SERVICE MANUAL

W243HWQ/W244HWQ Series

notebook

Notebook Computer

W243HUQ/W244HUQ

Service Manual

Notice

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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 ***W243HWQ/ W244HWQ*** 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, 3.42A or 18.5V, 3.5A (**65**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".

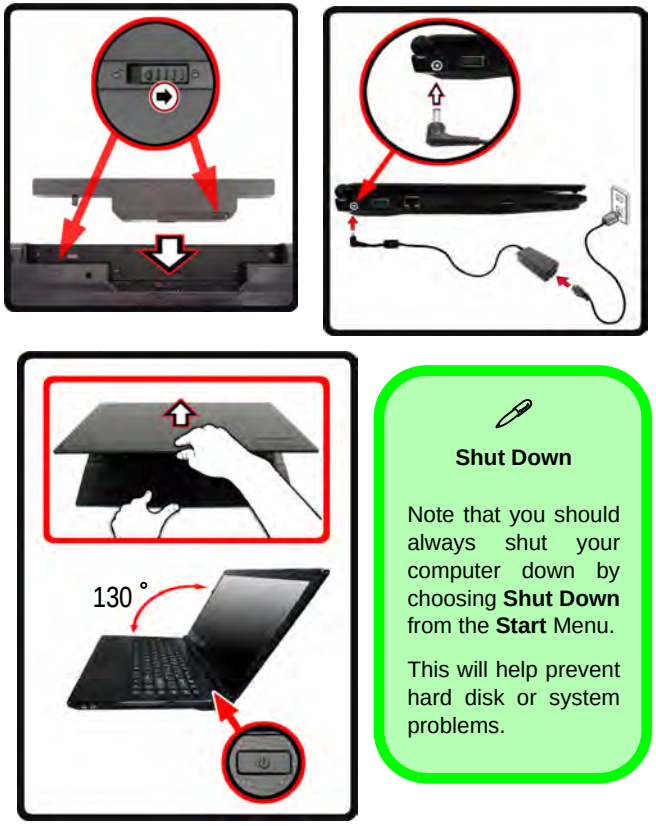


Figure 1
Opening the Lid/LCD/ Computer with AC/DC Adapter Plugged-In

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 ***W243HWQ/W244HWQ*** 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 ***W243HWQ/W244HWQ*** 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 Options

Intel® Core™ i7 Processor
i7-2620M (2.70GHz)
4MB L3 Cache, 32nm, DDR3-1333MHz, TDP 35W
Intel® Core™ i5 Processor
i5-2540M (2.60GHz), i5-2520M (2.50GHz), i5-2410M (2.30GHz)
3MB L3 Cache, 32nm, DDR3-1333MHz, TDP 35W
Intel® Core™ i3 Processor
i3-2310M (2.10GHz)
3MB L3 Cache, 32nm, DDR3-1333MHz, TDP 35W

Core Logic

Intel® HM65 Chipset

LCD

14" (35.56cm), 3.6mm, HD TFT LCD
OR
14" (35.56cm), 5.2mm, HD TFT LCD

Memory

Two 204 Pin SO-DIMM Sockets Supporting **DDR3 1333MHz** Memory
Memory Expandable up to 8GB

(The real memory operating frequency depends on the FSB of the processor.)

Video Adapter

Intel® HD Graphics 3000
Shared Memory Architecture of up to **1748MB**
MS DirectX® 10 compatible

BIOS

One 32Mb SPI Flash ROM
AMI BIOS

Storage

(**Factory Option**) One Changeable 12.7mm(h) Optical Device Type Drive (Super Multi Drive Module or Blu-Ray Combo Drive Module)
One Changeable 2.5" 9.5mm (h) SATA HDD

Audio

High Definition Audio Compliant Interface
2 * Built-In Speakers
Built-In Microphone

Security

Security (Kensington® Type) Lock Slot
BIOS Password
(**Factory Option**) TPM v1.2
(**Factory Option**) Fingerprint Reader

Keyboard

“WinKey” keyboard (with embedded numeric keypad)

Pointing Device

Built-in Touchpad

Interface

Three USB 2.0 Ports
One HDMI-Out Port
One Headphone-Out Jack
One Microphone-In Jack
One RJ-45 LAN Jack
One DC-in Jack
One External Monitor Port

Communication

Intel® 82579V GbE Network Adapter

(**Factory Option**) 1.3M Pixel USB PC Camera Module

(**Factory Option**) 3.75G/HSPA Mini-Card Module

WLAN/ Bluetooth Half Mini-Card Modules:

(**Factory Option**) Intel® WiFi Link 1000 (**802.11b/g/n**) Wireless LAN

(**Factory Option**) Intel® Centrino® Wireless-N 1030 Wireless LAN (**802.11b/g/n**) + Bluetooth **3.0**

(**Factory Option**) Third-Party Wireless LAN (**802.11b/g/n**)

(**Factory Option**) Third-Party Wireless LAN (**802.11b/g/n**) + Bluetooth 3.0

Mini Card Slots

Slot 1 for **WLAN** Module or Combo **WLAN and Bluetooth** Module

(**Factory Option**) Slot 2 for **3.75G/HSPA** Module

Card Reader

Embedded Multi-In-1 Card Reader

- MMC (MultiMedia Card) / RS MMC
- SD (Secure Digital) / Mini SD / SDHC/ SDXC
- MS (Memory Stick) / MS Pro / MS Duo

Power

6 Cell Smart Lithium-Ion Battery Pack, 48.84WH

(**Factory Option**) 6 Cell Smart Lithium-Ion Battery Pack, 62.16WH

Full Range AC/DC Adapter

AC Input: 100 - 240V, 50 - 60Hz

DC Output: 19V, 3.42A or 18.5V, 3.5A (**65W**)

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

340mm (w) * 238mm (d) * 33.50 - 25.05mm (h)

2.164 kg (with 48.84WH Battery and ODD)

340mm (w) * 238mm (d) * 34.7 - 26.25mm (h)

2.183 kg (with 48.84WH Battery and ODD)

External Locator - Top View with LCD Panel Open

Figure 1
Top View

1. PC Camera (**Optional**)
2. LCD
3. Power Button
4. Hot-Key Buttons
5. LED Status Indicators
6. Keyboard
7. Built-In Microphone
8. Touchpad & Buttons
9. Fingerprint Reader (**Optional**)

External Locator - Front & Right Side Views

FRONT VIEW

Figure 2
Front View

1. LED Power Indicators

RIGHT SIDE 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
6. Security Lock Slot

External Locator - Left Side & Rear 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 2.0 Port
6. Vent
7. USB 2.0 Port
8. Multi-in-1 Card Reader

LEFT SIDE VIEW

Figure 5
Rear View

1. Battery

REAR VIEW

External Locator - Bottom View

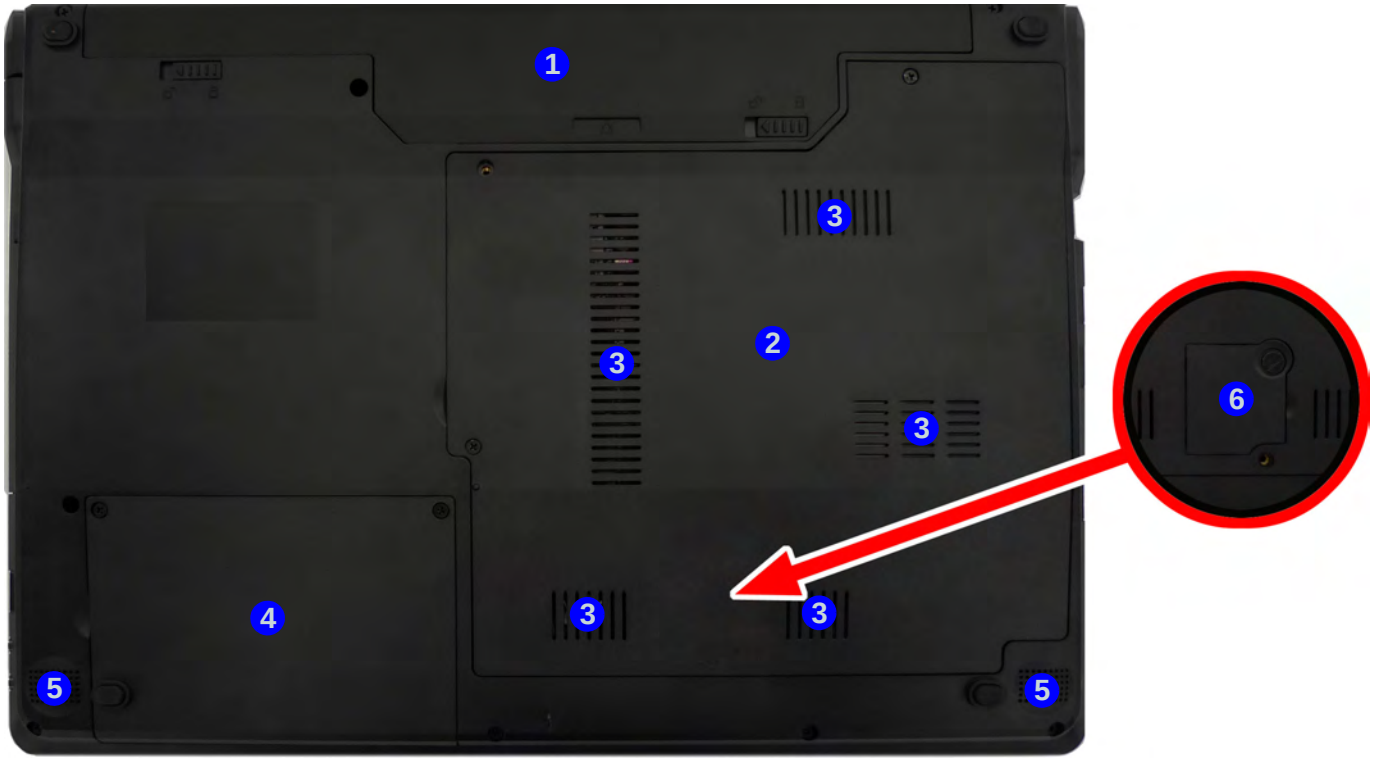


Figure 6
Bottom View

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

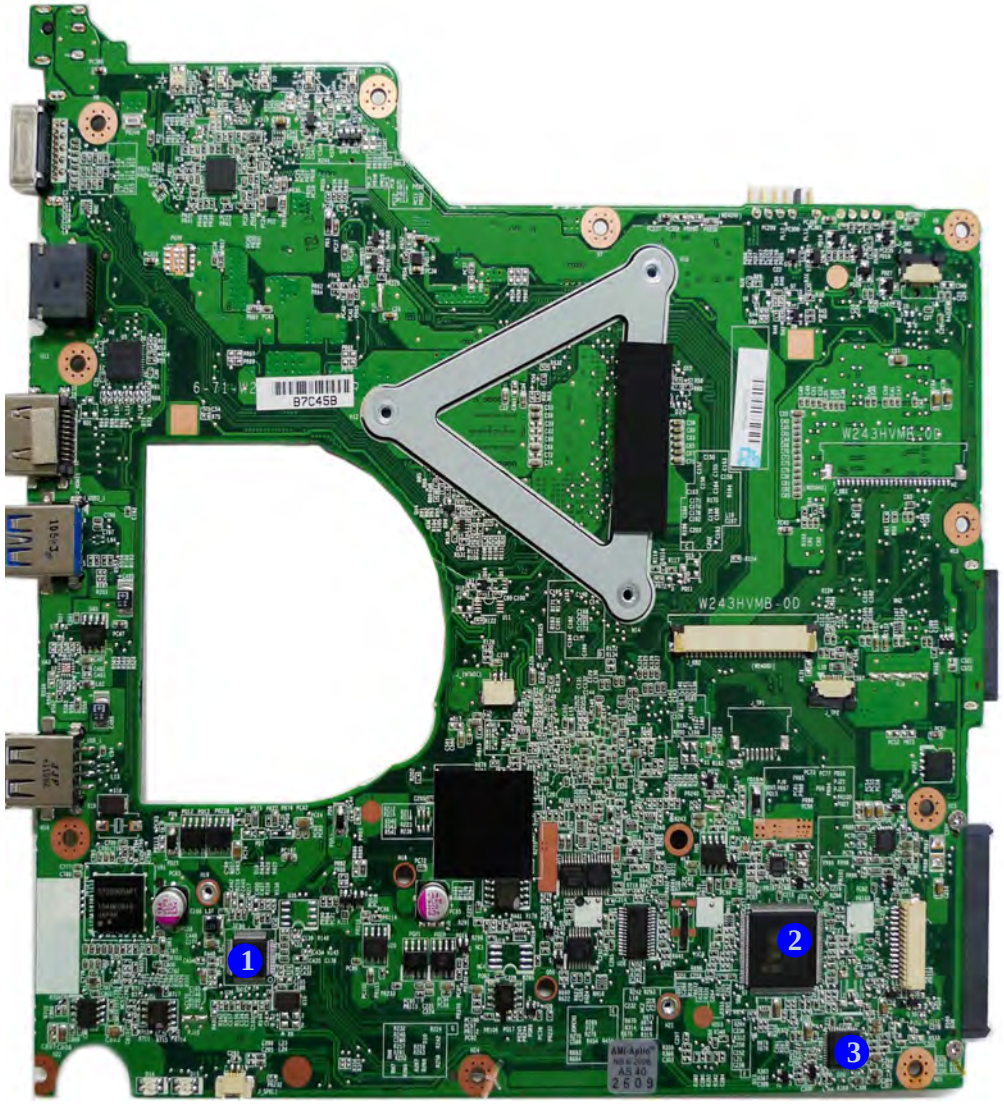
Overheating

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. JMICRO JMC261
2. ITE IT8518E
3. AZALIA CODEC REALTEK ALC269



Mainboard Overview - Bottom (Key Parts)

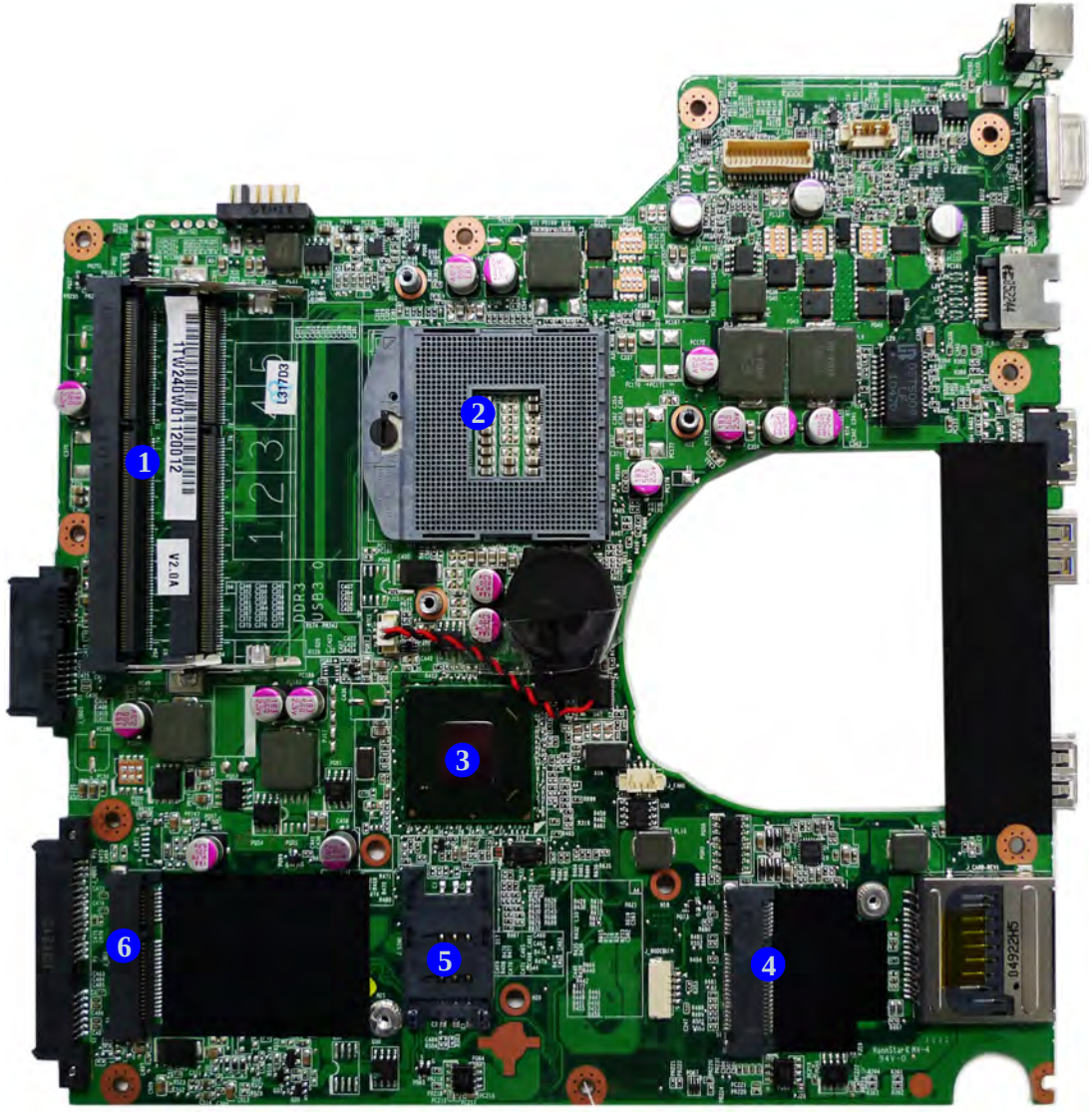


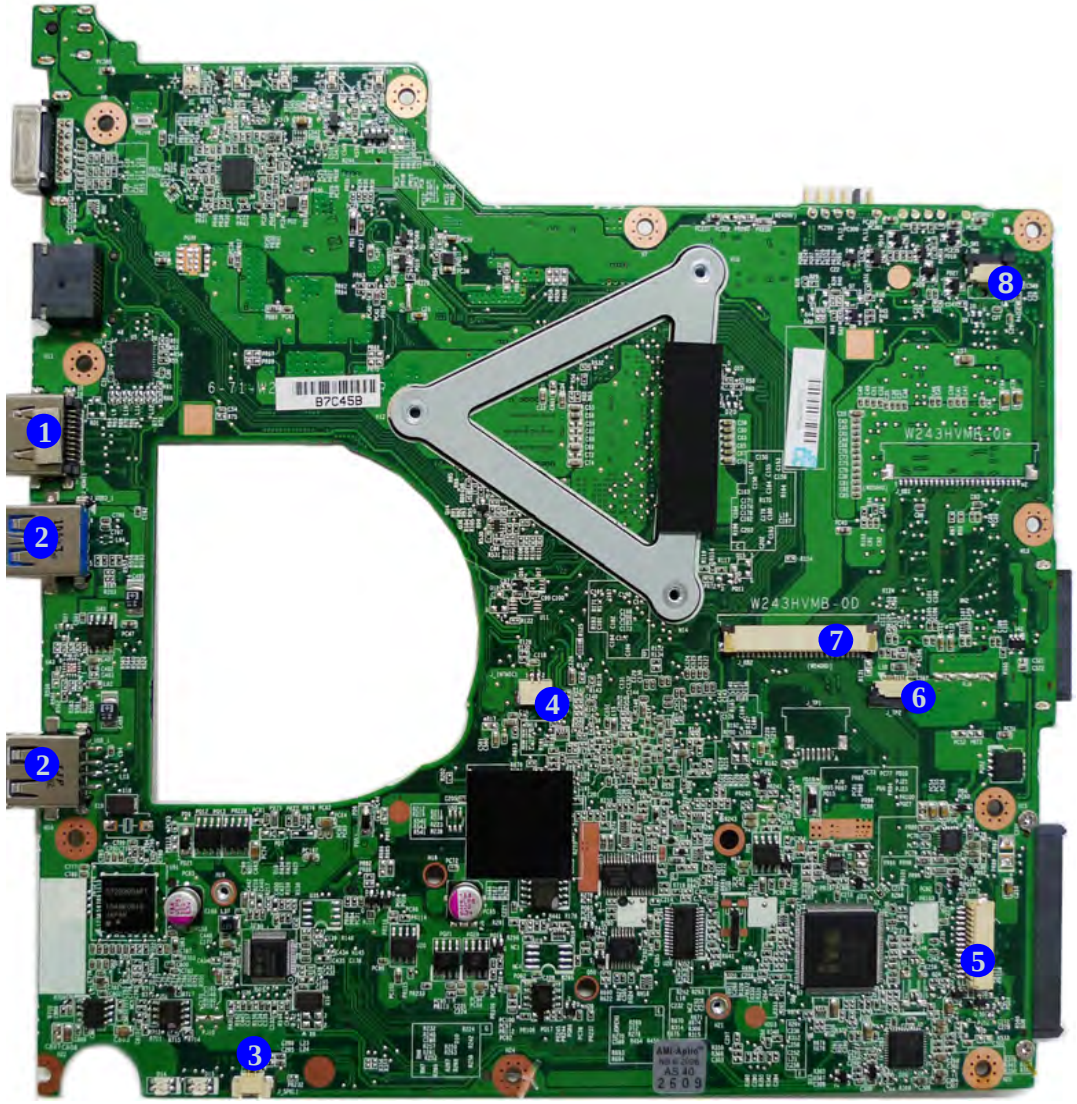
Figure 8
Mainboard Bottom Key Parts

1. Memory Slots DDR3 SO-DIMM
2. CPU Socket (no CPU installed)
3. Platform Controller Hub
4. Mini-Card Connector (WLAN Module)
5. SIMLOCK
6. 3.75G/HSPA Module Connector

Mainboard Overview - Top (Connectors)

Figure 9
Mainboard Top Connectors

1. HDMI-Out Port
2. USB Port 2.0
3. Speaker Cable Connector
4. Microphone Cable Connector
5. Audio Board Connector
6. TouchPad Cable Connector
7. Keyboard Cable Connector
8. Switch Board Cable Connector



Mainboard Overview - Bottom (Connectors)

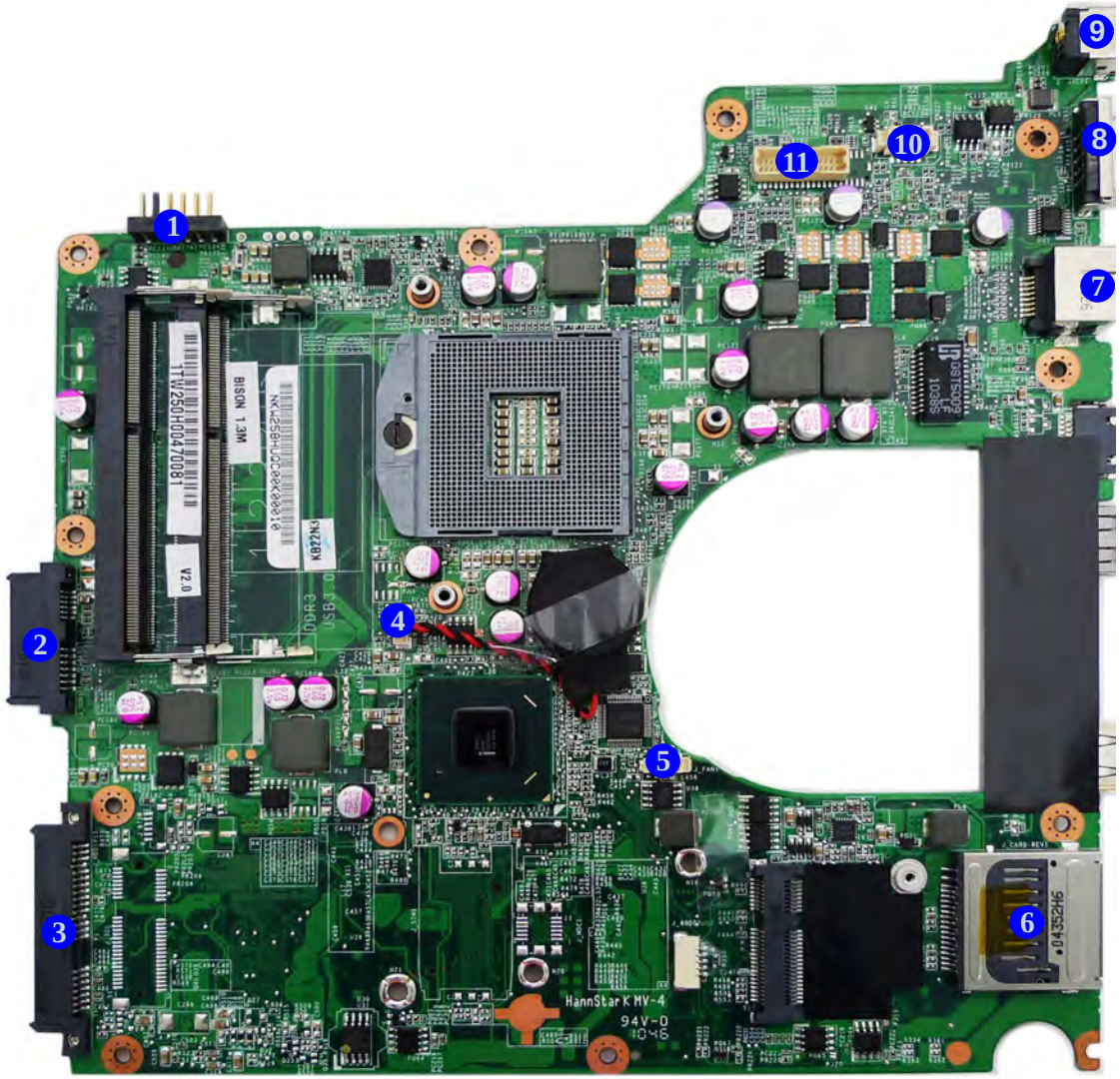


Figure 10
Mainboard Bottom Connectors

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

Chapter 2: Disassembly

Overview

This chapter provides step-by-step instructions for disassembling the ***W243HWQ/W244HWQ*** series notebook's parts and subsystems. When it comes to reassembly, reverse the procedures (unless otherwise indicated).

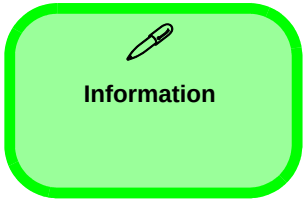
We suggest you completely review any procedure before you take the computer apart.

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*
3. Removing and installing the ODD Bezel *page 2 - 9*

To remove the System Memory:

1. Remove the battery *page 2 - 5*
2. Remove the system memory *page 2 - 10*

To remove and install a Processor:

1. Remove the battery *page 2 - 5*
2. Remove the processor *page 2 - 12*
3. Install the processor *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 3.75G Module:

1. Remove the battery *page 2 - 5*
2. Remove the 3.75G module *page 2 - 15*

To remove the Keyboard:

1. Remove the battery *page 2 - 5*
2. Remove the keyboard *page 2 - 17*

To remove the Top Case module:

1. Remove the battery *page 2 - 5*
2. Remove the HDD *page 2 - 6*
3. Remove the system memory *page 2 - 9*
4. Remove the processor *page 2 - 12*
5. Remove the WLAN module *page 2 - 15*
6. Remove the 3.75G module *page 2 - 15*
7. Remove the keyboard *page 2 - 17*
8. Remove the Top Case module *page 2 - 19*

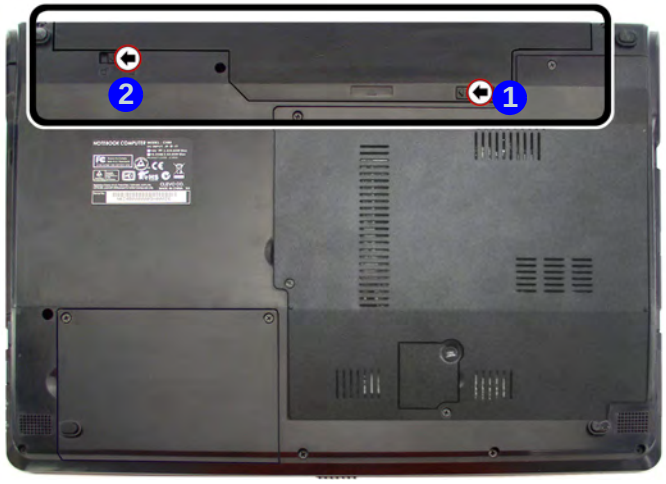
Removing the Battery

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***).

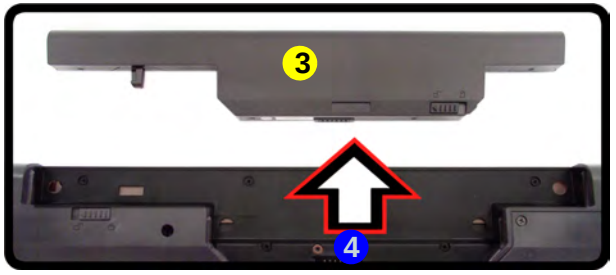
Figure 1
Battery Removal

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

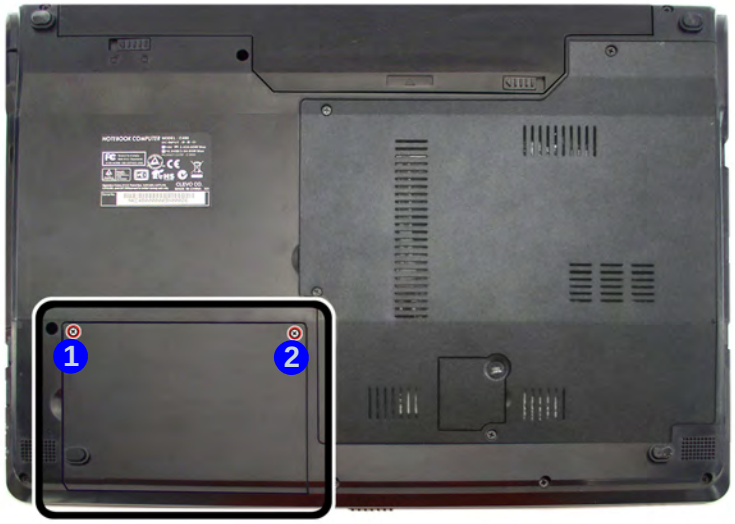
The hard disk drive can be taken out to accommodate other 2.5" serial (SATA) hard disk drives with a height of 9.5mm (h). Follow your operating system's installation instructions, and install all necessary drivers and utilities (as outlined in **Chapter 4 of the User's Manual**) when setting up a new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

a.



• 2 screws

HDD System Warning

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

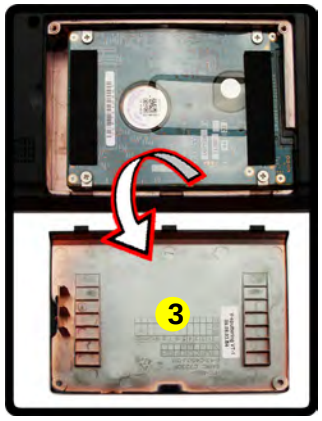
You have backed up any data you want to keep from your old HDD.

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

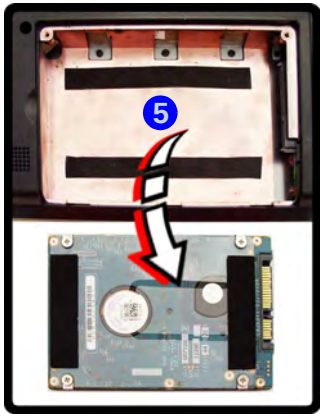
If you have access to the internet, download the latest application and hardware driver updates for the operating system you plan to install. Copy these to a removable medium.

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 out of the bay 5 (*Figure 3d*).
6. Remove the screws 6 - 9 and the mylar cover 10 from the hard disk 11 (*Figure 3e*).
7. Reverse the process to install a new hard disk (do not forget to replace all the screws and covers).

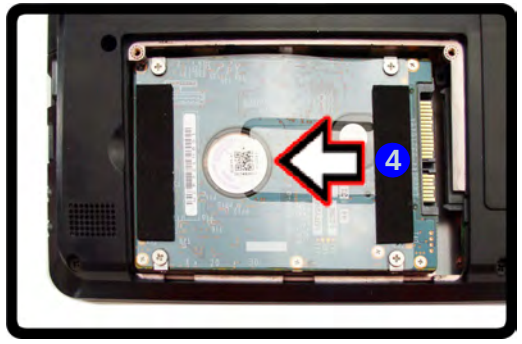
b.



d.



c.



e.

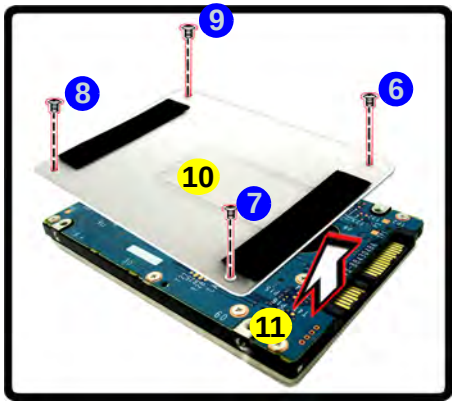


Figure 3
HDD Assembly Removal (cont'd.)

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

3. HDD Bay Cover
10. Mylar Cover
11. HDD

- 4 screws

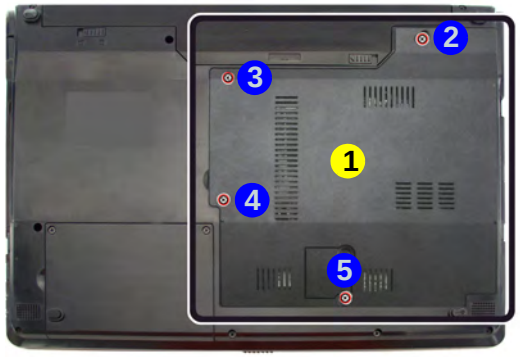
Figure 4
Optical Device Removal

a. Remove the screws.
b. Remove the cover.
c. Remove the screw and push the optical device out off the computer at point 8.

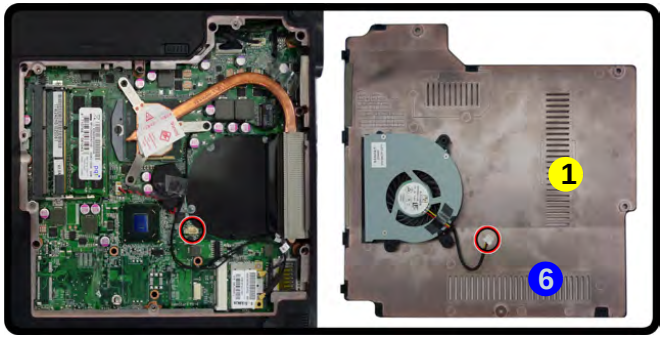
Removing the Optical (CD/DVD) Device

1. Turn **off** the computer, and remove the battery (*page 2 - 5*).
2. Locate the RAM & CPU bay cover 1, and remove screws 2 - 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 1 (*Figure 4b*).
5. Remove the screw at point 7, and use a screwdriver to carefully push out the optical device 9 at point 8 (*Figure 4c*).
6. 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).
7. Restart the computer to allow it to automatically detect the new device.

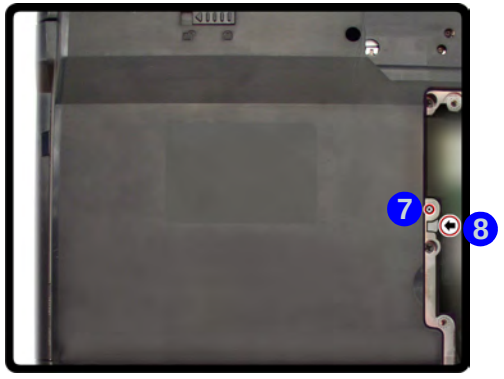
a.



b.



c.



1. Component Bay Cover
9. Optical Device

- 5 screws

Removing and installing the ODD Bezel

1. Turn **off** the computer, remove the battery and remove the ODD(*page 2 - 5*).
2. Carefully unsnap the ODD Bezel 1 from ODD in the direction of the arrow 2.

a.

3. Snap the bezel onto the ODD at points 3 and 4.

b.

Figure 5
ODD Bezel

a. Unsnap the ODD Bezel in the direction of the arrow 2.
b. Snap the bezel onto the ODD at points 3 and 4.

1. ODD Bezel

Figure 6
RAM Module Removal

a. Locate the memory socket.
b. Pull the release latches.
c. Remove the module.

Removing the System Memory (RAM)

The computer has two memory socketsfor 200 pin Small Outline Dual In-line Memory Modules (SO-DIMM) supporting **DDR3** 1333MHz. The main memory can be expanded up to 8GB. The SO-DIMM modules supported are 1GB, 2GB and 4GB and **DDRIII** Modules. The total memory size is automaticallydetected by the POST routine once you turn on your computer.

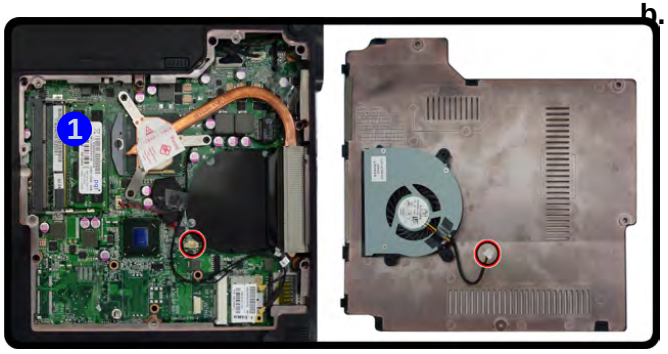
Memory Upgrade Process

1. Turn **off** the computer, remove the battery (***page 2 - 5***) and the component bay cover (***page 2 - 8***).
2. The RAM modules will be visible at point 1 on the main board (***Figure 6a***).
3. Gently pull the two release latches (2 & 3) on the sides of the memory socket in the direction indicated by the arrows (***Figure 6b***).

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.

a.



b.

c.

4. RAM Module

4. The RAM module 4 will pop-up (***Figure 6c***), and you can then remove it.
5. Pull the latches to release the second module if necessary.
6. Insert a new module holding it at about a 30° angle and fit the connectors firmly into the memory slot.
7. The module's pin alignment will allow it to only fit one way. Make sure the module is seated as far into the slot as it will go. DO NOT FORCE the module; it should fit without much pressure.
8. Press the module in and down towards the mainboard until the slot levers click into place to secure the module.

9. Replace the bay cover and screws (**make sure you reconnect the fan cable before screwing down the bay cover**).
   Note that there are four 5 - 8 cover pins which need to be aligned with slots in the case, to insure a proper cover fit, before screwing down the bay cover (***Figure 7d***).

d.

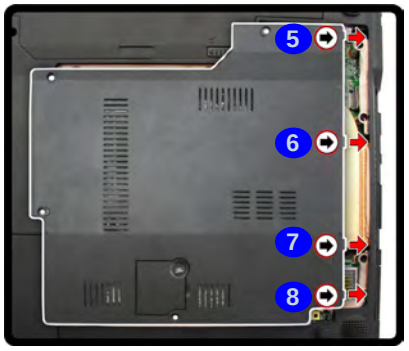


Figure 7
RAM Module Removal (cont'd.)

d. Properly re-insert the bay cover pins.

10. Restart the computer to allow the BIOS to register the new memory configuration as it starts up.

Figure 8
Processor Removal

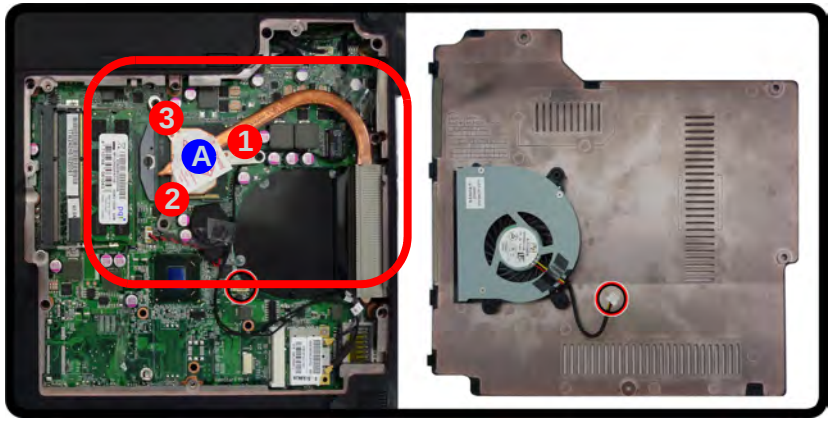
a. The CPU heat sink will be visible at point A. Remove the screws from the CPU heatsink.
b. Grip the heat sink tab and carefully lift the heat sink up and off the computer.

Removing and Installing a Processor

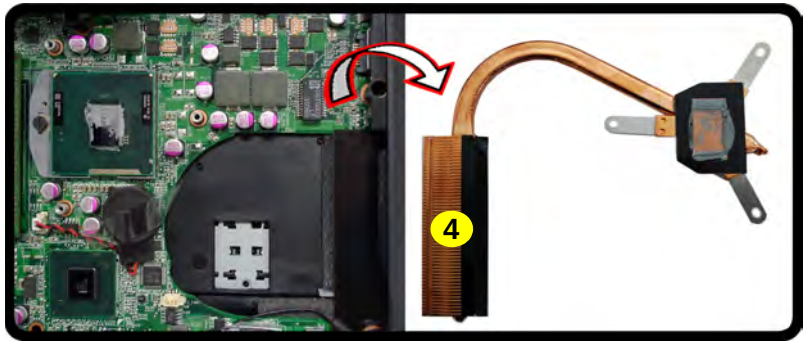
Processor Removal Procedure

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 8a*).
3. Loosen the CPU heat sink screws in the order 3, 2 & 1 (the reverse order as indicated on the label *Figure 8a*).
4. Grip the heat sink tab and carefully lift the heat sink 4 up and off the computer (*Figure 8b*).

a.



b.



4. Heat Sink

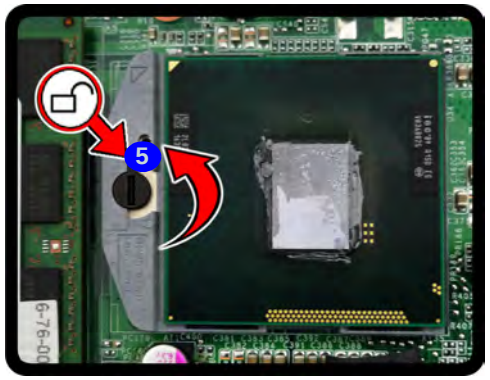
- 3 Screws

5. Turn the release latch 5 towards the unlock symbol to release the CPU (*Figure 9d*).
6. Carefully (it may be hot) lift the CPU 6 up and out of the socket (*Figure 9e*).
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!).

Figure 9
Processor Removal (cont'd)

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

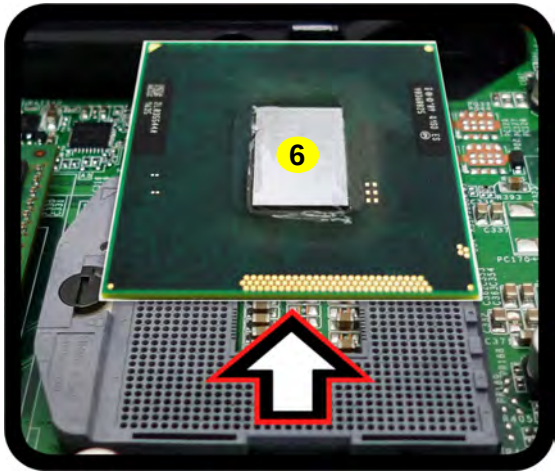
c.



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

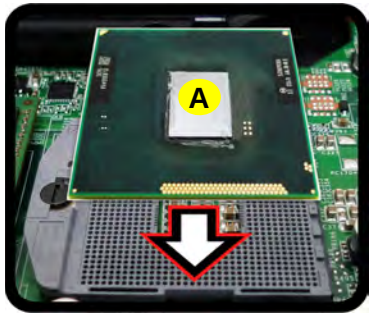
Figure 10
Processor Installation

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.

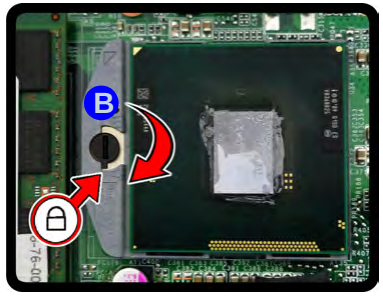
Processor Installation Procedure

1. Insert the CPU A (***Figure 10a***), 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 10b***).
2. **Remove the sticker** C (***Figure 10c***) from the heat sink.
3. Insert the heat sink D as indicated in ***Figure 10d***.
4. Tighten the CPU heat sink screws in the order 1, 2 & 3 (the order as indicated on the label and ***Figure 10d***).
5. Replace the component bay cover (don't forget to replace the fan cable) and tighten the screws (***page 2 - 9***).

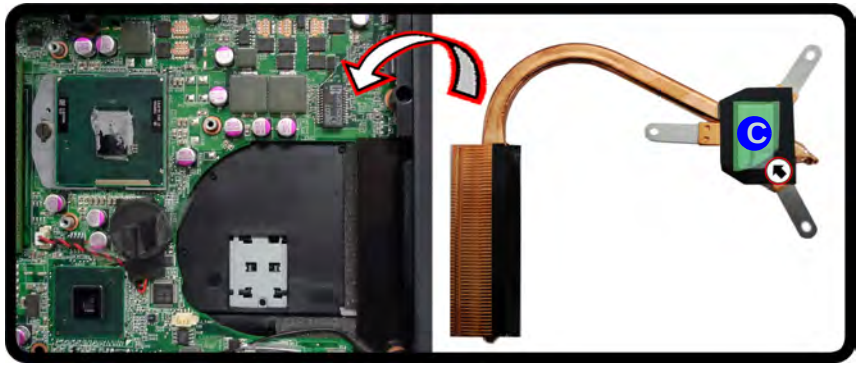
a.



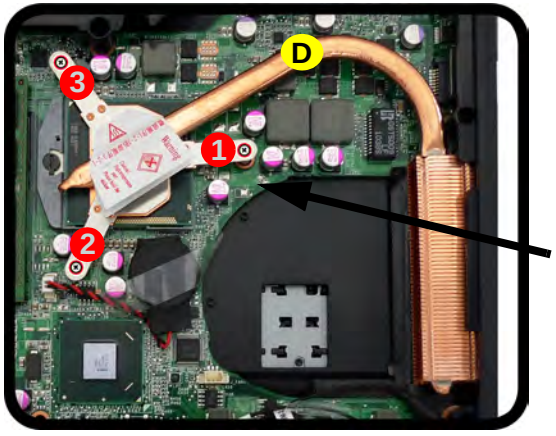
b.



c.



d.



Note:
Tighten th e scre ws in the order as indicated on the label.

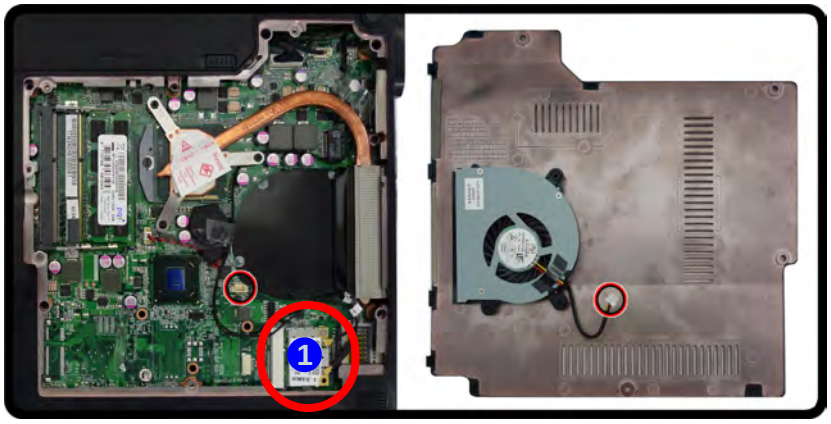
A. CPU
D. Heat Sink

• 3 cSews

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 cable 2, and then remove the screw 3 (***Figure 11b***).
4. The Wireless LAN module 4 (***Figure 11c***) will pop-up, and you can remove it from the computer (***Figure 11d***).

a.



c.

b.

d.

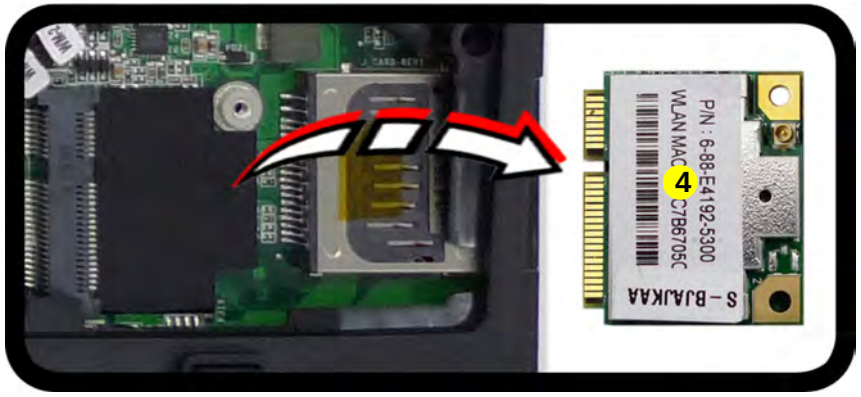


Figure 11
Wireless LAN Module Removal

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

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

4.Wireless LAN Module

- 1 cSew

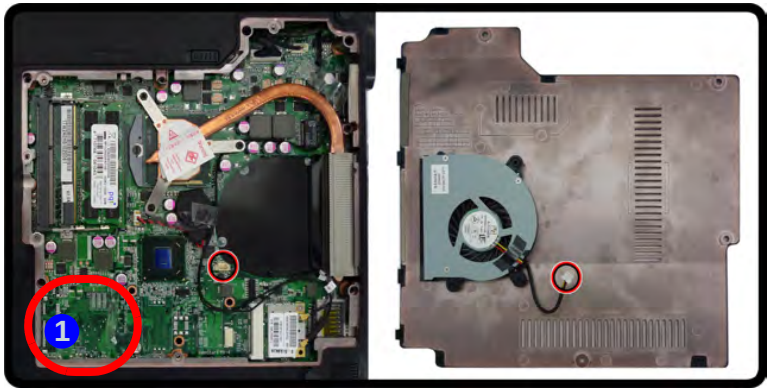
Figure 12
3.75G Module Removal

a. Remove the cover.
b. Disconnect the cable and remove the screw.
c. The 3.75G module will pop up.
d. Lift the 3.75G module out.

Removing the 3.75G Module

1. Turn **off** the computer, remove the battery (***page 2 - 5***) and the component bay cover (***page 2 - 8***).
2. The 3.75G module will be visible at point 1 on the mainboard.
3. Carefully disconnect the cable 2, then remove the screw 3 from the module socket.
4. The 3.75G module 4 will pop-up.
5. Lift the 3.75G module (***Figure 12d***) up and off the computer.

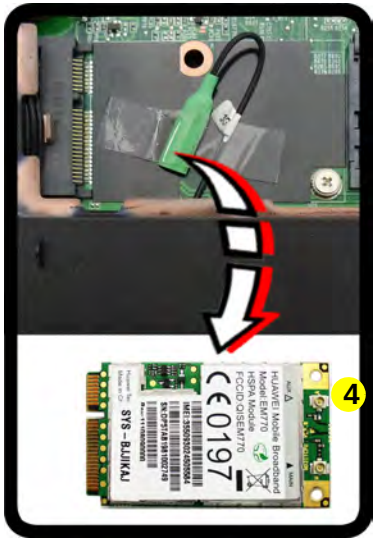
a.



c.

b.

d.



4. 3.75G Module.

- 1 Screw

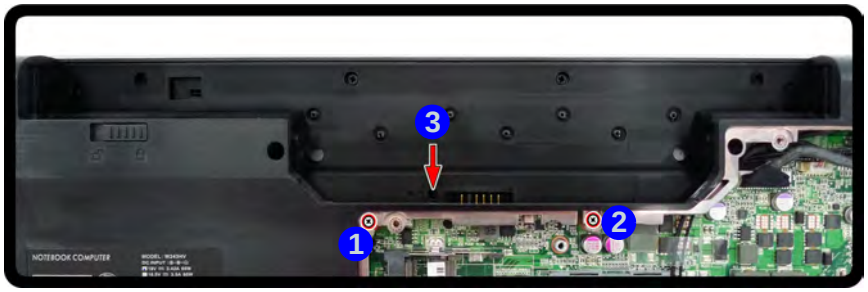
Removing the Keyboard

1. Turn **off** the computer, and remove the battery (*page 2 - 5*),and the component bay cover (*page 2 - 8*)
2. Remove screws 1 - 2 from the bottom of the computer and use the Eject Pin Tool to carefully push out the keyboard at point 3
3. Carefully lift the keyboard up, being careful not to bend the keyboard ribbon cable.

Figure 13
Keyboard Removal

a. Remove screws from the bottom of the computer and use the Eject Pin Tool to push out the keyboard at point 3.
b. Carefully lift the keyboard up.

a.



b.

4. Keyboard

- 2 screws

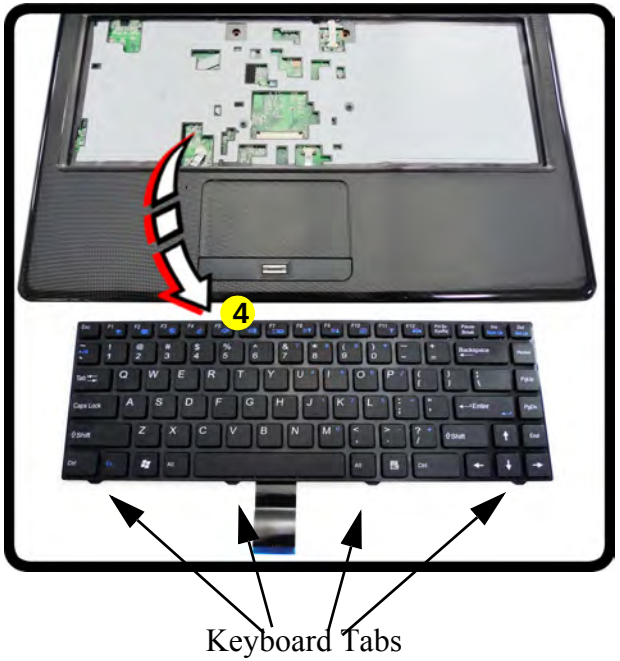
Figure 14
Keyboard Removal (cont'd)

c. Carefully lift the keyboard up and disconnect the keyboard ribbon cable from the locking collar socket.
d. Remove the keyboard.

4. Disconnect the keyboard ribbon cable 5 from the locking collar socket 6 (***Figure 13c***)
5. Carefully lift up the keyboard 4 (***Figure 13d***) off the computer.

c.

d.



Re-Inserting the Keyboard

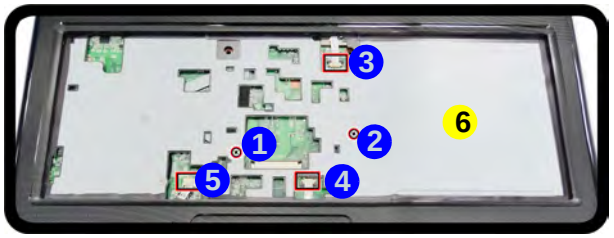
When re-inserting the keyboard firstly align the **four** keyboard tabs at the bottom (***Figure 14d***) at the bottom of the keyboard with the slots in the case.

6. Keyboard

Removing the Top Case module

1. Turn **off** the computer, and remove the battery (*page 2 - 5*), remove the HHD (*page 2 - 6*), remove the ODD (*page 2 - 8*), remove the Memory (*page 2 - 10*) , remove Processor (*page 2 - 12*), remove the WLAN (*page 2 - 15*) and the remove Keyboard (*page 2 - 17*).
2. Remove screws 1 - 2 and carefully disconnect the cables 3 - 5 from the Top Case module 6..

a.



3. Remove screws 7 - 26 from the bottom of the computer and use the Eject Pin Tool to carefully push out the hinge cover at point 27.

b.

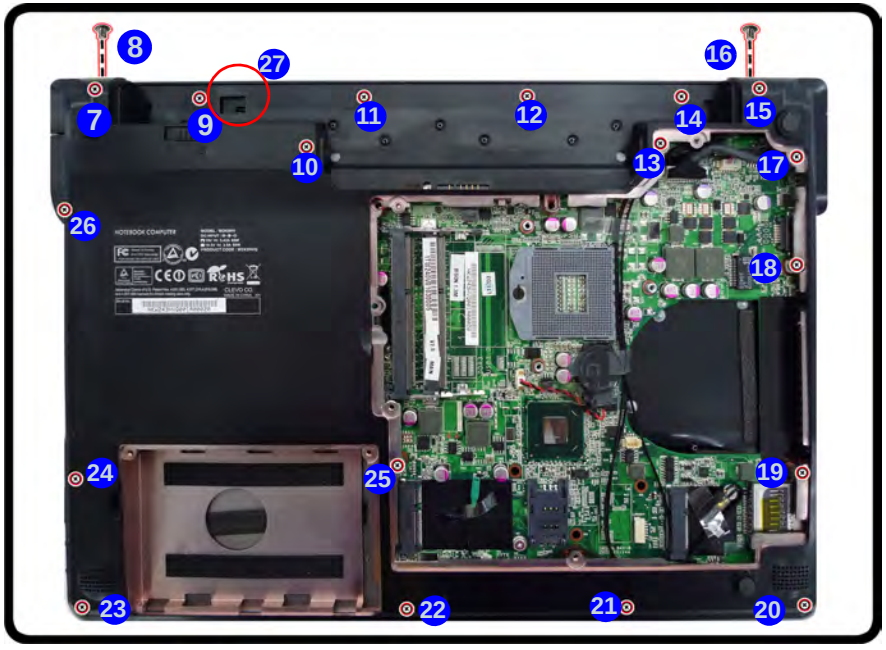


Figure 15
Top Case module Removal

a. Remove screws and the cables.
b. Remove screws from the bottom of the computer and use the Eject Pin Tool to push out the keyboard at point 27.

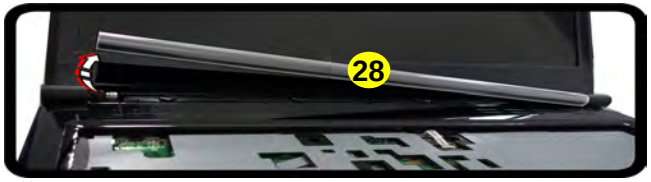
6. Top Case module
   - 23 screws

Figure 16
Top Case module Removal (cont'd)

c. Remove the hinge cover.
d. Remove the top case module.

4. Carefully lift up the hinge cover 28 off the computer.

c.



5. Carefully unsnap the top case 29 from computer at point 30.

d.

28. Hinge cover
29. TopCase module

Appendix A:Part Lists

This appendix breaks down the ***W243HWQ/W244HWQ*** 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 in dicate 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.

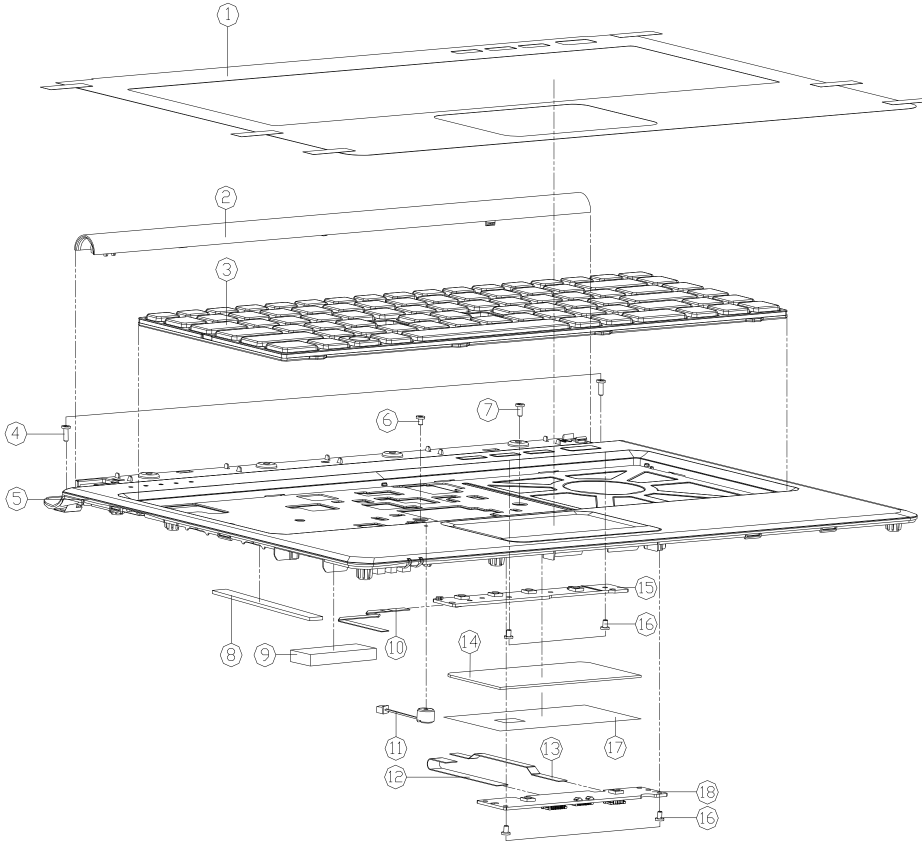
Part List Illustration Location

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

Table A - 1
Part List Illustration Location

Part	W243HWQ/W244HWQ
Top	*page A - 3*
Bottom (w/ 3G)	*page A - 4*
Bottom (w/o 3G)	*page A - 5*
SATA BLU-RAY COMBO	*page A - 6*
SATA DVD SUPER MULTI	*page A - 7*
LCD	*page A - 8*A
HDD	*page A - 9*

Top

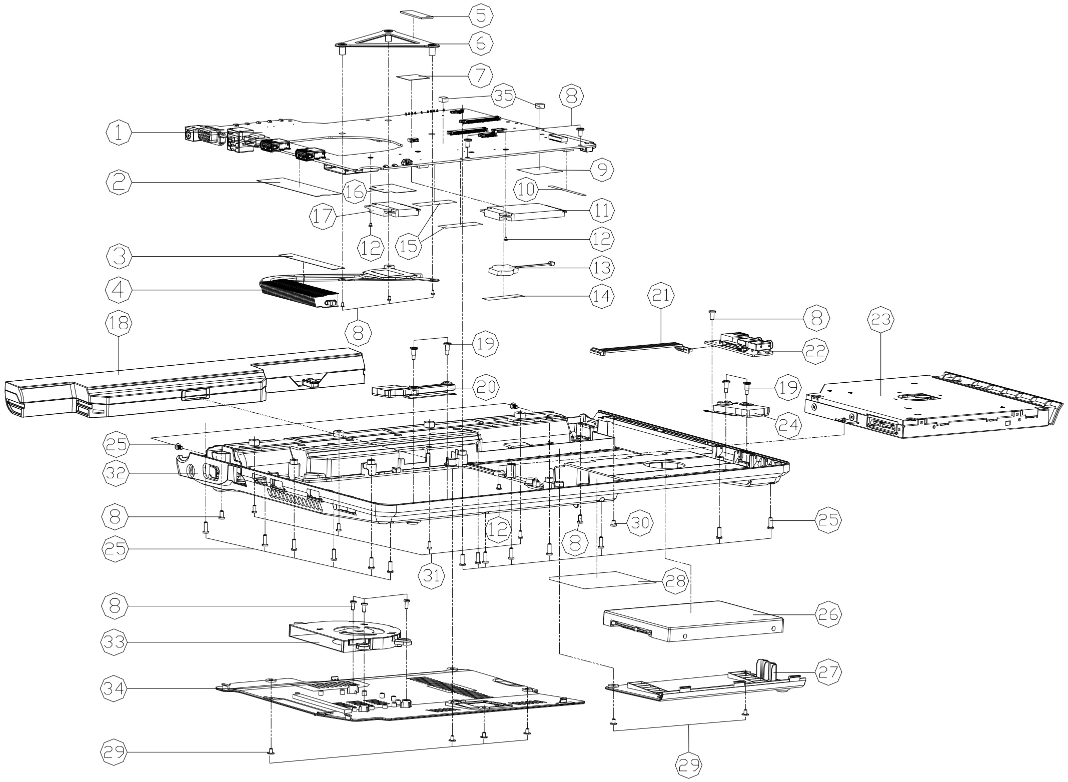


ITEM	PART NAME	PART NO	REMARK
1	TOP CASE PROTECT MYLAR (8B35) W244HUQ	6-40-W2448-031	
2	HINGE COVER (ABS+PC) W244HUQ	6-42-W2442-071	
3	K/B USA (黑色)& FRAME (US) MODULE W243HUQ/W243HVQ/W24XHWQ	6-79-W243HUQK-010	
4	SCREW M2.5*8L KI BK/Z NY ICT	6-35-B6125-8R0	
5	TOP CASE IMR MODULE W244HUQ	6-39-W2442-012	
5	TOP CASE IMR MODULE W244HUQ-C	6-39-W2442-012-C	
6	SCREW M2.5*3L K1 BZ ICT NY	6-35-B6125-3R0	
7	SCREW M2.5*5L KI BK/Z ICT NY	6-35-B6125-5RA	
8	SPONGE FOR TOP CASE (57*6*2) (SM55+SONY G4000)	6-47-0019A-570	
9	FAN SPONGE FOR TOP (35*5.5*7.15T) (SM55+SONY G4000) E5120Q	6-47-0019A-353	
10	FFC CABLE FOR M/B TO POWER BOARD C4500	6-43-C4500-031	
11	MIC 6MM*3.5(EM6035-FOL-U) 2V~10V 2.2K W/CABLE (灰色)L=40MM M540G	6-23-EM54G-012	
12	FFC CABLE FOR TOUCH PAD 6PIN C4500	6-43-C4502-010	
13	FFC CABLE FOR M/B TO CLICK BOARD C4500	6-43-C4500-022	
14	TOUCH PAD SYNAPTICS TM-01146-003 C4800	6-49-C4802-010	
15	POWER SWITCH BOARD V2.0 C4509	6-77-E51QS-D02-A	
16	SCREW M2*3L KI NI ICT NY (DD=Ø4.5,DT=0.4)	6-35-B1120-3RE	
17	TAPE MYLAR (C) (86.10*38.80MM) C4105	6-40-00150-860	
18	CLICK BOARD V1.0 W240BU	6-77-W2402-D01	

Figure A - 1
Top

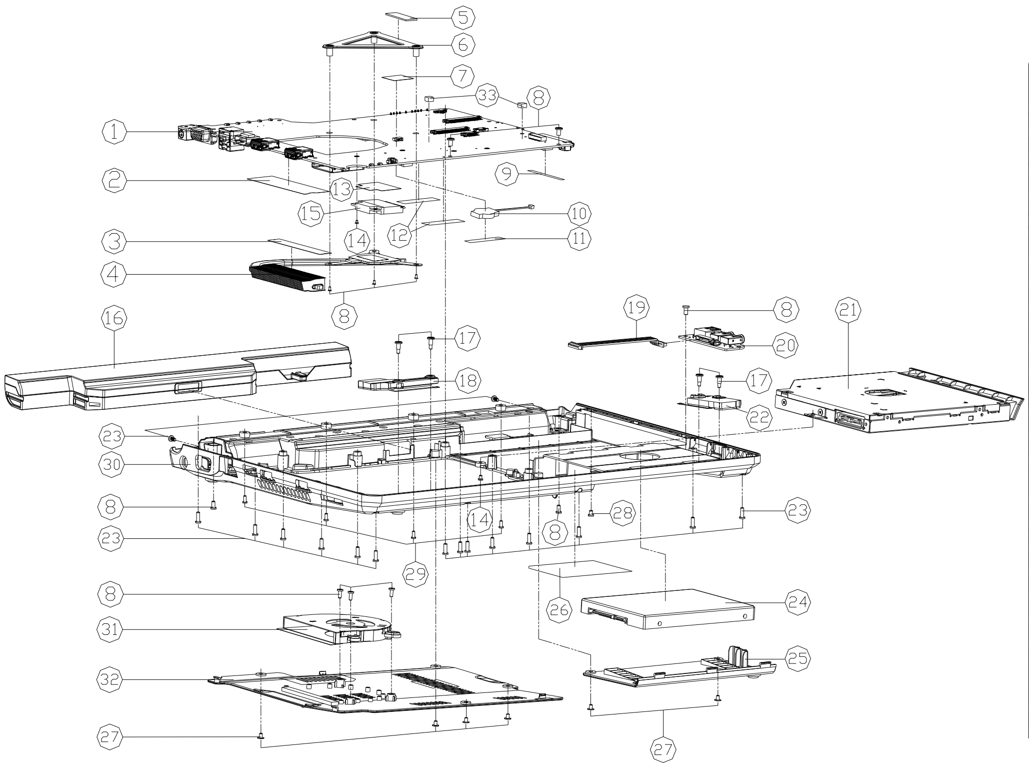
Bottom with 3G

Figure A - 2
Bottom with SIM (W240HUQ/ W241HUQ/ W245HUQ Series)



ITEM	PART NAME	PART NO	REMARK
1	MAIN BOARD V2.0A (W/3G;W/O TPM) W240HU	6-77-W24H0-D02A	FOR W244HUQ
1	MAIN BOARD V2.0A (W/3G;W/TPM) W240HU	6-77-W24H0-D02A-2	FOR W244HUQ
1	MAIN BOARD V2.0A (W/3G) W243HWQ	6-77-W24W0-D02A	FOR W243/44HWQ
1	MAIN BOARD V2.0A W243HVQ	6-77-W24V0-D02A	FOR W243HVQ
2	MYLAR FOR M/B FIN C4500	6-40-C450S-010	
3	AIRDUCT MYLAR DFR117 W240HU	6-40-W24H8-011	
4	CPU HEATSINK MODULE W240HU	6-31-W24HN-101	
5	M/B TOP RUBBER (35*11*1T MM) SILICONE E4120	6-47-E412S-010	
6	CPU SUPPORTER FOR HURON RIVER SECC W150HNM	6-33-W150S-011	
7	AUDIO BOARD MYLAR 20*20*0.15T (黑色 PET+3M 467) C4500	6-40-C450S-030	
8	SCREW M2.5*5L KI BK/Z ICT NY-	6-35-B6125-5RA	
9	MYLAR 40*30*0.1T (FR83 + 3M-467) M735T	6-40-M7351-020	
10	TAPE MYLAR (B),MYLAR M550J	6-40-M55J2-020	
11	WCDMA ERICSSON F3307 HSPA FULL MINI-CARD USB	6-88-W24HW-2410	(OPTION)
12	SCREW M2*3L KI NI ICT NY (DD=Ø4.5,DT=0.4)	6-35-B1120-3RE	
13	BAT. 20MM 3V 220MAH W/CABLE 62MM BCR2032V6.2-51021-0200B	6-23-22015-P0D	
14	TAPE MYLAR (A),MYLAR M550J	6-40-M55J2-010	
15	TAPE MYLAR (C),MYLAR M550J	6-40-M55J2-030	
16	3G HALF CARD MYLAR PET(30*22*0.1T) E4120	6-40-E412S-010	
17	WLAN CASTLENET RTL8188CE 1 ANT. 802.11BGN HALF MINI-CARD PCI-E E41290	6-88-E4192-5300	
17	[illegible]	6-88-C555F-7001	
17	[illegible]	6-88-C555F-5300	
17	WLAN XAVI XW7IAE 802.11BGN HALF MINI-CARD PCI-E RTL8191SE 電容變更 R30 DELETE	6-88-W76C2-8702	
17	WLAN INTEL 1120N_HMW MOW 802.11BGN HALF MINI-CARD PCI-E 1X2 CONDOR PEAK	6-88-M77C2-4200	
17	WLAN AZUREWAVE AW-NE104H 802.11BGN HALF MINI-CARD PCI-E RTL8191SE R30 DELETE W760C	6-88-W76C2-7001	
18	BAT.P S LI 11.1V/4.4AH/48.84WH 3S2P SMP/BAK 980T2007 F C4800	6-87-C480S-4P42	(OPTION)
18	BAT.P S LI 11.1V/5.6AH/62.16WH 3S2P SMP/SDI 980T2013F E4120	6-87-E412S-4D7	(OPTION)
18	BAT.P S LI 11.1V/4.4AH/48.84WH 3S2P CPT/BAK 910500001 E4120	6-87-E412S-4Y4	(OPTION)
19	SCREW M2*6.2L NI ICT NY FOR SPEAKER	6-35-Z1120-6R2	
20	SPK+CABLE L ?18*T5.2 1.5W 8? 36MM PB18CMG08SL-3-7LK1 C4800 VECO	6-23-5C480-023	
21	WIRE CABLE 14PIN M/B TO AUDIO 133MM C4500	6-43-C4500-013	
22	AUDIO BOARD V3.0 C4500	6-77-C4508-D03	
23	SATA BLU-RAY COMBO ASS'Y (OPTION)	6-79-W244HUQW-000	
23	SATA DVD SUPER MULTI ASS'Y (OPTION)	6-79-W244HUQQ-000	
24	SPK+CABLE R ?18*T5.2 1.5W 8? 25MM PB18CMG08SL-3-8LK1 C4800 VECO	6-23-5C480-013	
25	SCREW M2.5*8L KI BK/Z NY ICT	6-35-B6125-8R0	
26	W/O HDD ASS'Y C4800	6-79-C480000J-010	
26	W/HDD ASS'Y E5120Q	6-79-E5120Q0J-020	
27	HDD COVER MODULE W244HUQ	6-42-W244J-101	
27	HDD COVER MODULE W244HUQ-C	6-42-W244J-101-C	
28	PRODUCT LABEL FOR W243HUQ	6-45-W243HUQ3-010	
28	PRODUCT LABEL FOR W244HUQ	6-45-W244HUQ3-010	
28	PRODUCT LABEL FOR W243HVQ	6-45-W243HVQ3-010	
28	PRODUCT LABEL FOR W243HWQ	6-45-W243HWQ3-010	
28	PRODUCT LABEL FOR W244HWQ	6-45-W244HWQ3-010	
29	SCREW M2.5*3L K1 BZ ICT NY-	6-35-B6125-3R0	
30	SCREW M2*2L KI BK/Z ICT NY (Ø6,T=0.5)	6-35-B6120-2RC	
31	SCREW M2*5L KI(T=0.8 D=4.0) BK/Z ICT NY	6-35-B6120-5R0	
32	BOTTOM CASE MODULE W244HUQ	6-39-W2443-011	FOR W244HUQ
32	BOTTOM CASE MODULE W244HUQ-C	6-39-W2443-011-C	FOR W244HUQ-C
33	FAN+CON 65*60*8.1 5V 0.35A AB6505HX-J03 4800RPM ADDA C4500 (LABEL ADD UL/TUV ICON)	6-23-AC450-013	
34	CPU COVER MODULE W/3G W244HUQ	6-42-W2443-101	
34	CPU COVER MODULE W/3G W244HUQ-C	6-42-W2443-101-C	
35	TOUCH PAD RUBBER SILICONE (5.7T*5*5) W244H	6-47-W2442-010	

Bottom without 3G

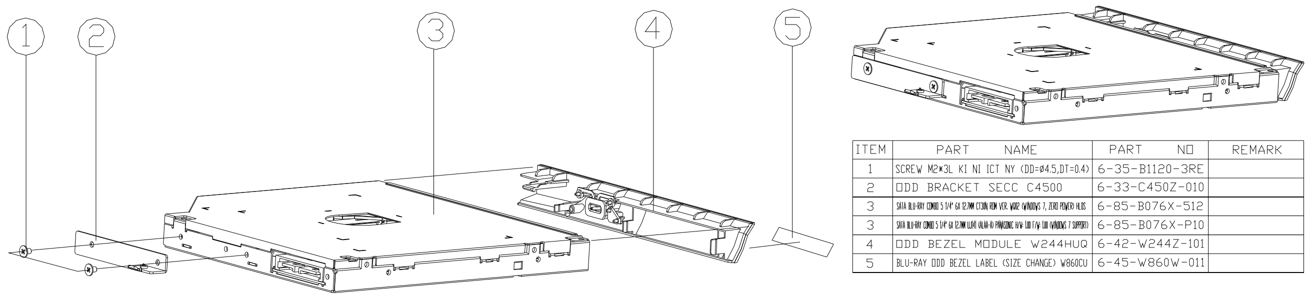


ITEM	PART NAME	PART NO	REMARK
1	MAIN BOARD V2.0A (W/O 3G;W/O TPM) W240HU	6-77-W24H0-D02A-1	FOR W244HUQ
1	MAIN BOARD V2.0A (W/O 3G;W/TPM) W240HU	6-77-W24H0-D02A-3	FOR W244HUQ
1	MAIN BOARD V2.0A (W/O 3G) W243HWQ	6-77-W24W0-D02A-1	FOR W243/44HWQ
1	MAIN BOARD V2.0A (W/O 3G;W/TPM) W243HVQ	6-77-W24V0-D02A-1	FOR W243HVQ
1	MAIN BOARD V2.0A (W/O 3G;W/O TPM) W243HWQ	6-77-W24W0-D02A-3	FOR W243HWQ
2	MYLAR FOR M/B FIN C4500	6-40-C450S-010	
3	AIRDUCT MYLAR DFR117 W240HU	6-40-W24H8-011	
4	CPU HEATSINK MODULE W240HU	6-31-W24HN-101	
5	M/B TOP RUBBER (35*11*1T MM) SILICONE E4120	6-47-E412S-010	
6	CPU SUPPORTER FOR HURON RIVER SECC W150HNM	6-33-W150S-011	
7	AUDIO BOARD MYLAR 20*20*0.15T (黑色 PET+3M 467) C4500	6-40-C450S-030	
8	SCREW M2.5*5L KI BK/Z ICT NY-	6-35-B6125-5RA	
9	TAPE MYLAR (B),MYLAR M550J	6-40-M55J2-020	
10	BAT. 20MM 3V 220MAH W/CABLE 62MM BCR2032W6.2-51021-0200B	6-23-22015-P0D	
11	TAPE MYLAR (A),MYLAR M550J	6-40-M55J2-010	
12	TAPE MYLAR (C),MYLAR M550J	6-40-M55J2-030	
13	3G HALF CARD MYLAR PET(30*22*0.1T) E4120	6-40-E412S-010	
14	SCREW M2*3L KI NI ICT NY (DD=ø4.5,DT=0.4)	6-35-B1120-3RE	
15	WLAN CASTLENET RTL8188CE 1 ANT. 802.11BGN HALF MINI-CARD PCI-E E4129	6-88-E4192-5300	
15	[illegible]	6-88-C555F-7001	
15	[illegible]	6-88-C555F-5300	
15	WLAN XAVI XW714E 802.11BGN HALF MINI-CARD PCI-E RTL8191SE 電容變更 R30 DELETE	6-88-W76C2-8702	
15	WLAN INTEL 1128N_HMW MOW 802.11BGN HALF MINI-CARD PCI-E 1X2 CONDOR PEAK	6-88-M77C2-4200	
15	WLAN AZUREWAVE AW-NE104H 802.11BGN HALF MINI-CARD PCI-E RTL8191SE R30 DELETE W760C	6-88-W76C2-7001	
16	BAT.P S LI 11.1V/4.4AH/48.84WH 3S2P SMP/BAK 980T2007 F C4800	6-87-C480S-4P42	(OPTION)
16	BAT.P S LI 11.1V/5.6AH/62.16WH 3S2P SMP/SDI 980T2013F E4120	6-87-E412S-4D7	(OPTION)
16	BAT.P S LI 11.1V/4.4AH/48.84WH 3S2P CPT/BAK 910500001 E4120	6-87-E412S-4Y4	(OPTION)
17	SCREW M2*6.2L NI ICT NY FOR SPEAKER	6-35-Z1120-6R2	
18	SPK+CABLE L ?18*T5.2 1.5W 8? 36MM PB18CMG08SL-3-7LK1 C4800 VECO	6-23-5C480-023	
19	WIRE CABLE 14PIN M/B TO AUDIO 133MM C4500	6-43-C4500-013	
20	AUDIO BOARD V3.0 C4500	6-77-C4508-D03	
21	SATA BLU-RAY COMBO ASS'Y (OPTION)	6-79-W244HUQW-000	
21	SATA DVD SUPER MULTI ASS'Y (OPTION)	6-79-W244HUQQ-000	
22	SPK+CABLE R ?18*T5.2 1.5W 8? 25MM PB18CMG08SL-3-8LK1 C4800 VECO	6-23-5C480-013	
23	SCREW M2.5*8L KI BK/Z NY ICT	6-35-B6125-8R0	
24	W/O HDD ASS'Y C4800	6-79-C480000J-010	
24	W/HDD ASS'Y E5120Q	6-79-E5120Q0J-020	
25	HDD COVER MODULE W244HUQ	6-42-W244J-101	
25	HDD COVER MODULE W244HUQ-C	6-42-W244J-101-C	
26	PRODUCT LABEL FOR W243HUQ	6-45-W243HUQ3-010	
26	PRODUCT LABEL FOR W244HUQ	6-45-W244HUQ3-010	
26	PRODUCT LABEL FOR W243HVQ	6-45-W243HVQ3-010	
26	PRODUCT LABEL FOR W243HWQ	6-45-W243HWQ3-010	
26	PRODUCT LABEL FOR W244HWQ	6-45-W244HWQ3-010	
27	SCREW M2.5*3L K1 BZ ICT NY-	6-35-B6125-3R0	
28	SCREW M2*2L KI BK/Z ICT NY (ø6,T=0.5)	6-35-B6120-2RC	
29	SCREW M2*5L KI(T=0.8 D=4.0) BK/Z ICT NY	6-35-B6120-5R0	
30	BOTTOM CASE MODULE W244HUQ	6-39-W2443-011	FOR W244HUQ
30	BOTTOM CASE MODULE W244HUQ-C	6-39-W2443-011-C	FOR W244HUQ-C
31	FAN+CON 65*60*8.1 5V 0.35A AB6505HX-J03 4800RPM ADDA C4500 (LABEL ADD UL/TUV ICON)	6-23-AC450-013	
32	CPU COVER MODULE W/O 3G W244HUQ	6-42-W2443-201	
32	CPU COVER MODULE W/O 3G W244HUQ-C	6-42-W2443-201-C	
33	TOUCH PAD RUBBER SILICONE (5.7T*5*5) W244H	6-47-W2442-010	

Figure A - 3
Bottom without 3G

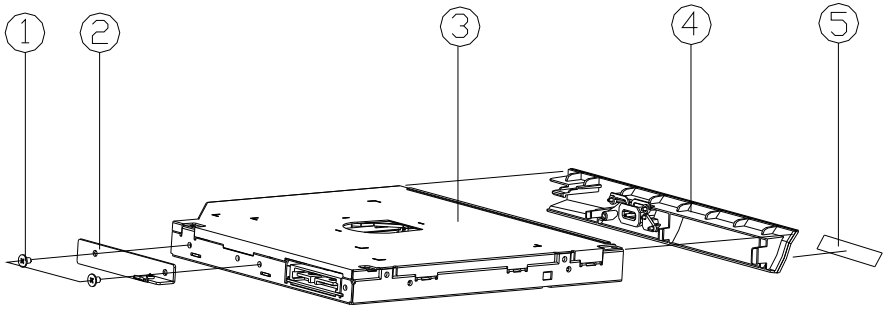
SATA BLU-RAY COMBO

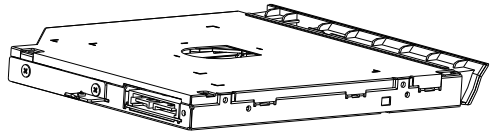
Figure 4
SATA BLU-RAY COMBO



ITEM	PART NAME	PART NO	REMARK
1	SCREW M2*3L KI NI ICT NY (DD=Ø4.5,DT=0.4)	6-35-B1120-3RE	
2	ODD BRACKET SECC C4500	6-33-C450Z-010	
3	SATA BLU-RAY COMBO 5 1/4" 6X 12.7MM CT30N ROM VER. W002 (WINDOWS 7, ZERO POWER) HLDS	6-85-B076X-512	
3	SATA BLU-RAY COMBO 5 1/4" 6X 12.7MM UJ141 (ALAA-A) PANASONIC H/W: 1.00 F/W: 1.00 (WINDOWS 7 SUPPORT)	6-85-B076X-P10	
4	ODD BEZEL MODULE W244HUQ	6-42-W244Z-101	
5	BLU-RAY ODD BEZEL LABEL (SIZE CHANGE) W860CU	6-45-W860W-011	

SATA DVD SUPER MULTI



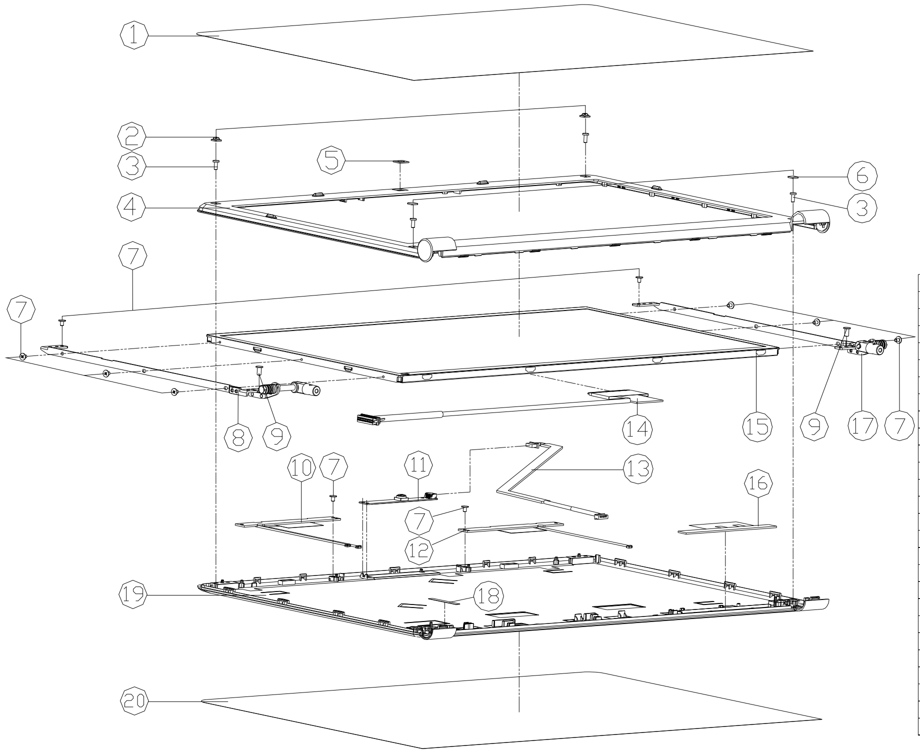


ITEM	PART NAME	PART NO	REMARK
1	SCREW M2*3L KI NI ICT NY (DD=Ø4.5,DT=0.4)	6-35-B1120-3RE	
2	ODD BRACKET SECC C4500	6-33-C450Z-010	
3	[illegible]	6-85-A078X-T09	
4	ODD BEZEL MODULE W244HUQ	6-42-W244Z-101	
5	SUPER MULTI ODD BEZEL LABEL (SIZE CHANGE)	6-45-W860Q-011	

Figure 5
SATA DVD SUPER MULTI

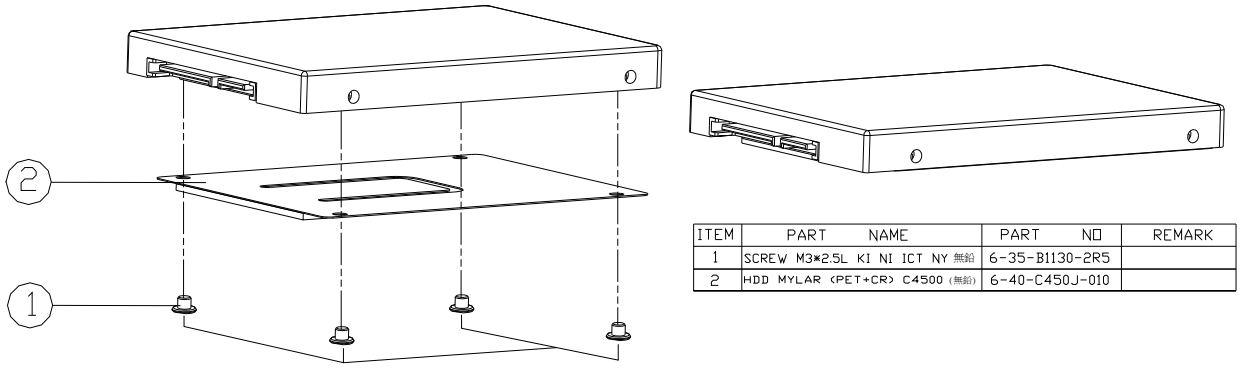
LCD

Figure A - 6
LCD



ITEM	PART NAME	PART NO	REMARK
1	LCD FRONT COVER PROTECTION MYLAR (PET+3M8915) C4500	6-40-C4501-011	
2	LCD FRONT COVER SCREW RUBBER SLICON C4500	6-47-C4501-031	
3	SCREW M2*5L KI(T=0.8 D=4.0) BK/Z ICT NY	6-35-B6120-5R0	
4	LCD FRONT COVER MODULE W244HUQ	6-39-W2441-011	
5	CCD 銘板 PMMA M810L	6-42-M8101-011	
5	CCD LENS PMMA E5120Q	6-42-E51Q1-031	
6	FRONT COVER PC FOR SCREW C4500	6-40-C4501-071	
7	SCREW M2*3L KI NI ICT NY (DD=ø4.5,DT=0.4)	6-35-B1120-3RE	
8	LCD HINGE L SECC W244HUQ	6-33-W2441-020	
9	SCREW M2.5*5L KI BK/Z ICT NY-	6-35-B6125-5RA	
10	ANTENNA WIMAX COMBO WGT WM-1+WM-2 PCB H=1MM 2.4G/3.5GHZ/5G WM1=585MM WM2=585MM W244HUQ	6-23-7W244-020	
11	UVC CAMERA CHICONY FIX CNFA179 1.3M 6AA W150HNM	6-88-W150C-5100	OPTION
11	UVC CAMERA BISON FIX BN28M6SG2-010 1.3M 6AA E5120Q	6-88-E51QC-4901	OPTION
12	ANTENNA 3G WGT 3G PCB 0.8G/0.9G/1.8G/1.9G/2.1GHZ L=860MM E4120	6-23-7E412-010	
13	WIRE CABLE FOR CCD 5P 310.5MM C4500	6-43-C450T-011	
14	WIRE CABLE FOR LVDS 300MM (CHANGE GND) C4800	6-43-C4801-052	FOR NON IVO PANEL
14	WIRE CABLE FOR LVDS 200MM (FVC/STARCONN CON#111D40-I2101A-G3) W244HUQ FOR IVO M140NWR2 (R0)	6-43-W2441-010-3H	FOR IVO PANEL
15	LCD 14.0" HD CHIMEI N140B6-L02 GLARE TYPE (LED) 5.2MM	6-50-J8152-D00	
15	LCD 14.0" HD IVO M140NWR2 (R0) (GLARE TYPE) 5.2MM (LED) (CONNECTOR ON RIGHT BOTTOM OF BACK)	6-50-J8152-B00	
15	LCD 14.0" HD LG LP140WH1-TLC6 GLARE TYPE (LED) 5.2MM	6-50-J8152-L04	
16	ANTENNA 3G2 WGT 3G PCB 0.8G/0.9G/1.8G/1.9G/2.1GHZ L=660MM W244HUQ	6-23-7W244-010	
17	LCD HINGE R SECC W244HUQ	6-33-W2441-010	
18	TAPE MYLAR (B),MYLAR M550J	6-40-M55J2-020	
19	LCD BACK COVER IMR MODULE W244HUQ	6-39-W2441-021	
19	LCD BACK COVER IMR MODULE W244HUQ-C	6-39-W2441-021-C	
20	BACK COVER PROTECTION MYLAR(8B35+3M8915) C4500	6-40-C4501-020	

HDD



ITEM	PART NAME	PART NO	REMARK
1	SCREW M3*2.5L KI NI ICT NY 無鉛	6-35-B1130-2R5	
2	HDD MYLAR (PET+CR) C4500 (無鉛)	6-40-C450J-010	

Figure A - 7
HDD

Appendix B: Schematic Diagrams

This appendix has circ uit diagrams of the ***W243HWQ/W244HWQ*** notebook's PCB's. The fo llowing table indicates where to find the appropriate schematic diagram.

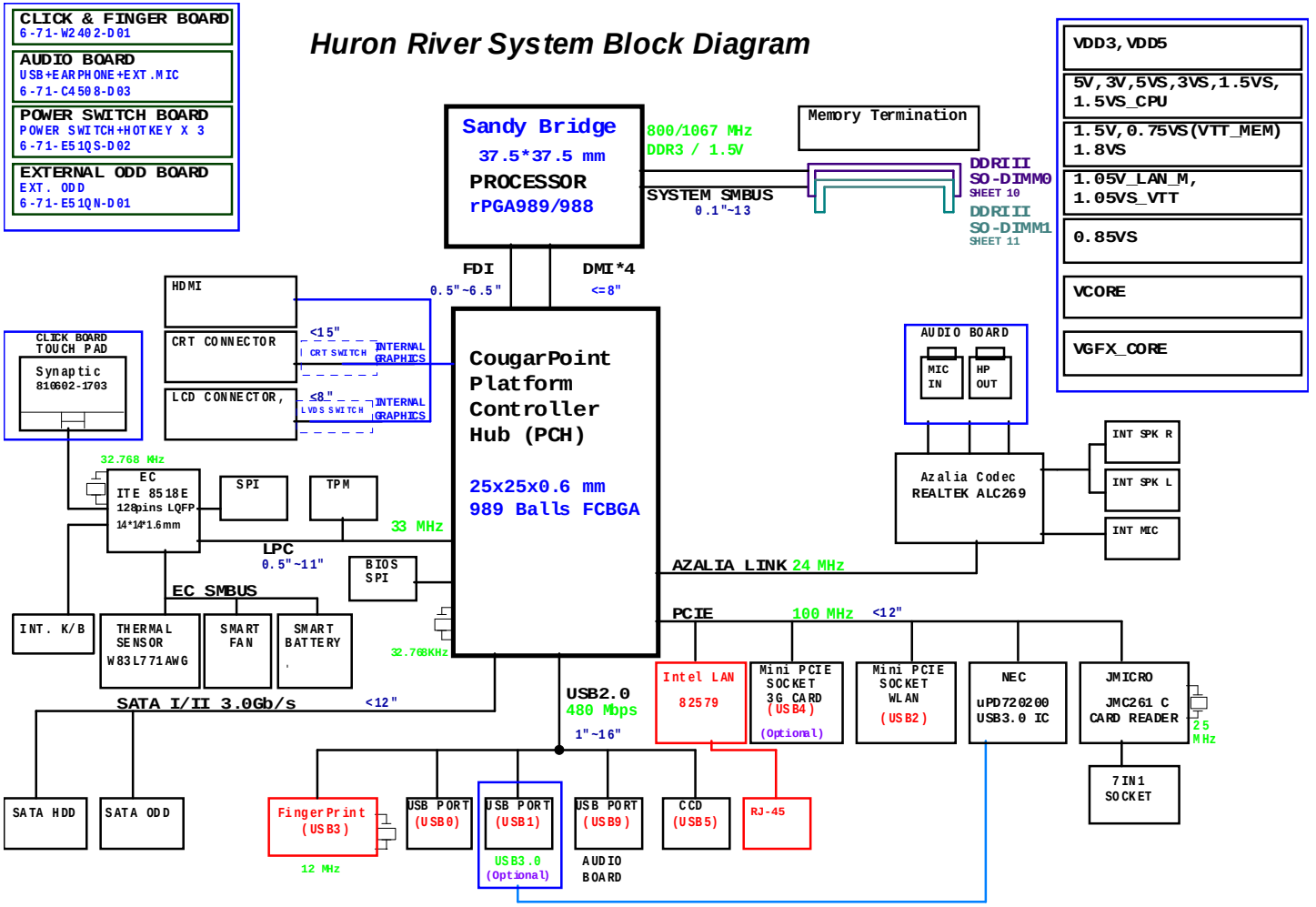
Table B - 1
SCHEMATIC DIAGRAMS

Version Note

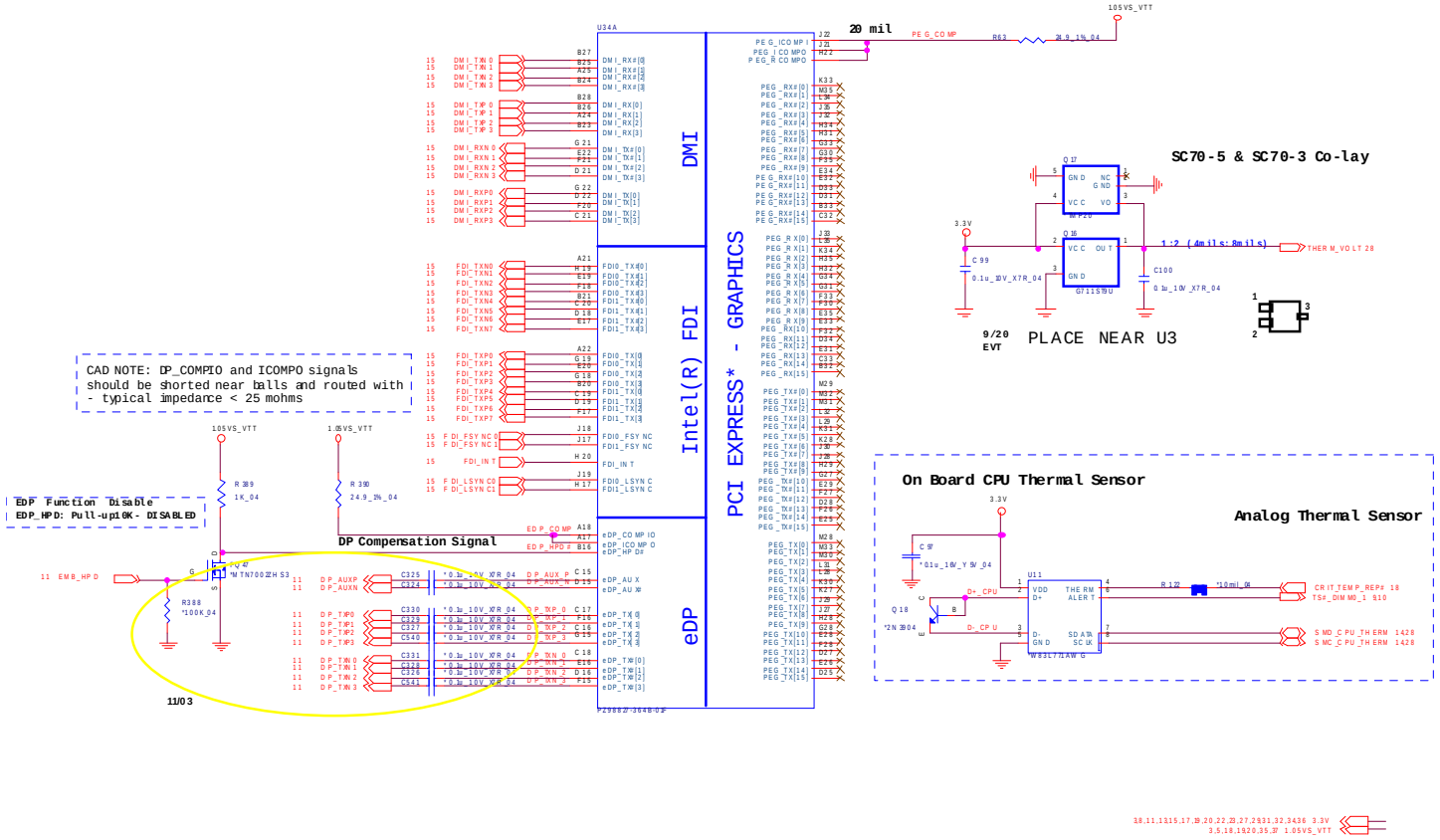
The schematic diagrams in this chapter are based upon version 6-7P-W24V6-002. If your mainboard (or other boards) are a later version, please check with the Service Center for updated diagrams (if required).

System Block Diagram

Sheet 1 of 46
System Block Diagram



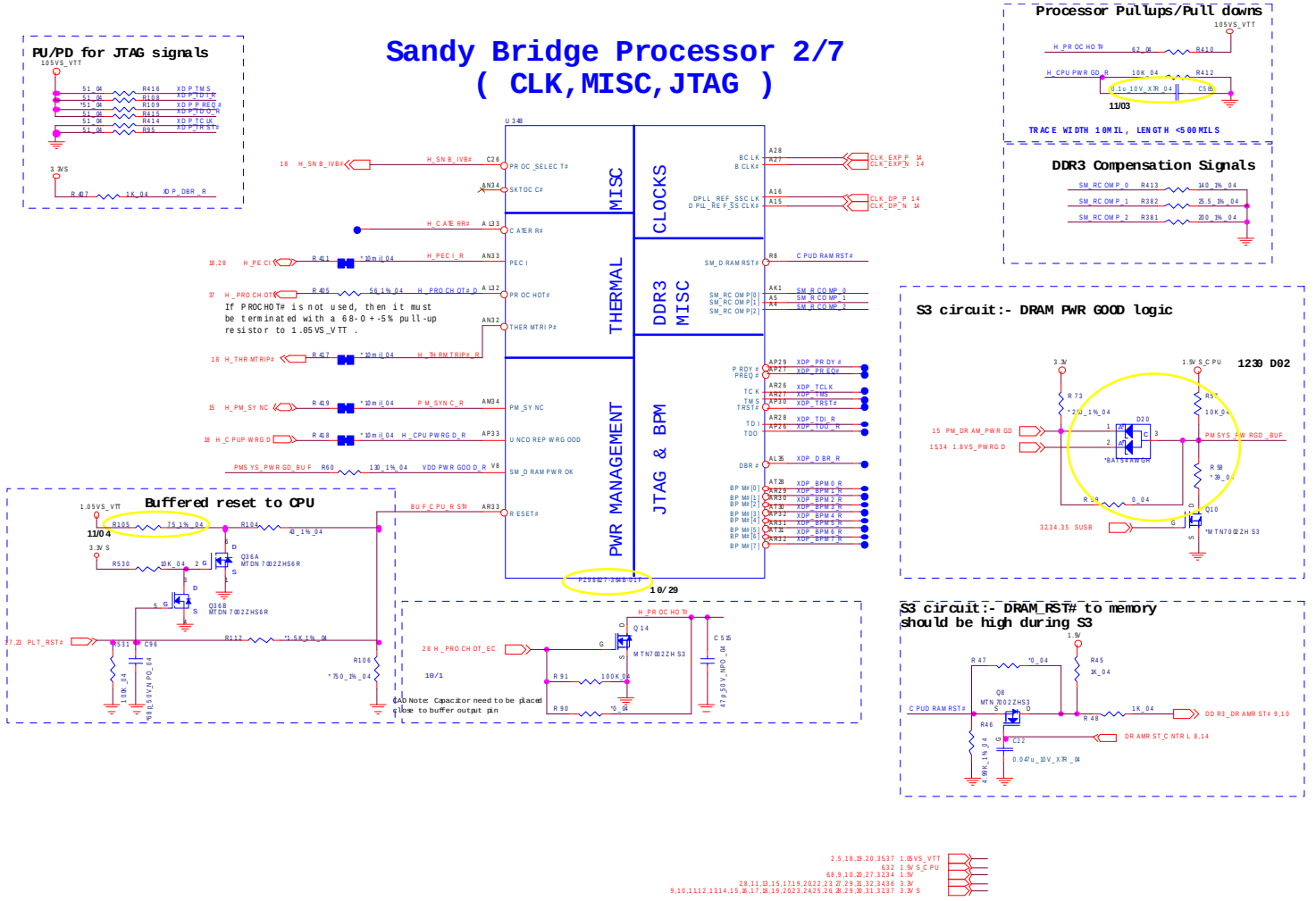
PROCESSOR/ DMI, PEG, FDI



Sheet 2 of 46
PROCESSOR/ DMI, PEG, FDI

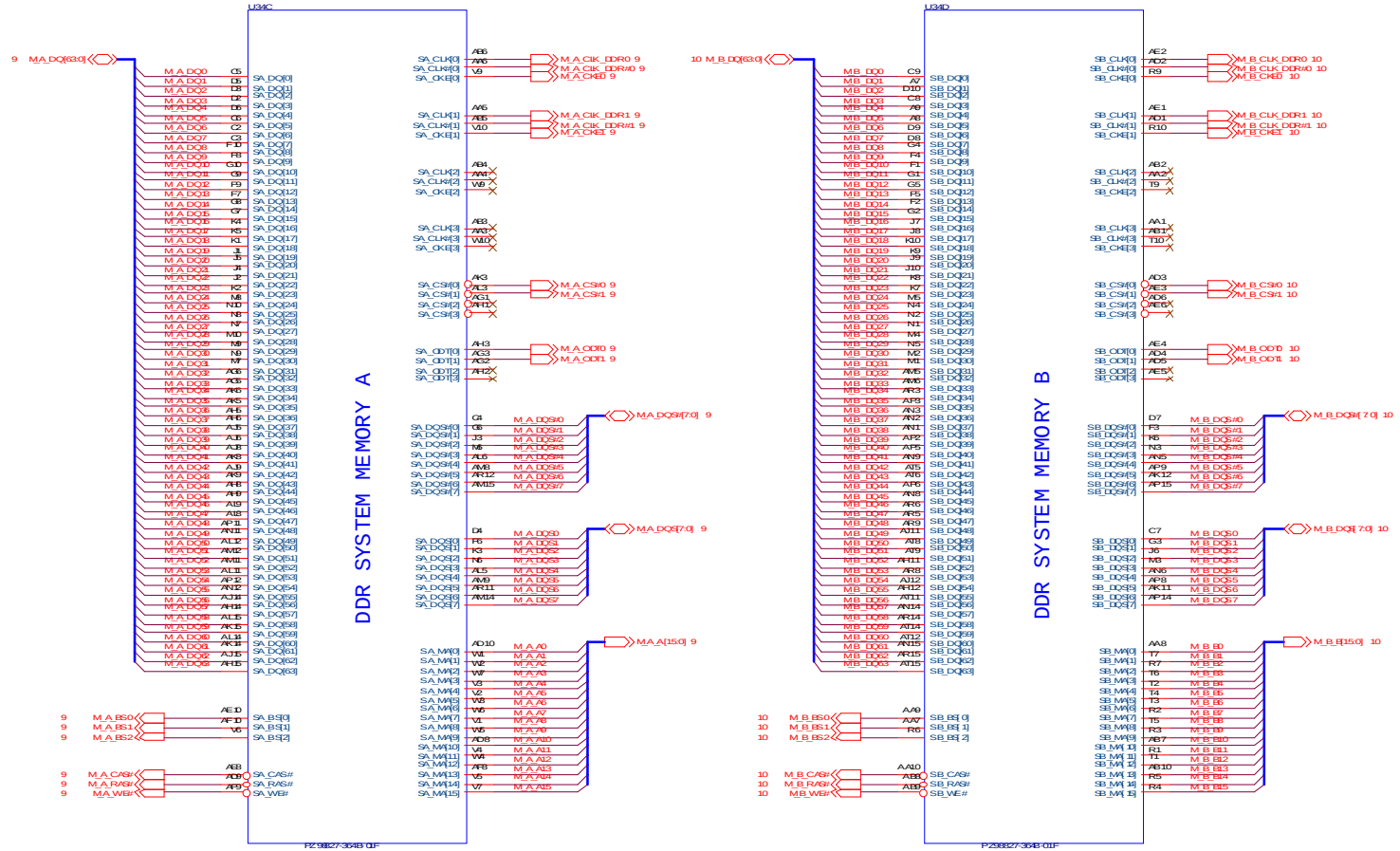
PROCESSOR/ CLK, MISC, JTAG

Sheet 3 of 46
PROCESSOR/ CLK, MISC, JTAG



PROCESSOR/ DDR3

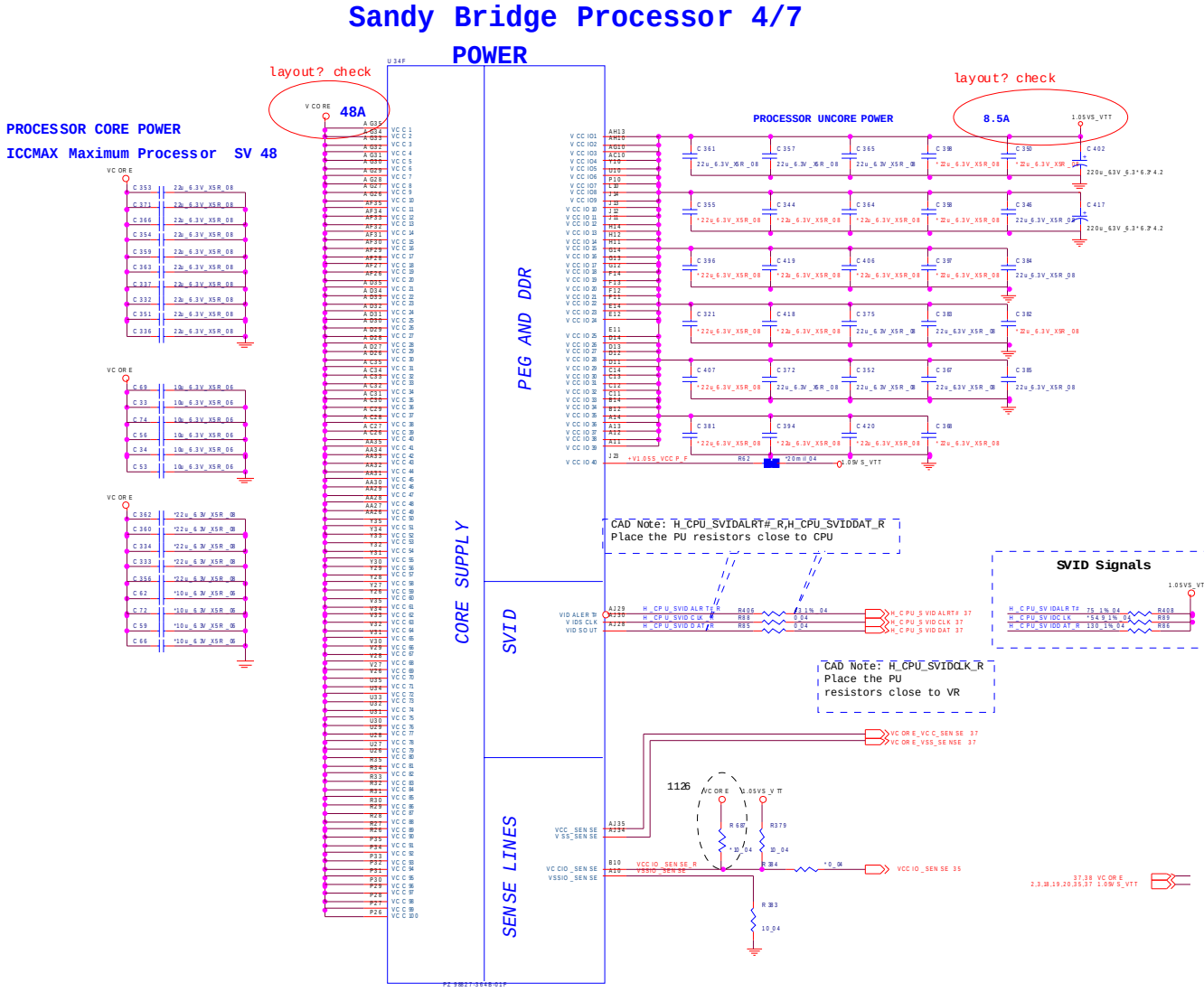
Sandy Bridge Processor 3/7 (DDR3)



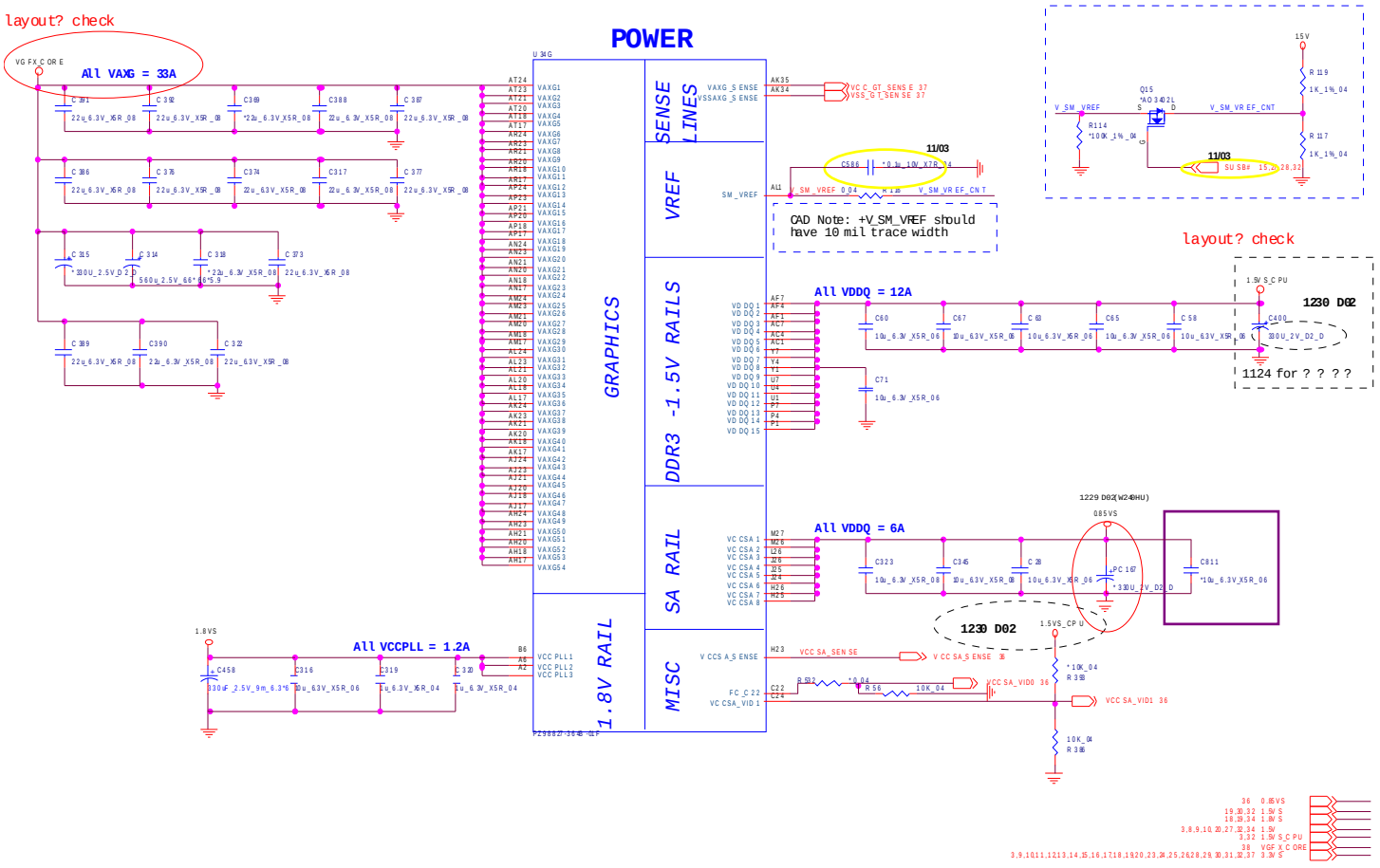
Sheet 4 of 46
PROCESSOR/
DDR3

PROCESSOR/ POWER1

Sheet 5 of 46
PROCESSOR/
POWER1



PROCESSOR/ POWER2

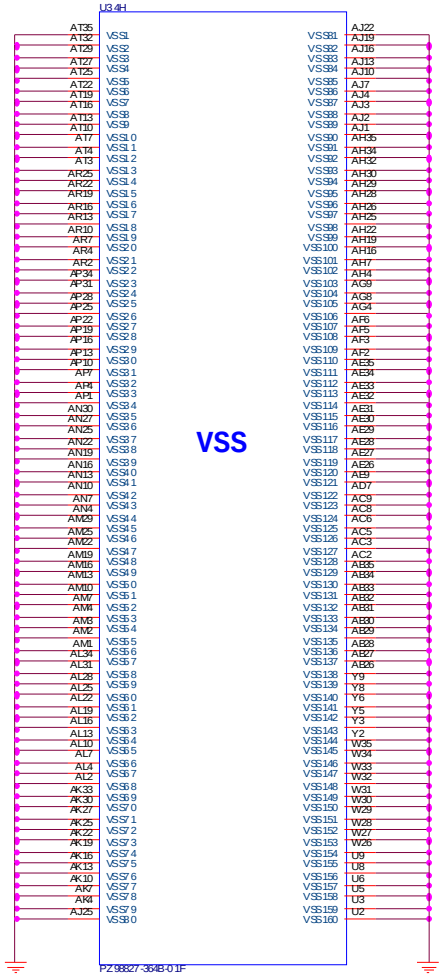


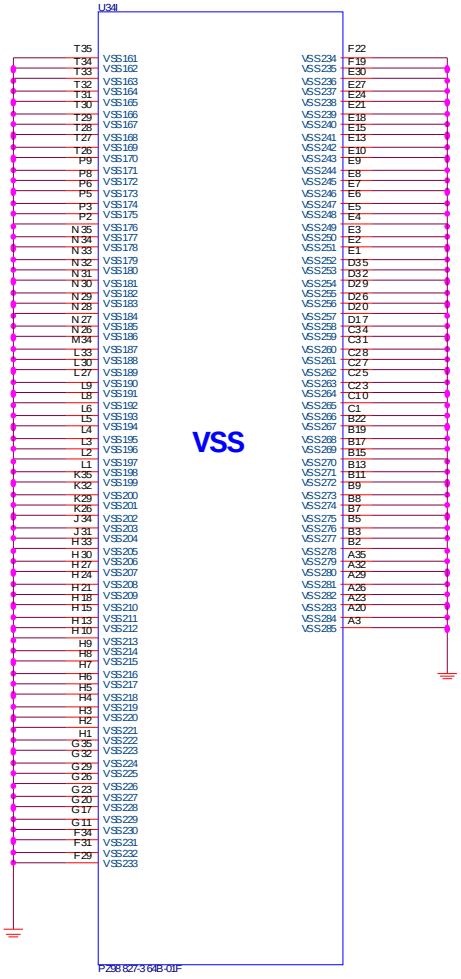
Sheet 6 of 46
PROCESSOR/
POWER2

PROCESSOR/ GND

Sandy Bridge Processor 6/7 (GND)

CAD Note: 0 ohm resistor should be placed close to CPU

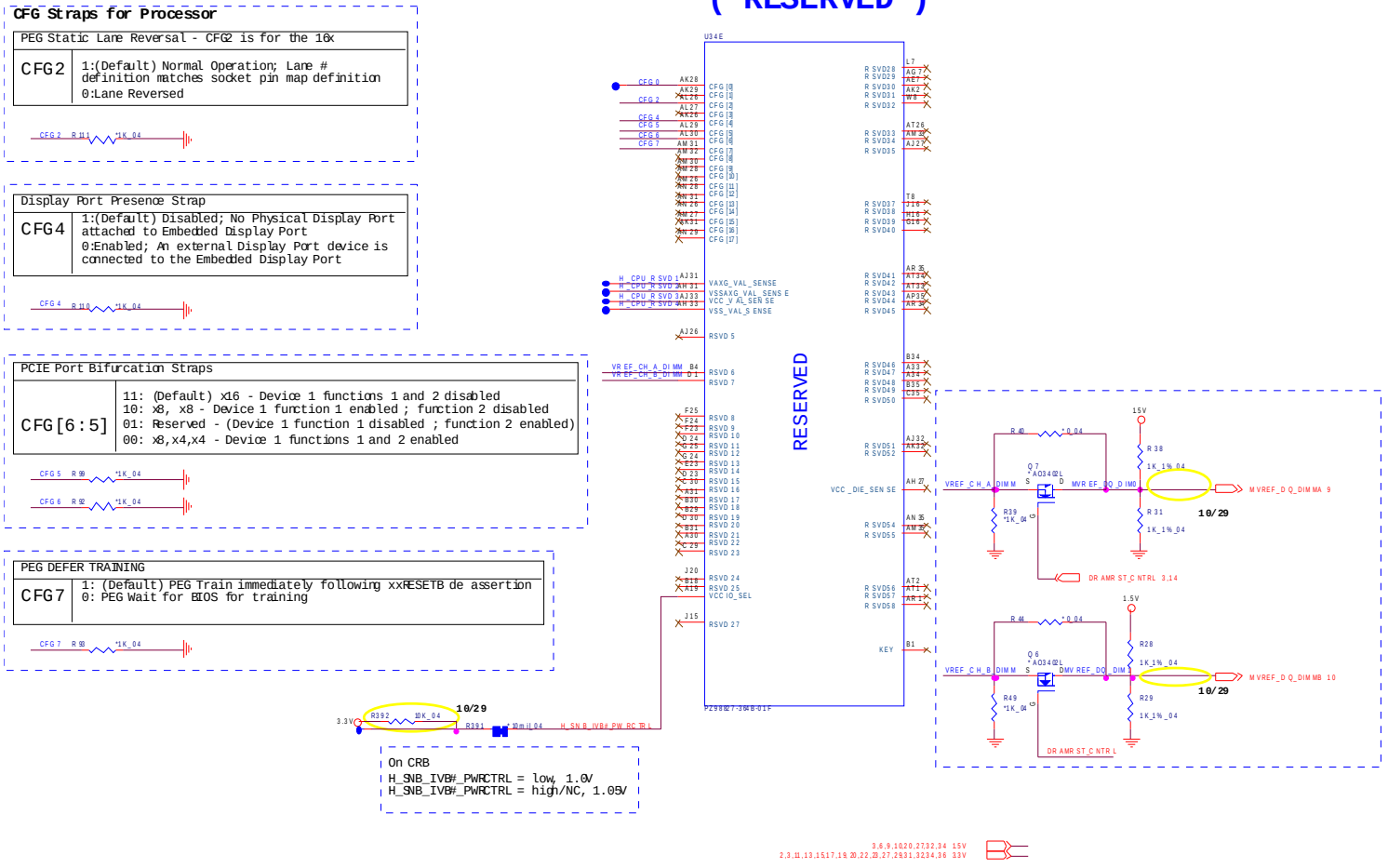




Sheet 7 of 46
CPU 6/7 (GND)

PROCESSOR/ RESERVED

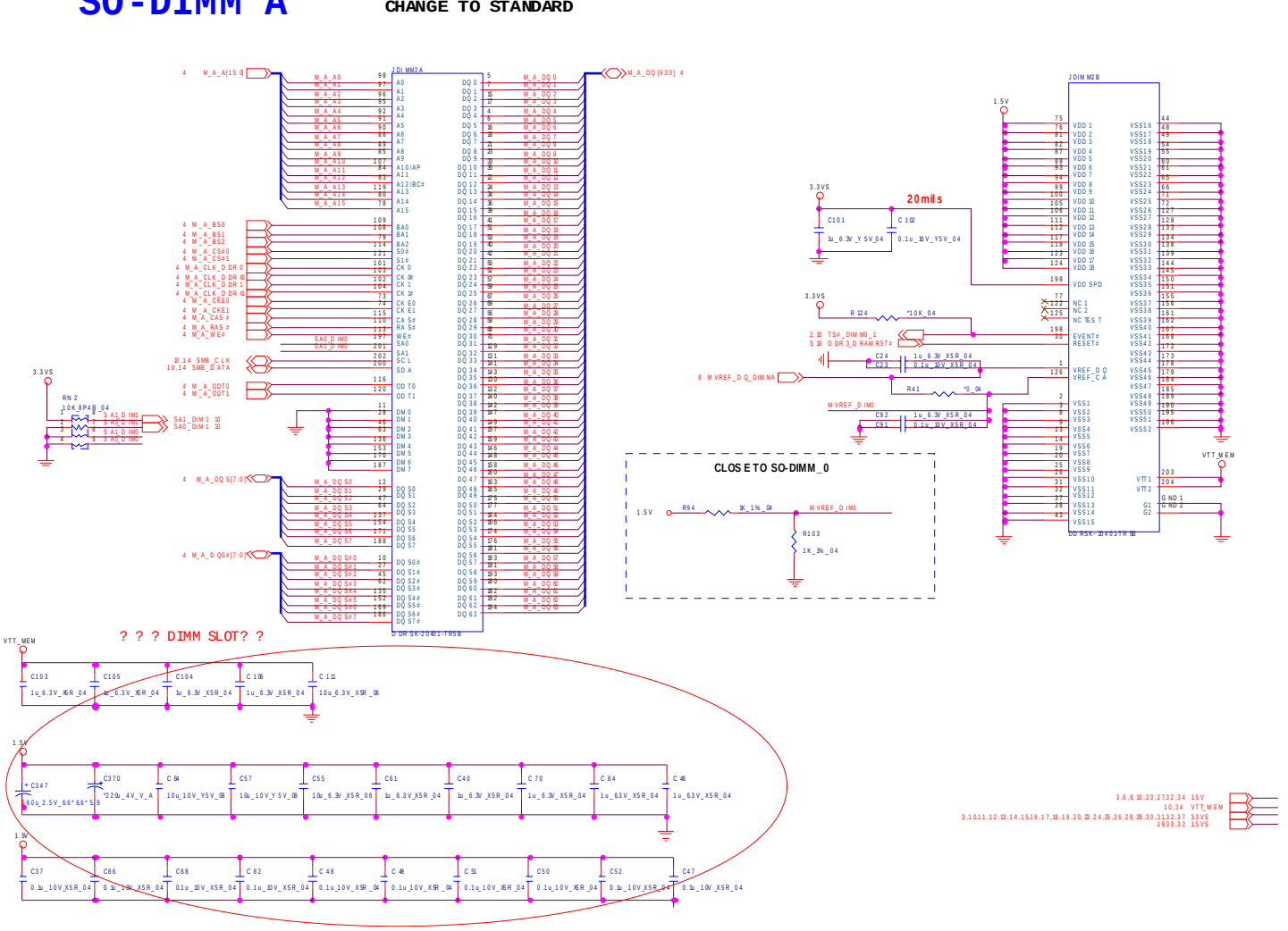
Sandy Bridge Processor 7/7
(RESERVED)



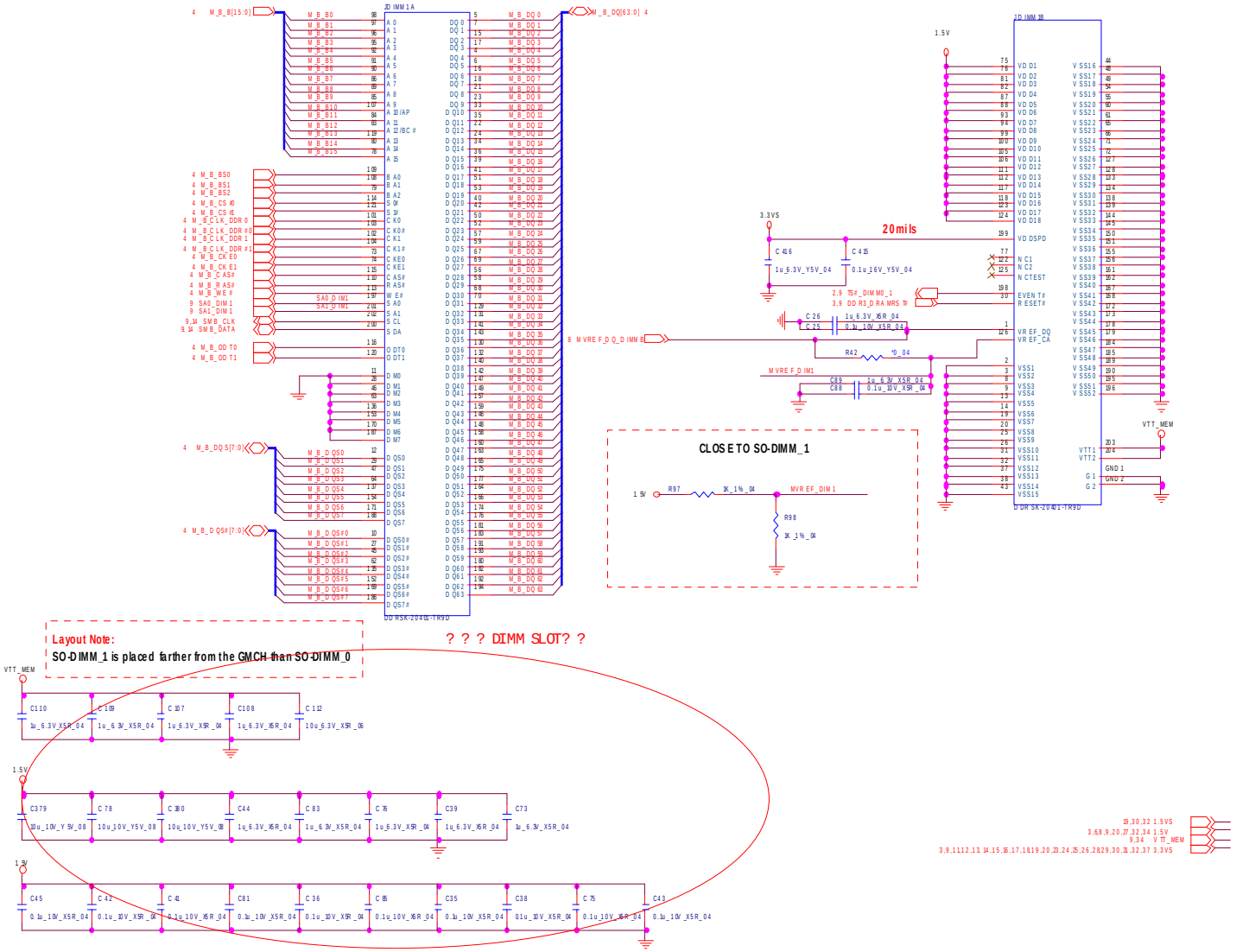
Sheet 8 of 46
PROCESSOR/
RESERVED

DDR3 SO-DIMM_0

Sheet 9 of 46
DDR3 SO-DIMM_0



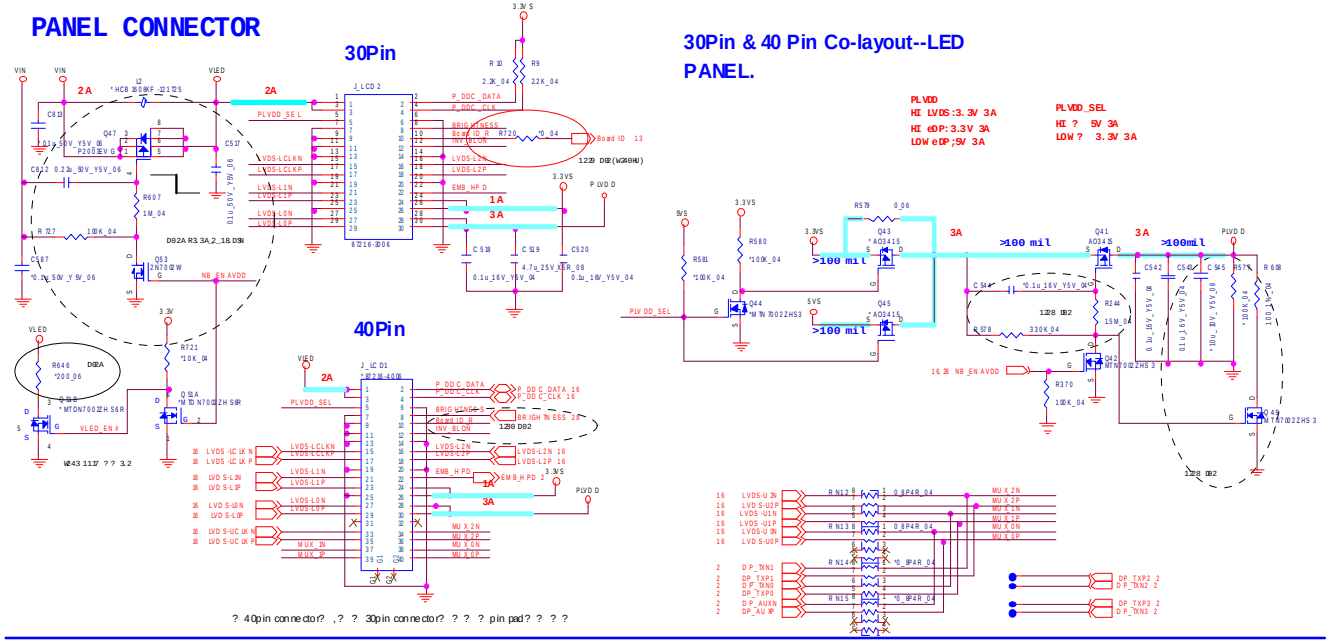
DDR3 SO-DIMM_1



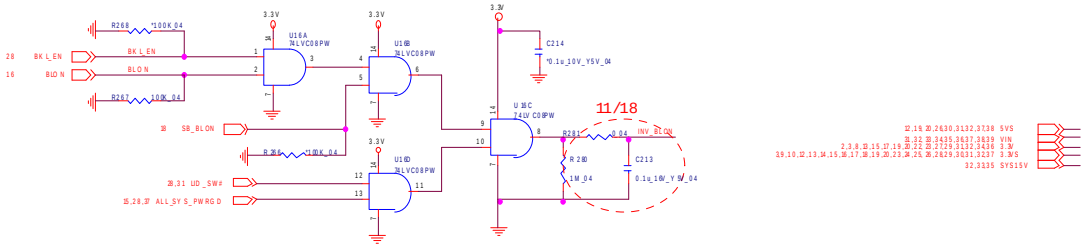
Sheet 10 of 46
DDR3 SO-DIMM_1

LVDS, Inverter

Sheet 11 of 46
LVDS, Inverter



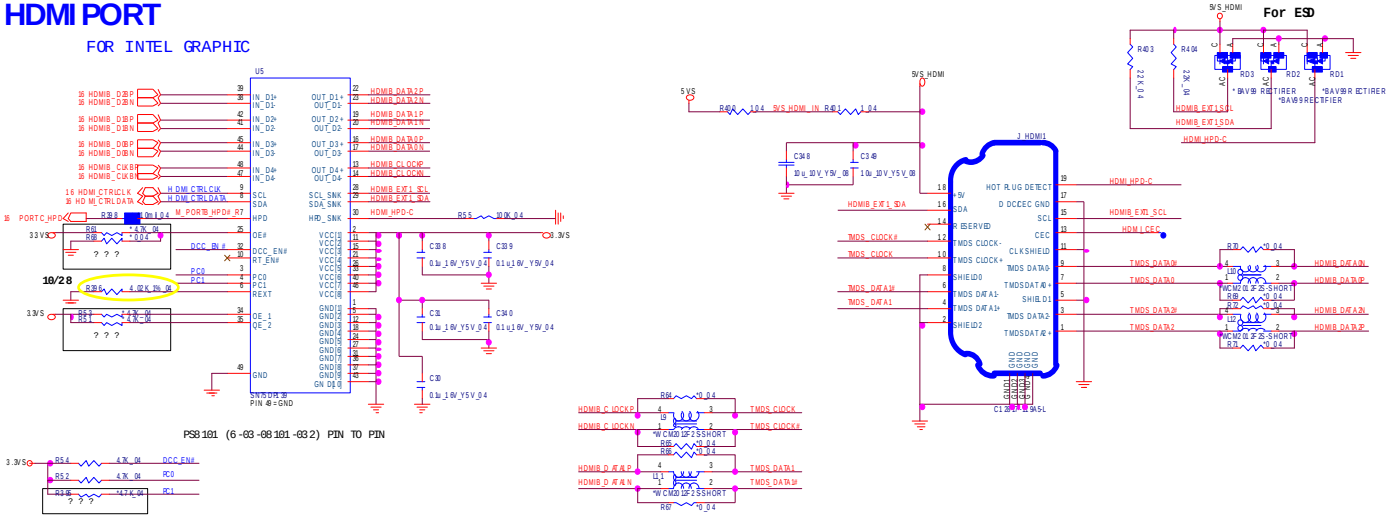
INVERTER CONNECTOR



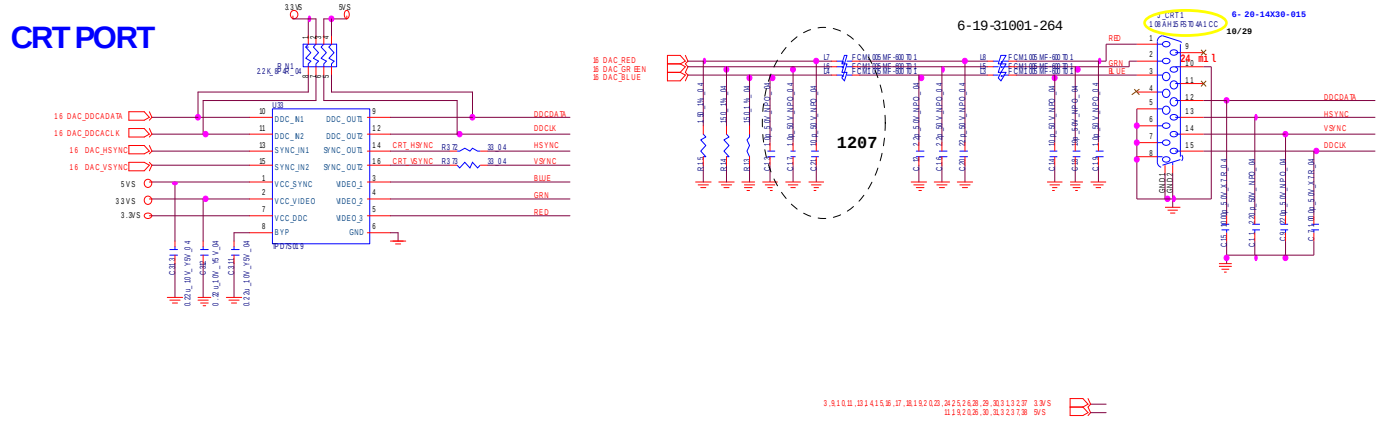
HDMI, CRT

HDMI PORT

FOR INTEL GRAPHIC



CRT PORT

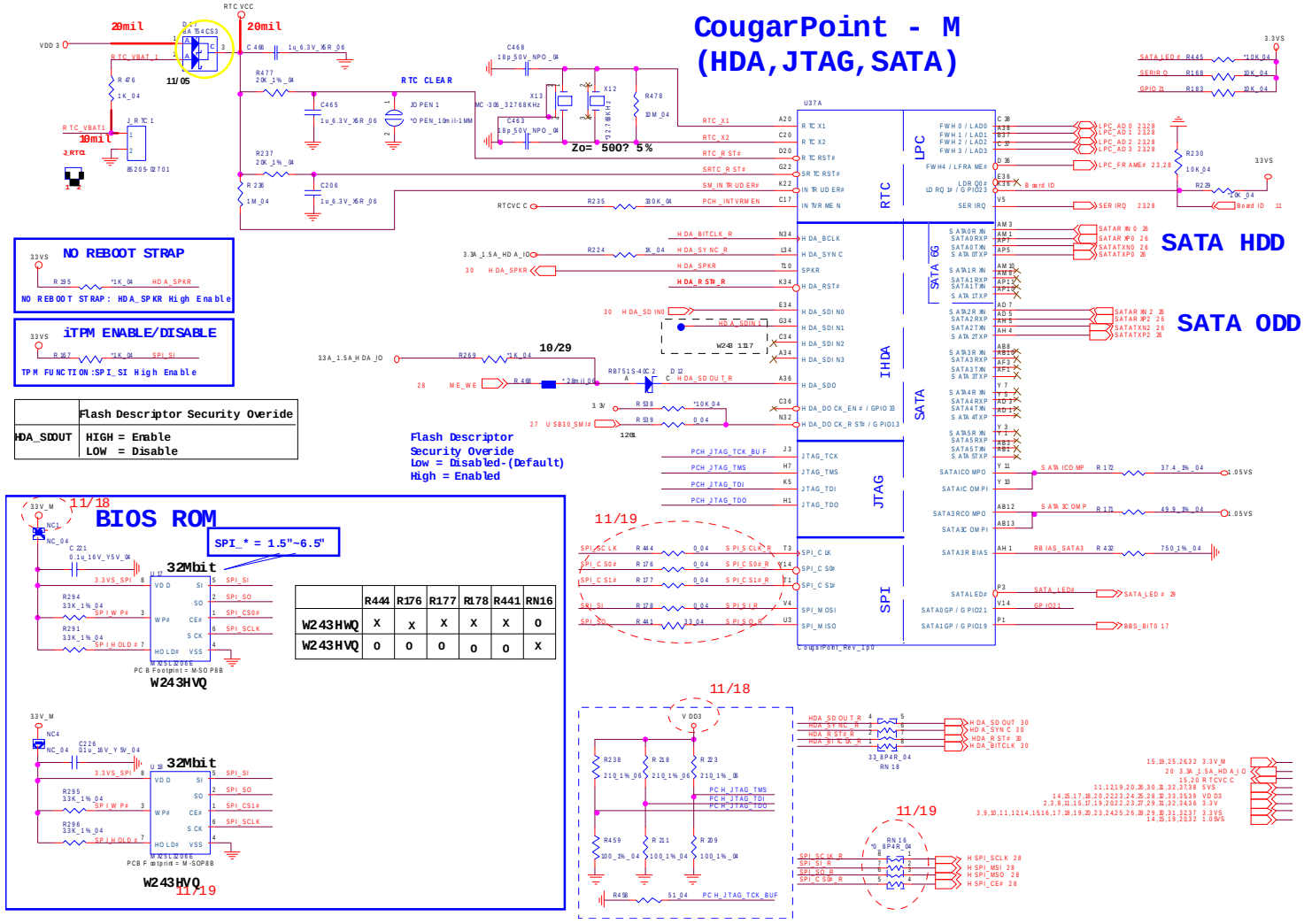


Sheet 12 of 46
HDMI, CRT

B.Schematic Diagrams

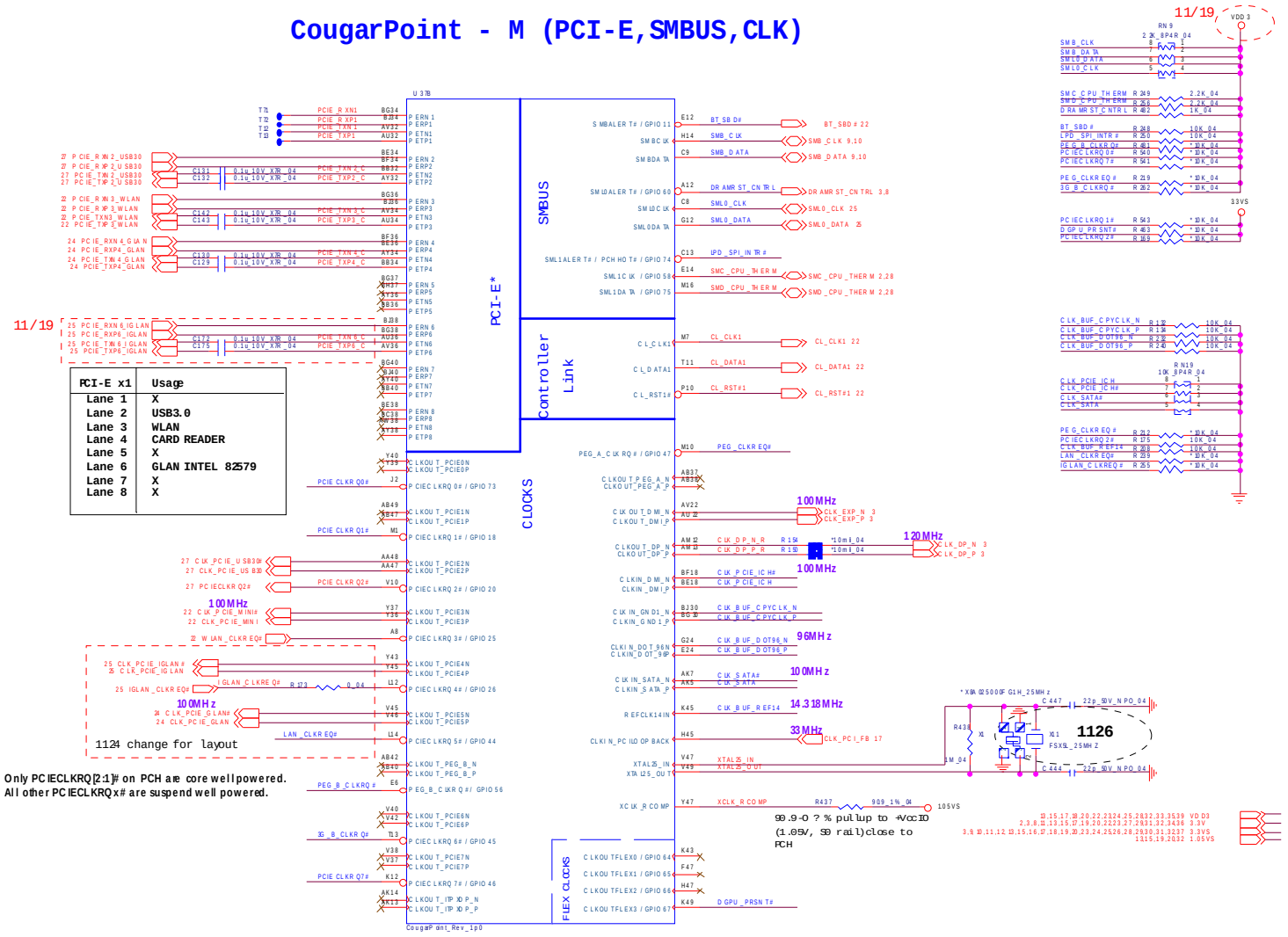
PCH/ HDA, JTAG. SATA

Sheet 13 of 46
PCH/ HDA, JTAG.
SATA



PCH/ PCI-E, SMBUS, CLK

CougarPoint - M (PCI-E,SMBUS,CLK)



PCI-E x1	Usage
Lane 1	X
Lane 2	USB3.0
Lane 3	WLAN
Lane 4	CARD READER
Lane 5	X
Lane 6	GLAN INTEL 82579
Lane 7	X
Lane 8	X

Sheet 14 of 46
PCH/ PCI-E, SMBUS, CLK

B.Schematic Diagrams

PCH/ DMI, FDI, GPIO

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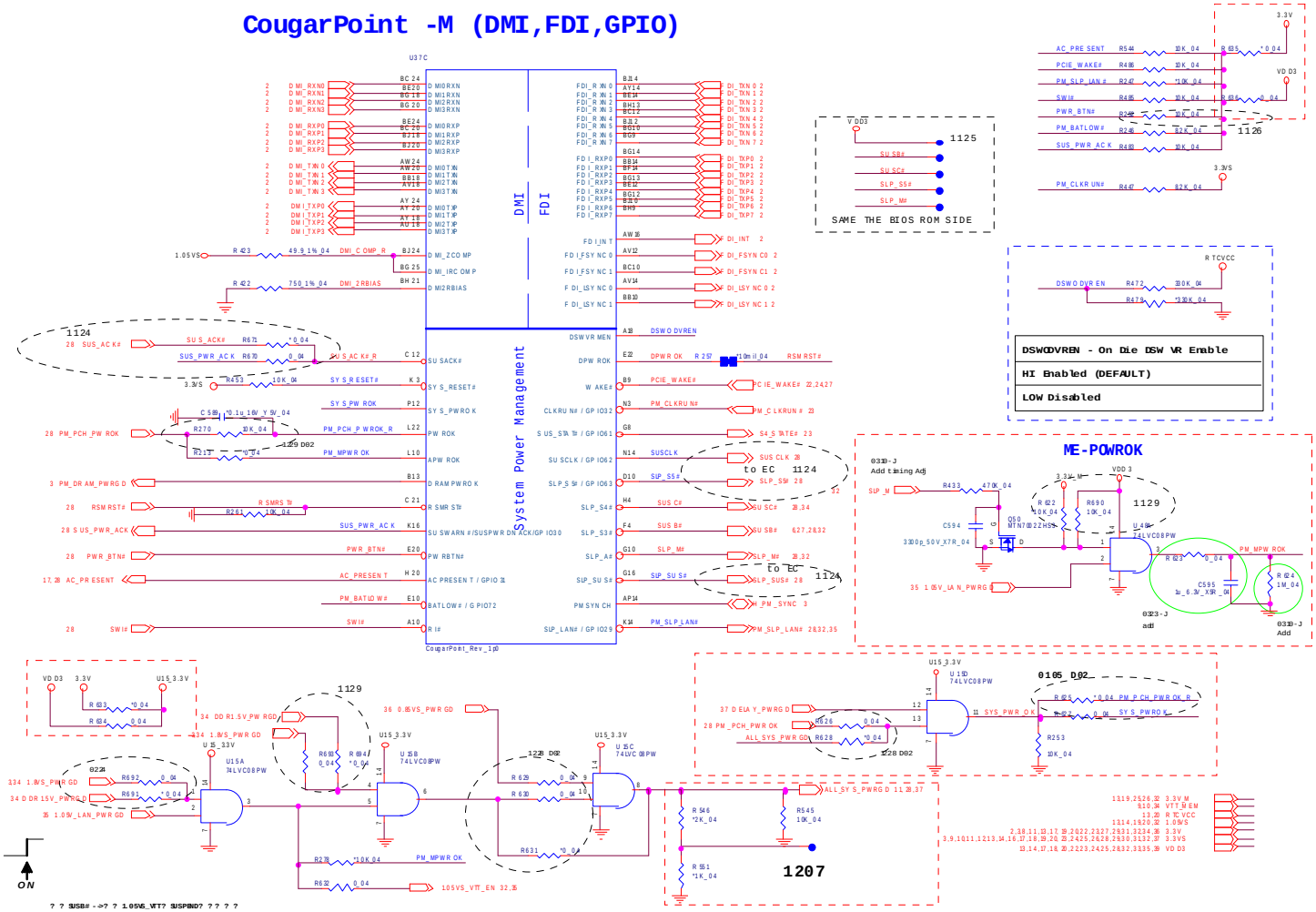
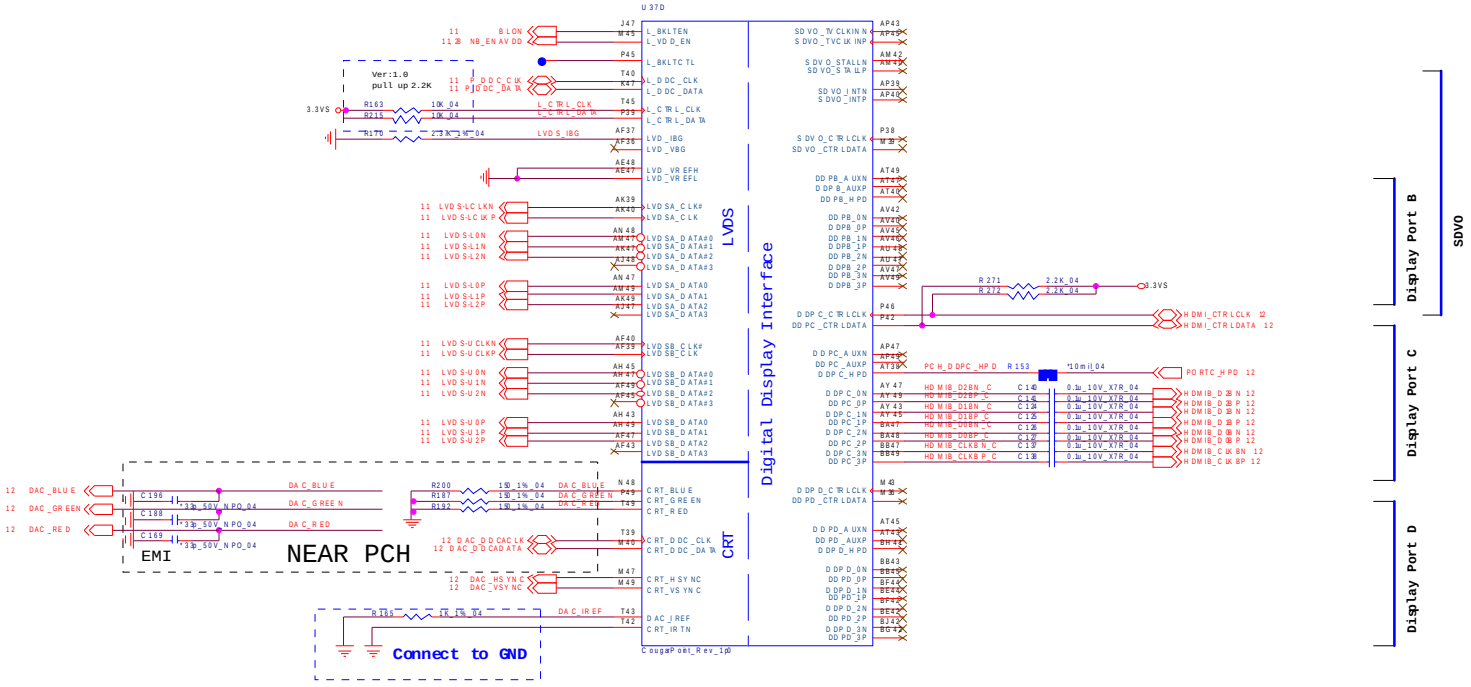
PCH/ DMI, FDI, GPIO



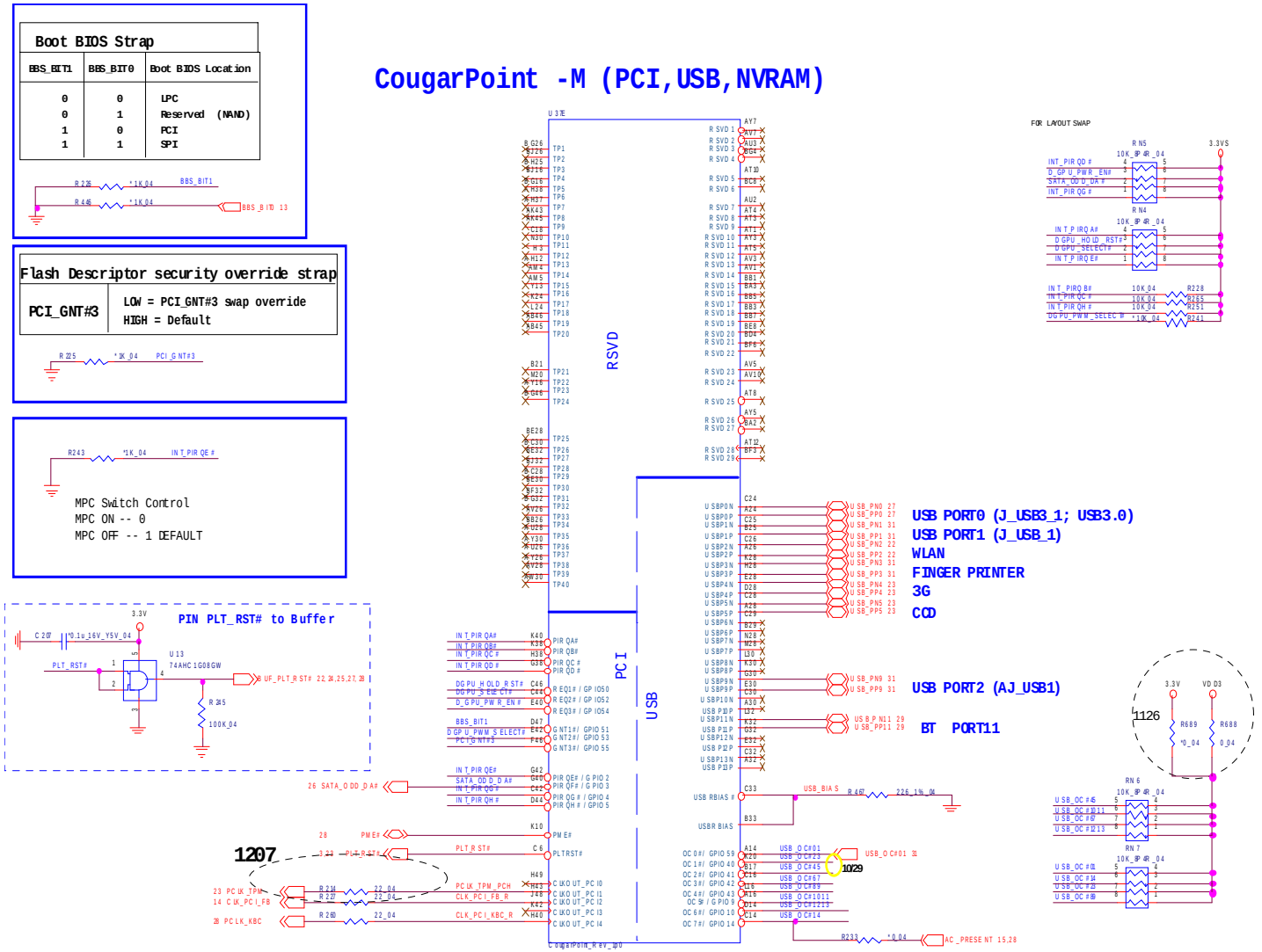
PCH/ LVDS, DDI, CRT



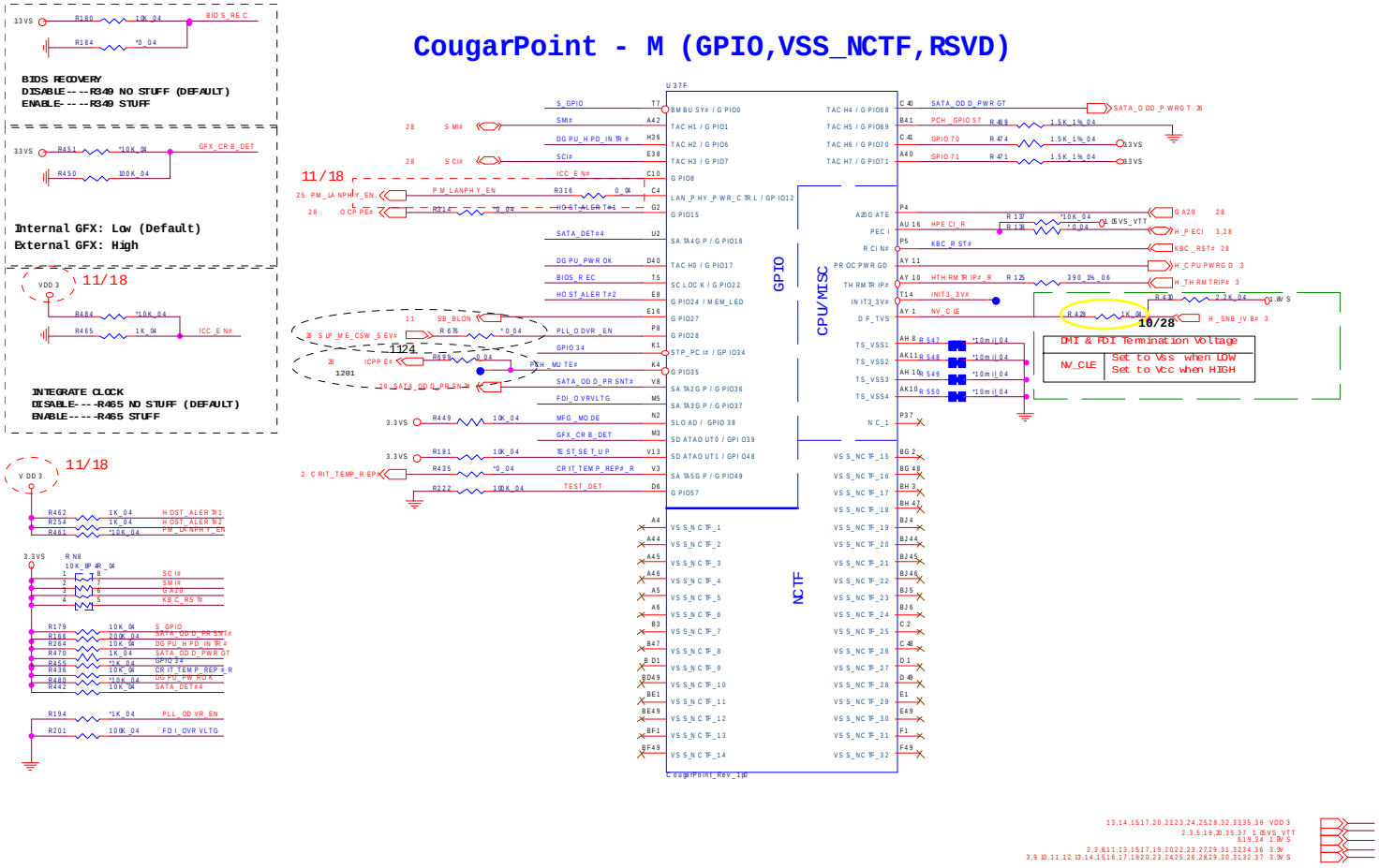
Sheet 16 of 46
PCH/ LVDS, DDI, CRT

PCH/ PCI, USB, NVRAM

Sheet 17 of 46
PCH/ PCI, USB, NVRAM



PCH/ GPIO, VSS_NCTF, RSVD



Sheet 18 of 46
PCH/ GPIO,
VSS_NCTF, RSVD

PCH/ POWER1

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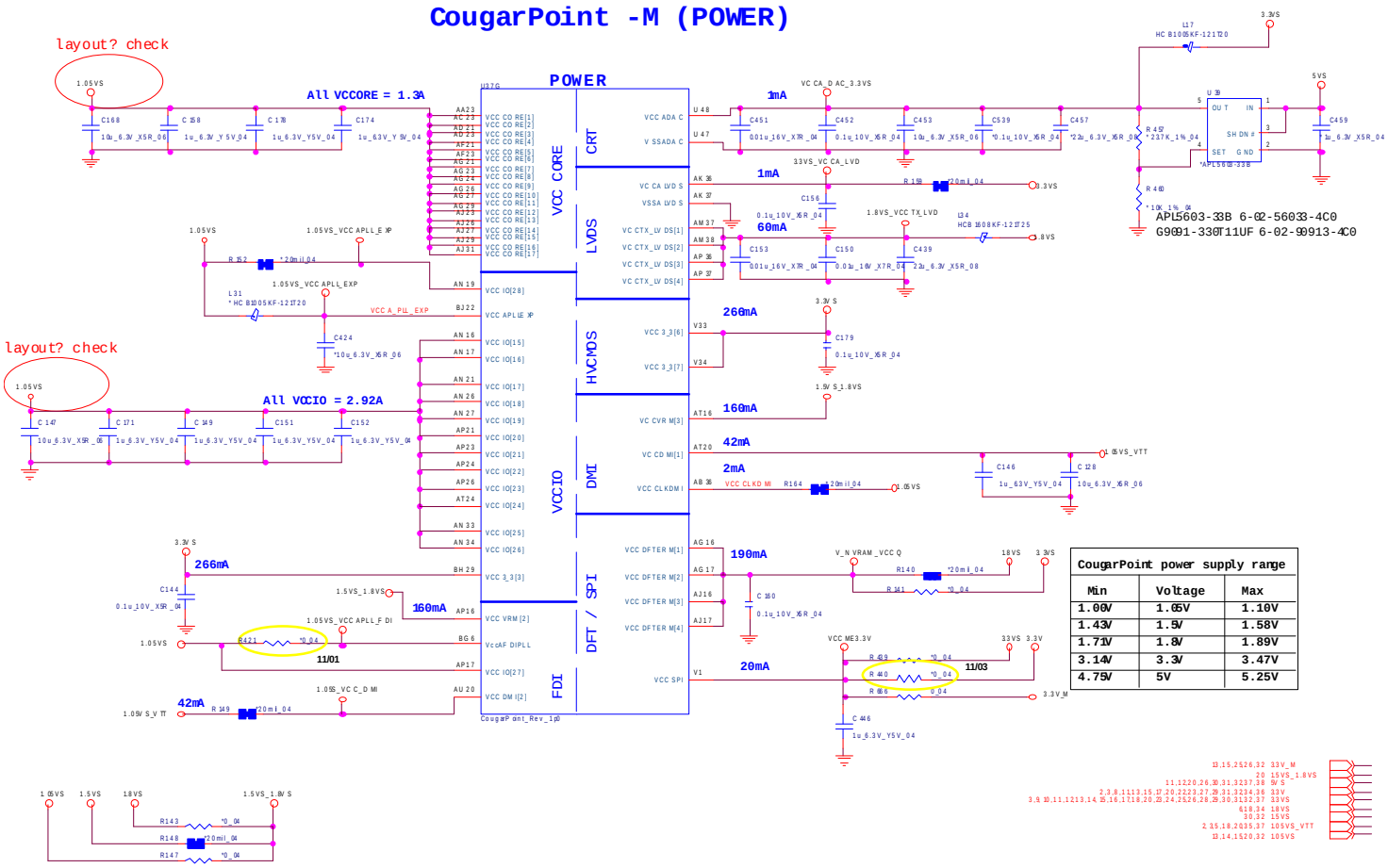
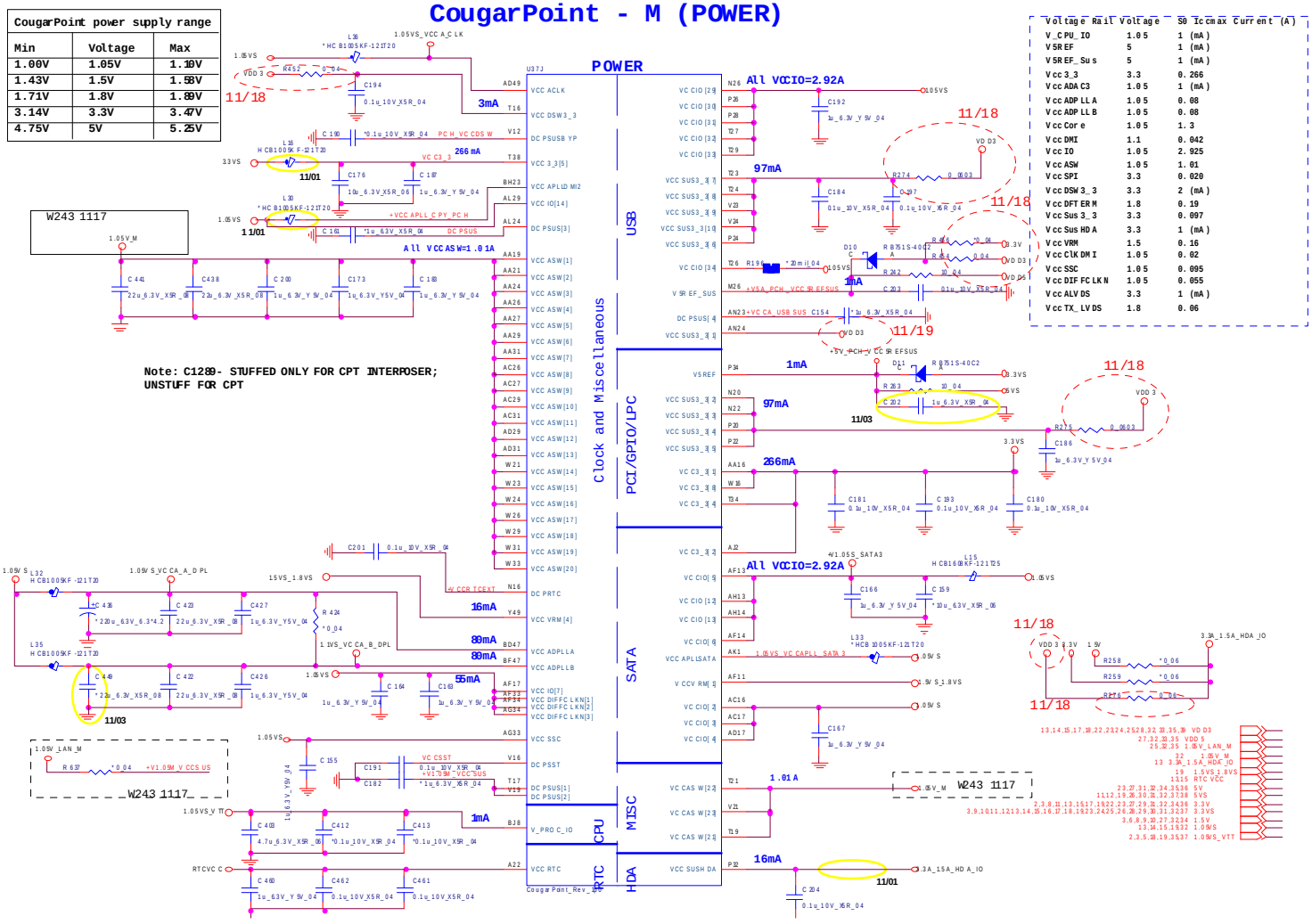
PCH/ POWER1



PCH/ POWER2

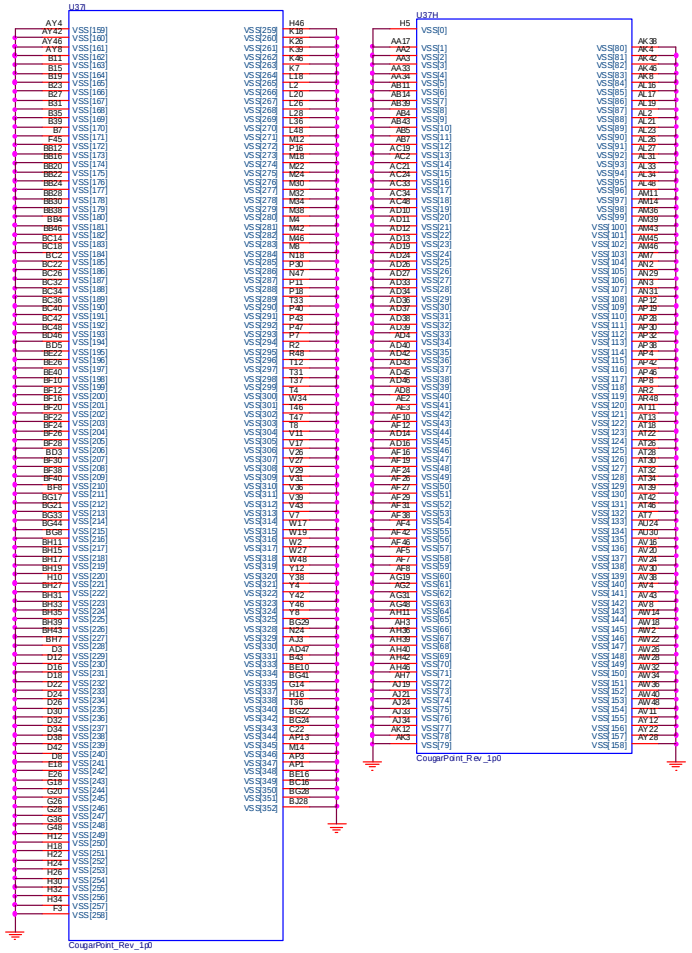


Sheet 20 of 46
PCH/ POWER2

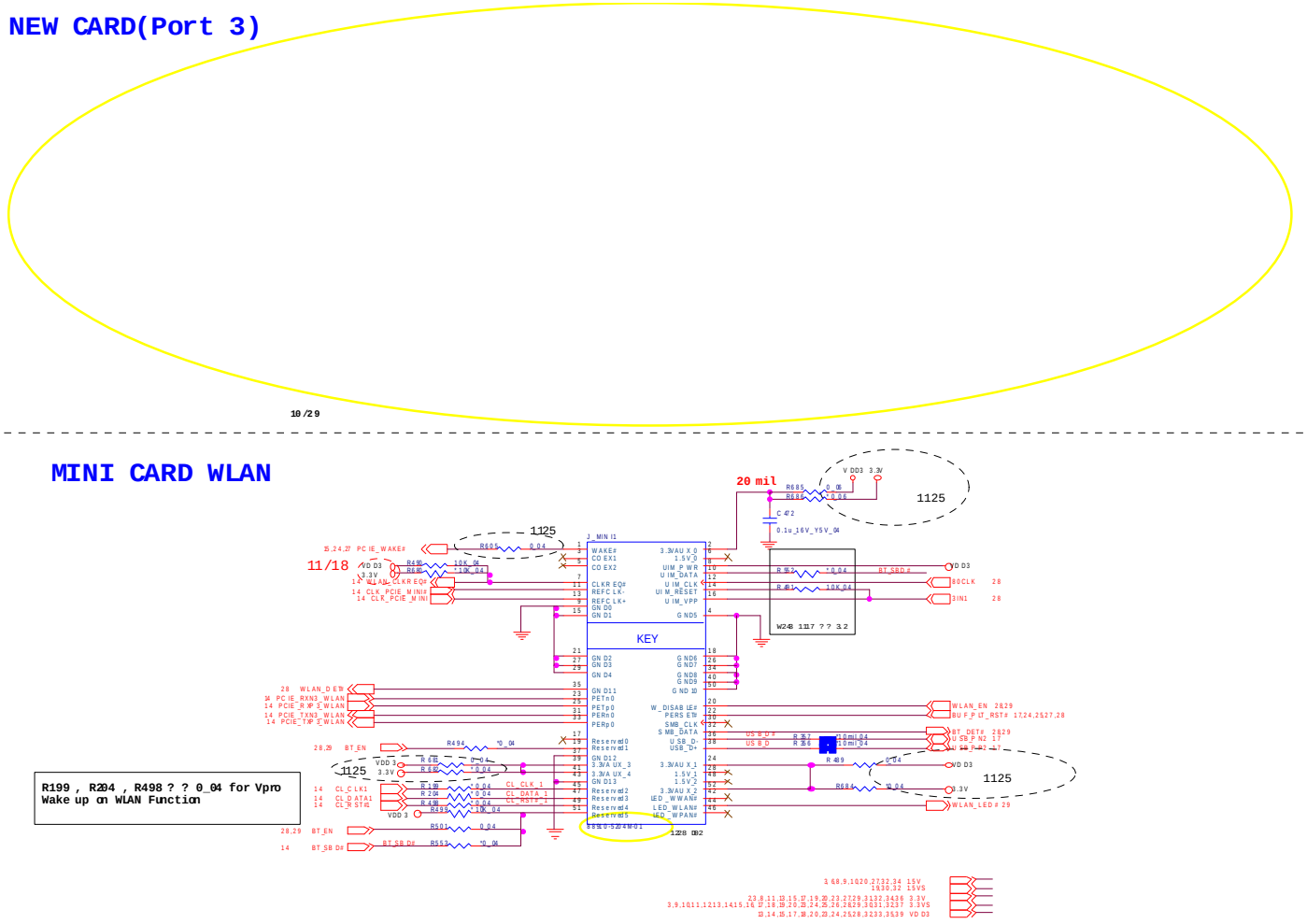
PCH/ GND

Sheet 21 of 46
PCH/ GND

CougarPoint -M (GND)



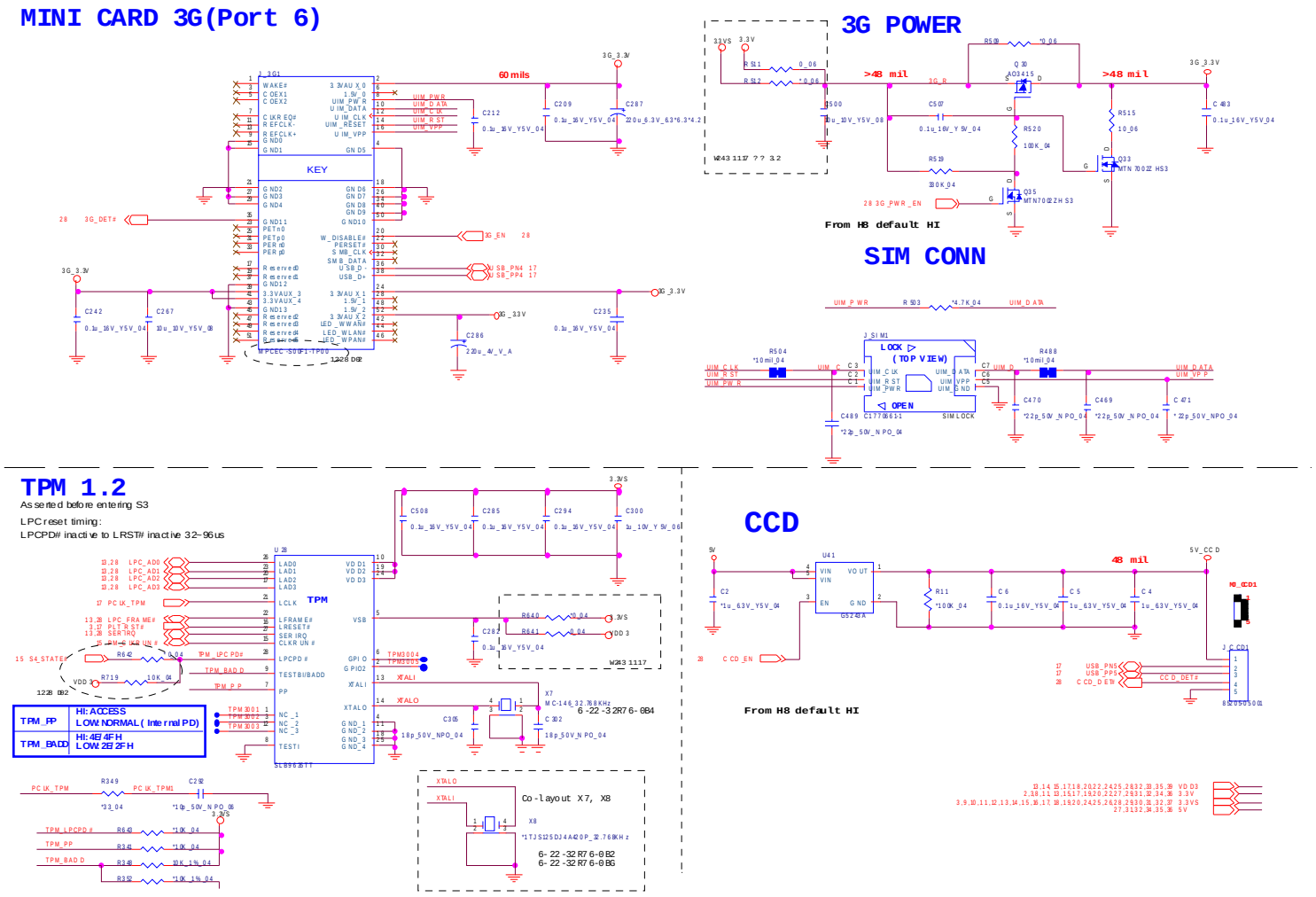
New Card, Mini PCIE



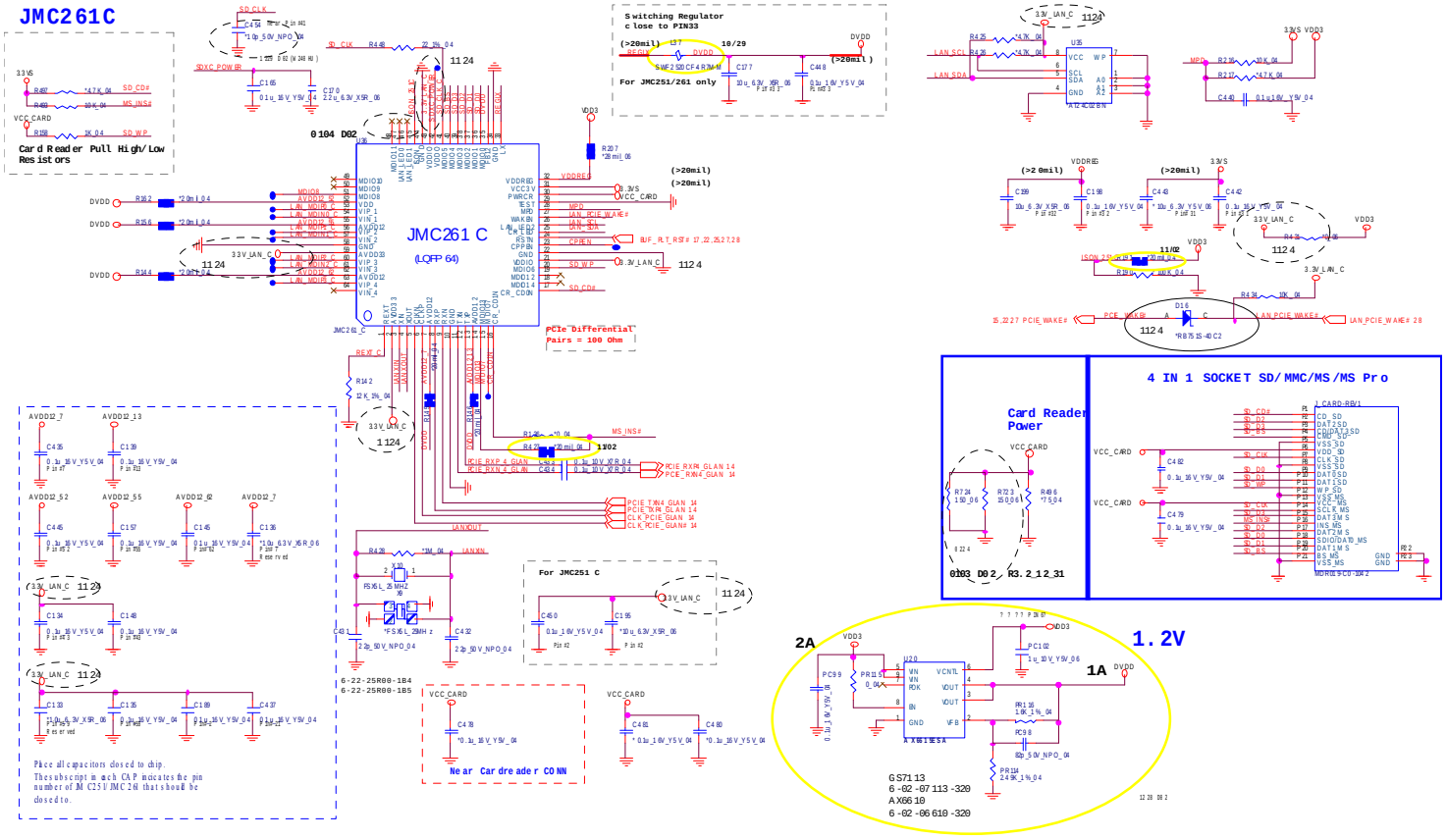
Sheet 22 of 46
New Card, Mini PCIE

CCD, 3G, TPM

Sheet 23 of 46
CCD, 3G, TPM



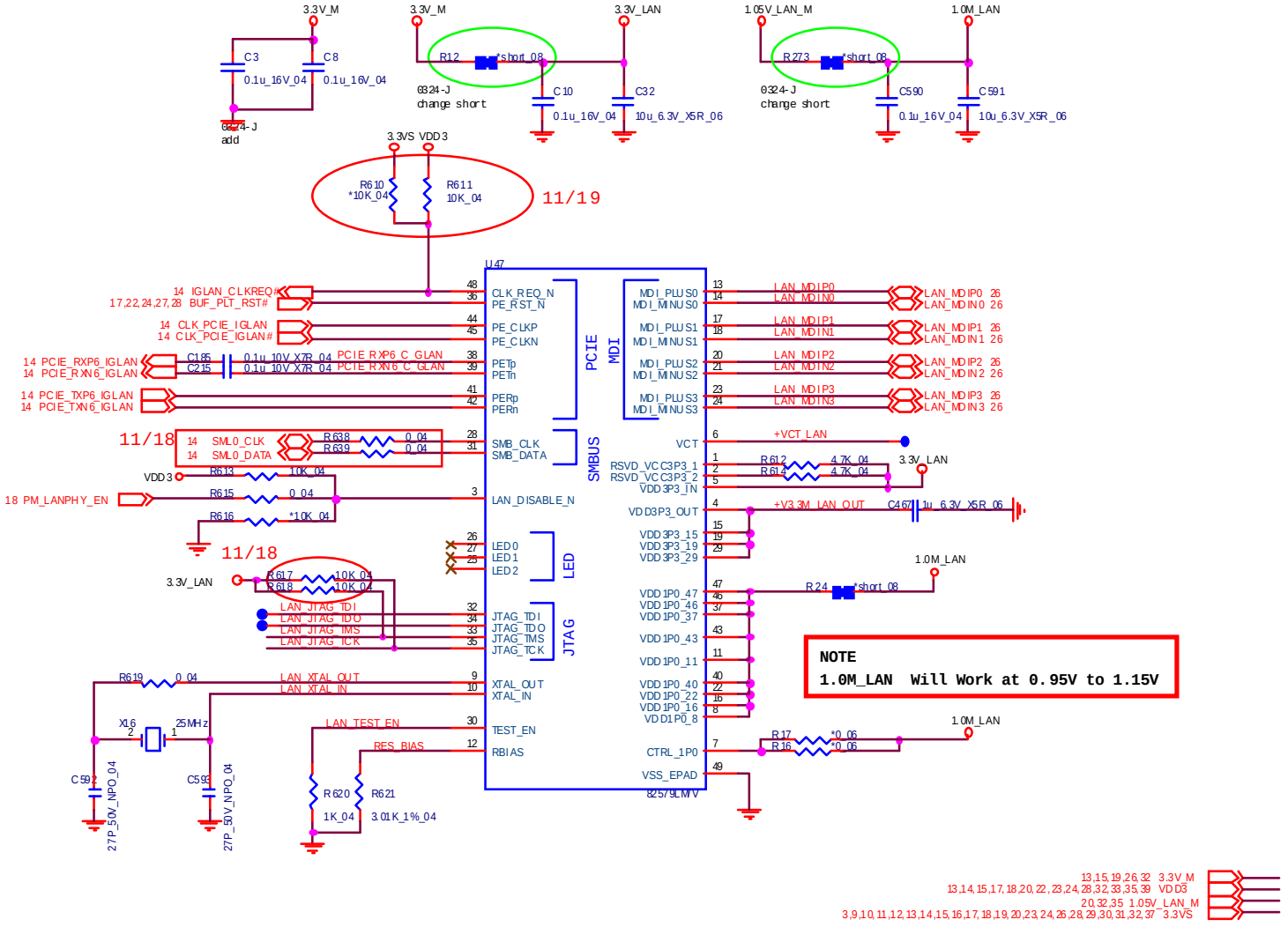
Card Reader/LAN JMC261C



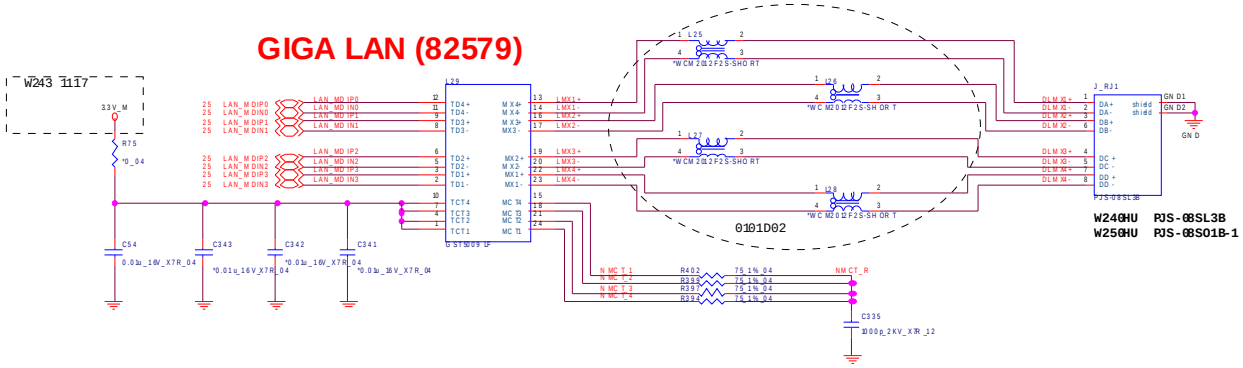
Sheet 24 of 46
Card Reader/LAN
JMC261C

INTEL LAN 82579

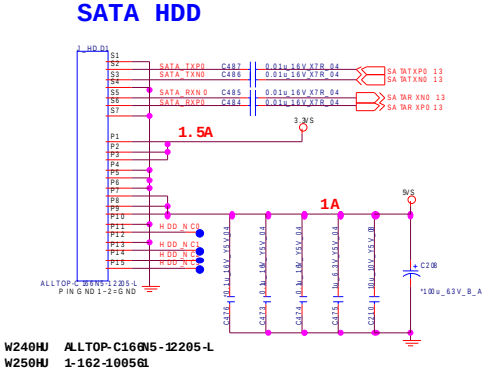
Sheet 25 of 46
INTEL LAN 82579

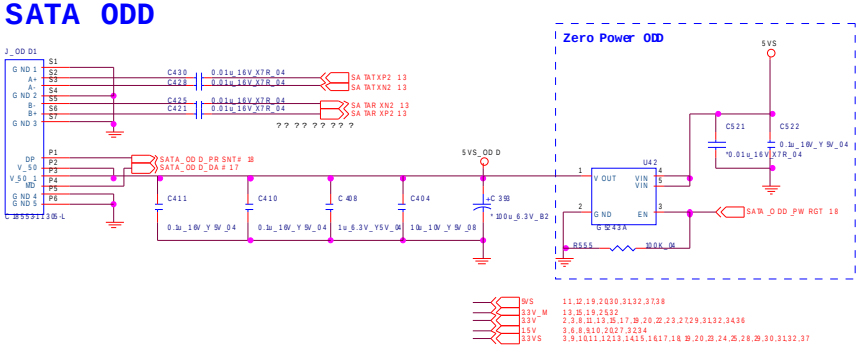


LAN (82579), SATA HDD, ODD



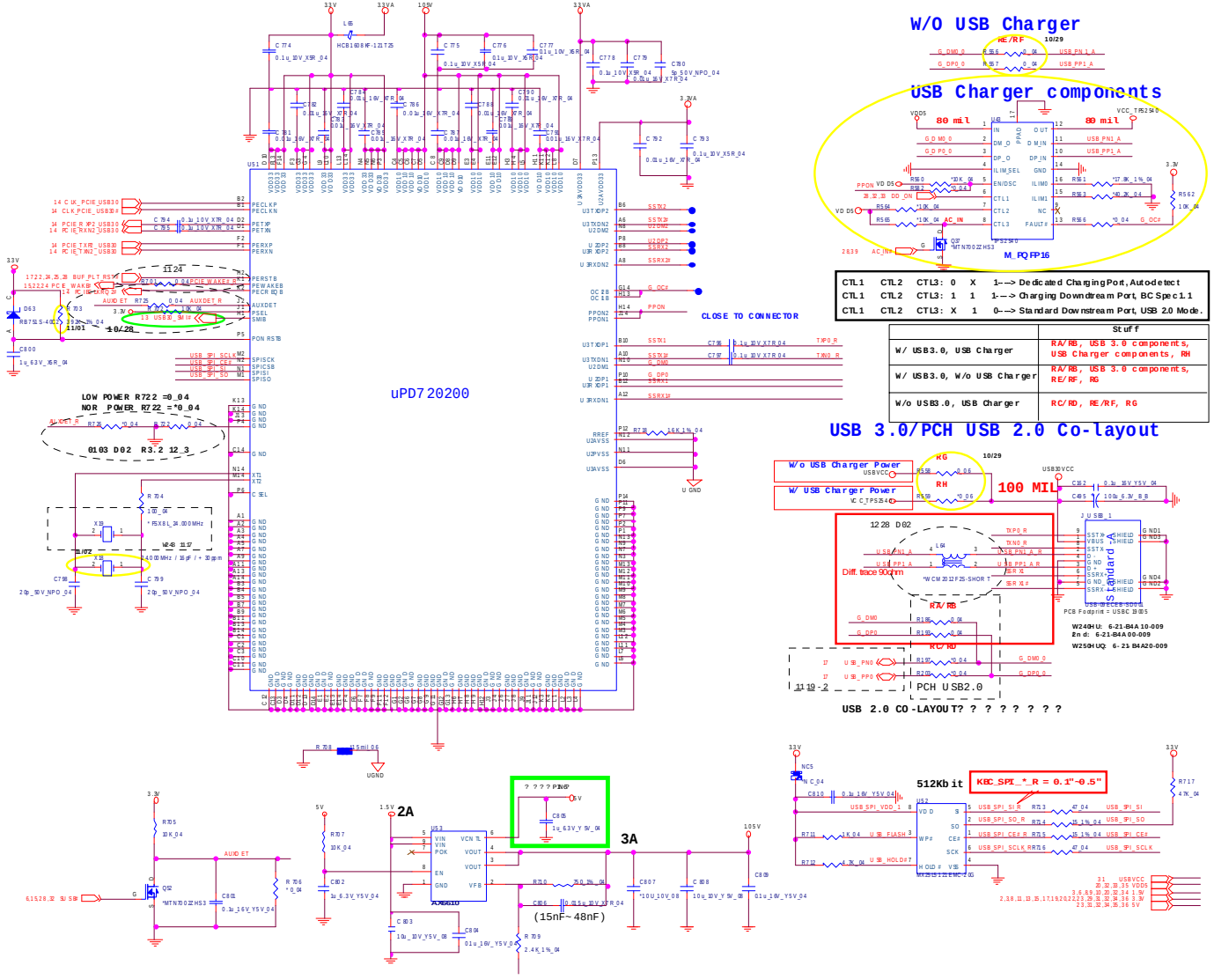
Sheet 26 of 46
LAN (82579), SATA HDD, ODD



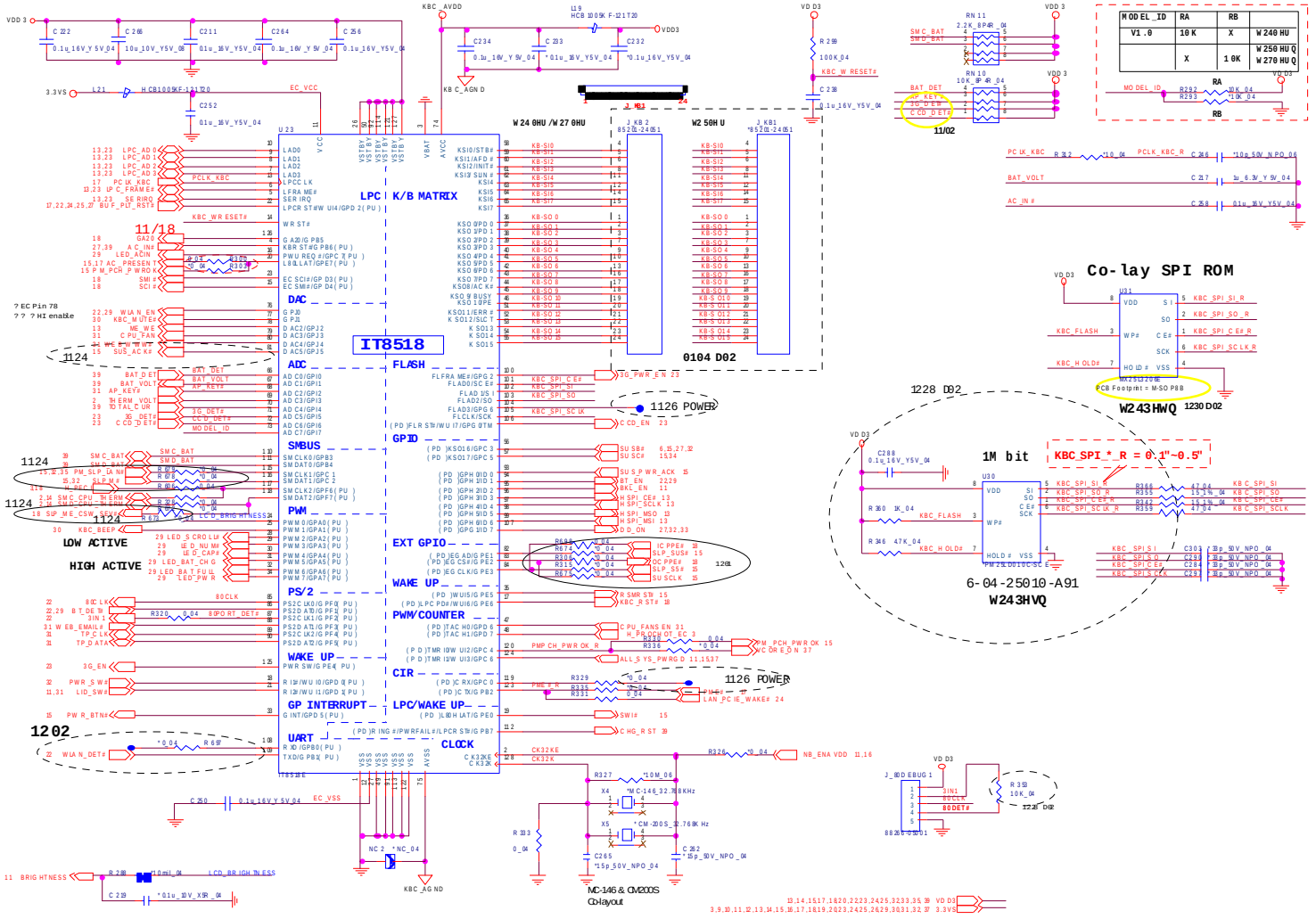


USB3.0 NEC, USB CHARGER

Sheet 27 of 46
USB3.0 NEC, USB CHARGER



KBC-ITE IT81518



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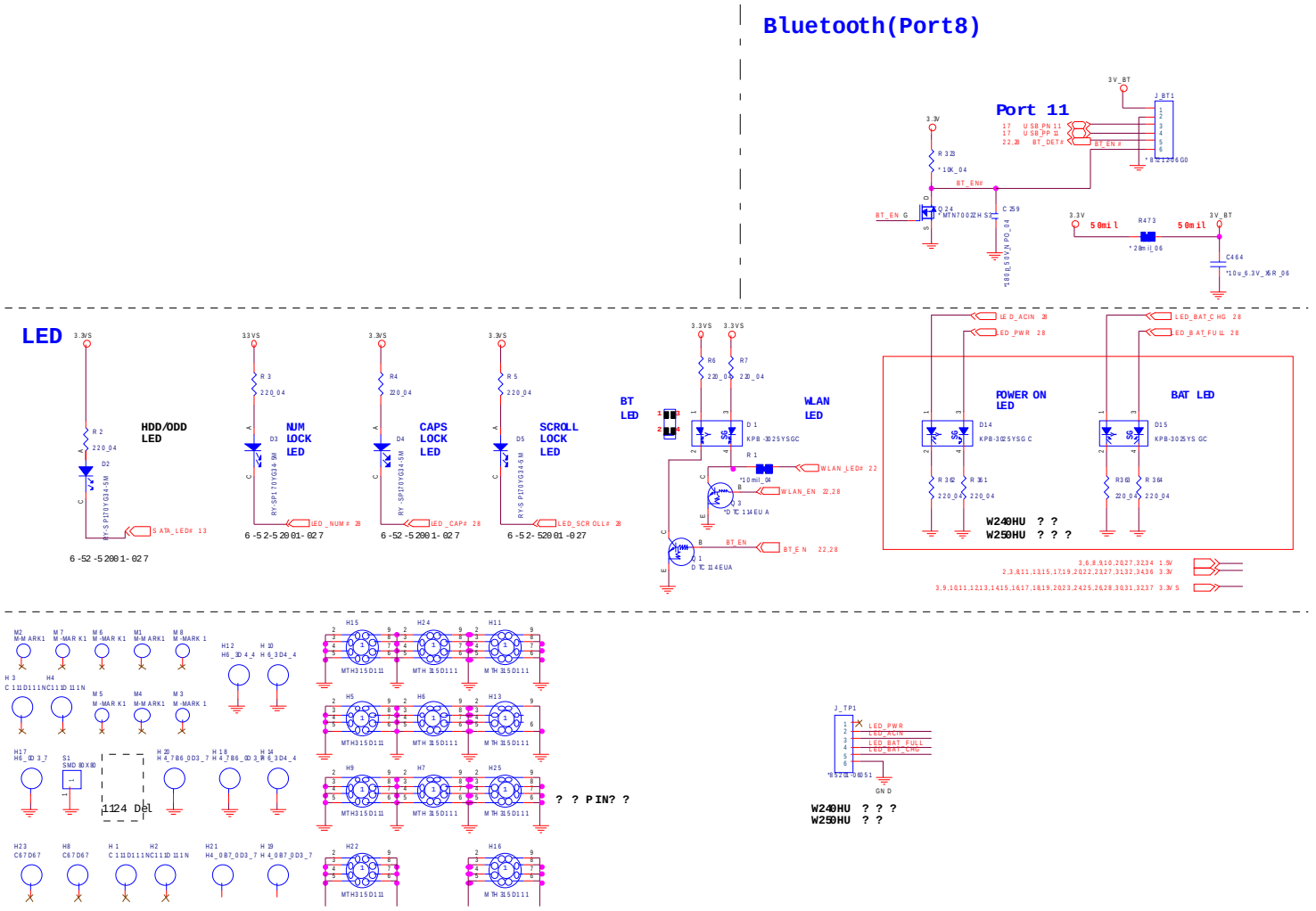
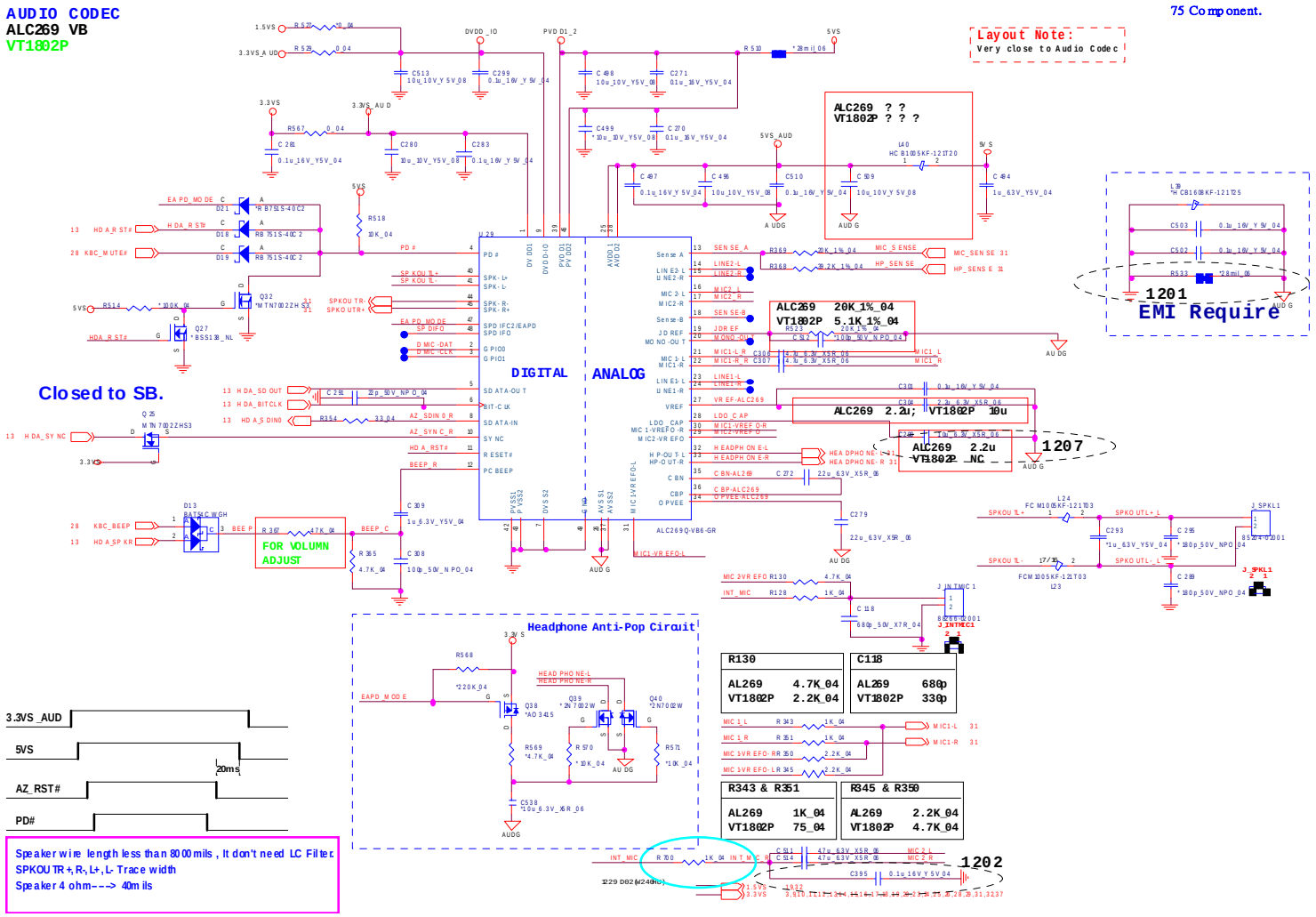
KBC-ITE IT81518

LED, MDC, BT

Sheet 29 of 46
LED, MDC, BT



AUDIO CODEC ALC269 VIA1802



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AUDIO CODEC
ALC269 VIA1802

B.Schematic Diagrams

USB, FAN, TP, MULTI CON

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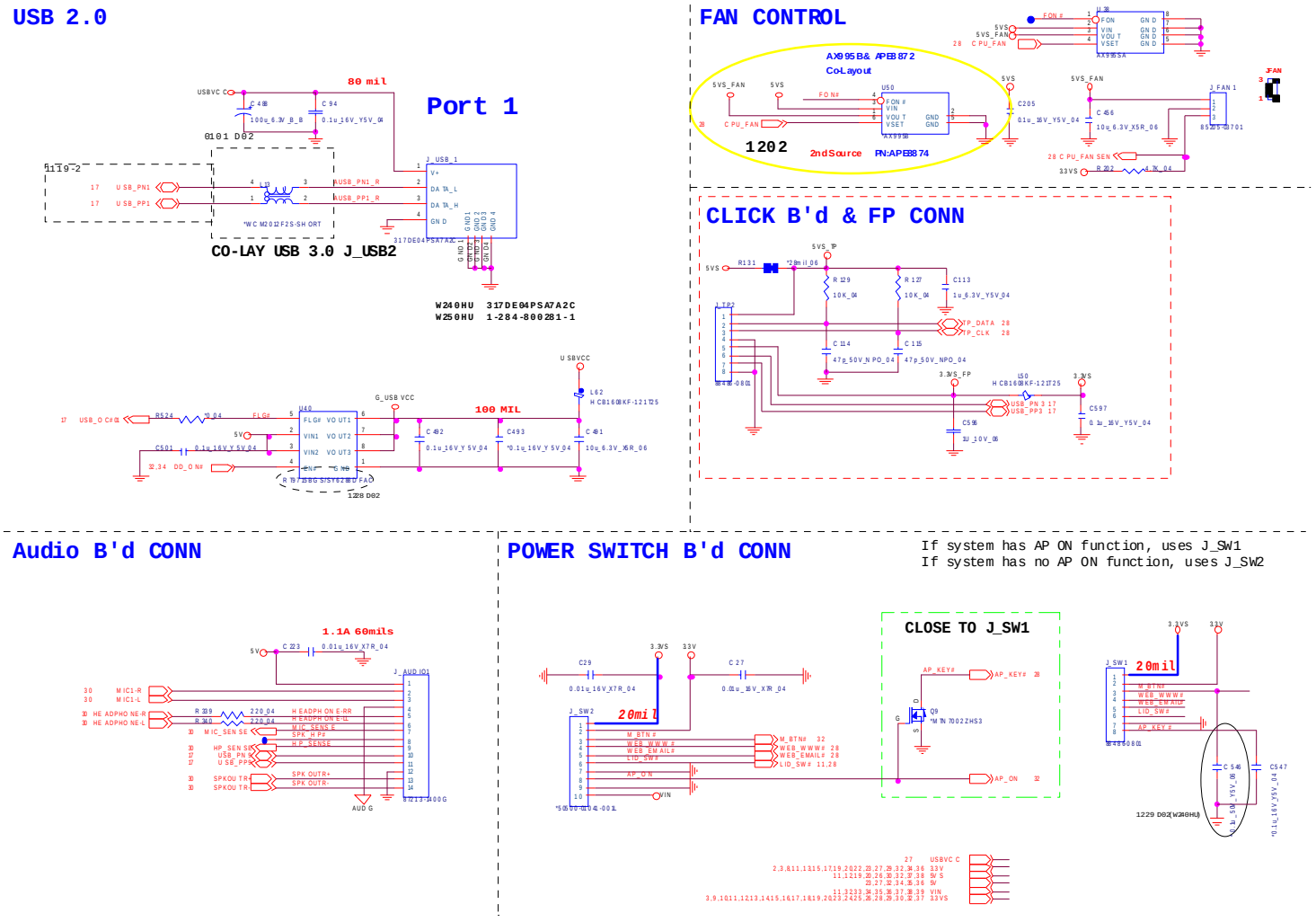
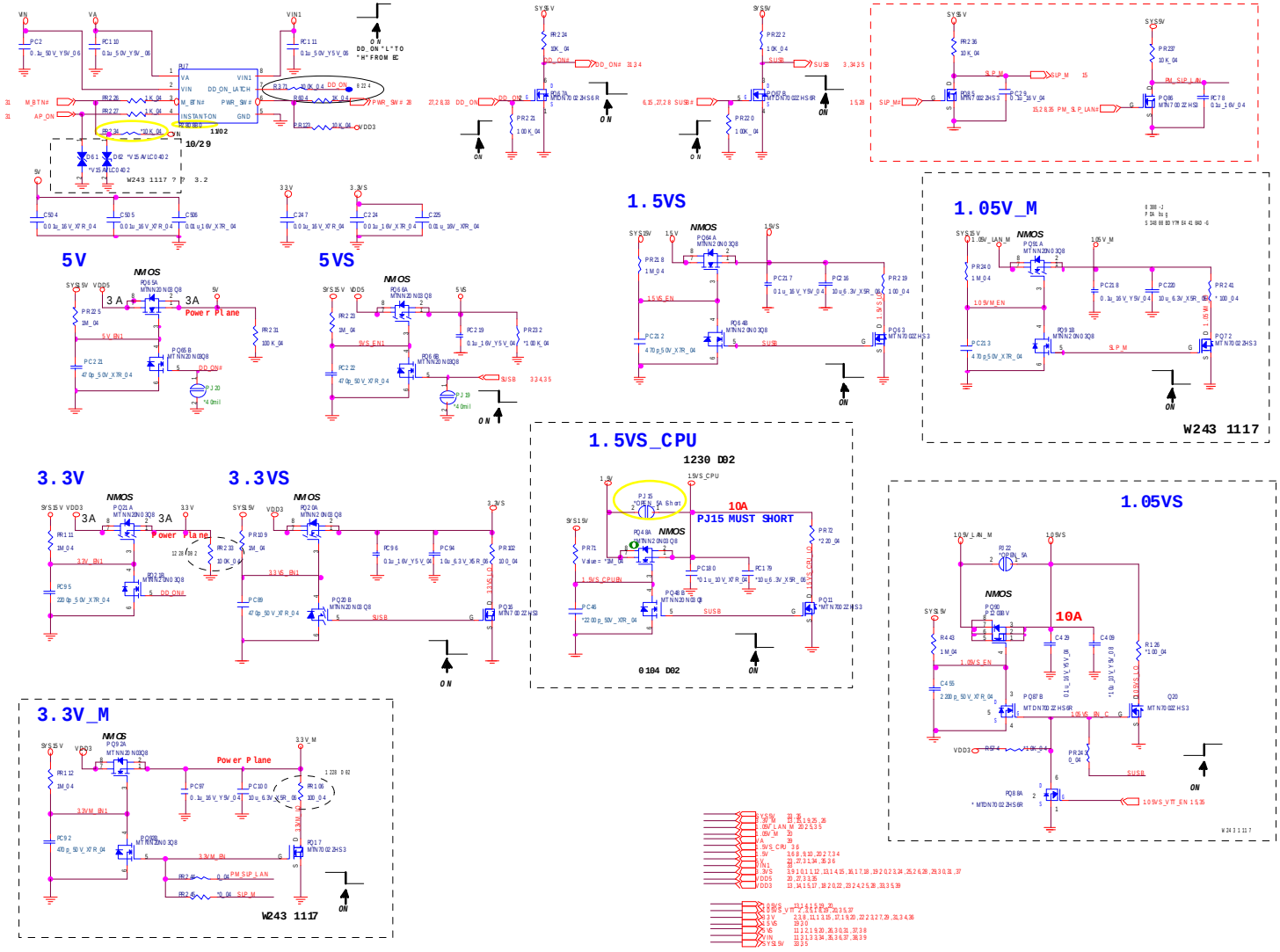
USB, FAN, TP, MULTI CON



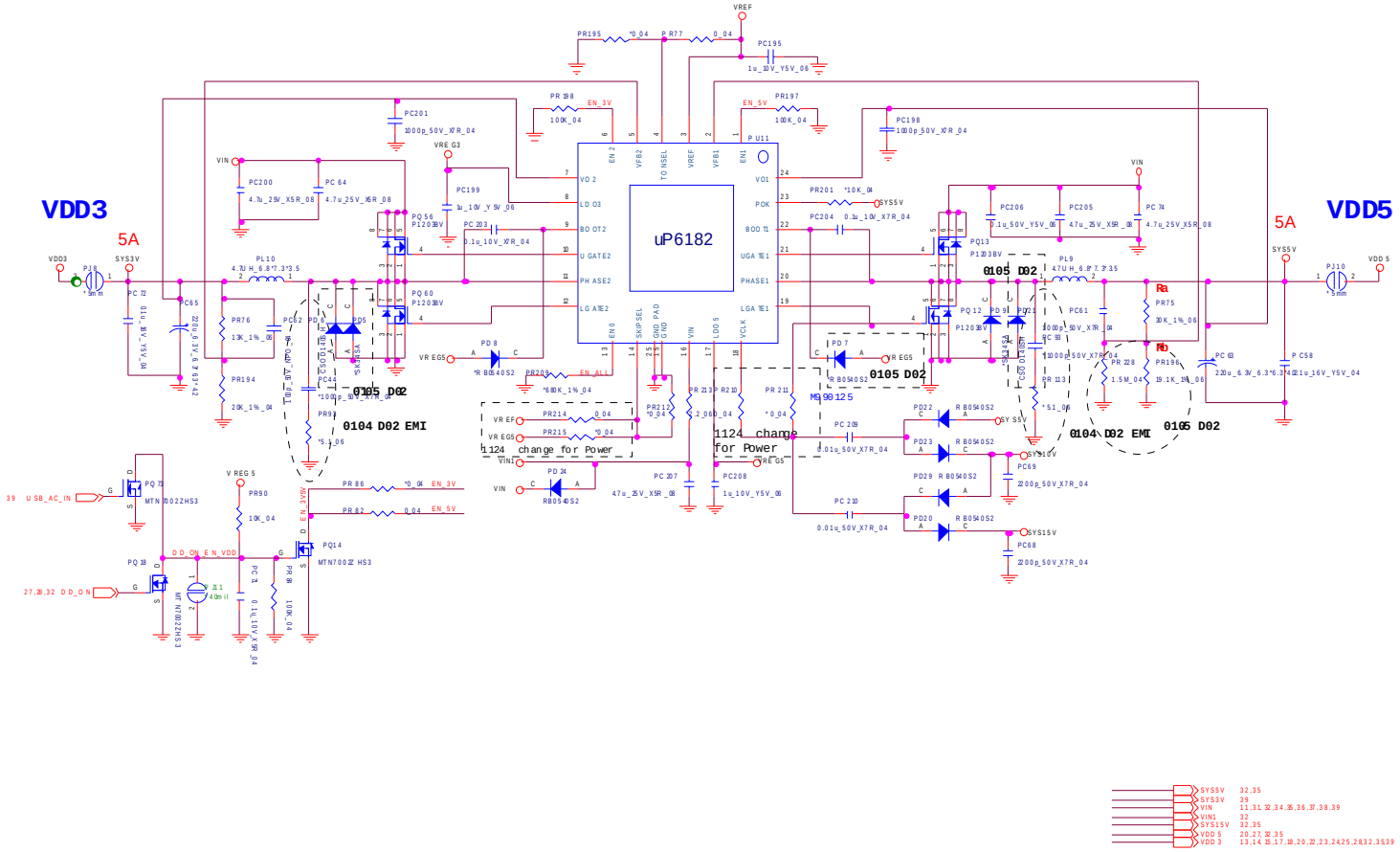
5VS, 3VS, 1.5V/0.75VS, 1.5VS CPU



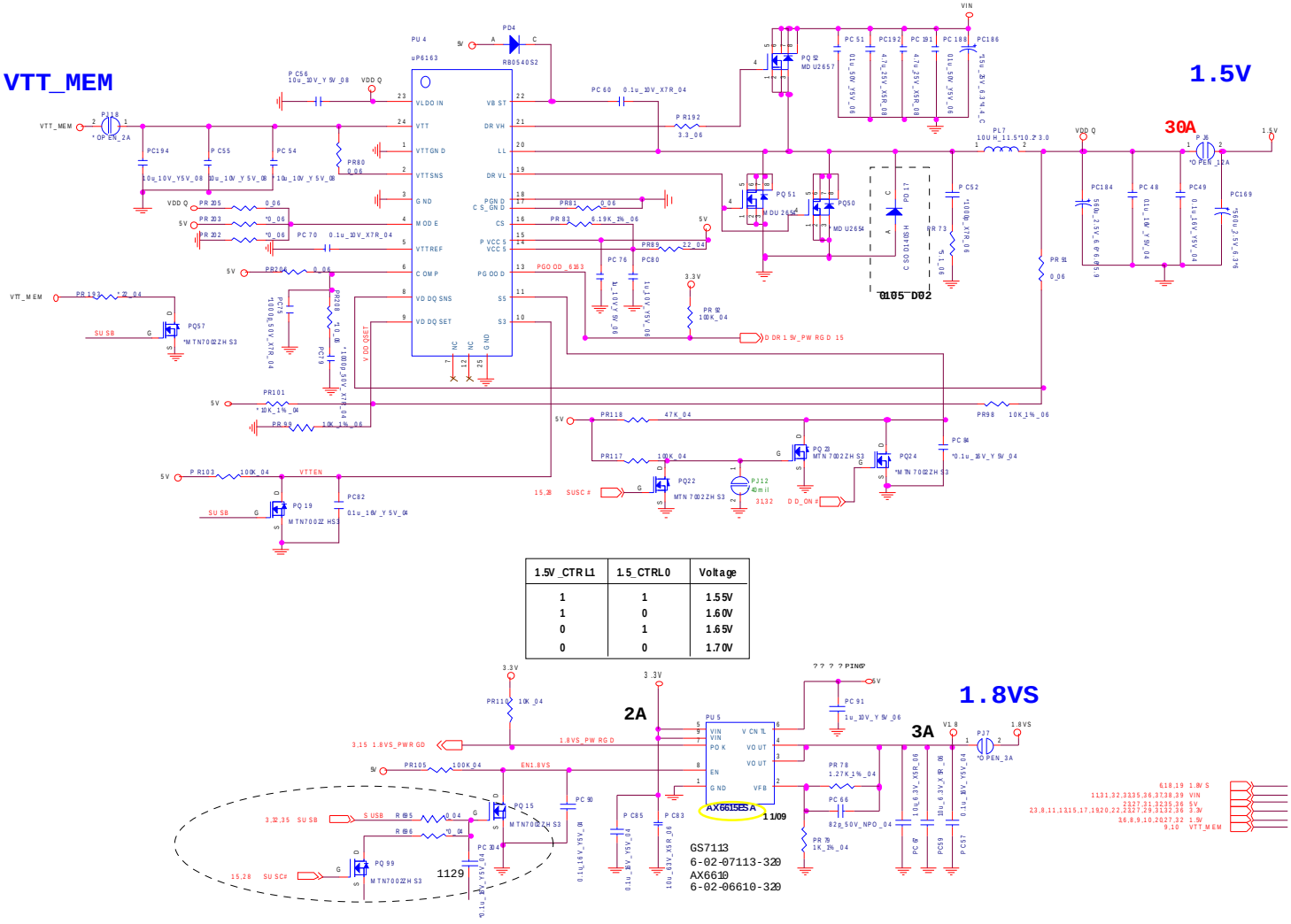
Sheet 32 of 46
5VS, 3VS, 1.5V/
0.75VS, 1.5VS CPU

VDD3, VDD5

Sheet 33 of 46
VDD3, VDD5



Power 1.05VS/0.75V, 1.8VS



1.5V_CTRL1	1.5_CTRL0	Voltage
1	1	1.55V
1	0	1.60V
0	1	1.65V
0	0	1.70V

Sheet 34 of 46
Power 1.05VS/
0.75V, 1.8VS

Power 1.05VS LAN M

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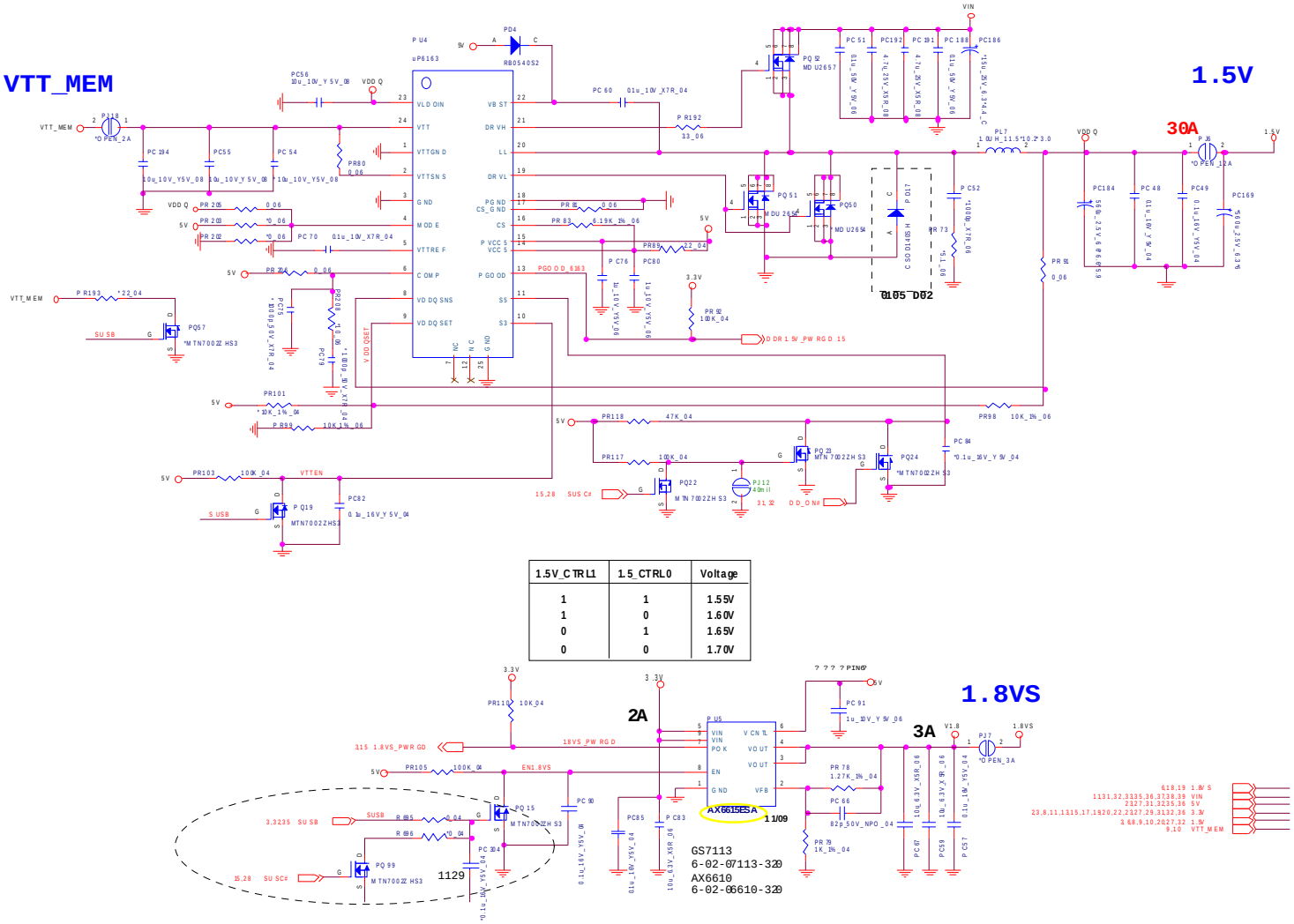
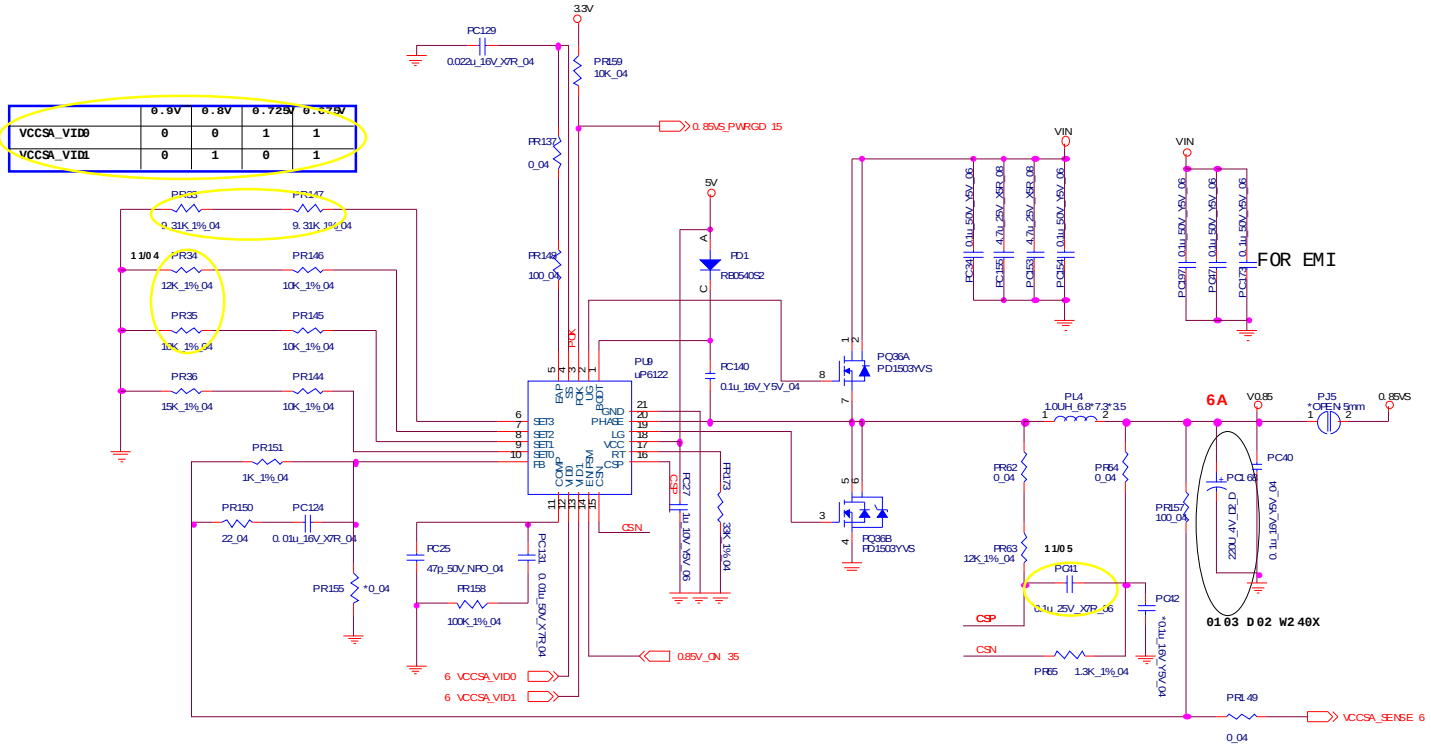
Power 1.05VS LAN M



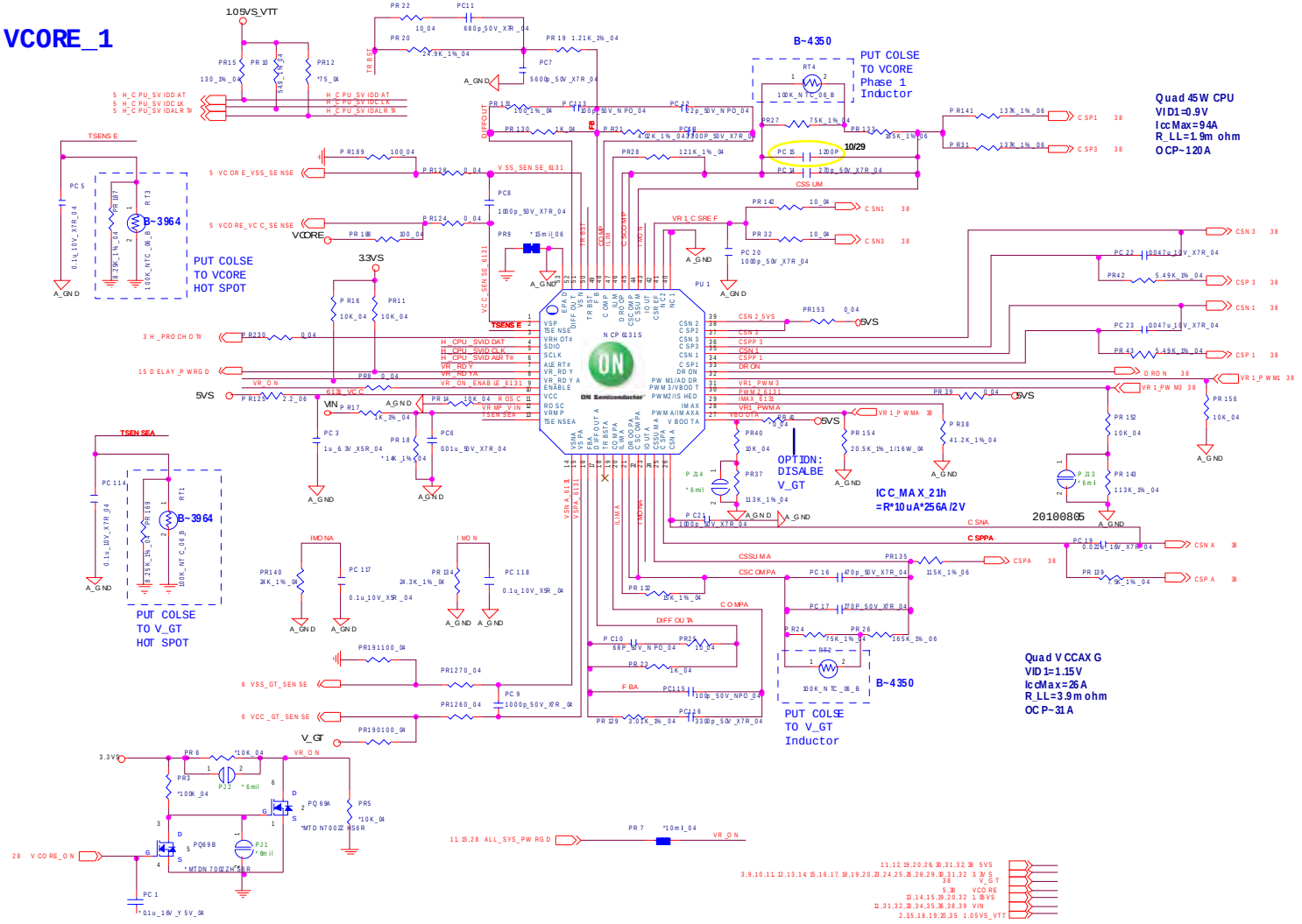
Power 0.85VS



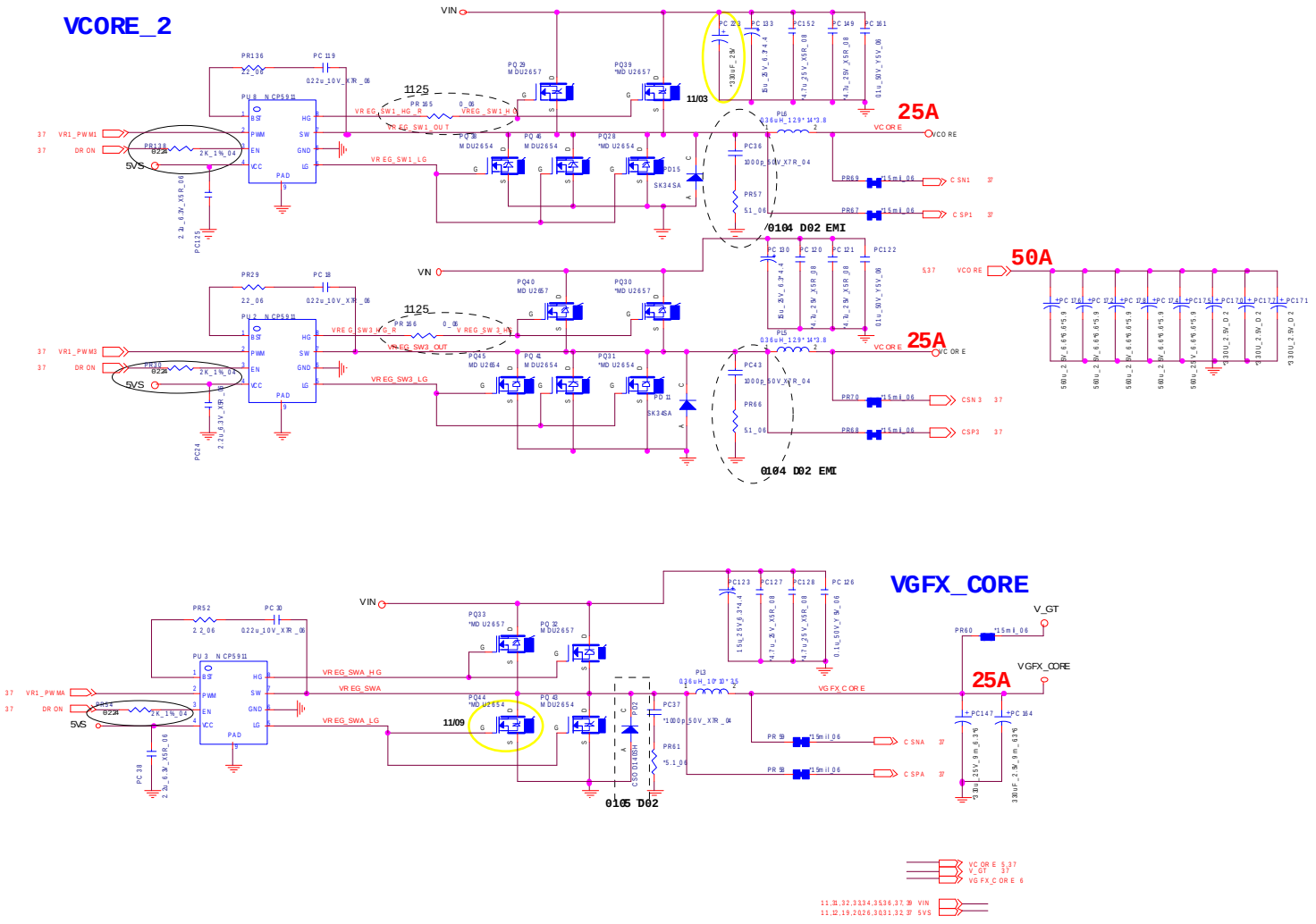
Sheet 36 of 46
Power 0.85VS

Power V-Core1

Sheet 37 of 46
Power V-Core1



Power V-Core2 VGFX



Sheet 38 of 46
Power V-Core2
VGFX

AC IN, CHARGER

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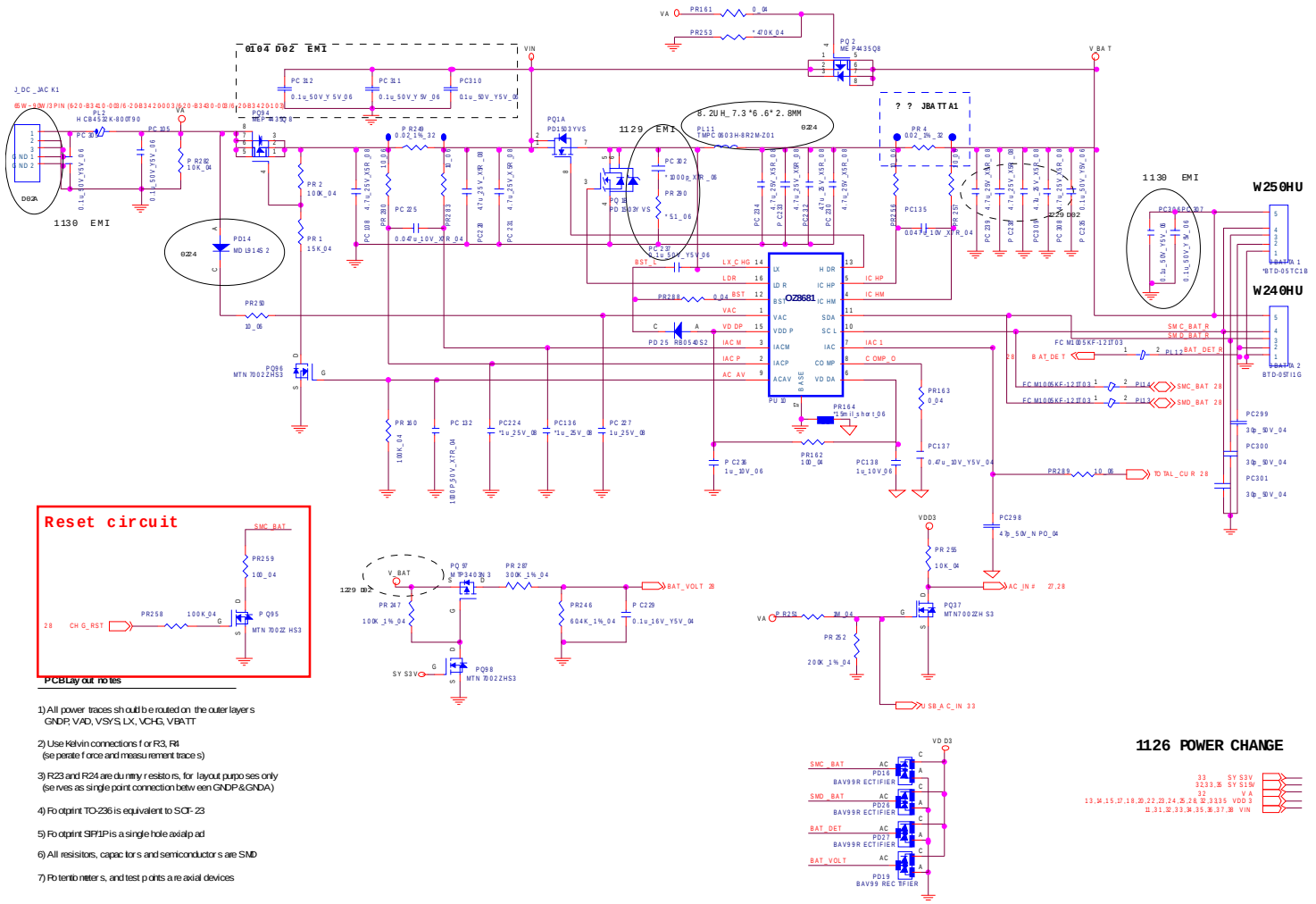
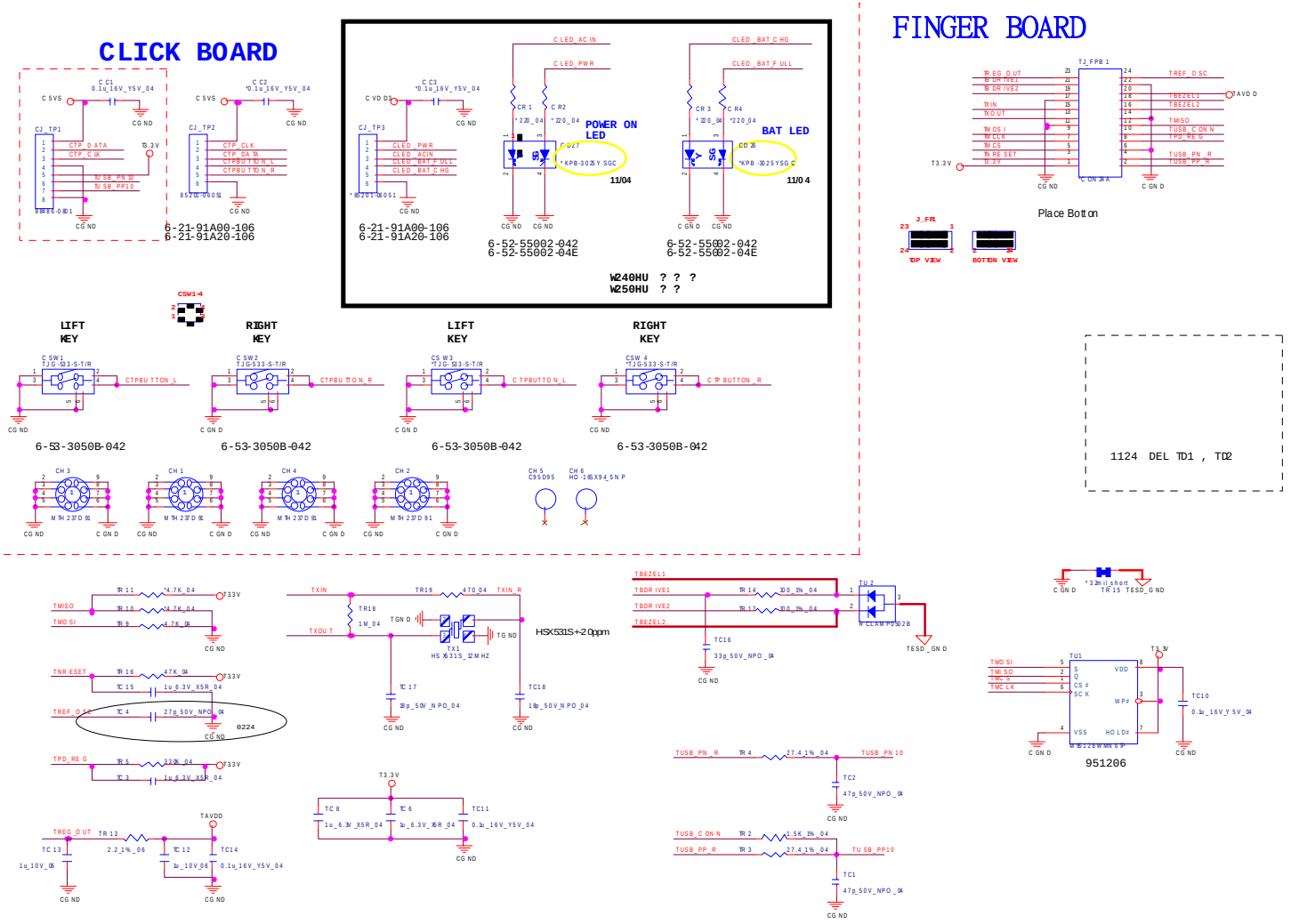
AC IN, CHARGER



CLICK & FINGER BOARD



Sheet 40 of 46
CLICK & FINGER BOARD

AUDIO BOARD/ USB

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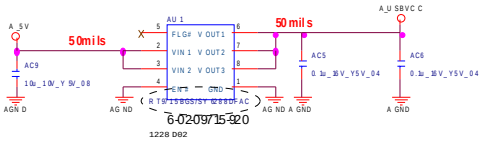
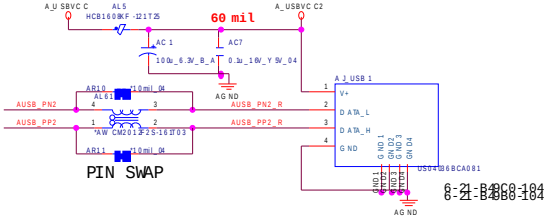
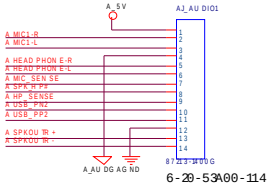
AUDIO BOARD/
USB

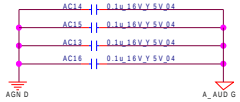
USB PORT

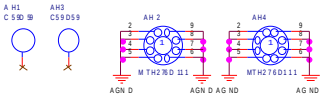




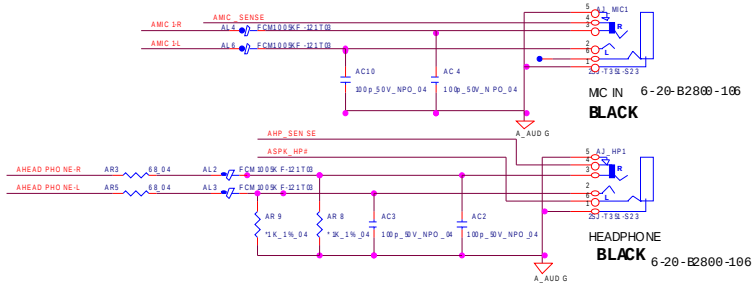
TO M/B

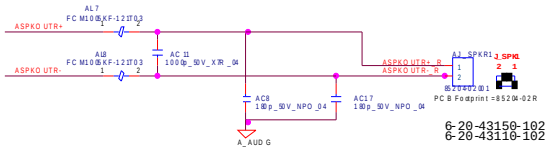






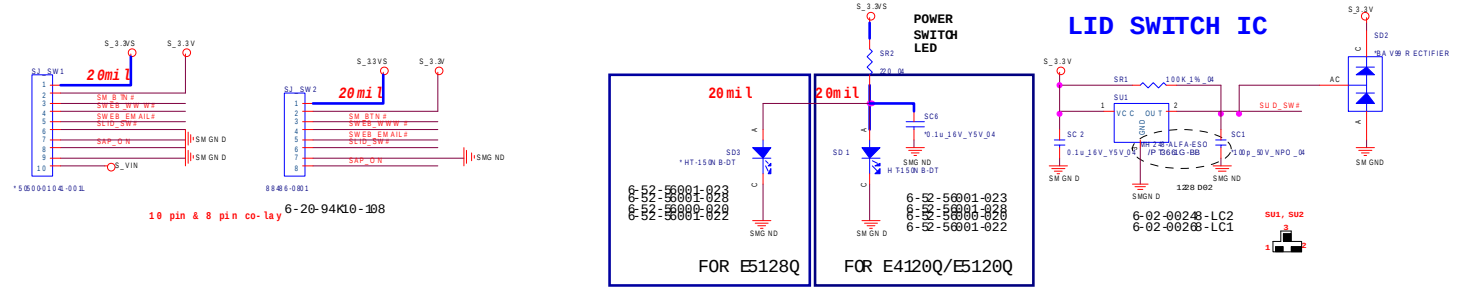
AUDIO JACK



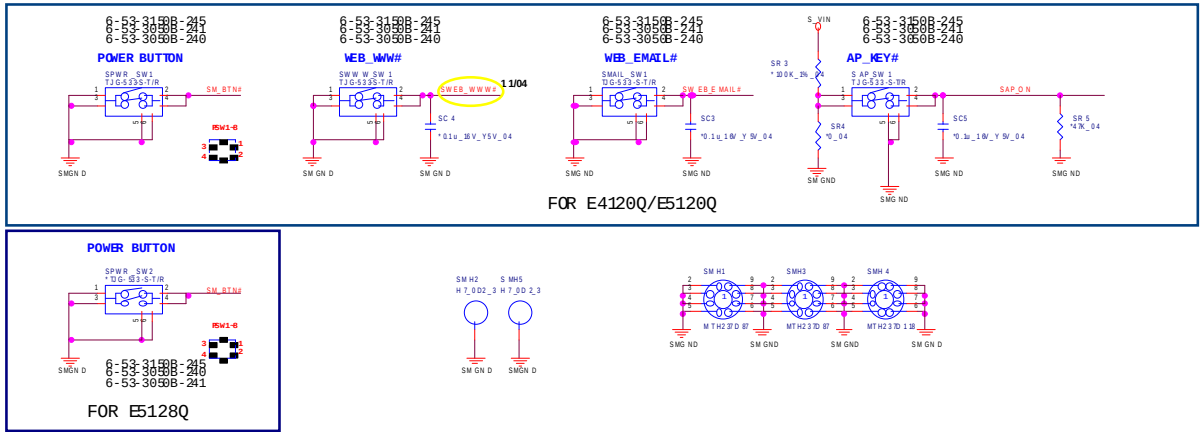


Power Switch & LID Board

POWER SW & LED & HOT KEY



HOT KEY



Sheet 42 of 46
Power Switch & LID Board

EXTERNAL ODD BOARD

ODD BOARD FOR E5120Q

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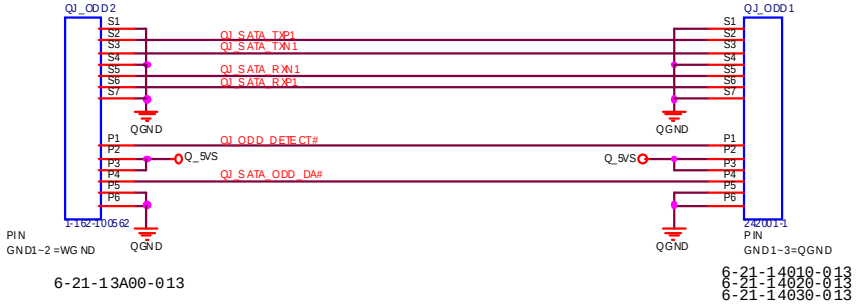
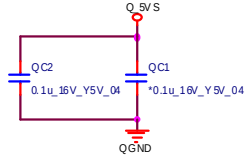
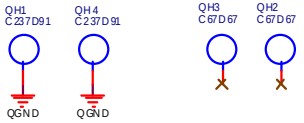
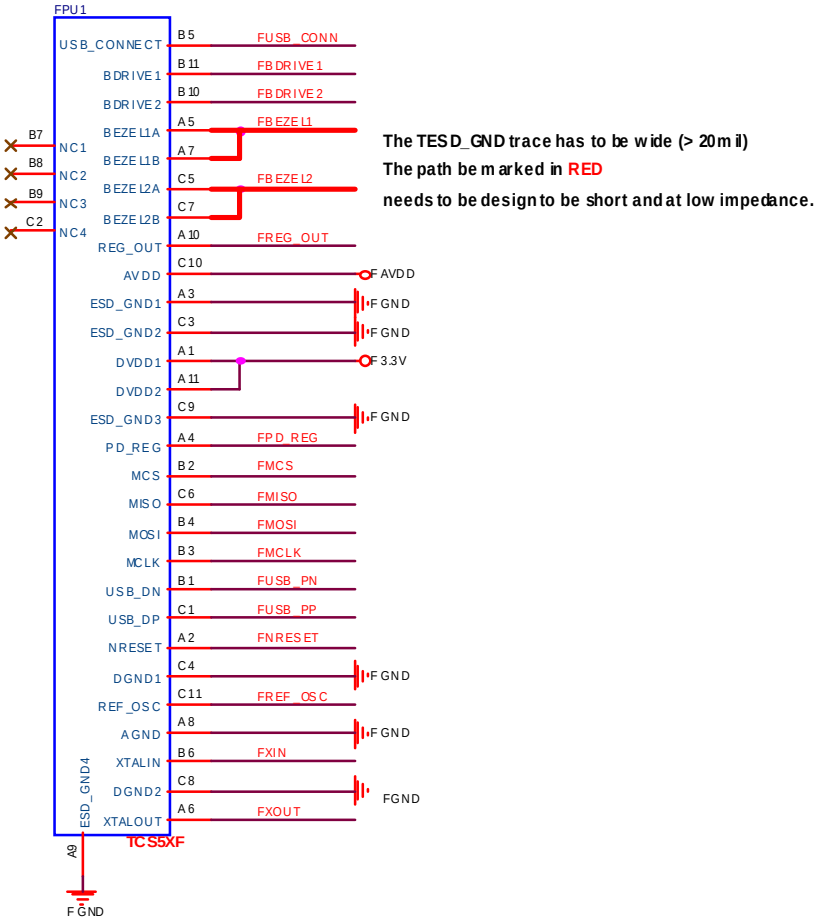
EXTERNAL ODD Board



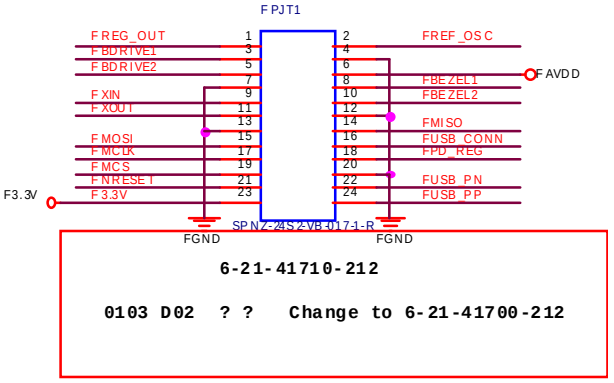


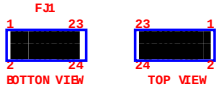


FINGERPRINT BOARD



The TESD_GND trace has to be wide (> 20mil)
The path be marked in RED
needs to be design to be short and at low impedance.





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FINGERPRINT BOARD

POWER SEQUENCE

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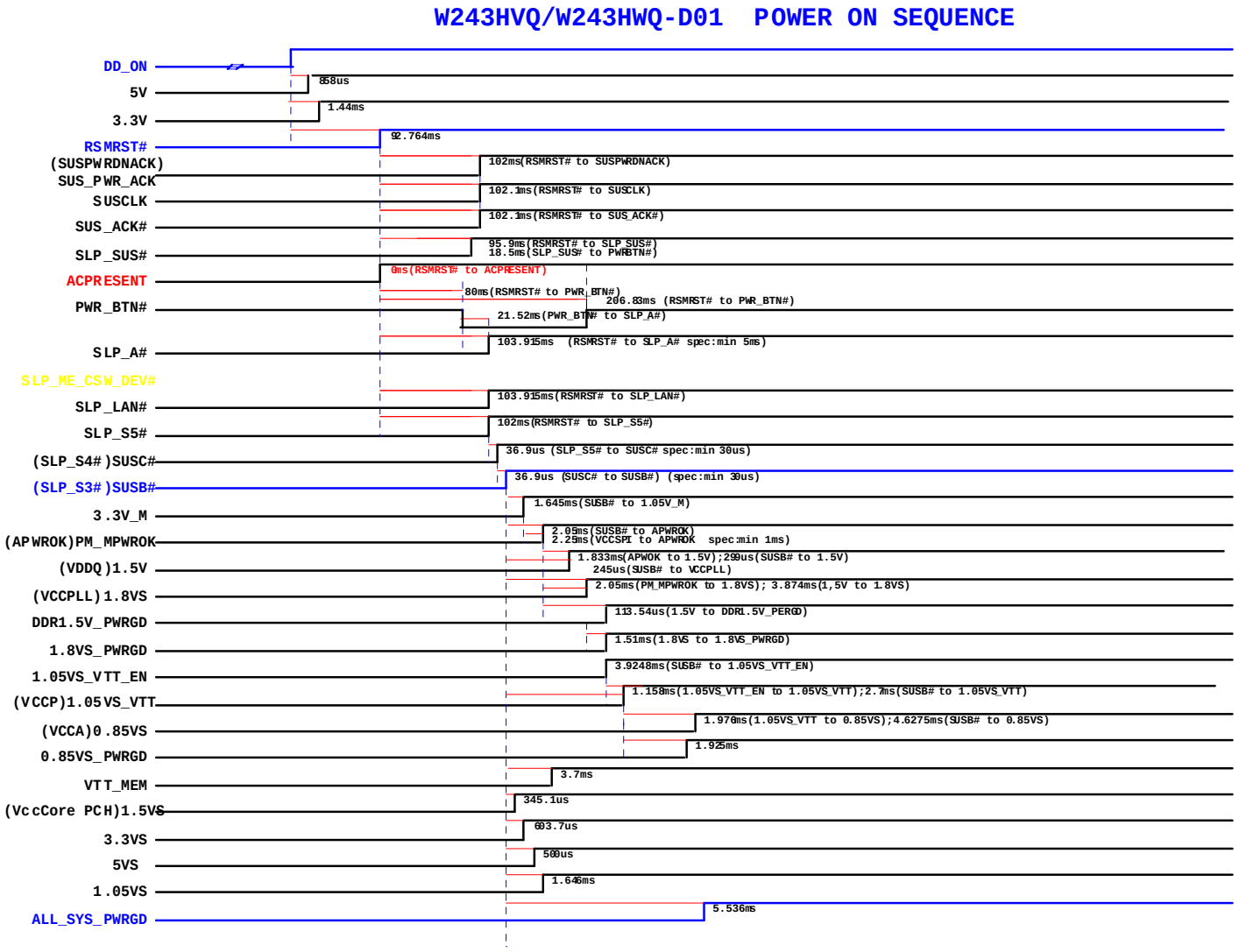
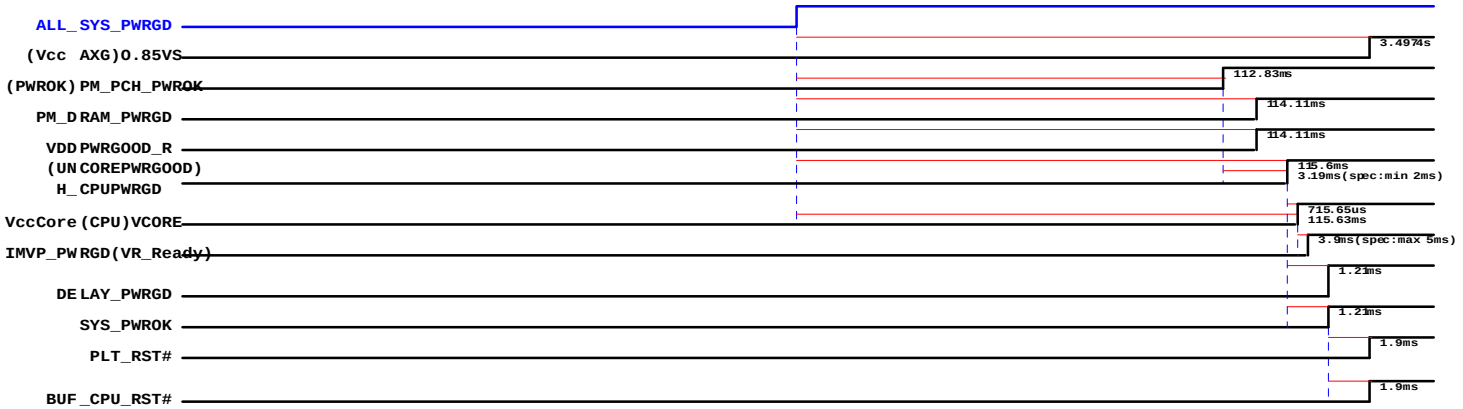
POWER
SEQUENCE



POWER SEQUENCE 1

W243HVQ/W243HWQ-D01 POWER ON SEQUENCE



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POWER
SEQUENCE 1

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 anyrequired 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 flashdrive containing the BIOS files in yourCD/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).

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.