

SERVICE MANUAL

NH50AF1 / NH55AFW / NH57AF1 / NH58AF1

notebook



Notebook Computer

NH50AF1 / NH55AFW / NH57AF1 / NH58AF1

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 *NH50AF1* / *NH55AFW* / *NH57AF1* / *NH58AF1* series notebook PC.

The following information is included:

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

Appendix A, Part Lists

Appendix B, Schematic Diagrams

Preface

IMPORTANT SAFETY INSTRUCTIONS

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

1. Do not use this product near water, for example near a bath tub, wash bowl, kitchen sink or laundry tub, in a wet basement or near a swimming pool.
2. Avoid using a telephone (other than a cordless type) during an electrical storm. There may be a remote risk of electrical shock from lightning.
3. Do not use the telephone to report a gas leak in the vicinity of the leak.
4. Use only the power cord and batteries indicated in this manual. Do not dispose of batteries in a fire. They may explode. Check with local codes for possible special disposal instructions.
5. This product is intended to be supplied by a Listed Power Unit as follows:
 - AC Input of 100 - 240V, 50 - 60Hz, DC Output of 19.5V, 11.8A (**230** Watts) minimum AC/DC Adapter.

FCC Statement

This device complies with Part 15 of the FCC Rules. Operation is subject to the following two conditions:

This device may not cause harmful interference.

This device must accept any interference received, including interference that may cause undesired operation.

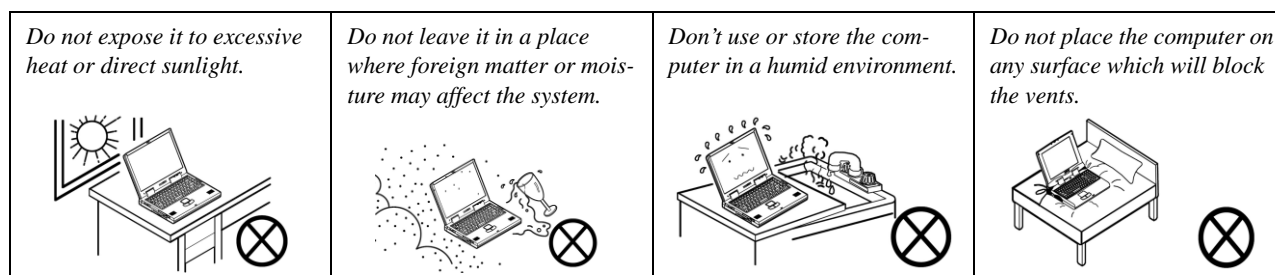
Instructions for Care and Operation

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

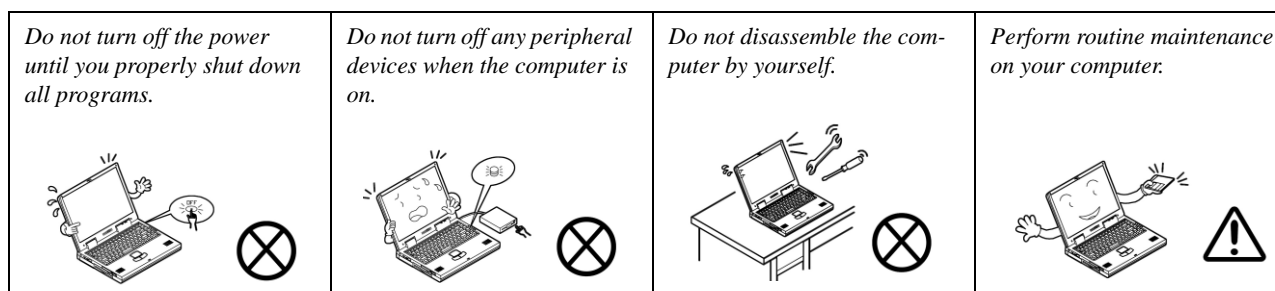
1. **Don't drop it, or expose it to shock.** If the computer falls, the case and the components could be damaged.



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

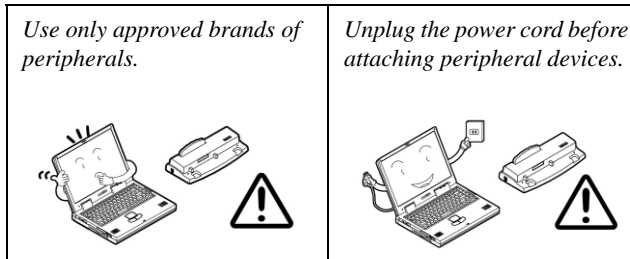


3. **Follow the proper working procedures for the computer.** Shut the computer down properly and don't forget to save your work. Remember to periodically save your data as data may be lost if the battery is depleted.



Preface

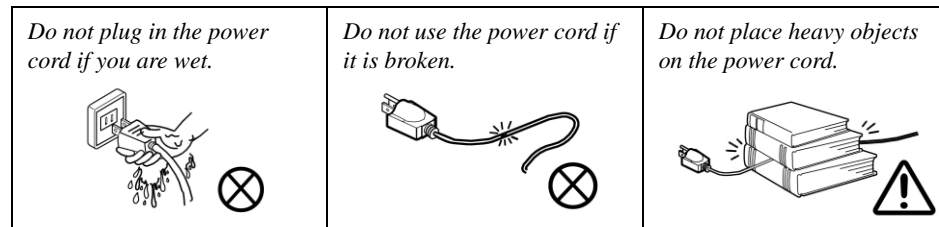
4. **Avoid interference.** Keep the computer away from high capacity transformers, electric motors, and other strong magnetic fields. These can hinder proper performance and damage your data.
5. **Take care when using peripheral devices.**



Power Safety

The computer has specific power requirements:

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



Power Safety Warning

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

Battery Precautions

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

Battery Guidelines

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

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




Battery Disposal

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

Caution

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

Battery Level

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

Related Documents

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

User's Manual on CD/DVD

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

System Startup

1. Remove all packing materials.
2. Place the computer on a stable surface.
3. Insert the battery and make sure it is locked in position.
4. Securely attach any peripherals you want to use with the computer (e.g. keyboard and mouse) to their ports.
5. **When first setting up the computer use the following procedure** (as to safeguard the computer during shipping, the battery will be locked to not power the system until first connected to the AC/DC adapter and initially set up as below):
 - Attach the AC/DC adapter cord to the DC-In jack on the rear of the computer, then plug the AC power cord into an outlet, and connect the AC power cord to the AC/DC adapter; the battery will now be unlocked.
6. Use one hand to raise the lid/LCD to a comfortable viewing angle (do not exceed 130 degrees); use the other hand (as illustrated in Figure 1) to support the base of the computer (**Note: Never** lift the computer by the lid/LCD).
7. Press the power button to turn the computer "on".

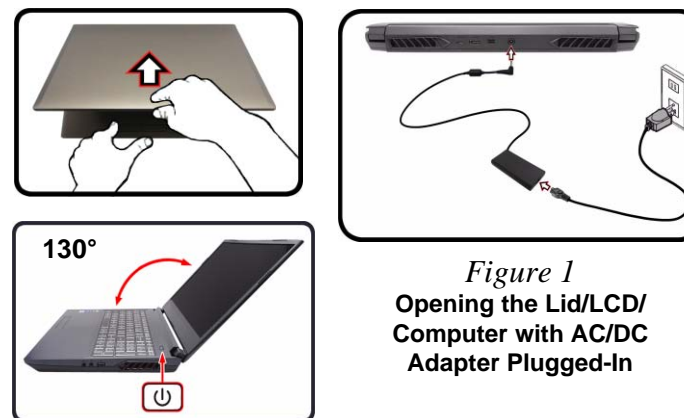



Figure 1
Opening the Lid/LCD/
Computer with AC/DC
Adapter Plugged-In


Shut Down

Note that you should always shut your computer down by choosing the **Shut down** command in **Windows** (see below). This will help prevent hard disk or system problems.

Click the icon  in the **Start Screen** and choose **Shut down** from the menu.



Or

Right-click the **Start button**  at the bottom of the **Start Screen** or the **Desktop** and choose **Shut down or sign out** > **Shut down** from the context menu.

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Chapter 1: Introduction

Overview

This manual covers the information you need to service or upgrade the **NH50AF1 / NH55AFW / NH57AF1 / NH58AF1** series notebook computer. Information about operating the computer (e.g. getting started, and the *Setup* utility) is in the *User's Manual*. Information about drivers (e.g. VGA & audio) is also found in the *User's Manual*. The manual is shipped with the computer.

Operating systems (e.g. *Windows 10*, etc.) have their own manuals as do application softwares (e.g. word processing and database programs). If you have questions about those programs, you should consult those manuals.

The **NH50AF1 / NH55AFW / NH57AF1 / NH58AF1** series notebook is designed to be upgradeable. See [Disassembly on page 2 - 1](#) for a detailed description of the upgrade procedures for each specific component. Please take note of the warning and safety information indicated by the “” symbol.

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

Introduction

Specifications



Latest Specification Information

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



CPU

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

AMD & Intel CPU Differences

Note that there are differences between the AMD and Intel CPUs in the RTC CMOS data storage location:

- Intel RTC CMOS data is stored in the PCH.
- AMD RTC CMOS data is stored in the CPU.

Note therefore that every time the CPU is replaced, the CMOS must be reset, and the first boot time after replacing the CPU will be longer (press power on, and the screen will light up after 1 minute).

Processor Options

AMD Ryzen™ 9 Desktop Processor

3900 (3.10GHz)

64MB Smart Cache, 7nm, DDR4-3200MHz, TDP 65W

AMD Ryzen™ 7 Desktop Processor

3700 (3.60GHz)

32MB Smart Cache, 7nm, DDR4-3200MHz, TDP 65W

AMD Ryzen™ 5 Desktop Processor

3600 (3.60GHz)

32MB Smart Cache, 7nm, DDR4-3200MHz, TDP 65W

Core Logic

AMD B450 Chipset

BIOS

128Mb SPI Flash ROM

INSYDE BIOS

LCD Options

15.6" (39.62cm), 16:9, FHD (1920x1080)

Memory

Dual Channel DDR4

Two 260 Pin SO-DIMM Sockets

Supporting **DDR4 2666MHz/3200MHz** Memory Modules

Memory Expandable from **8GB (minimum)** up to **64GB (maximum)**

Compatible with 8GB, 16GB or 32GB Modules

(The real memory operating frequency depends on the FSB of the processor.)

Storage

One changeable 2.5" (6cm) **7.0mm (h) SATA** (Serial) Hard Disk Drive/Solid State Drive (SSD)

(Factory Option) One M.2 **SATA/PCIe Gen3 x4** Solid State Drive (SSD)

(Factory Option) One M.2 **PCIe Gen2 x4**

Audio

High Definition Audio Compliant Interface

Sound Blaster™ Cinema 6

Built-In Array Microphone

Two Speakers

Video Adapter

NVIDIA® Discrete GPU

NVIDIA® GeForce RTX 2070

8GB GDDR6 Video RAM on board

Microsoft DirectX® 12 Compatible

Security

Security (Kensington® Type) Lock Slot

BIOS Password

(Factory Option) TPM 2.0

(Factory Option) Fingerprint Sensor

Keyboard

Full-size **Multi-Color** LED Keyboard (with Numeric Keypad)

Pointing Device

Built-In Touchpad (with Microsoft PTP Multi Gesture & Scrolling Functionality)

Or

(Factory Option) Built-in Secure Pad (with Microsoft PTP Multi Gesture & Scrolling Functionality)

Card Reader

MicroSD Card Reader

M.2 Slots

Slot 1 for **Combo WLAN and Bluetooth** Module

Slot 2 for **SATA or PCIe Gen3 x4 SSD**

Slot 3 for **PCIe Gen2 x4 SSD**

Interface

One USB 2.0 Port

Two USB 3.2 Gen 2 Type-A Ports

One DisplayPort 1.4 over USB 3.2 Gen 2 Type-C Port

One Mini DisplayPort 1.4

One HDMI-Out Port

One 2- In-1 Audio Jack (Headphone and Microphone)

One Microphone-In Jack

One RJ-45 LAN Jack

One DC-In Jack

**USB 3.1 Gen 2**

Note that when a single USB device is plugged in to a USB 3.1 Gen 2 port the data transfer speed will be 10Gbps, however when two devices are plugged in to both USB 3.1 Gen 2 ports, this bandwidth will be shared between the ports.

Communication

Built-In 10/100/1000Mb Base-TX Ethernet LAN

1.0M HD PC Camera Module

WLAN/ Bluetooth M.2 Modules:

(**Factory Option**) Intel® Dual Band Wireless-AC 9260 Wireless LAN (**802.11ac**) + Bluetooth

(**Factory Option**) Intel® Dual Band Wi-Fi 6 AX200 Wireless LAN (**802.11ax**) + Bluetooth

(**Factory Option**) Qualcomm® Rivet Killer™ Wireless-AC 1650x Dual Band Wireless LAN (**802.11ac**) + Bluetooth

Environmental Spec**Temperature**

Operating: 5°C - 35°C

Non-Operating: -20°C - 60°C

Relative Humidity

Operating: 20% - 80%

Non-Operating: 10% - 90%

Power

Removable 6 Cell Smart Lithium-Ion Battery Pack, 62WH

Full Range AC/DC Adapter

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

DC Output: 19.5V, 11.8A (**230W**)

Dimensions & Weight

361mm (w) * 258mm (d) * 32.5mm (h)

2.7kg (Barebone with 62WH Battery)

Introduction

Figure 1
Top View

1. PC Camera
2. *PC Camera LED
**When the PC camera is in use, the LED will be illuminated.*
3. Built-In Array Microphone
4. LCD
5. Power Button
6. Keyboard
7. Touchpad & Buttons

External Locator - Top View with LCD Panel Open



External Locator - Front & Right Side Views

Figure 2
Front View

1. LED Indicators

FRONT VIEW



RIGHT SIDE VIEW



Figure 3
Right Side View

1. 2-In-1 Audio Jack (Headphone and Microphone)
2. Microphone-In Jack
3. USB 2.0 Port
4. Vent

Introduction

External Locator - Left Side & Rear View

Figure 4

Left Side View

1. Security Lock Slot
2. RJ-45 LAN Jack
3. USB 3.2 Gen 2 Type-A Ports
4. MicroSD Card Reader

LEFT SIDE VIEW



Figure 5

Rear View

1. Vent
2. DisplayPort 1.4 over USB 3.2 Gen 2 Type-C Port
3. HDMI-Out Port
4. Mini Display Port 1.4
5. DC-In Jack

REAR VIEW



External Locator - Bottom View

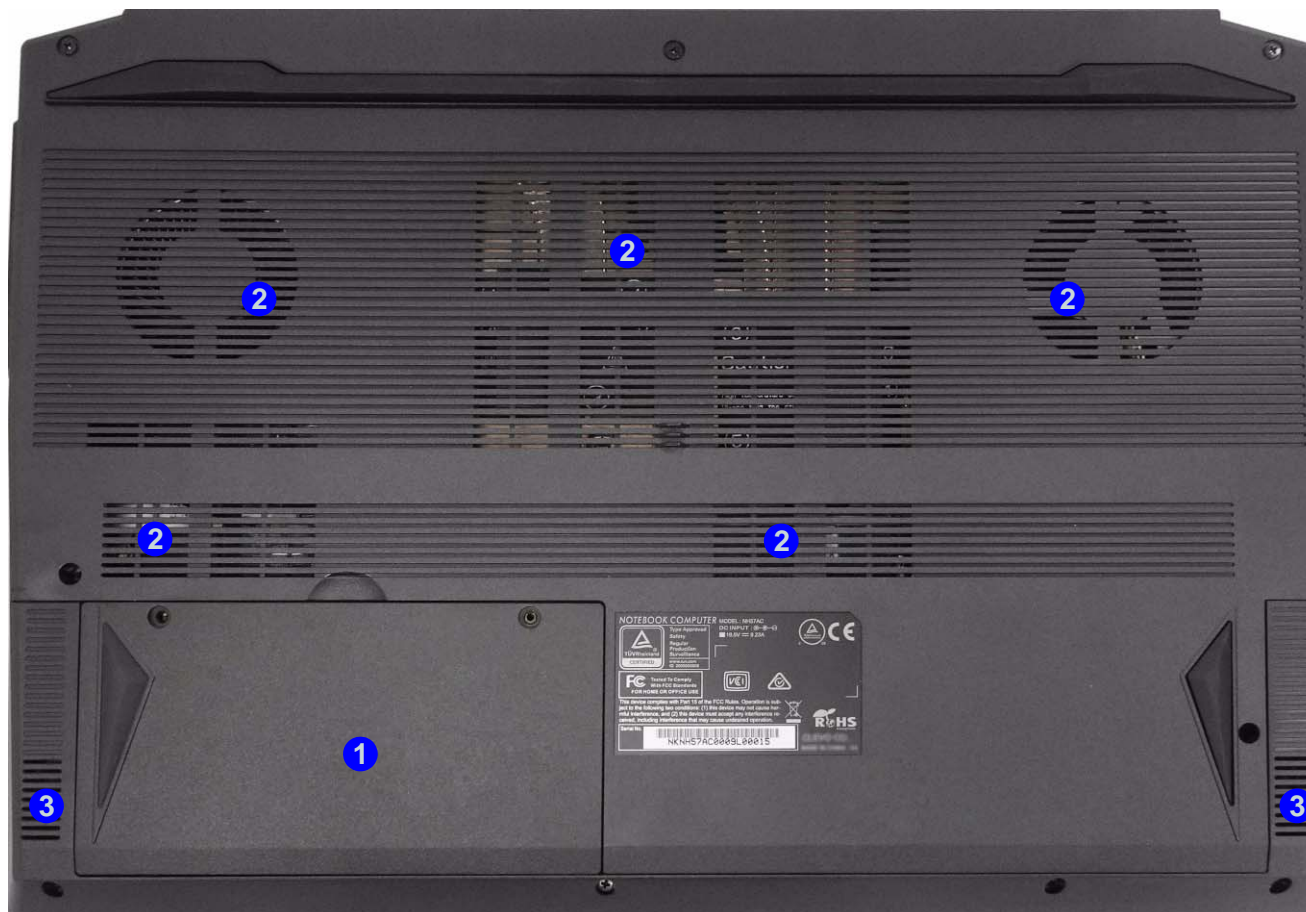


Figure 6
Bottom View

1. Battery
2. Vent
3. Speakers



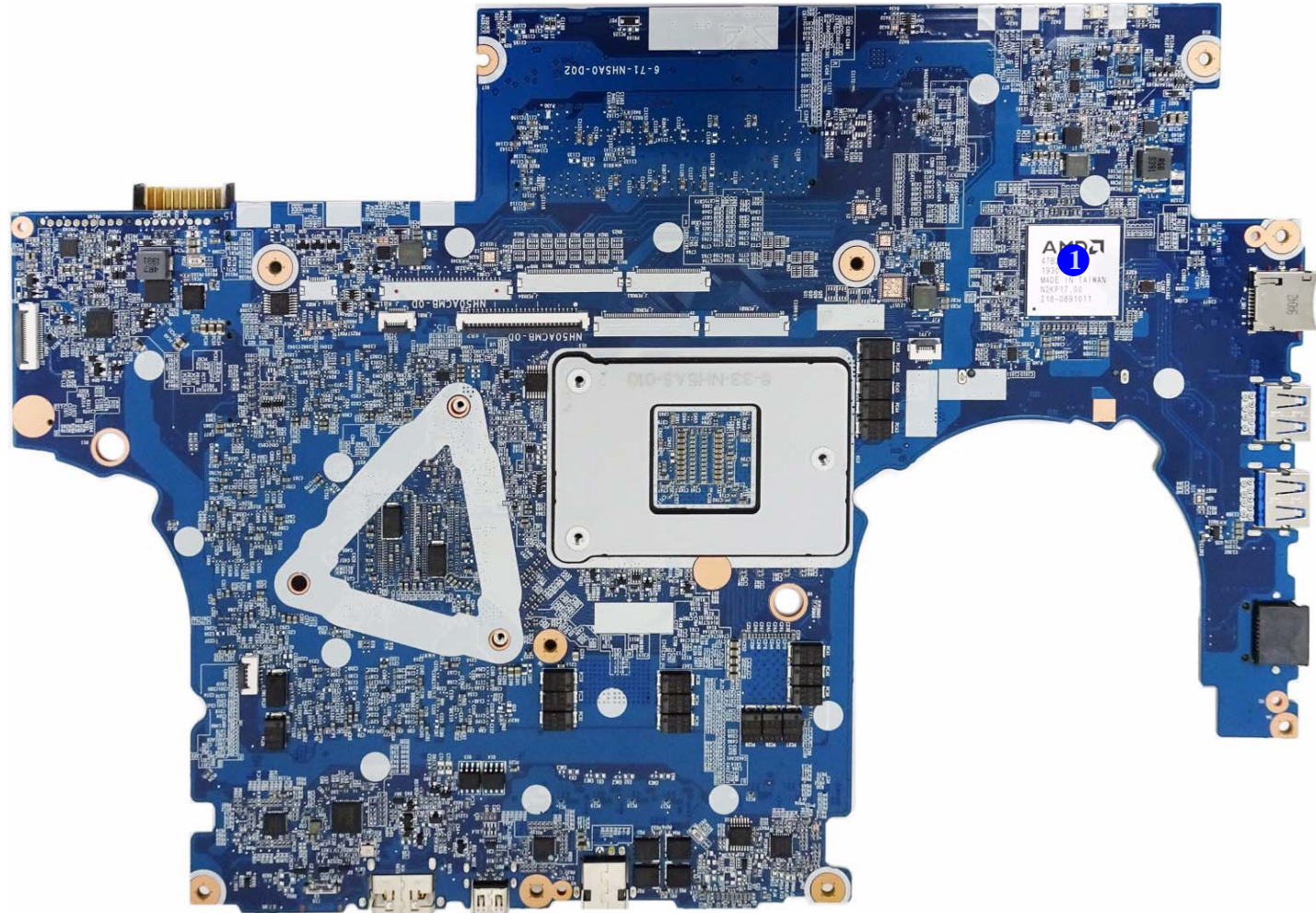
Overheating

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

Figure 7
**Mainboard Top
Key Parts**

1. AMD Southbridge

Mainboard Overview - Top (Key Parts)



Mainboard Overview - Bottom (Key Parts)

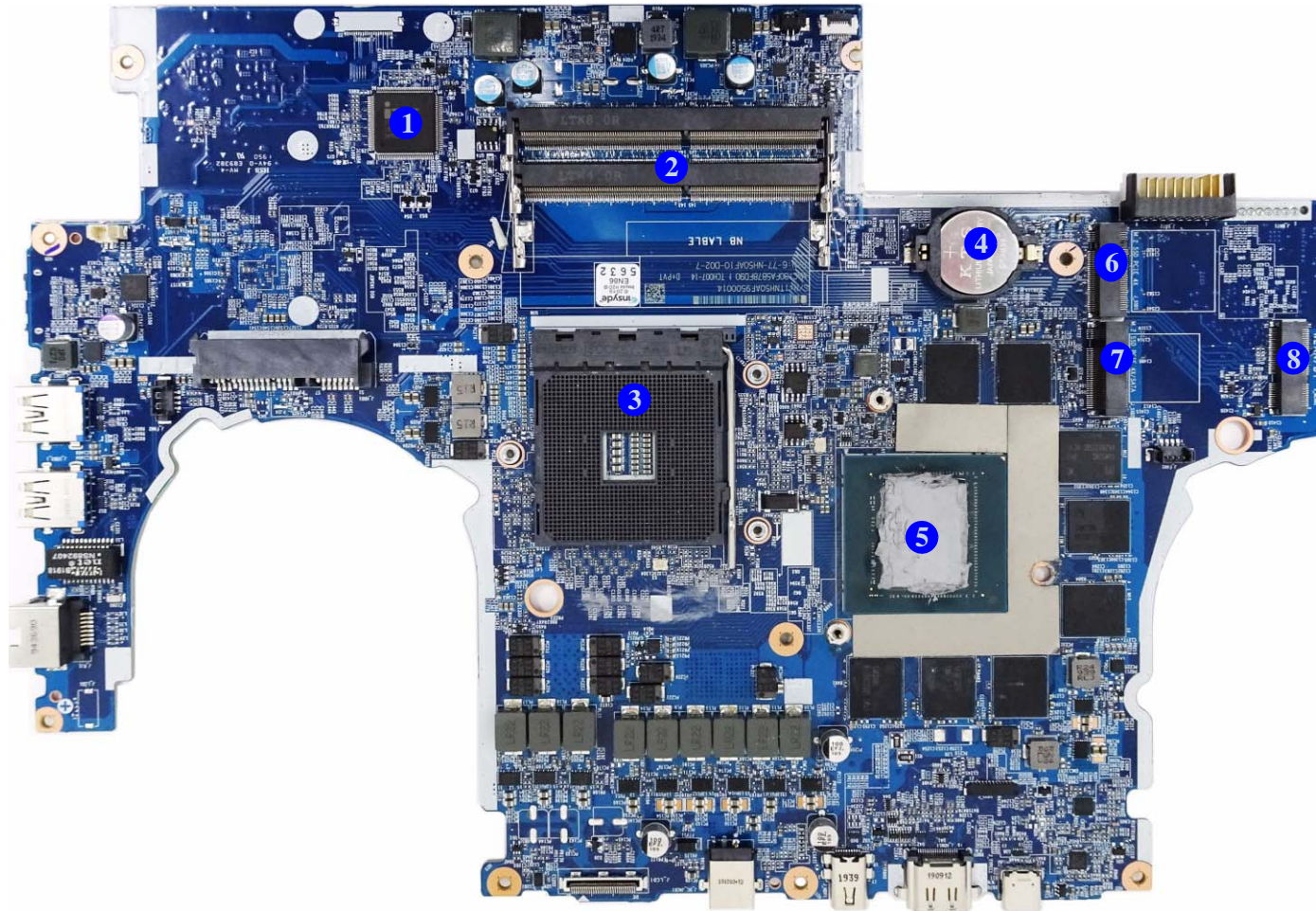


Figure 8
**Mainboard Bottom
Key Parts**

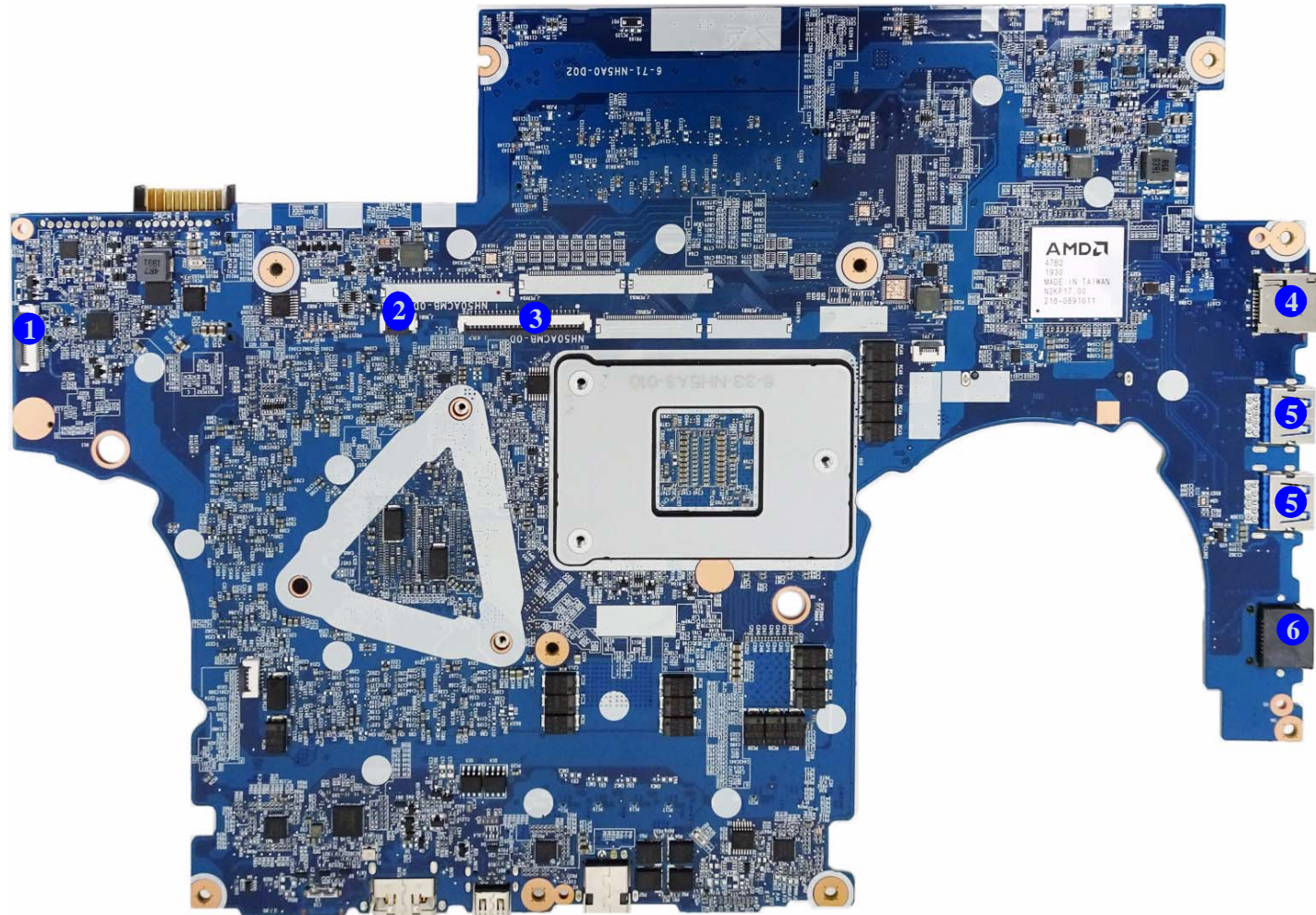
1. KBC-ITE IT5570 [EC]
2. Memory Slots
DDR4 SO-DIMM
3. CPU Socket
4. CMOS Battery
5. GPU
6. M.2-Card
Connector (SSD
PCIE Module)
7. M.2-Card
Connector (SSD
PCIE/SATA
Module)
8. Mini-Card
Connector (WLAN/
BT Module)

Introduction

Figure 9
**Mainboard Top
Connectors**

1. USB Connector
2. Keyboard Cable Connector
3. KB LED Connector
4. MicroSD Card Reader
5. USB 3.2 Gen 2 Type-A Ports
6. RJ-45 LAN Jack

Mainboard Overview - Top (Connectors)



Mainboard Overview - Bottom (Connectors)

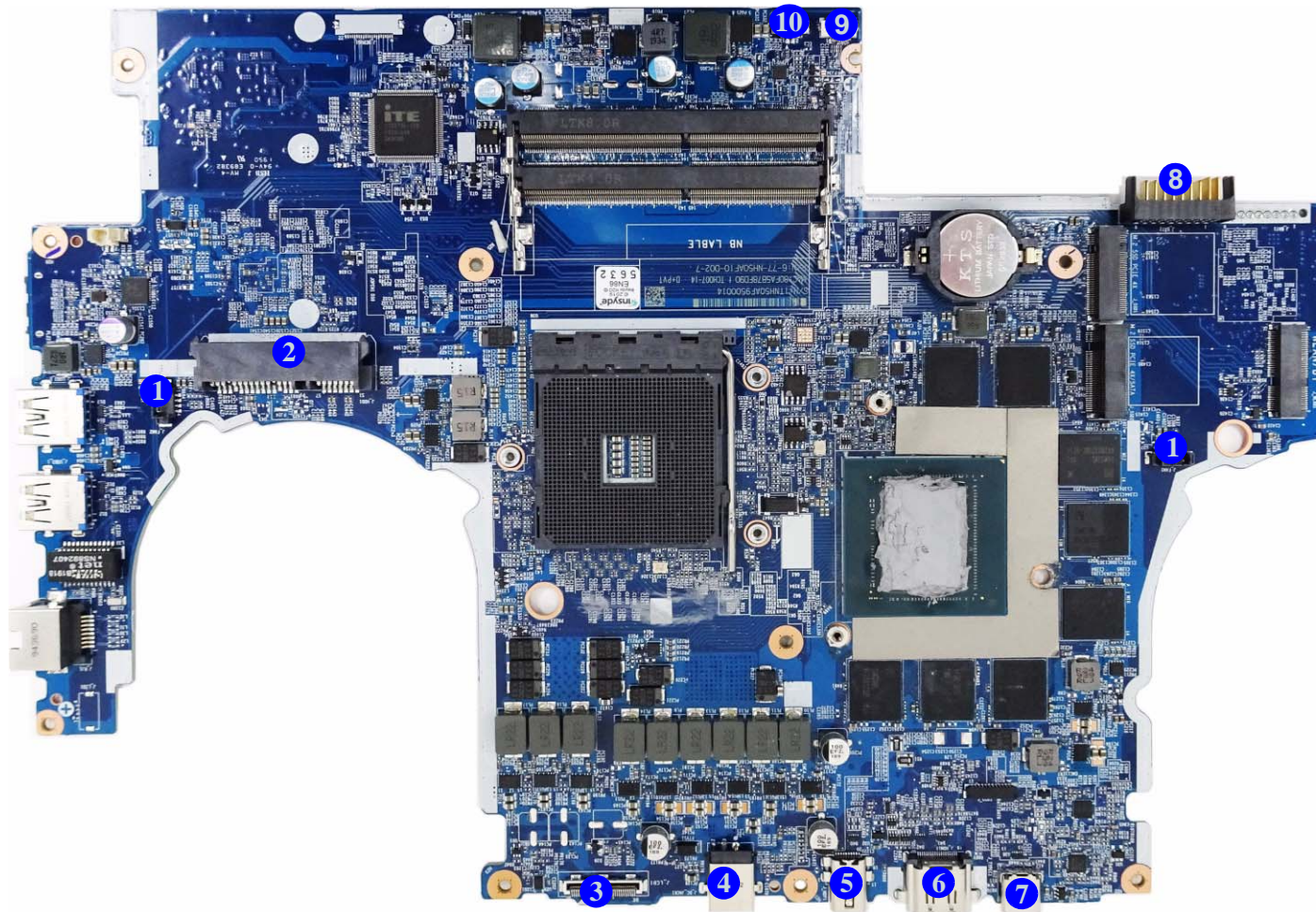


Figure 10
**Mainboard Bottom
Connectors**

1. Fan Connector
2. HDD Connector
3. LCD Connector
4. DC-In Jack
5. Mini Display Port 1.4
6. HDMI-Out Port
7. DisplayPort 1.4 over USB 3.1 Gen 2 Type-C Port
8. Battery Connector
9. Touchpad Connector
10. Speaker Connector


Chapter 2: Disassembly



Overview

This chapter provides step-by-step instructions for disassembling the *NH50AF1 / NH55AFW / NH57AF1 / NH58AF1* series notebook's parts and subsystems. When it comes to reassembly, reverse the procedures (unless otherwise indicated).

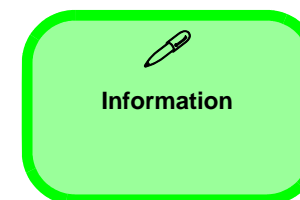
We suggest you completely review any procedure before you take the computer apart.

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

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

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

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



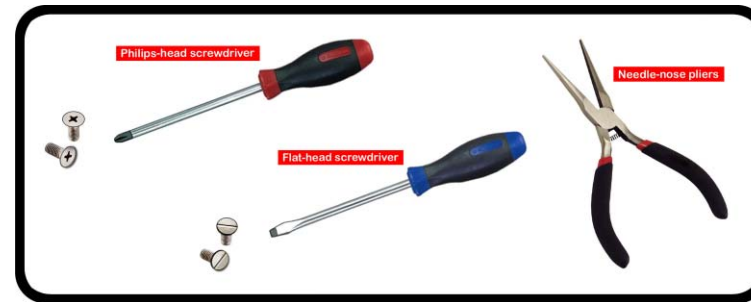
Disassembly

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

Maintenance Tools

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

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



Connections

Connections within the computer are one of four types:

Locking collar sockets for ribbon connectors

To release these connectors, use a small flat-head screwdriver to gently pry the locking collar away from its base. When replacing the connection, make sure the connector is oriented in the same way. The pin1 side is usually not indicated.

Pressure sockets for multi-wire connectors

To release this connector type, grasp it at its head and gently rock it from side to side as you pull it out. Do not pull on the wires themselves. When replacing the connection, do not try to force it. The socket only fits one way.

Pressure sockets for ribbon connectors

To release these connectors, use a small pair of needle-nose pliers to gently lift the connector away from its socket. When replacing the connection, make sure the connector is oriented in the same way. The pin1 side is usually not indicated.

Board-to-board or multi-pin sockets

To separate the boards, gently rock them from side to side as you pull them apart. If the connection is very tight, use a small flat-head screwdriver - use just enough force to start.

Maintenance Precautions

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

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

Cleaning

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

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

(For Computer Models Supplied with Light Blue Cleaning Cloth) Some computer models in this series come supplied with a light blue cleaning cloth. To clean the computer case with this cloth follow the instructions below.

- Power off the computer and peripherals.
- Disconnect the AC/DC adapter from the computer.
- Use a little water to dampen the cloth slightly.
- Clean the computer case with the cloth.
- Dry the computer with a dry cloth, or allow it time to dry before turning on.
- Reconnect the AC/DC adapter and turn the computer on.



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 and power cord). It is advisable to also remove your battery in order to prevent accidentally turning the machine on.

Disassembly Steps

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

To remove the Battery:

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

To remove the HDD:

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

To remove the Keyboard:

1. Remove the battery [page 2 - 5](#)
2. Remove the HDD [page 2 - 6](#)
3. Remove the keyboard [page 2 - 8](#)

To remove and install the Processor:

1. Remove the battery [page 2 - 5](#)
2. Remove the HDD [page 2 - 6](#)
3. Remove the processor [page 2 - 9](#)
4. Install the processor [page 2 - 11](#)

To remove the System Memory:

1. Remove the battery [page 2 - 5](#)
2. Remove the HDD [page 2 - 6](#)
3. Remove the system memory [page 2 - 12](#)

To remove the M.2 SSD:

1. Remove the battery [page 2 - 5](#)
2. Remove the HDD [page 2 - 6](#)
3. Remove the SSD [page 2 - 13](#)

To remove the Wireless LAN Module:

1. Remove the battery [page 2 - 5](#)
2. Remove the HDD [page 2 - 6](#)
3. Remove the WLAN [page 2 - 15](#)

To remove the CCD Module:

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

Removing the Battery

1. Turn the computer **off**, and turn it over.
2. Remove the screws **1** - **2** (*Figure 1a*).
3. Carefully lift the battery **3** in the direction of the arrow (*Figure 1b*).
4. Remove the battery **3** out of the compartment (*Figure 1c*).

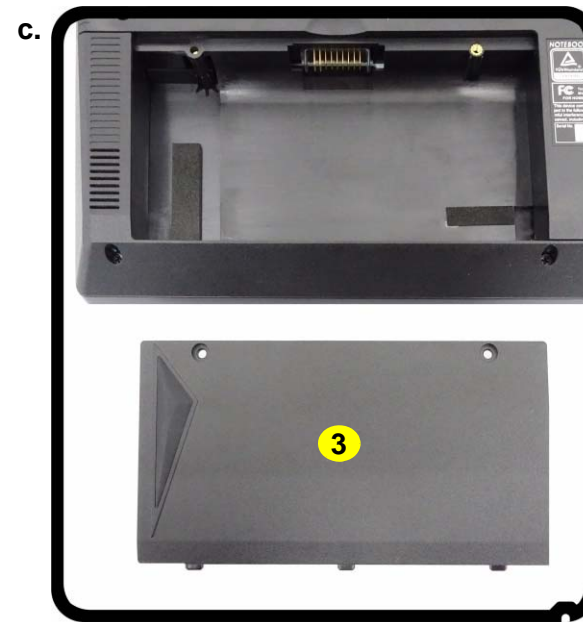
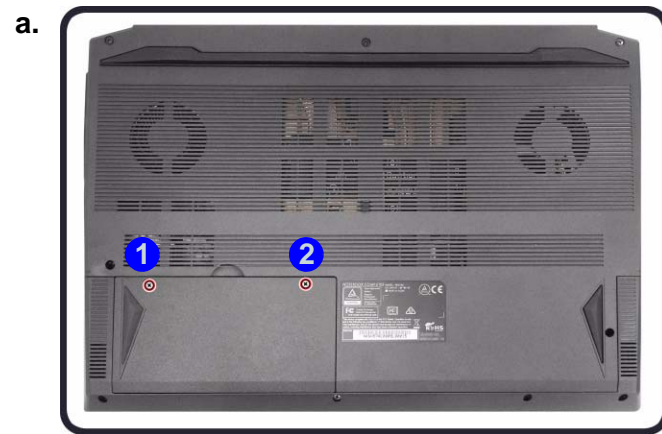


Figure 1
Battery Removal

- a. Remove the screws.
- b. Lift the battery.
- c. Remove the battery.



3. Battery

- 2 Screws

Disassembly

Figure 2
**HDD Assembly
Removal**

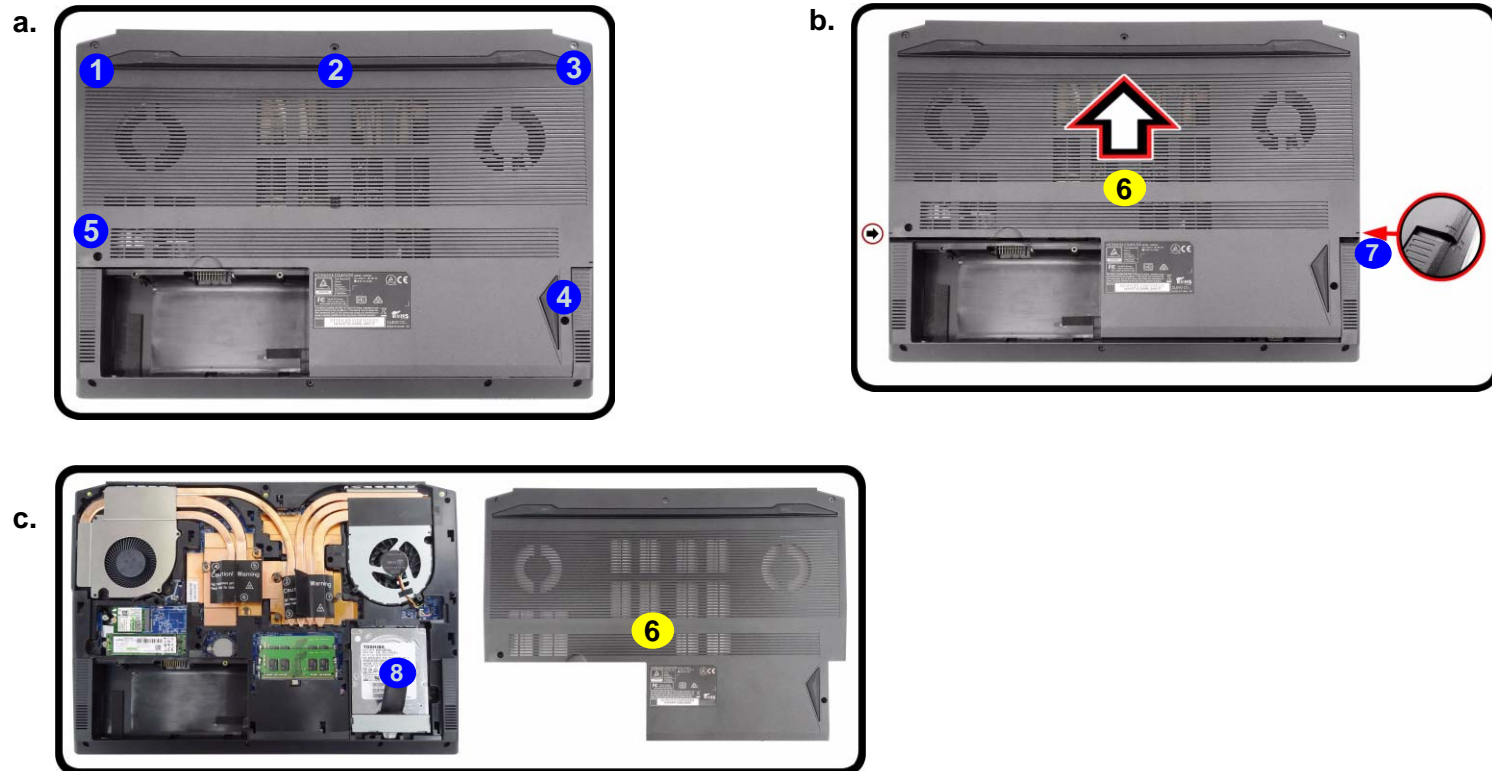
- Remove the screws.
- Slide the bottom case out and remove it.
- Locate the HDD.

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 7mm (h). Follow your operating system's installation instructions, and install all necessary drivers and utilities (as outlined in **Chapter 4 of the User's Manual**) when setting up a new hard disk.

Hard Disk Disassembly Process

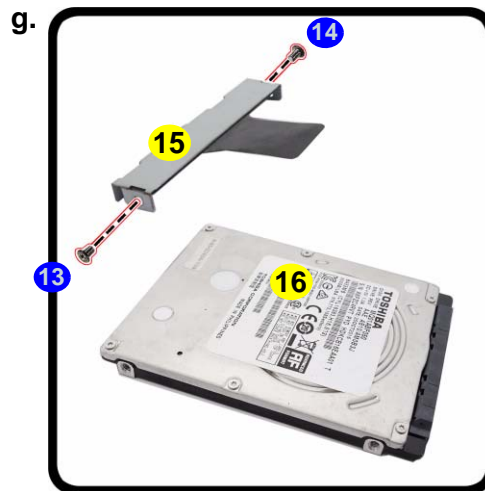
- Turn **off** the computer, and remove the battery ([page 2 - 5](#)).
- Remove the screws **1** - **5** ([Figure 2a](#)).
- Carefully slide the bottom case **6** as shown **7** and lift it off ([Figure 2b](#)).
- The HDD will be visible at point **8** on the mainboard ([Figure 2c](#)).



6. Bottom Case

- 5 Screws

5. Remove screws **9** from the HDD assembly (**Figure 3b**).
6. Slightly lift and pull the hard disk assembly in the direction of arrow **10** (**Figure 3c**).
7. Lift the hard disk assembly **11** out of the bay **12** (**Figure 3d**).
8. Remove screws **13** - **14** and bracket **15** from the hard disk **16** (**Figure 3e**).
9. Reverse the process to install a new hard disk (do not forget to replace the 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.

Figure 3

HDD Assembly Removal (cont'd.)

- d. Remove the screws.
- e. Slightly lift and pull the HDD in the direction of the arrow.
- f. Lift the HDD assembly out of the bay.
- g. Remove the screws and bracket from the HDD.



11. HDD Assembly
15. Bracket
16. HDD

- 3 Screws

Disassembly

Figure 4

Keyboard Removal

- a. Remove the screws from the bottom of the computer and then eject the keyboard using a special eject stick to push the keyboard out while releasing the keyboard as shown.
- b. Lift the keyboard up and disconnect the keyboard ribbon cable from the locking collar socket.
- c. Remove the keyboard.



Re-inserting the Keyboard

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

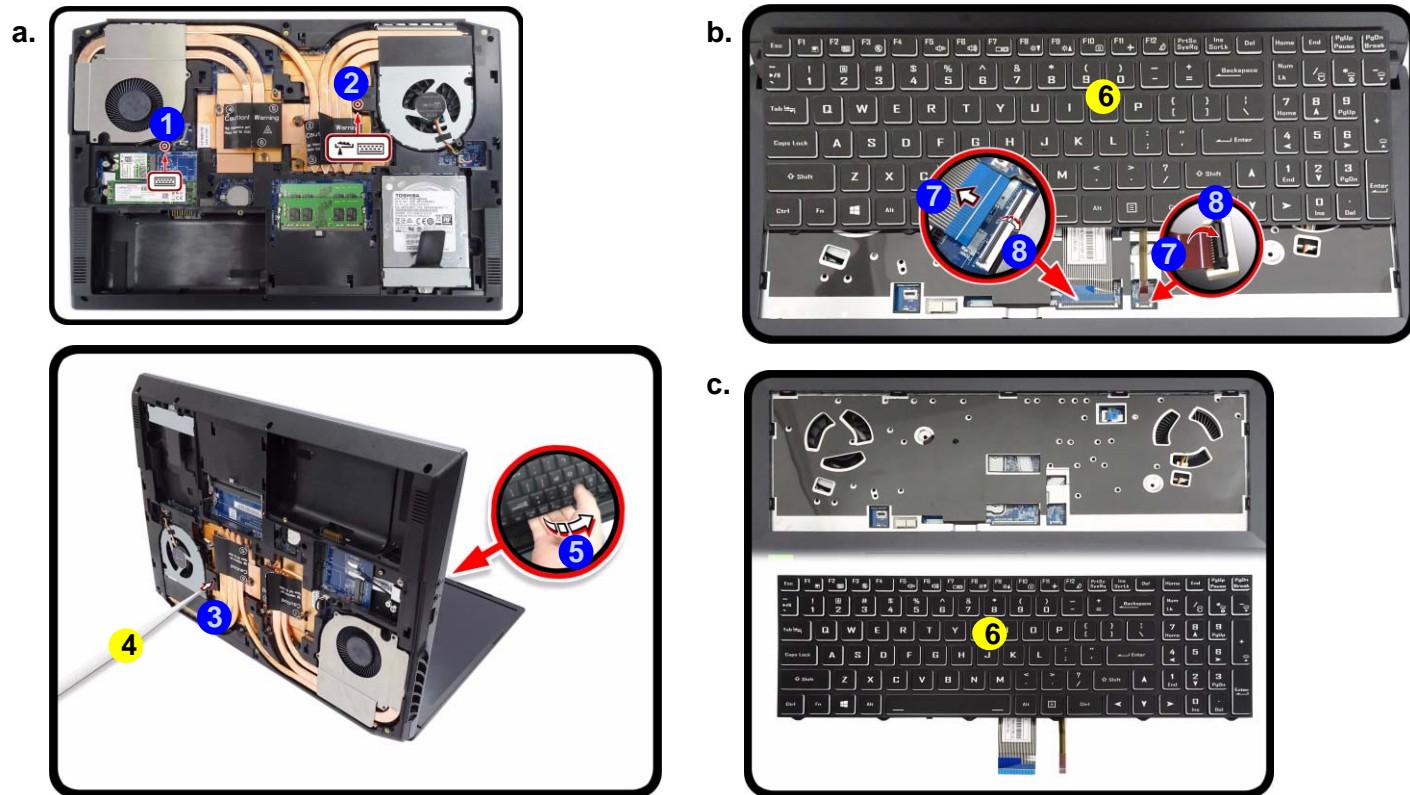


4. Eject Stick
6. Keyboard

- 2 Screws

Removing the Keyboard

1. Turn **off** the computer, remove the battery ([page 2 - 5](#)) and bottom cover ([page 2 - 6](#)).
2. Remove screws ① - ② from the bottom of the computer.
3. Open it up with the LCD on a flat surface before pressing at point ③ to release the keyboard module (use the special eject stick ④ to do this) while releasing the keyboard in the direction of the arrow ⑤ as shown ([Figure 4a](#)).
4. Carefully lift the keyboard ⑥ up, being careful not to bend the keyboard ribbon cable ⑦. Disconnect the keyboard ribbon cable ⑦ from the locking collar socket by using a flat-head screwdriver to pry the locking collar pins ⑧ away from the base ([Figure 4b](#)).
5. Carefully lift the keyboard ⑥ off the computer ([Figure 4c](#)).

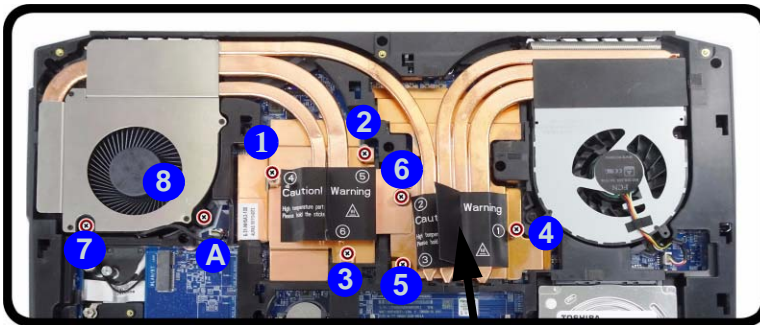


Removing and Installing the Processor

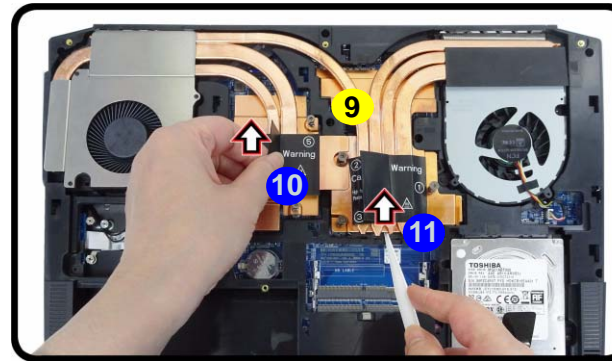
Processor Removal Procedure

1. Turn **off** the computer, remove the battery ([page 2 - 5](#)) and bottom cover ([page 2 - 6](#)).
2. Disconnect cable **A** and remove screws **1** - **8** from the heat sink unit in the order indicated on the label (i.e screw **8** first through to screw **1** last [Figure 5a](#)).
3. Carefully (it may be hot) remove the heat sink unit **9** at point **10** while using a tool to lever the heatsink up at point **11**. Then lift the heat sink up at an angle as shown ([Figure 5b](#)).

a.



b.



Note:

Loosen the screws in the reverse order 8-7-6-5-4-3-2-1 as indicated.

Figure 5
Processor Removal Procedure

- a. Disconnect the cable and remove the screws in the correct order.
- b. Carefully remove the heat sink unit.



9. Heat Sink Unit

- 8 Screws

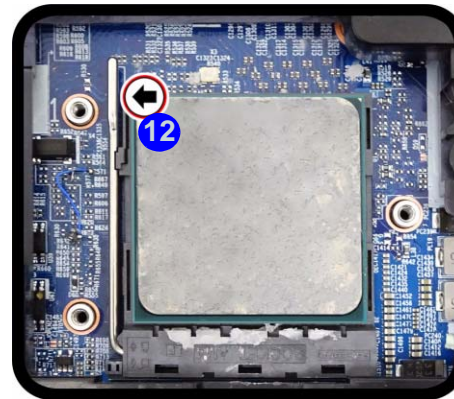
Disassembly

Figure 6
Processor Removal
(cont'd)

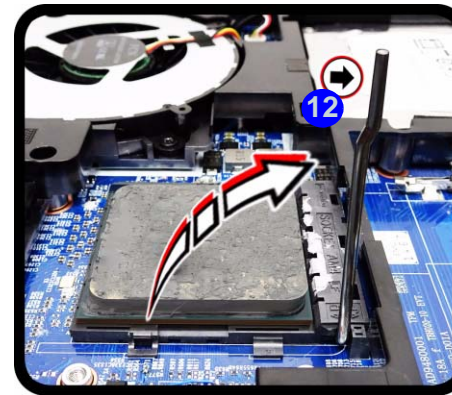
- c. Move the latch fully in the direction indicated to unlock the CPU.
- d. Lift the CPU out of the socket.

4. Press down and hold the latch 12 (with the latch held down you will be able to release it).
5. Move the latch 12 fully in the direction indicated to unlock the CPU (Figure 6c).
6. Carefully (it may be hot) lift the CPU A up out of the socket (Figure 6d).
7. See [page 2 - 11](#) for information on inserting 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!).

c.



Unlock



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.

AMD & Intel CPU Differences

Note that there are differences between the AMD and Intel CPUs in the RTC CMOS data storage location:

- Intel RTC CMOS data is stored in the PCH.
- AMD RTC CMOS data is stored in the CPU.

Note therefore that every time the CPU is replaced, the CMOS must be reset, and the first boot time after replacing the CPU will be longer (press power on, and the screen will light up after 1 minute).

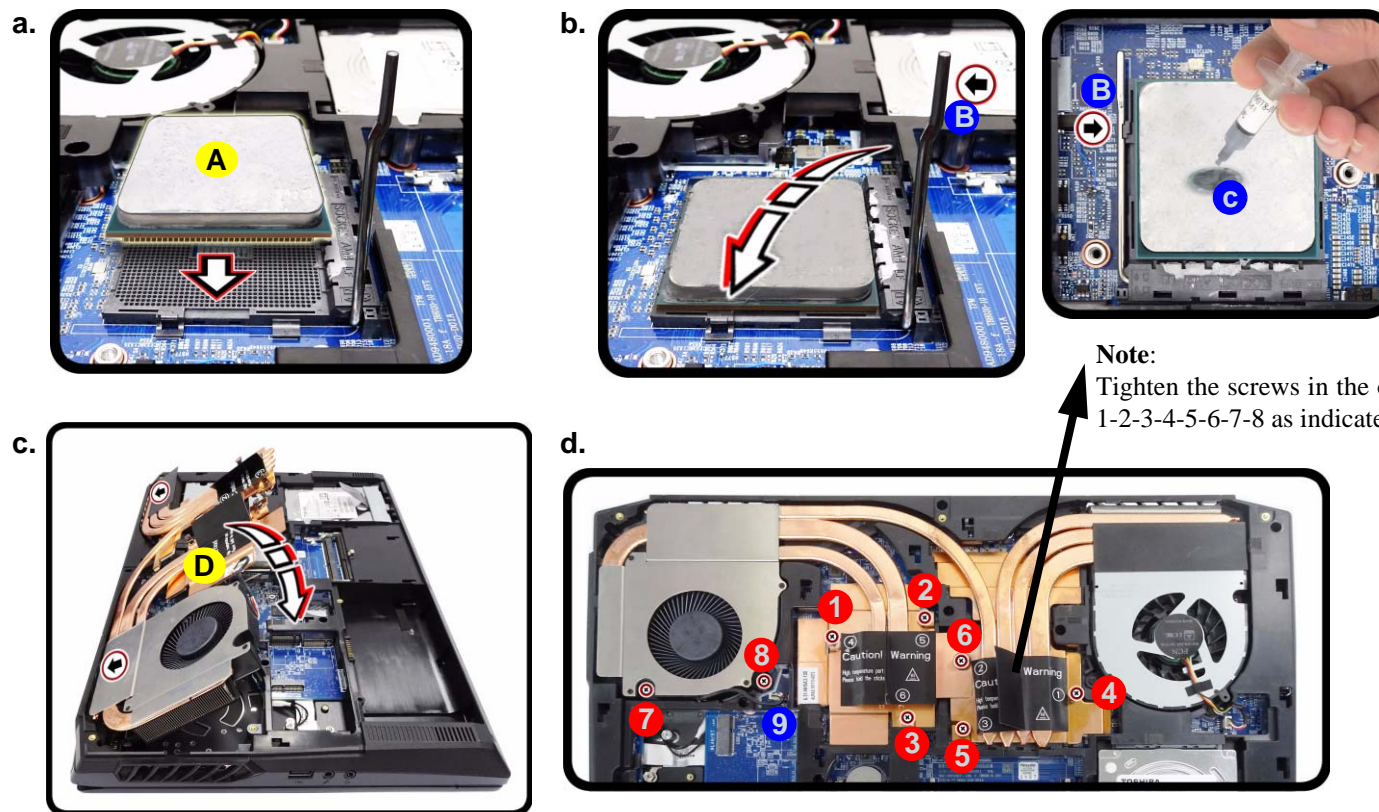
A. CPU

Processor Installation Procedure

1. Insert the CPU **A**; pay careful attention to the pin alignment (**Figure 7a**), it will fit only one way (DO NOT FORCE IT!).
2. Move the latch **B** fully in the direction indicated to lock the CPU.
3. Apply the whole tube of the thermal grease **C** to the center of the CPU as shown (**Figure 7b**).
4. Insert the heat sink unit **D** in an angle as indicated in **Figure 7c**.
5. Tighten the CPU heat sink screws in the order **1** - **8** (the order as indicated on the label) and reconnect the cable **9** (**Figure 7d**).
6. Replace the video card heat sink, component bay cover and tighten the screws (**page 2 - 9**).

Figure 7
Processor Installation

- a. Insert the CPU.
- b. Move the latch fully in the direction indicated to lock the CPU. Apply thermal grease.
- c. Insert the heat sink.
- d. Tighten the screws.



Disassembly

Figure 8
RAM Module Removal

- The RAM module(s) will be visible at point **1** on the mainboard.
- Pull the release latches.
- Remove the module.



Contact Warning

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



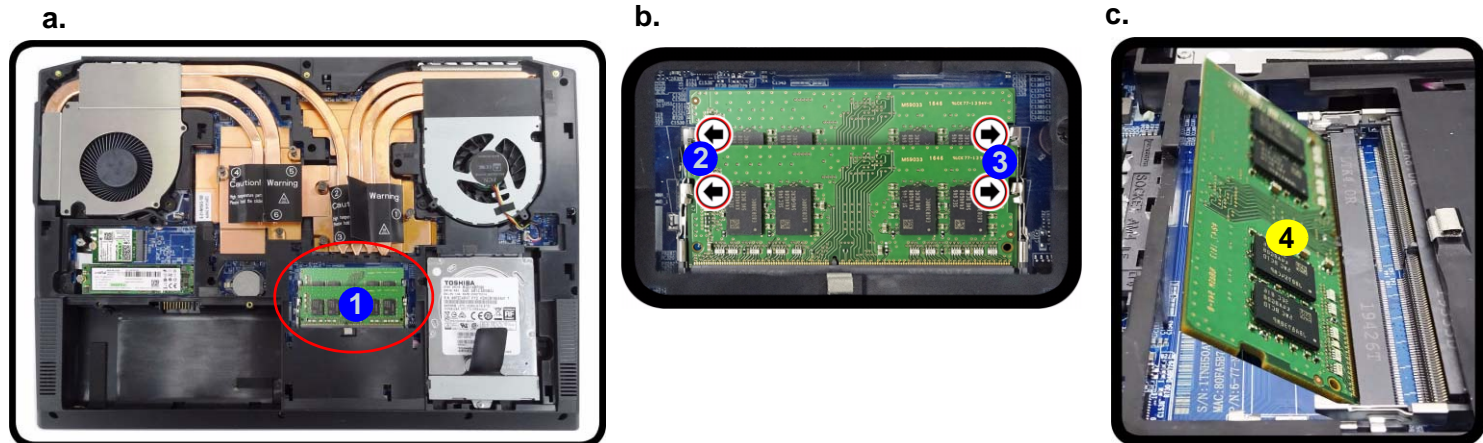
4. RAM Module

Removing the System Memory (RAM)

The computer has two memory sockets for 260 pin Small Outline Dual In-line Memory Modules (SO-DIMM) supporting DDR4 up to 2666/3200 MHz. The main memory can be expanded up to 64GB. The total memory size is automatically detected by the POST routine once you turn on your computer.

Memory Upgrade Process

- Turn **off** the computer, turn it over, remove the battery ([page 2 - 5](#)) and bottom cover ([page 2 - 6](#)).
- The RAM modules will be visible at point **1** on the mainboard ([Figure 8a](#)).
- Gently pull the two release latches (**2** & **3**) on the sides of the memory socket in the direction indicated by the arrows ([Figure 8b](#)). The RAM module **4** will pop-up ([Figure 8c](#)), and you can then remove it.
- Pull the latches to release the second module if necessary.
- Insert a new module (**for only one module** - insert module in the top slot) by holding it at about a 30° angle and fit the connectors firmly into the memory slot.
- 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.
- Press the module in and down towards the mainboard until the slot levers click into place to secure the module.
- Replace the bottom cover and the screws (see [page 2 - 6](#)).
- Restart the computer to allow the BIOS to register the new memory configuration as it starts up.



Removing the M.2 SSD Module

M.2 SSD-1 Module Removal Procedure

1. Turn **off** the computer, turn it over, remove the battery ([page 2 - 5](#)) and bottom cover ([page 2 - 6](#)).
2. The M.2 SSD module will be visible at point **1** on the mainboard ([Figure 9a](#)).
3. Remove the screw **2** ([Figure 9b](#))
4. The M.2 SSD module **3** ([Figure 9c](#)) will pop-up, and you can remove it from the computer.



Figure 9
M.2 SSD-1 Module Removal

- a. Locate the M.2 SSD.
- b. Remove the screw.
- c. The M.2 SSD module will pop up.



3.M2 SSD PCIE Module

- 1 Screw

Disassembly

Figure 10
M.2 SSD-2 Module Removal

- Locate the M.2 SSD.
- Remove the screw.
- The M.2 SSD module will pop up.

M.2 SSD-2 Module Removal Procedure

- Turn off the computer, turn it over, remove the battery ([page 2 - 5](#)) and bottom cover ([page 2 - 6](#)).
- The M.2 SSD module will be visible at point ① on the mainboard ([Figure 9a](#)).
- Remove the screw ② ([Figure 9b](#)).
- The M.2 SSD module ③ ([Figure 9c](#)) will pop-up, and you can remove it from the computer.



3.M2 SSD SATA/PCIE
Module

- 1 Screw

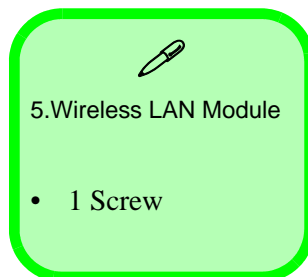
Removing the Wireless LAN Module

1. Turn **off** the computer, turn it over, remove the battery ([page 2 - 5](#)), bottom cover ([page 2 - 6](#)) and SSD-2 ([page 2 - 14](#)).
2. The Wireless LAN module will be visible at point **1** on the mainboard ([Figure 11a](#)).
3. Carefully disconnect the cables **2** & **3**, and then remove the screw **4** ([Figure 11b](#)).
4. The Wireless LAN module **5** ([Figure 11c](#)) will pop-up, and you can remove it from the computer.
5. Reverse the process to install a new module (do not forget to replace the mylar and screws while making sure that the cables are properly inserted as shown in [Figure 11c](#)).

Figure 11
**Wireless LAN
Module Removal**

- a. Locate the WLAN.
- b. Disconnect the cables and remove the screw.
- c. The WLAN module will pop up.

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



Disassembly

Wireless LAN, Combo Module Cables

Note that the cables for connecting to the antennae on WLAN, WLAN & Bluetooth Combo modules are not labelled. The cables/covers (each cable will have either a black or transparent cable cover) are color coded for identification as outlined in the table below.

Module Type	Antenna Type	Cable Color	Cable Cover Type
WLAN/WLAN & Bluetooth Combo	WL 1	Black	Transparent
	WL 2	Black	White

Cable 1 is usually connected to antenna 1 on the module, and cable 2 to antenna 2.

Removing the CCD

1. Turn **off** the computer, turn it over to remove the battery ([page 2 - 5](#)).
2. Lay the computer down on a flat surface with the top case up forming a 90 degree angle.
3. Carefully run your fingers around the inner frame of the LCD panel to lift at points **1** - **4** as indicated by the arrows ([Figure 12a](#)).
4. Remove the LCD front cover **5** ([Figure 12b](#)).

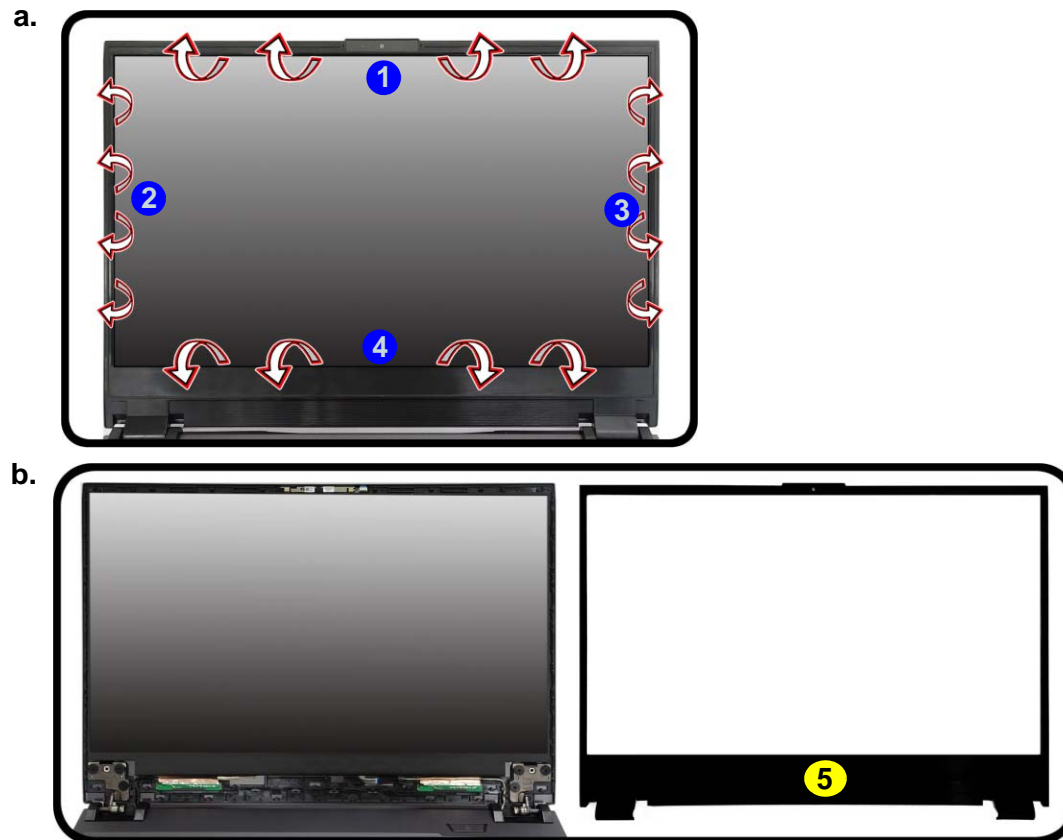


Figure 12
CCD Removal

- a. Carefully release the inner frame of the LCD panel at the points indicated by the arrows.
- b. Remove the LCD front cover.



Disassembly

Figure 13
CCD Removal
(cont'd)

- c. Disconnect the cable from the locking collar socket.
- d. Remove the CCD module.

- 5. Disconnect the cable ⑥ from the locking collar socket by using a flat-head screwdriver to pry the locking collar pins ⑦ away from the base (*Figure 13c*).
- 6. Remove the CCD module ⑧ (*Figure 13d*).
- 7. Reverse the process to install a new CCD module.

c.



d.



8. CCD Module

Appendix A:Part Lists

This appendix breaks down the *NH50AF1 / NH55AFW / NH57AF1 / NH58AF1* series notebook's construction into a series of illustrations. The component part numbers are indicated in the tables opposite the drawings.

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

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

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

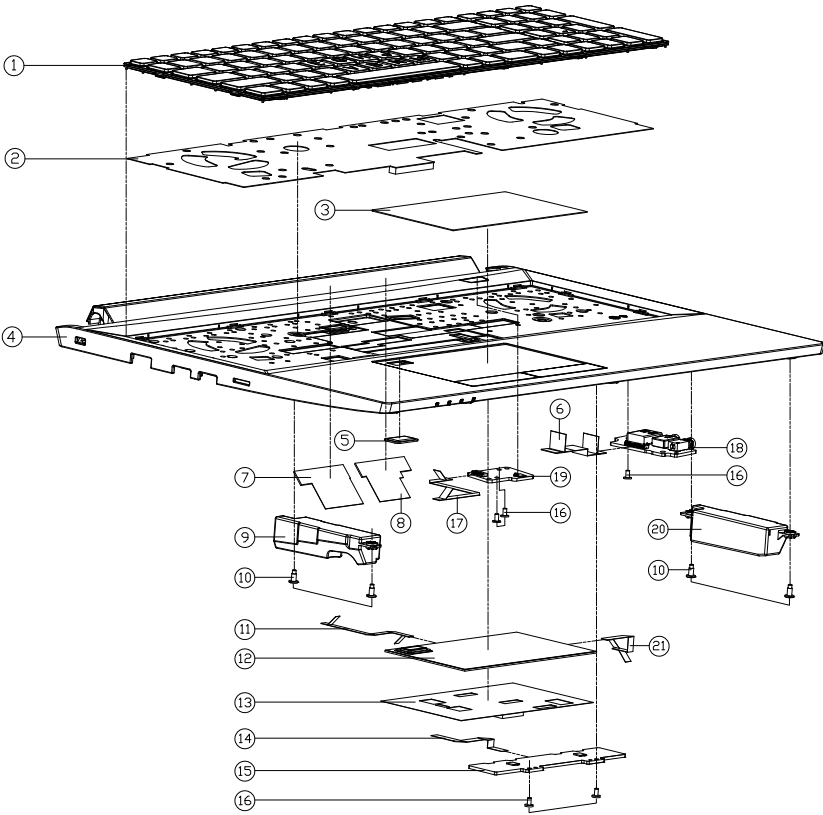
Part List Illustration Location

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

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

Part	NH50AF1	NH58AF1	NH55AFW	NH57AF1
Top	<i>page A - 3</i>		<i>page A - 4</i>	<i>page A - 5</i>
Bottom	<i>page A - 6</i>			
Main Board	<i>page A - 7</i>			
HDD	<i>page A - 8</i>			
LCD	<i>page A - 9</i>	<i>page A - 10</i>	<i>page A - 11</i>	<i>page A - 12</i>

Top (NH50AF1 / NH58AF1)

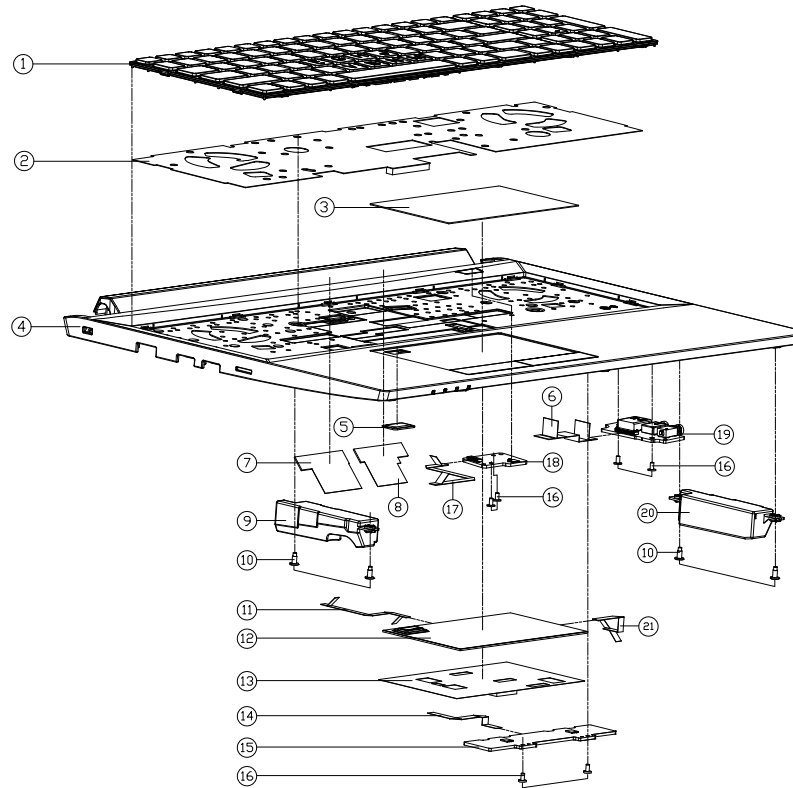


ITEM	PART NAME	PART NO	REMARK
1	R. TO 10 CH. CABLE/PCB KEYBOARD BLK W/TE SILV KEY LONG PONTING SOLUTION WITH VMM KEY CO250MM	6-80-N15Z0-19D-1	KB FOR MULTI ISC BL KB SERIES
1	R. TO JAPANESE CABLE/PCB KEYBOARD BLK W/TE SILV KEY LONG PONTING SOLUTION WITH VMM KEY CO250MM	6-80-N15Z0-21D-1	KB FOR MULTI ISC BL KB SERIES
1	R. TO BRAZILIAN CABLE/PCB KEYBOARD BLK W/TE SILV KEY LONG PONTING SOLUTION WITH VMM KEY CO250MM	6-80-N15Z0-33E-1	KB FOR MULTI ISC BL KB SERIES
1	R. TO 10 CH. CABLE/PCB KEYBOARD BLK W/TE SILV KEY LONG PONTING SOLUTION WITH VMM KEY CO250MM	6-80-N15Z0-01D-1	KB FOR MULTI ISC BL KB SERIES
1	LED KEYBOARD BLK W/TE SILV KEY LONG PONTING SOLUTION WITH VMM KEY CO250MM	6-80-NH5A0-010-1	KB FOR LED FOR KEYBOARD KB SERIES
1	R. TO JAPANESE CABLE/PCB KEYBOARD BLK W/TE SILV KEY LONG PONTING SOLUTION WITH VMM KEY CO250MM	6-80-N15Z0-21D-1M	FOR MULTI ISC BL KB JP SERIES KB FOR MCJ
2	W/O BACKLIT KB MYLAR PET NH50AC	6-40-NH5A2-010	FOR MULTI ISC BL KB JP SERIES KB FOR MCJ
2	MULTI ISC BL KB MYLAR PET NH50AC	6-40-NH5A2-011	KB FOR MULTI ISC BL KB SERIES
3	W/O FP TP MYLAR AG32 NH50AC	6-40-NH5A2-040	ONLY FOR W/O FP
3	W/FP TP MYLAR AG32 NH50AC	6-40-NH5A2-050	ONLY FOR W/FP
4	TOP CASE MODULE NH50AC	6-39-NH5A2-012	
5	TP W/O FP RUBBER (17.9*11.2*1.27) SILICONE	6-47-N15Z2-090	
6	FFC CABLE AUDIO TO MB L=54MM 5V 22PIN (CNUS) NH50AC	6-43-NH5A0-010	
7	ANTENNA IP534 WLAN JEM V2.2 PCB DL 400MM 24G/5G V2.2 30MM INCHESD	6-23-7NH50-040	
8	ANTENNA IP534 WLAN JEM V2.1 PCB DL 400MM 24G/5G V2.1 30MM INCHESD	6-23-7NH50-030	
9	SPEAKER CABLE 250*44*1.7MM 2V 40P 30MM 2P Q. 1900-R (UNTESTED) NH50AC	6-23-5NH5A-0L0	
10	SCREW M2*6.2L NI ICT NY FOR SPEAKER	6-35-Z1120-6R2	
11	FFC CABLE FP TO MB L=69MM 5V 6PIN (CNUS) NH50AC	6-43-NH5A0-071	
12	TOUCH PAD SYNAPTICS PTP TM-P3429 (008*60MM (WHQL) NH50ZU	6-49-N15Z3-011	ONLY FOR W/O FP
12	TOUCH PAD SYNAPTICS PTP TM-P3429 (008*60MM (WHQL) NH50ZU	6-49-N15Z3-021	ONLY FOR W/FP
13	TP MYLAR PET NH50AC	6-40-NH5A2-020	
14	FFC CABLE CLICK TO TP L=61MM 3V 4PIN (QX) NH50ED	6-43-NH500-051	
15	CLICK BOARD V2.0 NH50AC	6-77-NH5A2-D02	
16	SCREW M2*4L KI NI ICT NY (OD=04.5,DT=0.8)	6-35-B1120-4RC	
17	FFC CABLE POWER TO MB L=85MM 3V 4PIN (CNUS) NH50AC	6-43-NH5A0-030	
18	AUDIO BOARD FOR USB V2.0 NH50AC	6-77-NH5A6-D02	
19	POWER SW BOARD V2.0 NH50AC	6-77-NH5AS-D02	
20	SPEAKER CABLE 250*44*1.7MM 2V 40P 30MM 2P Q. 1900-R (UNTESTED) NH50AC	6-23-5NH5A-0R0	
21	FFC CABLE TP TO MB L=45MM 3V 8PIN (CNUS) NH50AC	6-43-NH5A0-020	

Figure A - 1
Top (NH50AF1 / NH58AF1)

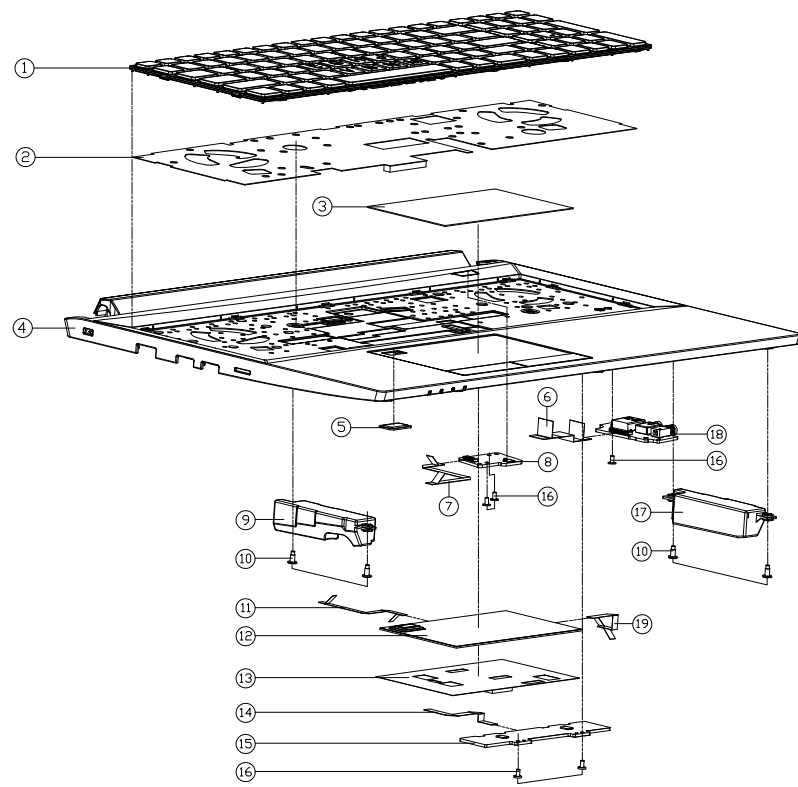
Top (NH55AFW)

Figure 2
Top (NH55AFW)



ITEM	PART NAME	PART NO	REMARK
1	R. 10 10 COMPRESSOR HEAD BLACK WHITE SILVER LONG PRINTING ISOLATION WITH VIBRO KEY COOPER	6-80-N15Z0-19D-1	KB FOR MULTI 15C BL KB SERIES
1	R. 10 JAPANESE COMPRESSOR HEAD BLACK WHITE SILVER LONG PRINTING ISOLATION WITH VIBRO KEY COOPER	6-80-N15Z0-21D-1	KB FOR MULTI 15C BL KB SERIES
1	R. 10 BRITISH COMPRESSOR HEAD BLACK WHITE SILVER LONG PRINTING ISOLATION WITH VIBRO KEY COOPER	6-80-N15Z0-33E-1	KB FOR MULTI 15C BL KB SERIES
1	R. 10 10 COMPRESSOR HEAD BLACK WHITE SILVER LONG PRINTING ISOLATION WITH VIBRO KEY COOPER	6-80-N15Z0-01D-1	KB FOR MULTI 15C BL KB SERIES
1	R. 10 JAPANESE COMPRESSOR HEAD BLACK WHITE SILVER LONG PRINTING ISOLATION WITH VIBRO KEY COOPER FOR MCJ	6-80-N15Z0-21D-1M	FOR MULTI 15C BL KB JP SERIES KB FOR MCJ
2	W/O BACKLIT KB MYLAR PET NH50AC	6-40-NH5A2-010	FOR MULTI 15C BL KB JP
2	MULTI 15C BL KB MYLAR PET NH50AC	6-40-NH5A2-011	FOR MULTI 15C BL KB
3	W/O FP TP MYLAR AG32 NH55EDQ	6-40-NH552-052	ONLY FOR W/O FP
3	W/FP TP MYLAR AG32 NH55EDQ	6-40-NH552-042	ONLY FOR W/FP
4	TOP CASE MODULE NH55ACQ	6-39-NH552-C13	
5	TP W/O FP RUBBER (17.9*11.2*1.2T) SILICONE	6-47-N15Z2-090	
6	FFC CABLE AUDIO TO MB L-54MM 5V 22PIN (CNUS) NH50AC	6-43-NH5A0-010	
7	ANTENNA IPEX4 W/LAN JEM W/L PCB CL 400MM 24G/5G W/L-300MM NH50ED	6-23-7NH50-040	
8	ANTENNA IPEX4 W/LAN JEM W/L PCB CL 400MM 24G/5G W/L-250MM NH50ED	6-23-7NH50-030	
9	SPEAKER CABLE 254*44*7MM 2W 40Z 50MM 2P CL-1950-R (UNLIMITED) NH50AC	6-23-5NH5A-0L0	
10	SCREW M2*6.2L NI ICT NY FOR SPEAKER	6-35-Z1120-6R2	
11	FFC CABLE FP TO MB L-69MM 5V 6PIN (CNUS) NH50AC	6-43-NH5A0-071	
12	TOUCH PAD SYNAPTICS PTP TM-P3429 (008451MM) (WHL) NH50ZU	6-49-N15Z3-011	ONLY FOR W/O FP
12	TOUCH PAD SYNAPTICS PTP TM-P3429 (008451MM) (WHL) NH50ZU	6-49-N15Z3-021	ONLY FOR W/FP
13	TP MYLAR PET NH50AC	6-40-NH5A2-020	
14	FFC CABLE CLICK TO TP L-61MM 3V 4PIN (GX) NH50ED	6-43-NH500-051	
15	CLICK BOARD V2.0 NH50AC	6-77-NH5A2-D02	
16	SCREW M2*4L K1 NI ICT NY (DD-04.5,DT-0.8)	6-35-B1120-4RC	
17	FFC CABLE POWER TO MB L-85MM 3V 4PIN (CNUS) NH50AC	6-43-NH5A0-030	
18	POWER SW BOARD V2.0 NH50AC	6-77-NH5AS-D02	
19	AUDIO BOARD FOR USB V2.0 NH50AC	6-77-NH5A6-D02	
20	SPEAKER CABLE 254*44*7MM 2W 40Z 200MM 2P CL-1950-R (UNLIMITED) NH50AC	6-23-5NH5A-0R0	
21	FFC CABLE TP TO MB L-45MM 3V 8PIN (CNUS) NH50AC	6-43-NH5A0-020	

Top (NH57AF1)

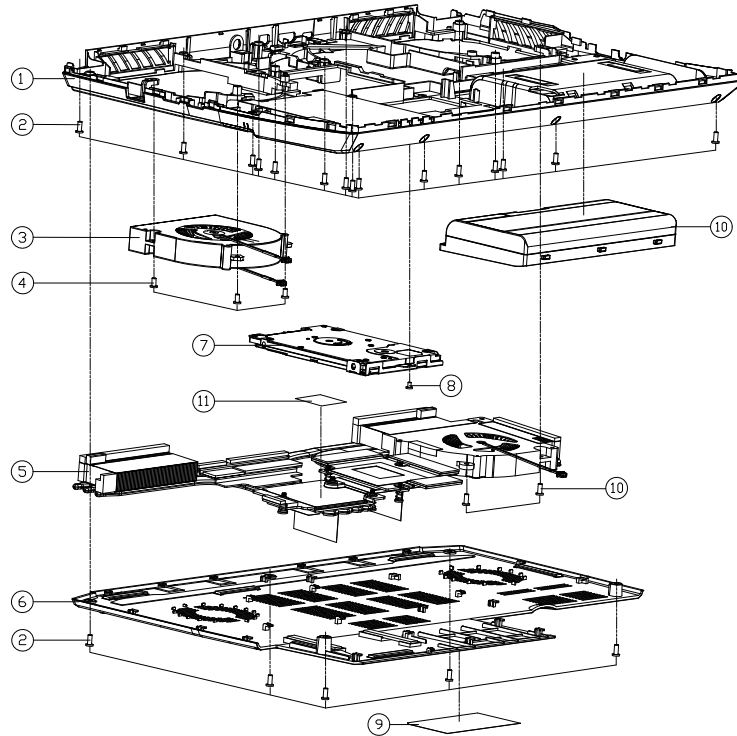


ITEM	PART NAME	PART NO	REMARK
1	BL TO BK CYMBOPPERED HEAD BLACK WHITE SILVER LONG PRINTING ISOLATION WITH VARIO KEY COUPLER	6-80-N15Z0-19D-1	KB FOR MULTI ISC BL KB SERIES
1	BL TO JAPANESE CYMBOPPERED HEAD BLACK WHITE SILVER LONG PRINTING ISOLATION WITH VARIO KEY COUPLER	6-80-N15Z0-21D-1	KB FOR MULTI ISC BL KB SERIES
1	BL TO BRAZILIAN CYMBOPPERED HEAD BLACK WHITE SILVER LONG PRINTING ISOLATION WITH VARIO KEY COUPLER	6-80-N15Z0-33E-1	KB FOR MULTI ISC BL KB SERIES
1	BL TO USA CYMBOPPERED HEAD BLACK WHITE SILVER LONG PRINTING ISOLATION WITH VARIO KEY COUPLER	6-80-N15Z0-01D-1	KB FOR MULTI ISC BL KB SERIES
1	LED FOR KEY WITH 0.04 CYMBOPPERED HEAD BLACK WHITE SILVER LONG PRINTING ISOLATION WITH VARIO KEY COUPLER WITH KEY	6-80-NH5A0-010-1	KB FOR LED FOR KEY NH50 KB SERIES
1	BL TO JAPANESE CYMBOPPERED HEAD BLACK WHITE SILVER LONG PRINTING ISOLATION WITH VARIO KEY COUPLER FOR MCJ	6-80-N15Z0-21D-1M	FOR MULTI ISC BL KB JP SERIES KB FOR MCJ
2	W/O BACKLIT KB MYLAR PET NH50AC	6-40-NH5A2-010	KB FOR MULTI ISC BL KB SERIES
2	MULTI ISC BL KB MYLAR PET NH50AC	6-40-NH5A2-011	KB FOR MULTI ISC BL KB SERIES
3	W/O FP TP MYLAR AG32 NH50AC	6-40-NH5A2-040	ONLY FOR W/O FP
3	W/FP TP MYLAR AG32 NH50AC	6-40-NH5A2-050	ONLY FOR W/FP
4	TOP CASE MODULE NH50AC	6-39-NH5A2-012	
5	TP W/O FP RUBBER (17.9*11.2*1.2T) SILICONE	6-47-N15Z2-090	
6	FFC CABLE AUDIO TO MB L=54MM 5V 22PIN (CNUS) NH50AC	6-43-NH5A0-010	
7	FFC CABLE POWER TO MB L=85MM 3V 4PIN (CNUS) NH50AC	6-43-NH5A0-030	
8	POWER SW BOARD V2.0 NH50AC	6-77-NH5AS-D02	
9	SPEAKER CABLE 25*4*4.7MM 2W 40T 20MM 2P CL-1900-R (CONNECTED) NH50AC	6-23-5NH5A-0L0	
10	SCREW M2*6.2L NI ICT NY FOR SPEAKER	6-35-Z1120-6R2	
11	FFC CABLE FP TO MB L=69MM 5V 6PIN (CNUS) NH50AC	6-43-NH5A0-071	
12	TOUCH PAD SYNAPTICS PTP TM-P3429 (080*60MM) (WHOLE) NH50ZU	6-49-N15Z3-011	ONLY FOR W/O FP
12	TOUCH PAD SYNAPTICS PTP TM-P3429 (080*60MM) (WHOLE) NH50ZU	6-49-N15Z3-021	ONLY FOR W/FP
13	TP MYLAR PET NH50AC	6-40-NH5A2-020	
14	FFC CABLE CLICK TO TP L=61MM 3V 4PIN (QX0) NH50ED	6-43-NH500-051	
15	CLICK BOARD V2.0 NH50AC	6-77-NH5A2-D02	
16	SCREW M2*4L KI NI ICT NY (DD=04.5,DT=0.8)	6-35-B1120-4RC	
17	SPEAKER CABLE 25*4*4.7MM 2W 40T 20MM 2P CL-1900-R (CONNECTED) NH50AC	6-23-5NH5A-0R0	
18	AUDIO BOARD FOR USB V2.0 NH50AC	6-77-NH5A6-D02	
19	FFC CABLE TP TO MB L=45MM 3V 8PIN (CNUS) NH50AC	6-43-NH5A0-020	

Figure 3
Top (NH57AF1)

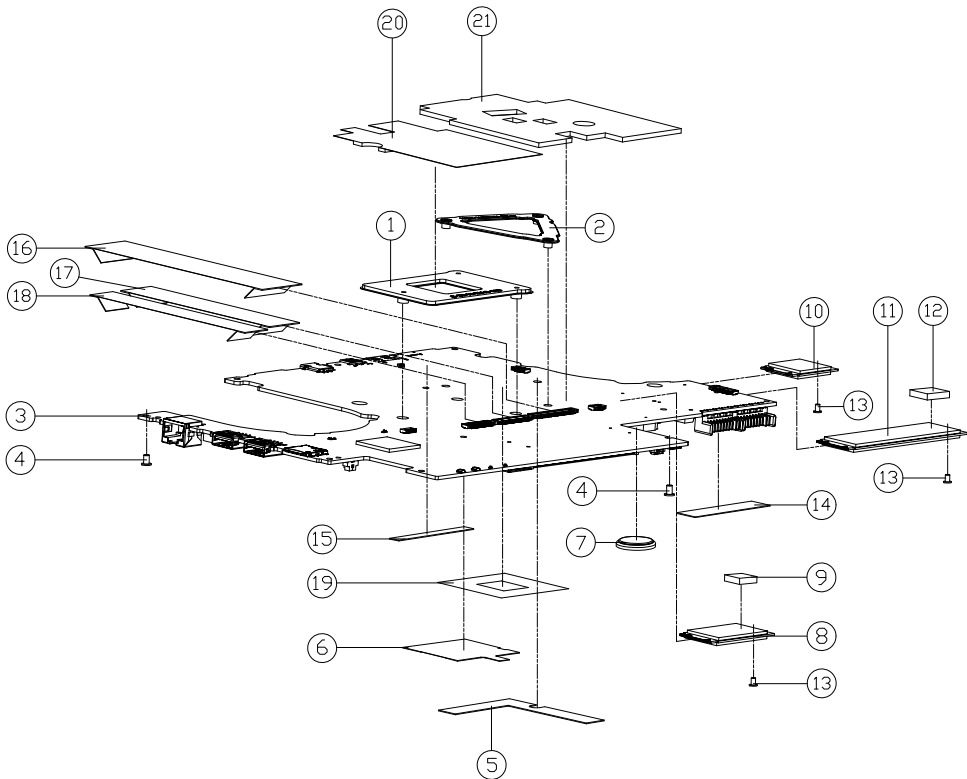
Bottom

Figure A - 4
Bottom



ITEM	PART NAME	PART NO	REMARK
1	BOTTOM CASE MODULE NH50AC	6-39-NH5A3-013	
2	.SCREW M2.5*8L KI BK/Z NY ICT	6-35-B6125-8R0	
3	12V FAN MODULE PWM (FCN) NH50AC	6-31-NH5A3-201	
4	.SCREW M2.5*6L K BZ ICT NY	6-35-82125-6RA	
5	HEATSINK MODULE NH50AF1	6-31-NH5A3-DA1	
6	CPU COVER MODULE NH50AC	6-42-NH5A3-103	
7	W/O HDD ASS'Y NH50ED	6-79-NH50ED0J-010	
7	W/HDD ASS'Y NH50ED	6-79-NH50ED0J-020	
8	SCREW M2*4L KI NI ICT NY (DD=04.5,DT=0.8)	6-35-B1120-4RC	
9	PRODUCT LABEL FOR NH50AF1	6-45-NH50AF13-010	
9	PRODUCT LABEL FOR NH55AFW	6-45-NH55AFW3-010	
9	PRODUCT LABEL FOR NH57AF1	6-45-NH57AF13-010	
9	PRODUCT LABEL FOR NH58AF1	6-45-NH58AF13-010	
9	PRODUCT LABEL FOR NH50AC	6-45-NH50AC03-010	
9	PRODUCT LABEL FOR NH55ACQ	6-45-NH55ACQ3-010	
9	PRODUCT LABEL FOR NH57AC	6-45-NH57AC03-010	
9	PRODUCT LABEL FOR NH58AC	6-45-NH58AC03-010	
10	IMP S LI BATTERY/5000mAh 3.7V IMP ALG COC GRAY/20 90022294HD 5000mAh (TYPICAL) POWER	6-87-PB50S-61D12	
11	GREASE GA-690(0.6G) P157SM	6-47-P1578-020	

Main Board

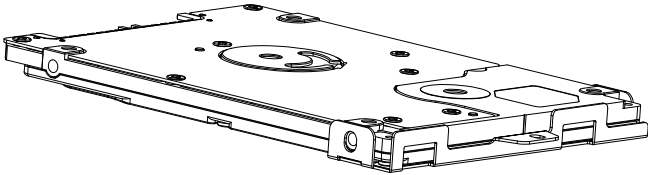
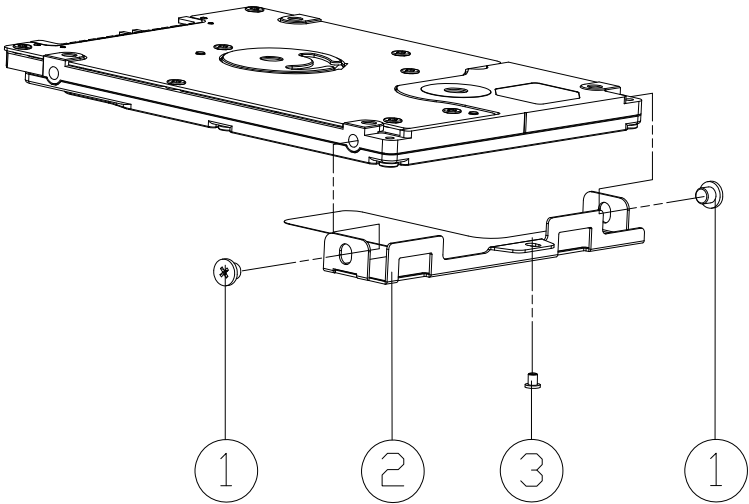


ITEM	PART NAME	PART NO	REMARK
1	CPU SUPPORT AMD AM4 SECC T=15 NH50AC	6-33-NH5AS-011	
2	VGA SUPPORT AMD SECC T=0.5T NH50AC	6-33-NH5AS-021	
3	MAIN BOARD V20 (EPIN/ALU) KIKU/TP/US/CHARGER NH50AC	6-77-NH50AC00-D02	
3	MAIN BOARD V20 (EPIN/ALU) KIKU/TP/US/CHARGER NH50AC	6-77-NH50AC00-D02-3	
3	MAIN BOARD V20 (EPIN/ALU) KIKU/TP/US/CHARGER NH50AC	6-77-NH50AC00-D02-7	
3	MAIN BOARD V20 (EPIN/ALU) KIKU/TP/US/CHARGER NH50AF1	6-77-NH50AF10-D02	
3	MAIN BOARD V20 (EPIN/ALU) KIKU/TP/US/CHARGER NH50AF1	6-77-NH50AF10-D02-3	
3	MAIN BOARD V20 (EPIN/ALU) KIKU/TP/US/CHARGER NH50AF1	6-77-NH50AF10-D02-7	
4	SCREW M2.5x4L (D=4.6,T=0.8) KI NI ICT NY	6-35-B1125-4RA	
5	VGA ABSORBER-1 (60x48x0.35) NH50AC	6-47-NH5AS-021	
6	AMD CPU SOCKET MYLAR (51x43x0.2T) NH50AC	6-40-NH5AS-010	
7	BATTERY 3V 220MA BBBR2032B (KTS)	6-23-6A2B2-030	
8	SSD M2 2280 256GB MLC NAND FLASH 15.1mm x 8mm x 7mm (15.1x8x7mm) 3D TLC 64 LAYERS	6-85-D51R6-H04	OPTION
8	SSD M2 2280 256GB MLC NAND FLASH 15.1mm x 8mm x 7mm (15.1x8x7mm) 3D TLC 64 LAYERS	6-85-D51R6-K00	OPTION
8	SSD M2 2280 256GB MLC NAND FLASH 15.1mm x 8mm x 7mm (15.1x8x7mm) 3D TLC 64 LAYERS	6-85-D51R6-101	OPTION
8	SSD M2 2280 256GB MLC NAND FLASH 15.1mm x 8mm x 7mm (15.1x8x7mm) 3D TLC 64 LAYERS	6-85-D51B-B00	OPTION
8	SSD M2 2280 256GB MLC NAND FLASH 15.1mm x 8mm x 7mm (15.1x8x7mm) 3D TLC 64 LAYERS	6-85-D51B-K00	OPTION
8	SSD M2 2280 256GB MLC NAND FLASH 15.1mm x 8mm x 7mm (15.1x8x7mm) 3D TLC 64 LAYERS	6-85-D51B-S0B	OPTION
8	SSD M2 2280 256GB MLC NAND FLASH 15.1mm x 8mm x 7mm (15.1x8x7mm) 3D TLC 64 LAYERS	6-85-D51T-S05	OPTION
8	SSD M2 2280 256GB MLC NAND FLASH 15.1mm x 8mm x 7mm (15.1x8x7mm) 3D TLC 64 LAYERS	6-85-D51B-102	OPTION
9	THERMAL PAD 14.7x14.7x0.7mm (M4500) W650DC	6-48-W65D3-030	FOR W/ 2ND M2 SSD
10	HEAT SINK M2.5x4L (D=4.6,T=0.8) KI NI ICT NY	6-88-P75FF-4210	
10	HEAT SINK M2.5x4L (D=4.6,T=0.8) KI NI ICT NY	6-88-N15CF-4210	
10	HEAT SINK M2.5x4L (D=4.6,T=0.8) KI NI ICT NY	6-88-N15CF-0C00	
11	SSD M2 2280 256GB MLC NAND FLASH 15.1mm x 8mm x 7mm (15.1x8x7mm) 3D TLC 64 LAYERS	6-85-D51R6-K00	OPTION
11	SSD M2 2280 256GB MLC NAND FLASH 15.1mm x 8mm x 7mm (15.1x8x7mm) 3D TLC 64 LAYERS	6-85-D51B-S0B	OPTION
11	SSD M2 2280 256GB MLC NAND FLASH 15.1mm x 8mm x 7mm (15.1x8x7mm) 3D TLC 64 LAYERS	6-85-D51T-S05	OPTION
12	THERMAL PAD M4500 (17.3x17.3x0.75mm) N750BU	6-48-N7503-010	FOR W/ 1ST M2 SSD
13	SCREW M2x2L KI NI ICT NY (D=2.0,T=0.8)	6-35-B1120-2RA	
14	TAPE MYLAR (C),MYLAR M550J	6-40-M55J2-030	
15	TAPE MYLAR (B),MYLAR M550J	6-40-M55J2-020	
16	FFC CABLE K3 TO M2 L=102MM 5V 26PIN (CNLS) NH50AC	6-43-NH5A0-050	FOR M2 SSD
17	FFC CABLE K3 BK 40P TO M2 L=102MM 5V 40PIN (CNLS) NH50AC	6-43-NH5A0-060	FOR M2 SSD
18	FFC CABLE K3 BK 30P TO M2 L=102MM 5V 30PIN (CNLS) NH50AC	6-43-NH5A0-040	FOR M2 SSD
19	NBIE G0 CHIP MYLAR PET (37.5x37.5x0.2) P950ED	6-40-P95NS-D20	FOR NH50AC
19	NBIE G1 G2 CHIP MYLAR PET (37.5x37.5x0.2) P775TM	6-40-P77F3-010	FOR NH50AF1
20	MB MYLAR FOR NOISE NH50AC	6-40-NH5AS-020	
21	MB CR SPONGE (100.5x81x21.5T) FOR NOISE NH50AC	6-47-0019A-A15	

Figure A - 5
Main Board

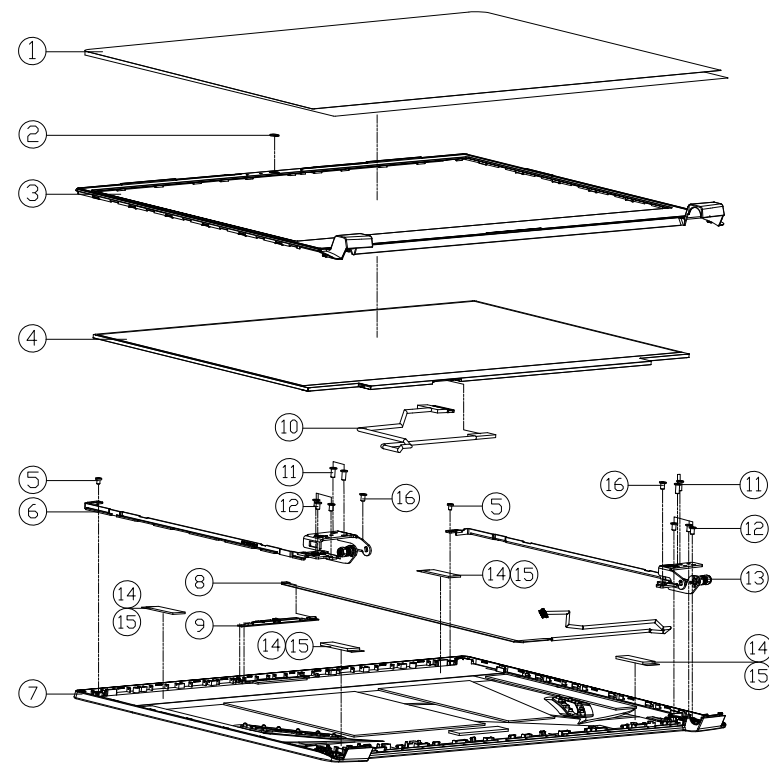
HDD

Figure A - 6
HDD



ITEM	PART NAME	PART NO	REMARK
1	SCREW M3*3.0L KI NI ICT NY	6-35-B1130-3R5	
2	HDD BKT 7MM SECC T=0.5 N250LU	6-33-N250J-011	
3	SCREW M2*4L KI NI ICT NY (DD=Ø4.5,DT=0.8)	6-35-B1120-4RC	

LCD (NH50AF1)



ITEM	PART NAME	PART NO	REMARK
1	LCD PROTECT MYLAR BOPP N150ZU	6-40-N15Z8-010	
2	CCD LENS PMMA (DIAMETER 3.6MM) (MP1) P970EN	6-42-P97N1-011-1	
3	LCD FRONT COVER MODULE NH50ED	6-39-NH501-013	
4	LCD INVERTER FHD/VVA/N7/NON GT/ETP INNOVIX NIS6ACE-EN1 QLED 28MM	6-50-LBB26-V020	
4	LCD INVERTER FHD/VVA/N7/NON GT/ETP LG LPS6WFC-SPR2 QLED 28MM	6-50-LBB26-L121	
4	LCD INVERTER FHD/VVA/N7/NON GT/ETP PANDA LMS6LFL LED 32MM	6-50-LBB32-Y150	
4	LCD INVERTER FHD/VVA/N7/NON GT/ETP LG LPS6WFC-SPR3 QLED 32MM	6-50-LBB32-L015	
5	SCREW M2*3L KI BZ ICT NY (DD=0.45,DT=0.4)	6-35-B6120-3RD	
6	HINGE L (SK7+SGCC) NH50AC	6-33-NH5A1-0L0	
7	LCD BACK COVER MODULE NH50ED	6-39-NH501-022	
8	CCD CABLE L=550MM 30V 8PIN (HT) NH50ED NH50ED	6-43-NH50T-011-1	
9	CCD CABLE L=550MM 30V 8PIN (HT) NH50ED NH50ED	6-88-N15ZC-5100	OPTION
9	CCD CABLE L=550MM 30V 8PIN (HT) NH50ED NH50ED	6-88-N15ZC-4900	OPTION
10	WIRE CABLE FOR EDP 300MM 30V 1.30 PIN (HT)ALV CONLYO-430LPROD PISSECT	6-43-PB501-032-2N	
10	WIRE CABLE FOR EDP 300MM (D 19V 30PIN (HT)ALS CONLYO-430LPROD-HF) NIS6WU	6-43-N85H1-010-2S	
11	.SCREW M2.5*6L K BZ ICT NY	6-35-82125-6RA	
12	.SCREW M2.5*4L KI NI ICT NY	6-35-21125-4R0	
13	HINGE R (SK7+SGCC) NH50AC	6-33-NH5A1-0R0	
14	PANEL LA LA ADHESIVE(35*10*1) NH50ED	6-47-NH501-080-1	FOR 6-50-LBB32-Y150 6-50-LBB32-L015
15	LA LA ADHESIVE (35*10*1.6T) NH50ED	6-47-NH501-0A0-1	
16	SCREW M2.5*4L (D=4.6,T=0.8) KI NI ICT NY	6-35-B1125-4RA	

Figure A - 7
LCD (NH50AF1)

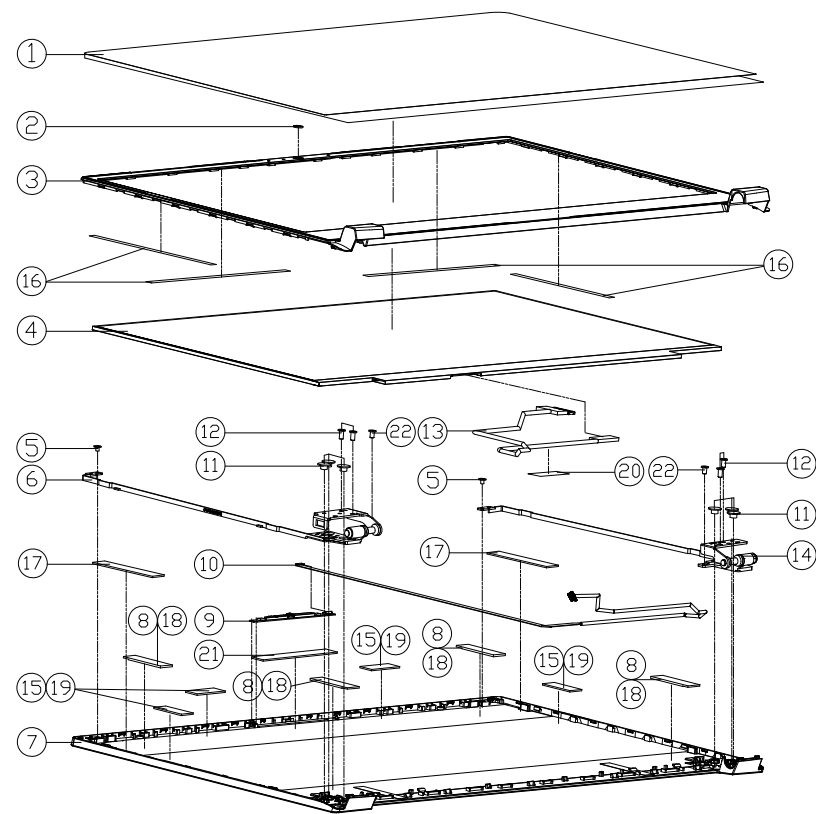
A.Part Lists

This exploded view diagram illustrates the components of the ceiling-mounted lighting fixture assembly. The parts are numbered as follows:

- 1**: Ceiling panel
- 2**: Mounting bracket
- 3**: Main housing
- 4**: Diffuser plate
- 5**: Mounting bracket (bottom view)
- 6**: Mounting bracket (side view)
- 7**: Mounting bracket (side view)
- 8**: Mounting bracket (side view)
- 9**: Mounting bracket (side view)
- 10**: Mounting bracket (side view)
- 11**: Mounting bracket (side view)
- 12**: Mounting bracket (side view)
- 13**: Mounting bracket (side view)
- 14**: Mounting bracket (side view)
- 15**: Mounting bracket (side view)
- 16**: Mounting bracket (side view)
- 17**: Mounting bracket (side view)
- 18**: Mounting bracket (side view)
- 19**: Mounting bracket (side view)
- 20**: Mounting bracket (side view)

ITEM	PART	NAME	PART NO	REMARK
1	LCD PROTECT MYLAR	BOPP N150ZU	6-40-N15Z8-010	
2	CCD LENS PMMA (DIAMETER 3.6MM) (MP1) P970EN		6-42-P97N1-011-1	
3	LCD FRONT COVER MODULE	NH50ED	6-39-NH501-013	
4	LCD NIS6* FHD/P/VA/1440/50 G/SYN/70/NON GT/CEP LG LP156WTC-SPD LED 2.6MM		6-50-LBB26-L121	
4	LCD NIS6* FHD/VA/VA/120/NON GT/CEP INNOXUS NIS6ACE-EXT LED 2.6MM		6-50-LBB26-V020	
4	LCD NIS6* FHD/VA/VA/120/NON GT/CEP PANDA LMS56LFC LED 3.2MM		6-50-LBB32-Y150	
4	LCD NIS6* FHD/P/VA/1440/50 GT/CEP LG LP156WTC-SPD LED 3.2MM		6-50-LBB32-L015	
5	WIRE CABLE FOR CEP 300M 30V 1 30 PIN 047LV CONVLV-KOZUMPO P980ET		6-43-PB501-032-2N	FDR 6-50-LBB26-V020 6-50-LBB32-L015
5	WIRE CABLE FOR CEP 4K 300M 0.19 30PIN CONVLV CONVLV-KOZUMPO-HY N85BU		6-43-N85H1-010-2S	FDR 6-50-LBB26-L121 6-50-LBB32-Y150
6	CCD CABLE L=550MM 30V 8PIN 047V NH50ED NH50ED		6-43-NH50T-011-1	
7	INC COVER COVER TUBING 0.30X0.30X0.10 IN 0.25IN HEAD FROM WHITE LED VEG-MEMORY INDEX WITH FTD		6-88-N15ZC-5100	OPTION
7	INC COVER COVER TUBING 0.30X0.30X0.10 IN 0.25IN HEAD FROM WHITE LED VEG-MEMORY INDEX WITH FTD		6-88-N15ZC-4900	OPTION
8	.SCREW M2.5*6L K BZ ICT NY		6-35-82125-6RA	
9	SCREW M2.5*2.5L KI BK/Z ICT NY(Ø8,T=0.6)		6-35-B6125-2R5	
10	HINGE L MODULE	NH58EDQ	6-33-NH581-L01	
11	LCD RUBBER (8*2.5*1.45T) SILICON BLACK NH58EDQ		6-47-NH581-041	FDR 6-50-LBB32-Y150 6-50-LBB32-L015
12	LCD BACK COVER MODULE NH58EDQ		6-39-NH581-023	
13	HINGE R MODULE NH58EDQ		6-33-NH581-R01	
14	LCD LALA SPONG (35*10*1.35T) FM92822X+CR4832 NH58EDQ		6-47-0019A-35P	
15	LCD LALA SPONG (35*10*2.0T) FM92822X+CR4832 NH58EDQ		6-47-0019A-35Q	FDR 6-50-LBB26-V020 6-50-LBB32-L121
16	FRONT COVER BLUE U&D (NITTO 5000 135*4*0.15) FDR W6555H		6-40-W6551-040	
17	TOP CASE MYLAR FR83 25*7*0.05 P180HM		6-40-P1802-030	
18	SCREW M2.5*4L (D=4.6,T=0.8) KI NI CT ICT NY		6-35-B1125-4RA	
19	LCD RUBBER (8*2.5*1.45T) SILICON BLACK NH58EDQ		6-47-NH581-041	FDR 6-50-LBB26-V020 6-50-LBB32-L015
20	LCD LALA SPONG (35*10*0.75T) FM92822X+CR4832 NH58EDQ		6-47-0019A-35R-1	FDR 6-50-LBB32-Y150 6-50-LBB32-L015

LCD (NH55AFW)



ITEM	PART NAME	PART NO	REMARK
1	LCD PROTECT CLOTH NH55EDQ	6-44-NH558-010	
2	CCD LENS PMMA (DIAMETER 3.6MM) (MP1) P970EN	6-42-P97N1-011-1	
3	LCD FRONT COVER MODULE NH50ED	6-39-NH501-014	
4	LCD NH56' FHD/VA/700/24/1600/1600 G/CEP INCELLUX NH56RCE-ENI QLED 250M	6-50-LBB26-V020	
4	LCD NH56' FHD/IPS/700/24/1600/1600 G/CEP LG LPS6WTC-SPR QLED 250M	6-50-LBB26-L121	
4	LCD NH56' FHD/VA/200/24/1600/1600 G/CEP PANDA LMS6LFL QLED 320M	6-50-LBB32-Y150	
4	LCD NH56' FHD/IPS/700/24/1600/1600 G/CEP LG LPS6WTC-SPR QLED 320M	6-50-LBB32-L015	
5	SCREW M2*3L K1 BZ ICT NY (DD=0.45,DT=0.4)	6-35-B6120-3RD	
6	HINGE L (SK7) NH55EDQ	6-33-NH551-0L1	
7	LCD BACK COVER MODULE NH55EDQ	6-39-NH551-023	
8	LCD BACK SPONGE DOWN (30*10*1.5) (S-10)C43R22-FH020220 NH55EDQ	6-47-0019A-C01-1	FOR 6-50-LBB32-Y150 6-50-LBB32-L015
9	PC COVER FRONT FRAME OF PROTECT CLOTH IN BY THE FRONT FRAME VANTE-ED VOS REMOVED VOS VENT	6-88-N15ZC-5100	OPTION
9	PC COVER REAR FRAME OF PROTECT CLOTH IN BY THE REAR FRAME VANTE-ED VOS REMOVED VOS VENT	6-88-N15ZC-4900	OPTION
10	CCD CABLE L=550MM 30V 8PIN (HT) NH50ED NH50ED	6-43-NH50T-011-1	
11	SCREW M2.5*2.5L K1 BK/Z ICT NY(08,T=0.6)	6-35-B6125-2R5	
12	SCREW M2.5*6L K BZ ICT NY	6-35-82125-6RA	
13	WIRE CABLE FOR EXP 300MM 30V 1 30 PIN QTLW CONLYP-K03LPROG PRESET	6-43-PB501-032-2N	
13	WIRE CABLE FOR EXP 4K 300MM 19V 30PIN CONLYS CONLYS0302-HF N030U	6-43-N85H1-010-2S	
14	HINGE R (SK7) NH55EDQ	6-33-NH551-0R1	
15	LCD SPONGE (SM55 25*10*1T) NH55EDQ	6-47-0019A-25R	FOR 6-50-LBB32-Y150 6-50-LBB32-L015
16	FRONT COVER GLUE UBD ONTTO 5000 (35*3*0.15) FOR W655S2	6-40-W6551-040	
17	LCD SPONGE (60*10*1.5T) SM55 P970EN	6-47-0019A-60U	FOR 6-50-LBB26-V020 6-50-LBB26-L121
18	LALATAPE FOR 026 PANEL (40*10*1.2T) N232WU	6-47-N23U1-010	FOR 6-50-LBB26-V020 6-50-LBB26-L121
19	LCD SPONGE (SM55 25*10*1-5T) NH55EDQ	6-47-0019A-25Q	FOR 6-50-LBB26-V020 6-50-LBB26-L121
20	TOP CASE MYLAR FR83 25*7*0.05 P180HM	6-40-P1802-030	
21	LCD SPONGE (60*10*1.5T) SM55 P970EN	6-47-0019A-60U	
22	SCREW M2.5*4L (D=4.6,T=0.8) K1 NI ICT NY	6-35-B1125-4RA	

Figure A - 9
LCD (NH55AFW)

A.Part Lists

ITEM	PART	NAME	PART NO	REMARK
1	LCD PROTECT MYLAR	BOPP N150ZU	6-40-N15Z8-010	
2	CCD LENS PMMA (DIAMETER 3.6MM) (M1) P970EN		6-42-P97N1-011-1	
3	LCD FRONT COVER MODULE	NH50ED	6-39-NH501-013	
4	LCD NSS67 FHD/VVA/NANON GT/EXP INNOXUS NSS67E-DM LED 20MM		6-50-LBB26-V020	
4	LCD NSS67 FHD/PS/VA/NANO 6-50/NANON GT/EXP LG UP56K-SP7 LED 20MM		6-50-LBB26-L121	
4	LCD NSS67 FHD/VA/1200/NANON GT/EXP PANDA LMS67G LED 32MM		6-50-LBB32-Y150	
4	LCD NSS67 FHD/PS/VA/NANON GT/EXP LG UP56K-SP10 LED 32MM		6-50-LBB32-L015	
5	TAPE FOR FIX 1.35MM PANEL FM2822C/CR4832 P950EN		6-40-P95N1-011	FOR 6-50-LBB32-Y150 6-50-LBB32-L015
6	LCD RUBBER (8x25x1.57) SILICON BLACK NH58ED		6-47-NH581-041	FOR 6-50-LBB26-L121 6-50-LBB32-L015
7	BACK COVER MODULE	NH57ED	6-39-NH571-023	
8	LALATPE FOR 026 PANEL (40x10x1.8T) N140WU		6-47-N1401-010	FOR 6-50-LBB26-V020 6-50-LBB26-L121
9	WIRE CABLE FOR EXP 300MM 30V 1 30 PIN HTVAL CONDUIT-ACRUSP PRESET		6-43-PB501-032-2N	
9	WIRE CABLE FOR EXP 300MM 0.15V 30PIN CHNVALS CONDUIT-ACRUSP PRESET		6-43-N85H1-010-2S	
10	CCD CABLE L=550MM 30V 8PIN (HT) NH50ED NH50ED		6-43-NH50T-011-1	
11	NO COVER FRONT COVER 026/026/026 IN 0.15V 30PIN HTVAL CONDUIT-ACRUSP PRESET		6-88-N15ZC-5100	OPTION
11	NO COVER FRONT COVER 026/026/026 IN 0.15V 30PIN HTVAL CONDUIT-ACRUSP PRESET		6-88-N15ZC-4900	OPTION
12	.SCREW M2.5x6.1M K BZ ICT NY		6-35-82125-6RA	
13	SCREW M2.5x2.5L KI BK/2 ICT NY(ØB,T=0.6)		6-35-B6125-2R5	
14	HINGE L SK7 NH57AC		6-33-NH5A1-7L0	
15	LCD SPONGE (SM55 25x10x1.1T) NH55EDQ		6-47-0019A-25R	FOR 6-50-LBB32-L015 6-50-LBB32-Y150
16	LCD SPONGE (SM55 25x10x1.5T) NH55EDQ		6-47-0019A-25Q	FOR 6-50-LBB26-V020 6-50-LBB26-L121
17	HINGE R SK7 NH57AC		6-33-NH5A1-7R0	
18	ANTENNA (QD) PEPA WLAU WLT M2 PCB LD 24G/5G 450MM W57ED		6-23-7NH57-020	
19	ANTENNA (QD) PEPA WLAU WLT M2 PCB LD 24G/5G 450MM W57ED		6-23-7NH57-010	
20	TAPE MYLAR TRANSPARENT (20x10x0.05) P1808M		6-40-P1803-020	
21	SCREW M2.5x4L (D=4.6,T=0.8) KI NI ICT NY		6-35-B1125-4RA	
22	LCD SPONGE (60x10x1.5T) SM55 P970EN		6-47-0019A-60R	FOR 6-50-LBB32-L015 6-50-LBB32-Y150
23	FRONT COVER BLUE (UD) 5000 125x40x1.5T) SM55 P970EN		6-40-W6551-040	

Appendix B: Schematic Diagrams

This appendix has circuit diagrams of the *NH50AF1 / NH55AFW / NH57AF1 / NH58AF1* notebook's PCB's. The following table indicates where to find the appropriate schematic diagram.

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Processor 3/8 - Page B - 6	Misc - GPIO, I2C and ROM - Page B - 30	PER KEY LED KB - Page B - 54
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DIAGRAMS**

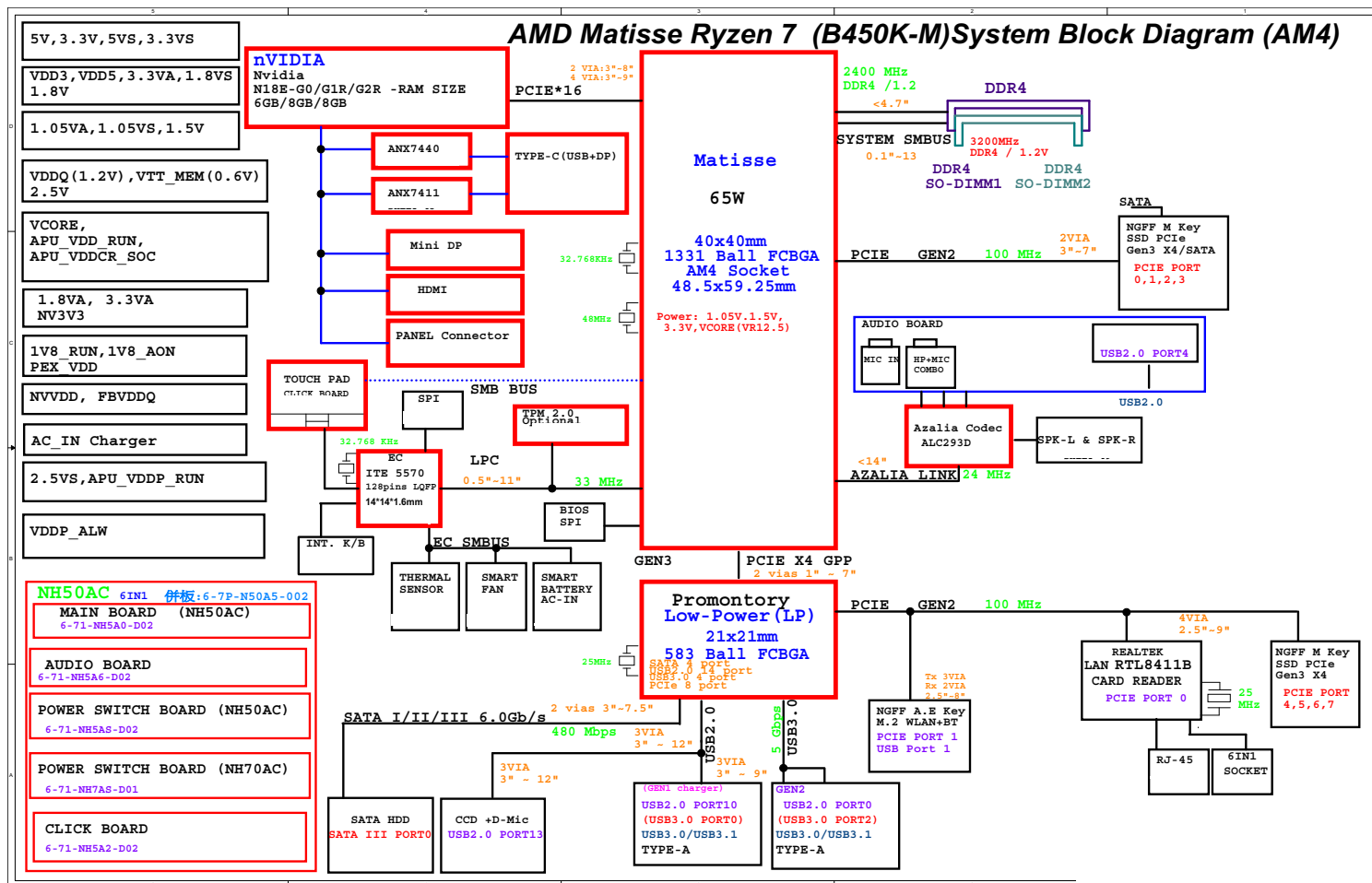


Version Note

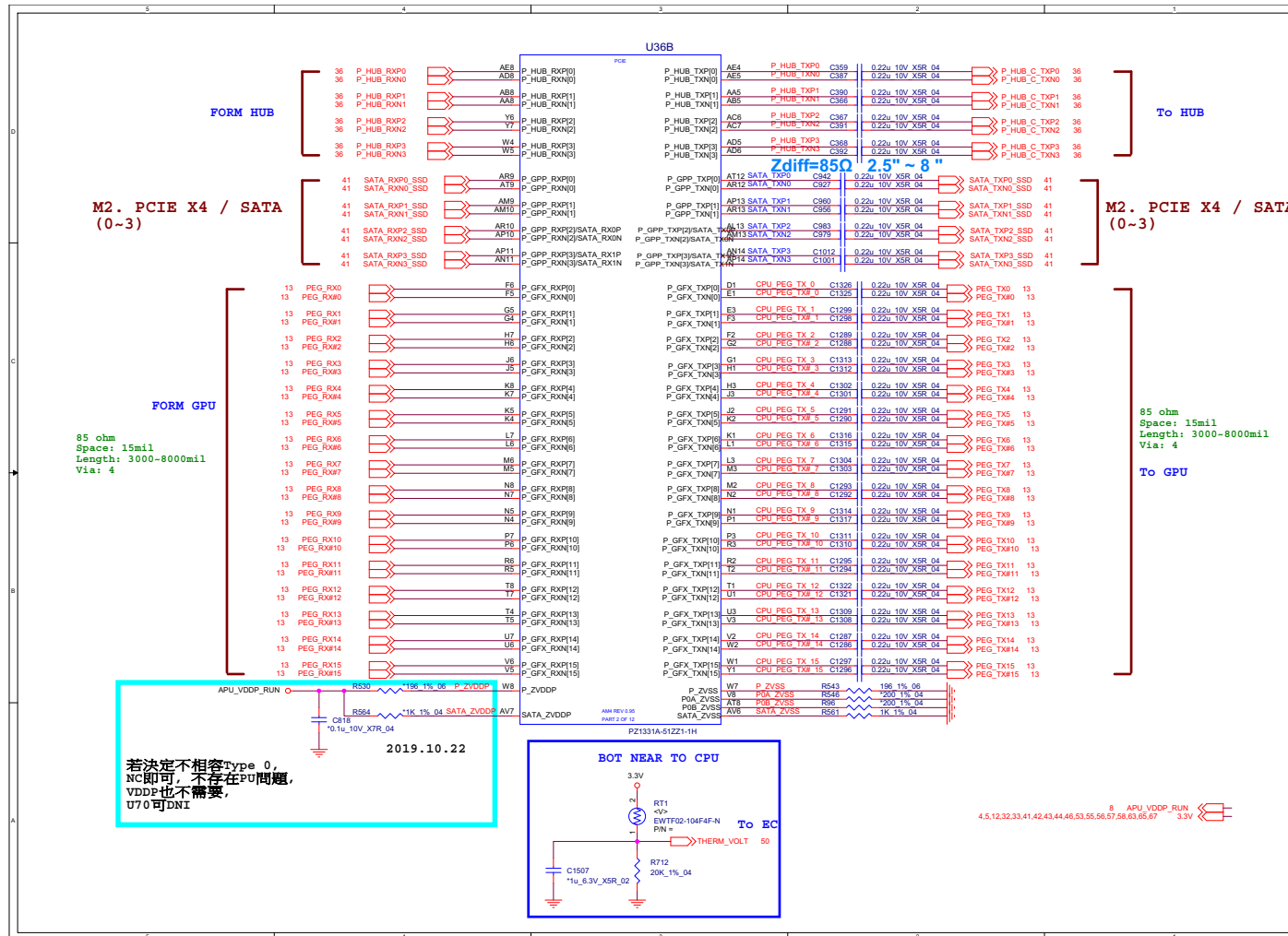
The schematic diagrams in this chapter are based upon version 6-7P-NH5A5-002. If your mainboard (or other boards) are a later version, please check with the Service Center for updated diagrams (if required).

System Block Diagram

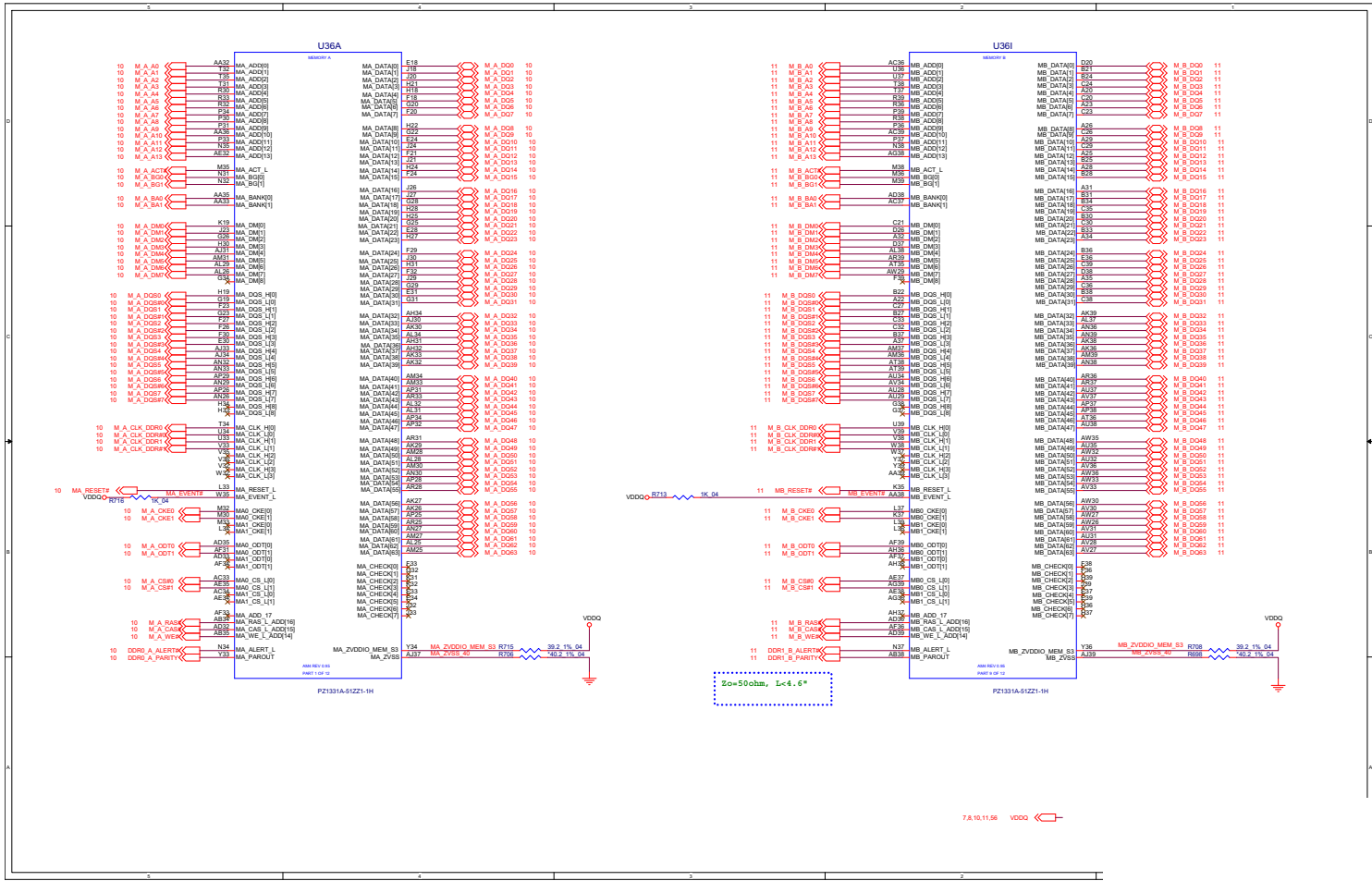
Sheet 1 of 73
System Block
Diagram



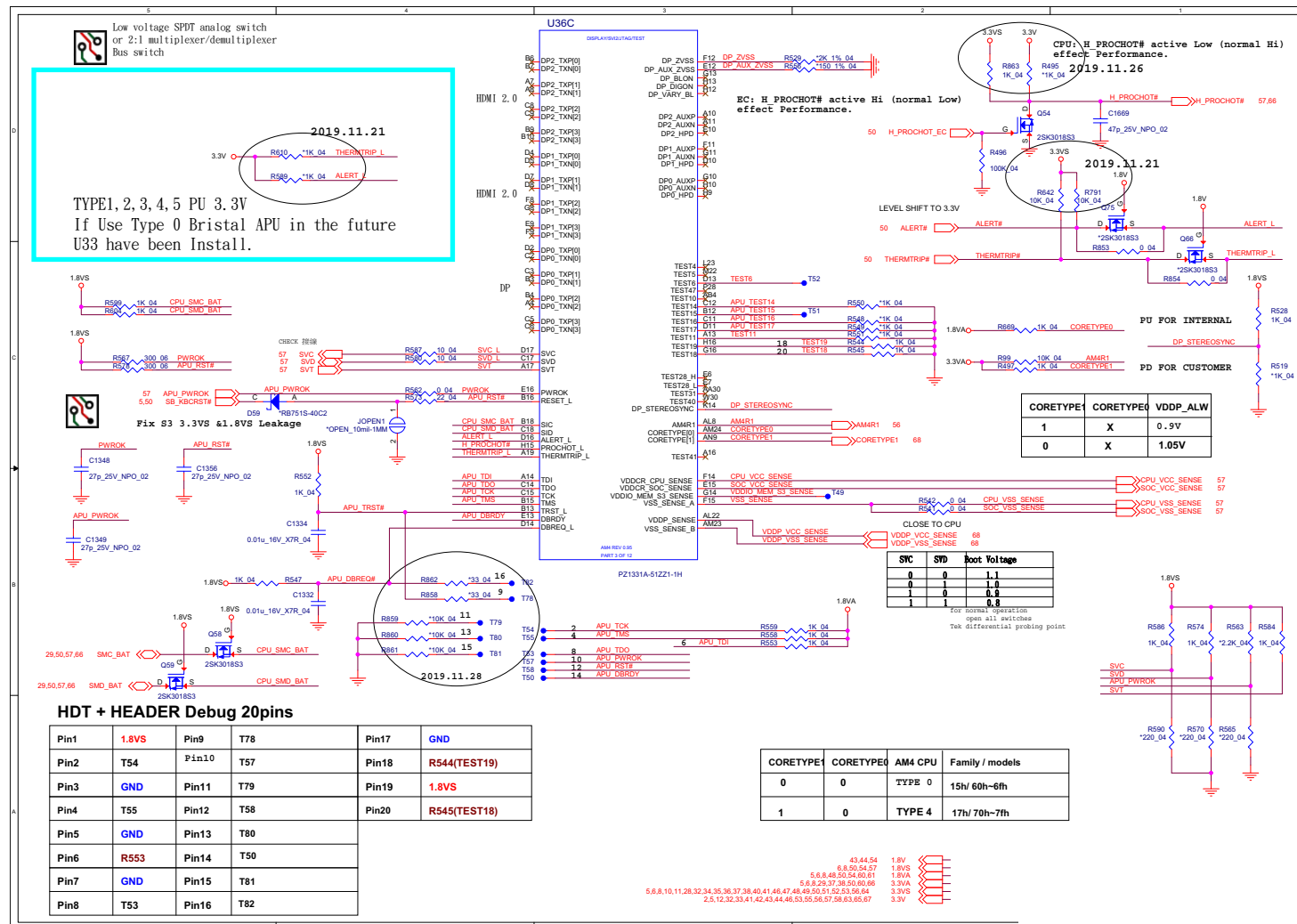
Processor 1/8



Processor 2/8

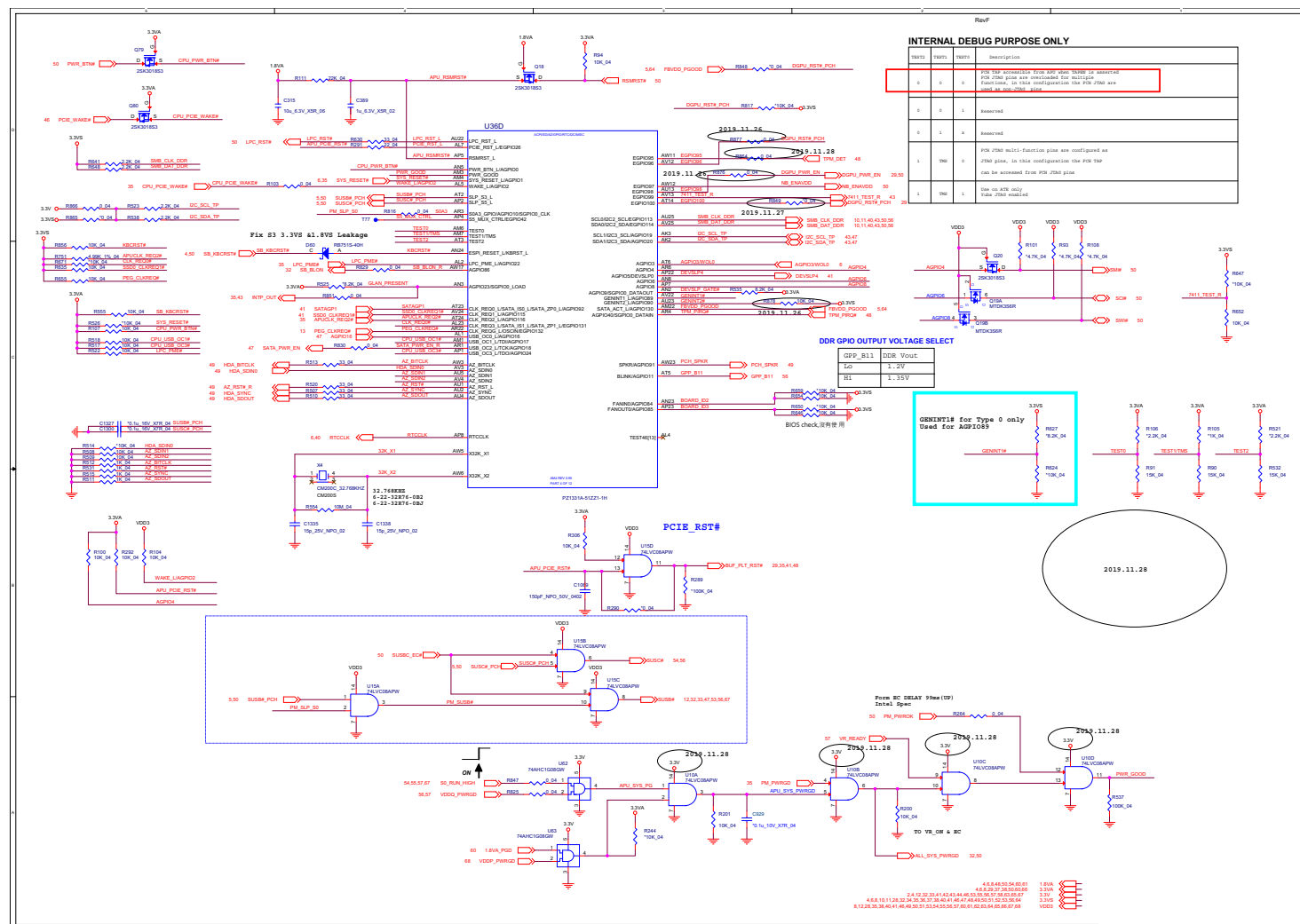


Processor 3/8 B - 5

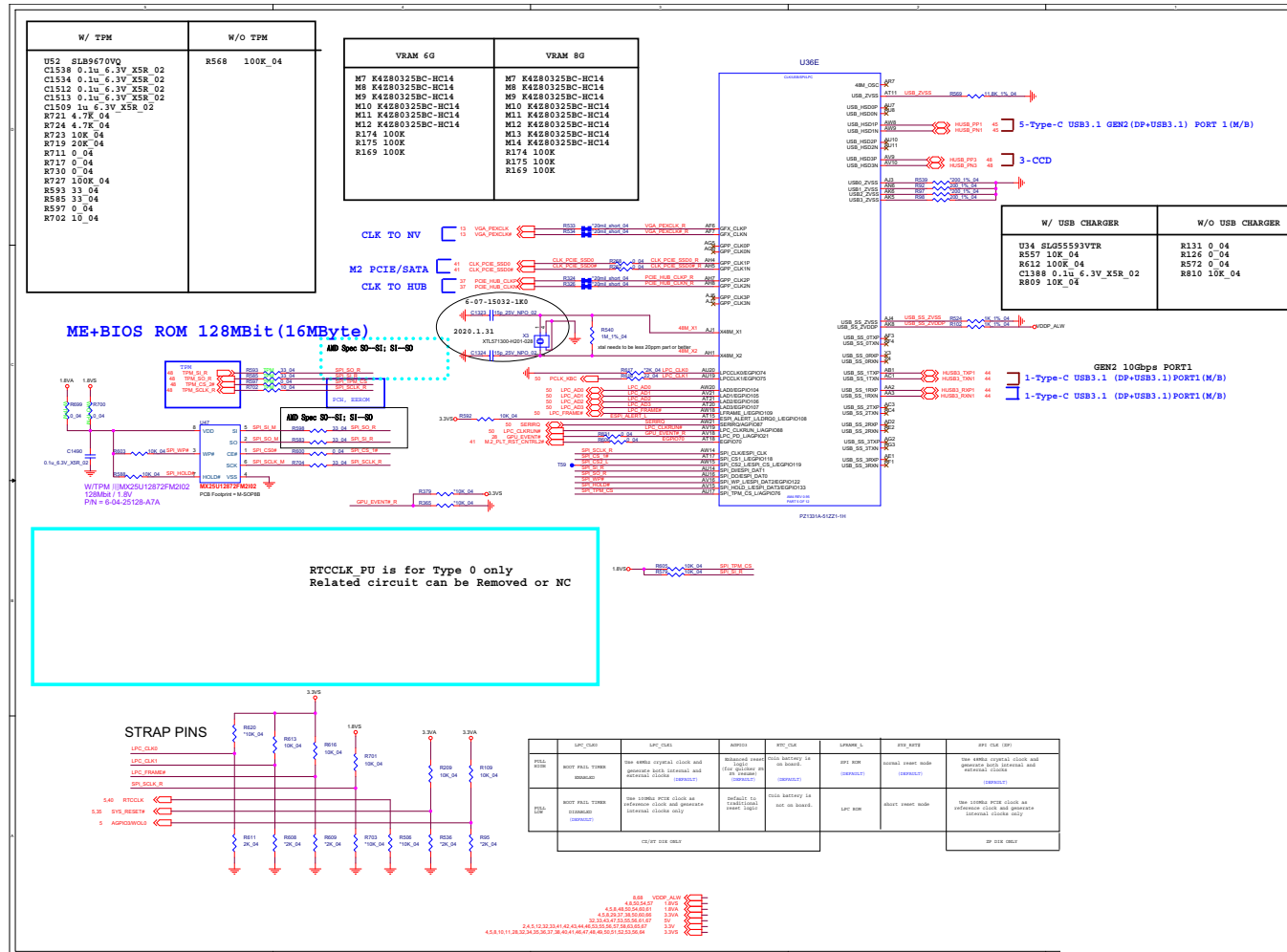


Processor 4/8

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Processor 4/8

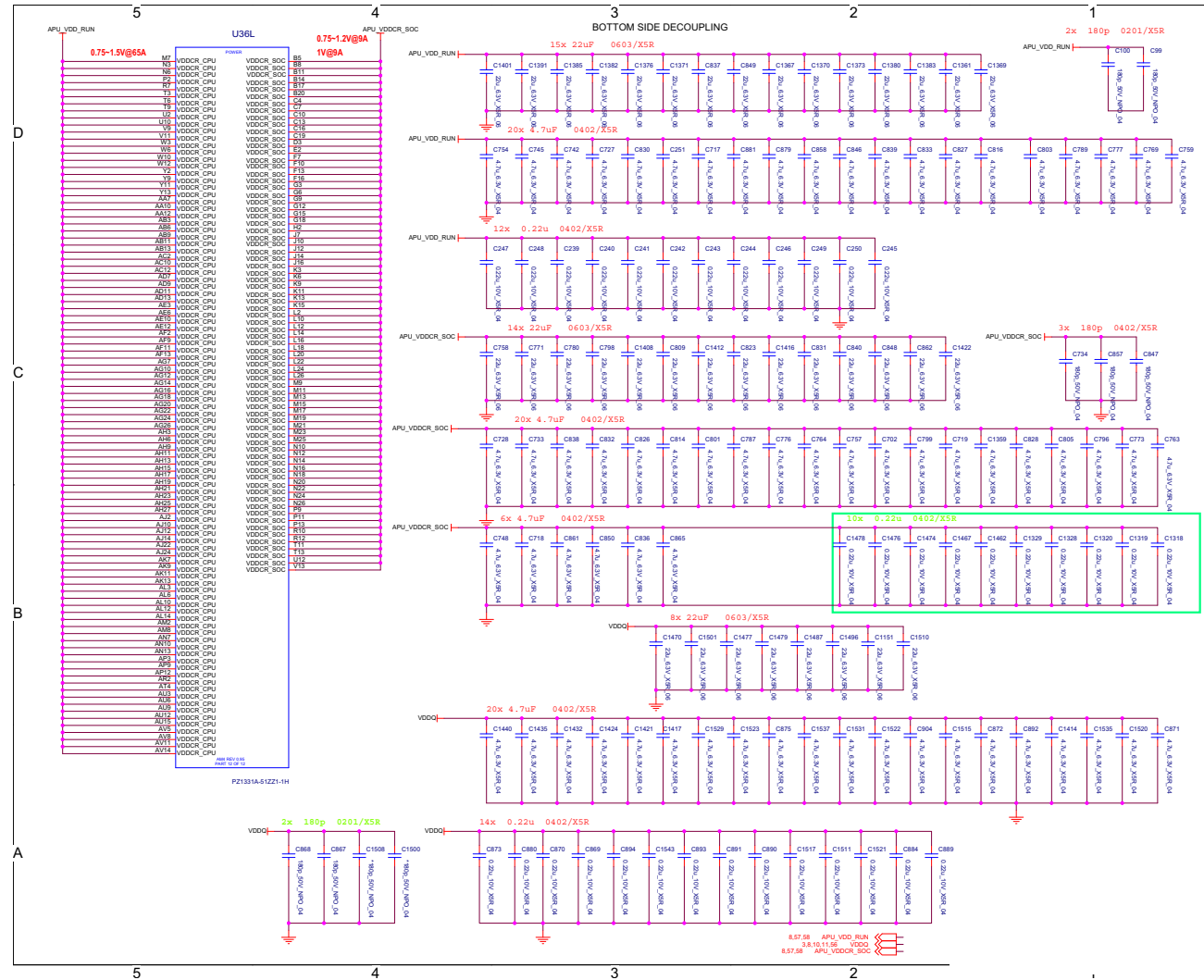


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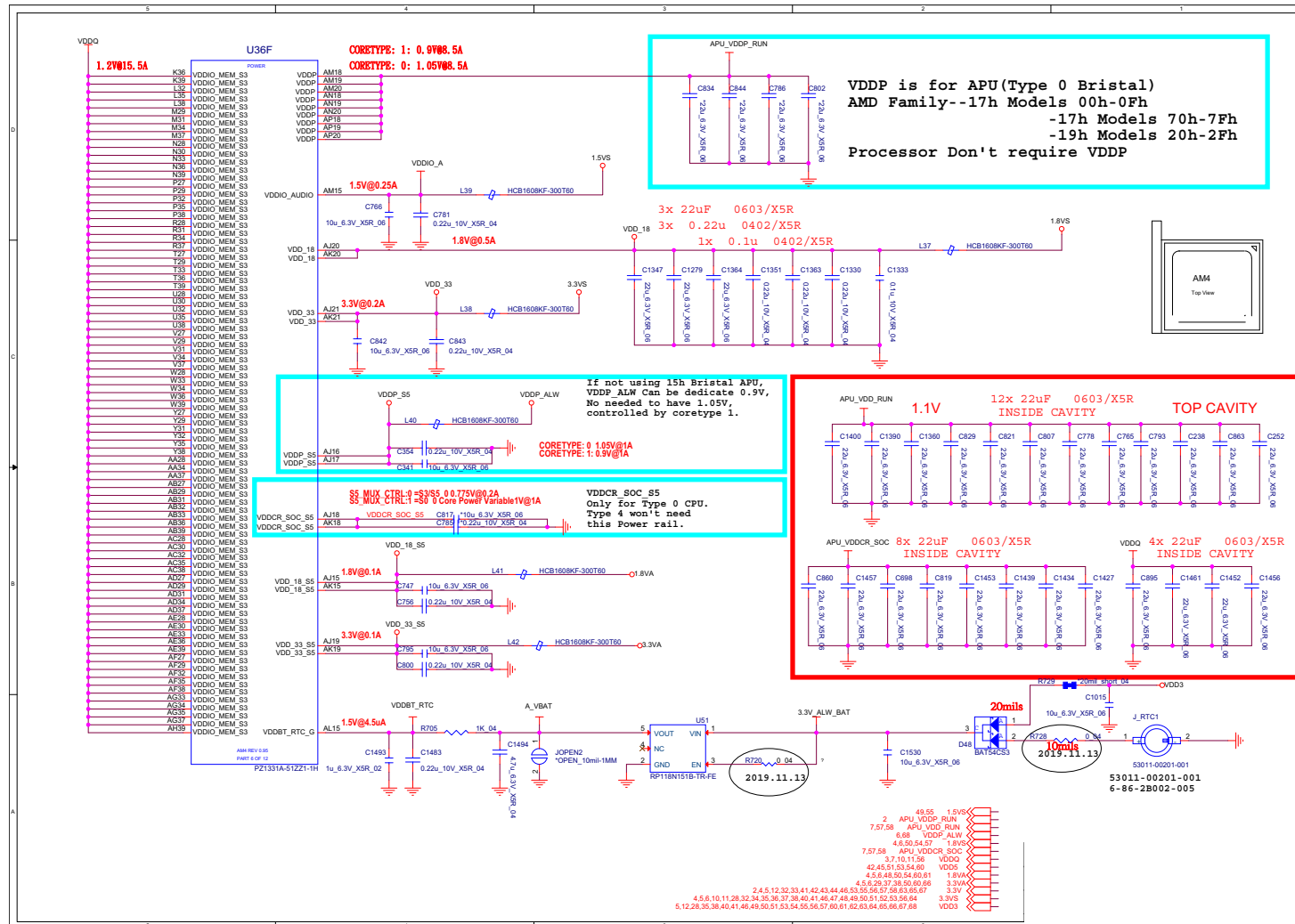
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Processor 5/8

Schematic Diagrams

Processor 6/8

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Processor 6/8

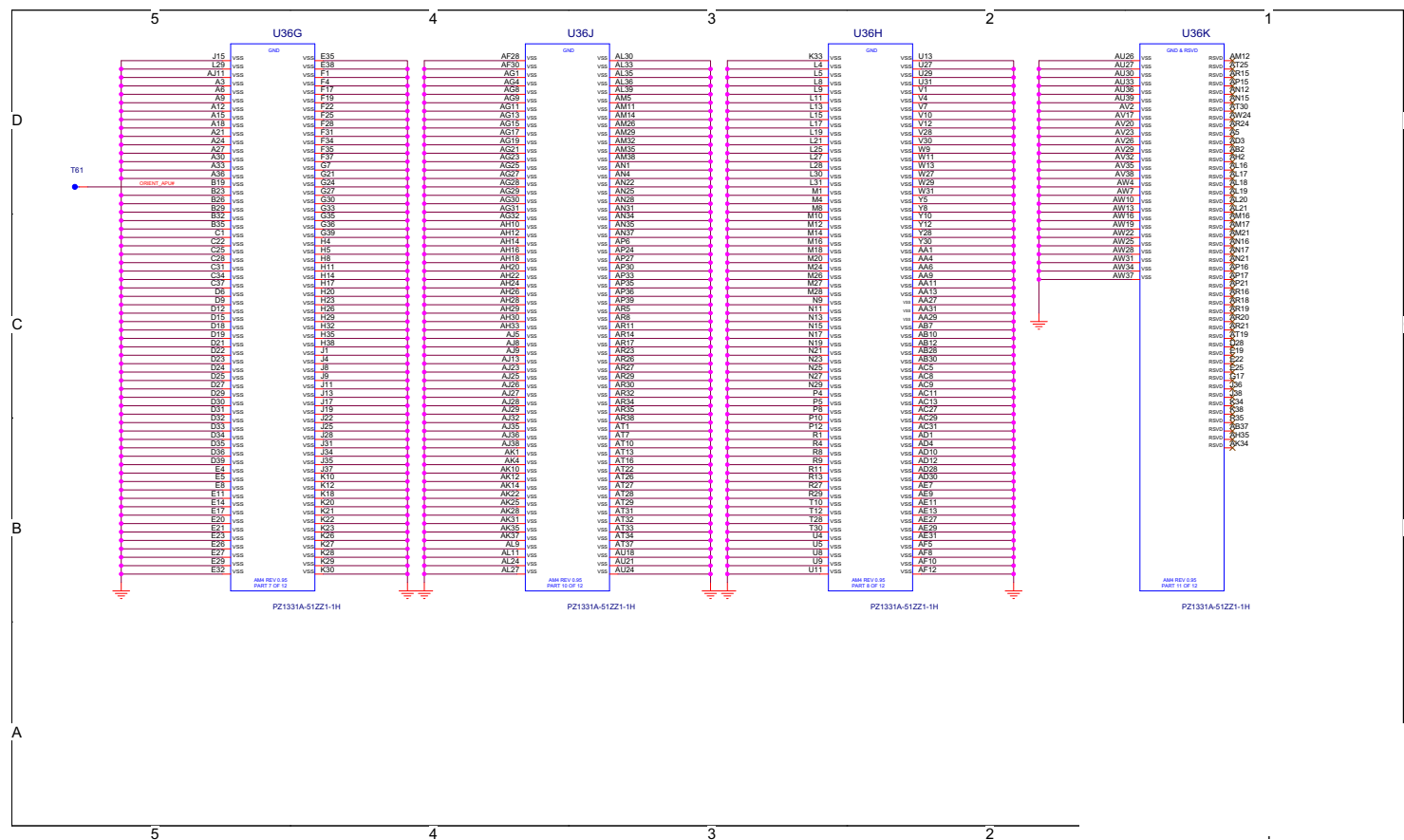
Processor 7/8 B - 9



Processor 8/8

B. Schematic Diagrams

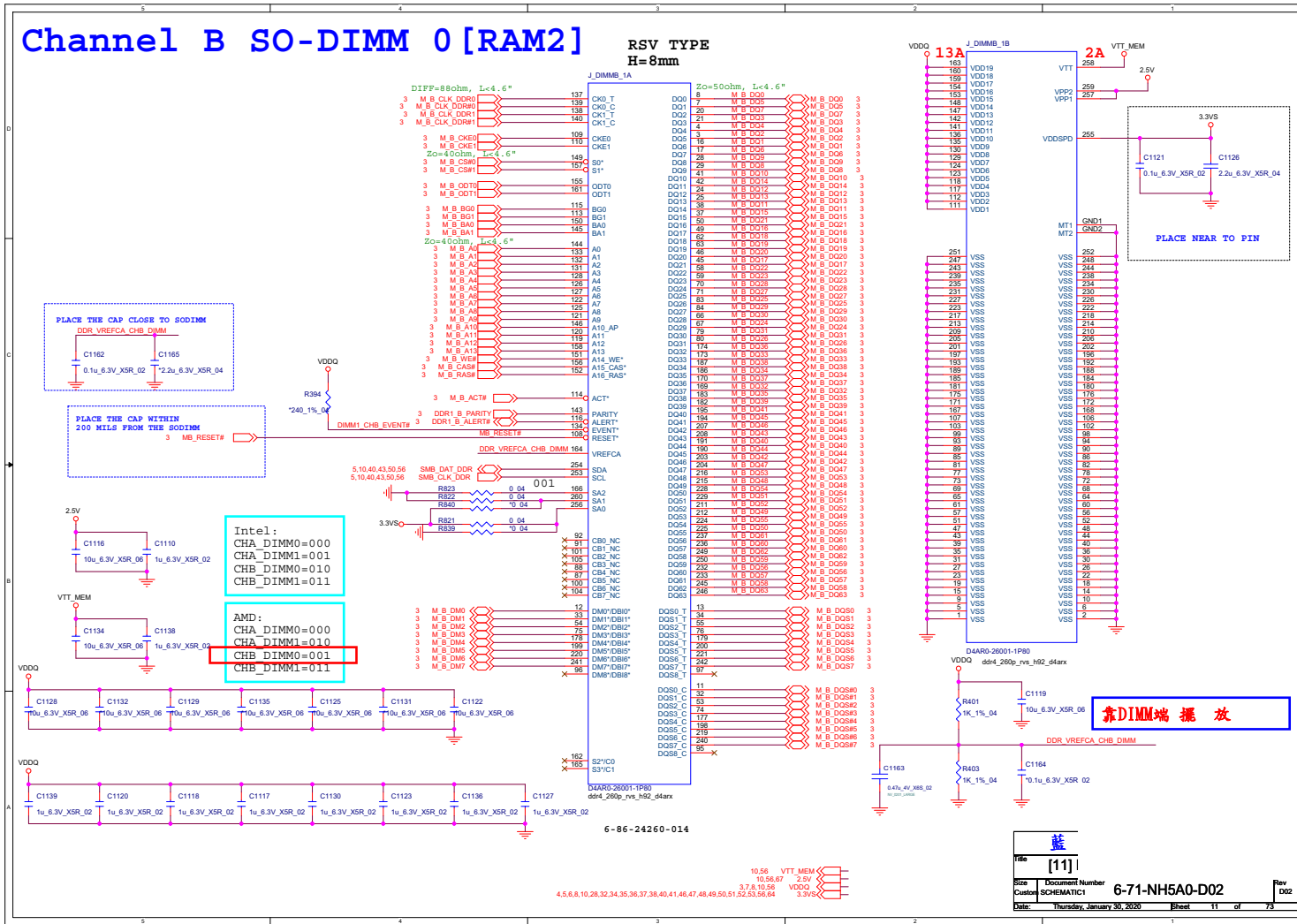
Sheet 9 of 73
Processor 8/8



DDR4 CHB SO-DIMM

Channel B SO-DIMM 0 [RAM2]

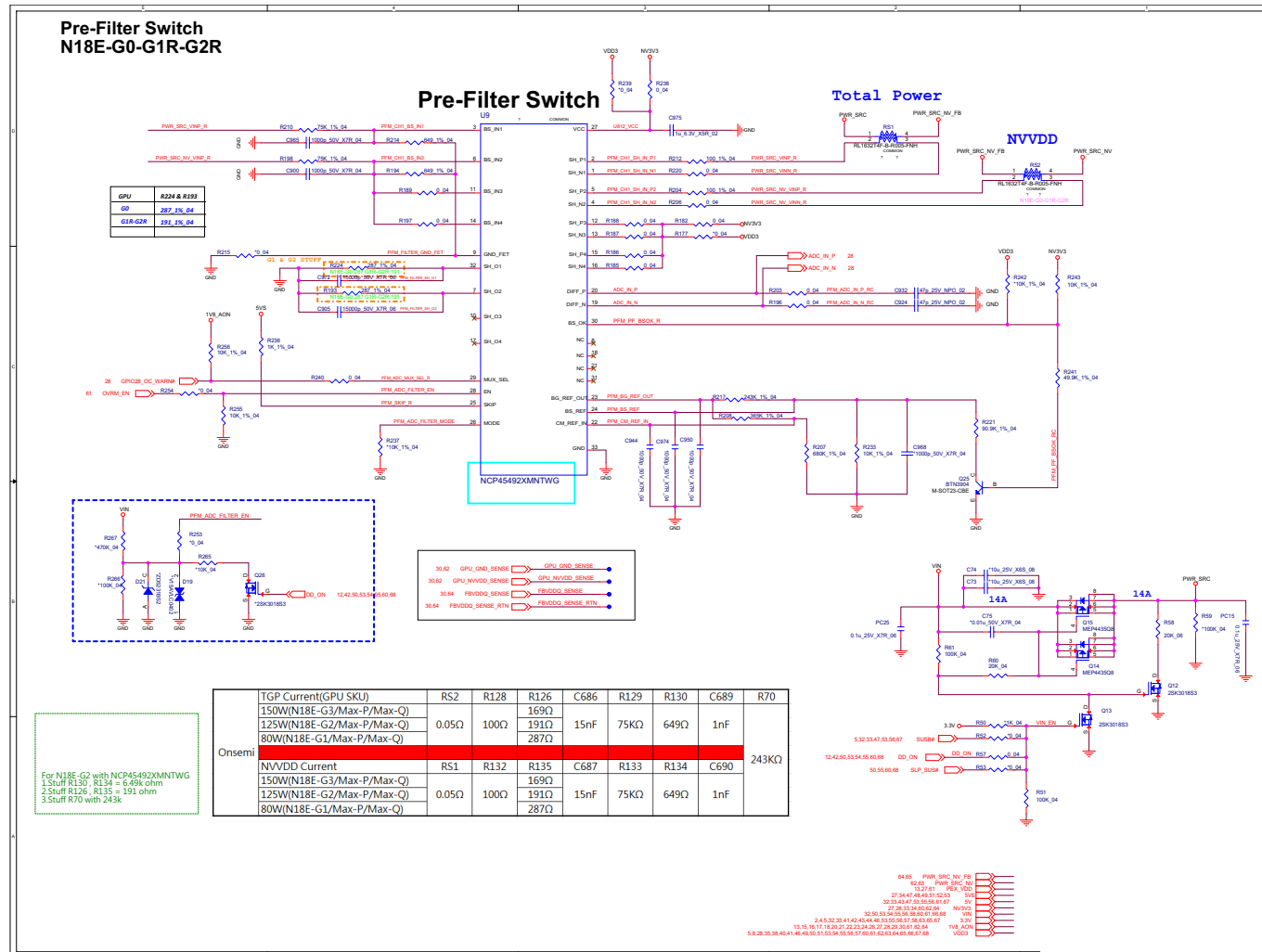
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H=8mm



藍
Title [11]

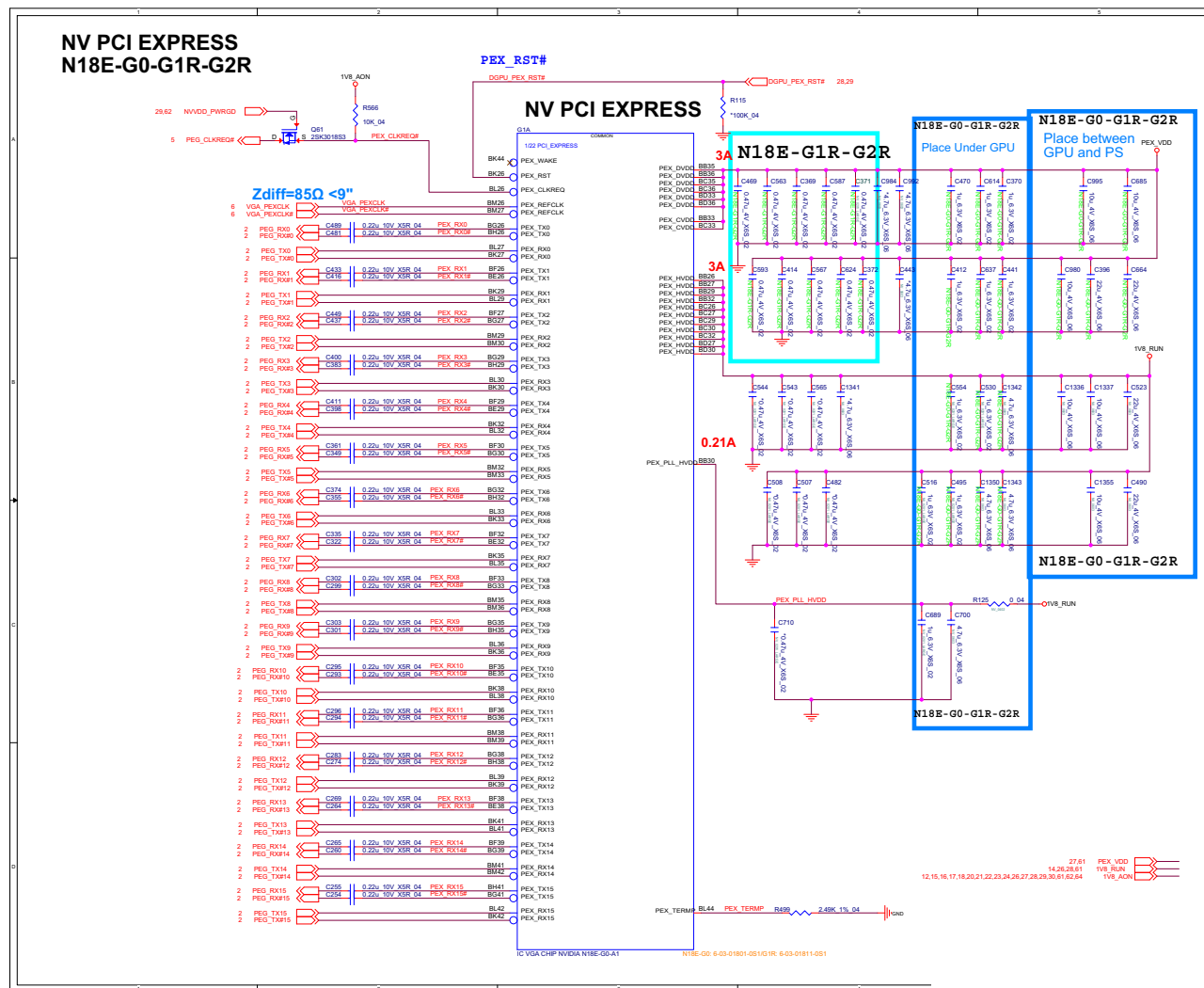
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Output Power B - 13



VGA PCI Express

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VGA PCI Express



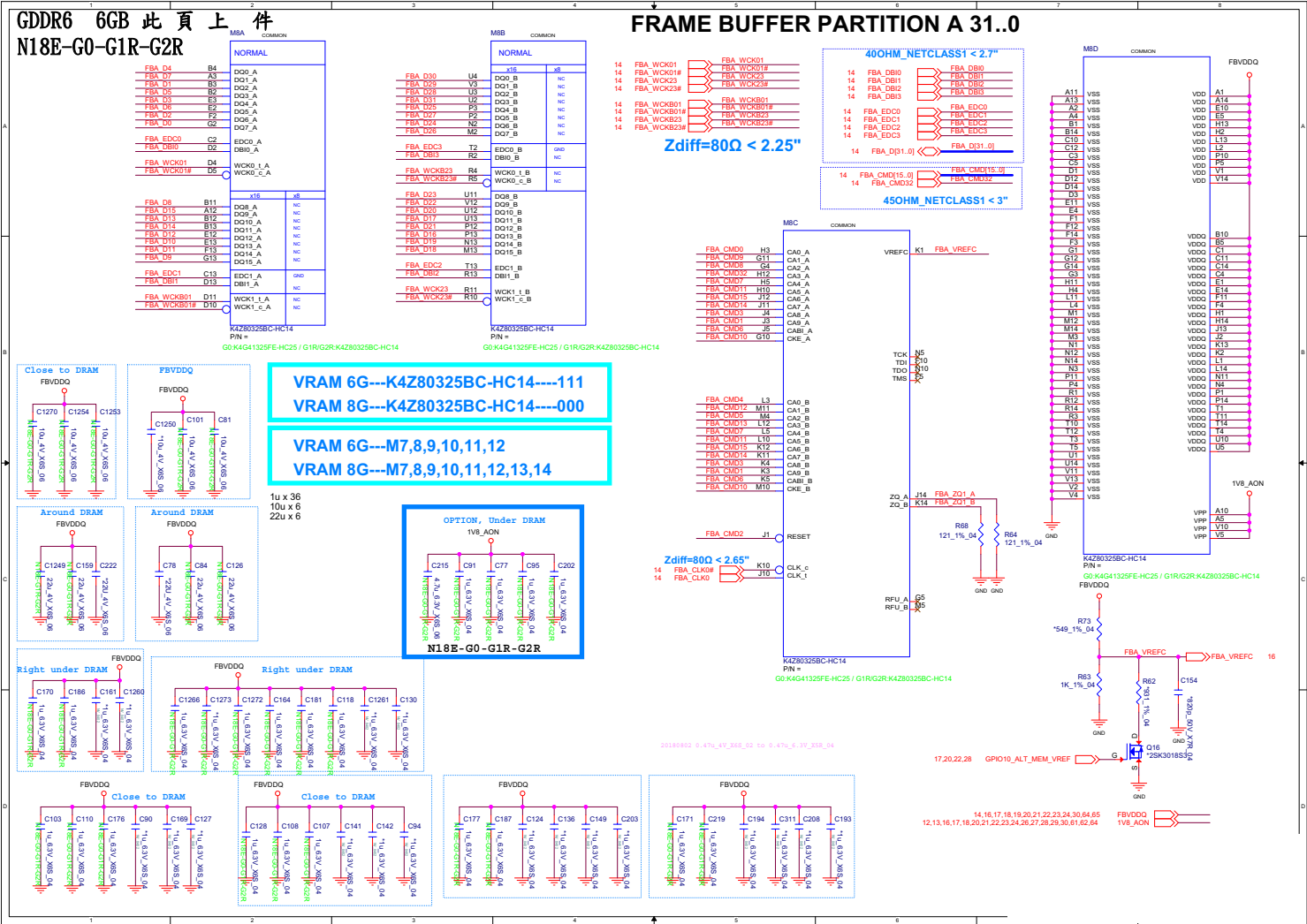
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GPU Frame Buffer
Partition



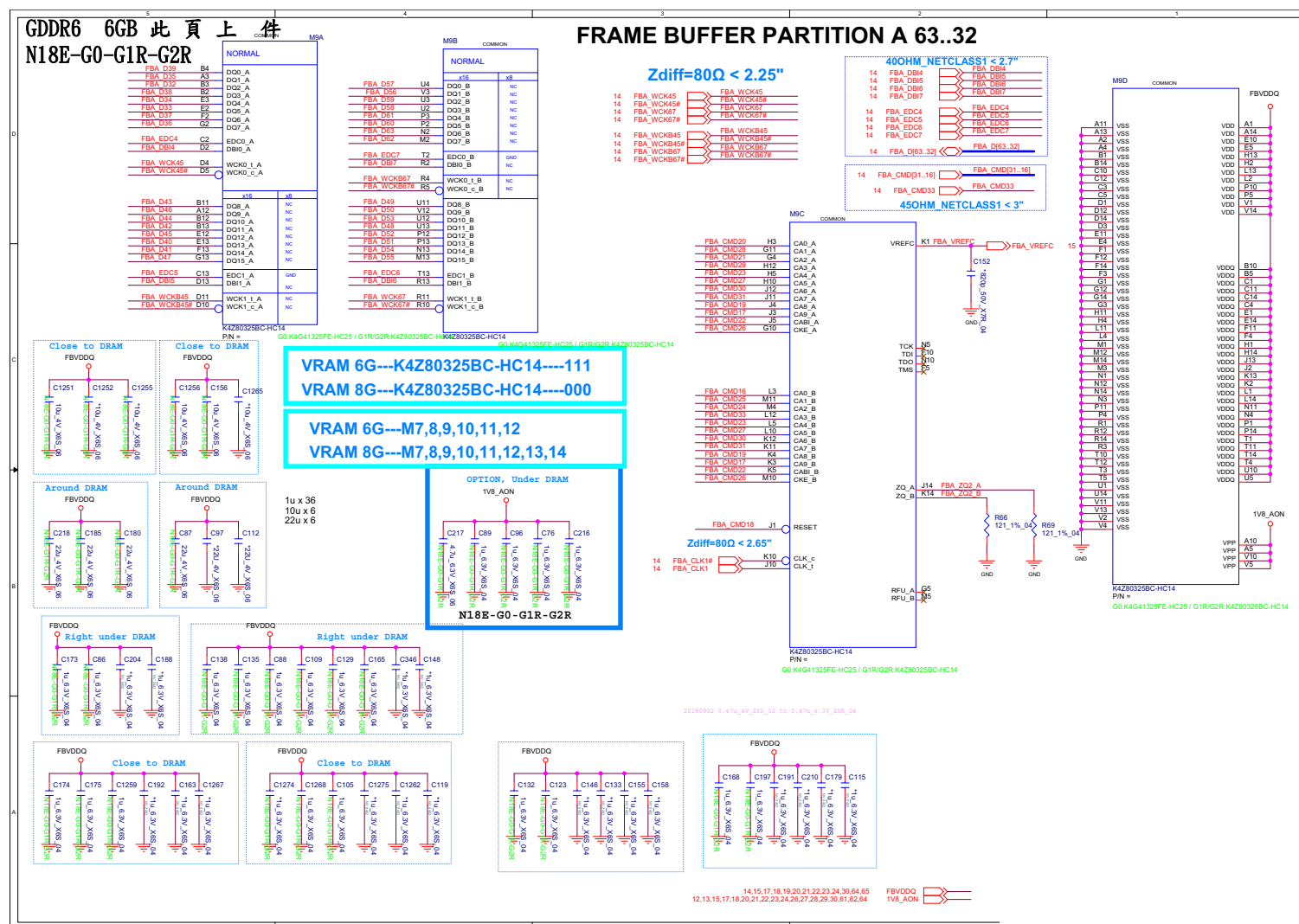
Schematic Diagrams

Frame Buffer A

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Frame Buffer A



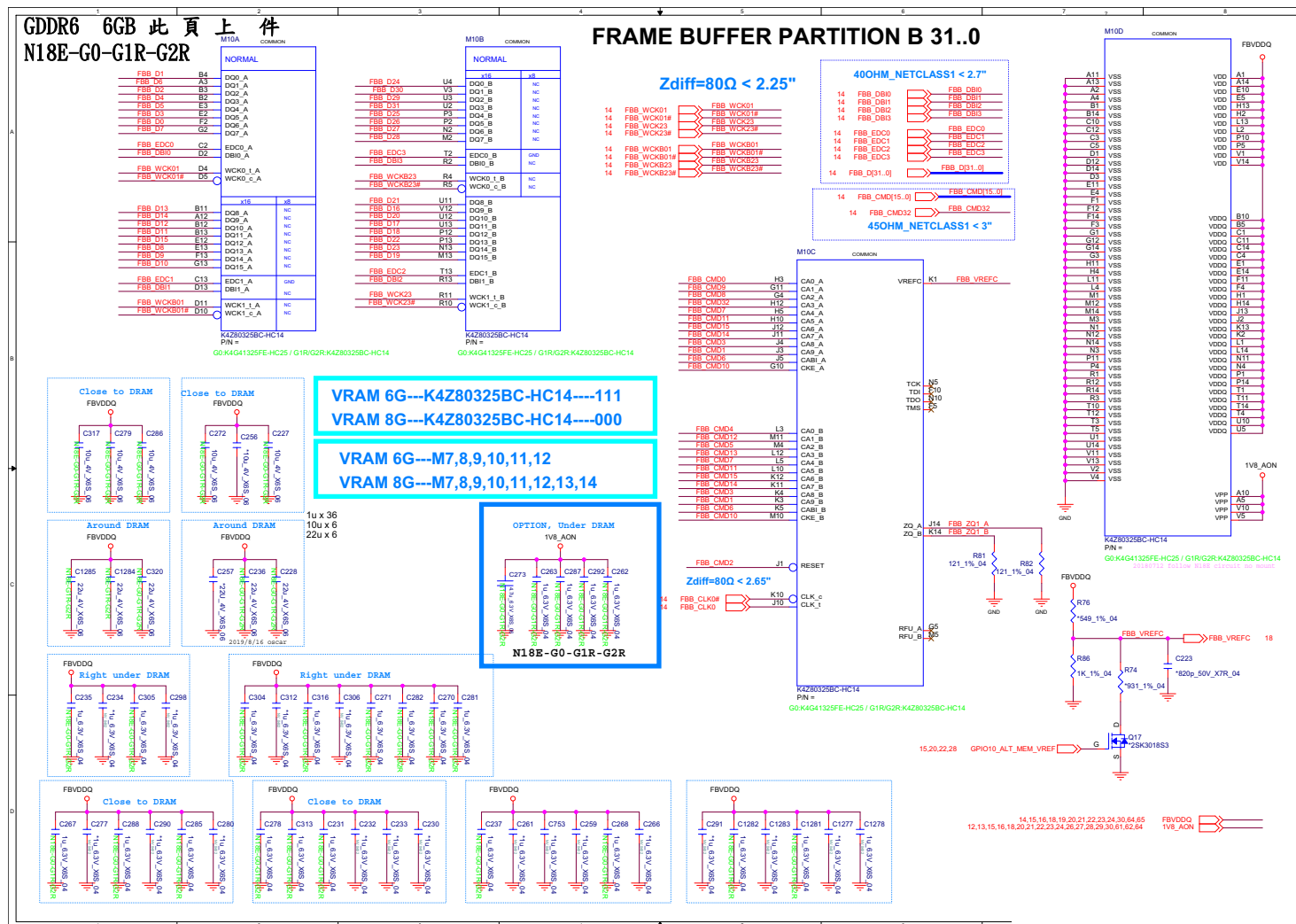
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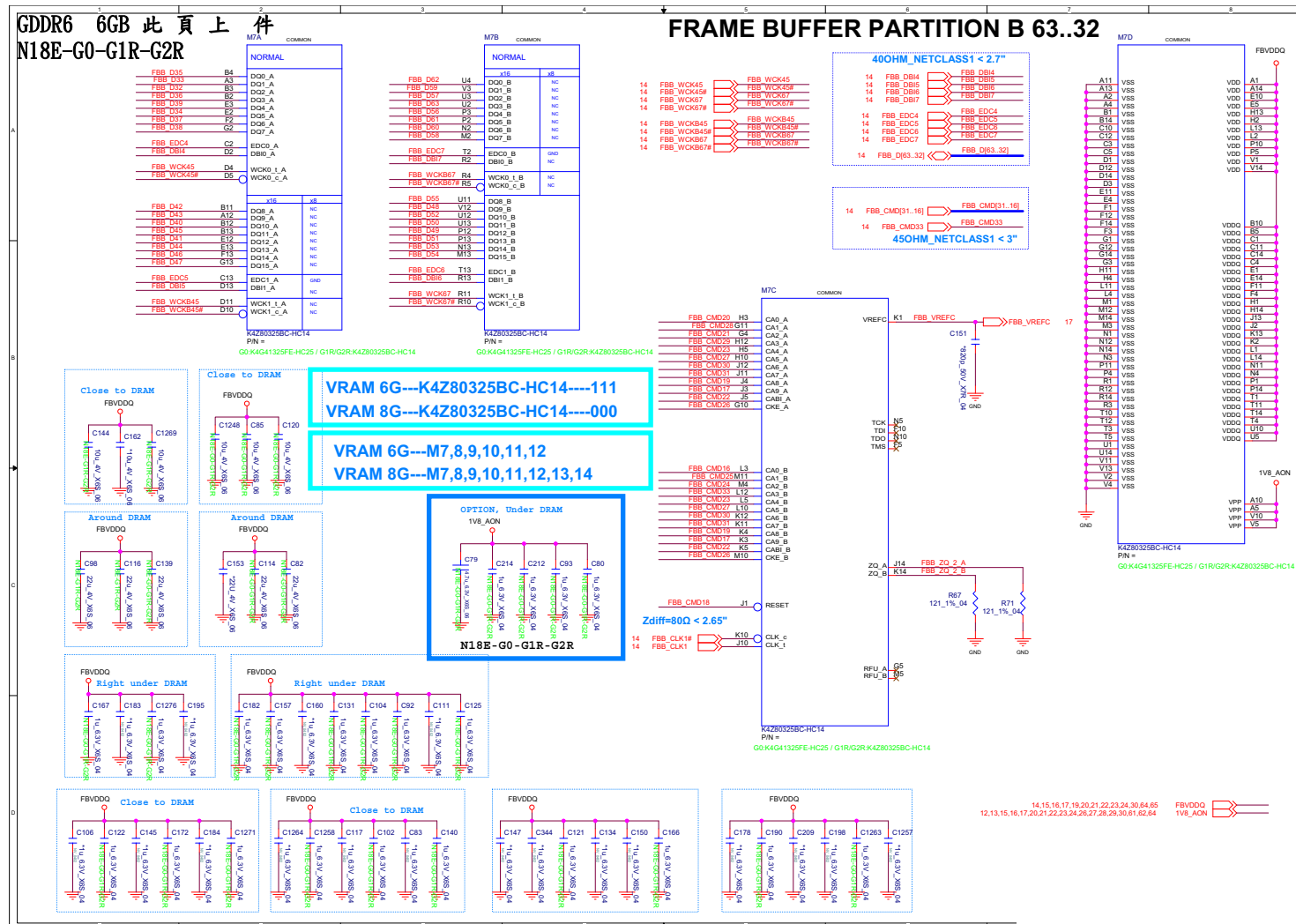
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B.Schematic Diagrams

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Frame Buffer B



Frame Buffer B B - 19

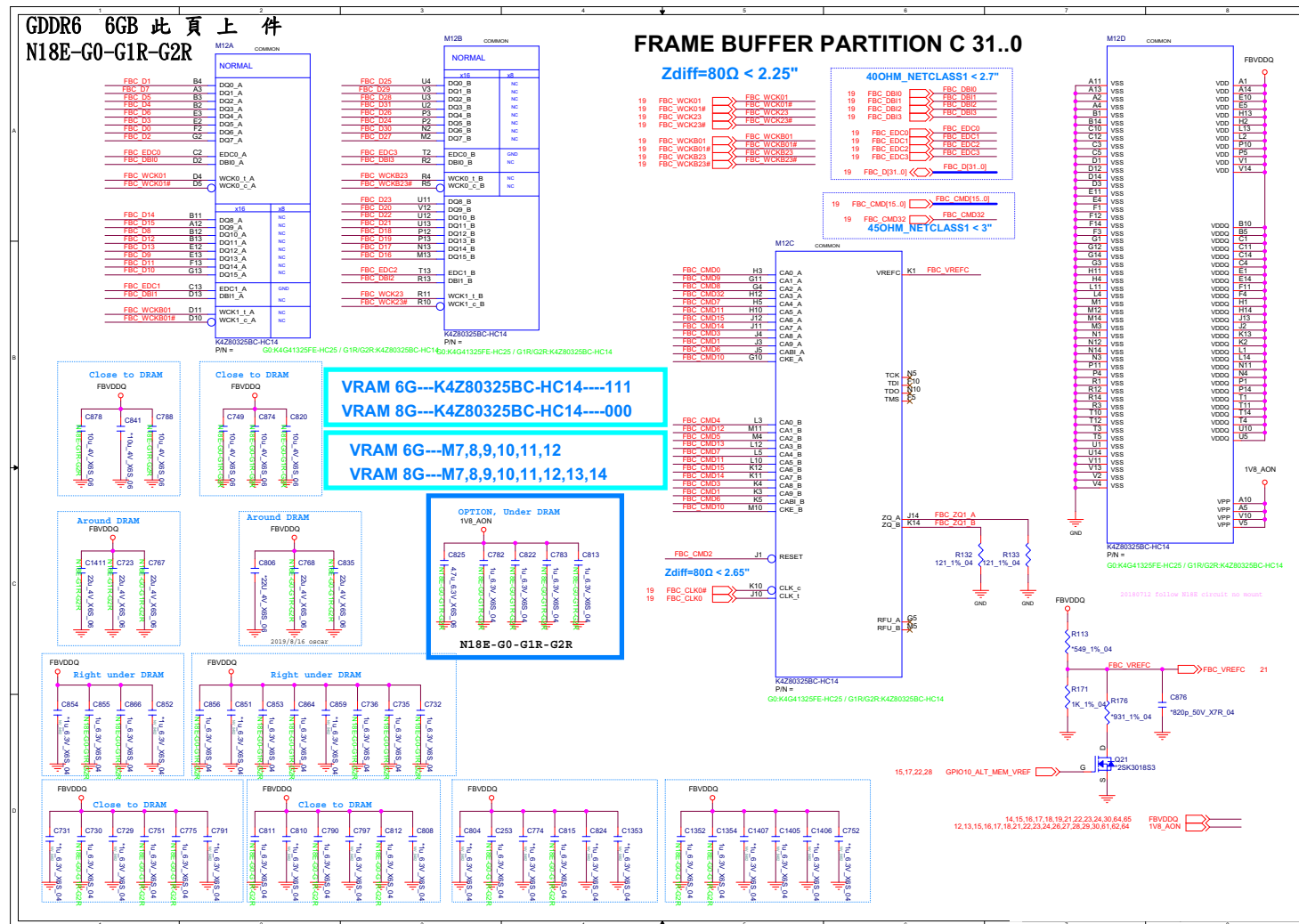


Frame Buffer C/D

B. Schematic Diagrams

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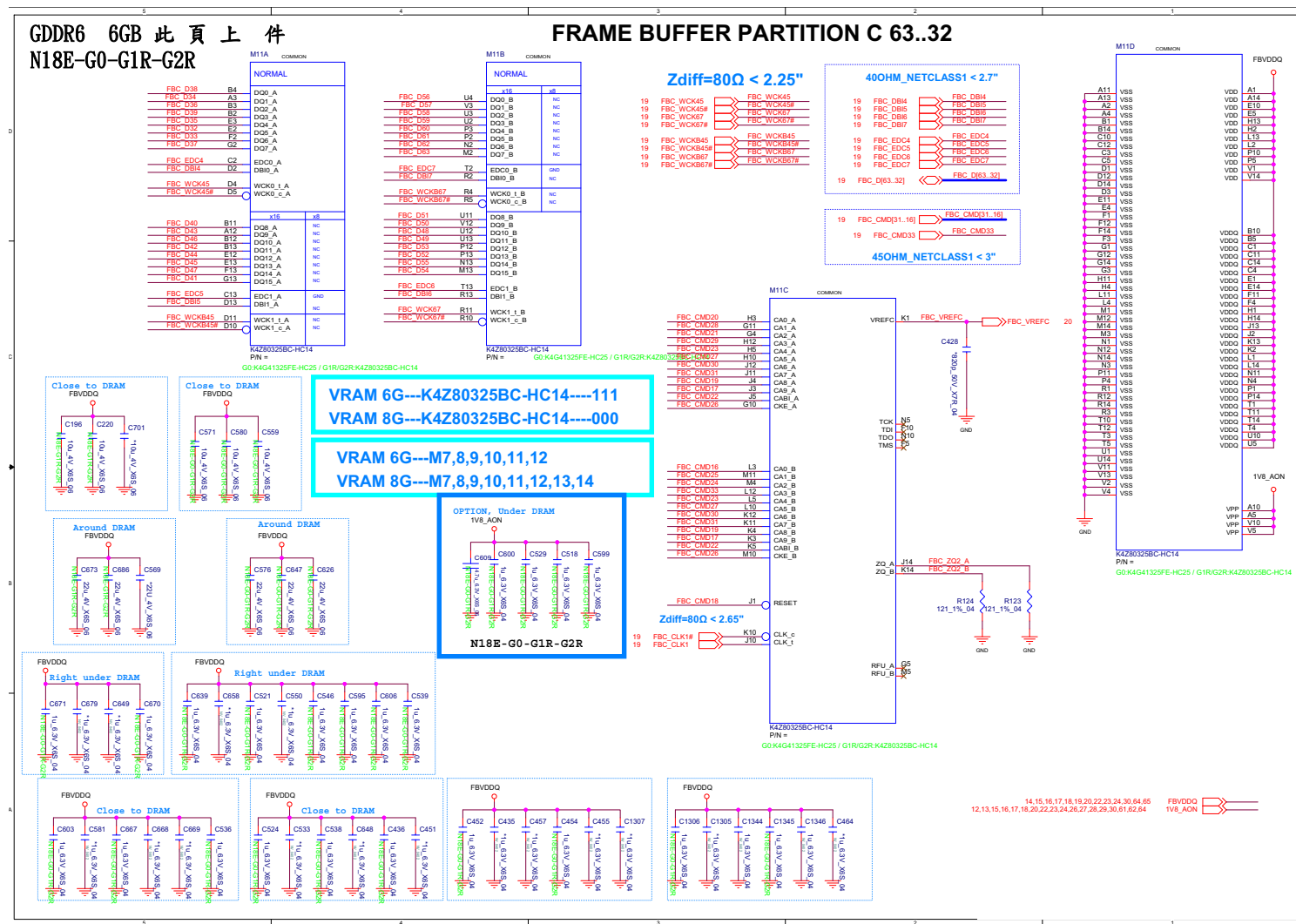
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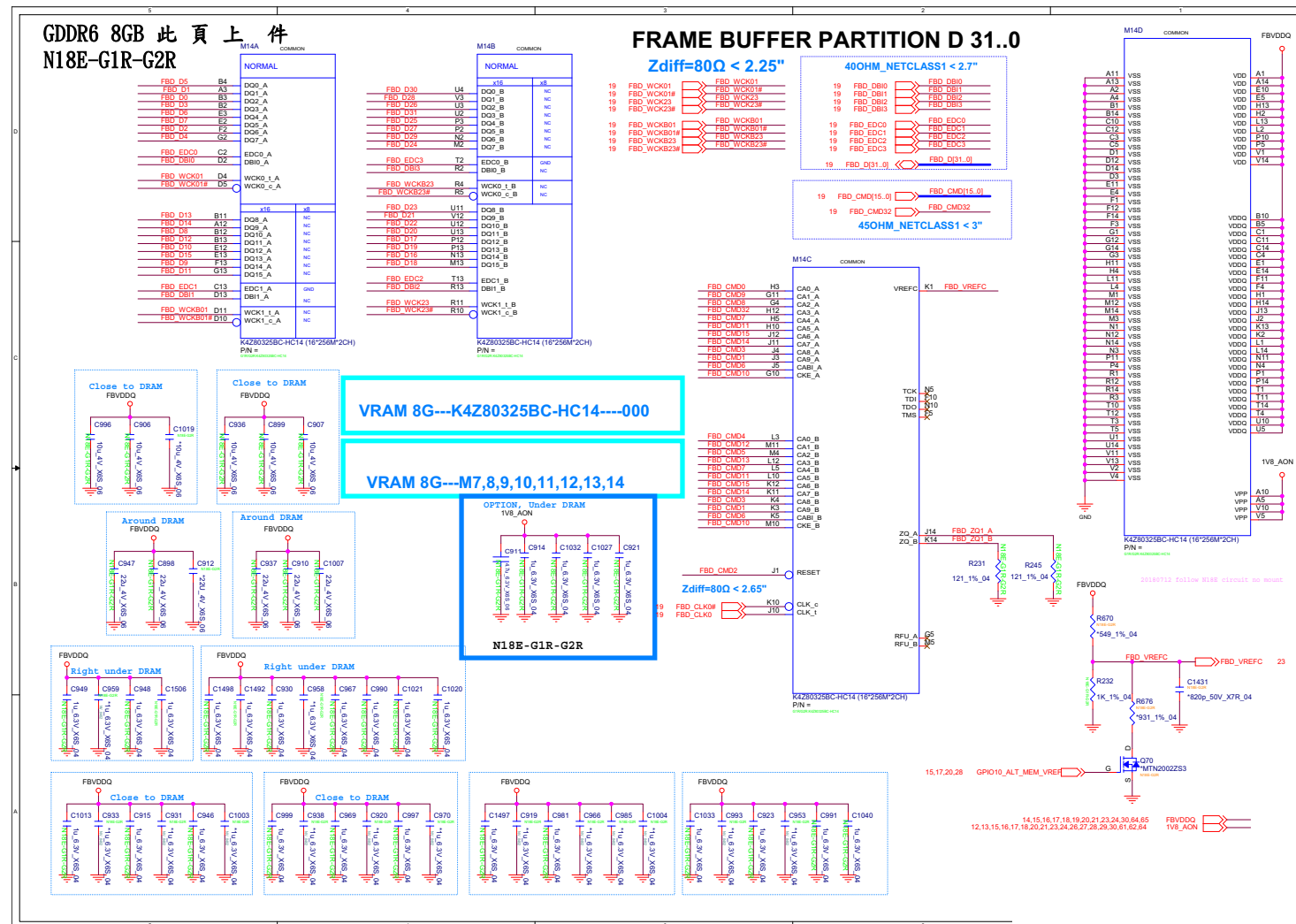
Frame Buffer C

B. Schematic Diagrams

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Frame Buffer C

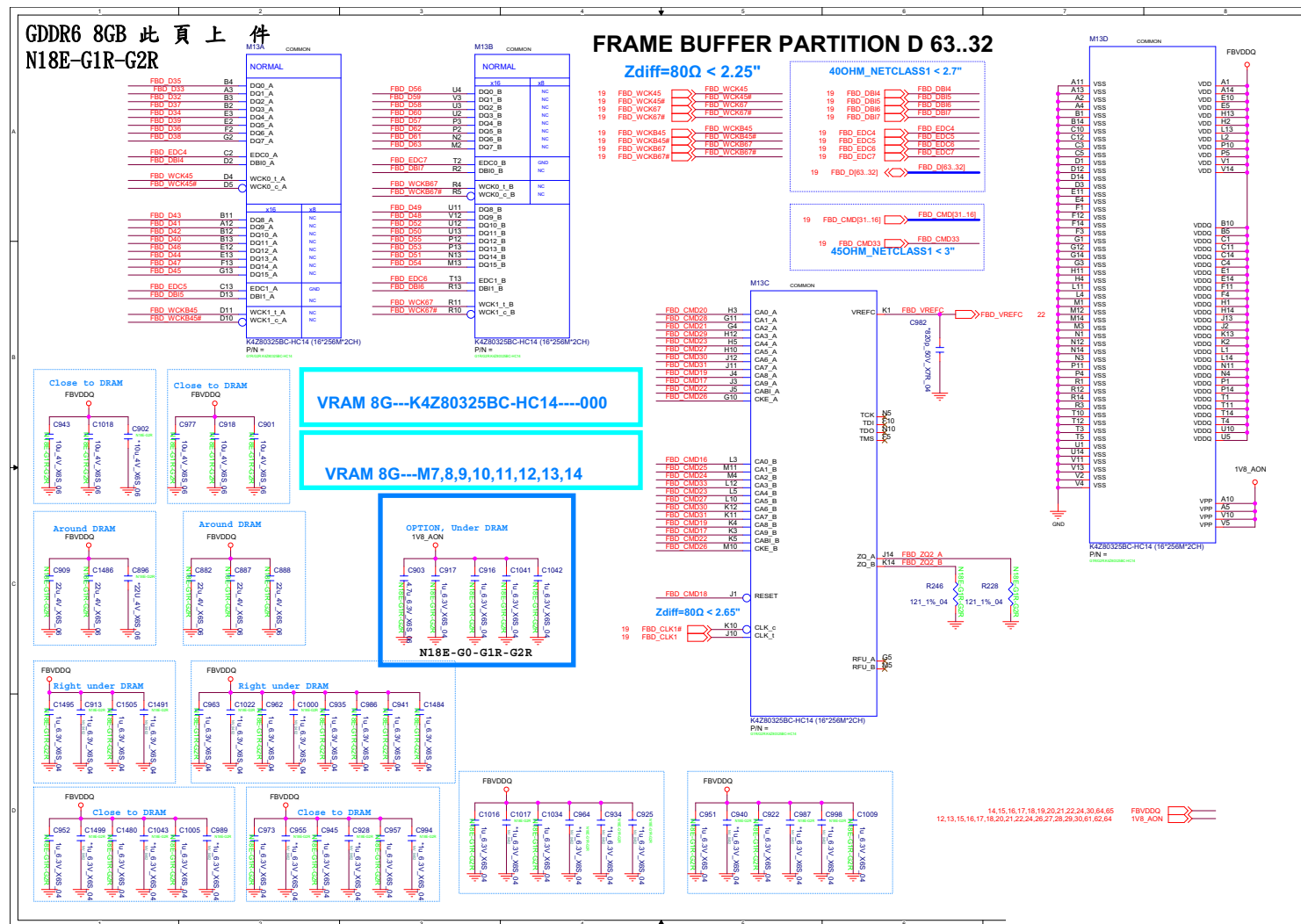


Frame Buffer D B - 23



Frame Buffer D

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Frame Buffer D

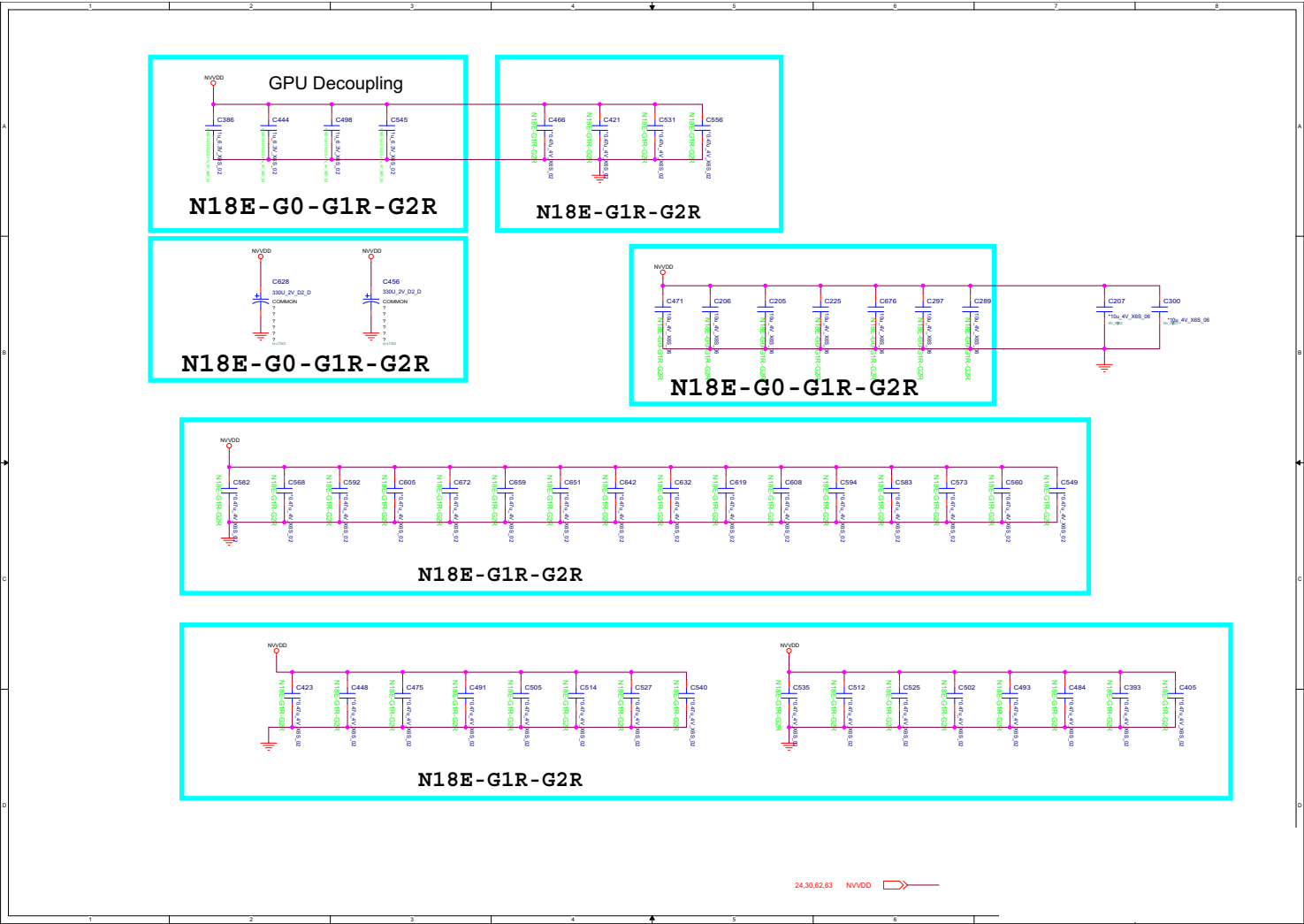


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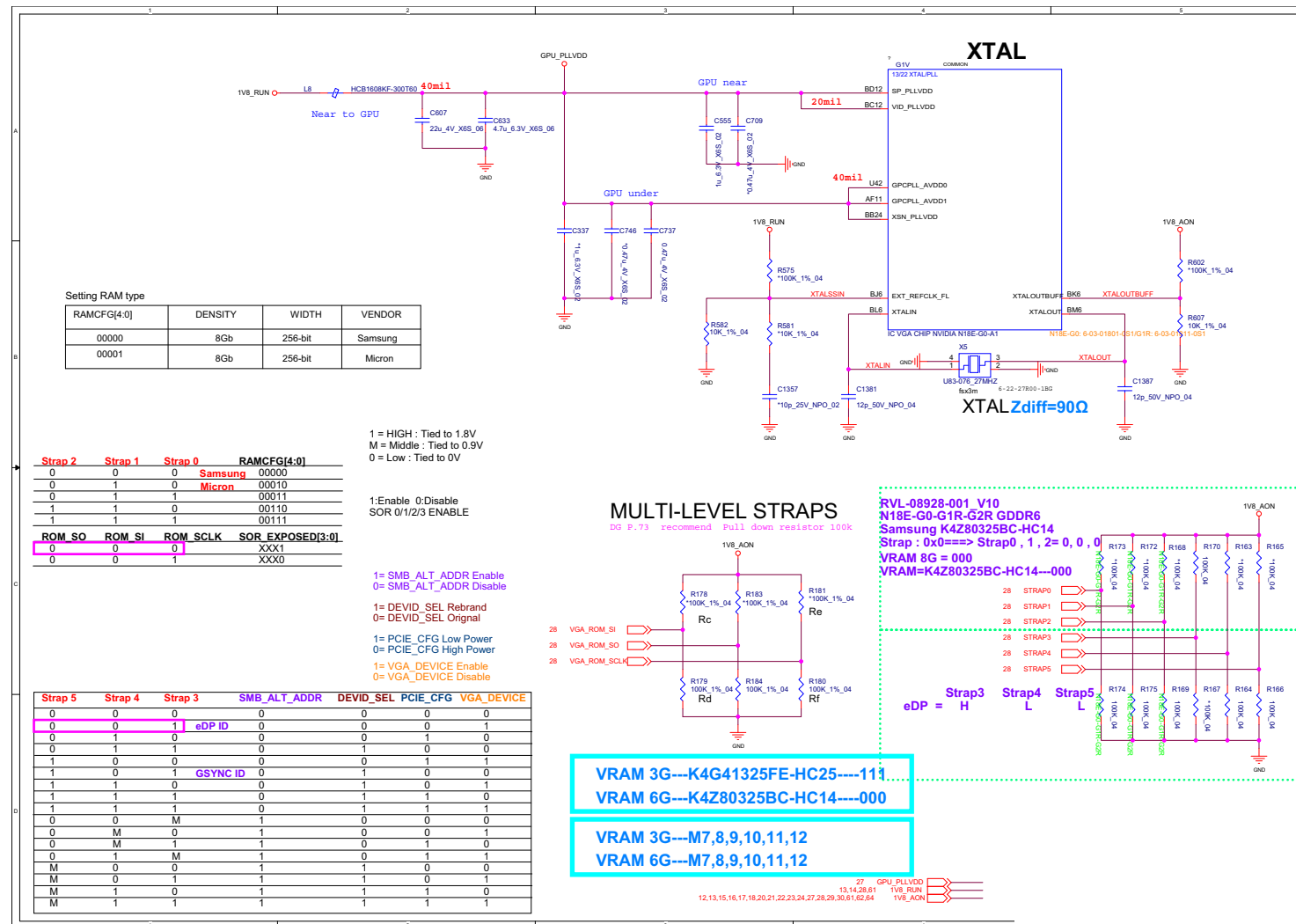
GPU Decoupling 1 B - 25

GPU Decoupling 2

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GPU Decoupling 2

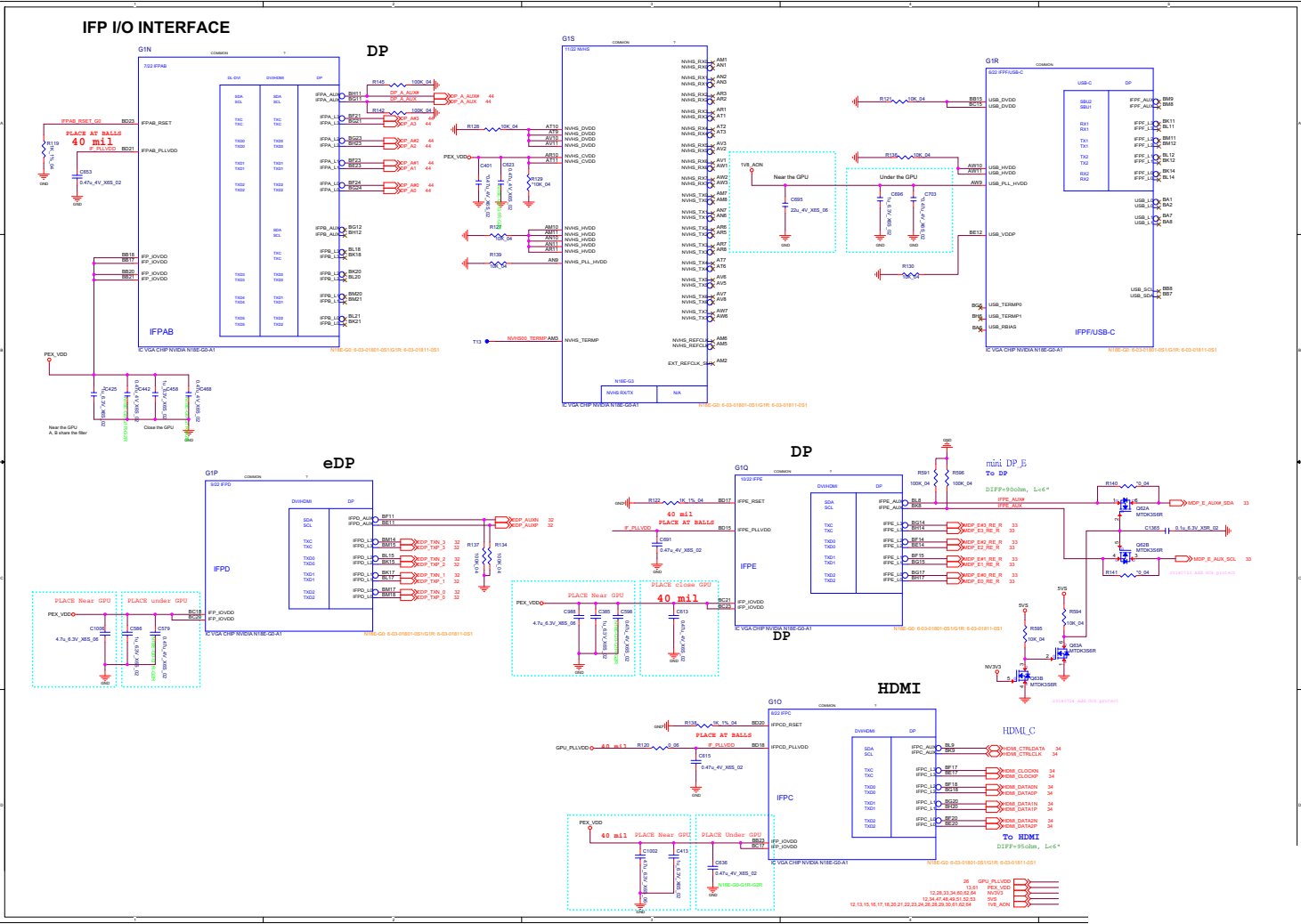


Straps and XTAL B - 27

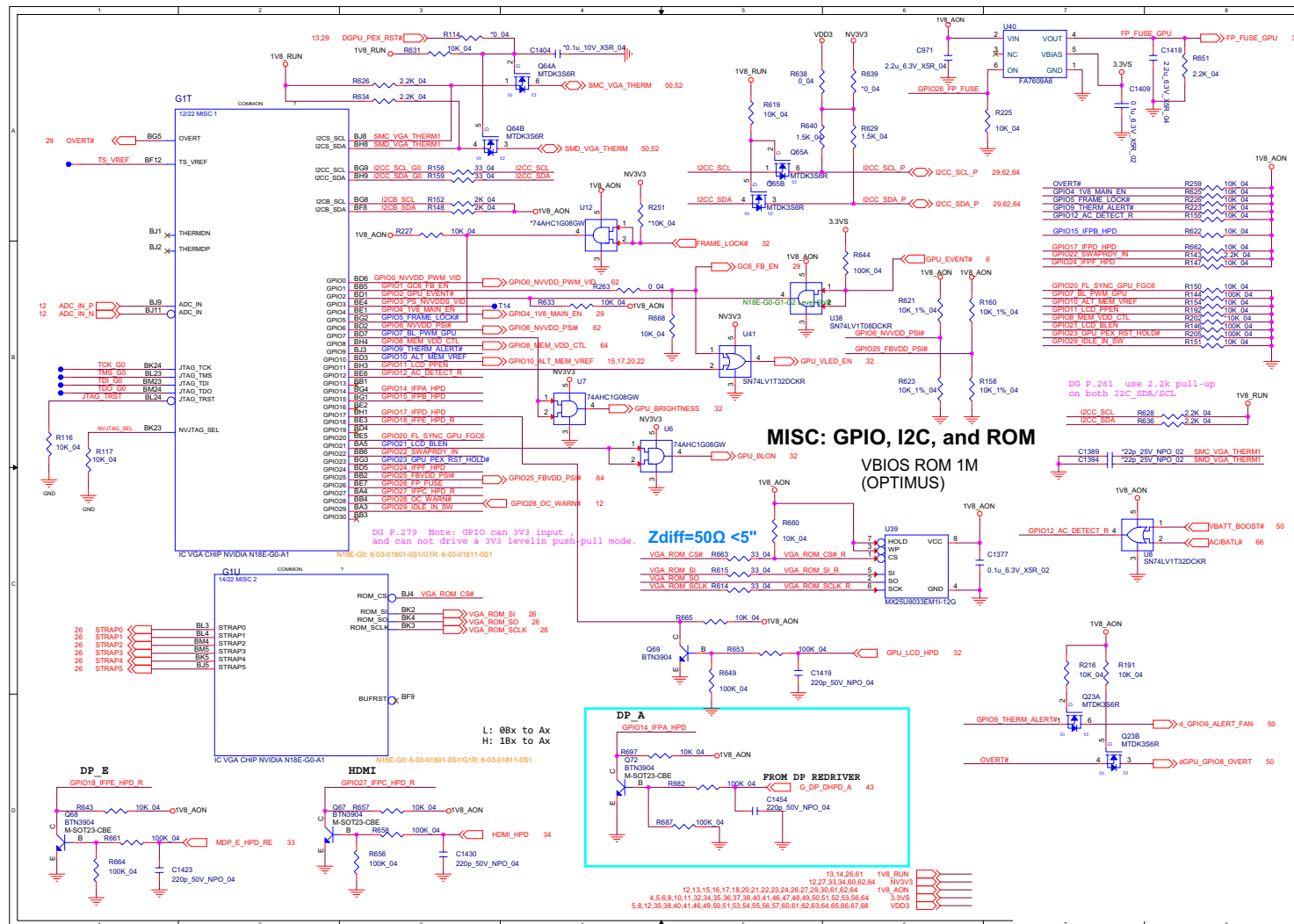


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IFP I/O Interface



Misc - GPIO, I2C and ROM

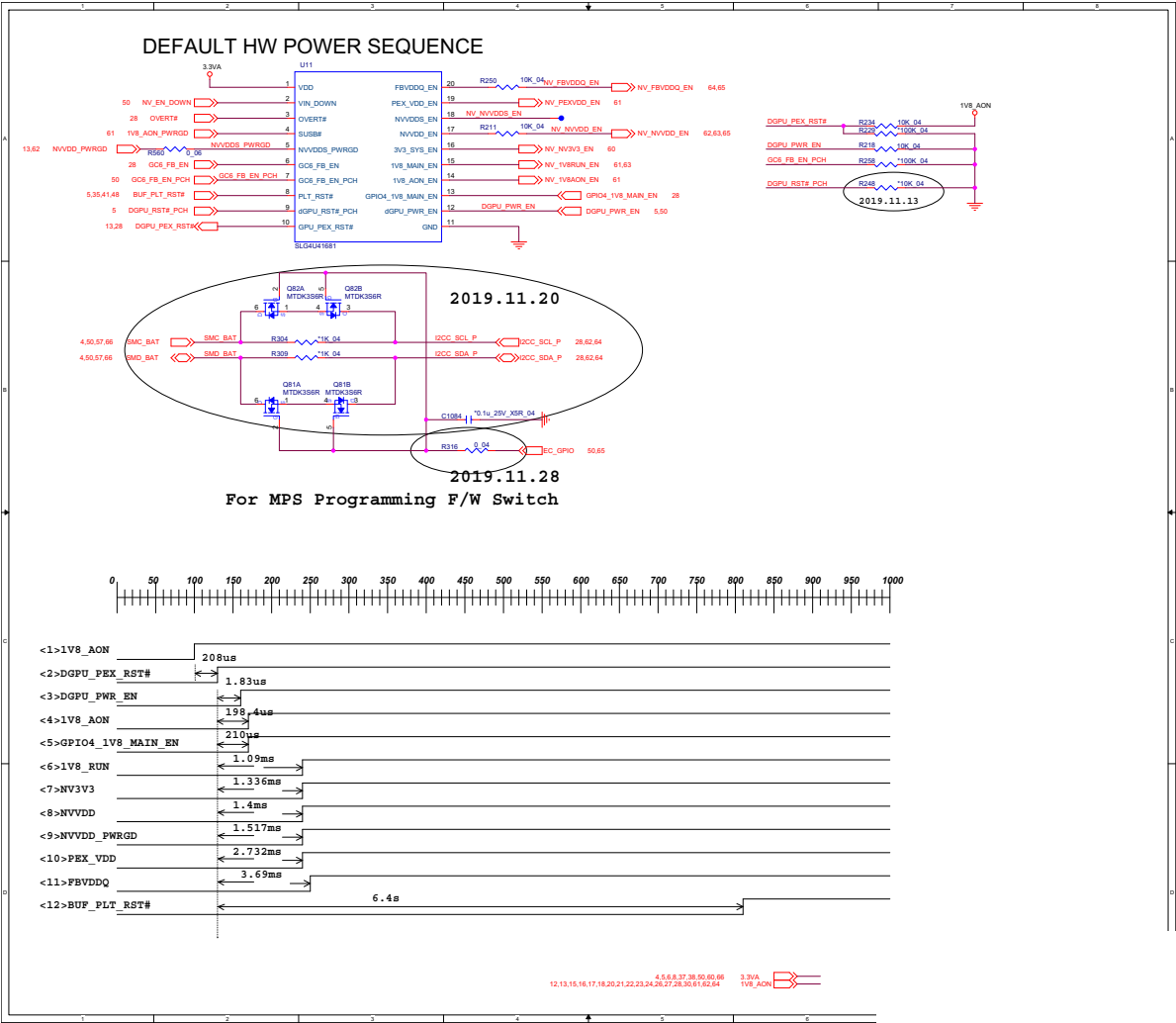


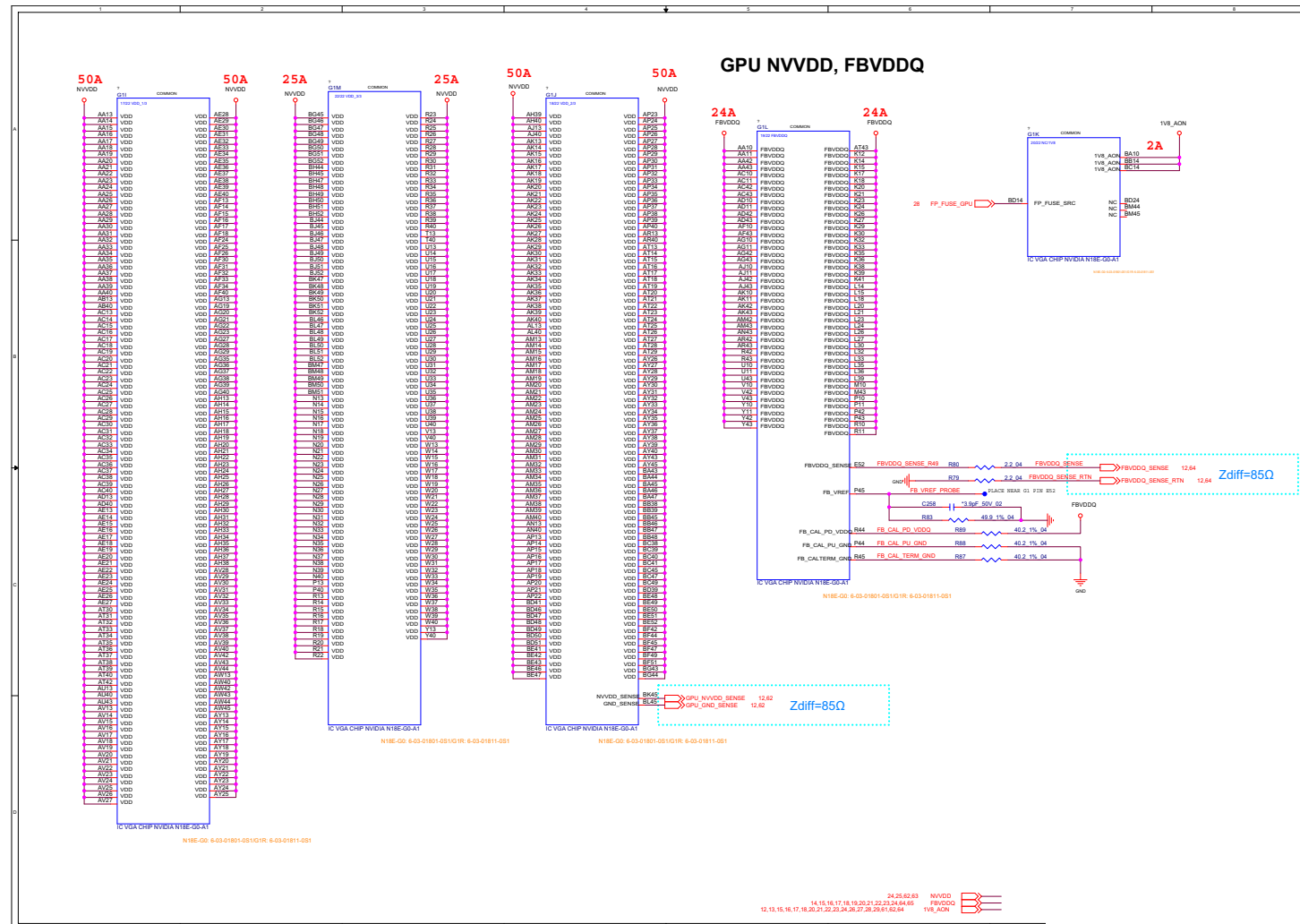
Sheet 28 of 73
Misc - GPIO, I2C
and ROM

Schematic Diagrams

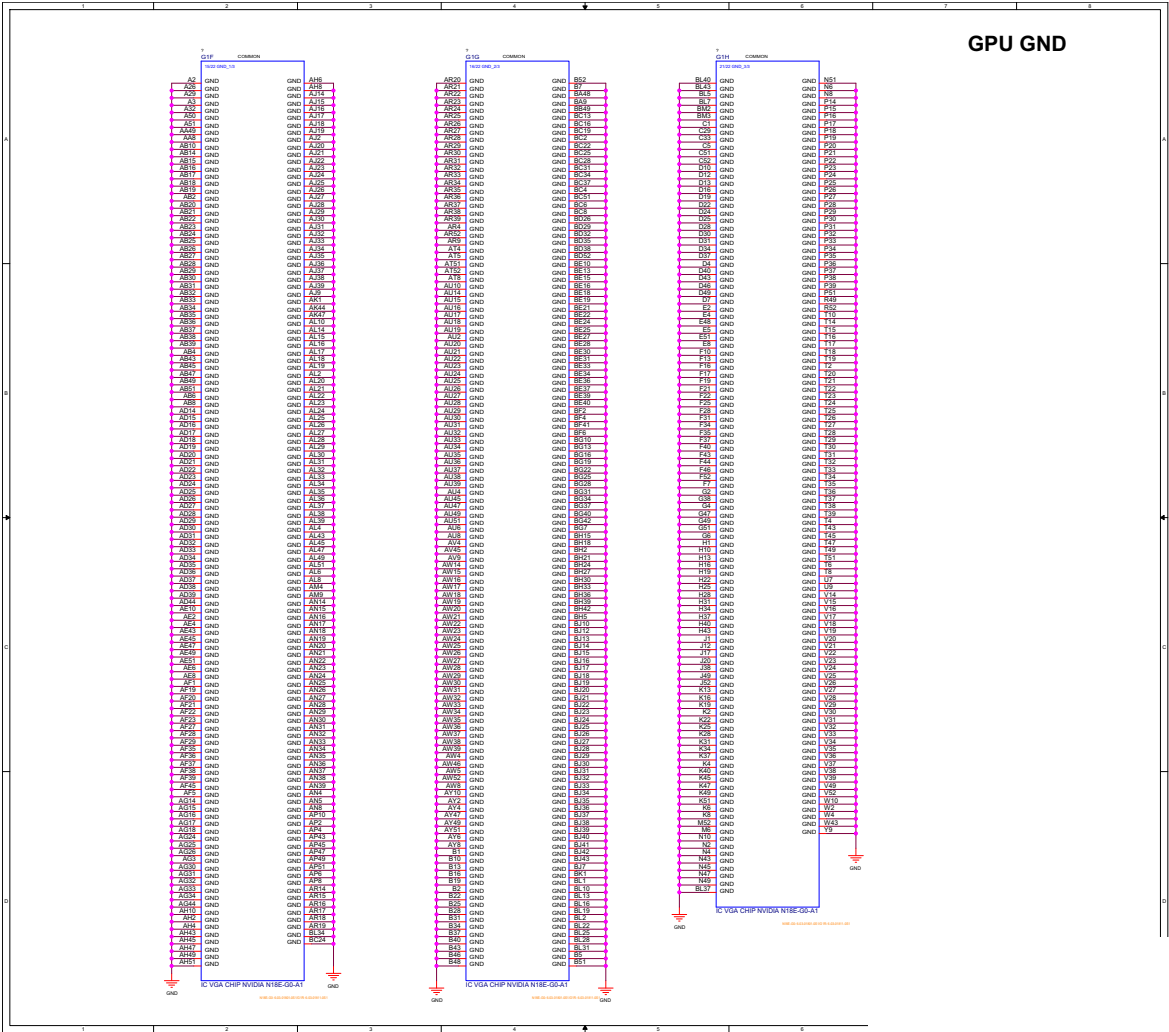
NVIDIA Power Sequence

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NVIDIA Power
Sequence

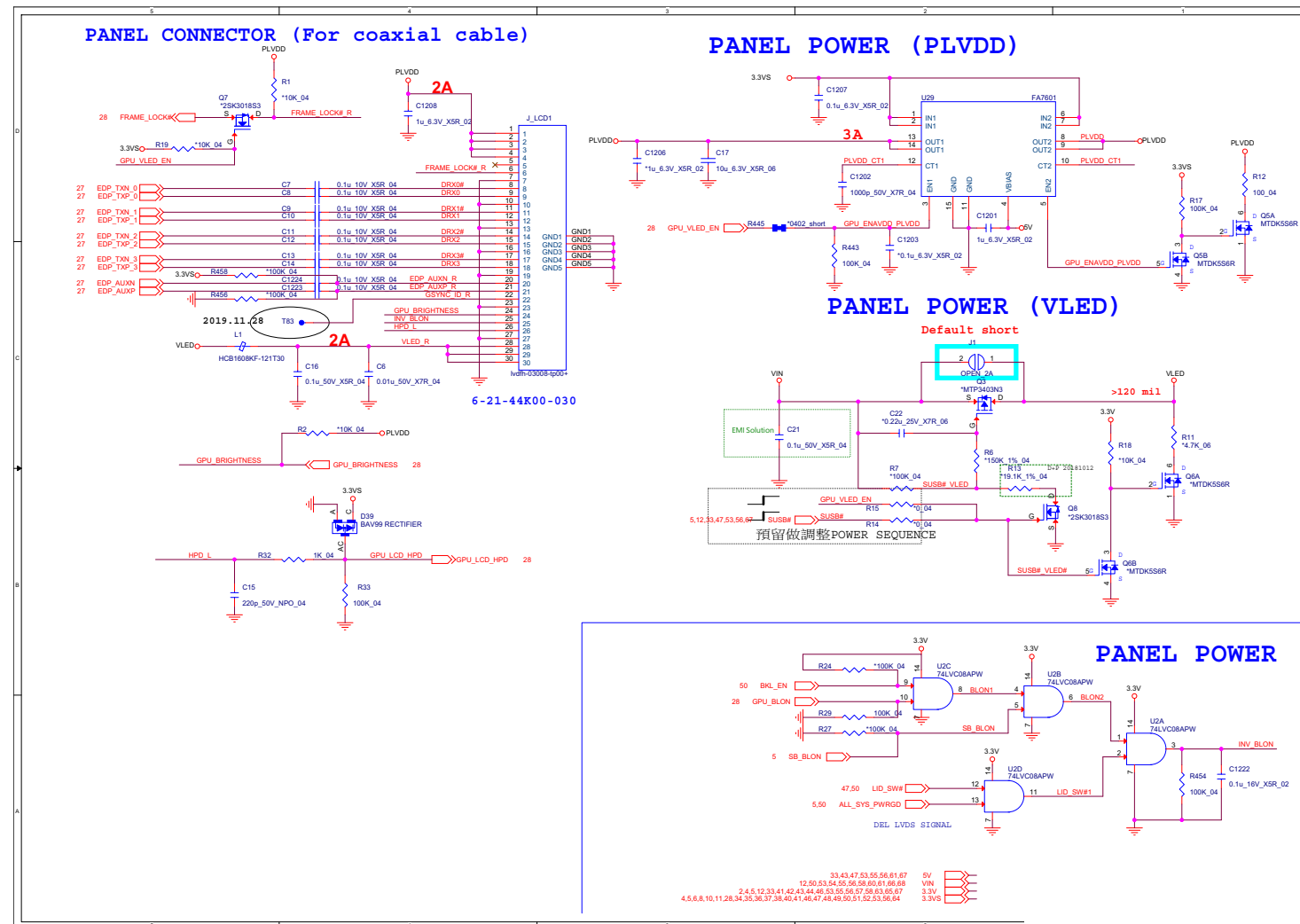




GPU GND

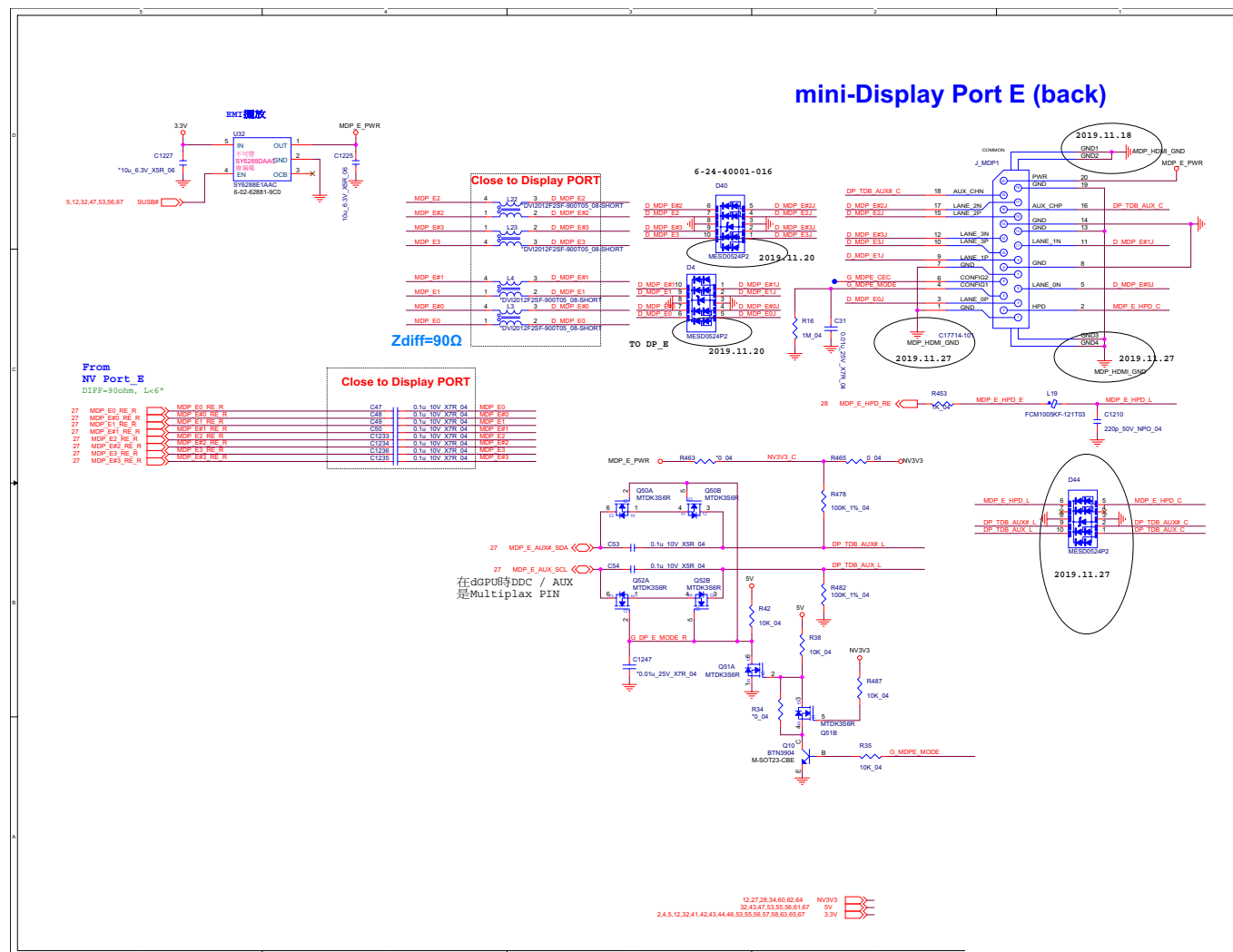


Panel, Inverter

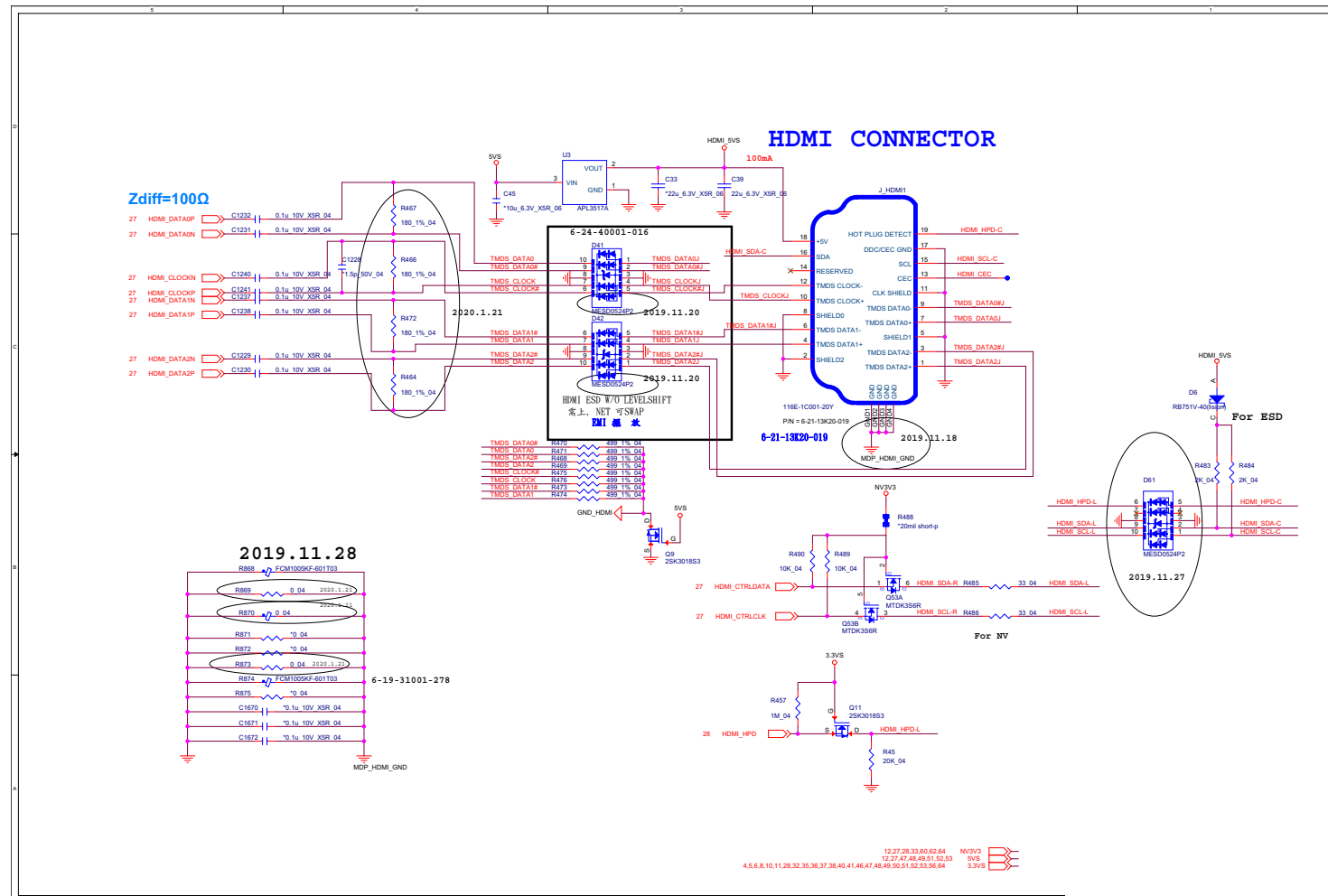


Mini DP

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Mini DP

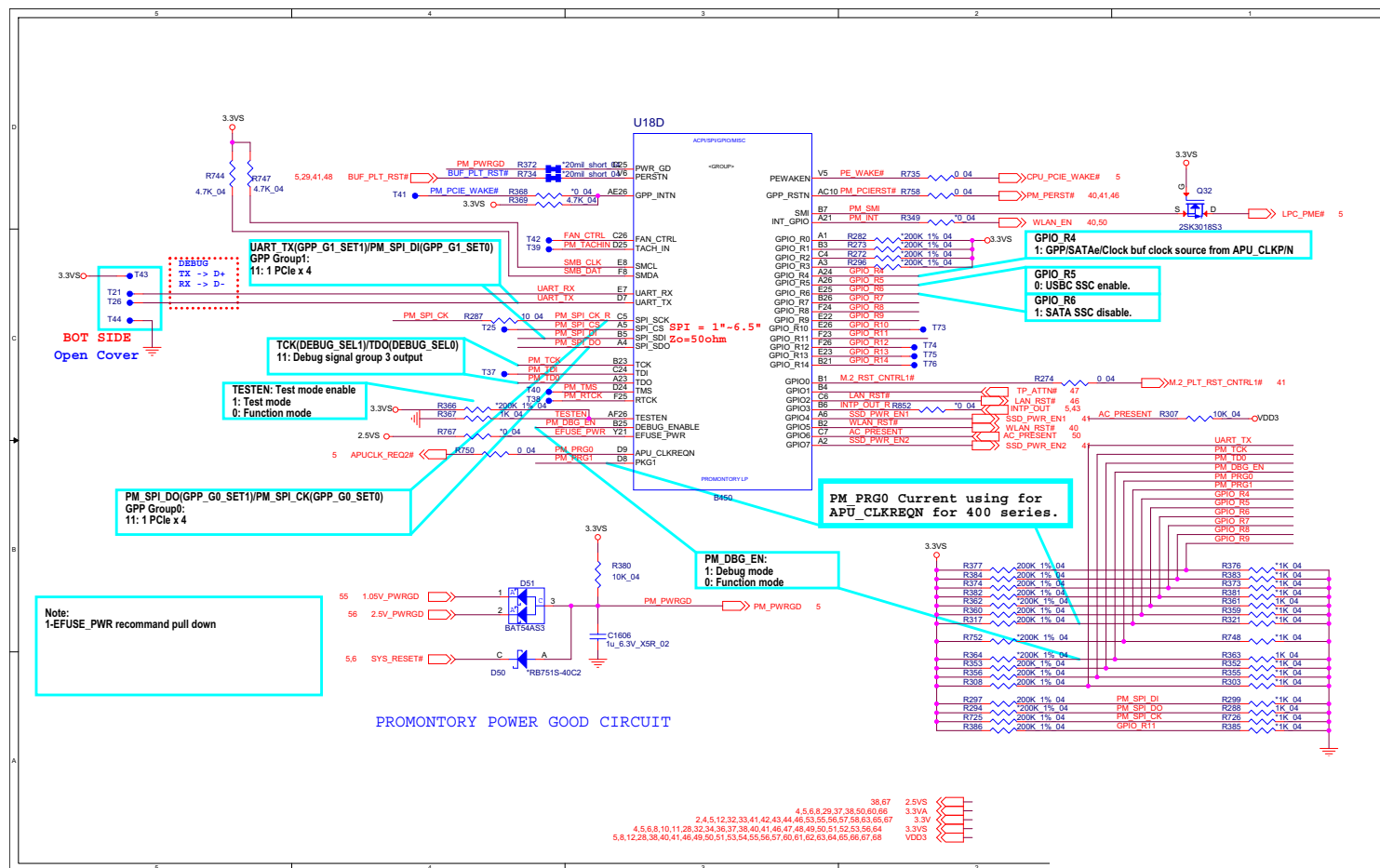


HDMI

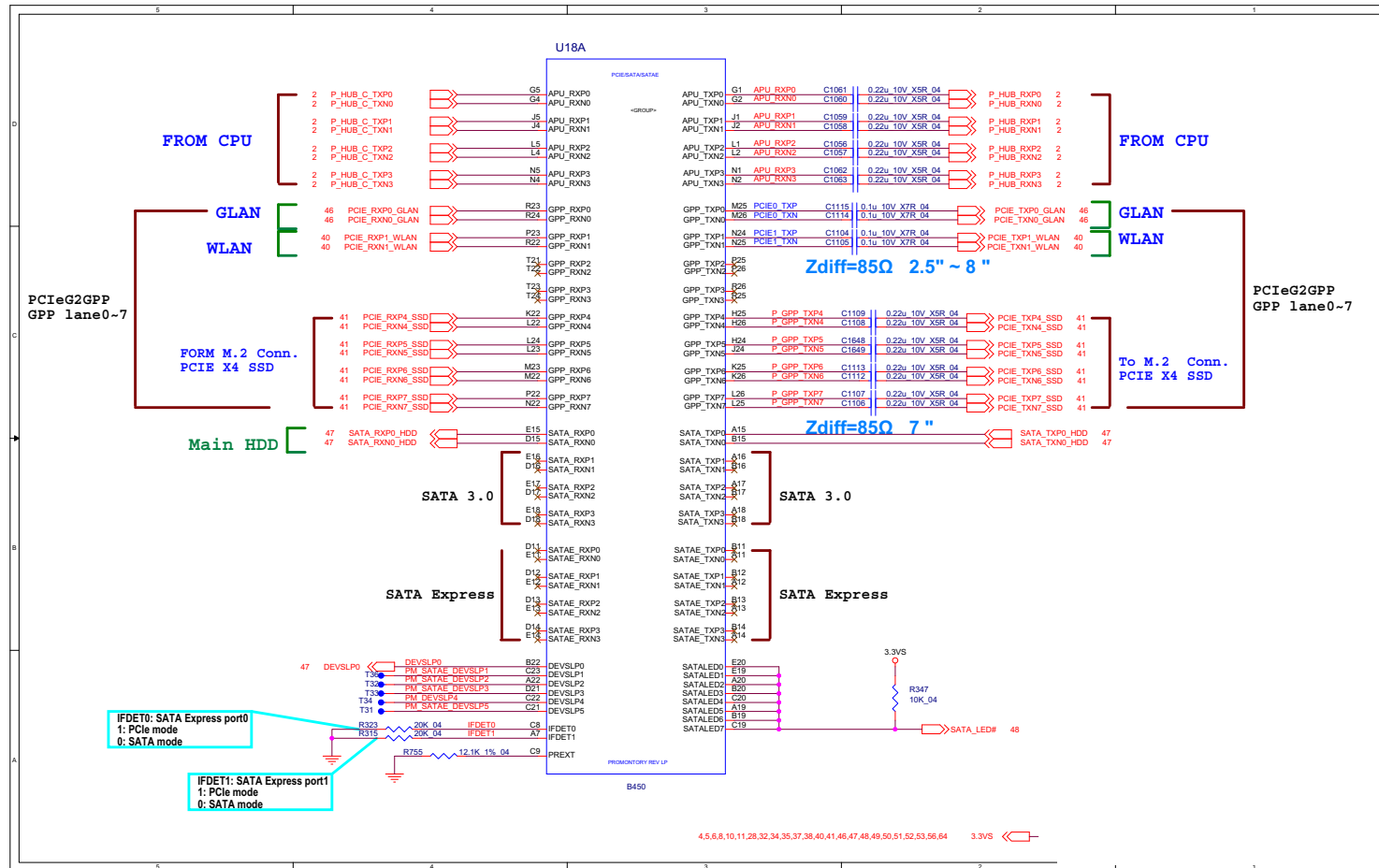


PCH 1/5

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PCH 1/5



PCH 2/5



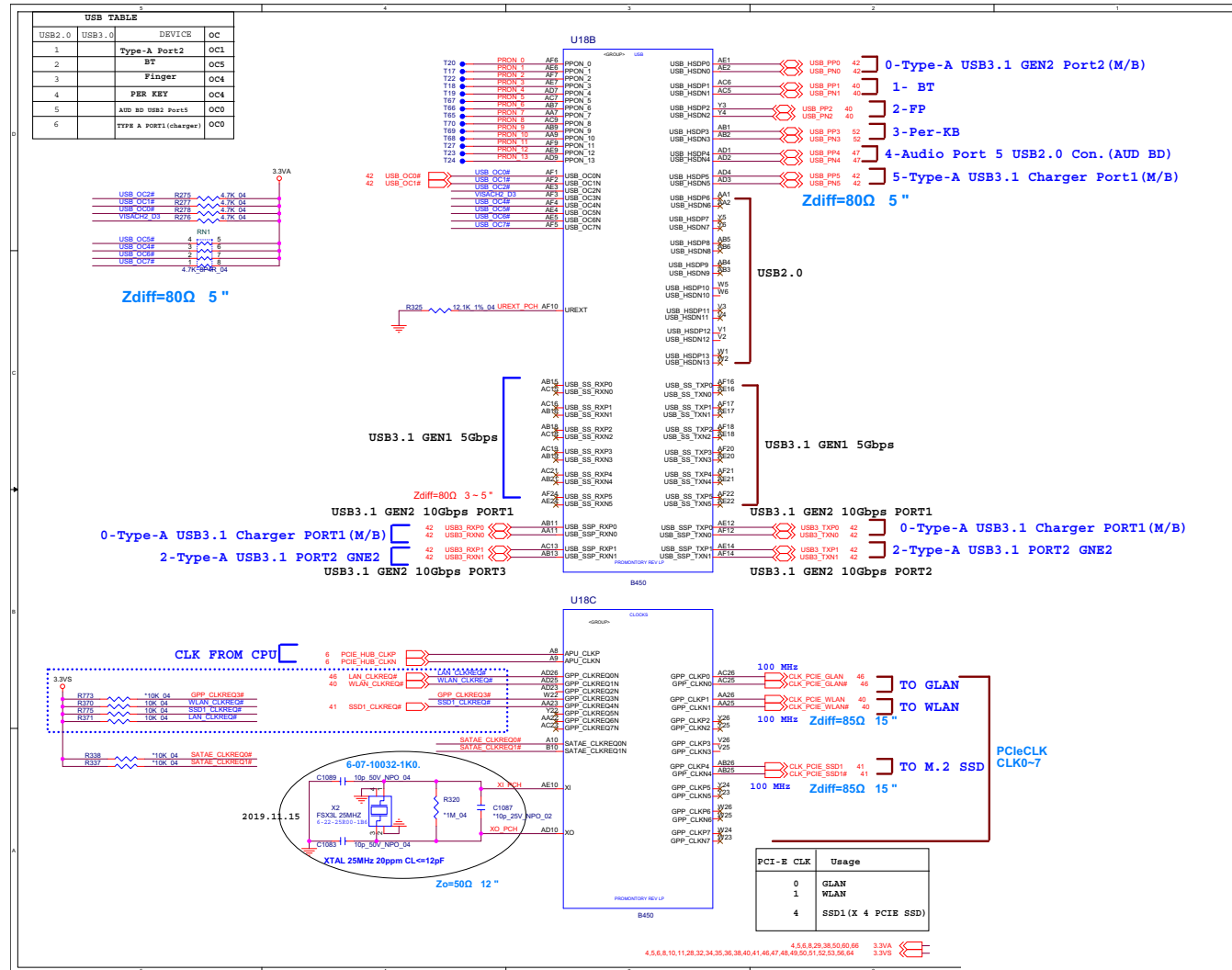
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PCH 2/5

B.Schematic Diagrams

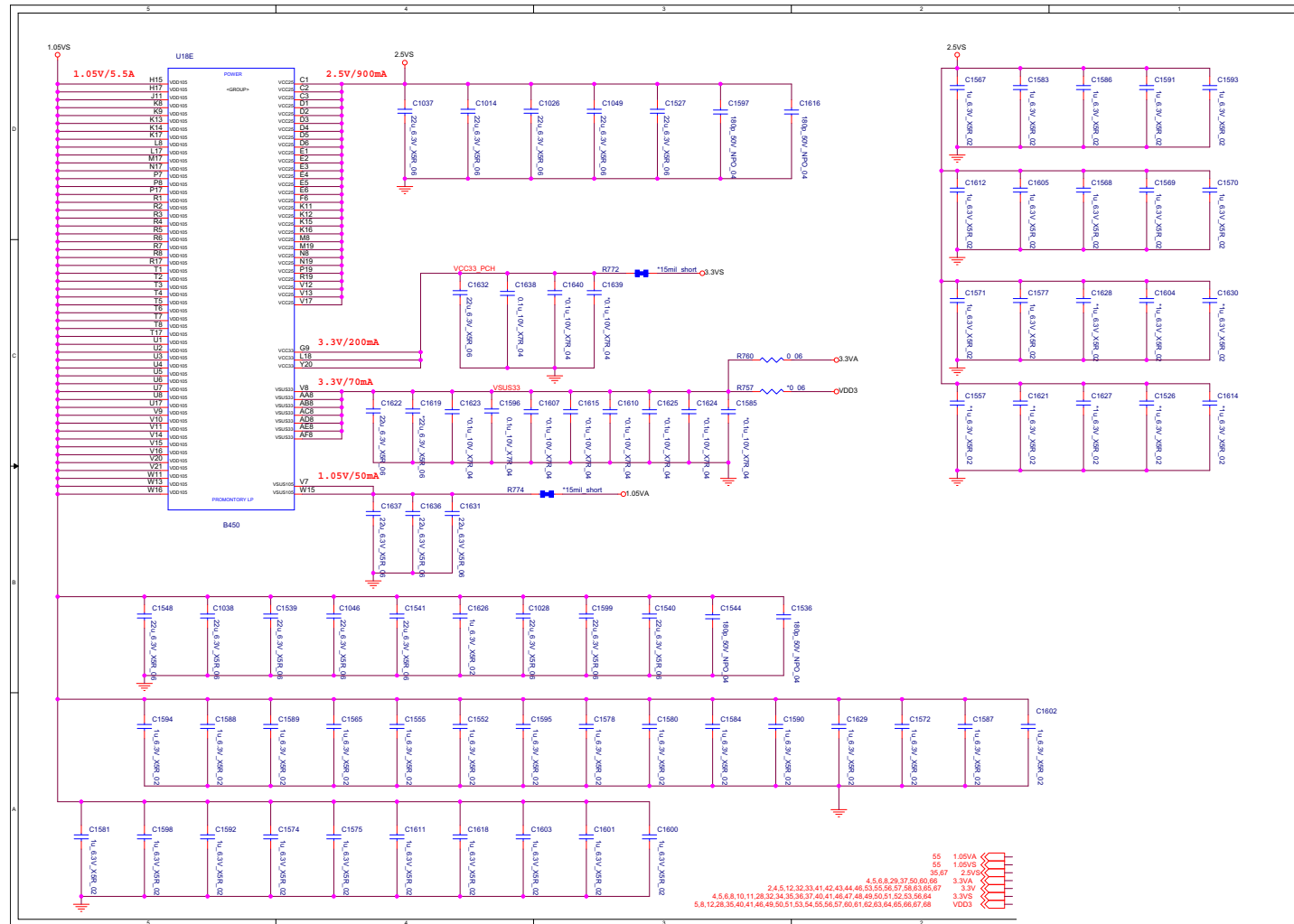
Schematic Diagrams

PCH 3/5

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PCH 3/5

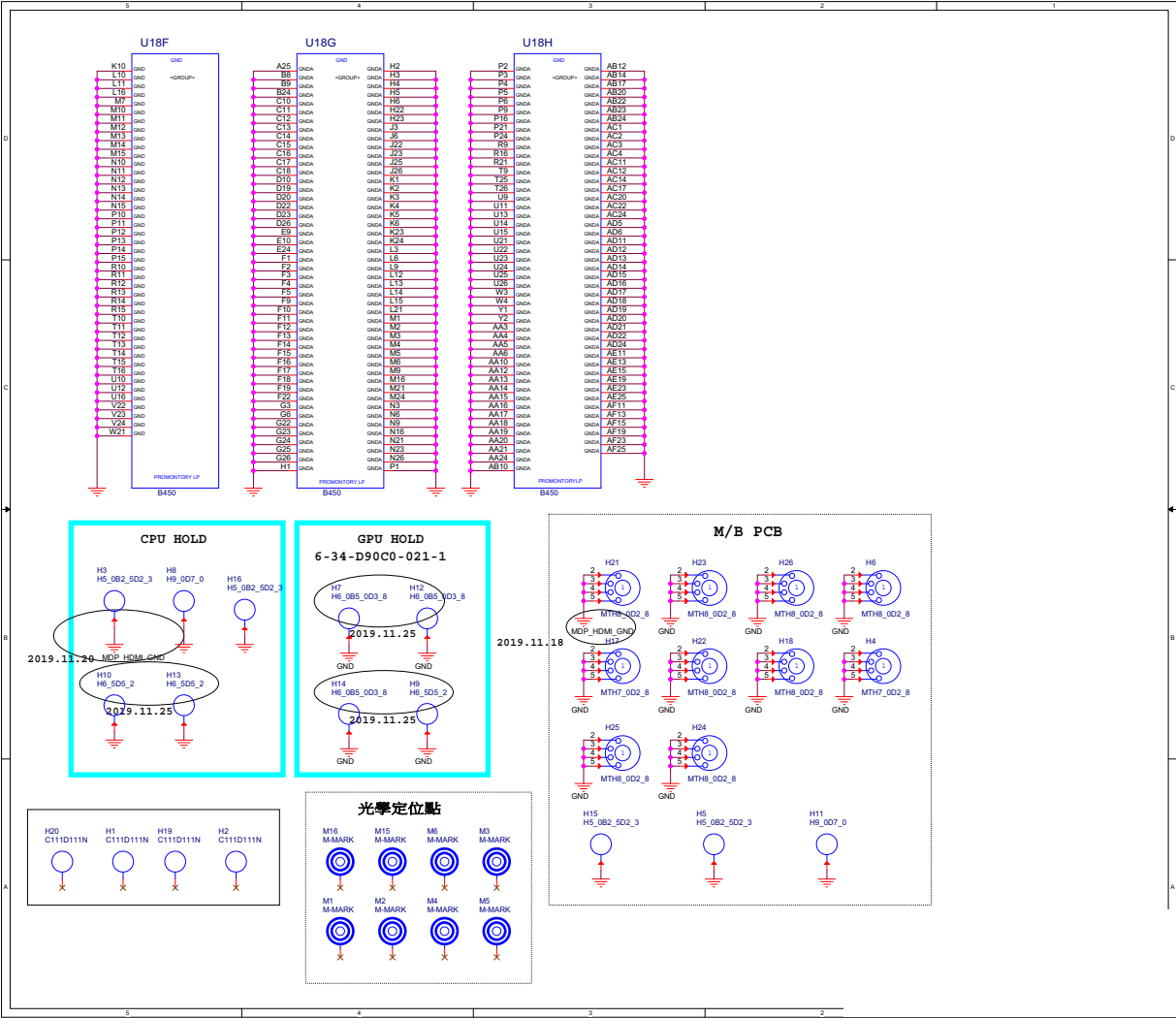


PCH 4/5



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PCH 4/5

PCH 5/5



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PCH 5/5

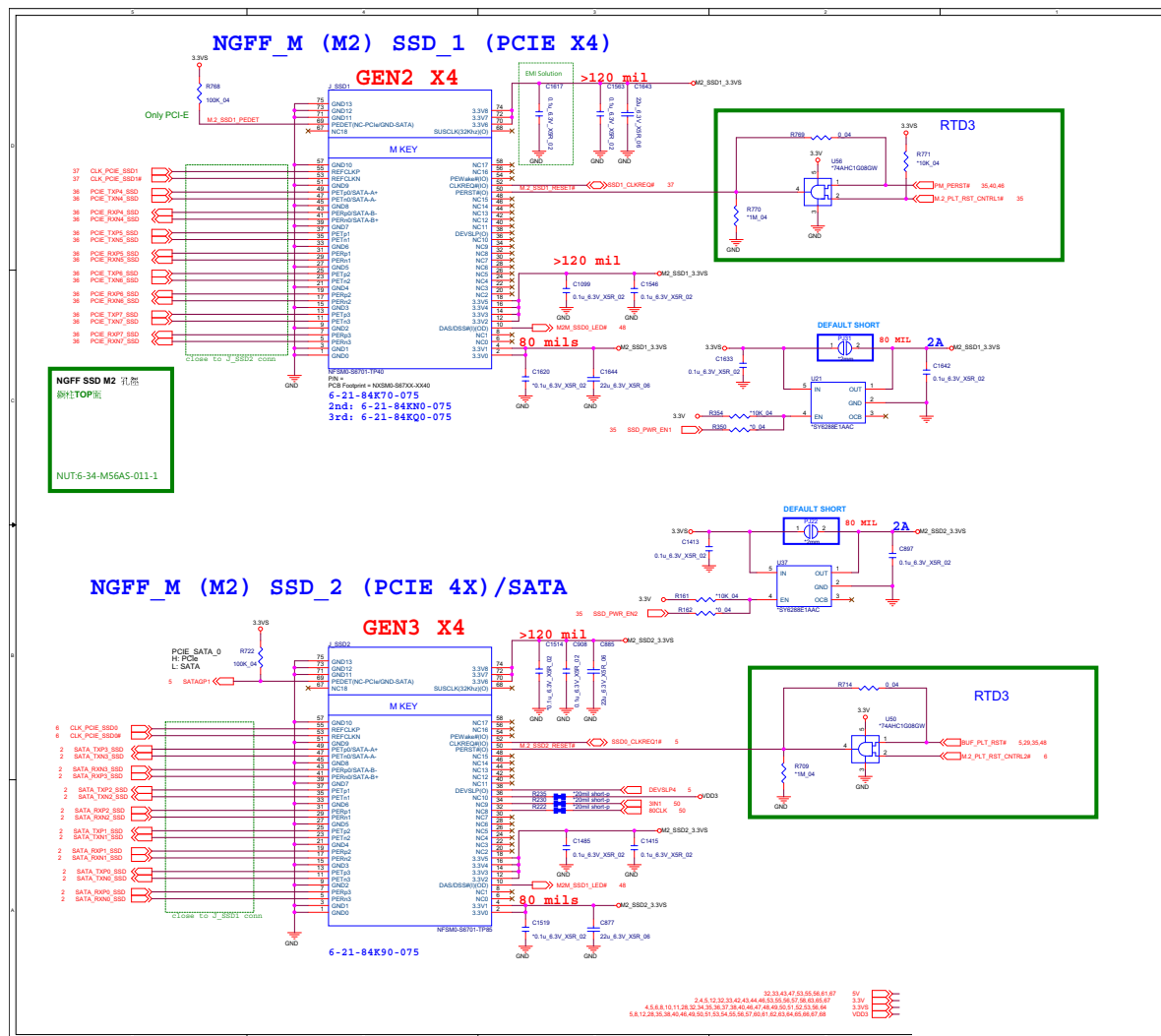
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M.2 WLAN+BT B - 41

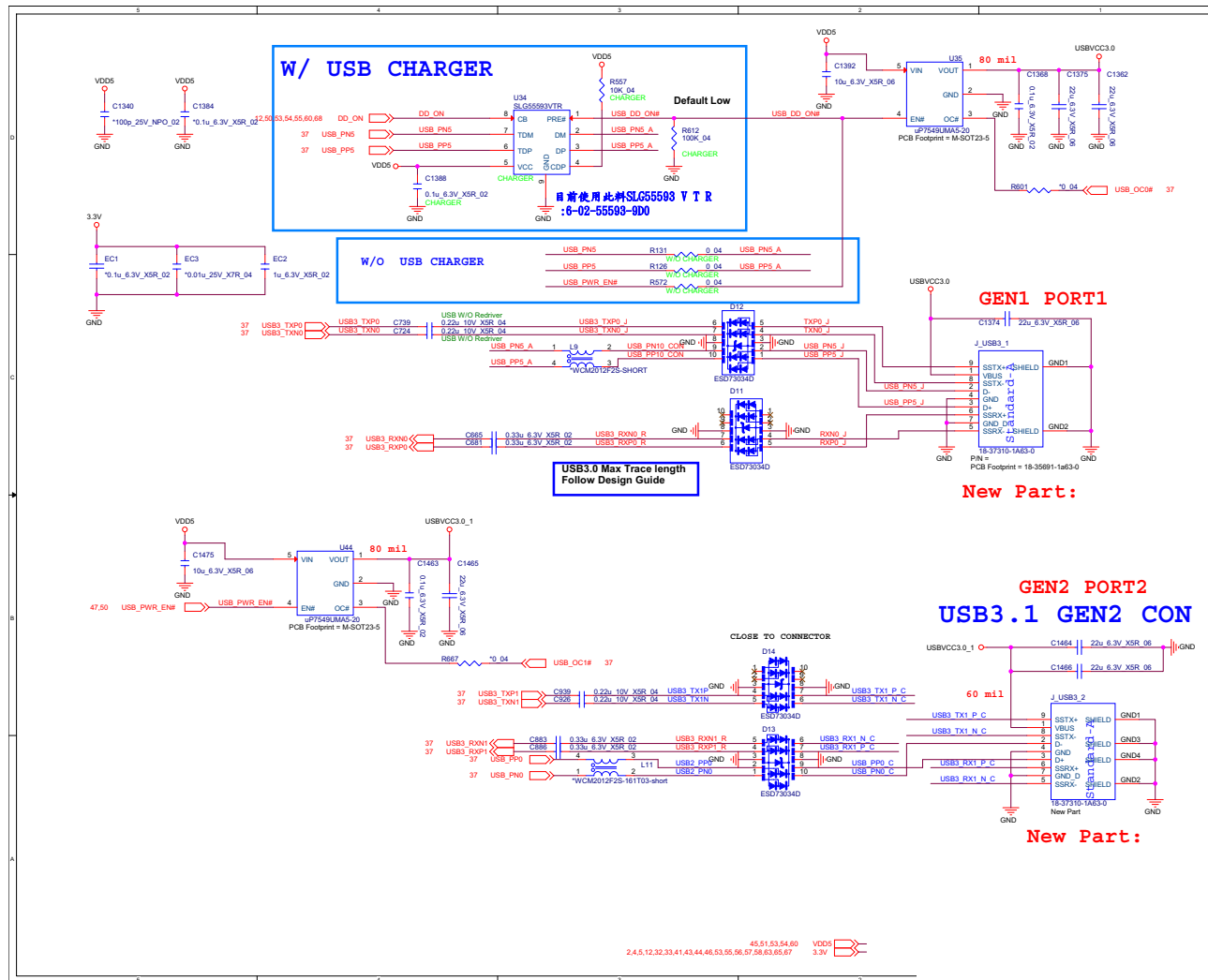


M.2 Card

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M.2 Card



USB Charger

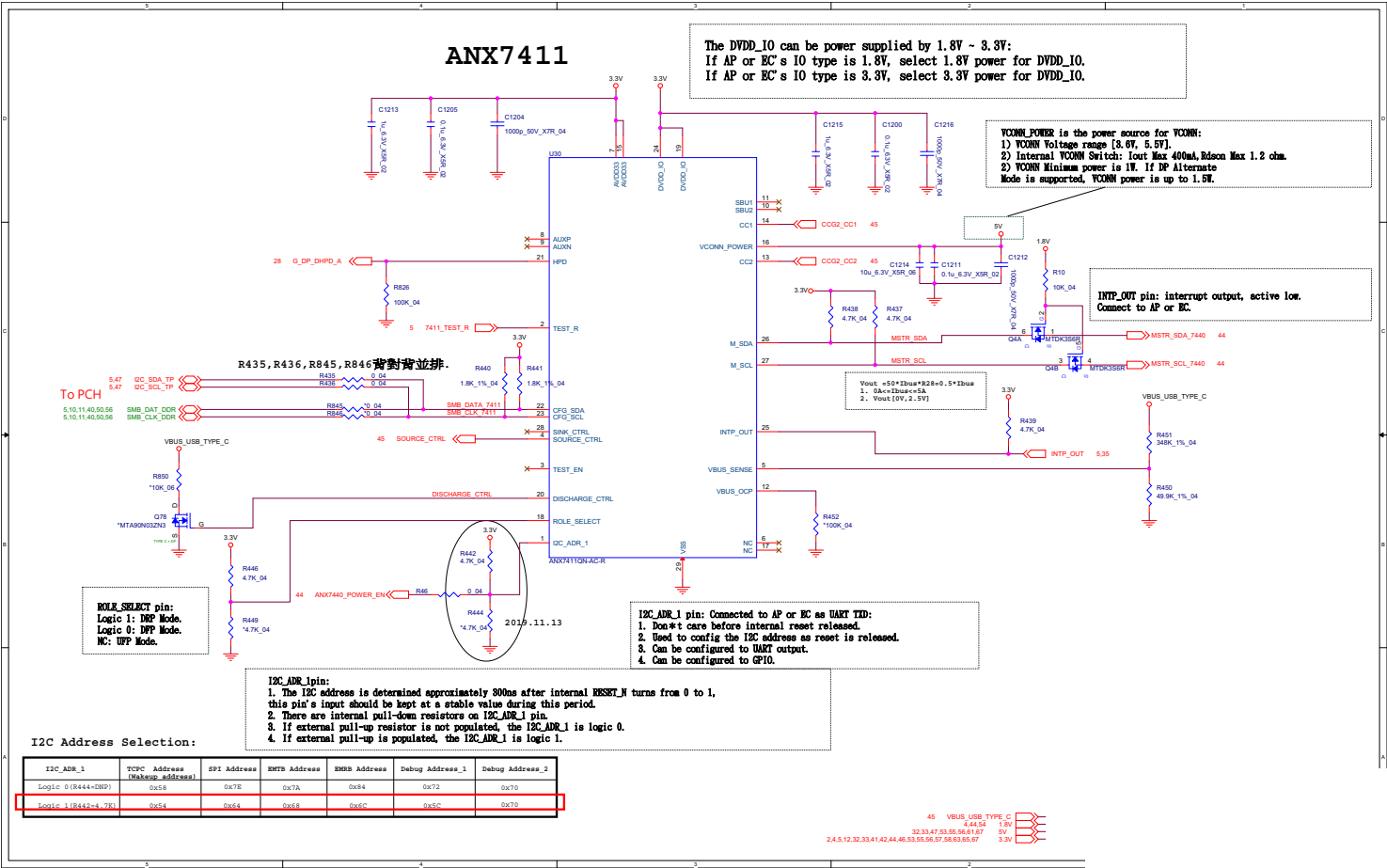


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USB Charger

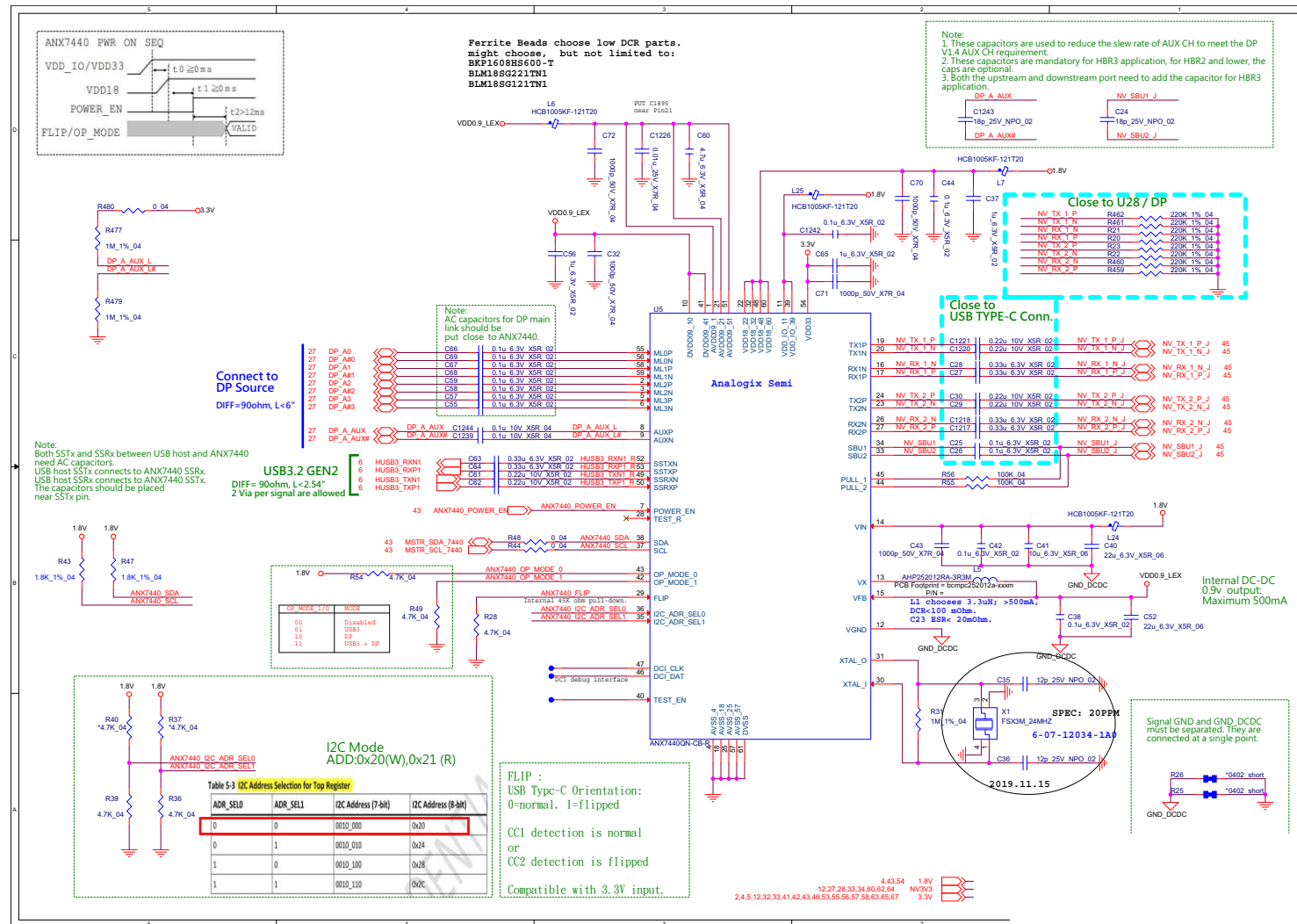
Schematic Diagrams

PD Controller ANX7411

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PD Controller
ANX7411



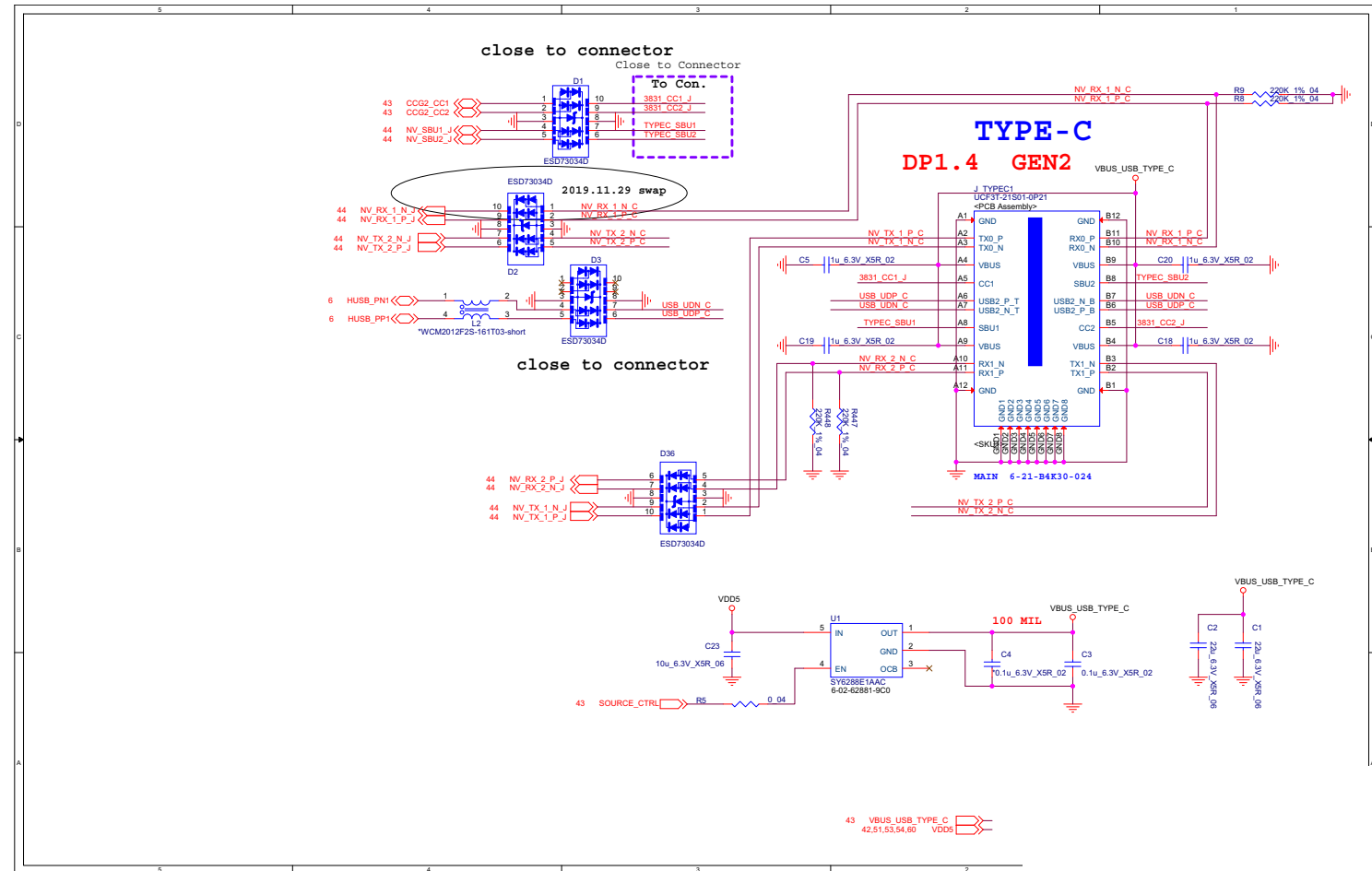
USB Type-C, ANX7440 Retimer



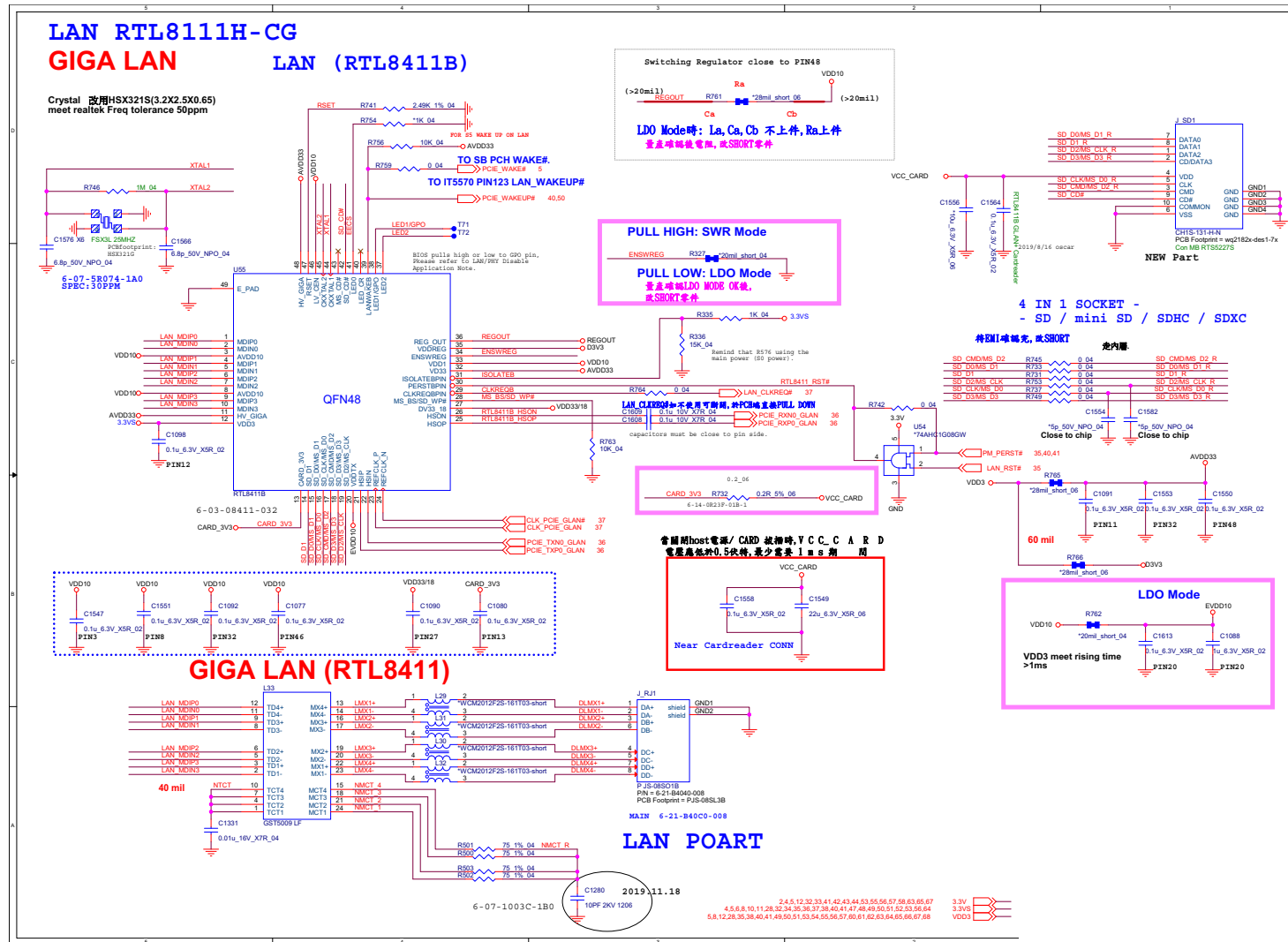
Sheet 44 of 73
USB Type-C,
ANX7440 Retimer

DP + USB Type-C

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DP + USB Type-C



Card Reader / LAN RTL8411B

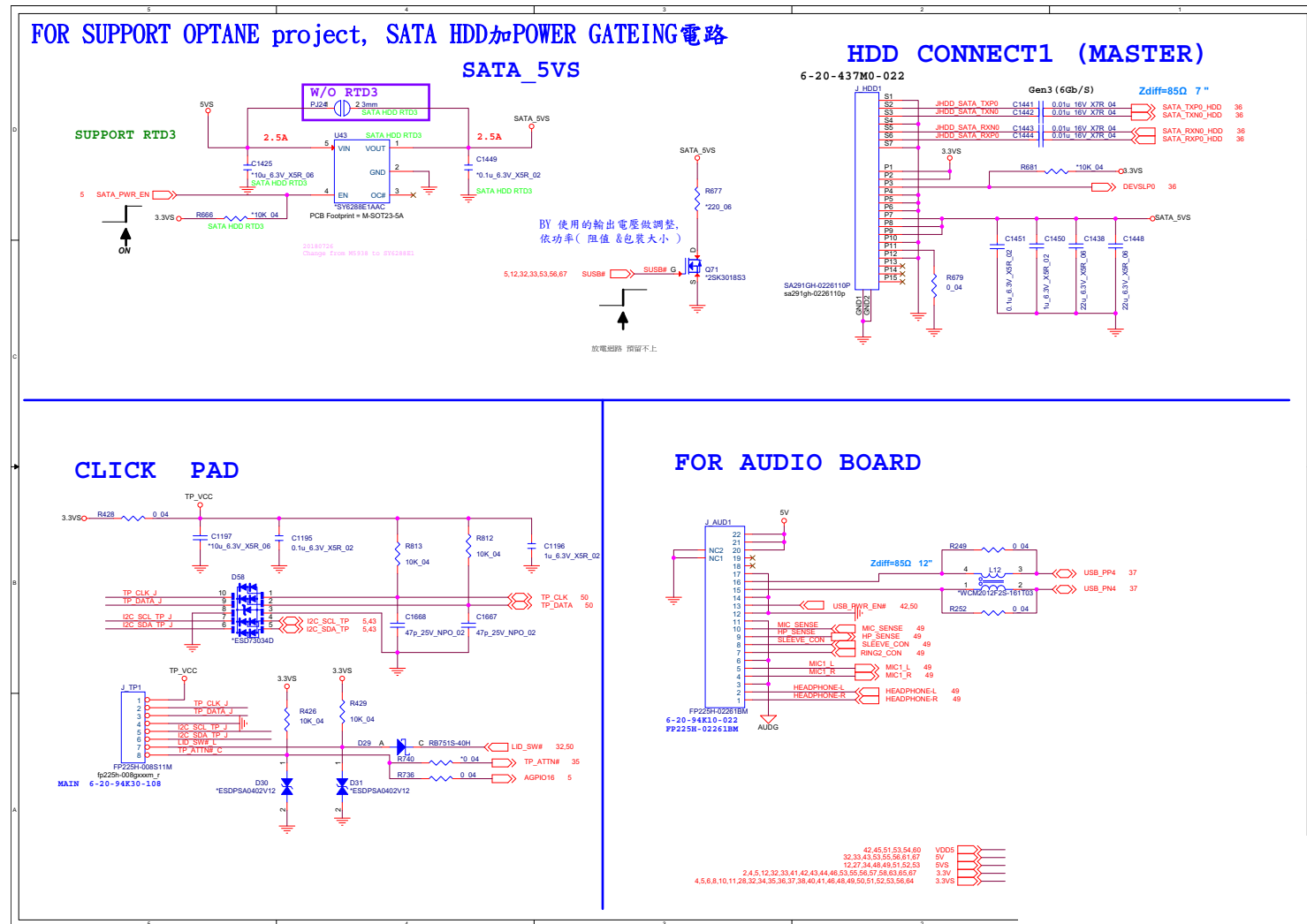


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Card Reader /
LAN RTL8411B

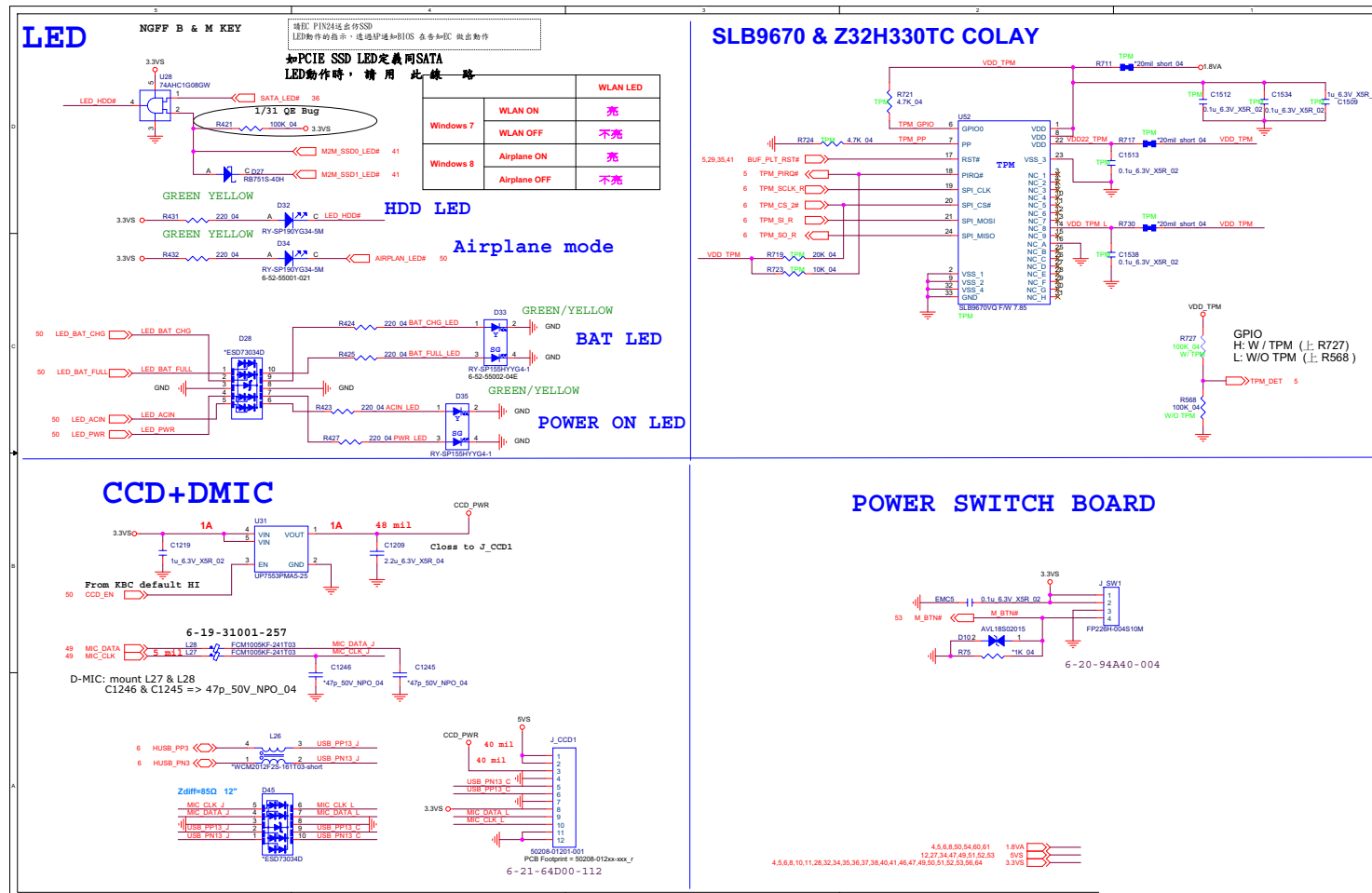
Schematic Diagrams

HDD, Click TP, Audio, Hall Con.

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HDD, Click TP,
Audio, Hall Con.



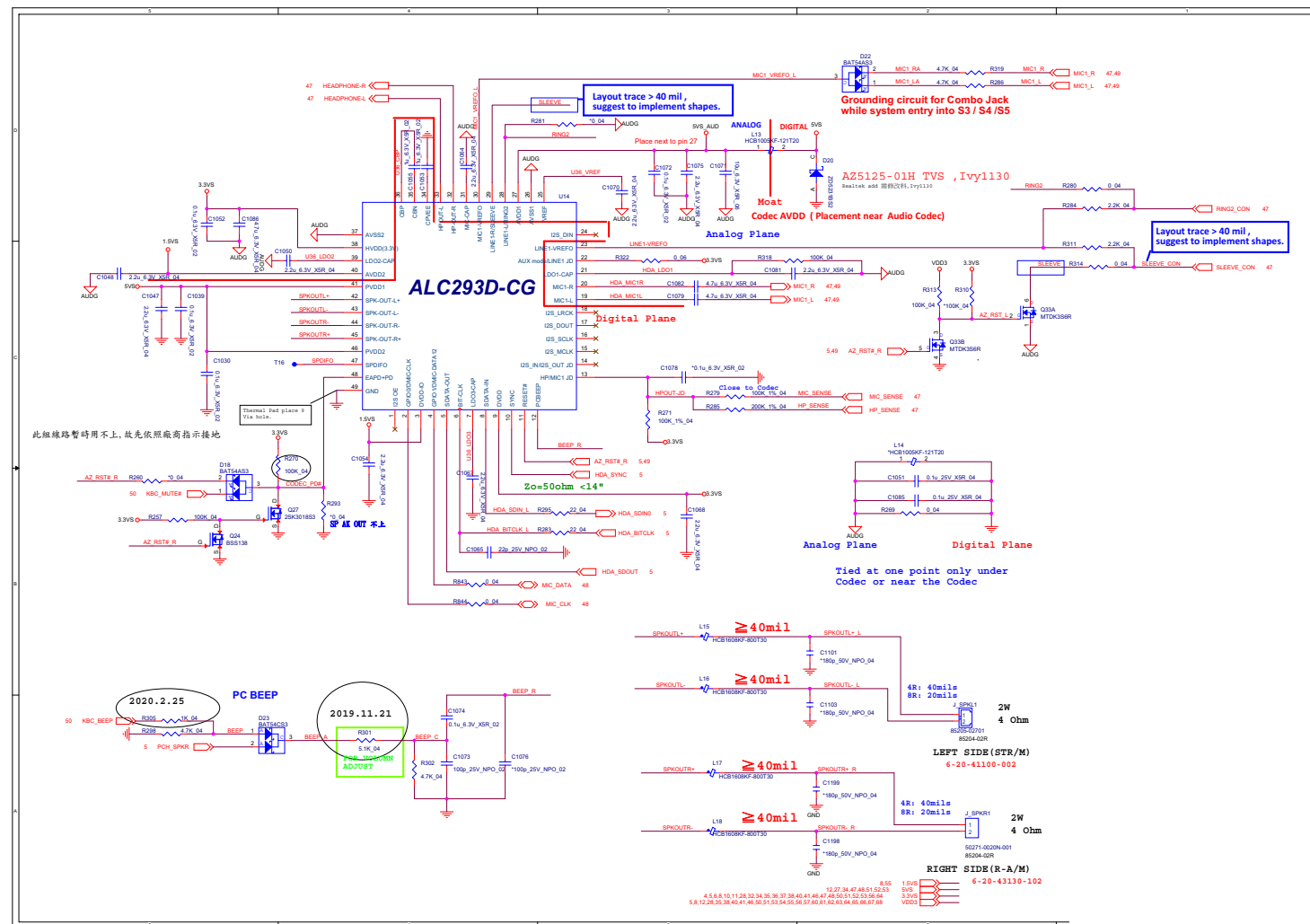
LED, CCD, TPM, Power SW Con.



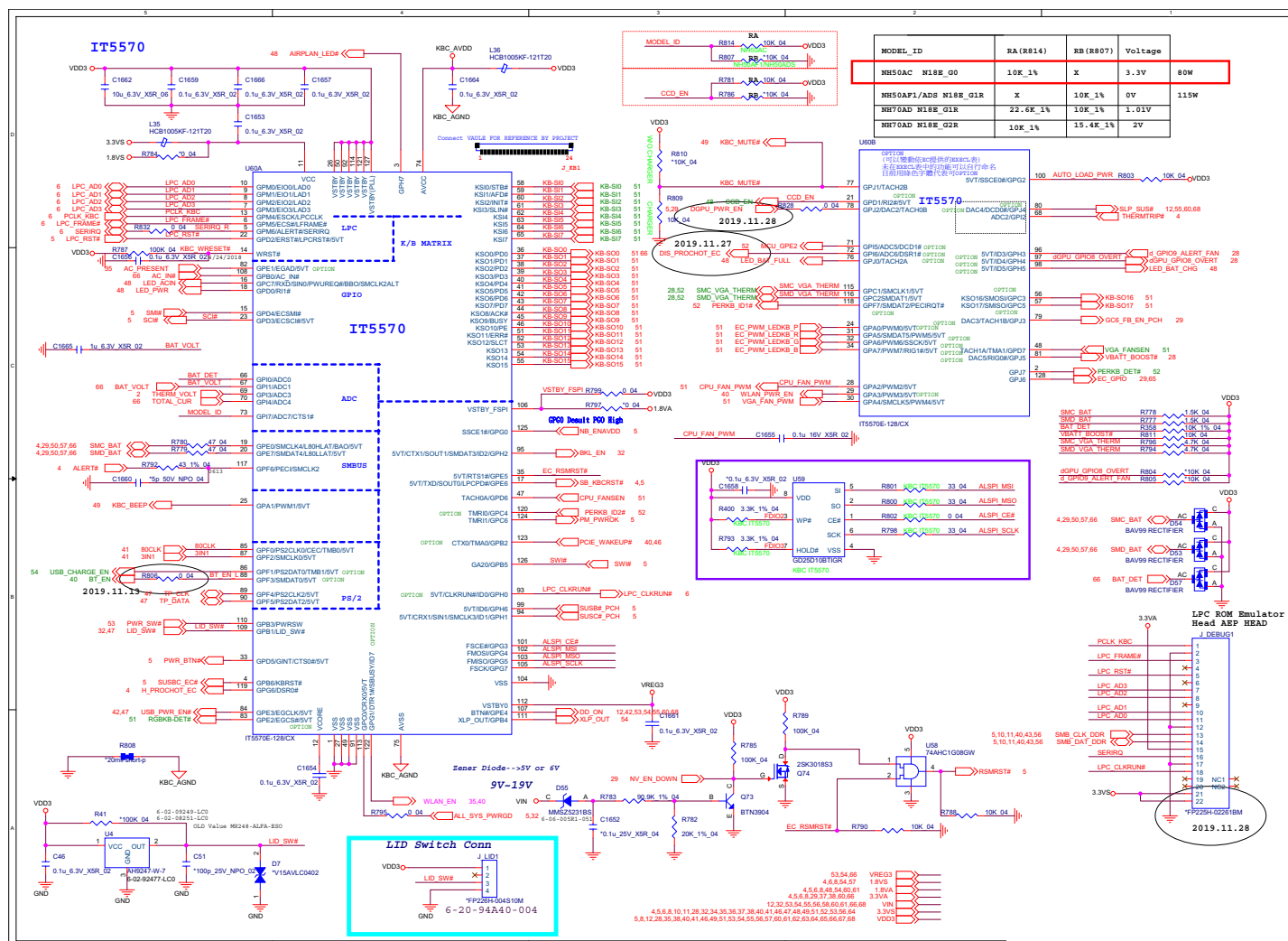
Audio Codec

B. Schematic Diagrams

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Audio Codec

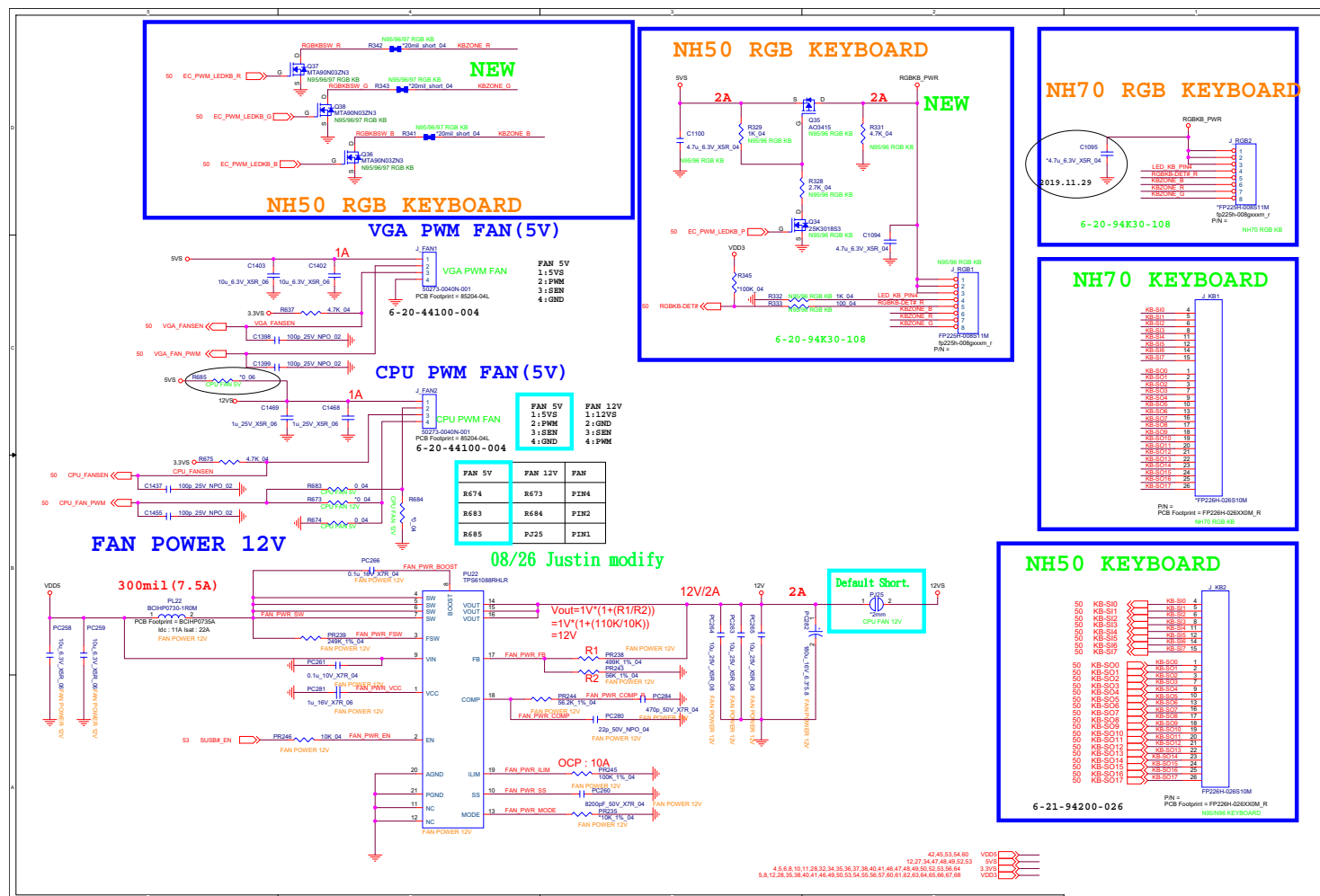


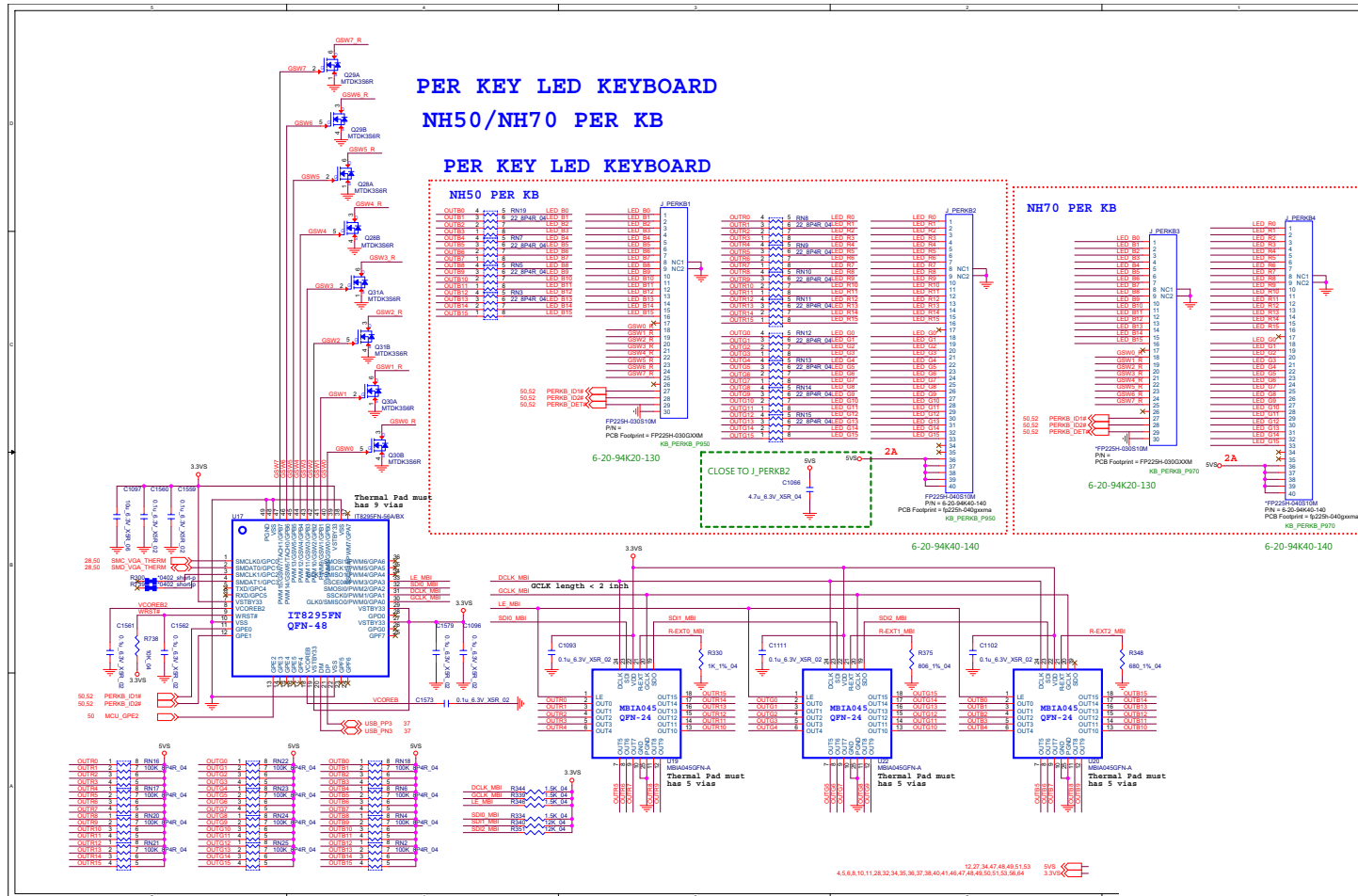
KBC-ITE IT5570 B - 51



RGB KB, Fan

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RGB KB, Fan

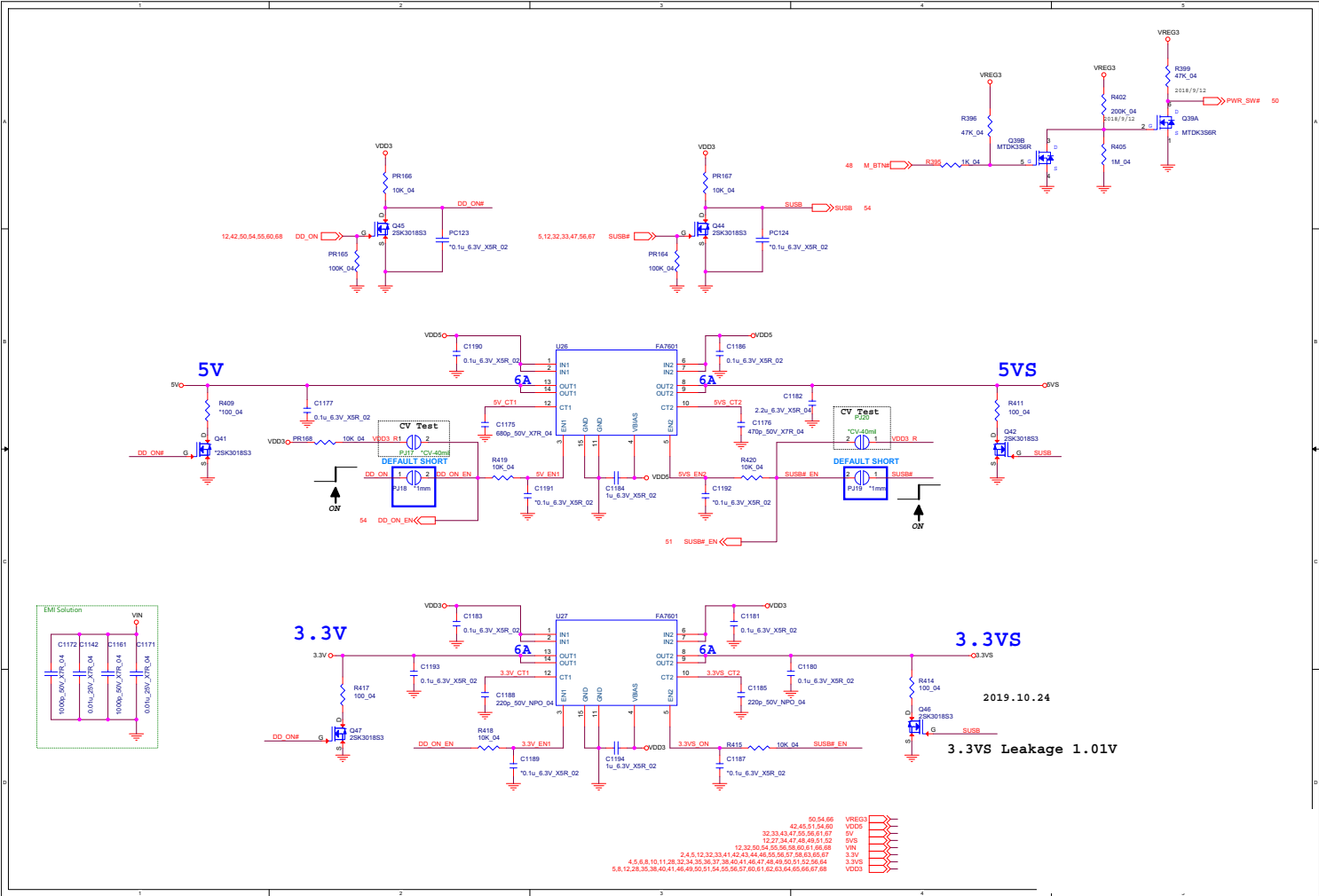




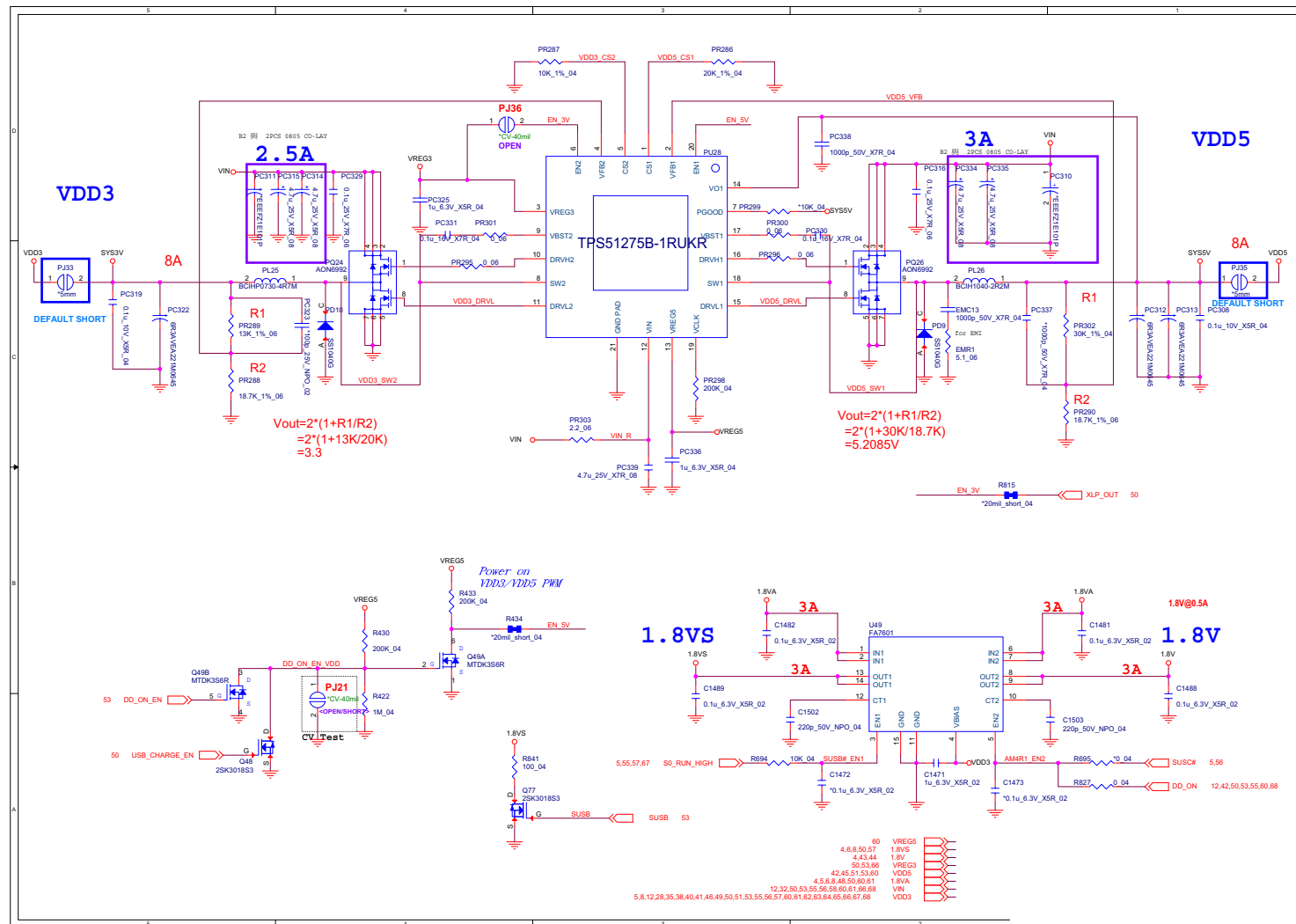
Schematic Diagrams

5V, 5VS, 3.3V, 3.3VS

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5V, 5VS, 3.3V,
3.3VS

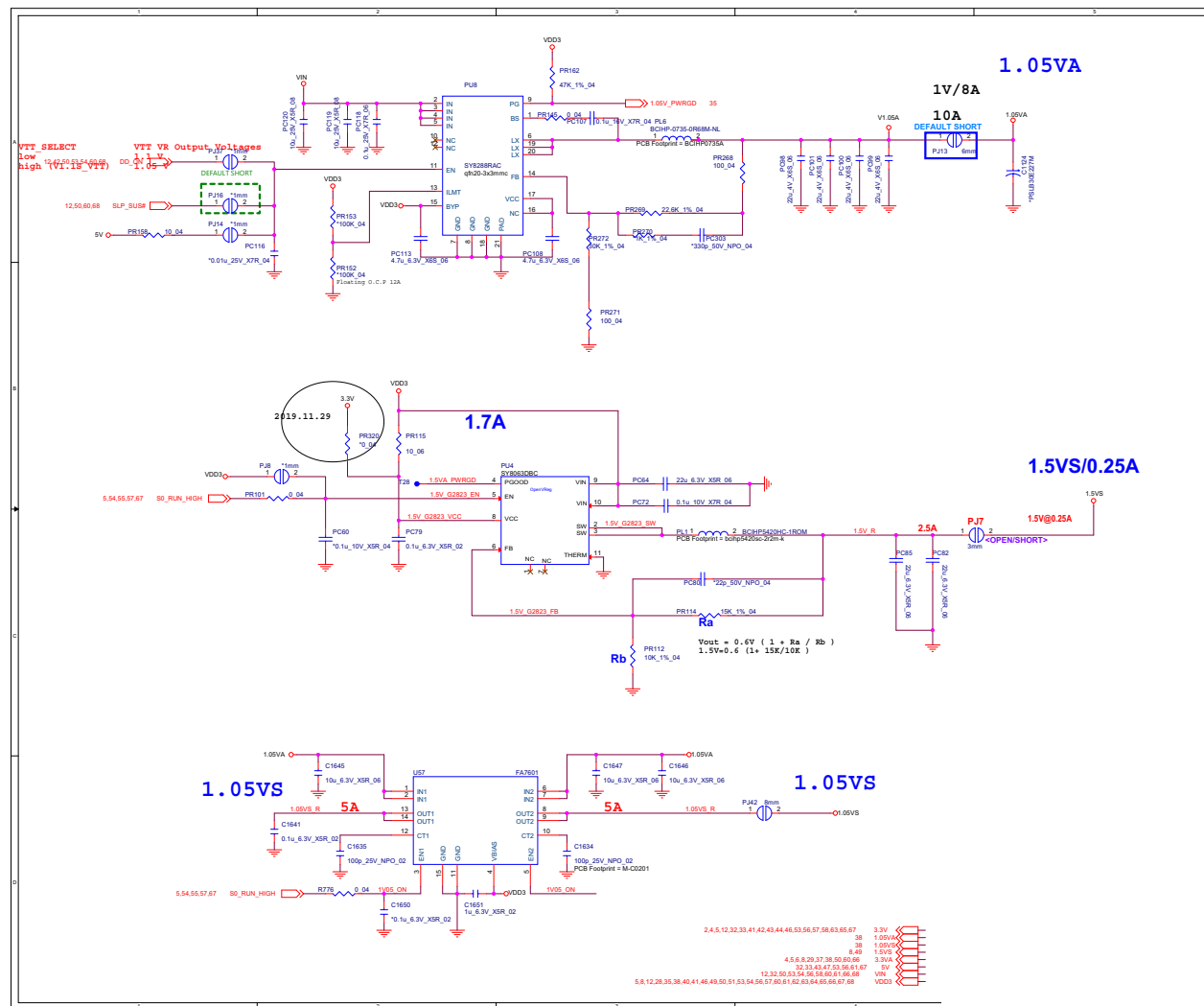


VDD3, VDD5 B - 55



B.Schematic Diagrams

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1.05VA, 1.05VS,
1.5VA



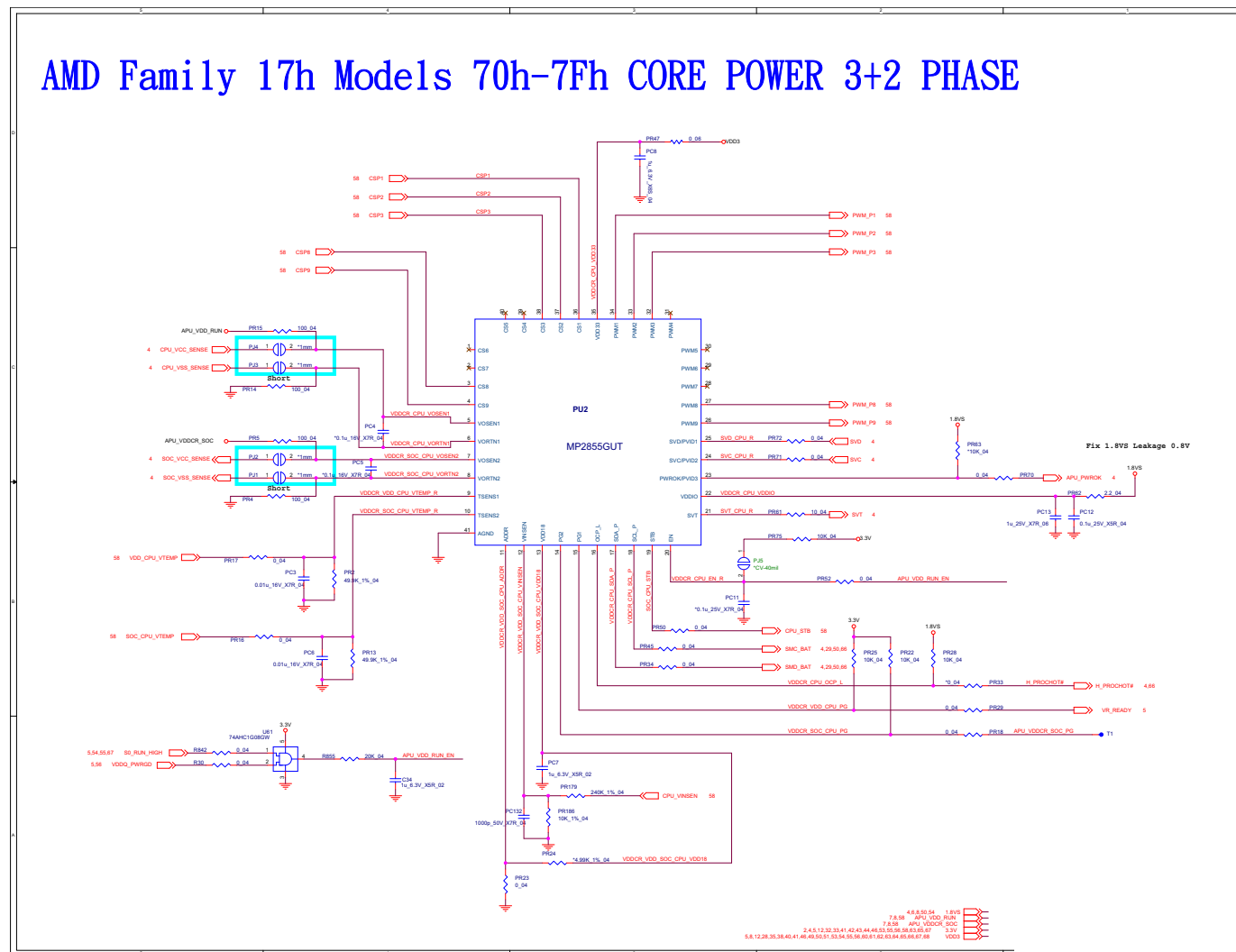
Schematic Diagrams



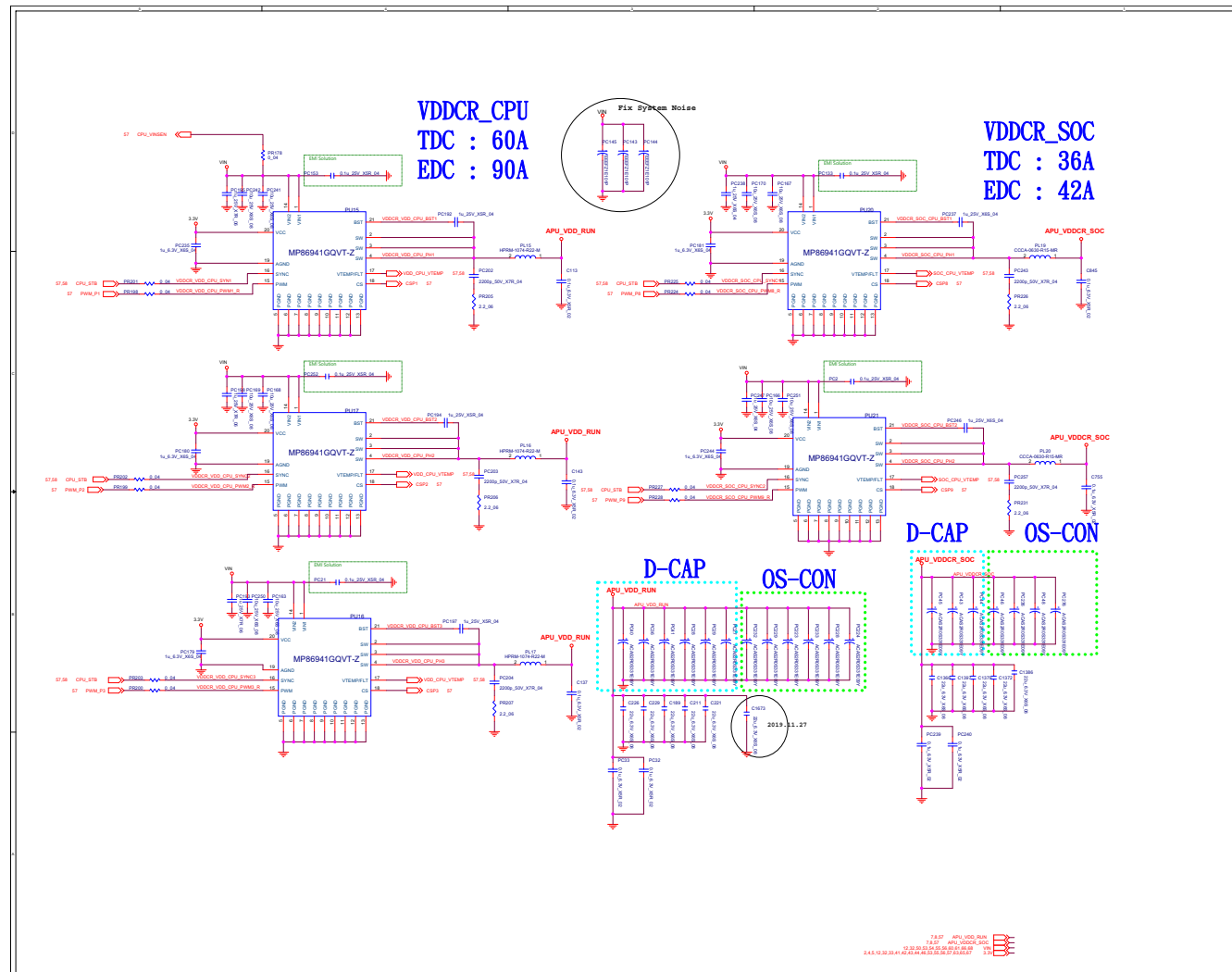
Schematic Diagrams

MP2855GU, VCore

AMD Family 17h Models 70h-7Fh CORE POWER 3+2 PHASE



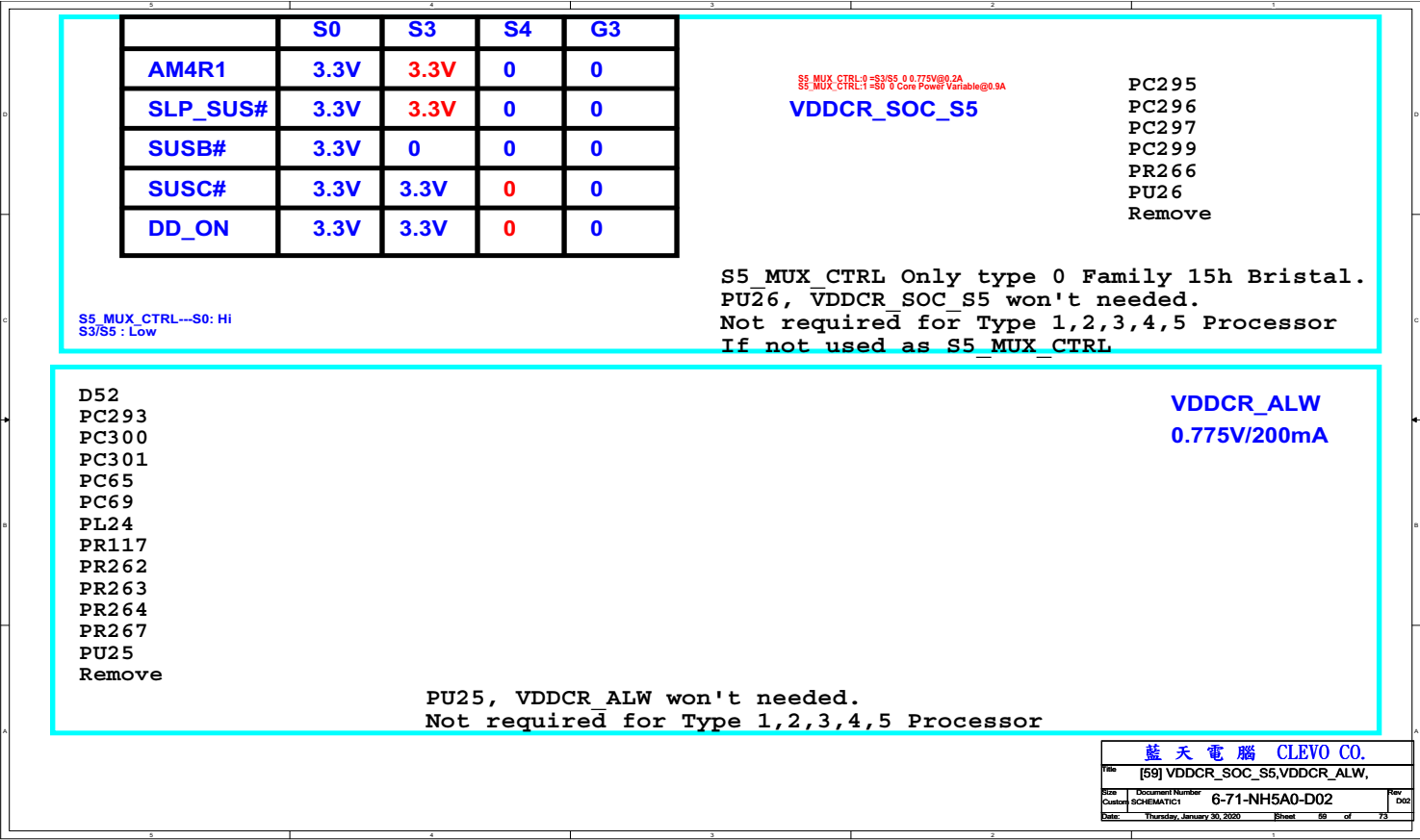
VDD_RUN, VDDCR_SOC



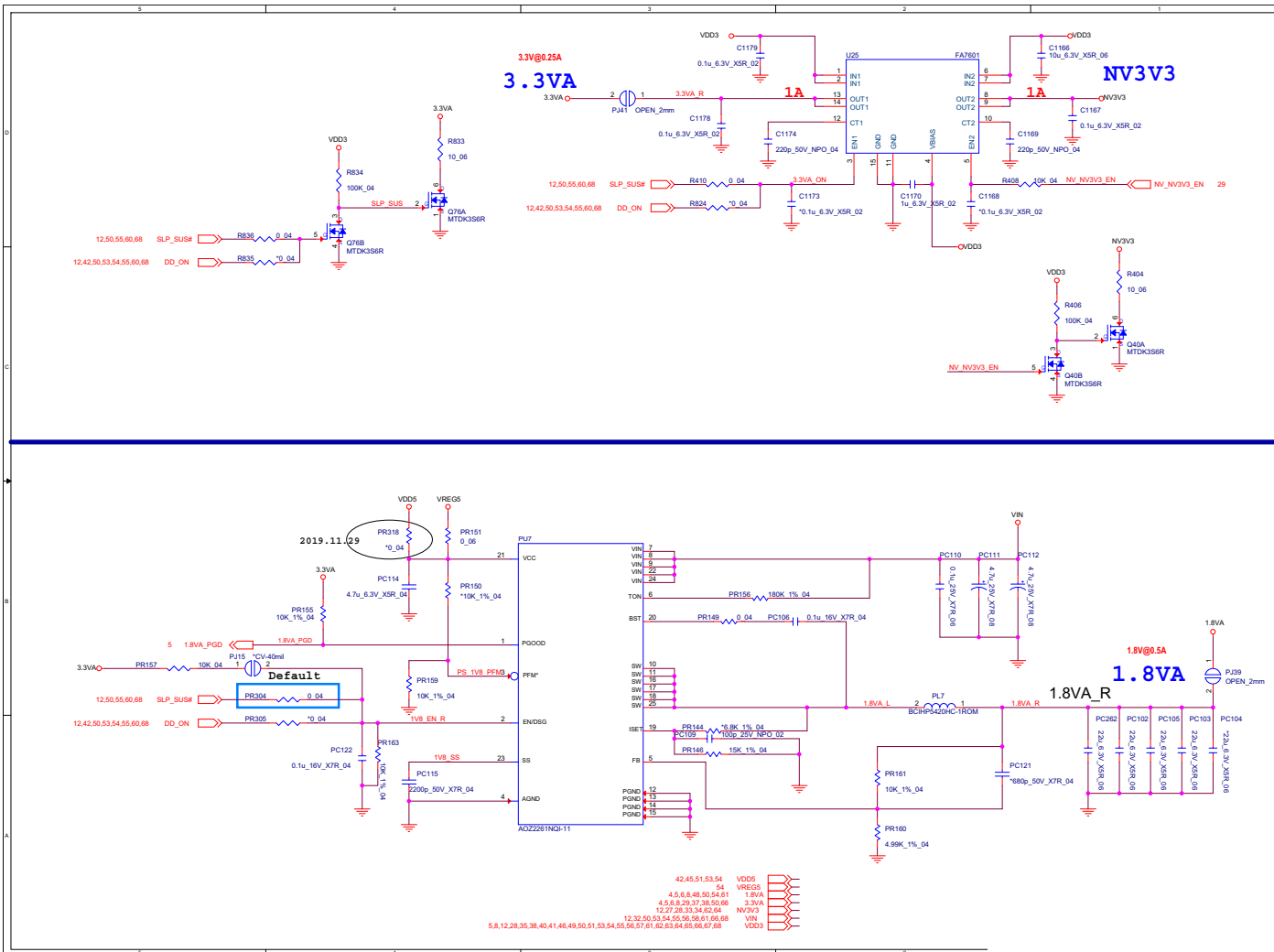
Sheet 58 of 73
VDD_RUN,
VDDCR_SOC

VDDCR_SOC_S5, VDDCR_ALW

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VDDCR_SOC_S5,
VDDCR_ALW



1.8VA, NV3V3, 3.3VA

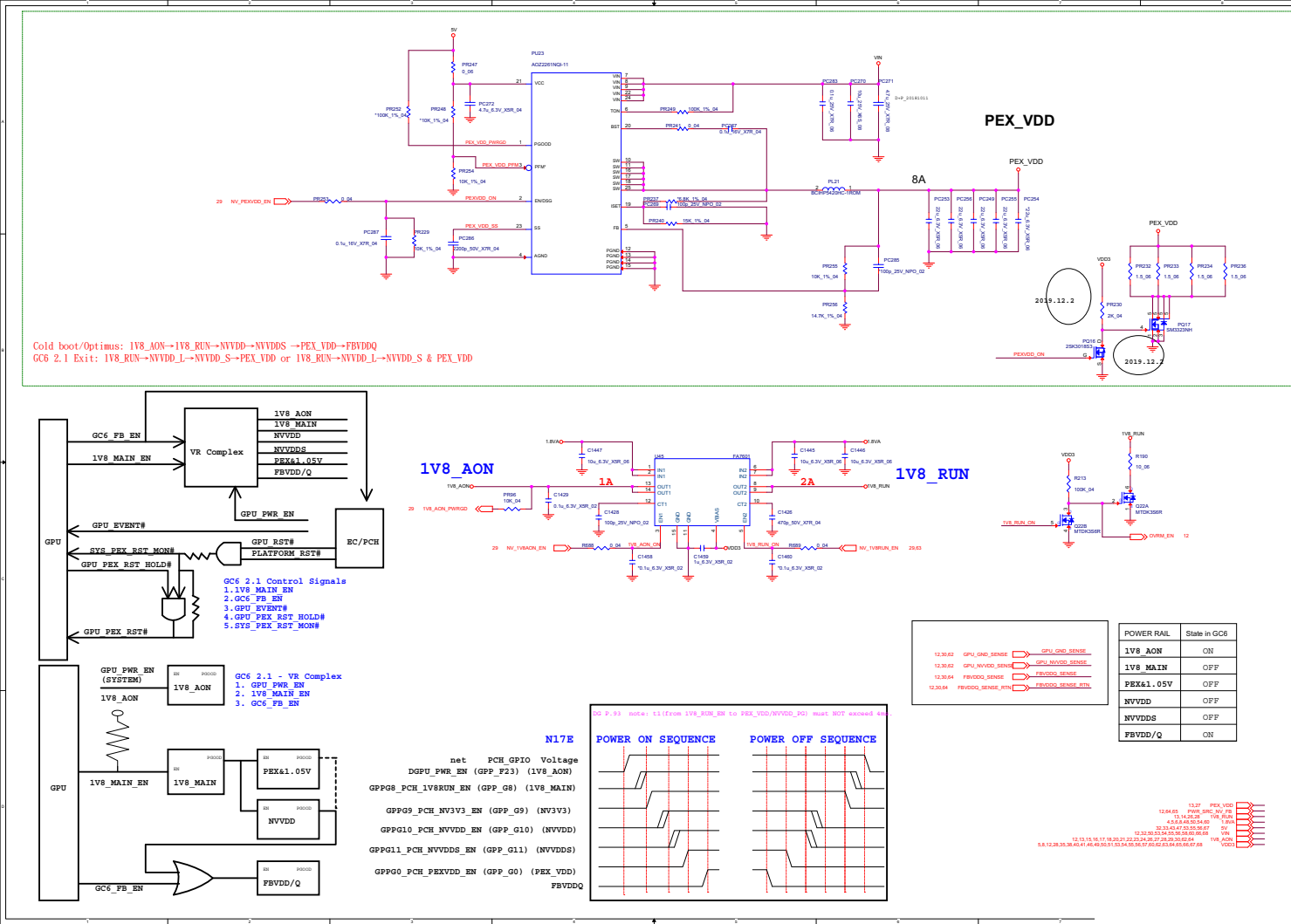


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1.8VA, NV3V3,
3.3VA

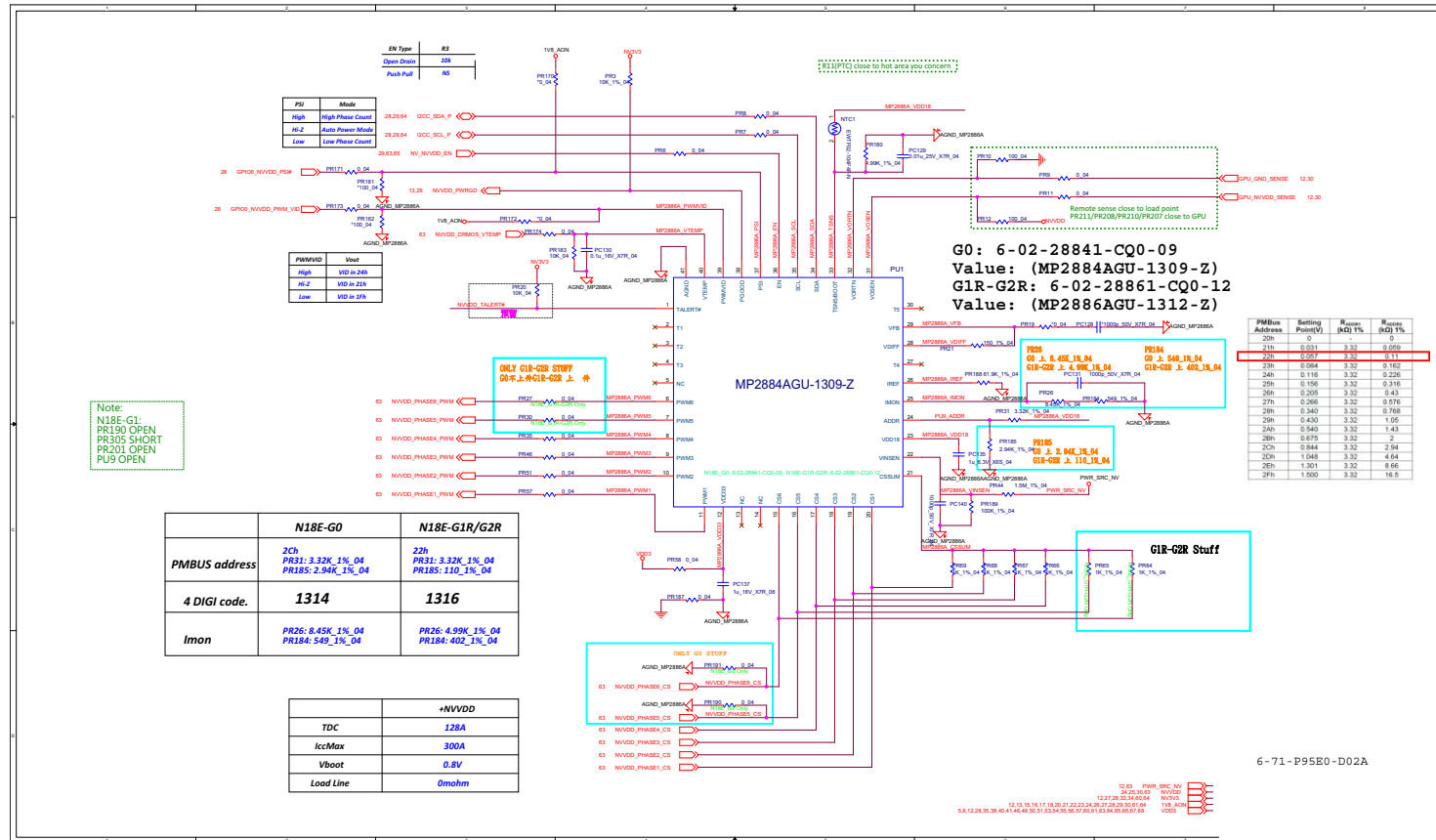
Schematic Diagrams

PEX_VDD, 1V8, AON/RUN

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PEX_VDD,
1V8_AON/RUN



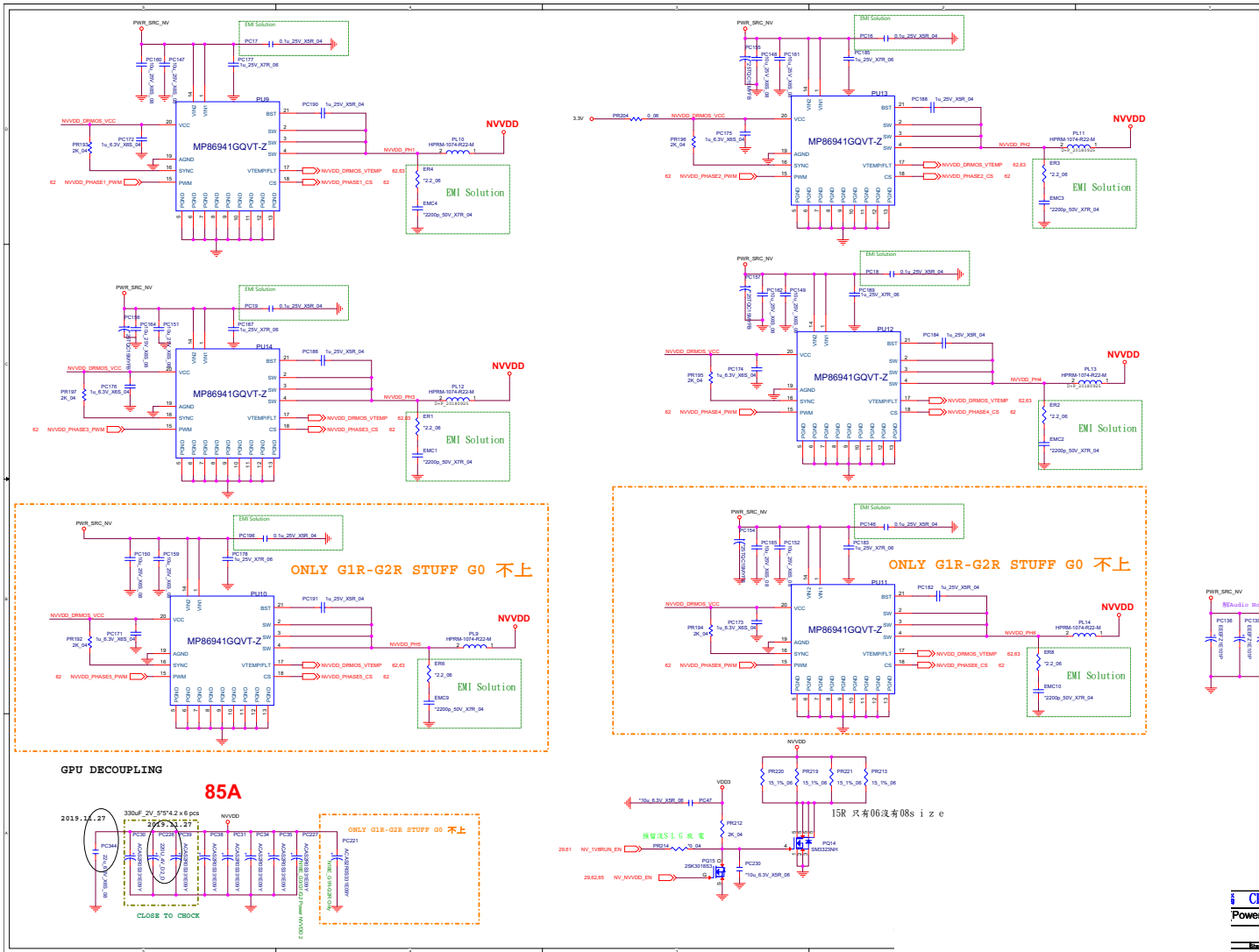
NVVDD1

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NVVDD1

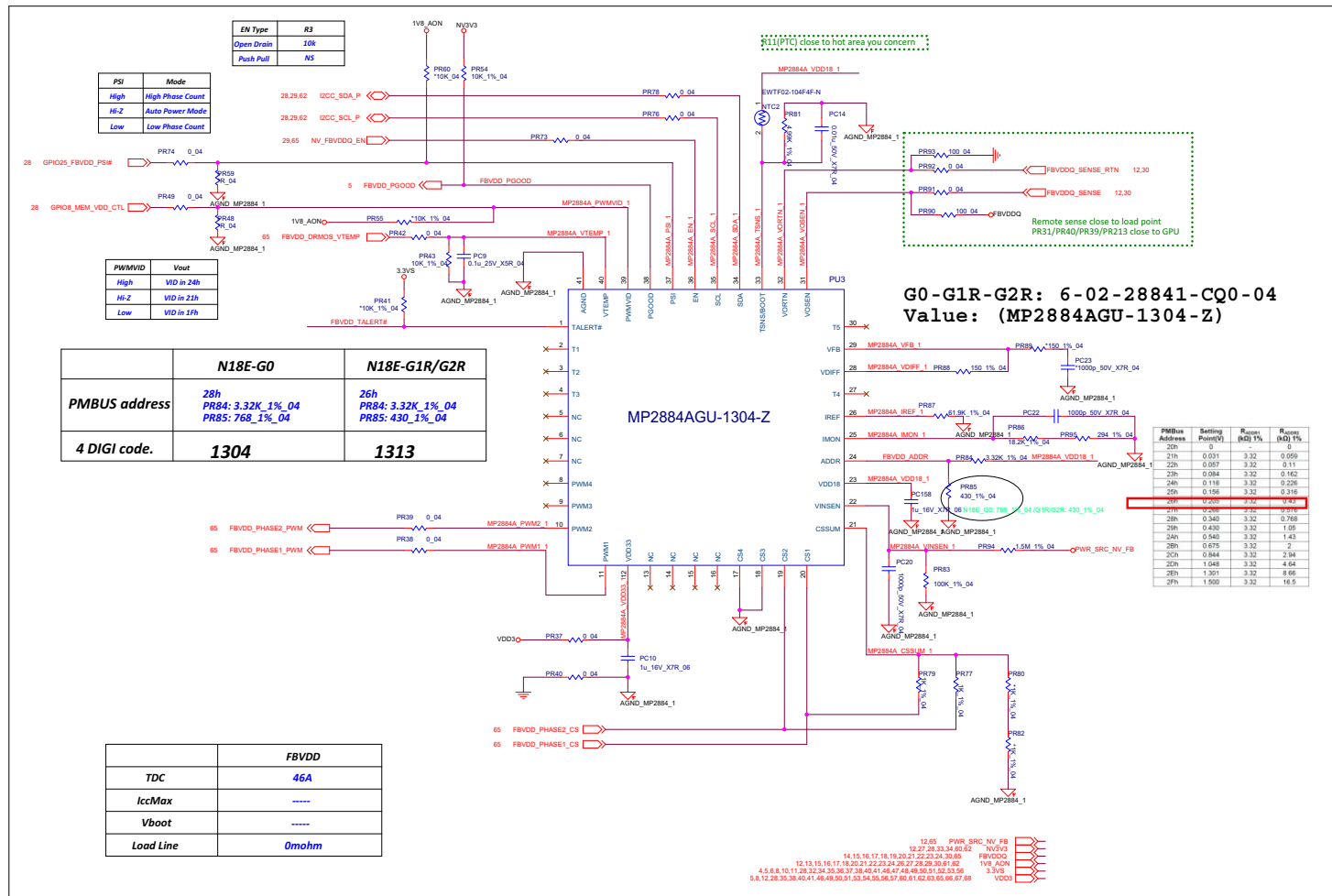
NVVDD2

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NVVDD2

B. Schematic Diagrams



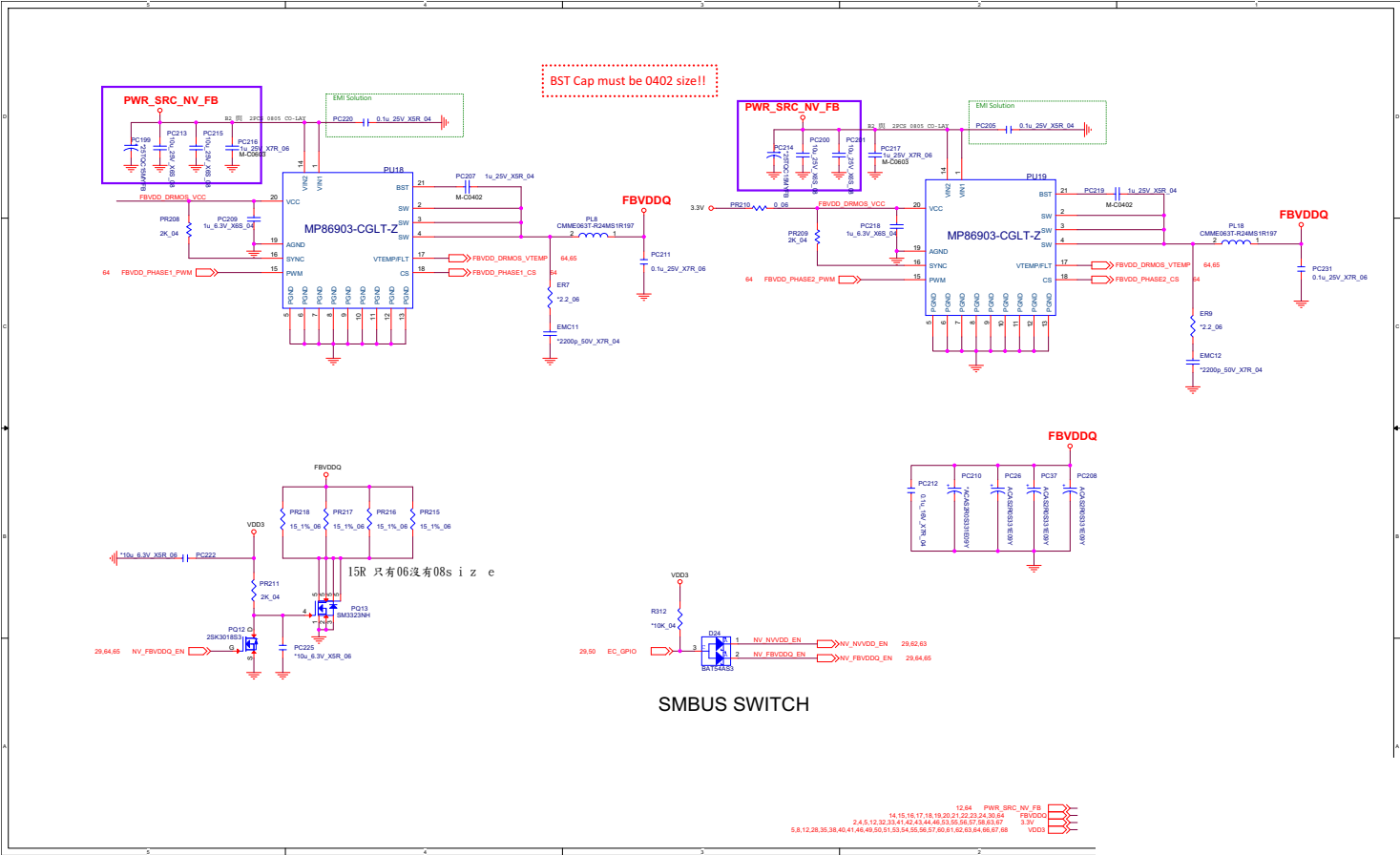
FBVDD B - 65



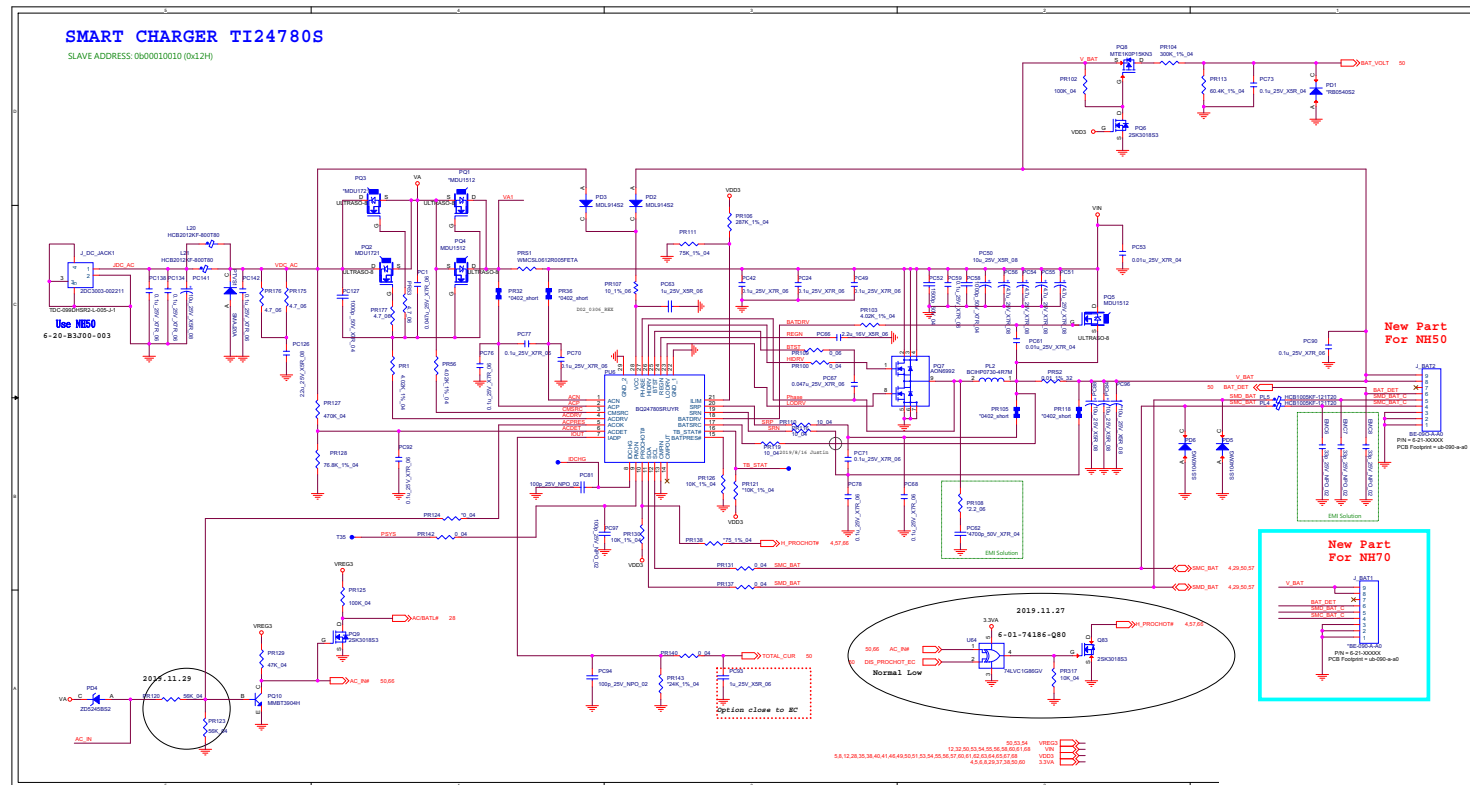
Schematic Diagrams

FBVDD

Sheet 65 of 73
FBVDD



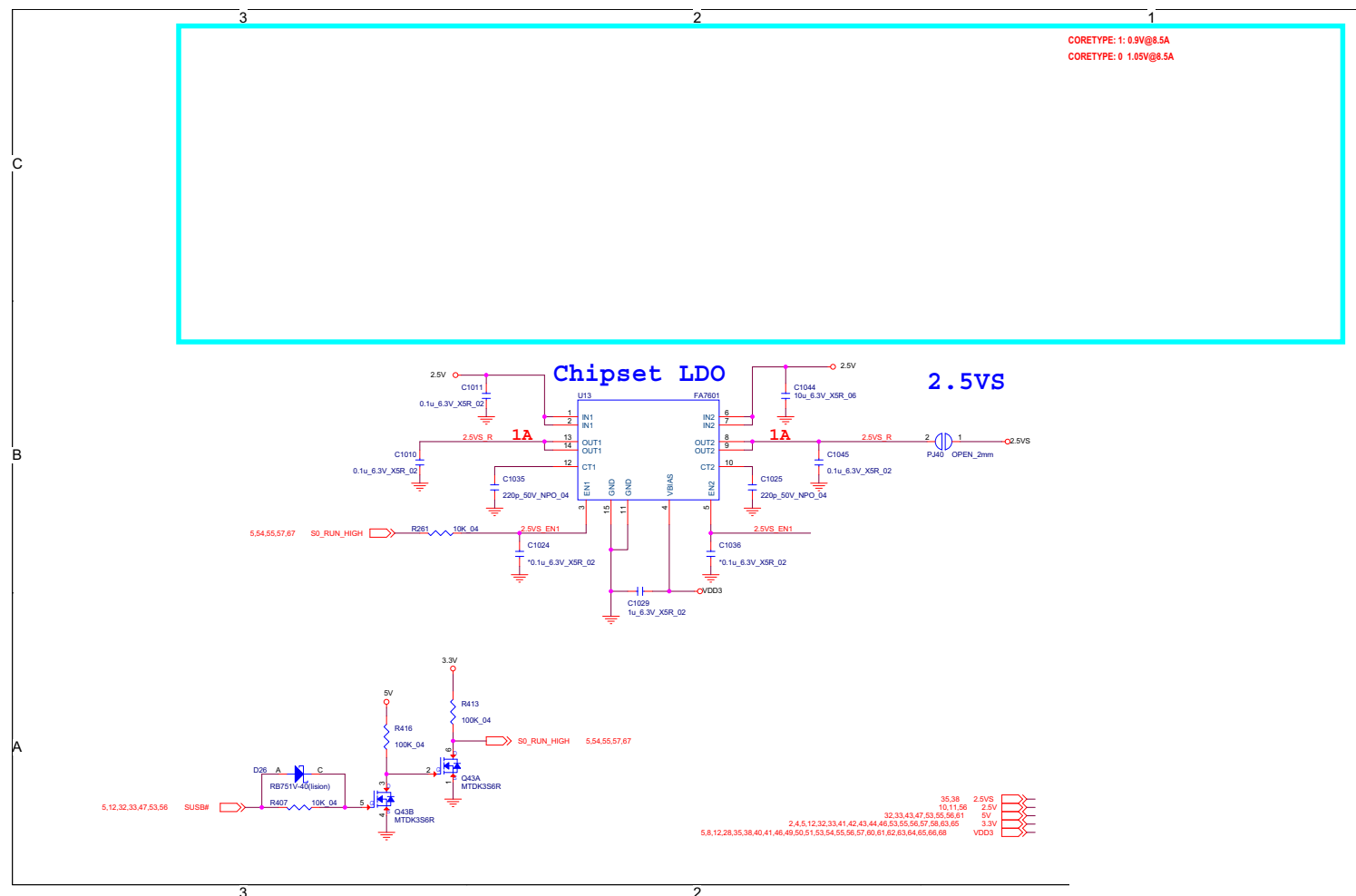
AC_In, Charger



Sheet 66 of 73
AC_In, Charger

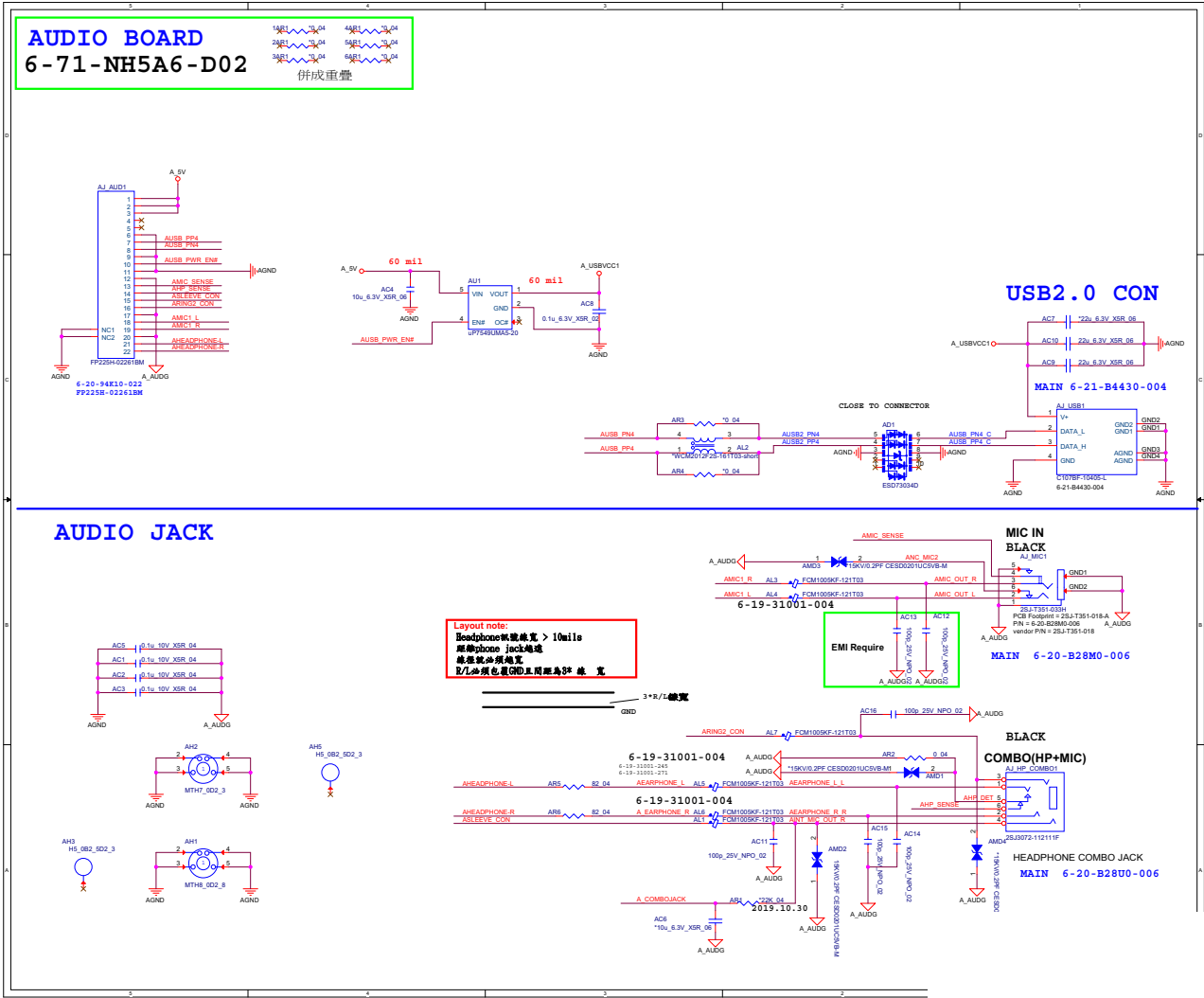
2.5VS, VDDP_RUN

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2.5VS, VDDP_RUN



VDDP_ALW B - 69

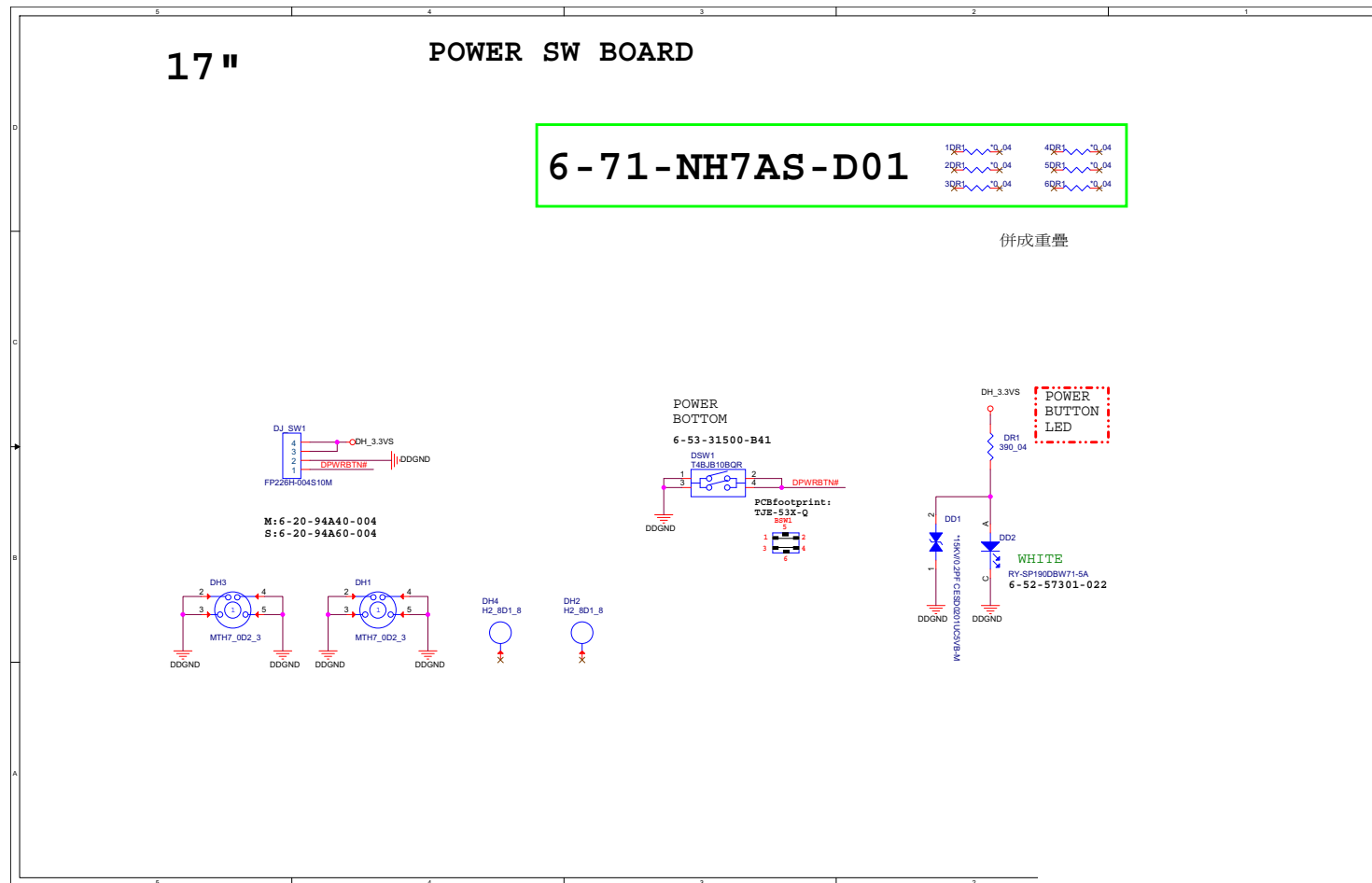
Audio Board



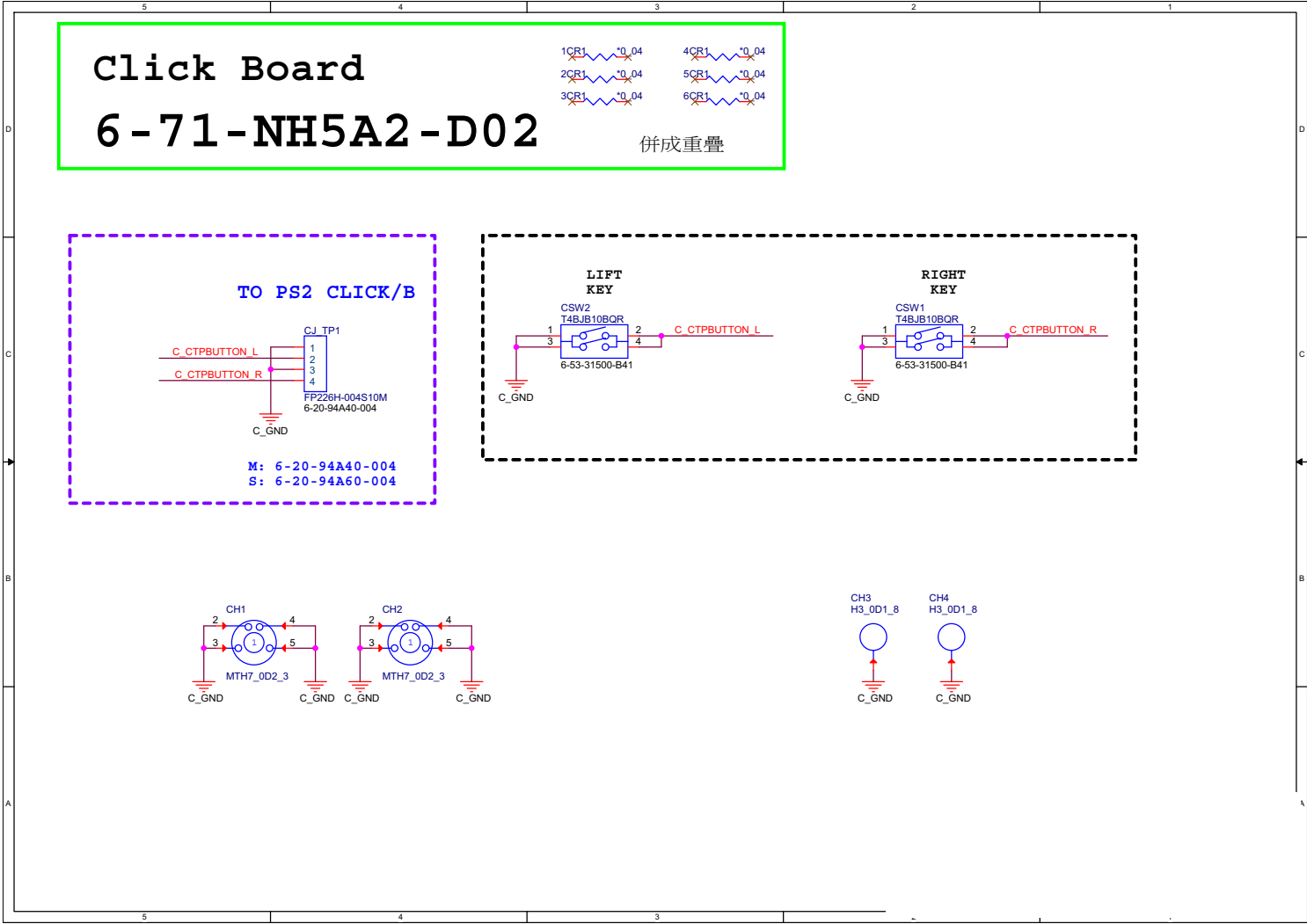
Sheet 69 of 73
Audio Board

B.Schematic Diagrams

PW Board

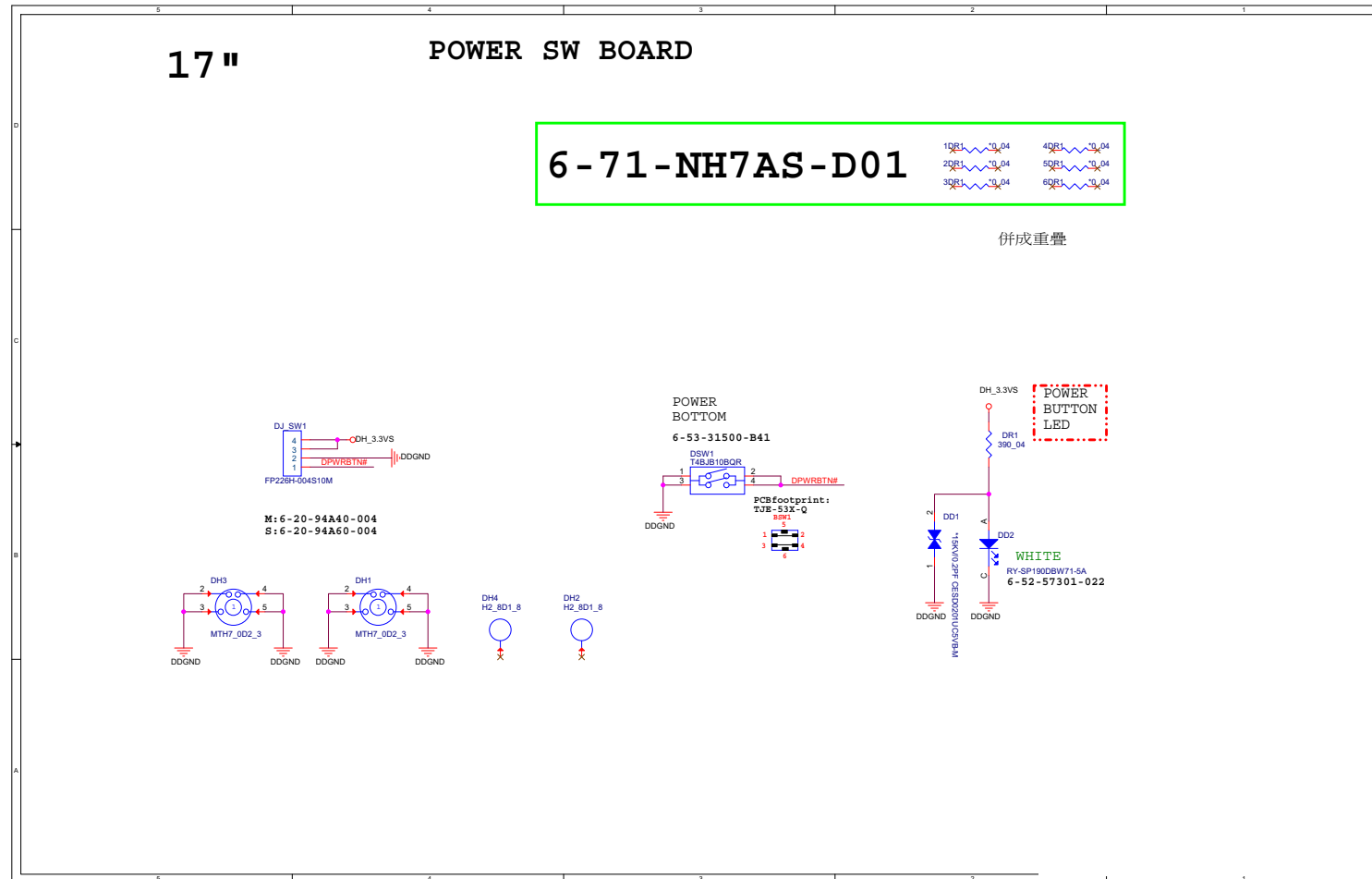
Sheet 70 of 73
PW Board

Click Board

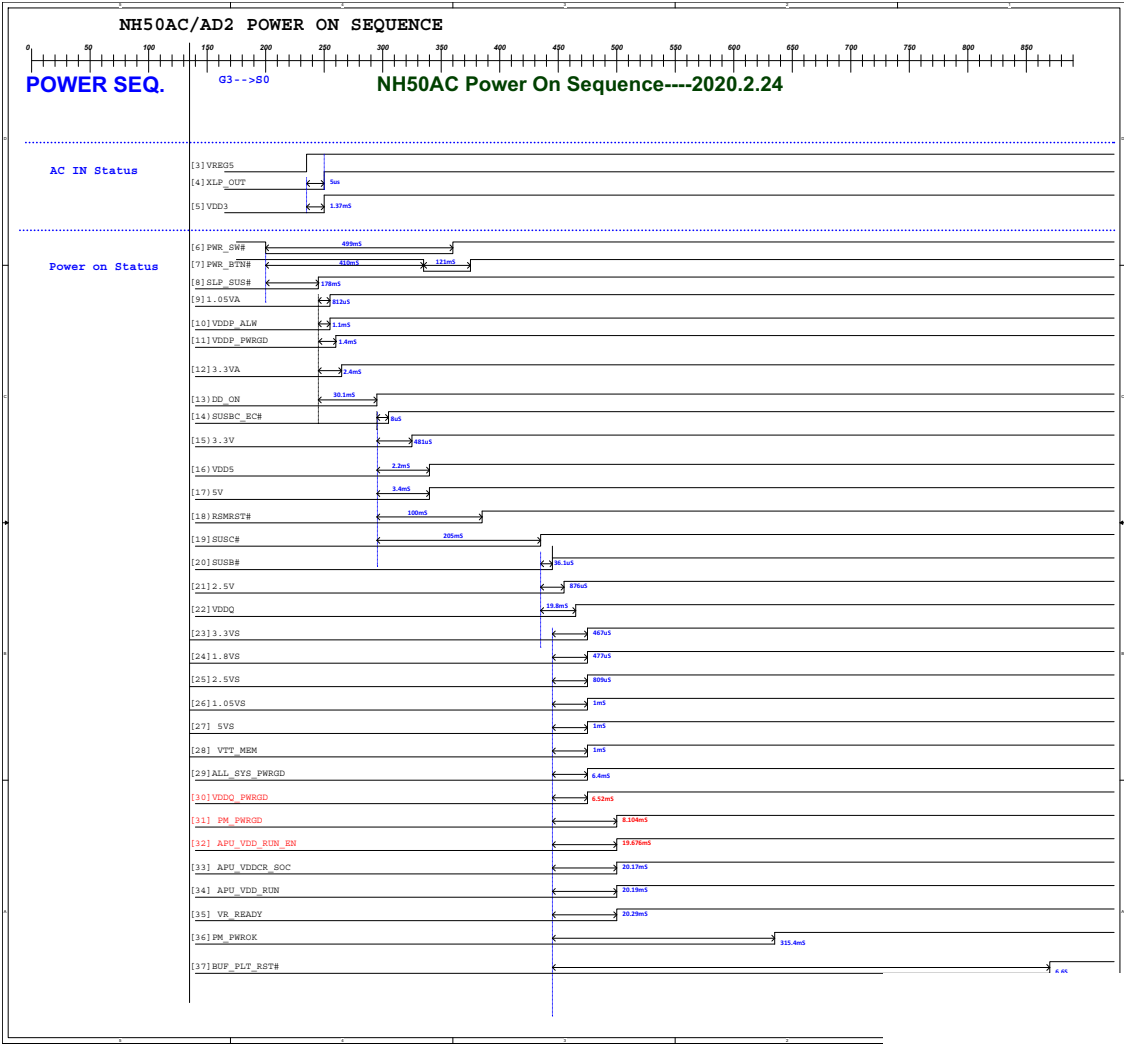


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Click Board

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PW Board



Power Sequence



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Power Sequence