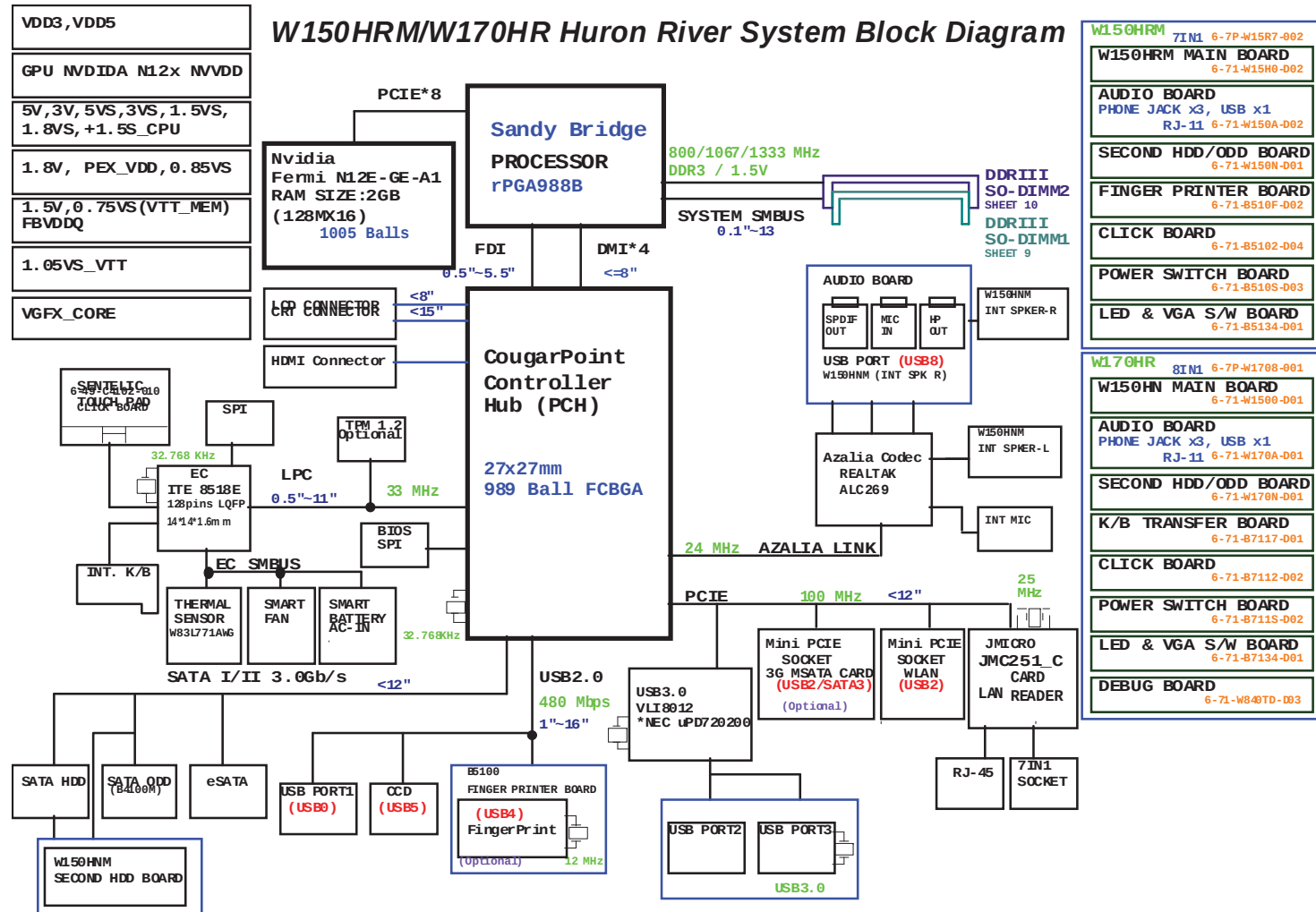
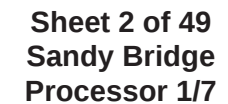


System Block Diagram

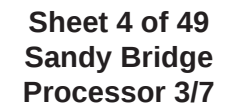
Sheet 1 of 49
System Block
Diagram



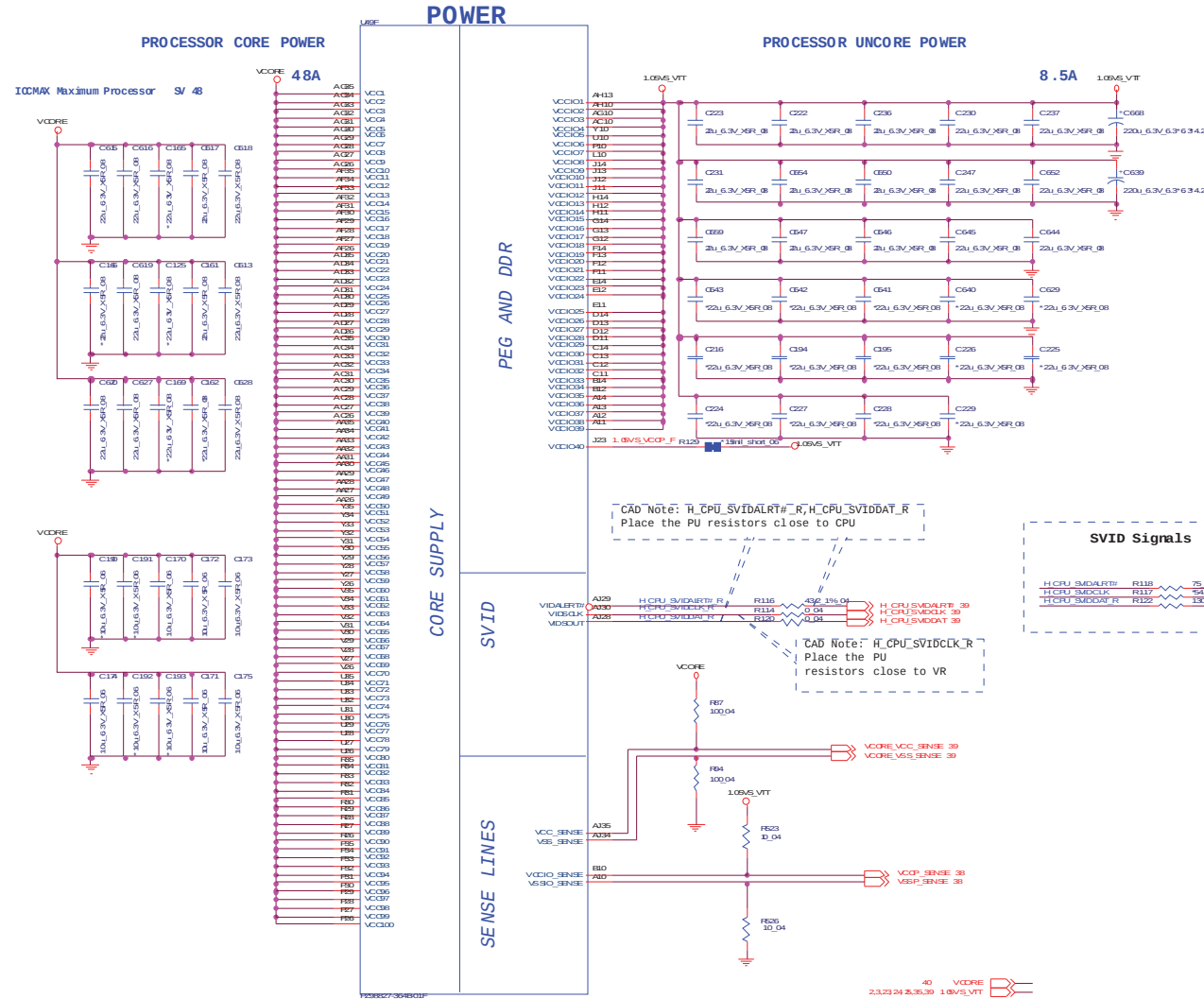
Sandy Bridge Processor 1/7 (DMI,PEG,FDI)



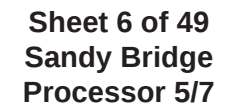
Sandy Bridge Processor 3/7 (DDR3)



Sandy Bridge Processor 4/7 (POWER)



Sandy Bridge Processor 5/7 (GRAPHICS POWER)



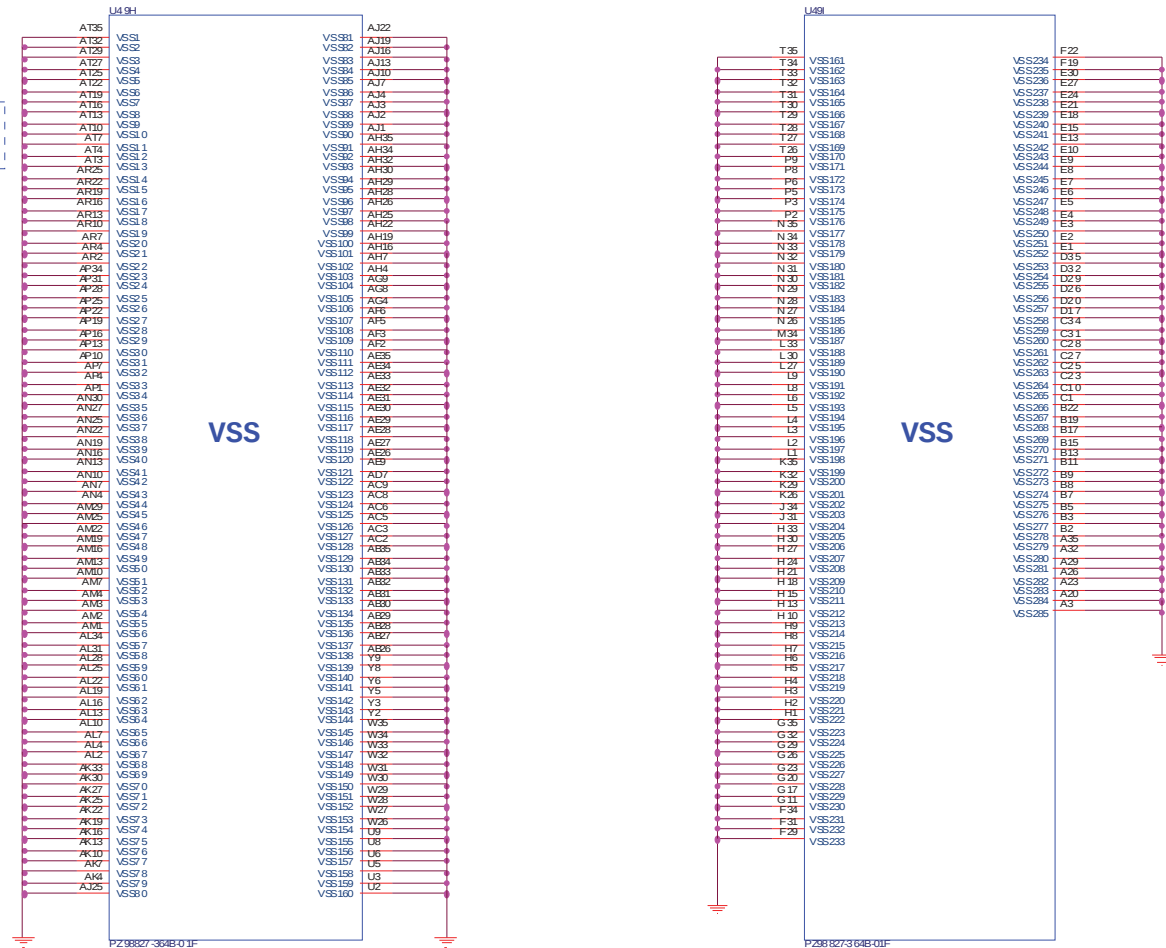
Sandy Bridge Processor 6/7

Sandy Bridge Processor 6/7 (GND)

CAD Note: 0 ohm resistor
should be placed close
to CPU

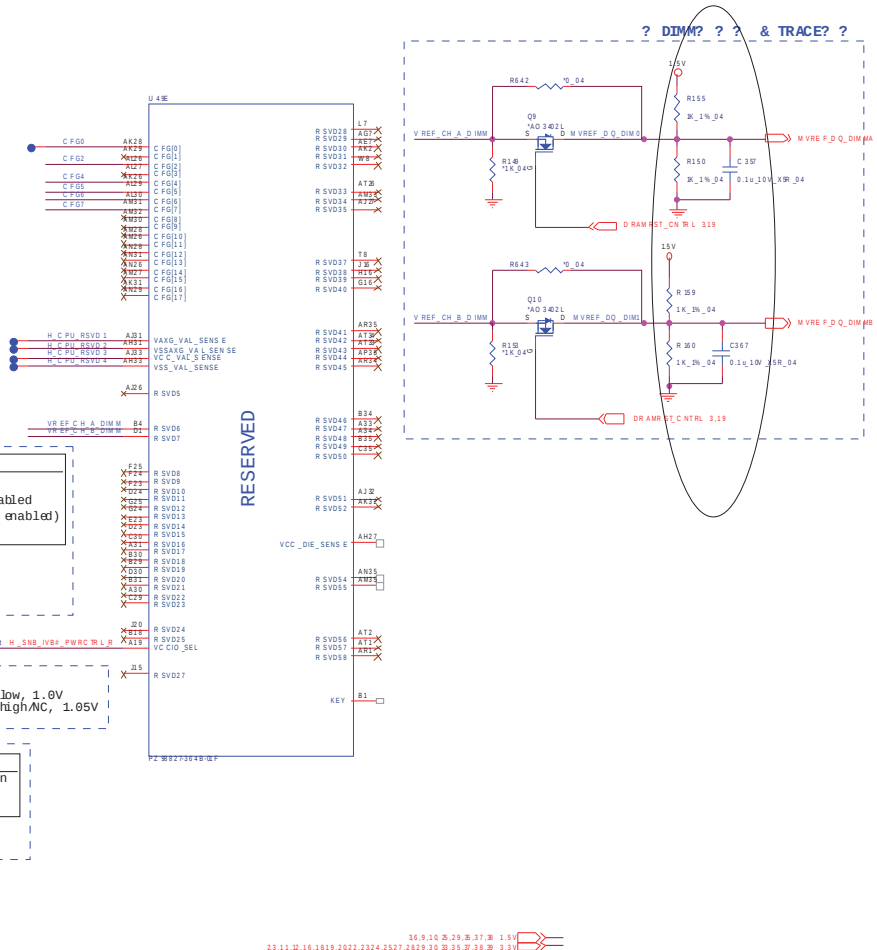
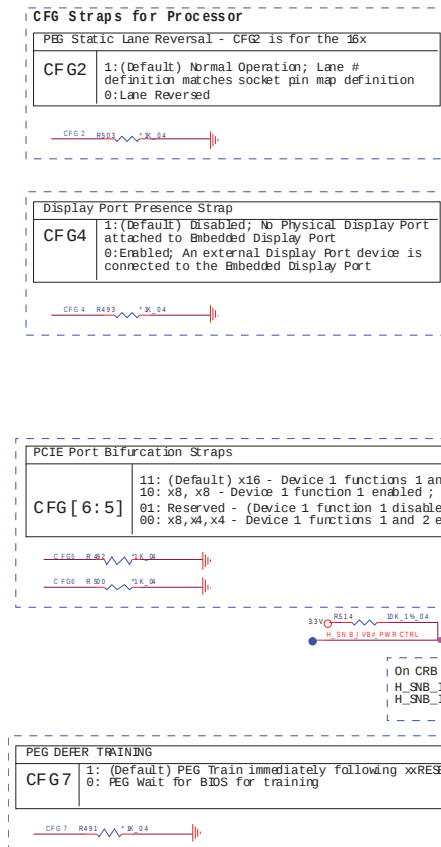
Sheet 7 of 49
Sandy Bridge
Processor 6/7

B.Schematic Diagrams



Sandy Bridge Processor 7/7

Sandy Bridge Processor 7/7 (RESERVED)

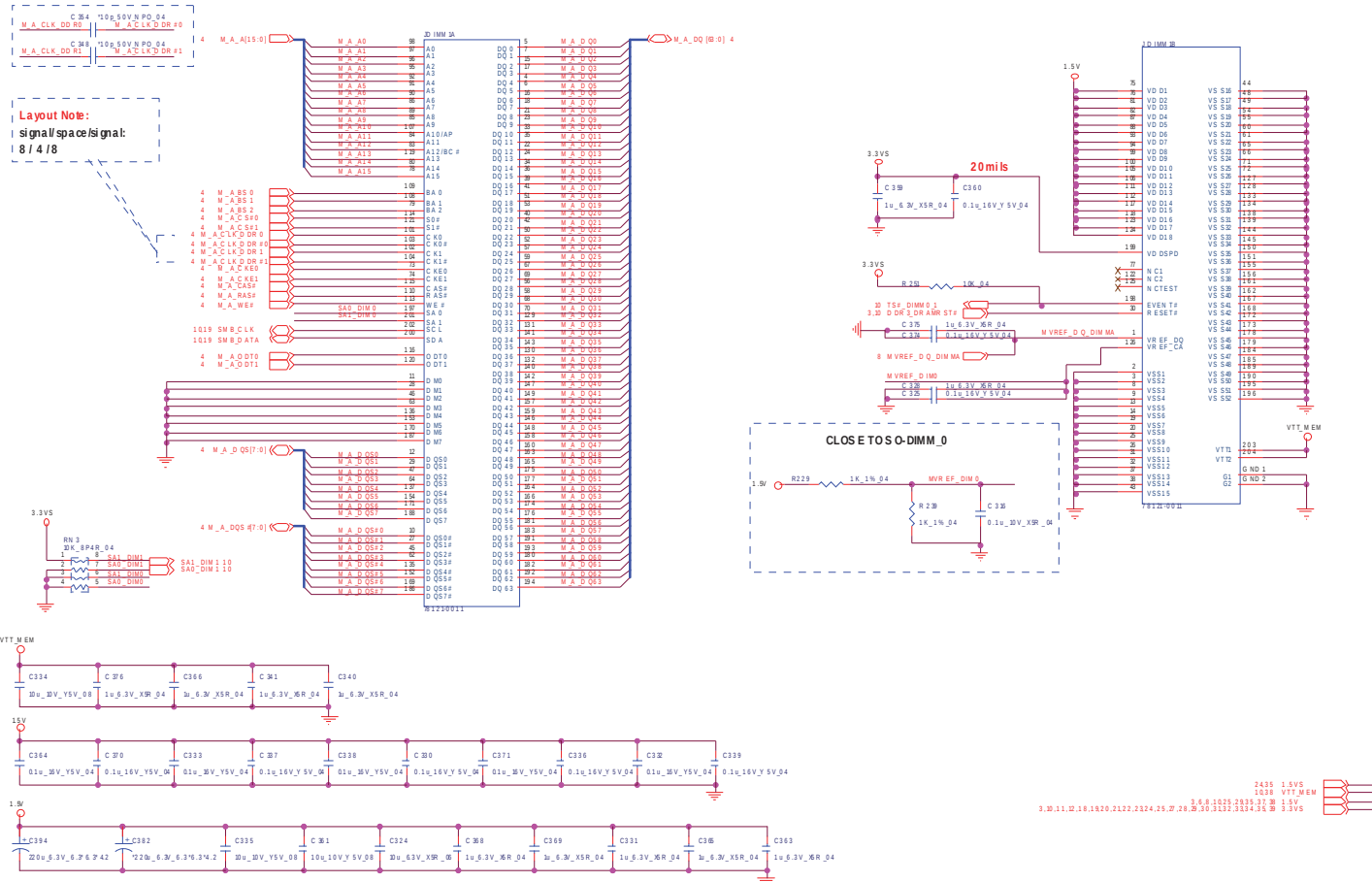


Sheet 8 of 49
Sandy Bridge
Processor 7/7

DDR3 SO-DIMM_0

SO-DIMM A

CHANGE TO STANDARD

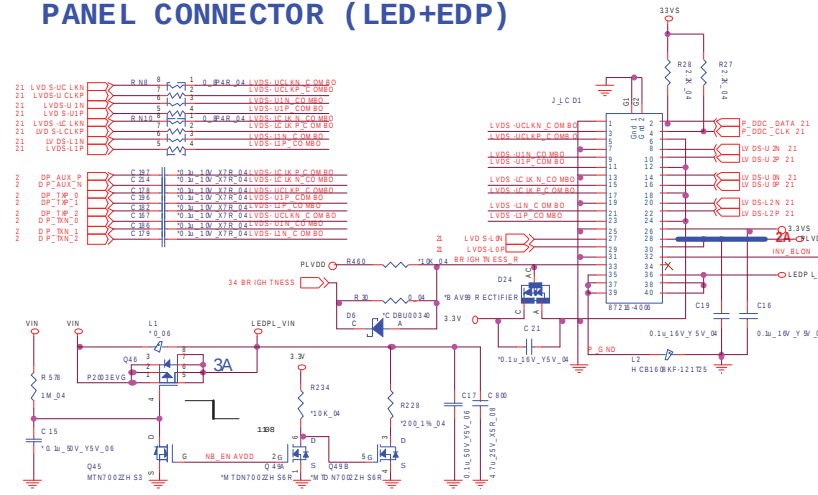


SO - DIMM B

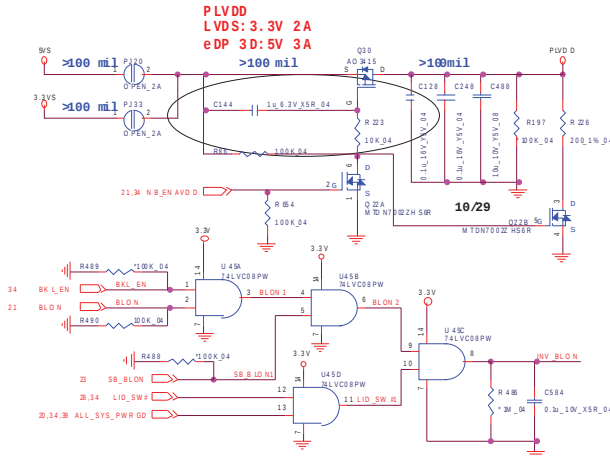
Panel, Inverter, CRT

Sheet 11 of 49
Panel, Inverter, CRT

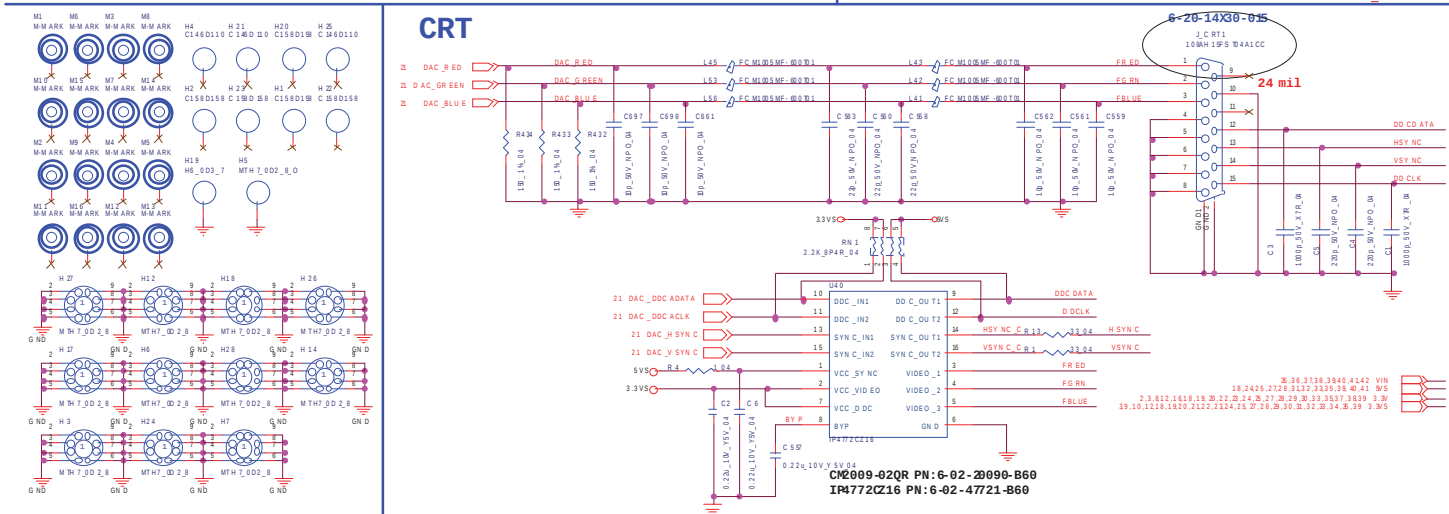
PANEL CONNECTOR (LED+EDP)



PANEL POWER



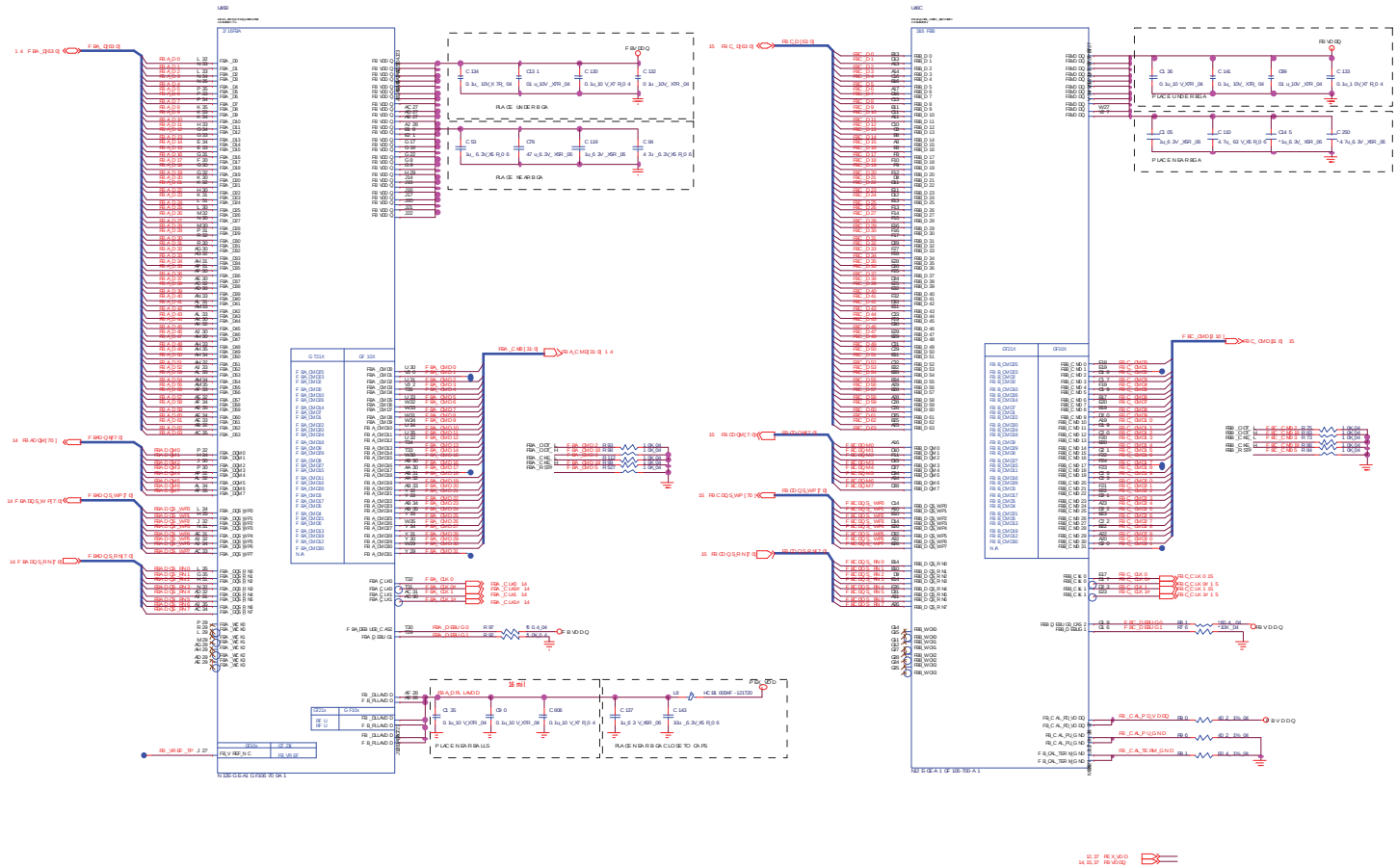
CRT



B.Schematic Diagrams

VGA Frame Buffer Interface

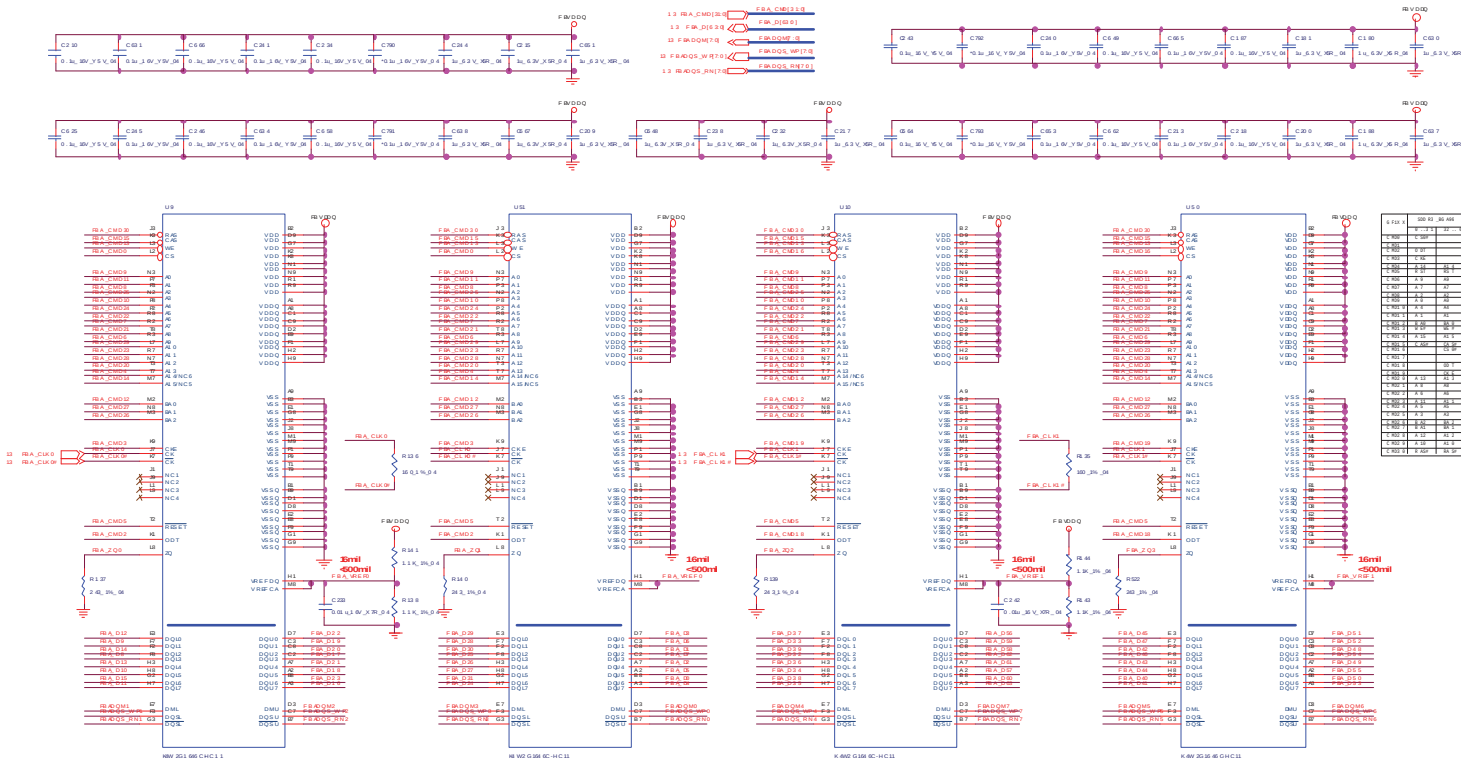
Frame Buffer Interface



Sheet 13 of 49
VGA Frame Buffer Interface

VGA Frame Buffer A

Frame Buffer Partition A

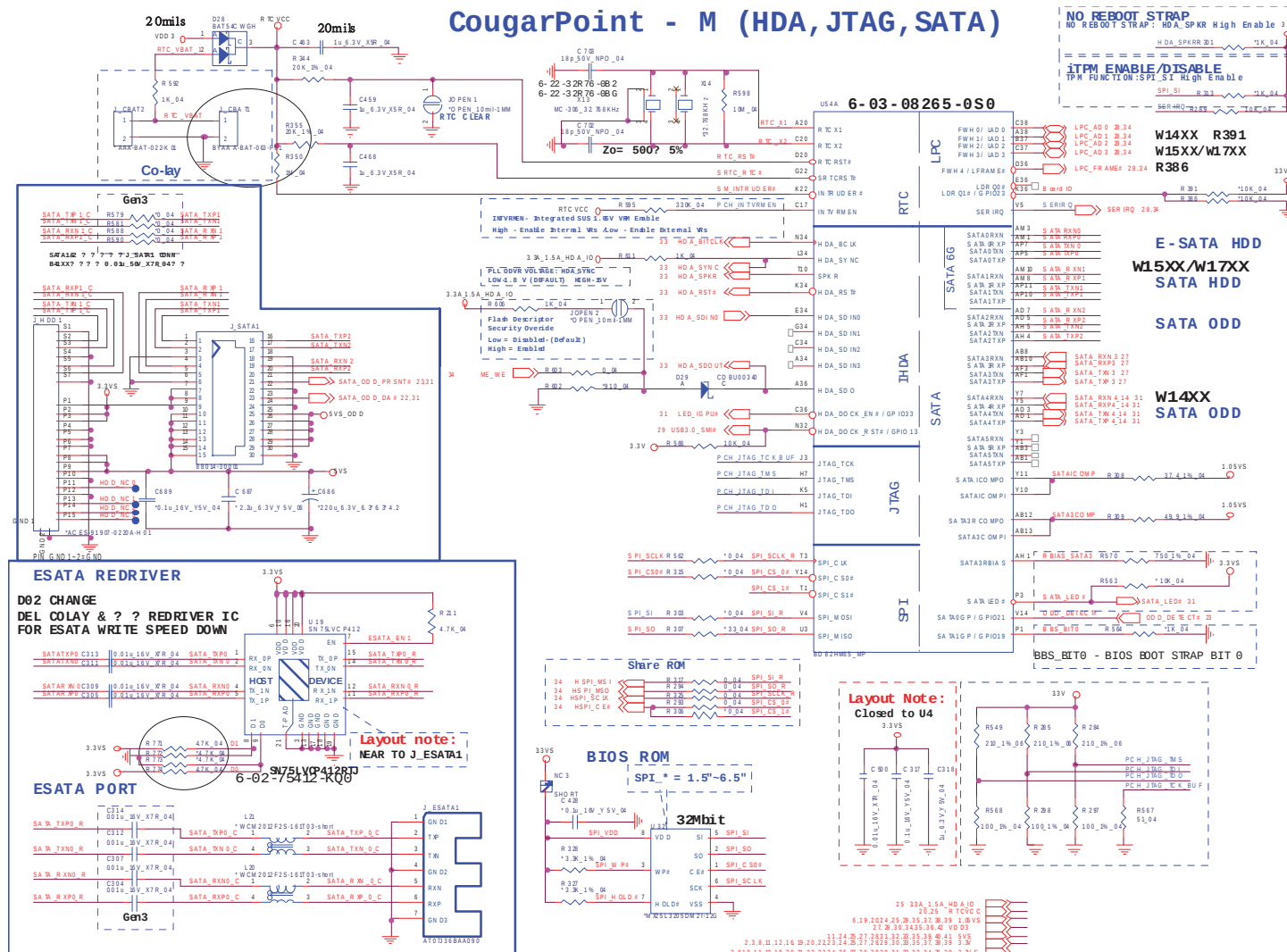


Sheet 14 of 49
VGA Frame Buffer
A

Sheet 17 of 49
VGA NVVDD
Cecoupling



CougarPoint - M 1/9

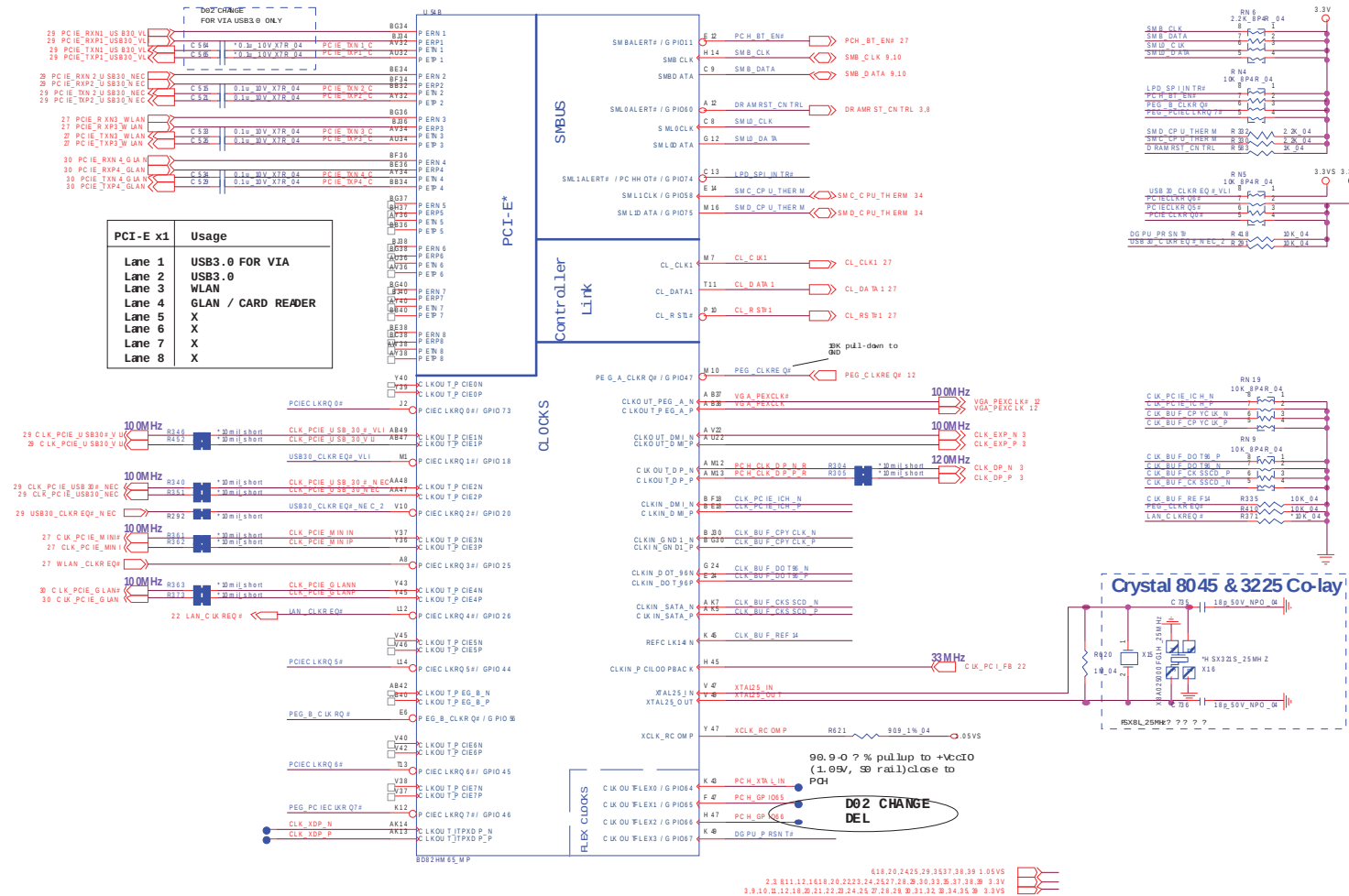


Sheet 18 of 49
CougarPoint - M 1/9

CougarPoint - M 2/9

B.Schematic Diagrams

PCI-E x1	Usage
Lane 1	USB3.0 FOR VIA
Lane 2	USB3.0
Lane 3	WLAN
Lane 4	GLAN / CARD READER
Lane 5	X
Lane 6	X
Lane 7	X
Lane 8	X



B.Schematic Diagrams

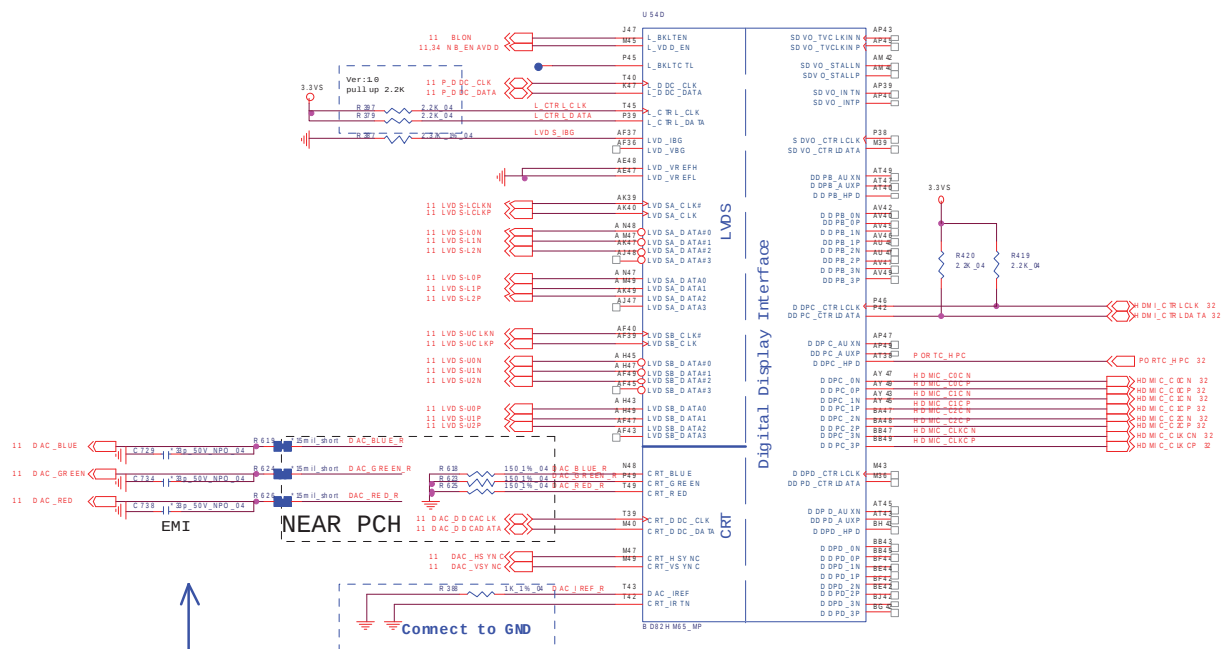
CougarPoint -M (DMI, FDI, GPIO)



<http://hobi-elektronika.net>

B.Schematic Diagrams

External Graphics (PCH Integrated Graphics Disable)



CougarPoint - M 5/9

CougarPoint -M (PCI,USB,NVRAM)

Boot BIOS Strap		
BBS_BIT1	BBS_BIT0	Boot BIOS Location
0	0	LPC Reserved (NAND)
0	1	Reserved
1	0	PCI
1	1	SPI

R445 10K 04 BBS_BIT1

Flash Descriptor security override strap
PCI_GNT#3 LOW = PCI_GNT#3 swap override
HIGH = Default

Understand the RED FONT define
R409 10K 04 PCI_GNT#3

MPC Switch Control
MPC OFF -- 0 DEFAULT
MPC ON -- 1

12,34,37 DGPU_PWR_EN# R467 10 04

10,31 SATA_OOD_DW# R465 10 04

30,34 FWER# R462 10 04

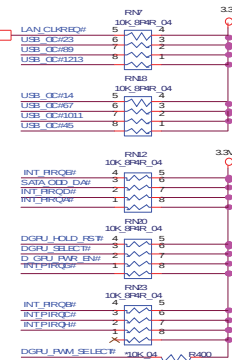
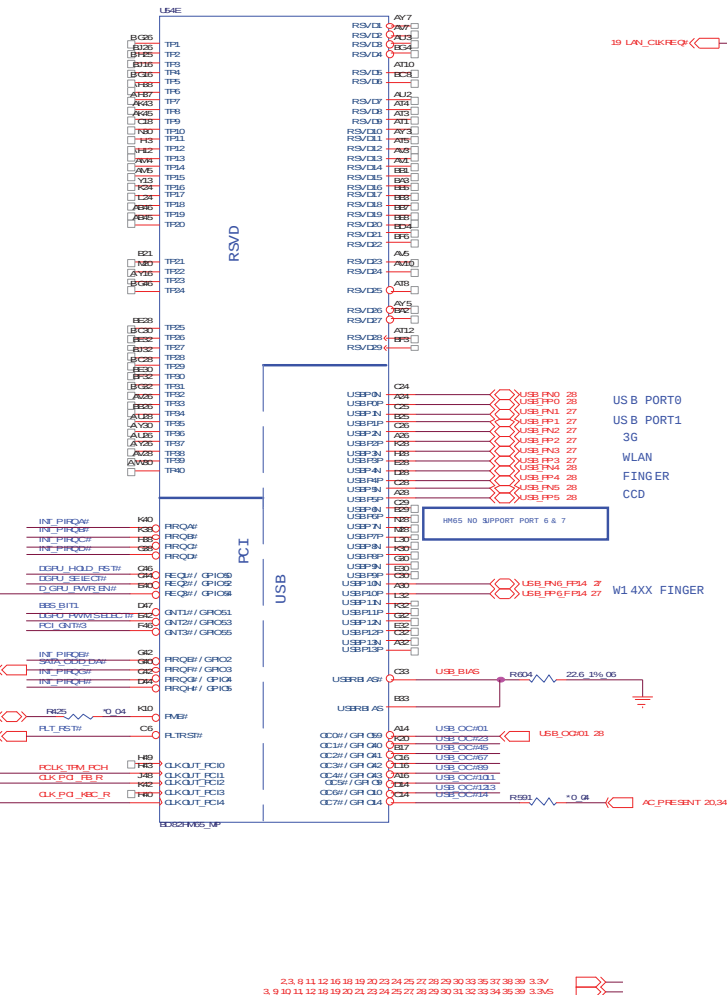
3,12,28 FLT_RST# R463 10 04

28 CLK_TTM R446 22 04

19 CLK_FCI_R R447 22 04

34 CLK_FBC R448 22 04

PIN PLT_RST# to Buffer
P1T_RST# 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31 32 33 34 35 36 37 38 39 40 41 42 43 44 45 46 47 48 49 50 51 52 53 54 55 56 57 58 59 60 61 62 63 64 65 66 67 68 69 70 71 72 73 74 75 76 77 78 79 80 81 82 83 84 85 86 87 88 89 90 91 92 93 94 95 96 97 98 99 100

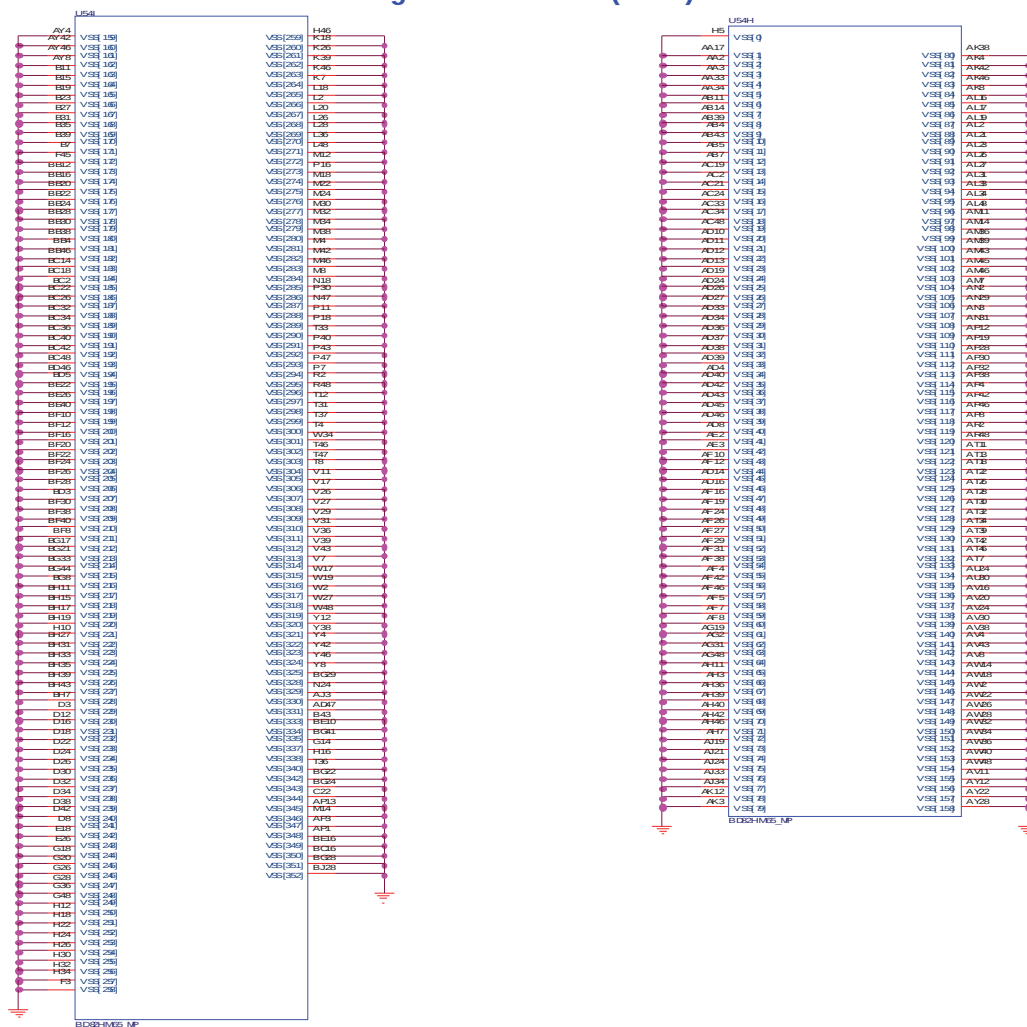


Sheet 22 of 49
CougarPoint - M 5/9

CougarPoint -M (POWER)



CougarPoint -M (GND)

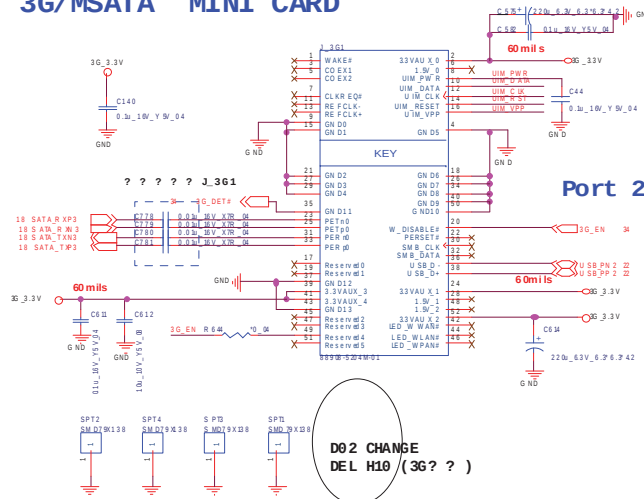


Voltage Rail	Voltage	S0 Iccmax	Current (A)
V_CPU_10	1.05	1	1 (mA)
VREF	5	1	1 (mA)
VREF_S10	5	1	1 (mA)
Vcc3_3	3.3	0.285	
VccADC3	1.05	1	1 (mA)
VccADP_LLA	1.05	0.08	
VccADP_LL8	1.05	0.08	
VccCore	1.05	1.3	
VccDME	1.1	0.042	
VccIO	1.05	2.925	
VccASW	1.05	1.01	
VccSPI	3.3	0.020	
VccDSW3_3	3.3	2	(mA)
VccDFFRM	1.8	0.19	
VccSUS_3	3.3	0.097	
VccSMDA	3.3	1	1 (mA)
VccVRM	1.5	0.16	
VccCLKDMI	1.05	0.02	
VccSSC	1.05	0.095	
VccDFFCLKN	1.05	0.055	
VccALVDS	3.3	1	(mA)
VccTX_LVDS	1.8	0.06	

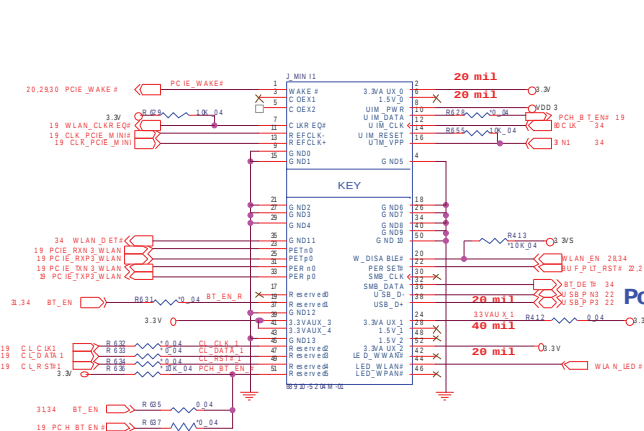
Sheet 26 of 49
CougarPoint - M 9/9

WLAN, 3G, Mini PCIE

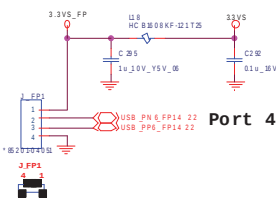
3G/MSATA MINI CARD



WLAN MINI CARD

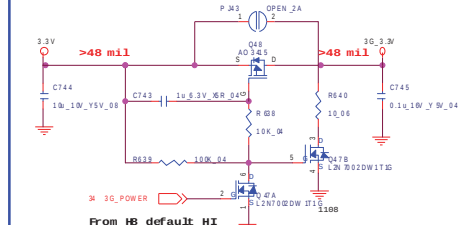


FP CONN
W140HN ONLY

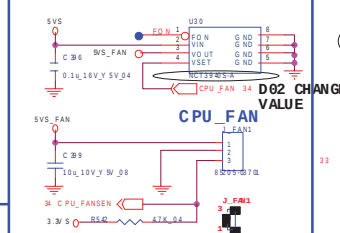


3G POWER

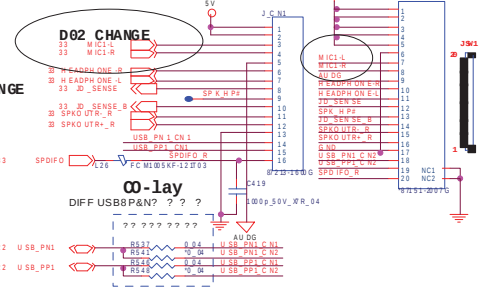
?? MSATA function? PJ43 SHORT, ? ? ? ? ?



CPU FAN CONTROL

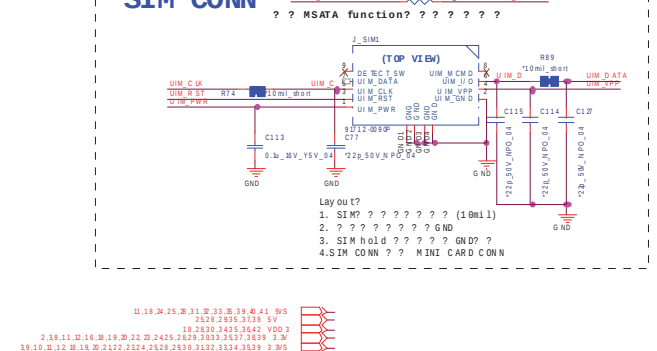


FOR AUDIO BOARD

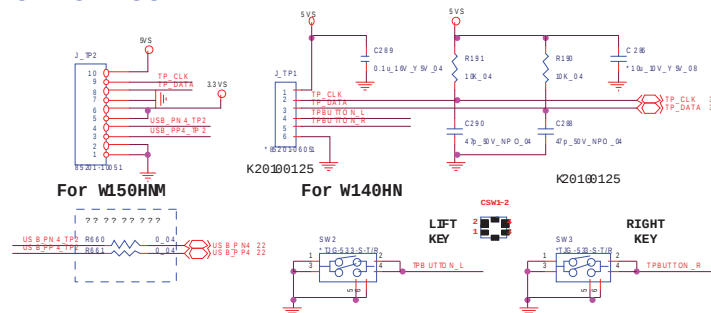


SIM CONN

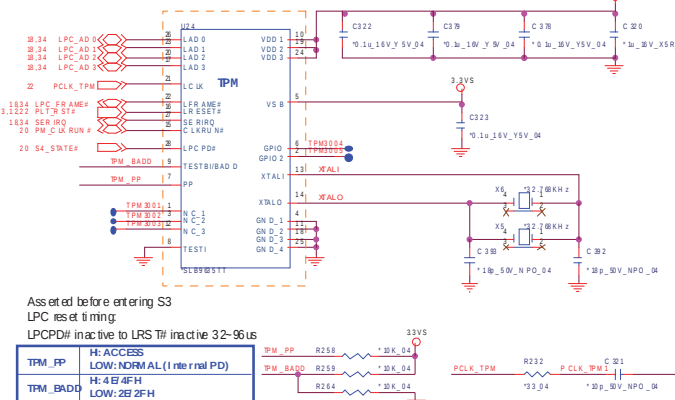
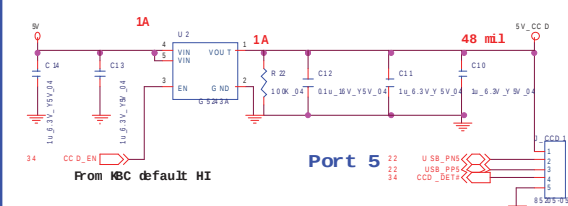
U IM PWR R85 * 4.7K_04 U



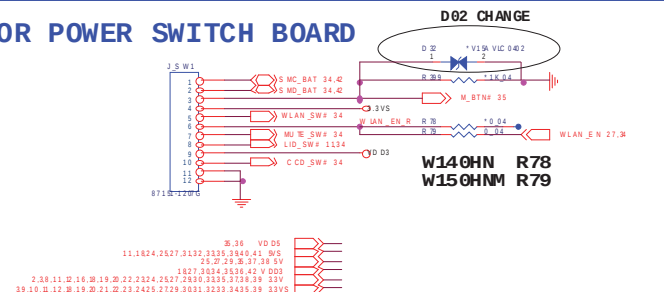
USB Charge PORT



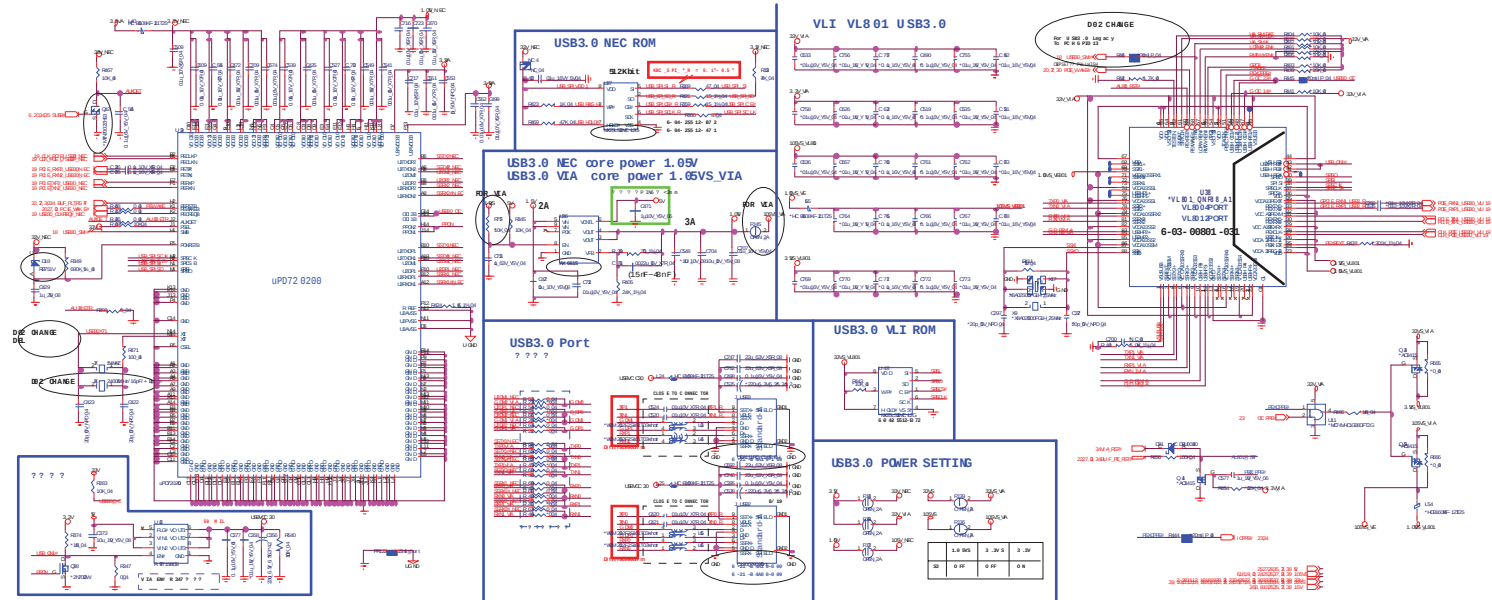
TPM 1.2



FOR POWER SWITCH BOARD

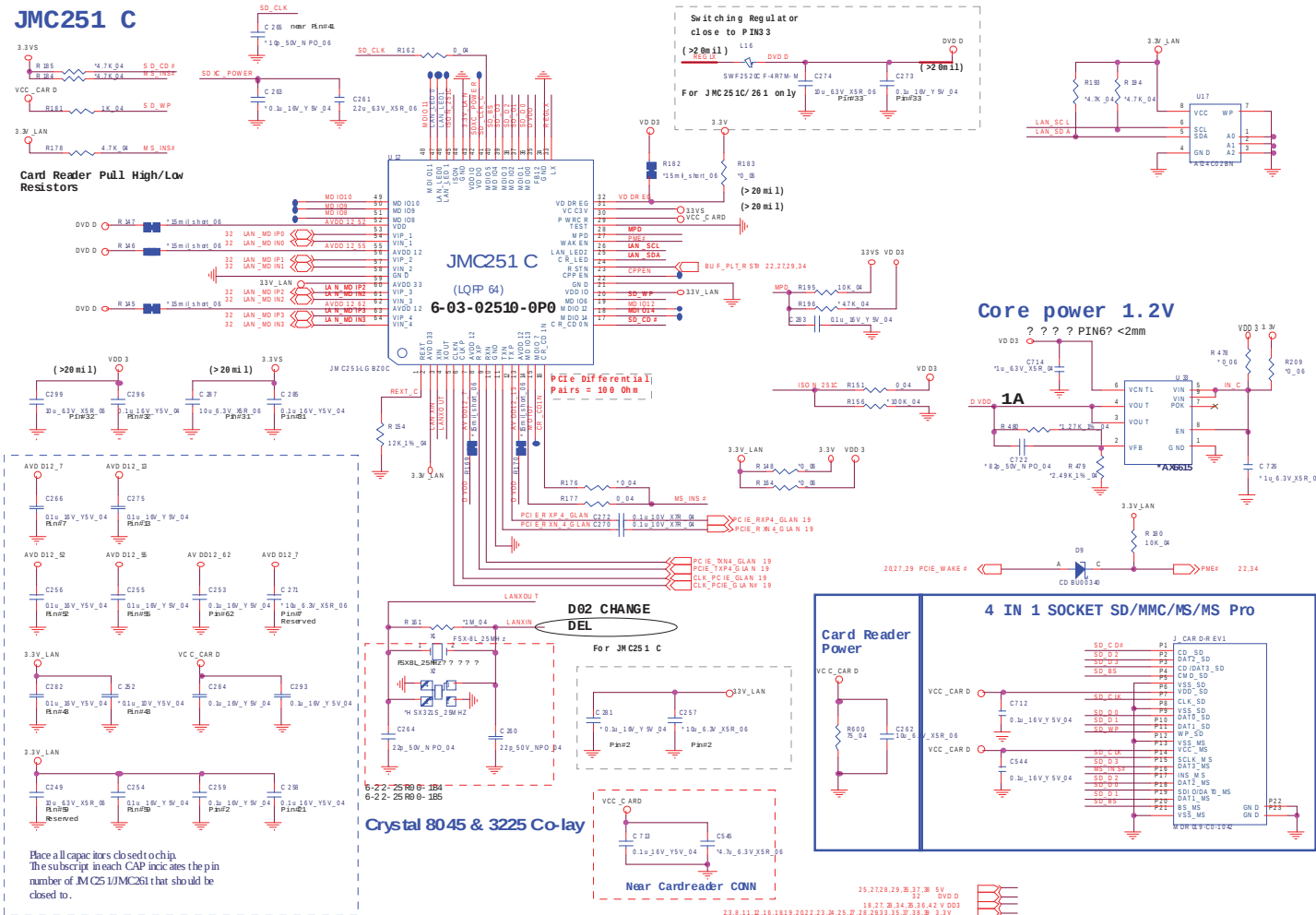


USB 3.0



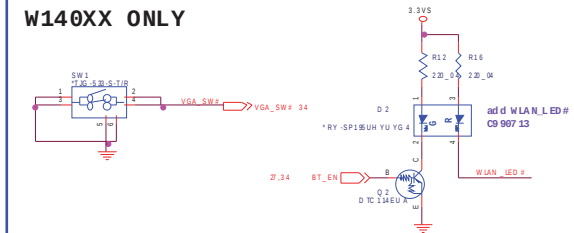
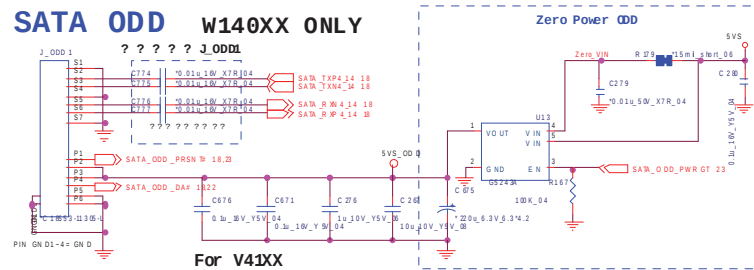
Sheet 29 of 49
USB 3.0

Card Reader (JMC251C)

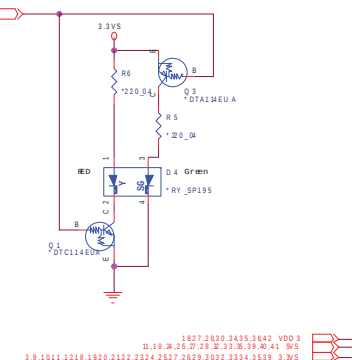
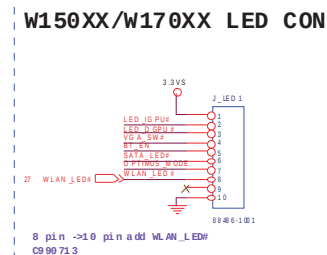
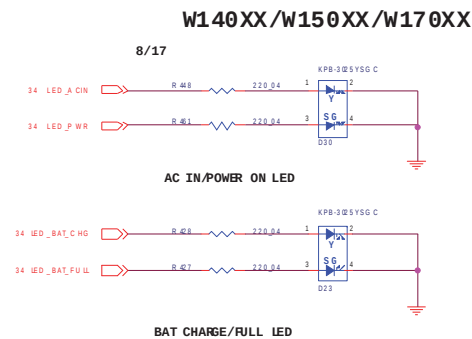
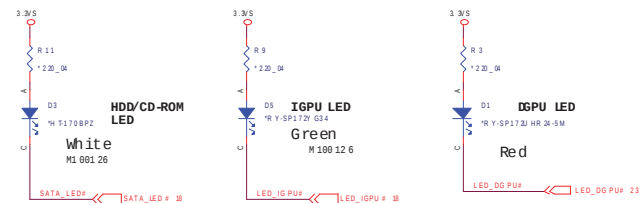
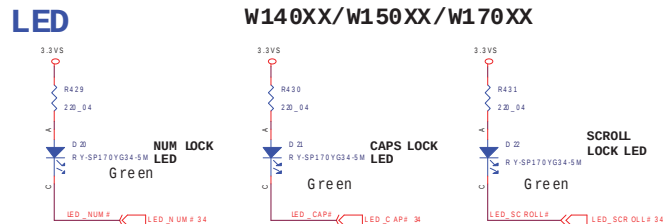


Sheet 30 of 49
Card Reader
(JMC251C)

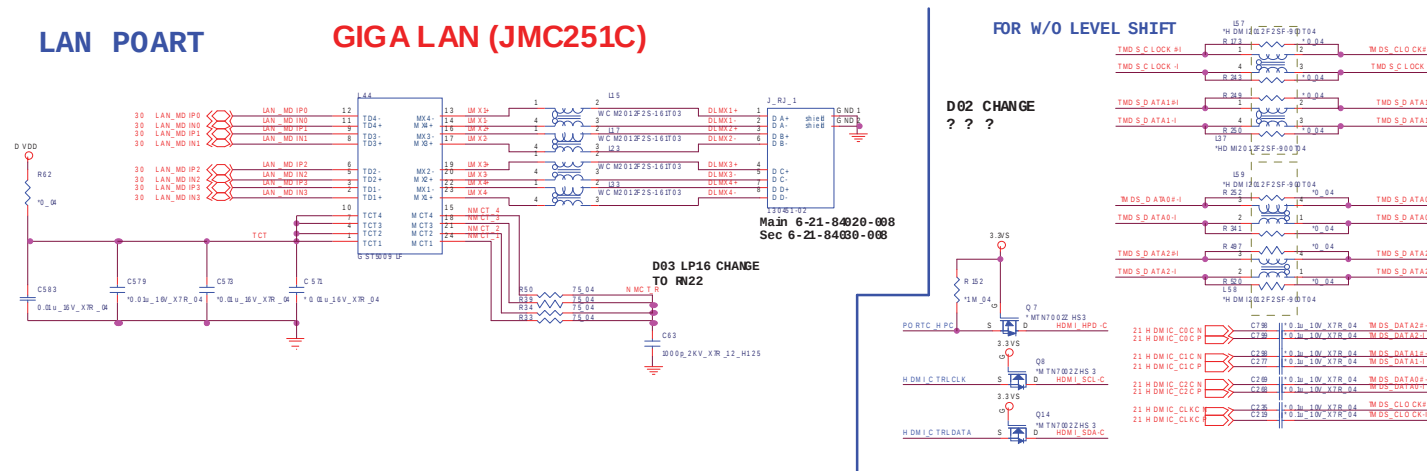
SATA ODD, LED, Hotkey, LID SW



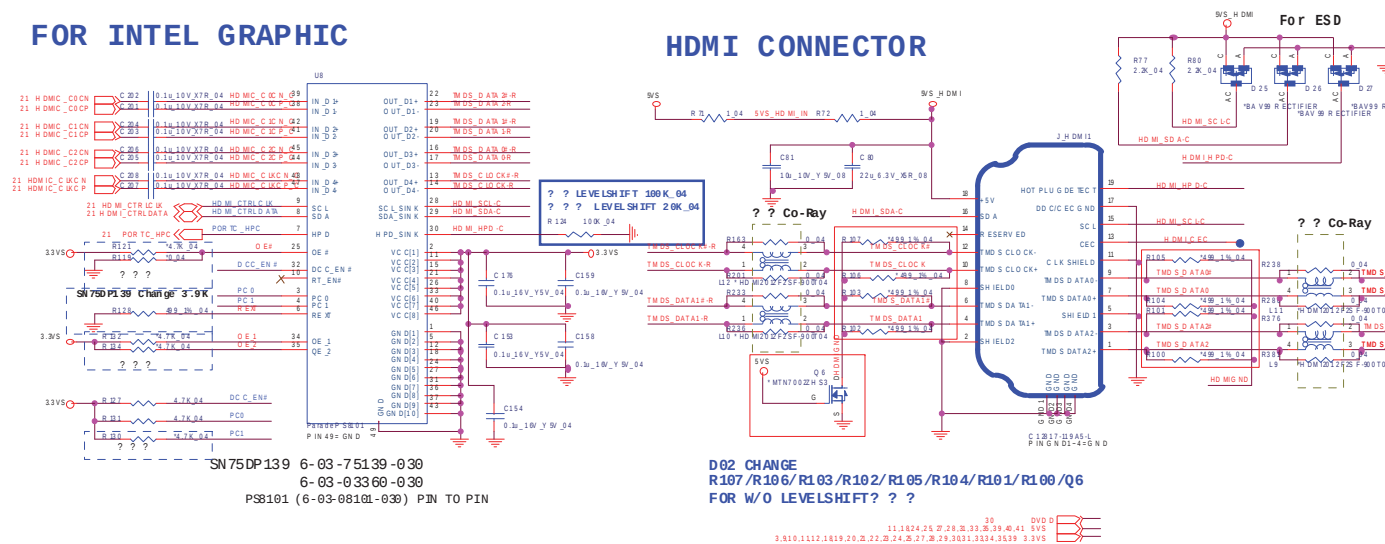
Sheet 31 of 49
SATA ODD, LED,
Hotkey, LID SW



GIGA LAN (JMC251C)



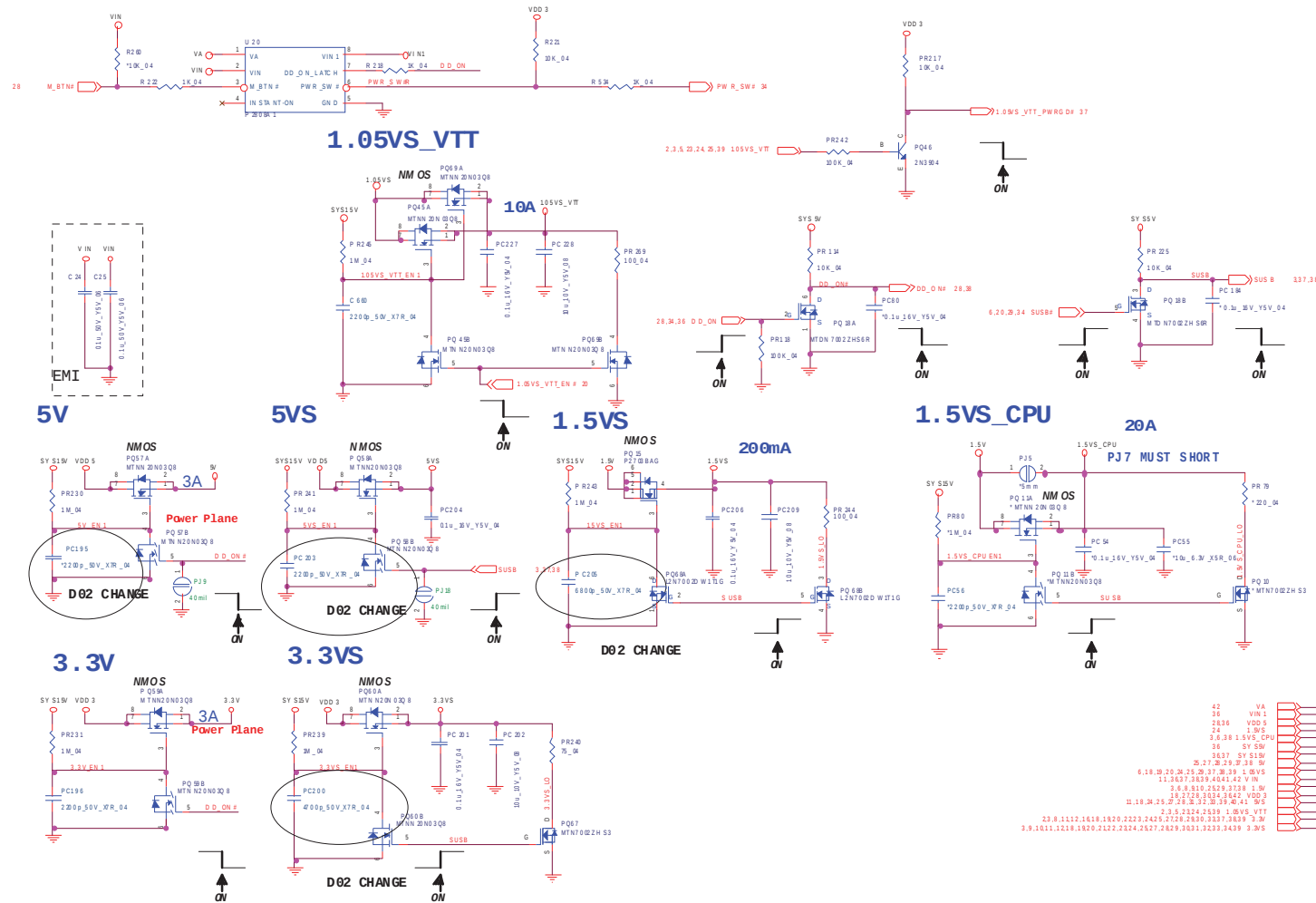
HDMI CONNECTOR



<http://hobi-elektronika.net>

[illegible]

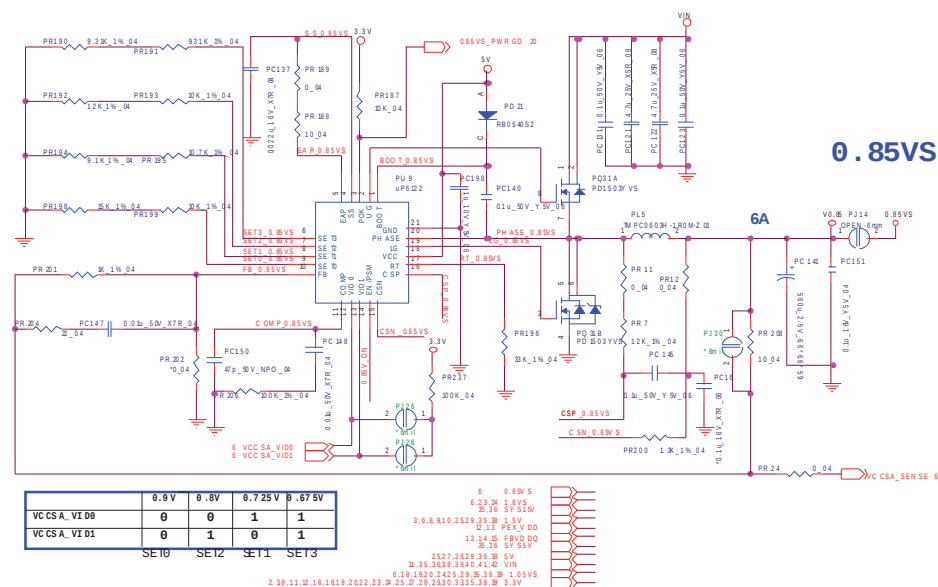
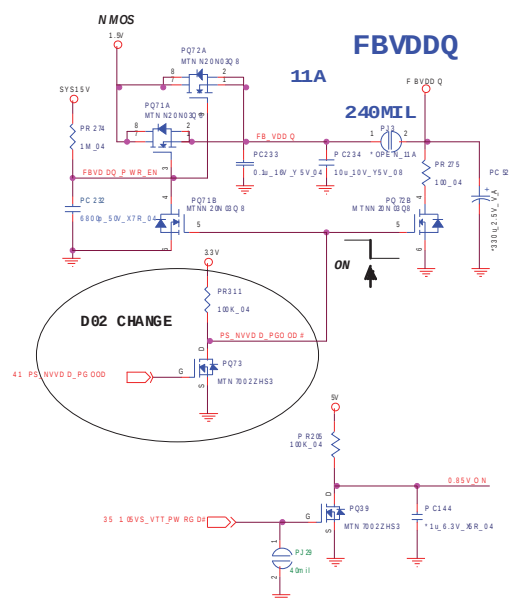
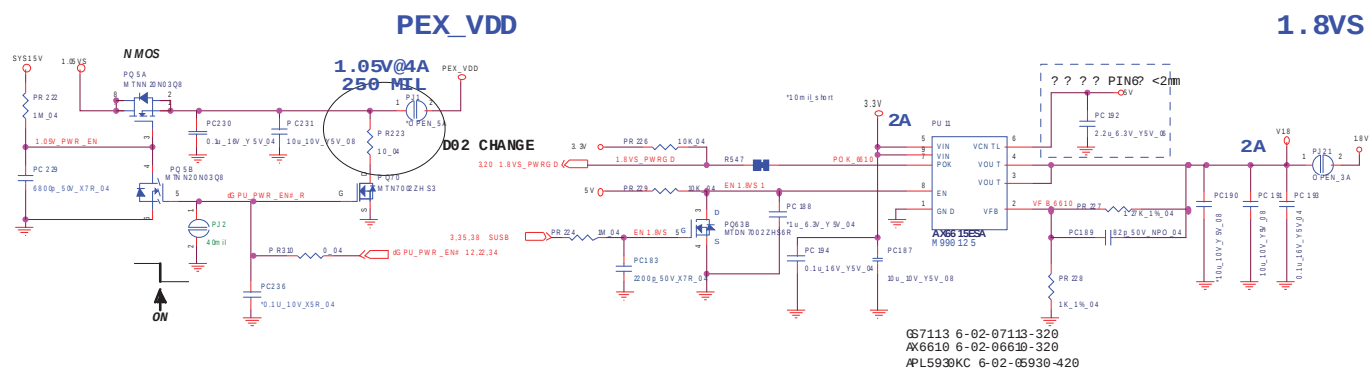
5VS, 3VS, 3.3VM, 1.5VS_CPU



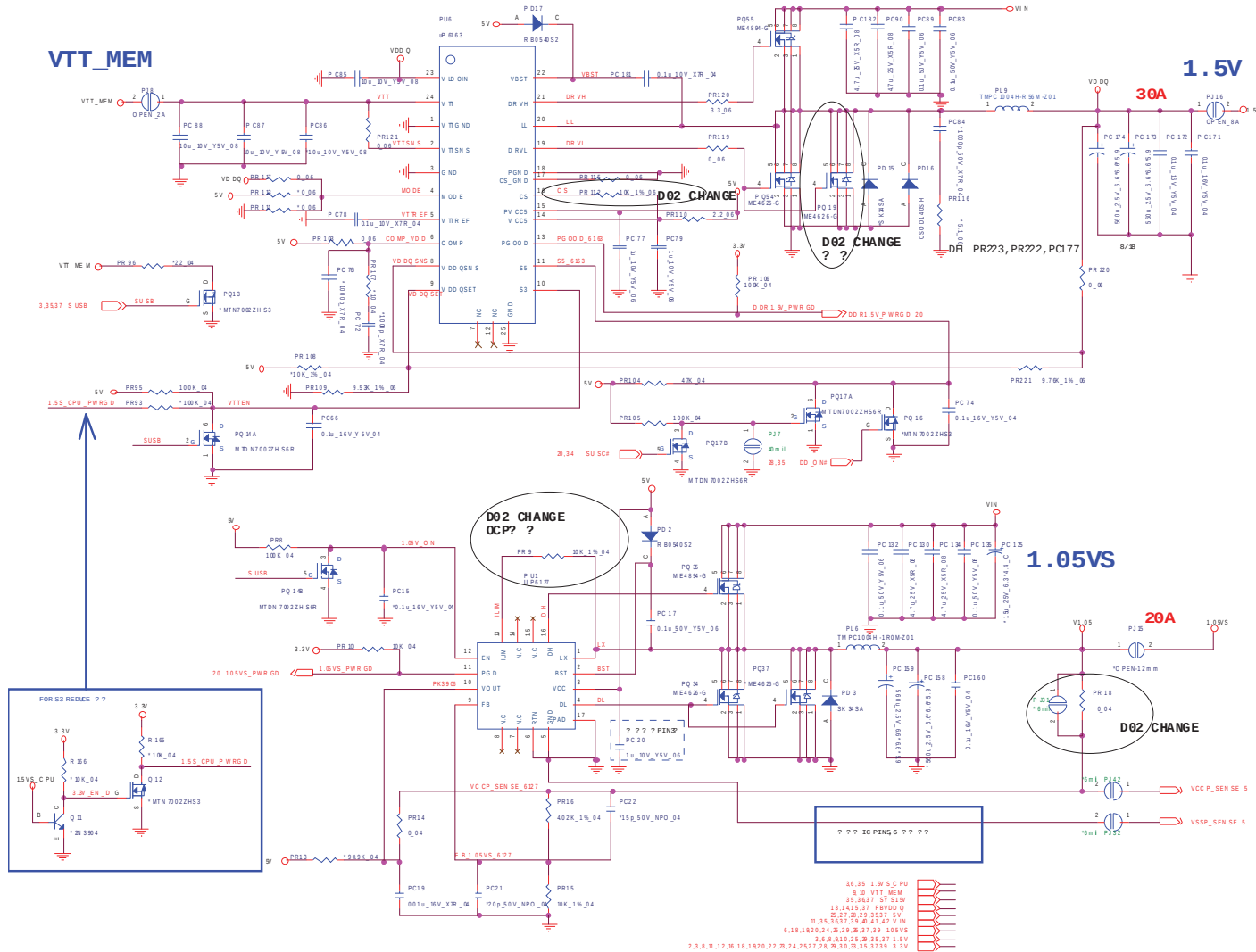
Sheet 35 of 49
5VS, 3VS, 3.3VM,
1.5VS_CPU

Power 0.85VS, 1.8VS, PEX_VDD

Sheet 37 of 49
Power 0.85VS,
1.8VS, PEX_VDD



VTT_MEM



B.Schematic Diagrams

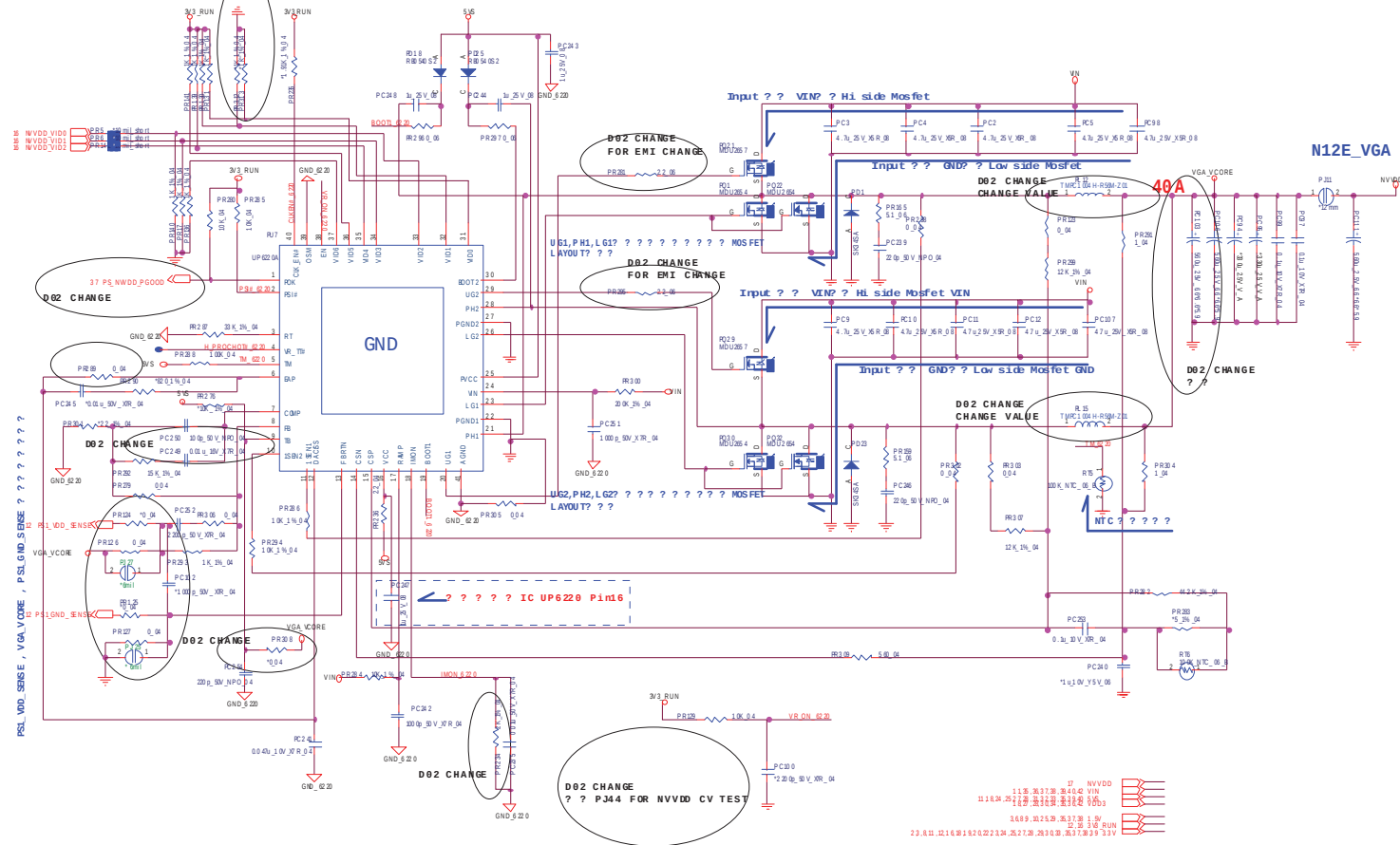
[illegible]

Power V-Core2 B - 41

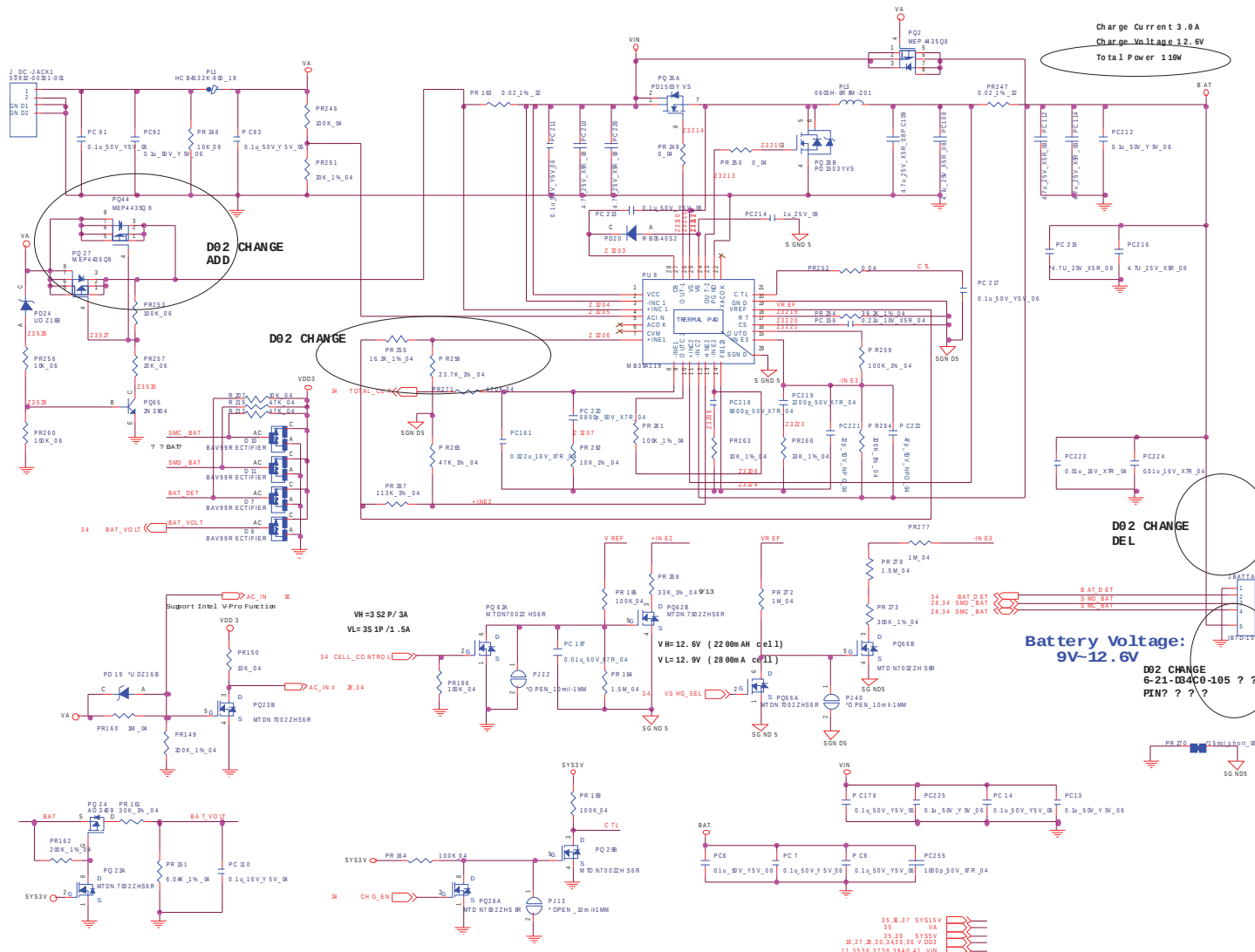


	0.8125V	0.8625V	0.9125V	
NVDD_VIO	1	0	1	(6R05)
NVDD_VIO	0	0	1	(6R06)
NVDD_VIO	1	1	0	(6R07)

DO2 CHANGE
? ? FOR NVVDD? ? ? ?



AC_IN, Charger



Sheet 42 of 49
AC_IN, Charger

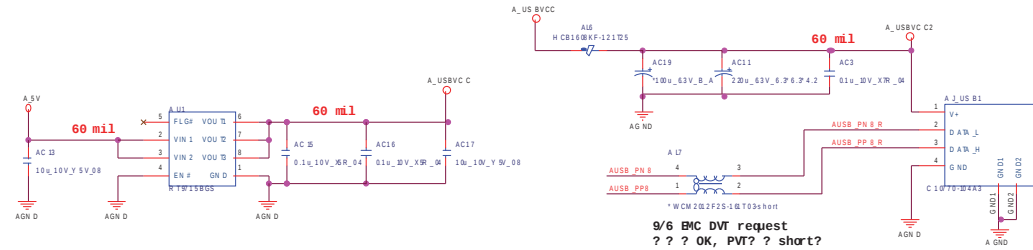
Battery Voltage:
9V~12.6V

D02 CHANGE
6-21-D34C0-105 ? ?
PIN? ? ? ?

Schematic Diagrams

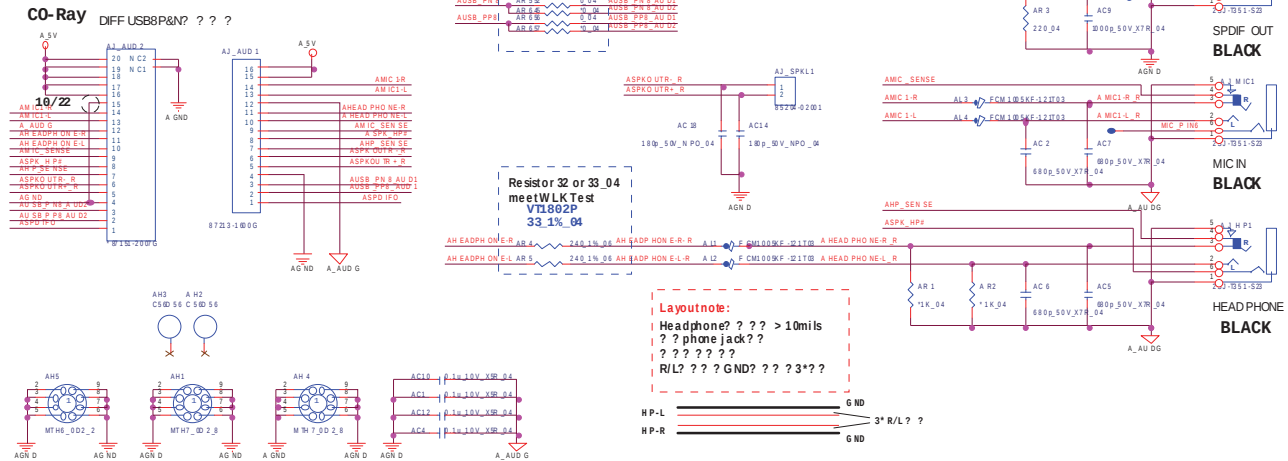
W150HNM Audio Board

USB PORT(PORT3)

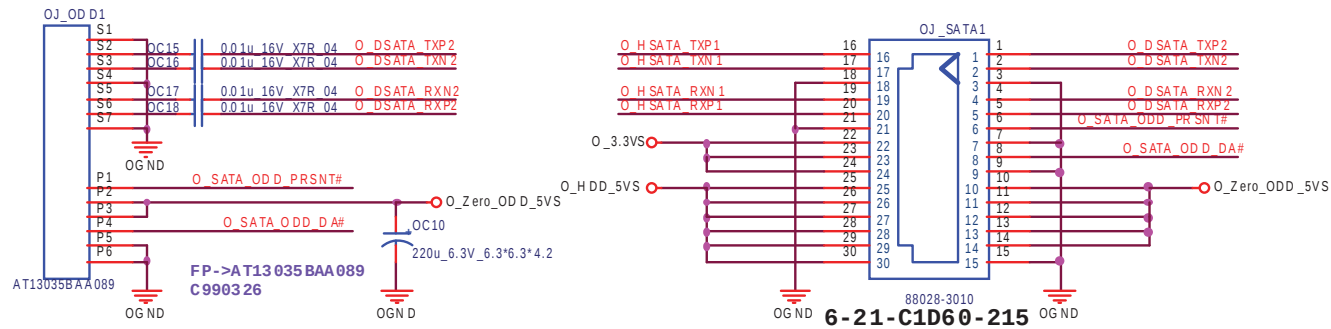


Sheet 43 of 49
W150HNM Audio
Board

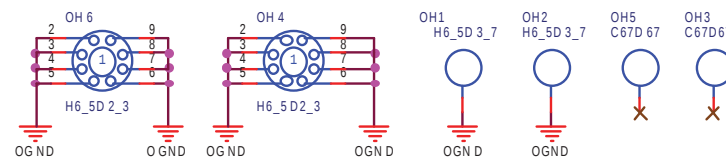
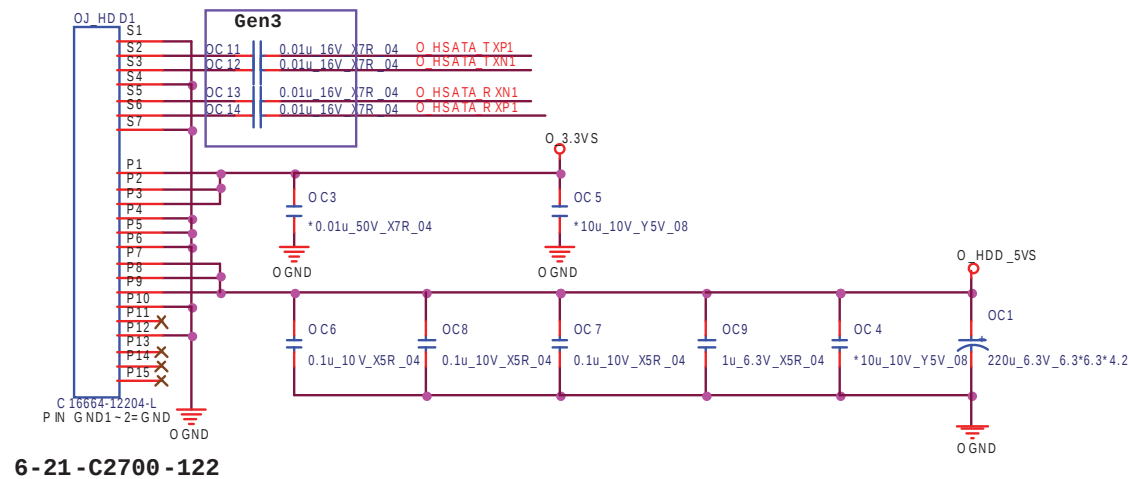
AUDIO BOARD



W150HNM Second HDD Board

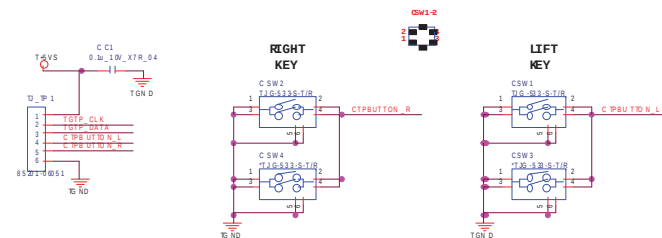
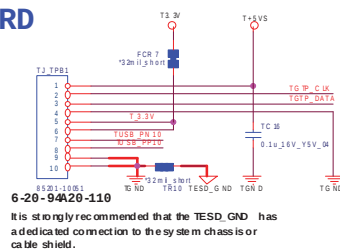
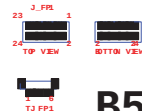


W150HNM Zero Power

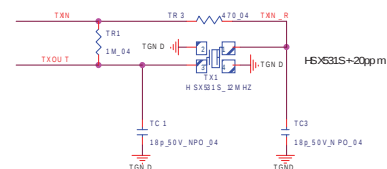
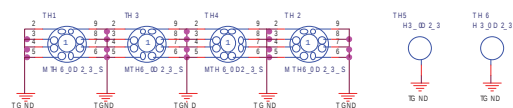
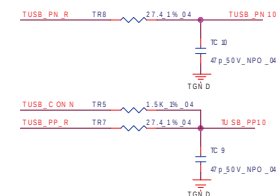
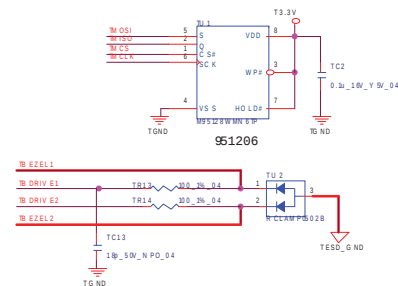
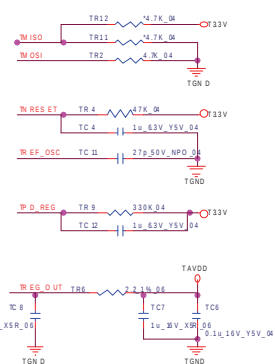
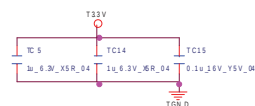


Sheet 44 of 49
W150HNM Second
HDD Board

V15XX CLICK BOARD

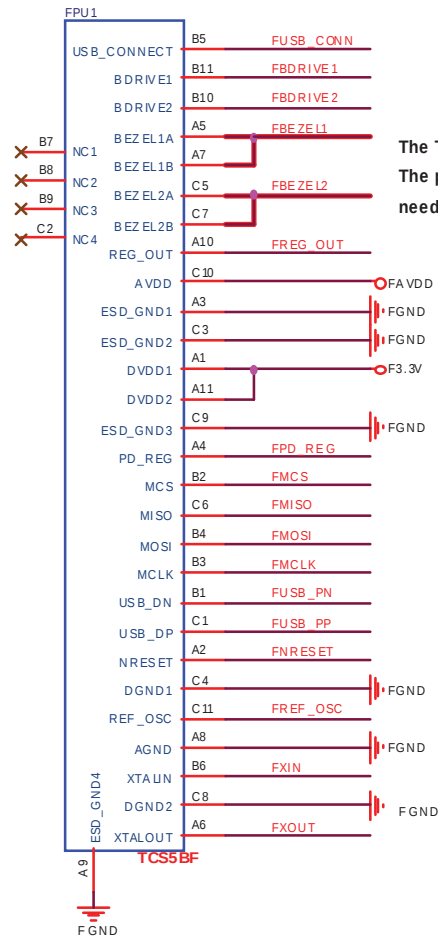
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B5100M ONLY

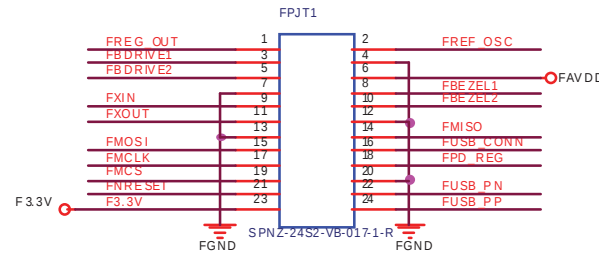


B5100 Fingerprint Board

V51XX FINGERPRINT BOARD

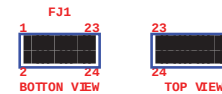


The TESD_GND trace has to be wide (>20mil)
The path be marked in **RED**
needs to be design to be short and at low impedance.



6-21-41710-212

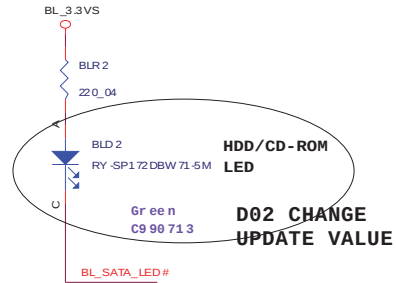
B5100M ONLY



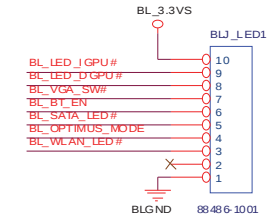
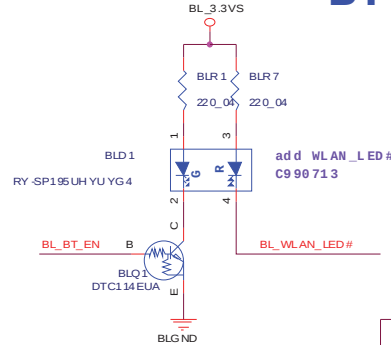
Sheet 46 of 49
B5100 Fingerprint
Board

B5130 LED & VGA SW Board

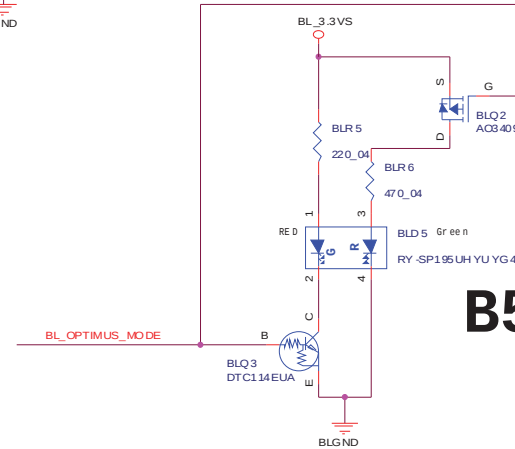
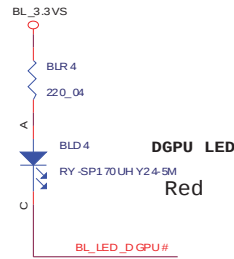
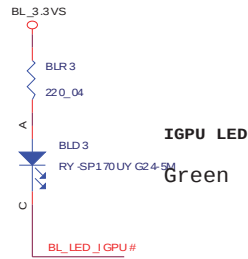
HDD LED



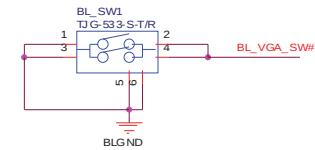
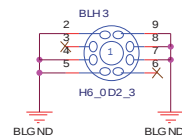
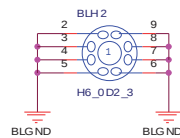
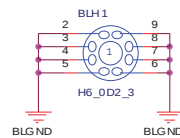
BT LED



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B5130 LED & VGA
SW Board

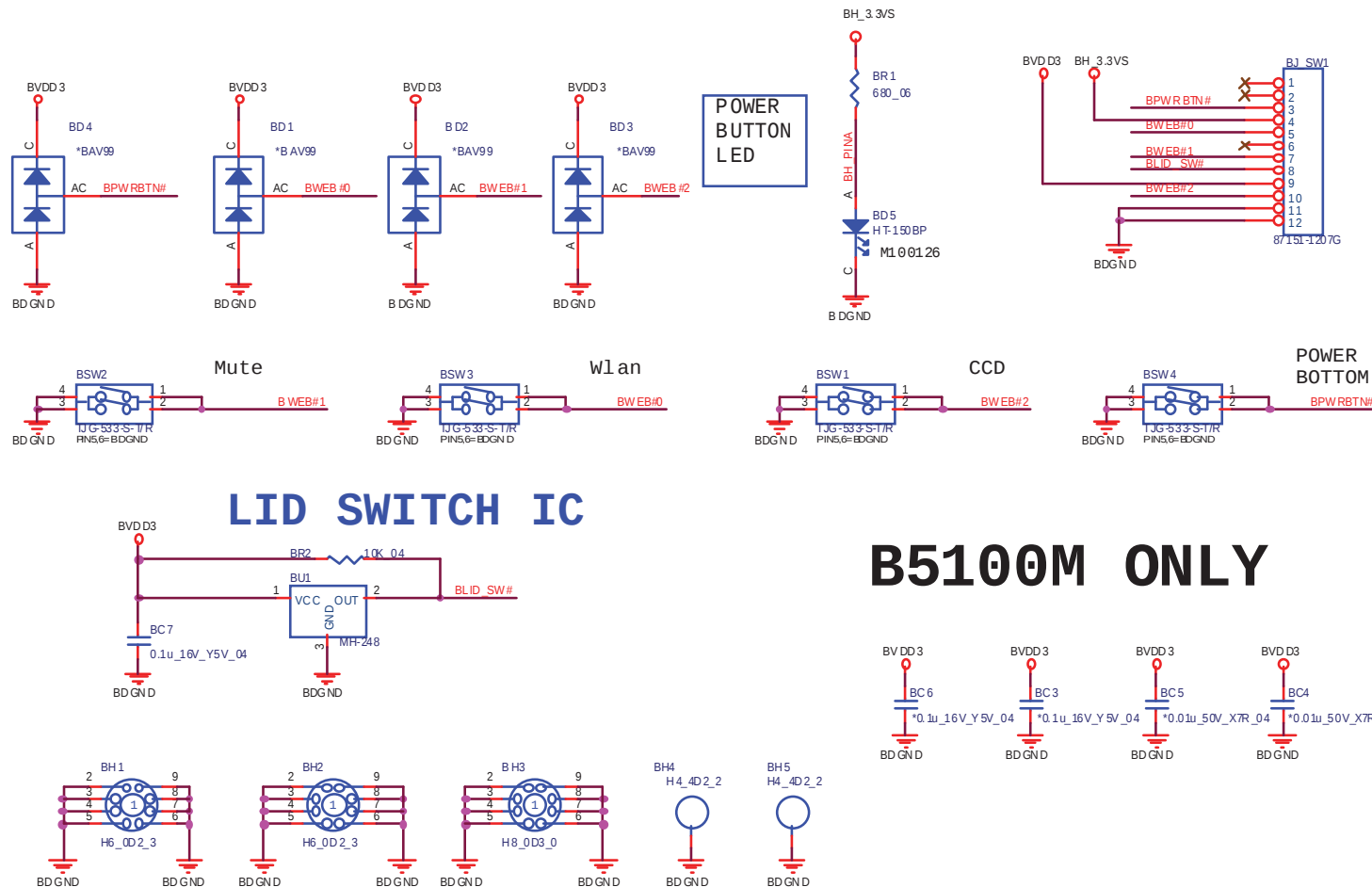


B5130M ONLY



B5100 Power Switch Board

V51XX POWER SWITCH BOARD



Sheet 48 of 49
B5100 Power
Switch Board