

SERVICE MANUAL

S3100/S3100M

notebook



Notebook Computer

S3100/S3100M

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 **S3100/S3100M** series notebook PC.

The following information is included:

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

Appendix A, Part Lists

Appendix B, Schematic Diagrams

Appendix C, Updating the FLASH ROM BIOS

IMPORTANT SAFETY INSTRUCTIONS

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

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

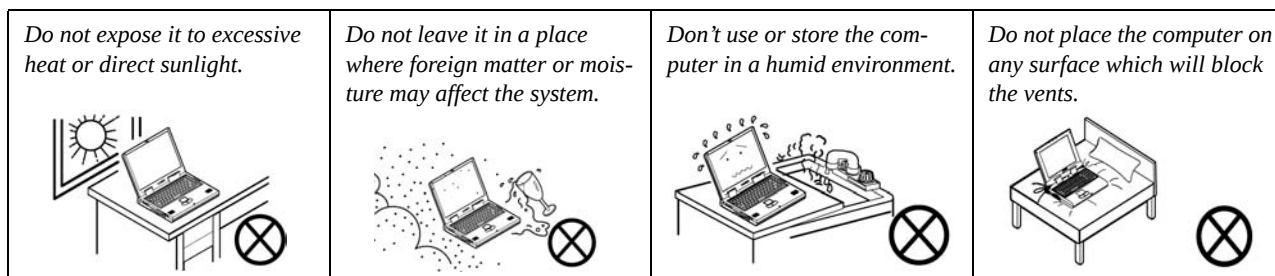
Instructions for Care and Operation

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

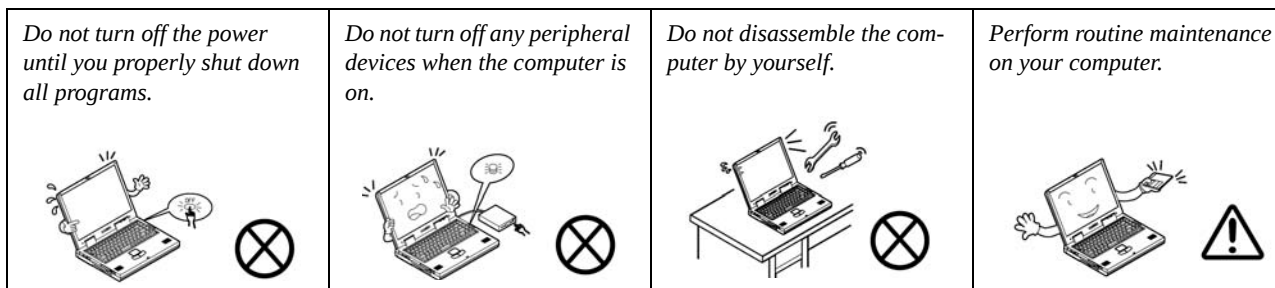
1. **Don't drop it, or expose it to shock.** If the computer falls, the case and the components could be damaged.



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.

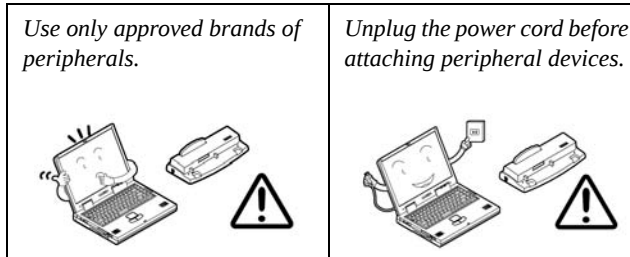


3. **Follow the proper working procedures for the computer.** Shut the computer down properly and don't forget to save your work. Remember to periodically save your data as data may be lost if the battery is depleted.



Preface

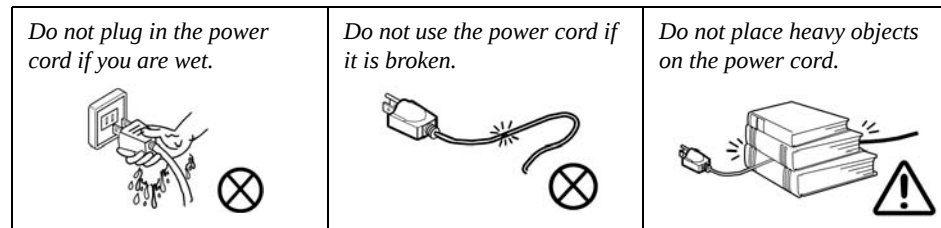
4. **Avoid interference.** Keep the computer away from high capacity transformers, electric motors, and other strong magnetic fields. These can hinder proper performance and damage your data.
5. **Take care when using peripheral devices.**



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/DVD

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

System Startup

1. Remove all packing materials.
2. Place the computer on a stable surface.
3. Securely attach any peripherals you want to use with the computer (e.g. keyboard and mouse) to their ports.
4. Attach the AC/DC adapter to the DC-In jack on the rear of the computer, then plug the AC power cord into an outlet, and connect the AC power cord to the AC/DC adapter.
5. Use one hand to raise the lid/LCD to a comfortable viewing angle (do not exceed 120 degrees); use the other hand (as illustrated in Figure 1) to support the base of the computer (**Note: Never** lift the computer by the lid/LCD).
6. Press the power button to turn the computer "on".

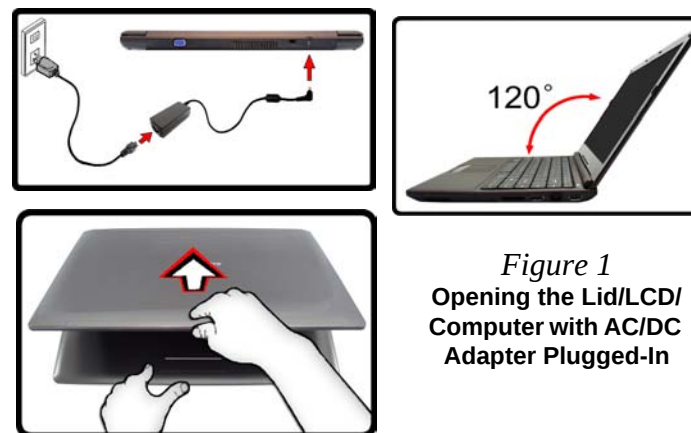


Figure 1
**Opening the Lid/LCD/
Computer with AC/DC
Adapter Plugged-In**

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Set the computer to boot from the external drive	C-1
Use the flash tools to update the BIOS	C-2
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Chapter 1: Introduction

Overview

This manual covers the information you need to service or upgrade the **S3100/S3100M** 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 the *User's Manual*. The manual is shipped with the computer.

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

The **S3100/S3100M** series notebook is designed to be upgradeable. See [Disassembly on page 2 - 1](#) for a detailed description of the upgrade procedures for each specific component. Please take note of the warning and safety information indicated by the “” symbol.

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

Introduction

Specifications



Latest Specification Information

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



CPU

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

Processor

Intel® Core™ i3 Mobile Processor

i3-330UM (1.20GHz)

3MB L3 Cache, 800MHz FSB, TDP:18W

Intel® Pentium® Processor

U5400 (1.20GHz)

3MB L3 Cache, 800MHz FSB, TDP:18W

Intel® Celeron® Processor

U3400 (1.06GHz)

2MB L3 Cache, 800MHz FSB, TDP:18W

Core Logic

Intel® HM55 Chipset

BIOS

One 16Mb SPI Flash ROM

Phoenix™ BIOS

LCD Options

13.3" (33.78cm) HD LCD

Memory

Two 204 Pin SO-DIMM Sockets Supporting **DDR3 1066/1333MHz** Memory

Memory Expandable up to **8GB**

Video Adapter

Intel GMA HD

Shared Memory Architecture (DVMT) up to **1.7GB**

MS DirectX® 10.0 compatible

Security

Kensington Lock Slot

BIOS Password

Audio

High Definition Audio Compliant Interface

2 * Built-In Speakers

Built-In Microphone

Storage

One Changeable 2.5" 9.5mm (h) SATA Hard Disk Drive
(**Factory Option**) External USB Super Multi/Blu-ray Drive Module

Interface

Three USB 2.0 Ports

One Headphone-Out Jack

One Microphone-In Jack

One External Monitor Port

One HDMI-Out Port

One RJ-45 LAN Jack

One DC-in Jack

Keyboard

"WinKey" keyboard (with embedded numeric keypad)

Pointing Device

Built-in Touchpad

Communication

Built-In Gigabit Ethernet LAN

1.3M Pixel USB PC Camera Module

(Factory Option) Bluetooth 2.1 + EDR Module

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

Wireless LAN Module Options:

(Factory Option) Intel® WiFi Link 1000 (802.11b/g/n) Wireless LAN Half Mini-Card Module

(Factory Option) Third-Party 802.11b/g/n Wireless LAN Half Mini-Card Module

Power

Full Range AC/DC Adapter

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

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

Removable Polymer Lithium-Ion Battery Pack, 31.08WH

(Factory Option) Removable Polymer Lithium-Ion Battery Pack, 62.16WH

Energy Star 5.0 Compliant

Dimensions & Weight**S3100:**

330mm (w) x 221mm (d) x **25.5mm** (h)

1.55kg (with 31.08WH Battery)

S3100M:

330mm (w) x 221mm (d) x **26mm** (h)

1.65kg (with 31.08WH Battery)

Card Reader

Embedded 3-in-1 Card Reader

MMC (MultiMedia Card) / RS MMC

SD (Secure Digital) / Mini SD / SDHC/ SDXC Compatible

MS (Memory Stick) / MS Pro / MS Duo

Environmental Specifications**Temperature**

Operating: 5°C ~ 35°C

Non-Operating: -20°C ~ 60°C

Relative Humidity

Operating: 20% ~ 80%

Non-Operating: 10% ~ 90%

Introduction

Figure 1
Top View

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

External Locator - Top View with LCD Panel Open



External Locator - Front & Right Side Views

Figure 2
Front View

1. LED Indicators

FRONT VIEW



RIGHT SIDE VIEW



Figure 3
Right Side View

1. Speaker
2. 3-in-1 Card Reader
3. HDMI-Out Port
4. RJ-45 LAN Jack
5. USB 2.0 Port

Introduction

External Locator - Left Side & Rear View

Figure 4
Left Side View

1. 2 * USB 2.0 Ports
2. Microphone-In Jack
3. Headphone-Out Jack
4. Speaker

LEFT SIDE VIEW



Figure 5
Rear View

1. External Monitor Port
2. Vent
3. Security Lock Slot
4. DC-In Jack

REAR VIEW



External Locator - Bottom View

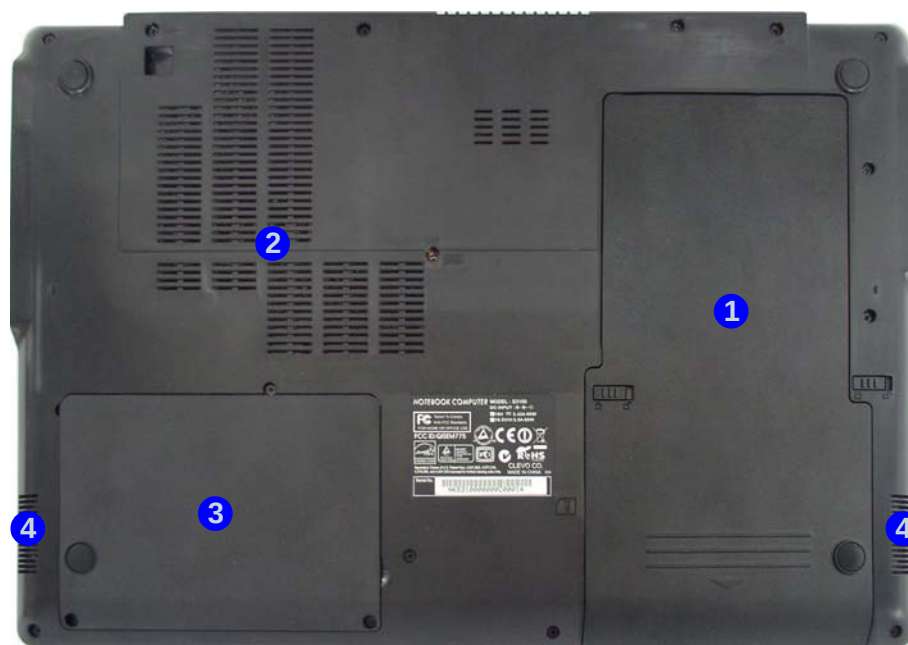


Figure 6
Bottom View

1. Battery
2. Vent
3. Hard Disk Bay Cover
4. Speakers



Overheating

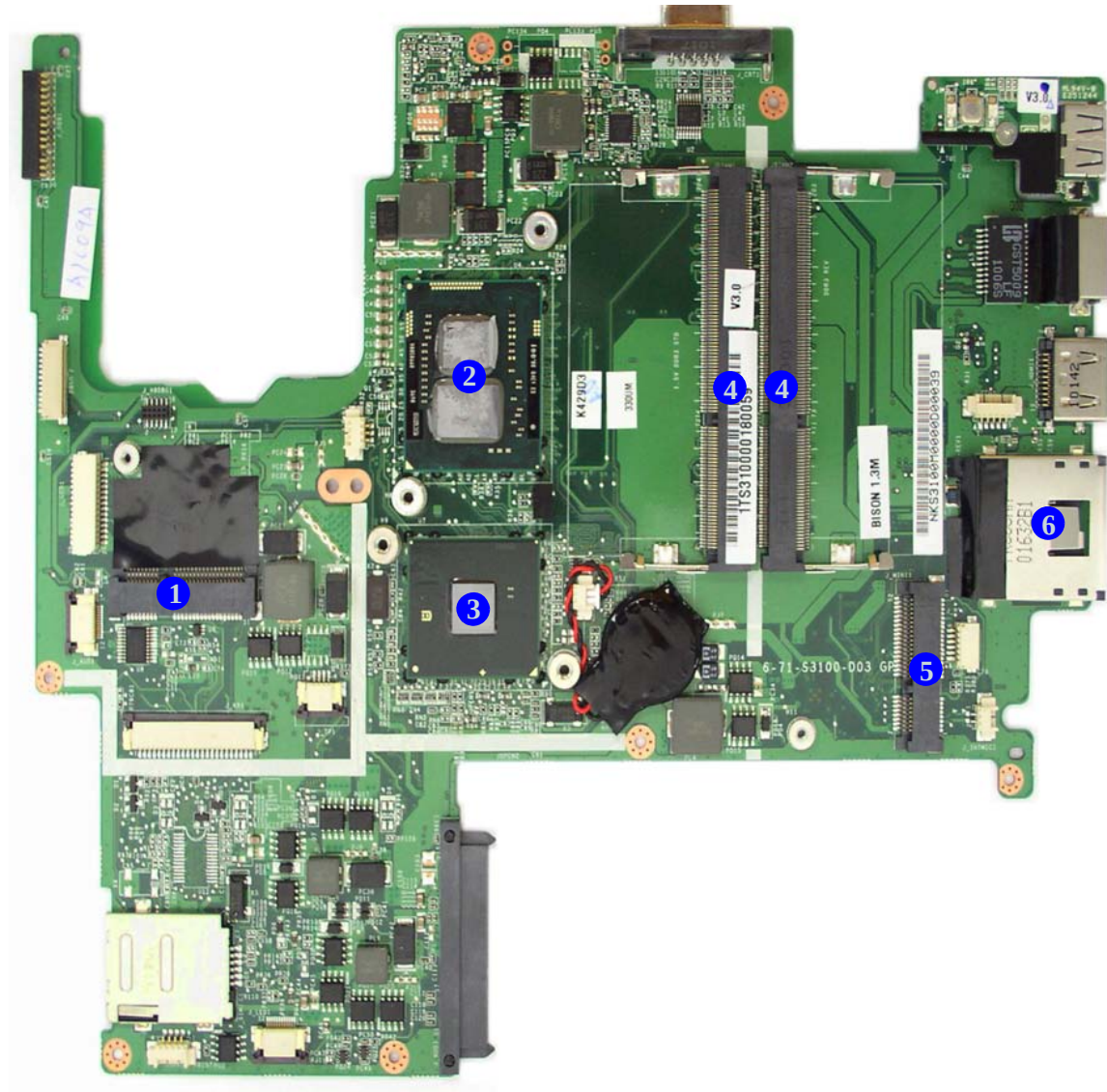
To prevent your computer from overheating, make sure nothing blocks any vent while the computer is in use.

Introduction

Figure 7
**Mainboard Top
Key Parts**

1. USIM CardMini-Card Connector (3.5G Module)
2. Embedded CPU
3. Platform Controller Hub
4. Memory Slots DDR3 SO-DIMM
5. Mini-Card Connector (WLAN Module)
6. 3-in-1 Card Reader

Mainboard Overview - Top (Key Parts)



Mainboard Overview - Bottom (Key Parts)

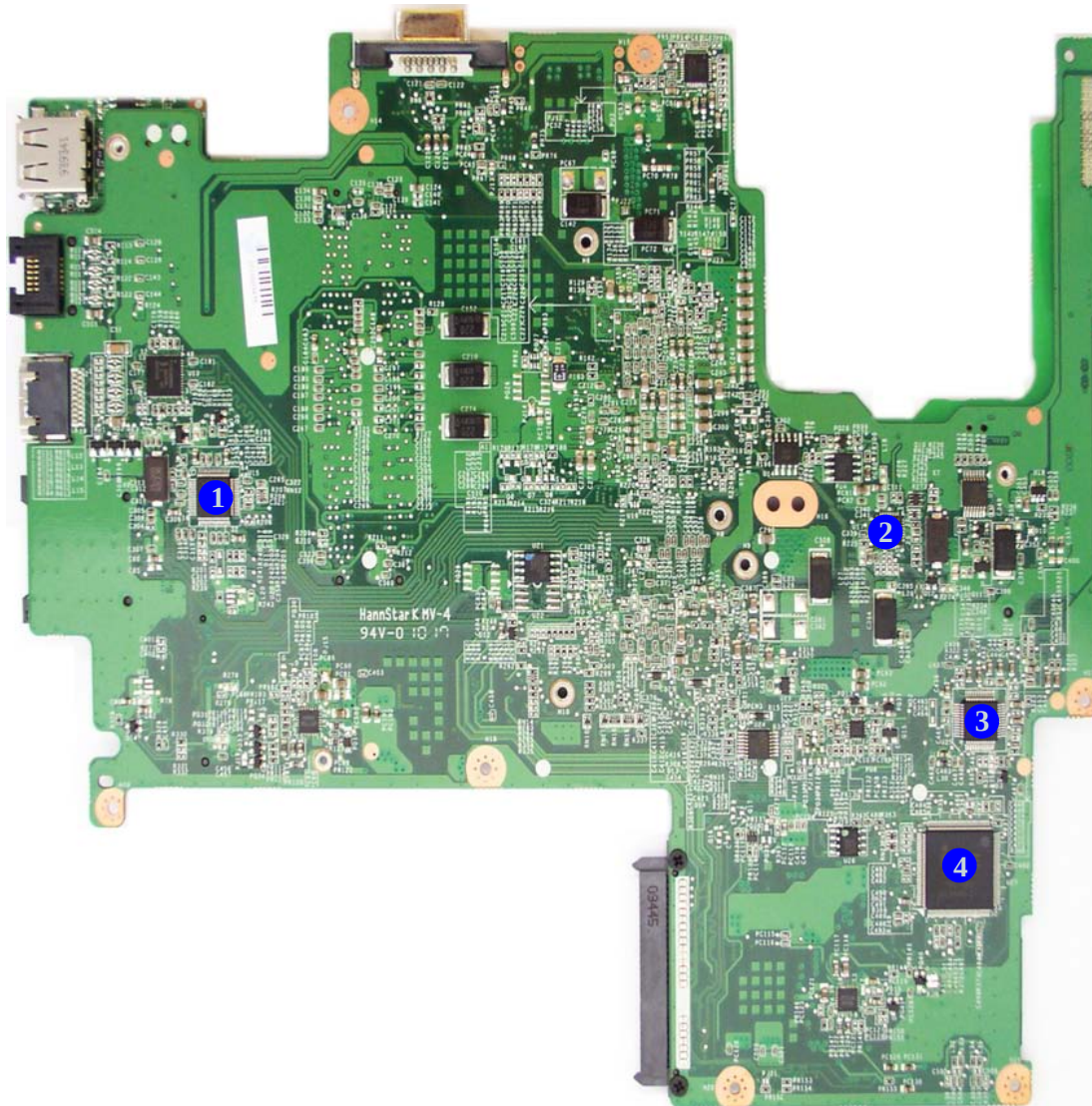


Figure 8
**Mainboard Bottom
Key Parts**

1. JMC251
2. Clock Generator
3. Azalia Codec
4. KBC-ITE IT8502E

Introduction

Figure 9
**Mainboard Top
Connectors**

1. USB Cable Connector
2. LCD Cable Connector
3. Audio Board Connector
4. Keyboard Cable Connector
5. Speaker Cable Connector
6. LED Cable Connector
7. TouchPad Cable Connector
8. Fan Cable Connector
9. CMOS Battery Connector
10. Microphone Cable Connector
11. Bluetooth Cable Connector
12. CCD Cable Connector
13. HDMI-Out Port
14. RJ-45 LAN Jack
15. External Monitor Port
16. DDB Connector

Mainboard Overview - Top (Connectors)

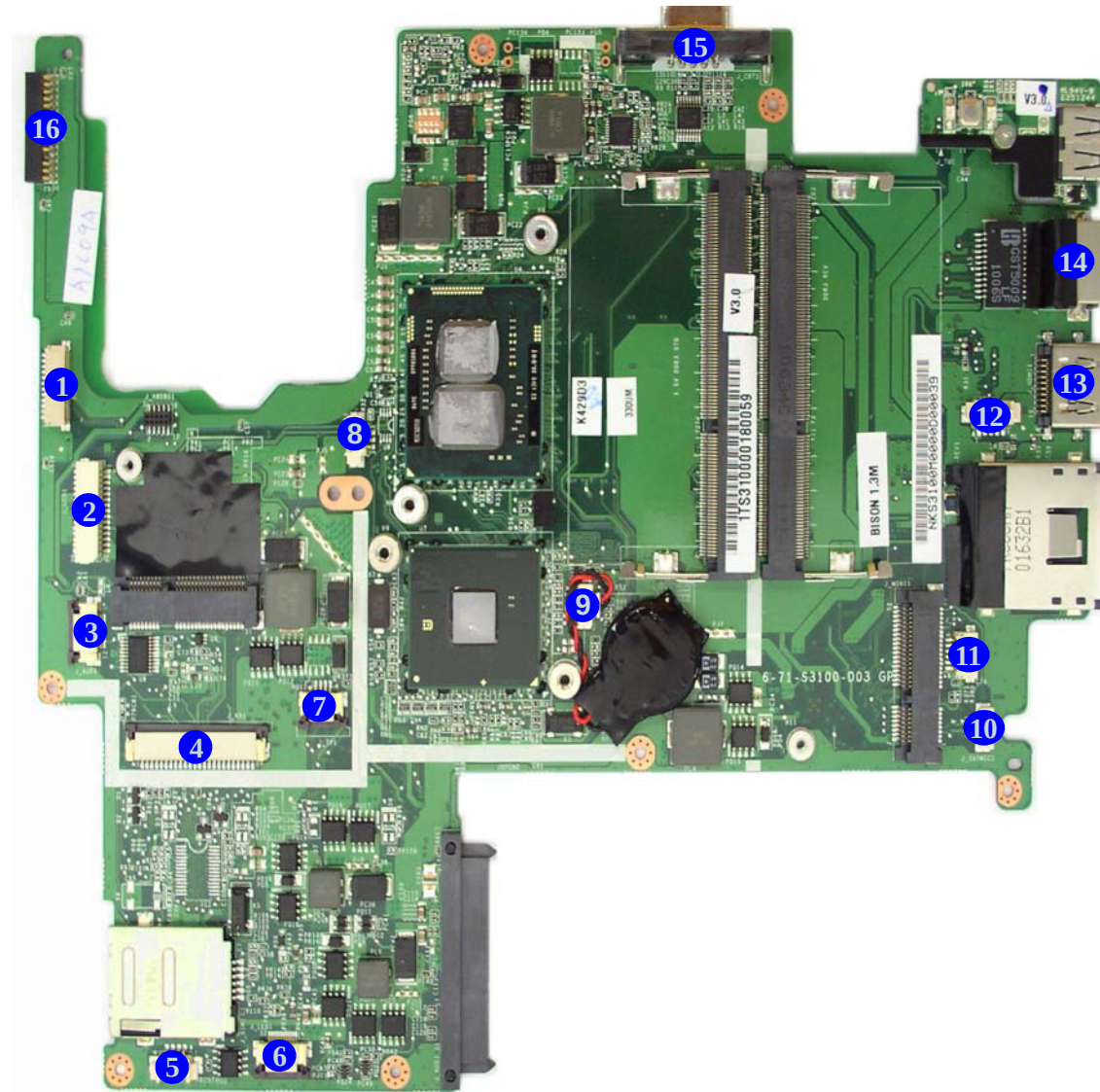
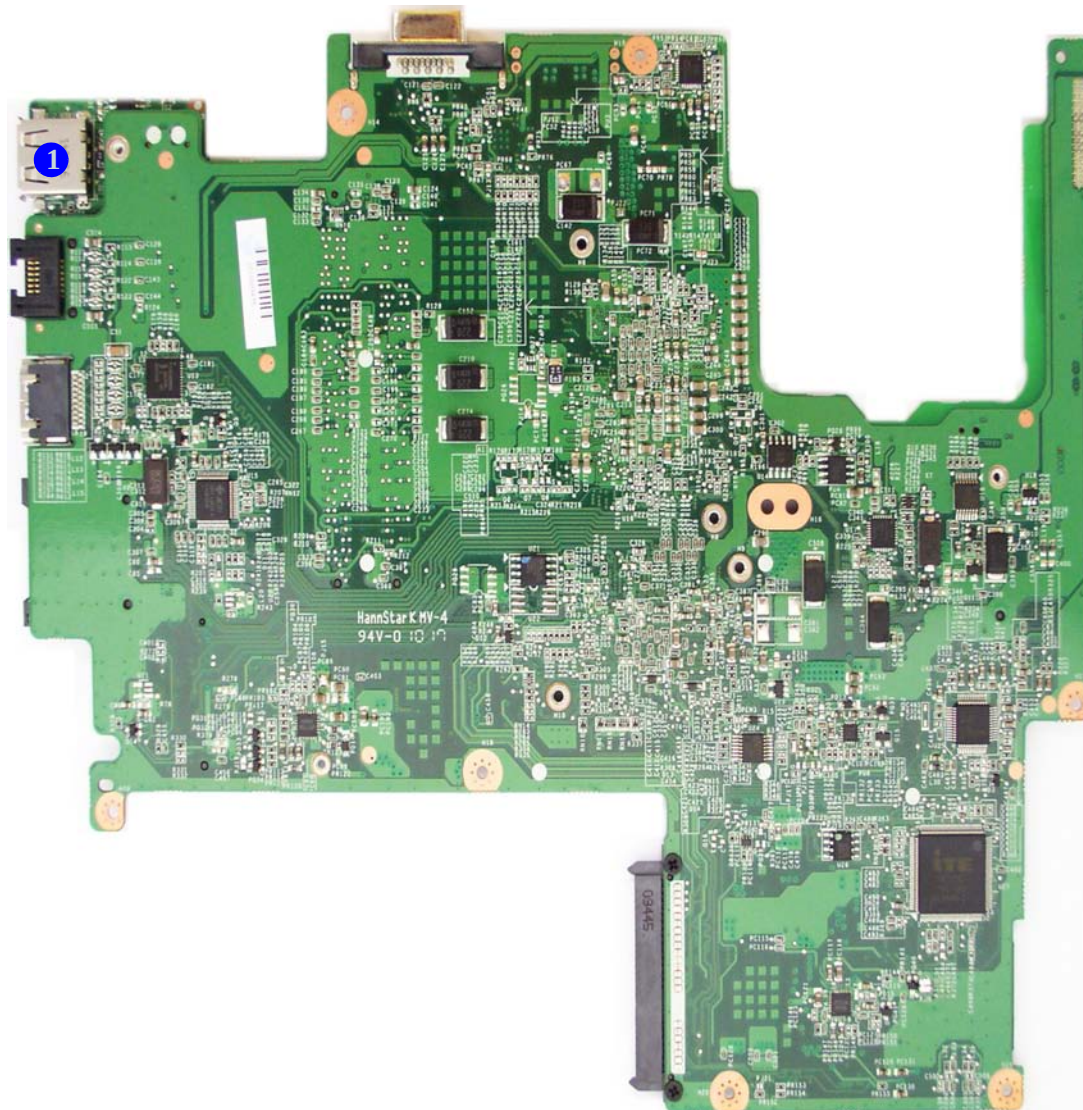


Figure 10
**Mainboard Bottom
Connectors**

1. USB Port



Chapter 2: Disassembly

Overview

This chapter provides step-by-step instructions for disassembling the **S3100/S3100M** series notebook's parts and sub-systems. 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 Keyboard:

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

To remove the System Memory:

1. Remove the battery [page 2 - 5](#)
2. Remove the keyboard [page 2 - 8](#)
3. Remove the system memory [page 2 - 9](#)

To remove the Wireless LAN Module:

1. Remove the battery [page 2 - 5](#)
2. Remove the keyboard [page 2 - 8](#)
3. Remove the wireless LAN module [page 2 - 11](#)

To remove the 3G

1. Remove the battery [page 2 - 5](#)
2. Remove the keyboard [page 2 - 8](#)
3. Remove the 3G module [page 2 - 12](#)

To remove the CCD

1. Remove the battery [page 2 - 5](#)
2. Remove the keyboard [page 2 - 8](#)
3. Remove the wireless LAN module [page 2 - 11](#)
4. Remove the CCD [page 2 - 13](#)

To remove the Bluetooth Module:

1. Remove the battery [page 2 - 5](#)
2. Remove the bottom case
off the top case [page 2 - 13](#)
3. Remove the Bluetooth module [page 2 - 16](#)

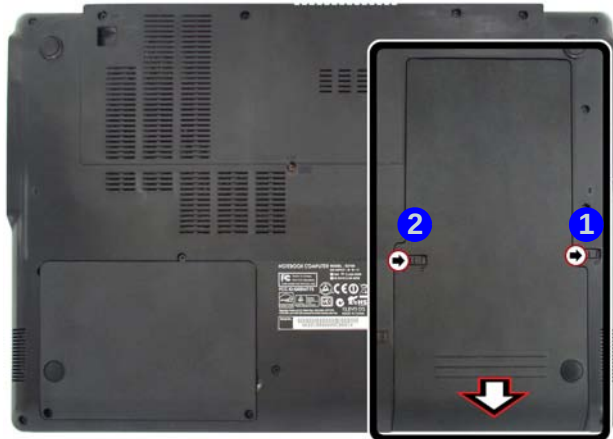
To remove the LCD Back Cover:

1. Remove the battery [page 2 - 5](#)
2. Remove the LCD back cover [page 2 - 17](#)

Removing the Battery

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

a.



b.

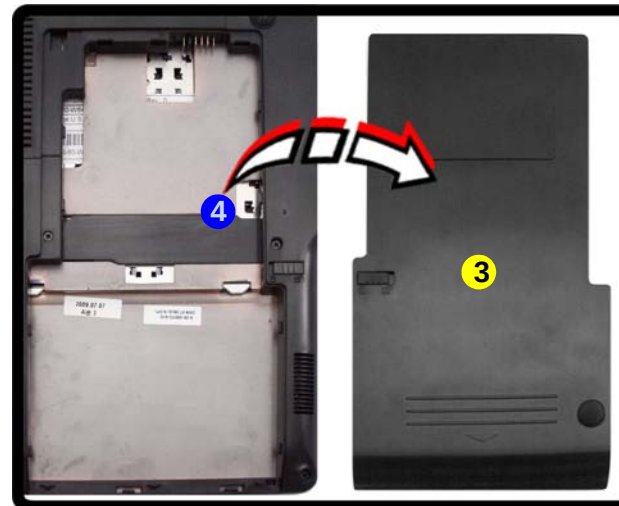


Figure 1
Battery Removal

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



3. Battery

Disassembly

Figure 2
**HDD Assembly
Removal**

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

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 ([Figure 2a](#)).

a.



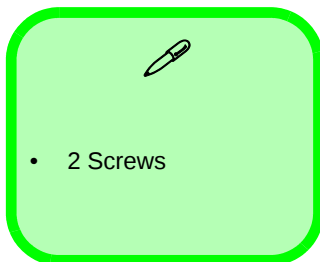
HDD System Warning

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

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

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

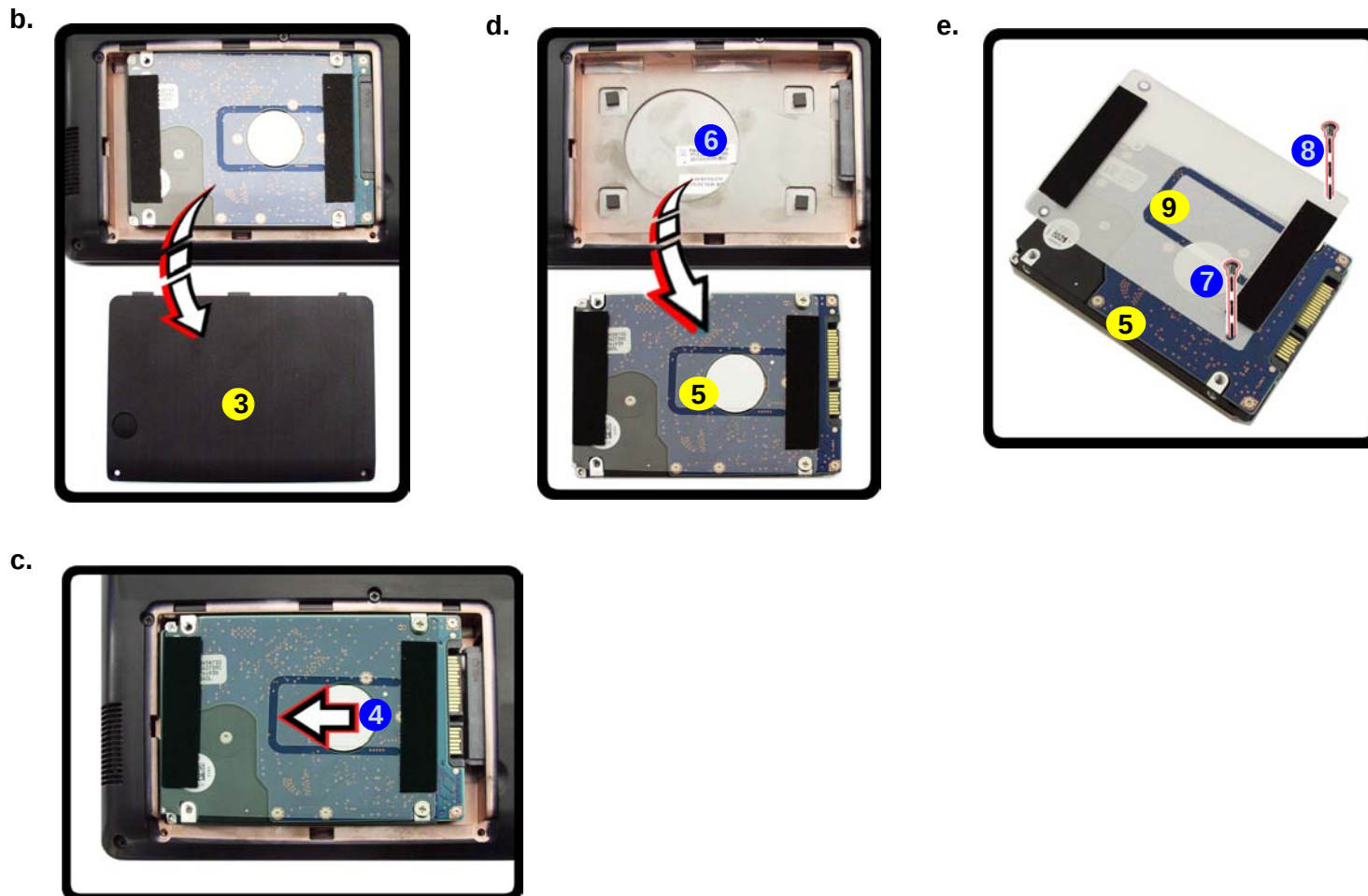
If you have access to the internet, download the latest application and hardware driver updates for the operating system you plan to install. Copy these to a removable medium.



3. Remove the hard disk bay cover **3** (*Figure 3b*).
4. Grip the tab and slide the hard disk in the direction of arrow **4** (*Figure 3c*).
5. Lift the hard disk **5** out of the bay **6** (*Figure 3d*).
6. Remove the screws **7** & **8** and the mylar cover **9** from the hard disk **5** (*Figure 3e*).
7. Reverse the process to install a new hard disk (do not forget to replace all the screws and covers).

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

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



Disassembly

Figure 4
Keyboard Removal

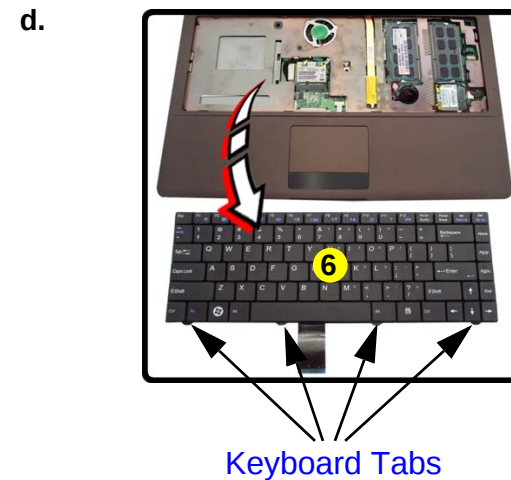
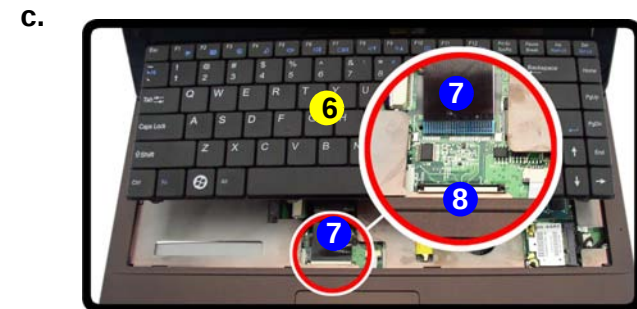
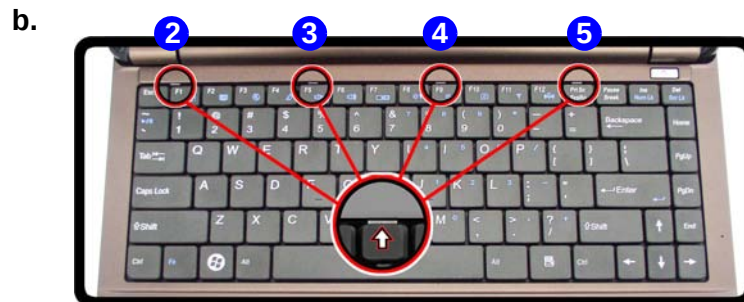
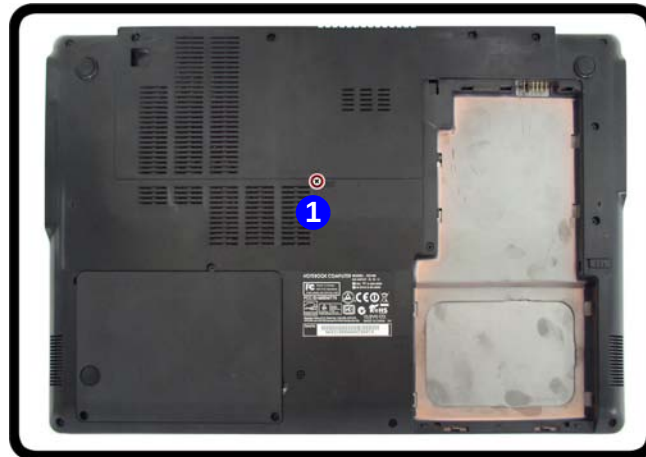
Removing the Keyboard

1. Turn **off** the computer and remove the battery ([page 2 - 5](#)).
 2. Remove screw **1** from the bottom case of the computer ([Figure 4a](#)).
 3. Press the **four** keyboard latches **2 - 5** at the top of the keyboard to elevate the keyboard from its normal position ([Figure 4b](#)) *You may need to use a small screwdriver to do this.
 4. Carefully lift the keyboard **6** up, being careful not to bend the keyboard ribbon cable **7** ([Figure 4c](#)).
 5. Disconnect the keyboard ribbon cable **7** from the locking collar socket **8** ([Figure 4c](#)).
 6. Carefully lift up the keyboard **6** ([Figure 4d](#)) off the computer.
- a. Remove screw from the bottom case of the computer.
- b. Press the four latches to release the keyboard.
- c. Lift the keyboard up and disconnect the cable from the locking collar.
- d. Remove the keyboard.



Re-Inserting the Keyboard

When re-inserting the keyboard, align first the **four** keyboard tabs ([Figure 4d](#)) that are located at the bottom, to the slots in the case.



Removing the System Memory (RAM)

The computer has two memory sockets for 204 pin Small Outline Dual In-line Memory Modules (SO-DIMM) supporting DDR3 1066 and 1333MHz. The main memory can be expanded up to 8GB. The SO-DIMM modules supported are 1024MB, and 2048MB 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 keyboard ([page 2 - 8](#)).
2. The RAM modules will be visible at points **1** & **2** ([Figure 5a](#)).
3. Gently pull the two release latches (**3** - **6**) on the sides of the memory socket in the direction indicated by the arrows([Figure 5b](#)).

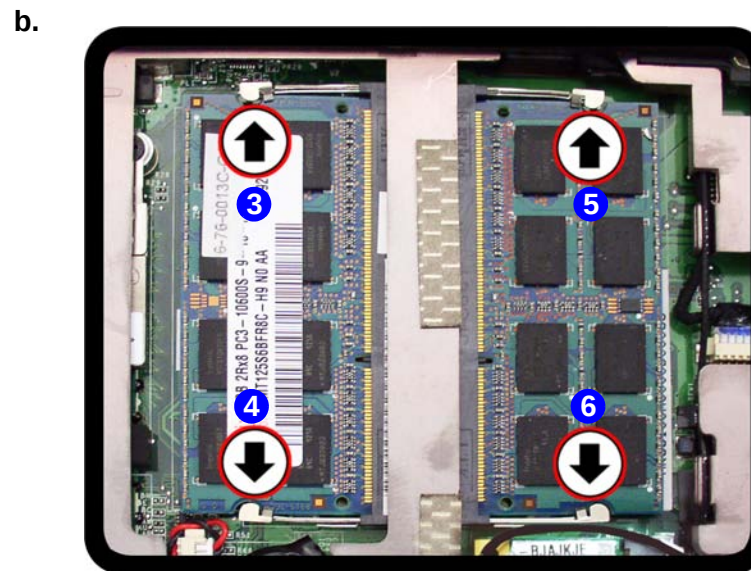


Figure 5
RAM Module Removal

- a. The RAM modules will be visible at points **1** & **2**.
- b. Pull the release latches.



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.

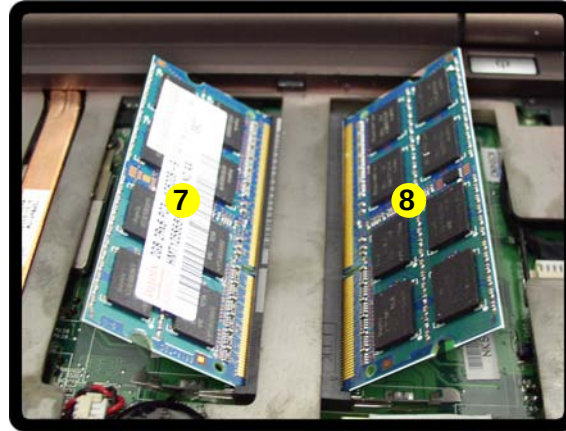
Disassembly

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

c. Remove the modules.

4. The RAM modules **7** & **8** will pop-up (*Figure 6c*), and you can then remove it.

c.



5. Insert a new module holding it at about a 30° angle and fit the connectors firmly into the memory slot.
6. The module's pin alignment will allow it to only fit one way. Make sure the module is seated as far into the slot as it will go. **DO NOT FORCE** the module; it should fit without much pressure.
7. Press the module in and down towards the mainboard until the slot levers click into place to secure the module.
8. Replace the bay cover and screws (**make sure you reconnect the fan cable before screwing down the bay cover**).
9. Restart the computer to allow the BIOS to register the new memory configuration as it starts up.

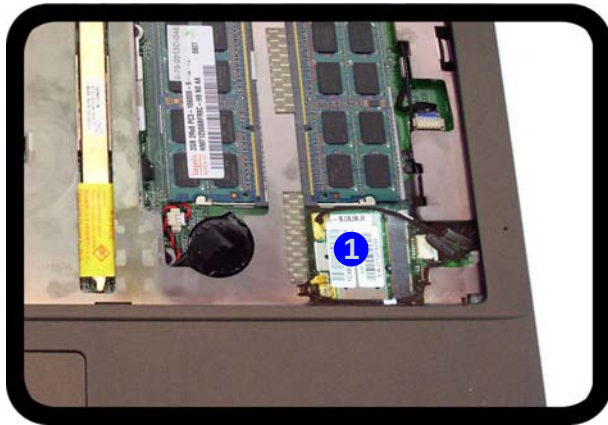


7 & 8.RAM Modules

Removing the Wireless LAN Module

1. Turn **off** the computer, remove the battery ([page 2 - 5](#)) and keyboard ([page 2 - 8](#)).
2. The Wireless LAN module will be visible at point **1** ([Figure 7a](#)) on the mainboard.
3. Carefully disconnect cables **2** - **3**, then remove screw **4** from the WLAN module **5** ([Figure 7b](#)).
4. The Wireless LAN module **5** ([Figure 7c](#)) will pop-up.
5. Lift the Wireless LAN module **5** ([Figure 7d](#)) up and off the computer.

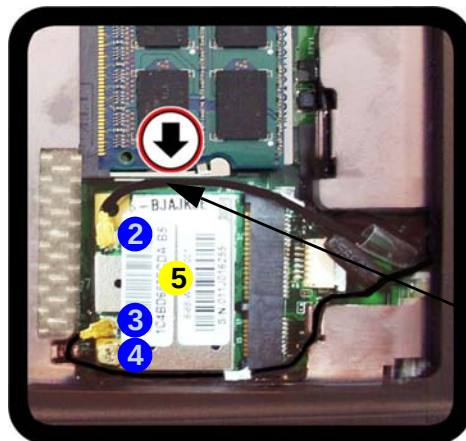
a.



c.



b.



Note:

Make sure that the WLAN cable is under the bracket.

d.

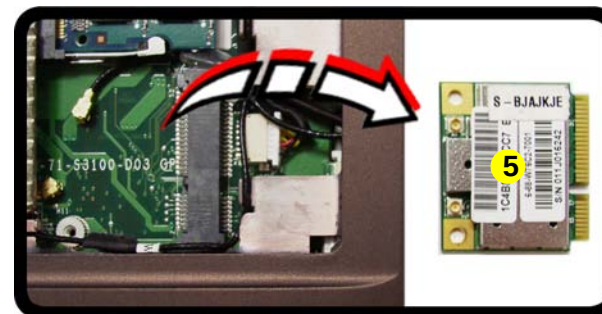


Figure 7
Wireless LAN
Module Removal

- a. The WLAN module will be visible at point **1**.
- b. Disconnect the cables and remove the screw.
- c. The WLAN module will pop up.
- d. Lift the WLAN module out.

Note: Make sure you reconnect the antenna cable to “1” + “2” socket ([Figure 7b](#)).



5. WLAN Module

- 1 Screw

Disassembly

Figure 8

3G Module Removal

- The 3G module will be visible at point ①.
- Disconnect the cable and remove the screw.
- The 3G module will pop up.
- Lift the 3G module out.

Removing the 3G Module

- Turn **off** the computer, remove the battery ([page 2 - 5](#)) and keyboard ([page 2 - 8](#)).
- The 3G module will be visible at point ① ([Figure 8a](#)) on the mainboard.
- Carefully disconnect cable ② and remove screw ③ from the 3G module ④ ([Figure 8b](#)).
- The 3G module ④ ([Figure 8c](#)) will pop-up.
- Lift the 3G module ④ ([Figure 8d](#)) up and off the computer.

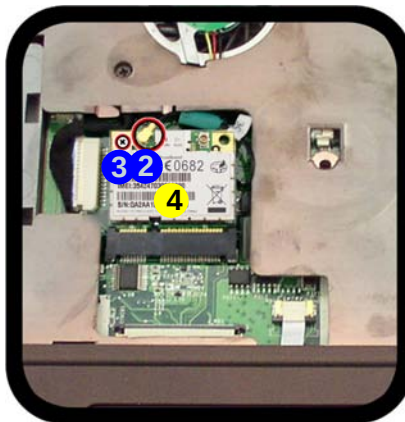
a.



c.



b.



d.



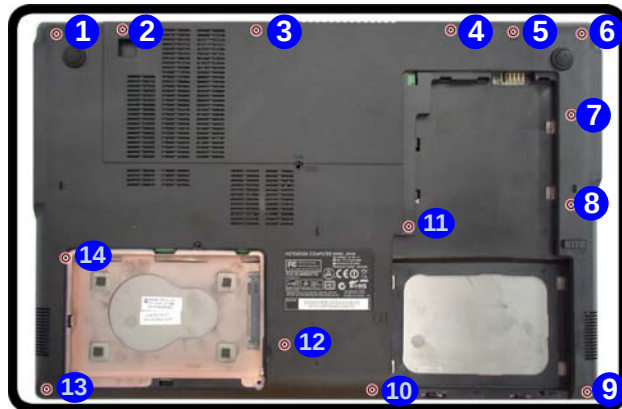
4. 3G Module

- 1 Screw

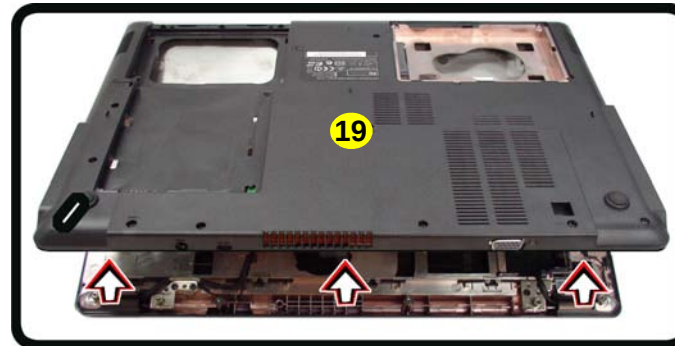
CCD Removal

1. Turn **off** the computer, turn it over and remove the battery ([page 2 - 5](#)), keyboard ([page 2 - 8](#)), and wireless LAN ([page 2 - 11](#)).
2. Remove screws ① - ⑭ from the bottom case ([Figure 9a](#)).
3. Turn the computer over, disconnect cables ⑮ - ⑰ and remove screw ⑱ ([Figure 9b](#)).
4. Turn the computer over and carefully lift the bottom case ⑲ ([Figure 9c](#)) up and off the top case.

a.



c.



b.

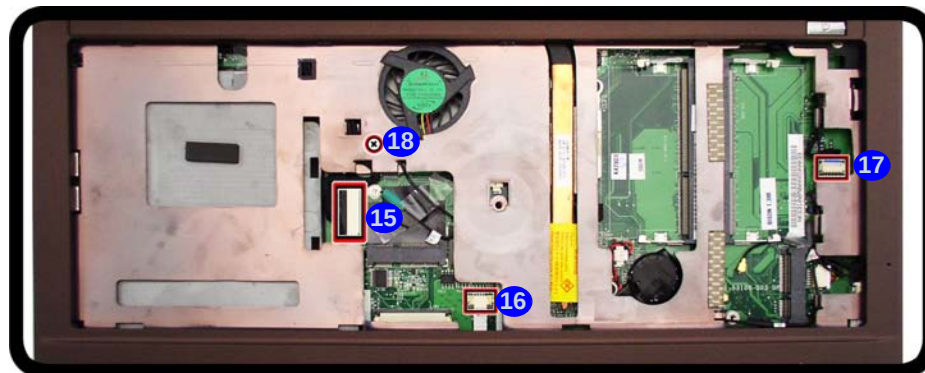


Figure 9
CCD Removal

- a. Remove the screws.
- b. Turn the computer over, disconnect the cables and remove the screw.
- c. Turn the computer over again, lift the bottom case up and off the top case.



19.Bottom Case

- 15 Screws

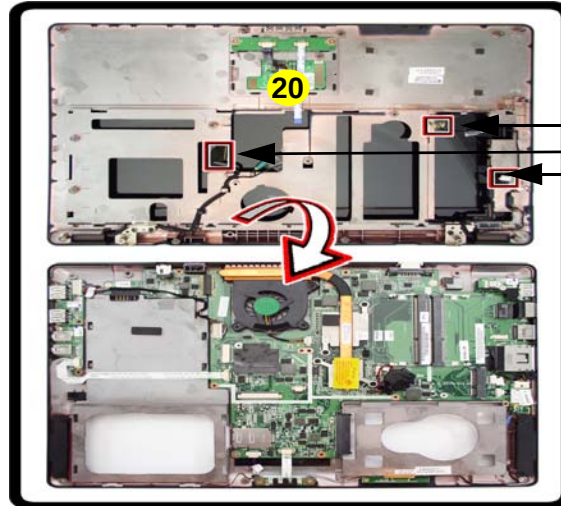
Disassembly

Figure 10
CCD Removal
(cont'd)

- d. Loosen the cables at the back of the top case.
- e. Remove the rubber covers and screws.
- f. Remove the hinge covers and screws.
- g. Run your fingers around the inner frame to unsnap the LCD panel from the LCD assembly.

5. Loosen the cables at the back of the top case **20** (*Figure 10d*).
6. Carefully remove the rubber screw covers **21** & **22** and screws **23** & **24** from the front cover (*Figure 10e*).
7. Remove the hinge covers **25** & **26** and remove screws **27** - **30** (*Figure 10f*).
8. Run your fingers around the inner frame of the LCD panel at point **31** & **32** to unsnap (and ease forward) point **33** (*Figure 10g*).
9. Run your fingers around the inner frame of the LCD panel at point **31** & **34** to unsnap (and ease forward) point **35** (*Figure 10g*).

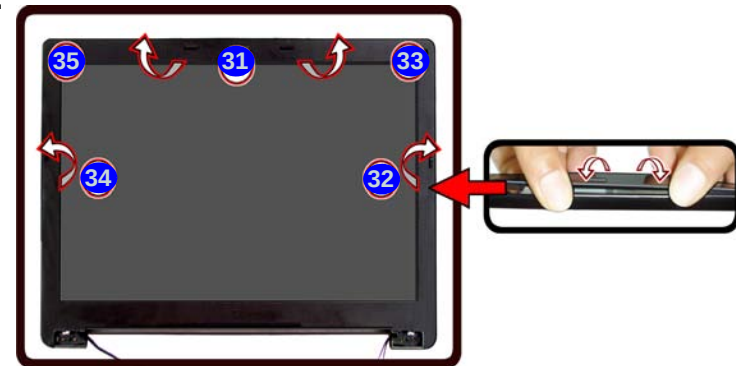
d.



Note:

Loosen the cables at the back of the top case all the way up.

g.



e.



f.



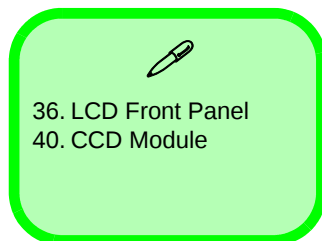
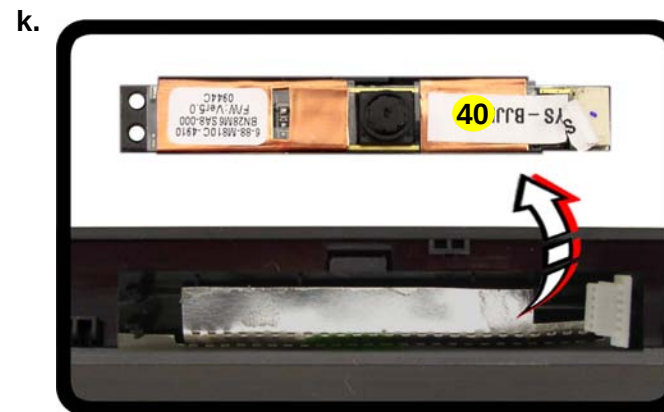
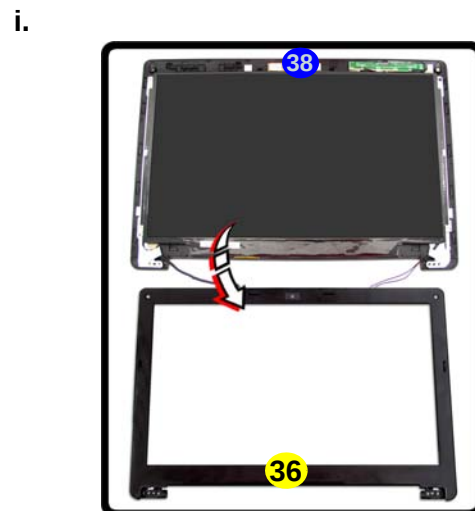
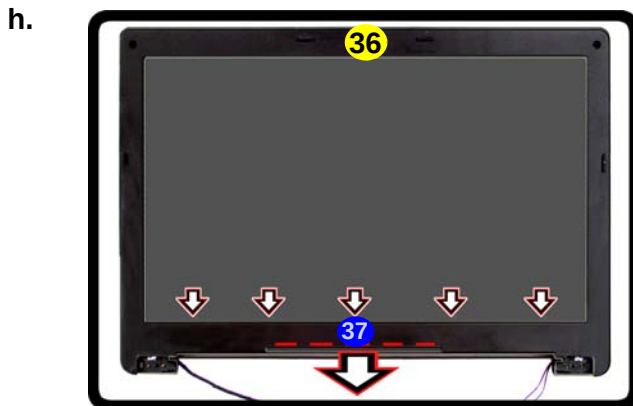
20. Top Case
25 & 26. Hinge Covers

• 6 Screws

Figure 11
CCD Removal
(cont'd)

10. Carefully lift the LCD front panel **36** forward from the bottom of the frame in the direction of the arrow **37** (*Figure 11h*).
11. Remove the LCD front panel **36** from the LCD assembly (*Figure 11i*).
12. The CCD module will be visible at point **38** (*Figure 11i*).
13. Disconnect cable **39** (*Figure 11j*).
14. Remove the CCD module **40** (*Figure 11l*).

- h. Carefully lift the LCD front panel forward from the bottom of the frame.
- i. Remove the LCD front panel and the CCD module will be visible at point **38**.
- k. Disconnect cable.
- l. Remove the CCD module.



Disassembly

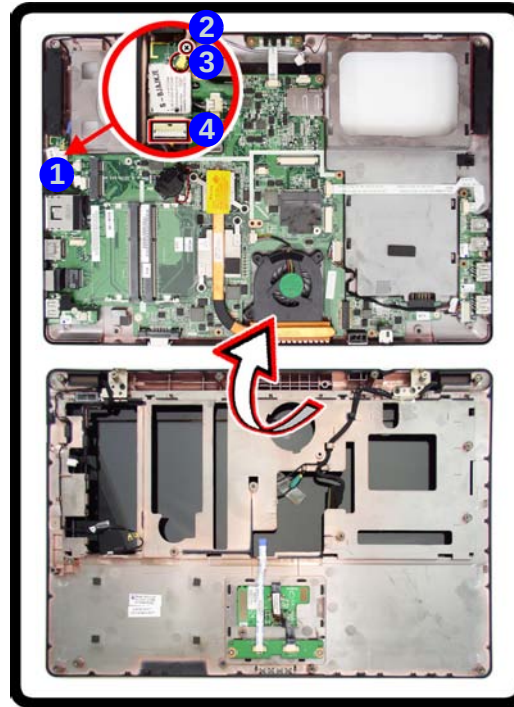
Figure 12
Bluetooth Module Removal

- a. The Bluetooth module will be visible at point ①.
- b. Remove the screw ② and carefully separate the Bluetooth module from the connector ③ and disconnect the cable ④.
- c. Lift the Bluetooth module ⑤ up and off the computer.

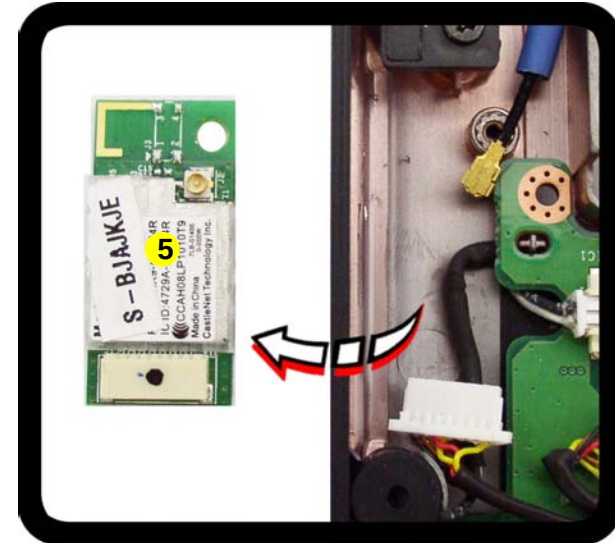
Removing the Bluetooth Module

1. Turn **off** the computer, remove the battery ([page 2 - 5](#)) and remove the bottom case off the top case ([page 2 - 13](#)).
2. The Bluetooth module will be visible at point ① ([Figure 12a](#)).
3. Remove the screw ② and carefully separate the Bluetooth module from the connector ③ and disconnect the cable ④ ([Figure 12a](#)).
4. Lift the Bluetooth module ⑤ ([Figure 12b](#)) up and off the computer.

a.



b.



5. Bluetooth Module

- 1 Screw

Removing the LCD Back Cover (S3100M)

1. Turn **off** the computer, and turn the computer over to remove the battery ([page 2 - 5](#)).
2. Open the LCD and carefully remove the rubber screw covers **1** & **2** (2 corner rubber screw covers only) and set them aside ([Figure 13a](#)).
3. Remove screws **3** & **4** from the front cover ([Figure 13a](#)).
4. Carefully slide the cover forward in the direction of the arrows **5** & **6** as illustrated below ([Figure 13b](#)).
5. Remove the LCD back cover **7** ([Figure 13c](#)).

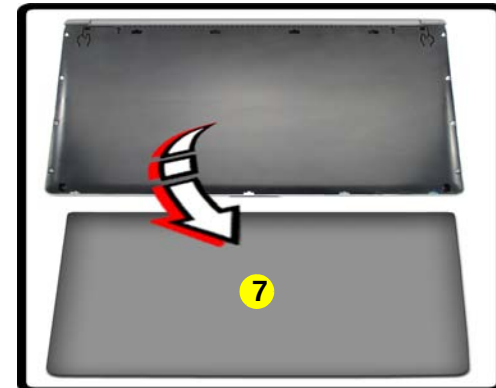
a.



b.



c.



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

LCD Back Cover Removal (S

- a. Remove the covers and screws.
- b. Slide the cover forward.
- c. Remove the LCD back cover.



7. LCD Back Cover

- 2 Screws

Appendix A:Part Lists

This appendix breaks down the *S3100/S3100M* 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**

Part	S3100/S3100M
Top	<i>page A - 3</i>
Bottom	<i>page A - 4</i>
LCD (S3100)	<i>page A - 5</i>
LCD (S3100M)	<i>page A - 6</i>
HDD	<i>page A - 7</i>

Top

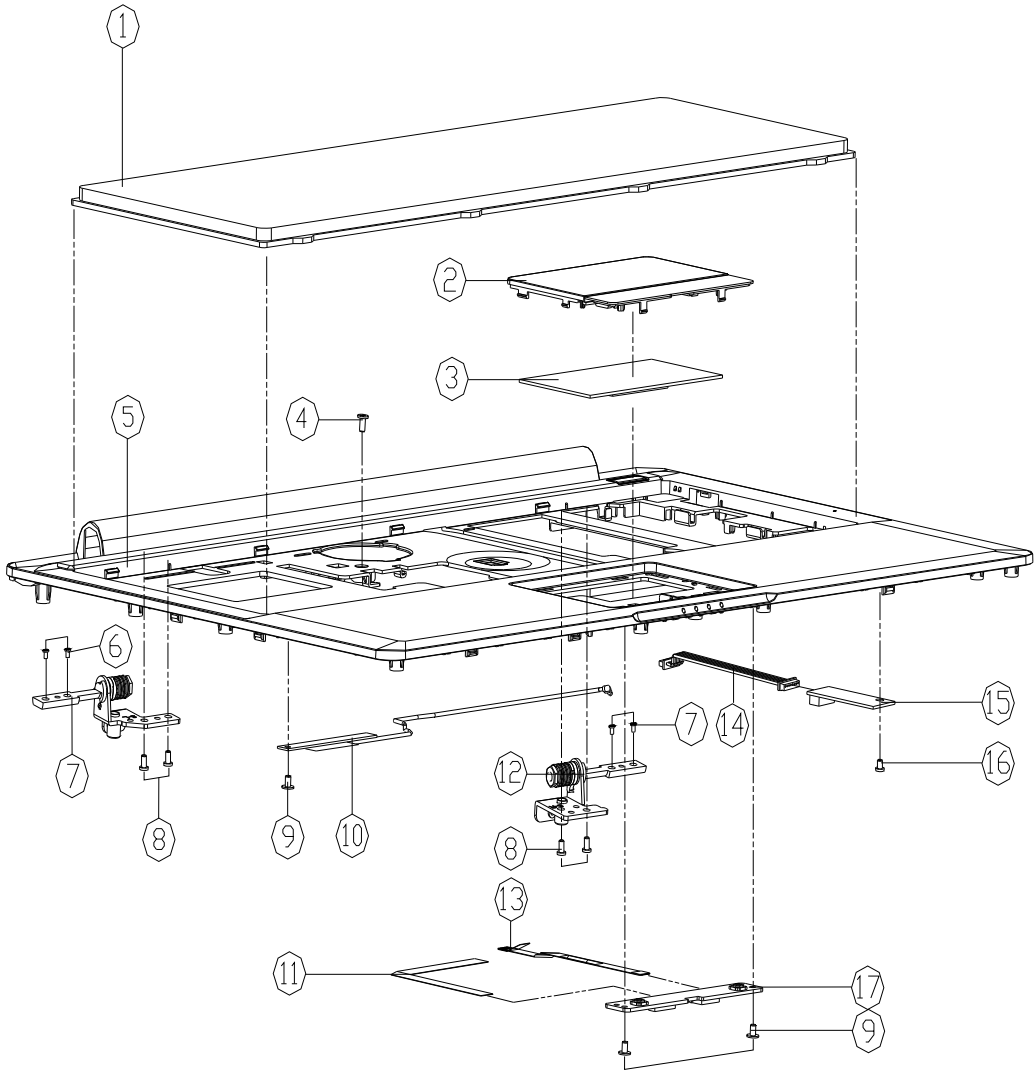
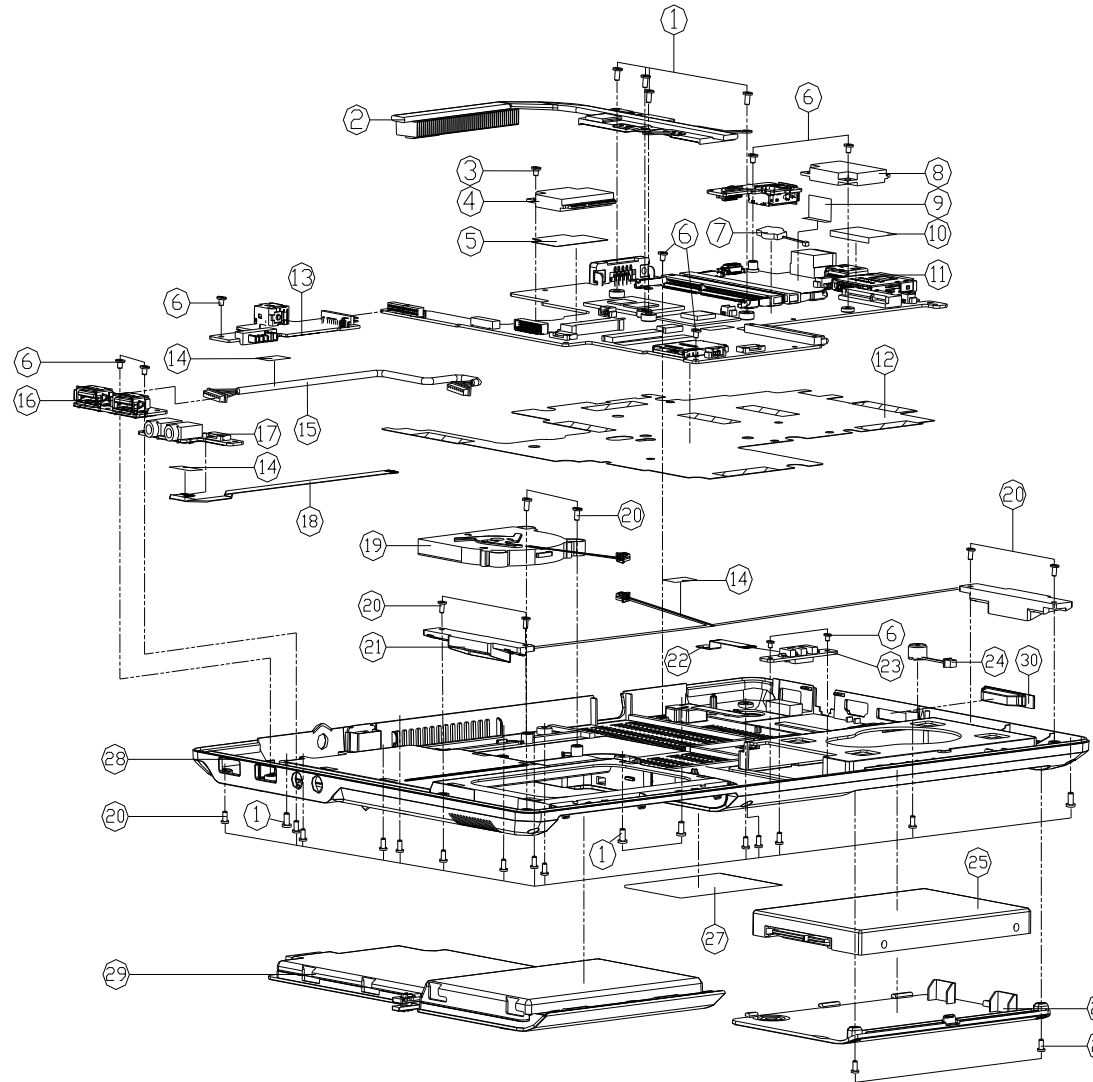


Figure A - 1
Top

ITEM	PART NAME	PART NO	REMARK
1	K/B USA M-0762005-4307 S3100 BLACK WITH VISTA KEY	6-80-S3100-010-1	
2	TOUCH PAD BUTTON MODULE S3100	6-42-S3102-100	
2	TOUCH PAD BUTTON MODULE S3101	6-42-S3112-100	
3	TOUCH PAD TM-00398-003 W840T	6-49-W84T2-020	
4	SCREW M2.5xSL K1CT-08 D=4.0D BK/Z ICT NY	6-35-B6120-5R0	
5	TOP CASE MODULE S3100	6-39-S3102-011	
5	TOP CASE MODULE S3101	6-39-S3112-010	
6	SCREW M2.5x6L KI NI ICT NY-	6-35-B1125-6RA	
7	HINGE L K7 W840T	6-33-W84T1-023	
8	SCREW M2.5xSL KI BK/Z ICT NY-	6-35-B6125-5RA	
9	SCREW M2xSL KI BK/Z ICT NY (0.35 t=0.3)	6-35-B6120-3RE	
10	ANTENNA BLUE TOOTH V6T BY PCB H-60MM 24G L-150MM S3100	6-23-7S310-021	
11	FFC CABLE 4PIN M/B TO CLICK BOARD S3100	6-43-S3100-011	
12	HINGE R K7 W840T	6-33-W84T1-013	
13	FFC CABLE FOR TOUCH PAD TO CLICK BOARD 12P W840T	6-43-W84T2-012	
14	WIRE CABLE 6PIN M/B TO 8PIN BLUE TOOTH MODULE FOR M740S	6-43-M74SB-010	
15	OPTIONAL TOUCH PAD BUTTON MODULE FOR M740S	6-88-M73T5-3901	(OPTION)
15	BLUE TOOTH V6T BY PCB H-60MM 24G L-150MM S3100	6-88-M77C5-5300	(OPTION)
16	SCREW M2x2.5L KI BK/Z ICT NY #3.5 T=0.3	6-35-B6120-2RB	
17	CLICK BOARD V3.0 S3100	6-77-S3102-D03	

Part Lists

Bottom

Figure A - 2
Bottom

ITEM	PART NAME	PART NO	REMARK
1	SCREW M2.5X5L K1 BK/2 ICT NY-	6-35-B6125-SRA	
2	CPU THERMAL MODULE S3100	6-31-S310S-012	
3	SCREW M2X2.5L K1 BK/2 ICT NY#35 T-03	6-35-B6120-2RB	
4	W/LAN HAVI 10/100/1000 HALF MINI-CARD USB 3.75G 3100	6-88-S310W-8810	(OPTION)
5	3G HALF CARD MYLAR PET(CB)22MM10T0 E428	6-40-E412S-010	
6	SCREW M2X3L K1 BK/2 ICT NY #35 T-03	6-35-B6120-3RE	
7	3G 22MM 10/100/1000 HALF MINI-CARD USB 3.75G 3100	6-23-E2201S-P2C	
8	LAN HAVI 10/100/1000 HALF MINI-CARD USB 3.75G 3100	6-88-W76C2-7001	(OPTION)
9	LAN HAVI 10/100/1000 HALF MINI-CARD USB 3.75G 3100	6-88-W77C2-4200	(OPTION)
10	LAN HAVI 10/100/1000 HALF MINI-CARD USB 3.75G 3100	6-88-W76C2-8702	(OPTION)
11	LAN MYLAR PET(BLACK) S3100	6-40-S310S-060	
12	SD CARD MYLAR PET S3100	6-40-S310S-070	
13	MAIN BOARD V3.0 (W/3G) S3100	6-77-S3100-D03	
14	MAIN BOARD V3.0 (W/3G) S3100	6-77-S3100-D03-1	
15	MB MYLAR PET S3100	6-40-S310S-010	
16	CHARGER BOARD V3.0 S3100	6-77-S310E-D03	
17	TAPE MYLAR 10X20 168 FOR BOTTOM CASE MTL	6-40-M71L3-010	
18	WIRE CABLE FOR USB TO M/B SP (H) S3100	6-43-S3100-041	
19	USB BOARD V3.0 S3100	6-77-S3103-D03	
20	AUDIO BOARD V3.0 S3100	6-77-S3108-D03	
21	FTC CABLE (SPIN M/B TO AUDIO BOARD S3100	6-43-S3100-021	
22	FABRIC 50X50X0.5MM BY 13A 100X500 ADA W80T	6-23-AW84T-011	
23	SCREW M2X5L K1CT-08 B-40 BK/2 ICT NY	6-35-B6120-SRA	
24	SPIN CABLE 22MM 10/100/1000 HALF MINI-CARD USB 3.75G 3100	6-23-S3310-011	
25	FTC CABLE (SPIN M/B TO LED BOARD S3100	6-43-S3100-031	
26	LED BOARD V3.0 S3100	6-77-S3104-D03	
27	MC 60X60X2.0MM BY 13A 100X500 ADA W80T	6-23-EM810-010	
28	W/O HDD ASS'Y W840T	6-79-W840T00J-010	
29	HDD COVER MODULE W830T	6-42-W83TJ-102	
30	PRODUCT LABEL FOR S3100	6-45-S3100003-010	
31	PRODUCT LABEL FOR S3100M	6-45-S3100M03-010	
32	PRODUCT LABEL FOR S3101	6-45-S3101003-010	
33	BOTTOM CASE MODULE S3100	6-39-S3103-011	
34	TOP CASE MODULE S3100	6-39-S3103-011	
35	TOP CASE MODULE S3100	6-39-S3103-011	
36	TOP CASE MODULE S3100	6-39-S3103-011	
37	TOP CASE MODULE S3100	6-39-S3103-011	
38	TOP CASE MODULE S3100	6-39-S3103-011	
39	TOP CASE MODULE S3100	6-39-S3103-011	
40	TOP CASE MODULE S3100	6-39-S3103-011	
41	TOP CASE MODULE S3100	6-39-S3103-011	
42	TOP CASE MODULE S3100	6-39-S3103-011	
43	TOP CASE MODULE S3100	6-39-S3103-011	
44	TOP CASE MODULE S3100	6-39-S3103-011	
45	TOP CASE MODULE S3100	6-39-S3103-011	
46	TOP CASE MODULE S3100	6-39-S3103-011	
47	TOP CASE MODULE S3100	6-39-S3103-011	
48	TOP CASE MODULE S3100	6-39-S3103-011	
49	TOP CASE MODULE S3100	6-39-S3103-011	
50	TOP CASE MODULE S3100	6-39-S3103-011	

LCD (S3100)

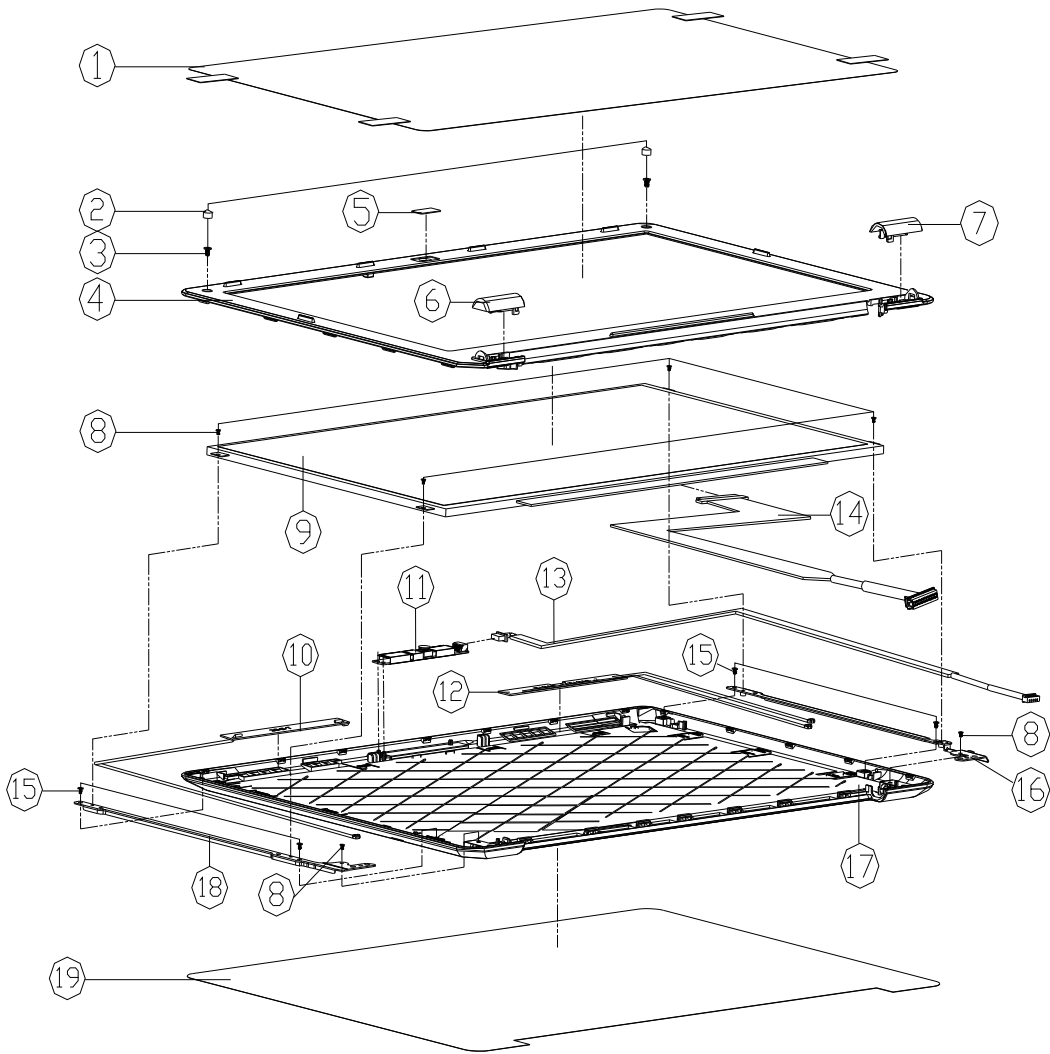
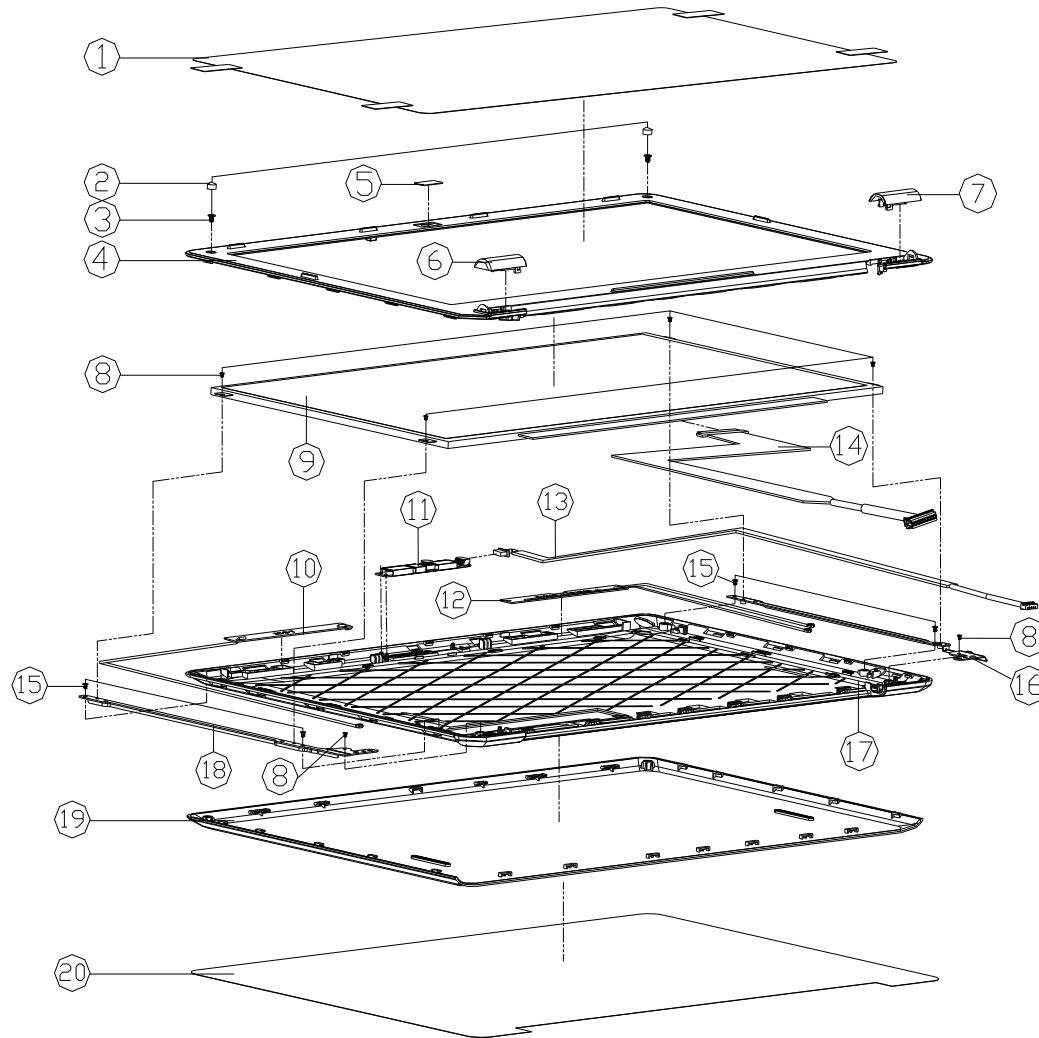


Figure A - 3
LCD (S3100)

ITEM	PART NAME	PART NO	REMARK
1	LCD FRONT COVER PROTECT FILM PET W830T	6-40-W83T1-010	
2	RUBBER (CHANGED) FOR FRONT COVER SCREW W830	6-47-W83T1-061	
3	SCREW M2*3L I BK/Z ICT NY	6-35-C6120-3R0	
4	LCD FRONT COVER MODULE (CHANGE) W830TM	6-39-W83T1-011-M	
5	CCD MYLAR PC8010 W840T	6-40-W84TT-011	W/ CCD
5	W/O CCD MYLAR PC8010 W840T	6-40-W84TT-020	W/O CCD
6	LCD HINGE COVER L PC+ABS S3100	6-42-S3102-050	FOR S3100
6	LCD HINGE COVER L PC+ABS W830T	6-42-W83T1-021	FOR S3101
7	LCD HINGE COVER R PC+ABS S3100	6-42-S3102-040	FOR S3100
7	LCD HINGE COVER R PC+ABS W830T	6-42-W83T1-011	FOR S3101
8	SCREW M1.6*2L D=3.2 T=0.4 K1 BZ ICT NY	6-35-B2116-2R0	
9	LCD 13.3" HD AU B133XW01 V.0 GLARE TYPE	6-50-G8136-G00	
9	LCD 13.3" HD LG LP133WH2-TL02 GLARE TYPE	6-50-G8135-L00	
9	LCD 13.3" HD TOSHIBA LT133EE09100 (GLARE TYPE)	6-50-G8136-T00	
10	ANTENNA 3G WGT 3G PCB 08G/05G/06G/06G/20G L=400MM S310	6-23-7S310-011	
11	UVC CAMERA BISSON FIX B208MS40-000 1.3M M810L	6-88-M810C-4910	
11	UVC CAMERA CHUOIN FIX CHUOIN LCM DV0665 F/V VER 09A W810G	6-88-M74TC-5101	
12	WIRE CABLE 419MM FOR CCD TO W/B SP (H/L) S3100	6-23-7S310-032	
13	WIRE CABLE 30MM FOR LCD TO W/B SP (H/L) TO CONNECTED S310	6-43-S310T-011	
14	SCREW M2*2.5L K1 BK/Z ICT NY035 T=0.3	6-35-B6120-2RB	
16	LCD BKT R SECC 0.5T W830T	6-33-W83T1-012	
17	LCD BACK COVER MODULE S3100	6-39-S3101-020	FOR S3100
17	LCD BACK COVER MODULE W830T	6-39-W83T1-023	FOR S3101
18	LCD BKT L SECC 0.5T W830T	6-33-W83T1-022	
19	LCD BACK COVER PET T=0.05MM W830T	6-40-W83T1-040	FOR S3100
19	LCD BACK COVER PROTECT FILM 8835 W830T	6-40-W83T1-020	FOR S3101

Part Lists

LCD (S3100M)

Figure A - 4
LCD (S3100M)

ITEM	PART NAME	PART NO	REMARK
1	LCD FRONT COVER PROTECT FILM PET W830T	6-40-W83T1-010	
2	RUBBER (CHANGE) FOR FRONT COVER SCREW W830	6-47-W83T1-061	
3	SCREW M2*3L I BK/Z ICT NY	6-35-C6120-3R0	
4	LCD FRONT COVER MODULE (CHANGE) W830TM	6-39-W83T1-011-M	
5	CCD MYLAR PCB010 W840T	6-40-W84TT-011	W/ CCD
5	W/O CCD MYLAR PCB010 W840T	6-40-W84TT-020	W/O CCD
6	LCD HINGE COVER L PC+ABS S3100	6-42-S3102-050	
7	LCD HINGE COVER R PC+ABS S3100	6-42-S3102-040	
8	SCREW M1.6*2L B+32 T-04 K1 BZ ICT NY	6-35-B2116-2R0	
9	LCD 13.3" HD AU B133XW01 V.D GLARE TYPE	6-50-G8136-G00	
9	LCD 13.3" HD LG LP133WH2-TL42 GLARE TYPE	6-50-G8136-L00	
9	LCD 13.3" HD TOSHIBA LT133CE09100 (GLARE TYPE)	6-50-G8136-T00	
10	ANTENNA 36 VOLT 36 PER 086/156/186/196/210/210/210 L-400M S3100	6-23-7S310-011	
11	UVC CAMERA BISON FIX BR28M6S48-000 1.3M M010L	6-88-M810C-4910	
11	UVC CAMERA CUBSON FIX CUPREY 1.3M B1965 F/W VER 084 M010L	6-88-M74TC-S101	
12	ANTENNA 36 VOLT 36 PER 086/156/186/196/210/210/210 L-400M S3100	6-23-7S310-032	
13	WIRE CABLE 419MM FOR CCD TO W/B SP (H/L) S3100	6-43-S310T-011	
14	WIRE CABLE 38MM FOR LCD TO W/B SP (H/L) CONDUCTIVE COATED STAIN	6-43-S3101-011-A	
15	SCREW M2*2.5L K1 BK/Z ICT NY#35 T-03	6-35-B6120-2RB	
16	LCD BKT R SECC 0.5T W830T	6-33-W83T1-012	
17	MIDDLE COVER MODULE S3100M	6-39-S31M1-030	
18	LCD BKT L SECC 0.5T W830T	6-33-W83T1-022	
19	LCD BACK COVER MODULE S3100M	6-39-S31M1-020	
19	LCD BACK COVER M0FA "YELLOW BUNNY" (CHANGE) W830TM	A6-39-W83T1-020-B02	
20	LCD BACK COVER PROTECT FILM B835 W830T	6-40-W83T1-020	FOR S3100M
20	LCD BACK COVER PET T-0.05MM W830T	6-40-W83T1-040	FOR PAINT S3100M

HDD

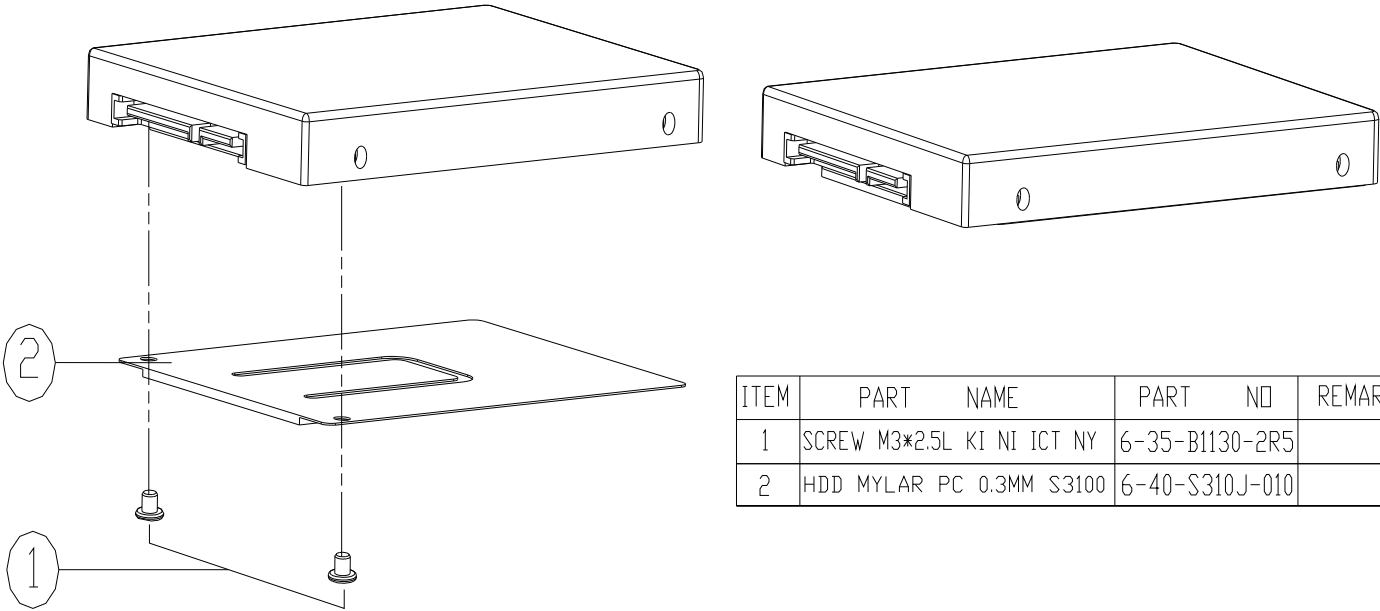


Figure A - 5
SATA Blu-Ray
Combo

ITEM	PART NAME	PART NO	REMARK
1	SCREW M3*2.5L KI NI ICT NY	6-35-B1130-2R5	
2	HDD MYLAR PC 0.3MM S3100	6-40-S310J-010	

Part Lists

Appendix B: Schematic Diagrams

This appendix has circuit diagrams of the *S3100/S3100M* notebook's PCB's. The following table indicates where to find the appropriate schematic diagram.

Table B - 1
SCHEMATIC
DIAGRAMS

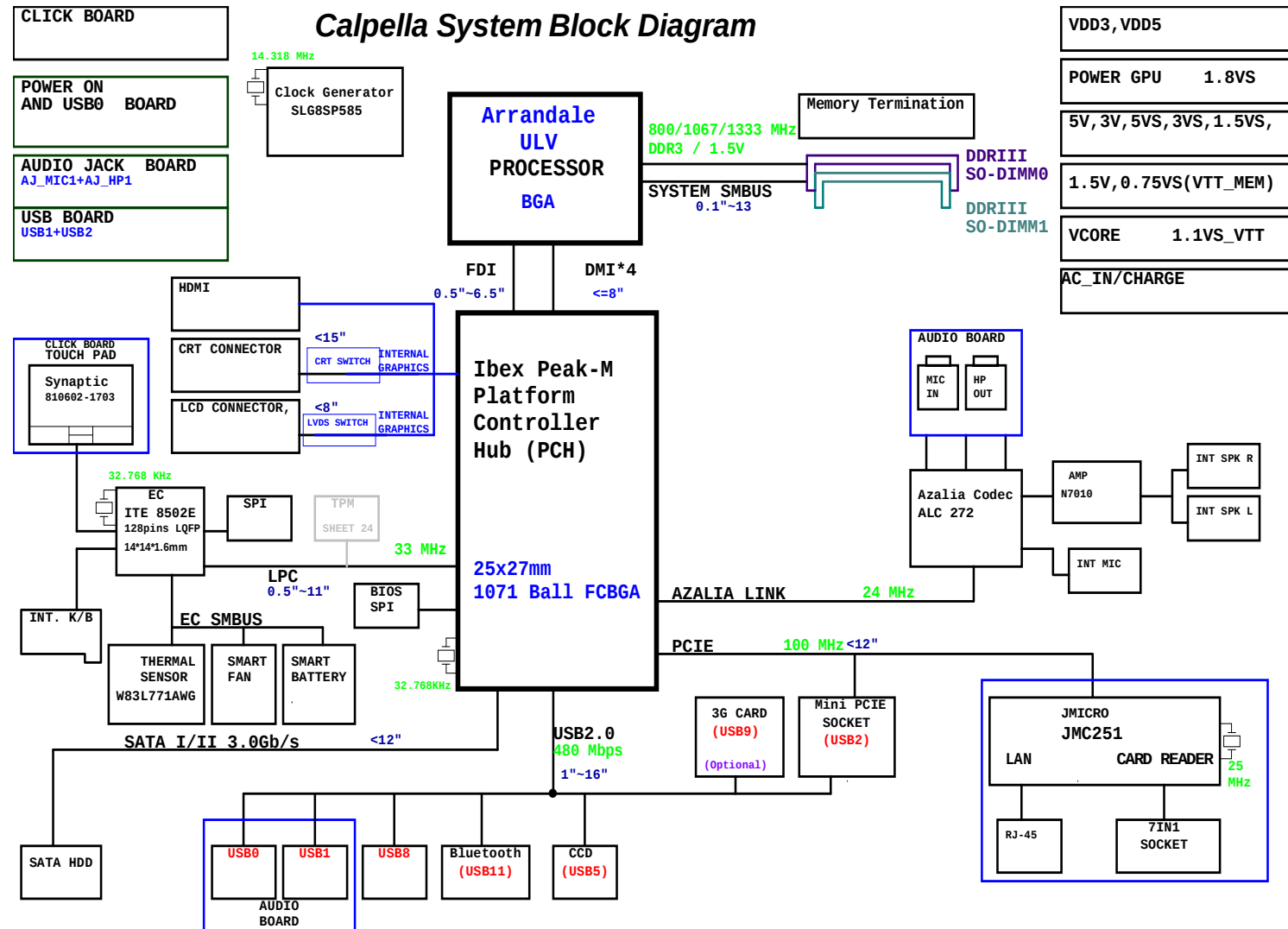
Diagram - Page	Diagram - Page	Diagram - Page
<i>System Block Diagram - Page B - 2</i>	<i>IBEXPEAK - M 3/9 - Page B - 17</i>	<i>5VS, 3.3VS, 1.5VS / Power SW - Page B - 32</i>
<i>Clock Generator - Page B - 3</i>	<i>IBEXPEAK - M 4/9 - Page B - 18</i>	<i>Power 1.5V / 0.75V / 1.8V - Page B - 33</i>
<i>CPU 1/7 (DMI, PEG, FDI) - Page B - 4</i>	<i>IBEXPEAK - M 5/9 - Page B - 19</i>	<i>VDD3, VDD5 - Page B - 34</i>
<i>CPU 2/7 (CLK, MISC) - Page B - 5</i>	<i>IBEXPEAK - M 6/9 - Page B - 20</i>	<i>Power 1.1VS_VTT - Page B - 35</i>
<i>CPU 3/7 (DDR3) - Page B - 6</i>	<i>IBEXPEAK - M 7/9 - Page B - 21</i>	<i>Power VGFX_Core - Page B - 36</i>
<i>CPU 4/7 (Power) - Page B - 7</i>	<i>IBEXPEAK - M 8/9 - Page B - 22</i>	<i>V-Core - Page B - 37</i>
<i>CPU 5/7 (VGFX Power) - Page B - 8</i>	<i>IBEXPEAK - M 9/9 - Page B - 23</i>	<i>(AC_IN, Charge) / Con Board - Page B - 38</i>
<i>CPU 6/7 (GND) - Page B - 9</i>	<i>Mini PCIE - Page B - 24</i>	<i>Audio / USB / Board - Page B - 39</i>
<i>CPU 7/7 (RESERVED) - Page B - 10</i>	<i>CCD, 3G, TPM - Page B - 25</i>	<i>LED Board - Page B - 40</i>
<i>DDR3 SO-DIMM_0 - Page B - 11</i>	<i>Card Reader / LAN JMC251 - Page B - 26</i>	<i>Click Board - Page B - 41</i>
<i>DDR3 SO-DIMM_1 - Page B - 12</i>	<i>LAN (JMC 251), SATA HDD - Page B - 27</i>	<i>OD100 - Page B - 42</i>
<i>LVDS, Inverter - Page B - 13</i>	<i>KBC-ITE IT8502E - Page B - 28</i>	<i>Power SWUSB0 / LID - Page B - 43</i>
<i>HDMI, CRT - Page B - 14</i>	<i>BT / Power LED / USB CONN - Page B - 29</i>	<i>Sequence - Page B - 44</i>
<i>IBEXPEAK - M 1/9 - Page B - 15</i>	<i>Fan, Click / Charge - Page B - 30</i>	
<i>IBEXPEAK - M 2/9 - Page B - 16</i>	<i>Audio Codec VIA1812 - Page B - 31</i>	



Version Note

The schematic diagrams in this chapter are based upon version 6-7P-S3108-004. If your mainboard (or other boards) are a later version, please check with the Service Center for updated diagrams (if required).

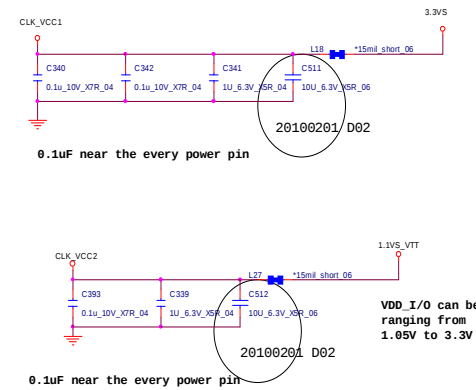
System Block Diagram



Sheet 1 of 43
System Block
Diagram

Clock Generator B - 3

CLKGEN POWER

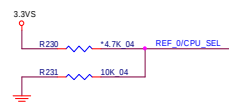


Sheet 2 of 43
Clock Generator

EMI



1.5VS	20,31
5VS	13,20,21,26,29,30,31,35,36
3.3V	3,4,12,14,15,16,18,19,20,21,23,24,25,28,31,32,34,35,36
3.3VS	4,10,11,12,13,14,15,16,17,18,19,20,21,23,24,25,26,27,28,29,30,31,35,36
1.1VS VTT	4,6,7,14,15,16,19,20,21,34,35,36



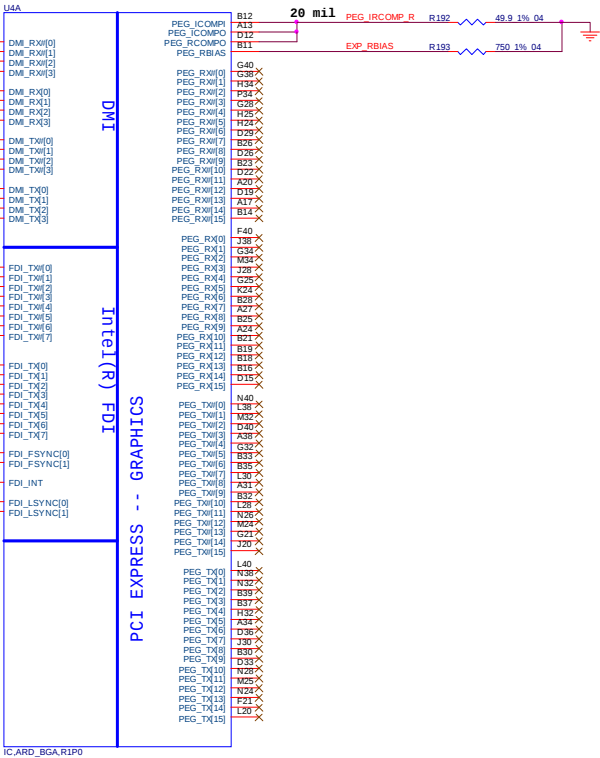
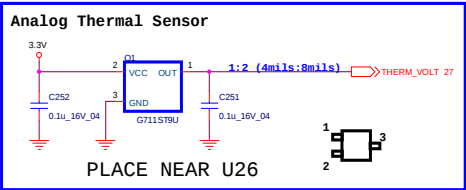
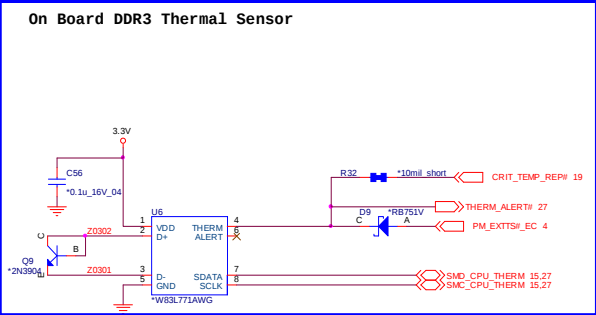
PIN_30	CPU_0	CPU_1
0(default)	133MHz	133MHz
1(0.7V-1.5V)	100MHz	100MHz

Schematic Diagrams

CPU 1/7 (DMI, PEG, FDI)
PROCESSOR 1/7 (DMI,PEG,FDI)

Sheet 3 of 43
CPU 1/7
(DMI, PEG, FDI)

It applies to Auburndale and Clarksfield discrete graphic designs.
If discrete graphic chip is used for Auburndale, VAG (GFX core) rail can be connected to GND if motherboard only supports discrete graphics and also in a common motherboard design if GFX VR is not stuffed. On the other hand, if the VR is stuffed, VAGX can be left floating in a common motherboard design (Gfx VR keeps VAGX from floating)).
In addition, FDI_RXN[7:0] and FDI_RXP[7:0] can be left floating on the PCH.
FDI_TX[7:0] and FDI_TX[7:0] can be left floating on the Auburndale.
The GFX_IMON, FDI_FSYNC[0], FDI_FSYNC[1], FDI_LSYNC[0], FDI_LSYNC[1], and FDI_INT signals should be tied to GND (through 1K ? % 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 (~15 mW) maybe wasted. VAGX_SENSE and VSSAGX_SENSE on Auburndale can be left as no connect.
DPPLL_REF_SSCLK and DPPLL_REF_SSCLK can be connected to GND on Auburndale directly if motherboard only supports discrete graphics. In a common motherboard design, these pins are driven via PCH (even if Graphics is disabled by BIOS) thus no external termination is required.



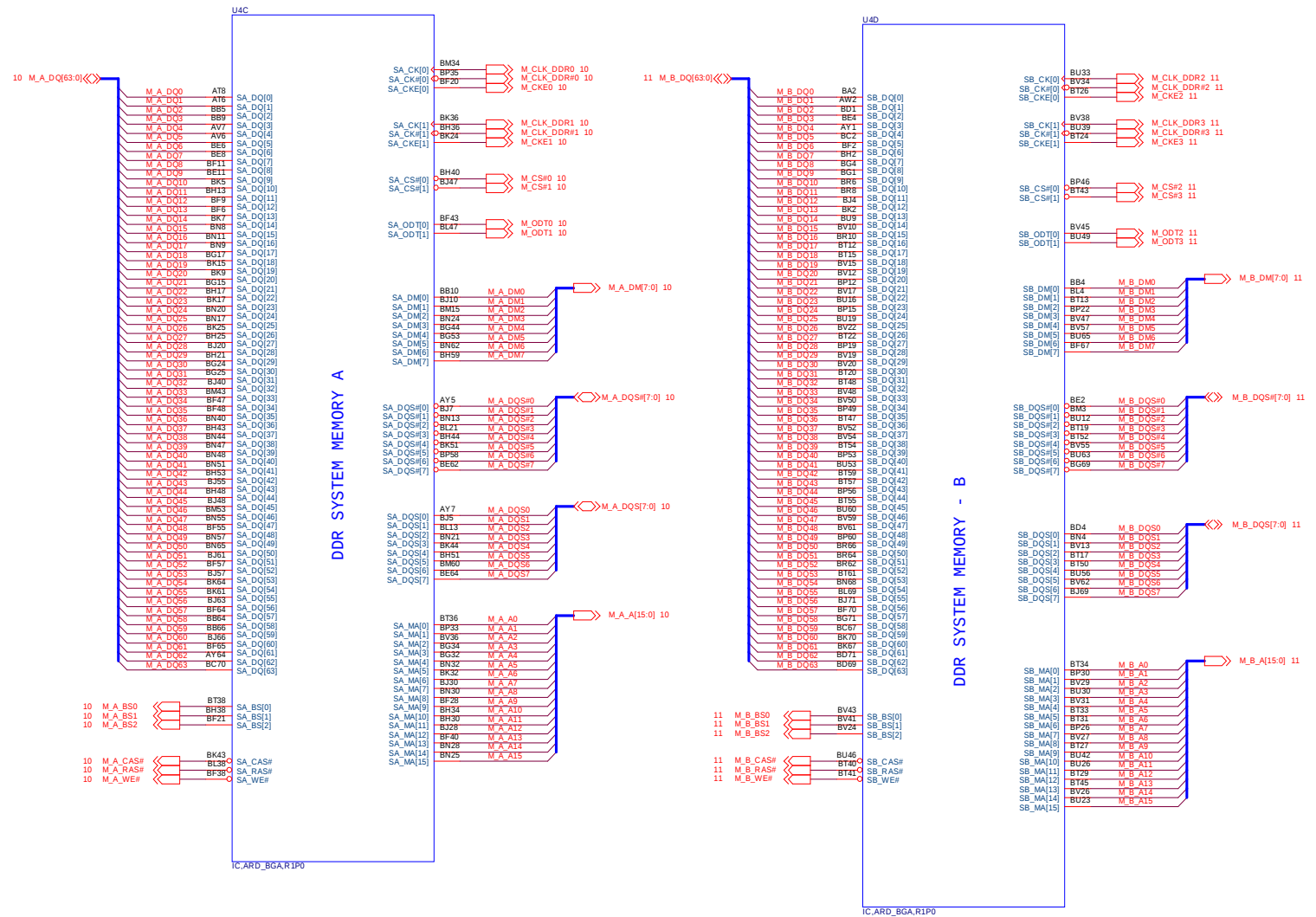
PROCESSOR 2/7 (CLK,MISC,JTAG)



CPU 2/7 (CLK, MISC) B - 5

CPU 3/7 (DDR3)

PROCESSOR 3/7 (DDR3)

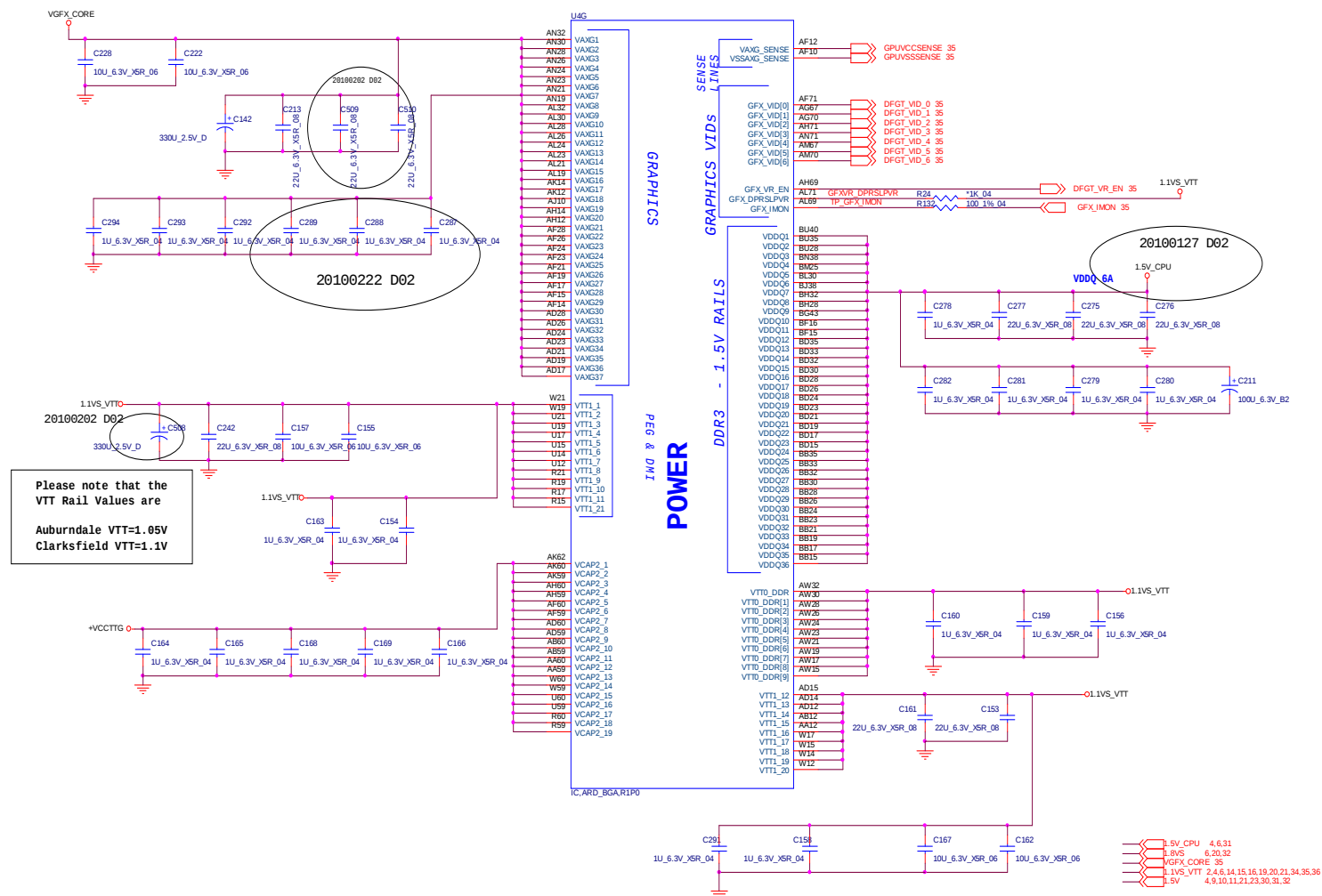


PROCESSOR 4/7 (POWER)



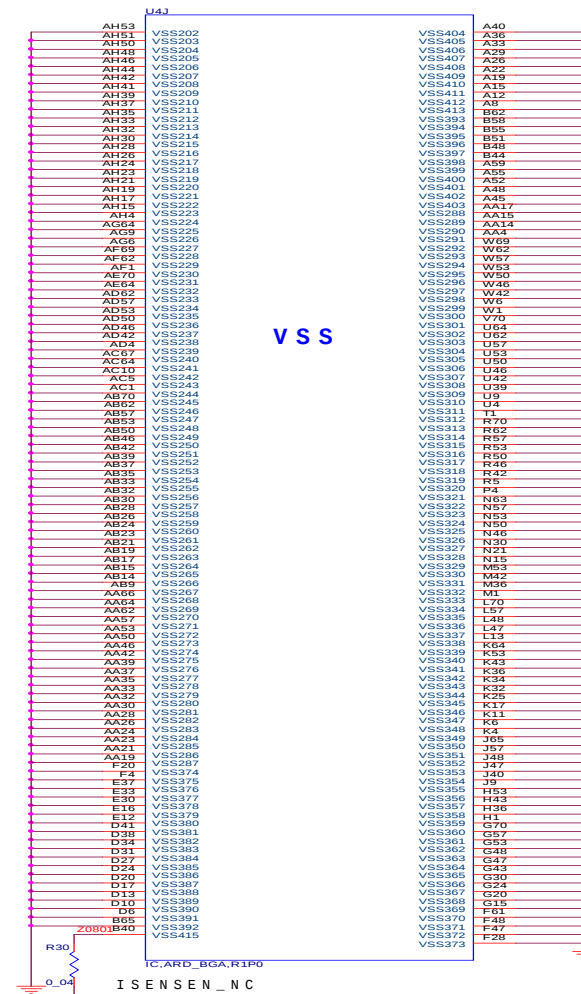
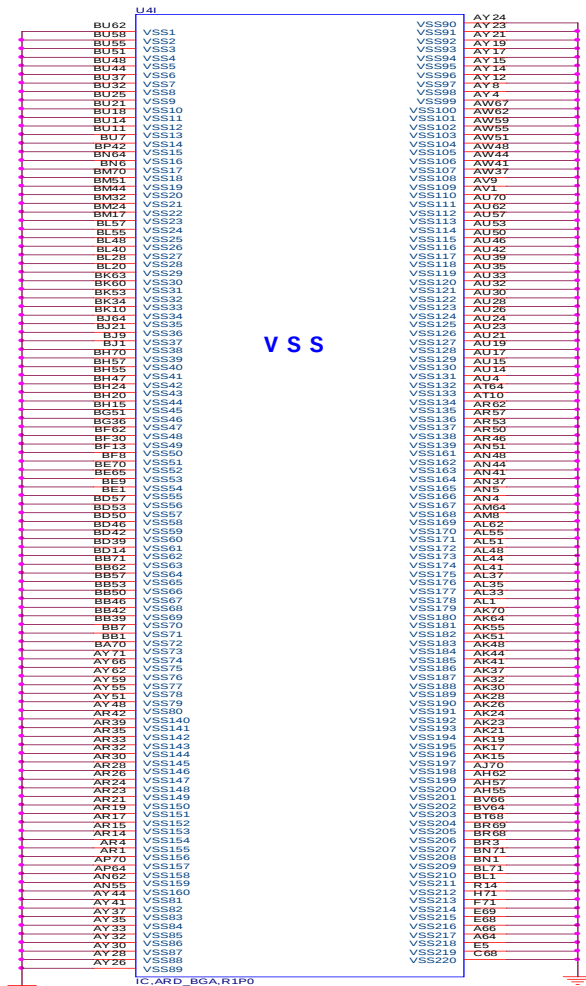
B.Schematic Diagrams

Sheet 7 of 43
CPU 5/7
(VGFX Power)



CPU 6/7 (GND)

PROCESSOR 6 / 7 (GND)



Sheet 8 of 43
CPU 6/7 (GND)

Schematic Diagrams

CPU 7/7 (RESERVED)

PROCESSOR 7/7 (RESERVED)

Sheet 9 of 43
CPU 7/7
(RESERVED)

PCI-Express Configuration Select	
CFG0	1 : Single PEG 0 : Bifurcation enable



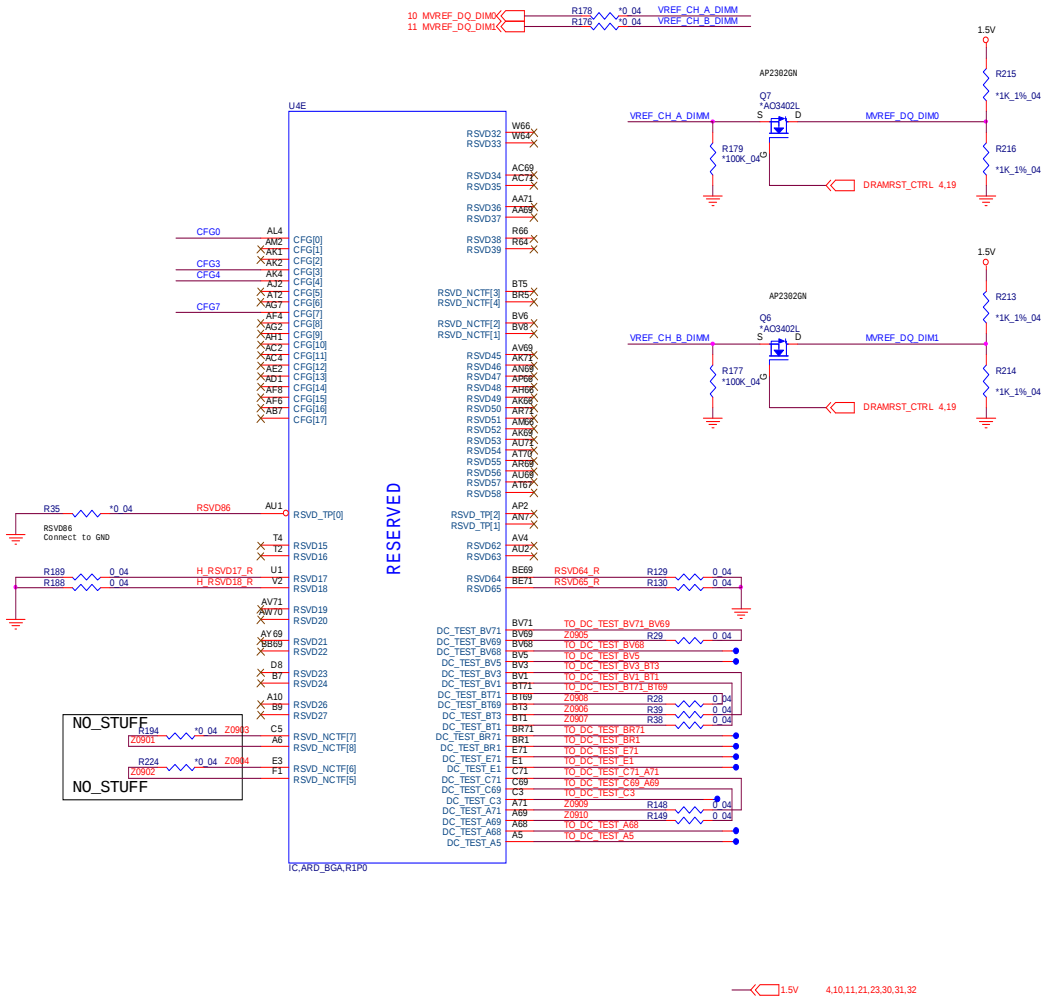
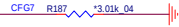
CFG3 - PCI-Express Static Lane Reversal	
CFG3	1 : Normal Operation 0 : Lane Numbers Reversed 15 -> 0, 14 -> 1, ...



CFG4 - Display Port Presence	
CFG4	1 : Disabled; No physical Display Port attached to Embedded Display Port 0 : Enabled; An external Display Port device is connected to the Embedded Display Port



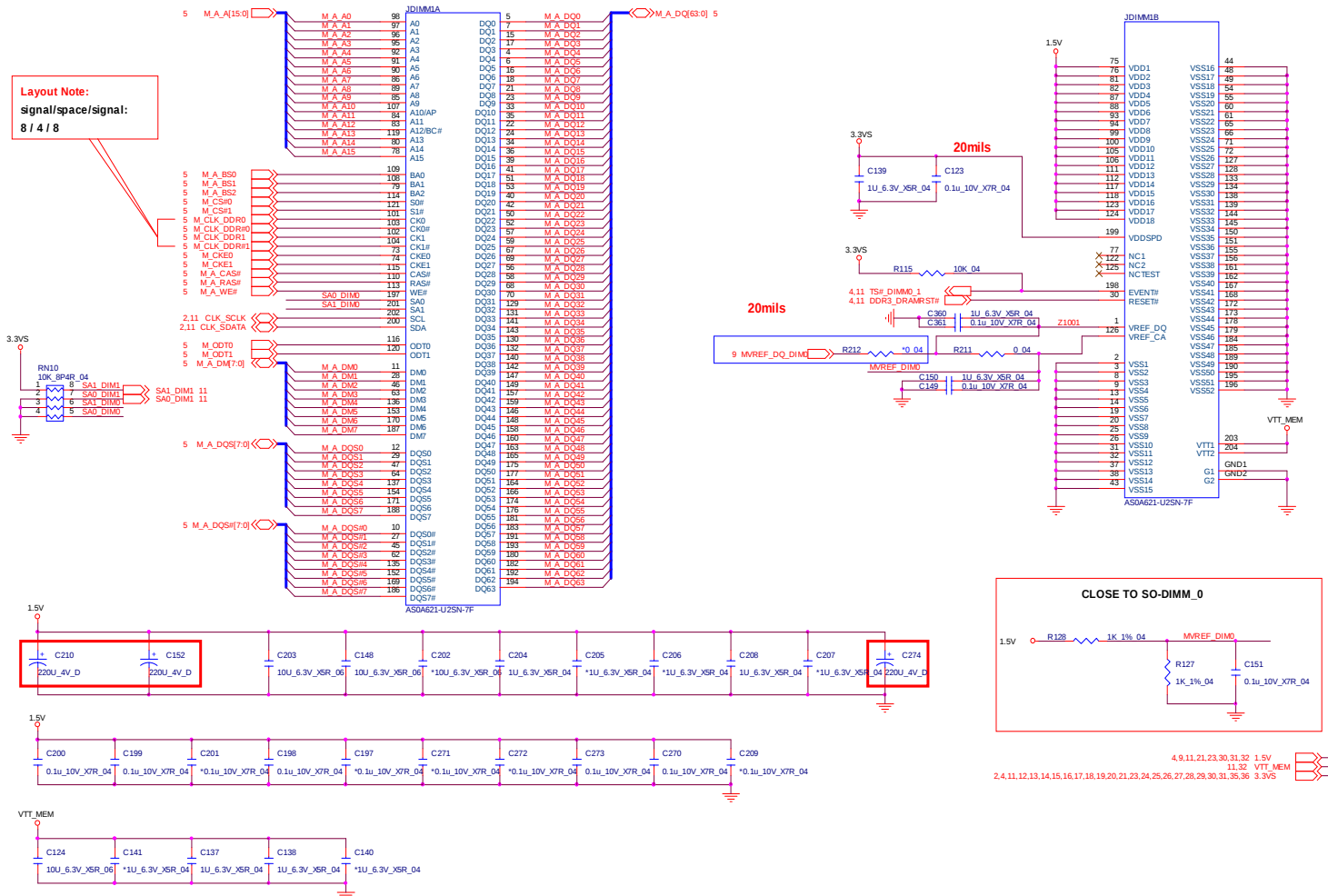
CFG7
Clarksfield (only for early samples pre-ES1) - Connect to GND with 3.01K Ohm/5% resistor



DDR3 SO-DIMM_0

SO-DIMM A

CHANGE TO STANDARD

Sheet 10 of 43
DDR3 SO-DIMM_0

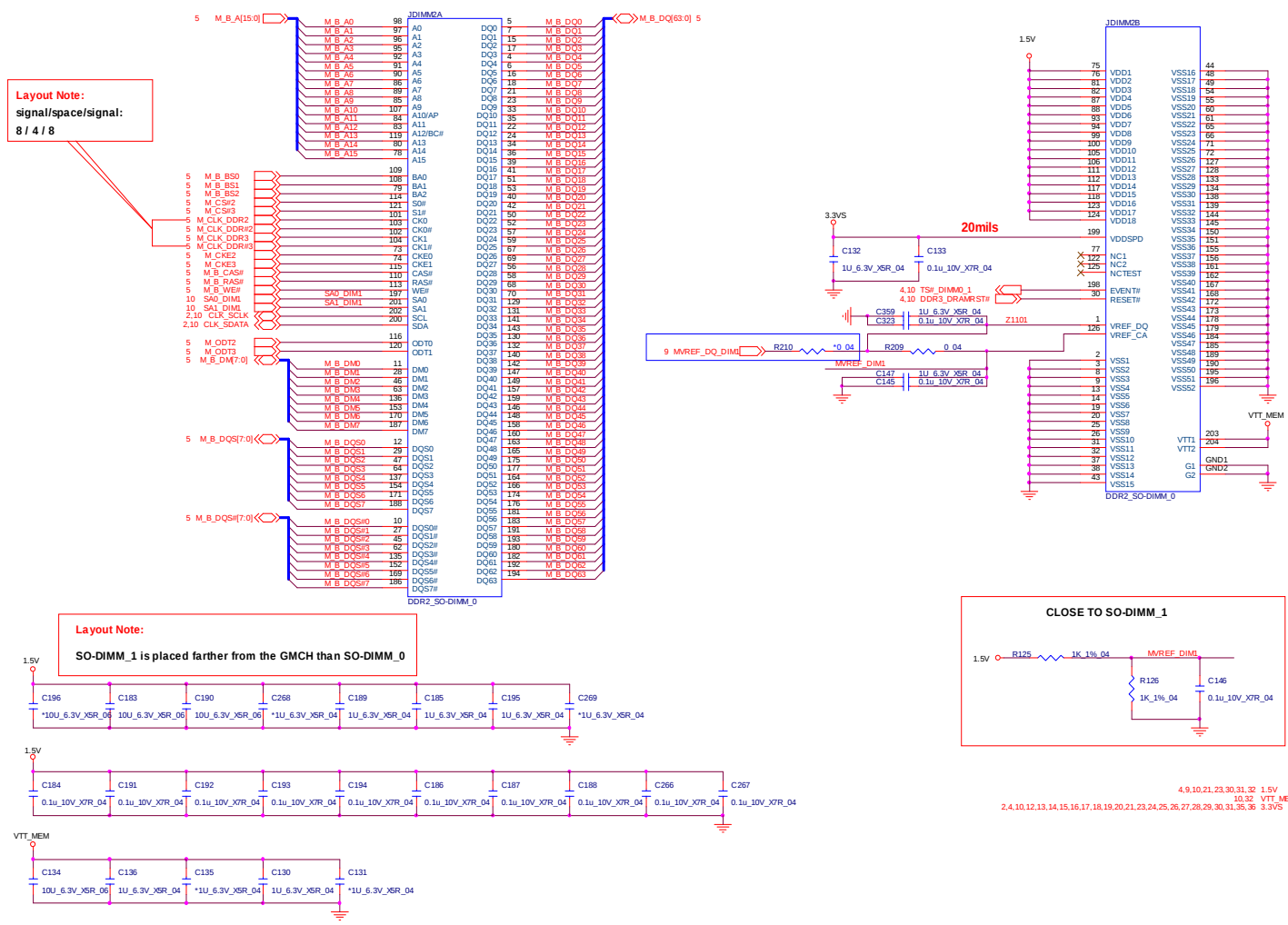
Schematic Diagrams

DDR3 SO-DIMM_1

SO-DIMM B

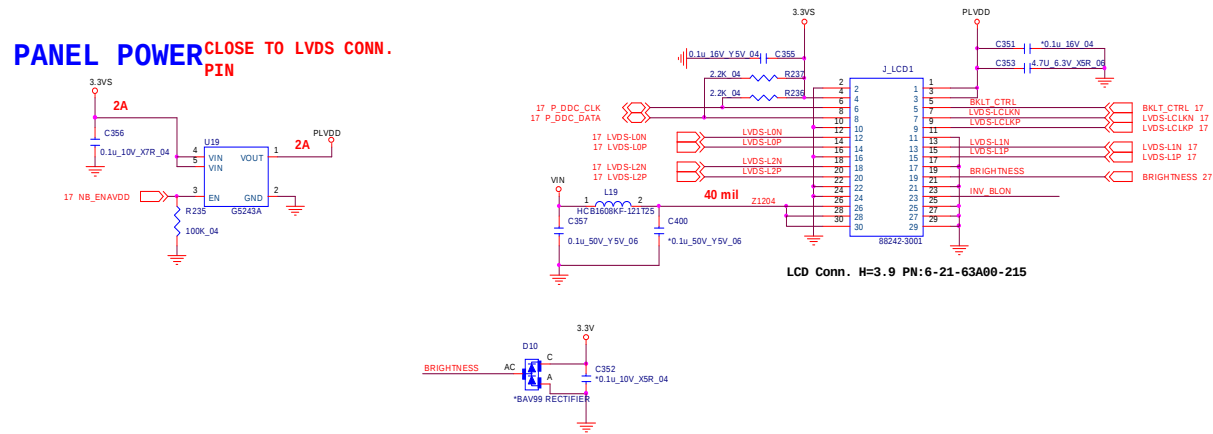
CHANGE TO STANDARD

Sheet 11 of 43
DDR3 SO-DIMM_1



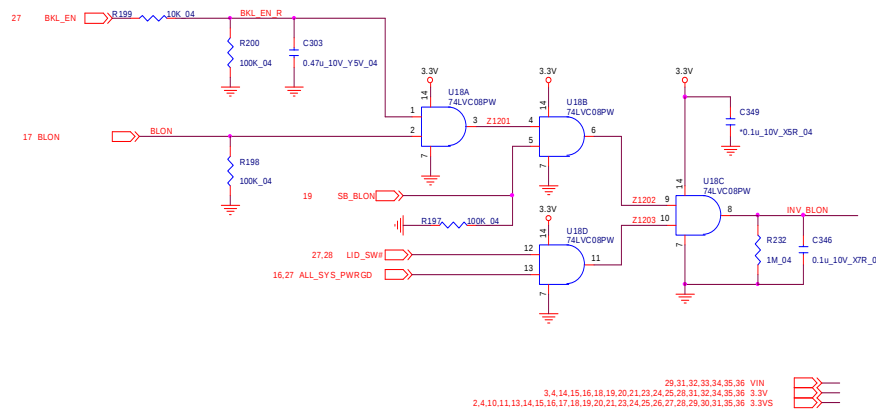
LVDS, Inverter

LCD PANEL CONN

Sheet 12 of 43
LVDS, Inverter

B.Schematic Diagrams

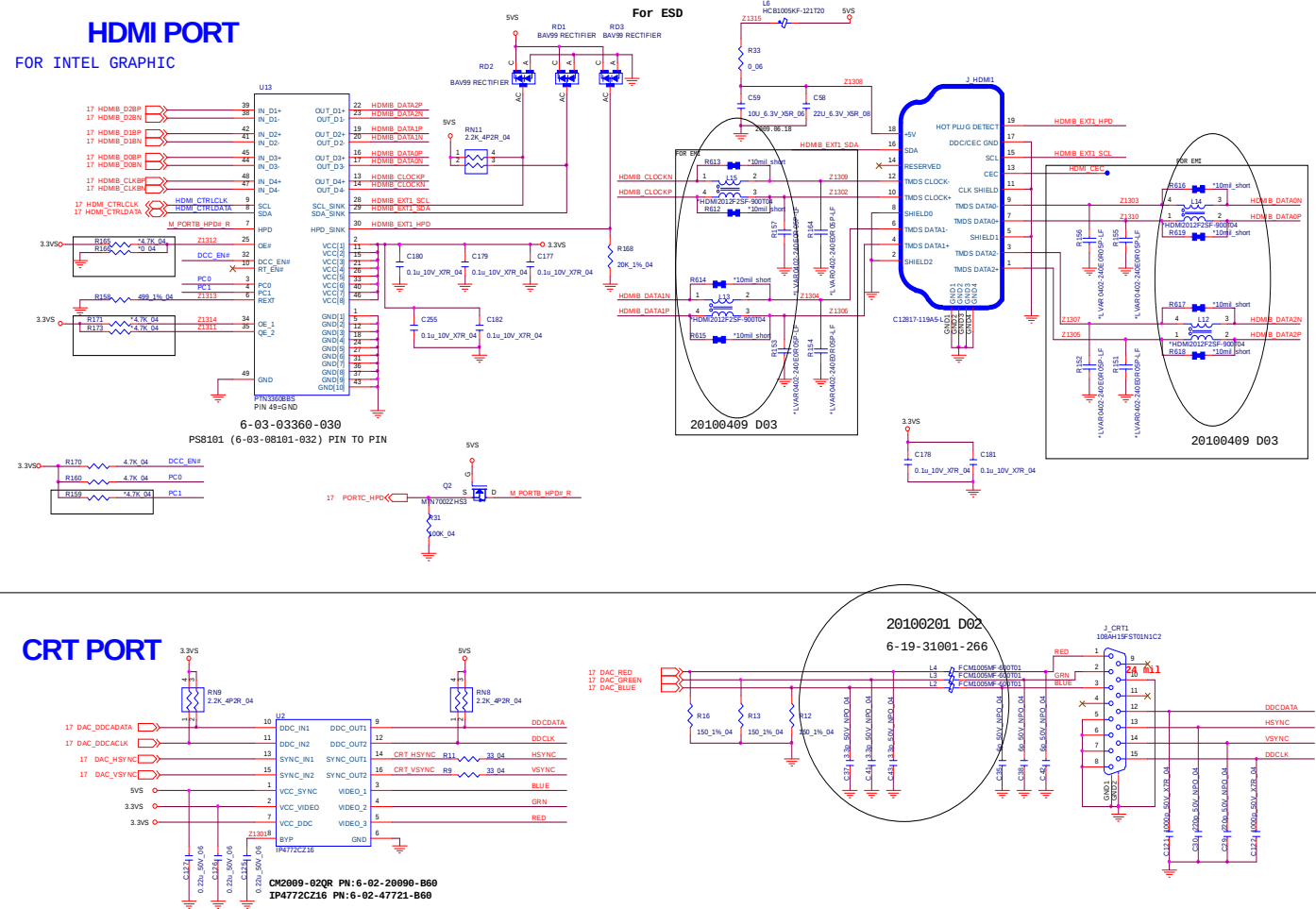
INVERTER CONNECTOR



Schematic Diagrams

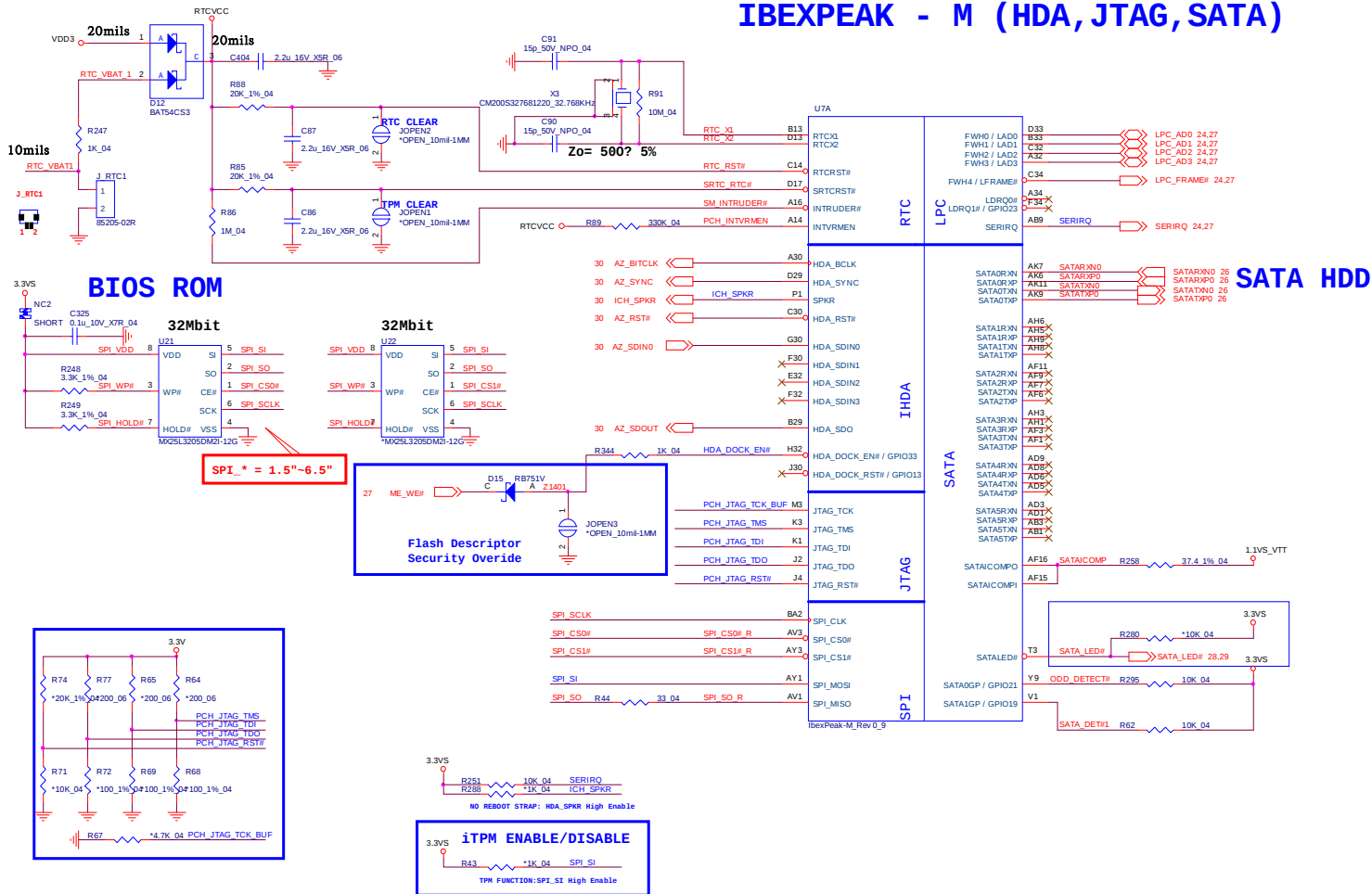
HDMI, CRT

Sheet 13 of 43
HDMI, CRT



IBEXPEAK - M 1/9

IBEXPEAK - M (HDA, JTAG, SATA)



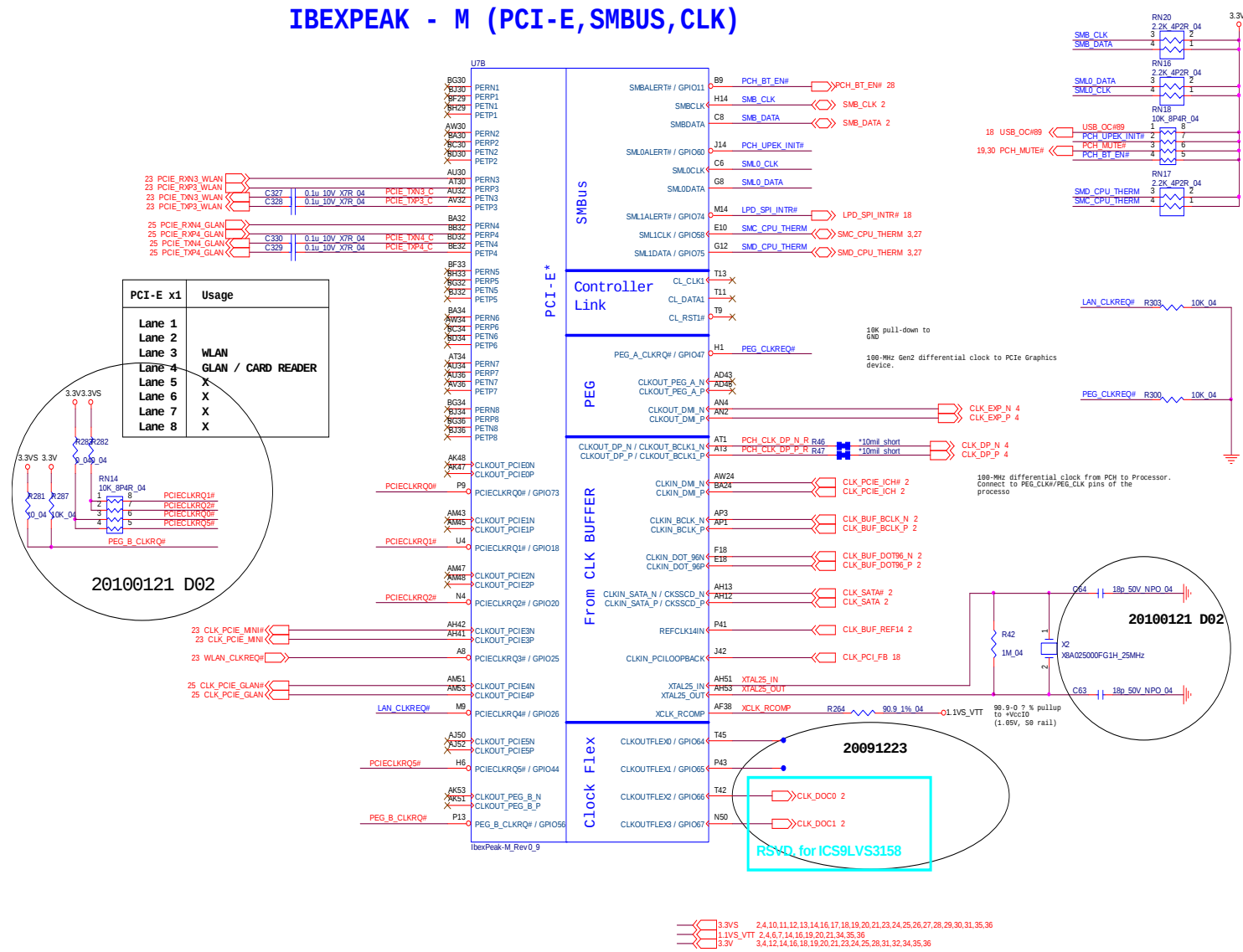
Sheet 14 of 43
IBEXPEAK - M 1/9

Schematic Diagrams

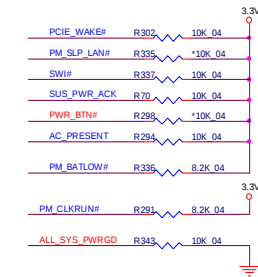
IBEXPEAK - M 2/9

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

Sheet 15 of 43
IBEXPEAK - M 2/9



IBEXPEAK - M (DMI,FDI,GPIO)

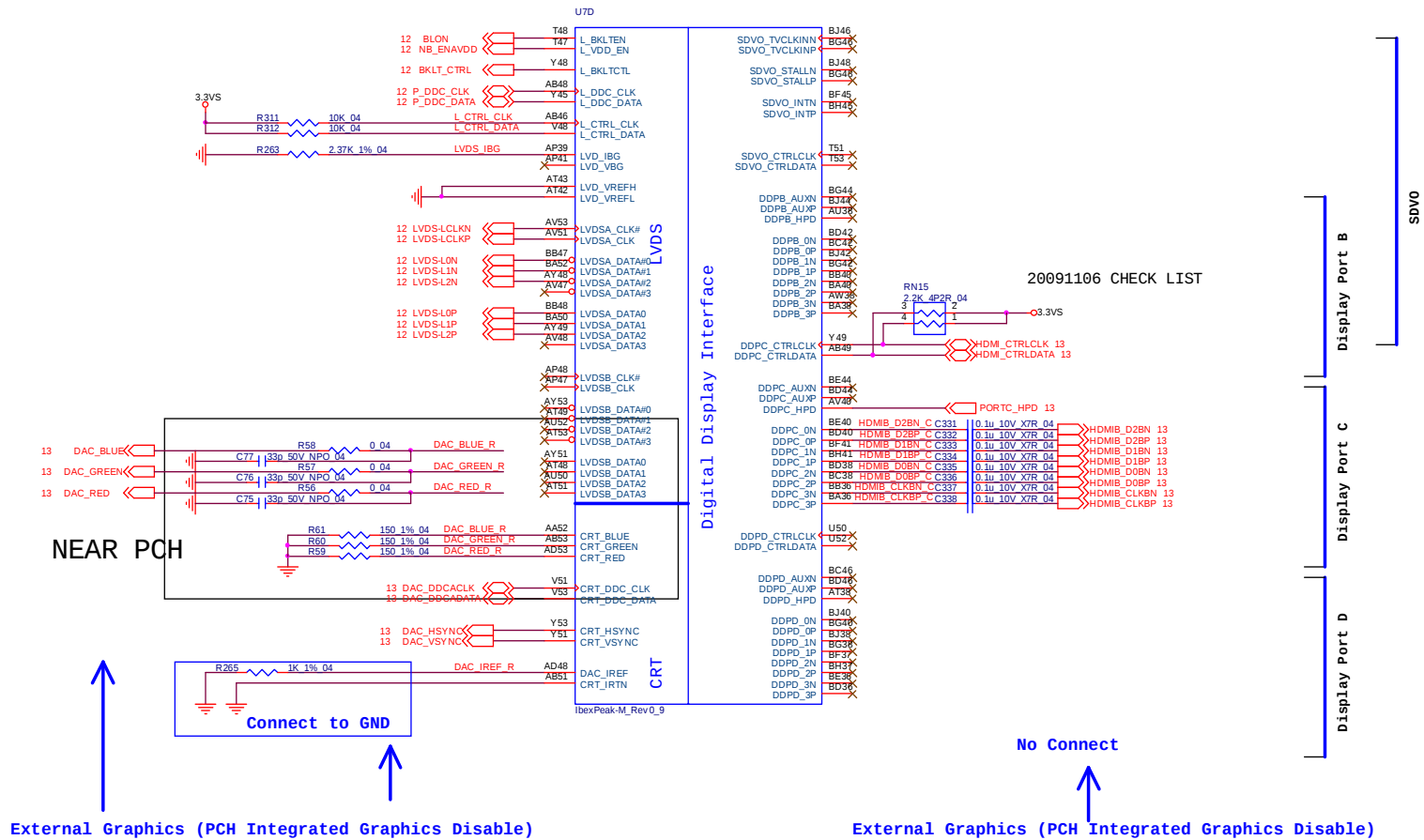


B.Schematic Diagrams

Schematic Diagrams

IBEXPEAK - M 4/9
IBEXPEAK - M (LVDS, DDI)

Sheet 17 of 43
IBEXPEAK - M 4/9

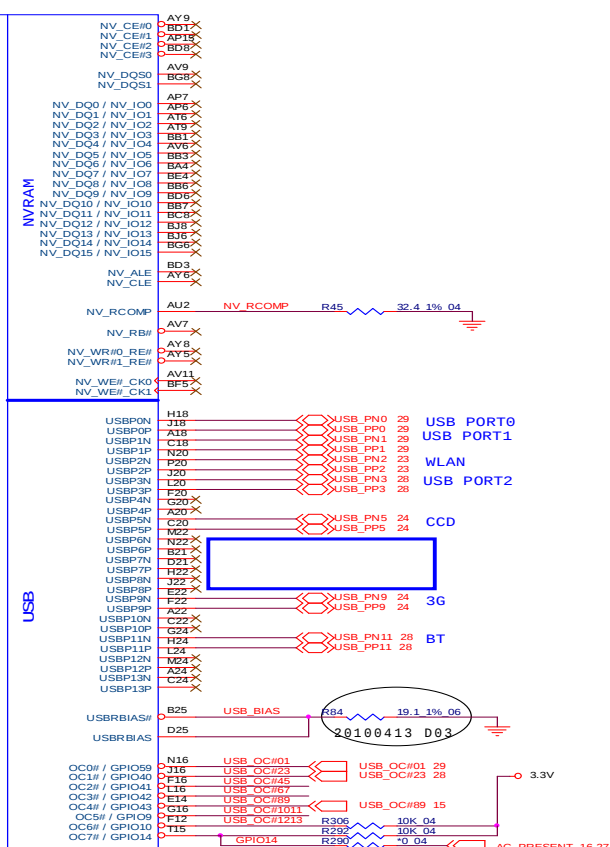


IBEXPEAK - M (PCI, USB, NVRAM)

R314 *1K 04 PCI_GNT#3



17	U7E
18	AD0
19	AD1
20	AD2
21	AD3
22	AD4
23	AD5
24	AD6
25	AD7
26	AD8
27	AD9
28	AD10
29	AD11
30	AD12
31	AD13
32	AD14
33	AD15
34	AD16
35	AD17
36	AD18
37	AD19
38	AD20
39	AD21
40	AD22
41	AD23
42	AD24
43	AD25
44	AD26
45	AD27
46	AD28
47	AD29
48	AD30
49	AD31
50	C/BE0#
51	C/BE1#
52	C/BE2#
53	C/BE3#
54	PIRQ#
55	PIRQB#
56	PIROC#
57	PIRD#
58	REQ0#
59	REQ1# / GPIO50
60	REQ2# / GPIO52
61	REQ3# / GPIO54
62	
63	
64	GNT0#
65	GNT1# / GPIO51
66	GNT2# / GPIO53
67	GNT3# / GPIO55
68	
69	PIRQE# / GPIO2
70	PIRQF# / GPIO3
71	PIRQG# / GPIO4
72	PIRQH# / GPIO5
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74	PCIRST#
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76	SERR#
77	PERR#
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2,4,10,11,12,13,14,15,16,17,19,20,21,23,24,25,26,27,28,29,30,31,35,36 3.3VS
3,4,12,14,15,16,19,20,21,23,24,25,28,31,32,34,35,36 3.3V

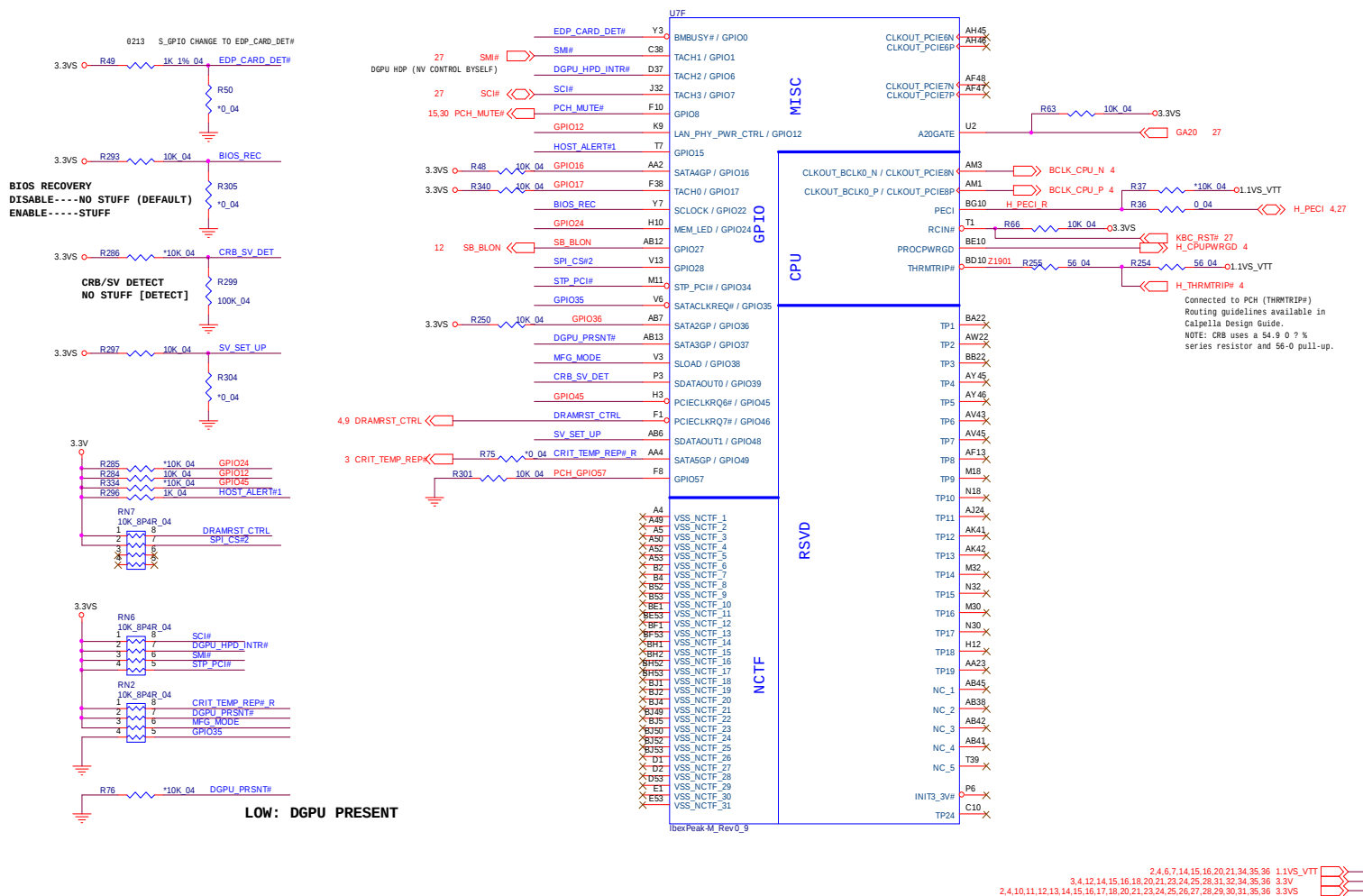
IBEXPEAK - M 5/9 B - 19

Schematic Diagrams

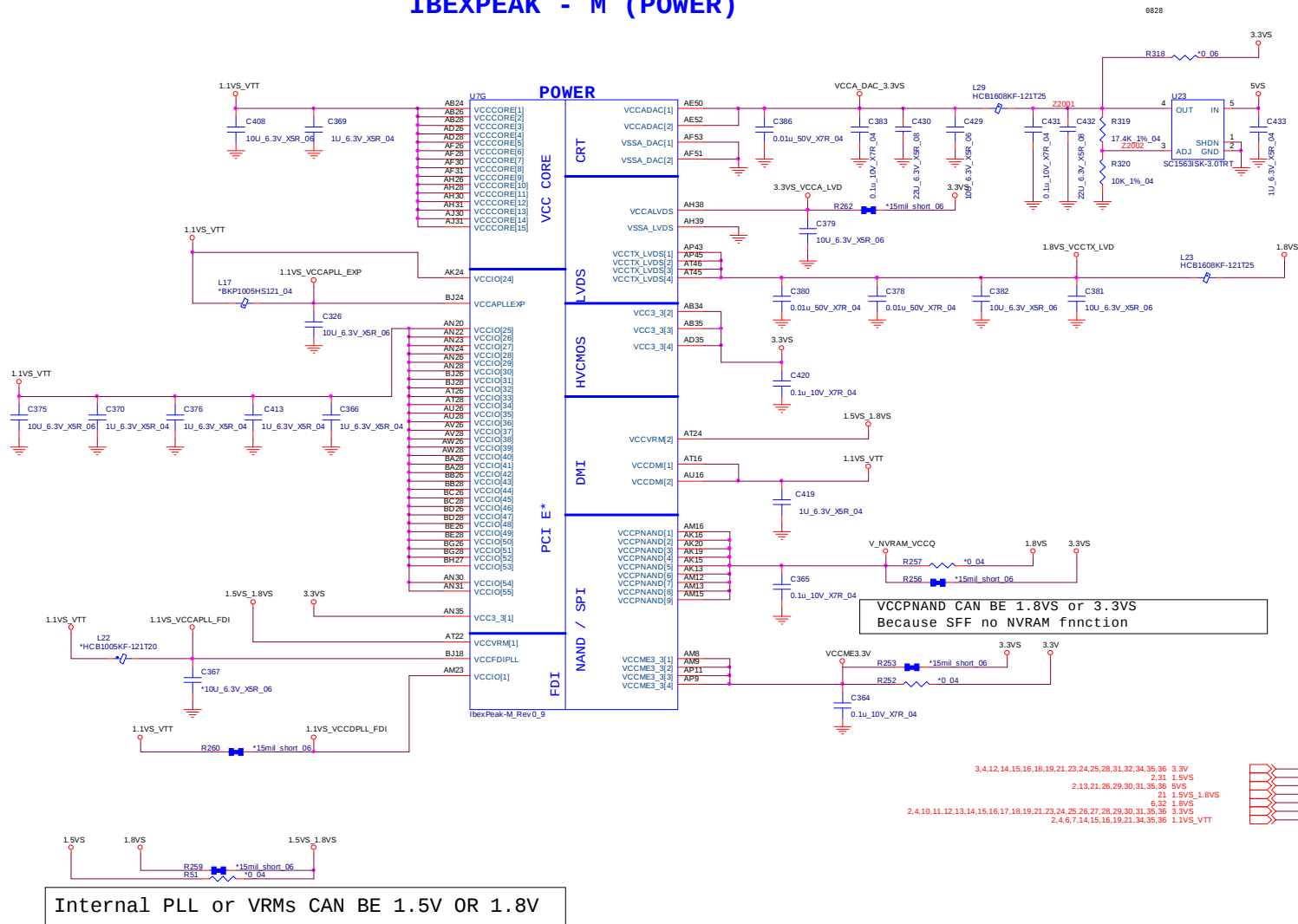
IBEXPEAK- M 6/9

Sheet 19 of 43
IBEXPEAK - M 6/9

IBEXPEAK - M (GPIO, VSS_NCTF, RSVD)



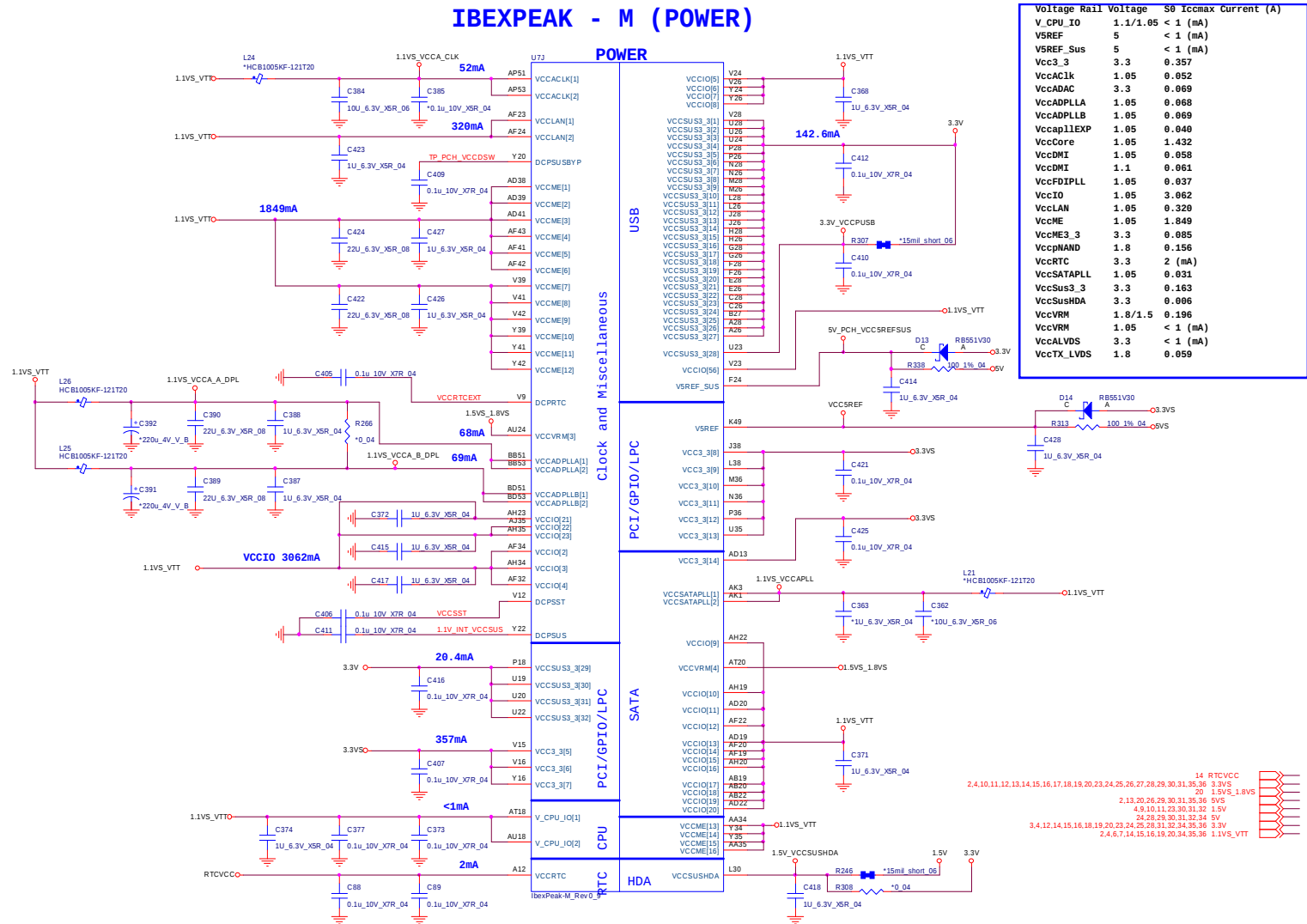
IBEXPEAK - M (POWER)



Schematic Diagrams

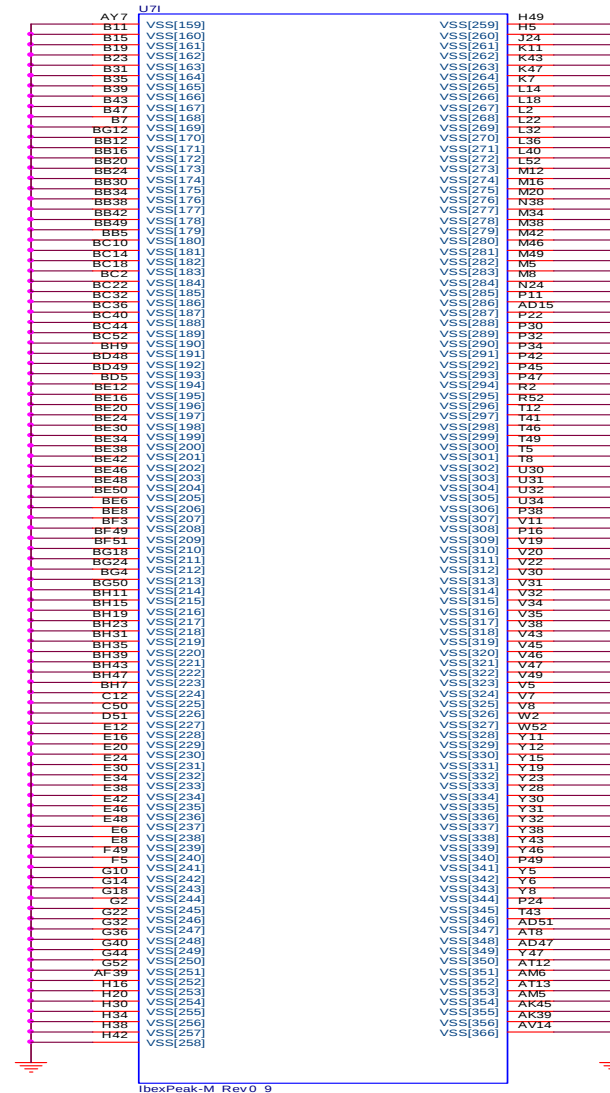
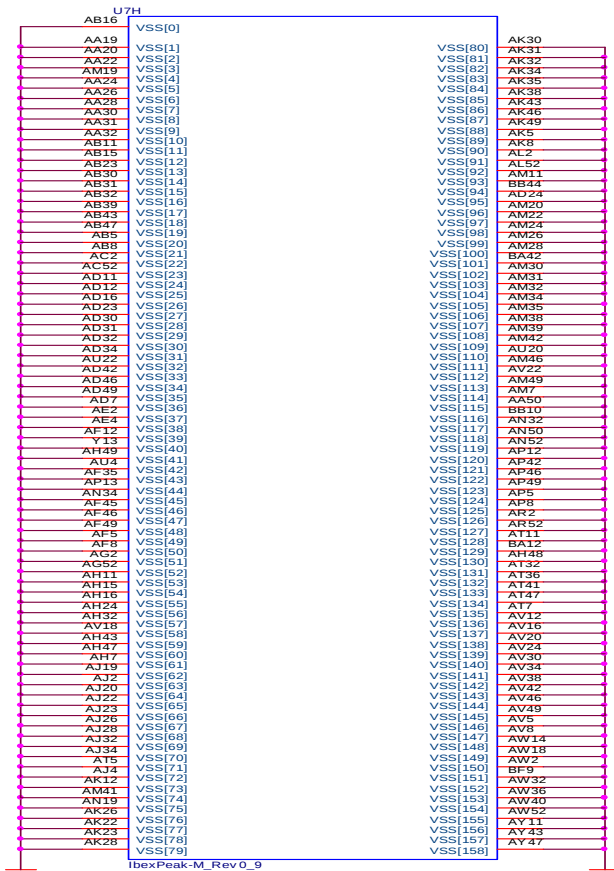
IBEXPEAK - M 8/9

Sheet 21 of 43
IBEXPEAK - M 8/9



IBEXPEAK - M 9/9

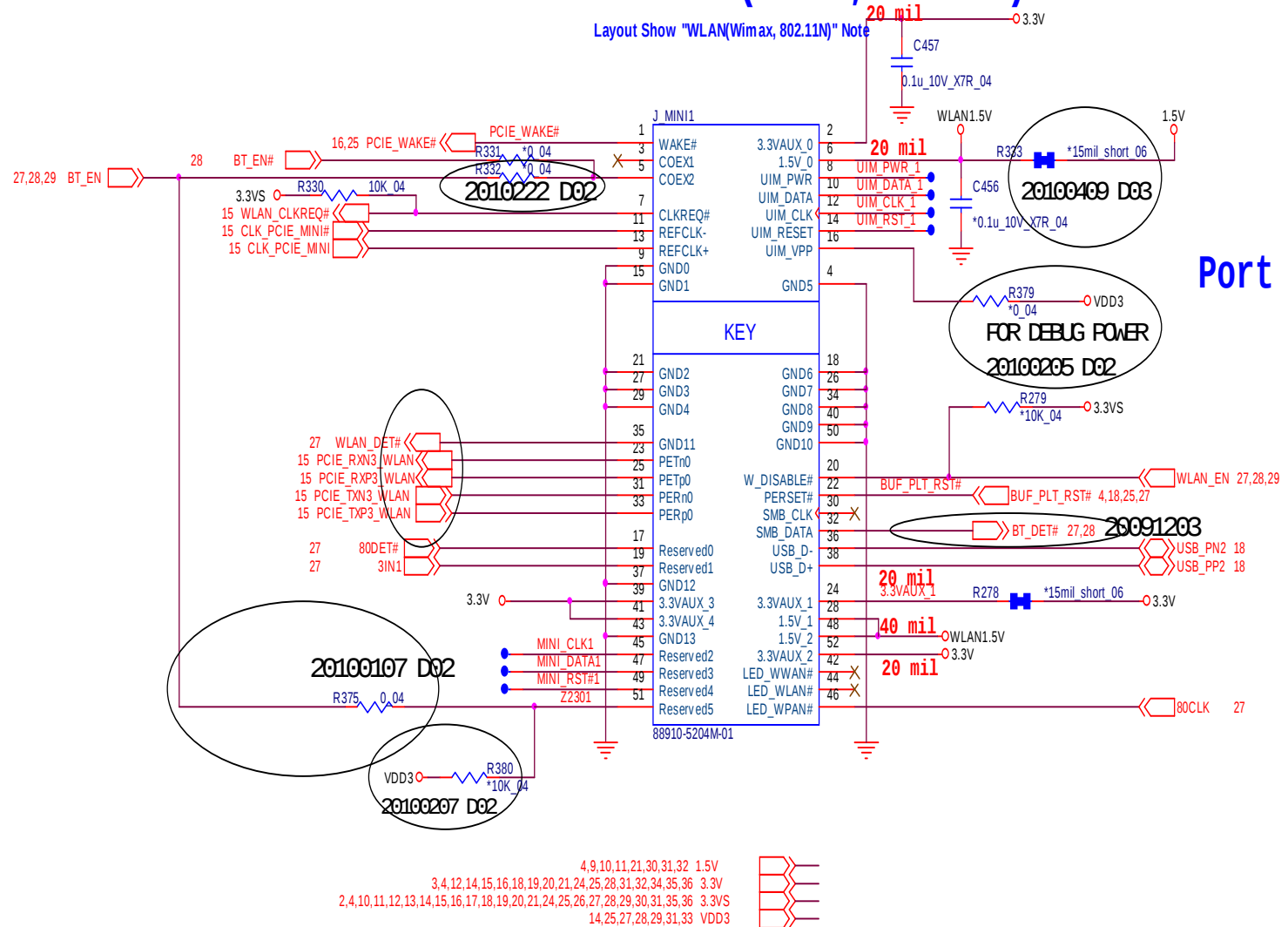
IBEXPEAK - M (GND)

Sheet 22 of 43
IBEXPEAK - M 9/9

Mini PCIE

MINI CARD (WLAN, Port 5)

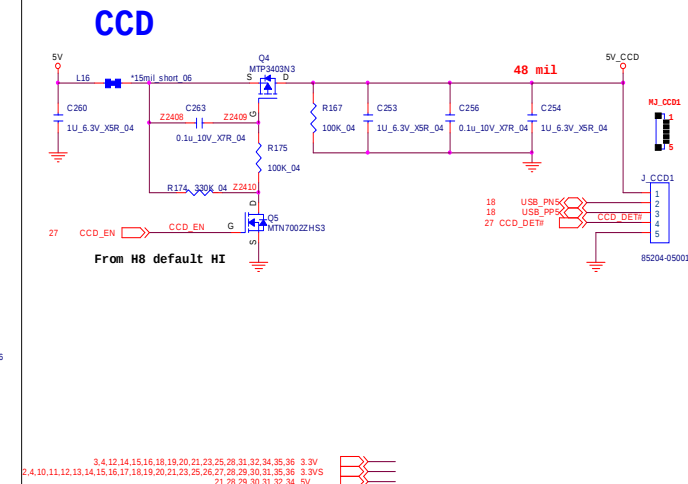
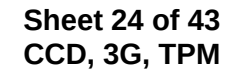
Layout Show "WLAN(Wimax, 802.11N)" Note



Sheet 23 of 43
Mini PCIE

Port 2

MINI CARD 3G(Port 6)



JMC251

3.3V_LAN

R204 10K 4.7K 04 SD_CD#

R244 10K 04 MS_IN#

VCC_CARD

RN12

10K_RP4UF_04

1 2 SD_BS

6 7 SD_WP

8 9 MDIO13

10 11

12 13

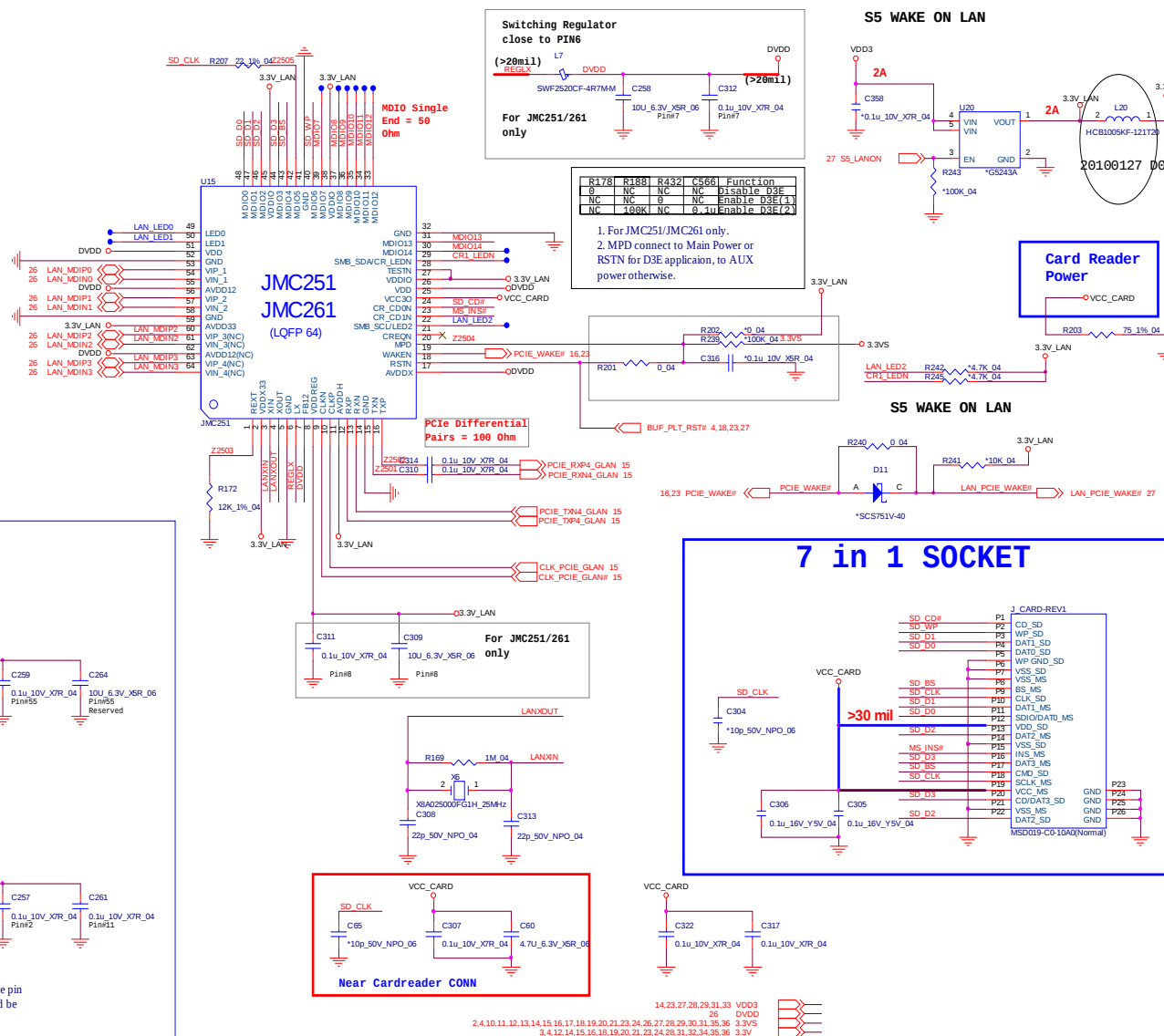
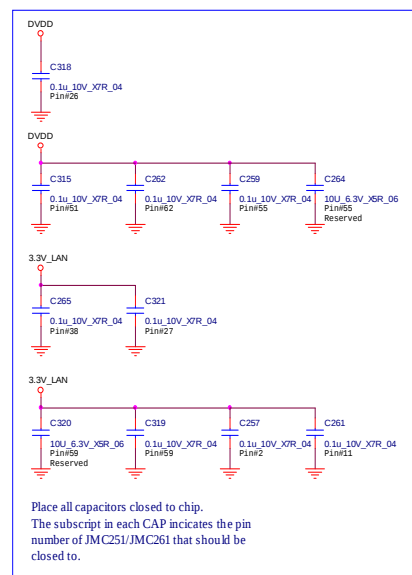
Card Reader Pull High/Low Resistors

3.3V5

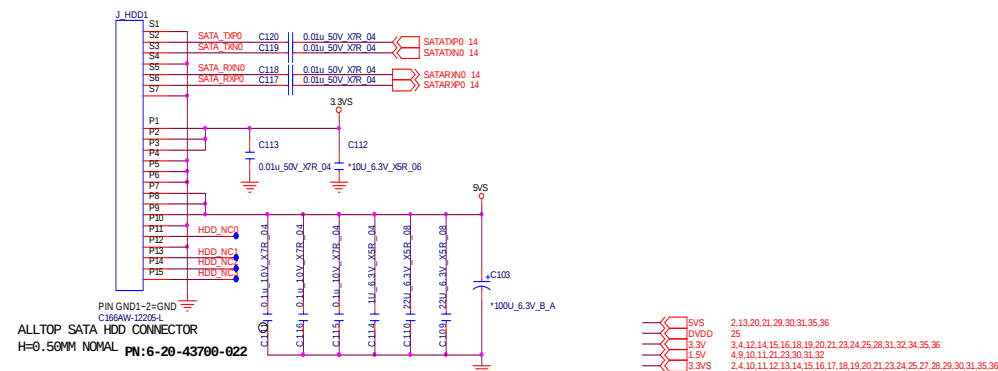
R206 10K 04 MDIO7

R208 20K 04 MDIO12

R209 20K 04 MDIO14

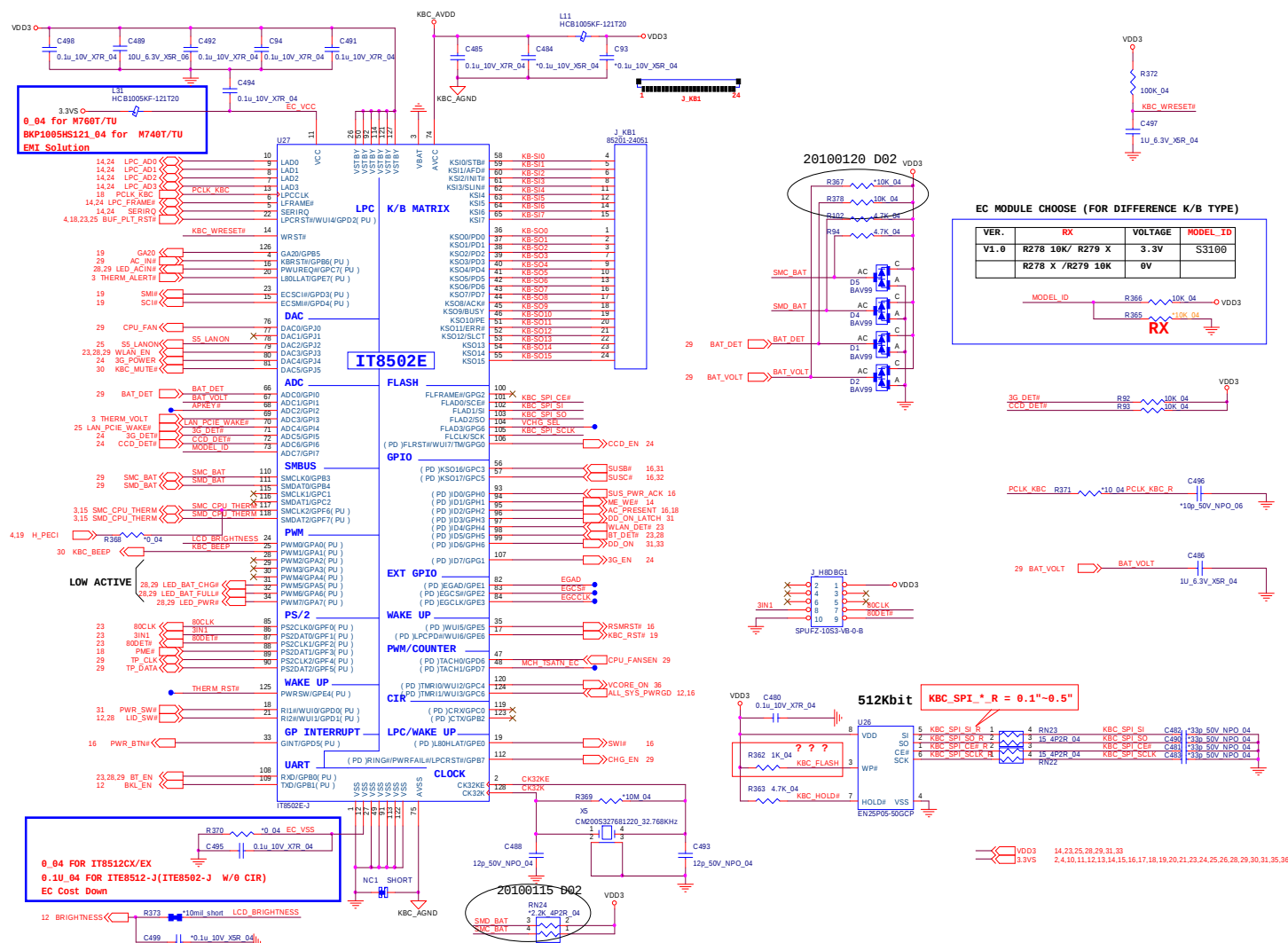


Sheet 26 of 43
LAN (JMC 251),
SATA HDD

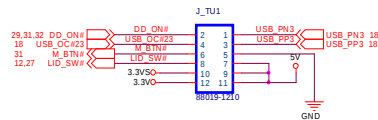


B.Schematic Diagrams

Sheet 27 of 43
KBC-ITE IT8502E



POWER LED/LID/USB/CONNECT



20091224 FOR EMI

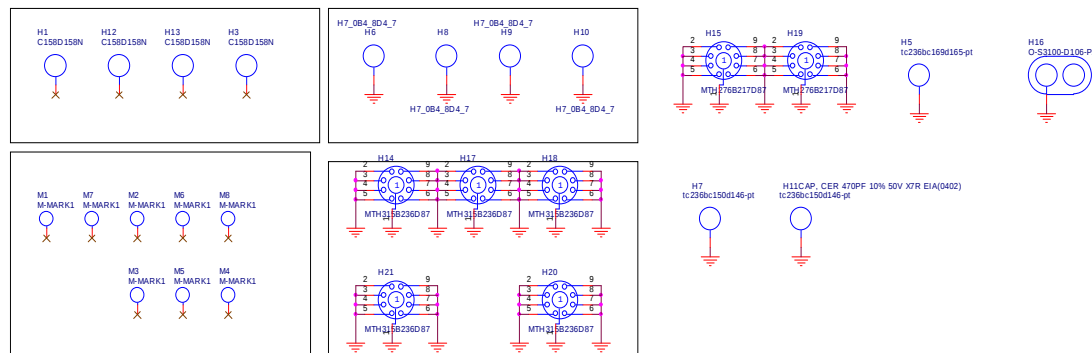
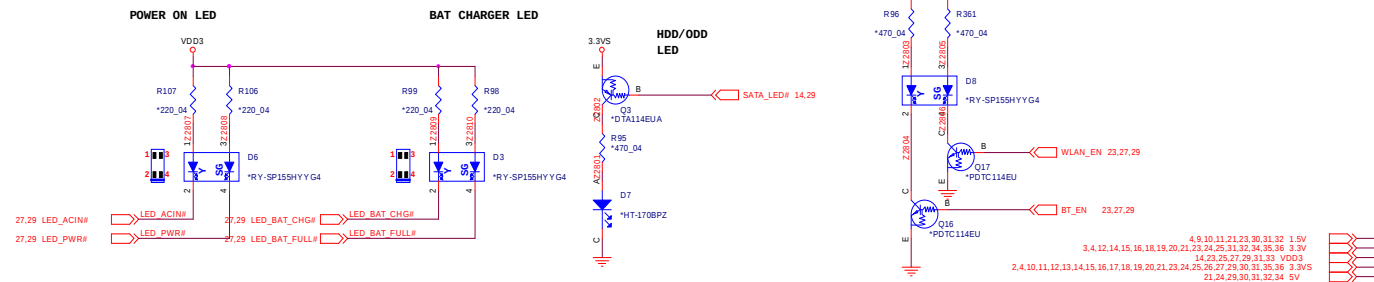
Part 11

From EC default HI

PN: 6-20-41A10-106

PN#5423A-6-02-05243-9C0

Sheet 28 of 43
BT / Power LED / USB
CONN

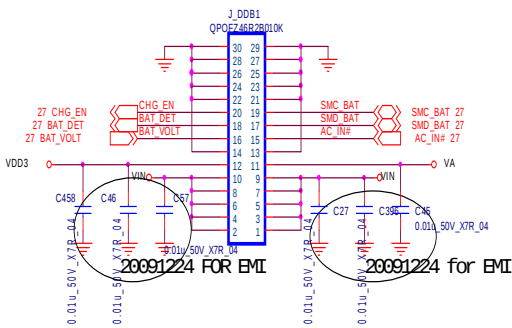


Schematic Diagrams

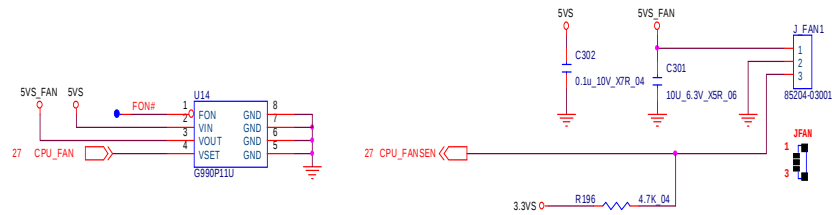
Fan, Click / Charge

Sheet 29 of 43
Fan, Click / Charge

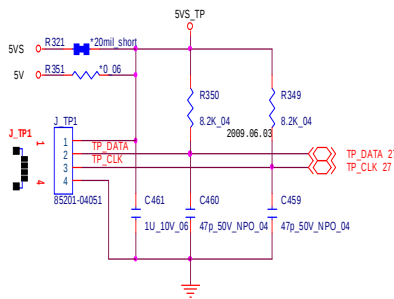
CHARGE CONN



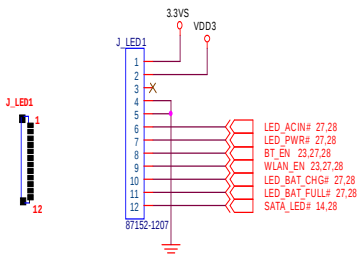
FAN CONTROL



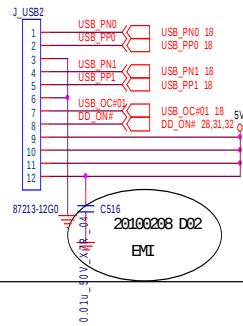
CLICK CONN



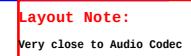
LED CONN



USB2 CONN



CODEC (VIA1812 /ALC272)

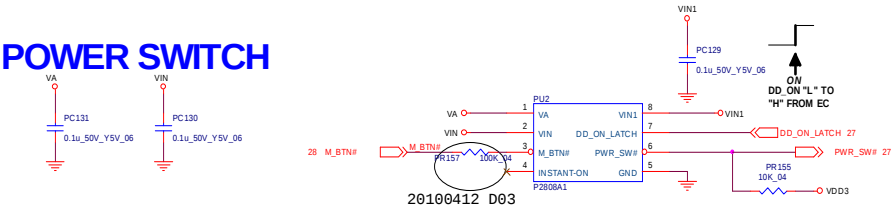


Sheet 30 of 43
Audio Codec
VIA1812

Schematic Diagrams

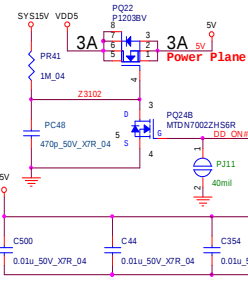
5VS, 3.3VS, 1.5VS / Power SW

POWER SWITCH

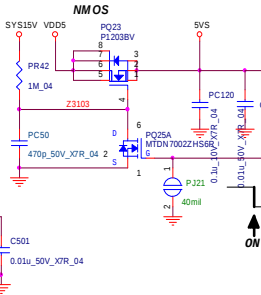


Sheet 31 of 43
5VS, 3.3VS, 1.5VS /
Power SW

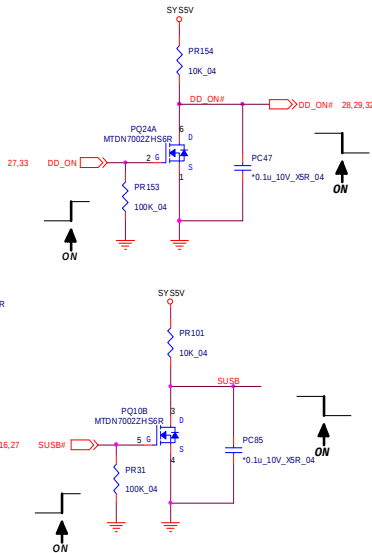
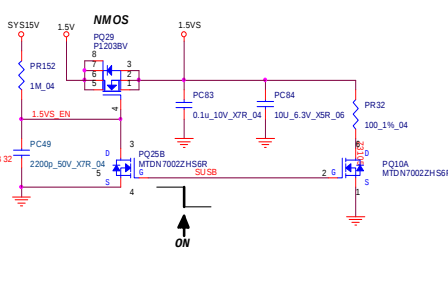
5V



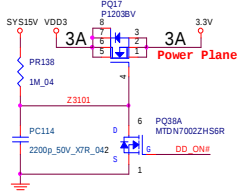
5VS



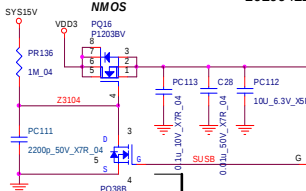
1.5VS



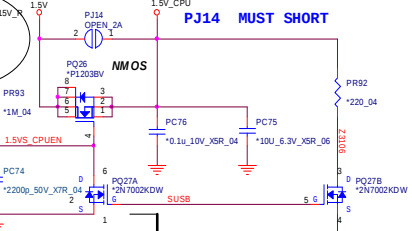
3.3V



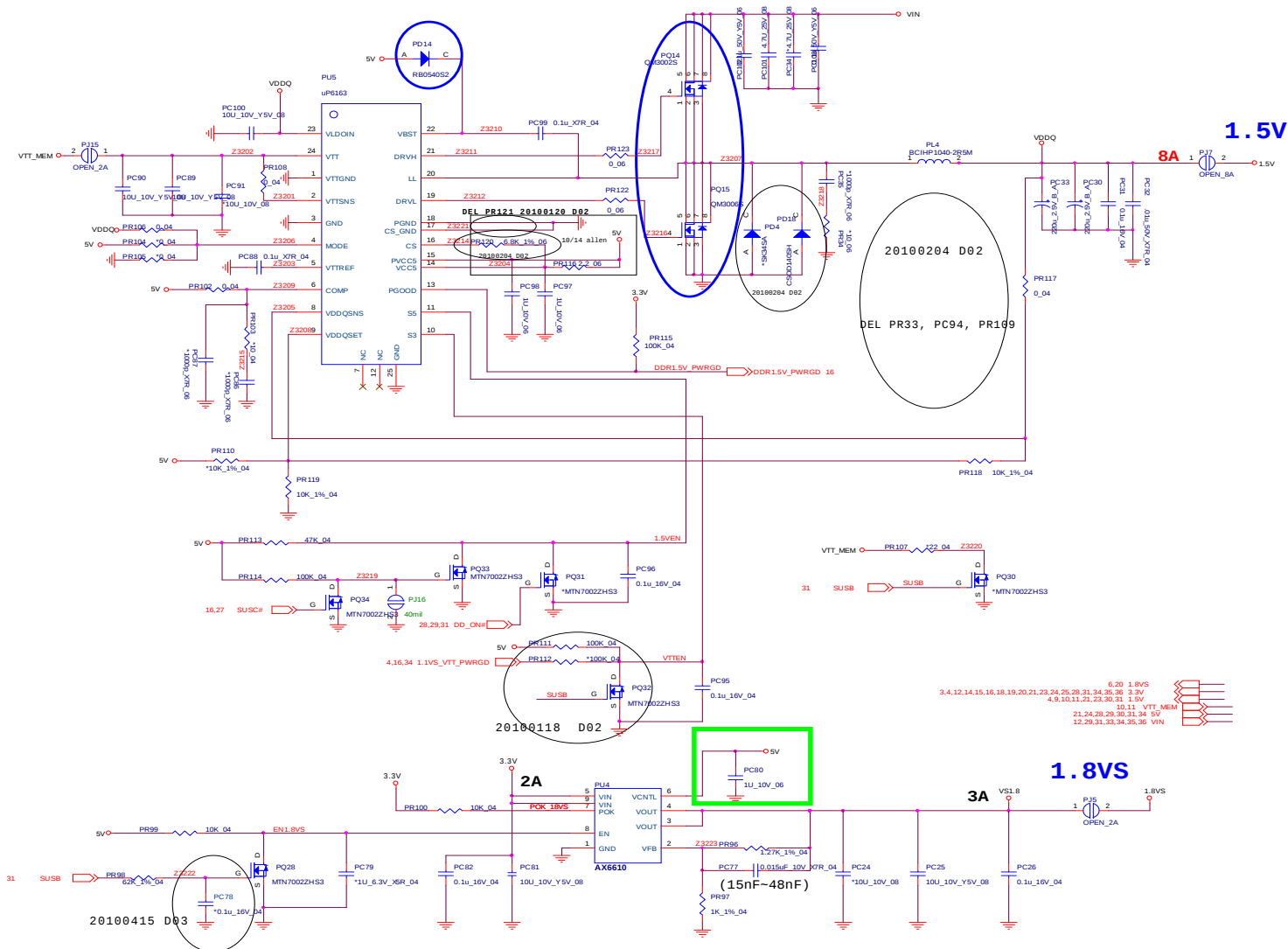
3.3VS



1.5V_CPU



Power 1.5V / 0.75V / 1.8V

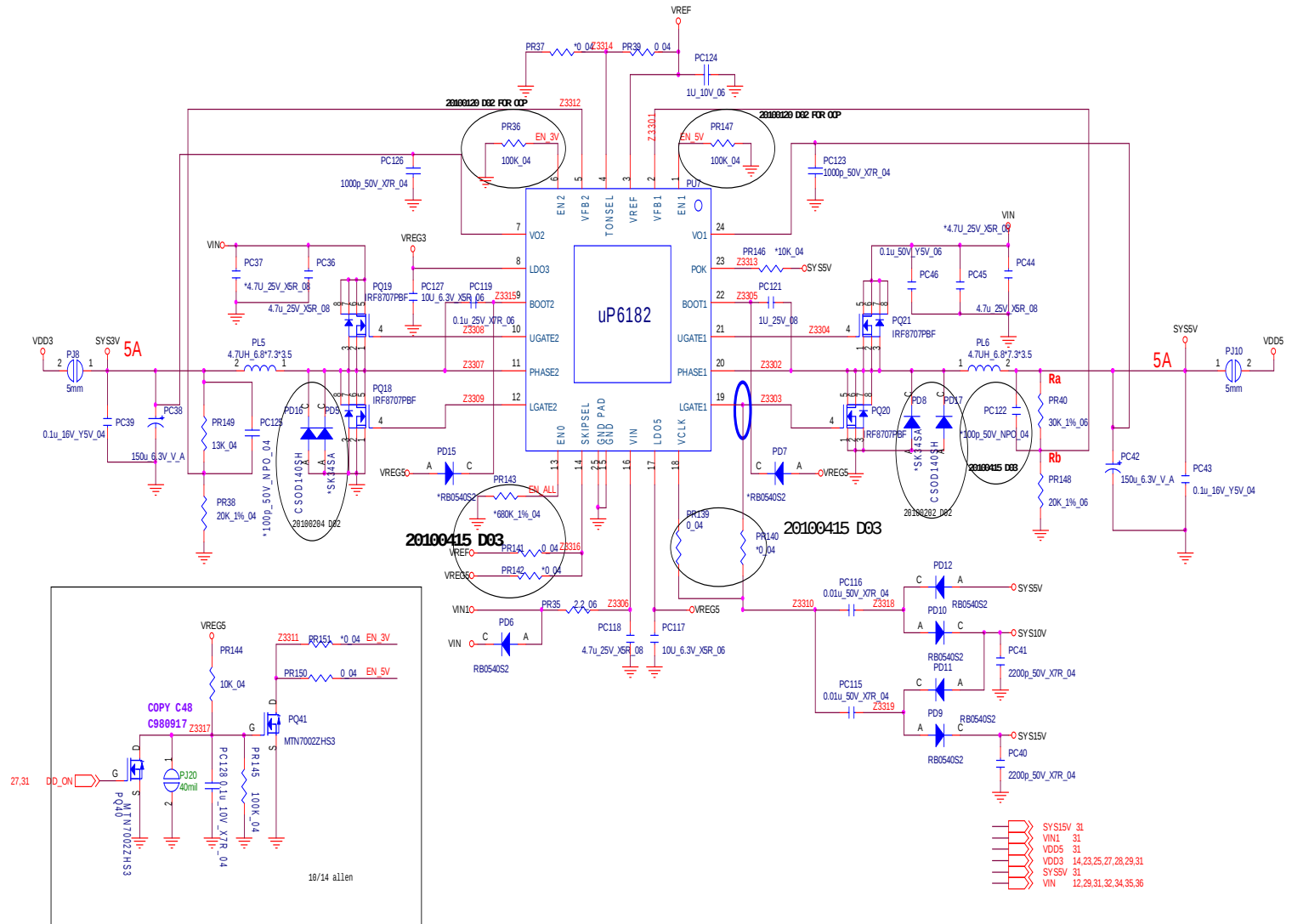


Sheet 32 of 43
Power 1.5V / 0.75V /
1.8V

Schematic Diagrams

VDD3, VDD5

Sheet 33 of 43
VDD3, VDD5



CONTROL 1.1VS_VTT
 H_VTTVID1 = LOW, 1.1V
 H_VTTVID1 = HIGH, 1.05V

H_VTTVID1	Voltage
H	+1.05V
L	+1.1V

Clarksfield --> 1.1V
Auburndale --> 1.05V

20100413 D03
 OCP
 PR134 15K_1%_04

20100419 D03
 PR127 64.9K_1%_04

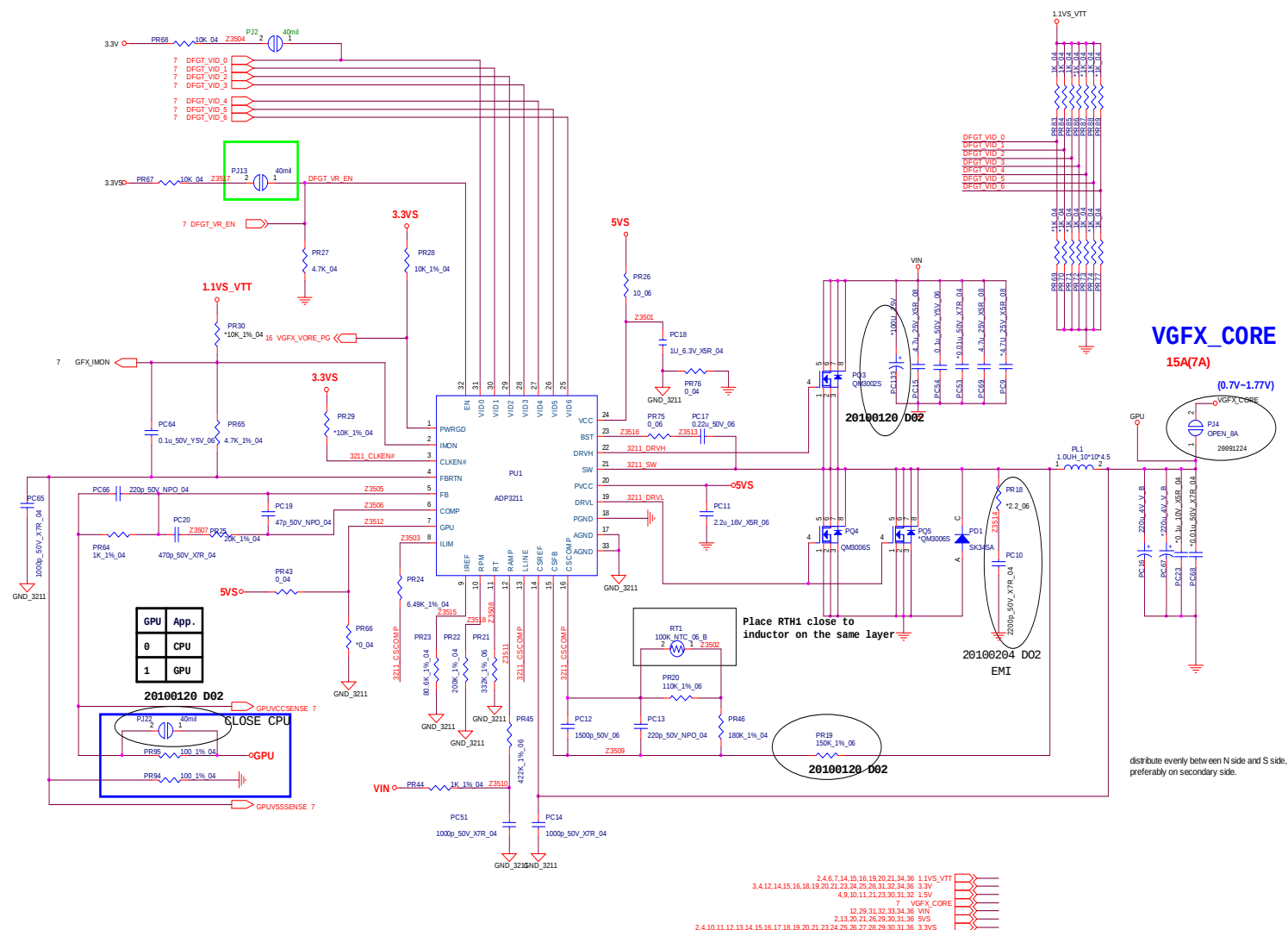
20100118 D02 FOR SOFT SATRT

1.1VS_VTT
 1.1VS_VTT_EN_R
 1.1VS_VTT
 1.1VS_VTT

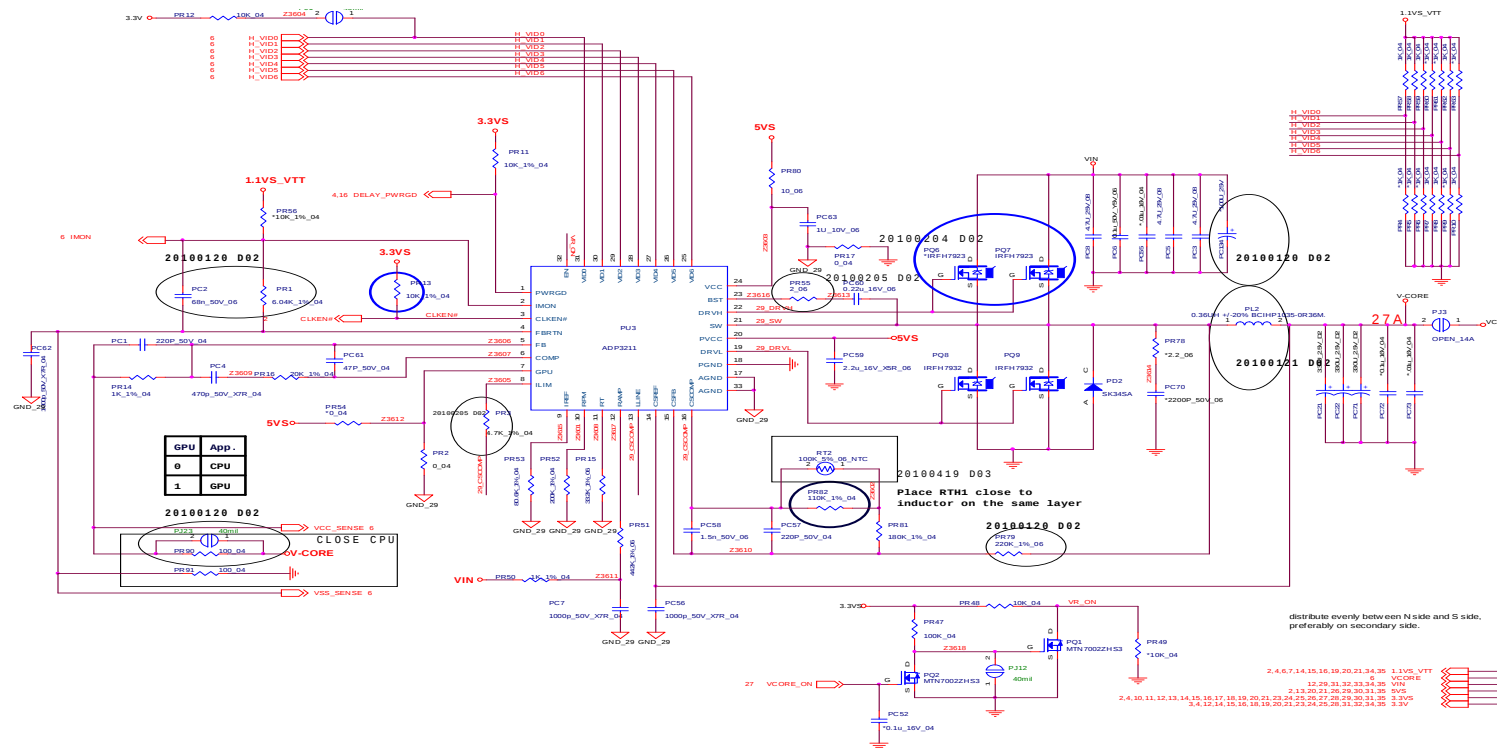
Legend:
 2,4,6,7,14,15,16,19,20,21,23,24,25,28,31,32,35,36 1.1VS_VTT
 3,4,12,14,15,16,18,19,20,21,23,24,25,28,31,32,35,36 3.3V
 21,24,28,29,30,31,32 5V
 12,29,31,32,33,35,36 VIN

Power VGFX_Core

Sheet 35 of 43
Power VGFX_Core



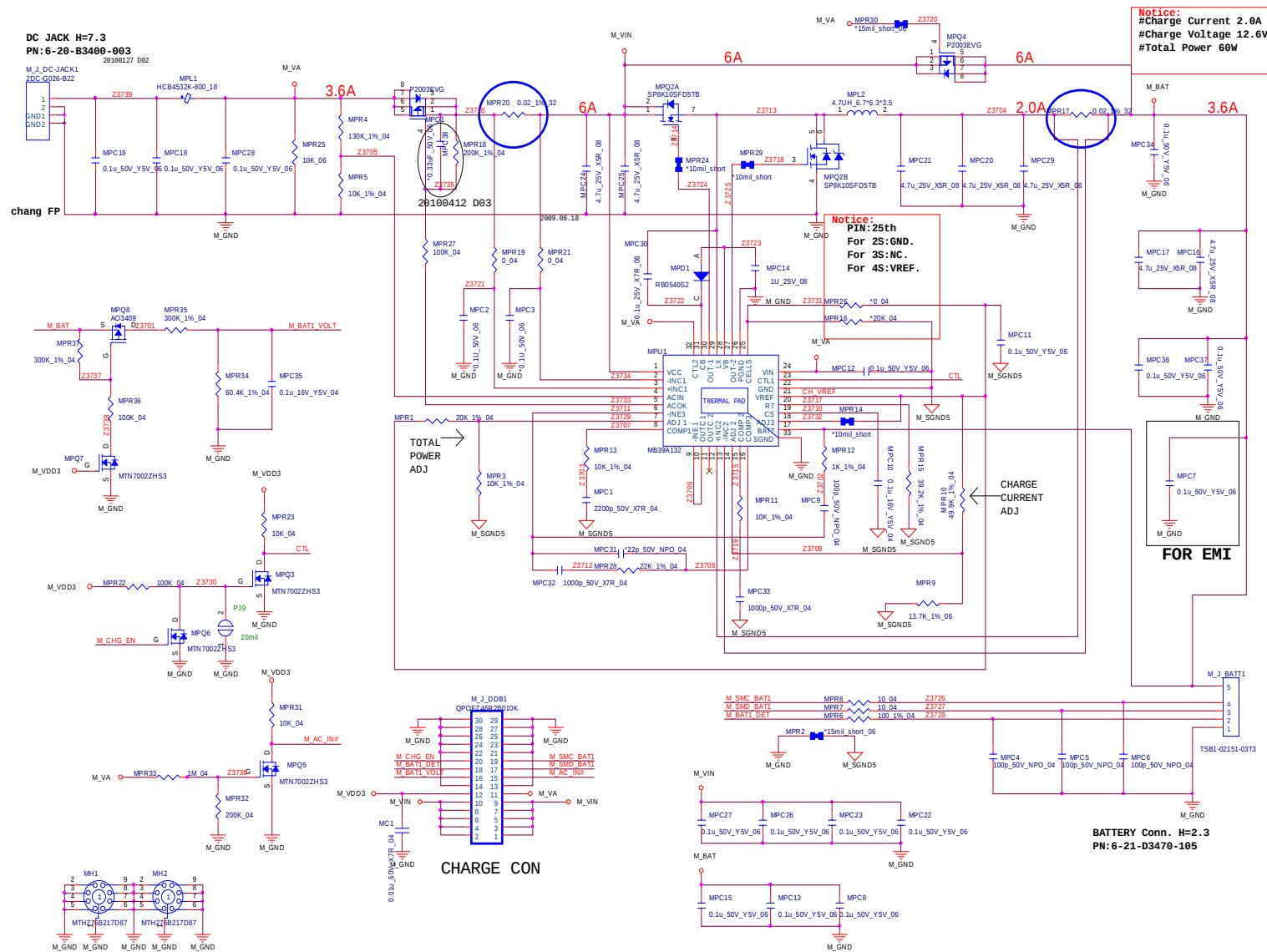
V-Core

Sheet 36 of 43
V-Core

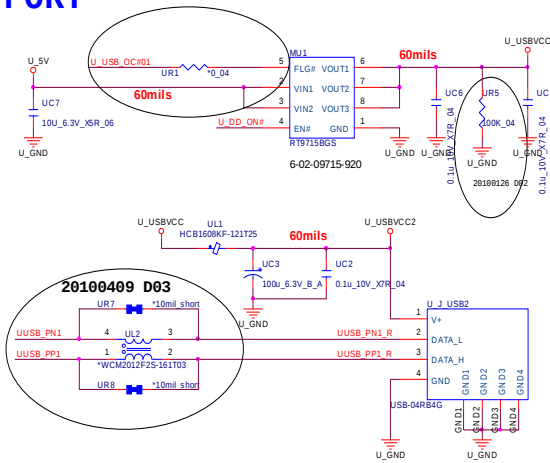
Schematic Diagrams

(AC_IN, Charge) / Con Board

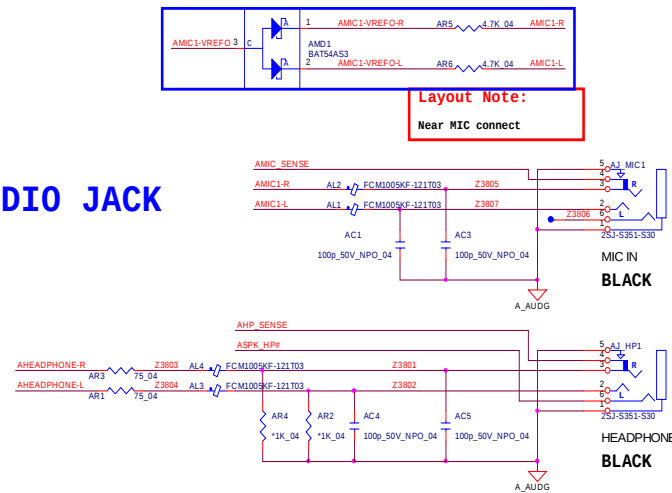
Sheet 37 of 43
(AC_IN, Charge) /
Con Board



USB PORT

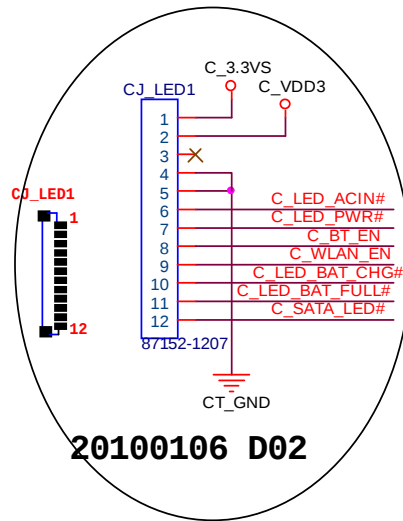


Audio / USB / Board B - 39



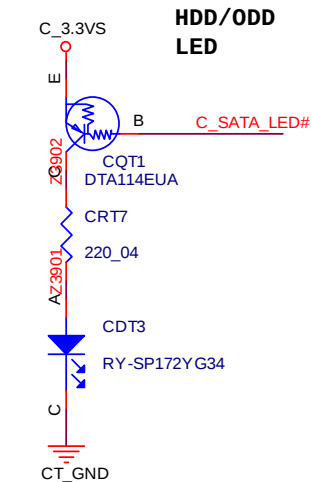
LED Board

CJ_LED1 Conn. LED

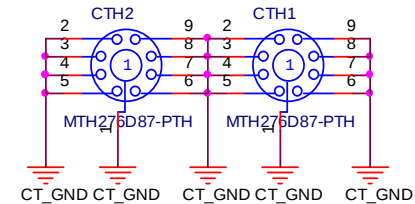
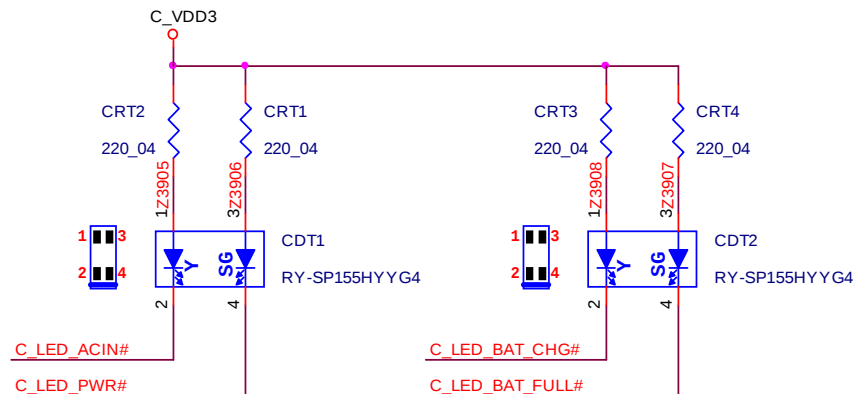
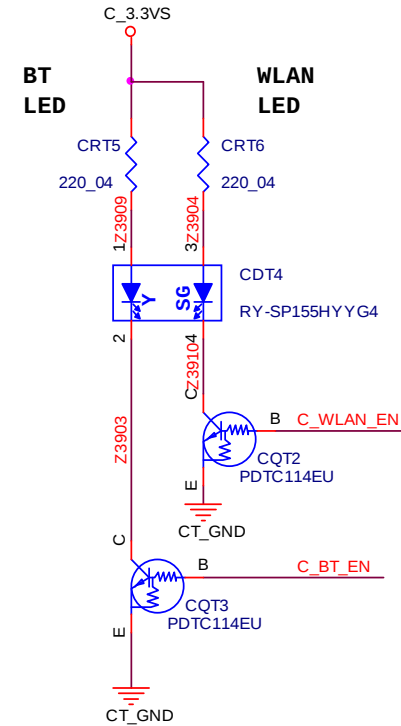


20100106 D02

POWER ON LED

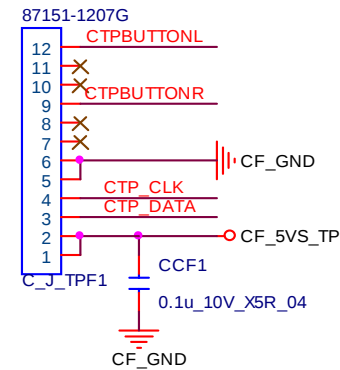
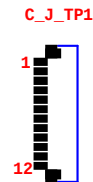
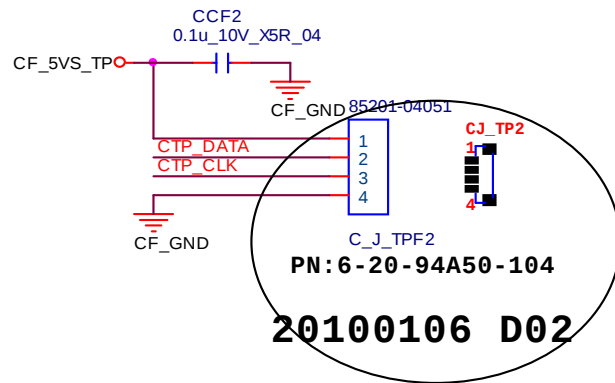


BAT CHARGER LED

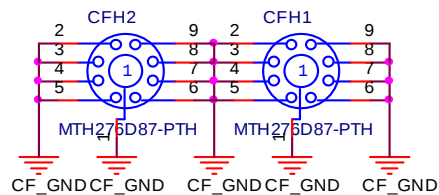
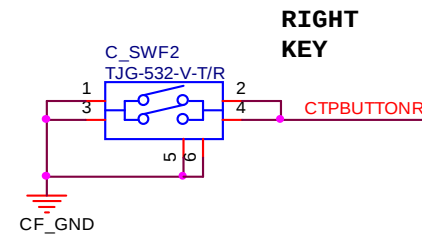
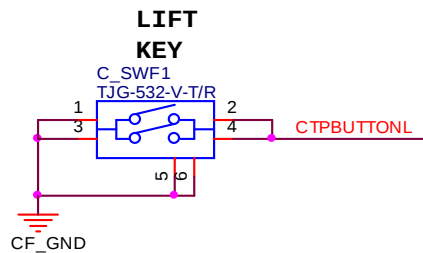


Click Board

CLICK BOARD

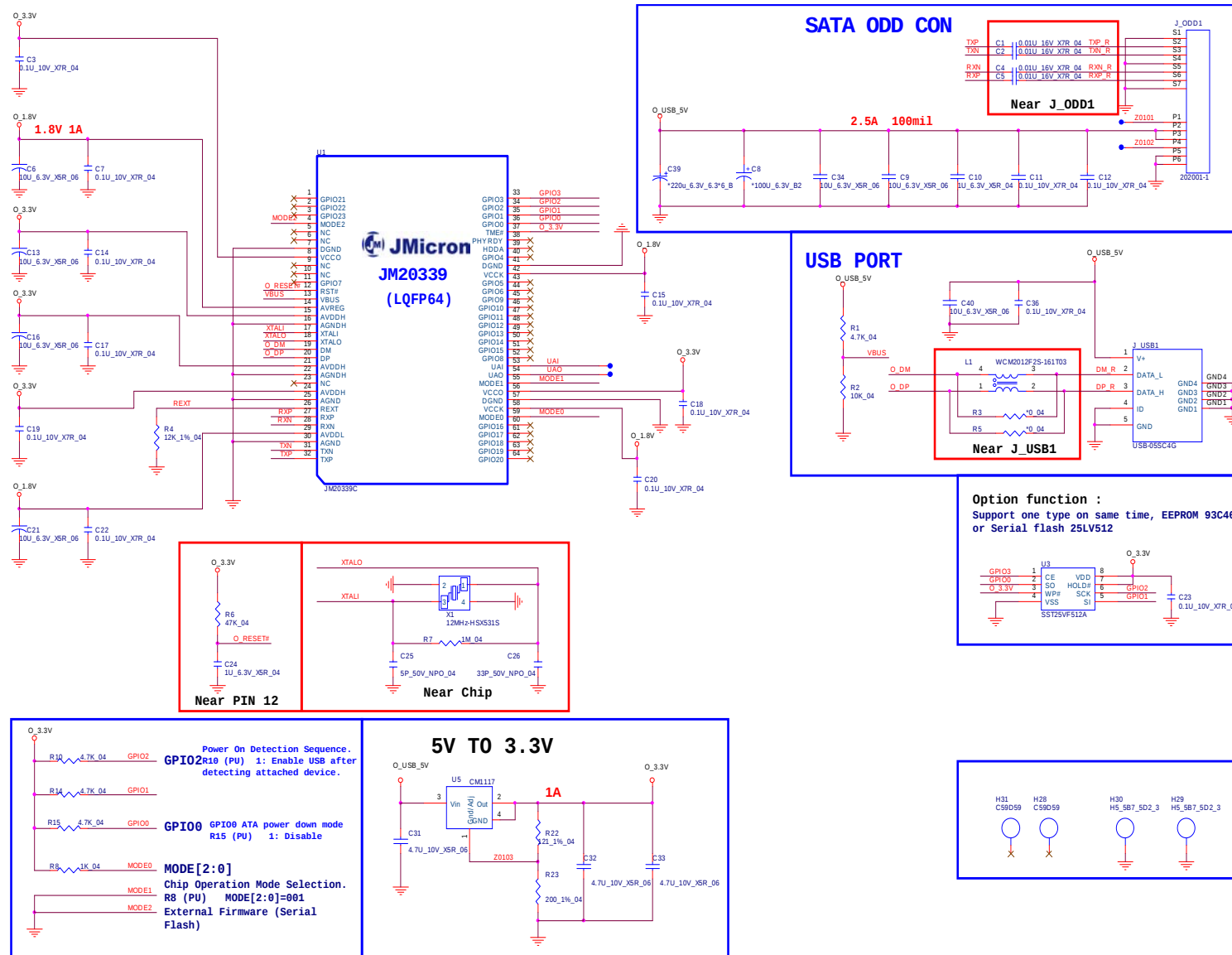


Sheet 40 of 43
Click Board

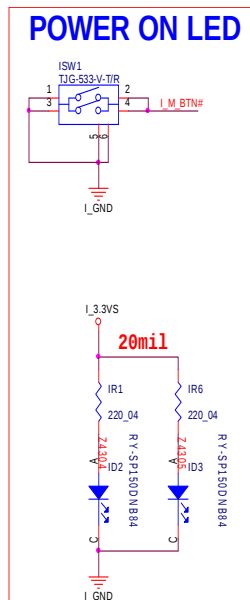


B.Schematic Diagrams

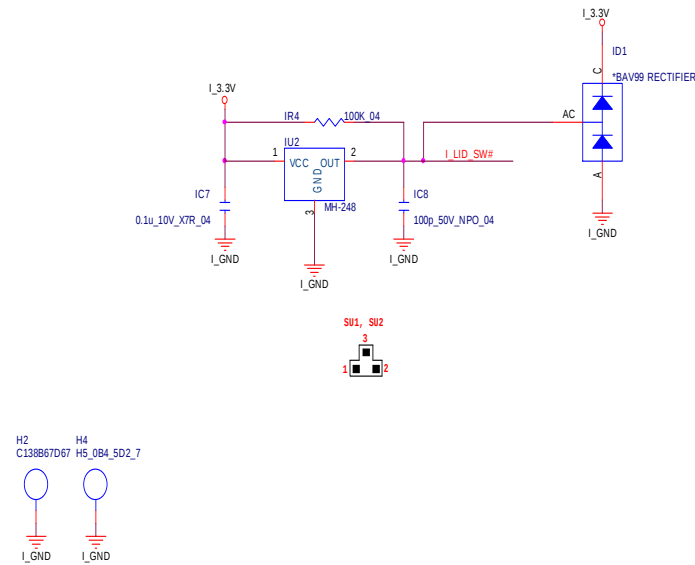
Sheet 41 of 43
OD100



Power SWUSB0 / LID

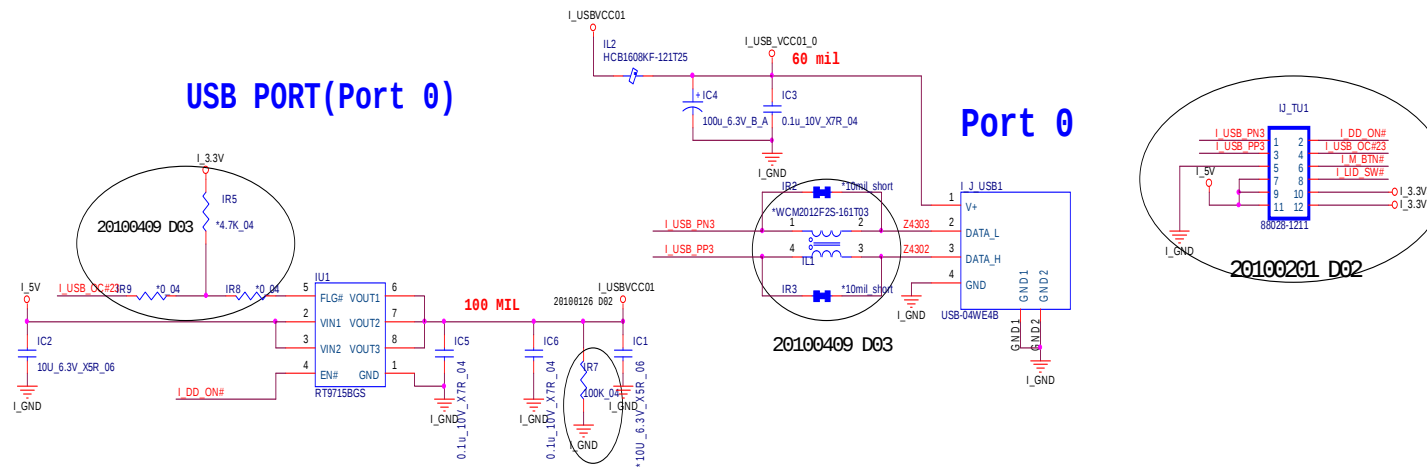


LID SWITCH IC



Sheet 42 of 43
Power SWUSB0 /
LID

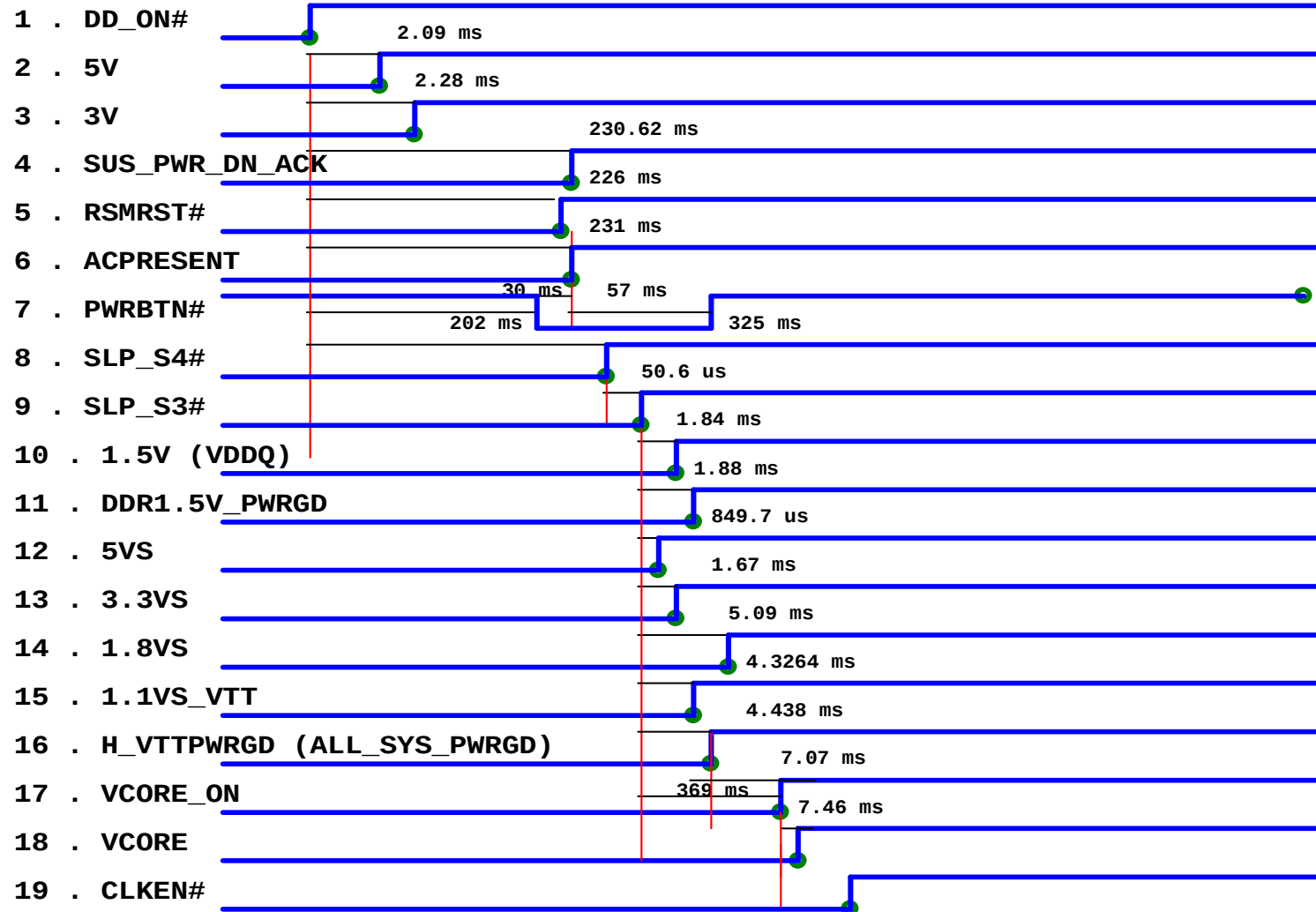
USB PORT(Port 0)



Sequence

S3100 POWER SEQUENCE 0114

Sheet 43 of 43
Sequence



Appendix C: Updating the FLASH ROM BIOS

To update the FLASH ROM BIOS you must:

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

Download the BIOS

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

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

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

Set the computer to boot from the external drive

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



BIOS Version

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

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

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

BIOS Update

Use the flash tools to update the BIOS

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

C:\> Flash.bat

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

Restart the computer (booting from the HDD)

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

Your computer is now running normally with the updated BIOS

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