SERVICE MANUAL

LV22C / LV22N / LV19C / LV19N

LCD Computer

LV22C/LV22N/LV19C/LV19N Series

Service Manual

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Version 1.0
March 2007

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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 **LV22C/ LV22N/LV19C/LV19N** computer.

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

Related Documents

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

User's Manual on CD
This describes the computer'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 computer.

Contents

1: Introduction

Overview

This manual covers the information you need to service or upgrade the **LV22C/LV22N/LV19C/LV19N** LCD 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 LV22C/LV22N/LV19C/LV19N LCD computer 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 or updated due to the manufacturer's release schedule. Check with your service center for details.

Table 1 - 1
System Specifications

Feature	Specification	
Processor	Intel® Core™ 2 Duo Desktop Processor LGA775 Package (775-pin) E6300/ E6400	65nm (65 Nanometer) Process Technology 2MB On-die L2 Cache & 1066MHz FSB 1.86/ 2.13 GHz
	Intel® Core™ 2 Duo Desktop Processor LGA775 Package (775-pin) E6600/ E6700	65nm (65 Nanometer) Process Technology 4MB On-die L2 Cache & 1066MHz FSB 2.40/ 2.67 GHz
Core Logic	Intel G965 +ICH8-DH Chipset	
Memory	64-bit Wide **DDR2** Data Channel Two 200 Pin SO-DIMM Sockets Supporting **DDR2 533 / 667 MHz** Memory Expandable up to **4GB** (256/ 512/ 1024/ 2048 MB **DDR2** Modules)	
Security	Security (Kensington® Type) Lock Slot	BIOS Password
BIOS	One 1024KB Flash ROM	Phoenix™ BIOS, Plug and Play
LCD	Model A Computers 19" Wide Screen WXGA+ (1440*900) 16:10 Wide Screen Flat Panel TFT	Model B Computers 22" Wide Screen WSXGA+ (1680*1050) 16:10 Wide Screen Flat Panel TFT

Feature	Specification	
Video Adapter Options	Integrated Video Option Intel G965 Integrated Video Shared Memory Architecture of up to **376MB** of Dynamically Allocated Video Memory Fully Supports DirectX 9.0	Discrete Video Option NVIDIA GF-GO7600-N-B1 (w/o HDMI) PCI-E MXM II Video Card 256MB DDR2 Video RAM on Board PCI-Express X16 Fully Supports DirectX 9.0 MXM Modular Design
Storage	One Changeable 12.7mm(h) Optical Device (CD/DVD) Type Drive (see “Optional” on page 1 - 4 for drive options) Two Changeable Bays for 3.5" 26mm (h) **Serial-ATA (SATA)** Hard Disk Drives Supports **RAID 0, RAID 1**, HDD Fault Tolerance System **in SATA Configuration**	
Audio	Supports 7.1 CH Audio Output Via S/PDIF Port Integrated AZALIA Compliant Interface (HDA) 3D Stereo Enhanced Sound System Sound-Blaster PRO™ Compatible	S/PDIF Output 2 * Built-In 3W Speakers Built-In 6W Sub Woofer Built-In Microphone
Keyboard & Pointing Device	RF Winkey Keyboard (**Option**) RF Mouse (**Option**)	USB I/F Receiver Dongle (**Option**)
ExpressCard Slot	ExpressCard/34/54 Slot	
Interface	Four USB 2.0 Ports One USB 2.0 Port (for RF KB & Mouse) One E-SATA Port One Mini-IEEE1394 Port One Headphone-Out Jack One Microphone-In Jack One Line-In Jack One S/PDIF Output Jack (5.1CH) One S-Video-In Jack One Composite Video-In Jack	Two CATV-In Jacks (for TV Tuner Cards) One RJ-11 Jack for Plug & Play Fax/Modem One RJ-45 Jack for 10Mb/ 100Mb/ 1000Mb Fast Ethernet One DC-in Jack One Brightness Button One Power Switch One A.P. Key (For Media Center) One CIR Port (Optional for TV Tuner)
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	

Feature	Specification	
Communication	AZALIA MDC 56K Plug & Play Fax/Modem v.90/92 Compliant 1GB PCI Fast Ethernet Intel PRO/Wireless 3945ABG PCIe Wireless LAN Module (**Option**) USB 2.0 Bluetooth + EDR (Enhanced Data Rate) Module - Version 2.0 (**Factory Option**) 1.3M PC Camera with USB Interface (**Factory Option**) 11 Hot Keys for Internet & Multimedia via RF KB (**Factory Option**)	
Power Management	Supports ACPI 2.0 Power Button as Sleep/Resume Key Supports Hibernate Mode Supports Sleep/Stand by Mode	Supports Resume from Modem Ring Supports Resume from Alarm
Power	Full Range AC/DC Adapter - AC Input 100 - 240V, 50 - 60Hz / DC Output 20V, 9.0A (**180** Watts)	
Environmental Spec	Temperature Operating: 5°C ~ 35°C Non-Operating: -20°C ~ 60°C	Relative Humidity Operating: 20% ~ 80% Non-Operating: 10% ~ 90%
Physical Dimensions & Weight	625.5mm (w) * 396.9mm (d) * 110mm (h) including hinge assembly 11kg Approximately	
Optional	Optical Drive Module Options: DVD/CD-RW Combo Drive Module (**Factory Option**) DVD Super Multi Drive Module (**Factory Option**) USB Floppy Disk Drive Module Intel PRO/Wireless 3945ABG PCIe Wireless LAN Module Hybrid TV Tuner Card Module with Remote Control Unit RF Keyboard & RF Mouse with USB Receiver	1.3M PC Camera with USB Interface (**Factory Option**) USB 2.0 Bluetooth + EDR (Enhanced Data Rate) Module - Version 2.0 (**Factory Option**) 802.11b/g USB (Mini Card) Wireless LAN Module 2nd SATA RAID Hard Disk Drive

External Locator - Front View & Top View

LV19C/LV19N

LV22C/LV22N

Figure 1 - 1
Front View

1. Optional Built-In PC Camera
2. Power LED
3. Consumer Infrared Transceiver (Communicates with Optional TV Remote)
4. LCD
5. LED Indicators
6. Speakers
7. Power Button
8. Brightness Hot Key Button
9. Application Hot Key Button

External Location - Left & Right Side Views

Figure 1 - 2
Left & Right Views

1. ExpressCard Slot 54/34
2. 7-in-1 Card Reader
3. 1 * USB 2.0 Port
4. Mini-IEEE 1394 Port
5. Line-In Jack (Blue)
6. Microphone-In Jack (Pink)
7. Headphone-Out Jack (Green)
8. S/PDIF-Out Jack (Black)
9. Vent/Fan Intake/ Outlet
10. Security Lock Slot
11. Optical (CD/ DVD) Device
12. CD Emergency Eject

Left

Right

External Locator - Rear View

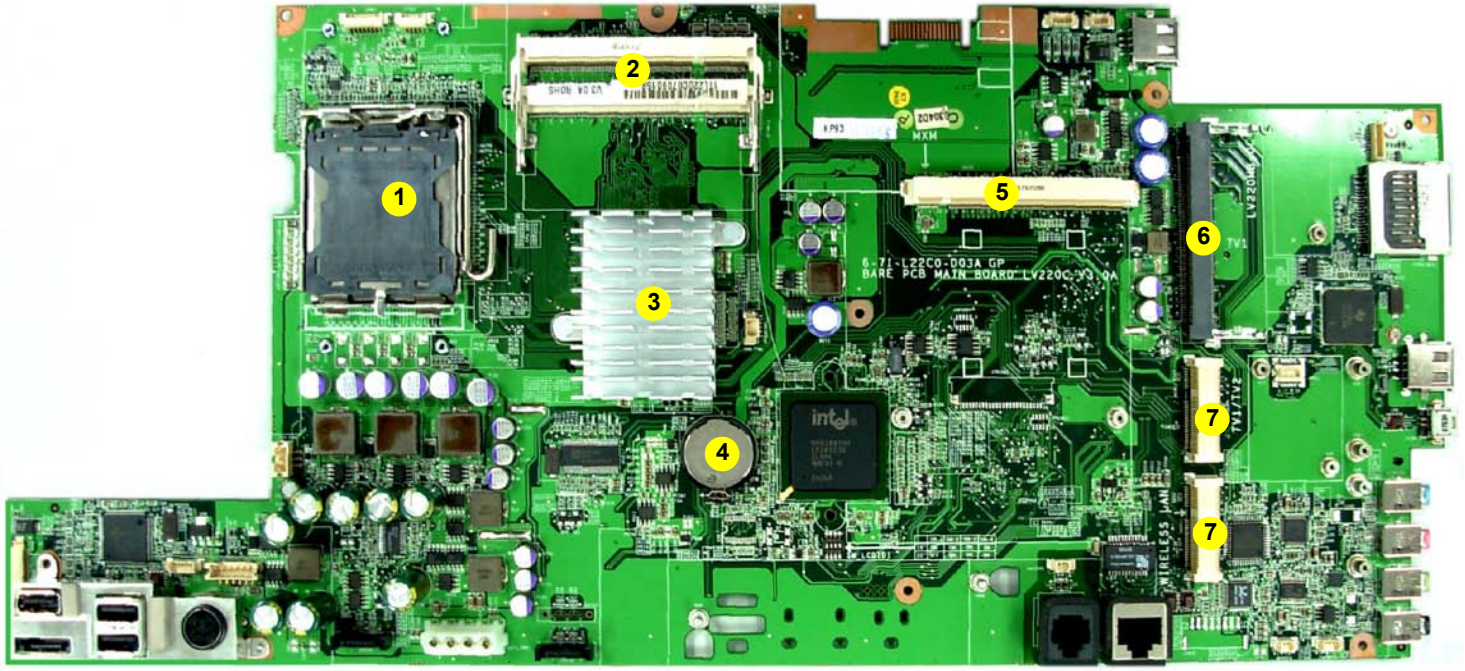
Figure 1 - 3
Rear View

1. Camera Angle Switch
2. USB Port Cover
3. Module Cover
4. Rear Component Cover
5. 3 * USB 2.0 Ports
6. 1 External SATA Port
7. DC-In Jack
8. S-Video-In Jack
9. Audio-In Jacks
10. Composite Video-In Jack
11. CATV-In Jacks
12. RJ-11 Phone Jack
13. RJ-45 LAN Jack
14. Stand
15. Vent/Fan Intake/ Outlet
16. Hard Disk Covers
17. Cable Holders (To Secure Audio/Video/ USB Cables etc.)

Mainboard Overview - Top (Key Parts)

Figure 1 - 4
Mainboard Overview - Top Key Parts

1. CPU Socket (no CPU Installed)
2. RAM Sockets
3. Intel 965 (North Bridge)
4. CMOS Battery
5. Video Card Socket
6. Mini PCI Socket for TV
7. Mini PCI Ext. Socket for WLAN and TV



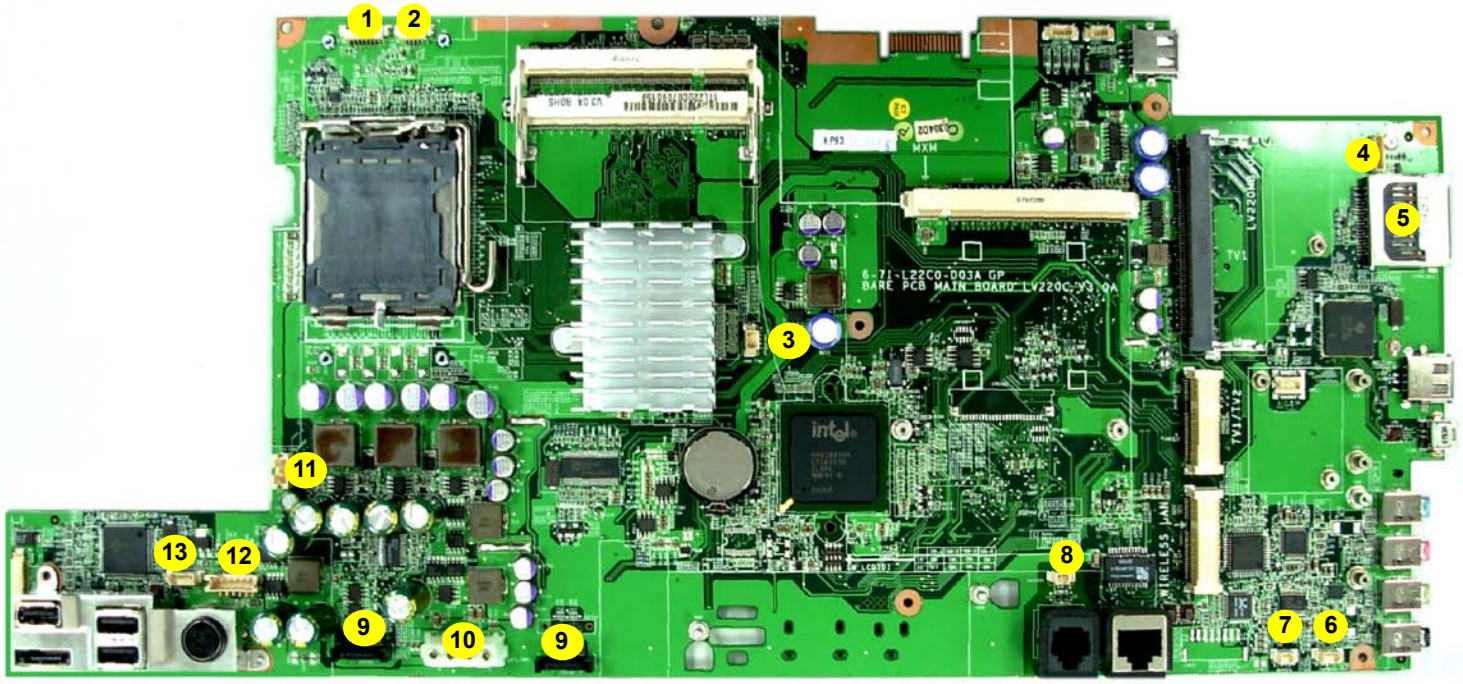
Mainboard Overview - Bottom (Key Parts)

Figure 1 - 5
Mainboard Overview - Bottom Key Parts

Mainboard Overview - Top (Cable Connectors & Switches)

Figure 1 - 6
Mainboard Top Cable Connectors & Switches

1. Power
2. CCD Connector
3. VGA Fan
4. Bluetooth
5. Card Reader
6. Microphone
7. Woofer
8. Modem Module
9. SATA HDD
10. SATA Power
11. CPU Fan
12. Inverter
13. LED



Mainboard Overview - Bottom (Cable Connectors & Switches)

Figure 1 - 7
Mainboard Bottom Cable Connectors & Switches

1. LCD

2: Disassembly

Overview

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

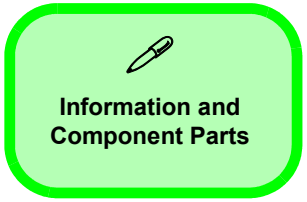
We suggest you completely review any procedure before you take the computer apart.

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 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, and that all peripheral cables are disconnected (including telephone lines and network cables).

Maintenance Tools

The following tools are recommended when working on the computer:

- 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

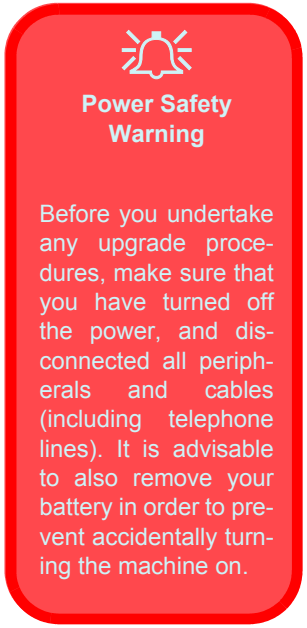
Connections within the computer are one of four types:

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.

Disassembly Steps

The following 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 hard disk drive assembly:

1. Remove the hard disk drive assembly *page 2 - 5*

To remove the system memory:

1. Remove the system memory *page 2 - 7*

To remove the processor:

1. Remove the system memory *page 2 - 7*
2. Remove the processor *page 2 - 9*

To remove the modem:

1. Remove the modem *page 2 - 11*

To remove the WLAN module:

1. Remove the modem *page 2 - 11*
2. Remove the WLAN module *page 2 - 12*

To remove the TV Tuner module:

1. Remove the modem *page 2 - 11*
2. Remove the TV Tuner module *page 2 - 13*

To remove the Bluetooth module:

1. Remove the modem *page 2 - 11*
2. Remove the TV Tuner module *page 2 - 13*
3. Remove the bluetooth module *page 2 - 14*

To remove the LCD back cover:

1. Remove the system memory *page 2 - 7*
2. Remove the modem *page 2 - 11*
1. Remove the LCD back cover *page 2 - 15*

To remove the Optical Device:

1. Remove the system memory *page 2 - 7*
2. Remove the modem *page 2 - 11*
3. Remove the LCD back cover *page 2 - 15*
4. Remove the optical device *page 2 - 17*

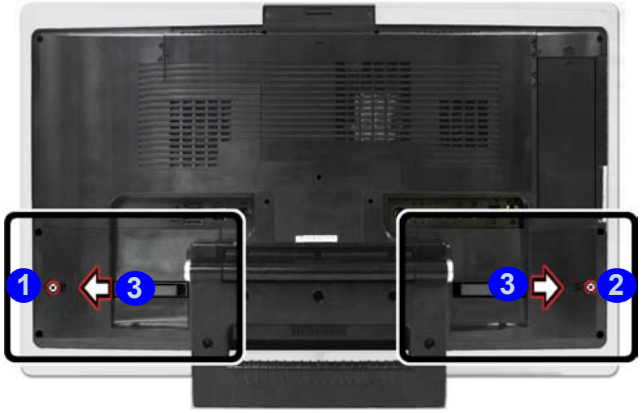
Removing the Hard Disk Drive Assembly

1. Turn the computer off and disconnect all peripherals and cables (including telephone lines).
2. Place the computer on a flat stable surface, preferably on a protective covering to avoid damage to the LCD screen.
3. Locate the hard disk bay cover and remove screw 1/2, depending on which hard disk you want to replace.
4. Remove the hard disk cover(s) by sliding it(them) in the direction of arrow 3.
5. Remove the hard disk cover(s) 4.
6. Remove the hard disk screws 5 - 8 from the hard disk(s) you want to replace.

Figure 2 - 1
Hard Disk Removal Sequence (con't)

a. Remove the screw(s) from the HDD Bay-Cover.
b. Remove the HDD Cover.
c. Remove the screws from the HDD.

a.



b.

c.

3. HDD Bay Cover

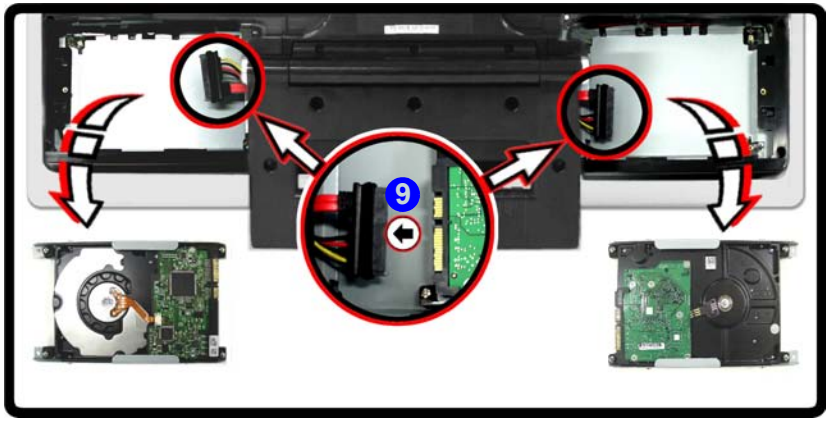
- 5 Screws

Figure 2 - 1
Hard Disk Removal Sequence

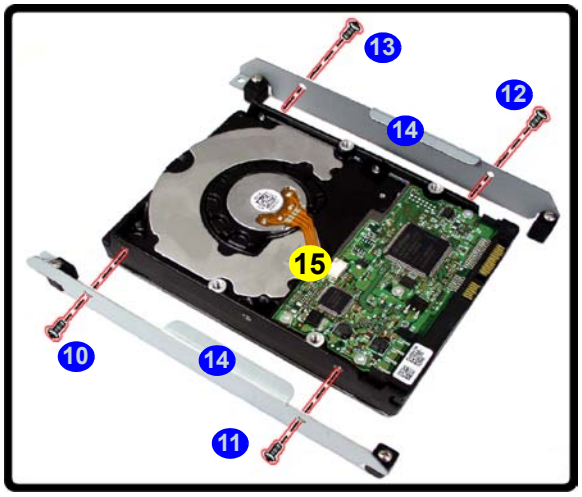
d. Disconnect the cables from the HDD.
e. Remove the screws and separate the HDD from the bracket.

7. Carefully disconnect the cable(s) 9 from the hard disk(s) you want to replace.
8. Remove screws 10 - 13, and brackets 14 from the hard disk 15 .
9. Reverse the removal procedure to install any new hard disk.

d.



e.



14. HDD Bracket
15. HDD

- 4 Screws

Removing the System Memory

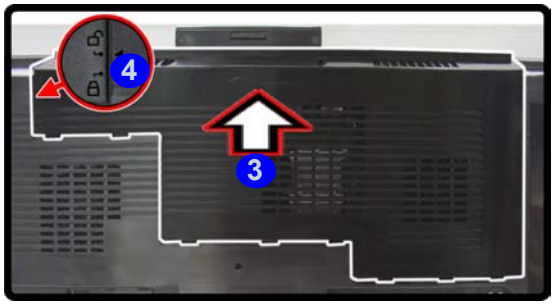
1. Turn the computer off and disconnect all peripherals and cables (including telephone lines).
2. Place the computer on a flat stable surface, preferably on a protective covering to avoid damage to the LCD screen.
3. Remove screws 1 & 2 from the rear component cover.
4. Carefully (a fan and cable are attached to the under side of the cover) slide the component cover in the direction of arrow 3, until the arrow 4 aligns with the unlock symbol.
5. Carefully disconnect the fan cable 5 from point 6 on the mainboard.
6. Remove the rear component cover 7 and locate the memory socket 8.

Figure 2 - 2
Memory Removal Sequence (cont'd)

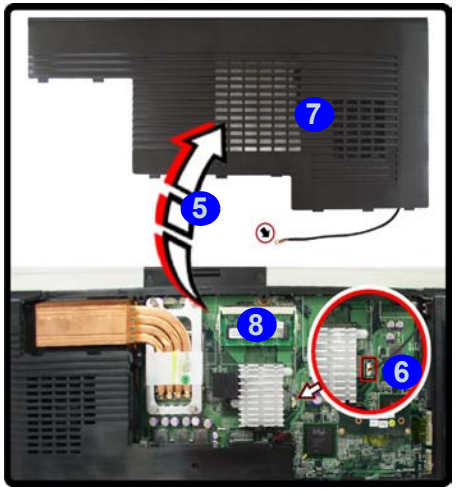
a. Remove the screws.
b. Slide the cover as indicated by the arrow.
c. Disconnect the cable and remove the component cover from the computer.

a.

b.



c.



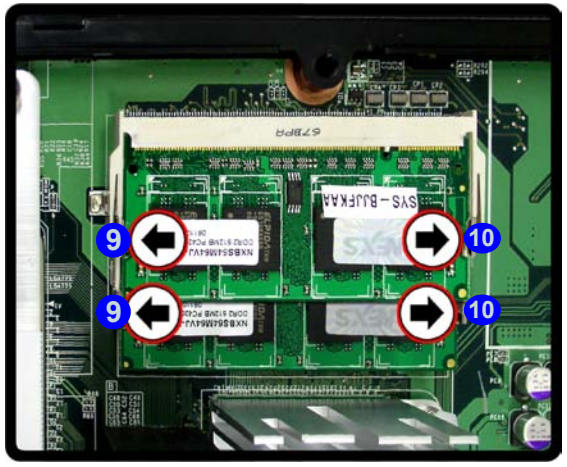
- 2 Screws

Figure 2 - 3
Memory Removal Sequence

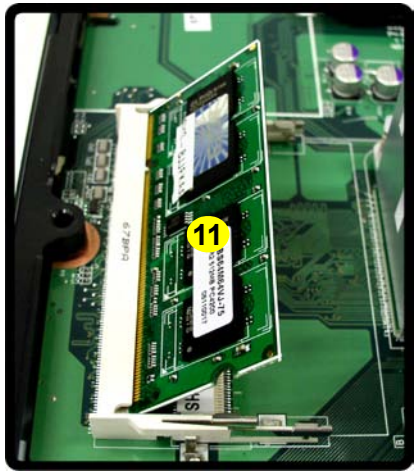
d. Pull the latch(es) on the memory sockets to release the module(s).
e. The module will pop-up., and you can remove the module.

7. For each module you want to replace, gently push the latches 9 and 10 toward the sides of the socket to release the module. Push the latches to release the second module if necessary.
8. The module 11 will pop-up, and you can remove it.
9. Insert the new module. The module will only fit one way as defined by the pin alignment.
10. Make sure the module is seated as far into the slot as it will go (DO NOT FORCE IT). The latches will click into place on the sides of the module. Make sure they are secure.
11. Reverse the procedures to put the computer back together (**don't forget to reconnect the fan cable**), and do not forget all the screws. When you restart the computer the new memory configuration should be registered.
12. If the system doesn't properly detect the new memory, **and you are sure they are properly "seated"**, you may need to run the *Setup* utility.

d.



e.



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.

14. Memory Module(s)

Removing and Installing the Processor

1. Remove the rear component cover (*page 2 - 7*).
2. Remove screws 1 - 4 from the CPU heat sink unit (in the order indicated in *Figure 2 - 5a*).
3. Lift out the CPU heat sink unit 5 from the mainboard.

a.

b.

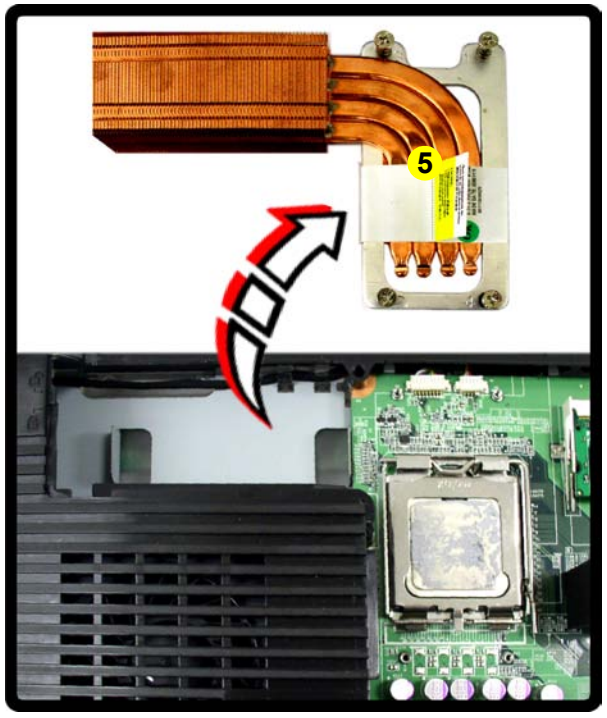


Figure 2 - 4
Processor Removal Sequence

a. Remove the screws from the CPU heat sink unit.
b. Lift the heat sink unit out.

Caution

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

5. Heat Sink

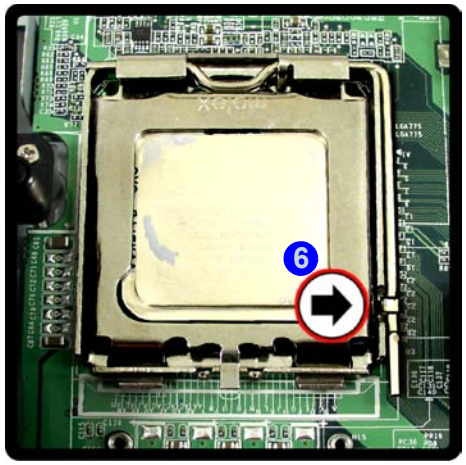
- 4 Screws

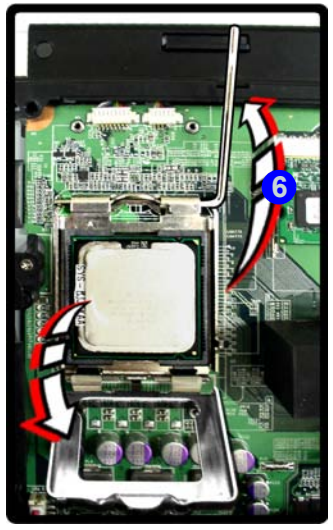
Figure 2 - 5
Processor Removal Sequence (cont'd)

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

4. Lift the release latch 6 to release the CPU (***Figure 2 - 5c***).
5. Carefully (it may be hot) lift the CPU 7 up out of the socket (***Figure 2 - 5d***).
6. When re-inserting the CPU, pay careful attention to the pin alignment, it will fit only one way (DO NOT FORCE IT!).

c.





d.

Caution

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

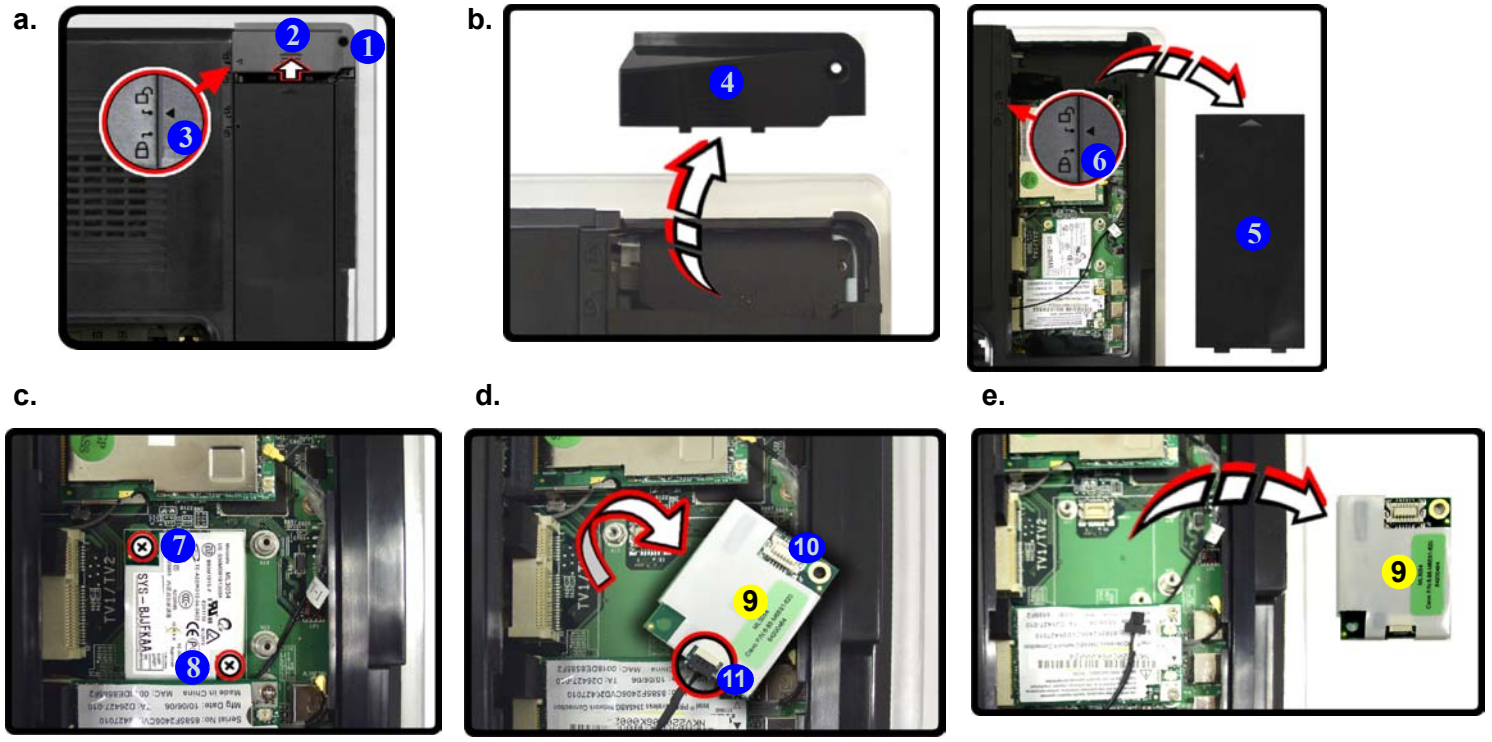
7. CPU

Removing the Modem

1. Turn the computer off and disconnect all peripherals and cables (including telephone lines).
2. Place the computer on a flat stable surface, preferably on a protective covering to avoid damage to the LCD screen.
3. Remove screw 1 from the USB port component cover and slide the cover in the direction of arrow 2, until the arrow 3 aligns with the unlock symbol.
4. Remove the USB port component cover 4 and then slide the module cover 5 until the arrow 6 aligns with the unlock symbol.
5. Remove the module cover 5.
6. Remove screws 7 and 8 from the modem module.
7. Remove the modem module 9 from the connector socket 10, and disconnect the modem cable at point 11.
8. Lift the modem off the mainboard.

Figure 2 - 6
Modem Removal Sequence

a. Remove the screw.
b. Remove the covers.
c. Remove the screws from the modem module.
d. Remove the modem from the connector and disconnect the cable.
e. Lift the modem off the mainboard.



9. Modem module

- 3 Screws

Figure 2 - 7
Wireless LAN Module Removal Sequence

a. Disconnect the cable and remove the 2 screws.
b. The WLAN module will pop-up.
c. Remove the WLAN module.

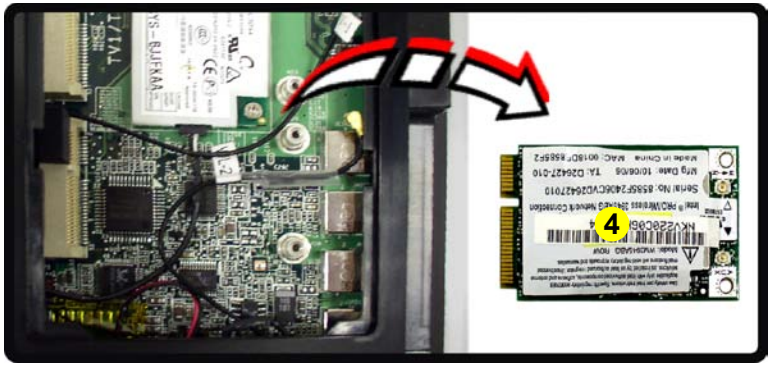
Removing the Wireless LAN Module

1. Remove the modem module (*page 2 - 11*).
2. Carefully disconnect cable 1, then remove screws 2 & 3 from the module socket.
3. The wireless LAN module 4 will pop-up.
4. Lift the wireless LAN module 4 up and off the computer.

a.

b.

c.



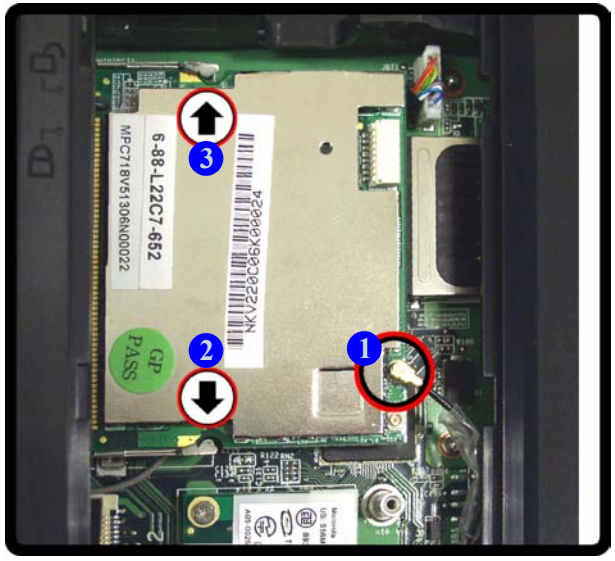
4. WLAN Module

- 2 Screws

Removing the TV Tuner Module

1. Remove the USB port & module covers (*page 2 - 11*).
2. Carefully disconnect cable 1, then gently push the latches 2 and 3 toward the sides of the socket to release the module.
3. The TV Tuner module 4 will pop-up.
4. Lift the TV Tuner module 4 up and off the computer.

a.



b.

c.

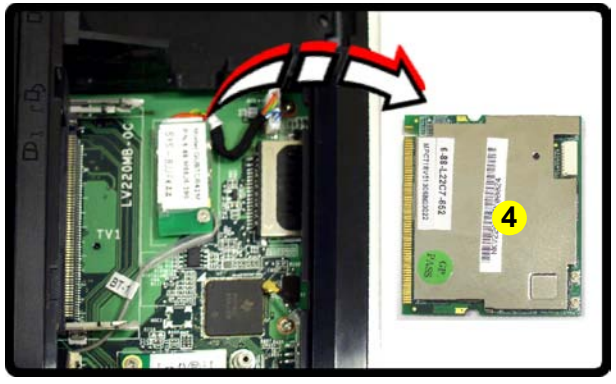


Figure 2 - 8
TV Tuner Module Removal Sequence

a. Pull the latch(es) on the module socket to release the module.
b. The module will pop-up.
c. Lift the module off the mainboard.

4. TV Tuner Module

Figure 2 - 9
Bluetooth Module Removal Sequence

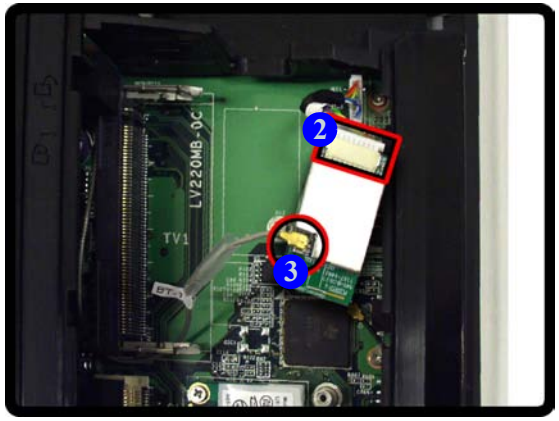
a. Remove the screw.
b. Disconnect the cable.
c. Lift the Bluetooth module off the mainboard.

Removing the Bluetooth Module

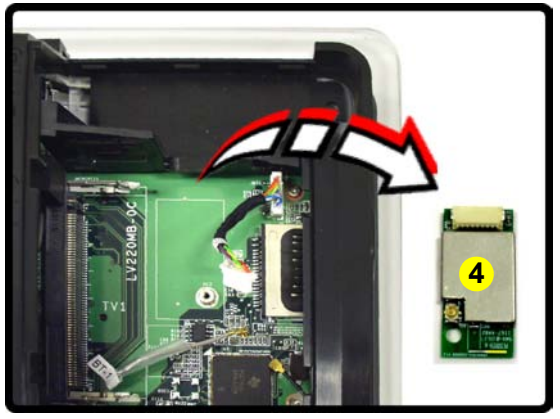
1. Remove the USB port & module covers (*page 2 - 11*) and TV Tuner module (*page 2 - 13*).
2. Remove screw 1 and then carefully disconnect the connector 2 & cable 3 from the module socket.
3. Lift the Bluetooth module 4 up and off the computer.

a.

b.



c.



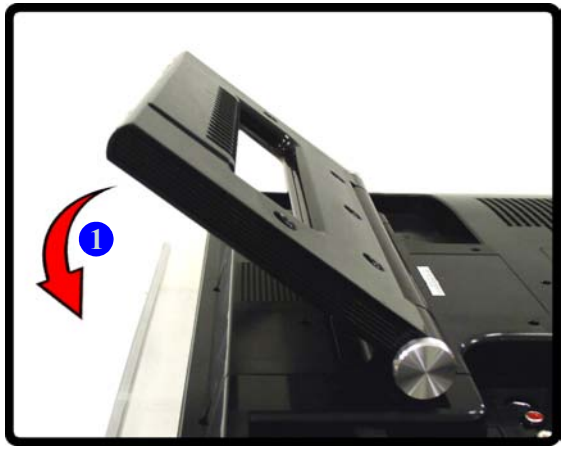
4. Bluetooth Module

- 1 Screw

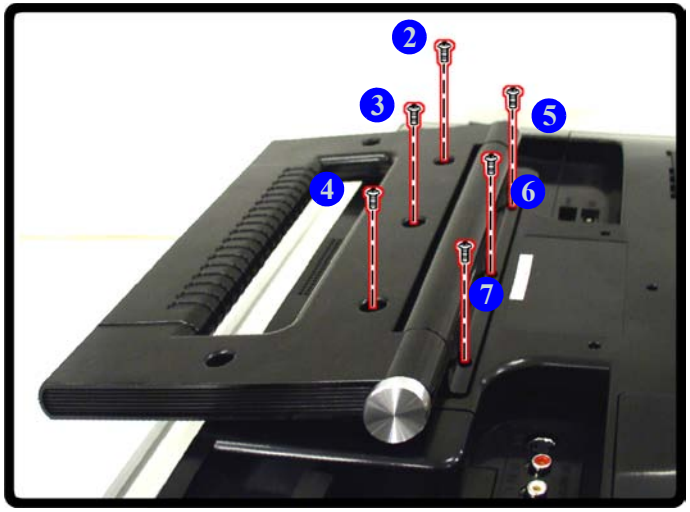
Removing the LCD Back Cover

1. Remove the 3 component covers (*page 2 - 7* and *page 2 - 11*).
2. Set the hinge support to its transport position.
3. Remove screws 2 - 7 from the hinge support.
4. Lift the hinge support 8 from the main unit and set it aside.

a.



b.



c.

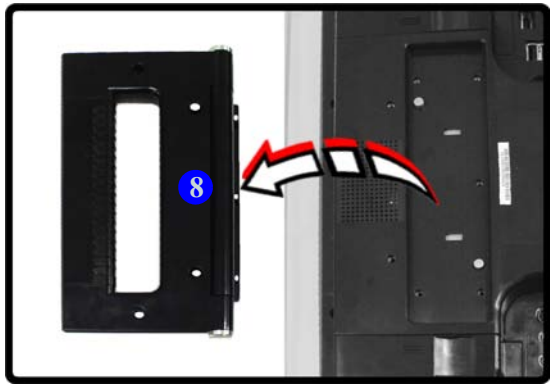


Figure 2 - 10
LCD Back Cover Removal Sequence

a. Set the hinge support to its transport position.
a. Remove the screws from the hinge support.
b. Lift the hinge support and set it aside.

8. Hinge

- 6 Screws

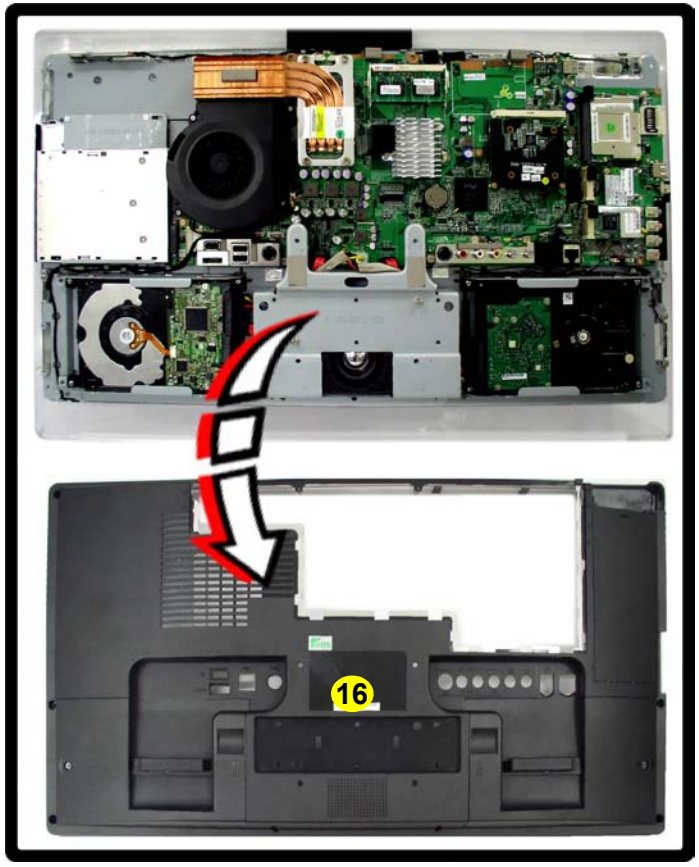
Figure 2 - 11
LCD Back Cover Removal Sequence (cont'd)

d. Remove the screws from the LCD back cover.
e. Lift the cover out and set it aside.

5. Remove screws 8 - 15 from the LCD back cover and slide it up towards the top of the computer.
6. Carefully remove the LCD back cover 16 from the main unit and set it aside.

d.

e.



Card Reader/PC Card Slots

Make sure you remove any cards or covers in the 7-in-1 Card Reader and PC Card slot before removing the rear case cover.

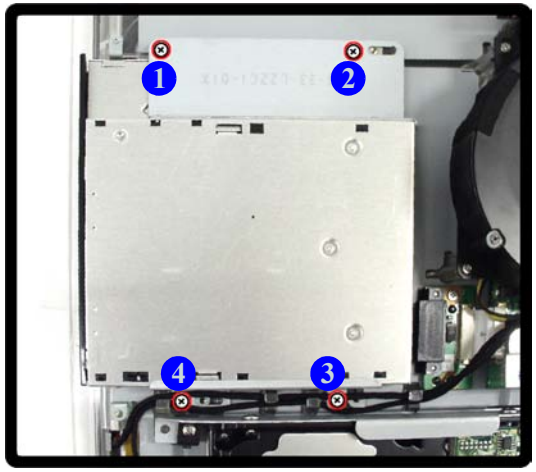
16. LCD back cover

- 8 Screws

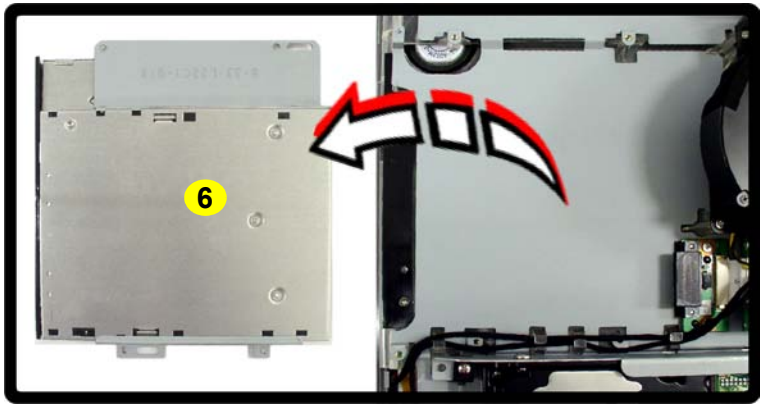
Removing the Optical Device Assembly

1. Remove the rear component cover (*page 2 - 7*) USB port and module cover (*page 2 - 11*) and LCD back cover (*page 2 - 15*).
2. Remove screws 1 - 4, and disconnect connector 5, from the optical device.
3. Remove the optical device 6 , and remove the screws (7 - 10) in order to separate the optical device from the bracket 11 .
4. Reverse the removal procedures to intall the new optical device.

a.



b.



c.

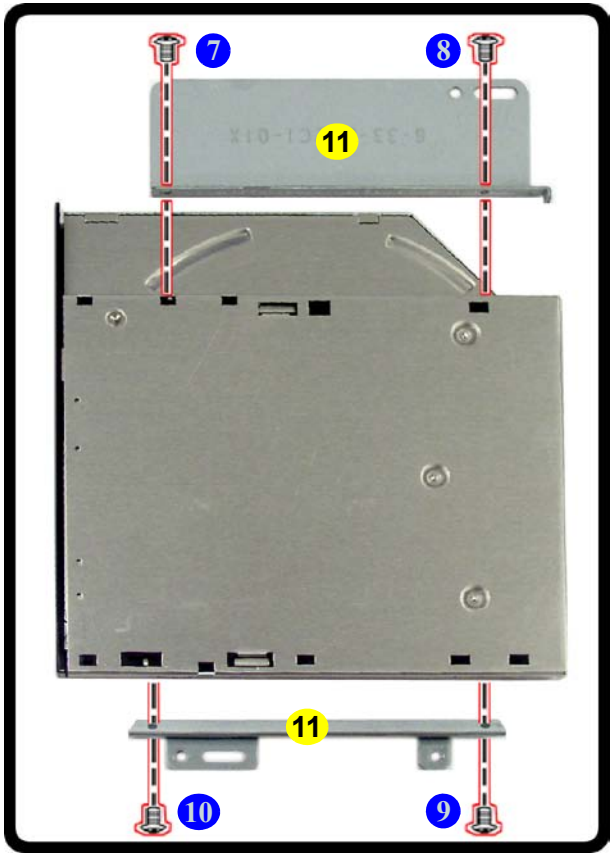


Figure 2 - 12
Optical Device Assembly Removal Sequence

a. Remove the screws and disconnect the cable.
b. Remove the Optical Device.
c. Remove the screws and separate the bracket from the optical device.

5. Optical Device
11. Brackets

- 8 Screws

Appendix A: Part Lists

This appendix breaks down the **LV22C/LV22N/LV19C/LV19N** computer's construction into a series of illustrations. The component part numbers are indicated in the tables opposite the drawings.

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

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

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

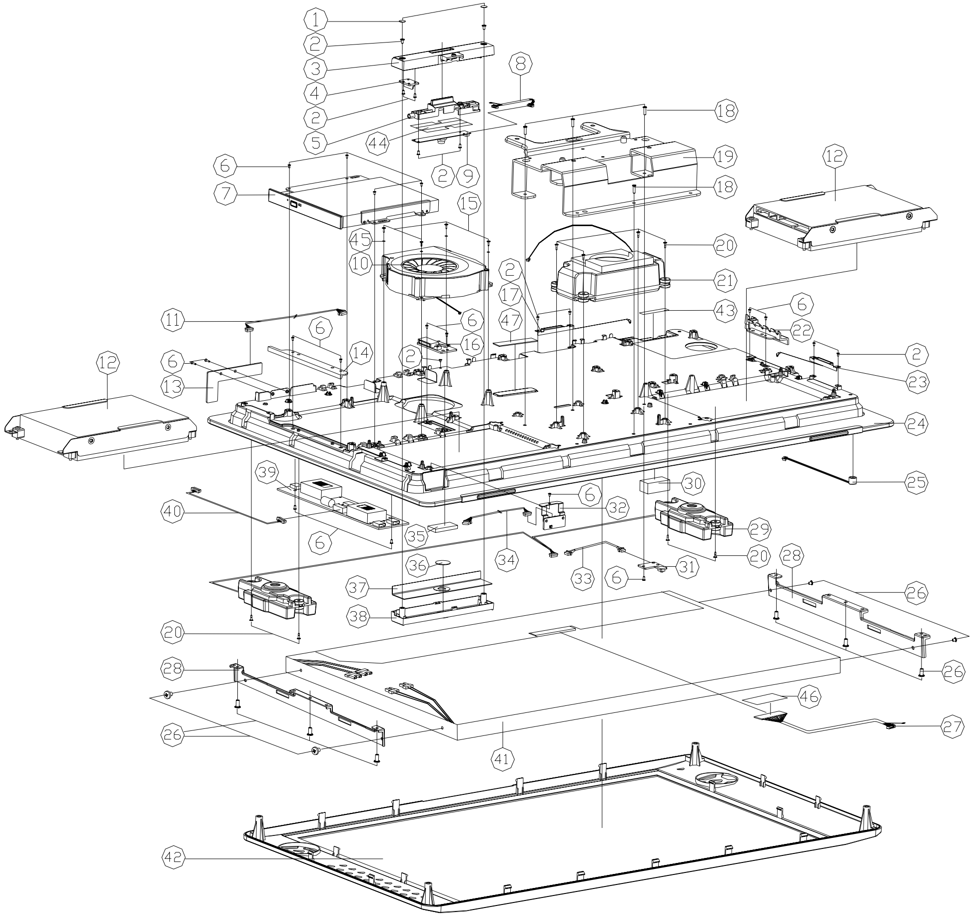
Part List Illustration Location

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

Table A - 1
Part List Illustration Location

Part	LV22C/LV22N	LV19C/LV19N
Front Cover	*page A - 3*	*page A - 10*
Back	*page A - 4*	*page A - 11*
Combo	*page A - 5*	*page A - 12*
DVD-Dual	*page A - 6*	*page A - 13*
HDD	*page A - 7*	*page A - 14*
MB (LV22C/LV19C)	*page A - 8*	*page A - 15*
MB (LV22N/LV19N)	*page A - 9*	*page A - 16*

LV22C/LV22N - Front Cover



ITEM	PART NAME	PART NO	REMARK
1	CCD BACK COVER MYLAR,FR700 LV220C 無鉛	6-40-L22C1-030	
2	SCREW M2*3L KI NI ICT GTY-PATCH (DD=ø4.0,DT=0.8) 無鉛	6-35-B1120-3RD	
3	CCD BACK COVER,PC+ABS LV220C 無鉛	6-42-L22CT-021	
4	CCD ROTATE BASE,PC+ABS LV220C 無鉛	6-42-L22CT-041	
5	CCD HANDLE,PC+ABS LV220C 無鉛	6-42-L22CT-031	
6	SCREW M2.5*5L KI NI ICT NY 無鉛	6-35-B1125-5RA	
7	DVD/DUAL RW ASS'Y (OPTION) 無鉛	6-79-L22CQ-000	
7	COMBO ASS'Y (OPTION) 無鉛	6-79-L22CX-010	
8	WIRE CABLE FOR CCD TO M/B 5P LV220C 無鉛	6-43-L22C0-031	
9	CMOS VIDEO CAMERA BN2A-OV9650-D-501G 1.3M 無鉛	6-88-M55GC-612	
10	FAN 12V 0.3A 力致 (DFB802012M00T) LV220C無鉛	6-23-AL22C-010	
11	WIRE CABLE FOR POWER SWITCH BOARD TO M/B 8P LV220C無鉛	6-43-L22C0-042	
12	W/O HDD ASS'Y LV220C/N 無鉛	6-79-L22CJ-010	
13	POWER SWITCH BOARD V3.0A LV220C 無鉛	6-77-L22CS-D03A	
14	ODD HOUSING,PC+ABS LV220C 無鉛	6-42-L22CZ-012	
15	SCREW M2*5L K1 NI ICT NY 無鉛	6-35-B1120-5R0	
16	CD-ROM TRANSFER BOARD V2.0A LV220C 無鉛	6-77-L22CN-D02A	
17	ANTENNA BLUETOOTH 2.4G/5G PIFA BT (GRAY) 190mm 惠貿LV220C無鉛	6-23-7L22C-041	
18	SCREW M3*7L KI BK/Z ICT NAKO(?=5.2 T=1) 無鉛	6-35-B6130-7R0	
19	VESA BRACKET,SECC LV220C 無鉛	6-33-L22C2-022	
20	SCREW M2.5*0.45P*13L B (D=ø2.6*9 S=M2.5*4) 無鉛	6-35-41125-130	
21	SUBWOOFER MODULE (隔音棉)LV220C 無鉛	6-23-5L22C-101	
22	AUDIO HOUSIG,PC+ABS LV220C 無鉛	6-42-L22C1-042	
23	ANTENNA WLAN 2.4G/5G PIFA WL2 (GRAY) 155mm 惠貿 LV220C 無鉛	6-23-7L22C-021	
24	LCD HOUSING MODULE LV220C 無鉛	6-39-L22C2-013	
25	MIC 6MM*5MM(EM6050-BOL-T) W/CABLE 3P 210MM LV220C 無鉛	6-23-EL22C-010	
26	SCREW M3*4L KI BZ ICT NY (D=4.8 T=0.5) 無鉛	6-35-B6130-4RB	
27	WIRE CABLE FOR AU(M220EW01) WSXGA+ LV220C 無鉛	6-43-L22C1-011	
28	LCD BRACKET,SECC LV220C 無鉛	6-33-L22C1-031	
29	SPEAKER MODULE (隔音棉)LV220C無鉛	6-23-5L22C-202	
30	22"AU LCD RUBBER(B),SILICONE LV220C 無鉛	6-47-L22C1-040	
31	CIR BOARD V3.0A LV220C 無鉛	6-77-L22CH-D03A	
32	LED BOARD V2.0A LV220C 無鉛	6-77-L22C4-D02A	
33	WIRE CABLE FOR CIR BOARD TO M/B 3P LV220C 無鉛	6-43-L22C0-020	
34	WIRE CBLE FOR LED BOARD TO M/B 5P LV220C 無鉛	6-43-L22C0-051	
35	22"AU LCD RUBBER(A),SILICONE LV220C 無鉛	6-47-L22C1-030	
36	CCD PROTECT,PC LV220C 無鉛	6-40-L22C1-041	
37	CCD PLATE MODULE,AL LV220C 無鉛	6-33-L22C1-101	
38	CCD FRONT COVER MODULE LV220C 無鉛	6-42-L22CT-101	
39	INVERTER MODULE MPT (M272) LV220C/N 無鉛	6-76-L22CR-021	
40	WIRE CABLE FOR 22" INVERTER TO M/B 6P LV220C 無鉛	6-43-L22CR-010	
41	LCD T AU M220EW01 V0 22" WSXGA+ 1680*1050 無鉛	6-50-SA2G5-G00	
41	LCD T CHIMEI M220Z1-L01 22" WSXGA+(1680 X1050) 17MM 無鉛	6-50-SA217-D00	
42	LCD FRONT COVER MODULE LV220C 無鉛	6-39-L22C1-012	
43	TAPE MYLAR (A),MYLAR M550J 無鉛	6-40-M55J2-010	
44	CCD MYLAR T60 LV220C 無鉛	6-40-L22C1-0A0	
45	FAN WASHER MYLAR FR700 LV220C 無鉛	6-40-L22C1-090	
46	導電布(L50*W25) FOR LCD CABLE LV220C 無鉛	6-47-L22C1-0C0	
47	THERMAL PAD FSL-150F3 (12*53*1.5T) LV220C 無鉛	6-47-L22C1-050	

Figure A - 1

LV22C/LV22N - Front

A.Part Lists

LV22C/LV22N - Back

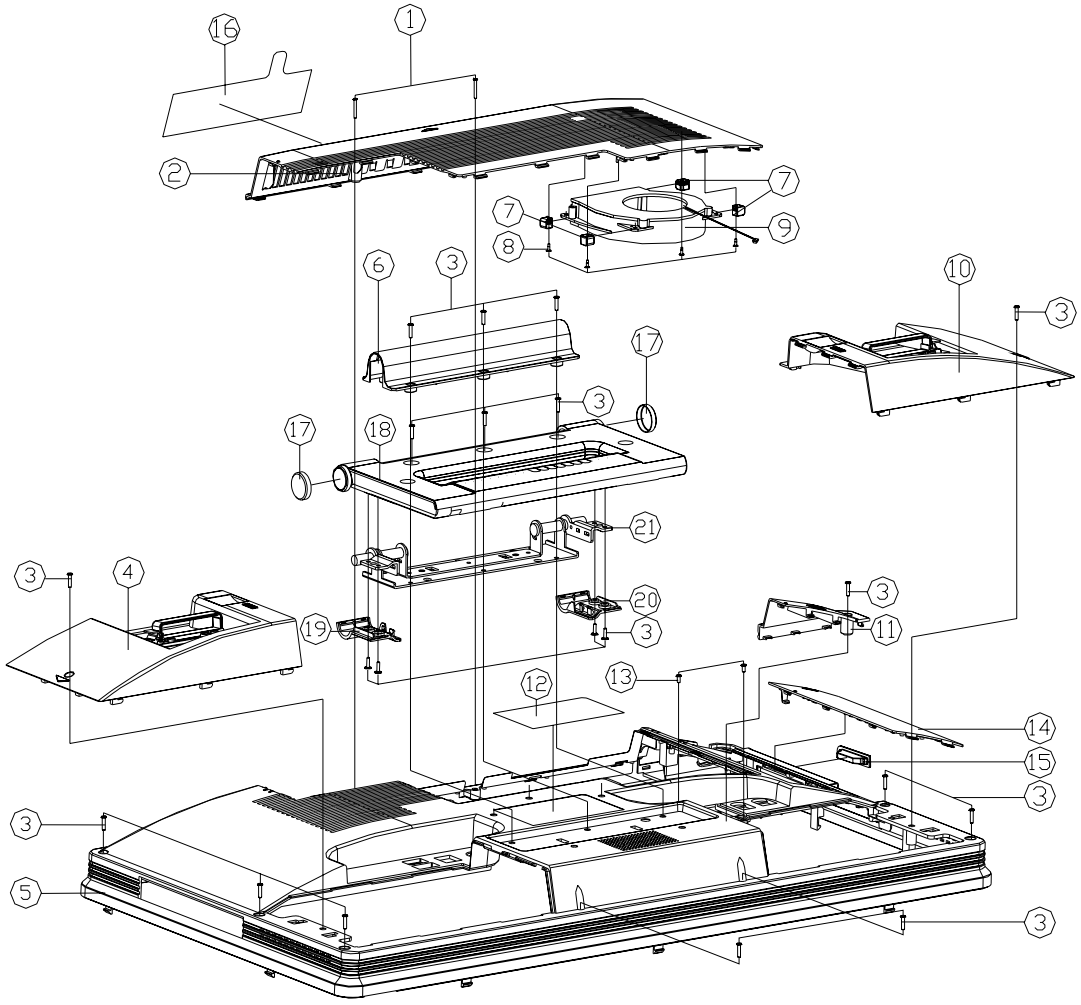
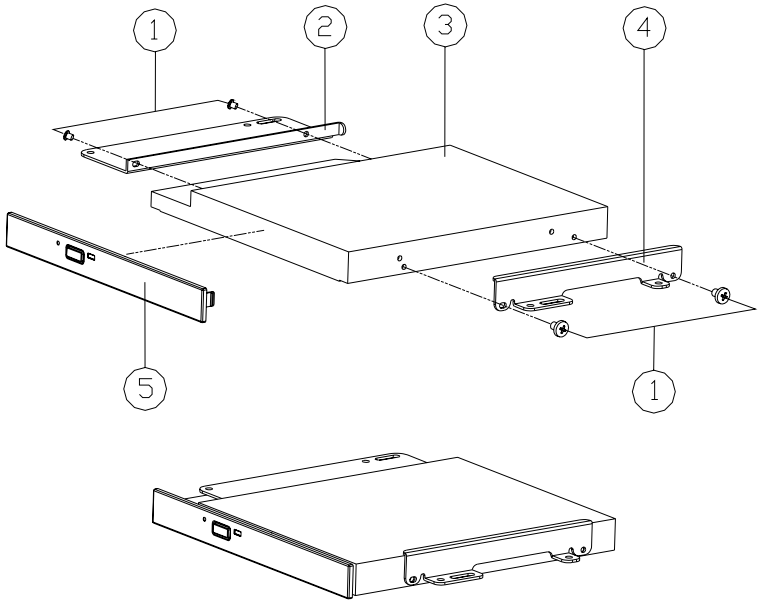


Figure A - 2
LV22C/LV22N - Back

ITEM	PART NAME	PART NO	REMARK
1	SCREW M2.5*4.9L K1 BK/Z ICT NAKO (Φ=5.5 T=1.3)	6-35-B6125-190	
2	CPU COVER MODULE LV220C	6-42-L22CS-102	
3	SCREW M3*4.0L K1 BK/Z ICT NAKO (Φ=6 T=0.6)	6-35-B6130-100	
4	HDD COVER MOUDLE (L) LV220C	6-42-L22CJ-202	
5	LCD BACK COVER MODULE LV220C	6-39-L22C1-022	
6	HINGE BASE HOUSING PC+ABS LV220C	6-42-L22CY-031	
7	FAN RUBBER,SILICONE LV220C	6-47-L22C1-020	
8	SCREW M2.5*3.45*P1.3L B (D=Φ2.6*9 S=M2.5*4)	6-35-41125-130	
9	VGA FAN 5V 0.25A	6-23-AL22C-020	
10	HDD COVER MOUDLE (R) LV220C	6-42-L22CJ-102	
11	RF COVER,PC+ABS LV220C	6-42-L22C1-022	
12	PRODUCT LABEL LV220C	6-45-L22C3-010	
12	PRODUCT LABEL LV220N	6-45-L22N3-010	
12	PRODUCT LABEL LV190C	6-45-L19C3-010	
12	PRODUCT LABEL LV190N	6-45-L19N3-010	
13	SCREW M2*3L K1 NI ICT GTY-PATCH (D=Φ4.0,T=Φ0	6-35-B1120-3RD	
14	OPTION COVER MOUDLE LV220C	6-42-L22C1-101	
15	CARD READER RUBBER,SILICON M550G	6-47-M55GE-011	
16	CPU COVER PROTECT MYLAR PE LV220C	6-40-L22C8-011	
17	HINGE RING,AL LV220C	6-33-L22CY-010	
18	HINGE SUPPORT MODULE LV220C	6-42-L22CY-101	
19	HINGE COVER (R) PC+ABS LV220C	6-42-L22CY-011	
20	HINGE COVER (L) PC+ABS LV220C	6-42-L22CY-021	
21	HINGE MODULE LV220C	6-33-L22CY-102	

LV22C/LV22N - Combo Drive

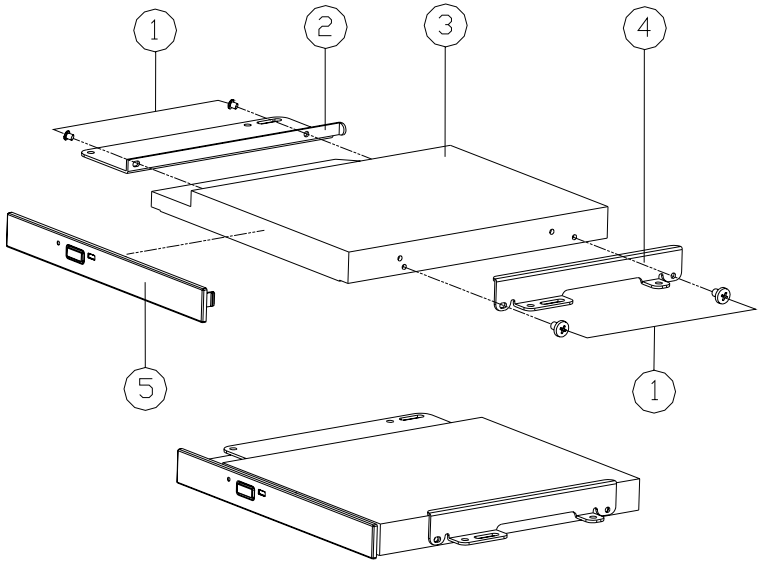


ITEM	PART NAME	PART NO	REMARK
1	SCREW M2*2.5L K1 BK/Z ICT NY#3.5 T=0.3 無鉛	6-35-B6120-2RB	
2	ODD BRACKET (R),SECC LV220C 無鉛	6-33-L22C1-011	
3	[illegible] 無鉛	6-85-907PX-C03	
4	ODD BRACKET (L),SECC LV220C 無鉛	6-33-L22C1-021	
5	COMBO BEZEL MODULE (BK1A382) L295N 無鉛	6-42-L25NX-100	

Figure A - 3
LV22C/LV22N - Combo Drive

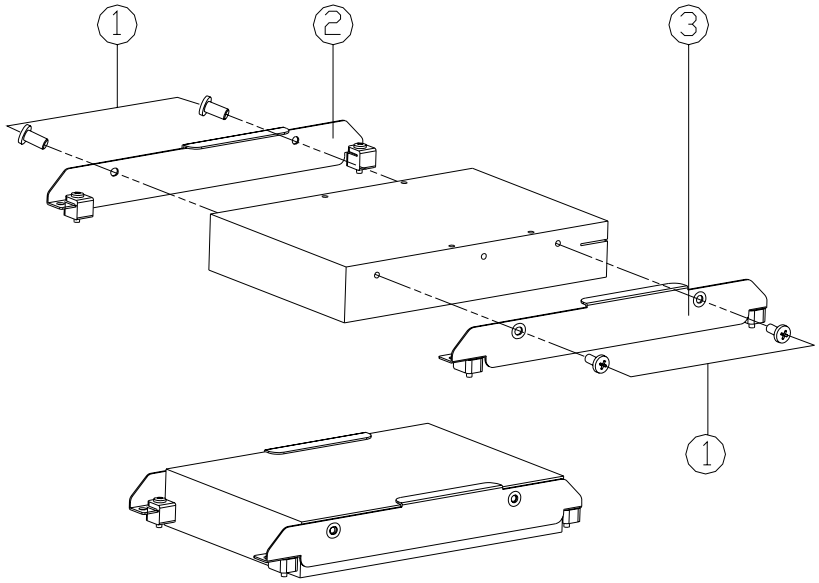
LV22C/LV22N - DVD-Dual Drive

Figure A - 4
LV22C/LV22N - DVD-Dual Drive



ITEM	PART NAME	PART NO	REMARK
1	SCREW M2*2.5L K1 BK/Z ICT NY*3.5 T=0.3 無鉛	6-35-B6120-2RB	
2	ODD BRACKET (R),SECC LV220C 無鉛	6-33-L22C1-011	
3	[illegible] 無鉛	6-85-A078X-C08	
3	[illegible] 無鉛	6-85-A078X-T02	
4	ODD BRACKET (L),SECC LV220C 無鉛	6-33-L22C1-021	
5	TOSHIBA DUAL DVDRW(SUPER MULTI) BEZEL MODULE 無鉛	6-42-L25NQ-200	

LV22C/LV22N - HDD

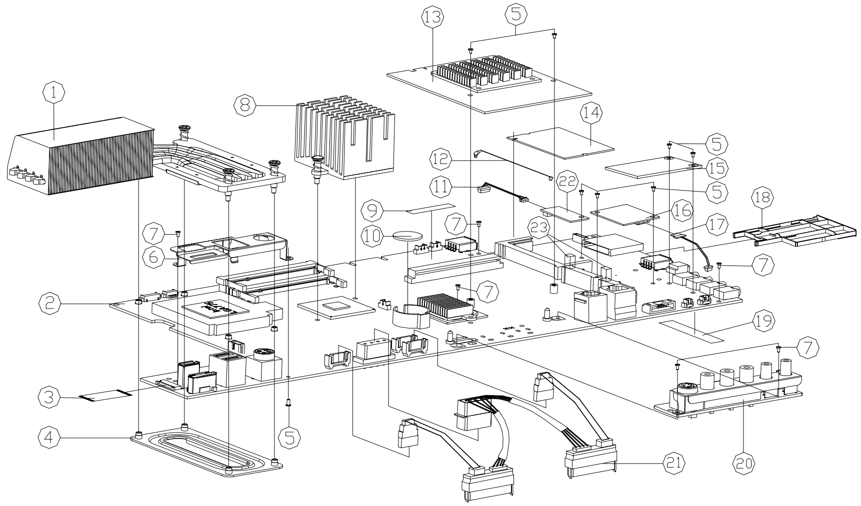


ITEM	PART NAME	PART NO	REMARK
1	SCREW #6-32*5L B NI ACT 無鉛	6-35-41306-5R0	
2	HDD BRACKET MODULE (L) LV220C 無鉛	6-33-L22CJ-201	
3	HDD BRACKET MODULE (R) LV220C 無鉛	6-33-L22CJ-101	

Figure A - 5
LV22C/LV22N - HDD

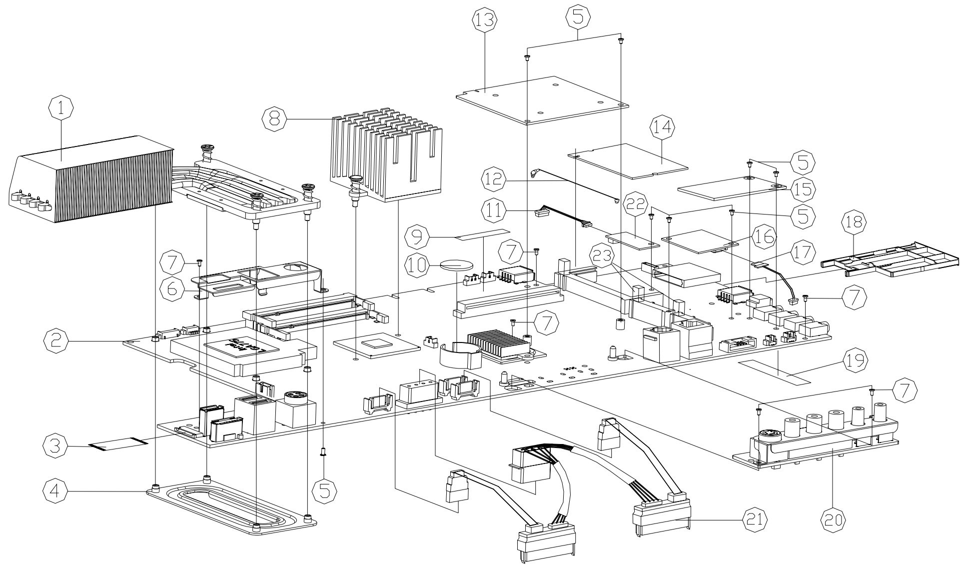
LV22C - MB

Figure A - 6
LV22C - MB



ITEM	PART NAME	PART NO	REMARK
1	CPU THERMAL MODULE LV220C 無鉛	6-31-L22CS-100	
2	MAIN BOARD V3.0A LV220C 無鉛	6-77-L22C0-D03A	
3	FFC CABLE ODD BOARD TO MB LV220C 無鉛	6-43-L22C0-080	
4	CPU SUPPORT BRACKET,SECC LV220C 無鉛	6-33-L22CS-040	
5	SCREW M2*3L KI NI ICT GTY-PATCH (OD=φ4.0,DT=0.8) 無鉛	6-35-B1120-3RD	
6	USB BRACKET SPTE LV220C 無鉛	6-33-L22CS-011	
7	SCREW M2.5*5L KI NI ICT NY 無鉛	6-35-B1125-5RA	
8	G965 NORTH BRIDGE HEAT SINK,AL LV220C 無鉛	6-31-L22CS-020	
9	TAPE MYLAR (A),MYLAR M550J 無鉛	6-40-M55J2-010	
10	BATTERY 3V 210MA CR2032 (MITSUBISHI) 無鉛	6-23-62015-607	
11	WIRE CABLE FOR BLUETOOTH TO M/B 9P M550G 無鉛	6-43-M55G0-071	
12	COAXIAL CABLE FOR TV TUNER 1.13MM BLACK L=200MM 精乘 LV220C/N 無鉛	6-43-L22CT-010	
13	VGA MXM II GF-GO 7600-N-B1 ASS'Y LV220C 無鉛	6-79-L22CL-001	
13	MXM-II VGA BOARD V1.0 LV220C 無鉛	6-77-L22CL-D11	
14	YUAN MINIPCI HYBRID DVB-T AND ANALOG TV TUNER YSTMPC788GP-515 LV220C 無鉛	6-88-L22C7-651	
14	YUAN MINIPCI HYBRID DVB-T AND ANALOG TV TUNER WITH HARDWARE MPEG2 ENCODE MPC718 LV220C 無鉛	6-88-L22C7-652	
15	WLAN 802.11A+B+G MINI-CARD PCI-E 3945ABG INTEL ROW SKU 3 無鉛	6-88-M66N2-424	
15	802.11 B+G MINI CARD(USB) REALTEK CHIPSET WLAN MODULE AW-GU700 無鉛	6-88-M7702-701	
16	MODEM 12 PIN (MOTOROLA SOLUTION) ML3054 (GREEN LEVEL) ROHS OCOM 無鉛	6-88-M66S1-620	
16	(MOTOROLA SOLUTION) ML3054 ADD TUV 無鉛	6-88-M55S1-531	
17	WIRE CABLE FOR M/B TO MODEM LV220C 無鉛	6-43-L22C0-070	
18	NEW CARD DUMMY FOR M550N 無鉛	6-42-M55NP-010	
19	PHONE JACK MYLAR,T60 LV220C 無鉛	6-40-L22CS-010	
20	AV BOARD V3.0A LV220C 無鉛	6-77-L22C5-D03A	
21	SATA HDD DATA+POWER CABLE TO M/B LV220C 無鉛	6-43-L22C0-012	
22	BLUETOOTH V2.0 [illegible] 藍天2 互億 8 PIN USB CSR BC04 (VISTA) [illegible] 無鉛	6-88-M62E5-390	
23	MINI CARD RUBBER(6*12*10T) SILICONE LV220C 無鉛	6-47-L22CS-021	

LV22N - MB



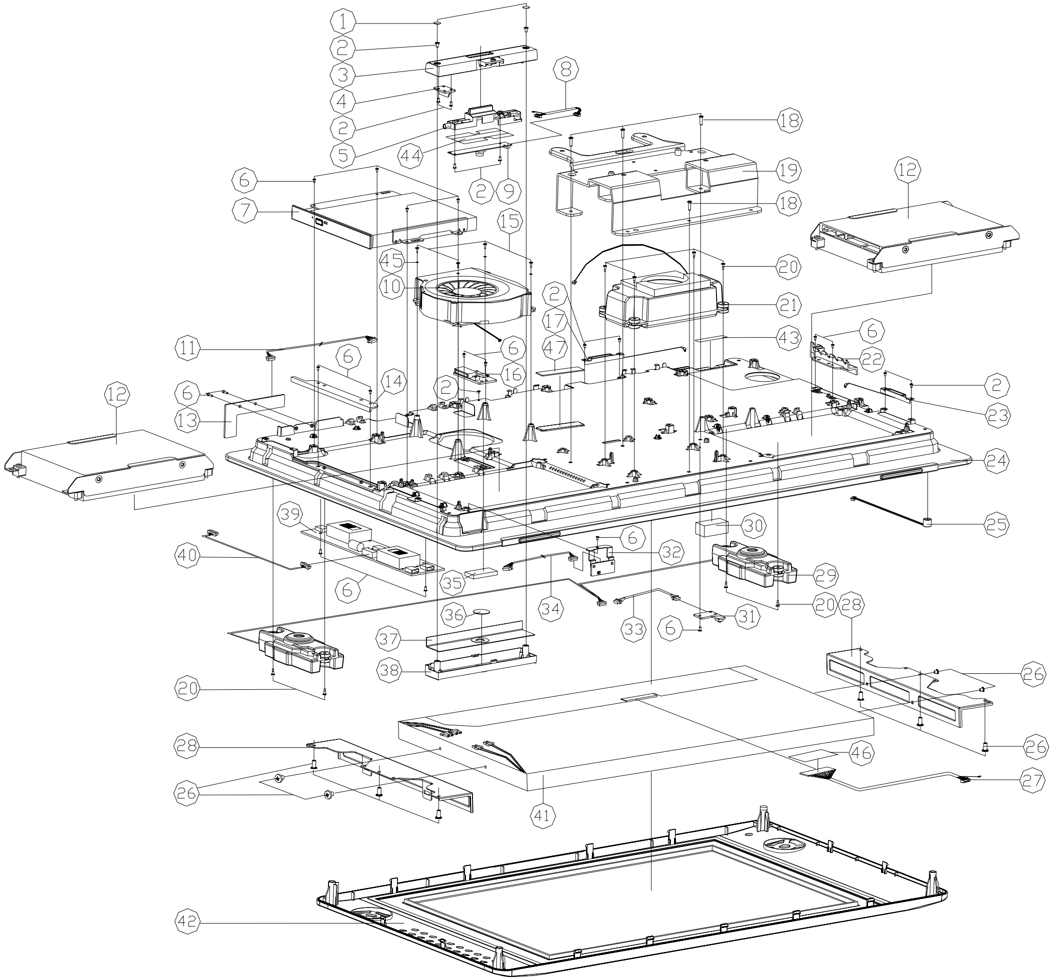
ITEM	PART NAME	PART NO	REMARK
1	CPU THERMAL MODULE LV220C 無鉛	6-31-L22CS-100	
2	MAIN BOARD V3.0A LV220C 無鉛	6-77-L22C0-D03A	
3	FFC CABLE ODD BOARD TO MB LV220C 無鉛	6-43-L22C0-080	
4	CPU SUPPORT BRACKET,SECC LV220C 無鉛	6-33-L22CS-040	
5	SCREW M2*3L KI NI ICT GTY-PATCH (DD=ø4.0,DT=0.8) 無鉛	6-35-B1120-3RD	
6	USB BRACKET SPTE LV220C 無鉛	6-33-L22CS-011	
7	SCREW M2.5*5L KI NI ICT NY 無鉛	6-35-B1125-5RA	
8	G965 NORTH BRIDGE HEAT SINK,AL LV220C 無鉛	6-31-L22CS-020	
9	TAPE MYLAR (A),MYLAR M550J 無鉛	6-40-M55J2-010	
10	BATTERY 3V 210MA CR2032 (MITSUBISHI) 無鉛	6-23-62015-607	
11	WIRE CABLE FOR BLUETOOTH TO M/B 9P M550G 無鉛	6-43-M55G0-071	
12	COAXIAL CABLE FOR TV TUNER 1.13MM BLACK L=200MM 精乘 LV220C/N 無鉛	6-43-L22CT-010	
13	SDVO LVDS BOARD V2.0 LV220C 無鉛	6-77-L22CL-D02	
14	YUAN MINIPCI HYBRID DVB-T AND ANALOG TV TUNER YSTMPC788GP-515 LV220C 無鉛	6-88-L22C7-651	
14	YUAN MINIPCI HYBRID DVB-T AND ANALOG TV TUNER WITH HARDWARE MPEG2 ENCODE MPC718 LV220C 無鉛	6-88-L22C7-652	
15	WLAN 802.11A+B+G MINI-CARD PCI-E 3945ABG INTEL ROW SKU 3 無鉛	6-88-M66N2-424	
15	802.11 B+G MINI CARD(USB) REALTEK CHIPSET WLAN MODULE AW-GU700 無鉛	6-88-M7702-701	
16	MODEM 12 PIN (MOTOROLA SOLUTION) ML3054 (GREEN LEVEL) ROHS QCOM 無鉛	6-88-M66S1-620	
16	(MOTOROLA SOLUTION) ML3054 ADD TUV 無鉛	6-88-M55S1-531	
17	WIRE CABLE FOR M/B TO MODEM LV220C 無鉛	6-43-L22C0-070	
18	NEW CARD DUMMY FOR M550N 無鉛	6-42-M55NP-010	
19	PHONE JACK MYLAR,T60 LV220C 無鉛	6-40-L22CS-010	
20	AV BOARD V3.0A LV220C 無鉛	6-77-L22C5-D03A	
21	SATA HDD DATA+POWER CABLE TO M/B LV220C 無鉛	6-43-L22C0-012	
22	BLUETOOTH V2.0 GUBTCR42M-KS- 藍天2 互億 8 PIN USB CSR BC04 (VISTA) M62NE 無鉛	6-88-M62E5-390	
23	MINI CARD RUBBER(6*12*10T) SILICONE LV220C 無鉛	6-47-L22CS-021	

Figure A - 7
LV22N - MB

A.Part Lists

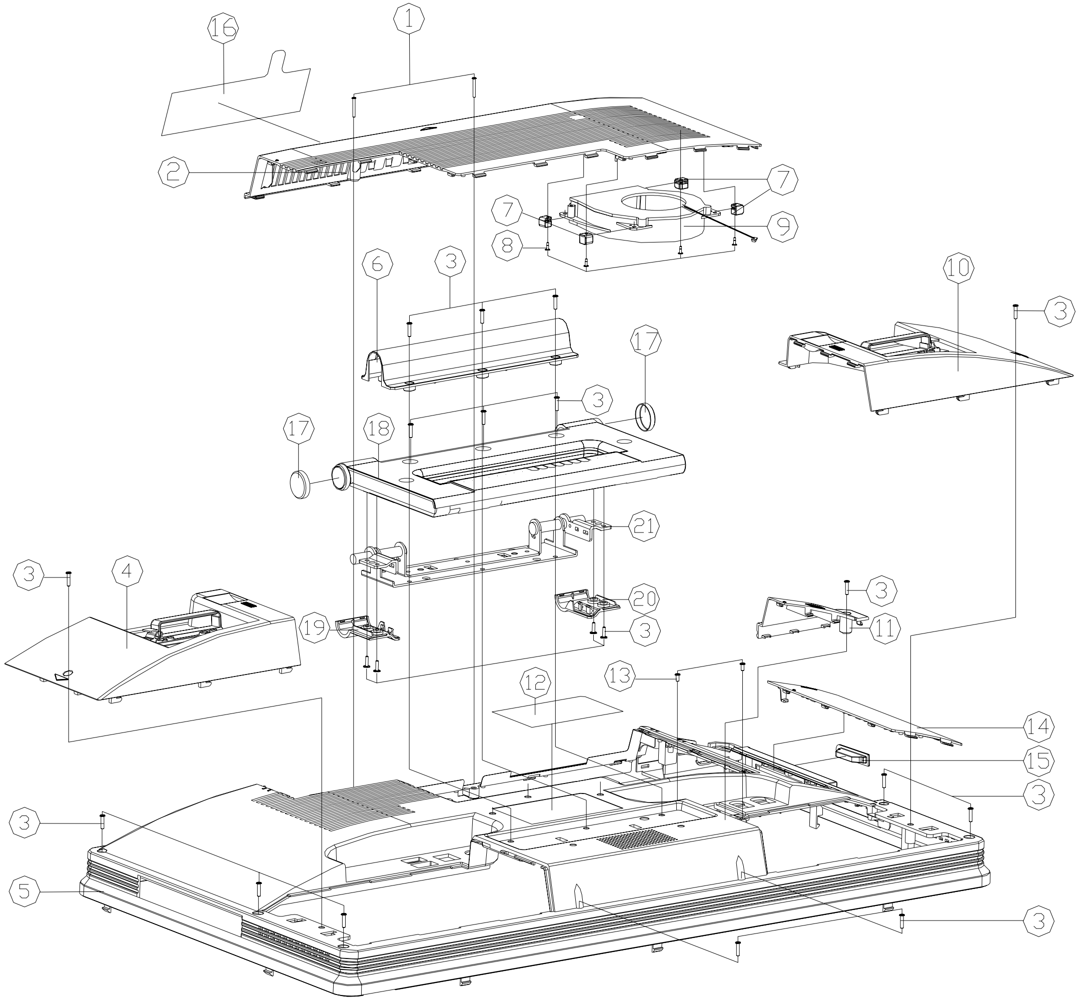
LV19C/LV19N - Front Cover

Figure A - 8
LV19C/LV19N - Front Cover



ITEM	PART NAME	PART NO
1	CCD BACK COVER MYLAR,FR700 LV220C 無鉛	6-40-L22C1-03
2	SCREW M2*3L KI NI ICT GTY-PATCH (DD=ø4.0,DT=0.8) 無鉛	6-35-B1120-3R
3	CCD BACK COVER,PC+ABS LV220C 無鉛	6-42-L22CT-02
4	CCD ROTATE BASE,PC+ABS LV220C 無鉛	6-42-L22CT-04
5	CCD HANDLE,PC+ABS LV220C 無鉛	6-42-L22CT-03
6	SCREW M2.5*5L KI NI ICT NY 無鉛	6-35-B1125-5R
7	DVD/DUAL RW ASS'Y (OPTION) 無鉛	6-79-L22CQ-00
7	COMBO ASS'Y (OPTION) 無鉛	6-79-L22CX-01
8	WIRE CABLE FOR CCD TO M/B 5P LV220C 無鉛	6-43-L22C0-03
9	CMOS VIDEO CAMERA BN2A-OV9650-D-501G 1.3M 無鉛	6-88-M55GC-61
10	FAN 12V 0.3A 力致 (DFB802012M00T) LV220C 無鉛	6-23-AL22C-01
11	WIRE CABLE FOR POWER SWITCH BOARD TO M/B 8P LV220C 無鉛	6-43-L22C0-04
12	W/O HDD ASS'Y LV220C/N 無鉛	6-79-L22CJ-01
13	POWER SWITCH BOARD V3.0A LV220C 無鉛	6-77-L22CS-D03
14	ODD HOUSING,PC+ABS LV220C 無鉛	6-42-L22CZ-01
15	SCREW M2*5L K1 NI ICT NY 無鉛	6-35-B1120-5R
16	CD-ROM TRANSFER BOARD V2.0A LV220C 無鉛	6-77-L22CN-D02
17	ANTENNA BLUETOOTH 2.4G/5G PIFA BT (GRAY) 190mm 惠貿 LV220C 無鉛	6-23-7L22C-04
18	SCREW M3*7L KI BK/Z ICT NAKO(?=5.2 T=1) 無鉛	6-35-B6130-7R
19	VESA BRACKET,SECC LV220C 無鉛	6-33-L22C2-02
20	SCREW M2.5*0.45P*13L B (D=ø2.6*9 S=M2.5*4) 無鉛	6-35-41125-13
21	SUBWOOFER MODULE (隔音棉) LV220C 無鉛	6-23-5L22C-1
22	AUDIO HOUSIG,PC+ABS LV220C 無鉛	6-42-L22C1-04
23	ANTENNA WLAN 2.4G/5G PIFA WL2 (GRAY) 155mm 惠貿 LV220C 無鉛	6-23-7L22C-02
24	LCD HOUSING MODULE LV220C 無鉛	6-39-L22C2-01
25	MIC 6MM*5MM(EM6050-BOL-T) W/CABLE 3P 210MM LV220C 無鉛	6-23-EL22C-01
26	SCREW M3*4L KI BZ ICT NY (D=4.8 T=0.5) 無鉛	6-35-B6130-4R
27	WIRE CABLE FOR AU(M220EW01) WSXGA+ LV220C 無鉛	6-43-L22C1-01
28	LCD BRACKET SECC LV190C 無鉛	6-33-L19C1-01
29	SPEAKER MODULE (隔音棉) LV220C 無鉛	6-23-5L22C-20
30	22"AU LCD RUBBER(B),SILICONE LV220C 無鉛	6-47-L22C1-04
31	CIR BOARD V3.0A LV220C 無鉛	6-77-L22CH-D03
32	LED BOARD V2.0A LV220C 無鉛	6-77-L22C4-D02
33	WIRE CABLE FOR CIR BOARD TO M/B 3P LV220C 無鉛	6-43-L22C0-02
34	WIRE CBLE FOR LED BOARD TO M/B 5P LV220C 無鉛	6-43-L22C0-05
35	22"AU LCD RUBBER(A),SILICONE LV220C 無鉛	6-47-L22C1-03
36	CCD PROTECT,PC LV220C 無鉛	6-40-L22C1-04
37	CCD PLATE MODULE,AL LV220C 無鉛	6-33-L22C1-10
38	CCD FRONT COVER MODULE LV220C 無鉛	6-42-L22CT-10
39	INVERTER MODULE MPT (M272) LV220C/N 無鉛	6-76-L22CR-02
40	WIRE CABLE FOR 22" INVERTER TO M/B 6P LV220C 無鉛	6-43-L22CR-01
41	LCD T AU M190 PW01 V0 19" WXGA+ 18.5MM 無鉛	6-50-Q72J5-G0
42	LCD FRONT COVER MODULE LV190C 無鉛	6-39-L19C1-01
43	TAPE MYLAR (A),MYLAR M550J 無鉛	6-40-M55J2-01
44	CCD MYLAR T60 LV220C 無鉛	6-40-L22C1-0A
45	FAN WASHER MYLAR FR700 LV220C 無鉛	6-40-L22C1-09
46	導電布(L50*W25) FOR LCD CABLE LV220C 無鉛	6-47-L22C1-0C
47	THERMAL PAD FSL-150F3 (12*53*1.5T) LV220C 無鉛	6-47-L22C1-05

LV19C/LV19N - Back

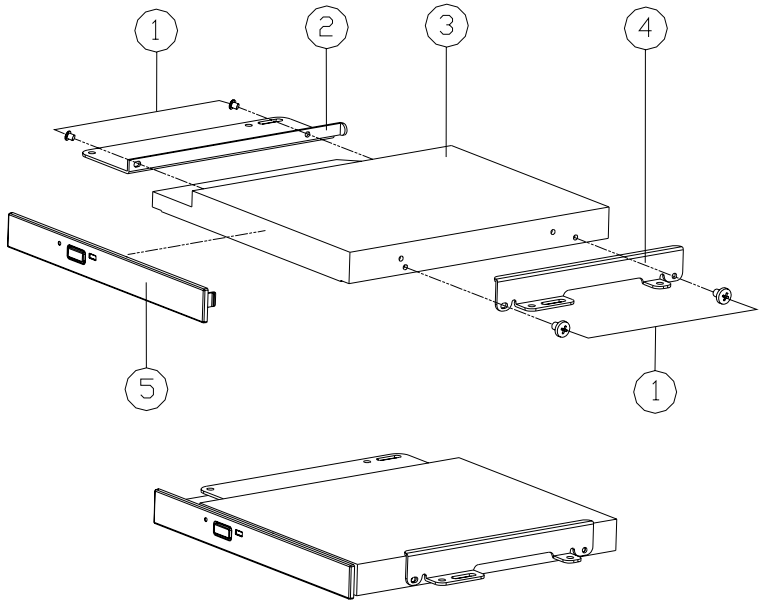


ITEM	PART NAME	PART NO	REMARK
1	SCREW M2.5*19L KI BK/Z ICT NAKO (ø=5.5 T=1.3)無鉛	6-35-B6125-190	
2	CPU COVER MODULE LV220C 無鉛	6-42-L22CS-102	
3	SCREW M3*10L KI BK/Z ICT NAKO (ø=6 T=1)昆山 無鉛	6-35-B6130-100	
4	HDD COVER MOUDLE (L) LV220C 無鉛	6-42-L22CJ-202	
5	LCD BACK COVER MODULE LV220C 無鉛	6-39-L22C1-022	
6	HINGE BASE HOUSING PC+ABS LV220C 無鉛	6-42-L22CY-031	
7	FAN RUBBER,SILICONE LV220C 無鉛	6-47-L22C1-020	
8	SCREW M2.5*0.45P*13L B (D=ø2.6*9 S=M2.5*4) 無鉛	6-35-41125-130	
9	VGA FAN 67*90*19T 5V 0.25A (BS6005MB13-1-1) LV220C 無鉛	6-23-AL22C-020	
10	HDD COVER MOUDLE (R) LV220C 無鉛	6-42-L22CJ-102	
11	RF COVER,PC+ABS LV220C 無鉛	6-42-L22C1-022	
12	PRODUCT LABEL LV220C 無鉛	6-45-L22C3-010	
12	PRODUCT LABEL LV220N 無鉛	6-45-L22N3-010	
12	PRODUCT LABEL LV190C 無鉛	6-45-L19C3-010	
12	PRODUCT LABEL LV190N 無鉛	6-45-L19N3-010	
13	SCREW M2*3L KI NI ICT GTY-PATCH (DD=ø4.0,DT=0.8)無鉛	6-35-B1120-3RD	
14	OPTION COVER MOUDLE LV220C 無鉛	6-42-L22C1-101	
15	CARD READER RUBBER,SILICON M550G 無鉛	6-47-M55GE-011	
16	CPU COVER PROTECT MYLAR PE LV220C 無鉛	6-40-L22C8-011	
17	HINGE RING,AL LV220C 無鉛	6-33-L22CY-010	
18	HINGE SUPPORT MODULE LV220C 無鉛	6-42-L22CY-101	
19	HINGE COVER (R) PC+ABS LV220C 無鉛	6-42-L22CY-011	
20	HINGE COVER (L) PC+ABS LV220C 無鉛	6-42-L22CY-021	
21	HINGE MODULE LV220C 無鉛	6-33-L22CY-102	

Figure A - 9
LV19C/LV19N - Back

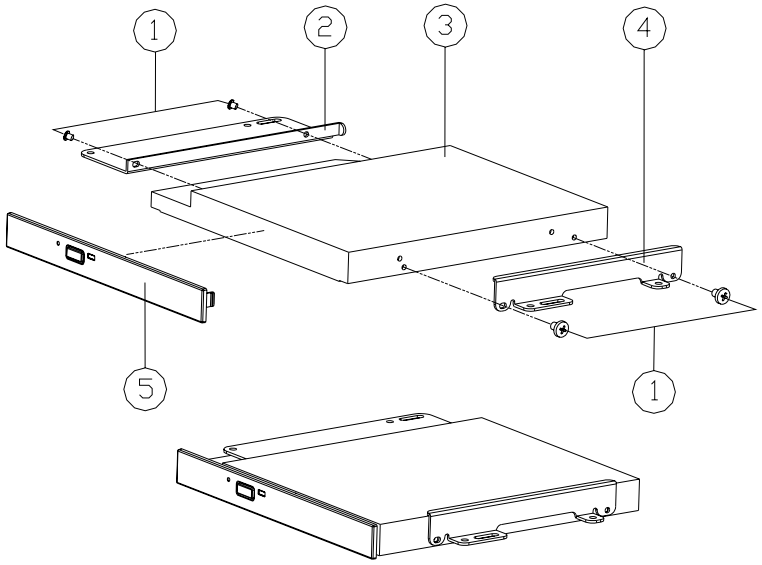
LV19C/LV19N - Combo Drive

Figure A - 10
LV19C/LV19N - Combo Drive



ITEM	PART NAME	PART NO	REMARK
1	SCREW M2*2.5L KI BK/Z ICT NY*3.5 T=0.3 無鉛	6-35-B6120-2RB	
2	ODD BRACKET (R),SECC LV220C 無鉛	6-33-L22C1-011	
3	[illegible] 無鉛	6-85-907PX-C03	
4	ODD BRACKET (L),SECC LV220C 無鉛	6-33-L22C1-021	
5	COMBO BEZEL MODULE (BK1A382) L295N 無鉛	6-42-L25NX-100	

LV19C/LV19N - DVD-Dual Drive

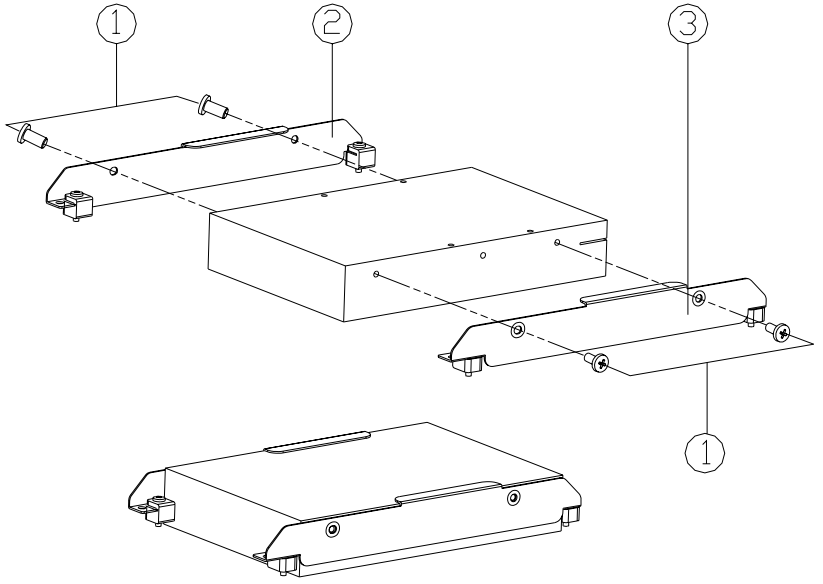


ITEM	PART NAME	PART NO	REMARK
1	SCREW M2*2.5L KI BK/Z ICT NY*3.5 T=0.3 無鉛	6-35-B6120-2RB	
2	ODD BRACKET (R),SECC LV220C 無鉛	6-33-L22C1-011	
3	[illegible]	6-85-A078X-C08	
3	[illegible]	6-85-A078X-T02	
4	ODD BRACKET (L),SECC LV220C 無鉛	6-33-L22C1-021	
5	TOSHIBA DUAL DVDRW(SUPER MULTI) BEZEL MODULE 無鉛	6-42-L25NQ-200	

Figure A - 11
LV19C/LV19N - DVD-Dual Drive

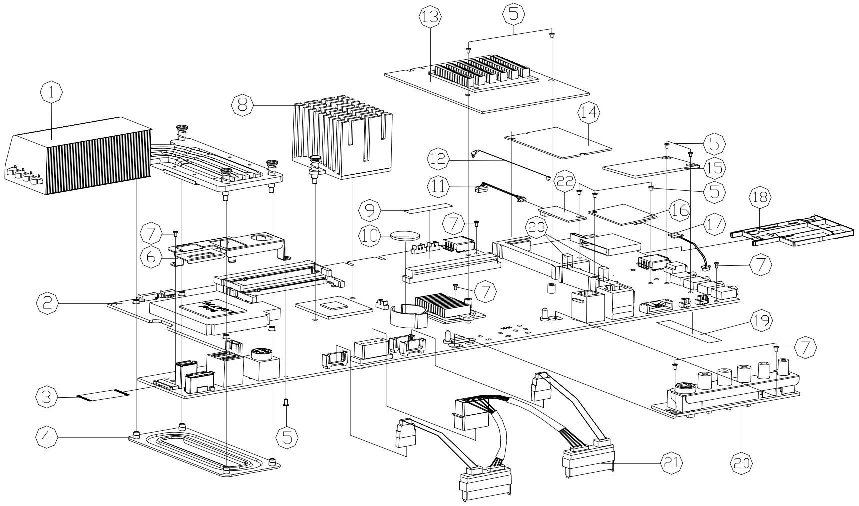
LV19C/LV19N - HDD

Figure A - 12
LV19C/LV19N - HDD



ITEM	PART NAME	PART NO	REMARK
1	SCREW #6-32*5L B NI ACT 無鉛	6-35-41306-5R0	
2	HDD BRACKET MODULE (L) LV220C 無鉛	6-33-L22CJ-201	
3	HDD BRACKET MODULE (R) LV220C 無鉛	6-33-L22CJ-101	

LV19C - MB

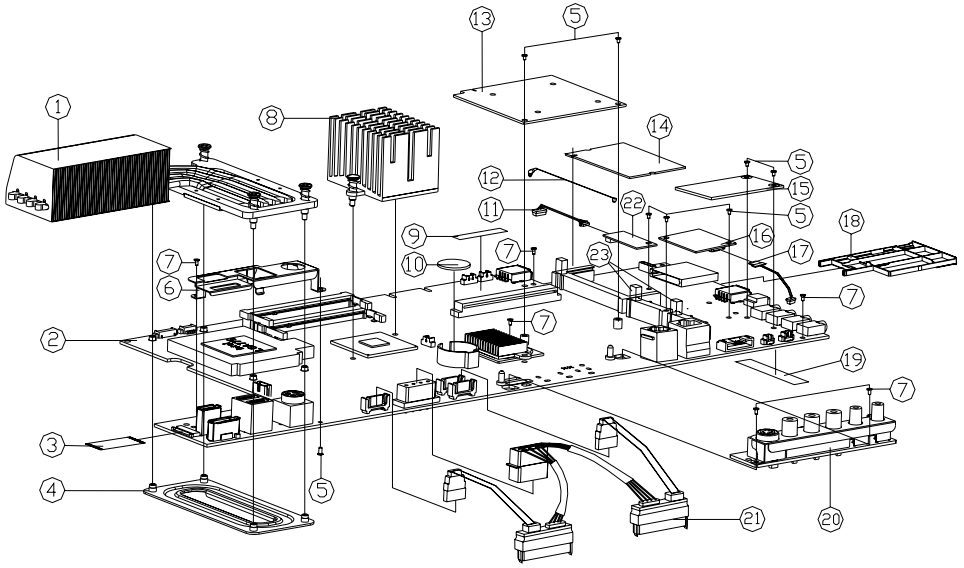


ITEM	PART NAME	PART NO	REMARK
1	CPU THERMAL MODULE LV220C 無鉛	6-31-L22CS-100	
2	MAIN BOARD V3.0A LV220C 無鉛	6-77-L22C0-D03A	
3	FFC CABLE ODD BOARD TO MB LV220C 無鉛	6-43-L22C0-080	
4	CPU SUPPORT BRACKET,SECC LV220C 無鉛	6-33-L22CS-040	
5	SCREW M2*3L KI NI ICT GTY-PATCH (DD=Ø4.0,DT=0.8) 無鉛	6-35-B1120-3RD	
6	USB BRACKET SPTE LV220C 無鉛	6-33-L22CS-011	
7	SCREW M2.5*5L KI NI ICT NY 無鉛	6-35-B1125-5RA	
8	G965 NORTH BRIDGE HEAT SINK,AL LV220C 無鉛	6-31-L22CS-020	
9	TAPE MYLAR (A),MYLAR M550J 無鉛	6-40-M55J2-010	
10	BATTERY 3V 210MA CR2032 (MITSUBISHI) 無鉛	6-23-62015-607	
11	WIRE CABLE FOR BLUETOOTH TO M/B 9P M550G 無鉛	6-43-M55G0-071	
12	COAXIAL CABLE FOR TV TUNER 1.13MM BLACK L=200MM 精乘 LV220C/N 無鉛	6-43-L22CT-010	
13	VGA MXM II GF-GO 7600-N-B1 ASS'Y LV220C 無鉛	6-79-L22CL-001	
13	MXM-II VGA BOARD V1.0 LV220C 無鉛	6-77-L22CL-D11	
14	YUAN MINIPCI HYBRID DVB-T AND ANALOG TV TUNER YSTMPC788GP-515 LV220C 無鉛	6-88-L22C7-651	
14	YUAN MINIPCI HYBRID DVB-T AND ANALOG TV TUNER WITH HARDWARE MPEG2 ENCODE MPC718 LV220C 無鉛	6-88-L22C7-652	
15	WLAN 802.11A+B+G MINI-CARD PCI-E 3945ABG INTEL ROW SKU 3 無鉛	6-88-M66N2-424	
15	802.11 B+G MINI CARD(USB) REALTEK CHIPSET WLAN MODULE AW-GU700 無鉛	6-88-M7702-701	
16	MODEM 12 PIN (MOTOROLA SOLUTION) ML3054 (GREEN LEVEL) ROHS QCON 無鉛	6-88-M66S1-620	
16	(MOTOROLA SOLUTION) ML3054 ADD TUV 無鉛	6-88-M55S1-531	
17	WIRE CABLE FOR M/B TO MODEM LV220C 無鉛	6-43-L22C0-070	
18	NEW CARD DUMMY FOR M550N 無鉛	6-42-M55NP-010	
19	PHONE JACK MYLAR,T60 LV220C 無鉛	6-40-L22CS-010	
20	AV BOARD V3.0A LV220C 無鉛	6-77-L22C5-D03A	
21	SATA HDD DATA+POWER CABLE TO M/B LV220C 無鉛	6-43-L22C0-012	
22	BLUETOOTH V2.0 GUBTCR42M-NS-藍天2 互億 8 PIN USB CSR BOM (VISTA) M620NE 無鉛	6-88-M62E5-390	
23	MINI CARD RUBBER(6*12*10T) SILICONE LV220C 無鉛	6-47-L22CS-021	

Figure A - 13
LV19C - MB

LV19N - MB

Figure A - 14
LV19N - MB



ITEM	PART NAME	PART NO	REMARK
1	CPU THERMAL MODULE LV220C	6-31-L22CS-100	
2	MAIN BOARD V3.0A LV220C	6-77-L22C0-003A	
3	FFC CABLE ODD BOARD TO MB LV220C	6-43-L22C0-080	
4	CPU SUPPORT BRACKET,SECC LV220C	6-33-L22CS-040	
5	SCREW M2.5*5L KI NI ICT NY	6-35-B1120-3RD	
6	USB BRACKET SPTE LV220C	6-33-L22CS-011	
7	SCREW M2.5*5L KI NI ICT NY	6-35-B1125-5RA	
8	G965 NORTH BRIDGE HEAT SINK,AL LV220C	6-31-L22CS-020	
9	TAPE MYLAR (A),MYLAR M550J	6-40-M55J2-010	
10	BATTERY 3V 210MA CR2032 (MITSUBISHI)	6-23-62015-607	
11	WIRE CABLE FOR BLUETOOTH TO M/B 9P M550C	6-43-M55G0-071	
12	[illegible]	6-43-L22CT-010	
13	SDVO LVDS BOARD V2.0 LV220C	6-77-L22CL-D02	
14	[illegible]	6-88-L22C7-651	
14	[illegible]	6-88-L22C7-652	
15	[illegible]	6-88-M66N2-424	
15	[illegible]	6-88-M7702-701	
16	[illegible]	6-88-M66S1-620	
16	(MOTOROLA SOLUTION) ML3654 ADD TUV	6-88-M55S1-531	
17	WIRE CABLE FOR M/B TO MODEM LV220C	6-43-L22C0-070	
18	NEW CARD DUMMY FOR M550N	6-42-M55NP-010	
19	PHONE JACK MYLAR,T60 LV220C	6-40-L22CS-010	
20	AV BOARD V3.0A LV220C	6-77-L22C5-003A	
21	SATA HDD DATA+POWER CABLE TO M/B LV220C	6-43-L22C0-012	
22	[illegible]	6-88-M62E5-390	
23	WWE CARD RUBBER(54*24*07) SILICONE LV220C	6-47-L22CS-021	

Appendix B: Schematic Diagrams

This appendix has circuit diagrams of the **LV22C/LV22N/LV19C/LV19N** computer's PCB's. The following table indicates where to find the appropriate schematic diagram.

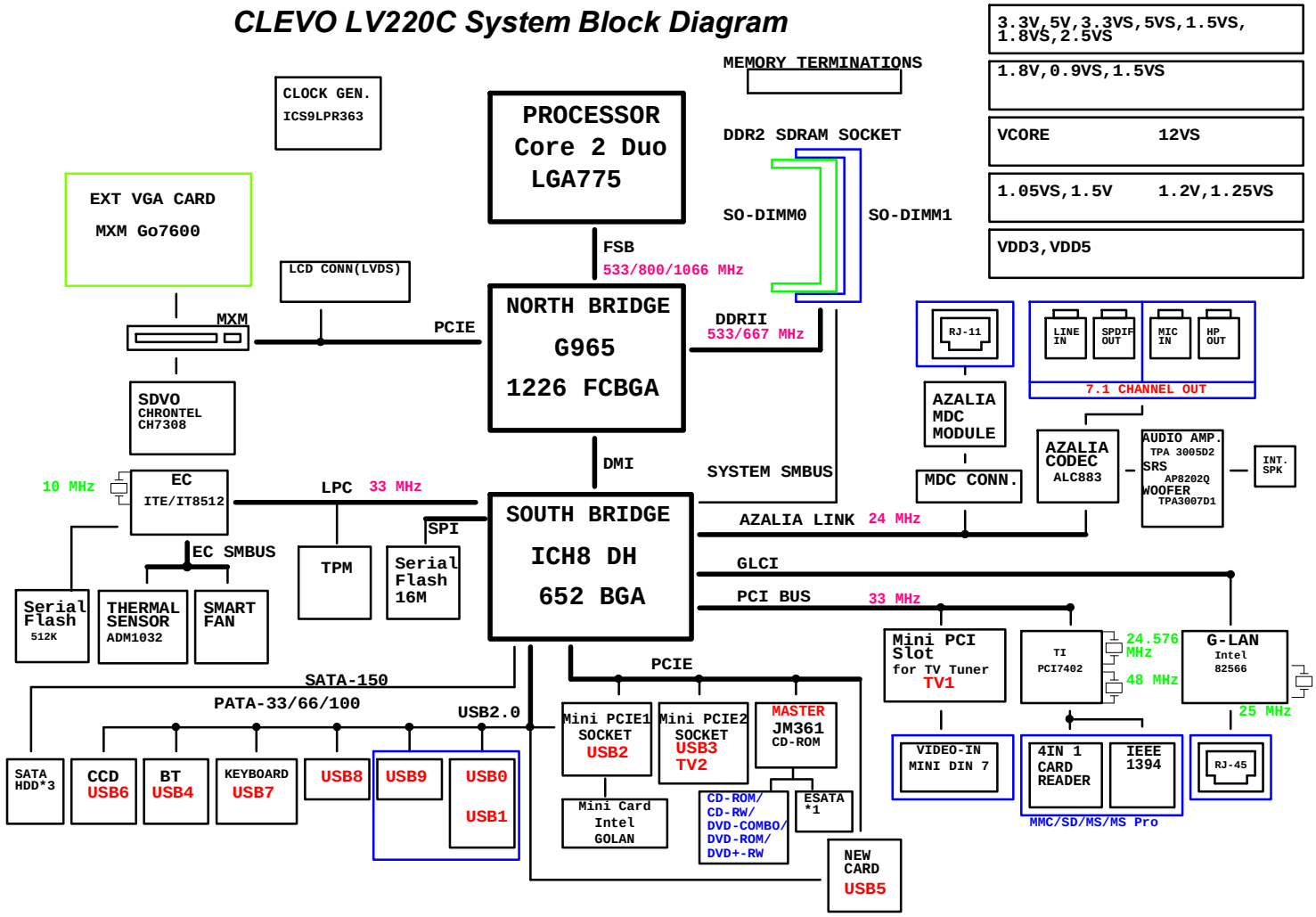
Table B - 1
Schematic Diagram

Version Note

The schematic diagrams in this chapter are based upon version **6-71-LV220C-D03A**. If your mainboard (or other boards) are a later version, please check with the Service Center for updated diagrams (if required).

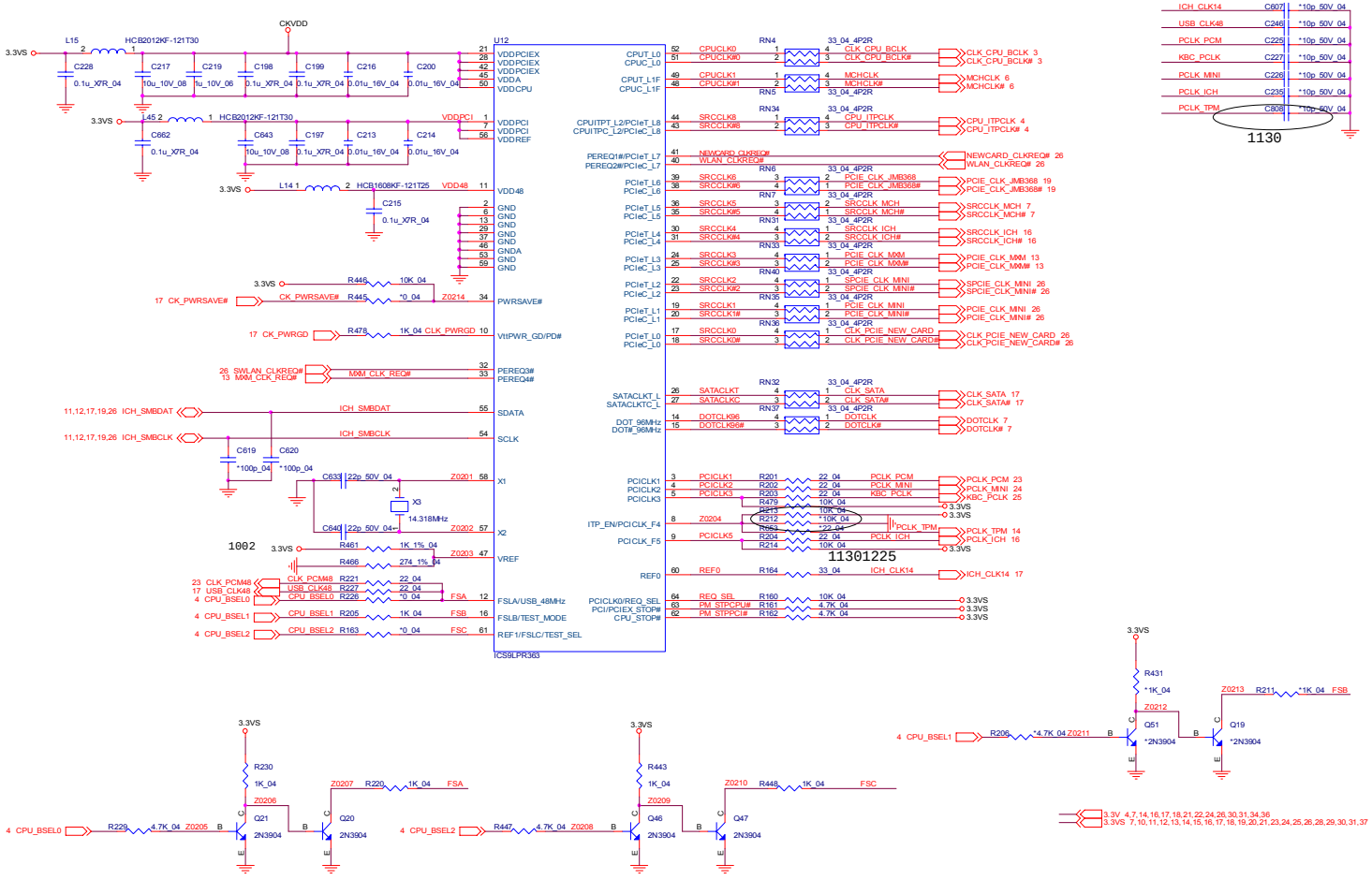
System Block Diagram

Sheet 1 of 43
Schematic Diagram



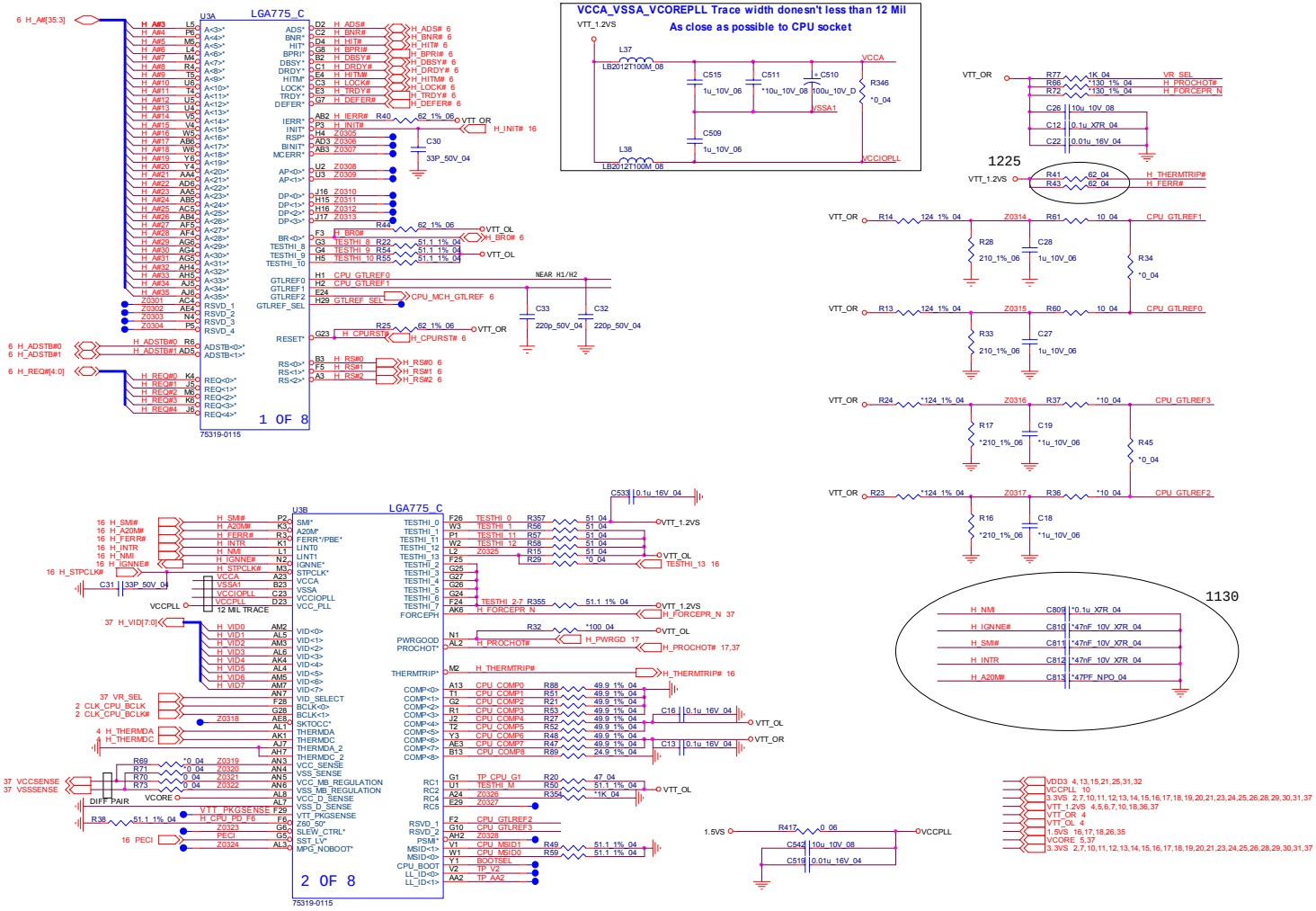
Clock Generator

Sheet 2 of 43
Clock Generator



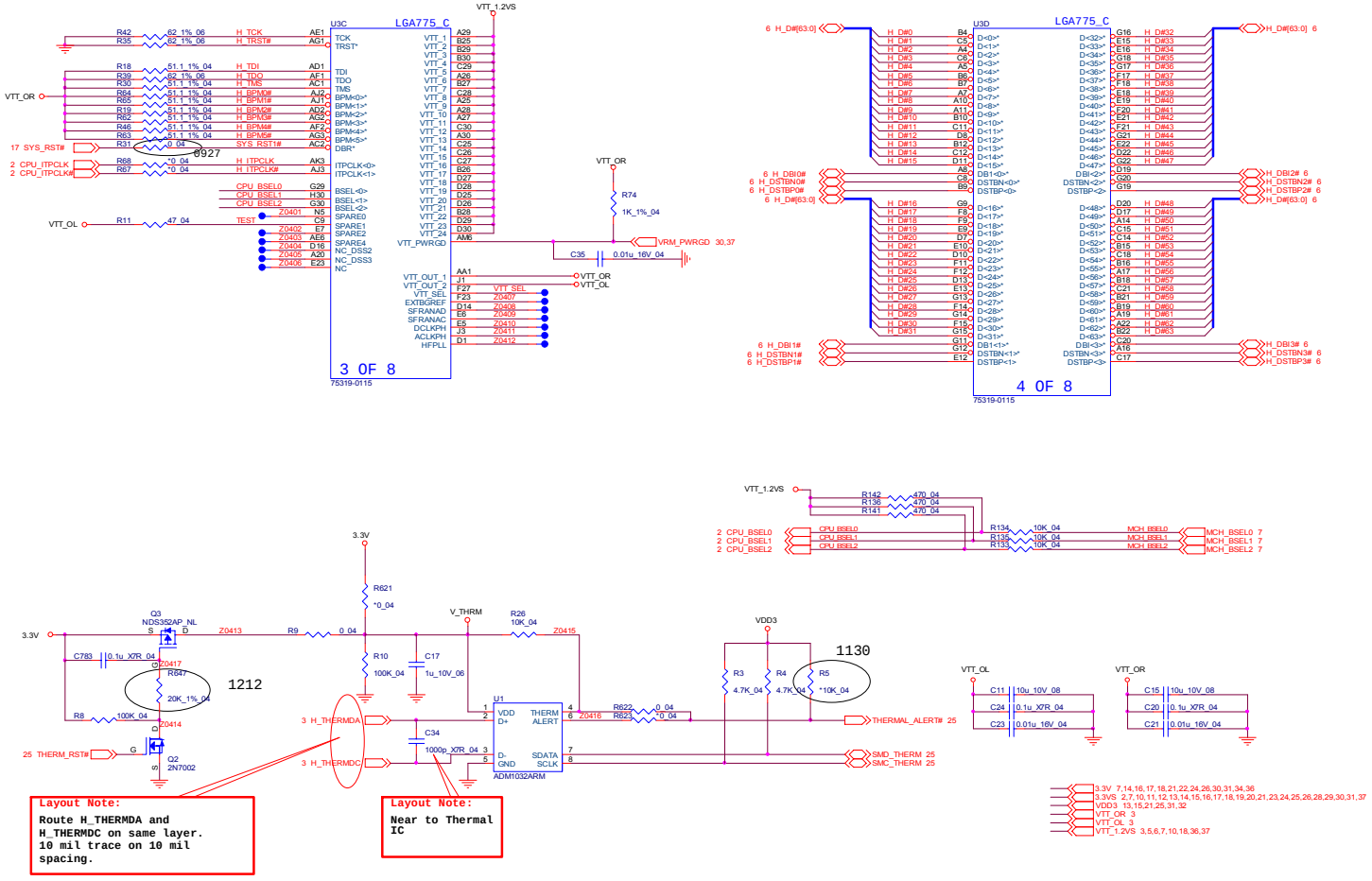
CPU - 1 of 3

Sheet 3 of 43
CPU 1 of 3



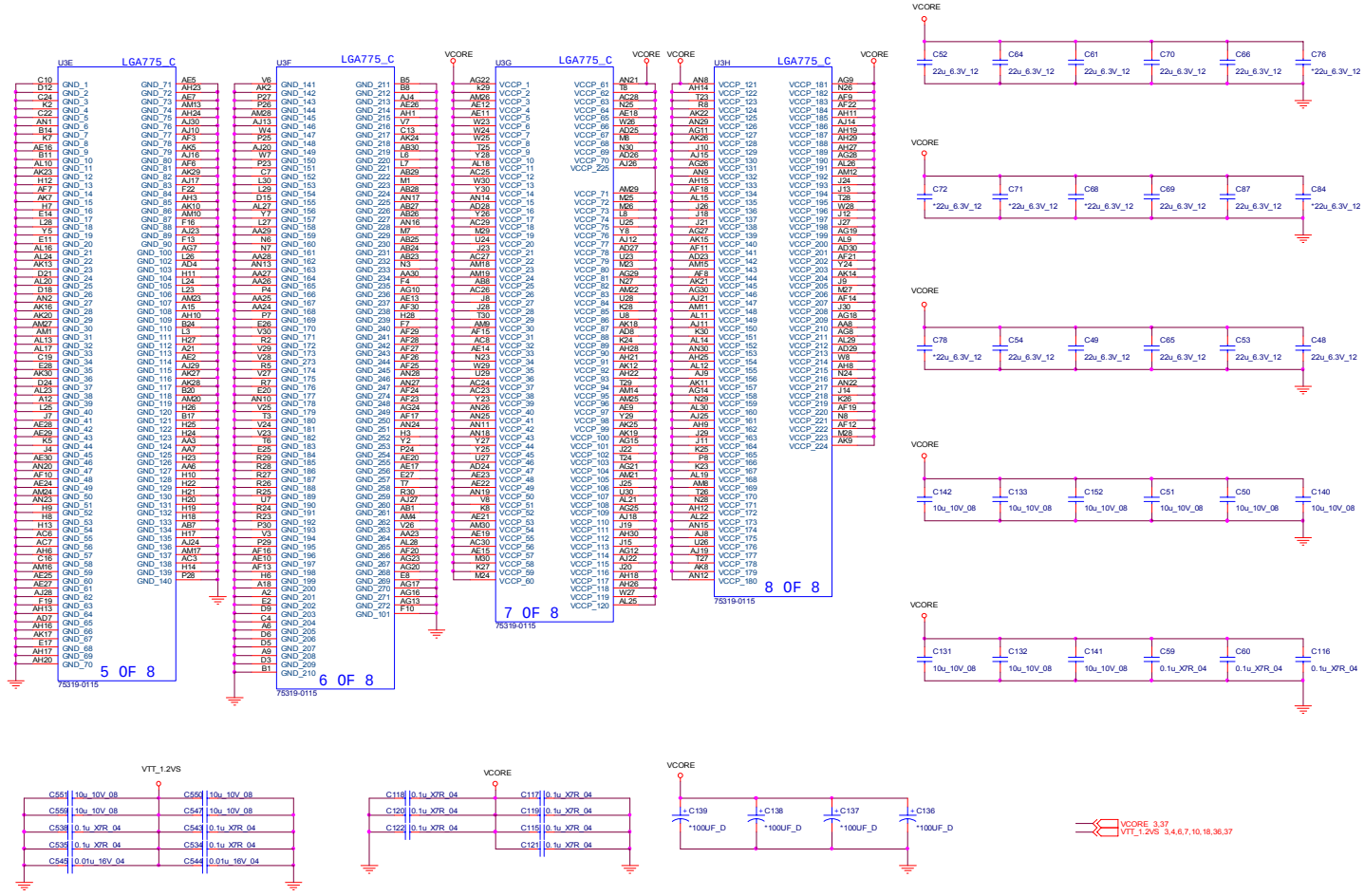
CPU - 2 of 3

Sheet 4 of 43
Yonah CPU 2 of 3

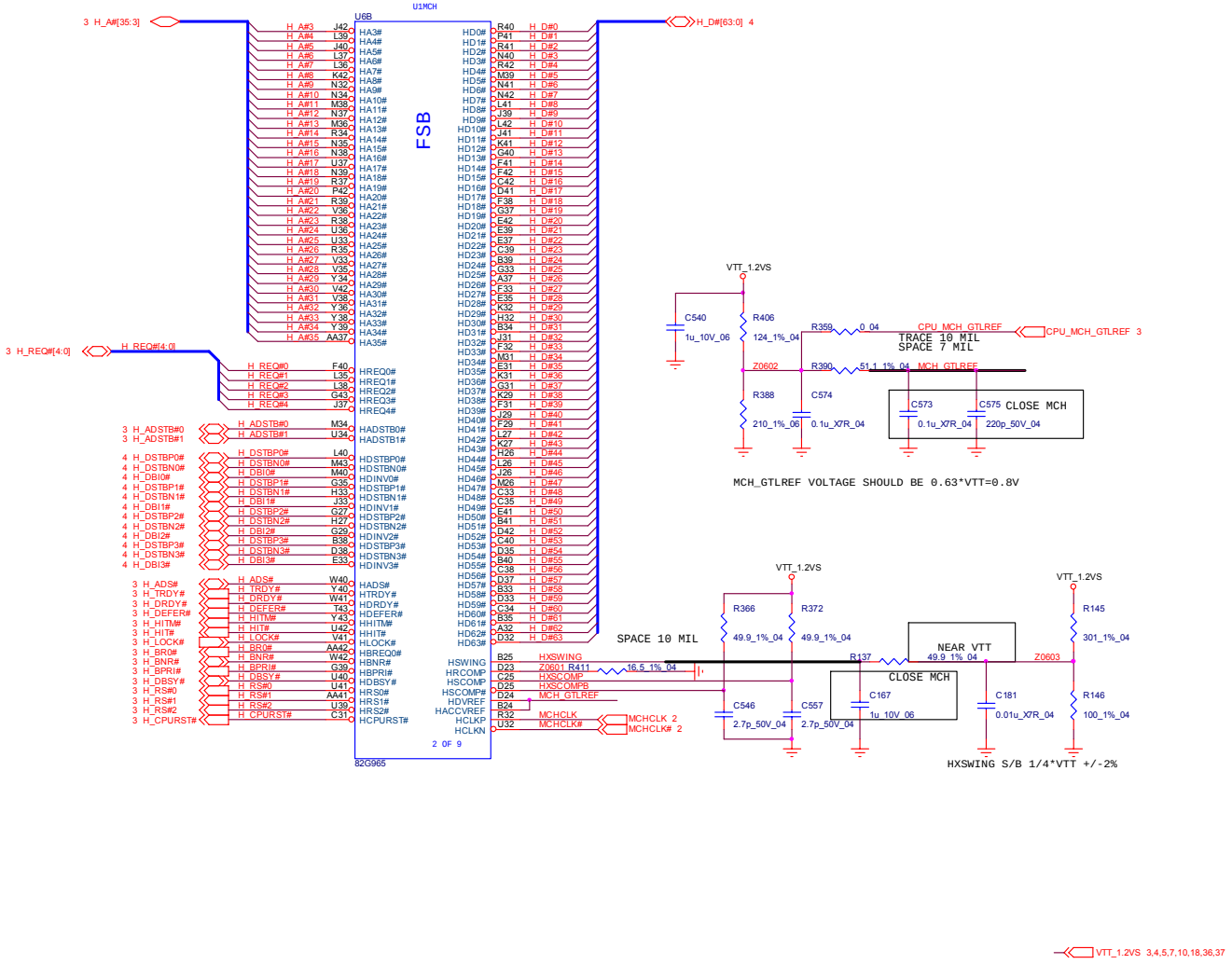


CPU - 3 of 3

Sheet 5 of 43
Yonah CPU 3 of 3



Intel P965 1/5 CPU Interface

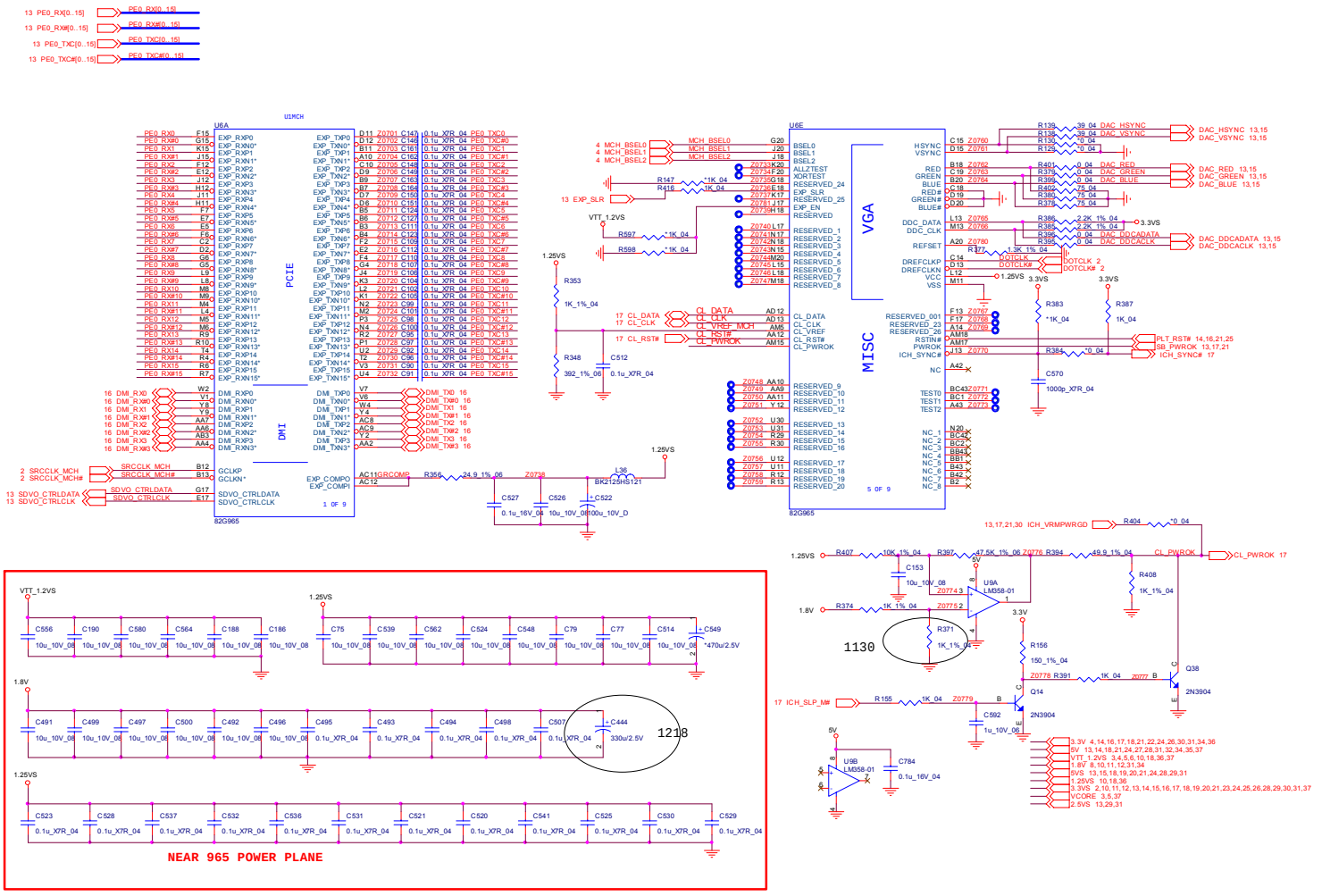


Sheet 6 of 43
Intel P965 1/5
CPU Interface

B.Schematic Diagrams

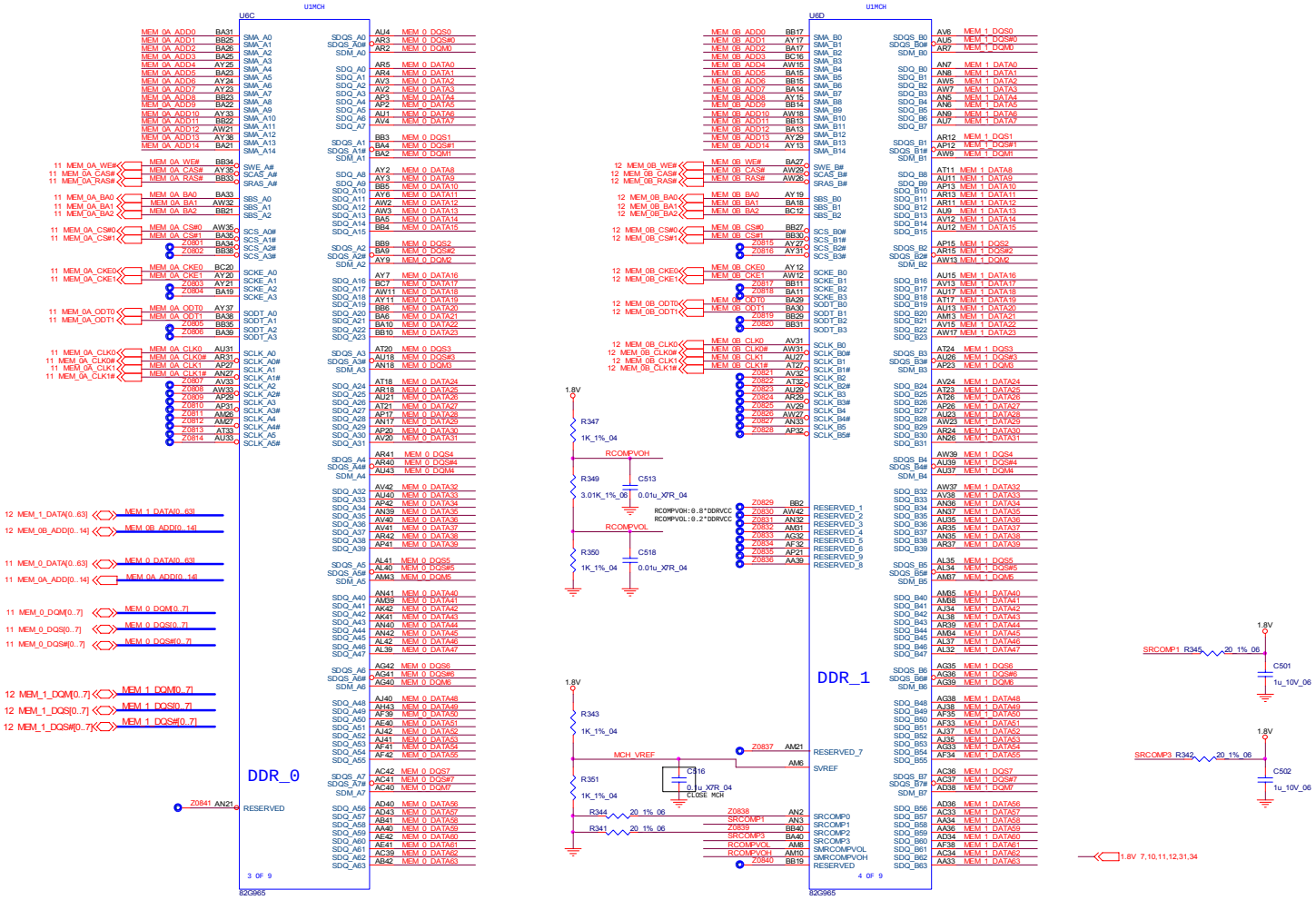
Intel P965 2/5 PCI-E I/F

Sheet 7 of 43
Intel P965 2/5
PCI-E I/F



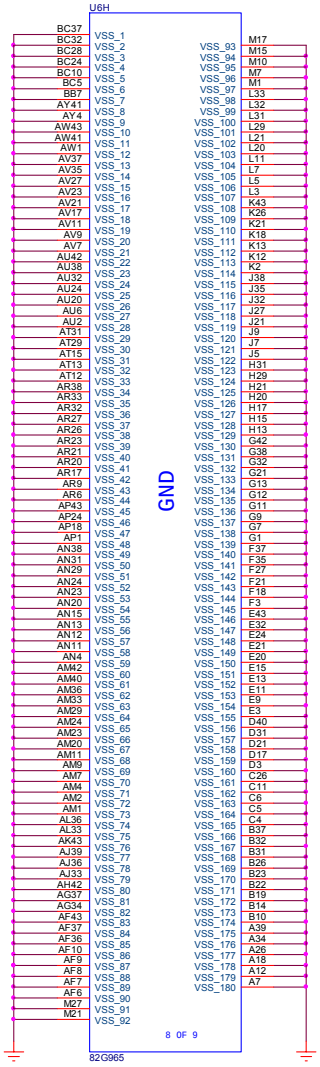
Intel P965 3/5 Memory I/F

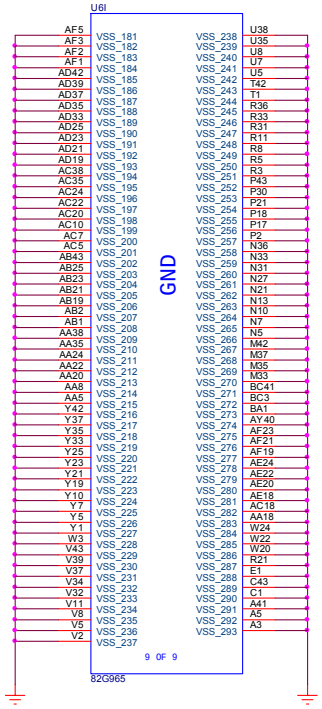
Sheet 8 of 43
Intel P965 3/5
Memory I/F



Intel P965 4/5 GND

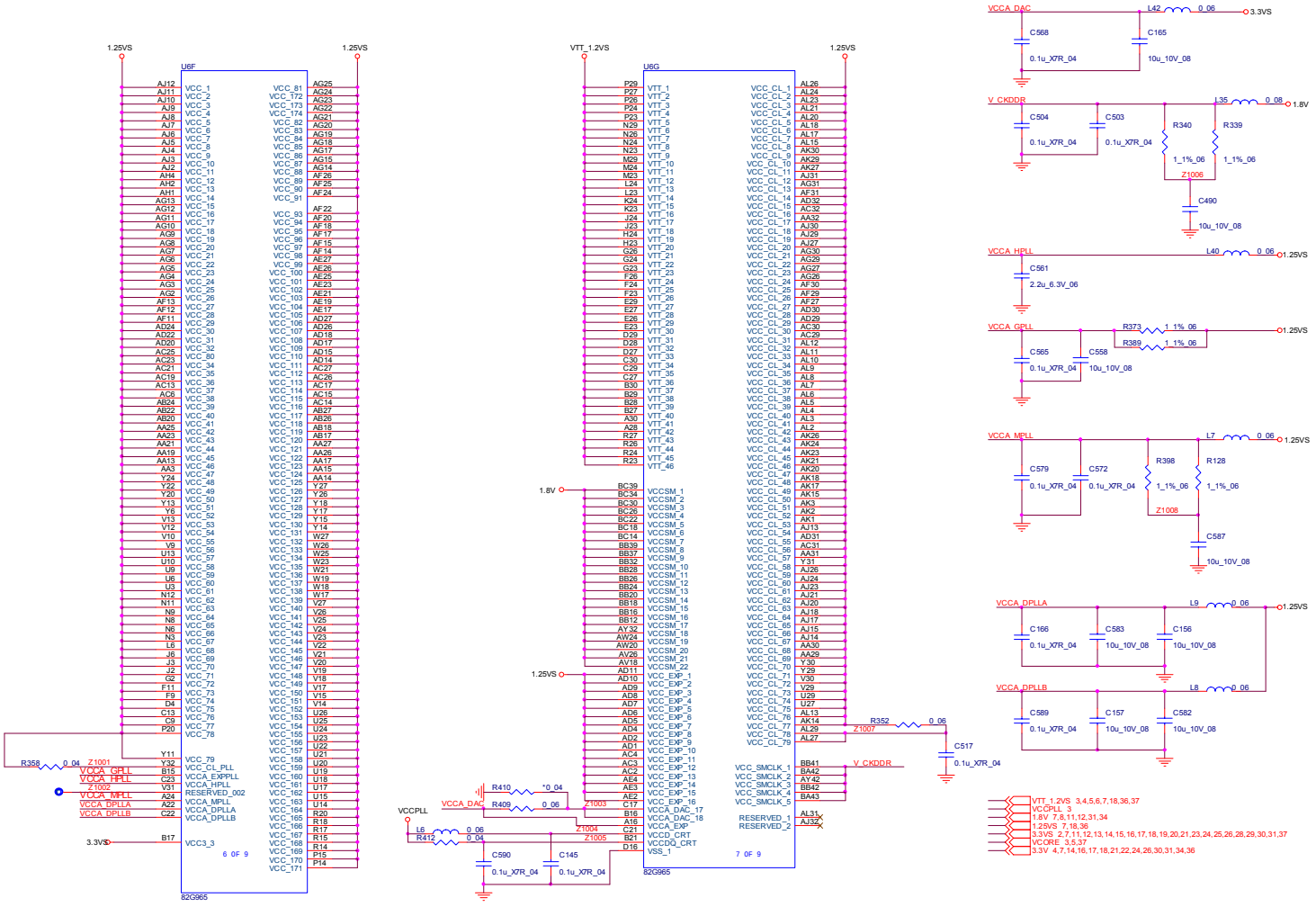
Sheet 9 of 43
Intel P965 4/5 GND





Intel P965 5/5 Power

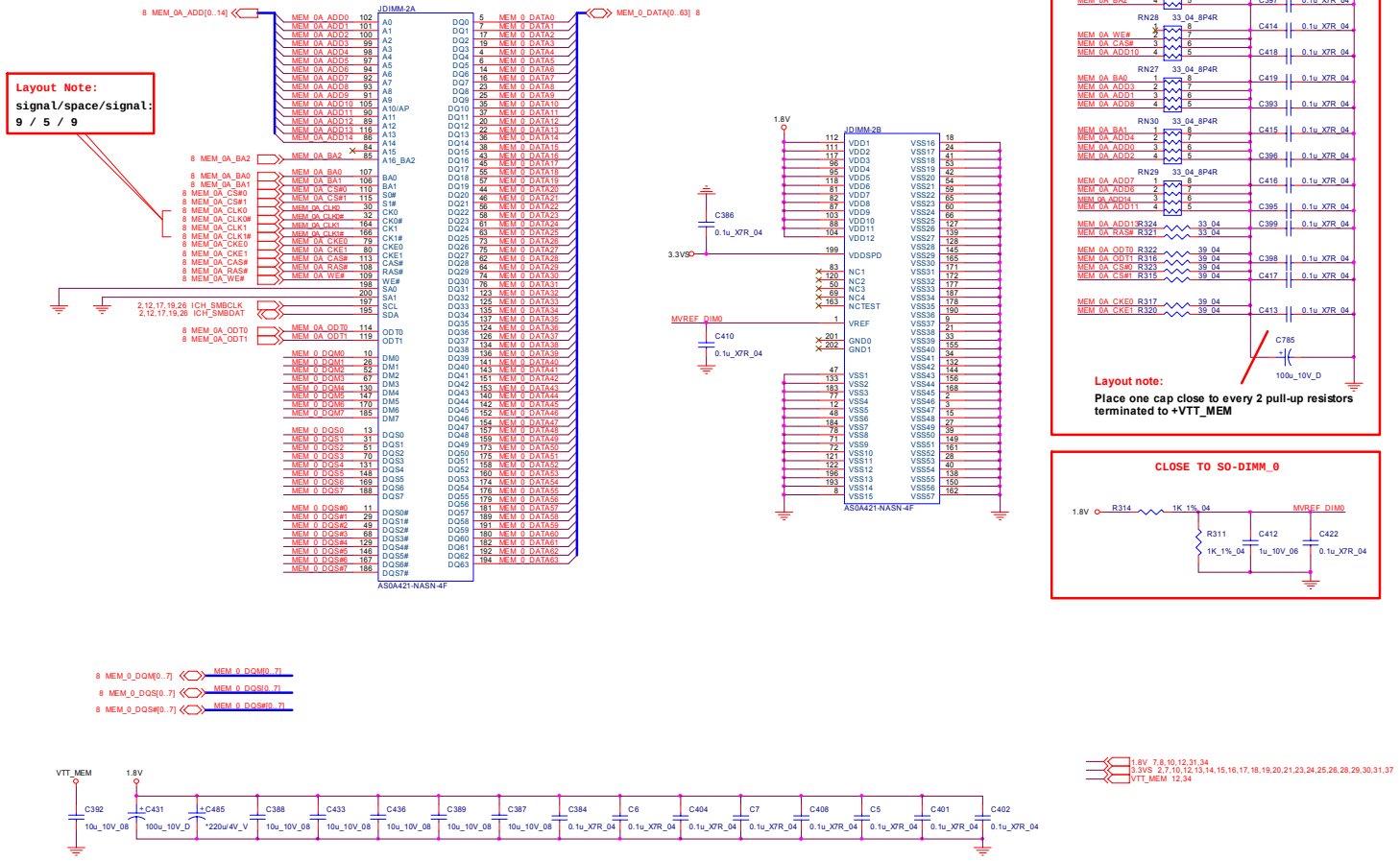
Sheet 10 of 43
Intel P956 5/5 Power



DDRII SO-DIMM 1/2

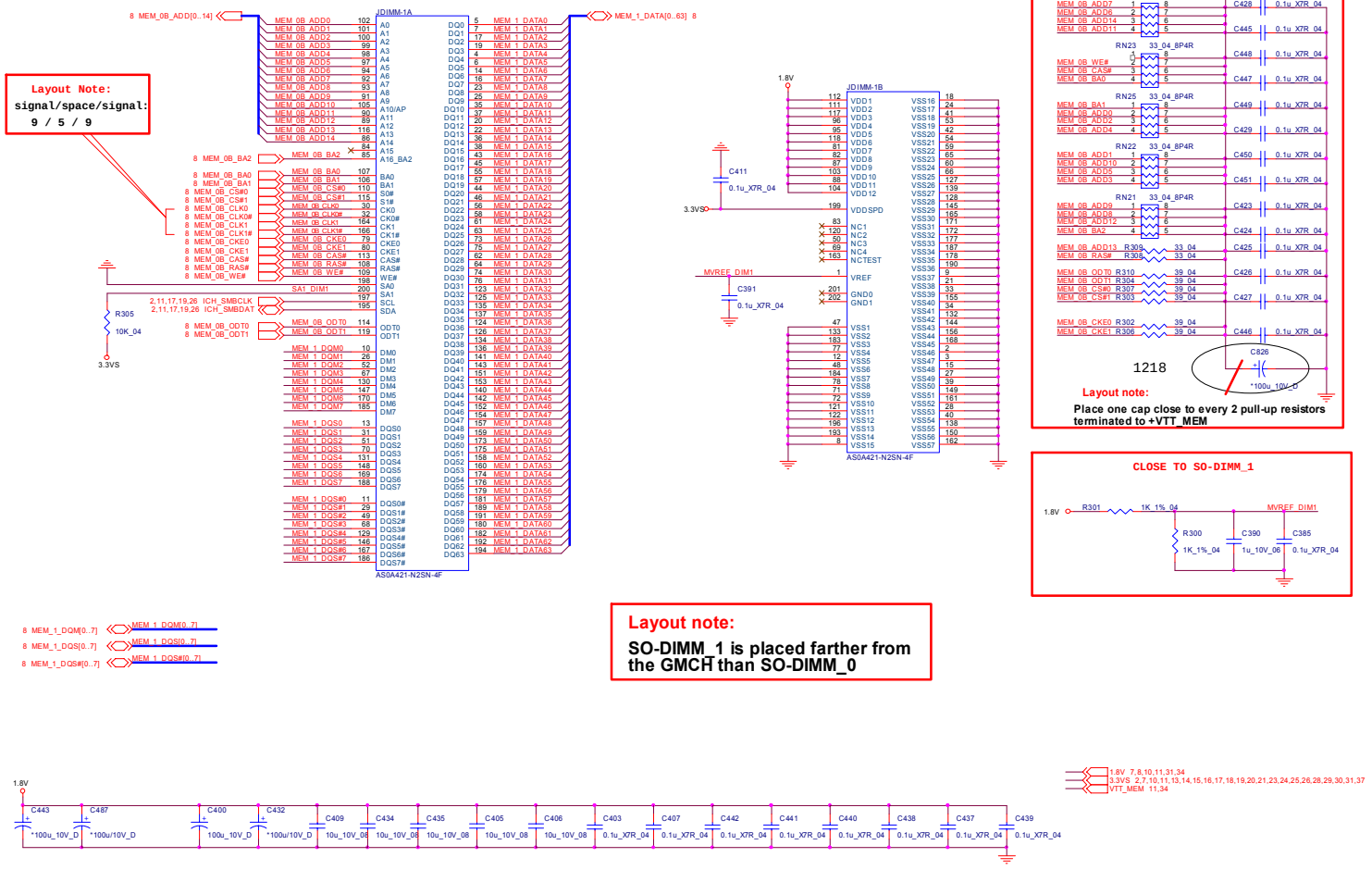
Sheet 11 of 43
DDRII SO-DIMM 1/2

SO-DIMM 0



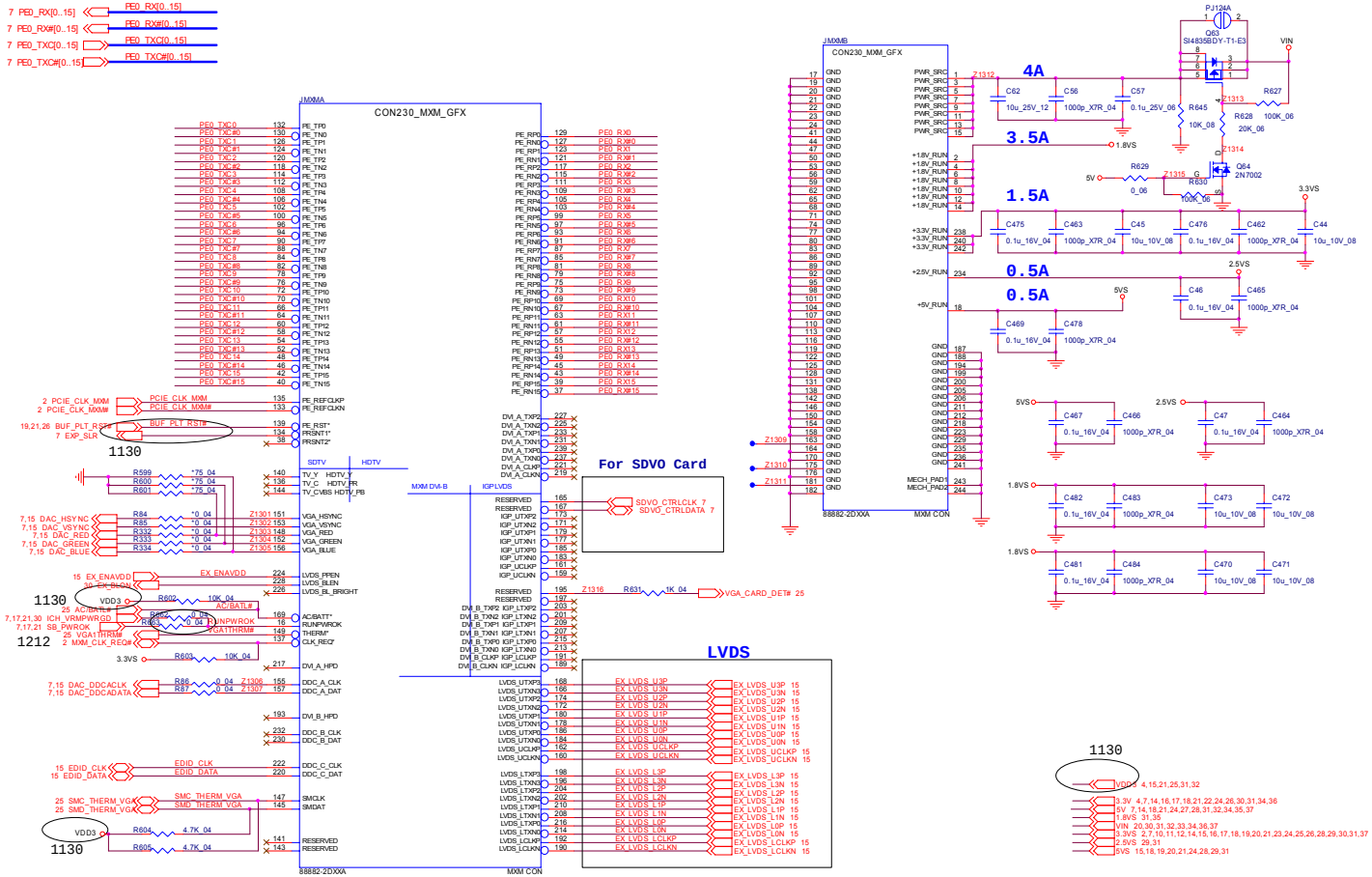
DDRII SO-DIMM 2/2

SO-DIMM 1

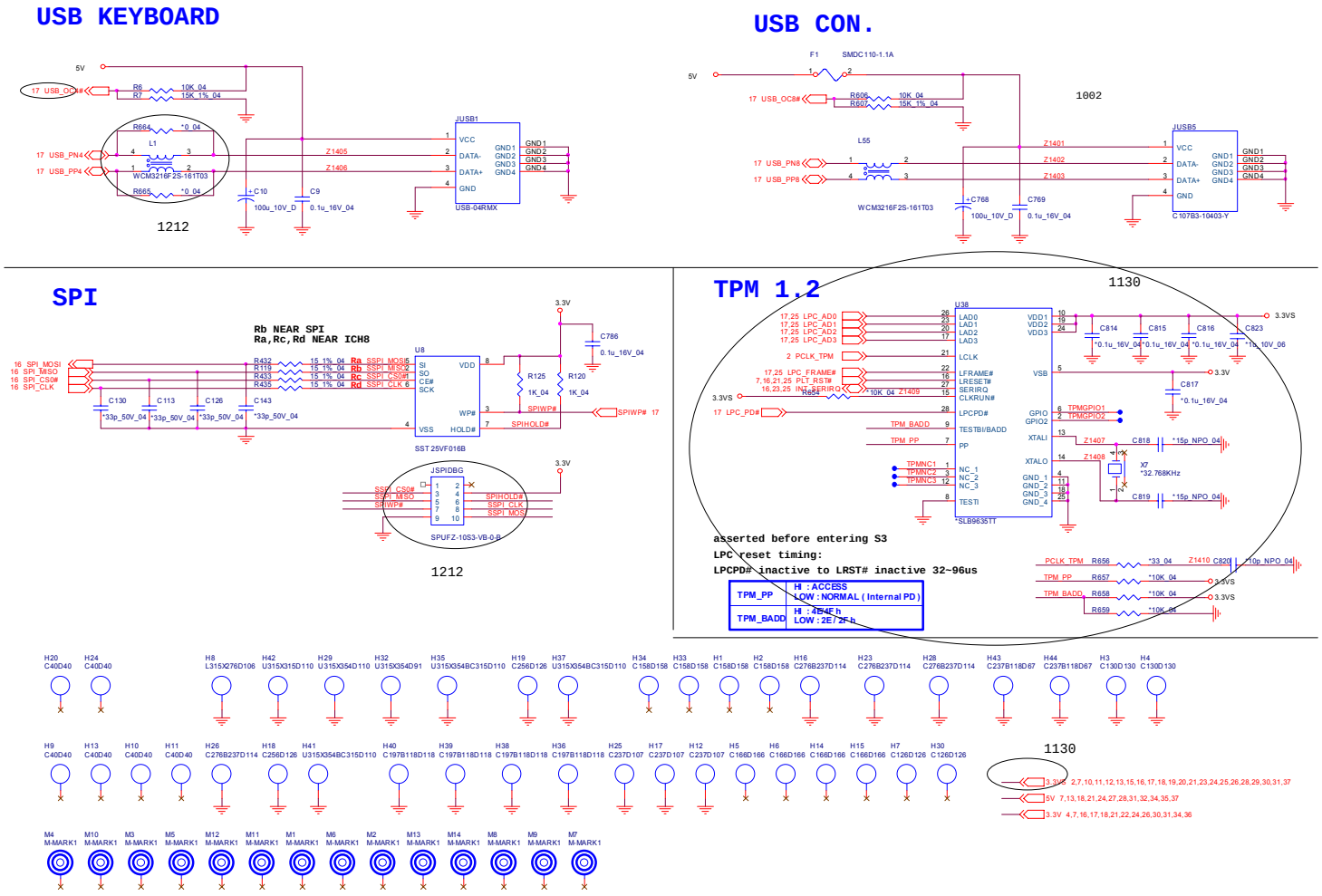


MXM PCI-E CONN

Sheet 13 of 43
MXM PCI-E CONN

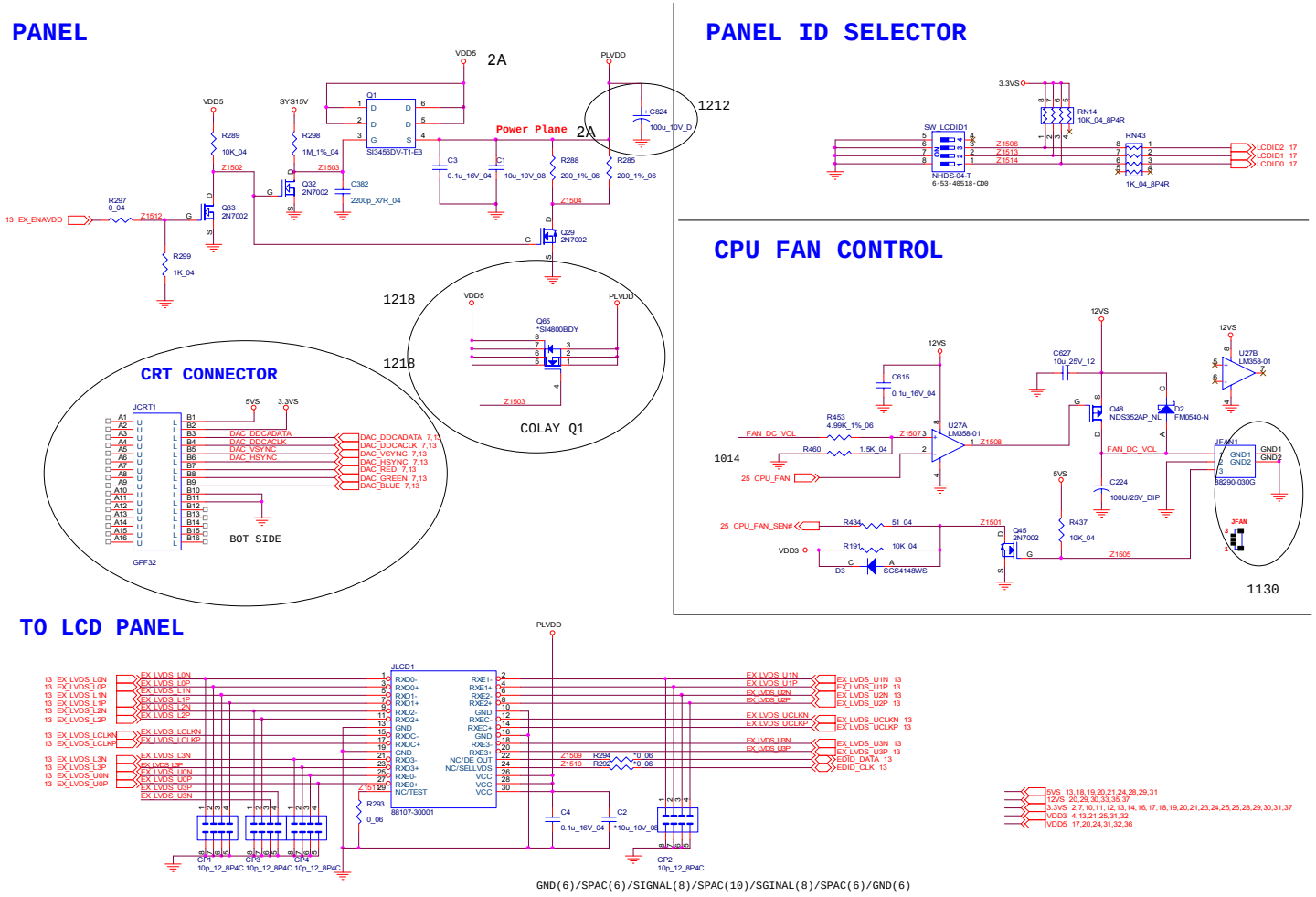


BIOS, USB K/B, TPM



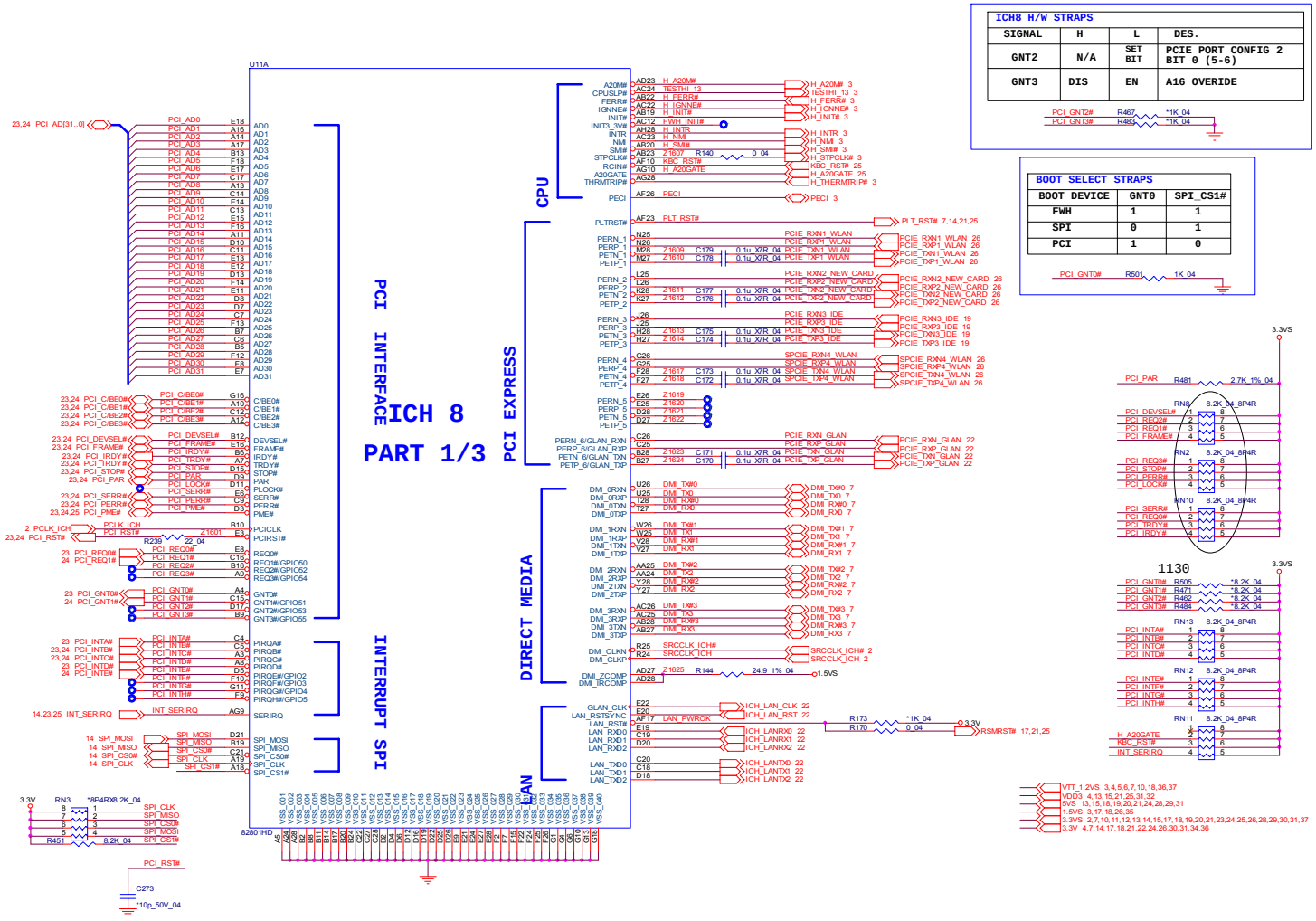
Panel, CPU Fan

Sheet 15 of 43
Panel, CPU Fan



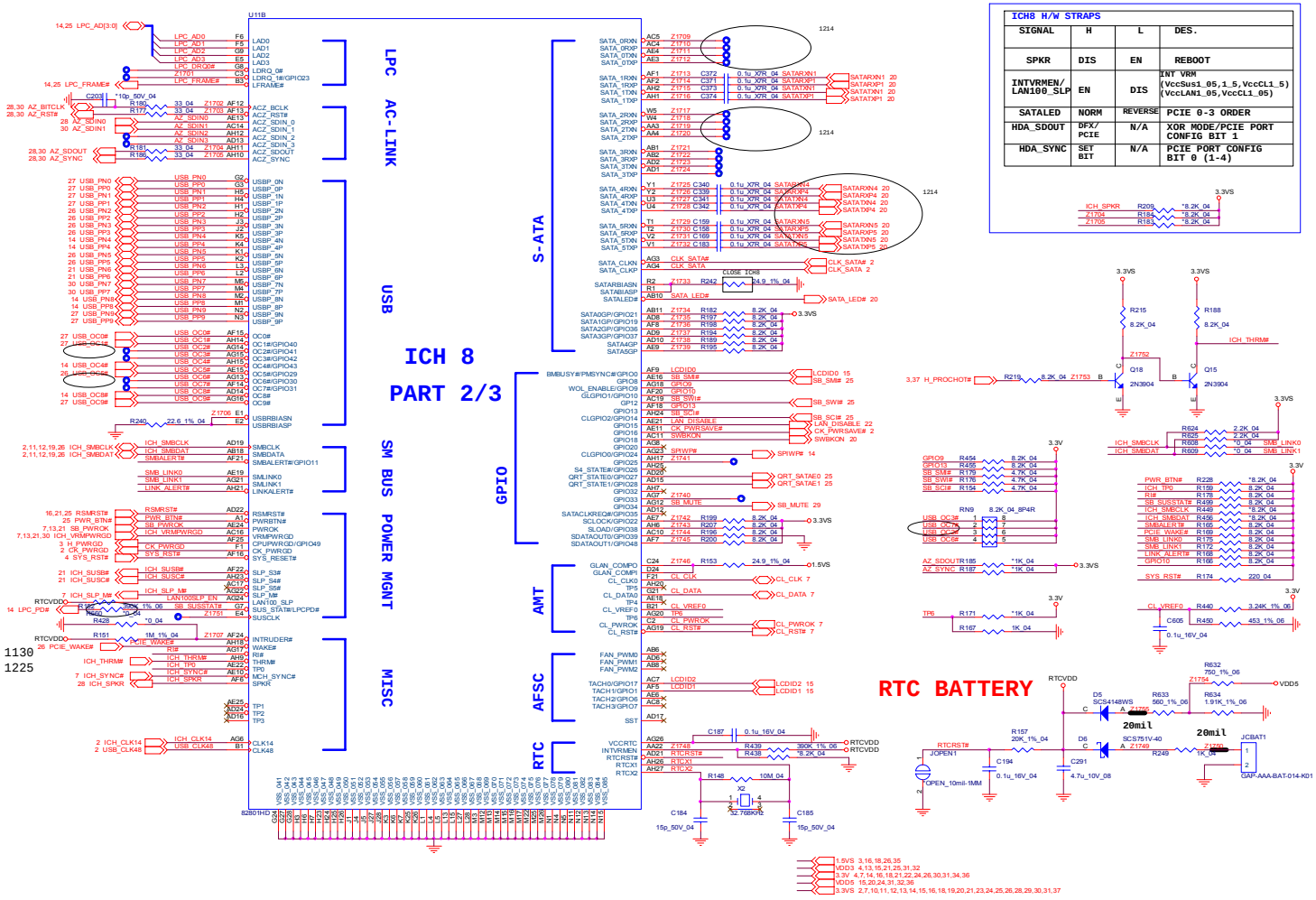
ICH8 1/3 (PCI, DMI, CPU, IRQ)

Sheet 16 of 43
ICH8 1/3
(PCI, DMI, CPU, IRQ)



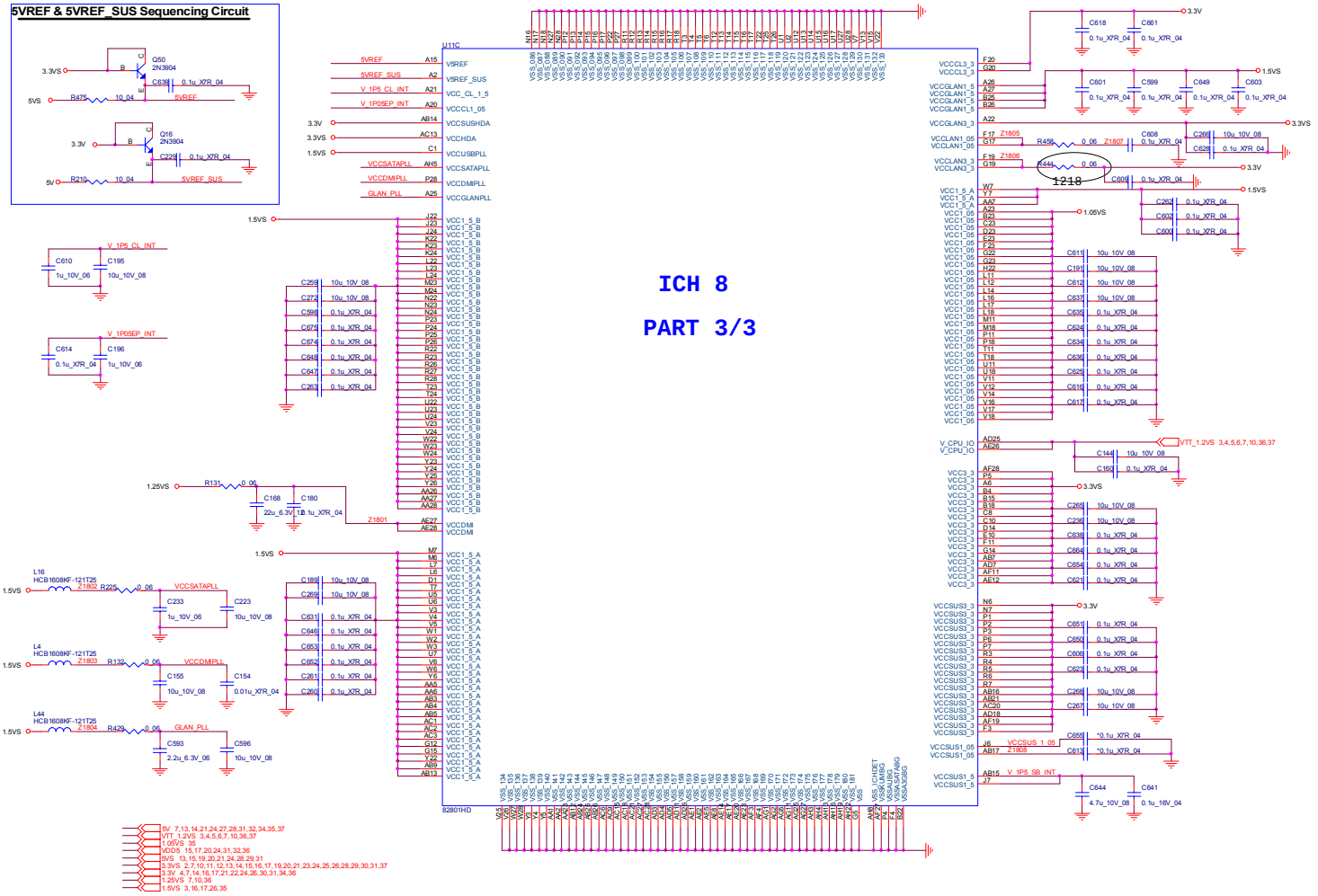
ICH8 2/3 (LPC, ATA, USB, GPIO)

Sheet 17 of 43
ICH8 2/3
(LPC, ATA, USB, GPIO)



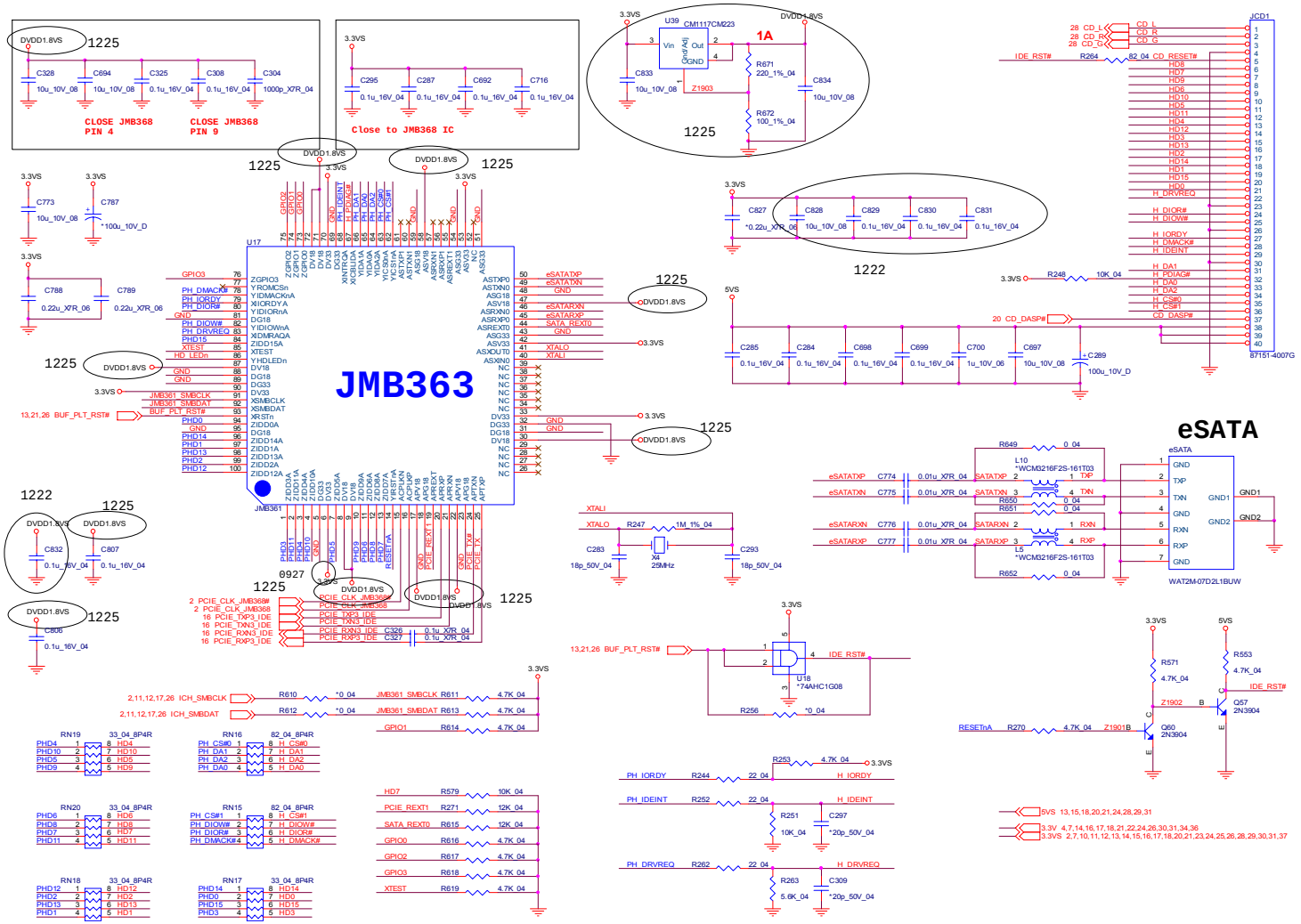
ICH8 3/3 (Power)

Sheet 18 of 43
ICH8 3/3
(Power)



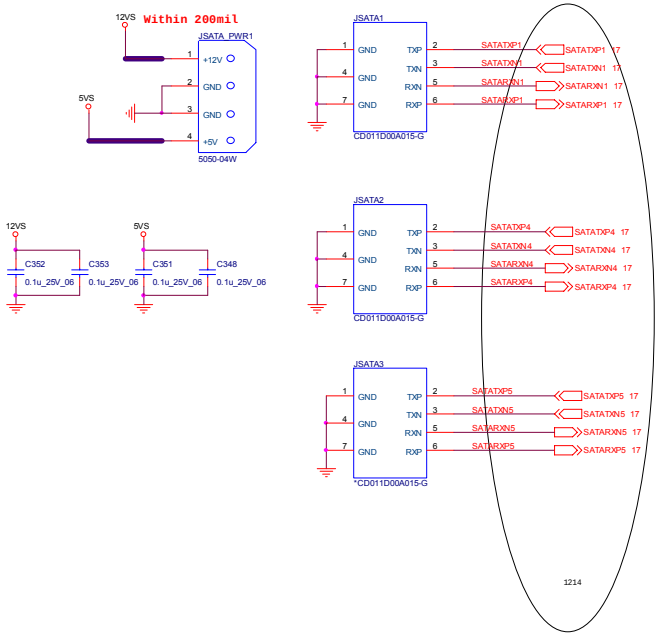
JM361 PCI-E TO PATA, eSATA

Sheet 19 of 43
JM361 PCI-E TO PATA, eSATA

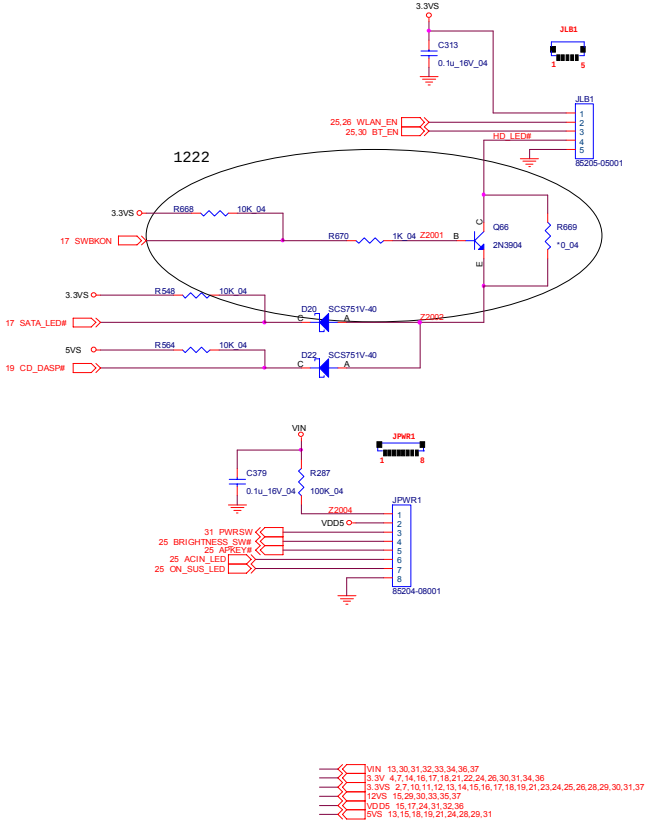


CD-ROM, SATA, PC-Beep, LED

SATA HDD

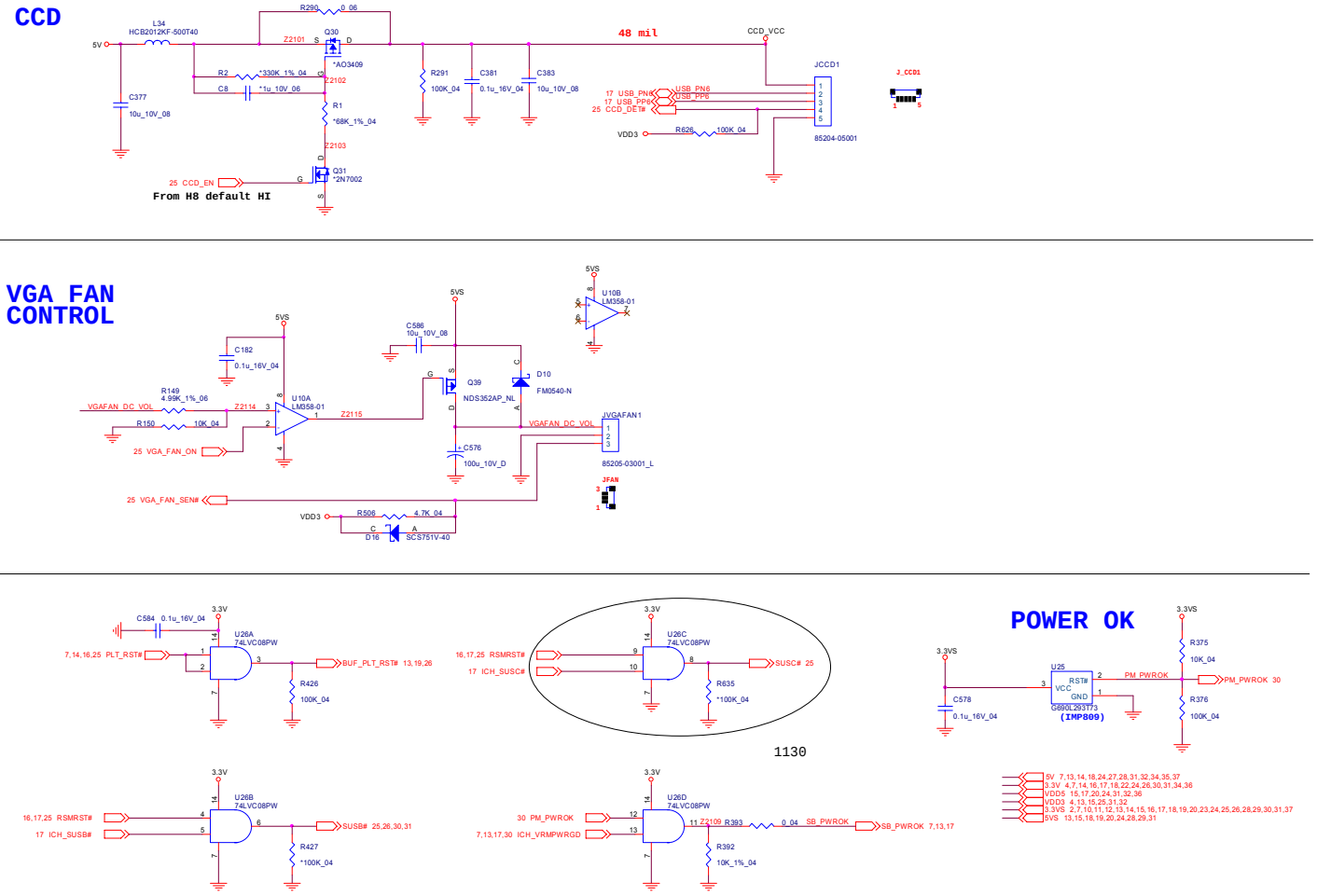


LED



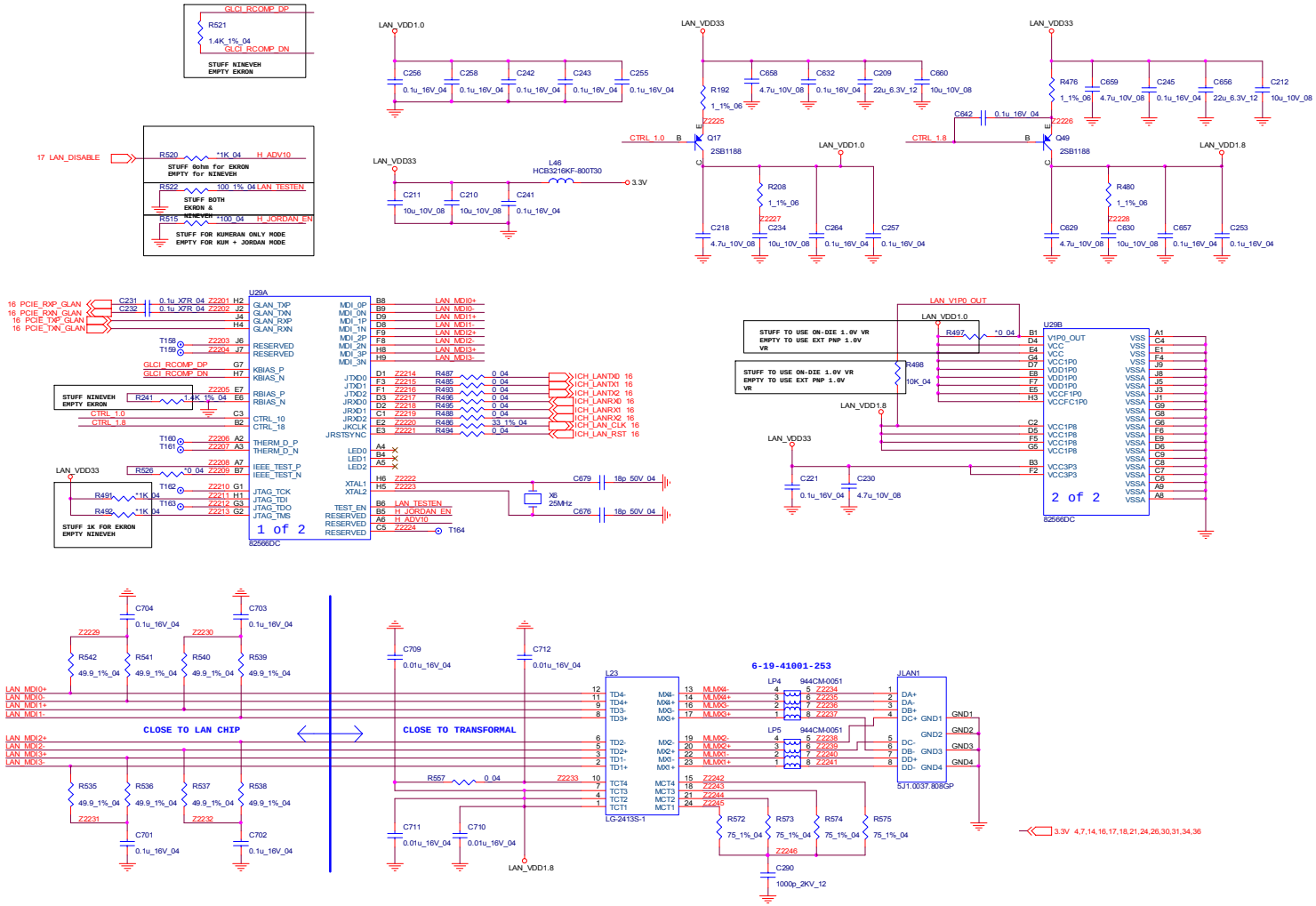
VGA Fan, CCD, Power OK

Sheet 21 of 43
VGA Fan, CCD, Power OK



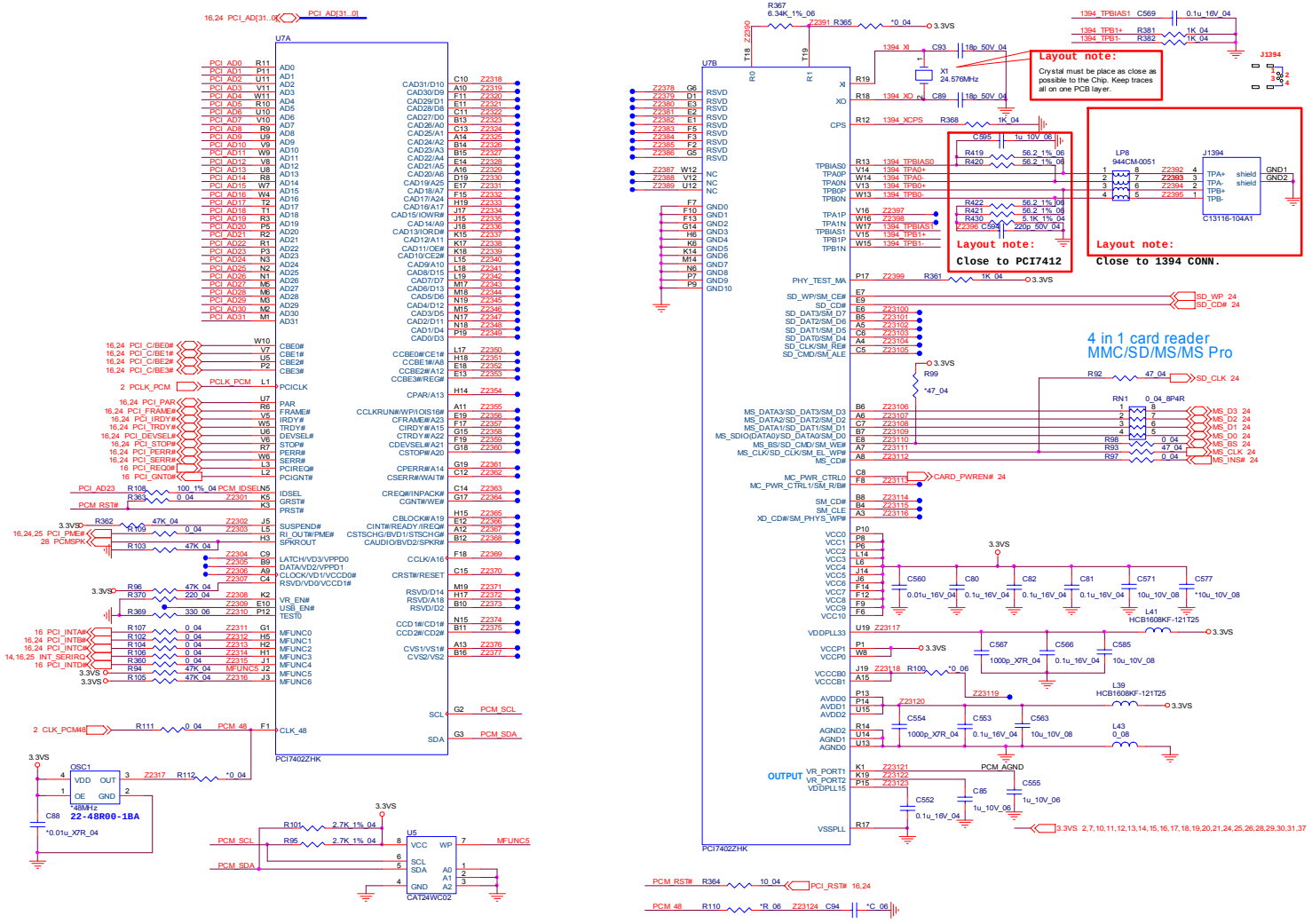
LAN 82566

Sheet 22 of 43
LAN 82566

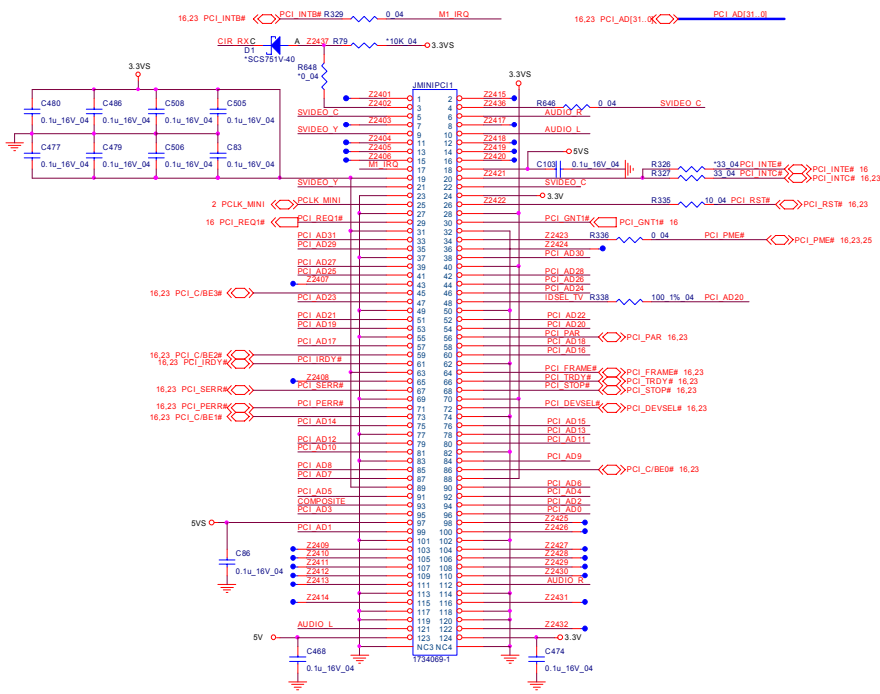


PCI7402

Sheet 23 of 43
PCI7402

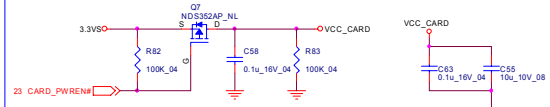


TV Tuner, CardReader, CIR

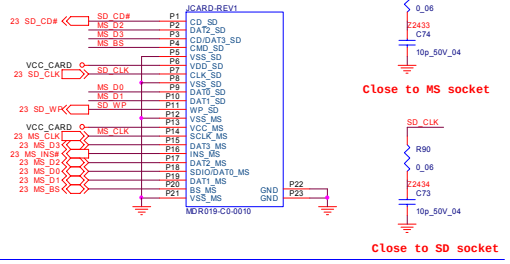


FOR TV-TUNER

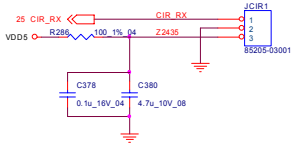
Card Reader Power



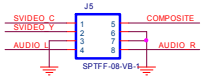
4 IN 1 SOCKET SD/MMC/MS/MS Pro

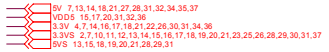


CIR



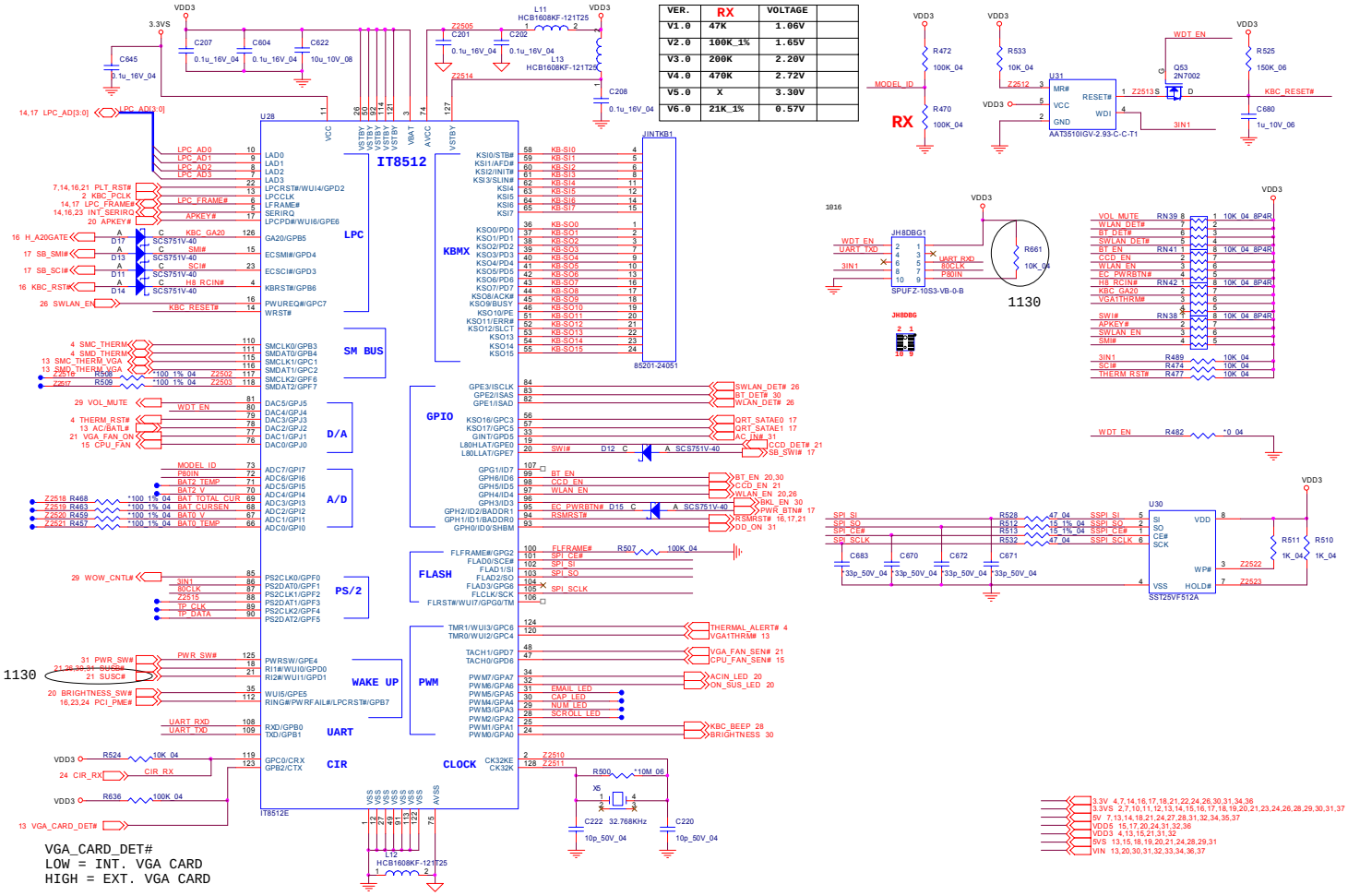
VIDEO CONNECTOR





ITE IT8512

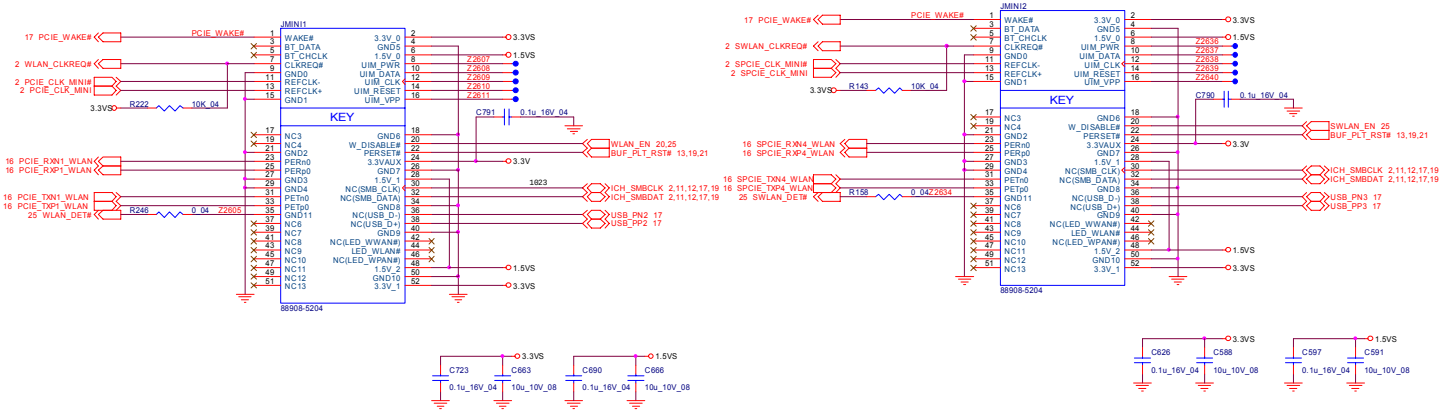
Sheet 25 of 43
ITE IT8512



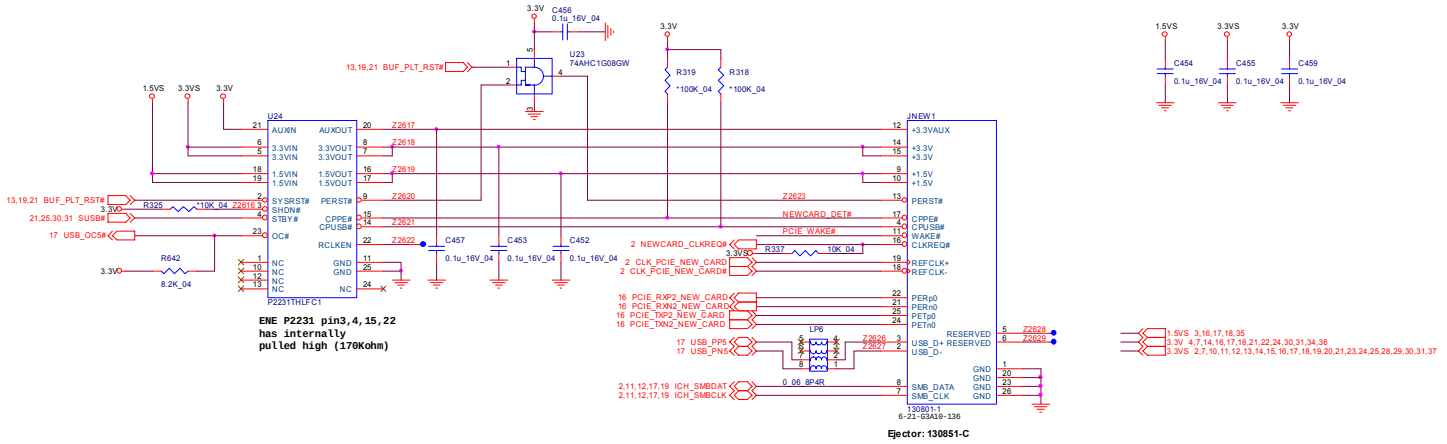
Mini Card, New Card

Sheet 26 of 43
Mini Card,
New Card

MINI CARD



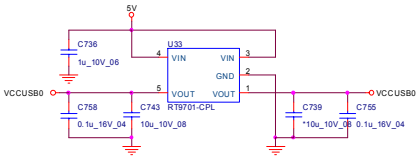
NEW CARD

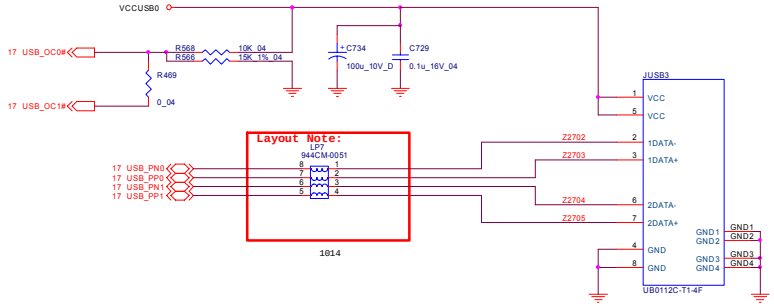


USB 2.0

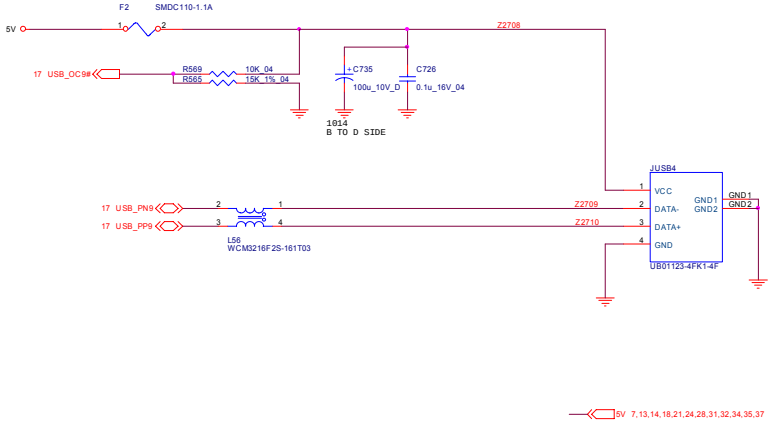
Sheet 27 of 43
USB 2.0

USB 2.0 0,1



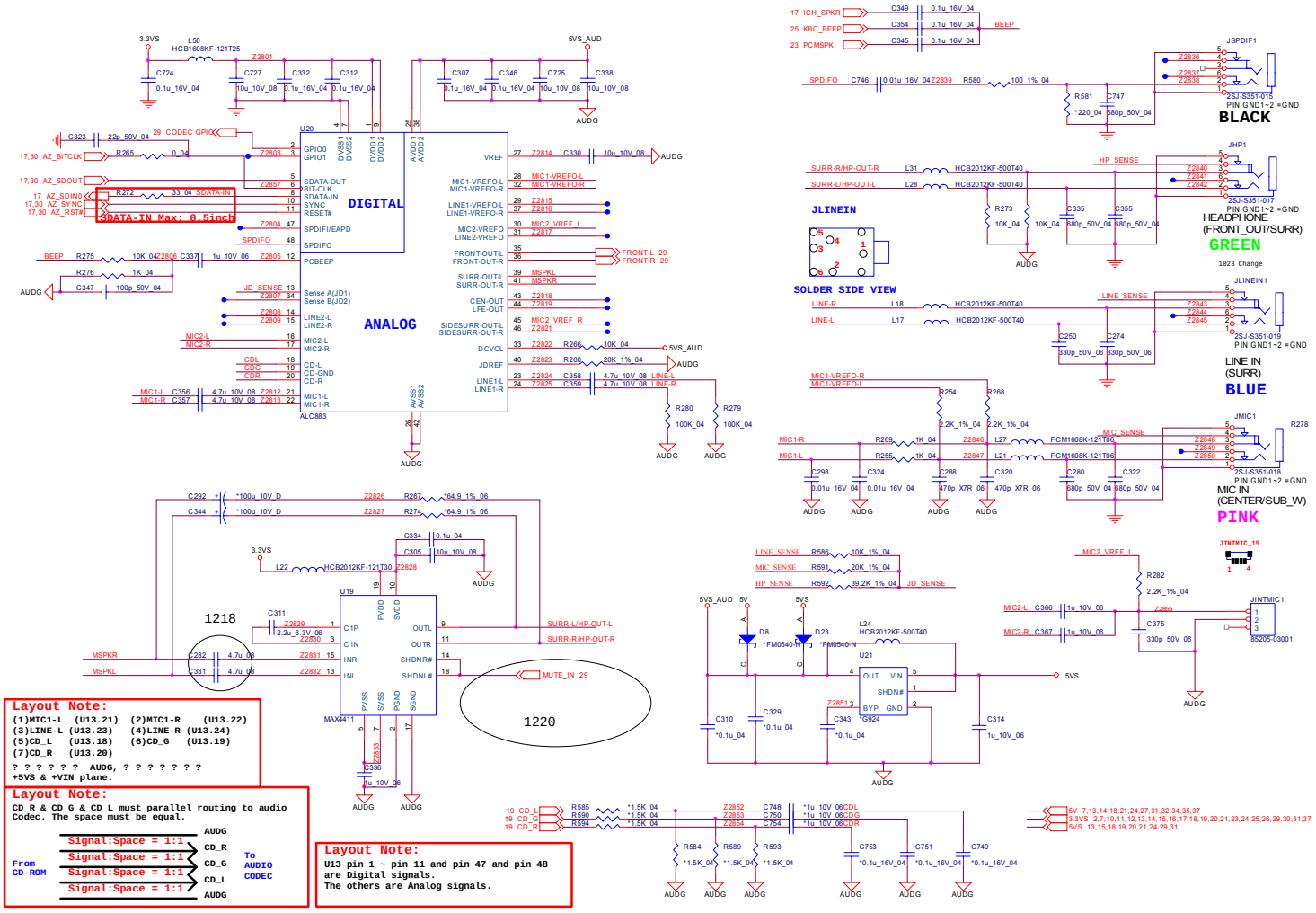


USB 2.0 9



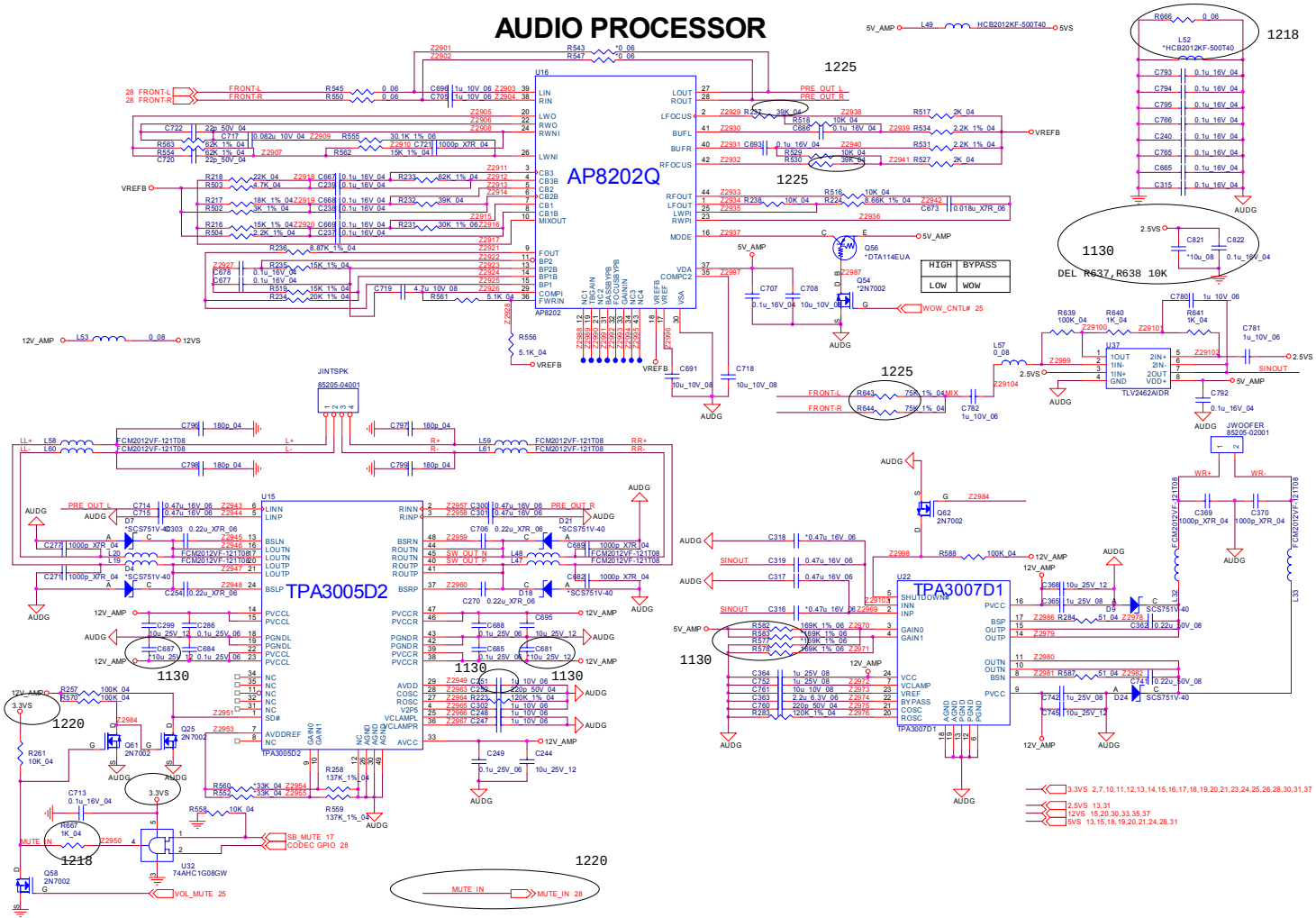
AZALIA Codec ALC883/ALC888

Sheet 28 of 43
AZALIA Codec
ALC883/ALC888



Audio AMP, SRS, Woofer

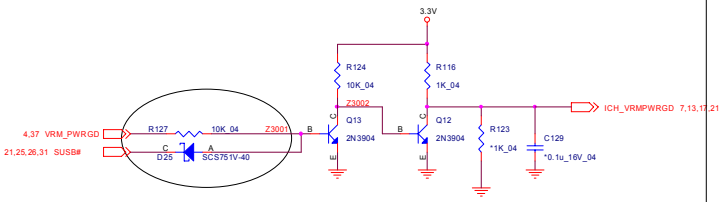
Sheet 29 of 43
Audio AMP, SRS, Woofer



MDC, BT, PWRGD, Inverter Connector

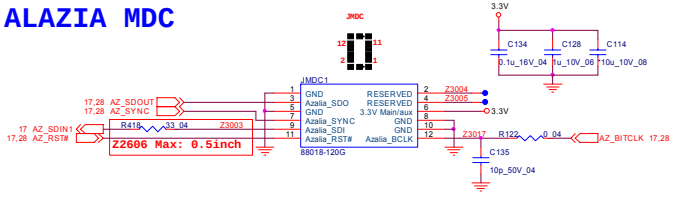
Sheet 30 of 43
MDC, BT, PWRGD,
Inverter Connector

VCORE PWRGD



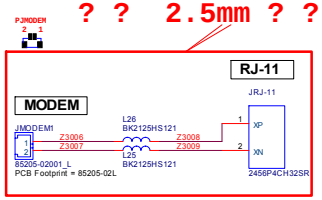
1212

ALAZIA MDC

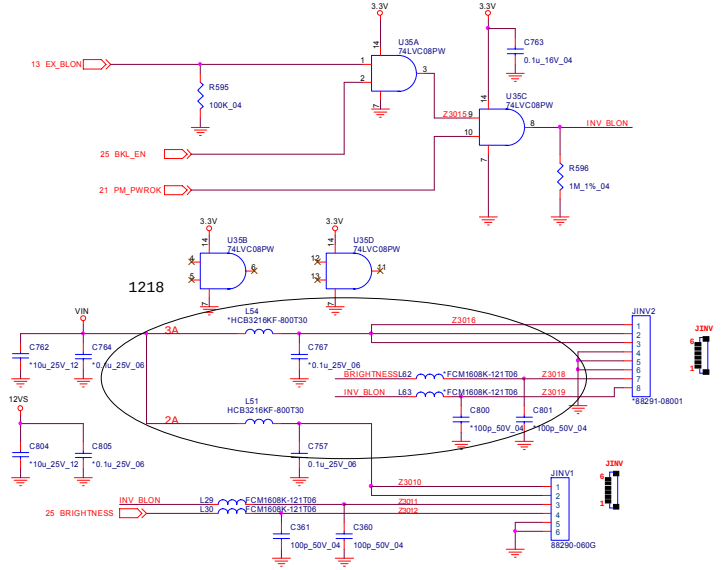


? ? ? ? ? ? ? ? ?

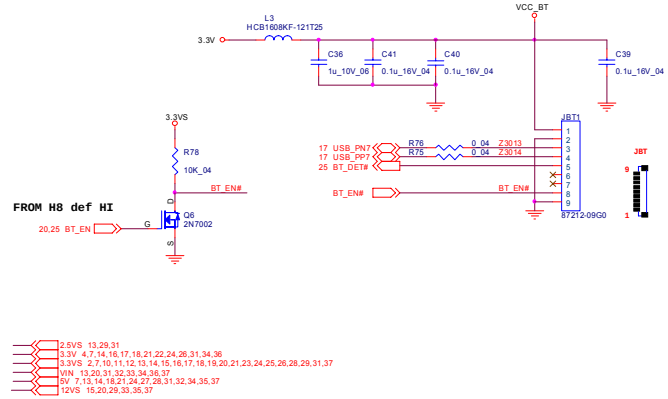
? ? 2.5mm ? ?



INVERTER CONNECTOR



USB BLUETOOTH



System Power

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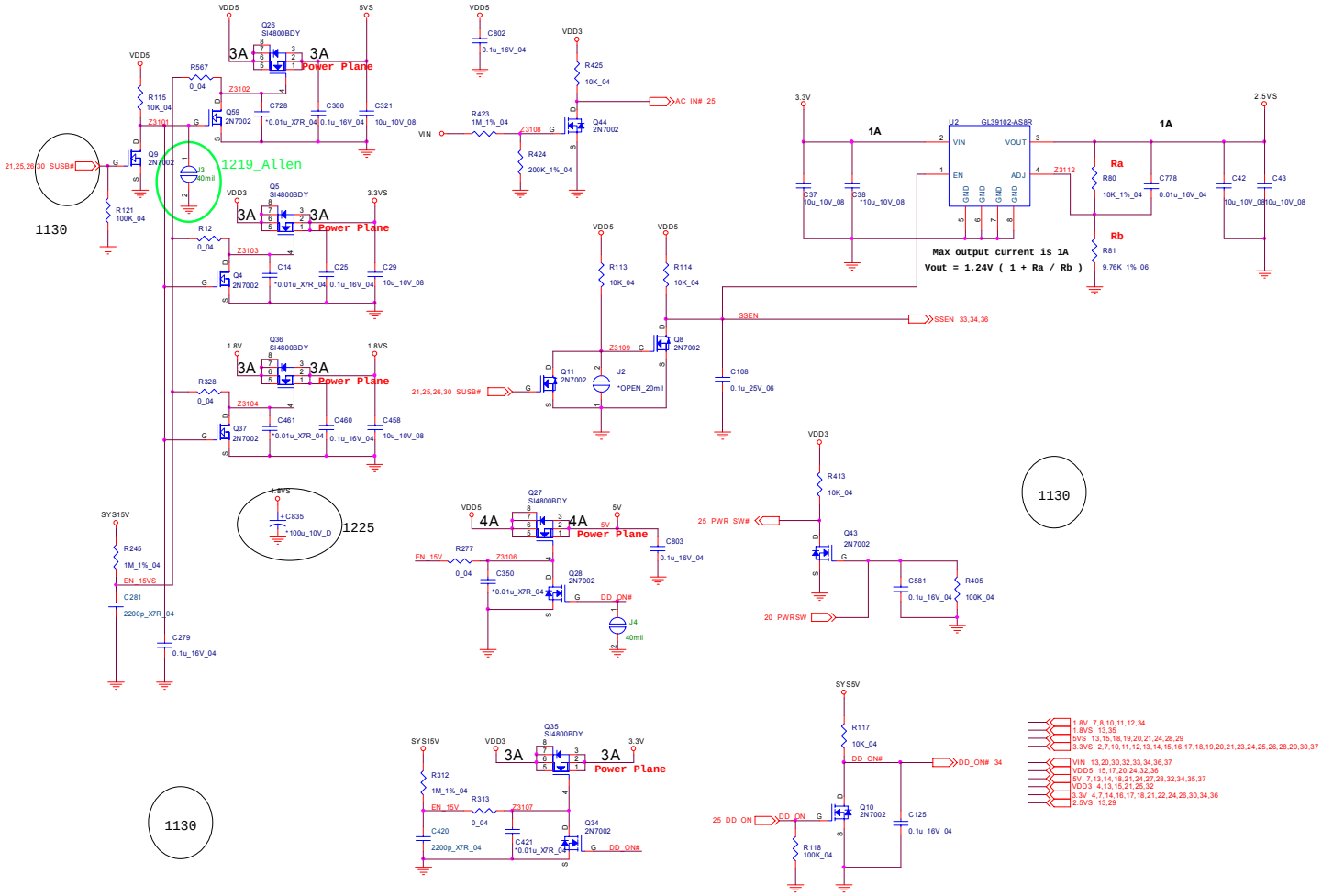
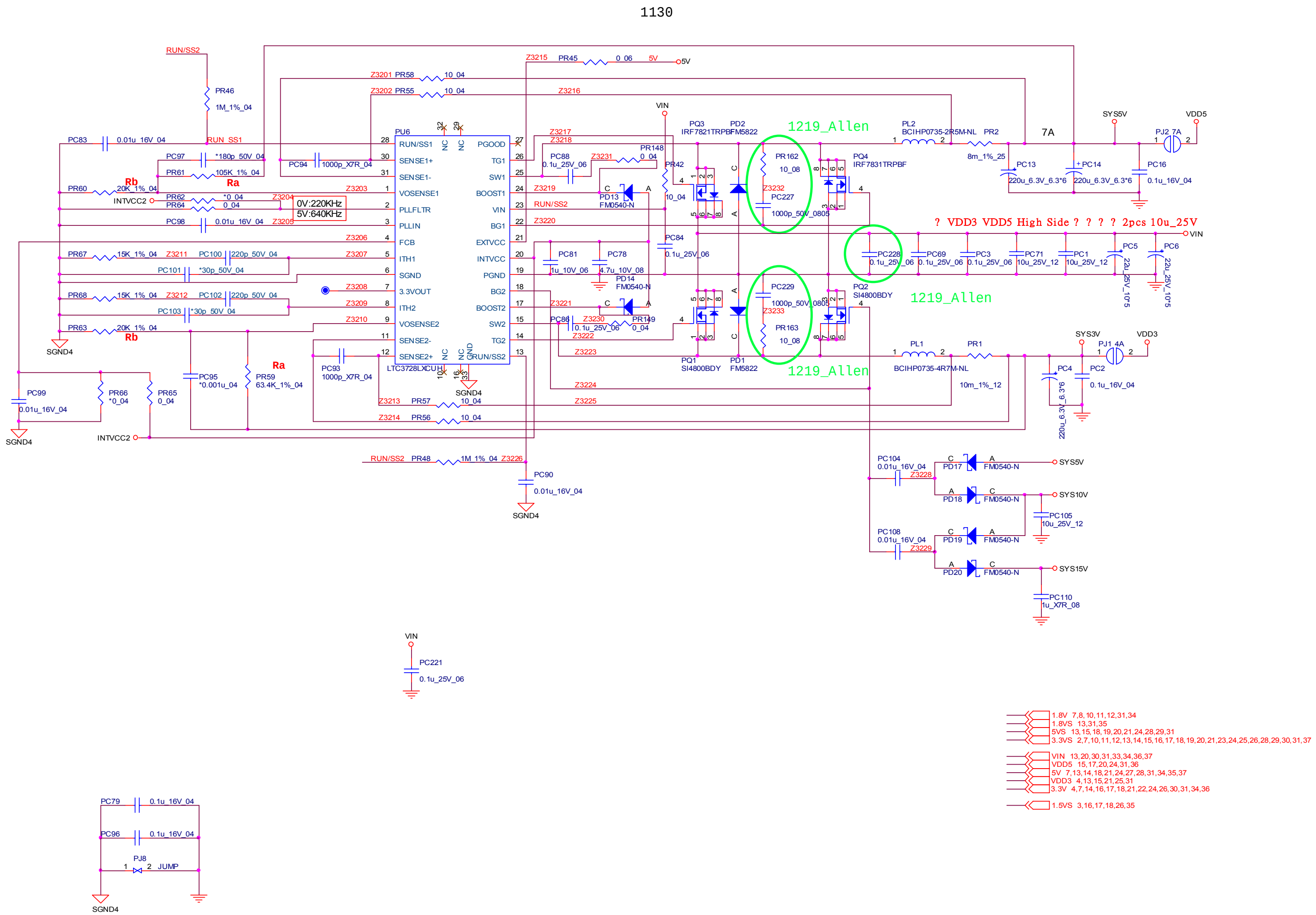
System Power

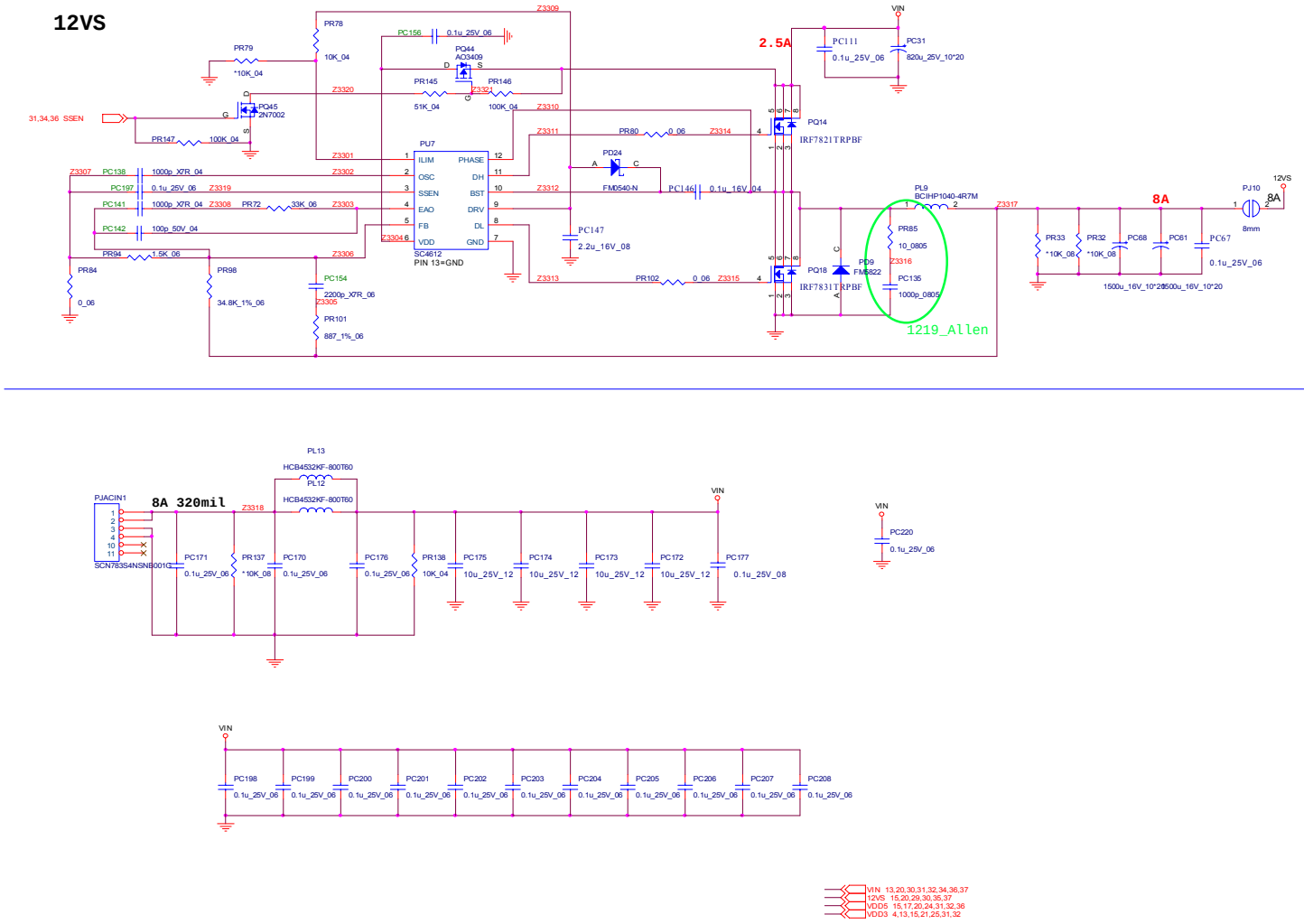


3.3V/5V


1130
LTC3728LXCUH
PU6
1219_Allen
VDD3 VDD5 High Side ? ? ? ? 2pcs 10u_25V
0V:220KHz
5V:640KHz
7A
VIN
SYS5V
VDD5
SYS3V
VDD3
SYS10V
SYS15V
SGND4
INTVCC2
1.8V 7,8,10,11,12,31,34
1.8VS 13,31,35
5VS 13,15,18,19,20,21,24,28,29,31
3.3VS 2,7,10,11,12,13,14,15,16,17,18,19,20,21,23,24,25,26,28,29,30,31,37
VIN 13,20,30,31,33,34,36,37
VDD5 15,17,20,24,31,36
5V 7,13,14,18,21,24,27,28,31,34,35,37
VDD3 4,13,15,21,25,31
3.3V 4,7,14,16,17,18,21,22,24,26,30,31,34,36
1.5VS 3,16,17,18,26,35

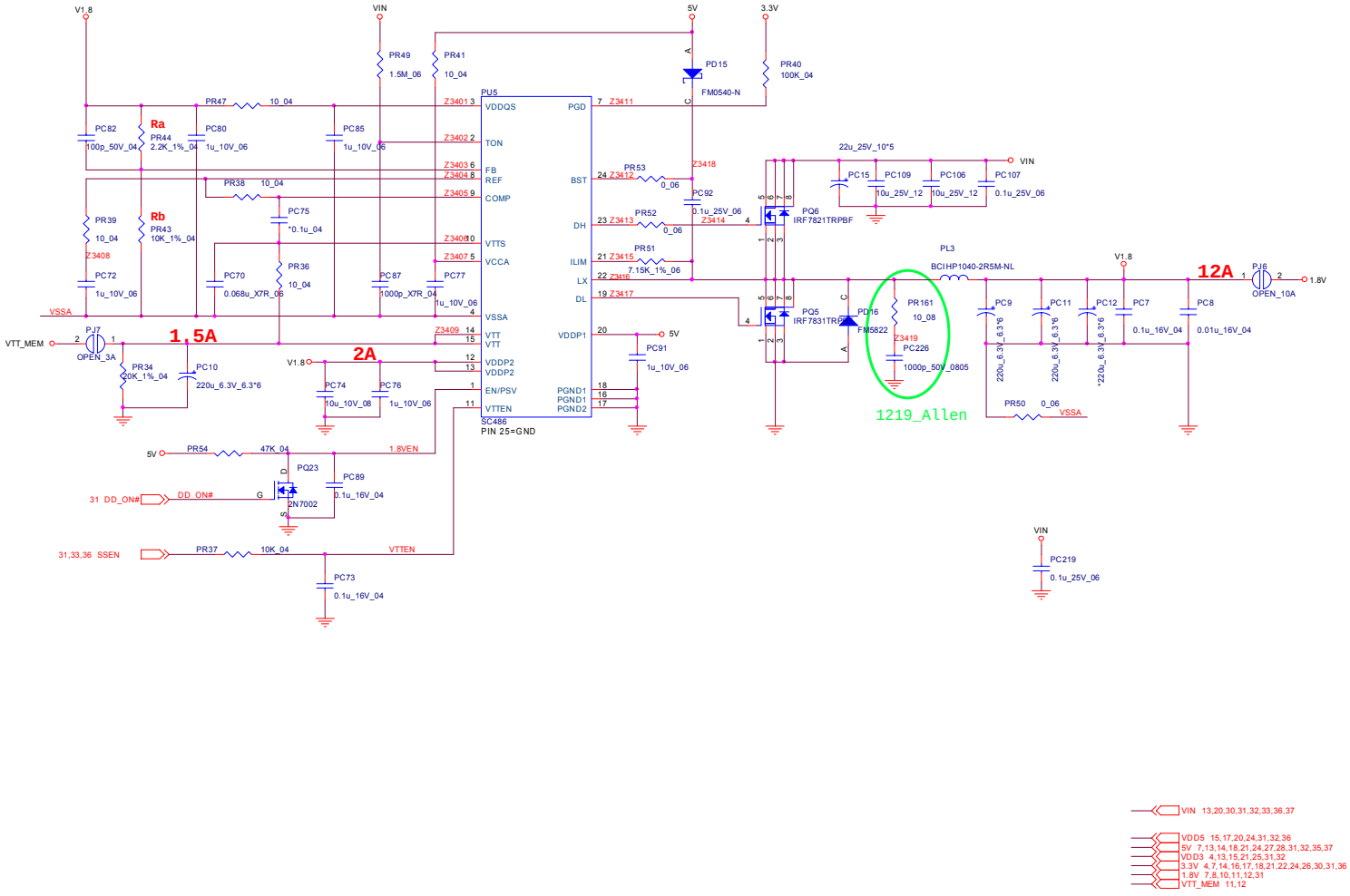
12VS, AC-In

Sheet 33 of 43
12VS, AC-In



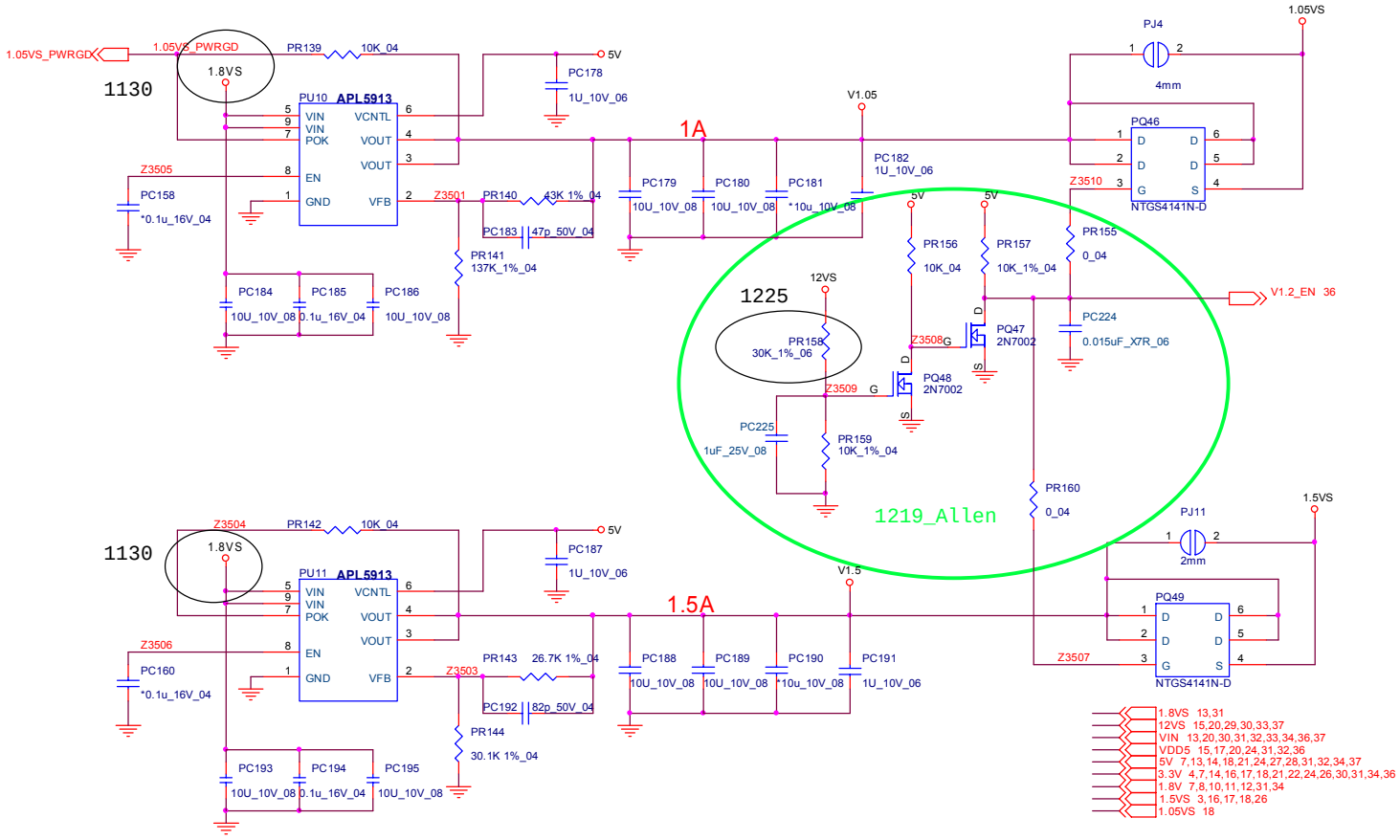
1.8V/0.9V

Sheet 34 of 43
1.8V/0.9V

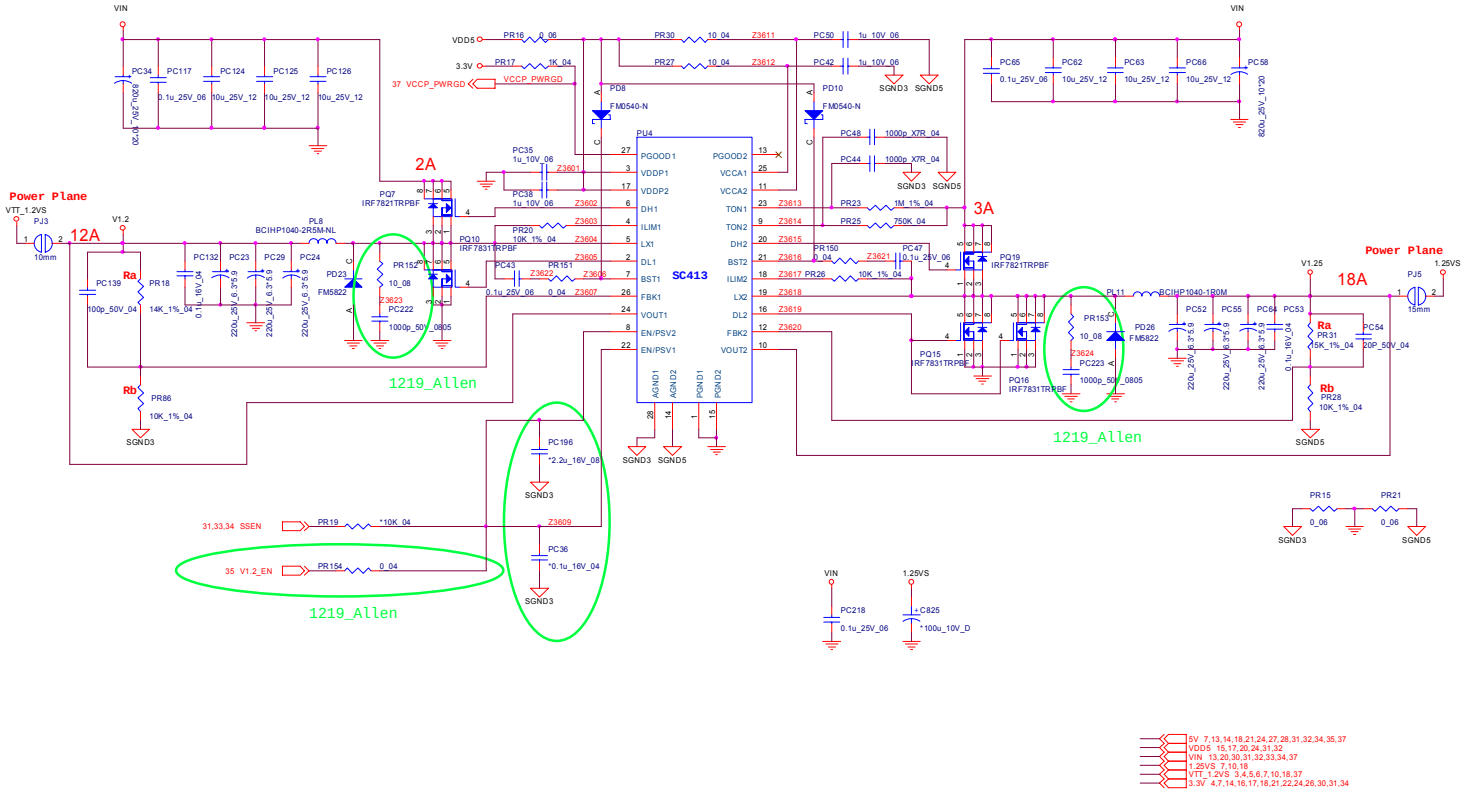


1.5VS,1.05VS

Sheet 35 of 43
1.5VS/1.05VS

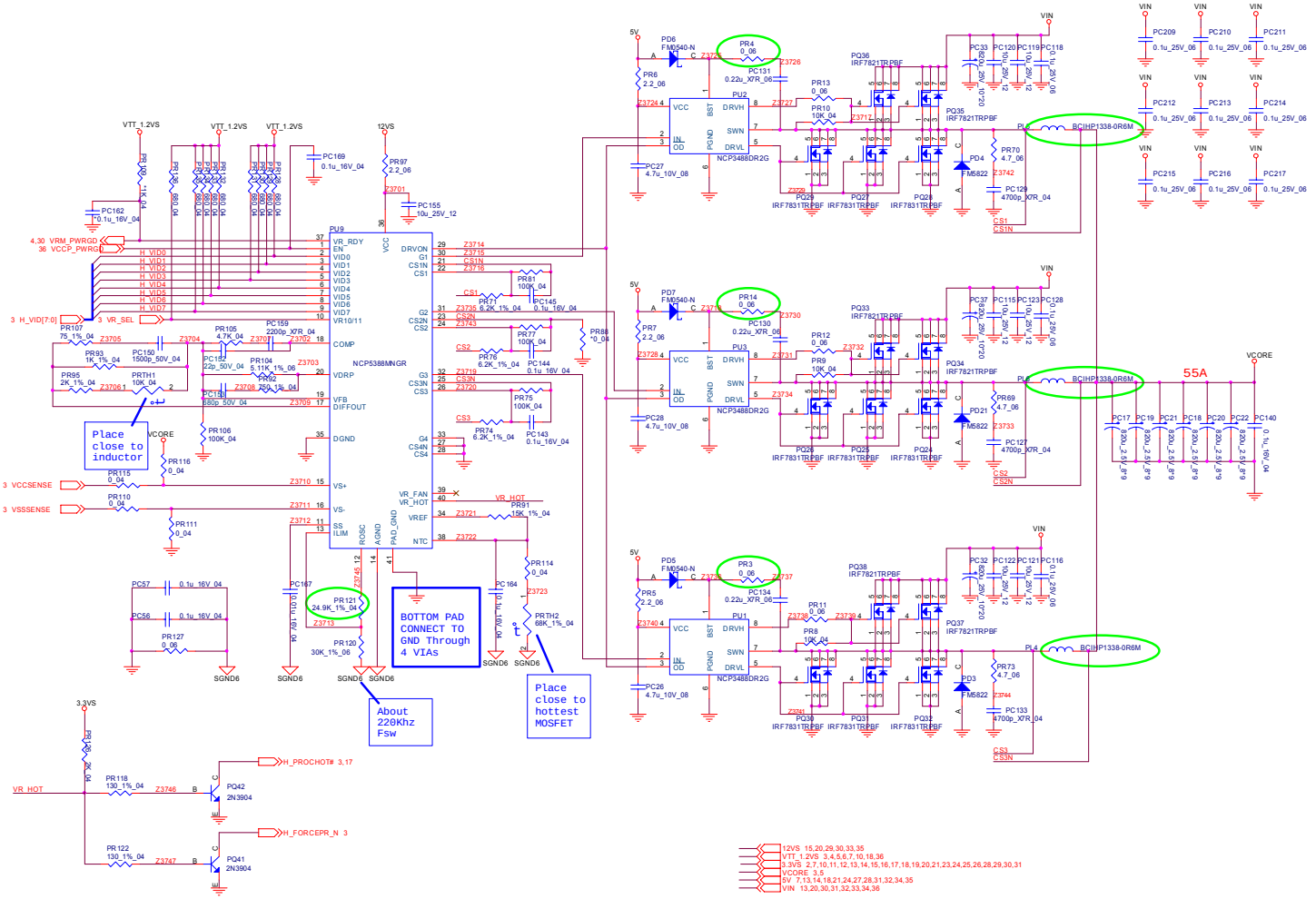


1.2VS/1.25VS


Power Plane
12A
2A
3A
18A
SC413
1219_Allen
1219_Allen
1219_Allen
VIN
VDD5
3.3V
VCCP_PWRGD
SGND3
SGND5
1.25VS
V1.2
V1.25
PU4
PD8
PD10
PQ7
PQ10
PQ15
PQ16
PQ19
PD23
PD26
PL8
PL11
PJ3
PJ5
PR86
PR28
PR31
PR153
PR154
PR19
PC196
PC36
PC218
PC825
31,33,34 SSEN
35 V1.2_EN
5V 7,13,14,18,21,24,27,28,31,32,34,35,37
VDD5 15,17,20,24,31,32
VIN 13,20,30,31,32,33,34,37
1.25VS 7,10,18
VTT_1.2VS 3,4,5,6,7,10,18,37
3.3V 4,7,14,16,17,18,21,22,24,26,30,31,34

VCORE

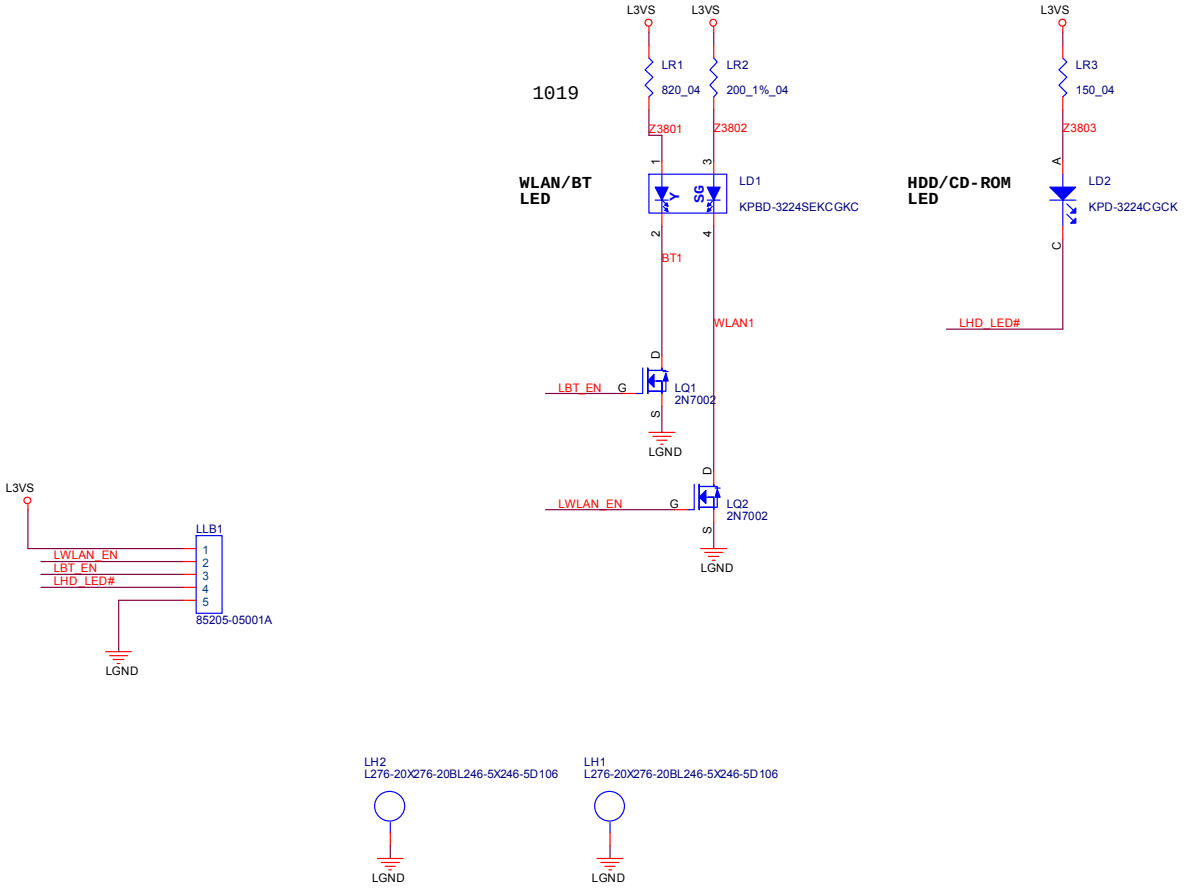
Sheet 37 of 43
VCORE



LED Board

LED BOARD

Sheet 38 of 43
LED Board

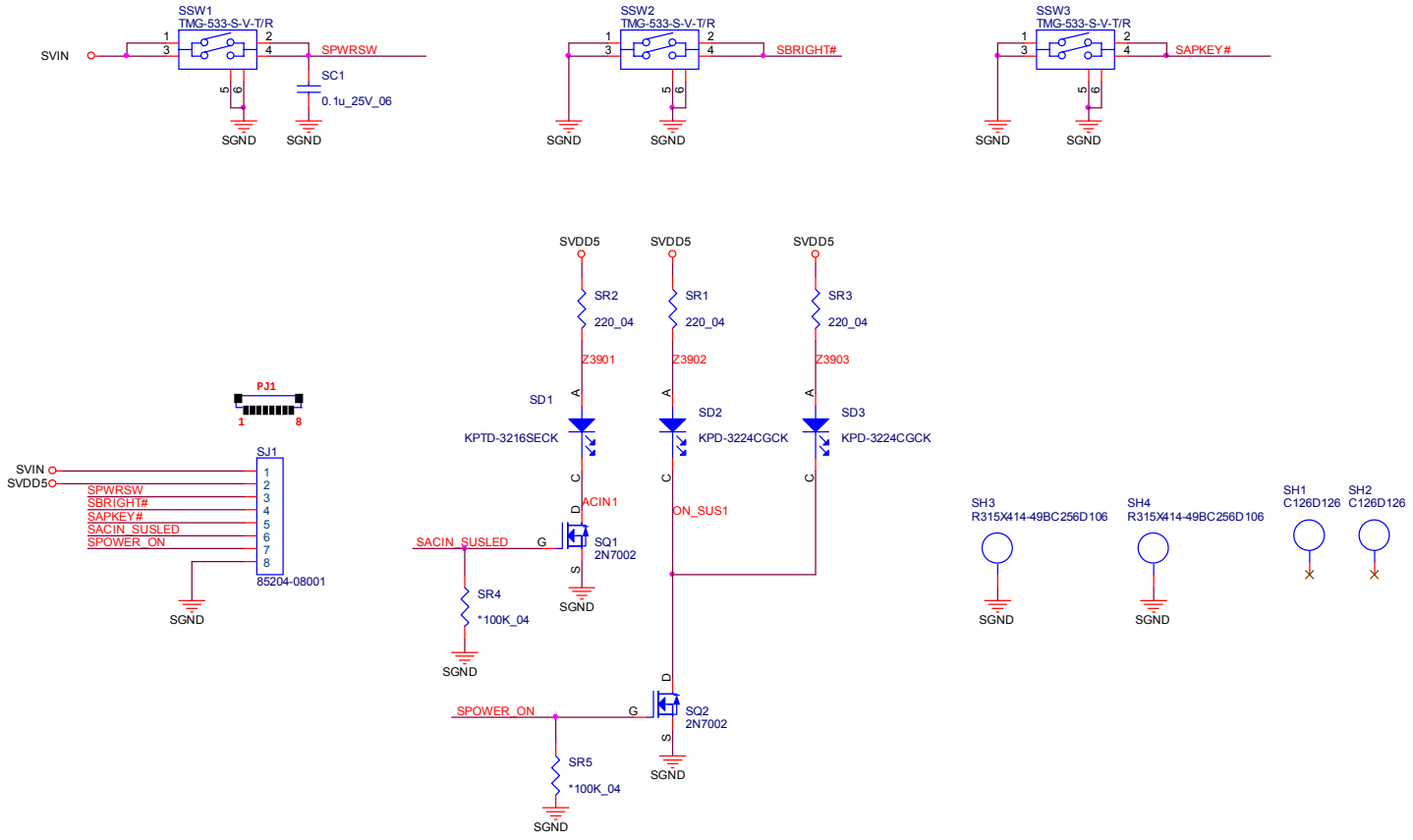


B.Schematic Diagrams

Power Board

Sheet 39 of 43
Power Board

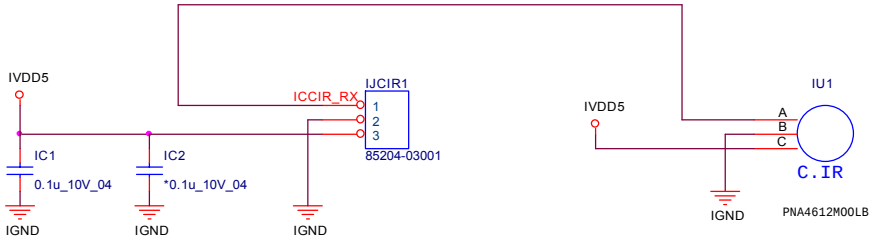
POWER BOARD

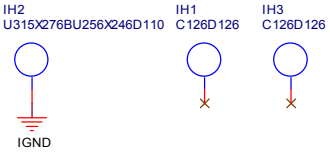


CIR Board

Sheet 40 of 43
CIR Board

CIR BOARD

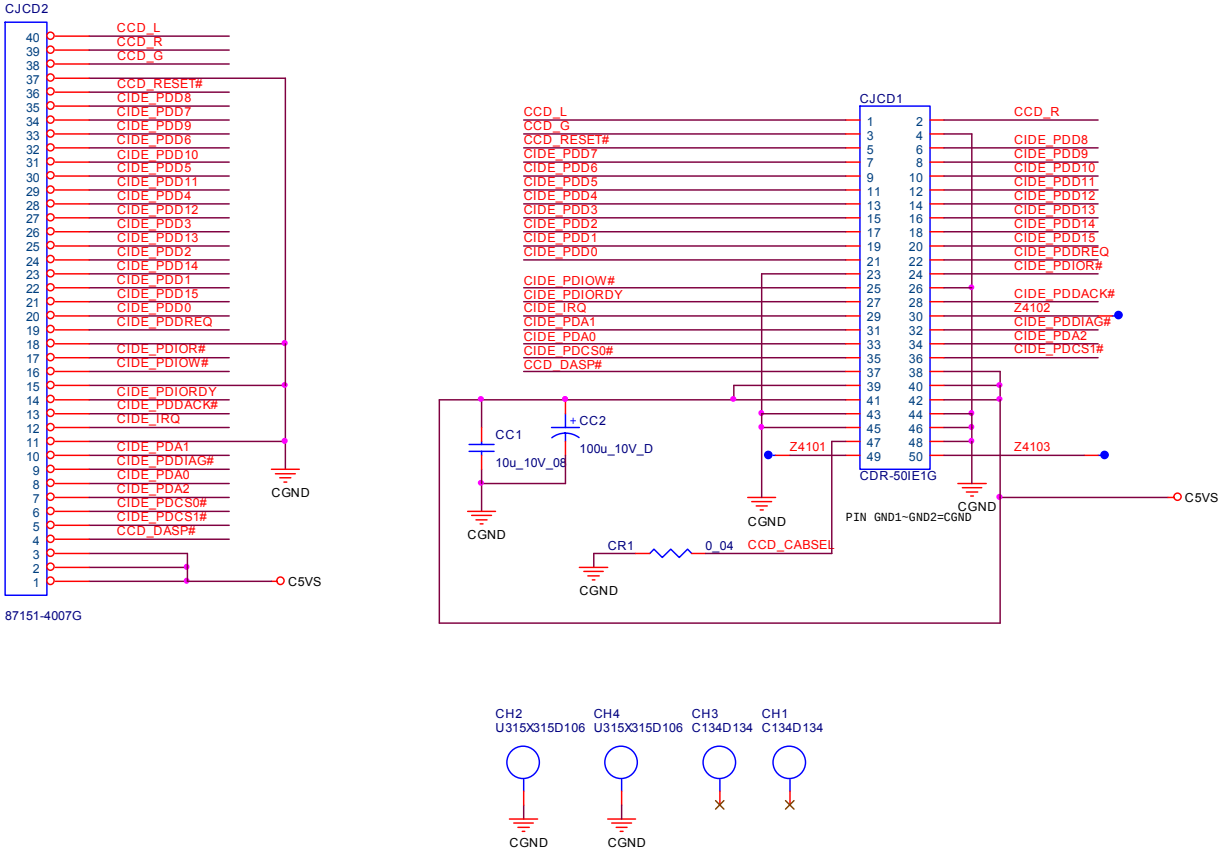




CD-ROM Board

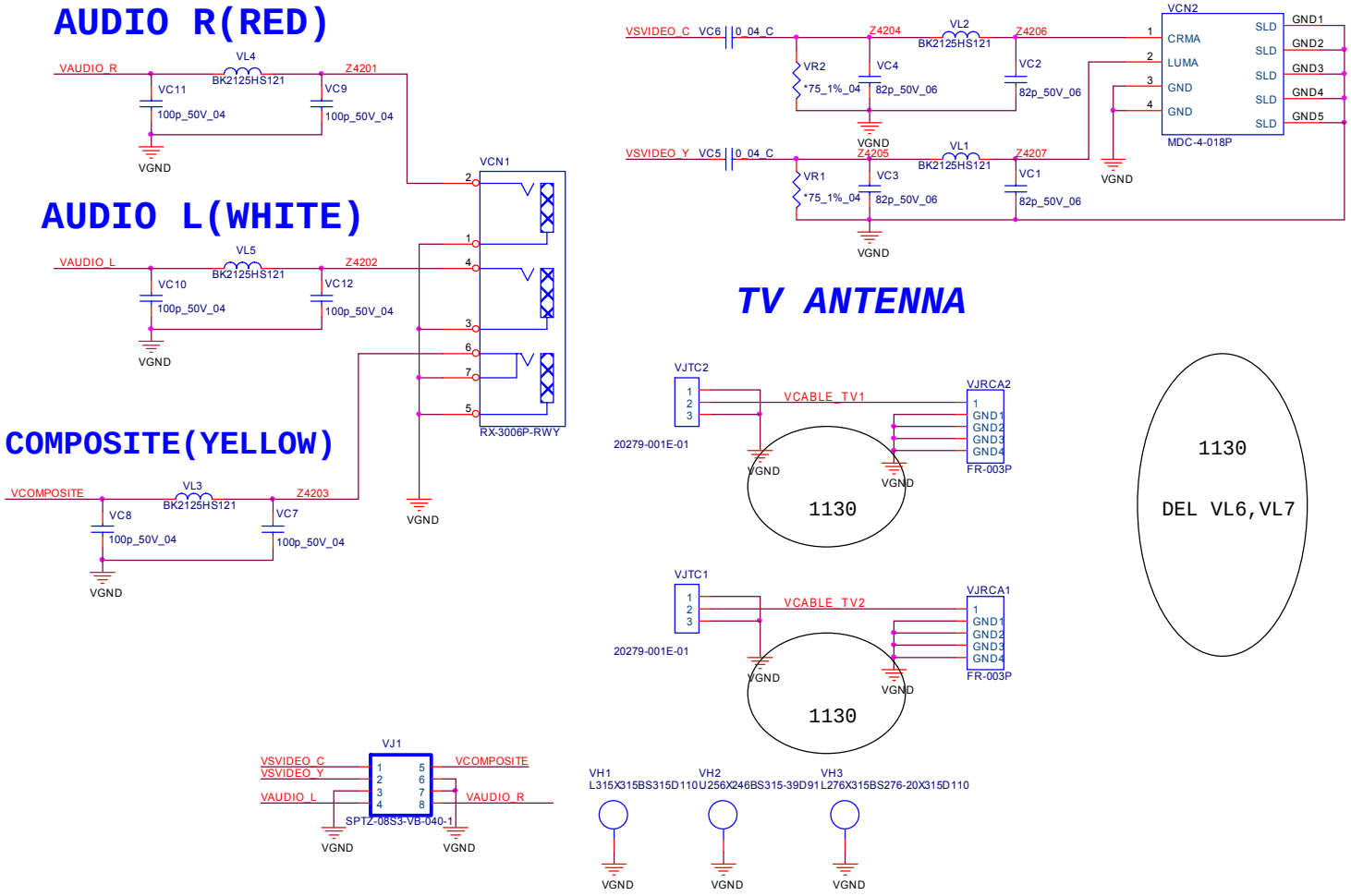
Sheet 41 of 43
CD-ROM Board

CDROM BOARD



Video Connector Board

Sheet 42 of 43
Video Connector Board



CRT Connector Board

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CRT Connector Board