

# *SERVICE MANUAL*

W24ACZ / W243CZQ / W245CZQ

*notebook*



**Notebook Computer**

**W24ACZ / W243CZQ / W245CZQ**

**Service Manual**

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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 **W24ACZ** / **W243CZQ** / **W245CZQ** 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

## Preface

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### 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 (**65W**) 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.

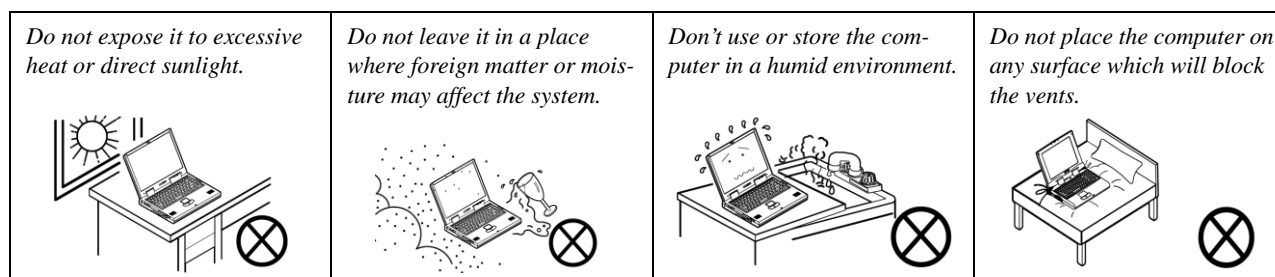
## Instructions for Care and Operation

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

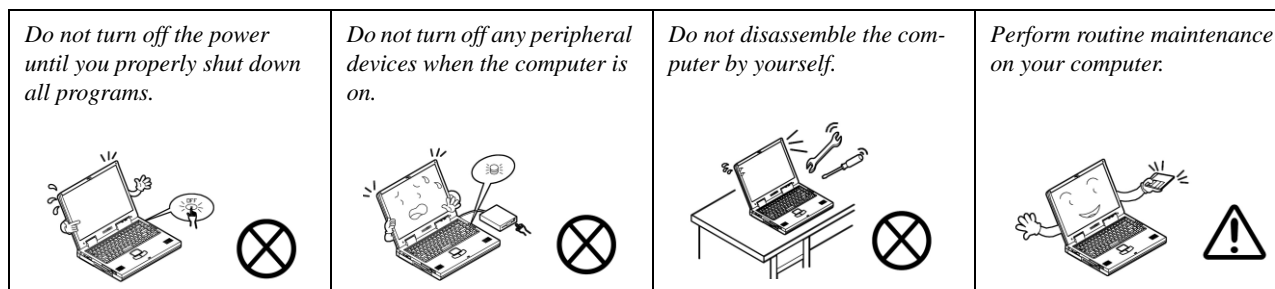
1. **Don't drop it, or expose it to shock.** If the computer falls, the case and the components could be damaged.



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.

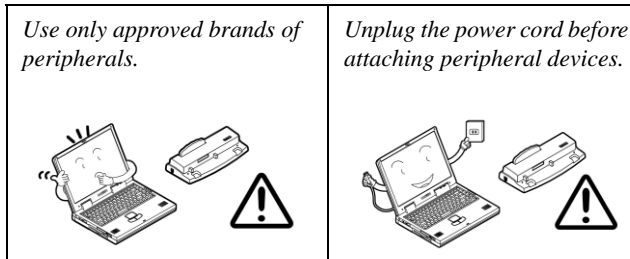


3. **Follow the proper working procedures for the computer.** Shut the computer down properly and don't forget to save your work. Remember to periodically save your data as data may be lost if the battery is depleted.



## Preface

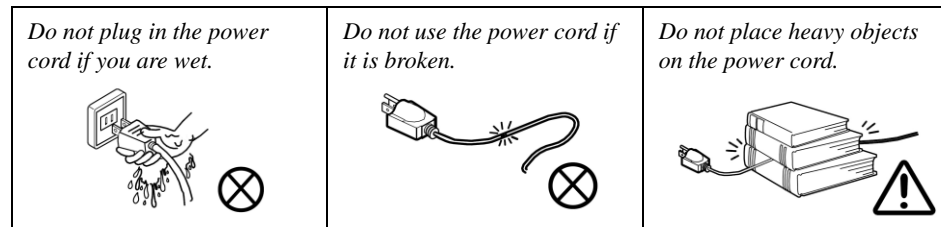
4. **Avoid interference.** Keep the computer away from high capacity transformers, electric motors, and other strong magnetic fields. These can hinder proper performance and damage your data.
5. **Take care when using peripheral devices.**



## 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.

## 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.



## Preface

### Related Documents

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

#### User's Manual on CD

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 on the left 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 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.

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# Chapter 1: Introduction

## Overview

This manual covers the information you need to service or upgrade the **W24ACZ / W243CZQ / W245CZQ** series notebook computer. Information about operating the computer (e.g. getting started, and the *Setup* utility) is in the *User's Manual*. Information about drivers (e.g. VGA & audio) is also found in *User's Manual*. That manual is shipped with the computer.

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

The **W24ACZ / W243CZQ / W245CZQ** 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 note the warning and safety information indicated by the “” symbol.

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

## Models Differences

This notebook series includes different models that vary slightly in design style, color and general appearance. Note that though your computer may look slightly different from that pictured throughout this documentation, all ports, jacks, indicators, specifications and general functions are the same for all the design styles.

## Introduction

# 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

#### Intel® Celeron® 847 Processor

**1.10GHz**, 32nm, 2MB L3 Cache, DDR3-1333MHz, TDP: 17W

#### Intel® Celeron® 877 Processor

**1.40GHz**, 32nm, 2MB L3 Cache, DDR3-1333MHz, TDP: 17W

### Display

#### Designs I & III:

14" (35.65cm) HD (Thickness: 5.2mm)

#### Design II:

14" (35.65cm) HD (Thickness: 3.6mm)

### Core Logic

Intel® NM70 Chipset

### Memory

Two 204 Pin SO-DIMM Socket Supporting **DDR3 1333/1600MHz** Memory (The real memory operating frequency depends on the FSB of the processor)

Memory Expandable up to **8GB**

### BIOS

One 48Mb SPI Flash ROM

AMI BIOS

### Video Adapter

#### Intel® HD Graphics

Dynamic Frequency (Intel Dynamic Video Memory Technology for up to **1.7GB**)

Microsoft DirectX®10.1 Compatible

### Audio

High Definition Audio Compliant Interface

2 \* Built-In Speakers

Built-In Microphone

### Storage

(**Factory Option**) One Changeable 12.7mm(h) Super Multi Optical Device Drive

(**Factory Option**) Dummy ODD (**Some designs Only**)

One Changeable 2.5" 9.5mm (h) SATA HDD

### Interface

Three USB 2.0 Ports

One Headphone-Out Jack

One Microphone-In Jack

One External Monitor Port

One HDMI-Out Port

One RJ-45 LAN Jack

One DC-in Jack

### Security

Kensington Lock Slot

BIOS Password

### Keyboard

"WinKey" keyboard (with embedded numeric keypad)

### Pointing Device

Built-in Touchpad

**Communication**

10Mb/100Mb Ethernet LAN  
(Factory Option) 2M HD PC Camera Module  
(Factory Option) 3G Mini-Card Module

**WLAN/ Bluetooth Half Mini-Card Modules:**

(Factory Option) Intel® Centrino® Wireless-N 105 Wireless LAN (802.11b/g/n)  
(Factory Option) Intel® Centrino® Wireless-N 135 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 4.0

**Card Reader**

Embedded Multi-In-1 Card Reader  
MMC (MultiMedia Card) / RS MMC  
SD (Secure Digital) / Mini SD  
MS (Memory Stick) / MS Pro / MS Duo

**Mini Card Slots**

Slot 1 for **WLAN** Module or **WLAN and Bluetooth** Combo Module  
(Factory Option) Slot 2 for **3G** Module

**Power**

Full Range AC/DC Adapter  
AC Input: 100 - 240V, 50 - 60Hz  
DC Output: 19V, 3.42A/18.5V, 3.5A (65W)  
Removable 6 Cell Smart Lithium-Ion Battery Pack, 48.84WH  
(Factory Option) Removable 3 Cell Smart Lithium-Ion Battery Pack, 24.42WH  
(Factory Option) Removable 6 Cell Smart Lithium-Ion Battery Pack, 62.16WH

**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****Design I:**

340mm (w) \* 238mm (d) \* 25.05 - 33.5mm (h)  
**2.2kg** with 48.84WH Battery & ODD

**Design II:**

340mm (w) \* 238mm (d) \* 13.9 - 31.8mm (h)  
340mm (w) \* 238mm (d) \* 12 - 30.2mm (h)  
**2.2kg** with 48.84WH Battery & ODD

**Design III:**

341mm (w) \* 238.5mm (d) \* 16 - 34mm (h) (h)  
**2.2kg** with 48.84WH Battery & ODD

## Introduction

*Figure 1*  
**Top View**

1. Optional Built-In PC Camera
2. LCD
3. Power Button
4. Hot Key Buttons  
(for some designs only)
5. LED Status Indicators
6. Keyboard
7. Built-In Microphone
8. Touchpad & Buttons

## External Locator - Top View with LCD Panel Open



## External Locator - Front & Right side Views



*Figure 2*  
**Front Views**

1. LED Power Indicators



*Figure 3*  
**Right Side Views**

1. Microphone-In Jack
2. Headphone-Out Jack
3. USB 2.0 Port
4. Optical Device Drive Bay
5. Security Lock Slot



## Introduction

### 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. 2 \* USB 2.0 Ports
6. Vent
7. Multi-in-1 Card Reader

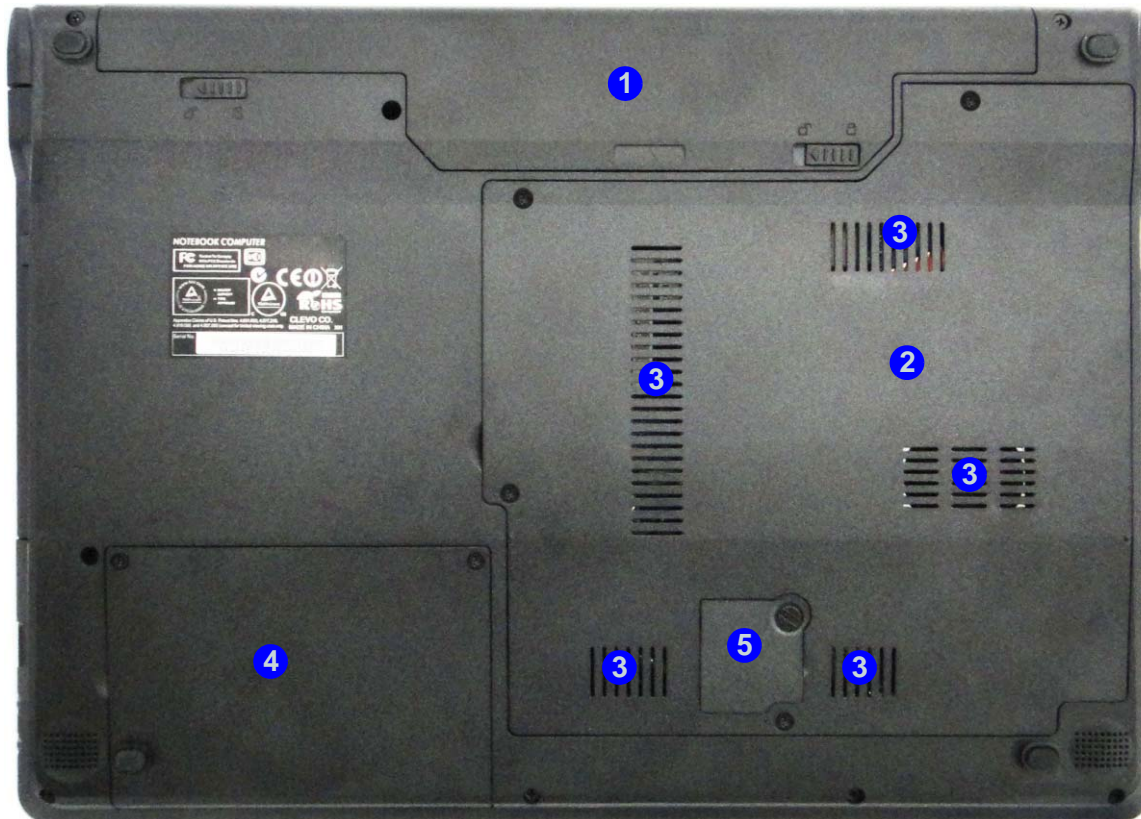


*Figure 5*  
**Rear View**

1. Battery



## External Locator - Bottom View



*Figure 6*  
**Bottom View**

1. Battery
2. Component Bay Cover
3. Vent/Fan Intake/Outlet
4. Hard Disk Bay Cover
5. 3.75G/HSPA USIM Card Cover (optional)



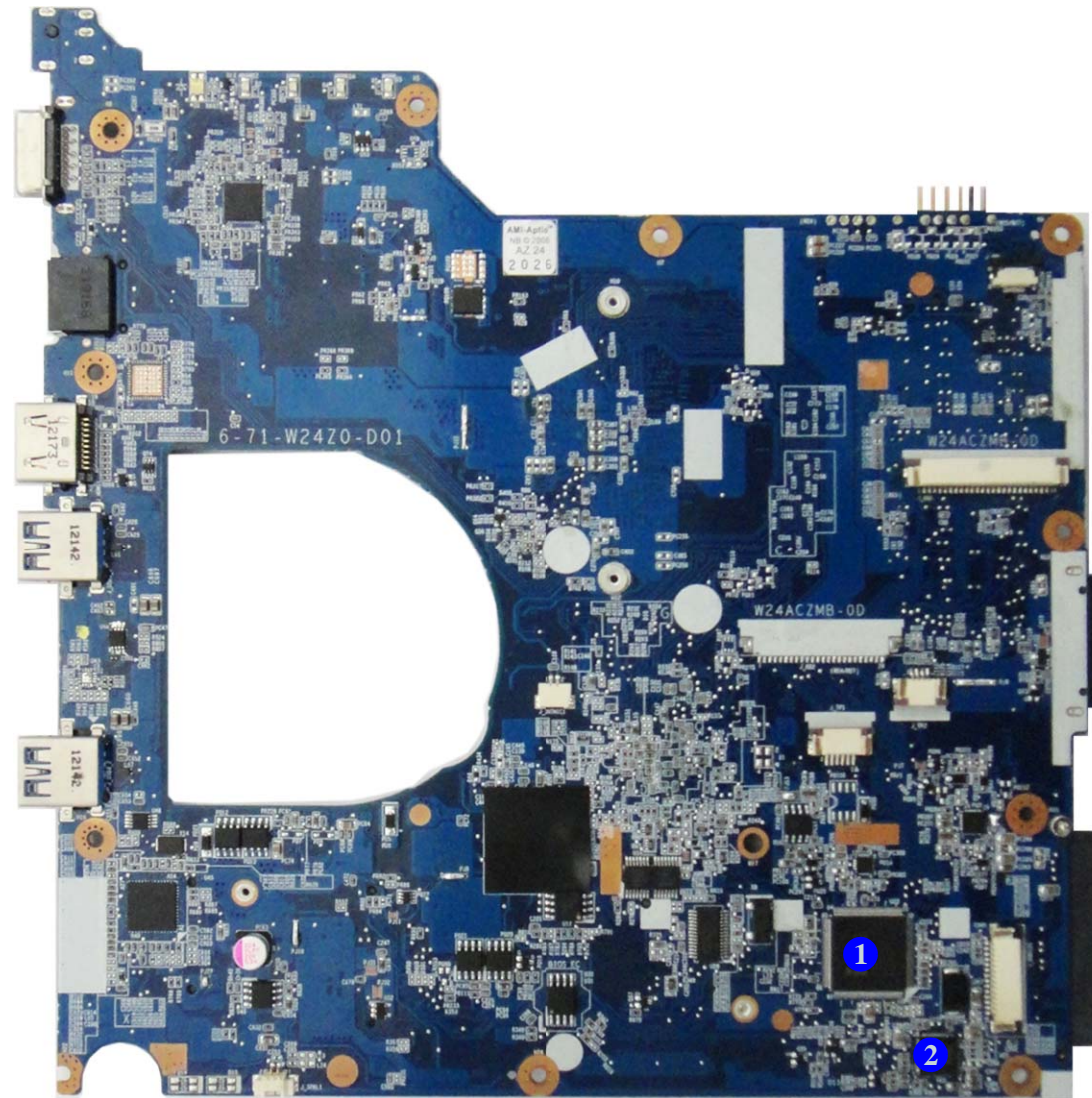
### Overheating

To prevent your computer from overheating make sure nothing blocks the vent/fan intakes while the computer is in use.

*Figure 7*  
**Mainboard Top  
Key Parts**

1. ITE 8518E
2. AZALIA Codec

## Mainboard Overview - Top (Key Parts)





## Mainboard Overview - Bottom (Key Parts)



*Figure 8*  
**Mainboard Bottom  
Key Parts**

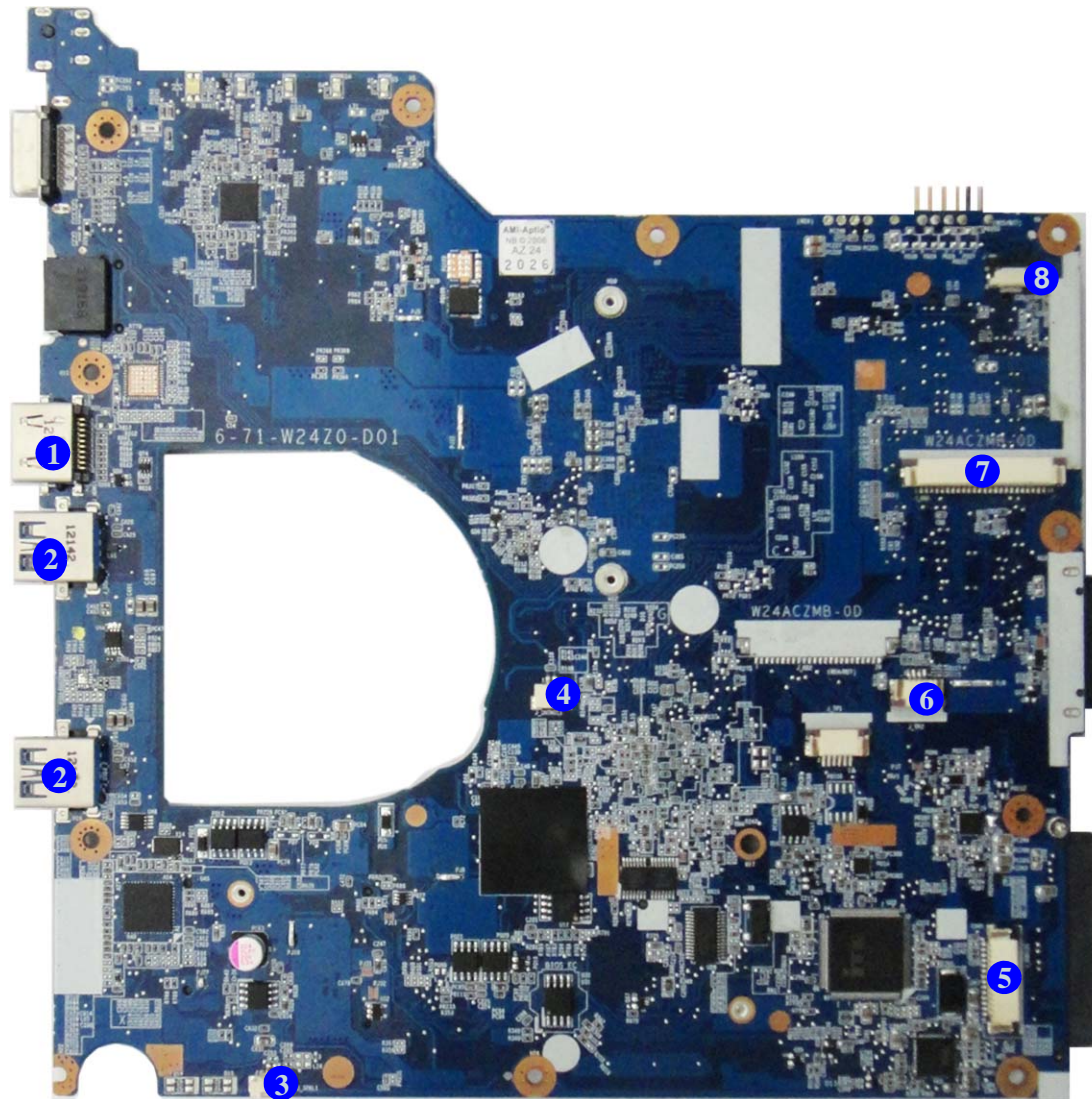
1. Memory Slots  
DDR3 SO-DIMM
2. CPU Socket (No  
CPU installed)
3. Intel PCH
4. CMOS Battery
5. Mini-Card  
Connector (WLAN  
Module)
6. Card Reader  
Socket

## Introduction

*Figure 9*  
**Mainboard Top  
Connectors**

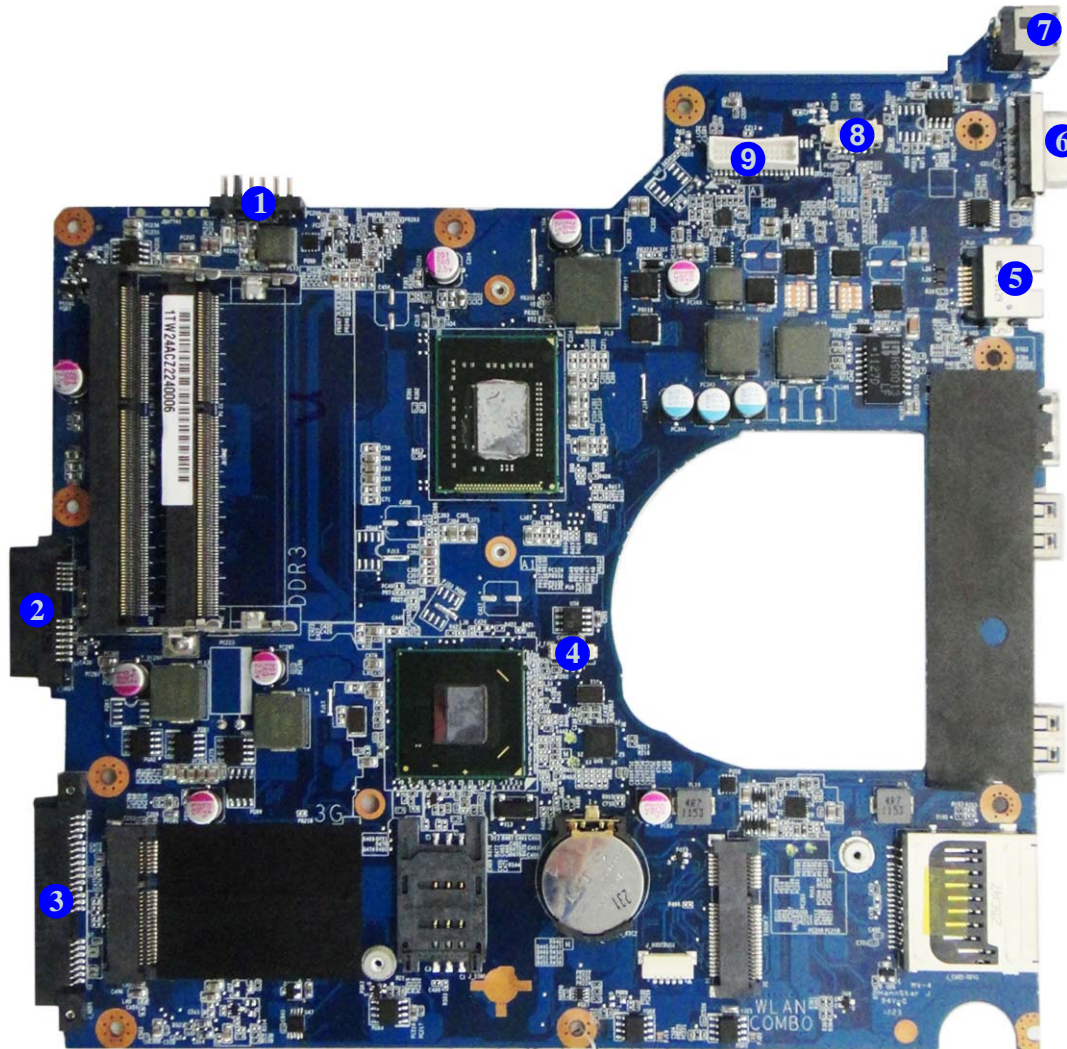
1. HDMI-Out Port
2. USB Port 2.0
3. Speaker Cable Connector
4. Microphone Cable Connector
5. Audio Board Connector
6. TouchPad Cable Connector 1
7. Keyboard Cable Connector
8. Switch Board Cable Connector

## Mainboard Overview - Top (Connectors)





## Mainboard Overview - Bottom (Connectors)



*Figure 10*  
**Mainboard Bottom  
Connectors**

1. Battery Connector
2. ODD Connector
3. HDD Connector
4. CPU Fan Cable Connector
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 **W24ACZ / W243CZQ / W245CZQ** series notebook's parts and subsystems. When it comes to reassembly, reverse the procedures (unless otherwise indicated).

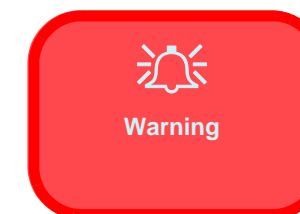
We suggest you completely review any procedure before you take the computer apart.

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.





## Disassembly

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**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.

## 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.



### 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.

## 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 the WLAN Module:

1. Remove the battery *page 2 - 5*
2. Remove the wireless LAN *page 2 - 10*

### To remove the 3.75G Module:

1. Remove the battery *page 2 - 5*
2. Remove the 3.75G *page 2 - 11*

### To remove the Keyboard:

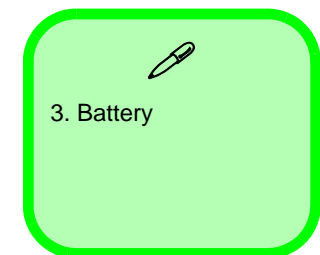
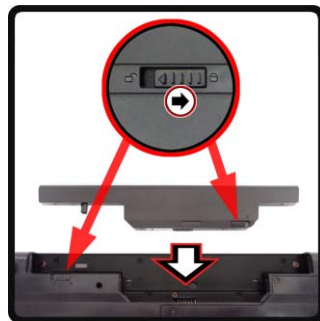
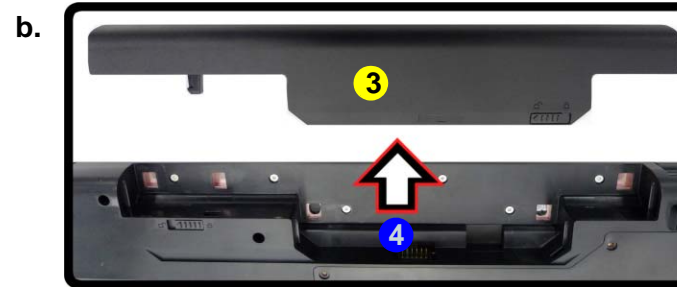
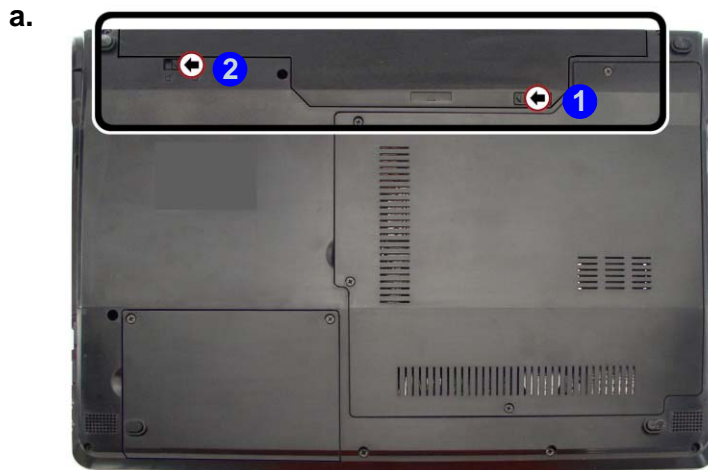
1. Remove the battery *page 2 - 5*
2. Remove the keyboard *page 2 - 12*

## 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.



## Disassembly

*Figure 2*  
**HDD Assembly  
Removal**

### Removing the Hard Disk Drive

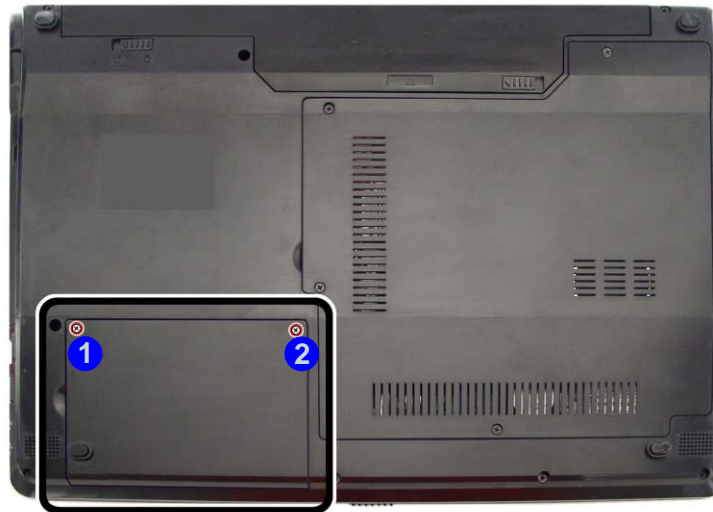
The hard disk drive can be taken out to accommodate other 2.5" serial (SATA) hard disk drives with a height of 9.5mm (h). Follow your operating system's installation instructions, and install all necessary drivers and utilities (as outlined in **Chapter 4 of the User's Manual**) when setting up a new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

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

### 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

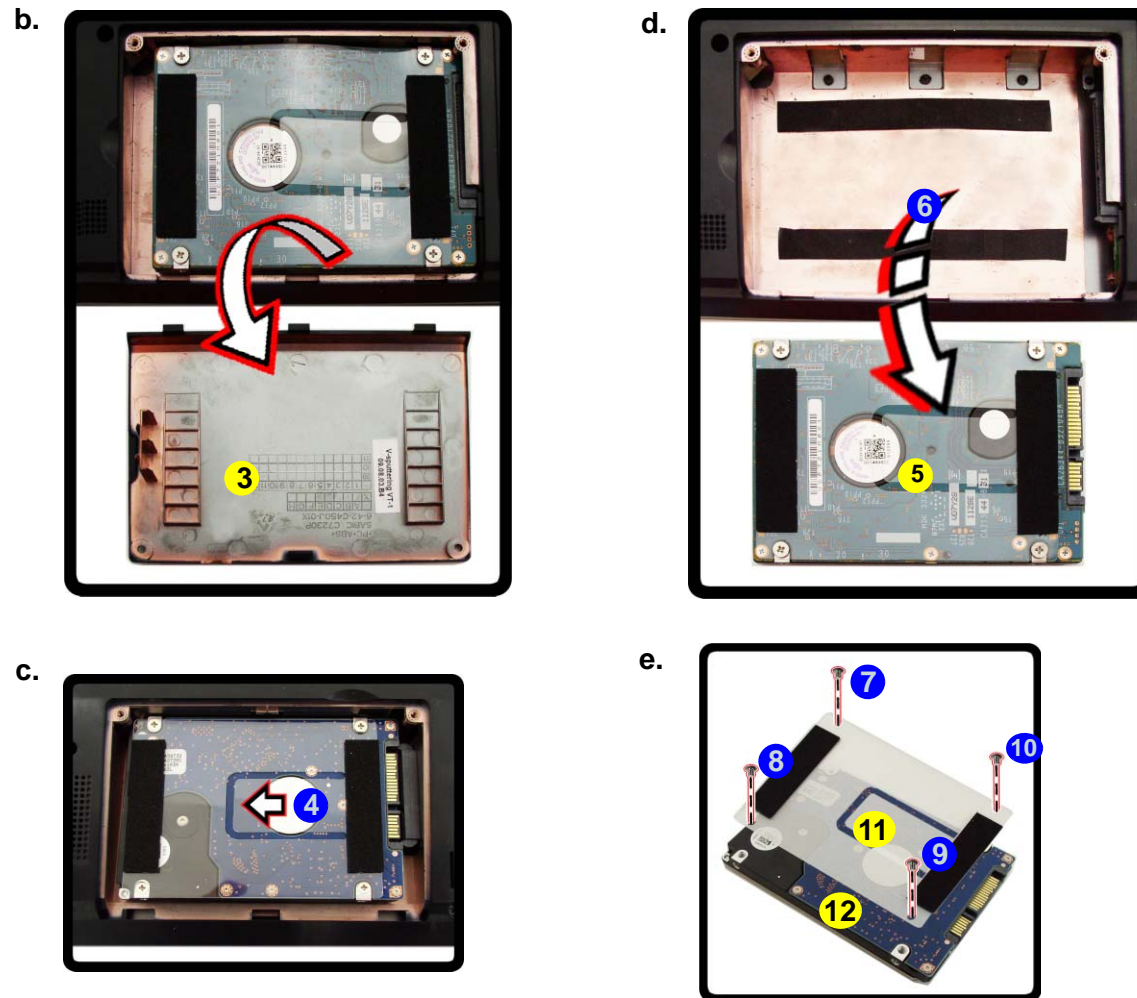
New HDD's are blank. Before you begin make sure:

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 screws **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.





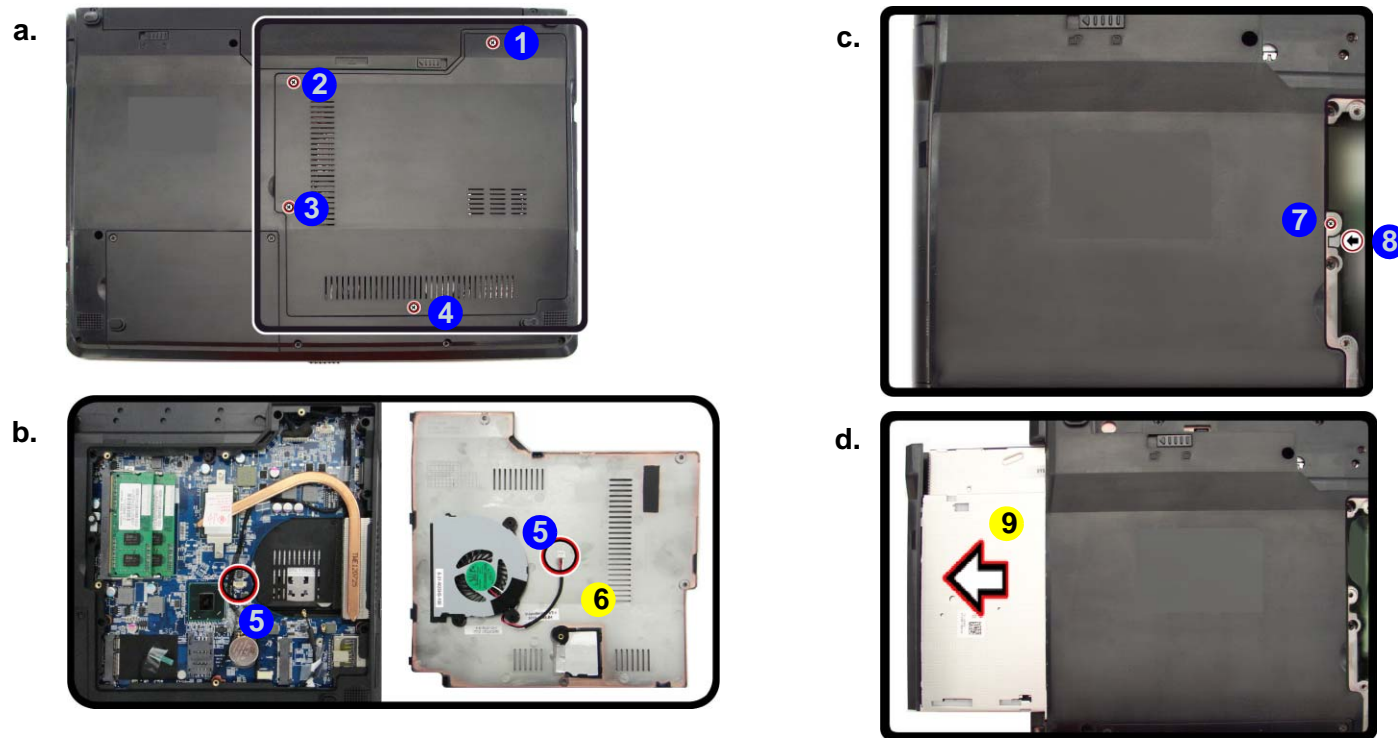
## Disassembly

*Figure 4*  
**Optical Device  
Removal**

- a. Remove the screws.
- b. Remove the bay cover.
- c. Remove the screw at point 7 and use a screwdriver to carefully push out the optical device at point 8.
- d. Remove the optical device.

## 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 - 4 ([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 5, and remove the cover 6 ([Figure 4b](#)).
5. Remove the screw at point 7, and use a screwdriver to carefully push out the optical device 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.



6. Component Bay Cover
9. Optical Device

- 4 Screws

## Removing the System Memory (RAM)

The computer has one memory socket for 204 pin Small Outline Dual In-line Memory Modules (SO-DIMM) supporting **DDR3** 1333/ 1066MHz. The main memory can be expanded up to 4GB. The SO-DIMM modules supported are 1GB, 2GB and 4GB and **DDRIII** Modules. The total memory size is automatically detected by the POST routine once you turn on your computer.

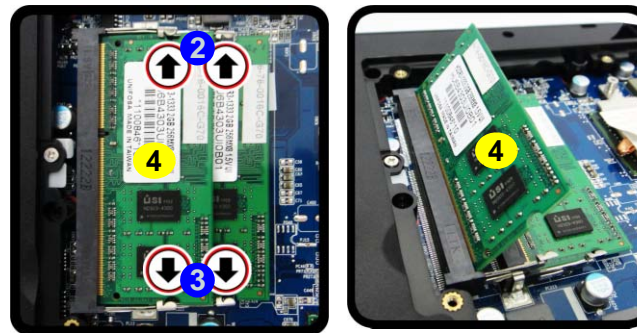
### Memory Upgrade Process

1. Turn **off** the computer, 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.
3. Gently pull the two release latches (**2** & **3**) on the sides of the memory socket.
4. The RAM module **4** will pop-up, and you can then remove it.

a.



b.



5. Insert a new module holding it at about a 30° angle and fit the connectors firmly into the memory slot.
6. 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.
7. Press the module in and down towards the mainboard until the slot levers click into place to secure the module.
8. Replace the bay cover by inserting it at an angle and aligning the cover pins.
9. Replace the screws (**make sure you reconnect the fan cable before replacing all the screws and screwing down the bay cover**).
10. Restart the computer to allow the BIOS to register the new memory configuration as it starts up.

*Figure 5*  
**RAM Module Removal**

- a. Locate the memory socket.
- b. 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.



4. RAM Module



## Disassembly

*Figure 6*  
**Wireless LAN  
Module Removal**

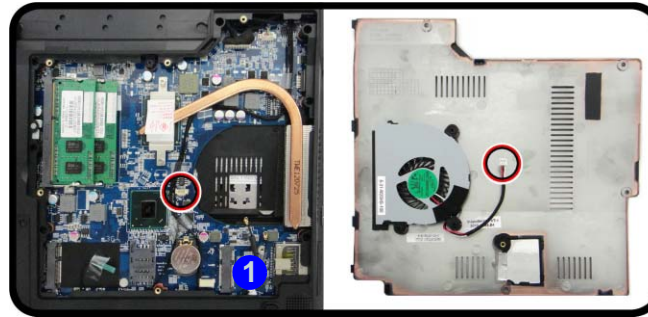
- Remove the cover.
- Disconnect the cables and remove the screw.
- Lift the WLAN module out.

Note: Make sure you reconnect the antenna cable to “1” + “2” socket (*Figure 6b*).

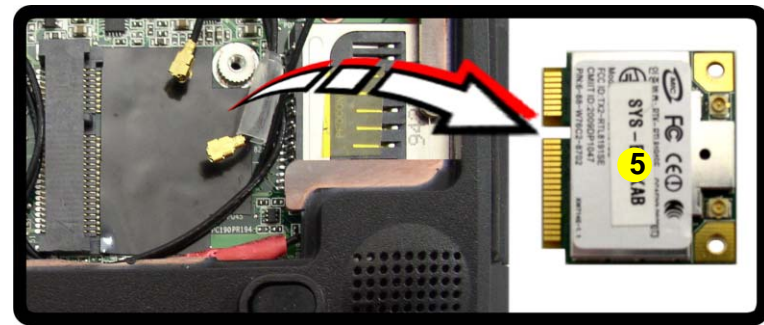
## Removing the Wireless LAN Module

- Turn **off** the computer, remove the battery (*page 2 - 5*) and the component bay cover (*page 2 - 8*).
- The Wireless LAN module will be visible at point **1** on the mainboard.
- Carefully disconnect cables **2** - **3**, then remove screw **4** from the module socket (*Figure 6b*).
- Lift the Wireless LAN module **5** (*Figure 6c*) up and off the computer.

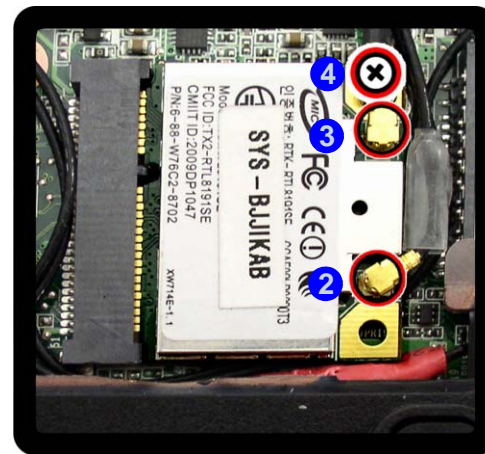
a.



c.



b.



5. WLAN Module.

- 1 Screw

## 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. Carefully disconnect the cable **1**, then remove the screw **2** from the module socket.
3. The 3.75G module **3** will pop-up.
4. Lift the 3.75G module ([Figure 7d](#)) up and off the computer.



*Figure 7*  
**3.75G Module  
Removal**

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



3. 3.75G Module.

- 1 Screw

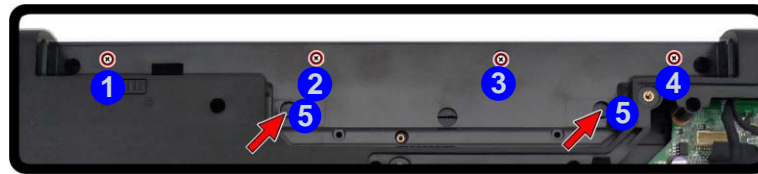
## Disassembly

Figure 8

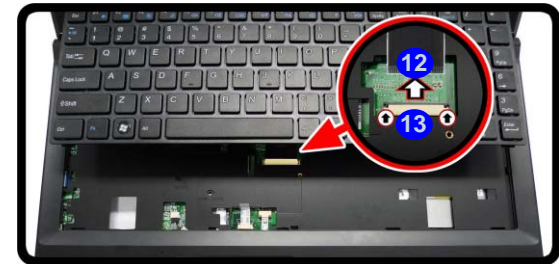
## Keyboard Removal

- Remove screws from the bottom of the computer. Press at points ⑤ to un-snap the LED cover module ⑥.
  - Remove the LED cover module and screws from the keyboard.
  - Carefully lift the keyboard up and disconnect the keyboard ribbon cable from the locking collar socket.
  - Remove the keyboard.
- Turn **off** the computer, and remove the battery ([page 2 - 5](#)).
  - Remove screws ① - ④ from the bottom of the computer. Press at points ⑤ to un-snap the LED cover module ⑥ (you may need to use the Eject Pin Tool to do this ([Figure 8a](#))).
  - Remove the LED cover module ⑥ and screws ⑦ - ⑪ from the keyboard ([Figure 8b](#)).
  - Carefully lift the keyboard up, being careful not to bend the keyboard ribbon cable ⑫. Disconnect the keyboard ribbon cable ⑫ from the locking collar socket ⑬ ([Figure 8c](#)).
  - Carefully lift up the keyboard ⑭ ([Figure 8d](#)) off the computer.

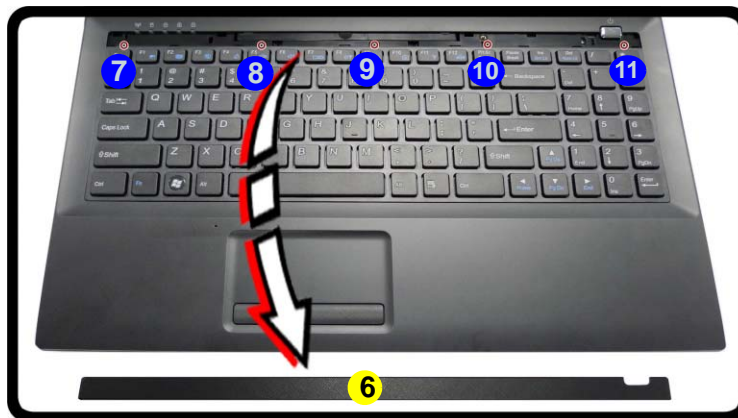
a.



c.



b.



d.



Keyboard Tabs



## Re-Inserting the Keyboard

When re-inserting the keyboard firstly align the **four** keyboard tabs at the bottom ([Figure 8c](#)) at the bottom of the keyboard with the slots in the case.



6. LED Cover Module  
14. Keyboard

- 9 Screws

# Appendix A: Part Lists

This appendix breaks down the *W24ACZ / W243CZQ / W245CZQ* 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 Lists

### Part List Illustration Location

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

*Table A- 1*  
**Part List Illustration  
Location**

Parts	W24ACZ	W243CZQ	W245CZQ
Top	<i>page A - 3</i>	<i>page A - 4</i>	<i>page A - 5</i>
Bottom	<i>page A - 6</i>		
Bottom - 3G		<i>page A - 7</i>	
Bottom - No 3G		<i>page A - 8</i>	
Bottom - SIM			<i>page A - 9</i>
Bottom - No SIM			<i>page A - 10</i>
LCD	<i>page A - 11</i>	<i>page A - 12</i>	<i>page A - 13</i>
SATA DVD	<i>page A - 14</i>	<i>page A - 15</i>	<i>page A - 16</i>
Combo	<i>page A - 17</i>	<i>page A - 18</i>	

Top (W24ACZ)

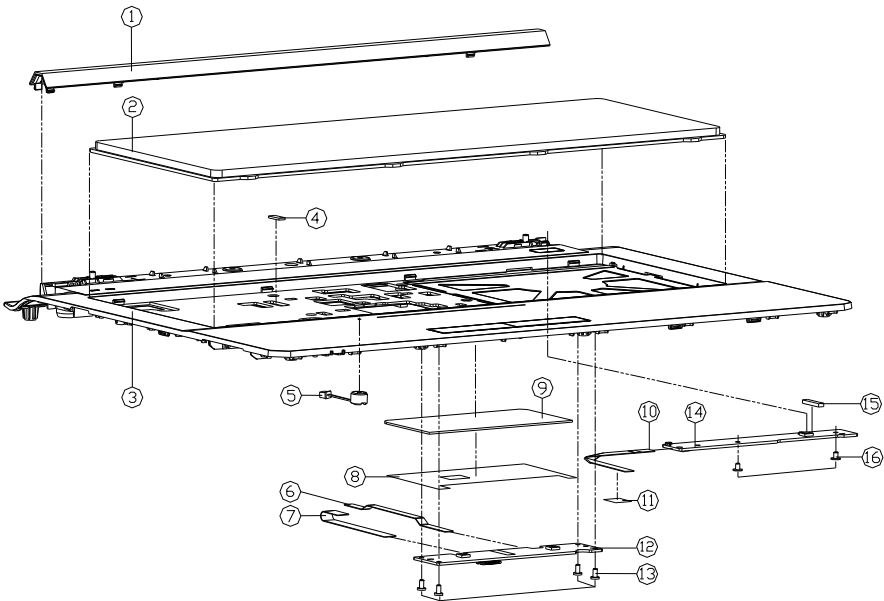


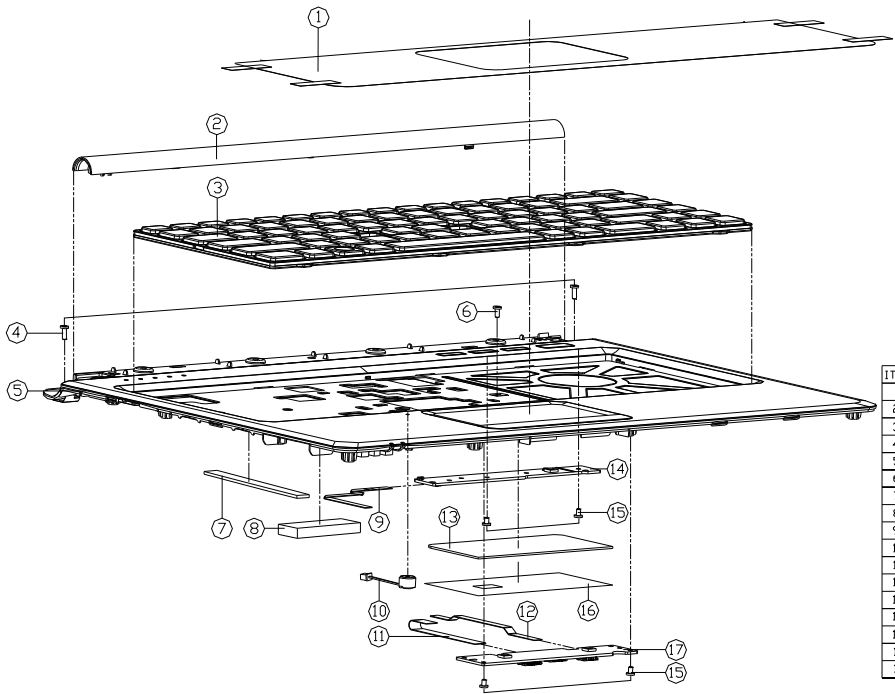
Figure A - 1  
Top (W24ACZ)

ITEM	PART NAME	PART NO	REMARK
1	TOP CASE HINGE COVER MODULE C4128	6-42-E41B2-102	
2	TOP CASE MODULE W24AHU	6-39-W24A2-011	FOR W24AHU
3	TOP CASE MODULE W24AHU-C	6-39-W24A2-011-C	FOR W24AHU-C
3	TOP CASE MODULE W24BHU	6-39-W24B2-011	FOR W24BHU
3	TOP CASE MODULE W24BHU-C	6-39-W24B2-011-C	FOR W24BHU-C
4	TOP CASE HINGE COVER MODULE C4128	6-42-E41B2-102	
5	TOP CASE HINGE COVER MODULE C4128	6-42-E41B2-102	
6	FFC CABLE FOR W24 TO CLICK BOARD (HENGSHANG)	6-43-C4500-022-2	
7	FFC CABLE FOR TOUCH PAD 6PIN (HENGSHANG)	6-43-C4502-010-2	
8	TAPE MYLAR (C) (86.10*38.80MM) C4105	6-40-00150-860	
9	TOUCH PAD SYNAPTICS TM-01146-003 C4800	6-49-C4802-010	
10	FFC CABLE FOR W24 TO POWER BOARD (HENGSHANG)	6-43-C4500-031-2	
11	TOP CASE HINGE COVER MODULE C4128	6-42-E41B2-102	
12	CLICK BOARD V1.0 W240BU	6-77-W2402-D01	FOR W24A/BHU-C
12	CLICK BOARD V1.0 W244EU0PCB BLUE	6-77-W24E2-D01	FOR W24AEU
12	CLICK BOARD V1.0 W244EU0	6-77-W24E2-D01	FOR W24AEL-C
13	POWER SWITCH BOARD V2.0 E51200	6-77-E510S-D02	FOR W24A/BHU-C
14	POWER SWITCH BOARD V3.0 W250U-C PCB BLUE	6-77-W24ES-D03-A	FOR W24AEU
14	POWER SWITCH BOARD V3.0 W250U	6-77-W24ES-D03-A	FOR W24AEL-C
15	POWER BOARD SPONGE (86.10*38.80MM) C4105	6-40-00150-860	
16	SCREW M2*4 KI NI ICT NY (04.3,0T-0.4)	6-35-B1120-3RE	

Part Lists

Top (W243CZQ)

Figure A - 2  
Top (W243CZQ)



ITEM	PART NAME	PART NO	REMARK
1	TOP CASE PROTECT MYLAR (8835) W244HU0	6-40-W244B-031	
2	HINGE COVER (ABS+PC) W244HU0	6-42-W2442-071	
3	KEYBOARD (ABS+PC) W244HU0	6-79-W243HU0K-010	
4	SCREW M2.5xBL KI BK/Z NY ICT	6-35-B6125-BR0	
5	TOP CASE IMR MODULE W244HU0-C	6-39-W2442-012-C	
6	SCREW M2.5xSL KI BK/Z ICT NY	6-35-B6125-SRA	
7	SPRING FOR TOP CASE (37460) (37460) (37460)	6-47-0019A-570	
8	SPRING FOR TOP CASE (37460) (37460) (37460)	6-47-0019A-353	
9	FFC CABLE FOR M/B TO POWER BOARD (HENGSHANG)	6-43-C4500-031-2	
10	FFC CABLE FOR M/B TO POWER BOARD (HENGSHANG)	6-23-EM54G-012-2	
11	FFC CABLE FOR TOUCH PAD (HENGSHANG)	6-43-C4502-010-2	
12	FFC CABLE FOR TOUCH PAD (HENGSHANG)	6-43-C4500-022-2	
13	TOUCH PAD SYNAPTICS TM-0146-003 C4800	6-49-C4802-010	
14	POWER SWITCH BOARD V3.0 W244EU0	6-77-W24ES-D03	
15	SCREW M2.5xBL KI BK/Z NY ICT NY (30-45.01-84)	6-35-B1120-3RE	
16	TAPE MYLAR (C) (86.10x38.80MM) C4105	6-40-00150-B60	
17	CLICK BOARD V1.0 W244EU0	6-77-W24E2-D01	



Top (W245CZQ)

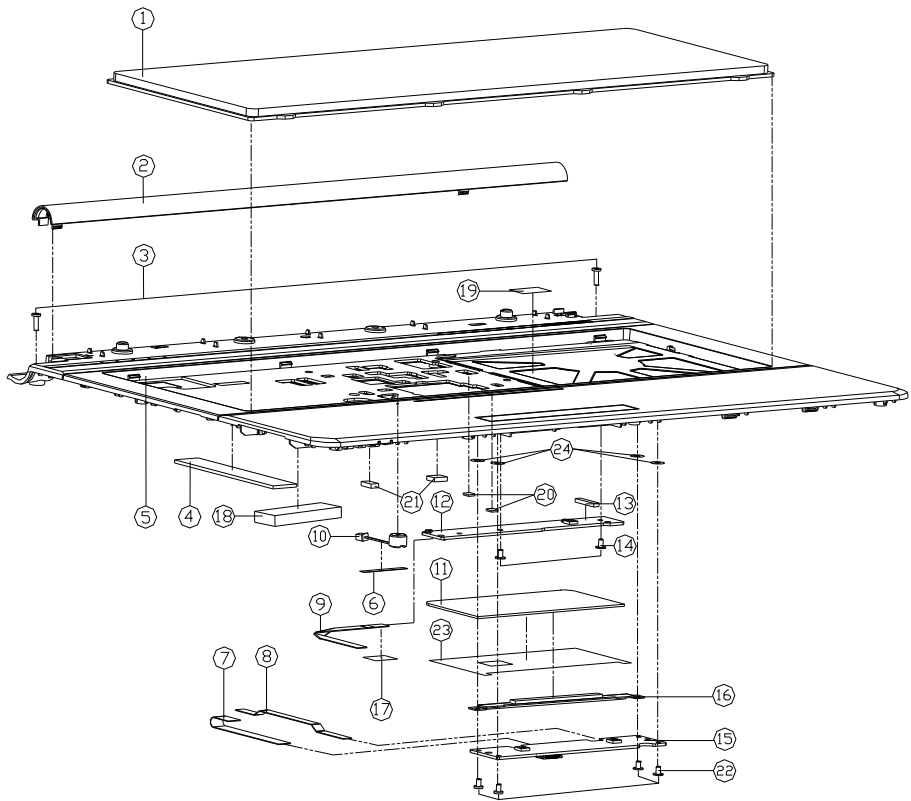


Figure A - 3  
Top (W245CZQ)

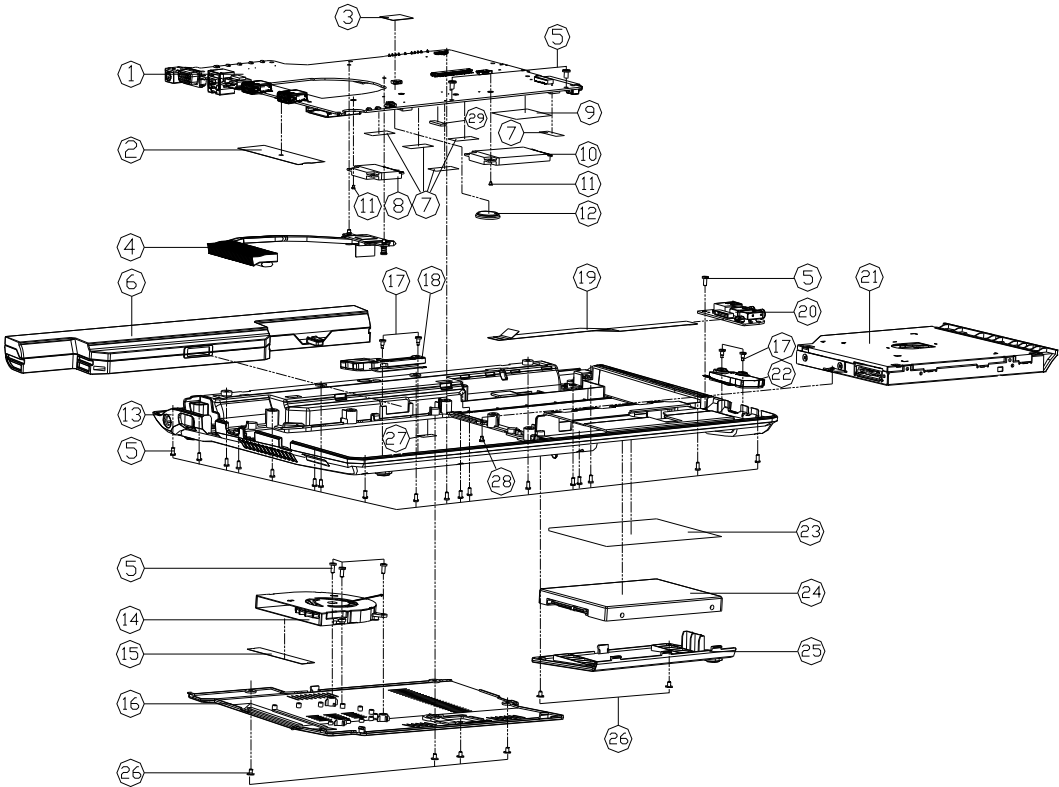
ITEM	PART NAME	PART NO	REMARK
1	K/1 USA W-003005-001 W/001 W/001 VISTA KEY	6-80-W84T0-011-1	
2	HINGE COVER (PC+ABS) C4505	6-42-C4552-031	
3	SCREW M2.5xBL K1 BK/Z NY ICT	6-35-B6125-BR0	
4	SPONGE FOR TOP CASE (S4640) (S45-S45) (400)	6-47-0019A-570	
5	TOP CASE MODULE CASE-C (KEY) (KEY) (KEY)	6-39-C4552-013-C	
6	TAPE MYLAR (B) MYLAR M550J	6-40-M55J2-020	
7	ITC CABLE FOR TOUCH PAD (PIN) (KEY) (KEY)	6-43-C4502-010-2	
8	ITC CABLE FOR W/0 TO CLICK BOARD (KEY) (KEY)	6-43-C4500-022-2	
9	ITC CABLE FOR W/0 TO POWER BOARD (KEY) (KEY)	6-43-C4500-031-2	
10	WE (000000) (000) (000) (000) (000) (000) (000) (000)	6-23-EM54G-012-2	
11	TOUCH PAD SYNAPTICS TM-0146-003 C4800	6-49-C4802-010	
12	POWER SWITCH BOARD V3.0 W244EU0	6-77-W24ES-003	
13	POWER BOARD SPONGE (S45-S45) (400) C4500	6-47-C4502-021	
14	SCREW M2xL K1 NI ICT NY (000) (45.0) (04)	6-35-B1120-3RE	
15	CLICK BOARD V1.0 W244EU0	6-77-W24E2-001	
16	TOUCHPAD PLATE MODULE C4505	6-33-C4552-101	
17	TOP CASE ITC W/0 (KEY) (KEY) (KEY) (KEY)	6-40-C4502-031	
18	SPONGE (S45) (S45) (S45) (S45) (S45) (S45) (S45) (S45)	6-47-0019A-390	
19	CONDUCTIVE CLIMB (S45) (S45) (S45) (S45) (S45) (S45) (S45) (S45)	6-47-E4122-011	
20	RUBBER (S45) (S45) (S45) (S45) (S45) (S45) (S45) (S45)	6-47-M67U1-040	
21	TOP W/0 RUBBER (S45) (S45) (S45) (S45) (S45) (S45) (S45) (S45)	6-47-M7705-081	
22	SCREW M2xL K1 NI ICT NY (000) (45.0) (04)	6-35-B1120-4RA	
23	TAPE MYLAR (C) (06x38.80) C4505	6-40-00150-861	
24	WASHER (06x03x0.3) (MYLAR)	6-37-02000-601	



Part Lists

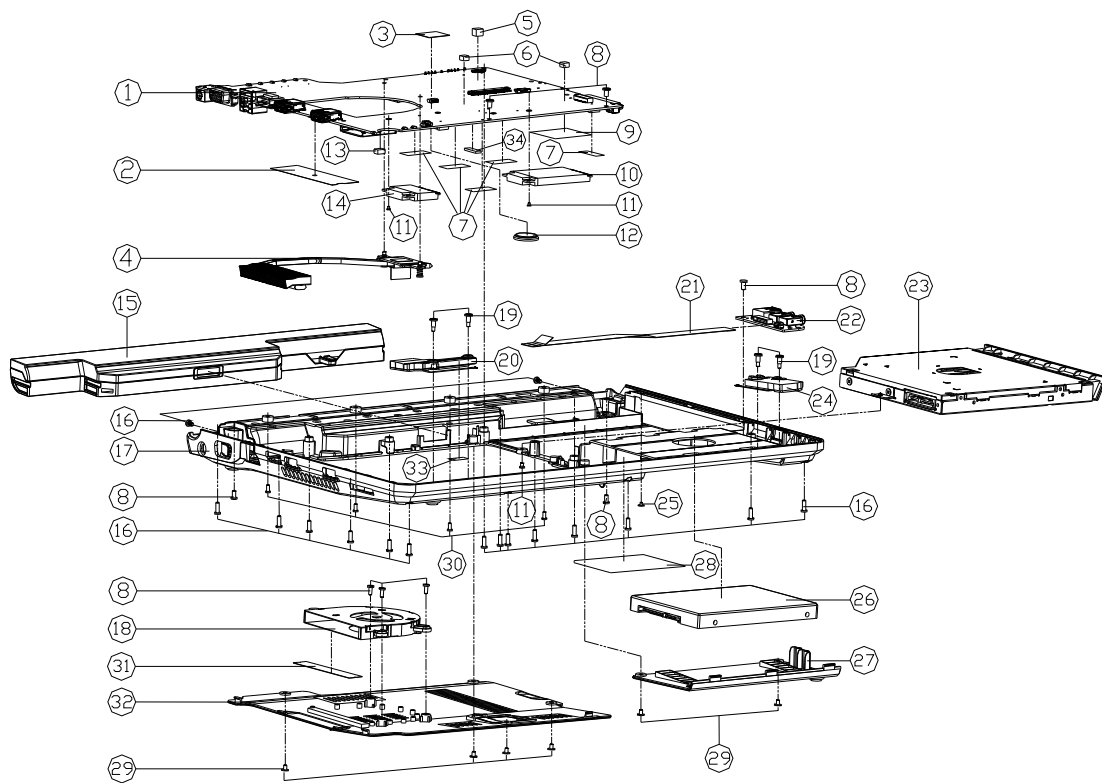
Bottom (W24ACZ)

Figure A - 4  
Bottom (W24ACZ)



ITEM	PART NAME	PART NO	REMARK
1	MAIN BOARD V28 (W/3G/W/TPM) W24ACZ	6-77-W2420-D02	
1	MAIN BOARD V28 (W/D 3G/W/D TPM) W24ACZ	6-77-W2420-D02-1	
1	MAIN BOARD V28 (W/3G/W/D TPM) W24ACZ	6-77-W2420-D02-2	
2	MYLAR PET FOR W/D F/W (CHANGE LENGTH) W240BU	6-40-W240S-011	
3	AUDIO BOARD MYLAR (2400) (15.6) (15.6) (15.6)	6-40-C450S-030	
4	CPU HEATSINK MODULE W24ACZ	6-31-W242N-100	
5	SCREW M2.5XSL KI BK/Z ICT NY-	6-35-B612S-5RA	
6	W/D S/L (15.6) (15.6) (15.6) (15.6) (15.6) (15.6)	6-87-E412S-4D7A	(OPTION)
6	W/D S/L (15.6) (15.6) (15.6) (15.6) (15.6) (15.6)	6-87-C480S-4G4B	(OPTION)
6	W/D S/L (15.6) (15.6) (15.6) (15.6) (15.6) (15.6)	6-87-W24ES-4W4	(OPTION)
7	TAPE MYLAR TRANSPARENT (20X10X0.05) P1800M	6-40-P1803-020	
8	W/D S/L (15.6) (15.6) (15.6) (15.6) (15.6) (15.6)	6-88-W25H2-7000	(OPTION)
8	W/D S/L (15.6) (15.6) (15.6) (15.6) (15.6) (15.6)	6-88-W345F-8700	(OPTION)
8	W/D S/L (15.6) (15.6) (15.6) (15.6) (15.6) (15.6)	6-88-W345F-9400	(OPTION)
8	W/D S/L (15.6) (15.6) (15.6) (15.6) (15.6) (15.6)	6-88-W25H2-9400	(OPTION)
8	W/D S/L (15.6) (15.6) (15.6) (15.6) (15.6) (15.6)	6-88-W1102-4200	(OPTION)
8	W/D S/L (15.6) (15.6) (15.6) (15.6) (15.6) (15.6)	6-88-W110F-4200	(OPTION)
9	MYLAR 40X20X0.1 (FR83 + 3M-467) M7351	6-40-M7351-020	FOR W/3G ONLY
10	W/D S/L (15.6) (15.6) (15.6) (15.6) (15.6) (15.6)	6-88-S180W-8300	(OPTION)
11	SCREW M2.5XSL KI NI ICT NY (00-445.01-04)	6-35-B1120-3RE	
12	BATTERY 3V 220MA BBBCR2028 (KTS)	6-23-6A2B2-030	
13	BOTTOM CASE MODULE (CHANGE) E4128Q	6-39-E4183-015	
14	FAN MODULE W251HUQ	6-31-W25HS-100	
15	AIRDUCT MYLAR DFR117 W240HU	6-40-W24H8-011	
16	CPU COVER MODULE E4128Q	6-42-E4183-103	
17	SCREW M2.5XSL KI NI ICT NY FOR SPEAKER	6-35-Z1120-6R2	
18	SPEAKER L (15.6) (15.6) (15.6) (15.6) (15.6) (15.6)	6-23-5E412-010	
19	ITE CABLE (15.6) (15.6) (15.6) (15.6) (15.6) (15.6)	6-43-W2400-012-2	
20	AUDIO BOARD V4.0 W24ACZ	6-77-W24E8-004-A	
21	SATA DVD SUPER MULTI ASSY (OPTION)	6-79-W24AB200-010	
21	SATA BLU-RAY COMBO MULTI ASSY (OPTION)	6-79-E412900Z-000	
21	W/D HDD ASS'Y E4129Q	6-79-E412900Z-000	
22	SPEAKER R (15.6) (15.6) (15.6) (15.6) (15.6) (15.6)	6-23-5E412-020	
23	PRODUCT LABEL FOR W24ACZ	6-45-W24AC203-010	
24	W/HDD ASS'Y E5120Q	6-79-E512000J-020	
24	W/D HDD ASS'Y E5120Q	6-79-E512000J-010	
25	HDD COVER MODULE E4128	6-42-E418J-101	
26	SCREW M2.5XSL KI BK/D ICT NY	6-35-B412S-4RA	
27	MYLAR (15.6X0.61) FOR M77X	6-40-M7703-010	
28	SCREW NEXOL KI NI ICT NY (00-445.01-08)	6-35-B1120-3RD	
29	GASKET (13.6X0.55) FOR D470W T/C	6-47-00190-135	

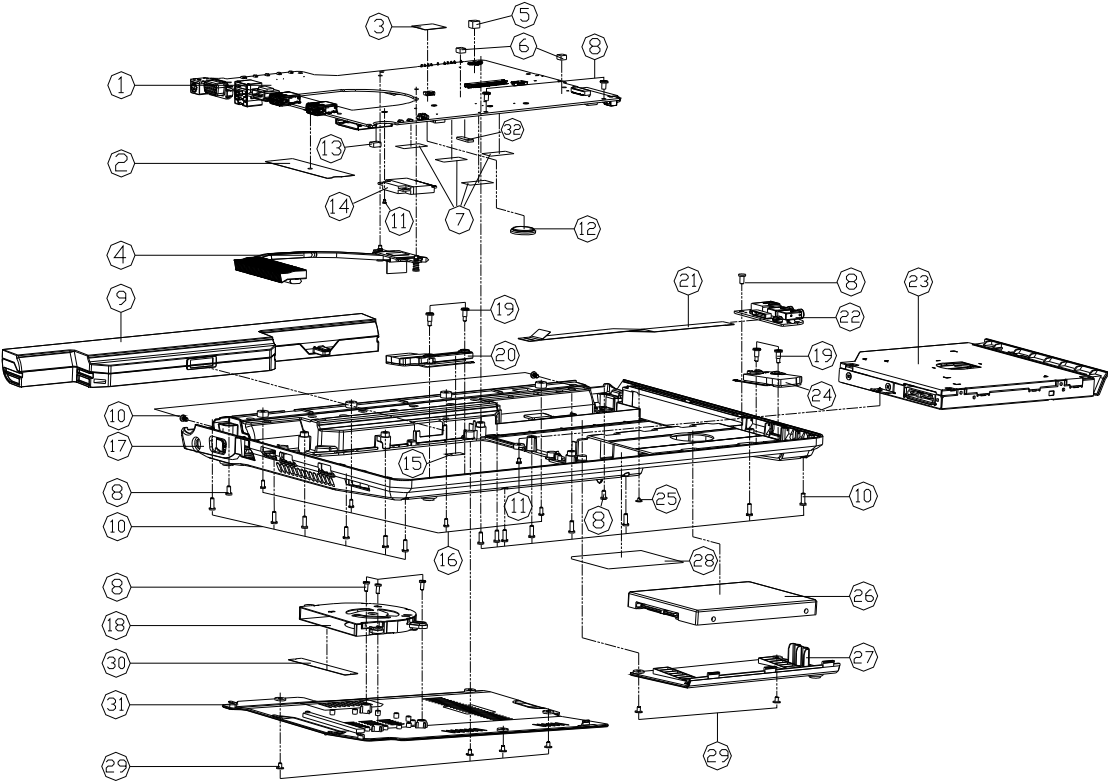
## Bottom - 3G (W243CZQ)

[illegible]

*Figure A - 5*  
**Bottom - SIM**  
**(W243CZQ)**

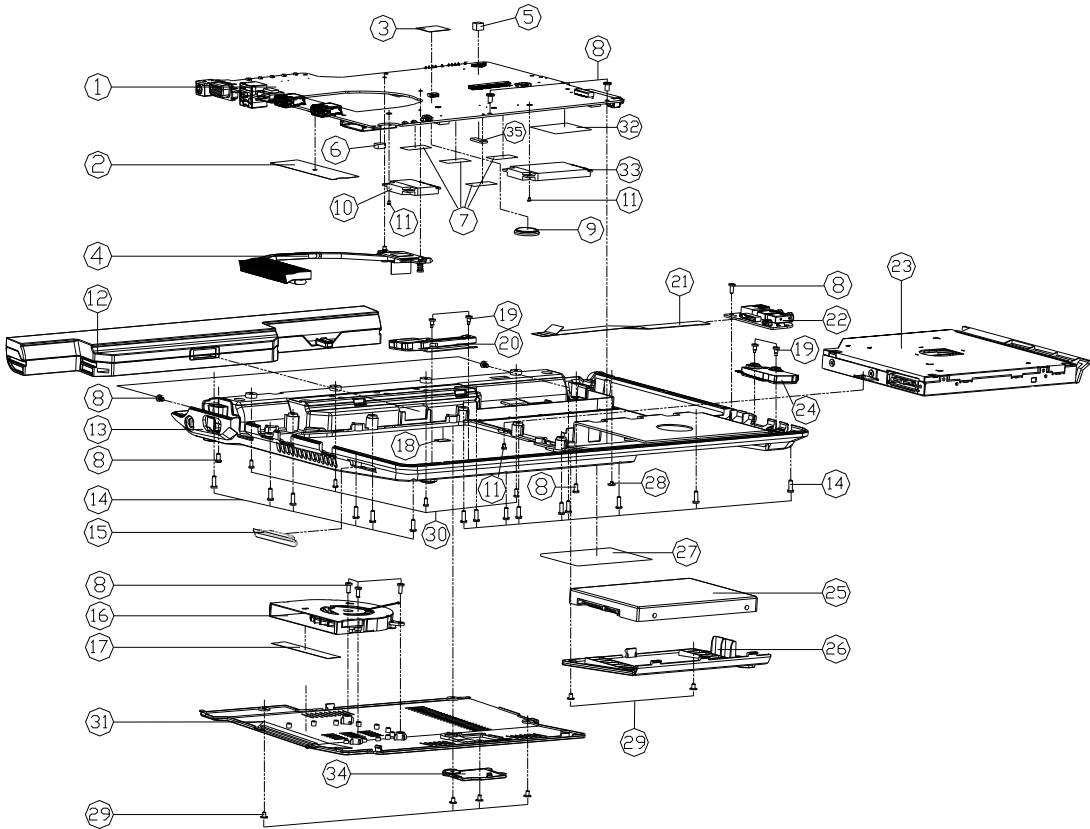
Bottom - No 3G (W243CZQ)

Figure A - 6  
Bottom - No SIM  
(W243CZQ)



ITEM	PART NAME	PART NO	REMARK
1	MAIN BOARD V2.0 (W/D 3G/W/D 1P/D) W243CZQ	6-77-W243CZQ-002-1	
2	MYLAR PET TOP W/D FIN CHANGE LENGTH W244H1	6-40-W240S-011	
3	AUDIO BOARD W244H01 (1P/D) W244H1	6-40-C450S-030	
4	CPU HEATSINK MODULE W244CZ	6-31-W242N-100	
5	GASKET (GASKET) WITHOUT CAR FOR W244H01	6-47-W2442-010	
6	TOUCH PAD RUBBER SILICONE (37X55) W244H	6-47-W2442-010	
7	TAPE MYLAR TRANSPARENT (20X104X0.5) P1803M	6-40-P1803-020	
8	SCREW M2.5XSL KT BK/Z ICT NY-	6-35-B6125-5RA	
9	IMP S11 (IMP) W244H01 (IMP) W244H01	6-87-C480S-4G4B	(OPTION)
9	IMP S11 (IMP) W244H01 (IMP) W244H01	6-87-E412S-4D7A	(OPTION)
9	IMP S11 (IMP) W244H01 (IMP) W244H01	6-87-W24ES-4W4	(OPTION)
10	SCREW M2.5XSL KT BK/Z NY ICT	6-35-B6125-8R0	
11	SCREW M2XSL KT NI ICT NY (08-44.5D1-64)	6-35-B1120-3RE	
12	BATTERY 3V 220MA BBBCR2032B (KTS)	6-23-6A2B2-030	
13	GASKET (GASKET) FOR TV COIN, TOP CASE W270U	6-47-00190-102	
14	W/D DVD ASS'Y W244H02 (W/D) W244H02	6-88-W25H2-7000	
14	W/D DVD ASS'Y W244H02 (W/D) W244H02	6-88-W345F-8700	
14	W/D DVD ASS'Y W244H02 (W/D) W244H02	6-88-W25H2-9400	
14	W/D DVD ASS'Y W244H02 (W/D) W244H02	6-88-W1102-4200	
14	W/D DVD ASS'Y W244H02 (W/D) W244H02	6-88-W110F-4200	
15	MYLAR (15X6X0.6T) FOR M77X	6-40-W7703-010	
16	SCREW M2XSL KHT-08 (H-40) BK/Z ICT NY	6-35-B6120-5R0	
17	BOTTOM CASE MODULE (CHANGE) W244H0-C	6-39-W2443-012-C	
18	FAN MODULE W251H00	6-31-W25HS-100	
19	SCREW M2XSL NI ICT NY FOR SPEAKER	6-35-Z1120-6R2	
20	SPK-CABLE L 10H152 15W 8T 30MM L10H152 E408	6-23-5E412-010	
21	PC CABLE HP W/D FIN CHANGE) AUDIO BOARD W244H01	6-43-W2409-012-2	
22	AUDIO BOARD V4.0 W244CZ	6-77-W24E8-004-A	
23	W/D DVD ASS'Y W244H02 (OPTION)	6-79-W244H02-000	
23	SATA BLU-RAY COMBO ASS'Y (OPTION)	6-79-W244CLOW-010	
24	SATA DVD SUPER MULTI ASS'Y (OPTION)	6-79-W243BL00-000	
24	SPK-CABLE R 10H152 15W 8T 30MM L10H152 E408	6-23-5E412-020	
25	SCREW M2XSL KT BK/Z ICT NY (06.1-05)	6-35-B6120-2RC	
26	W/D HDD ASS'Y E5120Q	6-79-E512000J-010	
26	W/D HDD ASS'Y E5120Q	6-79-E512000J-020	
27	HDD COVER MODULE W244H0-C	6-42-W244J-101-C	
28	PRODUCT LABEL FOR W243CZQ-C	6-45-W243CZQ-010-C	
29	SCREW M2XSL KT BK/D ICT NY	6-35-B4125-4RA	
30	AIRDUCT MYLAR DFR117 W240H	6-40-W24H8-011	
31	CPU COVER MODULE W/D 3G/W/D SWP-F10W244H0-C	6-42-W2443-202-C	
32	GASKET (13X5X0.5) FOR B470W 1/C	6-47-00190-135	

Bottom - SIM (W245CZQ)



ITEM	PART NAME	PART NO	REMARK
1	MAIN BOARD V28 QV36V/190 W245CZQ-C	6-77-W245CZQ0-000	
1	MAIN BOARD V28 QV36V/190 W245CZQ-C	6-77-W245CZQ0-000	
2	MYLAR FIL FOR W3 FIL CHANGE LENGTH W240H	6-40-W240S-011	
3	AUDIO BOARD W240H50 (C) RCT NY 60 C600	6-40-C450S-030	
4	CPU HEATSINK MODULE W24ACZ	6-31-W24ZN-100	
5	GASKET (GASKET) WITHOUT EAF FOR W24ACZ-C	6-47-0019A-60B	
6	GASKET (GASKET) FOR TV CDM TOP CASE MOUNT	6-47-00190-102	
7	TAPE MYLAR TRANSPARENT (C) RCT NY 60 C600	6-40-P1803-020	
8	SCREW M2.5x5L KI BK/Z ICT NY-	6-35-B612S-5RA	
9	BATTERY 3V 200MA BBKCR20328 (KTS)	6-23-6A2B2-030	
10	W/O COVER (OPTION) FOR W245CZQ (OPTION)	6-88-W25H2-7000	
10	W/O COVER (OPTION) FOR W245CZQ (OPTION)	6-88-W345F-8700	
10	W/O COVER (OPTION) FOR W245CZQ (OPTION)	6-88-W345F-9400	
10	W/O COVER (OPTION) FOR W245CZQ (OPTION)	6-88-W25H2-9400	
10	W/O COVER (OPTION) FOR W245CZQ (OPTION)	6-88-W1102-4200	
10	W/O COVER (OPTION) FOR W245CZQ (OPTION)	6-88-W110F-4200	
11	SCREW M2x3 KI NY ICT NY (C) RCT NY 60 C600	6-35-B1120-3R3	
12	W/O COVER (OPTION) FOR W245CZQ (OPTION)	6-87-C480S-46A	(OPTION)
12	W/O COVER (OPTION) FOR W245CZQ (OPTION)	6-87-C412S-407A	(OPTION)
12	W/O COVER (OPTION) FOR W245CZQ (OPTION)	6-87-W245S-4W4	(OPTION)
13	W/O COVER (OPTION) FOR W245CZQ (OPTION)	6-39-C4503-023-C	
14	SCREW M2.5x5L KI BK/Z NY ICT	6-35-B612S-8R0	
15	W/O COVER (OPTION) FOR W245CZQ (OPTION)	6-47-C450B-011	
16	FAN MODULE W251HUQ	6-31-W25HS-100	
17	AIRDUCT MYLAR DFR117 W240HJ	6-40-W24HB-011	
18	MYLAR (15x6x0.6T) FDR M77X	6-40-M7703-010	
19	SCREW M2x4.2L NI ICT NY FOR SPEAKER	6-35-Z1120-6R2	
20	SPK CABLE L 10x152 LAY BY 3MM L100HJ E40	6-23-5E412-010	
21	ITE CABLE HP M10 TO CHANGE (AUDIO BOARD) W240H	6-43-W2400-012-2	
22	AUDIO BOARD V4.0 W24ACZ	6-77-W240B-004-A	
23	W/O DDD ASS'Y W240H (OPTION)	6-79-W240H02-000	
23	DATA DVD SUPER MULTI ASS'Y (OPTION)	6-79-W245CZQ0-000	
24	SPK CABLE L 10x152 LAY BY 3MM L100HJ E40	6-23-5E412-020	
25	W/O DDD ASS'Y E51200	6-79-E51200J-000	
25	W/O DDD ASS'Y E51200	6-79-E51200J-020	
26	MOD COVER MODULE C4500-C	6-42-C450J-100-C	
27	PRODUCT LABEL FOR W245CZQ-C	6-45-W245CZQ0-000-C	
28	SCREW M2x4L KI BK/Z ICT NY (6x1.0S)	6-35-B6120-2RC	
29	SCREW M2.5x4L KI BK/D ICT NY	6-35-B412S-4RA	
30	SCREW M2.5x4L KI BZ ICT NY-	6-35-B6120-4RA	
31	CPU COVER MODULE FOR CPU-C GASKET (GASKET) RCT	6-42-C4123-103-C	
32	MYLAR 40x30x0.1T (R) RCT - 3M-467 M7351	6-40-M7351-020	
33	W/O COVER (OPTION) FOR W245CZQ (OPTION)	6-88-S180W-8300	
34	SIM COVER MODULE FOR E412P-C	6-42-E412S-100-C	
35	GASKET (13x5x0.5D) FOR B470V T/C	6-47-00190-135	

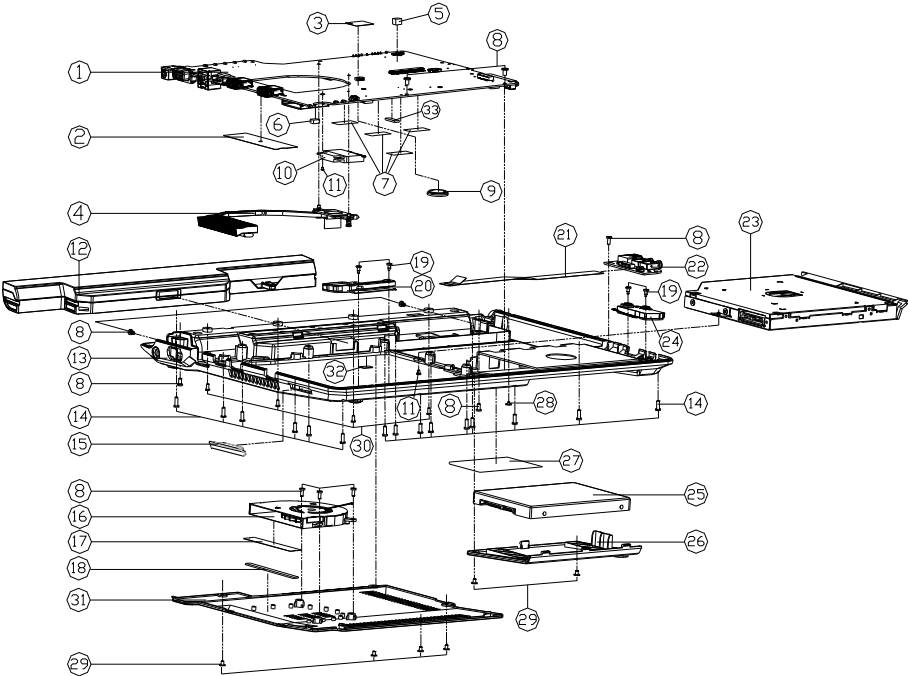
Figure A - 7  
Bottom - 3G  
(W245CZQ)

A.Part Lists

Part Lists

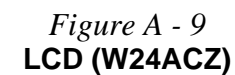
Bottom - No SIM (W245CZQ)

Figure A - 8  
Bottom - No 3G  
(W245CZQ)



ITEM	PART NAME	PART NO	REMARK
1	MAIN BOARD V245CZQ (W245CZQ)	6-77-W245CZQ-000-1	
2	MAIN PCB FOR W245CZQ (W245CZQ)	6-40-W245CZQ-011	
3	AUDIO BOARD V245CZQ (W245CZQ)	6-40-C450S-030	
4	CPU HEATSINK MODULE W245CZQ	6-31-W245CZQ-100	
5	GAUDET (GAUDET) W245CZQ FOR W245CZQ	6-47-0019A-608	
6	GAUDET (GAUDET) FOR W245CZQ FOR W245CZQ	6-47-0019B-102	
7	W245CZQ TRANSPARENT COUPLER (W245CZQ)	6-40-P1003-020	
8	SCREW M2.5X4.0 KI BK/Z ICT NY	6-35-B6125-5RA	
9	BATTERY 3V 220MA BBK200202 (W245CZQ)	6-23-6A2B2-030	
10	W245CZQ TRANSPARENT COUPLER (W245CZQ)	6-88-W245CZQ-7000	
10	W245CZQ TRANSPARENT COUPLER (W245CZQ)	6-88-W345F-8700	
10	W245CZQ TRANSPARENT COUPLER (W245CZQ)	6-88-W345F-9400	
10	W245CZQ TRANSPARENT COUPLER (W245CZQ)	6-88-W345F-9400	
10	W245CZQ TRANSPARENT COUPLER (W245CZQ)	6-88-W1102-4200	
10	W245CZQ TRANSPARENT COUPLER (W245CZQ)	6-88-W110F-4200	
11	SCREW M2.5X4.0 KI BK/Z ICT NY	6-35-B1120-3RD	
12	W245CZQ TRANSPARENT COUPLER (W245CZQ)	6-87-C480S-4G4	(OPTION)
12	W245CZQ TRANSPARENT COUPLER (W245CZQ)	6-87-E412S-4D7A	(OPTION)
12	W245CZQ TRANSPARENT COUPLER (W245CZQ)	6-87-W245CZQ-4V4	(OPTION)
12	W245CZQ TRANSPARENT COUPLER (W245CZQ)	6-39-C450S-023-C	
13	W245CZQ TRANSPARENT COUPLER (W245CZQ)	6-39-C450S-023-C	
14	SCREW M2.5X4.0 KI BK/Z ICT NY	6-35-B6125-5RD	
15	W245CZQ TRANSPARENT COUPLER (W245CZQ)	6-47-C450S-011	
16	FAN MODULE W245CZQ	6-31-W245CZQ-100	
17	AIRDUCT NYLON BR117 W245CZQ	6-40-W245CZQ-011	
18	SPRING (W245CZQ) (W245CZQ) (W245CZQ)	6-47-0019A-610	
19	SCREW M2.5X4.0 KI BK/Z ICT NY	6-35-Z1120-6R2	
20	SPRING (W245CZQ) (W245CZQ) (W245CZQ)	6-23-5C412-010	
21	W245CZQ TRANSPARENT COUPLER (W245CZQ)	6-43-W245CZQ-012-0	
22	AUDIO BOARD V245CZQ W245CZQ	6-77-W245CZQ-000-A	
23	W245CZQ TRANSPARENT COUPLER (W245CZQ)	6-79-W245CZQ-000	
23	DATA DVD SUPER MULTI ASSY (OPTION)	6-79-W245CZQ-000	
24	SPRING (W245CZQ) (W245CZQ) (W245CZQ)	6-23-5C412-020	
25	W245CZQ TRANSPARENT COUPLER (W245CZQ)	6-79-E5120G-010	
25	W245CZQ TRANSPARENT COUPLER (W245CZQ)	6-79-E5120G-010	
26	HDD COVER MODULE C4500-C	6-42-C4500-J100-C	
27	PRODUCT LABEL FOR W245CZQ-C	4-45-W245CZQ-000-C	
28	SCREW M2.5X4.0 KI BK/Z ICT NY	6-35-B6120-2RC	
29	SCREW M2.5X4.0 KI BK/Z ICT NY	6-35-B4125-4RA	
30	SCREW M2.5X4.0 KI BK/Z ICT NY	6-35-B6120-4RA	
31	CPU COVER MODULE C4500-C	6-42-C4500-J100-C	
32	NYLON (W245CZQ) FOR W245CZQ	6-40-W245CZQ-010	
33	GAUDET (W245CZQ) FOR W245CZQ	6-47-0019B-125	

## A. Part Lists



ITEM	PART NAME	PART NO	REMARK
1	LED FRONT COVER PROTECTION ROLLER PVL10000 C4500	6-40-C4501-011	
2	LED FRONT COVER SCREW RUBBER SILICON C4500	6-47-C4501-031	
3	SCREW M2X4. KI14-08 D40 BK/2 ICT NY	6-35-B6120-S80	
4	LED FRONT COVER MIDDLE C4500	6-39-C4501-012	
5	LED FRONT COVER ROLLER GREENELECTRIC PVL4000 C4500	6-39-C4501-012	
6	LED FRONT COVER ROLLER GREENELECTRIC PVL4000 C4500	6-39-C4501-012-S4	FOR W24A1
7	C/CD BRGR PMMA M510L	6-42-M8101-011	
8	W/D C/CD LENS PMMA Ø52 C4800	6-42-C4801-010	
9	FRONT COVER FOR C/CD SCREW C4500	6-40-C4501-031	
10	SCREW M2X4 KI NI ICT NY (F60-M40T-08)	6-35-B1120-07D	
8	SCREW M2.5X4 KI BK/2 ICT NY	6-35-B6125-S8A	
12	LED HINGE L SECC E41280	6-33-E4128-010	
13	REAR COVER FOR C/CD ROLLER PVL4000 C4500	6-23-7450-032	
14	ONE COVER ROLLER TO ROLLER ROLLER ROLLER ROLLER ROLLER	6-88-E159C-4901	OPTION
15	ONE COVER ROLLER TO ROLLER ROLLER ROLLER ROLLER ROLLER	6-88-E159C-4902	OPTION
16	ONE COVER ROLLER TO ROLLER ROLLER ROLLER ROLLER ROLLER	6-88-E159C-4904	OPTION
17	ONE COVER ROLLER TO ROLLER ROLLER ROLLER ROLLER ROLLER	6-88-E159C-4900	OPTION
18	ONE COVER ROLLER TO ROLLER ROLLER ROLLER ROLLER ROLLER	6-88-E159C-4902	OPTION
19	ONE COVER ROLLER TO ROLLER ROLLER ROLLER ROLLER ROLLER	6-88-E159C-4902	OPTION
20	ONE COVER ROLLER TO ROLLER ROLLER ROLLER ROLLER ROLLER	6-88-E159C-4901	OPTION
21	ONE COVER ROLLER TO ROLLER ROLLER ROLLER ROLLER ROLLER	6-88-E159C-4901	OPTION
22	LED AL. FOIL AL. FOIL MYLAR-011 W24H40	6-88-M11H-010	OPTION
23	LED AL. FOIL AL. FOIL MYLAR-011 W24H40	6-87-W24H-010	
24	AL FOIL FOR TP E51280	6-47-E5128-020	FOR W24A1
25	REAR COVER FOR C/CD ROLLER PVL4000 C4500	6-23-7450-010	
26	WIRE CABLE FOR TP C/CD TP CASE M510	6-47-01010-102	
27	WIRE CABLE FOR TP LIVES 29000 ROLLER ROLLER ROLLER ROLLER	6-43-E1501-011-A	
28	WIRE CABLE FOR TP LIVES 29000 ROLLER ROLLER ROLLER ROLLER	6-43-E1501-012-A	
29	WIRE CABLE FOR TP LIVES 29000 ROLLER ROLLER ROLLER ROLLER	6-43-E1501-012-A	
30	WIRE CABLE FOR TP LIVES 29000 ROLLER ROLLER ROLLER ROLLER	6-43-E1501-012-A	
31	WIRE CABLE FOR TP LIVES 29000 ROLLER ROLLER ROLLER ROLLER	6-43-E1501-012-A	
32	WIRE CABLE FOR TP LIVES 29000 ROLLER ROLLER ROLLER ROLLER	6-43-E1501-012-A	
33	WIRE CABLE FOR TP LIVES 29000 ROLLER ROLLER ROLLER ROLLER	6-43-E1501-012-A	
34	WIRE CABLE FOR TP LIVES 29000 ROLLER ROLLER ROLLER ROLLER	6-43-E1501-012-A	
35	WIRE CABLE FOR TP LIVES 29000 ROLLER ROLLER ROLLER ROLLER	6-43-E1501-012-A	
36	WIRE CABLE FOR TP LIVES 29000 ROLLER ROLLER ROLLER ROLLER	6-43-E1501-012-A	
37	WIRE CABLE FOR TP LIVES 29000 ROLLER ROLLER ROLLER ROLLER	6-43-E1501-012-A	
38	WIRE CABLE FOR TP LIVES 29000 ROLLER ROLLER ROLLER ROLLER	6-43-E1501-012-A	
39	WIRE CABLE FOR TP LIVES 29000 ROLLER ROLLER ROLLER ROLLER	6-43-E1501-012-A	
40	WIRE CABLE FOR TP LIVES 29000 ROLLER ROLLER ROLLER ROLLER	6-43-E1501-012-A	
41	WIRE CABLE FOR TP LIVES 29000 ROLLER ROLLER ROLLER ROLLER	6-43-E1501-012-A	
42	WIRE CABLE FOR TP LIVES 29000 ROLLER ROLLER ROLLER ROLLER	6-43-E1501-012-A	
43	WIRE CABLE FOR TP LIVES 29000 ROLLER ROLLER ROLLER ROLLER	6-43-E1501-012-A	
44	WIRE CABLE FOR TP LIVES 29000 ROLLER ROLLER ROLLER ROLLER	6-43-E1501-012-A	
45	WIRE CABLE FOR TP LIVES 29000 ROLLER ROLLER ROLLER ROLLER	6-43-E1501-012-A	
46	WIRE CABLE FOR TP LIVES 29000 ROLLER ROLLER ROLLER ROLLER	6-43-E1501-012-A	
47	WIRE CABLE FOR TP LIVES 29000 ROLLER ROLLER ROLLER ROLLER	6-43-E1501-012-A	
48	WIRE CABLE FOR TP LIVES 29000 ROLLER ROLLER ROLLER ROLLER	6-43-E1501-012-A	
49	WIRE CABLE FOR TP LIVES 29000 ROLLER ROLLER ROLLER ROLLER	6-43-E1501-012-A	
50	WIRE CABLE FOR TP LIVES 29000 ROLLER ROLLER ROLLER ROLLER	6-43-E1501-012-A	
51	WIRE CABLE FOR TP LIVES 29000 ROLLER ROLLER ROLLER ROLLER	6-43-E1501-012-A	
52	WIRE CABLE FOR TP LIVES 29000 ROLLER ROLLER ROLLER ROLLER	6-43-E1501-012-A	
53	WIRE CABLE FOR TP LIVES 29000 ROLLER ROLLER ROLLER ROLLER	6-43-E1501-012-A	
54	WIRE CABLE FOR TP LIVES 29000 ROLLER ROLLER ROLLER ROLLER	6-43-E1501-012-A	
55	WIRE CABLE FOR TP LIVES 29000 ROLLER ROLLER ROLLER ROLLER	6-43-E1501-012-A	
56	WIRE CABLE FOR TP LIVES 29000 ROLLER ROLLER ROLLER ROLLER	6-43-E1501-012-A	
57	WIRE CABLE FOR TP LIVES 29000 ROLLER ROLLER ROLLER ROLLER	6-43-E1501-012-A	
58	WIRE CABLE FOR TP LIVES 29000 ROLLER ROLLER ROLLER ROLLER	6-43-E1501-012-A	
59	WIRE CABLE FOR TP LIVES 29000 ROLLER ROLLER ROLLER ROLLER	6-43-E1501-012-A	
60	WIRE CABLE FOR TP LIVES 29000 ROLLER ROLLER ROLLER ROLLER	6-43-E1501-012-A	
61	WIRE CABLE FOR TP LIVES 29000 ROLLER ROLLER ROLLER ROLLER	6-43-E1501-012-A	
62	WIRE CABLE FOR TP LIVES 29000 ROLLER ROLLER ROLLER ROLLER	6-43-E1501-012-A	
63	WIRE CABLE FOR TP LIVES 29000 ROLLER ROLLER ROLLER ROLLER	6-43-E1501-012-A	
64	WIRE CABLE FOR TP LIVES 29000 ROLLER ROLLER ROLLER ROLLER	6-43-E1501-012-A	

## LCD (W243CZQ)

This exploded view diagram illustrates the assembly of the table. The components are numbered as follows:

- 1**: Top glass panel.
- 2**: Screws for attaching the top panel to the frame.
- 3**: Screws for attaching the frame to the base.
- 4**: Screws for attaching the frame to the base.
- 5**: Screws for attaching the frame to the base.
- 6**: Screws for attaching the frame to the base.
- 7**: Middle glass panel.
- 8**: Screws for attaching the frame to the base.
- 9**: Screws for attaching the frame to the base.
- 10**: Screws for attaching the frame to the base.
- 11**: Screws for attaching the frame to the base.
- 12**: Screws for attaching the frame to the base.
- 13**: Screws for attaching the frame to the base.
- 14**: Screws for attaching the frame to the base.
- 15**: Screws for attaching the frame to the base.
- 16**: Screws for attaching the frame to the base.
- 17**: Screws for attaching the frame to the base.
- 18**: Screws for attaching the frame to the base.
- 19**: Screws for attaching the frame to the base.
- 20**: Bottom glass panel.
- 21**: Screws for attaching the frame to the base.

ITEM	PART NAME	PART NO	REMARK
1	LED FRONT COVER PROTECTION MYLAR PAPER 6500	6-40-C4501-011	
2	LED FRONT COVER SCREW RUBBER SLEEVES C4500	6-47-C4501-031	
3	SCREW MYLAR KE NI ICT NY 0145-0145	6-35-B1120-4R3	
4	LED FRONT COVER MODULE Q400 Q401 Q402	6-39-C4161-01A	
4	LED FRONT COVER MODULE Q403 Q404 Q405 Q406 Q407 Q408 Q409	6-39-C4161-013-S1	
5	CDD 88R PMMA M810L	6-42-M8101-01	
5	CDD LENS PMMA E5120G	6-42-E5101-031	
5	W/O CDD LENS PMMA 05T C4800	6-42-C4801-020	
6	FRONT COVER PC FR SCREW C4500	6-40-C4501-071	
7	SCREW MYLAR KE NI ICT NY 0145-0137-040	6-35-B1120-3RE	
8	LCD HINGE -L SECC 4325X41060	6-33-C4161-011	
9	SCREW MYLAR 1/4" X 1/4" 6Y-PM NY 0145 314-3	6-35-C2521-3R1	
10	MYLAR FILM 1/4" X 1/4" 6Y-PM NY 0145 314-3	6-23-7Y244-020-1	
11	W/O COVER HINGE FOR 4325 314-3 6Y-PM NY 0145 314-3	6-88-M115C-501	OPTION
11	W/O COVER HINGE FOR 4325 314-3 6Y-PM NY 0145 314-3	6-88-W115C-4901	
11	W/O COVER HINGE FOR 4325 314-3 6Y-PM NY 0145 314-3	6-88-W115C-501	OPTION
11	W/O COVER HINGE FOR 4325 314-3 6Y-PM NY 0145 314-3	6-88-W115C-4902	OPTION
12	MYLAR 1/4" X 1/4" 6Y-PM NY 0145 314-3	6-23-7Y412-010	
13	W/O CABLE FOR CDD 30-35MM 4325-010	6-43-W24E1-010	
14	MYLAR 1/4" X 1/4" 6Y-PM NY 0145 314-3	6-43-C4161-012-A	
15	LED HAP 100 100 100 100 100 100 100 100 100 100	6-50-J8136-000	
15	LED HAP 100 100 100 100 100 100 100 100 100 100	6-50-J8136-L06	
16	LCD HINGE -R SECC 4325X41060	6-33-C4161-012	
17	HINGE COSMETIC RING ABS P427Z C4500	6-42-C4508-021	
18	TAPE MYLAR (B)MYLAR M550J	6-40-M55J2-020	
19	LED BACK COVER MODULE W243H40-C	6-39-W243H-020-C	
20	BACK COVER PROTECTION MYLAR885-88555-C4500	6-40-C4501-020	
21	AL FOIL FOR TOP E5128G	6-47-E5182-020	

LCD (W245CZQ)

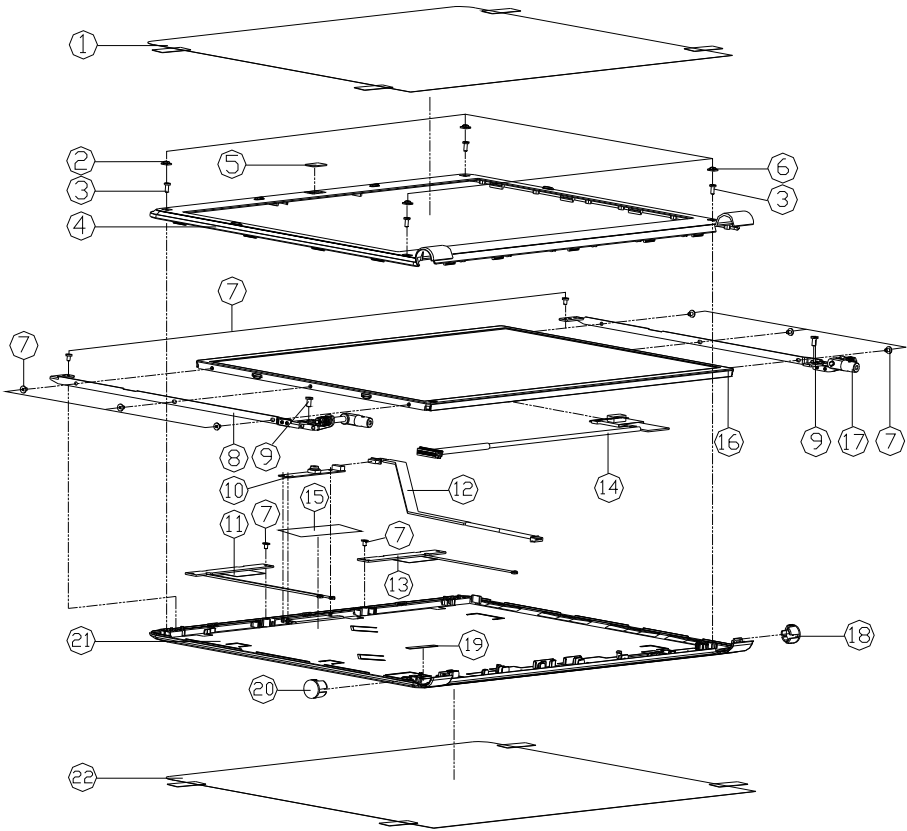


Figure A - 11  
LCD (W245CZQ)

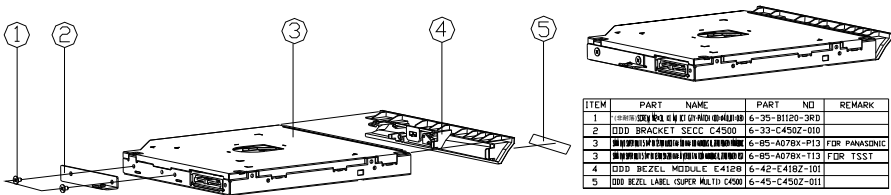
ITEM	PART NAME	PART NO	REMARK
1	LCD FRONT COVER PROTECTION MYLAR (PET-3000) C4500	6-40-C4501-011	
2	LCD FRONT COVER SCREW RUBBER SLICOM C4500	6-47-C4501-031	
3	SCREW M2x5xSL K11-BK/Z ICT NY	6-35-B6120-5R0	
4	LCD FRONT COVER MODULE C4500	6-39-C4501-012	
5	CCD BEARING PMMA M810L	6-42-M8101-011	
6	W/O CCD LENS PMMA 0.5T C4800	6-42-C4801-010	
7	FRONT COVER PC FOR SCREW C4500	6-40-C4501-071	
8	SCREW M2x5xSL K11-BK/Z ICT NY	6-35-B1120-3RE	
9	LCD HINGE-L SECC C4500	6-33-C4501-011	
10	SCREW M2.5xSL K11-BK/Z ICT NY	6-35-B6125-5RA	
10	UVC CAMERA HOUSING FOR C4500 IN HD 3000 1000 1000 1000	6-88-W15EC-4901	OPTION
10	UVC CAMERA HOUSING FOR C4500 IN HD 3000 1000 1000 1000	6-88-W21EC-5100	OPTION
10	UVC CAMERA HOUSING FOR C4500 IN HD 3000 1000 1000 1000	6-88-M115C-4902	OPTION
10	UVC CAMERA HOUSING FOR C4500 IN HD 3000 1000 1000 1000	6-88-M111C-5100	OPTION
11	UVC CAMERA HOUSING FOR C4500 IN HD 3000 1000 1000 1000	6-23-7C450-032-1	
12	WIRE CABLE FOR CCD SP 3000MM W245CZQ (H)	6-43-W24ET-010	
13	ANTENNA VCMNA PCB 3G 860MM (H) E4120	6-23-7E412-010	
14	WIRE CABLE FOR LENS 290MM (H) (CM6140) C4500	6-43-E5101-011-A	
15	AL FOIL FOR TP E512BQ	6-47-E5182-020	
16	LCD HINGE-R SECC C4500	6-50-J8152-L0B	
16	LCD HINGE-R SECC C4500	6-50-J8152-H04	
17	LCD HINGE-R SECC C4500	6-33-C4501-021	
18	HINGE COSMETIC RING R (CM6140) C4505	6-42-C4558-011	
19	TAPE MYLAR (B) MYLAR M550J	6-40-M55J2-020	
20	HINGE COSMETIC RING L (CM6140) C4505	6-42-C4558-021	
21	LCD BACK COVER (H) MODULE (CHANGED) C4505-C	6-39-C4551-022-C	
22	BACK COVER PROTECTION MYLAR (PET-3000) C4500	6-40-C4501-020	



Part Lists

SATA-DVD (W24ACZ)

Figure A - 12  
SATA-DVD  
(W24ACZ)



SATA-DVD (W243CZQ)

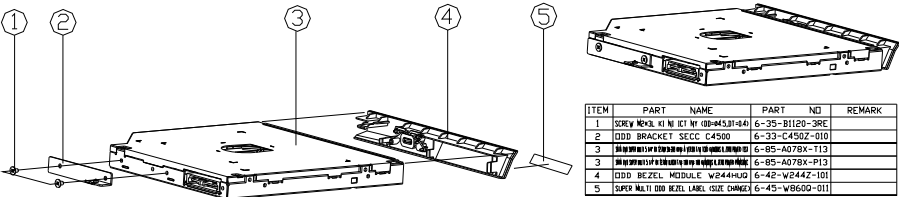
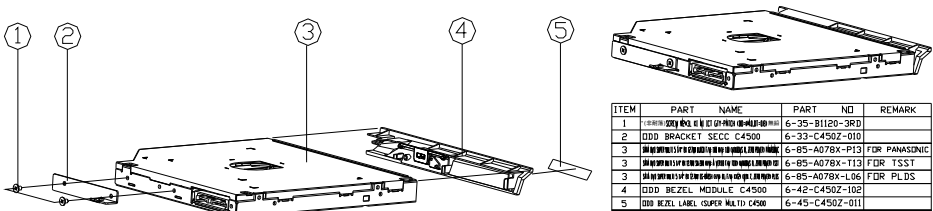


Figure A - 13  
SATA-DVD  
(W243CZQ)

Part Lists

SATA-DVD (W245CZQ)

Figure A - 14  
SATA-DVD  
(W245CZQ)



Combo (W24ACZ)

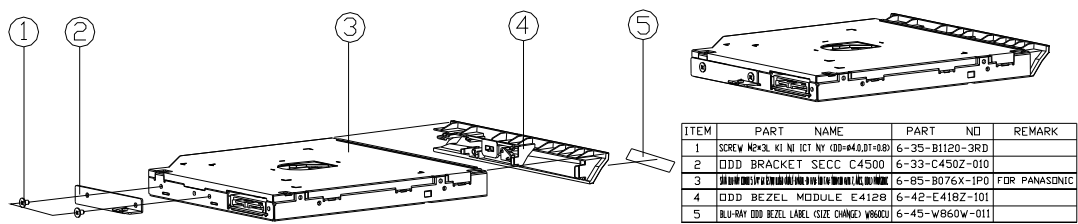
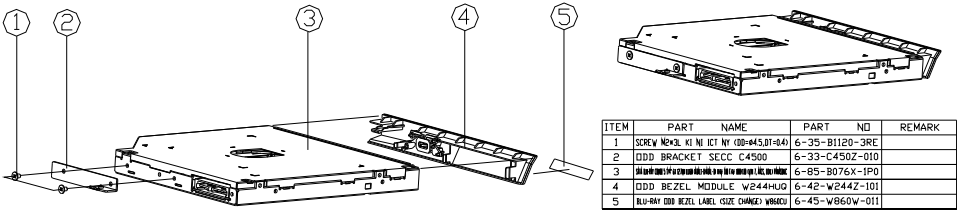


Figure A - 15  
Combo (W24ACZ)

Part Lists

Combo (W243CZQ)

Figure A - 16  
Combo  
(W243CZQ)



# Appendix B: Schematic Diagrams

This appendix has circuit diagrams of the **W24ACZ / W243CZQ / W245CZQ** notebook's PCB's. The following table indicates where to find the appropriate schematic diagram.

Diagram - Page	Diagram - Page	Diagram - Page
<i>System Block Diagram - Page B - 2</i>	<i>PantherPoint - M 6/9 - Page B - 19</i>	<i>Power 1.05VS, VTT_CPU - Page B - 36</i>
<i>Processor 1/7 - Page B - 3</i>	<i>PantherPoint - M 7/9 - Page B - 20</i>	<i>Power 0.85VS - Page B - 37</i>
<i>Processor 2/7 - Page B - 4</i>	<i>PantherPoint - M 8/9 - Page B - 21</i>	<i>Power V-Core1 - Page B - 38</i>
<i>Processor 3/7 - Page B - 5</i>	<i>PantherPoint - M 9/9 - Page B - 22</i>	<i>Power V-Core2 - Page B - 39</i>
<i>Processor 4/7 - Page B - 6</i>	<i>WLAN, CCD - Page B - 23</i>	<i>Smart Charger, AC In - Page B - 40</i>
<i>Processor 5/7 - Page B - 7</i>	<i>3G, TPM - Page B - 24</i>	<i>Click Board - Page B - 41</i>
<i>Processor 6/7 - Page B - 8</i>	<i>Card Reader, LAN RTL8402 - Page B - 25</i>	<i>Audio Board/USB - Page B - 42</i>
<i>Processor 7/7 - Page B - 9</i>	<i>Transformer, SATA HDD, ODD - Page B - 26</i>	<i>Power Switch &amp; LID Board - Page B - 43</i>
<i>DDR3 SO-DIMM_0 - Page B - 10</i>	<i>USB 3.0 TI TUSB7320 - Page B - 27</i>	<i>External ODD Board - Page B - 44</i>
<i>DDR3 SO-DIMM_1 - Page B - 11</i>	<i>USB 3.0/USB 2.0/USB Charger - Page B - 28</i>	<i>Power Sequence - Page B - 45</i>
<i>LVDS, Inverter - Page B - 12</i>	<i>KBC-ITE IT8518 - Page B - 29</i>	
<i>HDMI, CRT - Page B - 13</i>	<i>LED - Page B - 30</i>	
<i>PantherPoint - M 1/9 - Page B - 14</i>	<i>Audio Codec VT1802P/ALC269 - Page B - 31</i>	
<i>PantherPoint - M 2/9 - Page B - 15</i>	<i>Fan, TP, Multi-Conn - Page B - 32</i>	
<i>PantherPoint - M 3/9 - Page B - 16</i>	<i>System Power - Page B - 33</i>	
<i>PantherPoint - M 4/9 - Page B - 17</i>	<i>VDD3, VDD5 - Page B - 34</i>	
<i>PantherPoint - M 5/9 - Page B - 18</i>	<i>Power 1.5V/0.75V/1.8VS - Page B - 35</i>	

*Table B - 1*  
**Schematic  
Diagrams**

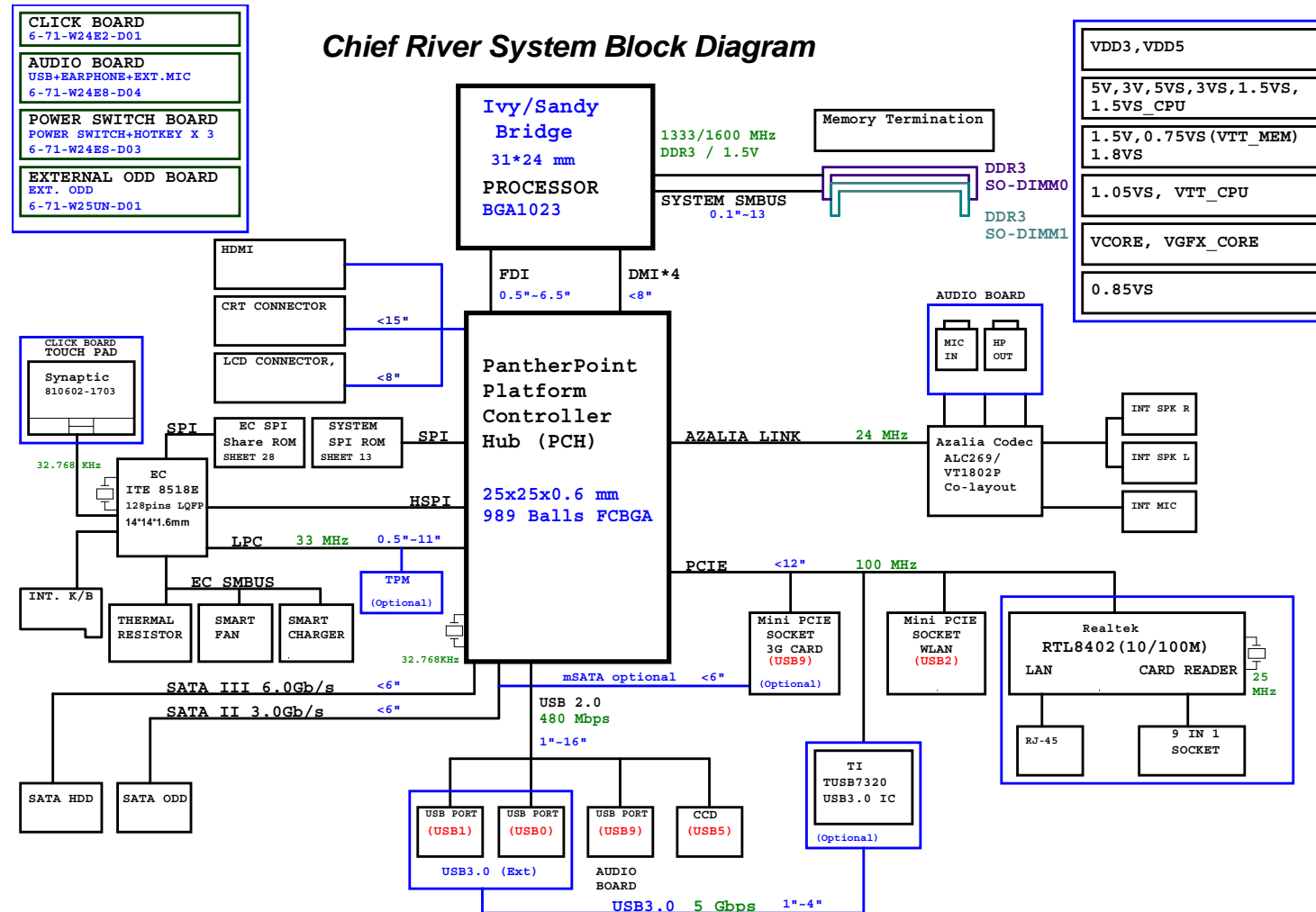


## Version Note

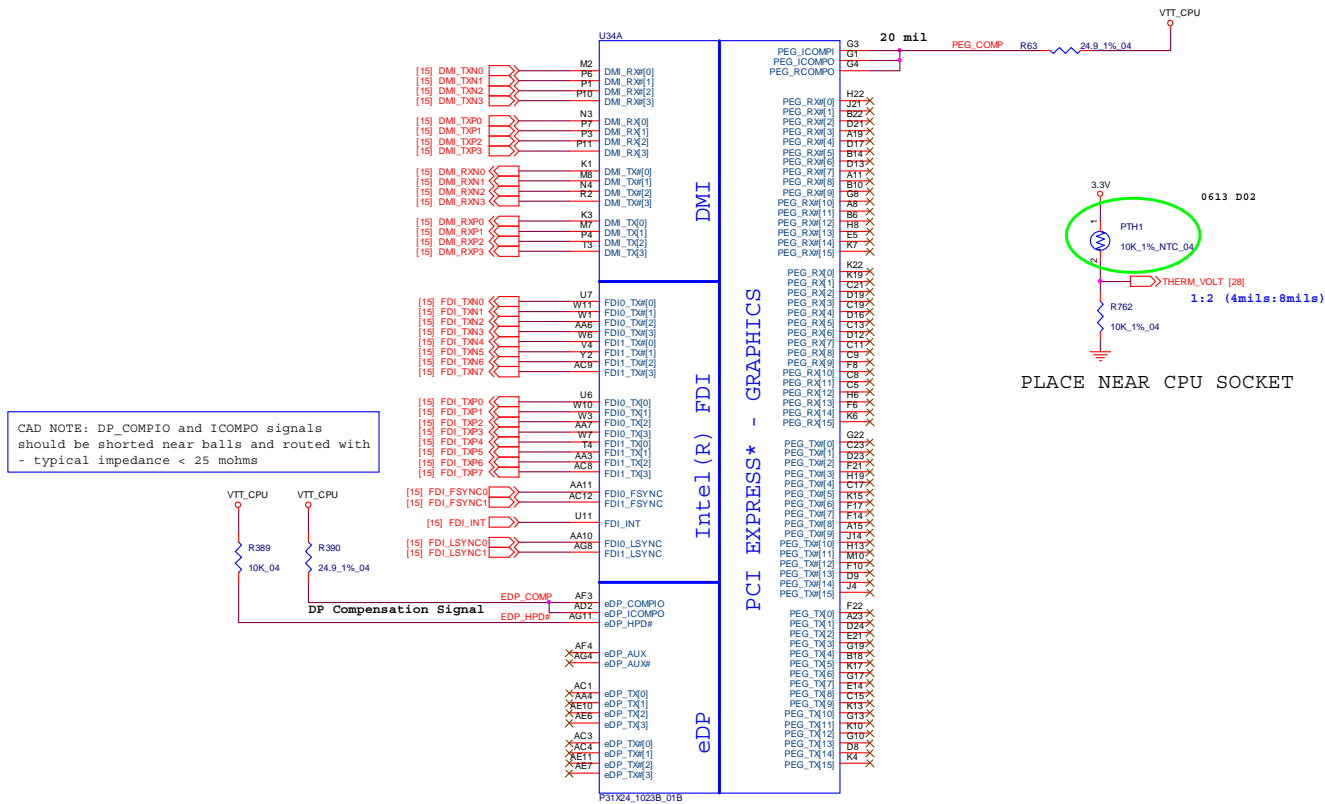
The schematic diagrams in this chapter are based upon version 6-7P-W24Z5-002. If your mainboard (or other boards) are a later version, please check with the Service Center for updated diagrams (if required).

# System Block Diagram

Sheet 1 of 44  
System Block  
Diagram



## Processor 1/7

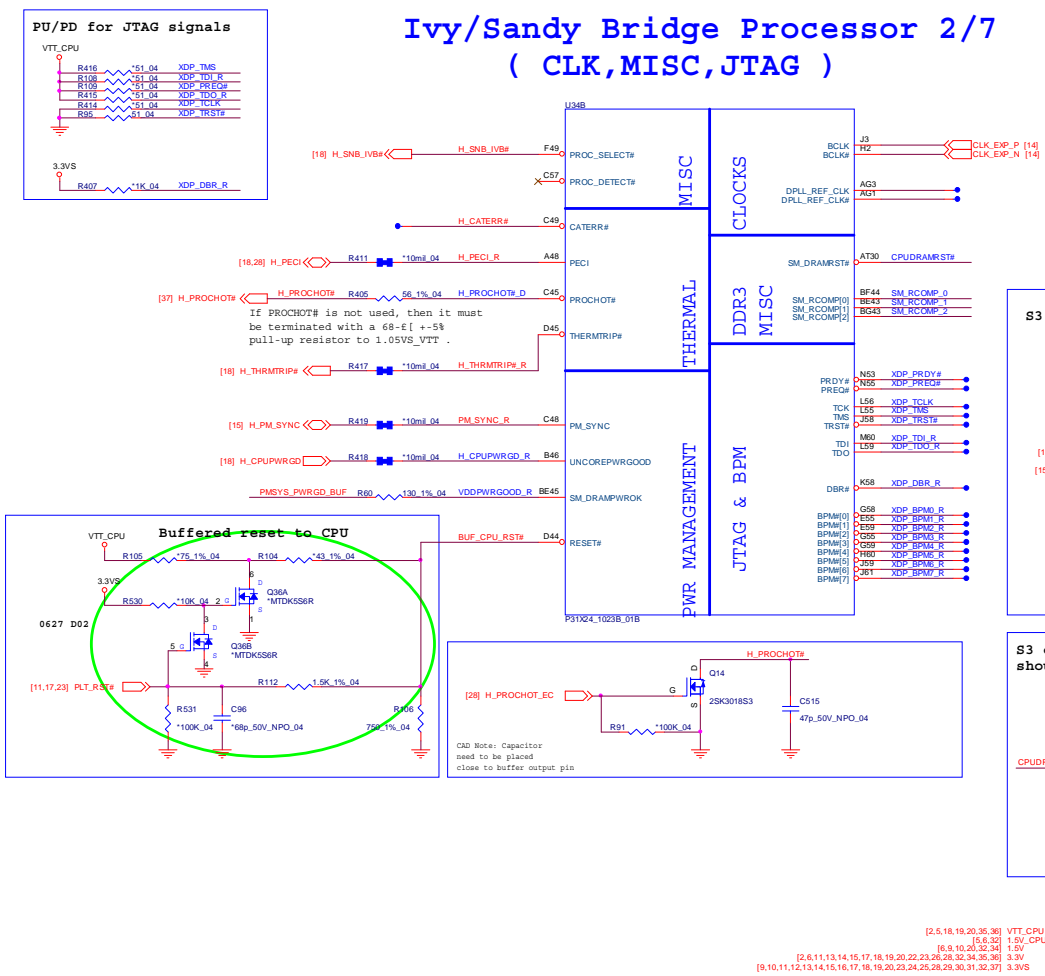
Ivy/Sandy Bridge Processor 1/7  
( DMI,PEG,FDI )Sheet 2 of 44  
Processor 1/7



Schematic Diagrams

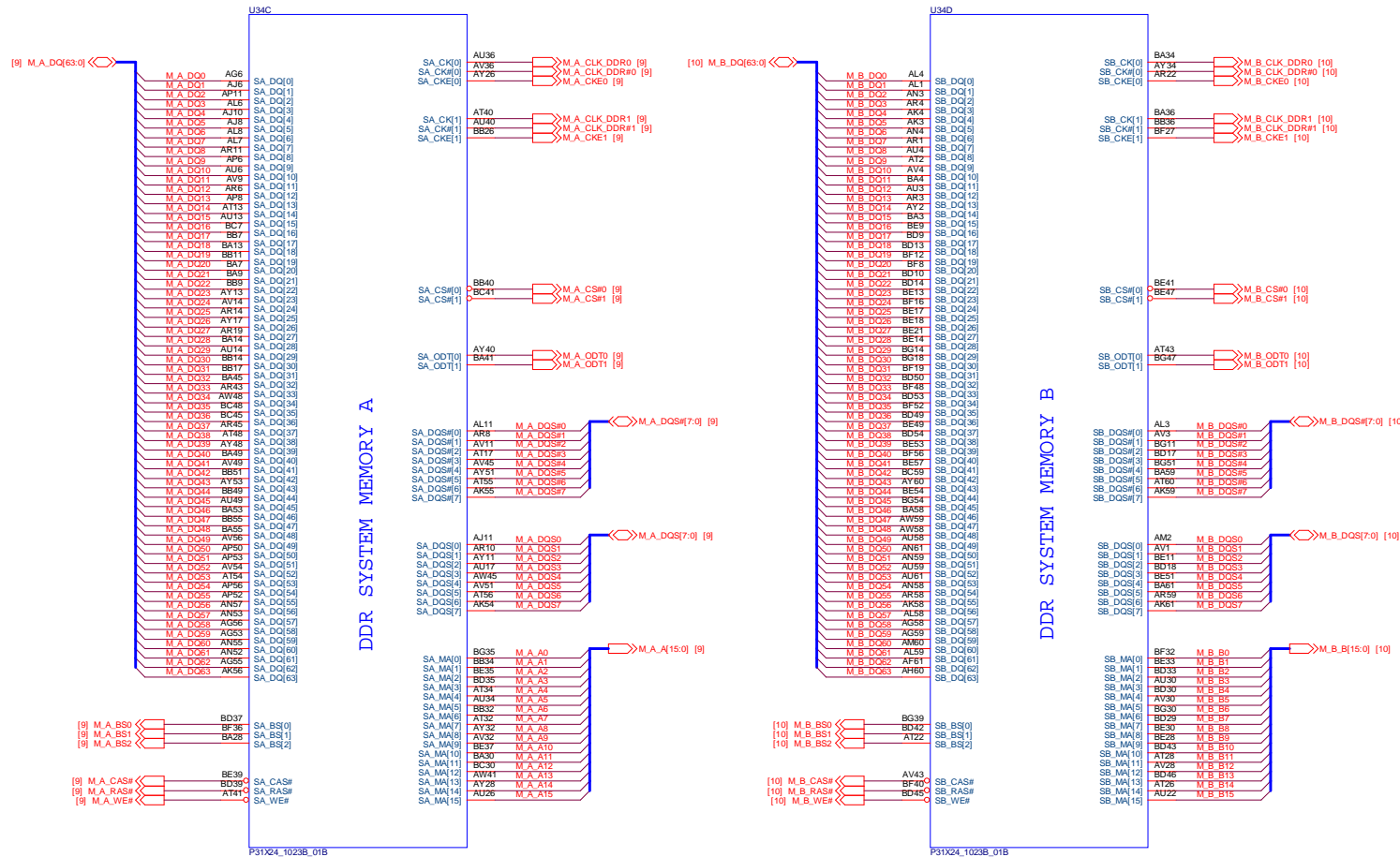
Processor 2/7

Sheet 3 of 44  
Processor 2/7



## Processor 3/7

## Ivy/Sandy Bridge Processor 3/7 ( DDR3 )

Sheet 4 of 44  
Processor 3/7

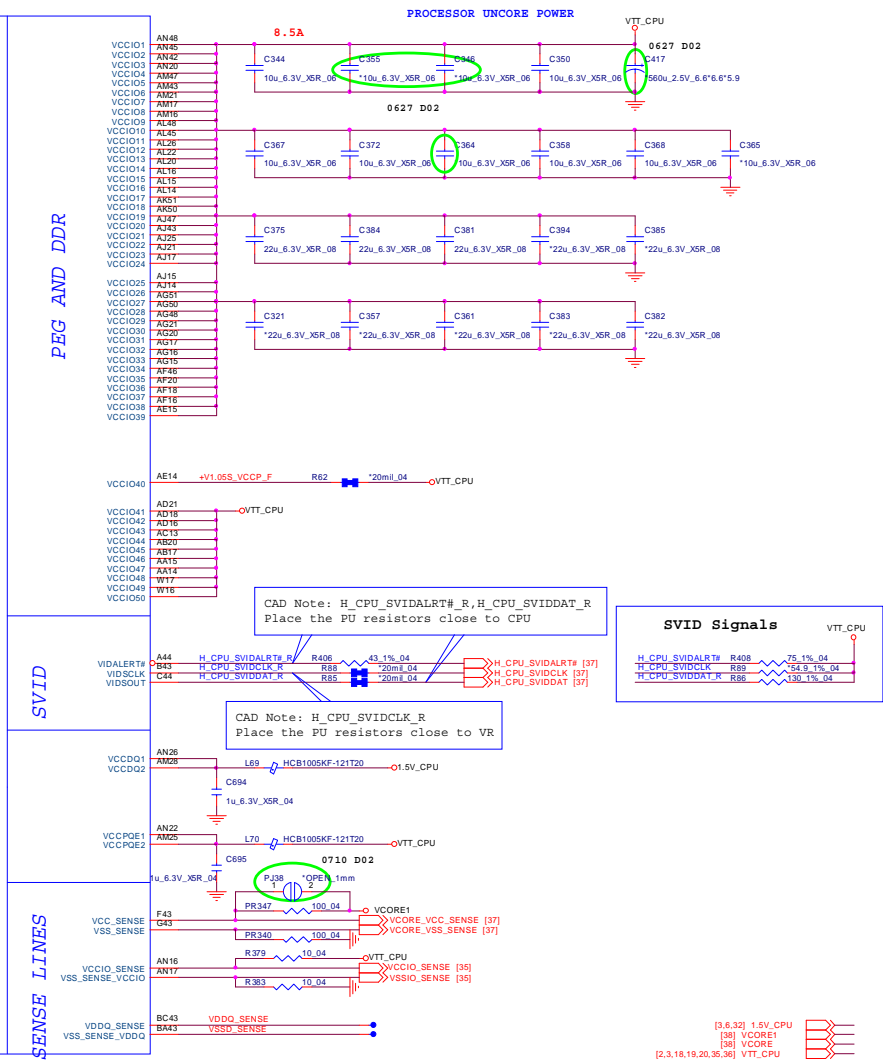
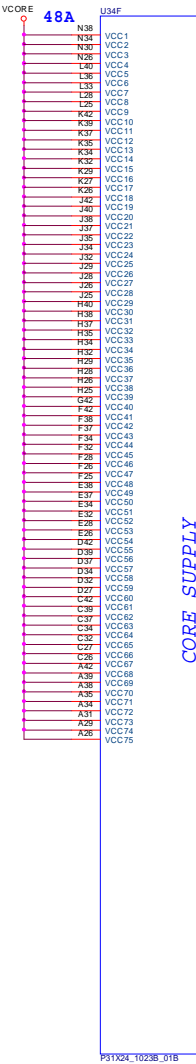
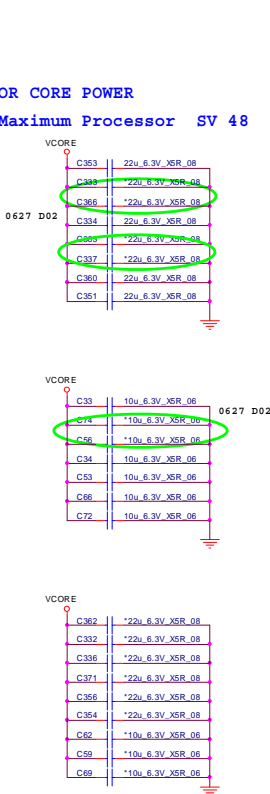
Schematic Diagrams

Processor 4/7

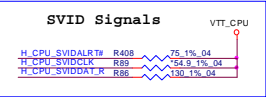
Ivy/Sandy Bridge Processor 4/7

Sheet 5 of 44  
Processor 4/7

PROCESSOR CORE POWER  
ICCMAX Maximum Processor SV 48

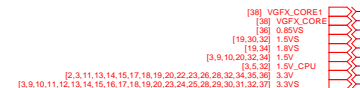


CAD Note: H\_CPU\_SVIDALRT#\_R, H\_CPU\_SVIDDAT\_R  
Place the PU resistors close to CPU



## B.Schematic Diagrams

Sheet 6 of 44  
Processor 5/7

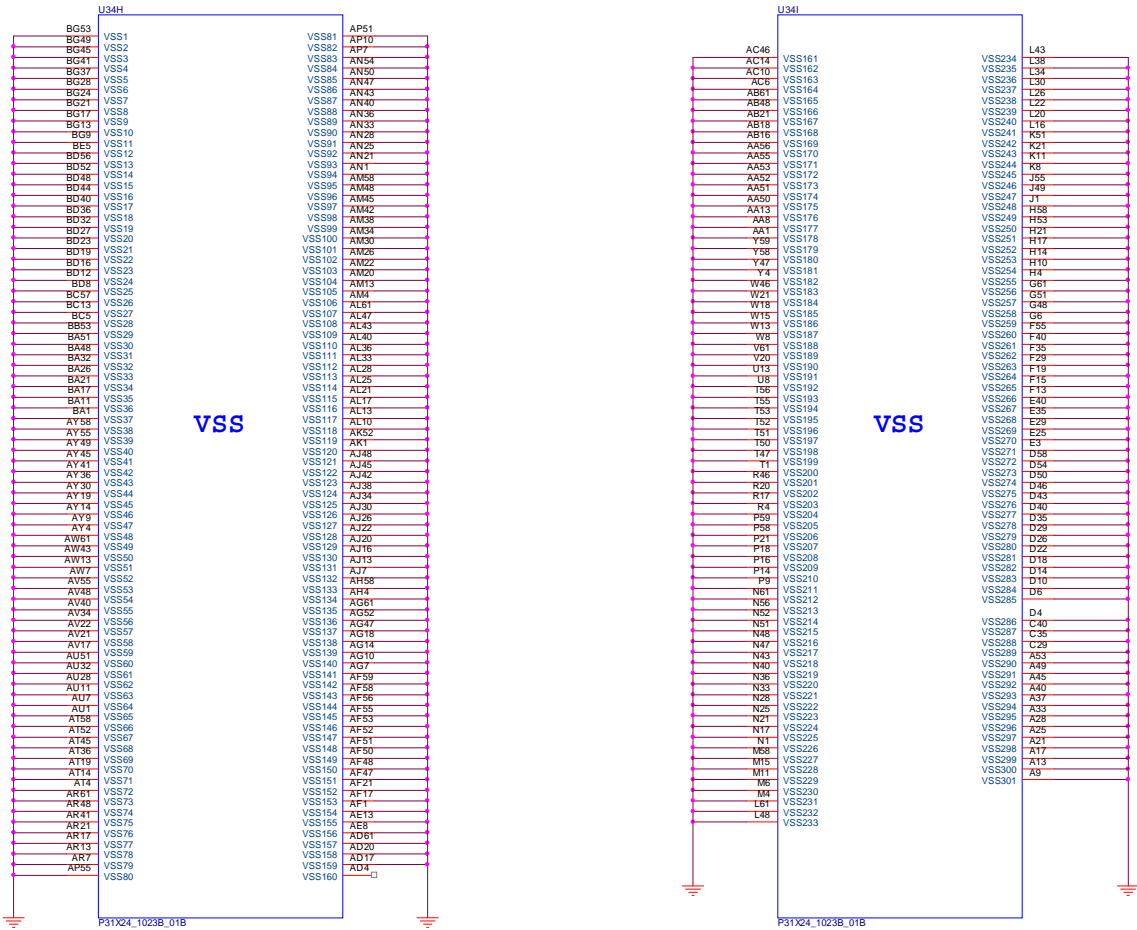


Processor 6/7

Ivy\Sandy Bridge Processor 6/7 ( GND )

B.Schematic Diagrams

Sheet 7 of 44  
Processor 6/7



## Processor 7/7

Ivy/Sandy Bridge Processor 7/7  
( RESERVED )Sheet 8 of 44  
Processor 7/7

## CFG Straps for Processor

PEG Static Lane Reversal - CFG2 is for the 16x

CFG2	1: (Default) Normal Operation; Lane # definition matches socket pin map definition 0: Lane Reversed
------	--

CFG2 R111 \*1K.04

## Display Port Presence Strap

CFG4	1: (Default) Disabled; No Physical Display Port attached to Embedded Display Port 0: Enabled; An external Display Port device is connected to the Embedded Display Port
------	--

CFG4 R110 \*1K.04

## PCIe Port Bifurcation Straps

CFG[6:5]	11: (Default) x16 - Device 1 functions 1 and 2 disabled 10: x8, x8 - Device 1 function 1 enabled ; function 2 disabled 01: Reserved - (Device 1 function 1 disabled ; function 2 enabled) 00: x8,x4,x4 - Device 1 functions 1 and 2 enabled
----------	--

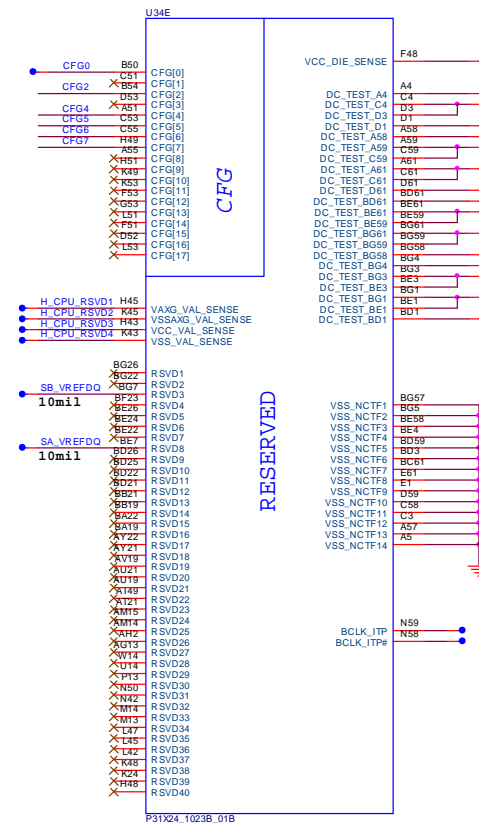
CFG5 R99 \*1K.04

CFG6 R92 \*1K.04

## PEG DEFER TRAINING

CFG7	1: (Default) PEG Train immediately following xxRESETB de assertion 0: PEG Wait for BIOS for training
------	---

CFG7 R93 \*1K.04



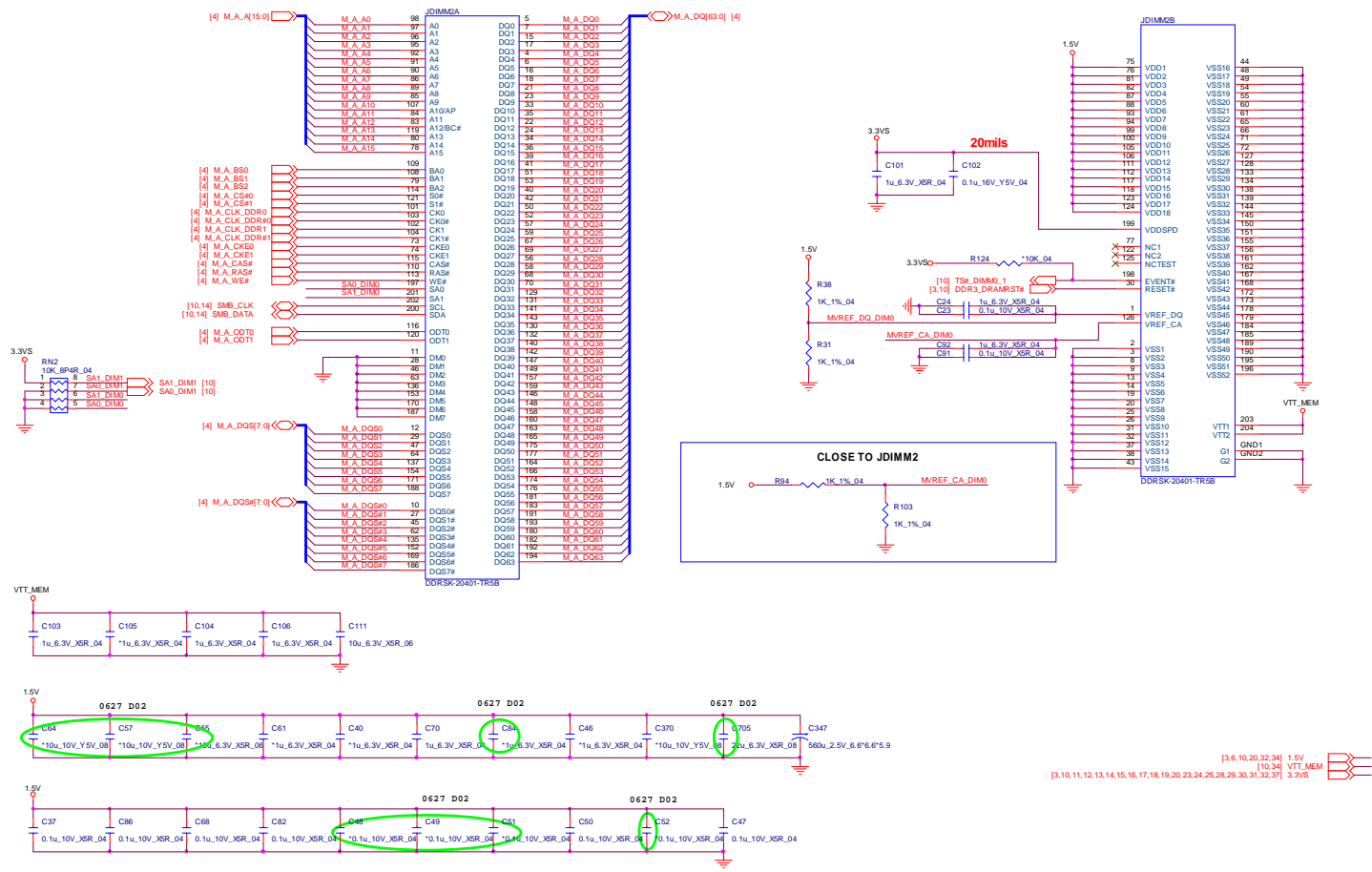


Schematic Diagrams

DDR3 SO-DIMM\_0

SO-DIMM A CHANGE TO STANDARD

Sheet 9 of 44  
DDR3 SO-DIMM\_0



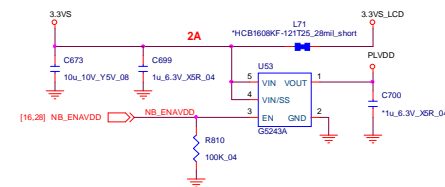
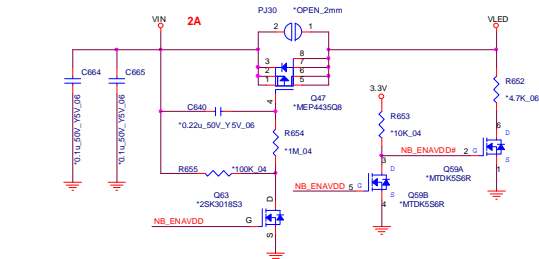
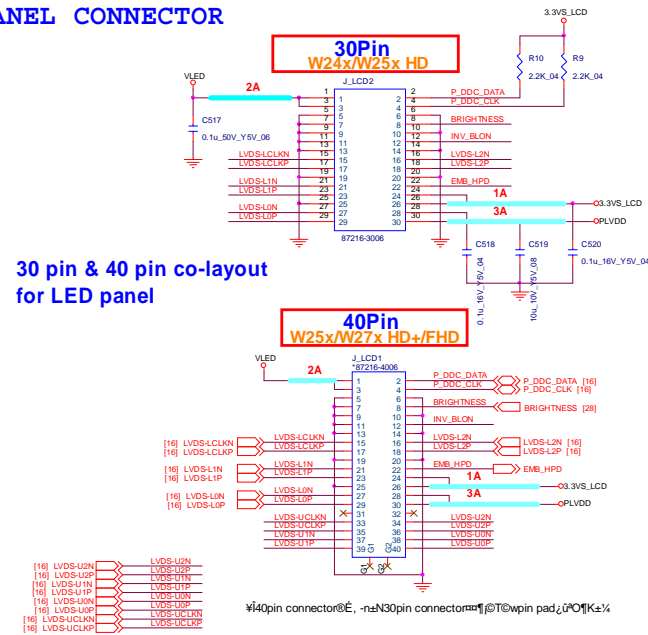
## B.Schematic Diagrams

## SO-DIMM B

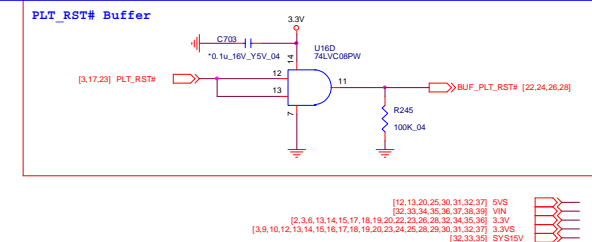
CHANGE TO STANDARD



Sheet 11 of 44  
LVDS, Inverter



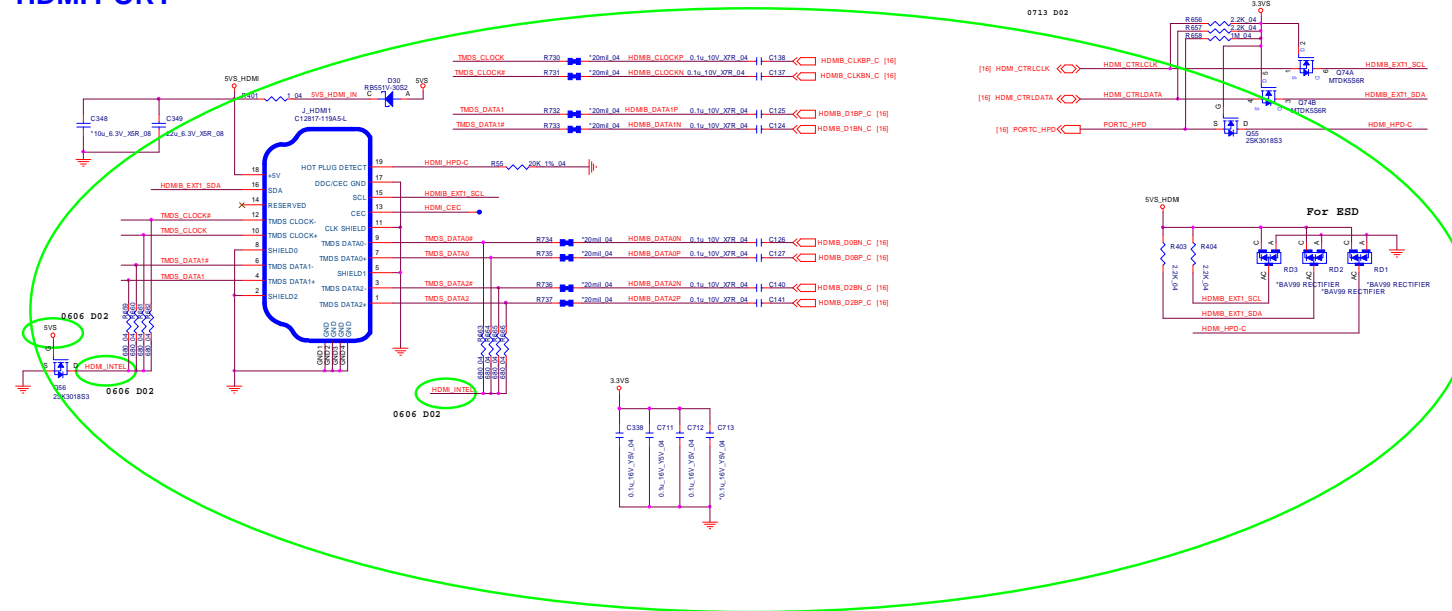
The schematic diagram shows the logic circuit for the 74AHC1G08GW (U13) decoder. The circuit is powered by a 3.3V supply. The inputs are BKL\_EN (pin 1 of U16A), BLON (pin 2 of U16A), LID\_SW (pin 1 of U16C), and a 3.3V supply (pin 1 of U13). The outputs are INV\_BLON (pin 8 of U16C) and a 3.3V supply (pin 3 of U13). The circuit includes two 74LVC08PW (U16A, U16B) inverters and one 74LVC08PW (U16C) NAND gate. The inputs are connected to the inverters and the NAND gate. The output of the NAND gate is connected to the input of the 74AHC1G08GW (U13). The circuit also includes pull-up resistors R268, R267, R814, R815, R290, and R266, and capacitors C214 and C213.



## Schematic Diagrams

## HDMI, CRT

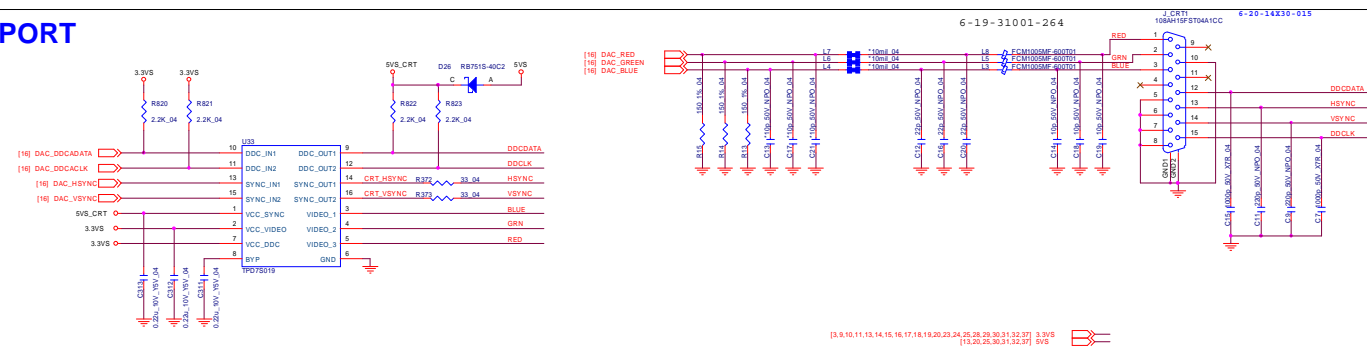
## HDMI PORT



Sheet 12 of 44  
HDMI, CRT

## B.Schematic Diagrams

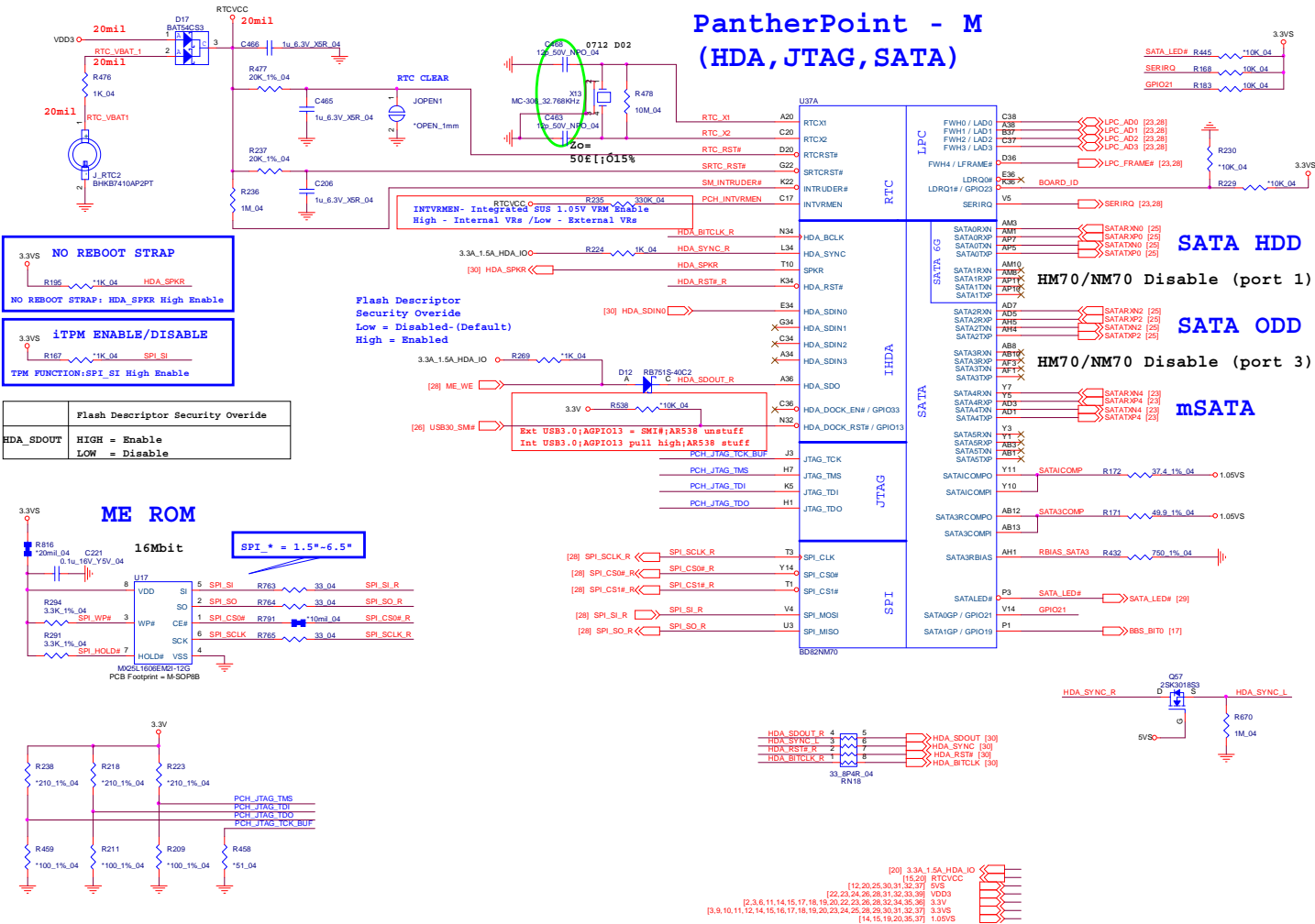
## CRT PORT



Schematic Diagrams

PantherPoint - M 1/9

Sheet 13 of 44  
PantherPoint - M  
1/9



## PantherPoint - M (PCI-E, SMBUS, CLK)



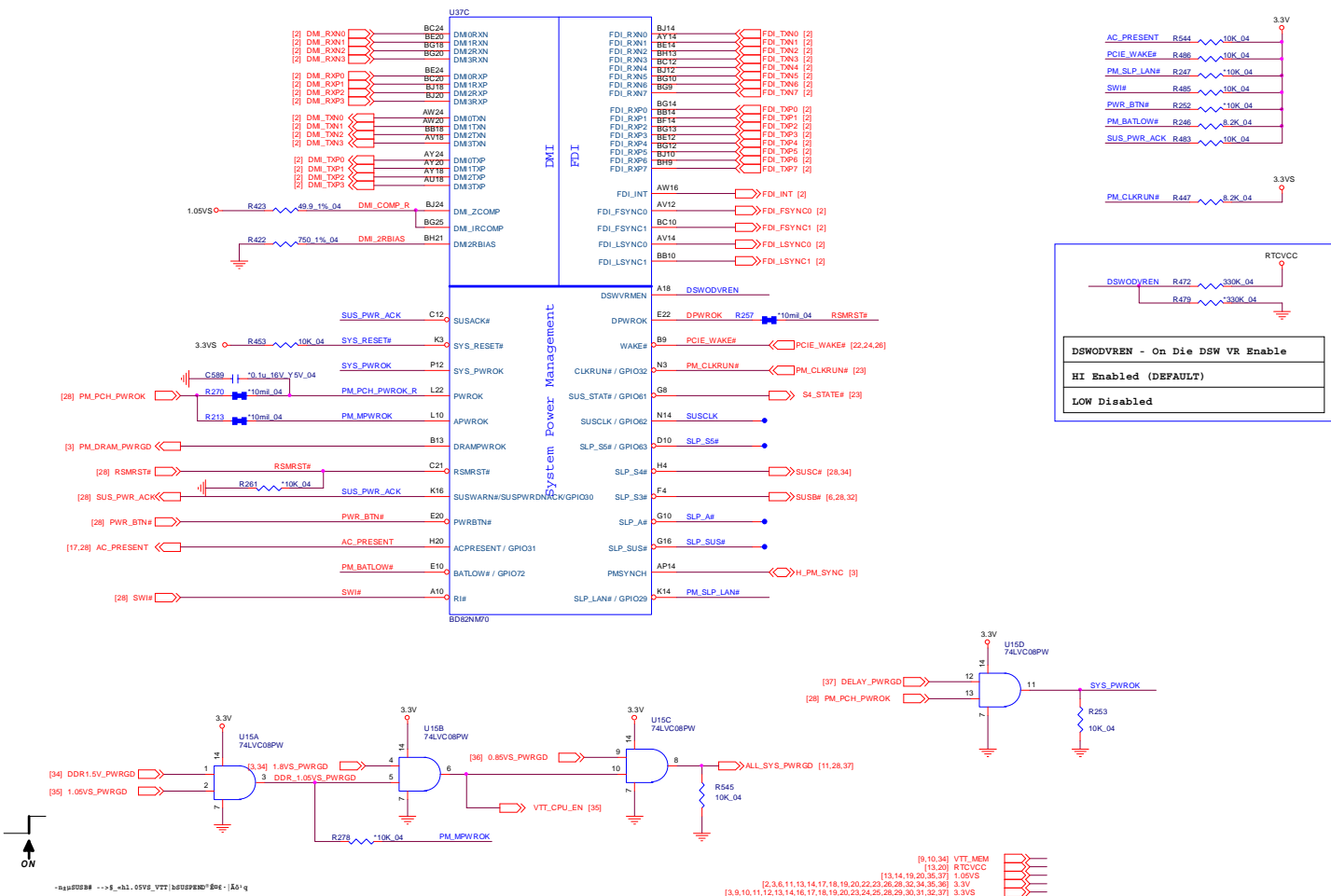


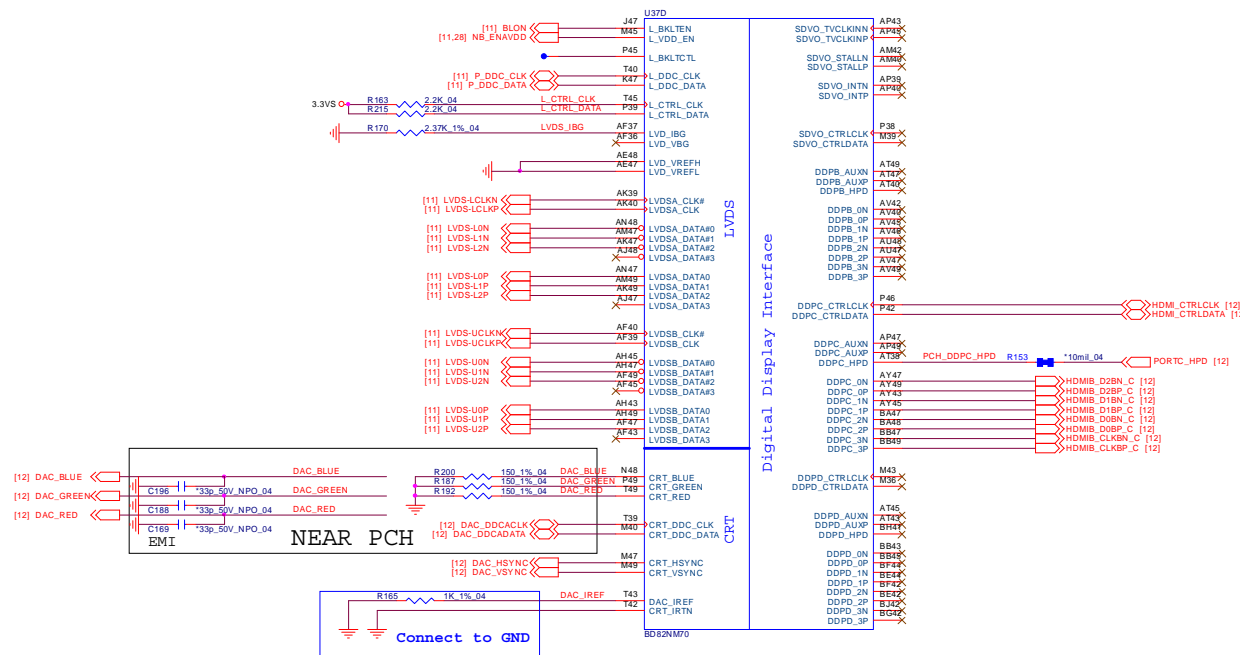
Schematic Diagrams


PantherPoint - M 3/9

PantherPoint -M (DMI,FDI,GPIO)

Sheet 15 of 44  
PantherPoint - M  
3/9





[12,13,20,25,30,31,32,37] 5VS   
[3,9,10,11,12,13,14,15,17,18,19,20,23,24,25,28,29,30,31,32,37] 3.3VS 

Sheet 16 of 44  
PantherPoint - M  
4/9

## B.Schematic Diagrams

Schematic Diagrams

PantherPoint - M 5/9

Sheet 17 of 44  
PantherPoint - M  
5/9

Boot BIOS Strap		
BBS_BIT1	BBS_BIT0	Boot BIOS Location
0	0	LPC
0	1	Reserved (NAND)
1	0	PCI
1	1	SPI

R226 \*1K\_04 BBS\_BIT1  
R446 \*1K\_04 BBS\_BIT0 [13]

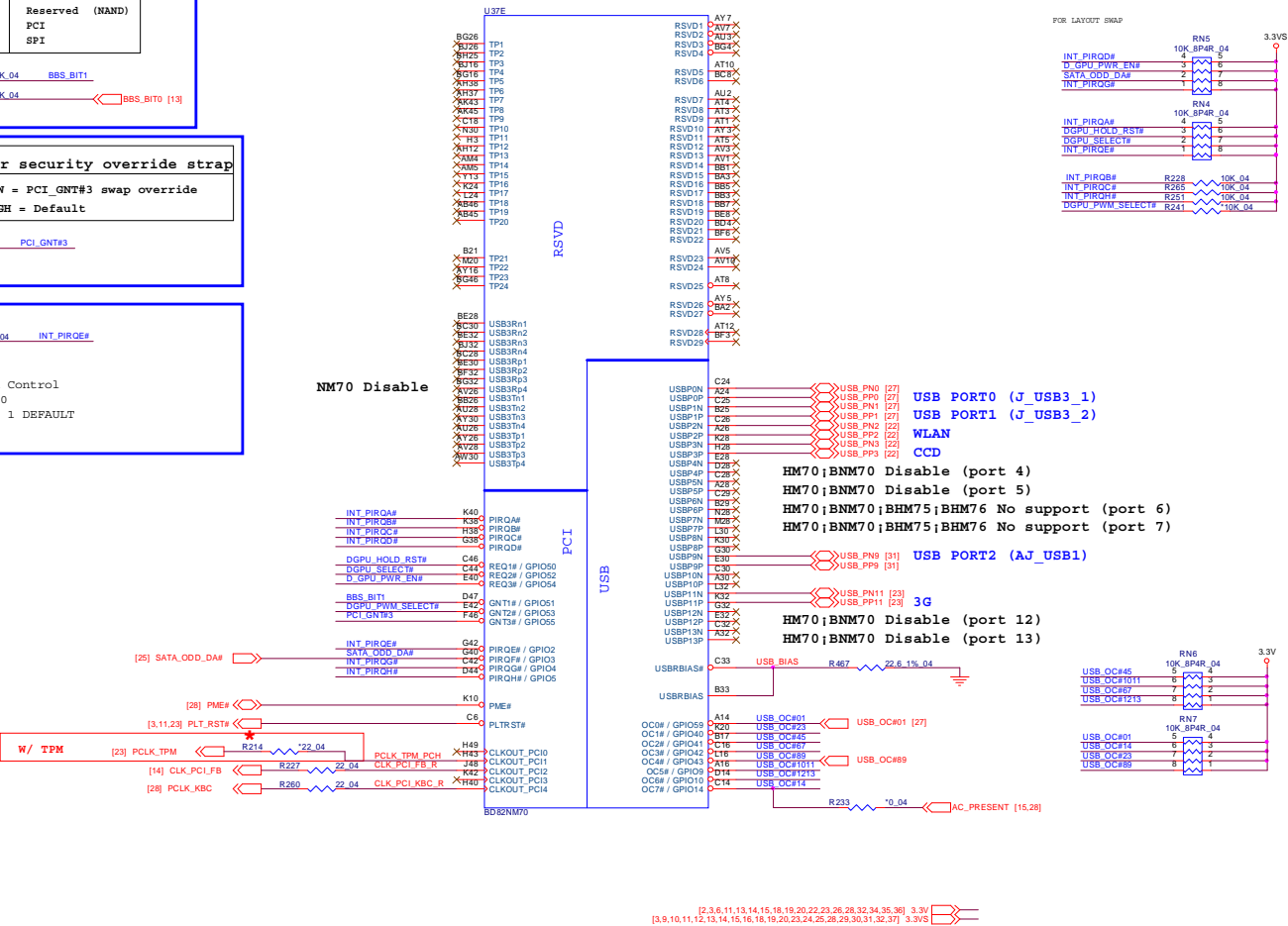
Flash Descriptor security override strap	
PCI_GNT#3	LOW = PCI_GNT#3 swap override HIGH = Default

R225 \*1K\_04 PCI\_GNT#3

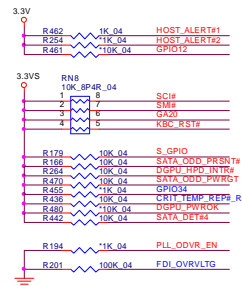
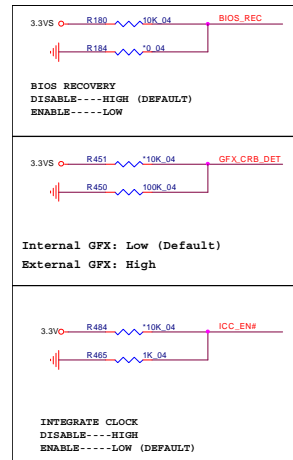
MPC Switch Control	
MPC ON -- 0	
MPC OFF -- 1 DEFAULT	

R243 \*1K\_04 INT\_PIRQE#

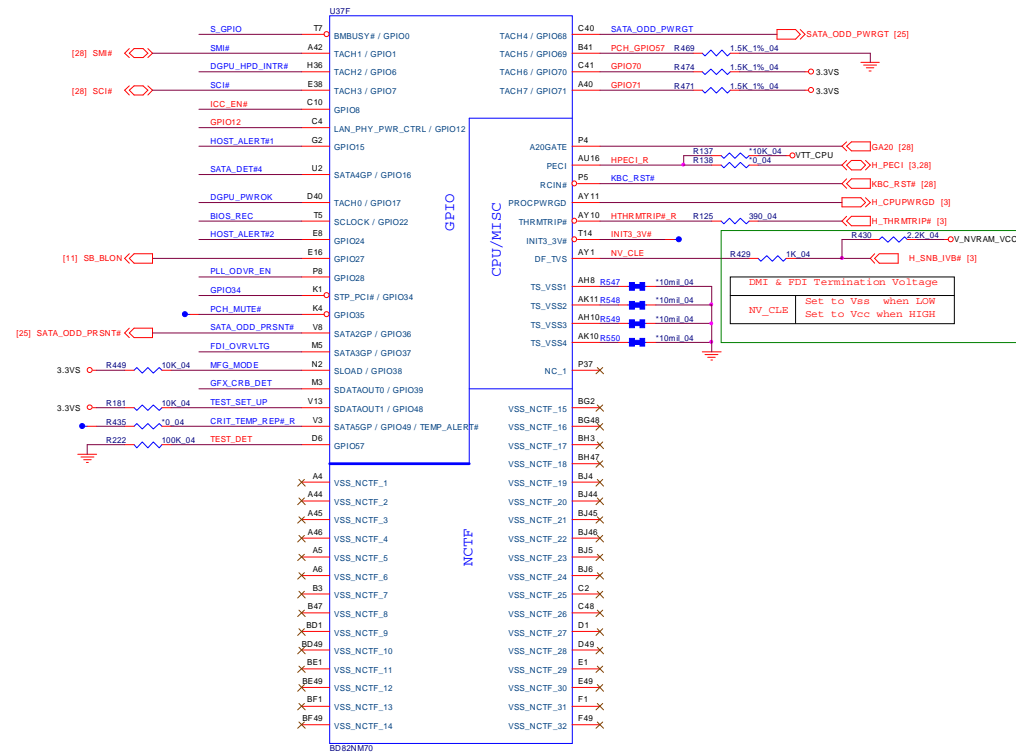
PantherPoint -M (PCI,USB,NVRAM)



## PantherPoint - M 6/9



## PantherPoint - M (GPIO,VSS\_NCTF,RSVD)



[2,3,6,11,13,14,15,17,19,20,22,23,26,28,32,34,35,36] VTT\_CPU

[3,8,10,11,12,13,14,15,16,17,19,20,23,24,25,26,28,29,30,31,32,37] 3.3V

[19] V\_NVRAM\_VCCQ

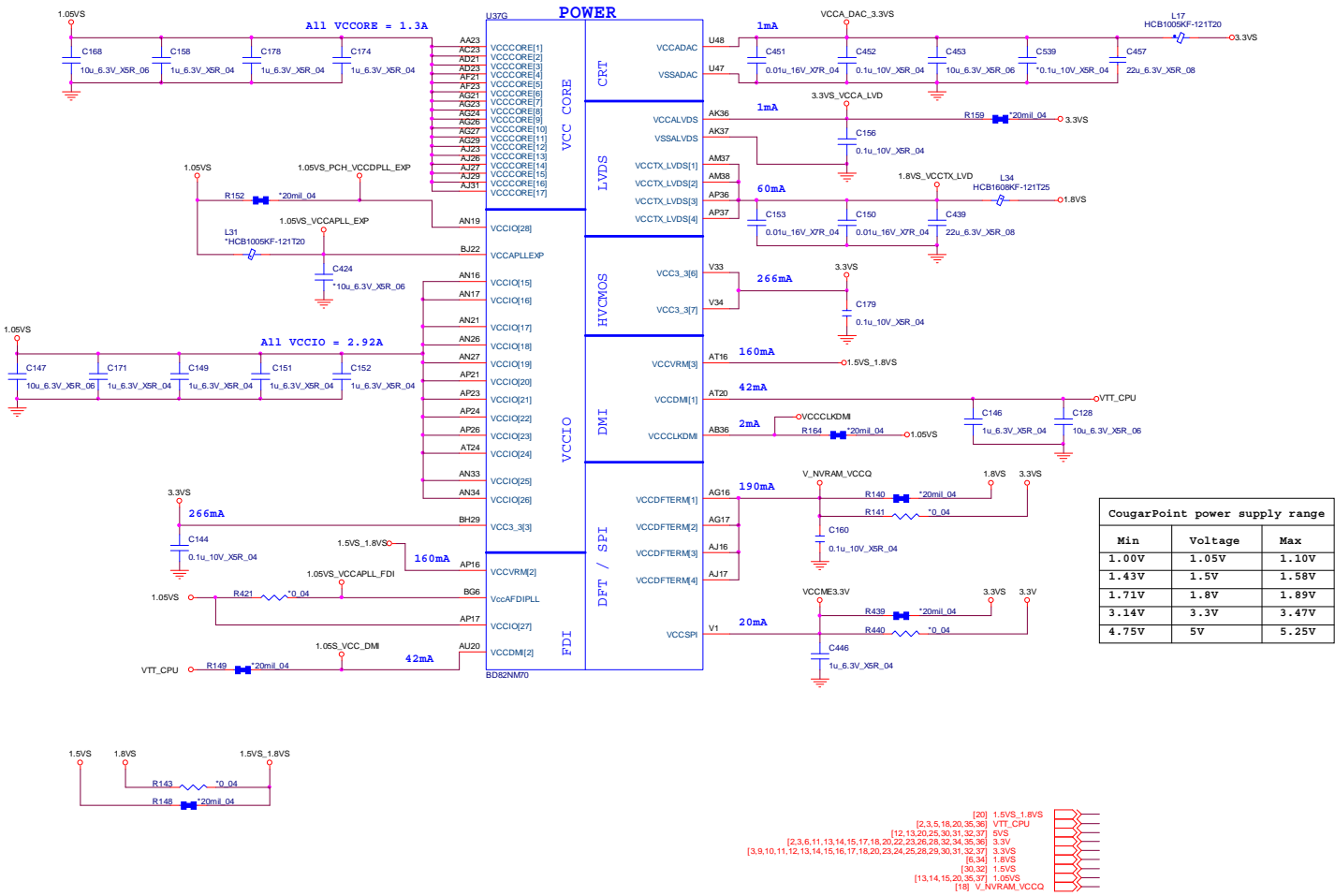
Sheet 18 of 44  
PantherPoint - M  
6/9

Schematic Diagrams

PantherPoint - M 7/9

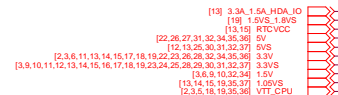
PantherPoint -M (POWER)

Sheet 19 of 44  
PantherPoint - M  
7/9



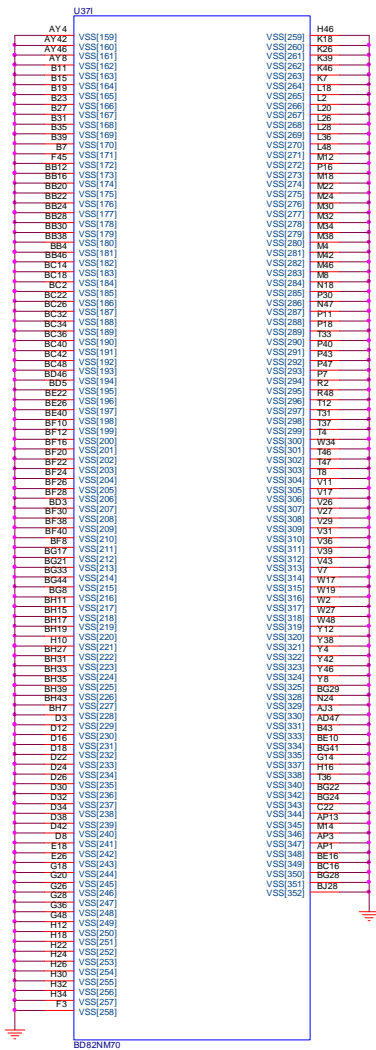
Sheet 20 of 44  
PantherPoint - M  
8/9

	Voltage	Rail Voltage	50 Iccmax	Current (A)
V_CPU_IO	1.05	1	(mA)	
VREFP	5	1	(mA)	
VREFP_Sus	5	1	(mA)	
Vcc3_3	3.3	0.266		
VccADAC3	1.05	1	(mA)	
VccADPLL1	1.05	0.008		
VccADPLL8	1.05	0.08		
VccCore	1.05	1.3		
VccDMI	1.1	0.942		
VccIO	1.05	2.025		
VccASW	1.05	1.01		
VccSPI	3.3	0.020		
VccDSW3_3	3.3	2	(mA)	
VccDPTERM	1.05	0.19		
VccSUS3_3	3.3	0.097		
VccSUS1DA	3.3	1	(mA)	
VccVRM	1.5	0.16		
VccCLKDMI	1.05	0.02		
VccSSC	1.05	0.095		
VccDISCLKEN	1.05	0.055		
VccALVDS	3.3	1	(mA)	
VccTX LVDS	1.8	0.06		

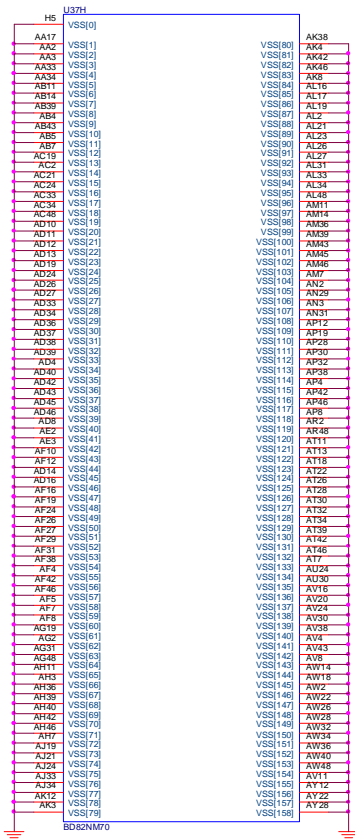


PantherPoint - M 9/9

Sheet 21 of 44  
PantherPoint - M  
9/9

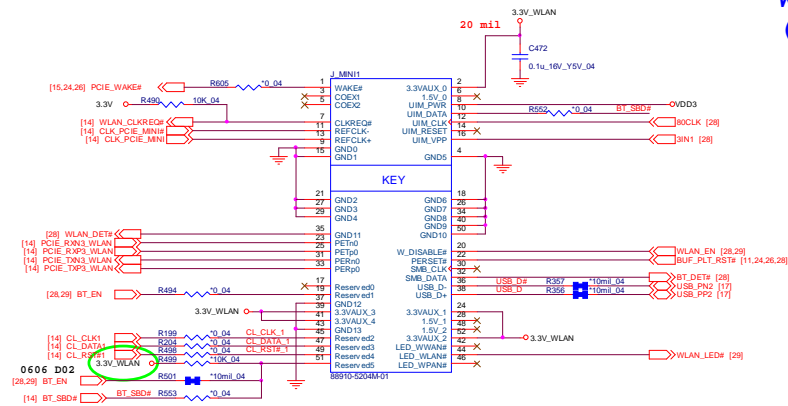


PantherPoint -M (GND)





## MINI CARD WLAN

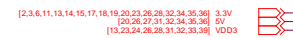
[illegible]

†E-NPIN 2, 24, 39, 41, 52

From EC default HI

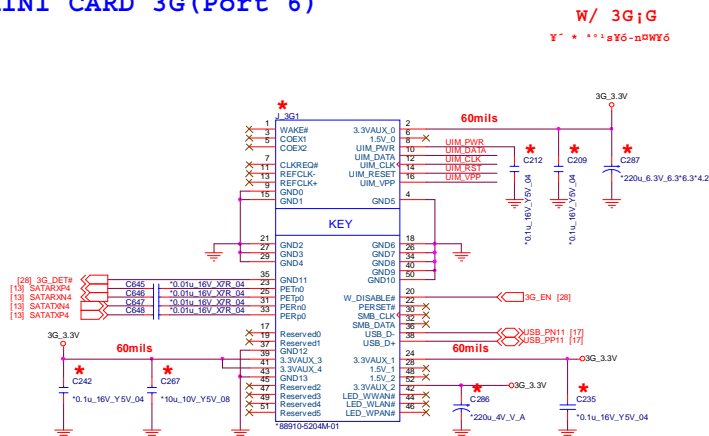
(17) USB\_PN#X  
(17) USB\_PP#X  
(28) CCD\_DET#X

80205-16000

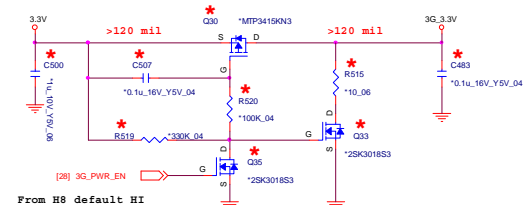


## 3G, TPM

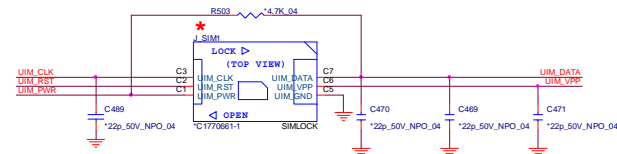
MINI CARD 3G (Port 6)



### 3G POWER



## SIM CONN



## TPM 1.2

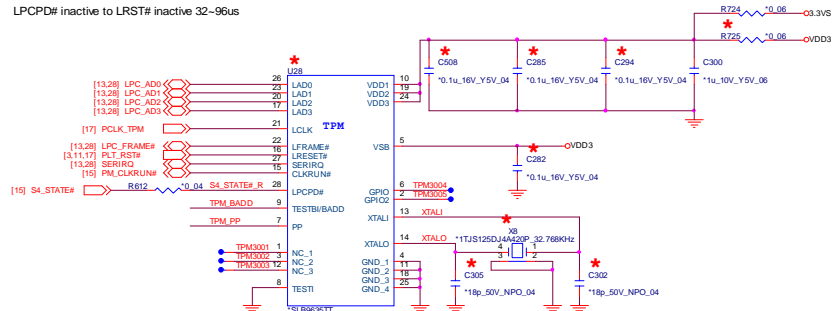
## W/ TPM; G

```
Y' * * 01 sY6-nWY6;AY] $t;G
PCLK TPM;GR214(P17)
```

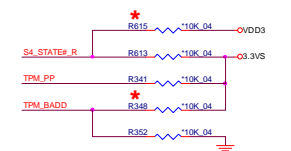
Asserted before entering S3

LPC reset timing:

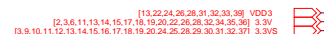
LPCPD# inactive to LRST# inactive 32~96us



6-03-09635-0H3 VerjG3.17

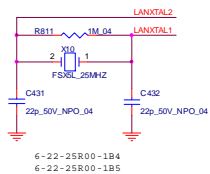


TPM_PP	H: ACCESS L: NORMAL ( Int. PD ) Default
TPM_BADD	H: 4E/ 4F H Default L: 2E/ 2F H



## Card Reader, LAN RTL8402

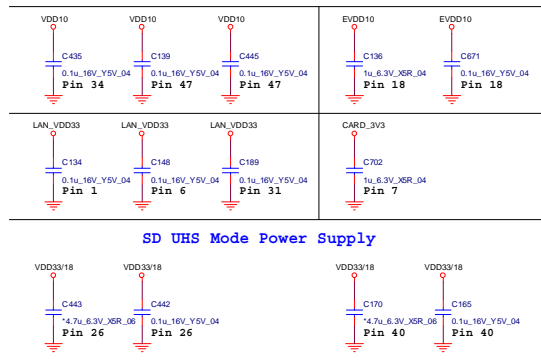
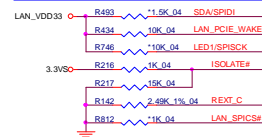
## RTL8402



LAN VDD33 Rising Time;G  
1ms ~ 100ms

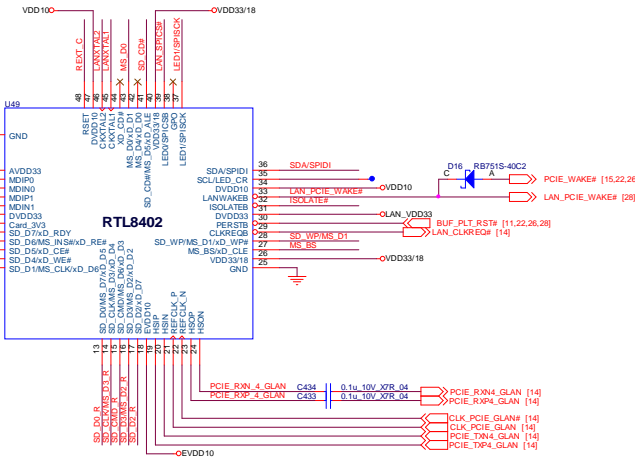
VDD33 R747 0.06 LAN\_VDD33  
VDD10 R749 0.04 EVDD10

R749 must be removed for RTL8402 application.

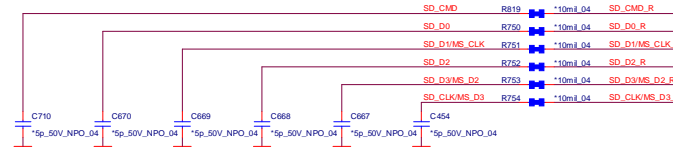


## SD UHS Mode Power Supply

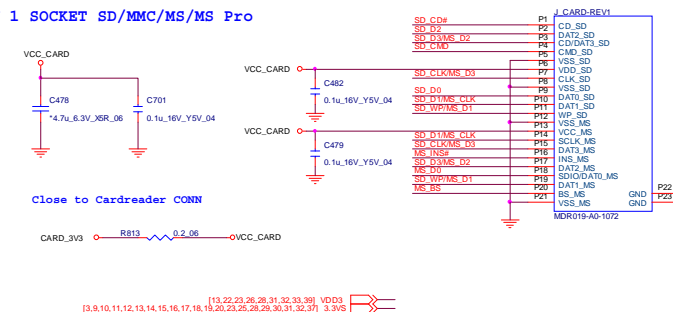
MS\_INSP  
SD\_D1MS\_CLK\_R



## Close to RTL8402 for SDXC EMI



## 4 IN 1 SOCKET SD/MMC/MS/MS Pro



## Close to Cardreader CONN

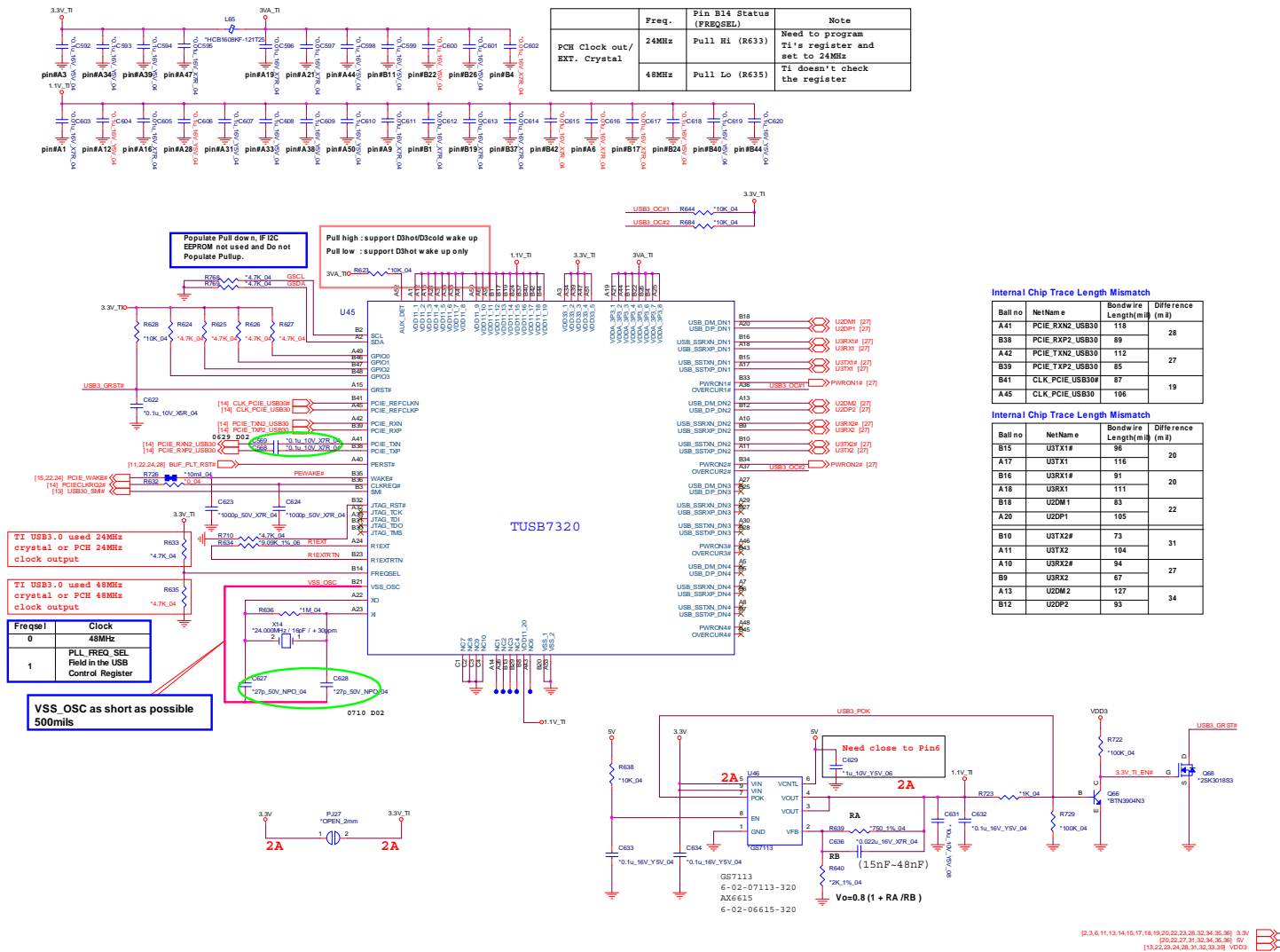
CARD\_3V3 R813 0.2 Ohm VCC\_CARD

(3,9,10,11,12,13,14,15,16,17,18,19,20,21,22,23,24,25,26,27,28,29,30,31,32,33,34) VDD33 3.3V

Sheet 24 of 44  
Card Reader, LAN  
RTL8402



\_\_\_\_\_



## B.Schematic Diagrams

Sheet 26 of 44  
USB 3.0 TI  
TUSB7320

Bail no	NetName	Bondwire Length(mil)	Difference (mil)
A41	PCIE_RXN2_USB30	118	28
B38	PCIE_RXP2_USB30	89	
A42	PCIE_TXN2_USB30	112	27
B39	PCIE_TXP2_USB30	85	
B41	CLK_PCIE_USB30#	87	19
A45	CLK_PCIE_USB30	106	

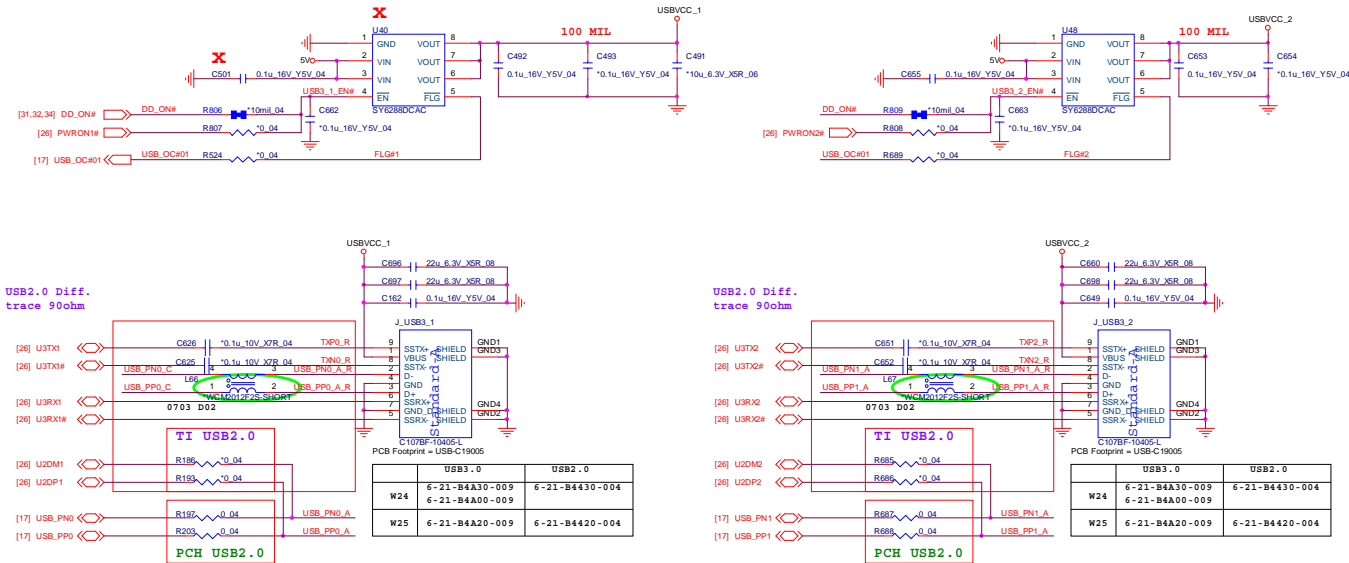
### Internal Chip Trace Length Mismatch

Ballo no	NetName e	Bondwire Length(mil)	Difference (m il)
B15	U3TX1#	96	20
A17	U3TX1	116	
B16	U3RX1#	91	
A18	U3RX1	111	20
B18	U2DM1	83	
A20	U2DP1	105	
B10	U3TX2#	73	31
A11	U3TX2	104	
A10	U3RX2#	94	
B9	U3RX2	67	27
A13	U2DM2	127	
B12	U2DP2	93	
			34

Schematic Diagrams

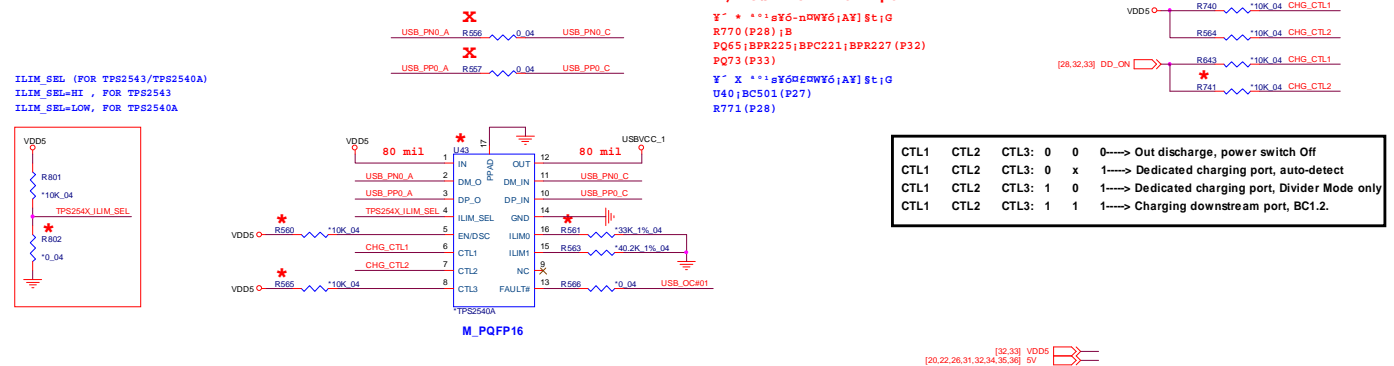
USB 3.0/USB 2.0/USB Charger

USB 3.0/USB2.0



Sheet 27 of 44  
USB 3.0/USB 2.0/  
USB Charger

WITH USB CHARGER



[illegible]

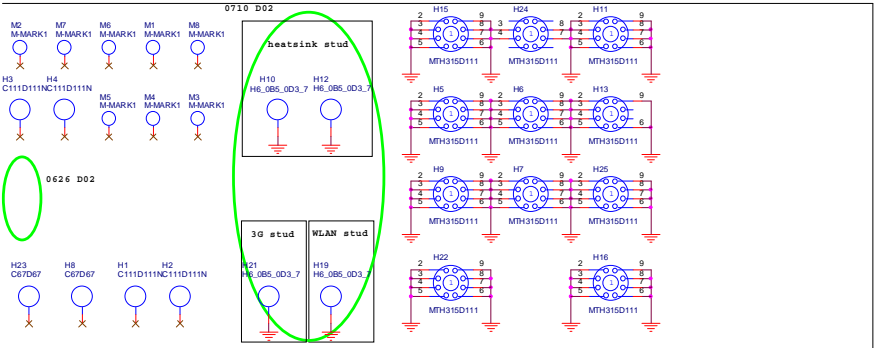
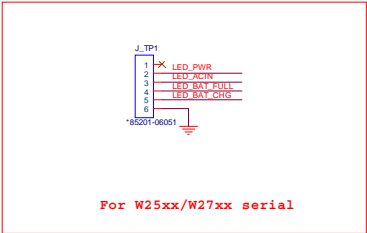
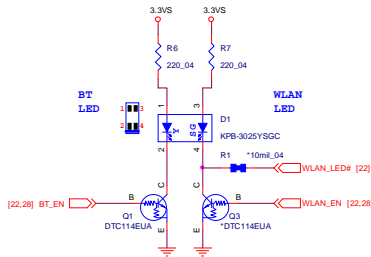
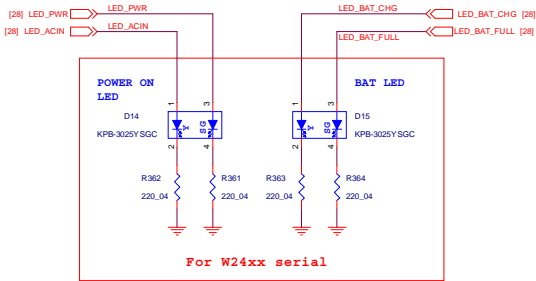
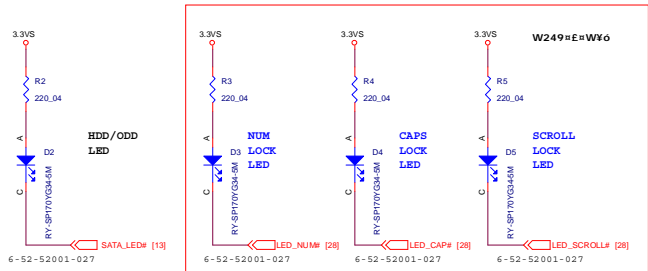


Schematic Diagrams

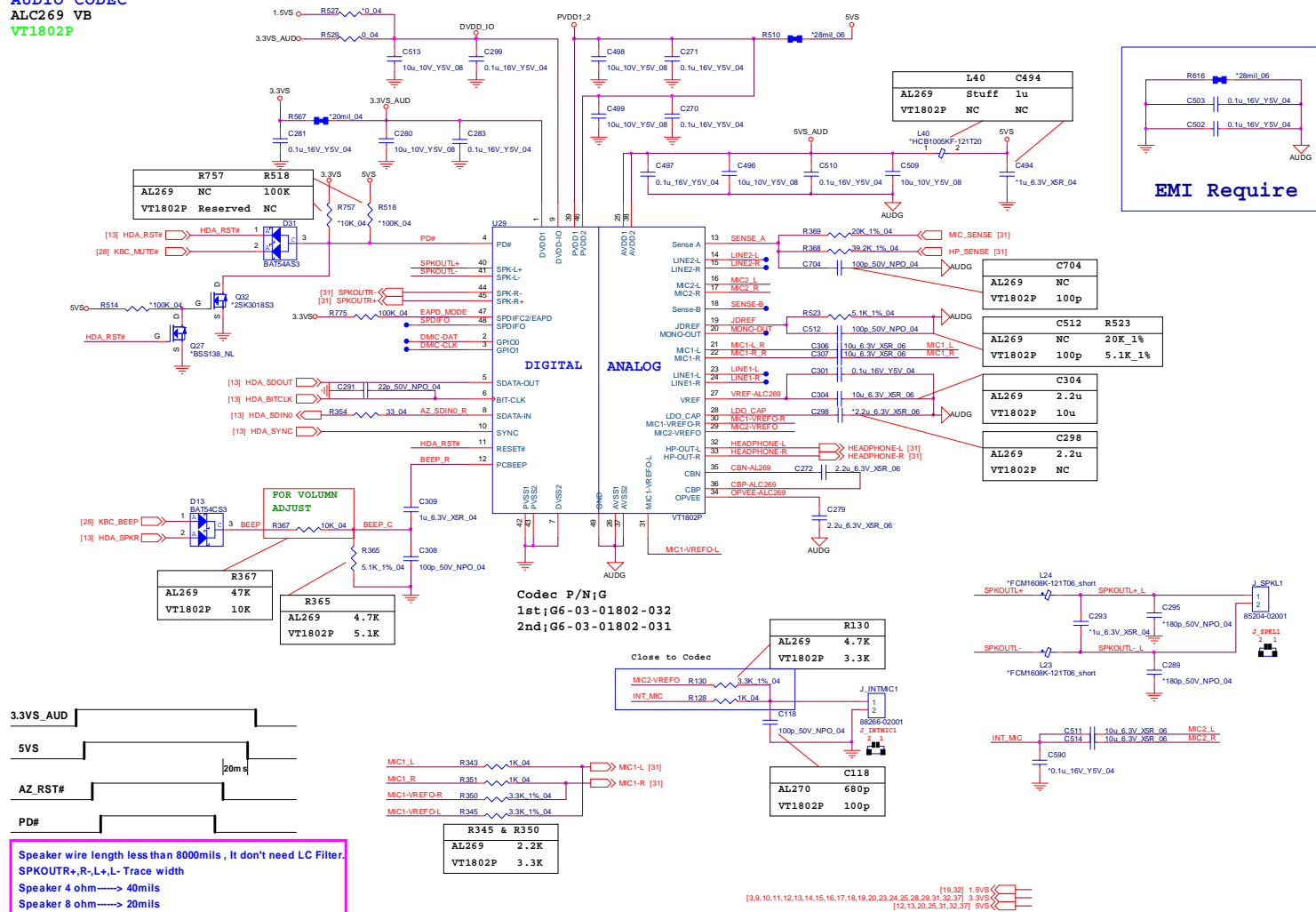
LED

LED

Sheet 29 of 44  
LED



AUDIO CODEC  
ALC269 VB  
VT1802P

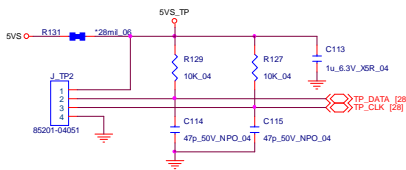


Schematic Diagrams

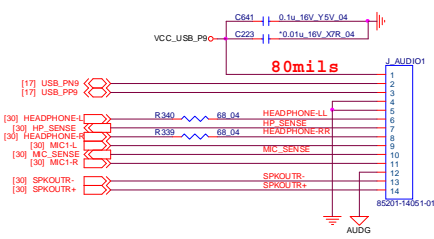
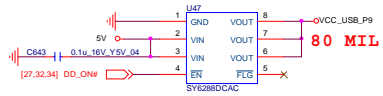
Fan, TP, Multi-Conn

Sheet 31 of 44  
Fan, TP, Multi-Conn

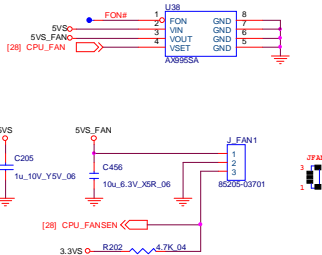
CLICK B'd CONN



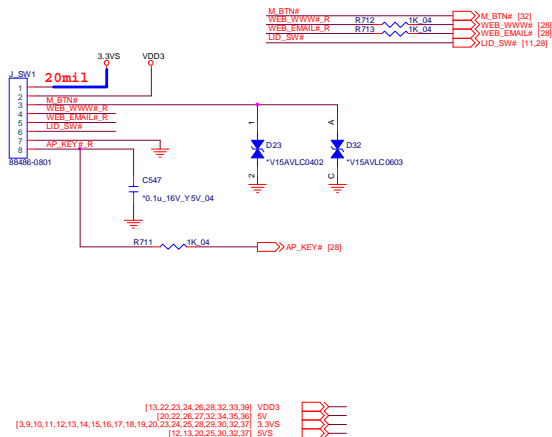
Audio B'd CONN



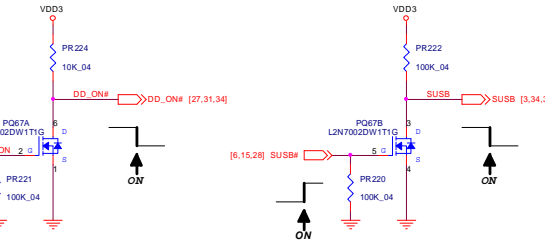
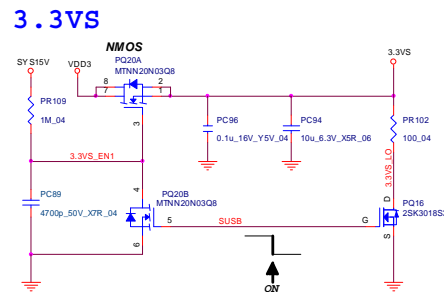
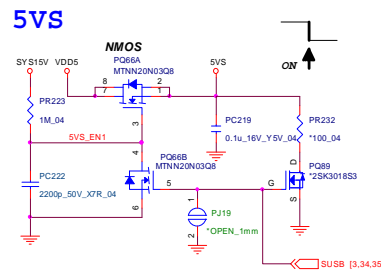
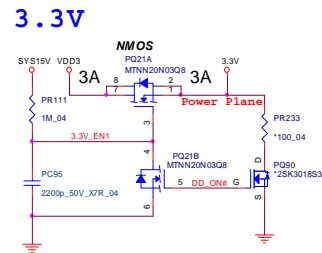
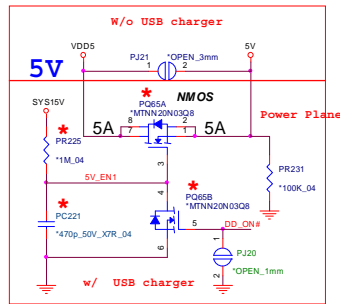
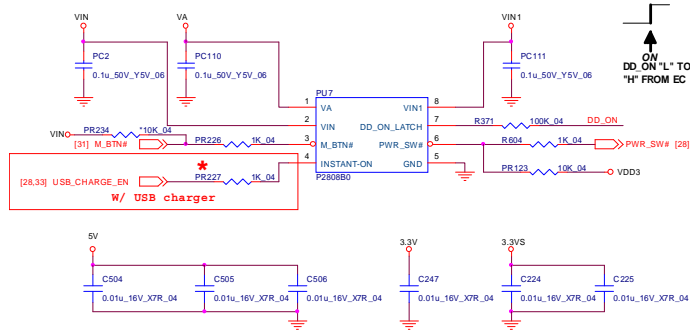
FAN CONTROL



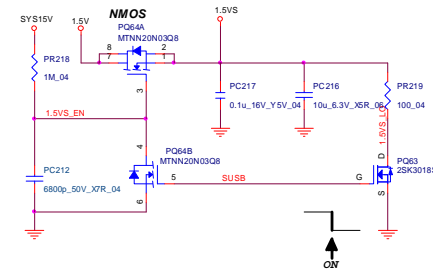
POWER SWITCH B'd CONN



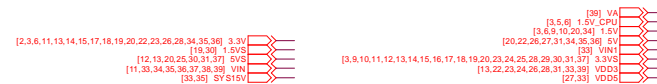
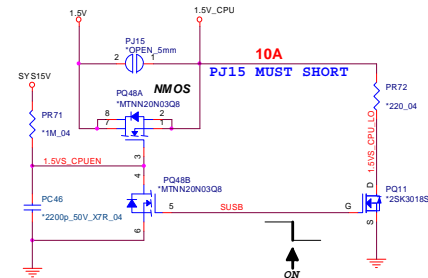
# System Power



1.5VS



1.5V\_CPU



Sheet 32 of 44  
System Power

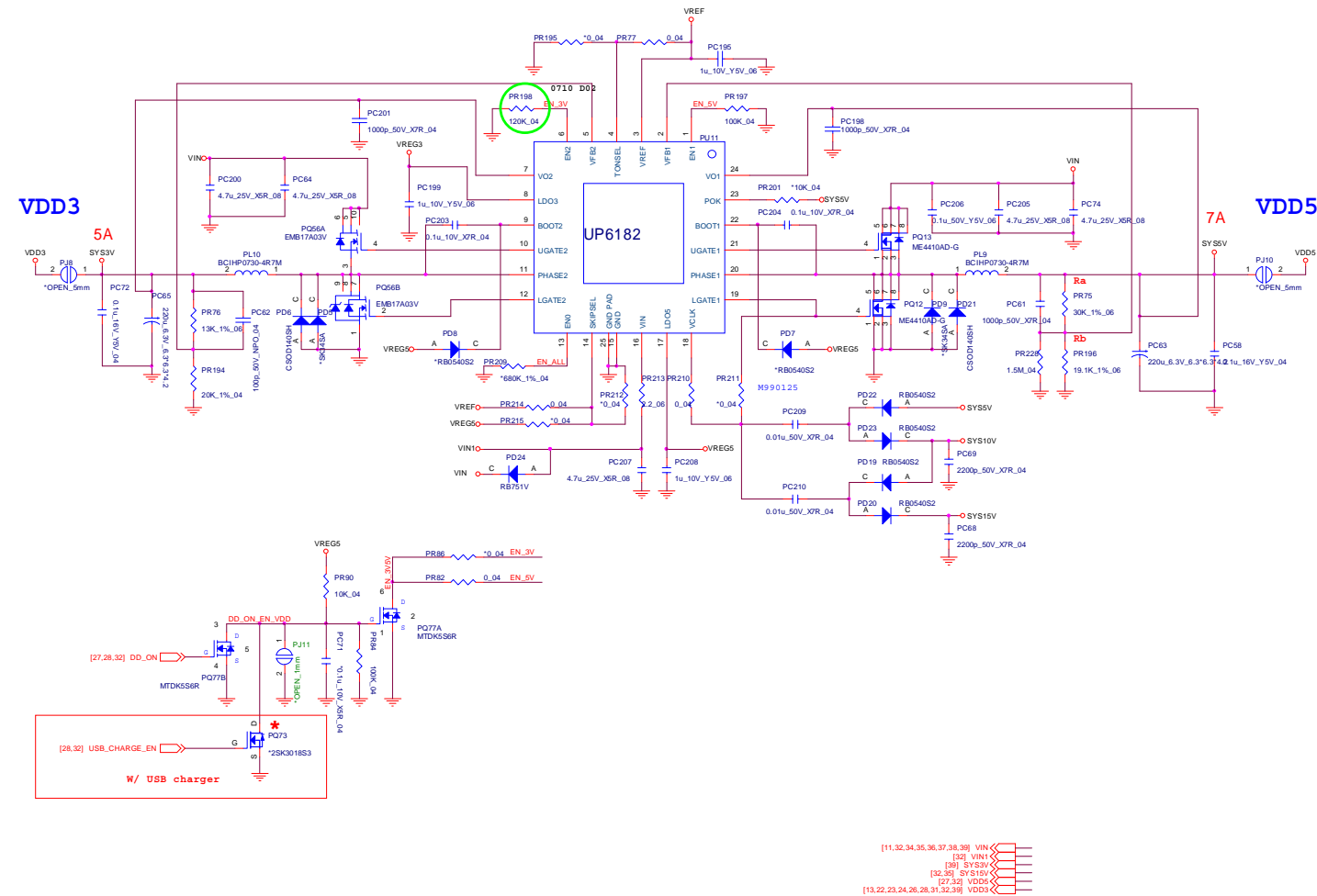
B.Schematic Diagrams

Schematic Diagrams

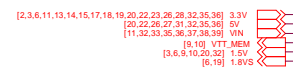
VDD3, VDD5

VDD3 / VDD5

Sheet 33 of 44  
VDD3, VDD5

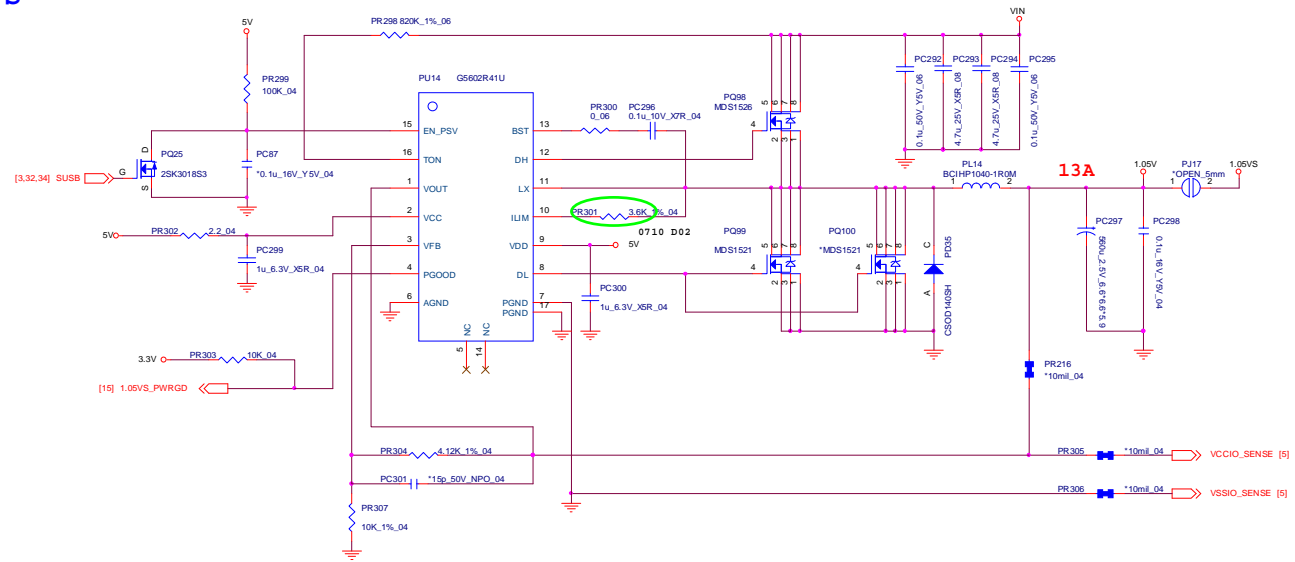


Sheet 34 of 44  
Power 1.5V/0.75V/  
1.8VS



## B. Schematic Diagrams

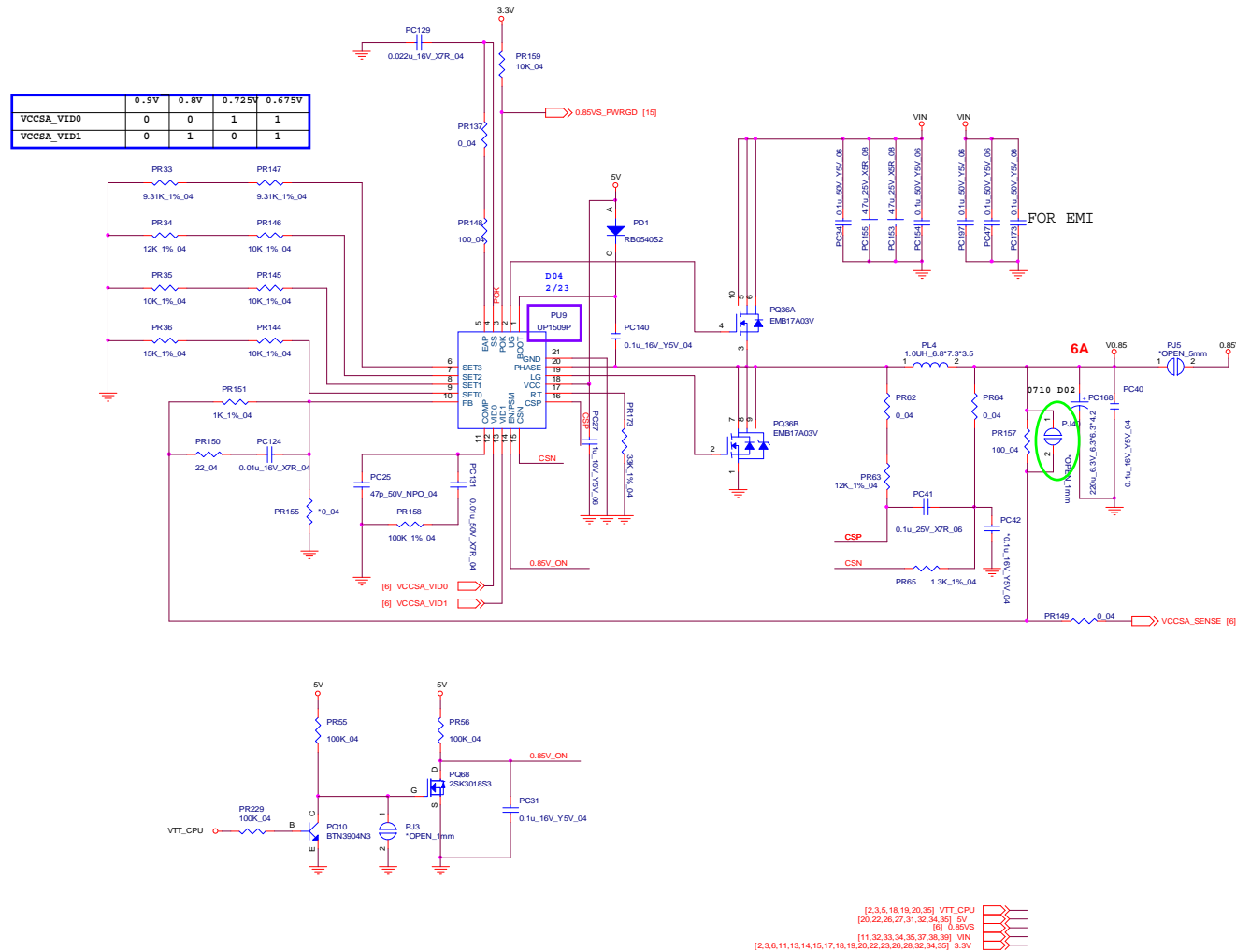
1.05Vs



[2,3,5,18,19,20,36]	VTT_CPU	
[13,14,15,19,20,37]	1.06VS	
[2,3,6,11,13,14,15,17,18,19,20,22,23,26,28,32,34,36]	3.3V	
[20,22,26,27,31,32,34,36]	5V	
[11,32,33,34,36,37,38,39]	VIN	
[32,33]	SYS15V	



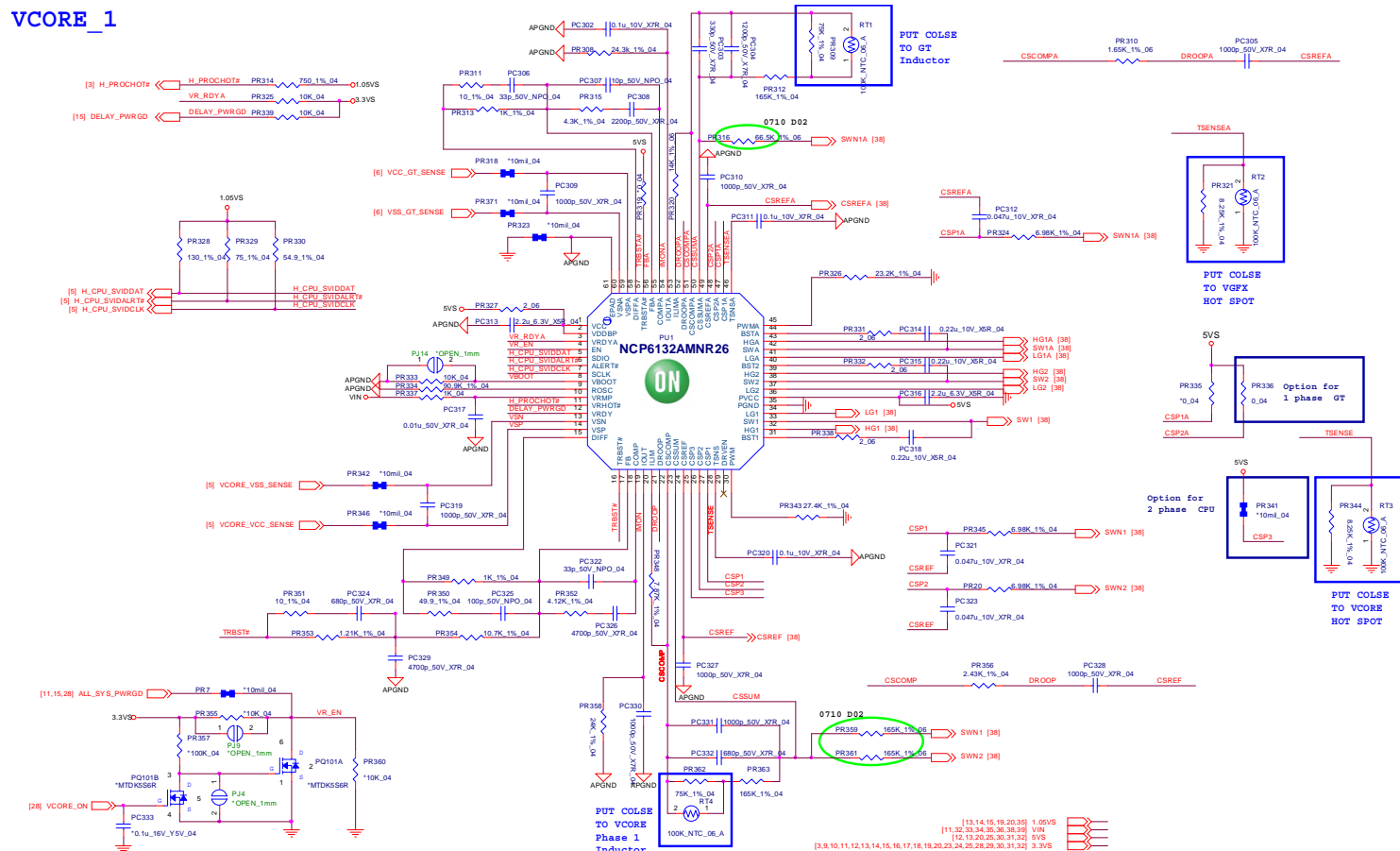
## 0.85VS



Sheet 36 of 44  
Power 0.85VS

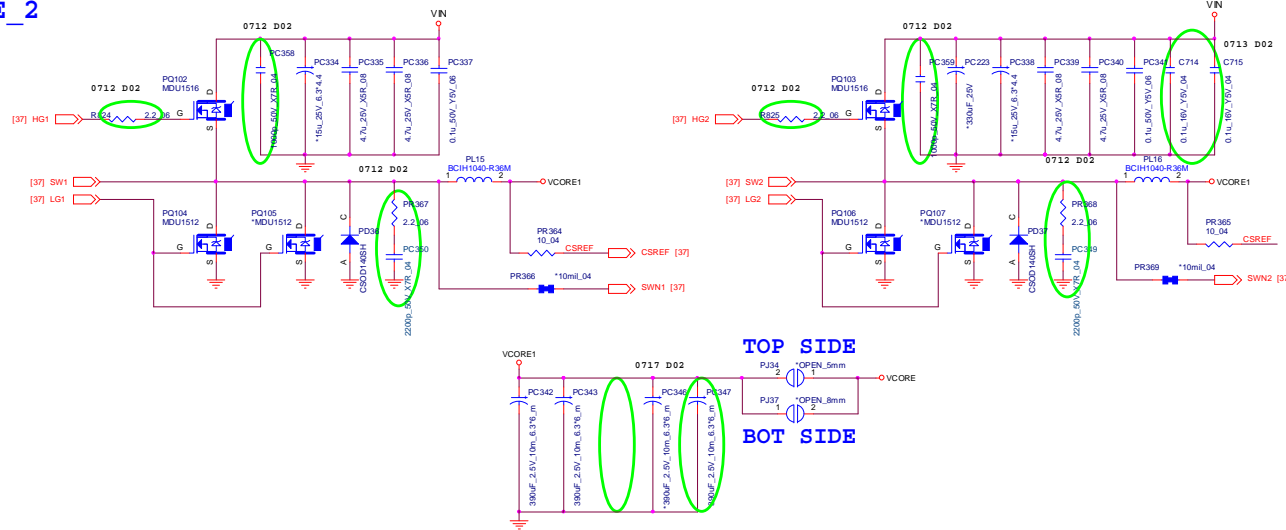
## Power V-Core1

VCORE 1

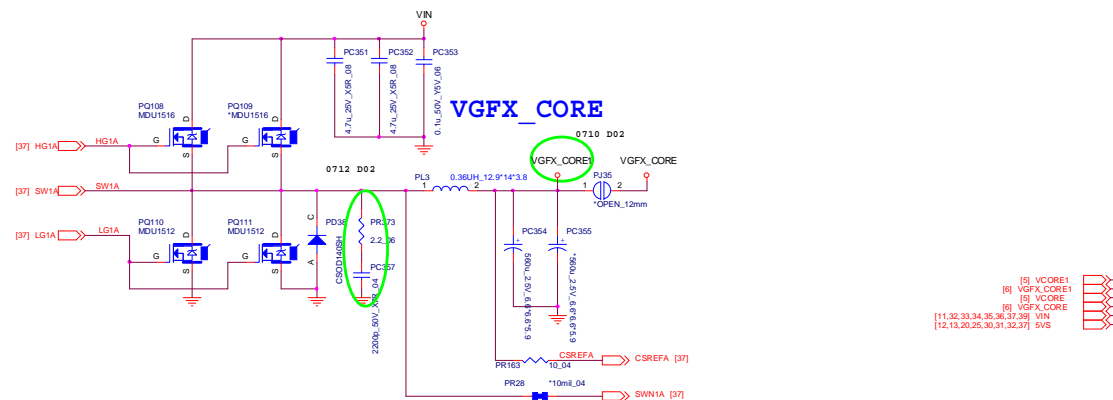


# Power V-Core2

## VCORE\_2



## VGFX\_CORE



- [5] VCORE1
- [6] VGFX\_CORE1
- [5] VCORE
- [8] VGFX\_CORE
- [11,32,33,34,35,36,37,38] VIN
- [12,13,20,25,30,31,32,37] 5VS

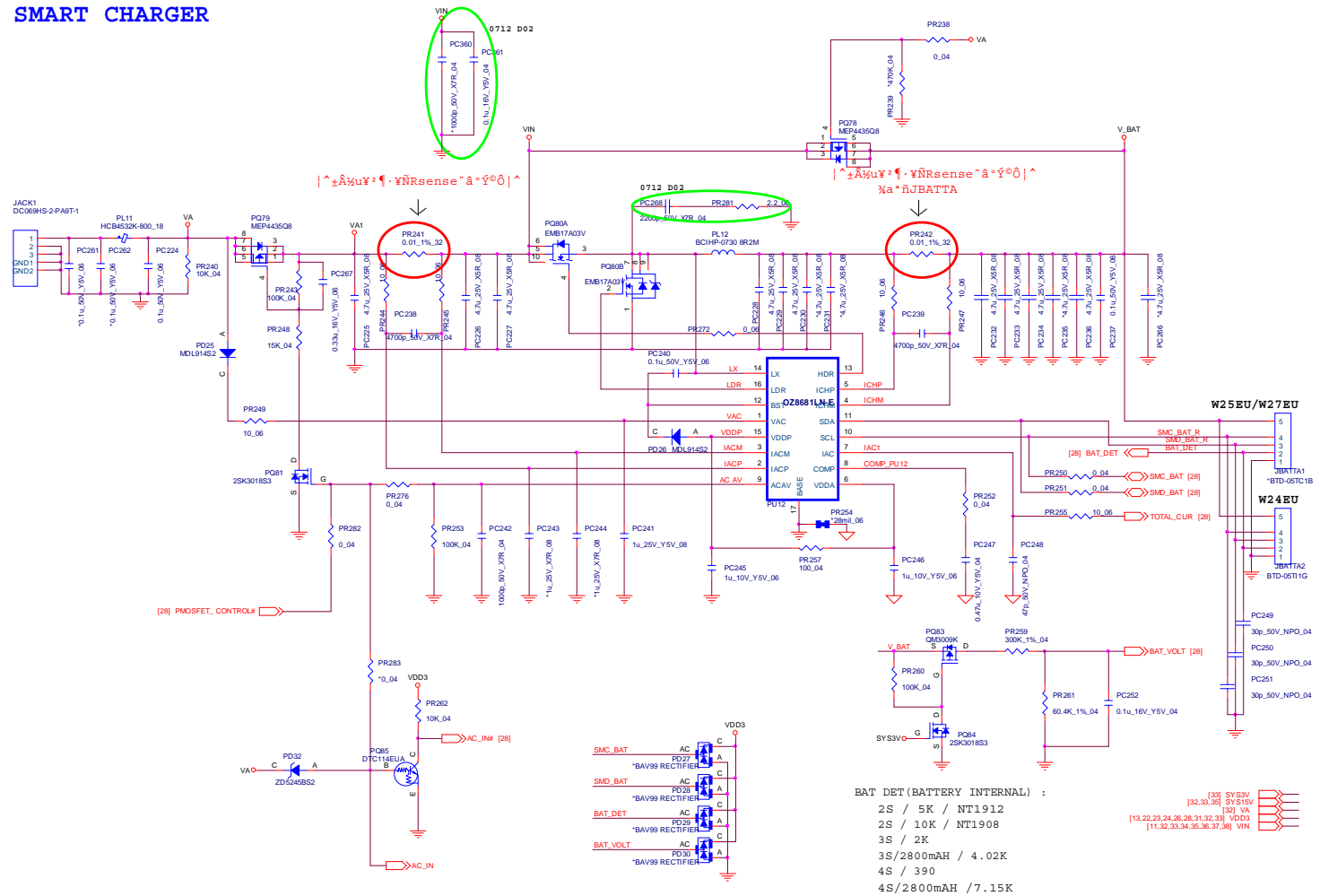
Sheet 38 of 44  
Power V-Core2

## Schematic Diagrams

## Smart Charger, AC In

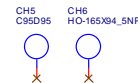
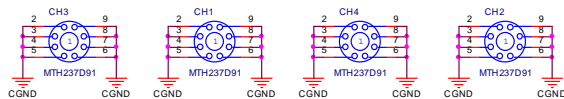
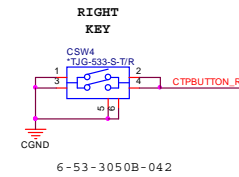
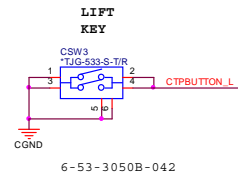
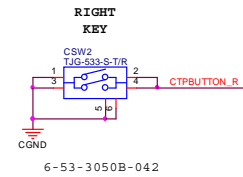
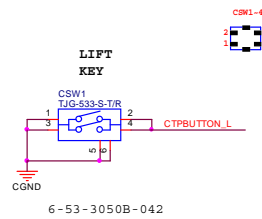
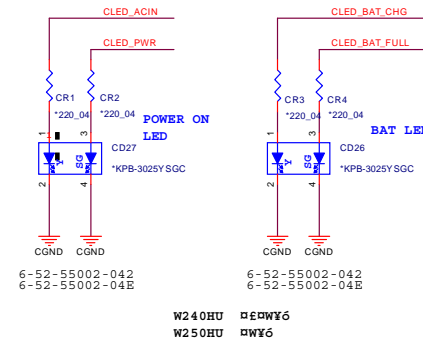
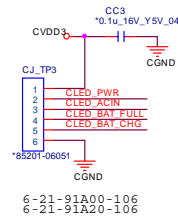
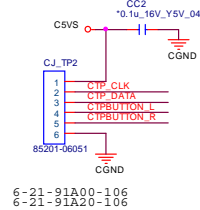
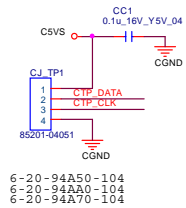
Sheet 39 of 44  
Smart Charger, AC In

## SMART CHARGER



# Click Board

## CLICK BOARD

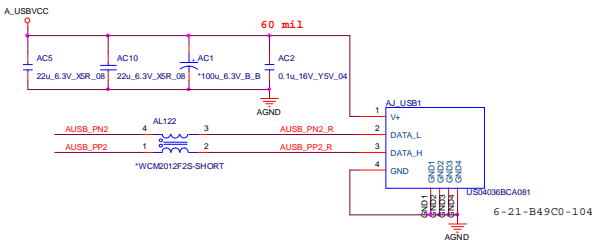


Sheet 40 of 44  
Click Board

Schematic Diagrams

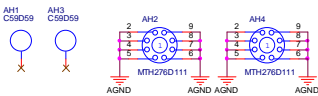
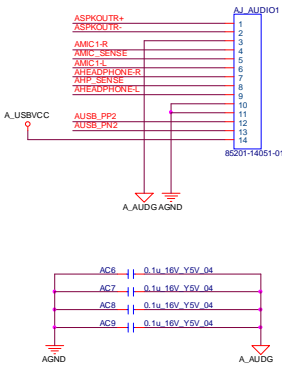
Audio Board/USB

USB PORT

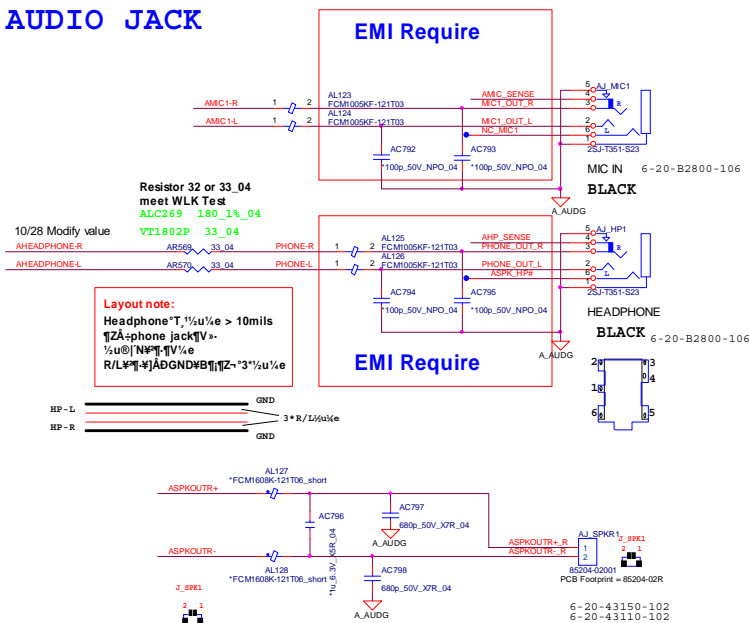


TO M/B

Sheet 41 of 44  
Audio Board/USB



AUDIO JACK



## POWER SW & LED & HOT KEY

[illegible]

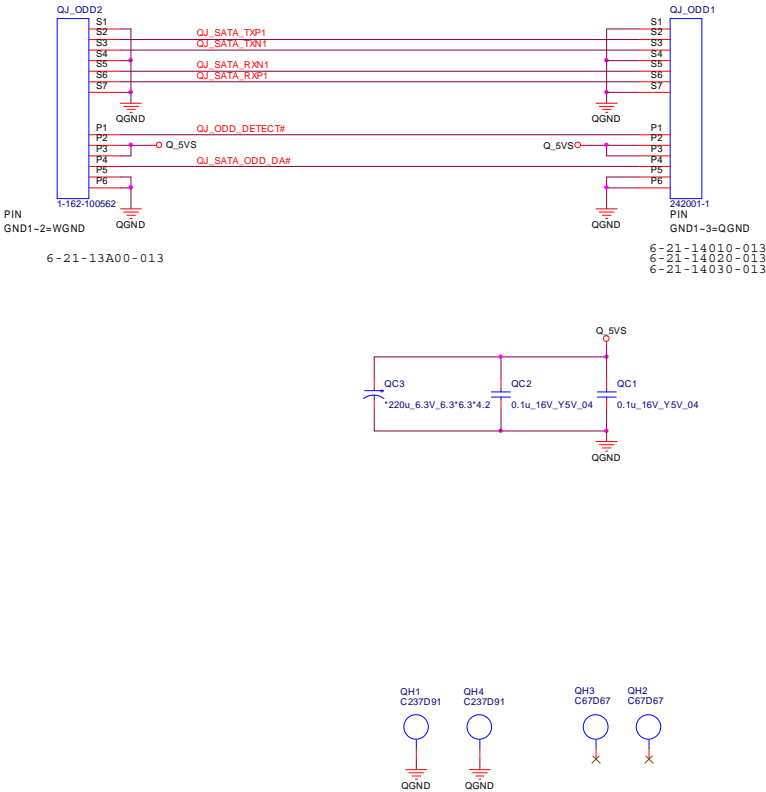


Schematic Diagrams

External ODD Board

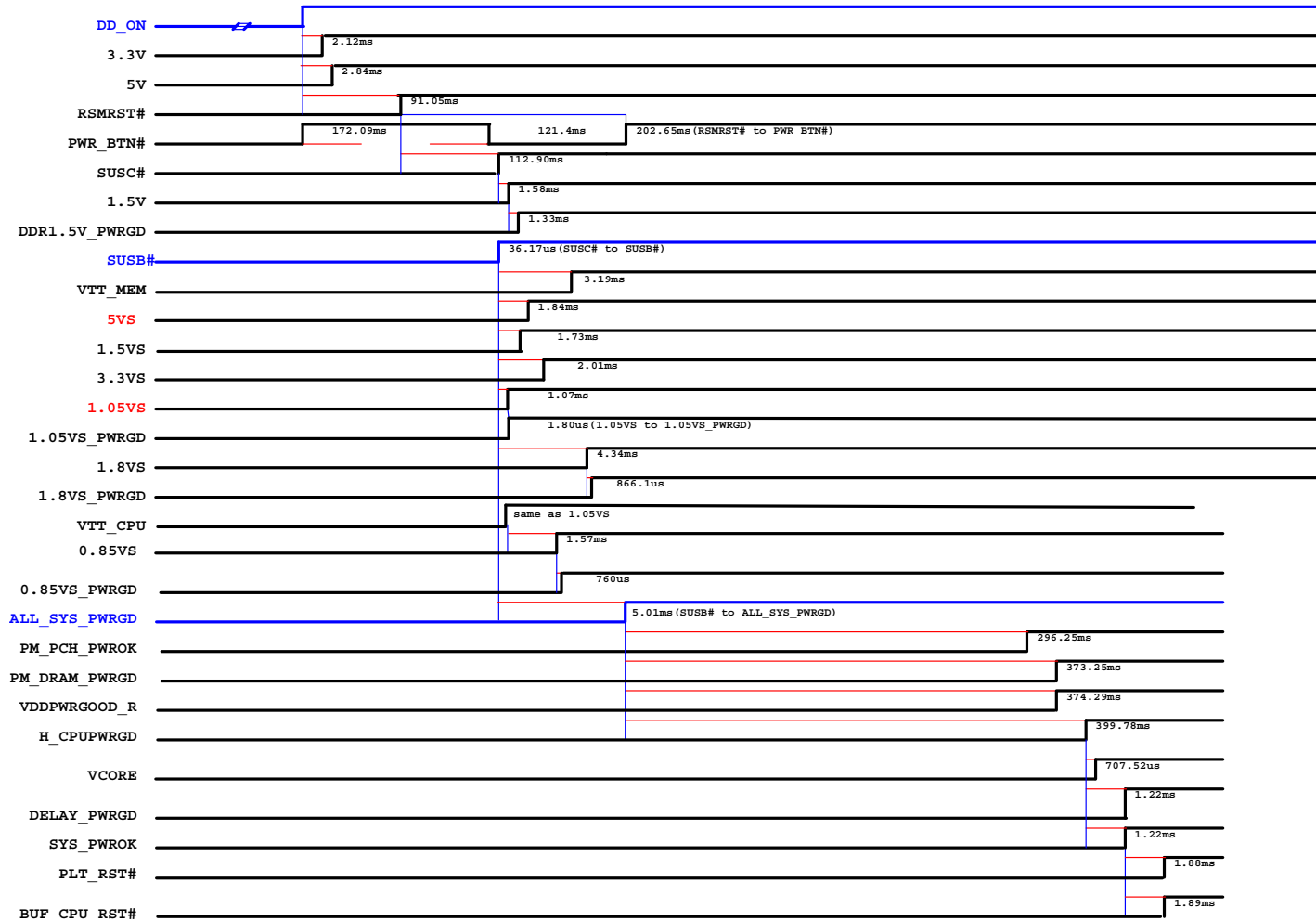
ODD BOARD

Sheet 43 of 44  
External ODD  
Board



# Power Sequence

## W2xxCZ-D01 POWER ON SEQUENCE



Sheet 44 of 44  
Power Sequence



# Appendix C: Updating the FLASH ROM BIOS

## To update the FLASH ROM BIOS, you must:

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

## Download the BIOS

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

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

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

## Set the computer to boot from the external drive

1. With the bootable CD/DVD/USB flash drive containing the BIOS files in your CD/DVD drive/USB port, restart the computer and press **F2** (in most cases) to enter the BIOS.
2. Use the arrow keys to highlight the **Boot** menu.
3. Use the “+” and “-” keys to move boot devices up and down the priority order.
4. Make sure that the CD/DVD drive/USB flash drive is set first in the boot priority of the BIOS.
5. Press **F10** to save any changes you have made and exit the BIOS to restart the computer.



### BIOS Version

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

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

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

## BIOS Update

---

### Use the flash tools to update the BIOS

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

**C:\> Flash.bat**

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

### Restart the computer (booting from the HDD)

1. With the CD/DVD/USB flash drive removed from the CD/DVD drive/USB port the computer should restart from the HDD.
2. Press **F2** as the computer restarts to enter the BIOS.
3. Use the arrow keys to highlight the **Exit** menu.
4. Select **Load Setup Defaults** (or press **F9**) and select “**Yes**” to confirm the selection.
5. Press **F10** to save any changes you have made and exit the BIOS to restart the computer.

### Your computer is now running normally with the updated BIOS

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