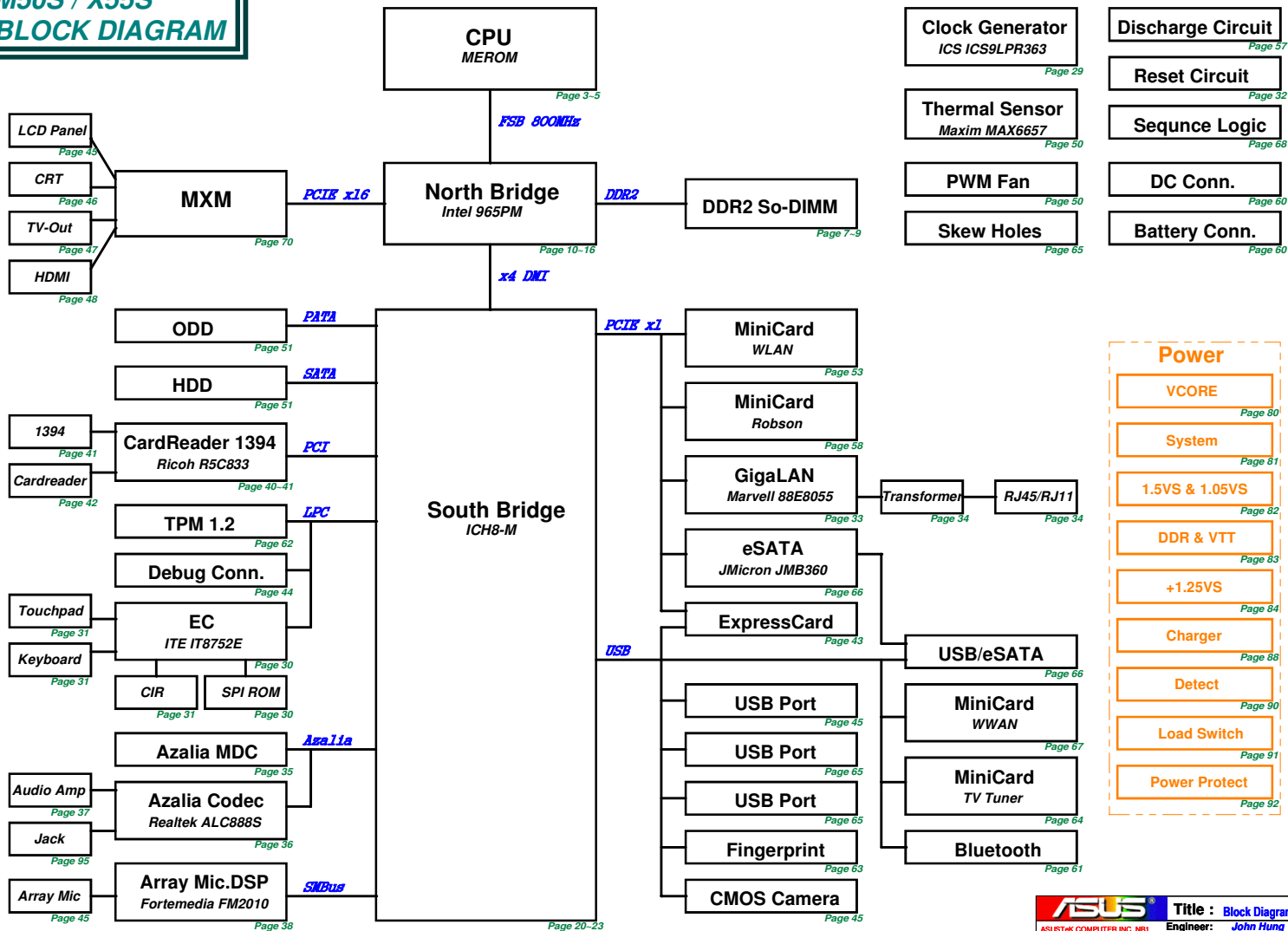


M50S / X55S BLOCK DIAGRAM



ICH8-M GPIO SETTING

Pin	Pin Name	Signal Name	Type
AG12	BM_BUSV#/GPIO0	PM_BMBUSY#	I
AJ8	TACH1/GPIO1	BT_DECT#	I
F8	PIRQ#E/GPIO2	PCL_INT#	I/OD
G11	PIRQ#F/GPIO3	PCL_INT#	I/OD
F12	PIRQ#G/GPIO4	PCL_INT#	I/OD
B3	PIRQ#H/GPIO5	PCL_INT#	I/OD
AJ9	TACH2/GPIO6		
AH9	TACH3/GPIO7	WLAN_LED_ON	O
AE16	GPIO8	EXT_SMI#	I
AG19	WOL_EN/GPIO9		
AJ24	CLGPIO1/GPIO10		
AG22	SMBALERT#/GPIO11	SMB_ALERT#	I
AC19	GPIO12	EXT_SCH#	I
AH21	GLAN_DOCK#/GPIO13		
AF22	CLGPIO2/GPIO14		
AE20	STP_PC#/GPIO15	STP_PC#	I/O
AJ14	DPRSLPVR/GPIO16	PM_DPRSLPVR	O
AG8	TACH0/GPIO17	WLAN_ON#	O
AH12	GPIO18		
AJ10	GPIO19/SATA1GP		
AE11	GPIO20	BT_LED_ON	O
AJ12	SATA0GP/GPIO21		
AG10	SCLOCK/GPIO22		
E6	LDRQ1#/GPIO23		
AJ27	CLGPIO0/GPIO24		
AG18	STP_CPU#/GPIO25	STP_CPU#	O
AH27	S4_STATE#/GPIO26		
AH25	QRT_STATE0/GPIO27	BT_ON#	O
AD16	QRT_STATE1/GPIO28	CB_SD#	O
AG17	OC#5/GPIO29	INT_USB_OC#	I
AD12	OC#6/GPIO30	INT_USB_OC#	I
AJ18	OC#7/GPIO31	INT_USB_OC#	I
AH11	CLKRUN#/GPIO32	PM_CLKRUN#	O
AE10	AZ_DOCK_EN#/GPIO33		
AG14	AZ_DOCK_RST#/GPIO34		
AG13	SATACLKREQ#/GPIO35		
AF11	SATA2GP/GPIO36	EMAIL_LED#	O
AG11	SATA3GP/GPIO37	PCB_ID0	I
AF9	SLOAD/GPIO38	PCB_ID1	I
AJ11	SDATAOUT0/GPIO39	PCB_ID2	I
AG16	OC#1/GPIO40	USB_CON01_OC#	I
AG15	OC#2/GPIO41	USB_CON23_OC#	I
AE15	OC#3/GPIO42	USB_CON23_OC#	I
AF15	OC#4/GPIO43	NEWCARD_OC#	I
AD10	SATAOUT1/GPIO48		
AG29	CPU_PWRGD/GPIO49	H_PWRGD	O
E18	REQ1#/GPIO50	PCL_REQ#1	I/O
C18	GNT1#/GPIO51		
B19	REQ2#/GPIO52	PCL_REQ#2	I/O
F18	GNT2#/GPIO53		
A11	REQ3#/GPIO54	PCL_REQ#3	I/O
C10	GNT3#/GPIO55		

EC IT8752E GPIO SETTING

Pin	Pin Name	Signal Name	Type
28	PWM0/GPA0	PWR_LED_UP#	O
29	PWM1/GPA1	CHG_LED_UP#	O
32	PWM2/GPA2		
33	PWM3/GPA3		
34	PWM4/GPA4	LCD_BL_PWM	O
35	PWM5/GPA5	FAN_PWM	O
36	PWM6/GPA6		
38	PWM7/GPA7		
122	RXD/GPB0	CHG_EN#	O
123	TXD/GPB1	PRECHG	O
139	CTX0/GPB2		
124	SMCLK0/GPB3	SMB0_CLK	I/O
125	SMDAT0/GPB4	SMB0_DAT	I/O
142	G20/GPB5	A20GATE	O
4	KBRST#/GPB6	RC_IN#	O
126	GPB7	PM_RSMRST#	O
133	CRX0/GPC0	CRX0	I
129	SMCLK1/GPC1	SMB1_CLK	I/O
130	SMDAT1/GPC2	SMB1_DAT	I/O
64	GPC3	PM_PWRBTN#	O
136	WUI2/GPC4	AC_IN_OC#	I
65	GPC5	OP_SD#	O
140	WUI3/GPC6	BAT1_IN_OC#	I
20	GPC7	RFON_SW#	I
22	WUI0/GPD0	PWRLIMIT#	I
25	WUI1/GPD1	PM_SUSC#	I
26	WUI4/GPD2	BUF_PLT_RST#	I
27	ECSCI#/GPD3	EXT_SCH#	O
0	19	GPD4	O
37	GPD5	LCD_BACKOFF#	O
53	TACH0 / GPD6	FAN0_TACH	I
54	GPD7		
23	GPE0	VSUS_ON	O
94	GPE1	SUSC_EC#	O
95	GPE2	SUSB_GPE#	O
96	GPE3	CPU_VRON	O
141	PWRSW/GPE4	PWR_SW#	I
39	WUI5/GPE5	BAT2_IN_OC#	I
21	GPE6	LID_SW#	I
24	GPE7	INSTANT_ON#	I
97	PS2CLK0/GPF0		
98	PS2DAT0/GPF1	COLOREN#	I
99	PS2CLK1/GPF2	MARATHON#	I
100	PS2DAT1/GPF3	DISTP#	I
101	PS2CLK2/GPF4	TP_CLK	I/O
102	PS2DAT2/GPF5	TP_DAT	I/O
131	SMCLK2/GPF6	THRO_CPU	O
132	SMDAT2/GPF7	TP_LED	O
118	WUI7/GPG0		
121	GPG1	PM_SUSB#	I
112	GPG2		
116	GPG6		

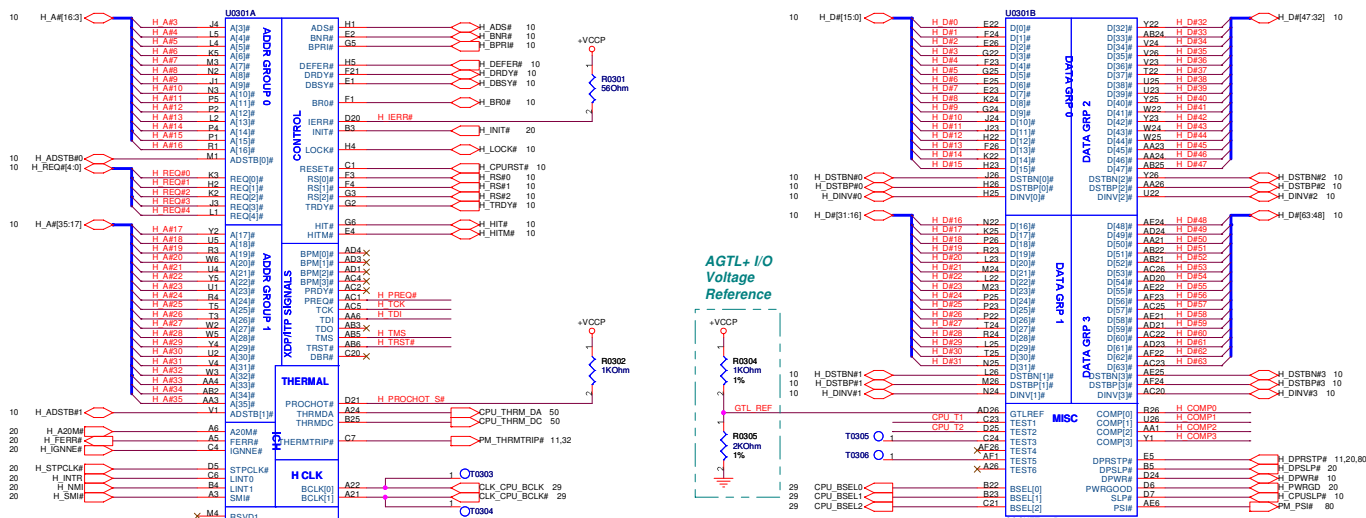
965GM/PM co-layout option:

965PM

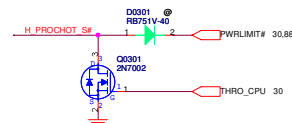
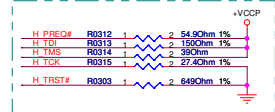
Change:
U1001 to 965PM, U3601 to ALC888S
R1213-R1219 to 0ohm
C1406, C1501-C1504, C1506-C1507, C1510, C1514 to 0ohm
Mount:
D4801-D4803
F4801
J4801, J7001
H7001-H7004
Q4801
R1112-R1117, R1203-R1212, R1502, R2910, R3618-R3620, R4801-R4804
RX2901-RX2902, RX4801-RX4810
CX1201-CX1232
Un-mount:
R1202, R1401-R1403, R1501, R1503-R1505, R2909, R3621, R7001-R7008
RN7001-RN7011
RNX1201, RNX2901, RNX2915
L1501-L1505
C1404-C1405, C1407-C1409, C1505, C1509, C1511-C1513
CE1404, CE1501-CE1503

965GM

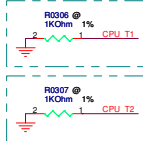
Change:
U1001 to 965GM
R1213-R1218 to 150ohm
R1219 to 1.3Kohm
Un-mount:
D4801-D4803
F4801
J4801, J7001
H7001-H7004
Q4801
R1112-R1117, R1203-R1212, R1502, R2910, R3618-R3620, R4801-R4804
RX2901-RX2902, RX4801-RX4810
CX1201-CX1232
Mount:
R1202, R1401-R1403, R1501, R1503-R1505, R2909, R3621, R7001-R7008
RN7001-RN7011
RNX1201, RNX2901, RNX2915
L1501-L1505
C1404-C1409, C1501-C1507, C1509-C1514
CE1404, CE1501-CE1503



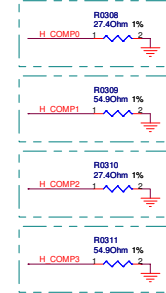
Default Strapping When XDP/ITP Not Used

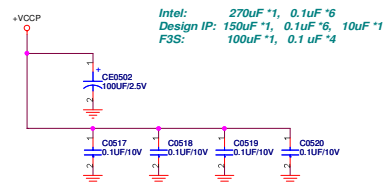
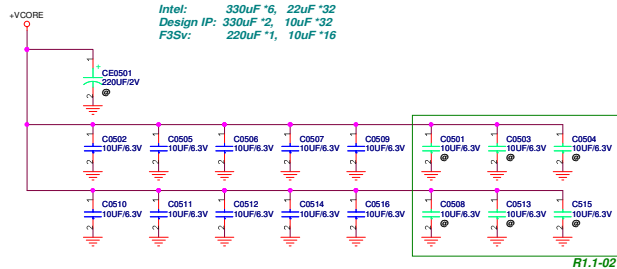


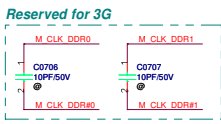
CPU Test Pin



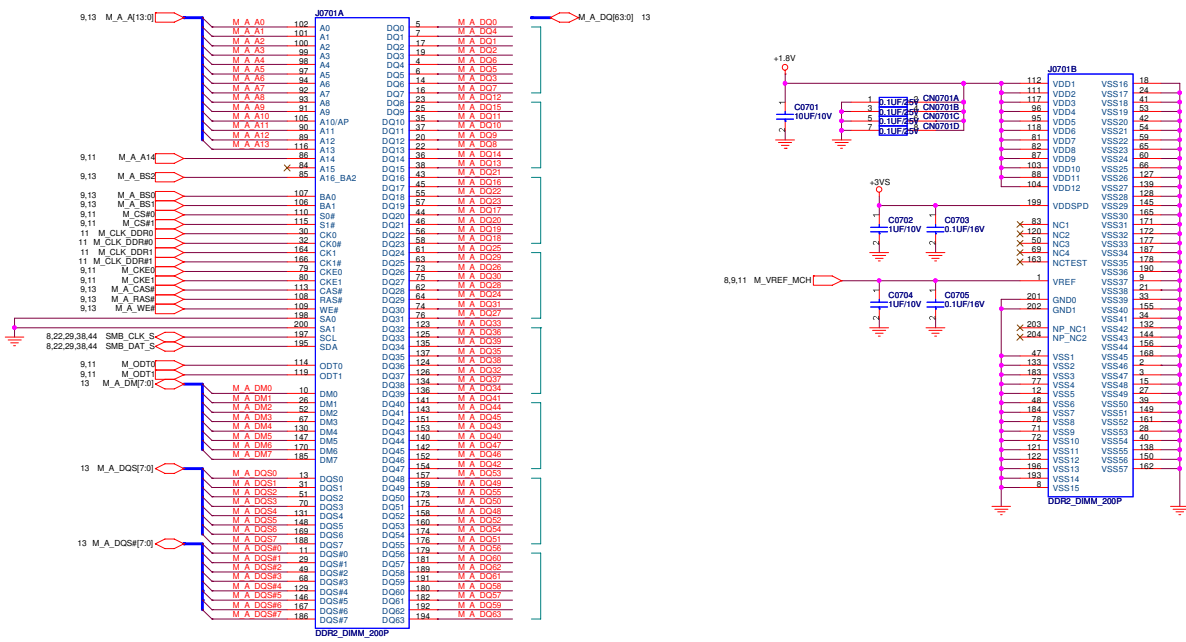
AGTL+ I/O Buffer Compensation

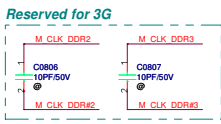




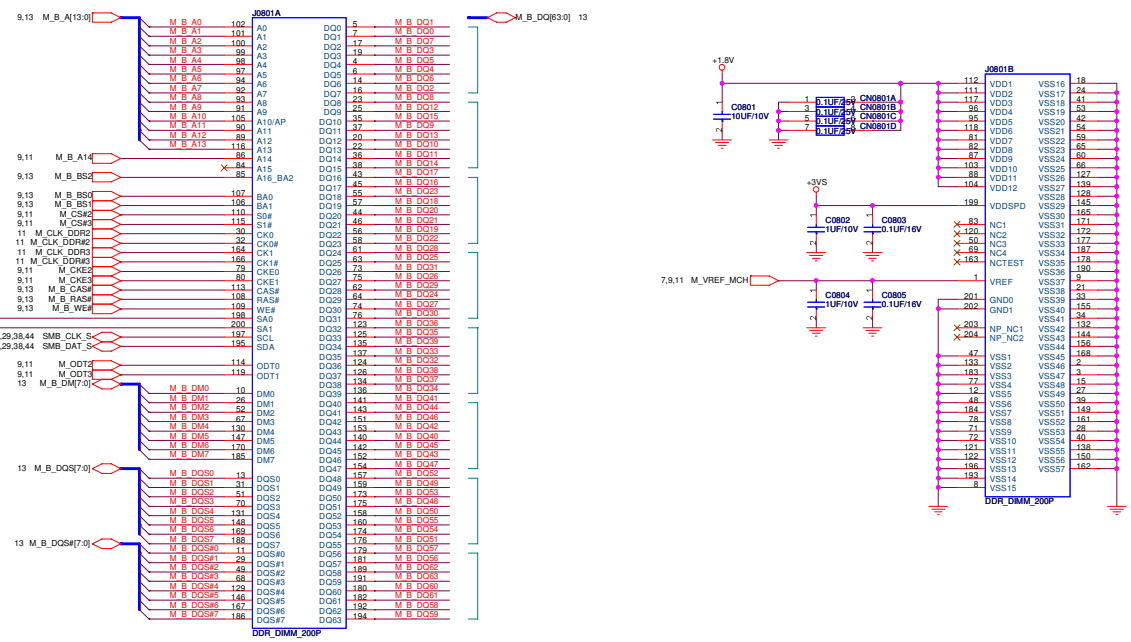


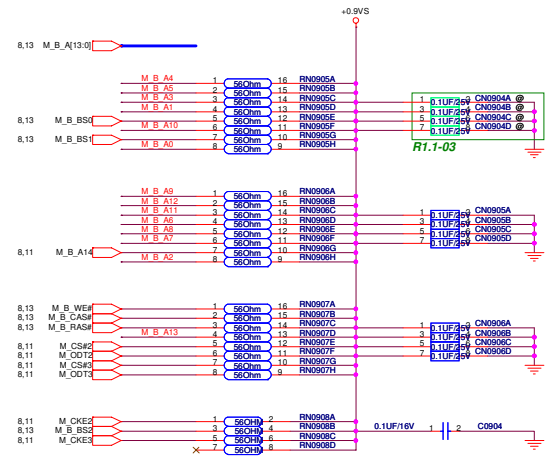
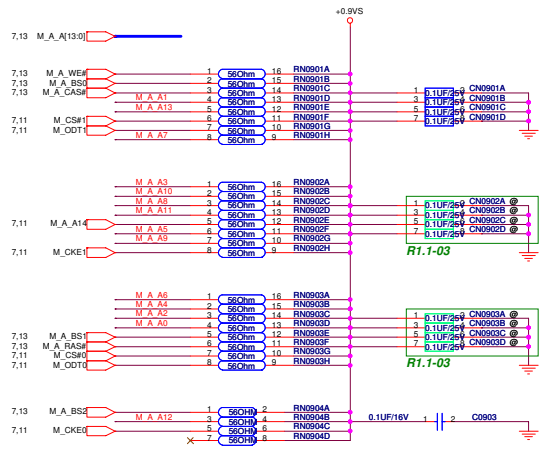
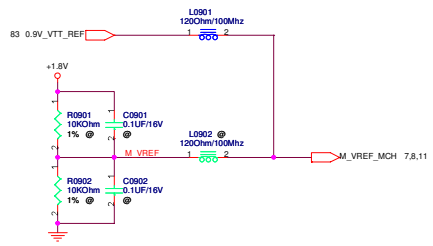
Reverse Type
H = 9.2 mm





Reverse Type
H = 4.0 mm





FSB RCOMP

For Calibrating the FSB I/O Buffer



FSB SCOMP

For Slew Rate Compensation on the FSB



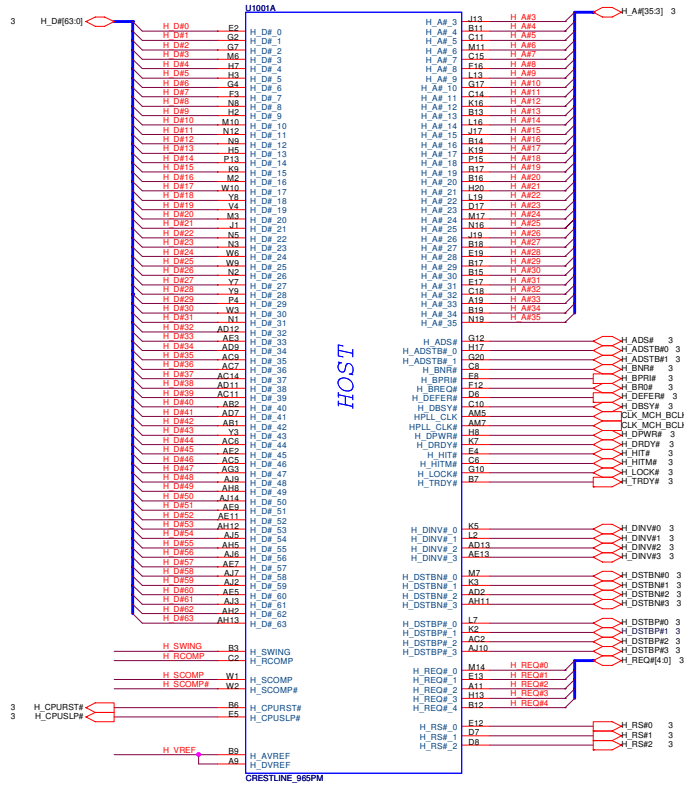
FSB Voltage Swing

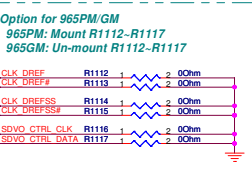
For Providing a Reference Voltage to The FSB RCOMP circuits

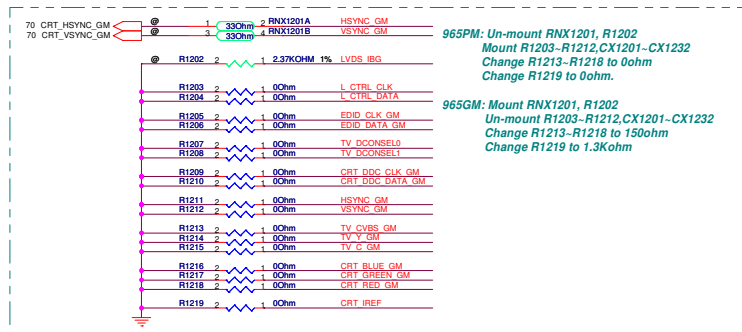
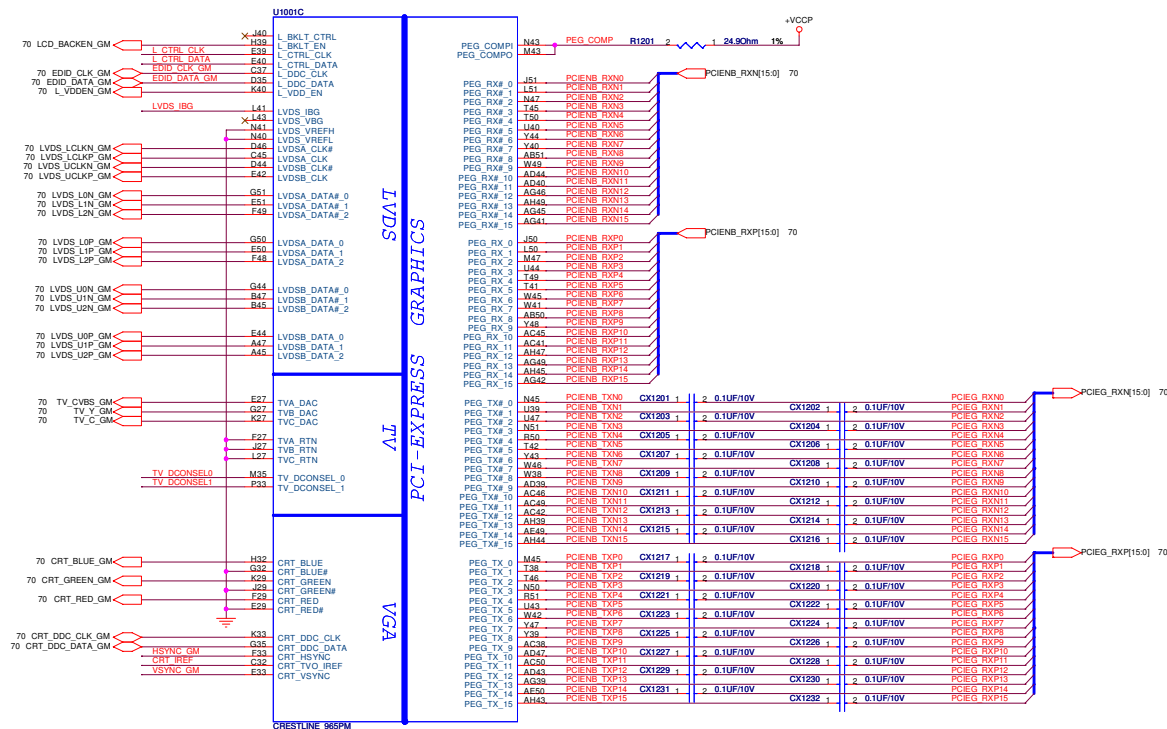


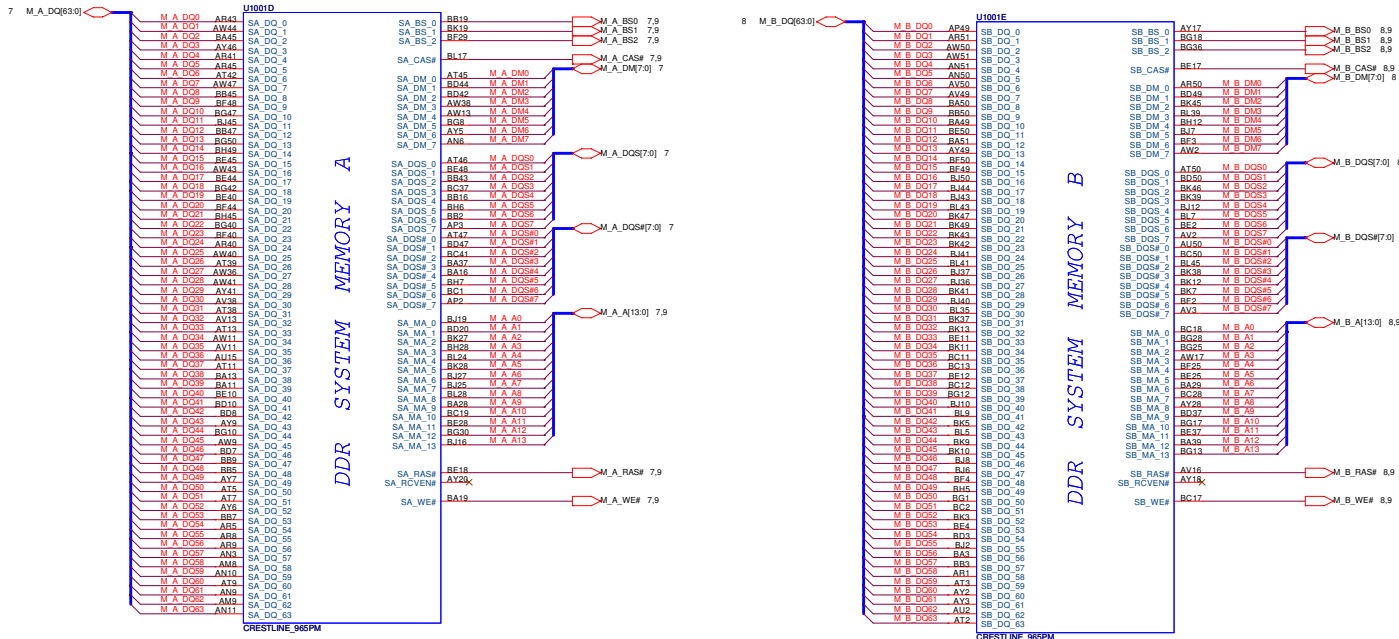
FSB VREF

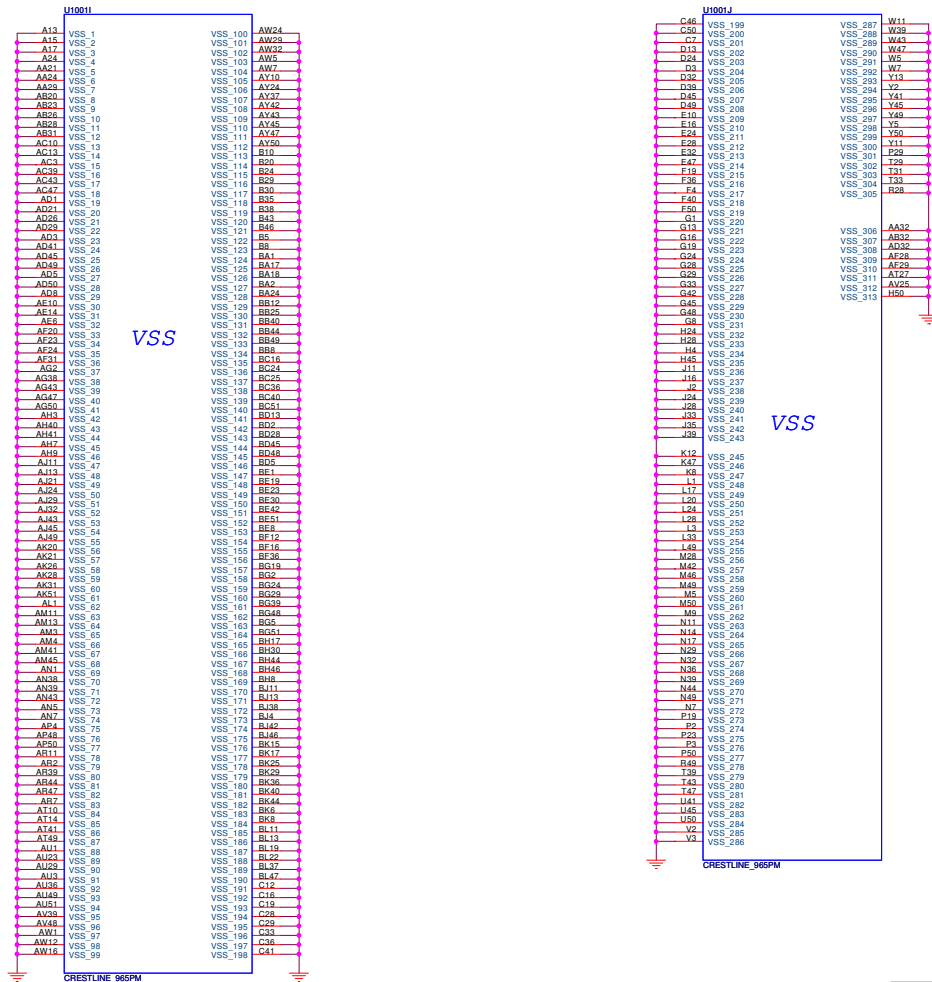
For Providing Reference Voltage for FSB Signals



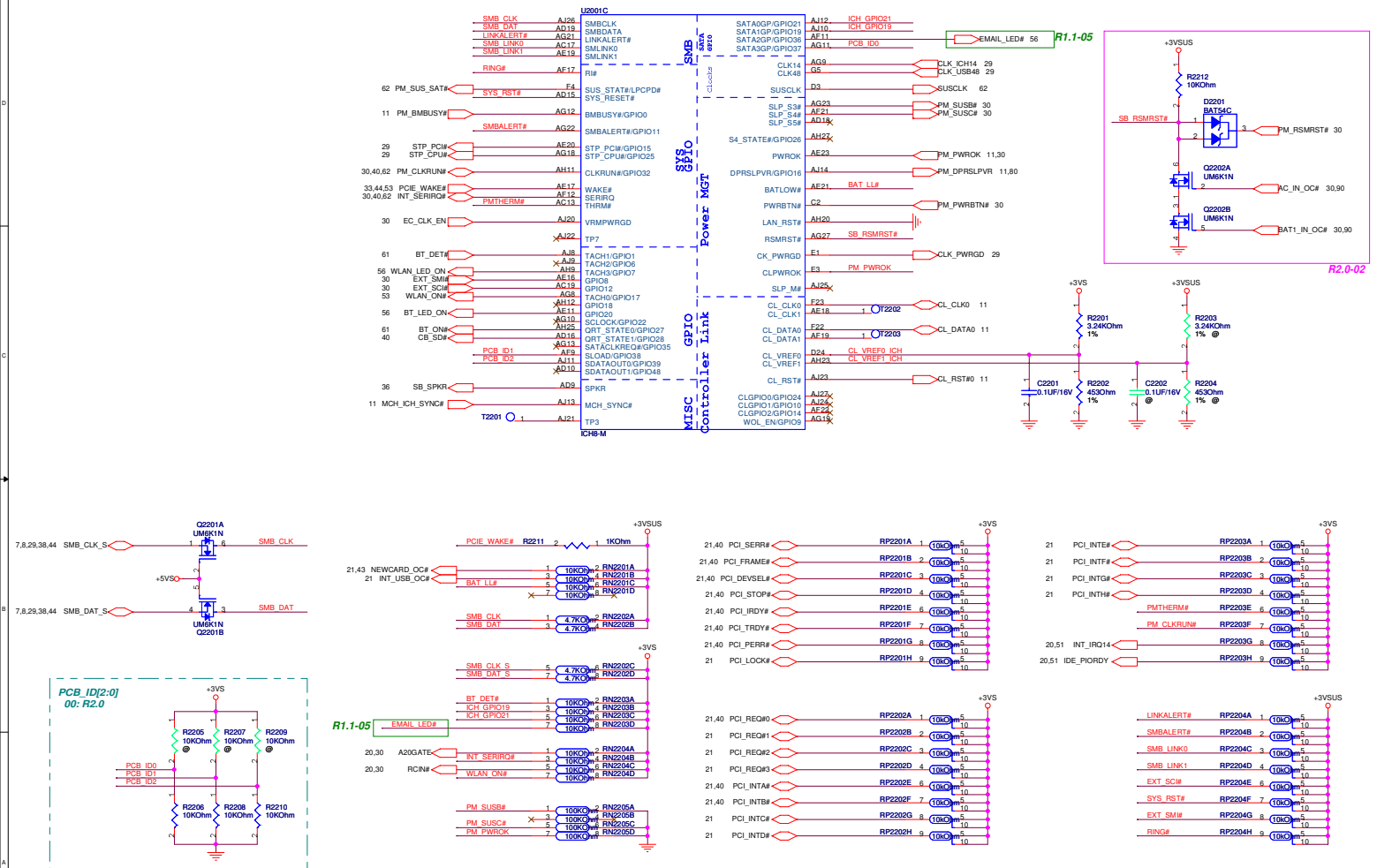




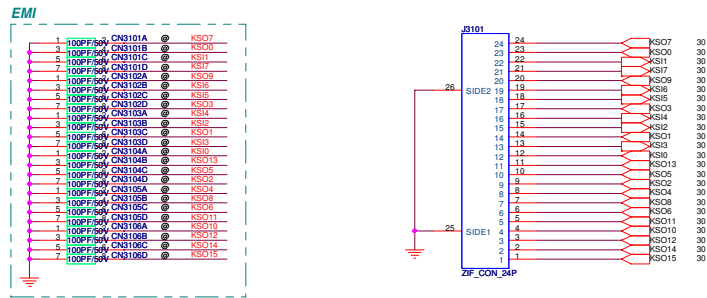




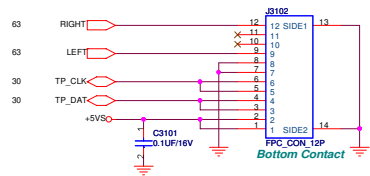




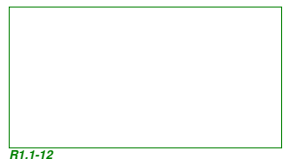
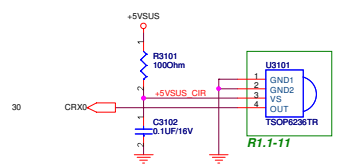
Keyboard

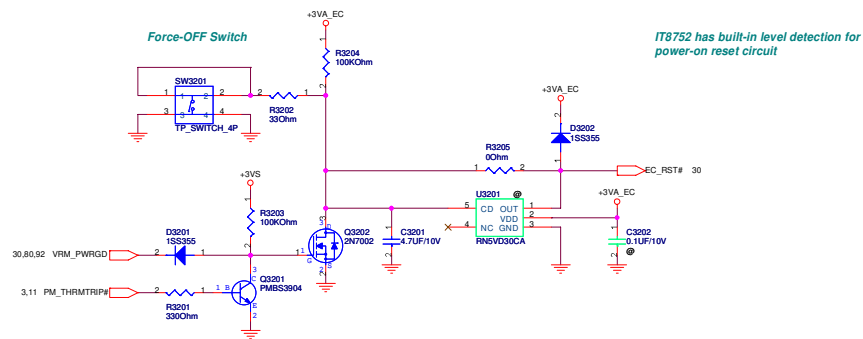


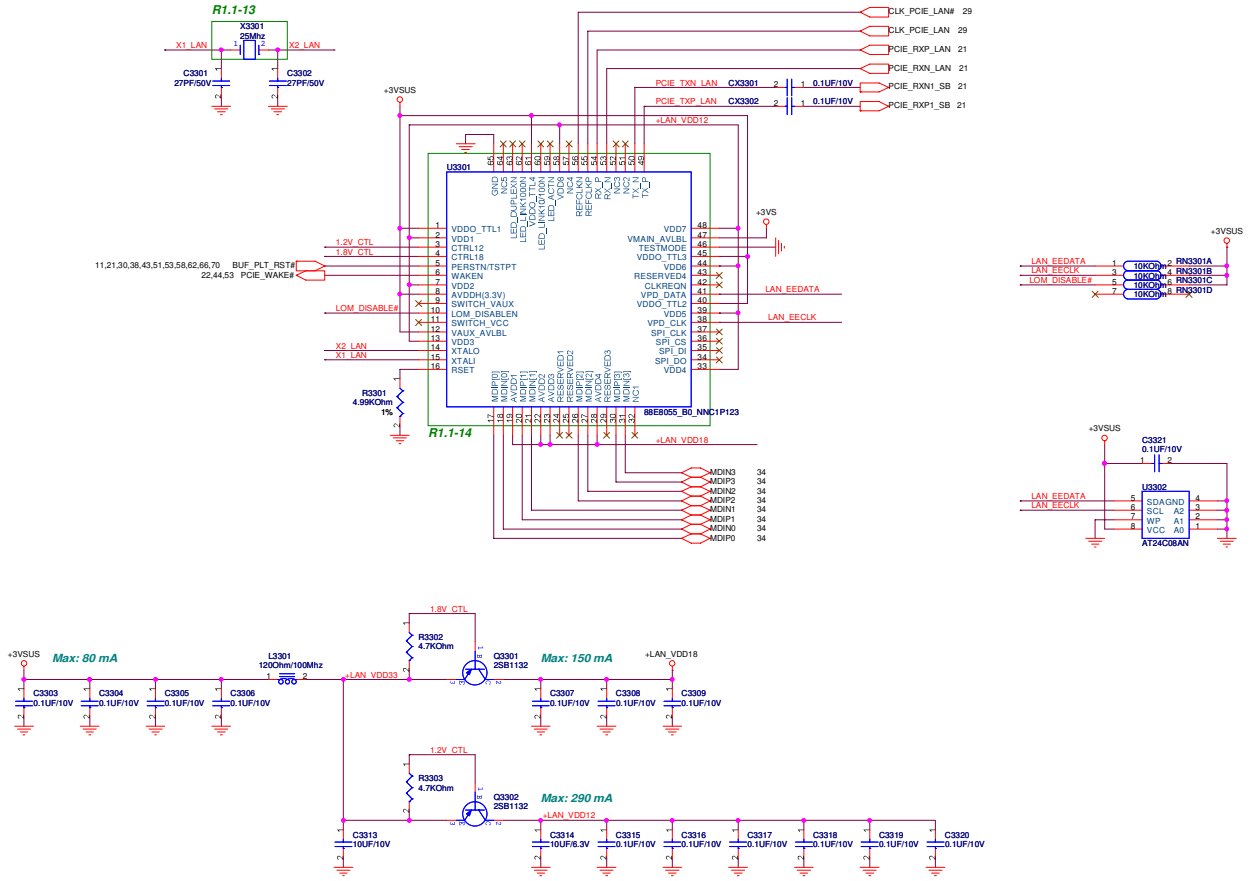
Touchpad

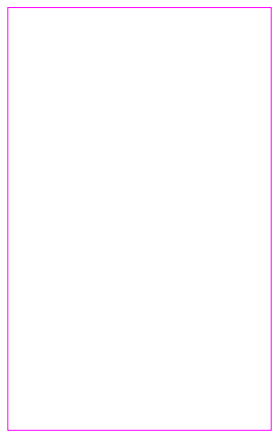
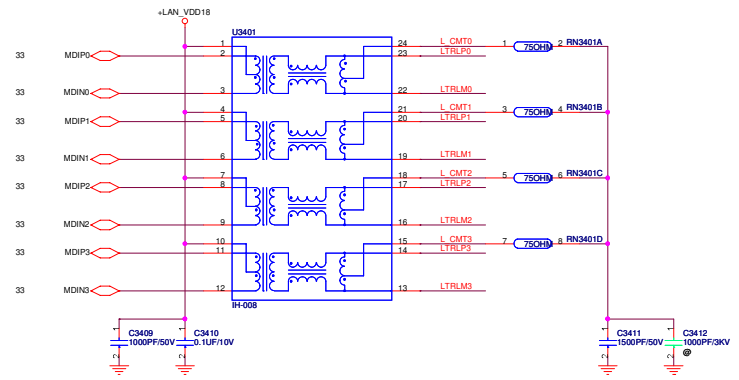
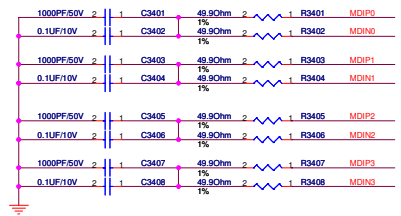


CIR

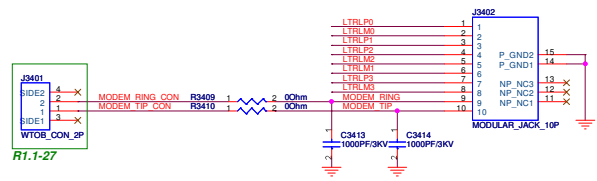


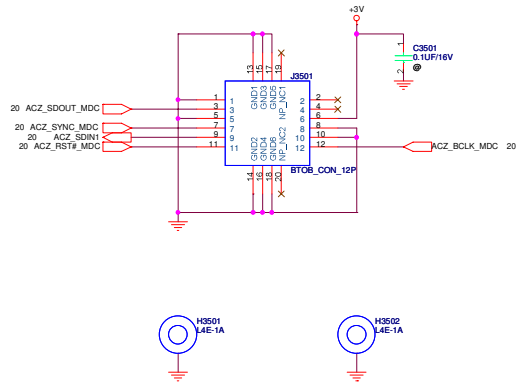




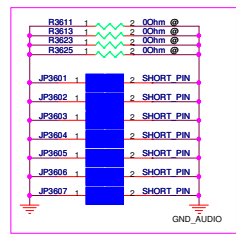
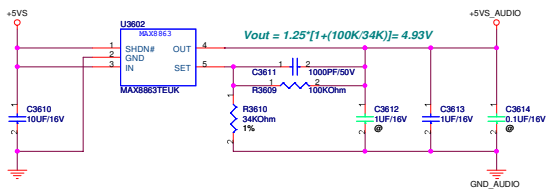
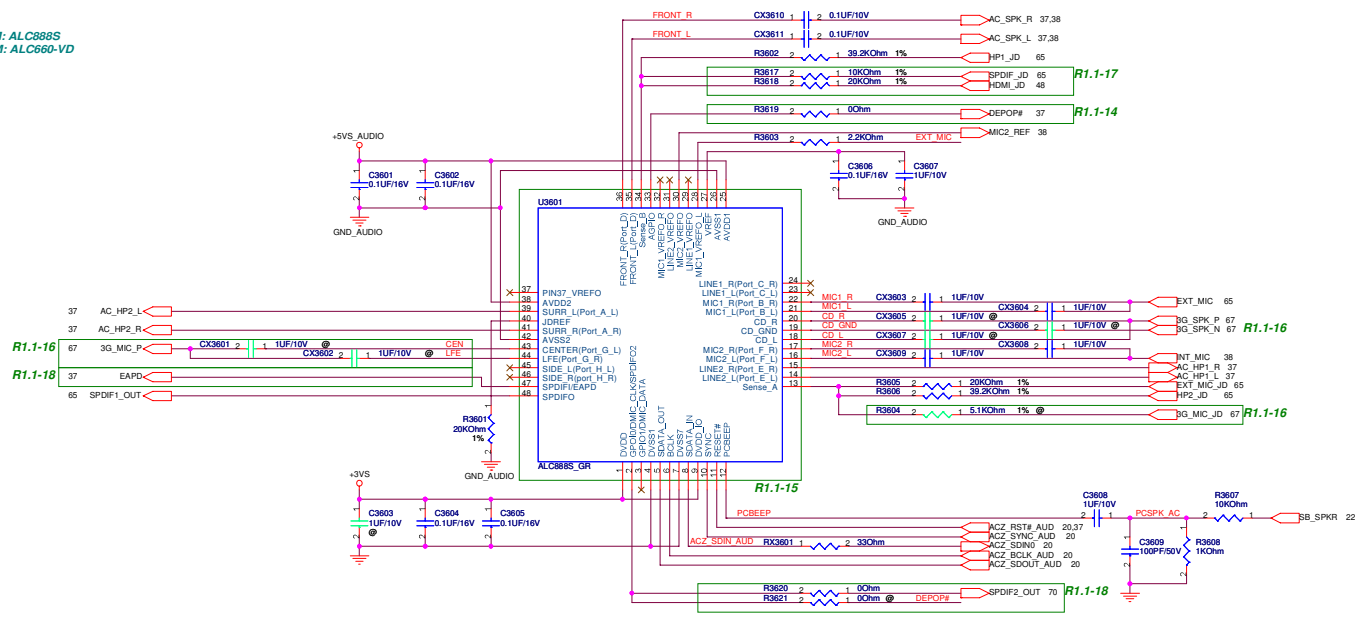


R1.1-28
R2.0-08

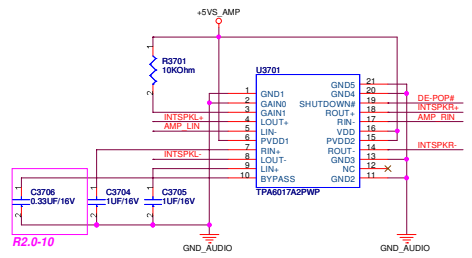
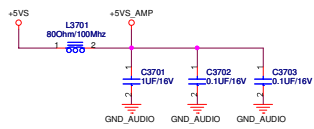




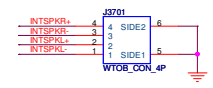
PM: ALC888S
GM: ALC660-VD



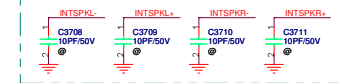
R1.1-28
R2.0-09



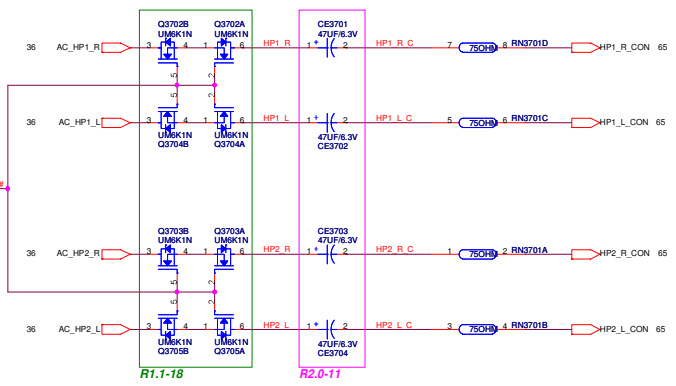
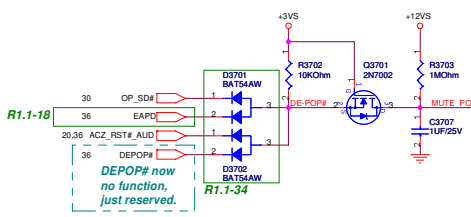
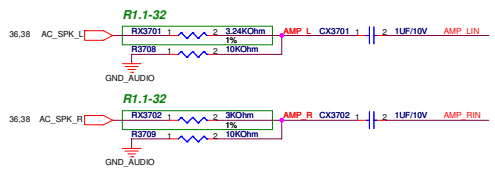
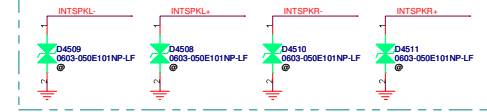
Internal Speaker Conn.

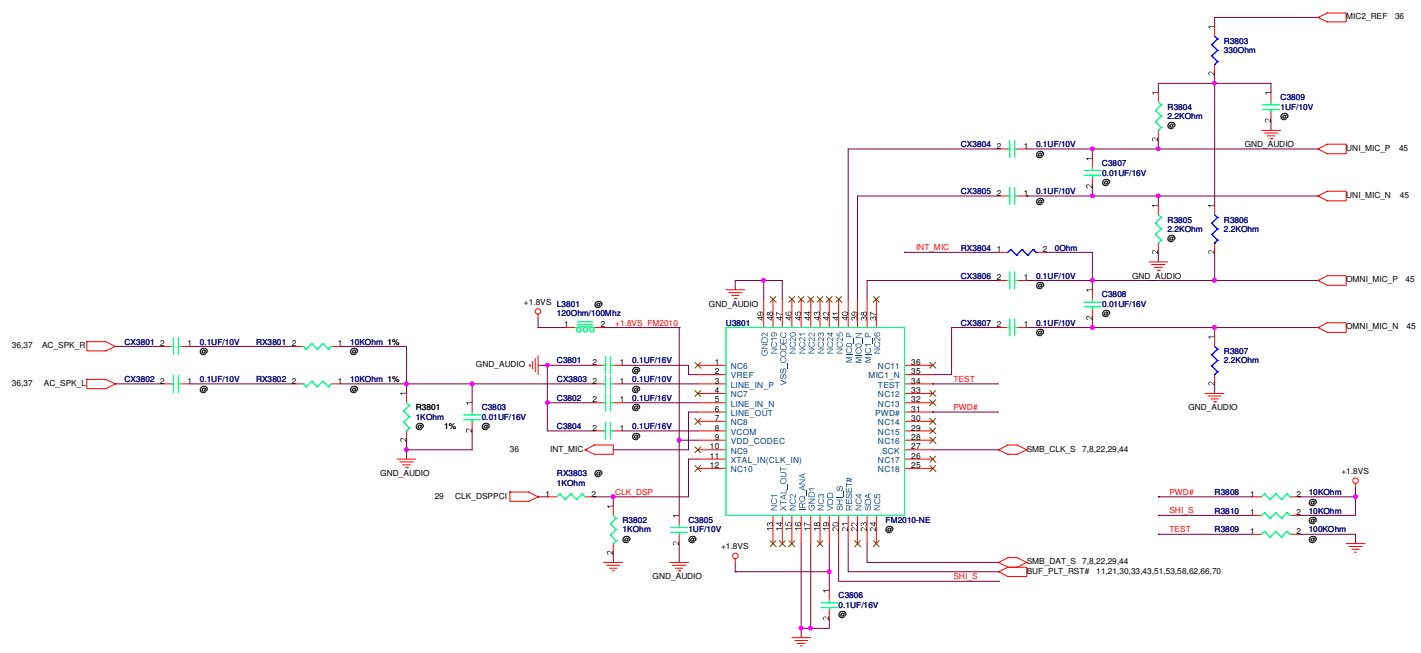


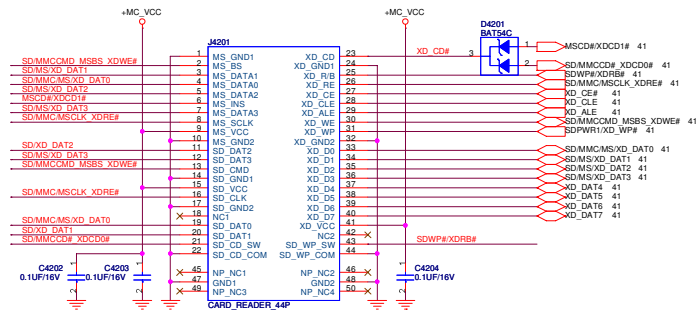
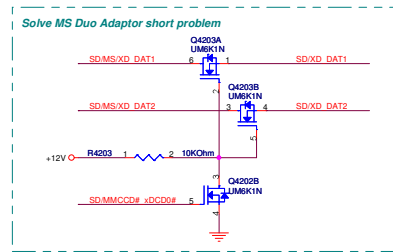
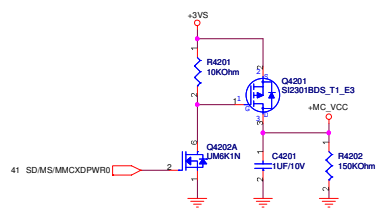
Reserved for 3G



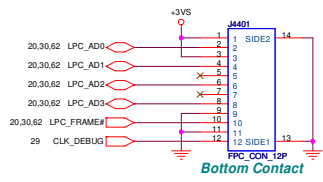
Reserved for EMI



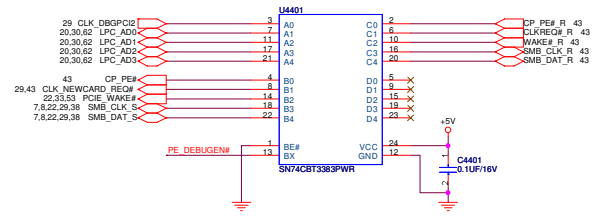




LPC Debug Port

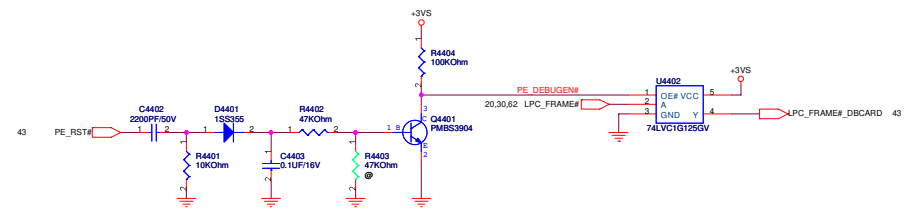


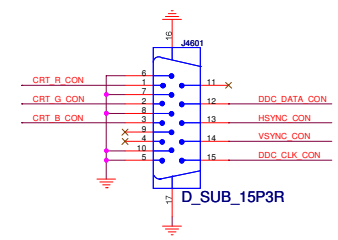
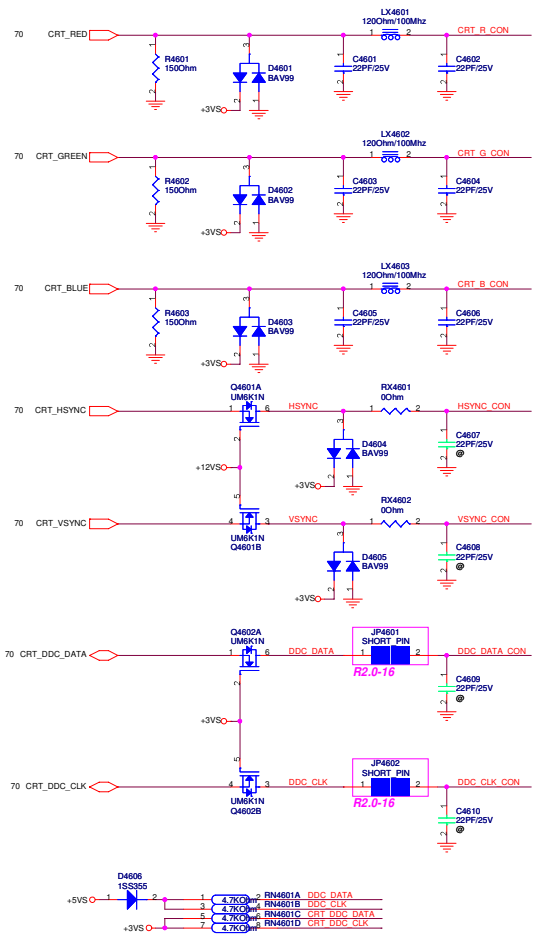
For NewCard Debug Card

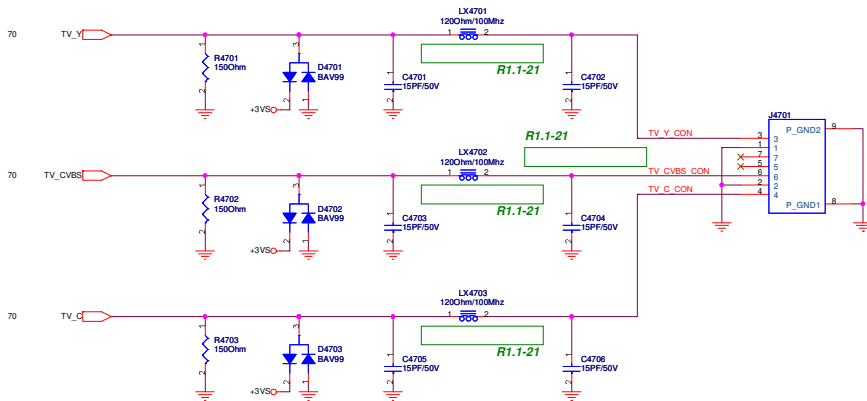


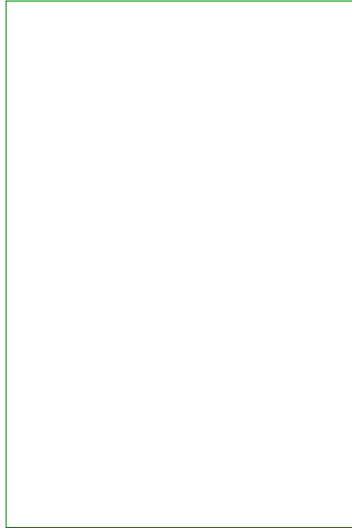
CP_PEW	00hm	2	1	R4405	CP_PEW_R
CLK_NEWCARD_REQ#	00hm	3	1	R4401B	CLKREQ#_R
PCIE_WAKE#	00hm	1	00hm	R4401A	WAKE#_R
SMB_DAT_S	00hm	3	00hm	R4402B	SMB_DAT_R
SMB_CLK_S	00hm	1	00hm	R4402A	SMB_CLK_R

R2.0-14

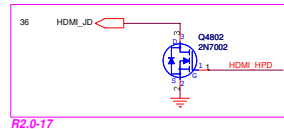
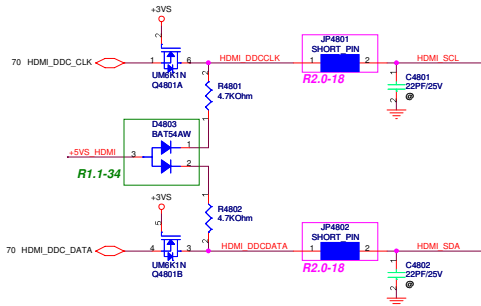
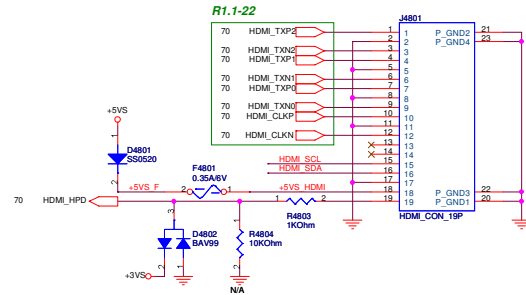




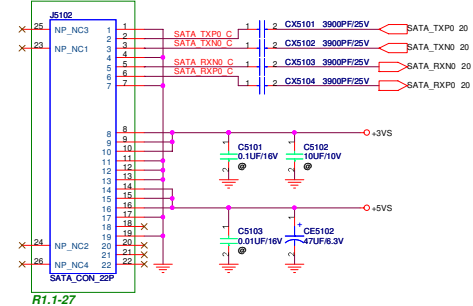
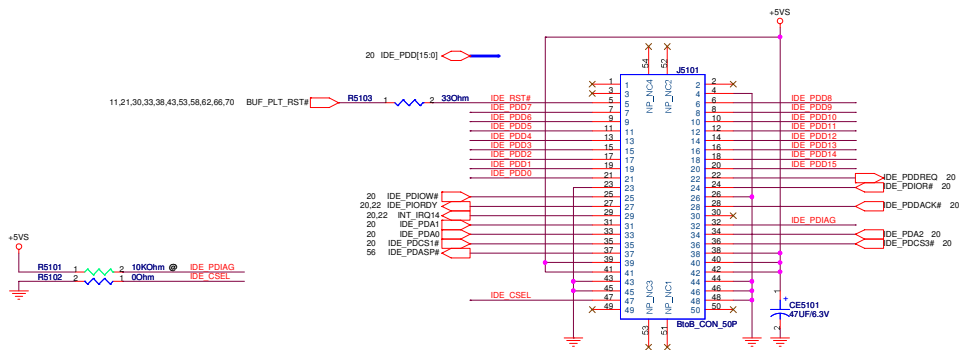


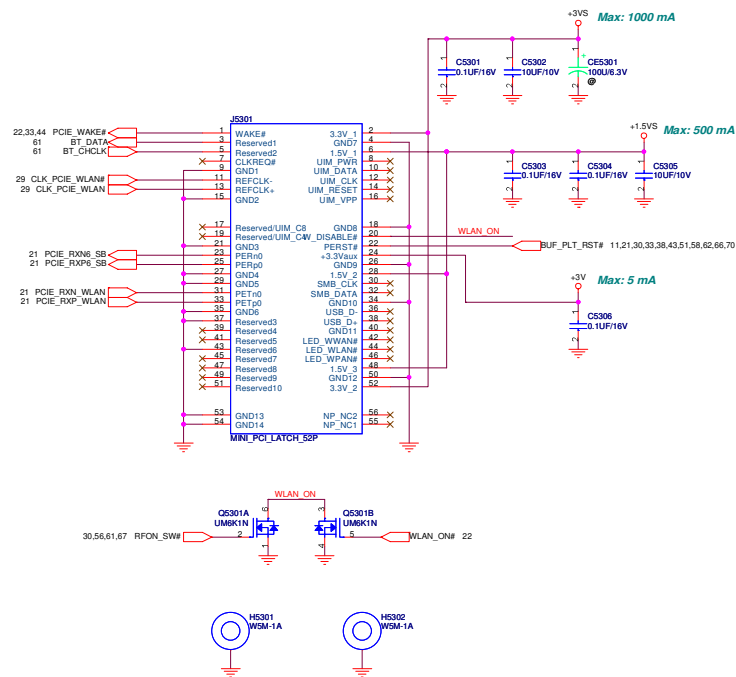


R1.1-22

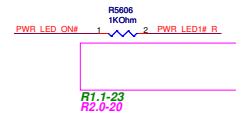


R2.0-17



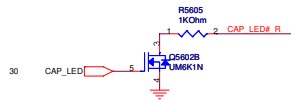


Power LED

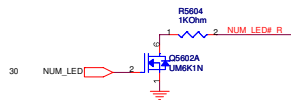


R1.1-23
R2.0-20

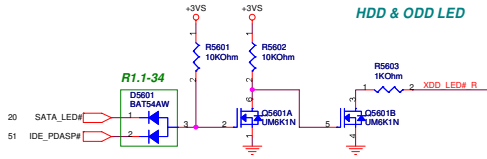
Cap Lock LED



Num Lock LED

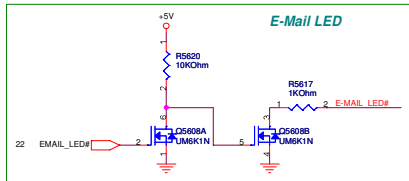


HDD & ODD LED



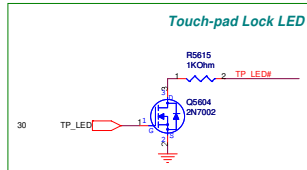
R1.1-34

E-Mail LED



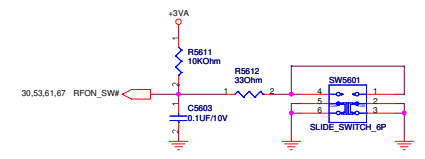
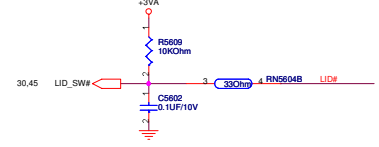
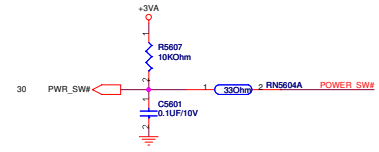
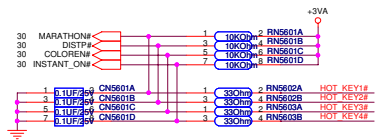
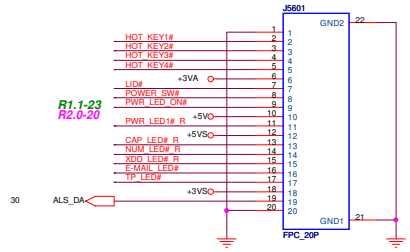
R1.1-03

Touch-pad Lock LED

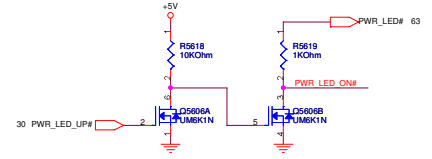


R1.1-08

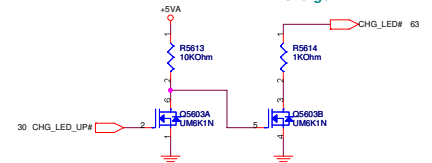
R1.1-23
R2.0-20



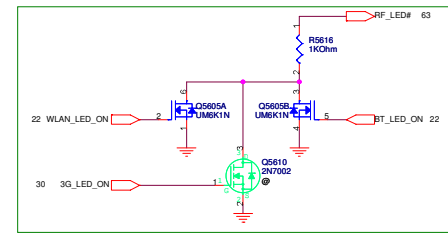
Power LED



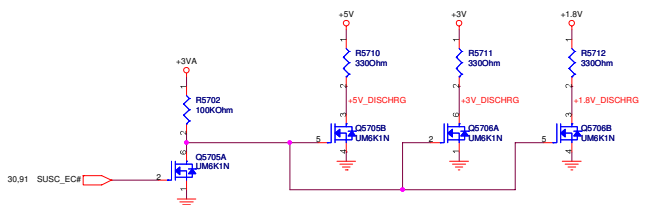
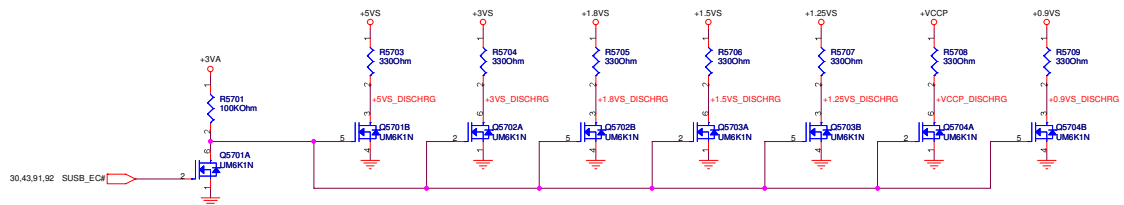
Charger LED

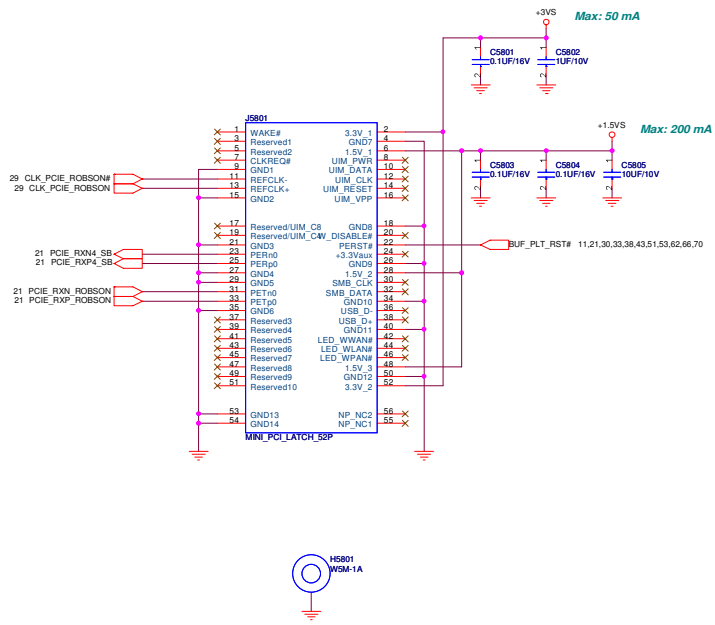


WLAN LED

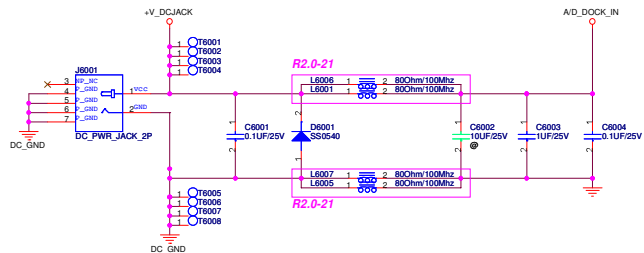


R1.1-24

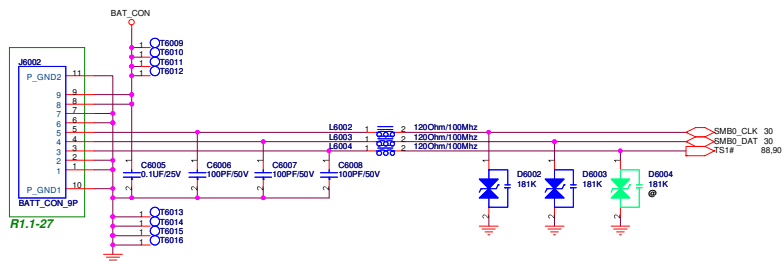


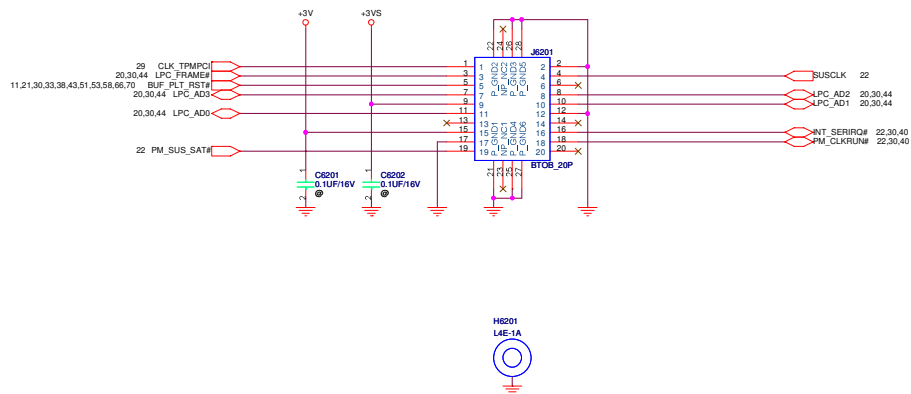


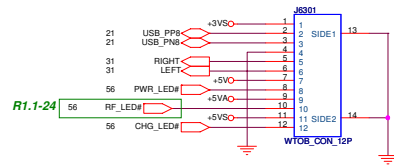
DC Jack

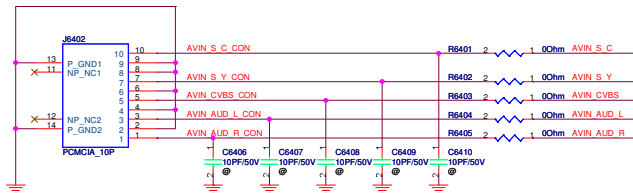
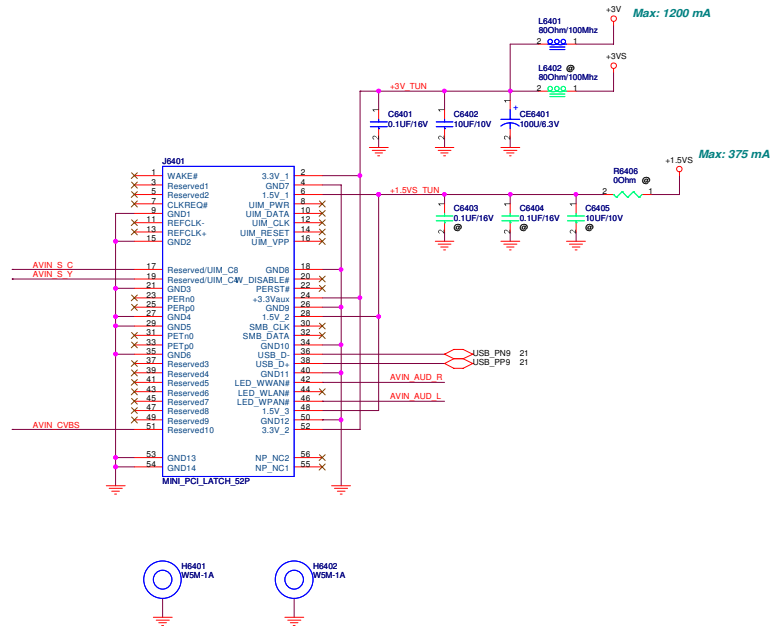


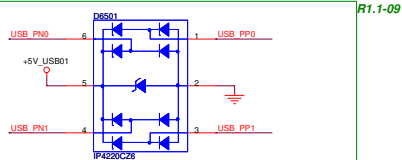
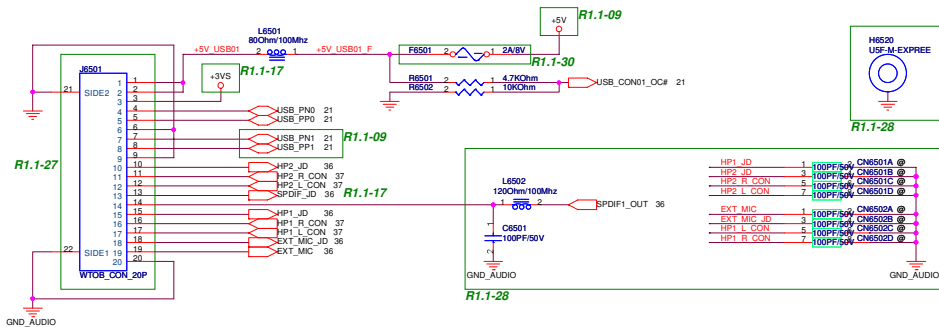
Battery Connector



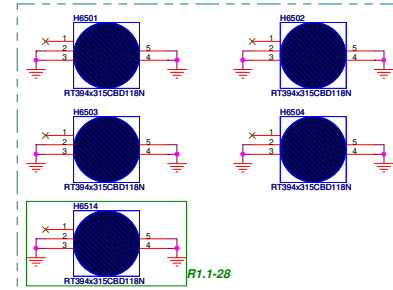




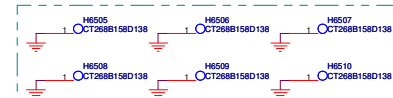




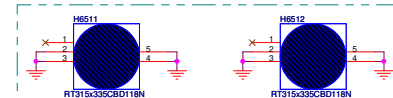
Screw Hole A



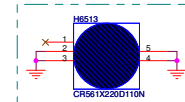
Screw Hole B



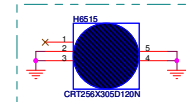
Screw Hole C



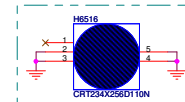
Screw Hole F



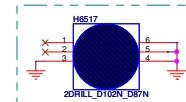
Screw Hole H



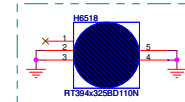
Screw Hole I



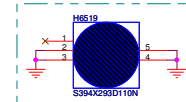
Screw Hole J

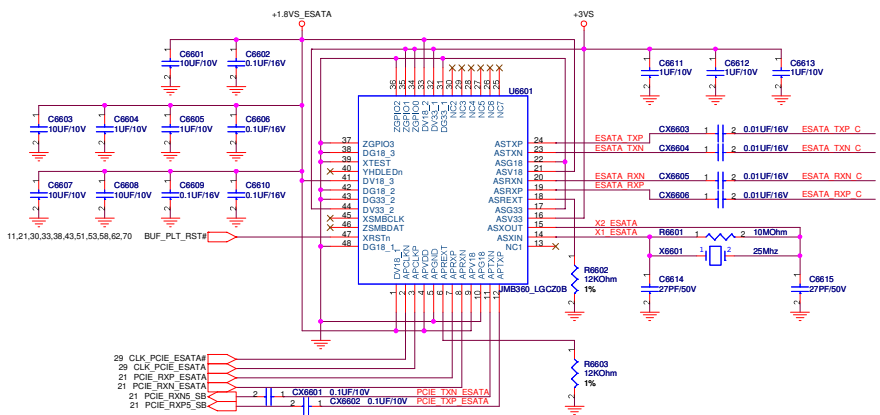


Screw Hole K



Screw Hole L



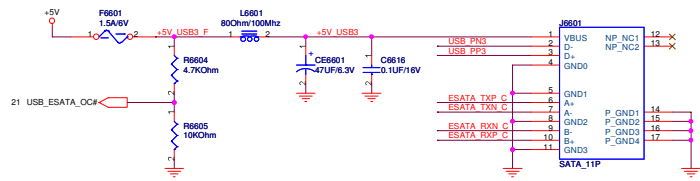
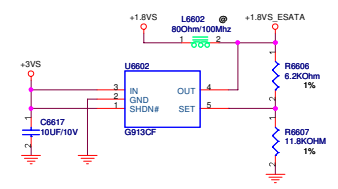
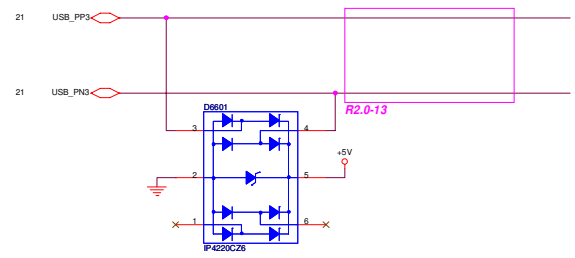


ZGPIO : Clock Type of PCI Express
0 = 25MHz Oscillator (D)
1 = 100MHz from PCI Express Finger

ZGPI1 : Clock Source of SATA II
0 = from Internal Clock Source (D)
1 = from ASXIN & ASXOUT

ZGPI2 : Interface to Debug Registers
0 = SMBus I/F (D)
1 = Reserved

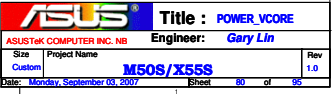
ZGPI2 : SMBus ID Address
0 = 8'h44 (D)
1 = 8'h4A





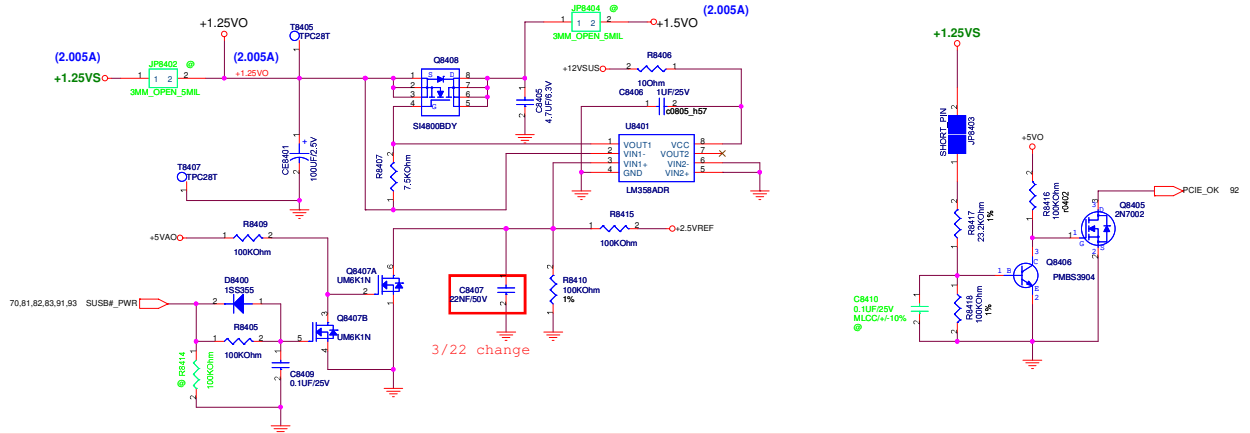


R1.1-26



+1.25VS

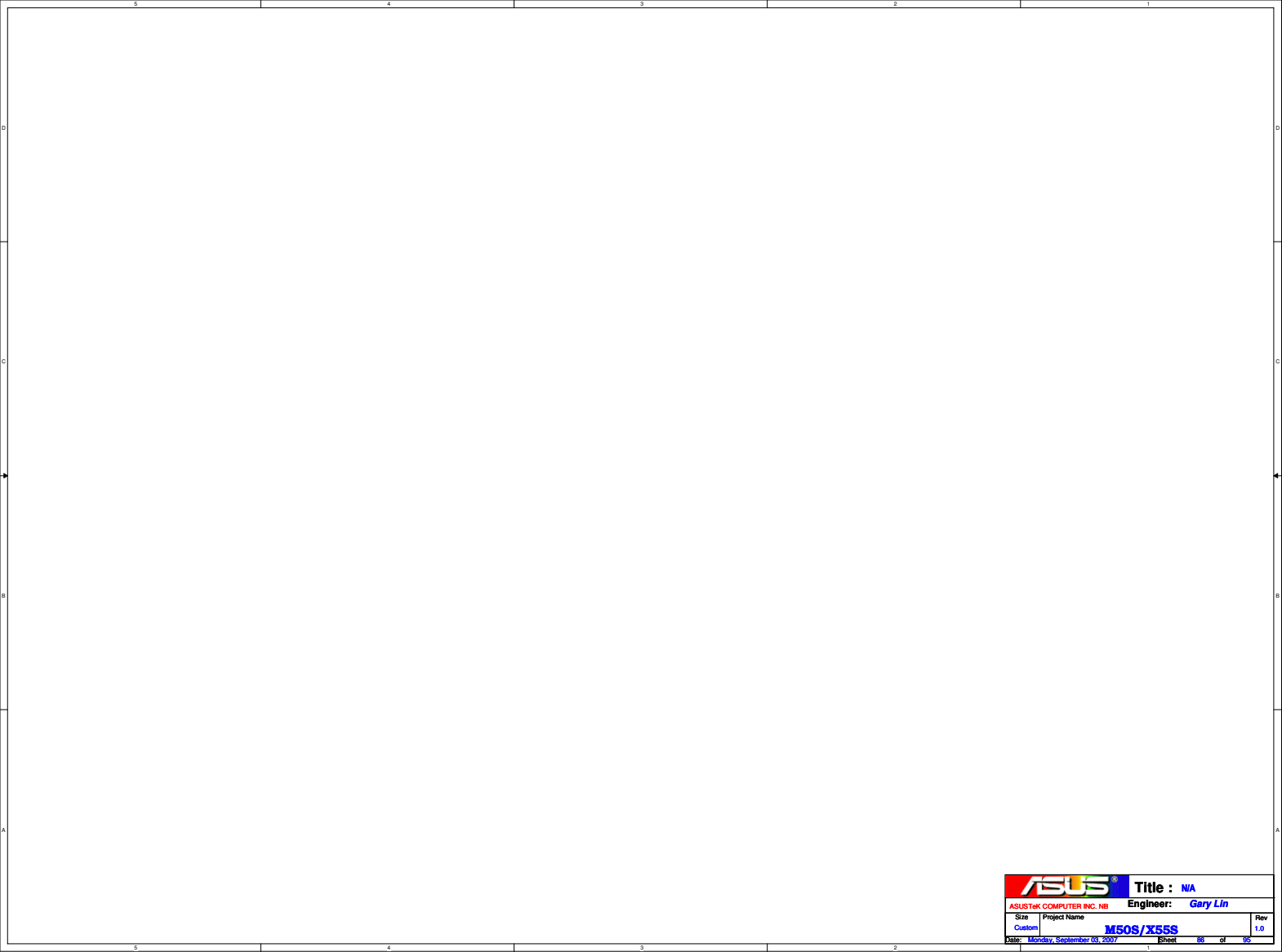
3/16 EE modify to daughter,so add this part

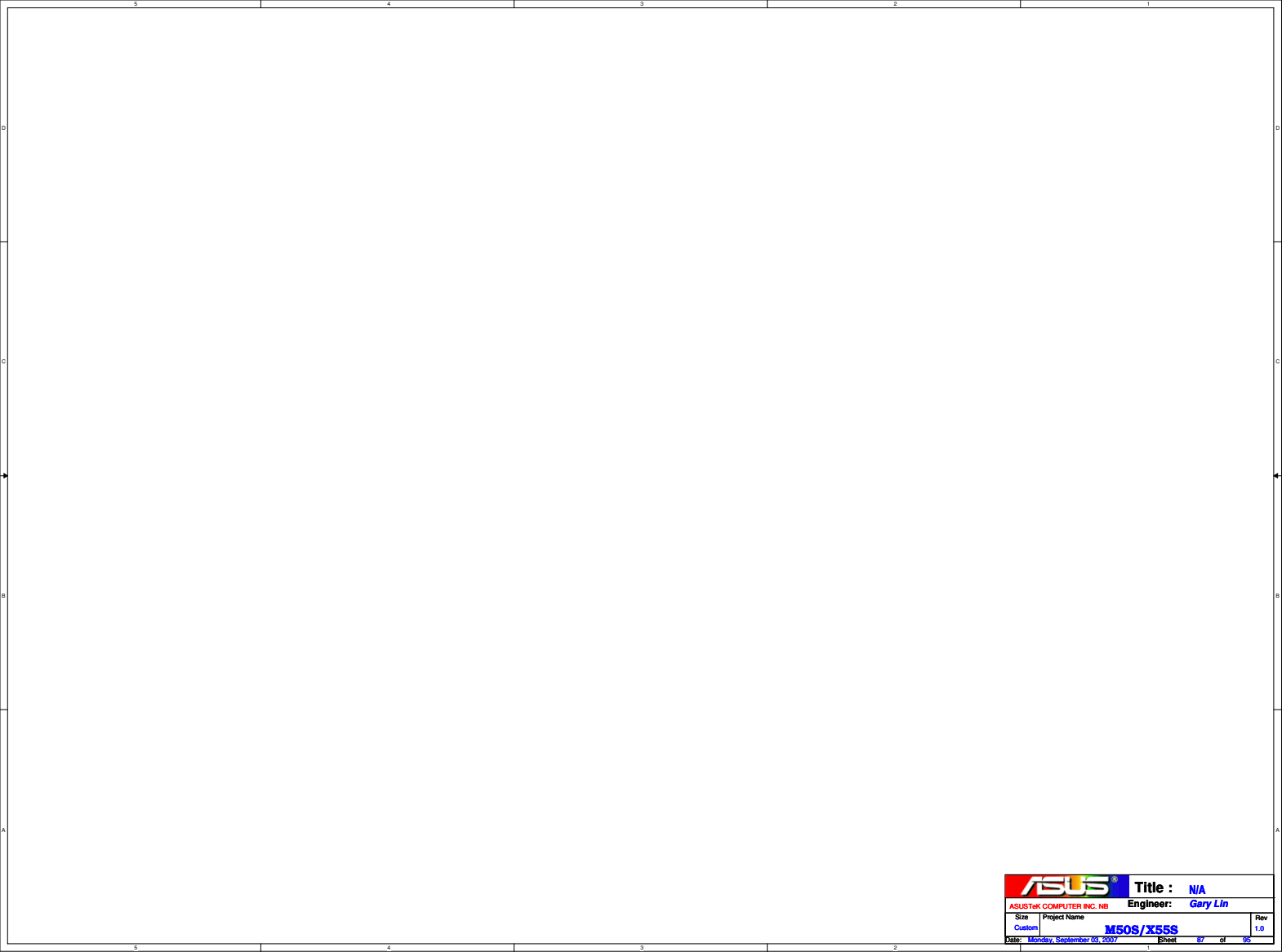


3/16 delete +2.5VSUS

3/14 EE modify to daughter,so delete this page

		Title : NA	
ASUSTek COMPUTER INC. NB		Engineer: Gary Lin	
Size	Project Name		Rev
Custom	M50S/X55S		1.0
Date: Monday, September 03, 2007		Sheet	85 of 95

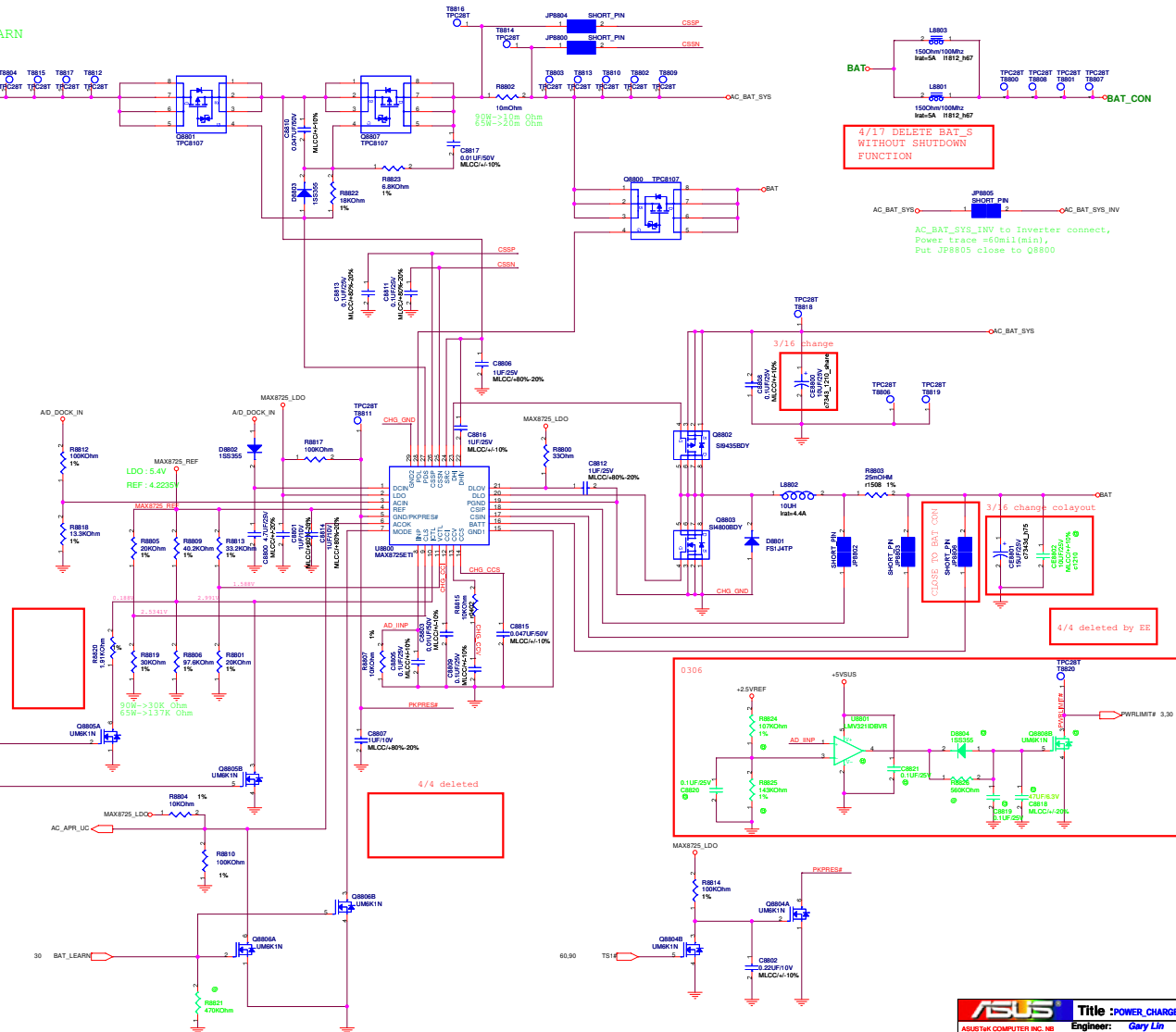


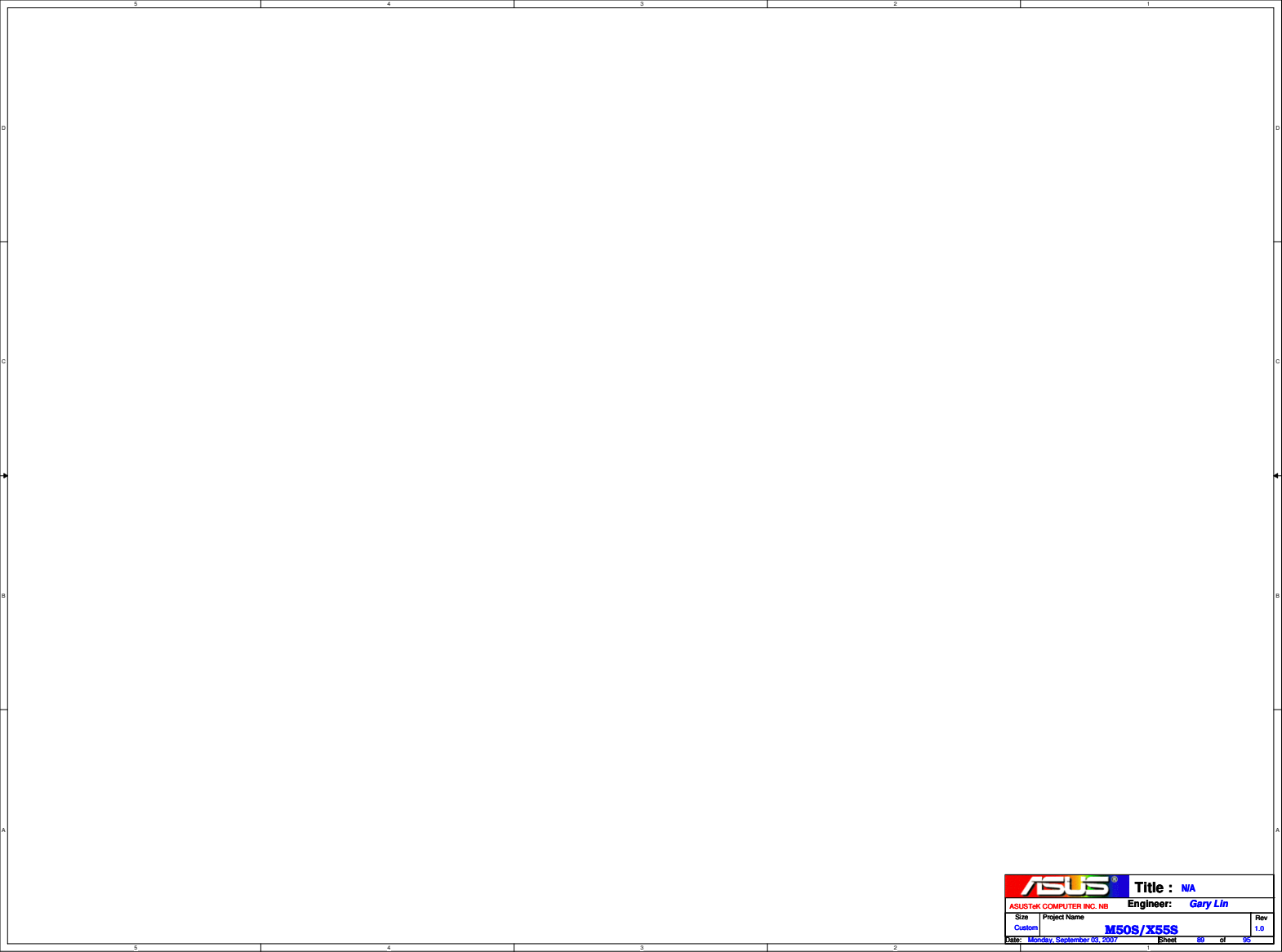


		Title : N/A	
ASUSTek COMPUTER INC. NB		Engineer: Gary Lin	
Size	Project Name		Rev
Custom	M50S/X55S		1.0
Date: Monday, September 03, 2007		Sheet	87 of 95

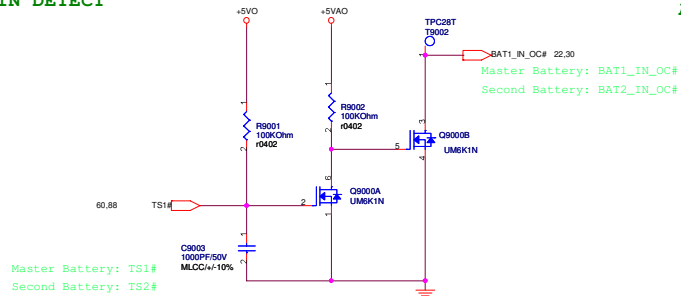
90 WATT

3/6 change for
3S2P/3S3P only 4/4
deleted

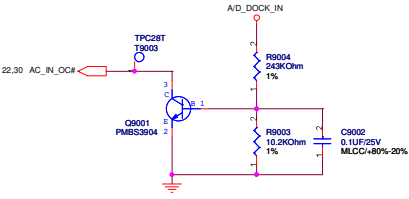




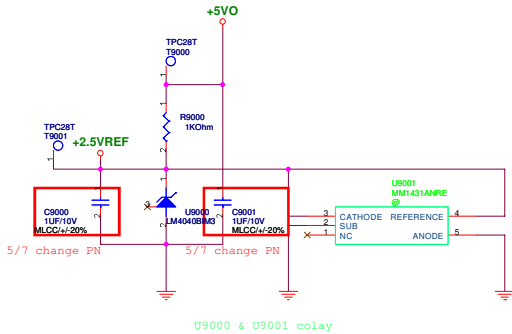
BATTERY IN DETECT



ADAPTER IN DETECT



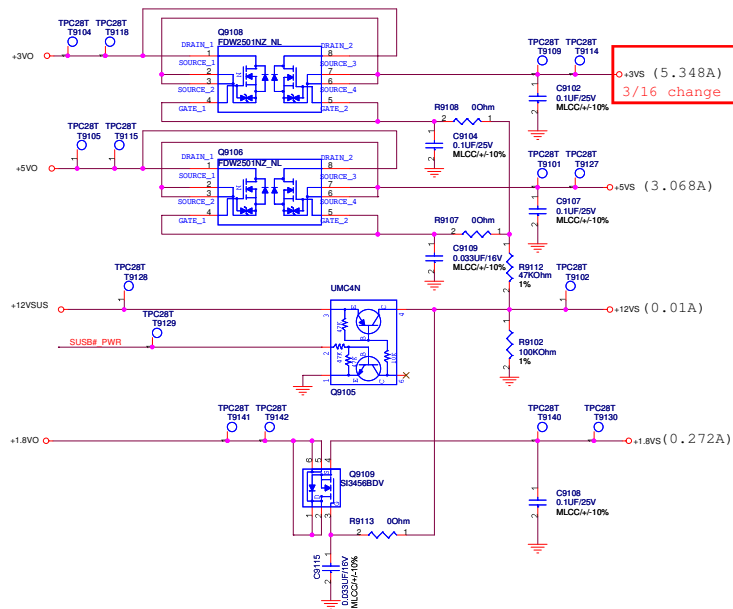
+2.5VREF



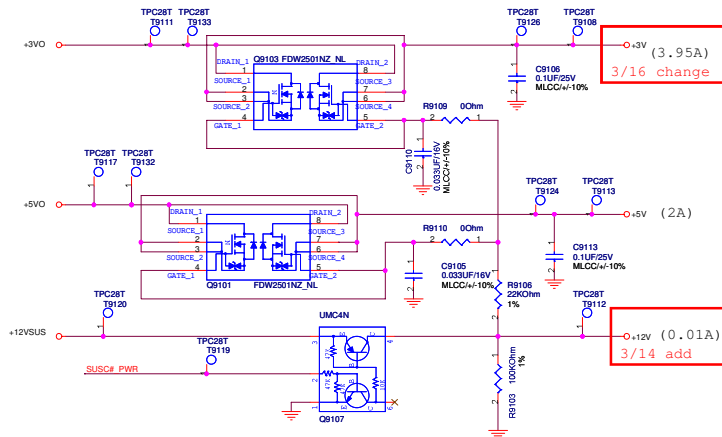
SUSB#_PWR POWER

3/16 delete +1.5VS from load switch

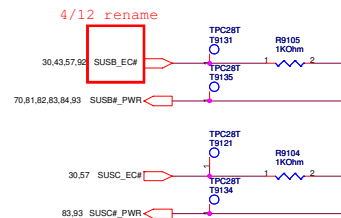
3/14 delete +VRAM



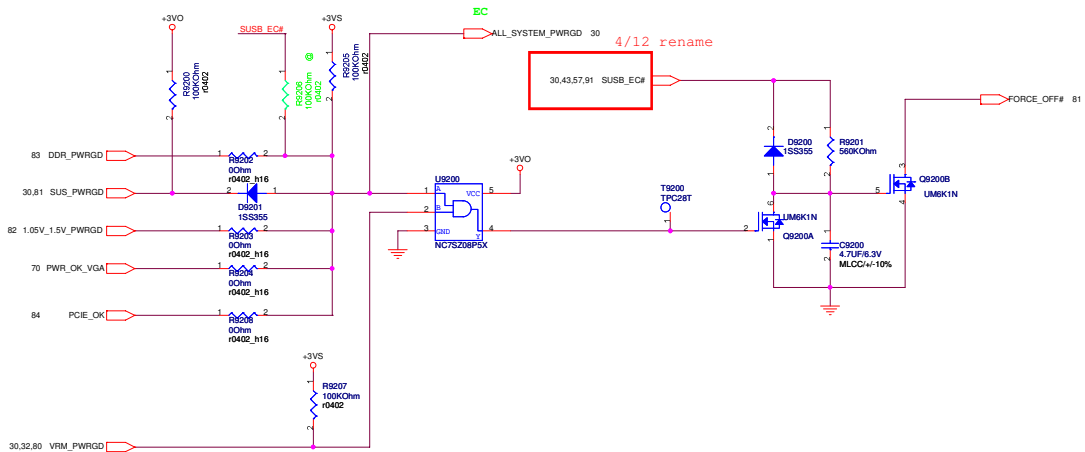
SUSC#_PWR POWER

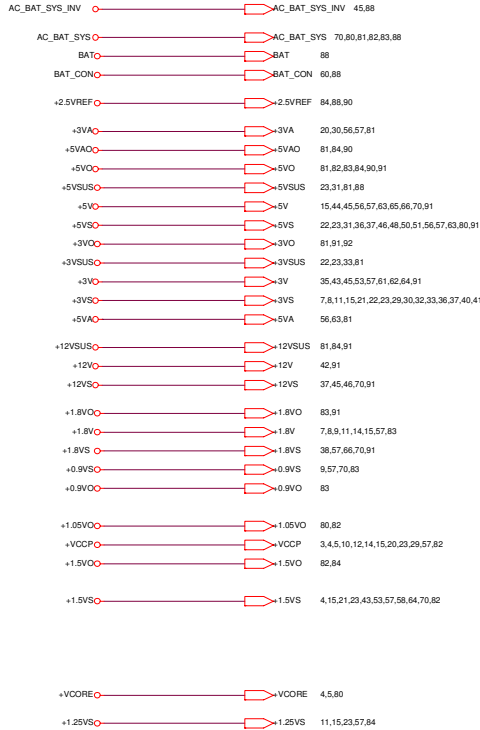


3/16 delete +1.5V

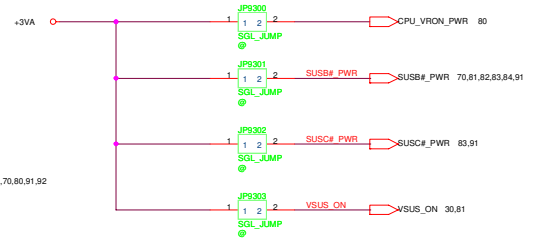


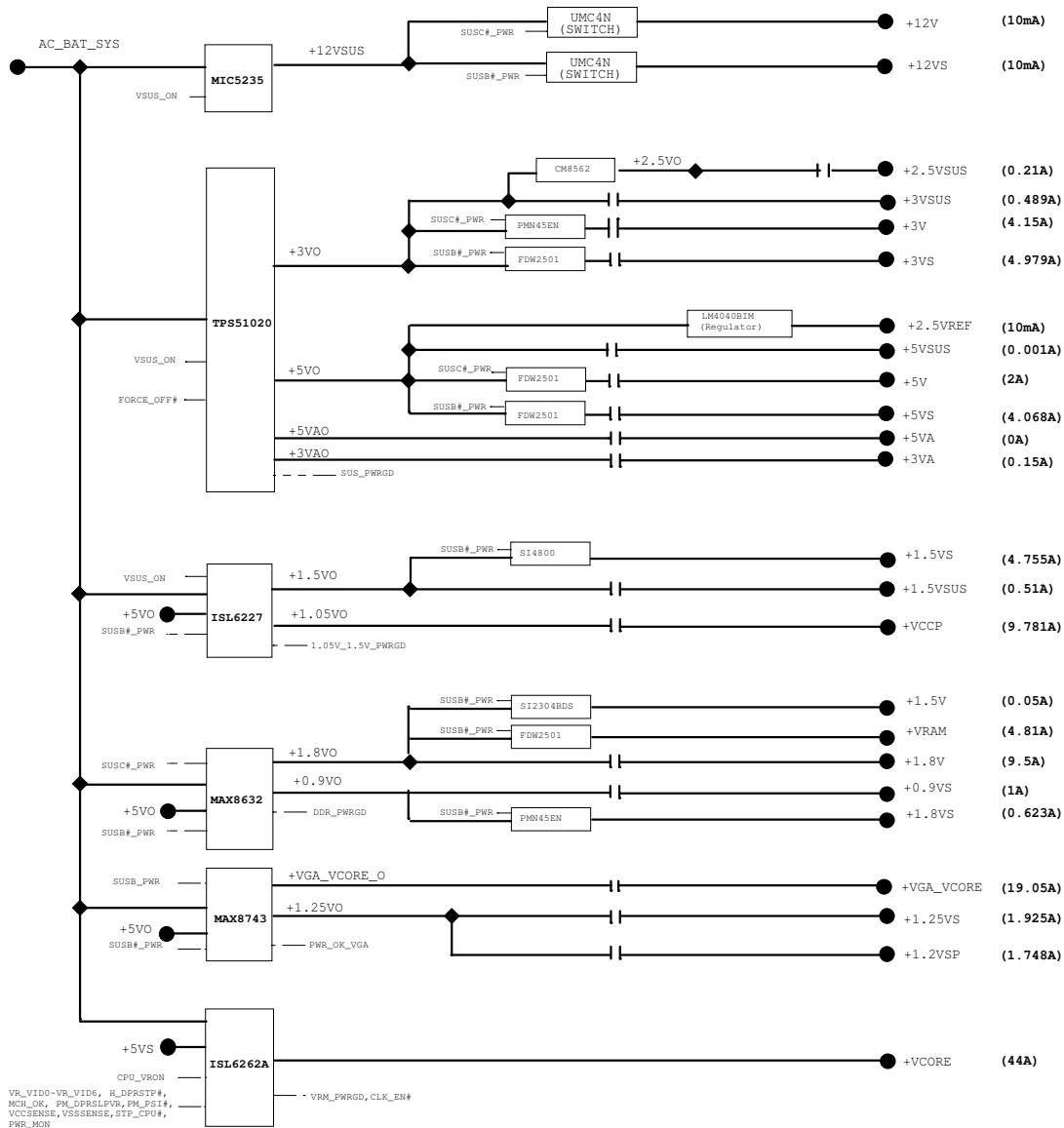
POWER GOOD DETECTOR

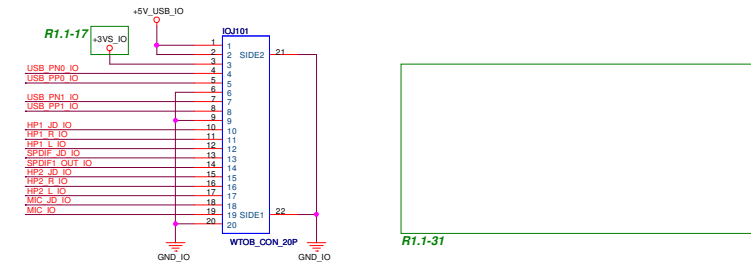




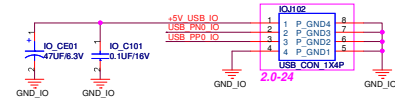
FOR POWER TEST



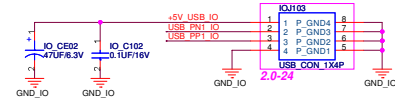




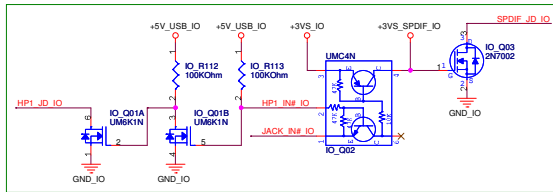
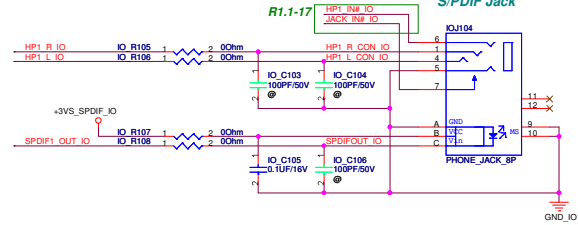
USB Port 0



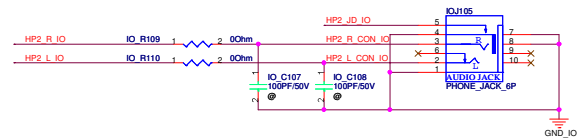
USB Port 1



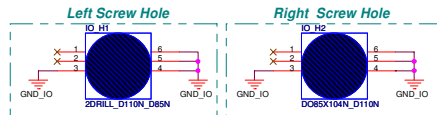
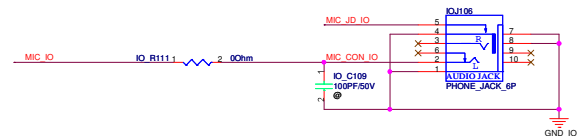
Headphone & S/PDIF Jack



Headphone Jack



MIC In Jack



Rev	Date	Description
R1.0		First Release!
R1.1 Green Block		** Merge IO board into main board PCB. Page 95. 01.Remove VR_VID[6:0] testing series 0 0hm. Page 4. 02.Change 6pcs +VCORE capacitors to No-Stuff for cost down. Page 5. 03.Change 3pcs +0.9VS capacitors to No-Stuff for cost down. Page 9. 04.Change N1Sv USB port to follow N2Sv, and modify USB_OC#. Page 21,43,45. 05.PM Request: Change Bluetooth LED tp E-Mail LED. Page 22,56. 06.Follow Intel to change C2304 to 1uF/16V(XR). Page 23. 07.Follow RiE to change R2904 to 270ohm. Page 29. 08.Follow IT8752/8512 EC Common Hardware Pin Assignment v0.005, change GPE7 to INSTANT_ON# and GPG0 to PM_THERM#. Page 30. 09.PM Request: Remove USB port charger function. Page 30,65. 10.PM change WWAN LED to touch-pad lock LED. Page 30,56. 11.Change IR to 36KHz to meet Vista remote control Min. range requirement. Page 31. 12.Remove testing 2nd CIR design. Page 31. 13.Change X3301 to 49S type for cost down. Page 33. 14.LAN chip version change. Page 33. 15.Audio codec chip change version. Page 36. 16.N1Sv/X55 will not supprot 3G function. Page 36,67. 17.Add S/PDIF & HDMI jack detect by Realtek sugesstion. Page 36,65,70,95. 18.Modify audio de-pop circuit. Page 36,37. 19.Modify LVDS power sequence failed bug. Page 45. 20.Modify LCD abnormal display bug due to LVDS pair mismatch. Page 45,70. 21.Remove HDTV support function. Page 47,70. 22.Remove HDMI EMI filter design. Page 48. 23.X55 need two pwer LEDs. Page 56. 24.PM change WLAN LED to RF LED. Page 56,63. 25.Bluetooth pin define error. Page 61. 26.Remove co-layout sequence logic control circuit. Page 68. 27.ME change parts: J3401,J5102,J6002,J6501. Page 34,51,60,65. 28.EMI modification. Page 34,36,65. 29.Crystal accuracy fine-tune. Page 30.USB droop test fail. Page 65. 31.Remove IO board USB common choke design. Page 95. 32.Speaker fine-tune. Page 37. 33.Cost down for 4-wire PWM fan. Page 50. 34.Cost down: Change RB717F to BAT54AW. Page 37,45,48,56.
R2.0 Pink Block		01.Change +1.25VS_MPLL, +1.25VS_PEGPLL & +1.8V_SM_CK PLL design. Page 15. 02.Add CMOS crack protection circuit. Page 22. 03.Reserve C2337 (10UF/16V) for +5VREF_ICH. Page 23. 04.Change ICS9LPR363 version from D to E for SATA clock jitter improve. Page 29. 05.With EMI's confirmation, replace R2901, R2905, R2906 with short-pad JP2901, JF2902, JF2903. Page 29. 06.With EC's confirmation, change ITE8752 P/N to 06G042016011. Page 30. 07.With EMI's confirmation, replace R3001 with short-pad JP3002. Page 30. 08.With EMI RD's confirmation, remove reserved LAN common choke circuit. Page 34. 09.With EMI's confirmation, change R3612, R3614, R3615, R3616, R3622, R3624, R3626 to short-pad JP3601~JP3607. And change R3611, R3613, R3623, R3625 to No-Stuff. Page 36. 10.Post wave sounds abnormal when audio amplifier use GMT G1431. Change C3706 to 0.33UF to shorten audio amplifier start-up time. Page 37.

Rev	Date	Description
		11.For cost down, change CE3701~CE3704 to 47UF. And after EA test, these can pass Vista audio criteria. Page 37. 12.With EMI's confirmation, remove reserved 1394 common choke circuit. Page 41. 13.With EMI's confirmation, remove reserved NewCard USB common choke circuit. Page 43. 14.Add NewCard debug card co-layout circuit. Page 44. 15.EMI modification: change reserved common choke circuit from USB port to internal camera port. Page 45. 16.With EMI's confirmation, replace RX4603, RX4604 with JP4601, JP4602. Page 46. 17.HDMI jack detection modification. Page 48,70. 18.With EMI's confirmation, replace RX4809, RX4810 with JP4801, JP4802. Page 48. 19.Change PWM FAN capacitors to 10UF. Page 50. 20.Modify X55S power LED design. Page 56. 21.Modify DC_IN bead for 120W design. Page 60. 22.With EMI's confirmation, remove reserved e-SATA/USB combo port USB common choke circuit. Page 66. 23.Reserve R8023 for shortage issue of ISL6262A. Page 80. 24.QTR USB plug test failed, change USB connector. Page 95.