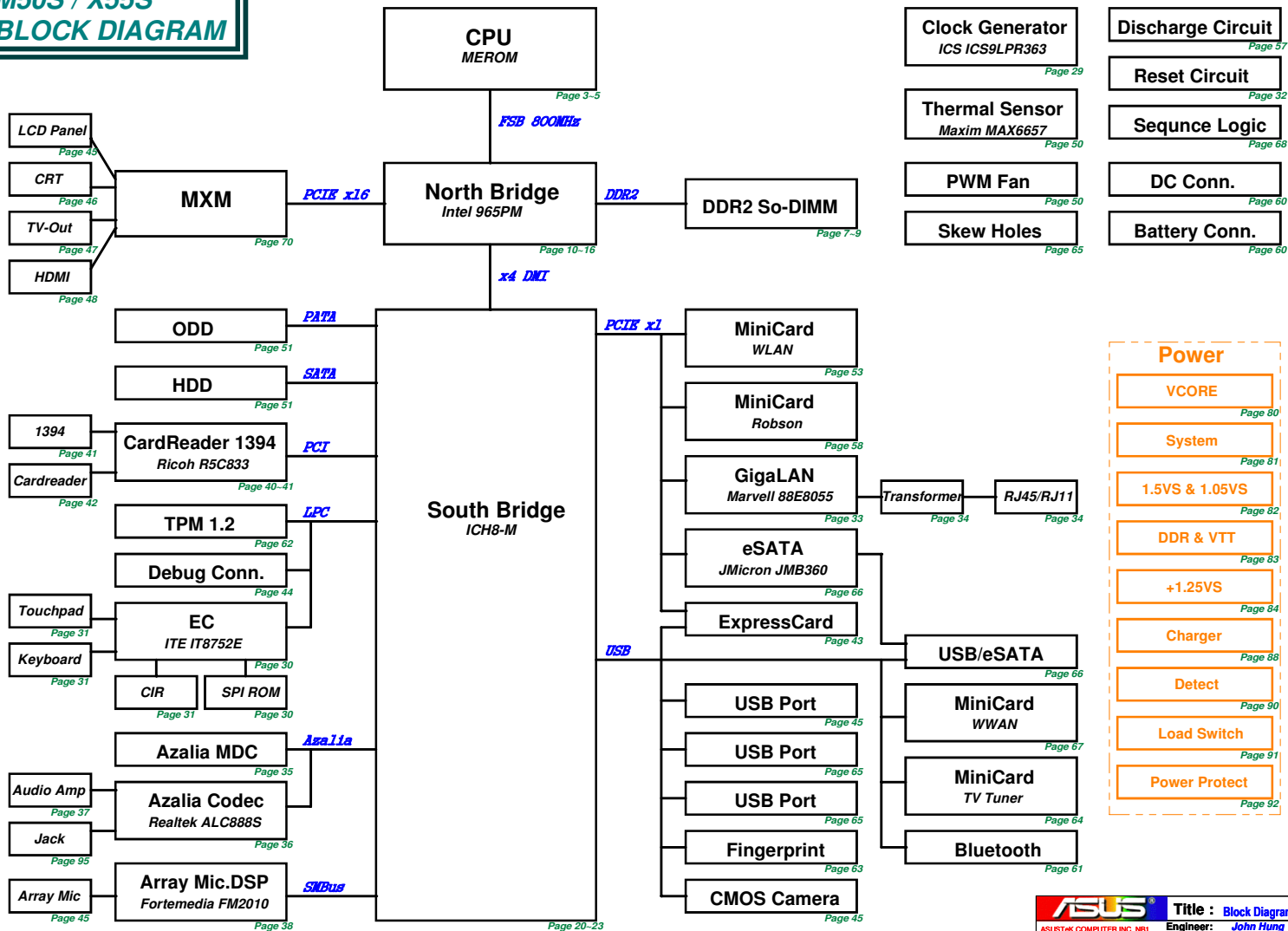


M50S / X55S BLOCK DIAGRAM



ICH8-M GPIO SETTING

Pin	Pin Name	Signal Name	Type
AG12	BM_BUSV#/GPIO0	PM_BMBUSY#	I
AJ8	TACH1/GPIO1	BT_DECT#	I
F8	PIRQE#/GPIO2	PCL_INT#	I/OD
G11	PIRQF#/GPIO3	PCL_INTF#	I/OD
F12	PIRQG#/GPIO4	PCL_INTG#	I/OD
B3	PIRQH#/GPIO5	PCL_INTH#	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_STATE#/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	GA20/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_SCI#	O
19	GPD4	EXT_SMI#	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_EC#	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		

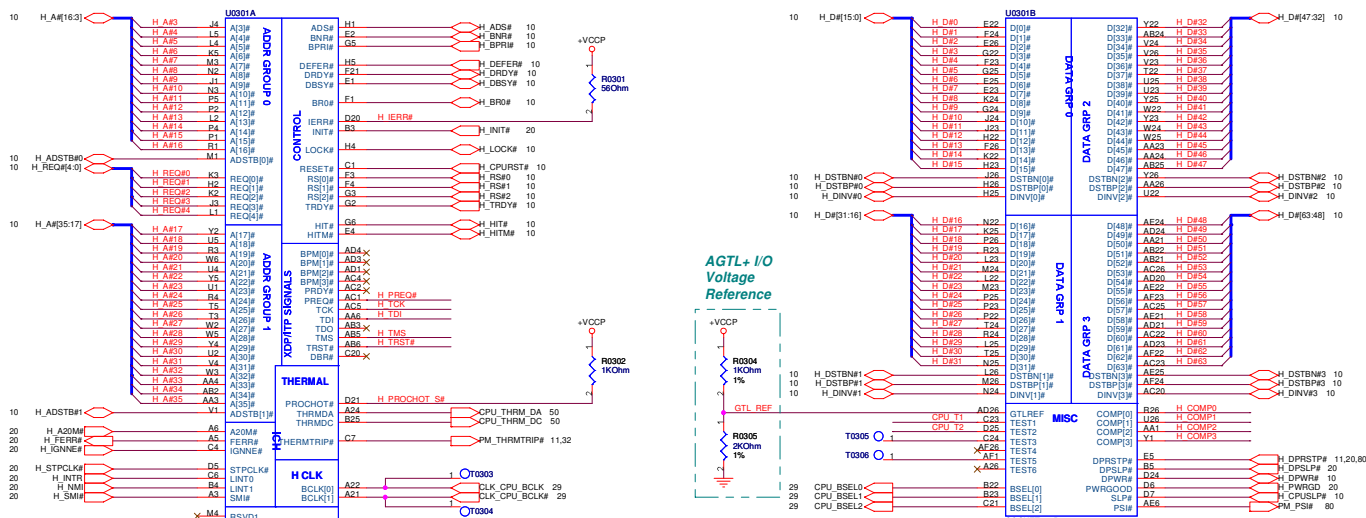
965GM/PM co-layout option:

965PM

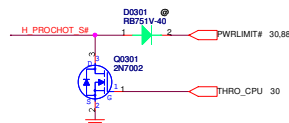
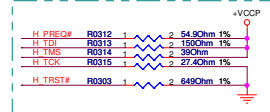
Change:
U1001 to 965PM, U3601 to ALC888S
R1213-R1219 to 0ohm
C1406, C1501-C1504, C1506-C1507, C1510, C1514 to 0ohm
Mount:
D4801-D4803
F4801
J4801, J7001
H7001-H7004
C4801
R1112-R1117, R1203-R1212, R1502, R2910, R3618-R3620, R4801-R4804
RX2901-RX2902, RX4801-RX4810
CX1201-CX1232
Un-mount:
R1202, R1401-R1403, 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

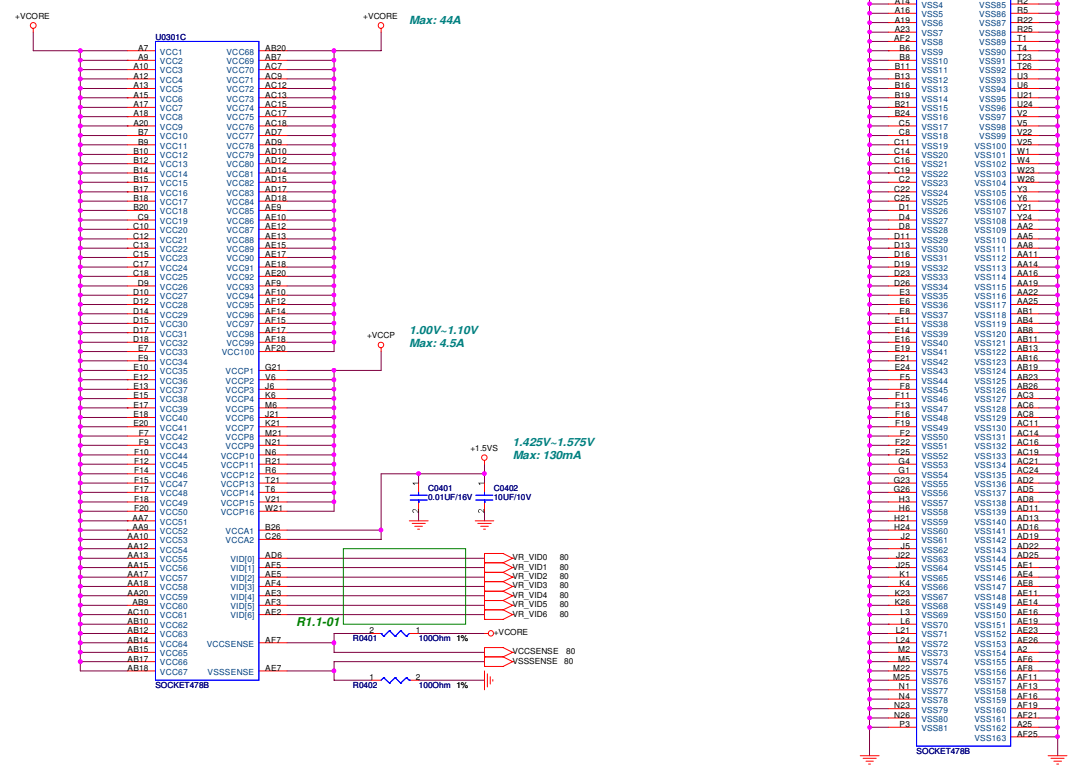
965GM

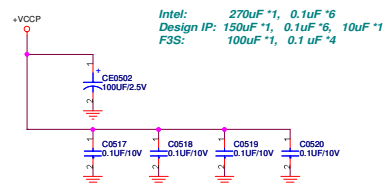
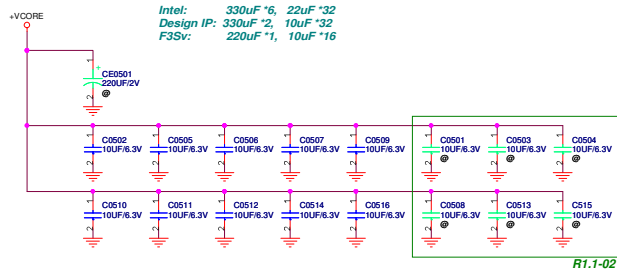
Change:
U1001 to 965GM
R1213-R1218 to 150ohm
R1219 to 1.3Kohm
Un-mount:
D4801-D4803
F4801
J4801, J7001
H7001-H7004
C4801
R1112-R1117, R1203-R1212, R1502, R2910, R3618-R3620, R4801-R4804
RX2901-RX2902, RX4801-RX4810
CX1201-CX1232
Mount:
R1202, R1401-R1403, R1501, R1503-R1505, R2909, R3621, R7001-R7008
RN7001-RN7011
RNX1201, RNX2901, RNX2915
L1501-L1505
C1404-C1409, C1501-C1507, C1509-C1514
CE1404, CE1501-CE1503



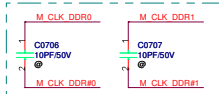
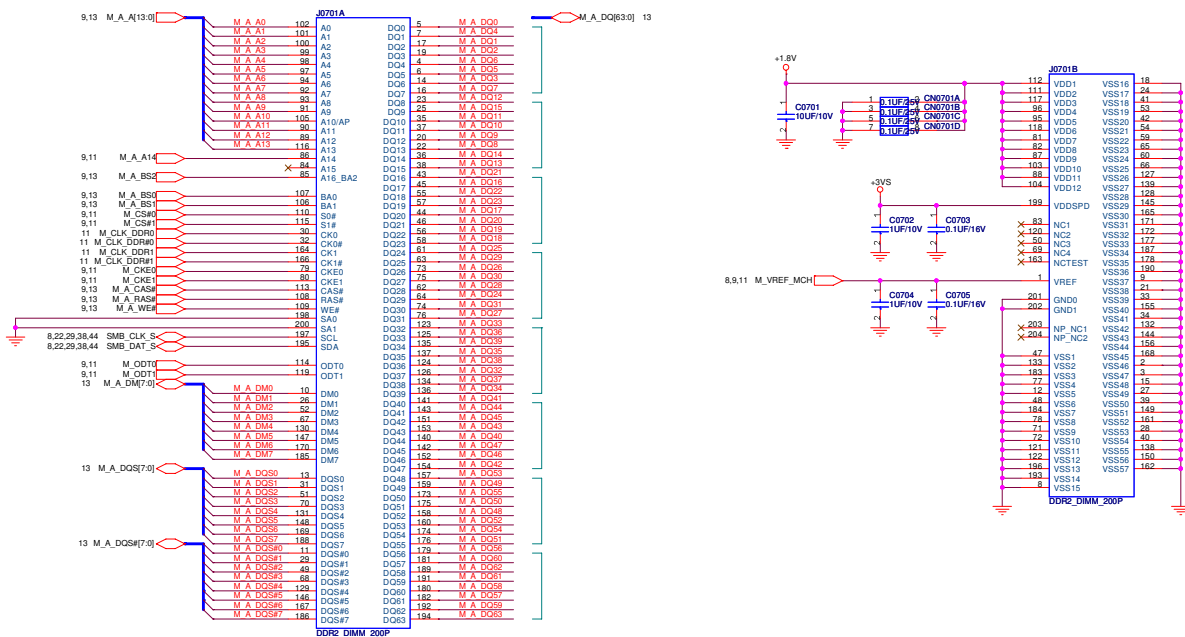
Default Strapping When XDP/ITP Not Used



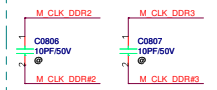
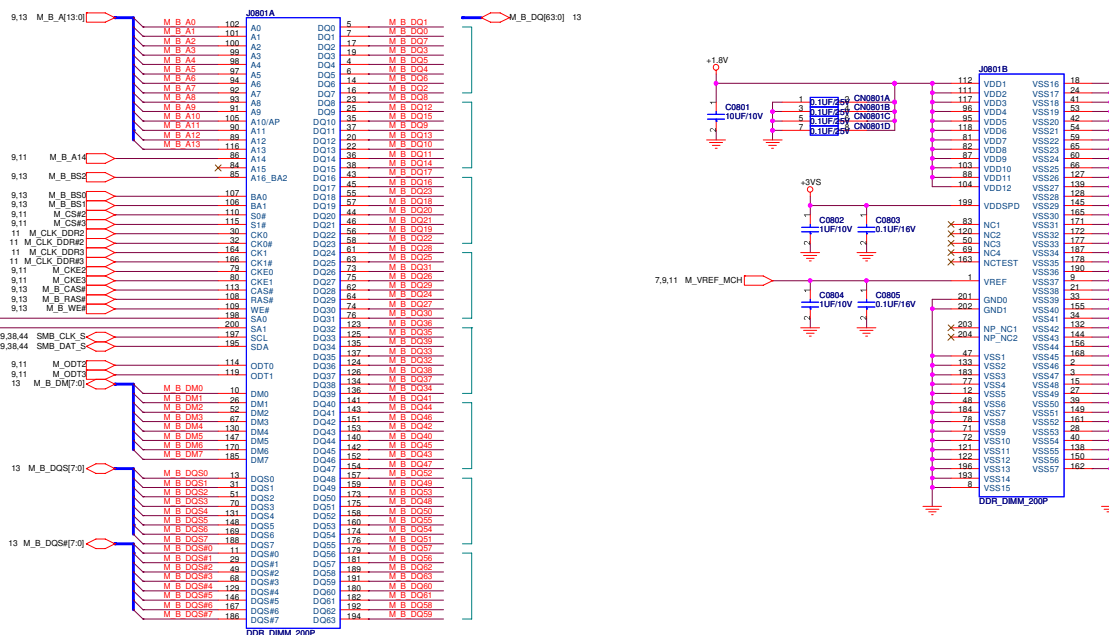


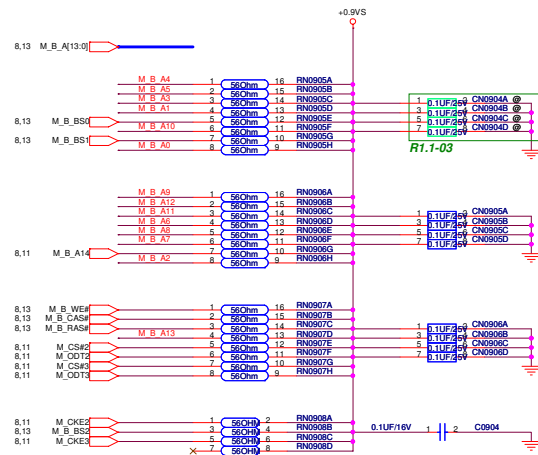


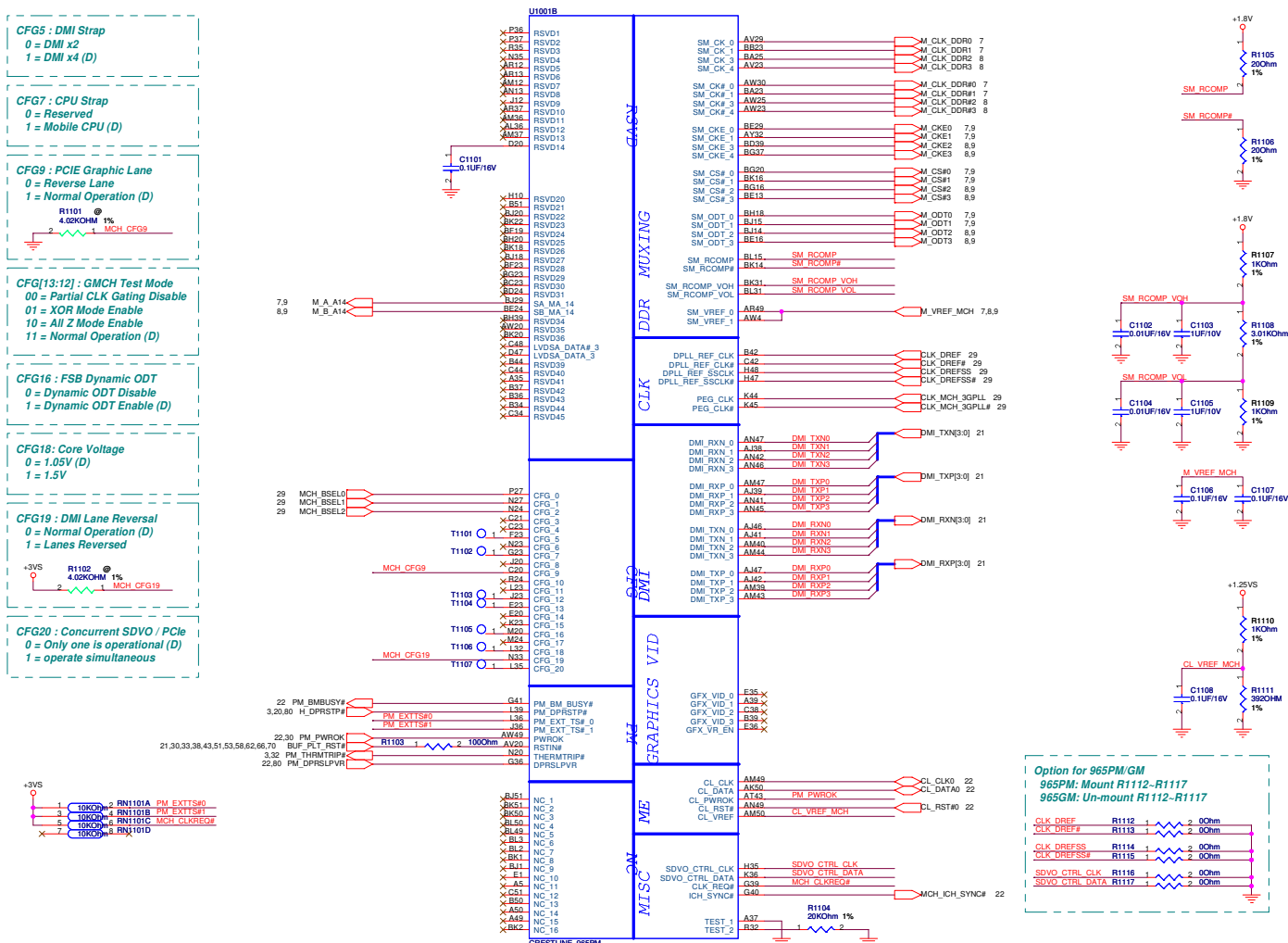
Reserved for 3G

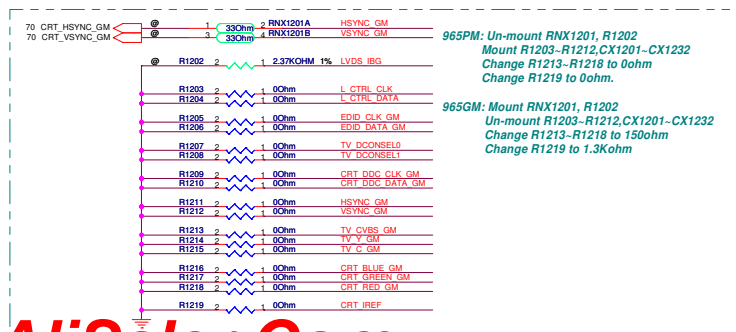
Reverse Type
H = 9.2 mm

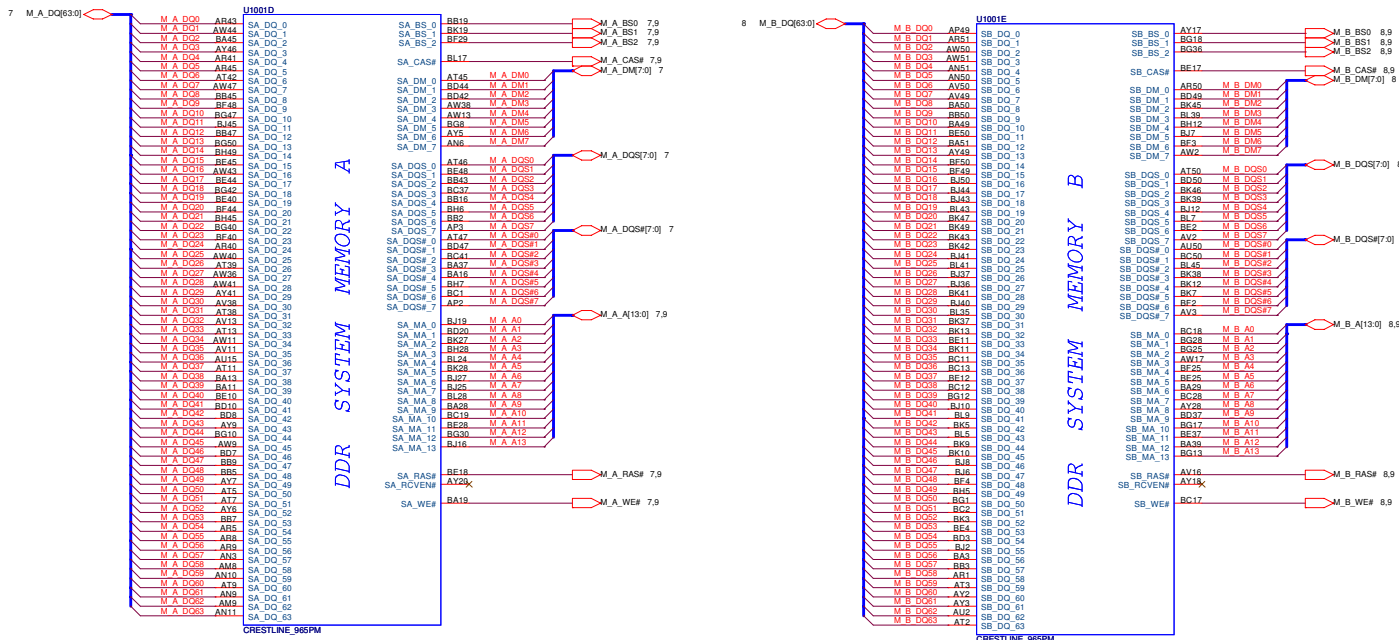
Reserved for 3G

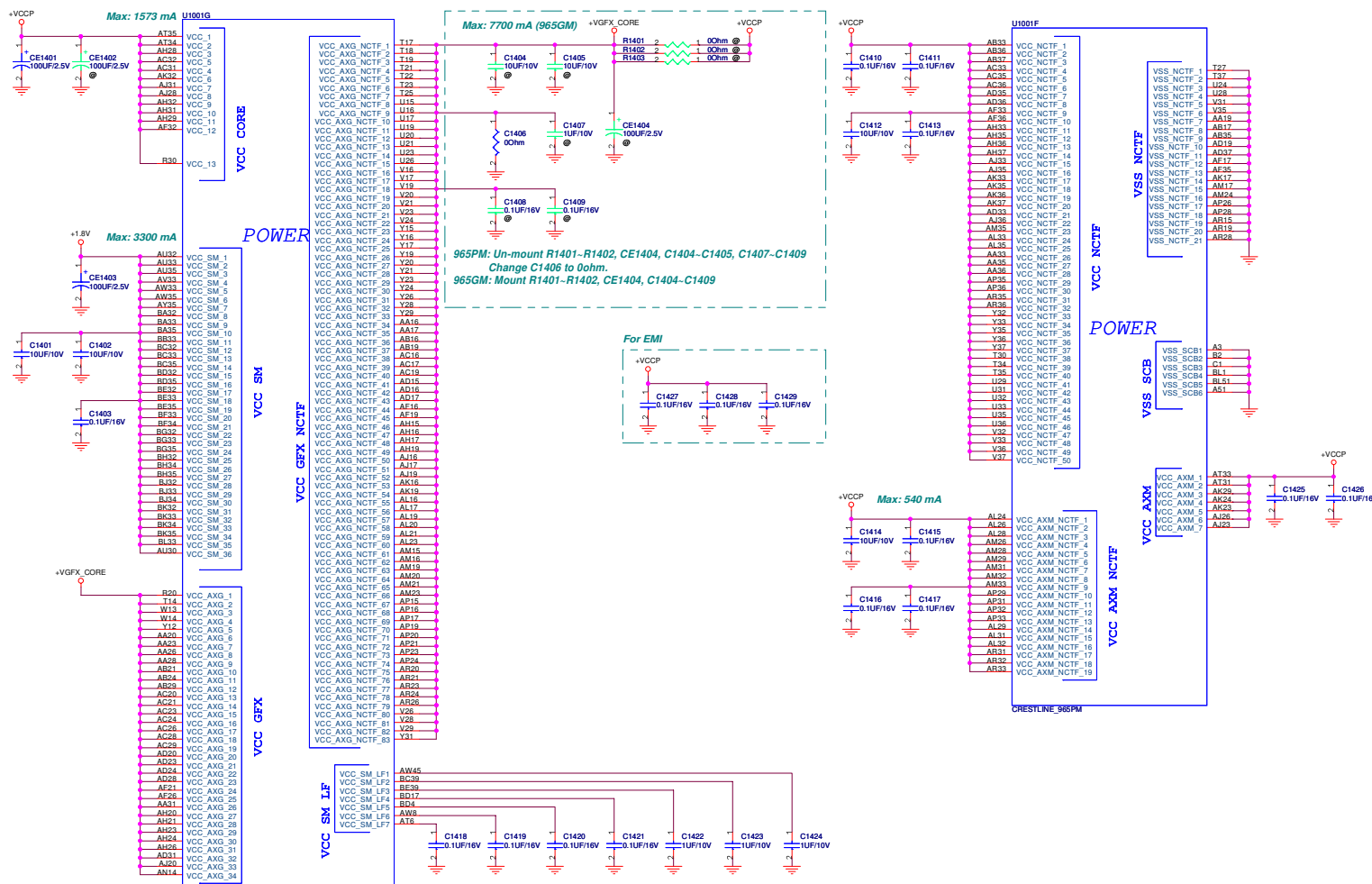
Reverse Type
H = 4.0 mm

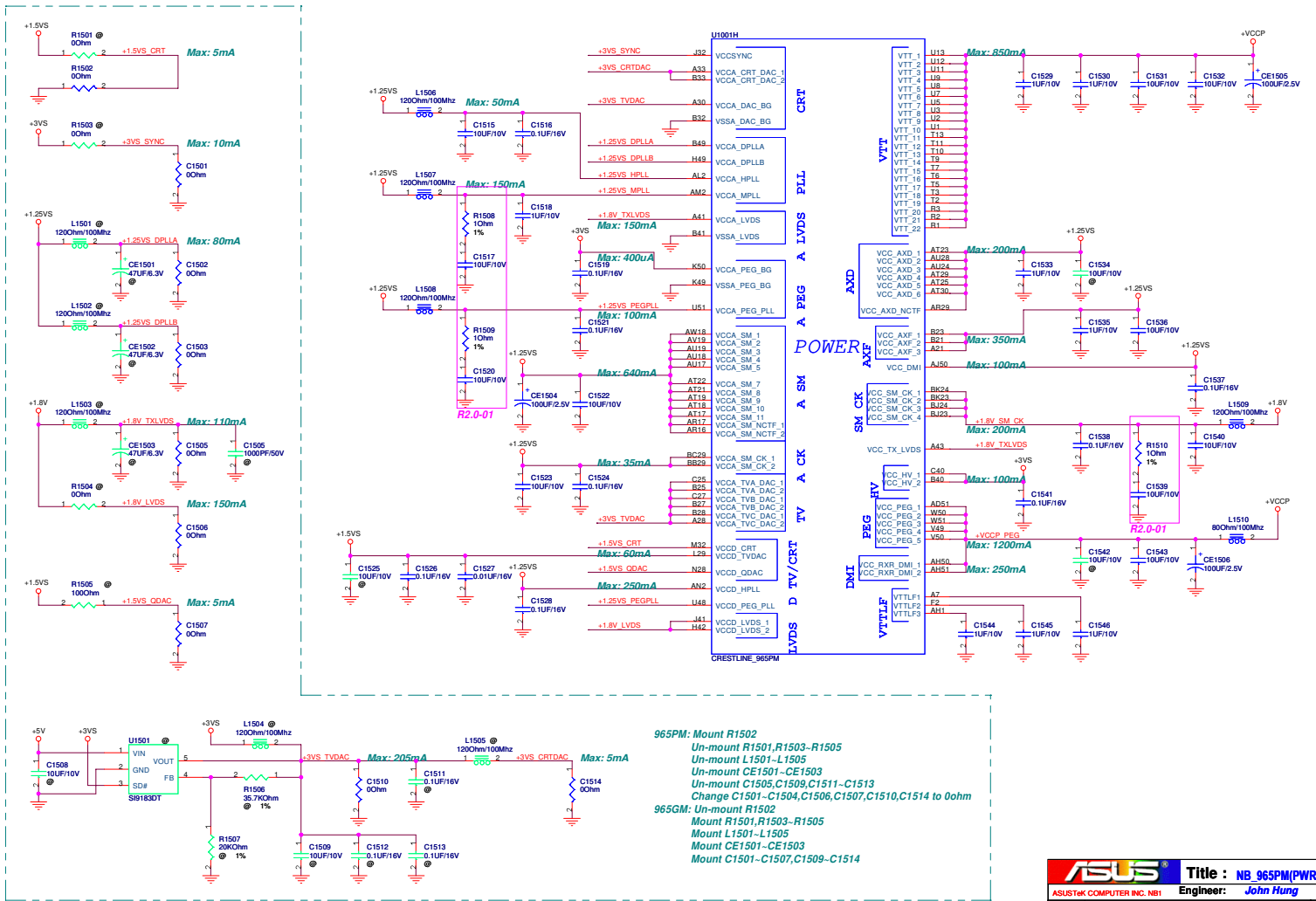


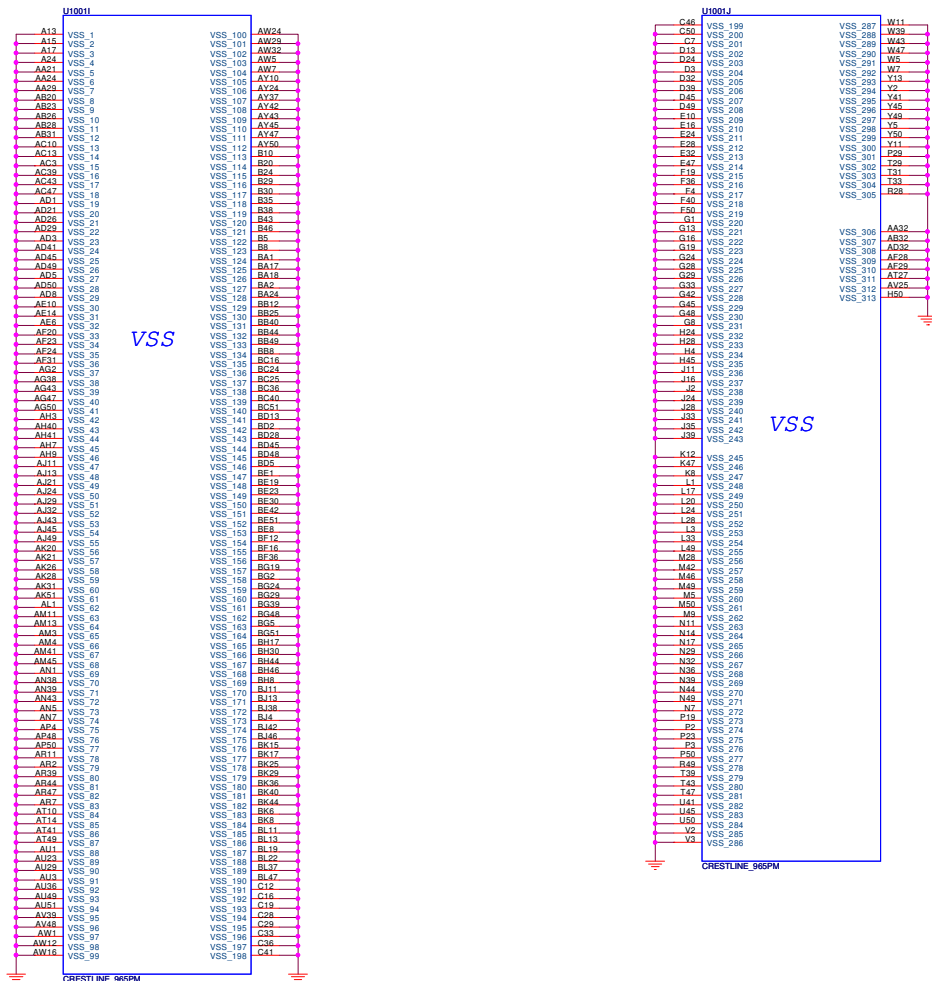


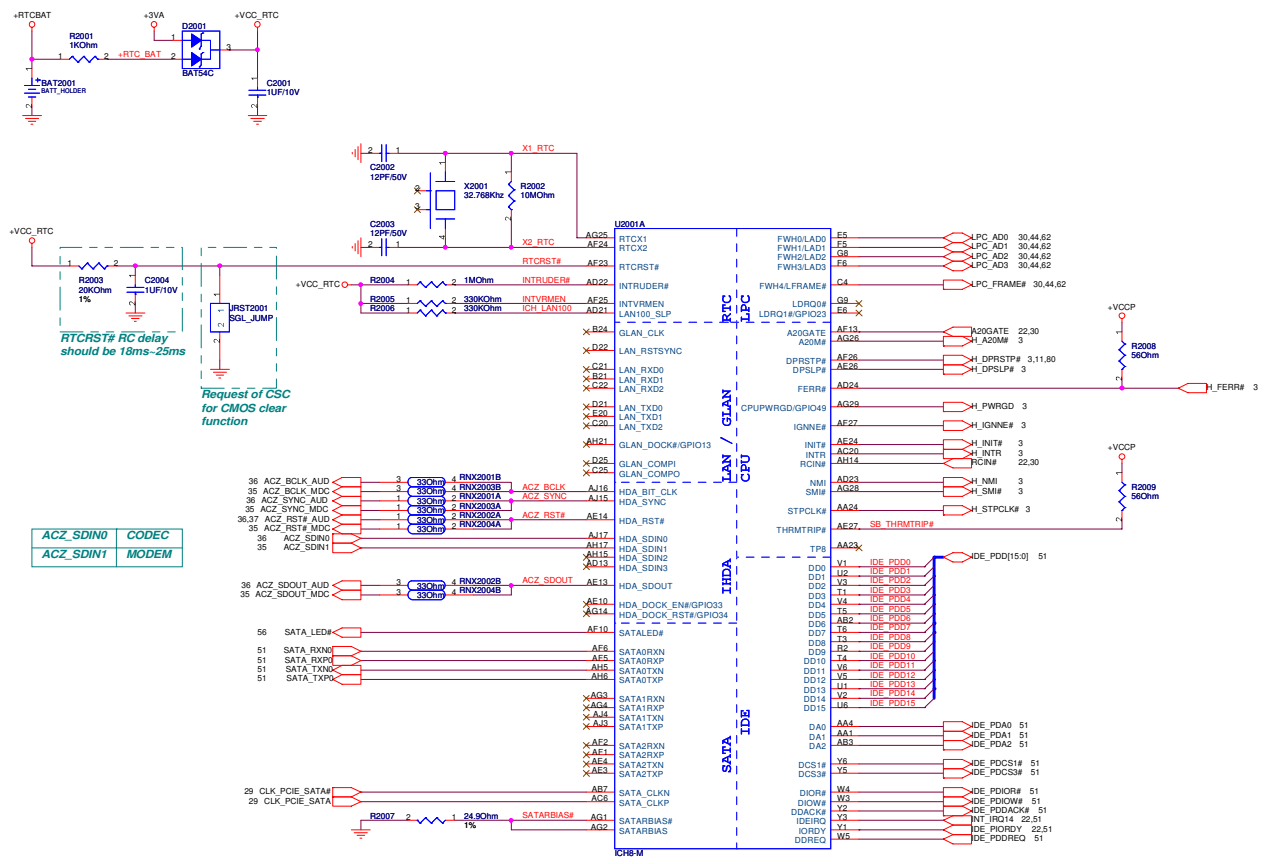


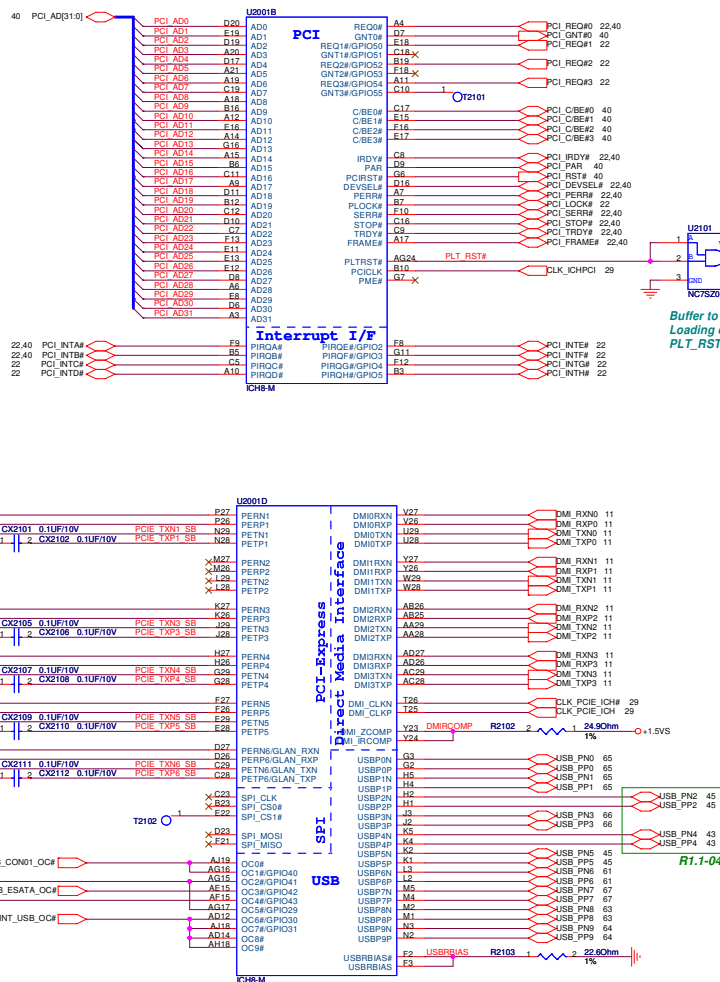




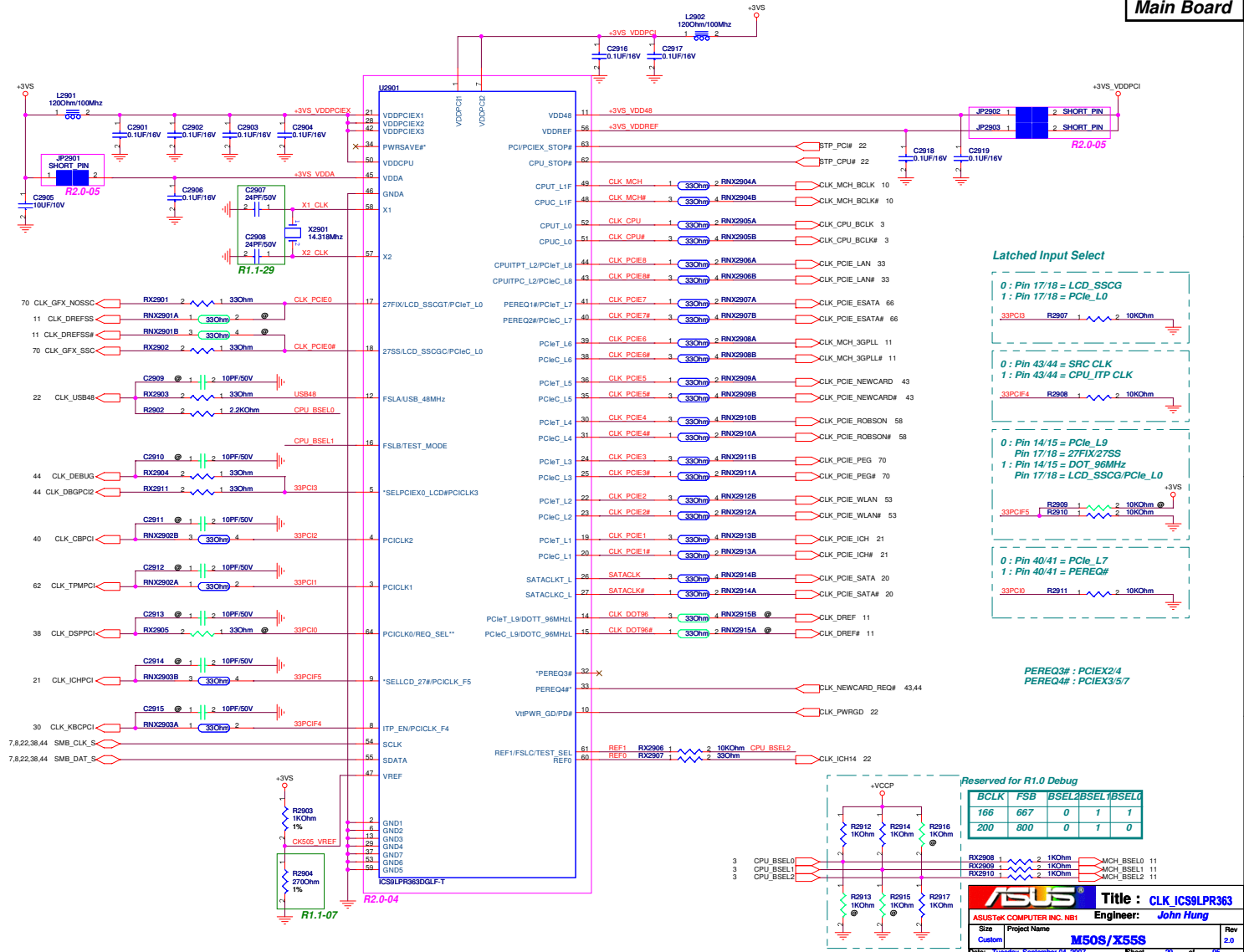




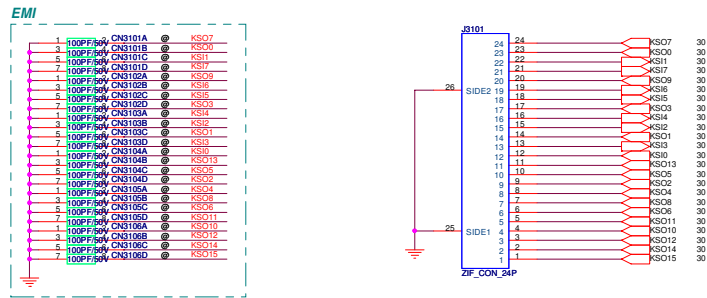




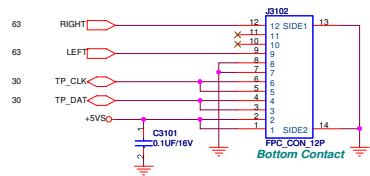
USB 0	USB Conn.
USB 1	USB Conn.
USB 2	USB Conn.
USB 3	eSATA/USB
USB 4	NewCard
USB 5	Camera
USB 6	Bluetooth
USB 7	3G Card
USB 8	Fingerprint
USB 9	TV Tuner



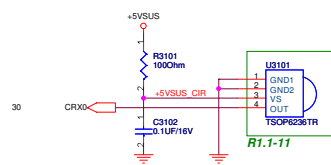
Keyboard



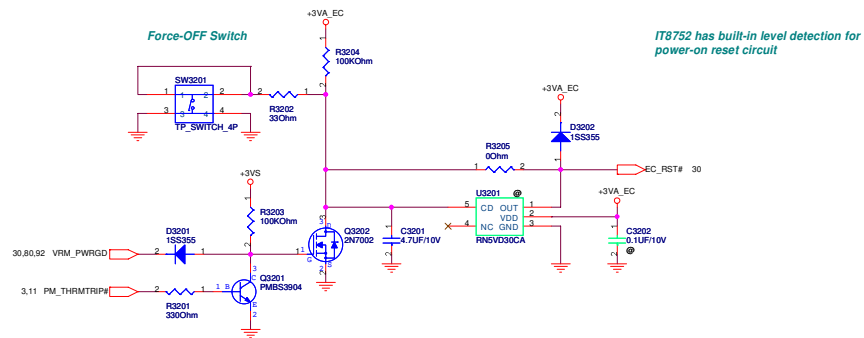
Touchpad

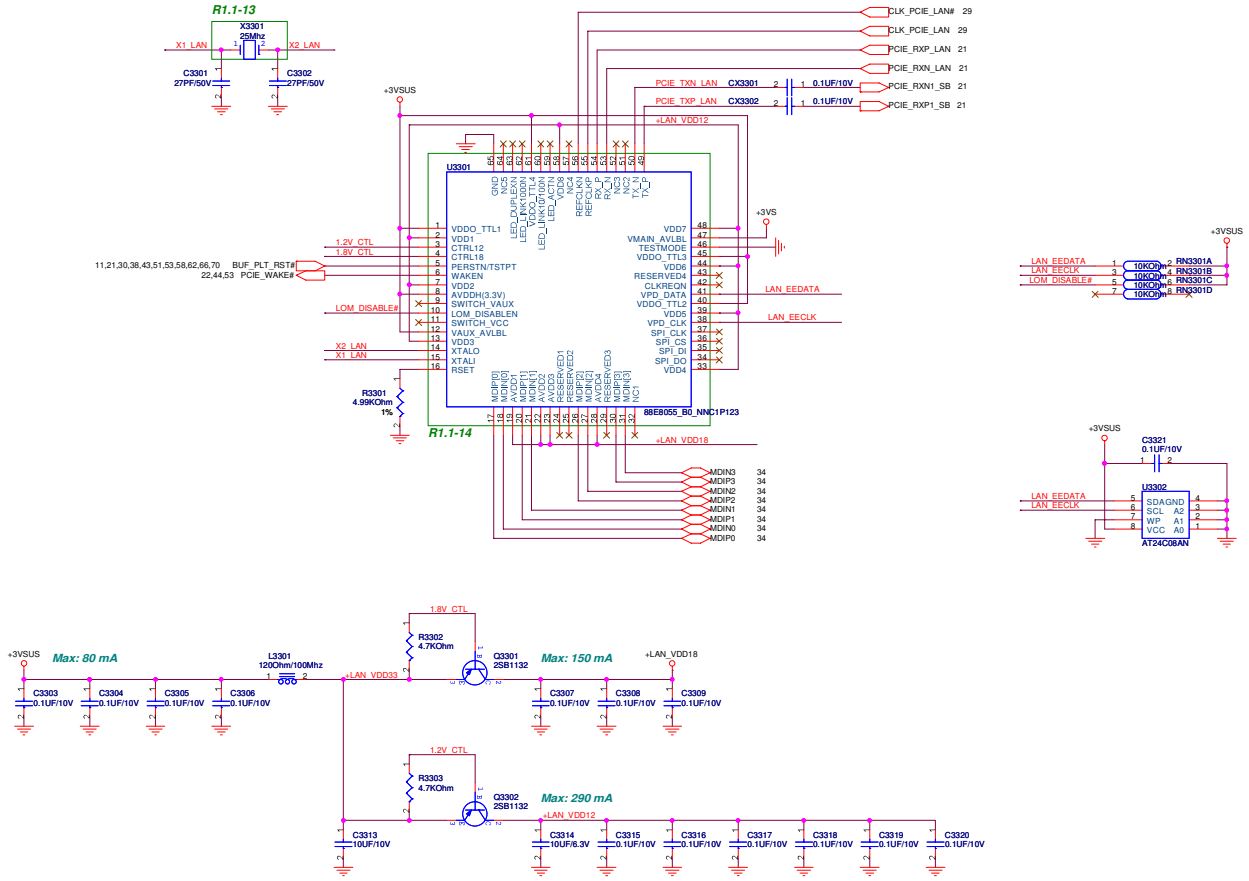


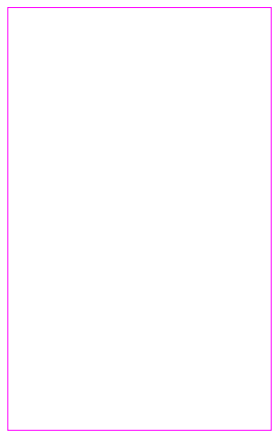
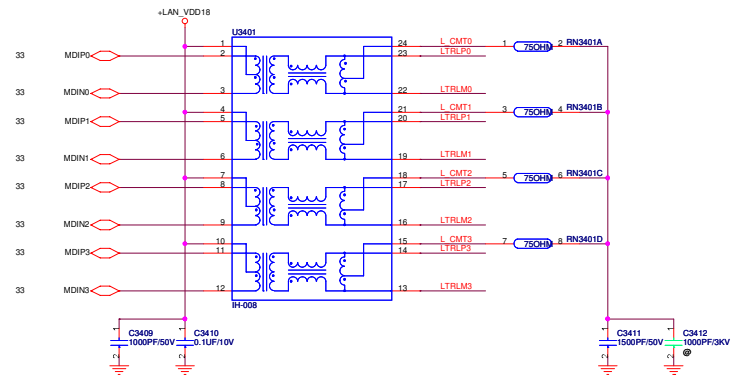
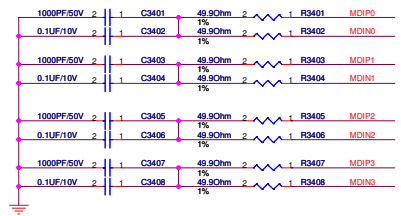
CIR



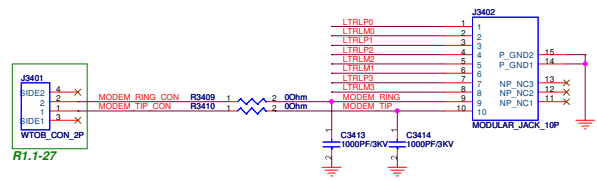
R1.1-12

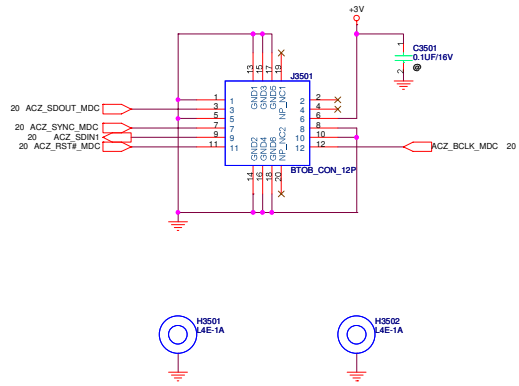






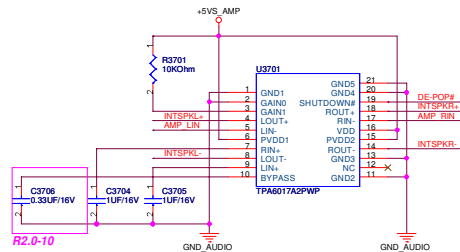
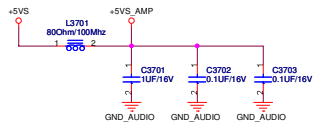
R1.1-28
R2.0-08



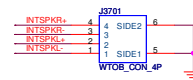


VW.AliSaler.Com

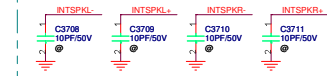




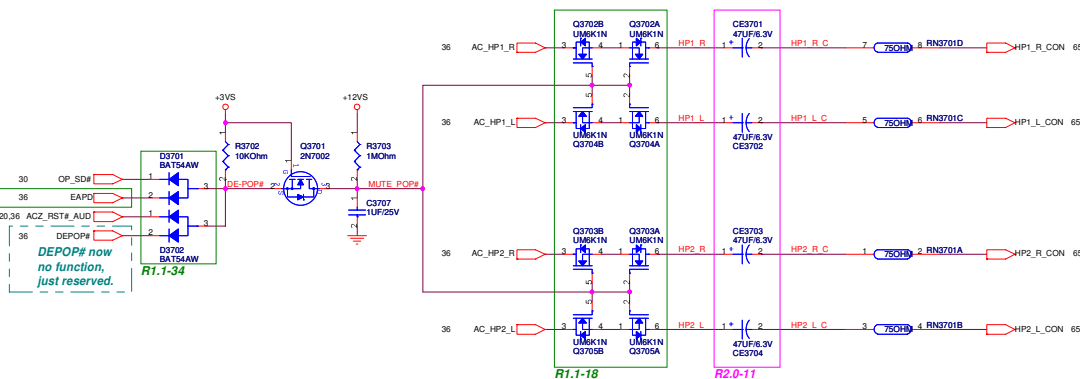
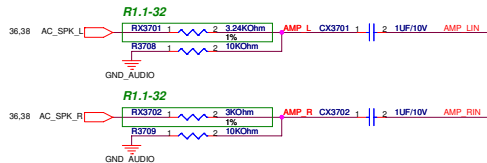
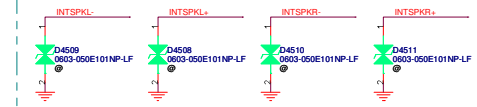
Internal Speaker Conn.

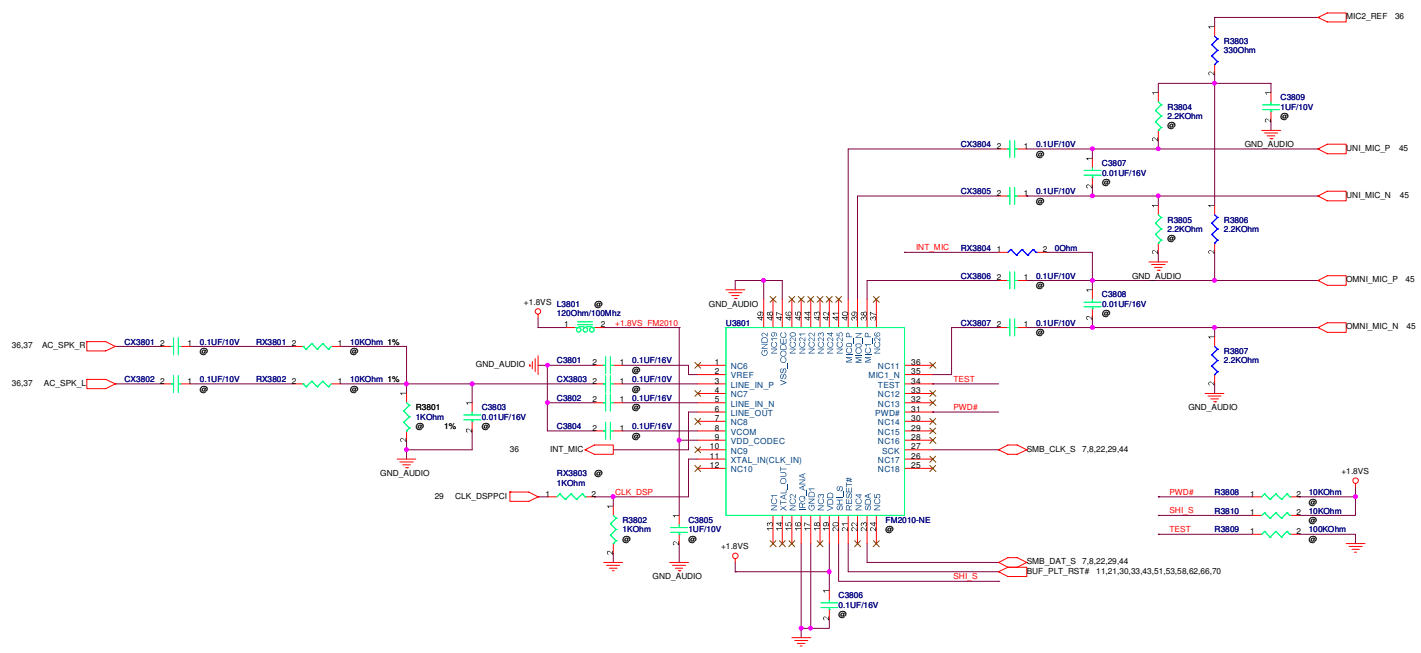


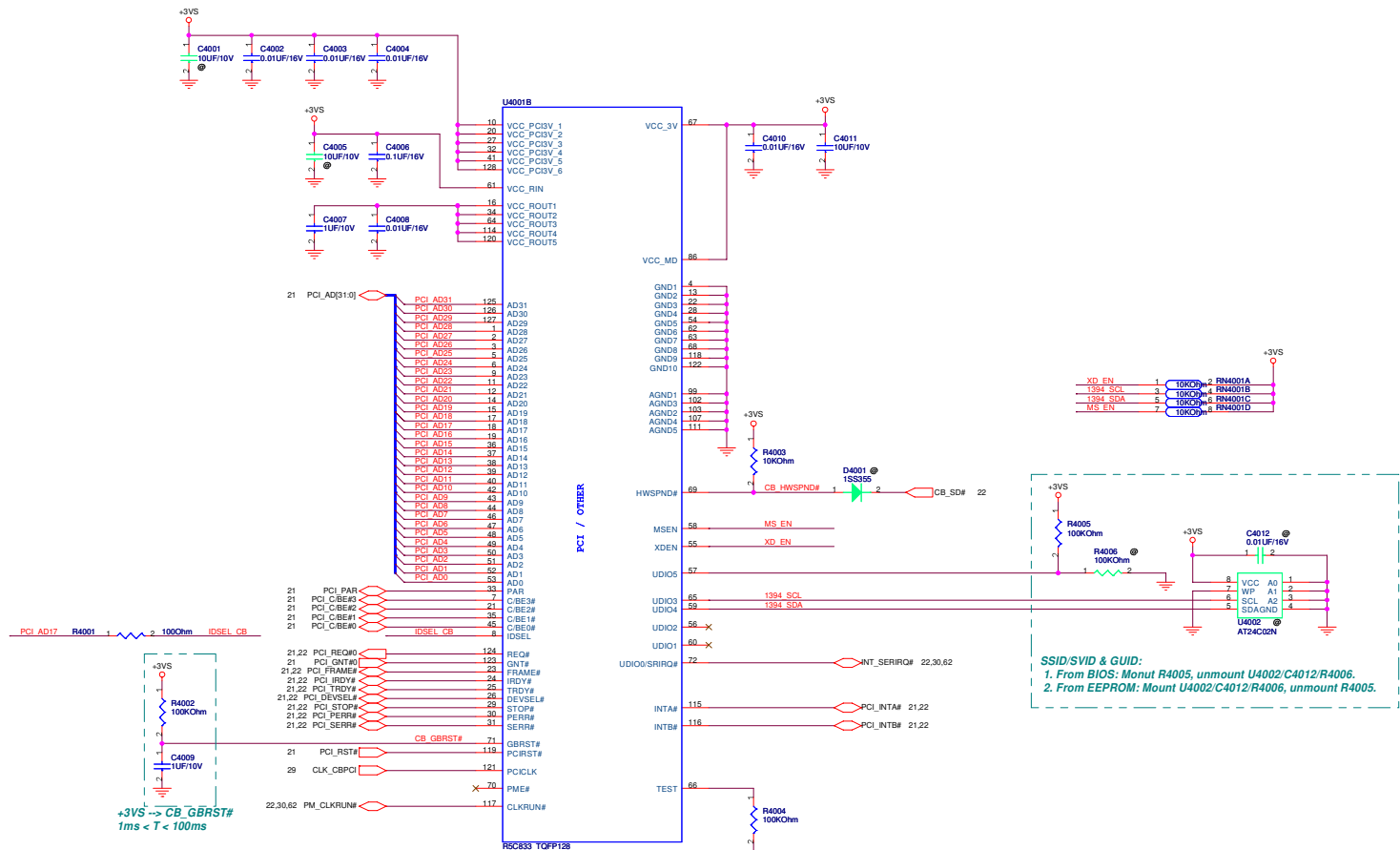
Reserved for 3G

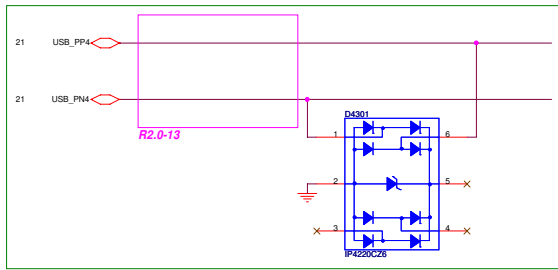


Reserved for EMI

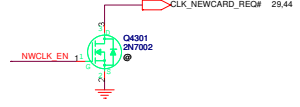
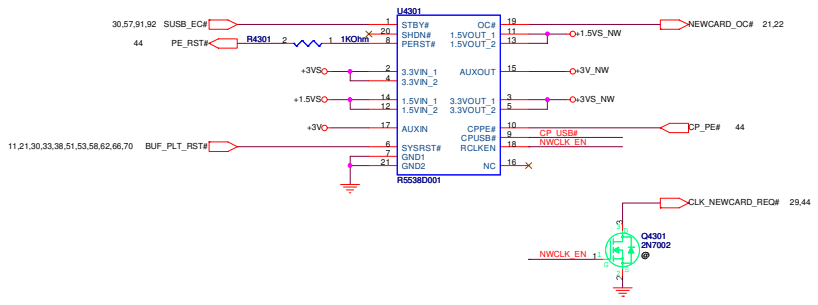




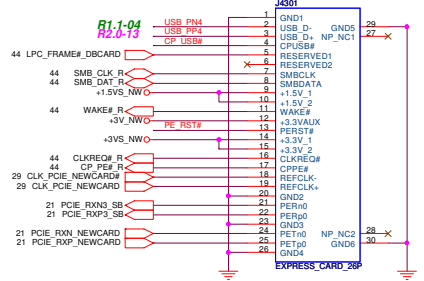




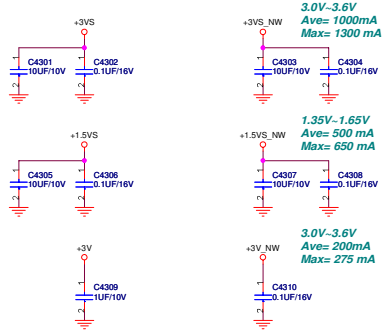
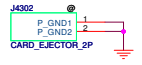
R1.1-04



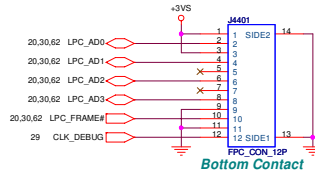
NewCard Header



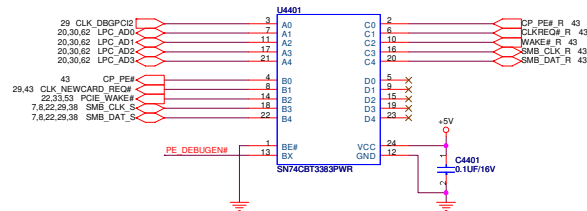
NewCard Ejector



LPC Debug Port

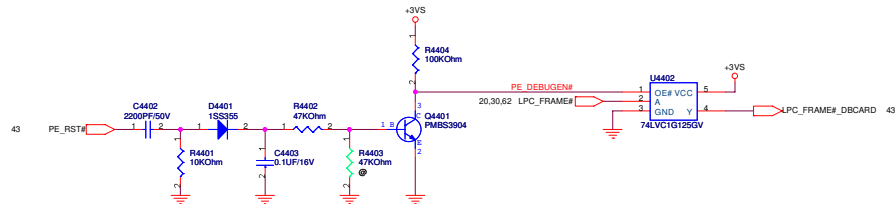


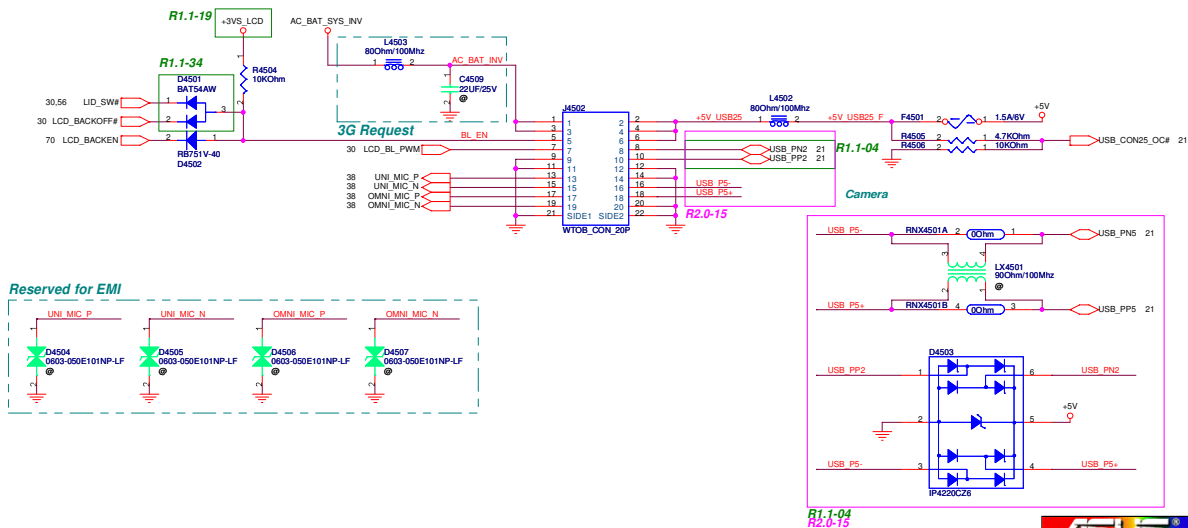
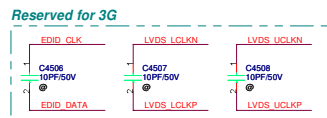
For NewCard Debug Card

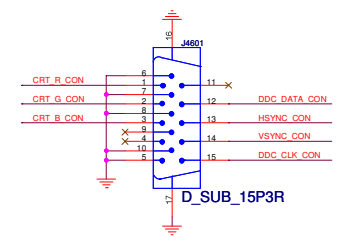
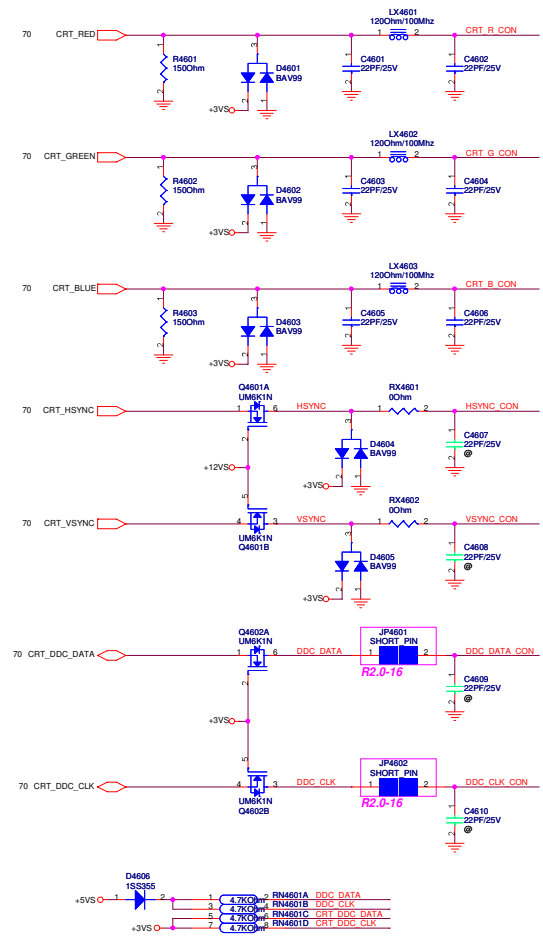


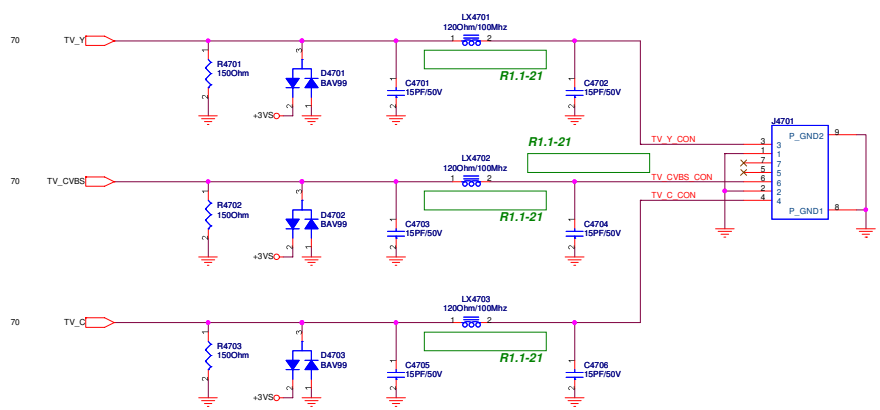
CP_PE#	00hm	2	1	R4405	CP_PE#_R
CLK_NEWCARD_REQ#	00hm	3	1	R4401B	CLK_NEWCARD_REQ#_R
PCIE_WAKE#	00hm	1	00hm	R4401A	WAKE#_R
SMB_DAT_S	00hm	4	00hm	R4402B	SMB_DAT_S
SMB_CLK_S	00hm	1	00hm	R4402A	SMB_CLK_S

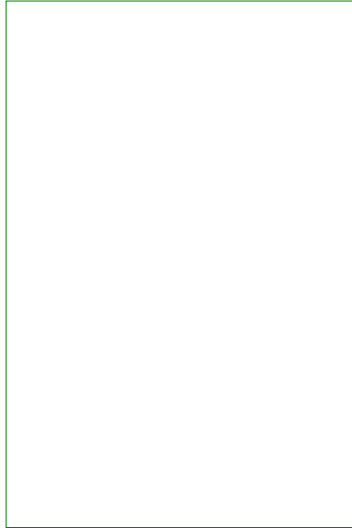
R2.0-14



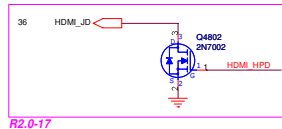
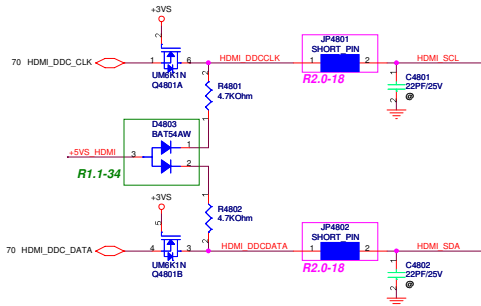
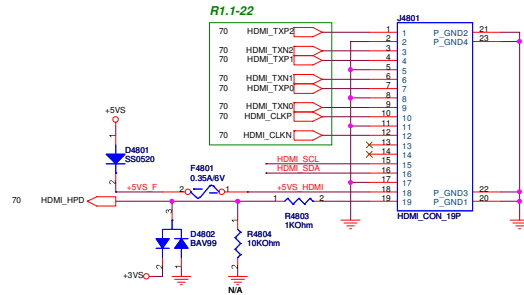






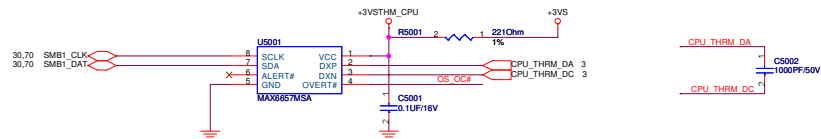


R1.1-22

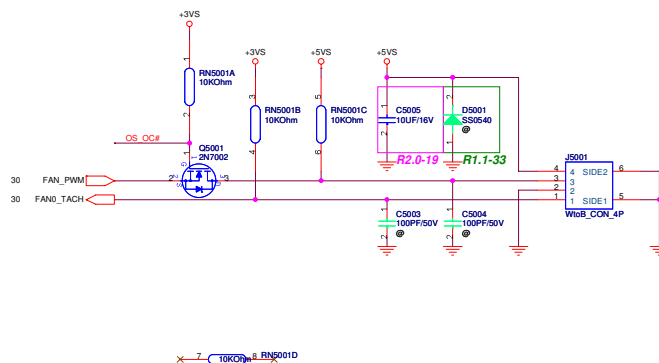


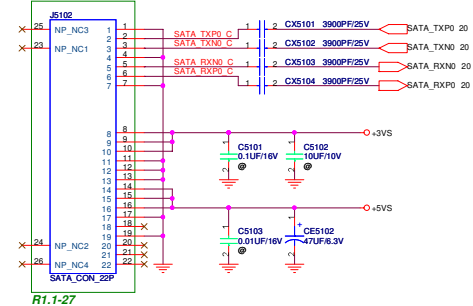
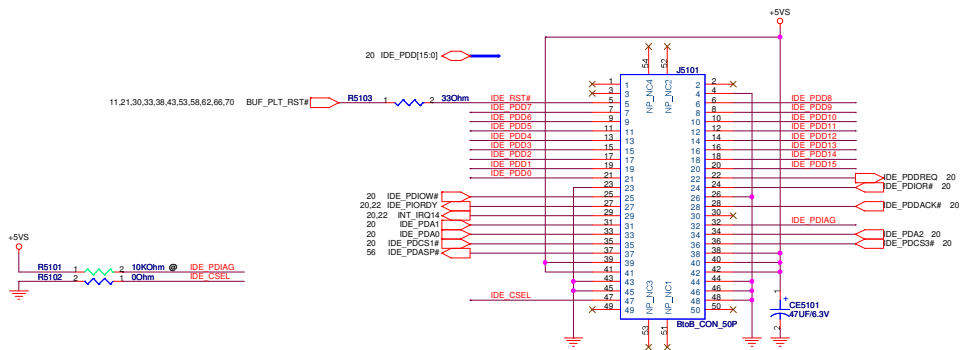
R2.0-17

CPU Thermal Sensor



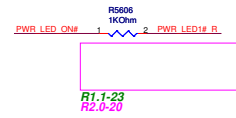
PWM Fan





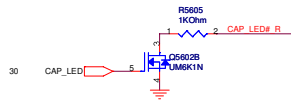


Power LED

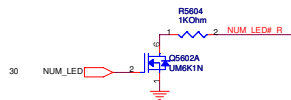


R1.1-23
R2.0-20

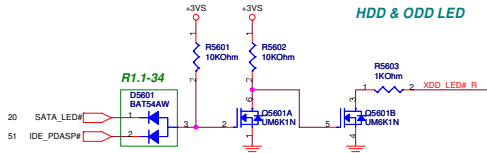
Cap Lock LED



Num Lock LED

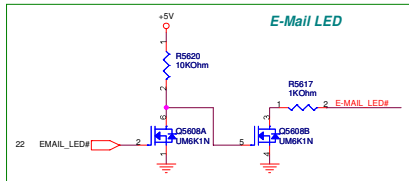


HDD & ODD LED



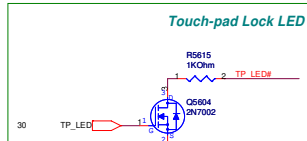
R1.1-34

E-Mail LED

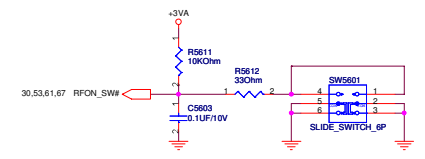
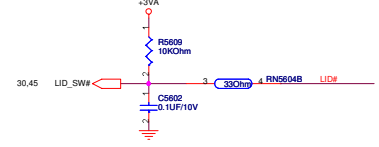
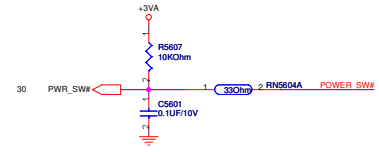
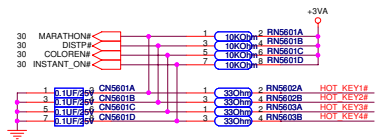
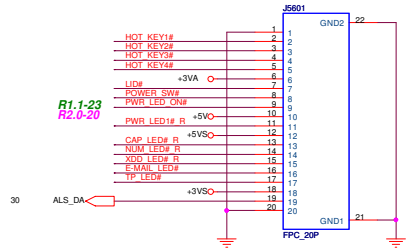


R1.1-03

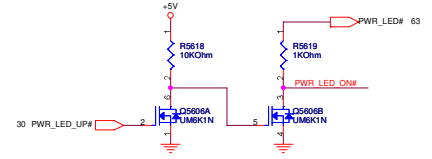
Touch-pad Lock LED



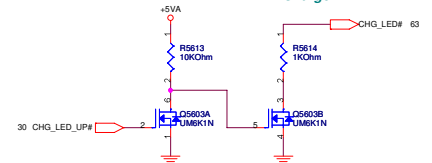
R1.1-23
R2.0-20



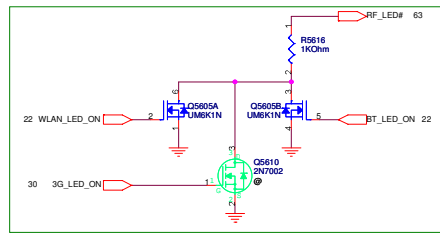
Power LED



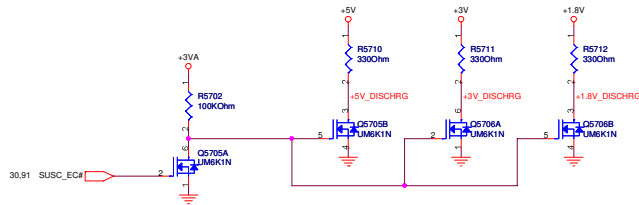
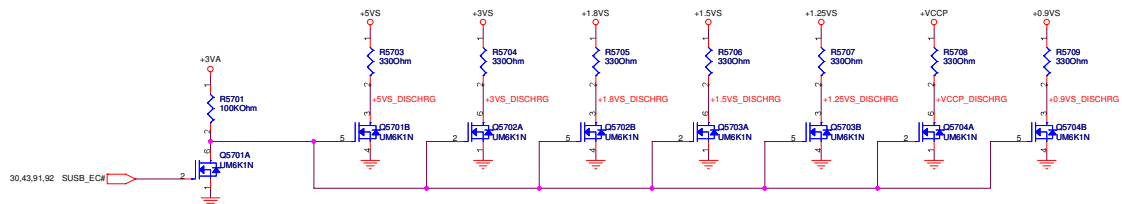
Charger LED

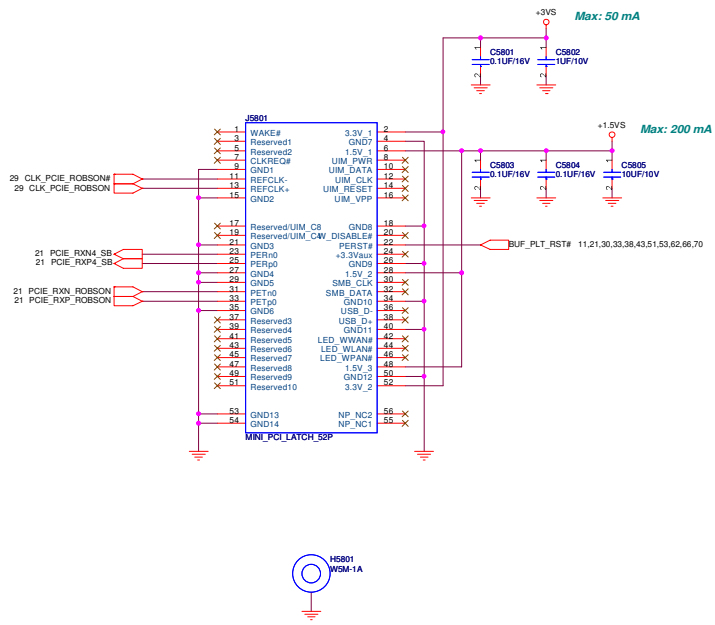


WLAN LED

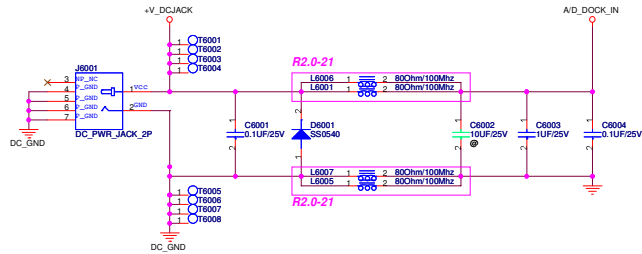


R1.1-24

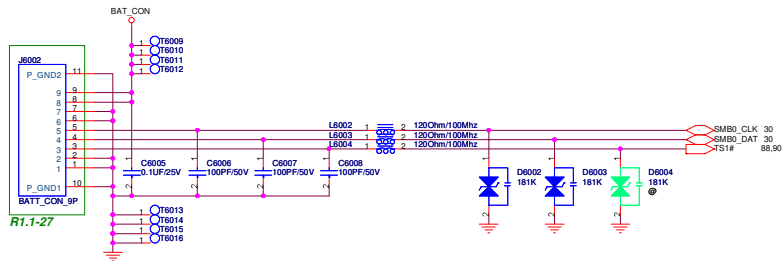


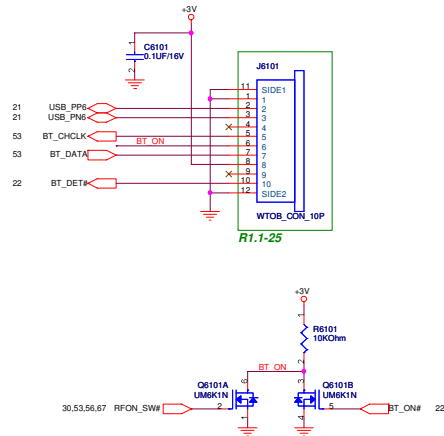


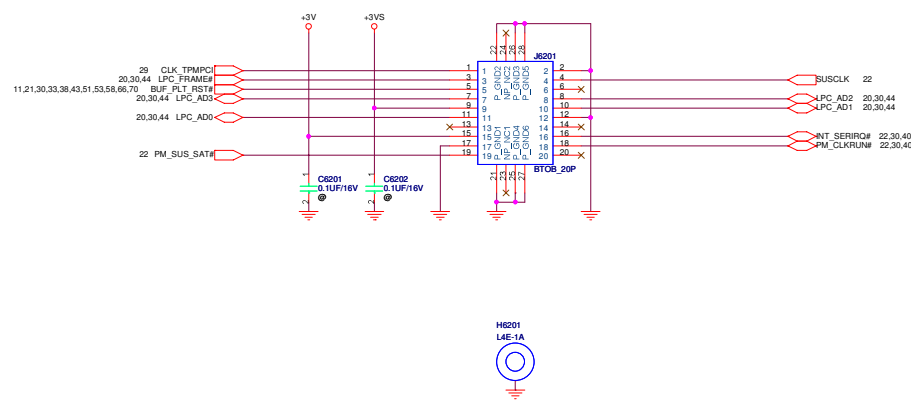
DC Jack

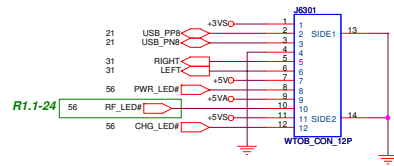


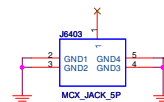
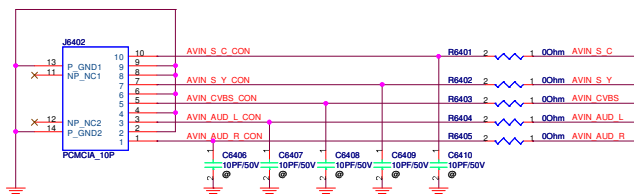
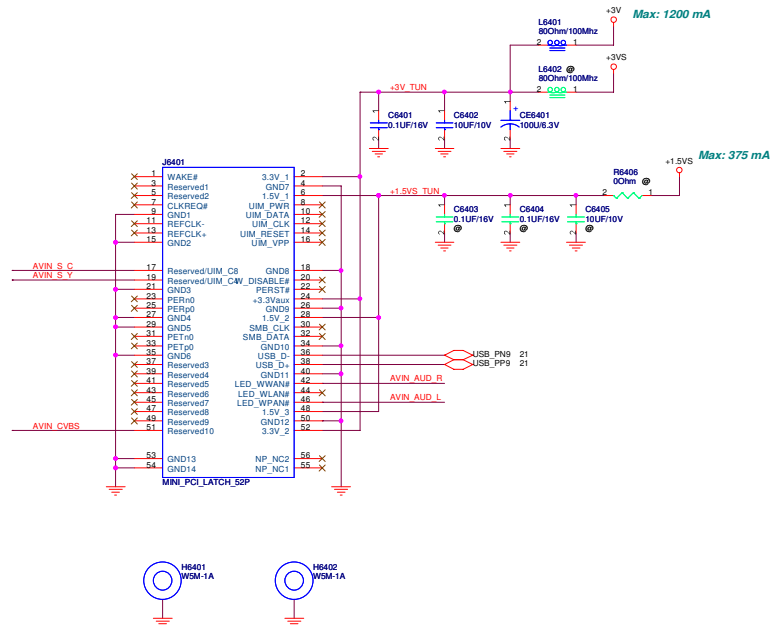
Battery Connector

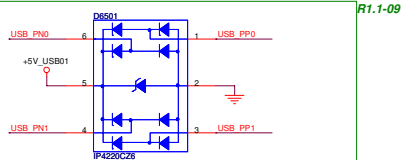
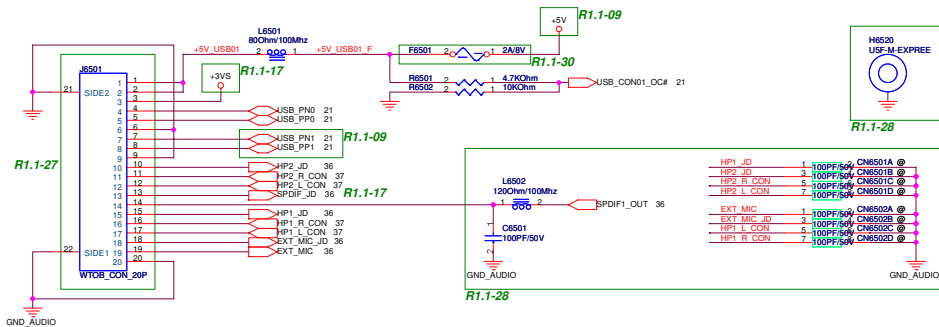




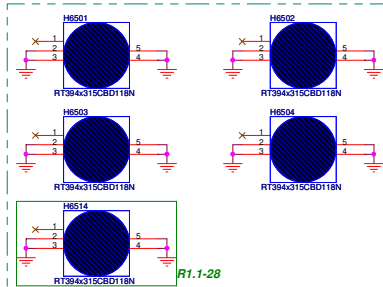




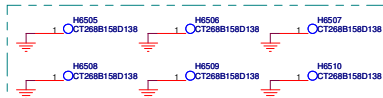




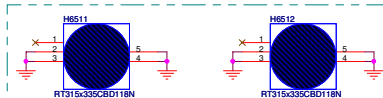
Screw Hole A



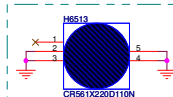
Screw Hole B



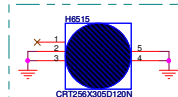
Screw Hole C



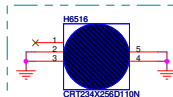
Screw Hole F



Screw Hole H



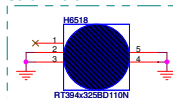
Screw Hole I



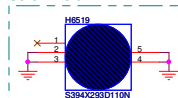
Screw Hole J

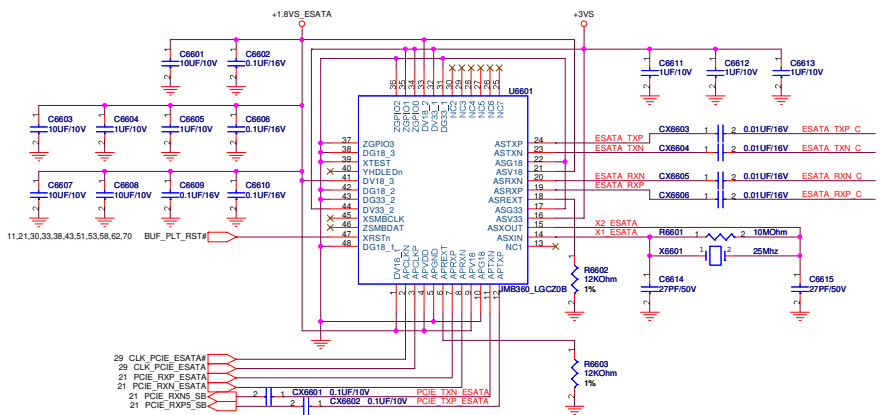


Screw Hole K



Screw Hole L



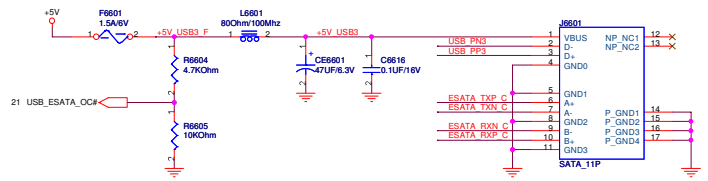
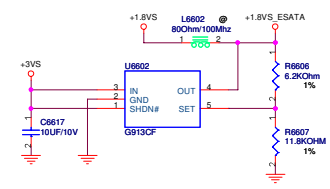
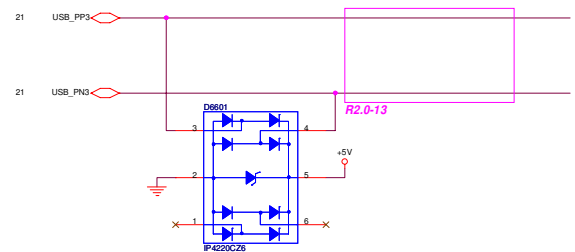


ZGPIO : Clock Type of PCI Express
0 = 25MHz Oscillator (D)
1 = 100MHz from PCI Express Finger

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





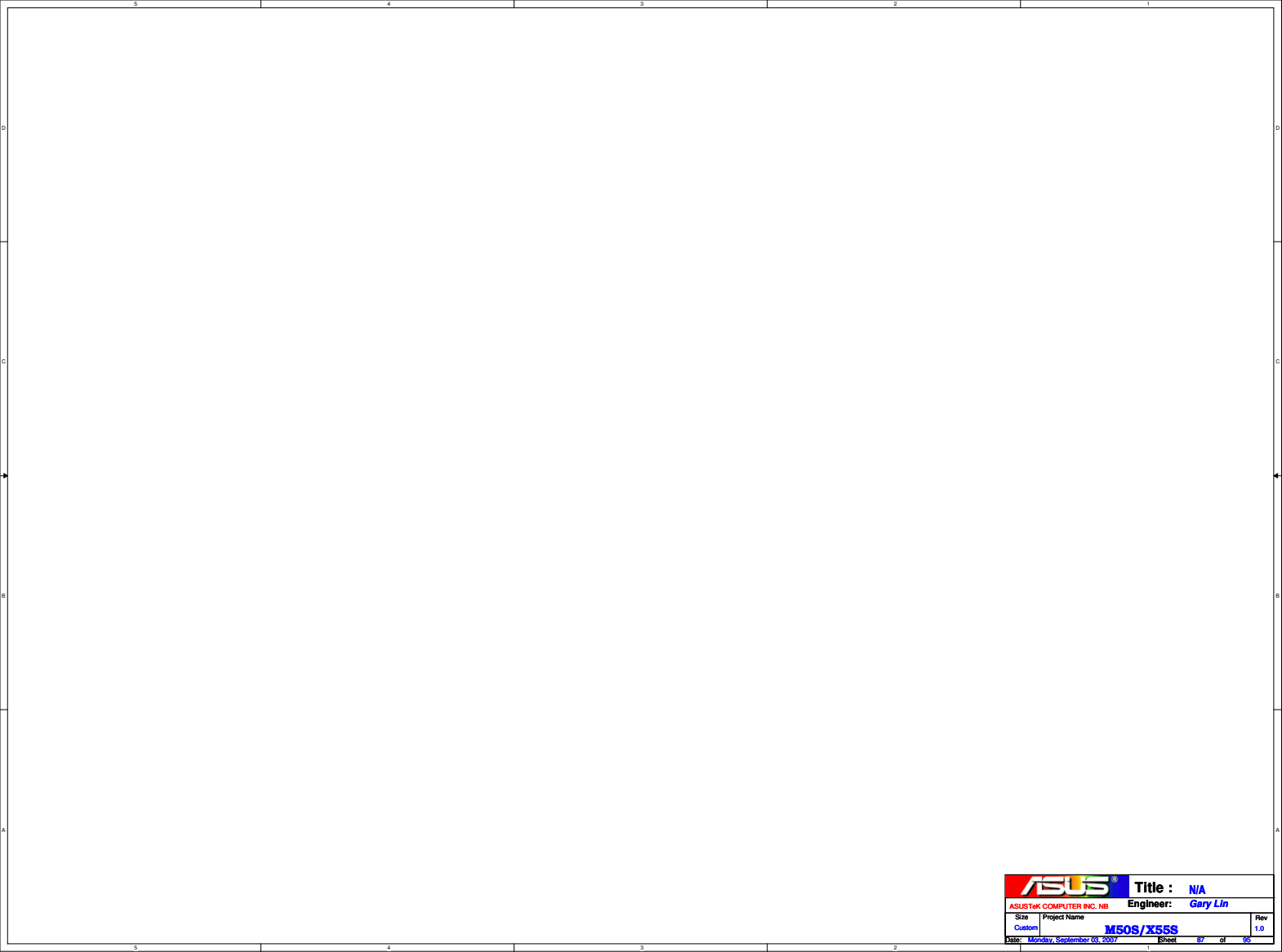


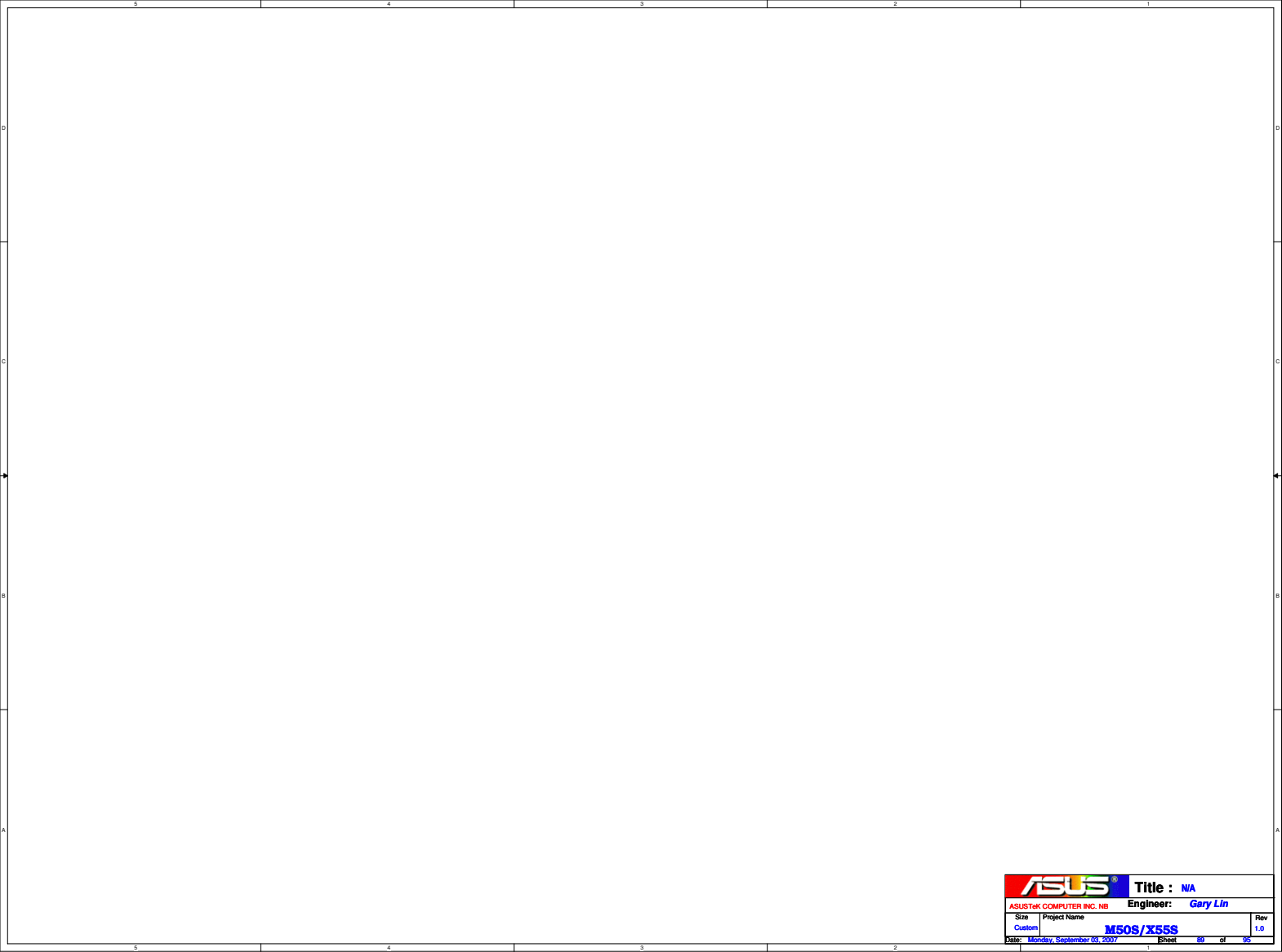
R1.1-26




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

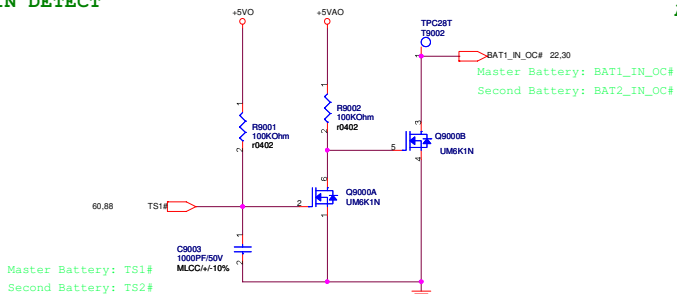
		Title : NA	
ASUSTek COMPUTER INC. NB		Engineer: Gary Lin	
Size	Project Name		Rev
Custom	M50S/X55S		1.0
Date: Monday, September 03, 2007		Sheet	85 of 95



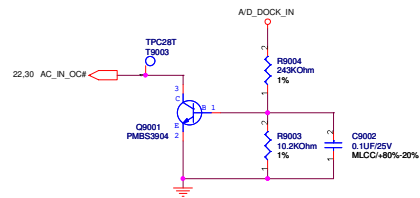


		Title : NA	
ASUSTek COMPUTER INC. NB		Engineer: Gary Lin	
Size	Project Name		Rev
Custom	M50S/X55S		1.0
Date: Monday, September 03, 2007		Sheet	89 of 95

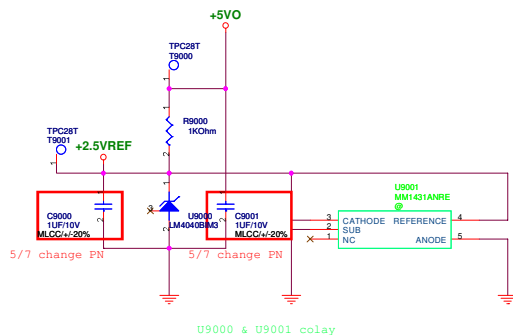
BATTERY IN DETECT



ADAPTER IN DETECT



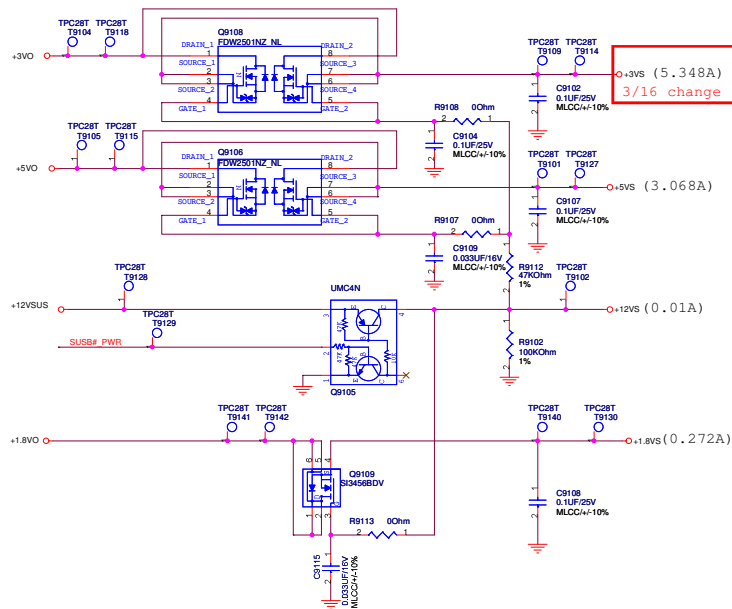
+2.5VREF



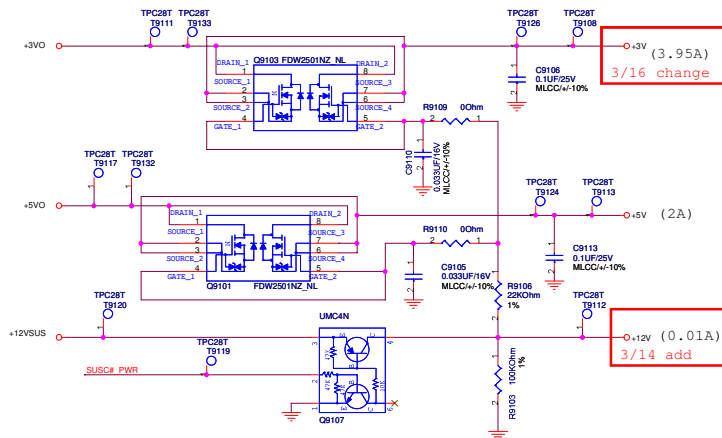
SUSB# PWR POWER

3/16 delete +1.5VS from load switch

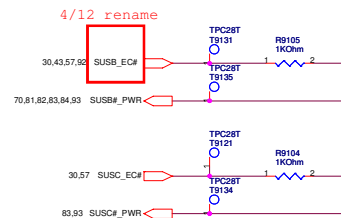
3/14 delete +VRAM



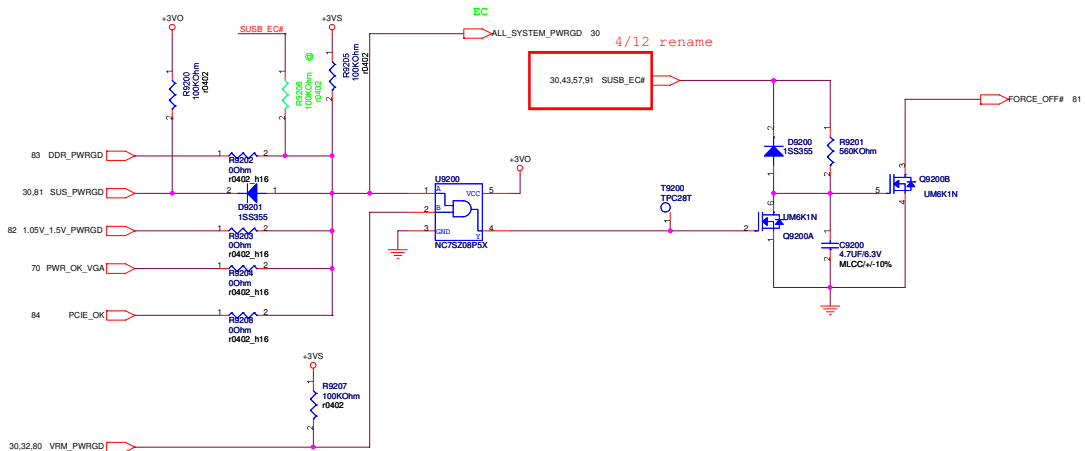
SUSC# PWR POWER

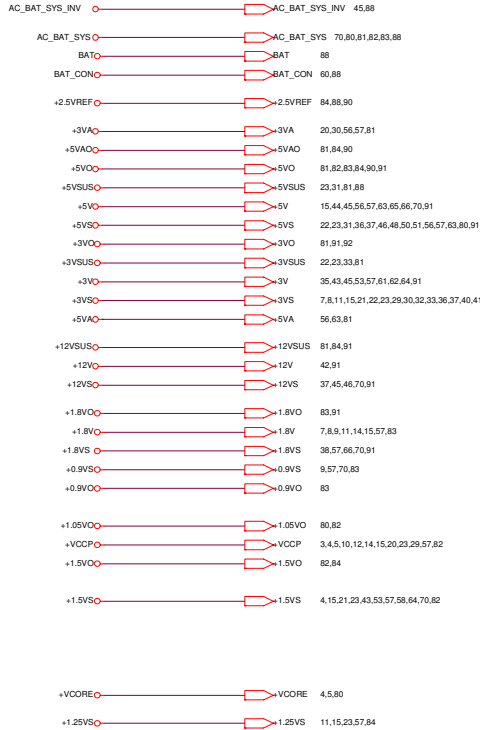


3/16 delete +1.5V

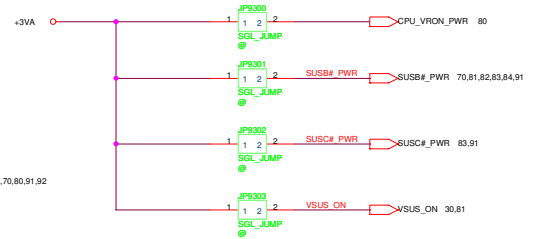


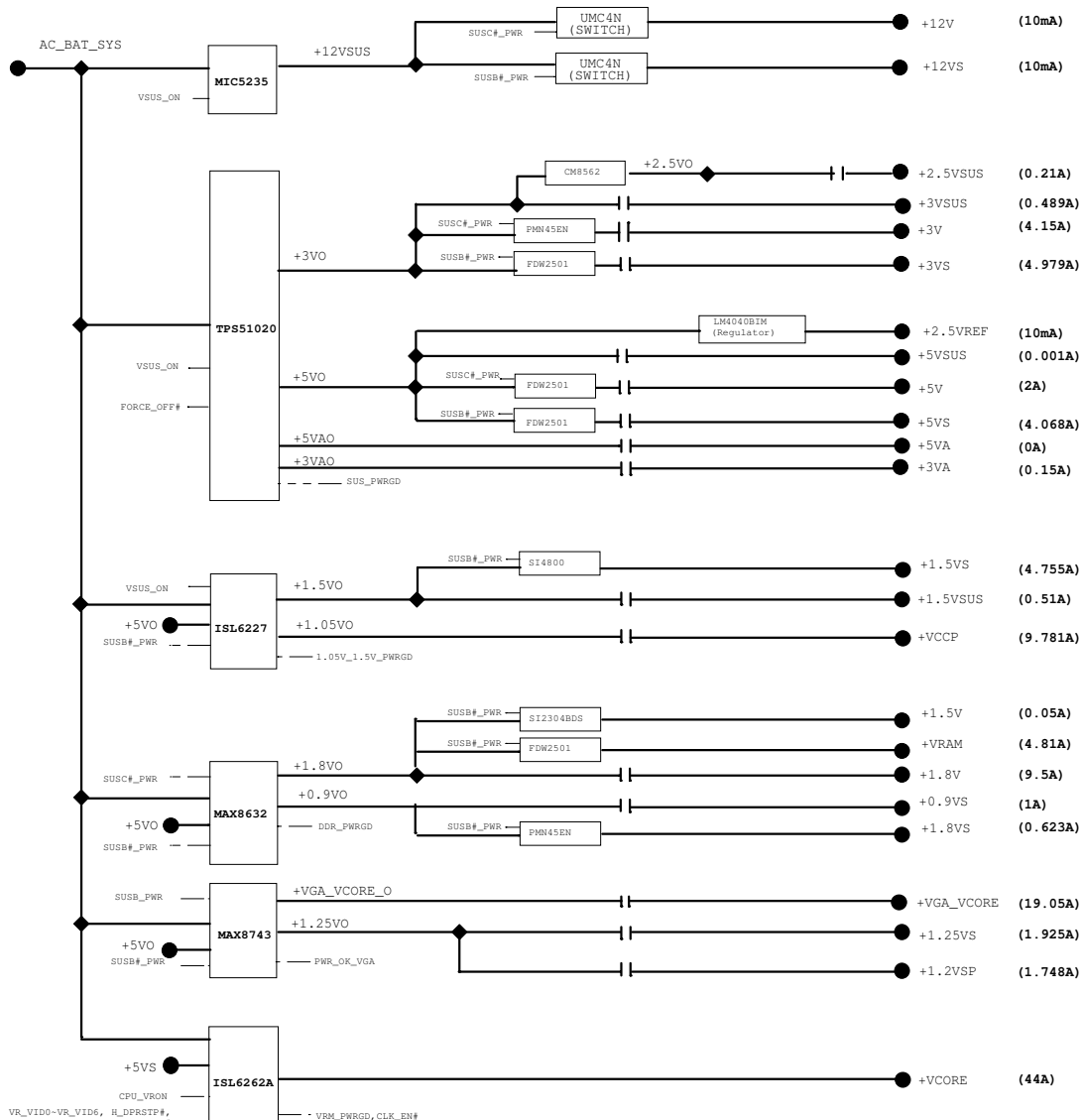
POWER GOOD DETECTOR

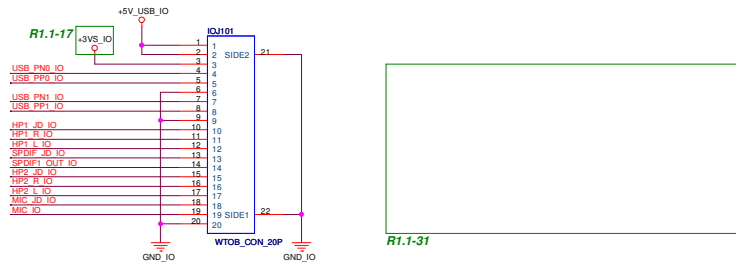




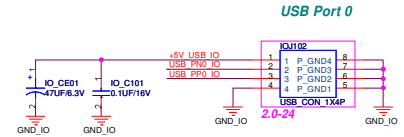
FOR POWER TEST



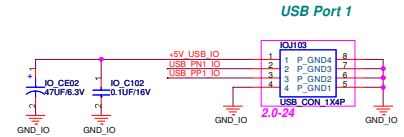




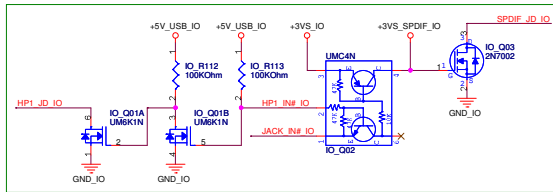
R1.1-31



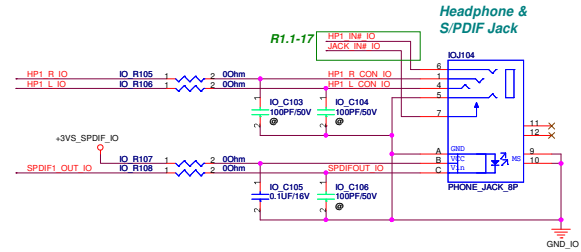
USB Port 0



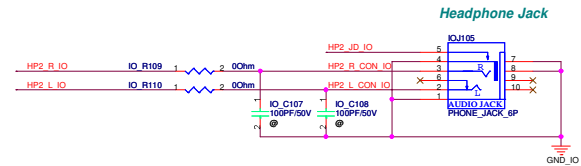
USB Port 1



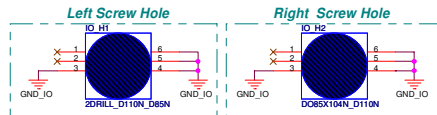
R1.1-17



Headphone & S/PDIF Jack

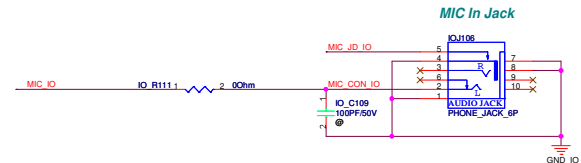


Headphone Jack



Left Screw Hole

Right Screw Hole



MIC In Jack

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

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