87-E412S-4D7A	(OPTION)
21	BAT.P S LI 11.1V/4.4AH/48.84WH 3S2P SMP/LISHEN PSE 980T2056F W244EUQ	6-87-W24ES-4W4	(OPTION)
22	SCREW M2*6.2L NI ICT NY FOR SPEAKER	6-35-Z1120-6R2	
23	SPK+CABLE (L) 14*62 2W 4? 15MM LT251231XK -L (IVY) W251HPQ	6-23-5W25P-020-2	
24	TAPE MYLAR TRANSPARENT (30*5*0.05) W251HPQ	6-40-W25P3-010	
25	FFC CABLE 14P M/B TO AUDIO BOARD (HENGSHANG)	6-43-W2500-011-2	
26	ANTENNA WIMAX FVC WM-3 PCB H=0.6MM 2.4G/3.5GHZ/5G L=200mm W251HPQ	6-23-7W25P-030	
27	SCREW M2*3L KI NI ICT NY (DD=ø4.5,DT=0.4)	6-35-B1120-3RE	
28	SPK+CABLE (R) 34*66 2W 4? 25MM LT251231XK -R (IVY) W251HPQ	6-23-5W25P-010-2	
29	AUDIO BOARD V2.0B W251ESQ	6-77-W25P8-D02B-A	
30	SATA BLU-RAY COMBO ASS'Y (OPTION)	6-79-W251ESQW-010	
30	SATA DVD SUPER MULTI ASS'Y W251ESQ	6-79-W251ESQQ-000	
30	W/O ODD ASS'Y E5120Q	6-79-E5120Q0Z-000	
30	SATA BLU-RAY COMBO ASS'Y W251EN	6-79-W255EN0W-010	
31	SCREW M2.5*8L KI BK/Z NY ICT	6-35-B6125-8R0	
32	W/O HDD ASS'Y E5120Q	6-79-E5120Q0J-010	
32	W/HDD ASS'Y E5120Q	6-79-E5120Q0J-020	
33	HDD COVER PC+ABS(CM6140) W251HPQ	6-42-W25PJ-011	
33	HDD COVER PC+ABS(CM6140) W251HPQ-C	6-42-W25PJ-011-C	
34	PRODUCT LABEL FOR W251HSQ(CTUVUS LOGO UPDATE)	6-45-W251HSQ3-011	
34	PRODUCT LABEL FOR W255HS(CTUVUS LOGO UPDATE)	6-45-W255HS03-011	
34	PRODUCT LABEL FOR W258HSQ(CTUVUS LOGO UPDATED)	6-45-W258HSQ3-011	
35	SCREW M2*3L I BZ ICT GTY-PATCH NY (T=0.5 D=4)	6-35-C2120-3R0	
36	BOTTOM CASE MODULE (CHANGE) FOR W25HPQ	6-39-W25P3-015	
36	BOTTOM CASE MODULE(CHANGE) FOR W251HPQ-C	6-39-W25P3-015-C	
37	SCREW M2*5L KI(T=0.8 D=4.0) BK/Z ICT NY	6-35-B6120-5R0	
38	FAN+CON. 70*77.5*12.5MM 5V 0.4A 0FAJD0009 3700RPM FORCECON W150HRM	6-23-AW15H-010	
39	CPU COVER MODULE W251HPQ(CHANGE)	6-42-W25P8-102	
39	CPU COVER MODULE W251HPQ-C (CHANGE)	6-42-W25P8-102-C	

SATA BLU RAY COMBO

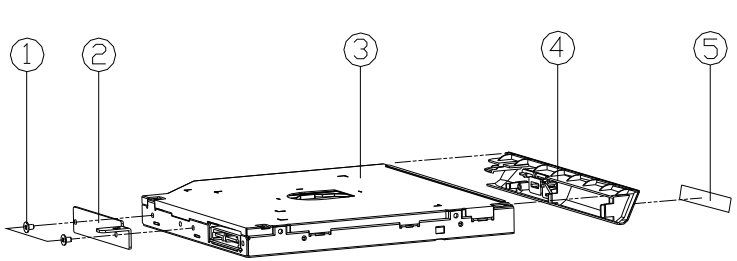


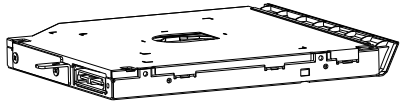
ITEM	PART NAME	PART NO	REMARK
1	(非耐落)SCREW M2*3L K1 N1 ICT GTY-PATCH	6-35-B1120-3RE	
2	CD ROM BRACKET SECC (非耐) M740S	6-33-M74SZ-012-1	
3	[illegible]	6-85-B076X-P12	FOR PANASONIC
4	ODD BEZEL MODULE E5120Q	6-42-E51QZ-102	
5	BLU-RAY ODD BEZEL LABEL (SIZE CHANGE) W860CU	6-45-W860W-011	

Figure A - 5
SATA BLU RAY COMBO

DVD DUAL

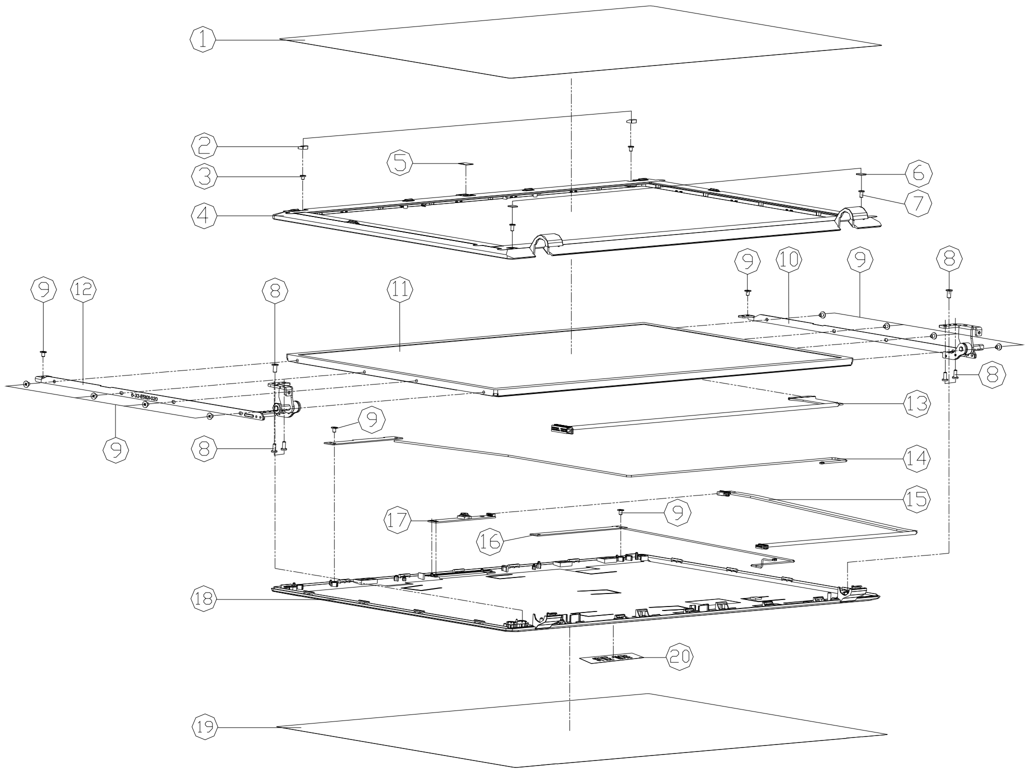
Figure A - 6
DVD DUAL





ITEM	PART NAME	PART NO	REMARK
1	(非耐落)SCREW M2×3L K1 N1 ICT GTY-PATCH	6-35-B1120-3RE	
2	CD ROM BRACKET SECC (出荷) M740S	6-33-M74SZ-012-1	
3	[illegible]	6-85-A078X-L06	FOR PLDS
3	[illegible]	6-85-A078X-P12	FOR PANASONIC
3	[illegible]	6-85-A078X-T11	FOR TSST
4	ODD BEZEL MODULE E5120Q	6-42-E51QZ-102	
5	SUPER MULTI ODD BEZEL LABEL (SIZE CHANGE)	6-45-W860Q-011	

LCD



ITEM	PART NAME	PART NO	REMARK
1	LCD FRONT COVER PROTECTION MYLAR (PET+3M8915) E5120Q	6-40-E51Q1-030	
2	LCD FRONT COVER SCREW RUBBER SLICON E5120Q	6-47-E51Q8-011	
3	SCREW M2*3L KI BZ ICT NY (DD=ø4.5,DT=0.4)	6-35-B6120-3RD	
4	LCD FRONT COVER MODULE E5120Q (CHANGE)	6-39-E51Q1-012	
5	CCD LENS PMMA E5120Q	6-42-E51Q1-031	
5	W/O CCD LENS PMMA E5120Q	6-42-E51Q1-040	
6	FRONT COVER MYLAR PC FOR SCREW E5120Q	6-40-E51Q8-011	
7	SCREW M2*6L KI BK/Z ICT NY(ø3.5 t=0.4)	6-35-B6120-6RB	
8	SCREW M2.5*5L 頭厚0.4MM KI BK/Z ICT NY	6-35-B6125-5R0	
9	(非耐落)SCREW M2*3L K1 NI ICT GTY-PATCH	6-35-B1120-3RE	
10	LCD HINGE R SK7 W255HUM (SINHER)	6-33-W25U1-010	
11	LCD 15.6" HD LG LP156WH4-TLA1 (GLARE TYPE)	6-50-L8155-L0B	
11	LCD 15.6" HD CHIMEI N156B6-L0A 5.5MM (LED)	6-50-L8155-D04	
11	LCD 15.6" FHD AU B156HW01 V7(H/W: 1A) (GLARE TYPE) (NTSC 95%) (LED) 5.7MM	6-50-LB257-G05	
11	LCD 15.6" HD LG LP156WH4-TLB1 (LED) 5.5MM	6-50-L8155-L0C	
11	LCD 15.6" HD CHIMEI N156B6-L0B (GLARE TYPE) 5.5MM (LED)	6-50-L8155-D03	
11	LCD 15.6" HD+ LG LP156WD1-TLA2 GLARE TYPE	6-50-LA157-L03	
11	LCD 15.6" HD LG LP156WH2-TLBA (LED) 5.5MM	6-50-L8155-L09	
11	LCD 15.6" FHD LG LP156WF1-TLE1 (GLARE TYPE) (LED) 5.7MM	6-50-LB257-L03	
11	LCD 15.6" HD+ AU B156RW01 V3 (LED) 5.7MM (EDID 110.5MHZ)	6-50-LA157-G05	
12	LCD HINGE L SK7 W255HUM (SINHER)	6-33-W25U1-020	
13	WIRE CABLE FOR LVDS 299MM (HL/YD CON:C1SY00112YCB) W250HUQ	6-43-W25H1-010-A	EXCLUDE 6-50-LB257-L03
13	WIRE CABLE FOR LCD TO M/B L:186M W:3MM (HL/YD CON:C1SY00112YCB) W251HPQ	6-43-W25P1-010-A	FOR 6-50-LB257-L03
14	ANTENNA 3G FVC 3G PCB 0.8G/0.9G/1.8G/1.9G/2.1GHZ L=630MM W251HPQ	6-23-7W25P-011	
15	WIRE CABLE FOR CCD 5P 229MM (HL) E5120Q	6-43-E51QT-011	
16	ANTENNA WIMAX COMBO FVC WM1+WM2 PCB H=0.6MM 2.4G/3.5GHZ/5G WM1=640mm WM2=640mm W251HPQ	6-23-7W25P-020	
17	UVC CAMERA CHICONY FIX CNFA1A9 1.3M HIMAX HM1355 W258HUQ-C	6-88-W25UC-5100	OPTION
17	UVC CAMERA BISON FIX BN28M6SG3-320 1.3M 6AA W246HUQ	6-88-E51QC-4904	OPTION
17	UVC CAMERA BISON FIX BN28U5XK1-000 2M HIMAX2050 P150HM	6-88-X510C-4900	OPTION
17	UVC CAMERA BISON FIX BN28M6SG2-010 1.3M 6AA E5120Q	6-88-E51QC-4901	OPTION
17	UVC CAMERA CHICONY FIX CNFA179 1.3M 6AA W150HNM	6-88-W150C-5100	OPTION
18	LCD BACK IMR COVER MODULE E5120Q	6-39-E51Q1-021	
18	LCD BACK IMR COVER MODULE E5120Q-C	6-39-E51Q1-021-C	
18	BACK COVER MODULE E5125	6-39-E5151-021	FOR W255ES/EZ
18	LCD IMR BACK COVER MOUDLE E5128Q(NO PAINTING)	6-39-E5181-022	
18	LCD IMR BACK COVER MOUDLE E5128Q-C	6-39-E5181-021-C	
18	BACK COVER MODULE W25AEU	6-39-W2AU1-021	FOR W25AEZ
18	BACK COVER MODULE W25AEU-C	6-39-W2AU1-021-C	
19	LCD BACK COVER PROTECTION MYLAR (8B35+3M8915) E5120Q	6-40-E51Q1-041	FOR W251HPQ/HNQ/-C FOR W258HPQ/-C
19	LCD BACK COVER PROTECTION MYLAR (PET+3M8915) B5100M	6-40-B51M8-020	FOR W255HP/ESQ/HSQ FOR W25AHS
20	FOR M540G中性LOGO(STYLE-NOTE)	6-45-M54G1-020	ONLY FOR W255XX

Figure A - 7
LCD

Appendix B: Schematic Diagrams

This appendix has circuit diagrams of the ***W251HSQ/W251HSQ-C/W255HS/W258HSQ/W25AHS/W251HTQ/W251HTQ-C/W255HT/W258HTQ*** notebook's PCB's. The following table indicates where to find the appropriate schematic diagram.

Table B - 1
SCHEMATIC DIAGRAMS

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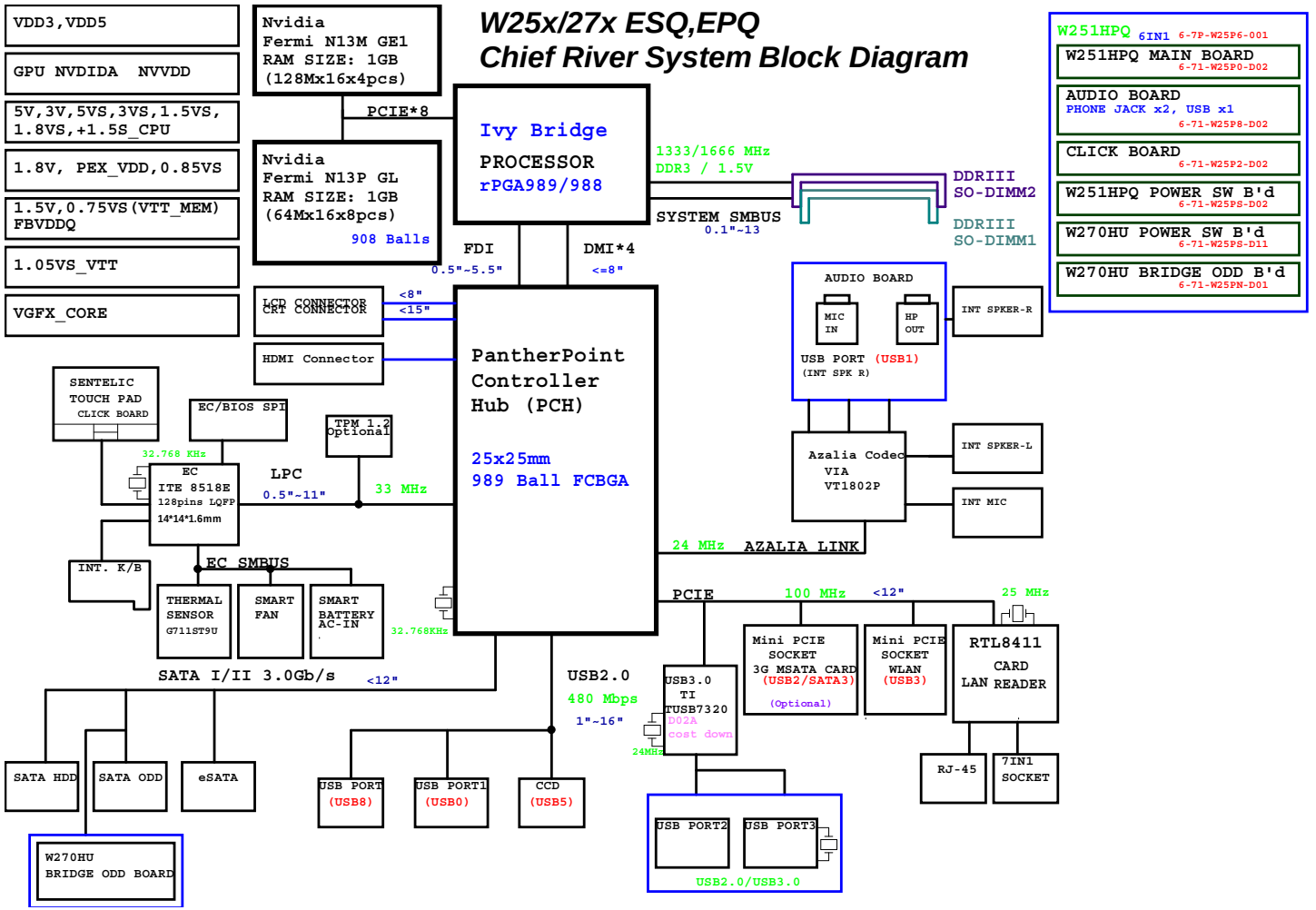
Processor 1/7-DMI, FDI, PEG - Page B - 3	*PCH 2/9- PCIE, SMBUS, CLK - Page B - 20*	*VDD3, VDD5 - Page B - 37*
Processor 2/7- CLK, MISC - Page B - 4	*PCH 3/9- DMI, FDI, PWRGD - Page B - 21*	*Power 0.85VS, 1.8VS - Page B - 38*
Processor 3/7- (DDR3) - Page B - 5	*PCH 4/9- LVDS, DDI, CRT - Page B - 22*	*POWER 1.5V/1.05VS - Page B - 39*
Processor 4/7- Power - Page B - 6	*PCH 4/9- PCI, USB, RSVD - Page B - 23*	*POWER 1.05V/1.05VS VTT - Page B - 40*
Processor 5/7- GFX PWR - Page B - 7	*PCH 6/9- GPIO, CPU - Page B - 24*	*POWER VCORE1 - Page B - 41*
Processor 6/7- GND - Page B - 8	*PCH 7/9- PWR - Page B - 25*	*POWER VCORE2 - Page B - 42*
Processor 7/7- RSVD - Page B - 9	*PCH 8/9 POWER - Page B - 26*	*Power VGA NVVDD/PEX_VDD - Page B - 43*
DDR3 SO-DIMM_0 - Page B - 10	*PCH 9/9- GND - Page B - 27*	*AC IN, CHARGER - Page B - 44*
DDR3 SO-DIMM_1 - Page B - 11	*WLAN, 3G, MINI PCIE - Page B - 28*	*AUDIO BOARD - Page B - 45*
PANEL, INVERTER, CRT - Page B - 12	*CCD, TPM, MULTI CON - Page B - 29*	*CLICK BOARD - Page B - 46*
VGA PCI-E Interface - Page B - 13	*USB3.0 - Page B - 30*	*W251HPQ POWER SW BOARD - Page B - 47*
VGA Frame Buffer Interface - Page B - 14	*Card Reader (RTL8411) - Page B - 31*	*W270HU BRIDGE ODD BOARD - Page B - 48*
VGA Frame Buffer A - Page B - 15	*SATA ODD, LED, USB CHARGE - Page B - 32*	*W270HU POWER SW BOARD - Page B - 49*
VGA Frame Buffer C - Page B - 16	*HDMI, RJ45 - Page B - 33*	*Power Diagram - Page B - 50*
VGA I/O - Page B - 17	*AUDIO CODEC VT1802P - Page B - 34*	*Power On SEQ - Page B - 51*
VGA NVVDD Cecoupling - Page B - 18	*KBC-ITE IT8518E - Page B - 35*	

Version Note

The schematic diagrams in this chapter are based upon version 6-7P-W25S6-002. 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 50
System Block Diagram

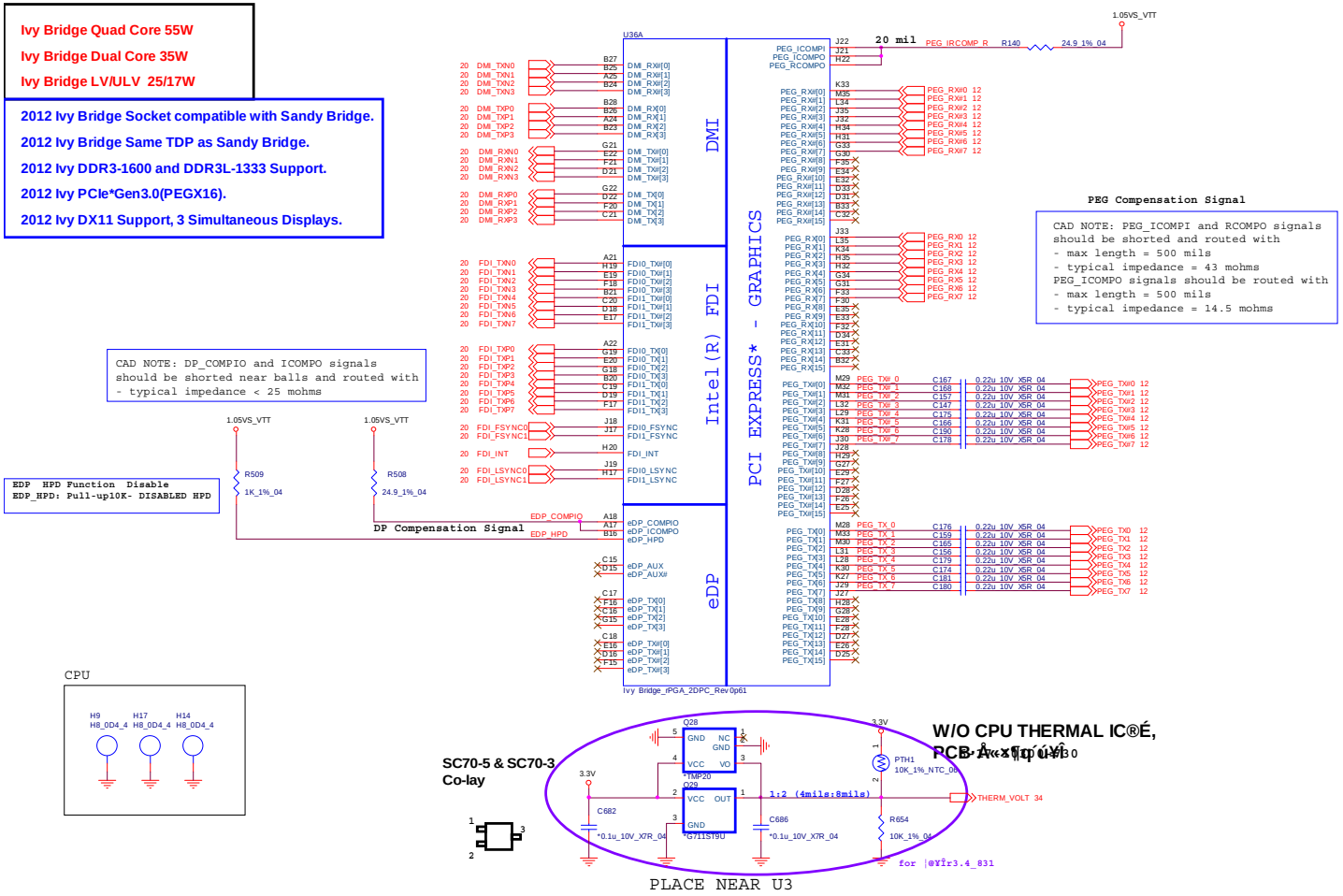


Processor 1/7-DMI, FDI, PEG

Ivy Bridge Processor 1/7 (DMI,PEG,FDI)

Ivy Bridge Quad Core 55W
Ivy Bridge Dual Core 35W
Ivy Bridge LV/ULV 25/17W

2012 Ivy Bridge Socket compatible with Sandy Bridge.
2012 Ivy Bridge Same TDP as Sandy Bridge.
2012 Ivy DDR3-1600 and DDR3L-1333 Support.
2012 Ivy PCIe*Gen3.0(PEGX16).
2012 Ivy DX11 Support, 3 Simultaneous Displays.

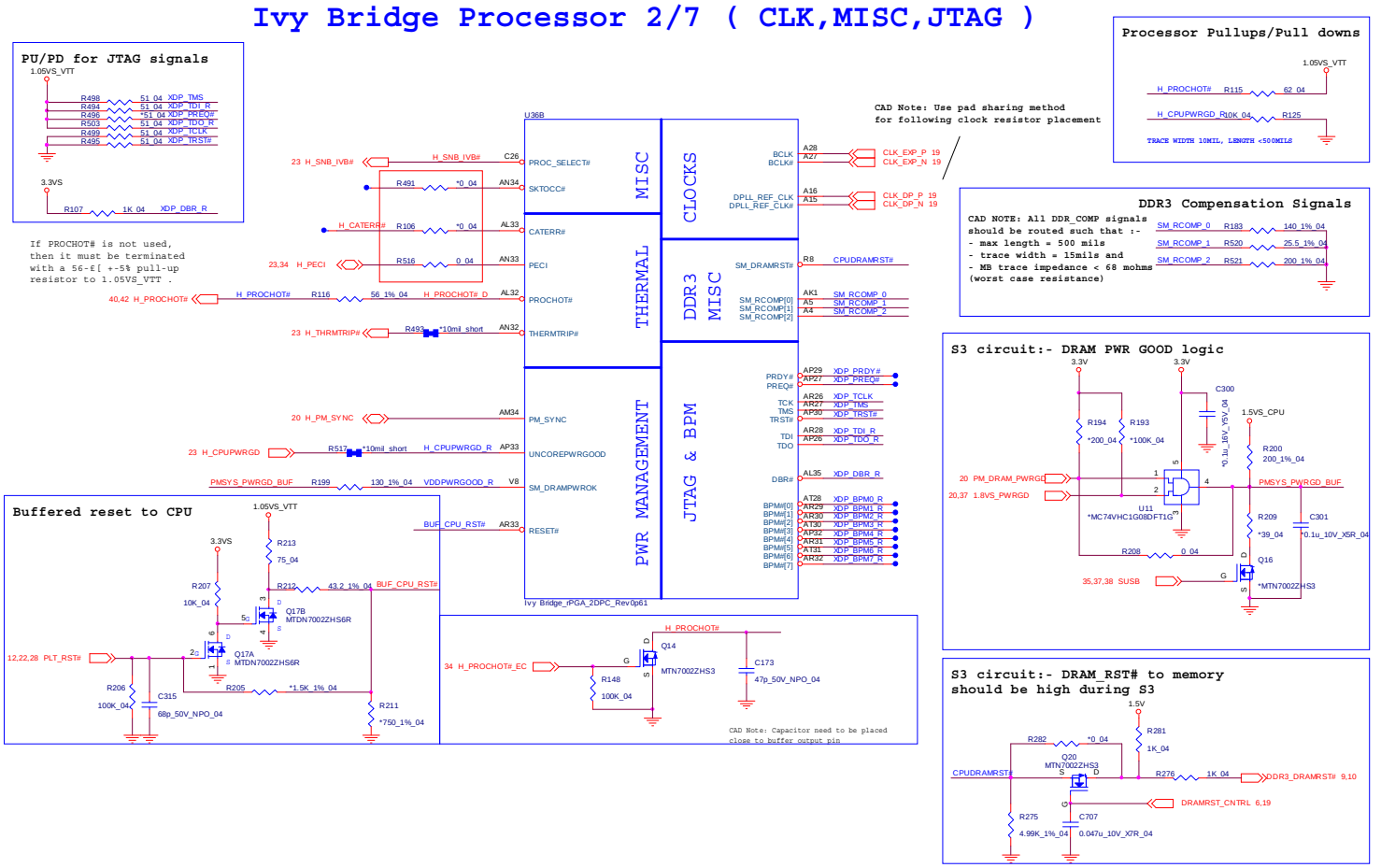


Sheet 2 of 50
Processor 1/7-DMI, FDI, PEG

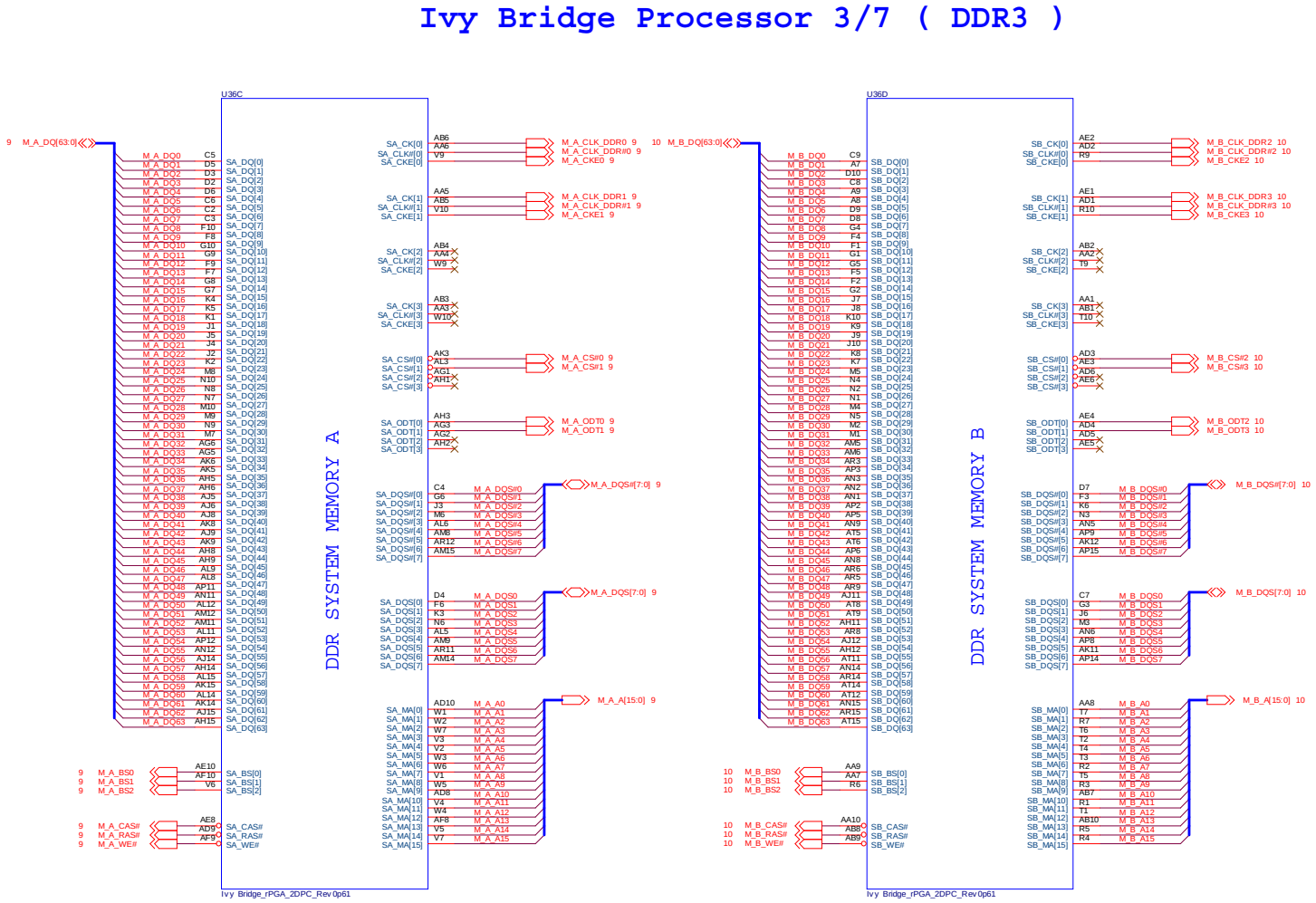
B.Schematic Diagrams

Processor 2/7- CLK, MISC

Sheet 3 of 50
Processor 2/7-CLK, MISC



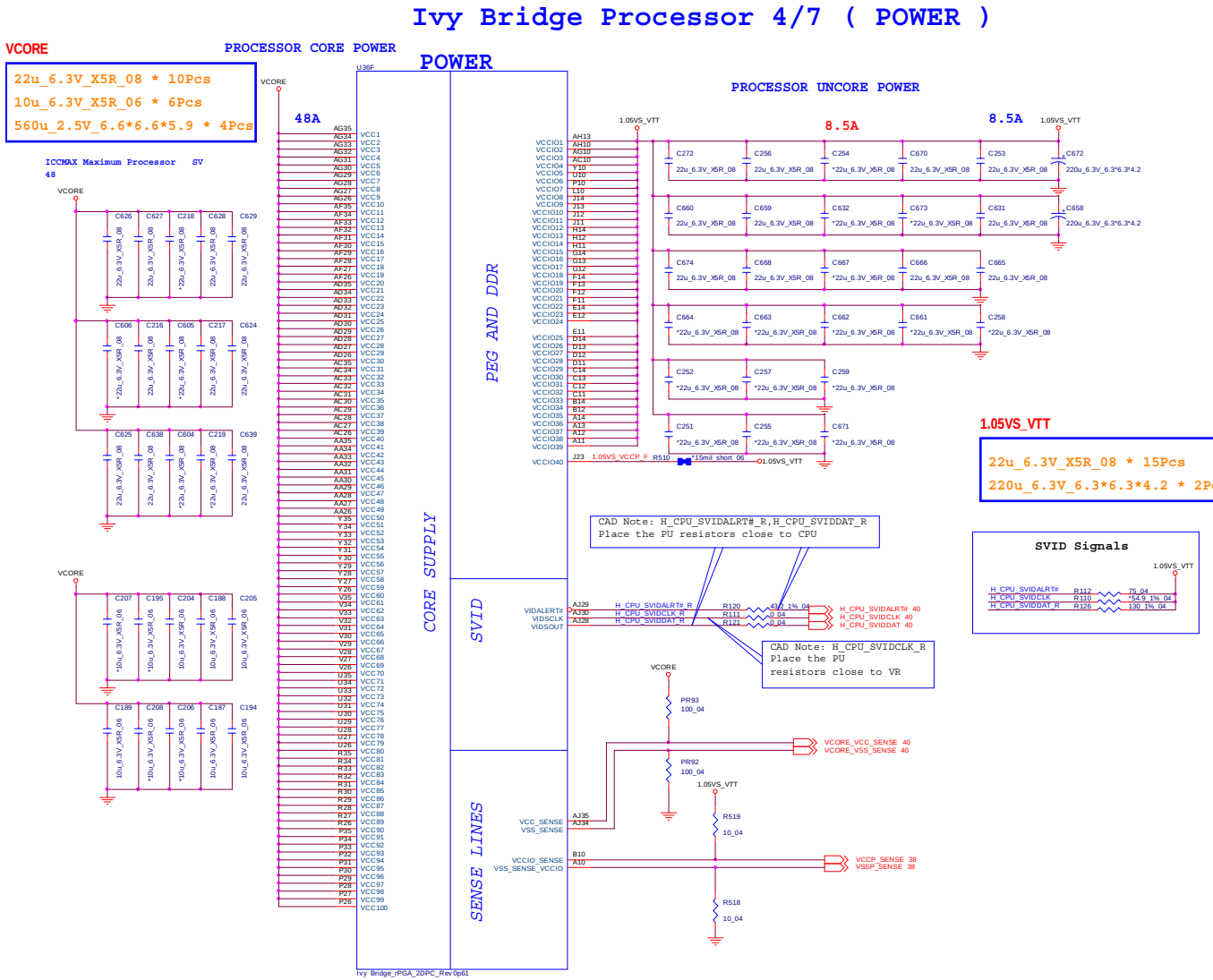
Processor 3/7- (DDR3)



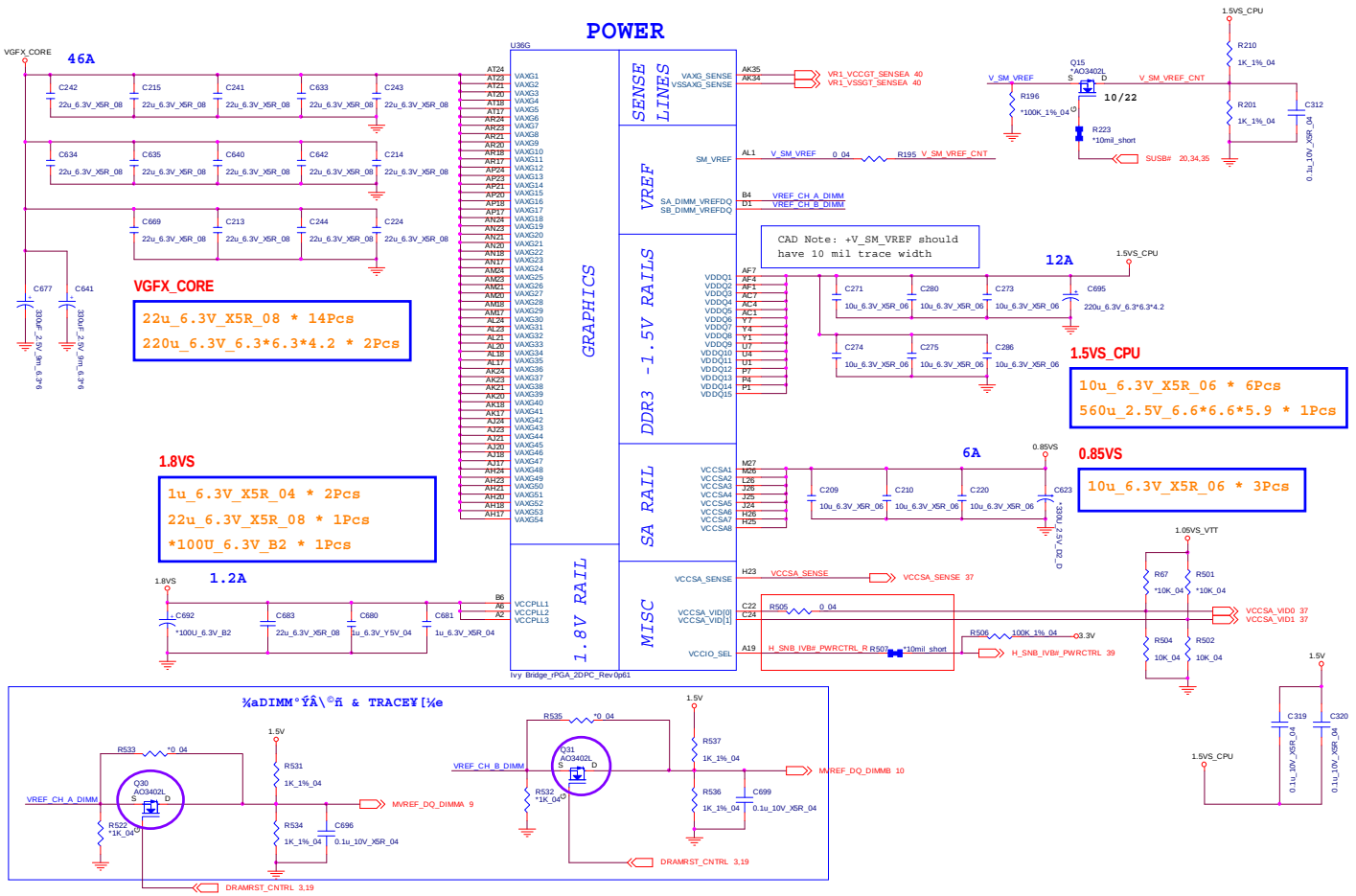
Sheet 4 of 50
Processor 3/7- (DDR3)

Processor 4/7- Power

Sheet 5 of 50
Processor 4/7-
Power



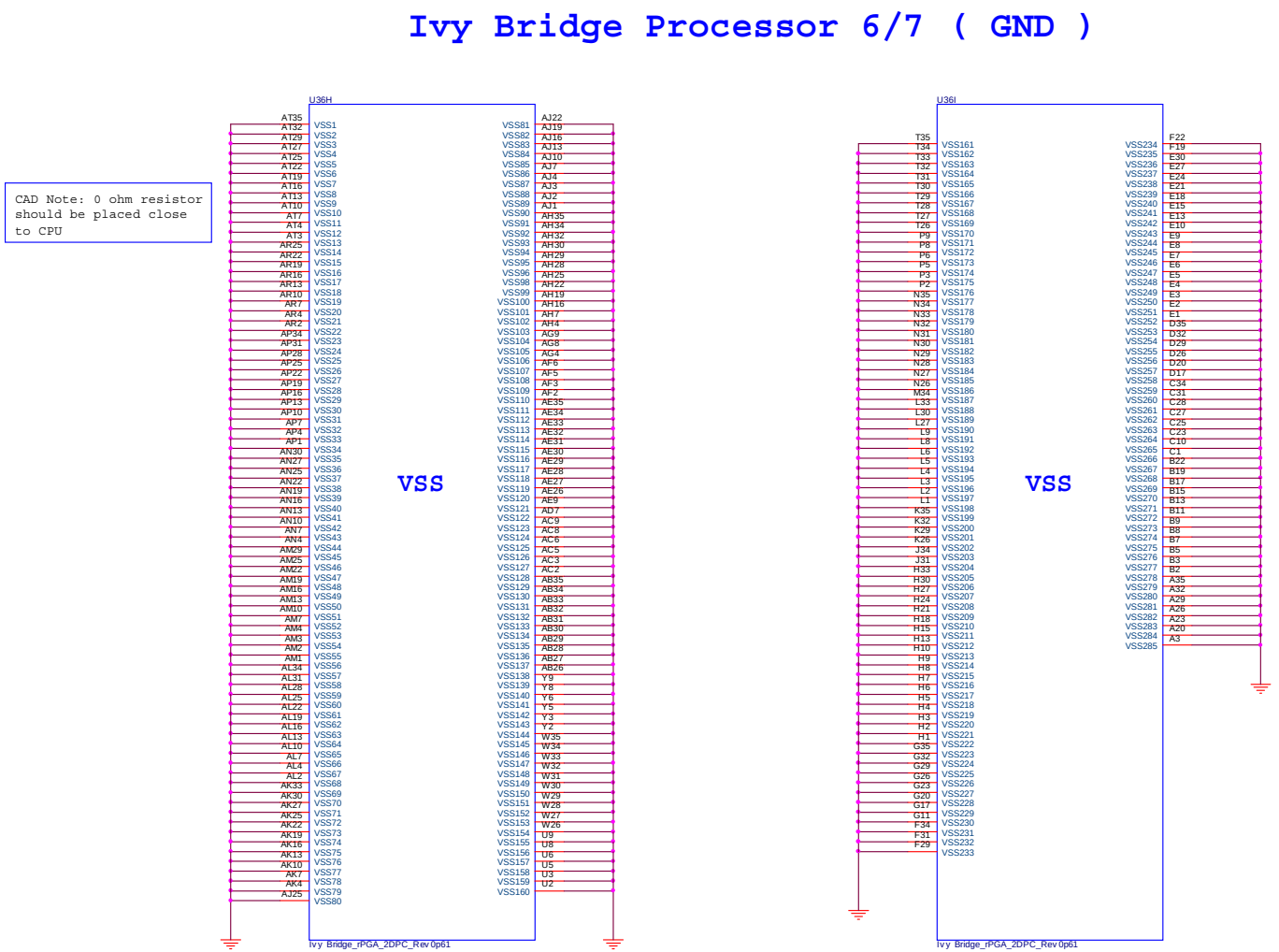
Processor 5/7- GFX PWR



Sheet 6 of 50
Processor 5/7- GFX PWR

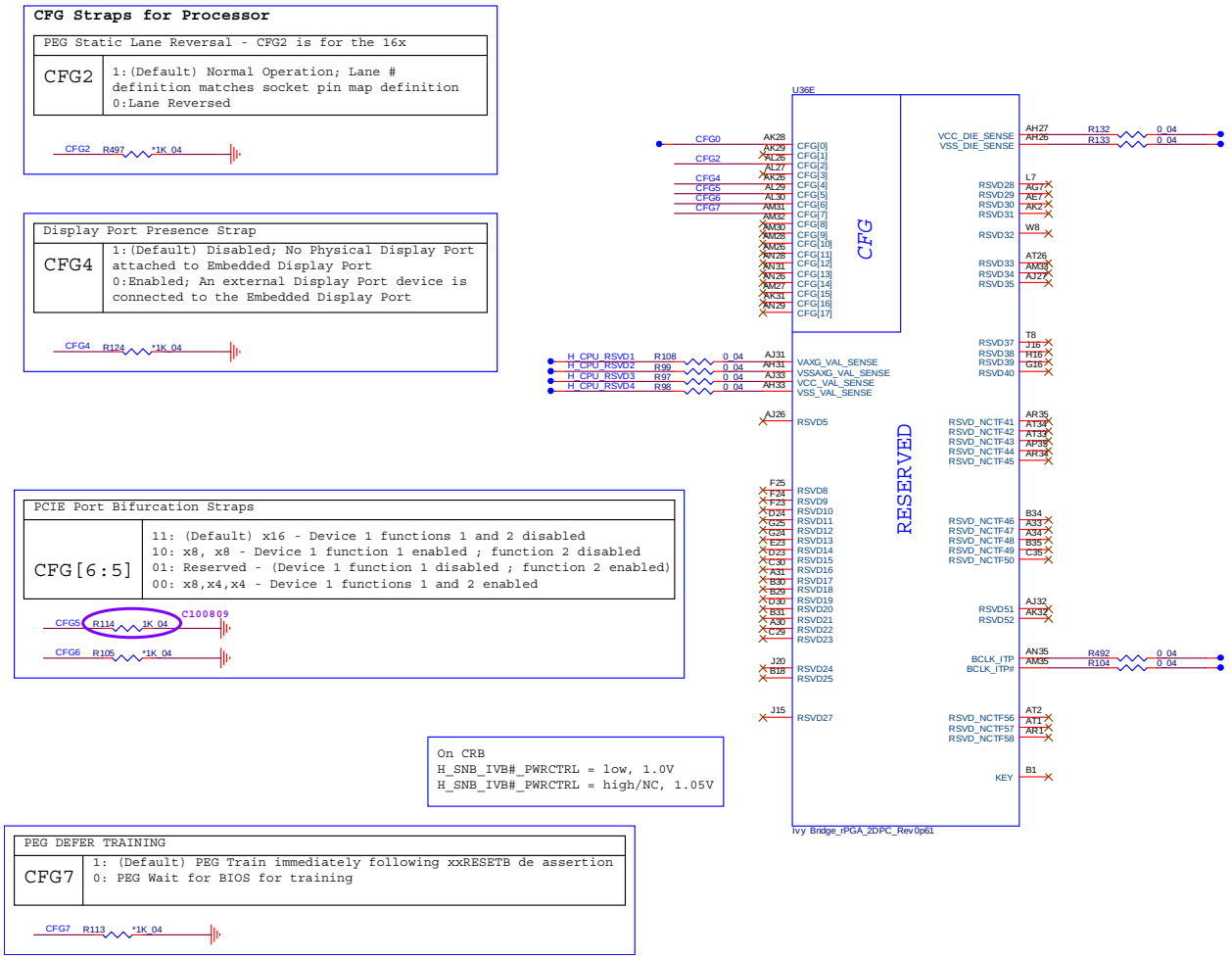
Processor 6/7- GND

Sheet 7 of 50
Processor 6/7- GND



Processor 7/7- RSVD

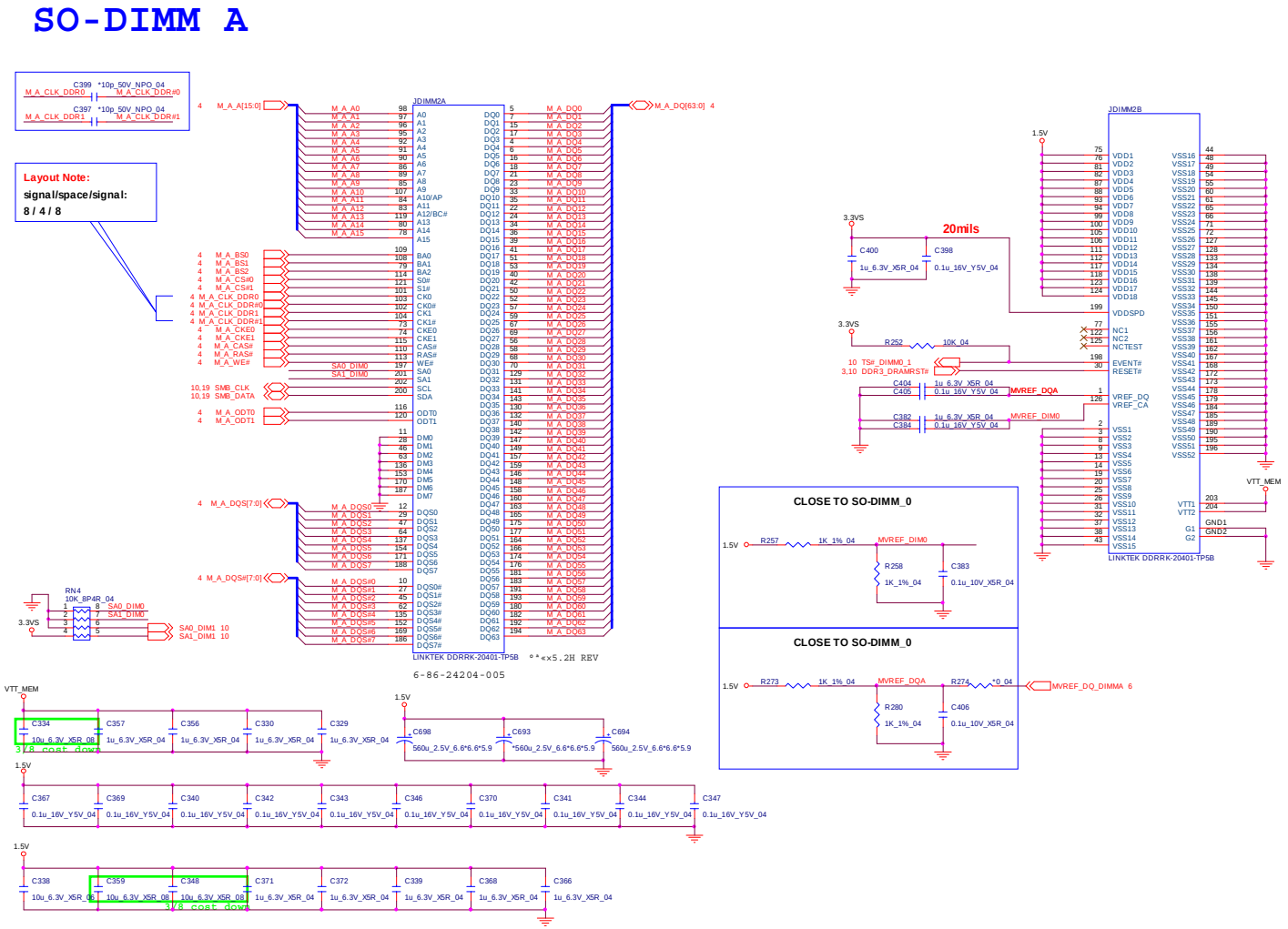
Ivy Bridge Processor 7/7 (RESERVED)



Sheet 8 of 50
Processor 7/7- RSVD

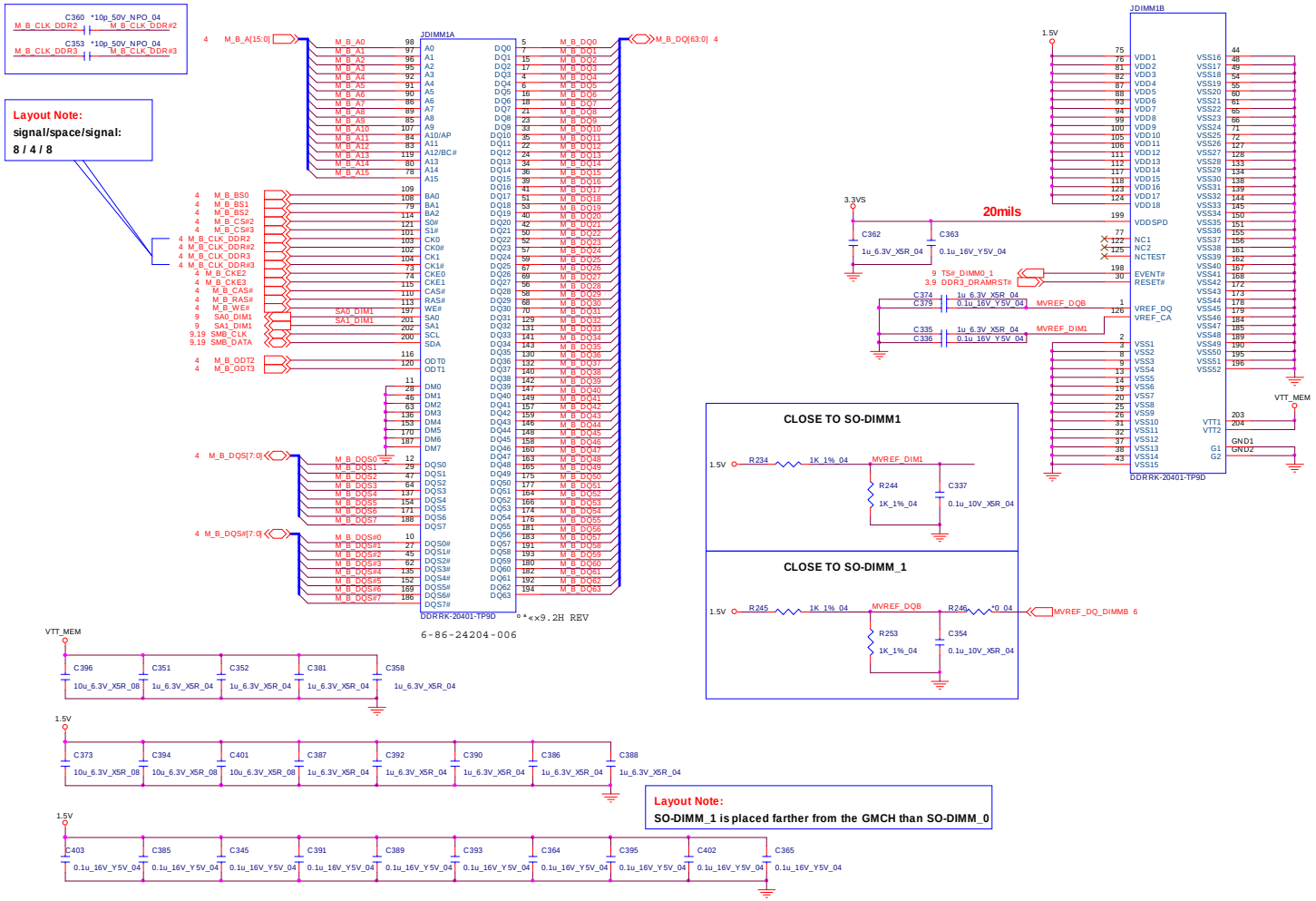
DDR3 SO-DIMM_0

Sheet 9 of 50
DDR3 SO-DIMM_0



DDR3 SO-DIMM_1

SO-DIMM B



Sheet 10 of 50
DDR3 SO-DIMM_1

PANEL, INVERTER, CRT

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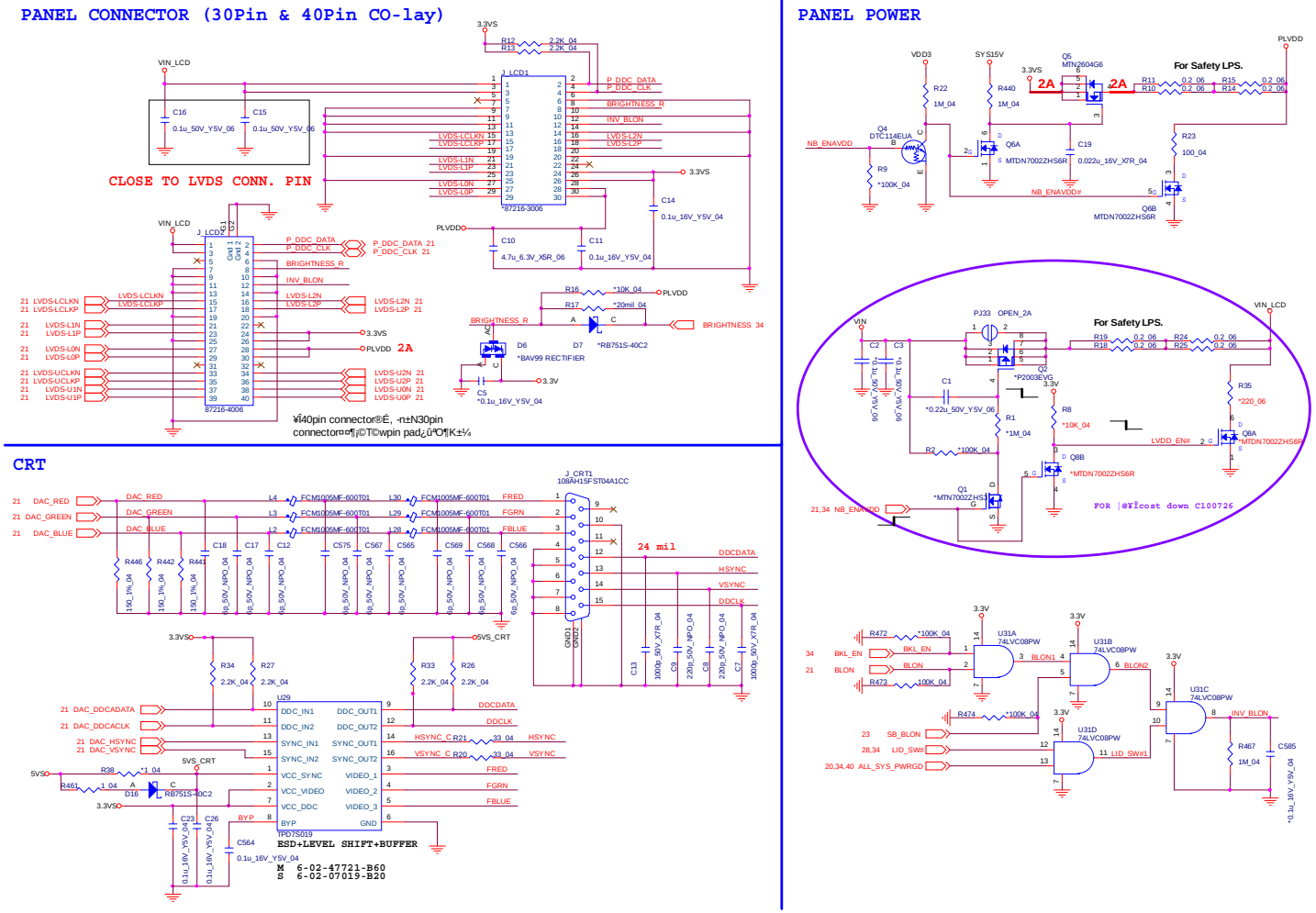
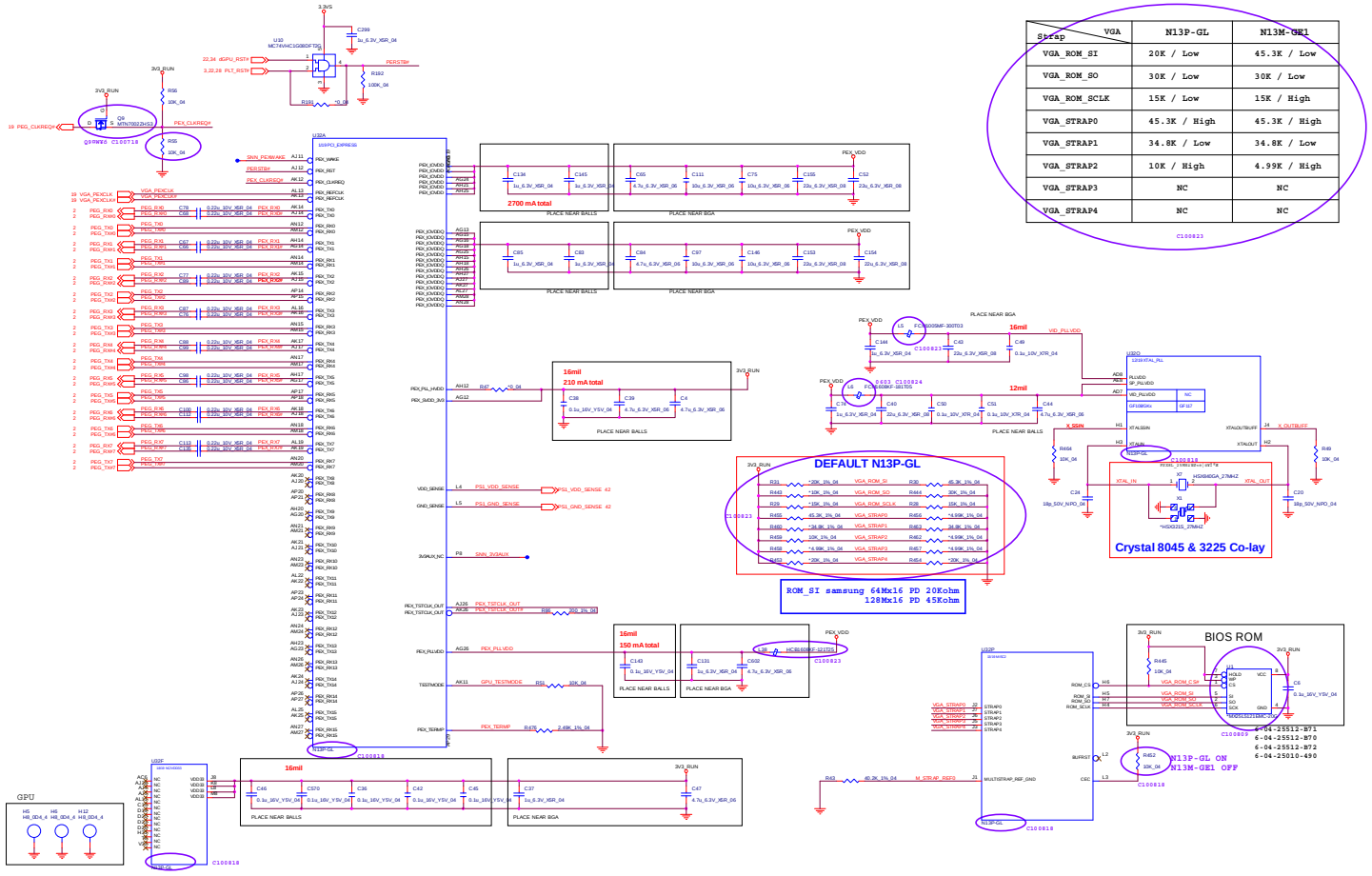
PANEL, INVERTER, CRT



VGA PCI-E Interface



Strap / VGA	N13P-GL	N13M-GE1
VGA_ROM_SI	20K / Low	45.3K / Low
VGA_ROM_SO	30K / Low	30K / Low
VGA_ROM_SCLK	15K / Low	15K / High
VGA_STRAP0	45.3K / High	45.3K / High
VGA_STRAP1	34.8K / Low	34.8K / Low
VGA_STRAP2	10K / High	4.99K / High
VGA_STRAP3	NC	NC
VGA_STRAP4	NC	NC

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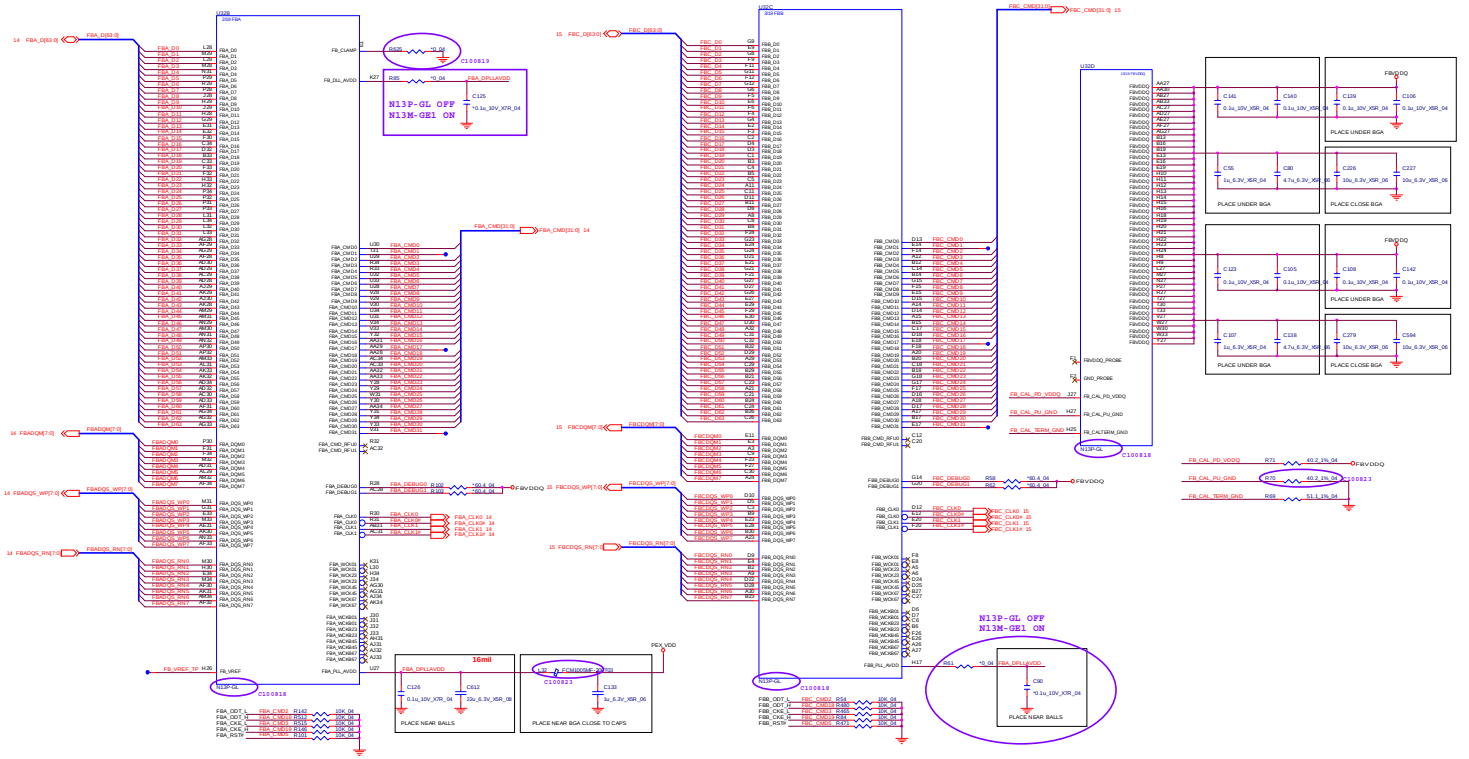
VGA PCI-E Interface

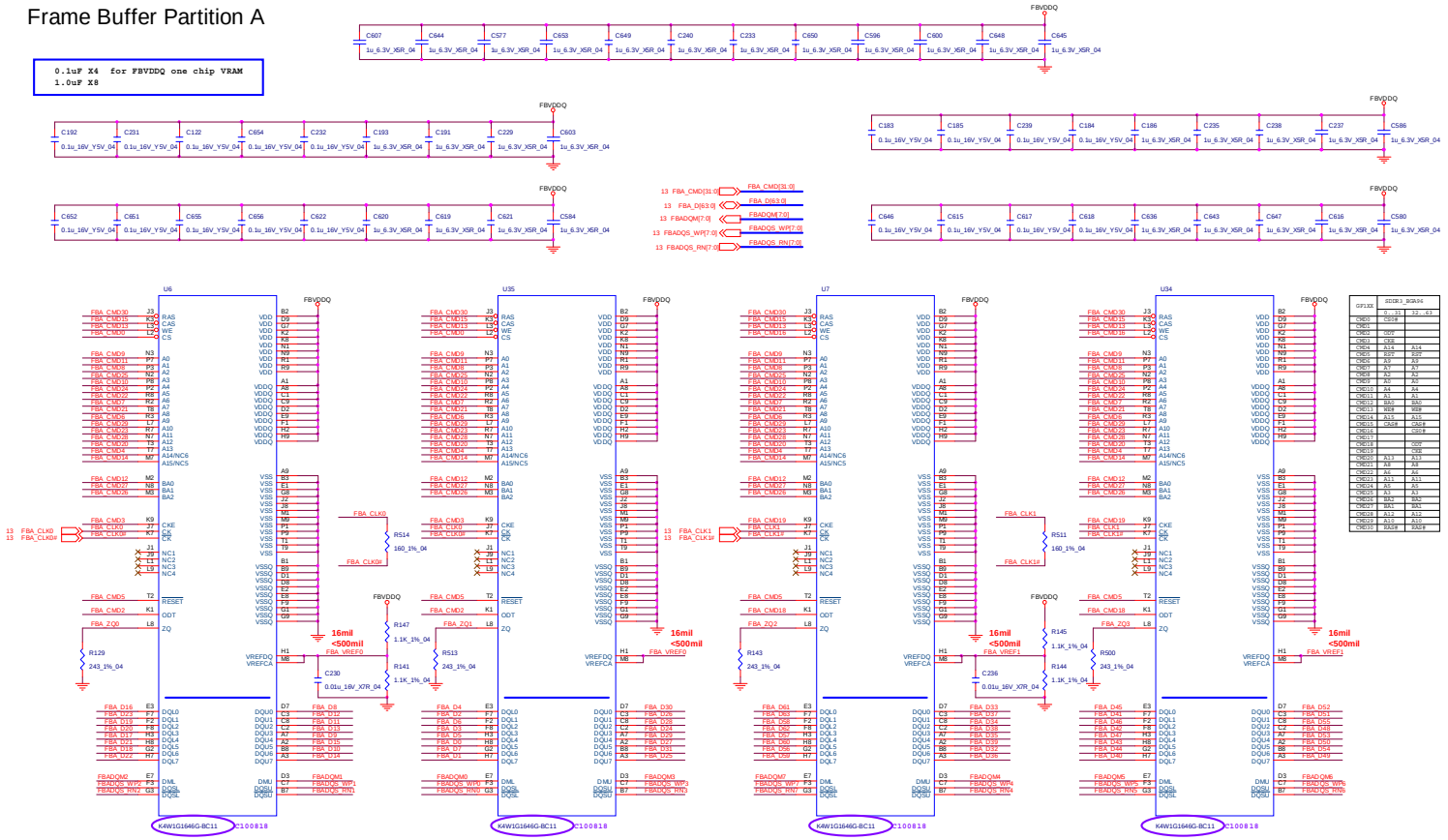
VGA Frame Buffer Interface

Sheet 13 of 50
VGA Frame Buffer Interface

Frame Buffer Interface



VGA Frame Buffer A



Sheet 14 of 50
VGA Frame Buffer
A

VGA Frame Buffer C

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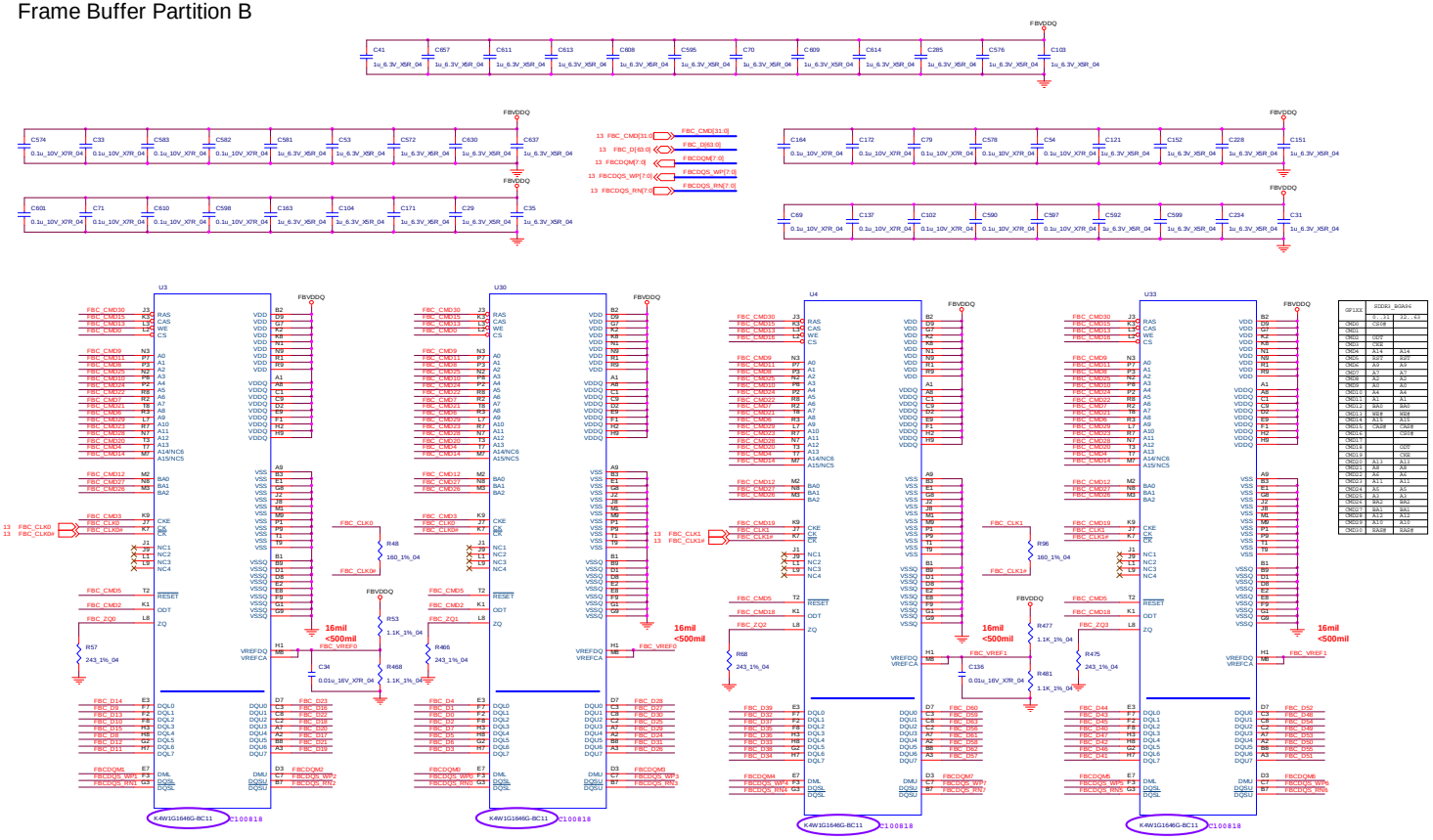
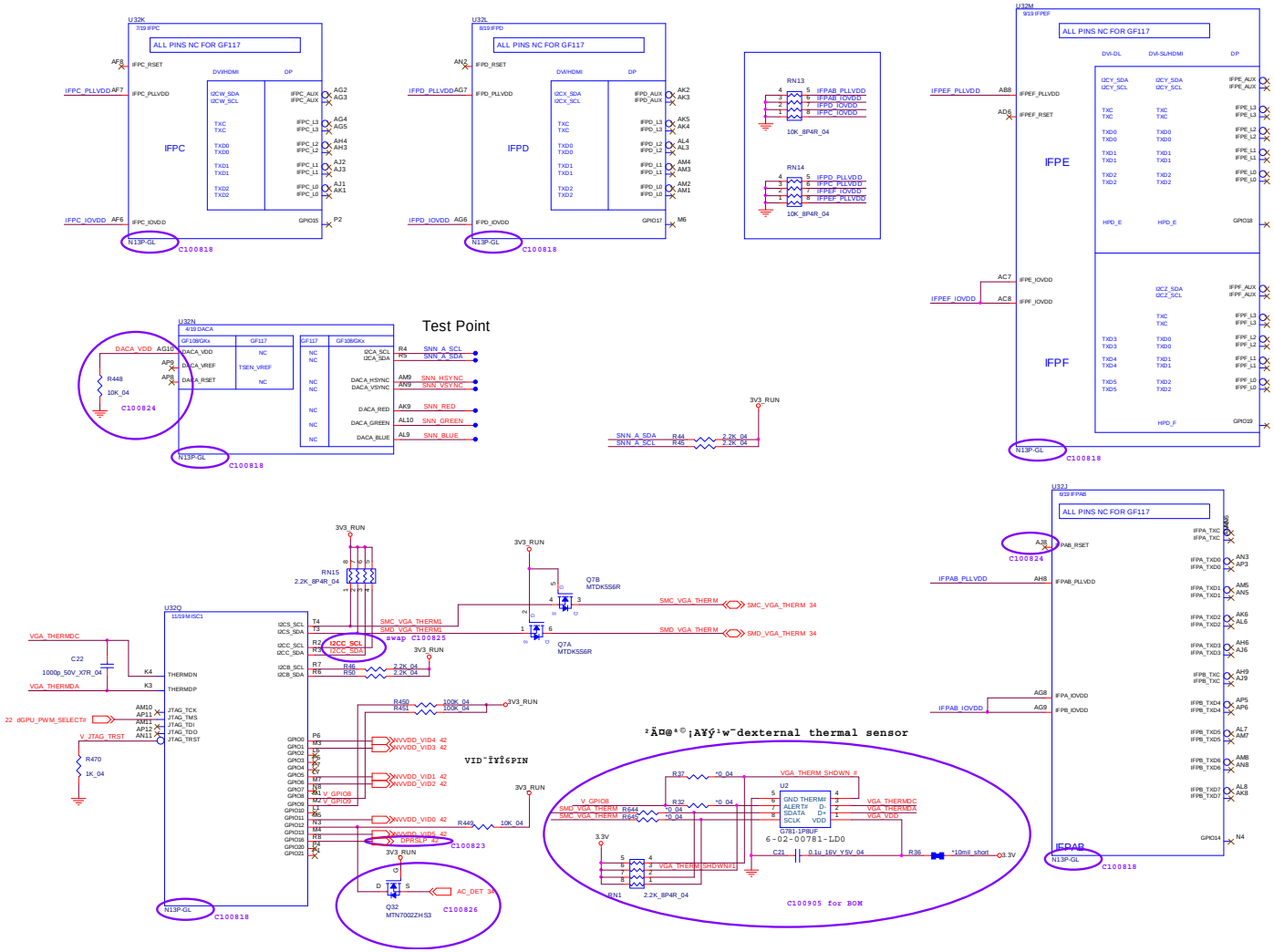
VGA Frame Buffer C

Frame Buffer Partition B



VGA I/O



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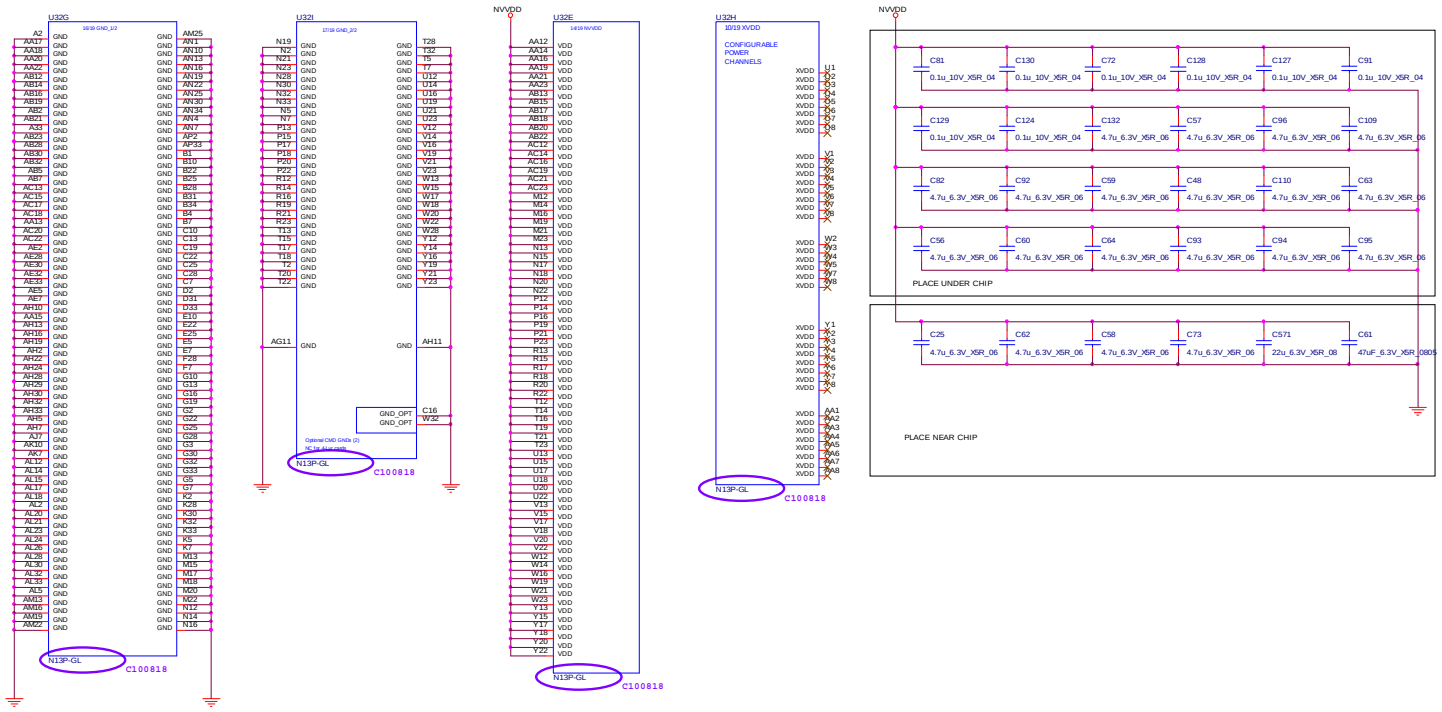
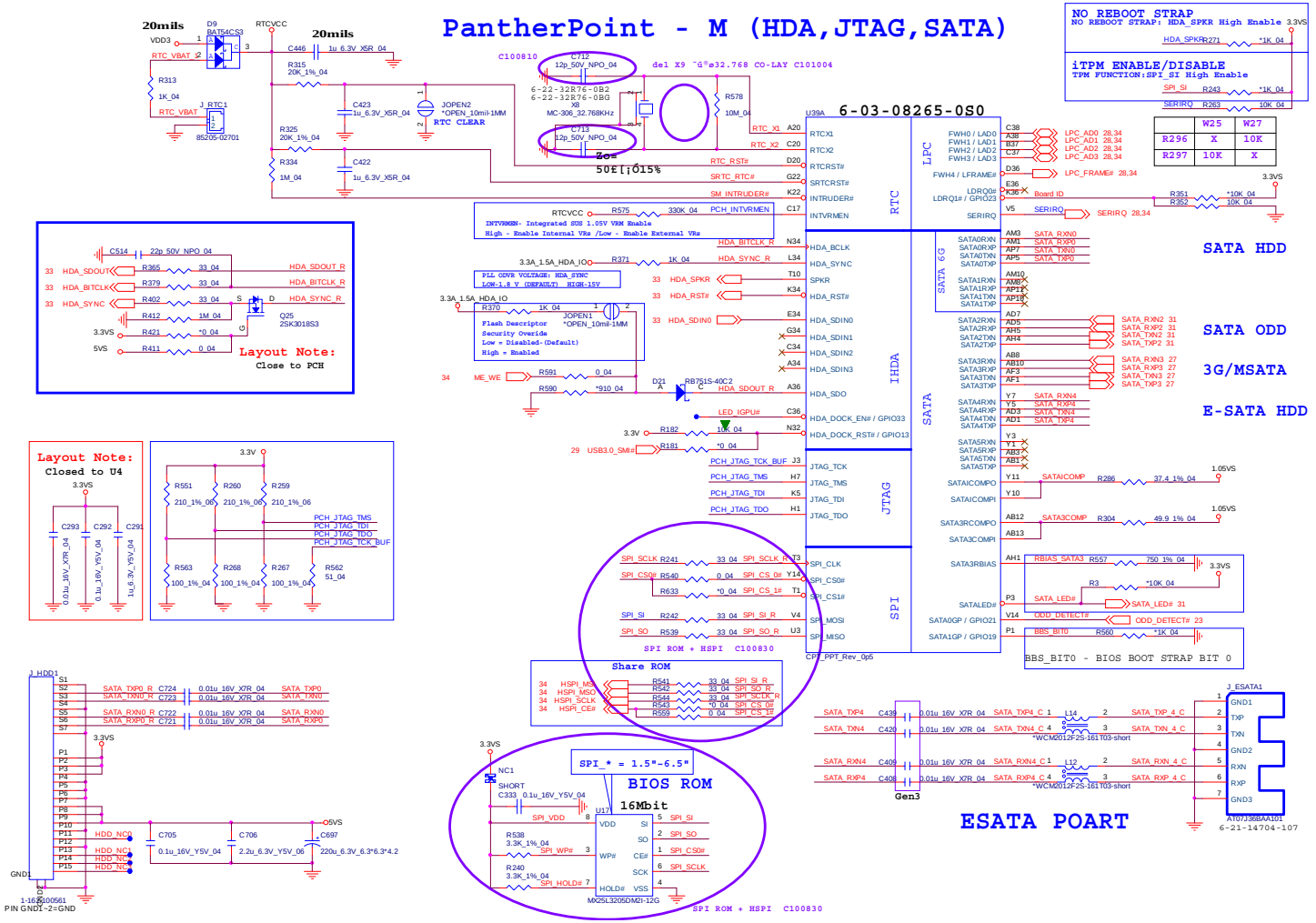
VGA I/O

VGA NVVDD Cecoupling

Sheet 17 of 50
VGA NVVDD Cecoupling



PCH 1/9- RTC, HDA, SATA



Sheet 18 of 50
PCH 1/9- RTC, HDA, SATA

B.Schematic Diagrams

PCH 2/9- PCIE, SMBUS, CLK

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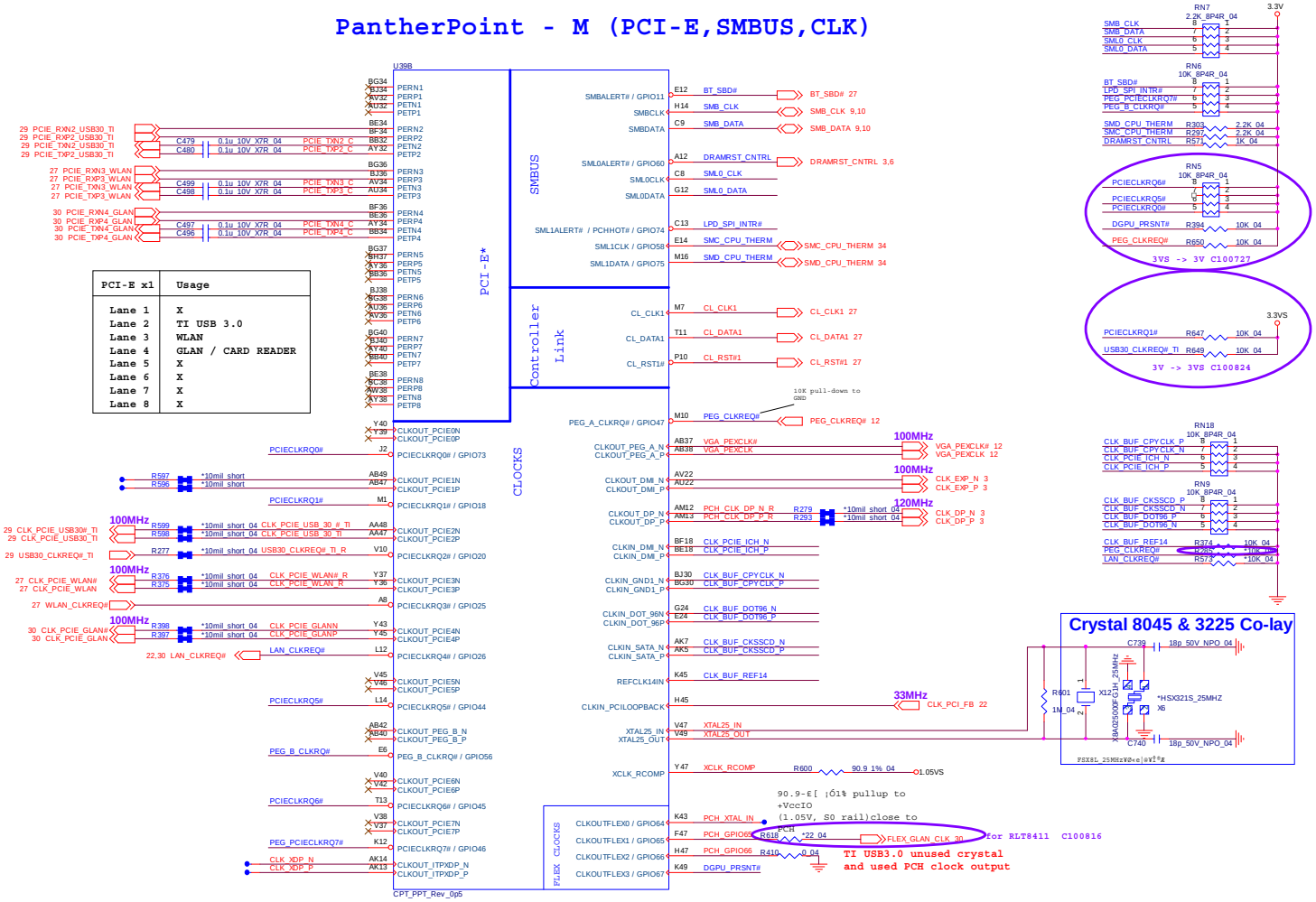
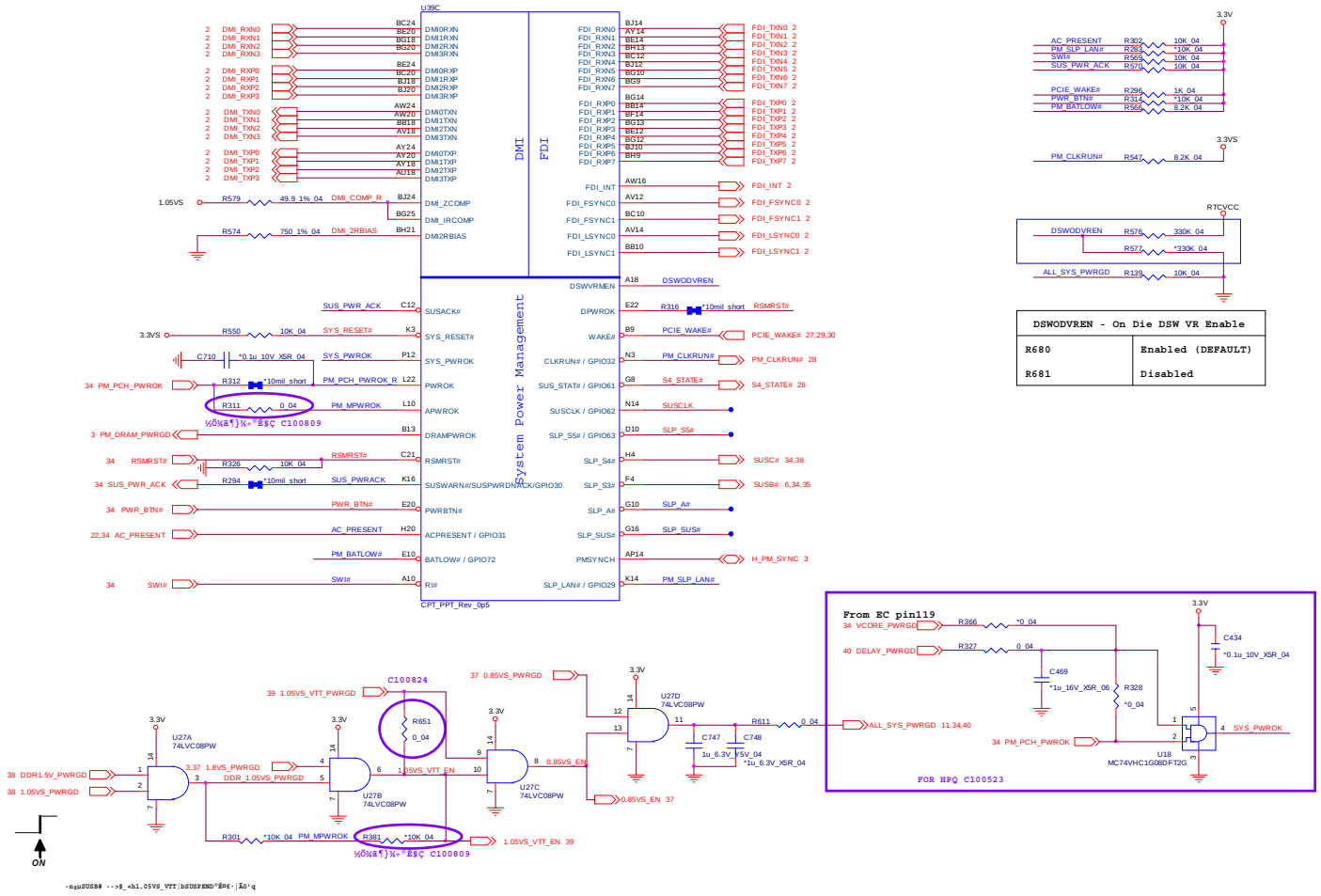
PCH 2/9- PCIE, SMBUS, CLK



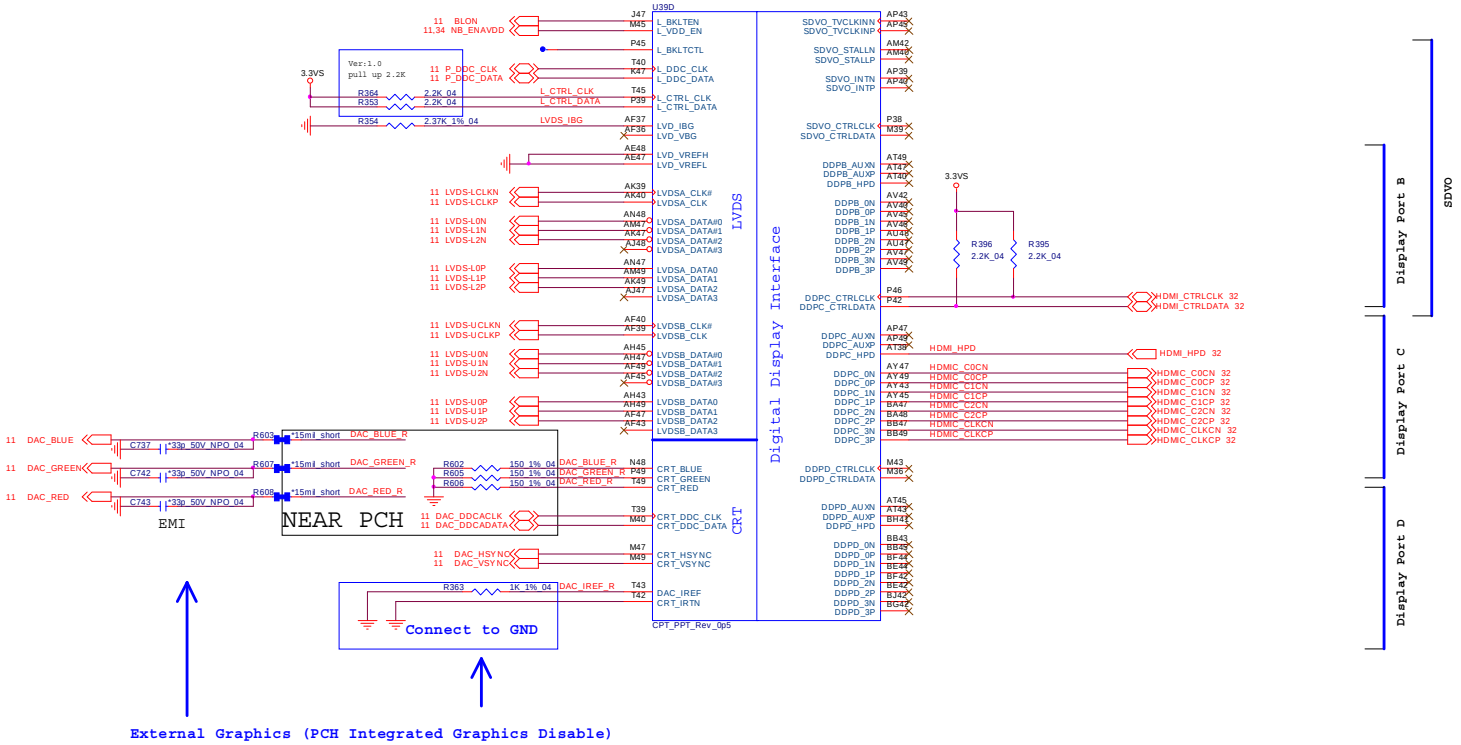
PCH 3/9- DMI, FDI, PWRGD



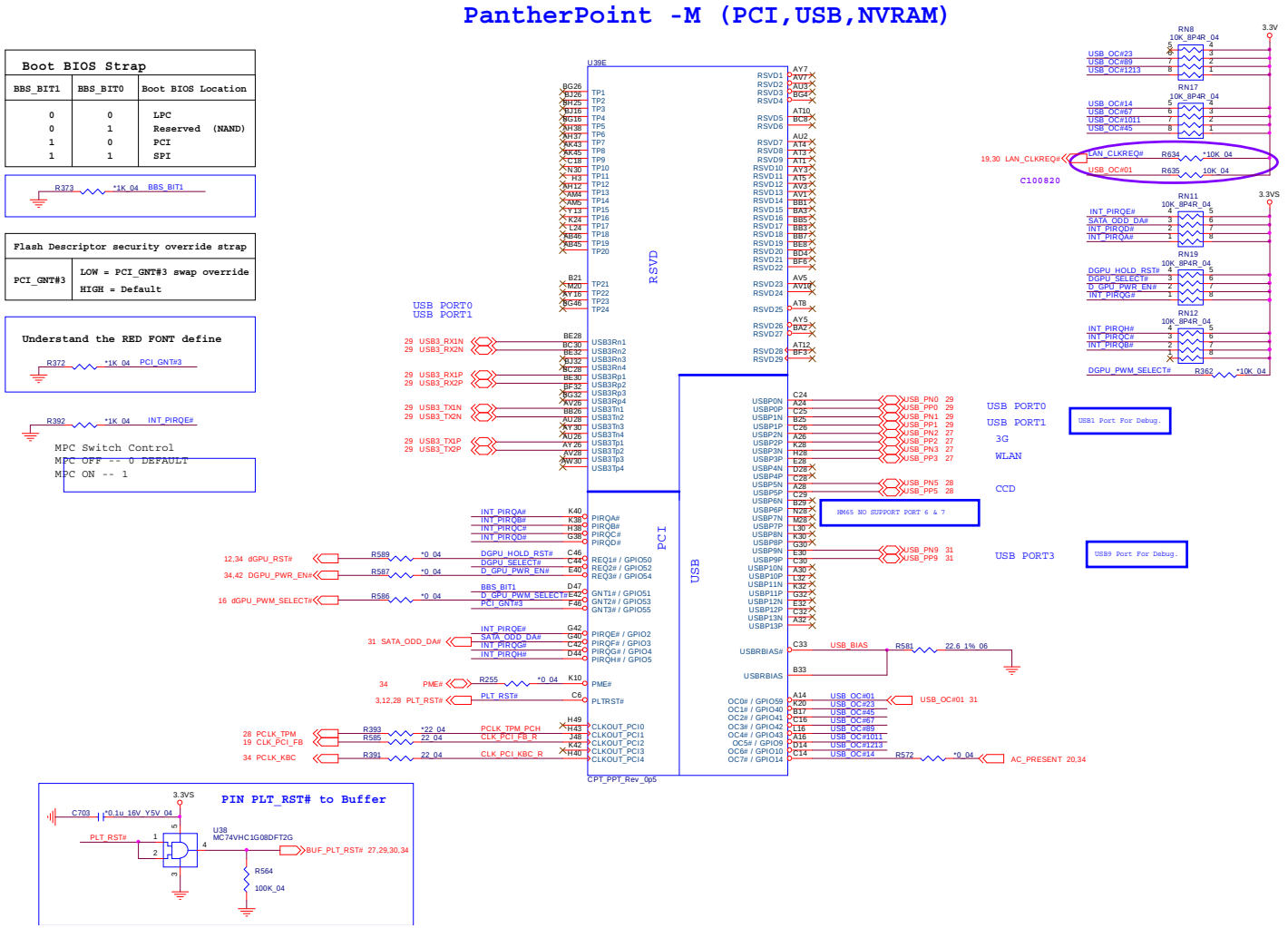
Sheet 20 of 50
PCH 3/9- DMI, FDI, PWRGD

PCH 4/9- LVDS, DDI, CRT

Sheet 21 of 50
PCH 4/9- LVDS, DDI, CRT



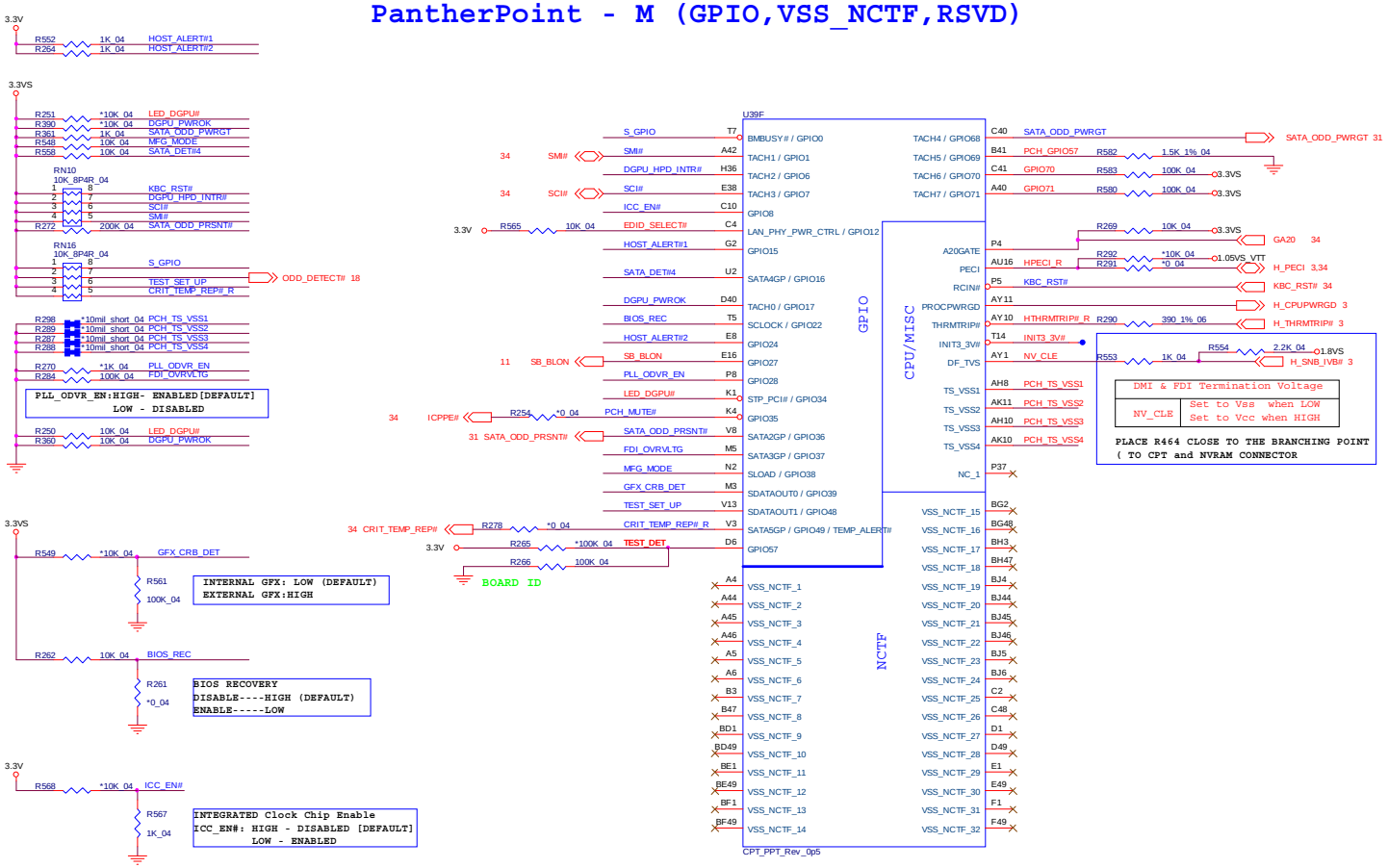
PCH 4/9- PCI, USB, RSVD



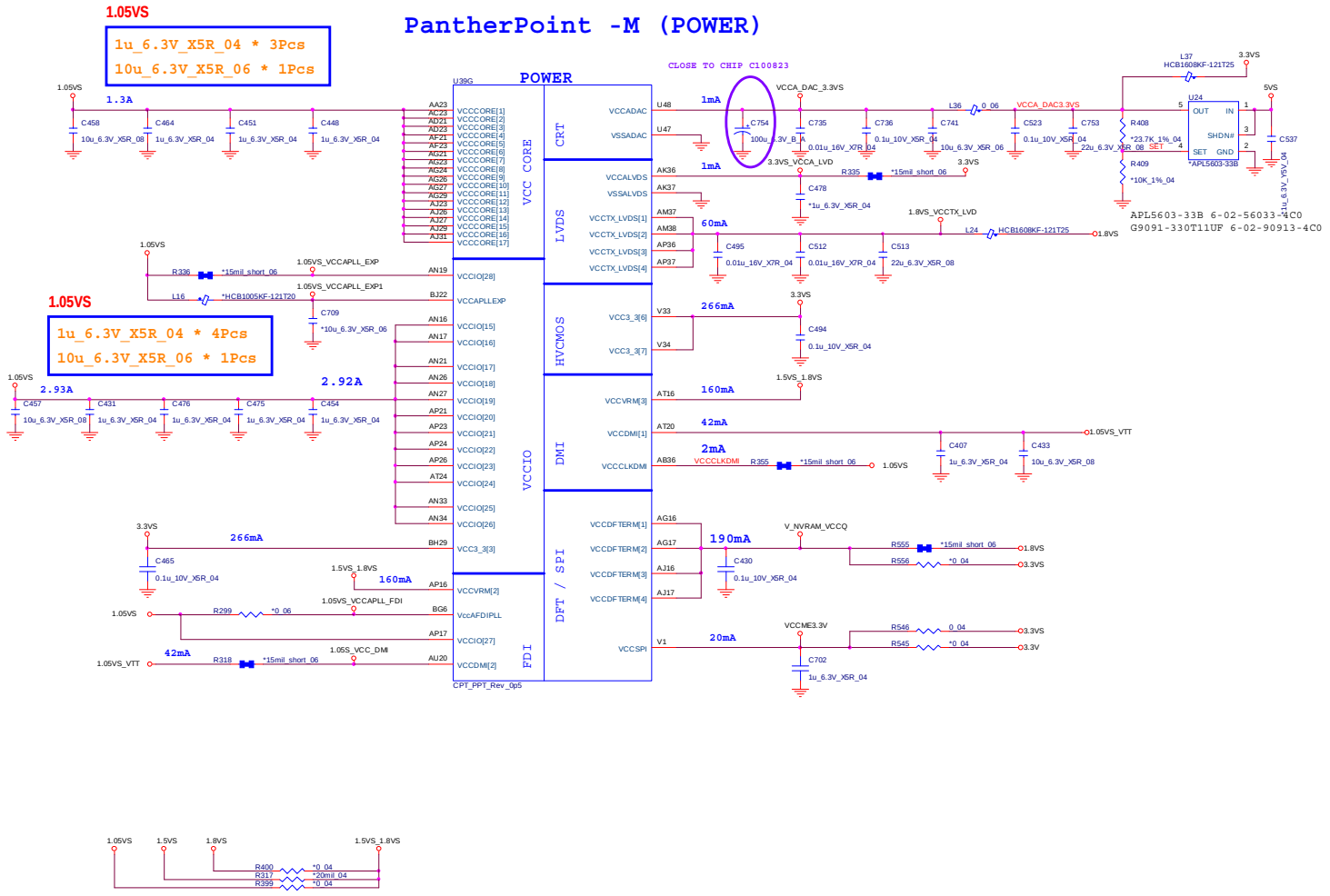
Sheet 22 of 50
PCH 4/9- PCI, USB, RSVD

PCH 6/9- GPIO, CPU

Sheet 23 of 50
PCH 6/9- GPIO, CPU



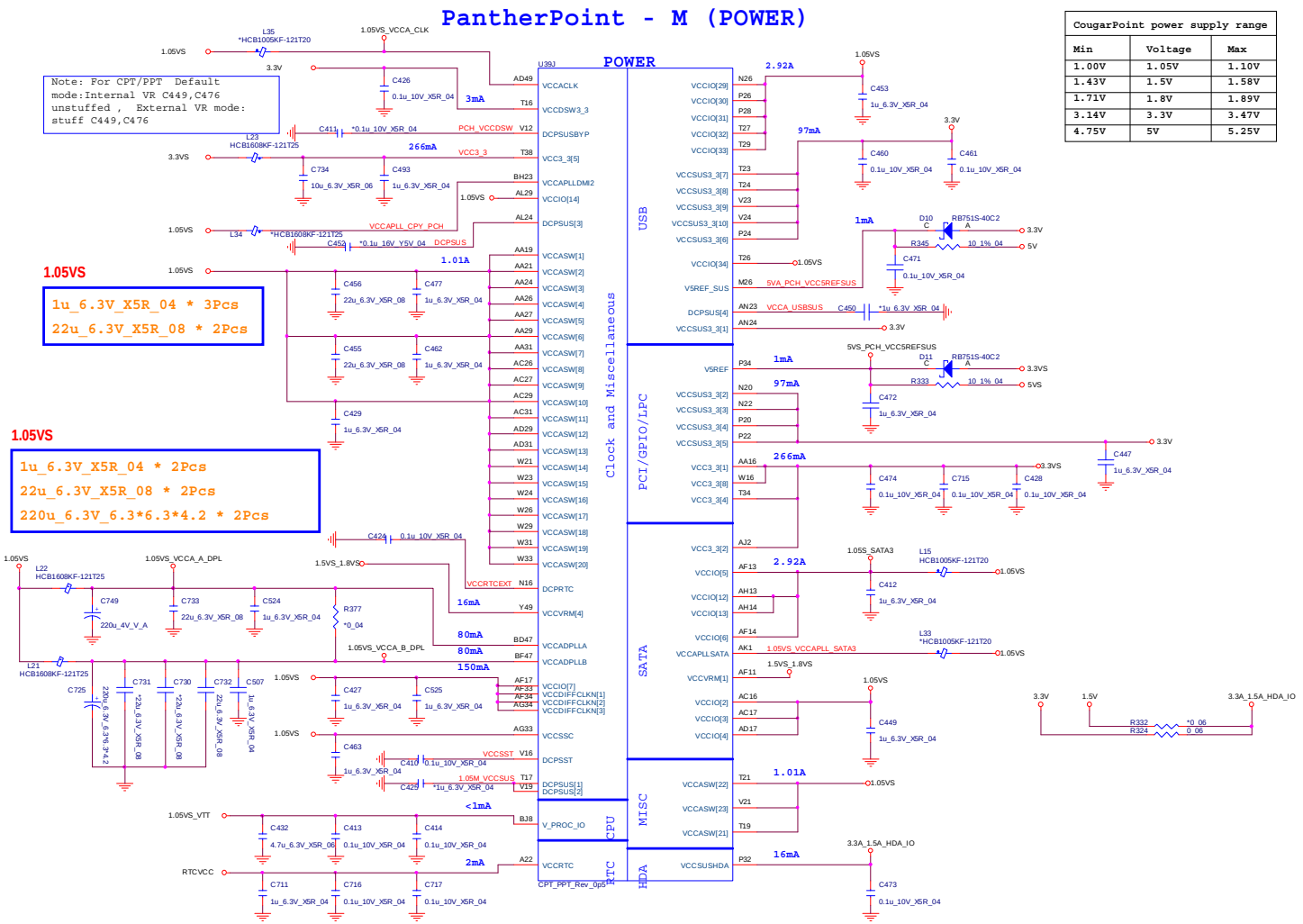
PCH 7/9- PWR



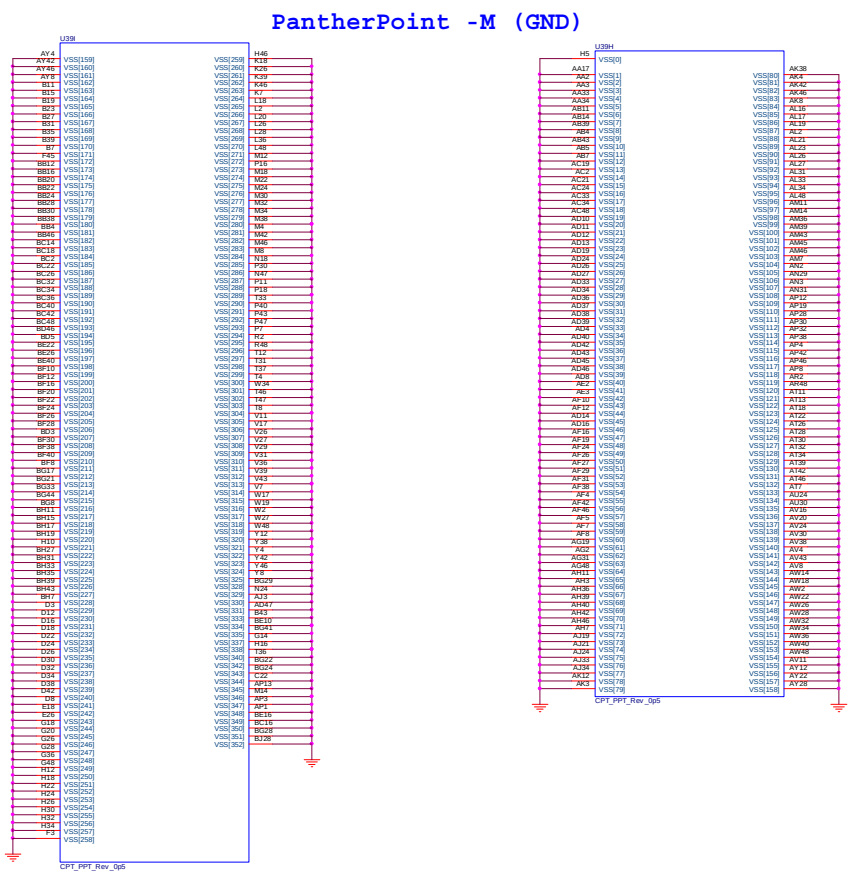
Sheet 24 of 50
PCH 7/9- PWR

PCH 8/9 POWER

Sheet 25 of 50
PCH 8/9 POWER



PCH 9/9- GND



Voltage Rail	Voltage	S0 Iccmax Current (A)
V_CPU_IO	1.05	1 (mA)
V5REF	5	1 (mA)
V5REF_Sus	5	1 (mA)
Vcc3_3	3.3	0.266
VccADAC3	1.05	1 (mA)
VccADPLLA	1.05	0.08
VccADPLLB	1.05	0.08
VccCore	1.05	1.3
VccDMI	1.1	0.042
VccIO	1.05	2.925
VccASW	1.05	1.01
VccSPI	3.3	0.020
VccDSW3_3	3.3	2 (mA)
VccDFTERM	1.8	0.19
VccSus3_3	3.3	0.097
VccSusHDA	3.3	1 (mA)
VccVRM	1.5	0.16
VccClkDMI	1.05	0.02
VccSSC	1.05	0.095
VccDIFFCLKN	1.05	0.055
VccALVDS	3.3	1 (mA)
VccTX_LVDS	1.8	0.06

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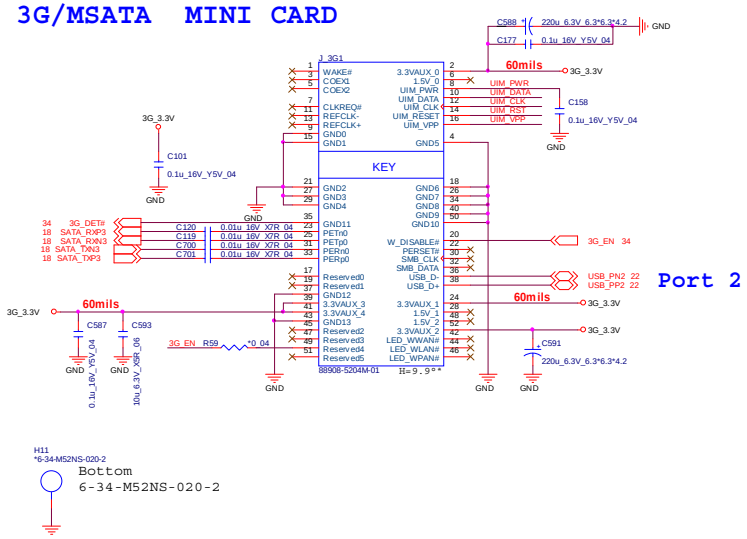
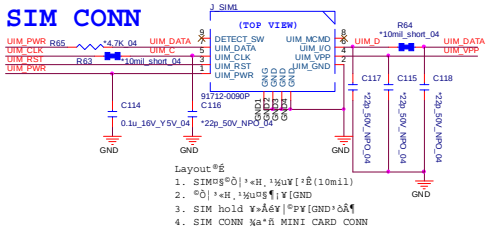
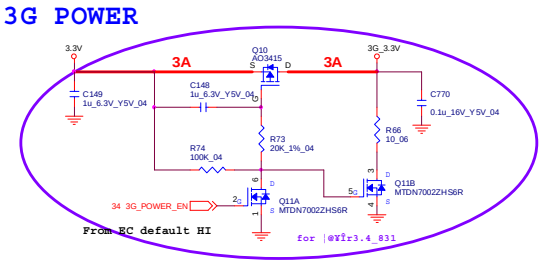
PCH 9/9- GND

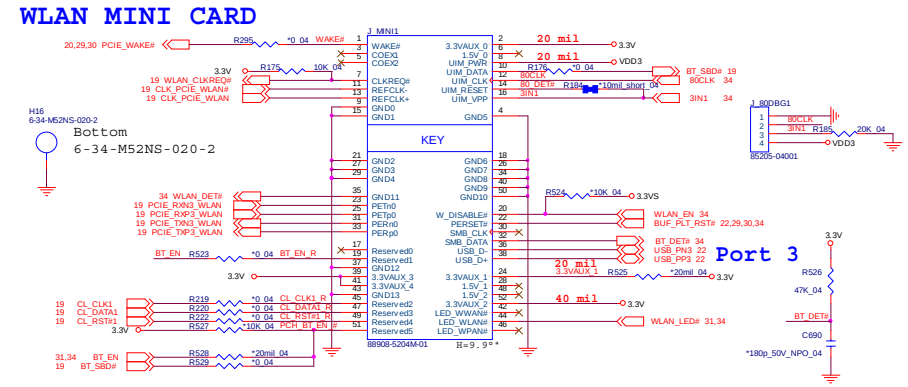
WLAN, 3G, MINI PCIE

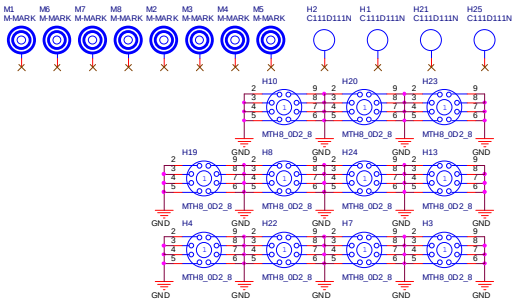
Sheet 27 of 50
WLAN, 3G, MINI PCIE



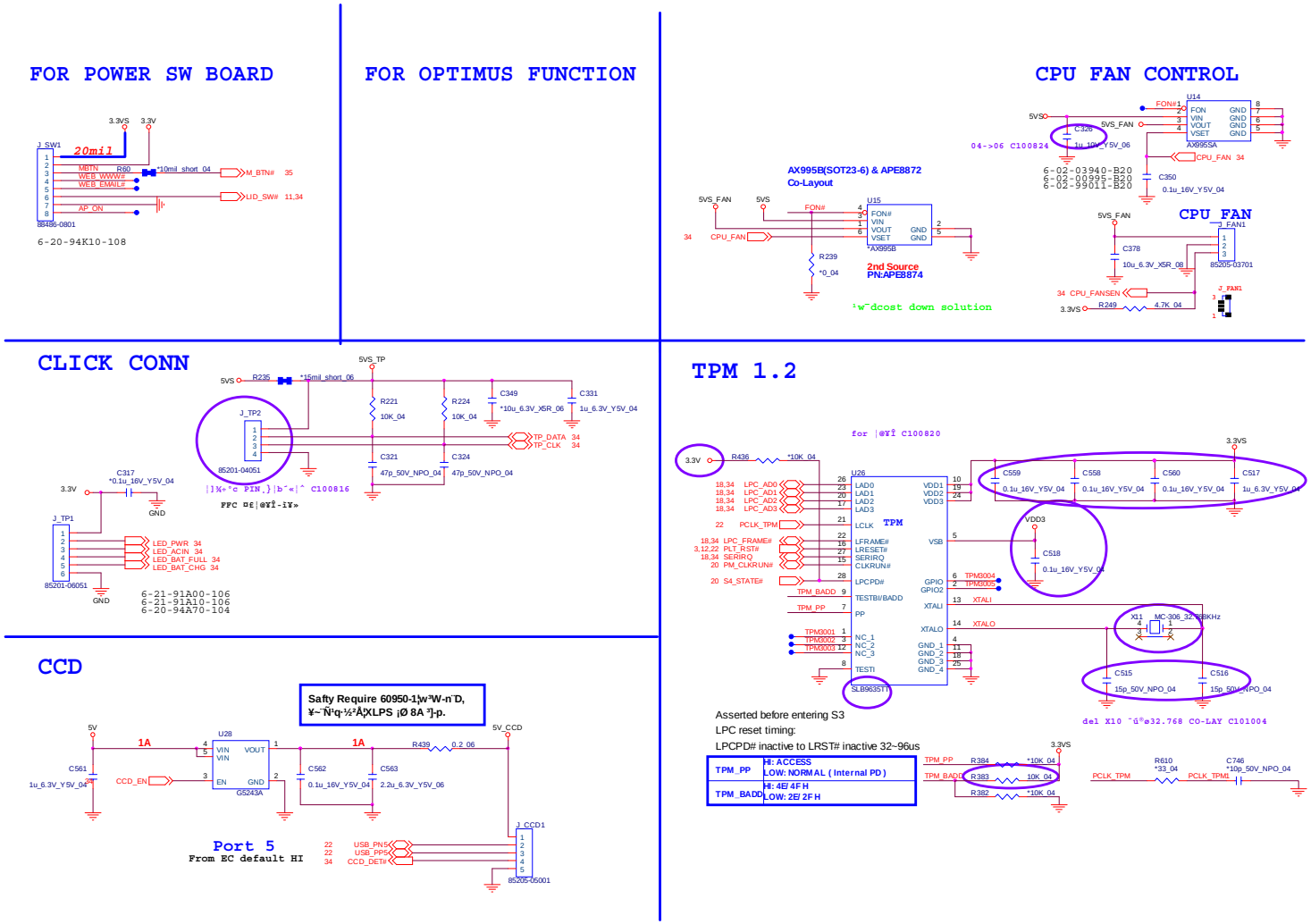








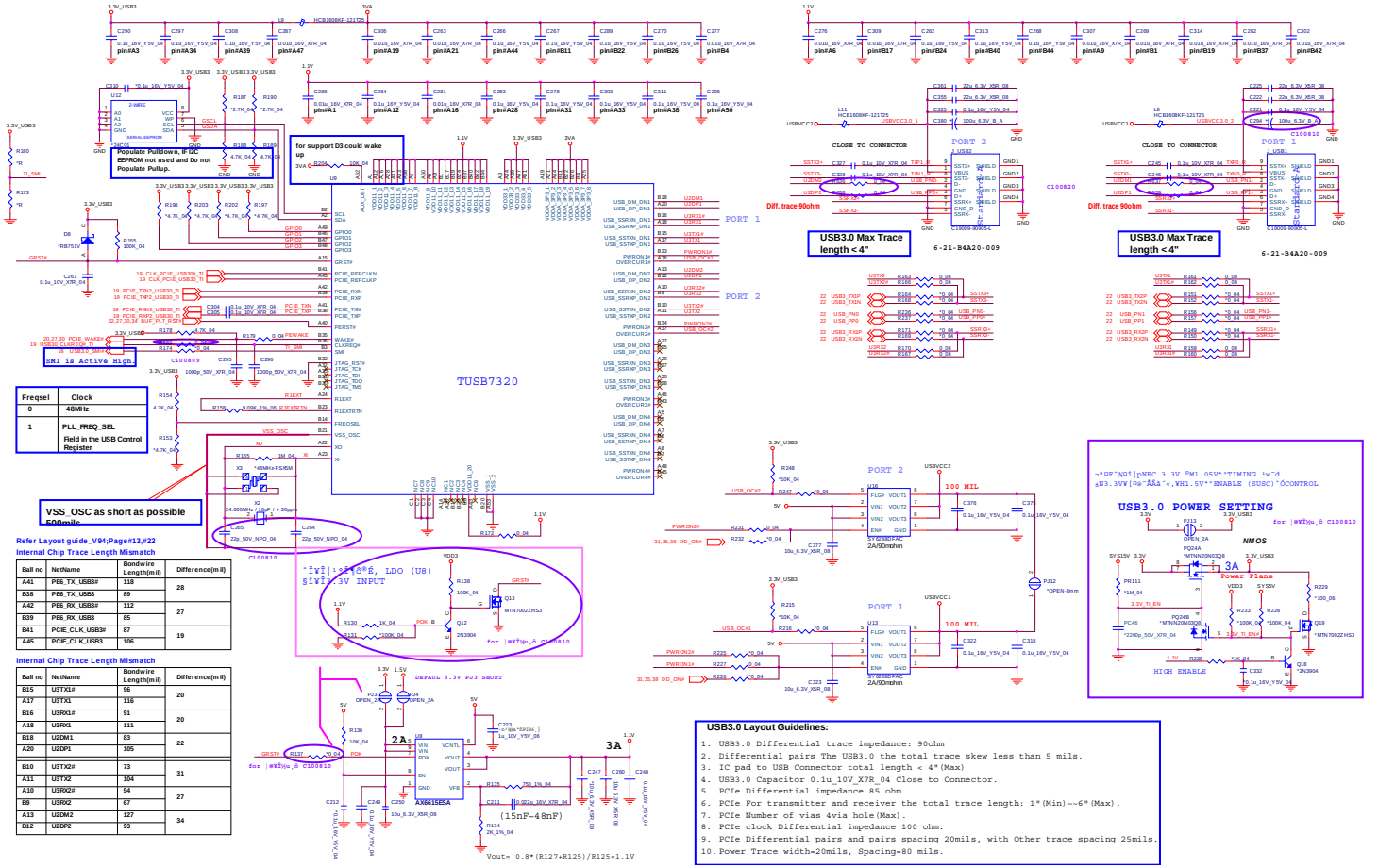
CCD, TPM, MULTI CON



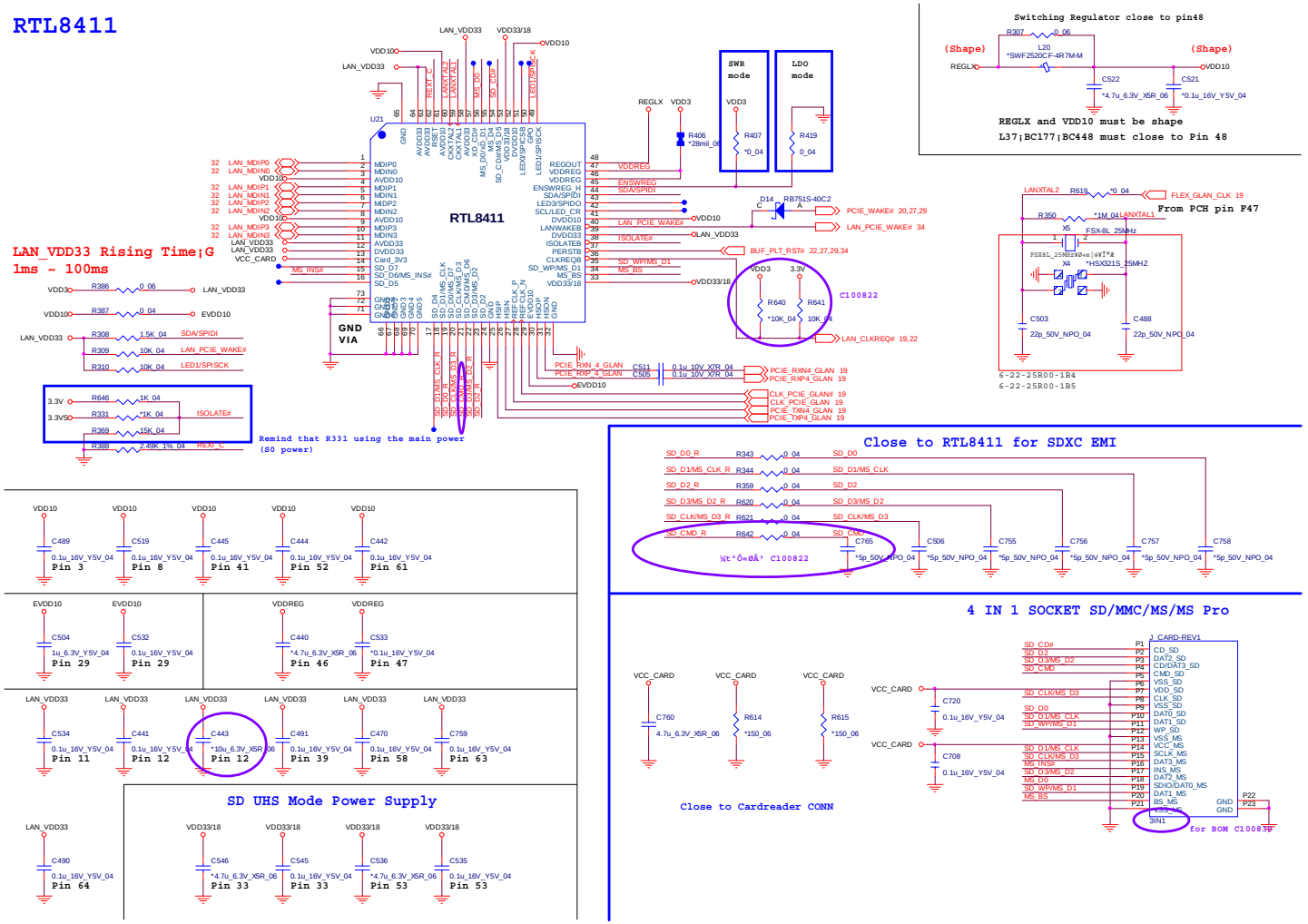
Sheet 28 of 50
CCD, TPM, MULTI CON

USB3.0

Sheet 29 of 50
USB3.0



Card Reader (RTL8411)

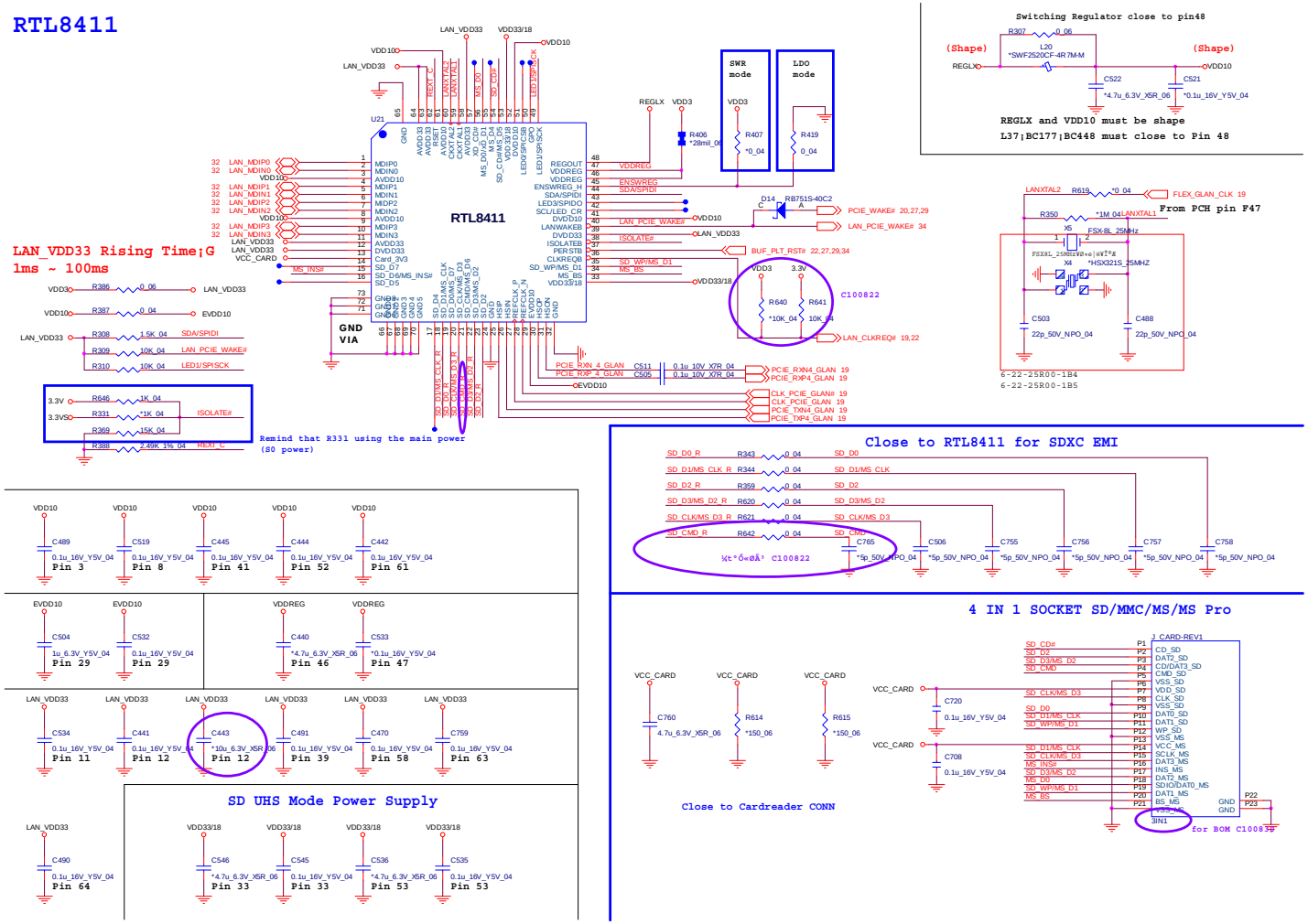


Sheet 30 of 50
Card Reader (RTL8411)

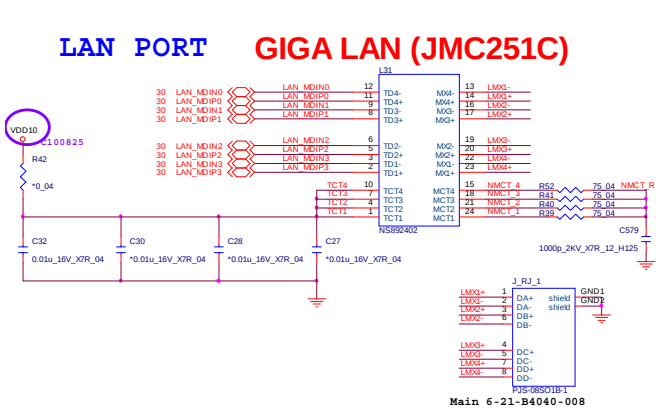
B.Schematic Diagrams

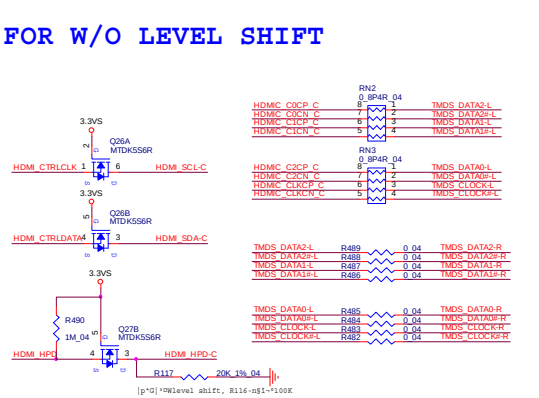
SATA ODD, LED, USB CHARGE

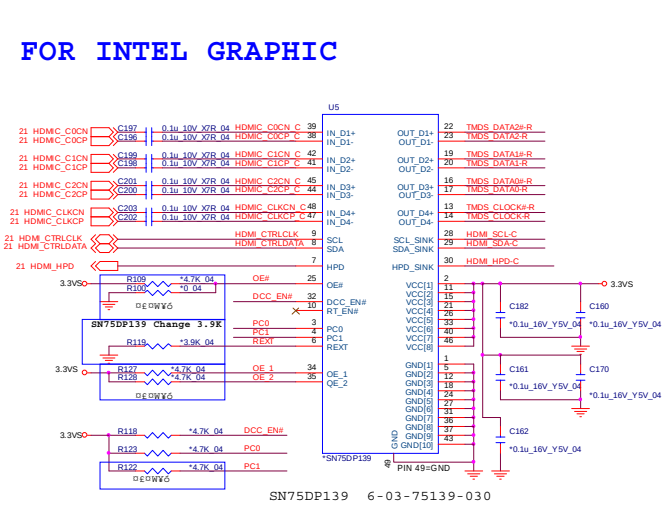
Sheet 31 of 50
SATA ODD, LED, USB CHARGE

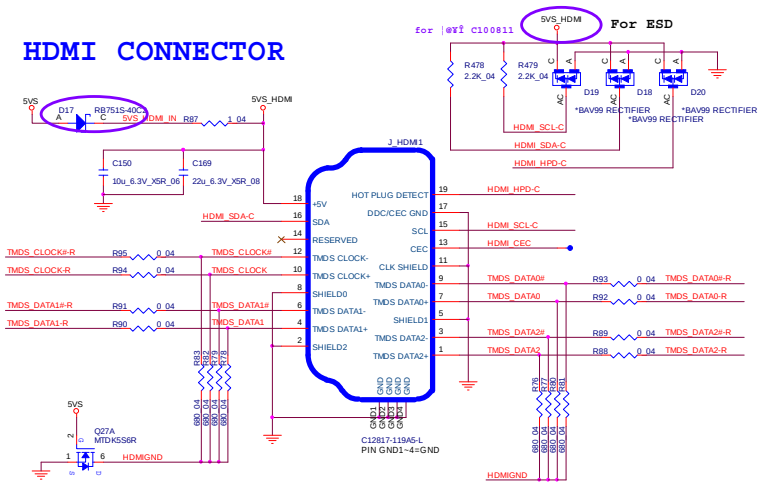


HDMI, RJ45





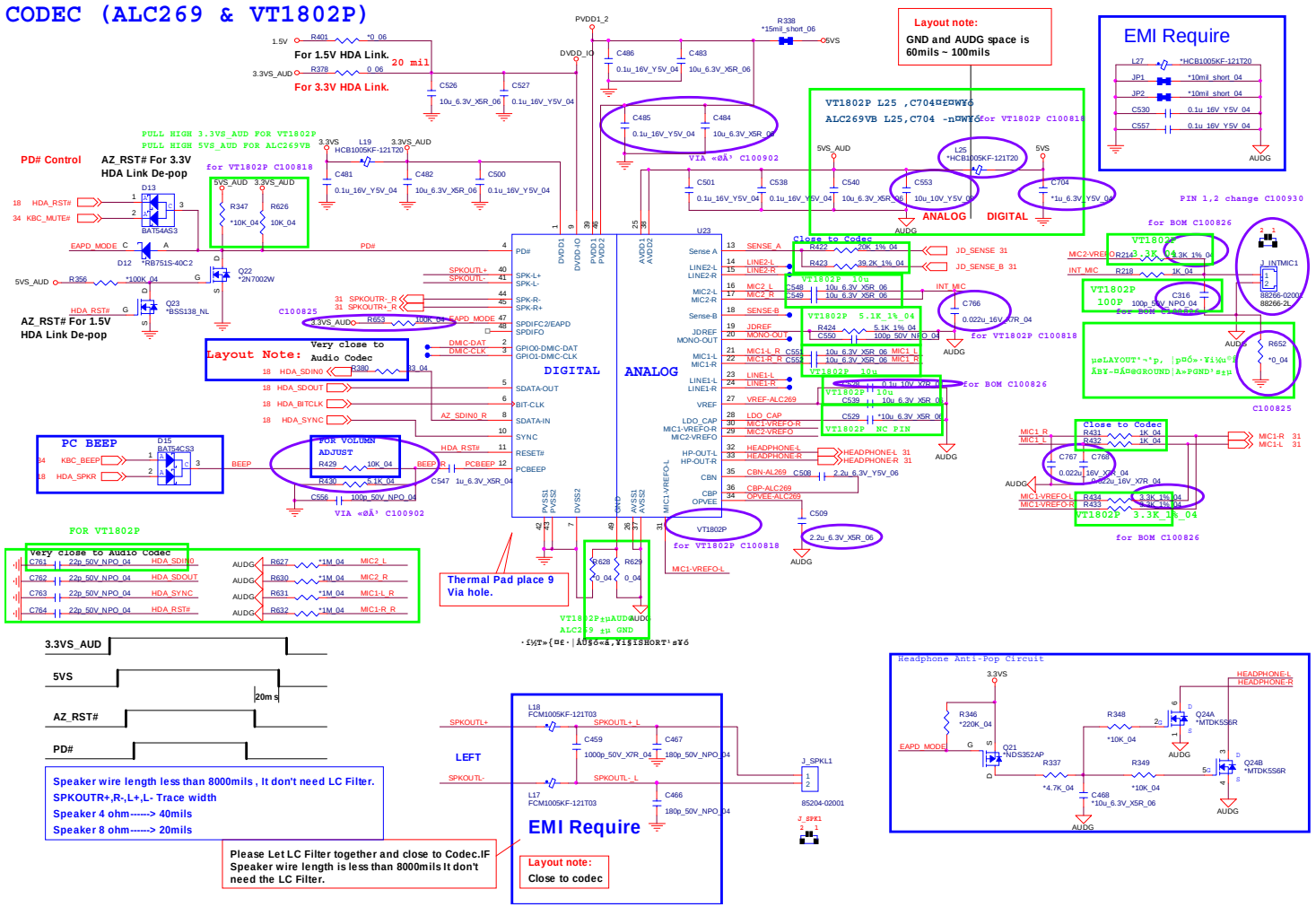




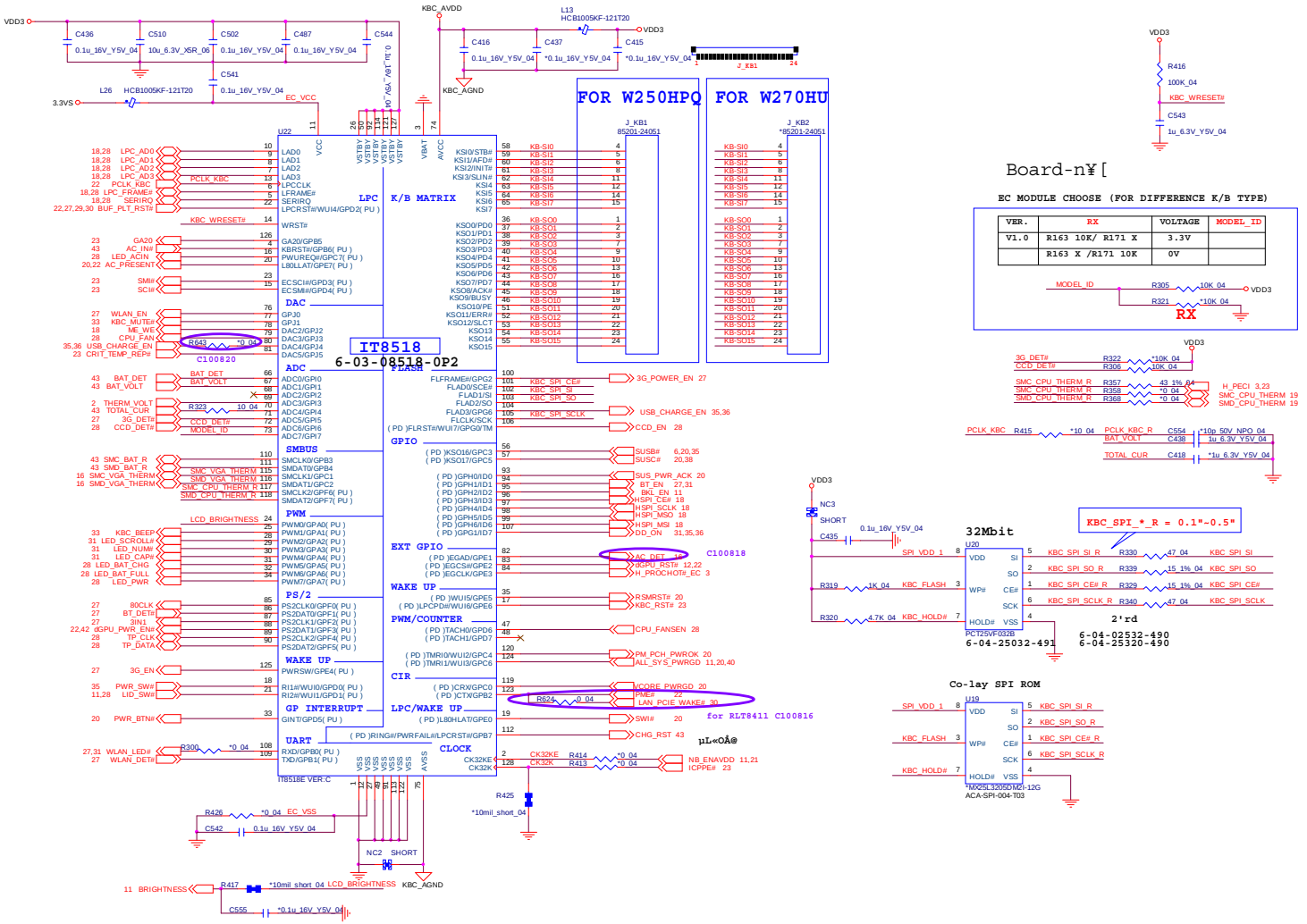
Sheet 32 of 50
HDMI, RJ45

AUDIO CODEC VT1802P

Sheet 33 of 50
AUDIO CODEC
VT1802P



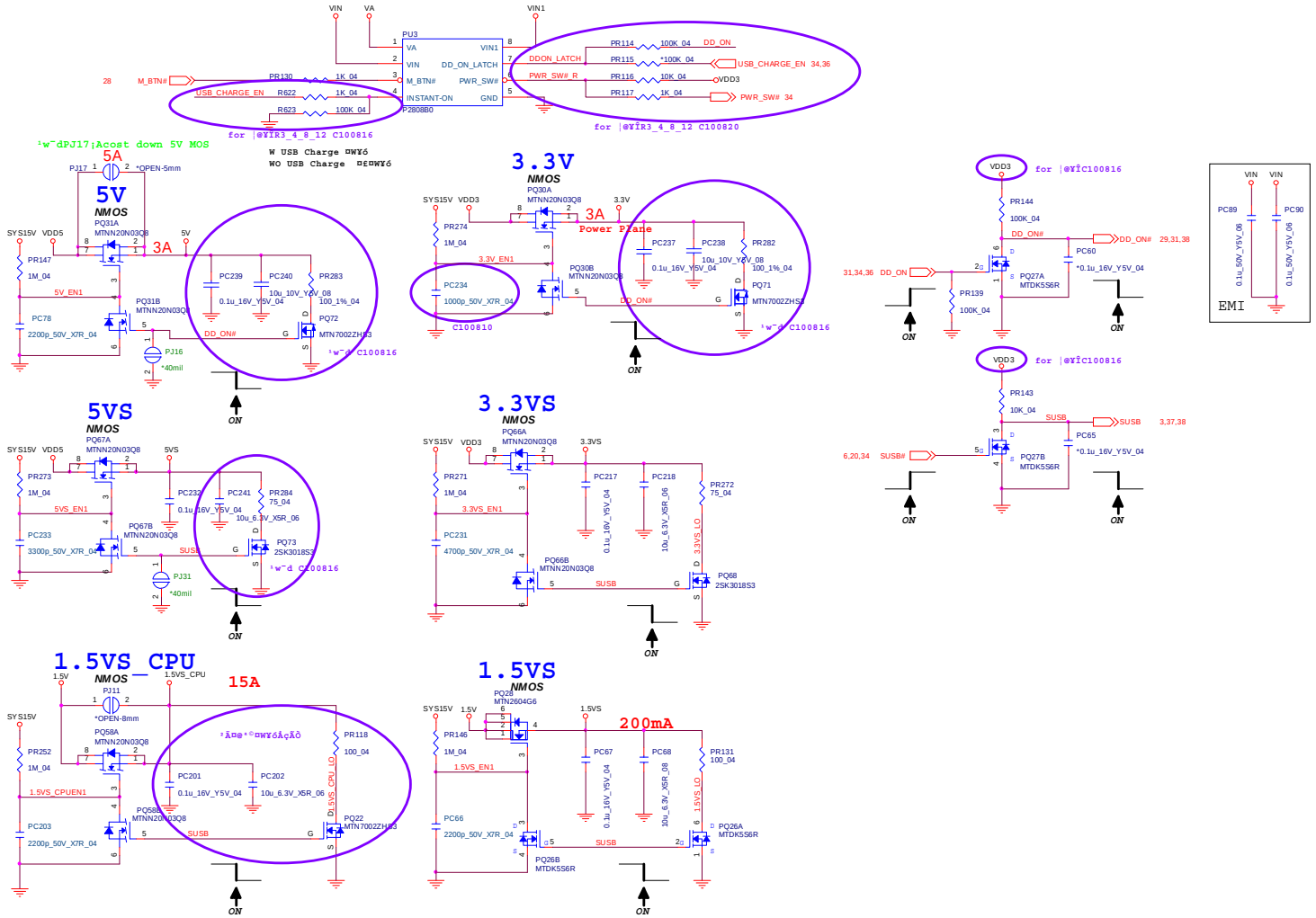
KBC-ITE IT8518E



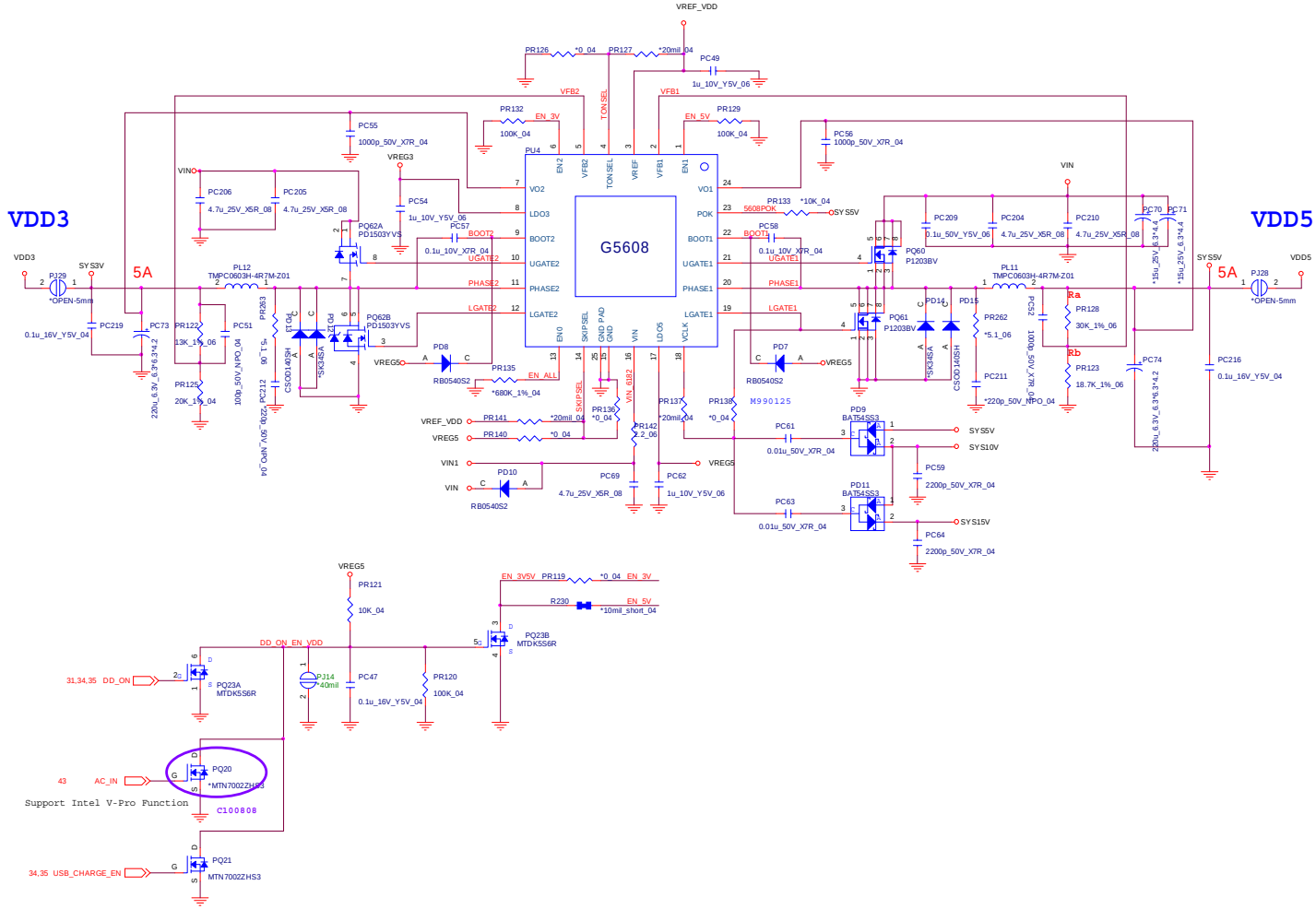
Sheet 34 of 50
KBC-ITE IT8518E

5VS, 3VS, 1.5VS CPU

Sheet 35 of 50
5VS, 3VS, 1.5VS CPU



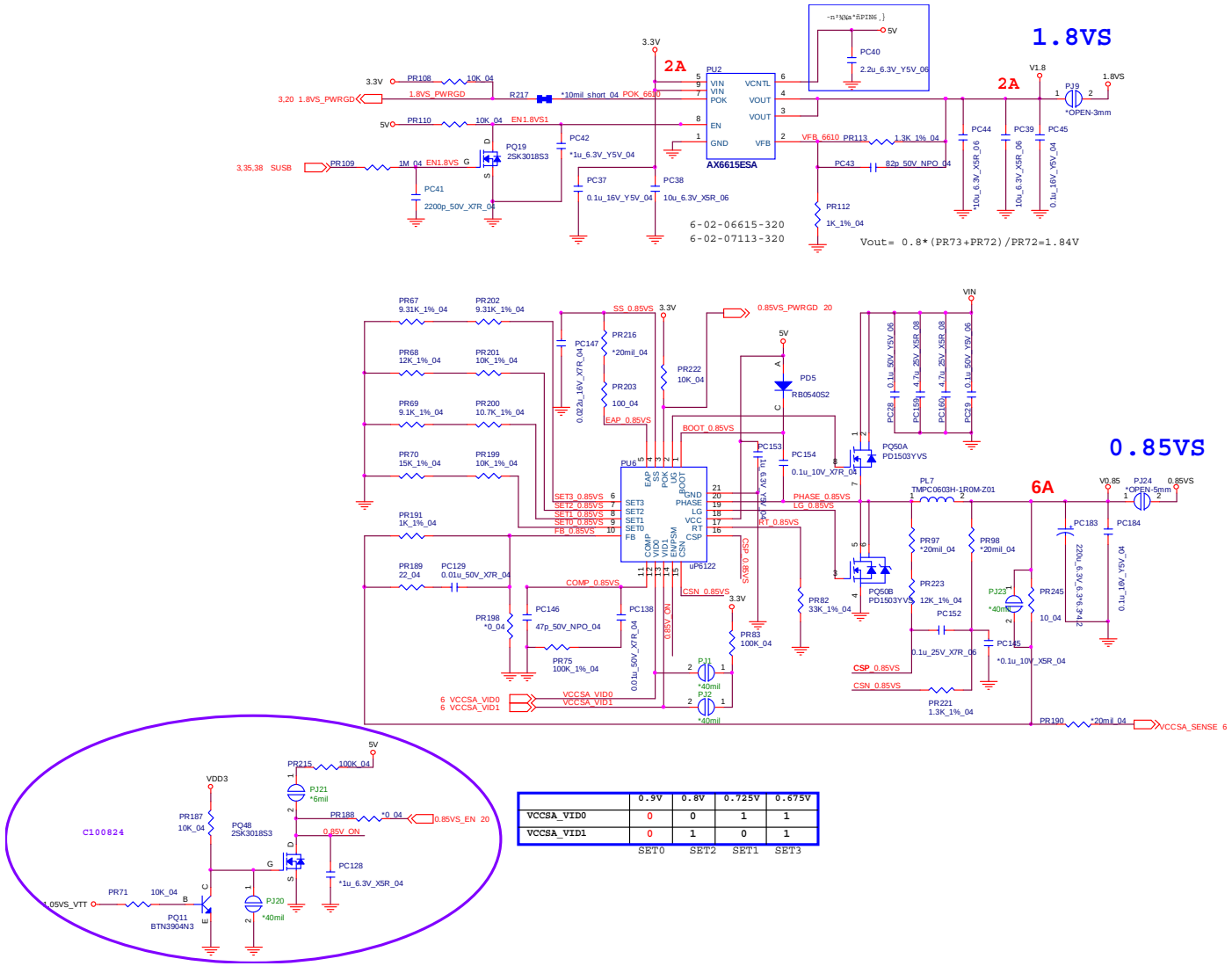
VDD3, VDD5



Sheet 36 of 50
VDD3, VDD5

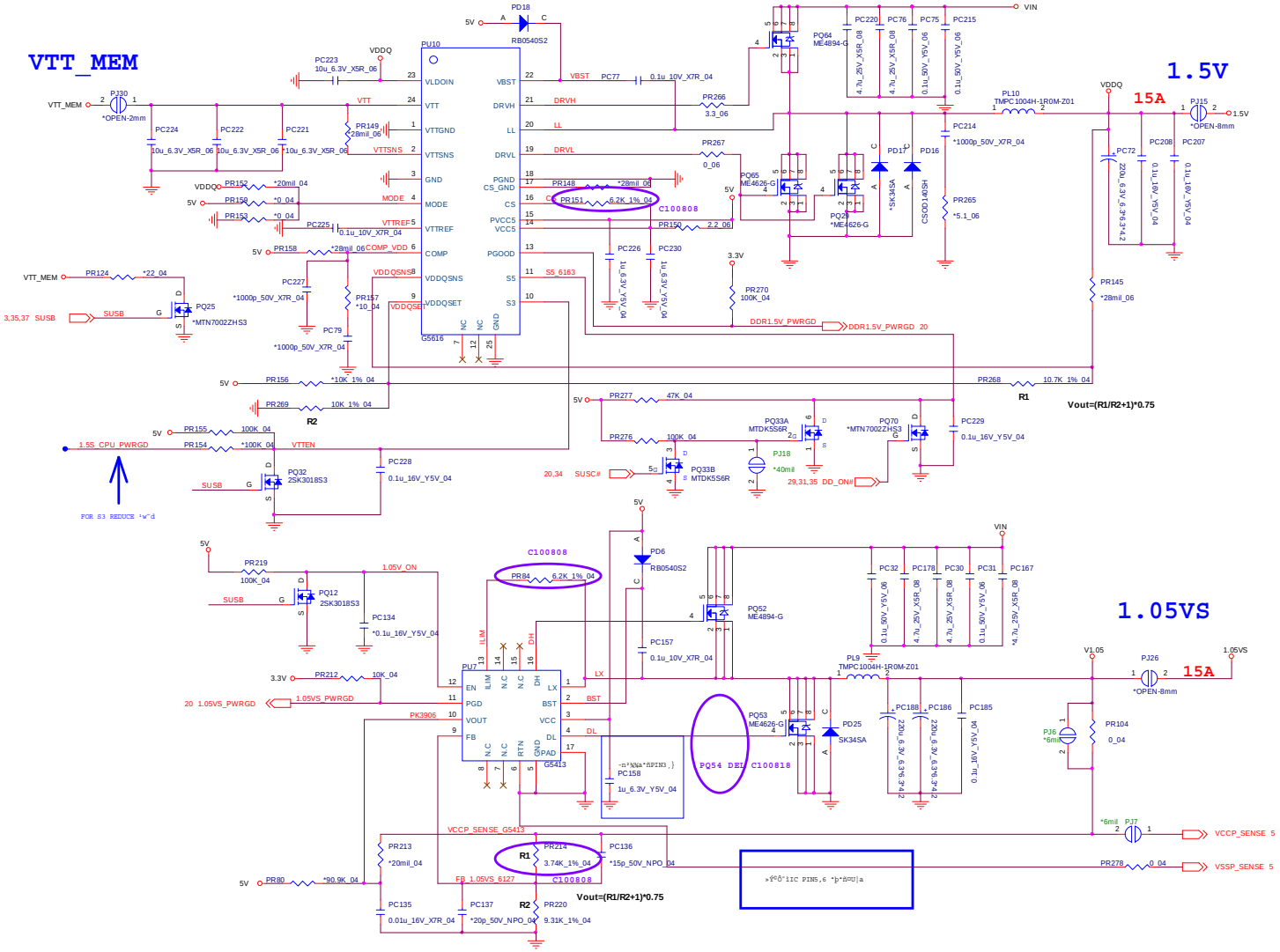
Power 0.85VS, 1.8VS

Sheet 37 of 50
Power 0.85VS, 1.8VS



	0.9V	0.8V	0.725V	0.675V
VCCSA_VID0	0	0	1	1
VCCSA_VID1	0	1	0	1
	SET0	SET2	SET1	SET3

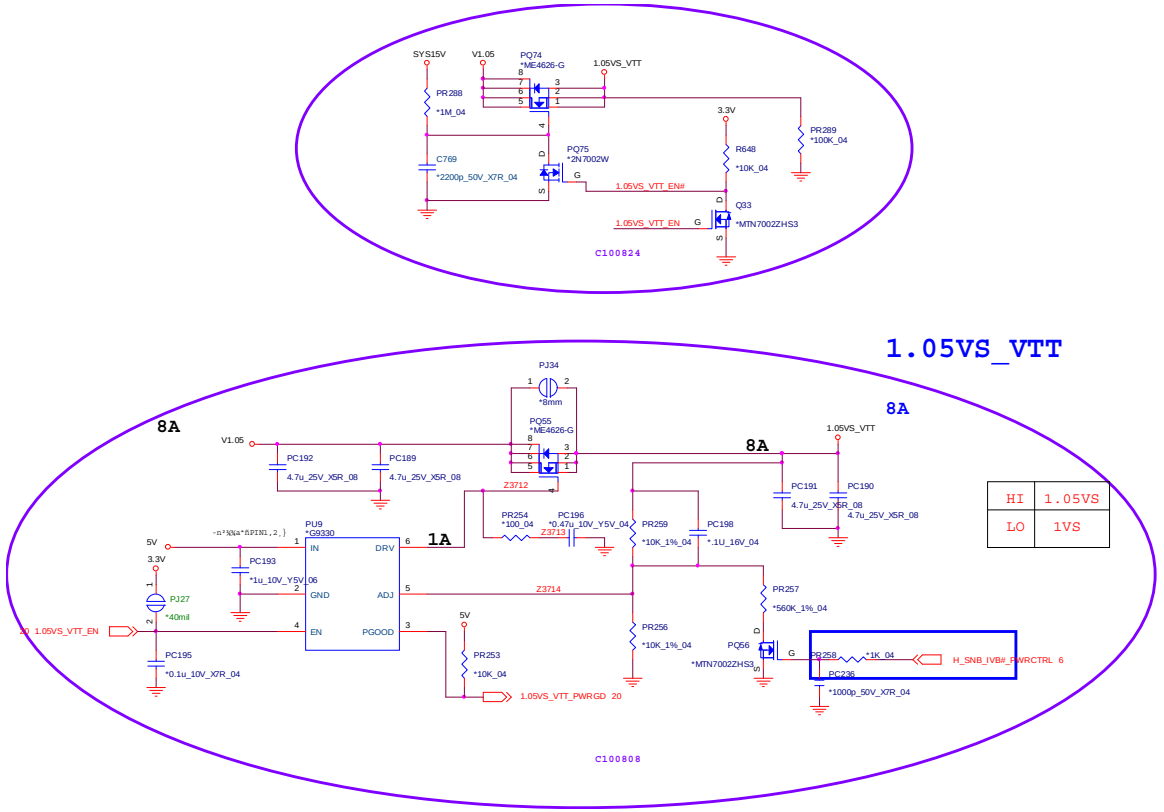
POWER 1.5V/1.05VS



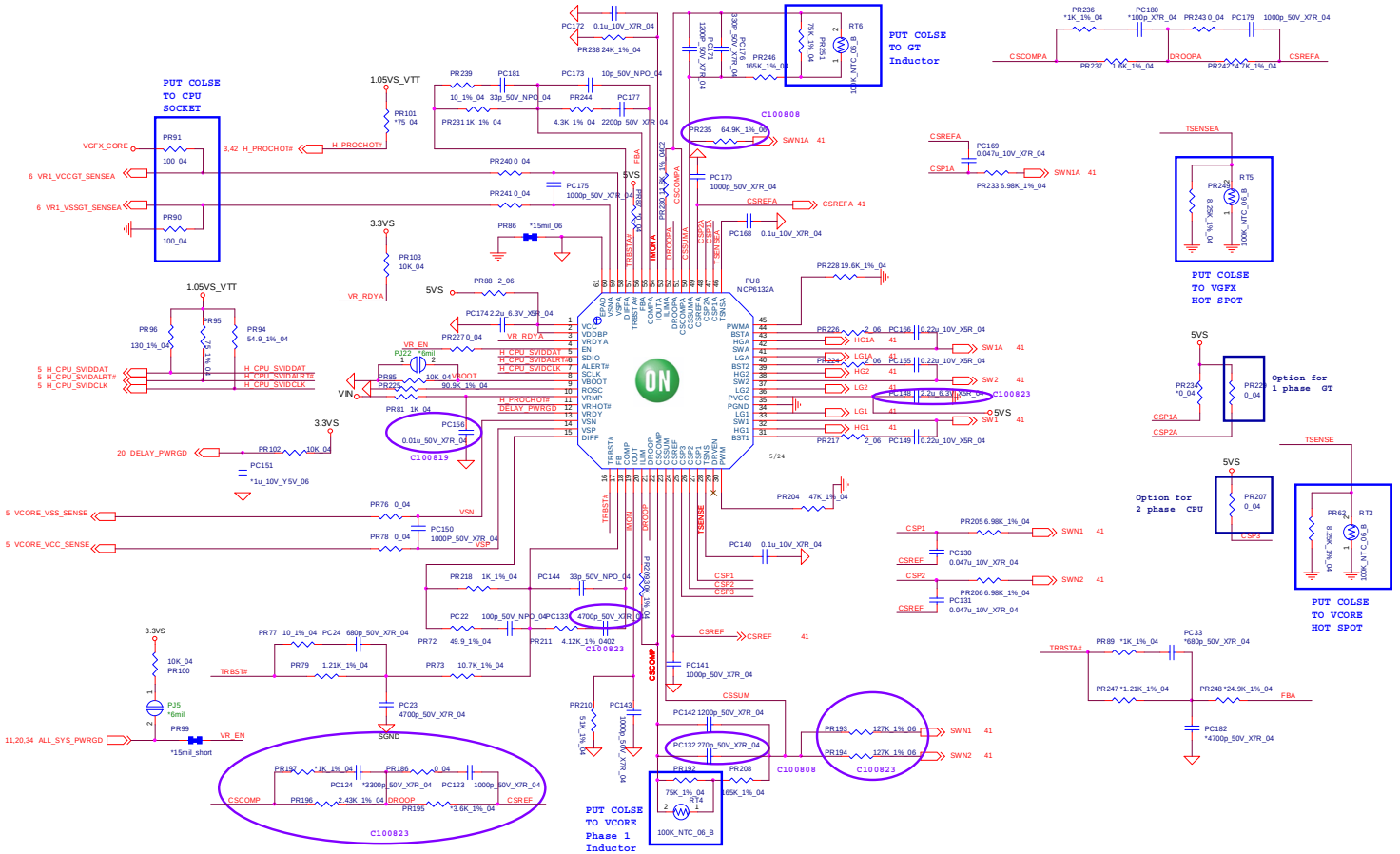
Sheet 38 of 50
POWER 1.5V/
1.05VS

POWER 1.05V/1.05VS VTT

Sheet 39 of 50
POWER 1.05VS/
1.05VS VTT



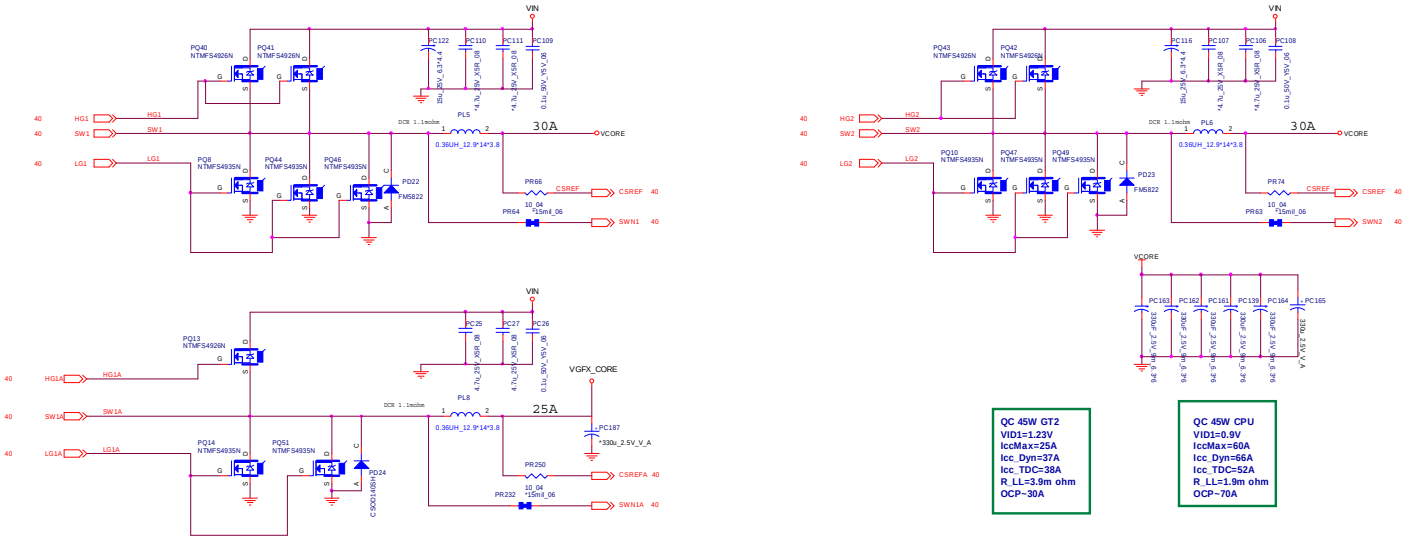
POWER VCORE1



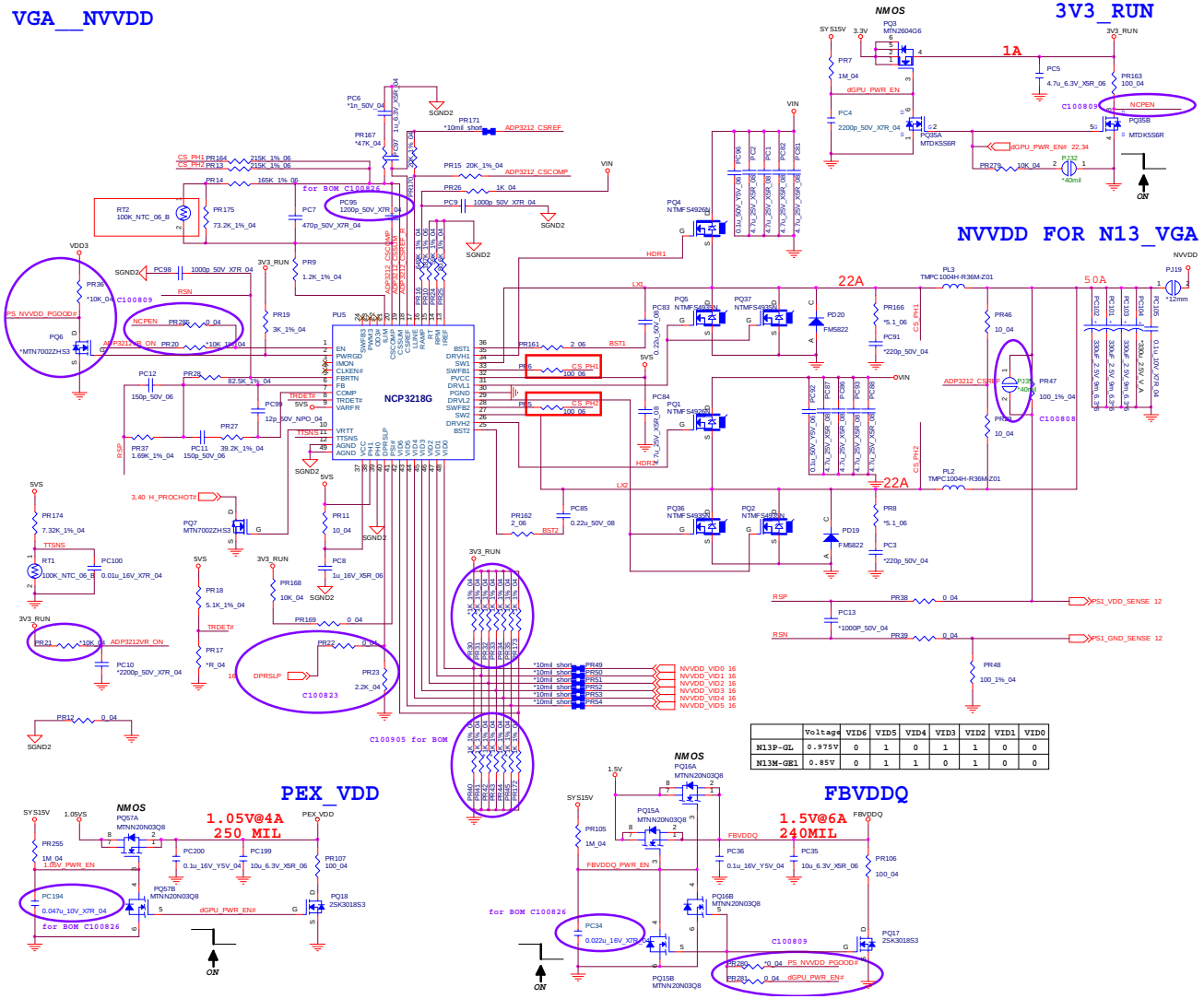
Sheet 40 of 50
POWER VCORE1

POWER VCORE2

Sheet 41 of 50
POWER VCORE2



Power VGA NVVDD/PEX_VDD



	Voltage	VID6	VID5	VID4	VID3	VID2	VID1	VID0
N13P-GL	0.975V	0	1	0	1	1	0	0
N13M-GE1	0.85V	0	1	1	0	1	0	0

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Power VGA
NVVDD/PEX_VDD

AC IN, CHARGER

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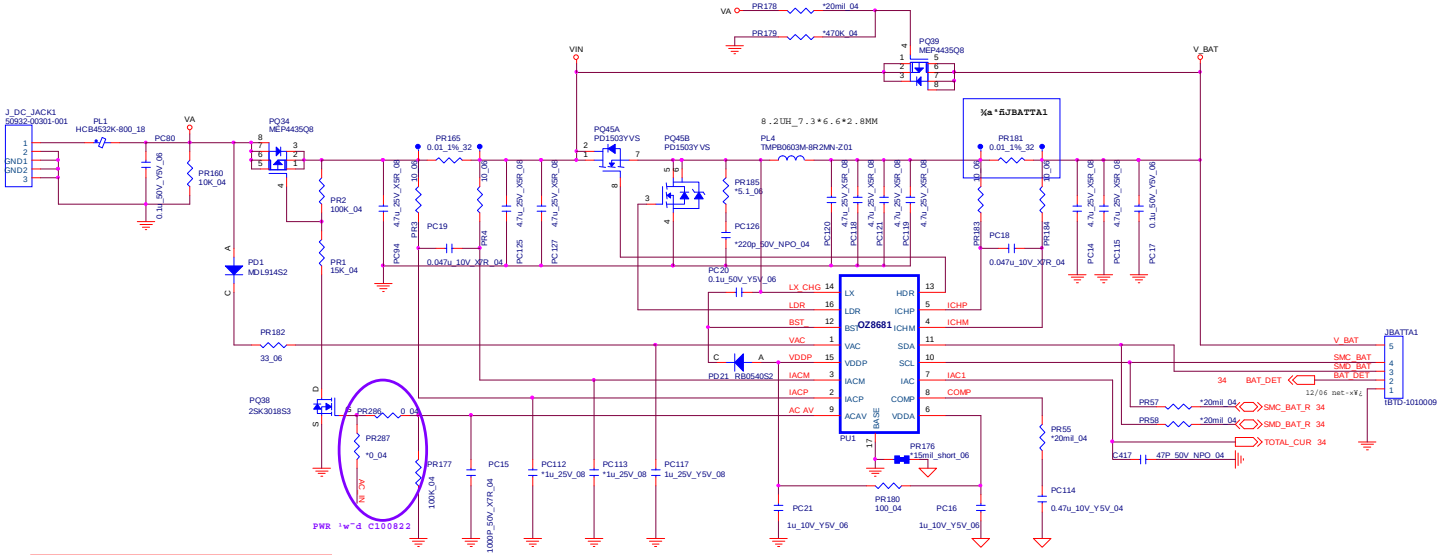
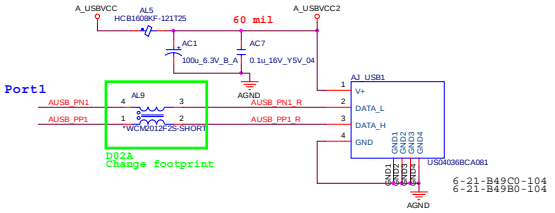
AC IN, CHARGER

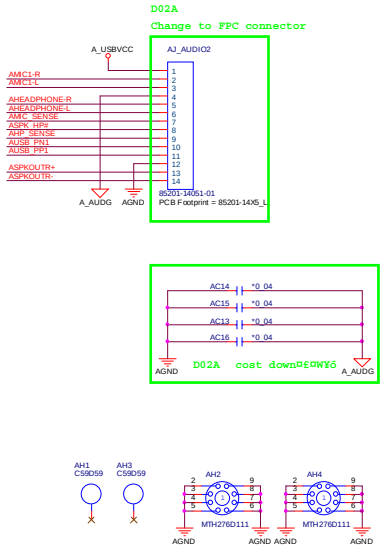


AUDIO BOARD

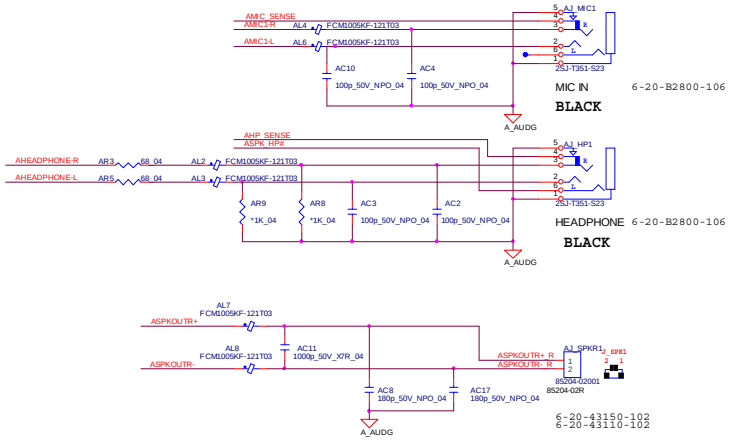
USB PORT



TO M/B



AUDIO JACK



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AUDIO BOARD

CLICK BOARD

CLICK BOARD

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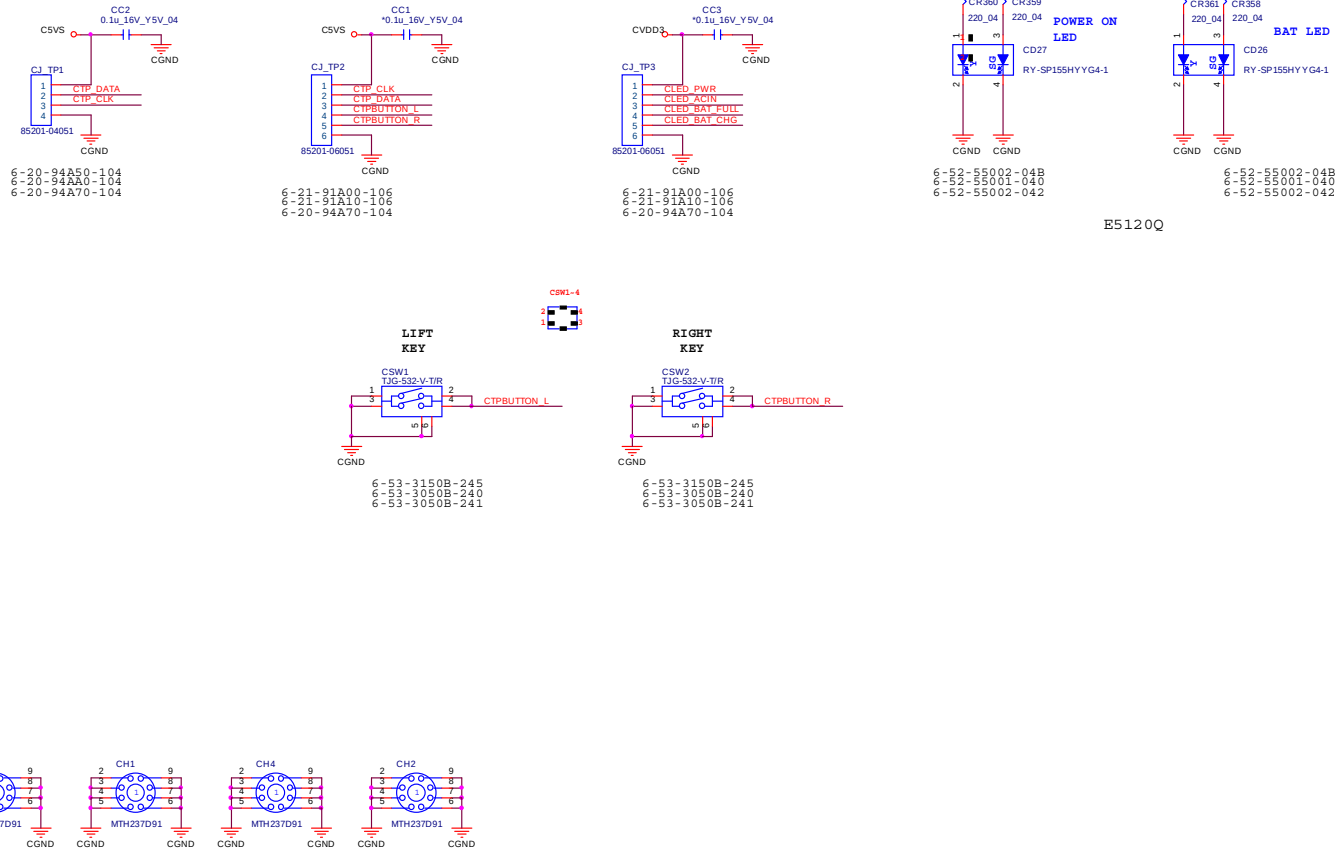
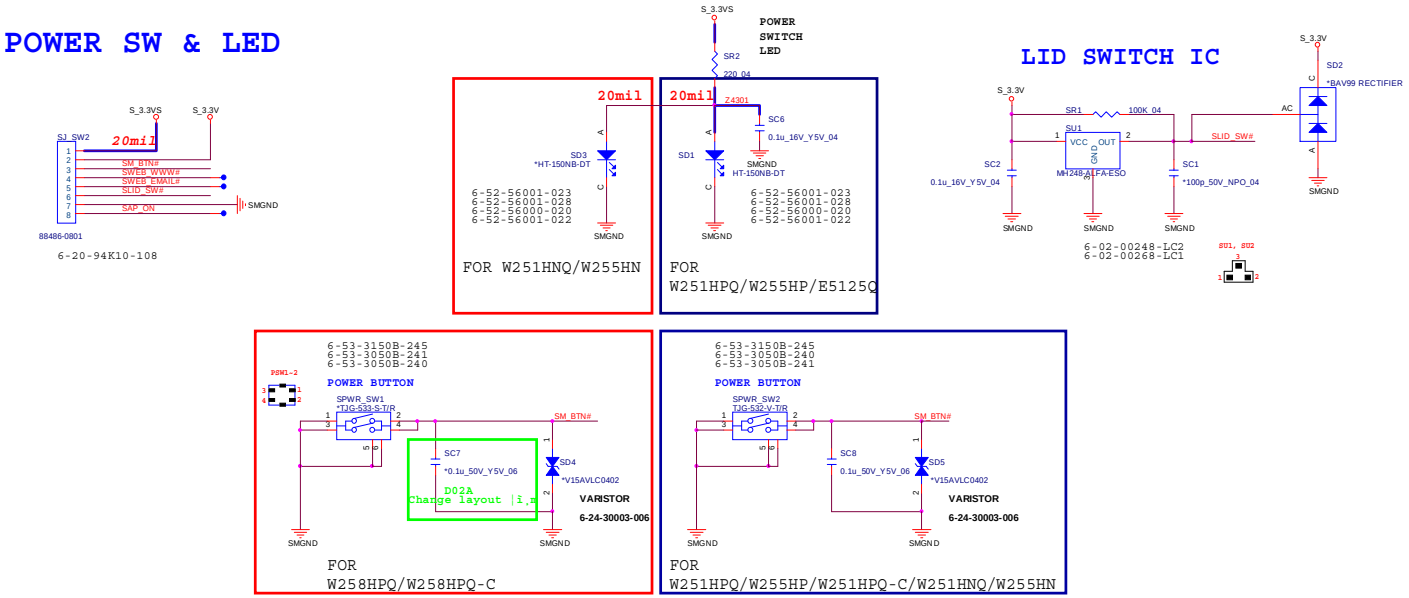
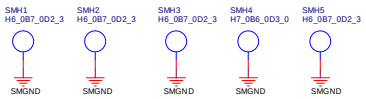
CLICK BOARD



W251HPQ POWER SW BOARD





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W251HPQ POWER SW BOARD

B.Schematic Diagrams

W270HU BRIDGE ODD BOARD

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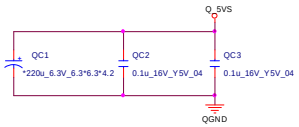
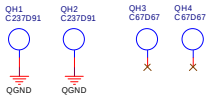
W270HU BRIDGE
ODD BOARD

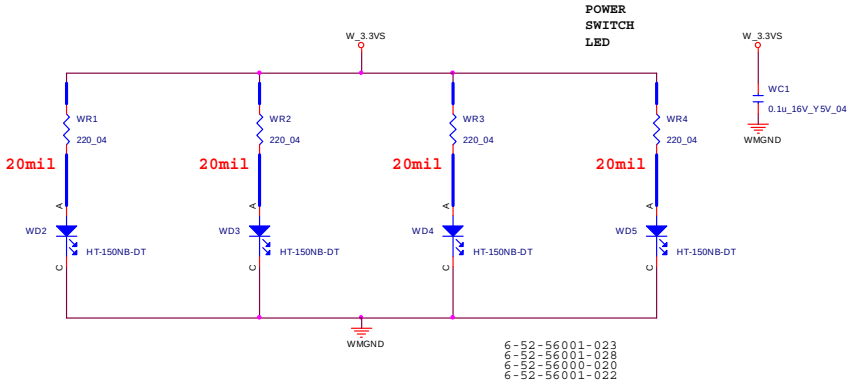
ODD BOARD FOR W270HU

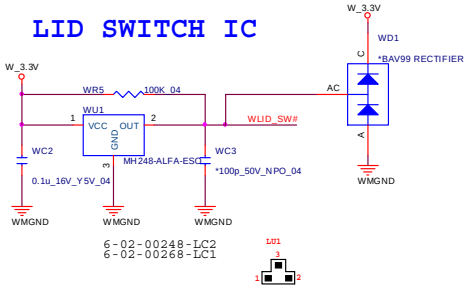


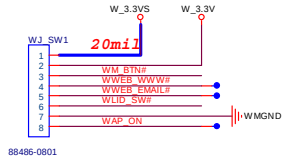


W270HU POWER SW BOARD

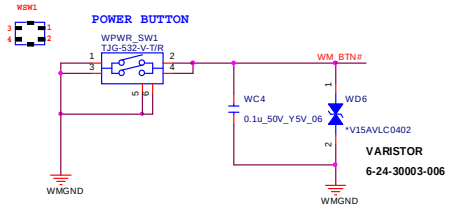
POWER SW & LED



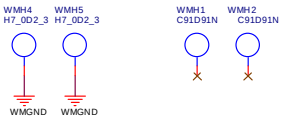




6-20-94K10-108



6-53-3150B-245
6-53-3050B-241



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W270HU POWER
SW BOARD

Power Diagram

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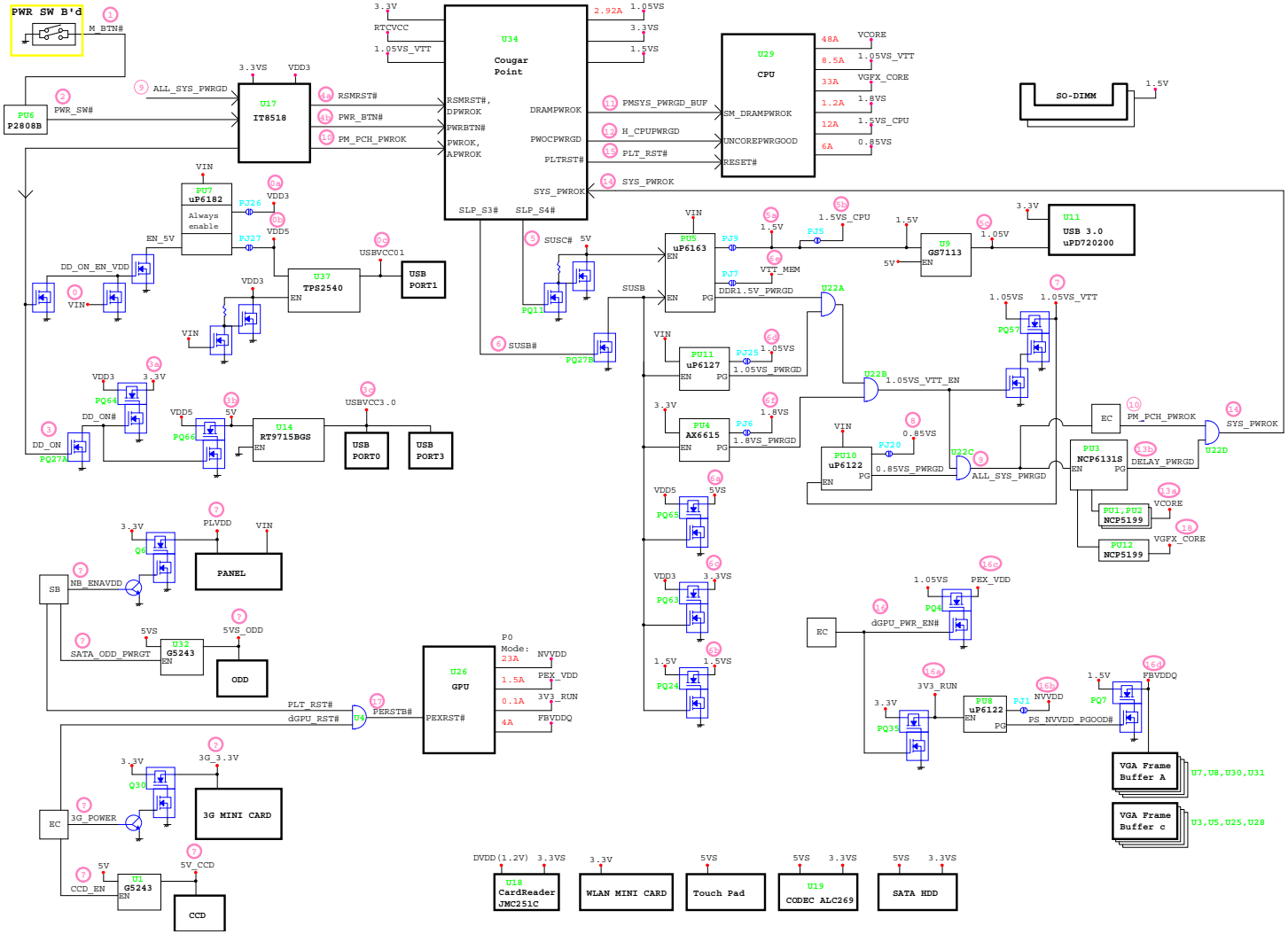
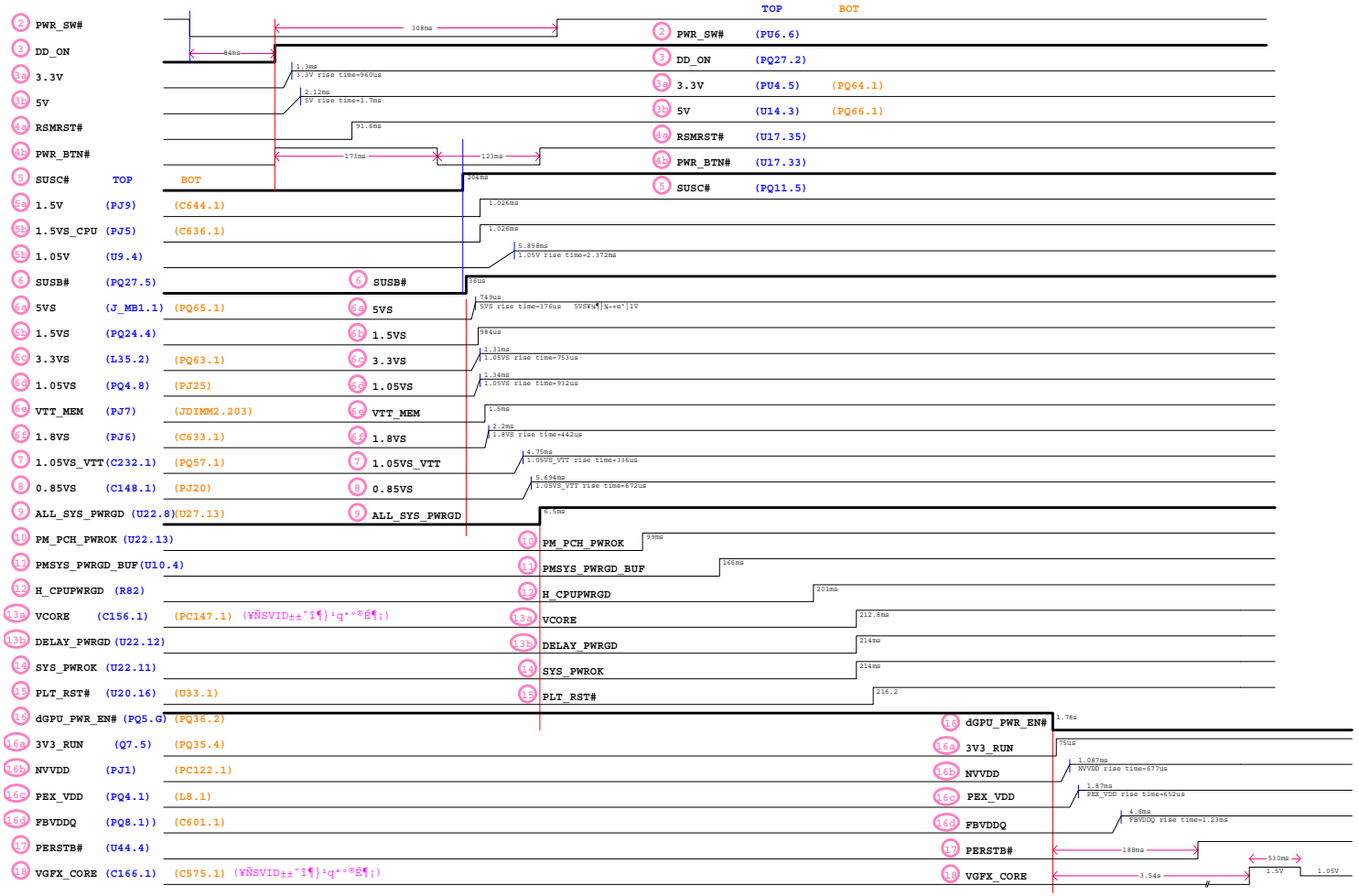
Power Diagram



Power On SEQ



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Power On SEQ

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).

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.