

Appendix B: Schematic Diagrams

This appendix has circuit diagrams of the *M540SS/M548SS/M549SS* notebook's PCB's. The following table indicates where to find the appropriate schematic diagram.

Diagram - Page	Diagram - Page	Diagram - Page
<i>System Block Diagram - Page B - 2</i>	<i>968 PCIE LAN GPIO 2/4 - Page B - 15</i>	<i>System Power - Page B - 28</i>
<i>Processor 1/2 - Page B - 3</i>	<i>968 USB SATA 3/4 - Page B - 16</i>	<i>VCORE - Page B - 29</i>
<i>Processor 2/2 - Page B - 4</i>	<i>968 PWR GND 4/4 - Page B - 17</i>	<i>VDD3, VDD5 - Page B - 30</i>
<i>SiSM672 HOST PCIE 1/5 - Page B - 5</i>	<i>Clock Generator & Clock Buffer - Page B - 18</i>	<i>1.05VS, 1.2V, 1.5V - Page B - 31</i>
<i>SiSM672 DRAM 2/5 - Page B - 6</i>	<i>SiS307ELV - Page B - 19</i>	<i>1.8V, 0.9VS - Page B - 32</i>
<i>SiSM672 MuTITOL VGA 3/5 - Page B - 7</i>	<i>ODD, SATA, USB2.0 *2 - Page B - 20</i>	<i>D/D BD (CRT, S-Video, RJ-11) - Page B - 33</i>
<i>SiSM672 PWR 4/5 - Page B - 8</i>	<i>Card Reader JMB385 - Page B - 21</i>	<i>D/D BD (Charger, DC-In) - Page B - 34</i>
<i>SiSM672 GND 5/5 - Page B - 9</i>	<i>KBC-ITE IT8512E - Page B - 22</i>	<i>Audio BD (Phone Jack, RJ-11, USB) - Page B - 35</i>
<i>DDRII SO-DIMM - 2 - Page B - 10</i>	<i>Mini Card, New Card, TPM, FGPT - Page B - 23</i>	<i>Hot key BD (Hot key, LED) - Page B - 36</i>
<i>DDRII SO-DIMM - 1 - Page B - 11</i>	<i>AZALIA Codec ALC883 - Page B - 24</i>	<i>RJ-45 Board - Page B - 37</i>
<i>Panel, Fan - Page B - 12</i>	<i>Audio AMP2056A - Page B - 25</i>	<i>FingerPrint Board - Page B - 38</i>
<i>LAN PHY Realtek 8201CL - Page B - 13</i>	<i>MDC, BT, PWRGD, DDB CON - Page B - 26</i>	
<i>968 PCI IDE MuTIOL SPI 1/4 - Page B - 14</i>	<i>TouchPad, LED - Page B - 27</i>	

Table B - 1
Schematic Diagrams

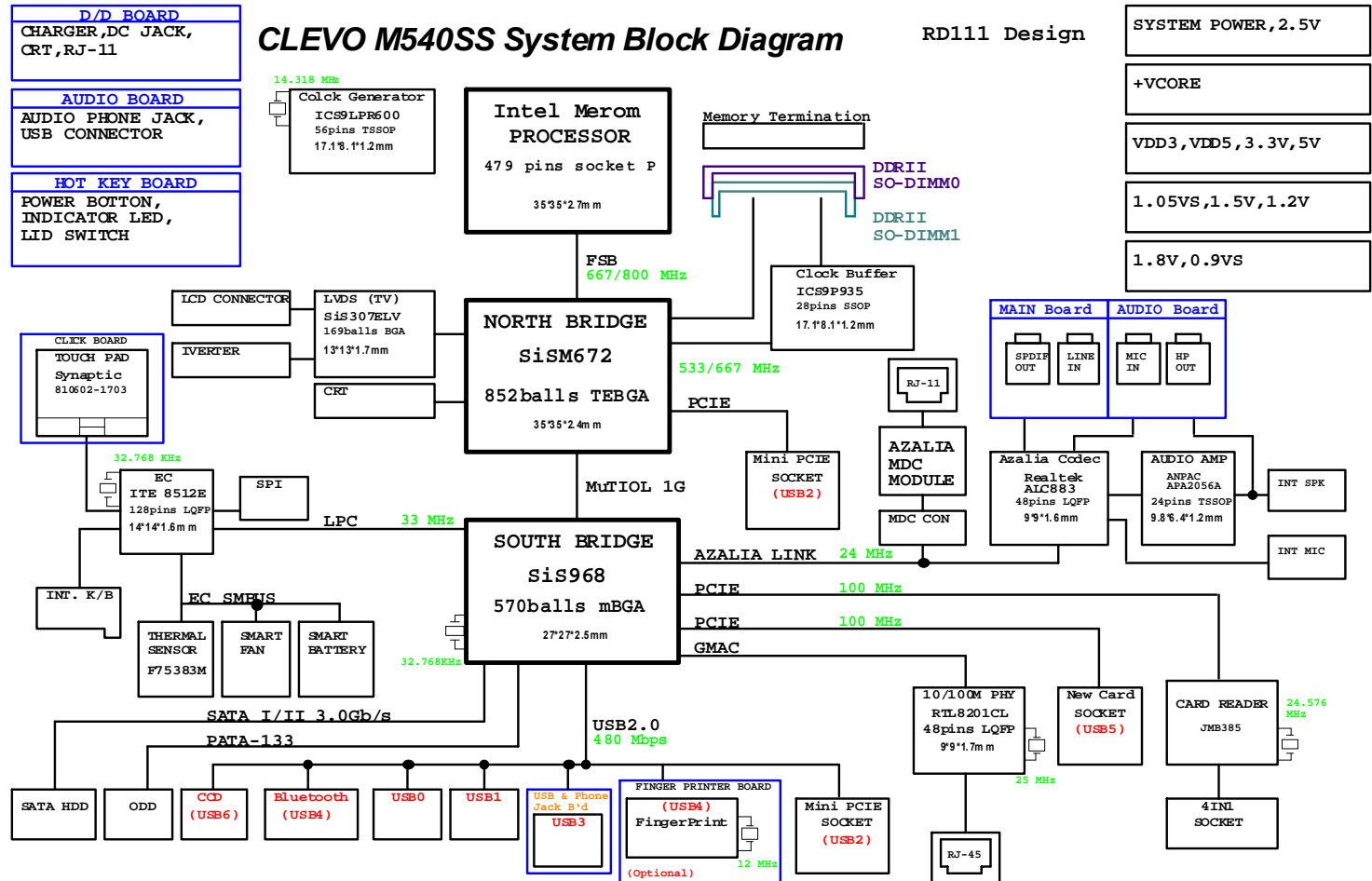


Version Note

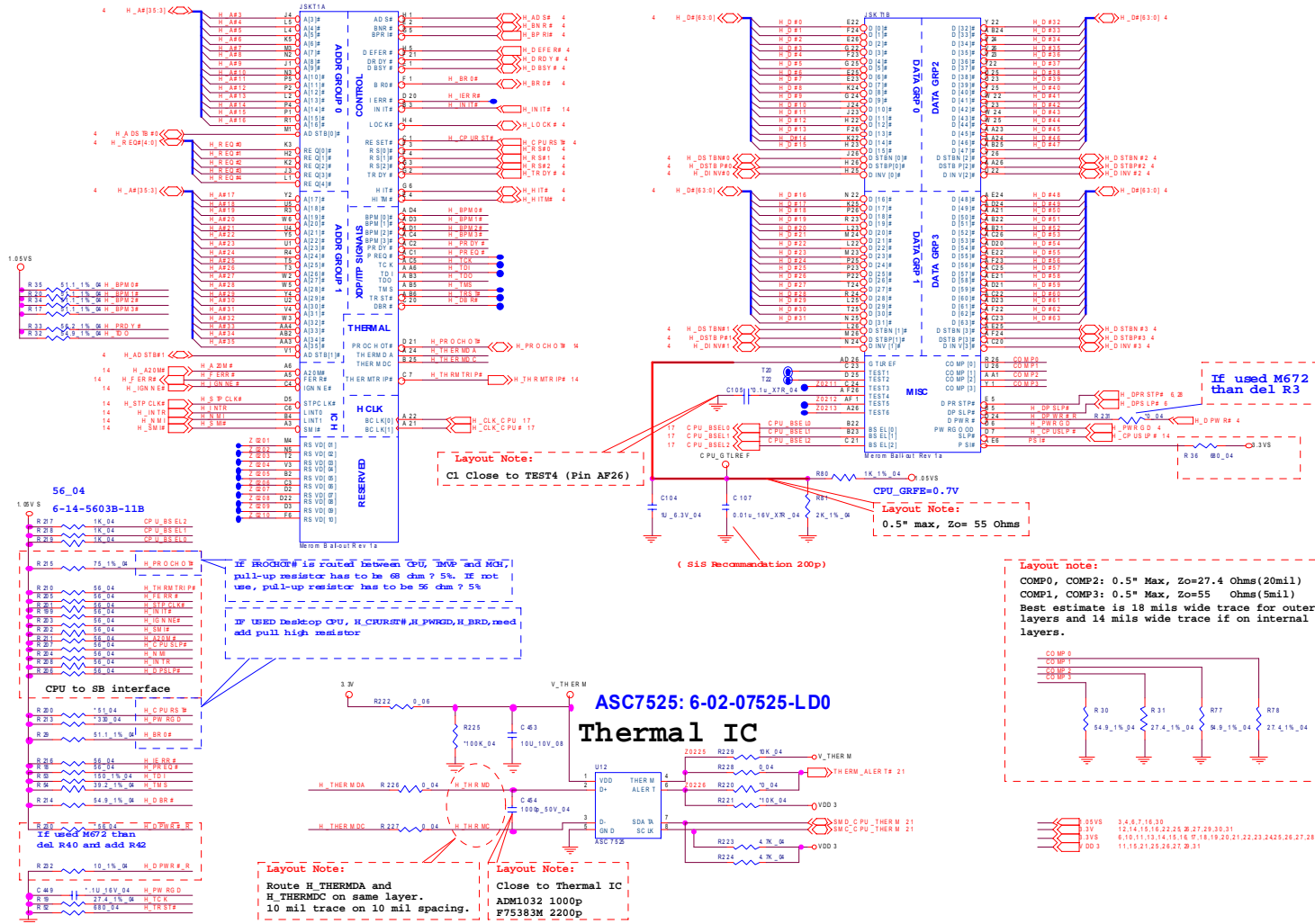
The schematic diagrams in this chapter are based upon version 6-7P-M5SS6-002. If your mainboard (or other boards) are a later version, please check with the Service Center for updated diagrams (if required).

System Block Diagram

Sheet 1 of 37
System Block
Diagram

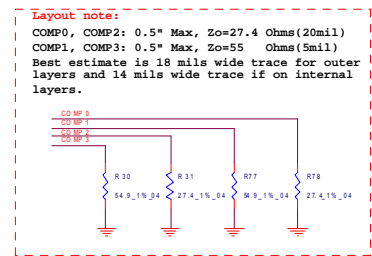


Processor 1/2



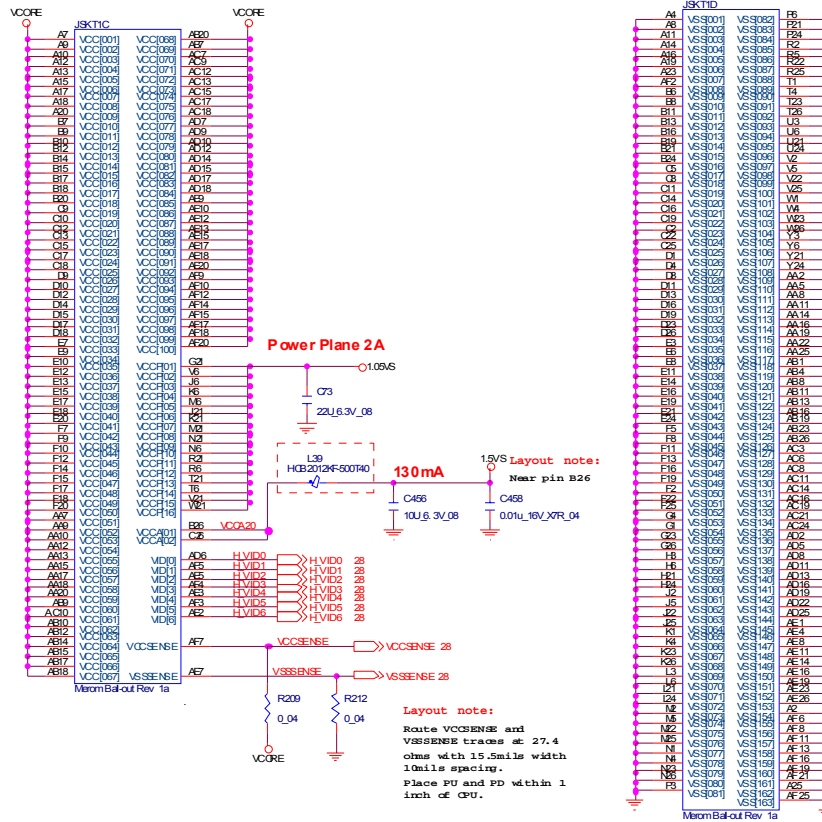
Sheet 2 of 37
Processor 1/2

B.Schematic Diagrams



Processor 2/2

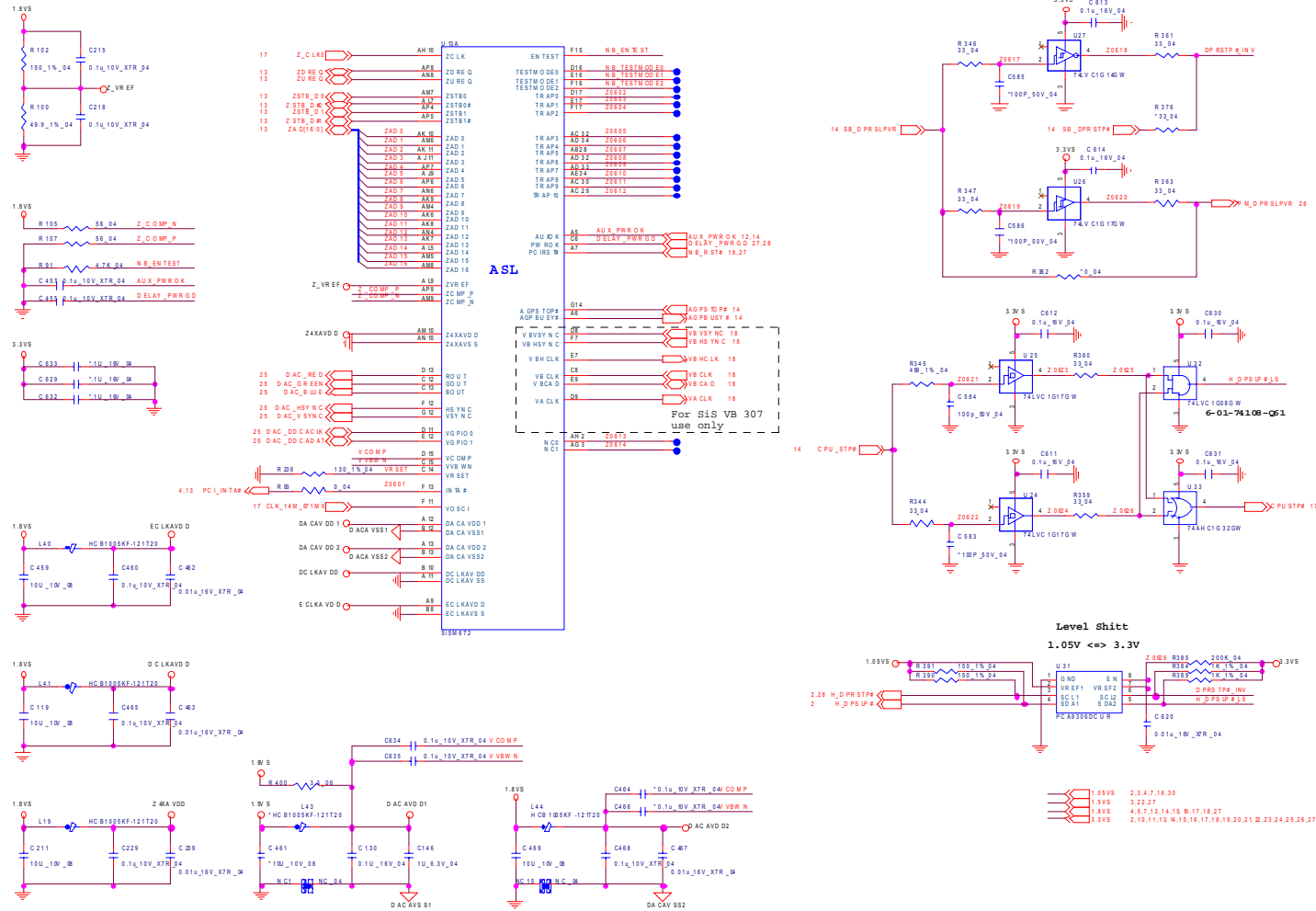
Sheet 3 of 37
Processor 2/2



Check cap for santa rosa platform



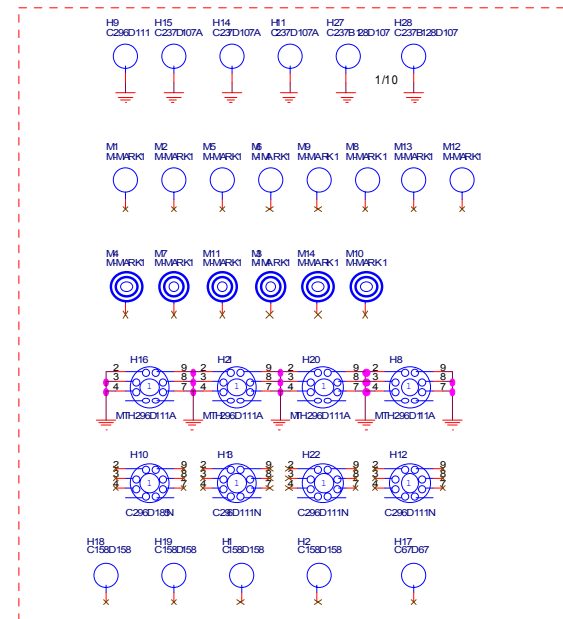
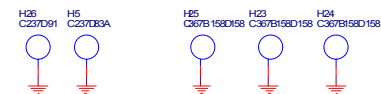
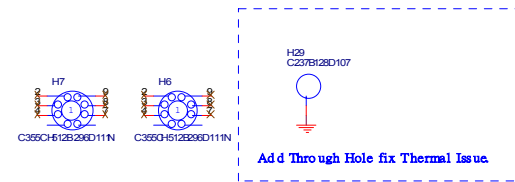
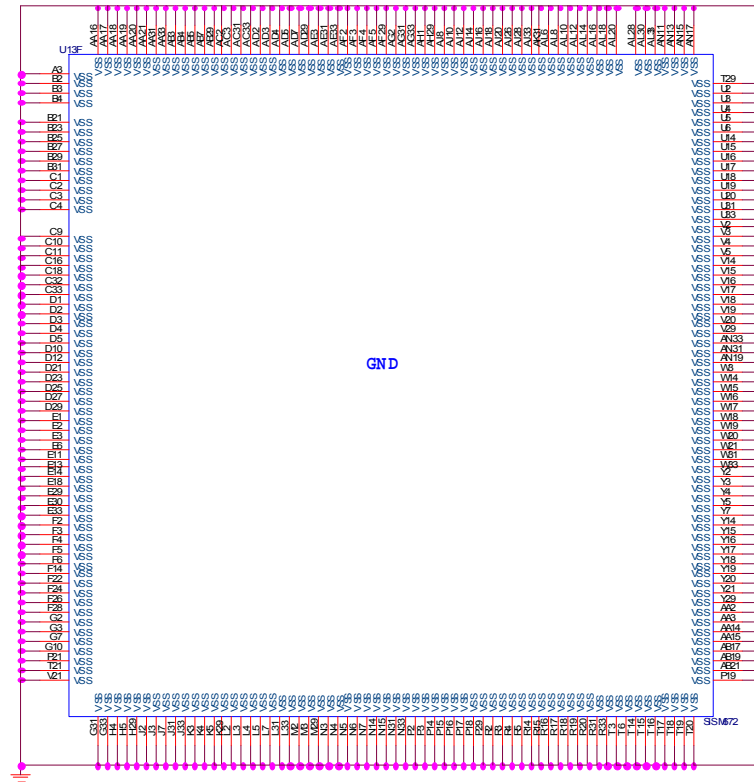
SiSM672 MuTITOL VGA 3/5



Sheet 6 of 37
SiSM672 MuTITOL
VGA 3/5

B.Schematic Diagrams

SiSM672 GND 5/5



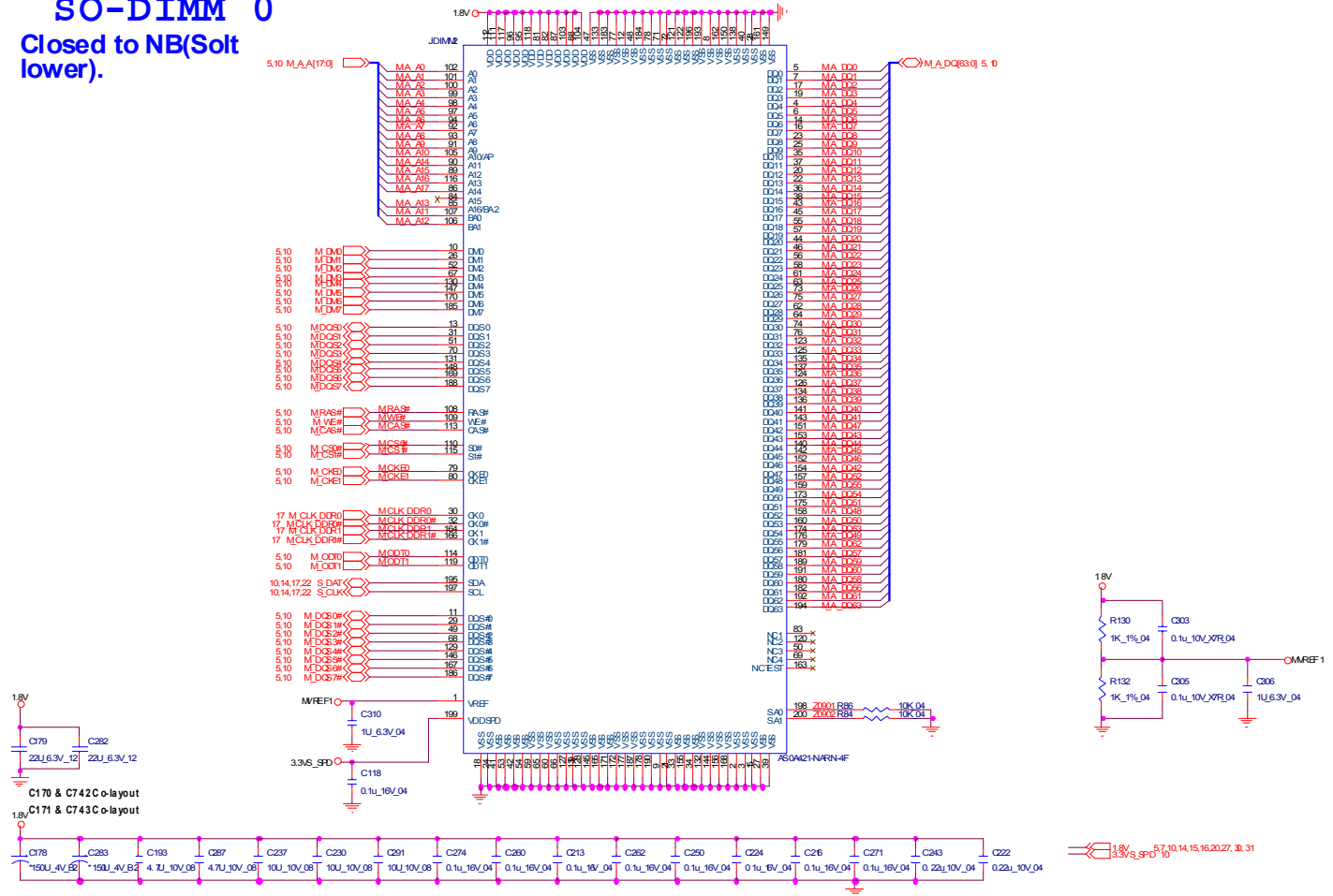
Sheet 8 of 37
SiSM672 GND 5/5

B. Schematic Diagrams

DDRII SO-DIMM - 2

SO-DIMM 0
 Closed to NB(Solt
 lower).

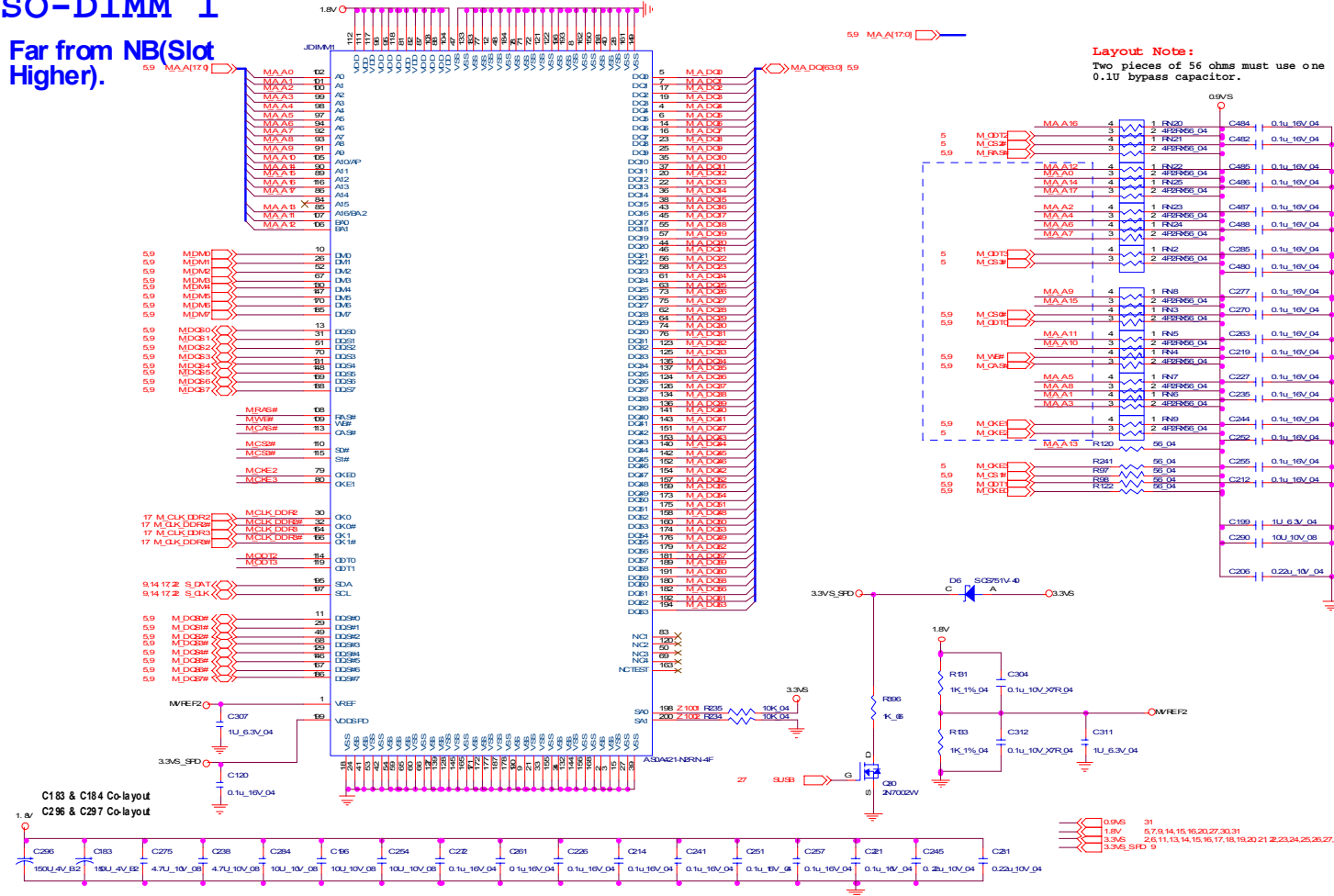
Sheet 9 of 37
 DDRII SO-DIMM - 2



DDR2 SO-DIMM - 1

SO-DIMM 1

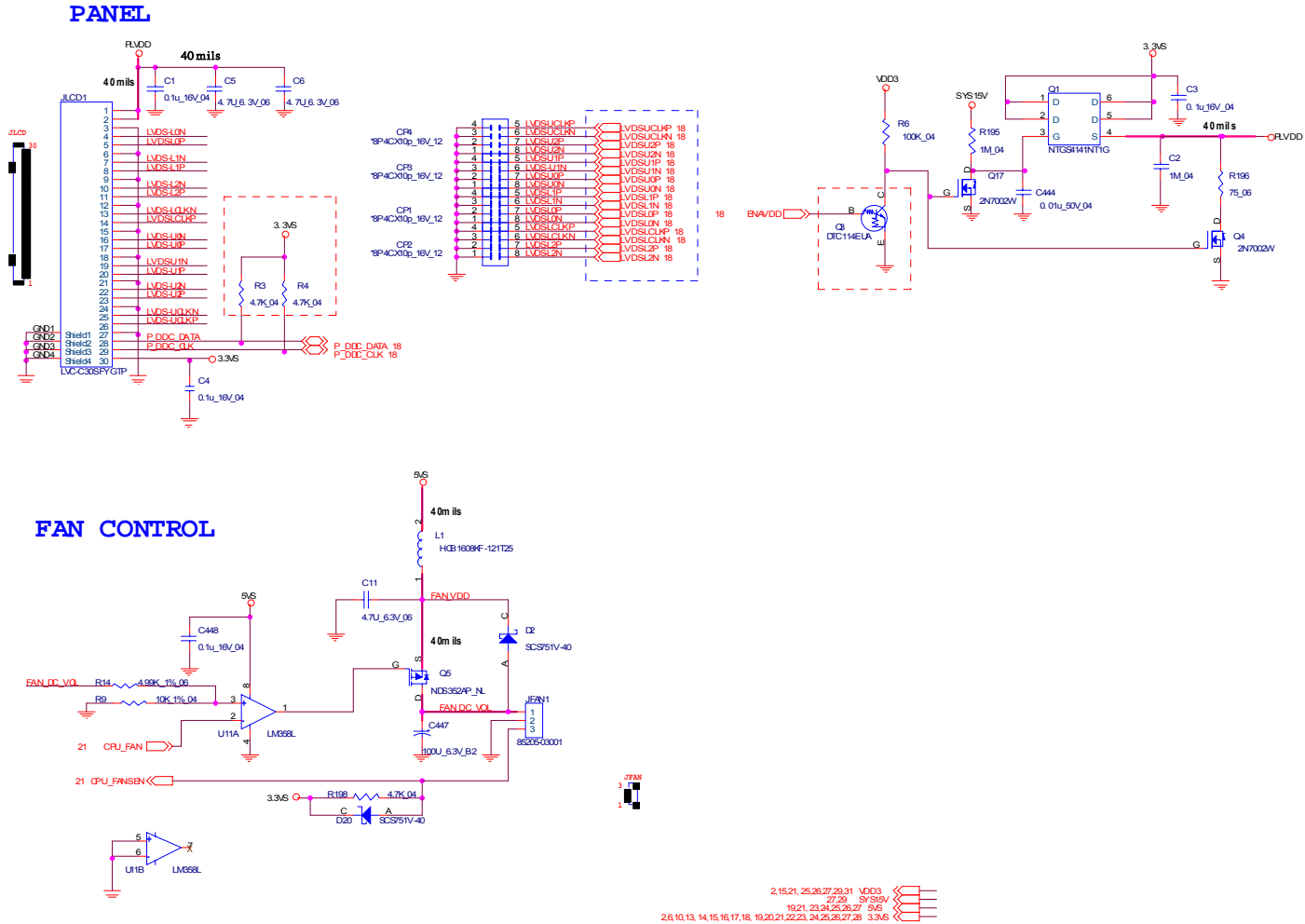
Far from NB(Slot Higher).



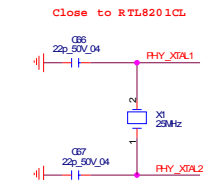
Sheet 10 of 37
DDR2 SO-DIMM - 1

Panel, Fan

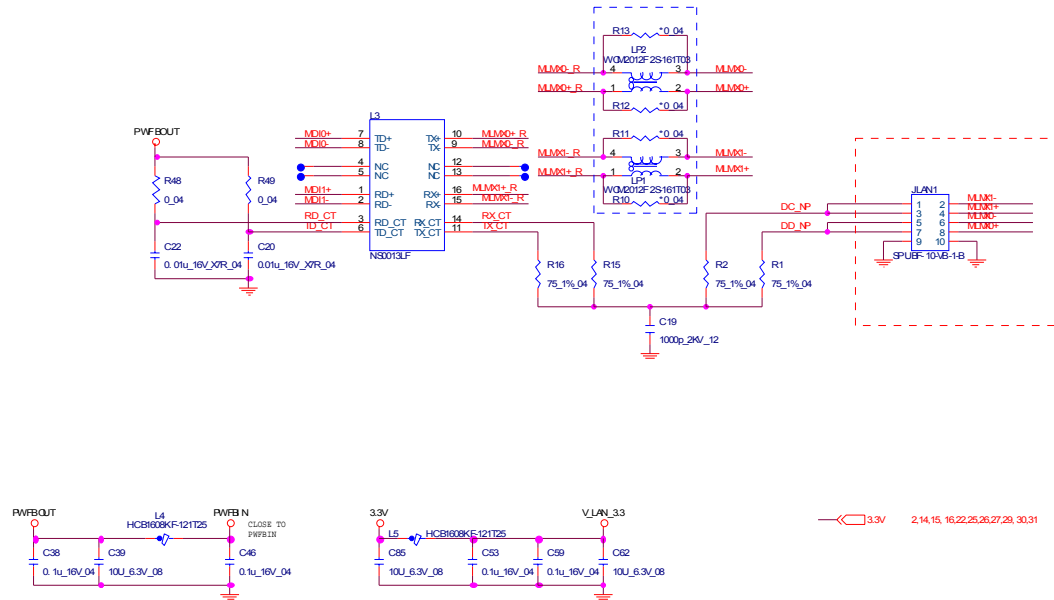
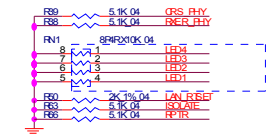
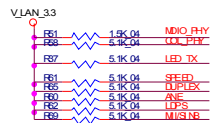
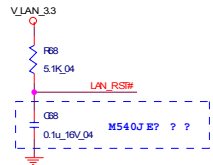
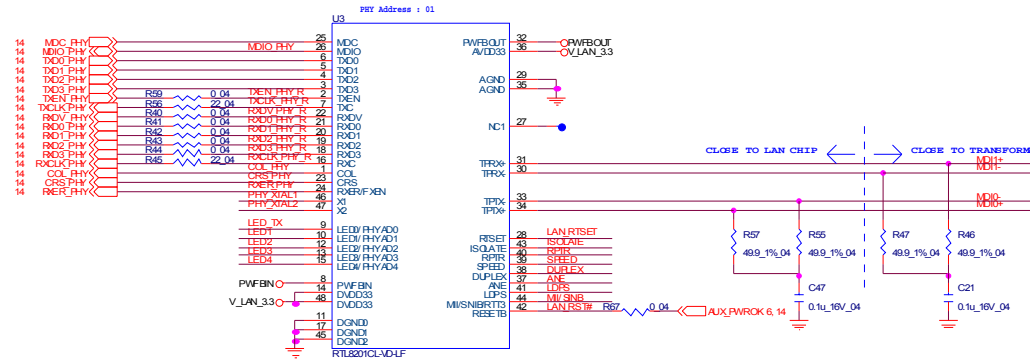
Sheet 11 of 37
Panel, Fan



LAN PHY Realtek 8201CL



12/20
Modify C66, C67 from 18P F
change to 22P F for OSC
is suse.

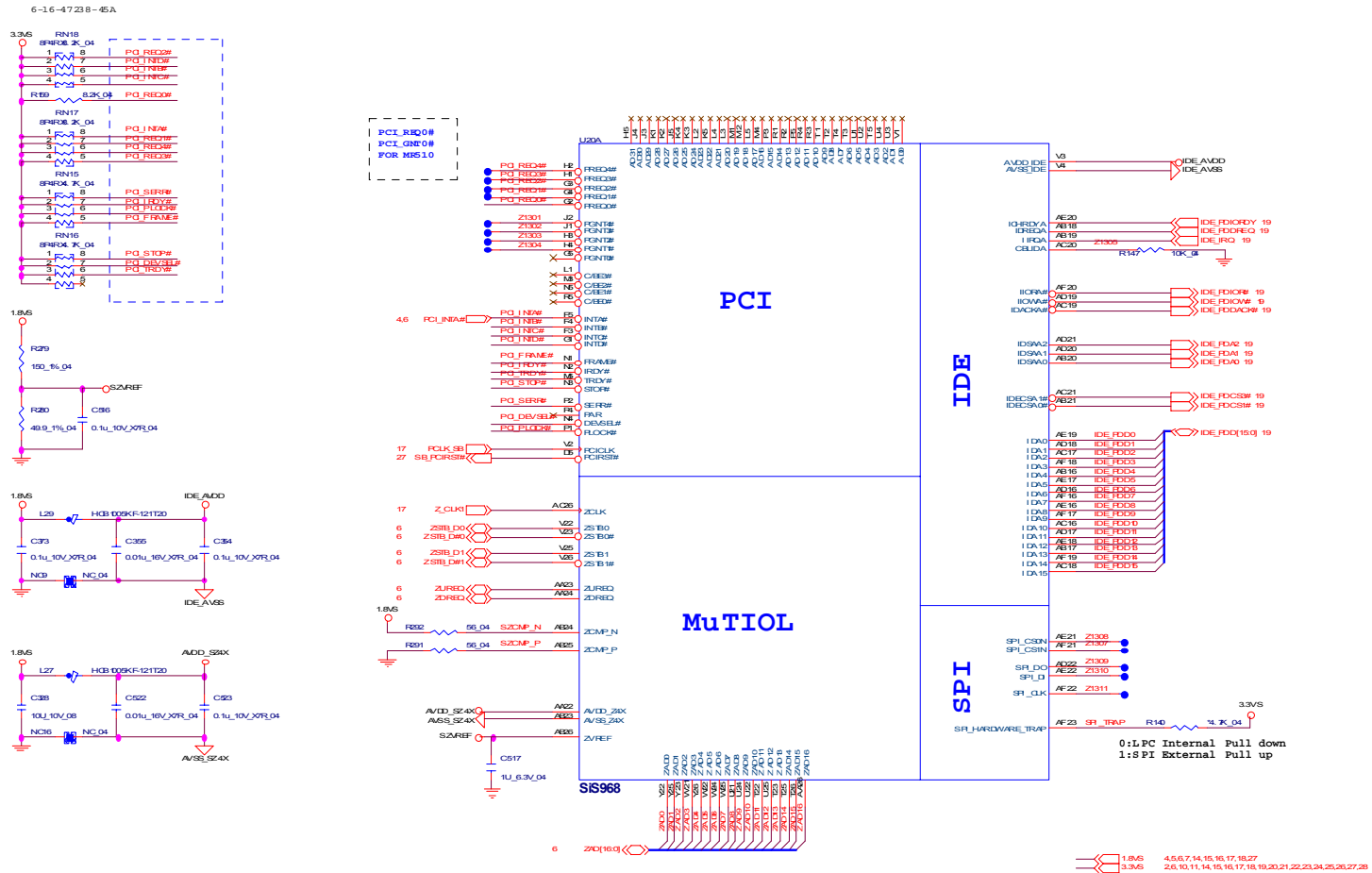


Sheet 12 of 37
LAN PHY Realtek
8201CL

B. Schematic Diagrams

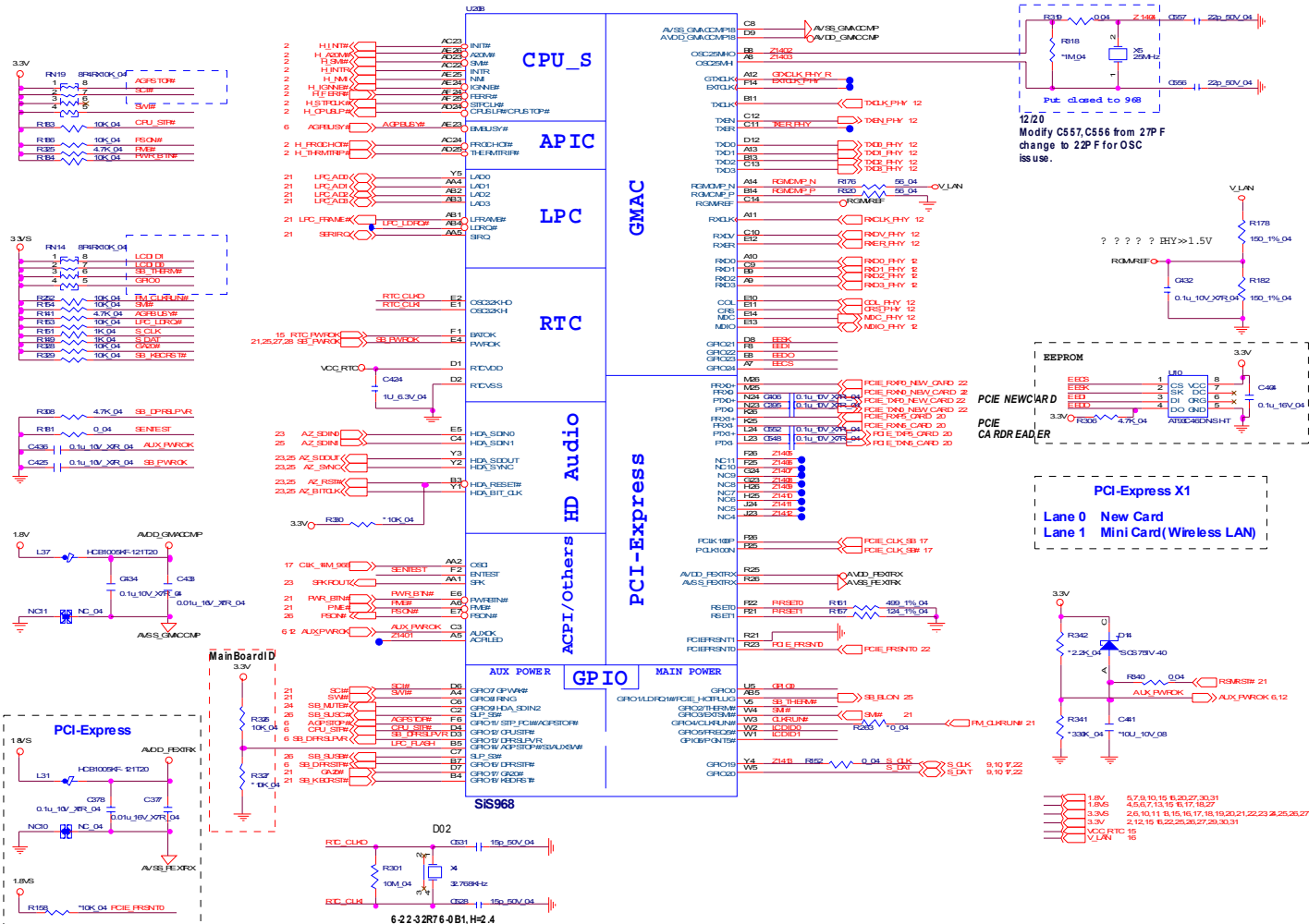
968 PCI IDE MuTIOL SPI 1/4

Sheet 13 of 37
968 PCI IDE
MuTIOL SPI 1/4



968 PCIE LAN GPIO 2/4

B.Schematic Diagrams



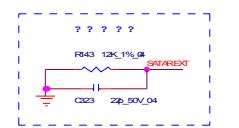
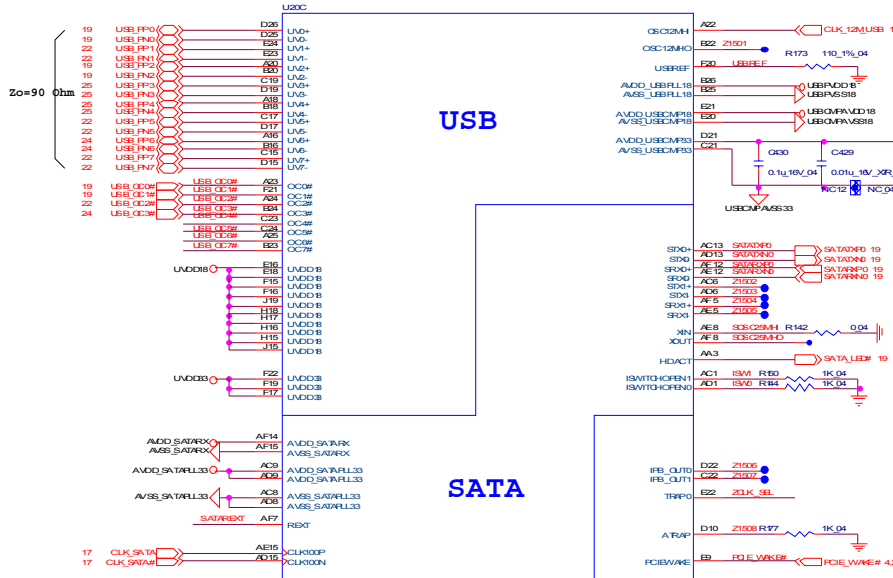
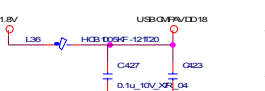
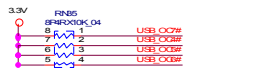
Sheet 14 of 37
 968 PCIE LAN GPIO
 2/4

968 USB SATA 3/4

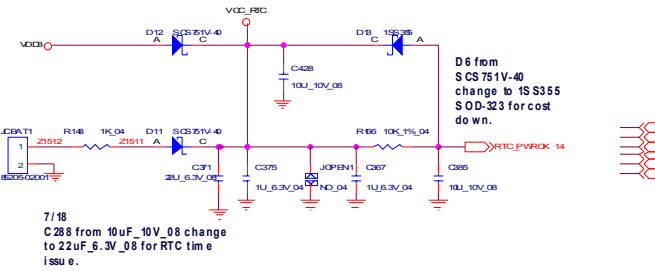
Sheet 15 of 37
968 USB SATA 3/4

- USB0: Port0 On Board
- USB1: Port1 On Board Mini PCIE
- USB2: Mini PCIE Port1 On Board
- USB3: Port2 Off Board CCD
- USB4: BLUETOOTH
- USB5: New Card
- USB6: CCD Port2 Off Board
- USB7: FINGER PRINTER

Zo=90 Ohm



SIS968



USB2.0 Eye Pattern Issue.

MuTIOL Clock Select (ZCLK)
133MHz : Internal Pull up
66MHz : External Pull up

ZCLKSEL, R191, 10K, 0.4

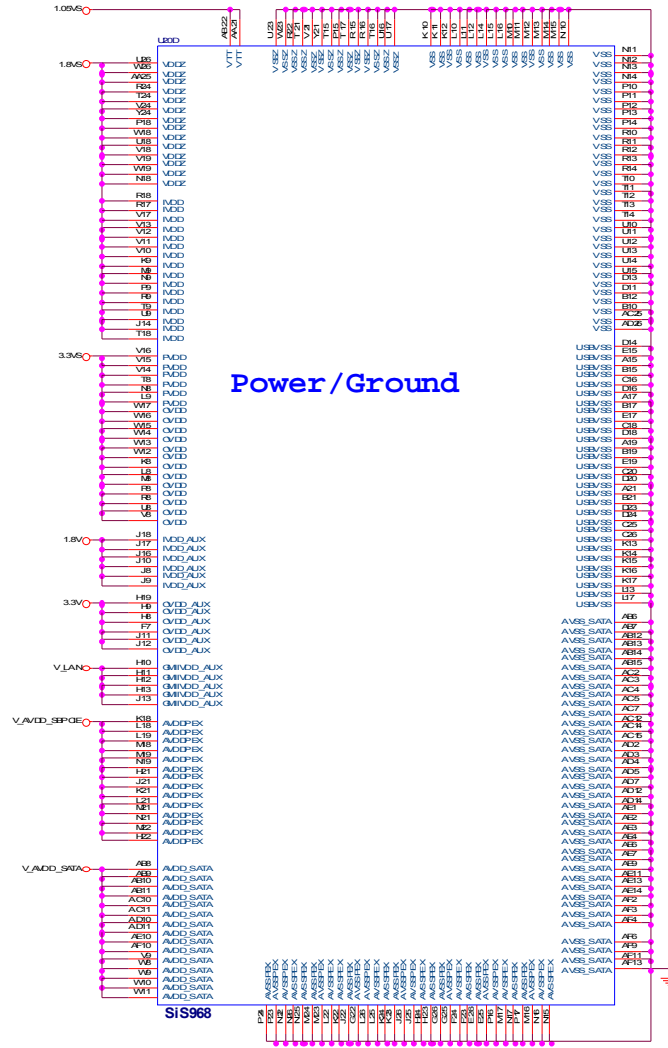
P0E_WK#F, R194, 10K, 0.4

- 1.8V 5,7,9,10,14,16,20,27,30,31
- 1.8V 4,5,6,7,13,14,16,17,18,27
- 3.3V 2,12,14,16,22,25,26,27,29,30,31
- 3.3V 2,5,10,11,13,14,15,17,18,19,20,22,23,24,25,26,27,29
- VDD3 2,11,21,22,23,27,29,31
- VDD_RTC 14

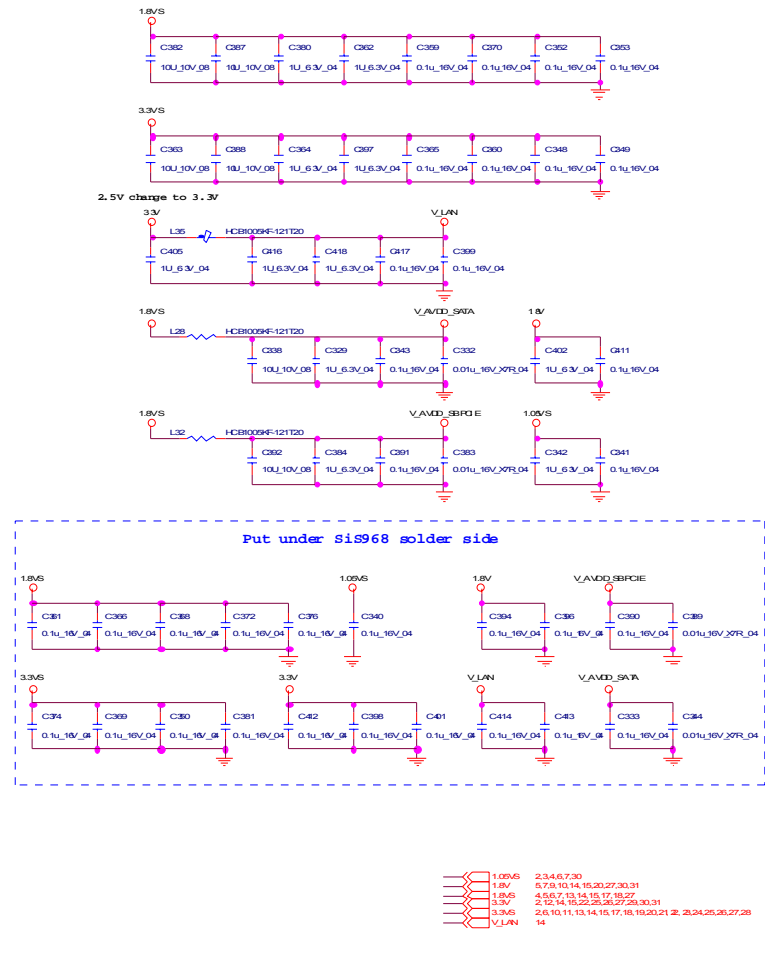
968 PWR GND 4/4

B.Schematic Diagrams

Sheet 16 of 37
968 PWR GND 4/4



Power / Ground

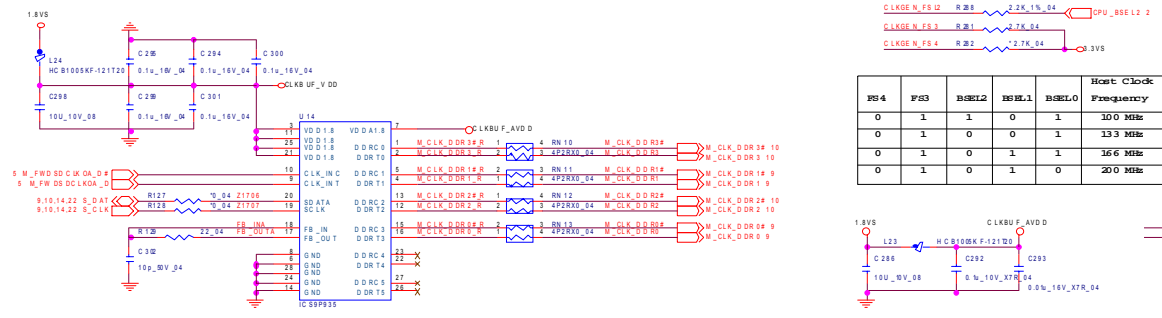
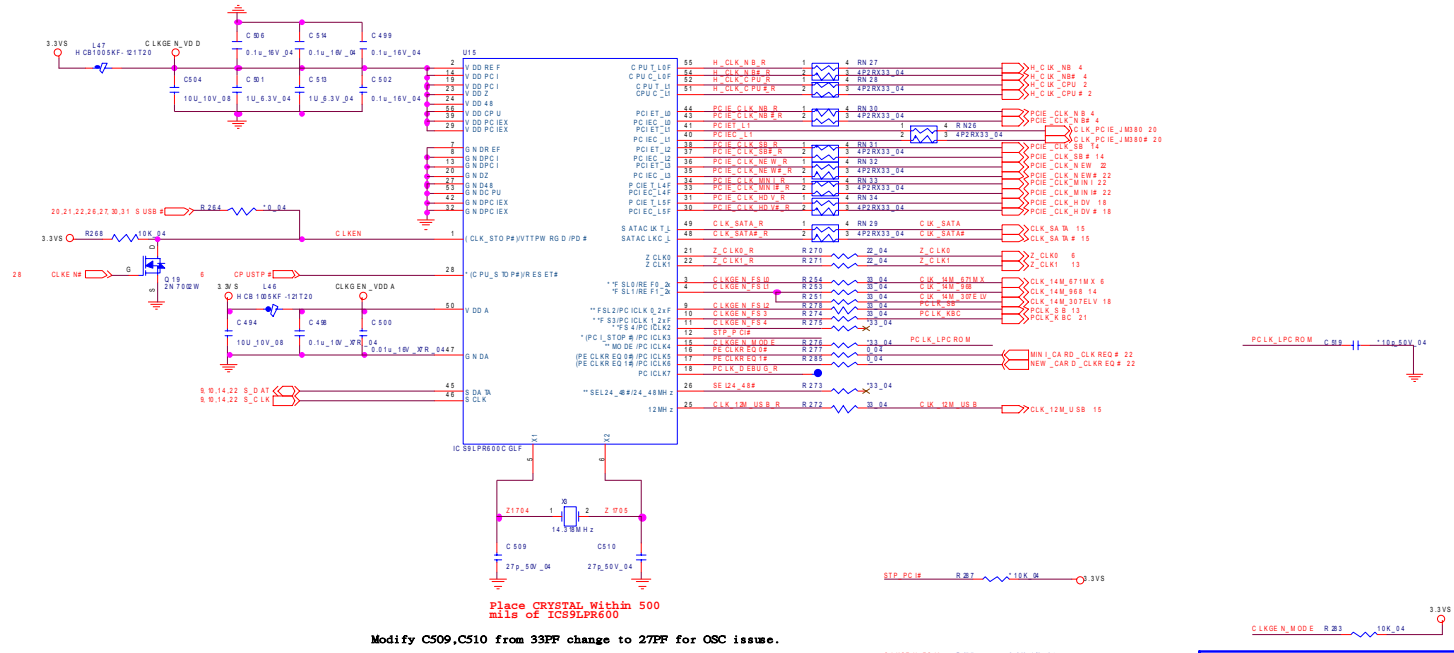


Put under SI968 solder side

1.00V5	2,3,4,6,7,30
1.8V	5,7,9,10,14,15,20,27,30,31
1.8V5	4,5,6,7,13,14,15,17,18,27
3.3V	2,12,14,15,22,25,26,27,29,30,31
3.3V5	2,5,10,11,13,14,15,17,18,19,20,21,22,28,29,25,26,27,29
V_LAN	14

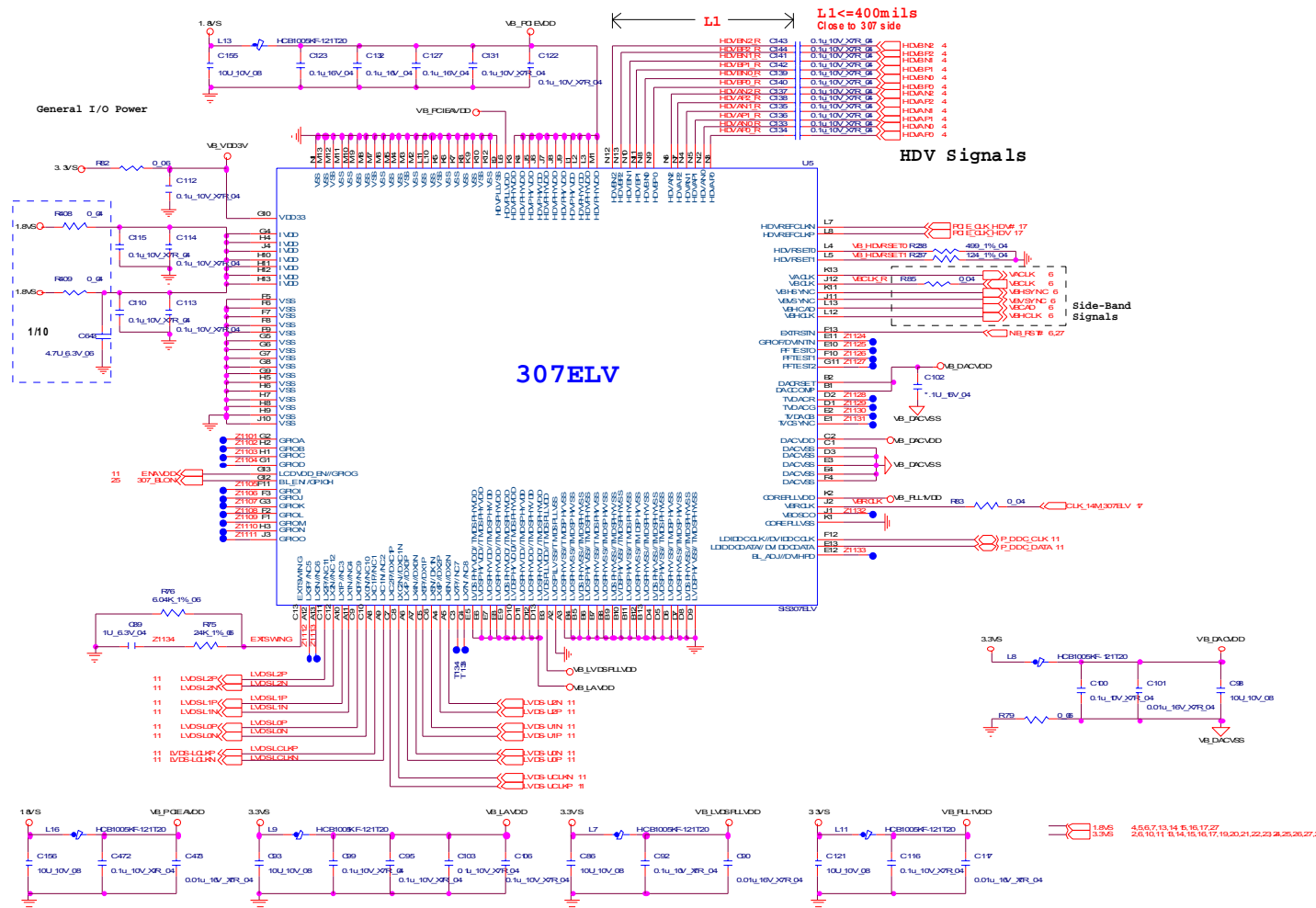
Clock Generator & Clock Buffer

Sheet 17 of 37
Clock Generator & Clock Buffer



Clock Generator Pin 15		
Status	(Lo)Non-STUFF	(Hi)PULL-UP
Mode	Desktop mode	Mobile mode
Pin 1	VTT0WRGD/PD#	CLK_STOP#
Pin 12	PCICIK3	PCI_STOP#
Pin 16	PCICIK5	PBCLKREQ0#
Pin 17	PCICIK6	PBCLKREQ1#
Pin 28	RESET#	CPU_STOP#

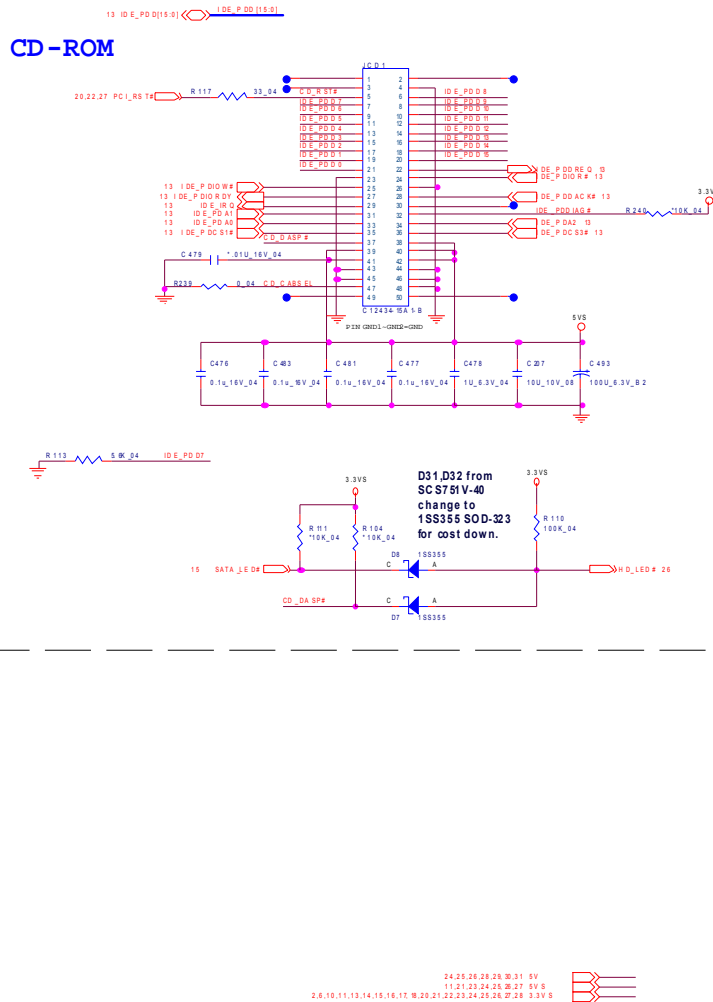
SiS307ELV



Sheet 18 of 37
SiS307ELV

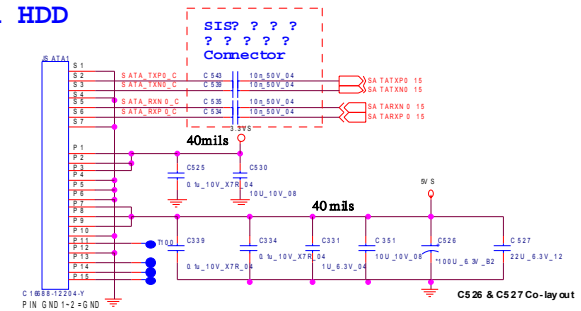
B.Schematic Diagrams

ODD, SATA, USB2.0 *2

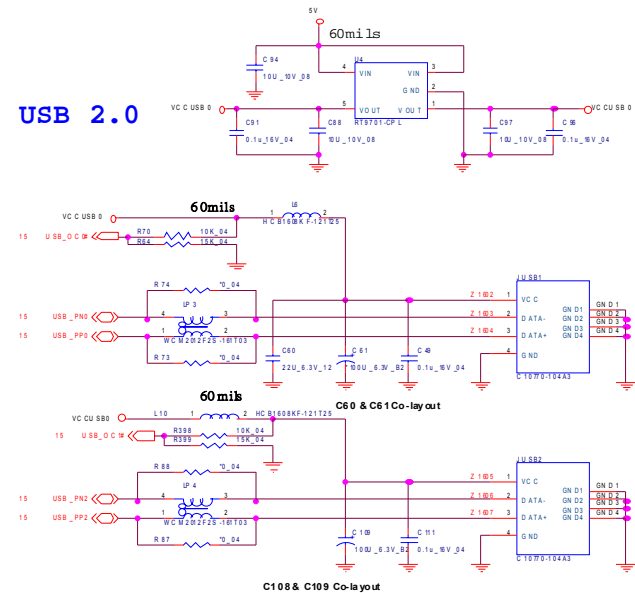


Sheet 19 of 37
ODD, SATA,
USB2.0 *2

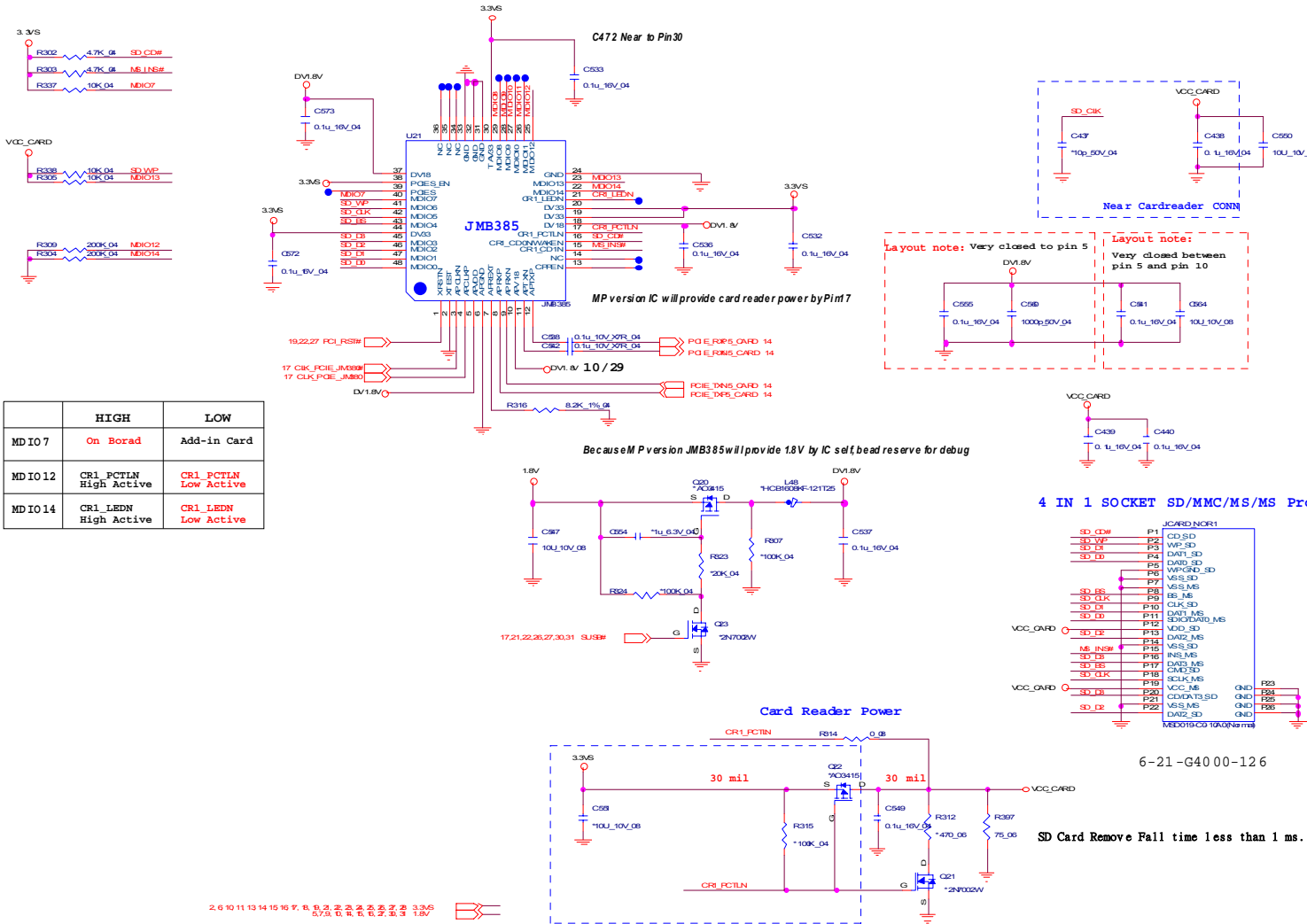
SATA HDD



USB 2.0



Card Reader JMB385



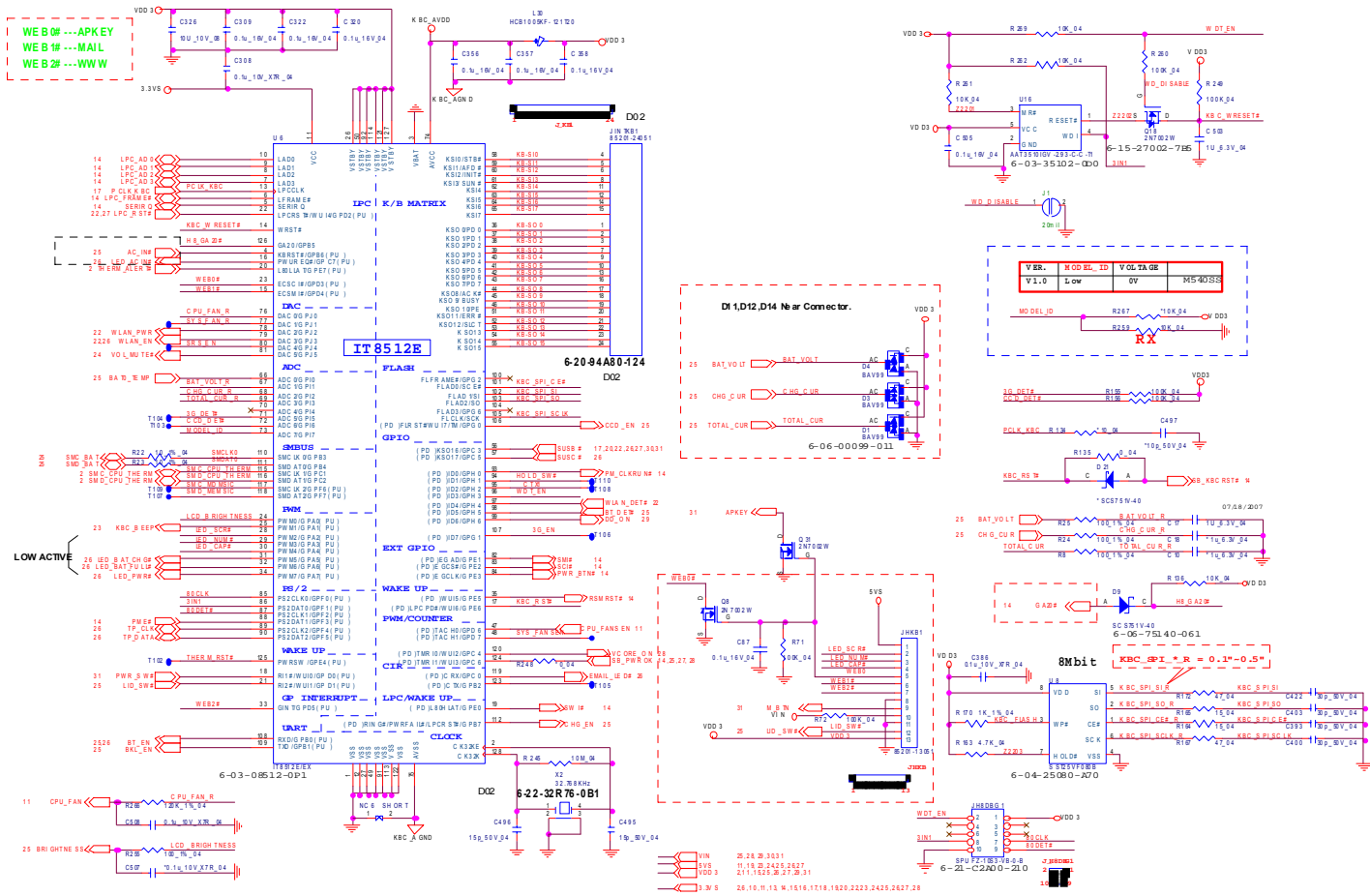
	HIGH	LOW
MDIO7	On Board	Add-in Card
MDIO12	CRI_PCTLN High Active	CRI_PCTLN Low Active
MDIO14	CRI_LEDN High Active	CRI_LEDN Low Active

Sheet 20 of 37
Card Reader
JMB385

B.Schematic Diagrams

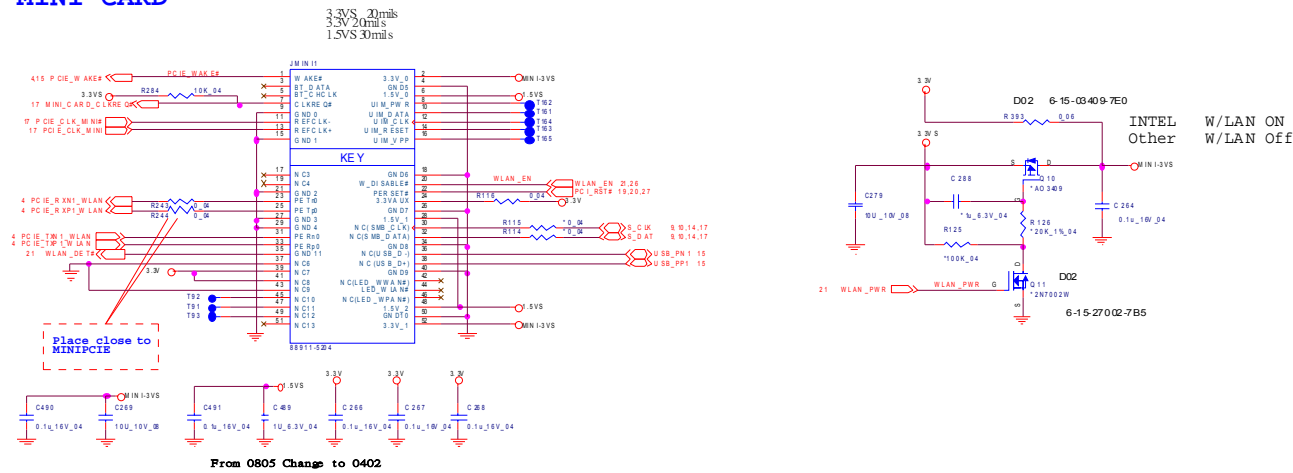
KBC-ITE IT8512E

Sheet 21 of 37
KBC-ITE IT8512E

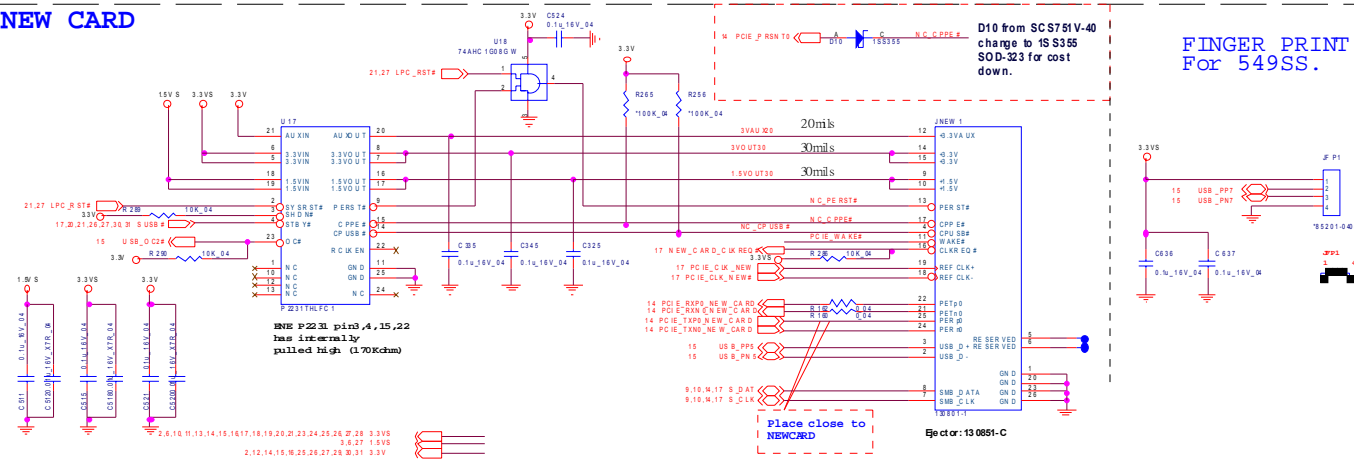


Mini Card, New Card, TPM, FGPT

MINI CARD



NEW CARD

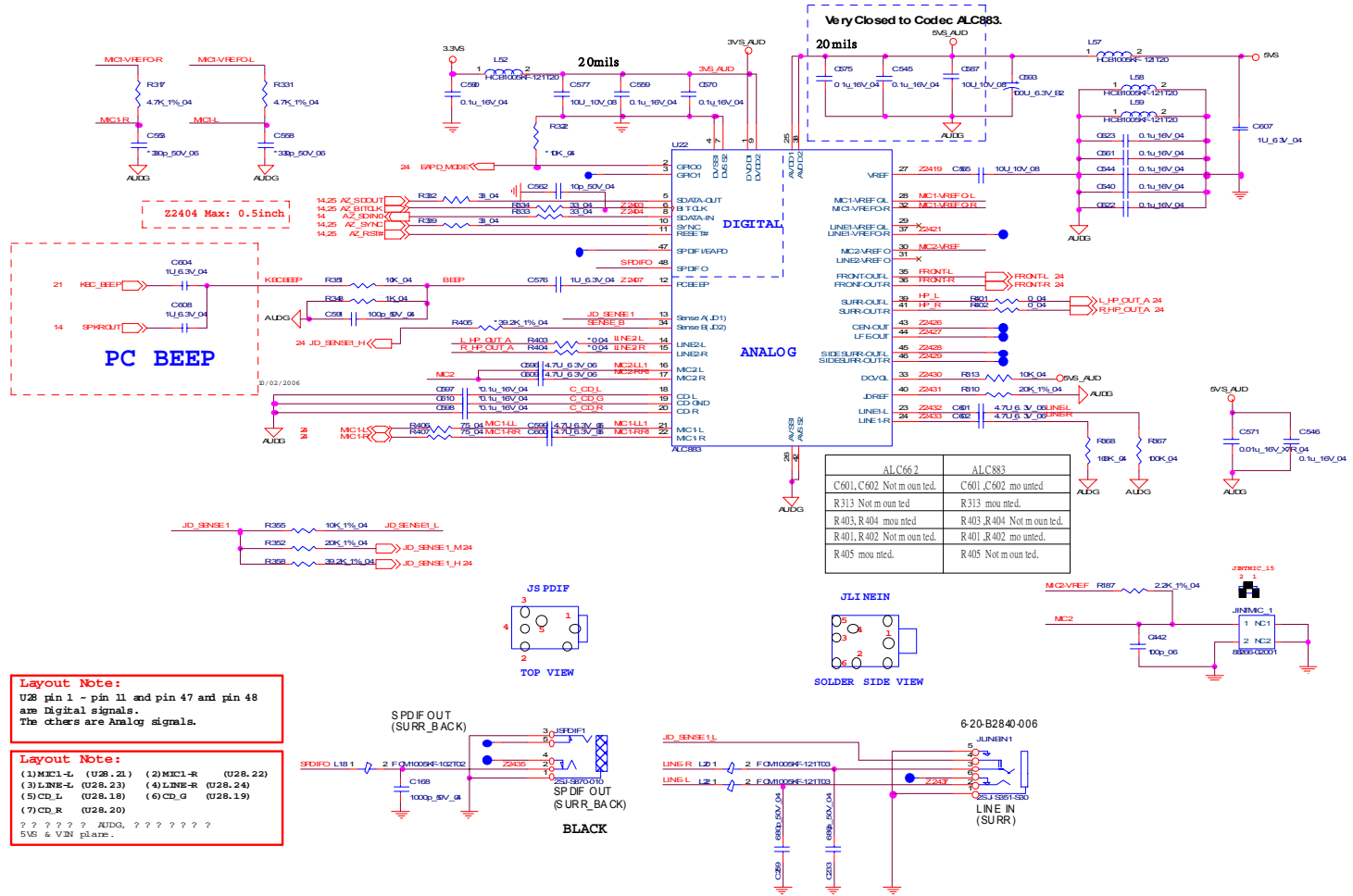


B. Schematic Diagrams

Sheet 22 of 37
Mini Card, New Card,
TPM, FGPT

AZALIA Codec ALC883

Sheet 23 of 37
AZALIA Codec
ALC883

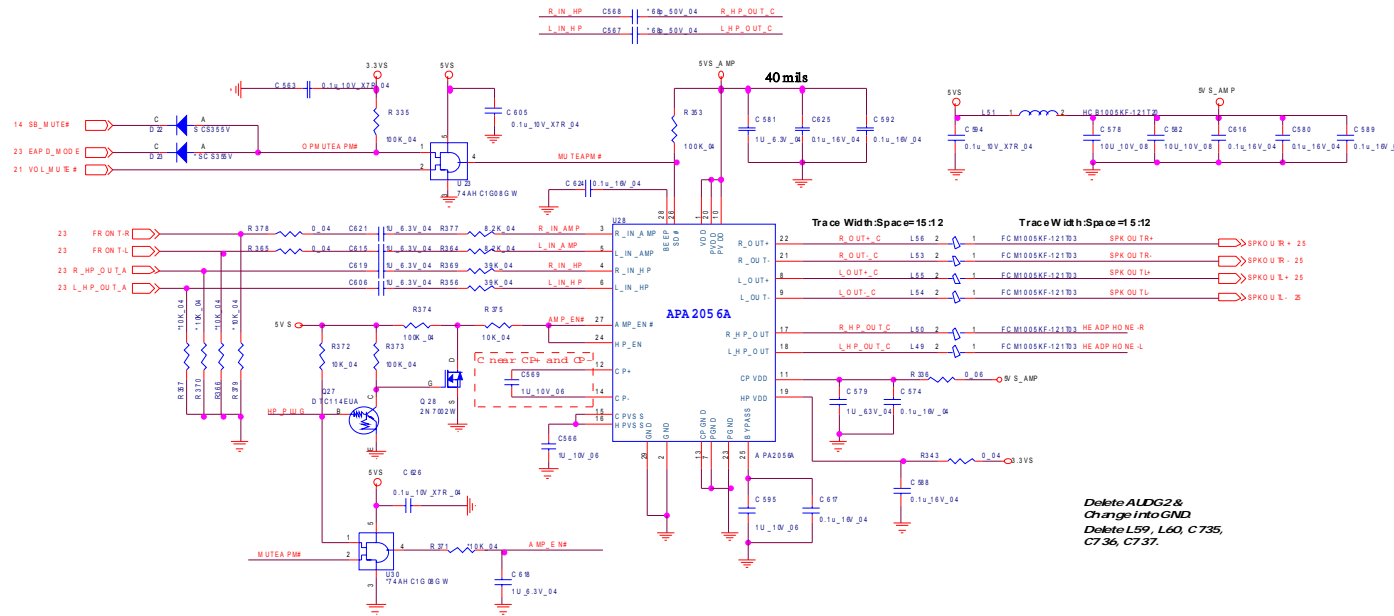


Layout Note:
U28 pin 1 - pin 11 and pin 47 and pin 48 are Digital signals.
The others are Analog signals.

Layout Note:
(1) MIC1-L (U28.21) (2) MIC1-R (U28.22)
(3) LINE-L (U28.23) (4) LINE-R (U28.24)
(5) CD_L (U28.18) (6) CD_G (U28.19)
(7) CD_R (U28.20)
? ? ? ? ? AUDG, ? ? ? ? ?
5V5 6 VIN plate.

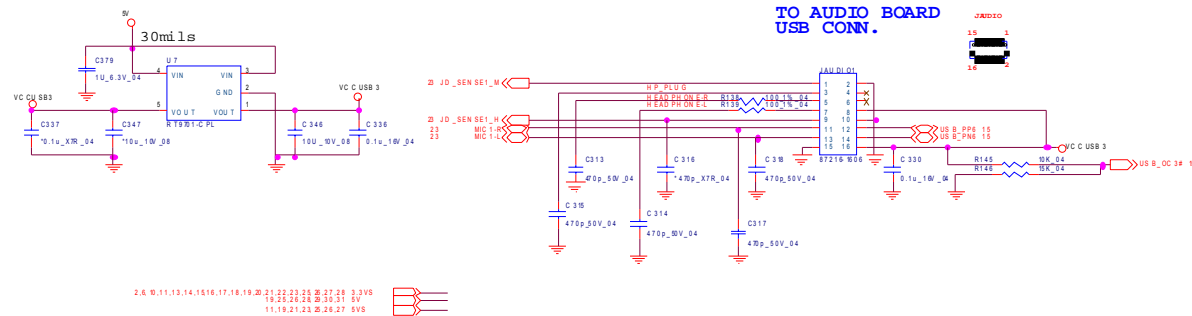


Audio AMP2056A



Sheet 24 of 37
Audio AMP2056A

Delete ALDG2 &
Change into GND
Delete L59, L60, C735,
C736, C737.



TO AUDIO BOARD
USB CONN.

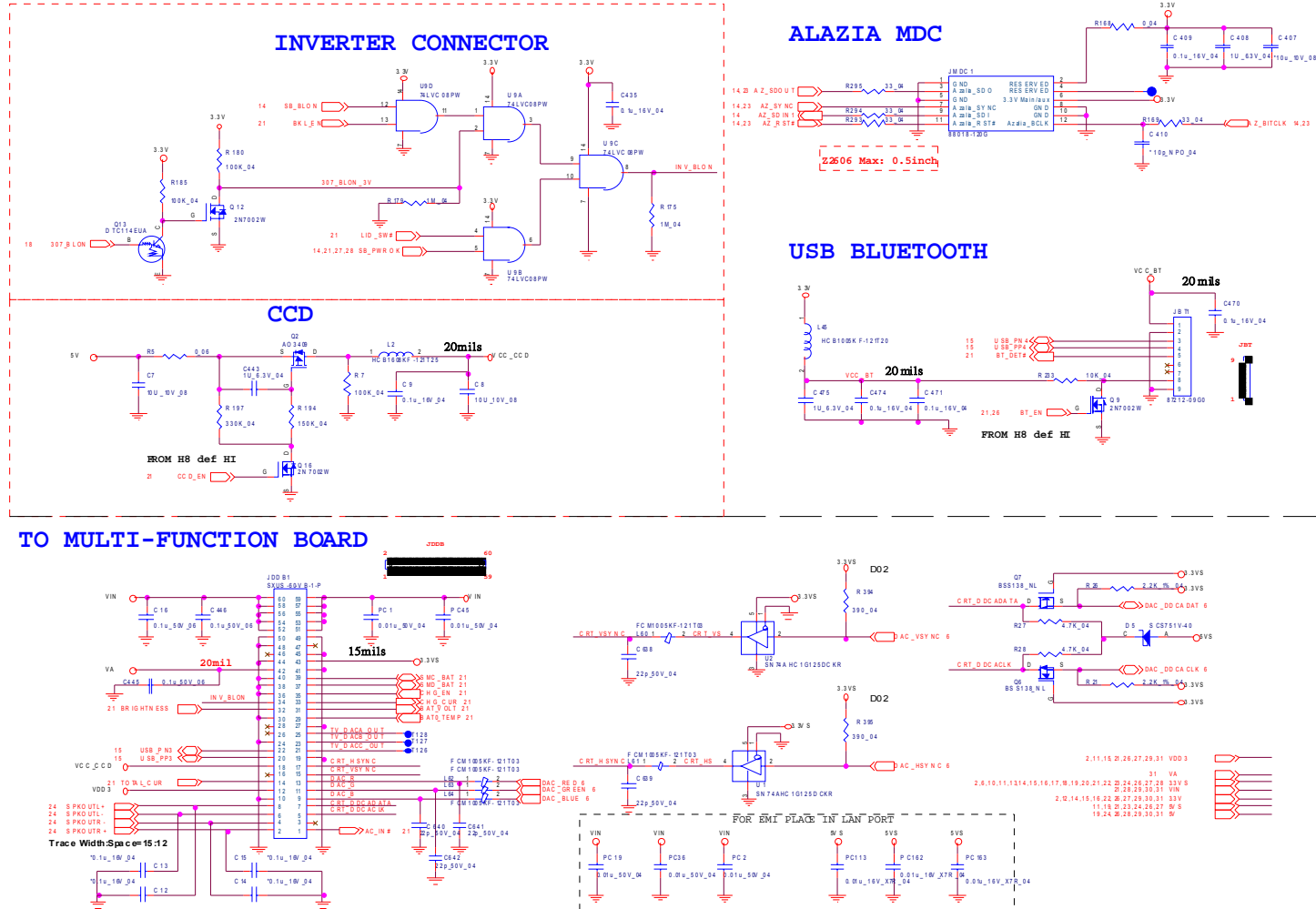
2,6, 11, 13, 14, 15, 16, 17, 18, 19, 20, 21, 22, 23, 24, 25, 27, 28, 3, 3V3,
18, 25, 26, 28, 30, 31, 5V
11, 19, 21, 23, 25, 26, 27, 5V8

Schematic Diagrams

MDC, BT, PWRGD, DDB CON

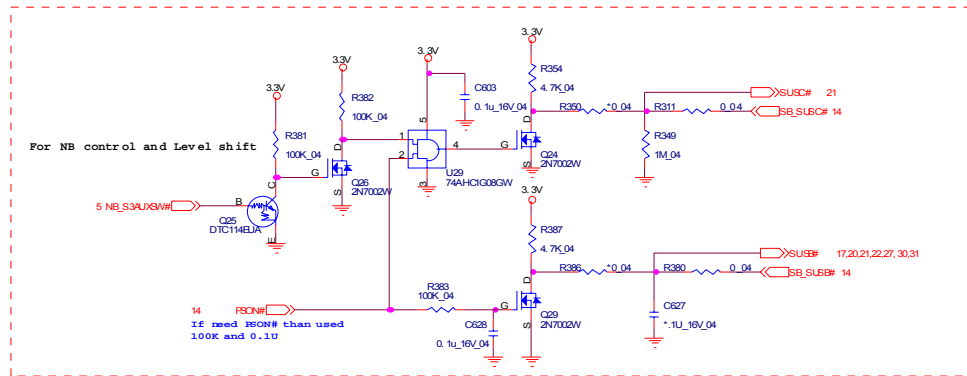
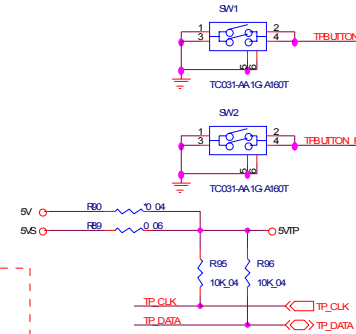
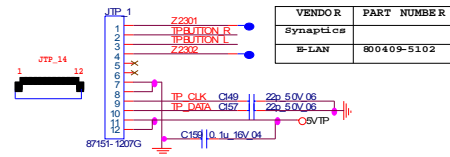
B.Schematic Diagrams

Sheet 25 of 37
MDC, BT, PWRGD,
DDB CON

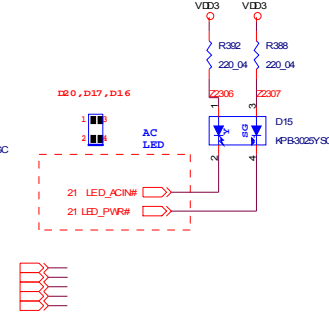
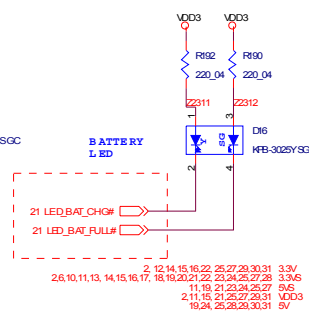
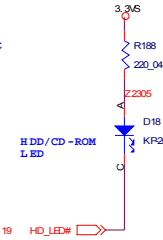
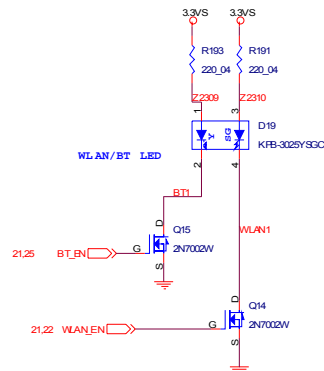
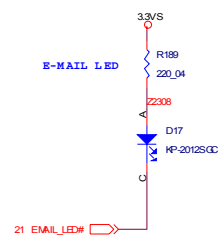


TouchPad, LED

TOUCH PAD



LED

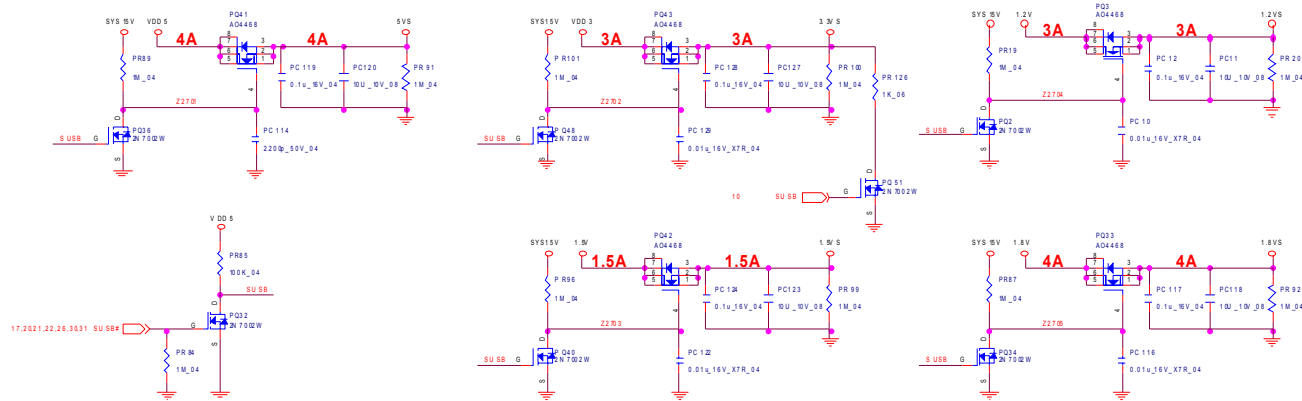


2, 12, 14, 15, 16, 22, 25, 27, 29, 30, 31 3.3V
 2, 6, 10, 11, 13, 14, 15, 16, 17, 18, 19, 20, 21, 22, 23, 24, 25, 27, 28 3.3V
 11, 13, 21, 23, 24, 25, 27 5V
 2, 11, 15, 21, 25, 27, 29, 31 VDD3
 19, 24, 25, 26, 30, 31 5V

Sheet 26 of 37
TouchPad, LED

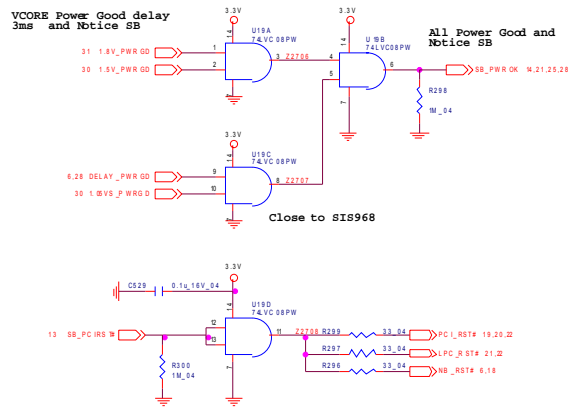
System Power

1.2VS, 1.5VS, 1.8VS, 3.3VS, 5VS



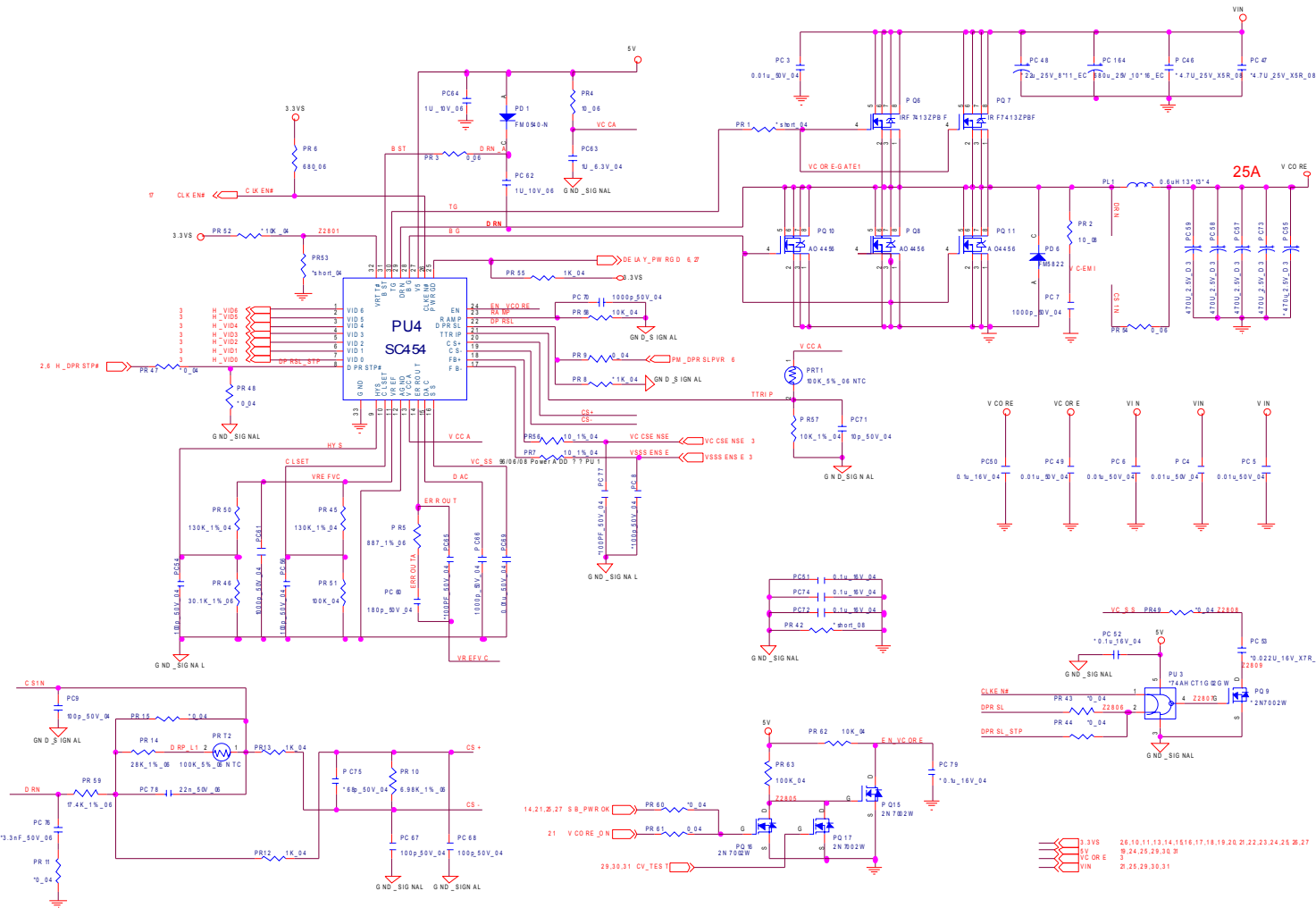
Sheet 27 of 37
System Power

POWER GOOD & RESET



1.2V	2,30
1.5V	6,7
1.8V	30
3.3V	3,6,22
5V	5,7,8,10,14,16,16,20,30,31
5VSB	4,8,9,11,13,14,15,16,17,38
3.3V	2,12,14,18,19,22,26,28,29,30,31
3.3VSB	2,8,10,11,13,14,15,16,17,18,19,20,21,22,23,24,28,28,28
5V	11,19,21,23,24,25,26
5V_SB	11,29
VB_D3	2,11,15,21,25,26,29,31
VB_D5	29

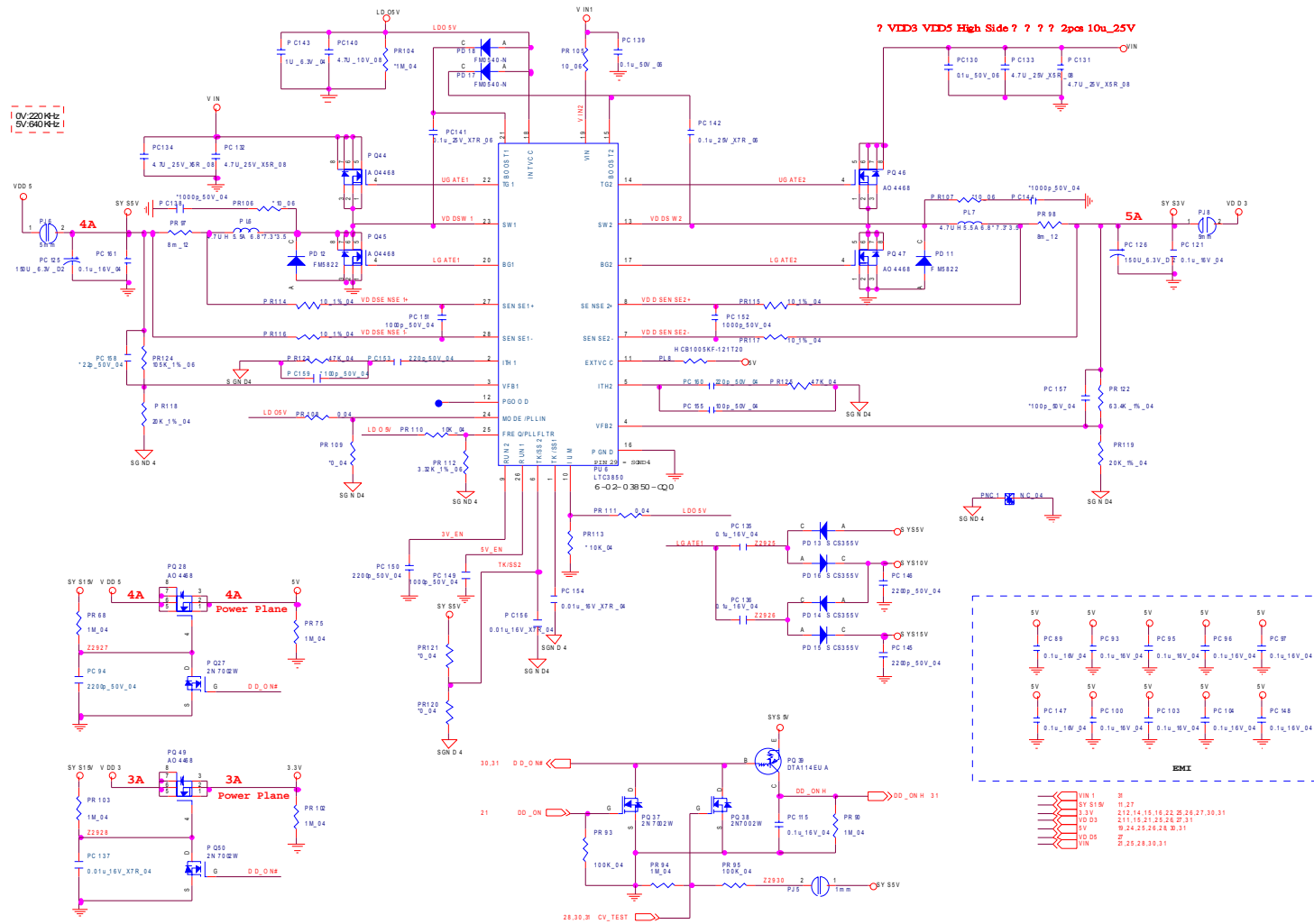
VCORE



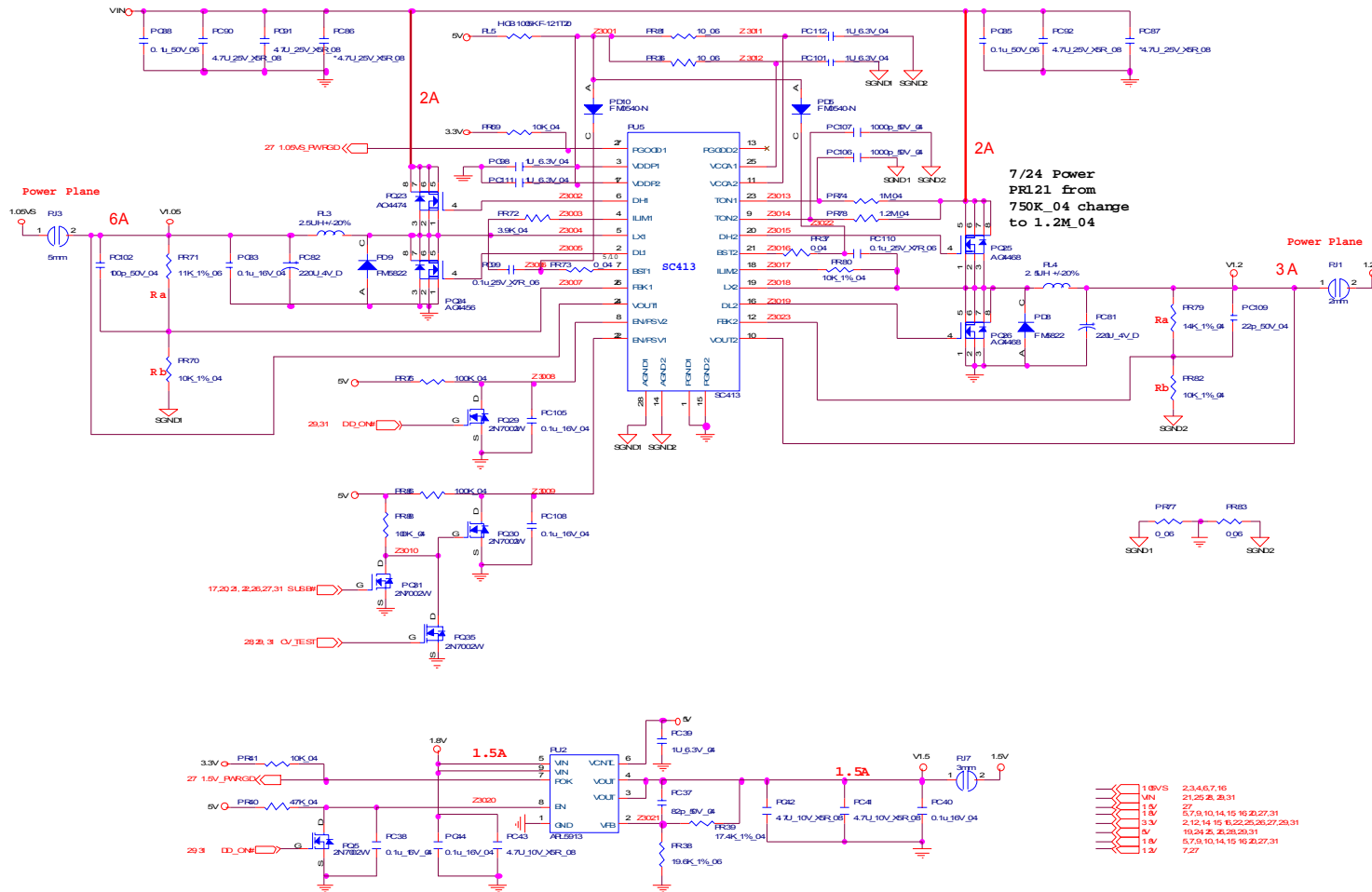
Sheet 28 of 37
VCORE

VDD3, VDD5

Sheet 29 of 37
VDD3, VDD5



1.05VS, 1.2V, 1.5V

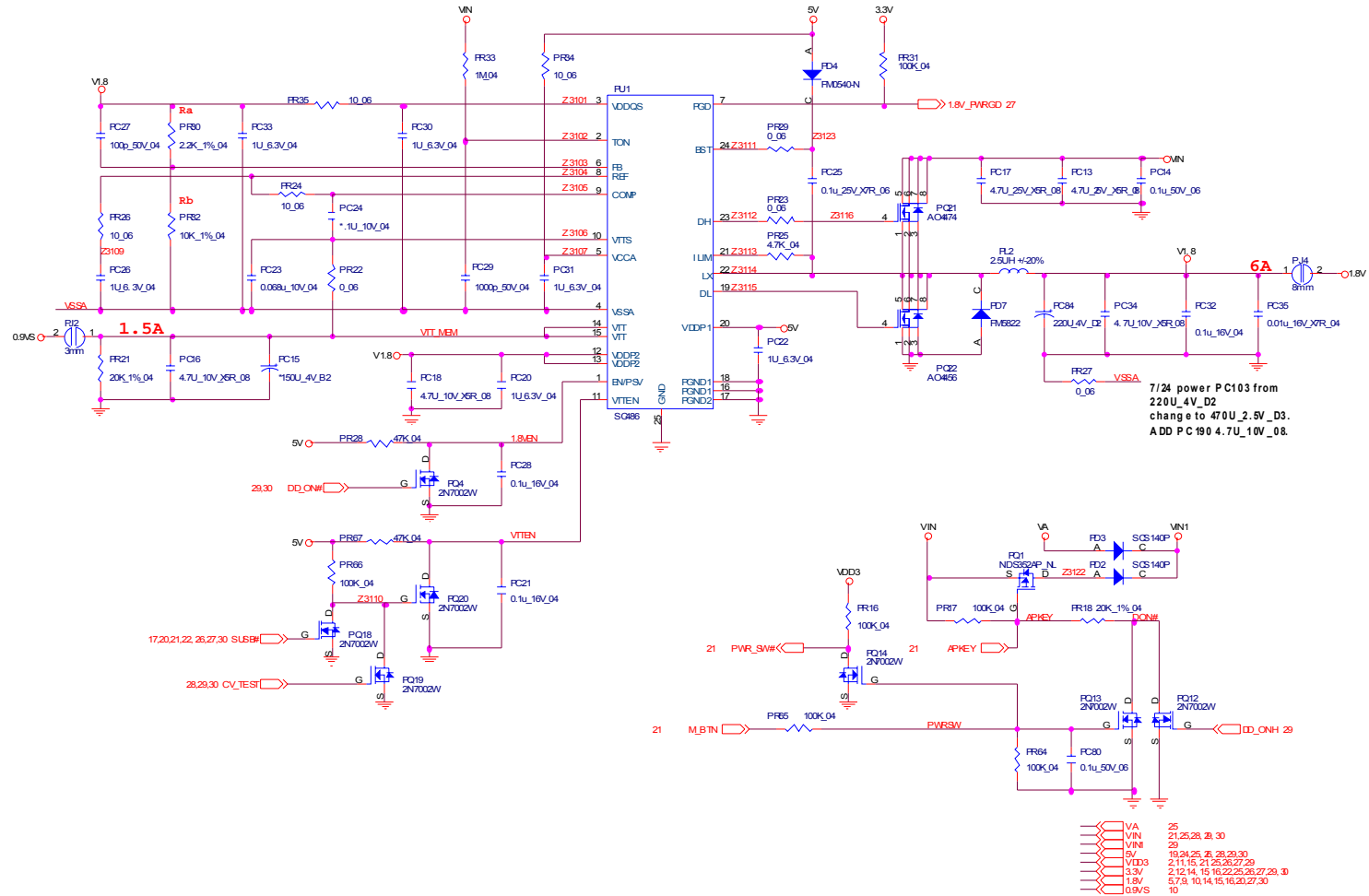


Sheet 30 of 37
1.05VS, 1.2V, 1.5V

Schematic Diagrams

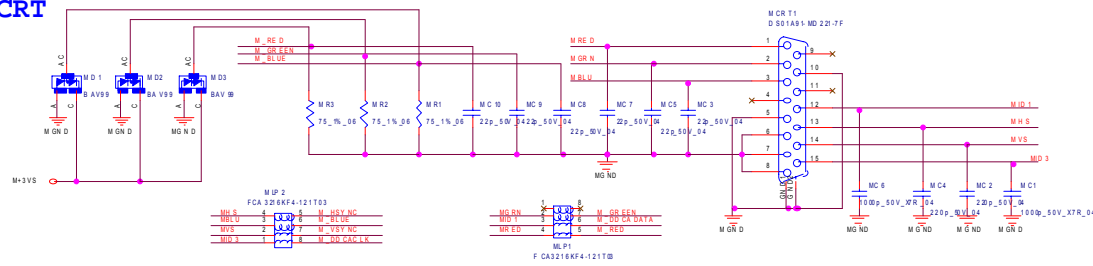
1.8V, 0.9VS

Sheet 31 of 37
1.8V, 0.9VS

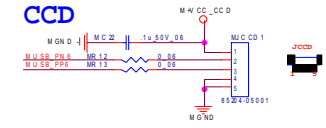


D/D BD (CRT, S-Video, RJ-11)

CRT

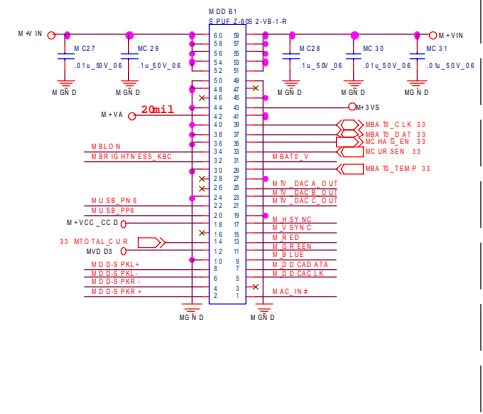
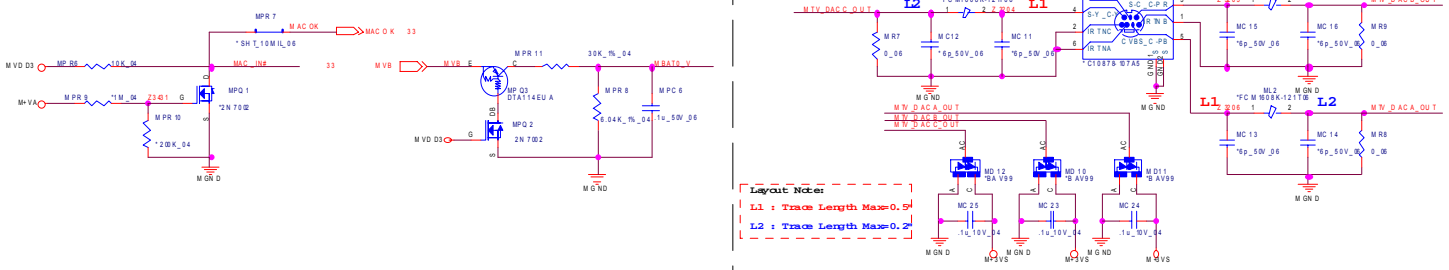


CCD

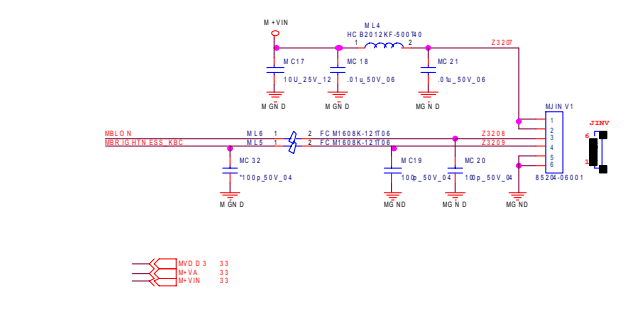


Sheet 32 of 37
D/D BD (CRT, S-Video, RJ-11)

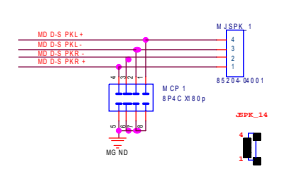
S-VIDEO



INVERTER CONNECTOR



SPEAKER CONNECTOR



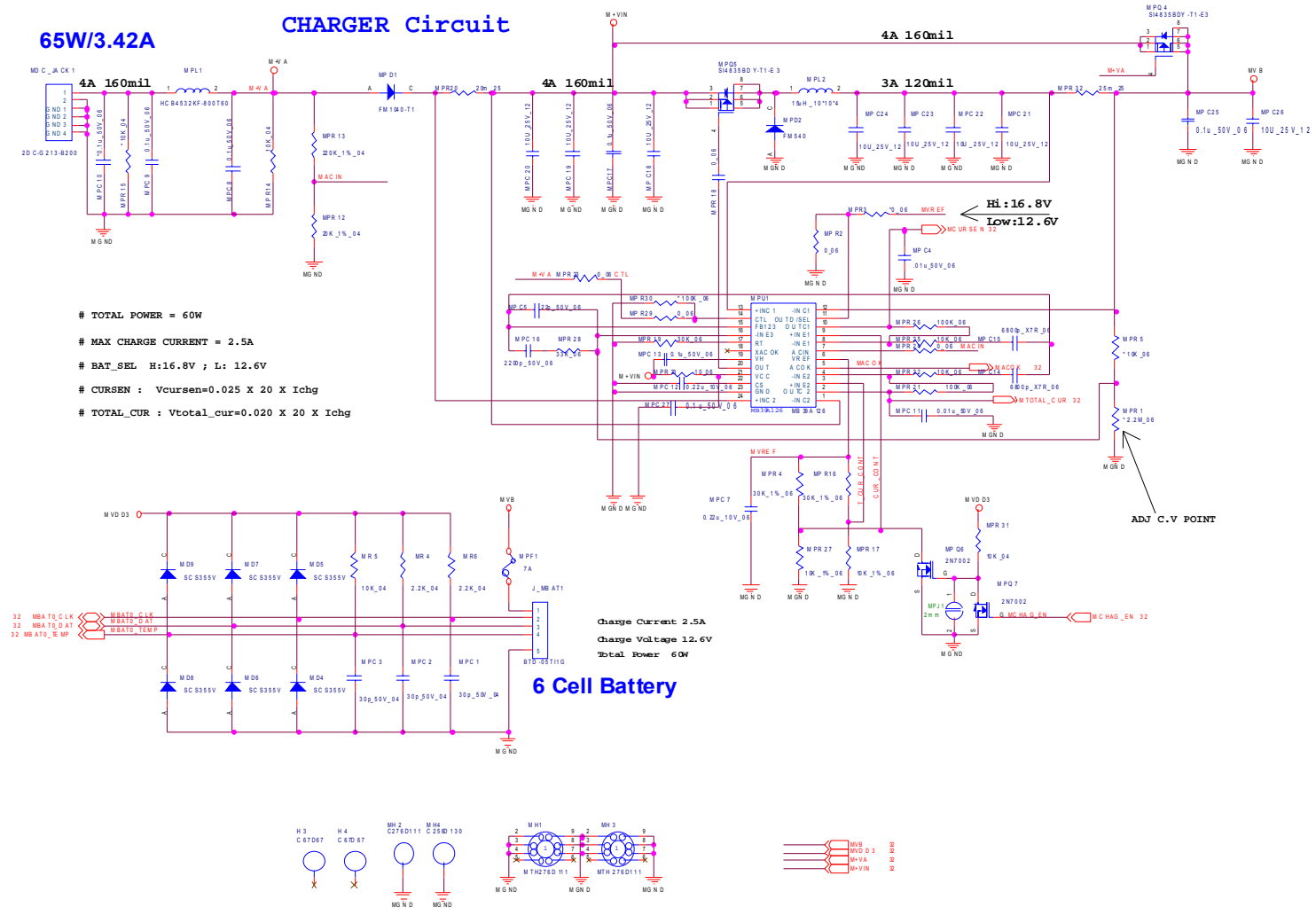
B.Schematic Diagrams

Schematic Diagrams

D/D BD (Charger, DC-In)

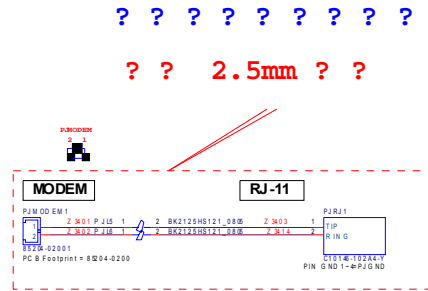
B.Schematic Diagrams

Sheet 33 of 37
D/D BD (Charger, DC-In)

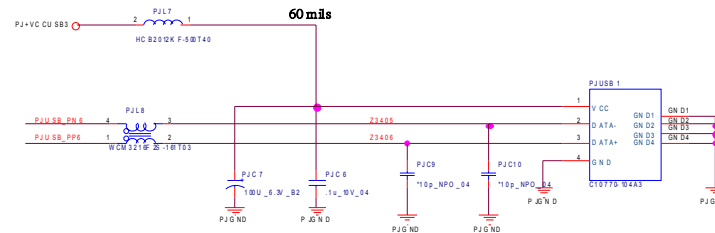


Audio BD (Phone Jack, RJ-11, USB)

RJ-11 PLANE

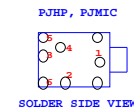
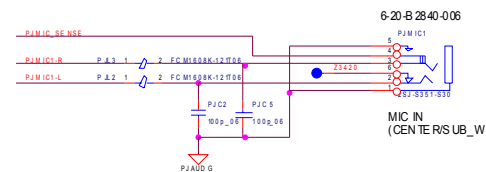
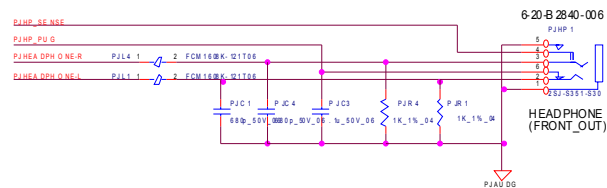
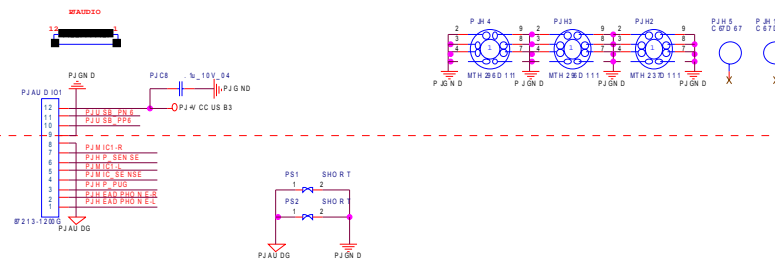


DIGITAL PLANE



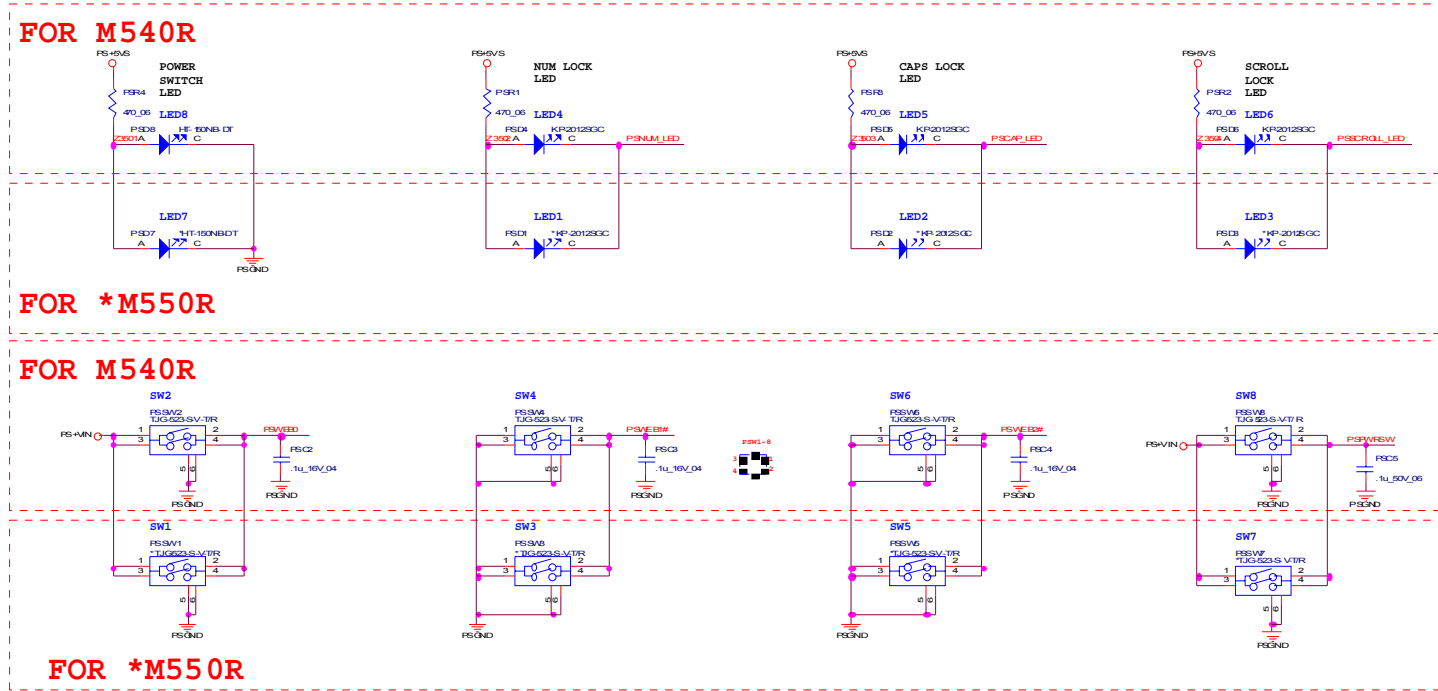
Sheet 34 of 37
Audio BD (Phone
Jack, RJ-11, USB)

ANALOG PLANE

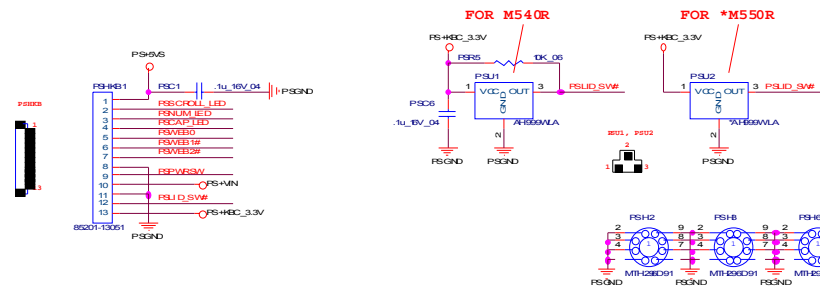


Hot key BD (Hot key, LED)

Sheet 35 of 37
Hot key BD
(Hot key, LED)



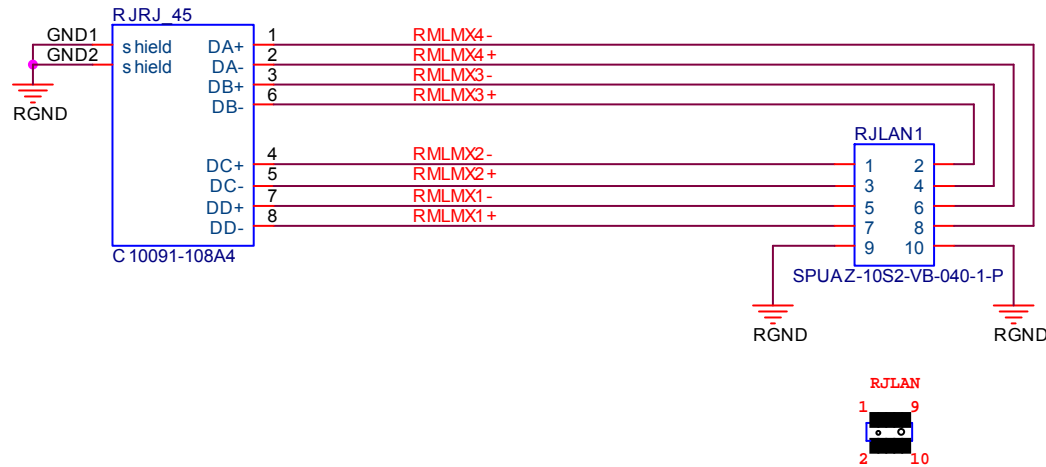
LID SWITCH IC



	LED1	LED 2	LED3	LED4	LED5	LED6	LED7	LED8	MR SENSOR
M540R	X	X	X	V	V	V	X	V	PSU1
*M550R	V	V	V	X	X	X	V	X	PSU2

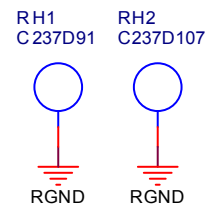
	SW1	SW2	SW3	SW4	SW 5	SW6	SW7	SW 8
M540R	X	V	V	V	X	V	X	V
*M550R	V	X	X	X	V	X	V	X

RJ-45 Board



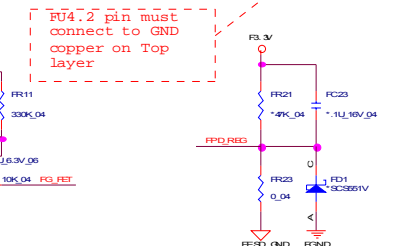
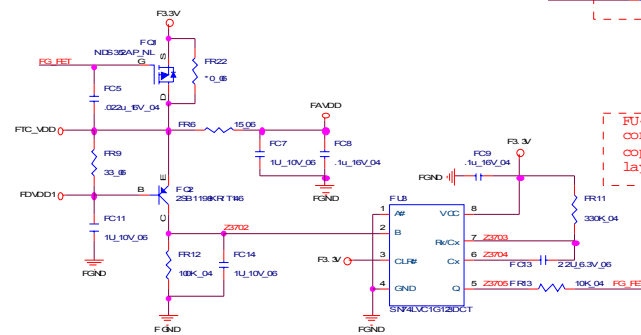
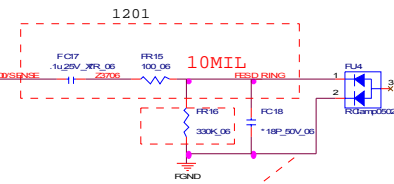
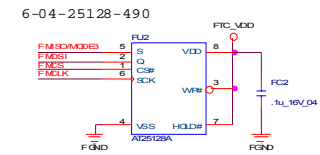
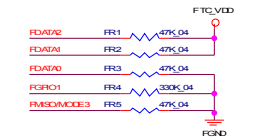
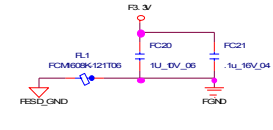
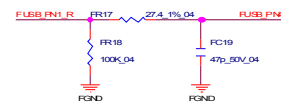
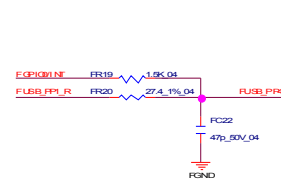
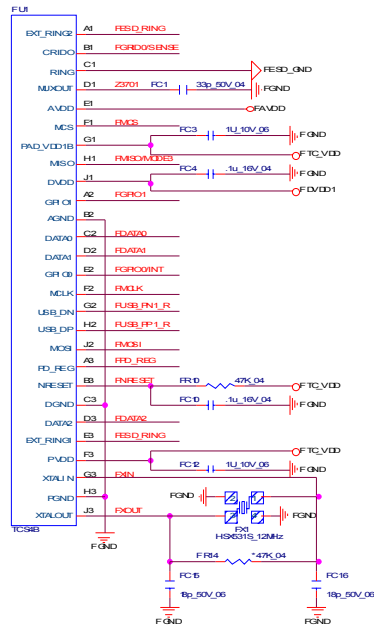
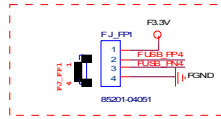
Sheet 36 of 37
RJ-45 Board

B.Schematic Diagrams



Schematic Diagrams

FingerPrint Board



M548SS/M549SS Only.