

SERVICE MANUAL

E4120 / E4121-C / E4125-C / E4121D-C

notebook



Notebook Computer

E4120 / E4121-C / E4125-C / E4121D-C

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 *E4120* / *E4121-C* / *E4125-C* / *E4121D-C* 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

Preface

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** Watts) minimum AC/DC Adapter.

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 1 Product

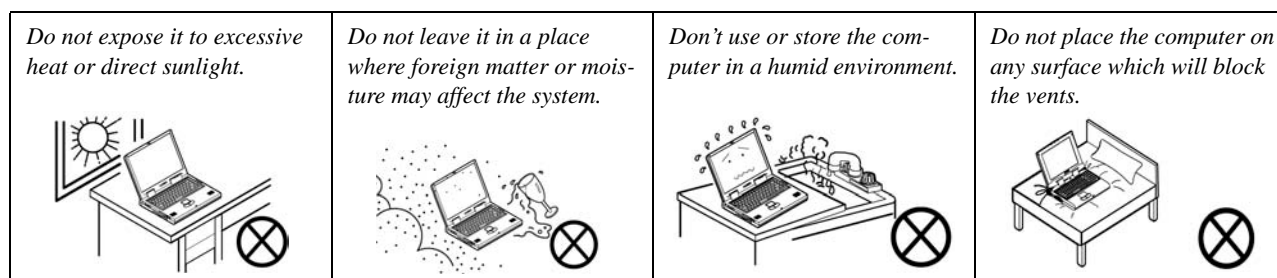
Instructions for Care and Operation

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

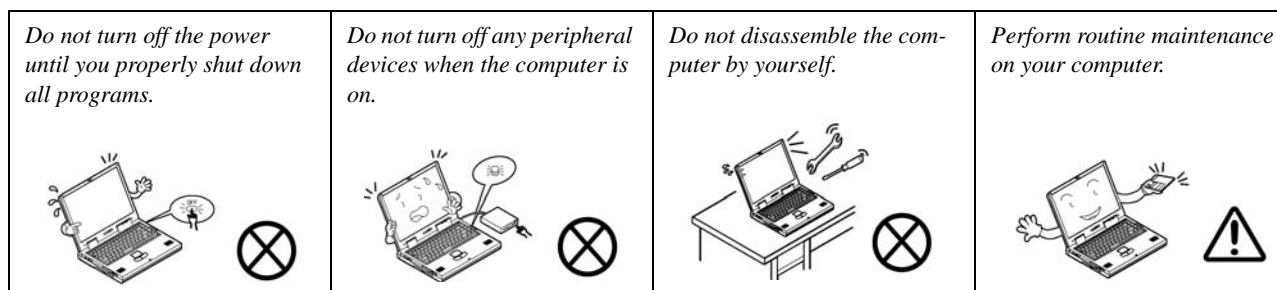
1. **Don't drop it, or expose it to shock.** If the computer falls, the case and the components could be damaged.



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.

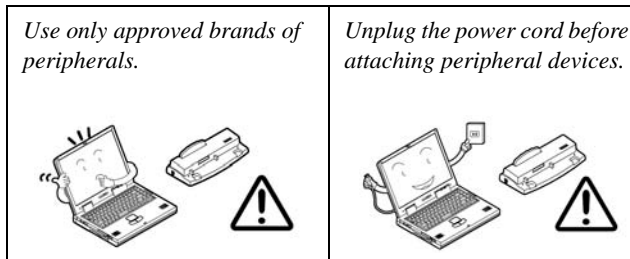


3. **Follow the proper working procedures for the computer.** Shut the computer down properly and don't forget to save your work. Remember to periodically save your data as data may be lost if the battery is depleted.



Preface

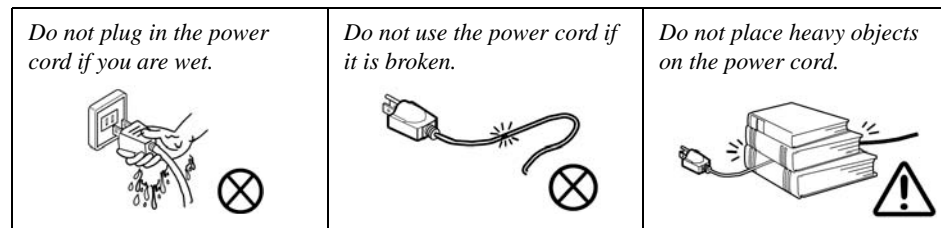
4. **Avoid interference.** Keep the computer away from high capacity transformers, electric motors, and other strong magnetic fields. These can hinder proper performance and damage your data.
5. **Take care when using peripheral devices.**



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.



Power Safety Warning

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

Battery Precautions

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

Battery Guidelines

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

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




Battery Disposal

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

Caution

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

Battery Level

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

Preface

Related Documents

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

User's Manual on CD

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

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Chapter 1: Introduction

Overview

This manual covers the information you need to service or upgrade the **E4120 / E4121-C / E4125-C / E4121D-C** series notebook computer. Information about operating the computer (e.g. getting started, and the *Setup* utility) is in the *User's Manual*. Information about drivers (e.g. VGA & audio) is also found in *User's Manual*. That manual is shipped with the computer.

Operating systems (e.g. *Windows 7*, *Windows Vista*, 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 **E4120 / E4121-C / E4125-C / E4121D-C** 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

Processor	Core Logic	Keyboard & Pointing Device
Intel® Core™ i7-620M Processor: (2.66GHz) 32nm (32 Nanometer) Process Technology, 4MB L2 Cache & 1066MHz FSB - TDP 35W rPGA988A Socket P Package	Intel® HM55 Chipset	Isolated WinKey Keyboard Built-in TouchPad with Multi-Gesture Functionality
Intel® Core™ i5-540M Processor: (2.53GHz) 32nm (32 Nanometer) Process Technology, 3MB L2 Cache & 1066MHz FSB - TDP 35W rPGA988A Socket P Package	Display	Interface
Intel® Core™ i5-520M Processor: (2.4GHz) 32nm (32 Nanometer) Process Technology, 3MB L2 Cache & 1066MHz FSB - TDP 35W rPGA988A Socket P Package	14.0" / 35.56cm 16:9 HD (1366 * 768)	Three USB 2.0 Ports One External Monitor Port One HDMI Out Port One Headphone-Out Jack One Microphone-In Jack One RJ-45 LAN Jack One RJ-11 Modem Jack One DC-In Jack
Intel® Core™ i5-430M Processor: (2.26GHz) 32nm (32 Nanometer) Process Technology, 3MB L2 Cache & 1066MHz FSB, - TDP 35W rPGA988A Socket P Package	Memory	Card Reader
Intel® Core™ i3-350M Processor: (2.26GHz) 32nm (32 Nanometer) Process Technology, 3MB L2 Cache & 1066MHz FSB - TDP 35W rPGA988A Socket P Package	Dual Channel DDRIII (DDR3) Two 204 Pin SO-DIMM sockets supporting DDR3 1066 MHz Memory Expandable up to 4GB (using 2GB SO-DIMM Modules)	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
Intel® Core™ i3-330M Processor: (2.13GHz) 32nm (32 Nanometer) Process Technology, 3MB L2 Cache & 1066MHz FSB - TDP 35W rPGA988A Socket P Package	Video	Slots
	Intel® HM55 Integrated Video: High Preference 3D/2D Graphic Accelerator Shared Memory Architecture of up to 1748MB Supports Microsoft DirectX10 Compatible	One ExpressCard 34 Slot Supporting USB & PCIe Interfaces Two Mini-Card Slots with PCIe (Slot 1) & USB (Slot 2) interface: Slot 1 for WLAN Module (Factory Option) Slot 2 for 3.75G Module (Factory Option)
	BIOS	
	One 32Mbit SPI Flash ROM Phoenix™ BIOS	
	Storage	
	One Changeable 12.7mm(h) Super Multi/Blu-ray Combo Optical Device Drive with SATA Interface One Changeable 2.5" / 9.5 mm (h) HDD with SATA (Serial) Interface	
	Audio	
	High Definition Audio Interface 3D Enhanced Stereo System Built-In Microphone 2 * Built-In Speakers	

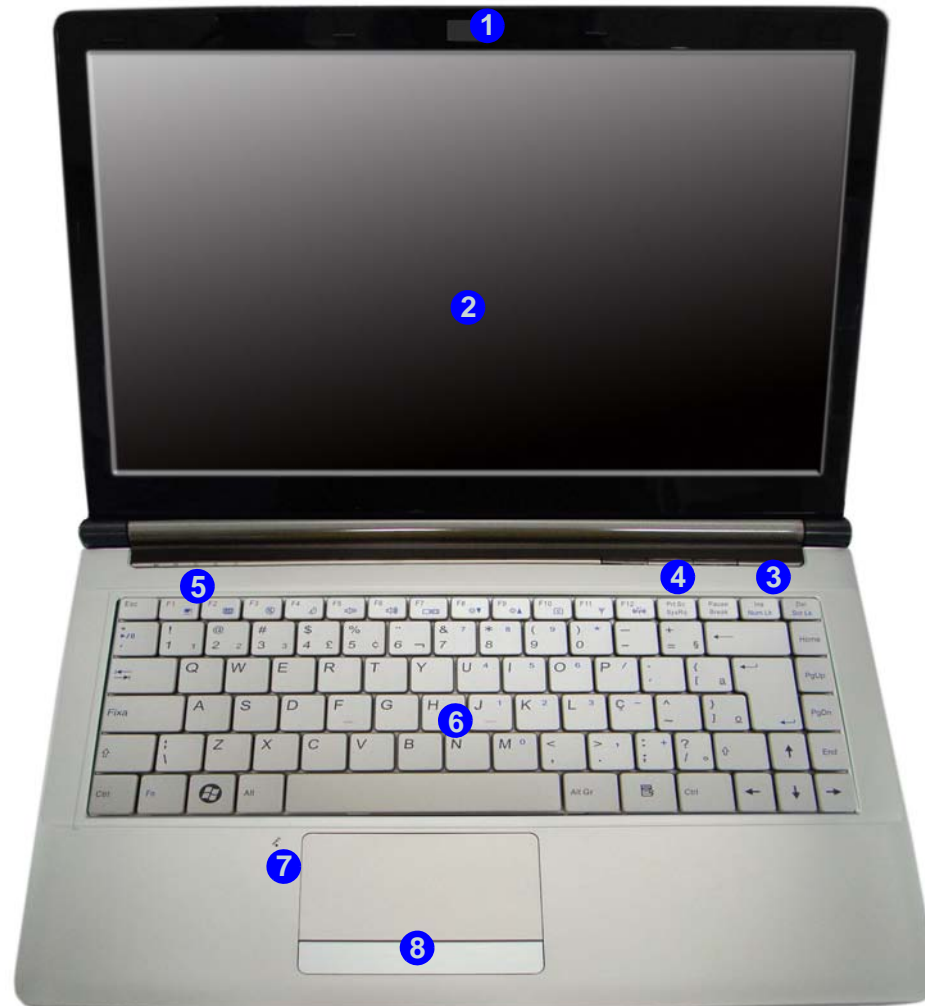
Communication	Security
56K Fax/Modem Built-In 10/100/1000Mb Base-TX Ethernet LAN Intel® WiFi Link 1000 (802.11 b/g/n) Half Mini-Card PCIe WLAN Module (Factory Option) 3rd Party WLAN 802.11b/g/n Half Mini-Card Module with PCIe Interface(Option) Bluetooth 2.1 + EDR (Enhanced Data Rate) Module (Factory Option) 1.3M Pixel PC Camera Module with USB interface (Factory Option) UMTS/HSPDA-based 3.75G Module with USB Half Mini-Card Interface (Factory Option) Quad-band GSM/GPRS (850 MHz, 900 MHz, 1800 MHz, 1900 MHz) UMTS WCDMA FDD (2100 MHz) Note that UMTS modes CAN NOT be used in North America	Security (Kensington® Type) Lock Slot BIOS Password
Power Management	Operating System
Supports Wake on LAN Supports Wake on USB	Windows® Vista (with Service Pack 2) Windows® 7
Power	Design Feature
Full Range AC/DC Adapter AC input 100 - 240V, 50 - 60Hz, DC Output 19V, 3.42A or 18.5V, 3.5A (65 Watts) Removable 6 Cell Smart Lithium Ion Battery Pack 48.84WH (Factory Option) Removable 6 Cell Smart Lithium Ion Battery Pack 62.16WH	IMR Changeable LCD Back Covers (Factory Option)
	Environmental Spec
	Temperature Operating: 5°C - 35°C Non-Operating: -20°C - 60°C Relative Humidity Operating: 20% - 80% Non-Operating: 10% - 90%
	Dimensions & Weight
	340mm (w) * 238mm (d) * 15.6 - 35.2mm (h) 2.2 kg with 6 Cell Battery & ODD

Introduction

Figure 1
Top View

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

External Locator - Top View with LCD Panel Open



External Locator - Front & Right side Views

Figure 2

Front Views

1. LED Power Indicators



Figure 3

Right Side Views

1. Microphone-In Jack
2. Headphone-Out Jack
3. USB 2.0 Port
4. RJ-11 Phone Jack
5. Optical Device Drive Bay
6. Security Lock Slot



Introduction

External Locator - Left Side & Rear View

Figure 4
Left Side View

1. DC-In Jack
2. External Monitor Port
3. RJ-45 LAN Jack
4. HDMI-Out Port
5. Vent/Fan Intake/Outlet
6. 2 * USB 2.0 Ports
7. ExpressCard Slot
8. 7-in-1 Card Reader

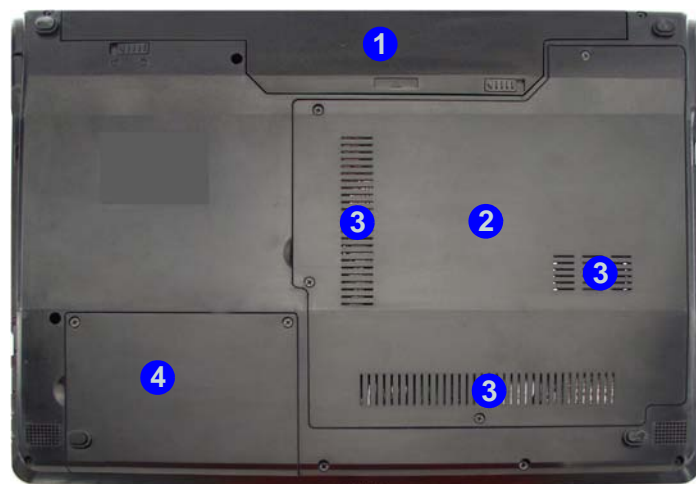


Figure 5
Rear View

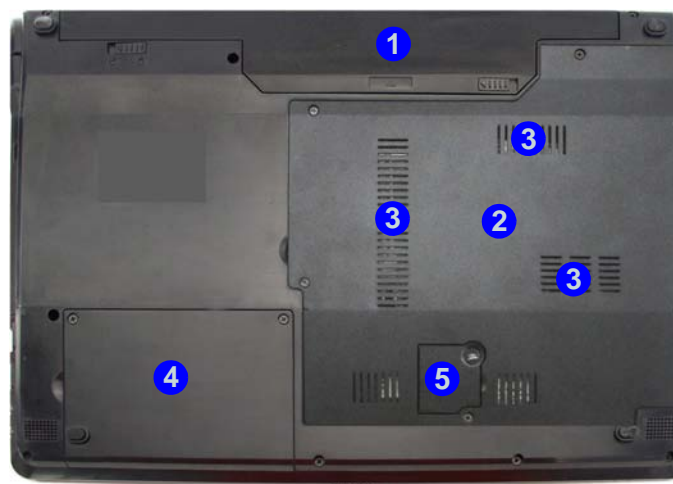
1. Battery



External Locator - Bottom View



WITHOUT 3G



WITH 3G

Figure 6
Bottom View

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



Overheating

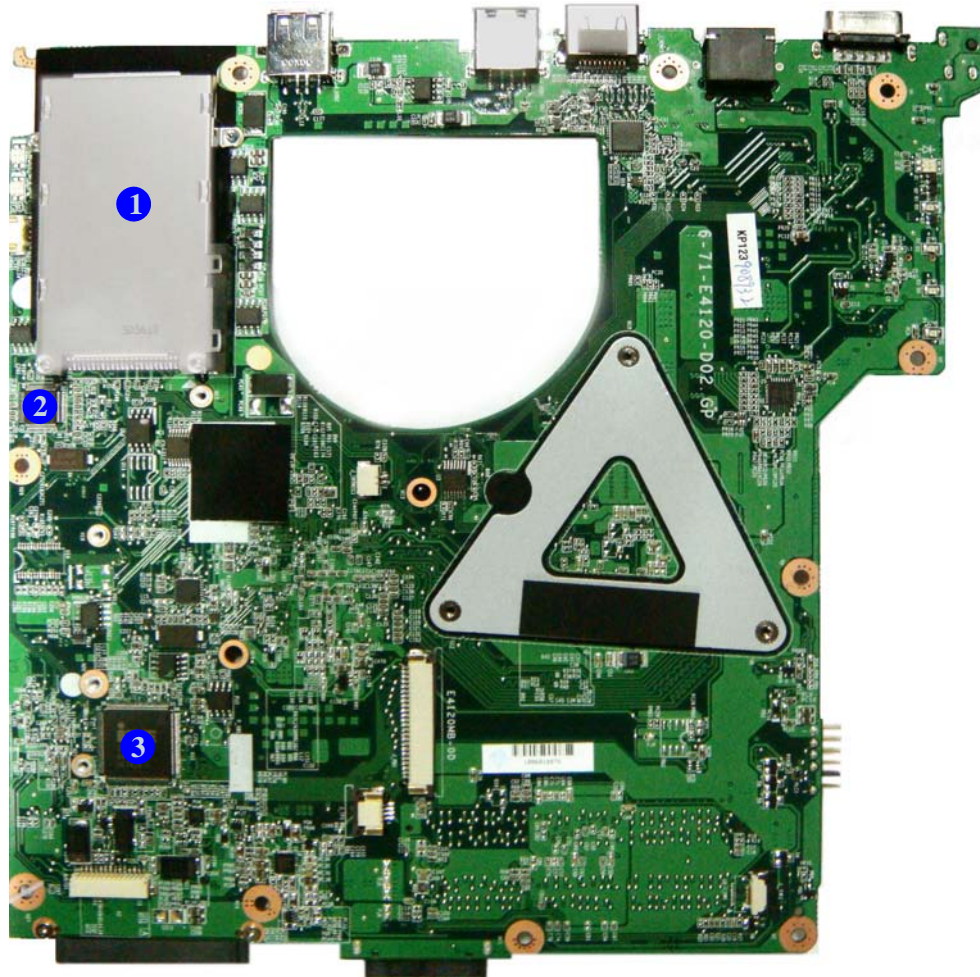
To prevent your computer from overheating make sure nothing blocks the vent/fan intakes while the computer is in use.

Introduction

Figure 7
**Mainboard Top
Key Parts**

1. ExpressCard Connector
2. JMC251
3. KBC ITE IT8512E

Mainboard Overview - Top (Key Parts)



Mainboard Overview - Bottom (Key Parts)

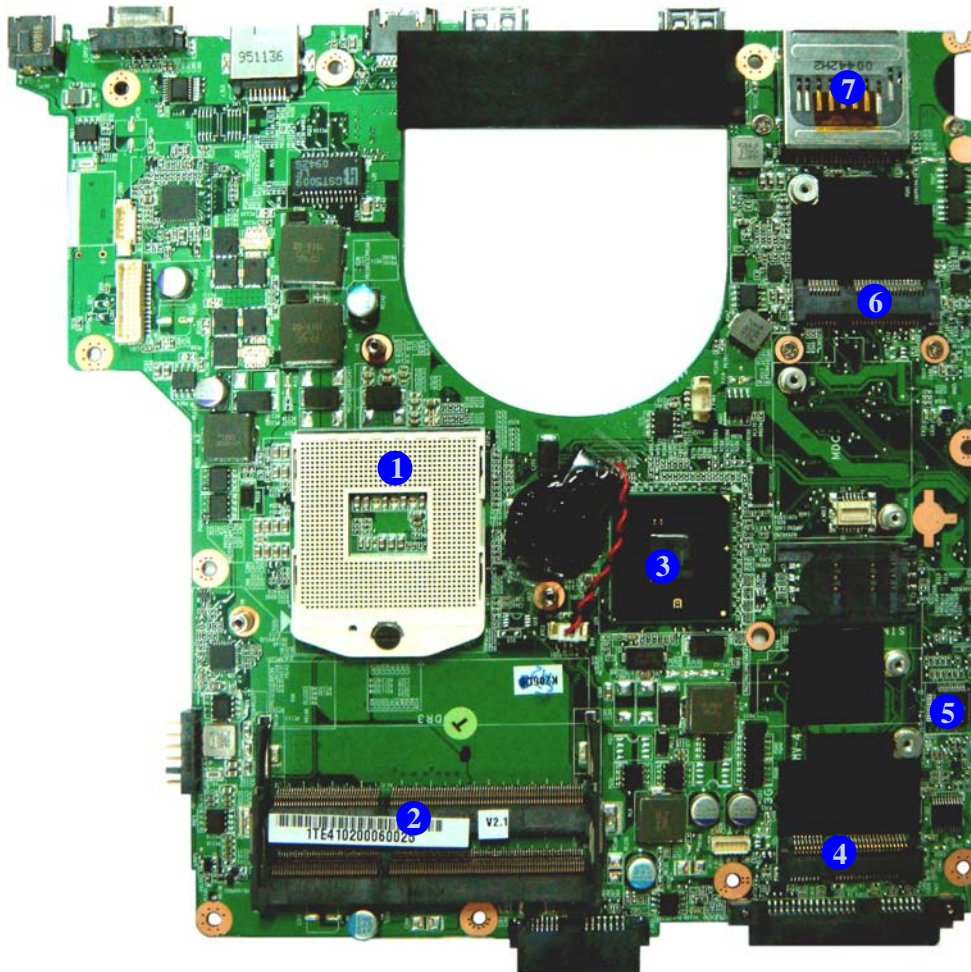


Figure 8
**Mainboard Bottom
Key Parts**

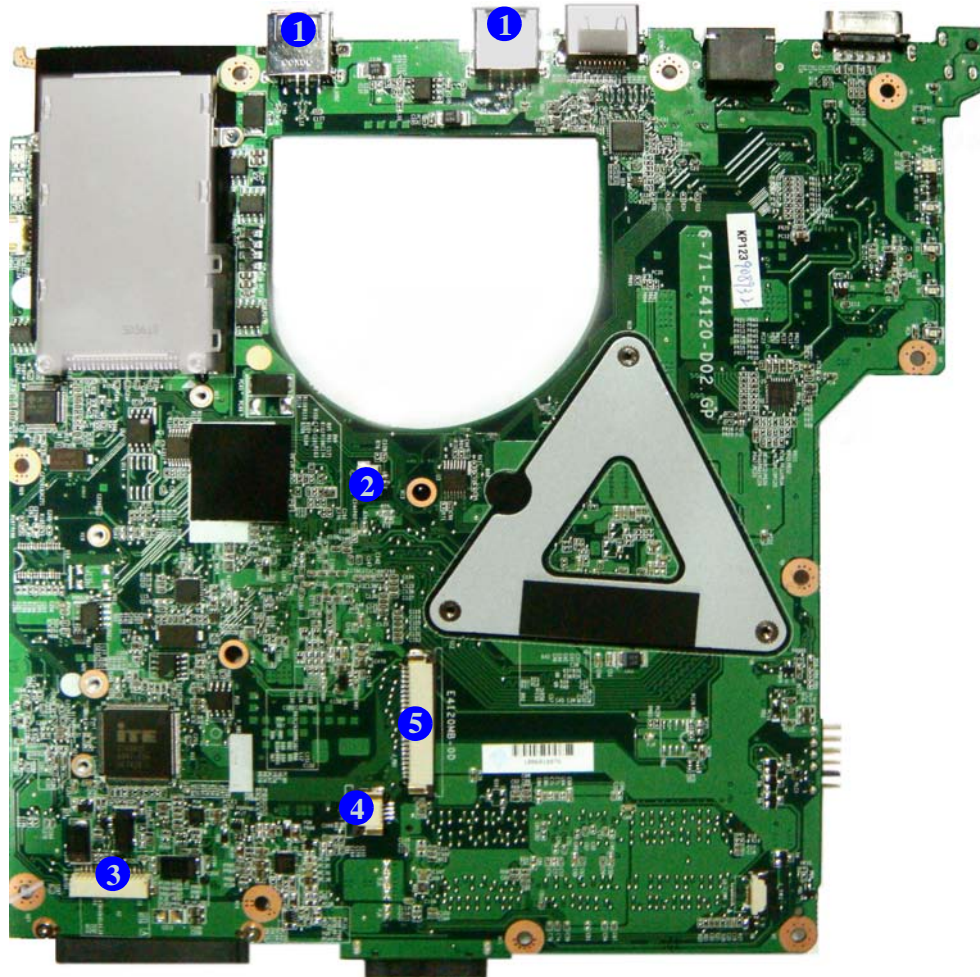
1. CPU Socket (no CPU installed)
2. Memory Slots (DDR3 SO-DIMM)
3. Intel HM55
4. Mini-Card Connector (3G Module)
5. Audio Codec
6. Mini-Card Connector (WLAN Module)
7. Card Reader Socket

Introduction

Figure 9
**Mainboard Top
Connectors**

1. USB Port
2. Microphone
Cable Connector
3. Audio Cable
Connector
4. TouchPad Cable
Connector
5. Keyboard Cable
Connector

Mainboard Overview - Top (Connectors)



Mainboard Overview - Bottom (Connectors)

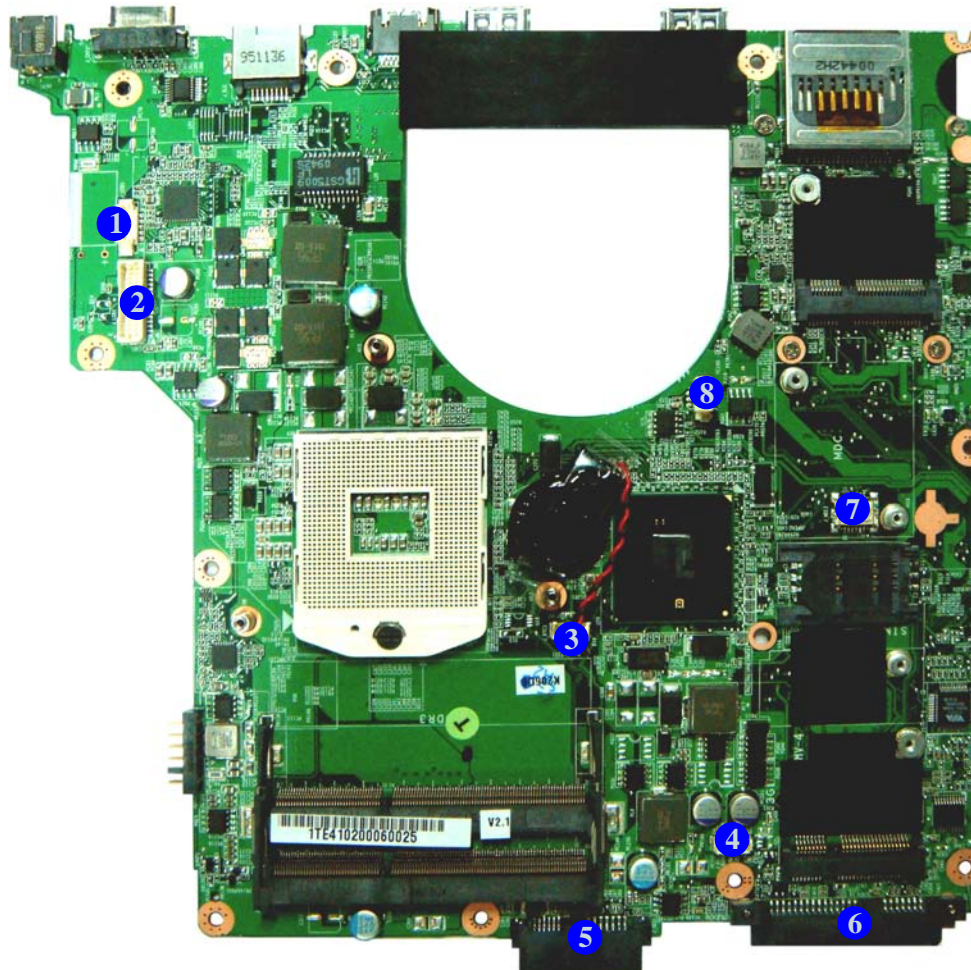


Figure 10
**Mainboard Bottom
Connectors**

1. CCD Connector
2. LCD Cable Connector
3. CMOS Cable Connector
4. BT Cable Connector
5. ODD Connector
6. HDD Connector
7. MDC Cable Connector
8. Fan Cable Connector


Chapter 2: Disassembly



Overview

This chapter provides step-by-step instructions for disassembling the *E4120 / E4121-C / E4125-C / E4121D-C* 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.


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 - 11](#)
3. Install the processor [page 2 - 13](#)

To remove the WLAN Module:

1. Remove the battery [page 2 - 5](#)
2. Remove the wireless LAN [page 2 - 14](#)

To remove the 3.75G Module:

1. Remove the battery [page 2 - 5](#)
2. Remove the 3.75G [page 2 - 15](#)

To remove the Modem:

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

To remove the Bluetooth Module:

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

To remove the LCD Back Cover (E4121D-C):

1. Remove the battery [page 2 - 5](#)
2. Remove the LCD Back Cover [page 2 - 18](#)

To remove the LCD Front Cover:

1. Remove the battery [page 2 - 5](#)
2. Remove the LCD Front Cover [page 2 - 20](#)

To remove the Keyboard:

1. Remove the battery [page 2 - 5](#)
2. Remove the keyboard [page 2 - 21](#)

Removing the Battery

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

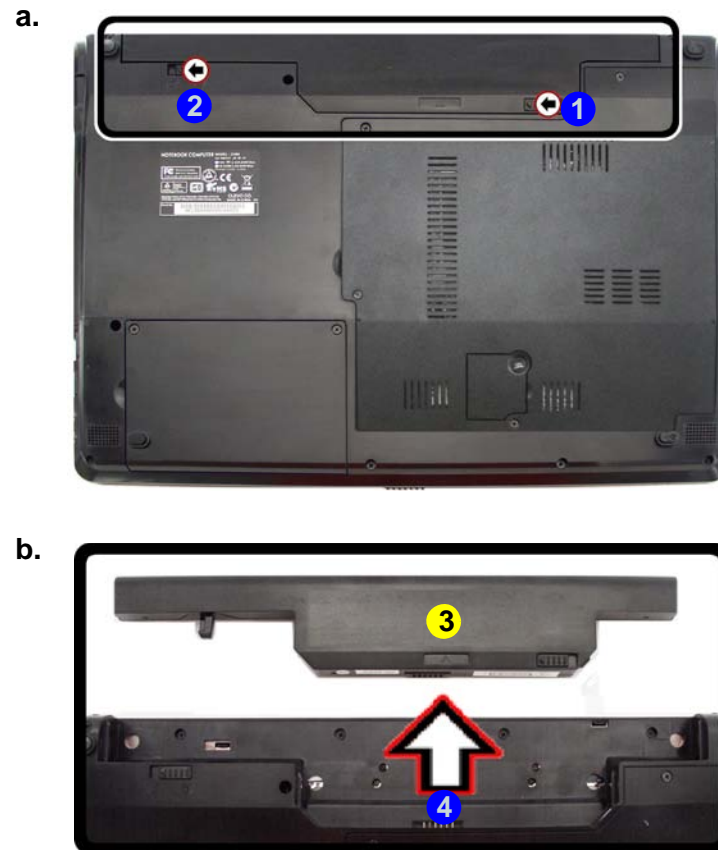
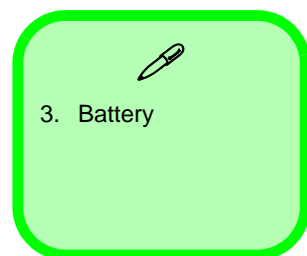


Figure 1
Battery Removal

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



Disassembly

Figure 2
**HDD Assembly
Removal**

- a. Locate the HDD bay cover and remove the screw(s).

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.

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**.



- 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**.
4. Grip the tab and slide the hard disk in the direction of arrow **4**.
5. Lift the hard disk out of the bay **5**.
6. Remove the screw **6** - **9** and the adhesive cover **10** from the hard disk **11**.
7. Reverse the process to install a new hard disk (do not forget to replace all the screws and covers).

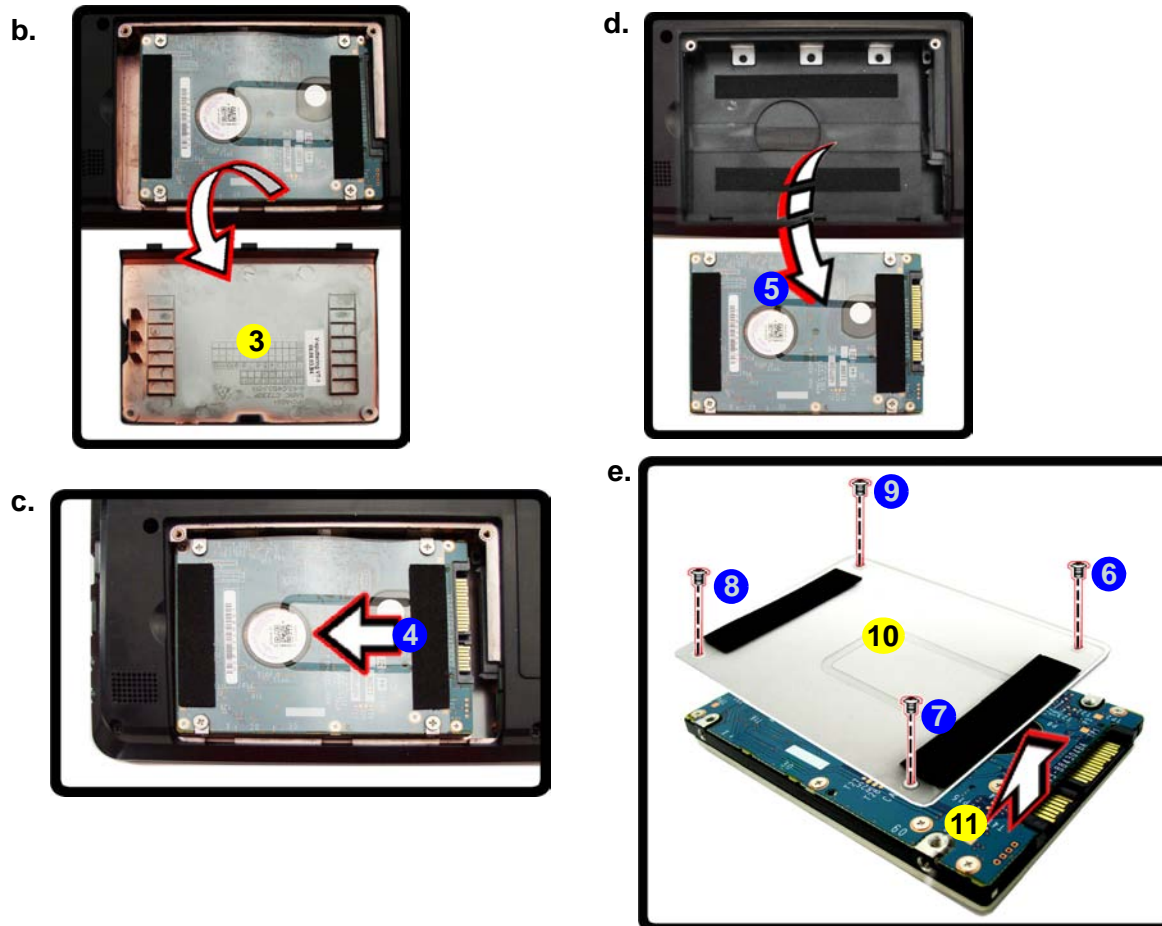


Figure 3
**HDD Assembly
Removal (cont'd.)**

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



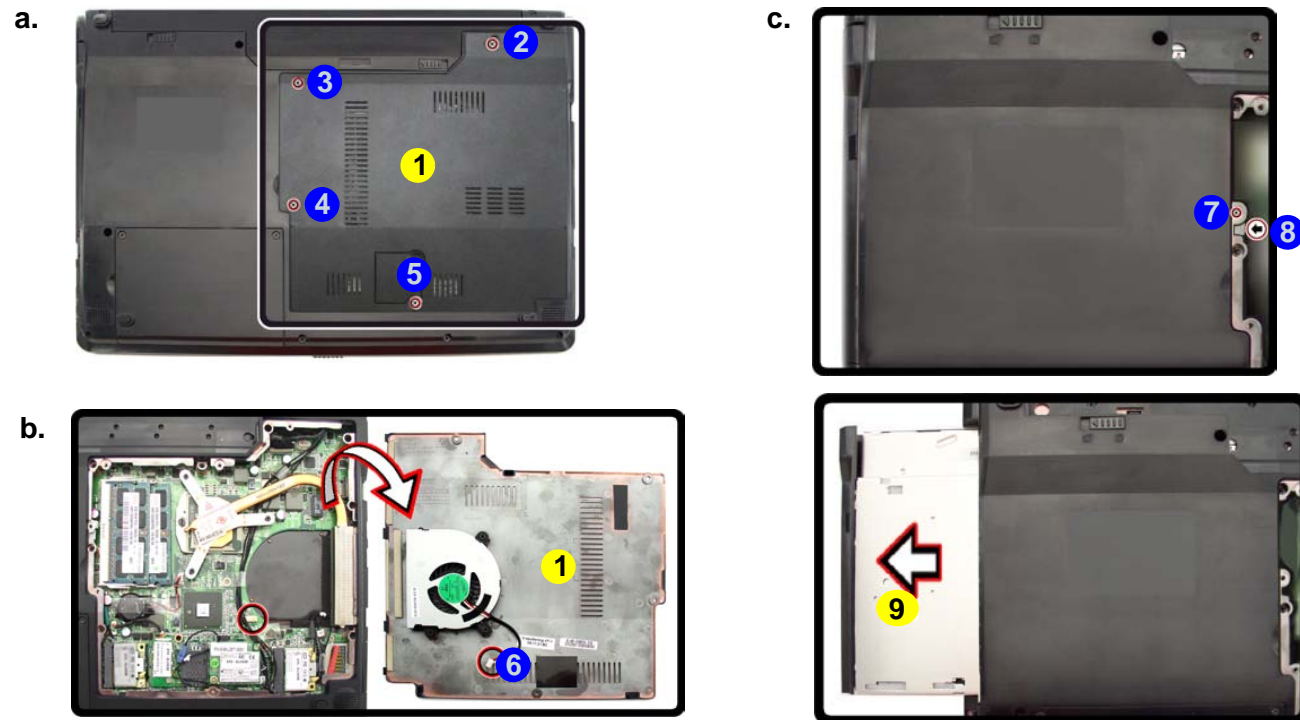
Disassembly

Figure 4
**Optical Device
Removal**

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

Removing the Optical (CD/DVD) Device

- Turn **off** the computer, and remove the battery ([page 2 - 5](#)).
- Locate the RAM & CPU bay cover **1**, and remove screws **2** - **5**.
- Carefully (**a fan and cable are attached to the under side of the cover**) lift up the bay cover.
- Carefully disconnect the fan cable **6**, and remove the cover **1**.
- Remove the screw at point **7**, and use a screwdriver to carefully push out the optical device **9** at point **8**.
- 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).
- Restart the computer to allow it to automatically detect the new device.



1. Component Bay Cover
9. Optical Device

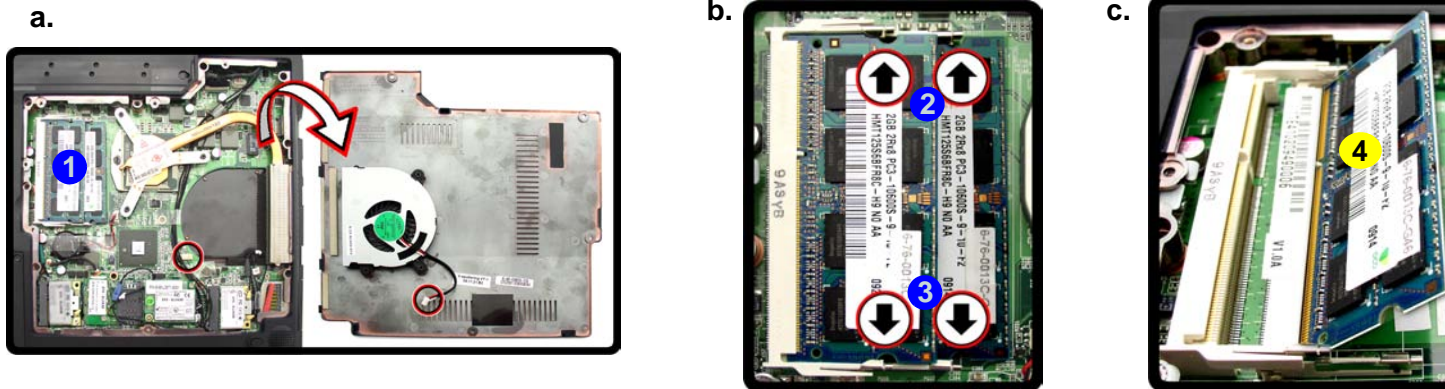
- 5 Screws

Removing the System Memory (RAM)

The computer has two memory sockets for 200 pin Small Outline Dual In-line Memory Modules (SO-DIMM) supporting **DDR3** 1066MHz. The main memory can be expanded up to 8GB. The SO-DIMM modules supported are 1GB, 2GB and 4GB and **DDRIII** Modules. The total memory size is automatically detected by the POST routine once you turn on your computer.

Memory Upgrade Process

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



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

Figure 5
RAM Module Removal

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



Contact Warning

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



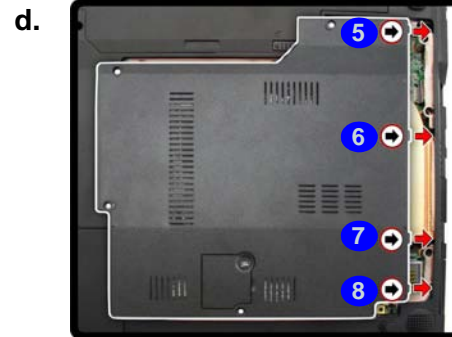
4. RAM Module

Disassembly

Figure 6
**RAM Module
Removal (cont'd.)**

d. Properly re-insert the bay cover pins.

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

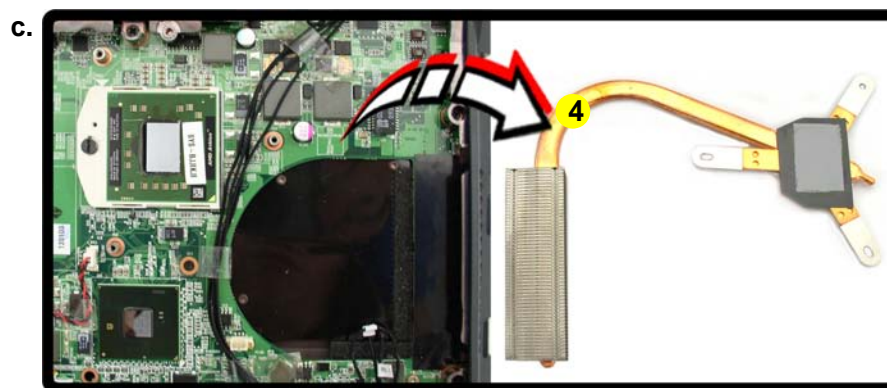
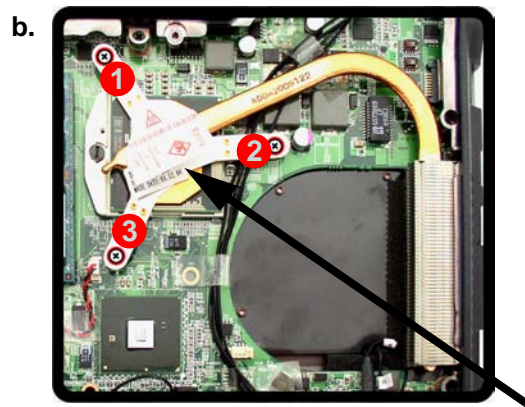
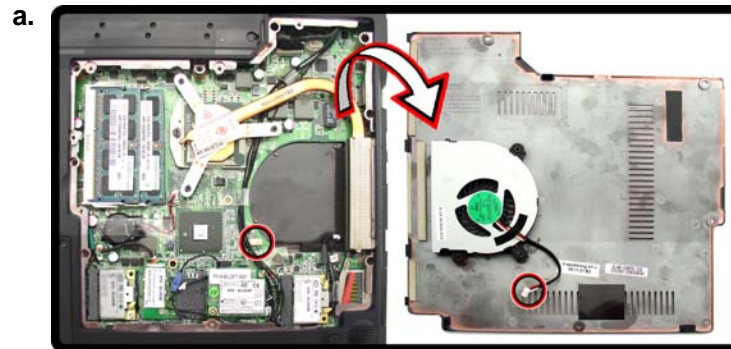


10. Restart the computer to allow the BIOS to register the new memory configuration as it starts up.

Removing and Installing the Processor

Processor Removal Procedure

1. Turn **off** the computer, remove the battery ([page 2 - 5](#)), and the component bay cover ([page 2 - 9](#)).
2. Loosen the CPU heat sink screws in the order **3**, **2** & **1** (the reverse order as indicated on the label).
3. Carefully lift up the heat sink **4** ([Figure 7c](#)) off the computer.



Note: Loosen the screws in the reverse order 3, 2, 1 as indicated on the label.

Figure 7
**Processor
Removal**

- a. Remove the cover and locate the heat sink.
- b. Loosen the screws in the order indicated.
- c. Remove the heat sink.



CPU Warning

In order to prevent damaging the contact pins when removing the CPU, it is necessary to first remove the WLAN module from the computer.




4. Heat Sink

- 3 Screws

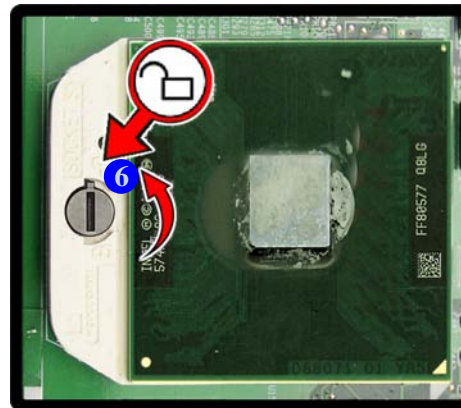
Disassembly

Figure 8
Processor Removal
(cont'd)

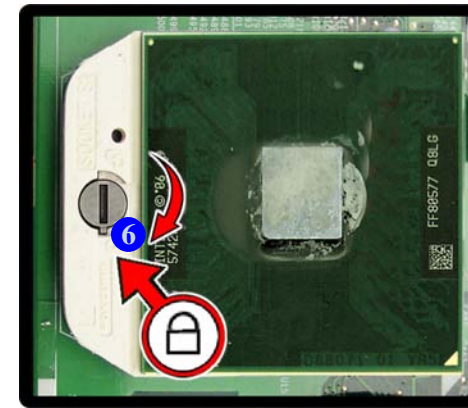
- d. Turn the release latch to unlock the CPU.
e. Lift the CPU out of the socket.

4. Turn the release latch **6** towards the unlock symbol , to release the CPU (*Figure 8a*).
5. Carefully (it may be hot) lift the CPU **7** up out of the socket (*Figure 8b*).
6. See [page 2 - 13](#) for information on inserting a new CPU.
7. When re-inserting the CPU, pay careful attention to the pin alignment, it will fit only one way (DO NOT FORCE IT!).

d.

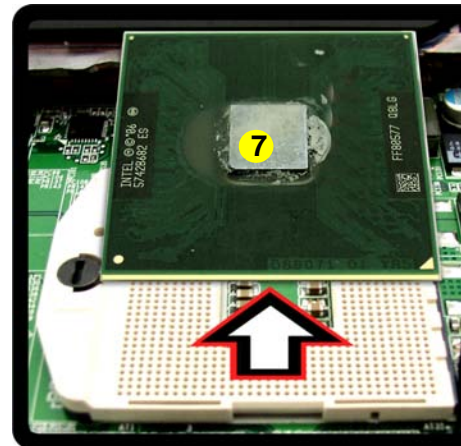


Unlock



Lock

e.




Caution

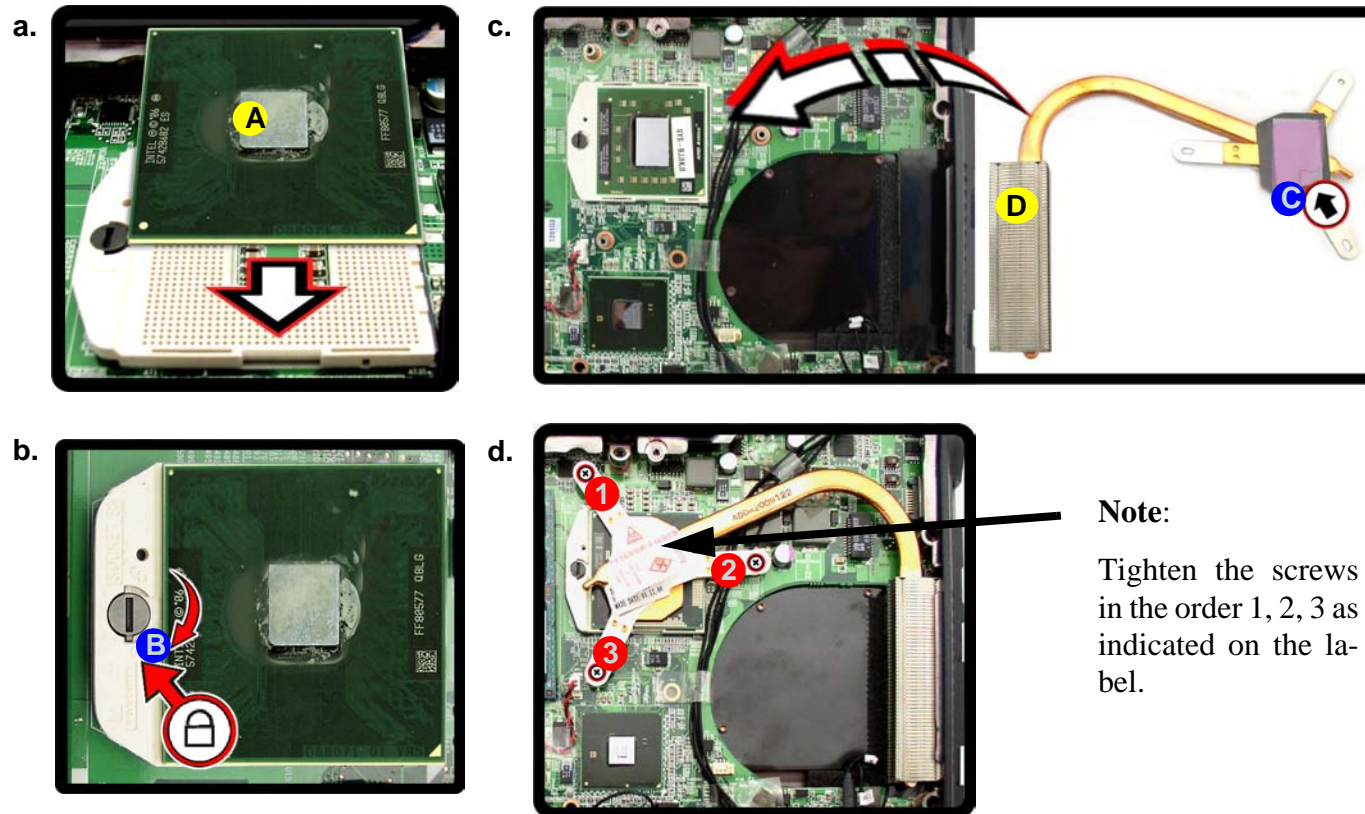
The heat sink, and CPU area in general, contains parts which are subject to high temperatures. Allow the area time to cool before removing these parts.



7. CPU

Processor Installation Procedure

1. 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 9b**).
2. **Remove the sticker **C**** (**Figure 9c**) from the heat sink.
3. Insert the heat sink **D** as indicated in **Figure 9c**.
4. Tighten the CPU heat sink screws in the order **1**, **2** & **3** (the order as indicated on the label and **Figure 9d**).
5. Replace the component bay cover and tighten the screws (**page 2 - 11**).



Note:

Tighten the screws in the order 1, 2, 3 as indicated on the label.

A. CPU
D. Heat Sink

• 3 Screws

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.

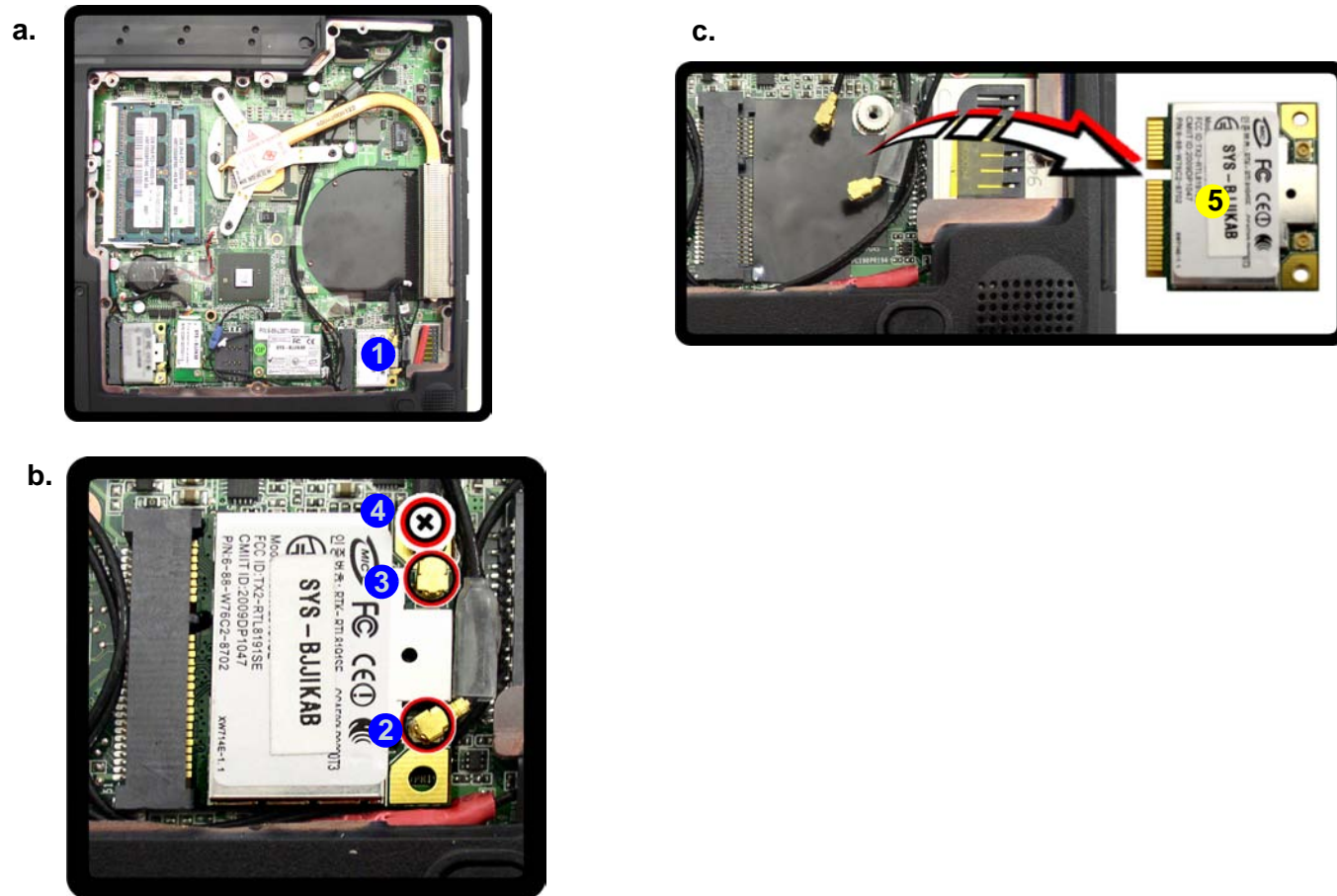
Disassembly

Figure 10
**Wireless LAN
Module Removal**

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

Removing the Wireless LAN Module

1. Turn **off** the computer, 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.
3. Carefully disconnect cables **2** - **3**, then remove screw **4** from the module socket.
4. Lift the Wireless LAN module **5** ([Figure 11d](#)) up and off the computer.




5. WLAN Module.

- 1 Screw

Removing the 3.75G Module

1. Turn **off** the computer, remove the battery ([page 2 - 5](#)) and the component bay cover ([page 2 - 9](#)).
2. The 3.75G module will be visible at point **1** on the mainboard.
3. Carefully disconnect the cable **2**, then remove the screw **3** from the module socket.
4. The 3.75G module **4** will pop-up.
5. Lift the 3.75G module ([Figure 11d](#)) up and off the computer.

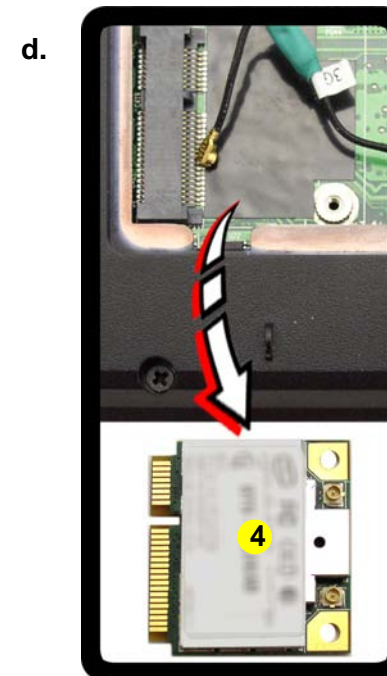
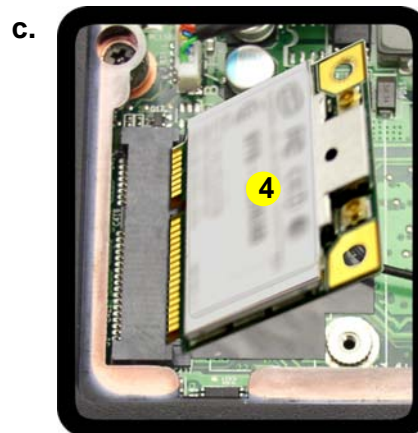
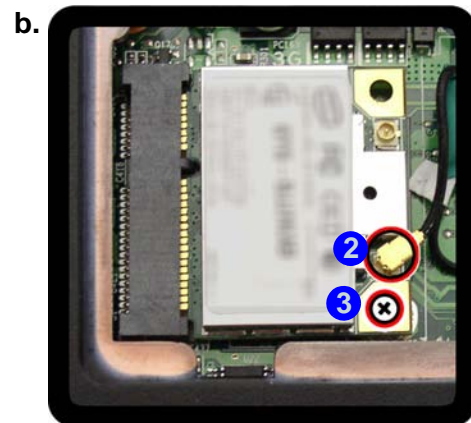


Figure 11
3.75G Module Removal

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



4. 3.75G Module.

- 1 Screw

Disassembly

Figure 12
Modem Removal

- Locate the modem.
- Remove the screws and disconnect the cable.
- Lift the modem up and off the sockets.

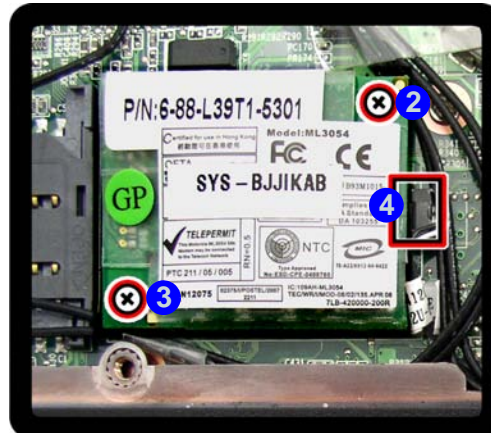
Removing the Modem

- Turn **off** the computer, turn it over, and remove the battery ([page 2 - 5](#)) and the component bay cover ([page 2 - 9](#)).
- The modem will be visible at point **1** on the mainboard.
- Remove the screws **2** - **3** and disconnect the cable **4**.
- Carefully lift the modem **6** up and off the socket **5**.

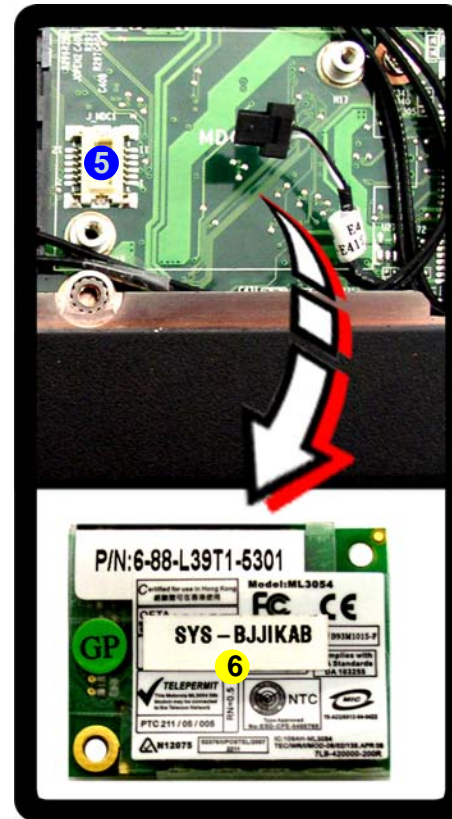
a.



b.



c.



6. Modem

- 2 Screws

Removing the Bluetooth Module

1. Turn **off** the computer, remove the battery ([page 2 - 5](#)), and component bay cover ([page 2 - 9](#)).
2. The Bluetooth module will be visible at point **1** on the mainboard.
3. Remove the screw **2** and turn the module over.
4. Carefully disconnect the cable **3** and separate the connector **4** ([Figure 13b](#)) from the Bluetooth Module.
5. Lift the Bluetooth module **5** ([Figure 13c](#)) up and off the computer.

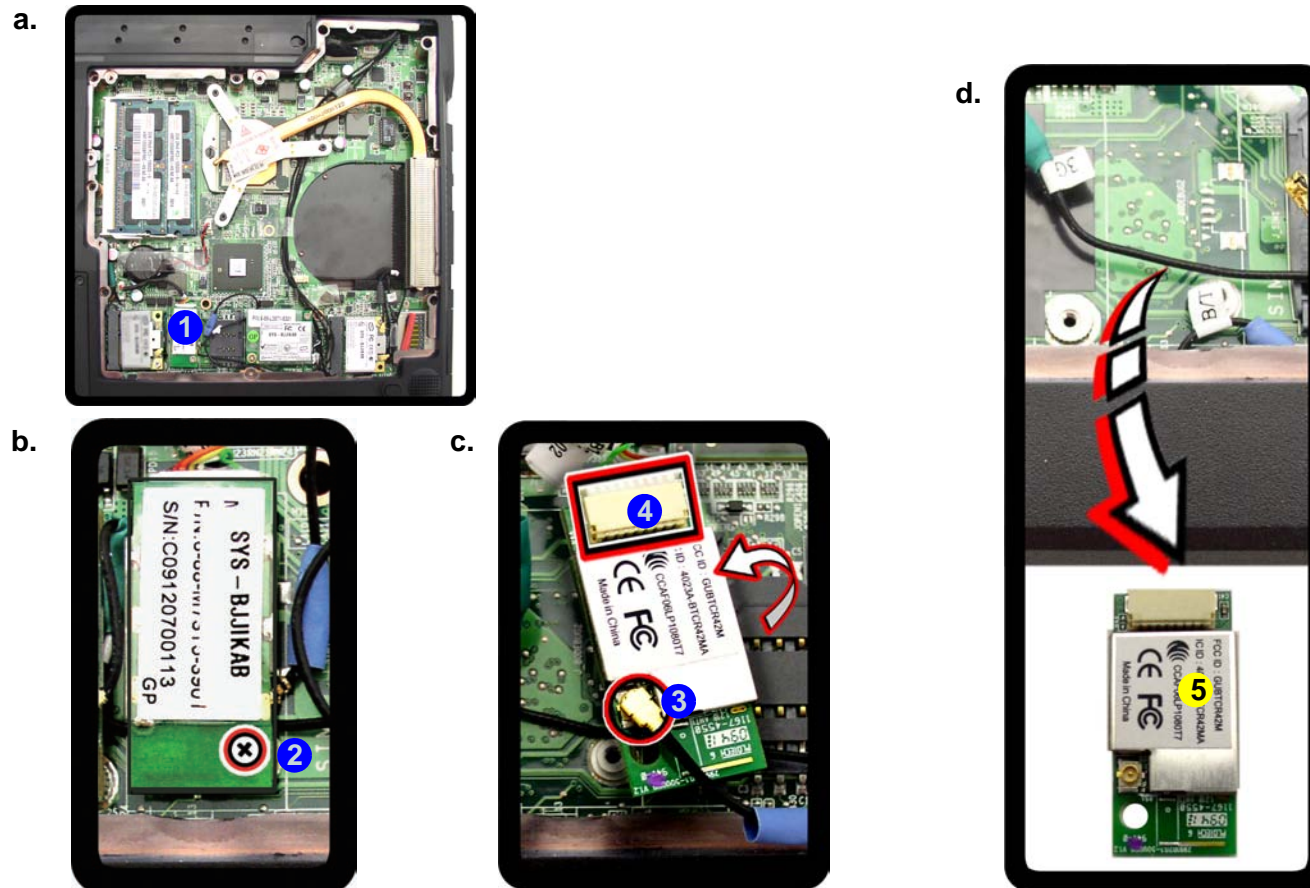


Figure 13
Bluetooth Module Removal

- a. Locate the Bluetooth module.
- b. Remove the screw.
- c. Disconnect the cable and the connector from the Bluetooth module.
- d. Lift the Bluetooth module out.



5. Bluetooth Module

- 1 Screw

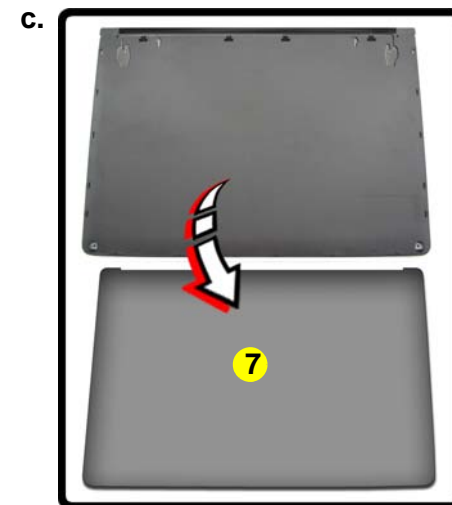
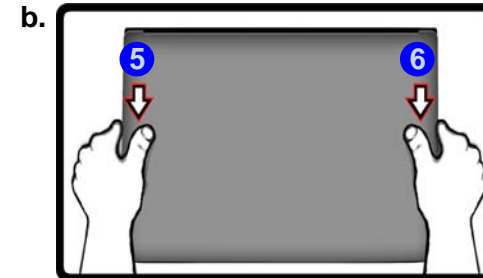
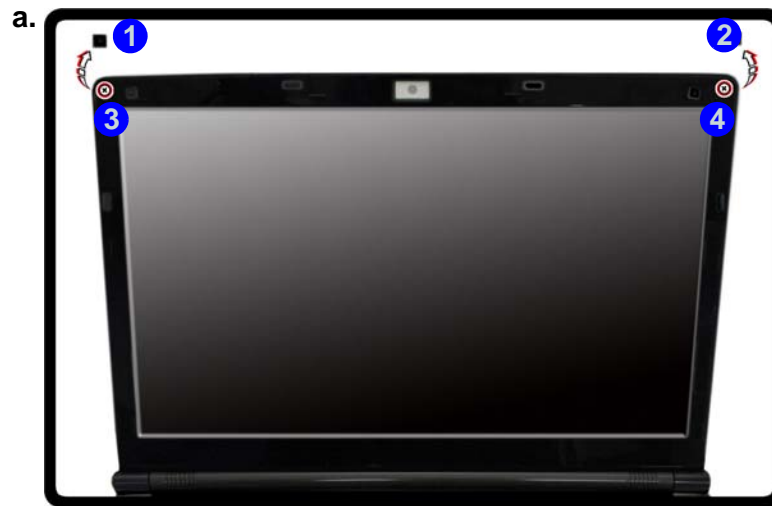
Disassembly

Figure 14
LCD Back Cover Removal

- Remove the rubber covers and screws.
- Slide the cover forward.
- Remove the LCD back cover.

Removing the LCD Back Cover (for E4121D-C only)

- Turn **off** the computer, and turn the computer over to remove the battery ([page 2 - 5](#)).
- Open the LCD and carefully remove the rubber screw covers **1** & **2** (2 corner rubber screw covers only) and set them aside.
- Remove screws **3** & **4** from the front cover.
- Carefully slide the cover forward in the direction of the arrows **5** & **6** as illustrated below.
- Remove the LCD back cover **7**.



7. LCD Back Cover

- 2 Screws

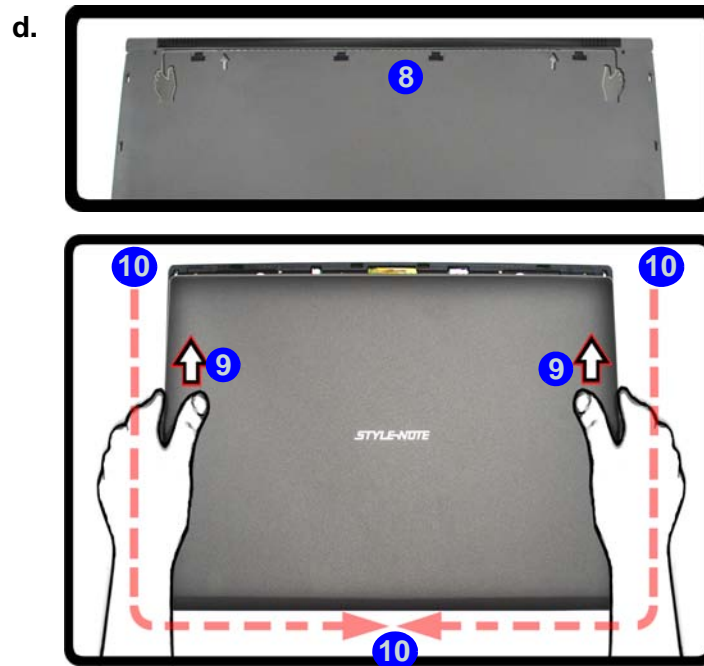


Rubber Screw Covers

After removing the rubber screw covers, place them on a clean dry surface (or attach them to the front cover itself) in order to prevent loss of adhesive.

Figure 15
**LCD Back Cover
Removal (cont'd)**

d. Align the replacement cover and slide forward to click firmly into place.



7. Slide the back cover forward until it clicks firmly into place ⑨.
8. Run your hands around the sides and front of the cover ⑩ to make sure it is firmly aligned in place (carefully press down to make sure the fit is secure).
9. Replace the screws and rubber covers.

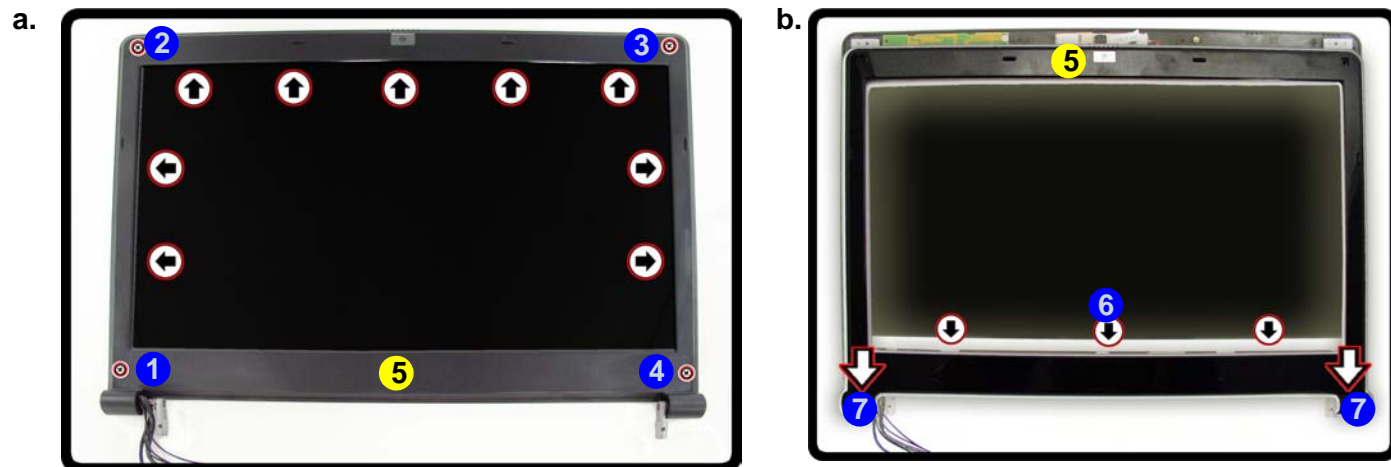
Disassembly

Figure 16
LCD Front Cover Removal

- a. Remove the screws and unsnap the LCD front cover from the LCD panel.
- b. Slide the LCD panel cover in the direction of the arrow.

Removing the LCD Front Cover

1. Turn **off** the computer, and remove the battery ([page 2 - 5](#)), and remove the LCD back cover ([page 2 - 18](#)).
2. Remove the rubber covers and screws **1 - 4** ([Figure 16a](#)), then run your finger around the middle of the frame to carefully unsnap the LCD front cover **5** from the LCD panel.
3. After unsnapping all four sides of the LCD front cover, carefully slide the LCD front cover downwards in the direction of the arrow **6** (be careful of the LCD hinges at point **7**).
4. You can now remove the LCD front cover.



5. LCD Front Cover

- 4 Screws



Rubber Screw Covers

After removing the rubber screw covers, place them on a clean dry surface (or attach them to the front cover itself) in order to prevent loss of adhesive.

Removing the Keyboard

1. Turn **off** the computer, and remove the battery ([page 2 - 5](#)).
2. 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).
3. Carefully lift the keyboard up, being careful not to bend the keyboard ribbon cable ([Figure 17b](#)).
4. Disconnect the keyboard ribbon cable **5** from the locking collar socket **6**.
5. Carefully lift up the keyboard **7** ([Figure 17c](#)) off the computer.

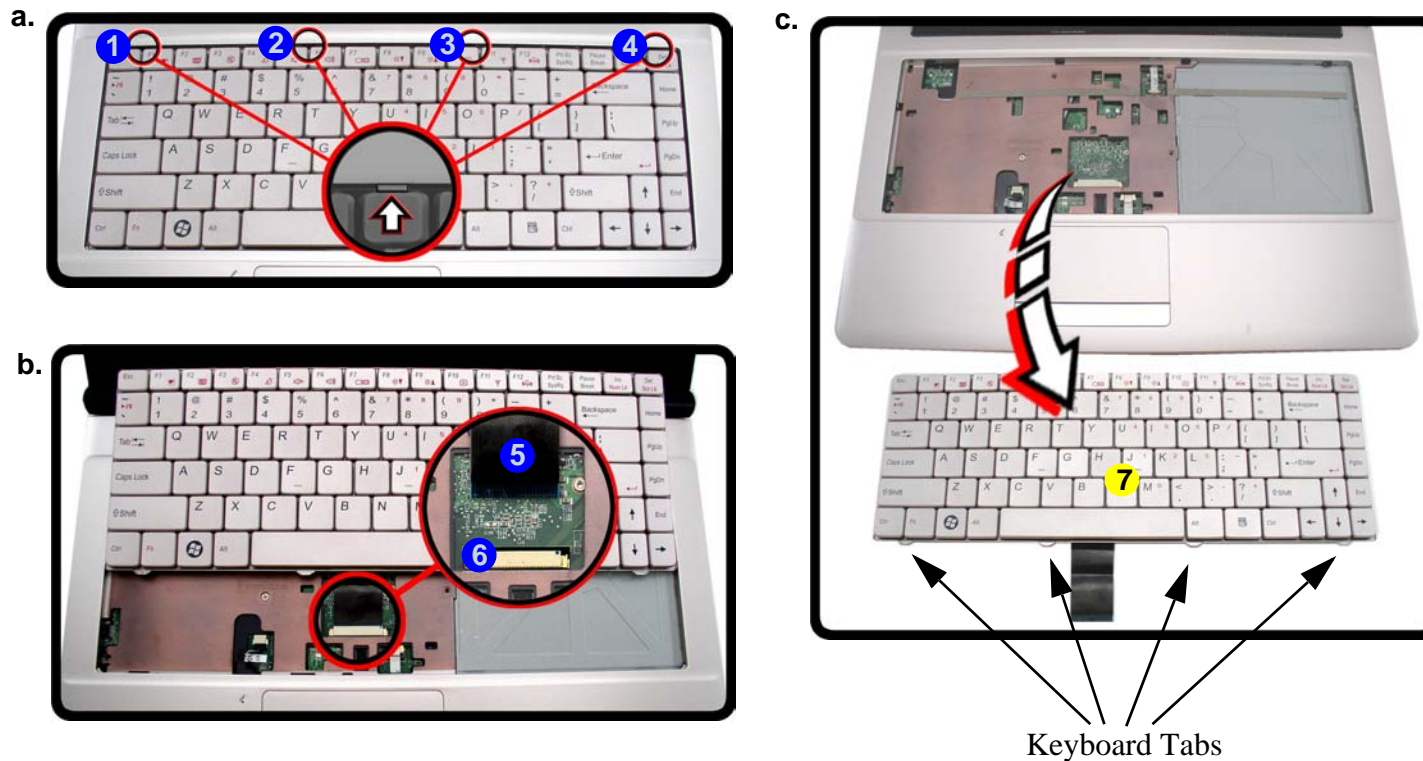


Figure 17
Keyboard Removal

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



Re-Inserting the Keyboard

When re-inserting the keyboard firstly align the **four** keyboard tabs at the bottom of the keyboard with the slots in the case.



7. Keyboard

Appendix A: Part Lists

This appendix breaks down the *E4120 / E4121-C / E4125-C / E4121D-C* series notebook’s construction into a series of illustrations. The component part numbers are indicated in the tables opposite the drawings.

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

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

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

Part Lists

Part List Illustration Location

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

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

Parts	E4120	E4121-C	E4125-C	E4121D-C
Top	<i>page A - 3</i>		<i>page A - 4</i>	<i>page A - 3</i>
Bottom	<i>page A - 5</i>			
LCD	<i>page A - 7</i>		<i>page A - 7</i>	<i>page A - 8</i>
HDD	<i>page A - 9</i>			
Blu-Ray Combo	<i>page A - 10</i>			
DVD-Super Multi Drive	<i>page A - 11</i>			

Top (E4120 / E4121-C / E4121D-C)

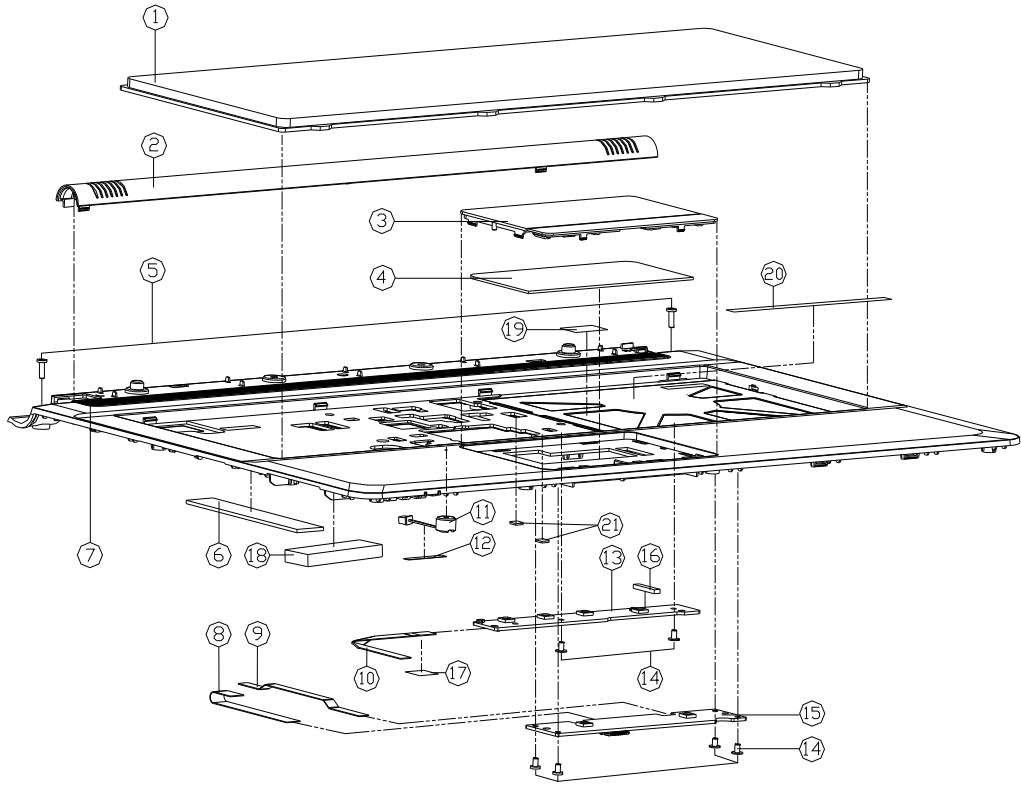


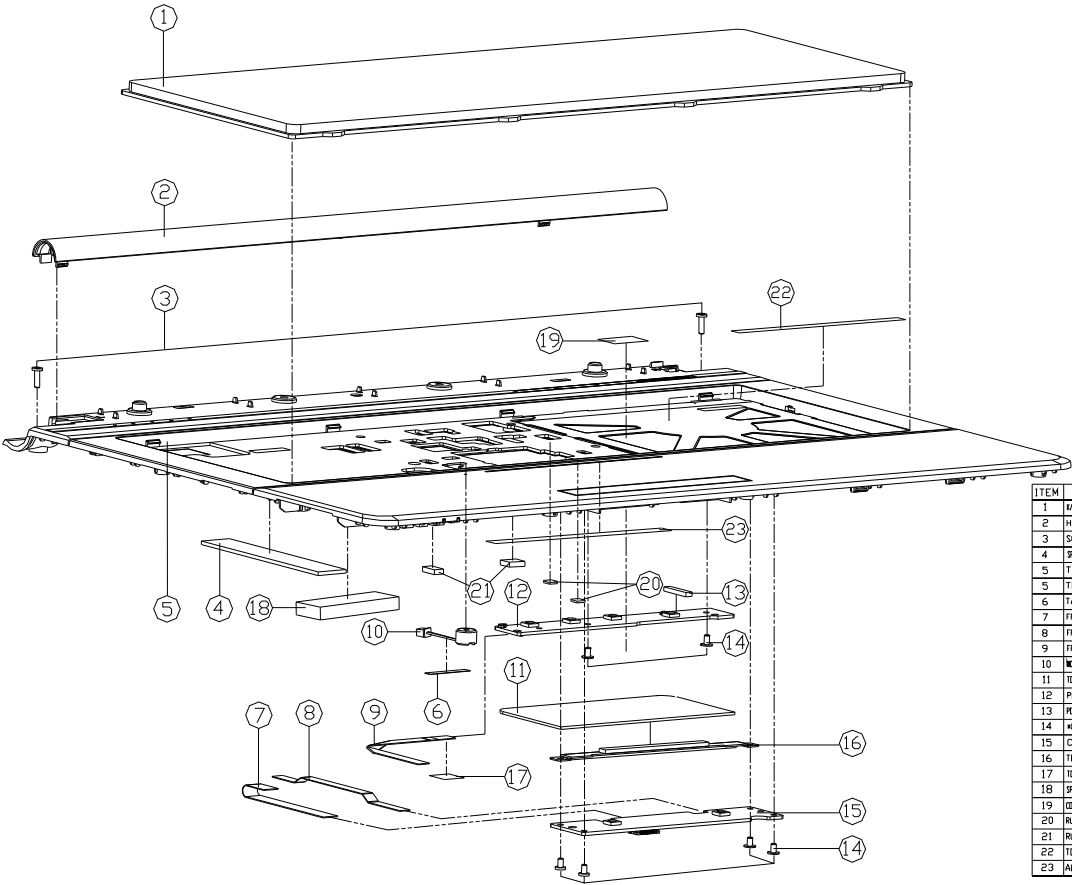
Figure A - 1
Top
(E4120 / E4121-C)

ITEM	PART NAME	PART NO	REMARK
1	K/8 USA W-00206400 CEN 黑色 黑色 WITH VISTA KEY	6-80-C4500-010-1	FOR E4120
1	K/8 USA W-00206400 CEN 黑色 黑色 WITH VISTA KEY	6-80-W8470-011-1	FOR E4121-C
2	HINGE COVER (PC+ABS) C4500	6-42-C4502-071	FOR E4120
2	HINGE COVER (PC+ABS) C4501	6-42-C4512-031	FOR E4121-C
3	TP COVER MODULE C4500	6-42-C4502-101	FOR E4120
3	TP COVER MODULE C4501	6-42-C4512-100	FOR E4121-C
4	TOUCH PAD SYNAPTICS TM-01146-003 C4800	6-49-C4802-010	
5	SCREW M2.5*BL KI BK/Z NY ICT	6-35-B6125-BR0	
6	SPRING FOR TOP CASE (S7642) (MS55J2) C4500	6-47-0019A-570	
7	TOP CASE MODULE C4500	6-39-C4502-014	FOR E4120
7	TOP CASE MODULE C4501 (cost down)	6-39-C4512-013-C	FOR E4121-C
8	FFC CABLE FOR TOUCH PAD 6PIN C4500	6-43-C4502-010	
9	FFC CABLE FOR M/B TO CLICK BOARD C4500	6-43-C4500-022	
10	FFC CABLE FOR M/B TO POWER BOARD C4500	6-43-C4500-031	
11	MYLAR TAPE (B) MYLAR M550J	6-23-EM54G-012	
12	TAPE MYLAR (B) MYLAR M550J	6-40-M55J2-020	
13	POWER SWITCH BOARD V2.0 C4500	6-77-C4505-002	
14	CLICK BOARD V2.0 C4500	6-35-B1120-3RE	
15	POWER BOARD SPRING (MS55J2) C4500	6-47-C4502-021	
17	TOP CASE FFC MYLAR (PCT-3M 467) C4500	6-40-C4502-030	
18	SPRING SMS (S7642) (MS55J2) FOR TOP CASE C4120	6-47-0019A-390	
19	CONDUCTIVE CLOTH (254*54*0.1) FOR TOP CASE C4120	6-47-E4122-010	
20	TOP CASE 黑色 (120*54*0.25) C4500	6-47-C4502-030	
21	RUBBER (55*44*1.5) SILICON 70 黑色 M670SU 黑色	6-47-M67U1-040	

Part Lists

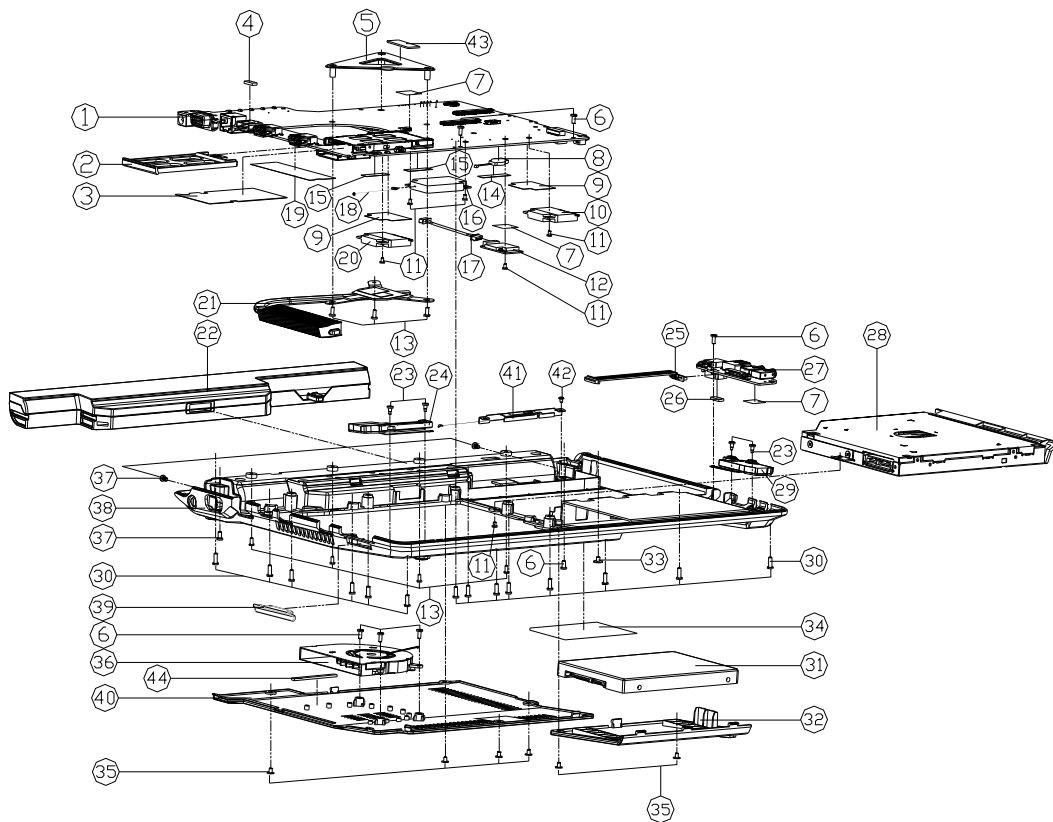
Top (E4125)

Figure A - 2
Top
(E4125)



ITEM	PART NAME	PART NO.	REMARK
1	HINGE COVER (PC+ABS) C4505	6-80-V0410-011-1	
2	SCREW M2.5x8L KI BK/2 NY ICT	6-42-C4552-031	
3	SPRING TOP CASE (SUSP) C4505	6-35-B6125-880	
4	SPRING TOP CASE (SUSP) C4505	6-47-0019A-570	
5	TOP CASE MODULE C4505	6-39-C4552-012	FOR E4125
6	TOP CASE MODULE C4505-C	6-39-C4552-011-C	FOR E4125-C
7	TAPE MYLAR (B)MYLAR M550J	6-40-M55J2-020	
8	FFC CABLE FOR TOUCH PAD (PIN C4505)	6-43-C4502-010	
9	FFC CABLE FOR W/S TO CLICK BOARD C4505	6-43-C4500-031	
10	FFC CABLE FOR W/S TO POWER BOARD C4505	6-43-C4500-032	
11	TOUCH PAD SYNAPTICS TM-8046-803 C4505	6-23-EM540-031	
12	POWER SWITCH BOARD V2.0 C4500	6-49-C4502-010	
13	POWER BOARD (SUSP) C4505	6-77-C4505-D02	
14	POWER BOARD (SUSP) C4505	6-47-C4502-021	
15	CLICK BOARD V2.0 C4500	6-35-B1120-38E	
16	CLICK BOARD V2.0 C4500	6-77-C4502-D02	
17	TOUCHPAD PLATE MODULE C4505	6-33-C4552-101	
18	TOP CASE FFC MYLAR (PCT-1M 467) C4505	6-40-C4502-030	
19	SPRING (SUSP) C4505	6-47-0019A-390	
20	CONDUCTIVE COIL (SUSP) FOR TOP CASE E4125	6-47-E4122-010	
21	RUBBER (S44H45) SILICON 70 N67050	6-47-M67U1-040	
22	TOP CASE (116H45) C4505	6-47-C4502-030	ONLY FOR E4125-C
23	AL+MYLAR (V6xL70x0.2MM) C4505	6-47-C4552-020	ONLY FOR E4125

Bottom



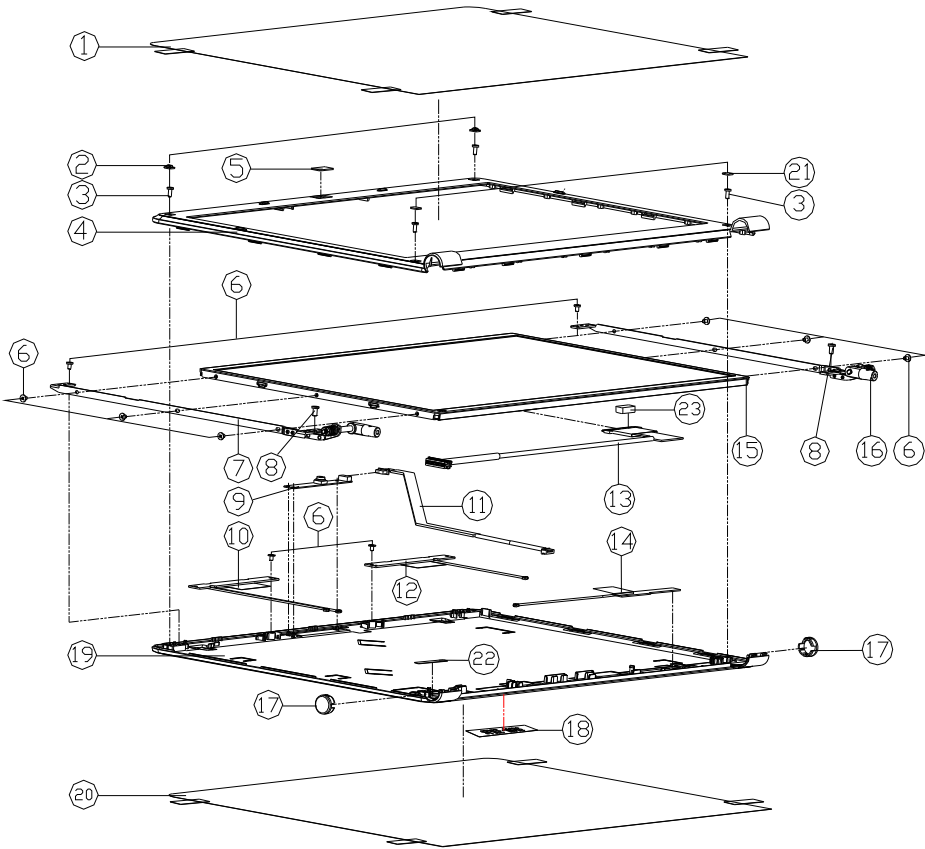
ITEM	PART	NAME	PART	NO	REMARK
1	MAIN BOARD V28	17-300 C4100 1400	6-77-CA100-0002		
2	MAIN BOARD V28	17-300 C4100 1400	6-77-CA100-0004-1		
3	DUMMY VNC CARD	CASPC-PC C4100	6-42-C4100S-021		
4	POWER SUPPLY	17-300 C4100 1400	6-42-C4100S-020		
5	SCREEN MONITOR	17-300 C4100 1400	6-42-C4100S-019		
6	CPU SUPPORT BRACKET	SCSC C4100	6-35-B0125-S0RA		
7	RAM 16MB 160	17-300 C4100 1400	6-42-C4100S-030		
8	RAM 16MB 160	17-300 C4100 1400	6-42-C4100S-030		
9	RAM 16MB 160	17-300 C4100 1400	6-42-C4100S-030		
10	RAM 16MB 160	17-300 C4100 1400	6-42-C4100S-030		
11	RAM 16MB 160	17-300 C4100 1400	6-42-C4100S-030		
12	RAM 16MB 160	17-300 C4100 1400	6-42-C4100S-030		
13	RAM 16MB 160	17-300 C4100 1400	6-42-C4100S-030		
14	RAM 16MB 160	17-300 C4100 1400	6-42-C4100S-030		
15	RAM 16MB 160	17-300 C4100 1400	6-42-C4100S-030		
16	RAM 16MB 160	17-300 C4100 1400	6-42-C4100S-030		
17	RAM 16MB 160	17-300 C4100 1400	6-42-C4100S-030		
18	RAM 16MB 160	17-300 C4100 1400	6-42-C4100S-030		
19	RAM 16MB 160	17-300 C4100 1400	6-42-C4100S-030		
20	RAM 16MB 160	17-300 C4100 1400	6-42-C4100S-030		
21	RAM 16MB 160	17-300 C4100 1400	6-42-C4100S-030		
22	RAM 16MB 160	17-300 C4100 1400	6-42-C4100S-030		
23	RAM 16MB 160	17-300 C4100 1400	6-42-C4100S-030		
24	RAM 16MB 160	17-300 C4100 1400	6-42-C4100S-030		
25	RAM 16MB 160	17-300 C4100 1400	6-42-C4100S-030		
26	RAM 16MB 160	17-300 C4100 1400	6-42-C4100S-030		
27	RAM 16MB 160	17-300 C4100 1400	6-42-C4100S-030		
28	RAM 16MB 160	17-300 C4100 1400	6-42-C4100S-030		
29	RAM 16MB 160	17-300 C4100 1400	6-42-C4100S-030		
30	RAM 16MB 160	17-300 C4100 1400	6-42-C4100S-030		
31	RAM 16MB 160	17-300 C4100 1400	6-42-C4100S-030		
32	RAM 16MB 160	17-300 C4100 1400	6-42-C4100S-030		
33	RAM 16MB 160	17-300 C4100 1400	6-42-C4100S-030		
34	RAM 16MB 160	17-300 C4100 1400	6-42-C4100S-030		
35	RAM 16MB 160	17-300 C4100 1400	6-42-C4100S-030		
36	RAM 16MB 160	17-300 C4100 1400	6-42-C4100S-030		
37	RAM 16MB 160	17-300 C4100 1400	6-42-C4100S-030		
38	RAM 16MB 160	17-300 C4100 1400	6-42-C4100S-030		
39	RAM 16MB 160	17-300 C4100 1400	6-42-C4100S-030		
40	RAM 16MB 160	17-300 C4100 1400	6-42-C4100S-030		
41	RAM 16MB 160	17-300 C4100 1400	6-42-C4100S-030		
42	RAM 16MB 160	17-300 C4100 1400	6-42-C4100S-030		
43	RAM 16MB 160	17-300 C4100 1400	6-42-C4100S-030		
44	RAM 16MB 160	17-300 C4100 1400	6-42-C4100S-030		
45	RAM 16MB 160	17-300 C4100 1400	6-42-C4100S-030		
46	RAM 16MB 160	17-300 C4100 1400	6-42-C4100S-030		
47	RAM 16MB 160	17-300 C4100 1400	6-42-C4100S-030		
48	RAM 16MB 160	17-300 C4100 1400	6-42-C4100S-030		
49	RAM 16MB 160	17-300 C4100 1400	6-42-C4100S-030		
50	RAM 16MB 160	17-300 C4100 1400	6-42-C4100S-030		

Figure A - 3
Bottom

Part Lists

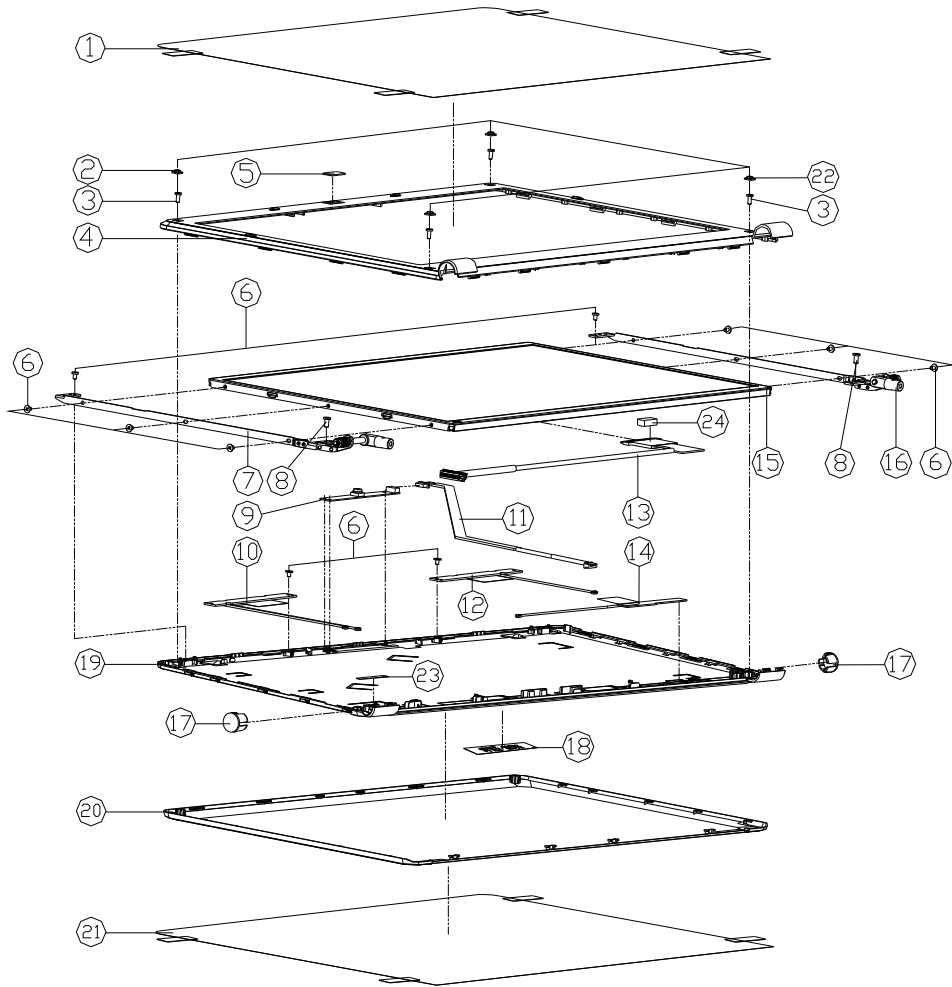
LCD (E4120 / E4121-C)

Figure A - 4
LCD
(E4120 / E4121-C)



ITEM	PART	NAME	PART NO	REMARK
1	LCD FRONT COVER PROTECTION FILM	6-40-C4501-011		
2	LCD FRONT COVER SCREEN	6-47-C4501-031		
3	SCREEN MOUNT KIT-1/2 INCH BAYZ KIT	6-35-B6120-SR0		
4	LCD FRONT COVER MODULE	6-39-C4501-012		
5	CCD	6-42-M8101-011		
6	W/O CCD LENS	6-42-C4801-010		
7	LCD HINGE-L	6-33-B1120-SR0		
8	SCREW M2.5XSL	6-35-B6125-SR0		
9	HYC CAMERA CHERRY FOR OPTICAL LCM	6-88-M741C-5100	FOR E412X	
9	HYC CAMERA CHERRY FOR OPTICAL LCM	6-88-M810C-4910	OPTION	
9	HYC CAMERA CHERRY FOR OPTICAL LCM	6-88-M831C-8900	OPTION	
10	HYC CAMERA CHERRY FOR OPTICAL LCM	6-23-7C450-032	FOR C45XX/E412X	
10	HYC CAMERA CHERRY FOR OPTICAL LCM	6-23-7C480-020	FOR C48XX	
11	WIRE CABLE FOR CCD	6-43-C4501-011		
12	HYC CAMERA CHERRY FOR OPTICAL LCM	6-23-7C480-010	FOR C48XX	
12	HYC CAMERA CHERRY FOR OPTICAL LCM	6-23-7C450-012	FOR C45XX	
12	HYC CAMERA CHERRY FOR OPTICAL LCM	6-23-7E412-010	FOR E412X	
13	WIRE CABLE FOR LCD	6-43-C4801-090	FOR C48XX	
13	WIRE CABLE FOR LCD	6-43-C4801-041	FOR C48XX	
14	HYC CAMERA CHERRY FOR OPTICAL LCM	6-23-7C450-022	FOR C45XX/E412X	
14	HYC CAMERA CHERRY FOR OPTICAL LCM	6-23-7C480-030	FOR C48XX	
15	LCD HIF NO.10	6-50-J8152-G01	FOR C48XX	
15	LCD HIF NO.10	6-50-J8152-L00	FOR C48XX/E412X	
15	LCD HIF NO.10	6-50-J8152-V00	FOR C45XX/C48XX	
15	LCD HIF NO.10	6-50-J8152-G00	FOR C48XX	
15	LCD HIF NO.10	6-50-J8152-D00	FOR C45XX/E412X	
15	LCD HIF NO.10	6-50-J8152-N00	FOR C45XX	
15	LCD HIF NO.10	6-50-J8152-H00	FOR E412X	
16	LCD HINGE-R	6-33-C4501-021		
17	HINGE COSMETIC RING	6-42-C4508-011	FOR C4500	
17	HINGE COSMETIC RING	6-42-C4518-010	FOR C4501	
18	ONE WAY	6-45-M741S-020		
19	LCD BACK COVER MODULE	6-39-C4801-021-M		
19	LCD BACK COVER MODULE	6-39-C4501-022	FOR C4500/E4120	
19	LCD BACK COVER MODULE	6-39-C4501-022-C	FOR C4500/E4120-C	
19	LCD BACK COVER MODULE	6-39-C4511-021-C	FOR C4501/E4121-C	
19	LCD BACK COVER MODULE	6-39-C4511-021	FOR C4501	
19	LCD BACK COVER MODULE	6-39-C4801-020-G	FOR C48000	
19	LCD BACK COVER MODULE	6-39-C4511-021-C	FOR C48010-C	
19	LCD BACK COVER MODULE	6-39-C4511-021-C	FOR C48010-C	
20	BACK COVER PROTECTION FILM	6-40-C4501-020	FOR C4500	
20	BACK COVER PROTECTION FILM	6-40-C4511-010	FOR C4501	
21	FRONT COVER PC FOR SCREW	6-40-C4501-071		
22	TAPE MYLAR	6-40-M55J2-020		
23	BASET (HANG) FOR TV CASE	6-47-00190-102		

LCD (E4125)



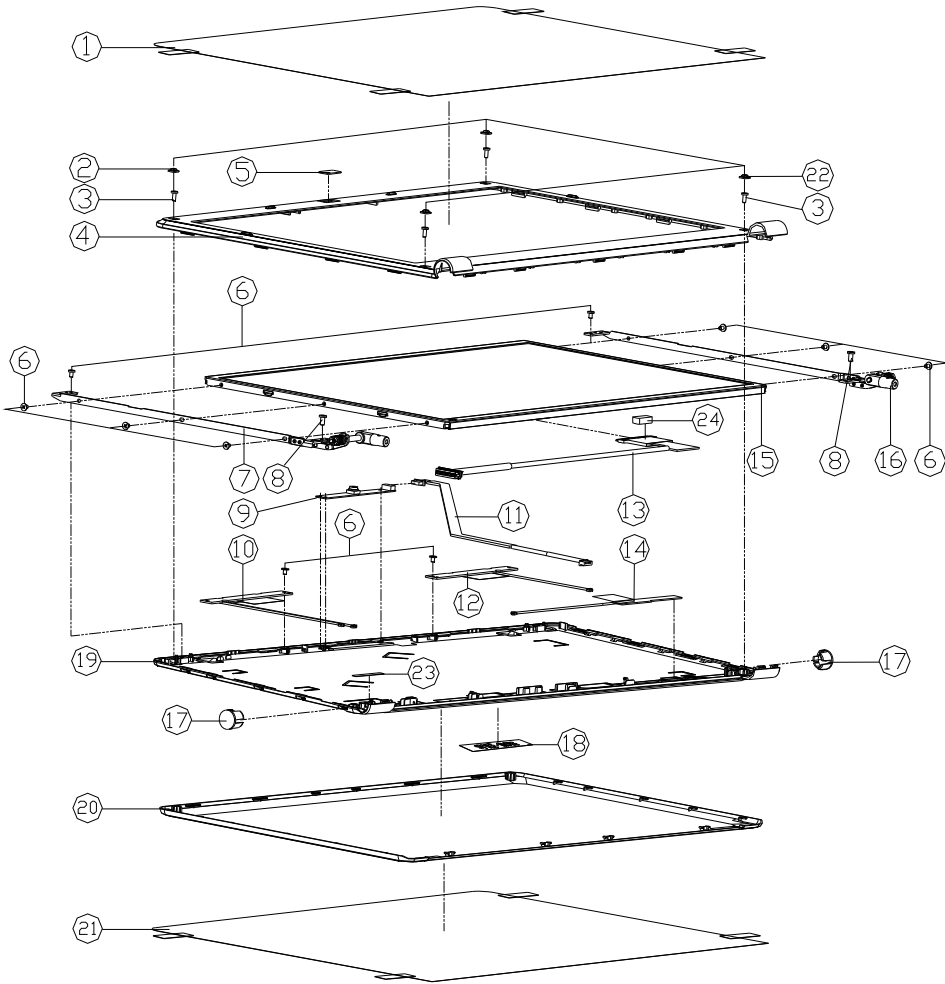
ITEM	PART NAME	PART NO	REMARK
1	LCD FRONT COVER PROTECTION FILM (1)	6-40-C4501-011	
2	LCD FRONT COVER SCREW RUBBER SLIP (2)	6-47-C4501-031	
3	SCREW NEXOL KIT-40 0-40 BK/2 ICT NY (3)	6-35-B6120-SR0	
4	LCD FRONT COVER MODULE C4500 (4)	6-39-C4501-012	
5	CCD SIDE PMMA M810L (5)	6-42-M8101-011	
6	W/D CCD LENS PMMA 05T C4800 (6)	6-42-C4801-010	
7	SCREW NEXOL KIT NY ICT 6Y-PATCH (7)	6-35-B1120-3RE	
8	LCD HINGE-L SECC C4500 (8)	6-33-C4501-011	
9	SCREW M2.5xSL KIT BK/2 ICT NY (9)	6-35-B6125-SRA	
10	UVC CAMERA CHERRY FTA OPTIC 13M DYNAS (10)	6-88-M741C-5100	OPTION
11	UVC CAMERA BODY FOR M810L-00 13M (11)	6-88-M810C-4910	OPTION
12	UVC CAMERA BODY FOR M810L-00 13M (12)	6-88-W831C-B500	OPTION
13	ANTENNA VCM PCB 2G 800MHz (13)	6-23-7C480-020	FOR C4801M
14	ANTENNA VCM PCB 2G 800MHz (14)	6-23-7C450-032	FOR C45XX
15	UVC CABLE FOR LENS 200M C4500 (15)	6-43-C4501-011	
16	UVC CABLE FOR LENS 200M C4500 (16)	6-23-7C480-010	FOR C4801M
17	ANTENNA BLUETOOTH PCB 4G LTE (17)	6-23-7E412-010	FOR E412X
18	UVC CABLE FOR LENS 200M C4500 (18)	6-43-C4801-090	FOR C4801M
19	UVC CABLE FOR LENS 200M C4500 (19)	6-43-C4801-041	FOR C4801M
20	ANTENNA BLUETOOTH PCB 4G LTE (20)	6-23-7C480-030	FOR C48XX
21	ANTENNA BLUETOOTH PCB 4G LTE (21)	6-23-7C450-022	FOR C45XX/C412X
22	LCD HAP HD AU BRIDGE V2 GLARE TYPE (22)	6-50-J8152-G01	
23	LCD HAP HD AU BRIDGE V2 GLARE TYPE (23)	6-50-J8152-V00	
24	LCD HAP HD AU BRIDGE V2 GLARE TYPE (24)	6-50-J8152-G00	
25	LCD HAP HD AU BRIDGE V2 GLARE TYPE (25)	6-50-J8152-D00	
26	LCD HAP HD AU BRIDGE V2 GLARE TYPE (26)	6-50-J8152-H00	
27	LCD HAP HD AU BRIDGE V2 GLARE TYPE (27)	6-50-J8152-L00	
28	LCD HINGE-R SECC C4500 (28)	6-33-C4501-021	
29	HINGE COSMETIC RING ABS PATCH C4500 (29)	6-42-C4518-010	
30	TAPE MYLAR (B) MYLAR M550J (30)	6-45-M741S-020	
31	MIDDLE COVER MODULE C4801M (31)	6-39-C4801-031-M	FOR C4801M
32	MIDDLE COVER MODULE C4801M (32)	6-39-C4801-031-MC	FOR C4801M
33	LCD BACK COVER PC-ABS 2020P FOR M810L (33)	6-39-C4801-028-M	FOR M810L
34	LCD BACK COVER PC-ABS 2020P FOR C4801M (34)	6-39-C4801-021-M	FOR C4801M
35	LCD BACK COVER PC-ABS 2020P FOR M810L (35)	6-39-E4121-02A-C	FOR E4121DC
36	BACK COVER PROTECTION FILM (36)	6-40-C4501-020	FOR E4121MD-C
37	BACK COVER PROTECTION FILM (37)	6-40-C4511-010	FOR C4801M-C
38	FRONT COVER PC FOR SCREW C4500 (38)	6-40-C4501-071	
39	TAPE MYLAR (B) MYLAR M550J (39)	6-40-M55J2-020	
40	GASKET ORIMAR FOR TV CONN TOP CASE M810L (40)	6-47-00190-102	

Figure A - 5
LCD
(E4125)

Part Lists

LCD (E4121D-C)

Figure A - 6
LCD
(E4121D-C)



ITEM	PART NAME	PART NO	REMARK
1	LCD FRONT COVER PROTECTION FILM (E4121D-C)	6-40-C4501-011	
2	LCD FRONT COVER SCREW (E4121D-C)	6-47-C4501-031	
3	SCREW (E4121D-C) (E4121D-C)	6-35-B6120-5R0	
4	LCD FRONT COVER MODULE (E4121D-C)	6-39-C4501-012	
5	CCD (E4121D-C) (E4121D-C)	6-42-M6101-011	
6	W/O CCD LENS (E4121D-C) (E4121D-C)	6-42-C4801-010	
7	LCD HINGE - L (E4121D-C) (E4121D-C)	6-35-B1120-3RE	
8	SCREW (E4121D-C) (E4121D-C)	6-33-C4501-011	
9	SCREW (E4121D-C) (E4121D-C)	6-35-B6125-SRA	
10	SCREW (E4121D-C) (E4121D-C)	6-88-M741C-5100	OPTION
11	SCREW (E4121D-C) (E4121D-C)	6-88-M610C-4910	OPTION
12	SCREW (E4121D-C) (E4121D-C)	6-88-M631C-4900	OPTION
13	SCREW (E4121D-C) (E4121D-C)	6-23-7C480-020	FOR C480IM
14	SCREW (E4121D-C) (E4121D-C)	6-23-7C450-032	FOR C45XX
15	SCREW (E4121D-C) (E4121D-C)	6-43-C4501-011	FOR C480IM
16	SCREW (E4121D-C) (E4121D-C)	6-23-7C480-010	FOR E412X
17	SCREW (E4121D-C) (E4121D-C)	6-23-7E412-010	FOR E412X
18	SCREW (E4121D-C) (E4121D-C)	6-43-C4801-090	FOR C480IM
19	SCREW (E4121D-C) (E4121D-C)	6-43-C4801-041	FOR C480IM
20	SCREW (E4121D-C) (E4121D-C)	6-23-7C480-030	FOR C48XX
21	SCREW (E4121D-C) (E4121D-C)	6-23-7C450-022	FOR C45XX/E412X
22	LCD HAP (E4121D-C) (E4121D-C)	6-50-J8152-001	
23	LCD HAP (E4121D-C) (E4121D-C)	6-50-J8152-V00	
24	LCD HAP (E4121D-C) (E4121D-C)	6-50-J8152-000	
25	LCD HAP (E4121D-C) (E4121D-C)	6-50-J8152-000	
26	LCD HAP (E4121D-C) (E4121D-C)	6-50-J8152-H00	
27	LCD HAP (E4121D-C) (E4121D-C)	6-50-J8152-L00	
28	LCD HINGE - R (E4121D-C) (E4121D-C)	6-33-C4501-021	
29	HINGE (E4121D-C) (E4121D-C)	6-42-C4518-010	
30	HINGE (E4121D-C) (E4121D-C)	6-45-M741S-020	
31	MIDDLE COVER MODULE (E4121D-C) (E4121D-C)	6-39-C4801-031-M	FOR C480IM
32	MIDDLE COVER MODULE (E4121D-C) (E4121D-C)	6-39-C4801-031-M	FOR C480IM
33	LCD BACK COVER (E4121D-C) (E4121D-C)	6-39-C4801-028-M	FOR MOFA
34	LCD BACK COVER (E4121D-C) (E4121D-C)	6-39-C4801-021-M	FOR C480IM
35	LCD BACK COVER (E4121D-C) (E4121D-C)	6-39-E4121-028-A-C	FOR E4121D-C
36	LCD BACK COVER (E4121D-C) (E4121D-C)	6-39-E4121-028-A-C	FOR E4121D-C
37	LCD BACK COVER (E4121D-C) (E4121D-C)	6-40-C4501-020	FOR E4121MD-C
38	LCD BACK COVER (E4121D-C) (E4121D-C)	6-40-C4511-011	FOR C480IM-C
39	FRONT COVER (E4121D-C) (E4121D-C)	6-40-C4501-071	
40	TAPE (E4121D-C) (E4121D-C)	6-40-M55J2-020	
41	TAPE (E4121D-C) (E4121D-C)	6-47-00190-102	

HDD

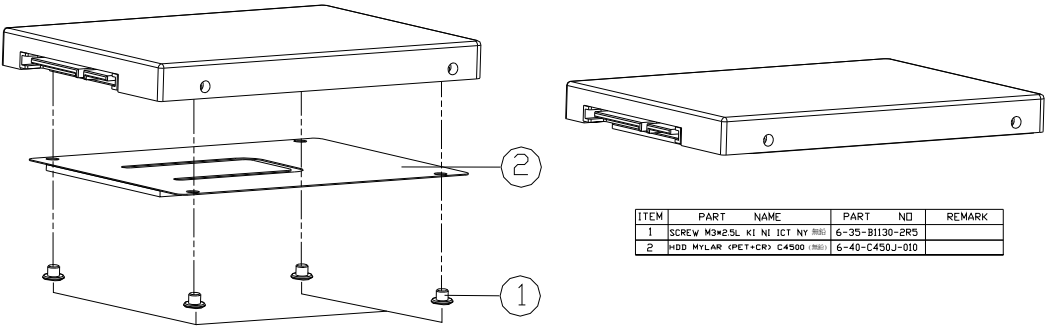
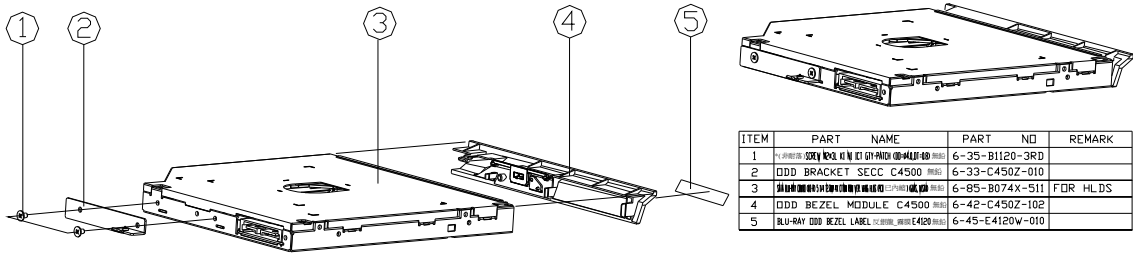


Figure A - 7
HDD

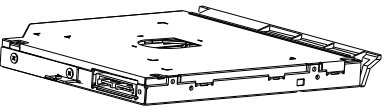
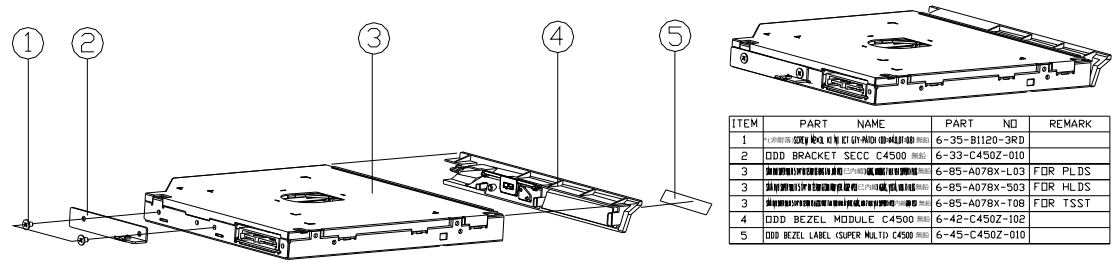
Part Lists

Blu-Ray Combo

Figure A - 8
Blu-Ray Combo



DVD-Super Multi Drive



ITEM	PART NAME	PART NO	REMARK
1	Bezel Label (DVD-Super Multi C4500)	6-35-B1120-3RD	
2	ODD BRACKET SECC C4500	6-33-C450Z-010	
3	ODD BRACKET L03 C4500	6-85-A078X-L03	FOR PLDS
3	ODD BRACKET T08 C4500	6-85-A078X-T08	FOR HLDS
3	ODD BRACKET T08 C4500	6-85-A078X-T08	FOR TSST
4	ODD BEZEL MODULE C4500	6-42-C450Z-102	
5	ODD BEZEL LABEL (SUPER MULTI C4500)	6-45-C450Z-010	

Figure A - 9
DVD-Super Multi
Drive

Part Lists

Appendix B: Schematic Diagrams

This appendix has circuit diagrams of the *E412P-C* 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>IBEXPEAK - M 2/9 - Page B - 16</i>	<i>LED, MDC, BT - Page B - 30</i>
<i>Clock Generator - Page B - 3</i>	<i>IBEXPEAK - M 3/9 - Page B - 17</i>	<i>USB, Fan, TP, Multi Con1 - Page B - 31</i>
<i>Processor 1/7 - Page B - 4</i>	<i>IBEXPEAK - M 4/9 - Page B - 18</i>	<i>5VS, 3VS, 1.05VS - Page B - 32</i>
<i>Processor 2/7 - Page B - 5</i>	<i>IBEXPEAK - M 5/9 - Page B - 19</i>	<i>Power 3.3V/5V - Page B - 33</i>
<i>Processor 3/7 - Page B - 6</i>	<i>IBEXPEAK - M 6/9 - Page B - 20</i>	<i>Power 1.5V/0.75V/1.8VS - Page B - 34</i>
<i>Processor 4/7 - Page B - 7</i>	<i>IBEXPEAK - M 7/9 - Page B - 21</i>	<i>Power 1.IVS_VTT - Page B - 35</i>
<i>Processor 5/7 - Page B - 8</i>	<i>IBEXPEAK - M 8/9 - Page B - 22</i>	<i>Power VGFX_CORE - Page B - 36</i>
<i>Processor 6/7 - Page B - 9</i>	<i>IBEXPEAK - M 9/9 - Page B - 23</i>	<i>V-Core - Page B - 37</i>
<i>Processor 7/7 - Page B - 10</i>	<i>New Card, Mini PCIE - Page B - 24</i>	<i>DC-In, Charger - Page B - 38</i>
<i>DDRIII SO-DIMM_0 - Page B - 11</i>	<i>CCD, 3G, TPM - Page B - 25</i>	<i>Click Board - Page B - 39</i>
<i>DDRIII SO-DIMM_1 - Page B - 12</i>	<i>Card Reader, LAN (JMB251) - Page B - 26</i>	<i>Audio / USB / RJ11 Board - Page B - 40</i>
<i>LVDS, Inverter - Page B - 13</i>	<i>LAN (JMC251), SATA HDD, ODD - Page B - 27</i>	<i>Power Switch & LID Board - Page B - 41</i>
<i>HDMI, CRT - Page B - 14</i>	<i>Audio Codec VIA 1812 - Page B - 28</i>	
<i>IBEXPEAK - M 1/9 - Page B - 15</i>	<i>KBC-ITE IT8502E - Page B - 29</i>	

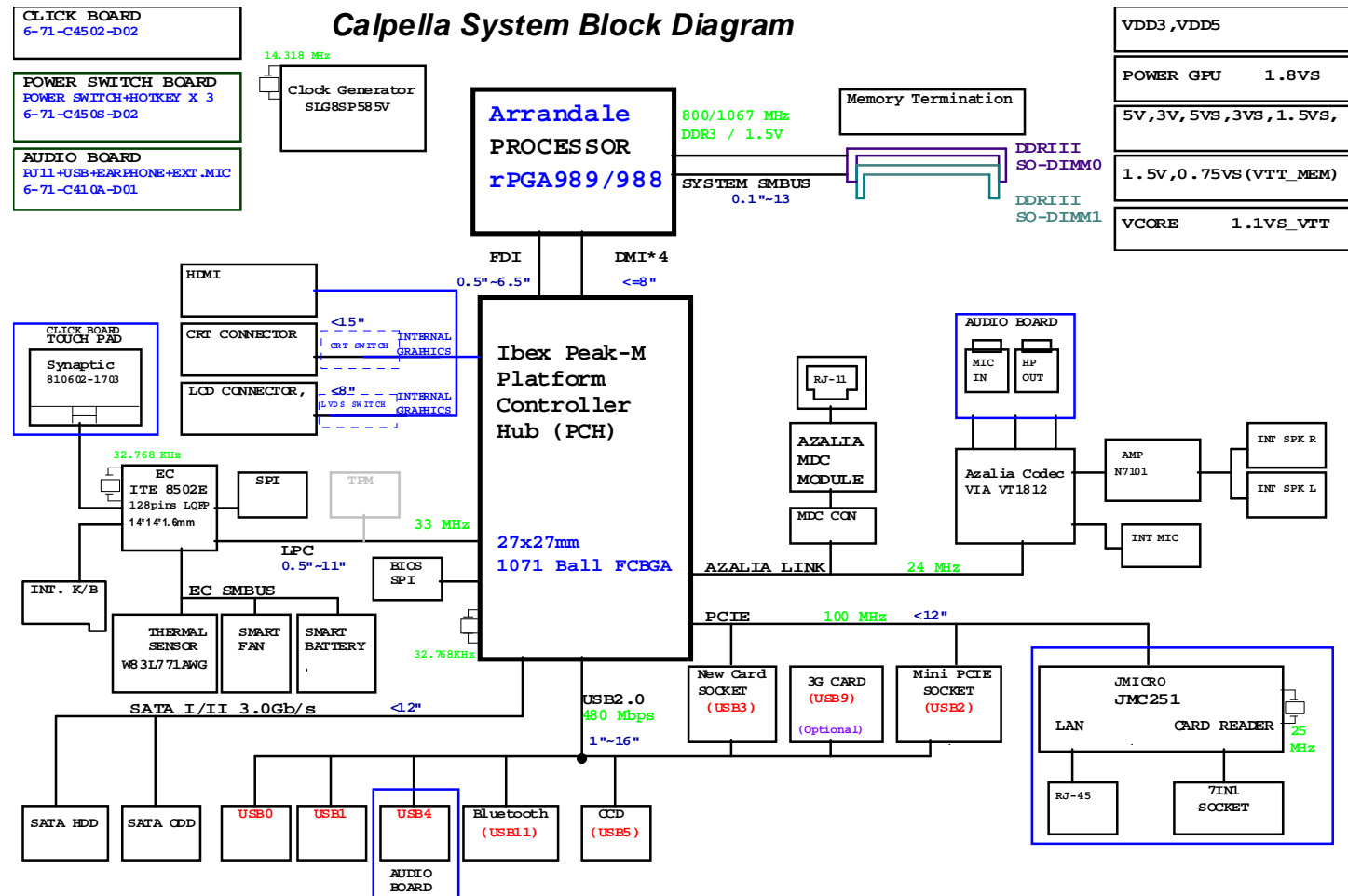
Table B - 1
**Schematic
Diagrams**



Version Note

The schematic diagrams in this chapter are based upon version 6-7P-E4124-002. If your mainboard (or other boards) are a later version, please check with the Service Center for updated diagrams (if required).

System Block Diagram



Sheet 1 of 40
System Block
Diagram

Sheet 2 of 40
Clock Generator

The schematic diagram illustrates the Realtek RTM875N632-V board, which is a USB-to-SATA bridge. The top section shows the CPU and memory connections, including VDD, VSS, and various control signals. The bottom section shows the SMBUS interface with Q11A and Q11B MOSFETs. The board is powered by a 3.3V regulator and has a 3.3V USB connection.

Top Section: CPU and Memory Connections

- CPU:** U7 (Realtek RTM875N632-V) is connected to VDD, VSS, and various control signals. The CPU is powered by a 3.3V regulator (R14) and has a 3.3V USB connection (X1).
- Memory:** SRAM (U1) is connected to VDD, VSS, and various control signals. The memory is powered by a 3.3V regulator (R14) and has a 3.3V USB connection (X1).
- Control Signals:** Various control signals are connected to the CPU, including CLK, BUS, and I/O signals.

Bottom Section: SMBUS Interface

- SMBUS:** The SMBUS interface is shown with Q11A and Q11B MOSFETs. The interface is connected to the CPU and the USB port.
- Power:** The board is powered by a 3.3V regulator (R14) and has a 3.3V USB connection (X1).

Other Components:

- Resistors:** R14 (3.3V), R15 (3.3V), R16 (3.3V), R17 (3.3V), R18 (3.3V), R19 (3.3V), R20 (3.3V), R21 (3.3V), R22 (3.3V), R23 (3.3V), R24 (3.3V), R25 (3.3V), R26 (3.3V), R27 (3.3V), R28 (3.3V), R29 (3.3V), R30 (3.3V), R31 (3.3V), R32 (3.3V), R33 (3.3V), R34 (3.3V), R35 (3.3V), R36 (3.3V), R37 (3.3V), R38 (3.3V), R39 (3.3V), R40 (3.3V), R41 (3.3V), R42 (3.3V), R43 (3.3V), R44 (3.3V), R45 (3.3V), R46 (3.3V), R47 (3.3V), R48 (3.3V), R49 (3.3V), R50 (3.3V), R51 (3.3V), R52 (3.3V), R53 (3.3V), R54 (3.3V), R55 (3.3V), R56 (3.3V), R57 (3.3V), R58 (3.3V), R59 (3.3V), R60 (3.3V), R61 (3.3V), R62 (3.3V), R63 (3.3V), R64 (3.3V), R65 (3.3V), R66 (3.3V), R67 (3.3V), R68 (3.3V), R69 (3.3V), R70 (3.3V), R71 (3.3V), R72 (3.3V), R73 (3.3V), R74 (3.3V), R75 (3.3V), R76 (3.3V), R77 (3.3V), R78 (3.3V), R79 (3.3V), R80 (3.3V), R81 (3.3V), R82 (3.3V), R83 (3.3V), R84 (3.3V), R85 (3.3V), R86 (3.3V), R87 (3.3V), R88 (3.3V), R89 (3.3V), R90 (3.3V), R91 (3.3V), R92 (3.3V), R93 (3.3V), R94 (3.3V), R95 (3.3V), R96 (3.3V), R97 (3.3V), R98 (3.3V), R99 (3.3V), R100 (3.3V).
- Capacitors:** C1 (3.3V), C2 (3.3V), C3 (3.3V), C4 (3.3V), C5 (3.3V), C6 (3.3V), C7 (3.3V), C8 (3.3V), C9 (3.3V), C10 (3.3V), C11 (3.3V), C12 (3.3V), C13 (3.3V), C14 (3.3V), C15 (3.3V), C16 (3.3V), C17 (3.3V), C18 (3.3V), C19 (3.3V), C20 (3.3V), C21 (3.3V), C22 (3.3V), C23 (3.3V), C24 (3.3V), C25 (3.3V), C26 (3.3V), C27 (3.3V), C28 (3.3V), C29 (3.3V), C30 (3.3V), C31 (3.3V), C32 (3.3V), C33 (3.3V), C34 (3.3V), C35 (3.3V), C36 (3.3V), C37 (3.3V), C38 (3.3V), C39 (3.3V), C40 (3.3V), C41 (3.3V), C42 (3.3V), C43 (3.3V), C44 (3.3V), C45 (3.3V), C46 (3.3V), C47 (3.3V), C48 (3.3V), C49 (3.3V), C50 (3.3V), C51 (3.3V), C52 (3.3V), C53 (3.3V), C54 (3.3V), C55 (3.3V), C56 (3.3V), C57 (3.3V), C58 (3.3V), C59 (3.3V), C60 (3.3V), C61 (3.3V), C62 (3.3V), C63 (3.3V), C64 (3.3V), C65 (3.3V), C66 (3.3V), C67 (3.3V), C68 (3.3V), C69 (3.3V), C70 (3.3V), C71 (3.3V), C72 (3.3V), C73 (3.3V), C74 (3.3V), C75 (3.3V), C76 (3.3V), C77 (3.3V), C78 (3.3V), C79 (3.3V), C80 (3.3V), C81 (3.3V), C82 (3.3V), C83 (3.3V), C84 (3.3V), C85 (3.3V), C86 (3.3V), C87 (3.3V), C88 (3.3V), C89 (3.3V), C90 (3.3V), C91 (3.3V), C92 (3.3V), C93 (3.3V), C94 (3.3V), C95 (3.3V), C96 (3.3V), C97 (3.3V), C98 (3.3V), C99 (3.3V), C100 (3.3V).

PIN_30	CPU_0	CPU_1
0 (default)	133MHz	133MHz
1 (0.7V-1.5V)	100MHz	100MHz

VDD_I/O can be ranging from 1.05V to 3.3V

EMI

EMI Capacitor

SVS	13,17,20,21,26,27,30,31,35,36
3.3V	3,4,12,14,15,16,18,19,20,21,22,24,25,29,30,31,33,34,35
3.3VS	10,11,12,13,14,15,16,17,18,19,20,21,23,24,25,26,27,28,29,30,31,35,36
1.1VS γ IT	4,6,7,14,15,16,19,20,21,34,35,36

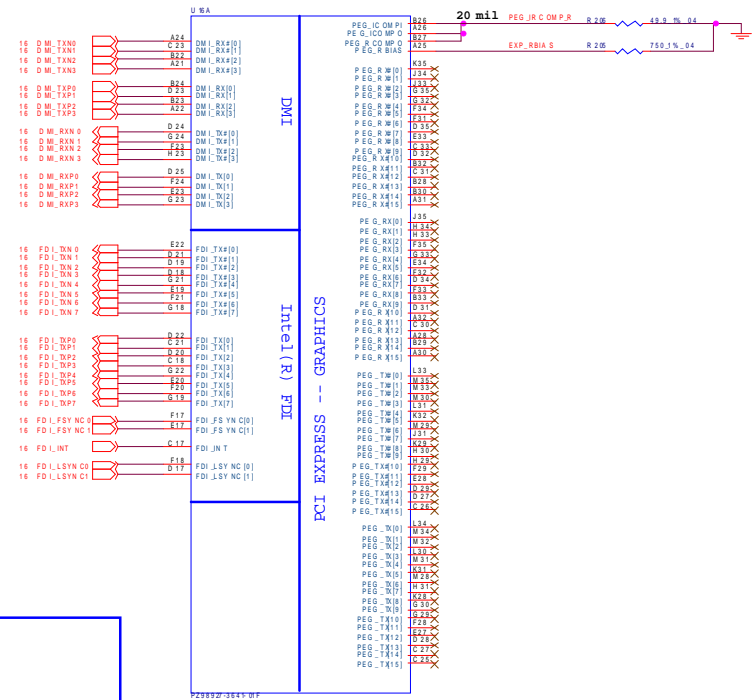
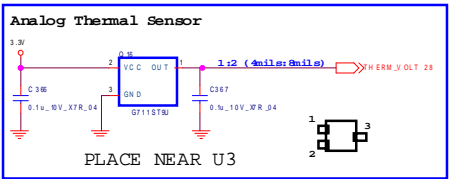
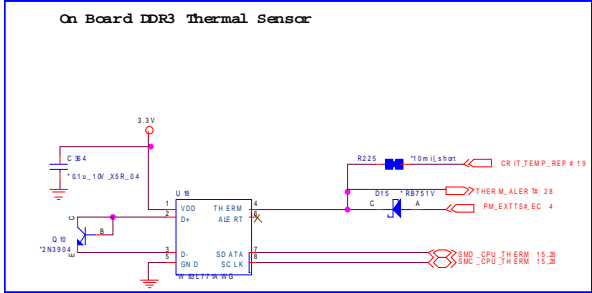
Schematic Diagrams

Processor 1/7

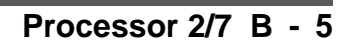
PROCESSOR 1/7 (DMI,PEG,FDI)

Sheet 3 of 40
Processor 1/7

It applies to Ahberride and Carkfield discrete graphic design.
If discrete graphic chip is used for Ahberride, VAG (GFX core) rail can be connected to GND. If motherboard only supports discrete graphics and also has a common motherboard design, if GFX VR is not stuffed, on the other hand, if the VR is stuffed, VAG can be left floating in a common motherboard design. (See VR keeps VAG from floating.)
In addition, FDI_RXN[7:0] and FDI_RXP[7:0] can be left floating on the PCB. FDI_TX[7:0] and FDI_TX[7:0] can be left floating on the Ahberride. The GFX_JMON, FDI_FSYNE[0], FDI_FSYNE[1], FDI_LSYNE[0], FDI_LSYNE[1], and FDI_INT signals should be tied to GND (through 1K Ω 7.5W resistors) in the common motherboard design case. Please note that if these signals are left floating, there are no functional impacts but a small amount of power (~5 mW) maybe wasted. VAG_SERIES and VAG_SERIES on Ahberride can be left as no connect.
CPU_LVSSERIES and CPU_LVSSERIES can be connected to GND on Ahberride directly if motherboard only supports discrete graphics. In a common motherboard design, these pins are driven via PDI (even if Graphics is disabled by RED) thus no external termination is required.



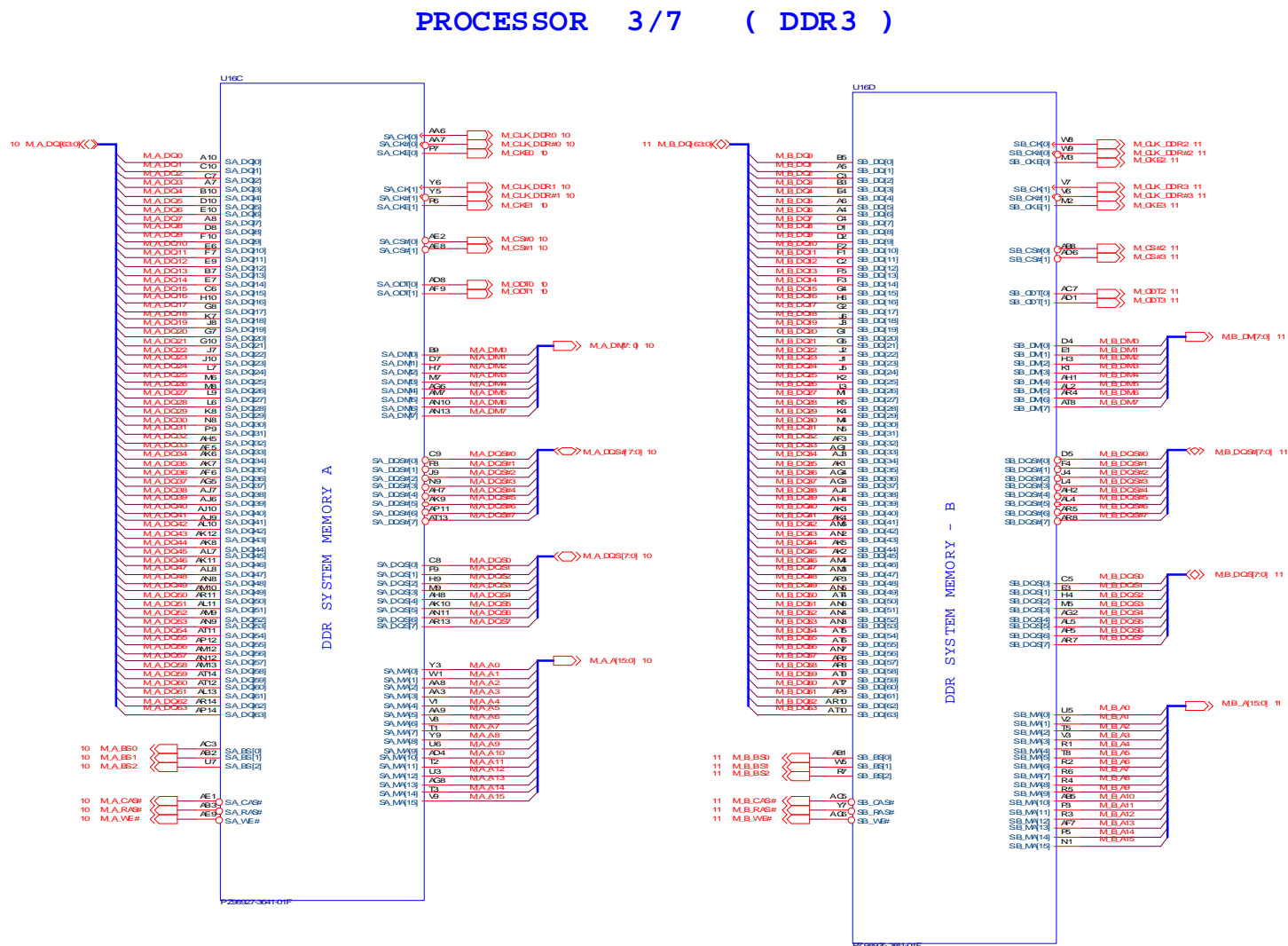
PROCESSOR 2/7 (CLK,MISC,JTAG)

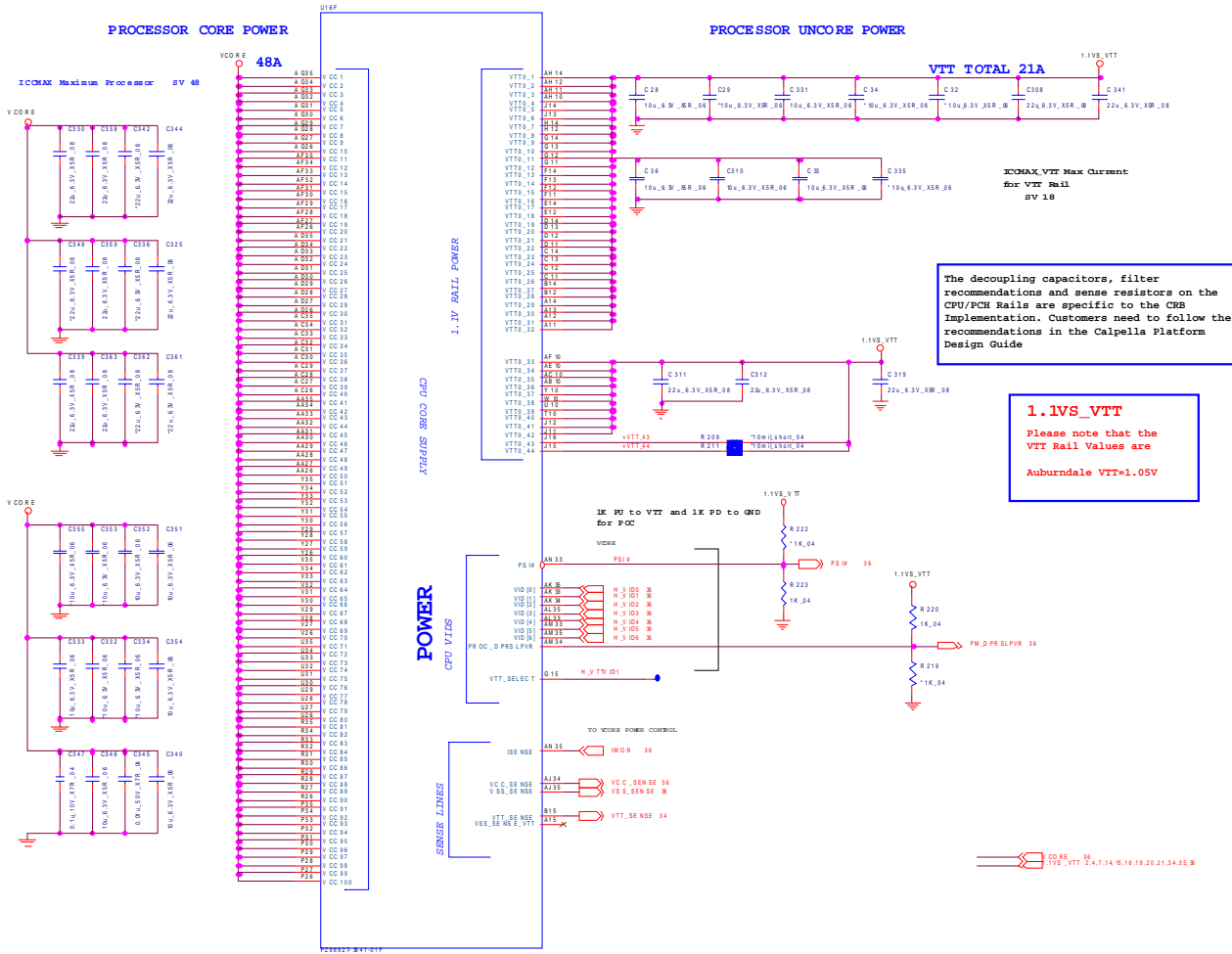


Processor 3/7

B.Schematic Diagrams

Sheet 5 of 40
Processor 3/7





Sheet 6 of 40
Processor 4/7

The decoupling capacitors, filter recommendations and sense resistors on the CPU/PCH Rails are specific to the CRB Implementation. Customers need to follow the recommendations in the Calpella Platform Design Guide

1.1VS_VTT

Please note that the
VTT Rail Values are

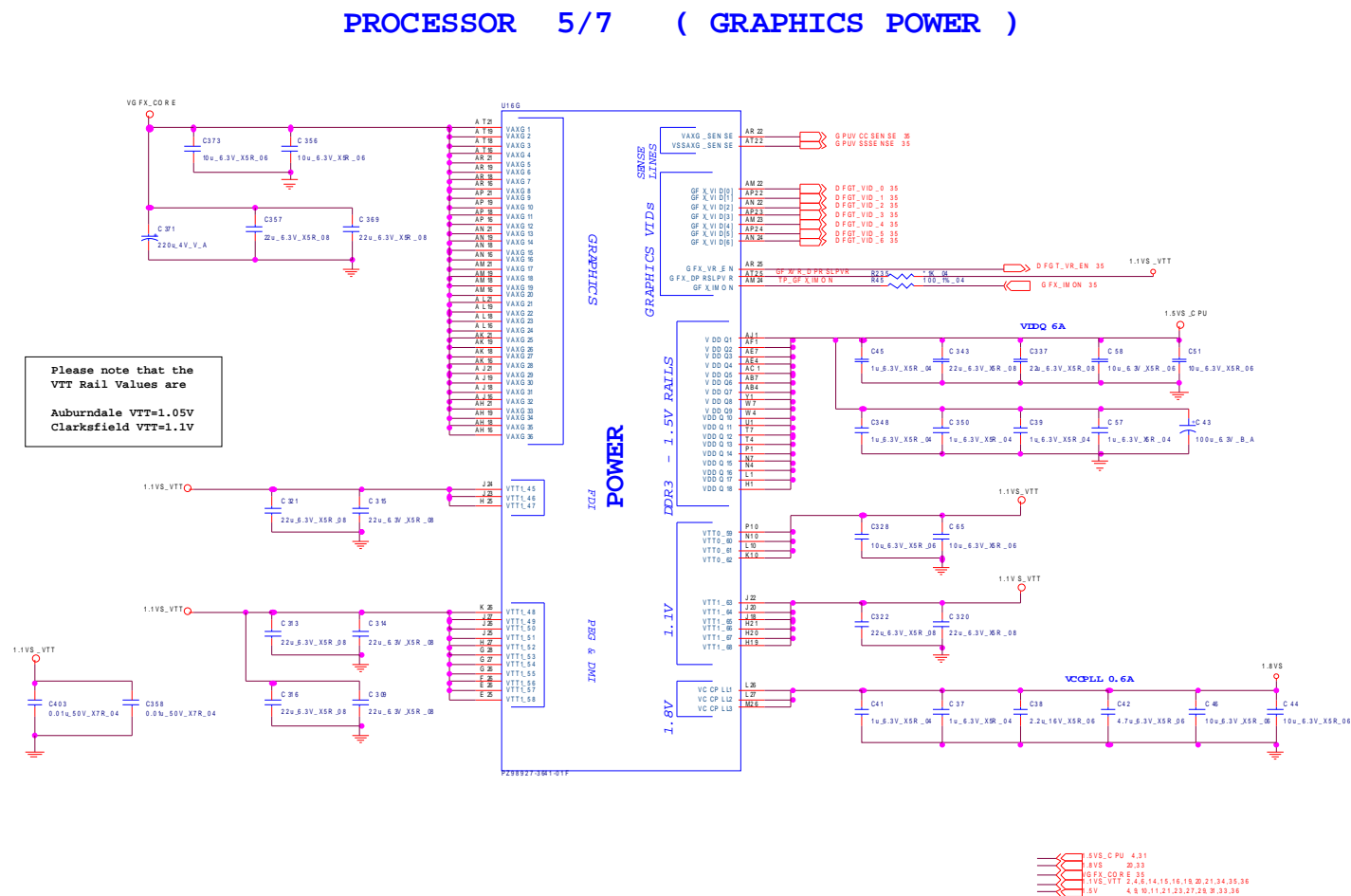
Auburndale VTT=1.05V

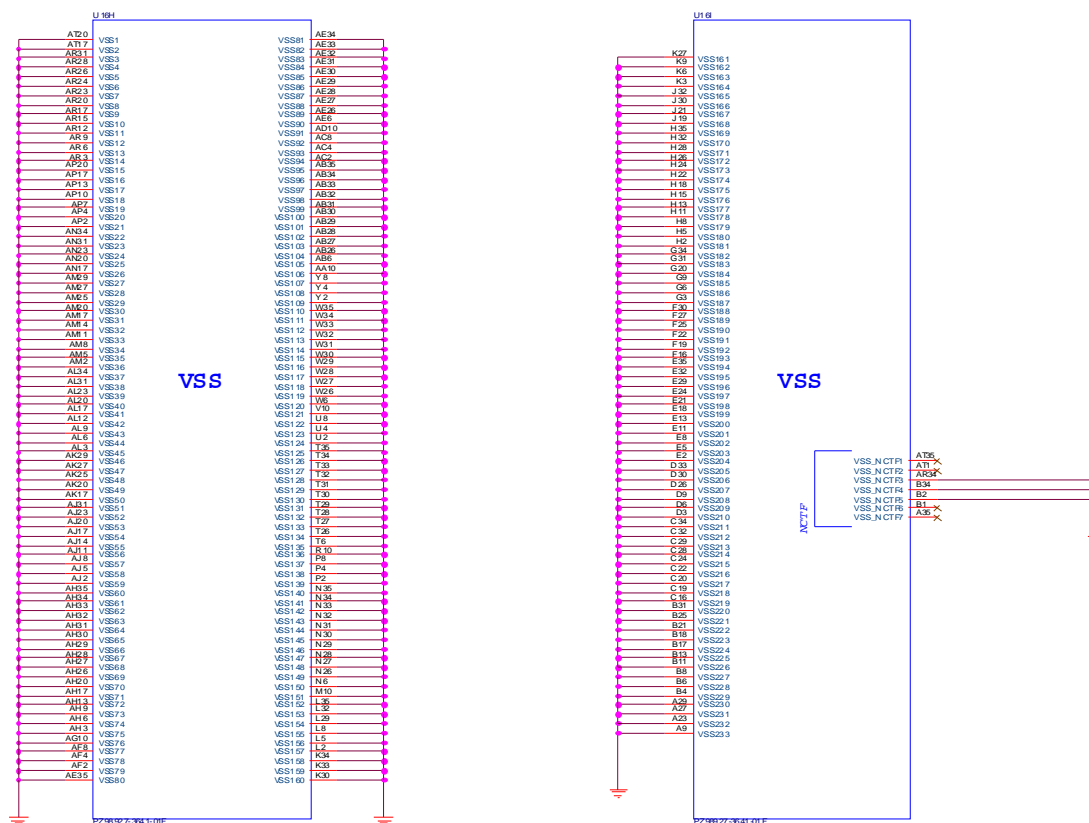
B.Schematic Diagrams

Processor 5/7

Sheet 7 of 40
Processor 5/7

Please note that the
VTT Rail Values are
Auburndale VTT=1.05V
Clarksfield VTT=1.1V



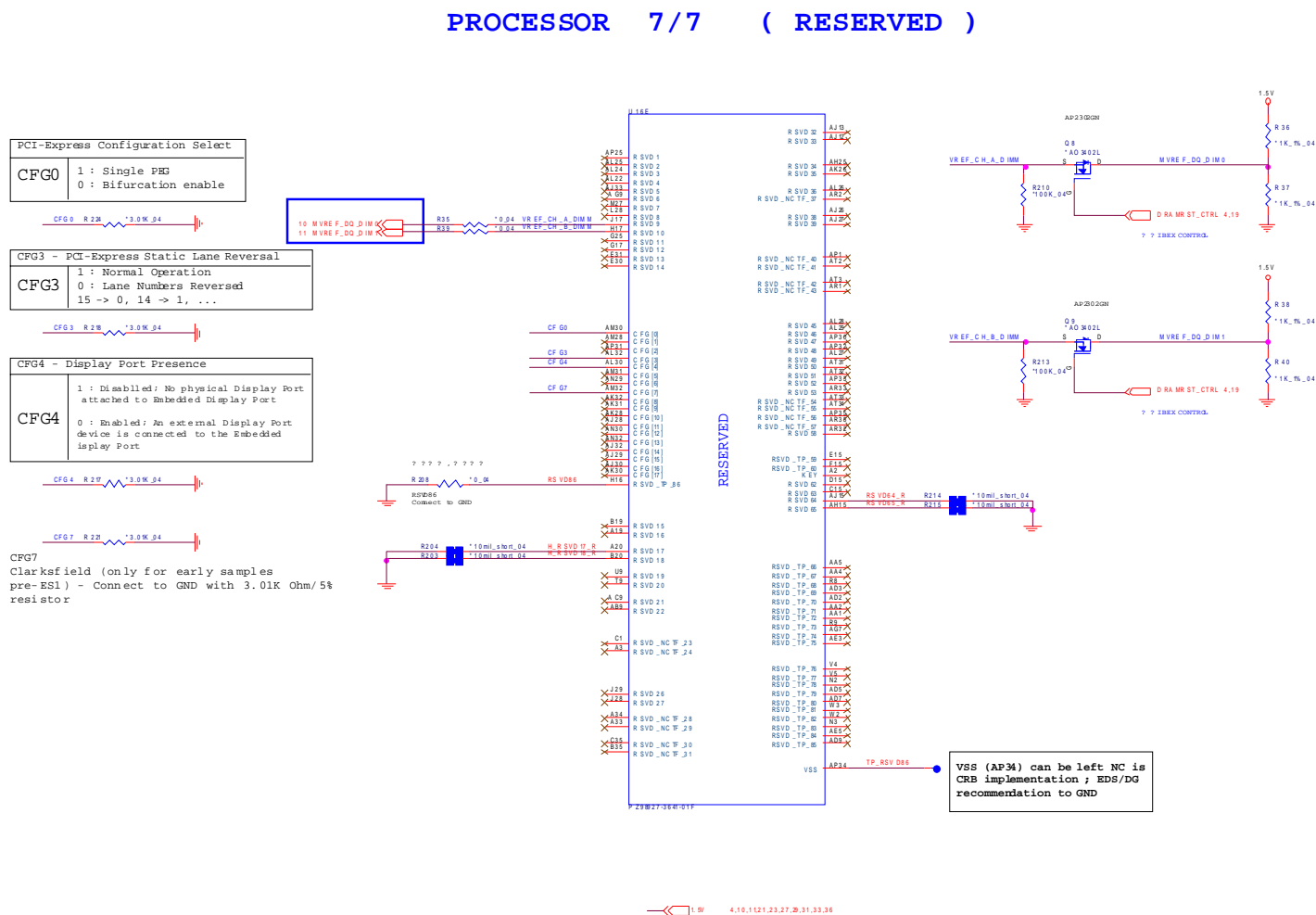


Sheet 8 of 40
Processor 6/7

B.Schematic Diagrams

Processor 7/7

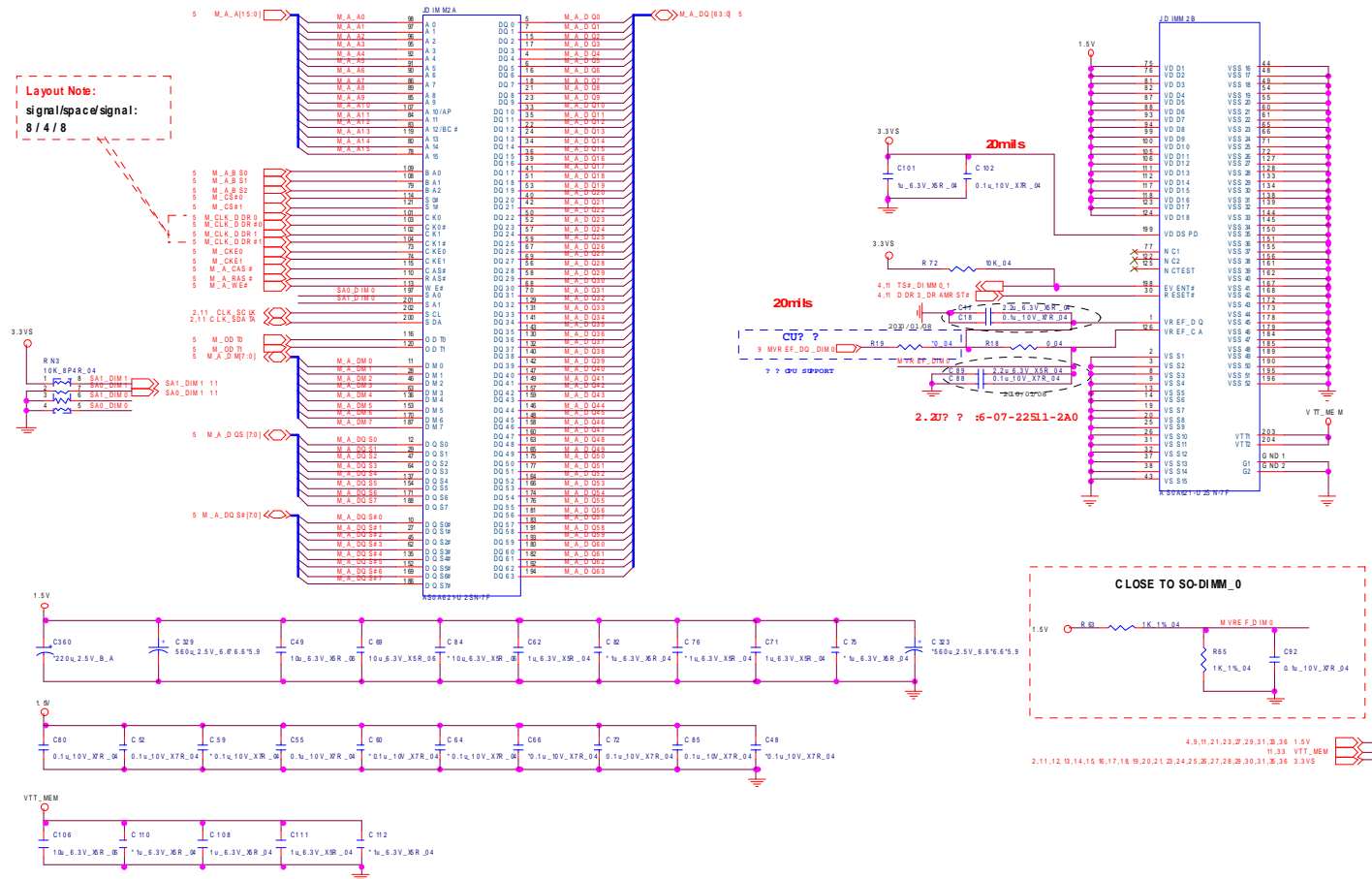
Sheet 9 of 40
Processor 7/7



DDRIII SO-DIMM_0

SO-DIMM A

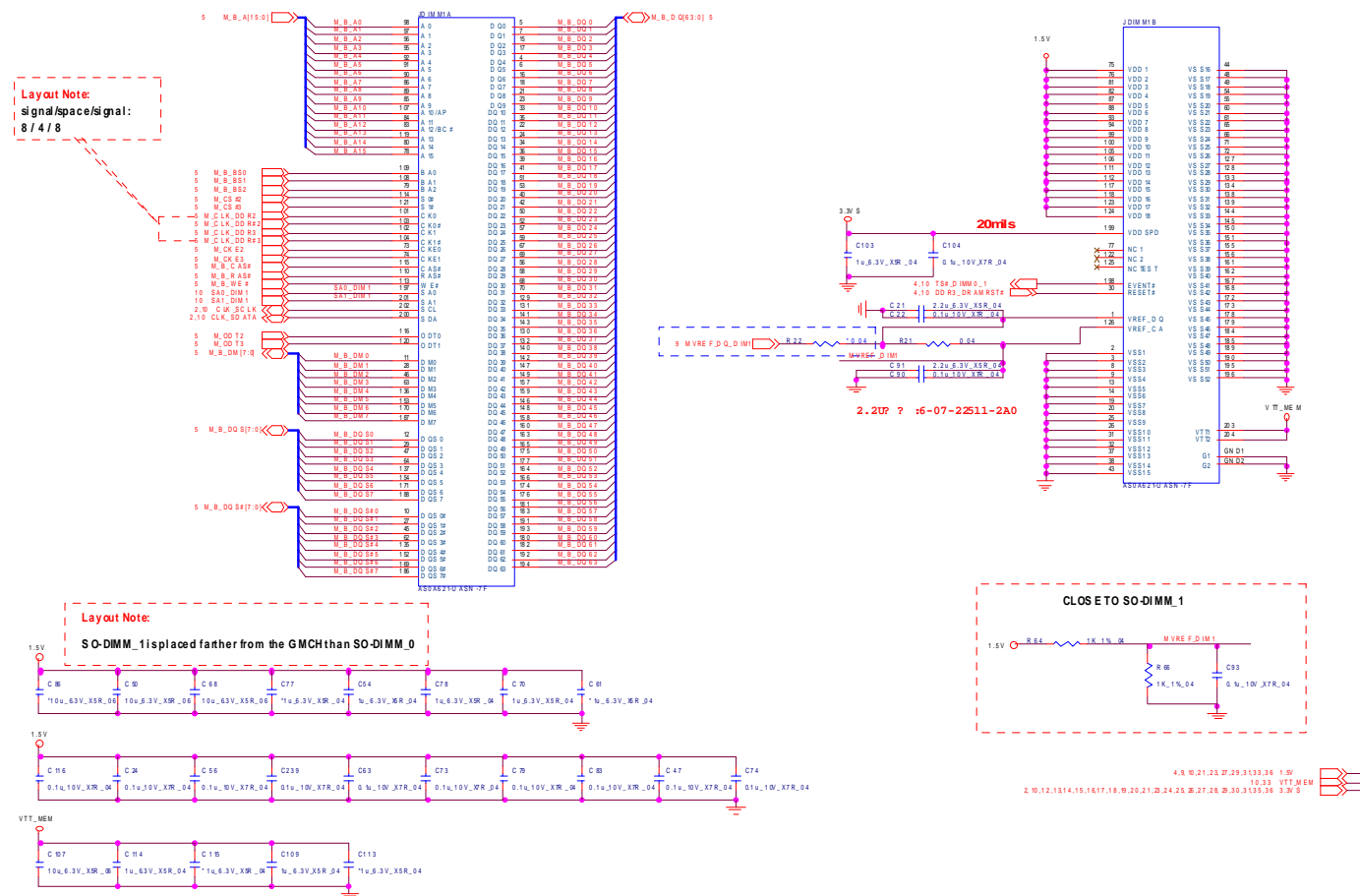
CHANGE TO STANDARD



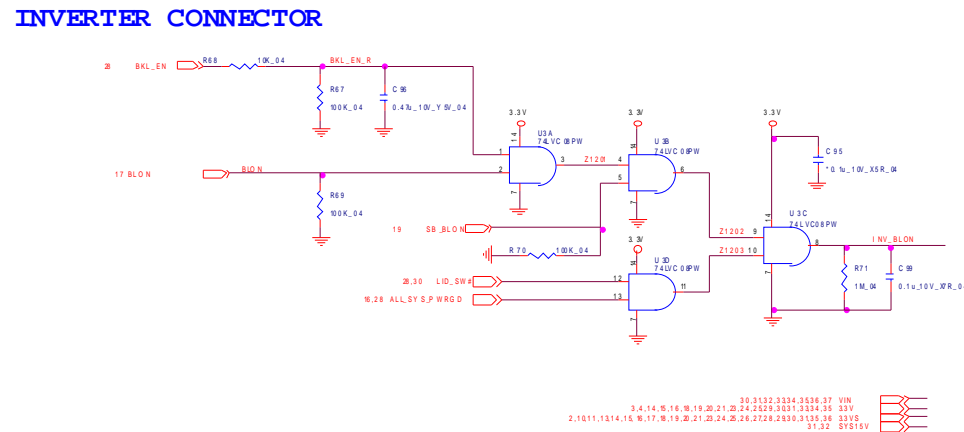
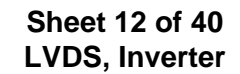
DDRIII SO-DIMM_1

SO-DIMM B

CHANGE TO STANDARD

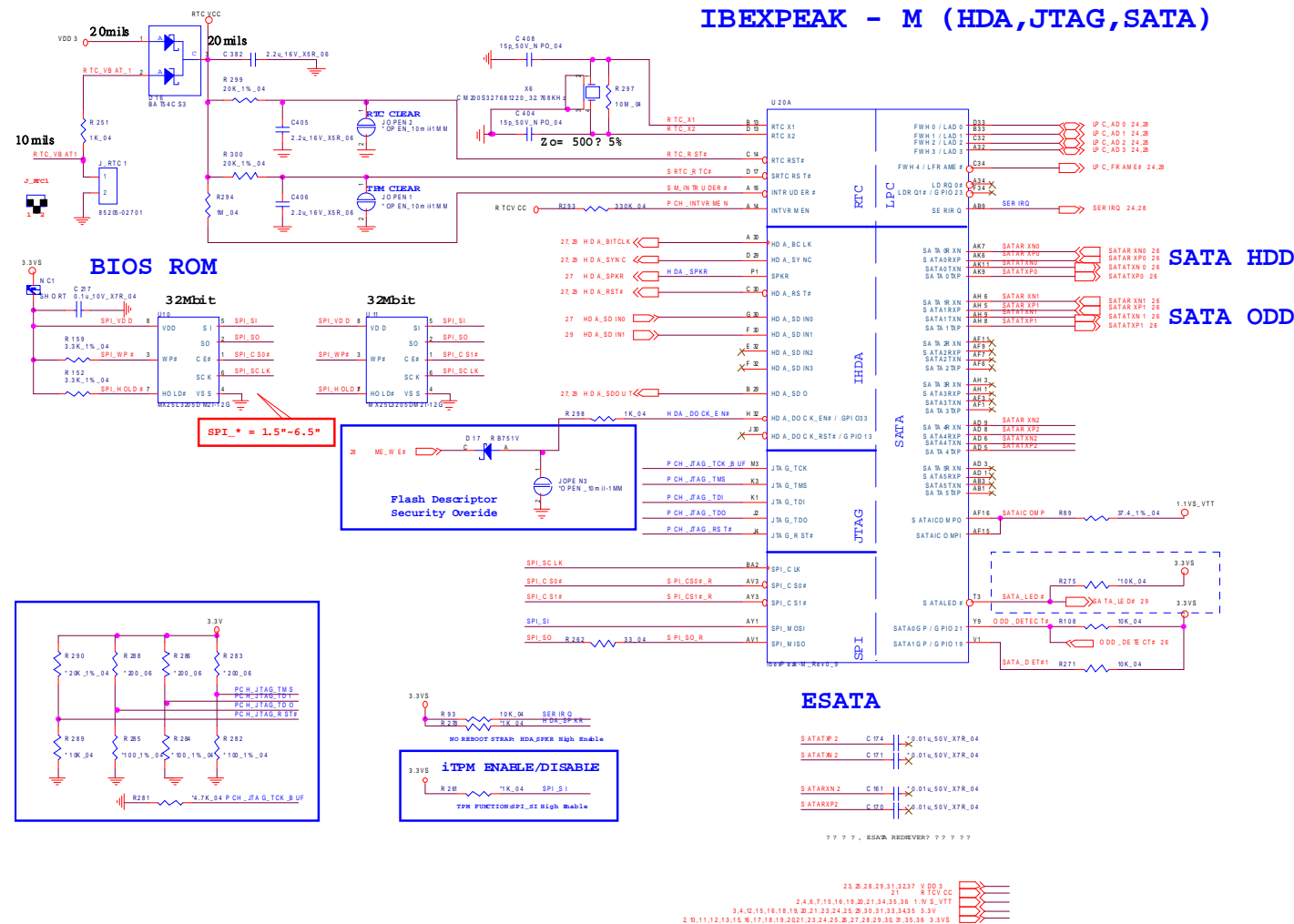


LVDS, Inverter B - 13



IBEXPEAK - M 1/9 B - 15

Sheet 14 of 40
IBEXPEAK - M 1/9



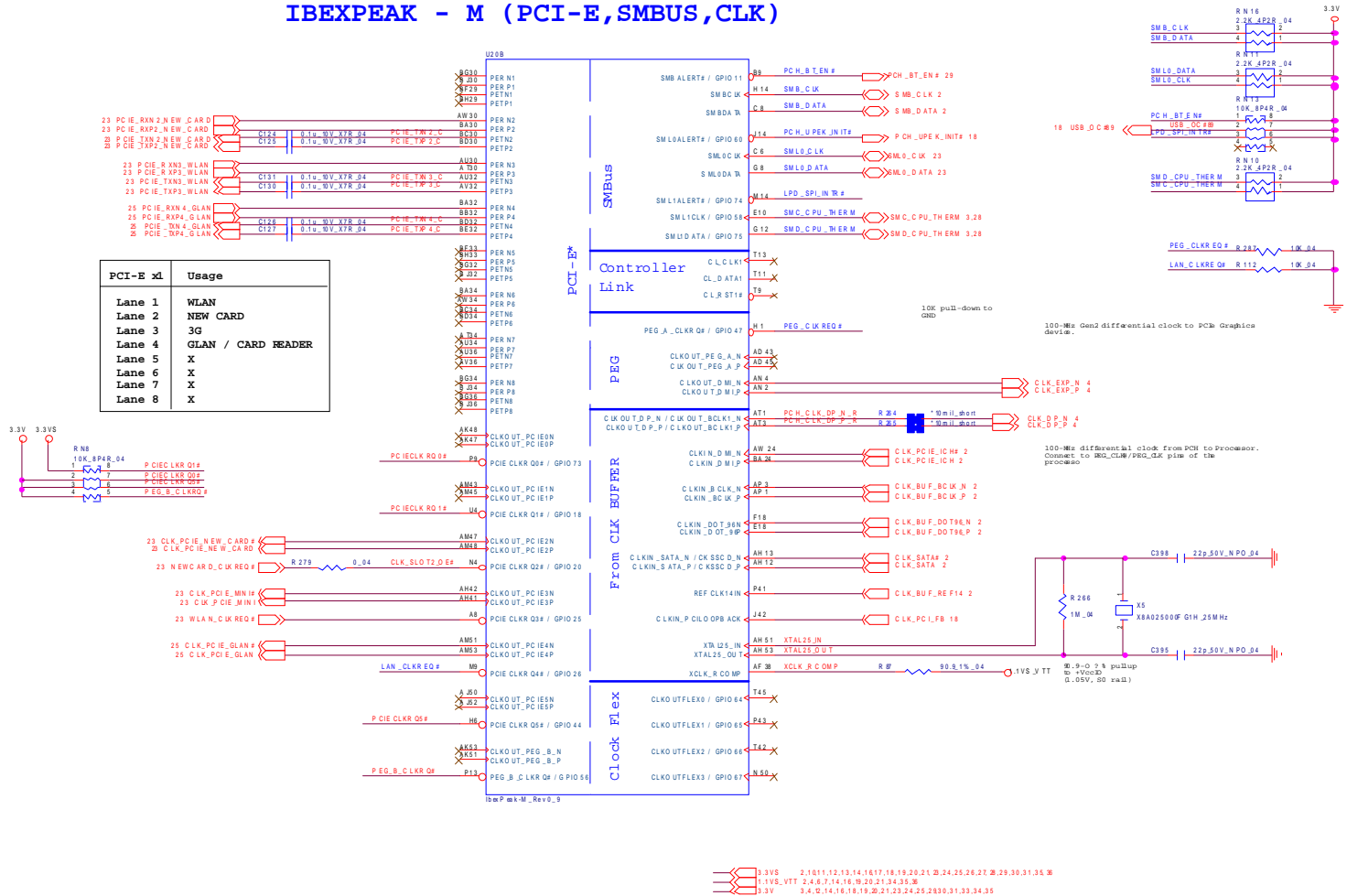
Schematic Diagrams

IBEXPEAK - M 2/9

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

Sheet 15 of 40
IBEXPEAK - M 2/9

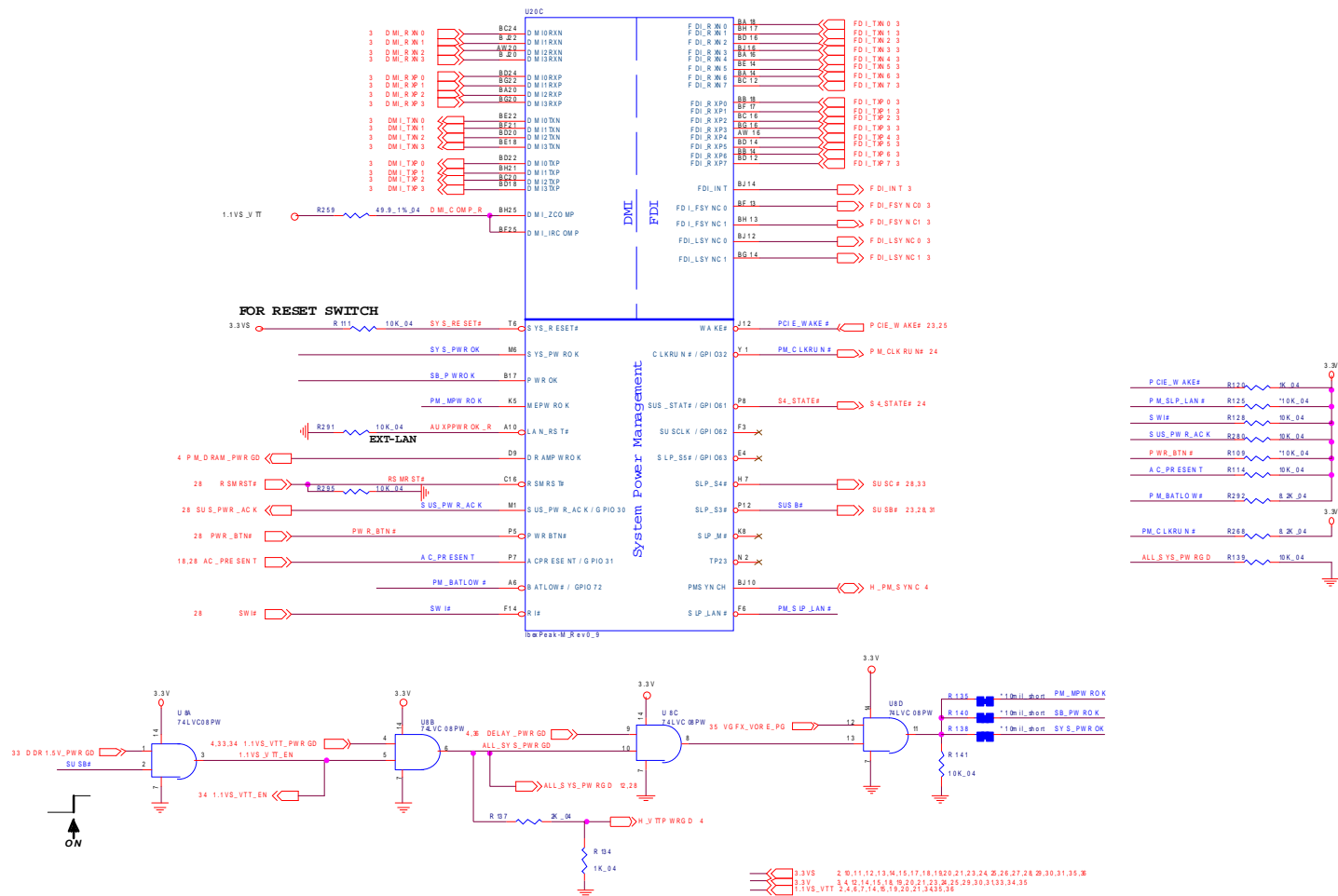
PCI-E x1	Usage
Lane 1	WLAN
Lane 2	NEW CARD
Lane 3	3G
Lane 4	GLAN / CARD READER
Lane 5	X
Lane 6	X
Lane 7	X
Lane 8	X



Schematic Diagrams

IBEXPEAK - M 3/9

IBEXPEAK - M (DMI,FDI,GPIO)



Sheet 16 of 40
IBEXPEAK - M 3/9

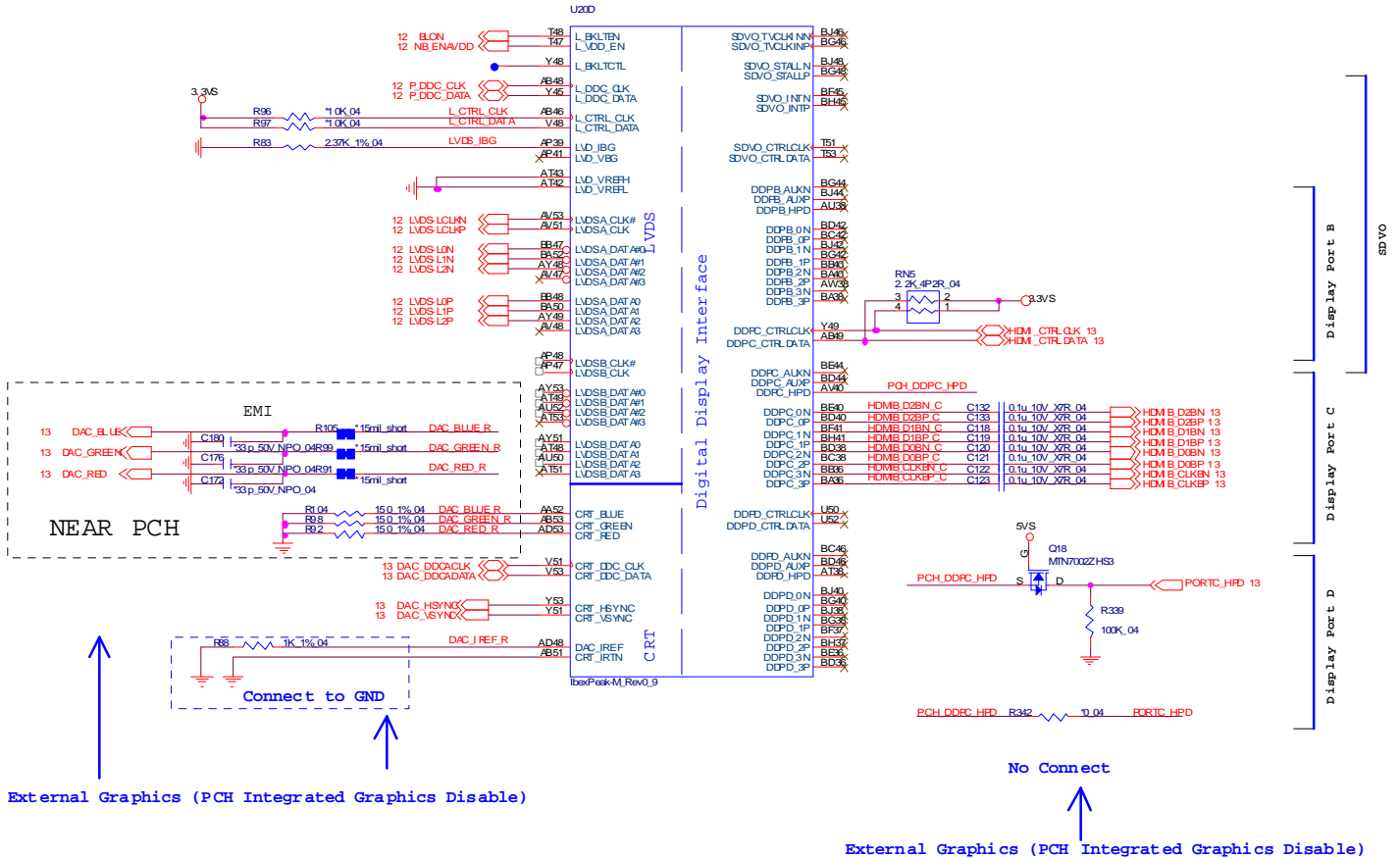
B.Schematic Diagrams

Schematic Diagrams

IBEXPEAK - M 4/9

IBEXPEAK - M (LVDS,DDI)

Sheet 17 of 40
IBEXPEAK - M 4/9

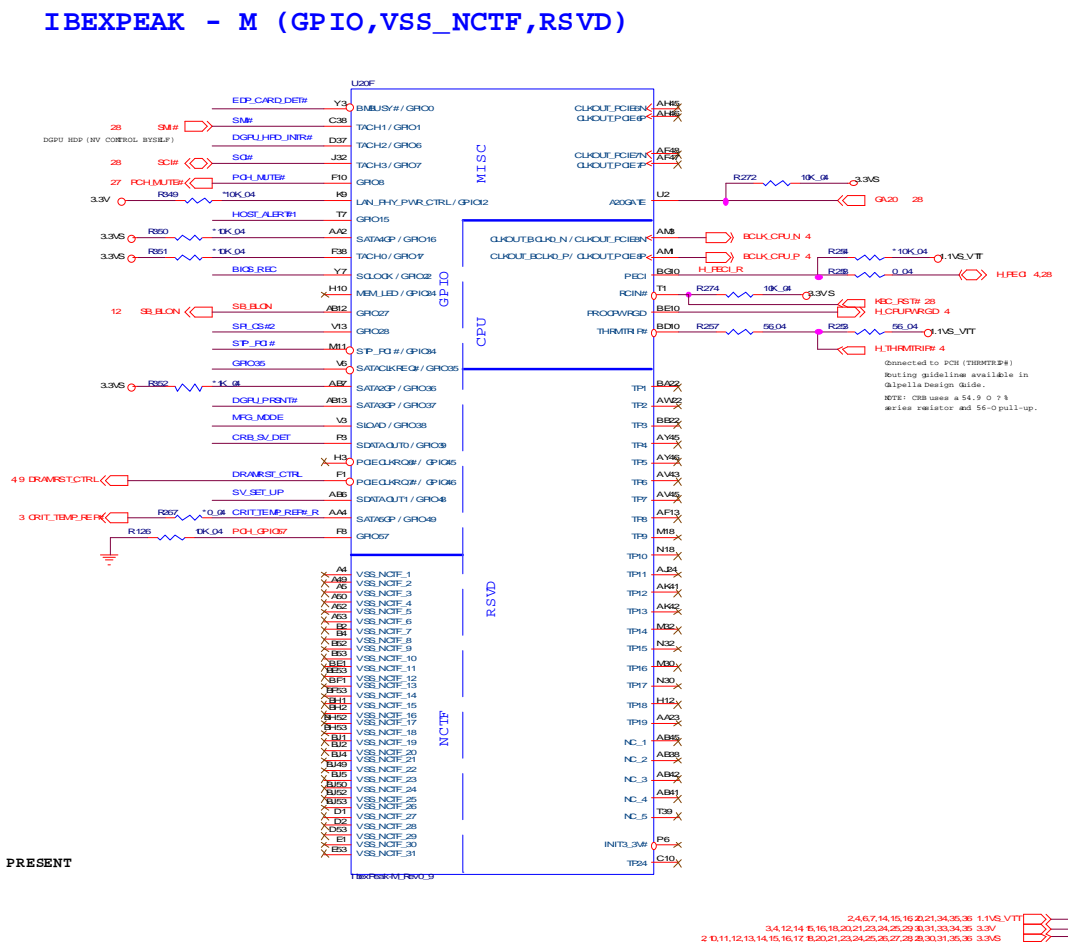
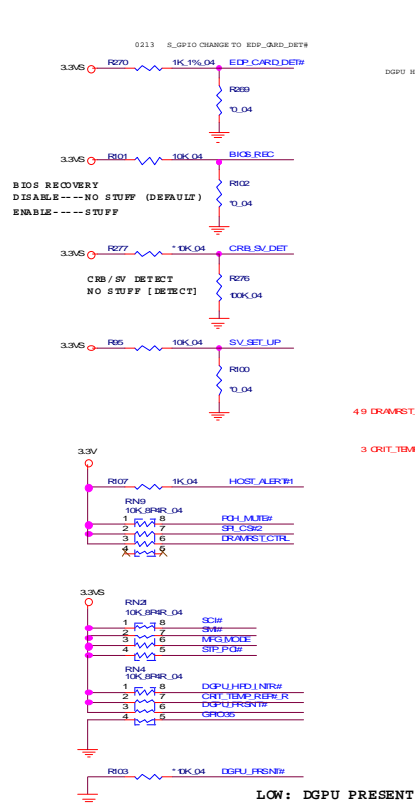


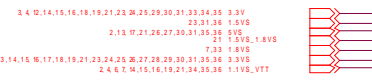
[illegible]

IBEXPEAK - M 6/9

B.Schematic Diagrams

Sheet 19 of 40
IBEXPEAK - M 6/9

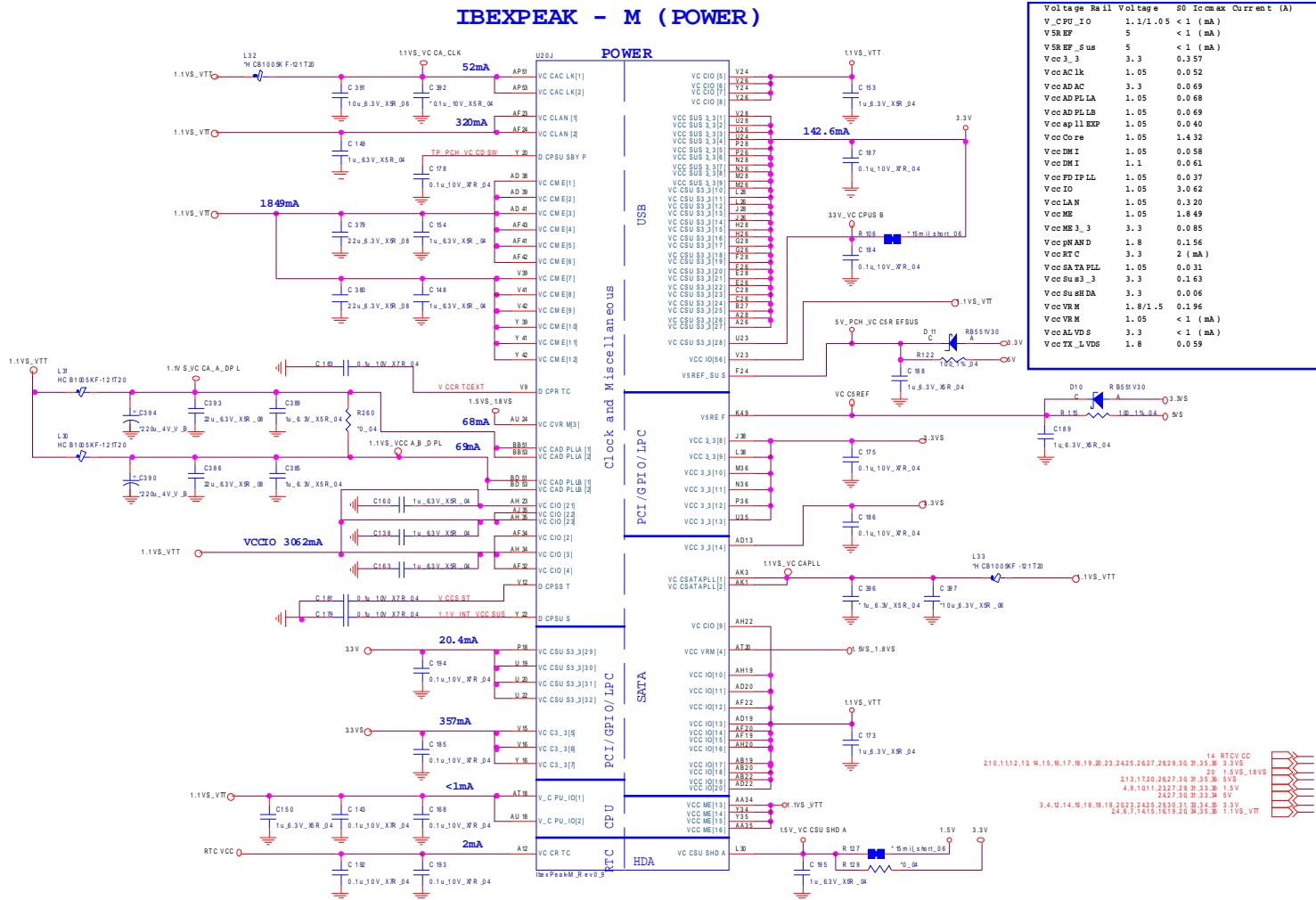




Schematic Diagrams

IBEXPEAK - M 8/9

Sheet 21 of 40
IBEXPEAK - M 8/9



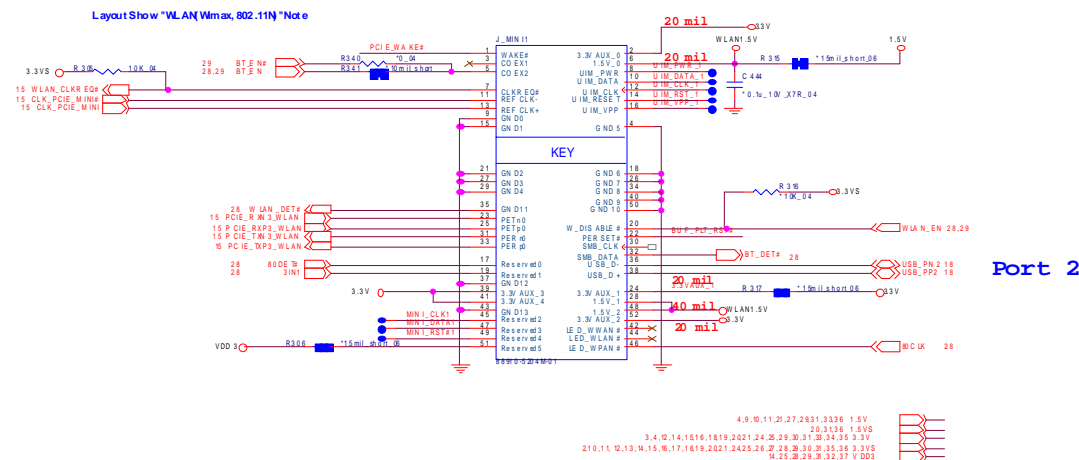
IBEXPEAK - M 9/9 B - 23

Sheet 22 of 40
IBEXPEAK - M 9/9



B.Schematic Diagrams

Sheet 23 of 40
New Card, Mini
PCIE

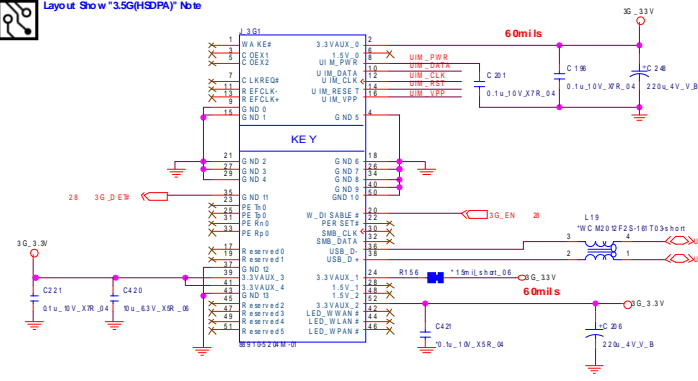


CCD, 3G, TPM

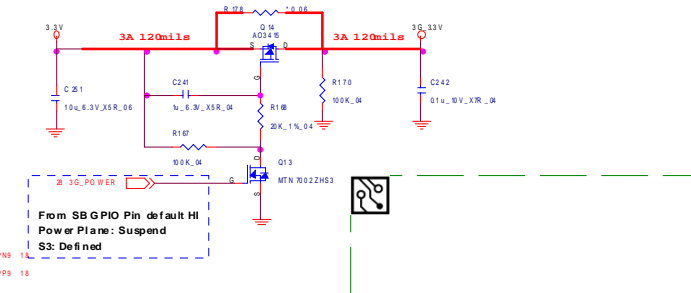
MINI CARD 3G (Port 6)



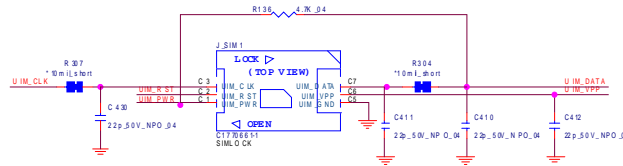
Layout Show "3.5G(HSDPA)" Note



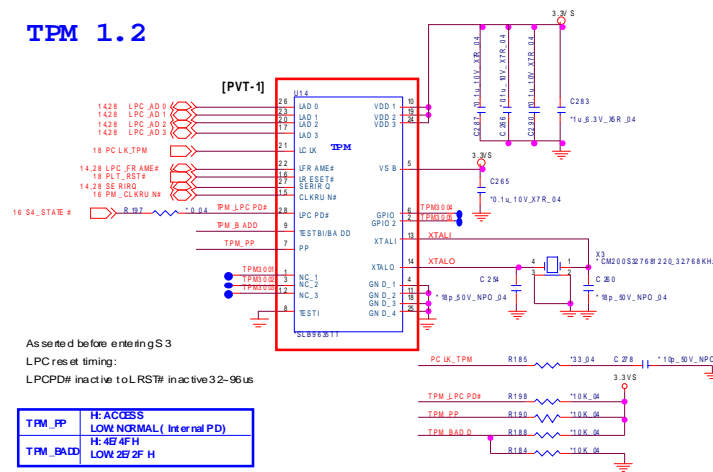
3G POWER



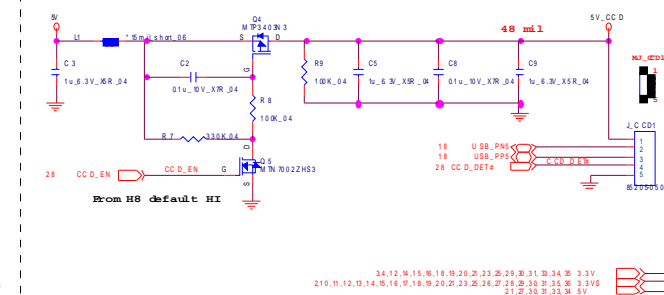
SIM CONN



TPM 1.2

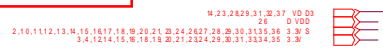
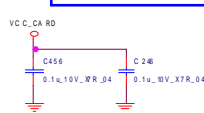
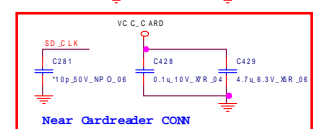
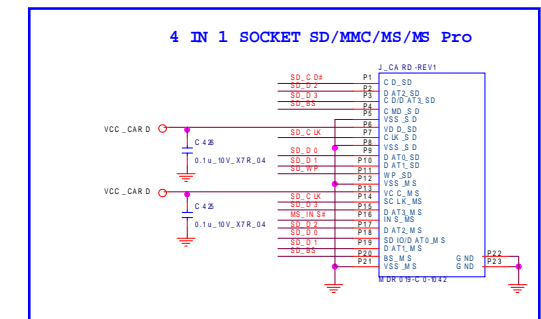
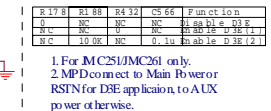
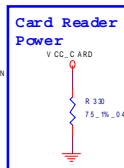
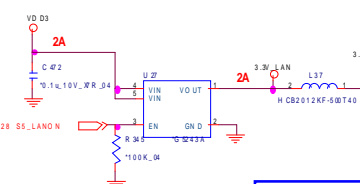
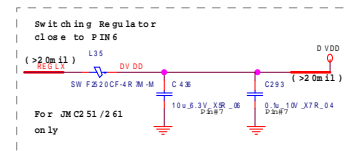
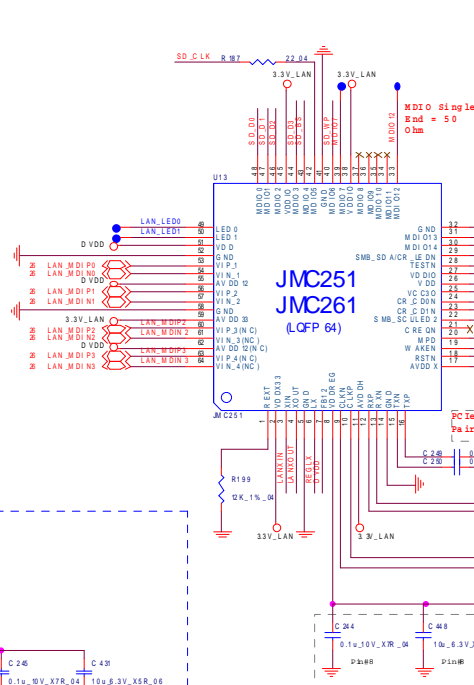
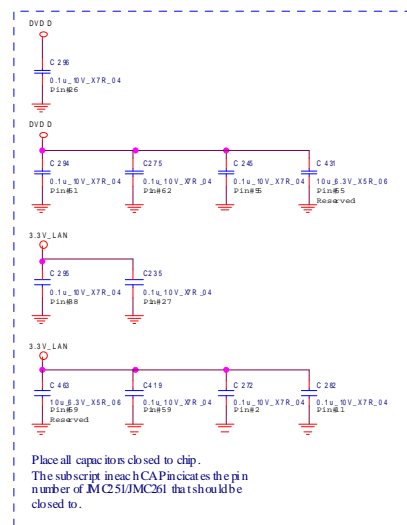
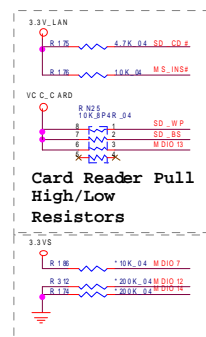


CCD

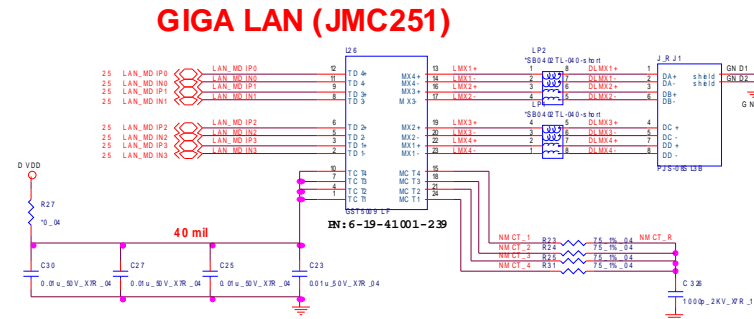


B.Schematic Diagrams

Sheet 25 of 40
Card Reader,
LAN (JMB251)

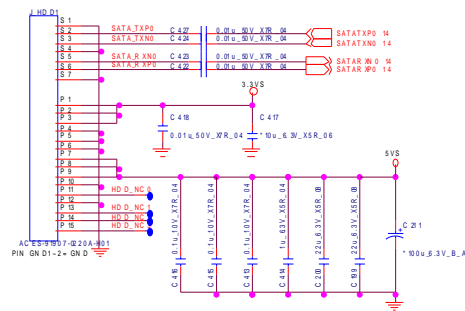


LAN (JMC251), SATA HDD, ODD

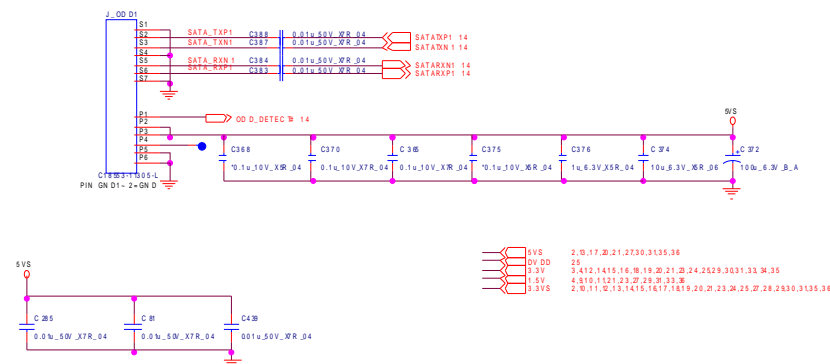


Sheet 26 of 40
LAN (JMC251),
SATA HDD, ODD

SATA HDD

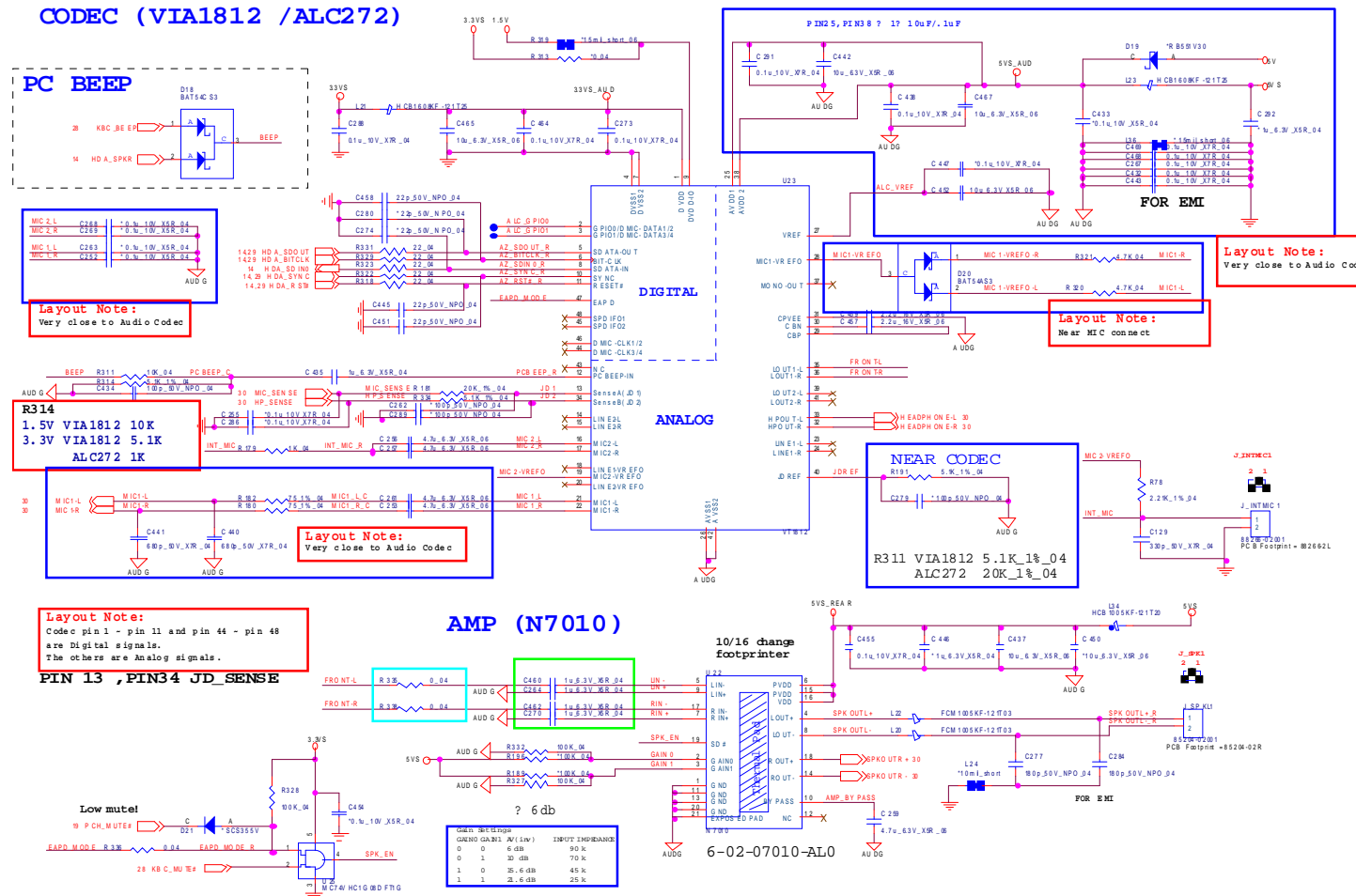


SATA ODD



Audio Codec VIA 1812

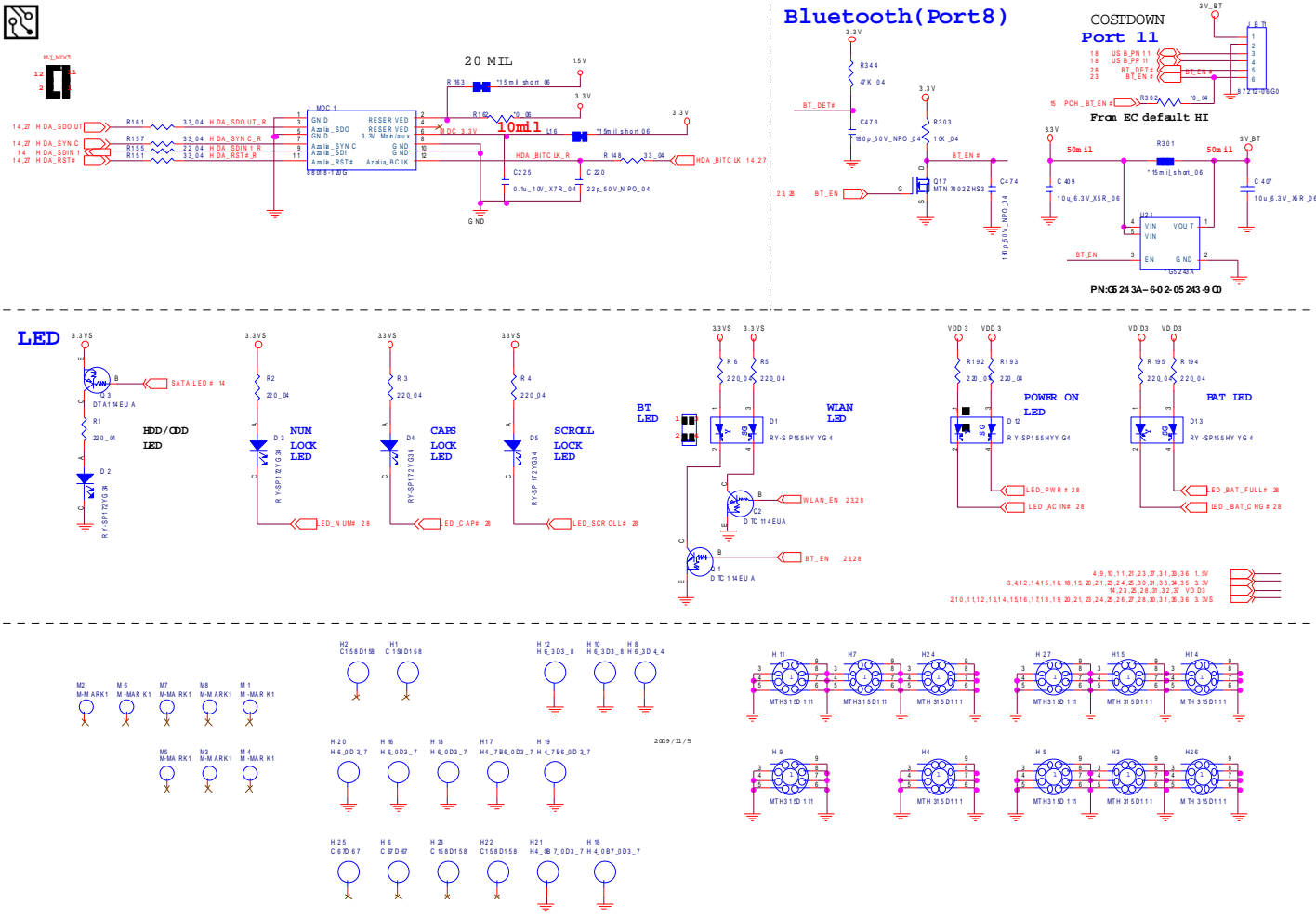
CODEC (VIA1812 /ALC272)



Schematic Diagrams

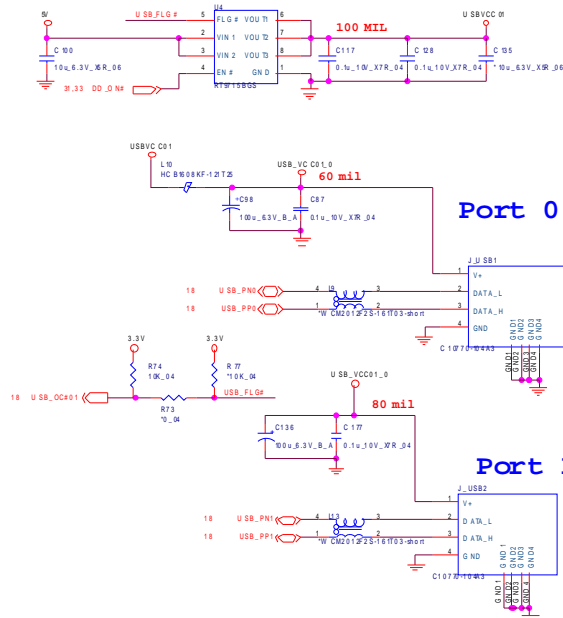
LED, MDC, BT

Sheet 29 of 40
LED, MDC, BT



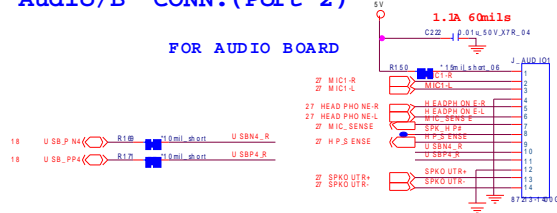
USB, Fan, TP, Multi Con1

USB PORT*2(Port 0,Port1)

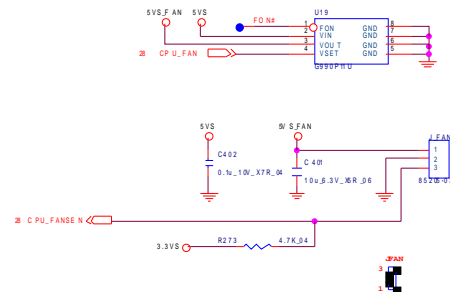


Audio/B CONN.(Port 2)

FOR AUDIO BOARD

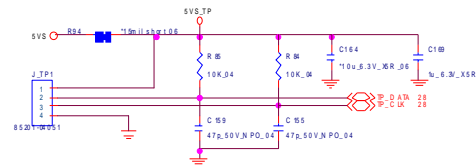


FAN CONTROL



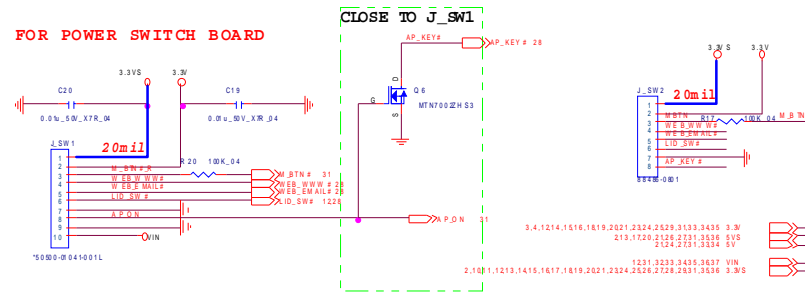
CLICK CONN

FOR CLICK BOARD



POWER SWITCH CONN.

FOR POWER SWITCH BOARD

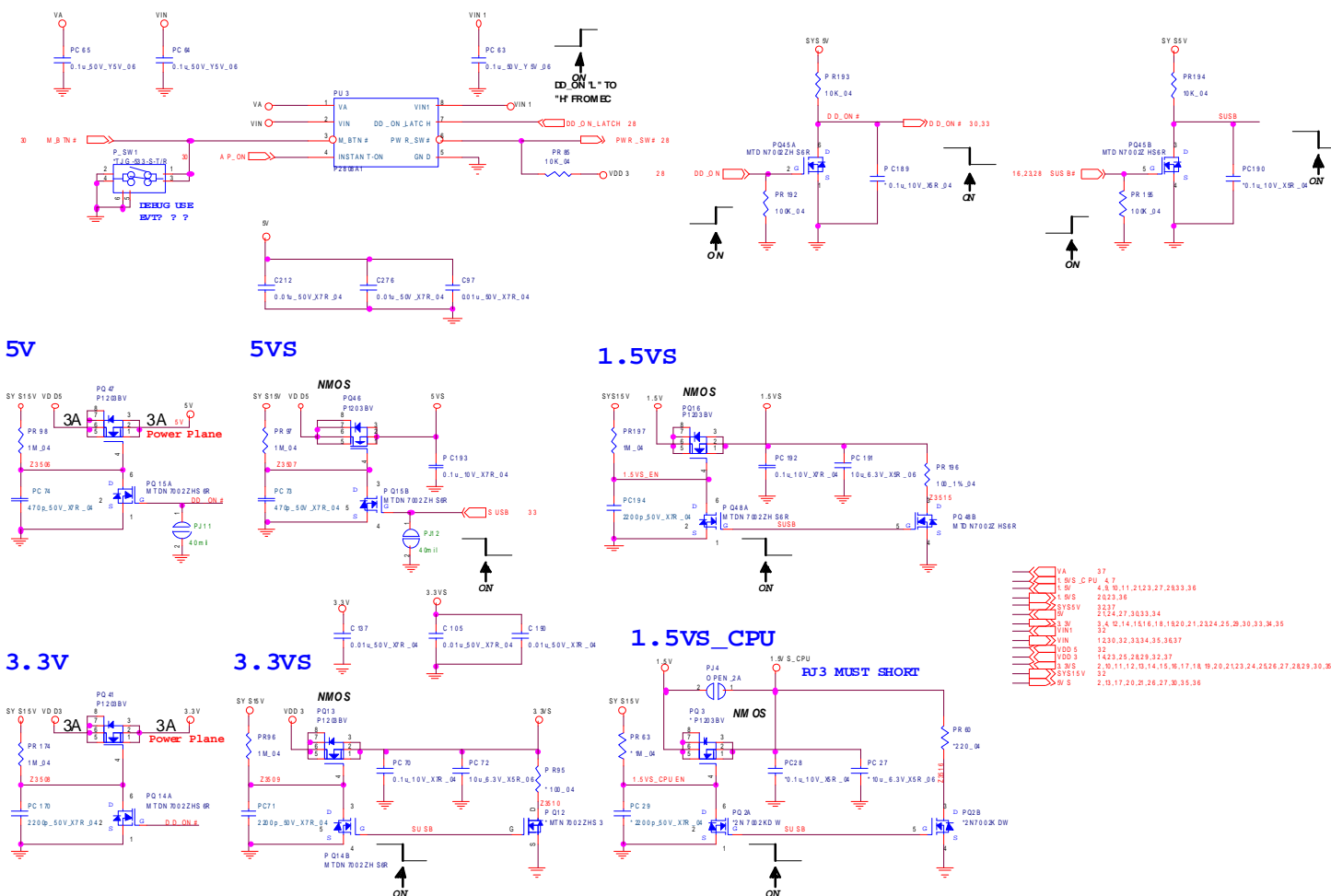


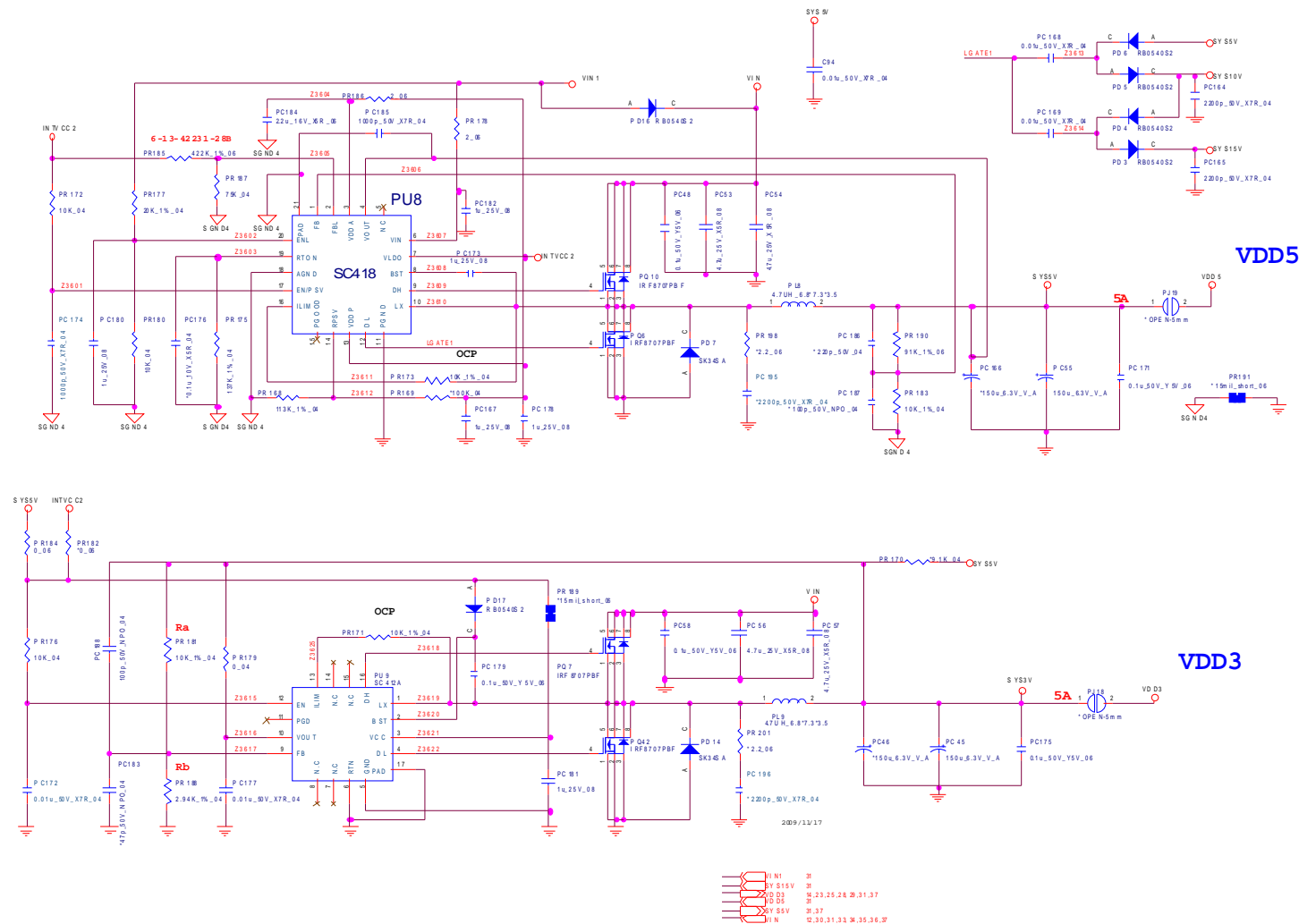
If system has APON function, uses J_SW1
If system has no APON function, uses J_SW2

Sheet 30 of 40
USB, Fan, TP,
Multi Con

B.Schematic Diagrams

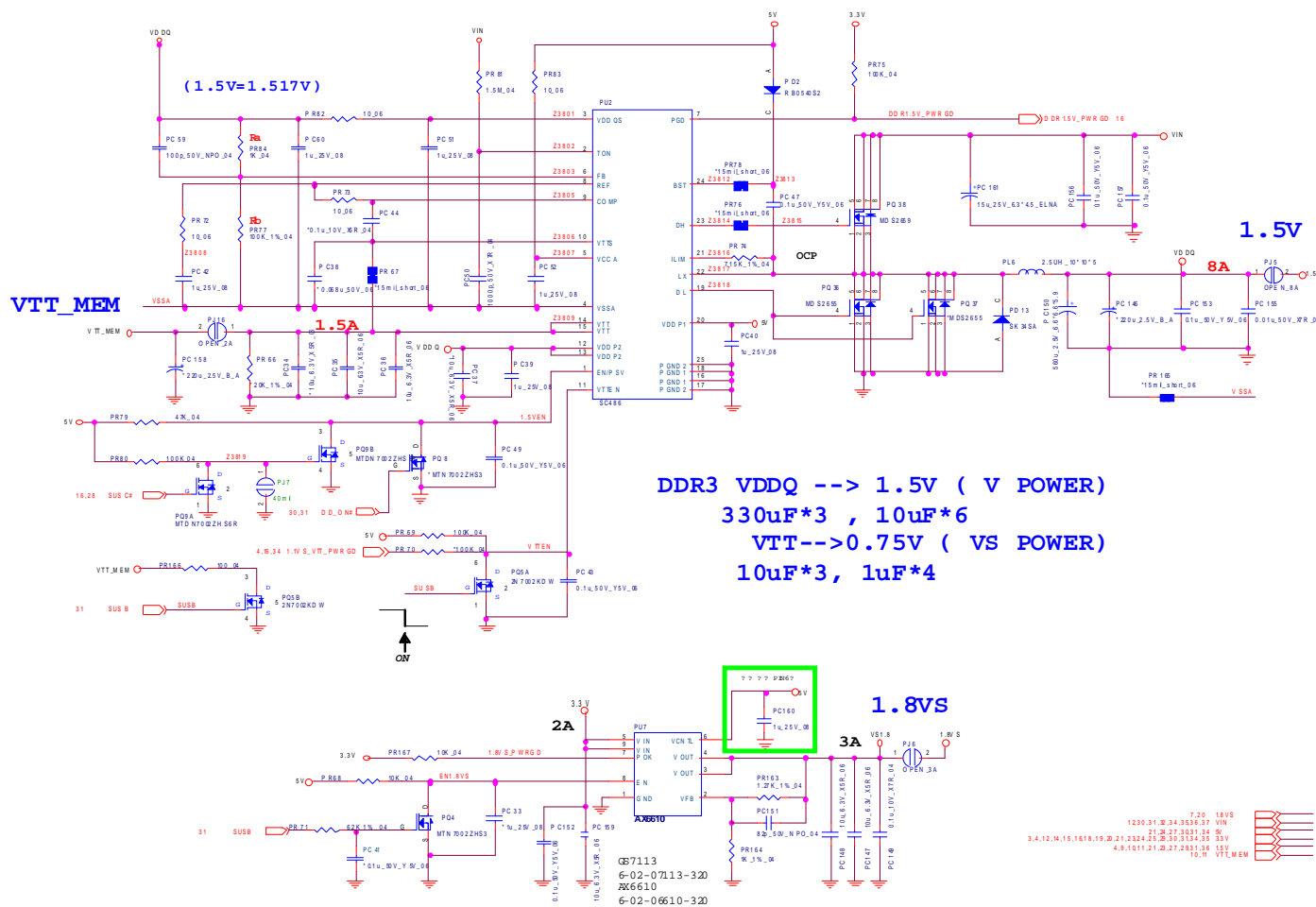
Sheet 31 of 40
5VS, 3VS, 1.05VS



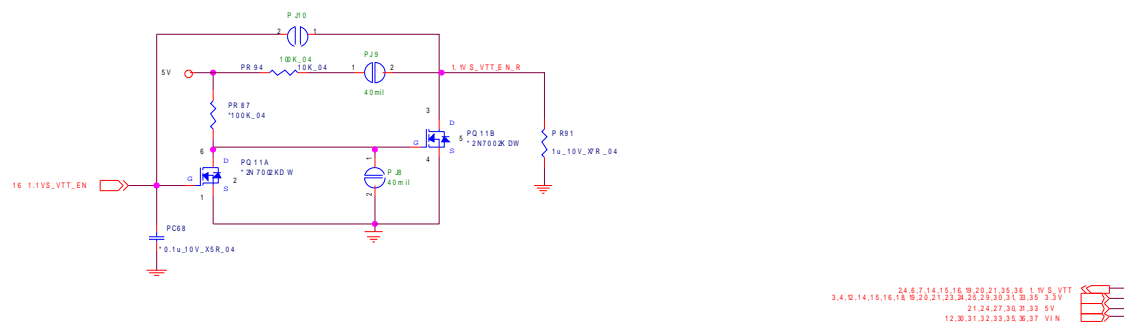
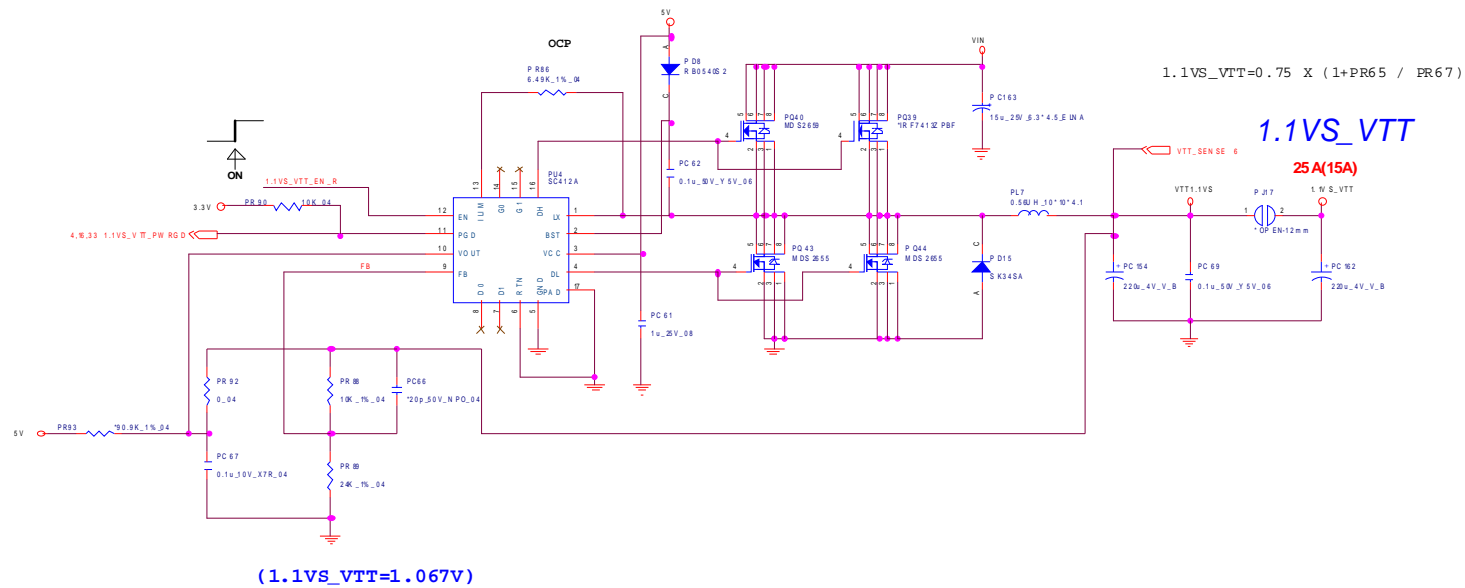
Power 3.3V/5V B - 33

B.Schematic Diagrams

Sheet 33 of 40
Power 1.5V/0.75V/
1.8VS



Power 1.1VS_VTT

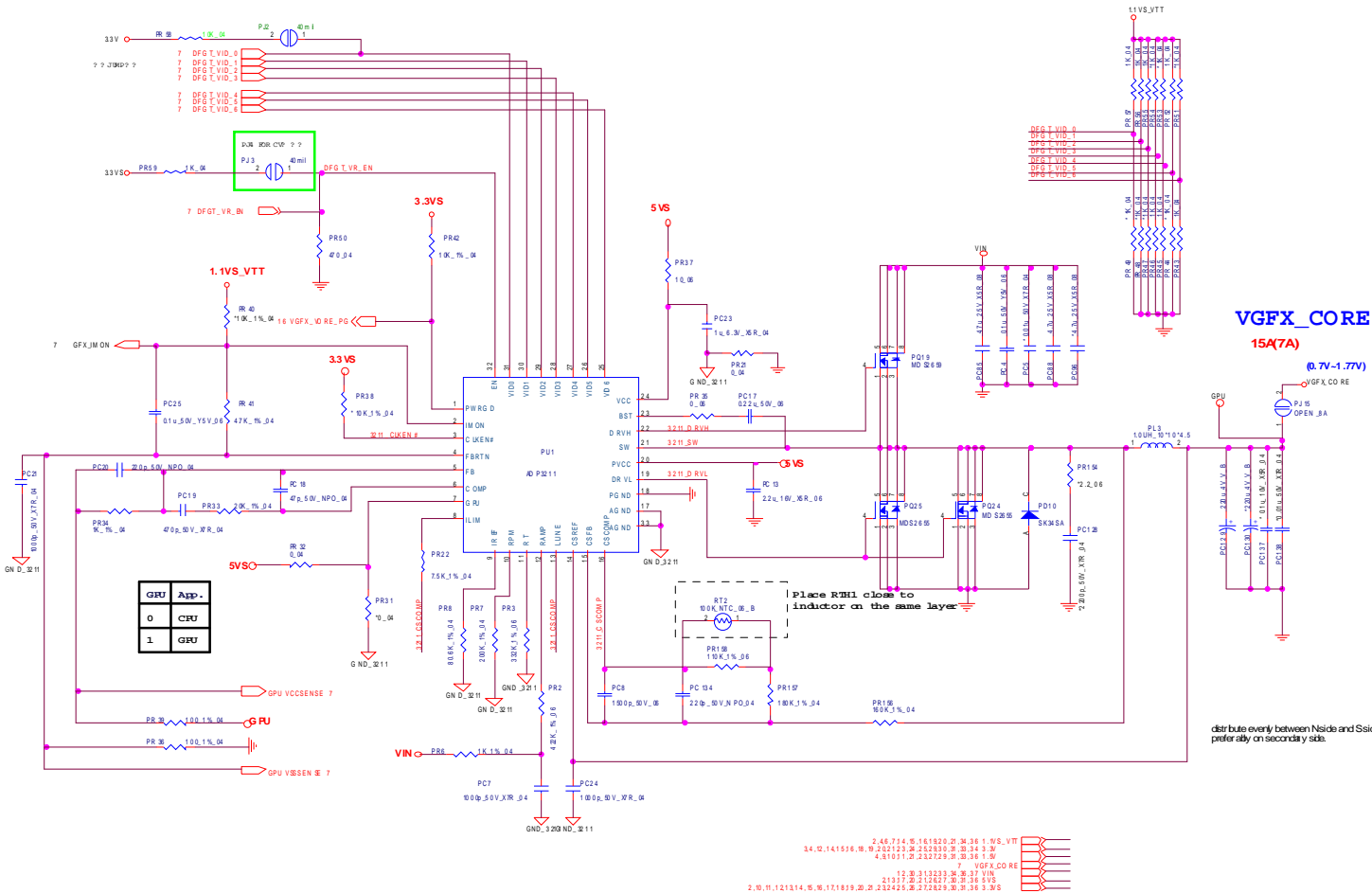


Sheet 34 of 40
Power 1.1VS_VTT

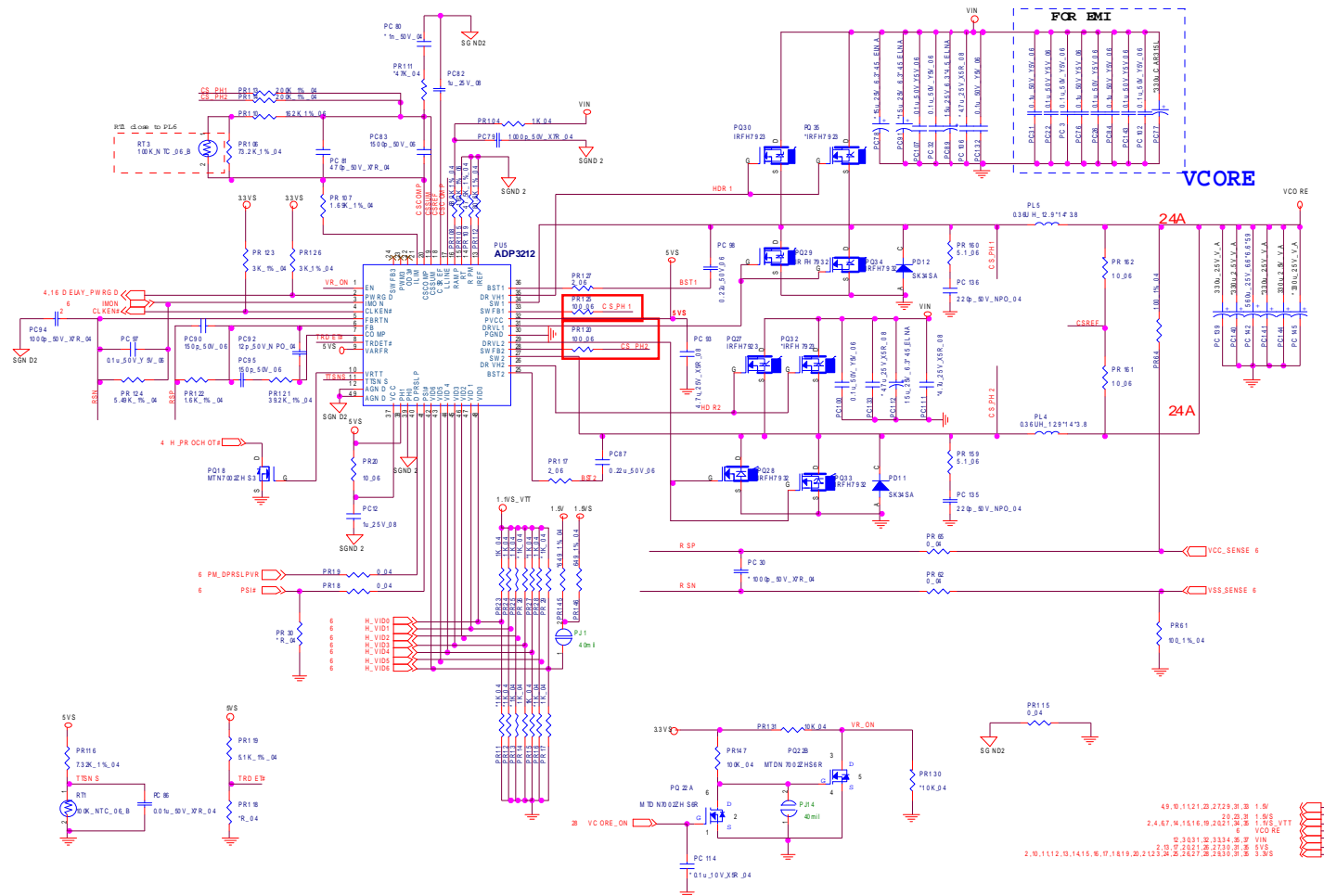
Schematic Diagrams

Power VGFX_CORE

Sheet 35 of 40
Power VGFX_Core



V-Core

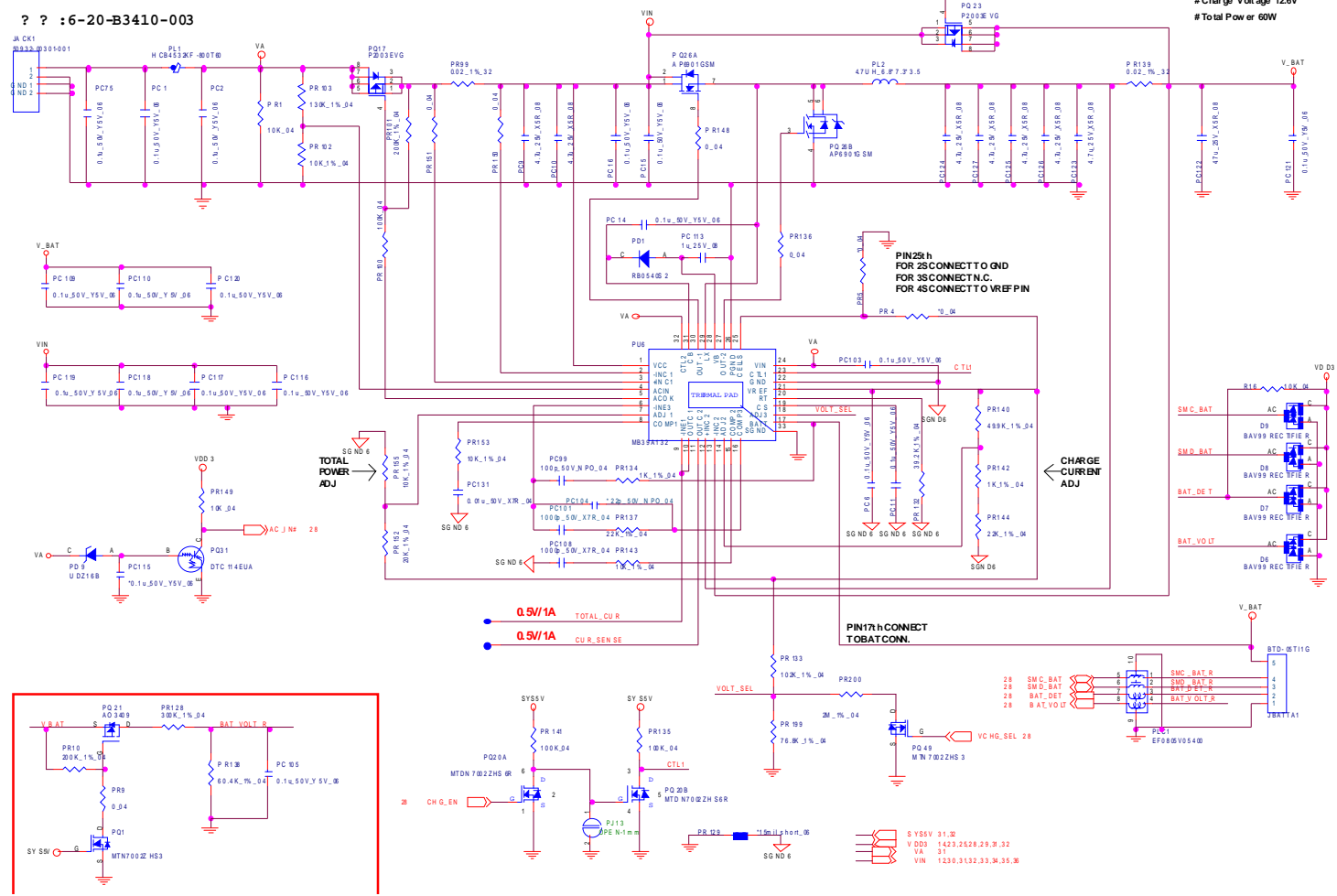


Schematic Diagrams

DC-In, Charger

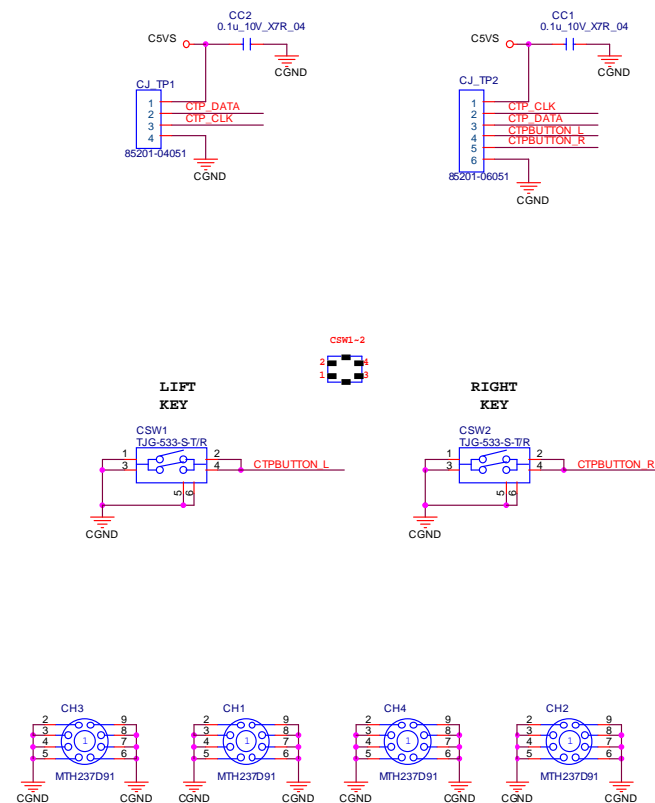
Sheet 37 of 40
DC-In, Charger

CHARGER



Click Board

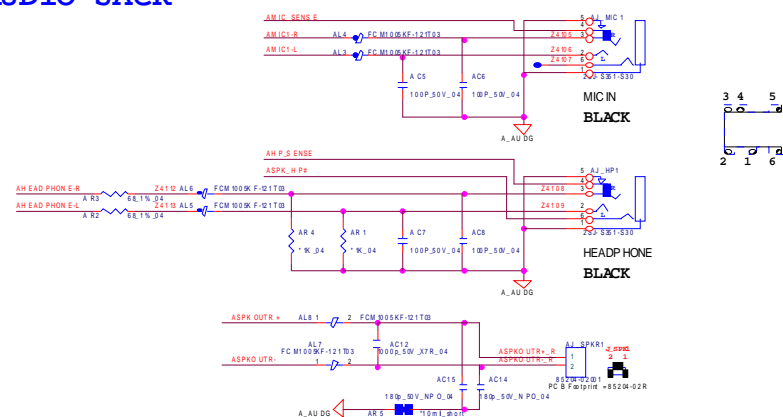
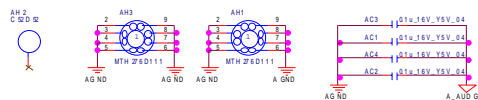
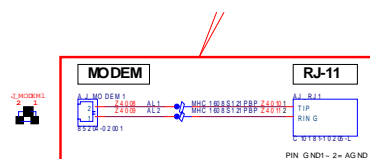
CLICK BOARD



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Click Board

B.Schematic Diagrams

RJ-11



POWER SW & LED & HOT KEY



The hardware components are represented by the following schematic diagrams:

- POWER BUTTON:** A schematic for a push button labeled "POWER_BUTTON". It shows a 5V supply connected to one terminal, and the other terminal connected to a network of components including a 10k resistor, a 0.1uF capacitor, and a 10V XTAL oscillator.
- WEB_YMW#:** A schematic for a push button labeled "WEB_YMW#". It shows a 5V supply connected to one terminal, and the other terminal connected to a network of components including a 10k resistor, a 0.1uF capacitor, and a 10V XTAL oscillator.
- WEB_EMAIL#:** A schematic for a push button labeled "WEB_EMAIL#". It shows a 5V supply connected to one terminal, and the other terminal connected to a network of components including a 10k resistor, a 0.1uF capacitor, and a 10V XTAL oscillator.
- AP_KEY#:** A schematic for a push button labeled "AP_KEY#". It shows a 5V supply connected to one terminal, and the other terminal connected to a network of components including a 10k resistor, a 0.1uF capacitor, and a 10V XTAL oscillator.
- SMA Connectors:** Three SMA connectors are shown, labeled "SMA1", "SMA3", and "SMA4". Each connector has a 50 ohm impedance and is connected to a 5V supply and a 10V XTAL oscillator.

