

SERVICE MANUAL

notebook

N860EK1

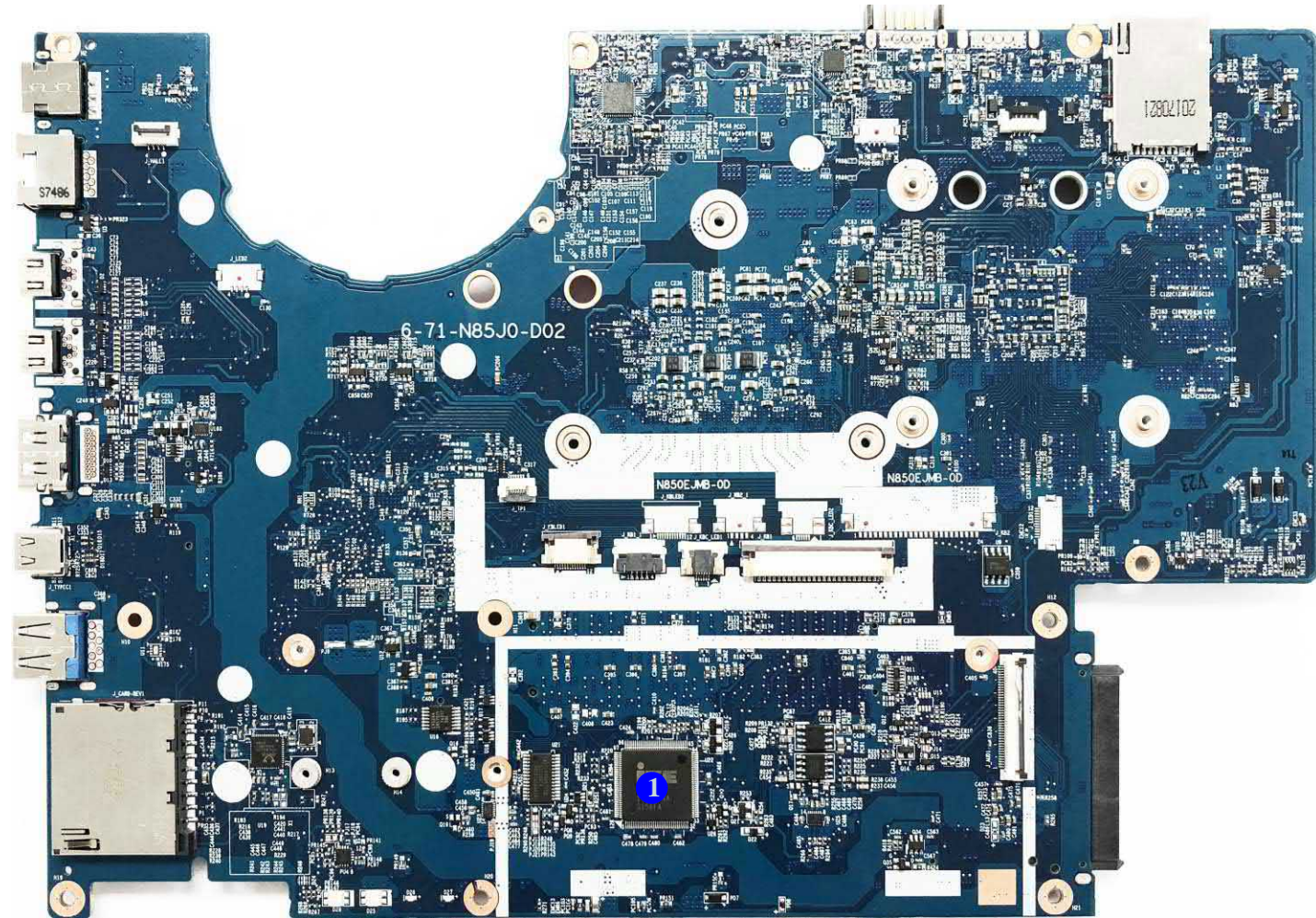


Introduction

Figure 7
**Mainboard Top
Key Parts**

1. KBC-ITE IT8587

Mainboard Overview - Top (Key Parts)



Mainboard Overview - Bottom (Key Parts)

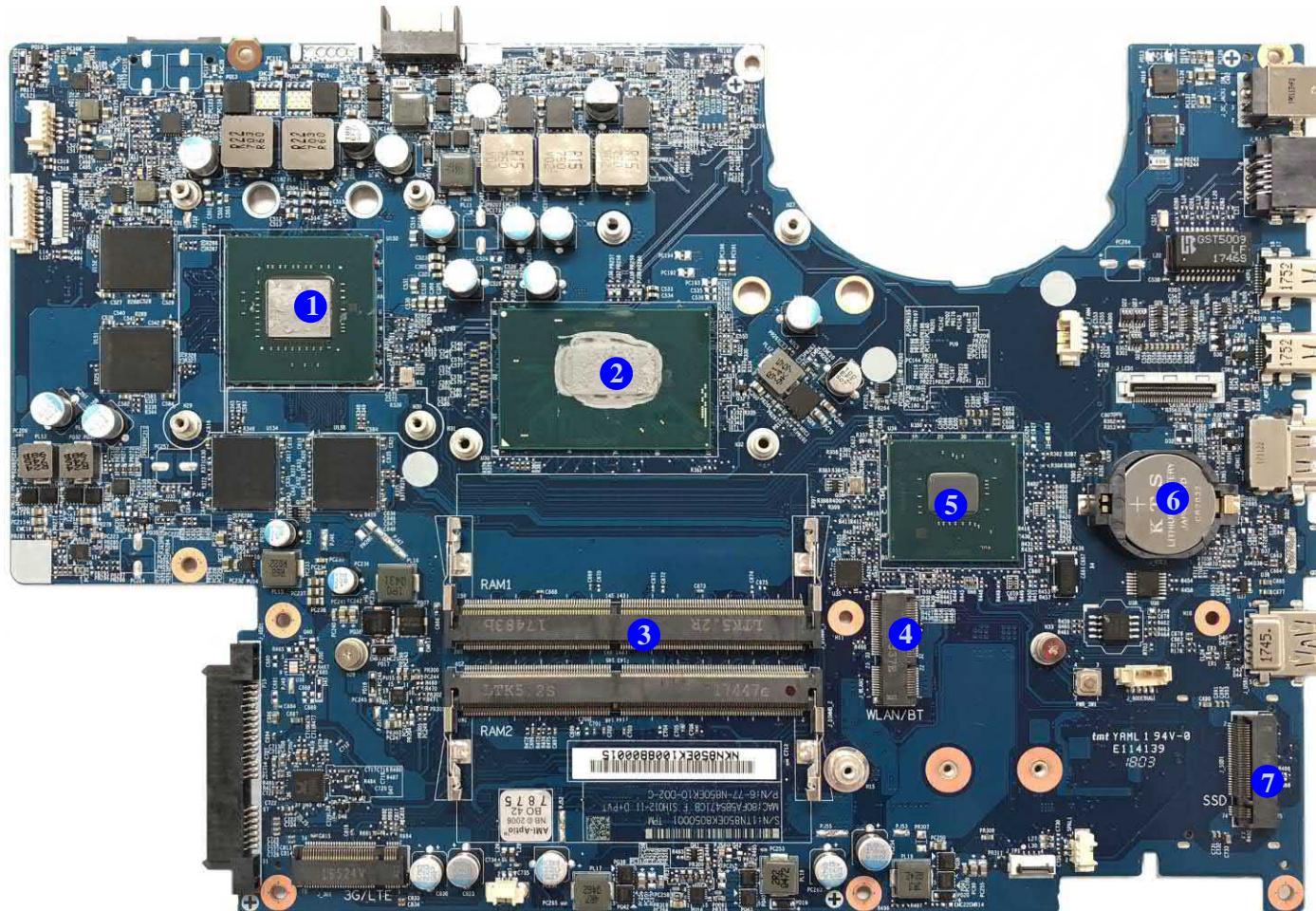


Figure 8
**Mainboard Bottom
Key Parts**

1. GPU
2. CPU
3. Memory Slots
DDR4 SO-DIMM
4. Mini-Card
Connector (WLAN
Module)
5. PCH
6. CMOS Battery
7. M.2-Card
Connector (SSD
Module)

Introduction

Figure 9
**Mainboard Top
Connectors**

1. DC-In Jack
2. RJ-45 LAN Jack
3. Mini Display Port
4. HDMI-Out Port
5. USB 3.1 Gen 2 (Type C) Connector
6. USB 3.1 Gen 2 (Type A) Connector
7. Multi-in-1 Card Reader
8. KB LED Connector
9. Keyboard Cable Connector

Mainboard Overview - Top (Connectors)

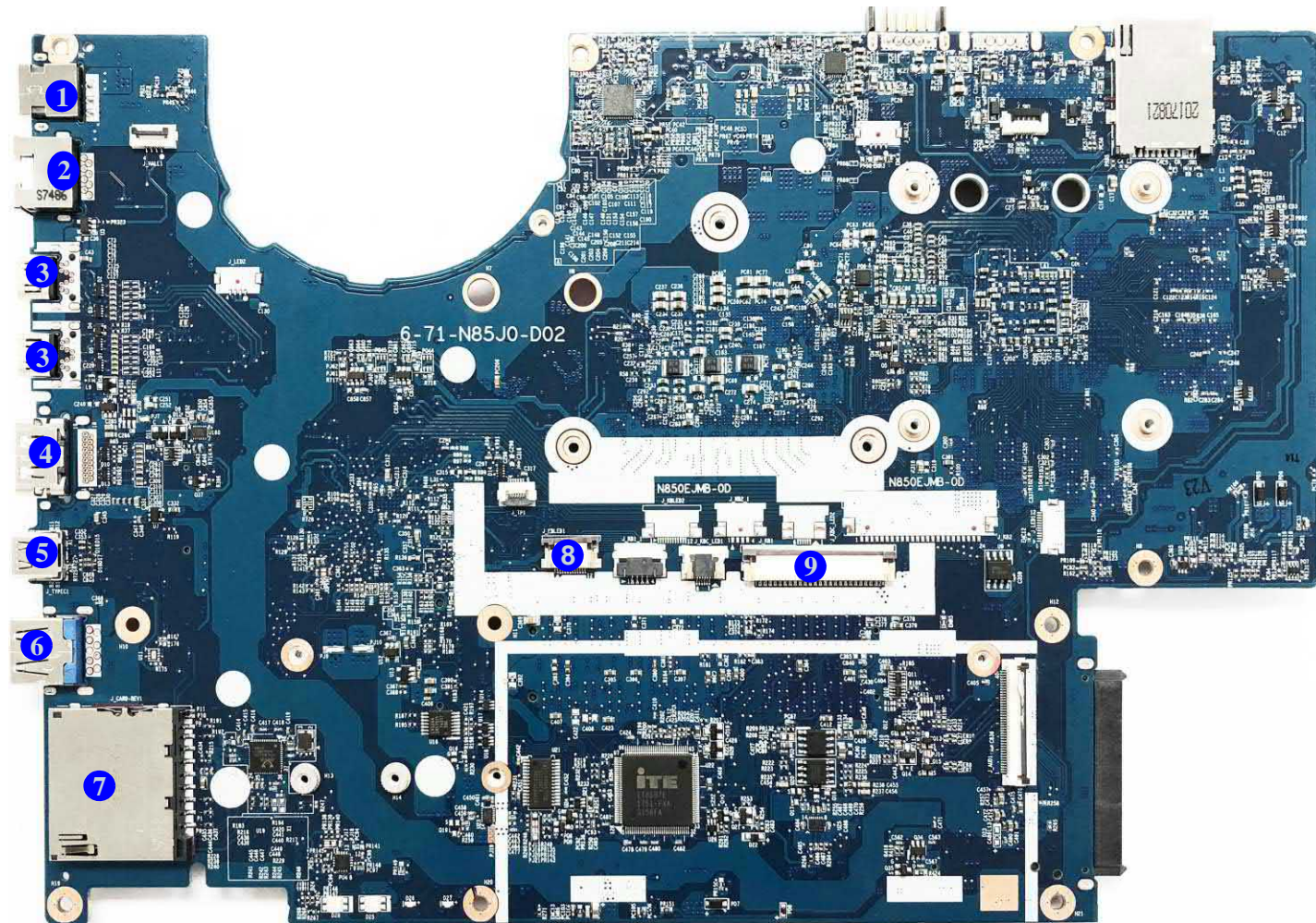
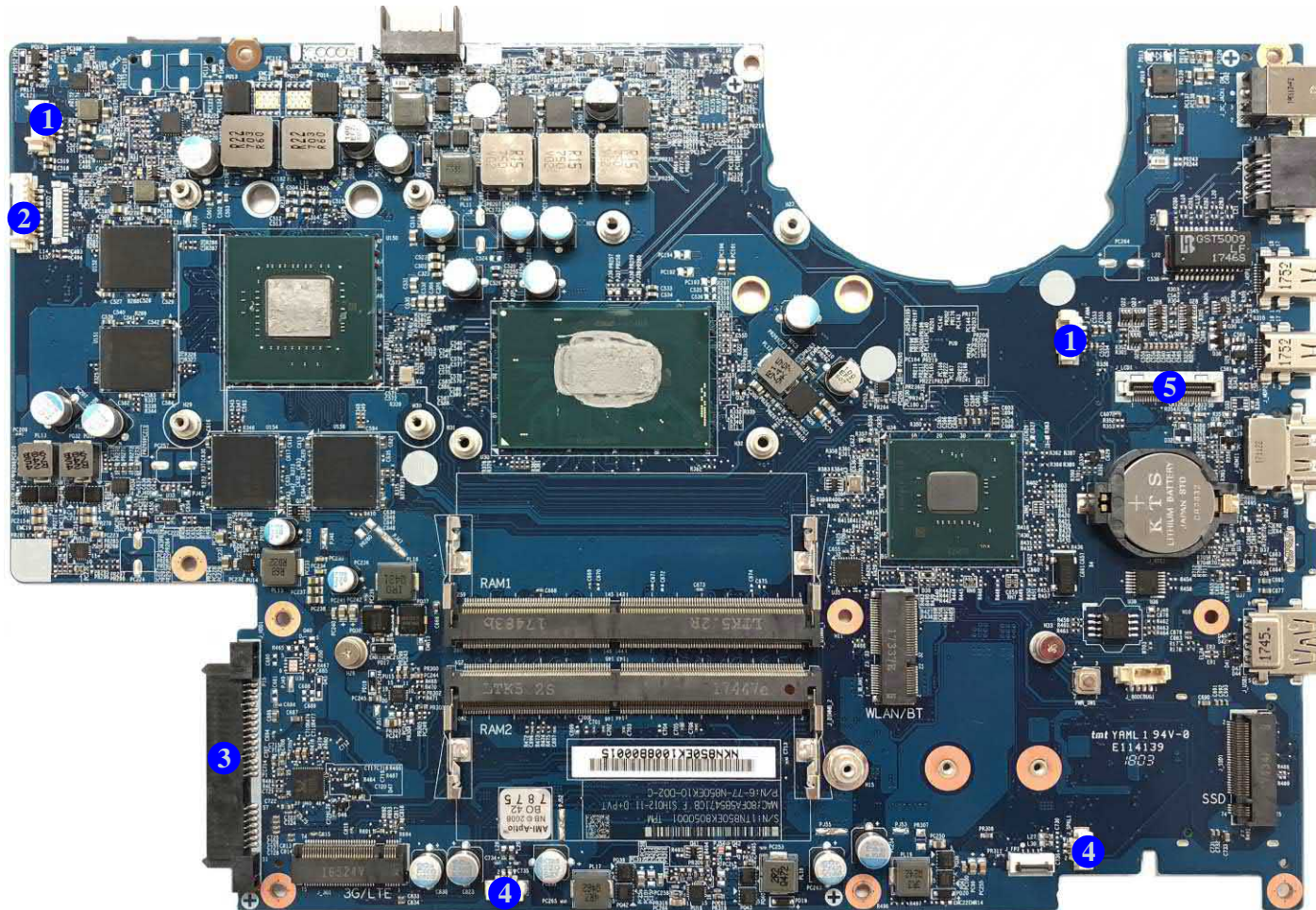


Figure 10
**Mainboard Bottom
Connectors**

1. Fan Connector
2. CCD Connector
3. HDD Connector
4. Speaker Connector
5. LCD Connector



Appendix B: Schematic Diagrams

This appendix has circuit diagrams of the *N860EK1* notebook's PCB's. The following table indicates where to find the appropriate schematic diagram.

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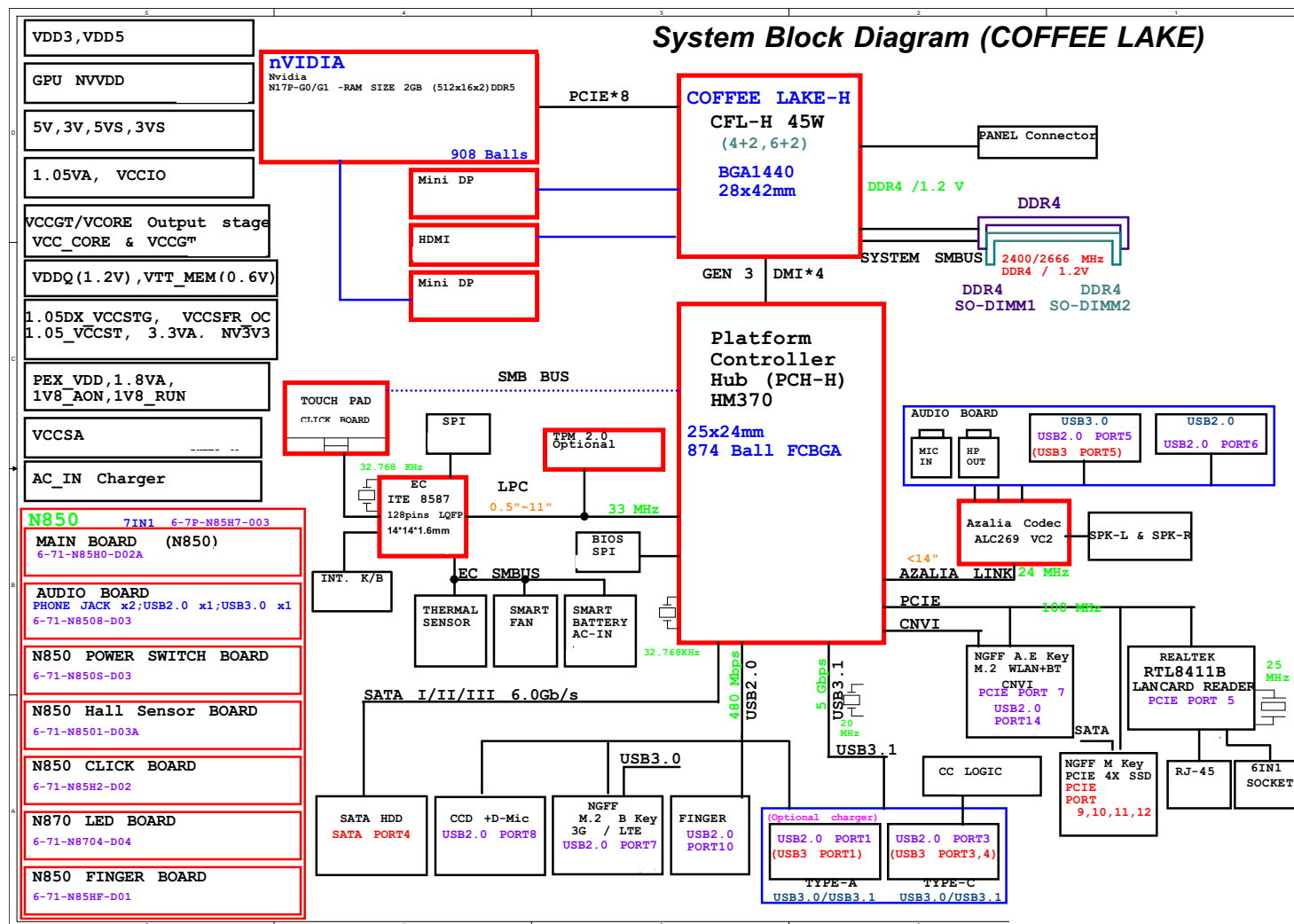
Table B - 1
**SCHEMATIC
DIAGRAMS**



Version Note

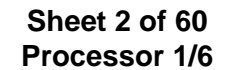
The schematic diagrams in this chapter are based upon version 6-7P-N85J7-005. If your mainboard (or other boards) are a later version, please check with the Service Center for updated diagrams (if required).

Sheet 1 of 60
System Block
Diagram



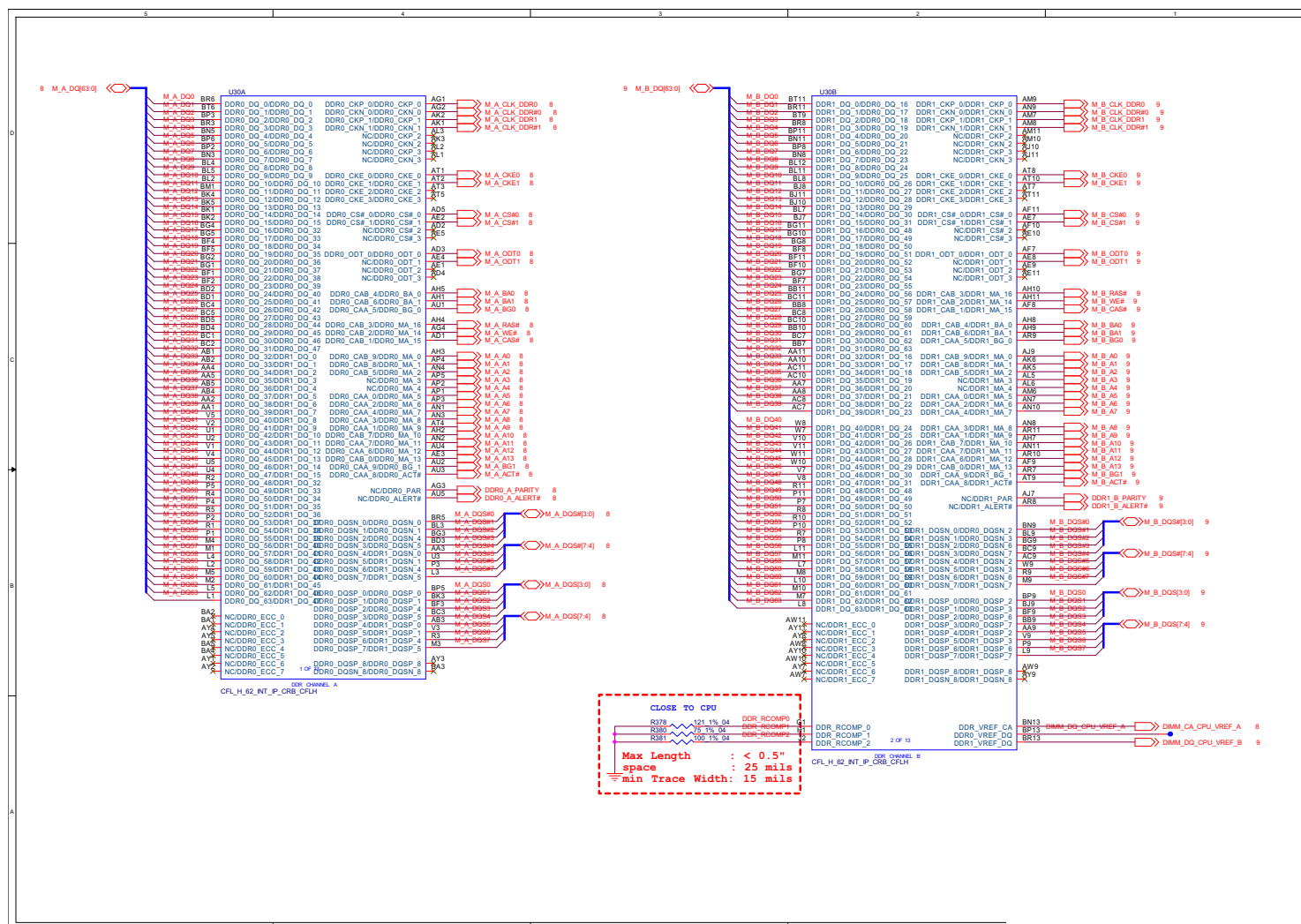
Processor 1/6 B - 3

B.Schematic Diagrams



Processor 2/6

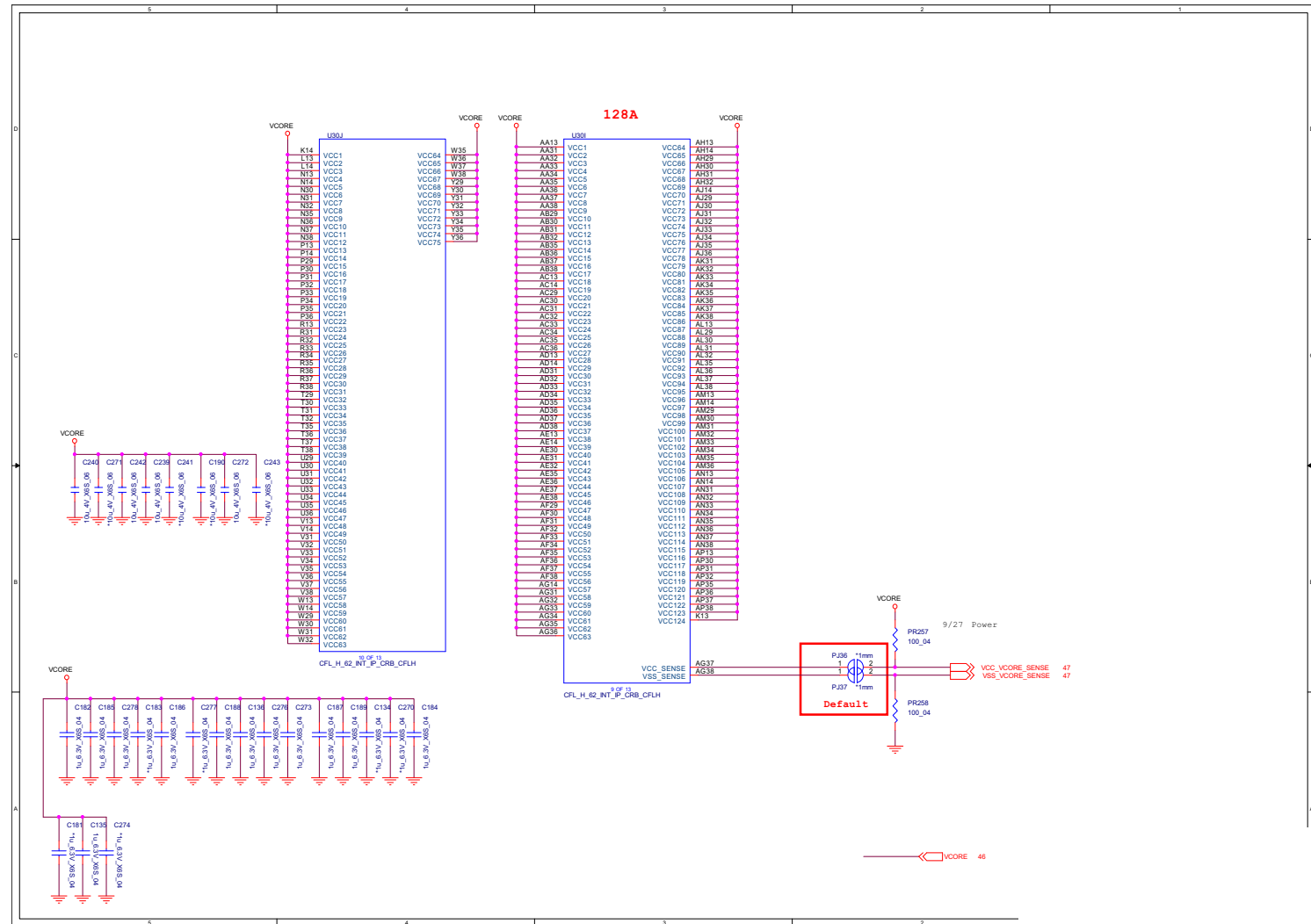
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Processor 2/6



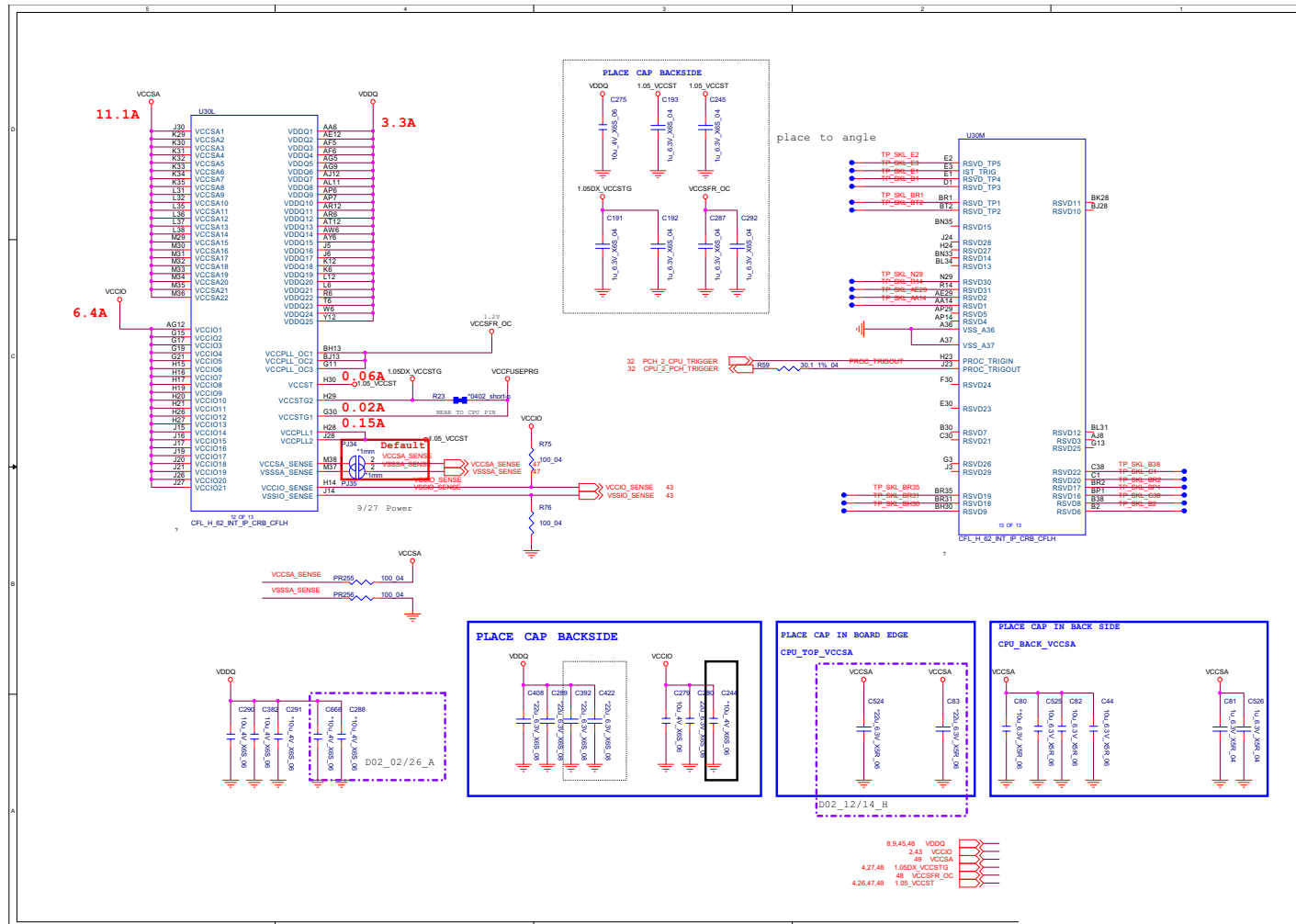
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Schematic Diagrams

Processor 4/6

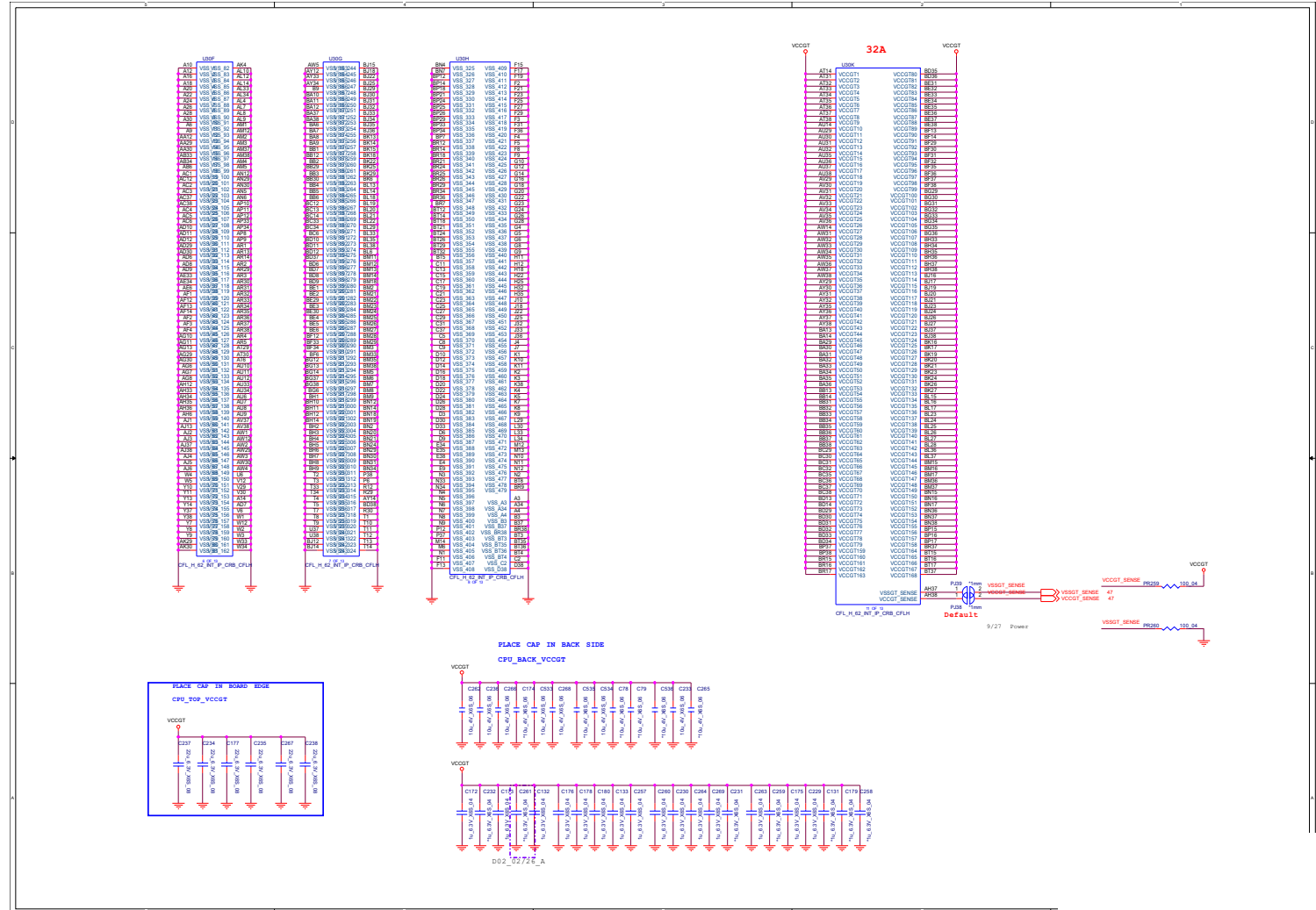


Processor 5/6 B - 7



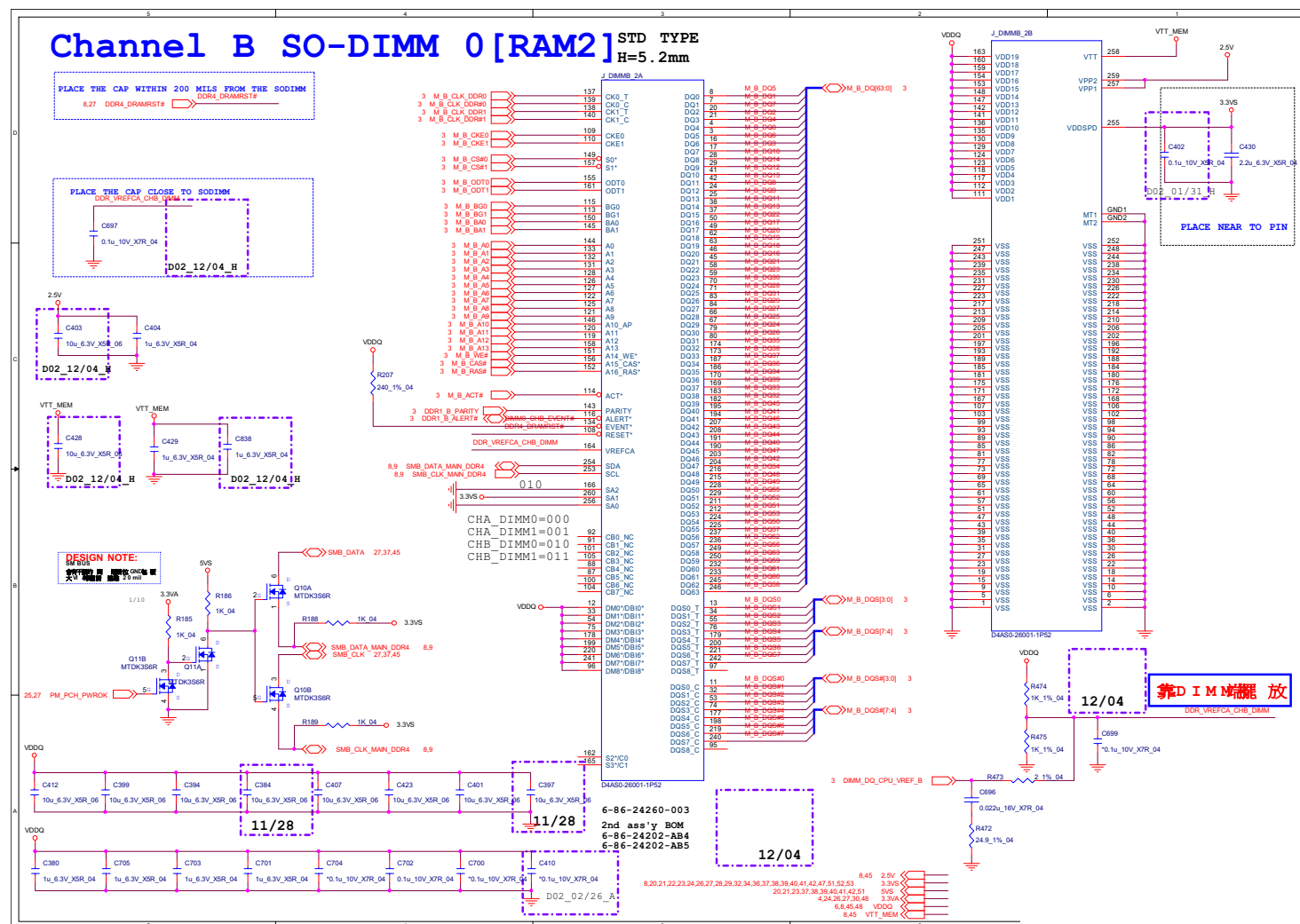
Processor 6/6

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Processor 6/6



DDR4 CHB SO-DIMM

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DDR4 CHB SO-
DIMM

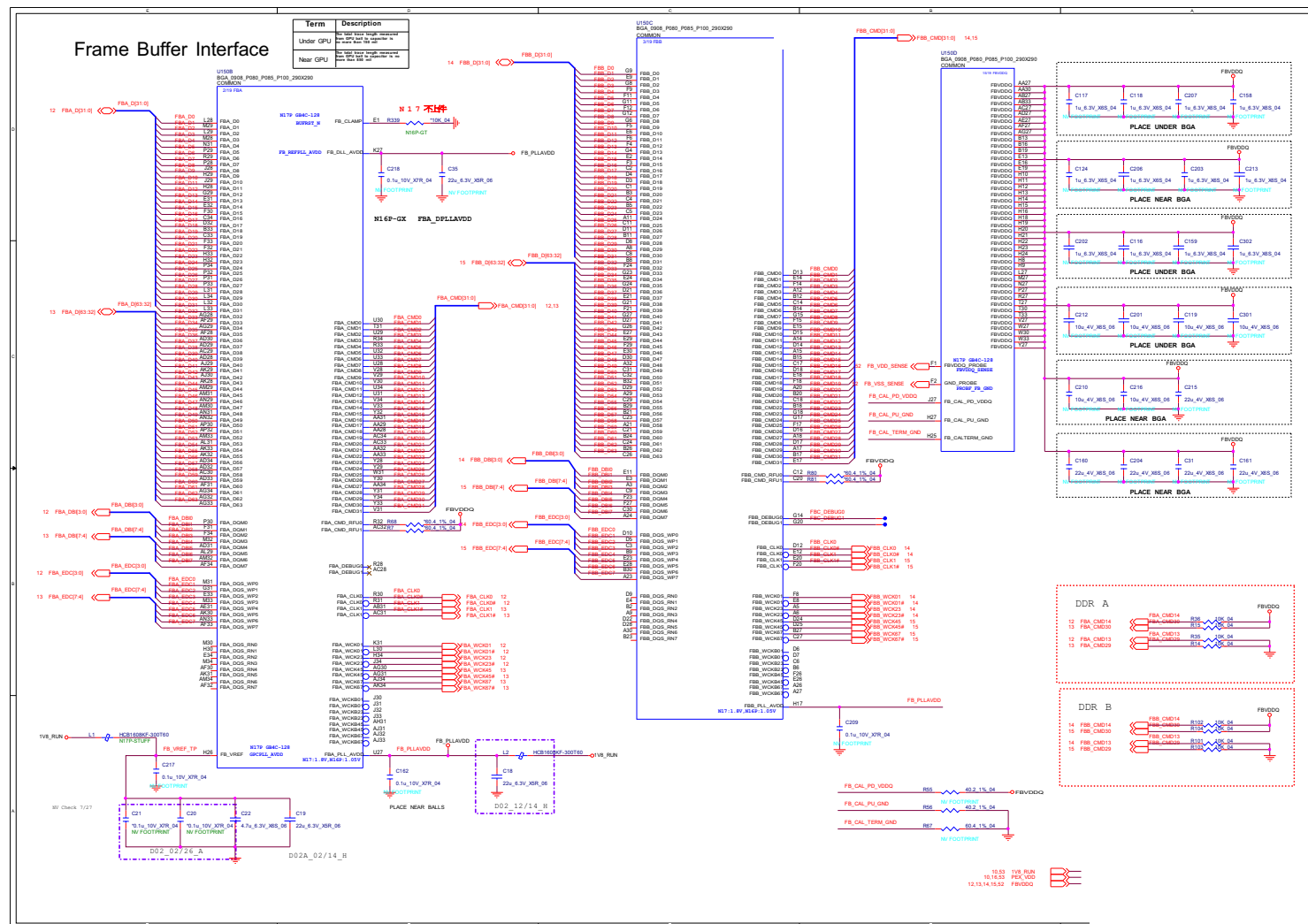


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VGA PCI-E
Interface



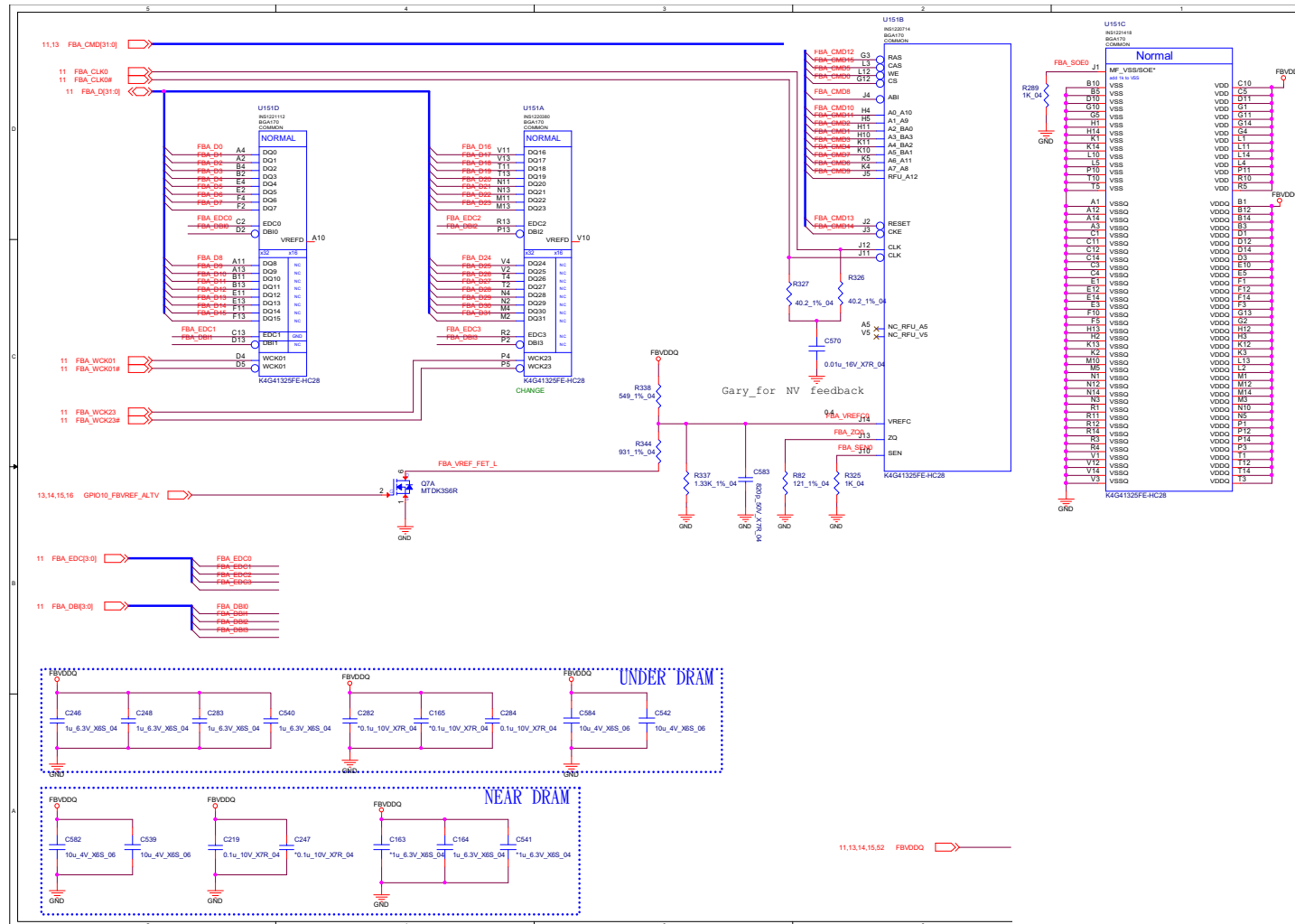
VGA Frame Buffer Interface

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VGA Frame Buffer
Interface



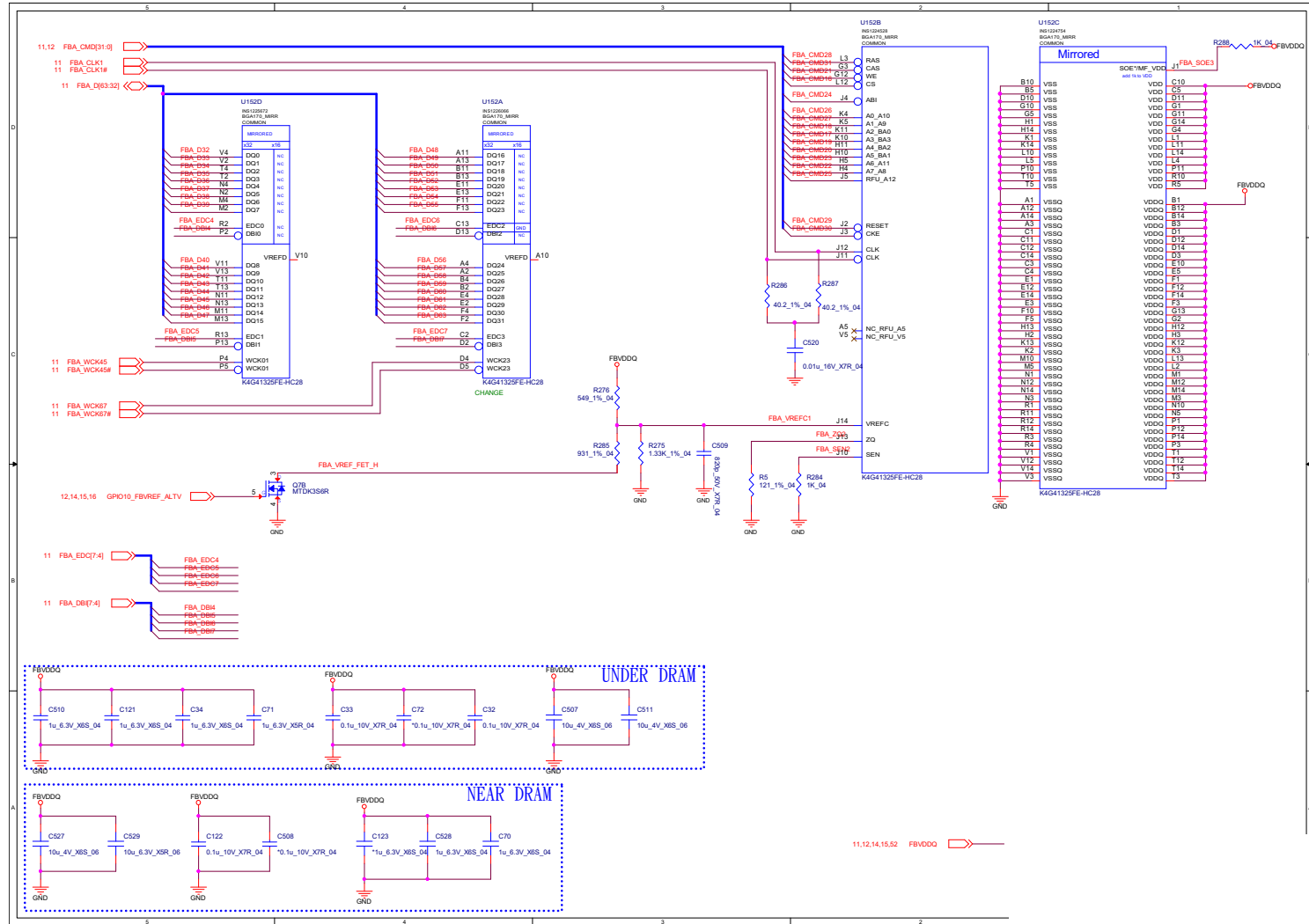
B.Schematic Diagrams

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VGA Frame Buffer
A



VGA Frame Buffer A

Sheet 13 of 60
VGA Frame Buffer
A



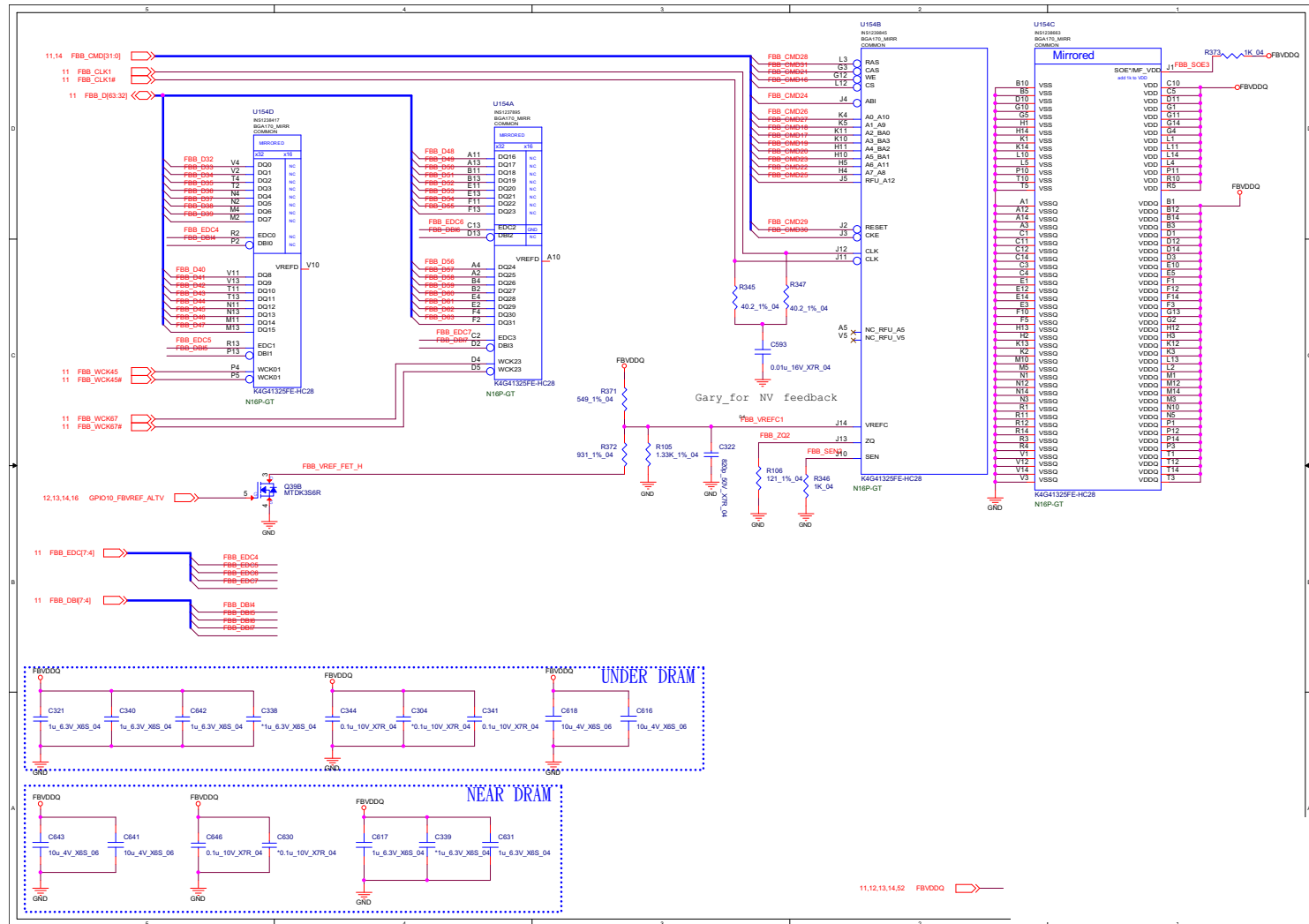
B.Schematic Diagrams

VGA Frame Buffer B B - 15

Schematic Diagrams

VGA Frame Buffer B

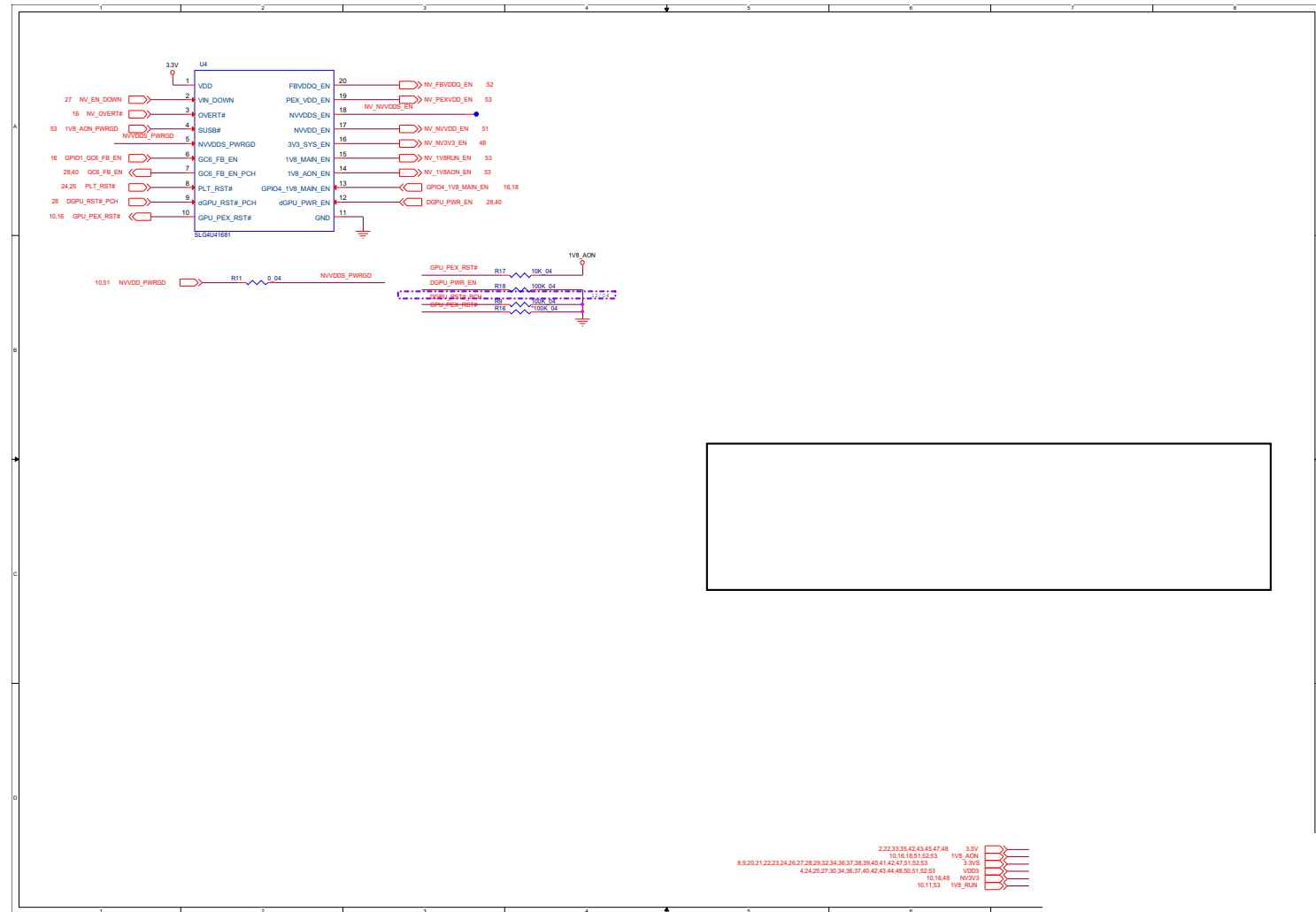
Sheet 15 of 60
VGA Frame Buffer
B



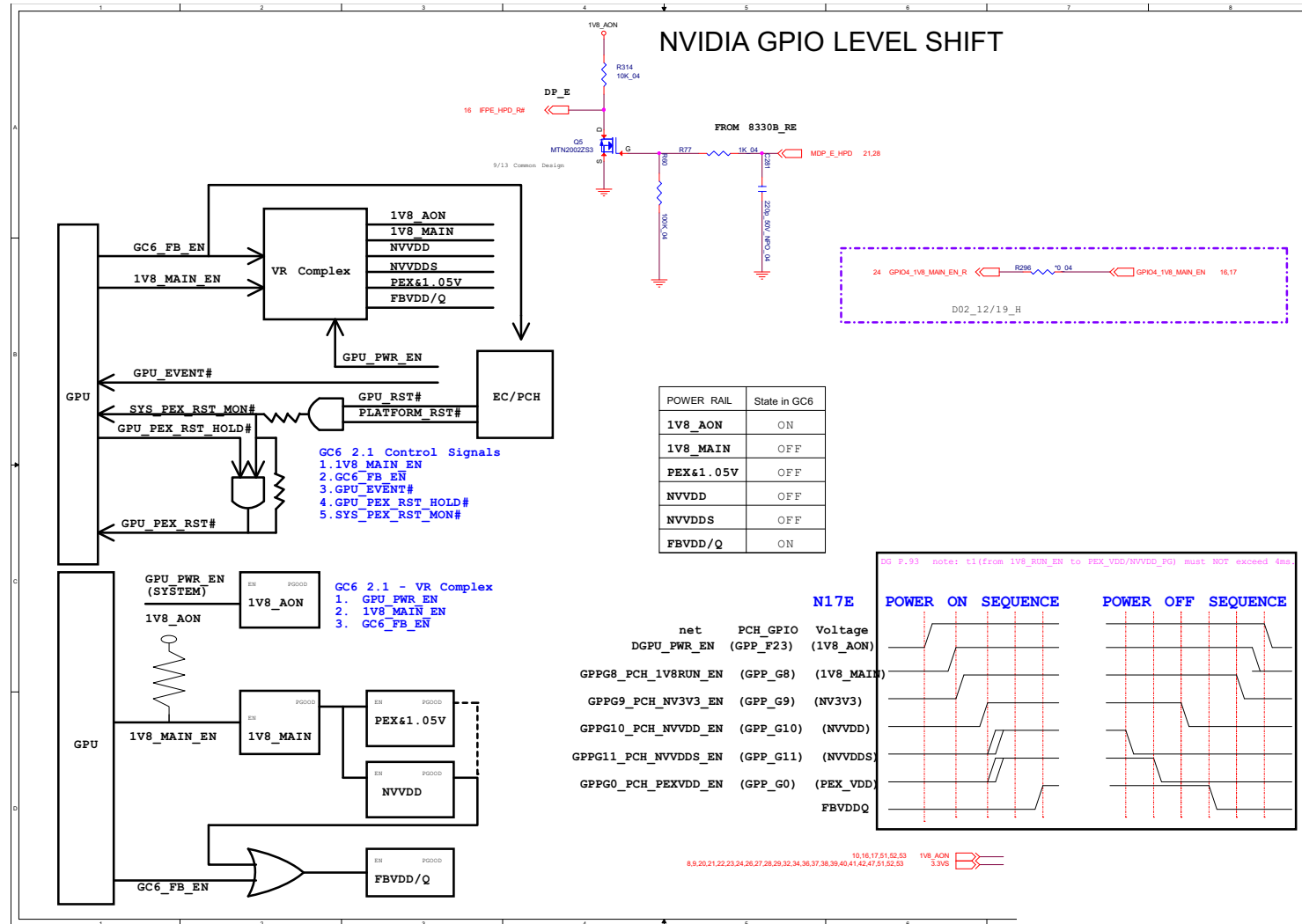
B.Schematic Diagrams

B.Schematic Diagrams

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NVIDIA Power
Sequence



NVIDIA GPIO Level Shift

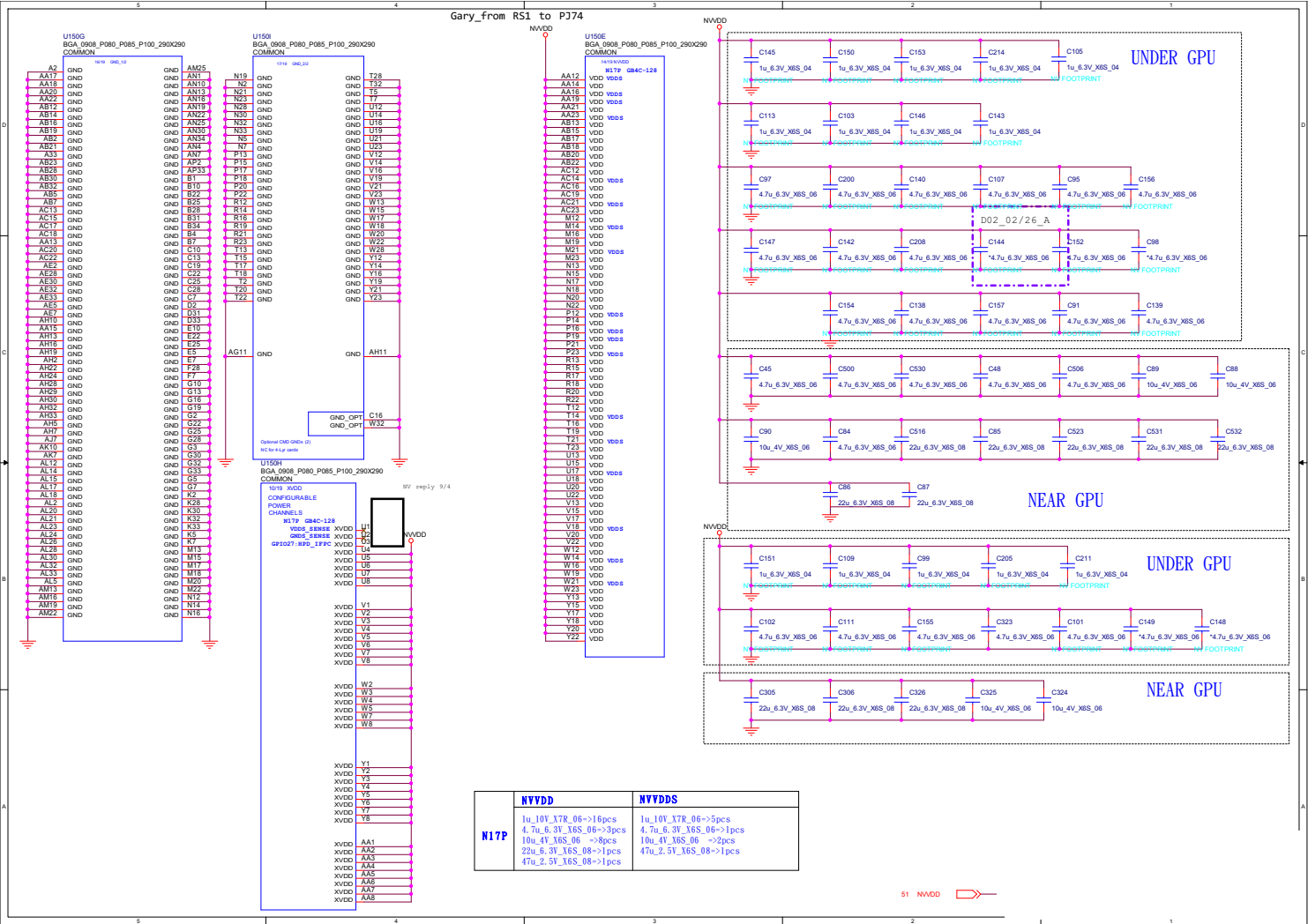


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NVIDIA GPIO Level
Shift

Schematic Diagrams

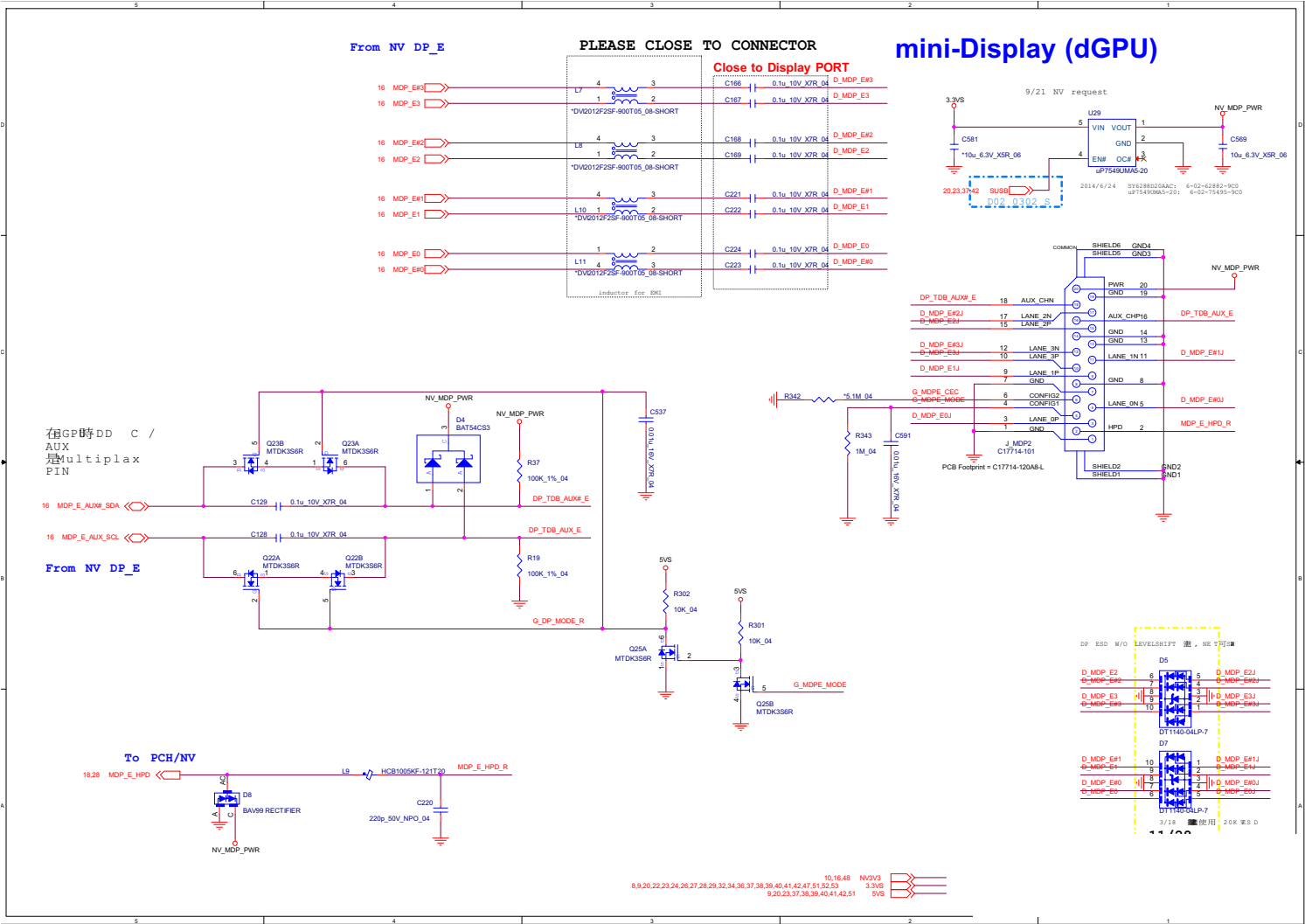
VGA NVVDD Coupling

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VGA NVVDD
Coupling

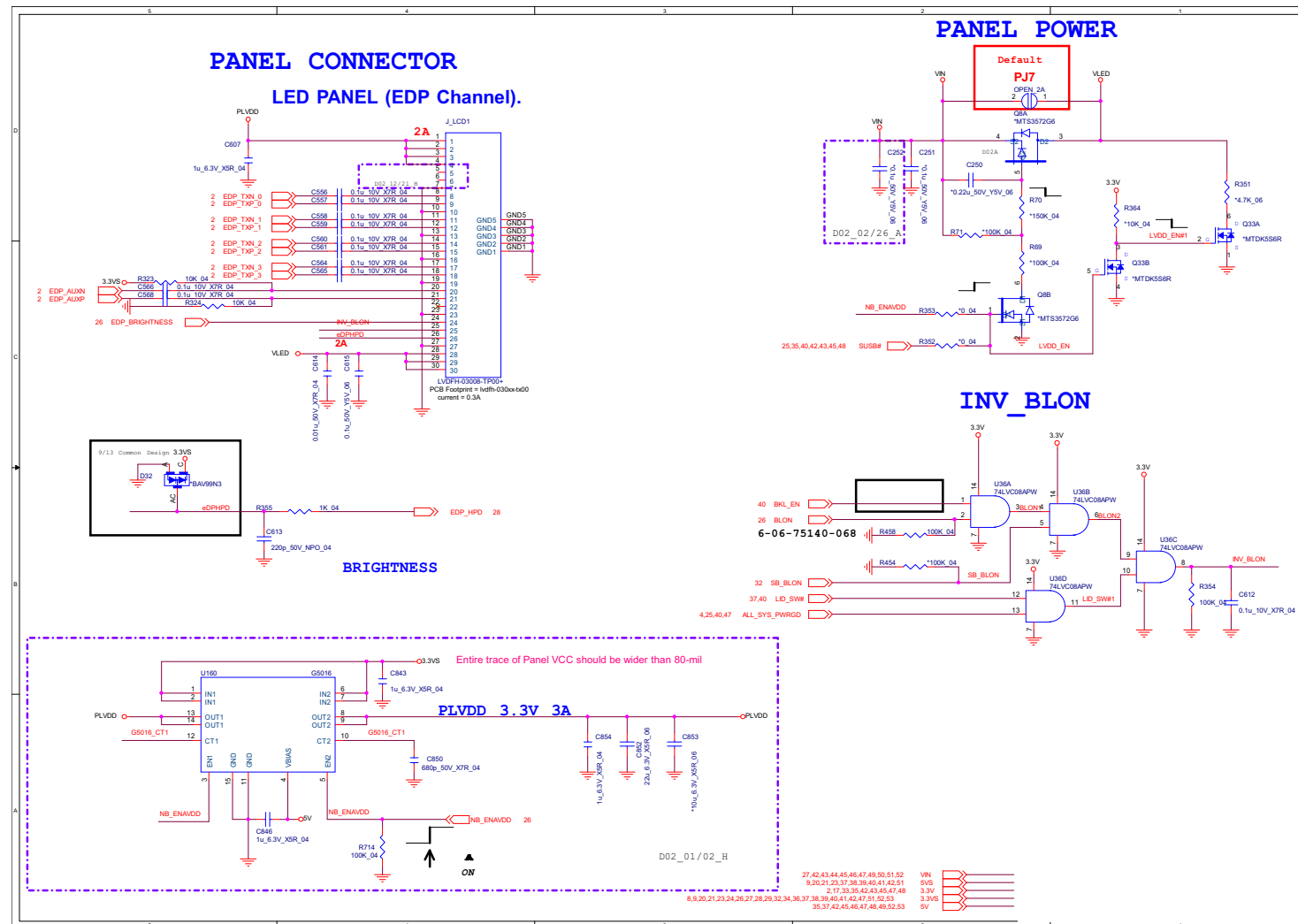


MDP

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MDP



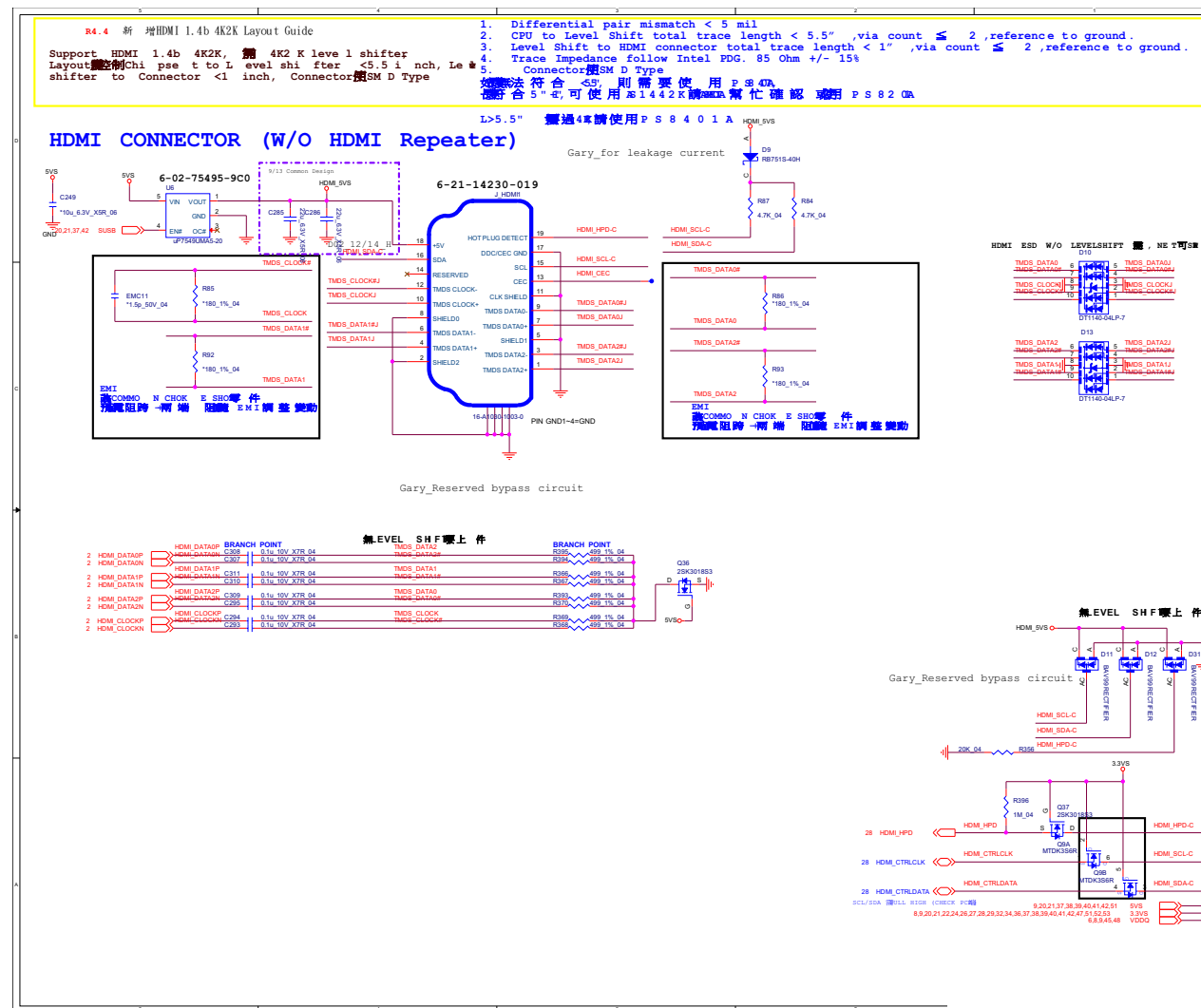
Panel, Inverter



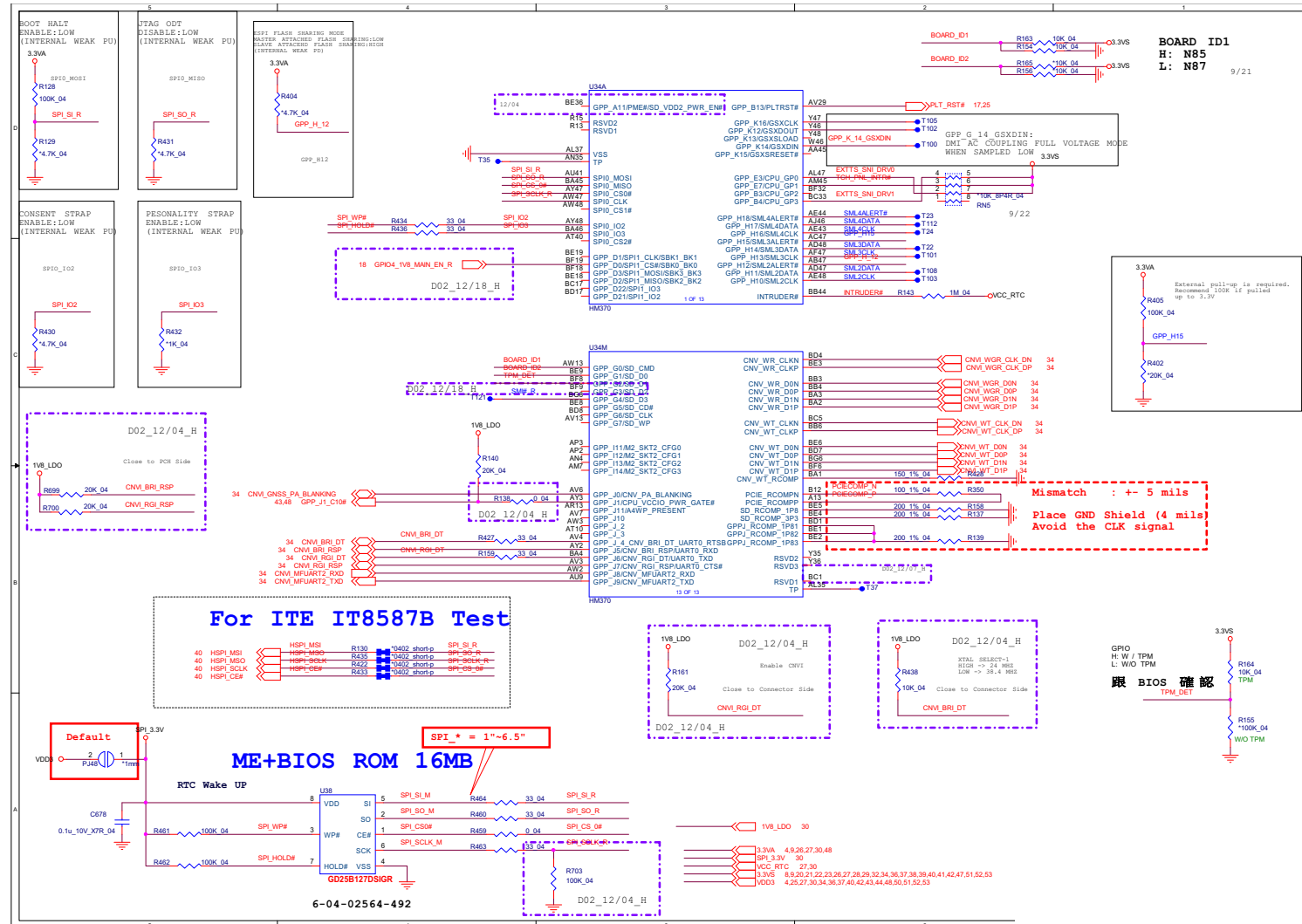
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Panel, Inverter

HDMI

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HDMI



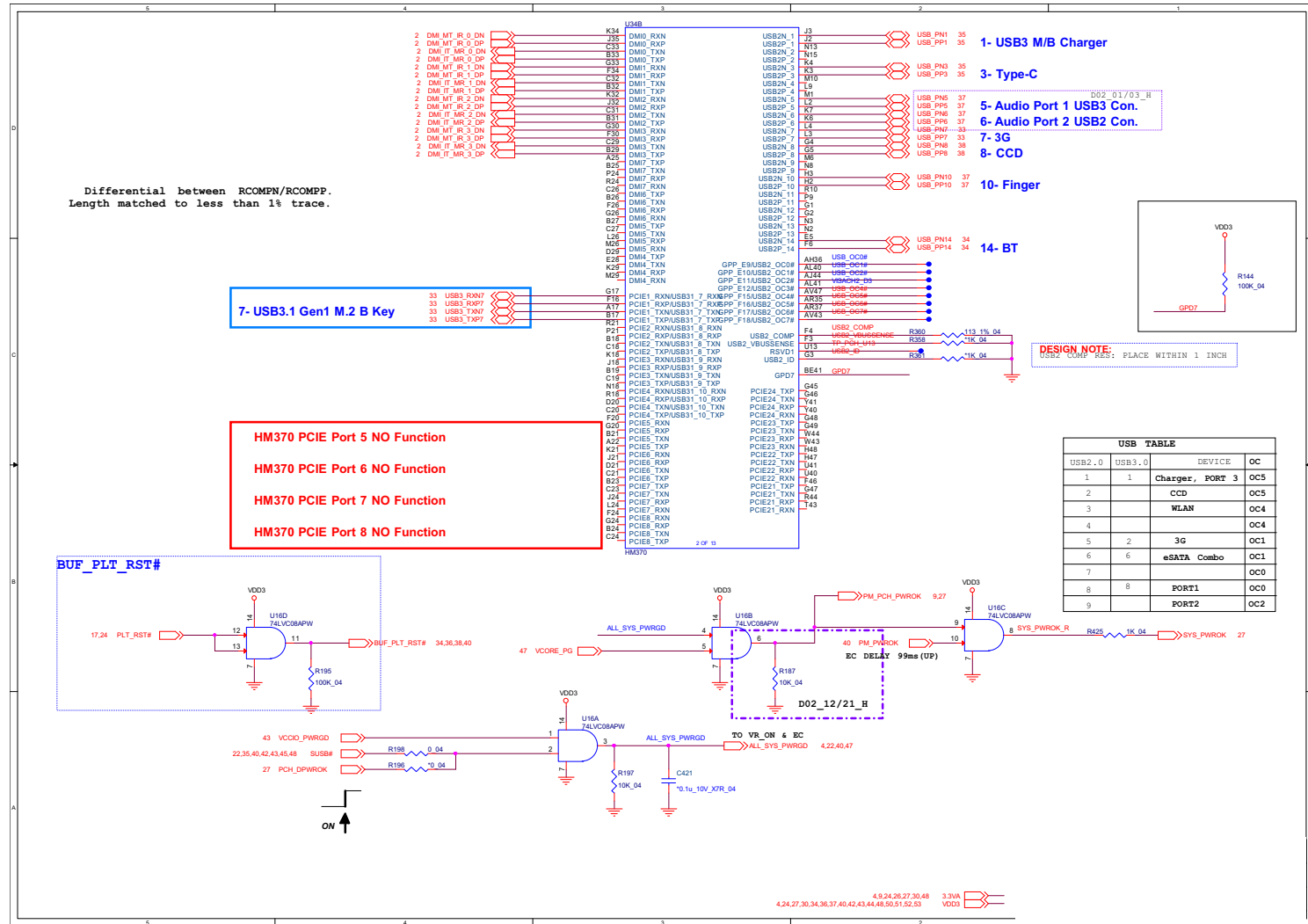
PCH 1/9



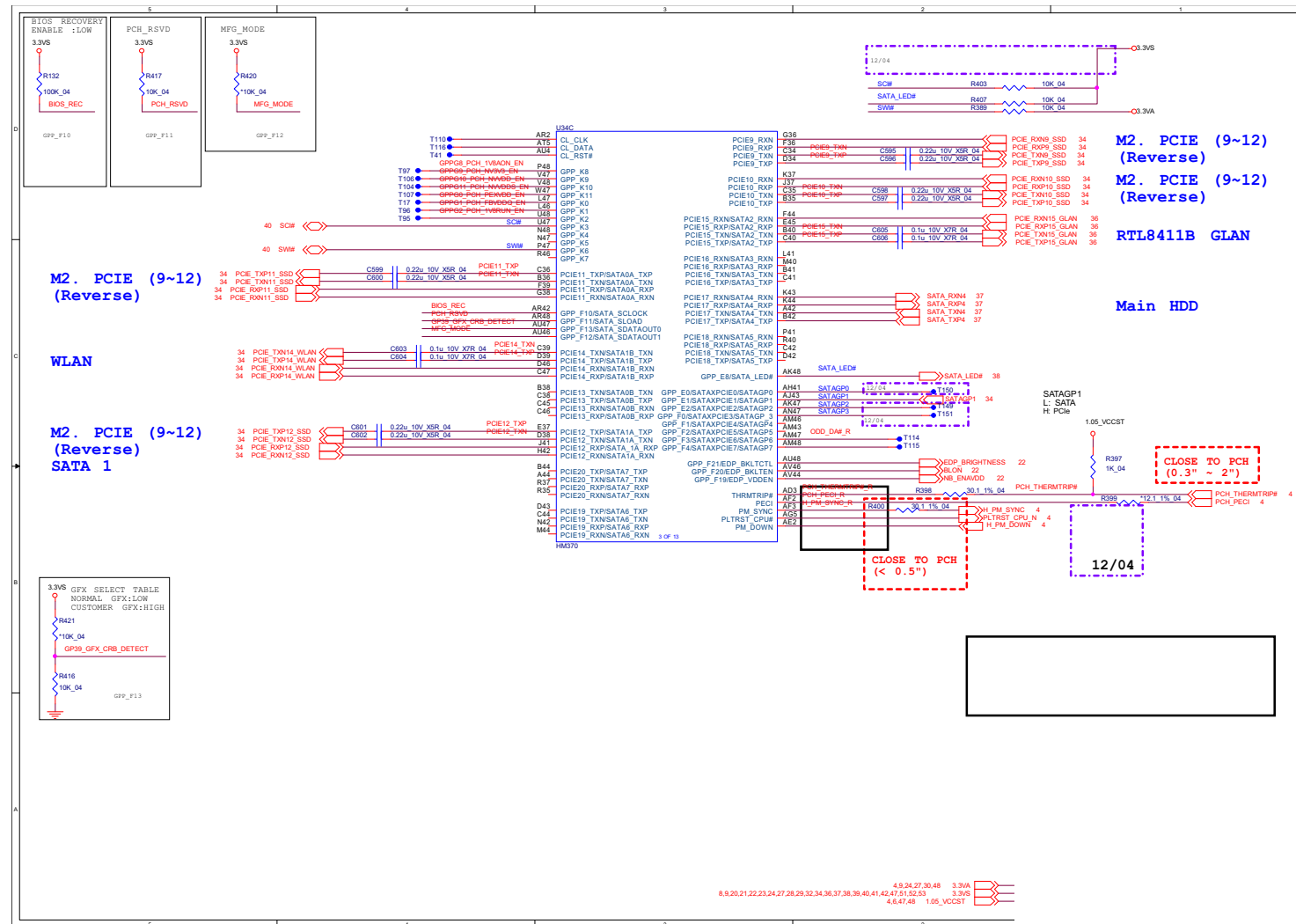
Schematic Diagrams

PCH 2/9

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PCH 2/9



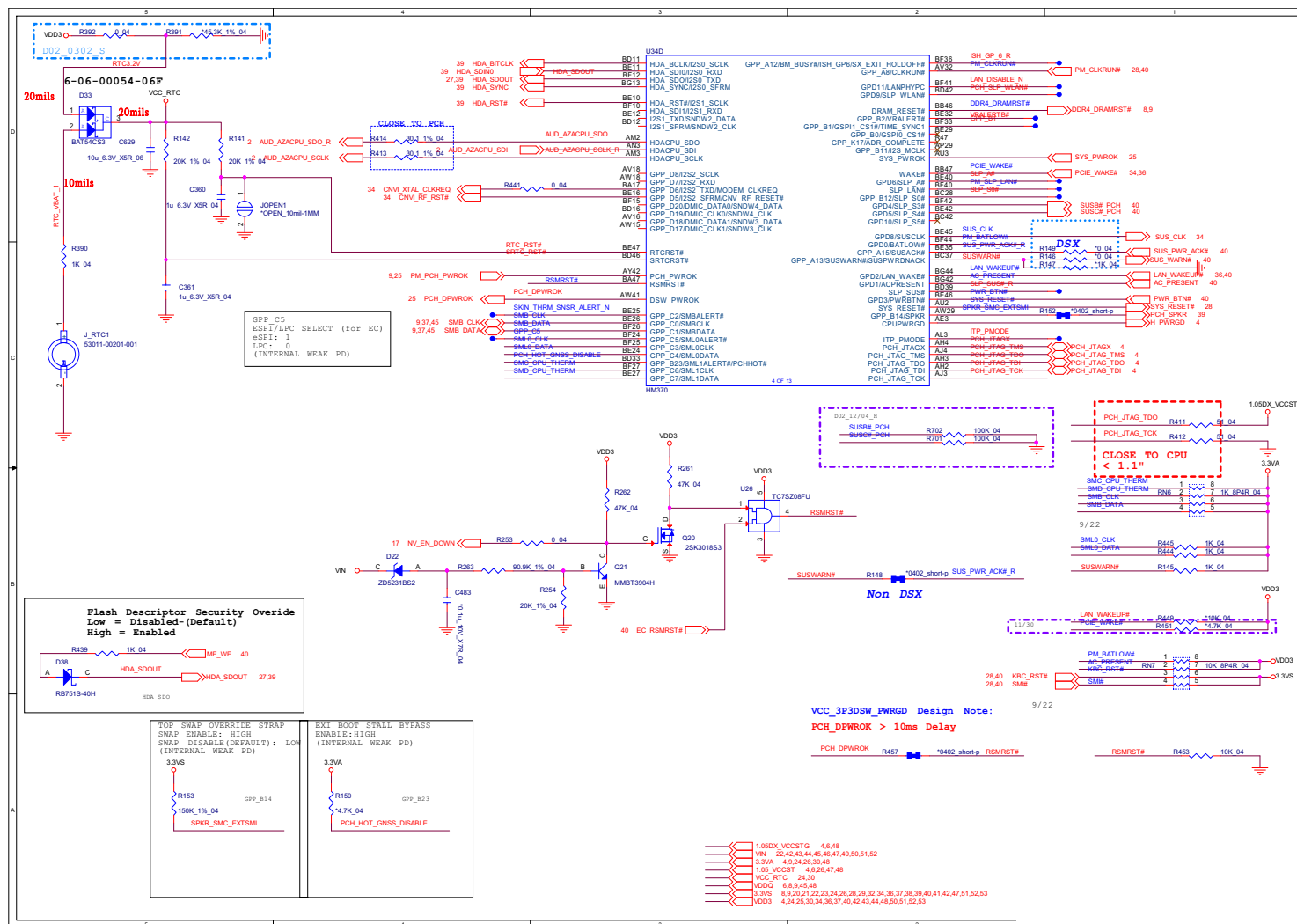
PCH 3/9

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PCH 3/9

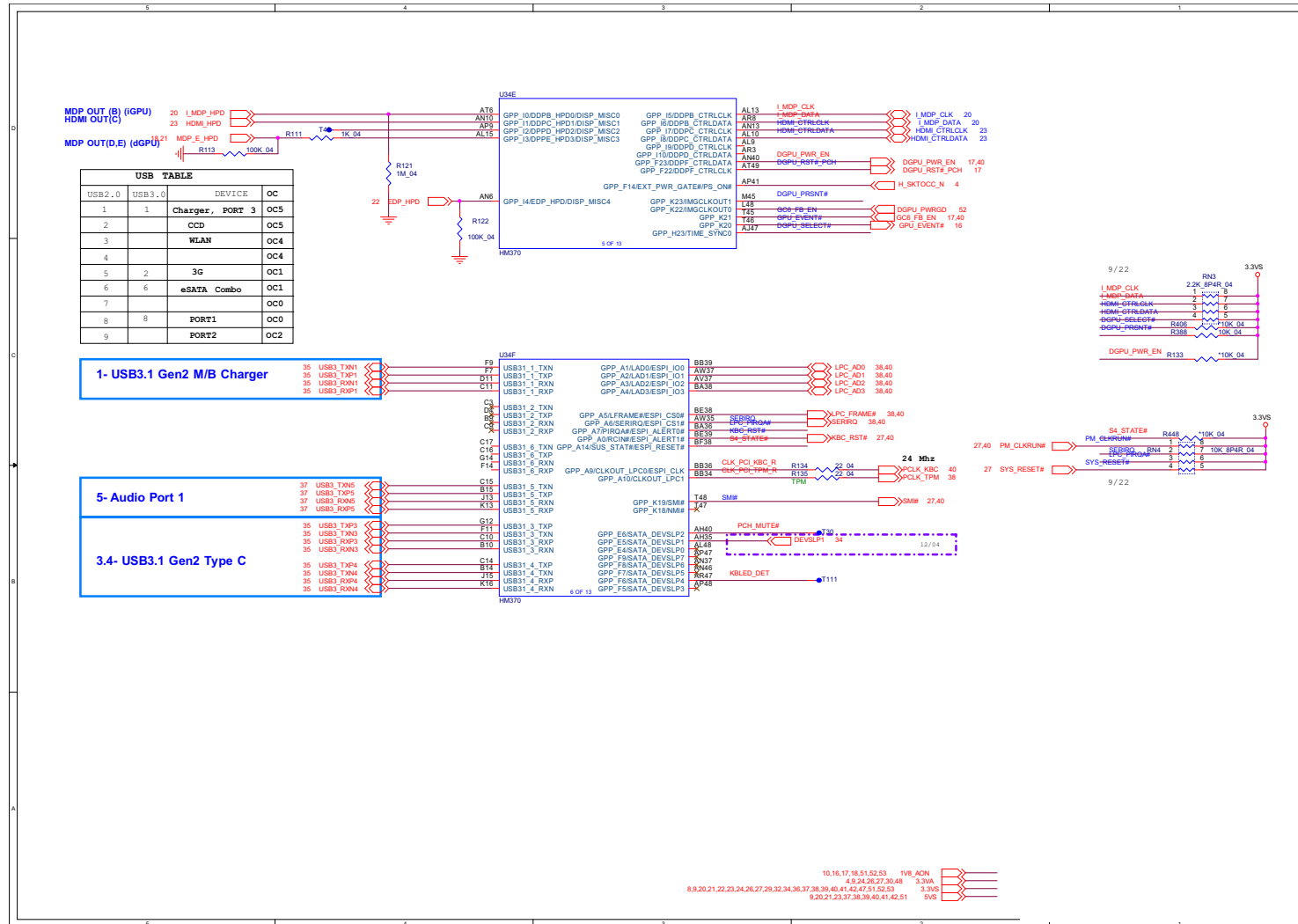
PCH 4/9

B. Schematic Diagrams

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PCH 4/9



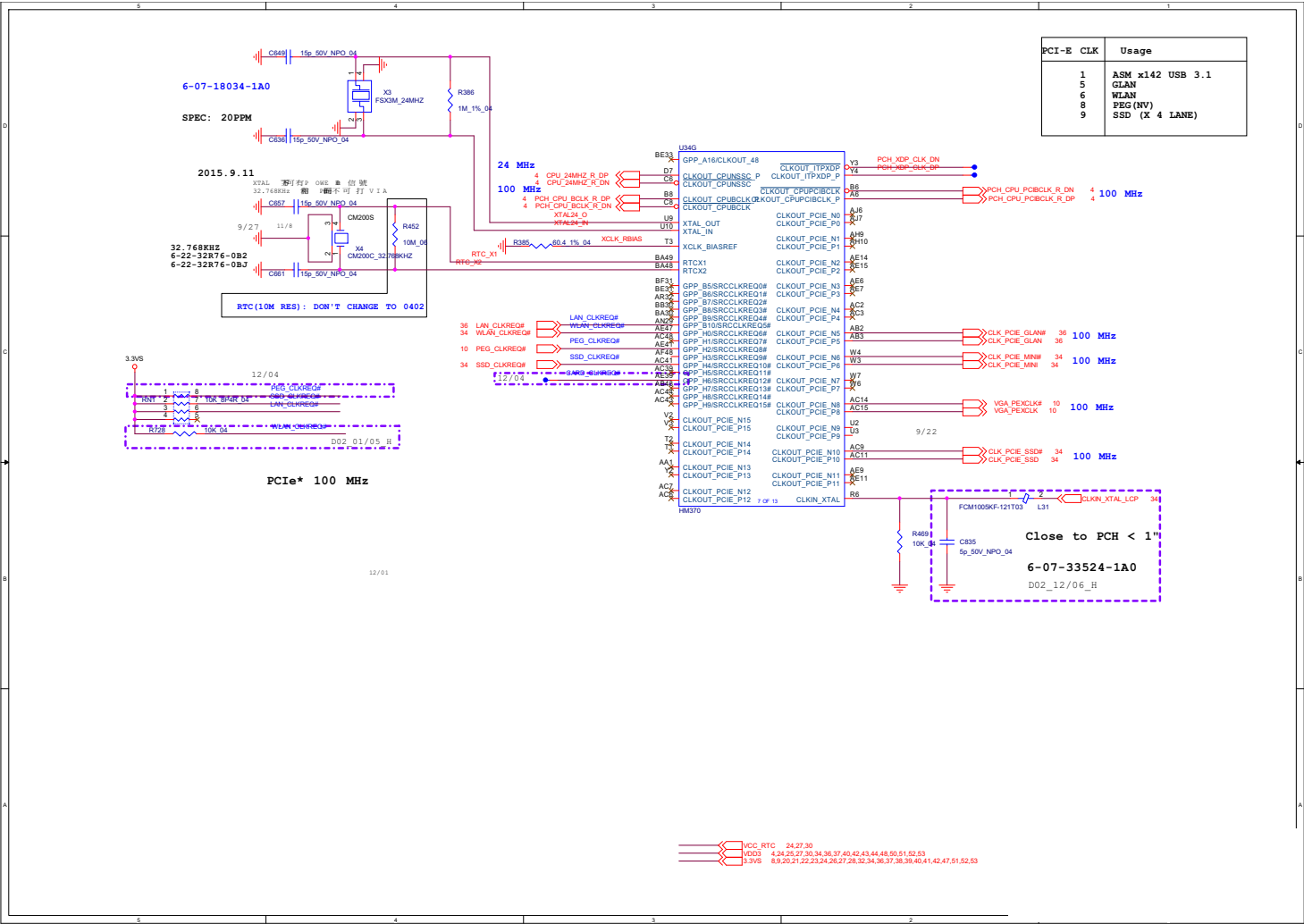
PCH 5/9

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PCH 5/9

Schematic Diagrams

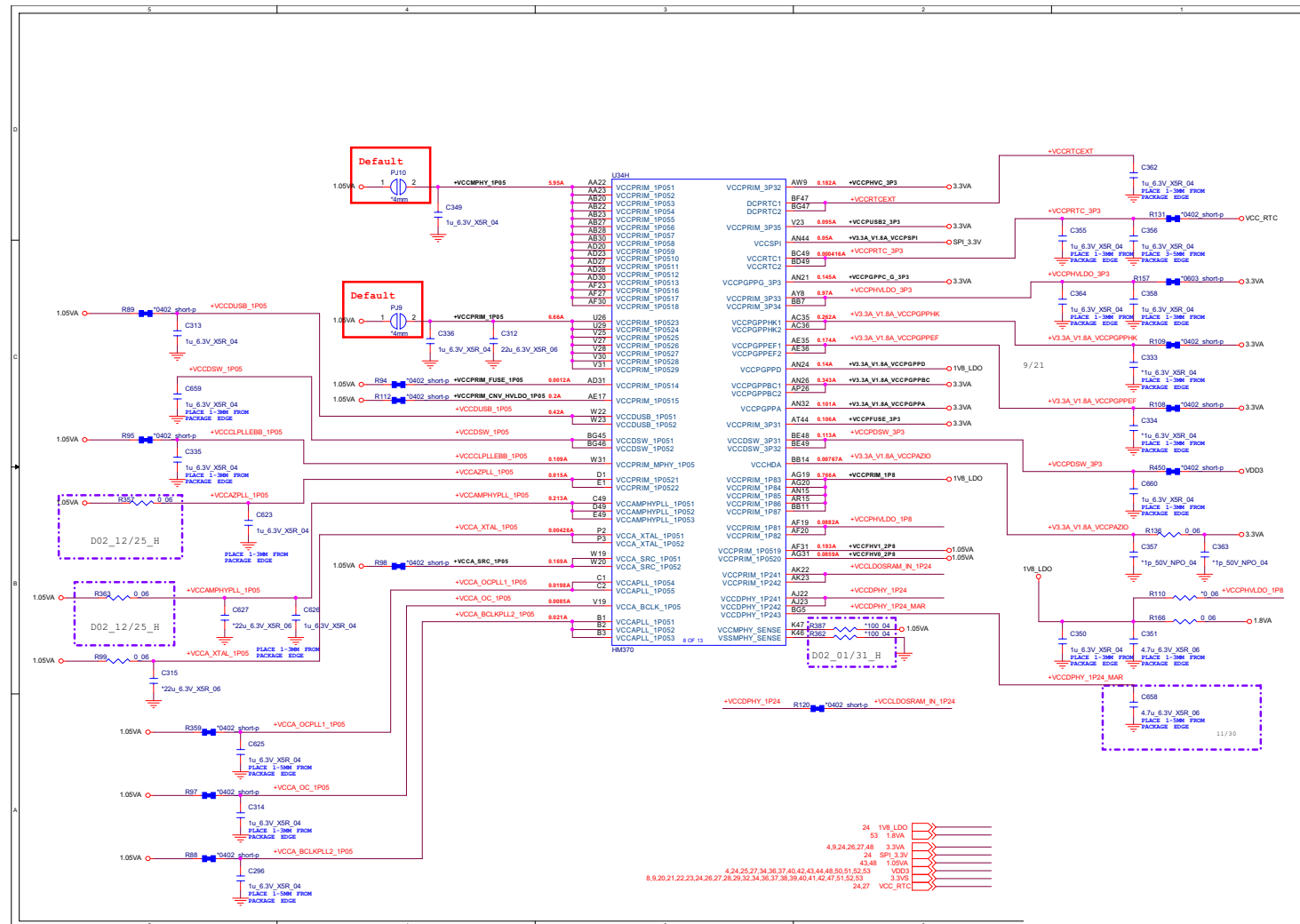
PCH 6/9

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PCH 6/9



Schematic Diagrams

PCH 7/9



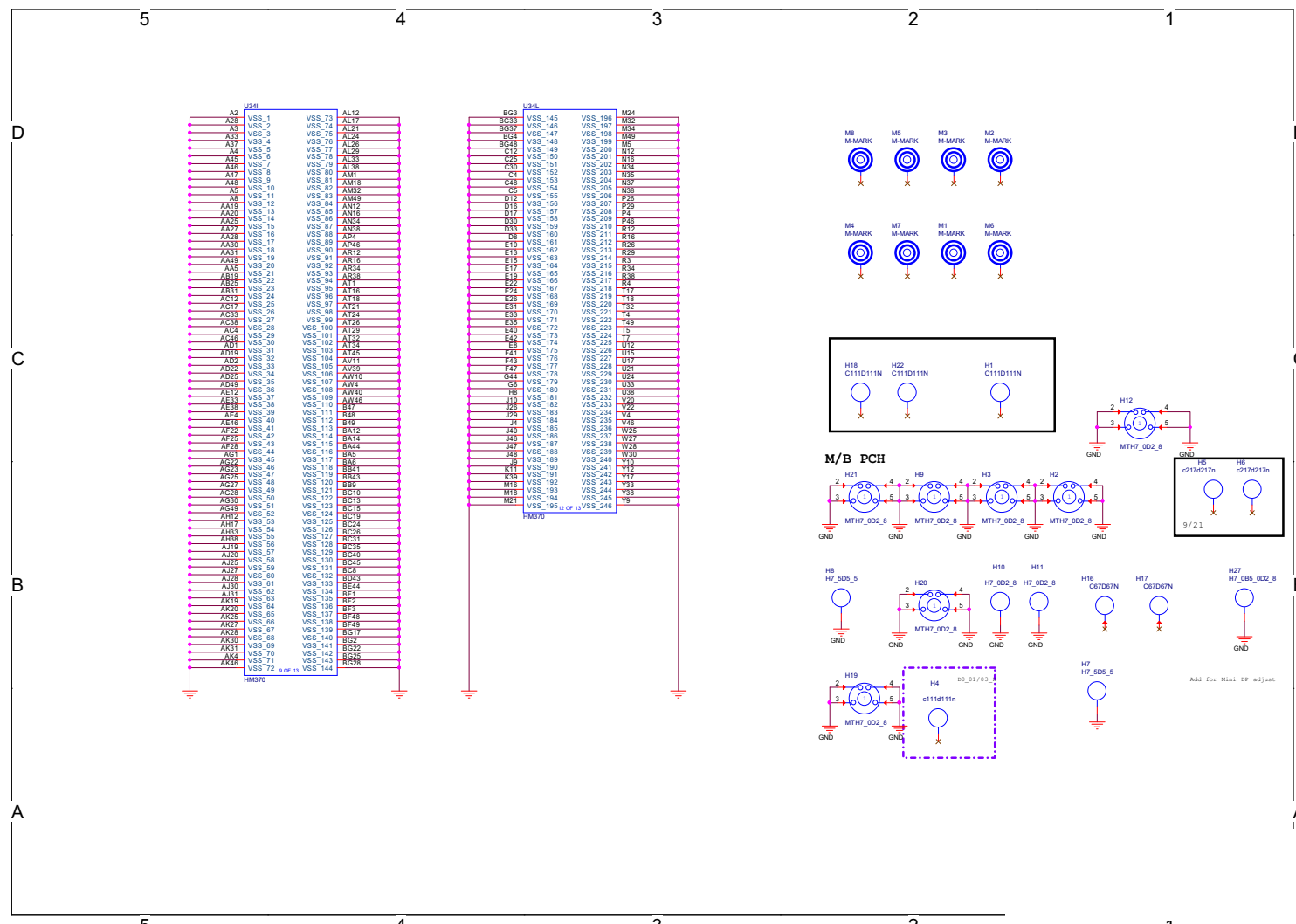
Sheet 30 of 60
PCH 7/9

B.Schematic Diagrams

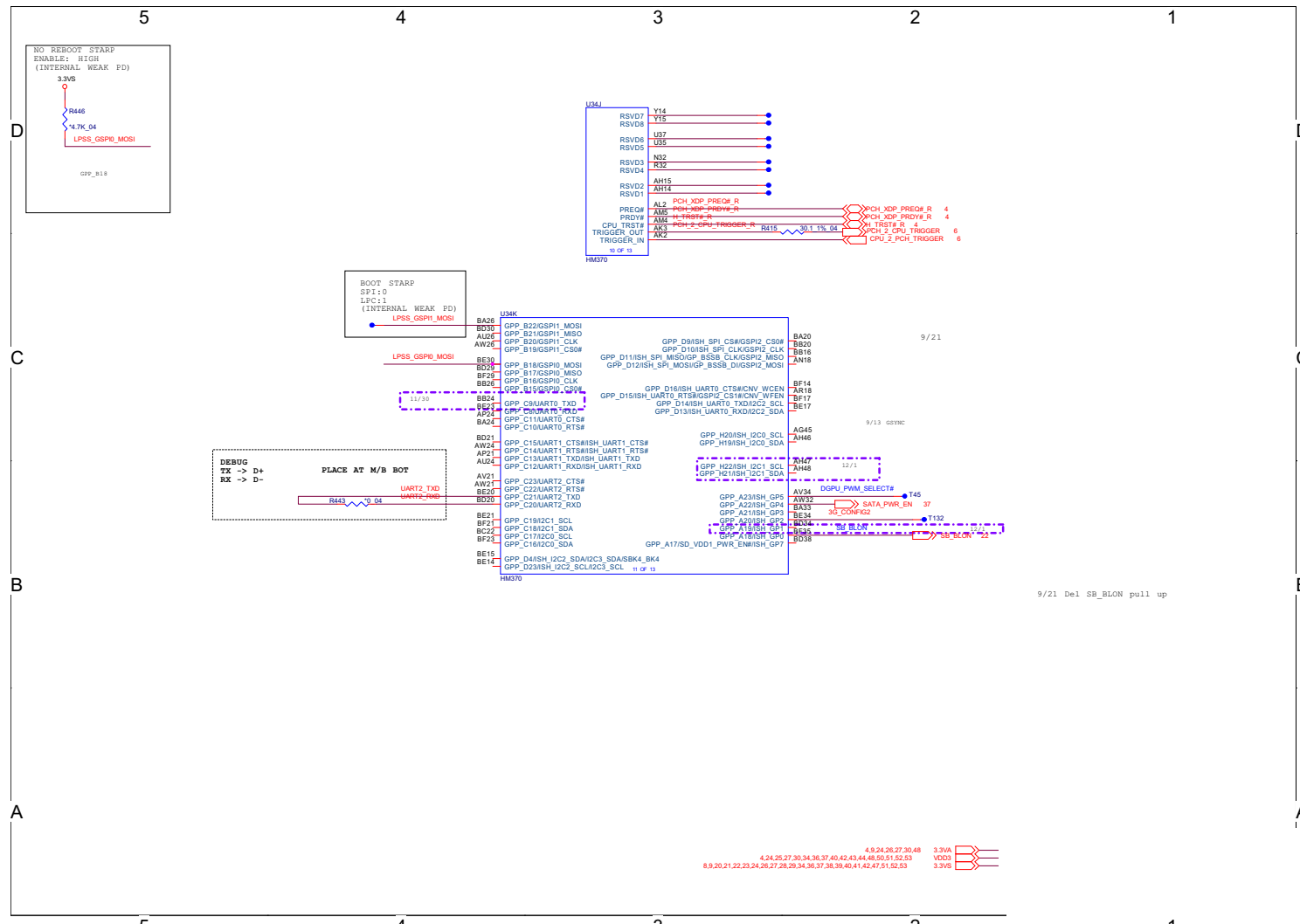
PCH 8/9

B. Schematic Diagrams

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PCH 8/9

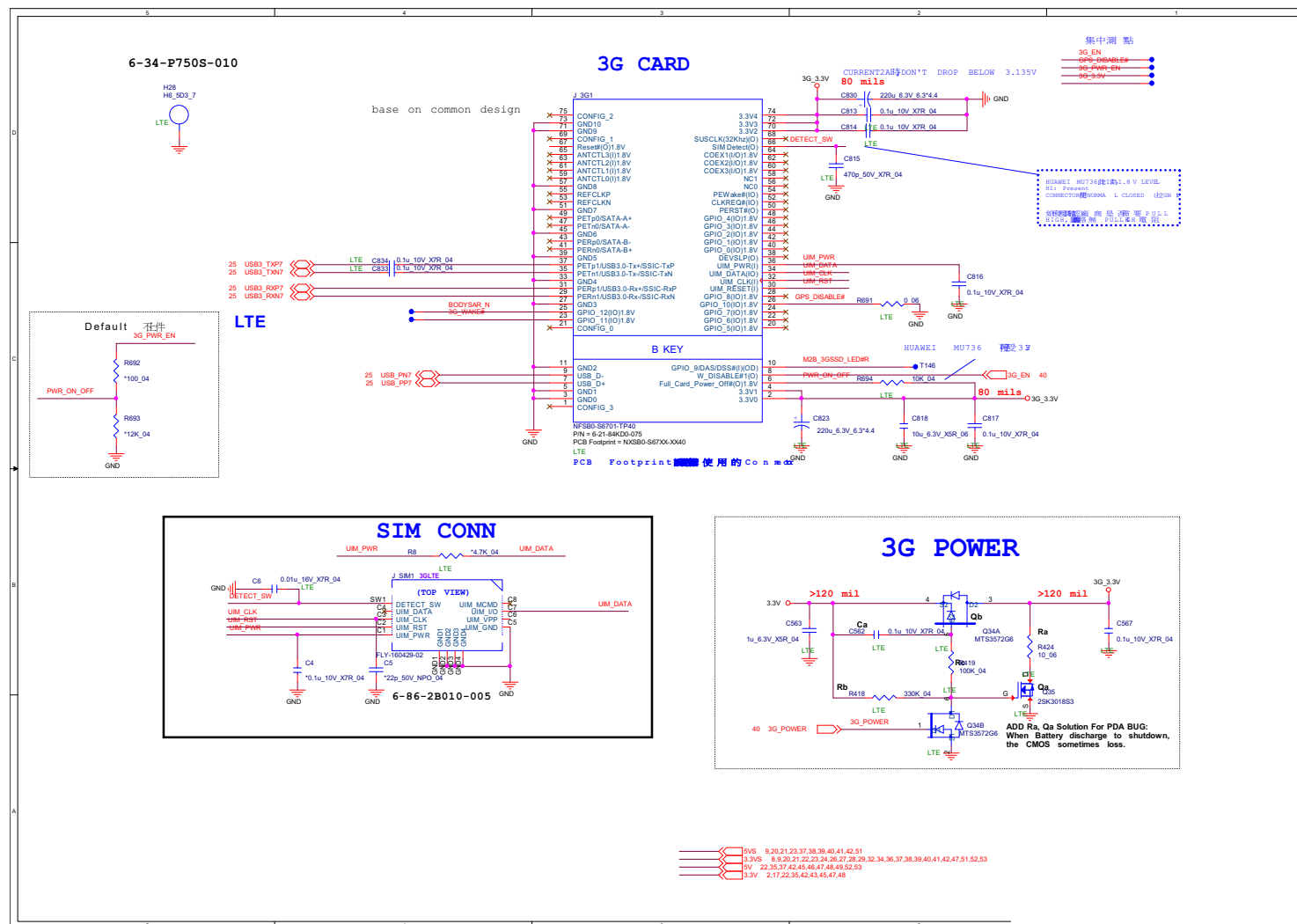


PCH 9/9

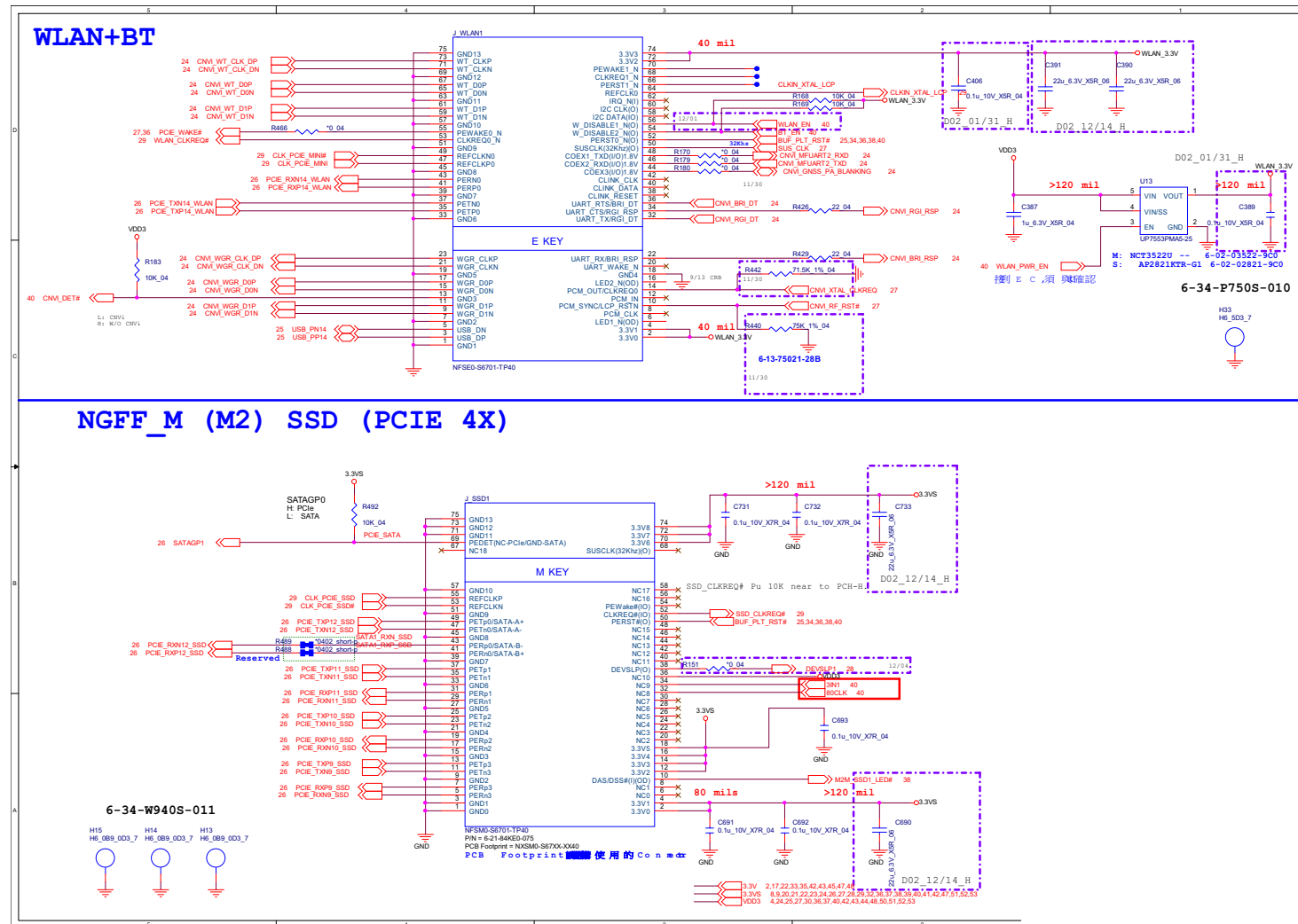
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PCH 9/9

M.2 3G Card

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M.2 3G Card



M.2 WLAN+BT, SSD

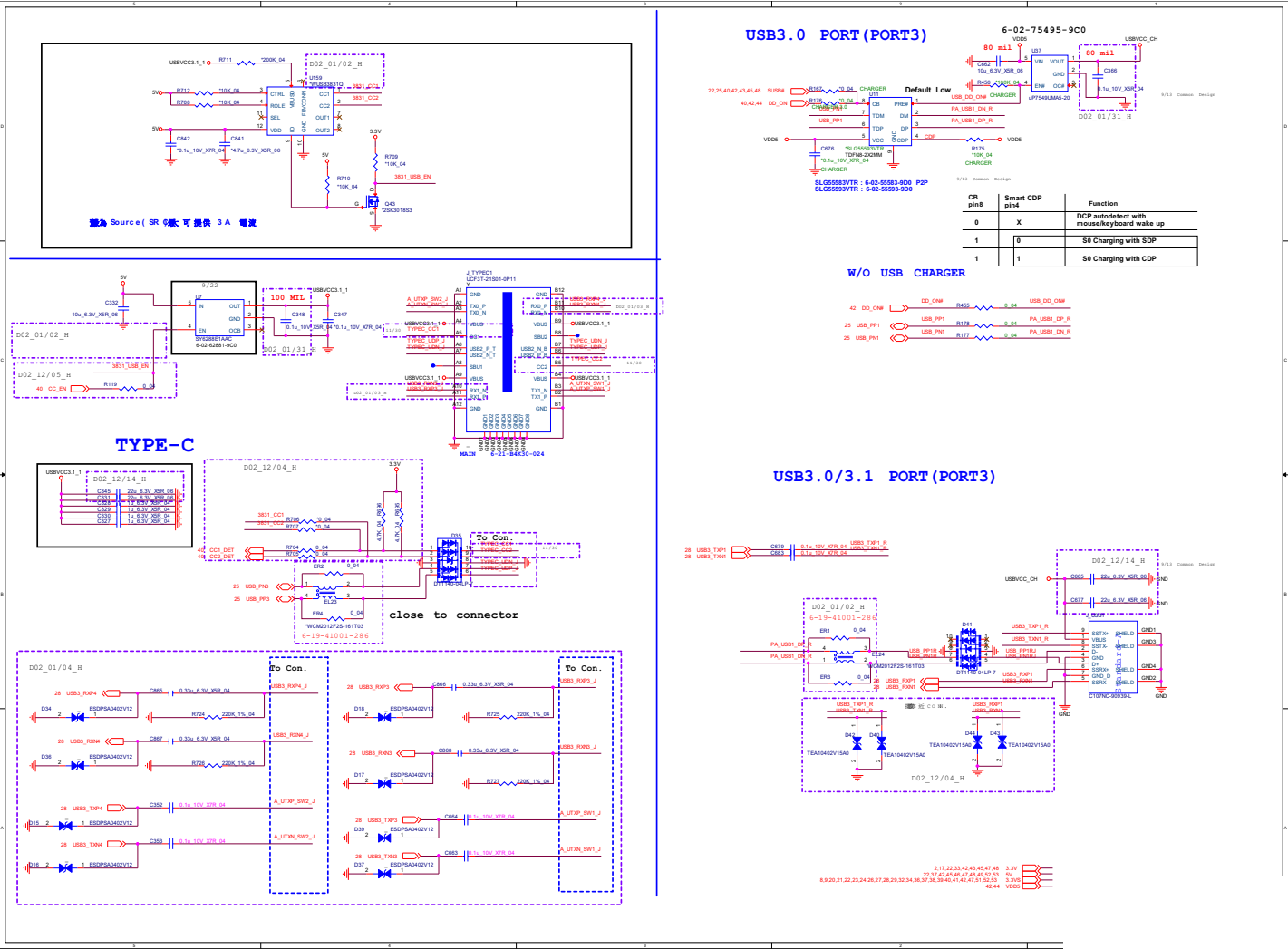


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M.2 WLAN+BT,
SSD

Schematic Diagrams

USB Conn, USB Charger

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USB Conn,
USB Charger



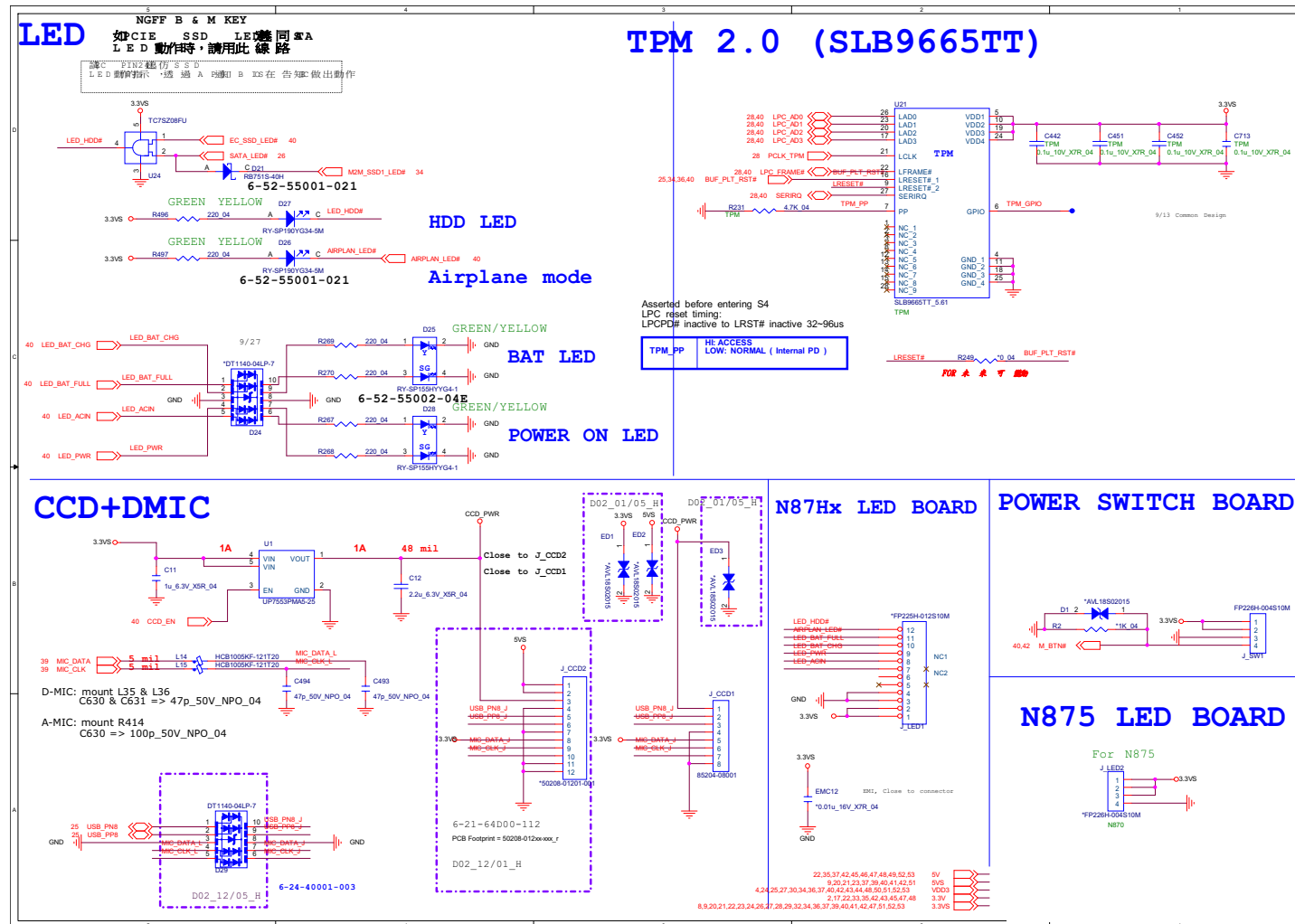
HDD, Click TP, Audio, Hall Con.

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HDD, Click TP,
Audio, Hall Con.



LED, CCD, TPM, Power SW Con.

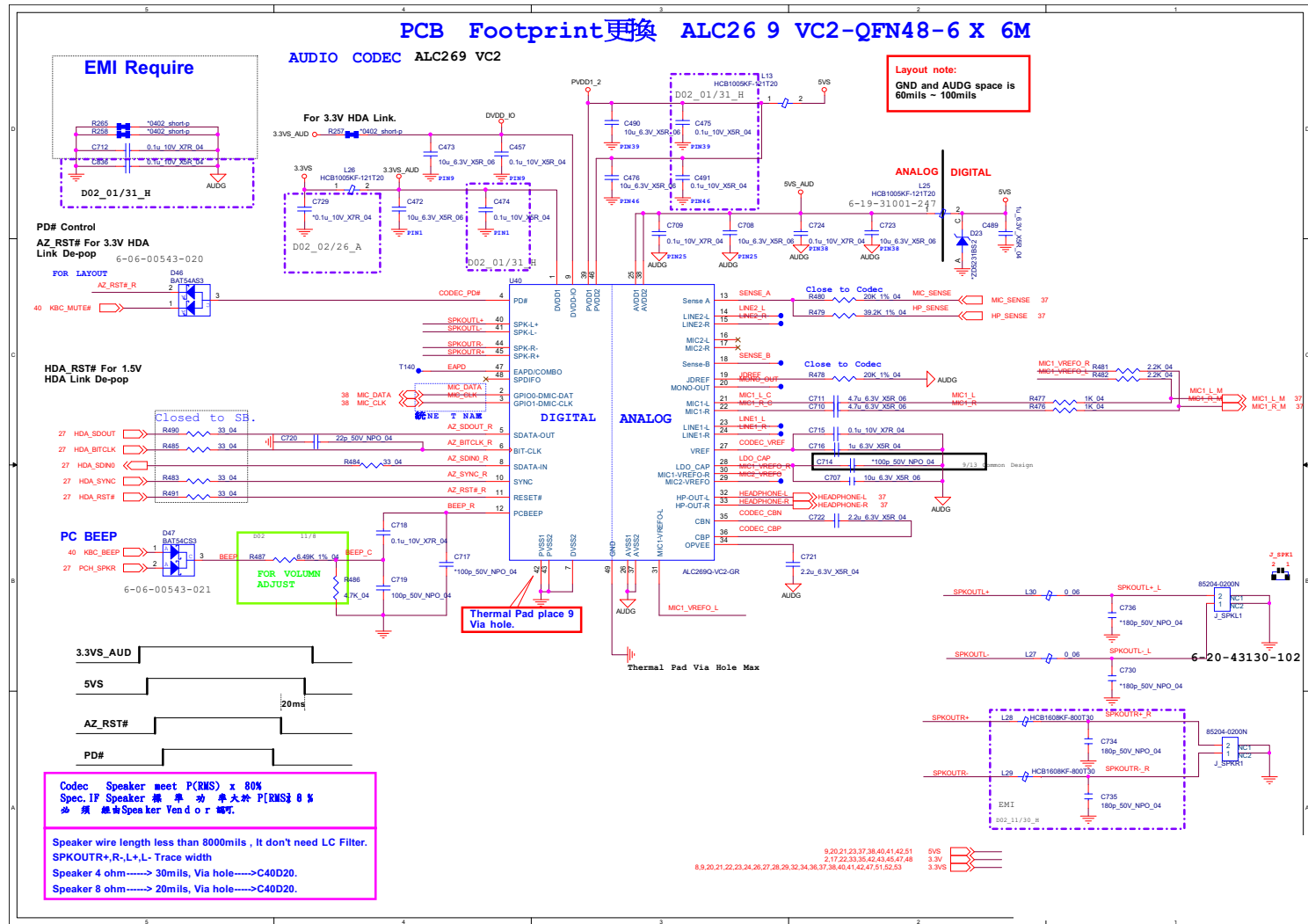
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LED, CCD, TPM,
Power SW Con.



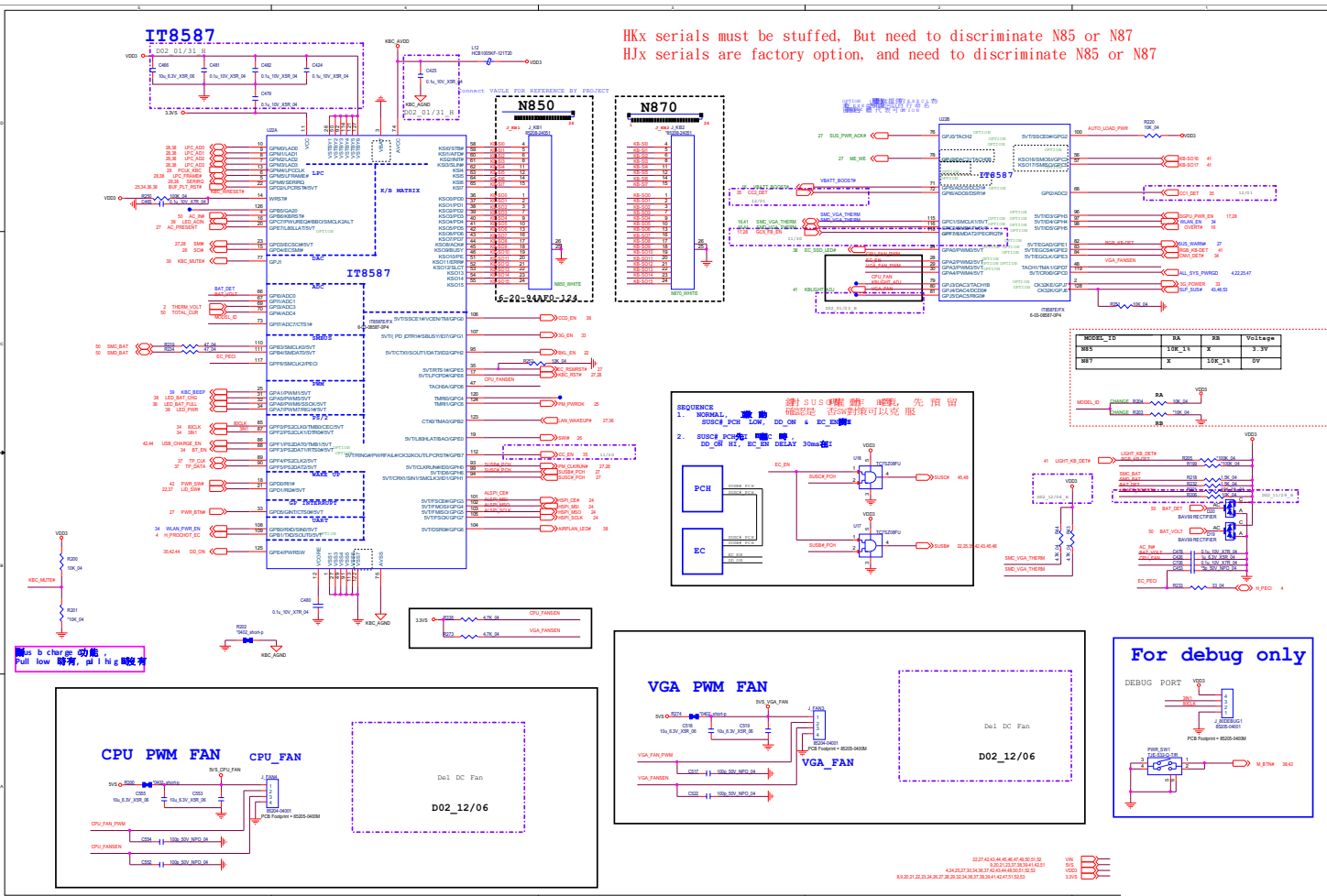
Schematic Diagrams

Audio Codec ALC269 VC2

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Audio Codec
ALC269 VC2



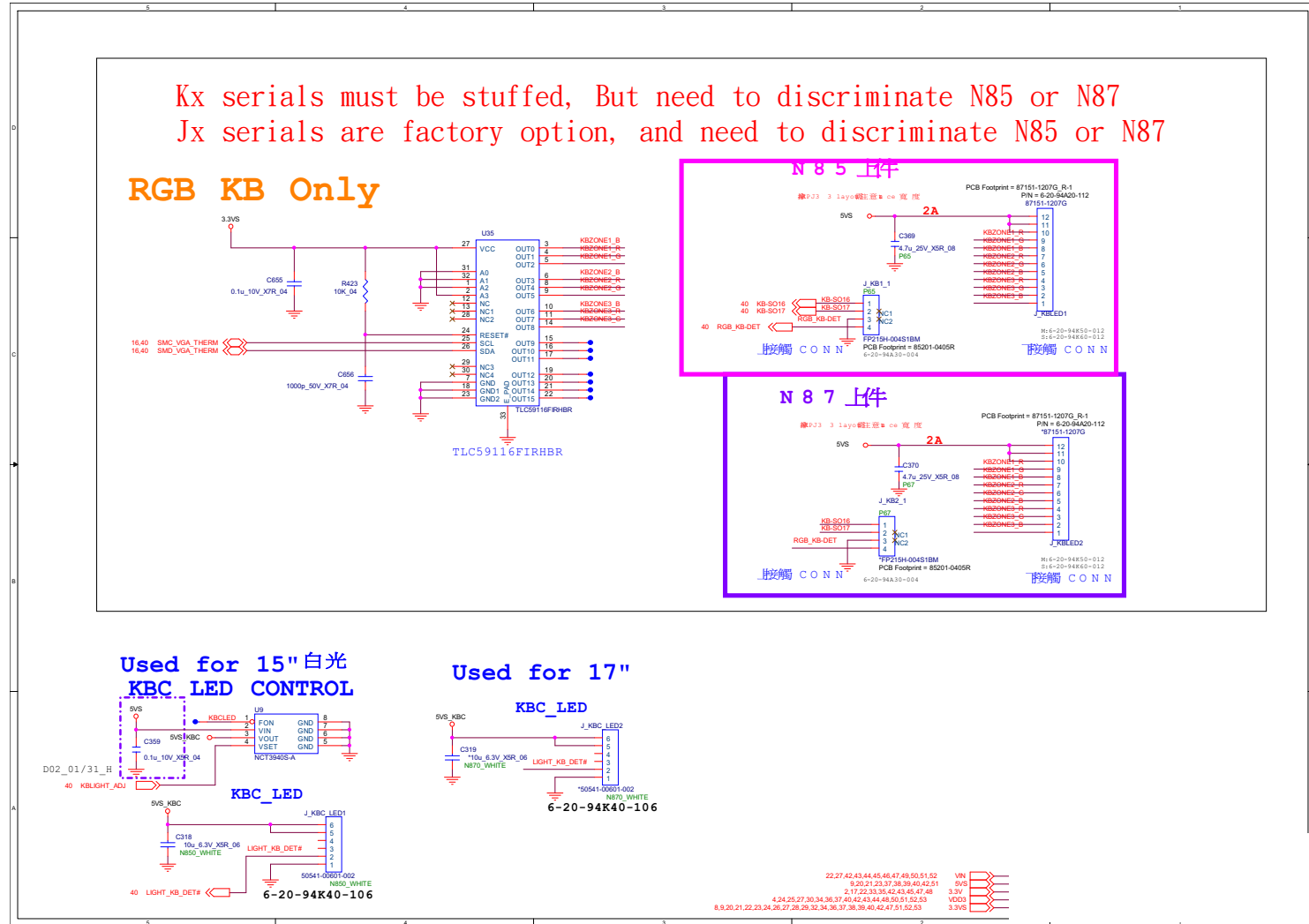
KBC-ITE IT8587



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KBC-ITE IT8587

Schematic Diagrams

RGB KB Only

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RGB KB Only

DD_ON#

SUSB

EMI

5V

3.3V

5VS

3.3VS

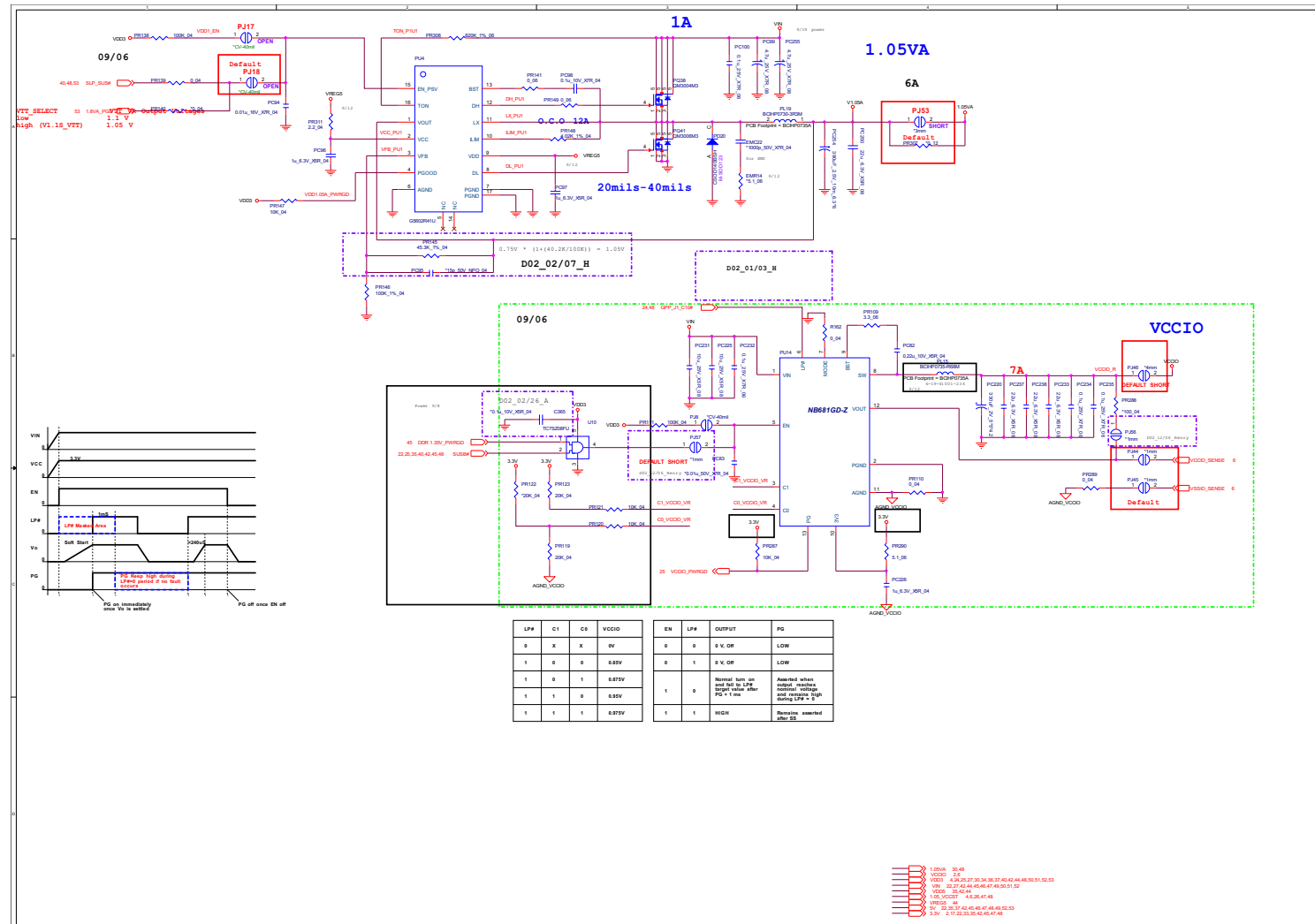
Legend:

Value	Location
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50	VA
22,27,43,44,45,46,47,49,50,51,52	VIN
6,8,9,45,48	VDDG
35,44	VDD3
4,24,25,27,30,34,36,37,40,43,44,48,50,51,52,53	VDD5
22,35,37,45,46,47,48,49,52,53	SV
9,20,21,23,27,38,39,40,41,51	5VS
2,17,22,33,35,43,45,47,48	3,3V
8,9,20,21,22,23,24,26,27,28,29,32,34,36,37,38,39,40,41,47,51,52,53	3,3VS

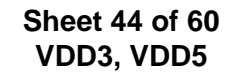
5V, 5VS, 3.3V, 3.3VS, 3.3VA B - 43

VDD1.0V, VCCIO

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VDD1.0V, VCCIO

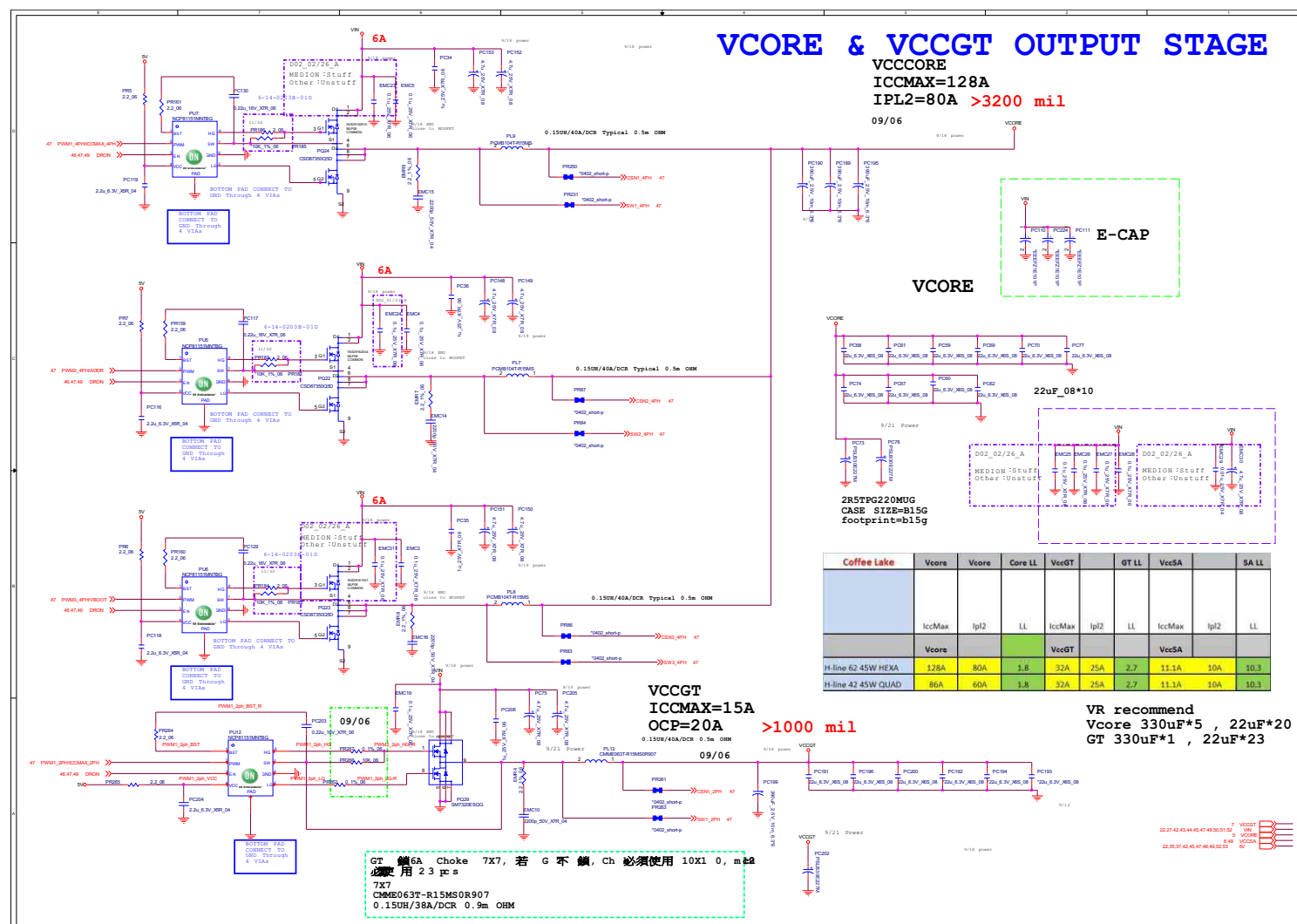


VDD3, VDD5 B - 45



DDR 1.2V / 0.6VS, 2.5V

VCore, VCCGT Output Stage

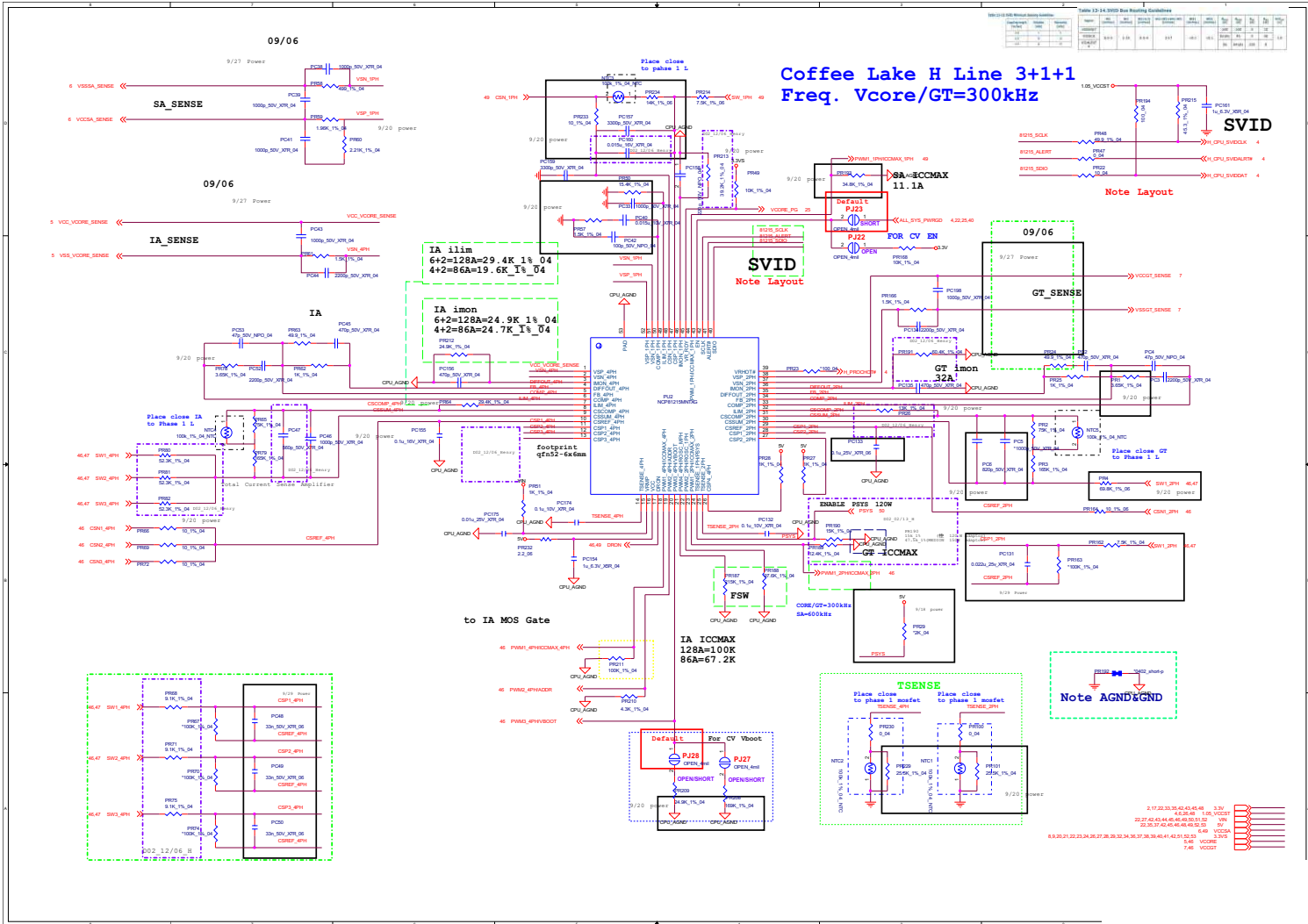


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VCore, VCCGT
Output Stage

VCC_Core & VCCGT

B. Schematic Diagrams

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VCC_Core &
VCCGT



1.05V VCCST

1.05DX_VCCST

3.3VA

VCCSFR_OC

Table:

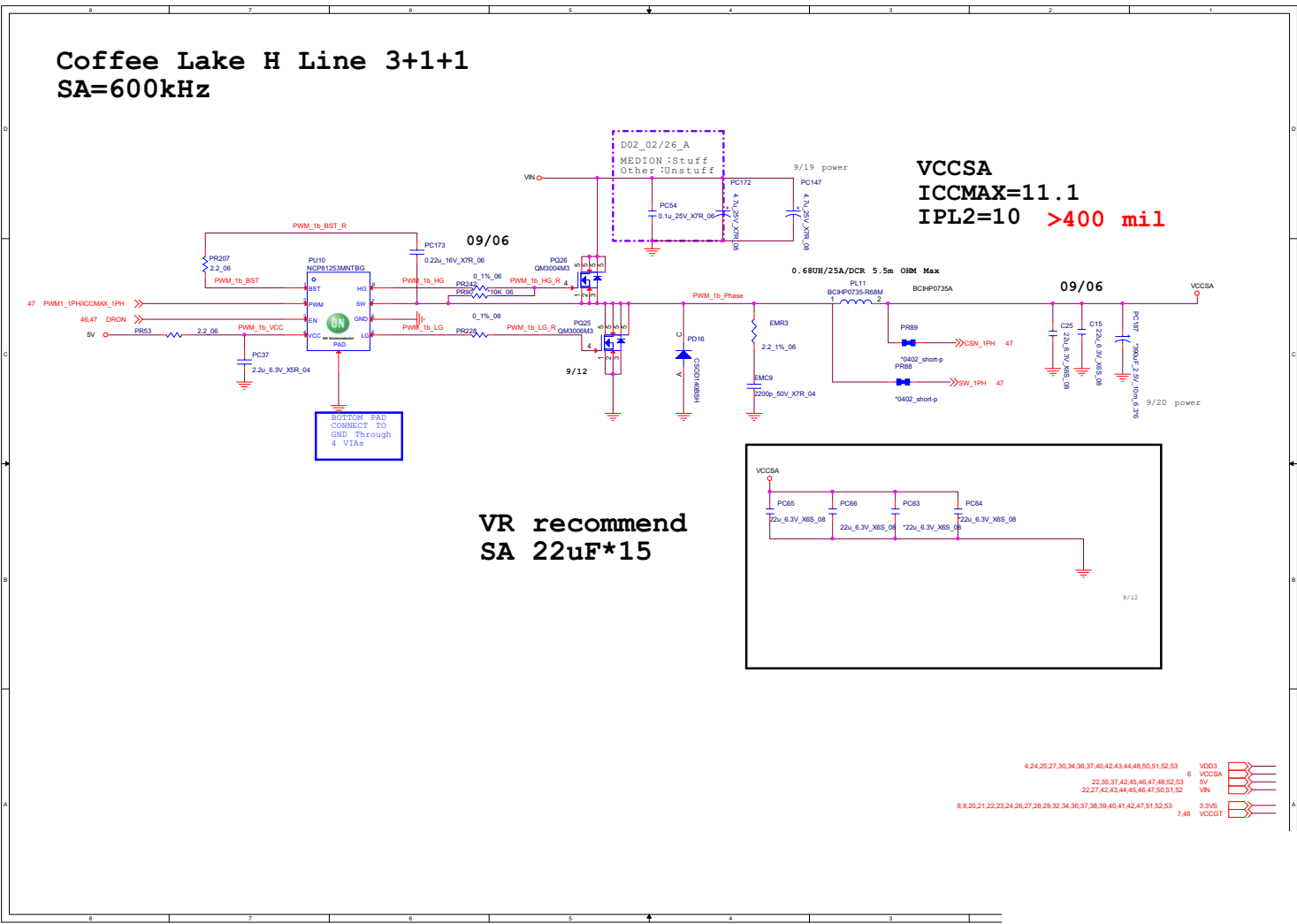
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6	1.05V
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9	1.05V
10	1.05V
11	1.05V
12	1.05V
13	1.05V
14	1.05V
15	1.05V
16	1.05V
17	1.05V
18	1.05V
19	1.05V
20	1.05V
21	1.05V
22	1.05V
23	1.05V
24	1.05V
25	1.05V
26	1.05V
27	1.05V
28	1.05V
29	1.05V
30	1.05V
31	1.05V
32	1.05V
33	1.05V
34	1.05V
35	1.05V
36	1.05V
37	1.05V
38	1.05V
39	1.05V
40	1.05V
41	1.05V
42	1.05V
43	1.05V
44	1.05V
45	1.05V
46	1.05V
47	1.05V
48	1.05V
49	1.05V
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51	1.05V
52	1.05V
53	1.05V
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94	1.05V
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96	1.05V
97	1.05V
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99	1.05V
100	1.05V

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1.0DX_VCCSTG/
VCCSFR_OC,
3.3VA

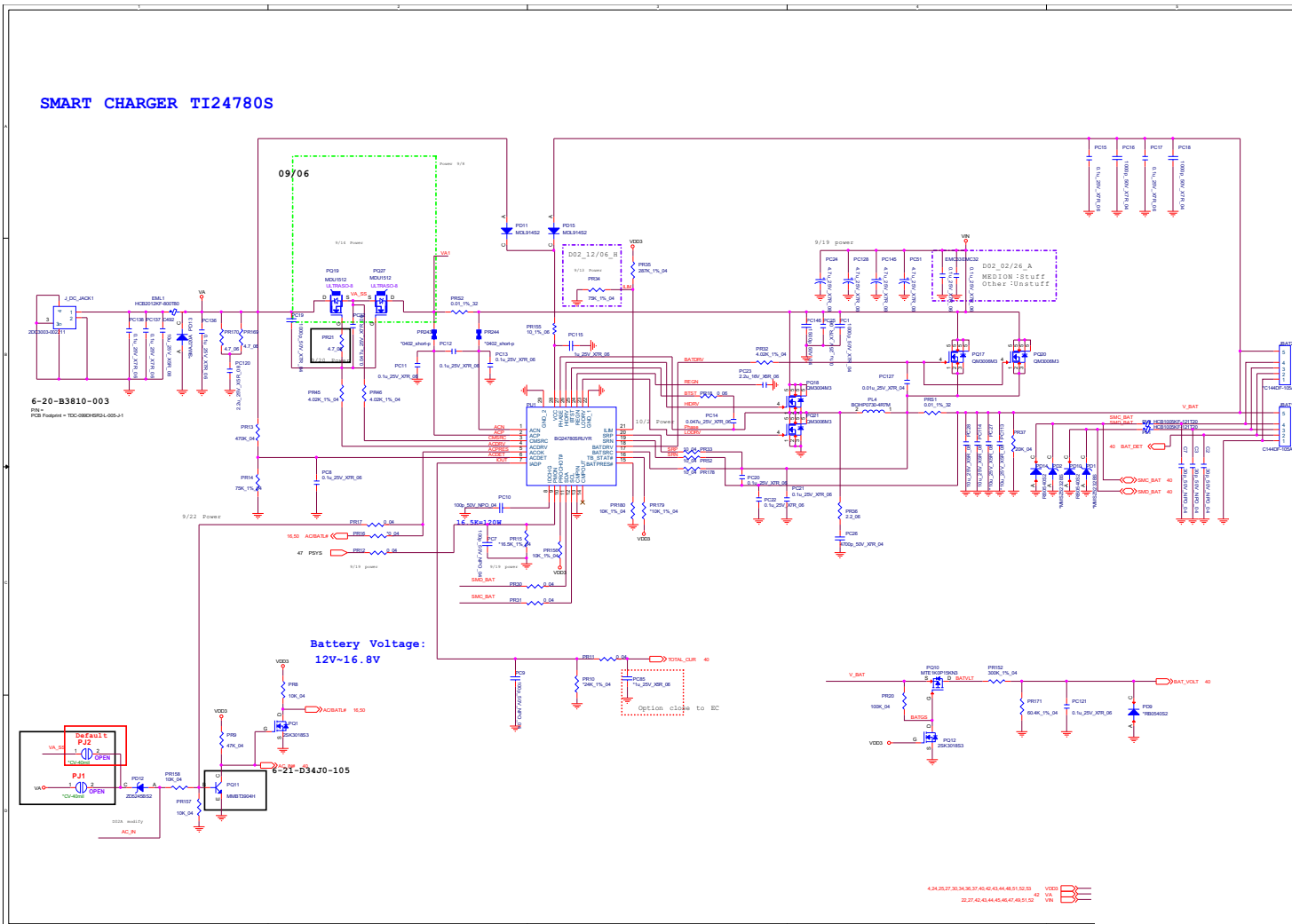
Schematic Diagrams

VCCSA

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VCCSA



AC_In, Charger



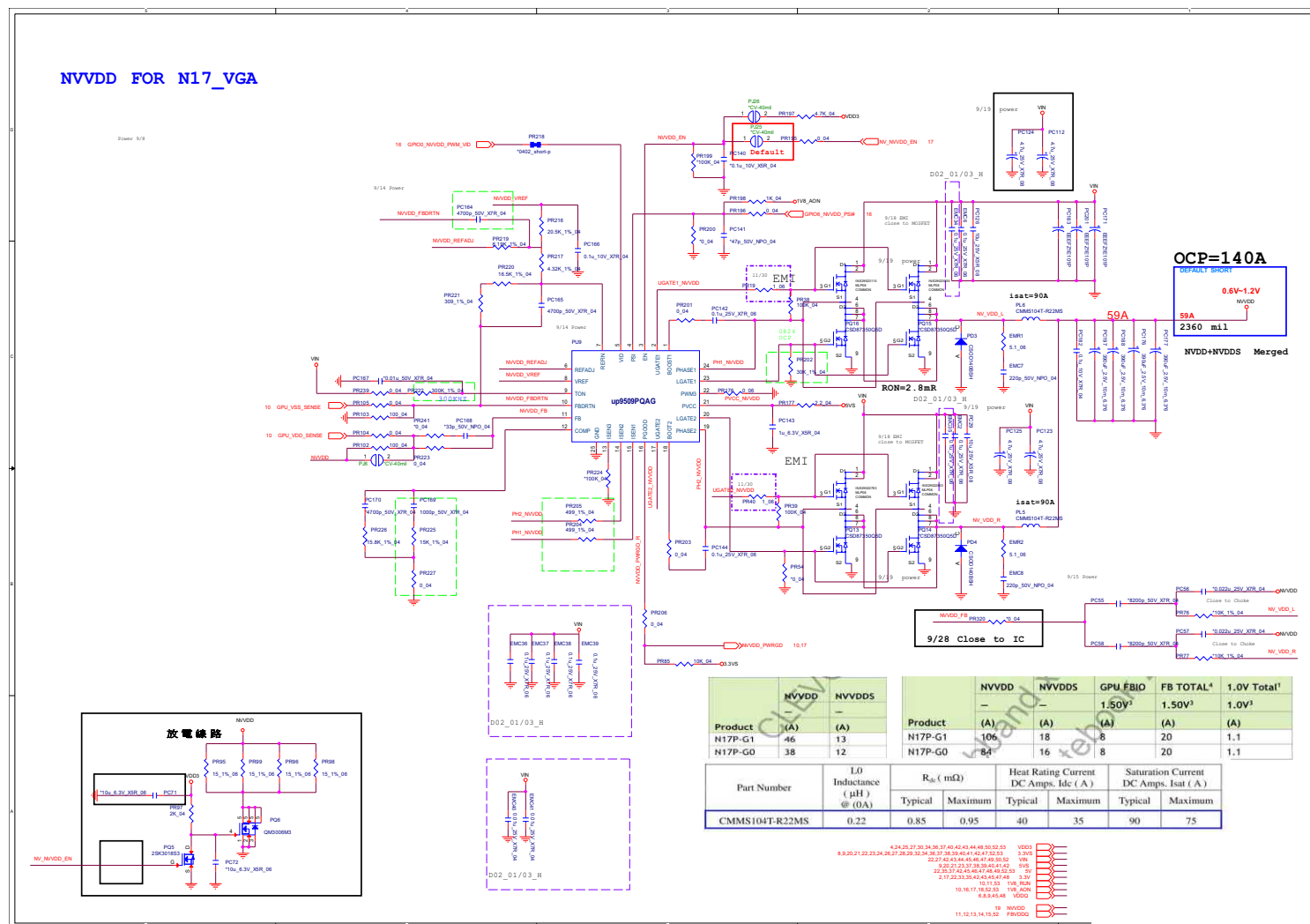
Sheet 50 of 60
AC_In, Charger

NVVDD

NVVDD FOR N17 VGA

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NVVDD

B. Schematic Diagrams



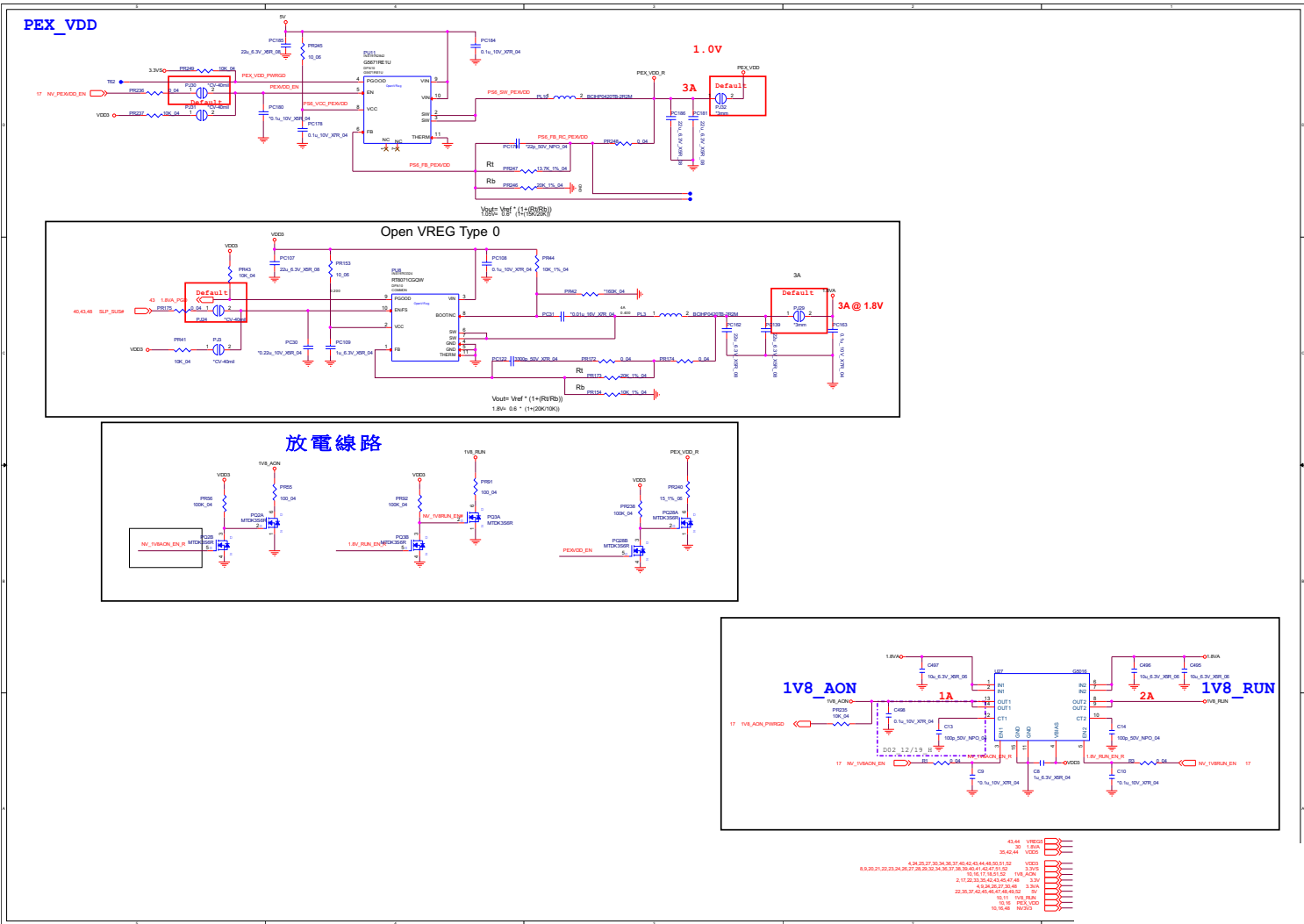
FBVDDQ B - 53



Schematic Diagrams

PEX_VDD/3V3/1.8V

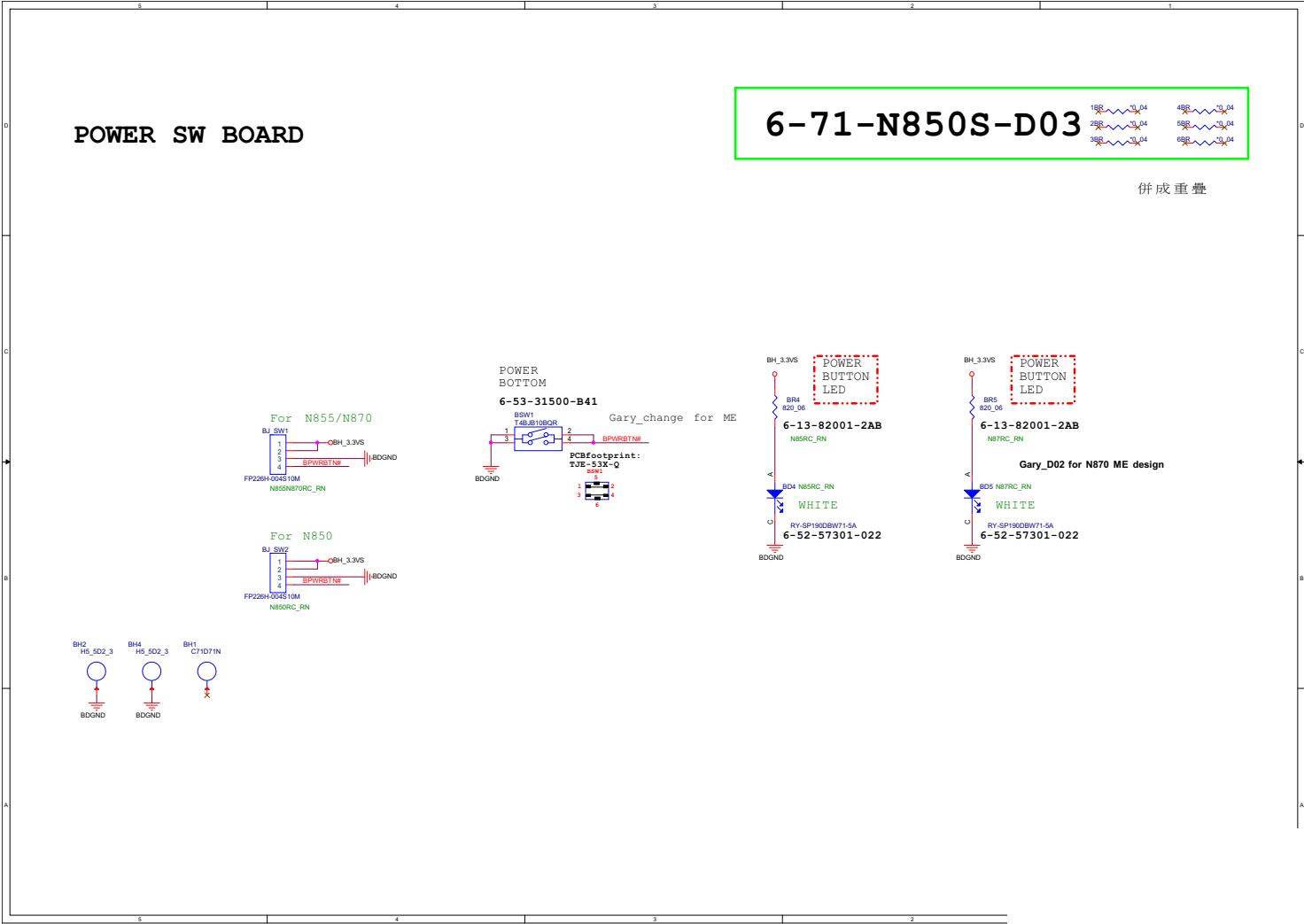
Sheet 53 of 60
PEX_VDD/3V3/1.8V



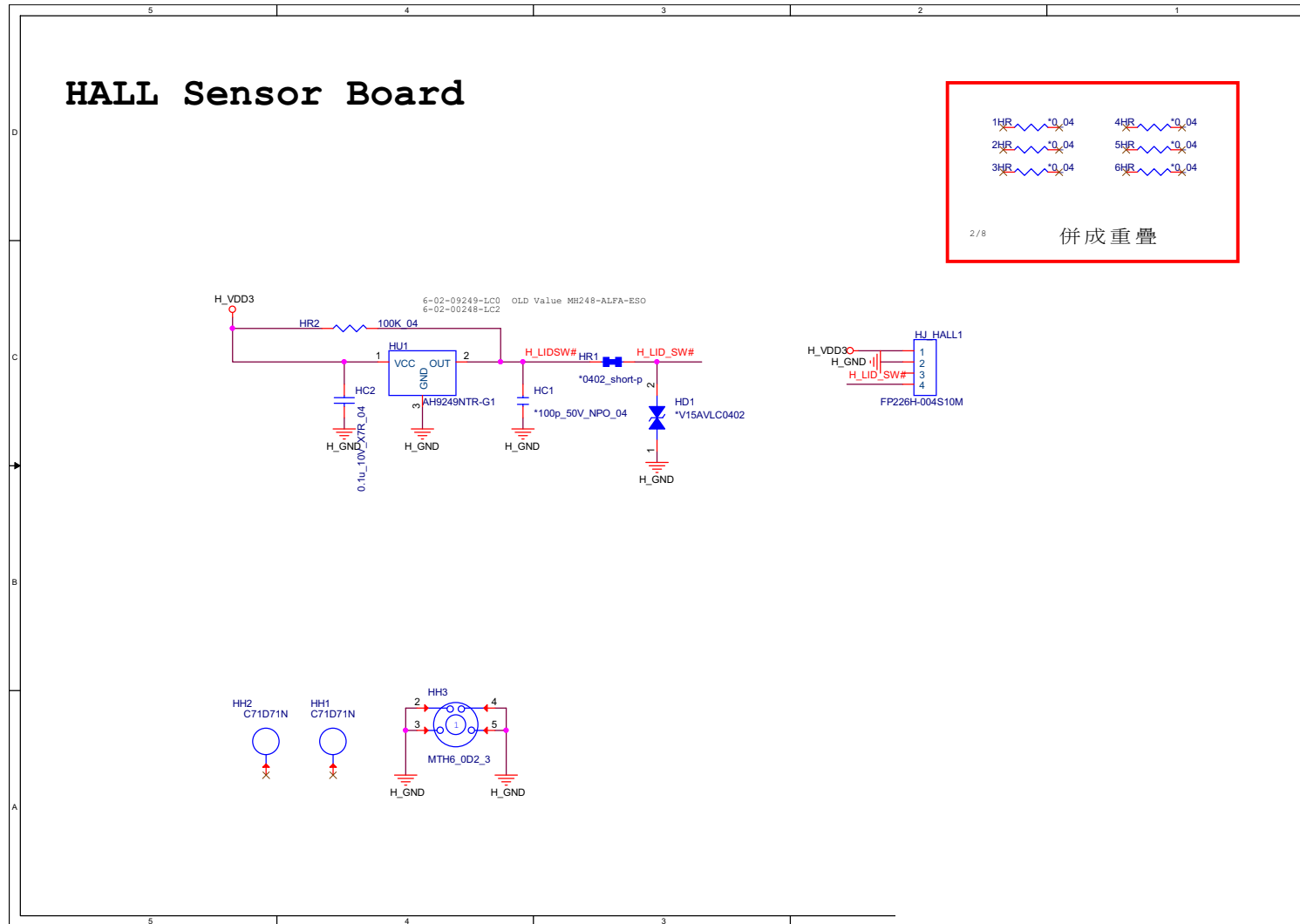
Audio Board B - 55



Power Switch Board

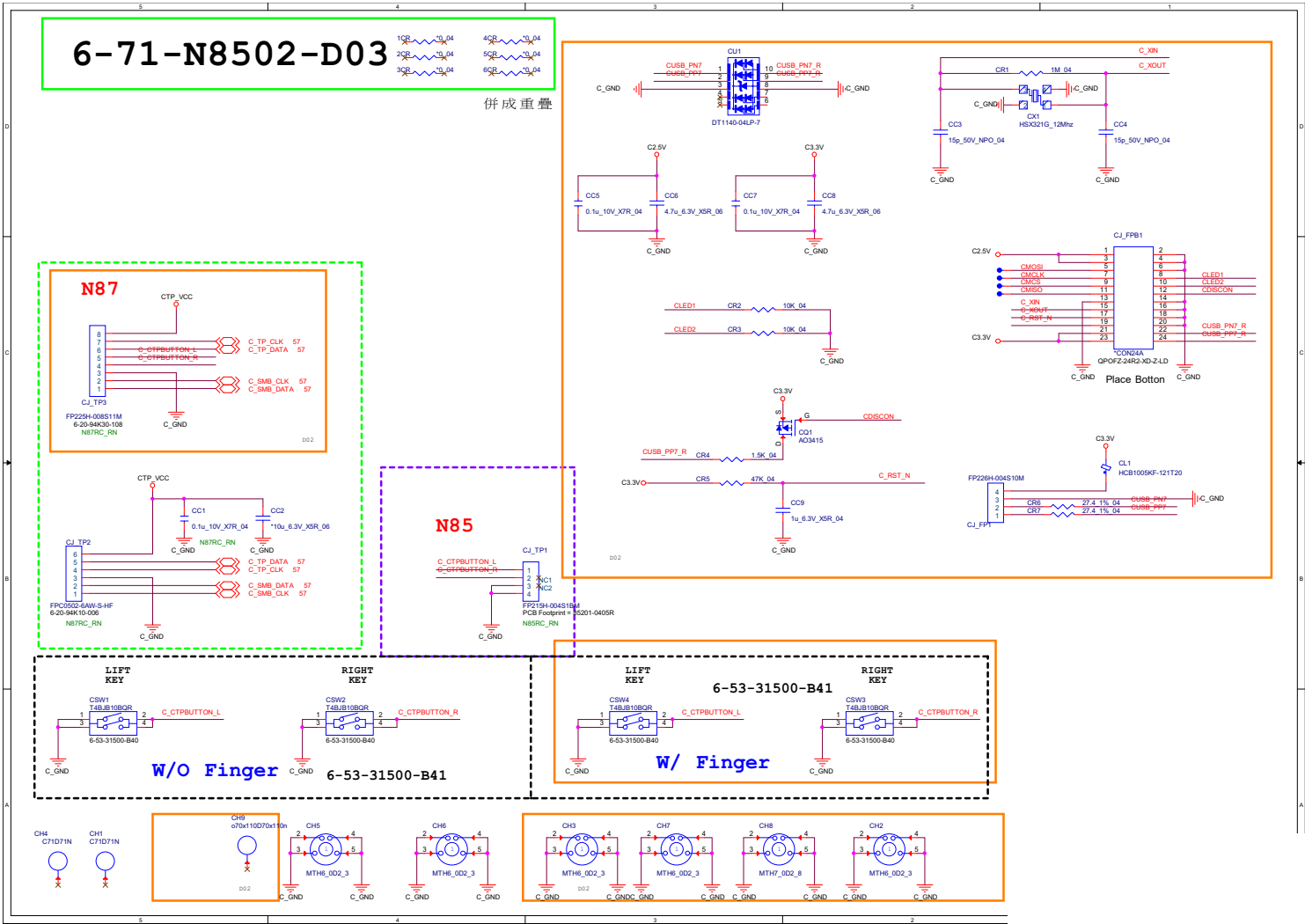


Hall Sensor Board



Sheet 56 of 60
Hall Sensor Board

Click Board



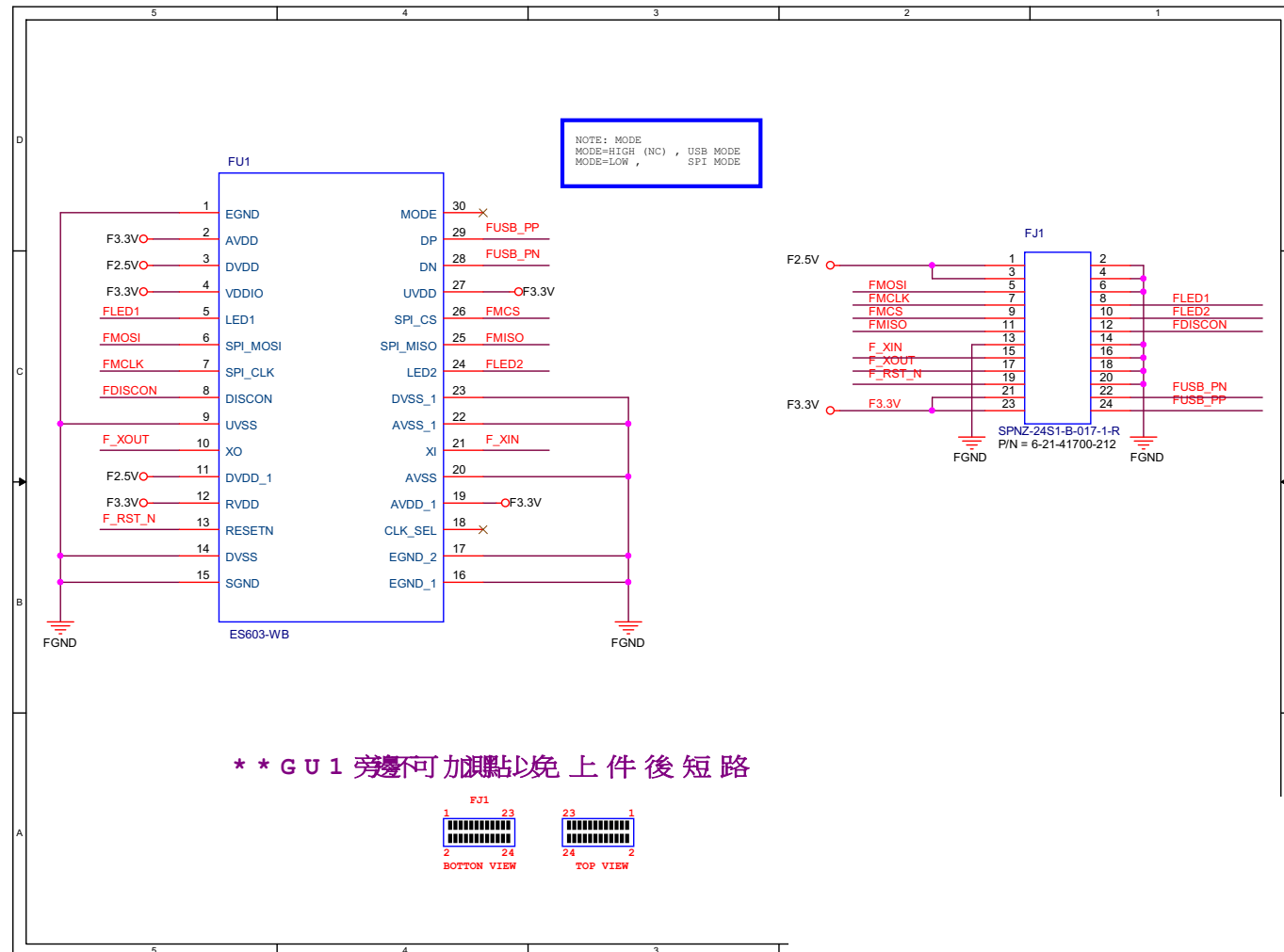
LED Board B - 59



Schematic Diagrams

Finger Print Board

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FingerPrint Board



Power Sequence B - 61

