

UM3B/UM6B SYSTEM BLOCK DIAGRAM

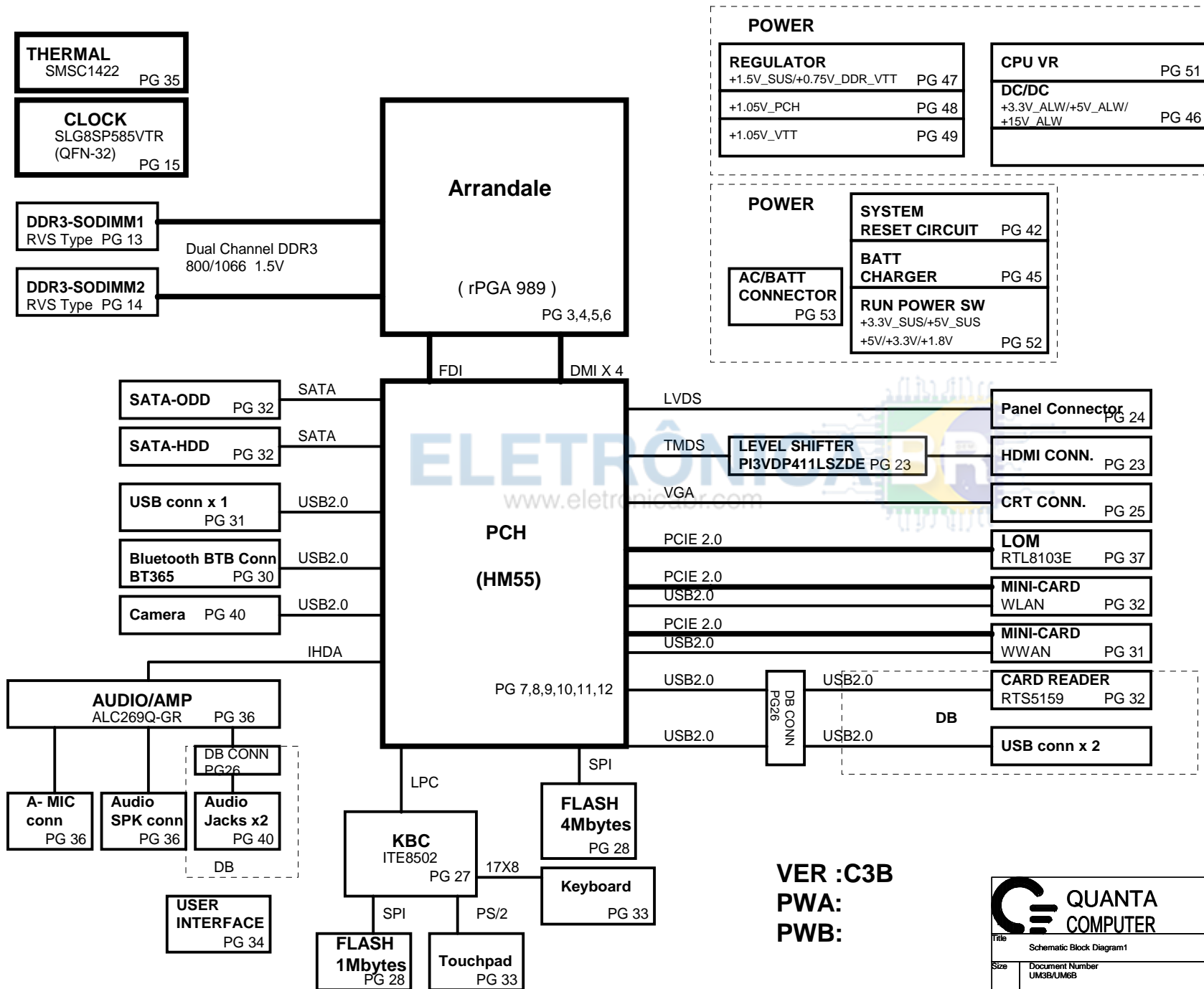



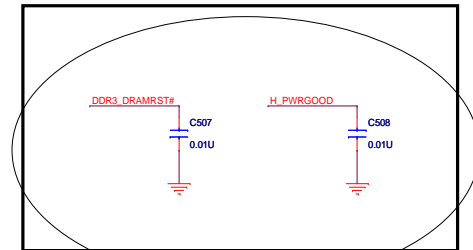
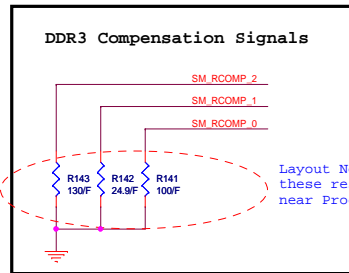
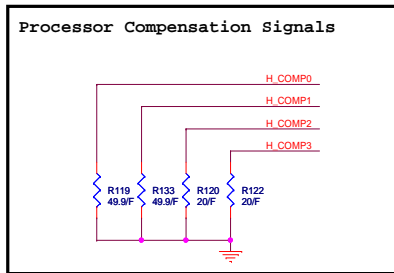
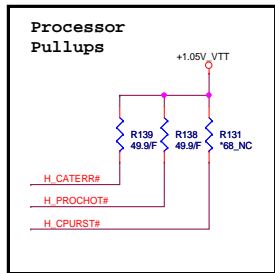
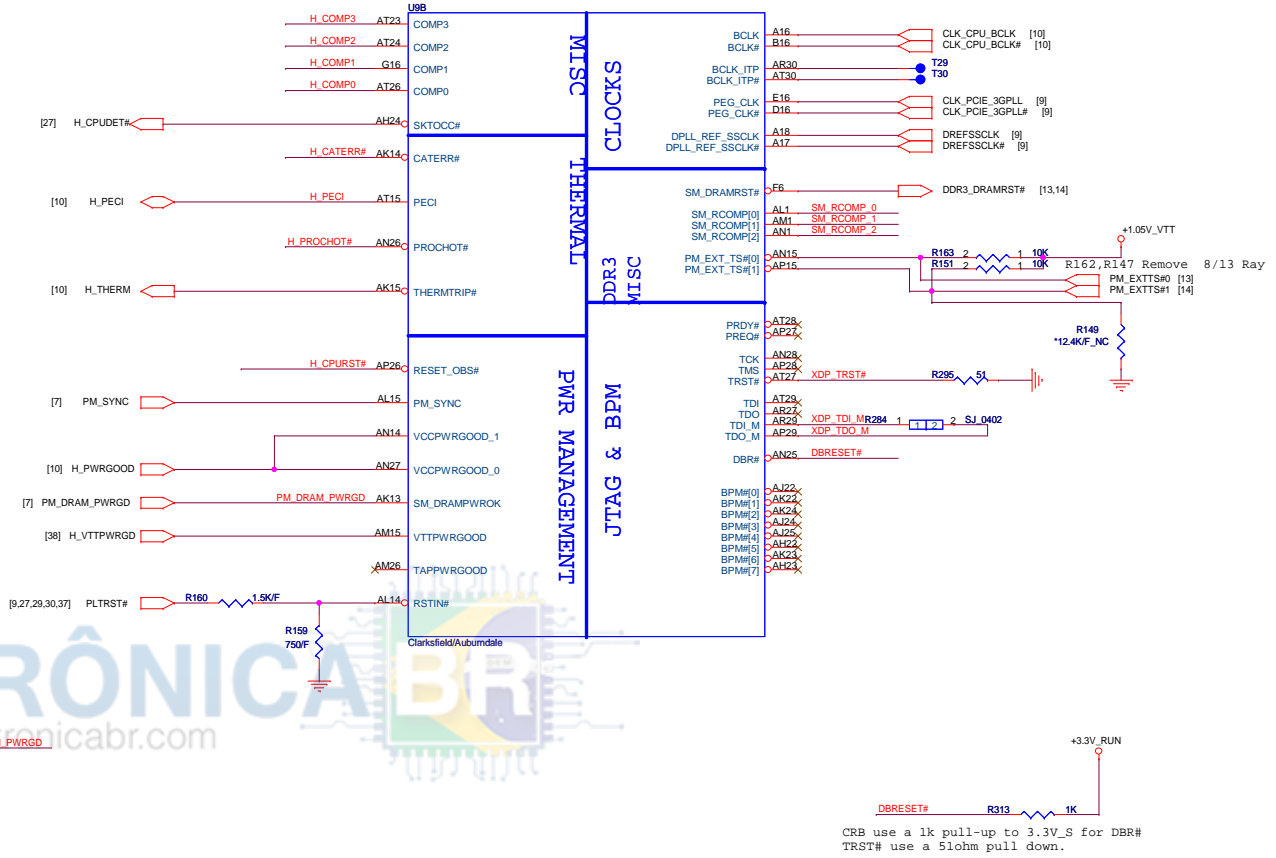
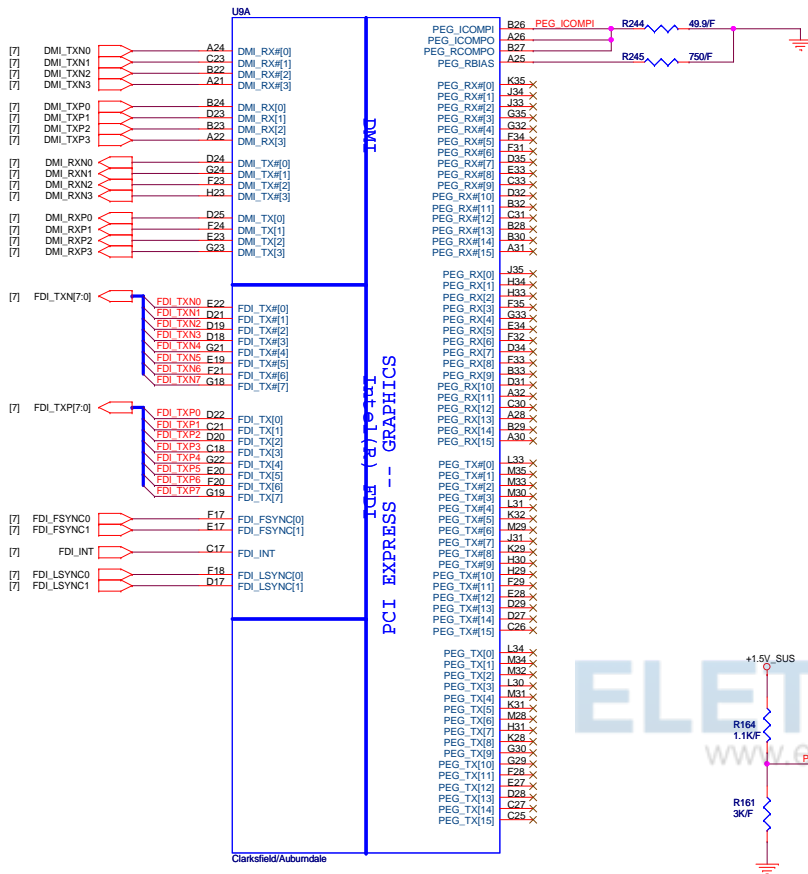
Table of Contents

PAGE	DESCRIPTION
1	Schematic Block Diagram
2	Front Page
3-6	Clarksfield/Auburndale
7-12	PCH
13-14	DDRIII SO-DIMM(204P)
15	Clock Generator
16-22	BLANK PAGE
23	HDMI CONN
24	LCD CONN
25	CRT CONN
26	DB CONN
27	SIO (ITE8502)
28	FLASH / RTC
29	MINI-Card (WWAN)
30	MINI-Card (WLAN/WPAN)
31	USB
32	SATA (HDD & CD-ROM)
33	TP / KEYBOARD
34	PWR SWITCH / LED
35	FAN / THERMAL
36	CODEC ALC269
37	LAN(RTL8103M/RJ-45)
38	System Reset Circuit
39	BLANK PAGE
40	1.8V_RUN(RT9018/RT9024)
41	Charger (MAX8731)
42	3V/5V (TPS51427A)
43	1.5_DDR/0.75(TPS51116)
44	1.05V_PCH(TPS51218)
45	1.05_VTT(TPS51218)
46	GFX_VCORE (MAX17028)
47	CPU CORE(MAX17036)
48	Run Power Switch
49	DCin & Batt
50	PAD & SCREW
51	EMI CAP
52	SMBUS BLOCK
53	THERMAL MAP
54	Power Block Diagram
55	Power sequence Block
56	XDP
57	
58	
59	
60	

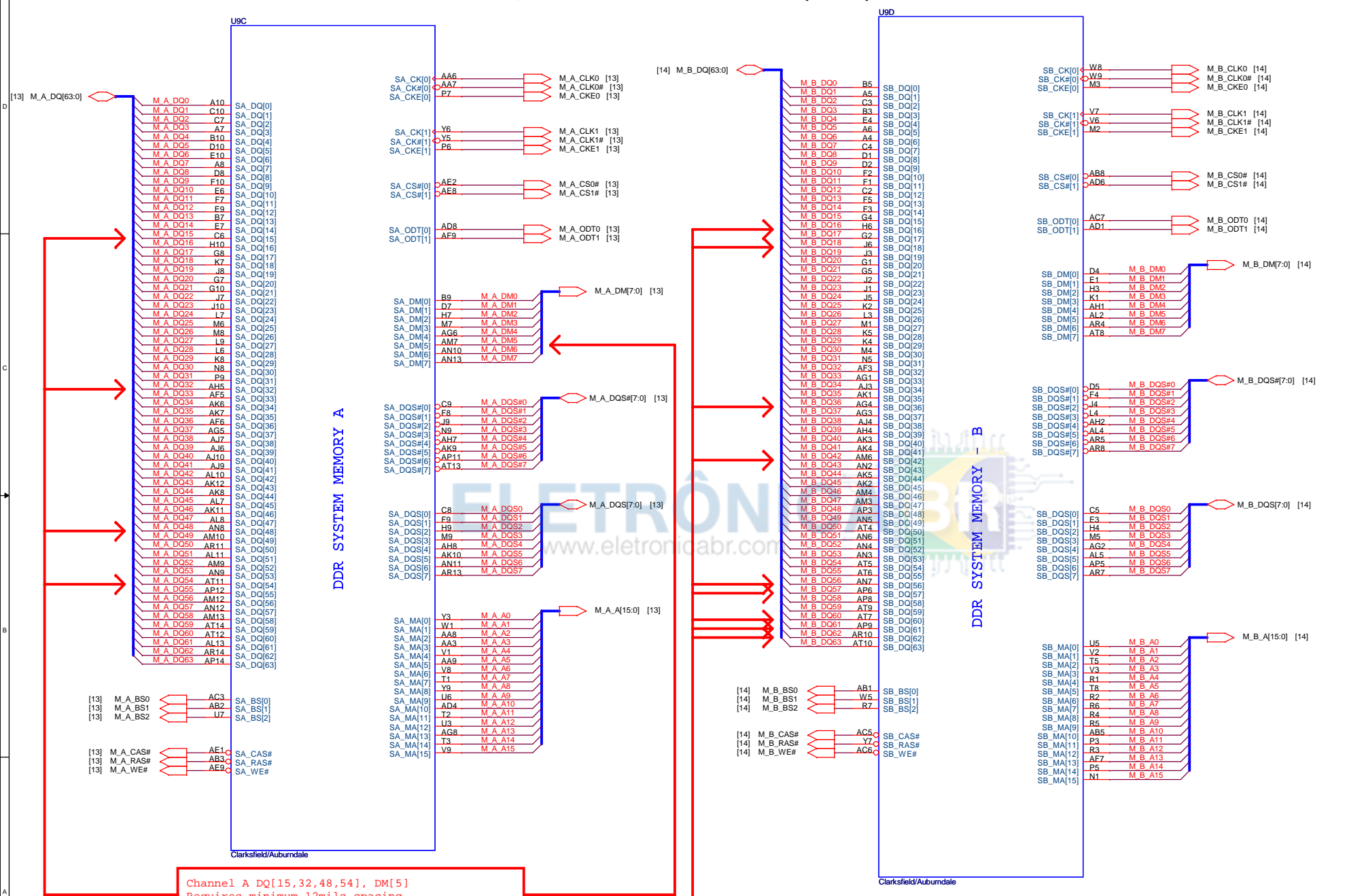
Power States

POWER PLANE	VOLTAGE	PAGE	DESCRIPTION	CONTROL SIGNAL	ACTIVE IN
+PWR_SRC	10V~+19V	24,30,45,46,47,48,49,50,51	MAIN POWER		S0~S5
+RTC_CELL	+3.0V~+3.3V	08,11,29,30	RTC		S0~S5
+5V_ALW2	+5V	37,46,52,53	LARGE POWER	MAIN POWER	S0~S5
+5V_ALW	+5V	13,33,44,46,47,48,49,50,51,52	LARGE POWER	ALW_ON	S0~S5
+3.3V_ALW	+3.3V	29,30,35,36,37,42,44,45,46,47,51,52,53	8051 POWER	3.3V_ALW_ON	S0~S5
+5V_SUS	+5V	11,33,34,37,51,52	SLP_S5# CTRLD POWER	SUS_ON	
+3.3V_SUS	+3.3V	07,08,09,10,11,13,14,19,24,28,29,37,41,42,44,48,49,50,52	SLP_S5# CTRLD POWER	SUS_ON	
+1.5V_SUS	+1.5V	03,05,13,14,47,50,52	SODIMM POWER	SUS_ON	
+0.75V_DDR_VTT	+0.75V	13,14,47,52	SODIMM POWER	RUN_ON	
+5V_RUN	+5V	11,18,24,25,35,36,38,39,40,51,52	SLP_S3# CTRLD POWER	RUN_ON	
+3.3V_RUN	+3.3V	3,7,8,9,10,11,13,14,15,17,24,25,26,28,29,30,31,32,33,35,37,38,39,40,41,42,46,51,52,60	SLP_S3# CTRLD POWER	RUN_ON	
+1.8V_RUN	+1.8V	05,11,44,52	SDVO POWER	RUN_ON	
+1.05V_VTT	+1.1V	03,05,10,11,49,60	CPU POWER	RUN_ON	
+1.5V_RUN	+1.5V	11,28,31,32,52	Express Card/Min Card	RUN_ON	
+5V_HDD	+5V	35	HDD Power	HDDC_EN	
+1.05V_PCH	+1.05V	08,09,11,15,48	PCH POWER	RUN_ON	
+VCC_CORE	+0.7V~+1.77V	05,51	CPU CORE POWER	IMVP_VR_ON	
+LCDVCC	+3.3V	24	LCD Power	LCDVCC_TST_EN & ENVDD	
+5V_MOD	+5V	35	MOD Power	MODC_EN	

GND PLANE	PAGE	DESCRIPTION
 GND	ALL	



AUBURNDALE/CLARKSFIELD PROCESSOR (DDR3)

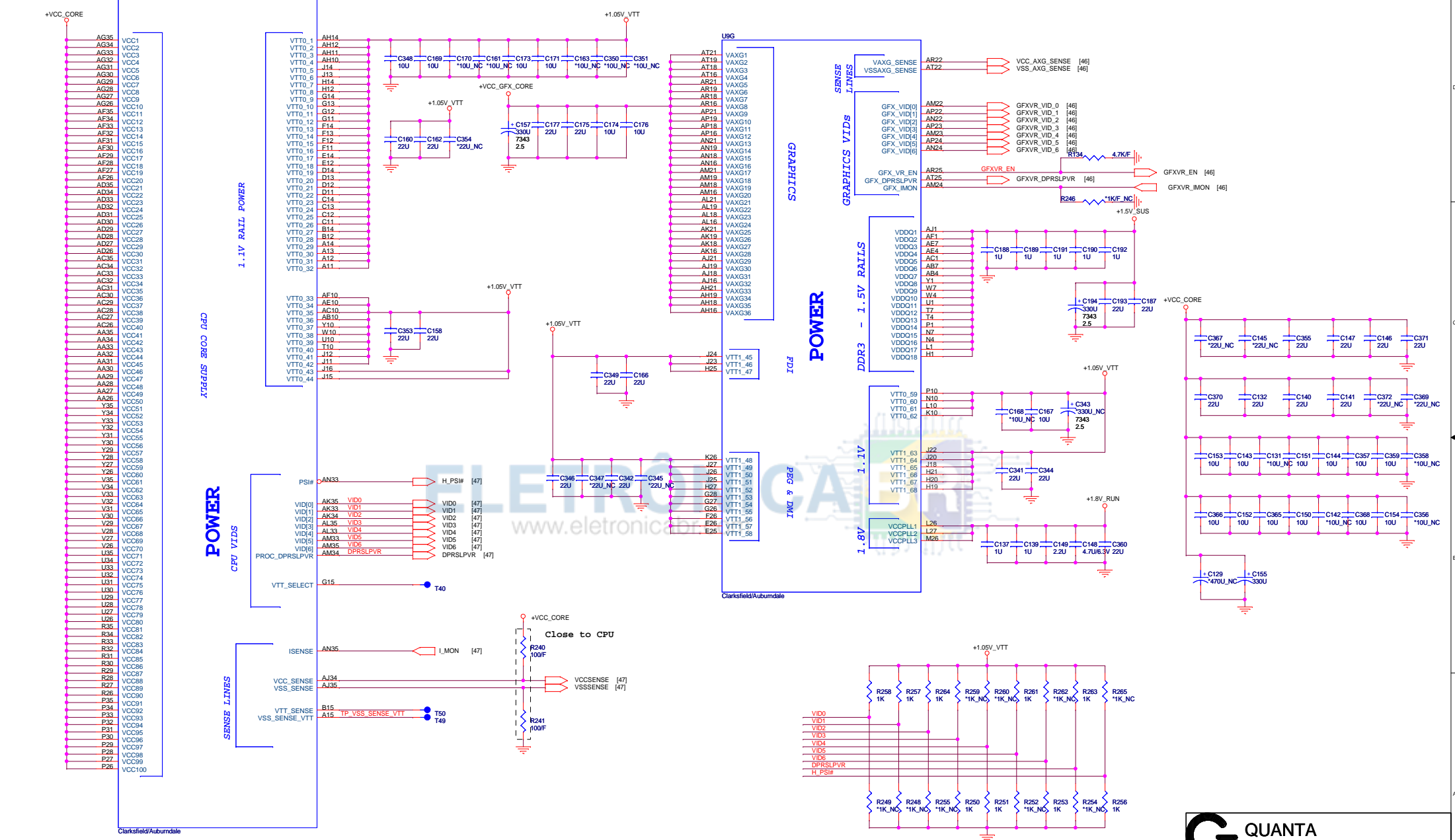


Channel A DQ[15,32,48,54], DM[5]
Requires minimum 12mils spacing
with all other signals, including data signals.

Channel B DQ[16,18,36,42,56,57,60,61,62]
Requires minimum 12mils spacing
with all other signals, including data signals.

**QUANTA
COMPUTER**

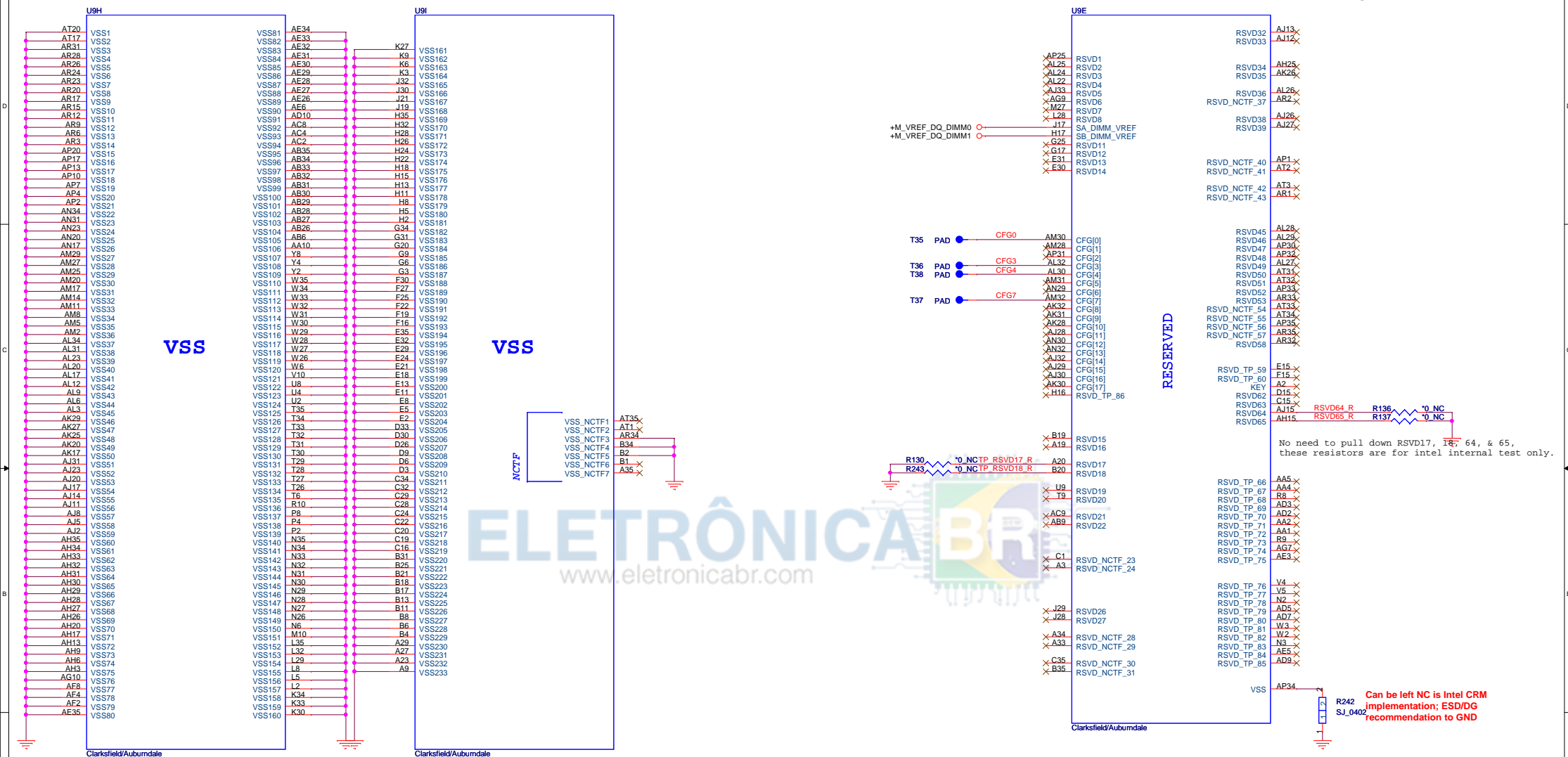
Title AUBURND 2/4		
Size	Document Number UM3B/UM6B	Rev 1A
Date:	Friday, October 02, 2009	Sheet 4 of 59



AUBURNDALE/CLARKSFIELD PROCESSOR (POWER)

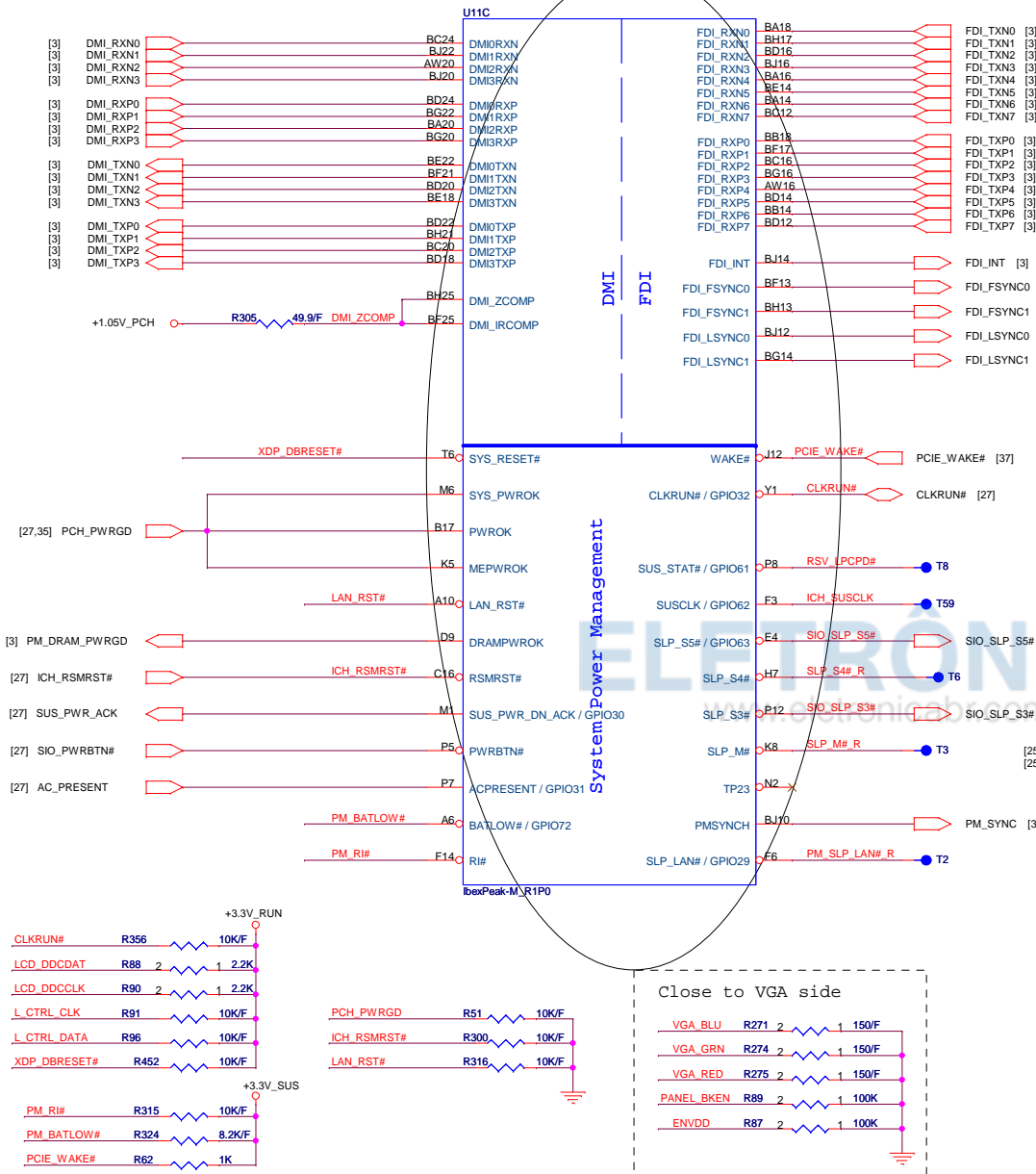
AUBURNDALE/CLARKSFIELD PROCESSOR (GND)

AUBURNDALE/CLARKSFIELD PROCESSOR (RESERVED, CFG)

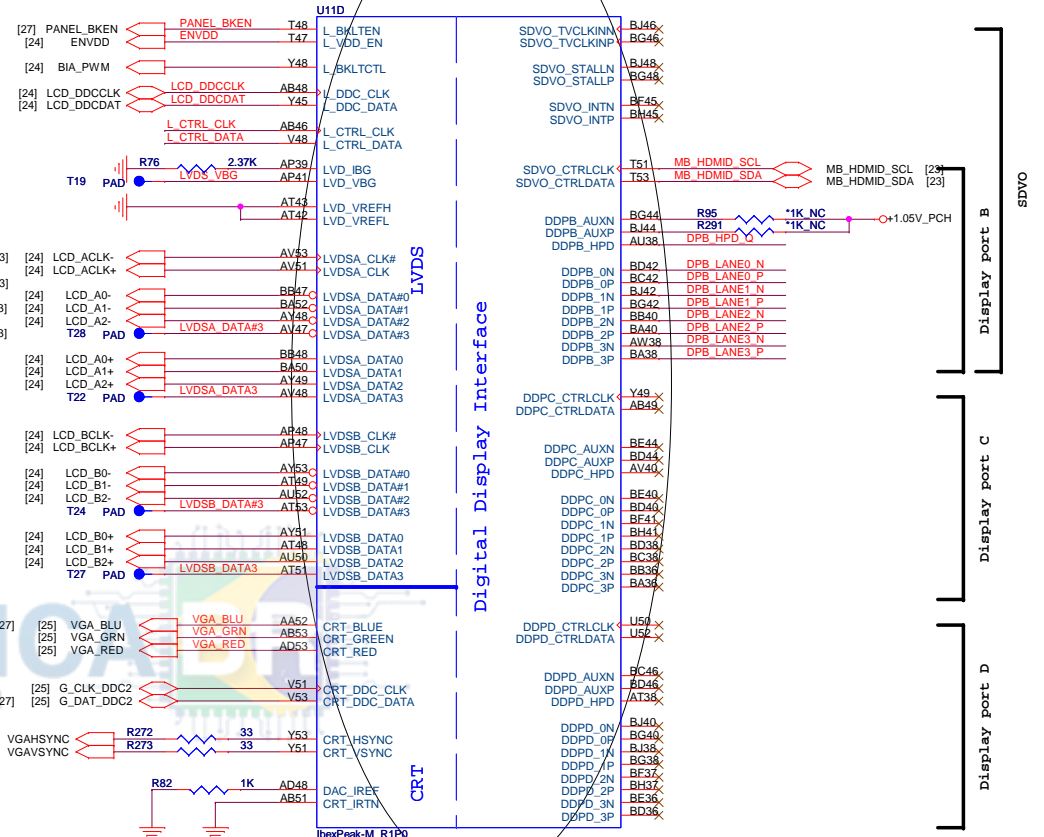


The Clarkfield processor's PCI Express interface may not meet PCI Express 2.0 jitter specifications. Intel recommends placing a 3.01K +/- 5% pull down resistor to VSS on CFG[7] pin for both rPGA and BGA components. This pull down resistor should be removed when this issue is fixed.

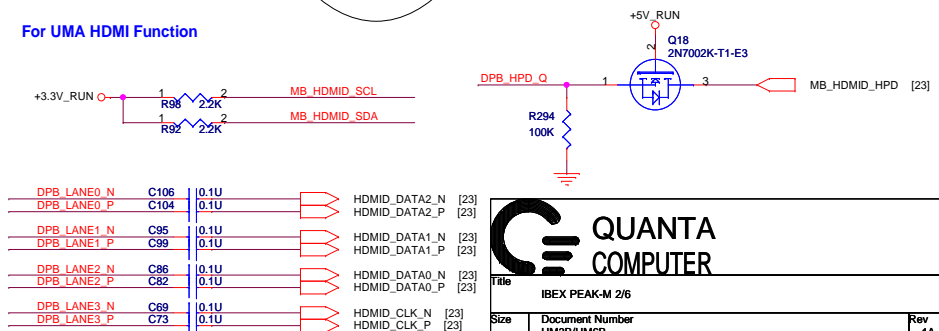
IBEX PEAK-M (DMI,FDI,GPIO)



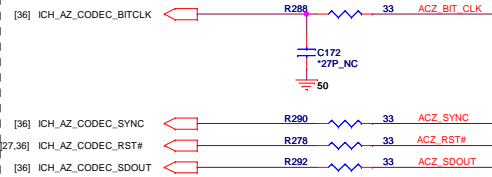
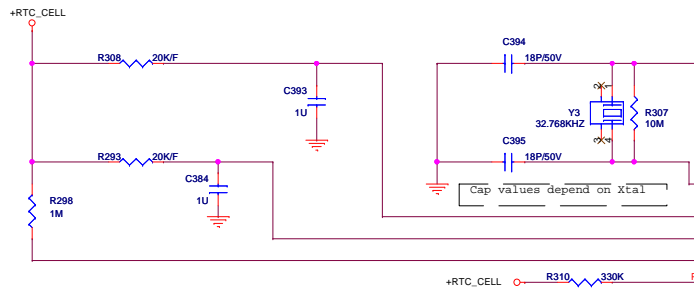
~~IBEX PEAK-M (LVDS,DDI)~~



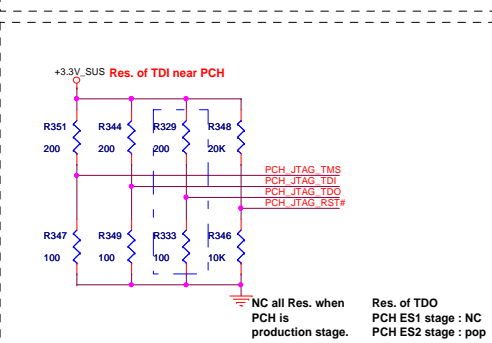
For UMA HDMI Function



IBEX PEAK-M (HDA,JTAG,SATA)



Place all series terms close to PCH except for SDIN input lines, which should be close to source. Placement of R773, R775, R776 & R777 should equal distance to the T split trace point. Basically, keep the same distance from T for all series termination resistors.



INVRMEN[Internal Voltage Regulator Enable] : This signal enables the internal 1.05 V regulators. This signal must be always pulled-up to VccRTC.

Flash Descriptor Security Override

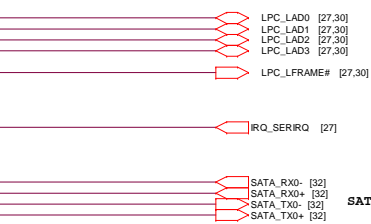
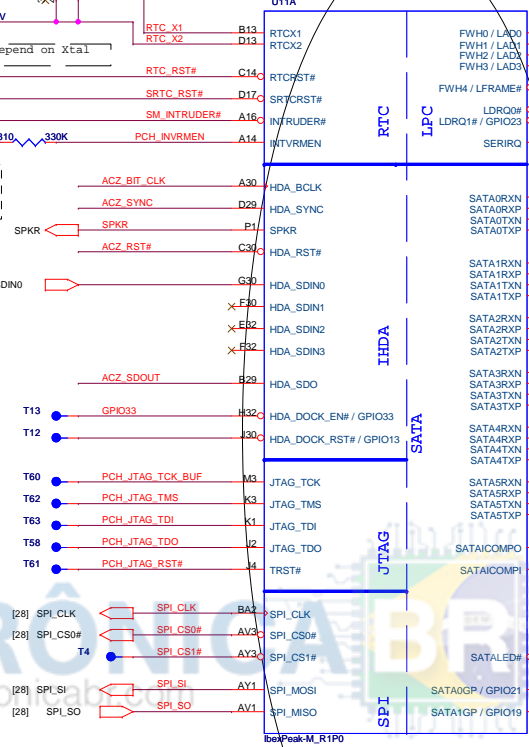
GPIO33	Low = Enabled High = Disabled
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Note : GPIO33 is a signal used for Flash Descriptor Security Override/ME Debug Mode. This signal should be only asserted low through an external pull-down in manufacturing or debug environments ONLY.

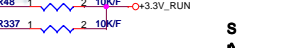
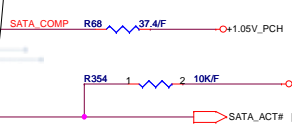


Note : Only pop when PCH is production stage & need "JTAG boundary Scan". Remember to depop XDP side Res.

JTAG Test Pads are need to put on the same side of mother board.



Distance between the PCH and cap on the "P" signal should be identical distance between the PCH and cap on the "N" signal for the same pair.

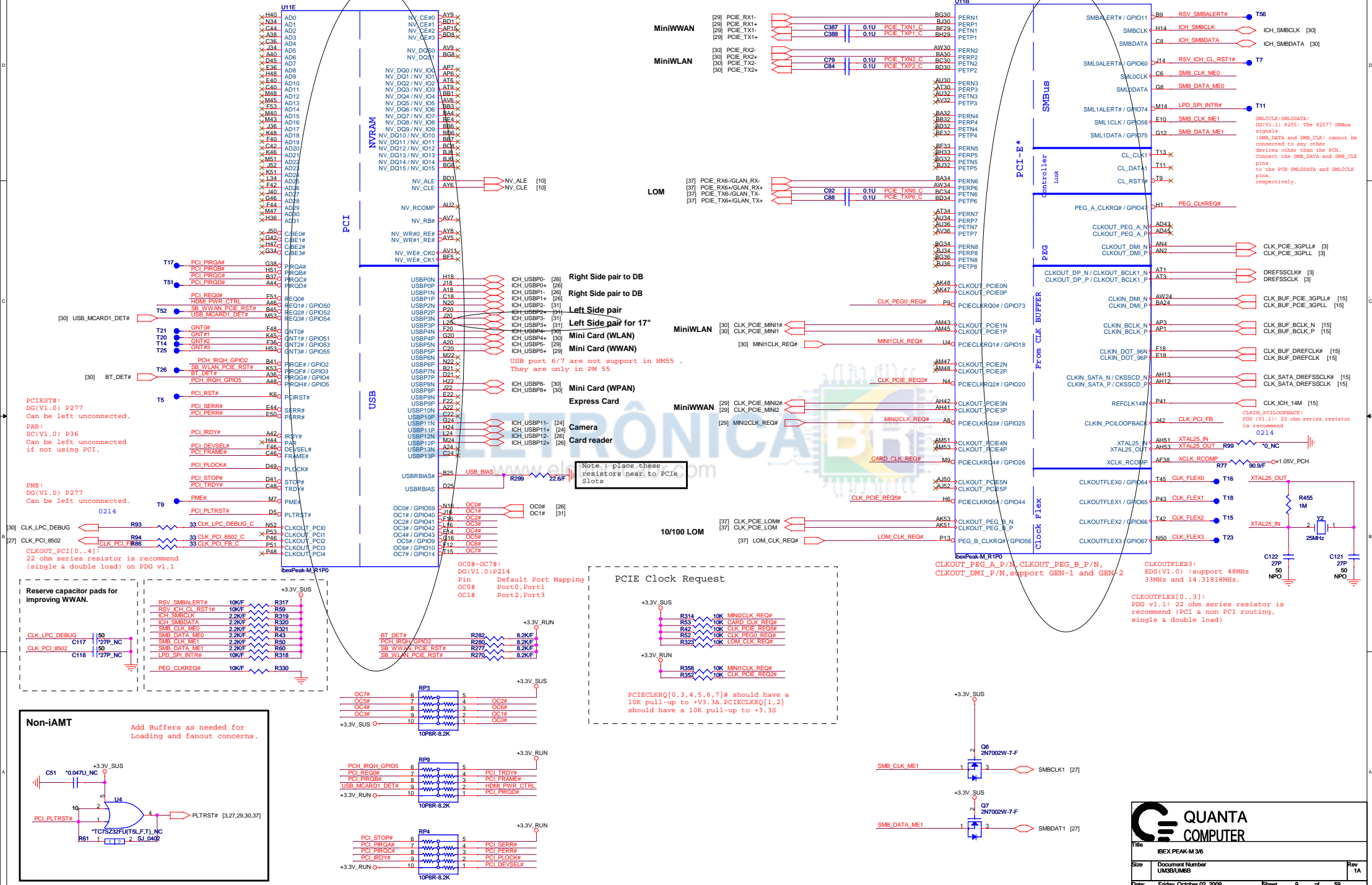


ITPM ENABLE/DISABLE

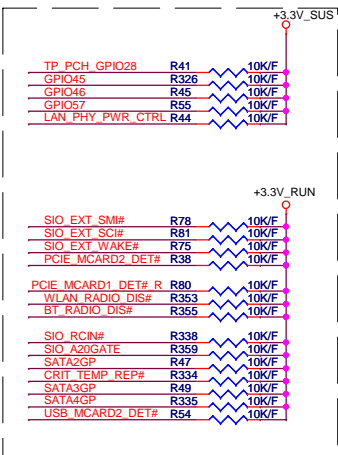
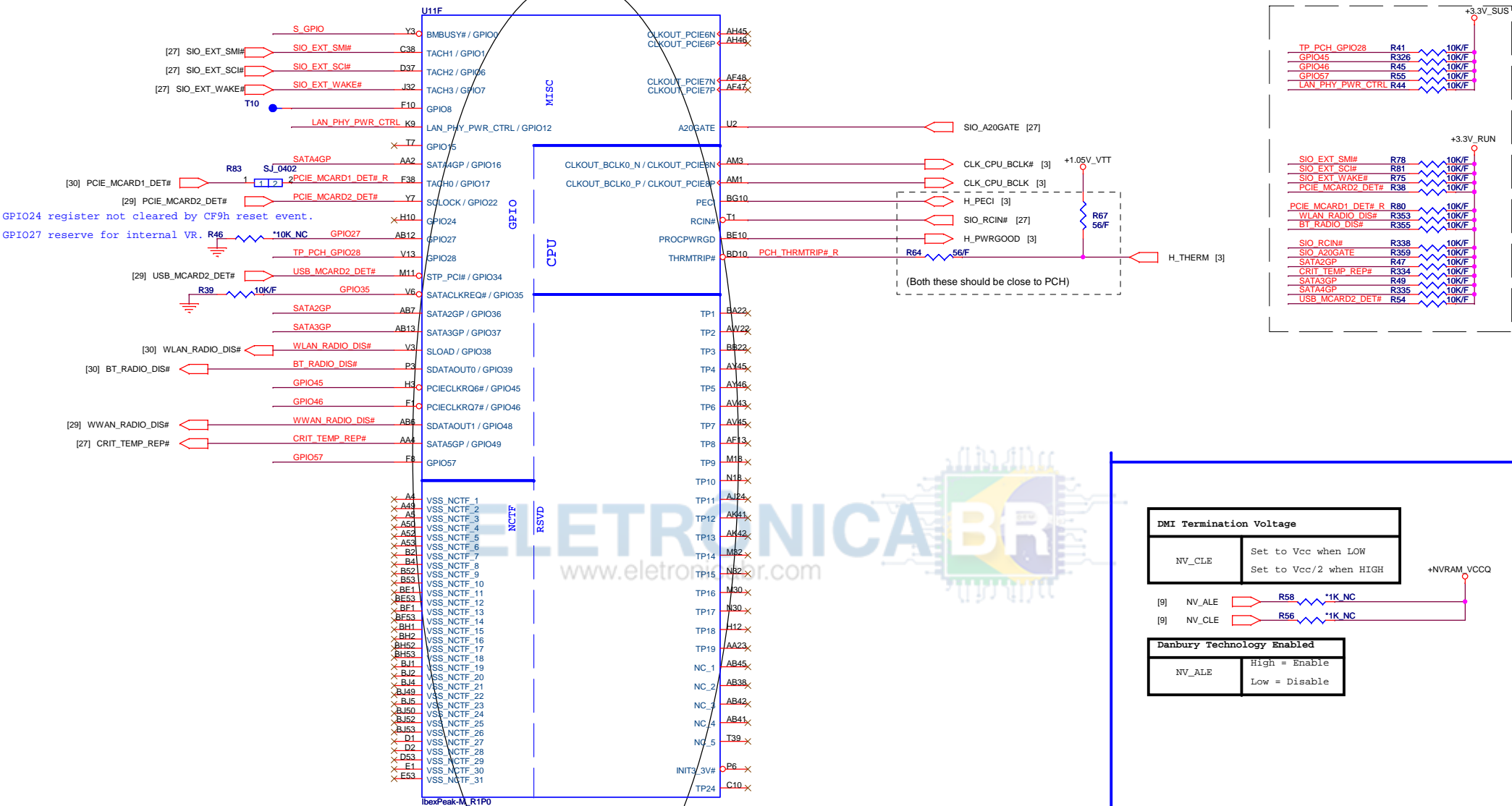
TPM Function	Mount
Enable	Mount
Disable	NC (Default)

IBEX PEAK-M (PCI-E, SMBUS, CLK)

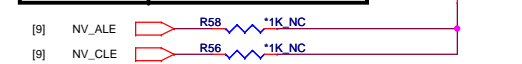
U11B



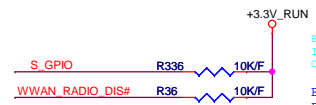
IBEX PEAK-M (GPIO,VSS_NCTF,RSVD)



DMI Termination Voltage	
NV_CLE	Set to Vcc when LOW Set to Vcc/2 when HIGH



Danbury Technology Enabled	
NV_ALE	High = Enable Low = Disable



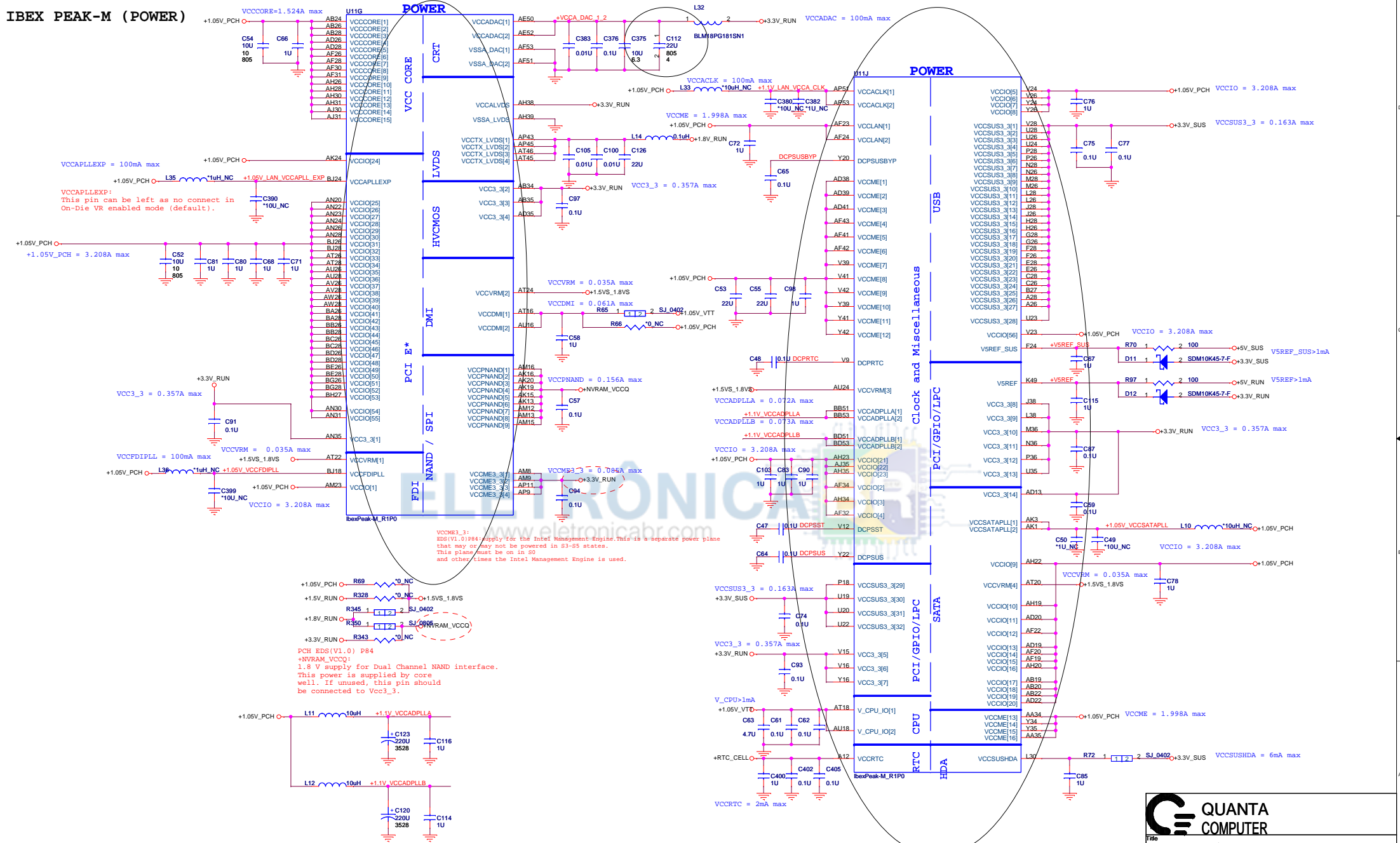
BMBUSY#:
If not used, require a weak pull-up (8.2- 10 kΩ) to Vcc3.3.
CRB(V1.0)P28: it has 1K PU and 100 ohm on this net for validation purpose.

BMBUSY#:(Intel feedback)
Follow CRB checklist, 1K is for intel BIOS validation purpose.

WWAN_RADIO_DIS#	1-X High = Strong (Default)
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Title IBEX PEAK-M 4/6		
Size	Document Number UM35/UM6B	Rev 1A
Date	Friday, October 02, 2009	Sheet 10 of 59

IBEX PEAK-M (POWER)



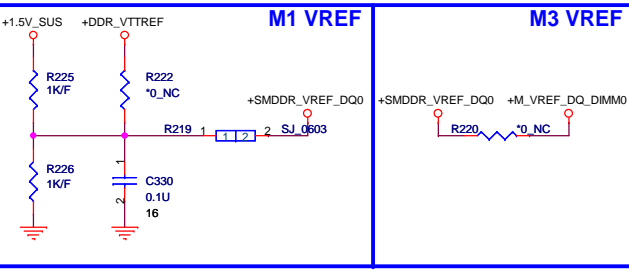
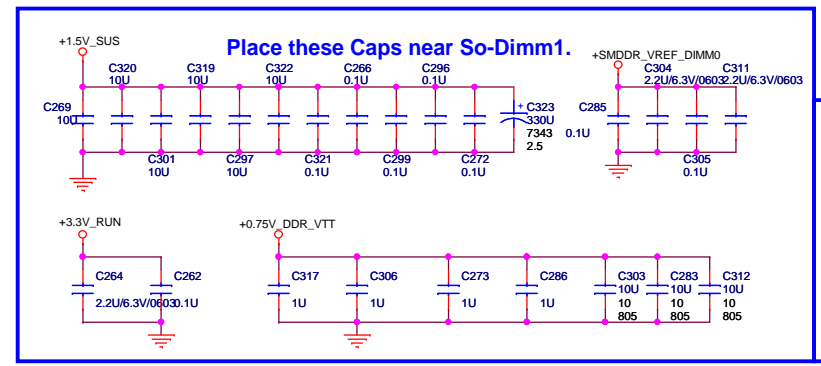
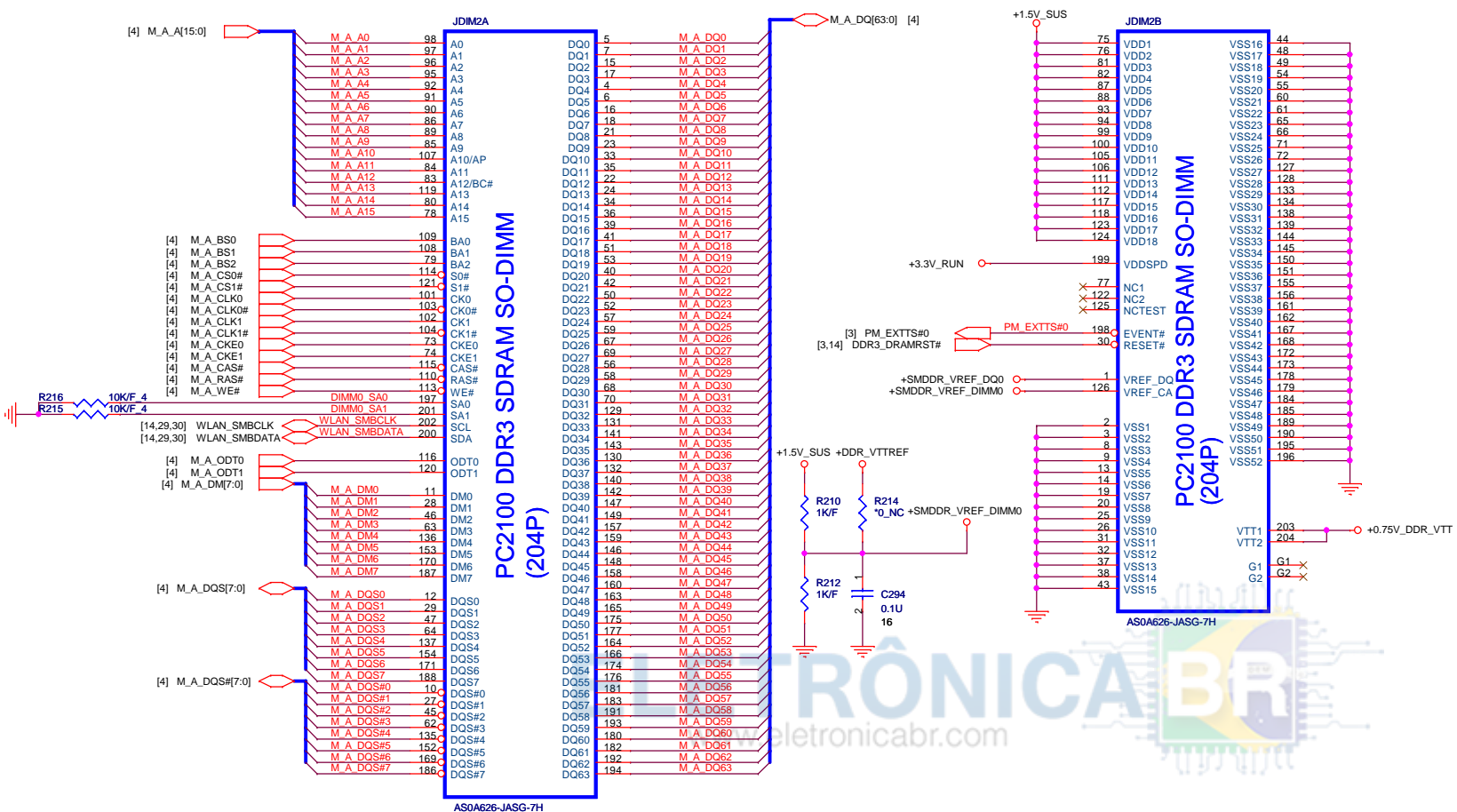
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Size	Document Number		Rev
	UM3B/UM6B		1A
Date:	Wednesday, September 30, 2009	Sheet	11 of 59

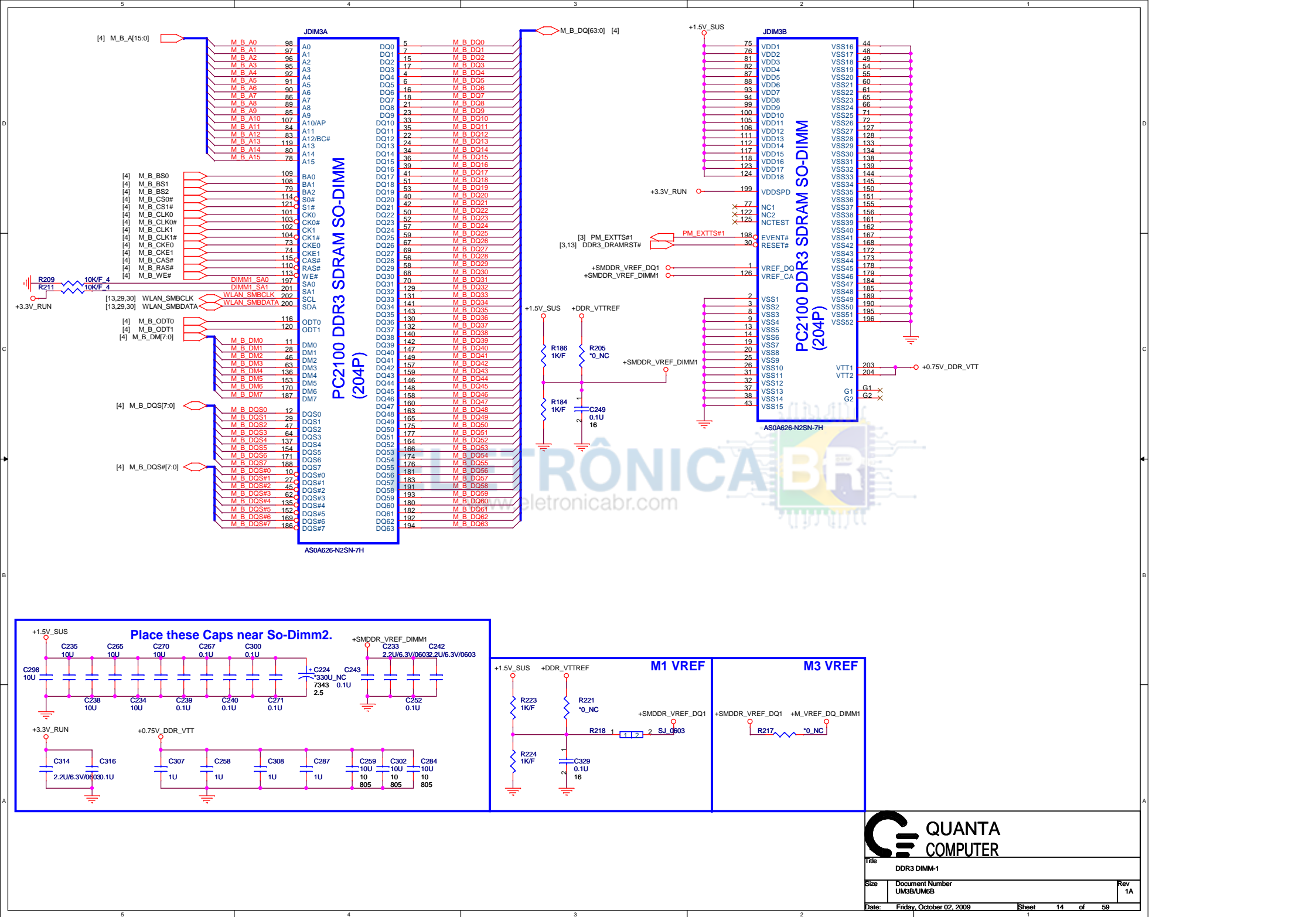
IBEX PEAK-M (GND)

AB16	VSS[0]
AA19	VSS[1]
AA20	VSS[2]
AA22	VSS[3]
AM15	VSS[4]
AA24	VSS[5]
AA26	VSS[6]
AA28	VSS[7]
AA30	VSS[8]
AA32	VSS[9]
AB17	VSS[10]
AB18	VSS[11]
AB19	VSS[12]
AB20	VSS[13]
AB21	VSS[14]
AB22	VSS[15]
AB23	VSS[16]
AB24	VSS[17]
AB25	VSS[18]
AB26	VSS[19]
AB27	VSS[20]
AB28	VSS[21]
AC2	VSS[22]
AC3	VSS[23]
AD1	VSS[24]
AD12	VSS[25]
AD13	VSS[26]
AD14	VSS[27]
AD15	VSS[28]
AD16	VSS[29]
AD17	VSS[30]
AD18	VSS[31]
AD19	VSS[32]
AD20	VSS[33]
AD21	VSS[34]
AD22	VSS[35]
AD23	VSS[36]
AD24	VSS[37]
AD25	VSS[38]
AD26	VSS[39]
AD27	VSS[40]
AD28	VSS[41]
AD29	VSS[42]
AD30	VSS[43]
AD31	VSS[44]
AD32	VSS[45]
AD33	VSS[46]
AD34	VSS[47]
AD35	VSS[48]
AD36	VSS[49]
AD37	VSS[50]
AD38	VSS[51]
AD39	VSS[52]
AD40	VSS[53]
AD41	VSS[54]
AD42	VSS[55]
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AD45	VSS[58]
AD46	VSS[59]
AD47	VSS[60]
AD48	VSS[61]
AD49	VSS[62]
AD50	VSS[63]
AD51	VSS[64]
AD52	VSS[65]
AD53	VSS[66]
AD54	VSS[67]
AD55	VSS[68]
AD56	VSS[69]
AD57	VSS[70]
AD58	VSS[71]
AD59	VSS[72]
AD60	VSS[73]
AD61	VSS[74]
AD62	VSS[75]
AD63	VSS[76]
AD64	VSS[77]
AD65	VSS[78]
AD66	VSS[79]

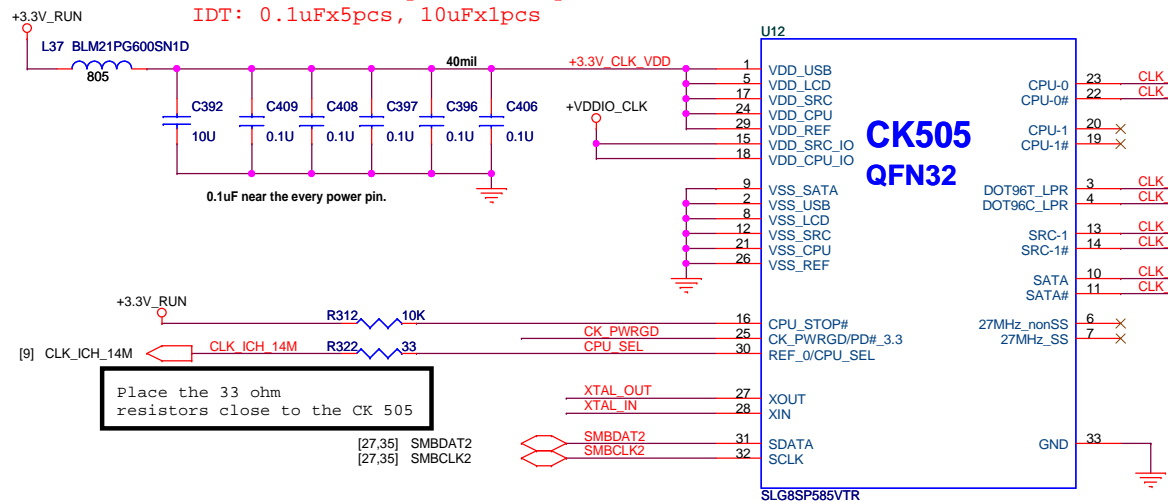
U11	VSS[159]
B11	VSS[160]
B15	VSS[161]
B17	VSS[162]
B20	VSS[163]
B21	VSS[164]
B35	VSS[165]
B39	VSS[166]
B43	VSS[167]
B47	VSS[168]
B7	VSS[169]
BB12	VSS[170]
BB12	VSS[171]
BB16	VSS[172]
BB20	VSS[173]
BB24	VSS[174]
BB30	VSS[175]
BB34	VSS[176]
BB38	VSS[177]
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BB54	VSS[181]
BB58	VSS[182]
BB62	VSS[183]
BB66	VSS[184]
BB70	VSS[185]
BB74	VSS[186]
BB78	VSS[187]
BB82	VSS[188]
BB86	VSS[189]
BB90	VSS[190]
BB94	VSS[191]
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BB102	VSS[193]
BB106	VSS[194]
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BB362	VSS[258]

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J24	VSS[261]
K11	VSS[262]
K43	VSS[263]
K47	VSS[264]
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L26	VSS[269]
L36	VSS[270]
L40	VSS[271]
L52	VSS[272]
M12	VSS[273]
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M96	VSS[294]
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N32	VSS[297]
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N336	VSS[373]
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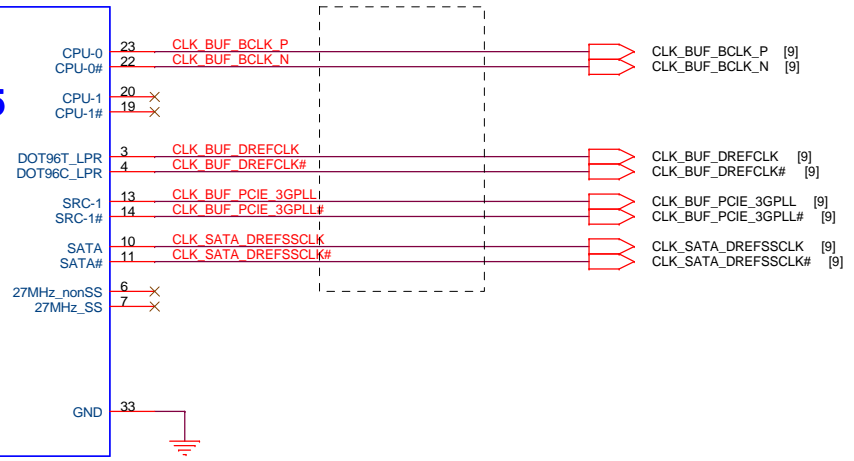




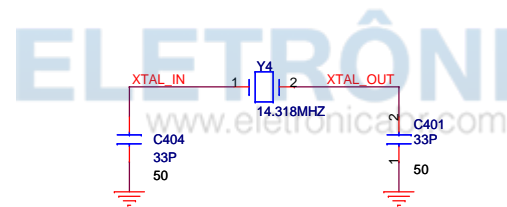
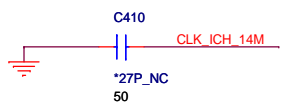
Realtek: 0.1uFx6pcs, 22uFx1pcs
IDT: 0.1uFx5pcs, 10uFx1pcs



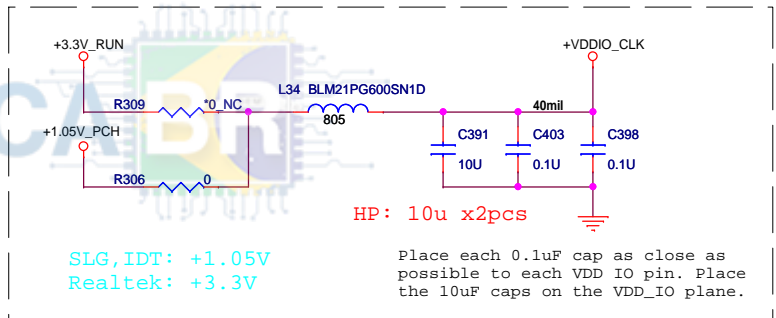
Place within 0.5" of CLKGEN



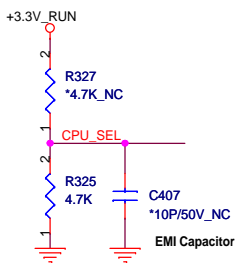
Add capacitor pads for improving WWAN.



Realtek: 0.1uFx3pcs, 22uFx1pcs
IDT: 0.1uFx2pcs, 10uFx1pcs

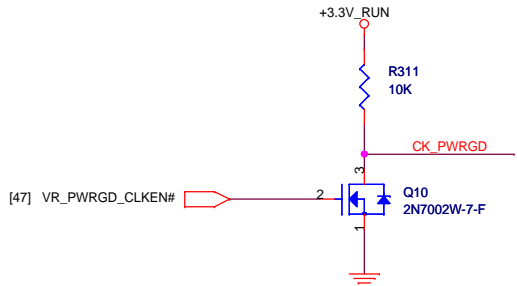


+VDDIO_CLK:
SLG date sheet (V0.2) P15: Min 1.05V, Max 3.465V.
Realtek date sheet (V1.2) P11: Min 1.05V, Max 3.3V.
IDT date sheet (V0.7) P10: Min 0.9975V, Max 3.465V.




PIN 30	CPU_0	CPU_1
0 (default)	133MHz	133MHz
1 (0.7V-1.5V)	100MHz	100MHz

CPU_SEL:
SLG date sheet (V0.2) P15:
High Voltage: Min 0.7V, Max 1.5V.
Low Voltage: Min Vss-0.3V, Max 0.35V.
Realtek date sheet (V1.2) P11:
High Voltage: Min 0.7V, Max 1.5V.
Low Voltage: Min Vss-0.3V, Max 0.35V.
IDT date sheet (V0.7) P10:
High Voltage: Min 0.7V, Max 1.5V.
Low Voltage: Min Vss-0.3V, Max 0.35V.



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 QUANTA COMPUTER		
Title VGA-M92-XT (PCIe)		
Size	Document Number UM3B/UM6B	Rev 1A
Date: Wednesday, September 30, 2009		
Sheet 16 of 59		

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 QUANTA COMPUTER		
Title: VGA-M82-XT (PCIe)		
Size:	Document Number: UM3B/UM6B	Rev: 1A
Date: Wednesday, September 30, 2009 Sheet 19 of 59		

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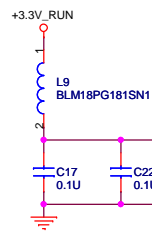
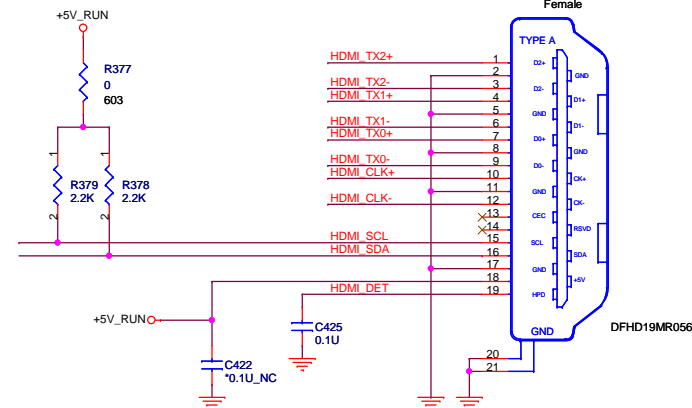
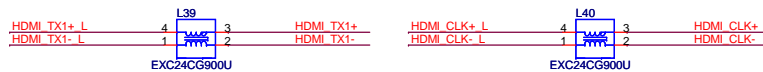
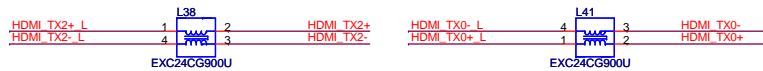


 QUANTA COMPUTER		
Title VGA-M92-XT (PCIe)		
Size	Document Number UM3B/UM6B	Rev 1A
Date	Wednesday, September 30, 2009	Sheet 21 of 59

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NUMBER SAME AS DISCRETE**



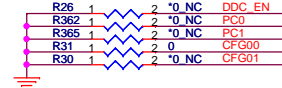
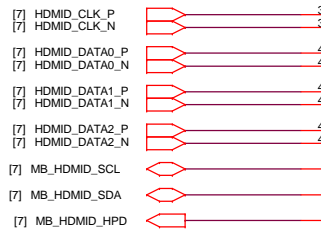
 QUANTA COMPUTER		
Title VGA-M92-XT (PCIe)		
Size	Document Number UM3B/UM6B	Rev 1A
Date: Wednesday, September 30, 2009 Sheet 22 of 59		



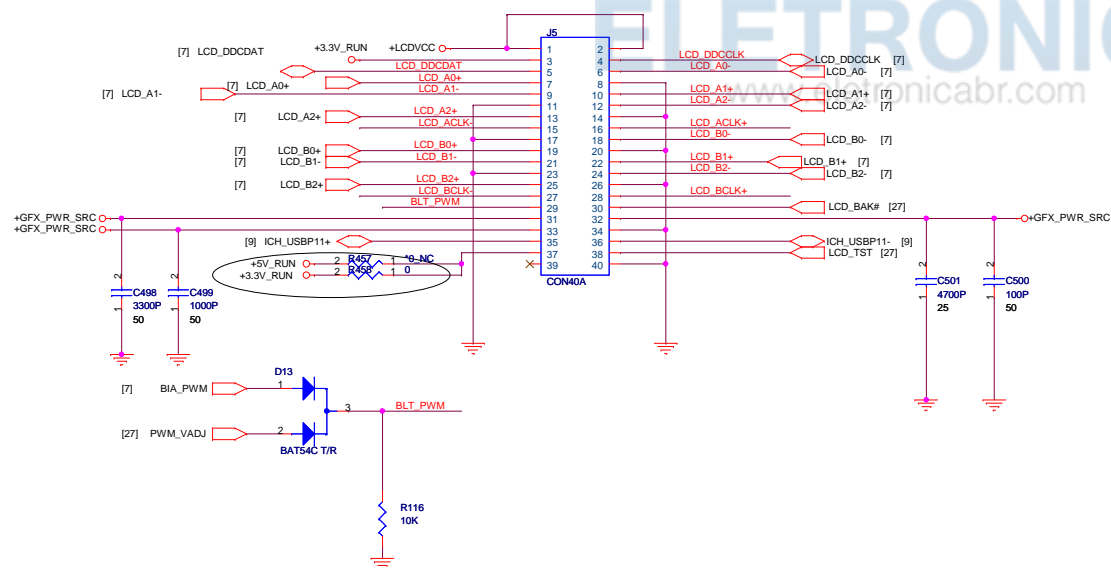
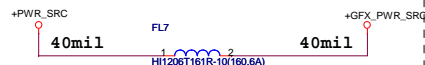
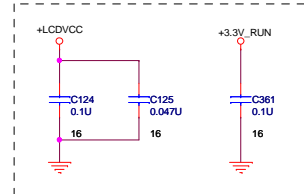
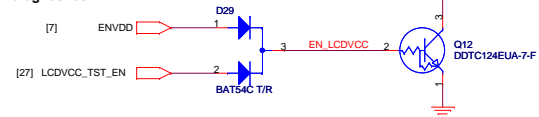
EQUALIZATION SETTING
 PC1:PC0=0:0 8dB
 PC1:PC0=0:1 4dB Recommended
 PC1:PC0=1:0 12dB
 PC1:PC0=1:1 0dB

SCL2/SDA2 Low-level input/output Voltage
 CFG01:CFG00=0:0 VIL:<0.4V VOL:0.6V (Default)
 CGF01:CGF00=0:1 VIL:<0.36V VOL:0.55V
 CGF01:CGF00=1:0 VIL:<0.44V VOL:0.65V
 CGF01:CGF00=1:1 VIL:<0.36V VOL:0.6V

HDMI_PWR_CTRL
 0 is Enable
 1 is Disable

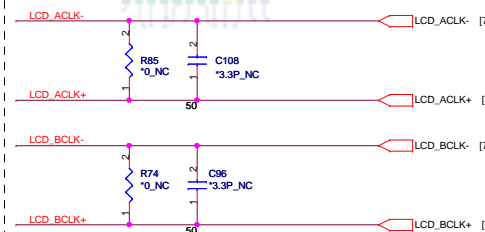


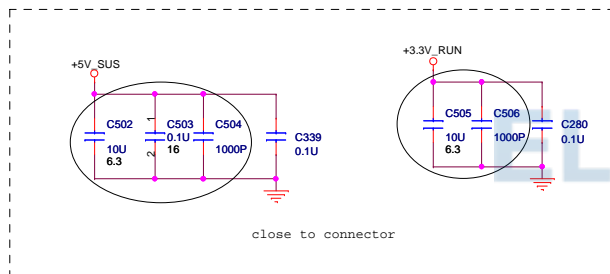
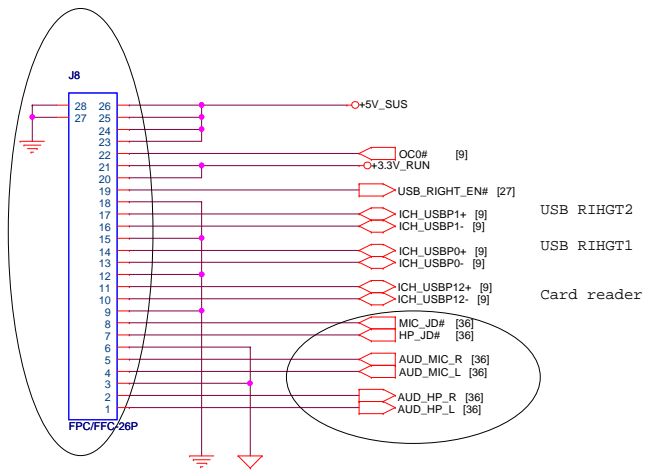
Support the new imbedded diagnostics.



Shunt capacitors on LVDS for improving WWAN.

LCD B0-	C109	1	2	*3.3P_NC	50	LCD B0+
LCD B1-	C107	1	2	*3.3P_NC	50	LCD B1+
LCD B2-	C101	1	2	*3.3P_NC	50	LCD B2+
LCD A0-	C119	1	2	*3.3P_NC	50	LCD A0+
LCD A1-	C113	1	2	*3.3P_NC	50	LCD A1+
LCD A2-	C111	1	2	*3.3P_NC	50	LCD A2+

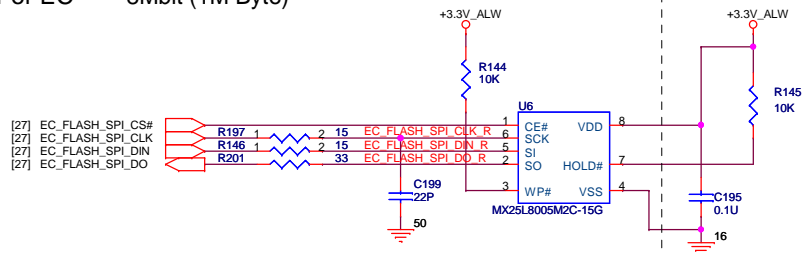




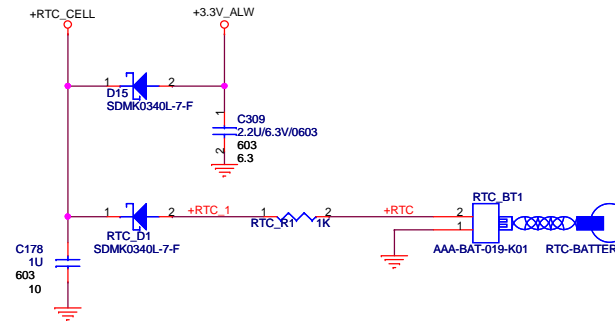
LETRÔNICA BR
www.eletronicabr.com



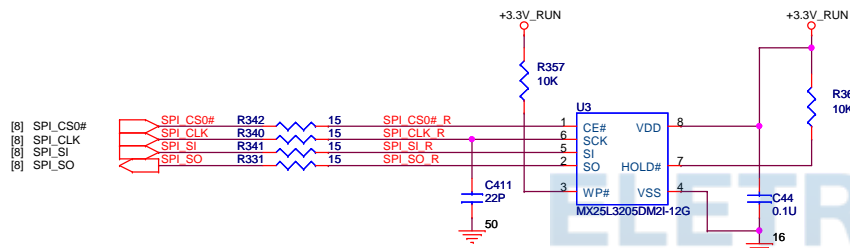
For EC 8Mbit (1M Byte)



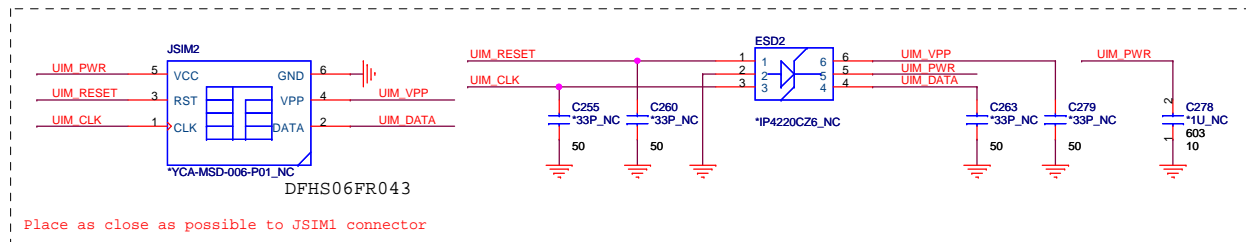
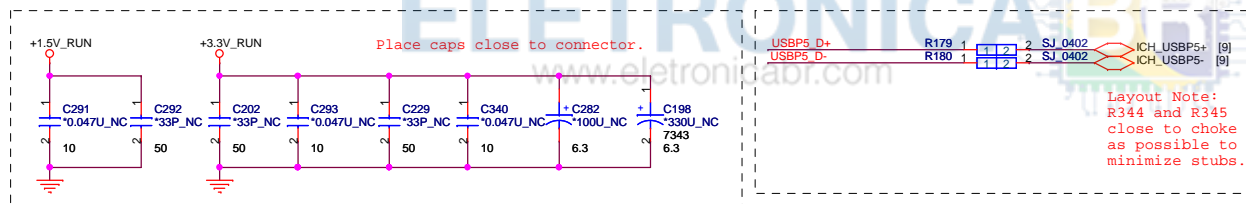
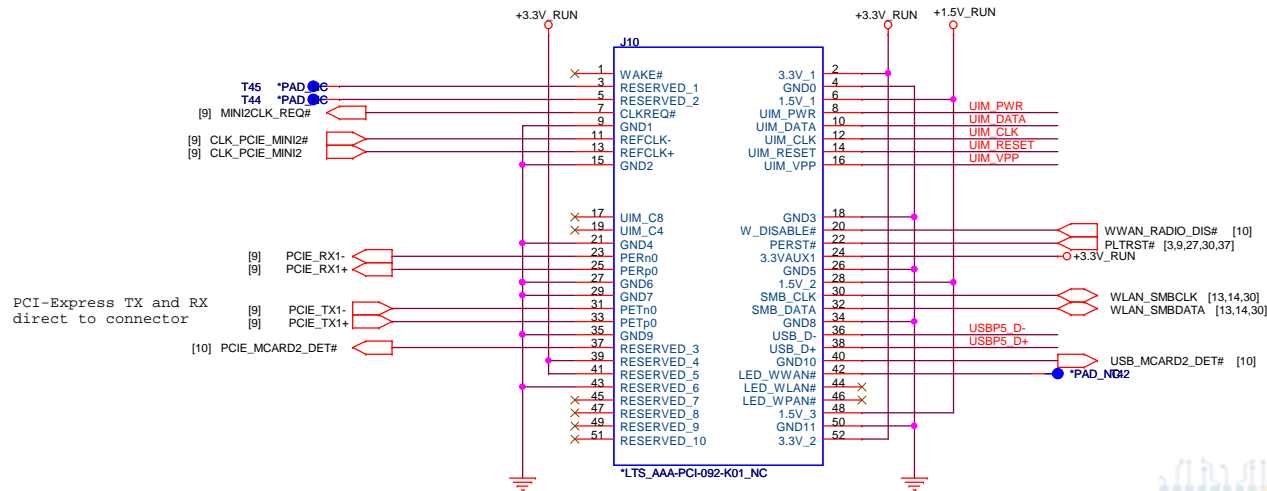
RTC BATTERY



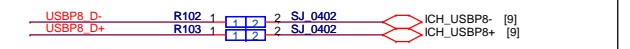
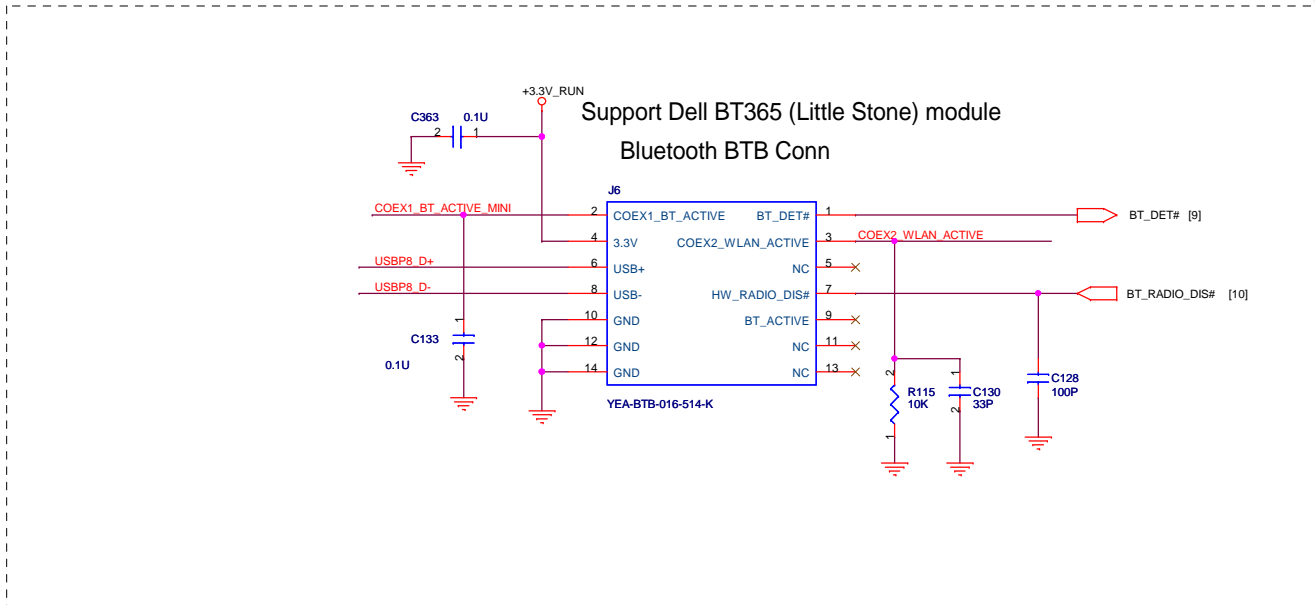
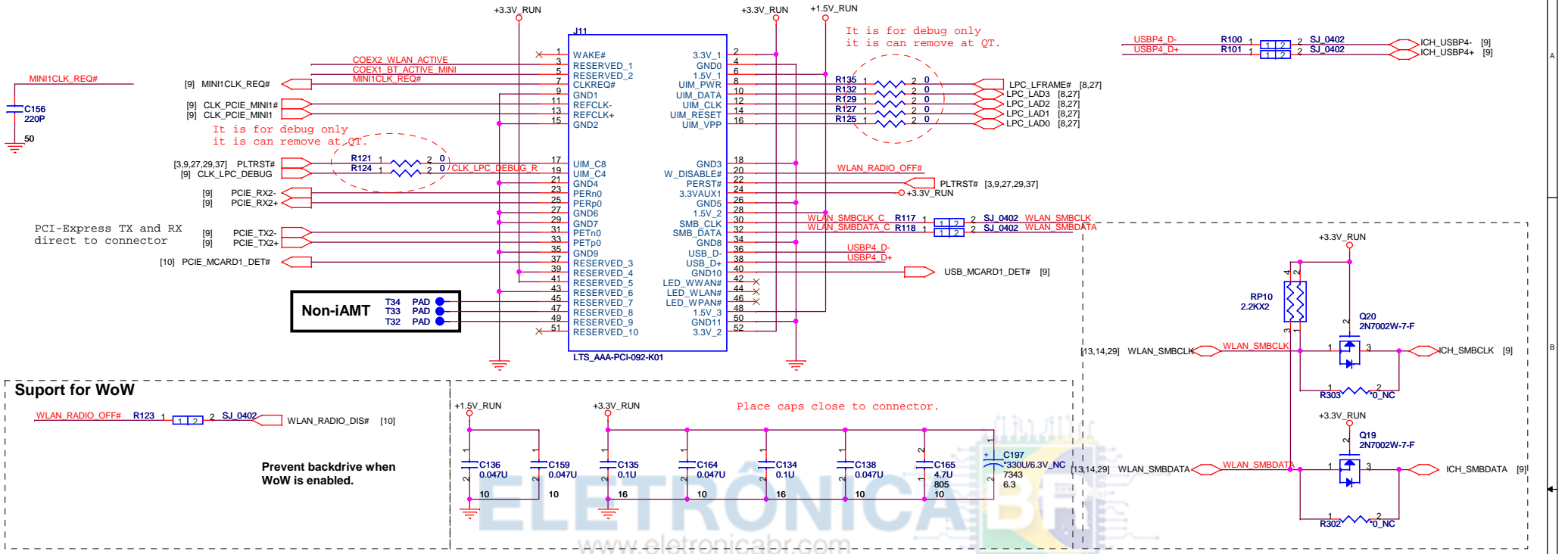
For PCH 32Mbit (4M Byte)

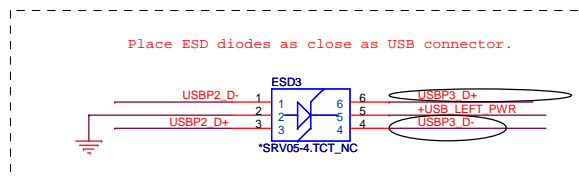
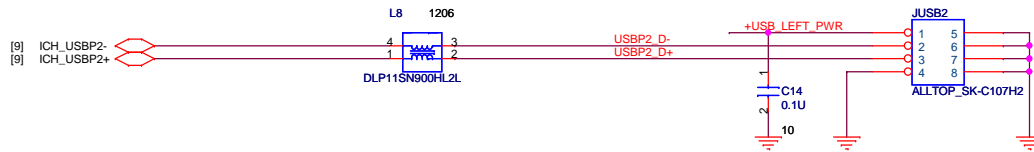


MiniCard WWAN connector



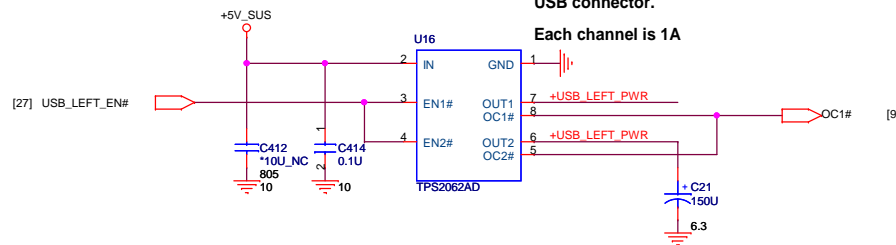
MiniCard WLAN connector





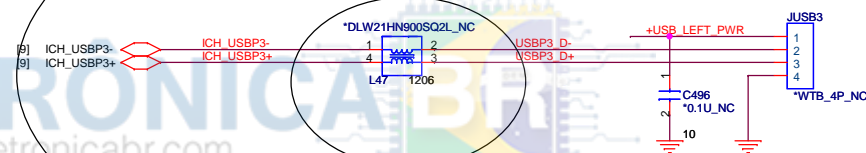
Place one 150uF cap by each USB connector.

Each channel is 1A



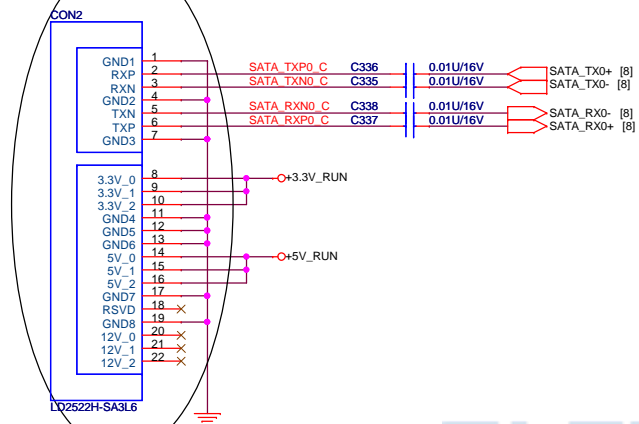
REV FOR 17"

Add L47 ,C496 , JUSB3 for UM5

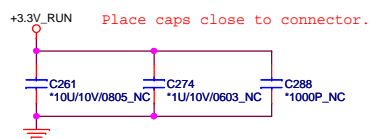


EDISON 8/10

HDD Connector.



UM5與UM3/6不同，只差在高度，footprint沒變

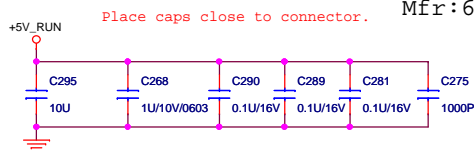


UM5/UM5B

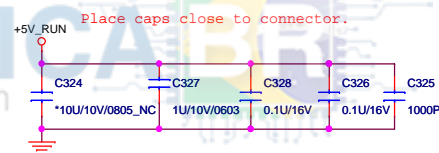
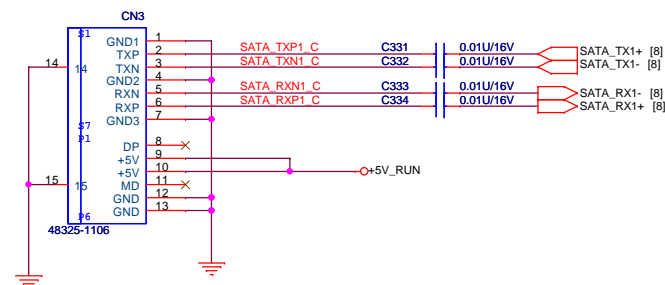
PN: DFHS22FR137
Mfr: 67492-1224

UM3/UM3B/UM6/UM6B

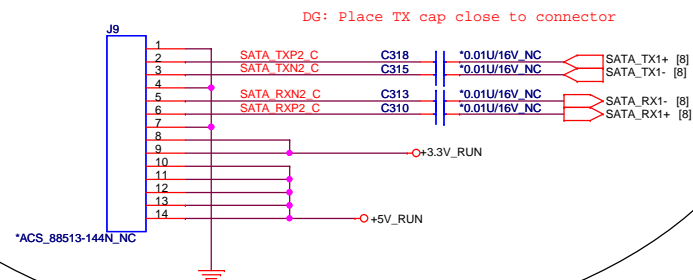
PN:
Mfr: 67492-1730



ODD Connector



REV FOR 15.6"

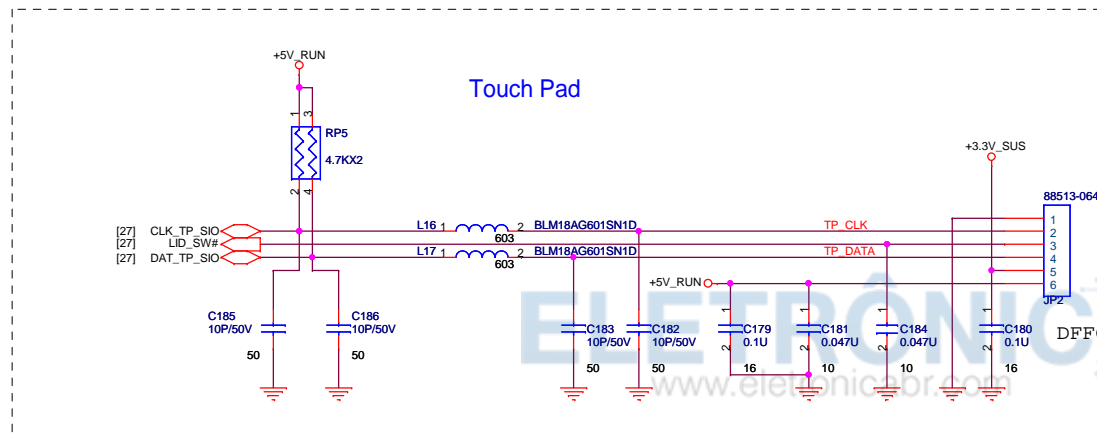
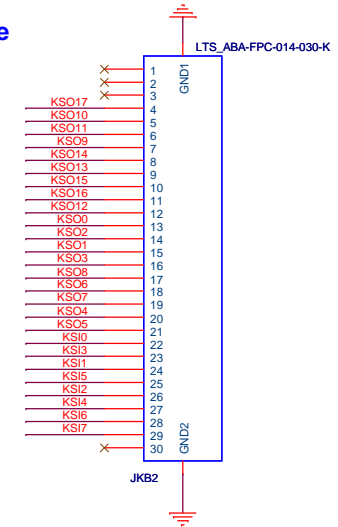


Title			SATA (HDD&CD_ROM)
Size	Document Number	Rev	
	UMGB/UM6B	1A	
Date:	Friday, October 02, 2009	Sheet	32 of 59

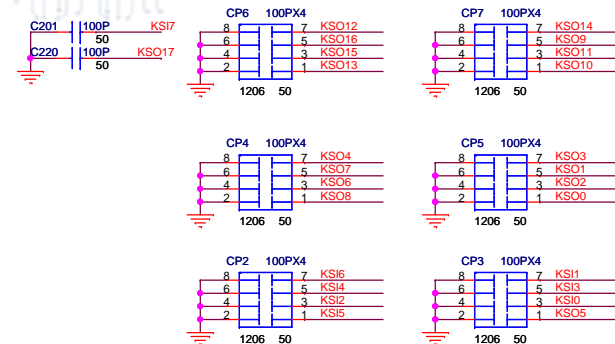
KEYBOARD CONNECTOR

Top side

[27] KSO[0..17]
[27] KSI[0..7]

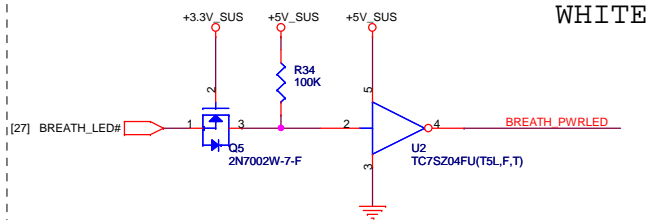


DFFC06FR022



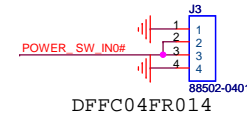
Title			TOUCH PAD, KB CONN
Size	Document Number	Rev	
	UMGB/UM6B	1A	
Date:	Friday, October 02, 2009	Sheet	33 of 59

Power



WHITE

Power button Cable

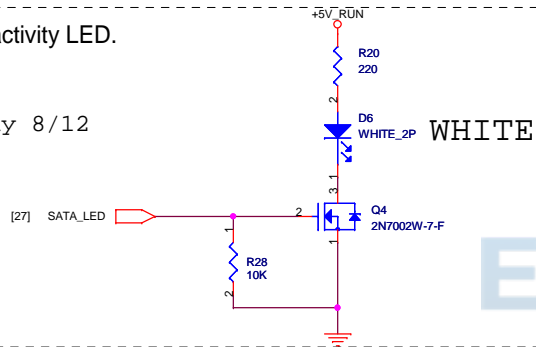


PIN2,3 connect to POWER_SW_IN0#

3VALW ON POWER LOGIC

HDD activity LED.

Ray 8/12

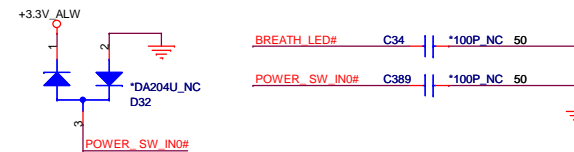
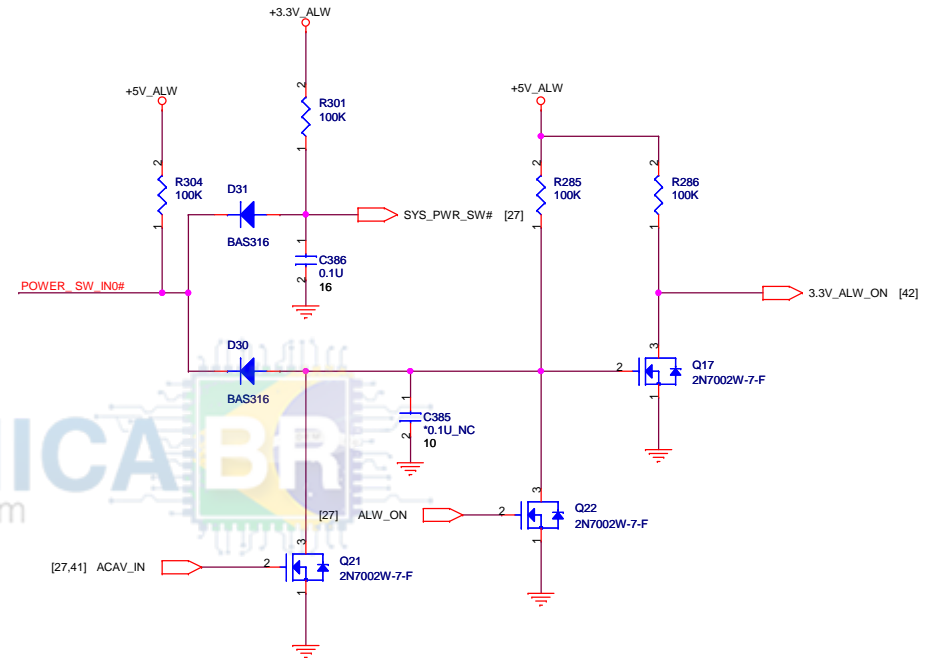
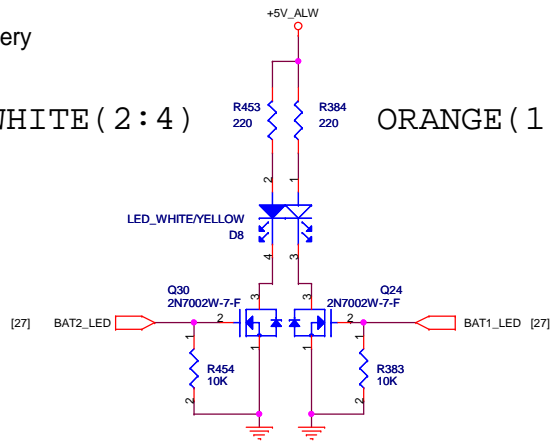


WHITE

Battery

WHITE (2:4)

ORANGE (1:3)



SWITCH, KEYBOARD & LED&Touch Screen Module

Size

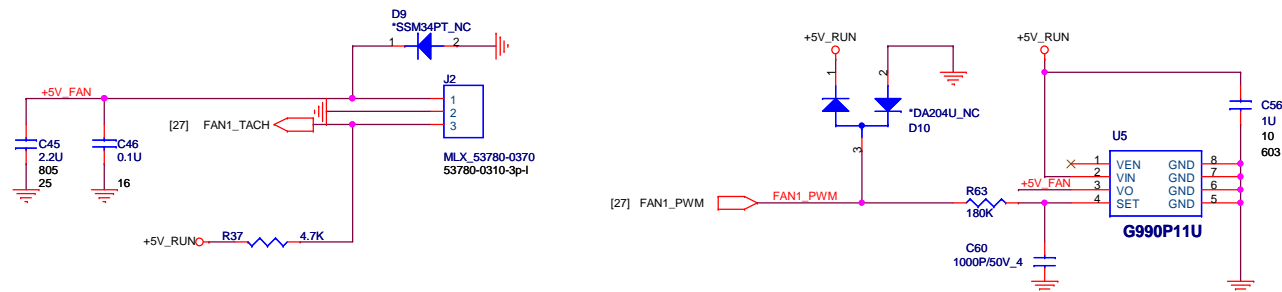
Document Number
UMGB/UM6B

Rev
1A

Date: Friday, October 02, 2009

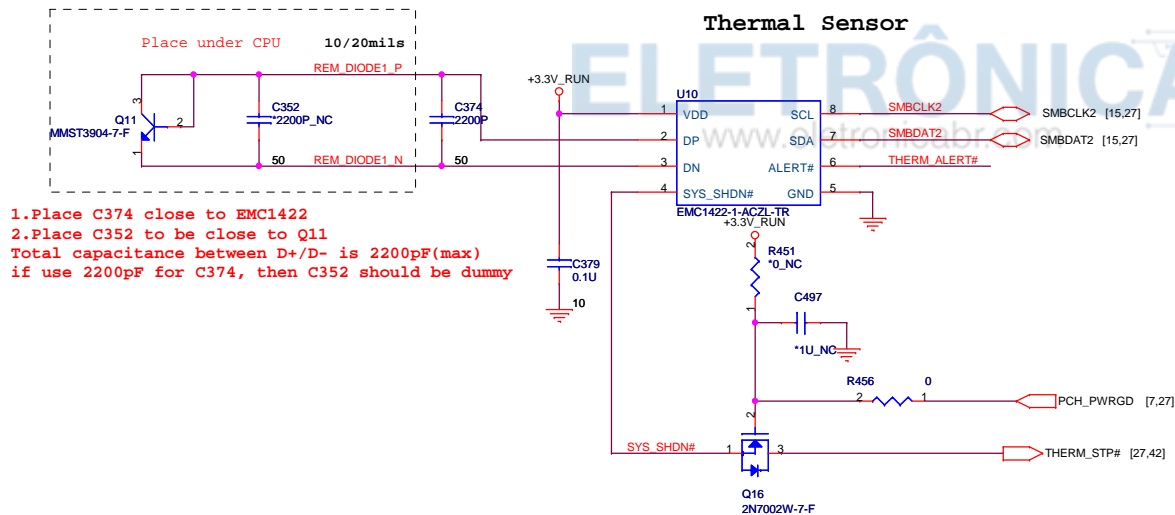
Sheet 34 of 59

6/23 COPY FROM RM6



Place under CPU 10/20mils

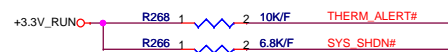
REM_DIODE1_P



- 1.Place C374 close to EMC1422
- 2.Place C352 to be close to Q11

Total capacitance between D+/D- is 2200pF(max)
if use 2200pF for C374, then C352 should be dummy

OTP 85 degree C



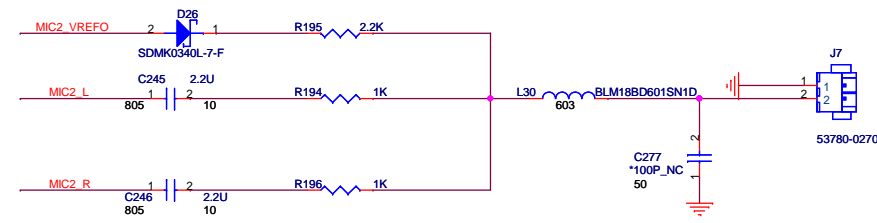
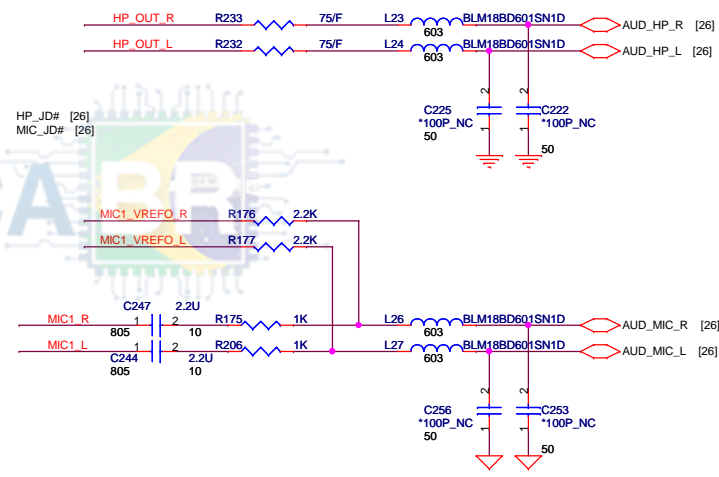
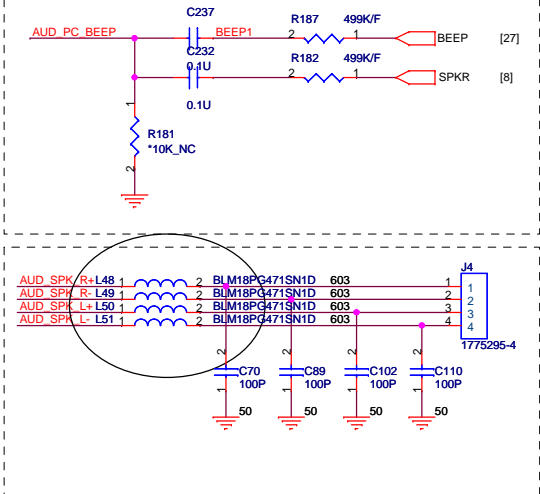
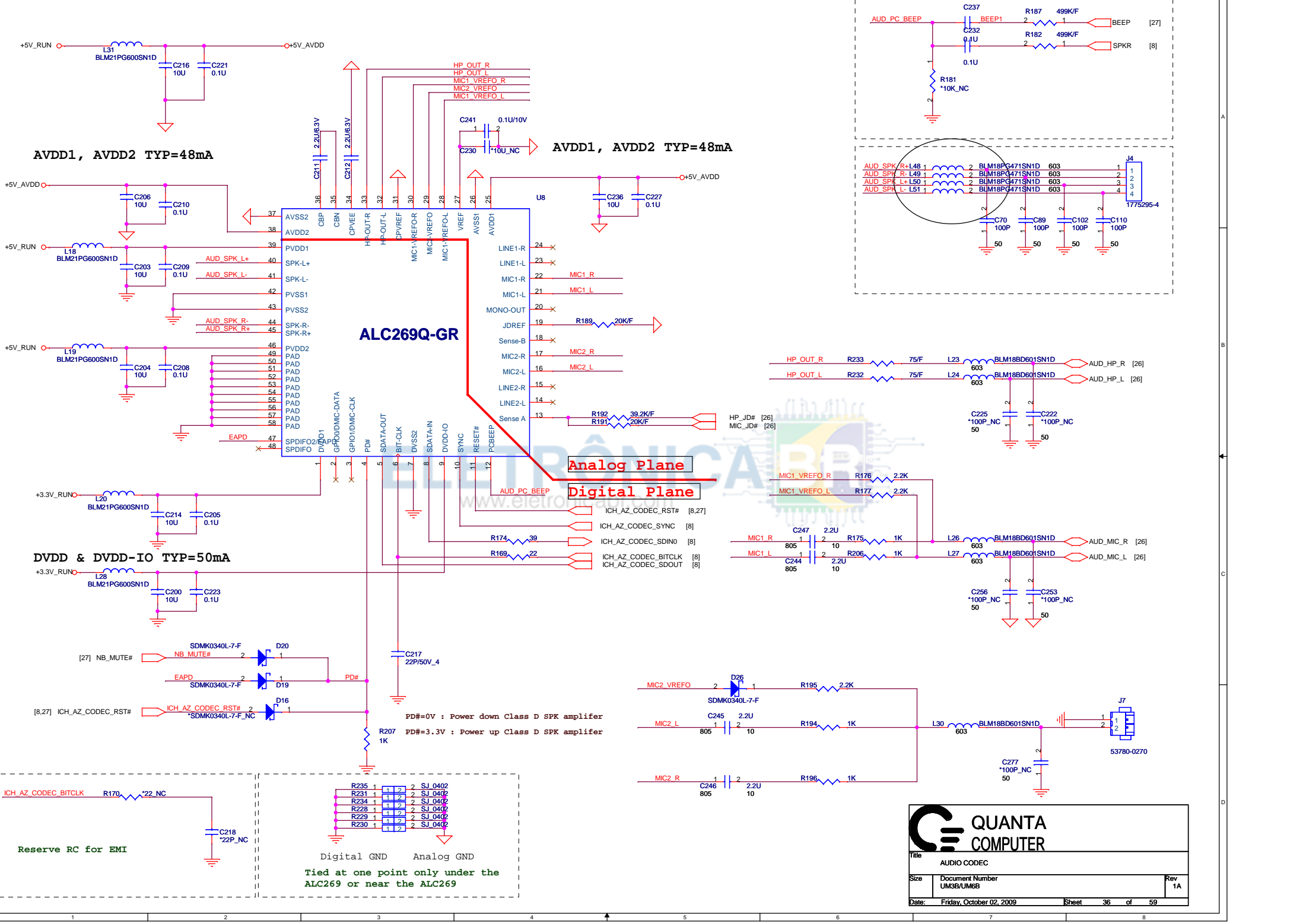
Title FAN & THERMAL

Size	Document Number UM3B/UM6B
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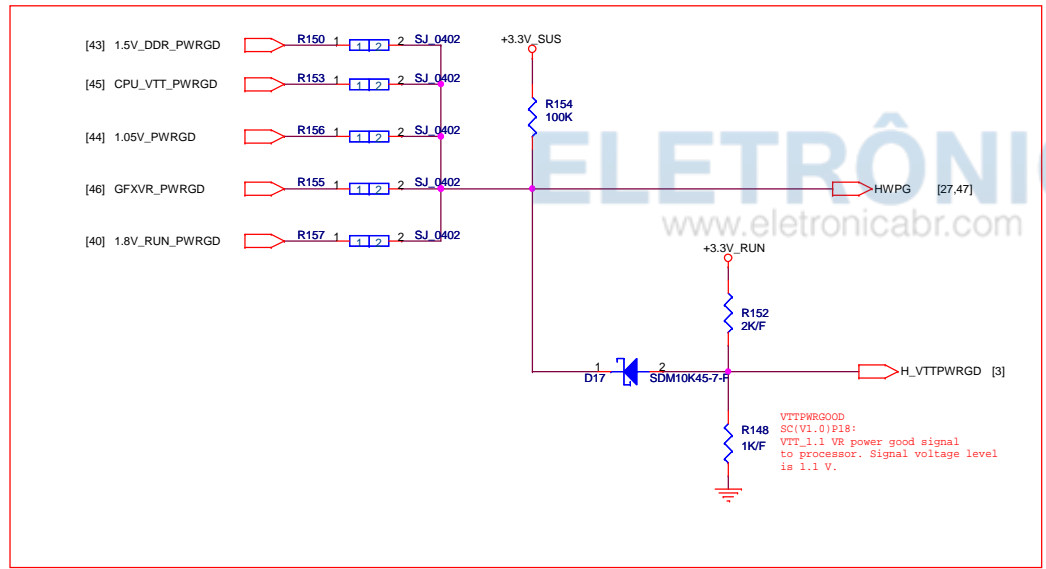
Rev	
1A	

Date: Friday, October 02, 2009


Sheet 35 of 59

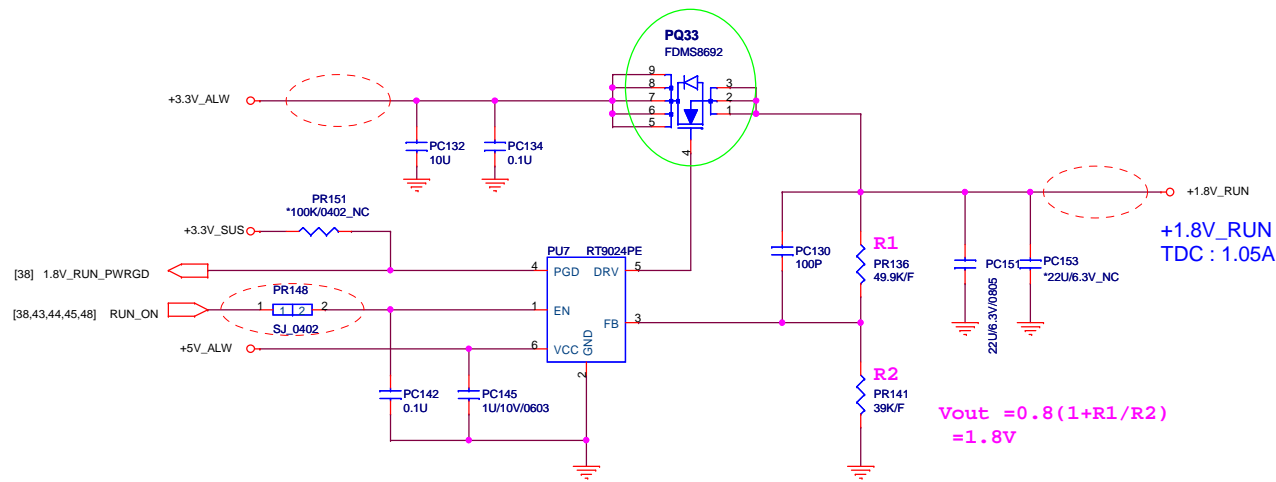


Title: AUDIO CODEC	
Size: UM3B/UM6B	Document Number: Rev 1A
Date: Friday, October 02, 2009	Sheet 36 of 59





 QUANTA COMPUTER			
Title Battery Selector			
Size	Document Number UMGB/UMGB		Rev 1A
Date: Wednesday, September 30, 2009		Sheet 39	of 59



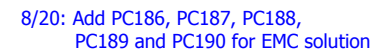
+1.8V_RUN for CPU and PCH 1.8V

09/08: remove PJP11 and PJP18, change PR148 from 0 ohm to shot jump



Title		
+1.8V_RUN_GFX (RT9024PE) & +1.8V_RUN(RT9018B)		
Size	Document Number UMGB/UMGB	Rev 1A
Date:	Friday, October 02, 2009	Sheet 40 of 59

Continuous current : 13A
Rds(on) : 18mohm

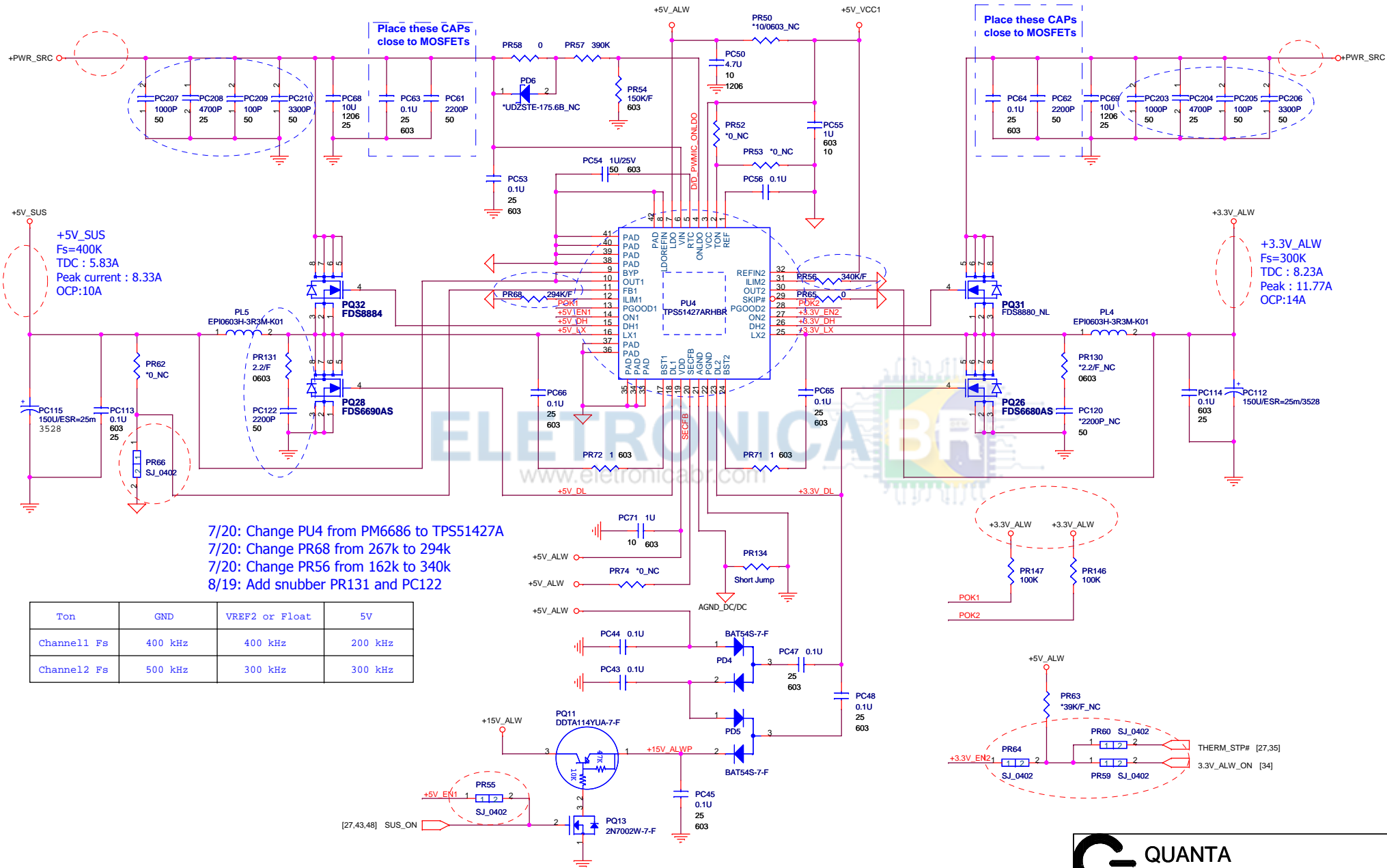


8/4: Change PQ30 and PQ25 from AO4496 to FDS8884

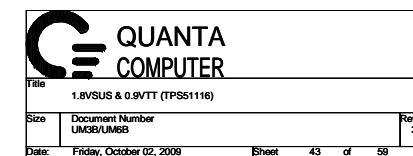
Max Charging current
setting 4.7A

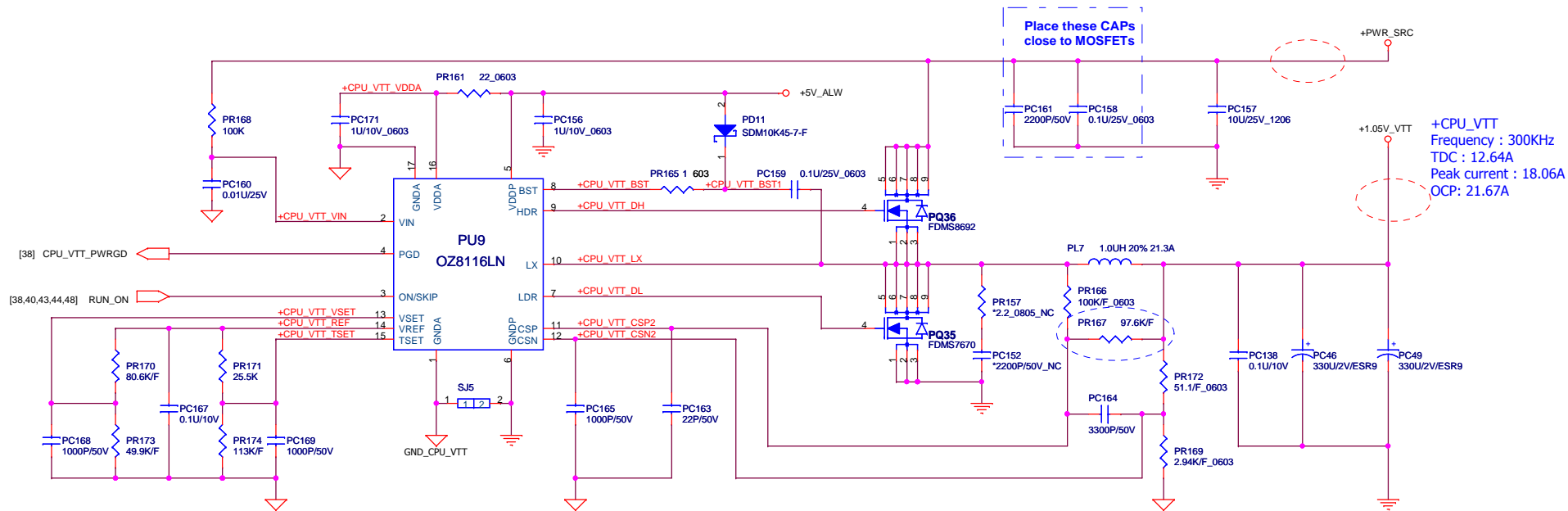
09/08: change PR59, PR60, PR64, PR66, PR55 from 0 ohm to shot jump
 09/08: remove PJP8, PJP9, PJP12 and PJP15
 8/20: Add PC207, PC208, PC209 and PC210
 for EMC solution

8/20: Add PC203, PC204, PC205 and PC206
 for EMC solution



8/20: Add PC211, PC212, PC213 and PC214 for EMC solution





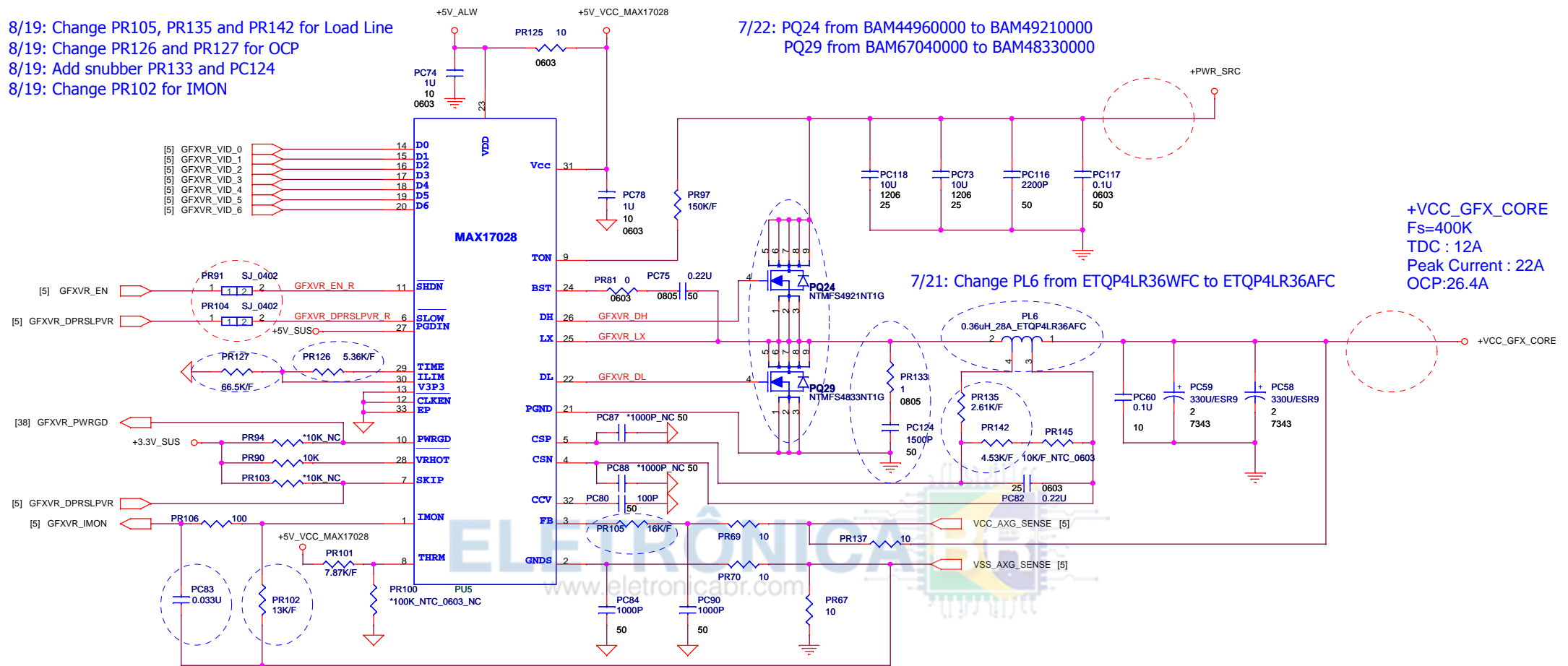
7/20: Change PR167 from 47k to 97.6k
 09/08: remove PJP14, PJP17 and PJP19



Title		<Title>
Size	Document Number	Rev
CustomUMGB/UMGB		1A
Date:	Friday, October 02, 2009	Sheet 45 of 59

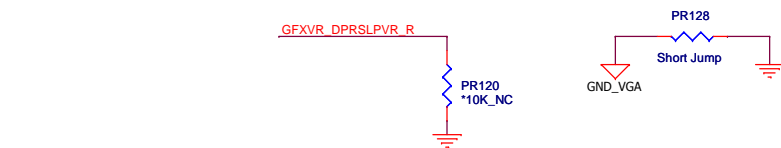
8/19: Change PR105, PR135 and PR142 for Load Line
 8/19: Change PR126 and PR127 for OCP
 8/19: Add snubber PR133 and PC124
 8/19: Change PR102 for IMON

7/22: PQ24 from BAM44960000 to BAM49210000
 PQ29 from BAM67040000 to BAM48330000

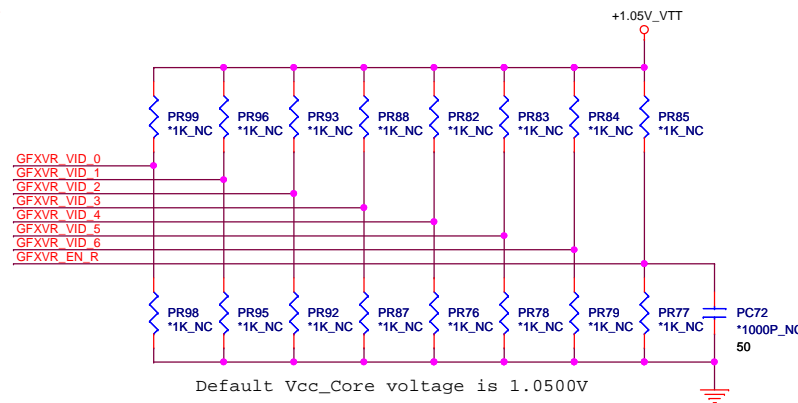


+VCC_GFX_CORE
 Fs=400K
 TDC : 12A
 Peak Current : 22A
 OCP:26.4A

7/21: Change PL6 from ETQP4LR36WFC to ETQP4LR36AFC



8/26: Change PC83 and PR102 for IMON
 09/08: change PR91 and PR104 from 0 ohm to shot jump
 09/08: remove PJP10, PJP13 and PJP16



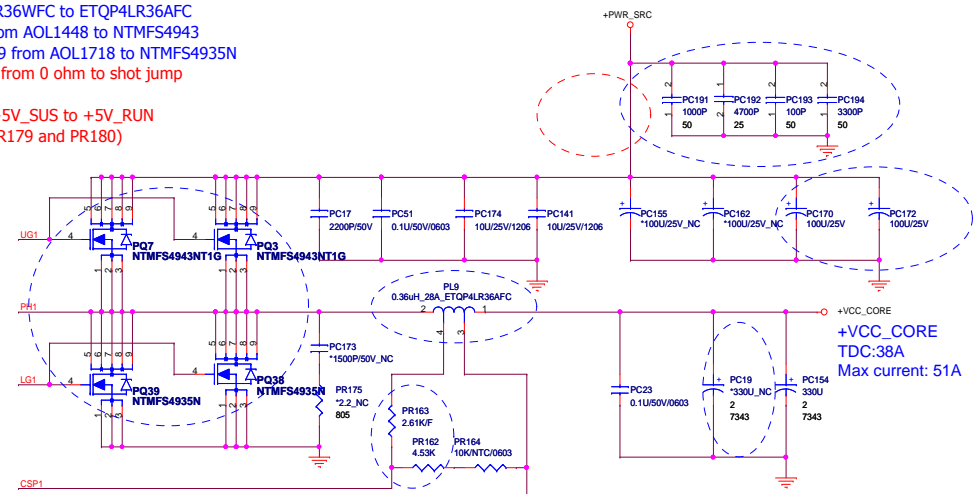
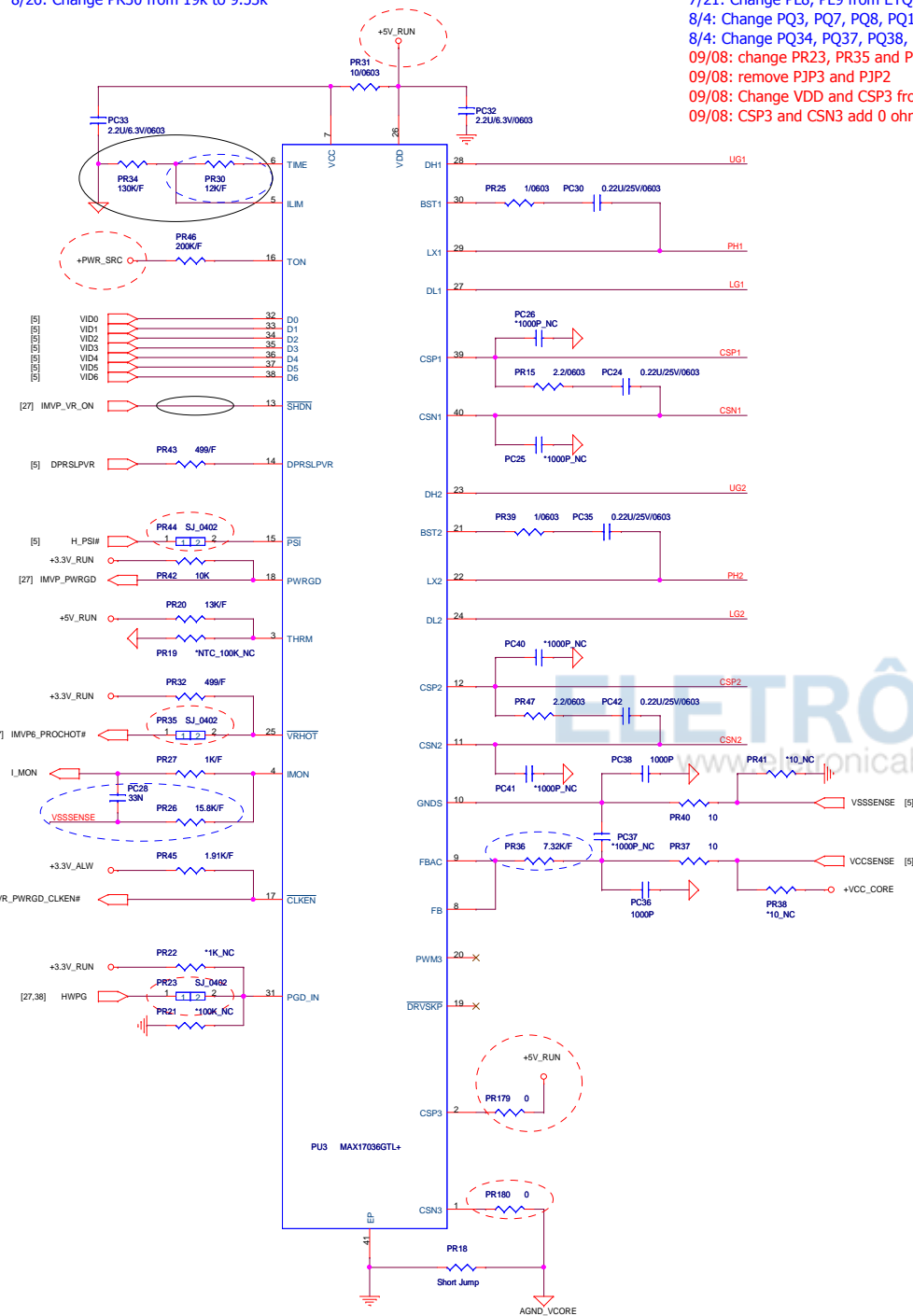
Default Vcc_Core voltage is 1.0500V



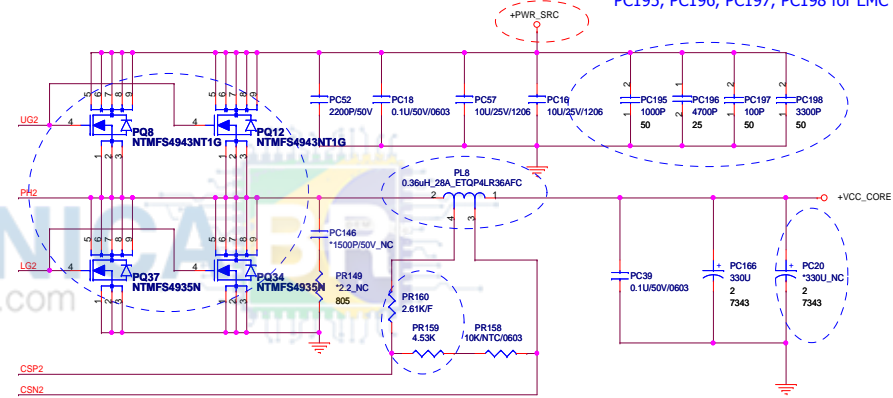
Title			VGA DC/DC
Size	Document Number	Rev	
	UM3B/UM6B	1A	
Date:	Friday, October 02, 2009	Sheet	46 of 59

8/26: Change PR30 from 19k to 9.53k

7/21: Change PL8, PL9 from ETQP4LR36WFC to ETQP4LR36AFC
8/4: Change PQ3, PQ7, PQ8, PQ12 from AOL1448 to NTMFS4943
8/4: Change PQ34, PQ37, PQ38, PQ39 from AOL1718 to NTMFS4935N
09/08: change PR23, PR35 and PR44 from 0 ohm to shot jump
09/08: remove PJP3 and PJP2
09/08: Change VDD and CSP3 from +5V_SUS to +5V_RUN
09/08: CSP3 and CSN3 add 0 ohm (PR179 and PR180)



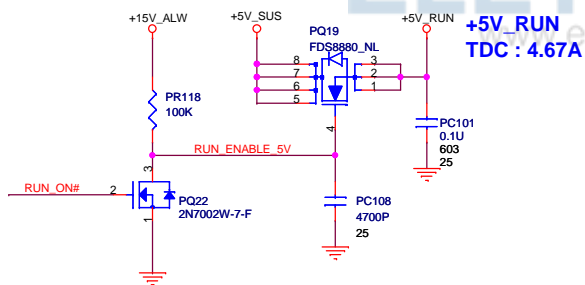
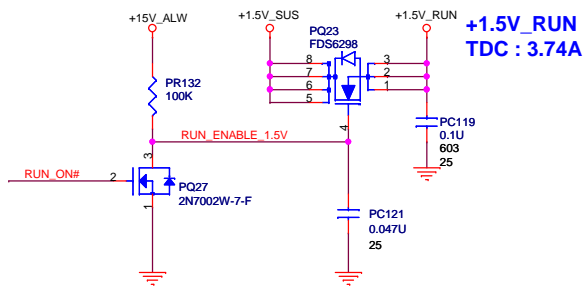
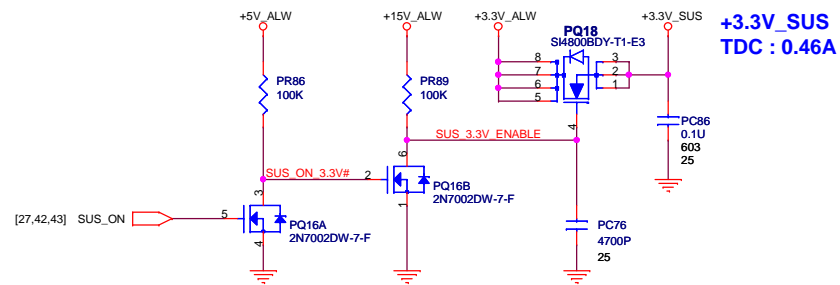
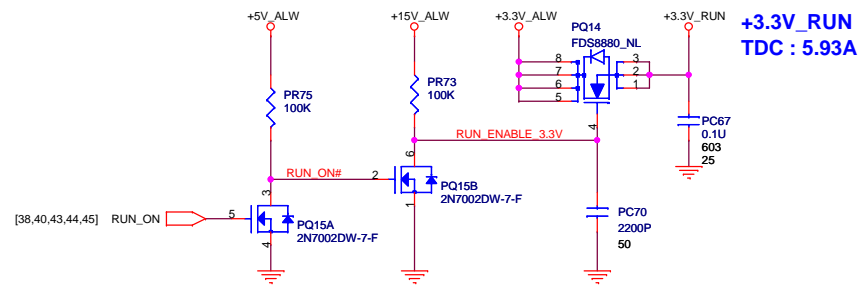
8/20: Add PC191, PC192, PC193, PC194, PC195, PC196, PC197, PC198 for EMC solution



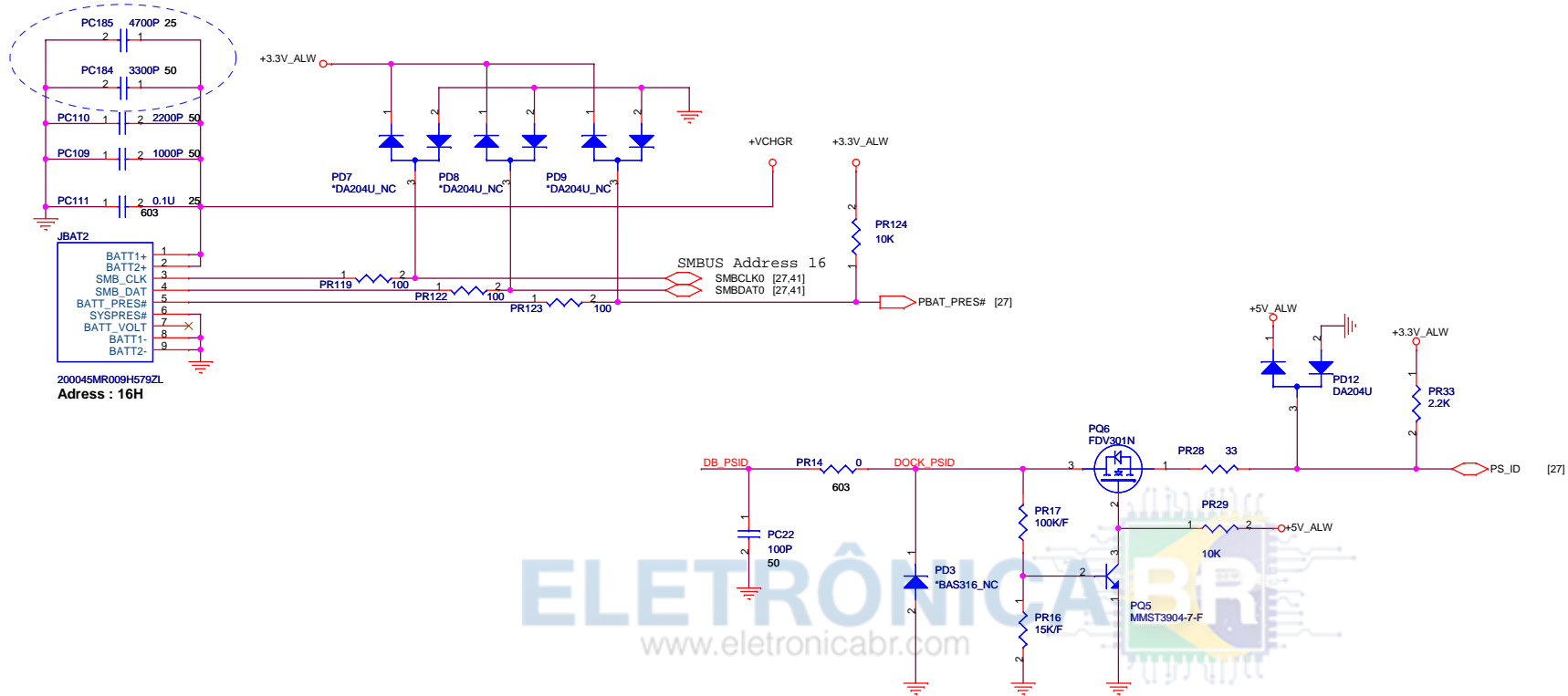
8/13: NC output cap PC19 and PC20

8/13: Change for Load Line and IMON regulator
change PR26 from 9.53k to 15.8k
change PR36 from 6.8k to 7.32k
change PR159, PR162 from 3.4k to 4.53k
change PR160, PR163 from 1.8k to 2.61k
change PC28 from 0.1uF to 33nF

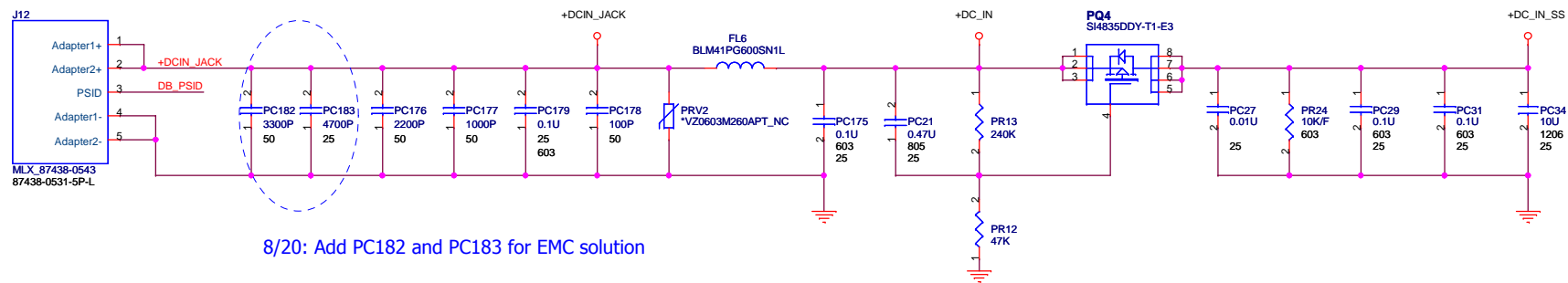
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CPU core (MAX17036)			
Size	Document Number UM3B/UM6B		Rev 1A
Date:	Friday, October 02, 2009	Sheet	47 of 59

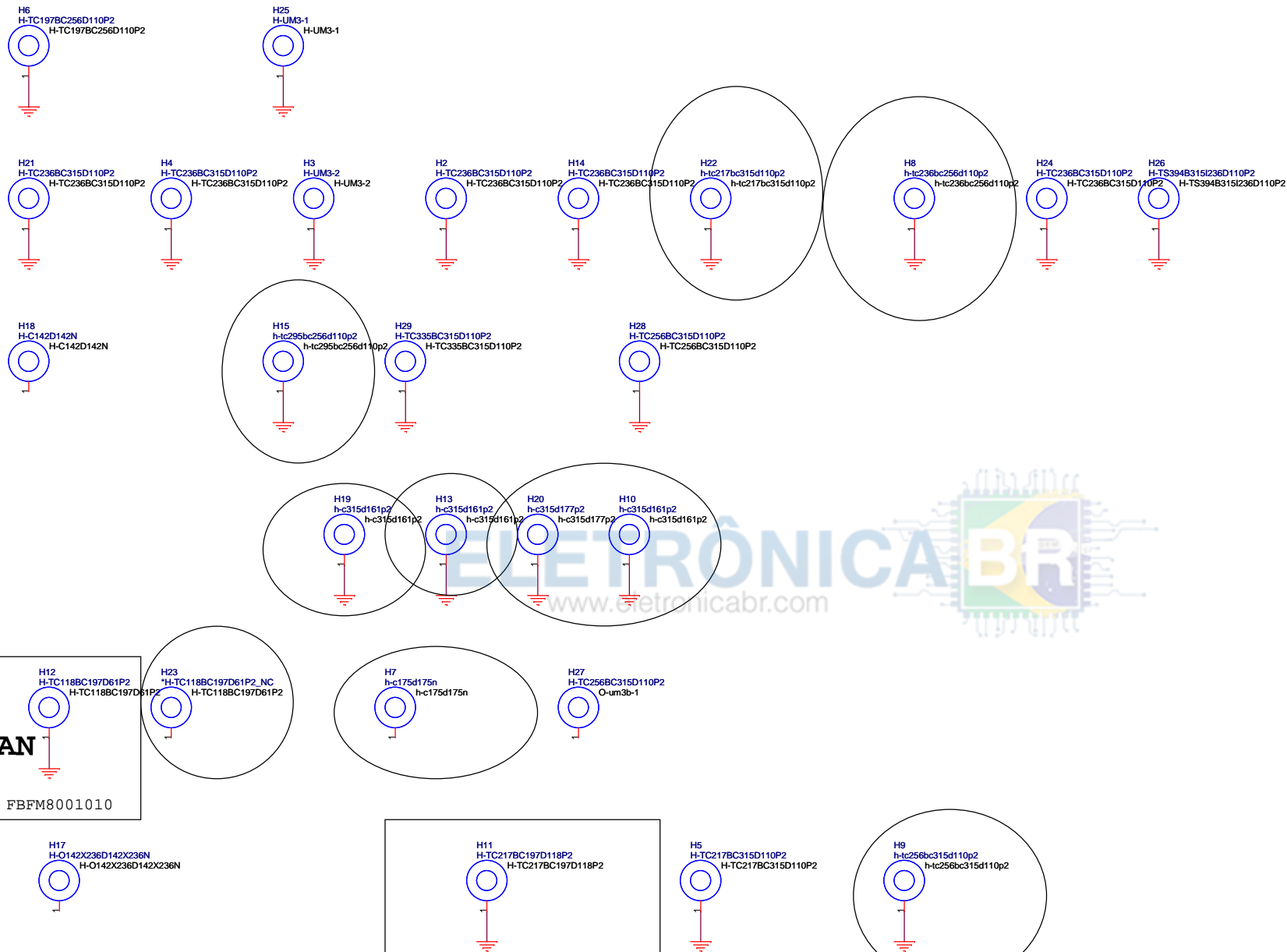


8/20: Add PC184 and PC185 for EMC solution




ZM1

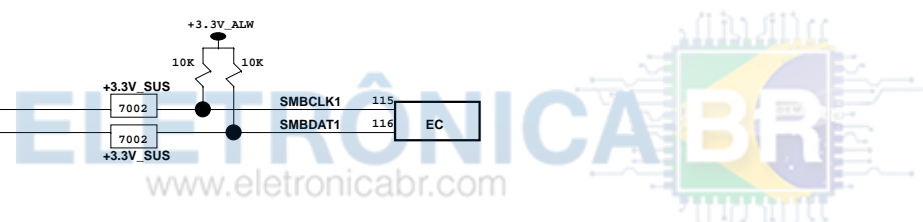
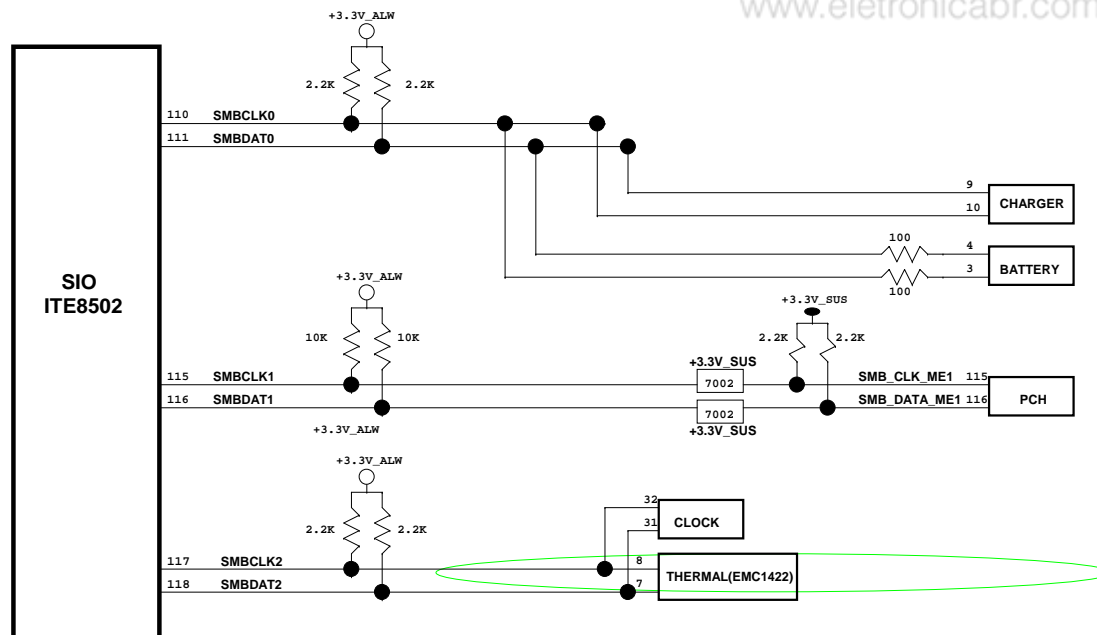
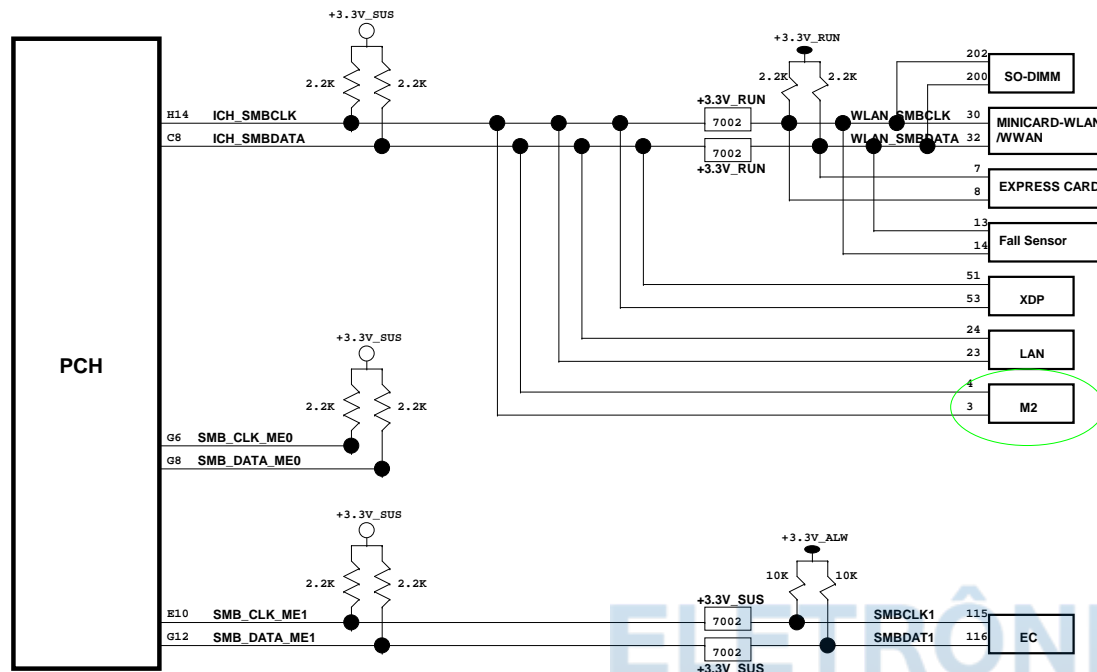


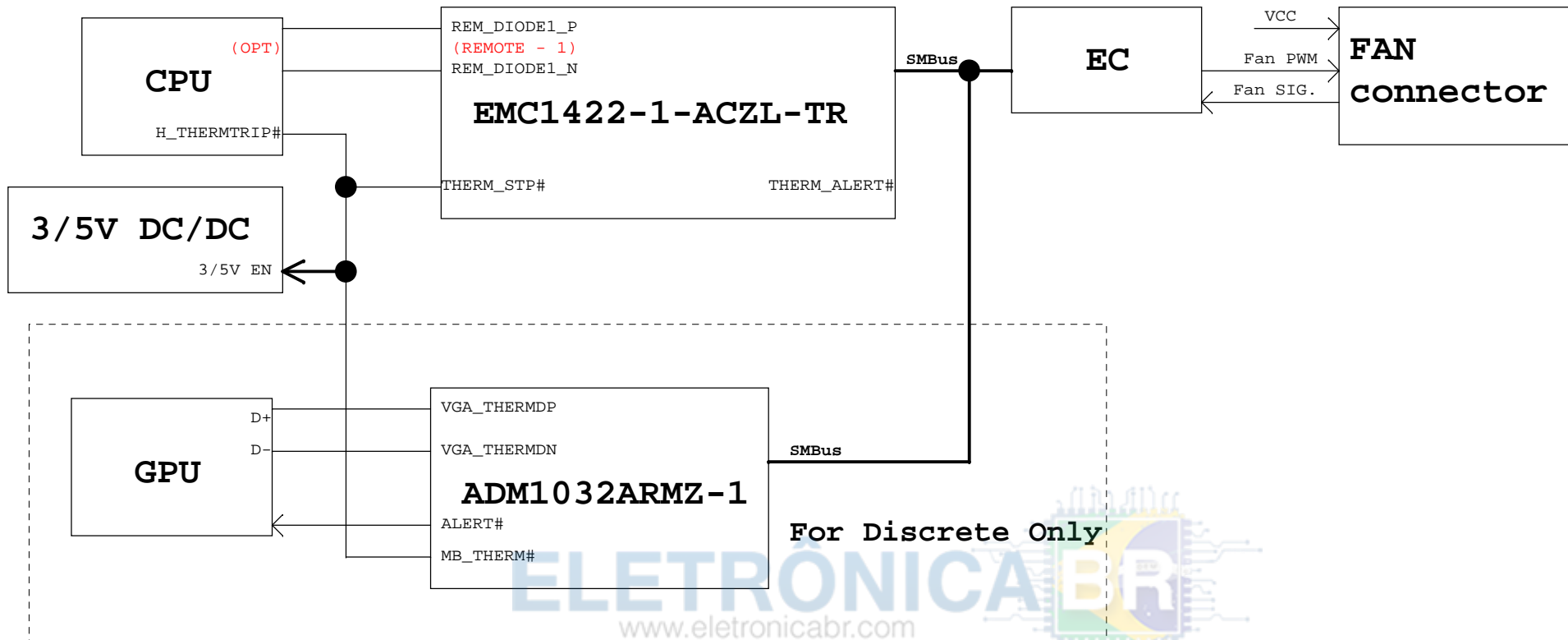


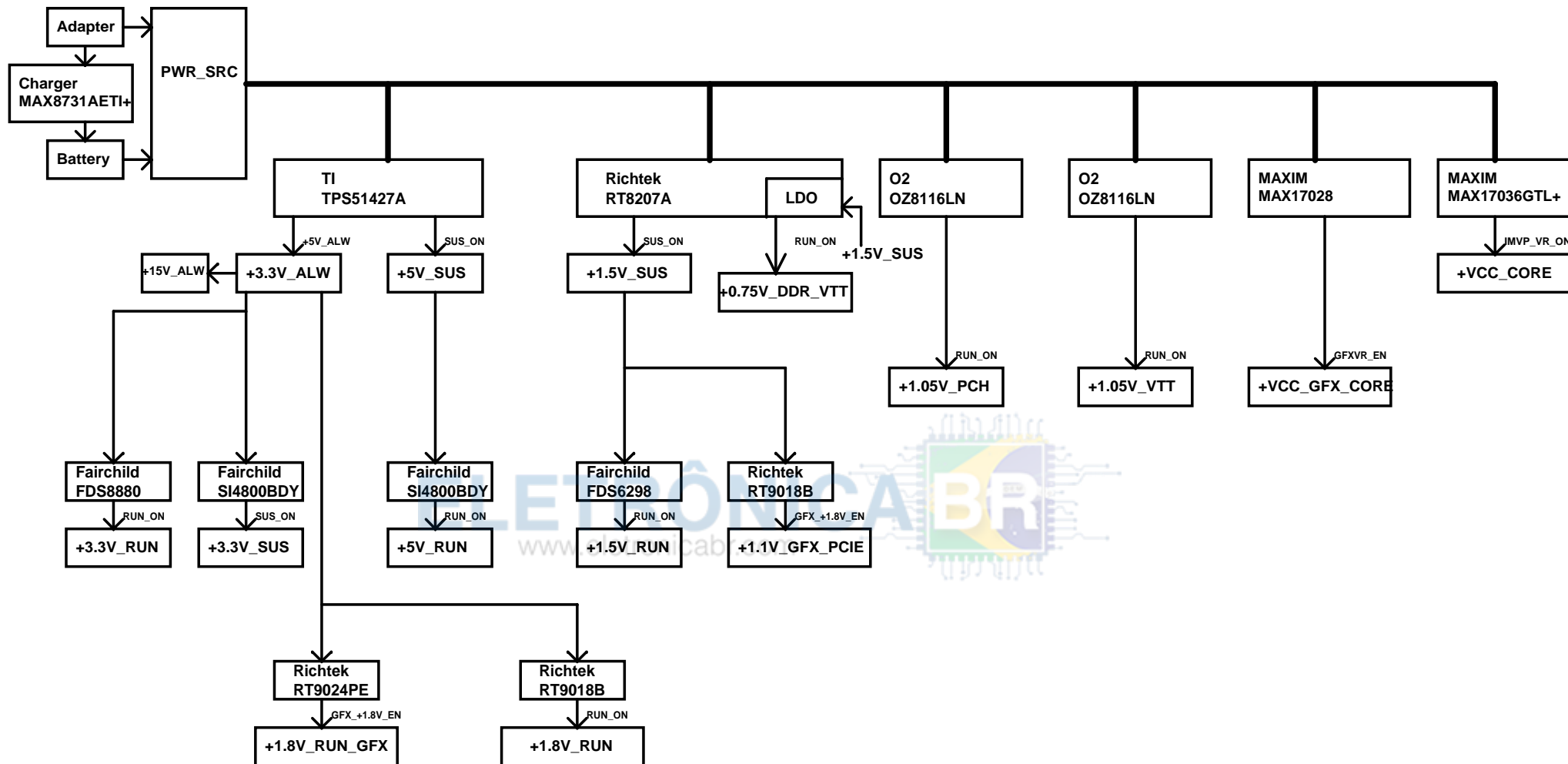
Reserved for EMI.



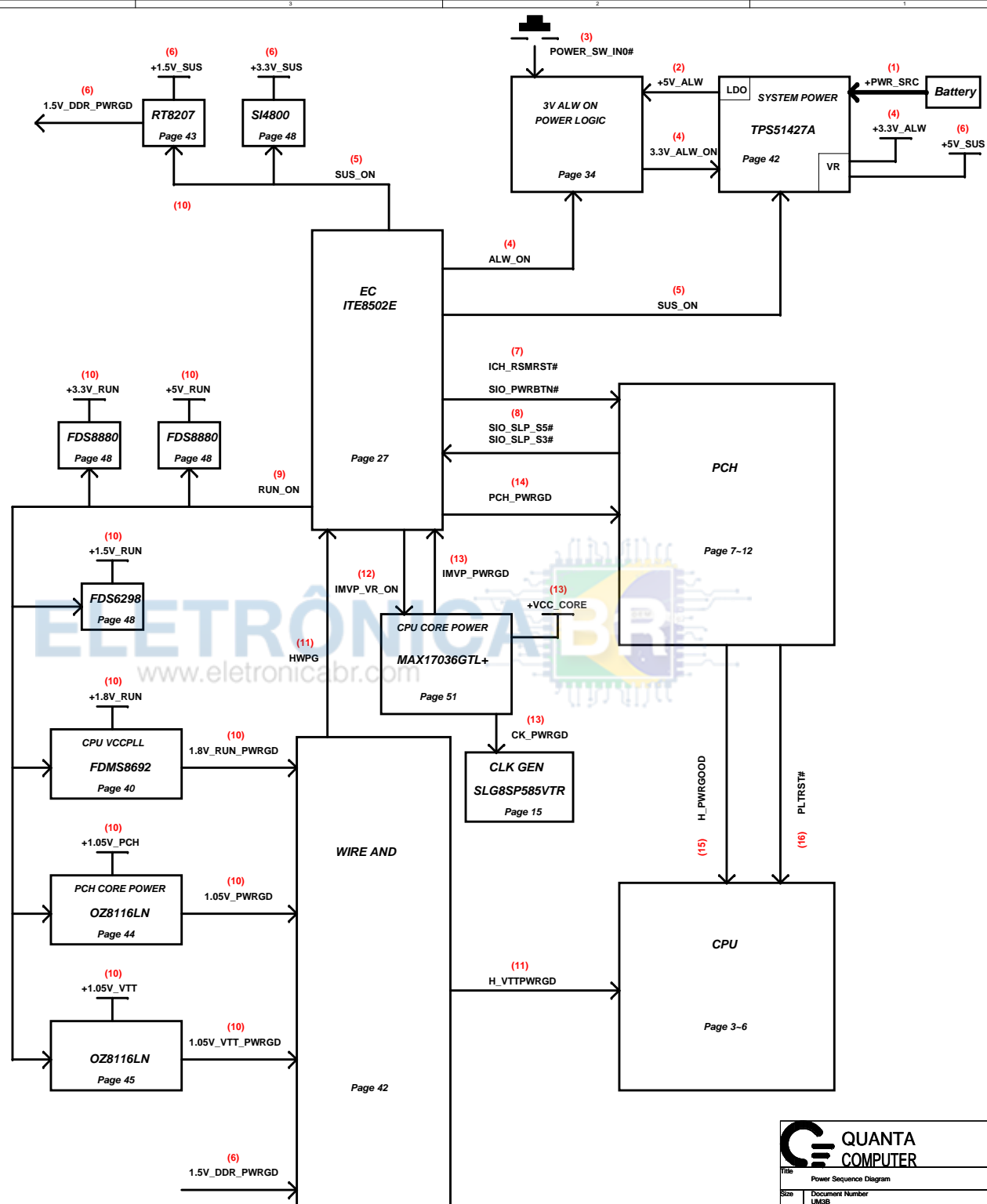
 QUANTA COMPUTER			
Title EMI CAP			
Size	Document Number UMGB/UMGB		Rev 1A
Date: Wednesday, September 30, 2009		Sheet 1	of 59







UM3 Power Design Block Diagram 2009/07/28



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Title		
SMBUS BLOCK		
Size	Document Number	Rev
	UM3B/UM6B	1A
Date: Wednesday, September 30, 2009		
Sheet 56 of 59		