SERVICE MANUAL

W251EUQ/W253EUQ/W255EU/W258EUQ

notebook

Notebook Computer

W251EUQ/W253EUQ/W255EU/W258EUQ

Service Manual

Notice

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About this Manual

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

It is organized to allow you to look up basic information for servicing and/or upgrading components of the ***W251EUQ/ W253EUQ/W255EU/W258EUQ*** series notebook PC.

The following information is included:

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

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

IMPORTANT SAFETY INSTRUCTIONS

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

1. Do not use this product near water, for example near a bath tub, wash bowl, kitchen sink or laundry tub, in a wet basement or near a swimming pool.
2. Avoid using a telephone (other than a cordless type) during an electrical storm. There may be a remote risk of electrical shock from lightning.
3. Do not use the telephone to report a gas leak in the vicinity of the leak.
4. Use only the power cord and batteries indicated in this manual. Do not dispose of batteries in a fire. They may explode. Check with local codes for possible special disposal instructions.
5. This product is intended to be supplied by a Listed Power Unit with an AC Input of 100 - 240V, 50 - 60Hz, DC Output of 19V, 3.42A or 18.5V, 3.5A (**65**W) minimum AC/DC Adapter.

CAUTION

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

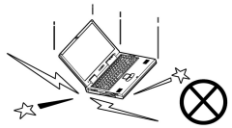
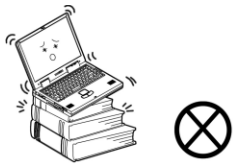
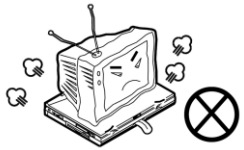
FCC Statement

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

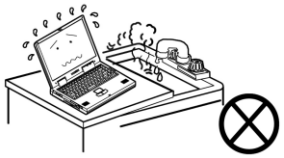
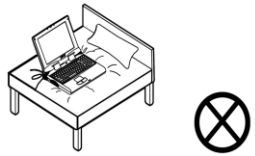
Instructions for Care and Operation

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

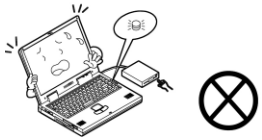
1. **Don't drop it, or expose it to shock.** If the computer falls, the case and the components could be damaged.

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

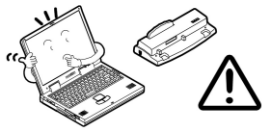
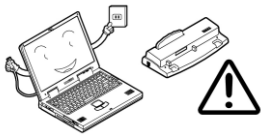
2. **Keep it dry, and don't overheat it.** Keep the computer and power supply away from any kind of heating element. This is an electrical appliance. If water or any other liquid gets into it, the computer could be badly damaged.

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

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

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

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

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

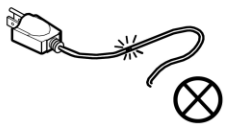
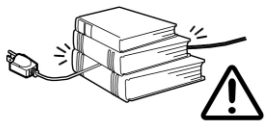
Power Safety

The computer has specific power requirements:

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

Power Safety Warning

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

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

Battery Precautions

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

Battery Guidelines

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

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

Battery Disposal

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

Caution

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

Battery Level

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

Related Documents

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

User's Manual on CD/DVD

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

System Startup

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

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

Shut Down

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

This will help prevent hard disk or system problems.

Contents

Chapter 1: Introduction

Overview

This manual covers the information you need to service or upgrade the ***W251EUQ/W253EUQ/W255EU/W258EUQ*** series notebook computer. Information about operating the computer (e.g. getting started, and the *Setup* utility) is in the *User's Manual*. Information about dri-vers (e.g. VGA & audio) is also found in the *User's Manual*. The manual is shipped with the computer.

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

The ***W251EUQ/W253EUQ/W255EU/W258EUQ*** series notebook is designed to be upgradeable. See ***Disassembly on page 2 - 1*** for a detailed description of the upgrade procedures for each specific component. Please take note of the warning and safety information indicated by the "  " symbol.

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

Specifications

Latest Specification Information

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

CPU

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

Processor

Intel® Core™ i7 Processor

i7-3612QM (2.1GHz)

6MB L3 Cache, **22nm**, DDR3-1600MHz, TDP 35W

i7-3520M (2.90GHz)

4MB L3 Cache, **22nm**, DDR3-1600MHz, TDP 35W

Intel® Core™ i5 Processor

i5-3360M (2.80GHz), i5-3320M (2.60GHz), i5-3210M (2.50GHz)

3MB L3 Cache, **22nm**, DDR3-1600MHz, TDP 35W

Intel® Core™ i3 Processor

i3-3110M (2.40GHz)

3MB L3 Cache, **22nm**, DDR3-1600MHz, TDP 35W

Intel® Core™ i7 Processor

i7-2620M (2.7GHz)

4MB L3 Cache, **32nm**, DDR3-1333MHz, TDP 35W

Intel® Core™ i5 Processor

i5-2540M (2.60GHz), i5-2520M (2.50GHz), i5-2450M (2.50GHz), i5-2430M (2.40GHz), i5-2410M (2.30GHz)

3MB L3 Cache, **32nm**, DDR3-1333MHz, TDP 35W

Intel® Core™ i3 Processor

i3-2370M (2.40GHz), i3-2350M (2.30GHz), i3-2330M (2.20GHz), i3-2310M (2.10GHz)

3MB L3 Cache, **32nm**, DDR3-1333MHz, TDP 35W

Intel® Pentium® Processor

B970 (2.30GHz), B960 (2.20GHz), B950 (2.10GHz), B940 (2.00GHz)

2MB L3 Cache, **32nm**, DDR3-1333MHz, TDP 35W

Intel® Celeron® Processor

B840 (1.90GHz), B815 (1.60GHz), B810 (1.60GHz), B800 (1.50GHz)

2MB L3 Cache, **32nm**, DDR3-1333MHz, TDP 35W

B720 (1.70GHz), B710 (1.60GHz)

1.5MB L3 Cache, **32nm**, DDR3-1333MHz, TDP 35W

Core Logic

Intel® HM76 Chipset

Display

15.6" (39.62cm) HD/ HD+/ FHD

Memory

Two 204 Pin SO-DIMM Sockets Supporting **DDR3 1333/ 1600MHz** Memory

Memory Expandable up to 8GB

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

Video Adapter

Intel Integrated GPU

(GPU is Dependent on Processor)

Intel® HD Graphics

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

Microsoft DirectX®10 Compatible

Intel® HD Graphics 3000

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

Microsoft DirectX®10 Compatible

Intel® HD Graphics 4000

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

Microsoft DirectX®11 Compatible

BIOS

One 48Mb SPI Flash ROM

AMI BIOS

Storage

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

One Changeable 2.5" 9.5mm (h) SATA HDD

Security

Security (Kensington® Type) Lock Slot

BIOS Password

Audio

High Definition Audio Compliant Interface

2 * Built-In Speakers

Built-In Microphone

Pointing Device

Built-in Touchpad

Keyboard

Full-size “WinKey” keyboard (with numeric keypad)

Interface

One HDMI-Out Port

One Headphone-Out Jack

One Microphone-In Jack

One RJ-45 LAN Jack

One External Monitor Port

One USB 2.0 Port

Two USB 3.0 Ports

One DC-in Jack

Card Reader

Embedded Multi-In-1 Card Reader

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

Mini Card Slots

Slot 1 for WLAN Module or Combo WLAN and Bluetooth Module

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

Communication

Built-In Gigabit Ethernet LAN

(**Factory Option**) 300K/1.3M Pixel USB PC Camera Module

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

WLAN/ Bluetooth Half Mini-Card Modules:

(**Factory Option**) Intel® Centrino® Wireless-N 2230 Wireless LAN (**802.11b/g/n**) + Bluetooth 4.0

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

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

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

(**Factory Option**) Third-Party Wireless LAN (**802.11b/g/n**) + Bluetooth 4.0

Operating Systems

Windows® 7 (with Service Pack 1)

Power

6 Cell Smart Lithium-Ion Battery Pack, 48.84WH

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

Full Range AC/DC Adapter

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

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

Environmental Spec

Temperature

Operating: 5°C - 35°C

Non-Operating: -20°C - 60°C

Relative Humidity

Operating: 20% - 80%

Non-Operating: 10% - 90%

Dimensions & Weight

374mm (w) * 250mm (d) * 14.3 - 34.1mm (h)

2.3 kg (with 48.84WH Battery and ODD)

Or

374mm (w) * 250mm (d) * 20 - 37.2mm (h)

2.6 kg (with 48.84WH Battery and ODD)

External Locator - Top View with LCD Panel Open

Figure 1
Top View

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

External Locator - Front & Right Side Views

FRONT VIEW

Figure 2
Front View

1. LED Power Indicator

RIGHT SIDE VIEW

Figure 3
Right Side View

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

External Locator - Left Side & Rear View

Figure 4
Left Side View

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

LEFT SIDE VIEW

Figure 5
Rear View

1. Security Lock Slot
2. Battery

REAR VIEW

External Locator - Bottom View

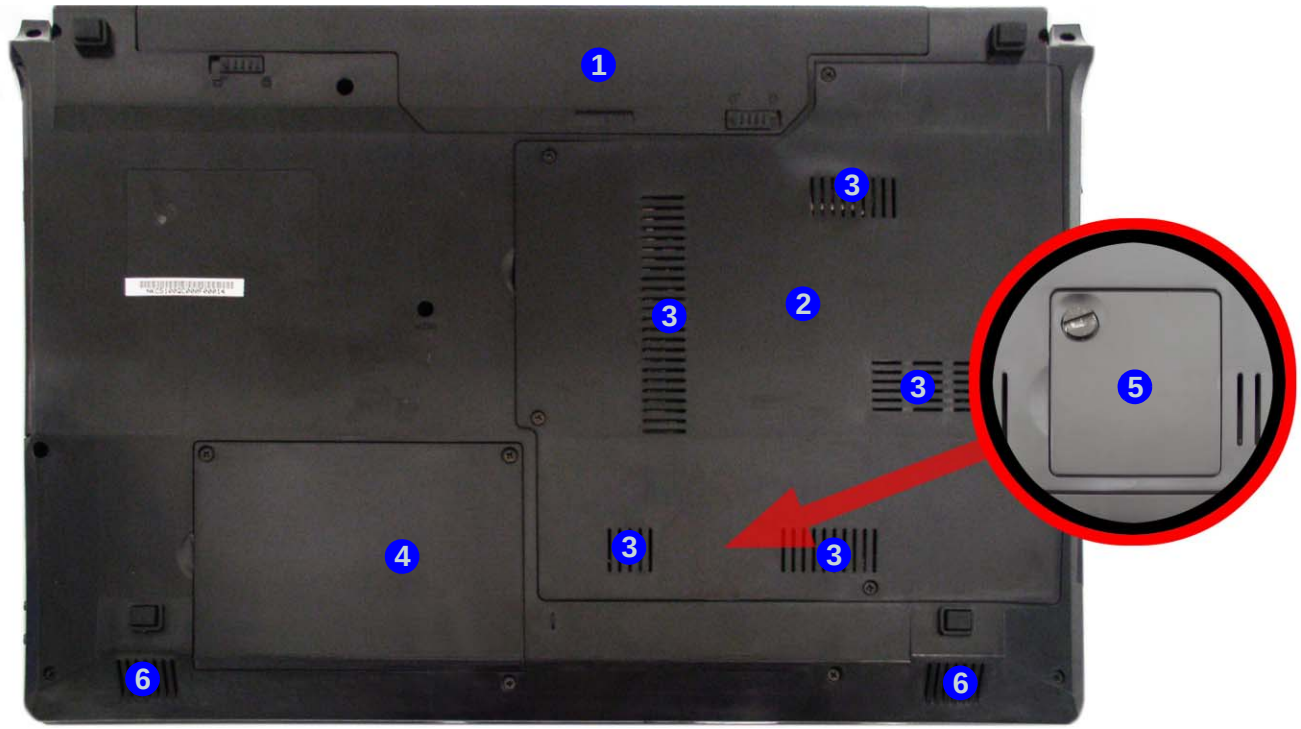


Figure 6
Bottom View

1. Battery
2. Component Bay Cover
3. Vent
4. Hard Disk Bay Cover
5. 3.75G USIM Card Cover (**Optional**)
6. Speakers

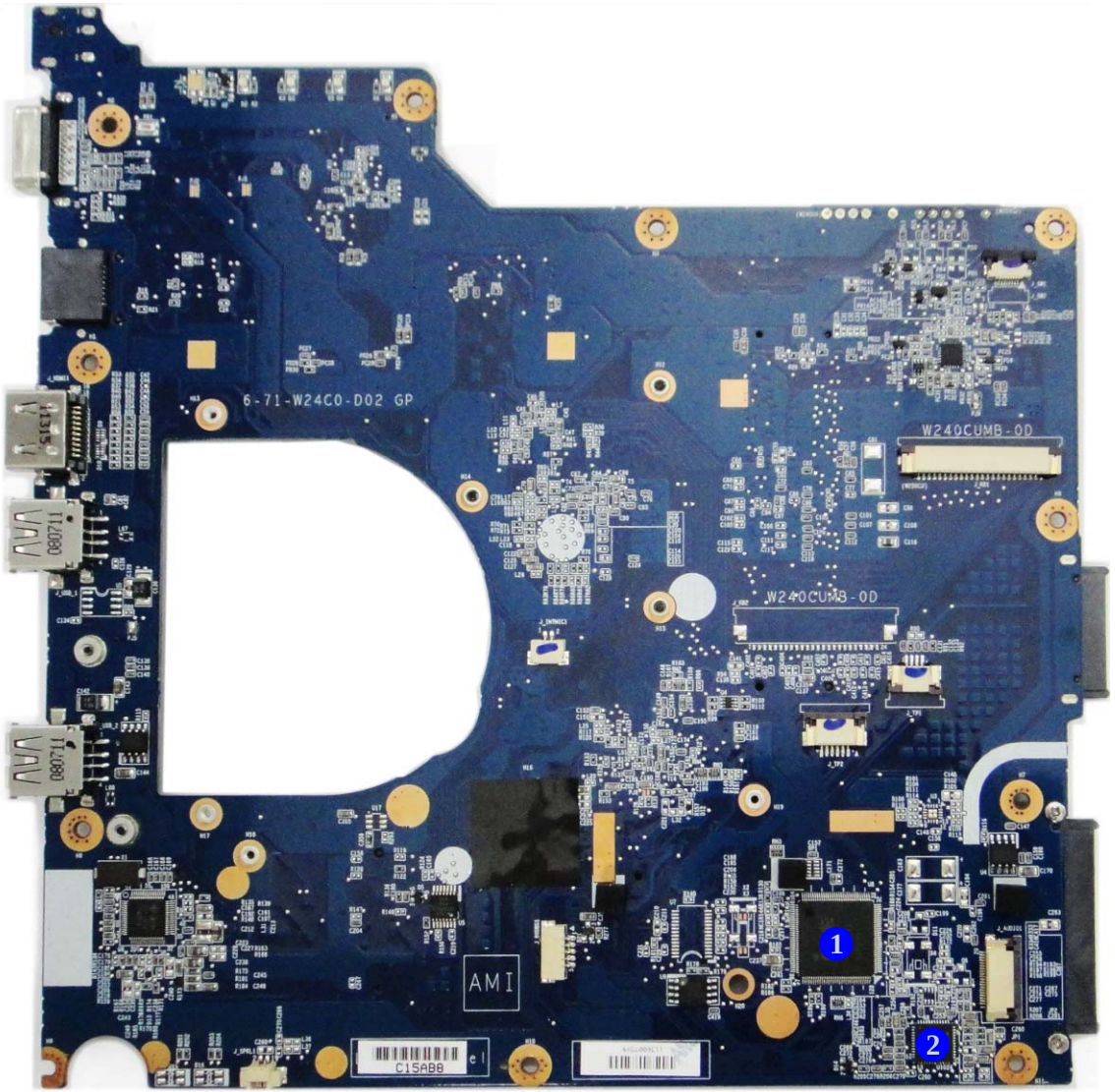
Overheating

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

Mainboard Overview - Top (Key Parts)

Figure 7
Mainboard Top Key Parts

1. ITE 8518E
2. AZALIA Codec



Mainboard Overview - Bottom (Key Parts)

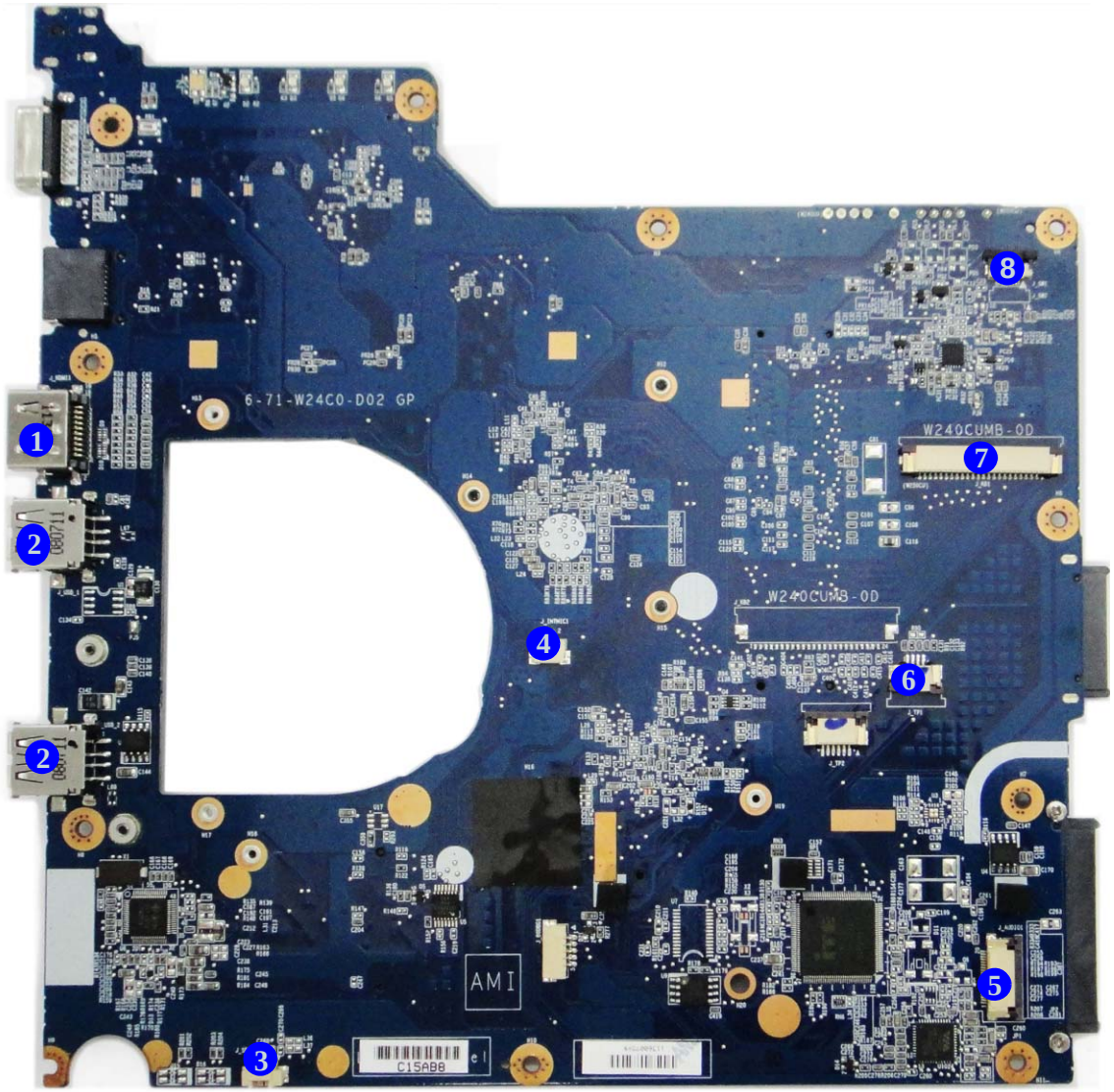
Figure 8
Mainboard Bottom Key Parts

1. Memory Slots DDR3 SO-DIMM
2. Accelerated Processing Unit
3. Intel NM10 PCH
4. CMOS Battery
5. Mini-Card Connector (WLAN Module)
6. Card Reader Socket

Mainboard Overview - Top (Connectors)

Figure 9
Mainboard Top Connectors

1. HDMI-Out Port
2. USB Port 3.0
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 - 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 ***W251EUQ/W253EUQ/W255EU/W258EUQ*** series notebook's parts and subsystems. When it comes to reassembly, reverse the procedures (unless otherwise indicated).

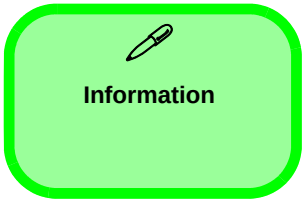
We suggest you completely review any procedure before you take the computer apart.

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

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

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

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



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

Maintenance Tools

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

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

Connections

Connections within the computer are one of four types:

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

Maintenance Precautions

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

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

Power Safety Warning

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

Cleaning

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

Disassembly Steps

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

To remove the Battery:

1. Remove the battery *page 2 - 5*

To remove the HDD:

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

To remove the Optical Device:

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

To remove the System Memory:

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

To remove and install a Processor:

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

To remove the 3.75G Module:

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

To remove the Wireless LAN Module:

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

To remove the Keyboard:

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

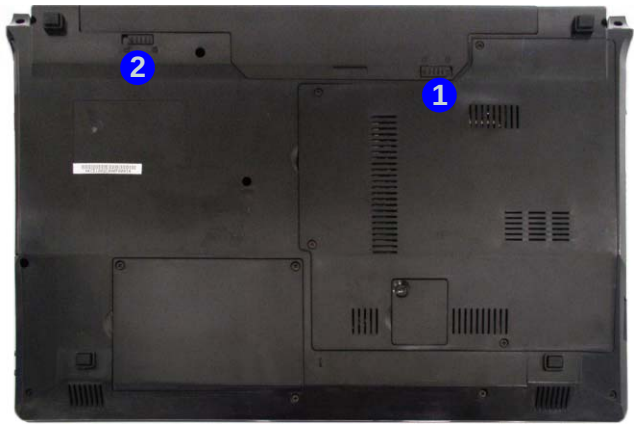
Removing the Battery

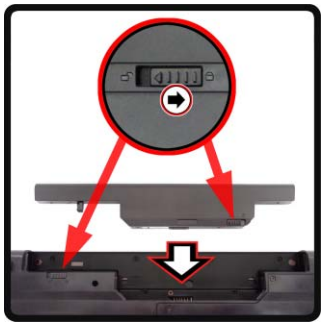
1. Turn the computer **off**, and turn it over.
2. Slide the latch 1 in the direction of the arrow (***Figure 1a***).
3. Slide the latch 2 in the direction of the arrow, and hold it in place (***Figure 1a***).
4. Slide the battery 3 in the direction of the arrow 4 (***Figure 1b***).

Figure 1
Battery Removal

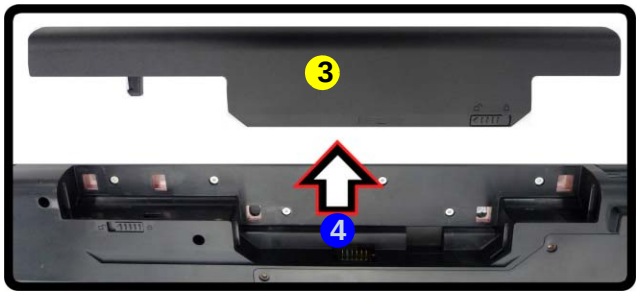
a. Slide the latch and hold it in place.
b. Slide the battery in the direction of the arrow.

a.





b.



3. Battery

Removing the Hard Disk Drive

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.

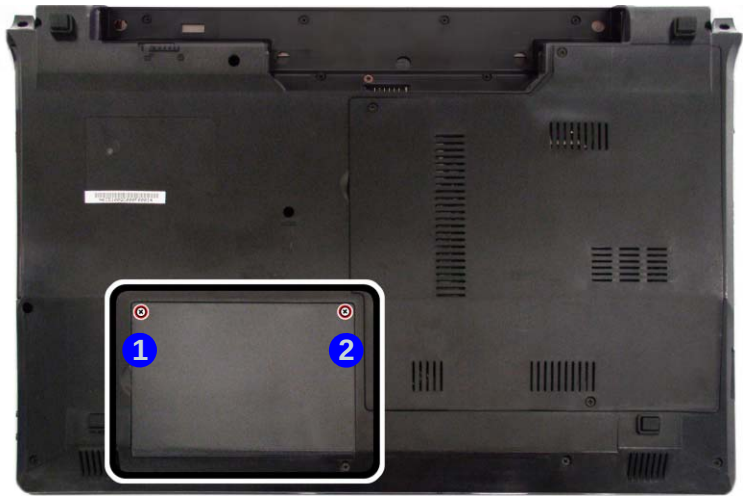
Figure 2
HDD Assembly Removal

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.

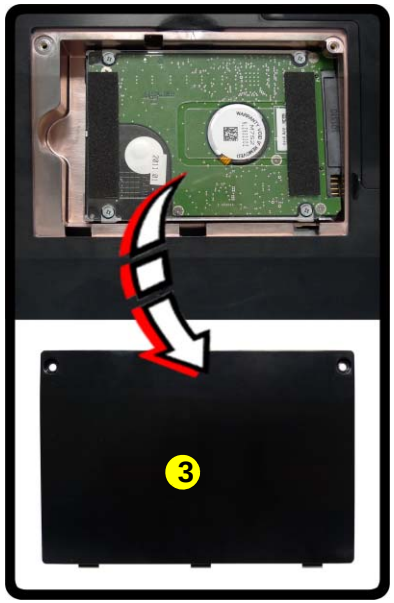
If you have access to the internet, download the latest application and hardware driver updates for the operating system you plan to install. Copy these to a removable medium.

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 the screw 7 - 10 and the mylar cover 11 from the hard disk 12 (*Figure 3e*).
7. Reverse the process to install a new hard disk (do not forget to replace all the screws and covers).

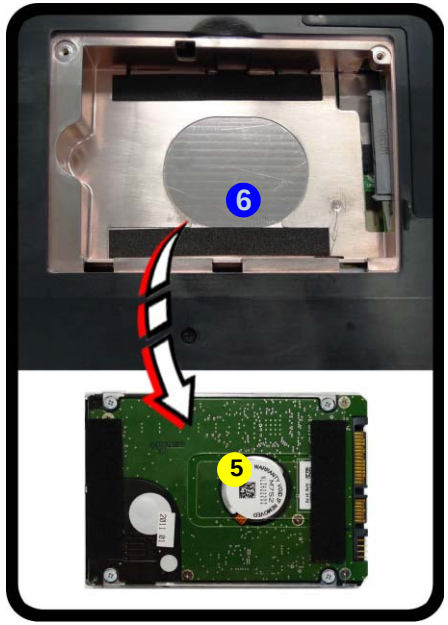
Figure 3
HDD Assembly Removal (cont'd.)

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

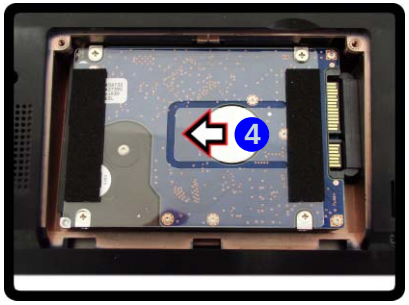
b.



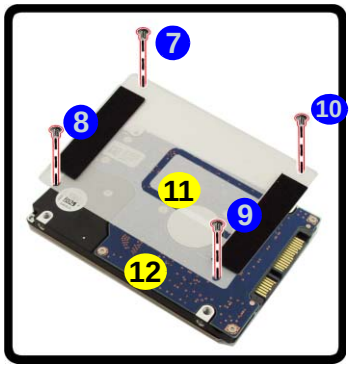
d.



c.



e.



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

- 4 Screws

Figure 4
Optical Device Removal

a. Remove the screw at point 1.
b. Use a screwdriver to carefully push out the optical device at point 2.

Removing the Optical (CD/DVD) Device

1. Turn **off** the computer, remove the battery (***page 2 - 5***) and hard disk (***page 2 - 6***).
2. Remove the screw at point 1 (***Figure 4a***).
3. Use a screwdriver to carefully push out the optical device 3 at point 2 (***Figure 4b***).
4. 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).
5. Restart the computer to allow it to automatically detect the new device.

a.

b.

3. Optical Device

- 1 Screw

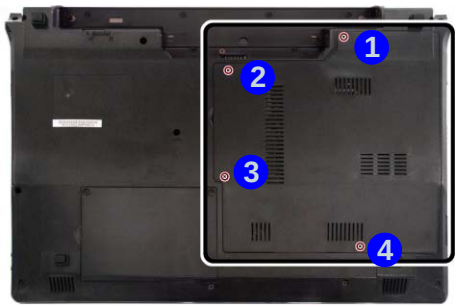
Removing the System Memory (RAM)

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

Memory Upgrade Process

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

a.



b.

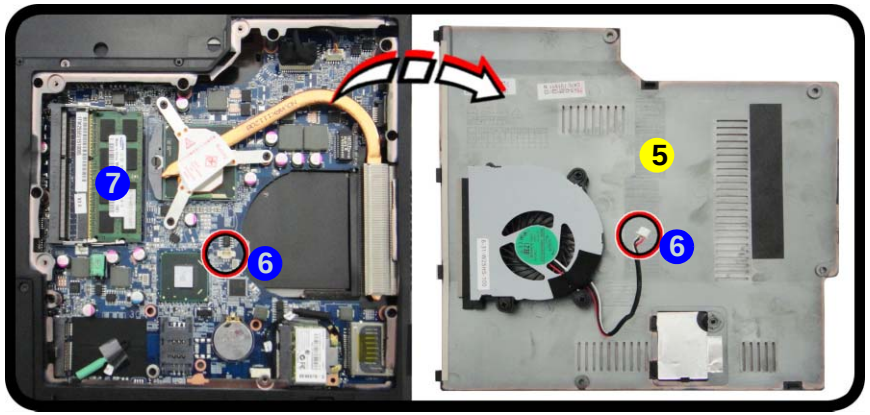


Figure 5
RAM Module Removal

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

Contact Warning

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

- 5 Screws

Figure 6
RAM Module Removal (cont'd)

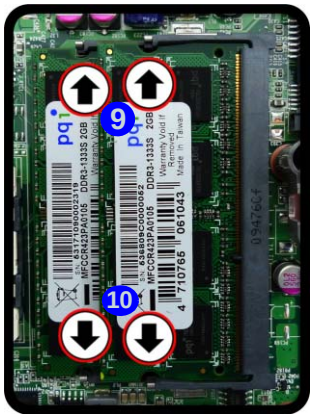
c. Pull the release latches.
d. Remove the module.
e. Replace bay cover.

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

Contact Warning

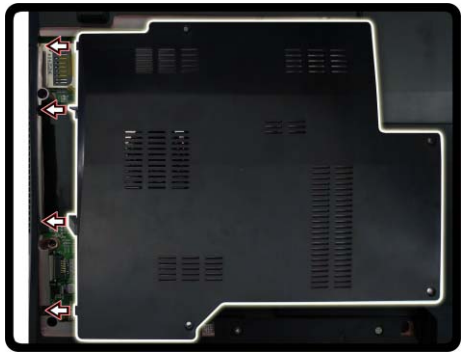
Be careful not to touch the metal pins on the module's connecting edge. Even the cleanest hands have oils which can attract particles, and degrade the module's performance.

c.



d.

e.



11. RAM

Cover Pins

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

Removing and Installing a Processor

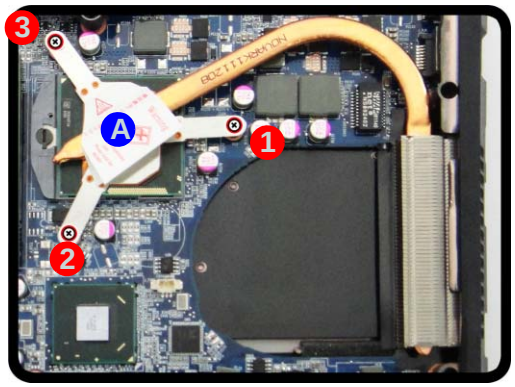
Processor Removal Procedure

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

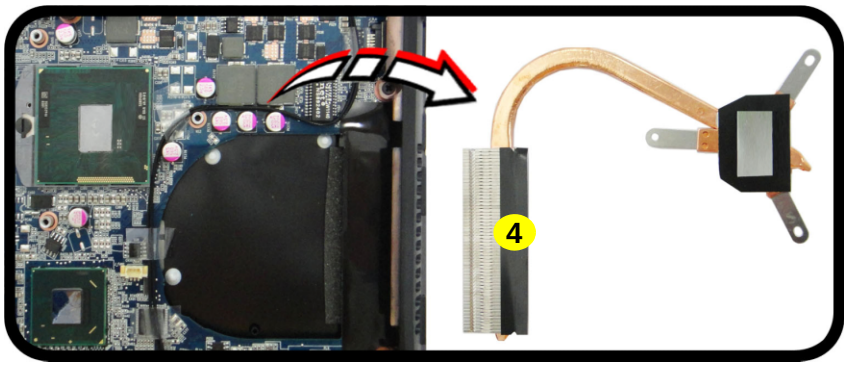
Figure 7
Processor Removal

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

a.



b.



4. Heat Sink

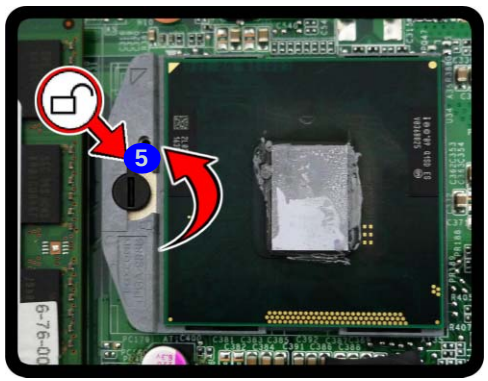
- 3 Screws

Figure 8
Processor Removal (cont'd)

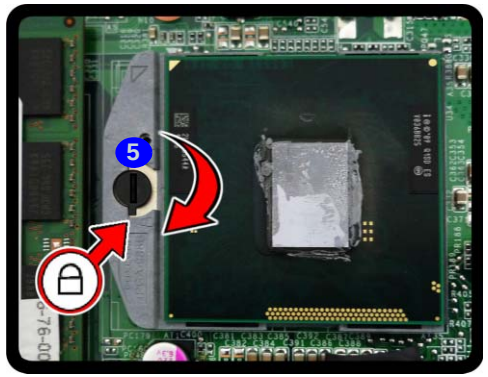
c. Turn the release latch to unlock the CPU.
d. Lift the CPU out of the socket.

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

c.

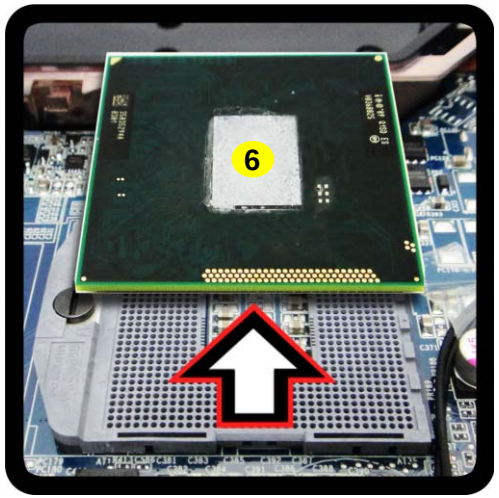


Unlock



Lock

d.



Caution

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

6. CPU

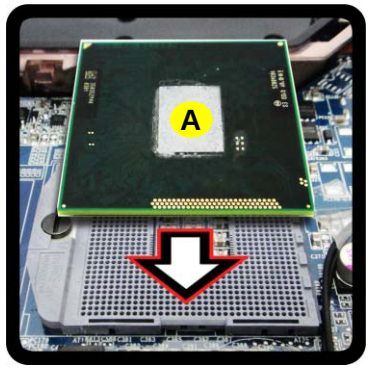
Processor Installation Procedure

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

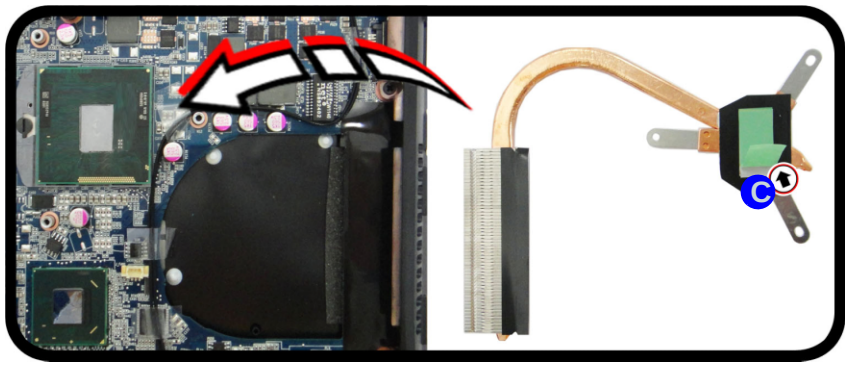
Figure 9
Processor Installation

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

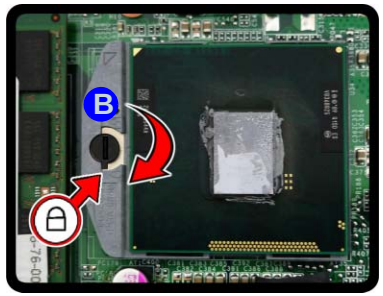
a.



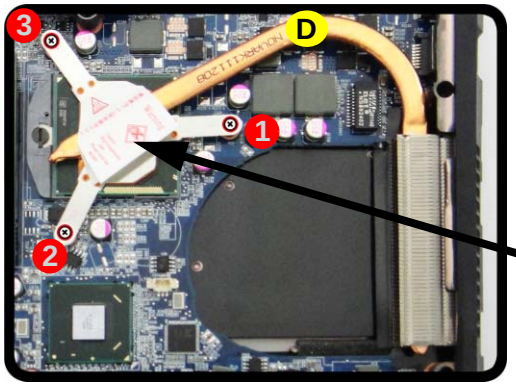
c.



b.



d.



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

A. CPU
D. Heat Sink

- 3 Screws

Figure 10
3G Module Removal

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

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

3. 3.75G Module

- 1 Screw

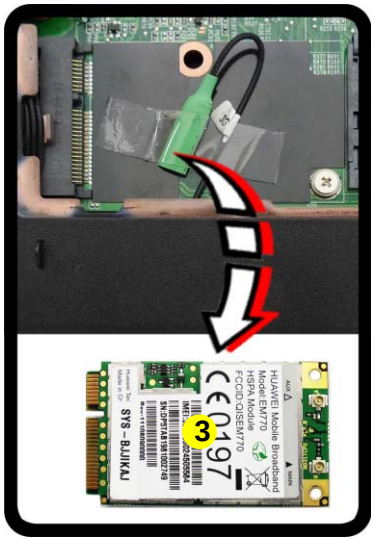
Removing the 3.75G Module

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

a.

b.

c.

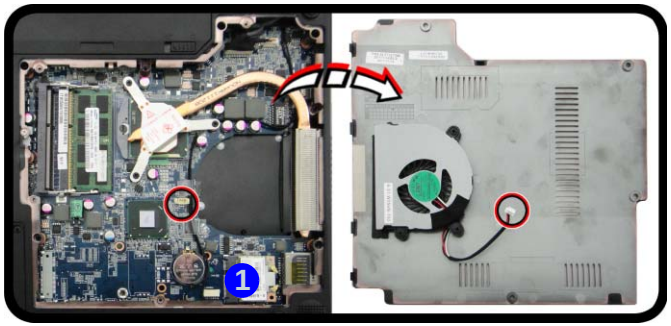


d.

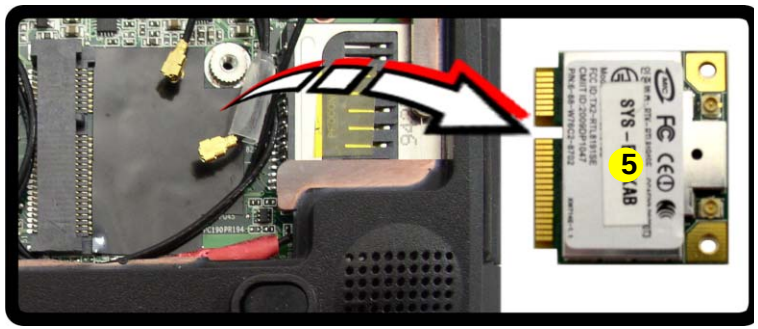
Removing the Wireless LAN Module

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

a.



c.



b.

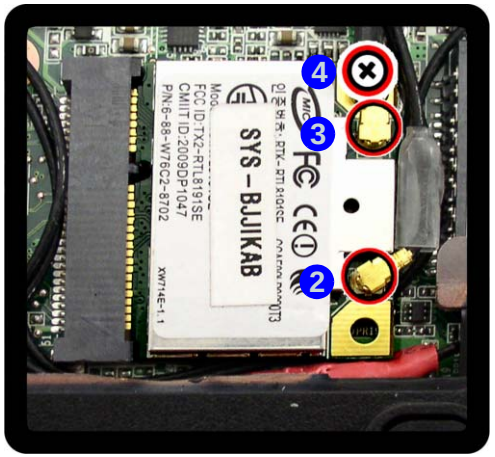


Figure 11
Wireless LAN Module Removal

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

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

4.Wireless LAN Module

- 2 Screw

Figure 12
Keyboard Removal

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

Re-Inserting the Keyboard

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

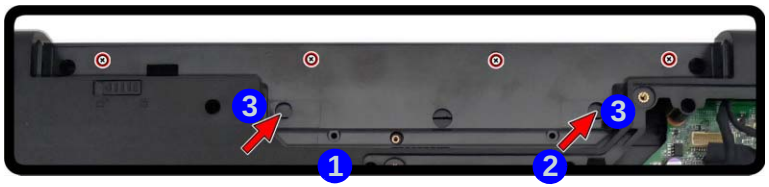
4. LED Cover Module
12. Keyboard

- 7 Screws

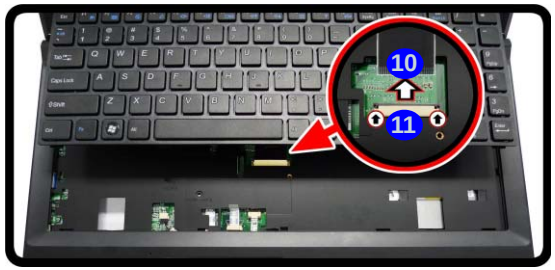
Removing the Keyboard

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

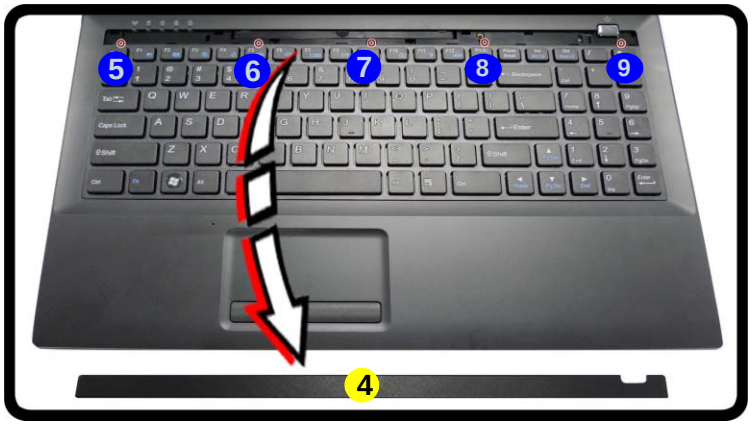
a.



c.



b.



d.

Appendix A:Part Lists

This appendix breaks down the ***W251EUQ/W253EUQ/W255EU/W258EUQ*** series notebook's construction into a series of illustrations. The component part numbers are indicated in the tables opposite the drawings.

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

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

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

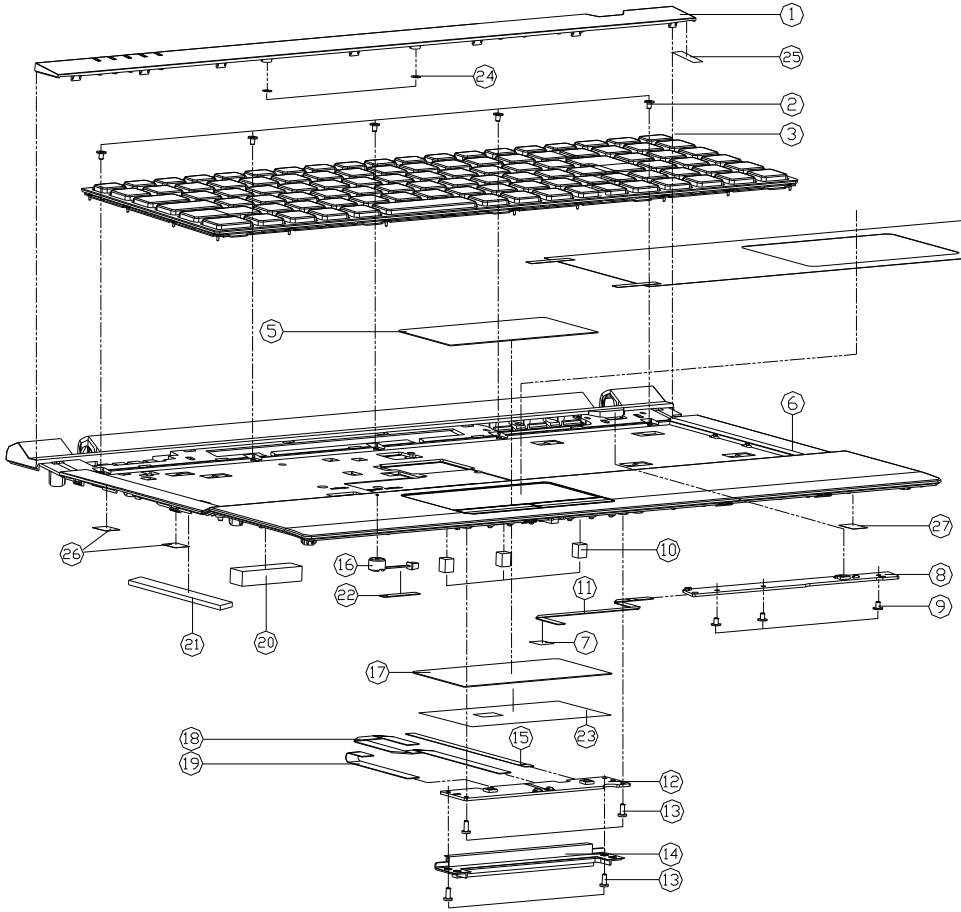
Part List Illustration Location

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

Table A - 1
Part List Illustration Location

Part	W251EUQ	W255EU	W258EUQ	W253EUQ
Top	*page A - 3*	*page A - 4*	*page A - 5*	*page A - 6*
Bottom	*page A - 7*			*page A - 8*
SATA BLU RAY COMBO	*page A - 9*			*page A - 10*
DVD Dual Drive	*page A - 11*			*page A - 12*
LCD	*page A - 13*			*page A - 14*

Top (W251EUQ)

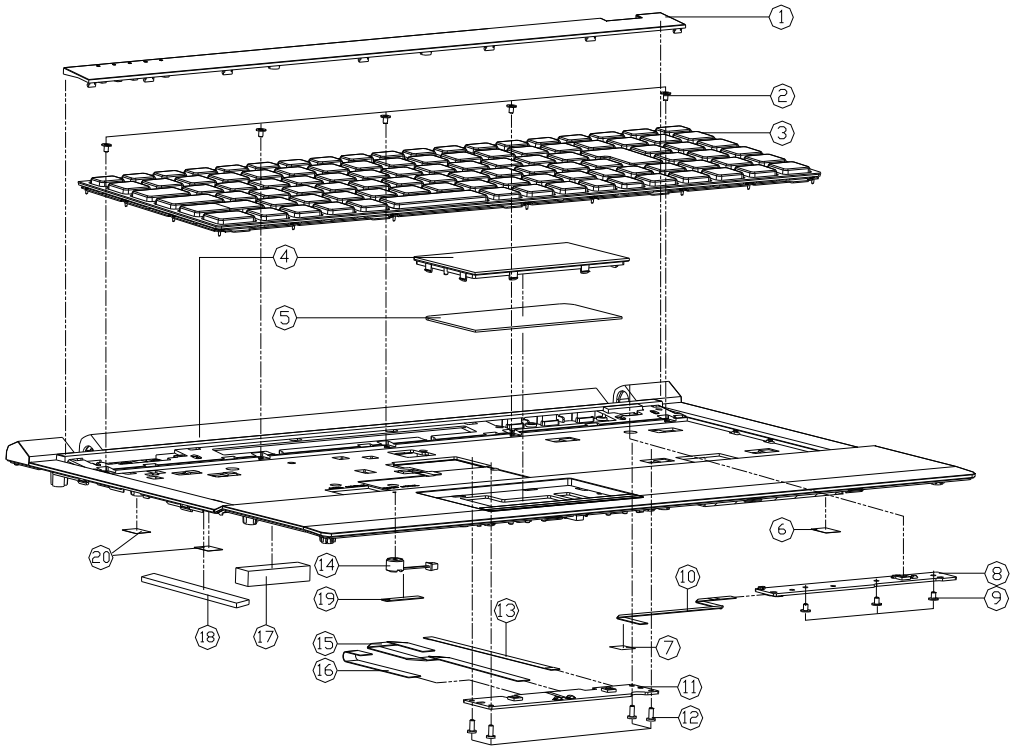


ITEM	PART NAME	PART NO	REMARK
1	KB COVER MODULE (ADD MYLAR) (CHANGE:E5121Q	6-42-E5112-107	
2	SCREW M2*2.5L K1 BK/Z ICT NY*3.5 T=0.3	6-35-B6120-2RB	
3	K/B US-INTERNATIONAL(BLACK& FRAME/US) MODULE E5120Q/C5500Q/C5100	6-79-E5120Q0K-101	
4	PALM REST PROTECT MYLAR (8B35) E5120Q	6-40-E51Q2-051	
5	TP MYLAR (PC) (45.10*86.50) E5120Q	6-40-E51Q2-042	
6	TOP CASE MODULE (ADD MYLAR) (CHANGE:E5121Q	6-39-E5112-015-C	
7	TOP FFC MYLAR (PET+3M 467) E5120Q	6-40-E51Q2-080	
8	POWER SWITCH BOARD V2.0 E5120Q	6-77-E51QS-D02	FOR W251HUQ
8	POWER SWITCH BOARD V3.0 W255EU	6-77-W24ES-D03-A	FOR W251EUQ/CUQ
9	(非耐落)SCREW M2*3L K1 NI ICT GTY-PATCH	6-35-B1120-3RE	
10	TOP MB RUBBER C (6.4T*5*5) SILICONE M770SU	6-47-M770S-081	
11	FFC CABLE FOR M/B TO POWER BOARD 8PIN(HENGSHANG)	6-43-E51Q0-022-2	
12	CLICK BOARD V1.0 W250BUQ	6-77-W2402-D01-A	FOR W251HUQ
12	CLICK BOARD V1.0 W255EU	6-77-W24E2-D01-A	FOR W251EUQ/CUQ
13	SCREW M2*5L K1CT=0.8 D=4.0) BK/Z ICT NY	6-35-B6120-5R0	
14	TP BRACKET MODULE (SECC 0.8T) E5120Q (CHANGE MYLAR)	6-33-E51Q2-102	
15	FFC CABLE FOR M/B TO CLICK BOARD 4PIN (HB)	6-43-E51Q0-010-1	
16	[illegible]	6-23-EM54G-012-2	
17	TOUCH PAD SYNAPTICS 1M-B1146-003 MULTI-GESTURE C4800	6-49-C4802-010	FOR W251HUQ/CUQ/ELQ
17	TOUCH PAD ELAN SB442B-6I03 MULTI-FINGER GESTURE W250HPQ	6-49-W25A2-011	FOR W251CUQ
18	FFC MB TO CLICK LED 6PIN (HS) C5500Q	6-43-C5500-010-2	
19	FFC CABLE FOR TOUCH PAD 6PIN C4500	6-43-C4502-010	
20	FAN SPONGE FOR TOP (35*5.5*1.5T) (SM55+SONY G4000) E5120Q	6-47-0019A-353	
21	SPONGE FOR TOP CASE (57*6*2) (SM55+SONY G4000)	6-47-0019A-570	
22	TAPE MYLAR (B),MYLAR M550J	6-40-M55J2-020	
23	TAPE MYLAR (C) (86*38.80MM) C4105	6-40-00150-862	ONLY FOR W251EUQ-C
24	WASHER ø5*ø2.5*0.25t (MYLAR)	6-37-02000-500	
25	MYLAR(5*ø8*0.3,BLACK) FOR E5120Q K/B COVER	6-40-00150-15A	
26	USB CONDUCTIVE CLOTH (8*8*0.35T) C5500Q	6-47-C5502-010	
27	USB GASKET FOR PLAM (10*7*1.0T) C5500Q	6-47-C5502-020	

Figure A - 1
Top (W251EUQ)

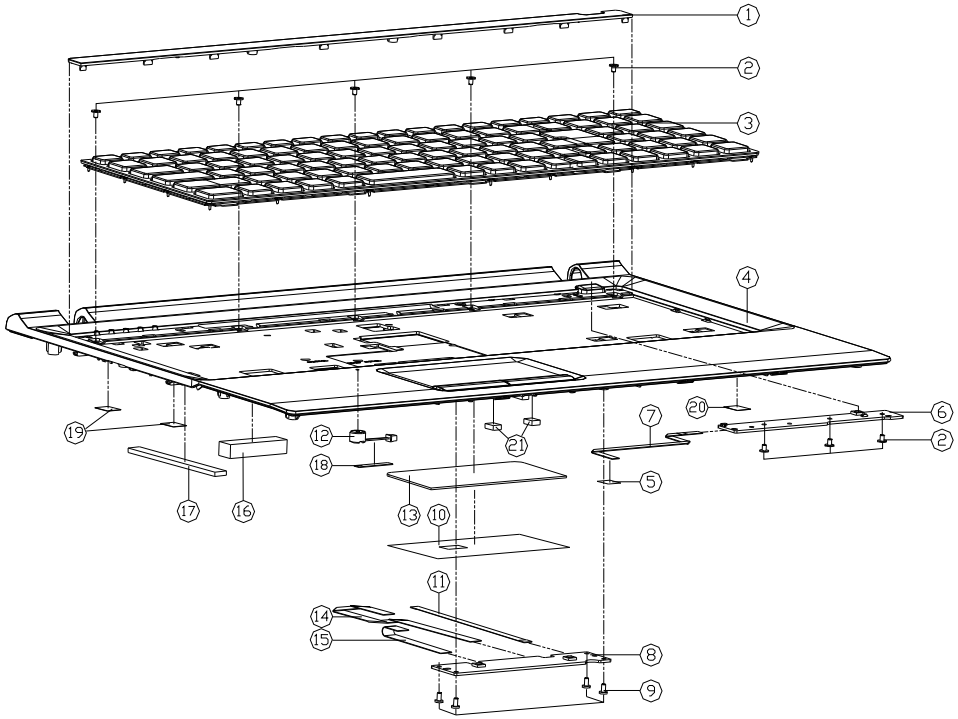
Top (W255EU)

Figure A - 2
Top (W255EU)



ITEM	PART NAME	PART NO	REMARK
1	KB COVER MODULE E5125	6-42-E5158-101	
2	SCREW M2*2.5L KI BK/Z ICT NY*0.35 T=0.3	6-35-B6120-2RB	
3	K/B US-INTERNATIONAL(BLACK& FRAME)(S) MODULE E5200/C5500/C5100	6-79-E512000K-101	
4	TOP CASE MODULE E5125	6-39-E5152-112	
4	TOP CASE MODULE E5125-C	6-39-E5152-112-C	
5	TOUCH PAD SYNAPTICS TM-01146-003 MULTI-GESTURE C4800	6-49-C4802-010	FOR W255HU/EU/EL
5	TOUCH PAD ELAN S84128-6003 MULTI-FINGER GESTURE W250HPO	6-49-W25A2-011	FOR W255CU
6	USB GASKET FOR PLAM (10*7*1.0T) C5500Q	6-47-C5502-020	
7	TOP FFC MYLAR (PET+3M 467) E5120Q	6-40-E51Q2-080	
8	POWER SWITCH BOARD V2.0 E5120Q	6-77-E51QS-D02	FOR W255HU
8	POWER SWITCH BOARD V3.0 W255EU	6-77-W24ES-D03-A	FOR W255EU/CU/EL
9	(非耐落)SCREW M2*3L KI NI ICT GTY-PATCH	6-35-B1120-3RE	
10	FFC CABLE FOR M/B TO POWER BOARD 8PIN(HENGSHANG)	6-43-E51Q0-022-2	
11	CLICK BOARD V1.0 W250BUQ	6-77-W2402-D01-A	FOR W255HU
11	CLICK BOARD V1.0 W255EU	6-77-W24E2-D01-A	FOR W255EU/CU/EL
12	SCREW M2*5L KI(T=0.8 D=4.0) BK/Z ICT NY	6-35-B6120-5R0	
13	FFC CABLE FOR M/B TO CLICK BOARD 4PIN (HB)	6-43-E51Q0-010-1	
14	WC GBM-[50]K025-FTL-U 2*4*W 22K Y/CABLE(灰色)L=80MM 5V/2A(两盟)	6-23-EM54G-012-2	
15	FFC MB TO CLICK LED 6PIN (HS) C5500Q	6-43-C5500-010-2	
16	FFC CABLE FOR TOUCH PAD 6PIN C4500	6-43-C4502-010	
17	FAN SPONGE FOR TOP (5*5*7.5T) (SM55+SONY G4000 E5120	6-47-0019A-353	
18	SPONGE FOR TOP CASE (57*6*2) (SM55+SONY G4000)	6-47-0019A-570	
19	TAPE MYLAR (B),MYLAR M550J	6-40-M55J2-020	ONLY FOR E5125Q-C
20	USB CONDUCTIVE CLOTH (8*8*0.35T) C5500Q	6-47-C5502-010	

Top (W258EUQ)



ITEM	PART NAME	PART NO	REMARK
1	KB COVER PC+ABS(CN6140) E51280(NO PAINTING)	6-42-E5182-012	
2	(非耐落)SCREW M2*3L K1 NI ICT GTY-PATCH	6-35-B1120-3RE	
3	K/B USA(BLACK)& FRAME(US) MODULE E51200	6-79-E51200K-010	
4	TOP CASE MODULE (TP KNOB NO PAINTING) E51280	6-39-E5182-015	
4	TOP CASE MODULE E5128Q-C (CHANGE SPONGE)(TP KNOB NO PAINTING)	6-39-E5182-012-C	
5	TOP FFC MYLAR (PET+3M 467) E51200	6-40-E51Q2-080	
6	POWER SWITCH BOARD V3.0 W258EUQ-C	6-77-W24ES-D03-B	
7	FFC CABLE FOR M/B TO POWER BOARD 8PIN(HENGSHANG)	6-43-E51Q0-022-2	
8	CLICK BOARD V1.0 W255EU	6-77-W24E2-D01-A	
9	(非耐落)SCREW M2*4L I BZ ICT GTY-PATCH (T-0.8 D=4)	6-35-C6120-4RB	
10	TAPE MYLAR (C) (86.10*38.80MM) C4105	6-40-00150-860	
11	FFC CABLE FOR M/B TO CLICK BOARD 4PIN (HB)	6-43-E51Q0-010-1	
12	MC-SMK250K025-F1L-0.2+0V 2CK W/CABLE(灰色)L=80MM(两面胶)	6-23-EM54G-012-2	
13	TOUCH PAD SYNAPTICS TM-01146-003 MULTI-GESTURE C4800	6-49-C4802-010	
14	FFC MB TO CLICK LED 6PIN (HS) C5500Q	6-43-C5500-010-2	
15	FFC CABLE FOR TOUCH PAD 6PIN C4500	6-43-C4502-010	
16	FAN SPONGE FOR TOP (35*5.5*7.5T) (SM55+SONY G4000) E5120	6-47-0019A-353	
17	SPONGE FOR TOP CASE (57*6*2) (SM55+SONY G4000)	6-47-0019A-570	
18	TAPE MYLAR (B),MYLAR M550J	6-40-M55J2-020	
19	USB CONDUCTIVE CLOTH (8*8*0.35T) C5500Q	6-47-C5502-010	
20	USB GASKET FOR PLAM (10*7*1.0T) C5500Q	6-47-C5502-020	
21	SPONGE 4*4*4 FOAM FOR POWER LED W860CU	6-47-W860S-020	

Figure A - 1
Top (W258EUQ)

Top (W253EUQ)

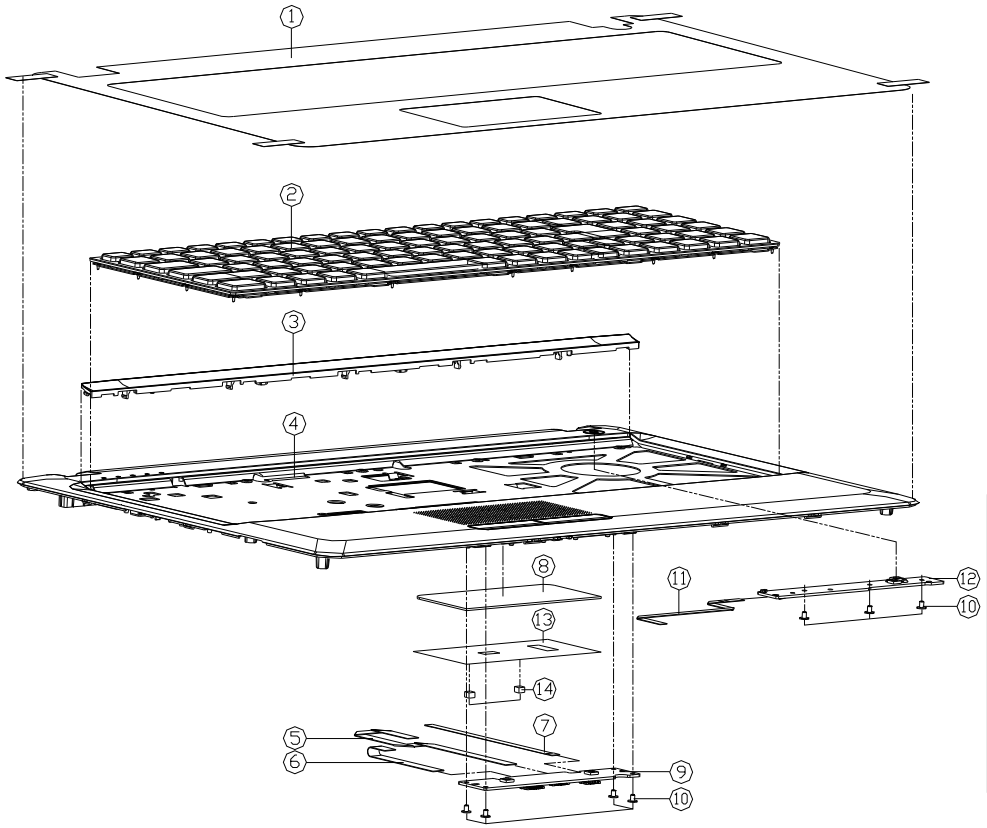
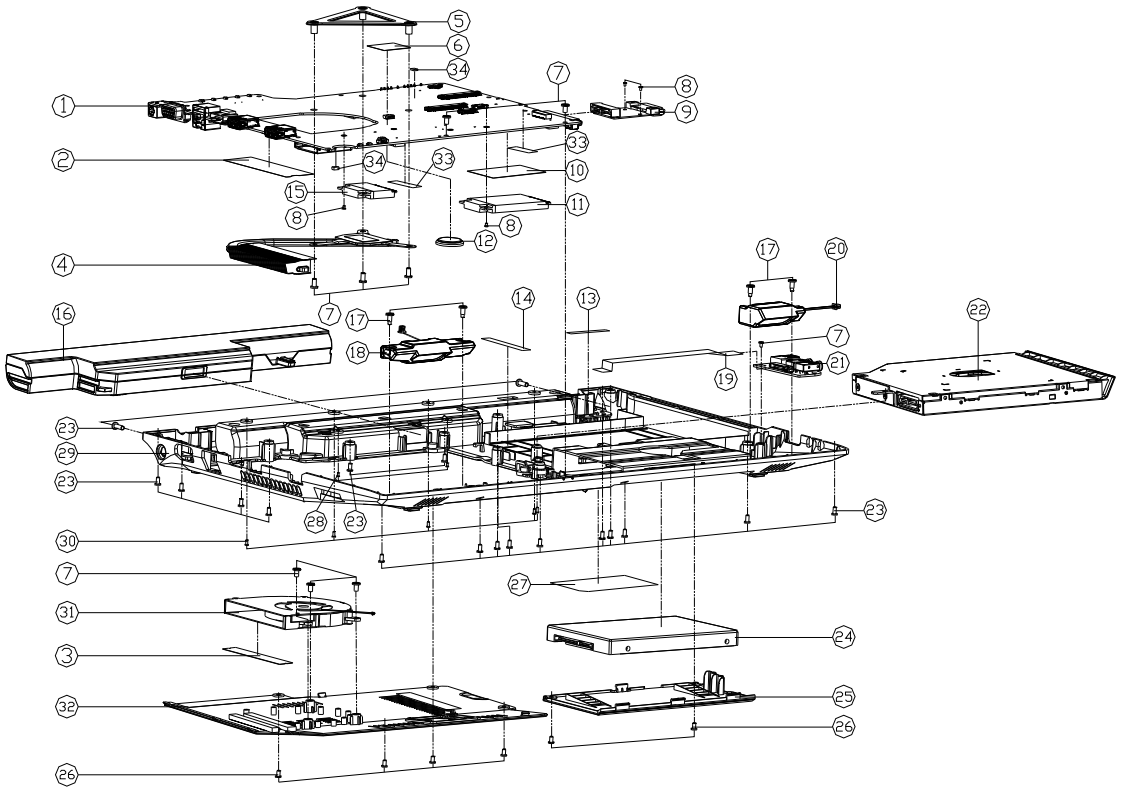


Figure A - 1
Top (W253EUQ)

ITEM	PART NAME	PART NO	REMARK
1	C CASE PROTECT MYLAR(MYLAR 0.1T) W253HPQ	6-40-W2538-011	REMARK
2	K/B USA(BLACK)% FRAME(CU5) MODULE W253EUQ	6-79-W253EUQK-010	
3	CENTER COVER SABIC C7230P-701DE W253HPQ	6-42-W2532-061	
4	TOP CASE MODULE W253HPQ	6-39-W2532-011	
4	TOP CASE MODULE W253HPQ-C	6-39-W2532-011-C	
5	FFC MB TO CLICK LED 6PIN (HS) C5500Q	6-43-C5500-010-2	
6	FFC CABLE FOR TOUCH PAD 6PIN C4500	6-43-C4502-010	
7	FFC CABLE FOR M/B TO CLICK BOARD 4PIN (HB)	6-43-E51Q0-010-1	
8	TOUCH PAD SYNAPTICS TM-01146-003 MULTI-GESTURE C480	6-49-C4802-010	
9	CLICK BOARD V1.0 W255EU	6-77-W24E2-D01-A	
10	SCREW M2*3L K1 NI ICT NY (OD=ø4.5,DT=0.4)	6-35-B1120-3RE	
11	FFC CABLE FOR M/B TO POWER BOARD 8PIN(HENGSHANG)	6-43-E5100-022-2	
12	POWER SWITCH BOARD V3.0 W253EUQ	6-77-W24ES-D03-C	
13	TP MYLAR(86*42.5*0.25T) W253HPQ	6-40-W2532-030	
14	TP RUBBER (SILICON RUBER BK 5*5*62T) W253HPQ	6-47-W2532-020	

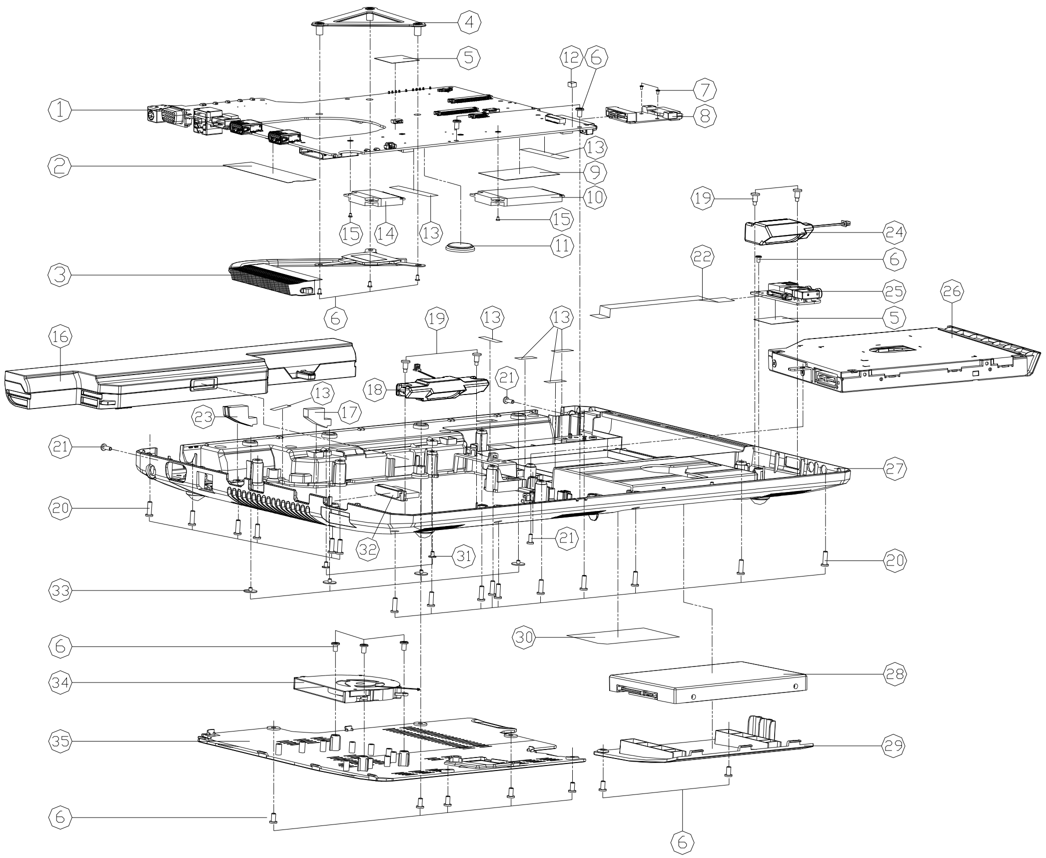
Bottom (W251EUQ/W255EU/W258EUQ)



ITEM	PART NAME	PART NO	REMARK
1	MAIN BOARD V3.0 (W/3G)(W/O TPM) W255EU	6-77-W25U0-D03	
1	MAIN BOARD V3.0 (W/O 3G)(W/O TPM) W255EU	6-77-W25U0-D03-1	
1	MAIN BOARD V3.0 (W/3G)(W/TPM)(W/O LVDS CON) W255EU	6-77-W25U0-D03-4	
1	MAIN BOARD V3.0 (W/O 3G)(W/TPM)(W/O LVDS CON) W255EU	6-77-W25U0-D03-2	
1	MAIN BOARD V3.0 (W/3G)(W/O TPM)(W/O LVDS CON) W255EU	6-77-W25U0-D03-3	
1	MAIN BOARD V3.0 (W/3G)(W/TPM)(W/O LVDS CON) W255EU	6-77-W25U0-D03-5	
2	MYLAR PET FOR W/O T/P (CHANGE LENGTH) W240HU	6-40-W240S-011	
3	AIRDUCT MYLAR DFR117 W240HU	6-40-W24H8-011	
4	CPU HEATSINK MODULE W240HU	6-31-W24HN-101	
5	CPU SUPPORTER FOR HASWELL RIVER SCCC W15M4	6-33-W150S-011	
6	AUDIO BOARD MYLAR 29x29x0.25 (MODIFY) W240HU	6-40-C450S-030	
7	SCREW M2.5*5L K1 BK/Z ICT NY	6-35-B6125-5RA	
8	SCREW M2*3L K1 BZ ICT NY (OD=4.5,DI=4)	6-35-B6120-3RD	
9	ODD BRIDGE BOARD V1.0 W255EU	6-77-W25UN-D01	
10	MYLAR 40*30*0.1T (FR0 + 3M-467) W251	6-40-M7351-020	ONLY FOR W/3G
11	WCDMA ERICSSON F3307 HSPA FULL MINI-CARD USB	6-88-W24HV-2410	(OPTION)
12	BATTERY 3V 220MA BR8CR2032B (KTS)	6-23-6A2B2-030	
13	TAPE MYLAR (B),MYLAR M550J	6-40-M55J2-020	
14	TAPE MYLAR (C),MYLAR M550J	6-40-M55J2-030	
15	[illegible]	6-88-C555F-5301	(OPTION)
15	[illegible]	6-88-W1102-7000	(OPTION)
15	[illegible]	6-88-P17EF-4200	(OPTION)
15	[illegible]	6-88-W110F-4200	(OPTION)
15	[illegible]	6-88-C555F-7001	(OPTION)
15	[illegible]	6-88-W1102-9400	(OPTION)
15	[illegible]	6-88-W345F-9400	(OPTION)
15	[illegible]	6-88-W25H2-9400	(OPTION)
15	[illegible]	6-88-W25H2-7000	(OPTION)
15	[illegible]	6-88-W345F-8700	(OPTION)
16	MAP S.U ETH/SATA/AZ(3pin 3SP SPK)SX WHITE(CE)	6-87-E412S-4D7A	(OPTION)
16	MAP S.U ETH/AZ(4pin 3SP SPK)SX PE WHITE(WW)	6-87-C480S-4G4B	(OPTION)
16	MAP S.U ETH/AZ(4pin 3SP SPK)SX PE WHITE(WW)	6-87-W24ES-4W4	(OPTION)
17	SCREW M2*6.2L N1 ICT NY FOR SPEAKER	6-35-Z1120-6R2	
18	SP-CABLE 6P 1MM R/A TO CON W255EU(W/O 3G)	6-23-5E51Q-011	
19	FFC CABLE 14P W/O TO AUDIO BOARD W251EUQ(W/O	6-43-W2500-011-1	
20	SP-CABLE 6P 1MM R/A TO CON W255EU(W/3G)	6-23-5E51Q-021	
21	AUDIO BOARD V4.0 W244EUQ	6-77-W24EB-D04	
22	SATA DVD SUPER MULTI ASS'Y (OPTION)	6-79-W255EU0D-010	
22	SATA BLU-RAY COMBO ASSY W255EU (OPTION)	6-79-W255EU0W-010	
22	SATA BLU-RAY COMBO ASSY W255EN (OPTION)	6-79-W255EN0W-010	
22	W/O ODD ASS'Y E5120Q	6-79-E51200Z-000	
23	SCREW M2.5*8L K1 BK/Z NY ICT	6-35-B6125-8R0	
24	W/O HDD ASS'Y C4800	6-79-C48000J-010	FOR W25XEUQ
24	W/HDD ASS'Y E5120Q	6-79-E51200J-020	FOR W25XEUQ/ELQ
25	HDD COVER (PC+ABS) E5120Q	6-42-E51QJ-011	
26	SCREW M2.5*4L K1(T=0.5 D=4.5) BK/Z ICT	6-35-B6125-4R0	
27	PRODUCT LABEL FOR W255EUQ-DC(WIN8 LOGO UPDATE)	6-45-W255EUQ03-011-C	
27	PRODUCT LABEL FOR W255EUQ(CHANGE ADHESIVE)	6-45-W255EU03-010	
27	PRODUCT LABEL FOR W255EU-DC(WIN8 LOGO UPDATE)	6-45-W25EU03-012-C	
28	SCREW M2*4L I BZ ICT GFI-PHTCH NY (T=0.5 D=4)	6-35-C2120-3R0	
29	BOTTOM CASE MODULE E5120Q(CHANGE)	6-39-E51Q3-013	
29	BOTTOM CASE MODULE E5120Q-DC(CHANGE)	6-39-E51Q3-013-C	
30	SCREW M2*5L K1(T=0.8 D=4.0) BK/Z ICT NY	6-35-B6120-5R0	
31	FAN MODULE W251HUQ	6-31-W25HS-100	
32	CPU COVER MODULE W/3G E5120Q (CHANGE)	6-42-E51Q3-103	
32	CPU COVER MODULE W/O 3G E5120Q (CHANGE)	6-42-E51Q3-203	
33	TAPE MYLAR TRANSPARENT (29*14*0.05) P380M	6-40-P1803-020	
34	GASKET (4.4*4.5T) FOR CPU COVER C412X -C	6-47-0019A-G09	ONLY FOR W251/258EUQ
35	GASKET (18*4.4) FOR TV CAM TOP CASE M3011U	6-47-00190-102	ONLY FOR W25XEUQ-C

Figure A - 2
Bottom (W251EUQ/ W255EU/ W258EUQ)

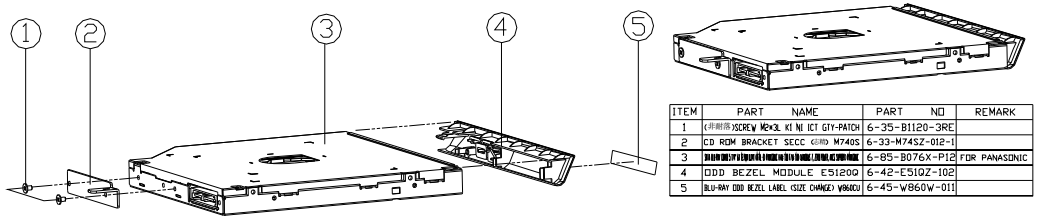
Bottom (W253EUQ)



ITEM	PART NAME	PART NO	REMARK
1	MAIN BOARD V3.0 (W/3G;W/O TPM) W253EUQ	6-77-W23U0-D03	
1	MAIN BOARD V3.0 (W/O 3G;W/O TPM) W253EUQ	6-77-W23U0-D03-1	
1	MAIN BOARD V3.0 (W/3G;W/O TPM;W/40P LVDS CON) W253EUQ	6-77-W23U0-D03-2	
1	MAIN BOARD V3.0 (W/O 3G;W/O TPM;W/40P LVDS CON) W253EUQ	6-77-W23U0-D03-3	
1	MAIN BOARD V3.0 (W/3G;W/TPM;W/30P LVDS CON) W253EUQ	6-77-W23U0-D03-4	
1	MAIN BOARD V3.0 (W/3G;W/TPM;W/30P LVDS CON) W253ELQ	6-77-W23U0-DL3-4	
2	MYLAR PET FOR M/B FIN (CHANGE LENGTH) W240BUQ	6-40-W240S-011	
3	CPU HEATSINK MODULE W240HU	6-31-W24HN-101	
4	CPU SUPPORTER FOR HURON RIVER SECC W150HNM	6-33-W150S-011	
5	AUDIO BOARD MYLAR 20*20*0.15T (黑色 PET+3M 467) C4500	6-40-C450S-030	
6	SCREW M2.5*5L KI BK/Z ICT NY	6-35-B6125-5RA	
7	SCREW M2*3L KI BZ ICT NY (DD=ø4.5,DT=0.4)	6-35-B6120-3RD	
8	ODD BRIDGE BOARD V1.0 W255EU	6-77-W25UN-D01	
9	MYLAR 40*30*0.1T (FR83 + 3M-467) M735T	6-40-M7351-020	
10	WCDMA ERICSSON F3307 HSPA FULL MINI-CARD USB	6-88-W24HW-2410	(OPTION)
11	BATTERY 3V 220MA BBBCR2032B (KTS)	6-23-6A2B2-030	
12	TP RUBBER (SILICON RUBER BK 5*5*6.2T) W253HPQ	6-47-W2532-020	
13	TAPE MYLAR TRANSPARENT (20*10*0.05) P180HM	6-40-P1803-020	
14	WLAN LITEON WN6606LH-CC(VL) RTL8188CE-VL 2 ANT. 802.11BGN 1X1 HALF MINI-CARD PCI-E W250HUQ	6-88-W25H2-9400	(OPTION)
14	WLAN AZUREWAVE AW-NE139H RTL8188CE-VL 2 ANT. 802.11BGN 1X1 HALF MINI-CARD PCI-E W250HUQ	6-88-W25H2-7000	(OPTION)
14	WLAN+BT COMBO XAVI WG7442 (RTL8723AE) 802.11BGN 1X1 (PCI-E) +BT4.0 LE (USB) +REALTEK BT SOFTWARE HALF MINI-CARD	6-88-W345F-8700	(OPTION)
14	WLAN+BT COMBO LITEON WCBN601LH-CC (RTL8723AE) 802.11BGN 1X1 (PCI-E) +BT4.0 LE (USB) +REALTEK BT SOFTWARE HALF MINI-CARD	6-88-W345F-9400	(OPTION)
14	WLAN+BT COMBO INTEL WIRELESS-N 2230 (JACKSON PEAK 1) 2230BNHMW 2X2 BGN+BT 4.0 LE HALF MINI-CARD PCI-E P170EM	6-88-P17EF-4200	(OPTION)
14	WLAN+BT COMBO INTEL CENTRINO WIRELESS N-135 (CANYON PEAK 1X1 802.11BGN + BT 4.0 LE 135BNHMW HALF MINI-CARD PCI-E W110ER	6-88-W110F-4200	(OPTION)
14	WLAN 802.11 BGN AW-NE178H AZUREWAVE RTL8192CE 2X2 HALF MINI-CARD PCI-E W110ER	6-88-W1102-7000	(OPTION)
14	WLAN 802.11 BGN WN6608LH-CC LITEON RTL8192CE 2X2 HALF MINI-CARD PCI-E W110ER	6-88-W1102-9400	(OPTION)
14	WLAN+BT COMBO AZUREWAVE AW-NB057H 802.11BGN 1X1+BT3.0 HS HALF MINI-CARD PIN19 AND PIN51(RTL8188CEBT) C5505	6-88-C555F-7001	(OPTION)
14	WLAN+BT COMBO CASTLENET RTL8188CEBT-VL (RTL8188CEBT) 802.11BGN 1X1+BT3.0 HS HALF MINI-CARD RTL8188CE-VL+CSR BC04 A08	6-88-C555F-5301	(OPTION)
15	SCREW M2*3L KI NI ICT NY (DD=ø4.5,DT=0.4)	6-35-B1120-3RE	
16	BAT.P S LI 11.1V/4.4AH/48.84WH 3S2P SMP/LISHEN PSE 980T2056F W244EUQ	6-87-W24ES-4W4	
16	BAT.P S LI 11.1V/4.4AH/48.84WH 3S2P MITAC/LISHEN PSE 541382960004 W244EUQ	6-87-C480S-4G4B	
16	BAT.P S LI 11.1V/5.6AH/62.16WH 3S2P SMP/SDI 980T2033F E4120	6-87-E412S-4D7A	
17	RUBBER-2 FOR BOTTOM CASE W253HUQ	6-47-W25Q3-030	
18	SPK+CABLE (L) 14*62 1W 8? 15MM PB2512KN08-4-7LK (VECO) E5120Q	6-23-5E51Q-011	
19	SCREW M2*6.2L NI ICT NY FOR SPEAKER	6-35-Z1120-6R2	
20	SCREW M2.5*8L KI BK/Z NY ICT	6-35-B6125-8R0	
21	SCREW M2*5L KI(T=0.8 D=4.0) BK/Z ICT NY	6-35-B6120-5R0	
22	FFC CABLE 14P M/B TO AUDIO BOARD W251BUQ(HB)	6-43-W2500-011-1	
23	RUBBER FOR BOTTOM CASE W253HUQ	6-47-W25Q3-020	
24	SPK+CABLE (R) 34*66 1W 8? 25MM PB2512KN08-4-8LK (VECO) E5120Q	6-23-5E51Q-021	
25	AUDIO BOARD V4.0 W244EUQ	6-77-W24E8-D04	
26	SATA DVD SUPER MULTI ASS'Y (OPTION)	6-79-W253EUQQ-010	
26	SATA BLU-RAY COMBO ASS'Y (OPTION)	6-79-W253ESQW-010	
26	SATA BLU-RAY COMBO ASS'Y (OPTION)	6-79-W253ELQW-010	
26	W/O ODD ASS'Y W253HPQ	6-79-W253HPQZ-000	
27	BOTTOM CASE MODULE(TEXTURE) W253HPQ	6-39-W2533-011	
28	W/O HDD ASS'Y C4800	6-79-C480000J-010	FOR W253EUQ
28	W/HDD ASS'Y E5120Q	6-79-E5120Q0J-020	FOR W253EUQ/ELQ
28	W/O HDD ASS'Y E5120Q	6-79-E5120Q0J-010	FOR W253ELQ
29	HDD COVER SABIC C7230P(TEXTURE) W253HPQ	6-42-W253J-011	
30	PRODUCT LABEL FOR W253EUQ(CTUVUS LOGO UPDATED)	6-45-W253EUQ3-011	
30	PRODUCT LABEL FOR W253ELQ	6-45-W253ELQ3-010	
31	SCREW M2*3L I BZ ICT GTY-PATCH NY (T=0.5 D=4)	6-35-C2120-3R0	
32	ESATA RUBBER SILICON RUBBER W253HUQ	6-47-W25Q3-010	
33	SCREW M2*2L KI BK/Z ICT NY(ø8,T=0.6)	6-35-B6120-2RE	
34	FAN MODULE W251HUQ	6-31-W25HS-100	
35	CPU COVER MODULE(TEXTURE) W253HUQ	6-42-W25Q3-101	

Figure A - 3
Bottom (W253EUQ)

SATA BLU RAY COMBO (W251EUQ/W255EU/W258EUQ)

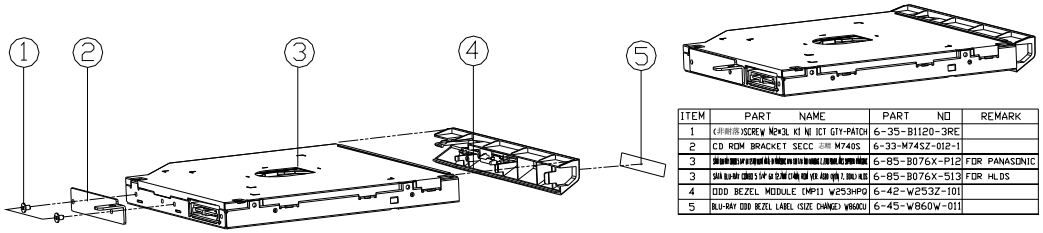


ITEM	PART NAME	PART NO	REMARK
1	(非耐落)SCREW M2×3L K1 NI ICT GTY-PATCH	6-35-B1120-3RE	
2	CD ROM BRACKET SECC (EMI) M740S	6-33-M74SZ-012-1	
3	[redacted]	6-85-B076X-P12	FOR PANASONIC
4	ODD BEZEL MODULE E5120Q	6-42-E510Z-102	
5	BLU-RAY ODD BEZEL LABEL (SIZE CHANGE) V860CU	6-45-W860W-011	

Figure A - 4
SATA BLU RAY COMBO (W251EUQ/ W255EU/ W258EUQ)

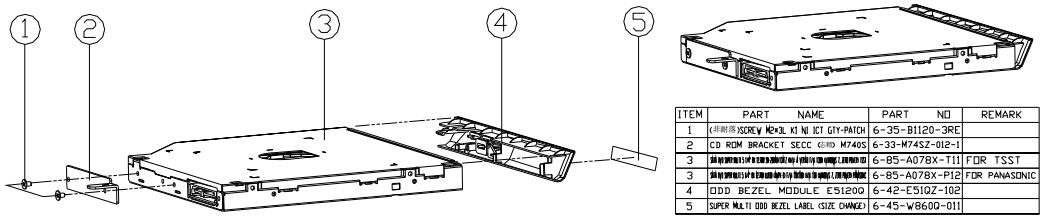
SATA BLU RAY COMBO (W253EUQ)

Figure A - 5
SATA BLU RAY COMBO (W253EUQ)



ITEM	PART NAME	PART NO	REMARK
1	(非耐落)SCREW M2*3L KI NI ICT GTY-PATCH	6-35-B1120-3RE	
2	CD ROM BRACKET SECC 志勝 M740S	6-33-M74SZ-012-1	
3	[illegible]	6-85-B076X-P12	FOR PANASONIC
3	[illegible]	6-85-B076X-513	FOR HLDS
4	ODD BEZEL MODULE (MP1) W253HPQ	6-42-W253Z-101	
5	BLU-RAY ODD BEZEL LABEL (SIZE CHANGE) W860CU	6-45-W860W-011	

DVD DUAL (W251EUQ/W253EUQ/W255EU/W258EUQ)

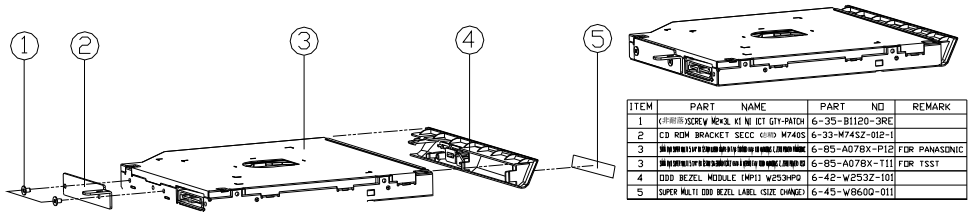


ITEM	PART NAME	PART NO	REMARK
1	(并附属)SCREW M2*3L KI NI ICI GIY-PATCH	6-35-B1120-3RE	
2	CD ROM BRACKET SECC GMD M740S	6-33-M74SZ-012-1	
3	[illegible]	6-85-A078X-T11	FOR TSST
3	[illegible]	6-85-A078X-P12	FOR PANASONIC
4	ODD BEZEL MODULE E51200	6-42-E51QZ-102	
5	SUPER Multi DDD BEZEL LABEL (SIZE CHANGE)	6-45-W860Q-011	

Figure A - 6
DVD DUAL (W251EUQ/ W253EUQ/ W255EU/ W258EUQ)

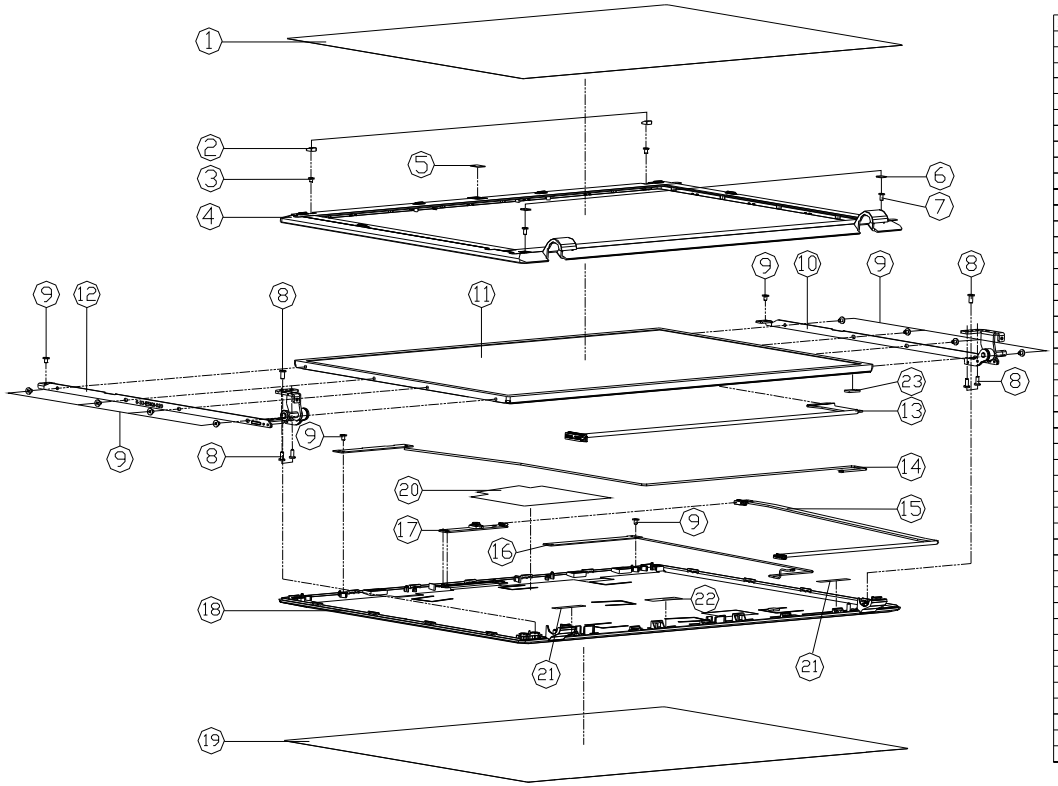
DVD DUAL (W253EUQ)

Figure A - 7
DVD DUAL (W253EUQ)



ITEM	PART NAME	PART NO	REMARK
1	(非耐落)SCREW M2×3L KI NI ICT GTY-PATCH	6-35-B1120-3RE	
2	CD ROM BRACKET SECC (公制) M740S	6-33-M74SZ-012-1	
3	[illegible]	6-85-A078X-P12	FOR PANASONIC
3	[illegible]	6-85-A078X-T11	FOR TSST
4	ODD BEZEL MODULE (MP1) W253HPQ	6-42-W253Z-101	
5	SUPER MULTI ODD BEZEL LABEL (SIZE CHANGE)	6-45-W860Q-011	

LCD (W251EUQ/W253EUQ/W255EU/W258EUQ)

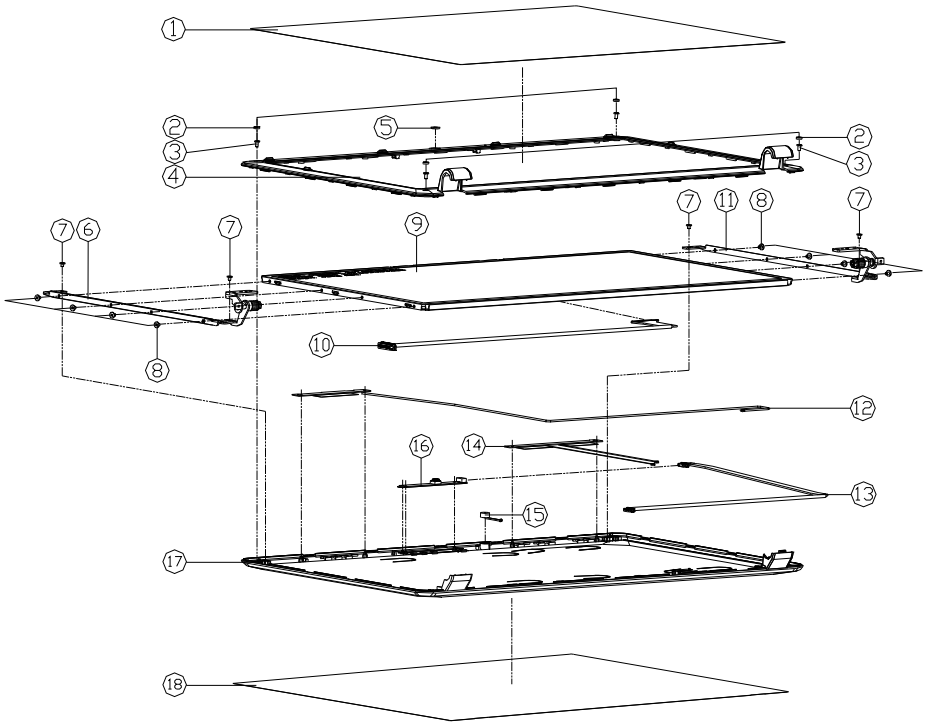


ITEM	PART NAME	PART NO	REMARK
1	LCD FRONT COVER PROTECTION MYLAR (PET+3M9495) E5120Q	6-40-E51Q1-030	
2	LCD FRONT COVER SCREW RUBBER SLICON E5120Q	6-47-E51Q8-011	
3	SCREW M2*3L KI BZ ICT NY (OD=ø4.5,DT=0.4)	6-35-B6120-3RD	
4	LCD FRONT COVER MODULE E5120Q (CHANGE)	6-39-E51Q1-012	
5	CCD LENS PMMA E5120Q	6-42-E51Q1-031	
5	W/O CCD LENS PMMA E5120Q	6-42-E51Q1-040	
6	FRONT COVER MYLAR PC FOR SCREW E5120Q	6-40-E51Q8-011	
7	SCREW M2*6L KI BK/Z ICT NYLOK(3.5 t=0.4)	6-35-B6120-6RB	
8	SCREW M2.5*5L 頭厚0.4MM KI BK/Z ICT NY	6-35-B6125-5R0	
9	(非耐落)SCREW M2*3L KI NI ICT GIY-PATCH	6-35-B1120-3RE	
10	LCD HINGE R SK7 W255HUM (SINHER)	6-33-W25U1-010	
11	LCD 15.6' HD AU B156HW02 V2 GLARE TYPE 45%NTSC (LED)	6-50-L8155-G01	
11	LCD 15.6' HD LG LP156WH4-TLAT GLARE TYPE) (LED) 55NIT	6-50-L8155-L0B	
11	LCD 15.6' HD LG LP156WH4-TLB1 (LED) 55NIT	6-50-L8155-L0C	
11	LCD 15.6' HD CHIMEI N156B6-L0A 55NIT (LED)	6-50-L8155-D04	
11	LCD 15.6' FHD LG LP156WF1-TLC1 GLARE TYPE) (LED) 5.7MM	6-50-LB257-L02	
11	LCD 15.6' HD CHIMEI N156B6-L0B GLARE TYPE) 55NIT (LED)	6-50-L8155-D03	
11	LCD 15.6' HD+ LG LP156WD1-TLA2 GLARE TYPE	6-50-LA157-L03	
11	LCD 15.6' HD BOE HT156WX8-602 (LED) 5.5MM	6-50-L8155-H02	
12	LCD HINGE L SK7 W255HUM (SINHER)	6-33-W25U1-020	
13	WIRE CABLE FOR LVDS 29PIN 0.5/0.3MM(BLACK) L=450MM W25HU	6-43-W25A1-010-3H	
13	WIRE CABLE FOR LVDS 29PIN 0.5/0.3MM(BLACK+WHITE) (LED) W25HU	6-43-E51Q1-011-1A	
13	WIRE CABLE FOR LVDS 29PIN 0.5/0.3MM CONN(HRS)DF29(20)-1.5SHW	6-43-W25H1-010-A	
14	ANTENNA 3G FPC 88/45/18/0.1T(0.2)(W) L=450MM W255U	6-23-7W25H-020	
15	WIRE CABLE FOR CCD 5P 229MM (HL) E5120Q	6-43-E51QT-011	
15	WIRE CABLE FOR CCD 5P 229MM (HL) W25XEUQ	6-43-W25UT-010	
16	ANTENNA 2.4G+5G 3M 2*2 RG-1.13 MMCX(JACK)/SMA(JACK) 180 FPC W255HU	6-23-7W25H-010	
17	UVC CAMERA MODULE FIX 2M@30FPS+3D 1.3M 6PIN(BLACK) W255HU FPC	6-88-W25CC-4900	OPTION
17	UVC CAMERA MODULE FIX 2M@30FPS+3D 30K 6PIN(BLACK) WITH FPC	6-88-M115C-4902	OPTION
17	UVC CAMERA CHICONY FIX 2M/AWB 1.3M 6PIN WITH 255MM FPC	6-88-W25UC-5100	OPTION
17	UVC CAMERA MODULE FIX 2M@30FPS 1.3M 6PIN W255HU	6-88-E51QC-4904	OPTION
17	UVC CAMERA MODULE FIX 2M@30FPS+3D 30K 6PIN(BLACK) WITH FPC	6-88-M115C-4901	OPTION
17	UVC CAMERA CHICONY FIX 2M/AWB 30K SCTI SIV(2D)-30L WITH FPC	6-88-M11IC-5100	OPTION
18	BACK COVER MODULE W25AEU	6-39-W2AU1-021	FOR W25AEU
18	BACK COVER MODULE W25AEU-C	6-39-W2AU1-021-C	FOR W25AEU-C
18	LCD BACK INR COVER MODULE E5120Q-C	6-39-E51Q1-021-C	FOR W250EUQ-C /W251CUQ-C
18	BACK COVER MODULE E5125	6-39-E5151-021	FOR W255EU/CU
18	BACK COVER MODULE E5125-C	6-39-E5151-021-C	FOR W255EU-C
18	LCD INR BACK COVER MODULE E5128Q-CNQ PAINTING	6-39-E5181-022-C	FOR W258EUQ-C/CUQ
18	LCD INR BACK COVER MODULE E5128QMQ PAINTING	6-39-E5181-022	FOR W258ELQ
19	LCD BACK COVER PROTECTION MYLAR (0825*369MM) E5120Q	6-40-E51Q1-041	FOR W250EUQ-C FOR W251EUQ
19	LCD BACK COVER PROTECTION MYLAR (PET+3M9495) 0.50MM	6-40-B51M8-020	FOR W255EU/AEU
20	CCD AL FOIL (AL FOIL MYLAR+0.1T) W240HU	6-47-W24H1-010	ONLY FOR W251EUQ-C /W258EUQ-C
21	TAPE MYLAR (B),MYLAR M550J	6-40-M55J2-020	ONLY FOR W251EUQ-C /W258EUQ-C
22	TAPE MYLAR (C),MYLAR M550J	6-40-M55J2-030	ONLY FOR W251EUQ-C
23	SPONGE(24*11*2.15T) FOR W258HUQ	6-47-W25HU-010	

Figure A - 8
LCD (W251EUQ/ W253EUQ/ W255EU/ W258EUQ)

LCD (W253EUQ)

Figure A - 9
LCD (W253EUQ)



ITEM	PART NAME	PART NO	REMARK
1	LCD FRONT COVER PROTECTION MYLAR (PET+3M9495) (5120)	6-40-E51Q1-030-1	
2	LCD FRONT COVER SCREW RUBBER (D4.25) W253HPQ	6-47-W2531-041	
3	SCREW M2*4L KI BNI ICT NY	6-35-B9120-4RA	
4	LCD FRONT COVER MODULE (MP1) W253HPQ	6-39-W2531-011	
5	CCD LENS PMMA G9000 (MP1) W253HPQ	6-42-W2531-011	
5	W/O CCD LENS PMMA G9000 W253HPQ	6-42-W2531-040	
6	LCD HINGE L (MP1) W253HPQ	6-33-W2531-021	
7	SCREW M2.5*3L I BZ ICT GTY-PATCH NY (T=1.5 D=4.5)	6-35-C2125-3R0	
8	SCREW M2*3L KI NI ICT NY (DD=ø4.5,DT=0.4)	6-35-B1120-3RE	
9	LCD 15.6" HD LG LP156WH4-TLB1 (LED) 55NM	6-50-L8155-L0C	
9	LCD 15.6" HD+ LG LP156WD1-TLA2 GLARE TYPE	6-50-LA157-L03	
9	LCD 15.6" HD CHIMEI N156B6-L0B (GLARE TYPE) 55NM (LED)	6-50-L8155-D03	
9	LCD 15.6" FHD LG LP156WF1-TLC1 (GLARE TYPE) (LED) 57NM	6-50-LB257-L02	
10	WIRE CABLE FOR LVDS 300MM (HL/HL CONN.HIROSE-HF) W253HPQ	6-43-W2531-010-C	
10	WIRE CABLE FOR VDE 299MM (HL/YD CON.(DF64-30D) (5120 HUBU	6-43-E51Q1-011-1A	
11	LCD HINGE R (MP1) W253HPQ	6-33-W2531-011	
12	ANTENNA 2G FYC 2G PCB RB5/RB6/RBC/RG/2.5DBI L=85MM W253HPQ	6-23-7W25Q-010	
13	WIRE CABLE FOR CCD 5P 229MM (HL) W25XEUQ	6-43-W25UT-010	
14	ANTENNA WWAN CONNECTOR WITH WIRE RG178 OHM 2.5+/-0.2DBI WITH WIRE W25XH	6-23-7W25H-010	
15	MIC 6MM*2.2 10V~2V 2.2K W/CABLE L=660MM W253HPQ	6-23-EW253-011	
16	UVC CAMERA BOARD FOR 0.9MP/1.3MP-60P 30PIN HIMAX HM1055 W/BRACKET	6-88-M115C-4902	OPTION
16	UVC CAMERA CHICONY FOR 0.9MP/1.3MP SCTI SIV120D-30H W/BRACKET	6-88-M111C-5100	OPTION
16	UVC CAMERA CHICONY FOR 0.9MP/1.3M HIMAX HM1055 W/BRACKET	6-88-W25UC-5100	OPTION
17	LCD BACK COVER MODULE (MP1) W253HPQ	6-39-W2531-021	
17	LCD BACK COVER MODULE (MP1) W253HPQ-C	6-39-W2531-021-C	
18	LCD BACK COVER PROTECTION MYLAR (280.5*368.5) (5120)	6-40-E51Q1-041	

Appendix B: Schematic Diagrams

This appendix has circuit diagrams of the ***W251EUQ/W253EUQ/W255EU/W258EUQ*** notebook's PCB's. The following table indicates where to find the appropriate schematic diagram.

Table B - 1
SCHEMATIC DIAGRAMS

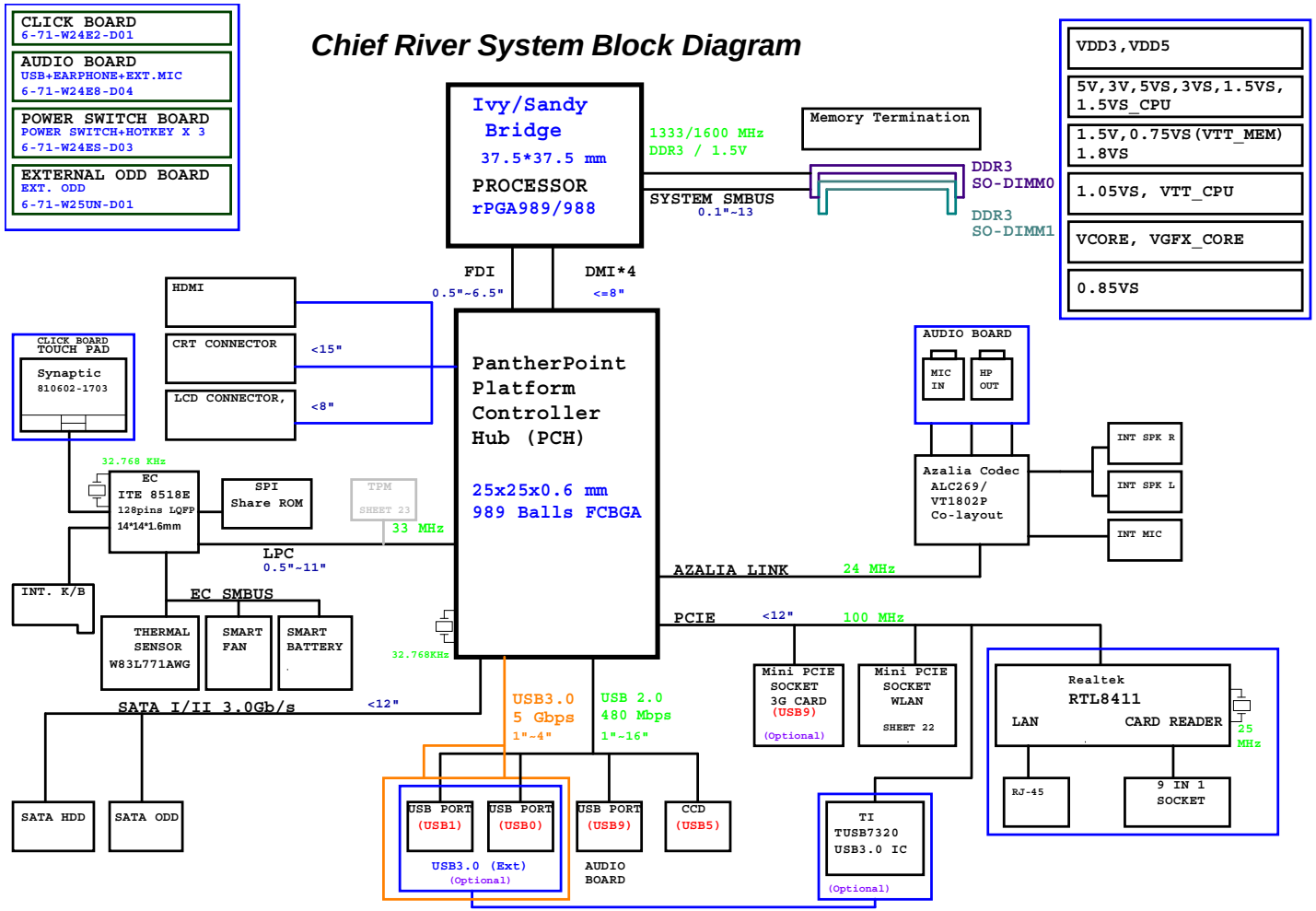
Diagram - Page	Diagram - Page	Diagram - Page
System Block Diagram - Page B - 2	*PantherPoint - M 6/9 - Page B - 19*	*Power 0.85VS - Page B - 36*
Ivy Bridge Processor 1/7 - Page B - 3	*PantherPoint - M 7/9 - Page B - 20*	*Power V-Core1 - Page B - 37*
Ivy Bridge Processor 2/7 - Page B - 4	*PantherPoint - M 8/9 - Page B - 21*	*Power V-Core2 - Page B - 38*
Ivy Bridge Processor 3/7 - Page B - 5	*PantherPoint - M 9/9 - Page B - 22*	*Charger, AC In - Page B - 39*
Ivy Bridge Processor 4/7 - Page B - 6	*USB 3.0, Power, WLAN - Page B - 23*	*Click Board - Page B - 40*
Ivy Bridge Processor 5/7 - Page B - 7	*CCD, 3G, TPM - Page B - 24*	*Audio Board/USB - Page B - 41*
Ivy Bridge Processor 6/7 - Page B - 8	*Card Reader, LAN RTL8411 - Page B - 25*	*Power Switch & LID Board - Page B - 42*
Ivy Bridge Processor 7/7 - Page B - 9	*LAN (RTL8411), SATA HDD, ODD - Page B - 26*	*External ODD Board - Page B - 43*
DDR3 SO-DIMM_0 - Page B - 10	*USB 3.0 TI TUSB7320 - Page B - 27*	*Power Sequence - Page B - 44*
DDR3 SO-DIMM_1 - Page B - 11	*KBC-ITE IT8518 - Page B - 28*	
LVDS, Inverter - Page B - 12	*LED, MDC - Page B - 29*	
HDMI, CRT - Page B - 13	*Audio Codec ALC269 - Page B - 30*	
PantherPoint - M 1/9 - Page B - 14	*USB Charger, Fan, TP, Multi-Conn - Page B - 31*	
PantherPoint - M 2/9 - Page B - 15	*System Power - Page B - 32*	
PantherPoint - M 3/9 - Page B - 16	*VDD3, VDD5 - Page B - 33*	
PantherPoint - M 4/9 - Page B - 17	*Power 1.5V/0.75V/1.8VS - Page B - 34*	
PantherPoint - M 5/9 - Page B - 18	*Power 1.05VS - Page B - 35*	

Version Note

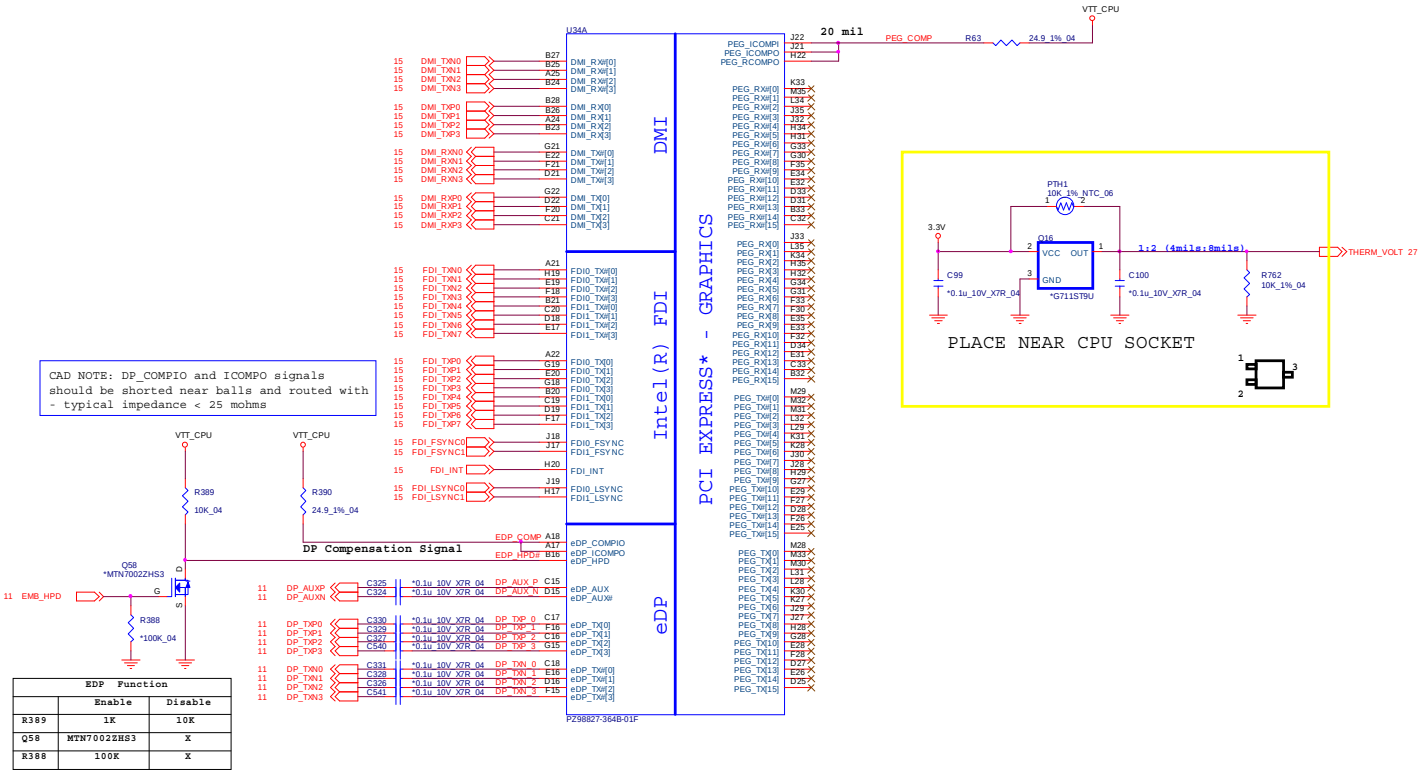
The schematic diagrams in this chapter are based upon version 6-7P-W25S6-003. If your mainboard (or other boards) are a later version, please check with the Service Center for updated diagrams (if required).

System Block Diagram

Sheet 1 of 43
System Block Diagram



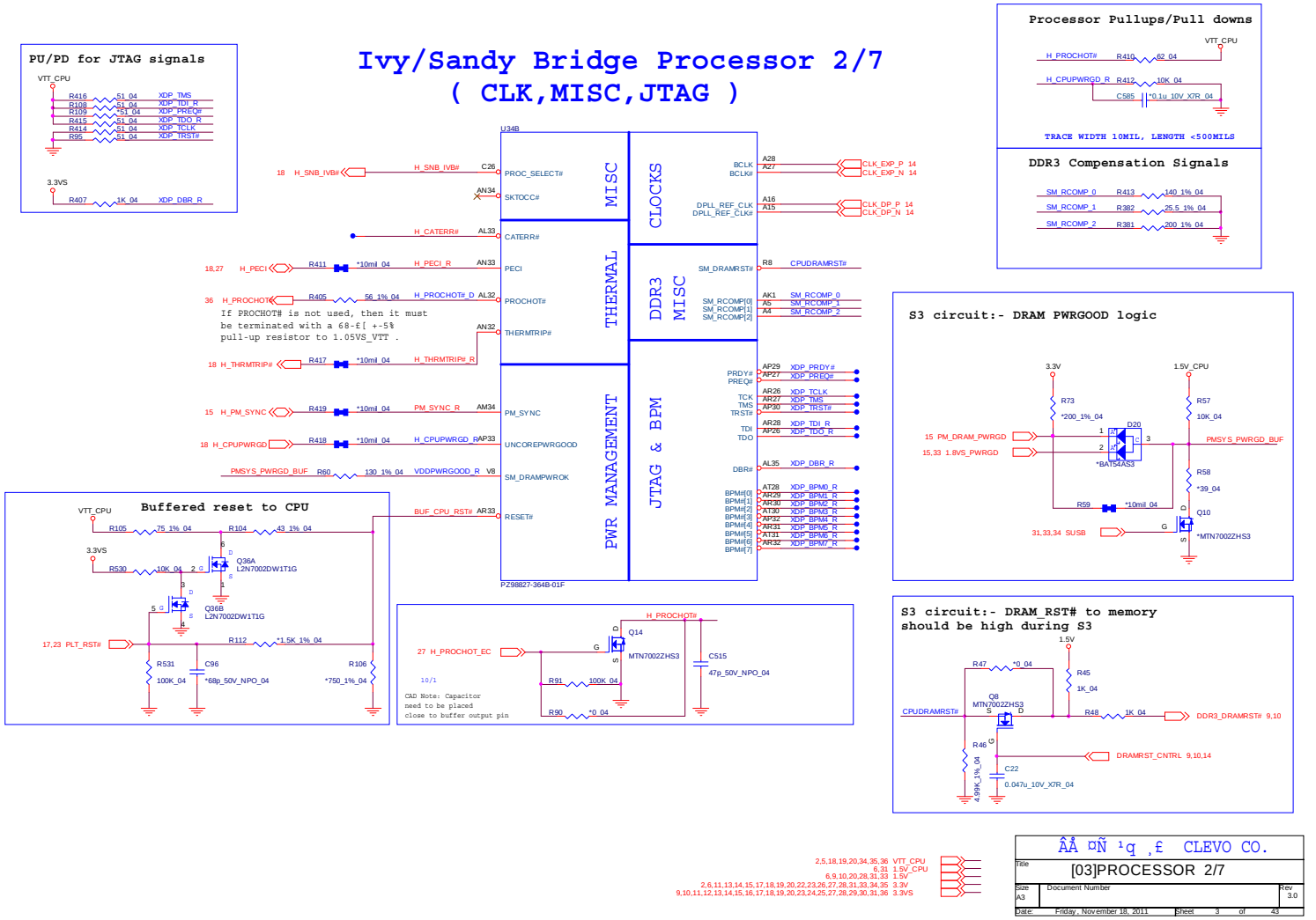
Ivy Bridge Processor 1/7



Sheet 2 of 43
Ivy Bridge
Processor 1/7

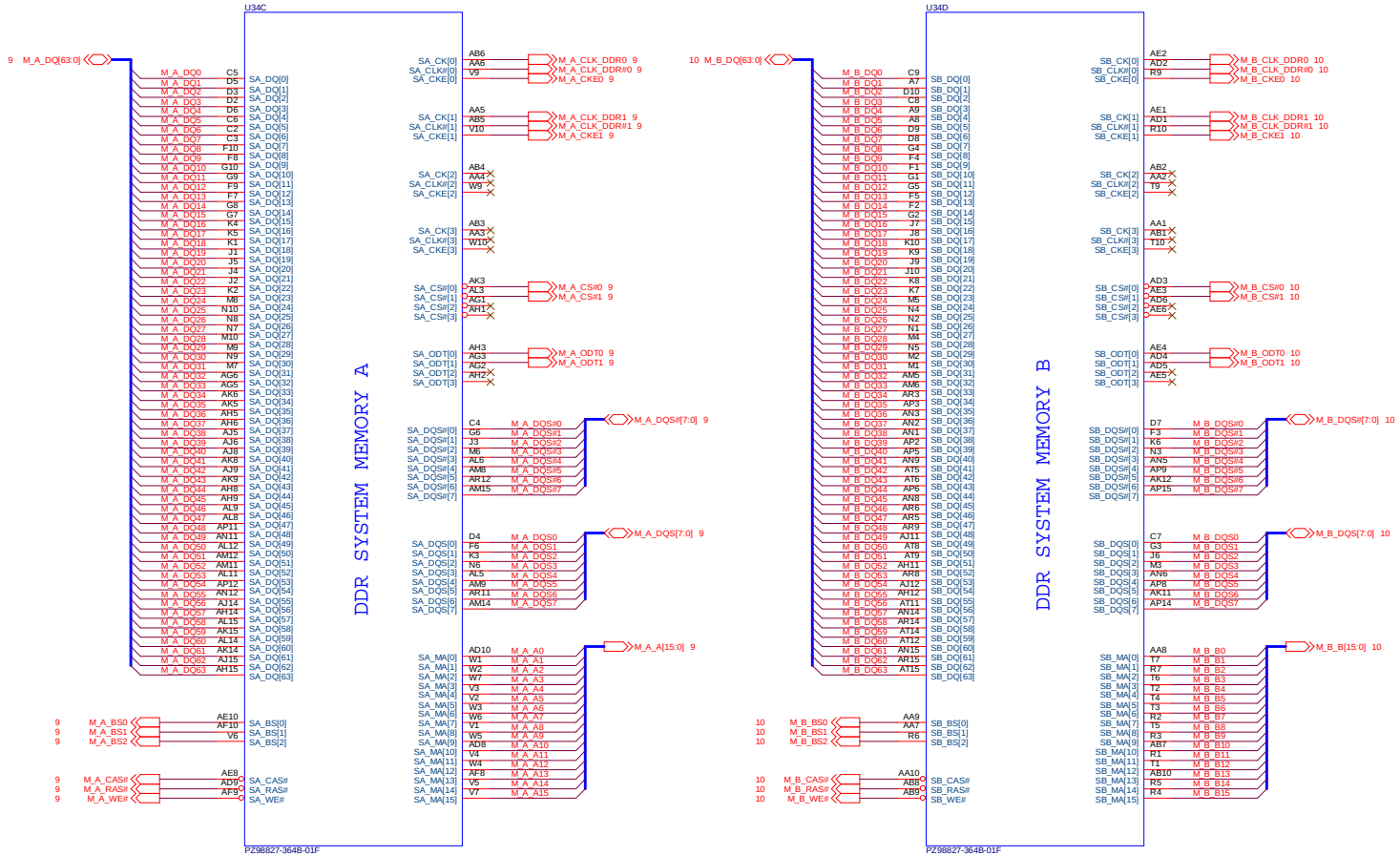
Ivy Bridge Processor 2/7

Sheet 3 of 43
Ivy Bridge
Processor 2/7



Ivy Bridge Processor 3/7

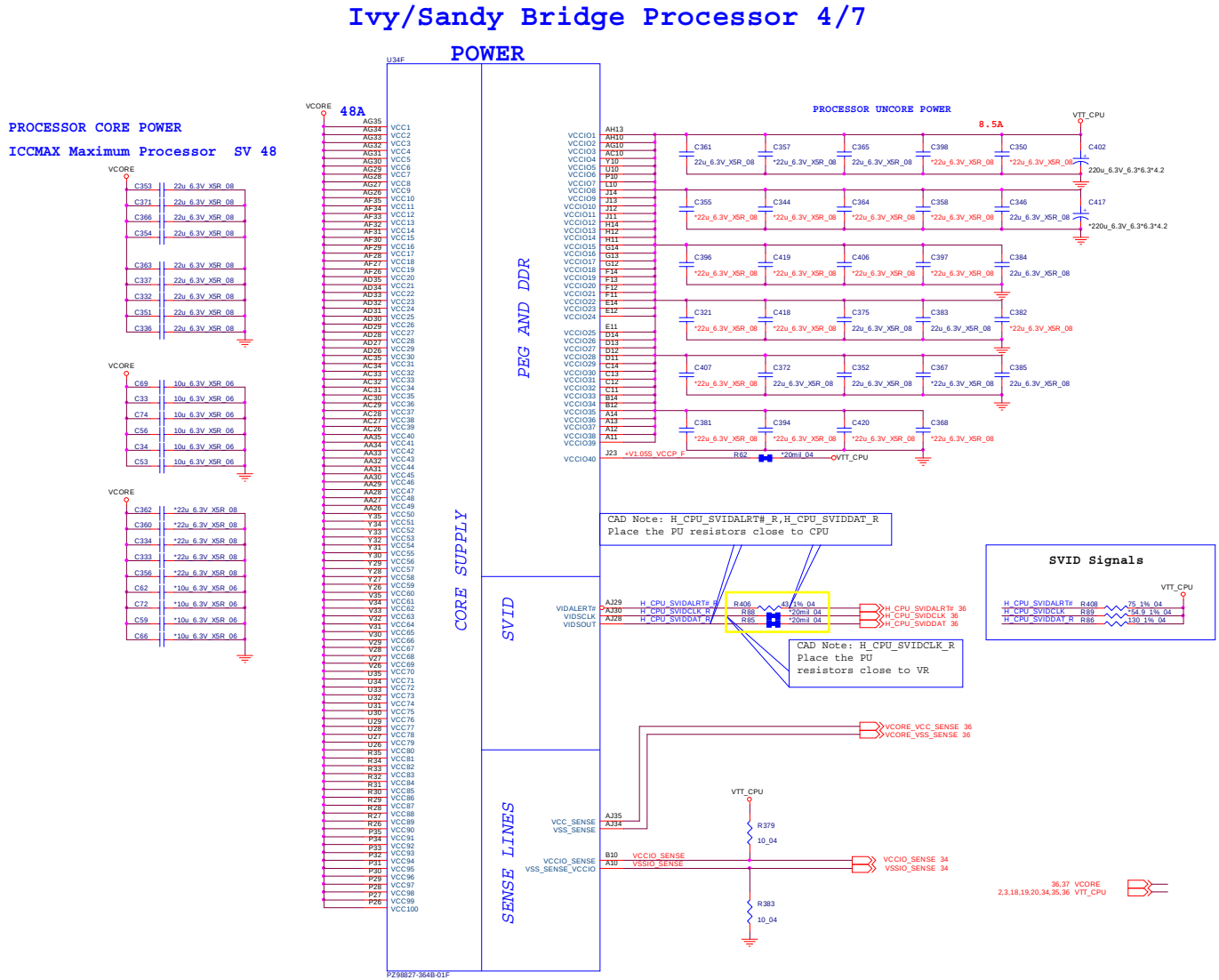
Ivy/Sandy Bridge Processor 3/7 (DDR3)



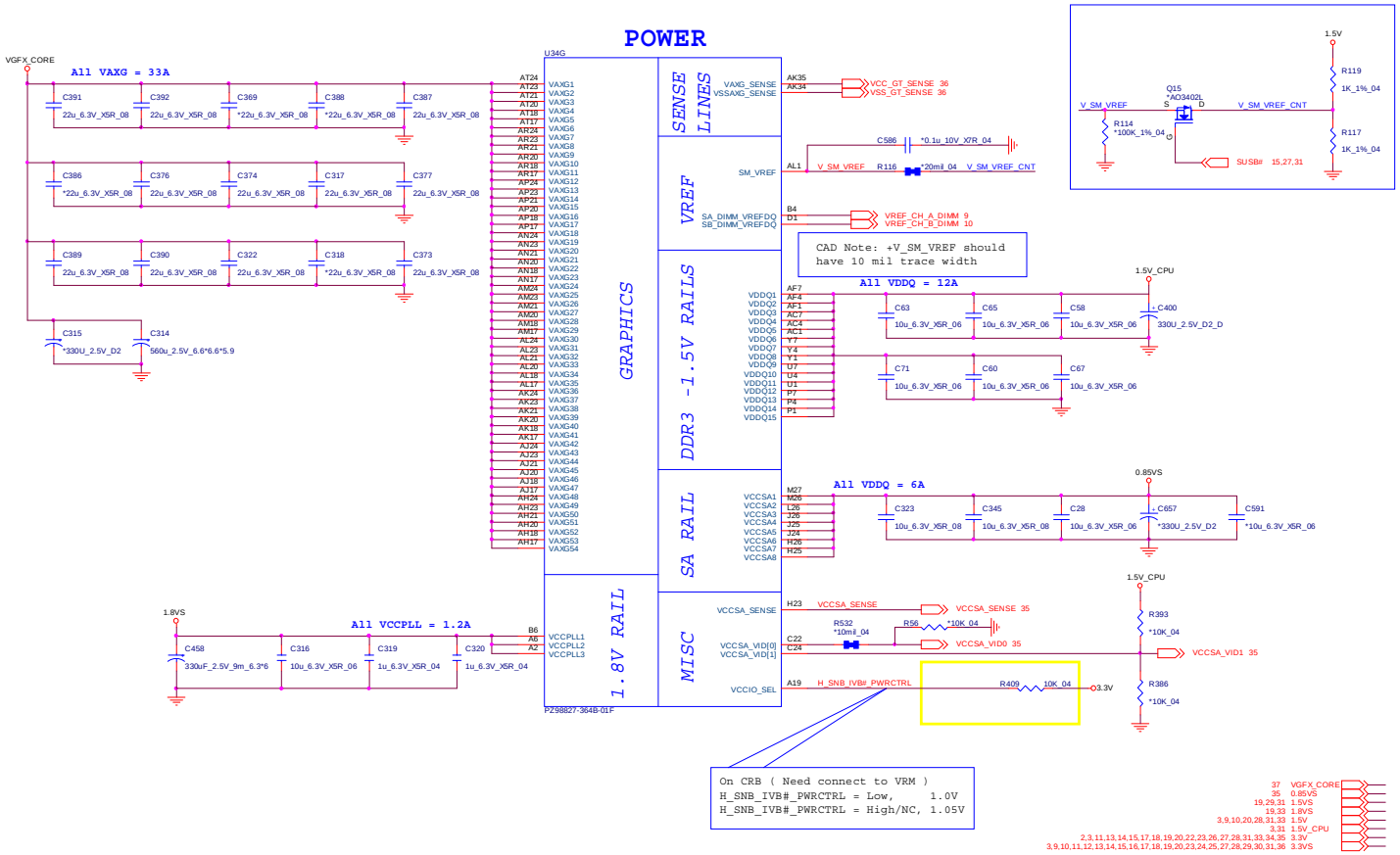
Sheet 4 of 43
Ivy Bridge
Processor 3/7

Ivy Bridge Processor 4/7

Sheet 5 of 43
Ivy Bridge
Processor 4/7



Ivy Bridge Processor 5/7



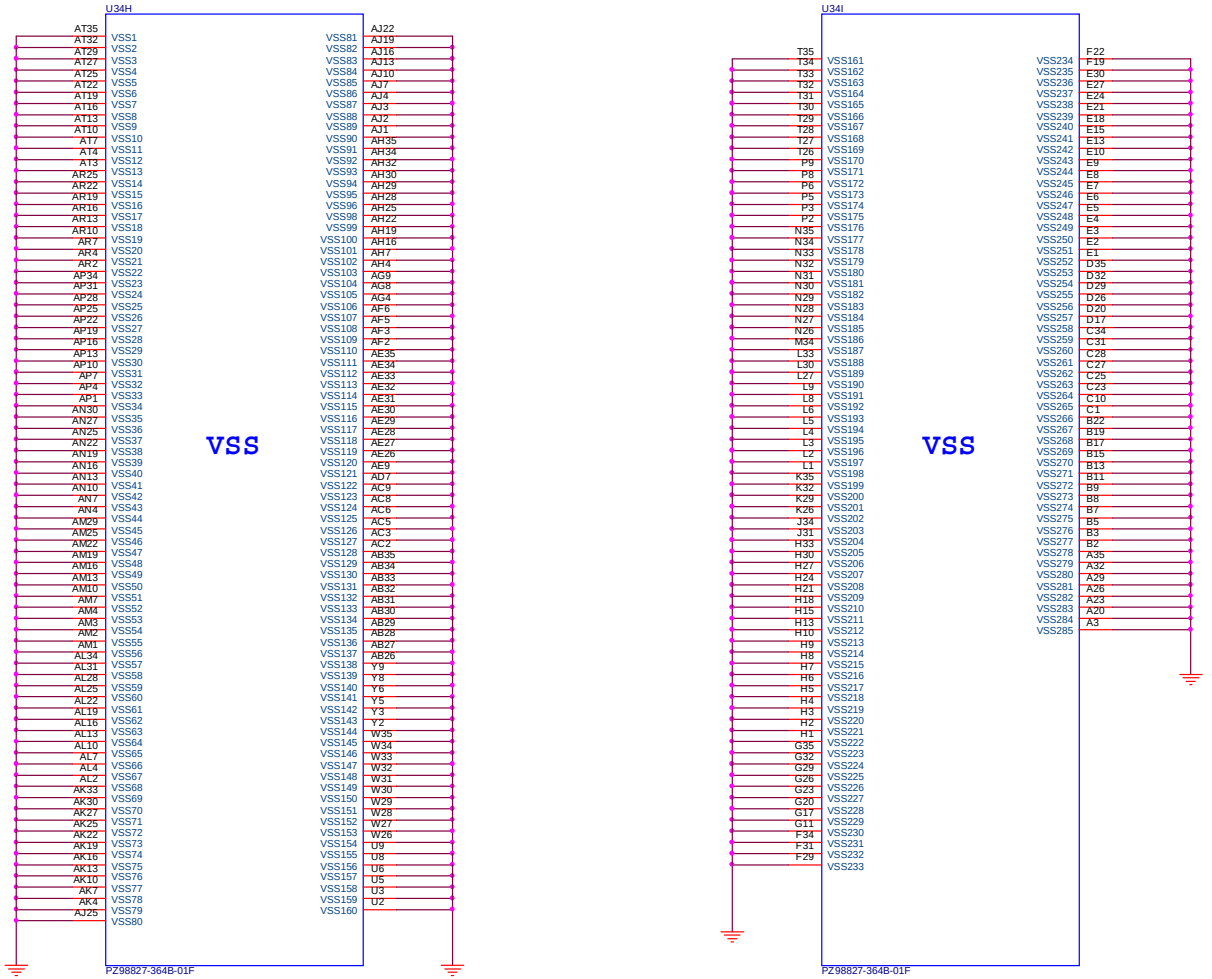
Sheet 6 of 43
Ivy Bridge
Processor 5/7

Ivy Bridge Processor 6/7

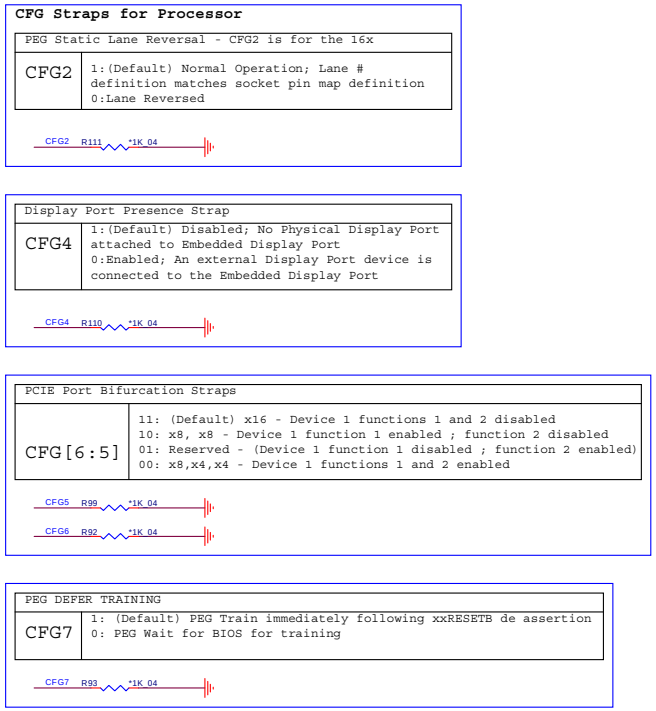
Sheet 7 of 43
Ivy Bridge
Processor 6/7

Ivy\Sandy Bridge Processor 6/7 (GND)

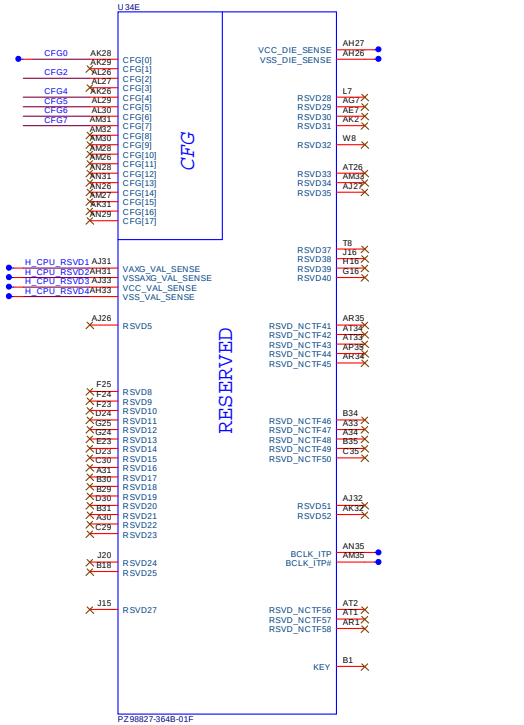
CAD Note: 0 ohm resistor should be placed close to CPU



Ivy Bridge Processor 7/7



Ivy/Sandy Bridge Processor 7/7 (RESERVED)



3,6,9,10,20,28,31,33 1.5V

Sheet 8 of 43
Ivy Bridge
Processor 7/7

DDR3 SO-DIMM_0

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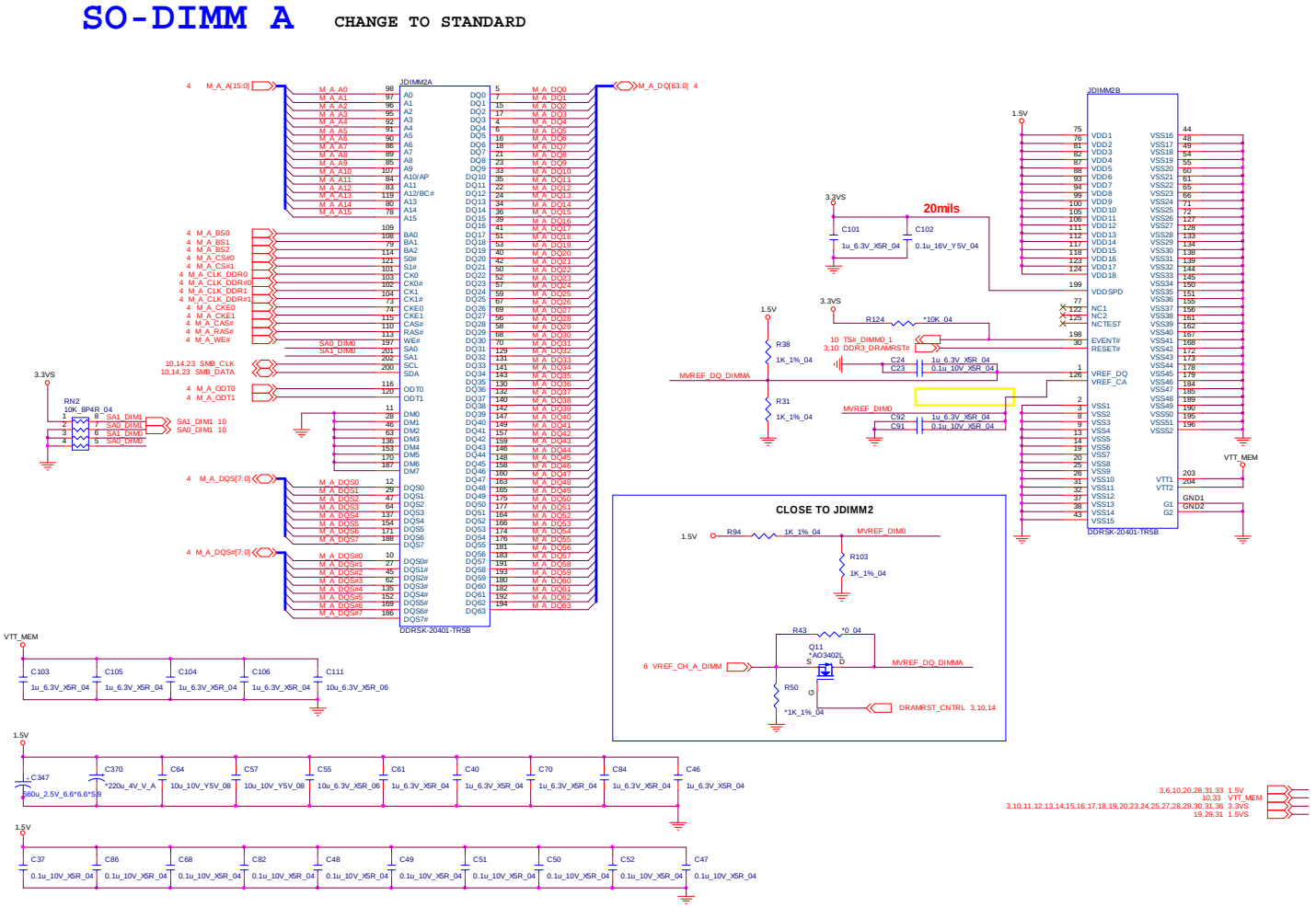
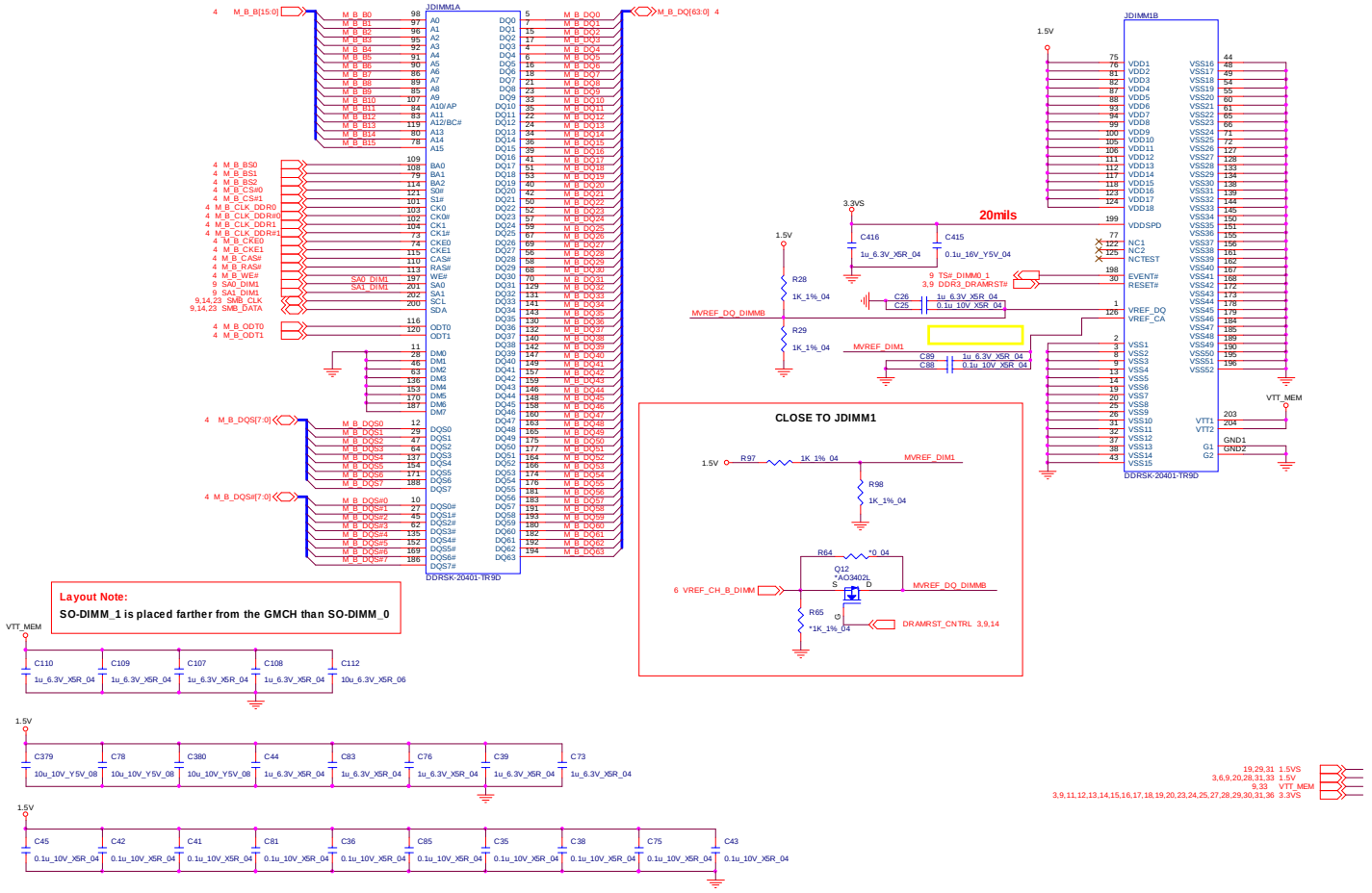
DDR3 SO-DIMM_0



DDR3 SO-DIMM_1

SO-DIMM B

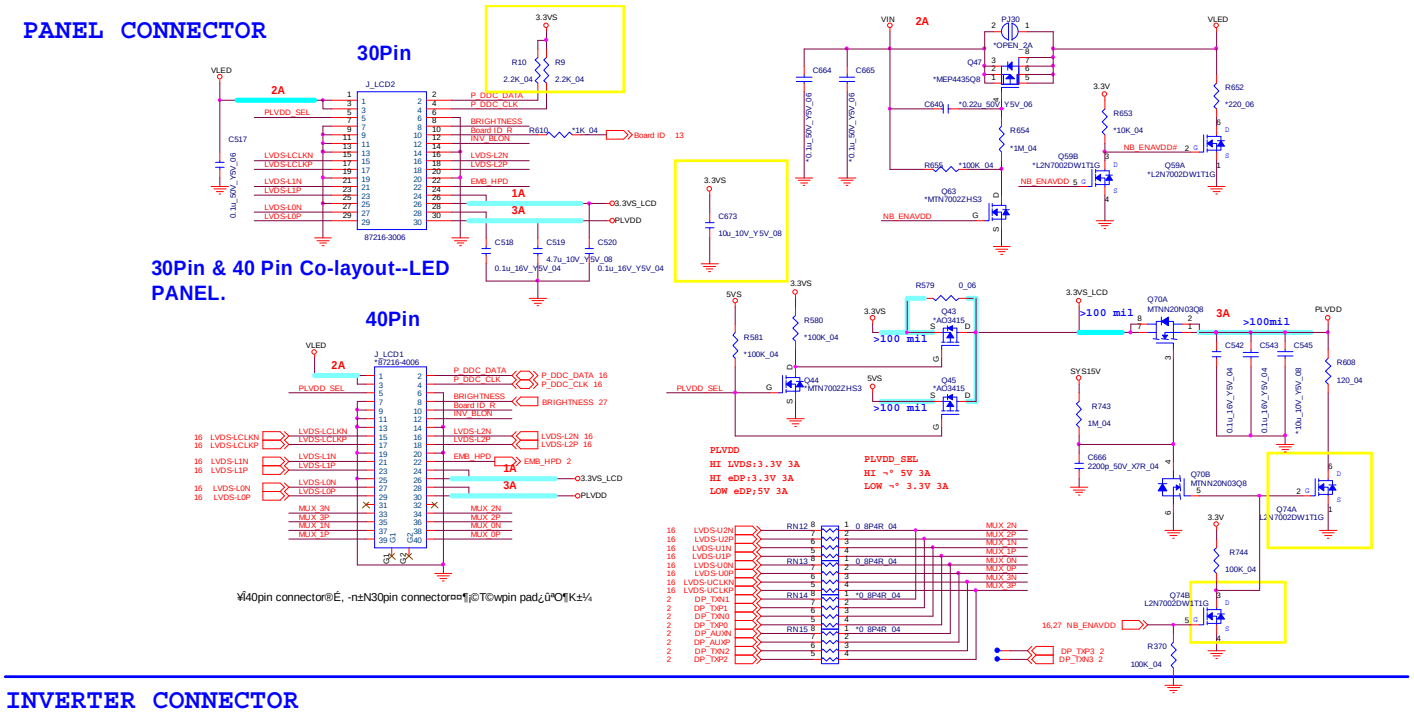
CHANGE TO STANDARD



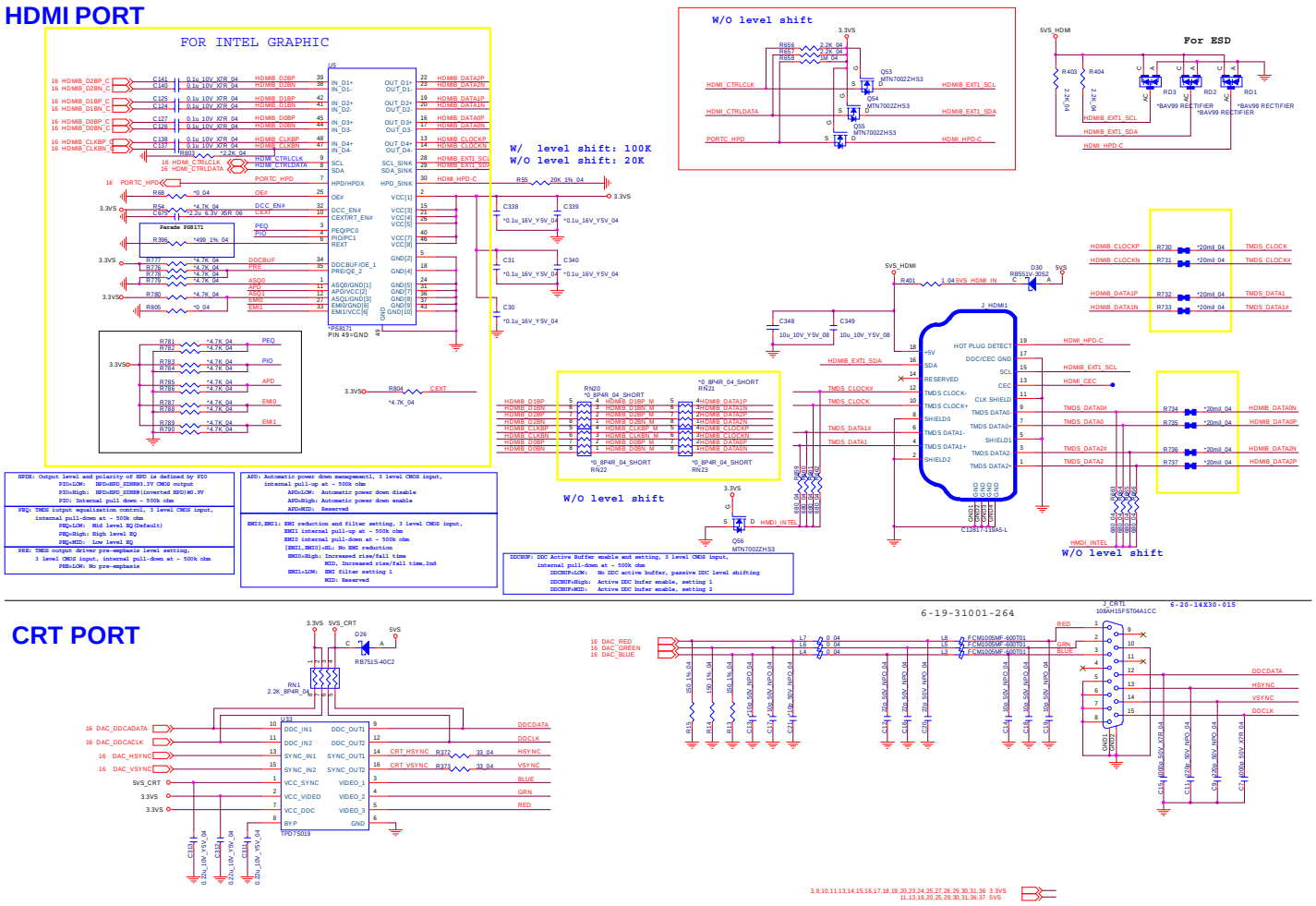
Sheet 10 of 43
DDR3 SO-DIMM_1

LVDS, Inverter

Sheet 11 of 43
LVDS, Inverter



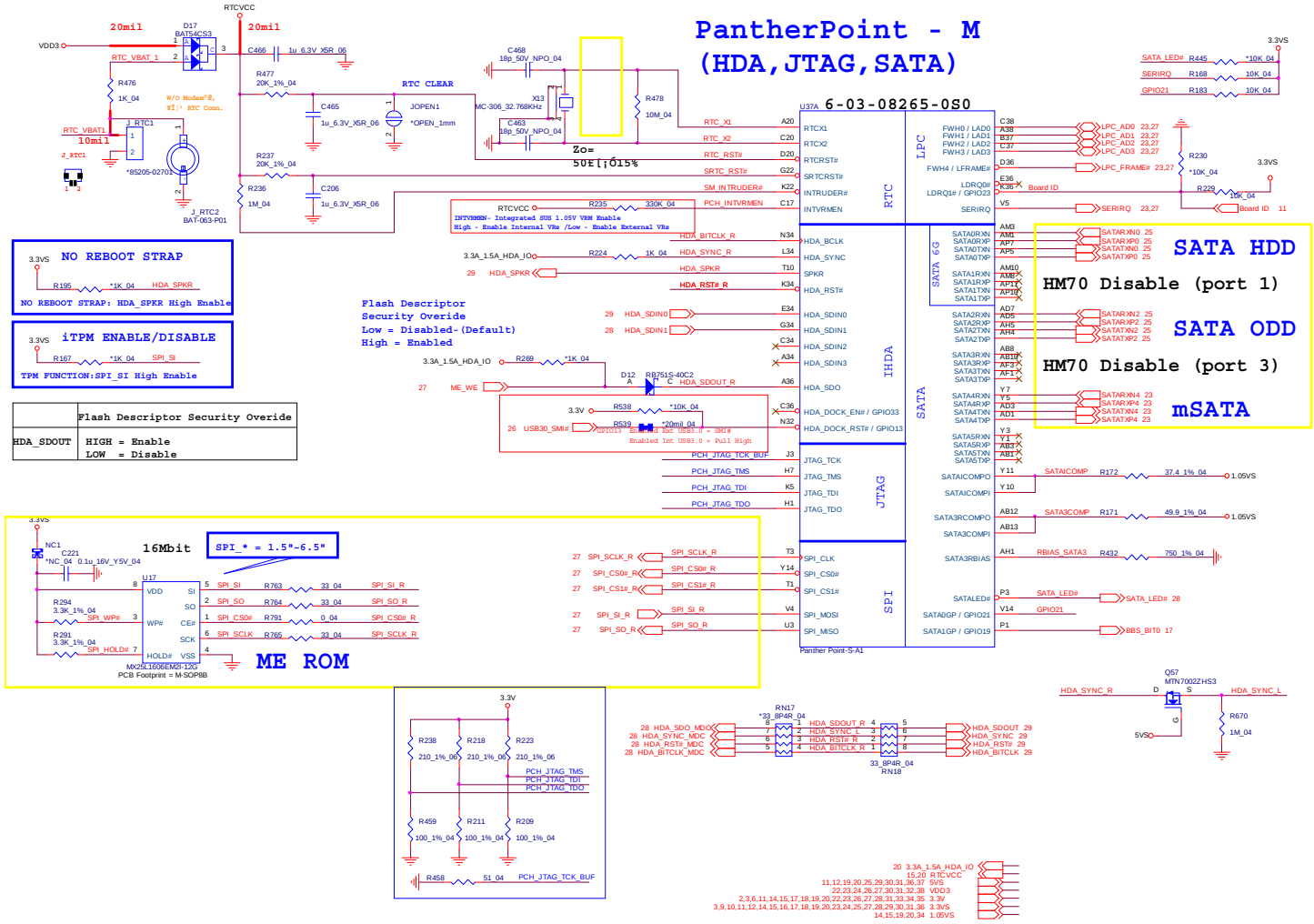
HDMI, CRT



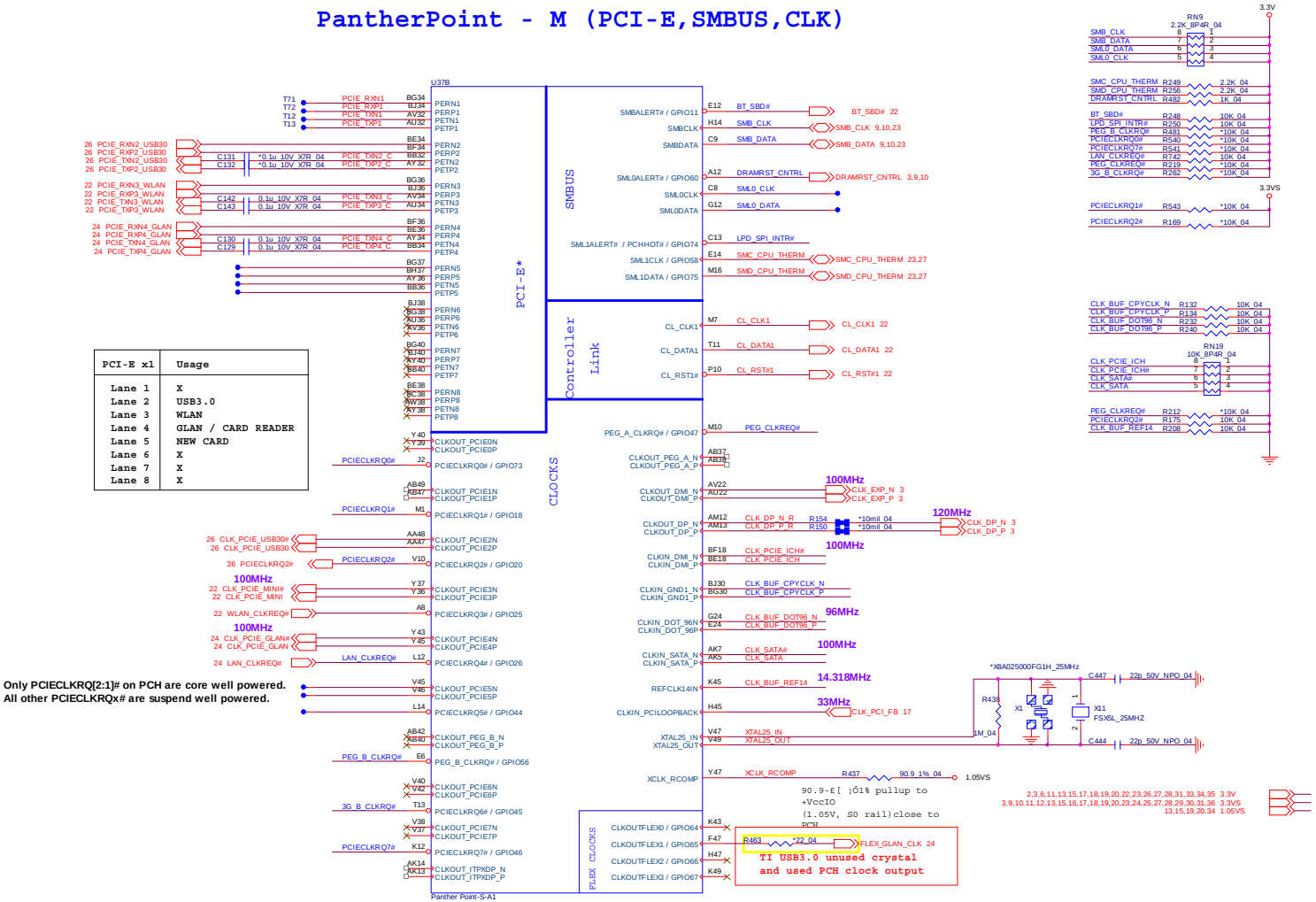
Sheet 12 of 43
HDMI, CRT

PantherPoint - M 1/9

Sheet 13 of 43
PantherPoint - M 1/9



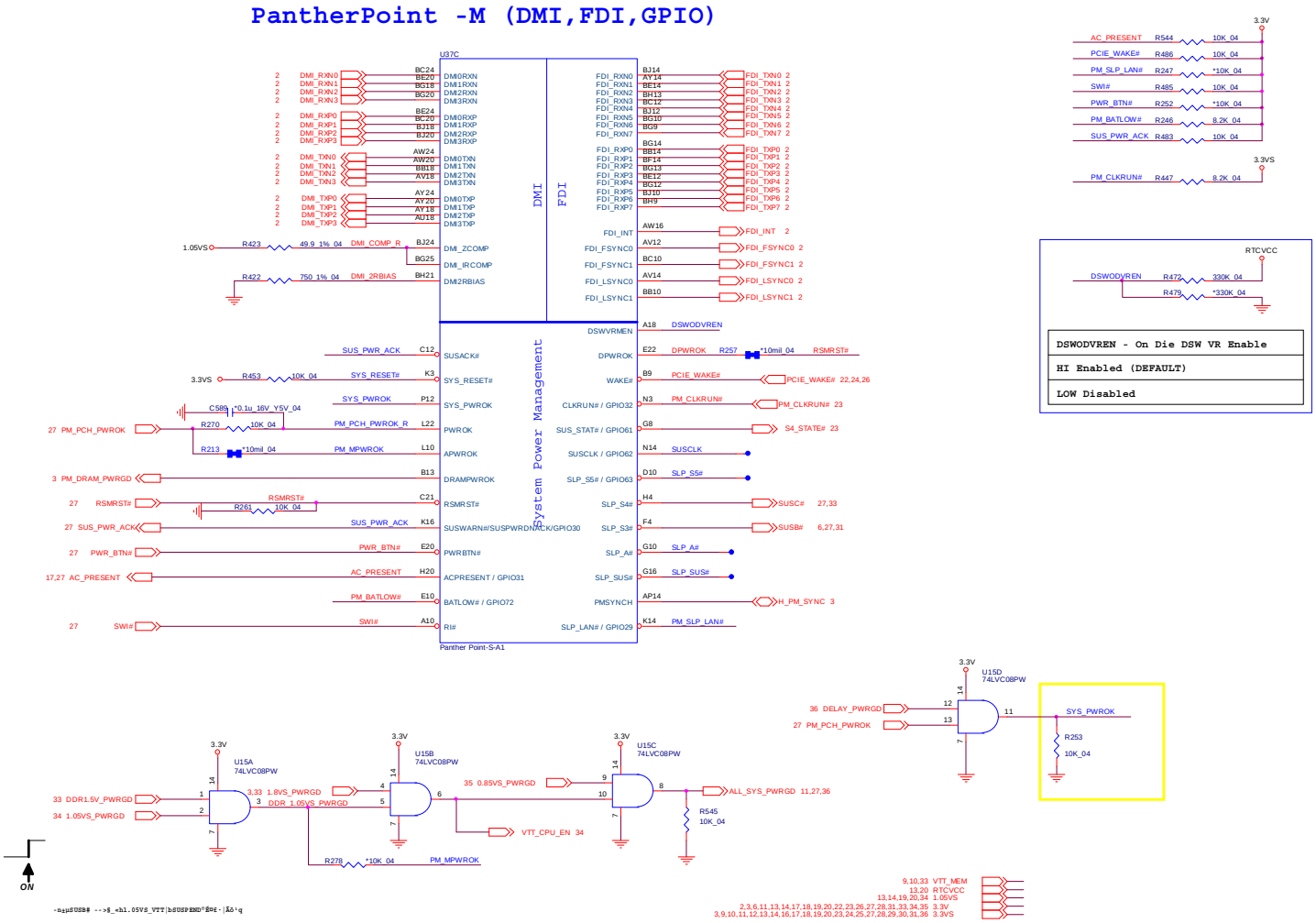
PantherPoint - M 2/9



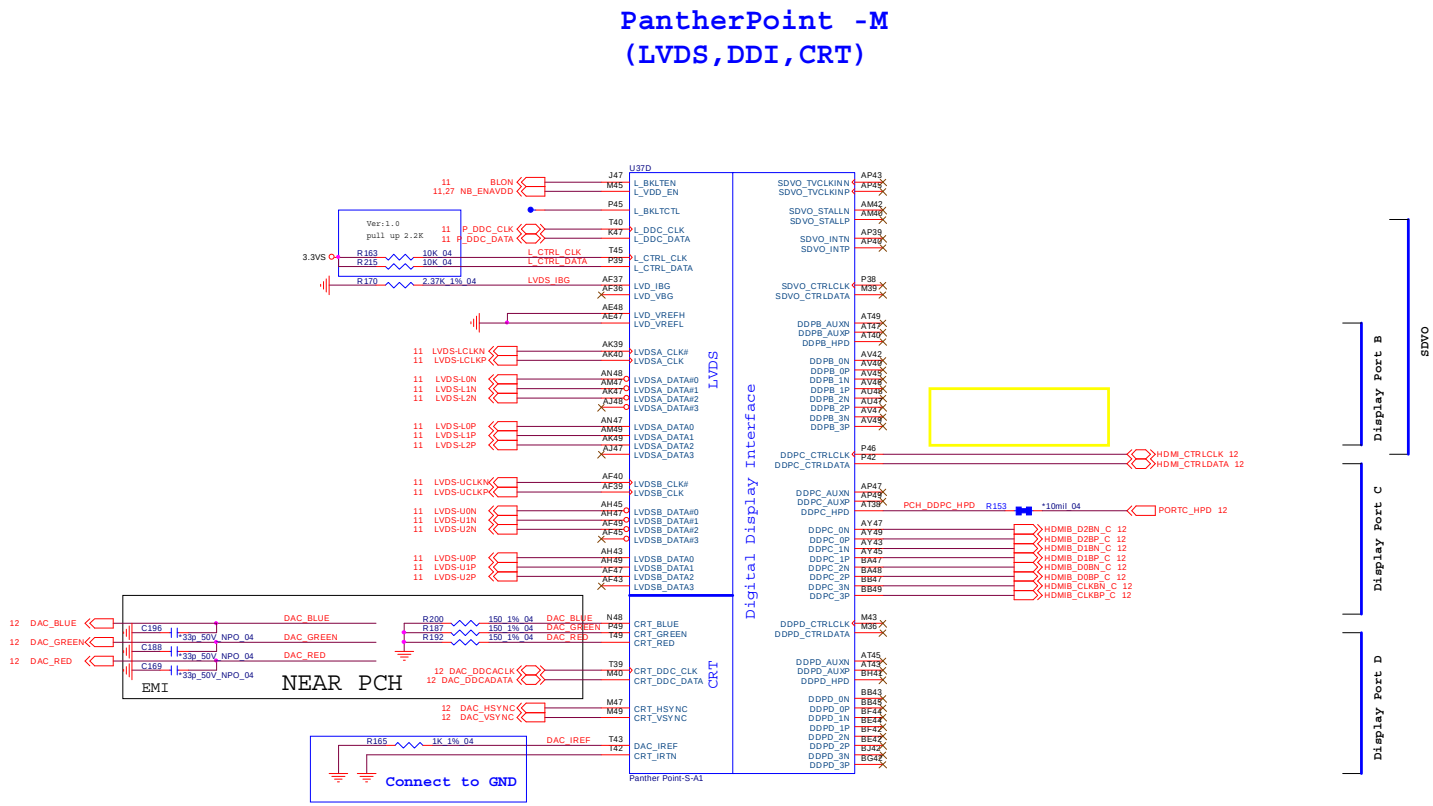
Sheet 14 of 43
PantherPoint - M 2/9

PantherPoint - M 3/9

Sheet 15 of 43
PantherPoint - M 3/9



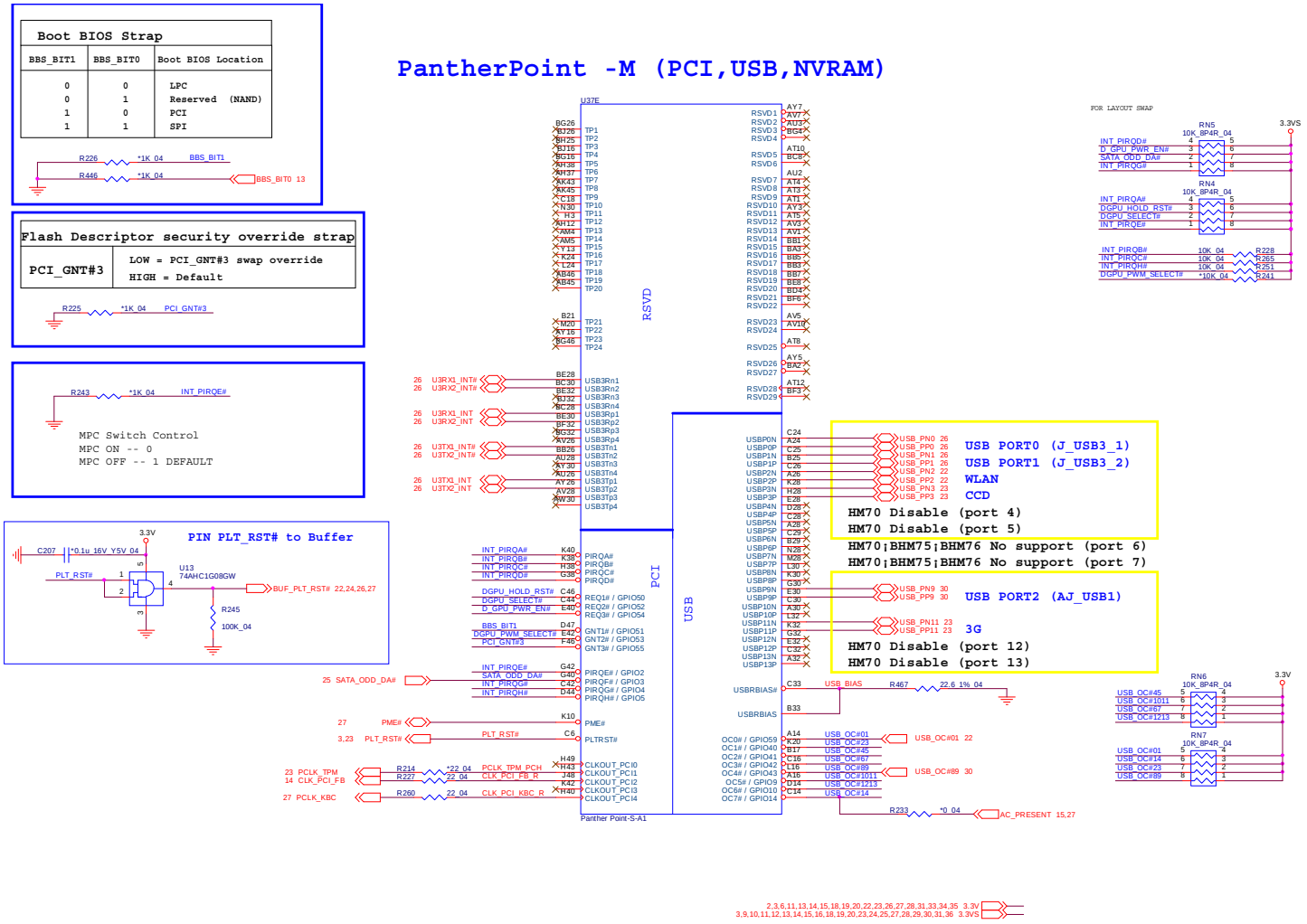
PantherPoint - M 4/9



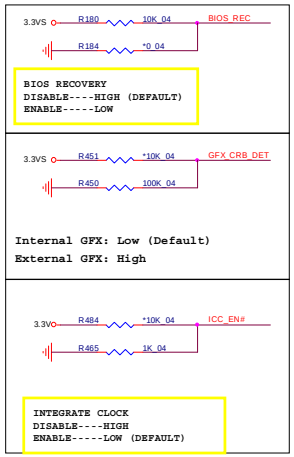
Sheet 16 of 43
PantherPoint - M
4/9

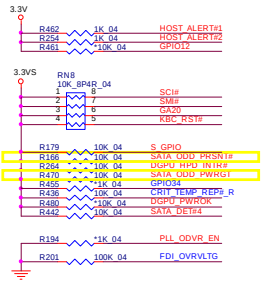
PantherPoint - M 5/9

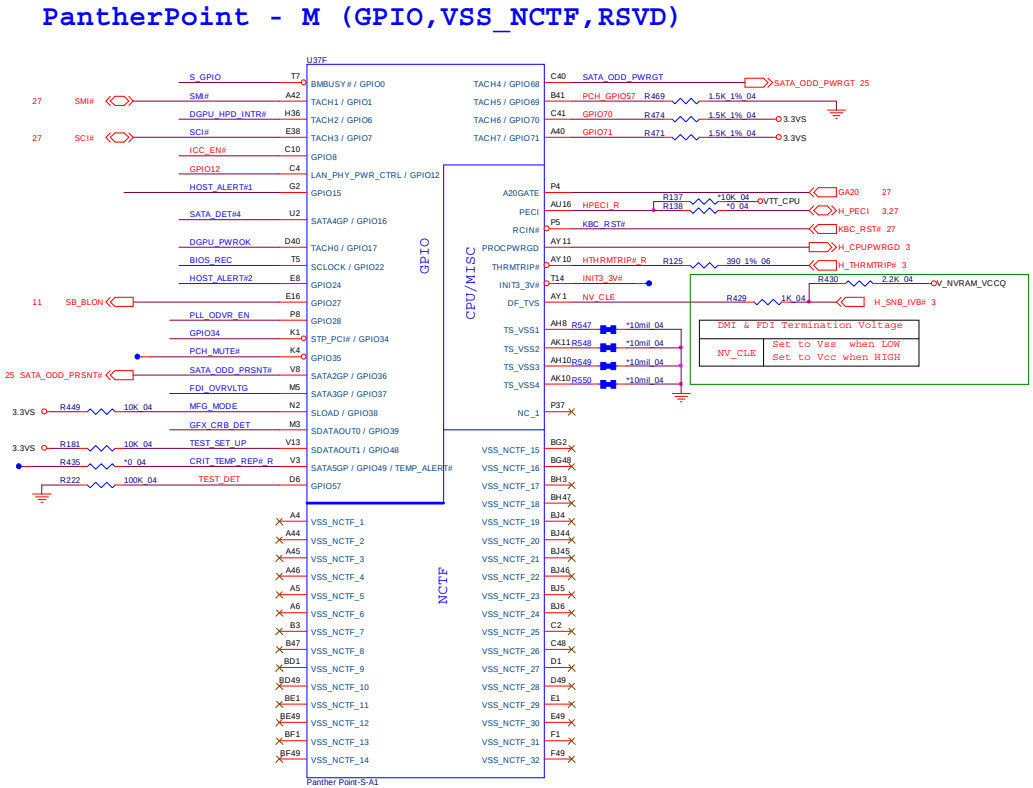
Sheet 17 of 43
PantherPoint - M 5/9



PantherPoint - M 6/9



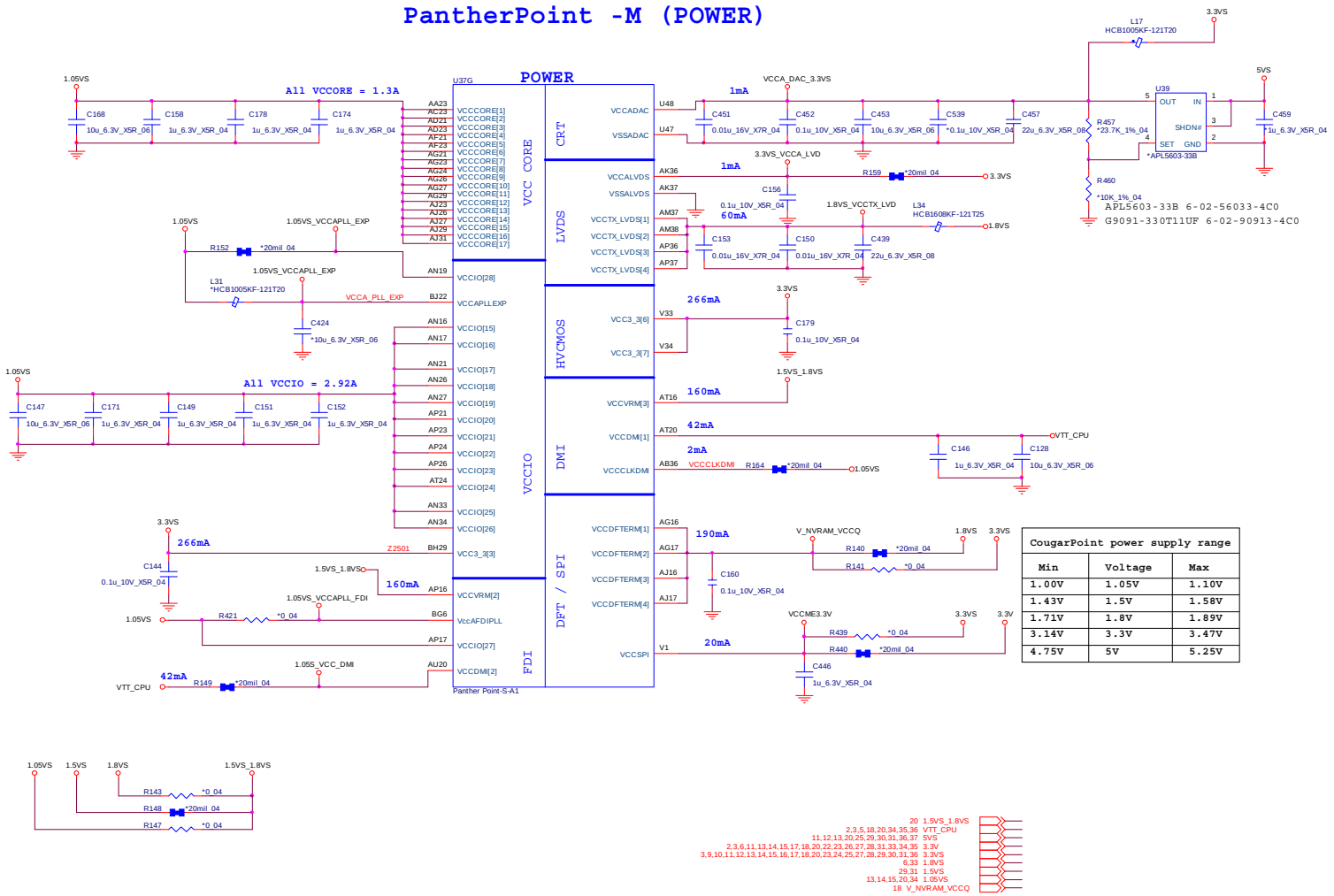




Sheet 18 of 43
PantherPoint - M 6/9

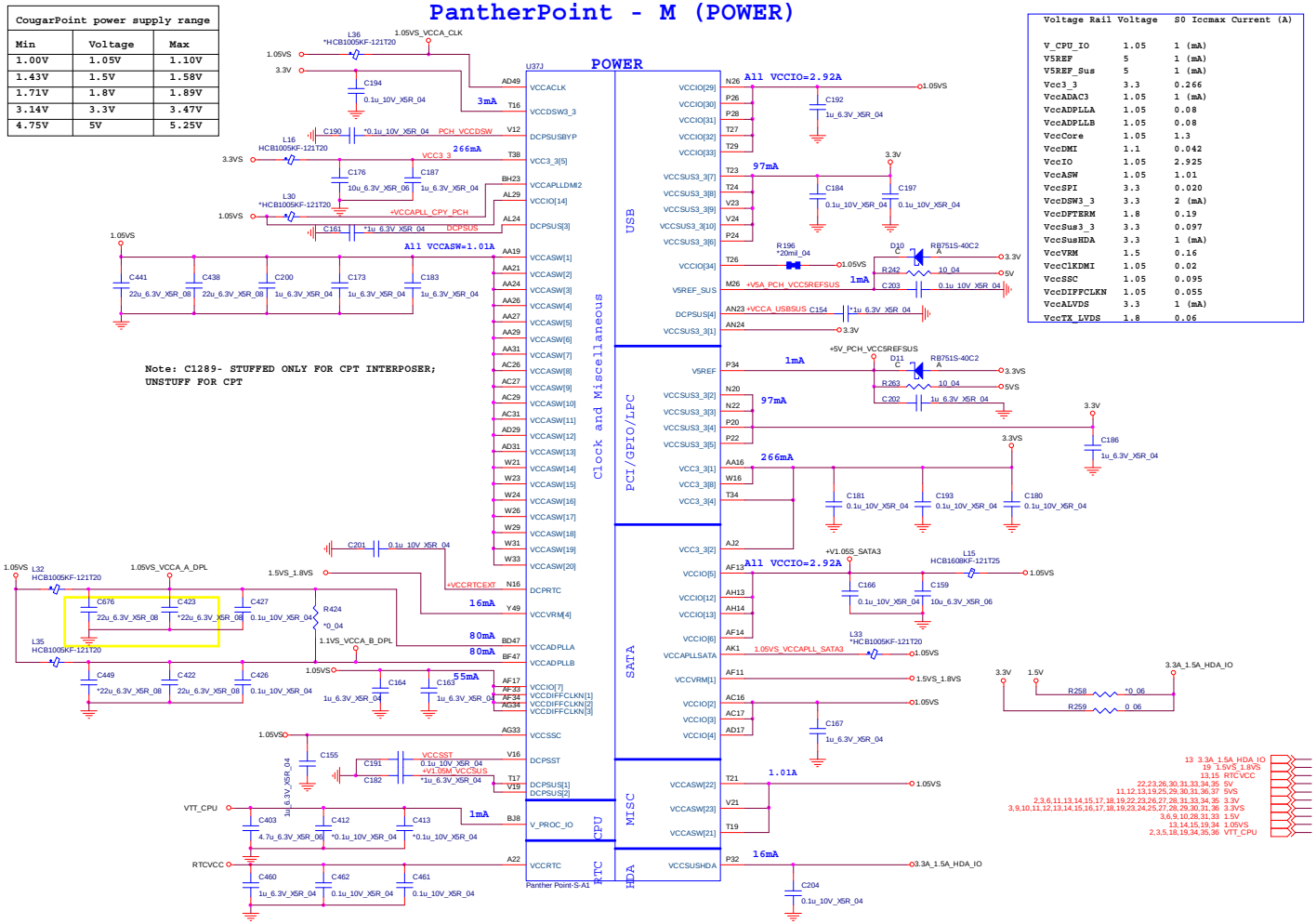
PantherPoint - M 7/9

Sheet 19 of 43
PantherPoint - M 7/9



PantherPoint - M 8/9

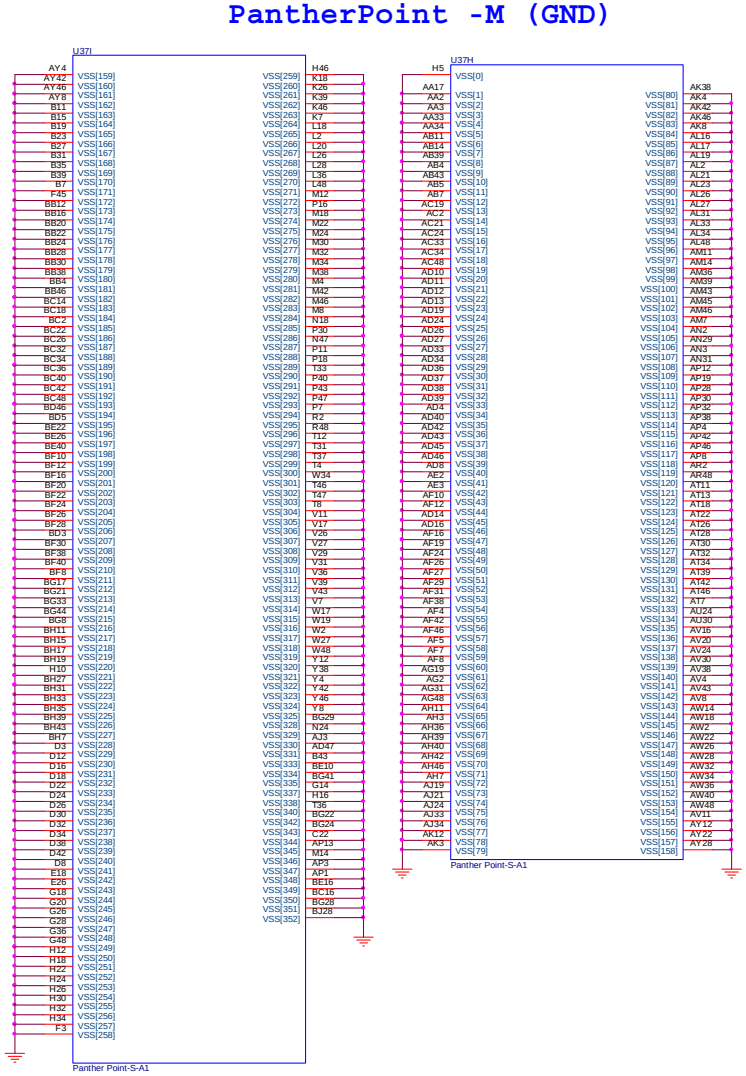
CougarPoint power supply range		
Min	Voltage	Max
1.00V	1.05V	1.10V
1.43V	1.5V	1.58V
1.71V	1.8V	1.89V
3.14V	3.3V	3.47V
4.75V	5V	5.25V



Sheet 20 of 43
PantherPoint - M
8/9

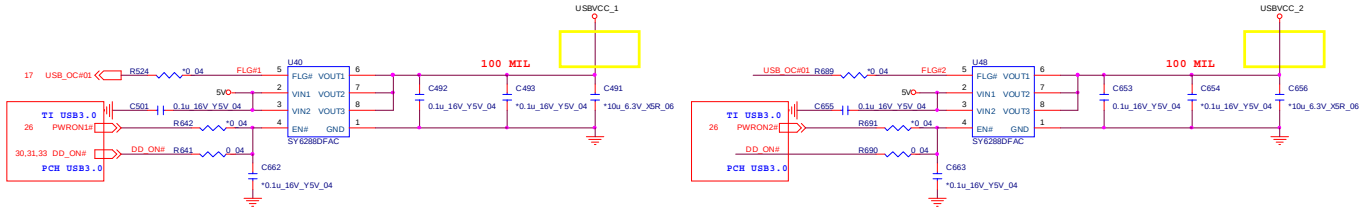
PantherPoint - M 9/9

Sheet 21 of 43
PantherPoint - M 9/9

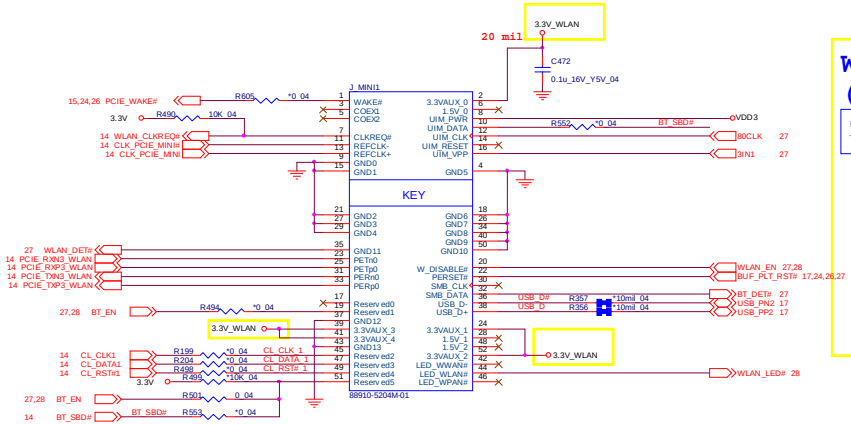


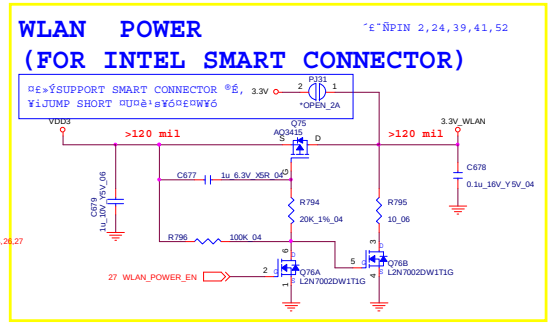
USB 3.0, Power, WLAN

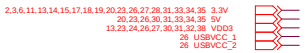
USB 3.0 Power



MINI CARD WLAN





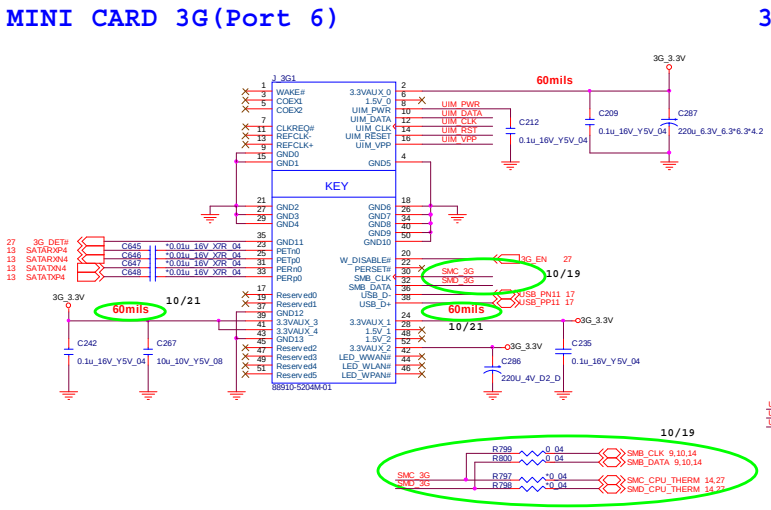


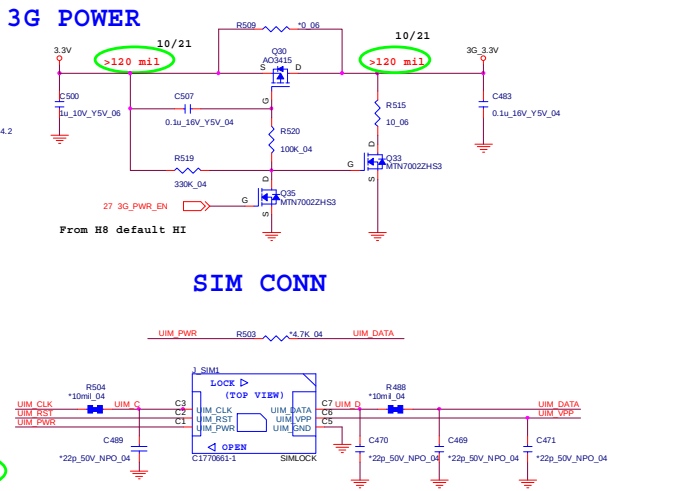
Sheet 22 of 43
USB 3.0, Power, WLAN

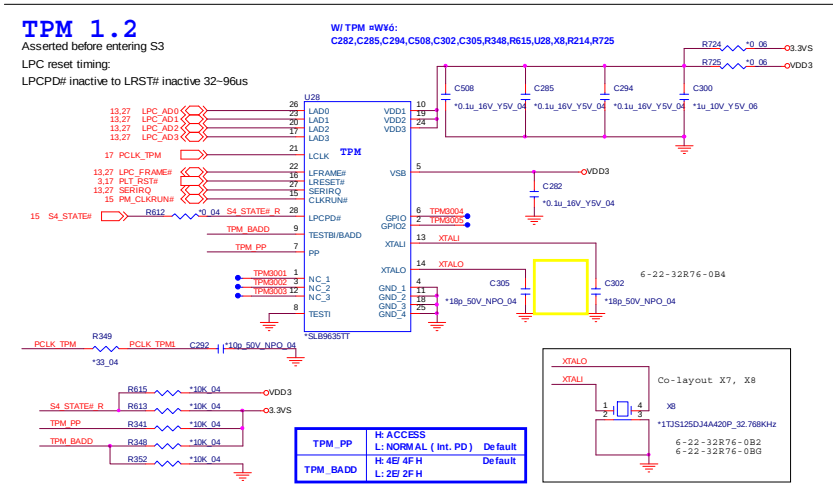
B.Schematic Diagrams

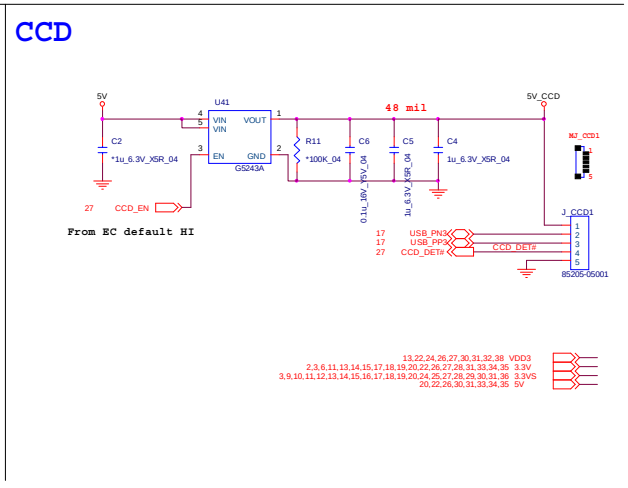
CCD, 3G, TPM

Sheet 23 of 43
CCD, 3G, TPM

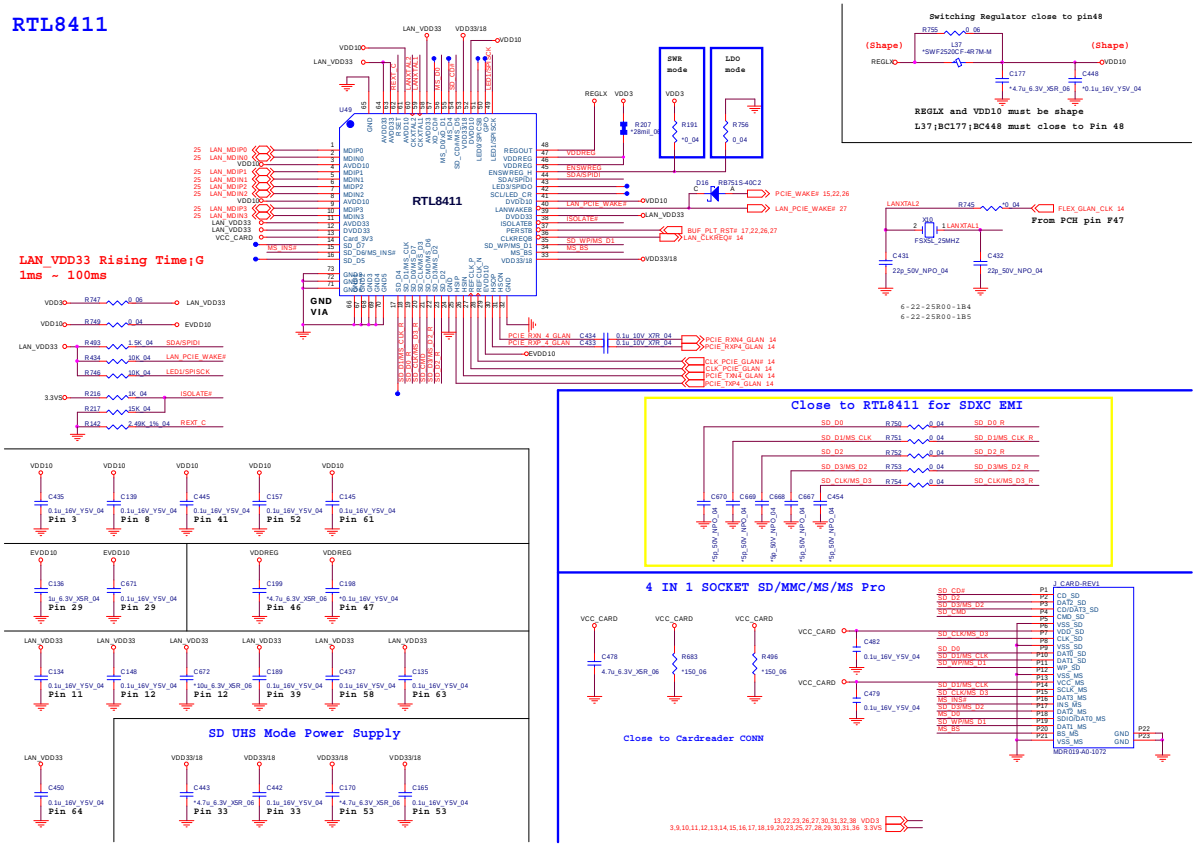








Card Reader, LAN RTL8411



Sheet 24 of 43
Card Reader, LAN
RTL8411

LAN (RTL8411), SATA HDD, ODD

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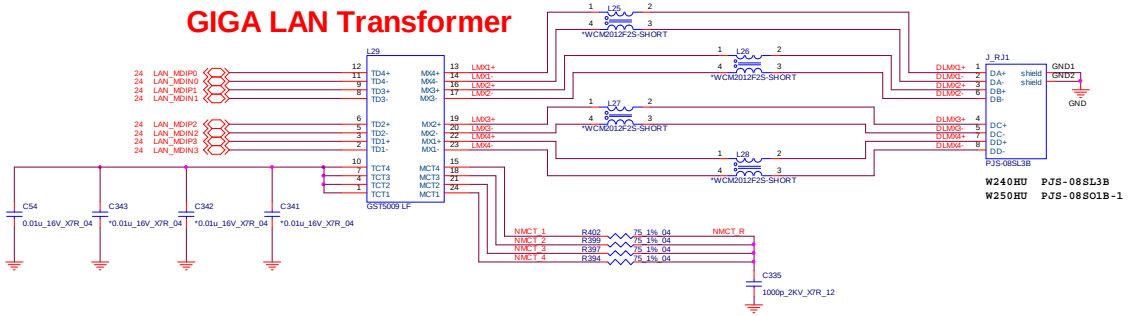
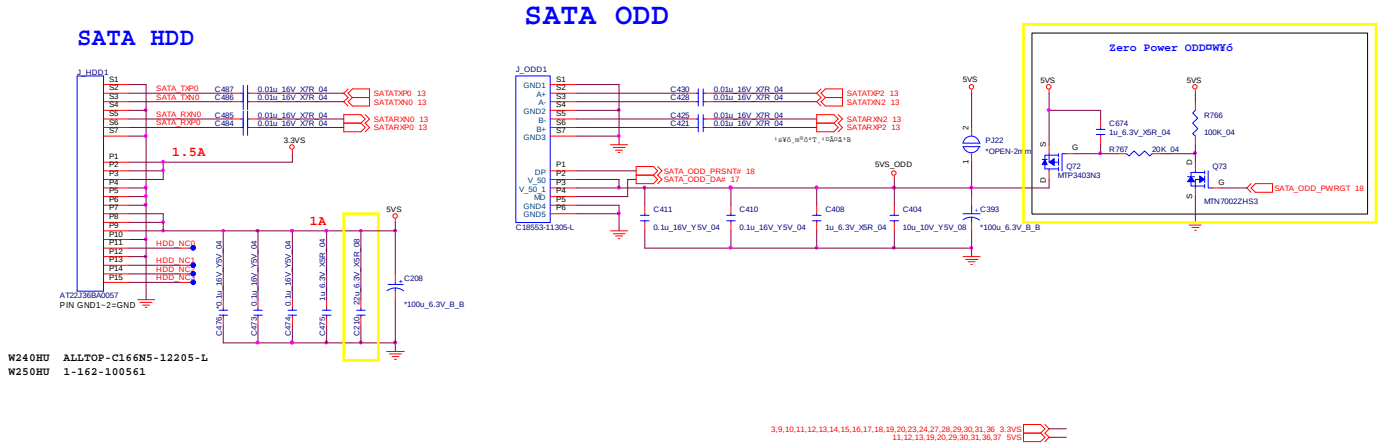
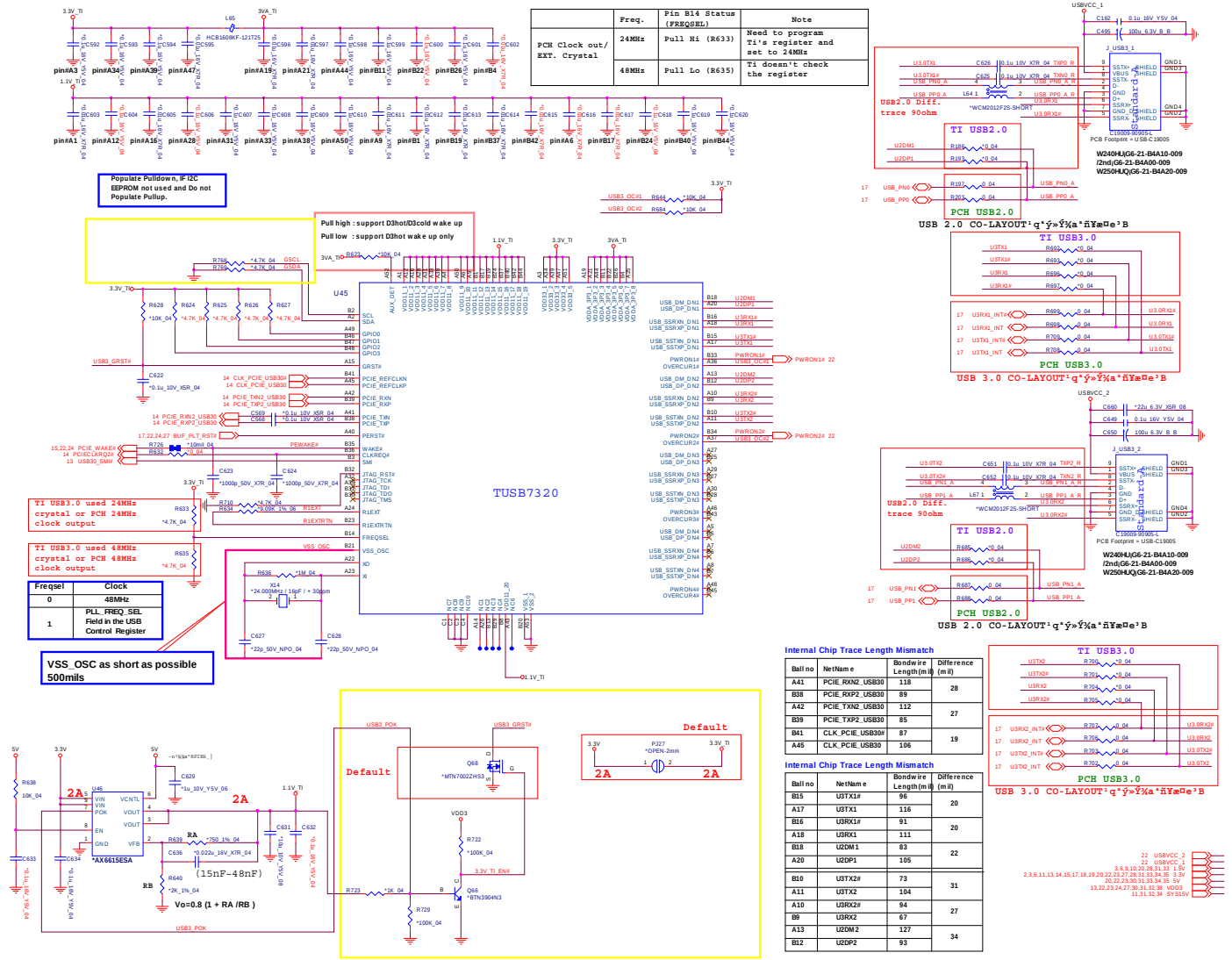
LAN(RTL8411), SATA HDD, ODD





USB 3.0 TI TUSB7320



Internal Chip Trace Length Mismatch

Ball 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

Ball no	NetName	Bondwire Length(mil)	Difference (mil)
B15	U3TX1#	96	20
A17	U3TX1	116	
B16	U3RX1#	91	20
A18	U3RX1	111	
B18	U2DM1	83	22
A20	U2DP1	105	
B10	U3TX2#	73	31
A11	U3TX2	104	
A10	U3RX2#	94	27
B9	U3RX2	67	
A13	U2DM2	127	34
B12	U2DP2	93	

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USB 3.0 TI
TUSB7320

KBC-ITE IT8518

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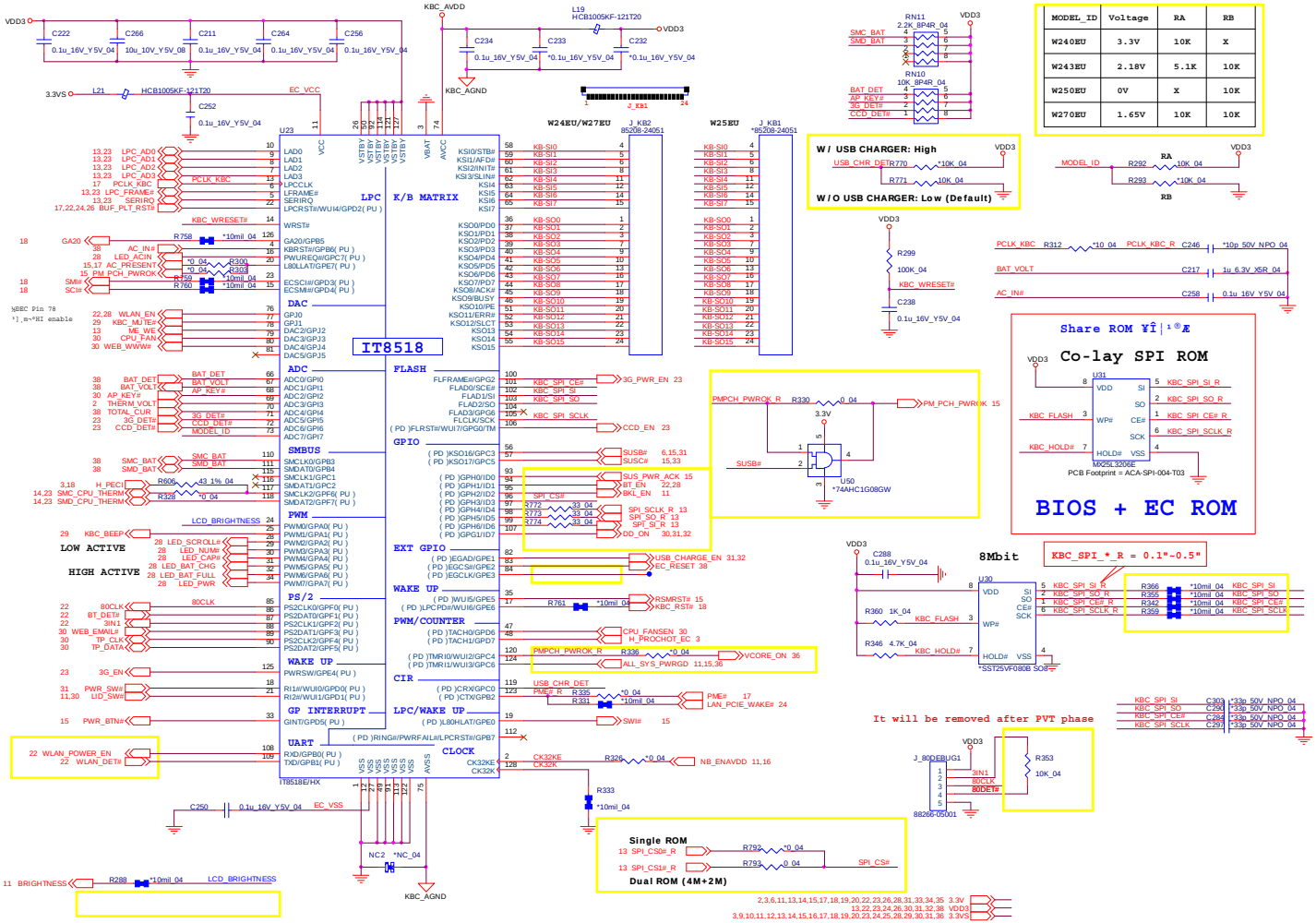
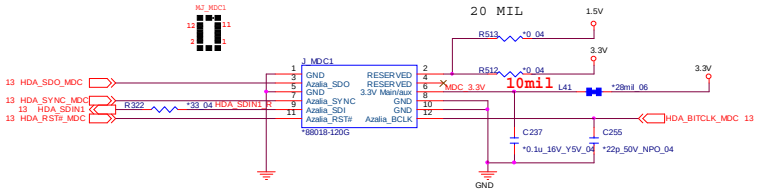
KBC-ITE IT8518



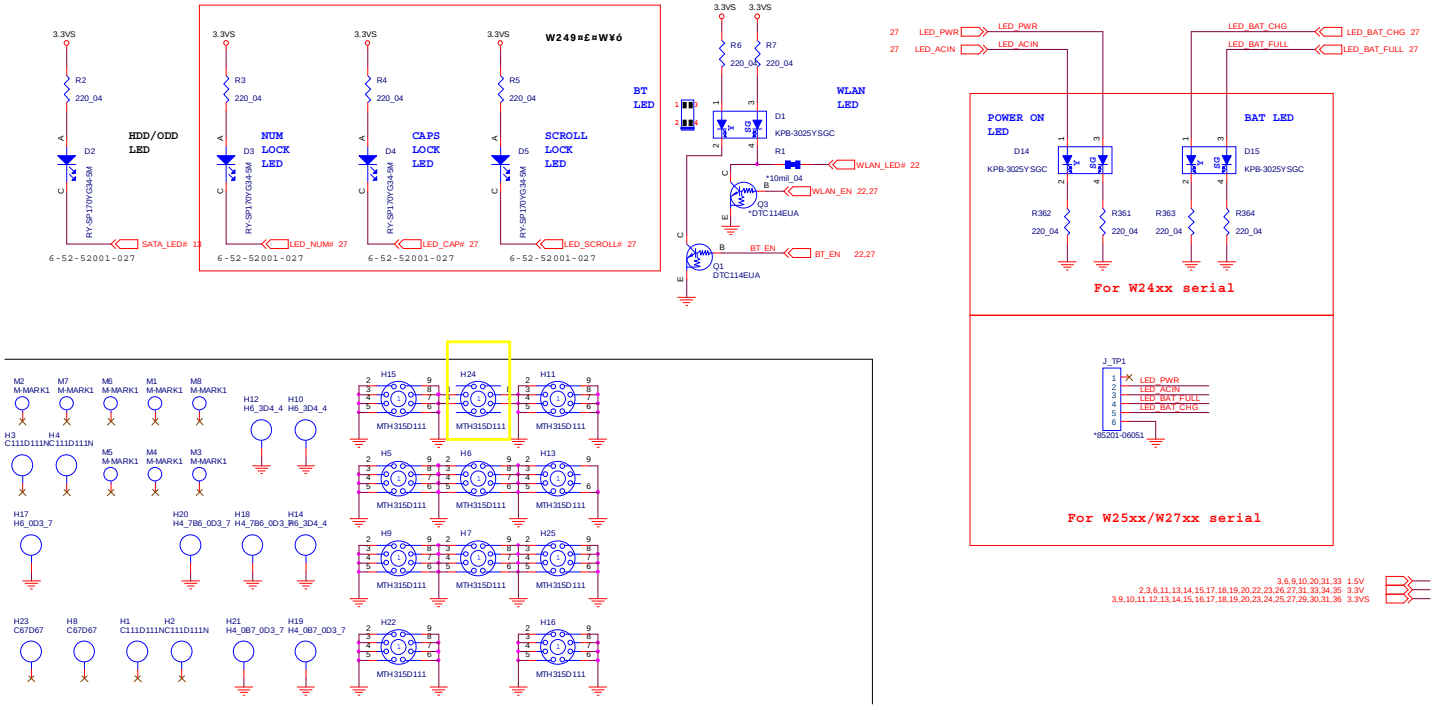
MODEL_ID	Voltage	RA	RB
W240EU	3.3V	10K	X
W243EU	2.18V	5.1K	10K
W250EU	0V	X	10K
W270EU	1.65V	10K	10K

LED, MDC

MDC



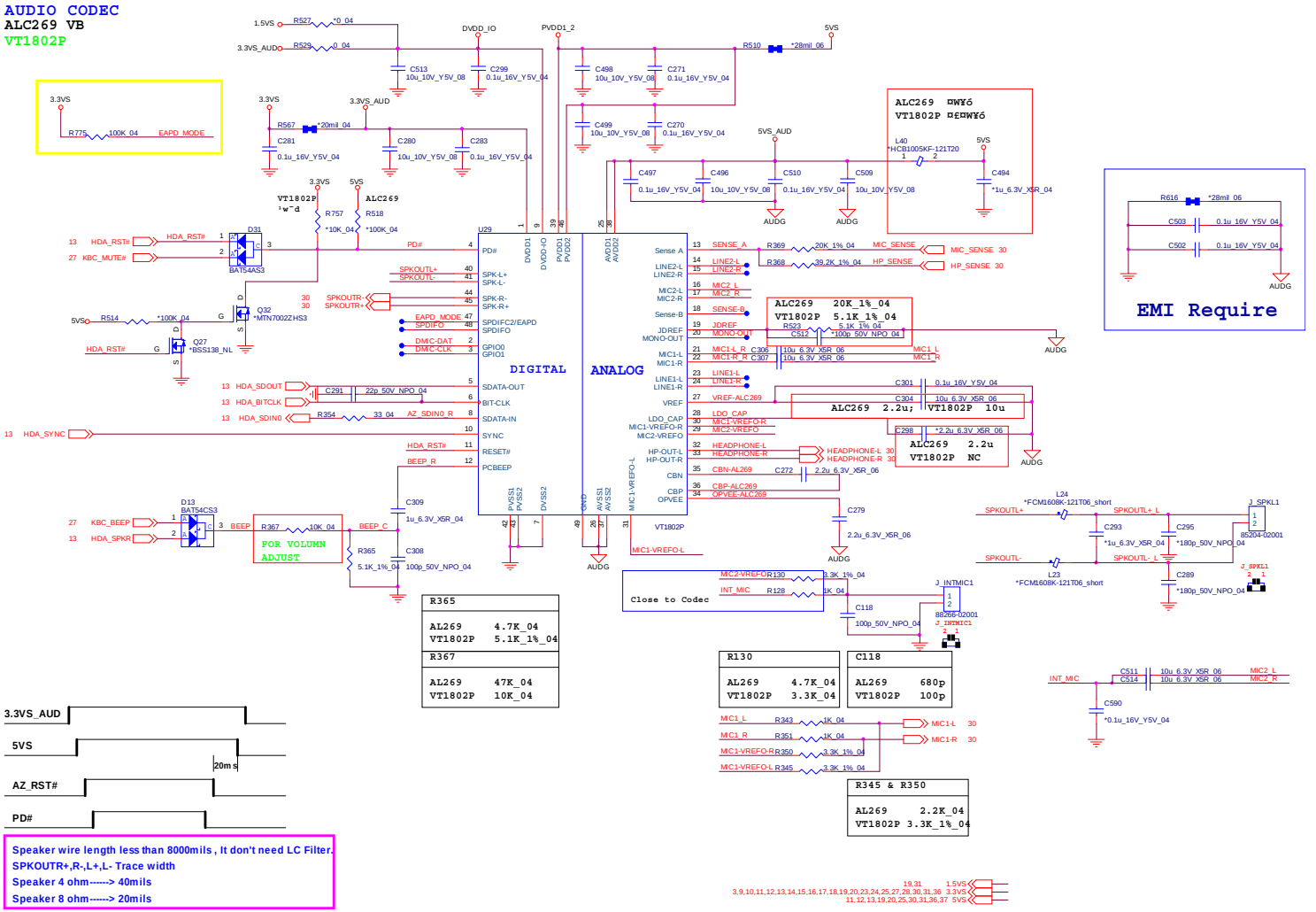
LED



Sheet 28 of 43
LED, MDC

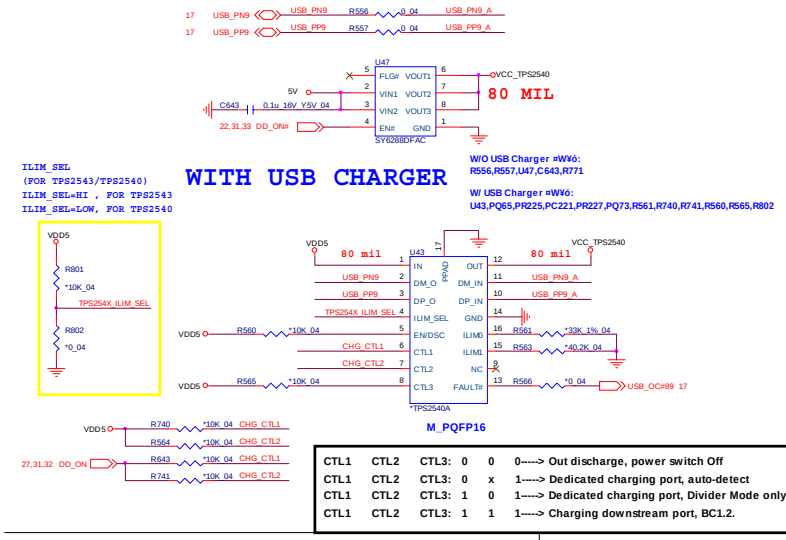
Audio Codec ALC269

Sheet 29 of 43
Audio Codec
ALC269



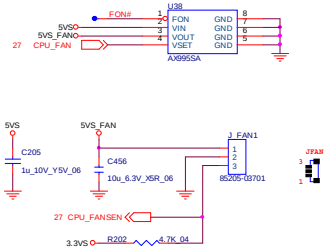
USB Charger, Fan, TP, Multi-Conn

W/O USB CHARGER

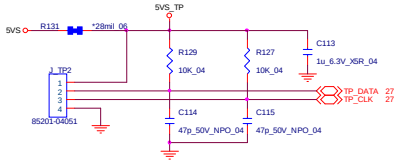


CTL1	CTL2	CTL3:	0	0	0-----> Out discharge, power switch Off
CTL1	CTL2	CTL3:	0	x	1-----> Dedicated charging port, auto-detect
CTL1	CTL2	CTL3:	1	0	1-----> Dedicated charging port, Divider Mode only
CTL1	CTL2	CTL3:	1	1	1-----> Charging downstream port, BC1.2.

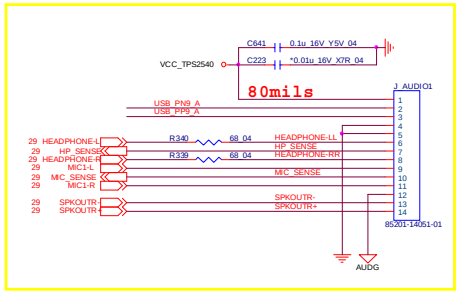
FAN CONTROL



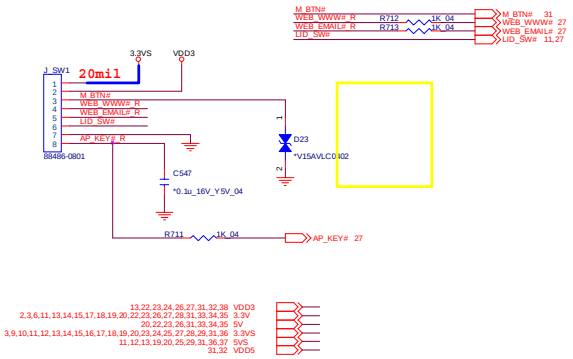
CLICK B'd CONN



Audio B'd CONN



POWER SWITCH B'd CONN



Sheet 30 of 43
USB Charger, Fan, TP, Multi-Conn

System Power

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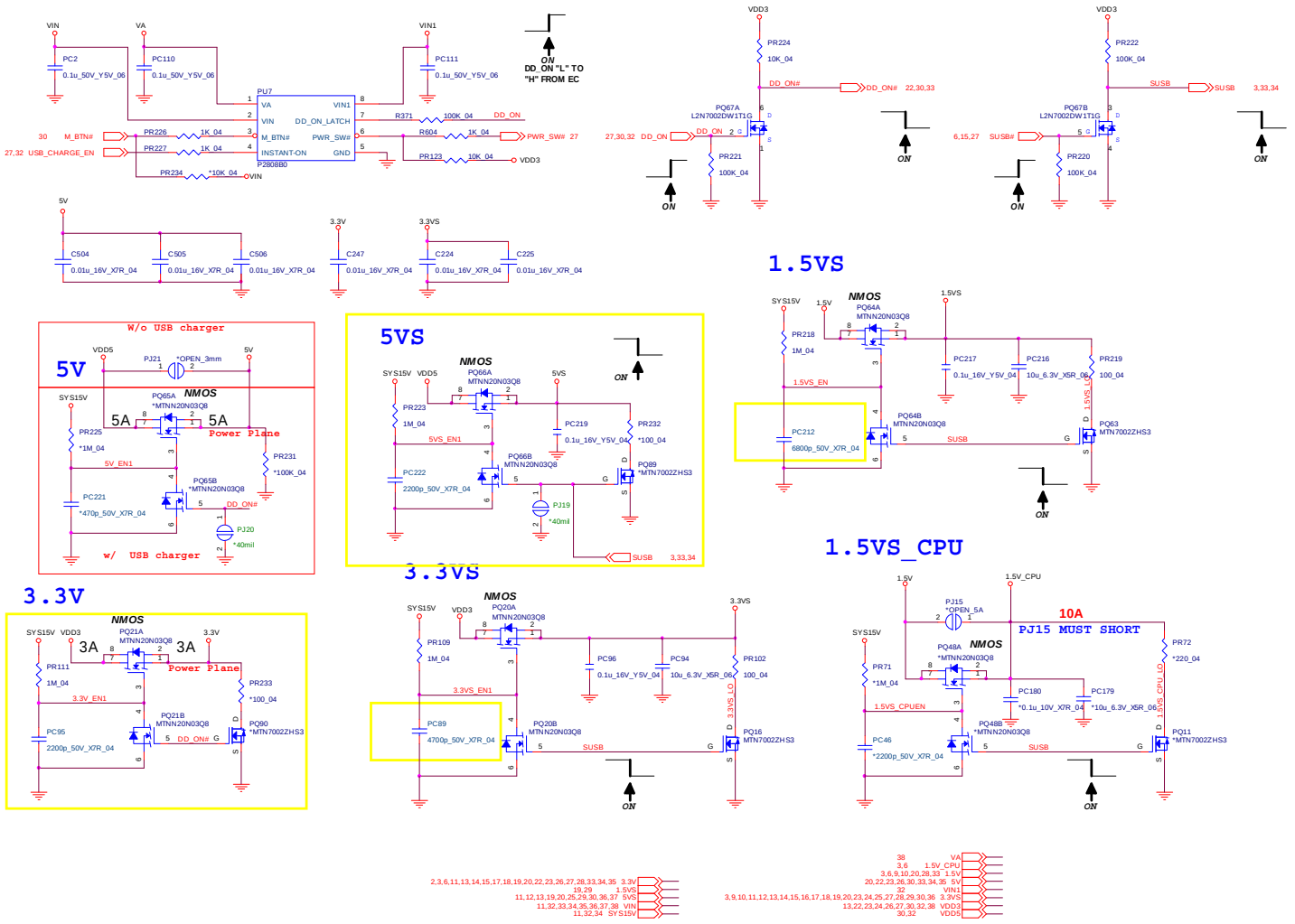
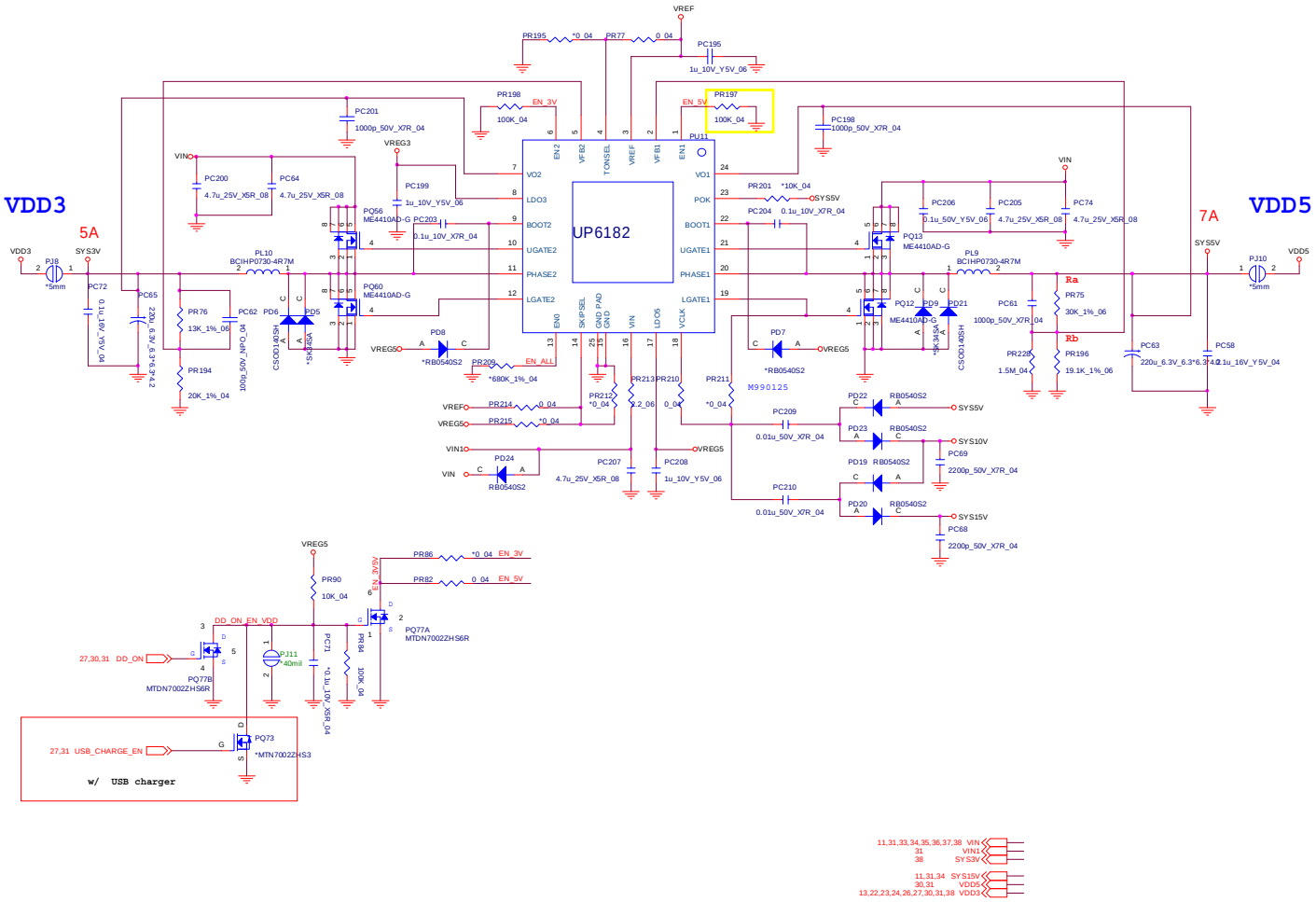
System Power



VDD3, VDD5

VDD3/VDD5



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VDD3, VDD5

Power 1.5V/0.75V/1.8VS

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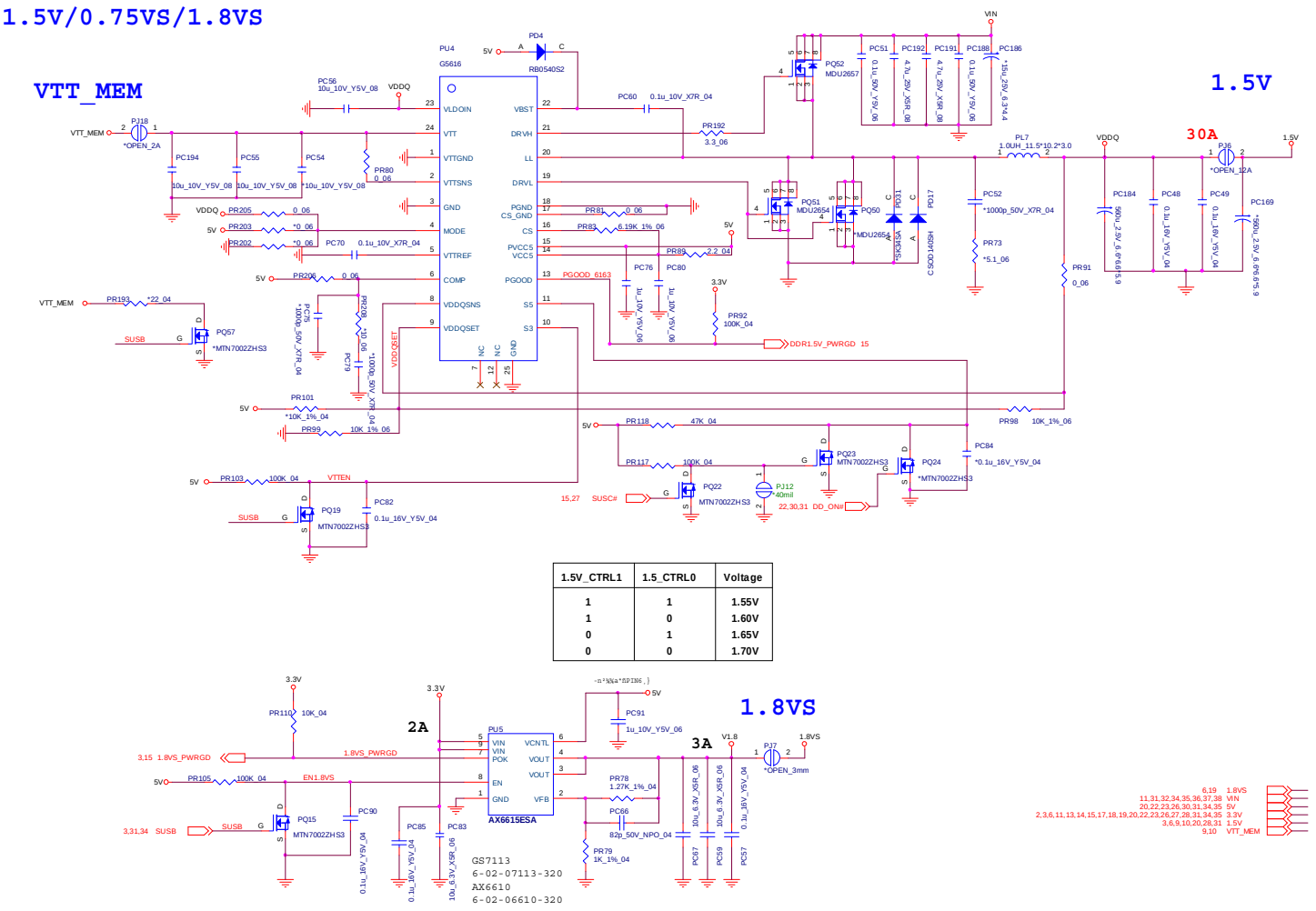
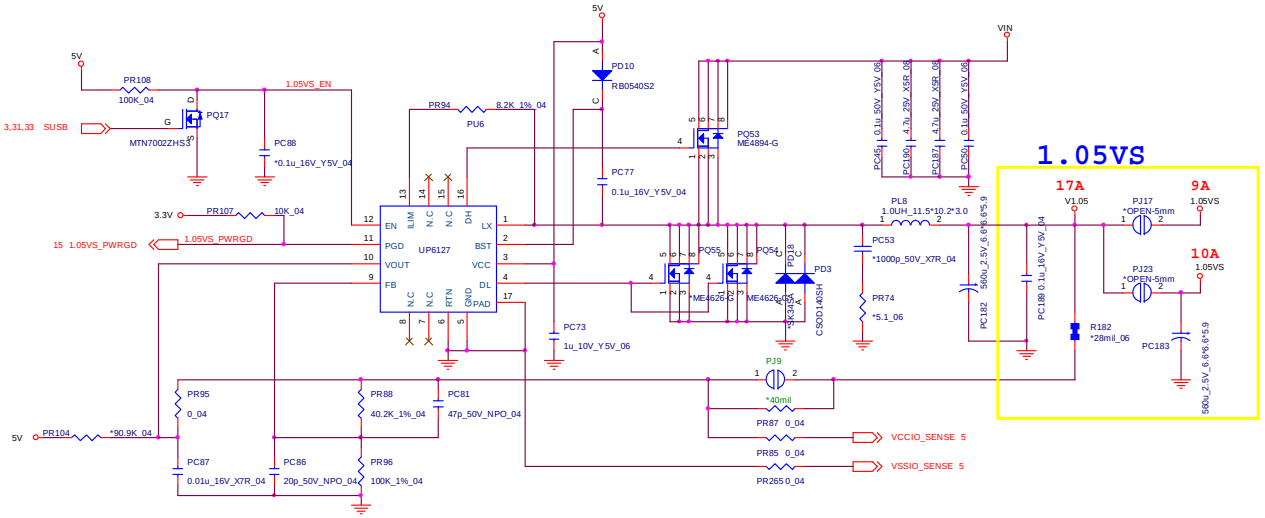
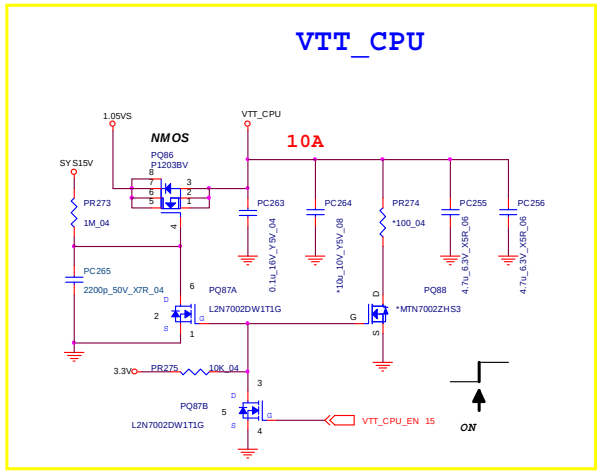
Power 1.5V/0.75V/
1.8VS

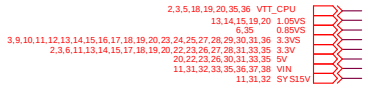


1.5V_CTRL1	1.5_CTRL0	Voltage
1	1	1.55V
1	0	1.60V
0	1	1.65V
0	0	1.70V

Power 1.05VS







Sheet 34 of 43
Power 1.05VS

Power 0.85VS

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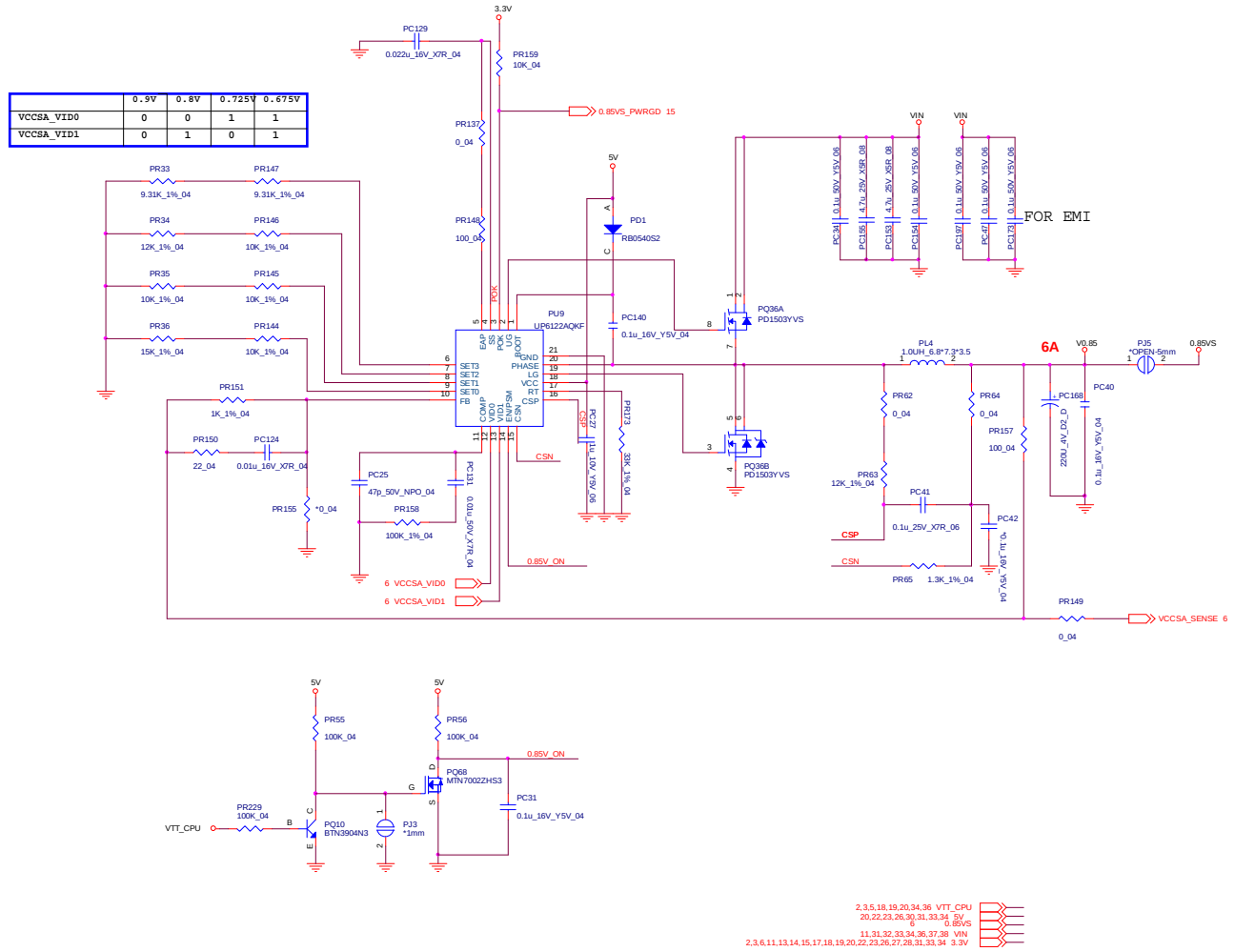
Power 0.85VS

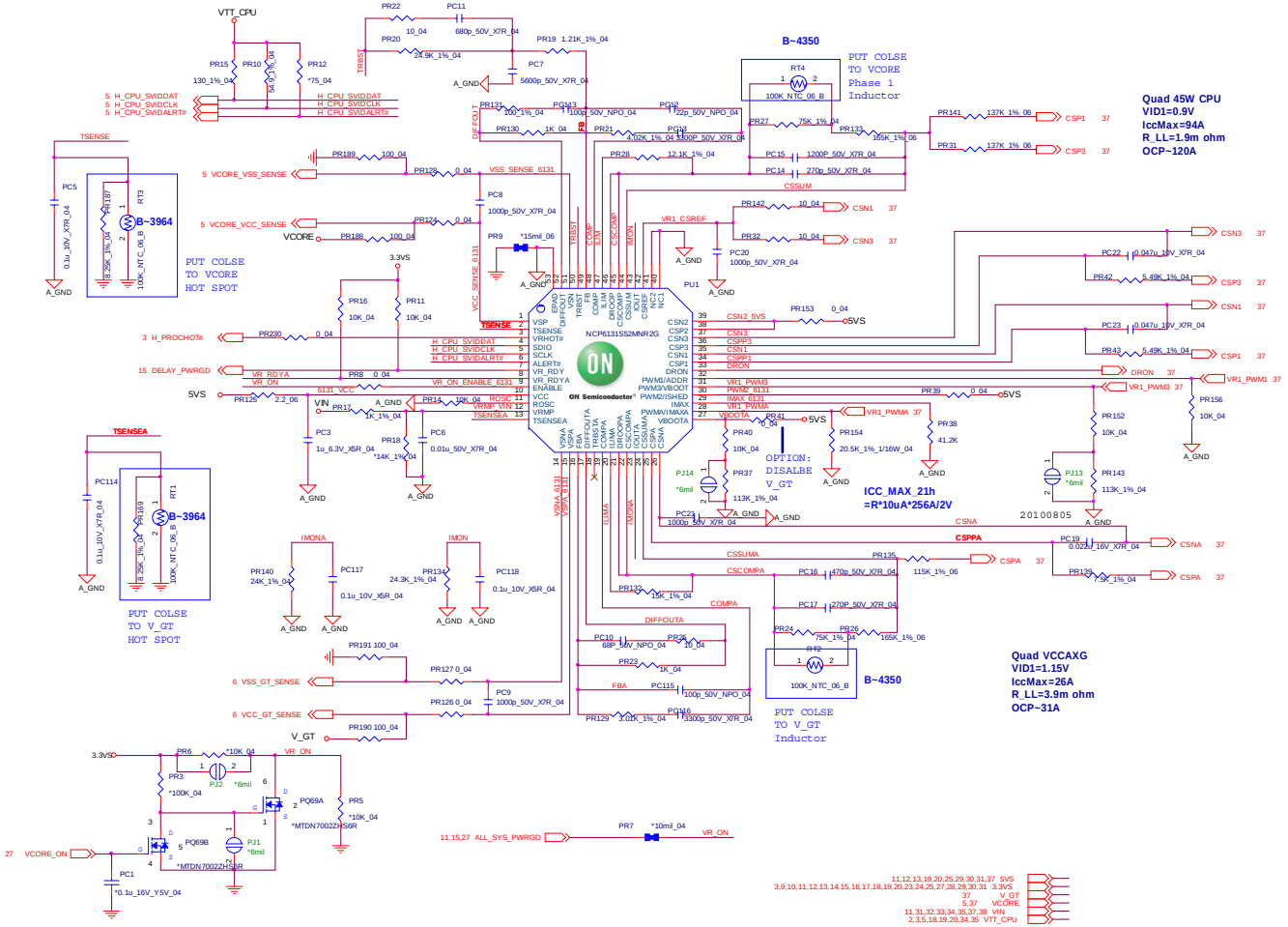
0.85VS

	0.9V	0.8V	0.725V	0.675V
VCCSA_VID0	0	0	1	1
VCCSA_VID1	0	1	0	1



Power V-Core1

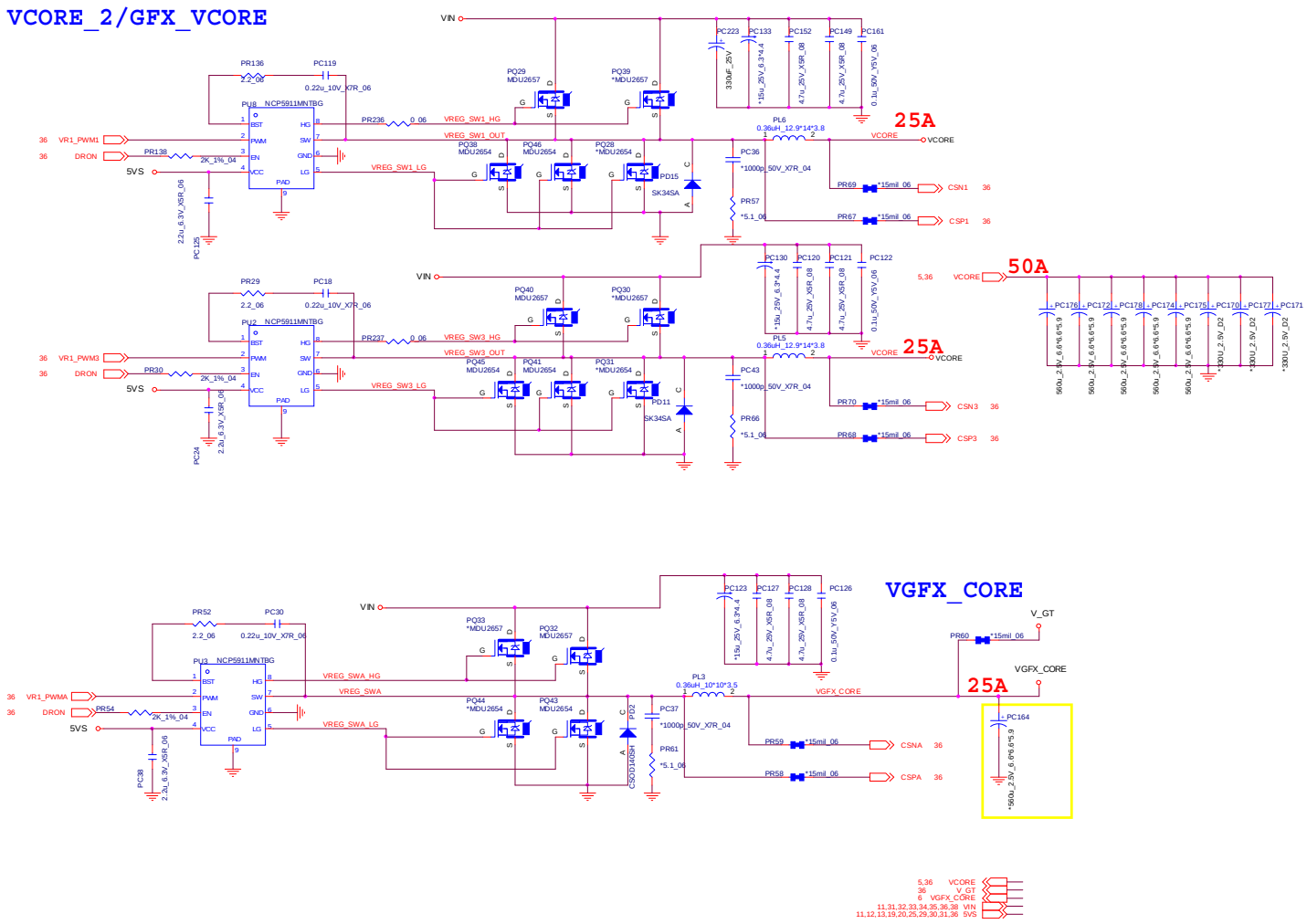
VCORE_1



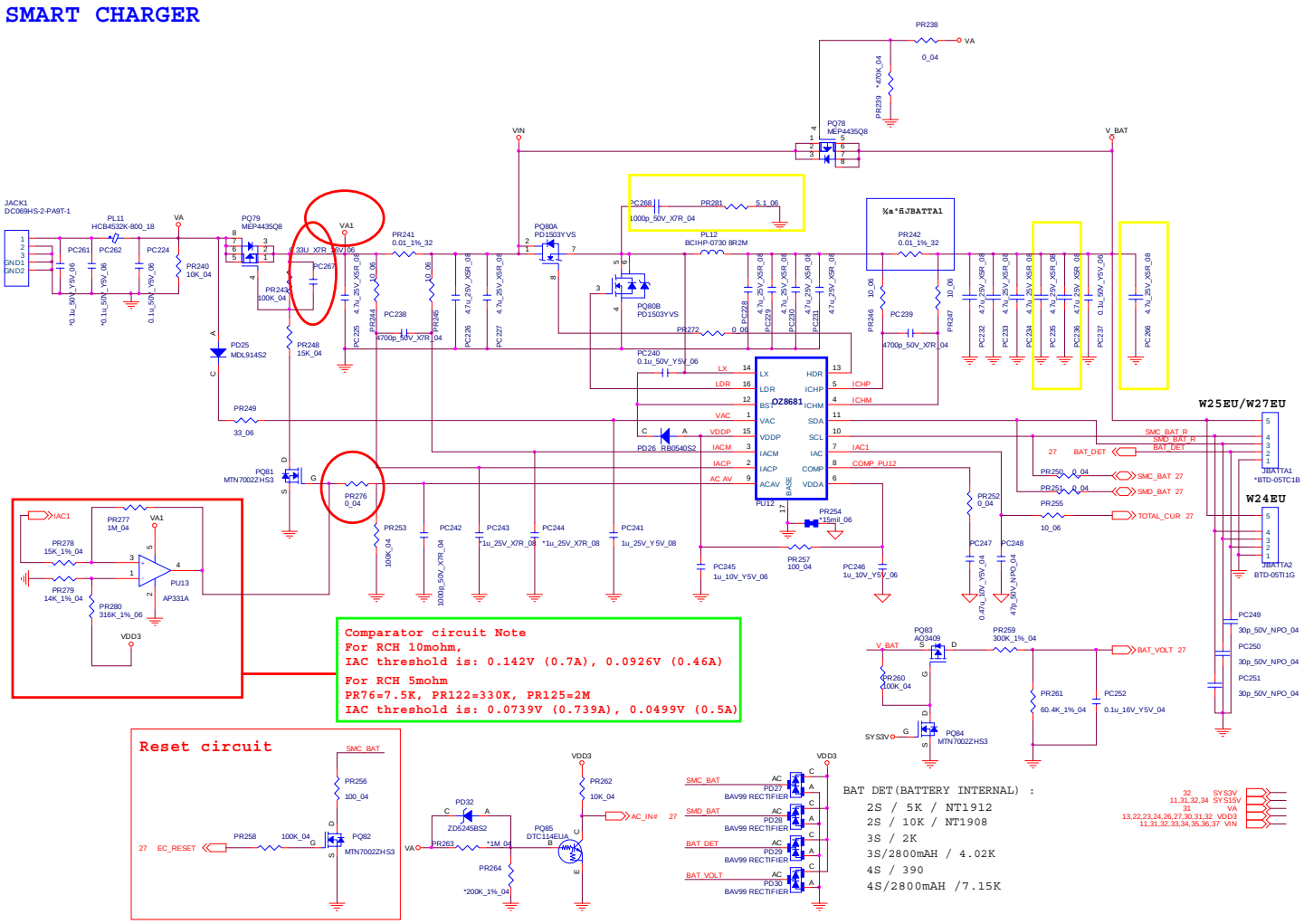
Sheet 36 of 43
Power V-Core1

Power V-Core2

Sheet 37 of 43
Power V-Core2



Charger, AC In



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Charger, AC In

Click Board

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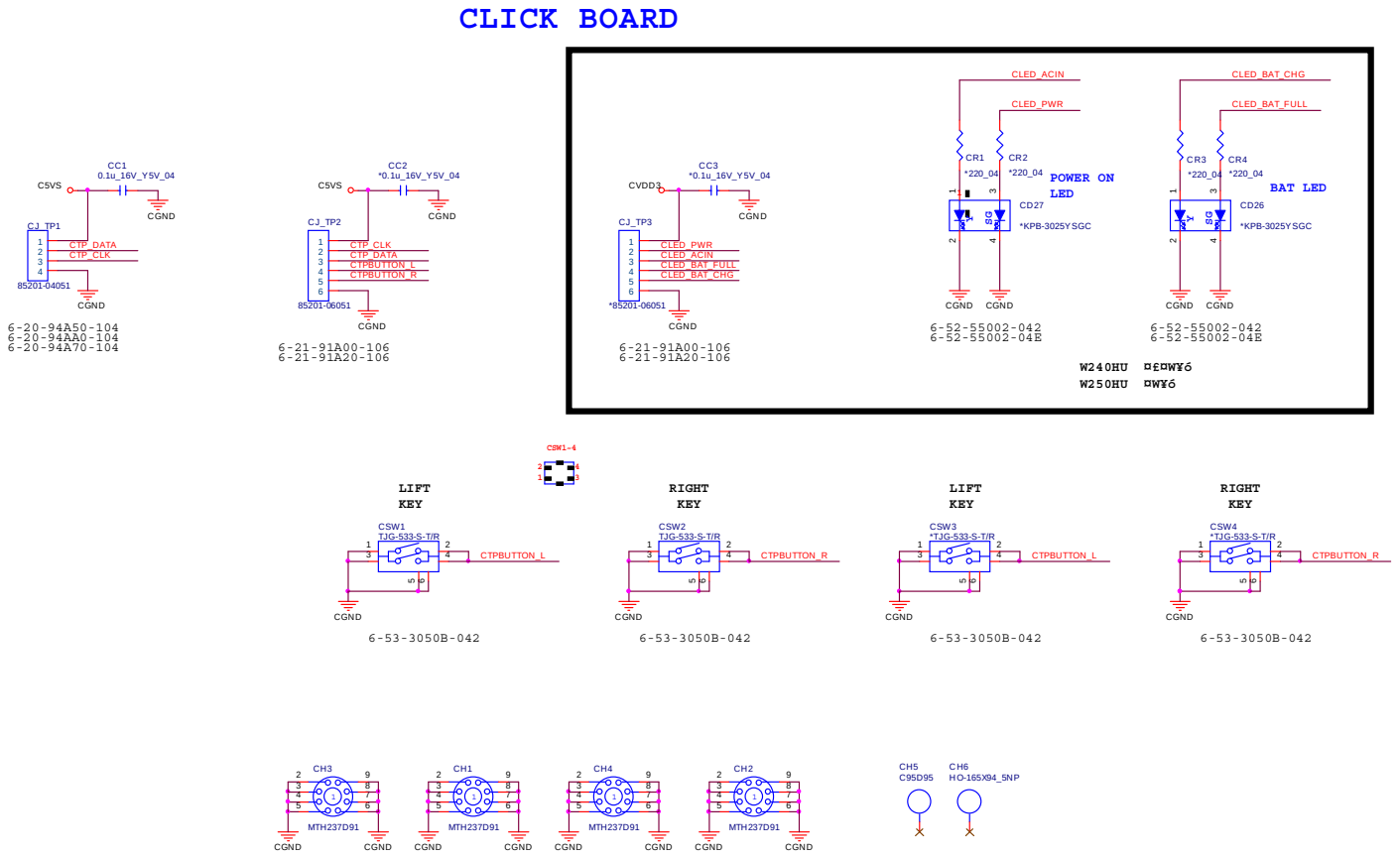
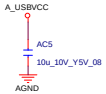
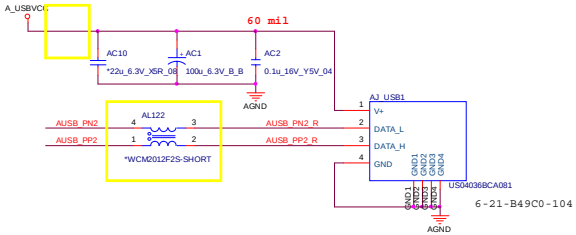
Click Board



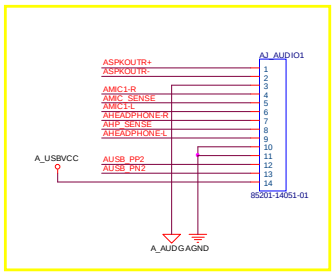
Audio Board/USB

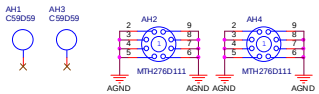
USB PORT



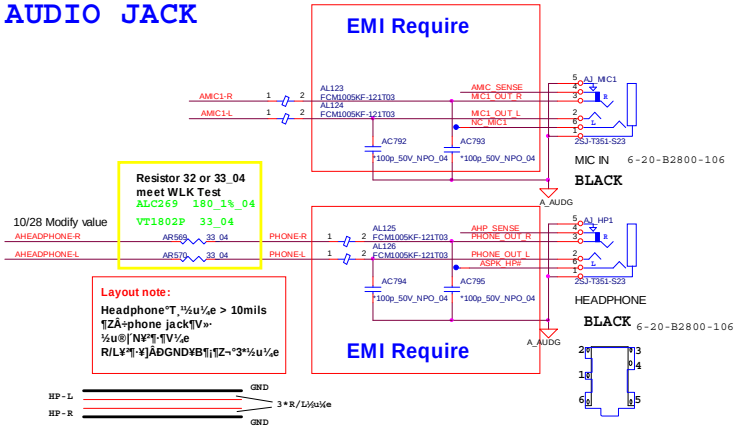


TO M/B





AUDIO JACK



Sheet 40 of 43
Audio Board/USB

Power Switch & LID Board

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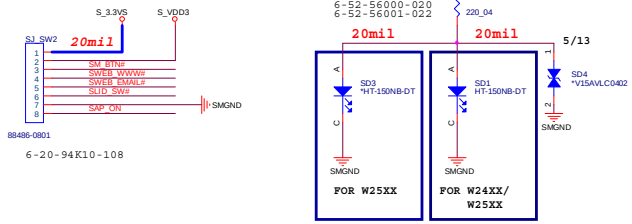
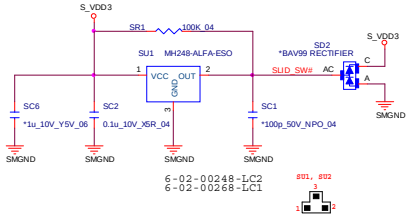
Power Switch & LID Board

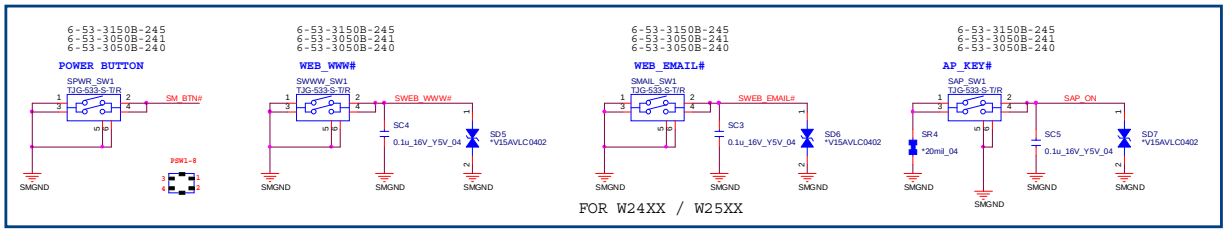
POWER SW & LED & HOT KEY

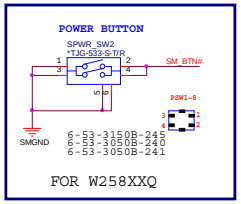


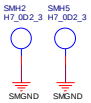
LID SWITCH IC

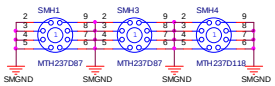


HOT KEY



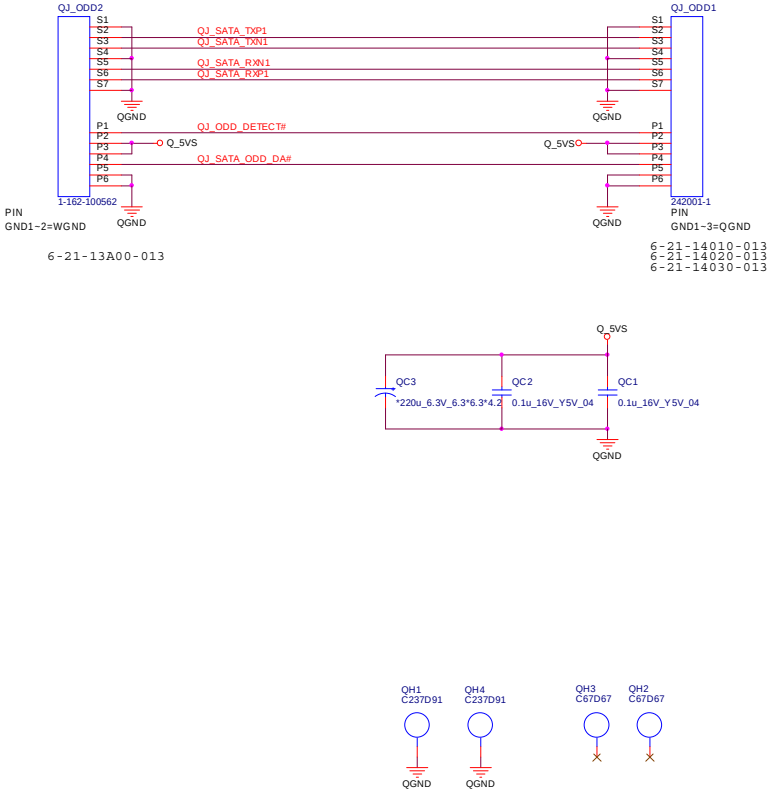






External ODD Board

ODD BOARD FOR E5120Q



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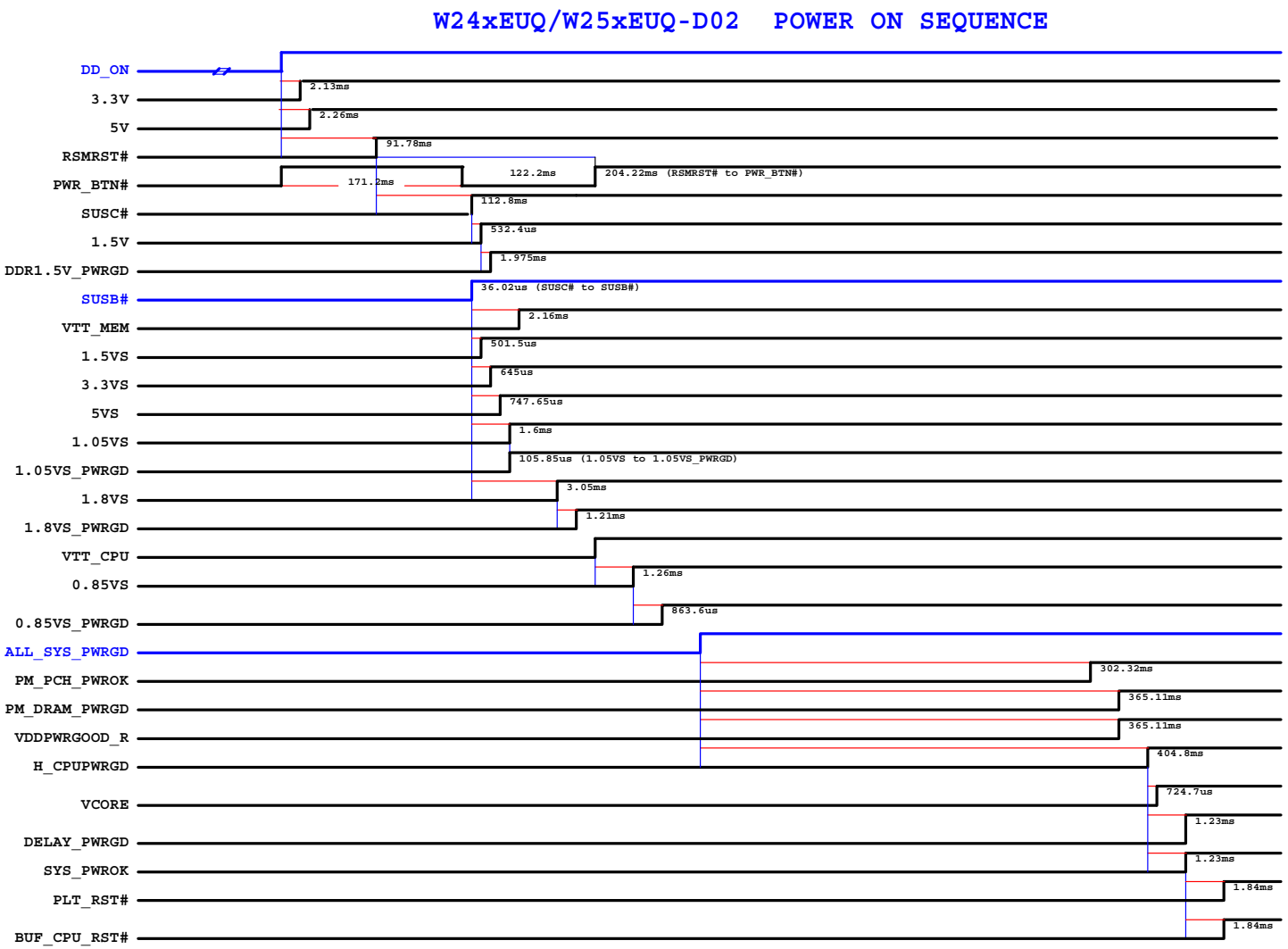
External ODD Board

Power Sequence

Sheet 43 of 43
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** and point to **E-Services** and click **E-Channel**.
2. Use your user ID and password to access the appropriate download area (BIOS), and download the latest BIOS files (the BIOS file will be contained in a batch file that may be run directly once unzipped) for your computer model (**see sidebar for important information on BIOS versions**).

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

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

Set the computer to boot from the external drive

1. With the bootable CD/DVD/USB flash drive containing the BIOS files in your CD/DVD drive/USB port, restart the computer and press **F2** (in most cases) to enter the BIOS.
2. Use the arrow keys to highlight the **Boot** menu.
3. Use the "+" and "-" keys to move boot devices up and down the priority order.
4. Make sure that the CD/DVD drive/USB flash drive is set first in the boot priority of the BIOS.
5. Press **F4** to save any changes you have made and exit the BIOS to restart the computer.

BIOS Version

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

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

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

Use the flash tools to update the BIOS

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

   C:\> Flash.bat

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

Restart the computer (booting from the HDD)

1. With the CD/DVD/USB flash drive removed from the CD/DVD drive/USB port the computer should restart from the HDD.
2. Press **F2** as the computer restarts to enter the BIOS.
3. Use the arrow keys to highlight the **Exit** menu.
4. Select **Load Setup Defaults** (or press **F3**) and select "**Yes**" to confirm the selection.
5. Press **F4** to save any changes you have made and exit the BIOS to restart the computer.

Your computer is now running normally with the updated BIOS

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