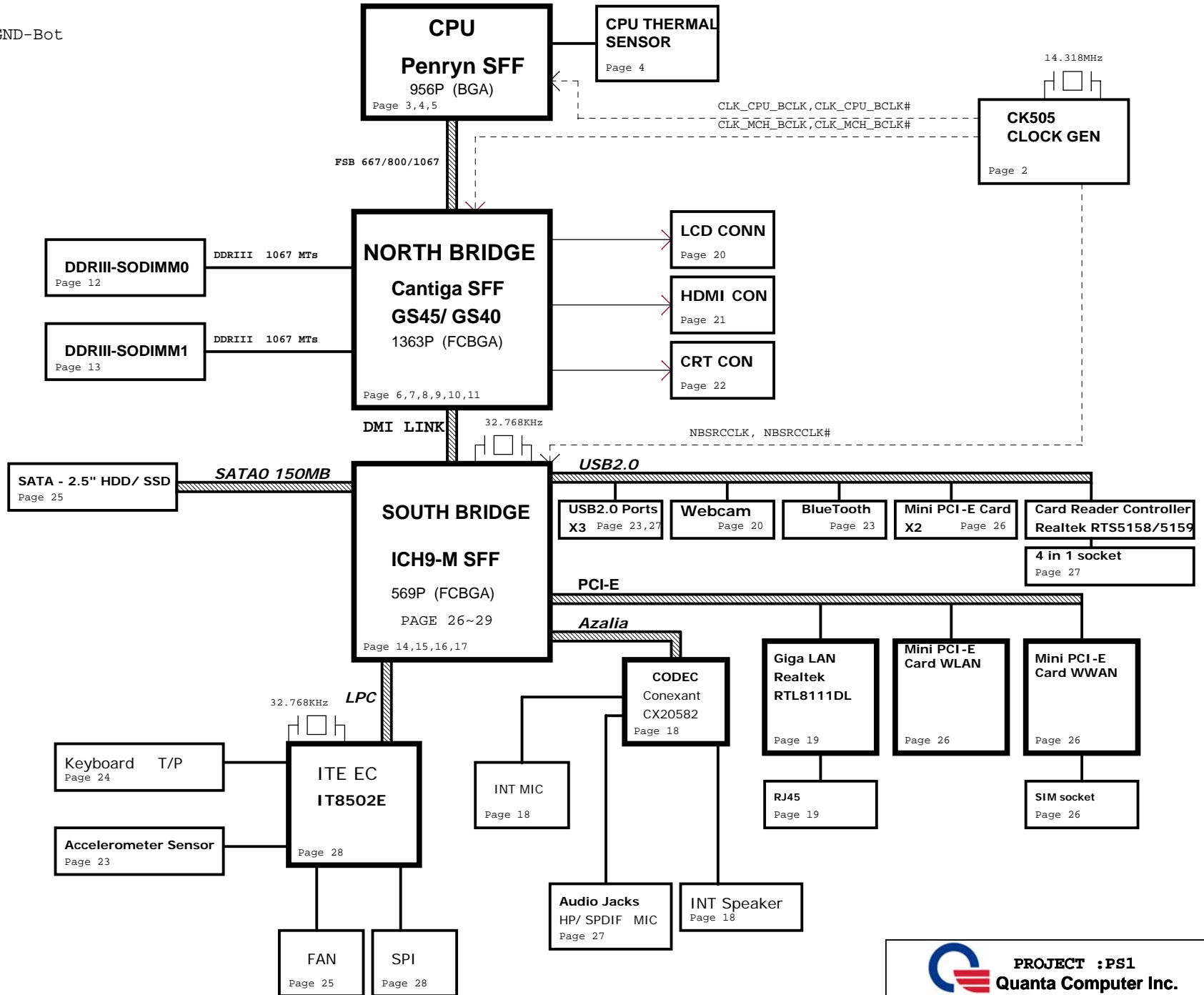
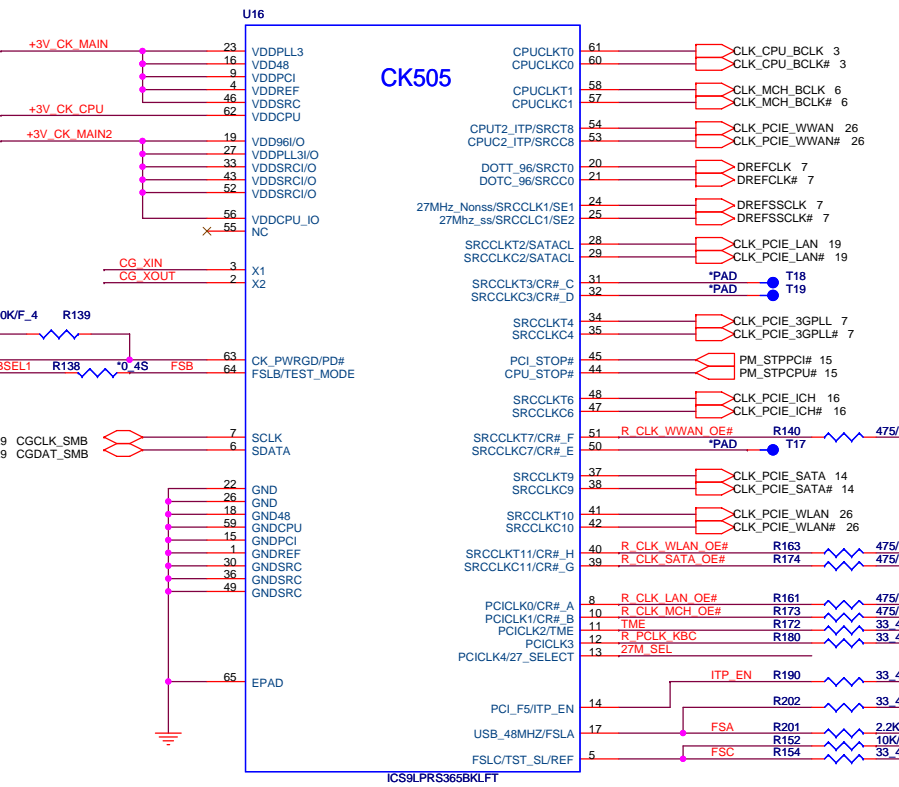
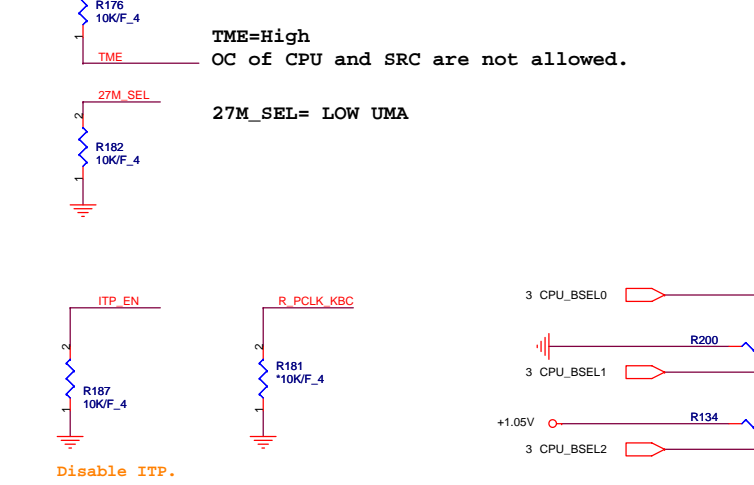
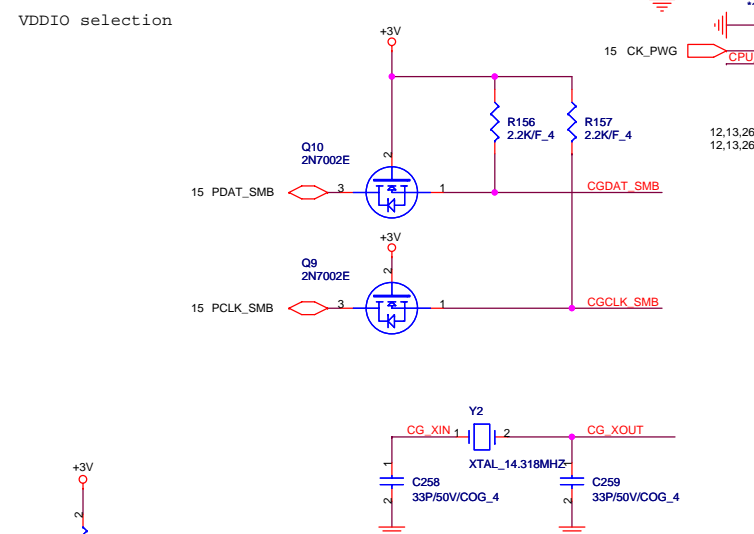
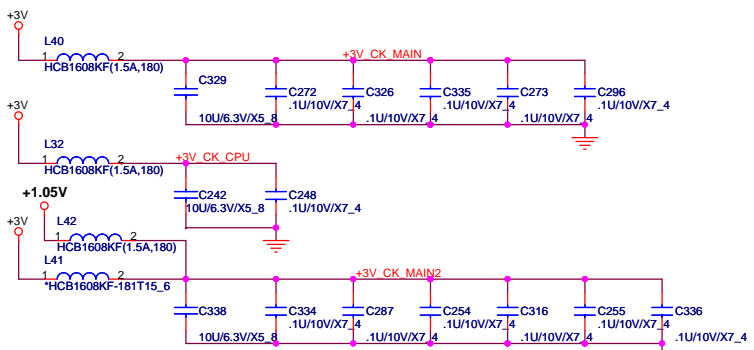


Top-GND-IN1-IN2-SVCC-IN3-GND-Bot

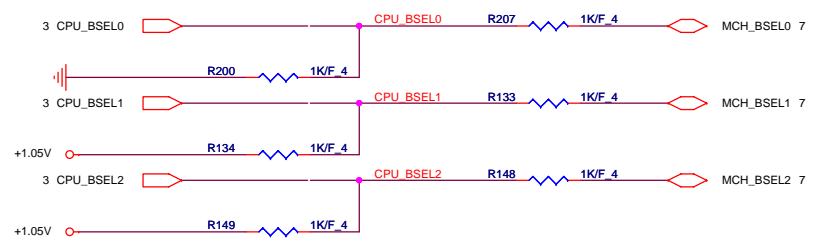
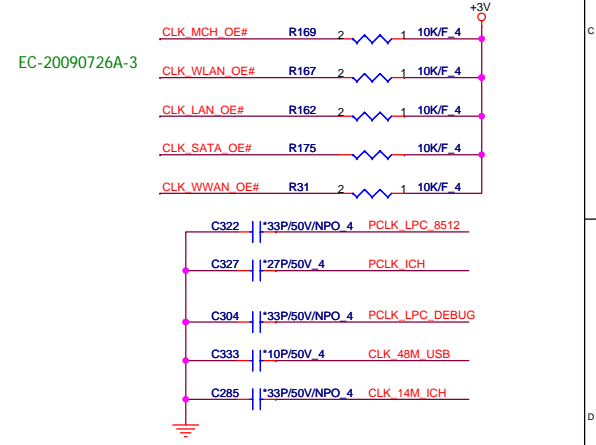
- Battery Charger**
ISL88731A
Page 30
- 3V/5V**
ISL6237IRZ-T
Page 31
- CPU CORE**
RT8152B
Page 32
- DDR3, VTT**
TPS51116REGR
Page 33
- 1.05V/ 1.5V**
RT8204
Page 34
- NB CORE**
MAX8796GTJ+
Page 37
- S5 power, LDO**
Page 36

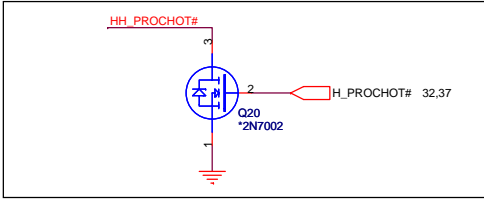
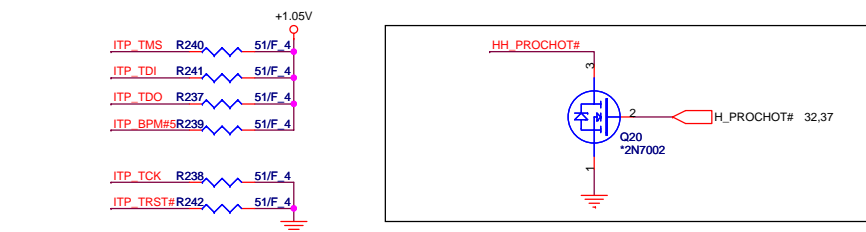
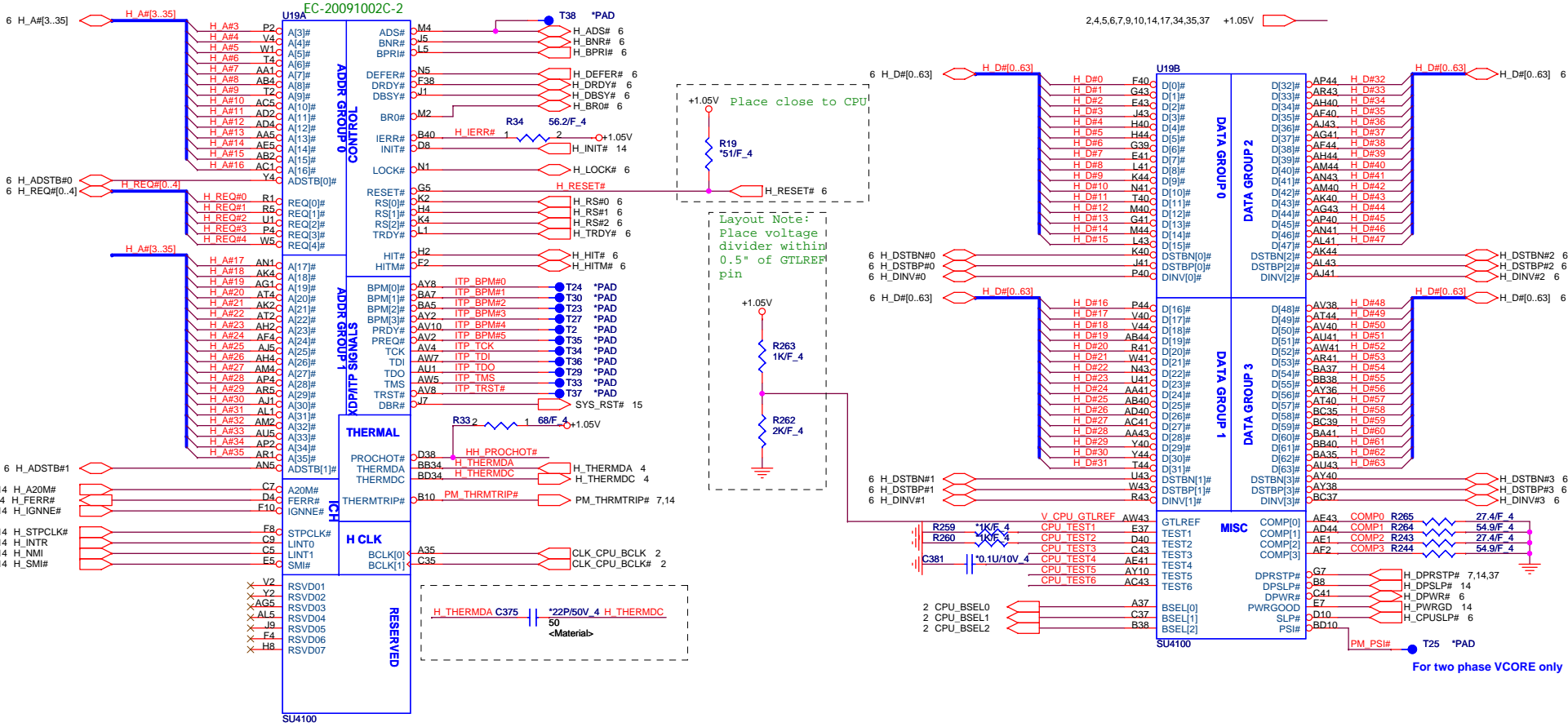




- CPU Differential Host Clock
- NB Differential Host Clock
- WWAN EC-20090726A-4
- NB Display PLLA Differential Clock
- NB Display PLLB Differential Clock
- PCI-E LAN
- NB Differential PCI Express based Graphics/DMI Clock
- SB
- SATA
- WLAN EC-20090726A-3

CR#	SRC	CLKREQ	SRC Port
CR#_B	SRC 1,4	CLK_MCH_OE#	SRC4
CR#_A	SRC 0,2	CLK_LAN_OE#	SRC2
CR#_G	SRC 9	CLK_SATA_OE#	SRC9
CR#_H	SRC 10	CLK_MINI_OE#	SRC10
CR#_F	SRC 8	CLK_WWAN_OE#	SRC 8





*PAD T40 CPU TEST3
 *PAD T31 CPU TEST5
 *PAD T41 CPU TEST6

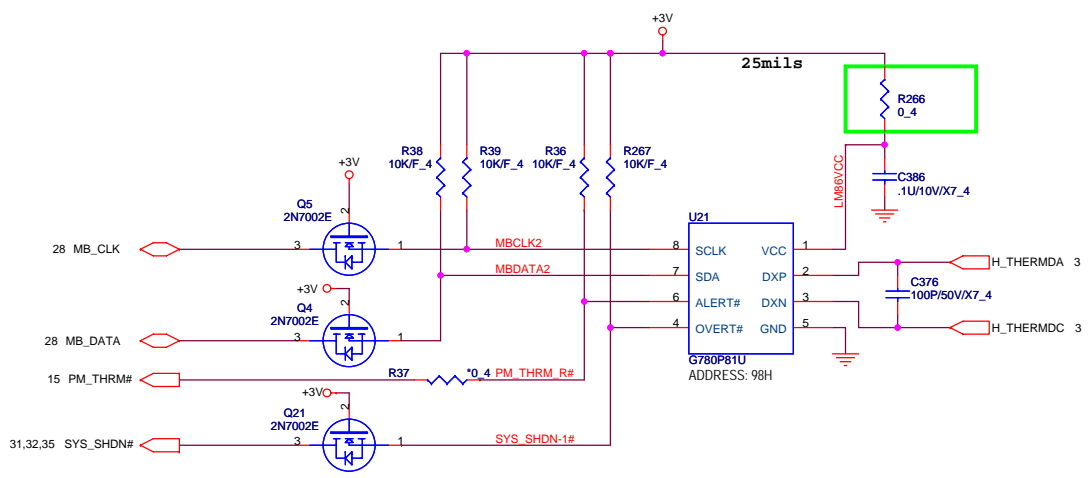
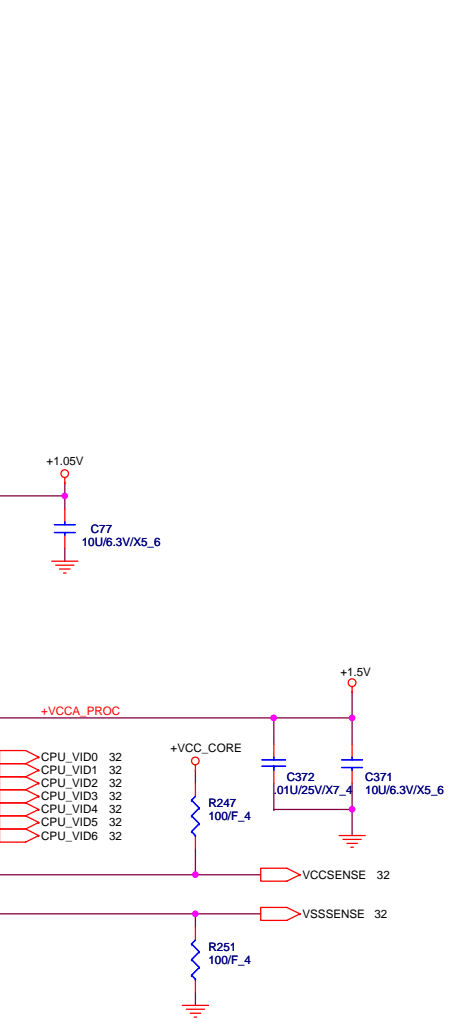
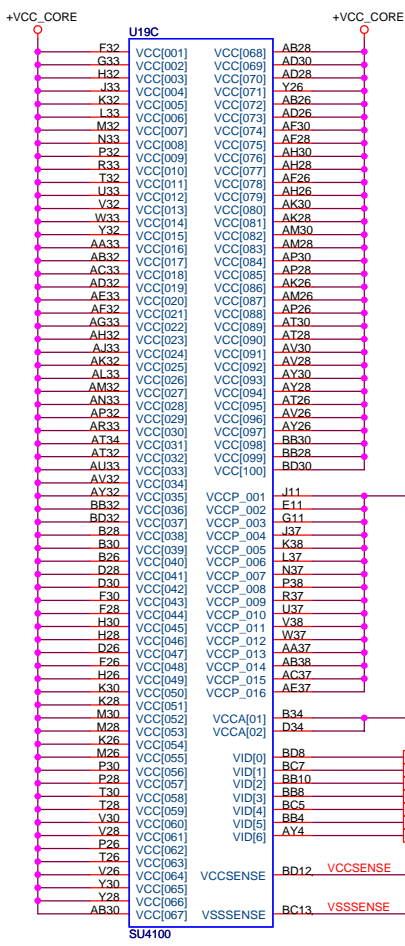
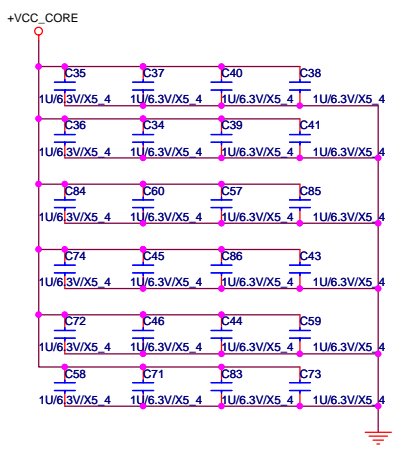
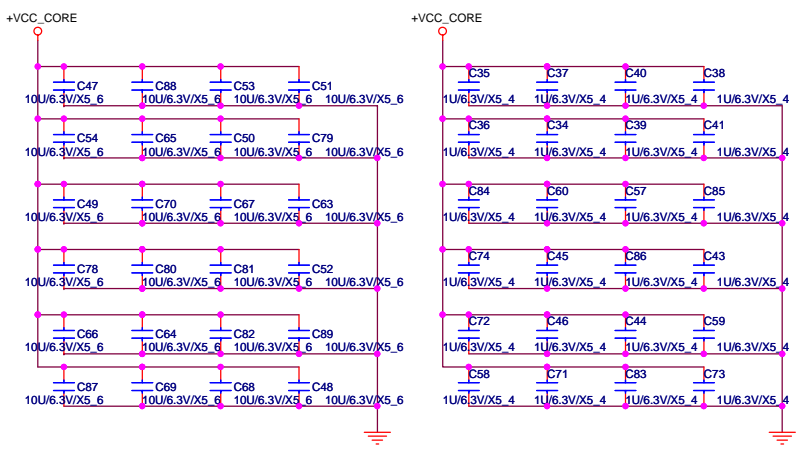
For the purpose of testability, route these signals through a ground referenced Z0 = 55ohm trace that ends in a via that is near a GND via and is accessible through an oscilloscope connection.

Signal | ITP disable guidelines

TDI	Resistor Value		
TMS	150 ohm +/- 5%	Connect To	Resistor Placement
TRST#	39 ohm +/- 5%	VTT	Within 2.0" of the ITP
TCK	680 ohm +/- 5%	VTT	Within 2.0" of the ITP
TDO	27 ohm +/- 5%	OpenGND	Within 2.0" of the ITP
ITP_EN		GND	Within 2.0" of the ITP
	R268 Depop	VTT	Within 2.0" of the ITP
		+3VRUN	Close to CK410M Pin8

PROJECT : PS1
Quanta Computer Inc.

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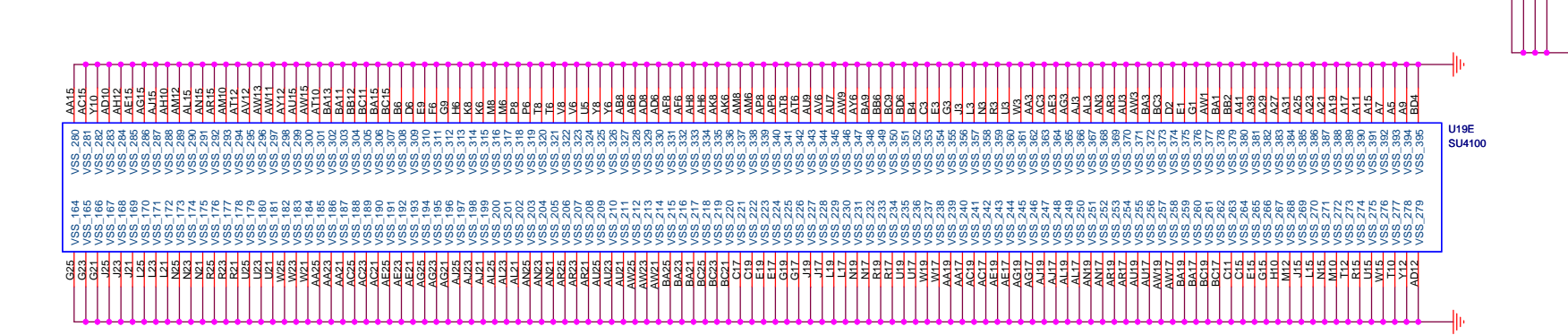


PROJECT : PS1
Quanta Computer Inc.

Size: Custom Document Number: Penryn (TH Monitor) 2/3 Rev 1A
 Date: Saturday, October 31, 2009 Sheet 4 of 41



U19F SU4100

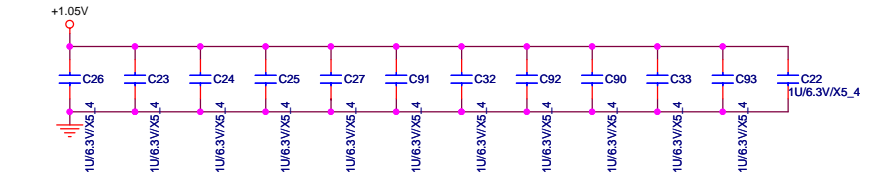


+1.05V

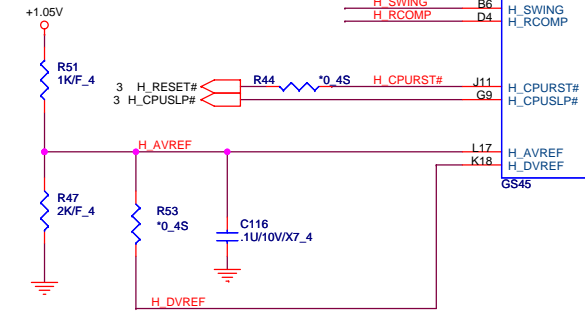
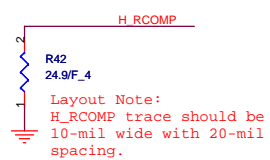
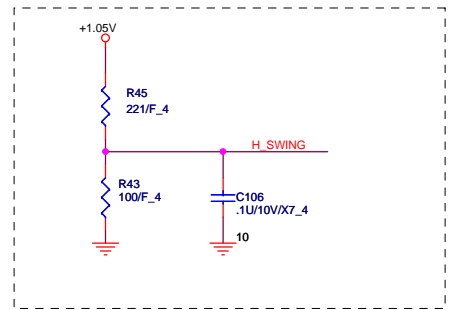
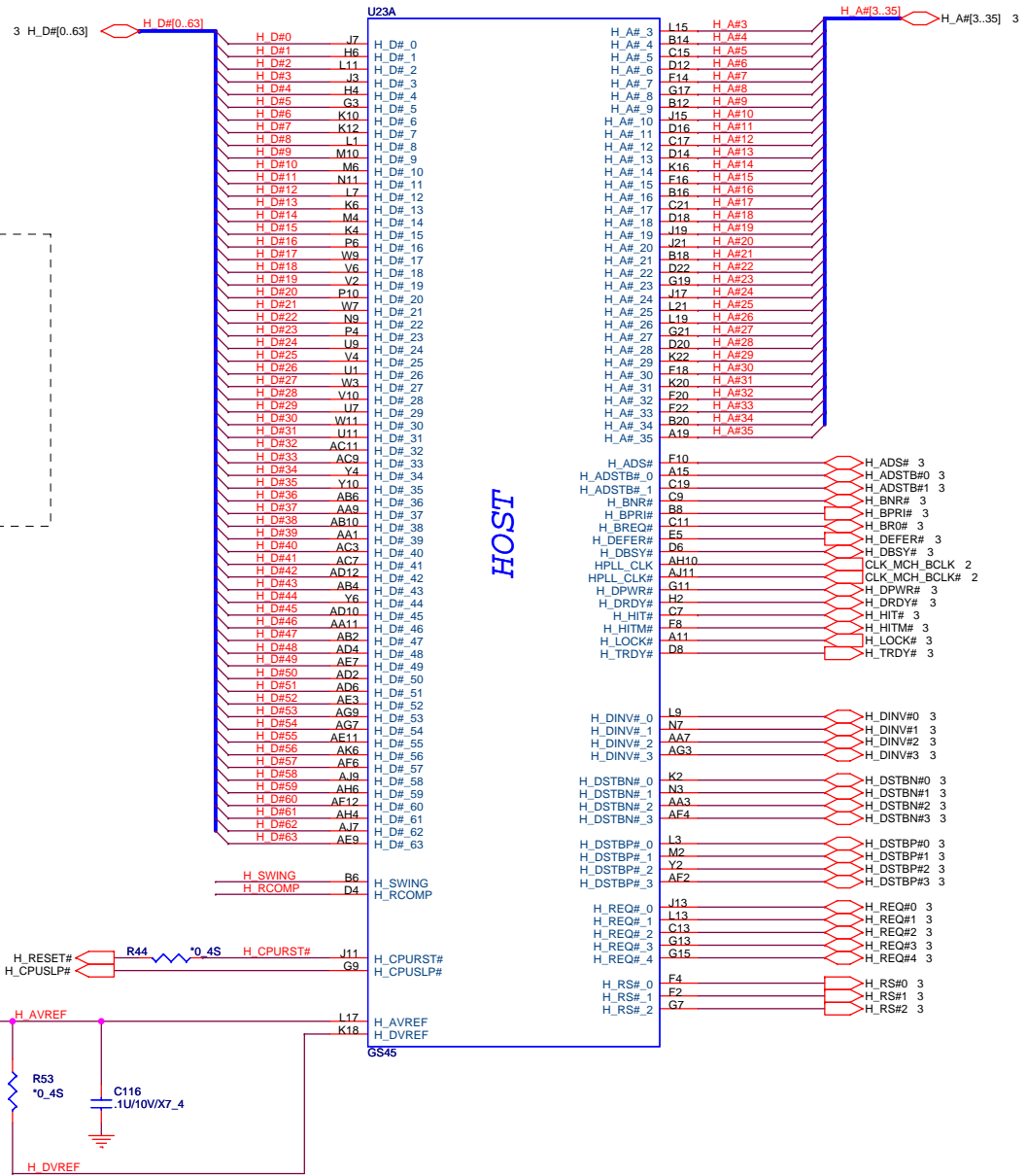
U19E SU4100

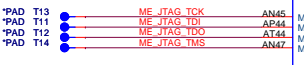
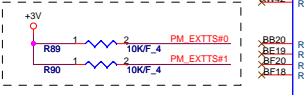
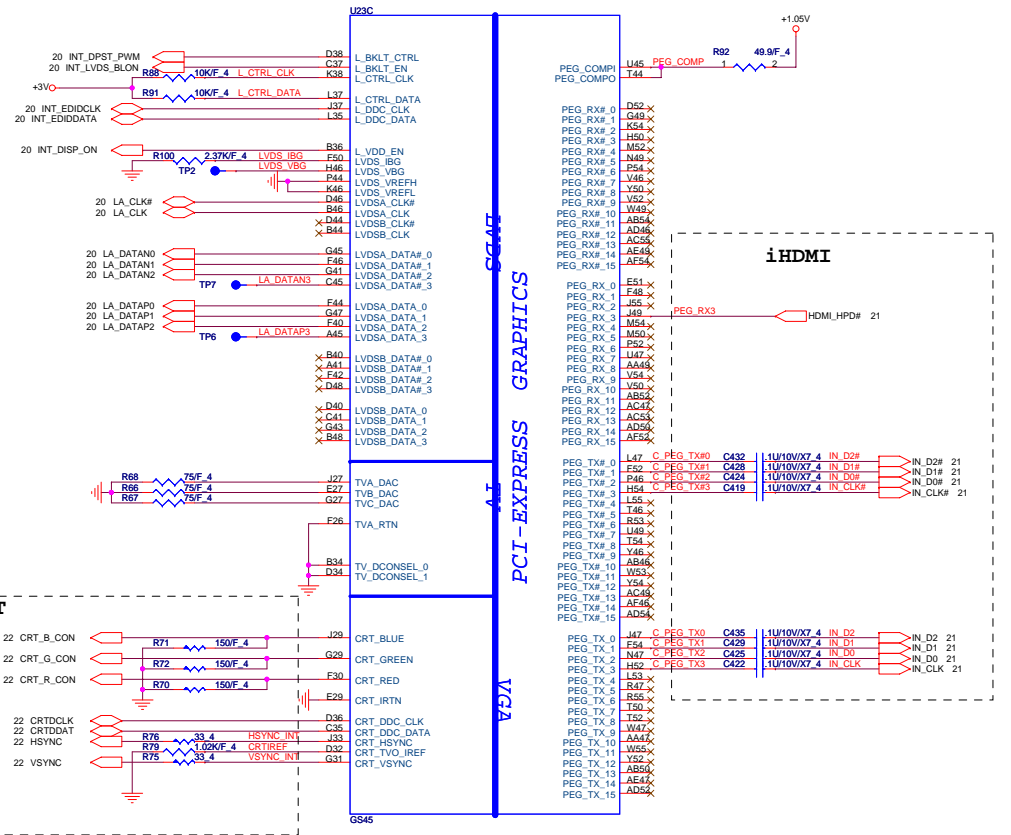
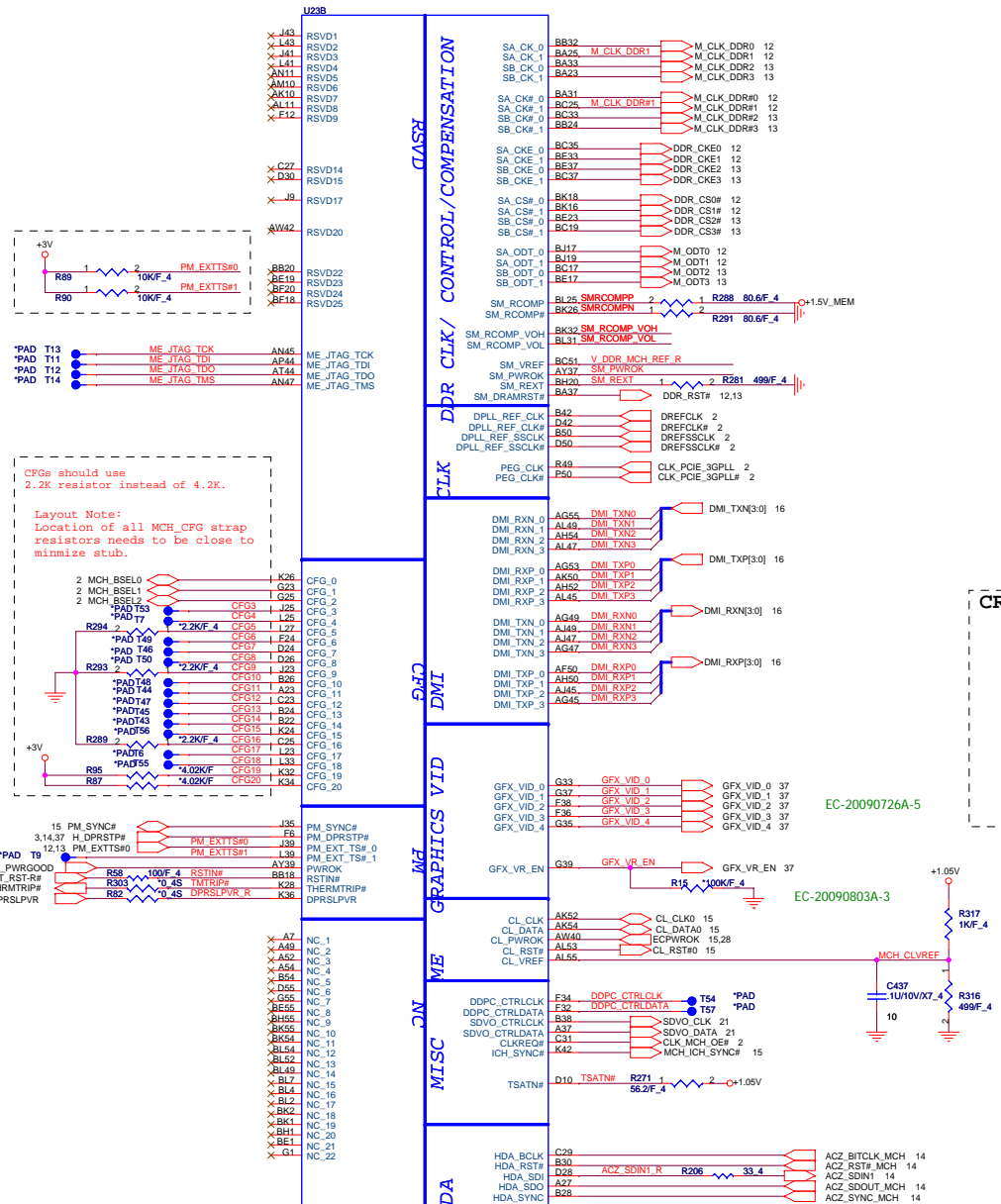


U19D SU4100



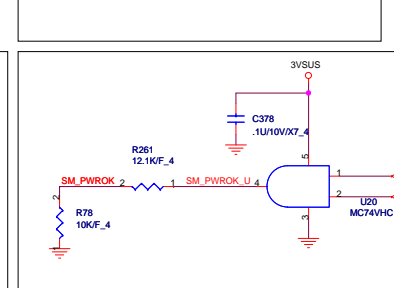
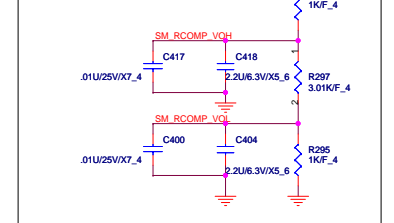
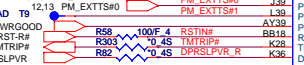
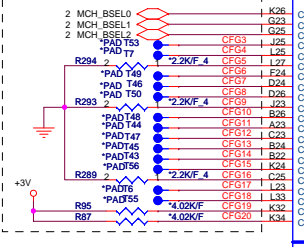
EC-20091002C-2





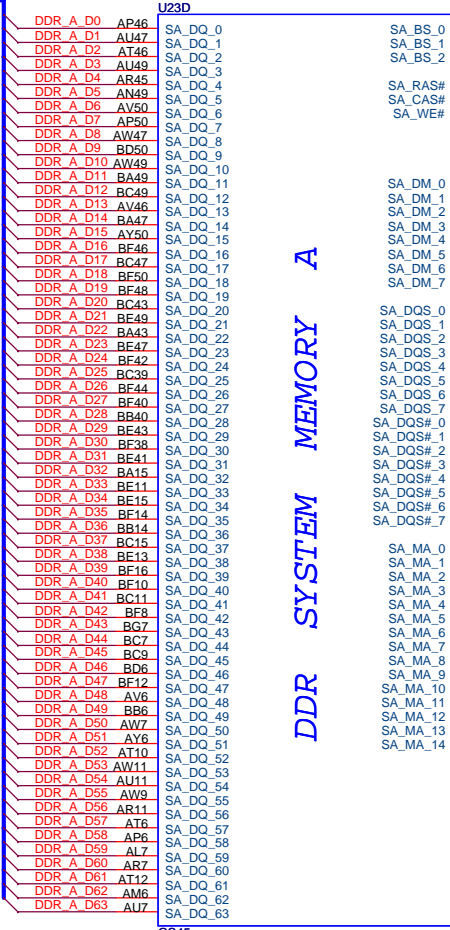
CFGs should use 2.2K resistor instead of 4.2K.

Layout Note: Location of all MCH_CFG strap resistors needs to be close to minimize stub.

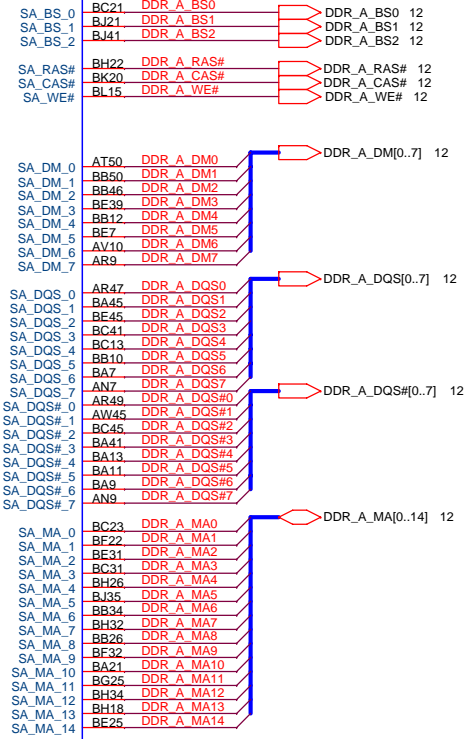


Ext Gfx Tx Differential Pairs	HDMI Signals	HDMI Signals Description
EXP_TXN[0]	TMDSB_DATA2B	HDMI data and clock lines for Port B
EXP_TXP[0]	TMDSB_DATA2	
EXP_TXN[1]	TMDSB_DATA1B	
EXP_TXP[1]	TMDSB_DATA1	
EXP_TXN[2]	TMDSB_DATA0B	
EXP_TXP[2]	TMDSB_DATA0	
EXP_TXN[3]	TMDSB_CLKB	HDMI Signals Description
EXP_TXP[3]	TMDSB_CLK	
Ext Gfx RX Differential Pairs	HDMI Signals	HDMI Signals Description
EXP_RXP[3]	Port-B_HP#	Hot plug detect used by HDMI Port B. EXP_RXN[3] is not used.
DDC multiplexed lines	HDMI Signals	HDMI Signals Description
SDVO_CTRLCLK	HDMIB_CTRL_CLK	HDMI DDC lines for Port B
SDVO_CTRLDATA	HDMIB_CTRL_DATA	

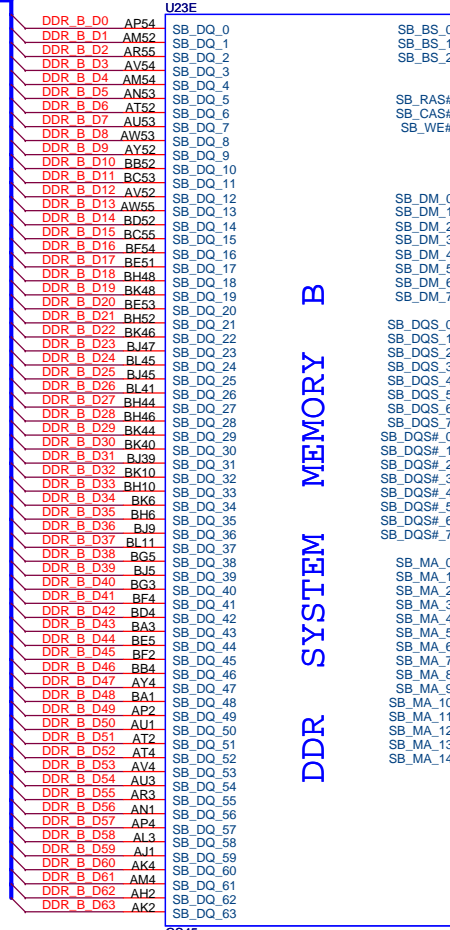
12 DDR_A_D[0..63]



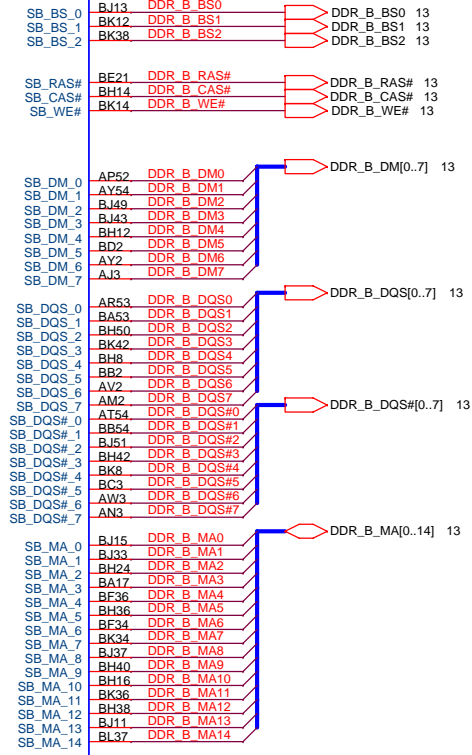
DDR SYSTEM MEMORY A



13 DDR_B_D[0..63]



DDR SYSTEM MEMORY B



PROJECT :PS1
Quanta Computer Inc.

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Custom	k:\Doc> Cantiga_C (DDR interface)	1A
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Ivcc_sm (DDR3,1.5V,1066MTs) -->4140mA

Layout Note:
370 mils from edge.

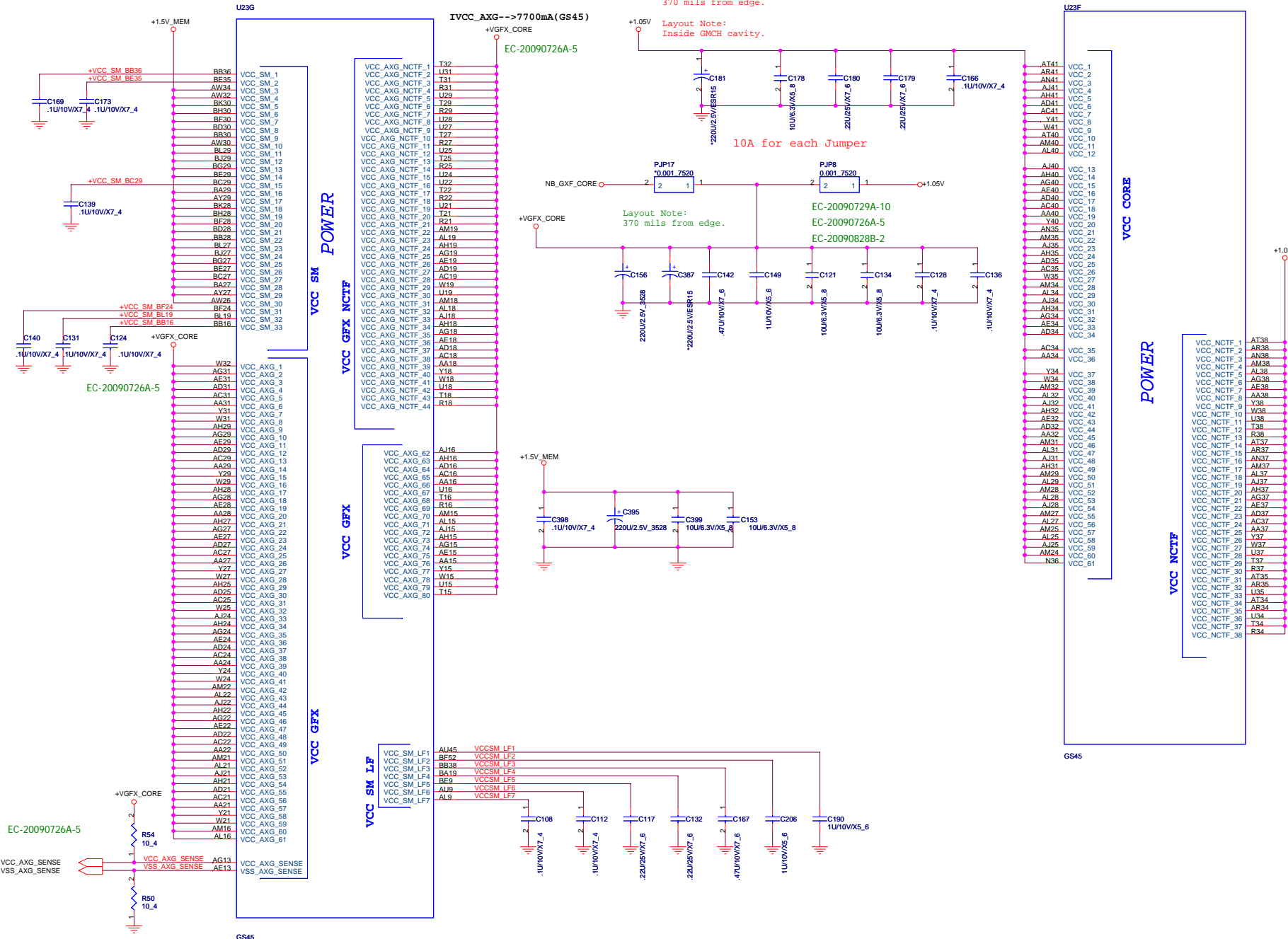
Layout Note:
Inside GMCH cavity.

10A for each Jumper

Layout Note:
370 mils from edge.

EC-20090726A-5
EC-20090729A-10
EC-20090726A-5
EC-20090828B-2

EC-20090726A-5



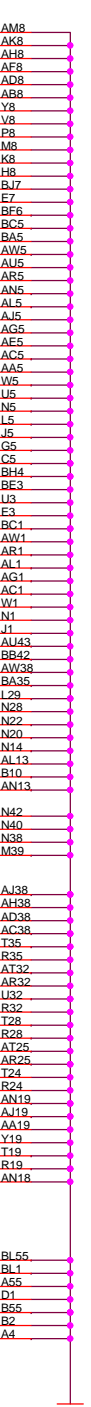
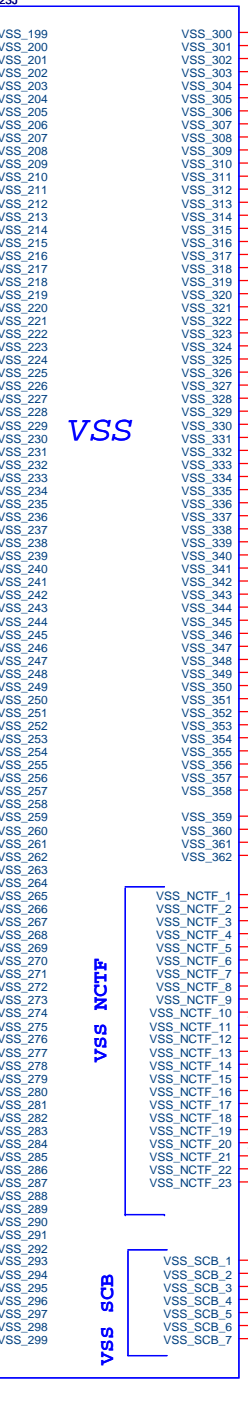
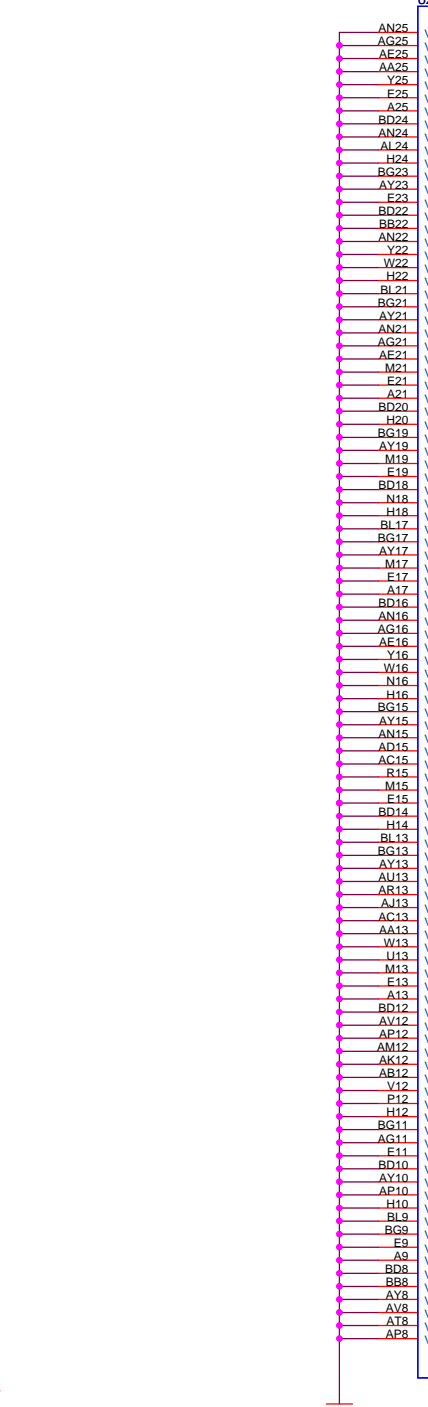
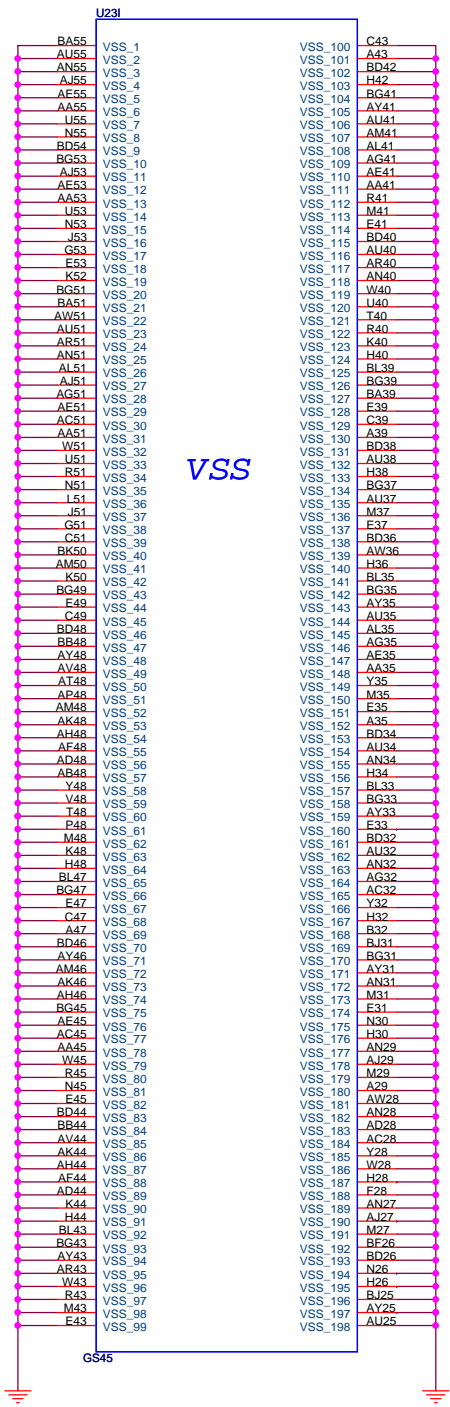
EC-20090726A-5

37 VCC_AXG_SENSE
37 VSS_AXG_SENSE

GS45

PROJECT :PS1
Quanta Computer Inc.

Size: Custom Document Number: Cantiga D (VCC,NCTF) Rev: 1A
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Quanta Computer Inc.

Size Custom	Document Number Doc- Cantiga F (VSS)	Rev 1A
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D

D

C

C

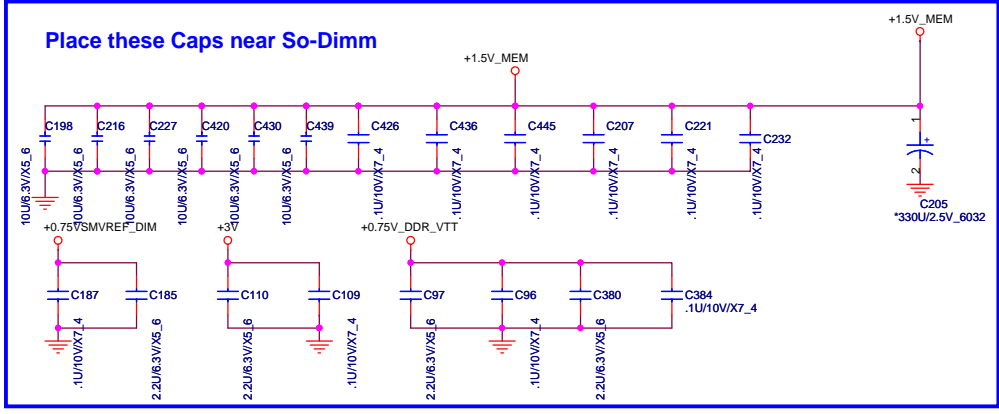
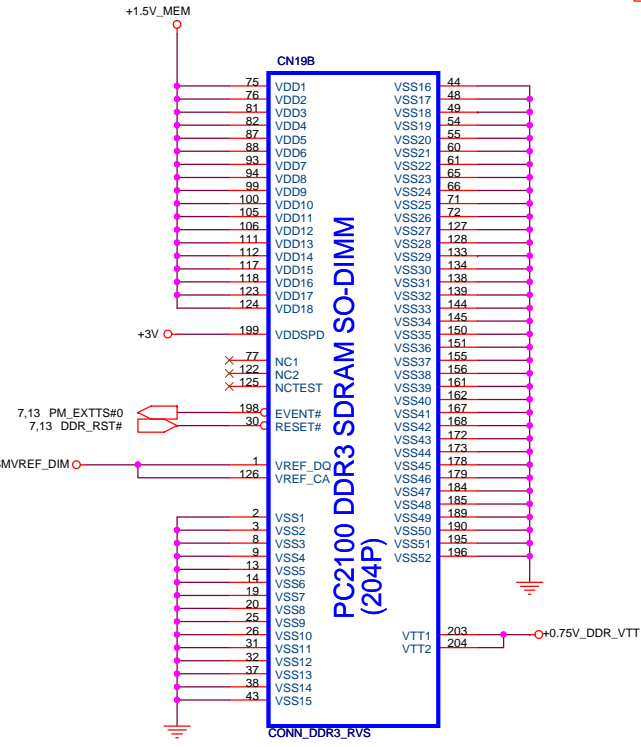
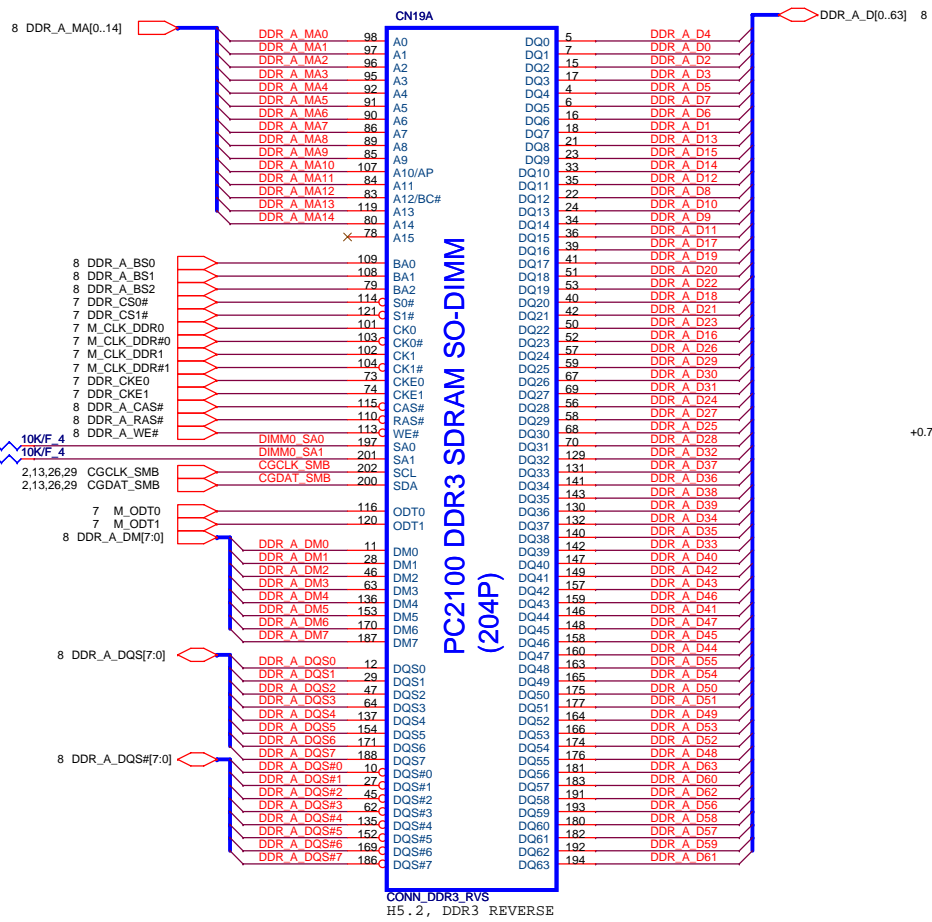
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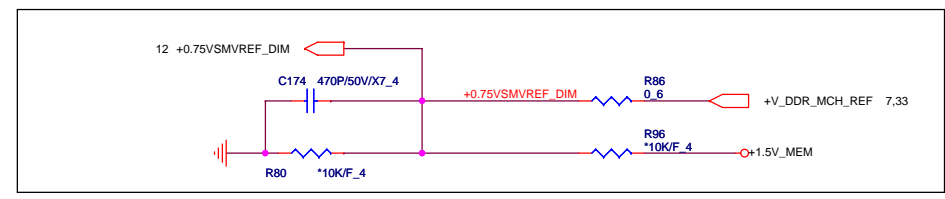
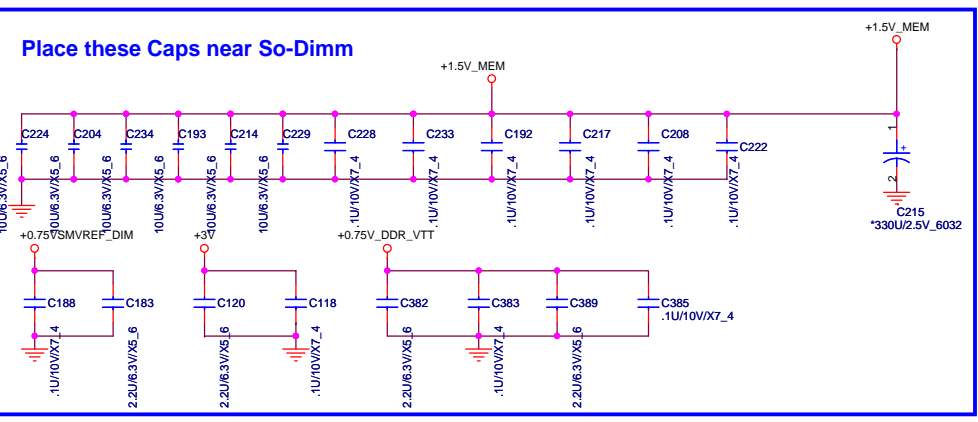
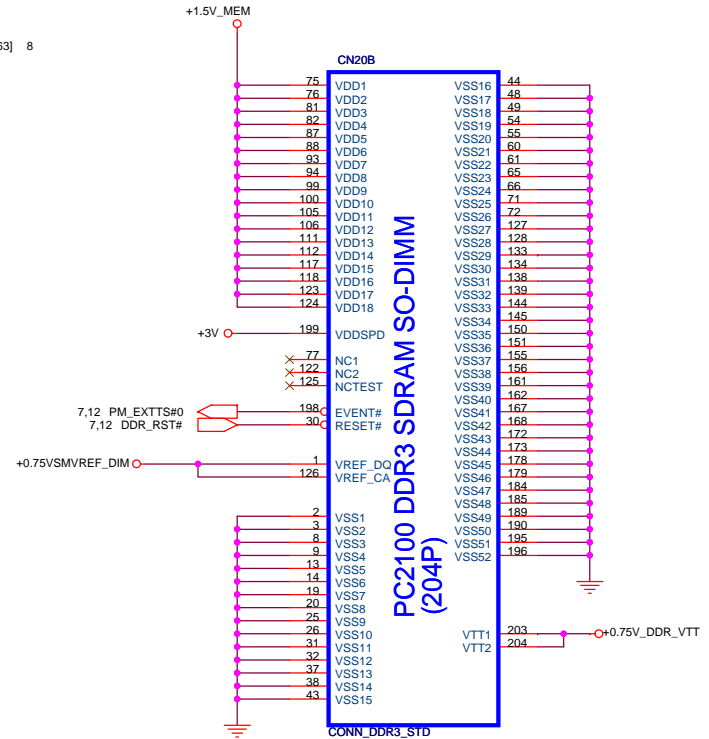
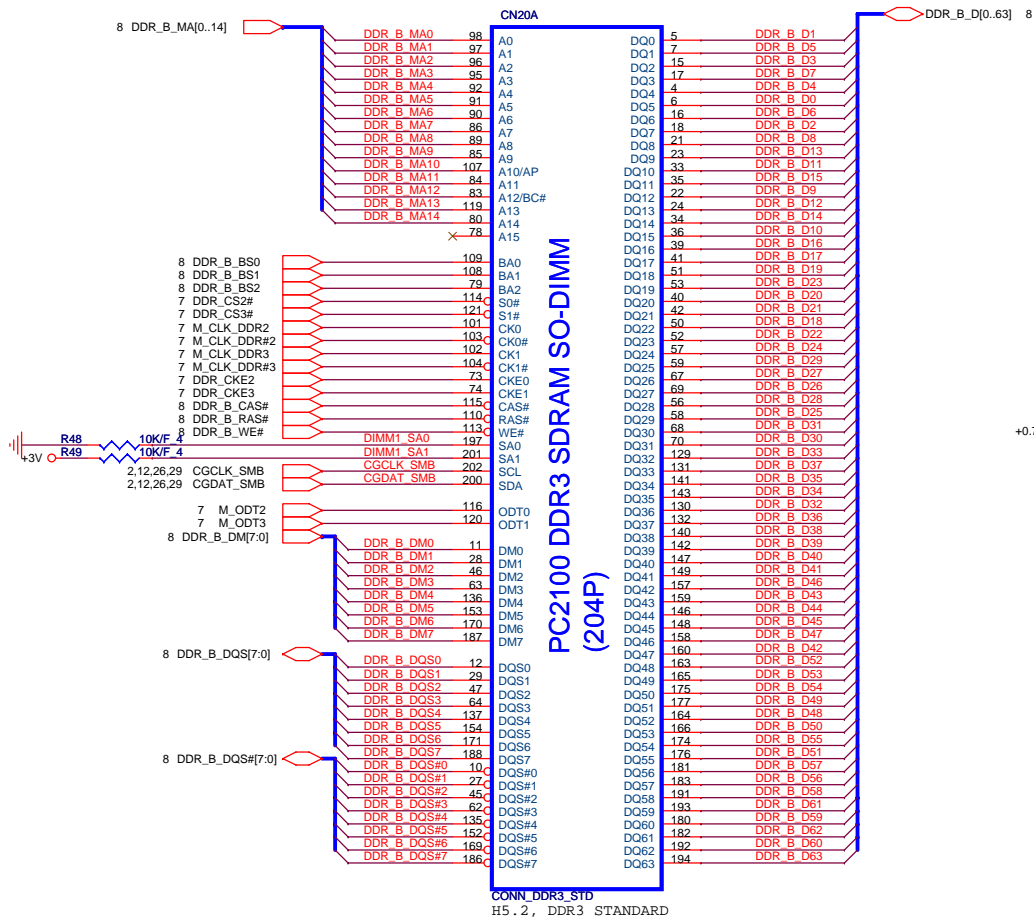
B

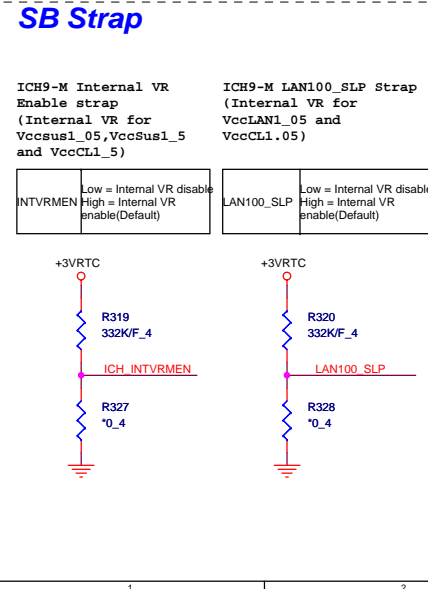
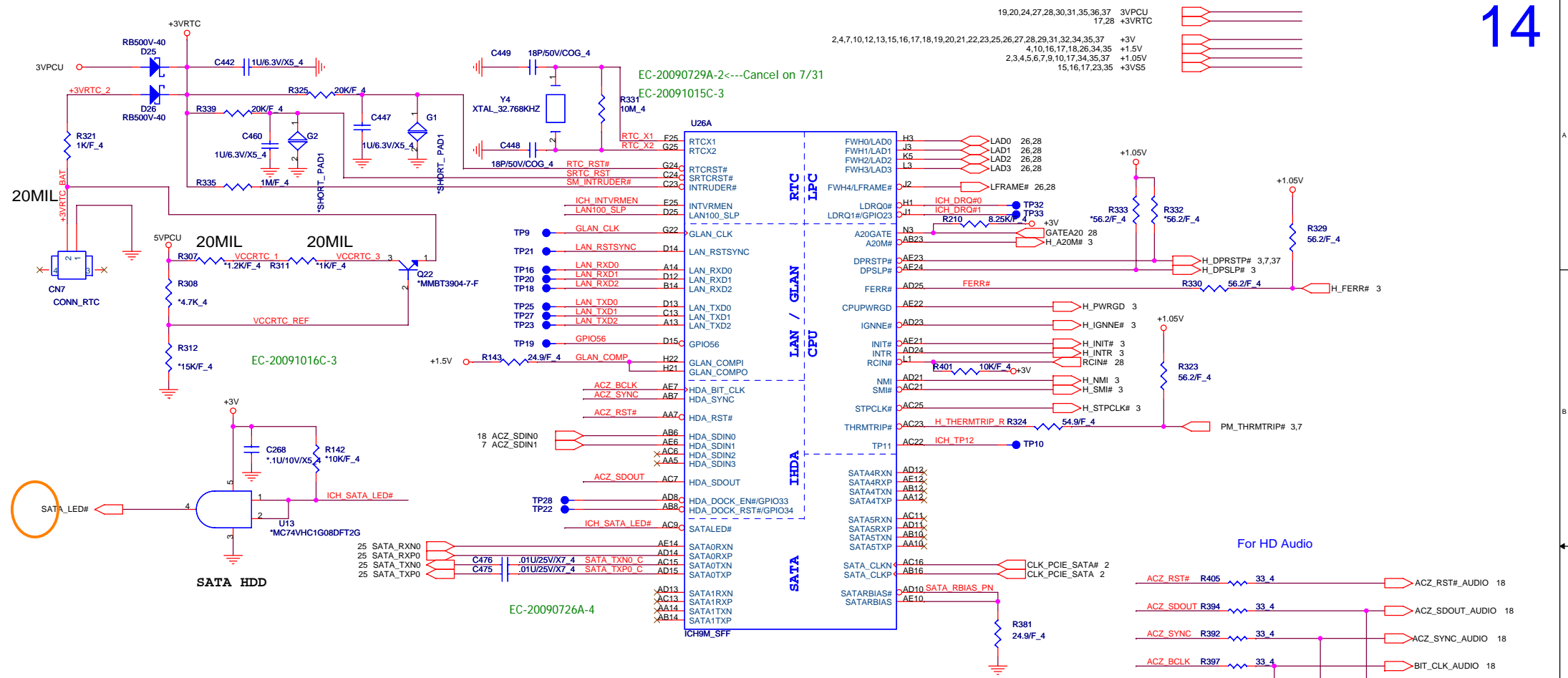
A

A

7,9,10,13,33,34,35 +1.5V_MEM
 2,4,7,10,13,14,15,16,17,18,19,20,21,22,23,25,26,27,28,29,31,32,34,35,37 +3V
 7,13,33 +V_DDR_MCH_REF
 13 +0.75VSMVREF_DIM
 13,33,35 +0.75V_DDR_VTT







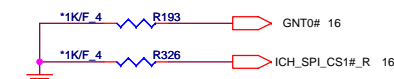
XOR Chain Entrance Strap

ICH_TP3	HDA_SDOUT	Description
0	0	RSVD
0	1	Enter XOR Chain
1	0	Normal opration(Default)
1	1	Set PCIe port config bit 1

ICH9 Boot BIOS select

STRAP	PCI_GNT0#	SPI_CS#1
SPI	0	1
PCI	1	0
LPC	1	1

(default)



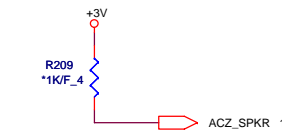
A16 swap override strap

PCI_GNT#3	Low = A16 swap override enabled Hi = Default
-----------	---



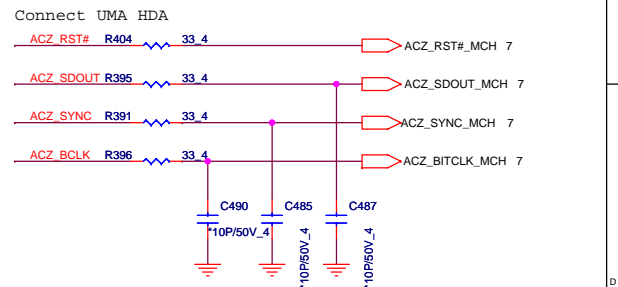
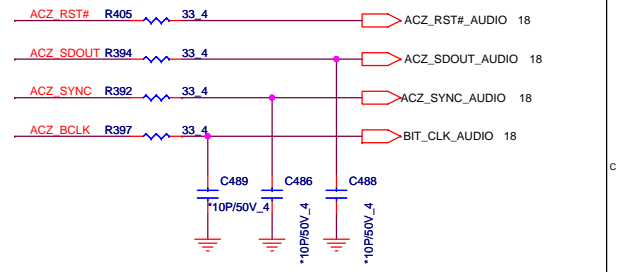
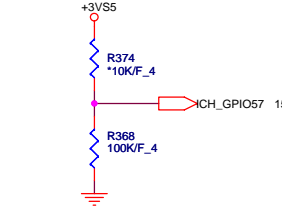
No Reboot Strap

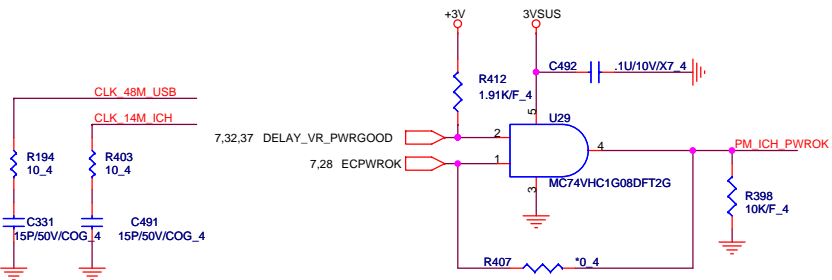
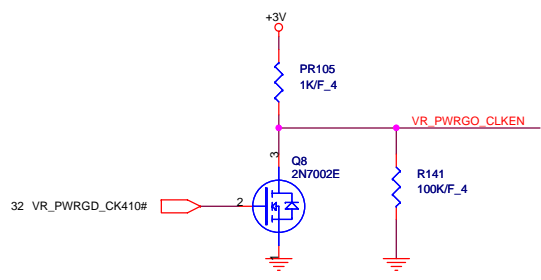
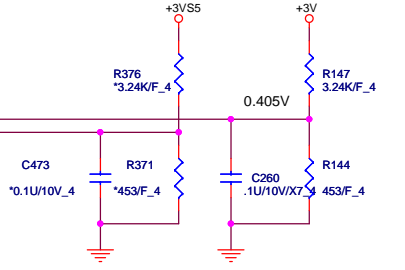
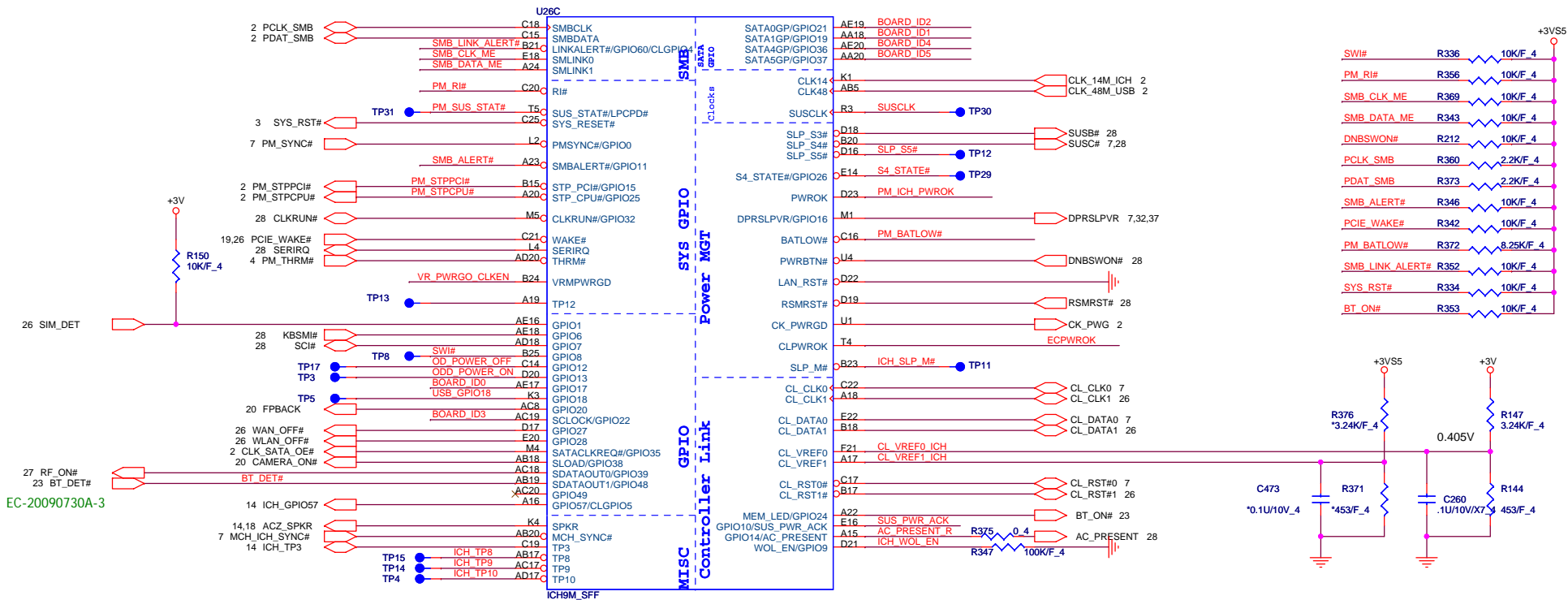
ACZ_SPKR	Low: Default Hi: No reboot
----------	-------------------------------



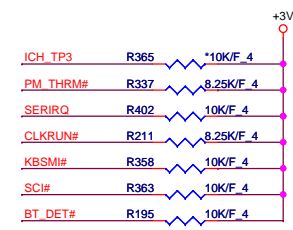
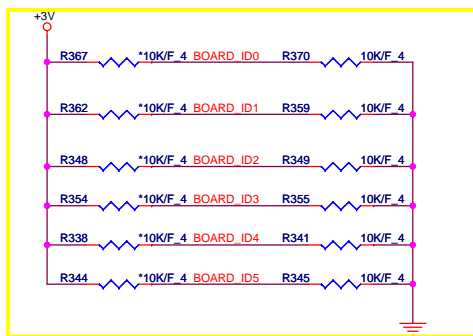
TPM physical presence

ICH_GPIO57	Low: Default
------------	--------------





RESERVED BOARD ID



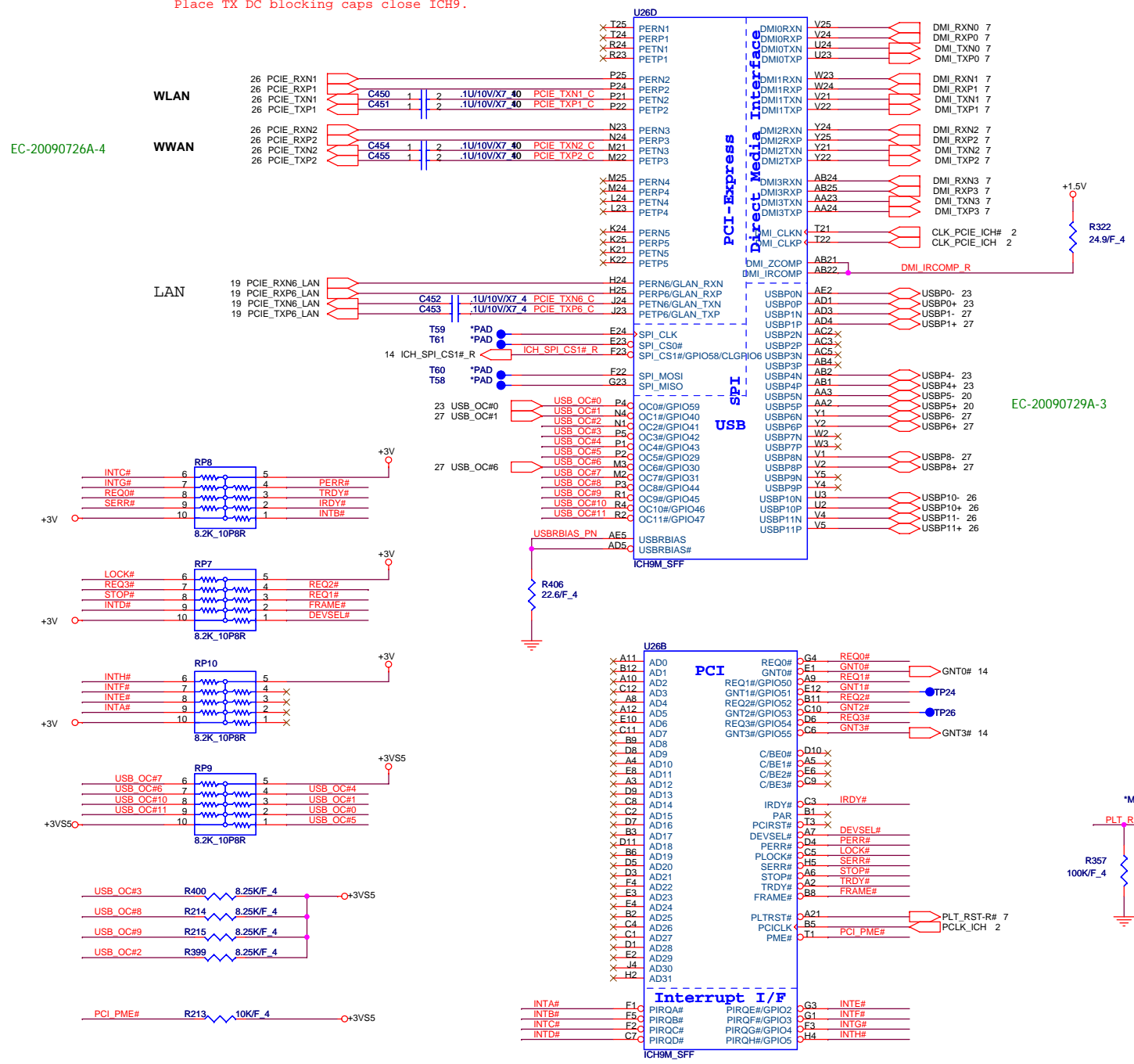
PROJECT : PS1
Quanta Computer Inc.

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Place TX DC blocking caps close ICH9.

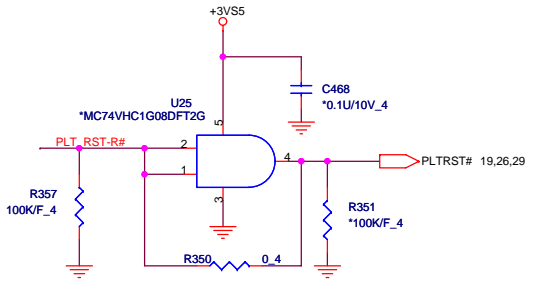
EC-20090726A-4

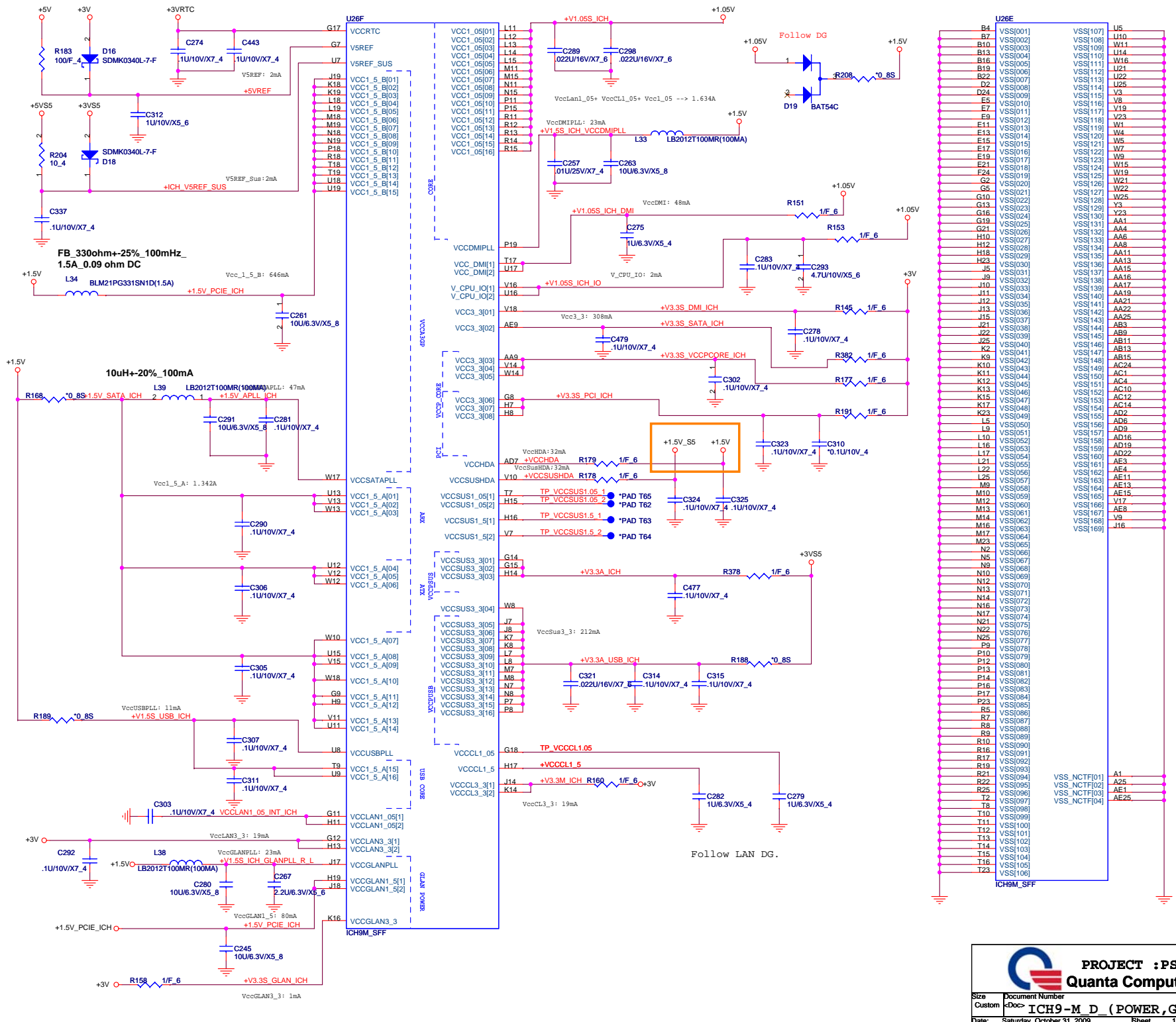
EC-20090729A-3



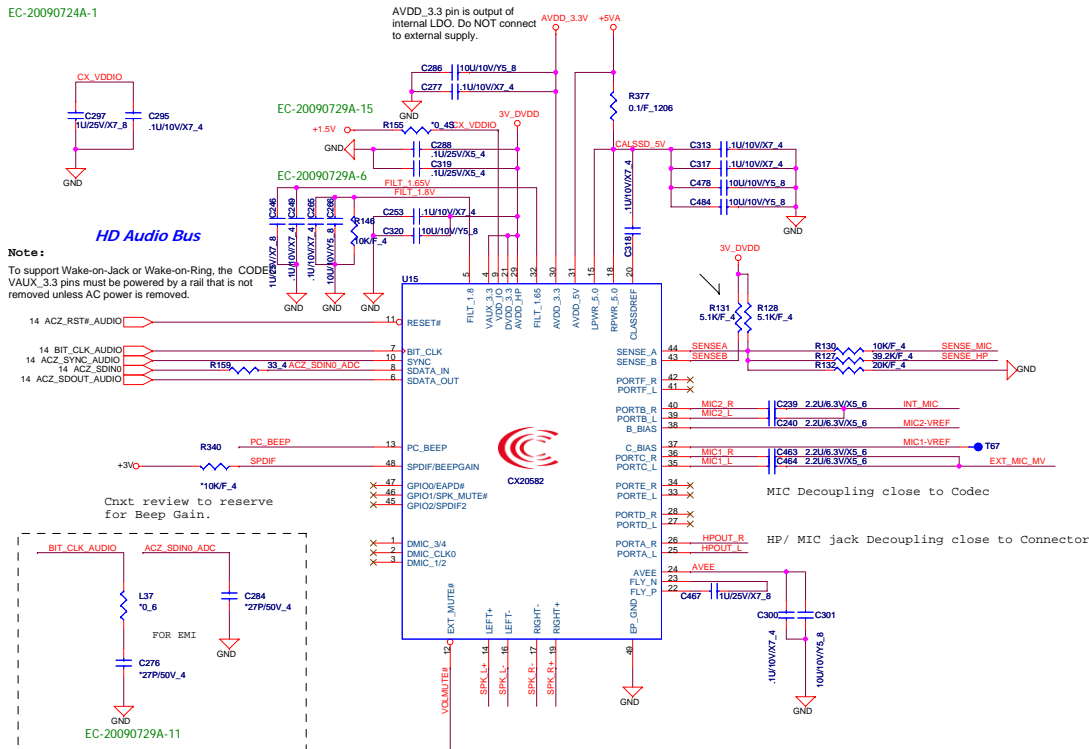
USB port Assignment function

USB port	Assignment function
USB0	USB Connector onboard
USB1	USB Connector on function board
USB2	X
USB3	X
USB4	BLUETOOTH
USB5	CCD
USB6	USB Connector on function board
USB7	X
USB8	USB Card Reader on function board
USB9	X
USB10	Mini PCI E-WWAN
USB11	Mini PCI E-WLAN





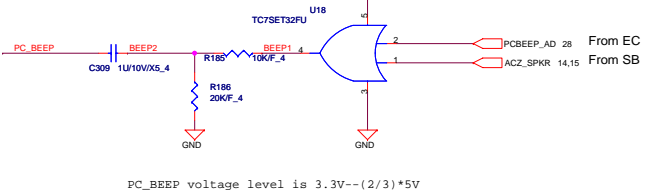
U26E	U5
B4	VSS107
B7	VSS108
B10	VSS109
B13	VSS110
B16	VSS111
B19	VSS112
B22	VSS113
D2	VSS114
D4	VSS115
E5	VSS116
E7	VSS117
E9	VSS118
E11	VSS119
E13	VSS120
E15	VSS121
E17	VSS122
E19	VSS123
E21	VSS124
F24	VSS125
G2	VSS126
G5	VSS127
G10	VSS128
G13	VSS129
G16	VSS130
G19	VSS131
G21	VSS132
H10	VSS133
H12	VSS134
H18	VSS135
H23	VSS136
J5	VSS137
J9	VSS138
J11	VSS139
J12	VSS140
J13	VSS141
J15	VSS142
J21	VSS143
J22	VSS144
J25	VSS145
K2	VSS146
K9	VSS147
K10	VSS148
K11	VSS149
K13	VSS150
K15	VSS151
K17	VSS152
K23	VSS153
L9	VSS154
L10	VSS155
L16	VSS156
L17	VSS157
L21	VSS158
L22	VSS159
L25	VSS160
M0	VSS161
M10	VSS162
M12	VSS163
M13	VSS164
M14	VSS165
M16	VSS166
M17	VSS167
M23	VSS168
N2	VSS169
N2	VSS170
N9	VSS171
N10	VSS172
N12	VSS173
N13	VSS174
N16	VSS175
N17	VSS176
N21	VSS177
N22	VSS178
N25	VSS179
P9	VSS180
P12	VSS181
P13	VSS182
P14	VSS183
P16	VSS184
P17	VSS185
P23	VSS186
R5	VSS187
R7	VSS188
R8	VSS189
R9	VSS190
R10	VSS191
R16	VSS192
R17	VSS193
R19	VSS194
R21	VSS195
R22	VSS196
R25	VSS197
T2	VSS198
T8	VSS199
T10	VSS200
T11	VSS201
T12	VSS202
T13	VSS203
T14	VSS204
T15	VSS205
T16	VSS206
T23	VSS207
U5	VSS107
U10	VSS108
U11	VSS109
U14	VSS110
U21	VSS111
U22	VSS112
U25	VSS113
V3	VSS114
V8	VSS115
V19	VSS116
V23	VSS117
W1	VSS118
W4	VSS119
W4	VSS120
W5	VSS121
W9	VSS122
W9	VSS123
W15	VSS124
W19	VSS125
W21	VSS126
W25	VSS127
Y23	VSS128
Y3	VSS129
Y23	VSS130
AA1	VSS131
AA4	VSS132
AA6	VSS133
AA8	VSS134
AA11	VSS135
AA13	VSS136
AA17	VSS137
AA19	VSS138
AA21	VSS139
AA22	VSS140
AA25	VSS141
AB3	VSS142
AB9	VSS143
AB11	VSS144
AB15	VSS145
AC24	VSS146
AC1	VSS147
AC10	VSS148
AC12	VSS149
AC14	VSS150
AD2	VSS151
AD6	VSS152
AD9	VSS153
AD16	VSS154
AD19	VSS155
AD22	VSS156
AE3	VSS157
AE4	VSS158
AE11	VSS159
AE15	VSS160
V17	VSS161
AE8	VSS162
V9	VSS163
J16	VSS164
A1	VSS_NCTF[01]
A25	VSS_NCTF[02]
AE1	VSS_NCTF[03]
AE25	VSS_NCTF[04]



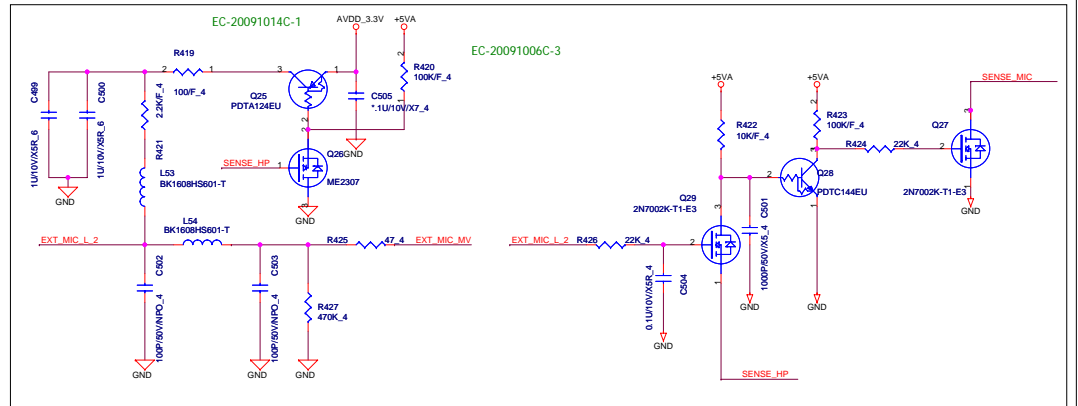
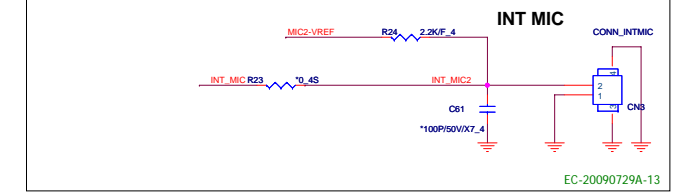
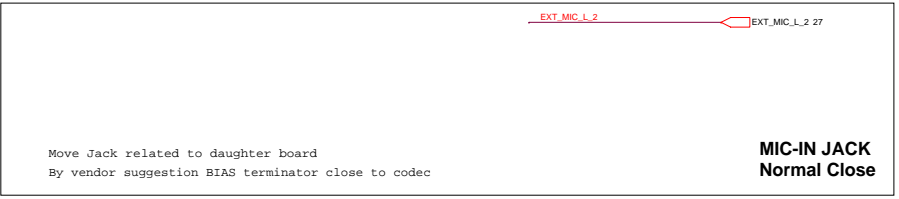
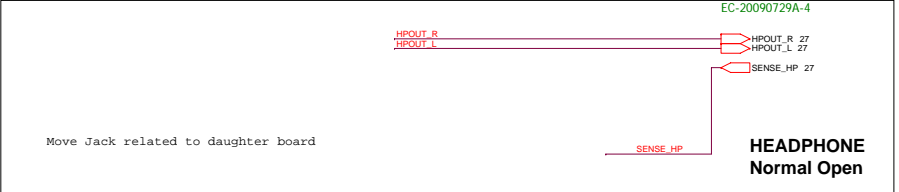
Note:
To support Wake-on-Jack or Wake-on-Ring, the CODER VAUX_3.3 pins must be powered by a rail that is not removed unless AC power is removed.

Chxt review to reserve for Beep Gain.

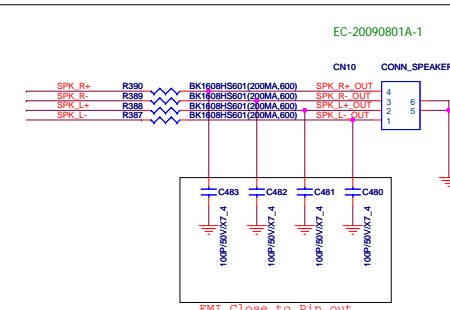
PC BEEP CONTROL



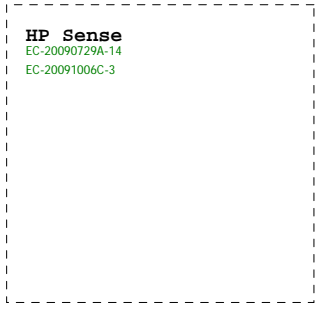
Connect to Function Board



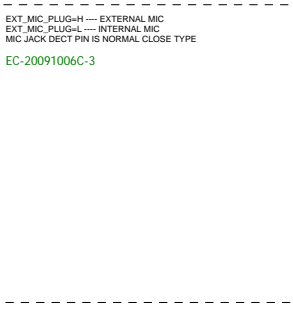
INT Speaker



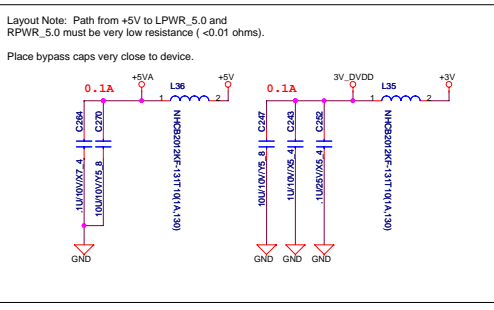
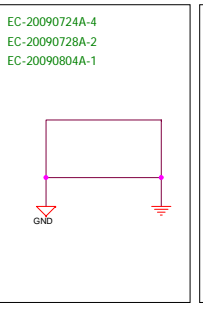
HP Sense



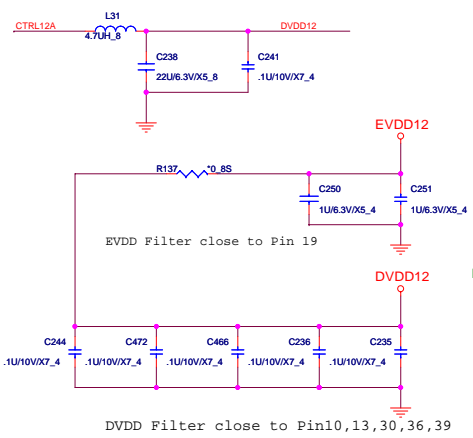
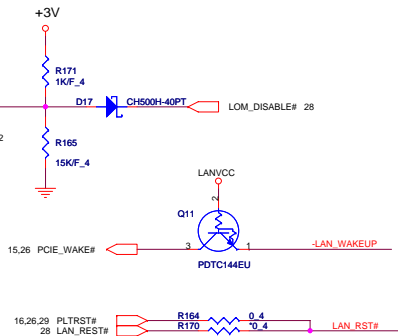
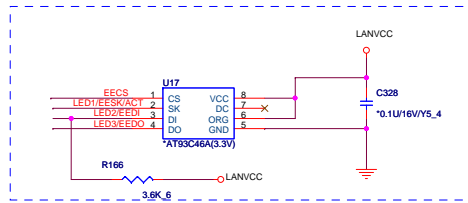
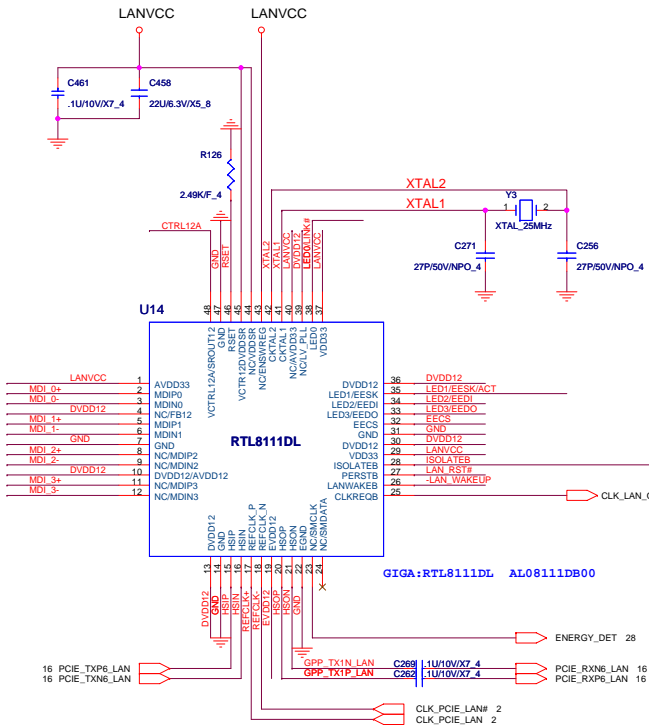
MIC Sense



EMI Reserve

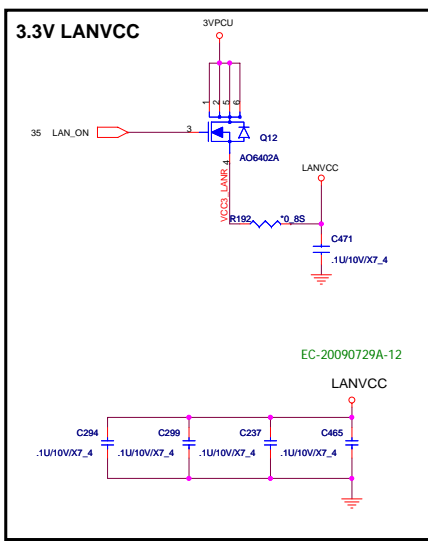


EC-20090729A-12

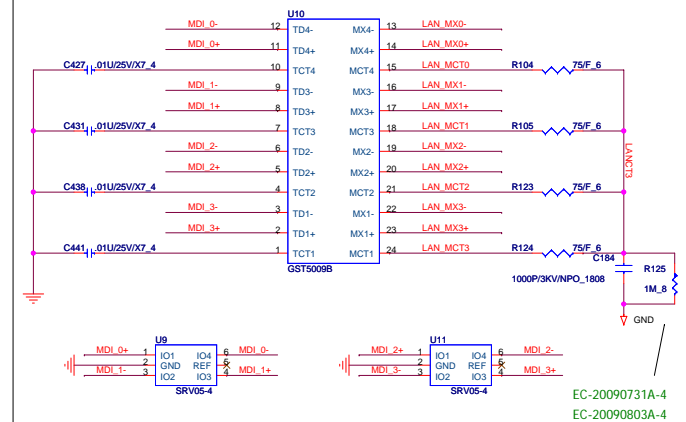


EC-20090729A-12

EC-20090729A-12

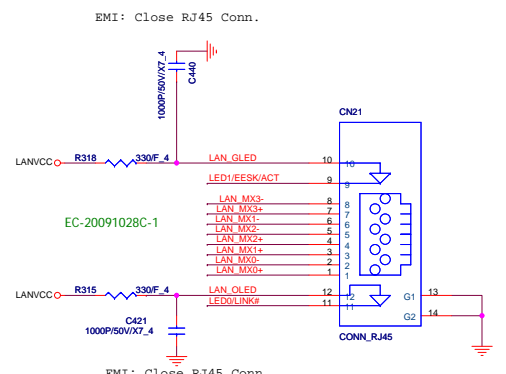


Transformer



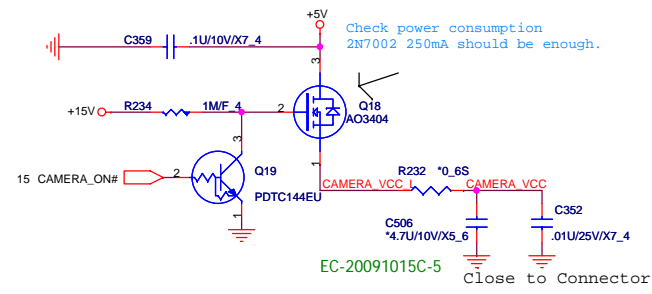
EC-20090731A-4
EC-20090803A-4

RJ45 Connector



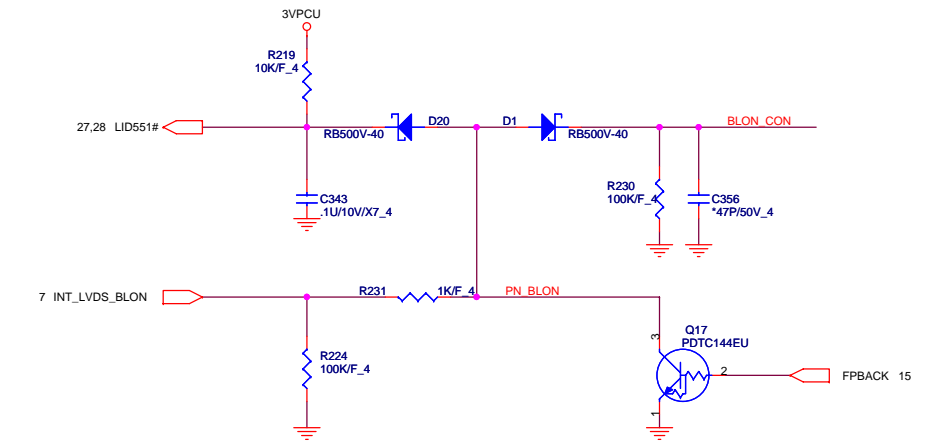
EC-20090731A-2
EC-20090804A-6

CCD POWER CONTROL

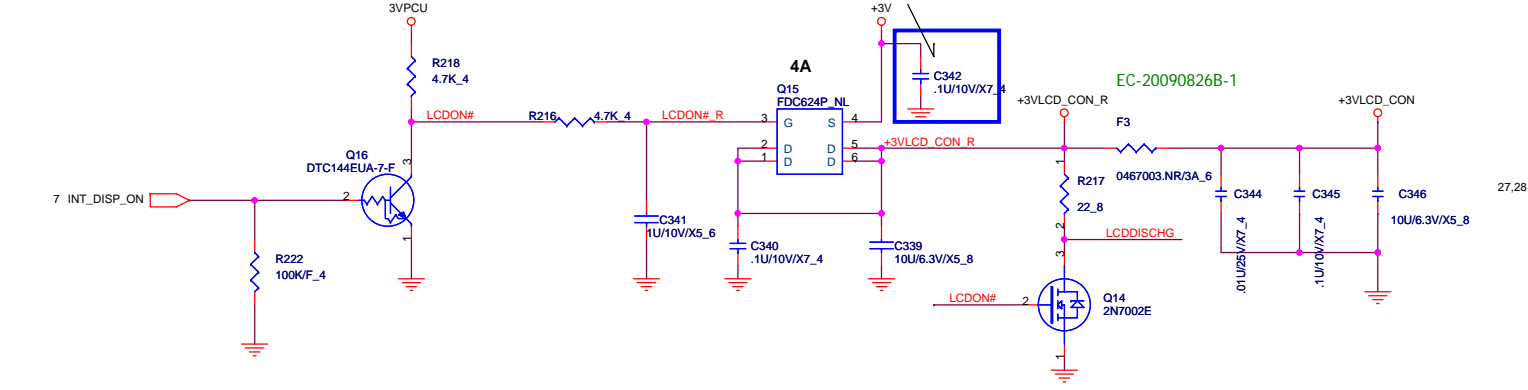


SUPPORT 13.3" LED TYPE LCD

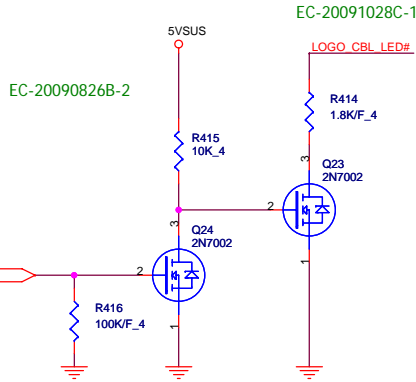
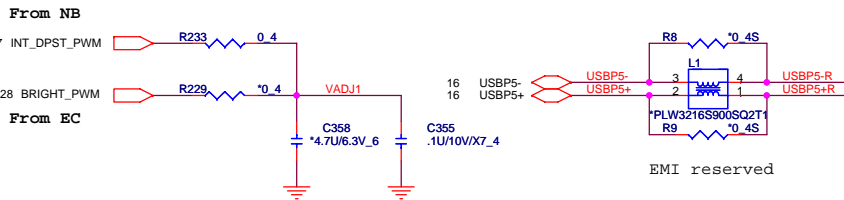
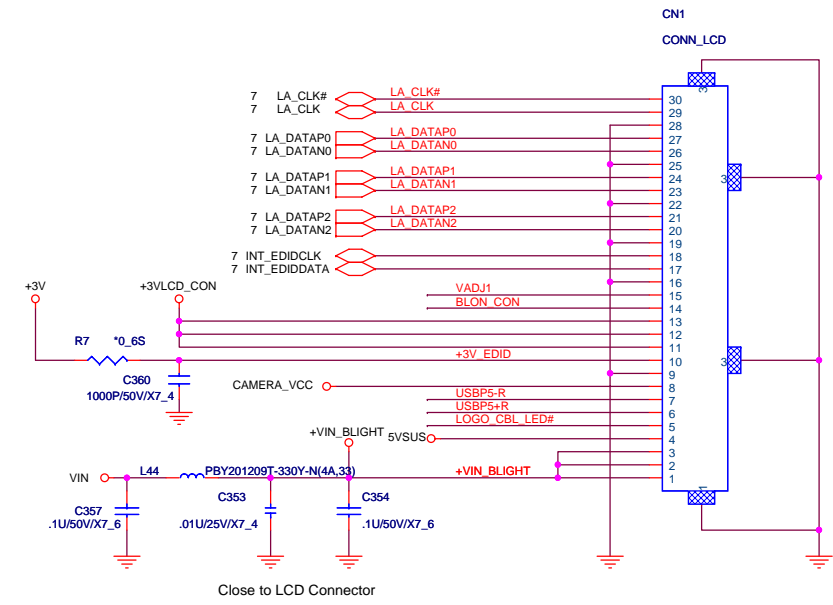
BACK LIGHT CONTROL



BACK LIGHT SUPPLY



- 2,4,7,10,12,13,14,15,16,17,18,19,21,22,23,25,26,27,28,29,31,32,34,35,37 +3V
- 17,18,21,22,23,24,25,28,35 +5V
- 30,31,32,33,34,35,37 VIN
- 14,19,24,27,28,30,31,35,36,37 3VPCU

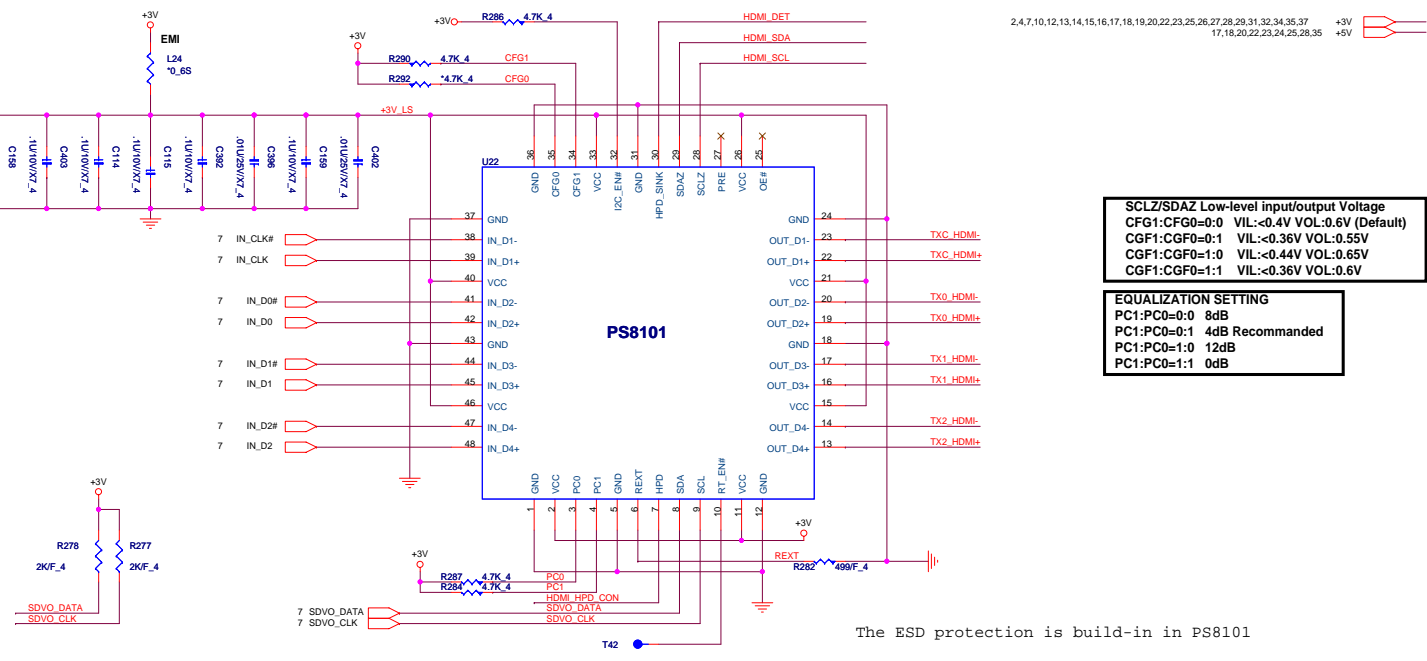


PROJECT : PS1
Quanta Computer Inc.

Size	Document Number	Rev
Custom	<Doc>	1A

CONN (LVDS, CCD)

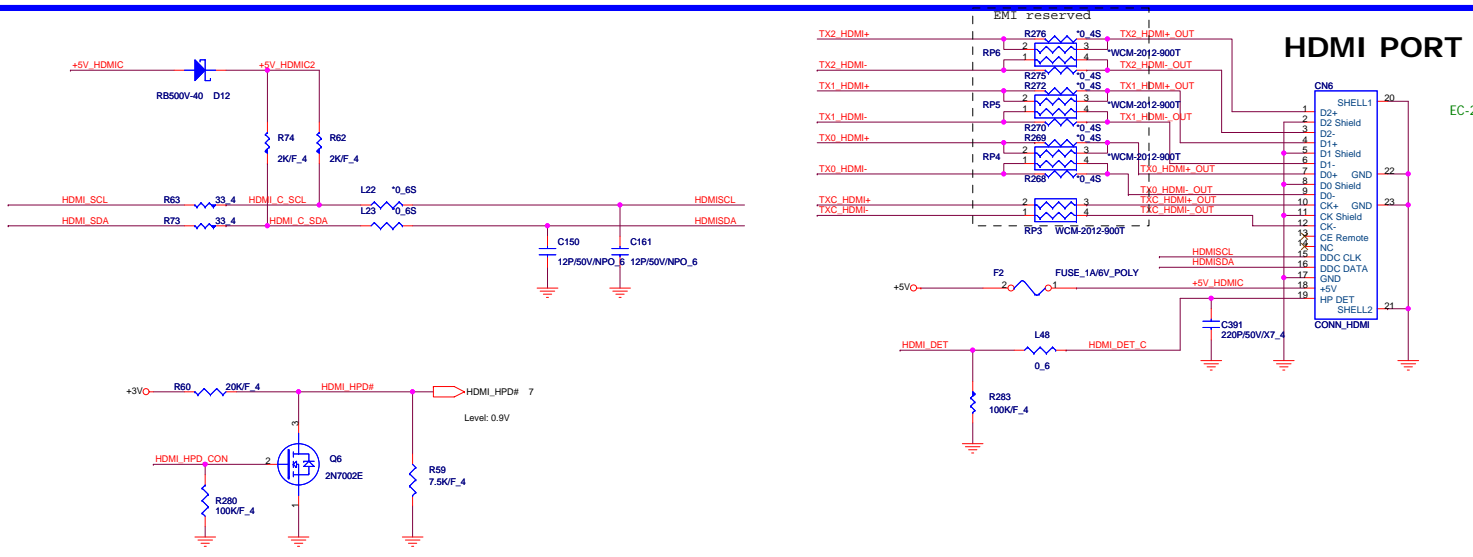
Date: Saturday, October 31, 2009 Sheet 20 of 41



SCL/SDAZ Low-level input/output Voltage
 CFG1:CFG0=0:0 VIL:<0.4V VOL:0.6V (Default)
 CGF1:CGF0=0:1 VIL:<0.36V VOL:0.55V
 CGF1:CGF0=1:0 VIL:<0.44V VOL:0.65V
 CGF1:CGF0=1:1 VIL:<0.36V VOL:0.6V

EQUALIZATION SETTING
 PC1:PC0=0:0 8dB
 PC1:PC0=0:1 4dB Recommended
 PC1:PC0=1:0 12dB
 PC1:PC0=1:1 0dB

The ESD protection is build-in in PS8101

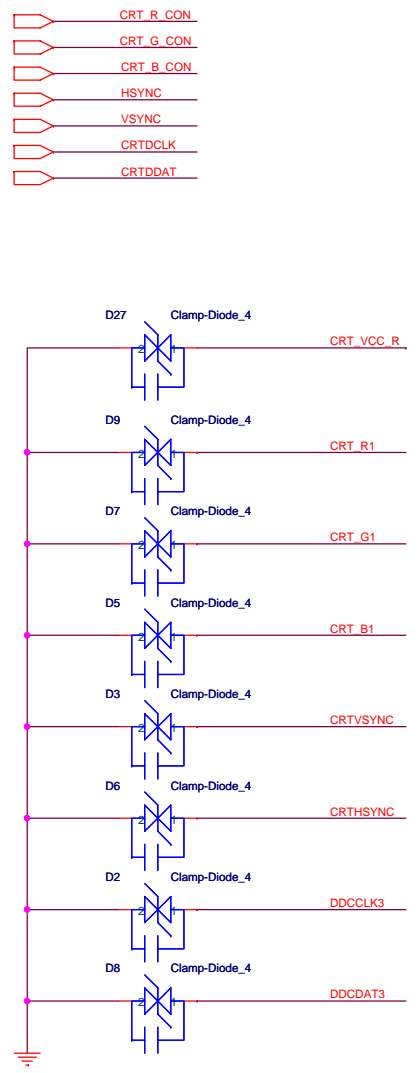


HPD# Inverting Level Shifting Circuit

New Tooling footprint was on-Going 0730

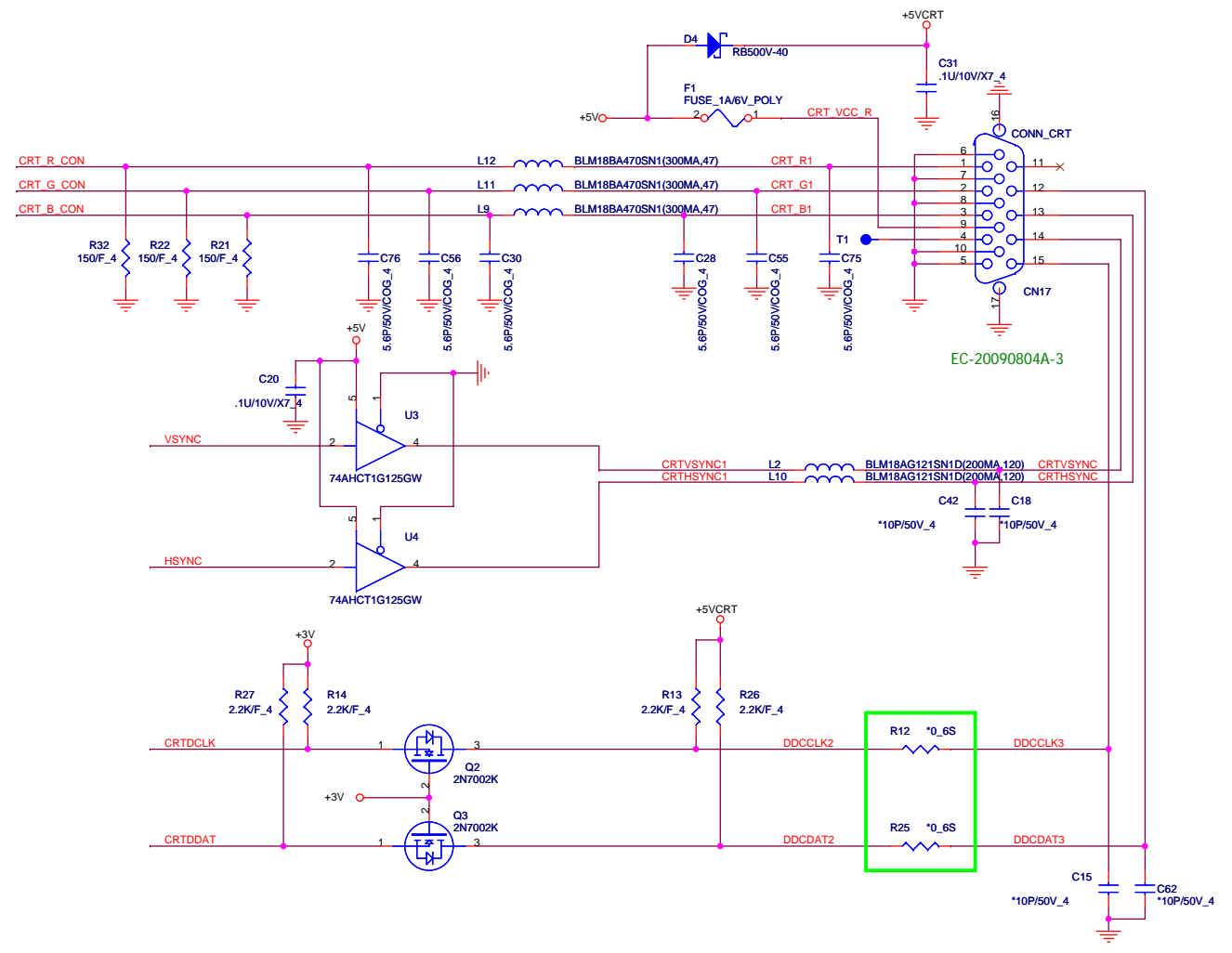
CRT PORT

- 7 CRT_R_CON
- 7 CRT_G_CON
- 7 CRT_B_CON
- 7 HSYNC
- 7 VSYNC
- 7 CRTDCLK
- 7 CRTDDAT



By ESD suggestion EC-20090805A-3

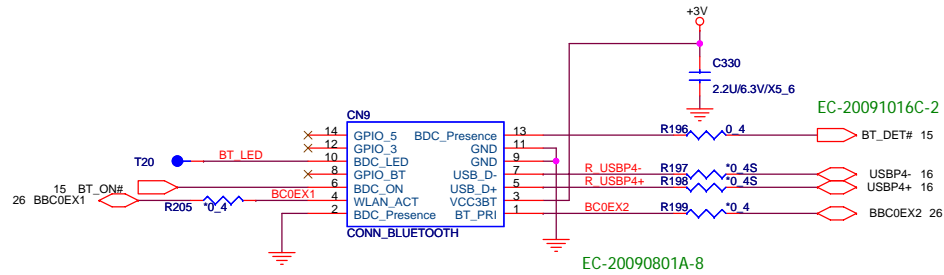
EC-20090826B-3



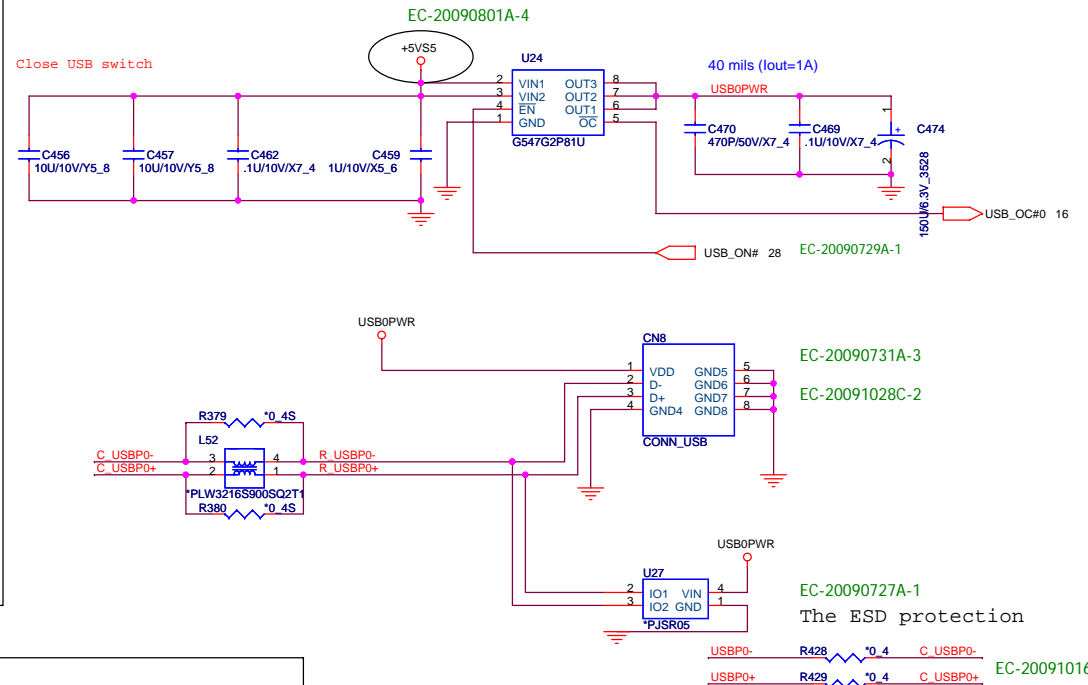
		PROJECT : PS1 Quanta Computer Inc.	
		Size Custom Document Number <Doc> CONN (CRT)	Rev 1A
Date: Saturday, October 31, 2009		Sheet 22 of 41	1

Blue Tooth control

EC-20090729A-3
EC-20090730A-1

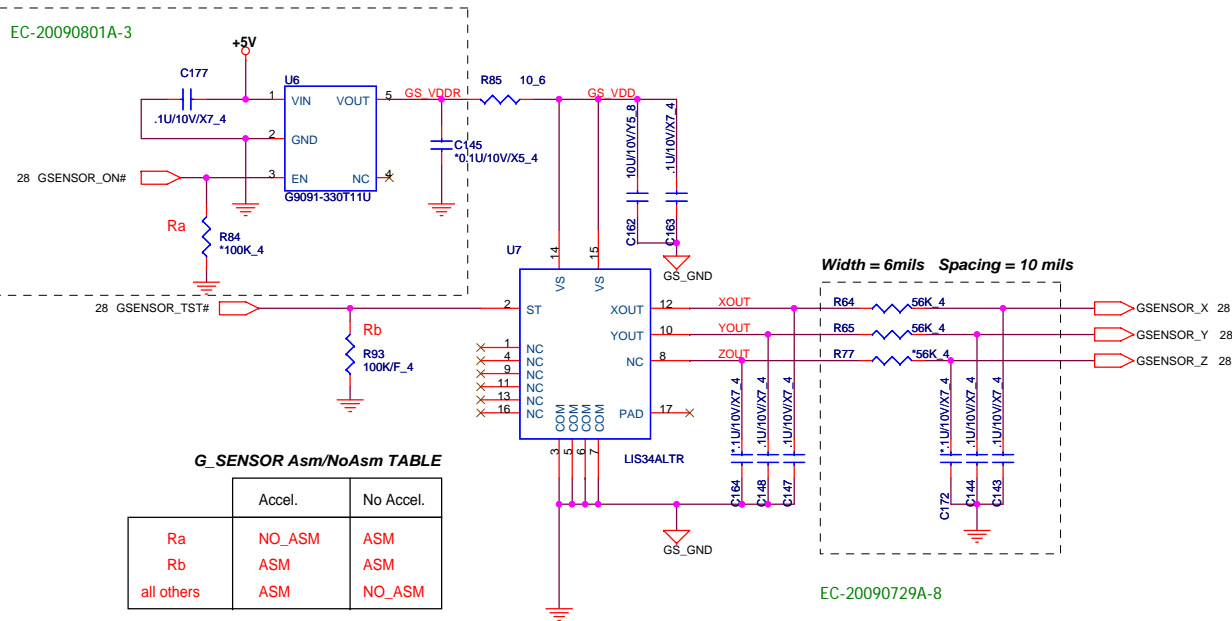


USB X1 (Left-side)



Accelerometer Sensor

EC-20090801A-3

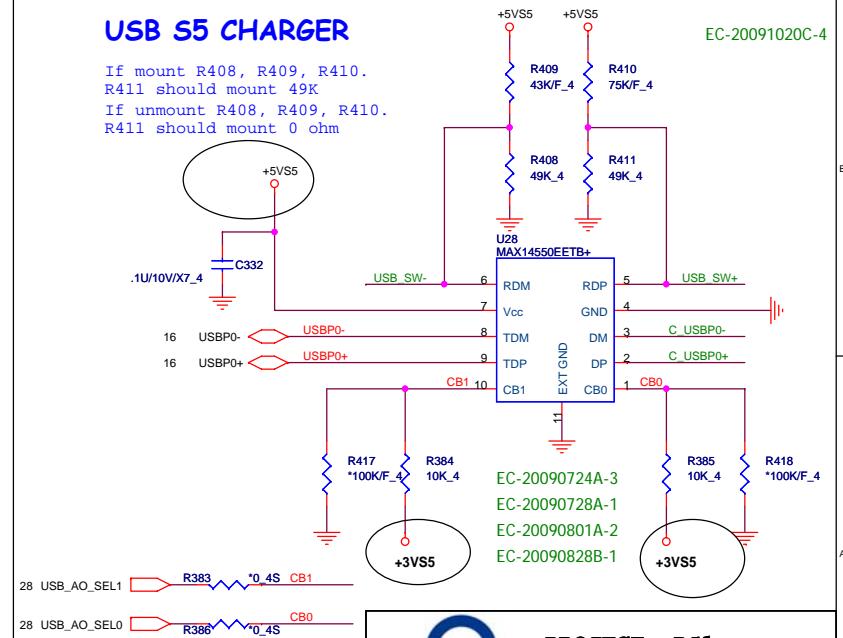


G_SENSOR Asm/NoAsm TABLE

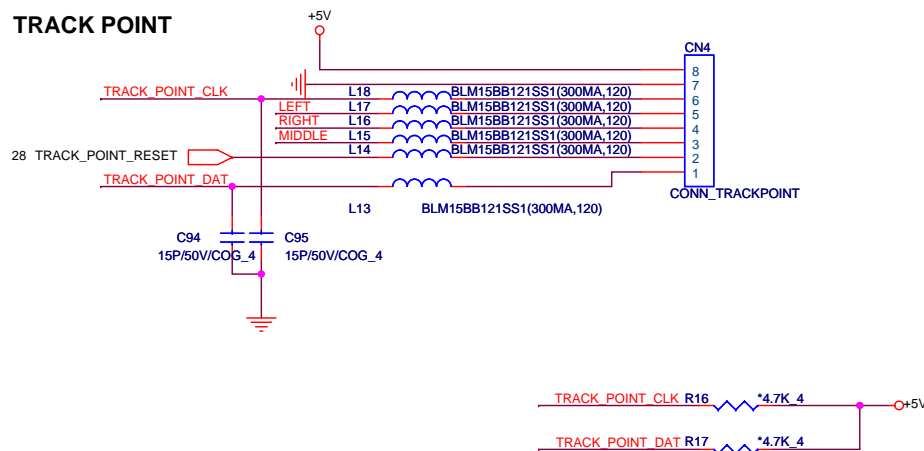
	Accel.	No Accel.
Ra	NO_ASM	ASM
Rb	ASM	ASM
all others	ASM	NO_ASM

USB S5 CHARGER

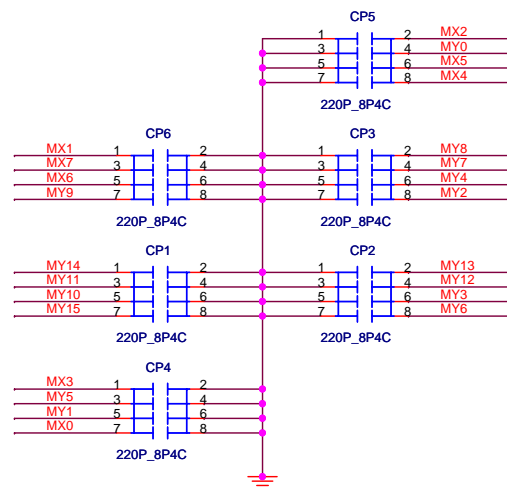
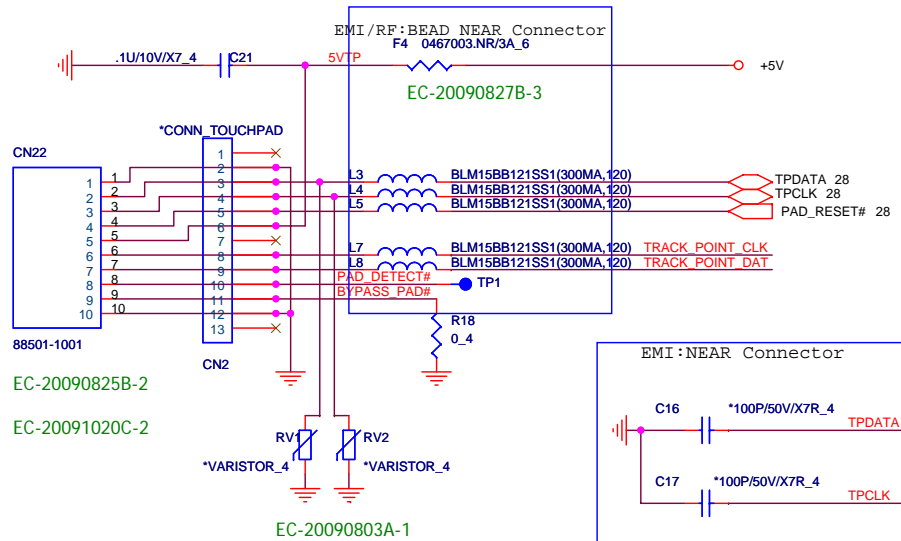
If mount R408, R409, R410.
R411 should mount 49K
If unmount R408, R409, R410.
R411 should mount 0 ohm



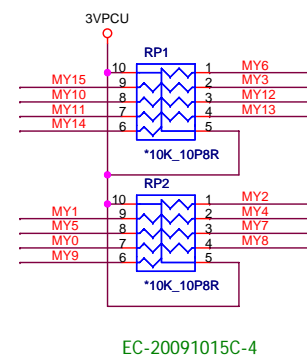
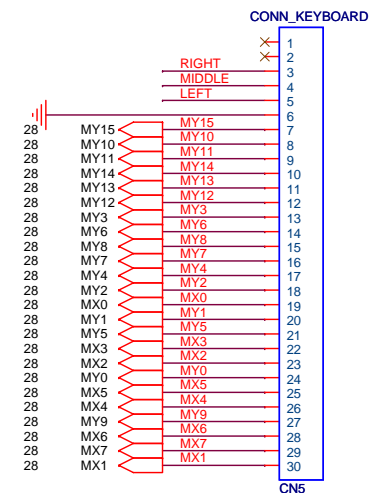
TRACK POINT



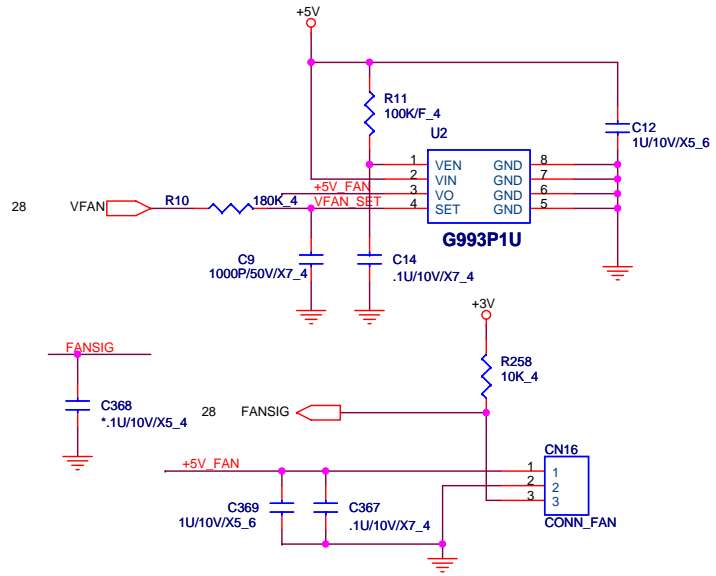
TOUCH PAD



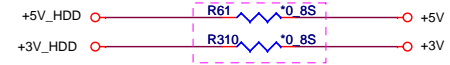
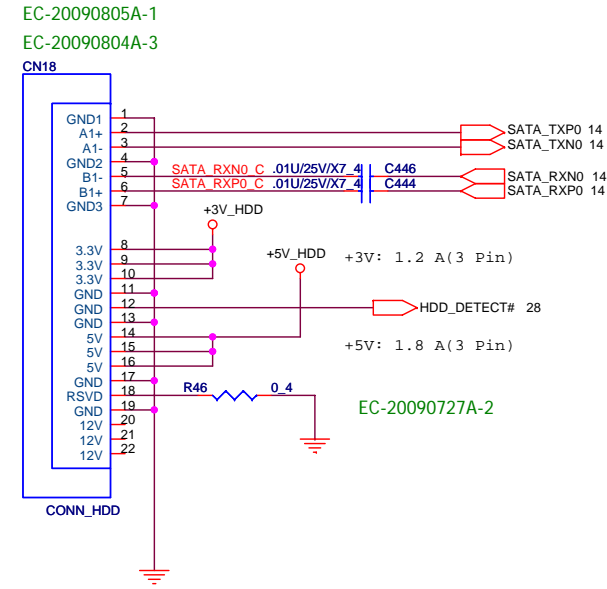
KEYBOARD connector



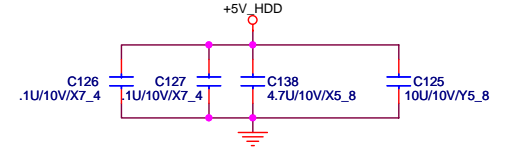
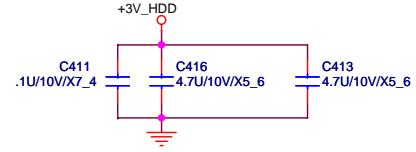
FAN CONTROL



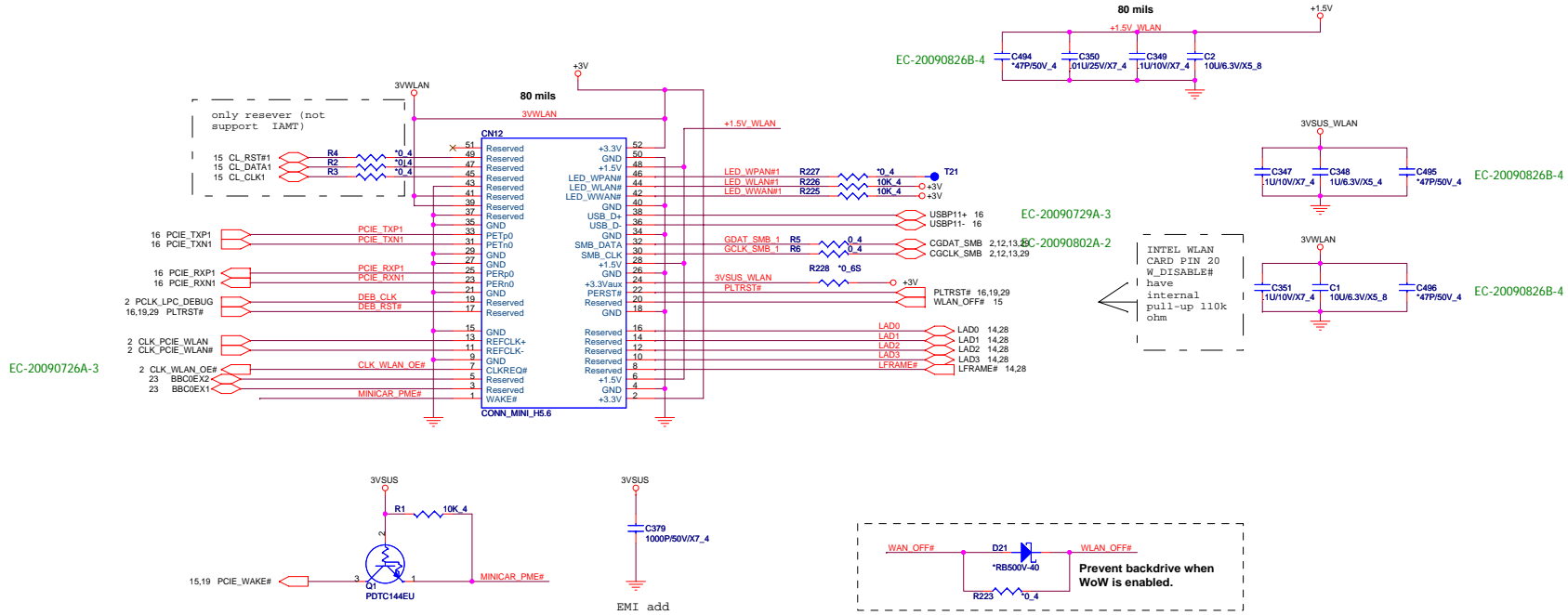
SATA-HDD CONNECTOR



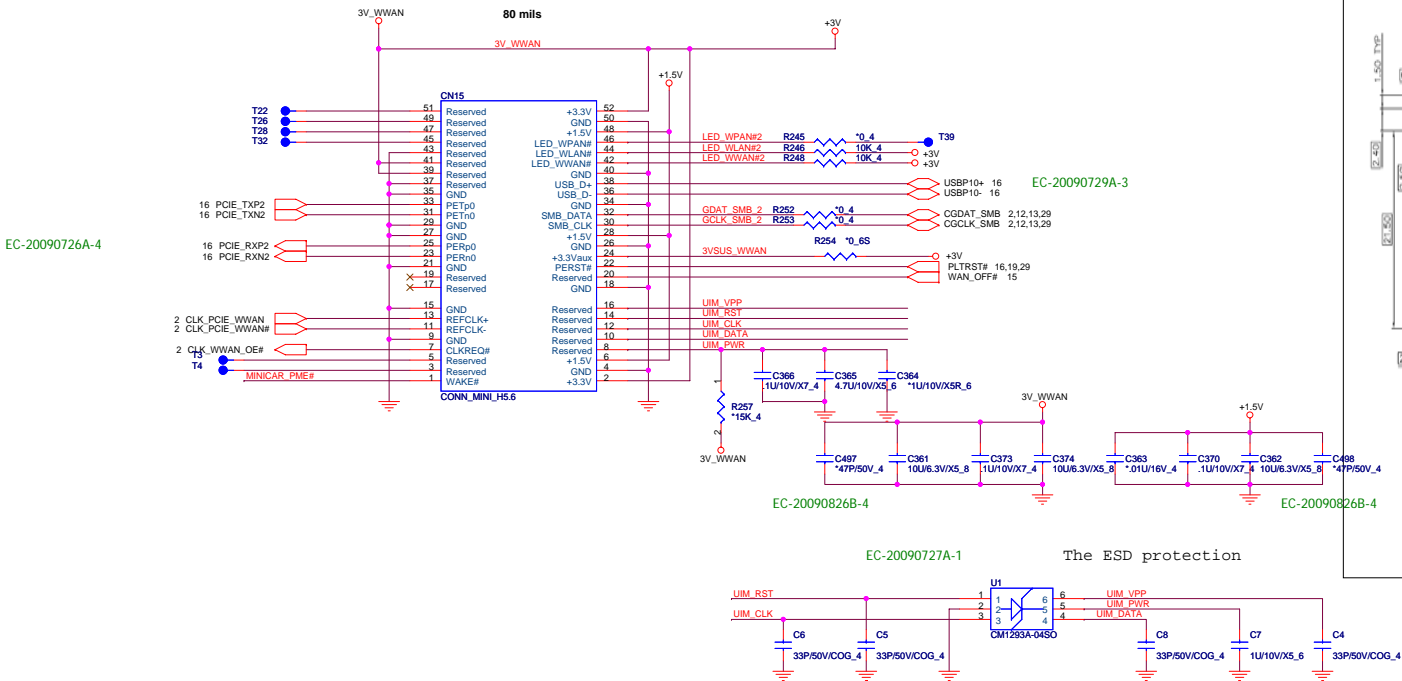
Reserved for power consumption measurement



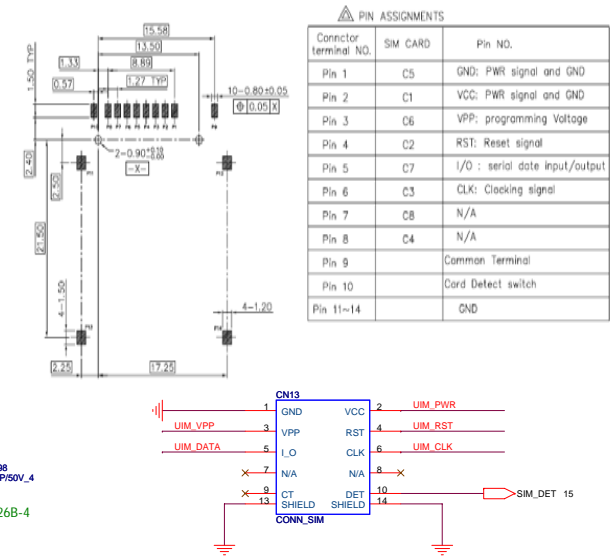
Mini PCI-E Card 1
WLAN



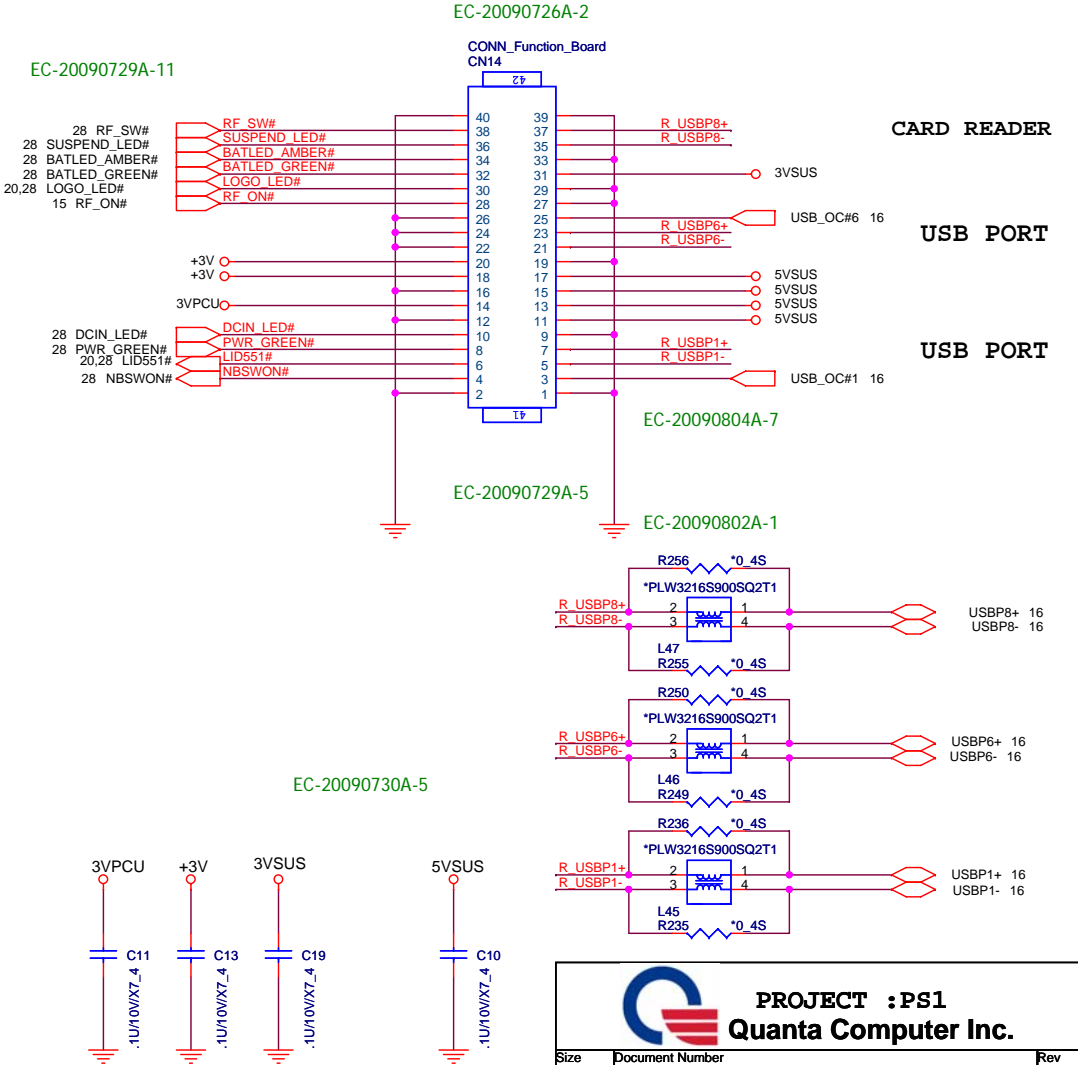
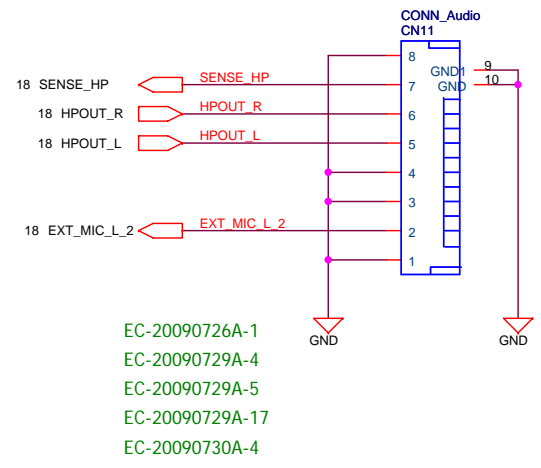
Mini PCI-E Card 2
WWAN(W/SIM)



SIM SOCKET

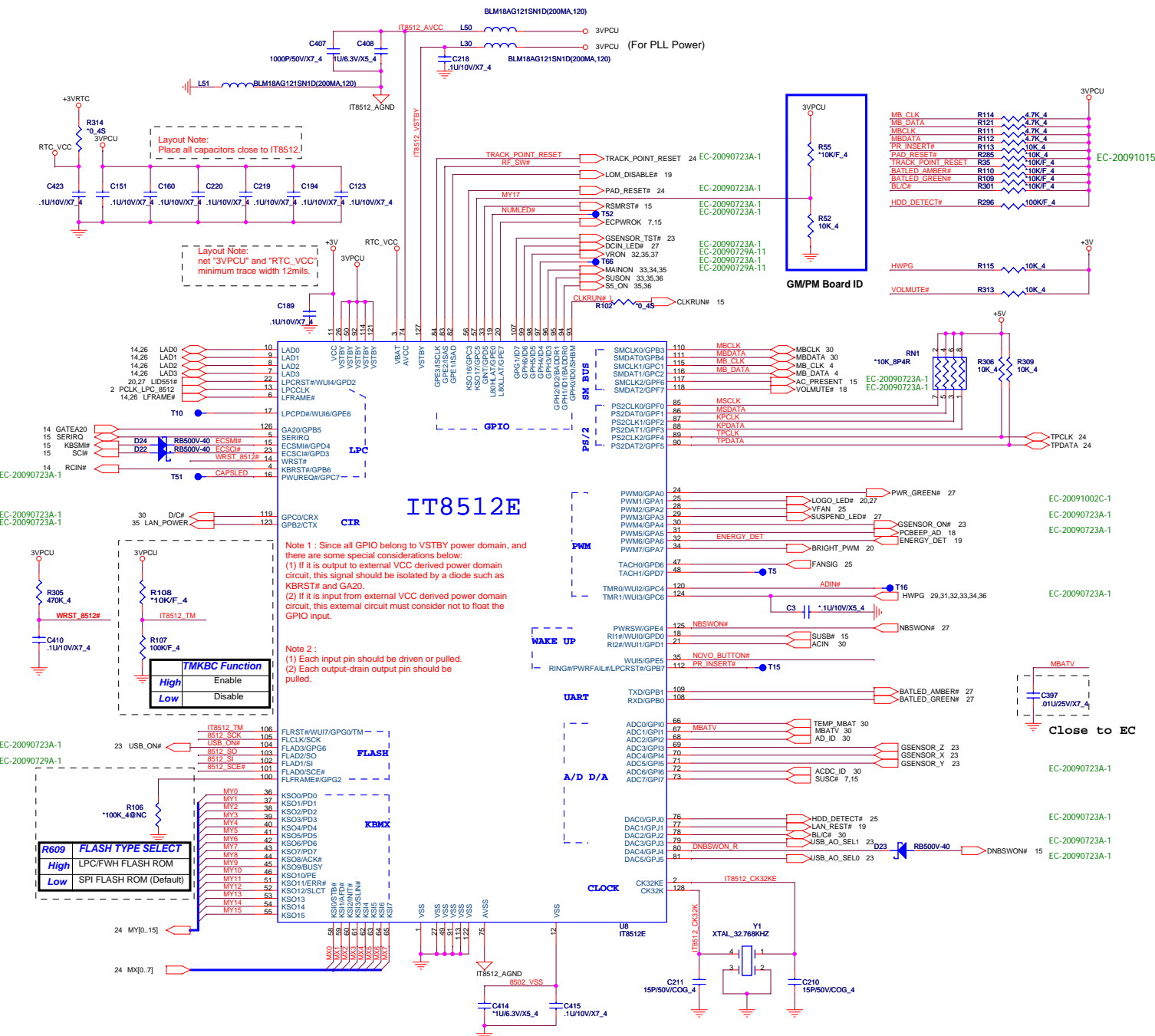


Audio connect

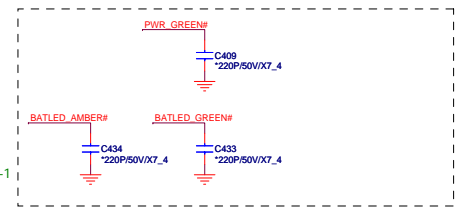


PROJECT : PS1
Quanta Computer Inc.

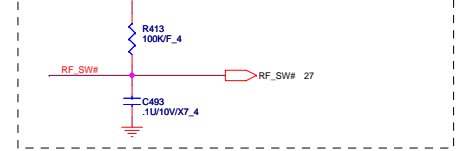
Size B	Document Number <Doc> CONN (Wire to Board)	Rev 1A
Date: Saturday, October 31, 2009	Sheet 27 of 41	



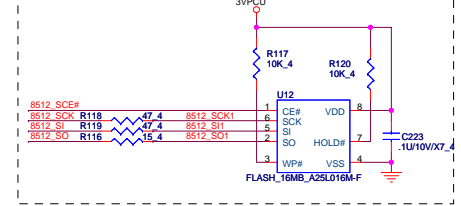
Reserve capacity for EMI



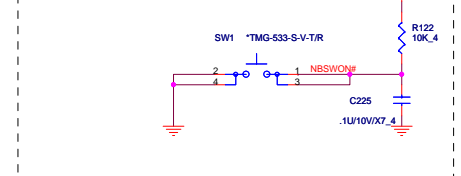
RF ON/OFF SWITCH



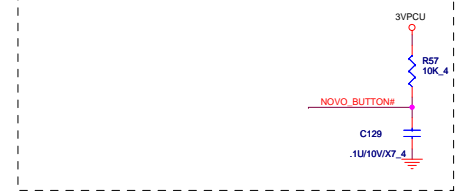
16Mbit (2M Byte), SPI



DEBUG POWER SWITCH

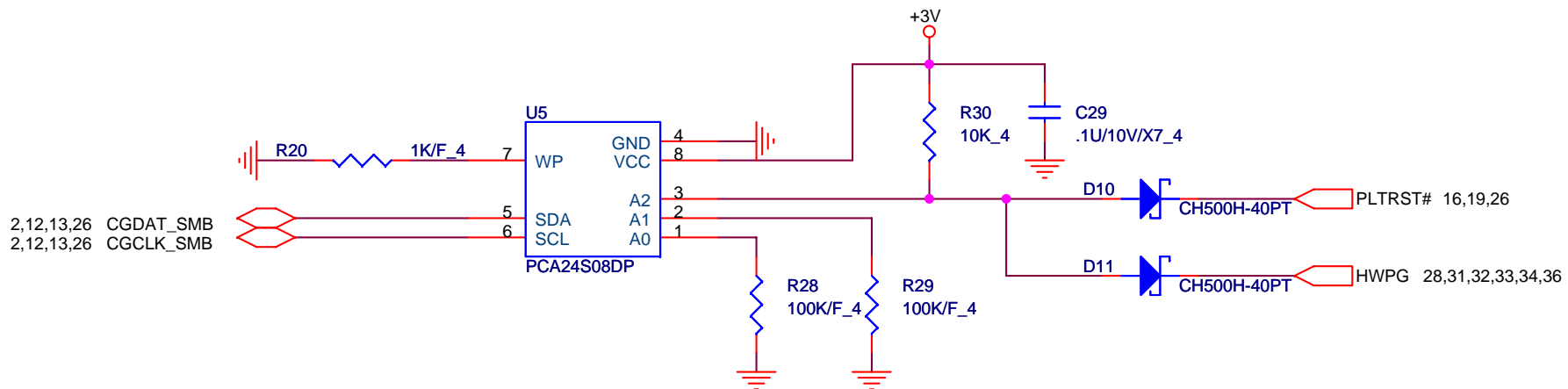


NOVO



RFID EEPROM

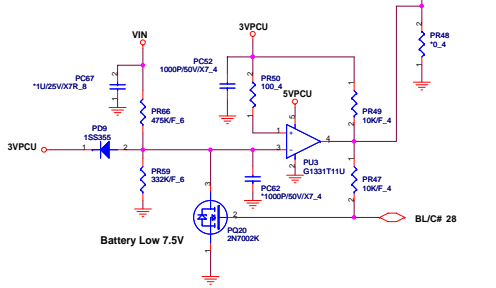
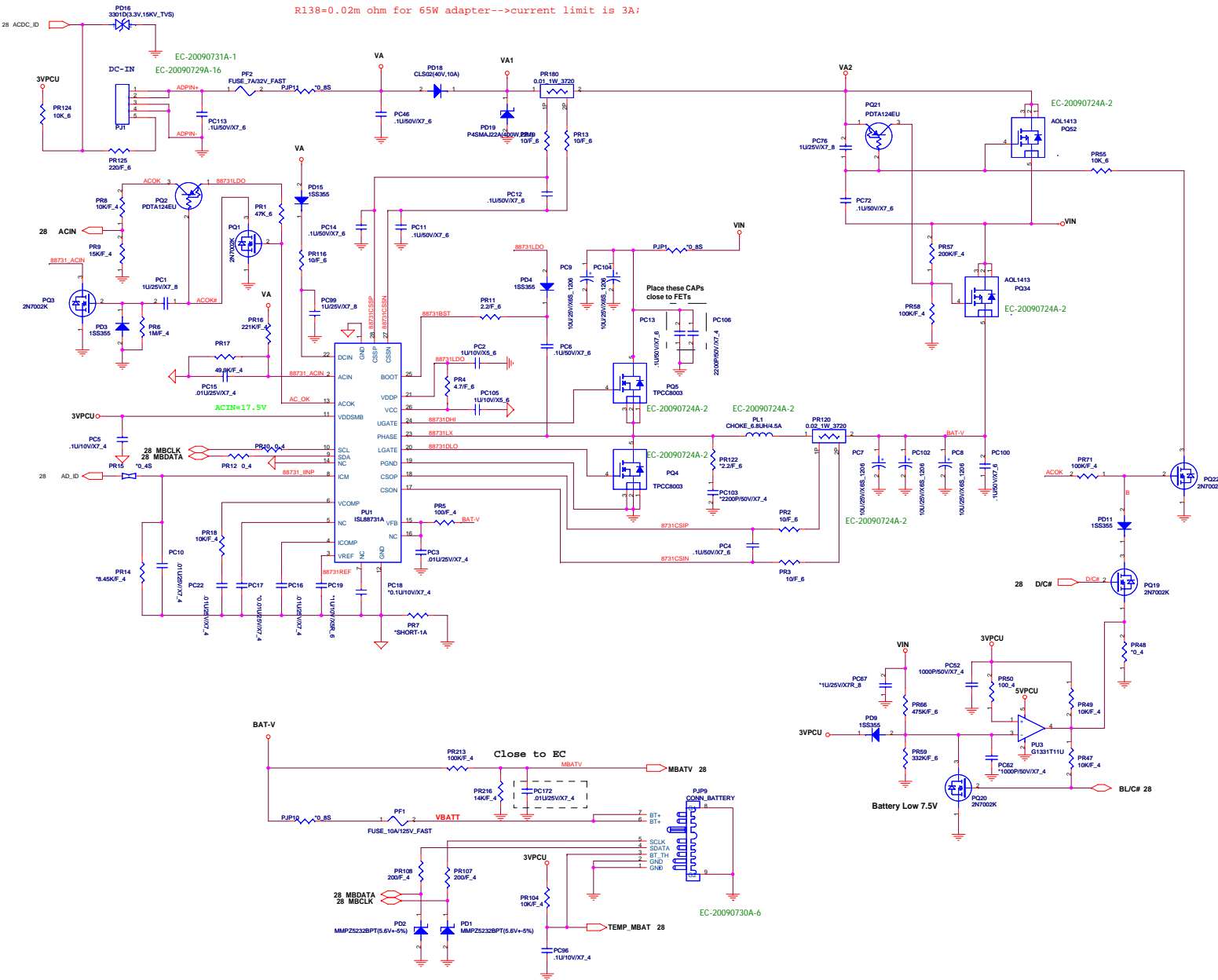
EC-20090804A-5



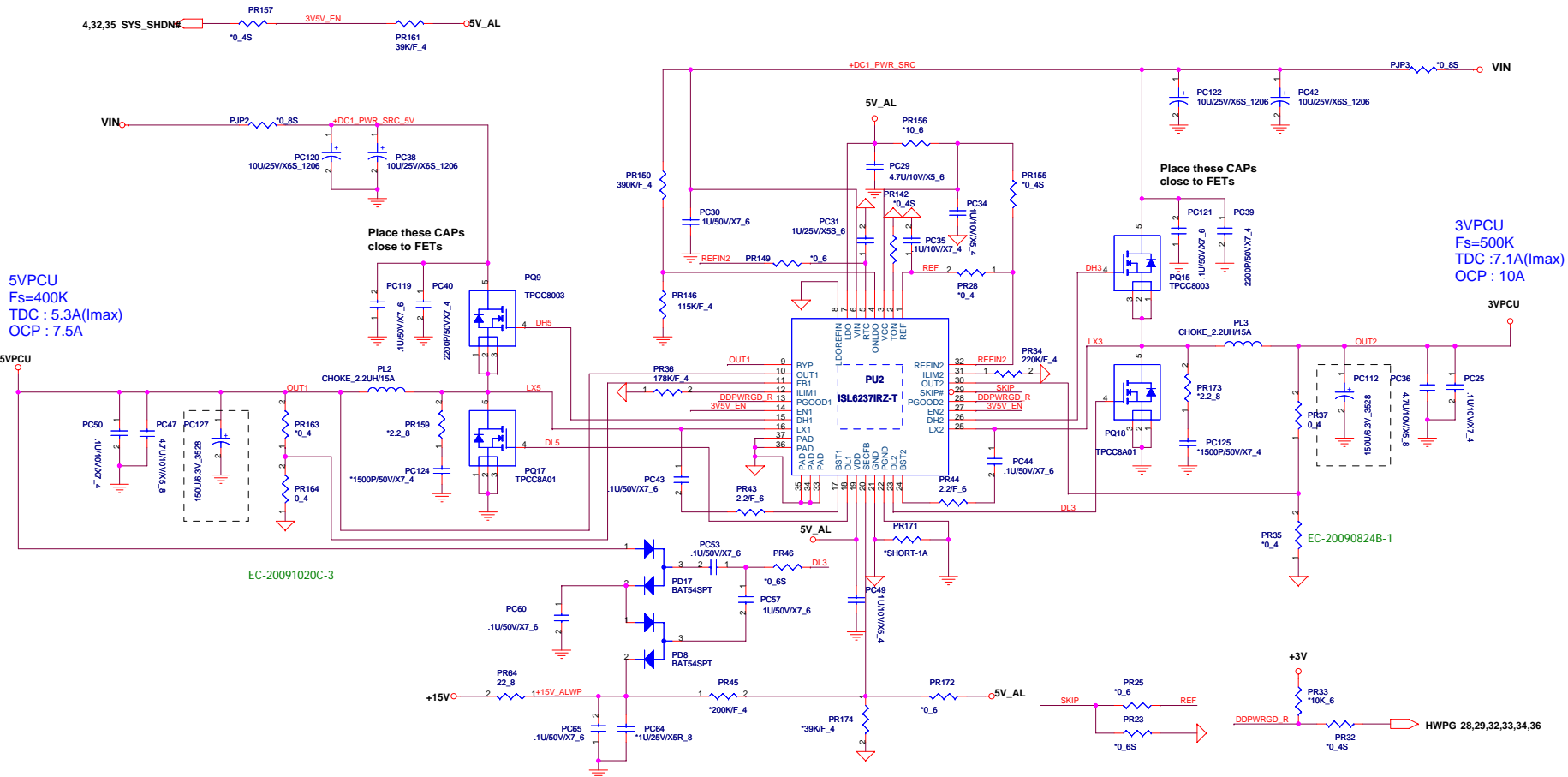
PROJECT :PS1
Quanta Computer Inc.

Size A	Document Number <Doc>	Rev 1A
RFID EEPROM		
Date:	Saturday, October 31, 2009	Sheet 29 of 41

R138=0.02m ohm for 65W adapter-->current limit is 3A;



14,19,20,24,27,28,30,35,36,37 3VPCU
 14,30,32,33,34,35,36,37 5VPCU
 20,35 +15V
 20,30,32,33,34,35,37 VIN



5VPCU
 Fs=400K
 TDC : 5.3A(I_{max})
 OCP : 7.5A


3VPCU
 Fs=500K
 TDC : 7.1A(I_{max})
 OCP : 10A

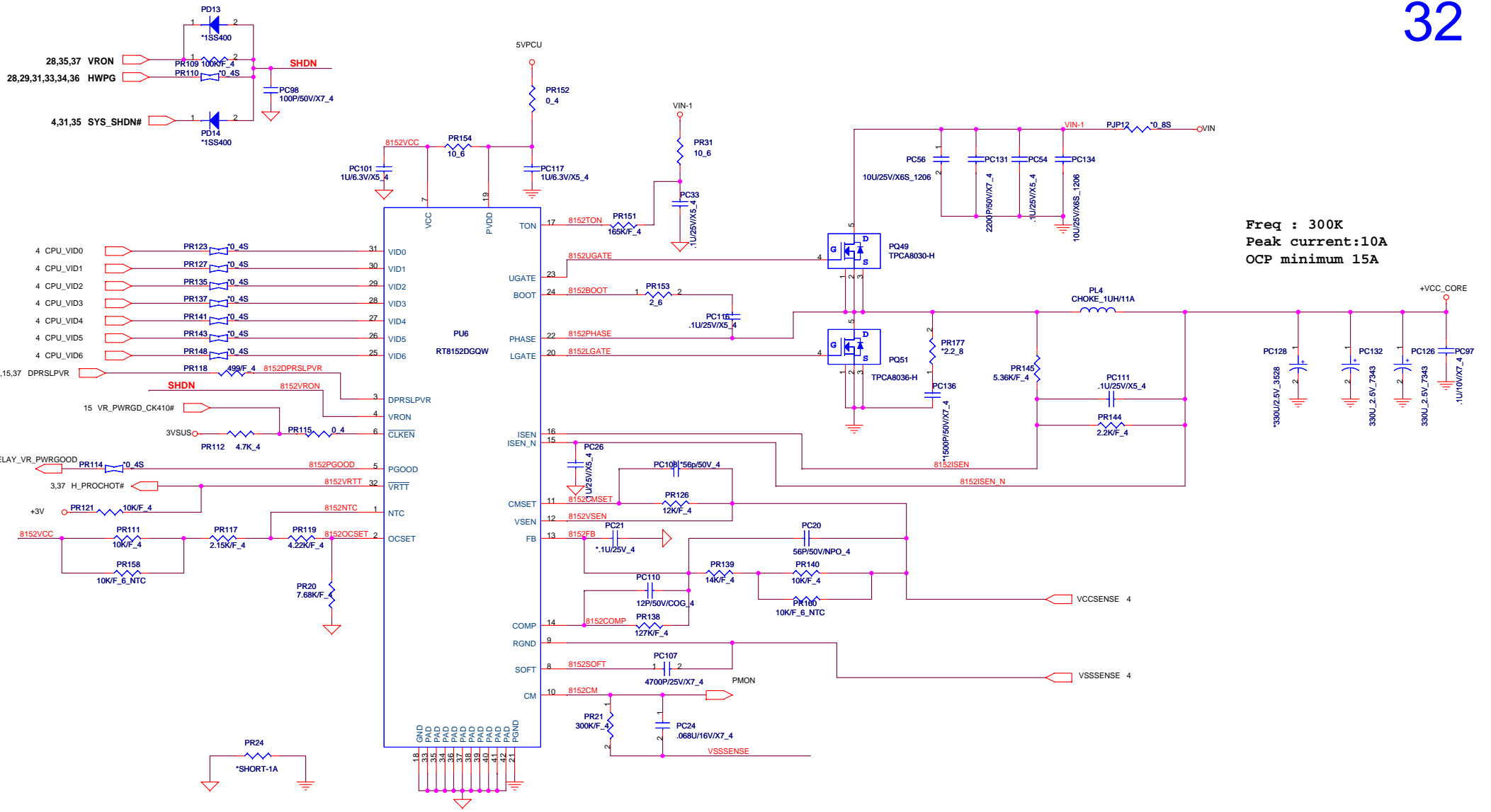
Place these CAPs close to FETs

Place these CAPs close to FETs

EC-20091020C-3

EC-20090824B-1

 PROJECT : PS1 Quanta Computer Inc.		
Size: Custom	Document Number: POWER_3V/5V (ISL6237)	Rev: 1A
Date: Saturday, October 31, 2009	Sheet: 31 of 41	



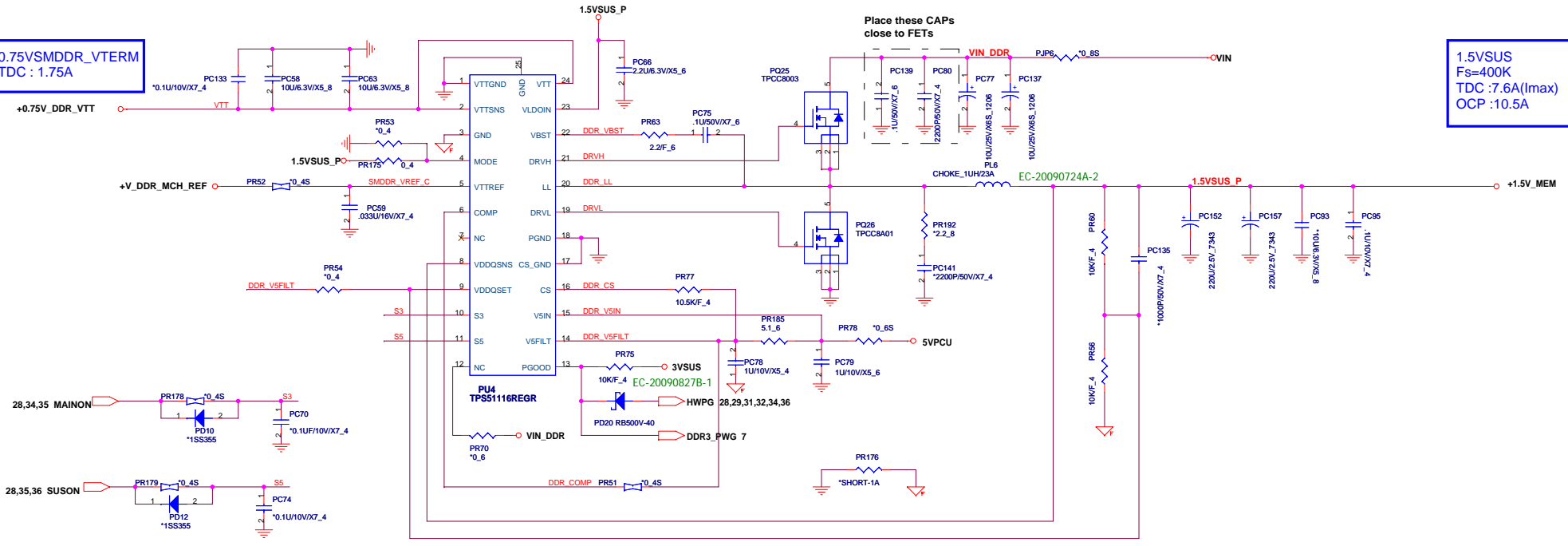
Freq : 300K
 Peak current:10A
 OCP minimum 15A

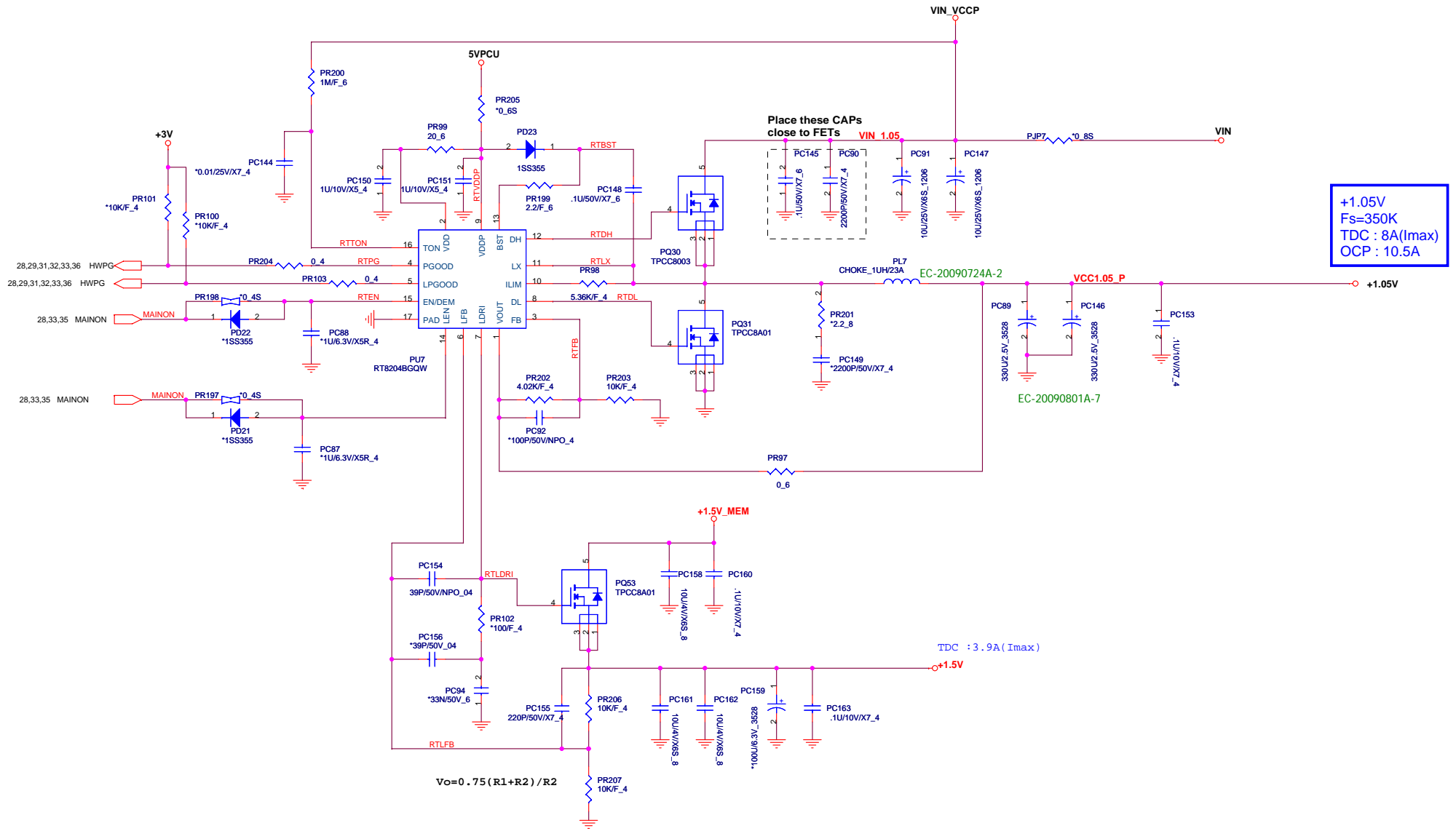
PROJECT :PS1
Quanta Computer Inc.

Size	Document Number	Rev
Custom	<Doc>	1A
POWER CPU CORE (RT8152B)		
Date:	Saturday, October 31, 2009	Sheet 32 of 41

0.75VSMDDR_VTERM
TDC : 1.75A

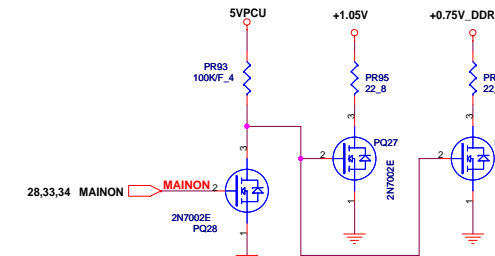
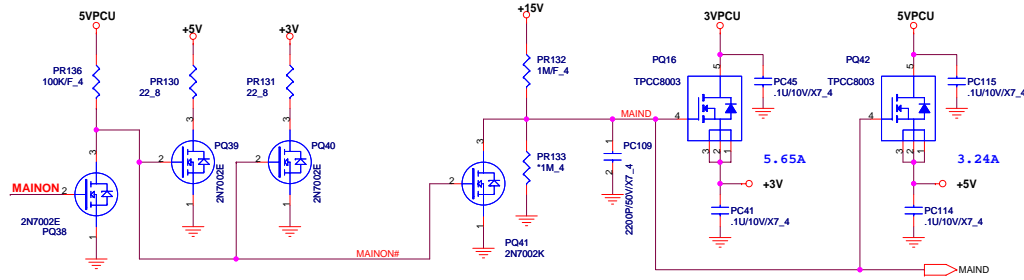
1.5VSUS
Fs=400K
TDC :7.6A(I_{max})
OCP :10.5A



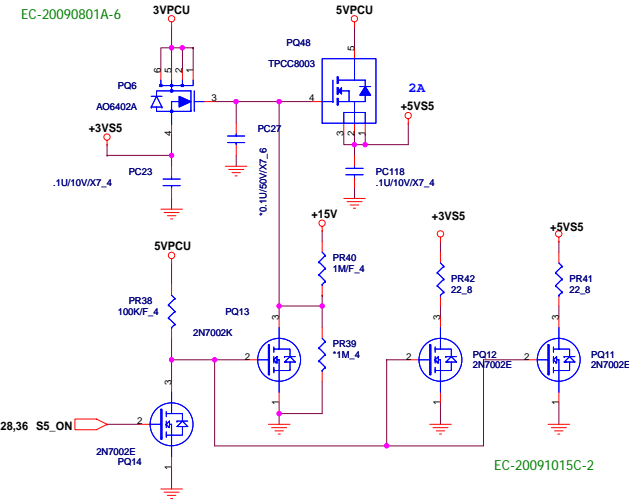


+1.05V
 Fs=350K
 TDC : 8A(Imax)
 OCP : 10.5A

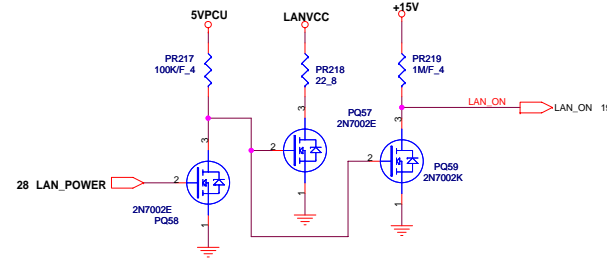
+3V, +5V



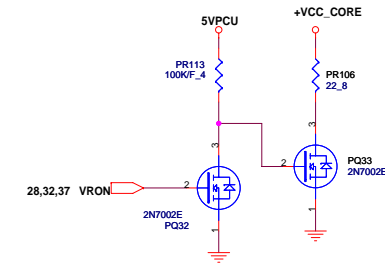
3V_S5, 5V_S5



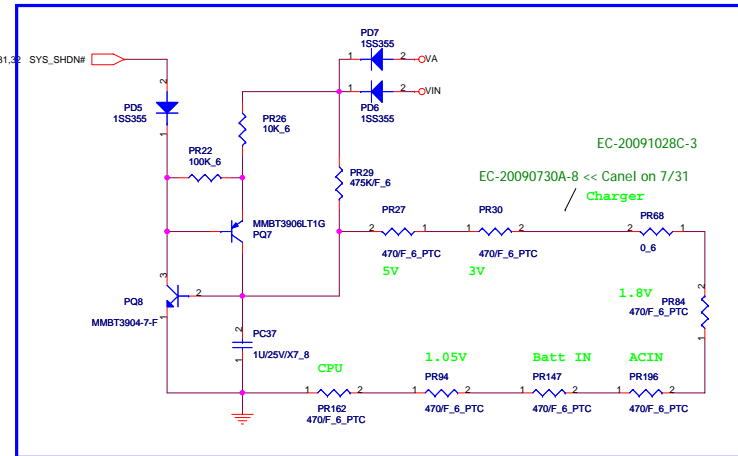
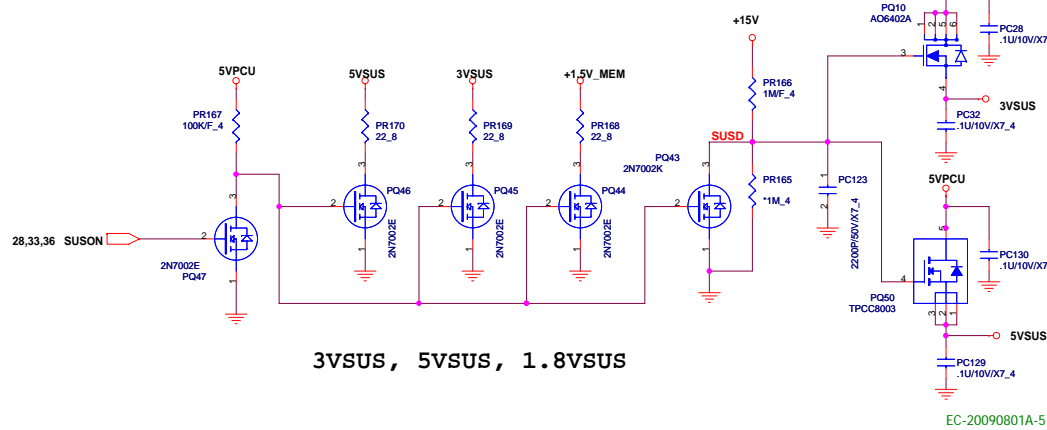
LANVCC

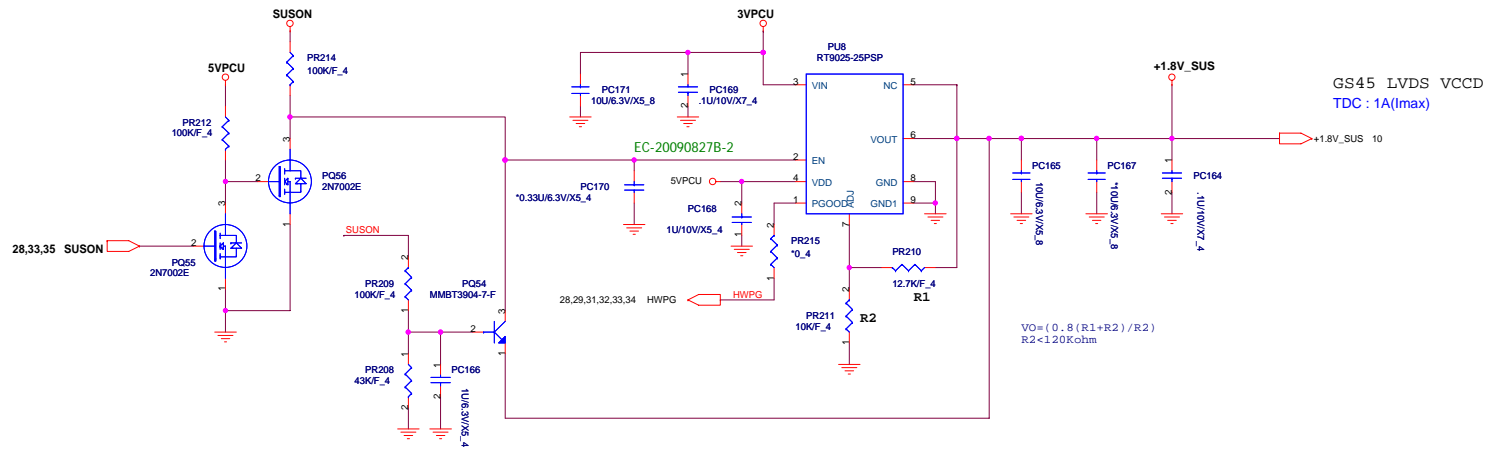
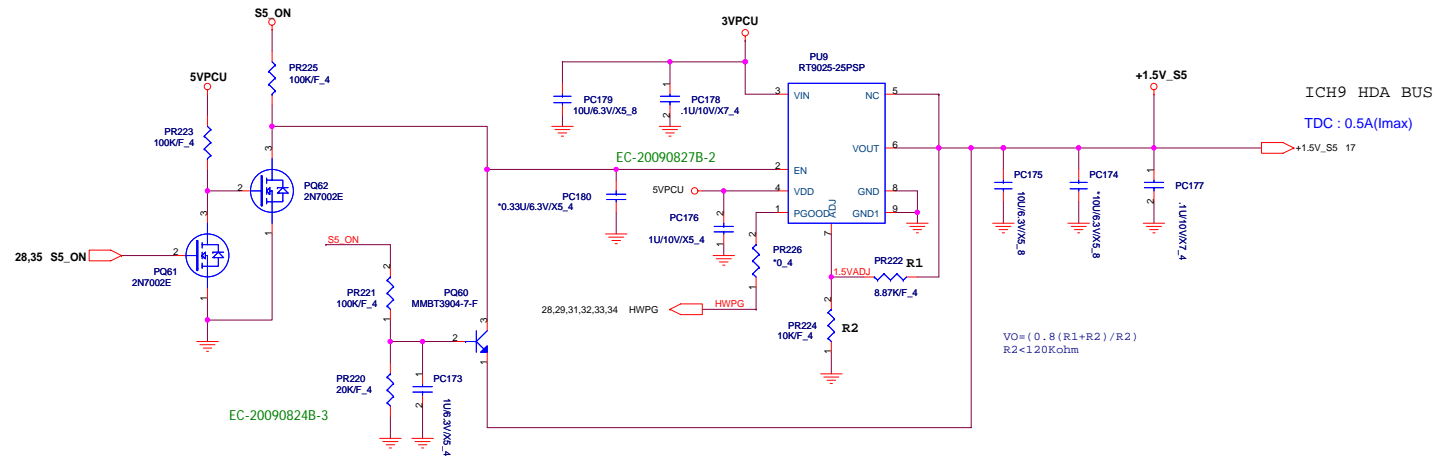


VCC_CORE



3VSUS, 5VSUS, 1.8VSUS





EC-20090804A-2
EC-20091020C-1

EC-20090803A-2

EC-20090726A-5

EC-20090726A-5

tSW = 16.3pF x (RTON + 6.5K)
fsw = 300KHz

EC-20090824B-2

PU5
*MAX8796GTJ+

EC-20090813B-1

ESR=9m

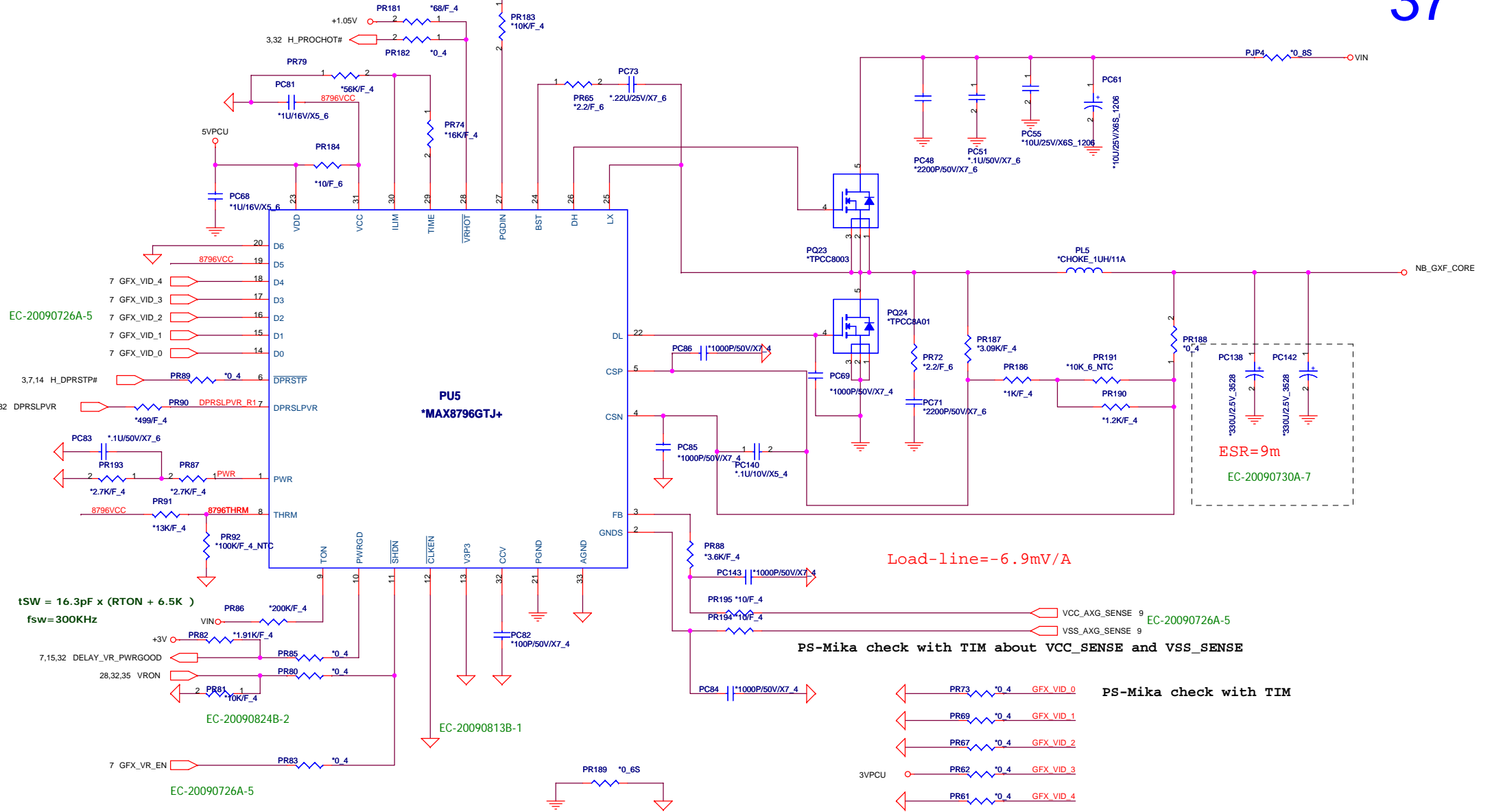
EC-20090730A-7

Load-line=-6.9mV/A

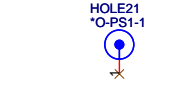
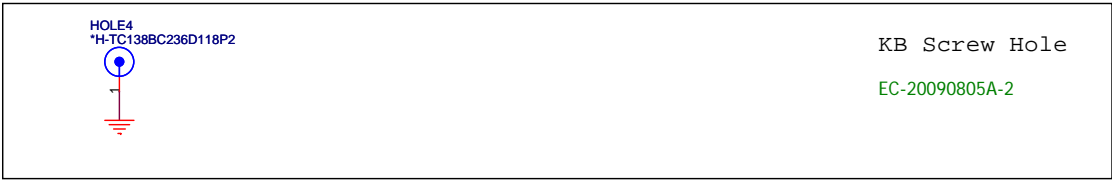
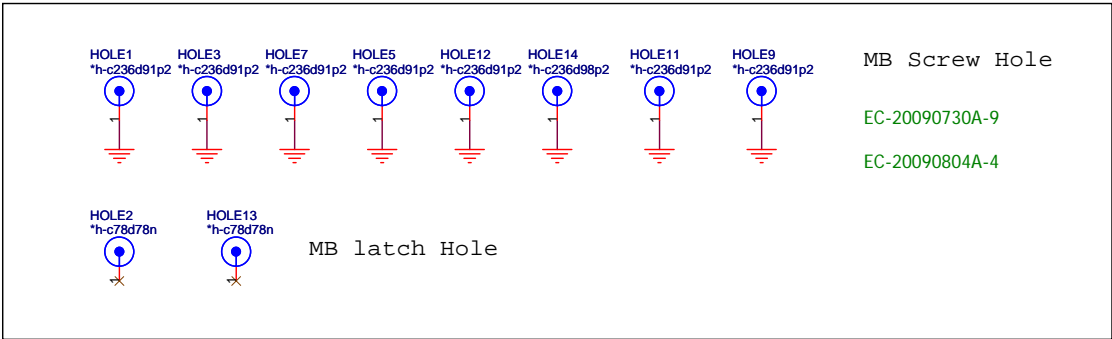
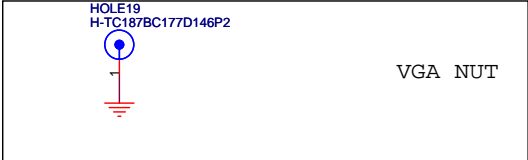
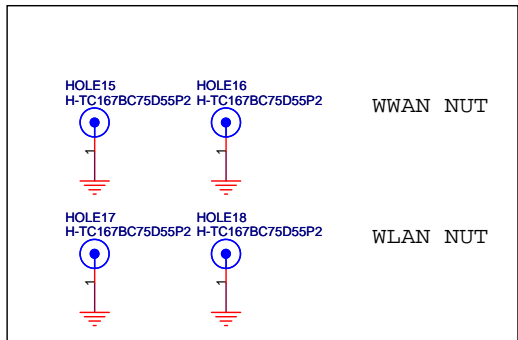
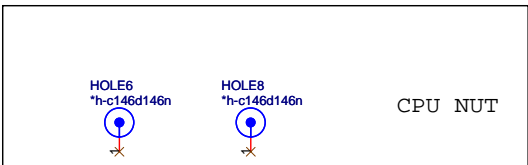
PS-Mika check with TIM about VCC_SENSE and VSS_SENSE


PS-Mika check with TIM

VID 1.0V



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			1A
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EC-20090723A-1	P28	BIOS RECOMMAND	Pin Definition follow G-note setting
EC-20090724A-1	P18		Change audio codec circuit from ALC269 to CX20582.
EC-20090724A-2	P30	Power RECOMMAND	Update PC19, PL1, PQ2, PQ6, PQ7, PQ9 footprint
	P31		Update PL2 and PL3 footprint
	P33		Update PL5 footprint
	P34		Update PL6 footprint
EC-20090724A-3	P23		Add USB sleep charge schematic for BlackBerry
EC-20090724A-4	P18	EMI RECOMMAND	Reserve 0-ohm to separate AGND and GND
EC-20090726A-1	P27		Add Audio connector (wire to board)
	P27		Remove original U350 Power connector and Led connector (wire to board)
EC-20090726A-2	P27		Change Function connector from 30pin to 40pin (wire to board), because combine with Power and Led function
EC-20090726A-3	P2		Rename the CLK_MINI_OE# to CLK_WLAN_OE#
	P26		Rename the CLK_MINI_OE# to CLK_WLAN_OE#
EC-20090726A-4	P2		Add WWAN CLK(CLK_PCIE_WWAN) and WWAN CLKREQ#(CLK_WWAN_OE#)
	P14		Remove SATA signal
	P16		Add WWAN PCI-E signal
	P26		Mini-PCIE connector interface change from SATA-IF to WWAN-IF
EC-20090726A-5	P7		Connect VID and Enable pin between NB and MAX8796
	P9		Reserve Render standby power for NB
	P37		Connect VID and Enable pin between NB and MAX8796
EC-20090727A-1	P23		Add ESD protection at USB Port
	P26		Add ESD protection at SIM-Card
EC-20090727A-2	P25		Reserve 0ohm on SATA Pin-18 for Gen1 or Gen2
EC-20090728A-1	P23		Modify USB charge circuit, CB0 and CB1 pull high with 5VPCU
	P23		R445 and R447 change to stuff
EC-20090728A-2	P18		All AGND net-name change to GND, But keep original symbol
EC-20090728A-3	P38		Add NUT for SB Thermal module used
EC-20090729A-1	P23		Connect USB_ON# control pin, to enable USB Power switch
	P28		Connect USB_ON# control pin, to enable USB Power switch
EC-20090729A-2	P14		Change Y4 footprint for accurate component
EC-20090729A-3	P16	SW RECOMMAND	Swap USB port by SW suggestion
	P20		Swap CCD USB By SW suggestion
	P23		Swap Bluetooth USB By SW suggestion
	P26		Swap Mini-PCIE USB By SW suggestion
EC-20090729A-4	P18		Remove SPDIF Function
	P27		Remove SPDIF Function
EC-20090729A-5	P27		Swap Function-board connector pin definition
	P27		Swap Audio-connector pin definition
EC-20090729A-6	P18		Change C300 to 0.1u capacitor and Add R455 for discharge Path
EC-20090729A-7	ALL		Change the Short-pad to 0-ohm Resistor, 0402_SIZE : R99, R20, R27, R265, R58, R262, R260, R72, R101, R138, R3, R4, R281, R283, R274, R79, PR106, PR110, PR111, PR112, PR113, PR114, PR120, PR122, PR124 0603_SIZE : R45, R57, L61, L62, R193, R2, L2, L3, L38, L7, R210, R224, R222, R341 0805_SIZE : R13, R30, R158, R165, R430, R271, R60
EC-20090729A-8	P23		Reserve GSENSOR_Z signal so R376, C489, C490 no-stuff
EC-20090729A-9	P10		Change C192, C194, C213 value from 330U to 220U and add C581 Capacitor Change C78, C214 value from 10U to 22U Change R14 value from 1-ohm to 0.5-ohm
EC-20090729A-10	P9		For power rating concern, so change 0-ohm Resistor to Power-Jump
EC-20090729A-11	P27		Connect DCIN_LED# and LOGO_LED# between EC and Function-board connector
	P28		Connect DCIN_LED# and LOGO_LED# between EC and Function-board connector
EC-20090729A-12	P19		Remove RTL8103 circuit note (10/100M-Lan)
EC-20090729A-13	P18	ME RECOMMAND	Change INT_MIC connector footprint
EC-20090729A-14	P18		Add headphone sense circuit.
EC-20090729A-15	P18		Change R455 Symbol from Capacitor-type to Resistor-type
EC-20090729A-16	P30		Swap the DC_IN connector for layout routing
EC-20090729A-17	P27		Swap Audio-connector pin definition, follow daughter change

EC-20090730A-1	P23	Update Bluetooth Connector	Change Connector Type to follow latest ME placement.
EC-20090730A-2	P21	Update HDMI Connector	Change Connector Type to follow latest ME placement.
EC-20090730A-3	P15	Connect BT_DET#	Connect BT_DET# from BT conn. to GPIO48.
EC-20090730A-4	P27	Update Audio 8Pin signal	Update Audio wire to board cable pin definition.
EC-20090730A-5	P27	Delet +5V EMI filter	Due to delete SPDIF feature, no +5V needed on this conn.
EC-20090730A-6	P29	Update Bluetooth Connector	Change Connector Type to follow latest ME placement.
EC-20090730A-7	P37	Change Footprint	Change PC176/PC177 to small size to fit into placement.
EC-20090730A-8	P35	Add one thermistor	Add one more thermistor in Charger block.
EC-20090730A-9	P38	Add one more MB hole	For ME structure needed.
EC-20090730A-10	P38	Add Bluetooth module NUT	Add NUT for BT module support.
EC-20090730A-11	P18	Add EMI solution	Add LC filter for Bitclk.
EC-20090731A-1	P30	Swap DC in signal	Per Power input routing concern.
EC-20090730A-8	P35	Cancel	Cancel this change on 0731, power remove one thermistor
EC-20090729A-2	P14	Cancel	Cancel this change on 0731, Change back to small size of 32.768KHz Xtal.
EC-20090731A-2	P19	Update RJ45 connector	Change Connector Type to follow latest ME placement.
EC-20090731A-3	P23	Update USB connector	Change Connector Type to follow latest ME placement.
EC-20090731A-4	P19	Change 1M resistor size	Change 1M discharge resistor size from 0603 to 0805.
EC-20090801A-1	P18	Swap Speaker Pin definition	For Better cable routing.
EC-20090801A-2	P23	Correct GPIO pull high	Pull High EC GPIO in +3VSS sequence to support S5 charge.
EC-20090801A-3	P23	Change G-sensor power	To meet G-sensor ripple SPEC, use LDO to generate +3V.
EC-20090801A-4	P23	Correct USB charger power	Change USB power to +5VSS source to support S5 charge.
EC-20090801A-5	P35	Change 5VSUS supply MOS	Correct 5VSUS output rating.
EC-20090801A-6	P35	Change +3VSS supply MOS	Correct +3VSS output rating.
EC-20090801A-7	P34	Capacitor footprint change	Change PC121 and PC122 footprint from 7343-size to 3528-size
EC-20090801A-8	P23	Change USB net name	Change USBP13+_C and USBP13+_C_net name to R_USB4- and R_USB4+
EC-20090802A-1	P27	EMI RECOMMAND	Reserve 0-ohm resistor for USB signal (USB1, USB6, USB8)
EC-20090802A-2	P26	EMI RECOMMAND	Reserve 0-ohm resistor for CN12 GCLK_SMB_1 and GDAT_SMB_1 signal
EC-20090803A-1	P24	ESD RECOMMAND	Reserve VARISTOR for Touch pad signal
EC-20090803A-2	P37	Power Tim RECOMMAND	Pull high voltage change from 5VPCU to +3V for HWPG signal
EC-20090803A-3	P07	Intel Design Guide	Follow Intel Design Guide, Option A solution --> GFX_VR_EN Pull down 100K
EC-20090803A-4	P19		Change Transformer IO_GND to GND
EC-20090804A-1	P18		Remove L61 and L62, short the AGND and GND directly
EC-20090804A-2	P37	Power engineer RECOMMAND	Render standby be modified by TIM
EC-20090804A-3	P22,25	ME RECOMMAND	CRT and SATA connector, change to correct footprint
EC-20090804A-4	P38		Add one Hole for M/B
EC-20090804A-5	P29	BIOS RECOMMAND	Add RFID EEPROM
EC-20090804A-6	P19		Modify LAN connector LED color
EC-20090804A-7	P27		Change one pin from GND to 5VSUS
EC-20090805A-1	P25	For layout space concern	Change SATA connector footprint to original U350 connector footprint
EC-20090805A-2	P38		Add one Hole for KB
EC-20090805A-3	P22		Stuff the Varistor for CRT
EC-20090806A-1	P23		Add EXT_GND for Thermal pad
EC-20090811A-1	P10	CRT ripple lesson learn	Change C165 from 0.1U to 4.7U for CRT ripple concern.

EC-20090813B-1	P37		Remove PR76 and PU5.Pin12 connect to AGND directly
EC-20090819B-1	P10		C165 : Change footprint from 0402_Size to 0603_Size
EC-20090824B-1	P31		Remove PR35 to solve 3VPCU short to Gnd issue
EC-20090824B-2	P37		Remove PR81 to solve no +VCC_CORE issue, because the VRON level is divided by 1/10
EC-20090824B-3	P36		PR220 change from 43K to 20K to solve no +1.5V_S5
EC-20090825B-1	P30-P34 and P37		PJP5, PJP13, PJP14, PJP15, PJP16 are removed and short directly PJP1, PJP2, PJP3, PJP4, PJP6, PJP7, PJP10, PJP11, PJP12 are changed to 0-ohm short-pad
EC-20090825B-2	P24		Add CN22 for 10-PIN Touch-Pad
EC-20090825B-3	P30, P32, P33, P34, P37		PR15, PR123, PR127, PR135, PR137, PR141, PR143, PR148, PR110, PR114, PR51, PR52, PR178, PR179, PR197, PR198 are changed to 0-ohm short-pad (0402-size) PR78, PR189, PR205 are changed to 0-ohm short-pad (0603-size)
	P20		R7, R232 are changed to 0-ohm short-pad (0603-size)
	P19, P25		R137, R192, R61, R310 are changed to 0-ohm short-pad (0805-size)
EC-20090826B-1	P20	Power RECOMMEND	L43 is changed to F3 for pass IBM test
EC-20090826B-2	P20		Add schematic to control Logo-Led on/off
EC-20090826B-3	P22	ESD RECOMMEND	Add TVS (D27) for ESD protection
EC-20090826B-4	P26	RF RECOMMEND	Reserve C494-C498 for WWAN & WLAN
EC-20090827B-1	P33		Change PR75 pull-high voltage from +3V to 3VSUS to solve S3 resume issue
EC-20090827B-2	P36		PU8, PU9 : PIN4 connect to 5VPCU
EC-20090827B-3	P24		L6 is changed to F4 for pass IBM test
EC-20090828B-1	P23		USB charge U28 : modify resistor value and voltage state of PIN5 and PIN6 Reserve R417 and R418 with PIN10 and PIN1
EC-20090828B-2	P9		PJP8 and PJP17 are changed to RC7520 footprint, that is for Render standby power

EC-20091002C-1	P28	LOGO_LED# connect to U8.PIN25 not U8.PIN97, U8.PIN25 is PWM signal.
EC-20091002C-2	P3, P6	Change CPU and NB footprint. It is according to Lenovo request to enhance BGA rework performance, lower the F/R of solder mask or pad peel off from the reworking
EC-20091006C-3	P18	The Audio Jack is changed to Combo-type, and remove original HP_SENSE and MIC_SENSE circuit
EC-20091007C-1		R383, R386, R138, R44, R53, R303, R82, R299, R304, R98, R155, R23, R8, R9, R379, R380, R235, R236, R249, R250, R255, R256, R102, R314, R197, R198 are changed to short-pad (0402-size) R69, R83, L22, L23, L24, R12, R25, R228, R254 are changed to 0-ohm short-pad (0603-size) R40, R56, R168, R188, R189, R208 are changed to 0-ohm short-pad (0805-size)
EC-20091014C-1	P18	Follow Audio vendor suggestion, change 3V_DVDD to AVDD_3.3V for External MIC bias voltage
EC-20091014C-2	P38	By QSMC F6 PE suggestion, change BT Nut material so we need to modify footprint for new Nut use
EC-20091015C-1	P28	Remove R285 to reduce leakage current, by EC control to high or low
EC-20091015C-2	P35	Stuff PQ12 for normal discharge
EC-20091015C-3	P14	Change C448 and C449 from 15p to 18p for RTC timer
EC-20091015C-4	P24	Remove RP1 and RP2 to reduce leakage current, EC can provide internal pull-high
EC-20091015C-5	P20	Reserve C506 for CCD power, it is reference PS1A
EC-20091016C-1	P23	Add R428 and R429 for USB charge circuit, the vendor suggest it for new chip application
EC-20091016C-2	P23	R196 be change from 1K-ohm to 0-ohm
EC-20091016C-3	P14	Disable RTC charge function, remove R307, R308, R311, R312, Q22
EC-20091020C-1	P37	Disable Render Standby function, remove PU5, PL5, PQ23, PQ24 PC140, PC83, PC51, PC73, PC143, PC84, PC85, PC86, PC82, PC55, PC61, PC68, PC81, PC48, PC138, PC142 PR188, PR190, PR82, PR194, PR195, PR184, PR92, PR183, PR191, PR91, PR74, PR186, PR65, PR193, PR87, PR86, PR187, PR88, PR79, PR181
EC-20091020C-2	P24	Touch pad interface be changed from 13P(CN2) to 10P(CN22)
EC-20091020C-3	P31	Add PR164 to solve boot issue
EC-20091020C-4	P23	Remove R428 and R429, add R408, R409, R410 and R411 for USB charge circuit, the vendor suggest it for new chip application
EC-20091028C-1	P19	Adjust resistor value for Lan_LED light (R315 and R318 from 150 to 330)
	P20	Adjust resistor value for Logo_LED light (R414 from 510 to 1.8K)
EC-20091028C-2	P23	Change USB connector to yellow color
EC-20091028C-3	P35	Change PR68 from thermal-resistor to 0ohm due to remove render standby

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