SERVICE MANUAL

notebook

M720R / M721R / M722R / M725R

Notebook Computer

M72XR

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 ***M72XR*** 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

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 (DC Output 19V, 3.42A or 18.5V, 3.5A AC/DC Adapter).

CAUTION

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

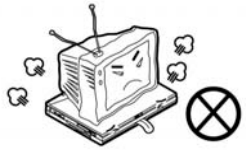
TO REDUCE THE RISK OF FIRE, USE ONLY NO. 26 AWG OR LARGER, TELECOMMUNICATION LINE CORD

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

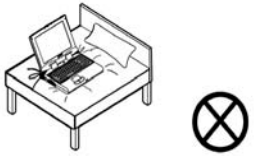
Instructions for Care and Operation

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.

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

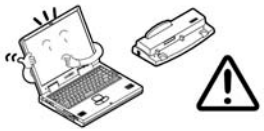
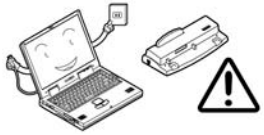
2. **Keep it dry, and don't overheat it.** Keep the computer and power supply away from any kind of heating element. This is an electrical appliance. If water or any other liquid gets into it, the computer could be badly damaged.

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

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

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

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

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

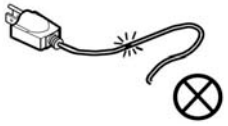
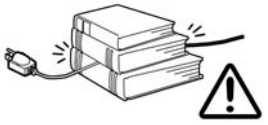
Power Safety

The computer has specific power requirements:

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

Power Safety Warning

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

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

Battery Precautions

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

Battery 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.

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.

Contents

Chapter 1: Introduction

Overview

This manual covers the information you need to service or upgrade the ***M72XR*** series notebook computer. Information about operating the computer (e.g. getting started, and the *Setup* utility) is in the *User's Manual*. Information about drivers (e.g. VGA & audio) is also found in *User's Manual*. That manual is shipped with the computer.

Operating systems (e.g. *Windows XP*, *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 ***M72XR*** 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

Latest Specification Information

The specifications listed in this Appendix are correct at the time of going to press. Certain items (particularly processor types/speeds and CD/DVD device types) may be changed, delayed or updated due to the manufacturer's release schedule. Check with your service center for details.

Feature	Specification	
Processor	Intel® Core™2 Duo Processor (478-pin) Micro-FC-PGA Package - Socket-P **T7100**	65nm (65 Nanometer) Process Technology 2MB On-die L2 Cache & 800MHz FSB 1.8 GHz
	Intel® Core™2 Duo Processor (478-pin) Micro-FC-PGA Package - Socket-P **T7300/ T7500/ T7700**	65nm (65 Nanometer) Process Technology 4MB On-die L2 Cache & 800MHz FSB 2.0/ 2.2/ 2.4 GHz
Core Logic	Intel GM965+ICH8M Chipset	
LCD	12.1" WXGA (1280 * 800) Glare / Non Glare TFT LCD	
Memory	Dual Channel 64-bit Wide DDRII (DDR2) Two 200 Pin SO-DIMM Sockets Supporting **DDRII (DDR2**) **533MHz** - 512MB RAM Modules **OR 667MHz** - 512MB/ 1024MB RAM Modules Memory Expandable up to 2GB (512/1024 MB **DDRII** Modules)	
Video Adapter	**Intel GM965 Integrated Video** High Preference 3D/2D Graphic Accelerator Supports Dynamic Video Memory Technology DVMT (up to **256MB** dynamically allocated from system memory where needed) Supports DirectX 9 3D Graphics Engine Accelerator	
Security	Security (Kensington® Type) Lock Slot Fingerprint ID Reader Module (**Factory Option**)	BIOS Password Trusted Platform Module V1.2 (**Factory Option**)

Feature	Specification	
BIOS	One 8Mb SPI Flash ROM	Phoenix™ BIOS
Storage	One Changeable 12.7mm(h) Optical Device (CD/DVD) Type Drive (see “Optional” on page 1 - 4) Easy Changeable 2.5" 9.5 mm (h) **SATA** (Serial) HDD	
Audio	High Definition Audio (HDA) Compliant with Microsoft UAA (Universal Audio Architecture) Direct Sound 3D™ Compatible EAX™ 1.0 & 2.0 Compatible	A3D™ Compatible S/PDIF Digital Output 2 * Built-In Speakers Built-In Microphone
Keyboard & Pointing Device	Winkey Keyboard	Built-In TouchPad with Scrolling Function
Interface	Three USB 2.0 Ports One Headphone-Out Jack One Microphone-In Jack One S/PDIF Out Jack One Internal Microphone	One RJ-11 Modem Jack One RJ-45 LAN Jack One DC-In Jack One External Monitor Port One IEEE1394 Port
Card Reader	Embedded 7-in-1 Card Reader (MS/ MS Pro/ SD/ Mini SD/ MMC/ RS MMC/ MS Duo) **Note:** MS Duo/ Mini SD/ RS MMC Cards require a PC adapter	
ExpressCard Slot	One ExpressCard/34(54) Slot	
Communication *Note: The **3.5G** and **Intel Turbo Memory Modules** cannot coexist. If one of these factory options is included in your purchase option, then the other is **unavailable**.	**Wireless Module Options:** Intel PRO/Wireless 3945ABG PCIe Wireless LAN Module Intel Wireless WiFi Link 4965AGN PCIe Wireless LAN Module 802.11 b/g USB Wireless LAN Module 10M/100/1000Mb Base-T Ethernet LAN 56K MDC Modem V.90 & V.92 Compliant 1.3M or 2.0M Pixel USB PC Camera Module (**Factory Option**) Bluetooth 2.0 + EDR (Enhanced Data Rate) Module (**Factory Option**) UMTS/HSPDA-based 3.5G Module with Mini Card Interface (**Factory Option**) Quad-band GSM/GPRS (850 MHz, 900 MHz, 1800 MHz, 1900 MHz) UMTS WCDMA FDD (2100 MHz)	

UMTS Modes

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

Feature	Specification
Power Management	Supports ACPI 3.0 Supports Wake on LAN Supports Wake on USB Supports Resume from Modem Ring
Power	Full Range AC/DC Adapter AC input 100 - 240V, 50 - 60Hz, DC Output 19V, 3.42A or 18.5V, 3.5A (**65** Watts)
Battery	4 Cell Smart Lithium-Ion Battery Pack, 14.8V/2.4AH 8 Cell Smart Lithium-Ion Battery Pack, 14.8V/4.4AH (**Option**) RTC Battery
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	299mm (w) * 219mm (d) * 26.5-35.7mm (h) 1.88 kg With 4 Cell Battery and ODD
Optional *Note: The **3.5G** and **Intel Turbo Memory Modules** cannot coexist. If one of these factory options is included in your purchase option, then the other is **unavailable**.	**Optical Drive Module Options:** DVD/CD-RW Combo Drive Module DVD Dual Drive Module Super Multi Drive Module **Wireless Module Options:** Intel PRO/Wireless 3945ABG PCIe Wireless LAN Module Intel Wireless WiFi Link 4965AGN PCIe Wireless LAN Module 802.11 b/g USB Wireless LAN Module USB Floppy Disk Drive 8 Cell Smart Lithium-Ion Battery Pack Trusted Platform Module V1.2 (**Factory Option**) 1.3M or 2.0M Pixel USB PC Camera Module (**Factory Option**) Fingerprint ID Reader Module (**Factory Option**) Bluetooth 2.0 + EDR (Enhanced Data Rate) Module (**Factory Option**) *Intel Turbo Memory (Robson) NAND Flash Memory Card Module (**Factory Option**) OR *UMTS/HSPDA-based 3.5G Module with Mini Card Interface (**Factory Option**) Quad-band GSM/GPRS (850 MHz, 900 MHz, 1800 MHz, 1900 MHz) UMTS WCDMA FDD (2100 MHz)

UMTS Modes

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

Model Differences

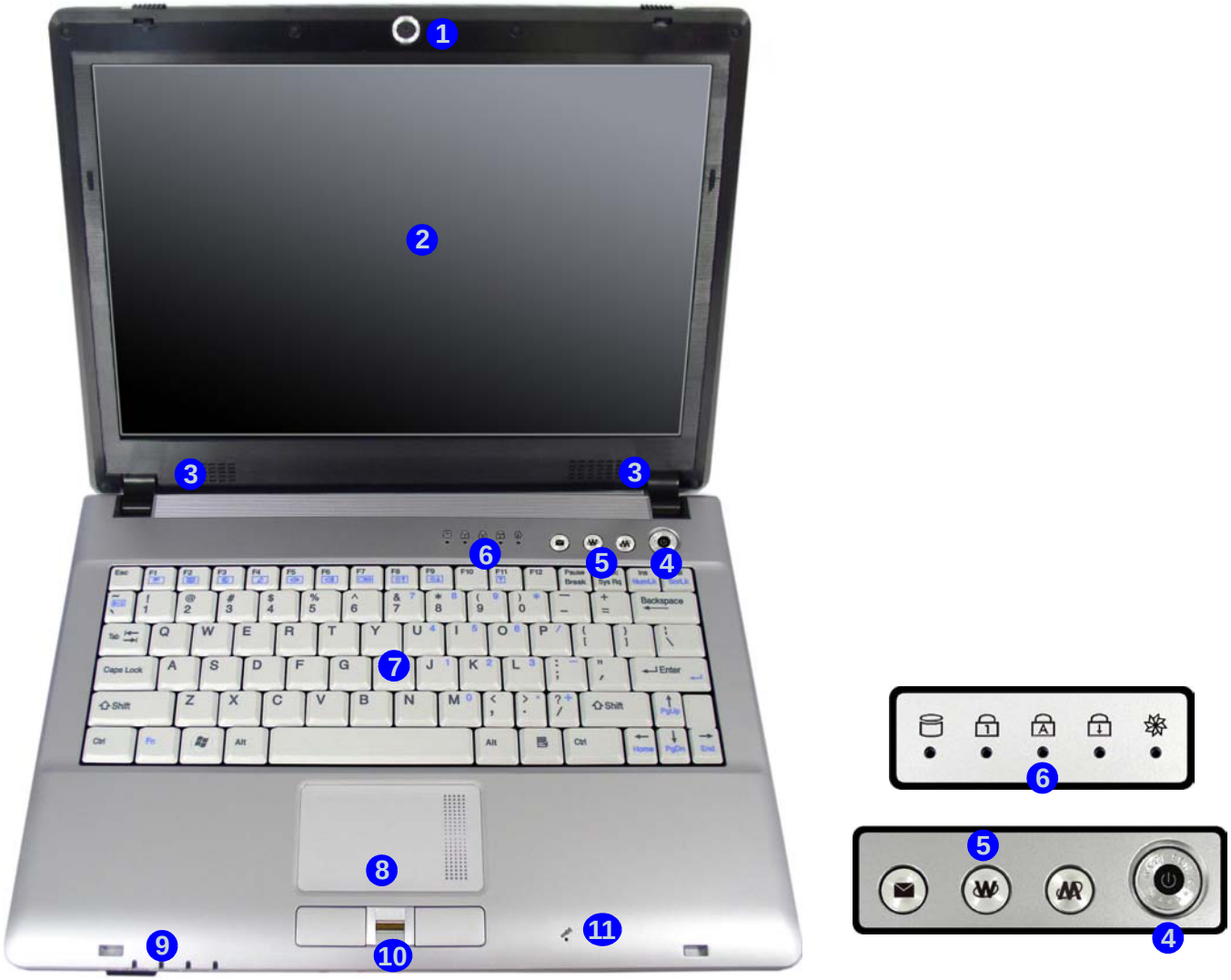
The models vary slightly in external cover design and color.

Figure 1
Model Differences

Figure 2
Top View

1. Built-In PC Camera (**Optional**)
2. LCD
3. Speakers
4. Power Button
5. Hot-Key Buttons
6. LED Status Indicators
7. Keyboard
8. Touchpad & Buttons
9. LED Power & Communication Indicators
10. Fingerprint Module (**Optional**)
11. Built-In Microphone

External Locator - Top View with LCD Panel Open



External Locator - Front & Rear Views

Figure 3
Front View

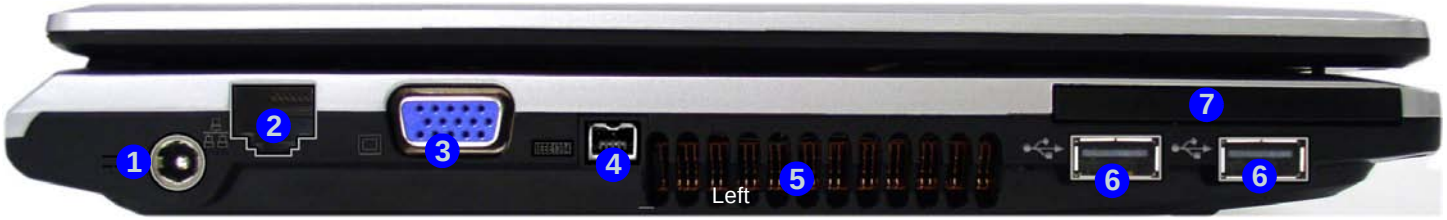
1. LCD Latches
2. LED Power & Communication Indicators
3. 7-in-1 Card Reader
4. S/PDIF-Out Jack
5. Microphone-In Jack
6. Headphone-Out Jack

Figure 4
Rear View

1. Battery

External Locator - Left & Right Side Views

Figure 5
Left Side View



1. DC-In Jack
2. RJ-45 LAN Jack
3. External Monitor Port
4. Mini-IEEE 1394 Port
5. Vent
6. 3 * USB 2.0 Ports
7. ExpressCard/ 54(34) Slot

Figure 6
Right Side View

1. Optical Device Drive Bay
2. Emergency Eject Hole
3. USB 2.0 Port
4. RJ-11 Phone Jack
5. Security Lock Slot

External Locator - Bottom View

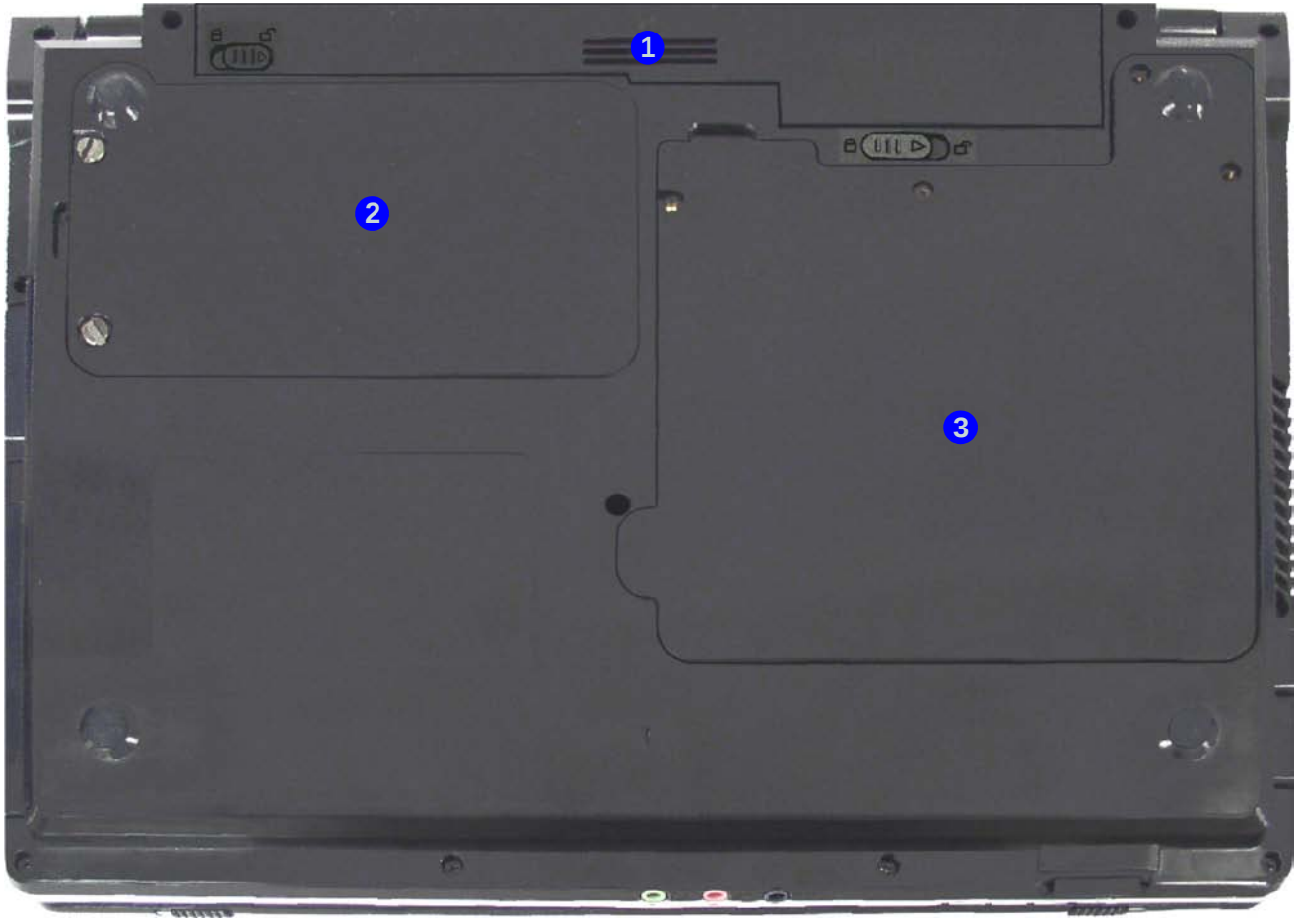


Figure 7
Bottom View

1. Battery
2. Hard Disk Bay Cover (3.5G Module/Intel Turbo Memory Module Location)
3. RAM & CPU Bay Cover

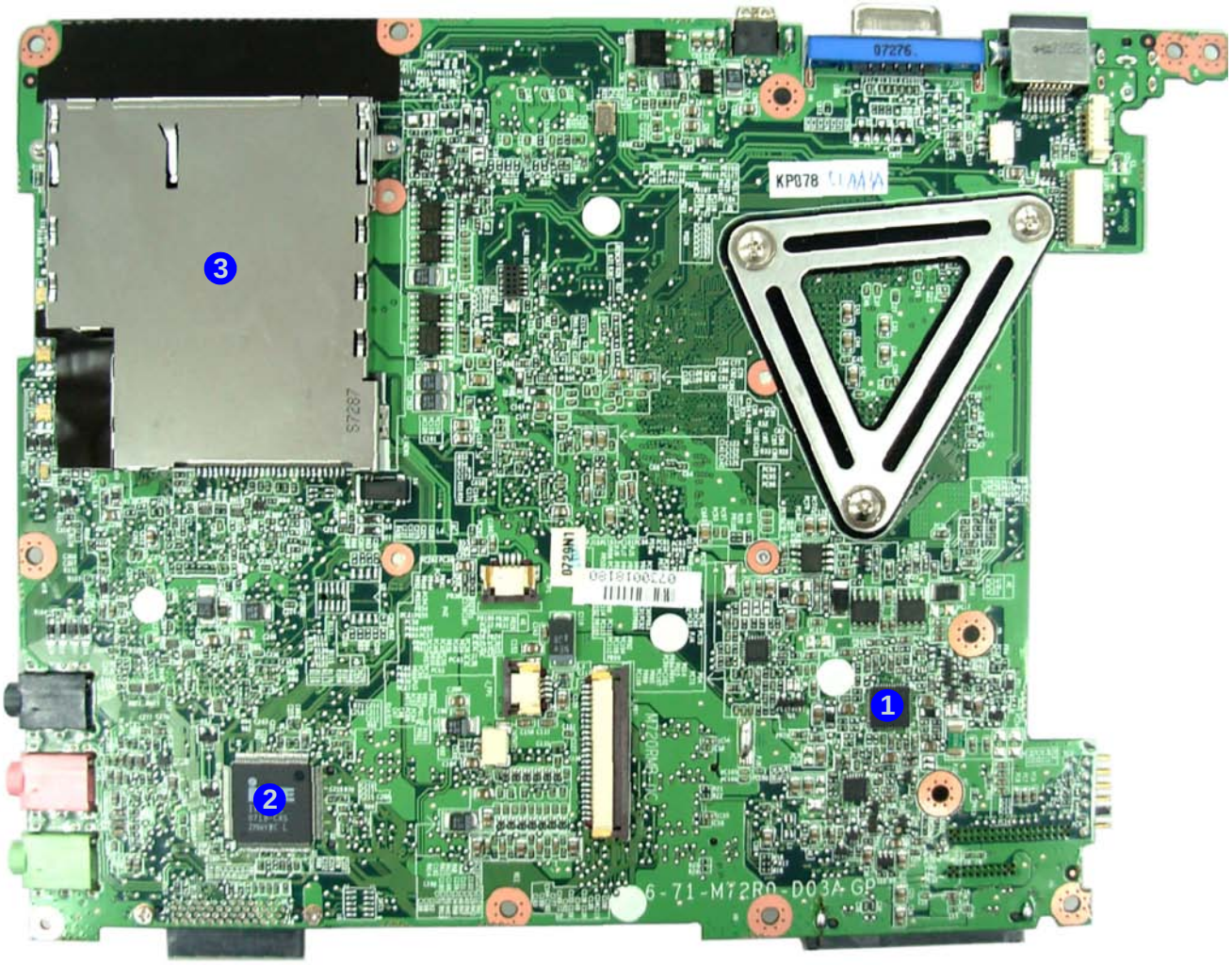
Overheating

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

Mainboard Overview - Top (Key Parts)

Figure 8
Mainboard Top Key Parts

1. SC452
2. ITE 8512E
3. ExpressCard Assembly



Mainboard Overview - Bottom (Key Parts)

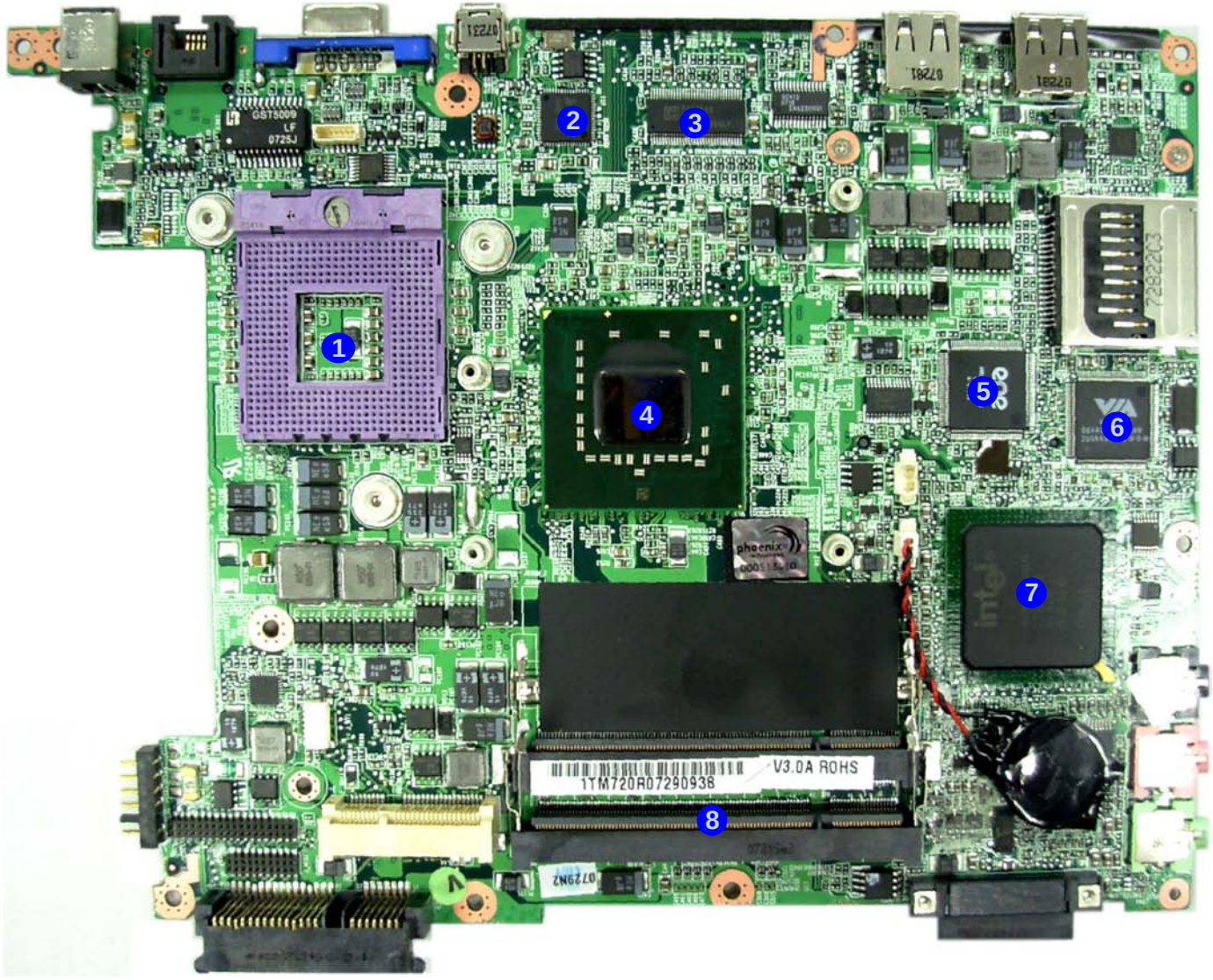


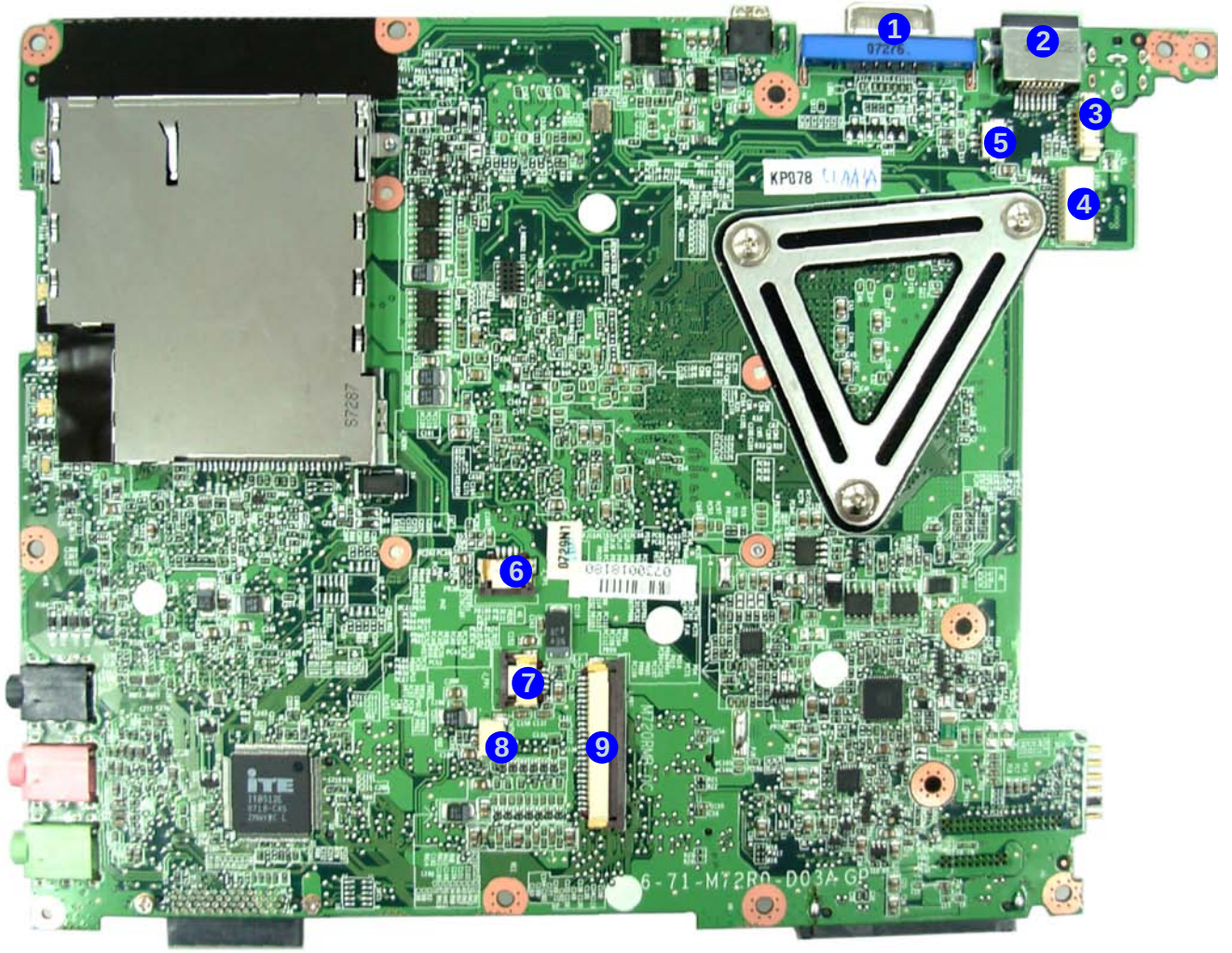
Figure 9
Mainboard Bottom Key Parts

1. CPU Socket (no CPU installed)
2. PCI-E LAN RTL8111B
3. CLOCK GENERATOR ICS9LPR363
4. Northbridge-Intel GM965
5. Card Reader Controller ENE MR510
6. VIA VT6311S
7. Southbridge-ICH8-M
8. Memory Slots DDRII So-DIMM

Mainboard Overview - Top (Connectors)

Figure 10
Mainboard Top Connectors

1. External Monitor Port
2. RJ-45 LAN Jack
3. CCD Cable Connector
4. LCD Cable Connector
5. Speaker Cable Connector
6. Touch Pad Cable Connector
7. Fingerprint Cable Connector
8. Internal Microphone Cable Connector
9. Keyboard Cable Connector



Mainboard Overview - Bottom (Connectors)

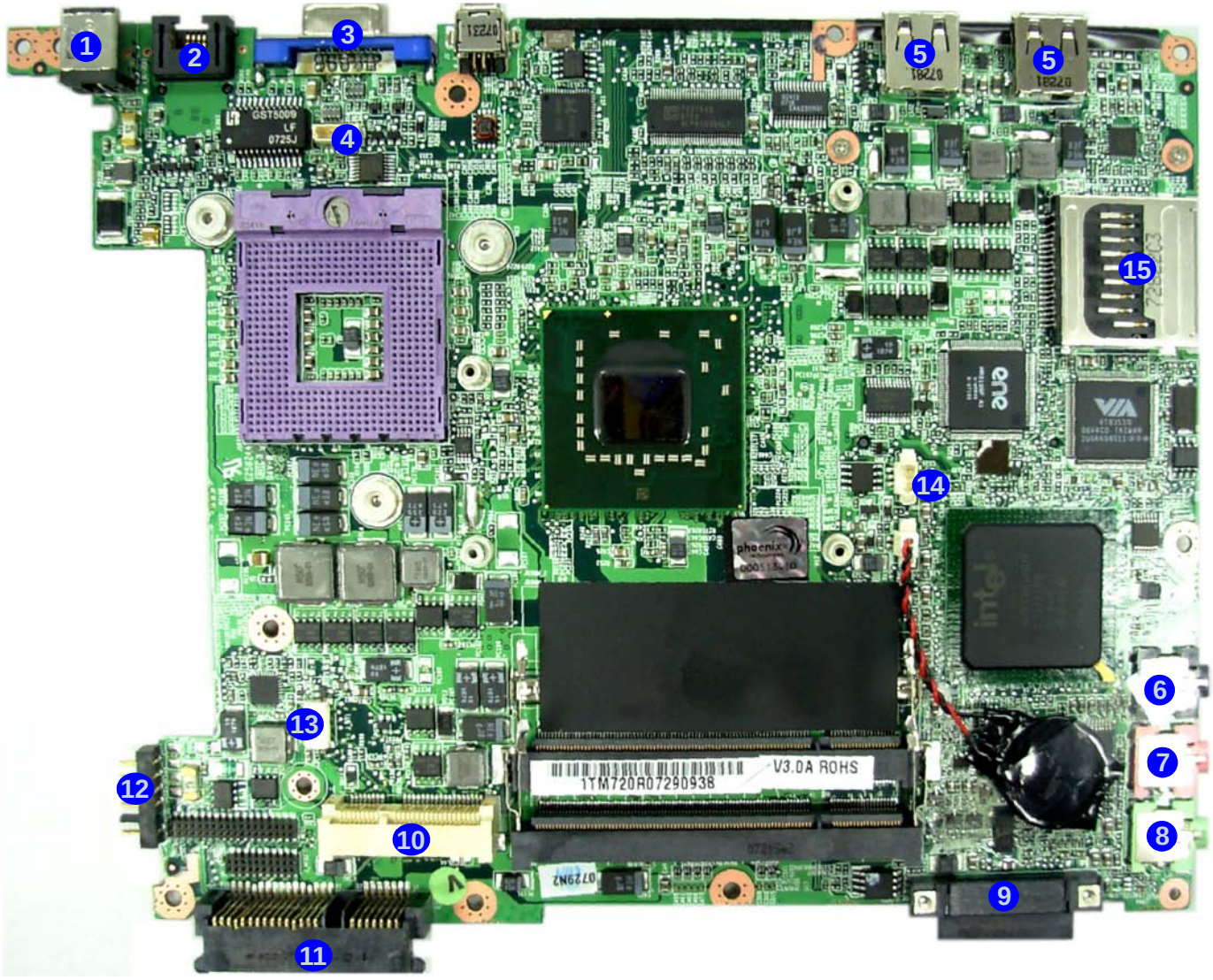


Figure 11
Mainboard Bottom Connectors

1. DC-In Jack
2. RJ-45 LAN Jack
3. External Monitor Port
4. Inverter Cable Connector
5. USB Port
6. S/PDIF-Out Jack
7. Microphone-In Jack
8. Headphone-Out Jack
9. Optical Device Drive Connector
10. Mini PCIe Socket
11. SATA HDD Connector
12. Battery Connector
13. Bluetooth Cable Connector
14. Fan Cable Connector
15. Card Reader

Chapter 2: Disassembly

Overview

This chapter provides step-by-step instructions for disassembling the ***M72XR*** series notebook's parts and subsystems. When it comes to reassembly, reverse the procedures (unless otherwise indicated).

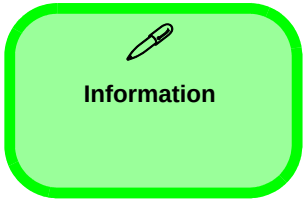
We suggest you completely review any procedure before you take the computer apart.

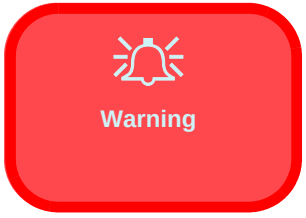
Procedures such as upgrading/replacing the RAM, CD device and hard disk are included in the User's Manual but are repeated here for your convenience.

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

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

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





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

Maintenance Tools

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

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

Connections

Connections within the computer are one of four types:

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

Maintenance Precautions

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

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

Power Safety Warning

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

Cleaning

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

Disassembly Steps

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

To remove the Battery:

1. Remove the battery *page 2 - 5*

To remove the HDD:

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

To remove the System Memory:

1. Remove the battery *page 2 - 5*
2. Remove the system memory *page 2 - 8*

To remove the Processor:

1. Remove the battery *page 2 - 5*
2. Remove the processor *page 2 - 10*

To remove the Wireless LAN Module:

1. Remove the battery *page 2 - 5*
2. Remove the wireless LAN *page 2 - 12*

To remove the Bluetooth:

1. Remove the battery *page 2 - 5*
2. Remove the bluetooth *page 2 - 13*

To remove the Optical Device:

1. Remove the battery *page 2 - 5*
2. Remove the Optical device *page 2 - 14*

To remove the Keyboard:

1. Remove the battery *page 2 - 5*
2. Remove the keyboard *page 2 - 15*

To remove the Modem :

1. Remove the battery *page 2 - 5*
2. Remove the HDD *page 2 - 6*
3. Remove the CPU heat sink *page 2 - 10*
4. Remove the Optical device *page 2 - 14*
5. Remove the keyboard *page 2 - 15*
6. Remove the modem *page 2 - 16*

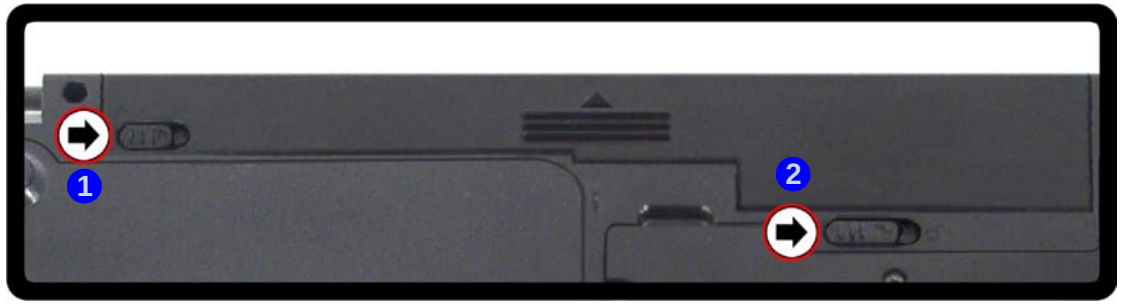
Removing the Battery

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

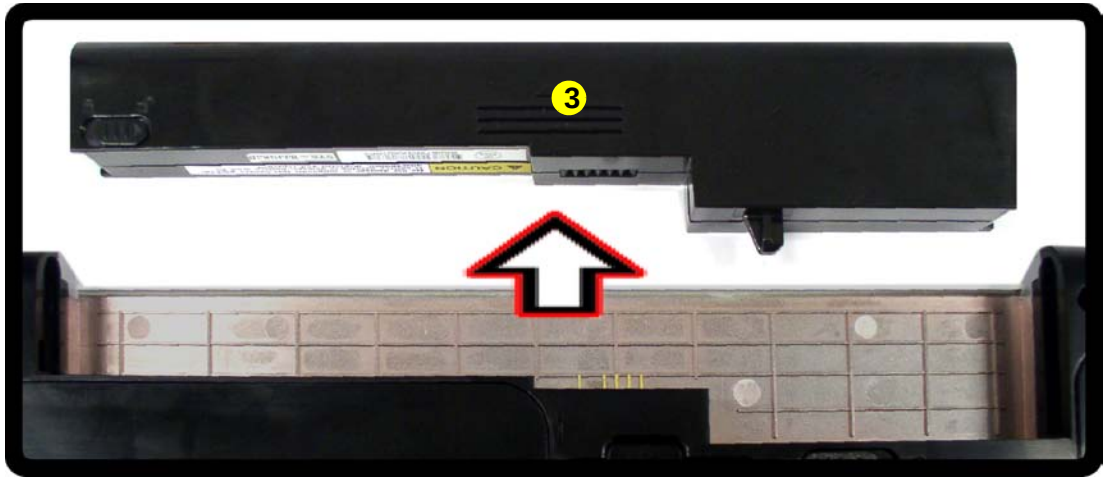
Figure 1
Battery Removal

a. Slide the 2 latches and hold latch 2 in place.
b. Slide the battery in the direction of the arrow.

a.



b.



3. Battery

Removing the Hard Disk Drive

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

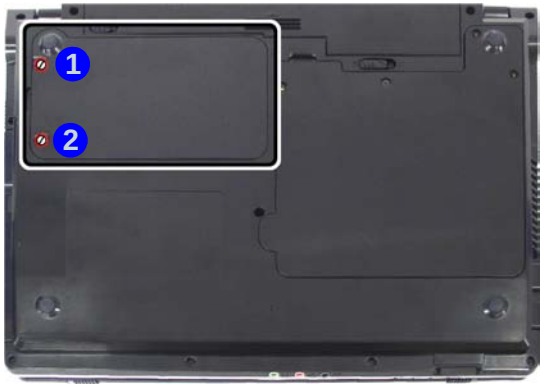
Figure 2
HDD Assembly Removal

a. Locate the HDD bay cover and remove the screws.
b. Remove the bay cover.

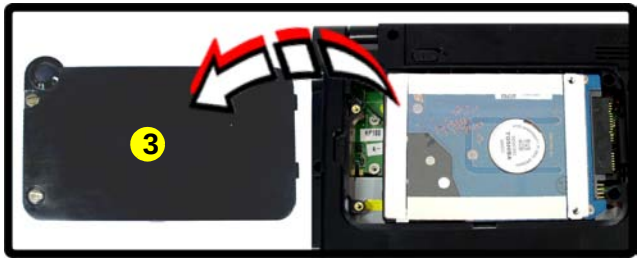
Hard Disk Upgrade Process

1. Turn **off** the computer, and remove the battery (*page 2 - 6*).
2. Locate the hard disk bay cover and remove the screws (1 - 2).
3. Remove the bay cover 3.

a.



b.



3. HDD Bay Cover

- 2 Screws

HDD System Warning

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

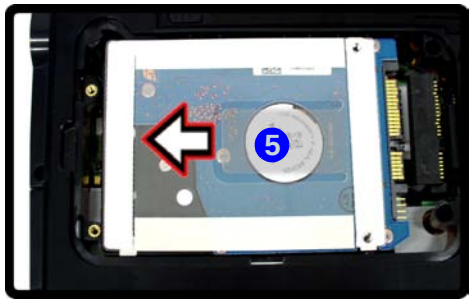
You have backed up any data you want to keep from your old HDD.

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

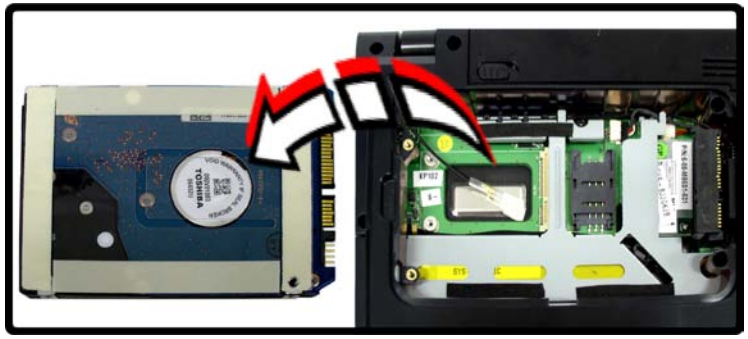
If you have access to the internet, download the latest application and hardware driver updates for the operating system you plan to install. Copy these to a removable medium.

4. Carefully grip the mylar cover tab 4 and slide the hard disk in the direction of arrow.
5. Lift the hard disk up (***Figure d***) in the direction of arrow.
6. Remove the screws 5 - 6 and separate the mylar cover 7 from the hard disk 8.
7. Reverse the process to install any new hard disk.

c.



d.



e.

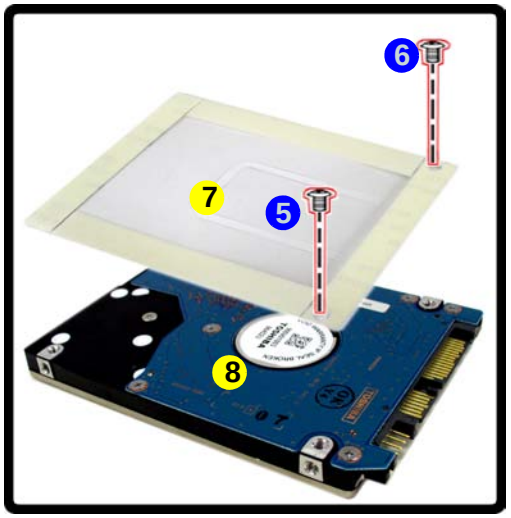


Figure 3
HDD Assembly Removal Sequence

c. Slide the HDD in the direction of the arrow.
d. Lift the HDD out of the bay.
e. Remove the screws and separate the mylar cover from the HDD.

7. Mylar Cover
8. HDD

- 2 Screws

Removing the System Memory (RAM)

Figure 4
RAM Module Removal

a. Remove the screws.
b. Disconnect the fan cable.
c. Remove the cover.

The computer has two memory sockets for 200 pin Small Outline Dual In-line Memory Modules (SO-DIMM) supporting **DDRII** 533/667MHz. The main memory can be expanded up to 4GB. The SO-DIMM modules supported are 256MB, 512MB and 1024MB **DDRII** Modules. The total memory size is automatically detected by the POST routine once you turn on your computer.

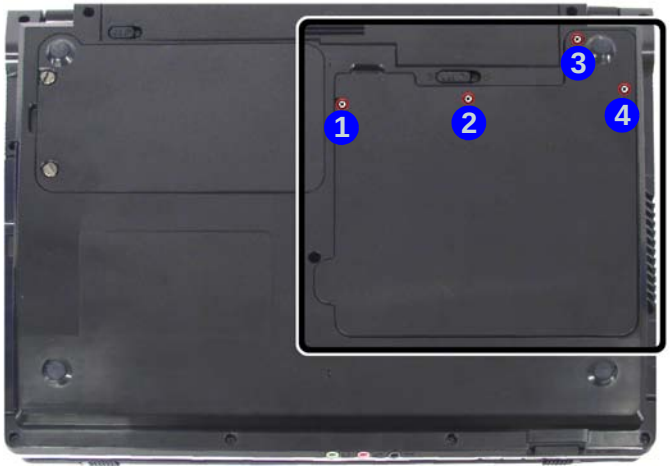
Memory Upgrade Process

1. Turn **off** the computer, remove the battery (*page 2 - 6*).
2. Locate the CPU/RAM bay cover, and remove screws 1 - 4.
3. Carefully (a fan and cable are attached to the under side of the cover) lift up the bay cover.
4. Carefully disconnect the fan cable 5.
5. Remove the bay cover 6.
6. The RAM will be visible at point 7 on the mainboard.

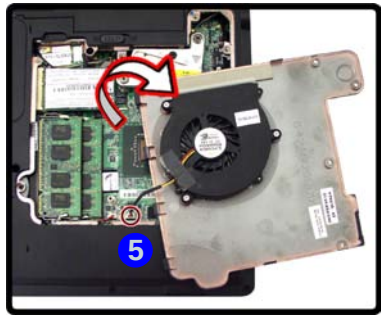
Contact Warning

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.

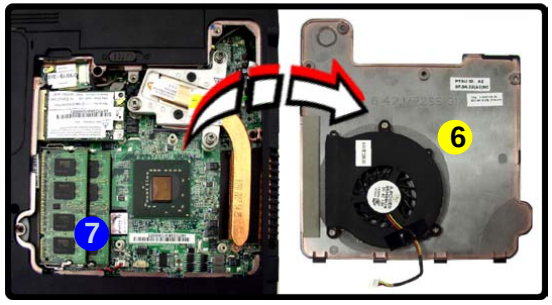
a.



b.



c.



6. CPU/RAM Bay Cover

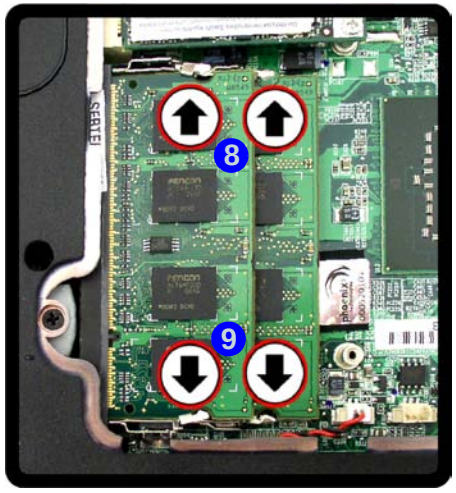
- 4 Screws

7. Gently push the two release latches (8 & 9) on the sides of the memory socket in the direction indicated by the arrows (***Figure d***).
8. The RAM module(s) 10 will pop-up (***Figure e***), and you can then remove it.

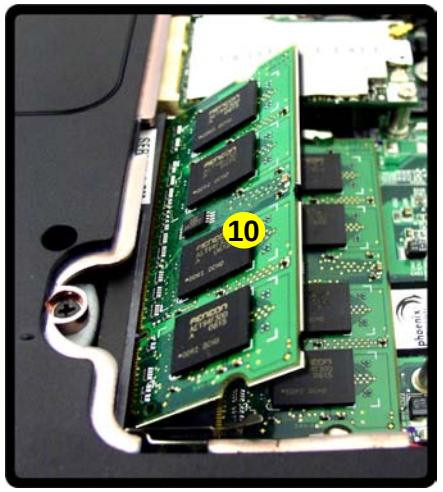
Figure 5
Memory Removal Sequence

d. Push the release latch(es).
e. Remove the module(s).

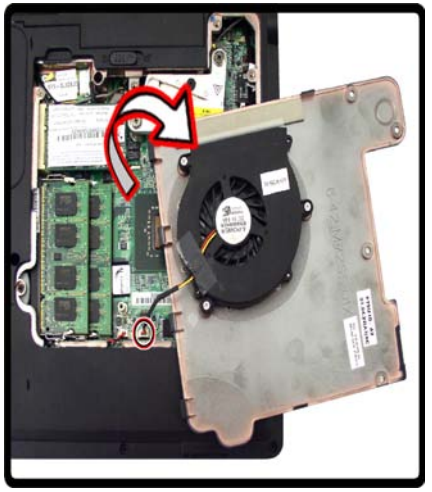
d.



e.



f.



9. Push the latches to release the second module if necessary.
10. Insert a new module holding it at about a 30° angle and fit the connectors firmly into the memory slot.
11. The module will only fit one way as defined by its pin alignment. Make sure the module is seated as far into the slot as it will go. DO NOT FORCE IT; it should fit without much pressure.
12. Press the module down towards the mainboard until the slot levers click into place to secure the module.
13. Replace the bay cover and the screws (**make sure you reconnect the fan cable before screwing down the bay cover - *Figure f***).
14. Restart the computer to allow the BIOS to register the new memory configuration as it starts up.

10 RAM Module(s)

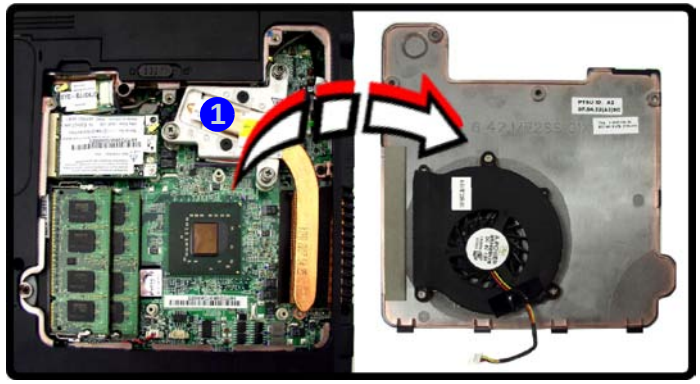
Figure 6
Processor Removal

a. Remove the cover and locate the heat sink.
b. Remove the 3 screws in the order indicated.
c. Remove the heat sink.

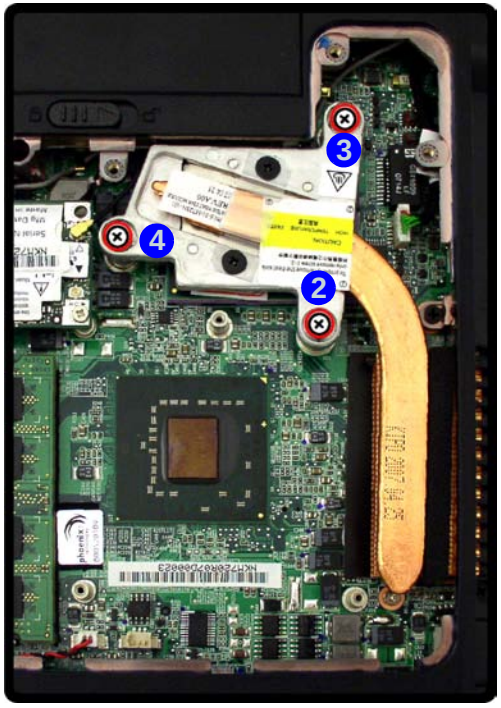
Removing the Processor

1. Turn **off** the computer, and remove the battery (*page 2 - 6*) and the CPU/RAM bay cover (*page 2 - 8*).
2. The CPU heat sink will be visible at point 1 on the mainboard.
3. Remove screws 2 - 4 from the heat sink in the order indicated.
4. Carefully lift up the heat sink 5 (*Figure c*) off the computer.

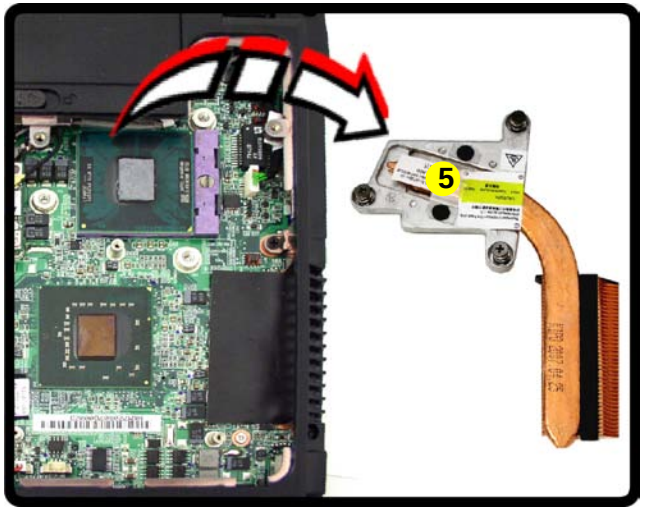
a.



b.



c.



5. Heat Sink

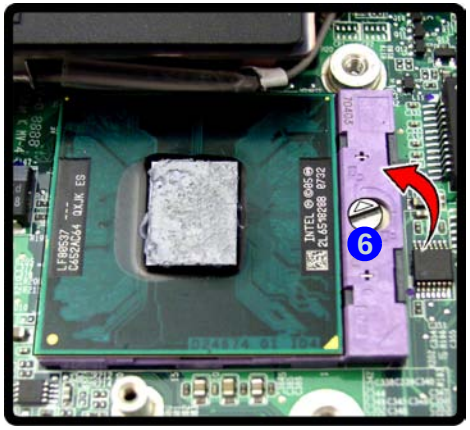
- 3 Screws

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

Figure 7
Processor Removal Sequence

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

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

Figure 8
Wireless LAN Module Removal

a. Remove the cover and locate the heat sink.
b. Disconnect the cable and remove the screw.
c. The WLAN module will pop up.
d. Remove the WLAN module.

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

4. WLAN Module

- 1 Screw

Removing the Wireless LAN Module

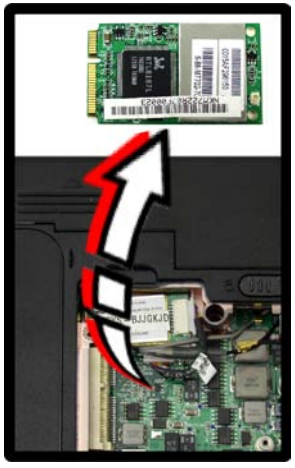
1. Turn **off** the computer, remove the battery (***page 2 - 6***) and the CPU/RAM bay cover (***page 2 - 8***).
2. The Wireless LAN module will be visible at point 1 on the mainboard.
3. Carefully disconnect cable 2, then remove the screw 3 from the module socket.
4. The wireless LAN module 4 will pop-up.
5. Lift the wireless LAN module (***Figure d***) up and off the computer.

a.

b.

c.

d.



Removing the Bluetooth Module

1. Turn **off** the computer, remove the battery (*page 2 - 6*), and the CPU/RAM bay cover (*page 2 - 8*).
2. The modem will be visible at point 1 on the mainboard.
3. Remove screw 2 and carefully disconnect the cable 3 and separate the modem from the connector 4.
4. Lift the modem 5 up and off the computer.

a.

b.

c.

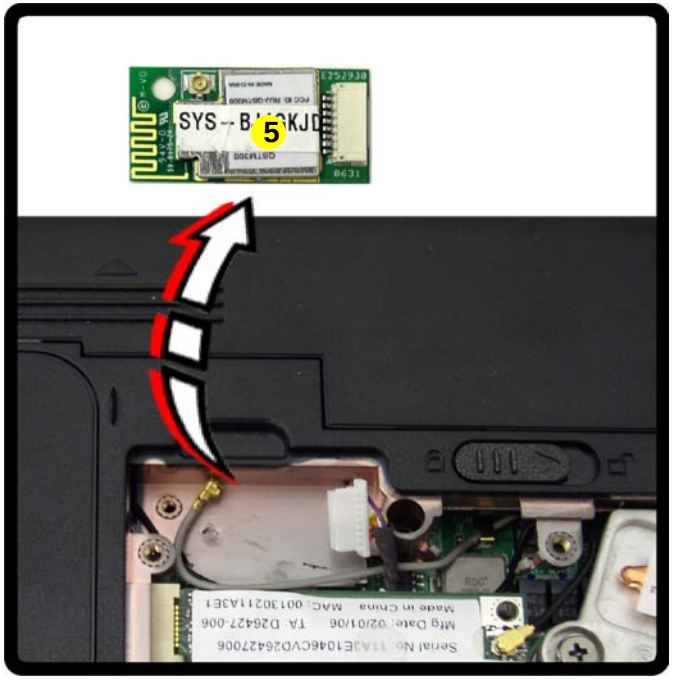


Figure 9
Bluetooth Removal

a. Remove the cover and locate the Bluetooth.
b. Remove the screw and disconnect the cable and seperate the connector.
c. Lift the Bluetooth out.

5. Bluetooth Module

- 1 Screw

Removing the Optical (CD/DVD) Device

1. Turn off the computer, remove the battery (*page 2 - 6*), and the CPU/RAM bay cover (*page 2 - 8*).
2. Remove the screw at point 1, and use a screwdriver to carefully push out the optical device at point 2.
3. 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.
4. Restart the computer to allow it to automatically detect the new device.

Figure 10
Optical Device Removal

a. Remove the cover and locate the screw.
b. Remove the screw and push the optical device out off the computer at point 2 and remove the optical device.

a.

b.

3. Optical Device

- 1 Screw

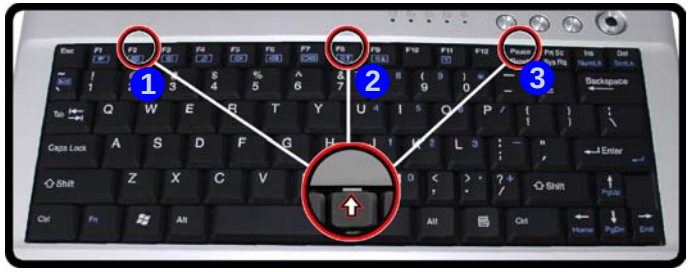
Removing the Keyboard

1. Turn **off** the computer, and remove the battery (*page 2 - 6*).
2. Press the **three** 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 b*).
4. Disconnect the keyboard ribbon cable 4 from the locking collar socket 5.
5. Carefully lift up the keyboard 6 (*Figure c*) off the computer.

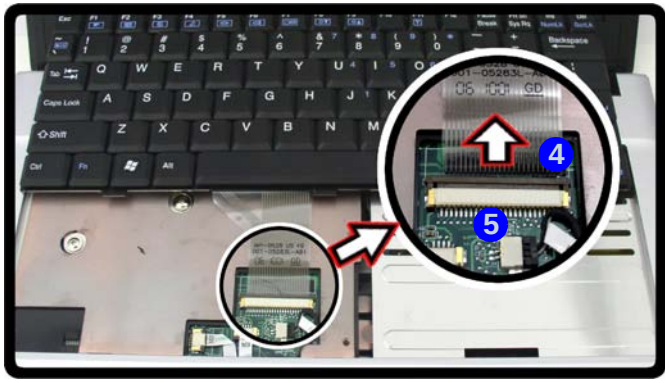
Figure 11
Keyboard Removal

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

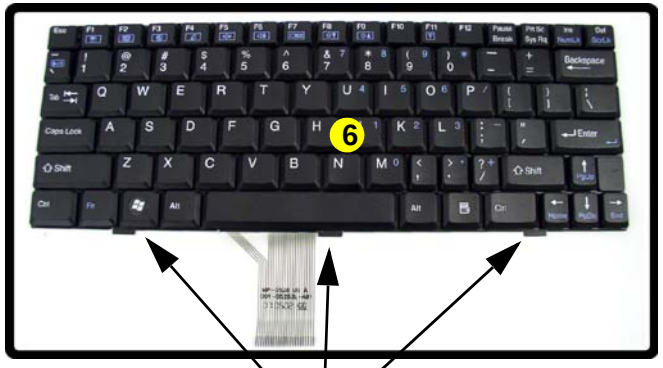
a.



b.



c.



Re-Inserting the Keyboard

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

6. Keyboard Module.

Figure 12
Modem Removal

a. Disconnect the connectors from under the keyboard.
b. Remove the screws.
c. Remove the screws and disconnect the connectors from the mainboard.

Removing the Modem Module

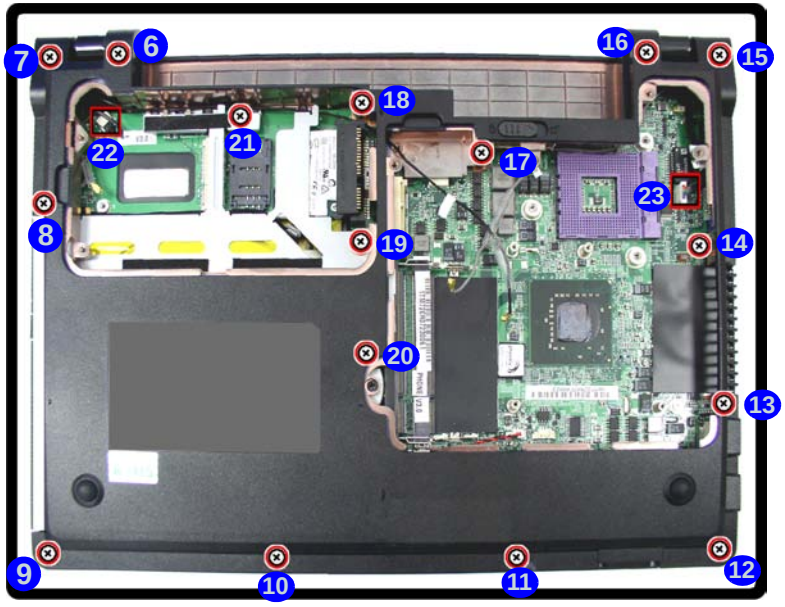
1. Turn off the computer, remove the battery (***page 2 - 6***) and the CPU/RAM bay cover (***page 2 - 8***) and the optical device (***page 2 - 8***) and the keyboard (***page 2 - 8***).
2. Disconnect the connectors 1 - 3 from under the keyboard and turn it over.
3. Remove screws 4 - 5 from the rear of the computer.

a.

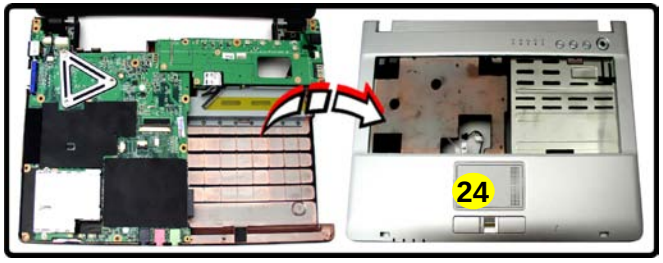
b.

4. Remove the screws 6 - 21 from the bottom case and disconnect the connectors 22 - 23 on the mainboard.
5. Carefully lift up the top case 24 off the computer. 24

c.



d.

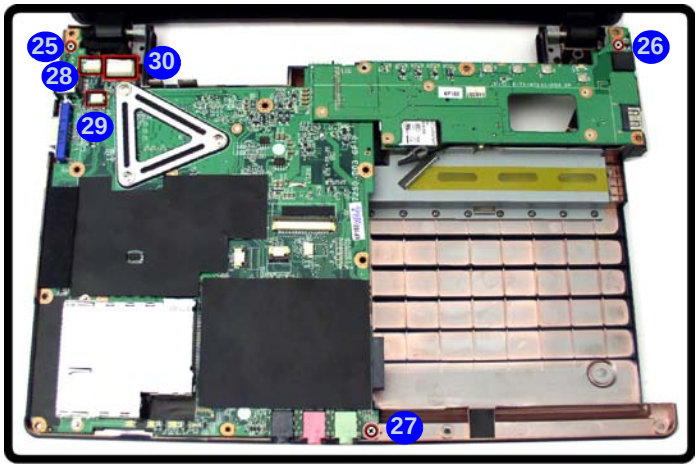


24. Top Case

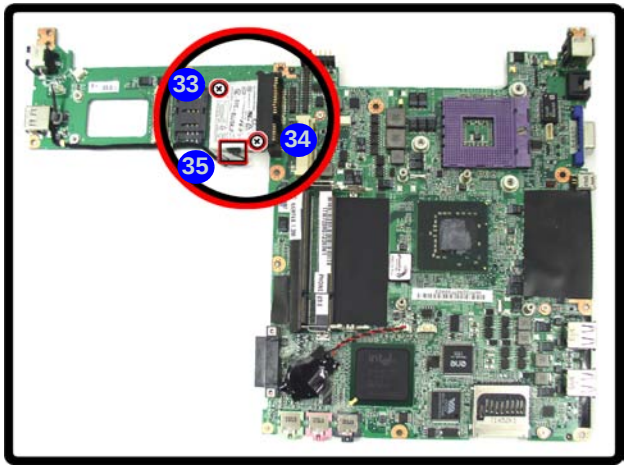
- 18 Screws

6. Remove screws 25 - 27 and disconnect the connectors 28 - 30 from the mainboard.
7. Separate the bottom case 31 from the mainboard 32 and turn it over.
8. Remove the screws 33 - 34 and disconnect the connector 35 from the modem.
9. Lift the modem 37 up off the socket 36.

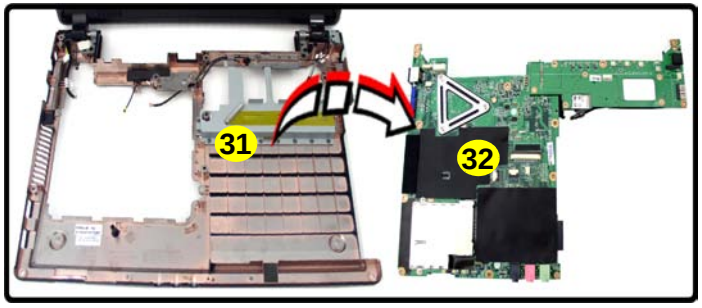
e.



g.



f.



h.

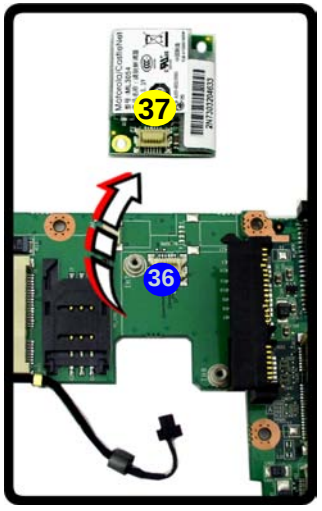


Figure 13
Modem Removal Sequence

e. Remove the screws and and disconnect the connectors.
f. Separate the bottom case from the mainboard.
g. Remove the screws and and disconnect the connector.
h. Lift the modem up off the socket.

31. Bottom Case
32. Mainboard
37. Modem

- 5 Screws

Appendix A:Part Lists

This appendix breaks down the ***M72XR*** series notebook's construction into a series of illustrations. The component part numbers are indicated in the tables opposite the drawings.

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

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

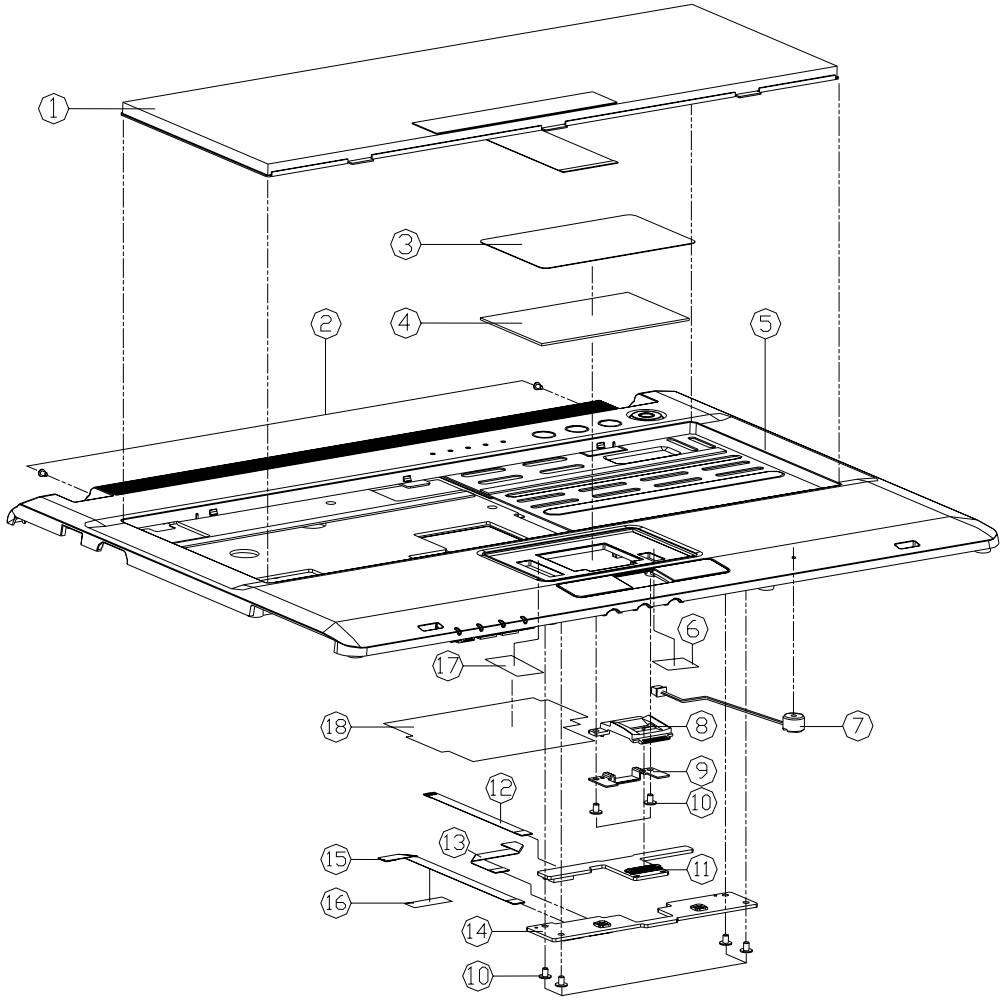
Note: Be sure to check any update notices. The parts shown in these illustrations are appropriate for the system at the time of publication. Over the product life, some parts may be improved or re-configured, resulting in *new* part numbers.

Part List Illustration Location

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

Table A - 1
Part List Illustration Location

Top with Fingerprint (M720R)

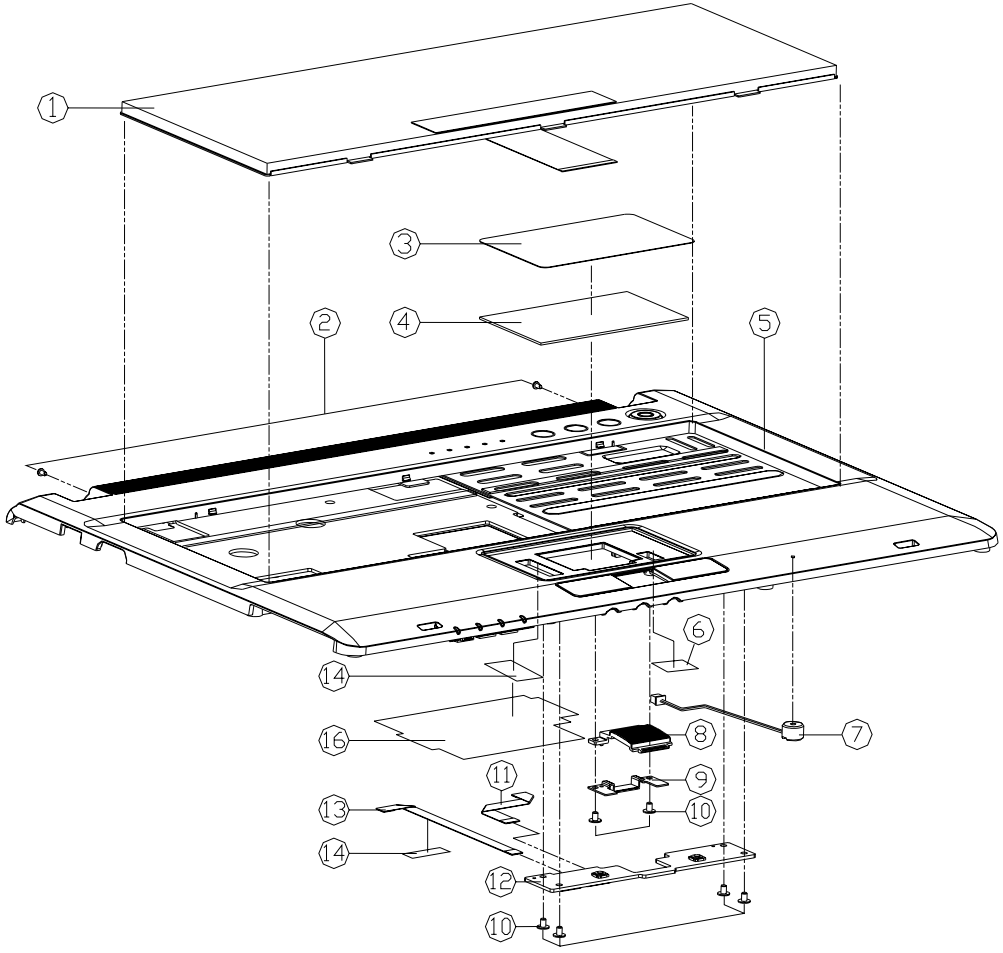


ITEM	PART NAME	PART NO	REMARK
1	K/B USA MP-05283US-4303 M720S 黑色 無鉛	6-80-M72S0-010-1	FOR M720R/M722R
1	K/B USA MP-05283US-4302 M721S白色 無鉛	6-80-M7210-010-1	FOR M721R
2	SCREW M2*3L K1 NI ICT NY 無鉛	6-35-B1120-3RA	
3	TOUCH PAD MYLAR 8B35 M720S 無鉛	6-40-M72S2-011	FOR M720R
3	TOUCH PAD MYLAR 8B35 M721S 無鉛	6-40-M7212-010	FOR M721R
3	TOUCH PAD MYLAR 8B35 M725S 無鉛	6-40-M7252-010	FOR M722R
4	TOUCH PAD TM61PDZ1R389 M660JE 無鉛	6-49-M66E2-010	
5	TOP CASE MODULE M720S 無鉛	6-39-M72S2-014	FOR M720R
5	TOP CASE MODULE M721S 無鉛	6-39-M7212-013	FOR M721R
5	TOP CASE MODULE M722S 無鉛	6-39-M7222-012	FOR M722R
6	TOUCH PAD GROUND AL 17*9 無鉛	6-47-M55G2-010	
7	[illegible] 無鉛	6-23-EM55G-011	
8	GP KNOB CENTER PC+ABS(CX7240) M720S 無鉛	6-42-M72S2-031	FOR M720R
8	GP KNOB CENTER PC+ABS(CX7240) M721S 無鉛	6-42-M7212-030	FOR M721R
8	GP KNOB CENTER PC+ABS(CX7240) M722S 無鉛	6-42-M7222-030	FOR M722R
9	FINGER BRACKET MODULE M720S 無鉛	6-33-M72S2-201	
10	SCREW M2*3L K1 NI ICT GTY-PATCH 無鉛	6-35-B1120-3RE	
11	FIGERPRINT BOARD V2.0 FOR M720R 無鉛	6-77-M72RF-D02	
12	FFC CABLE FOR FINGERPRINT TO M/B 4P M720S 無鉛	6-43-M72S0-030	
13	FFC CABLE FOR TOUCH PAD TO M/B 12P M720S 無鉛	6-43-M72S0-010	
14	CLICK BOARD V2.0 FOR M720R 無鉛	6-77-M72R2-D02	
15	FFC CABLE FOR CLICK TO M/B 4P M720S 無鉛	6-43-M72S0-020	
16	TAPE MYLAR (C),MYLAR M550J 無鉛	6-40-M55J2-030	
17	TOUCH PAD GROUND AL FOIL(22*14) FOR EMI,AL 無鉛	6-47-M55G2-020	
18	銘牌MYLAR FOR TOP CASE (銘牌MYLAR) M720R 無鉛	6-40-M72R2-010	

Figure A - 1
Top with Fingerprint (M720R)

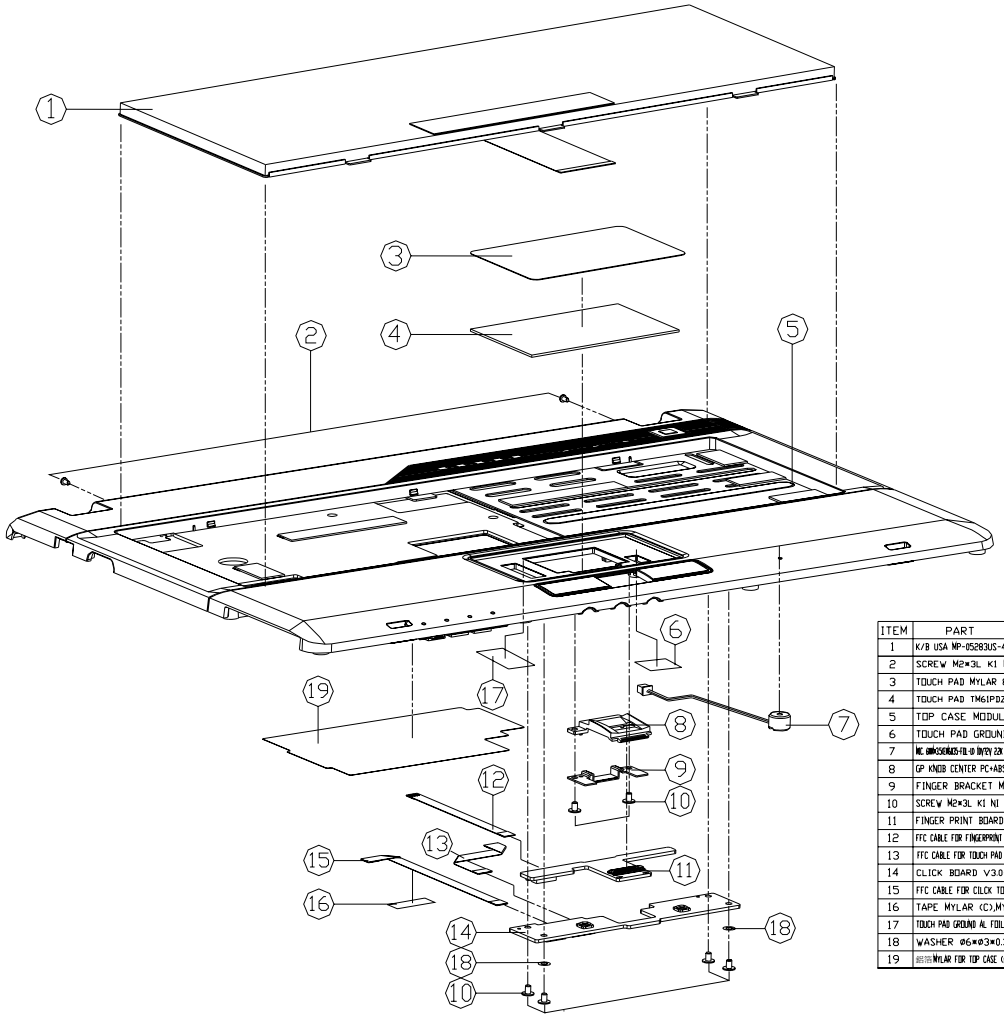
Top without Fingerprint (M720R)

Figure A - 2
Top without Fingerprint (M720R)



ITEM	PART NAME	PART NO	REMARK
1	K/B USA MP-05283US-4303 M720S 黑色 無鉛	6-80-M72S0-010-1	FOR M720R/M722R
1	K/B USA MP-05283US-4302 M721S白色 無鉛	6-80-M7210-010-1	FOR M721R
2	SCREW M2*3L KI NI ICT NY 無鉛	6-35-BI120-3RA	
3	TOUCH PAD MYLAR 8B35 M720S 無鉛	6-40-M72S2-011	FOR M720R
3	TOUCH PAD MYLAR 8B35 M721S 無鉛	6-40-M7212-010	FOR M721R
3	TOUCH PAD MYLAR 8B35 M722S 無鉛	6-40-M7252-010	FOR M722R
4	TOUCH PAD TM61PDZ1R389 M660JE 無鉛	6-49-M66E2-010	
5	TOP CASE MODULE M720S 無鉛	6-39-M72S2-014	FOR M720R
5	TOP CASE MODULE M721S 無鉛	6-39-M7212-013	FOR M721R
5	TOP CASE MODULE M722S 無鉛	6-39-M7222-012	FOR M722R
6	TOUCH PAD GROUND AL 17*9 無鉛	6-47-M55G2-010	
7	RC [illegible] 無鉛	6-23-EM55G-011	
8	GP KNOB CENTER DUMMY PC+ABS(CX7240) M720S 無鉛	6-42-M72S2-041	FOR M720R
8	GP KNOB CENTER DUMMY PC+ABS(CX7240) M721S 無鉛	6-42-M7212-040	FOR M721R
8	GP KNOB CENTER DUMMY PC+ABS(CX7240) M722S 無鉛	6-42-M7222-040	FOR M722R
9	FINGER BRACKET MODULE M720S 無鉛	6-33-M72S2-201	
10	SCREW M2*3L KI NI ICT GTY-PATCH 無鉛	6-35-BI120-3RE	
11	FFC CABLE FOR TOUCH PAD TO M/B 12P M720S 無鉛	6-43-M72S0-010	
12	CLICK BOARD V2.0 FOR M720R 無鉛	6-77-M72R2-D02	
13	FFC CABLE FOR CLICK TO M/B 4P M720S 無鉛	6-43-M72S0-020	
14	TAPE MYLAR (C),MYLAR M550J 無鉛	6-40-M55J2-030	
15	TOUCH PAD GROUND AL FOIL(22*14) FOR EMI,AL 無鉛	6-47-M55G2-020	
16	鋁箔MYLAR FOR TOP CASE (鋁箔MYLAR) M720R無鉛	6-40-M72R2-010	

Top with Fingerprint (M725R)

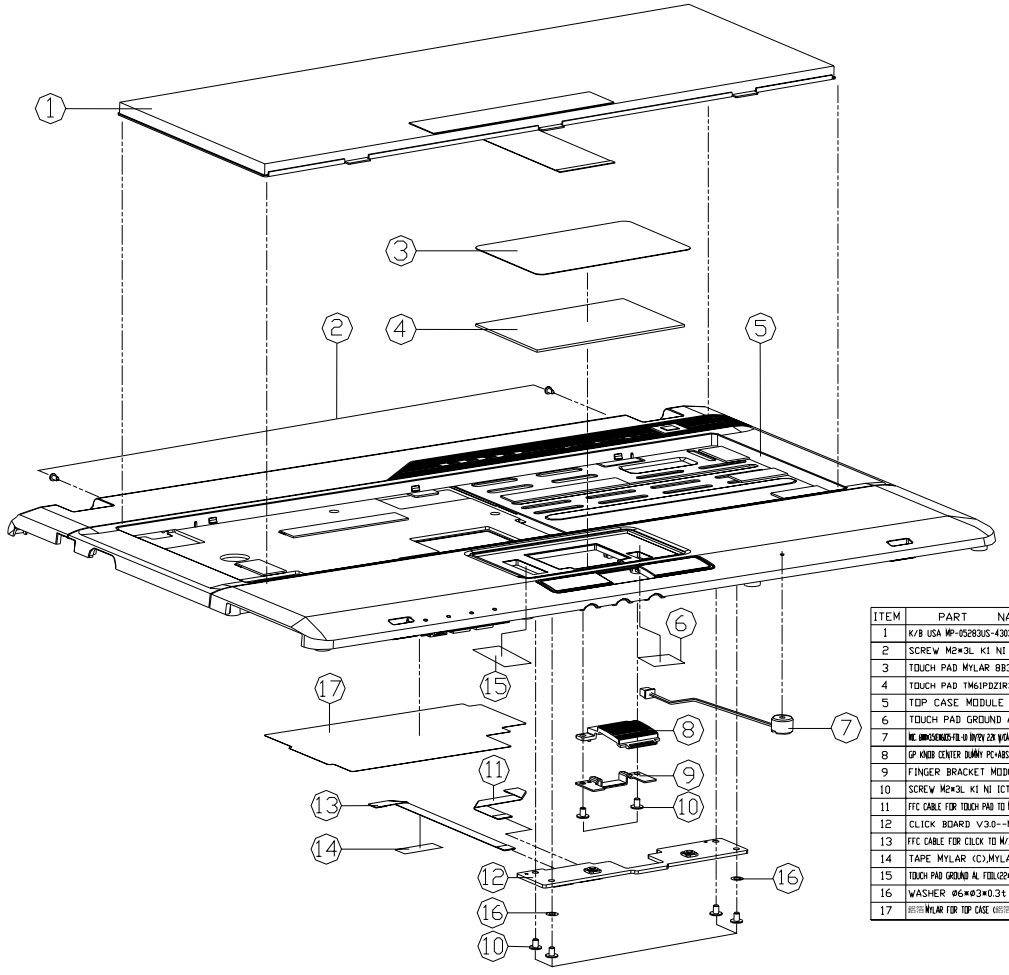


ITEM	PART NAME	PART NO	REMARK
1	K/B USA MP-05283US-4303 M720S 黑色 無鉛	6-80-M72S0-010-1	
2	SCREW M2*3L K1 NI ICT NY 無鉛	6-35-B1120-3RA	
3	TOUCH PAD MYLAR BB35 M725S 無鉛	6-40-M72S2-010	
4	TOUCH PAD TM61PDZ1R389 M660JE 無鉛	6-49-M66E2-010	
5	TOP CASE MODULE M725S 無鉛	6-39-M72S2-011	
6	TOUCH PAD GROUND AL 17*9 無鉛	6-47-M55G2-010	
7	[illegible] 無鉛	6-23-EM55G-011	
8	GP KNOB CENTER PC+ABS(CK7240) M722S 無鉛	6-42-M72Z2-030	
9	FINGER BRACKET MODULE M720S 無鉛	6-33-M72S2-201	
10	SCREW M2*3L K1 NI ICT GTY-PATCH 無鉛	6-35-B1120-3RE	
11	FINGER PRINT BOARD V3.0--M720R 無鉛	6-77-M72RF-D03	
12	FFC CABLE FOR FINGERPRINT TO M/B 4P M720S 無鉛	6-43-M72S0-030	
13	FFC CABLE FOR TOUCH PAD TO M/B 12P M720S 無鉛	6-43-M72S0-010	
14	CLICK BOARD V3.0--M720R 無鉛	6-77-M72R2-D03	
15	FFC CABLE FOR CLICK TO M/B 4P M720S 無鉛	6-43-M72S0-020	
16	TAPE MYLAR (C),MYLAR M550J 無鉛	6-40-M55J2-030	
17	TOUCH PAD GROUND AL FOIL(22*14) FOR EMI,AL 無鉛	6-47-M55G2-020	
18	WASHER Ø6*Ø3*0.3t (MYLAR) 無鉛	6-37-02000-601	
19	鋁箔MYLAR FOR TOP CASE (鋁箔 MYLAR) M720R 無鉛	6-40-M72R2-010	

Figure A - 3
Top with Fingerprint (M725R)

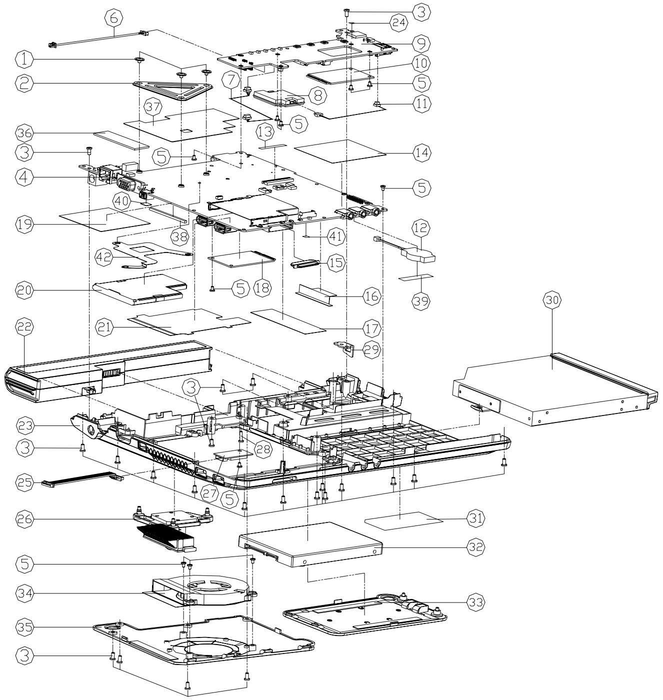
Top without Fingerprint (M725R)

Figure A - 4
Top without Fingerprint (M725R)



ITEM	PART NAME	PART NO	REMARK
1	K/B USA MP-05283US-4303 M720S 黑色 無鉛	6-80-M72S0-010-1	
2	SCREW M2*3L KI NI ICT NY 無鉛	6-35-B1120-3RA	
3	TOUCH PAD MYLAR 8835 M725S 無鉛	6-40-M7252-010	
4	TOUCH PAD TM61PDZ1R389 M660JE 無鉛	6-49-M66E2-010	
5	TOP CASE MODULE M725S 無鉛	6-39-M7252-011	
6	TOUCH PAD GROUND AL 17*9 無鉛	6-47-M55G2-010	
7	[illegible] 無鉛	6-23-EM55G-011	
8	GP KNOB CENTER DUMMY PC+ABS(CK7240) M725S 無鉛	6-42-M7222-040	
9	FINGER BRACKET MODULE M720S 無鉛	6-33-M72S2-201	
10	SCREW M2*3L KI NI ICT GTY-PATCH 無鉛	6-35-B1120-3RE	
11	FFC CABLE FOR TOUCH PAD TO M/B 12P M720S 無鉛	6-43-M72S0-010	
12	CLICK BOARD V3.0--M720R 無鉛	6-77-M72R2-D03	
13	FFC CABLE FOR CLICK TO M/B 4P M720S 無鉛	6-43-M72S0-020	
14	TAPE MYLAR (C),MYLAR M550J 無鉛	6-40-M55J2-030	
15	TOUCH PAD GROUND AL FOIL(22*14) FOR EMI,AL 無鉛	6-47-M55G2-020	
16	WASHER Ø6*Ø3*0.3t (MYLAR) 無鉛	6-37-02000-601	
17	鋁箔MYLAR FOR TOP CASE (鋁箔MYLAR) M720R 無鉛	6-40-M72R2-010	

Bottom (M72XR)



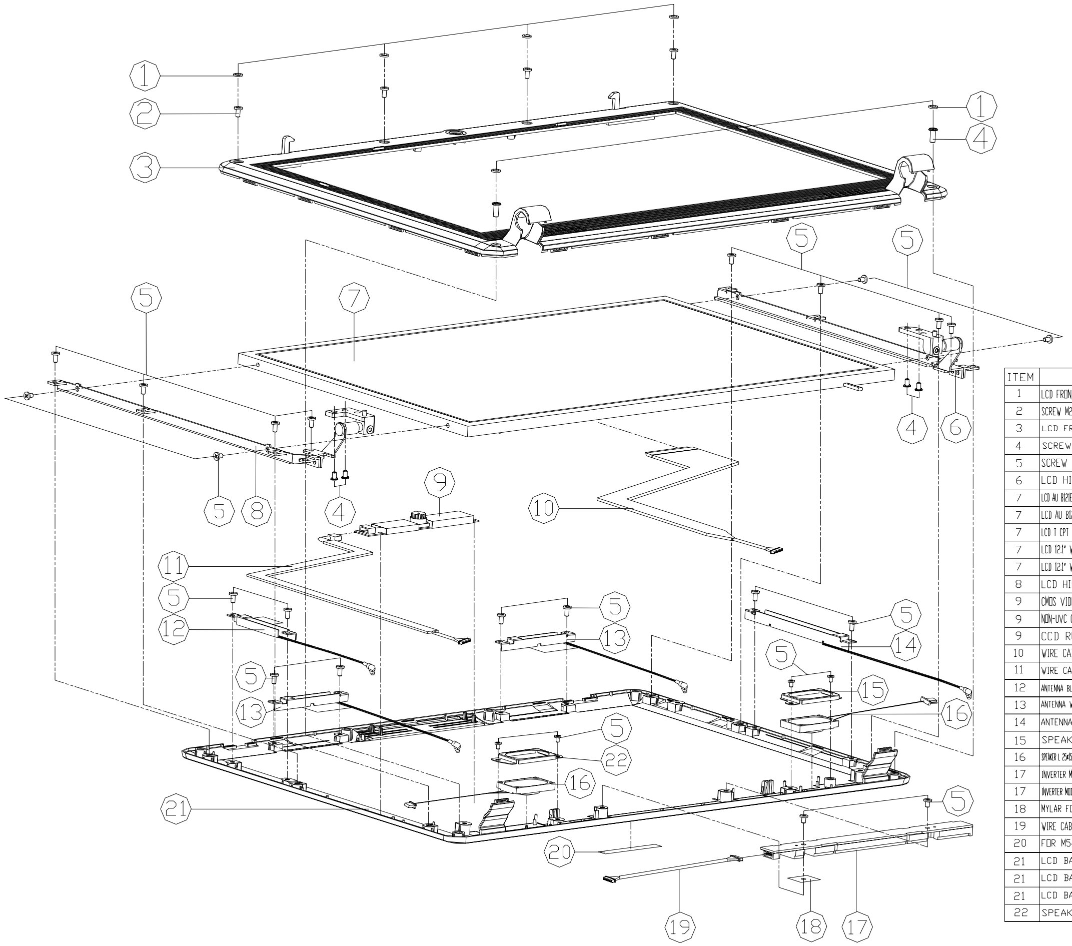
ITEM	PART NAME	PART NO	REMARK
1	*(35-41025-2R5-1)SCREW,M2.5*2.5L,B,NI,ICT,W/WAS,NY MALL-047 無鉛	6-35-41025-2R5	
2	CPU SUPPORTER MODULE AL M720S 無鉛	6-33-M72SS-010	
3	SCREW M2.5*5L KI BK/Z ICT NY 無鉛	6-35-B6125-5RA	
4	MAIN BOARD V3.0A (W/TPM) M720R 無鉛	6-77-M72R0-D03A	
4	MAIN BOARD V3.0A (W/O TPM) M720R 無鉛	6-77-M72R0-D03A-1	
5	SCREW M2*3L K1 NI ICT NY 無鉛	6-35-B1120-3RA	
6	WIRE CABLE FOR 3G_SINGLE TO MULTI M720S 無鉛	6-43-M72SG-010	BLUETOOTH/3G(OPTION)
7	WIRE CABLE FOR 3G_POWER TO M/B 4P M720S 無鉛	6-43-M72SG-020	(OPTION)
8	MODEM AZALIA+AC97 12 PIN (MOTOROLA SOLUTION) ML3054 CASTLENET(LABEL 變更ADD TUV) M55G 無鉛	6-88-M55S1-531	
8	MODEM 12 PIN (MOTOROLA SOLUTION) ML3054 (GREEN LEVEL) ROHS QCOM 無鉛	6-88-M66S1-620	
9	MULTI I/O BOARD V3.0 (W/3G) M720R 無鉛	6-77-M72R1-D03	
9	MULTI I/O BOARD V3.0(W/O 3G) M720R 無鉛	6-77-M72R1-D03-1	
10	WCDMA HSDPA MC8775 SIERRAWIRELESS MIN-CARD USB 3.5G 無鉛	6-88-M72SW-720	(OPTION)
11	WIRE CABLE FOR RJ-11 TO MDC 2P M720S 無鉛	6-43-M72SU-010	(OPTION)
12	BAT. 20MM 3V 210MAH W/CABLE 56MM CR2032C1-LF-MITSUBISHI (加長線長)無鉛	6-23-22015-P3C	
13	M520G K/B CONN MYLAR 無鉛	6-40-M52GS-060	
14	PHONE JACK MYLAR PC(FR83+TERAOKA750F) M720S 無鉛	6-40-M72SS-031	
15	M520G CARD READER RUBBER 無鉛	6-47-M52G8-010	
16	DDR ODD BKT MYLAR PC(FR83+TERAOKA750F) M720S 無鉛	6-40-M72SZ-010	
17	M520G MYLAR FOR DDR 無鉛	6-40-M52GS-010	
18	802.11 B+G MINI CARD(USB) REALTEK CHIPSET WLAN MODULE AW-GU700 無鉛	6-88-M7702-701	(OPTION)
18	WLAN 802.11A+B+G MINI-CARD PCI-E 3945ABG INTEL MOW2 SKU5 無鉛	6-88-M54R2-420	(OPTION)
18	WLAN 802.11A+G+N MINI-CARD PCI-E INTEL 4965AGN FOR SKU0(MOW1) M66R 無鉛	6-88-M66R2-420	(OPTION)
18	WLAN 802.11A+B+G MINI-CARD PCI-E 3945ABG INTEL MOW2 SKU2 無鉛	6-88-M66R2-421	(OPTION)
18	WLAN 802.11A+B+G MINI-CARD PCI-E 3945ABG INTEL MOW2 SKU3 無鉛	6-88-M66R2-422	(OPTION)
18	WLAN 802.11A+B+G MINI-CARD PCI-E 3945ABG INTEL MOW2 SKU4 無鉛	6-88-M66R2-423	(OPTION)
18	WLAN 802.11A+B+G MINI-CARD PCI-E 3945ABG INTEL MOW1 SKU0 無鉛	6-88-M66N2-421	(OPTION)
18	WLAN 802.11A+B+G MINI-CARD PCI-E 3945ABG INTEL JAPAN SKU2 無鉛	6-88-M66N2-422	(OPTION)
18	WLAN 802.11A+B+G MINI-CARD PCI-E 3945ABG INTEL MOW2 SKU1 無鉛	6-88-M66N2-423	(OPTION)
18	WLAN 802.11A+B+G MINI-CARD PCI-E 3945ABG INTEL ROW SKU 3 無鉛	6-88-M66N2-424	(OPTION)
18	WLAN 802.11A+B+G MINI-CARD PCI-E 3945ABG INTEL MOW2 SKU5 無鉛	6-88-M66N2-425	(OPTION)
19	NORTH BRIDGE MYLAR PC(FR83+TERAOKA750F) M720S 無鉛	6-40-M72SS-011	
20	NEW CARD DUMMY(設變) FOR M550N 無鉛	6-42-M55NP-012	
21	NEW CARD MYLAR PC(FR83+TERAOKA750F) M720S 無鉛	6-40-M72SS-021	
22	BATP S LI 14.8V/2.4AH 4S1P SMP/SAMSUG 980C/T3900F M720S 無鉛	6-87-M72SS-4DF2	
22	BATP S LI 14.8V/4.4AH 4S2P SMP/SAMSUNG 980C/T3910F M720S 無鉛	6-87-M72SS-4D42	
22	BATP S LI 14.8V/2.4AH 4S1P GLW/PANASONIC 7299-CL720SN241 無鉛	6-87-M72SS-5DF2	
23	BOTTOM CASE MODULE (DC-IN處GASKET厚度 0.5改爲 0.25)M720S 無鉛	6-39-M72S3-015	
24	SPEAKER CABLE PASTE (FR83+5011N) M720S 無鉛	6-40-M72S3-010	
25	WIRE CABLE FOR BLUETOOTH TO M/B 8P M720S 無鉛	6-43-M72SB-010	
26	HEAT SINK MODULE M720S 無鉛	6-31-M72SN-102	
27	BLUETOOTH 2.0 8 PIN MODULE QBTM300 (GREEN LABEL) QCOM 無鉛	6-88-M55J5-620	(OPTION)
27	BLUETOOTH V2.0 GUOTCR42M-KS-藍天2 互億 8 PIN USB CSR BCM (VISTA) M62WE 無鉛	6-88-M62E5-390	(OPTION)
28	SCREW M2*8L K1 BK/Z ICT NY 無鉛	6-35-B6120-8R0	
29	LOCK BRACKET SECC M720S 無鉛	6-33-M72S3-010	
30	DVD/DUAL RW (SUPER MULTI) 8X QSI 無鉛	6-79-M72SQ-011	
30	COMBO 24X QSI(CRX880A) ASS'Y M720S 無鉛	6-79-M72SX-010	
31	PRODUCT LABEL FOR M720R 無鉛	6-45-M72R3-011	
31	PRODUCT LABEL FOR M721R 無鉛	6-45-M721R-010	
31	PRODUCT LABEL FOR M722R 無鉛	6-45-M722R-010	
31	PRODUCT LABEL FOR M725R 無鉛	6-45-M725R-010	
32	W/O HDD ASS'Y M720S 無鉛	6-79-M72SJ-010	
33	HDD COVER MODULE M720S 無鉛	6-42-M72SJ-102	
34	FAN MODULE M720S 無鉛	6-31-M72SS-101	
35	CPU COVER MODULE M720S 無鉛	6-42-M72SS-102	
36	SPONGE FOR MB (52*15*1.15T) CR4305 M720S 無鉛	6-47-0019A-522	
37	MYLAR-2 FOR MB (94*62*0.285T) FR83 M720S 無鉛	6-40-M72SS-060	
38	MYLAR-1 FOR MB (50*2*1.65) PC M720S 無鉛	6-40-M72SS-051	
39	TAPE MYLAR (A),MYLAR M550J 無鉛	6-40-M55J2-010	
40	GASKET (7*7*0.5) M720R 無鉛	6-47-00190-077	
41	PROTECT MB MYLAR FR83 M720S 無鉛	6-40-M72SS-040	
42	NORTH BRIDGE HEATSINK MODULE (CU) M720R 無鉛	6-31-M72RN-101	

Figure A - 5
Bottom (M72XR)

A.Part Lists

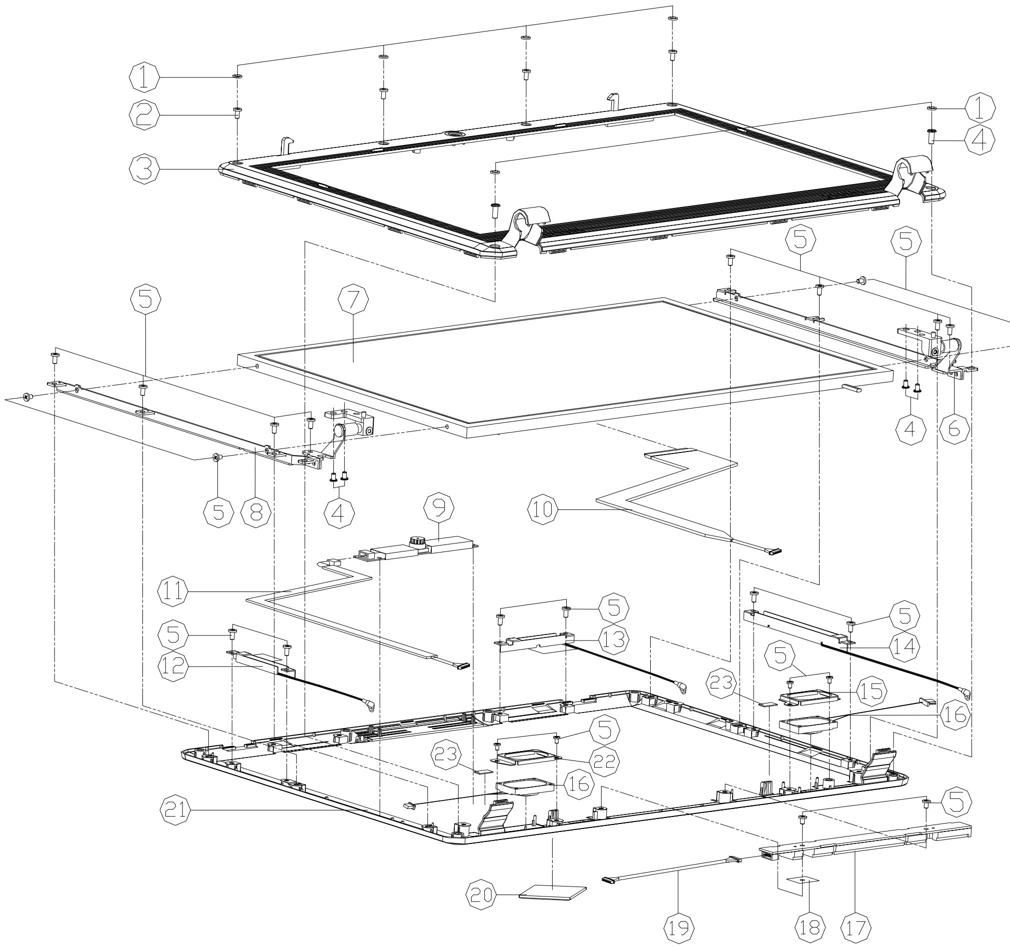
LCD (M720R)

Figure A - 6
LCD (M720R)



ITEM	PART NAME	PART NO	REMARK
1	LCD FRONT COVER SCREW HOLE RUBBER M720S 無鉛	6-47-M72S1-021	
2	SCREW M2*4L I BZ ICT GTY-PATCH (T=0.8 D=4)無鉛	6-35-C6120-4RB	
3	LCD FRONT COVER MODULE M720S無鉛	6-39-M72S1-012	
4	SCREW M2.5*5L KI BK/Z ICT NY 無鉛	6-35-B6125-5RA	
5	SCREW M2*3L K1 NI ICT GTY-PATCH 無鉛	6-35-B1120-3RE	
6	LCD HINGE R DIE CASTING M720S 無鉛	6-33-M72S1-011	
7	LCD AU B121EW03 (GLARE TYPE) V.3 12.1" WXGA(1280X800) 5.2MM 無鉛	6-50-F8252-G01	
7	LCD AU B121EW03 V.1 12.1" WXGA (1280X800)(5.2MM)無鉛	6-50-F8252-G00	
7	LCD T CPT CLAA121WA01A(GLARE TYPE) 12.1" WXGA(1280X800)無鉛	6-50-F2255-C00	
7	LCD 12.1" WXGA CHIMEI N121I3-L01 GLARE TYPE 5.5MM 無鉛	6-50-FC255-D01	
7	LCD 12.1" WXGA CHIMEI N121I2-L01 GLARE TYPE 5.5MM 無鉛	6-50-FC255-D00	
8	LCD HINGE L DIE CASTING M720S 無鉛	6-33-M72S1-021	
9	CMOS VIDEO CAMERA BN2A-OV9650-D-501G 1.3M 無鉛	6-88-M55GC-612	
9	NON-UVC CAMERA D-MAX FIX GD-6D51A 2M M570RU 無鉛	6-88-M57RC-741	
9	CCD RUBBER SILICONE M720S 無鉛	6-47-M72ST-010	W/O CCD
10	WIRE CABLE FOR LCD TO M/B 20P M720S 無鉛	6-43-M72S1-012	
11	WIRE CABLE FOR CCD TO M/B 5P M720S 無鉛	6-43-M72ST-012	
12	ANTENNA BLUETOOTH 2.4G/5G PIFA BT 灰色 精乘 M720S 無鉛	6-23-7M72S-020	(OPTION)
13	ANTENNA WLAN 2.4G/5G PIFA WL1 黑色 精乘 M720S 無鉛	6-23-7M72S-030	
14	ANTENNA WCDMA 3G PIFA 黑色 精乘 M720S 無鉛	6-23-7M72S-010	(OPTION)
15	SPEAKER FIXTURE-R 無鉛	6-33-M300T-031	
16	SPEAKER L 25*15MM 1.5W 8? FG-25N1512 W/CABLE 2P AWG28 60MM 富佑鴻 M720S 無鉛	6-23-5M72S-020	
17	INVERTER MODULE V1.0 MPT M660 JEINT-A N214-2 M660SE 無鉛	6-76-M6E6R-010	
17	INVERTER MODULE V1.0 MITAC DA-1A08-CV02L(M660JEINT-D) M660SE 無鉛	6-76-M6E6R-020	
18	MYLAR FOR INVERTER (14*10.4*0.4) M660N 無鉛	6-40-M66NS-060	
19	WIRE CABLE FOR INVERTER TO M/B 6P M720S 無鉛	6-43-M72SR-012	
20	FOR M540G 中性LOGO(STYLE-NOTE)無鉛	6-45-M54G1-020	
21	LCD BACK COVER MODULE M720S無鉛	6-39-M72S1-022	
21	LCD BACK COVER MODULE M721S無鉛	6-39-M7211-021	
21	LCD BACK COVER MODULE M722S無鉛	6-39-M7221-020	
22	SPEAKER FIXTURE-L 無鉛	6-33-M300T-041	

LCD (M725R)

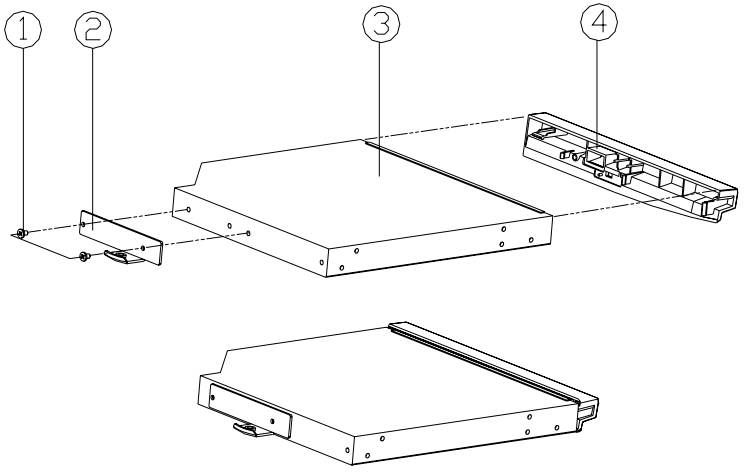


ITEM	PART NAME	PART NO	REMARK
1	LCD FRONT COVER SCREW HOLE RUBBER M720S 無鉛	6-47-M72S1-021	
2	SCREW M2*4L I BZ ICT GTY-PATCH (T=0.8 D=4)無鉛	6-35-C6120-4RB	
3	LCD FRONT COVER MODULE M725S無鉛	6-39-M7251-010	
4	SCREW M2.5*5L KI BK/Z ICT NY 無鉛	6-35-B6125-5RA	
5	SCREW M2*3L K1 NI ICT GTY-PATCH 無鉛	6-35-B1120-3RE	
6	LCD HINGE R DIE CASTING M720S 欣日興 無鉛	6-33-M72S1-011-1	
7	LCD AU B121EW03 (GLARE TYPE) V.3 12.1" WXGA(1280X800) 5.2MM 無鉛	6-50-F8252-G01	
7	LCD AU B121EW03 V.1 12.1" WXGA (1280X800)(5.2MM)無鉛	6-50-F8252-G00	
7	LCD T CPT CLAA121WA01A(GLARE TYPE) 12.1" WXGA(1280X800)無鉛	6-50-F2255-C00	
8	LCD HINGE L DIE CASTING M720S 欣日興 無鉛	6-33-M72S1-021-1	
9	CMOS VIDEO CAMERA BN2A-OV9650-D-501G 1.3M 無鉛	6-88-M55GC-612	
9	CMOS VIDEO CAMERA BN2C-OV7660-D 300K PIXELS USB2.0 11.65MM*70MM*7MM M660N 無鉛	6-88-M66NC-491	
9	CCD RUBBER SILICONE M720S 無鉛	6-47-M72ST-010	W/O CCD
10	WIRE CABLE FOR LCD TO M/B 20P M720S 無鉛	6-43-M72S1-012	
11	WIRE CABLE FOR CCD TO M/B 5P M720S 無鉛	6-43-M72ST-012	
12	ANTENNA BLUETOOTH 2.4G/5G PIFA BT 灰色 精乘 M720S 無鉛	6-23-7M72S-020	(OPTION)
13	ANTENNA WLAN 2.4G/5G PIFA WL1 黑色 精乘 M720S 無鉛	6-23-7M72S-030	
14	ANTENNA WCDMA 3G PIFA 黑色 精乘 M720S 無鉛	6-23-7M72S-010	(OPTION)
15	SPEAKER FIXTURE-R 無鉛	6-33-M300T-031	
16	SPEAKER L 25*15MM 1.5W 8Ω FG-25N15D2 W/CABLE 2P AWG28 60MM 富佑鴻 M720S 無鉛	6-23-5M72S-020	
17	INVERTER MODULE V1.0 MPT M660 JEINT-A N214-2 M660SE 無鉛	6-76-M6E6R-011	
17	INVERTER MODULE V1.0 MITAC DA-1A08-CV02L(M660JEINT-D) M660SE 無鉛	6-76-M6E6R-021	
18	MYLAR FOR INVERTER (14*10.4*0.4) M660N 無鉛	6-40-M66NS-060	
19	WIRE CABLE FOR INVERTER TO M/B 6P M720S 無鉛	6-43-M72SR-012	
20	NAME PLATE M725S (菱形 LOGO)(無鉛)	6-45-M7251-010	
21	LCD BACK COVER MODULE M725S無鉛	6-39-M7251-020	
22	SPEAKER FIXTURE-L 無鉛	6-33-M300T-041	
23	PORON 10*5*0.6 FOR BACK CASE 無鉛	6-47-00191-103	

Figure A - 7
LCD (M720R)

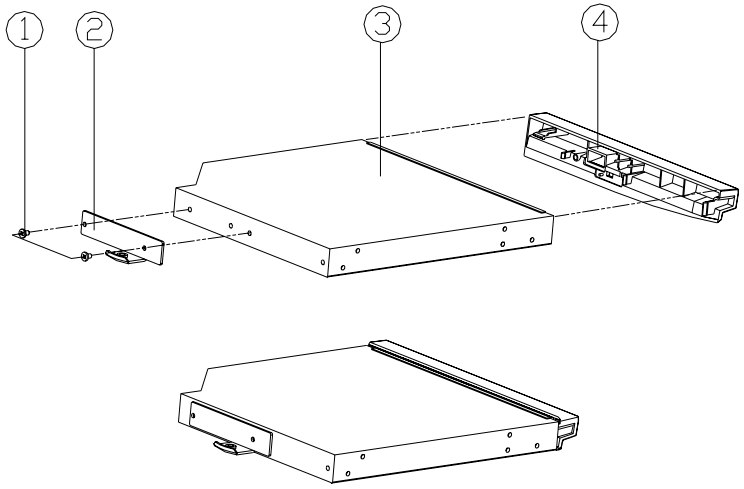
Combo (M720R)

Figure A - 8
Combo (M720R)



ITEM	PART NAME	PART NO	REMARK
1	SCREW M2*3L K1 NI ICT GTY-PATCH 無鉛	6-35-B1120-3RE	
2	CD-ROM LOCK BRACKET SECC M720S 無鉛	6-33-M72SZ-010	
3	[illegible] 無鉛	6-85-907PX-C03	
4	COMBO G-BEZEL MODULE M720S 無鉛	6-42-M72SX-101	

DVD-DUAL-RW (M720R)



ITEM	PART NAME	PART NO	REMARK
1	SCREW M2*3L K1 NI ICT GTY-PATCH	6-35-B1120-3RE	
2	CD-ROM LOCK BRACKET SECC M720S	6-33-M72SZ-010	
3	[illegible]	6-85-A078X-C09	
4	SUPER MULTI G-BEZEL MODULE M720S	6-42-M72SX-202	

Figure A - 9
DVD-DUAL-RW (M720R)

Appendix B:Schematic Diagrams

This appendix has circuit diagrams of the ***M72XR*** notebook's PCB's. The following table indicates where to find the appropriate schematic diagram.

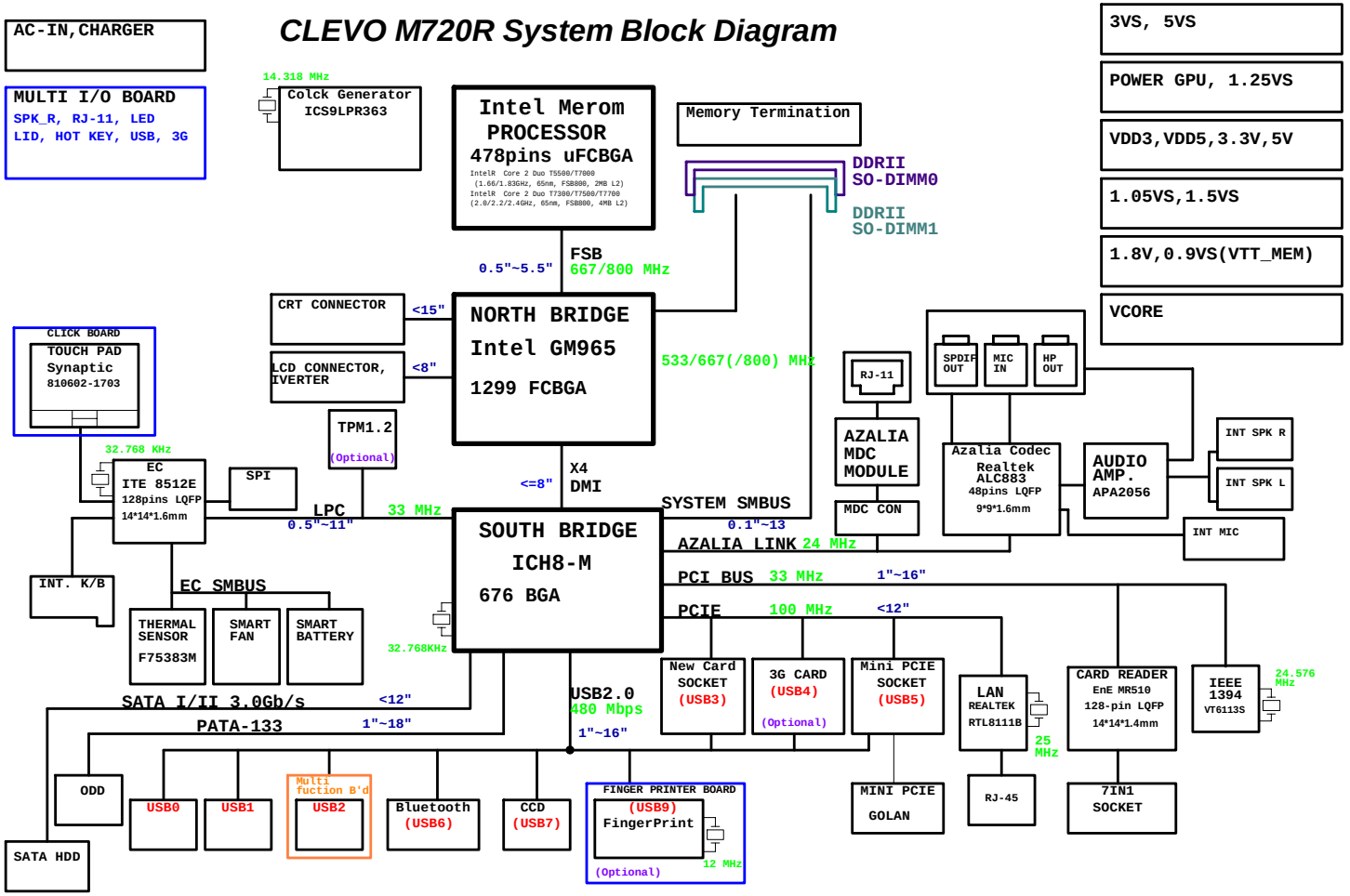
Table B - 1
Schematic Diagrams

Version Note

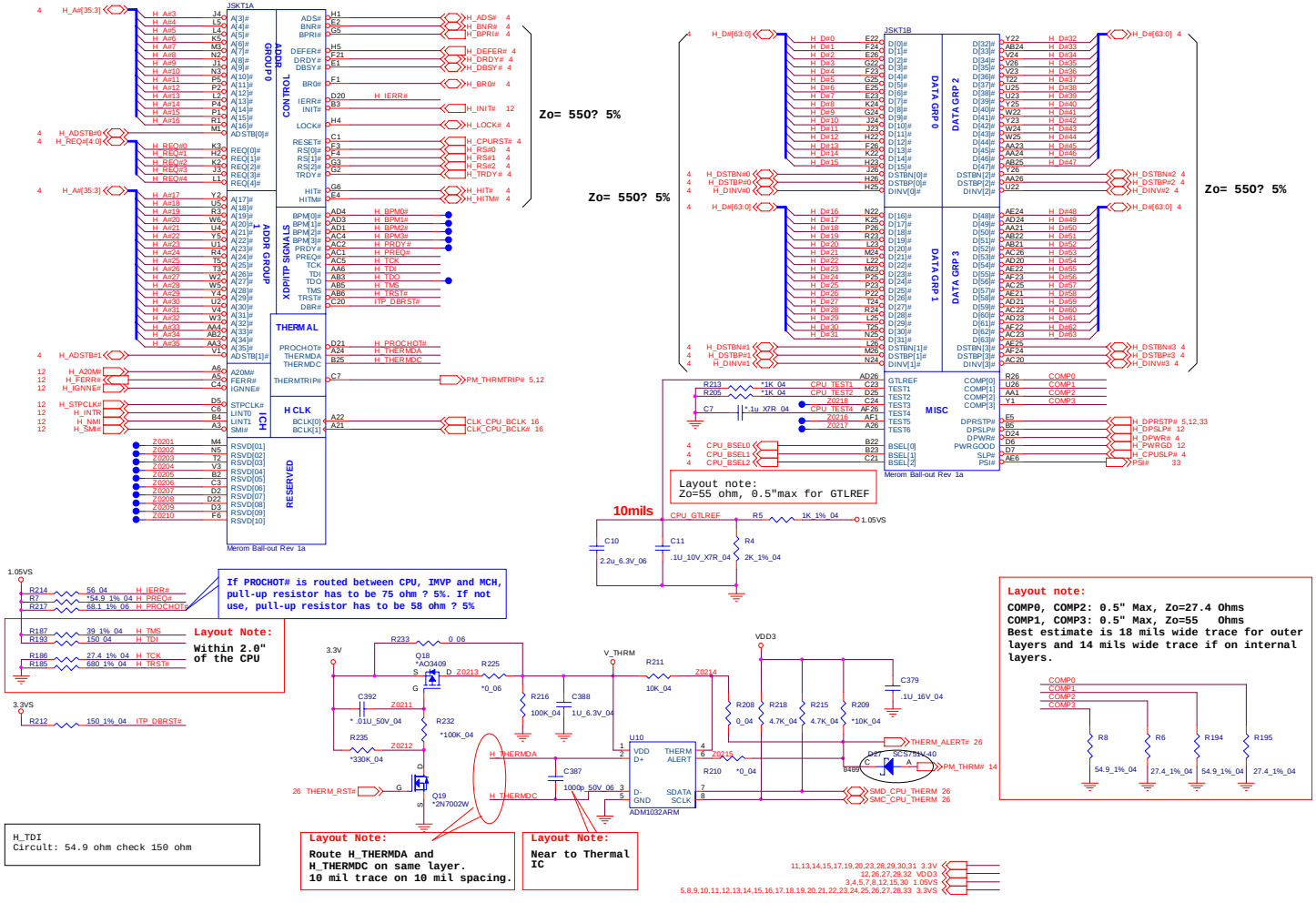
The schematic diagrams in this chapter are based upon version 6-7P-M72R-004. If your mainboard (or other boards) are a later version, please check with the Service Center for updated diagrams (if required).

SYSTEM BLOCK DIAGRAM

Sheet 1 of 37
SYSTEM BLOCK DIAGRAM

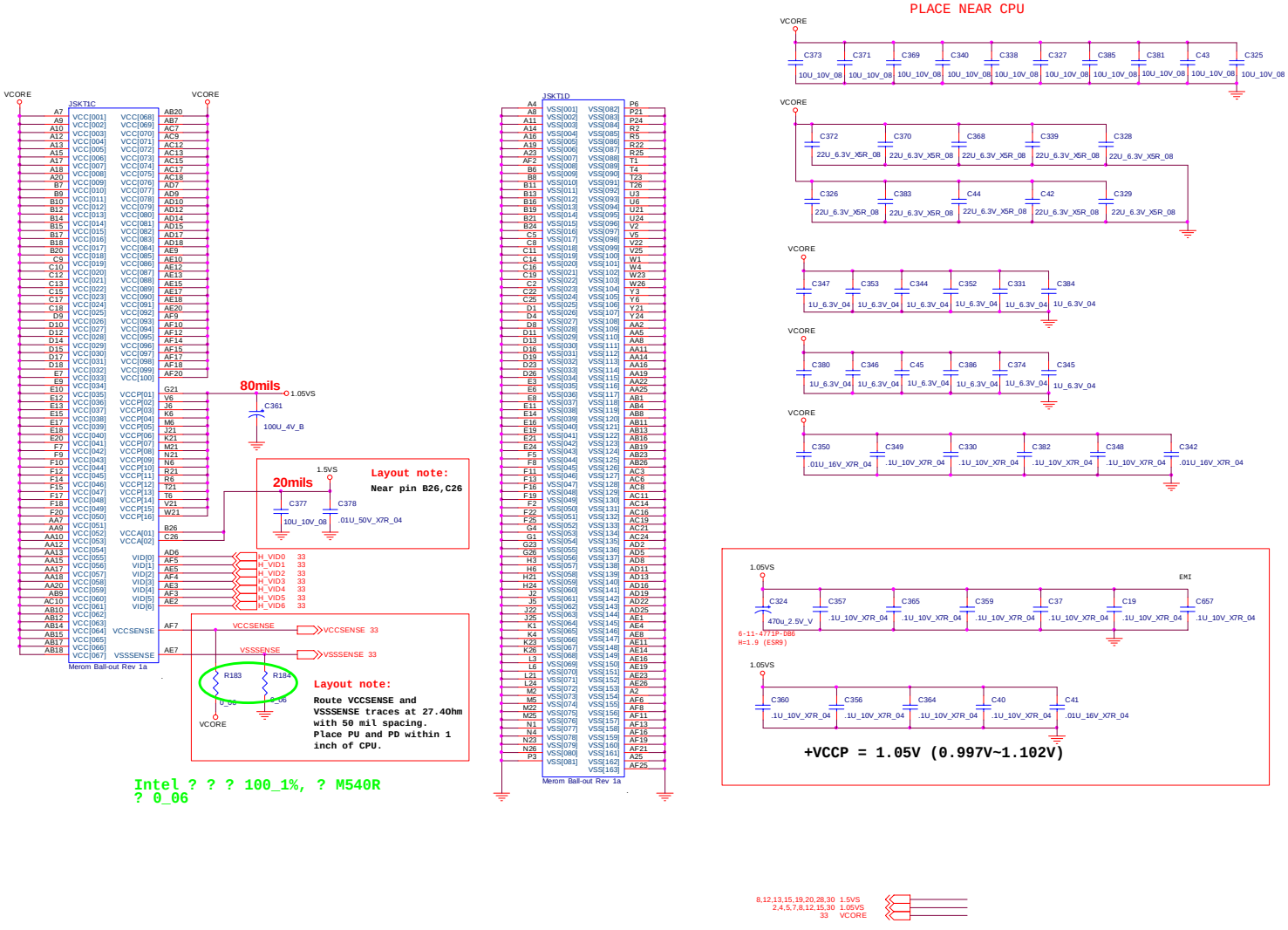


CPU-1

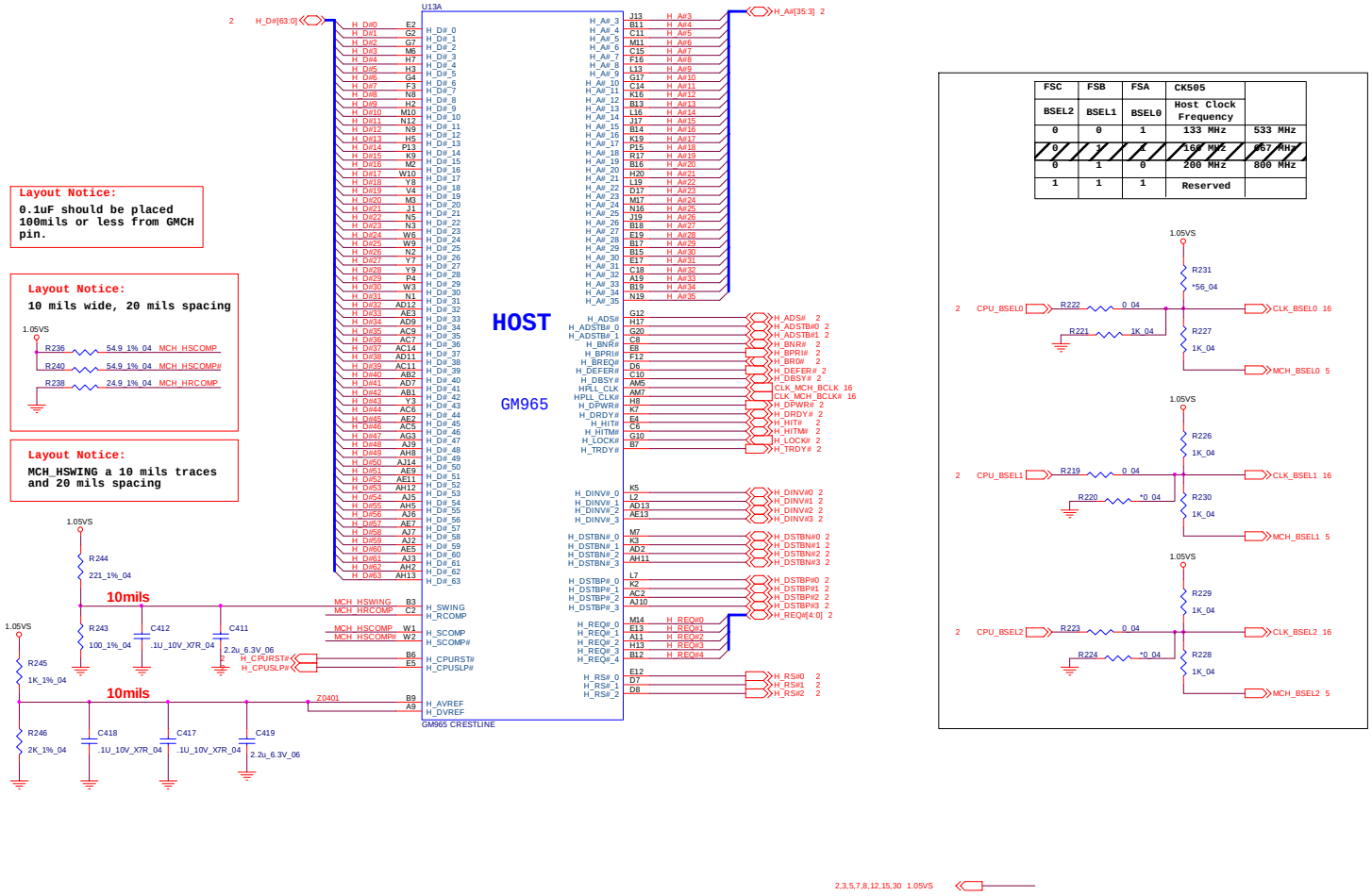

JSKT1A
JSKT1B
ADDR GROUP 0
ADDR GROUP 1
CONTROL
XDP/ITP SIGNALS
THERMAL
H CLK
RESERVED
DATA GRP 0
DATA GRP 1
DATA GRP 2
DATA GRP 3
MISC
Zo= 550? 5%
Zo= 550? 5%
Zo= 550? 5%
Merom Ball-out Rev 1a
Merom Ball-out Rev 1a
Layout note:
Zo=55 ohm, 0.5"max for GTLREF
10mils
If PROCHOT# is routed between CPU, IMVP and MCH, pull-up resistor has to be 75 ohm ? 5%. If not use, pull-up resistor has to be 58 ohm ? 5%
Layout Note:
Within 2.0" of the CPU
Layout note:
COMP0, COMP2: 0.5" Max, Zo=27.4 Ohms
COMP1, COMP3: 0.5" Max, Zo=55 Ohms
Best estimate is 18 mils wide trace for outer layers and 14 mils wide trace if on internal layers.
H_TDI
Circuit: 54.9 ohm check 150 ohm
Layout Note:
Route H_THERMDA and H_THERMDC on same layer.
10 mil trace on 10 mil spacing.
Layout Note:
Near to Thermal IC

CPU-2

Sheet 3 of 37
CPU-2



Crestline 1/5

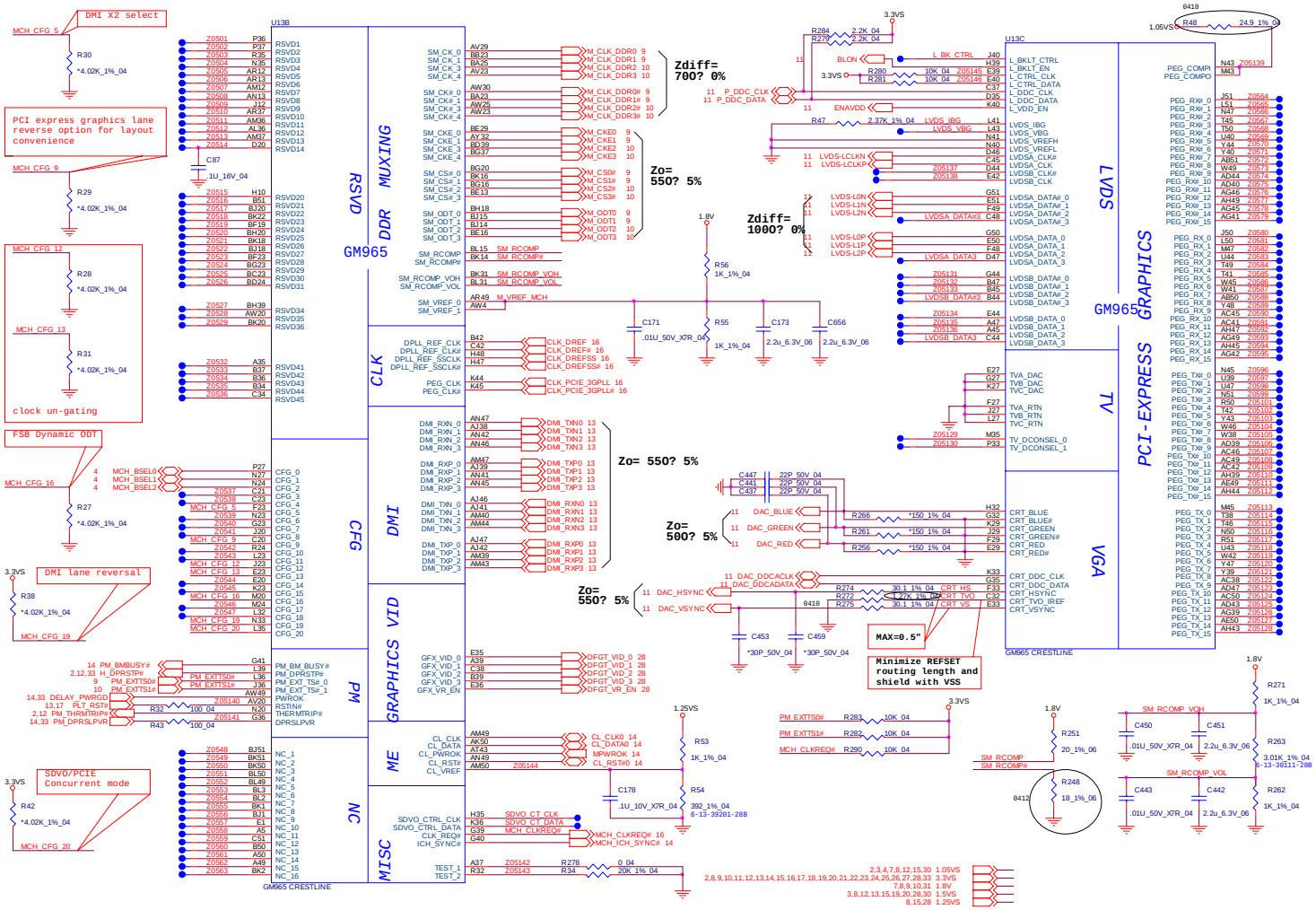


FSC	FSB	FSA	CK505	
BSEL2	BSEL1	BSEL0	Host Clock Frequency	
0	0	1	133 MHz	533 MHz
0	1	1	166 MHz	667 MHz
0	1	0	200 MHz	800 MHz
1	1	1	Reserved	

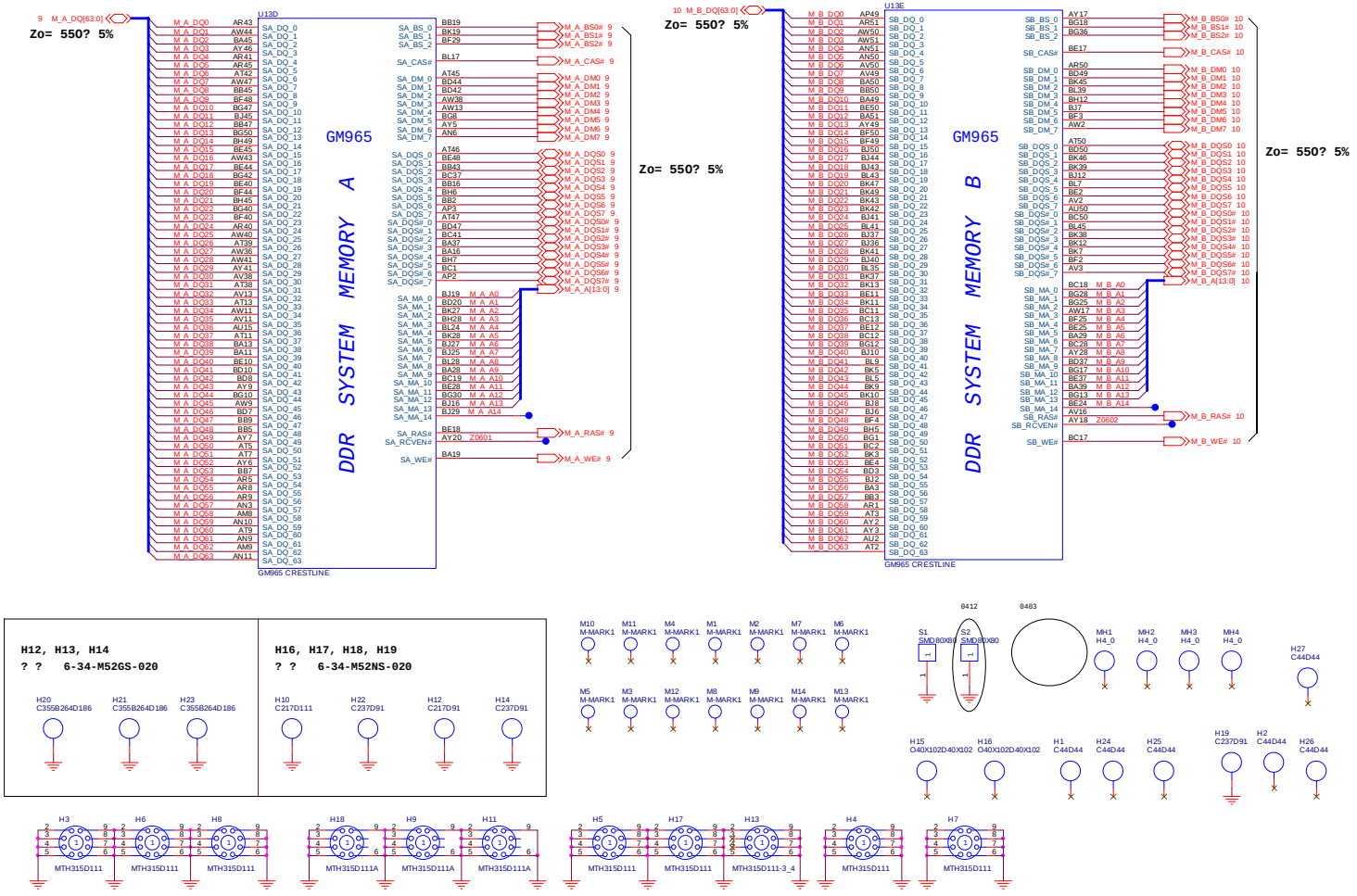
Sheet 4 of 37
Crestline 1/5

Crestline 2/5, DRAM

Sheet 5 of 37
Crestline 2/5, DRAM



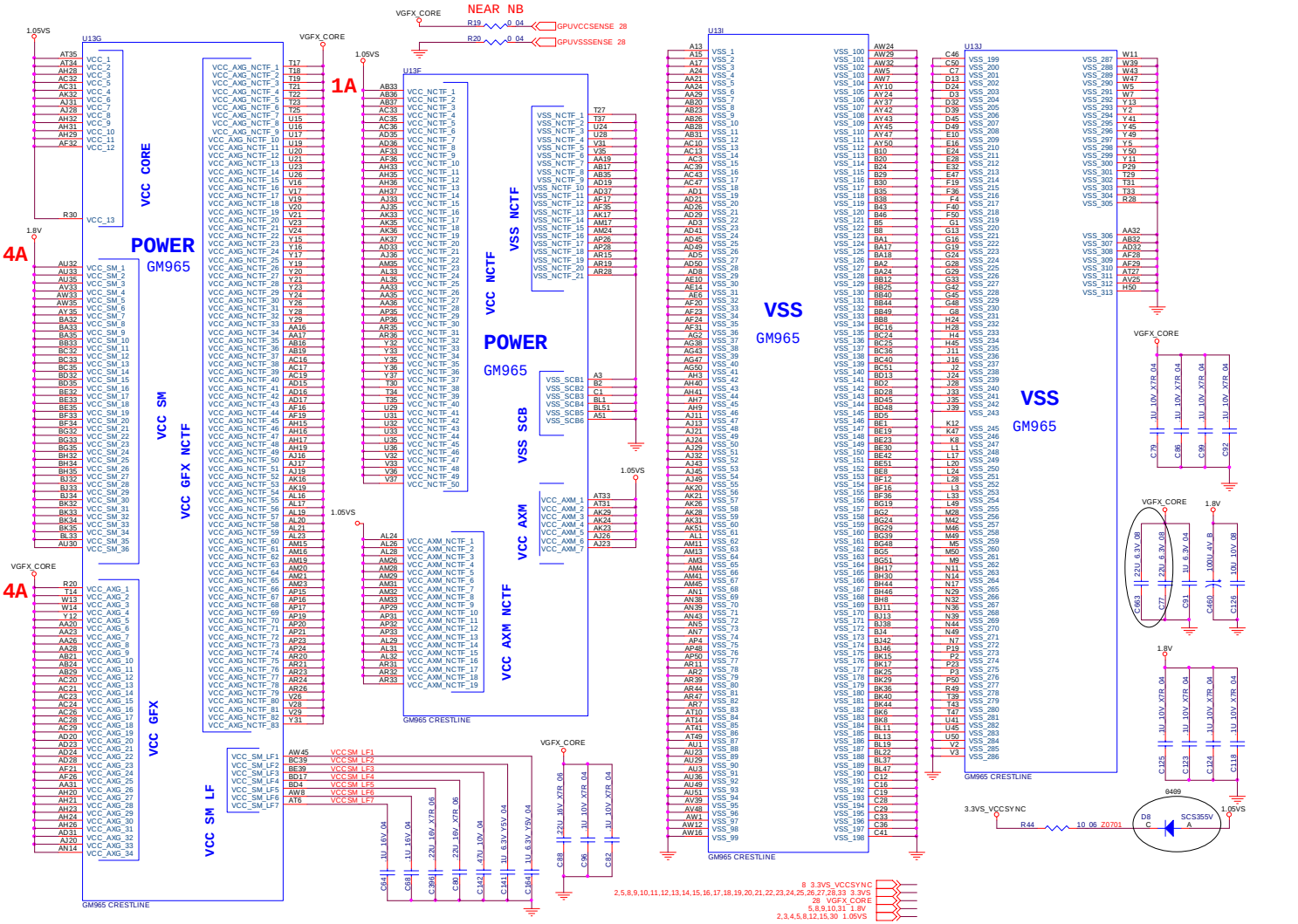
Crestline 3/5



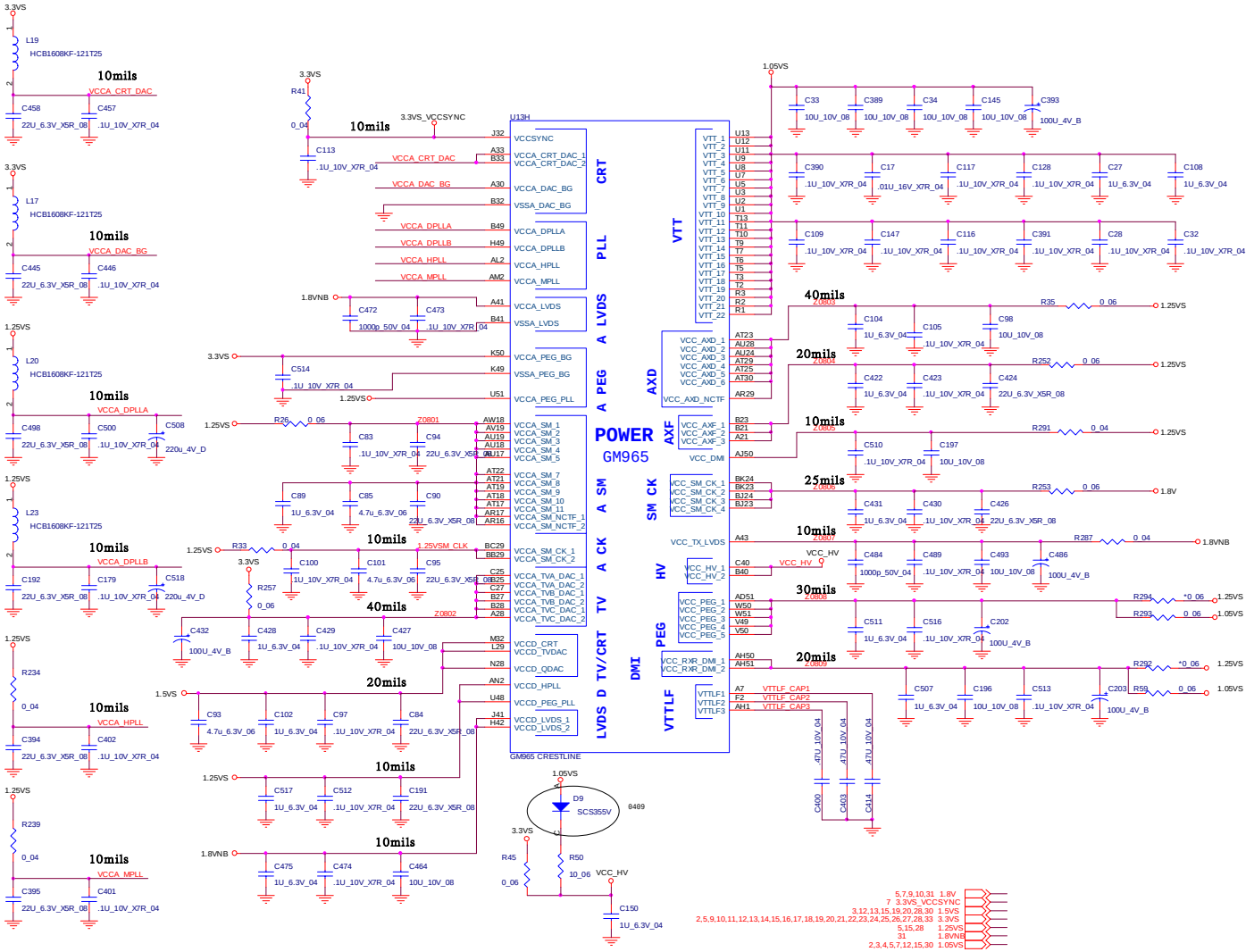
Sheet 6 of 37
Crestline 3/5

Crestline 4/5

Sheet 7 of 37
Crestline 4/5



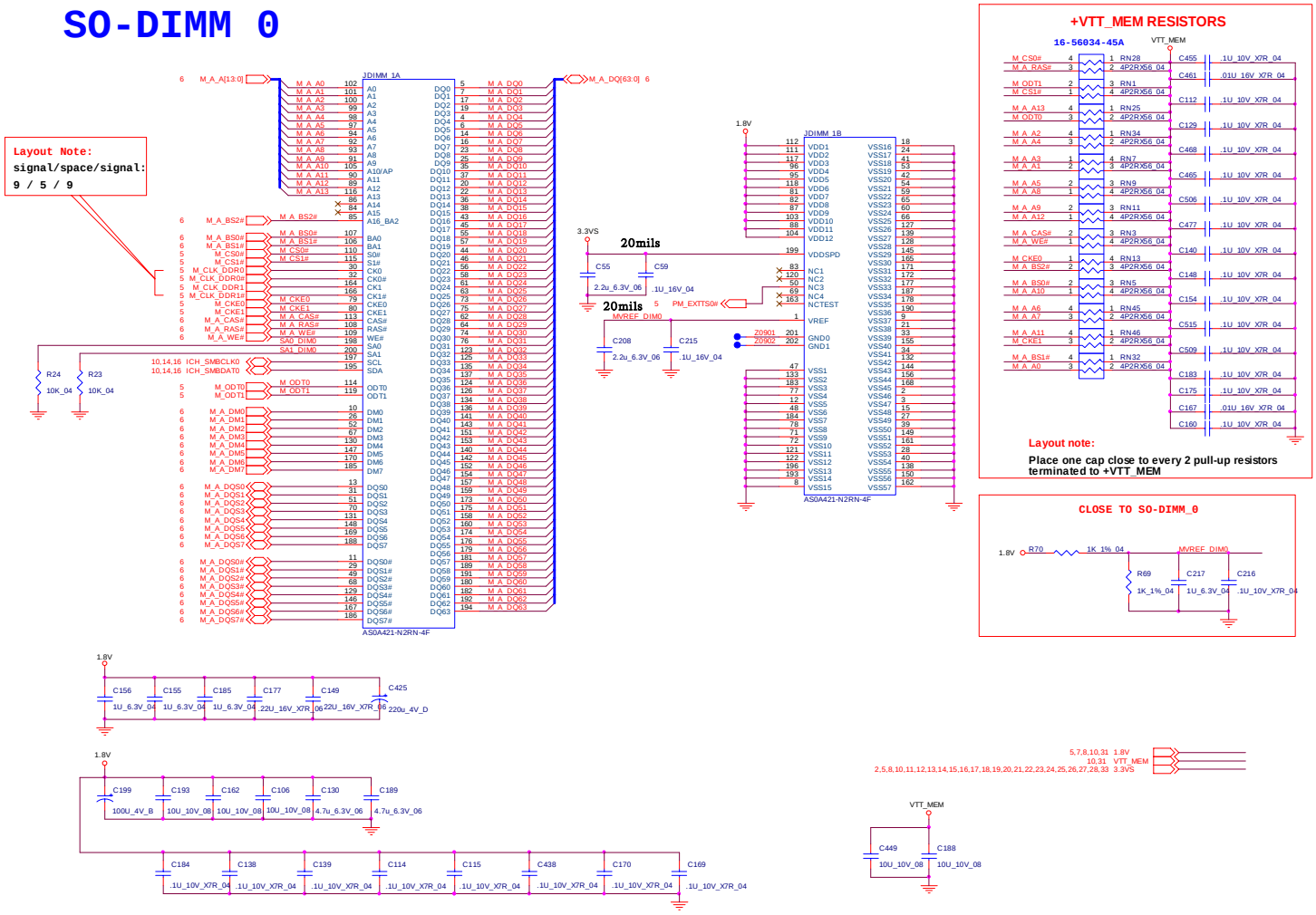
Crestline 5/5



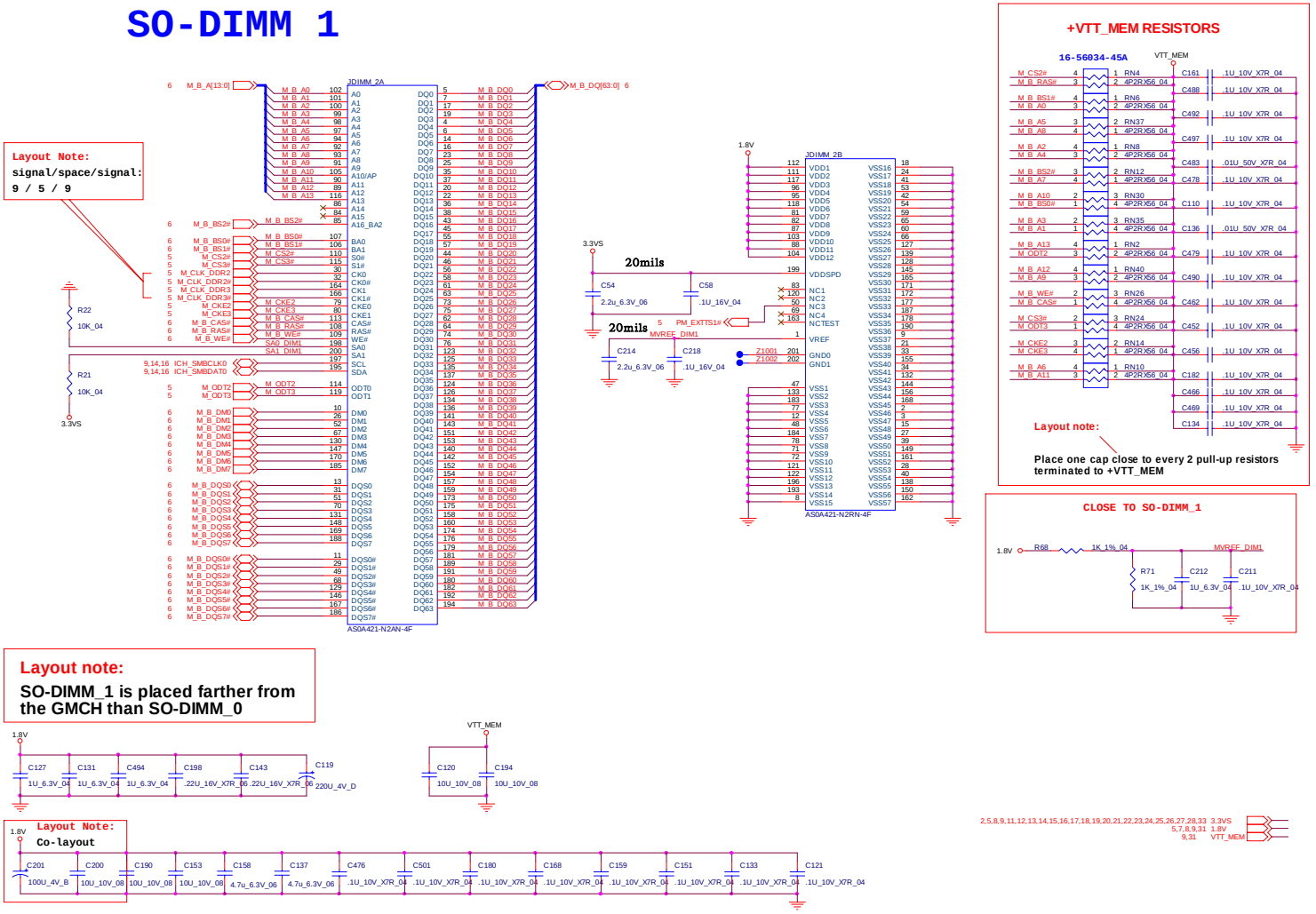
Sheet 8 of 37
Crestline 5/5

DDRII SO-DIMM 0

Sheet 9 of 37
DDRII SO-DIMM 0



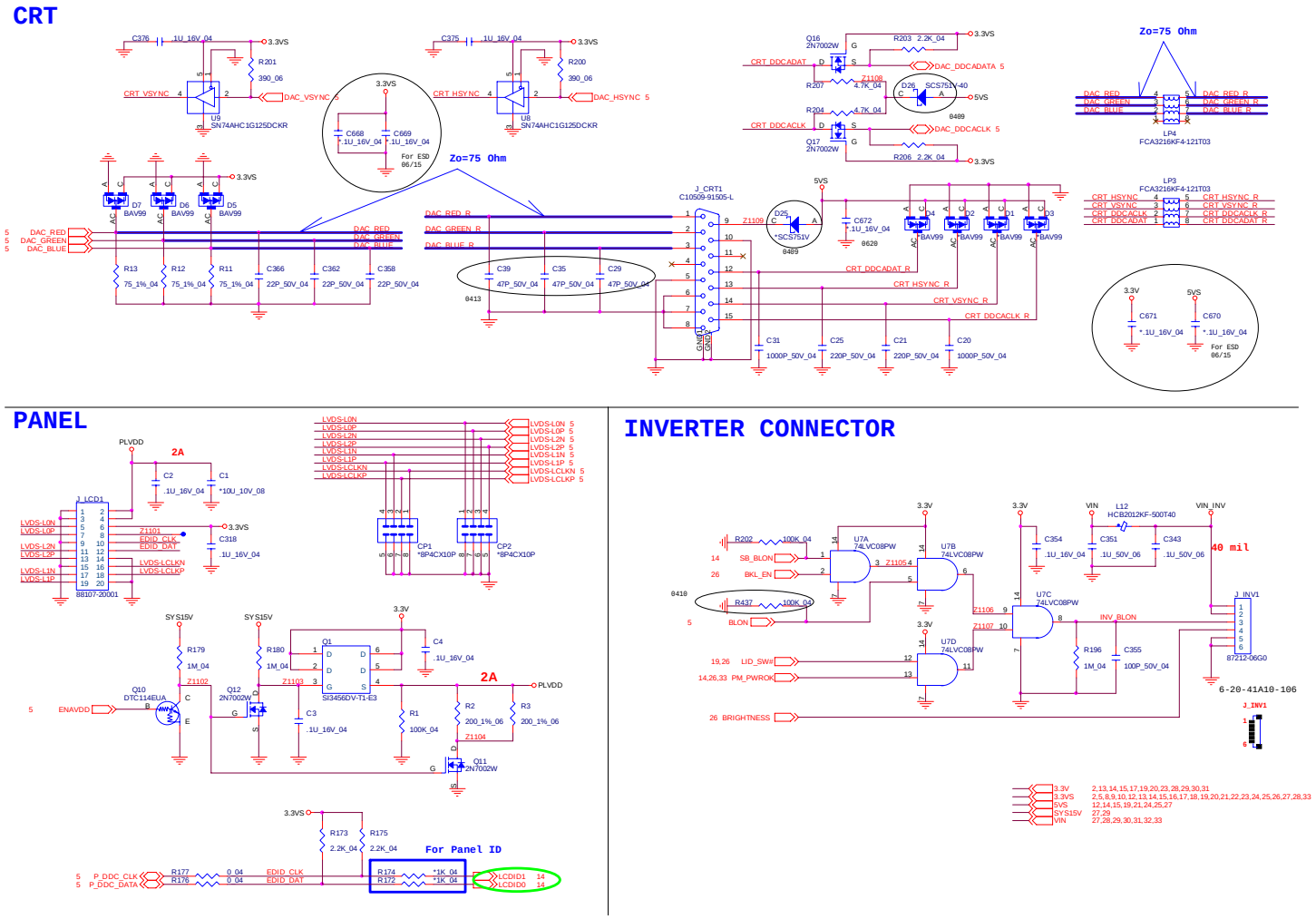
DDRII SO- DIMM 1



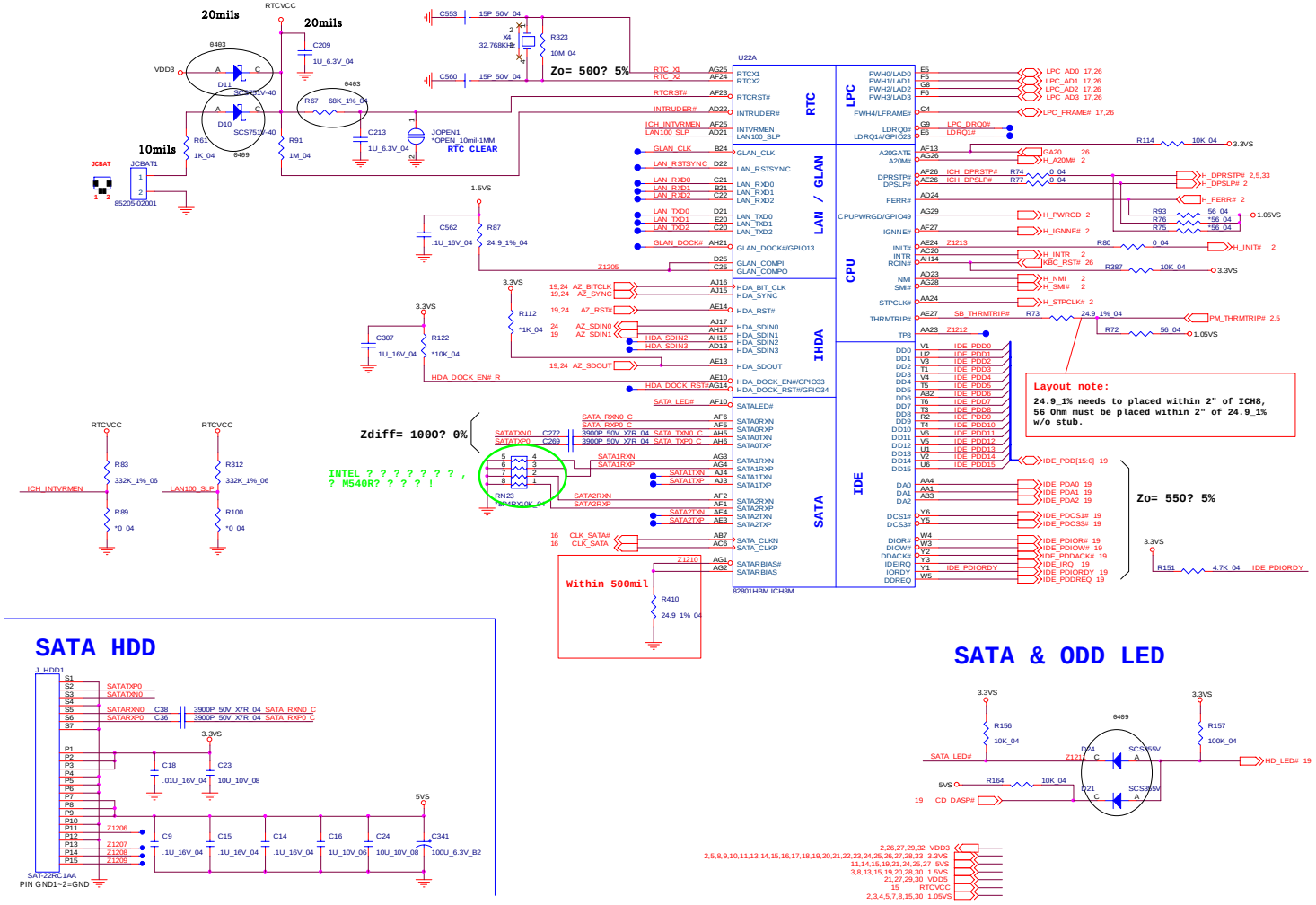
Sheet 10 of 37
DDRII SO-DIMM 1

PANEL, INVERTER, CRT

Sheet 11 of 37
PANEL, INVERTER, CRT



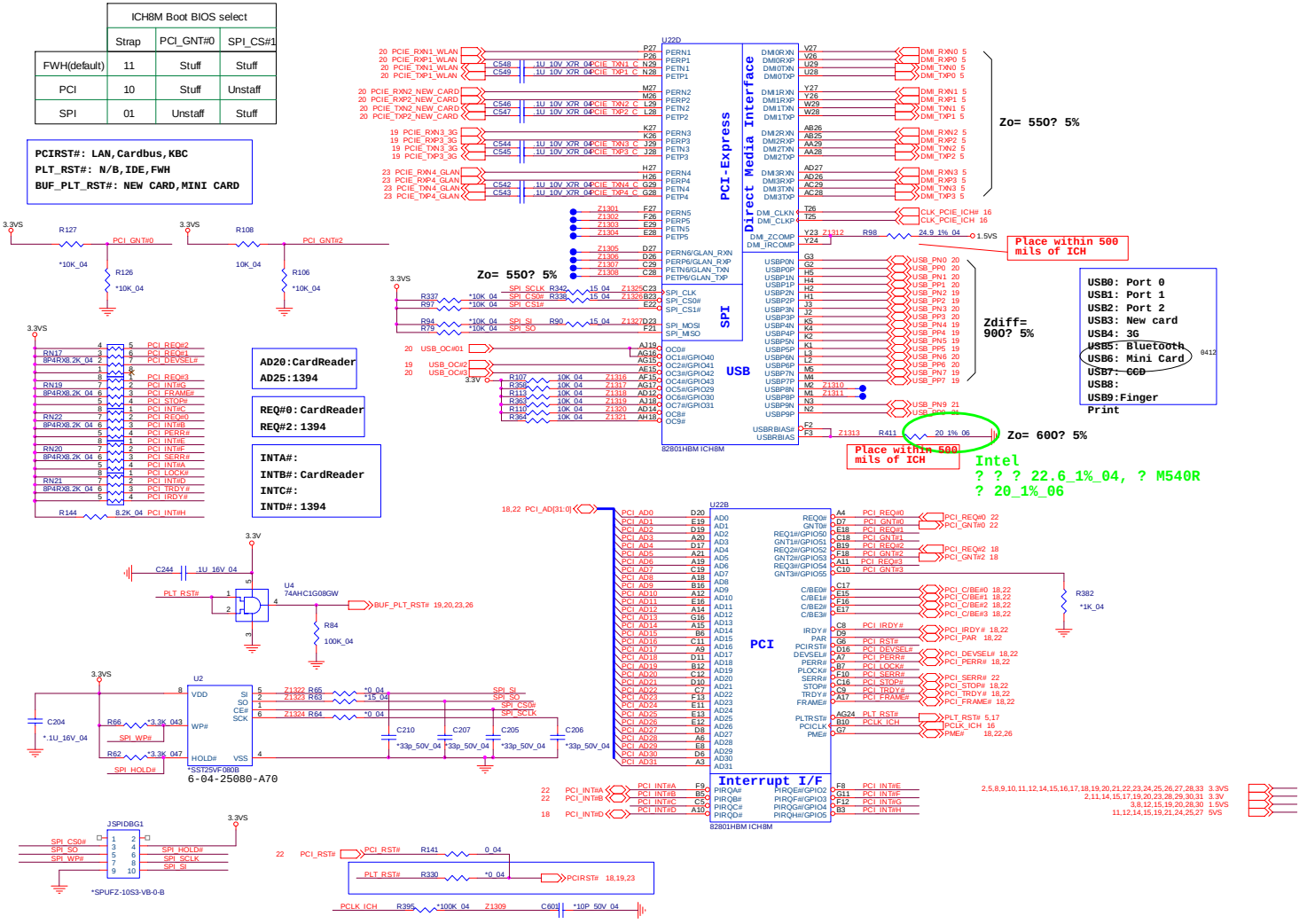
ICH8-M 1/4, SATA



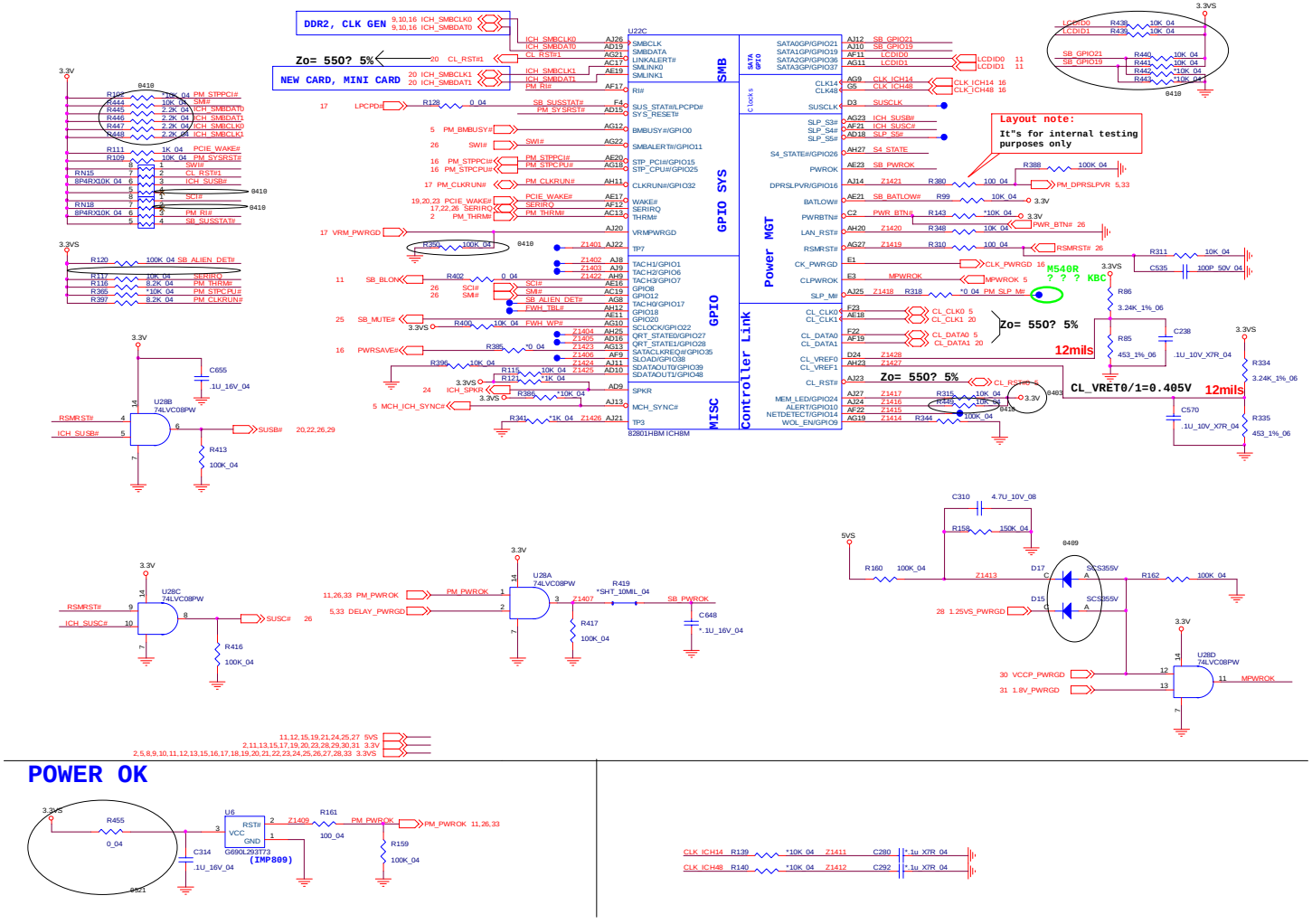
Sheet 12 of 37
ICH8-M 1/4, SATA

ICH8-M 2/4, PCI, USB

Sheet 13 of 37
ICH8-M, PCI, USB



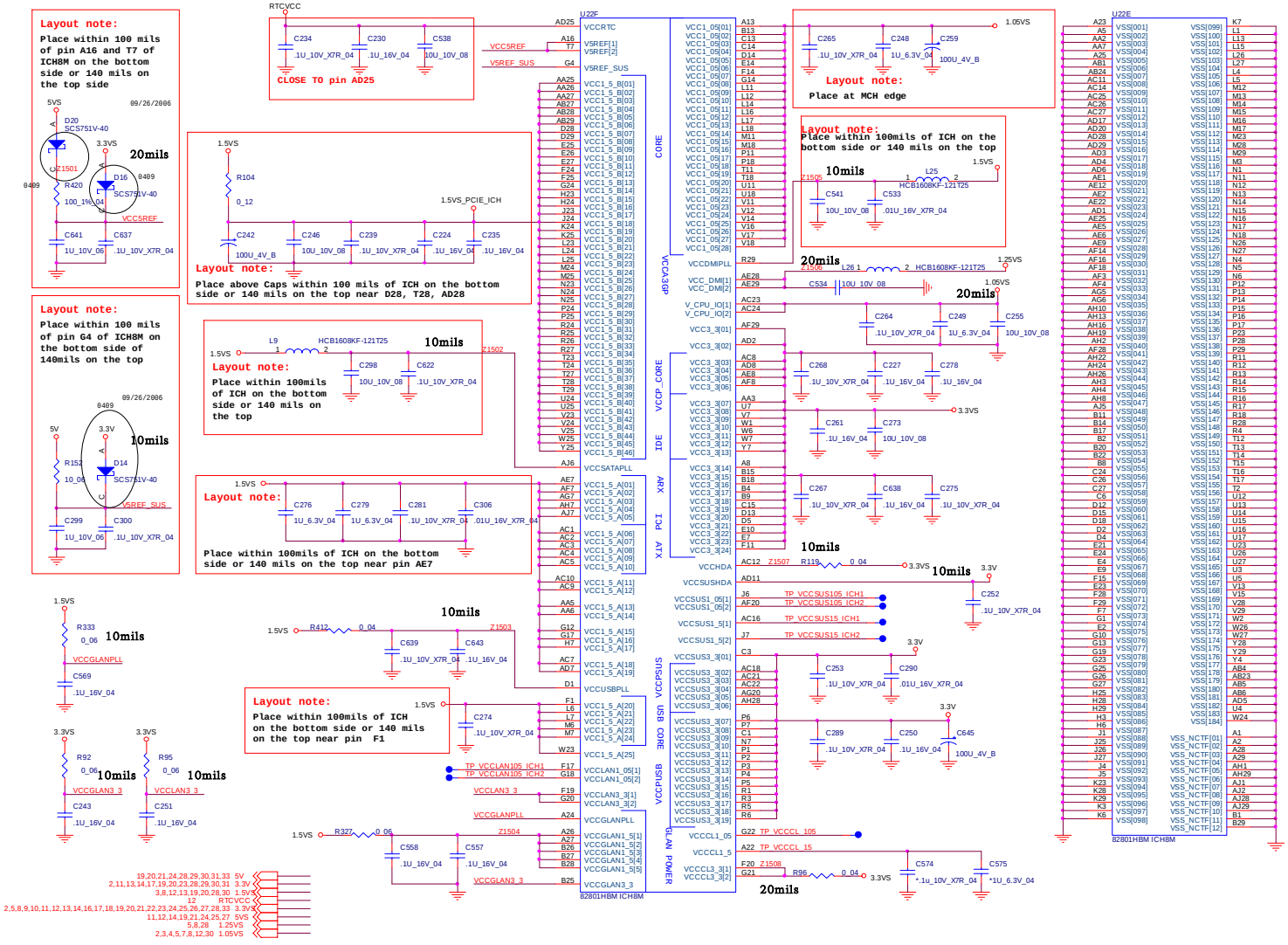
ICH8-M 3/4



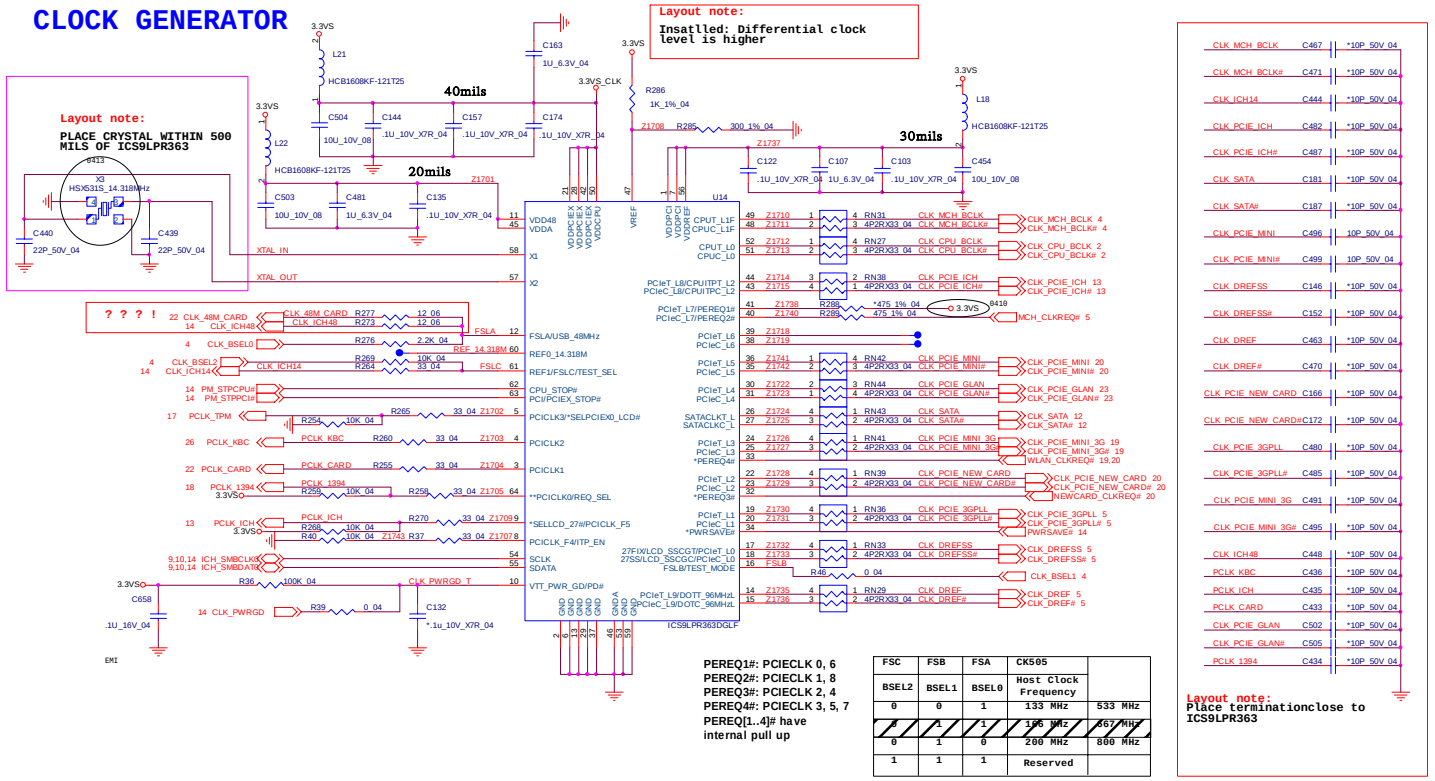
Sheet 14 of 37
ICH8-M 3/4

ICH8-M 4/4

Sheet 15 of 37
ICH8-M 4/4



CLOCK GENERATOR

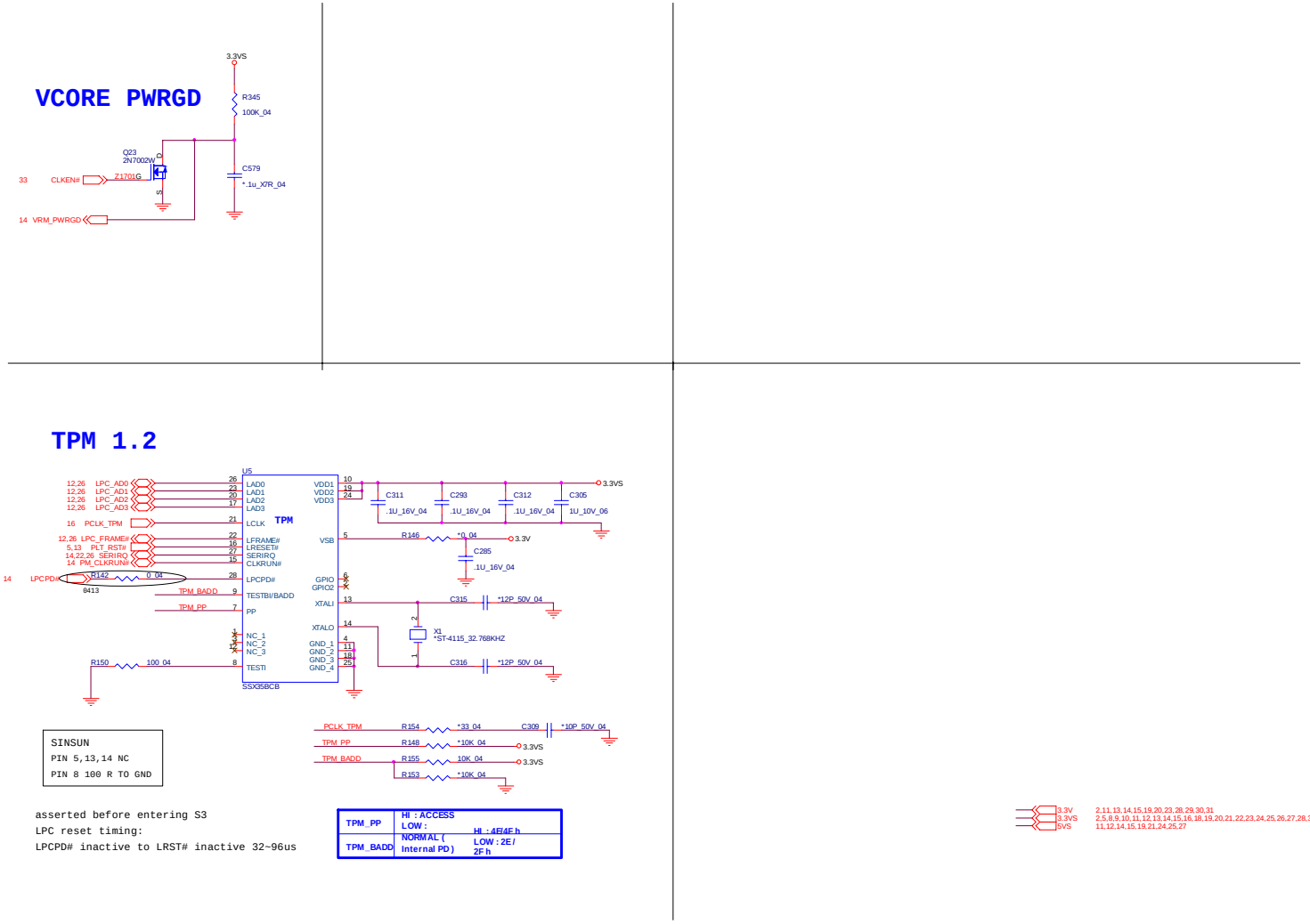


FSC	FSB	FSA	CK505	
BSEL2	BSEL1	BSEL0	Host Clock Frequency	
0	0	1	133 MHz	533 MHz
0	1	1	166 MHz	667 MHz
0	1	0	200 MHz	800 MHz
1	1	1	Reserved	

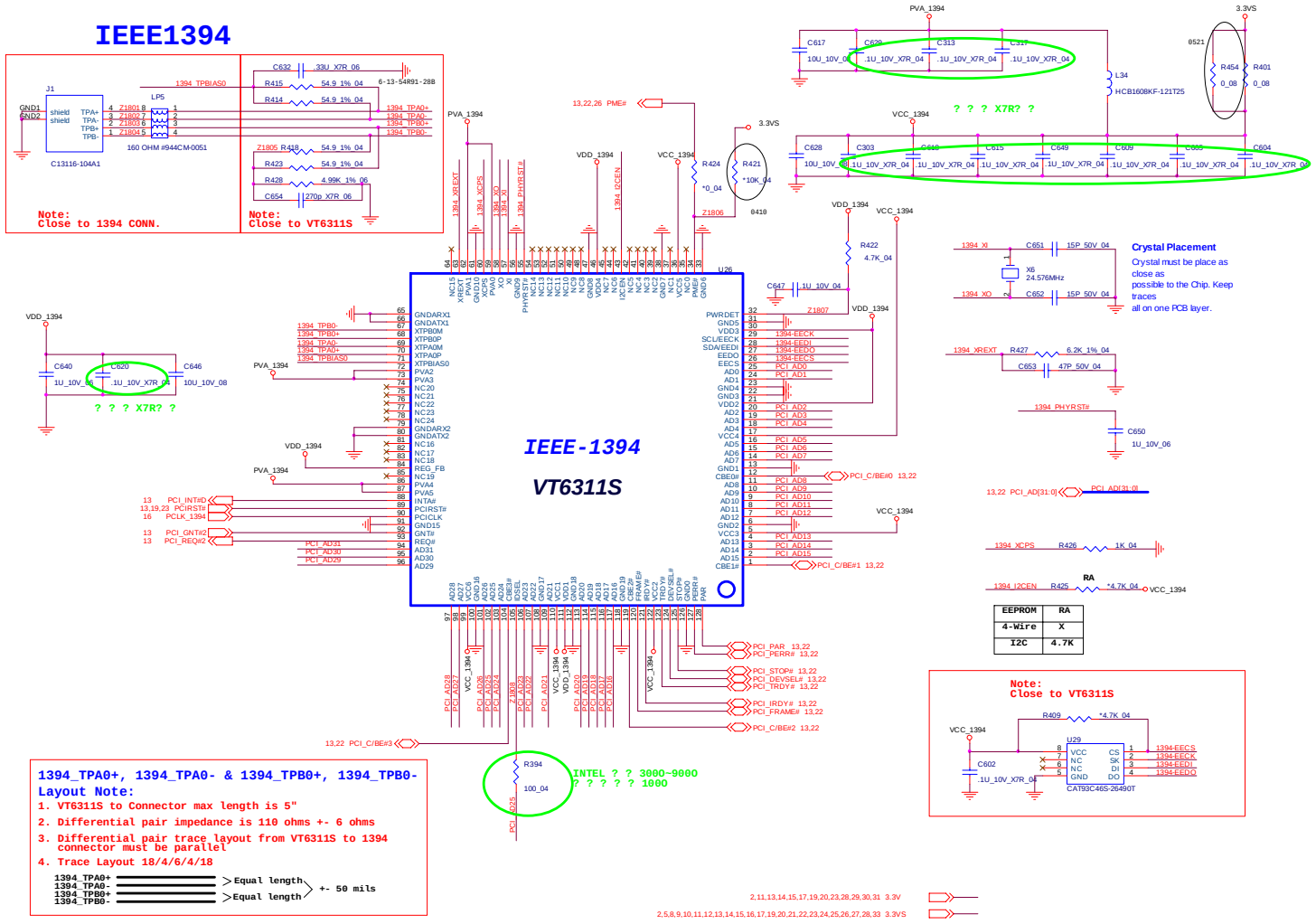
Sheet 16 of 37
CLOCK GENERATOR

3G POWER, TPM

Sheet 17 of 37
3G POWER, TPM



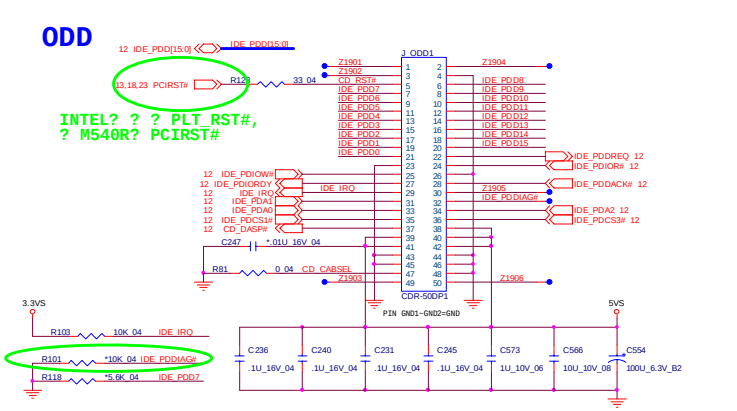
IEEE 1394 VT6311S

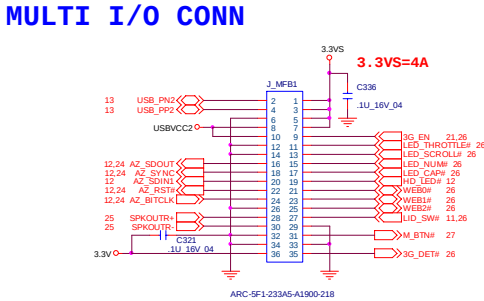


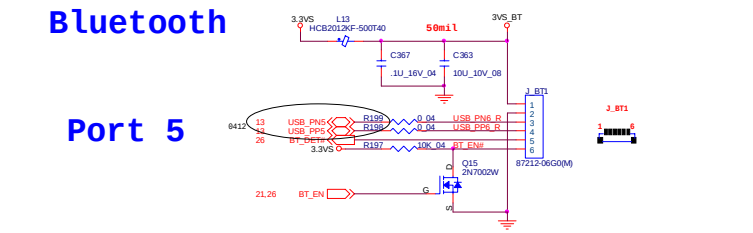
Sheet 18 of 37
IEEE 1394 VT6311S

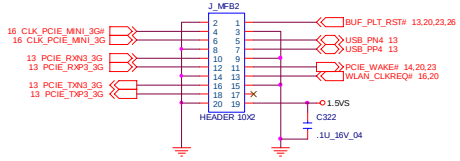
MULTI 1/O, ODD, CCD, BT

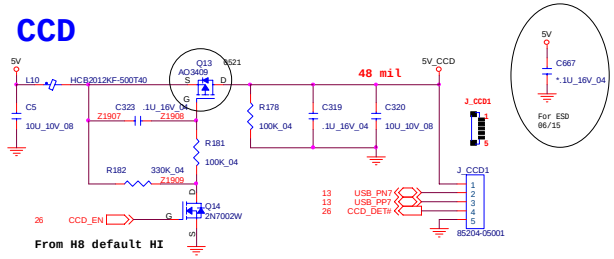
Sheet 19 of 37
MULTI 1/O, ODD, CCD, BT

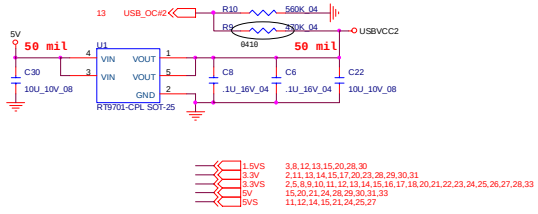




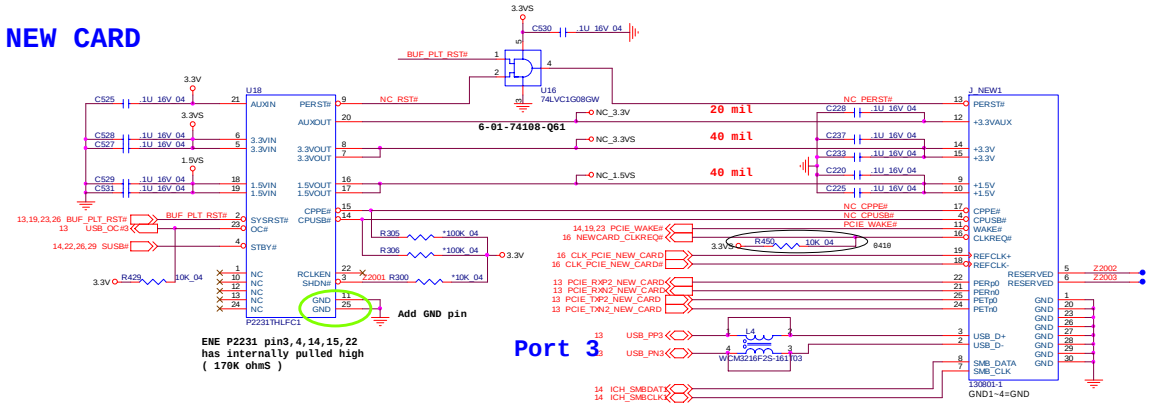


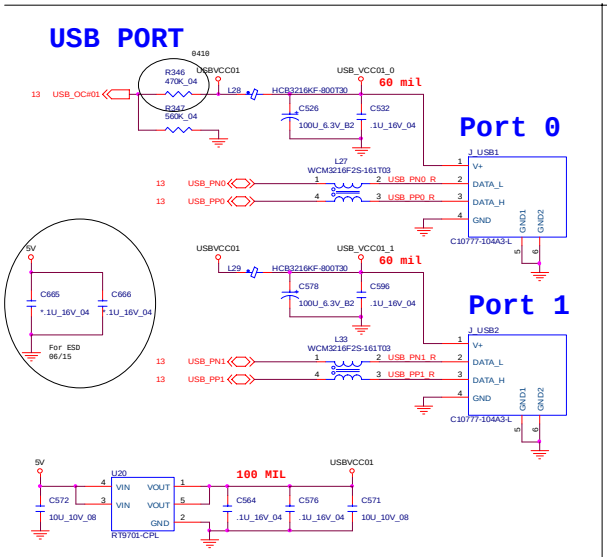


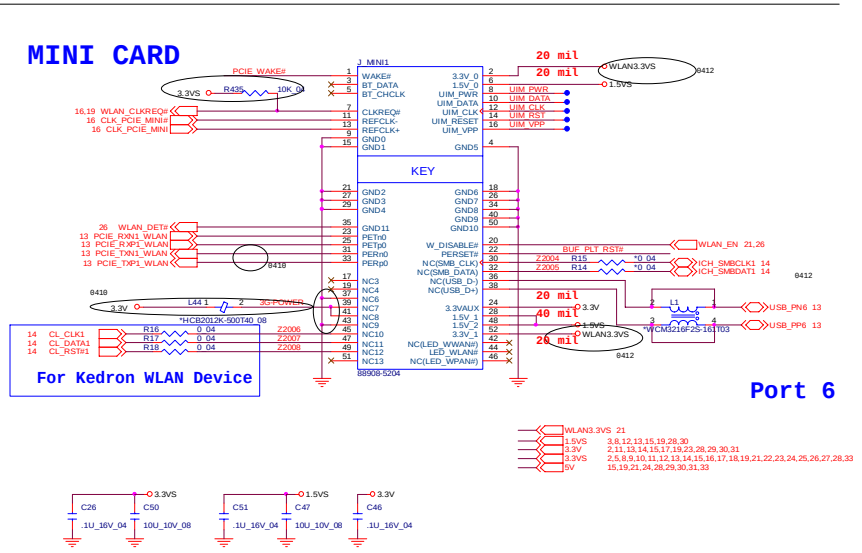




NEW CARD, MINI PCIE, USB





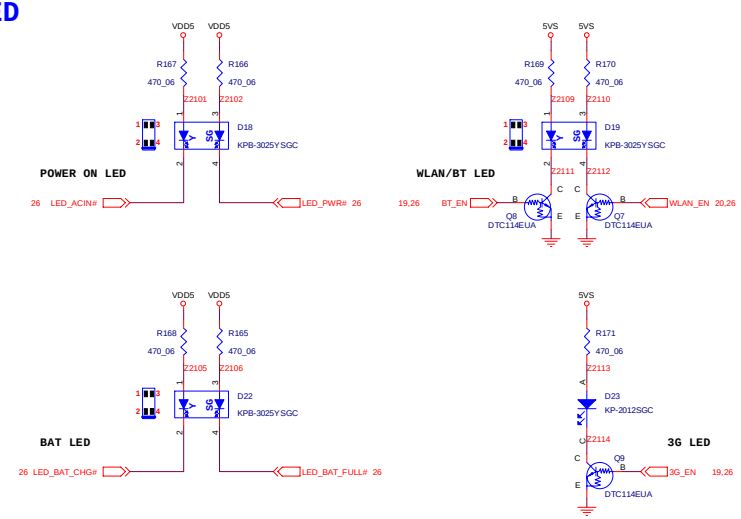


Sheet 20 of 37
NEW CARD, MINI PCIE, USB

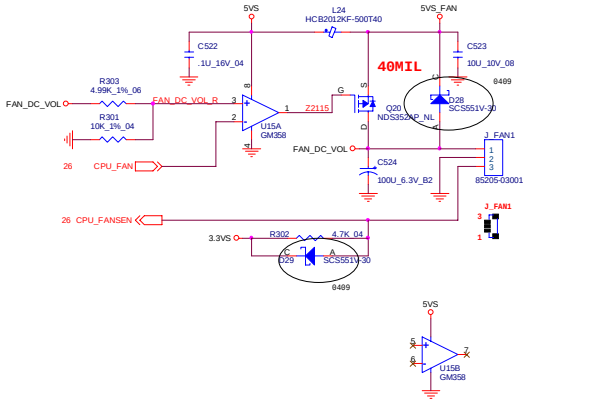
LED, FAN, PC BEEP, TP, FP

Sheet 21 of 37
LED, FAN, PC
BEEP, TP, FP

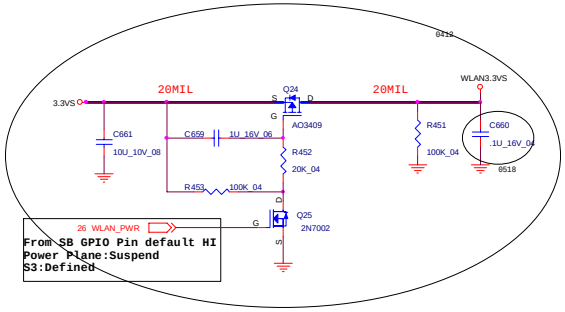
LED



FAN CONTROL

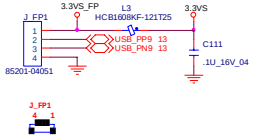


WLAN POWER

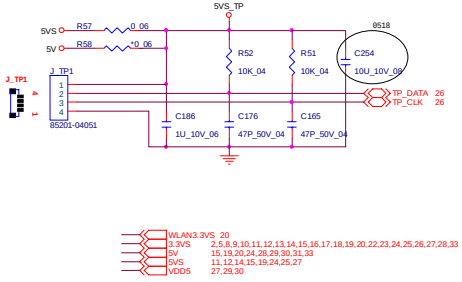


WLAN_PWR Signal default HI for WLAN
1.BIOS Setup HI for Intel PCIE WLAN
2.USB WLAN BIOS Setup LOW for
Fn+F10

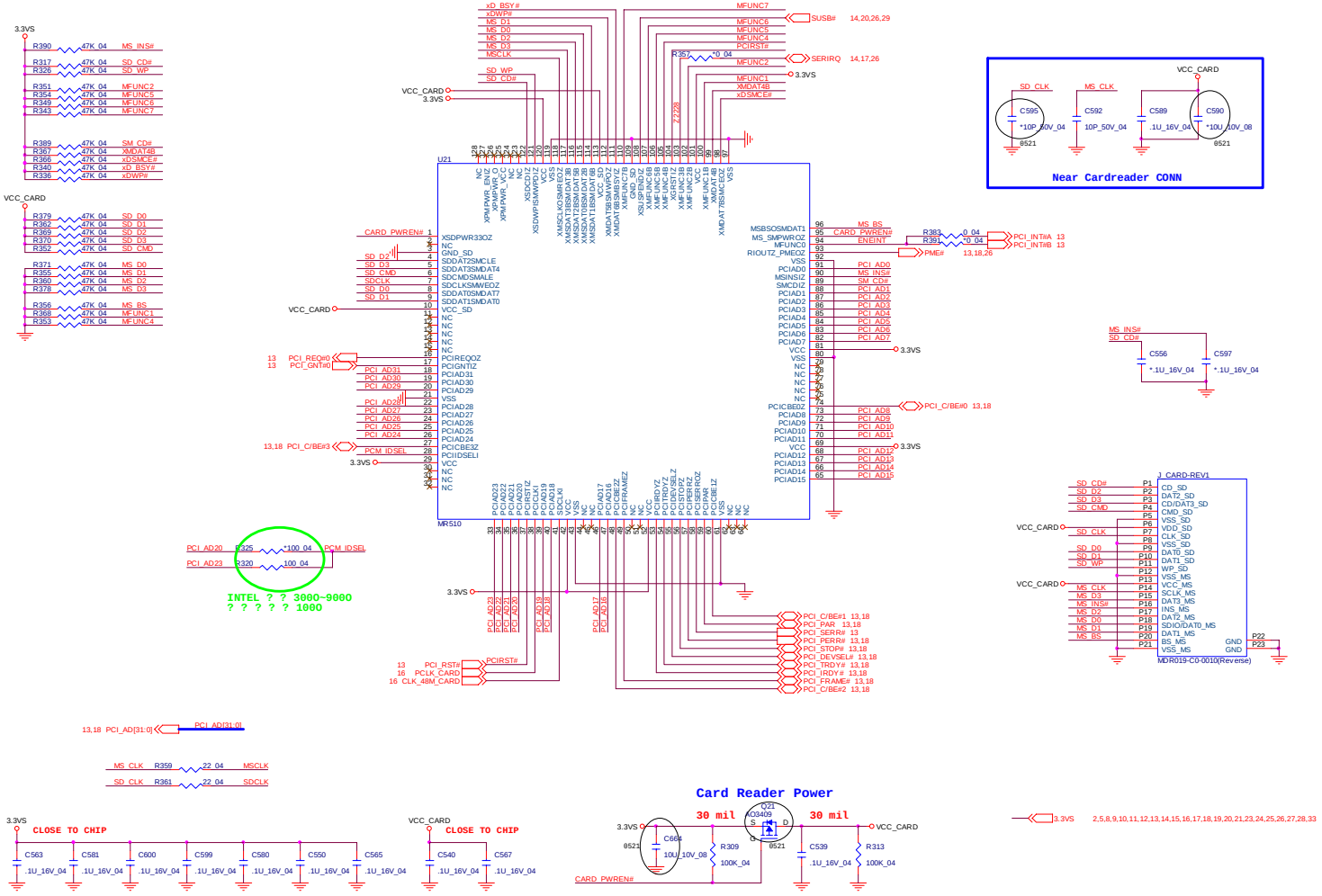
FP CONN



CLICK CONN



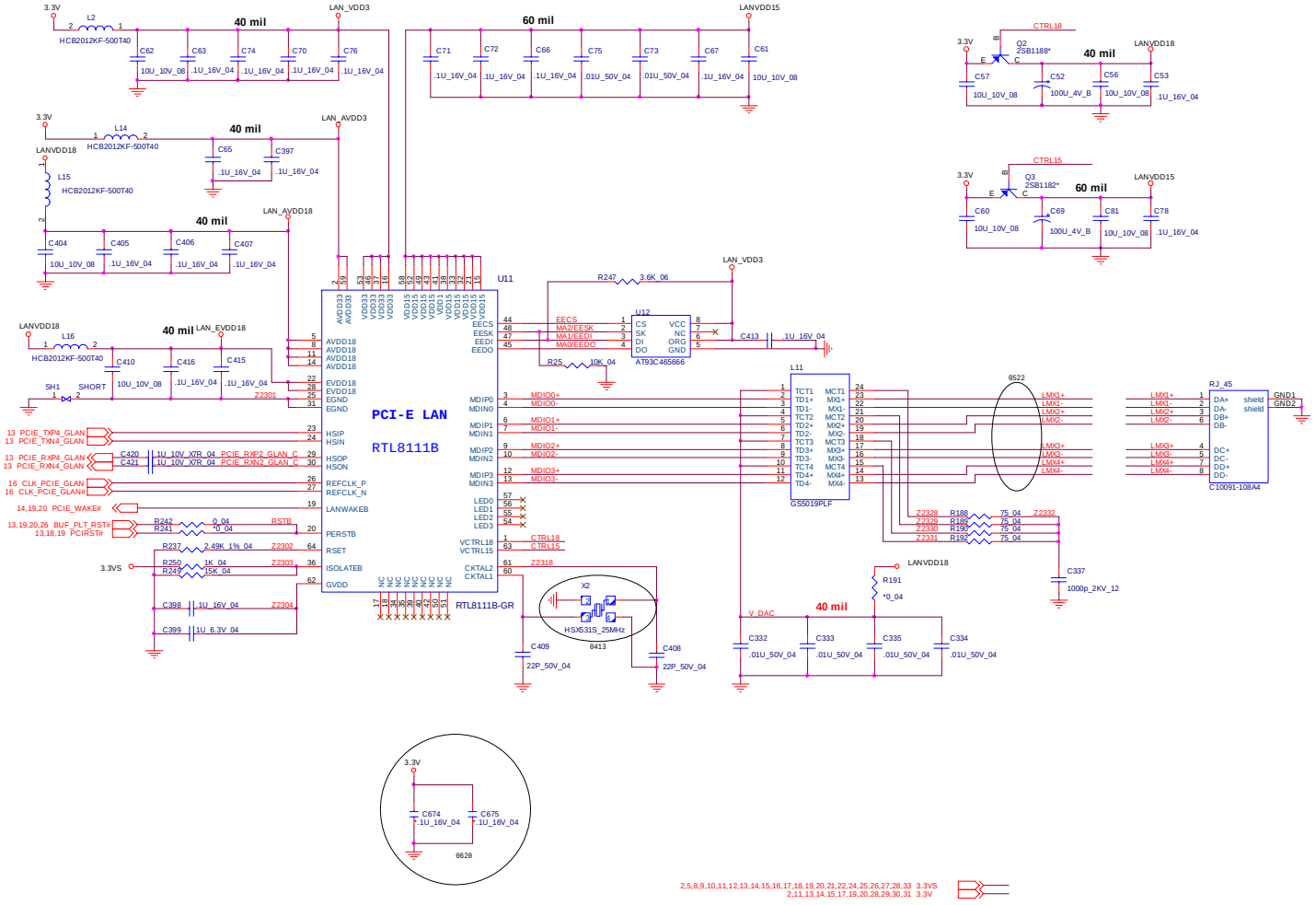
ENE MR510, 7 IN 1



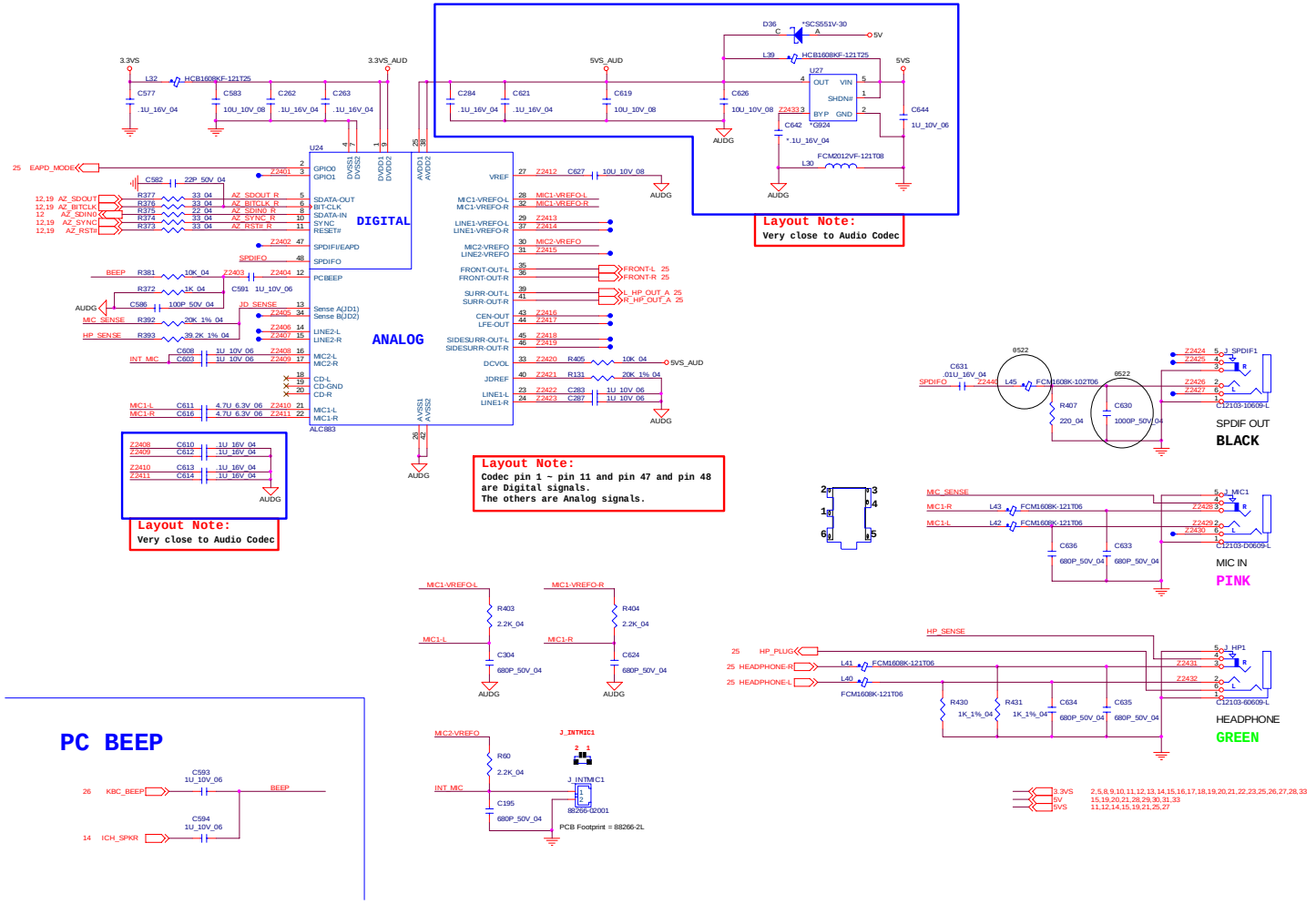
Sheet 22 of 37
ENE MR510, 7 IN 1

PCI-E LAN RTL8111B

Sheet 23 of 37
PCI-E LAN
RTL8111B



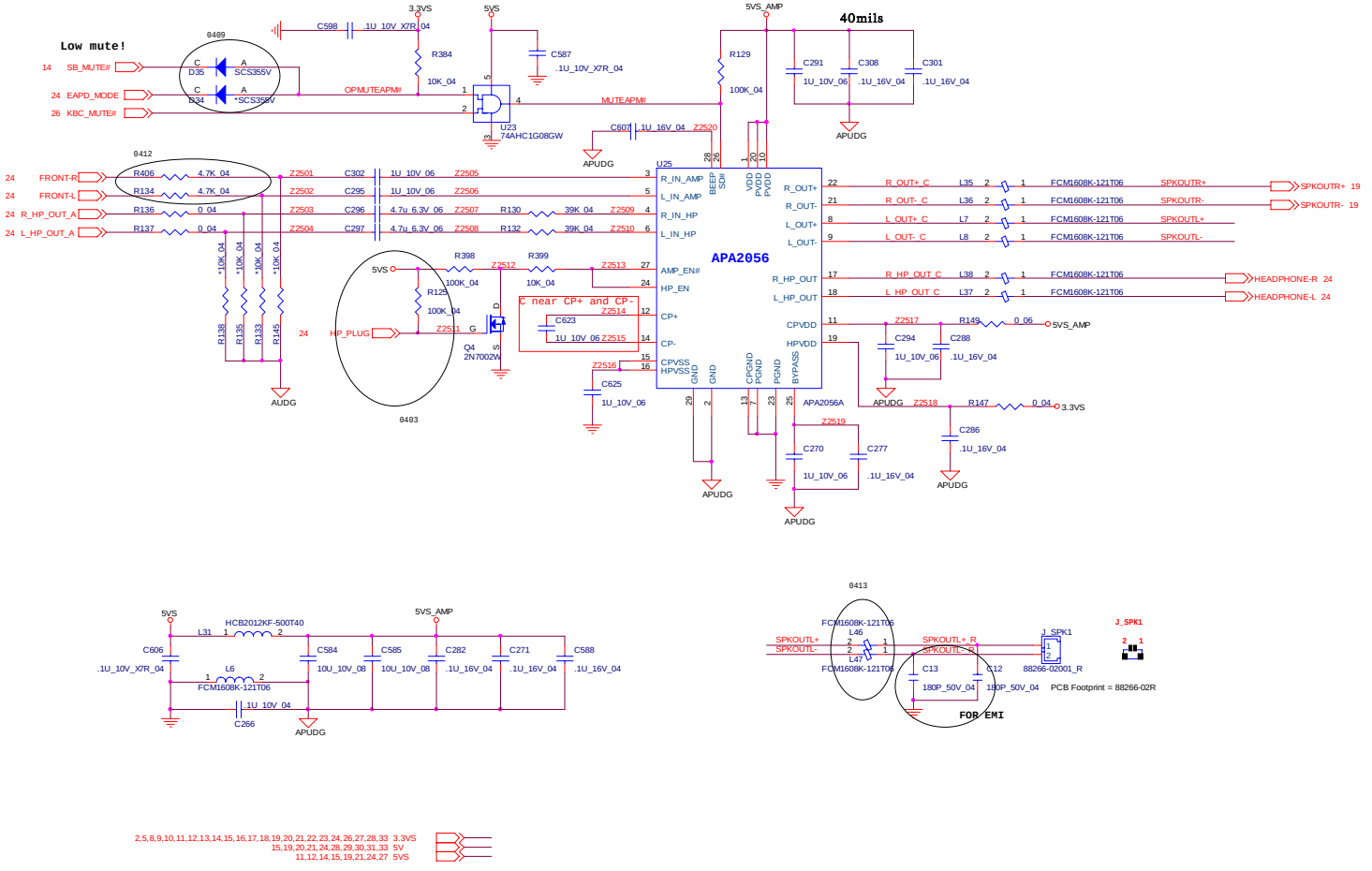
AUDIO CODEC ALC883



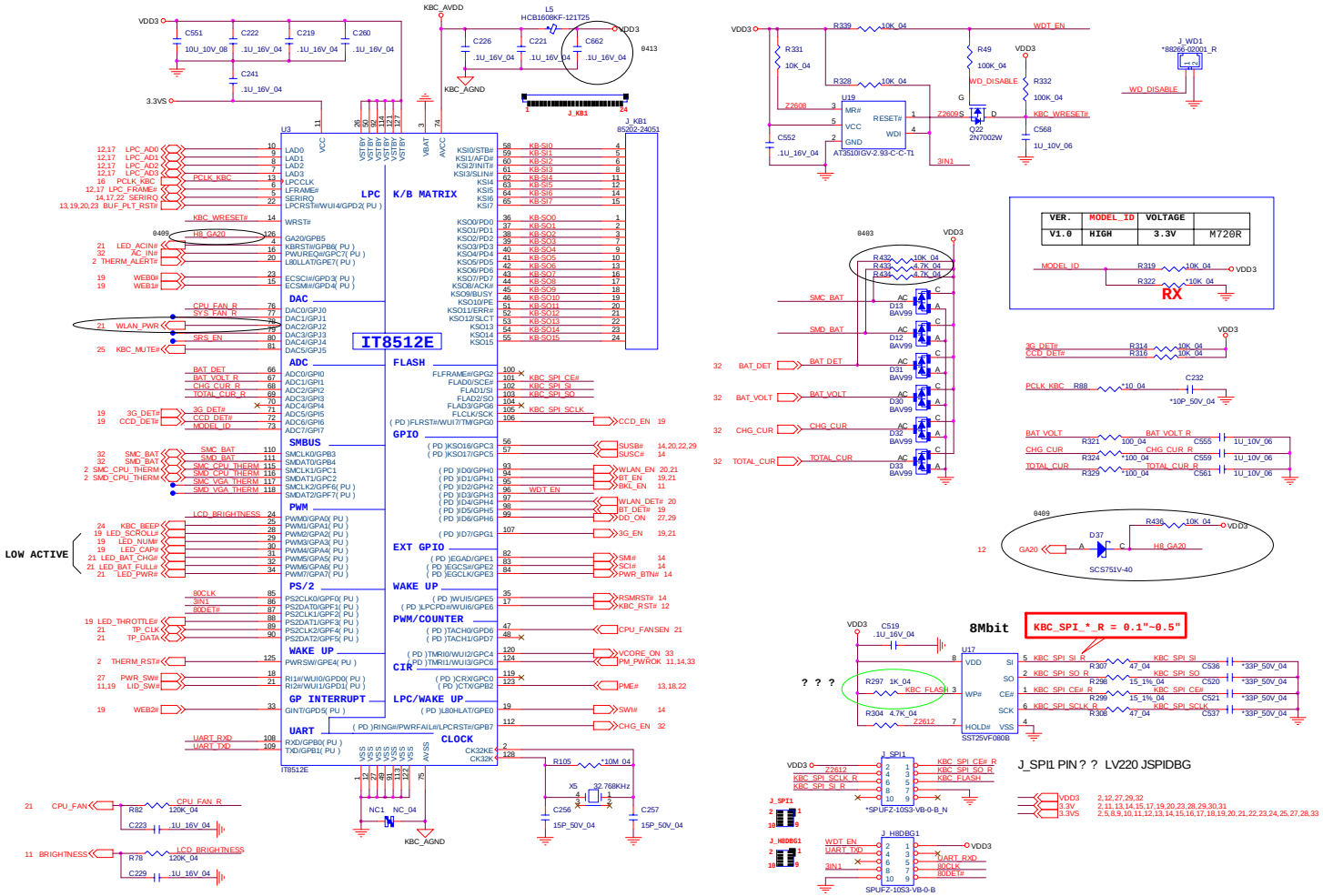
Sheet 24 of 37
AUDIO CODEC
ALC883

AUDIO AMP2056

Sheet 25 of 37
AUDIO AMP2056



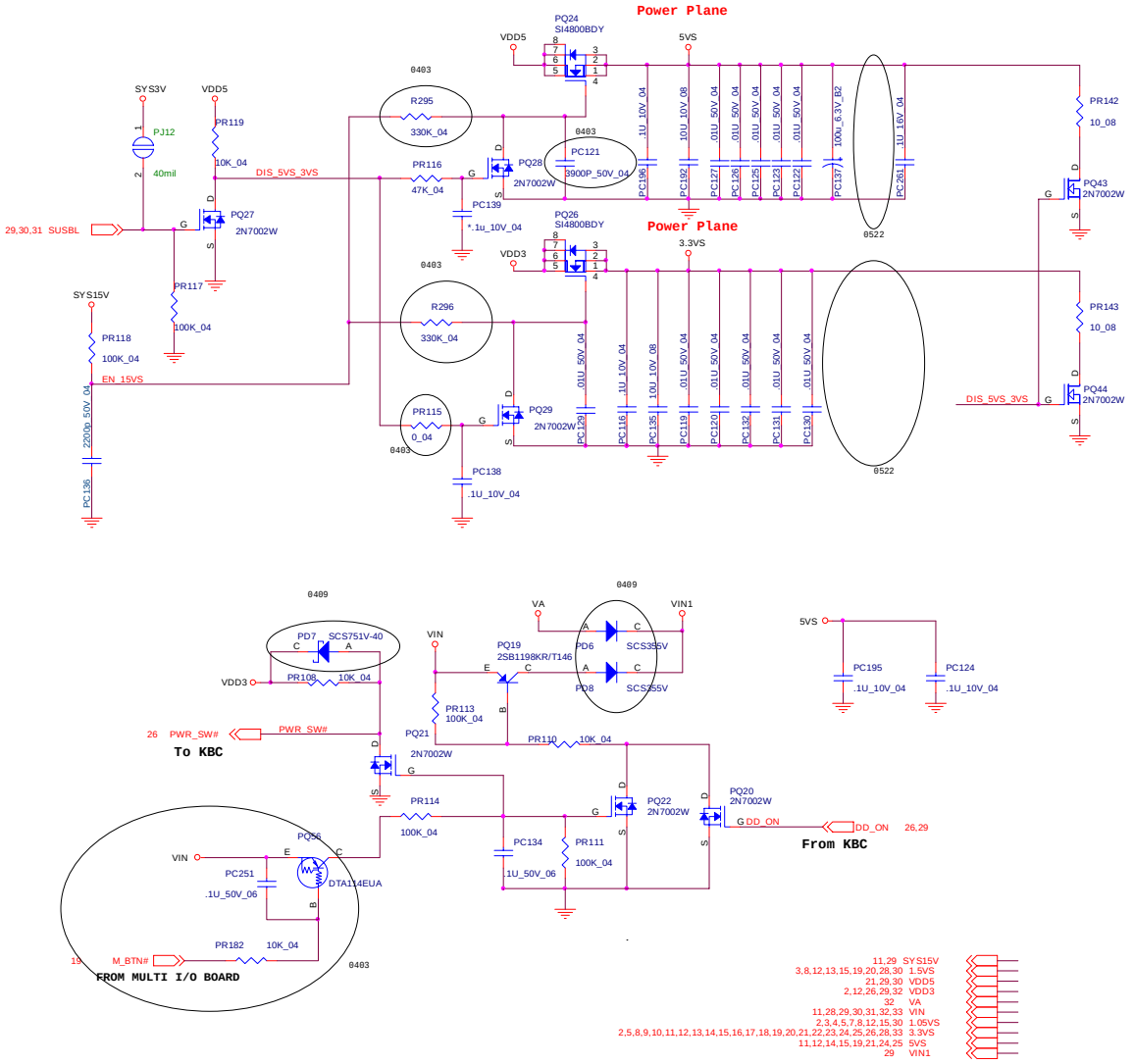
KBC-ITE IT8512E



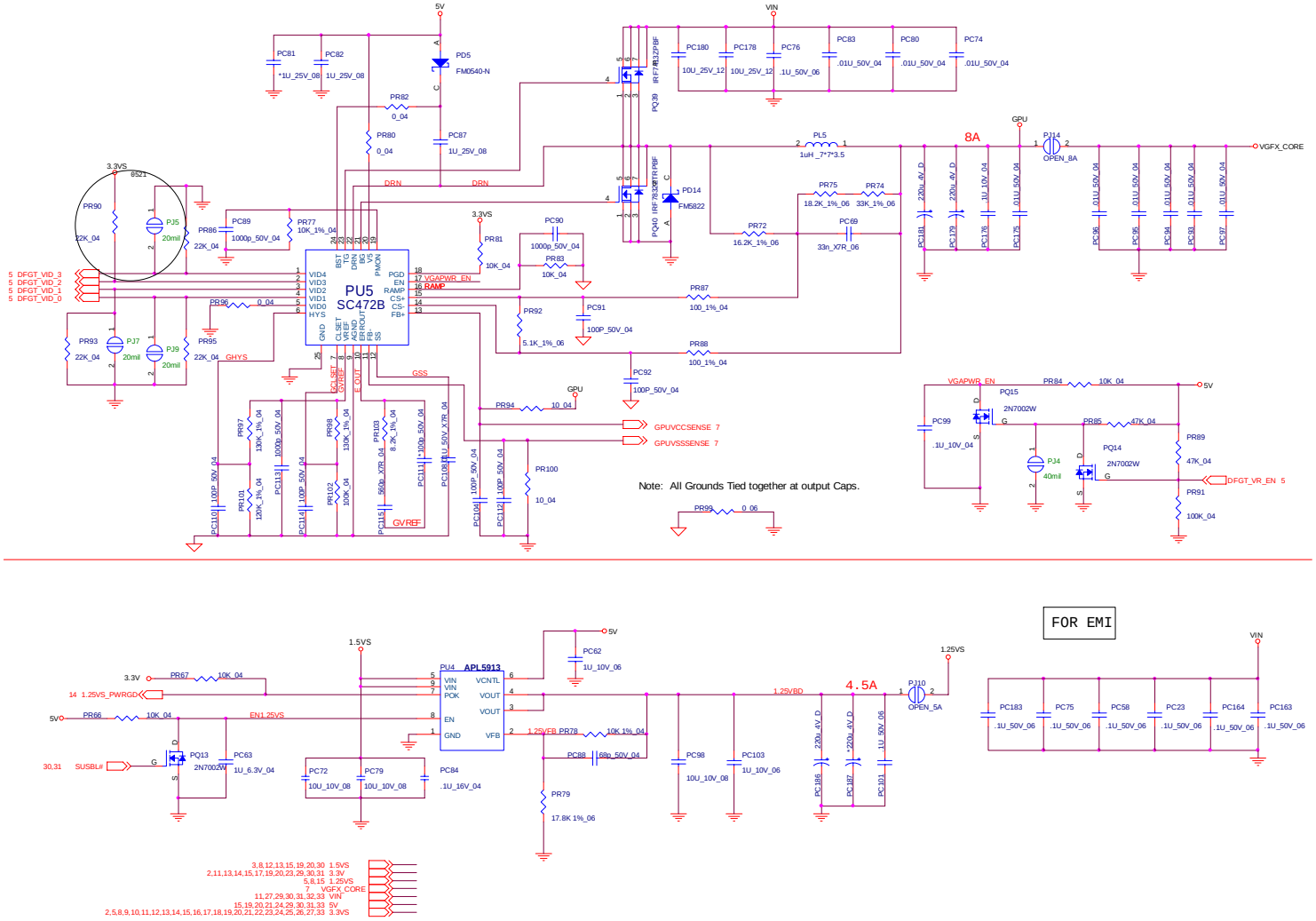
Sheet 26 of 37
KBC-ITE IT8512E

3VS, 5VS

Sheet 27 of 37
3VS, 5VS



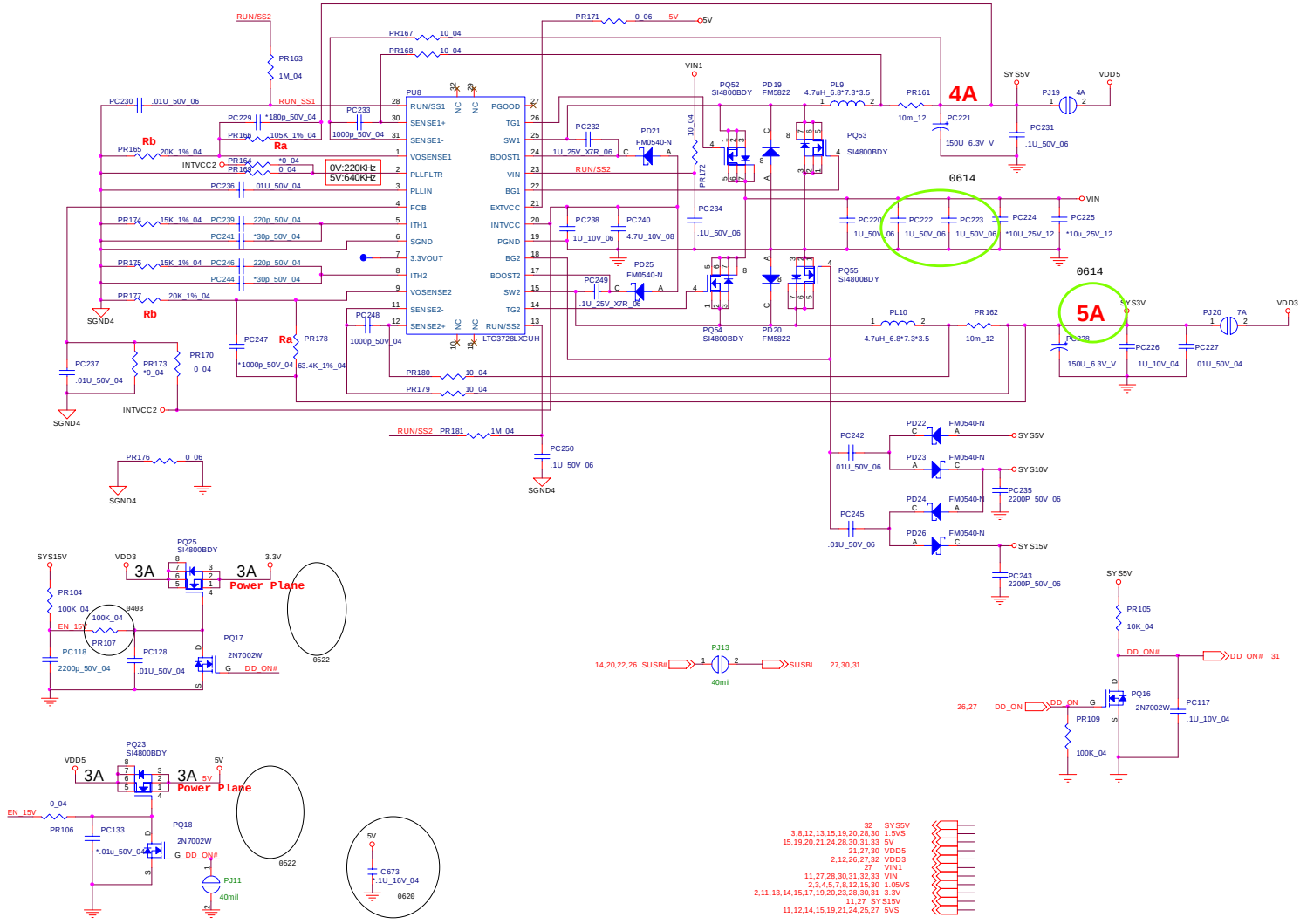
POWER GPU/1.25VS



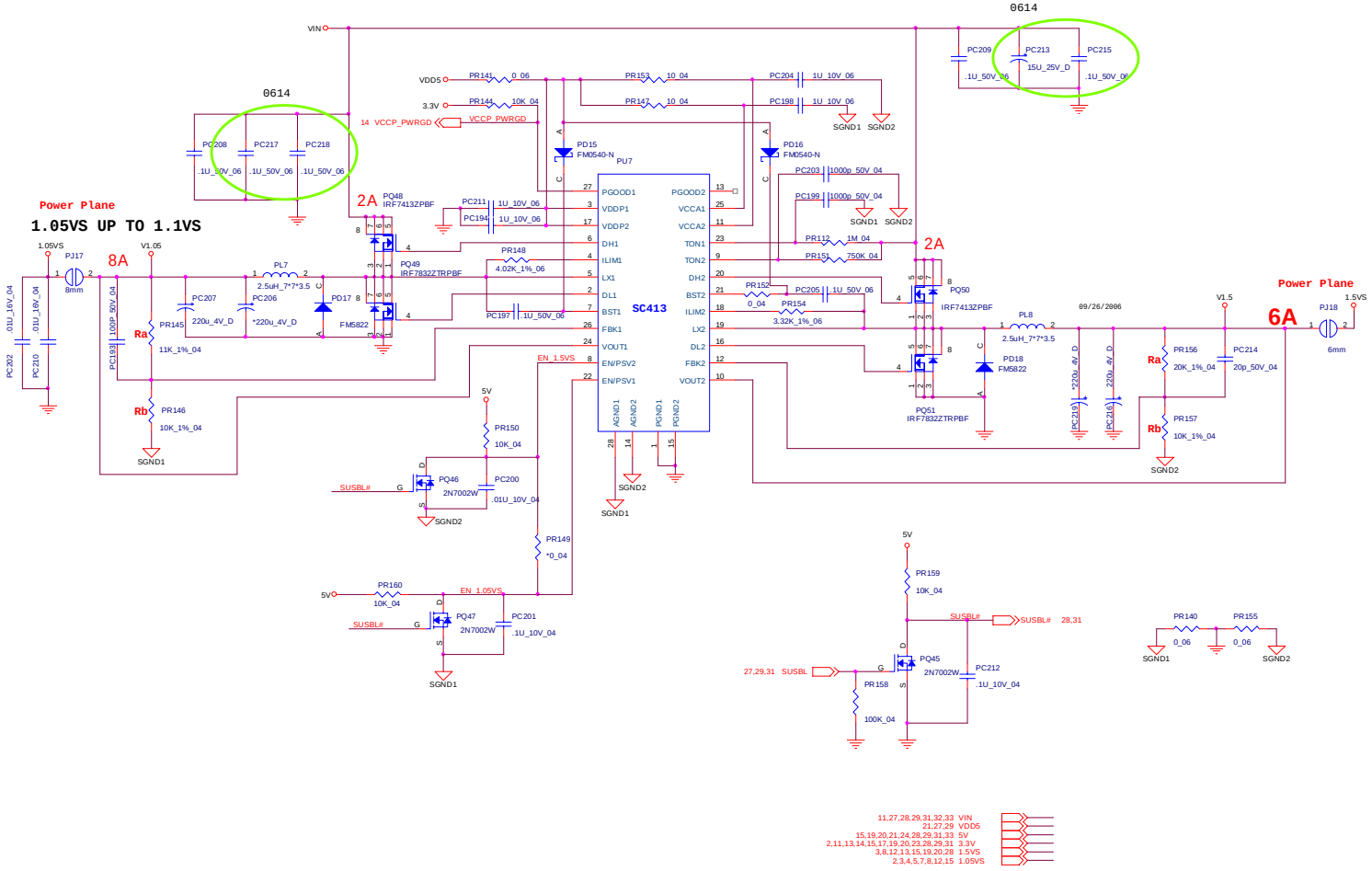
Sheet 28 of 37
POWER GPU/
1.25VS

POWER 3.3V/5V

Sheet 29 of 37
POWER 3.3V/5V



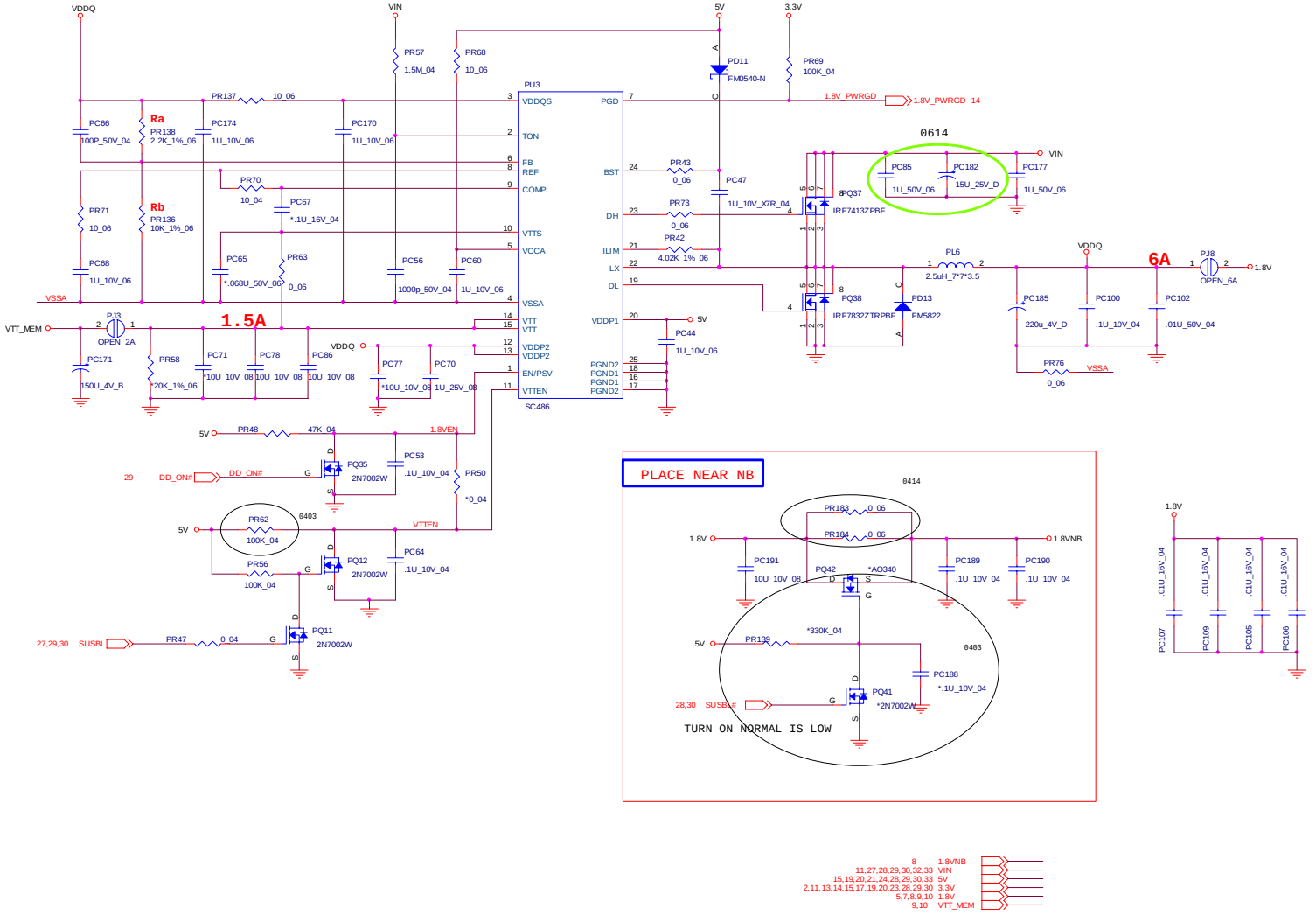
POWER 1.5VS/ 1.05VS



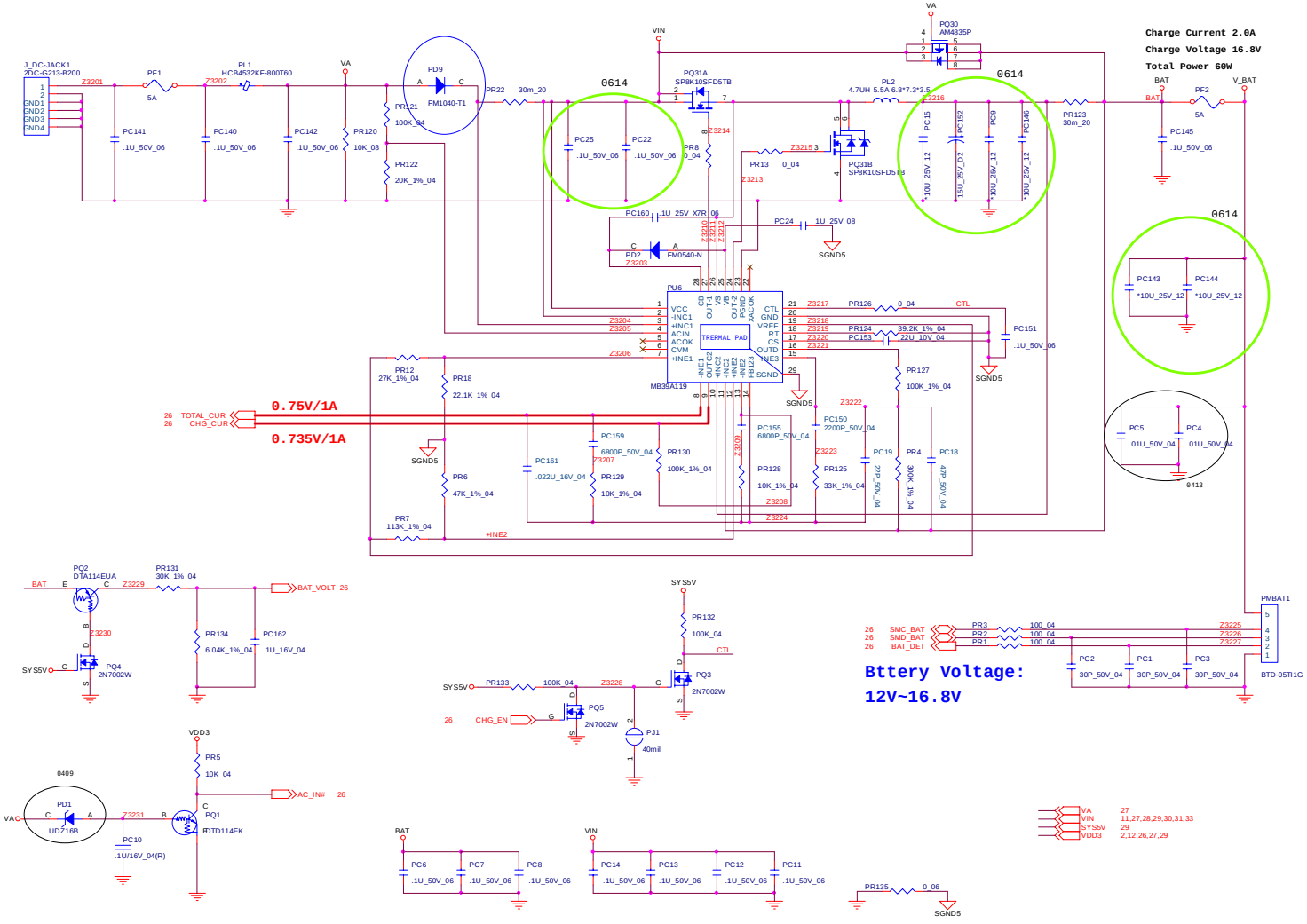
Sheet 30 of 37
POWER 1.5VS/
1.05VS

POWER 1.8V/0.9V

Sheet 31 of 37
POWER 1.8V/0.9V



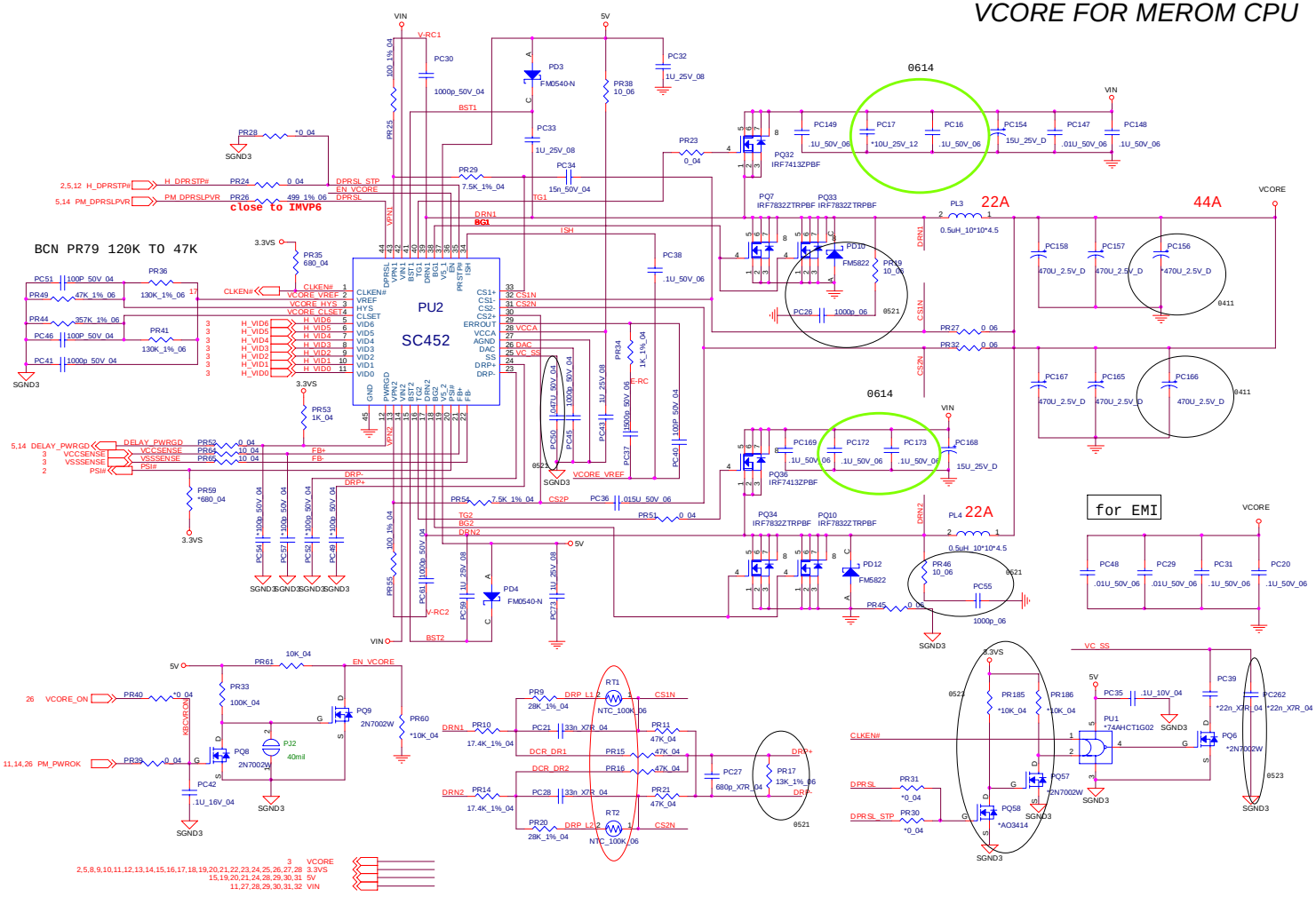
AC IN, CHARGE



Sheet 32 of 37
AC IN, CHARGE

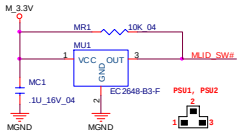
VCORE FOR MEROM CPU

Sheet 33 of 37
VCORE FOR MEROM CPU

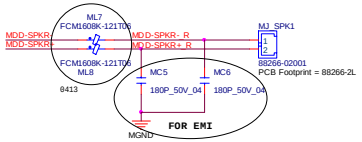


MULTI BOARD, LID, LED, SW, USB

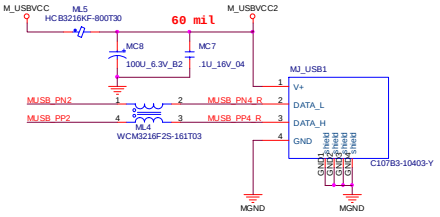
LID SWITCH IC



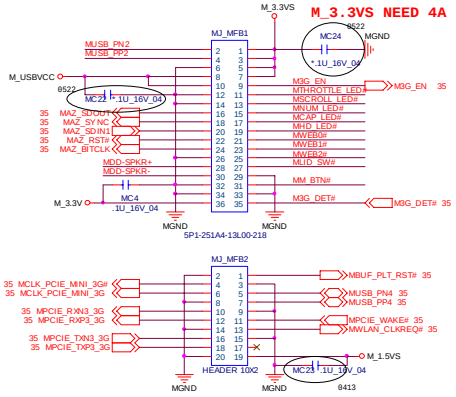
SPEAKER CONNECTOR



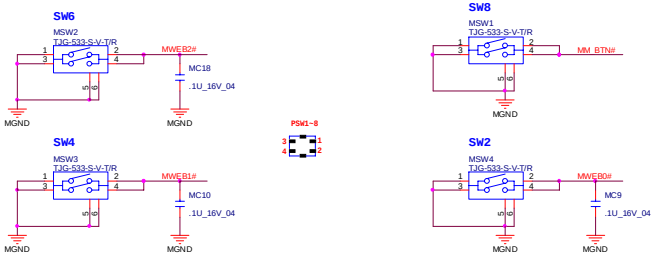
USB PORT



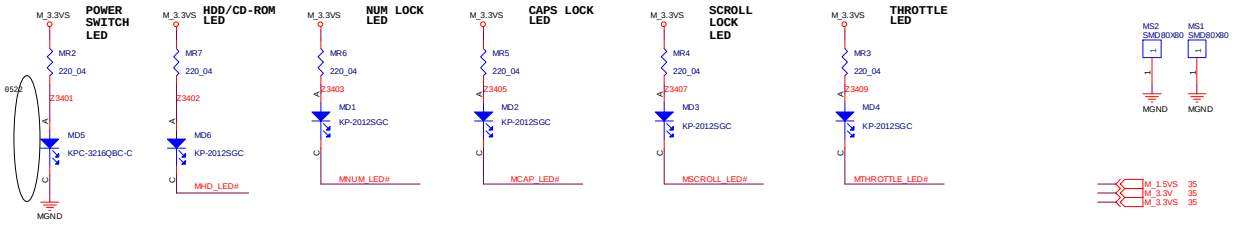
M_3.3VS NEED 4A



HOT KEY & POWER SW



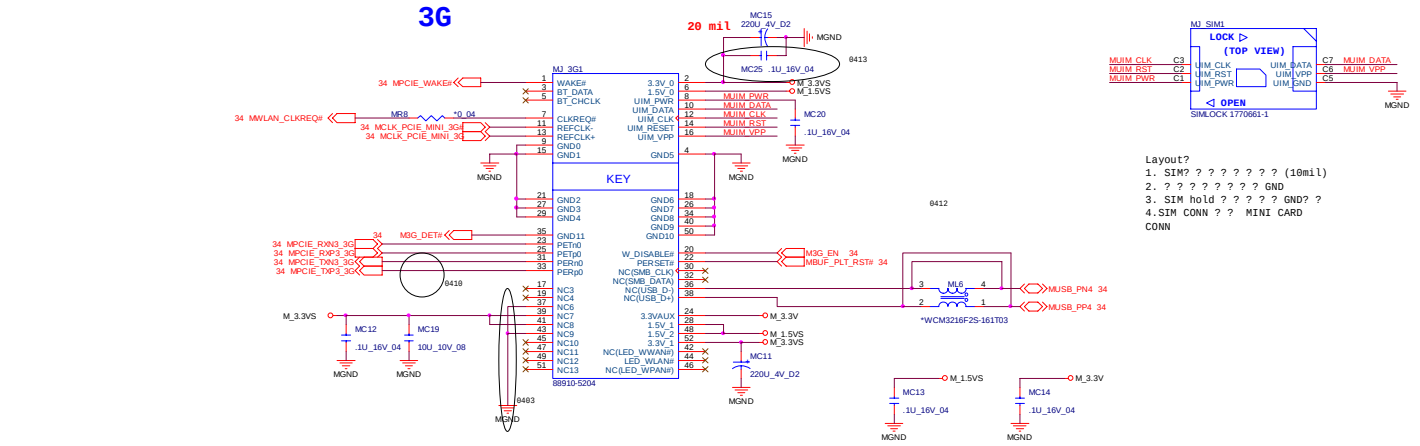
LED

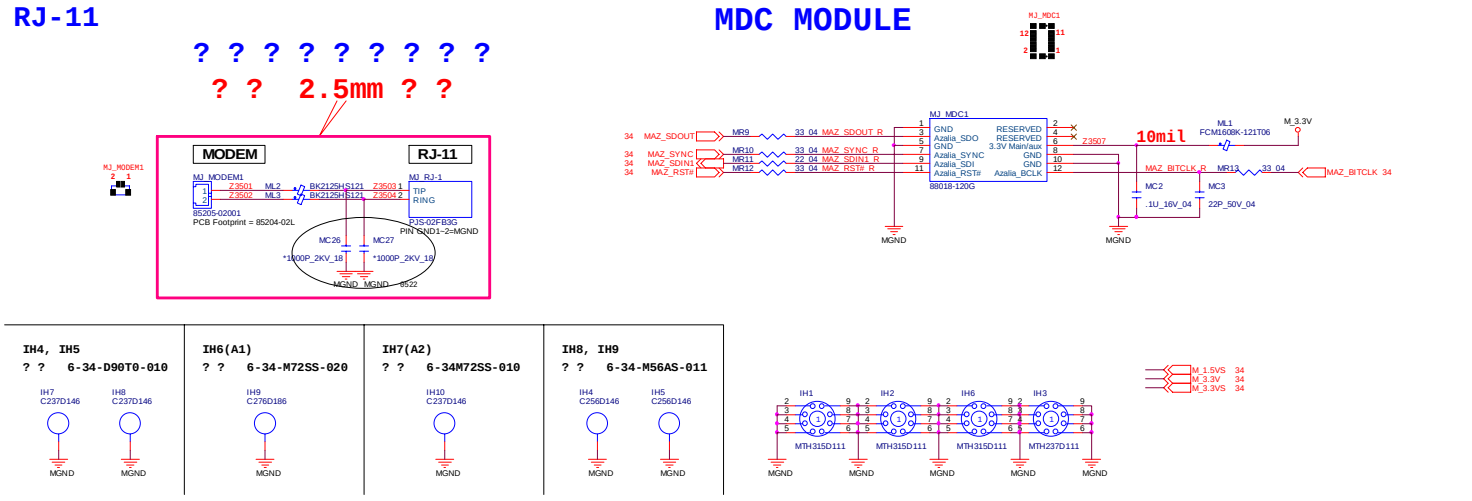


Sheet 34 of 37
MULTI BOARD,
LID, LED, SW, USB

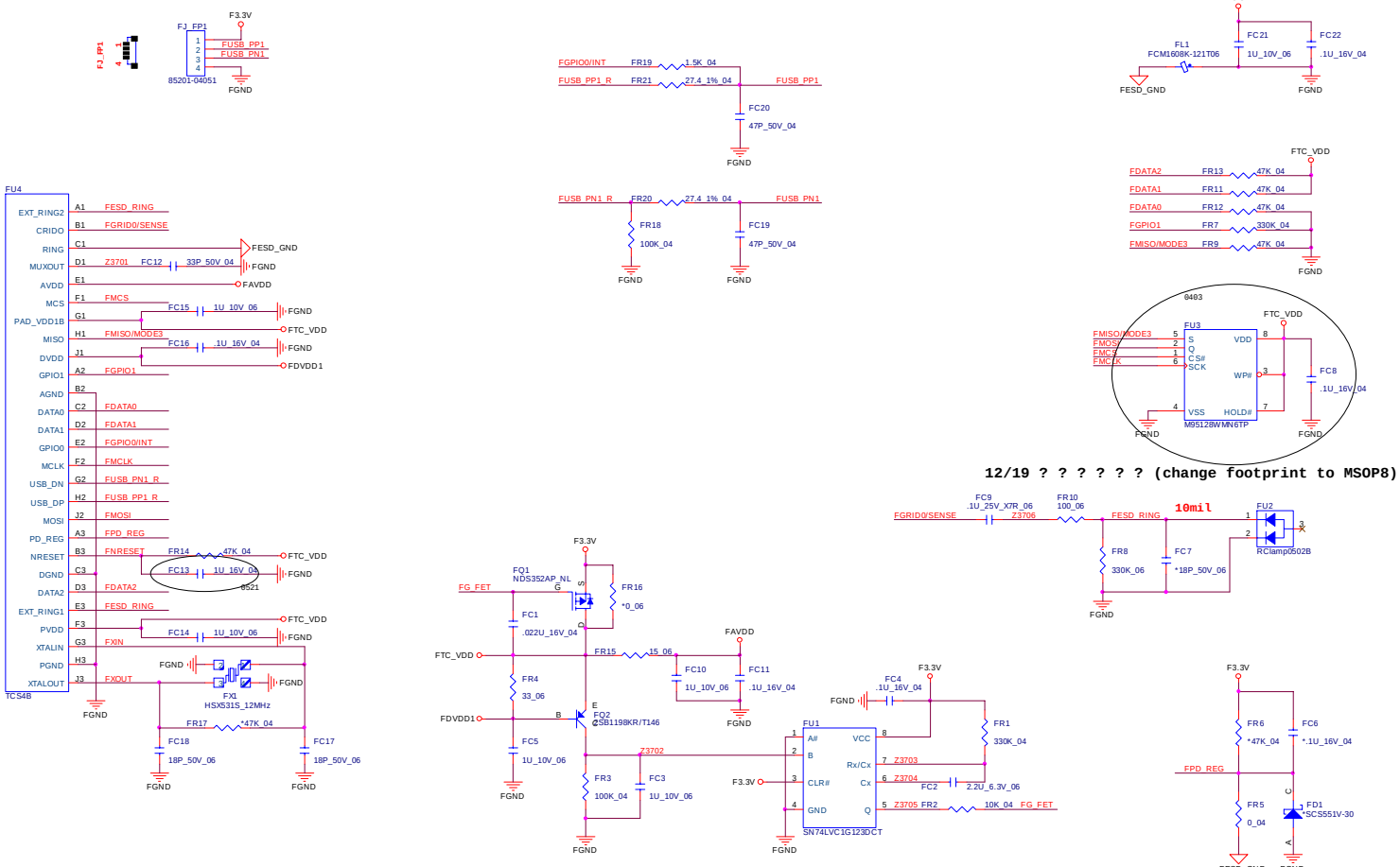
MULTI BOARD 3G, MDC, RJ11

Sheet 35 of 37
MULTI BOARD 3G, MDC, RJII



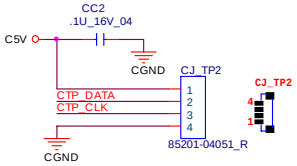


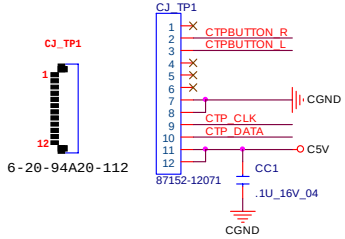
FINGERPRINT BOARD

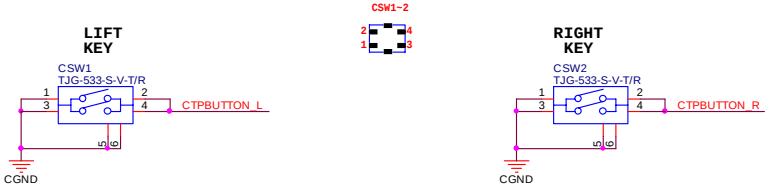


Sheet 36 of 37
FINGERPRINT BOARD

CLICK BOARD







Sheet 37 of 37
CLICK BOARD