

SERVICE MANUAL

M860TU / M865TU

notebook



Notebook Computer

M860TU/M865TU

Service Manual

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About this Manual

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

It is organized to allow you to look up basic information for servicing and/or upgrading components of the **M860TU/M865TU** 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 (Full Range AC/DC Adapter - AC Input 100 - 240V, 50 - 60Hz/ DC Output 20V, 6.A (**120W**) minimum).

CAUTION

Always disconnect all telephone lines from the wall outlet before servicing or disassembling this equipment.

**TO REDUCE THE RISK OF FIRE, USE ONLY NO. 26 AWG OR LARGER,
TELECOMMUNICATION LINE CORD**

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

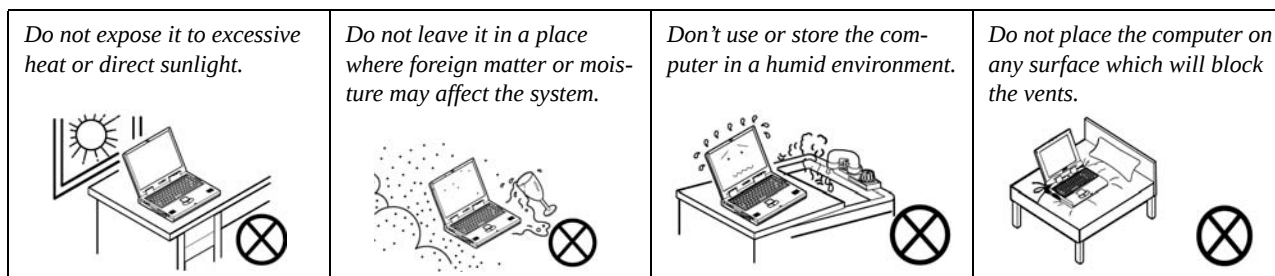
Instructions for Care and Operation

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

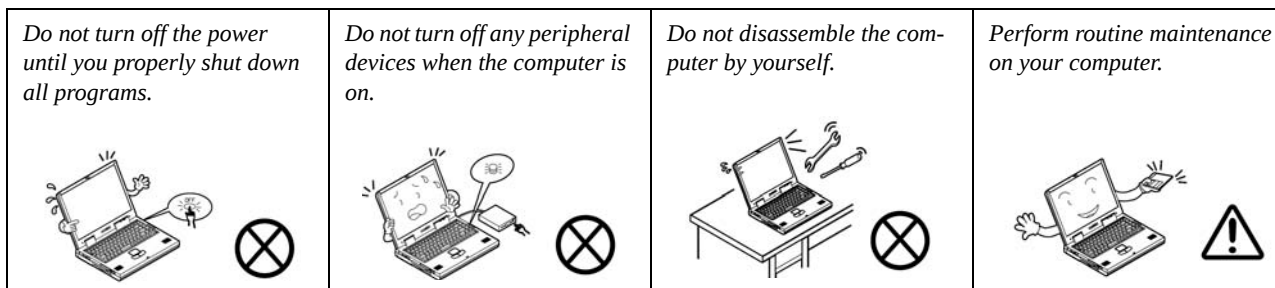
1. **Don't drop it, or expose it to shock.** If the computer falls, the case and the components could be damaged.



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

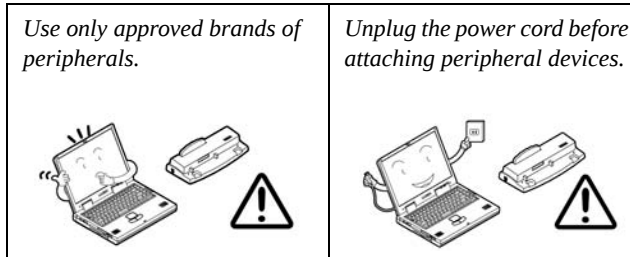


3. **Follow the proper working procedures for the computer.** Shut the computer down properly and don't forget to save your work. Remember to periodically save your data as data may be lost if the battery is depleted.



Preface

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



Power Safety

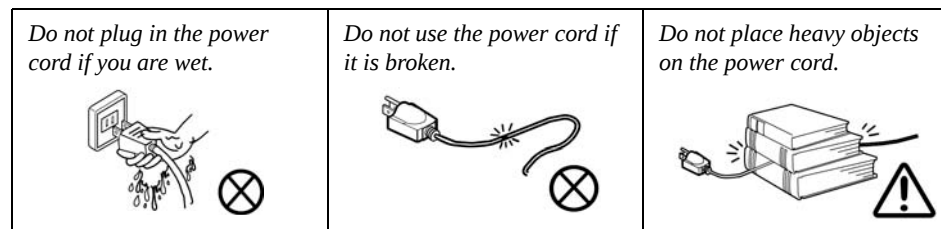
The computer has specific power requirements:

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



Power Safety Warning

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



Battery Precautions

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



Battery 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.

Preface

Related Documents

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

User's Manual on CD

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

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1: Introduction

Overview

This manual covers the information you need to service or upgrade the **M860TU/M865TU** series notebook computer. Information about operating the computer (e.g. getting started, and the *Setup* utility) is in the *User's Manual*. Information about drivers (e.g. VGA & audio) is also found in *User's Manual*. That manual is shipped with the computer.

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

The **M860TU/M865TU** series notebook is designed to be upgradeable. See [“Disassembly” on page 2 - 1](#) for a detailed description of the upgrade procedures for each specific component. Please note the warning and safety information indicated by the “” symbol.

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

System Specifications

Feature	Specification	
Processor Types	Intel® Core™2 Duo Processor (478-pin) Micro-FC-PGA Package, Socket P T9400/ T9600	45nm (45 Nanometer) Process Technology 6MB On-die L2 Cache & 1066MHz FSB (35W) 2.53GHz / 2.8GHz
	Intel® Core™2 Duo Processor (478-pin) Micro-FC-PGA Package, Socket P P9500	45nm (45 Nanometer) Process Technology 6MB On-die L2 Cache & 1066MHz FSB (25W) 2.53GHz
	Intel® Core™2 Duo Processor (478-pin) Micro-FC-PGA Package, Socket P P8400/ P8600	45nm (45 Nanometer) Process Technology 3MB On-die L2 Cache & 1066MHz FSB (25W) 2.26/ 2.40GHz
Core Logic	Intel(R) PM45 + ICH9M Chipset	
LCD	Flat Panel TFT (For One of the Following Options) 15.4" WXGA (1280 * 800) TFT LCD (Glare Type) OR 15.4" WXGA+ (1440 * 900) TFT LCD OR 15.4" WSXGA+ (1680 * 1050) TFT LCD (Glare Type) OR 15.4" WUXGA (1920 * 1200) TFT LCD	
Security	Security (Kensington® Type) Lock Slot BIOS Password	Fingerprint Reader Module (Factory Option)
Memory	Two 204 Pin SO-DIMM Sockets Supporting DDRIII (DDR3) at 1066 MHz Supports Dual Channel DDRIII (DDR3) SDRAM 64-bit Wide Per Data Channel Memory Expandable up to 4GB (1024/ 2048 MB DDRIII Modules)	

Feature	Specification	
Video Adapter Options	NVIDIA GeForce 9600M GS PCI-E Video Card 256MB GDDR3 Video RAM On Board MS DirectX® 10.0 Compatible MXM-II Supports HDCP	NVIDIA GeForce 8800M GTX PCI-E Video Card 512MB GDDR3 Video RAM On Board MS DirectX® 10.0 Compatible MXM-III Supports HDCP
	NVIDIA GeForce 9800M GT PCI-E Video Card 512MB GDDR3 Video RAM On Board MS DirectX® 10.0 Compatible MXM-III Supports HDCP	 Video Card Options Note that card types, specifications and drivers are subject to continual updates and changes. Check with your service center for the latest details on video cards supported.
BIOS	One 32Mb SPI Flash ROM	Phoenix™ BIOS
Storage	One Changeable 12.7mm(h) SATA Optical Device (CD/DVD) Type Drive (see <i>“Optional” on page 1 - 5</i> for drive options) Easy Changeable 2.5" 9.5 mm (h) SATA (Serial) HDD	
Card Reader	Embedded 7-in-1 Card Reader (MS/ MS Pro/ SD/ Mini SD/ MMC/ RS MMC/ MS Duo) Note: MS Duo/ Mini SD/ RS MMC Cards Require a PC Adapter	
Audio	High Definition Audio 3D Stereo Enhanced Sound System Sound-Blaster PRO™ Compatible	Built-In Microphone 2 * Built-In Speakers S/PDIF Digital Output
Keyboard & Pointing Device	Full Size Winkey Keyboard with Numeric Keypad	Built-In TouchPad (Scroll Functionality Included)
ExpressCard Slot	ExpressCard/34/54 Slot	
Mini-Card Slots	One Mini-Card Slot for 3.5G Module One Mini-Card Slot for Wireless LAN Module	

Introduction

Feature	Specification	
I/O Ports	Four USB 2.0 Ports One Combined eSATA Port/USB Port eSATA Port (hot swapping supported in Windows Vista only): AHCI mode supports hot swapping IDE mode does not support hot swapping One HDMI (High-Definition Multimedia Interface) Port with 5.1Channel Support One Headphone/Speaker-Out Jack One Microphone-In Jack	One S/PDIF Out Jack One RJ-45 LAN Jack One RJ-11 Modem Jack One Mini-IEEE1394a Port One DC-In Jack One DVI-Out Port (No HDCP Support)
Communication	Built-In 56K Fax Modem Built-In 10/100/1000Mb Base-TX Ethernet LAN Intel® WiFi Link 5300 Series (3*3 - 802.11a/g/n) Wireless LAN Mini-Card Module (Option) Intel® WiFi Link 5100 Series (1*2 - 802.11a/g/n) Wireless LAN Mini-Card Module (Option) 3rd Party 802.11b/g Wireless LAN Mini-Card Module with USB interface (Option) Bluetooth 2.0 + EDR (Enhanced Data Rate) Module (Factory Option) 1.3M or 2.0M Pixel PC Camera Module with USB interface (Factory Option) 3.5G Module: UMTS/HSPDA-based 3.5G Mini-Card Module with USB Interface (Factory Option) Quad-band GSM/GPRS (850 MHz, 900 MHz, 1800 MHz, 1900 MHz) UMTS WCDMA FDD (2100 MHz)  UMTS Modes Note that UMTS modes CAN NOT be used in North America.	
Operating Systems Supported	Windows XP SP2	Windows Vista 64bit SP1 Home Premium/ Business/ Enterprise/ Ultimate
Power Management	Supports ACPI 3.0	Supports Resume from Modem Ring Supports Wake on LAN

Feature	Specification	
Power	Full Range AC/DC Adapter – AC in 100 - 240V, 50 - 60Hz DC Output 20V, 6A (120 Watts) Easy Changeable 8-Cell Smart Lithium-Ion 4400mAH Main Battery	
Environmental Spec	Temperature Operating: 5°C - 35°C Non-Operating: -20°C - 60°C	Relative Humidity Operating: 20% - 80% Non-Operating: 10% - 90%
Physical Dimensions & Weight	364mm (w) * 269.5mm (d) * 29 ~ 41mm (h)	Around 3.2kg with 8 Cell Battery and ODD
Optional	<u>SATA Optical Drive Module Options:</u> Combo DVD Drive Module Super Multi Drive Module Blu-Ray Drive Module Intel® WiFi Link 5300/5100 Series (3*3/1*2 - 802.11a/g/n) Wireless LAN Mini-Card Module 3rd Party 802.11b/g Wireless LAN Mini-Card Module with USB interface Bluetooth 2.0 + EDR (Enhanced Data Rate) Module (Factory Option) 1.3M or 2.0M Pixel USB 2.0 PC Camera Module (Factory Option) Intel Turbo Memory (Robson) NAND Flash 2G Memory Card Module (Factory Option) Fingerprint Reader Module (Factory Option) UMTS/HSPDA-based 3.5G Module with Mini Card Interface (Factory Option) Quad-band GSM/GPRS (850 MHz, 900 MHz, 1800 MHz, 1900 MHz) UMTS WCDMA FDD (2100 MHz)	


UMTS Modes

Note that UMTS modes CAN NOT be used in North America.

Model Differences

The models vary slightly in external cover design and color.

Figure 1
Model Differences



M860TU



M865TU

External Locator - Top View with LCD Panel Open



Figure 1
Top View

1. Optional Built-In PC Camera
2. LCD
3. Hot Key Buttons
4. Power Button
5. Speakers
6. Keyboard
7. Built-In Microphone
8. TouchPad and Buttons
9. Fingerprint Reader Module (**optional**)

Note: Only one model is pictured here, however all the ports are the same for all the models.

Introduction

External Locator - Front and Rear View

Figure 2
Front View

1. Headphone-Out Jack
2. Microphone-In Jack
3. S/PDIF-Out Jack
4. Mini-IEEE 1394 Port
5. LED Indicators



Figure 3
Rear View

1. Vent/Fan Intake/Outlet
2. DVI-Out Port
3. HDMI-Out Port
4. *Combined eSATA/USB Port
5. USB 2.0 Port
6. DC-In Jack
7. Security Lock Slot



*Note that the eSATA port does not support hot-swapping in **Windows XP**. Make sure you install the **Intel Matrix** driver for e-SATA support in **Windows Vista**.

External Locator - Left & Right Side View



Figure 4
Left Side View

1. Optional Device Drive Bay (for CD/DVD Device)



Figure 5
Right Side View

1. Express Card Slot
2. 7-in-1 Card Reader
3. 2 * USB 2.0 Ports
4. RJ-45 LAN Jack
5. RJ-11 Phone Jack

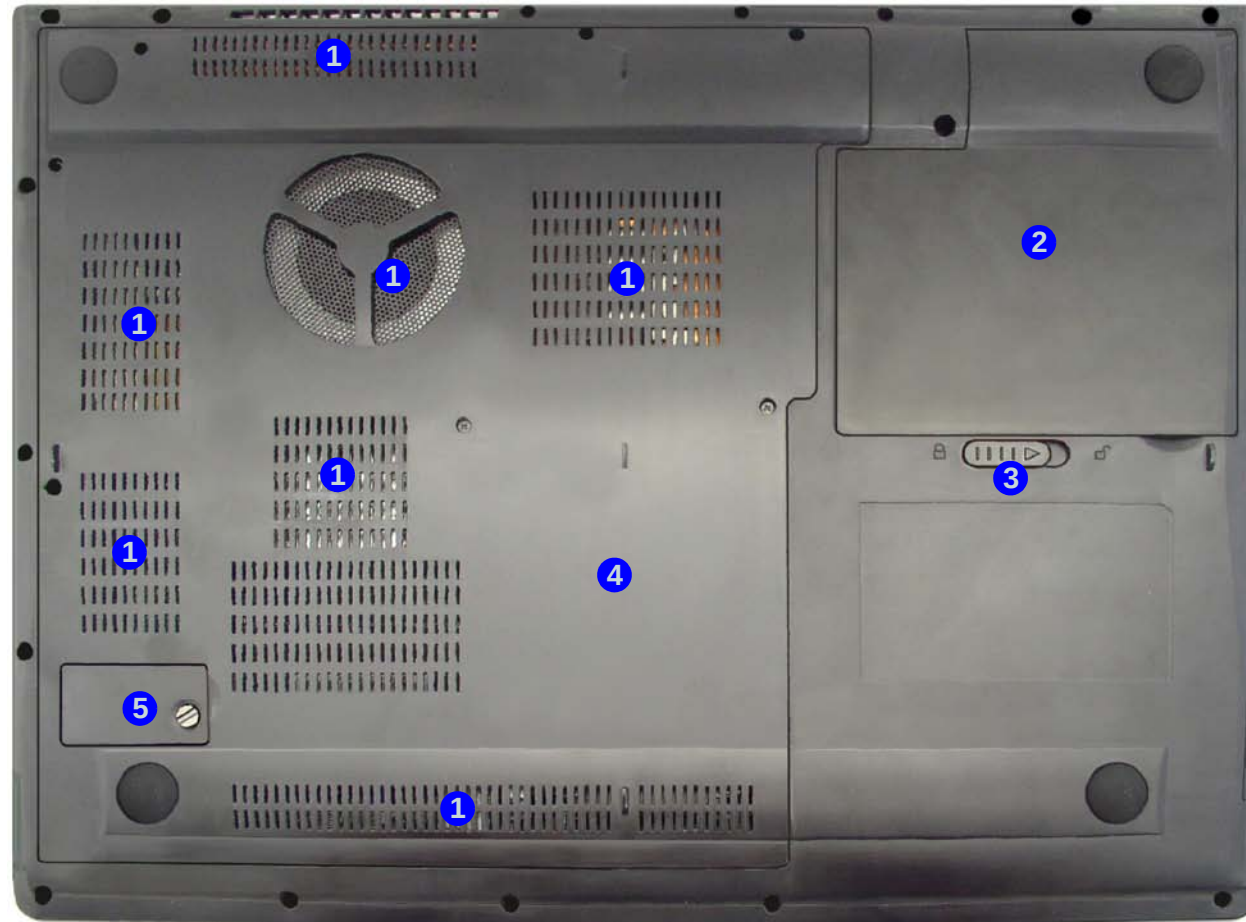
Note: Only one model is pictured here, however all the ports are the same for all the models.

Introduction

External Locator - Bottom View

Figure 6
Bottom View

1. Vent/Fan Intake/Outlet
2. Battery
3. Battery Release Latch
4. Component Bay Cover
5. 3.5G USIM Card Cover



Overheating

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

Mainboard Overview - Top (Key Parts)

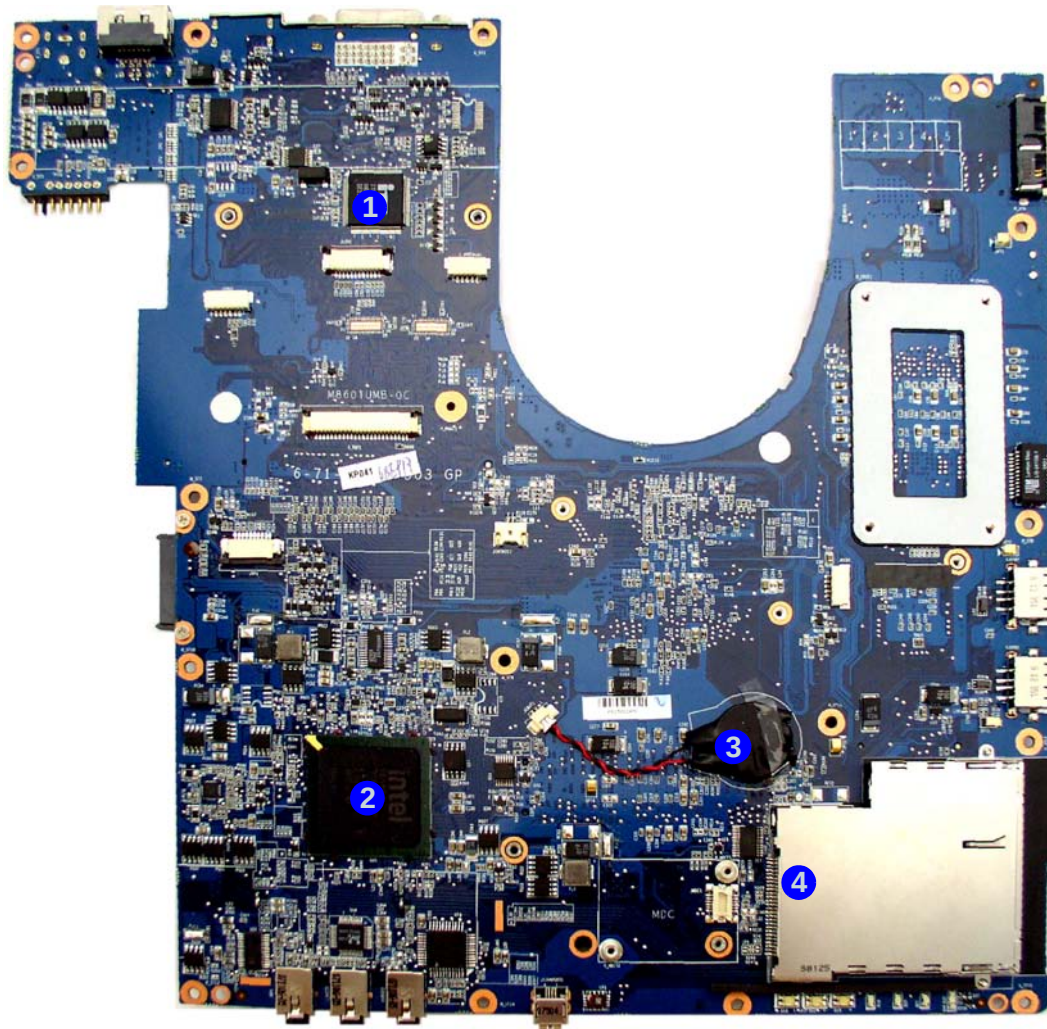


Figure 7
**Mainboard Top
Key Parts**

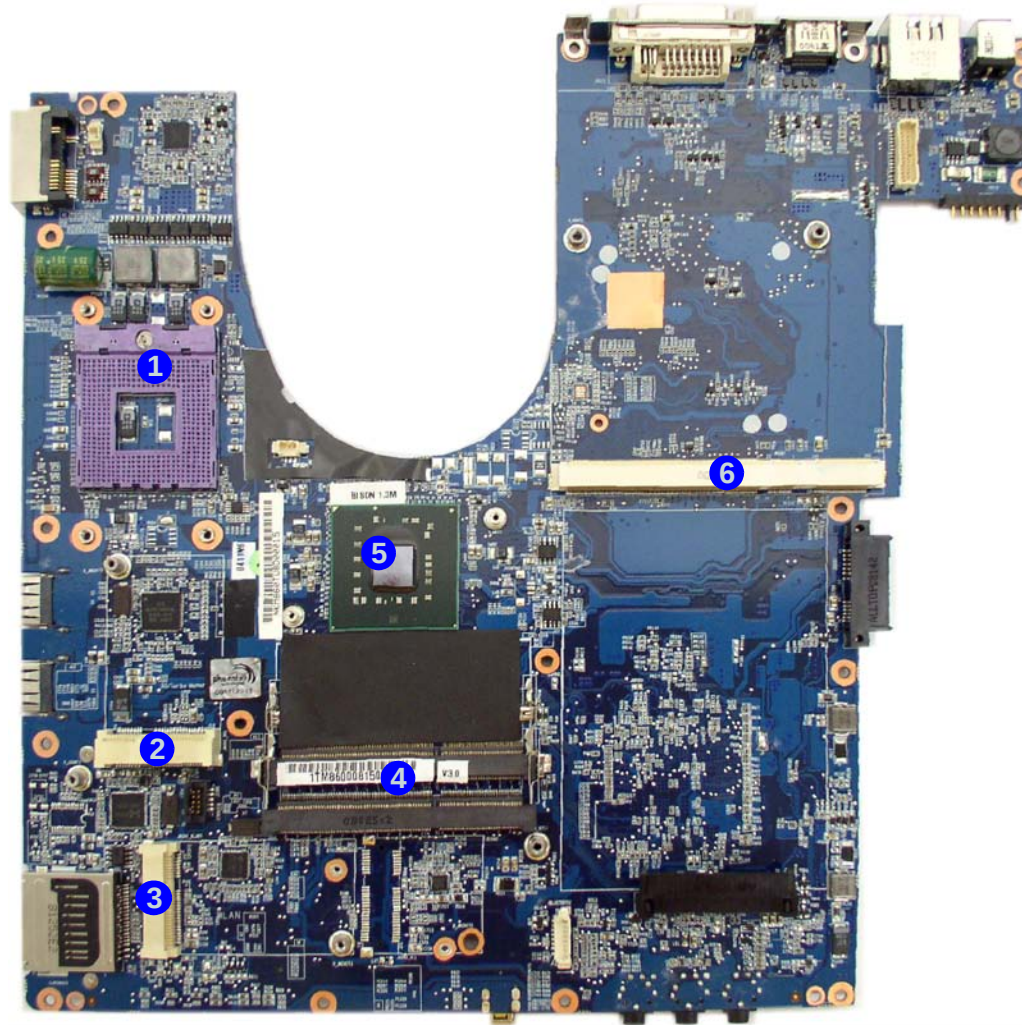
1. ITE
2. Southbridge
3. CMOS Battery
4. New Card Assembly

Introduction

Figure 8
**Mainboard Bottom
Key Parts**

1. CPU Socket (no CPU installed)
2. Mini-PCIe Socket (3G Module)
3. Mini-PCIe Socket (Wireless Lan Module)
4. Memory Slots DDR2 So-DIMM
5. NorthBridge
6. 160-Pin VGA Socket

Mainboard Overview - Bottom (Key Parts)



Mainboard Overview - Top (Connectors)

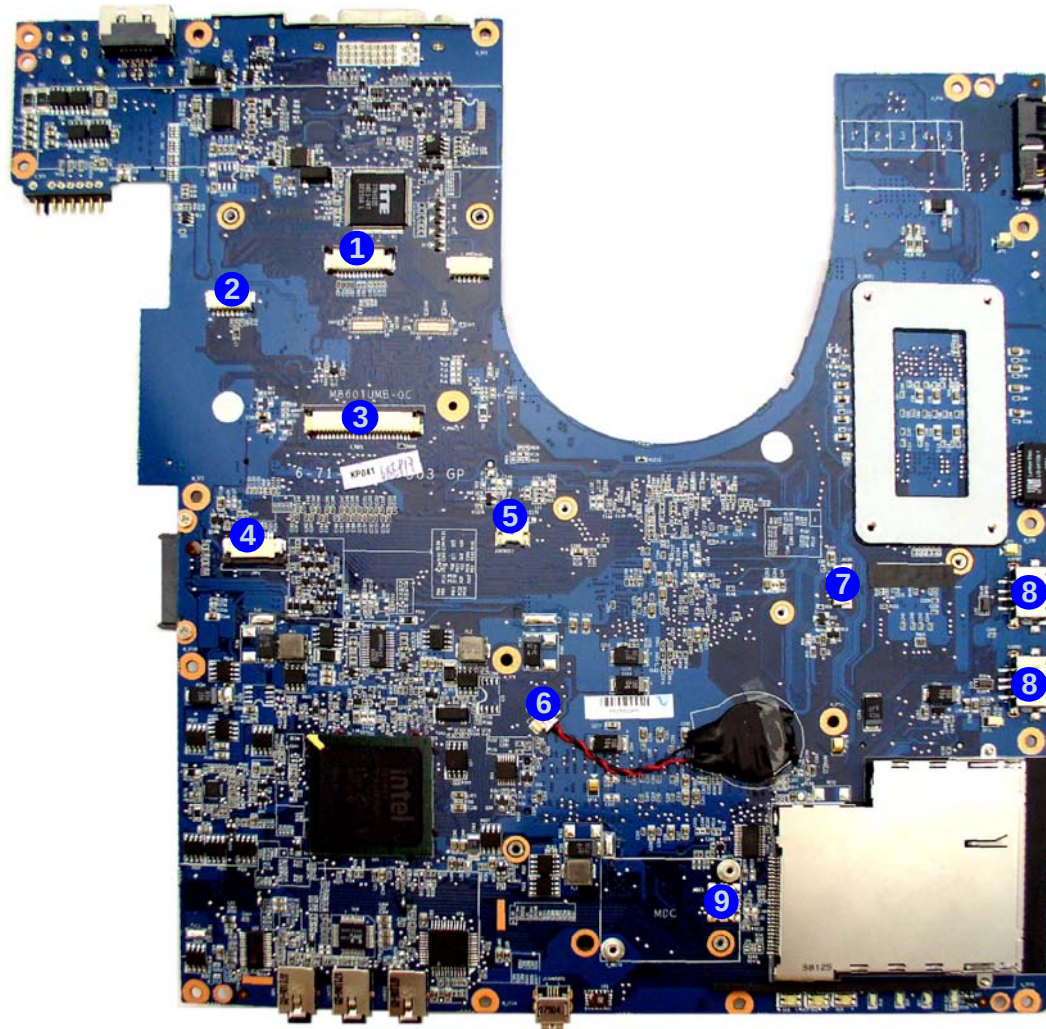


Figure 9
**Mainboard Top
Connectors**

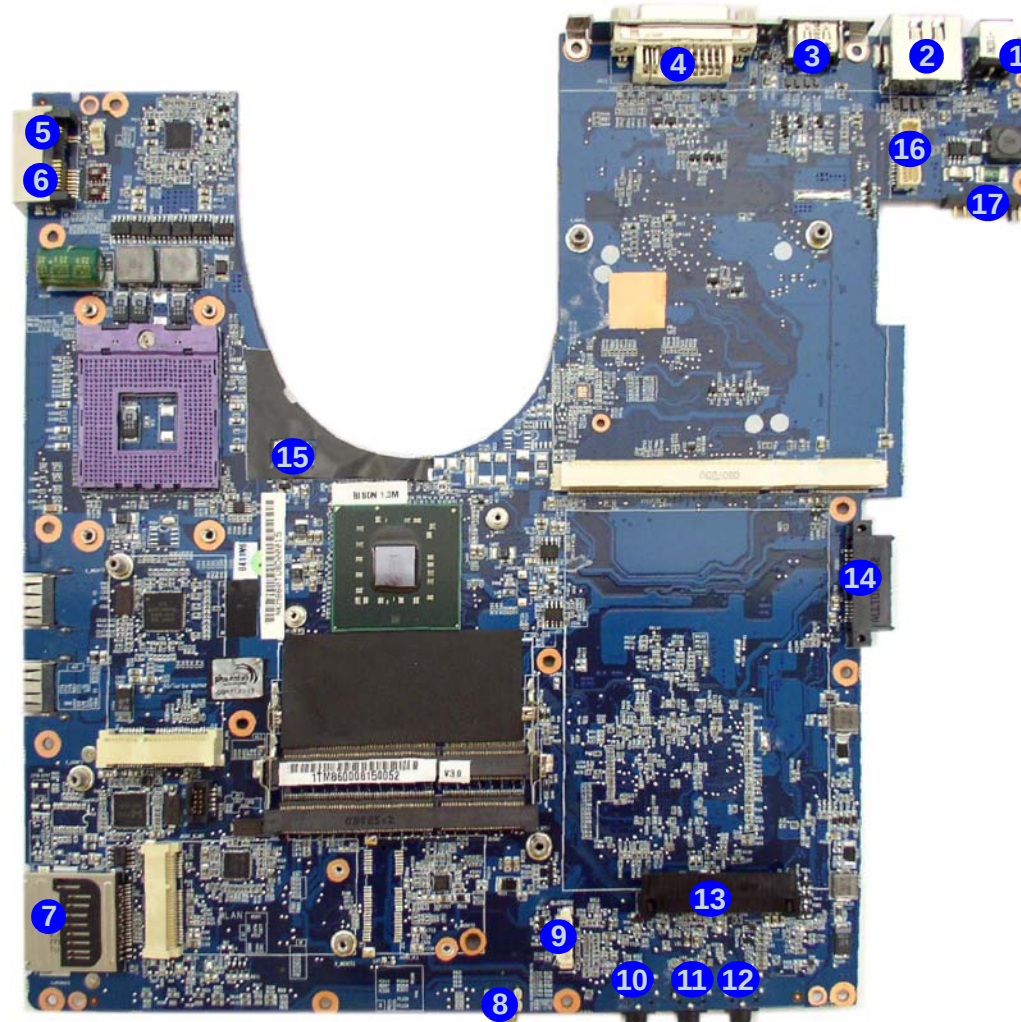
1. LED Cable Connector
2. Inverter Board Cable Connector
3. Keyboard Cable Connector
4. TouchPad Cable Connector
5. Microphone Cable Connector
6. CMOS Battery Connector
7. CCD Cable Connector
8. USB Port
9. MDC Connector

Introduction

Figure 10
**Mainboard Bottom
Connectors**

1. DC-In Jack
2. eSATA + USB Port
3. HDMI Port
4. DVI-Out Port
5. RJ-11 Jack
6. RJ-45 Jack
7. 7-in-1 Card Reader Connector
8. Mini-IEEE 1394a Port
9. Bluetooth Cable Connector
10. S/PDIF-Out Jack
11. Microphone Jack
12. Headphone Jack
13. HDD Connector
14. CD Connector
15. CPU Fan Cable Connector
16. LCD Cable Connector
17. Battery Connector

Mainboard Overview - Bottom (Connectors)



2: Disassembly

Overview

This chapter provides step-by-step instructions for disassembling the **M860TU/M865TU** 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, CD 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.


Information
Warning

Disassembly

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

Maintenance Tools

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

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

Connections

Connections within the computer are one of four types:

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

Maintenance Precautions

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

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

Cleaning

Do not apply cleaner directly to the computer, use a soft clean cloth.

Do not use volatile (petroleum distillates) or abrasive cleaners on any part of the computer.



Power Safety Warning

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

Disassembly Steps

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

To remove the Battery:

1. Remove the battery [page 2 - 5](#)

To remove the HDD:

1. Remove the battery [page 2 - 5](#)
2. Remove the HDD [page 2 - 6](#)

To remove the Optical Device:

1. Remove the battery [page 2 - 5](#)
2. Remove the Optical device [page 2 - 8](#)

To remove the System Memory:

1. Remove the battery [page 2 - 5](#)
2. Remove the system memory [page 2 - 9](#)

To remove and install a Processor:

1. Remove the battery [page 2 - 5](#)
2. Remove the processor [page 2 - 10](#)
3. Install the processor [page 2 - 12](#)

To remove the VGA Card:

1. Remove the battery [page 2 - 5](#)
2. Remove the VGA Card [page 2 - 13](#)

To remove the 3G Module:

1. Remove the battery [page 2 - 5](#)
2. Remove the 3G 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 Bluetooth Module:

1. Remove the battery [page 2 - 5](#)
2. Remove the Bluetooth Module [page 2 - 16](#)

To remove the Inverter Board:

1. Remove the battery [page 2 - 5](#)
2. Remove the inverter board [page 2 - 17](#)

To remove the Keyboard:

1. Remove the battery [page 2 - 5](#)
2. Remove the keyboard [page 2 - 18](#)

To remove the Modem:

1. Remove the battery [page 2 - 5](#)
2. Remove the HDD [page 2 - 6](#)
3. Remove the Optical device [page 2 - 8](#)
4. Remove the system memory [page 2 - 9](#)
5. Remove the processor [page 2 - 10](#)
6. Remove the VGA Card [page 2 - 13](#)
7. Remove the 3G module [page 2 - 14](#)
8. Remove the WLAN module [page 2 - 15](#)
9. Remove the Bluetooth Module [page 2 - 16](#)
10. Remove the keyboard [page 2 - 18](#)
11. Remove the Modem [page 2 - 19](#)

Removing the Battery

1. Turn the computer off, and turn it over.
2. Slide latch ① towards the unlock symbol and hold it in place, and lift the battery ② up and out of the battery bay.

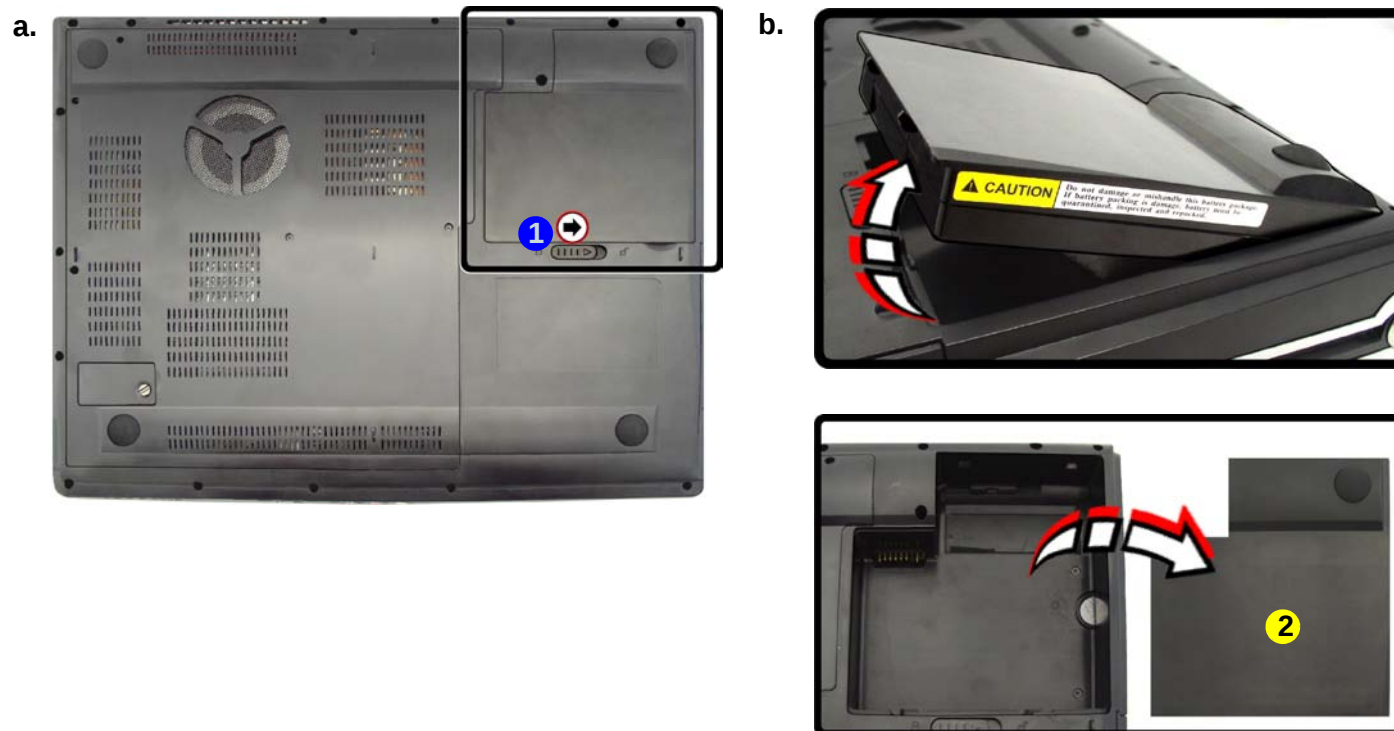


Figure 1
Battery Removal

- a. Slide latch at point 1 towards the unlock symbol and hold it in place.
- b. Lift the battery out.



2. Battery

Disassembly

Figure 2
HDD Assembly Removal

- a. Remove the screws.
- b. Remove the cover and locate the hdd.



Fan Cable

Make sure you reconnect the fan cable **9** before screwing down the bay cover.



8. Component Bay Cover

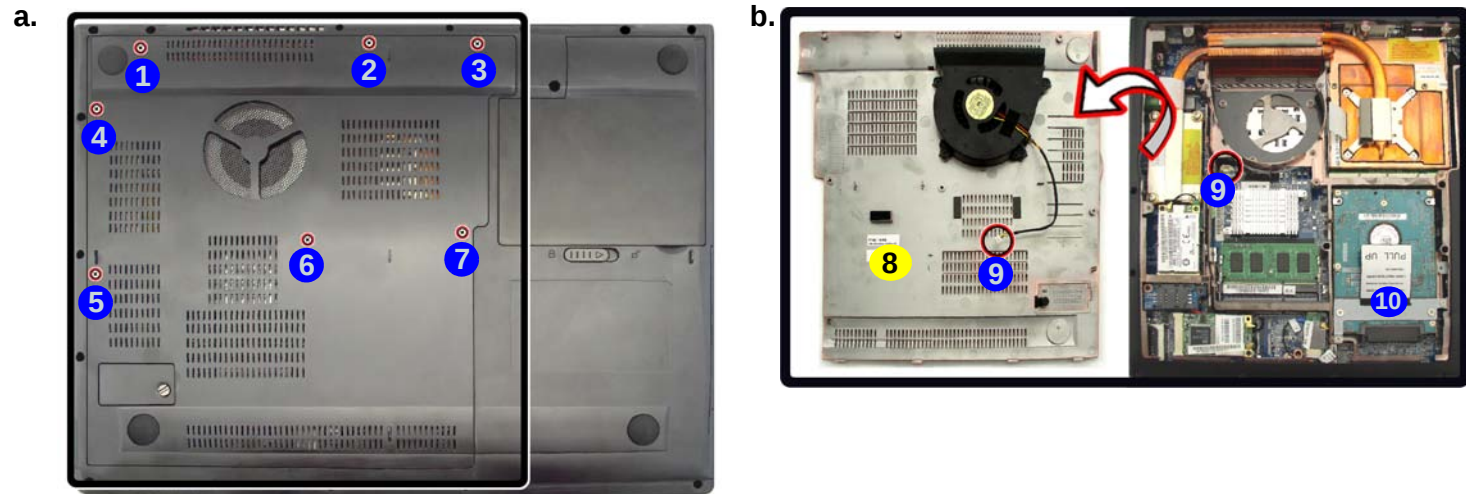
- 7 Screws

Removing the Hard Disk Drive

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

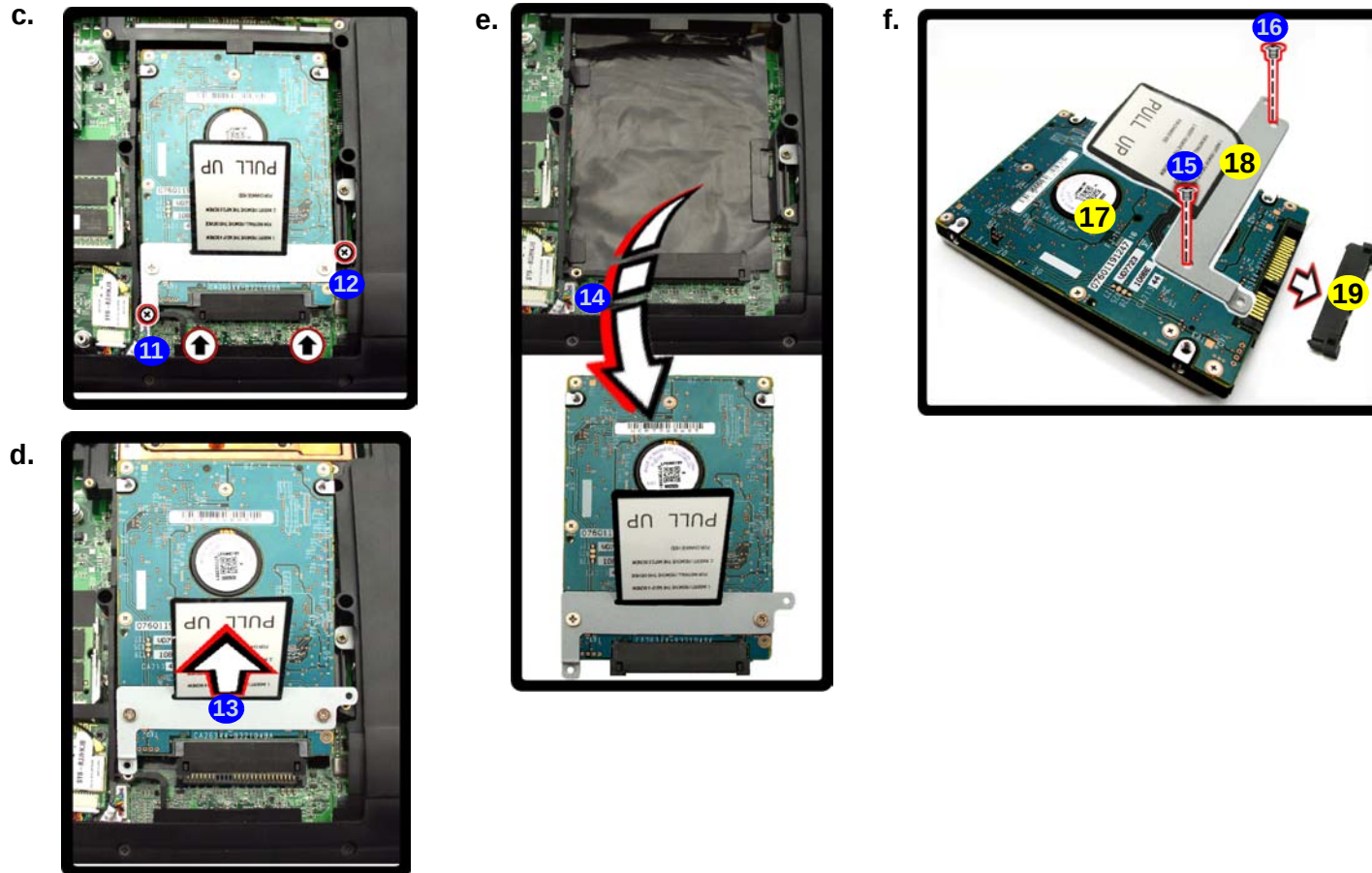
Hard Disk Upgrade Process

1. Turn **off** the computer, and turn it over and remove the battery ([page 2 - 5](#)).
2. Locate the component bay cover and remove screws **1 - 7**.
3. Carefully (**a fan and cable are attached to the under side of the cover**) lift up the bay cover **8**.
4. Carefully disconnect the fan cable **9**, and remove the cover **8**.
5. The hard disk assembly cover will be visible at point **10** on the mainboard.



6. Remove screws **11** - **12** from the hard disk assembly.
7. Pull the hard disk assembly in the direction of the arrow **13**.
8. Carefully remove the hard disk assembly in the direction of the arrow **14**.
9. Remove screws **15** - **16** to separate the hard disk **17** from the bracket **18** and connector **19**.
10. Reverse the process to install a new hard disk(s).

Figure 3
HDD Assembly Removal (cont'd)



- c. Remove screws.
- d. Pull the HDD module in the direction of the arrow.
- e. Remove the HDD module.
- f. Remove the screws and separate the bracket and connector from the HDD.

17. HDD
18. HDD Bracket
19. HDD Connector

- 4 Screws

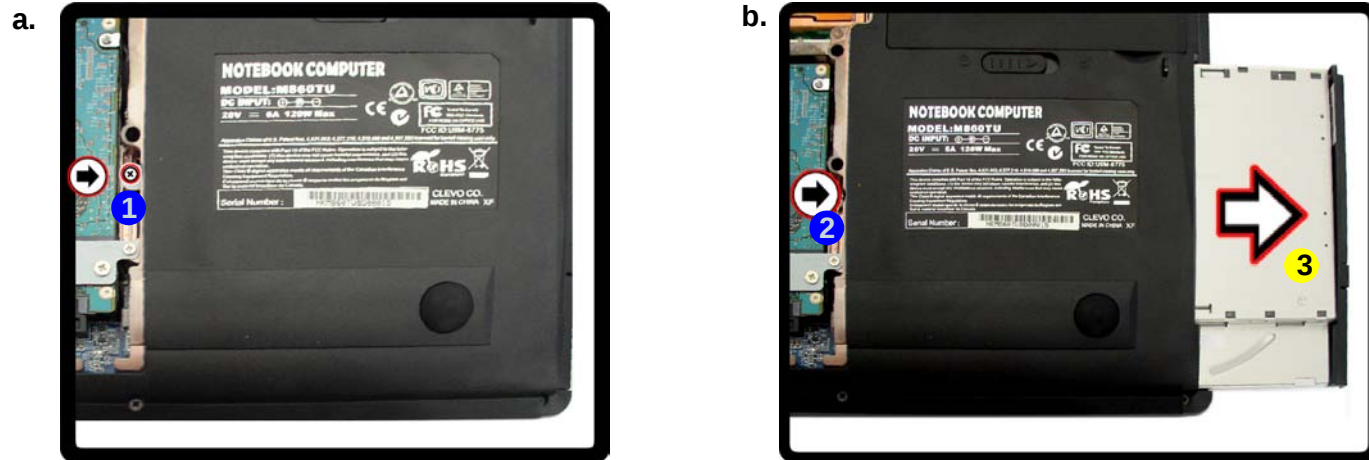
Disassembly

Figure 4
**Optical Device
Removal**

- Remove the screw.
- Slide the optical device out of the computer at point 2.

Removing the Optical (CD/DVD) Device

- Turn **off** the computer, turn it over and remove the battery ([page 2 - 5](#)) and component bay cover ([page 2 - 6](#)).
- Remove the screw at point **1**, and use a screwdriver to carefully push out the optical device **3** at point **2** out of the computer.
- Restart the computer to allow it to automatically detect the new device.



Fan Cable

Make sure you reconnect the fan cable **9** (see [page 2 - 6](#)) before screwing down the bay cover.



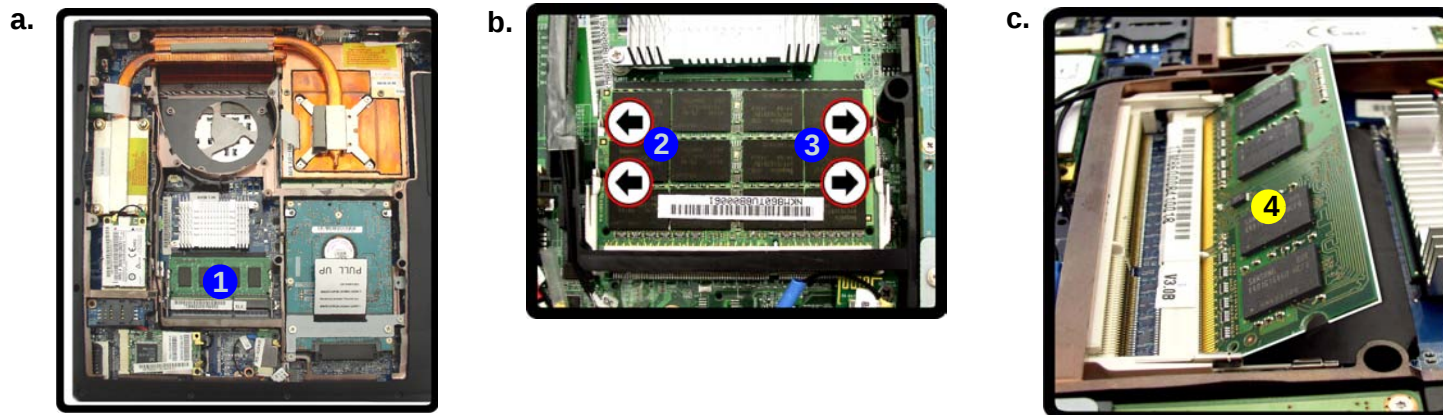
3. Optical Device

Removing the System Memory (RAM)

The computer has two memory sockets for 200 pin Small Outline Dual In-line Memory Modules (SO-DIMM) supporting DDRIII (DDR3) Up to 1066 MHz. The main memory can be expanded up to 4GB. 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](#)) and the component bay cover ([page 2 - 6](#)).
2. The RAM module(s) will be visible at point **1** on the mainboard.
3. Gently pull the two release latches (**2** & **3**) on the sides of the memory socket in the direction indicated by the arrows ([Figure 5b](#)).



4. The RAM module(s) **4** will pop-up ([Figure 5c](#)), and you can then remove it.
5. Pull the latches to release the second module if necessary.
6. Insert a new module holding it at about a 30° angle and fit the connectors firmly into the memory slot.
7. The module 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.
8. Press the module in and down towards the mainboard until the slot levers click into place to secure the module.
9. Replace the component bay cover and the screws (see [page 2 - 6](#)).
10. Restart the computer to allow the BIOS to register the new memory configuration as it starts up.

Figure 5
RAM Module Removal

- a. Locate the memory socket.
- b. Pull the release latch(es).
- c. Remove the module(s).



Single Memory Module Installation

If your computer has a single memory module, then insert the module into the **Channel 0 (JDIMM_1)** socket. In this case, this is the lower memory socket (the socket closest to the mainboard) as shown in [Figure C](#).



4. RAM Module

Disassembly

Removing and Installing a Processor

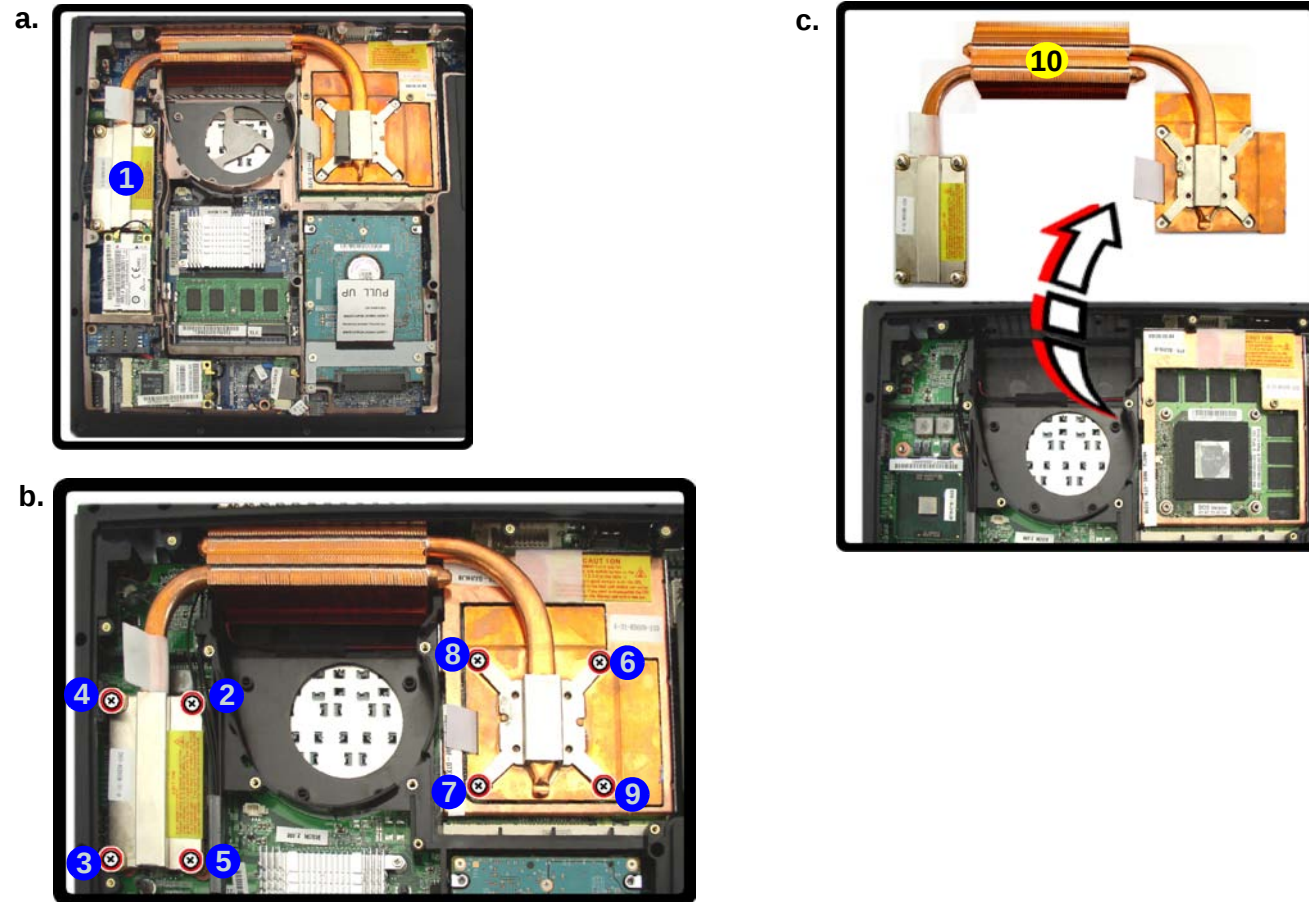
Figure 6

Processor Removal

- Locate the heat sink.
- Remove the screws in the order indicated.
- Remove the heat sink.

Processor Removal Procedure

- Turn **off** the computer, turn it over, and remove the battery ([page 2 - 5](#)) and the component bay cover ([page 2 - 6](#)).
- The heat sink will be visible at point **1** on the mainboard
- Remove the screws **2** - **9** from the heat sink in the order indicated ([Figure 6b](#)).
- Carefully lift the heat sink **10** ([Figure 6c](#)) up off the computer.



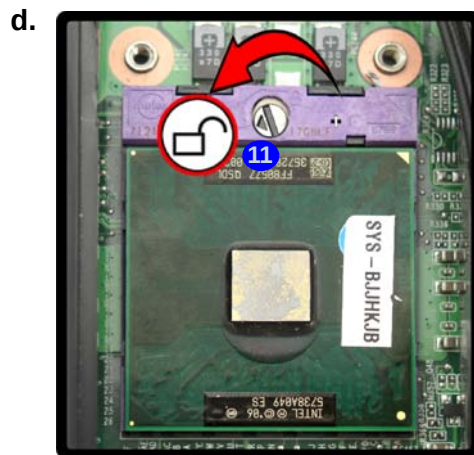
10. Heat Sink

- 8 Screws

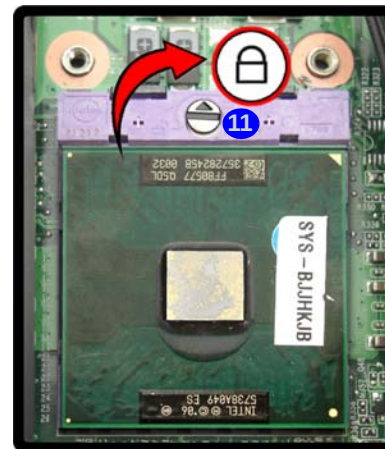
5. Turn the release latch **11** towards the unlock symbol  to release the CPU.
6. Carefully (it may be hot) lift the CPU **12** up and out of the socket (**Figure 7e**).
7. Reverse the process to install a new CPU.
8. When re-inserting the CPU, pay careful attention to the pin alignment, it will fit only one way (DO NOT FORCE IT!).

Figure 7
Processor Removal
(cont'd)

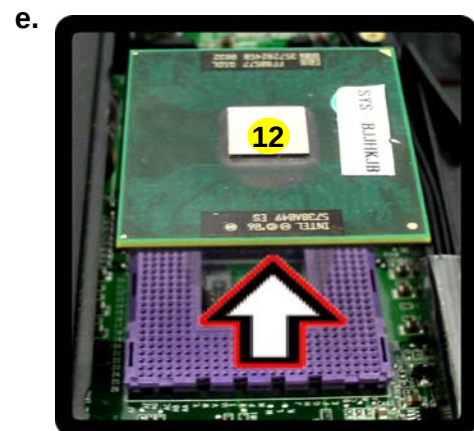
- d. Turn the release latch to unlock the CPU.
- e. Lift the CPU out of the socket.



Unlock



Lock



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.



12. CPU

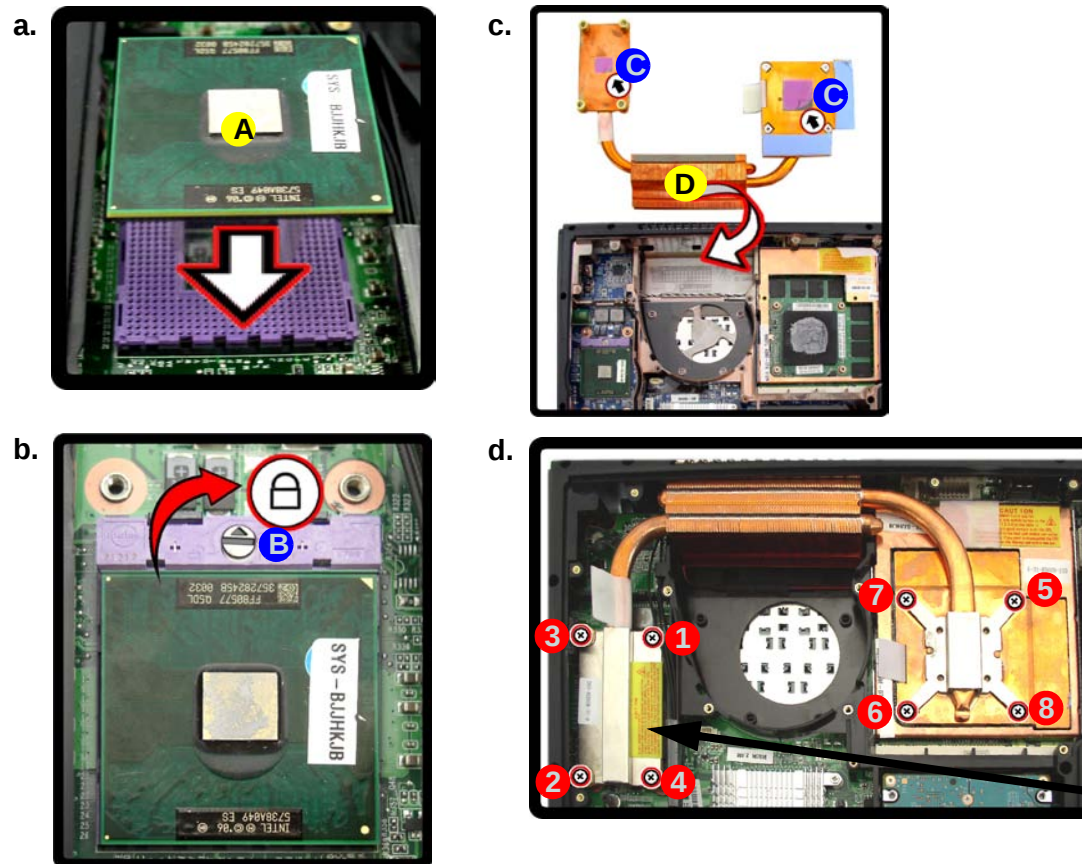
Disassembly

Figure 8
Processor
Installation

- Insert the CPU.
- Turn the release latch towards the lock symbol.
- Remove the sticker from the heat sink and insert the heat sink.
- Tighten the screws.

Processor Installation Procedure

- Insert the CPU **A**, 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 8b**).
- Remove the sticker **C** (**Figure 8c**) from the heat sink.
- Insert the heat sink **D** as indicated in **Figure 8c**.
- Tighten the CPU heat sink screws in the order **1** to **4** and **5** to **8** (the order as indicated on the label and **Figure 8d**).
- Replace the component bay cover and tighten the screws (see **page 2 - 6**).



Note:

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

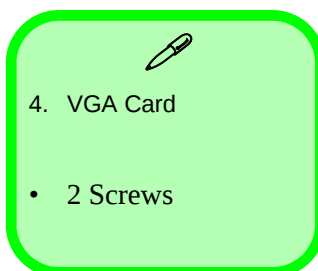
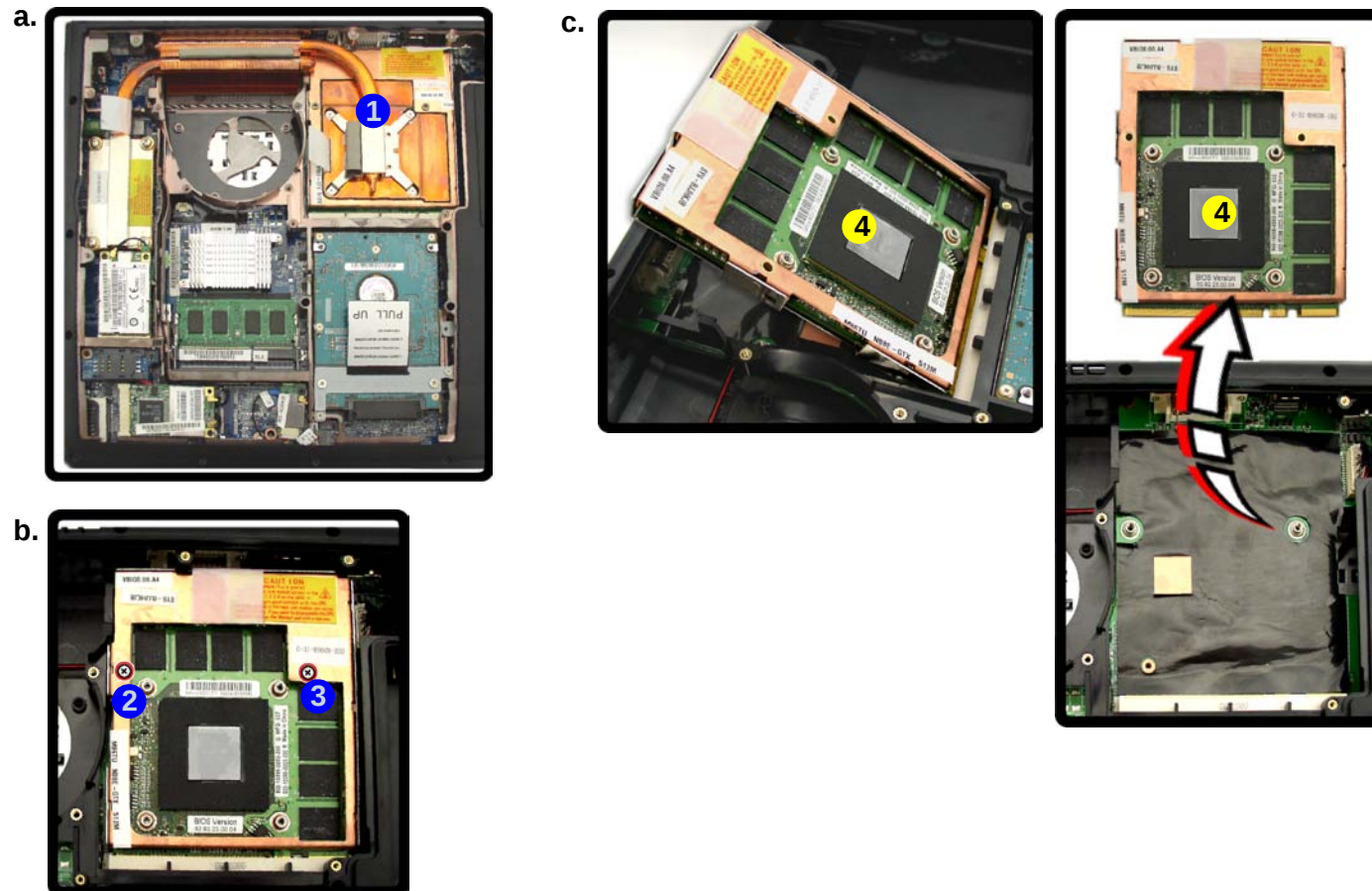
- A. CPU
- D. Heat Sink
- 8 Screws

Removing the VGA Card

1. Turn **off** the computer, turn it over, and remove the battery ([page 2 - 5](#)), the component bay cover ([page 2 - 6](#)) and the CPU heat sink ([page 2 - 10](#)).
2. The VGA Card(s) will be visible at point **1** on the mainboard.
3. Remove screws **2** - **3** ([Figure 9b](#)).
4. Carefully grip the plastic holder and lift the video card **4** up and off the sockets.
5. Reverse the process to install the new VGA Card.

Figure 9
VGA Card Removal

- a. Locate the VGA.
- b. Remove the screws.
- c. Lift the VGA card up and off the sockets.



Disassembly

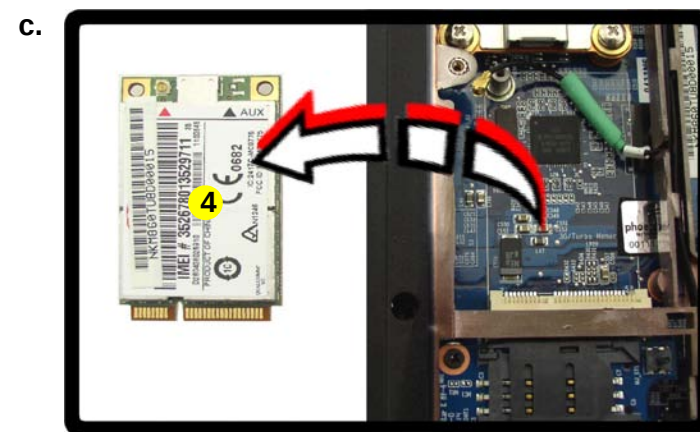
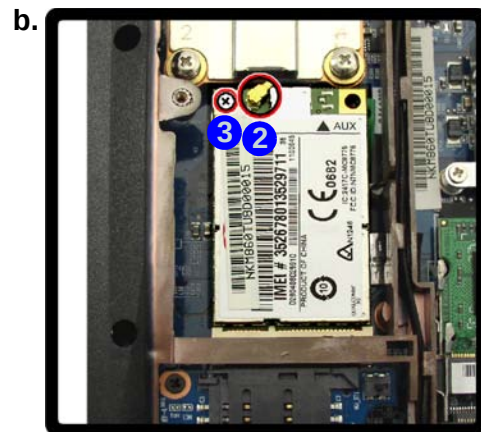
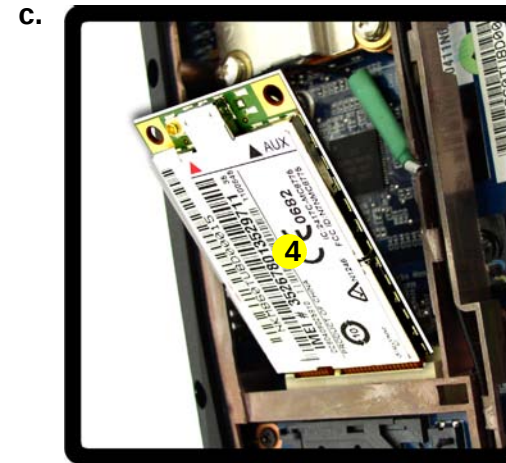
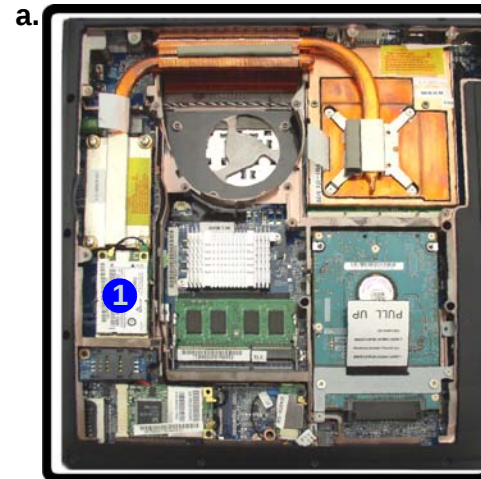
Figure 10
3G Module Removal

- Locate the 3G module.
- Disconnect the cable and remove the screw.
- The 3G module will pop up.
- Remove the 3G module.

Note: Make sure you reconnect the antenna cable to socket (Figure 10b).

Removing the 3G Module

- Turn off the computer, turn it over, and remove the battery (page 2 - 5) and the component bay cover (page 2 - 6).
- The 3G module will be visible at point ① on the mainboard.
- Carefully disconnect the cable ②, and then remove the screw ③.
- The 3G module ④ (Figure 11c) will pop-up, and you can remove it off the computer.



4.3G Module

- 1 Screw

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 - 6](#)).
2. The wireless LAN module will be visible at point **1** on the mainboard.
3. Carefully disconnect the cables **2** - **3**, and then remove the screw **4**.
4. The wireless LAN module **5** ([Figure 11c](#)) will pop-up, and you can remove it off the computer.

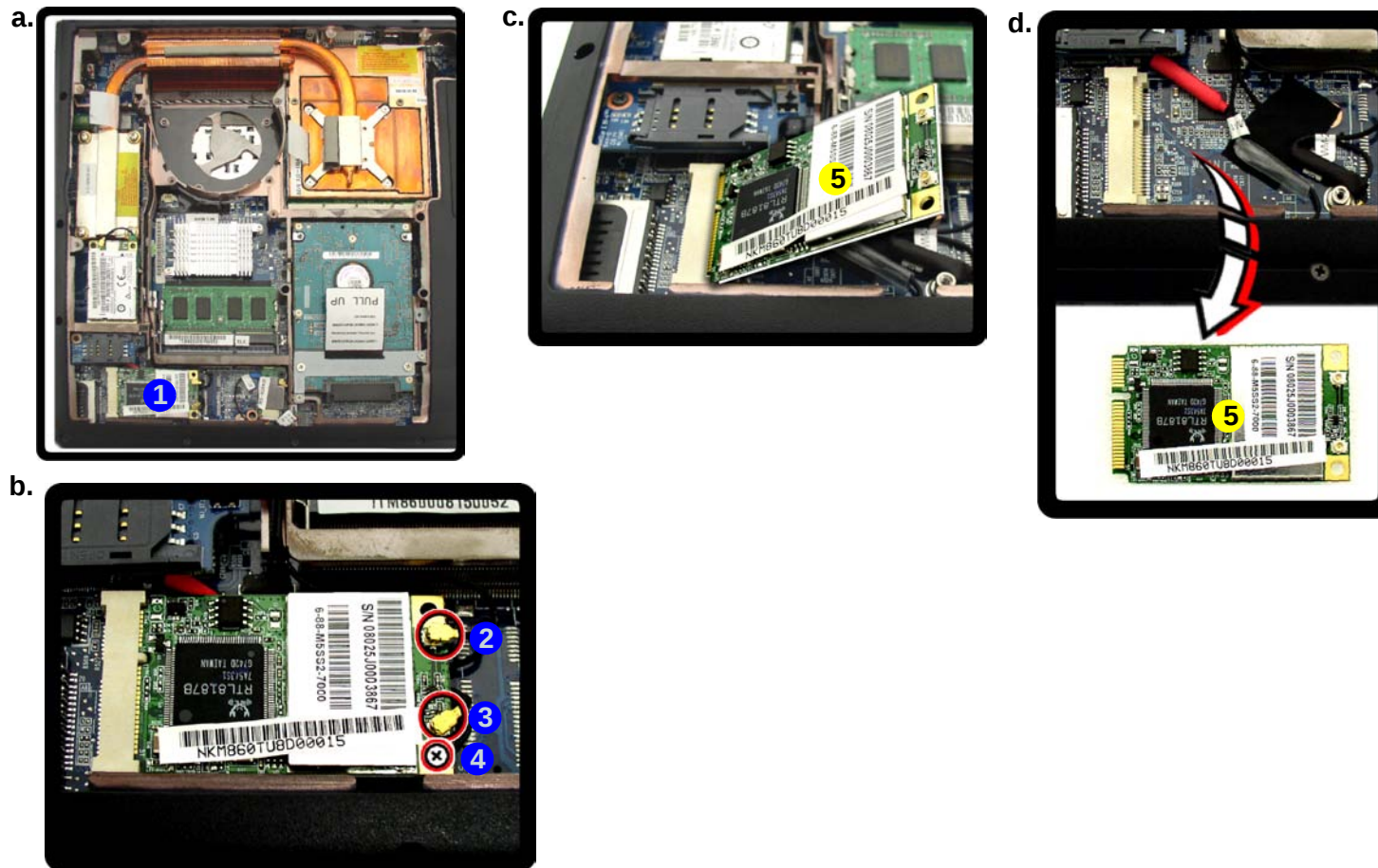


Figure 11
**Wireless LAN
Module Removal**

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

Note: Make sure you reconnect the antenna cable to the “1 + 2” socket ([Figure 11b](#)).



5.Wireless LAN Module

- 1 Screw

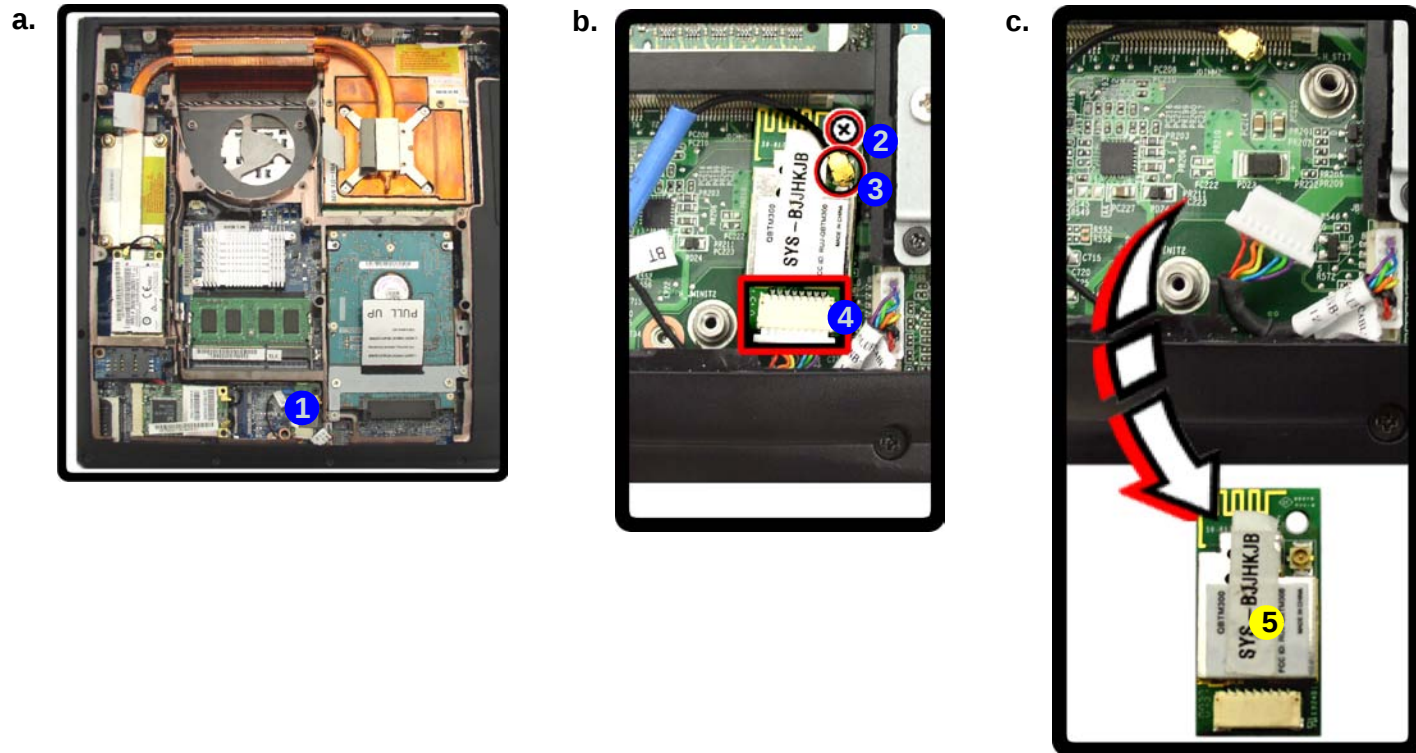
Disassembly

Figure 12
Bluetooth Module Removal

- Locate the Bluetooth module.
- Remove the screw and disconnect the cable and the connector from the bluetooth module.
- Lift the Bluetooth module out.

Removing the Bluetooth Module

- Turn **off** the computer, turn it over, and remove the battery ([page 2 - 5](#)) and the component bay cover ([page 2 - 6](#)).
- The Bluetooth module will be visible at point **1** on the mainboard.
- Remove the screw **2** and carefully disconnect the cable **3** and separate the connector **4** ([Figure 12b](#)) from the Bluetooth Module.
- Lift the Bluetooth Module **5** ([Figure 12c](#)) up and off the computer.

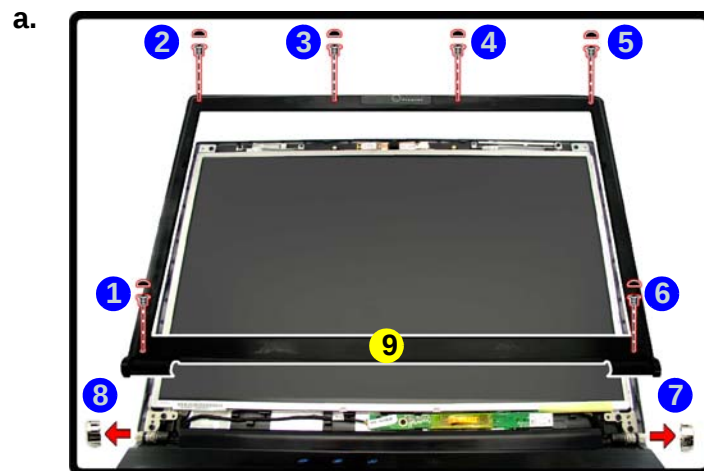


5. Bluetooth Module

- 1 Screw

Removing the Inverter Board

1. Turn **off** the computer, and remove the battery ([page 2 - 5](#)).
2. Remove any rubber covers, screws **1** - **6** and hinge covers **7** - **8** ([Figure 13a](#)), then run your finger around the middle of the frame to carefully unsnap the LCD front panel module **9** from the back.
3. Discharge the remaining system power (see [“Inverter Power Warning”](#) below).
4. Remove screw **10** ([Figure 13b](#)) from the inverter, and carefully lift the inverter board up slightly.
5. Disconnect cables **11** & **12** ([Figure 13c](#)) from the inverter, then remove the inverter **13** ([Figure 13d](#)) from the top case assembly.



Inverter Power Warning

In order to prevent a short circuit when removing the inverter it is necessary to discharge any remaining system power. To do so, press the computer's power button for a few seconds before disconnecting the inverter cable.

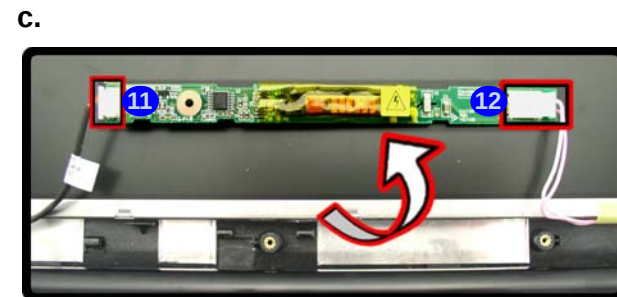


Figure 13
Inverter Board Removal

- a. Remove the 6 screws and unsnap the LCD front panel module from the back.
- b. Remove the screw from the inverter board and lift the board up slightly.
- c. Disconnect the cables from the inverter.
- d. Remove the inverter.



9. LCD Front Panel
13. Inverter Board

- 6 Screws

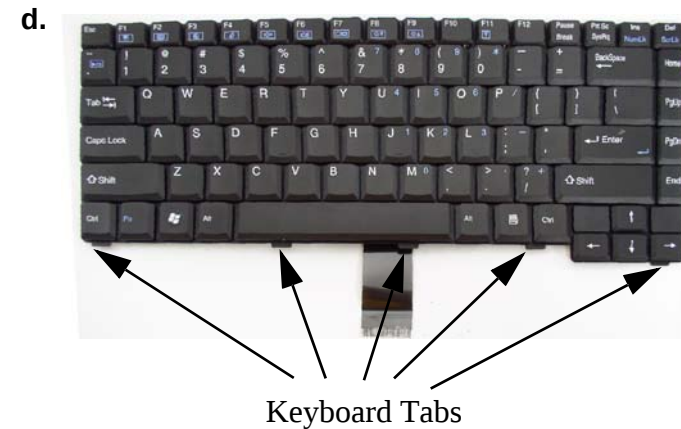
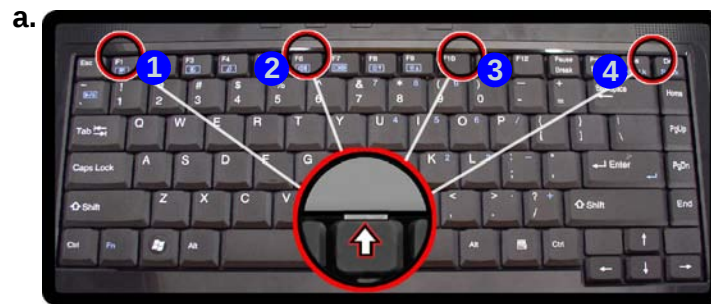
Disassembly

Figure 14
Keyboard Removal

- Press the four latches to release the keyboard.
- Lift the keyboard up and disconnect the cable from the locking collar.
- Remove the keyboard.

Removing the Keyboard

- Turn **off** the computer, and remove the battery ([page 2 - 5](#)).
- Press the **four** keyboard latches at the top of the keyboard to elevate the keyboard from its normal position (you may need to use a small screwdriver to do this).
- Carefully lift the keyboard up, being careful not to bend the keyboard ribbon cable **5** ([Figure 14b](#)).
- Disconnect the keyboard ribbon cable **5** from the locking collar socket **6**.
- Carefully lift up the keyboard **7** ([Figure 14c](#)) off the computer.



Re-Inserting the Keyboard

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

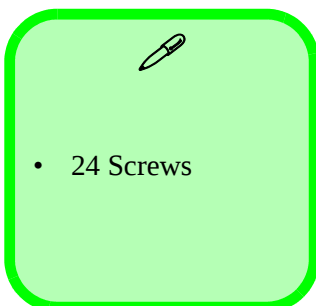
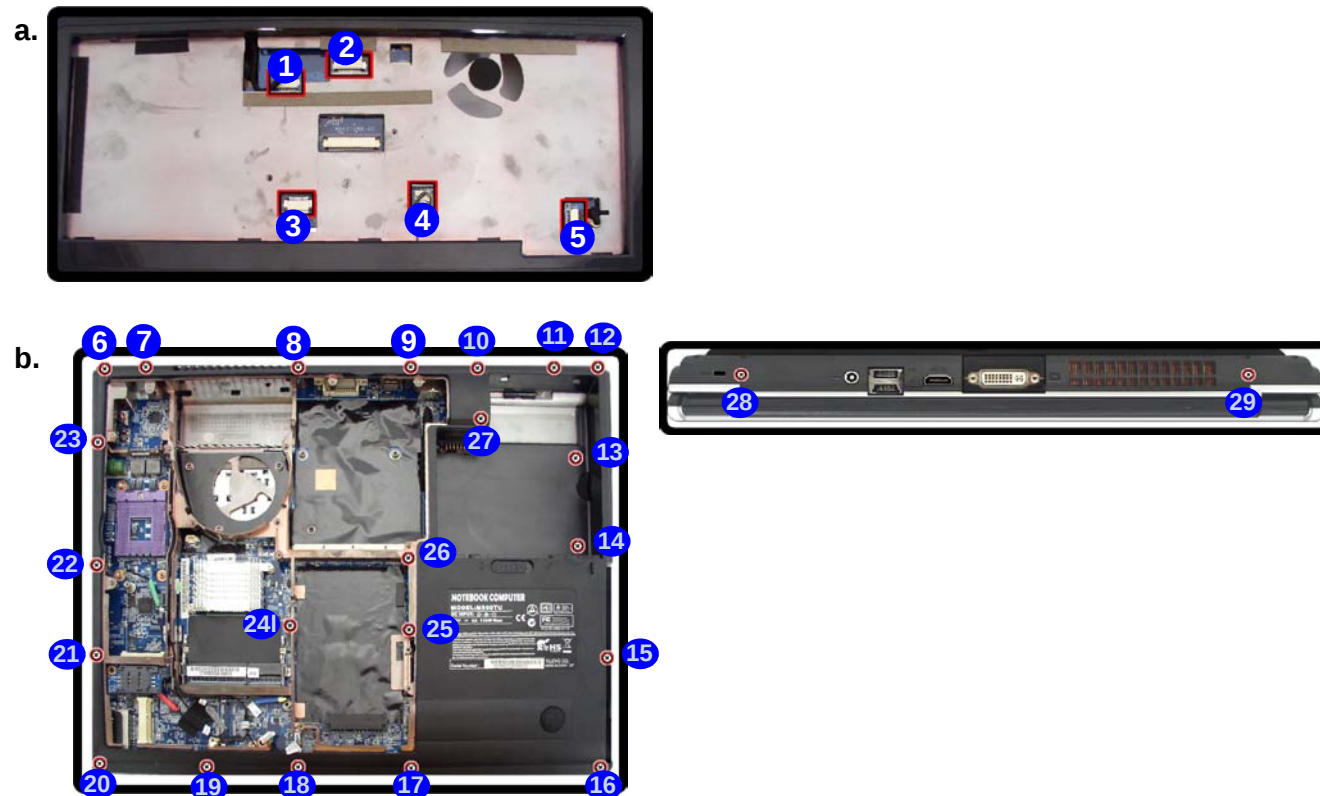
7. Keyboard

Removing the Modem

1. Turn **off** the computer, turn it over and remove the battery ([page 2 - 5](#)), hard disk ([page 2 - 6](#)), optical device ([page 2 - 8](#)), RAM ([page 2 - 9](#)), CPU ([page 2 - 10](#)), VGA card ([page 2 - 13](#)), 3G ([page 2 - 14](#)), wireless LAN ([page 2 - 15](#)), Bluetooth ([page 2 - 16](#)) and keyboard ([page 2 - 18](#)).
2. Carefully disconnect connectors (1 - 5) and turn the computer over.
3. Remove screws 6 - 27 from the bottom case ([Figure 15d](#)) and remove screws 28 - 29 from the rear of the computer.

Figure 15
Modem Removal

- a. Disconnect the connectors.
- b. Remove the screws.

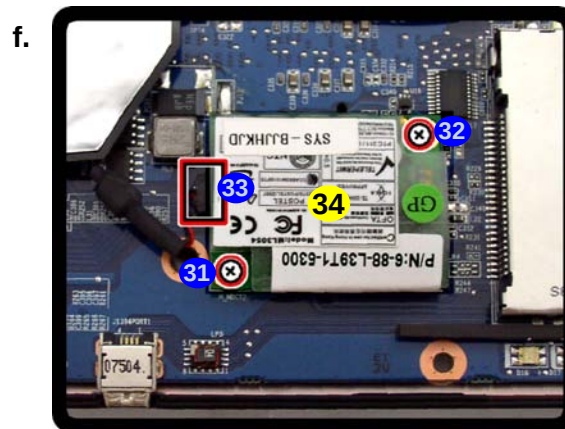
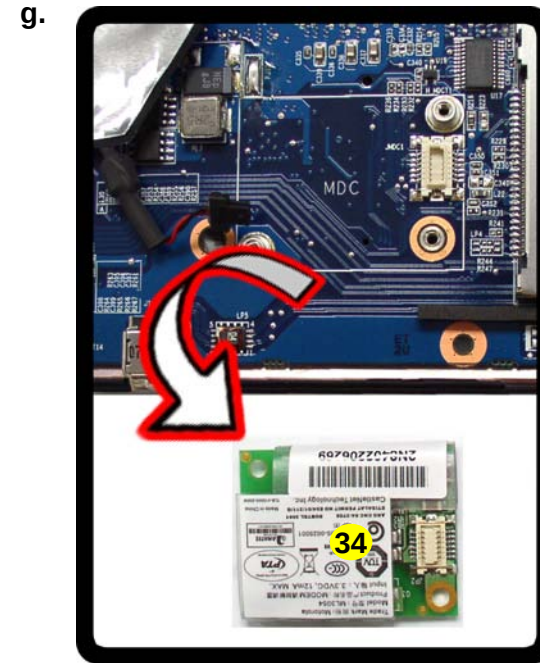
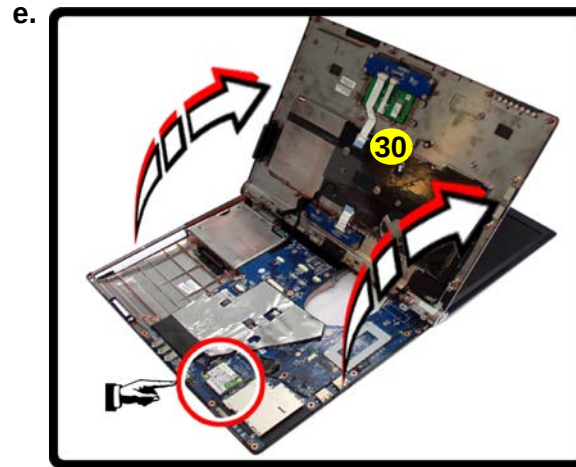


Disassembly

Figure 16
Modem Removal
(cont'd)

4. Carefully lift the top case **30** (*Figure 16e*) up and off the computer.
5. Remove screws **31** - **32** from the modem and disconnect cable **33**.
6. Lift the modem **34** (*Figure 16g*) up and off the computer.

- e. Lift the top case off the computer.
- f. Remove the screws and disconnect the cable.
- g. Lift the modem off the computer.



30. Top Case
34. Modem

- 2 Screws

Appendix A:TUPart Lists

This appendix breaks down the *M860TU/M865TU* 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	Pages
Top without Fingerprint (M860TU)	<i>page A - 3</i>
Top without Fingerprint (M865TU)	<i>page A - 4</i>
Top with Fingerprint (M860TU)	<i>page A - 5</i>
Top with Fingerprint (M865TU)	<i>page A - 6</i>
Bottom	<i>page A - 7</i>
LCD (M860TU)	<i>page A - 8</i>
LCD (M865TU)	<i>page A - 9</i>
DVD-ROM Drive	<i>page A - 10</i>
Combo Drive	<i>page A - 11</i>
HDD	<i>page A - 12</i>

Top without Fingerprint (M860TU)

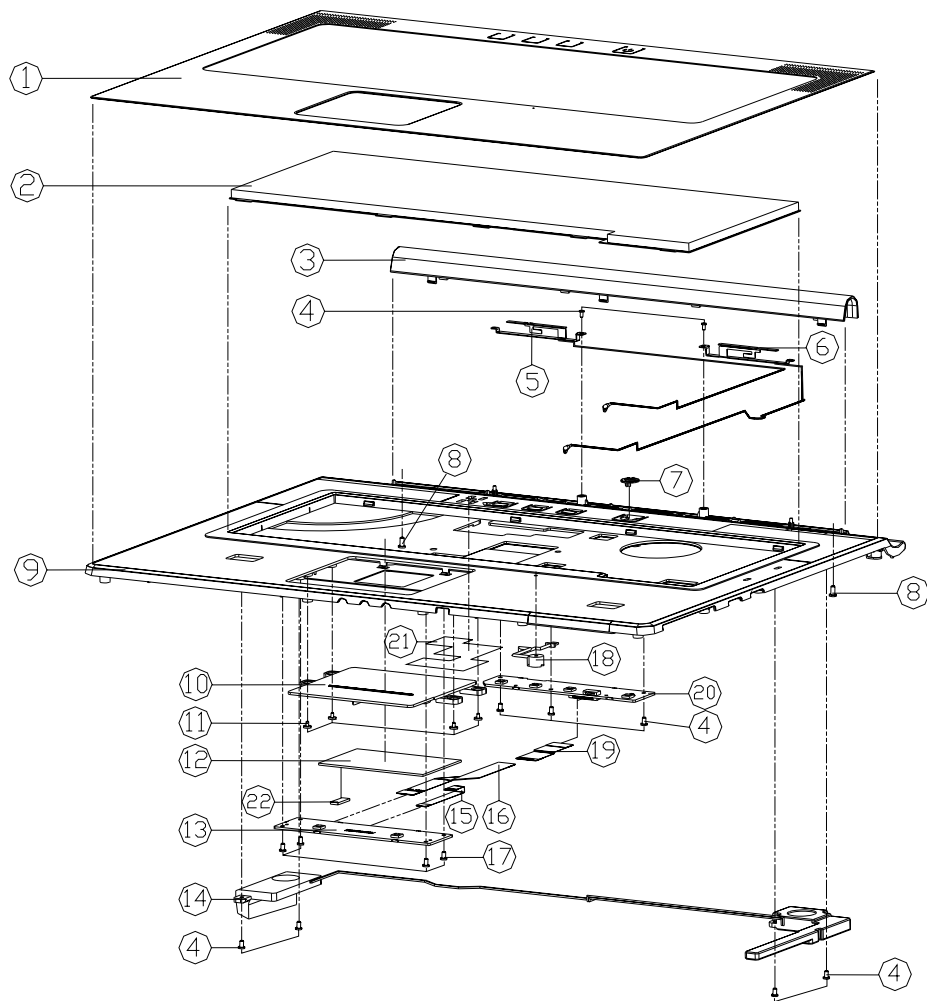
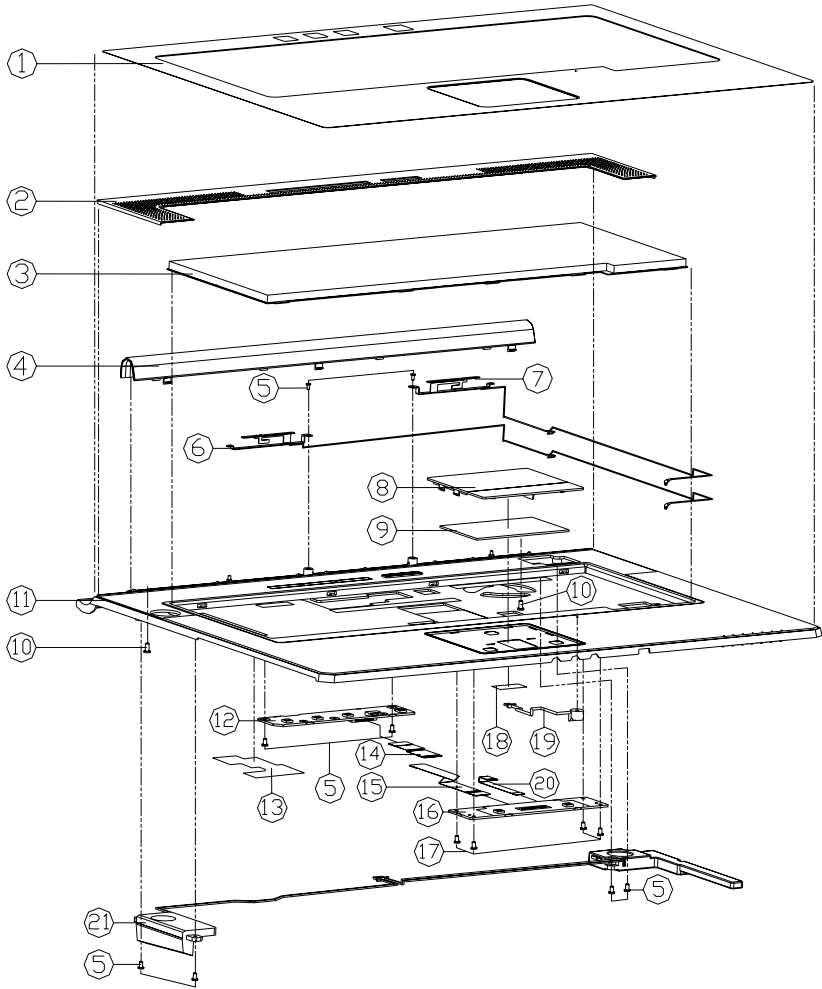


Figure A - 1
Top without Fin-
gerprint

ITEM	PART NAME	PART NO	REMARK
1	AL PLATE FOR TOP CASE (OPTION) FOR M860TU	6-33-M8602-012	
2	KEY BOARD(OPTION)	6-80-M5500-013-1	
3	HINGE COVER (FOR TOP CASE) FOR M860TU	6-42-M8602-052	
4	SCREW M2*4L KI BNT ICT NY	6-35-B9120-4RA	
5	ANTENNA VIAL 245/336/56 PIFA VMD (BLACK)	6-23-7M860-031	
6	ANTENNA VIAL 245/336/56 PIFA VMD (GRAY)	6-23-7M860-021	
7	POWER KNOB LENS (FOR M860TU)	6-42-M8602-082	
8	SCREW M2.5*5L KI BK/Z ICT NY	6-35-B6125-SRA	
9	TOP CASE MODULE (OPTION) FOR M860TU	6-39-M8602-012	
10	TOP COVER (FOR FINGER KNOB) FOR M860TU	6-42-M8602-101	
11	SOFT KEYS PLATE (FOR M860TU)	6-35-A1125-3R0	
12	TOUCH PAD SYMPACTICS TM-00398-001 M7415	6-49-M7452-010	
13	CLICK BOARD V3.0 (V/D FP) M860TU	6-77-M8602-D03-1	
14	SPEAKER L/R M860TU (2020MM/14MM) PIRCEGO	6-23-5M860-011	
15	RTC CABLE FOR CLK BOARD TO TOP OF PITCH (L) FOR M860TU	6-43-M8600-030	
16	RTC CABLE FOR CLK BOARD TO TOP OF PITCH (R) FOR M860TU	6-43-M8600-020	
17	SCREW M2*3.5L KI NY ICT NY (438 T-04)	6-35-B1120-3R5-1	
18	KEYBOARD COVER (FOR M860TU)	6-23-EM860-011	
19	RTC CABLE FOR BUTTON TO TOP OF PITCH (L) FOR M860TU	6-43-M8600-010	
20	CLICK BOARD V3.0 M860TU	6-77-M860W-D03	
21	MILK POUCH (FOR M860TU)	6-40-M8602-070	
22	TOUCH PAD SPONGE (FOR M860TU)	6-47-0019A-154	

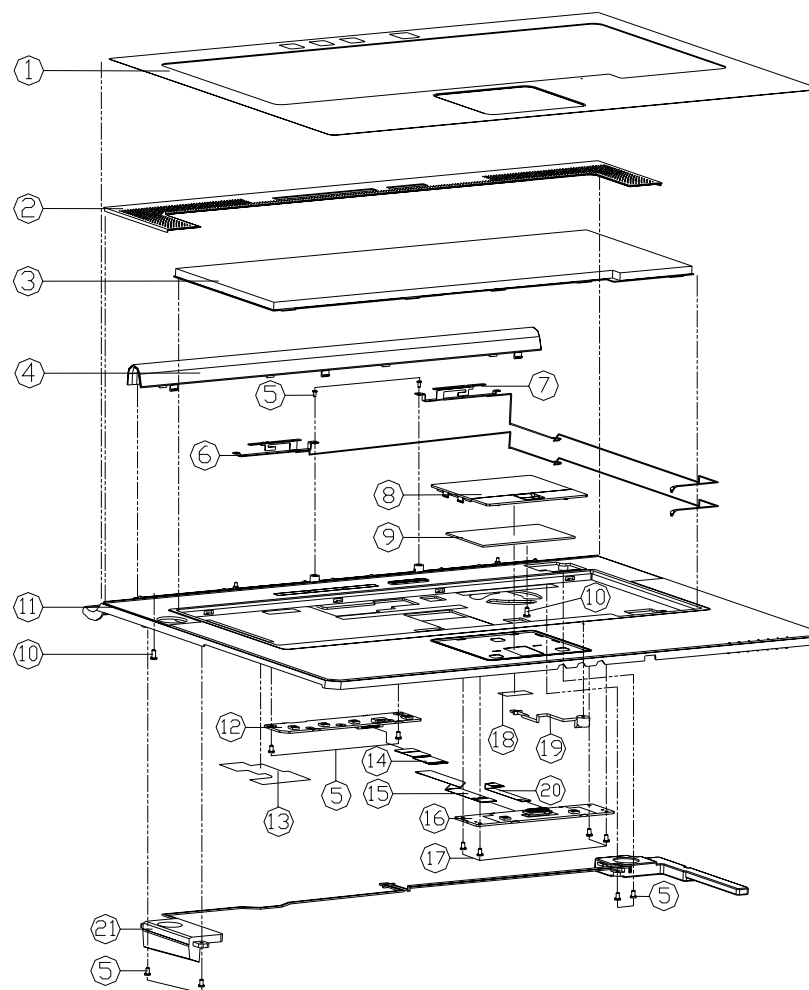
Top without Fingerprint (M865TU)

Figure A - 1
Top without Fin-
gerprint



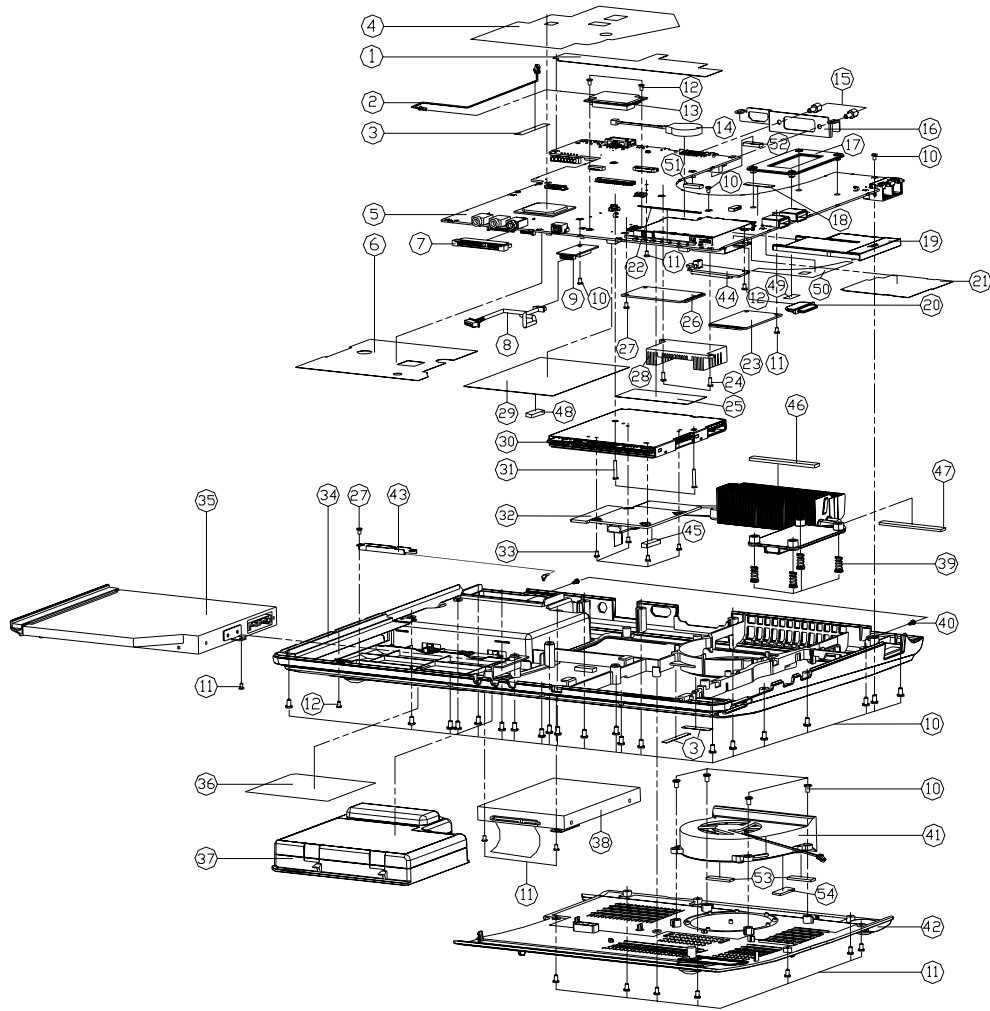
ITEM	PART NAME	PART NO	REMARK
1	TOP CASE PLATE MYLAR 保護膜 FOR M860TU 無指	6-40-M8602-060	
2	AL PLATE FOR TOP CASE AL 1050 M865TU 無指	6-33-M8652-050	
3	KEYBOARD(OPTION)	6-80-M5500-013-1	
4	HINGE COVER (T-903030P00.3A00) FOR M860TU 無指	6-42-M8602-053-1	
5	SCREW M2*4L KI BNI ICT NY 無指	6-35-B9120-4RA	
6	ANTENNA WLAN 240/330/56 PIFA W/O BLACK 無指	6-23-7M860-031	
7	ANTENNA WLAN 240/330/56 PIFA W/O GRAY 無指	6-23-7M860-021	
8	L/R COVER (W/O FINGER) PEABEC SHIELD COVER M860TU 無指	6-42-M8652-030	
9	TOUCH PAD SYNAPTICS TM-00398-001 M740S 無指	6-49-M74S2-010	
10	SCREW M2.5*5L KI BK/Z ICT NY 無指	6-35-B6125-5RA	
11	TOP CASE MODULE M865TU 無指	6-39-M8652-010	
12	BUTTON BOARD V3.0 M860TU 無指	6-77-M860W-D03	
13	MYLAR EPOXY (L-1000 BLACK, 4MM) FOR TOP CASE M860TU 無指	6-40-M8602-070	
14	ITE CABLE FOR BUTTON TO TOP OF PITCH-01 1-42MM M860TU 無指	6-43-M8600-010	
15	ITE CABLE FOR CLICK BOARD TO TOP OF PITCH-01 1-42MM M860TU 無指	6-43-M8600-020	
16	CLICK BOARD V3.0 (W/D FP) M860TU 無指	6-77-M8602-D03-1	
17	SCREW M2*3.5L KI NI ICT NY 0308 T-040 無指	6-35-B1120-3R5-1	
18	TAPE MYLAR (C)MYLAR M550J 無指	6-40-M55J2-030	
19	ITE CABLE FOR MIC-01 40 270MM 28 VYSICAL 1-7MM M860TU 無指	6-23-EM860-011	
20	ITE CABLE FOR CLICK BOARD TO TOP OF PITCH-01 1-42MM M860TU 無指	6-43-M8600-030	
21	SPEAKER L/R M862W A72020W/142MM P180C00 無指	6-23-5M860-011	

Figure A - 1
**Top with Finger-
print**



ITEM	PART	NAME	PART NO	REMARK
1	TOP CASE PLATE MYLAR	保護膜 FOR M86STU 無鉛	6-40-M86G02-060	
2	AL PLATE FOR TOP CASE AL 1550 M86STU	無鉛	6-33-M86S2-050	
3	KEYBOARD(OPTION)		6-80-M55G01-013-1	
4	HVDC COVER (半導体保護用)M86STU	無鉛	6-42-M86G02-053-1	
5	SCREW M2*4L K1 BNI ICT NY	無鉛	6-35-B9120-4RA	
6	ANTENNA VJAN 242/3305 PIFA VHS GLD00	無鉛	6-23-T7M6B0-031	
7	ANTENNA VJAN 242/3305 PIFA VHS GRAY	無鉛	6-23-T7M6B0-021	
8	TOP COVER (VITHIN) PC+ABS SHG OILMO M86STU	無鉛	6-42-M86S2-020	
9	TOUCH PAD SYNTHETIC TPE-00308-001 NY455	無鉛	6-49-M74S2-010	
10	SCREW M2*5*SL K1 BK-Z ICT NY	無鉛	6-35-B6125-5RA	
11	TOP CASE MODULE M86STU	無鉛	6-39-M86S2-010	
12	BUTTON BOARD V3.0 M86STU	無鉛	6-77-M86G0-D03	
13	MYLAR 60*92*0.125 BK GRAY (CASE) TOP OF TOP CASE	無鉛	6-40-M86G02-070	
14	FTC CABLE FOR LINKING B1 TO TOP OF TOP CASE	無鉛	6-43-M86G0-010	
15	FTC CABLE FOR CLE BOARD TO B1 TOP OF TOP CASE	無鉛	6-43-M86G0-020	
16	CLE BOARD WITH VITHIN/PC+ABS/SHG OILMO M86STU	無鉛	6-77-M86G0A-N03	
17	SCREW M2*3SL K1 NI ICT NY 4038 T-040	無鉛	6-35-B1120-3R5-1	
18	TAPE MYLAR (C)MYLAR M550J	無鉛	6-40-M55J E2-030	
19	NY 0000000000-01-40 ZNYTH ZN 0000000000	無鉛	6-23-EM86G0-010	
20	FTC CABLE FOR CLE BOARD TO TOP OF TOP CASE (V3.0) M86STU	無鉛	6-43-M86G0-030	
21	SPEAKER IFR 408.2V 4.220W 14000M 1P00000000	無鉛	6-23-5M86G0-010	

Bottom



ITEM	PART NAME	PART NO	REMARK
1	MYLAR FOR KEY HEX PCB ON MB M860TU	6-40-M860S-028	
2	MOD. CABLE (COLD) M860TU	6-43-M860U-011	
3	TAPE MYLAR (CB)MYLAR M860J	6-40-M85J2-020	
4	AL FIL MYLAR FOR SOUTH BRIDGE M860TU	6-40-M8602-041	
5	MAIN BOARD V3.0 M860TU	6-77-M8600-003	
6	MYLAR FOR NOM ON MB M860TU	6-40-M860S-032	
7	CON G22 B-T SATA HDD R-AV SAT-2000	6-21-14000-122	
8	BLUETOOTH CABLE WP AVG30	6-43-M66NB-010	
9	REPAIR KIT FOR M860TU	6-88-M8545-390	OPTION
10	SCREW M2X3.5L X1 IN/2 ICT NY	6-35-B6125-SRA	OPTION
11	SCREW M2X4L X1 BZ ICT NY	6-35-B6120-ARA	
12	SCREW M2X3L X1 BZ ICT NY	6-35-B1120-SRA	
13	REPAIR KIT FOR M860TU	6-88-L3911-5300	OPTION
14	HEX STUB (G22) N-PLI (B) GY-PATCH	6-23-22015-P2C	
15	HEX STUB (G22) N-PLI (B) GY-PATCH	6-34-07009-012	
16	ID BRACKET DIV1 SUS430 M860TU	6-33-M860S-011	
17	CPU SUPPORTER MODULE M860TU	6-33-M860S-101	
18	MYLAR FOR CCB CONN ON MB M860TU	6-40-M860S-041	
19	DIARY NEW CARD PCB-AS INCON	6-42-11283-011	
20	M860G CARD READER RUBBER	6-47-M860G-010	
21	MYLAR FOR NEW CARD M860TU	6-40-M860S-062	
22	EMI GASKET L20W6W6H6	6-47-00190-20F	
23	YAMAHA M860T SENSORS/RELAYS (M860G) (M860G)	6-88-M725W-720	
24	SCREW M2X3L X1 BZ ICT NY	6-35-B1120-SRO	
25	MYLAR GASKET/RELAYS (M860G) (M860G)	6-40-M66NS-040	
26	YAMAHA M860T SENSORS/RELAYS (M860G) (M860G)	6-88-M5552-7000	OPTION
27	YAMAHA M860T SENSORS/RELAYS (M860G) (M860G)	6-88-M7212-4210	OPTION
28	YAMAHA M860T SENSORS/RELAYS (M860G) (M860G)	6-88-M7212-4240	OPTION
29	COMPLETION M860G (M860G) (M860G)	6-88-M7212-4241	OPTION
30	COMPLETION M860G (M860G) (M860G)	6-88-M7212-4211	OPTION
31	SCREW M2X4L X1 BZ ICT NY	6-35-B9120-ARA	
32	SCREW M2X3L X1 BZ ICT NY	6-35-B1120-SRO	
33	SCREW M2X3L X1 BZ ICT NY	6-35-B1120-SRO	
34	SCREW M2X3L X1 BZ ICT NY	6-35-B1120-SRO	
35	SCREW M2X3L X1 BZ ICT NY	6-35-B1120-SRO	
36	SCREW M2X3L X1 BZ ICT NY	6-35-B1120-SRO	
37	SCREW M2X3L X1 BZ ICT NY	6-35-B1120-SRO	
38	SCREW M2X3L X1 BZ ICT NY	6-35-B1120-SRO	
39	SCREW M2X3L X1 BZ ICT NY	6-35-B1120-SRO	
40	SCREW M2X3L X1 BZ ICT NY	6-35-B1120-SRO	
41	SCREW M2X3L X1 BZ ICT NY	6-35-B1120-SRO	
42	SCREW M2X3L X1 BZ ICT NY	6-35-B1120-SRO	
43	SCREW M2X3L X1 BZ ICT NY	6-35-B1120-SRO	
44	SCREW M2X3L X1 BZ ICT NY	6-35-B1120-SRO	
45	SCREW M2X3L X1 BZ ICT NY	6-35-B1120-SRO	
46	SCREW M2X3L X1 BZ ICT NY	6-35-B1120-SRO	
47	SCREW M2X3L X1 BZ ICT NY	6-35-B1120-SRO	
48	SCREW M2X3L X1 BZ ICT NY	6-35-B1120-SRO	
49	SCREW M2X3L X1 BZ ICT NY	6-35-B1120-SRO	
50	SCREW M2X3L X1 BZ ICT NY	6-35-B1120-SRO	
51	SCREW M2X3L X1 BZ ICT NY	6-35-B1120-SRO	
52	SCREW M2X3L X1 BZ ICT NY	6-35-B1120-SRO	
53	SCREW M2X3L X1 BZ ICT NY	6-35-B1120-SRO	
54	SCREW M2X3L X1 BZ ICT NY	6-35-B1120-SRO	

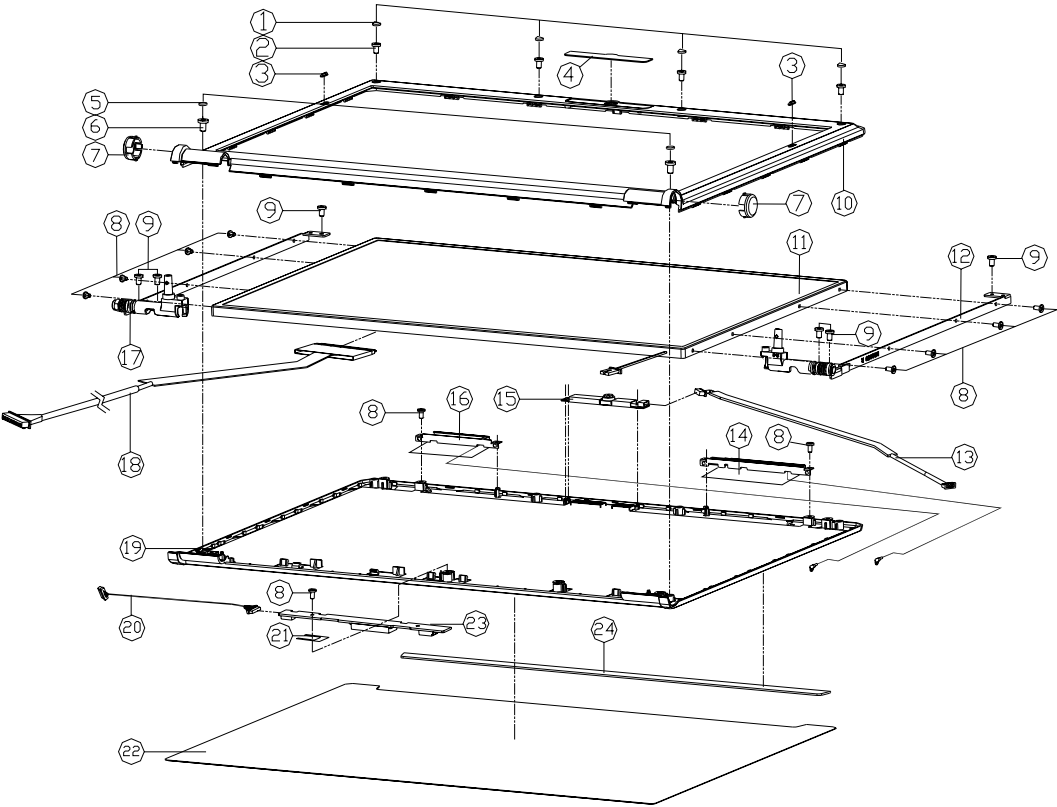
Figure A - 2
Bottom

A.Part Lists

Part Lists

LCD (M860TU)

Figure A - 3
LCD



ITEM	PART NAME	PART NO	REMARK
1	FRONT COVER TOP RUBBER SILICONE M860TU	6-47-M8601-011	
2	SCREW M2*5L K1 NI ICT NY	6-35-B1120-5R0	
3	LCD FRONT COVER RUBBER M720S	6-47-M72S1-030	
4	CCD COSMETIC PLATE M860TU	6-42-M8601-021	FOR CCD
4	CCD COSMETIC PLATE M860TU	6-42-M8601-011	FOR W/O CCD
5	FRONT COVER BOTTOM RUBBER SILICONE M860TU	6-47-M8601-021	
6	SCREW M2.5*6L K BZ ICT NY	6-35-B2125-6RA	
7	FRONT COVER PLATE M860TU	6-42-M8601-011	
8	SCREW M2.5*4L K1 NI ICT NY	6-35-B1120-3RE	
9	SCREW M2.5*4L K1 NI ICT NY	6-35-B4125-4RA	
10	LCD FRONT COVER MODULE M860TU	6-39-M8601-012	
11	LCD ISF VESA AU RESIN V5 GLASS TYPE	6-50-LC261-G01	OPTION
11	LCD ISF VESA AU RESIN V5 GLASS TYPE	6-50-LA265-G00	OPTION
11	LCD AU RESIN V5 ISF VESA	6-50-L7261-G01	OPTION
11	LCD ISF VESA LG IPS/AMBI-TUT 6.5MM	6-50-LB265-L01	OPTION
11	LCD ISF VESA AU RESIN V5 GLASS TYPE	6-50-LC261-G01-C	OPTION
11	LCD ISF VESA AU RESIN V5 GLASS TYPE	6-50-LA265-G00-C	OPTION
12	LCD VINGE R (SECC-SK7) M860TU	6-33-M8601-013	
13	CABLE CCD SP (GOLD) M860TU	6-43-M8601-011	FOR CCD
14	INVERTER VELA PFA 3.0/3.0/3.0 M860TU	6-23-M8601-040	OPTION
15	INVERTER VELA PFA 3.0/3.0/3.0 M860TU	6-88-M740C-4921	OPTION
15	INVERTER VELA PFA 3.0/3.0/3.0 M860TU	6-88-M740C-4911	OPTION
16	INVERTER VELA PFA 3.0/3.0/3.0 M860TU	6-23-M8601-010	
17	LCD VINGE L (SECC-SK7) M860TU	6-33-M8601-023	
18	LCD CABLE L VDS (GOLD) M860TU	6-43-M8601-012	OPTION
19	LCD BACK COVER MODULE M860TU	6-39-M8601-022	
20	INVERTER CABLE SP (GOLD) M860TU	6-43-M8601-011	
21	INVERTER VELA PFA 3.0/3.0/3.0 M860TU	6-40-M76S1-010	
22	AL PLATE FOR BACK COVER (SSD) M860TU	6-33-M8601-031	
23	INVERTER VELA PFA 3.0/3.0/3.0 M860TU	6-76-M6R6R-010	OPTION
23	INVERTER VELA PFA 3.0/3.0/3.0 M860TU	6-76-M6R6R-011	OPTION
24	TYPE LCD M860TU	6-42-M8601-032	

LCD (M865TU)

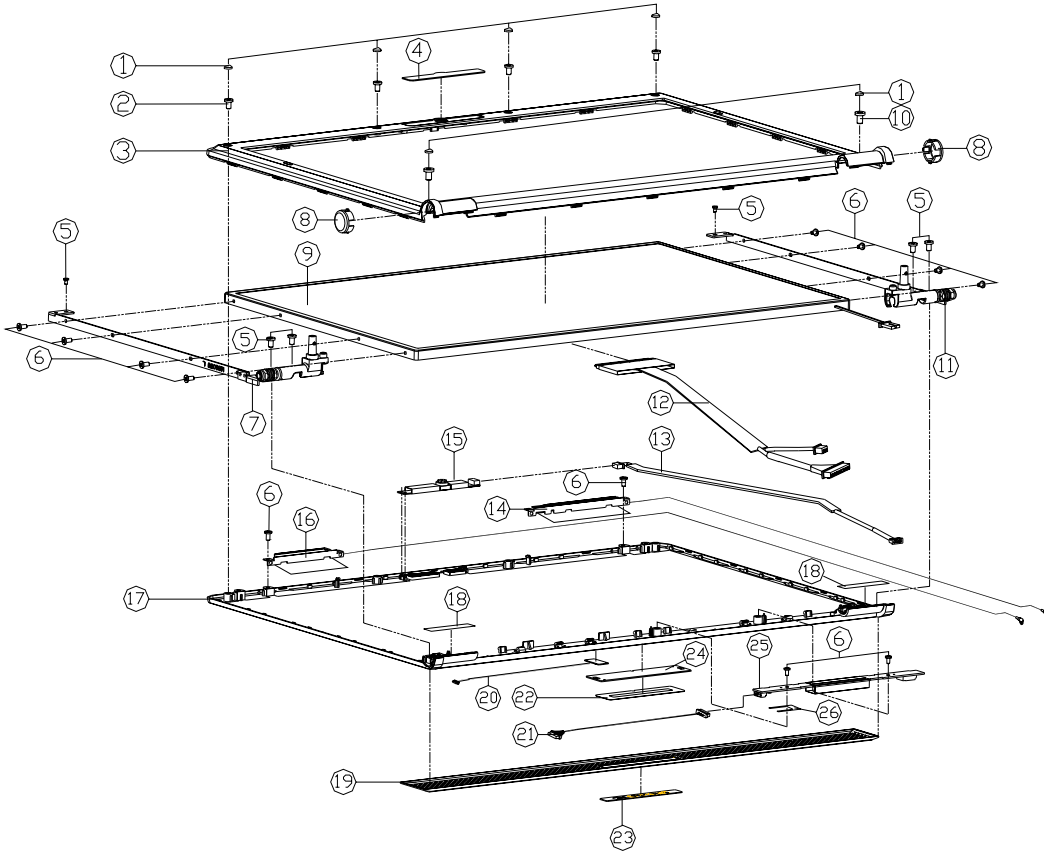
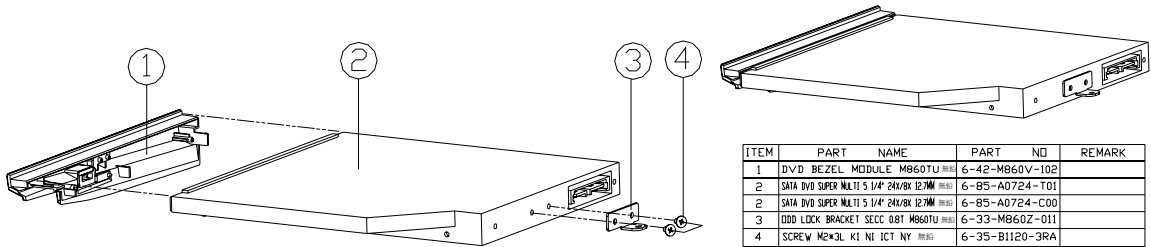


Figure A - 4
LCD

ITEM	PART NAME	PART NO	REMARK
1	FRONT COVER TOP RUBBER SILICONE M865TU	6-47-M8601-011	
2	SCREW M2x5L KI NI ICT NY	6-35-B1120-5R0	
3	LCD FRONT COVER MODULE M865TU	6-39-M8601-012	
4	CCD COSMETIC PLATE WSK (OPTION) M865TU	6-42-M8601-021	FOR CCD
5	CCD COSMETIC PLATE WSK (OPTION) M865TU	6-42-M8601-011	FOR W/D CCD
6	SCREW M2.5x4L KI BK/D ICT NY	6-35-B4125-4RA	
7	LCD HINGE L (SECC+SK77) M865TU	6-33-M8601-023	
8	LCD HINGE COVER PLATE CHAM (OPTION) M865TU	6-42-M8601-011	
9	LCD SP. PFA IN BRASS VU LAM THE LAM TYPE BASED	6-50-LC261-001-C	(OPTION)
9	LCD SP. PFA IN BRASS VU LAM THE LAM TYPE BASED	6-50-LA265-000-C	(OPTION)
10	SCREW M2.5x6L K BZ ICT NY	6-35-B2125-6RA	
11	LCD HINGE R (SECC+SK77) M865TU	6-33-M8601-013	
12	CABLE CCD 5P (GOLD) M865TU	6-43-M8651-010	(OPTION)
13	CABLE CCD 5P (GOLD) M865TU	6-43-M8651-011	FOR CCD
14	ANTENNA VCM PFA X (GLASS) SMD M865TU	6-23-7M860-040	(OPTION)
15	INVC CAMERA HORN FOR B280457-001 13M M865TU	6-88-M740C-4922	(OPTION)
15	INVC CAMERA HORN FOR B280457-001 20M M865TU	6-88-M740C-4913	(OPTION)
16	ANTENNA VCM PFA X (GLASS) SMD PFA VCM (GLASS) M865TU	6-23-7M860-010	
17	LCD BACK COVER MODULE M865TU	6-39-M8651-020	
18	TAPE MYLAR (CB)MYLAR M850J	6-40-M55J2-020	
19	AL PLATE FOR BACK COVERAL-HORN M850J	6-33-M8651-030	
20	I.E.D BOARD V1.0 M865TU	6-77-M8654-D01	
21	INVERTER CABLE 6P ANVCO GOLD M865TU	6-43-M860R-011	
22	MYLARINVERTERFOR LCD BACK COVER M865TU	6-40-M8651-020	
23	LOAD PLATE STYLE-NOTED PFA M865TU	6-42-M8651-030	
24	LOAD BACK LIGHT PLATECC-KC-TO MYLARINVESTU	6-42-M8651-040	
25	INVERTER MODULE ROL W/TAC DA-LAM-CV26M	6-76-M6R6R-010	
26	INVERTER MYLAR (FRESH-UTION) SMD M865TU	6-40-M76S1-010	

DVD-ROM Drive

Figure A - 5
DVD-ROM Drive



Combo Drive

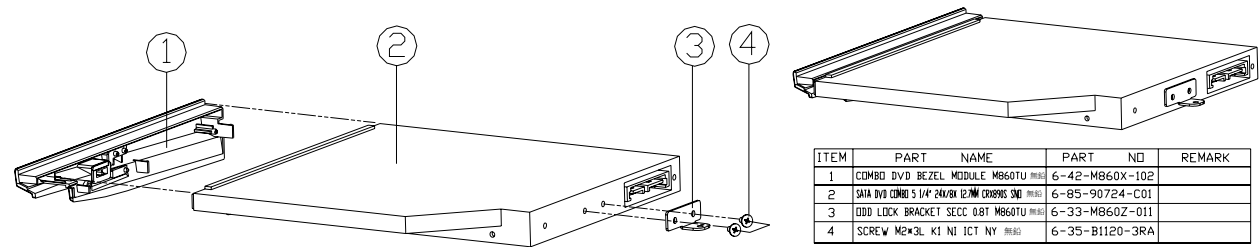
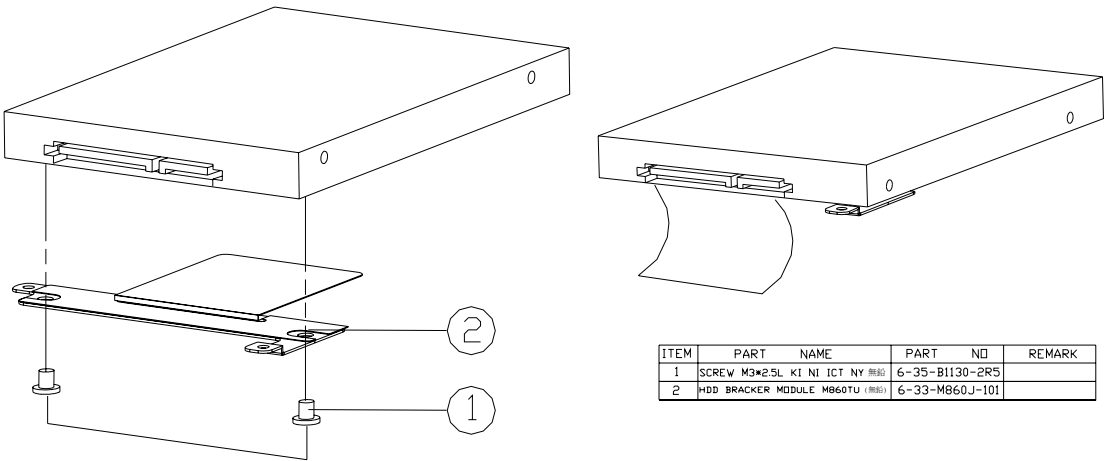


Figure A - 6
Combo Drive

HDD

Figure A - 7
HDD



ITEM	PART NAME	PART NO	REMARK
1	SCREW M3*2.5L KI NI ICT NY (M86)	6-35-B1130-2R5	
2	HDD BRACKER MODULE M860TU (M86)	6-33-M860J-101	

Appendix B:Schematic Diagrams

This appendix has circuit diagrams of the **M860TU/M865TU** notebook's PCB's. The following table indicates where to find the appropriate schematic diagram.

Diagram - Page	Diagram - Page	Diagram - Page
<i>SYSTEM BLOCK DIAGRAM - Page B - 2</i>	<i>ICH9-M 4/4, Power - Page B - 17</i>	<i>Power 1.5V/0.75V - Page B - 32</i>
<i>Penryn 1/2 - Page B - 3</i>	<i>ODD, USB2.0 & eSATA - Page B - 18</i>	<i>Power 3.3VM/1.8VS/1.05VM - Page B - 33</i>
<i>Penryn 2/2 - Page B - 4</i>	<i>Clock Generator - Page B - 19</i>	<i>Power 3VS/5VS / Power S/W - Page B - 34</i>
<i>Cantiga 1/6, Host - Page B - 5</i>	<i>PCI-E LAN RTL8111C, RJ45RJ11 - Page B - 20</i>	<i>Power VDD3/VDD5/3.3V/5V - Page B - 35</i>
<i>Cantiga 2/6, PEG - Page B - 6</i>	<i>Card Reader & 1394 JMB380 - Page B - 21</i>	<i>Power VCORE - Page B - 36</i>
<i>Cantiga 3/6, DDR - Page B - 7</i>	<i>New Card, CCD, Fan - Page B - 22</i>	<i>Mini Card/WLAN - Page B - 37</i>
<i>Cantiga 4/6, Power 1 - Page B - 8</i>	<i>KBC-ITE IT8512 - Page B - 23</i>	<i>MXM PCI-E Type III - Page B - 38</i>
<i>Cantiga 5/6, GND - Page B - 9</i>	<i>HDMI, 3G - Page B - 24</i>	<i>Board to Board CON/TPM - Page B - 39</i>
<i>Cantiga 6/6, Power 2 - Page B - 10</i>	<i>LED, Screw Hole - Page B - 25</i>	<i>Button Board - Page B - 40</i>
<i>DDR3 SO-DIMM 1 - Page B - 11</i>	<i>Azalia CODEC ALC662 - Page B - 26</i>	<i>Click Board - Page B - 41</i>
<i>DDR3 SO-DIMM 2 - Page B - 12</i>	<i>Audio AMP - Page B - 27</i>	<i>Finger Printer Board - Page B - 42</i>
<i>LCD - Page B - 13</i>	<i>SRS, MDC, BT - Page B - 28</i>	<i>SIM Card Board - Page B - 43</i>
<i>ICH9-M 1/4, SATA - Page B - 14</i>	<i>DVI, INV - Page B - 29</i>	
<i>ICH9-M 2/4, PCI, USB - Page B - 15</i>	<i>Power Charger, DC-In - Page B - 30</i>	
<i>ICH9-M 3/4 - Page B - 16</i>	<i>Power GPU - Page B - 31</i>	

Table B - 1
**Schematic
Diagrams**

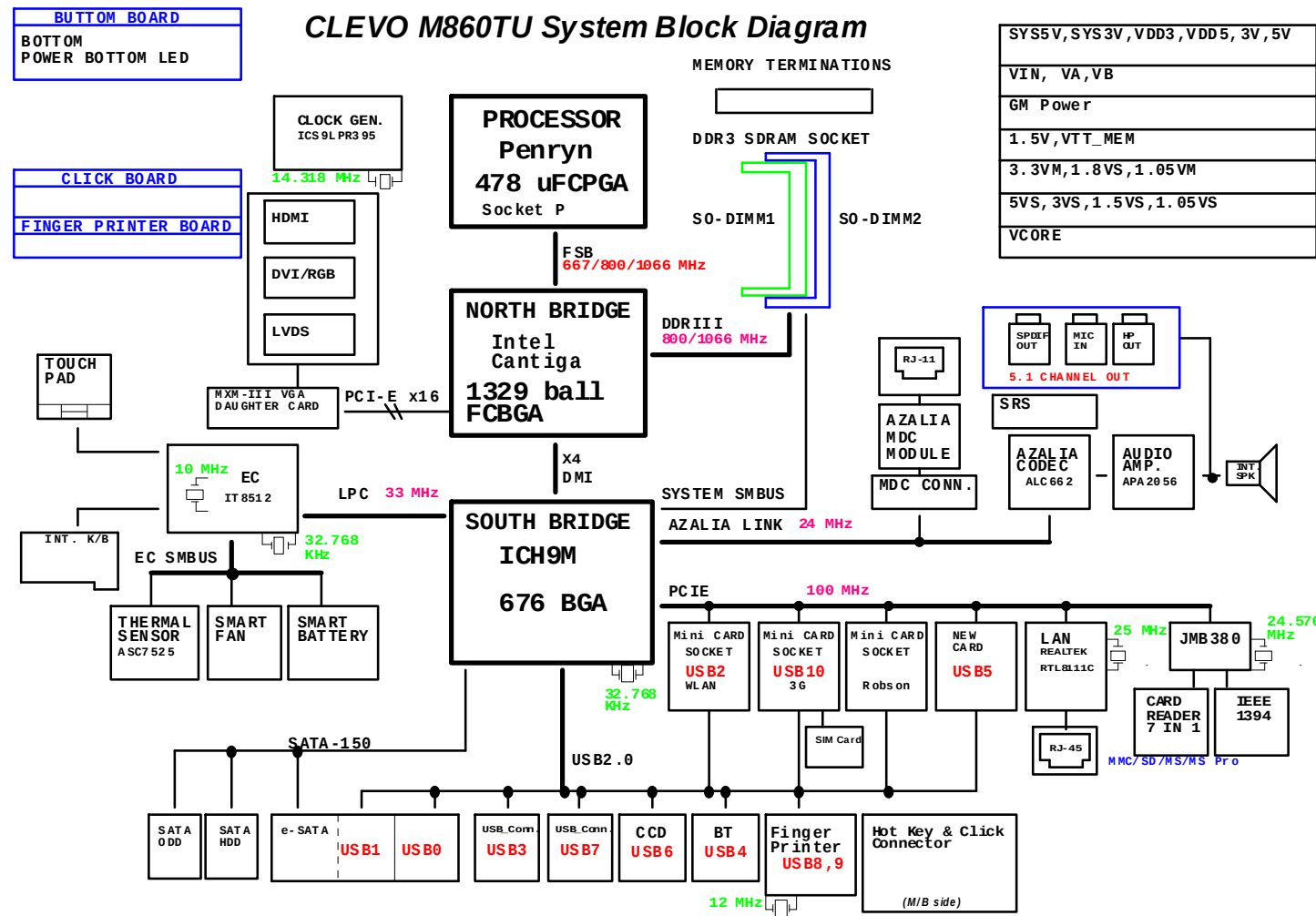


Version Note

The schematic diagrams in this chapter are based upon version 6-7P-M8605-003. 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 42
SYSTEM BLOCK
DIAGRAM



B.Schematic Diagrams

[illegible]

Penryn 2/2

B.Schematic Diagrams

The diagram illustrates a complex PCB layout for a CPU system, organized into several functional areas:

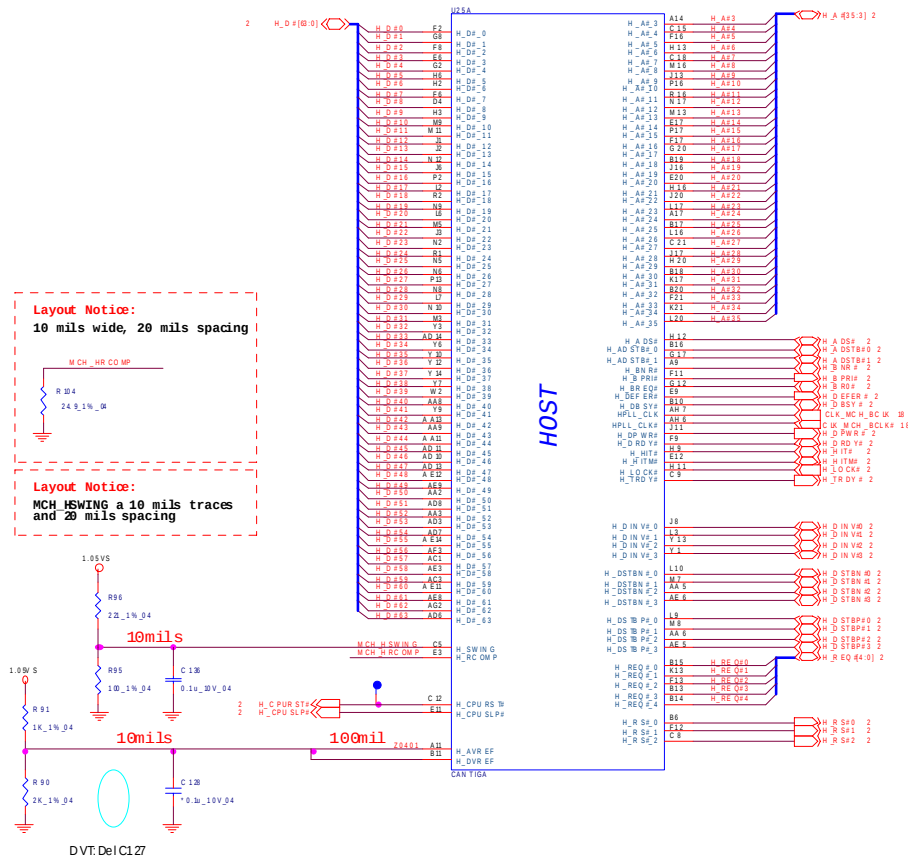
- VCC RE / VCC DE:** Power distribution network at the top left, featuring numerous decoupling capacitors and connections to the CPU's power pins.
- U2ZC / U2D:** Integrated circuit footprints located centrally, with associated signal and power traces.
- PLACE NEAR CPU:** A section on the right side detailing the placement of various passive components (resistors, capacitors) near the CPU package.
- PVT:** Power and thermal management components at the bottom, including a thermistor (V_THRM), a PVT chip, and related wiring.

A prominent **Layout note** is enclosed in a red dashed box, providing critical design guidelines:

- 2A; 80mils:** Specification for a particular trace or component size.
- 20mils:** Another specification for trace width or component placement.
- Route VCCSENSE and VSSSENSE traces at 27.4ohm with 50 mil spacing. Place PU and PD within 1 inch of CPU.**: Detailed instruction for routing sense lines to ensure accurate voltage monitoring.

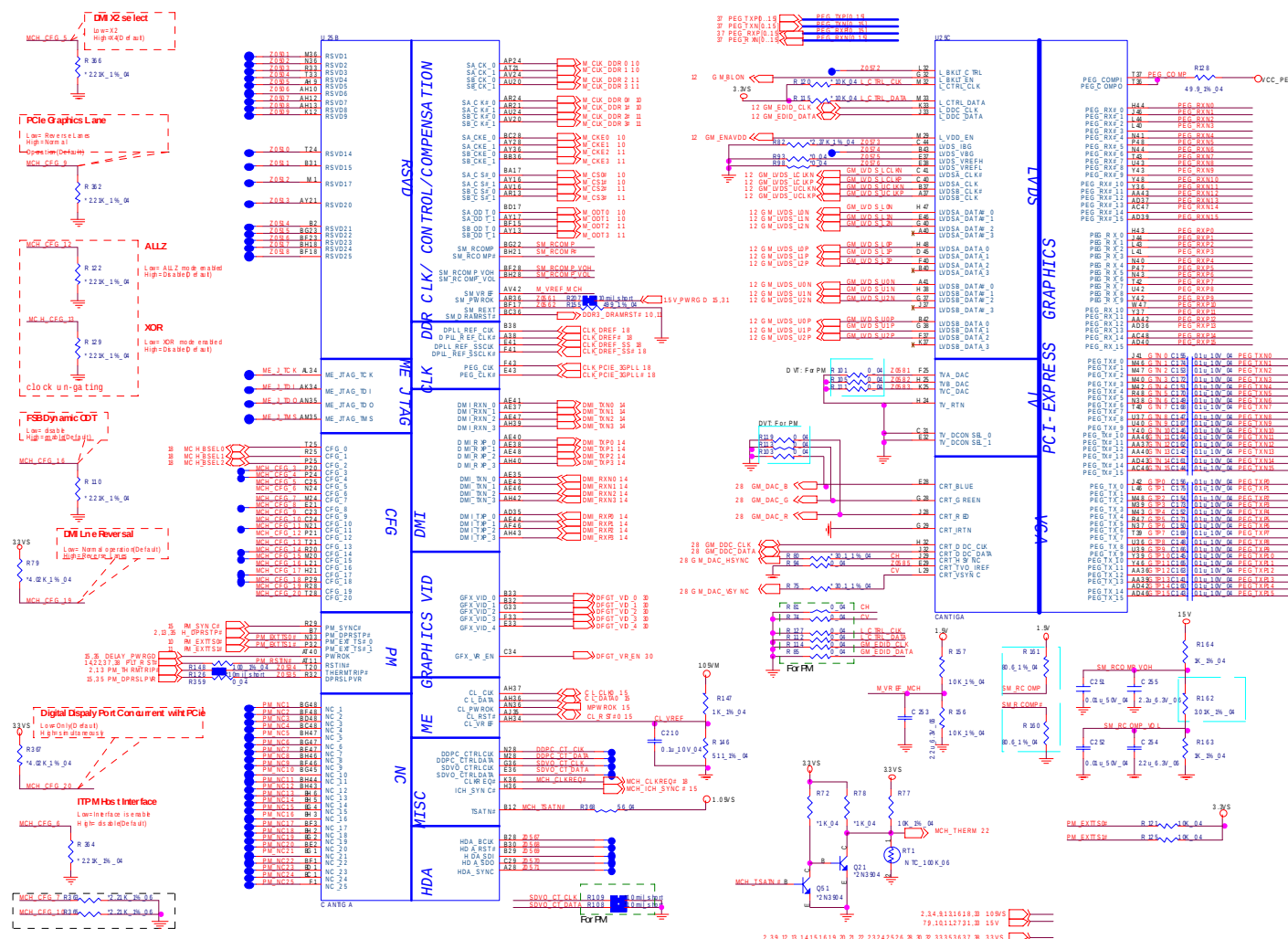
The layout also shows various other components like capacitors (e.g., C433, C439, C440, C441, C442, C443, C444, C445, C446, C447, C448, C449, C450, C451, C452, C453, C454, C455, C456, C457, C458, C459, C460, C461, C462, C463, C464, C465, C466, C467, C468, C469, C470, C471, C472, C473, C474, C475, C476, C477, C478, C479, C480, C481, C482, C483, C484, C485, C486, C487, C488, C489, C490, C491, C492, C493, C494, C495, C496, C497, C498, C499, C500, C501, C502, C503, C504, C505, C506, C507, C508, C509, C510, C511, C512, C513, C514, C515, C516, C517, C518, C519, C520, C521, C522, C523, C524, C525, C526, C527, C528, C529, C530, C531, C532, C533, C534, C535, C536, C537, C538, C539, C540, C541, C542, C543, C544, C545, C546, C547, C548, C549, C550, C551, C552, C553, C554, C555, C556, C557, C558, C559, C560, C561, C562, C563, C564, C565, C566, C567, C568, C569, C570, C571, C572, C573, C574, C575, C576, C577, C578, C579, C580, C581, C582, C583, C584, C585, C586, C587, C588, C589, C590, C591, C592, C593, C594, C595, C596, C597, C598, C599, C600, C601, C602, C603, C604, C605, C606, C607, C608, C609, C610, C611, C612, C613, C614, C615, C616, C617, C618, C619, C620, C621, C622, C623, C624, C625, C626, C627, C628, C629, C630, C631, C632, C633, C634, C635, C636, C637, C638, C639, C640, C641, C642, C643, C644, C645, C646, C647, C648, C649, C650, C651, C652, C653, C654, C655, C656, C657, C658, C659, C660, C661, C662, C663, C664, C665, C666, C667, C668, C669, C670, C671, C672, C673, C674, C675, C676, C677, C678, C679, C680, C681, C682, C683, C684, C685, C686, C687, C688, C689, C690, C691, C692, C693, C694, C695, C696, C697, C698, C699, C700, C701, C702, C703, C704, C705, C706, C707, C708, C709, C710, C711, C712, C713, C714, C715, C716, C717, C718, C719, C720, C721, C722, C723, C724, C725, C726, C727, C728, C729, C730, C731, C732, C733, C734, C735, C736, C737, C738, C739, C740, C741, C742, C743, C744, C745, C746, C747, C748, C749, C750, C751, C752, C753, C754, C755, C756, C757, C758, C759, C760, C761, C762, C763, C764, C765, C766, C767, C768, C769, C770, C771, C772, C773, C774, C775, C776, C777, C778, C779, C780, C781, C782, C783, C784, C785, C786, C787, C788, C789, C790, C791, C792, C793, C794, C795, C796, C797, C798, C799, C800, C801, C802, C803, C804, C805, C806, C807, C808, C809, C810, C811, C812, C813, C814, C815, C816, C817, C818, C819, C820, C821, C822, C823, C824, C825, C826, C827, C828, C829, C830, C831, C832, C833, C834, C835, C836, C837, C838, C839, C840, C841, C842, C843, C844, C845, C846, C847, C848, C849, C850, C851, C852, C853, C854, C855, C856, C857, C858, C859, C860, C861, C862, C863, C864, C865, C866, C867, C868, C869, C870, C871, C872, C873, C874, C875, C876, C877, C878, C879, C880, C881, C882, C883, C884, C885, C886, C887, C888, C889, C890, C891, C892, C893, C894, C895, C896, C897, C898, C899, C900, C901, C902, C903, C904, C905, C906, C907, C908, C909, C910, C911, C912, C913, C914, C915, C916, C917, C918, C919, C920, C921, C922, C923, C924, C925, C926, C927, C928, C929, C930, C931, C932, C933, C934, C935, C936, C937, C938, C939, C940, C941, C942, C943, C944, C945, C946, C947, C948, C949, C950, C951, C952, C953, C954, C955, C956, C957, C958, C959, C960, C961, C962, C963, C964, C965, C966, C967, C968, C969, C970, C971, C972, C973, C974, C975, C976, C977, C978, C979, C980, C981, C982, C983, C984, C985, C986, C987, C988, C989, C990, C991, C992, C993, C994, C995, C996, C997, C998, C999, C1000).

Cantiga 1/6, Host

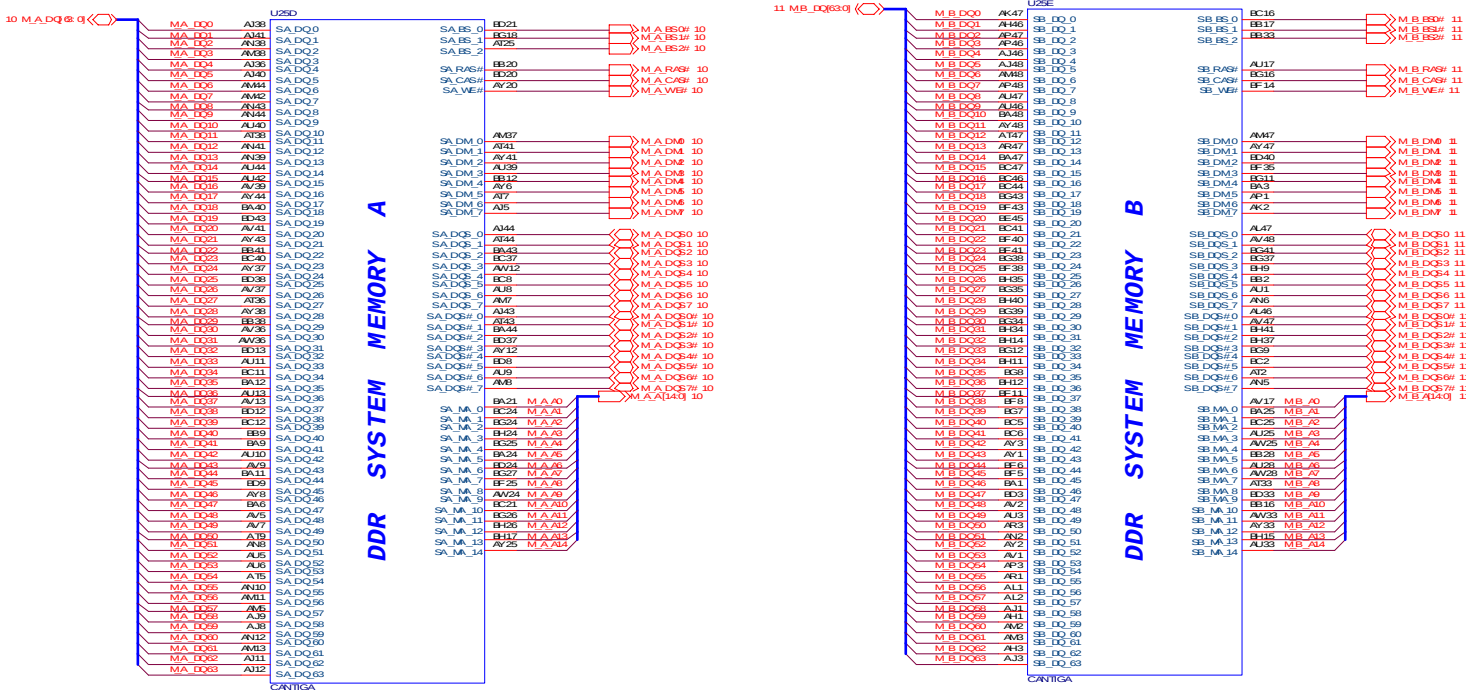
Sheet 4 of 42
Cantiga 1/6, Host

Pin Name	Strip Description	Configuration
CFG2:0	FSB Frequency	000 = 10.66 010 = 80.0 011 = 66.7 Others = Reserved
CFG4:3	Reserved	
CFG5	DMI x2 Select	Low = DMI x2 High = DMI x4 (Default)
CFG6	Integrated Trusted Platform Module (TPM) Host Interface	Low = The TPM-Host Interface is enabled High = Disabled (Default)
CFG7	Intel Management Engine Crypto Strip	Low = Intel Management Engine Crypto Transport Layer Security (TLS) cipher suite with no confidentiality High = Intel Management Engine Crypto TLS cipher suite with confidentiality (default)
CFG8	Reserved	
CFG9	Pd Graphics Lane	Low = Reverse Lanes, 15 > 0, 14 > 1, etc. High = Normal operation (default) Lane Numbered in Order
CFG10	Pd Lo qback enable	Low = Enabled High = Disabled (default)
CFG11	Reserved	
CFG12	ALLZ	Low = ALLZ mode enabled High = Disabled (default)
CFG13	XOR	Low = XOR mode enabled High = Disabled (default)
CFG15:14	Reserved	
CFG16	FSB Dynamic ODT	Low = Dynamic ODT disabled High = Dynamic ODT enabled (default)
CFG18:17	Reserved	
CFG19	DMI Lane Reversal	Low = Normal operation (Default): Lane Numbered in Order High = Reverse Lanes DMI x4 mode [(GMCH>ICH): (3>0, 2> 1, 1>2 and 0>=3) DMI x2 mode [(GMCH>ICH): (3>0, 2>1)
CFG20	Digital Display Port (SDVO/DP/HDMI) or PCIe is operating (default) Concurrent with PCIe	Low = Only digital display port (SDVO/DP/HDMI) or PCIe is operating (default) High = Digital display port (SDVO/DP/HDMI) and PCIe are operating simultaneously via the PEG port

B - 6 Cantiga 2/6, PEG



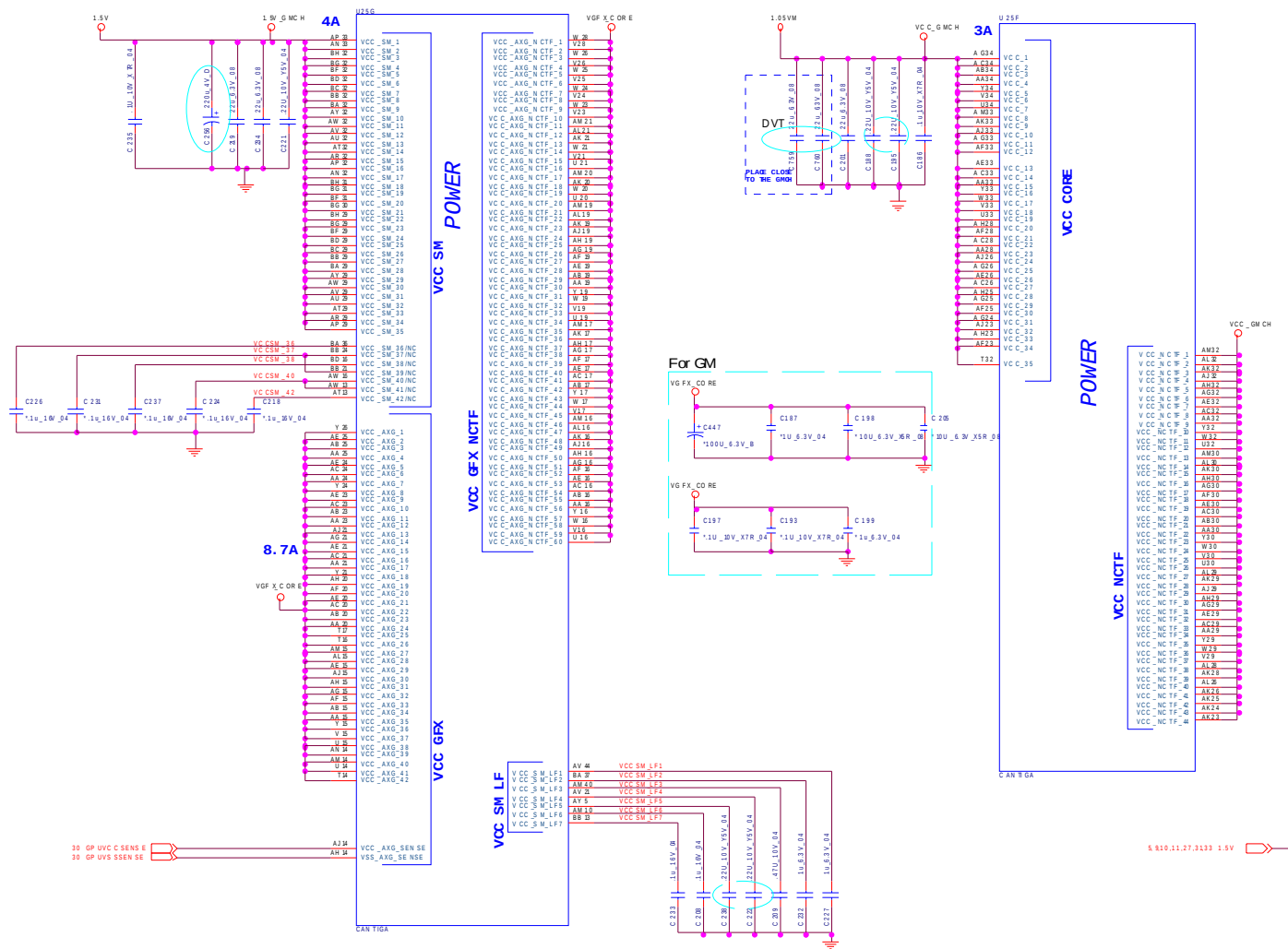
Cantiga 3/6, DDR



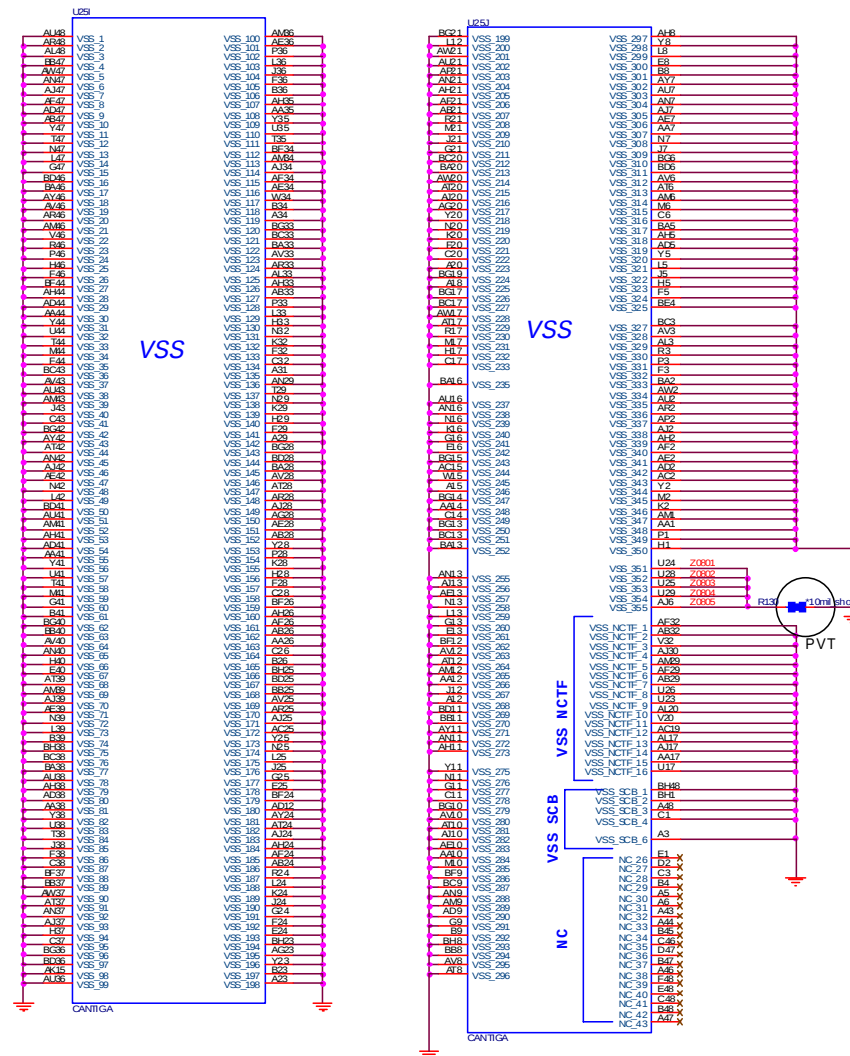
Sheet 6 of 42
Cantiga 3/6, DDR

B.Schematic Diagrams

Sheet 7 of 42
Cantiga 4/6, Power
1



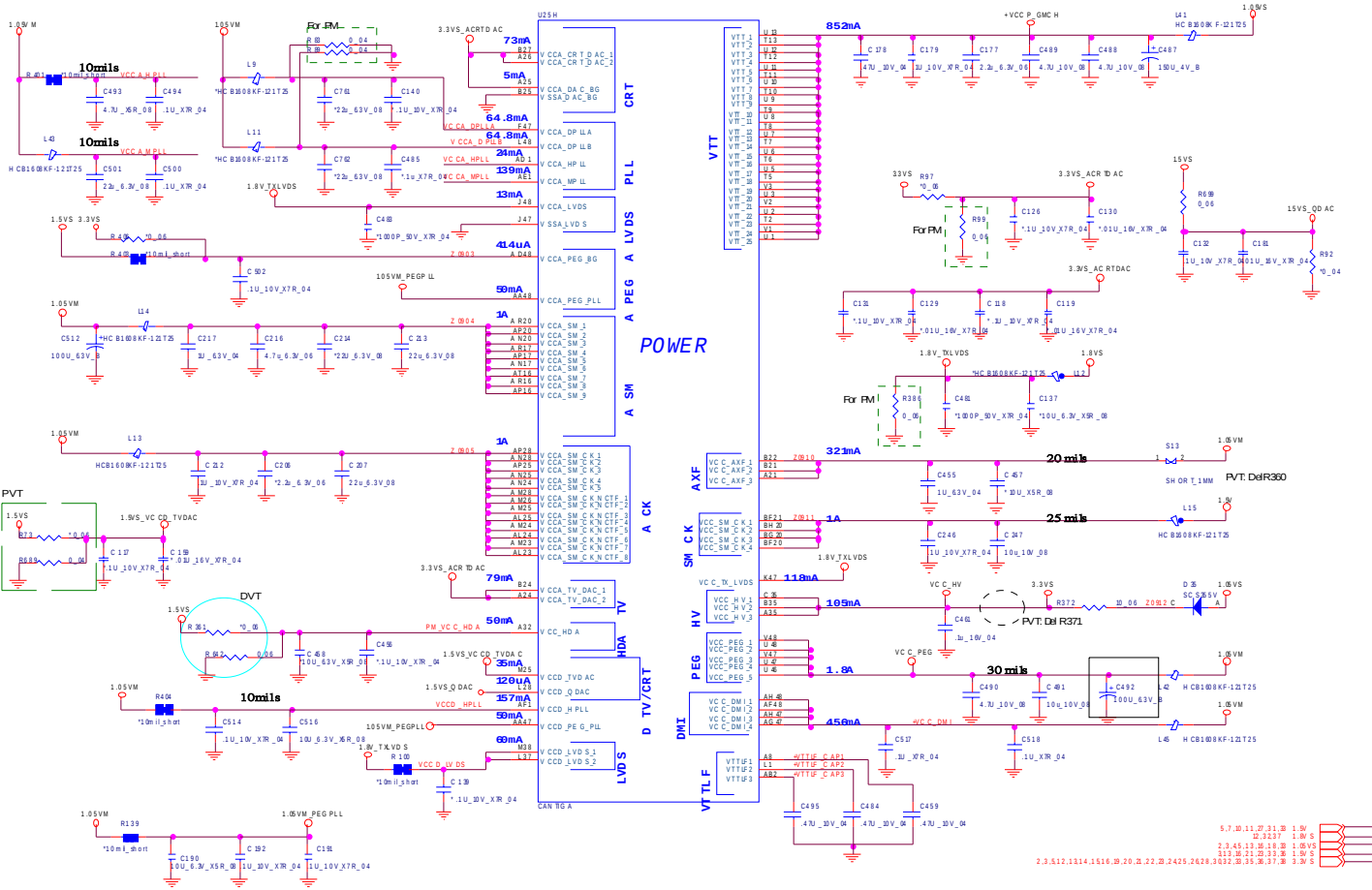
Cantiga 5/6, GND

Sheet 8 of 42
Cantiga 5/6, GND

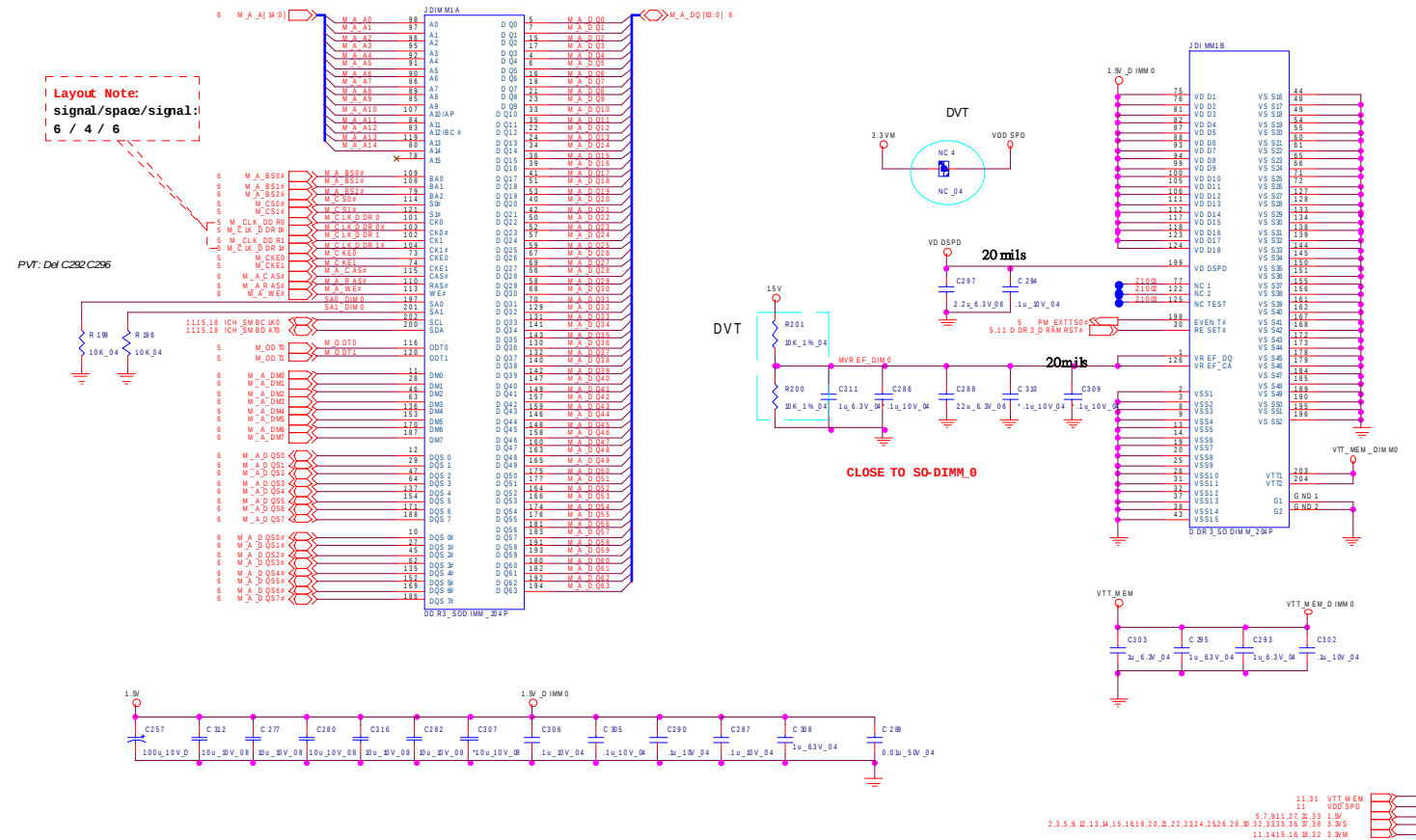
Schematic Diagrams

Cantiga 6/6, Power 2

Sheet 9 of 42
Cantiga 6/6, Power
2

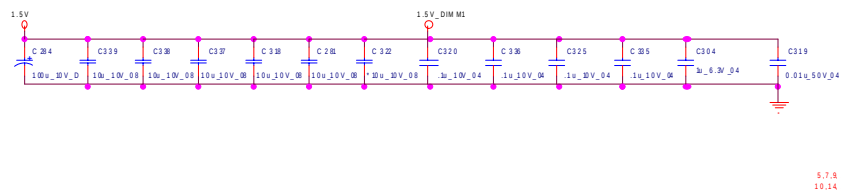
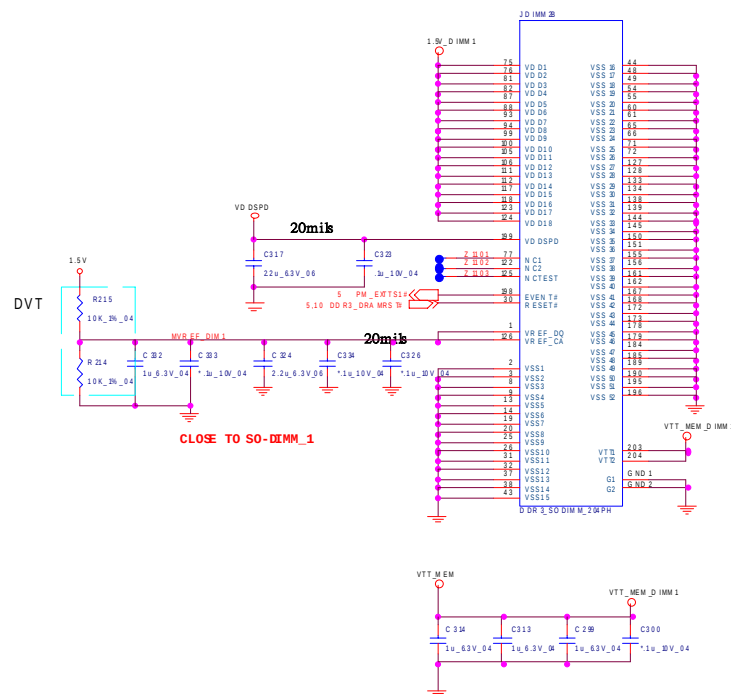
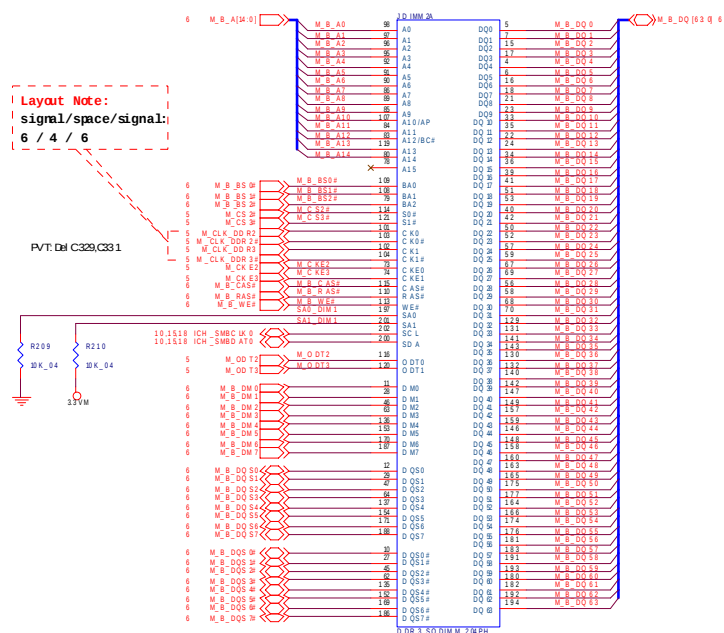


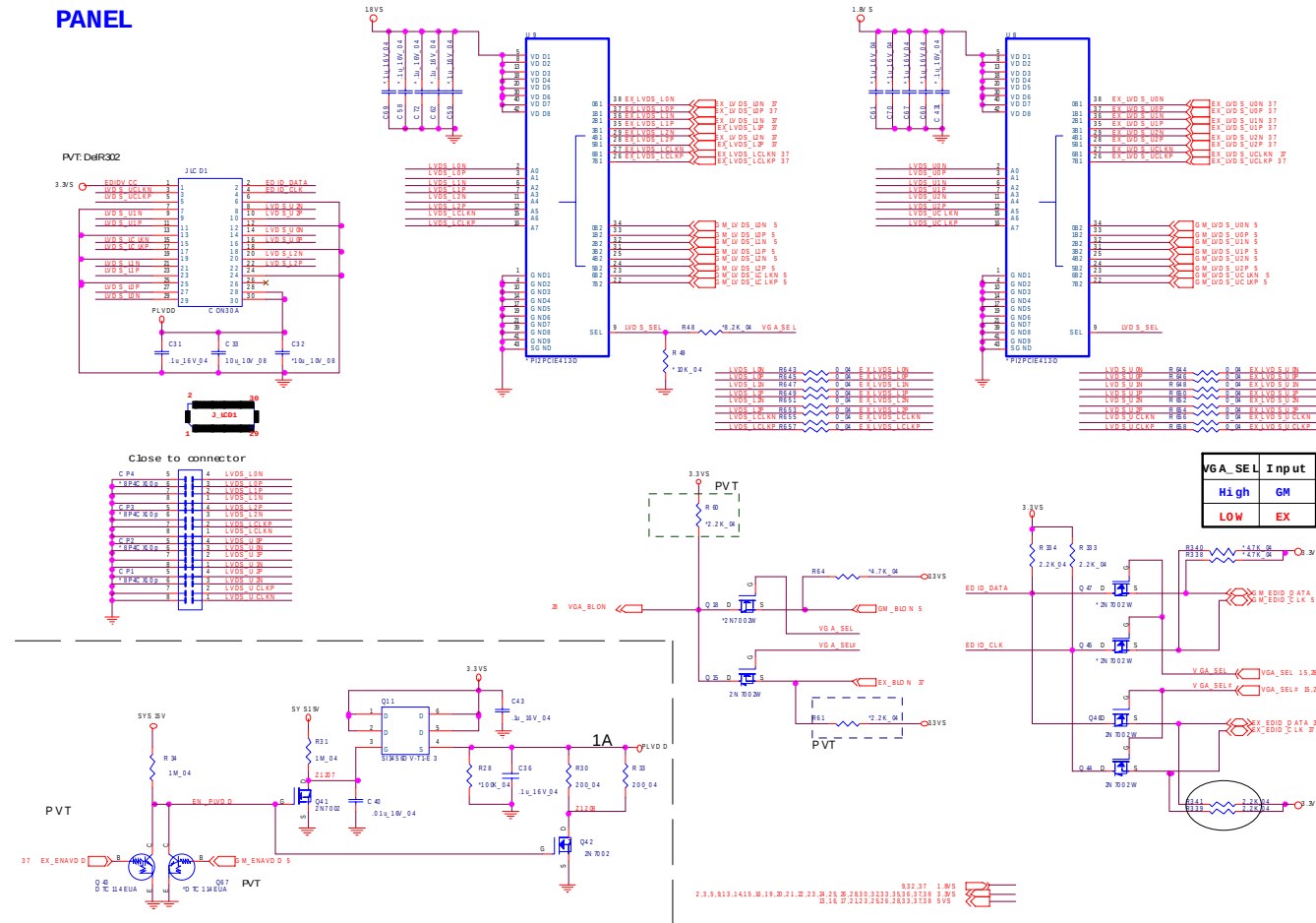
SO-DIMM ①



DDR3 SO-DIMM 2

SO - DIMM 1



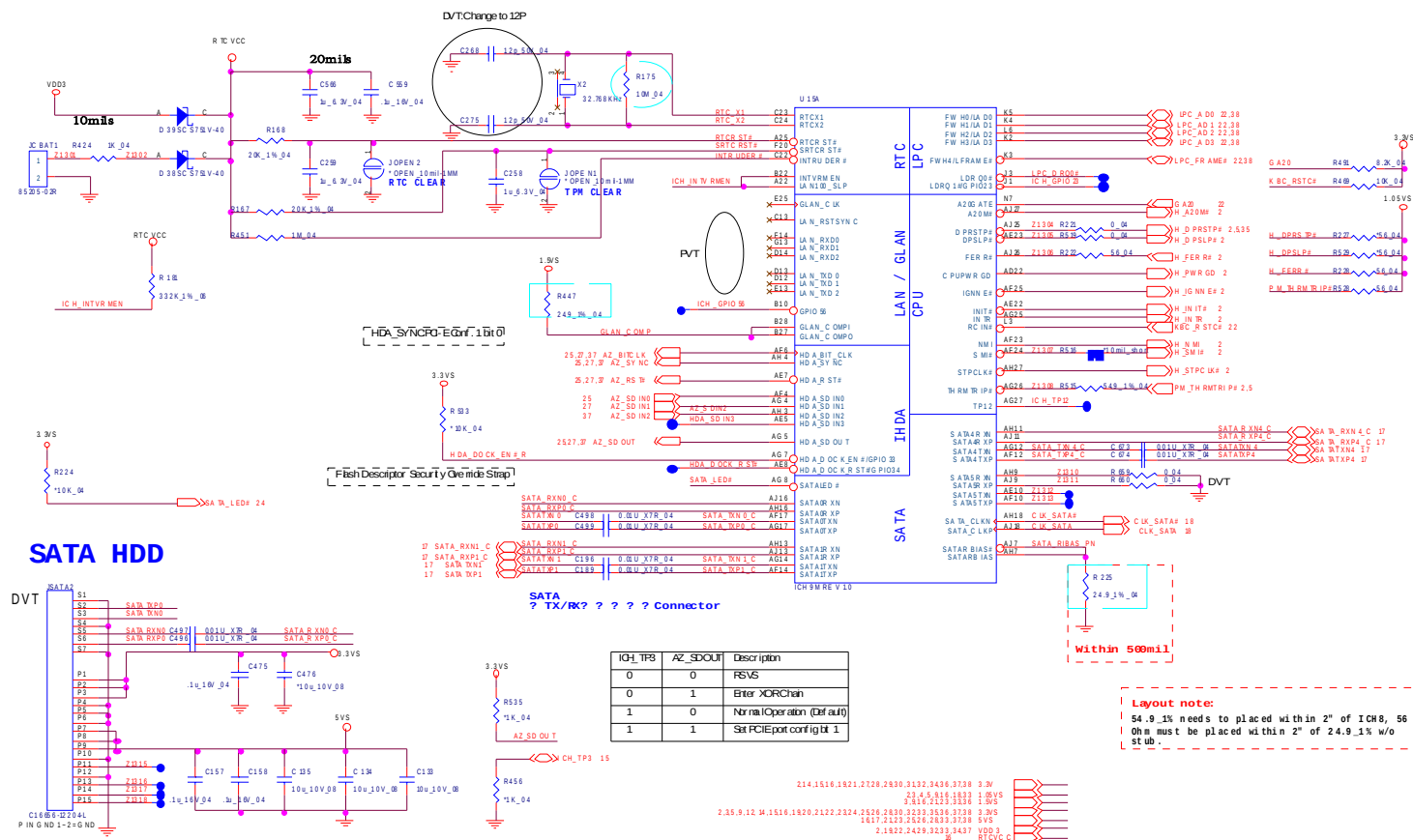


Sheet 12 of 42
LCD

B.Schematic Diagrams

ICH9-M 1/4, SATA

Sheet 13 of 42
ICH9-M 1/4, SATA

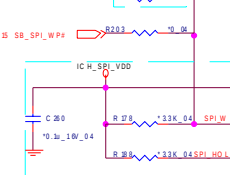
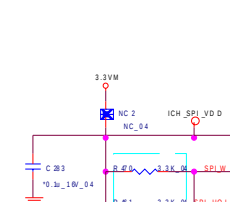
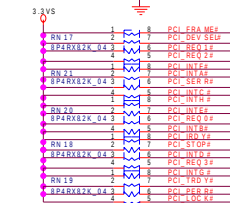


ICH9-M 2/4, PCI, USB

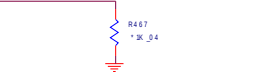
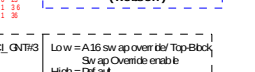
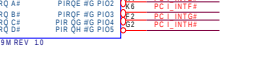
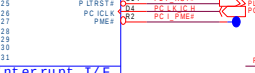
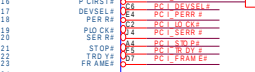
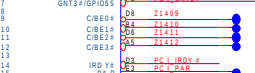
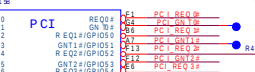
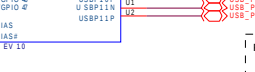
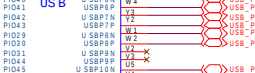
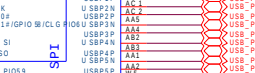
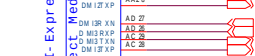
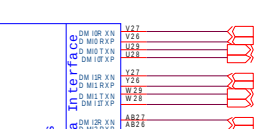
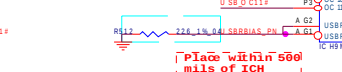
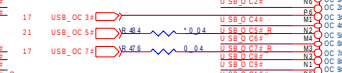
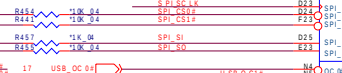
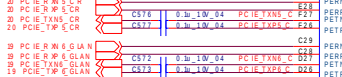
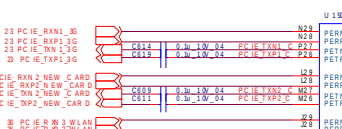
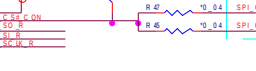
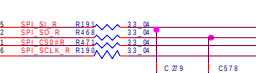
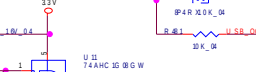
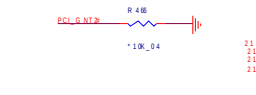
GNTO#0 and SPI_CS#1 have internal pull up.

Boot BIOS Strap		
PG_GNTO	SPI_CS#1	
0	1	SR
1	0	PG
1	1	LFC

PCIRST#: New Card
PLT_RST#: N/B, EC, MM
BUF_PLT_RST#: MINI CARD-1/2/3, GLAN, Card Reader



PCI Express Port Configuration



Sheet 14 of 42
ICH9-M 2/4, PCI,
USB

USB0 : Port0
USB1 : Port1
USB2 : Mini Card(wlan)
USB3 : Port3
USB4 : Bluetooth
USB5 : New Card
USB6 : CCD
USB7 : Port4
USB8 : Fingerprint
USB9 : Fingerprint
USB10 : Mini Card(36)
USB11 : Mini Card (Robson)

Low=A16 sw ap over the Top Back
Swap Overide enable
High=Default

Place within 500 mils of ICH

Place within 500 mils of ICH

Place within 500 mils of ICH

Place within 500 mils of ICH

Place within 500 mils of ICH

Place within 500 mils of ICH

Place within 500 mils of ICH

Place within 500 mils of ICH

Place within 500 mils of ICH

Place within 500 mils of ICH

Place within 500 mils of ICH

Place within 500 mils of ICH

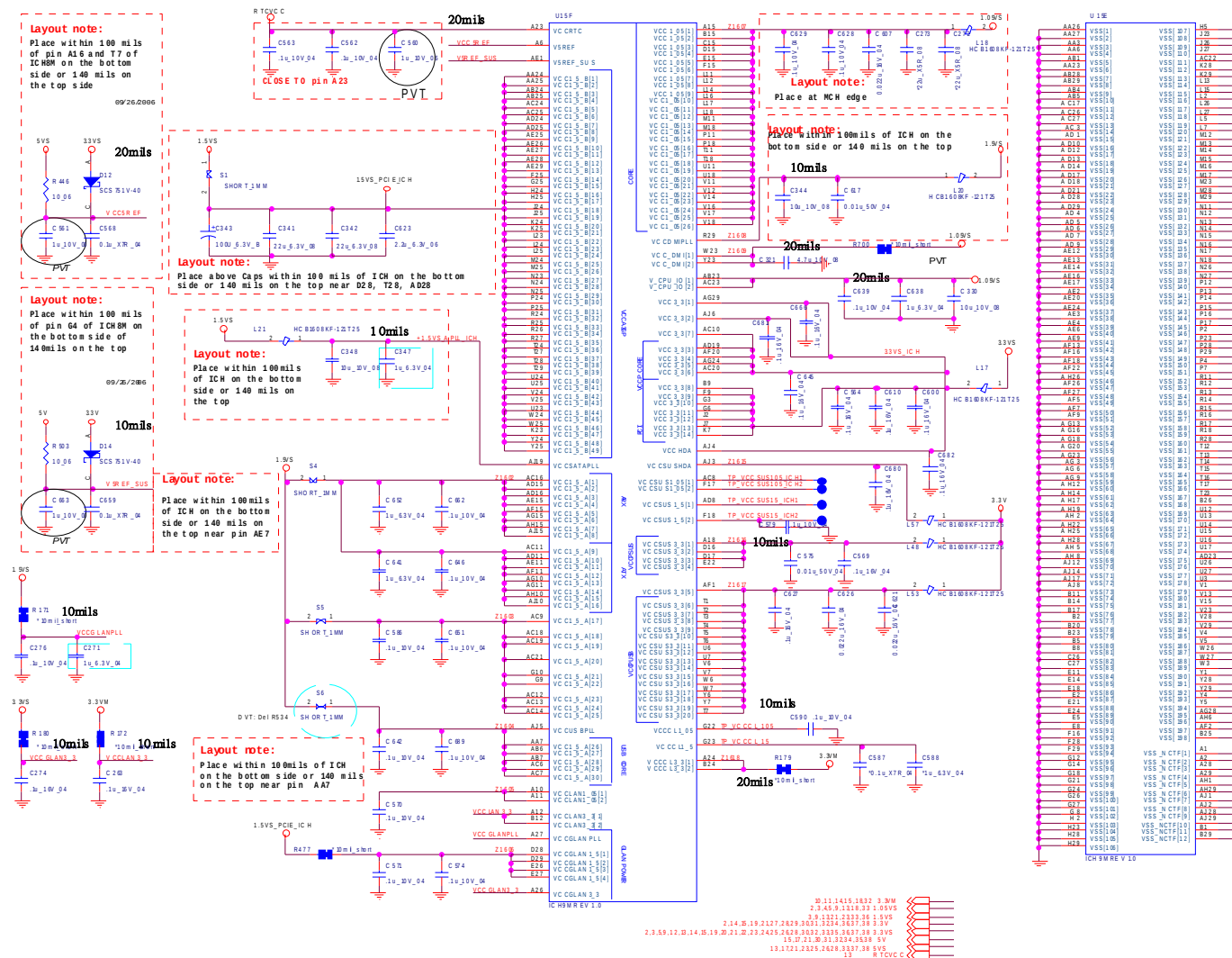
Place within 500 mils of ICH

B.Schematic Diagrams

Sheet 15 of 42
ICH9-M 3/4



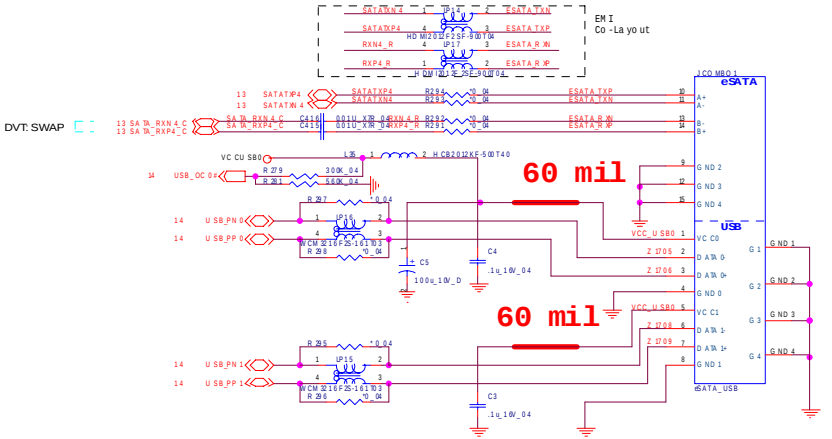
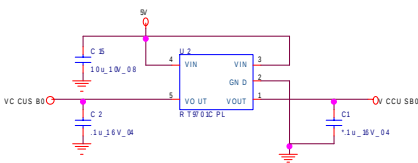
ICH9-M 4/4, Power



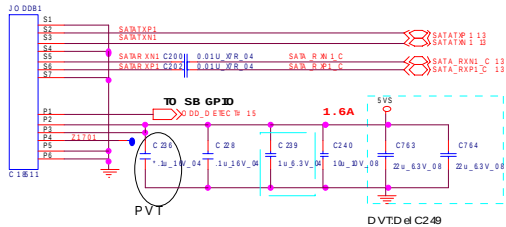
Schematic Diagrams

ODD, USB2.0 & eSATA

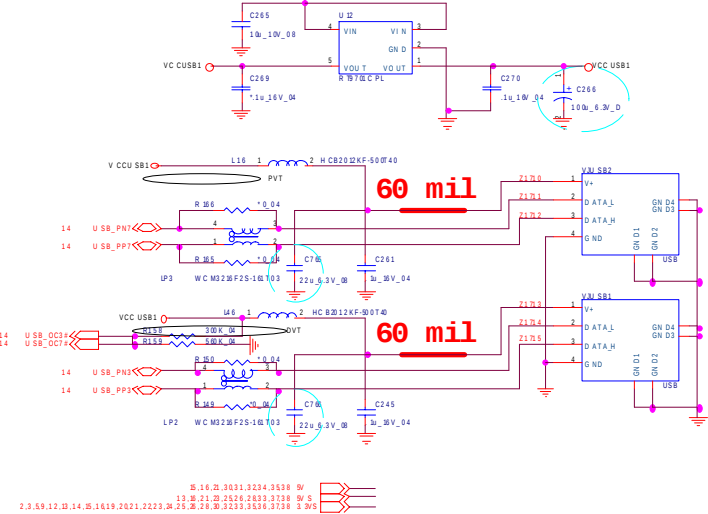
USB 2.0& eSATA



SATA ODD



USB 2.0



B.Schematic Diagrams

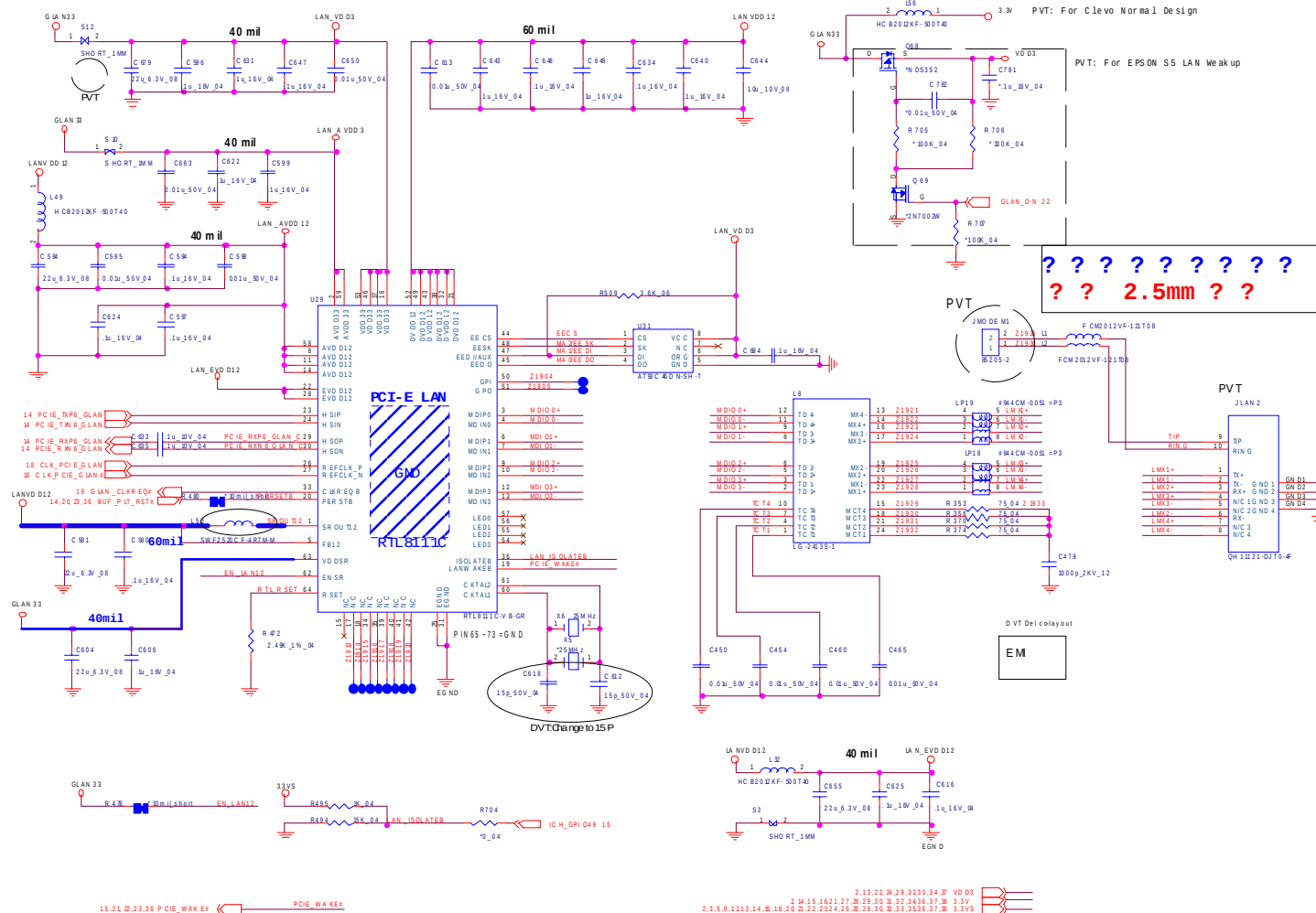
CLOCK GENERATOR

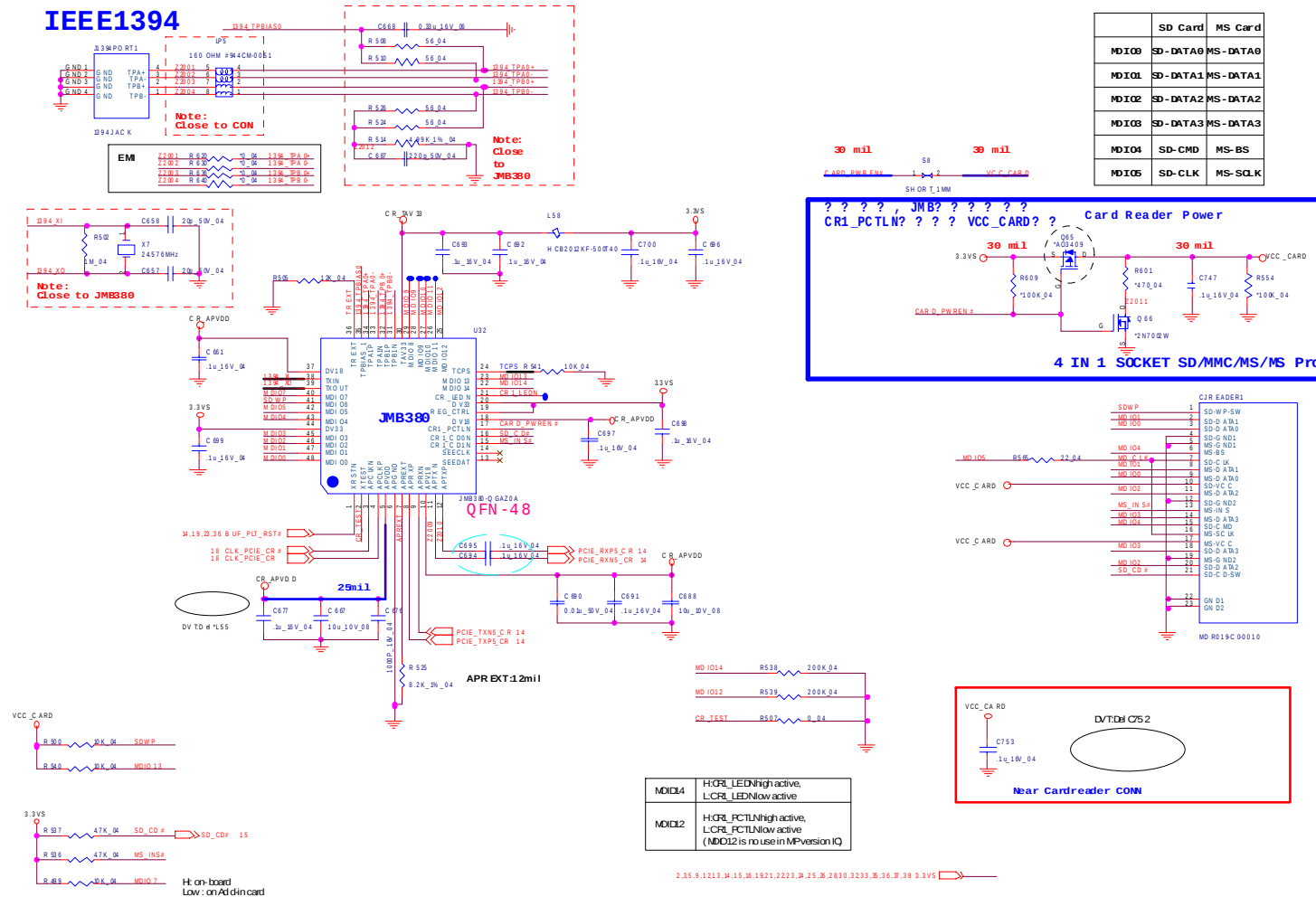


Sheet 18 of 42
Clock Generator

PCI-E LAN RTL8111C, RJ45RJ11

Sheet 19 of 42
PCI-E LAN
RTL8111C,
RJ45RJ11

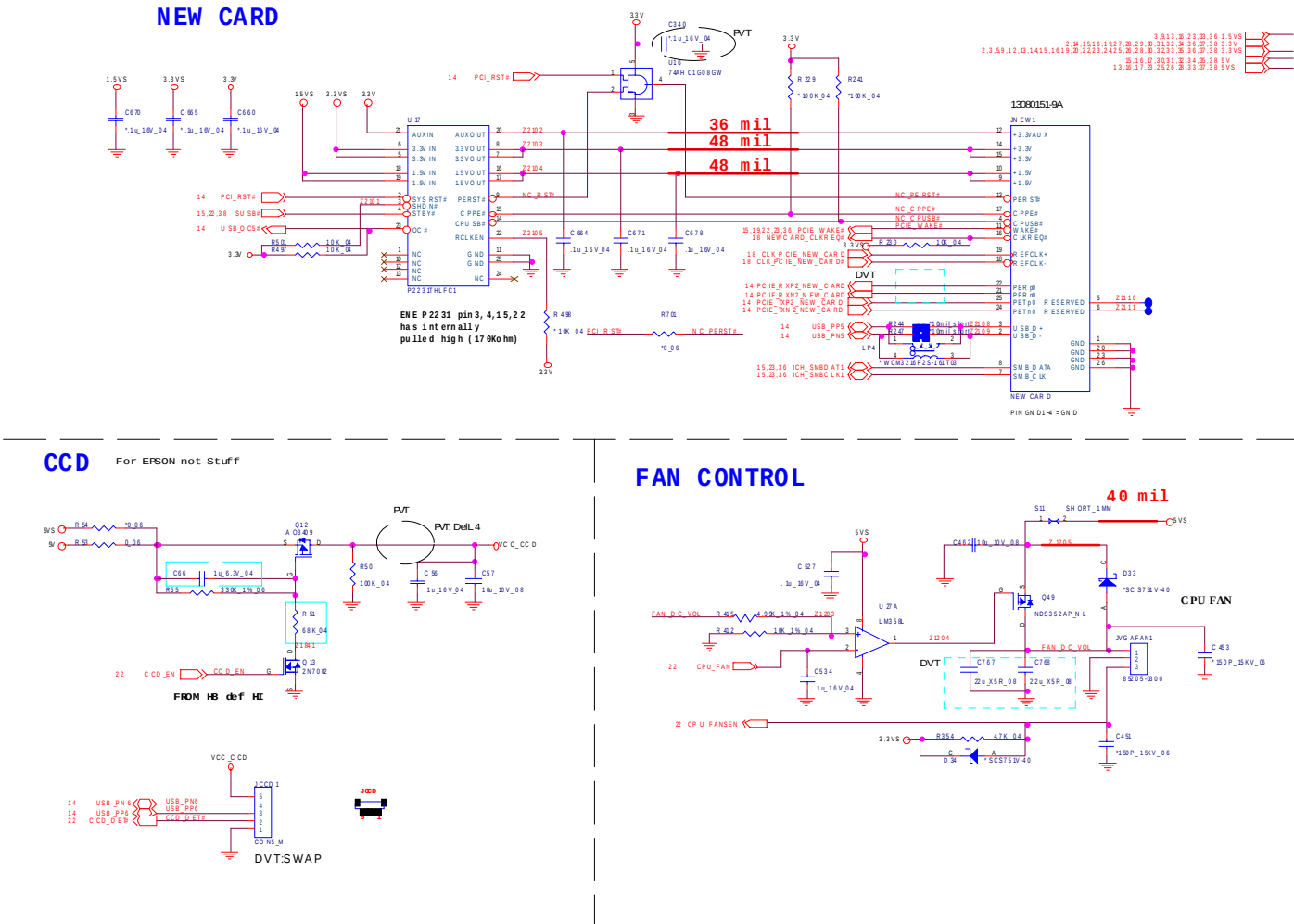




Schematic Diagrams

New Card, CCD, Fan

Sheet 21 of 42
New Card, CCD,
Fan



B.Schematic Diagrams

The schematic diagram illustrates the internal components and connections of the LPC1114 microcontroller board. Key components include the LPC1114 microcontroller, various memory modules (RAM, ROM), power management ICs (regulators, LDOs), and peripheral interfaces (UART, I2C, SPI, USB). The diagram also shows the placement of various passive components like resistors, capacitors, and inductors.

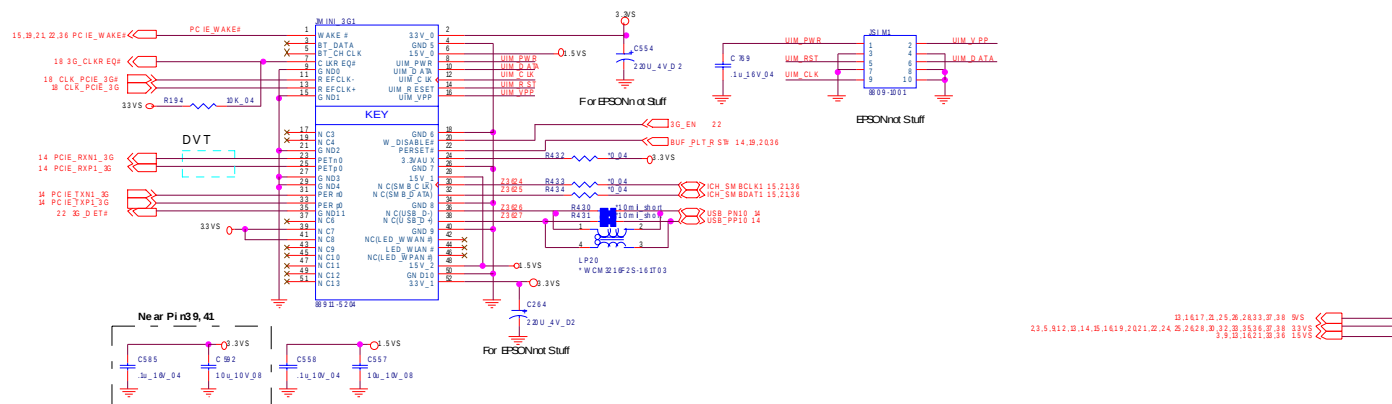
Pinout Table:

Pin	Signal	Pin	Signal
1	VDD3	40	NC
2	VDD3	41	NC
3	VDD3	42	NC
4	VDD3	43	NC
5	VDD3	44	NC
6	VDD3	45	NC
7	VDD3	46	NC
8	VDD3	47	NC
9	VDD3	48	NC
10	VDD3	49	NC
11	VDD3	50	NC
12	VDD3	51	NC
13	VDD3	52	NC
14	VDD3	53	NC
15	VDD3	54	NC
16	VDD3	55	NC
17	VDD3	56	NC
18	VDD3	57	NC
19	VDD3	58	NC
20	VDD3	59	NC
21	VDD3	60	NC
22	VDD3	61	NC
23	VDD3	62	NC
24	VDD3	63	NC
25	VDD3	64	NC
26	VDD3	65	NC
27	VDD3	66	NC
28	VDD3	67	NC
29	VDD3	68	NC
30	VDD3	69	NC
31	VDD3	70	NC
32	VDD3	71	NC
33	VDD3	72	NC
34	VDD3	73	NC
35	VDD3	74	NC
36	VDD3	75	NC
37	VDD3	76	NC
38	VDD3	77	NC
39	VDD3	78	NC
40	VDD3	79	NC
41	VDD3	80	NC
42	VDD3	81	NC
43	VDD3	82	NC
44	VDD3	83	NC
45	VDD3	84	NC
46	VDD3	85	NC
47	VDD3	86	NC
48	VDD3	87	NC
49	VDD3	88	NC
50	VDD3	89	NC
51	VDD3	90	NC
52	VDD3	91	NC
53	VDD3	92	NC
54	VDD3	93	NC
55	VDD3	94	NC
56	VDD3	95	NC
57	VDD3	96	NC
58	VDD3	97	NC
59	VDD3	98	NC
60	VDD3	99	NC
61	VDD3	100	NC

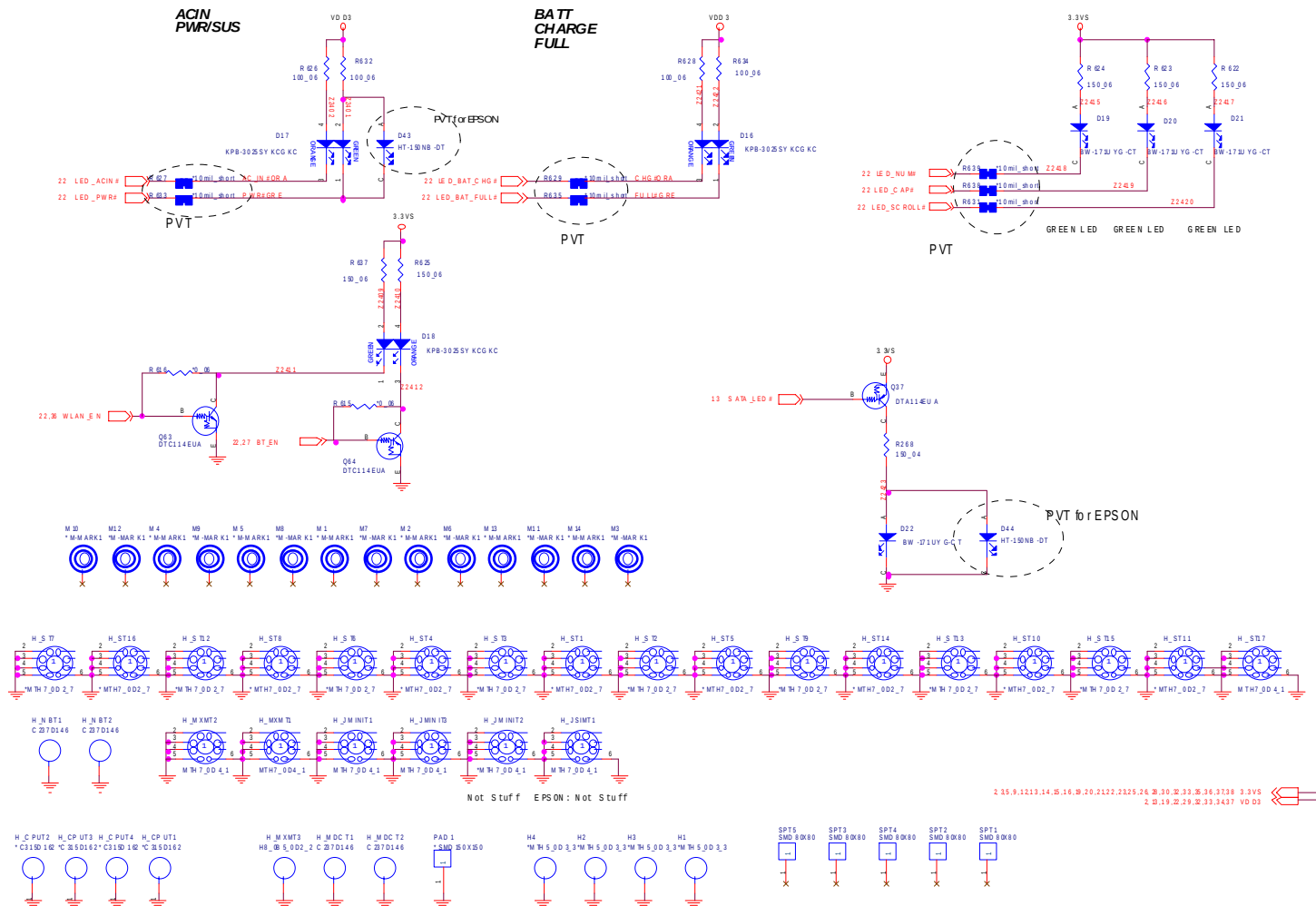
Component List:

- U1: LPC1114
- U2: ATX1350
- U3: ATX1350
- U4: ATX1350
- U5: ATX1350
- U6: ATX1350
- U7: ATX1350
- U8: ATX1350
- U9: ATX1350
- U10: ATX1350
- U11: ATX1350
- U12: ATX1350
- U13: ATX1350
- U14: ATX1350
- U15: ATX1350
- U16: ATX1350
- U17: ATX1350
- U18: ATX1350
- U19: ATX1350
- U20: ATX1350
- U21: ATX1350
- U22: ATX1350
- U23: ATX1350
- U24: ATX1350
- U25: ATX1350
- U26: ATX1350
- U27: ATX1350
- U28: ATX1350
- U29: ATX1350
- U30: ATX1350
- U31: ATX1350
- U32: ATX1350
- U33: ATX1350
- U34: ATX1350
- U35: ATX1350
- U36: ATX1350
- U37: ATX1350
- U38: ATX1350
- U39: ATX1350
- U40: ATX1350
- U41: ATX1350
- U42: ATX1350
- U43: ATX1350
- U44: ATX1350
- U45: ATX1350
- U46: ATX1350
- U47: ATX1350
- U48: ATX1350
- U49: ATX1350
- U50: ATX1350
- U51: ATX1350
- U52: ATX1350
- U53: ATX1350
- U54: ATX1350
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- U57: ATX1350
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- U60: ATX1350
- U61: ATX1350
- U62: ATX1350
- U63: ATX1350
- U64: ATX1350
- U65: ATX1350
- U66: ATX1350
- U67: ATX1350
- U68: ATX1350
- U69: ATX1350
- U70: ATX1350
- U71: ATX1350
- U72: ATX1350
- U73: ATX1350
- U74: ATX1350
- U75: ATX1350
- U76: ATX1350
- U77: ATX1350
- U78: ATX1350
- U79: ATX1350
- U80: ATX1350
- U81: ATX1350
- U82: ATX1350
- U83: ATX1350
- U84: ATX1350
- U85: ATX1350
- U86: ATX1350
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- U91: ATX1350
- U92: ATX1350
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- U94: ATX1350
- U95: ATX1350
- U96: ATX1350
- U97: ATX1350
- U9

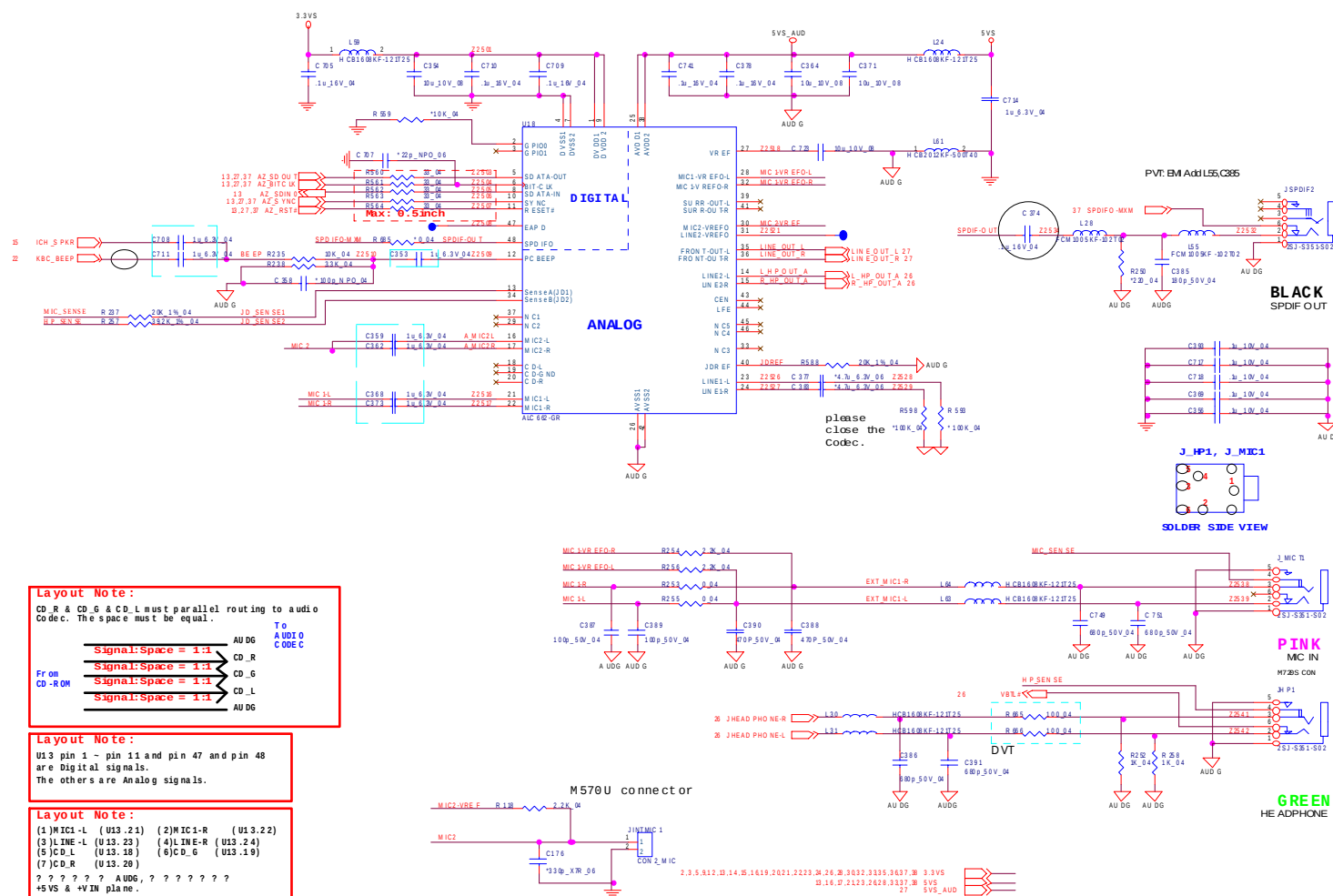
KBC-ITE IT8512 B - 23



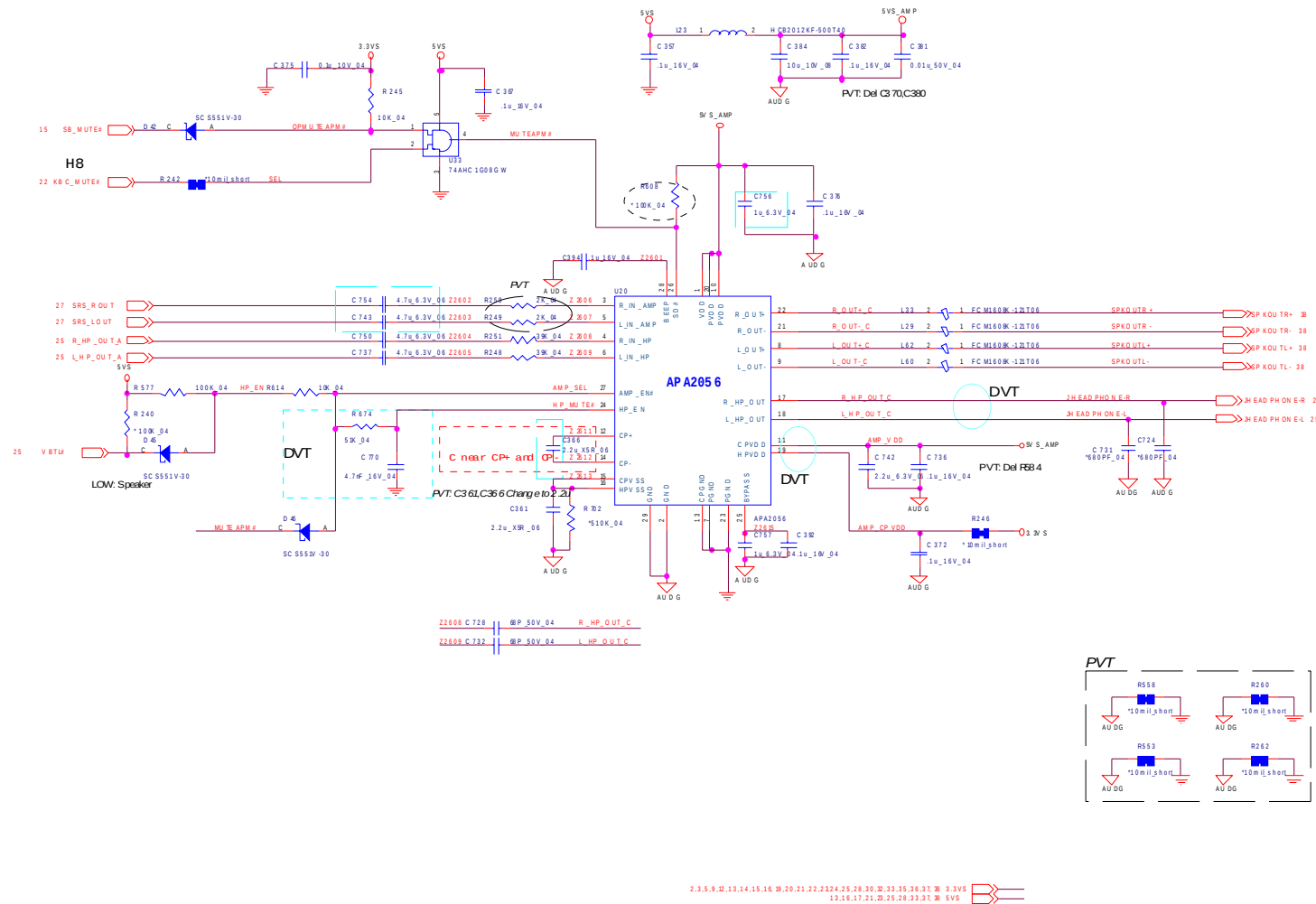
LED, Screw Hole B - 25



Sheet 25 of 42
Azalia CODEC
ALC662

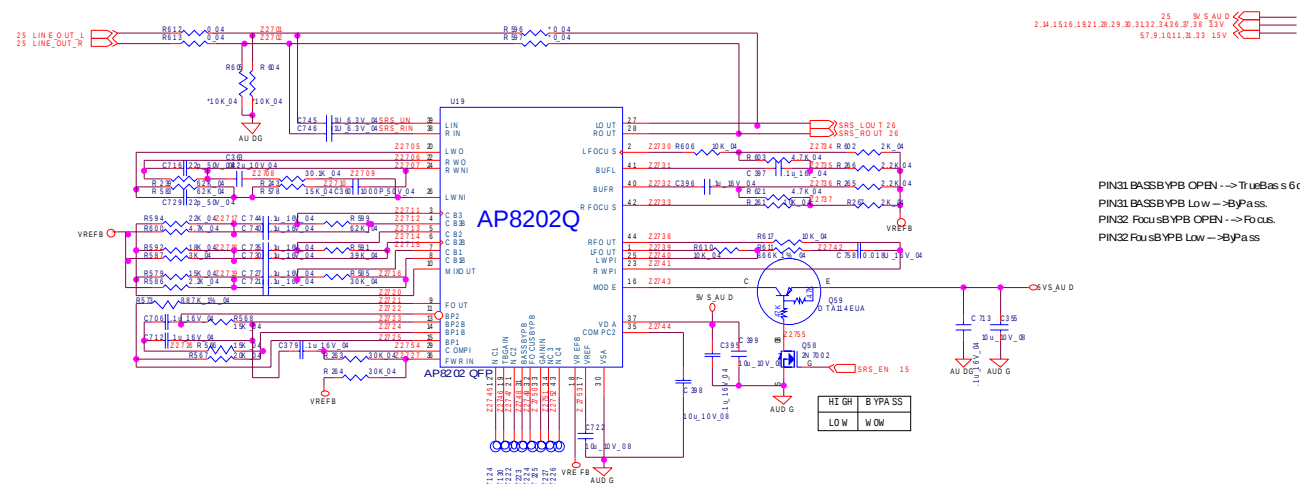


Audio AMP

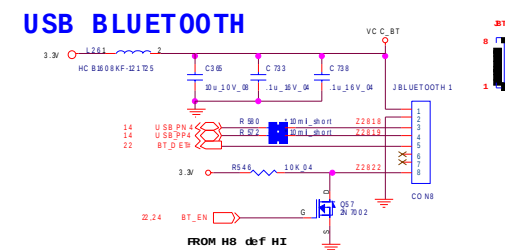
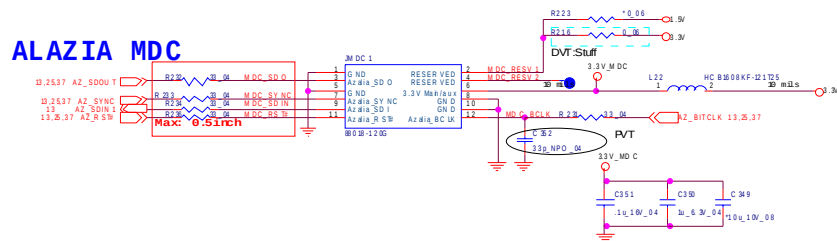


SRS, MDC, BT

AUDIO PROCESSOR PRE-AMP



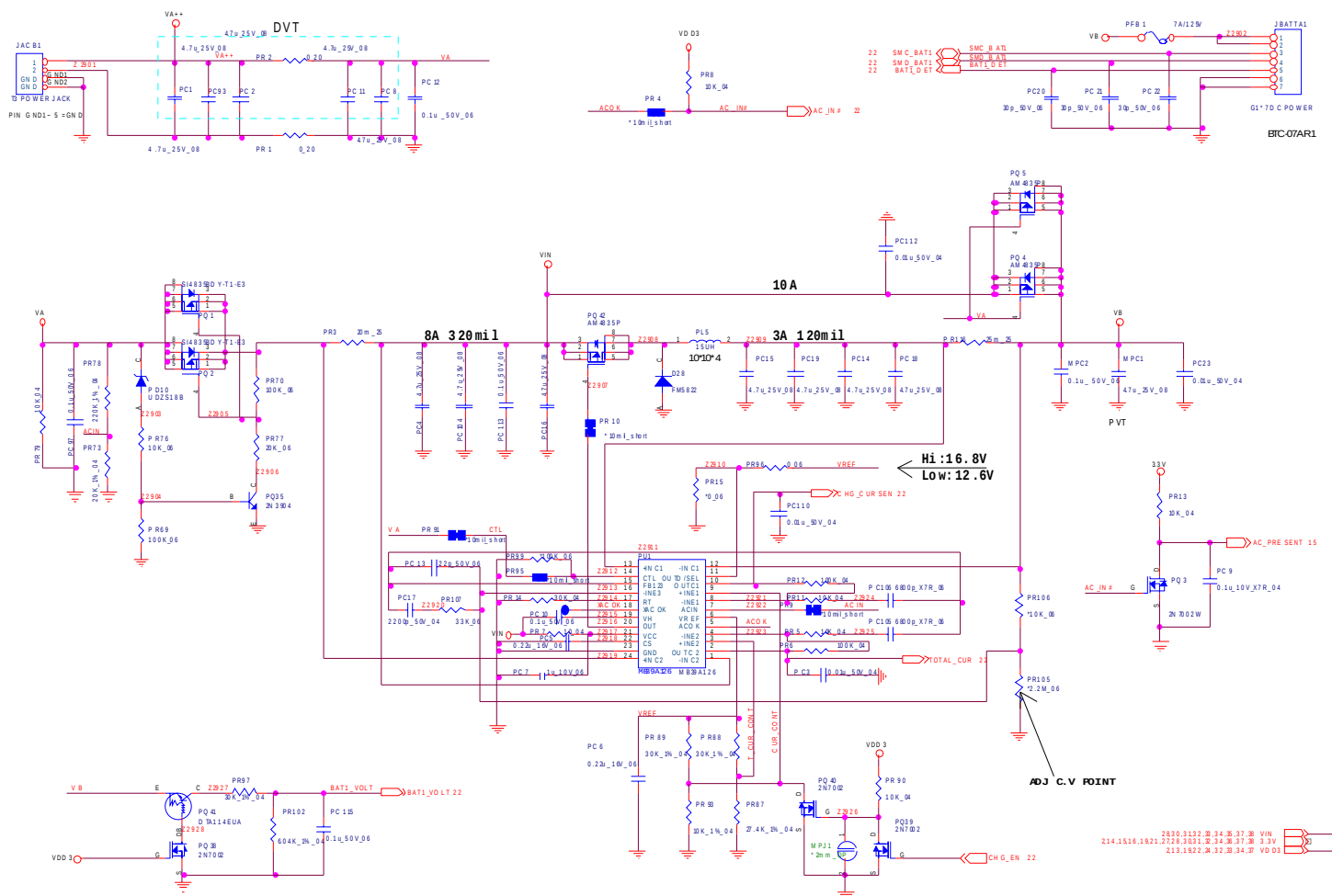
PIN31 BASSBYPB OPEN -> TrueBass 6dB
PIN31 BASSBYPB Low -> ByPass.
PIN32 FocusBYPB OPEN -> Focus.
PIN32 FocusBYPB Low -> ByPass



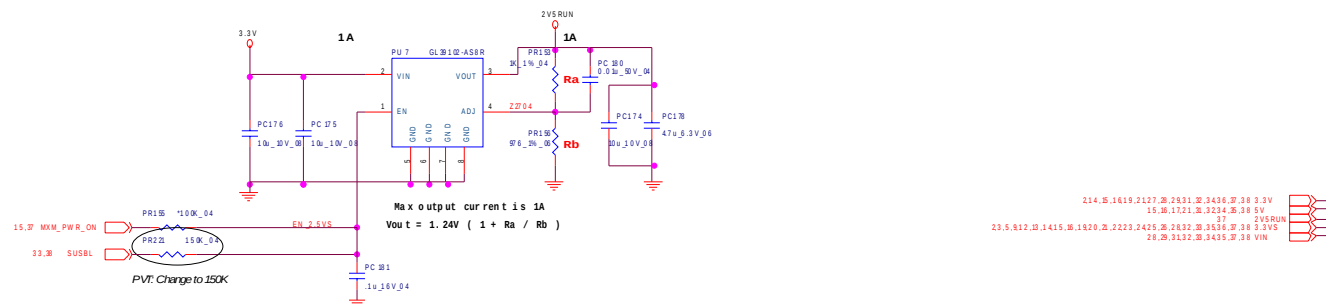
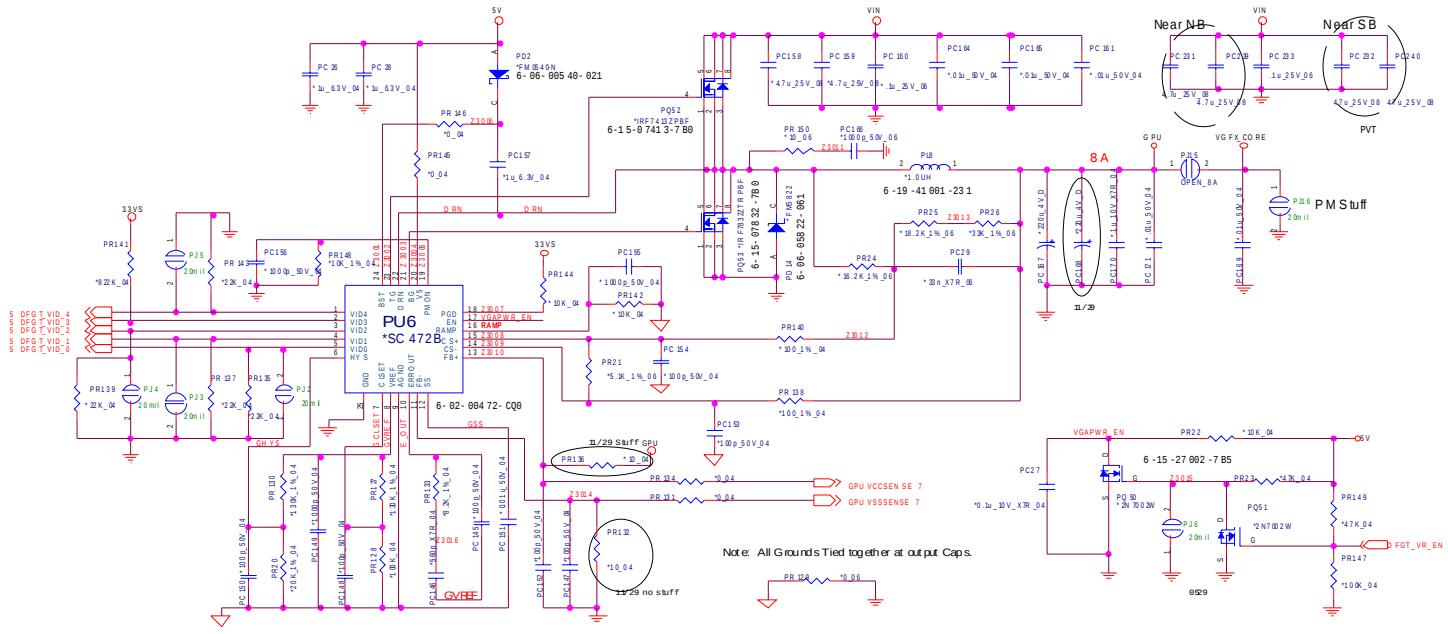
Schematic Diagrams

Power Charger, DC-In

Sheet 29 of 42
Power Charger,
DC-In



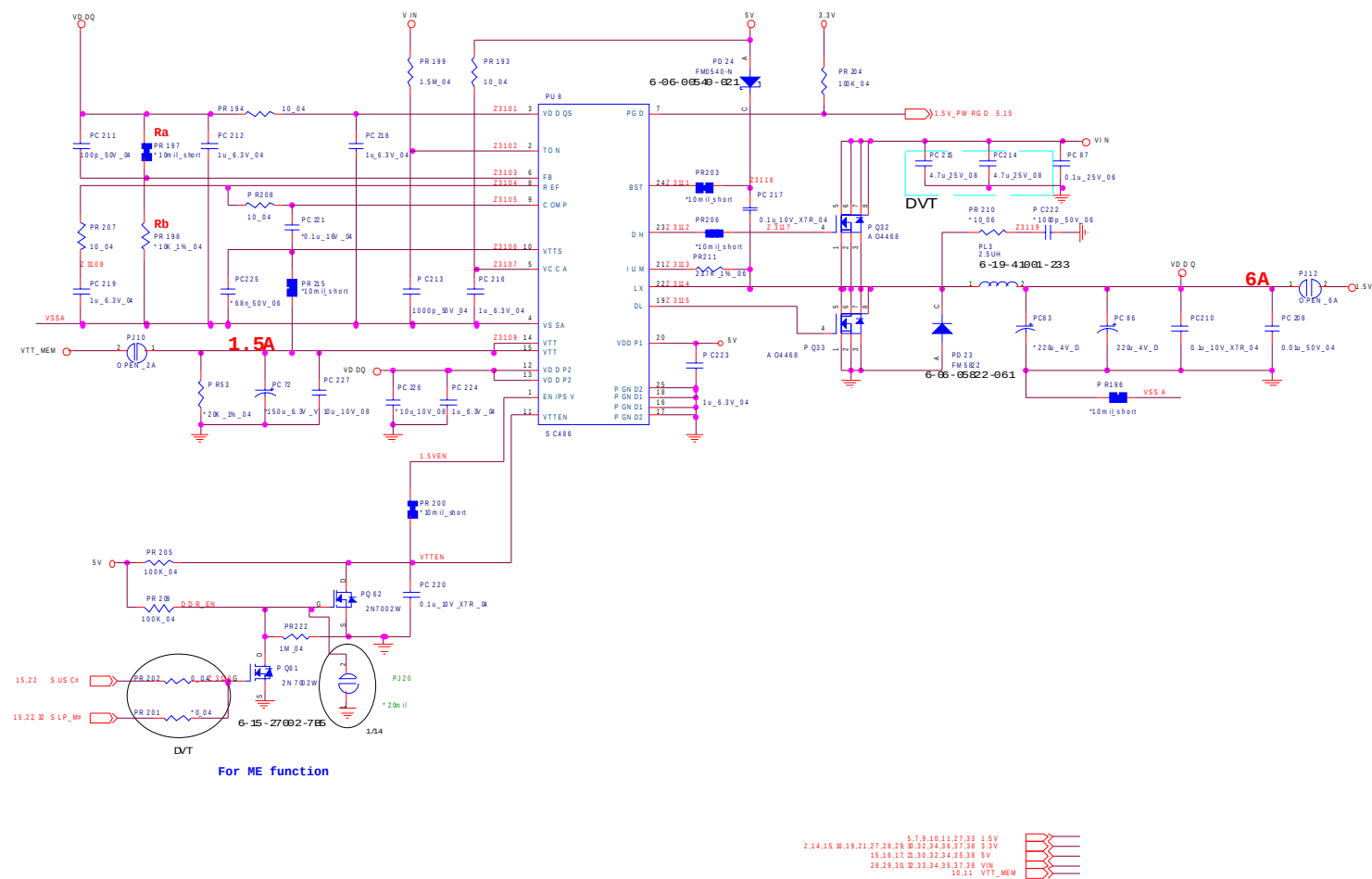
Power GPU

Sheet 30 of 42
Power GPU

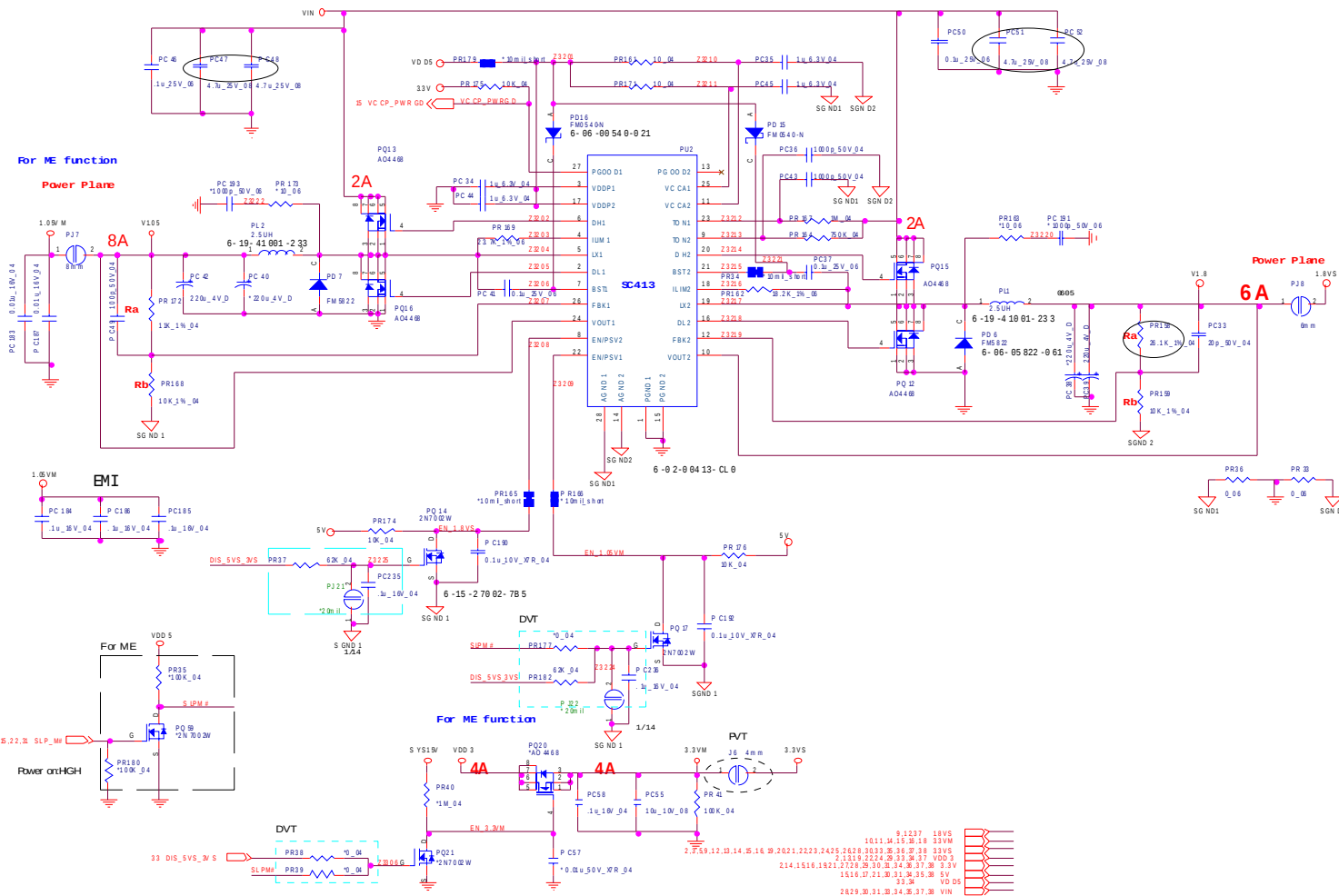
Schematic Diagrams

Power 1.5V/0.75V

Sheet 31 of 42
Power 1.5V/0.75V



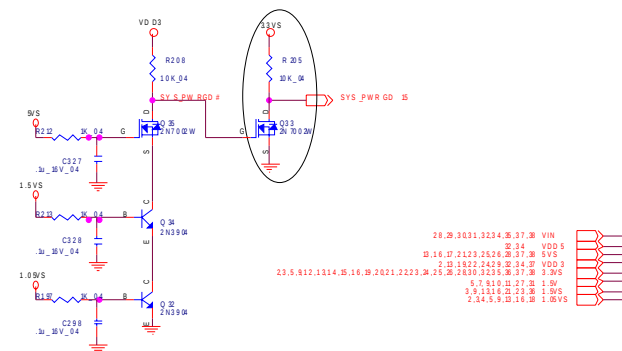
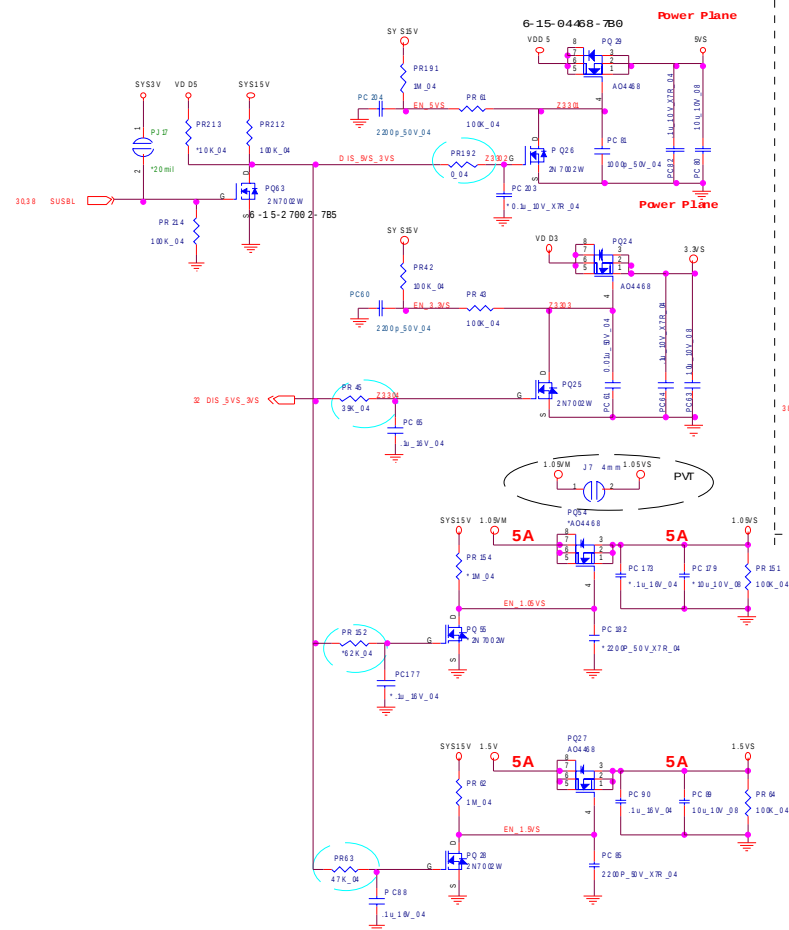
Power 3.3VM/1.8VS/1.05VM



Sheet 32 of 42
Power 3.3VM/
1.8VS/1.05VM

B.Schematic Diagrams

Sheet 33 of 42
Power 3VS/5VS/
Power S/W

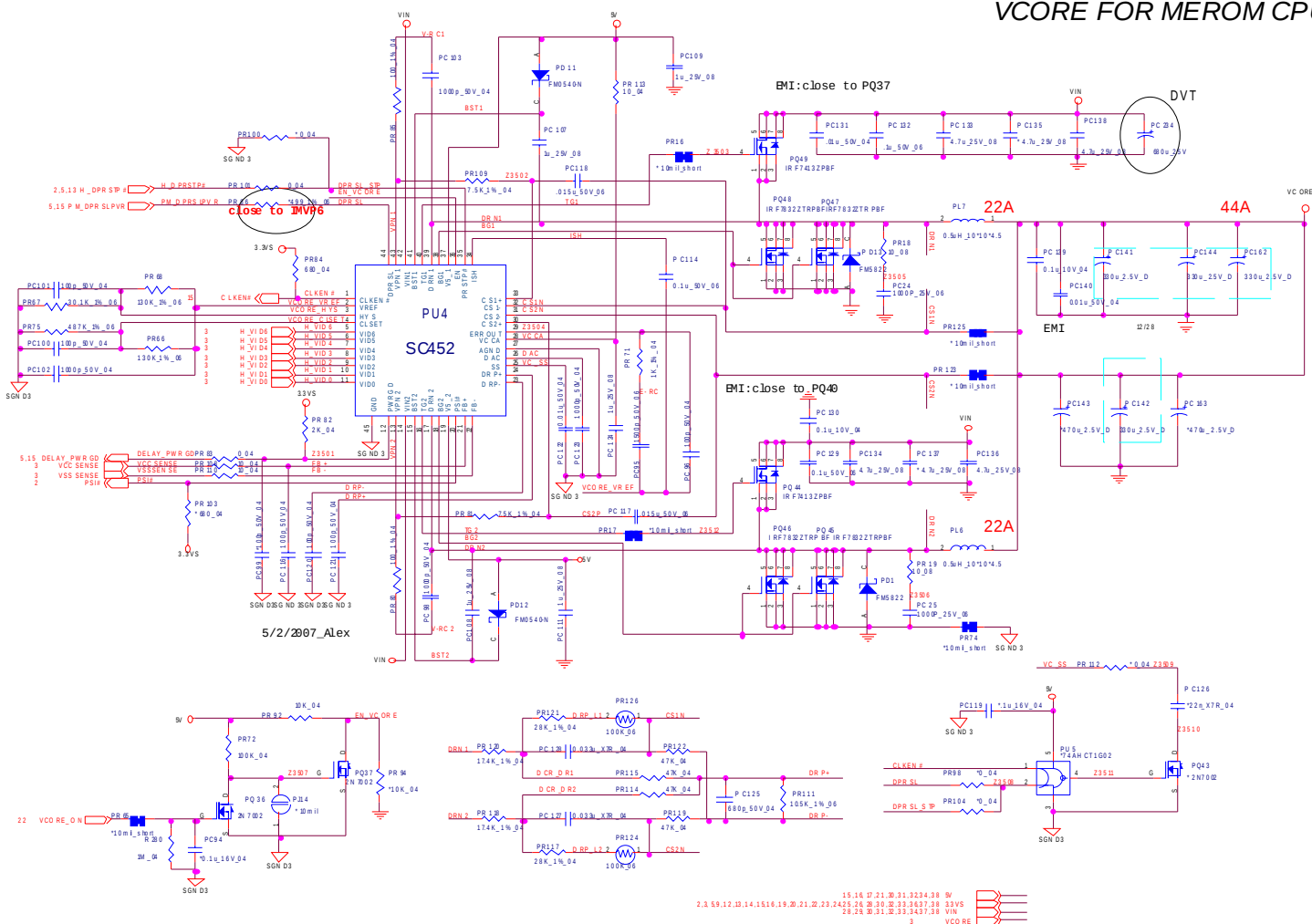


214,1516,1921,2728,2930,3132,3637,38 3.3V
1516,1721,3031,3235,38 5V
2829,3031,3233,3537,38 VI N
213,1922,2429,3233,37 VD D3
32,38 VD D5

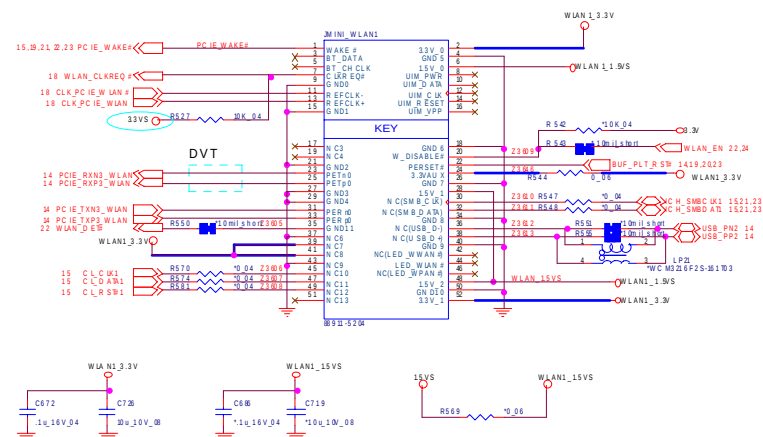
Power VCORE

VCORE FOR MEROM CPU

Sheet 35 of 42
Power VCore

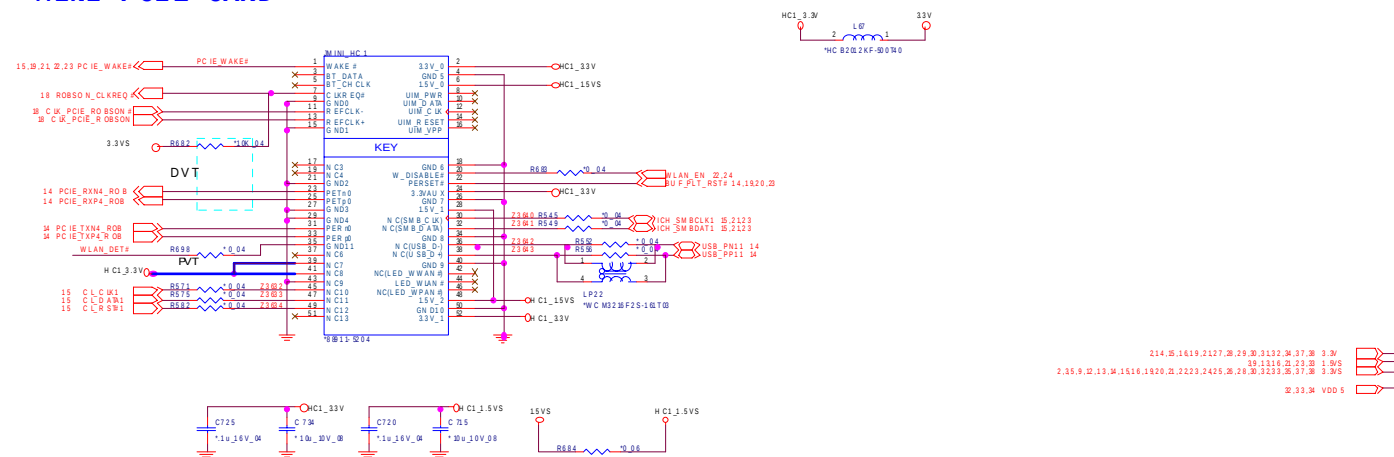


MINI-PCIE CARD

[illegible]

Sheet 36 of 42
Mini Card/WLAN

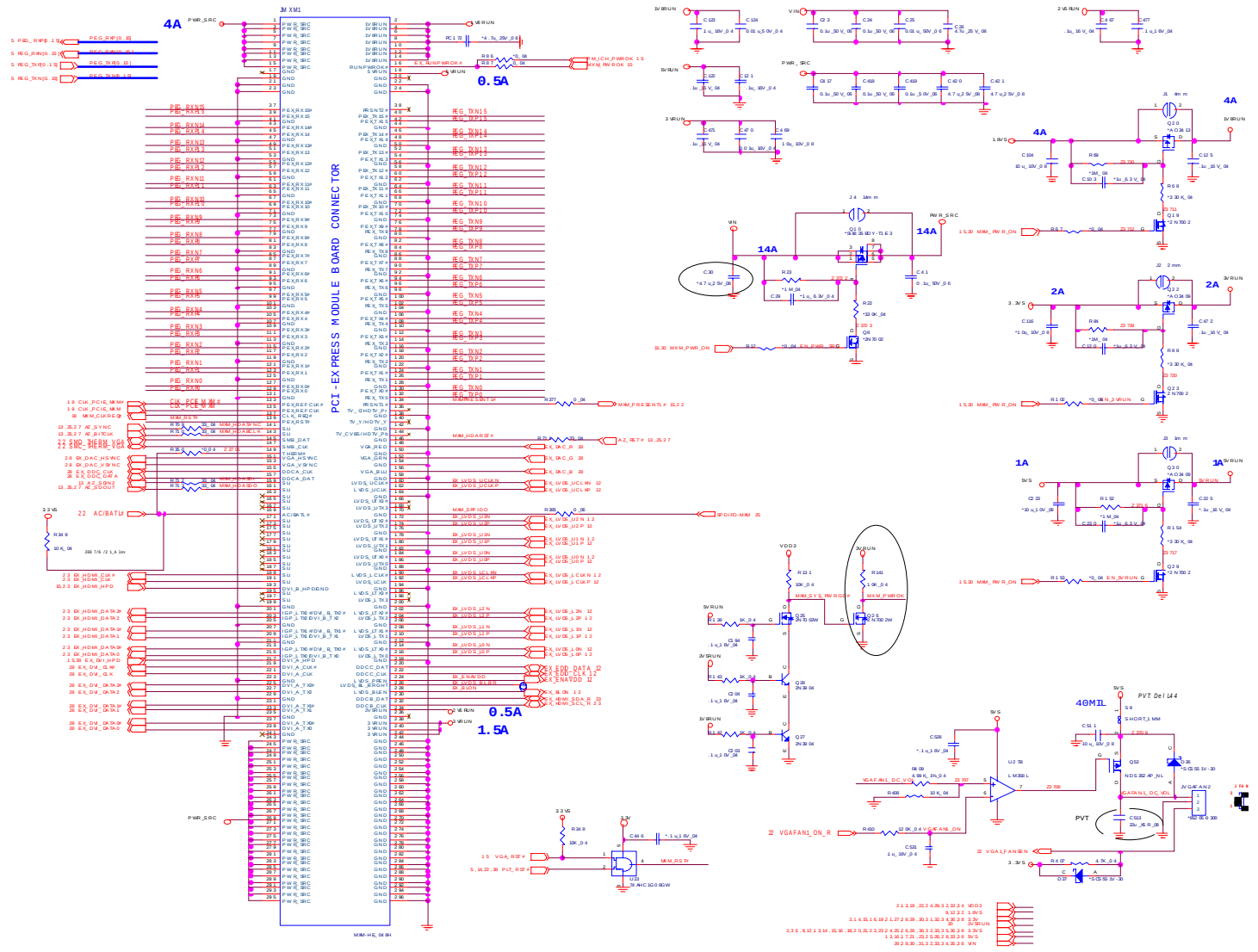
MINI-PCIE CARD



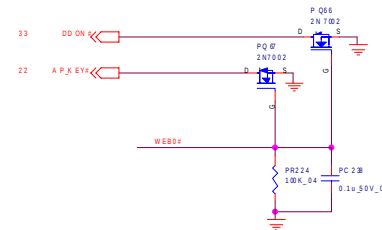
Schematic Diagrams

MXM PCI-E Type III

Sheet 37 of 42
MXM PCI-E Type III



HOT KEY (M/B side)



TPM 1.2

[illegible]

LPC reset timing:
LPCPD# inactive to LRST# inactive 32~96us

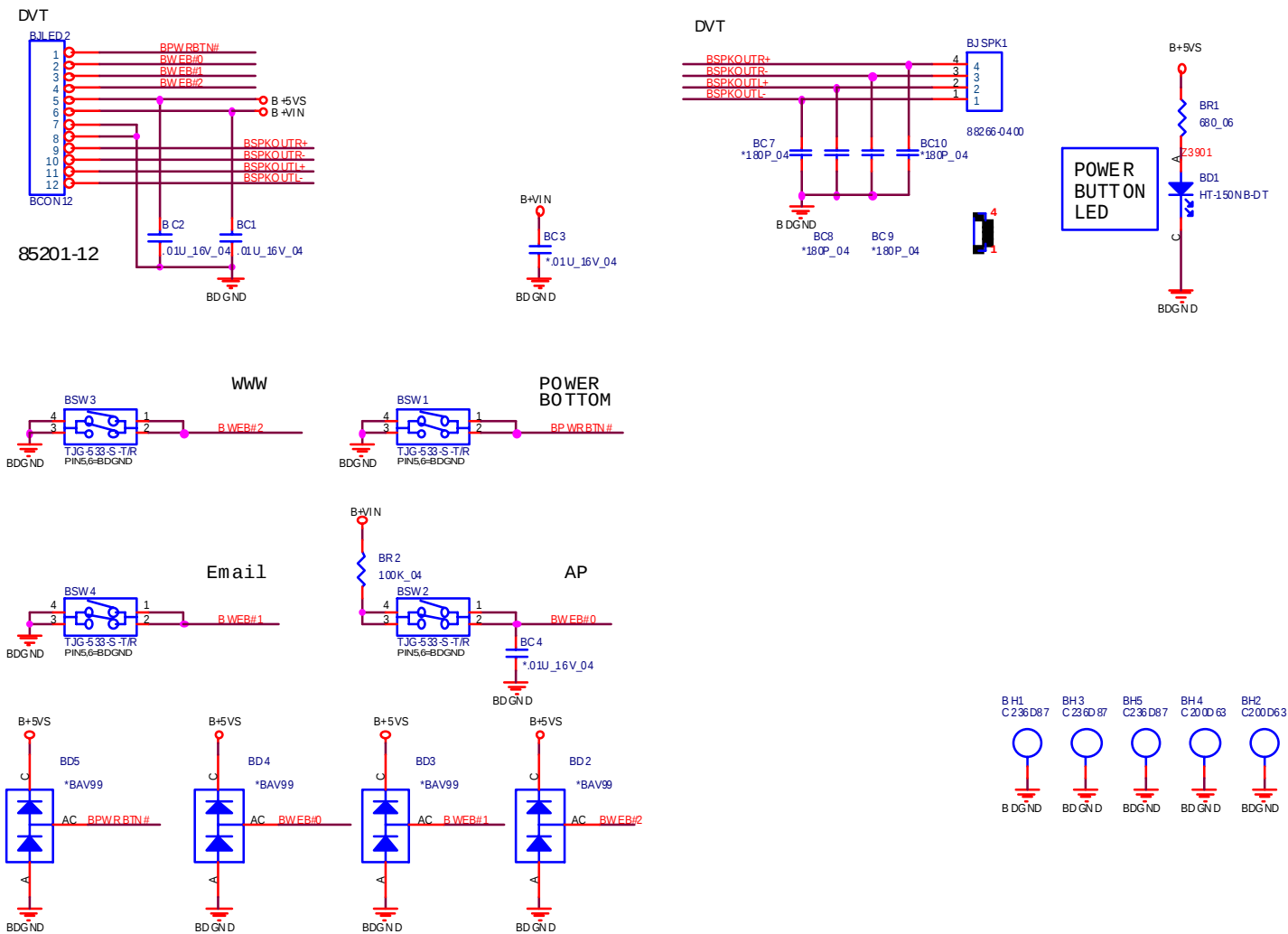
[illegible]

2,14,15,16,19,21,27,28,29,30,31,32,34,36,37 3.3V
15,16,17,21,30,31,32,34,35 5V
28,29,30,31,32,33,34,35,37 V IN
13,16,17,21,23,25,26,28,33,37 5VS
2,13,19,22,24,29,32,33,34,37 V DD 3
2,35,9,12,13,14,15,16,19,20,21,22,23,24,25,26,28,30,32,33,35,36,37 3.3VS

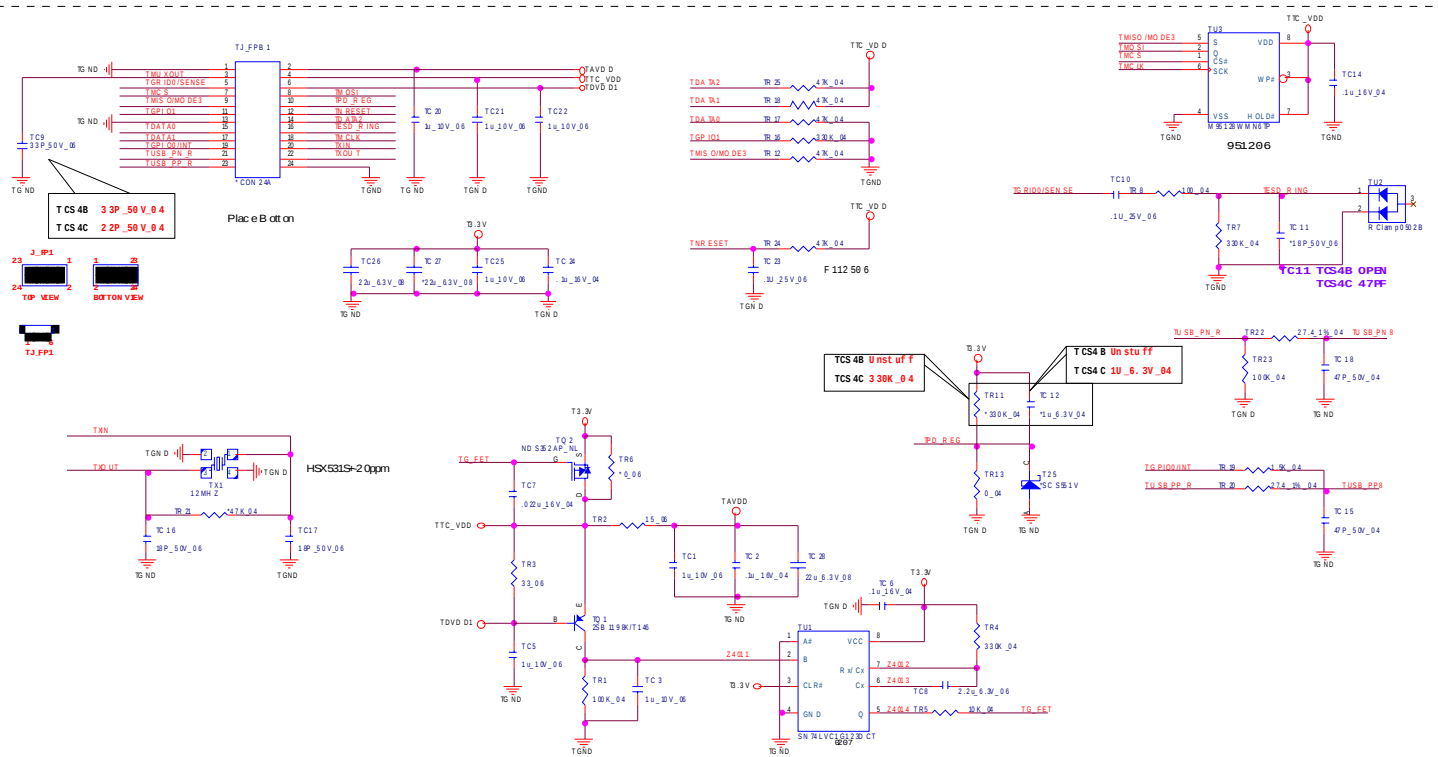
Schematic Diagrams

Button Board

Sheet 39 of 42
Button Board



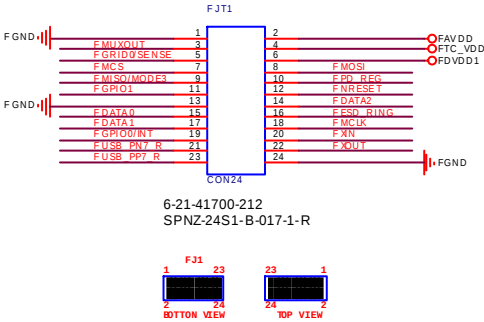
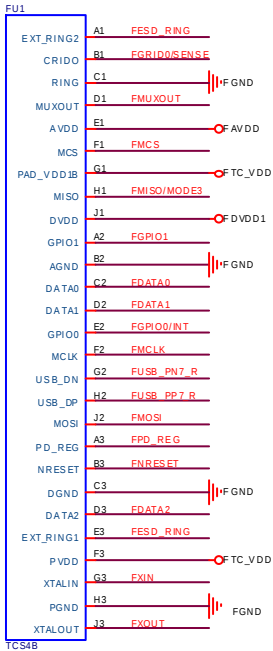
B.Schematic Diagrams



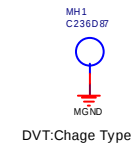
Click Board B - 41

Finger Printer Board

Sheet 41 of 42
Finger Printer
Board



Sheet 42 of 42
SIM Card Board



Appendix C: Updating the FLASH ROM BIOS

To update the FLASH ROM BIOS you must:

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

Download the BIOS

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

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

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

Set the computer to boot from the external drive

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



BIOS Version

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

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

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

BIOS Update

Use the flash tools to update the BIOS

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

C:\> XXX.bat

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

Restart the computer (booting from the HDD)

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

Your computer is now running normally with the updated BIOS

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