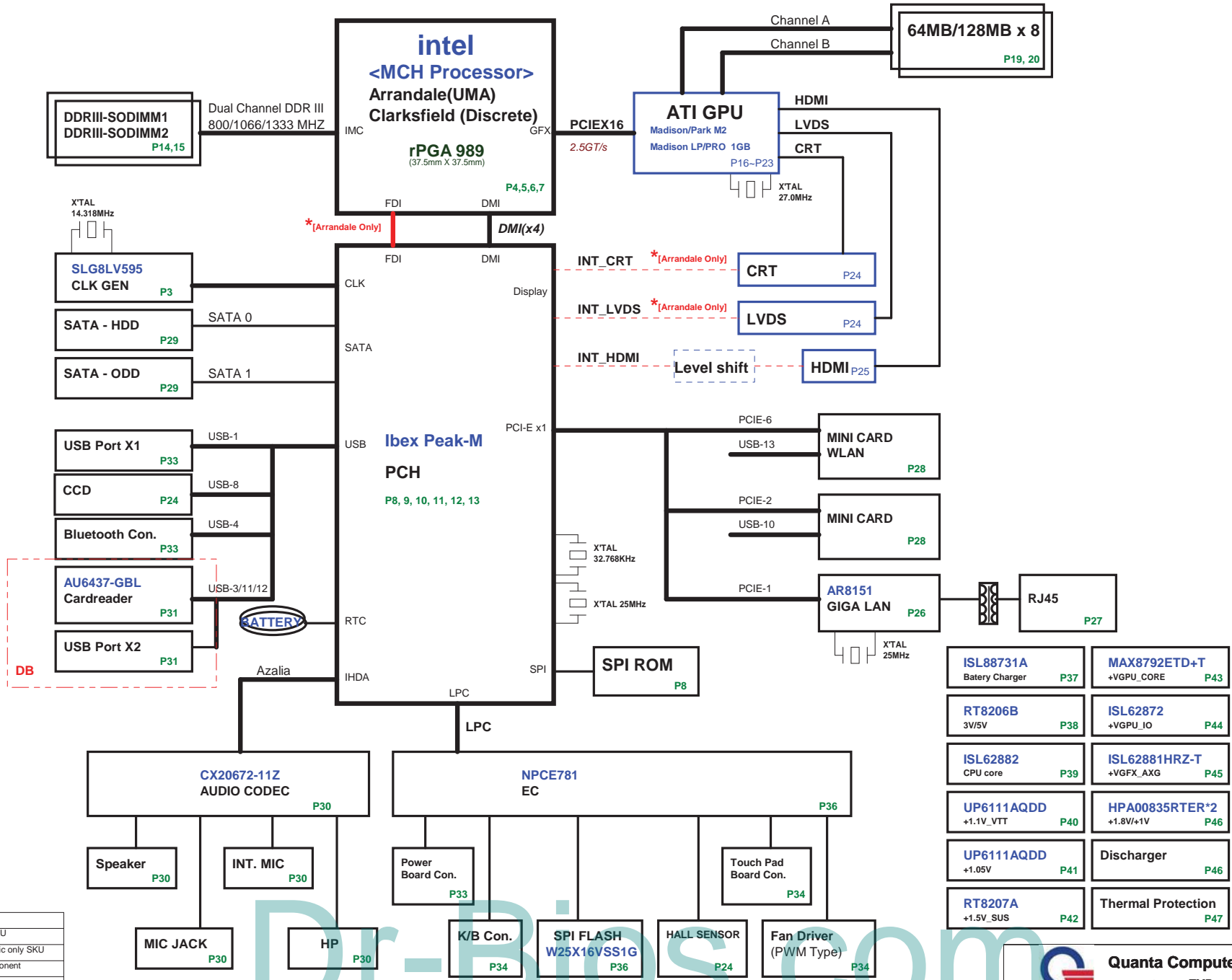


ZYD SYSTEM BLOCK DIAGRAM

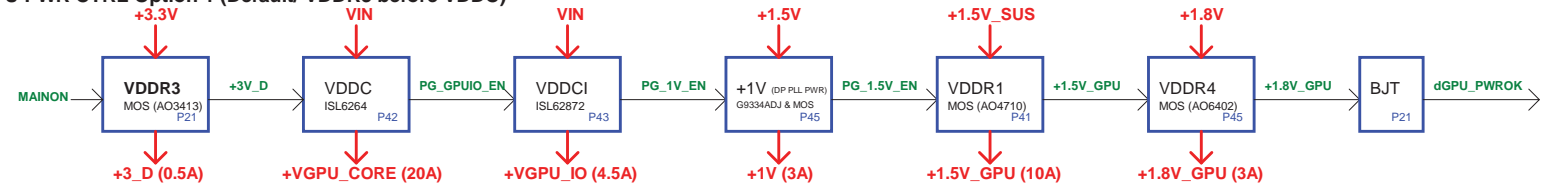


BOM Option Table

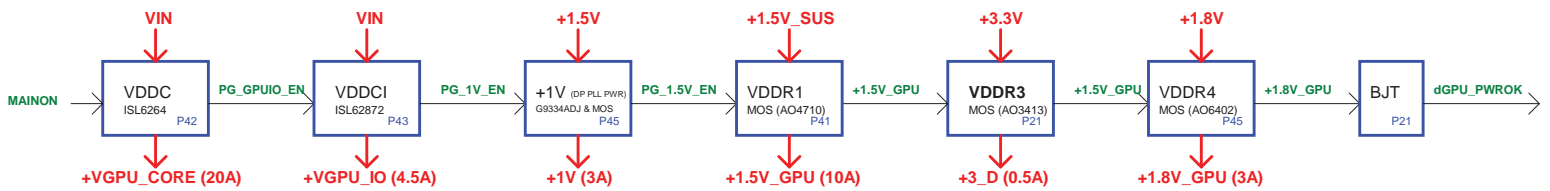
Reference	Description
IV@	for UMA only SKU
EV@	for Discrete Graphic only SKU
SP@	special case component
*	do not stuff

ISL88731A Battery Charger P37	MAX8792ETD+T +VGPU_CORE P43
RT8206B 3V/5V P38	ISL62872 +VGPU_IO P44
ISL62882 CPU core P39	ISL62881HRZ-T +VGF_XAG P45
UP6111AQDD +1.1V_VTT P40	HPA00835RTER*2 +1.8V/+1V P46
UP6111AQDD +1.05V P41	Discharger P46
RT8207A +1.5V_SUS P42	Thermal Protection P47

GPU PWR CTRL Option 1 (Default/ VDDR3 before VDDC)



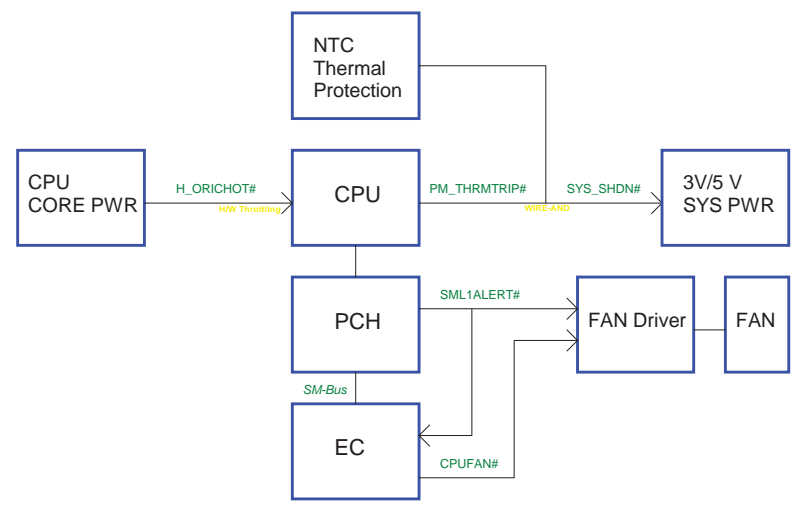
GPU PWR CTRL Option 2 (VDDR3 after VDDR1)



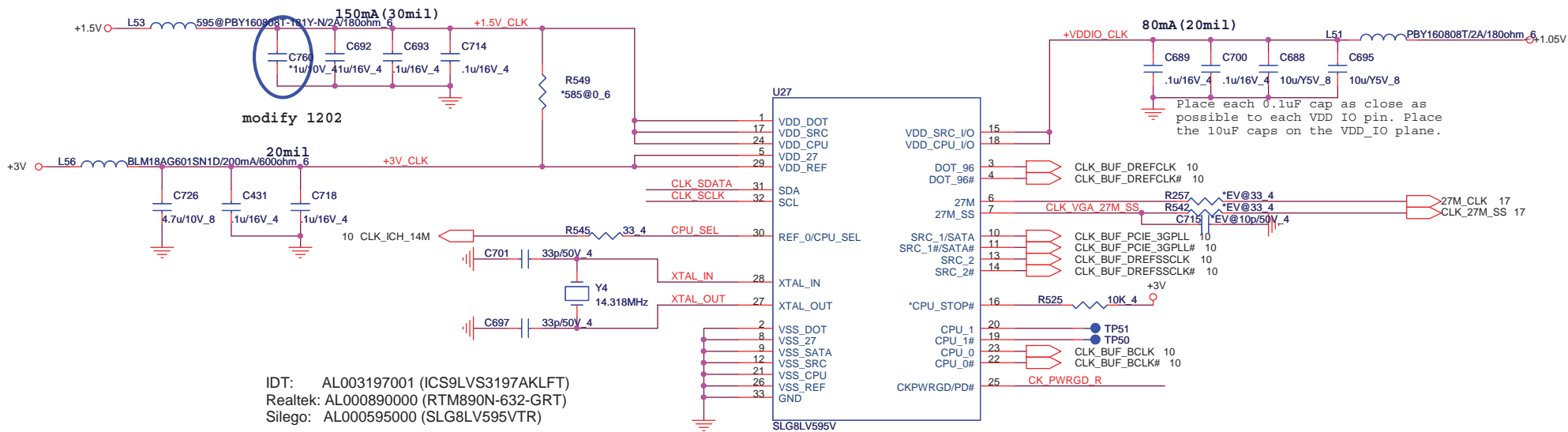
Power States

POWER PLANE	VOLTAGE	DESCRIPTION	CONTROL SIGNAL	ACTIVE IN
VIN	+10V~+19V	MAIN POWER	ALWAYS	ALWAYS
+VCCRTC	+3V~+3.3V	RTC POWER	ALWAYS	ALWAYS
+3VPCU	+3.3V	EC POWER	ALWAYS	ALWAYS
+5VPCU	+5V	CHARGE POWER	ALWAYS	ALWAYS
+15V	+15V	CHARGE PUMP POWER	ALWAYS	ALWAYS
+3V_S5	+3.3V	LAN/BT/PCH	S5_ON	S0-S5
+5V_S5	+5V	USB POWER	S5_ON	S0-S5
+5V	+5V	HDD/ODD/Codec/TP/CRT	MAINON	S0
+3V	+3.3V	CLK GEN/PCH/GPU/LVDS/Mini card/Codec/card	MAINON	S0
+1.5V_SUS	+1.5V	CPU/SODIMM CORE POWER	SUSON	S0-S3
+0.75V_DDR_VTT	+0.75V	SODIMM Termination POWER	MAINON	S0
+VGFX_AXG	variation	Internal GPU POWER	GFX_ON	S0
+1.8V	+1.8V	CPU/PCH/Braidwood POWER	MAINON	S0
+1.5V	+1.5V	MINI CARD/NEW CARD POWER	MAINON	S0
+1.1V_VTT	+1.05V or +1.1V	CPU VTT POWER	MAINON	S0
+1.05V	+1.05V	PCH CORE POWER	MAINON	S0
+VCC_CORE	variation	CPU CORE POWER	VRON	S0
LCDVCC	+3.3V	LCD POWER	LVDS_VDDEN	S0
+5V_GPU	+5V	SWITCHABLE PWM IC POWER	dGPU_PWR_EN#	Discrete enable
+3V_D	+3.3V	I/O POWER for 3.3V pins	dGPU_VRON	Discrete enable
+VGPU_CORE	+0.9V~+1.1V	GPU CORE POWER	+3V_D	Discrete enable
+VGPU_IO	+0.9V~+1.1V	GPU I/O POWER	PG_GPUIO_EN	Discrete enable
+1V	+1V	DP/PEG POWER	PG_1V_EN	Discrete enable
+1.5V_GPU	+1.5V	VRAM CORE POWER	PG_1.5V_EN	Discrete enable
+1.8V_GPU	+1.8V	GPU_CRE/LVDS/PLL POWER	+1.5V_GPU	Discrete enable

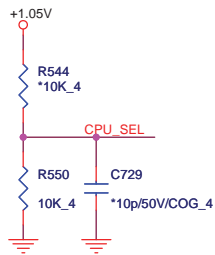
Thermal Follow Chart



Dr-Bios.com

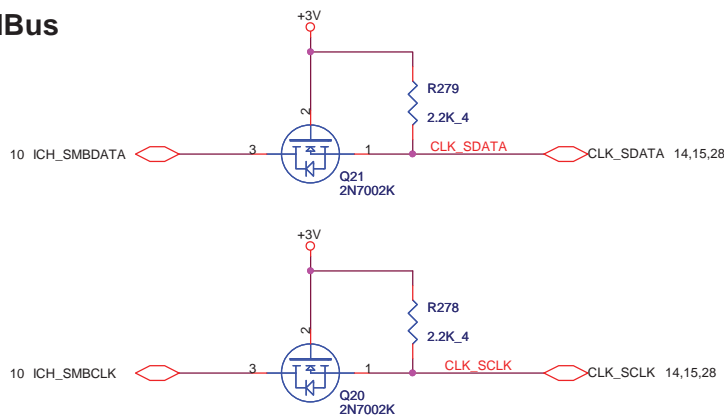


CPU_CLK select

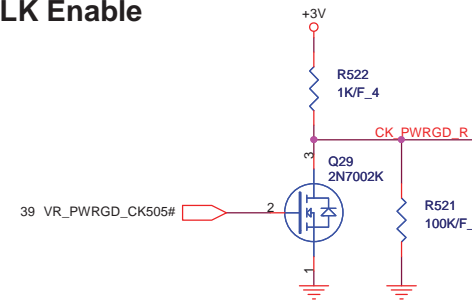


	0	1
CPU_SEL	CPU0/1=133MHz (default)	CPU0/1=100MHz

SMBus



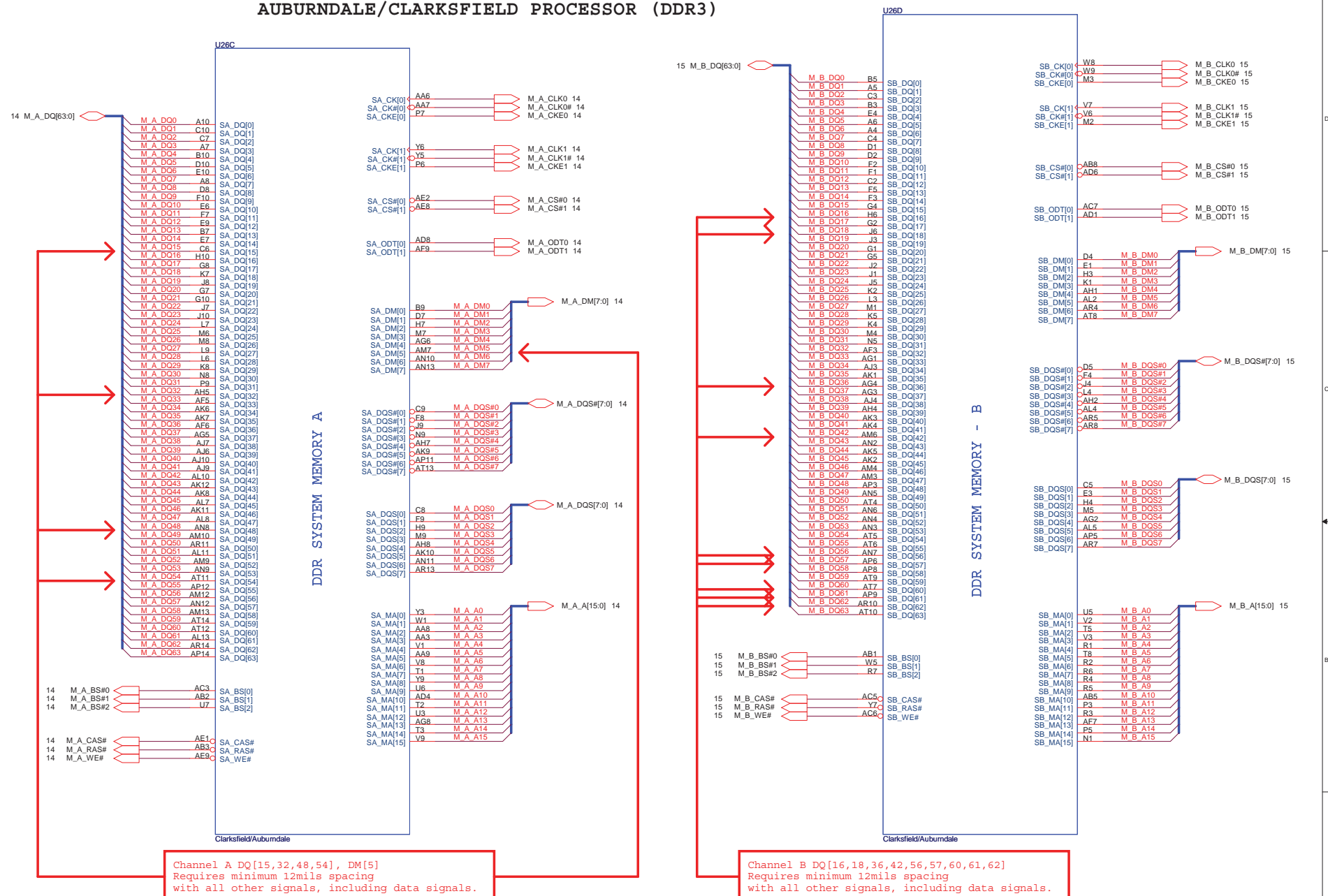
CLK Enable



Quanta Computer Inc.
 PROJECT : ZYD

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	Clock Generator	3B
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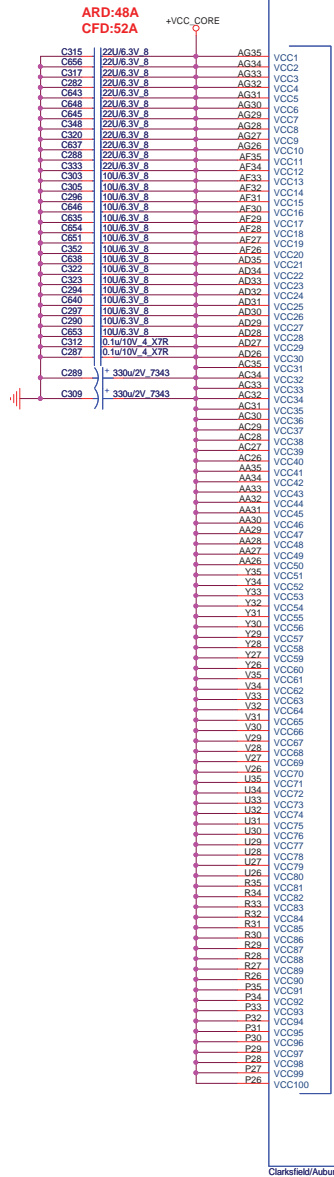
AUBURNDALE/CLARKSFIELD PROCESSOR (DDR3)



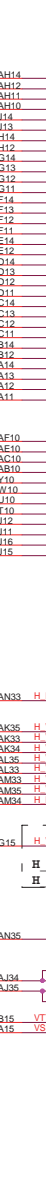
Quanta Computer Inc.
PROJECT : ZYD

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Date:	Tuesday, April 06, 2010	Sheet 5 of 50

CPU Core Power



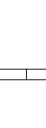
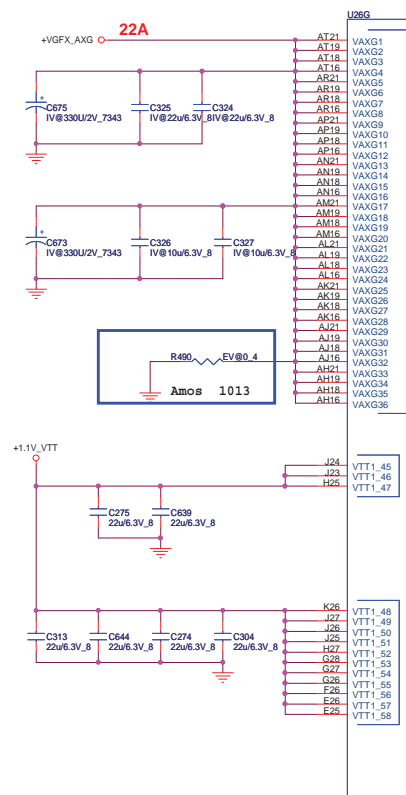
U28F



VTT Rail Values are
Auburndale VTT=1.05V
Clarksfield VTT=1.1V

18A -> +1.1V_VTT

AUBURNDALE/CLARKSFIELD PROCESSOR (GRAPHICS POWER)



AUBURNDALE/CLARKSFIELD PROCESSOR (POWER)

Clarksfield/Auburndale

Note:
For Validating IMVP VR R6451 should be STUPF
and R2N1 NO_STUFF

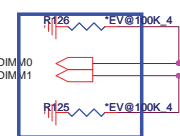
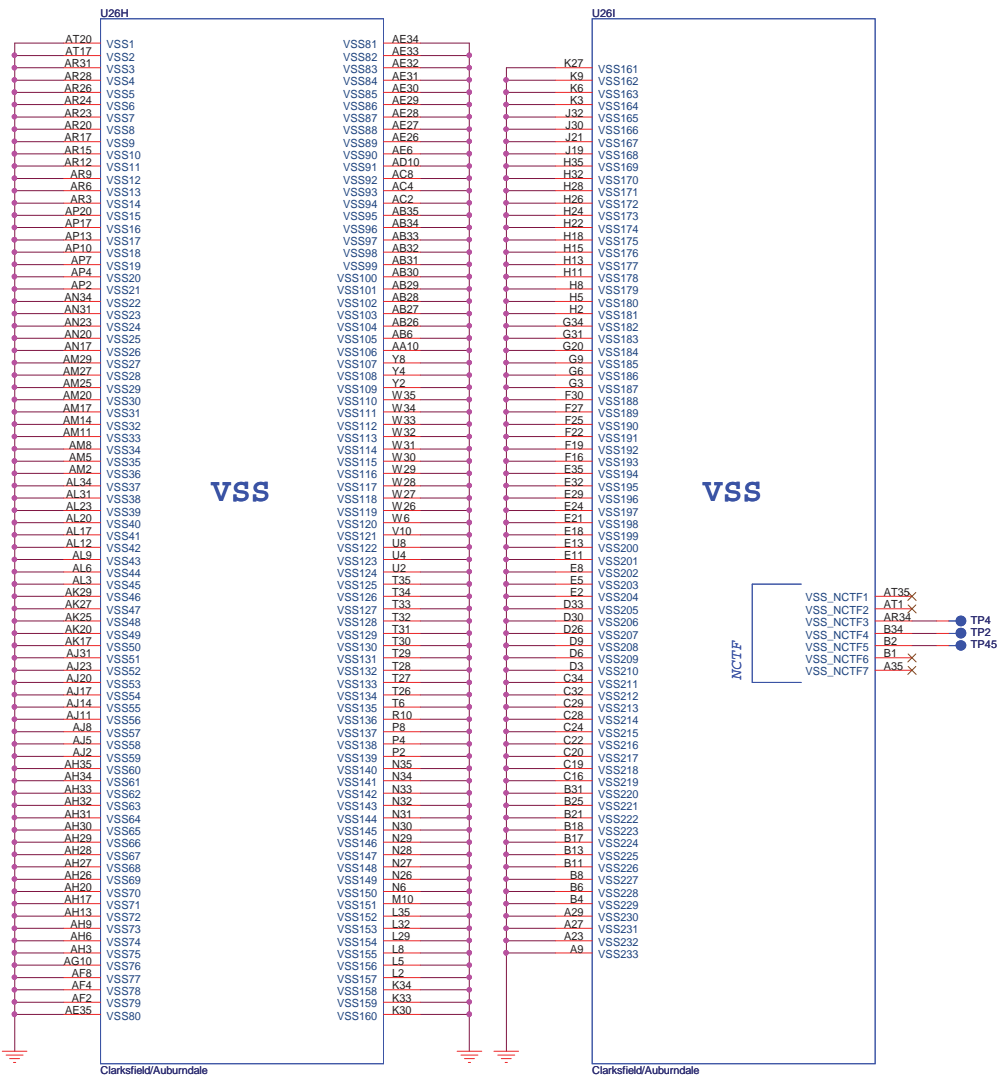
HFM_VID : Max 1.4V
LFM_VID : Min 0.65V

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AUBURNDAL 3/4 (PWR)
Date: Tuesday, April 06, 2010 Sheet 6 of 50

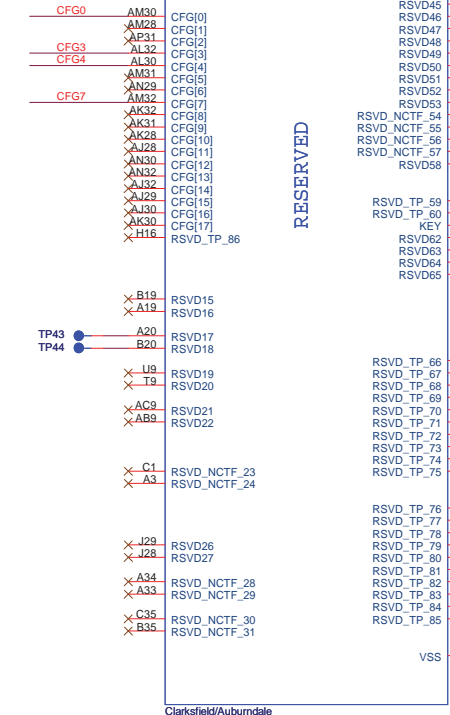


AUBURNDALE/CLARKSFIELD PROCESSOR (GND)

AUBURNDALE/CLARKSFIELD PROCESSOR (RESERVED, CFG)



Modify 1017



RESERVED

Processor Strapping

	1	0	DEFAULT	
CFG0 (PCI-Epress Configuration Select)	Single PEG	Bifurcation enabled	1	CFG0 R172 ~3.01K_NC
CFG3 (PCI-Epress Static Lane Reversal)	Normal Operation	Lane Numbers Reversed	1	CFG3 R159 ~3.01K/F_4
CFG4 (Embedded Display Port Presence)	Disabled; No Physical Display Port attached to Embedded Display Port	Enabled; An external Display port device is connected to the Embedded Display port	1	CFG4 R157 ~3.01K CFG7 R161 ~3.01K/F_4

Quanta Computer Inc.
PROJECT : ZYD

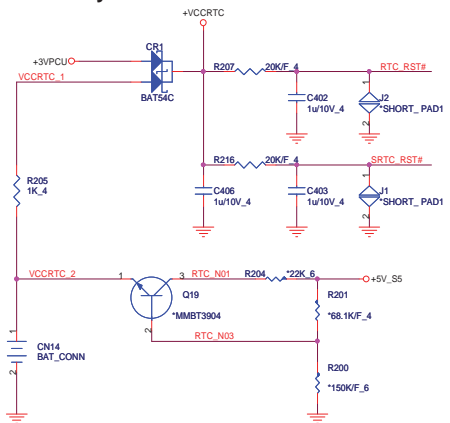
Size Document Number
AUBURND4 4/4

Date: Tuesday, April 06, 2010 Sheet 7 of 50

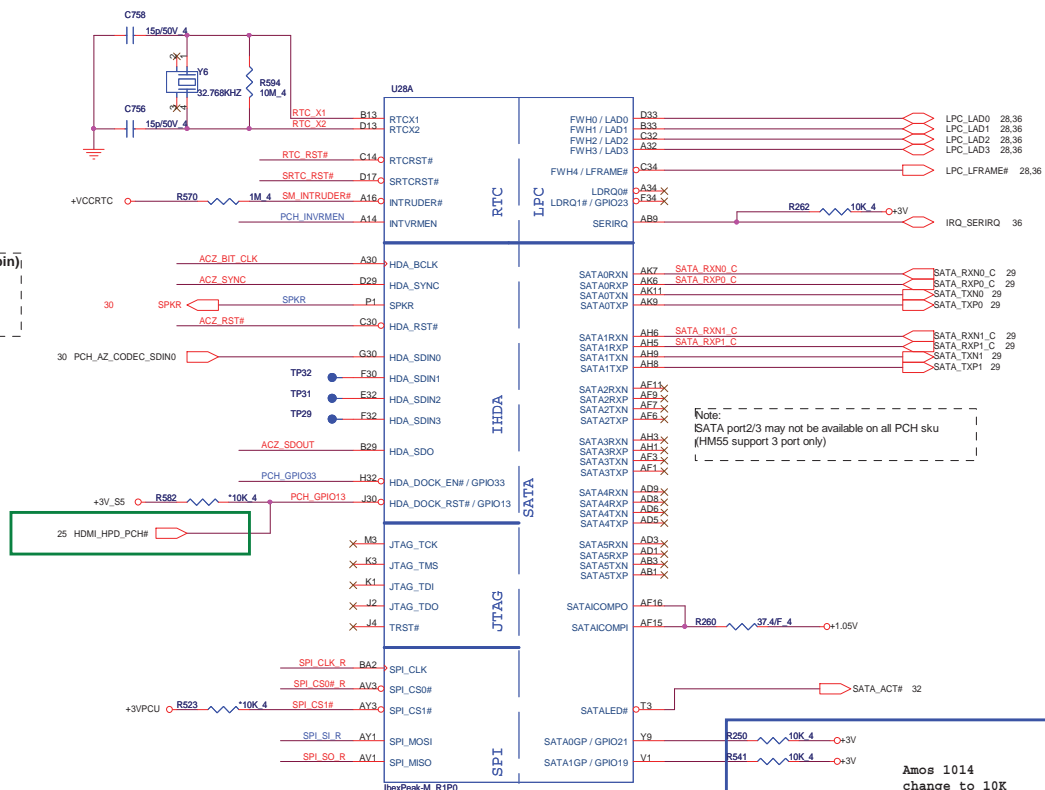
Rev 3B



RTC Circuitry



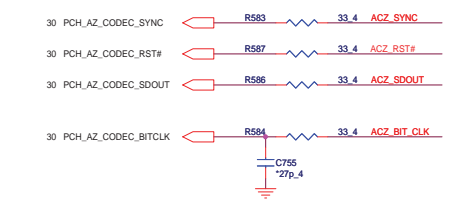
HDA_SYNC (PCH strap pin)
 Internal weak pull-down
 VCCVRM=>+1.8V (default)
 external pull-up
 VCCVRM=>+1.5V



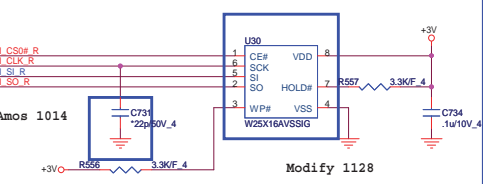
Note:
 SATA port2/3 may not be available on all PCH sku
 (HMS5 support 3 port only)

Amos 1014
 change to 10K

HDA Bus



MDC Bus

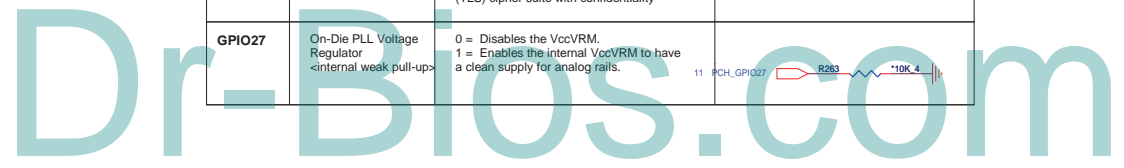


PCH SPI

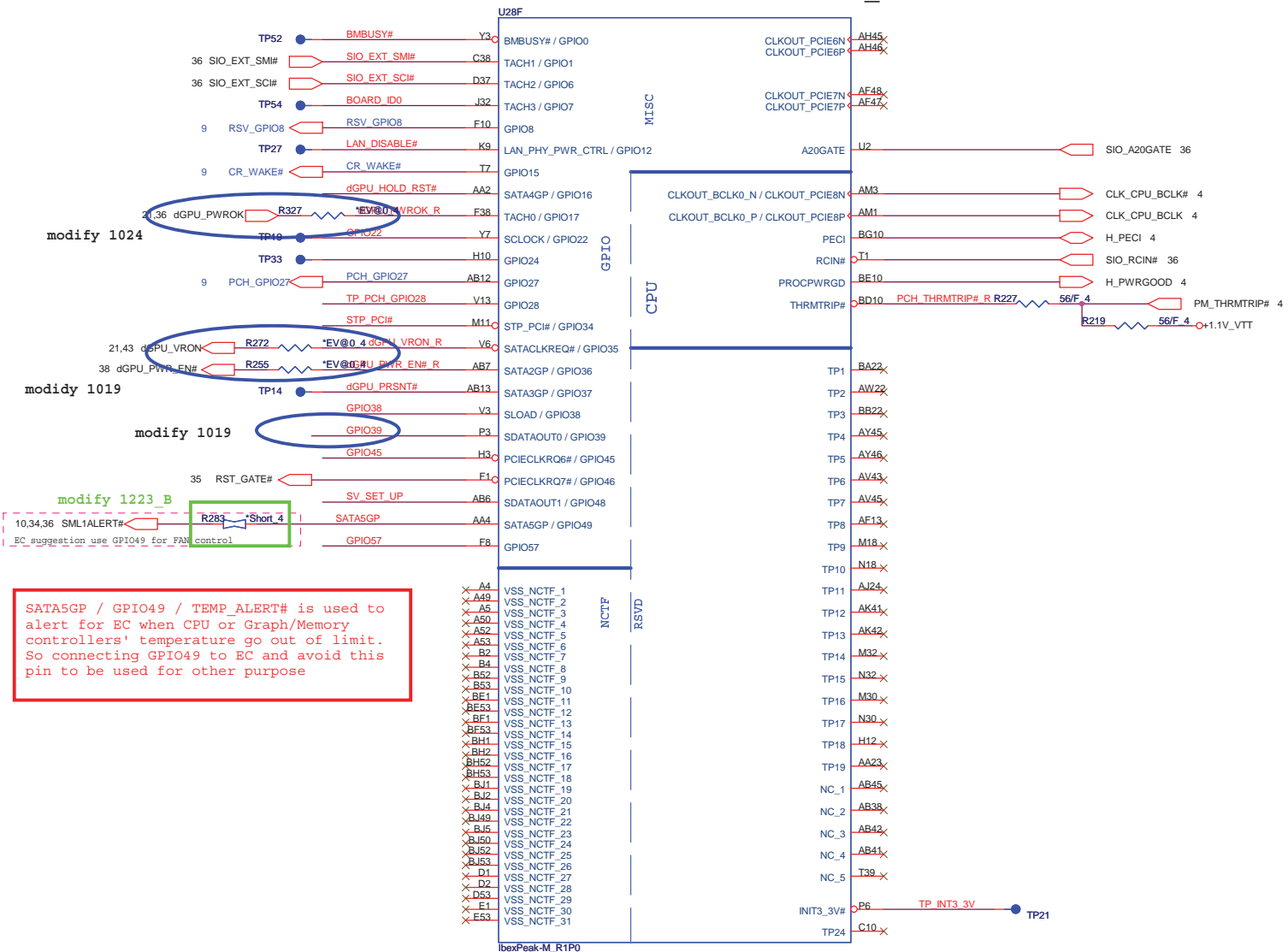


PCH Strap Pin Configuration Table-1

INTVRMEN	Integrated 1.05V VRM Enable / Disable	1 = Integrated VRM is enabled 0 = Integrated VRM is disabled	+VCCRTC R593 330K_6 PCH_INVRMEN
SPI_MOSI	TPM Functionality Disable	1 = Enabled 0 = Disable	+3V R559 1K_4 SPI_SI_R
SPKR	Reboot option at power-up	0 = Default Mode (Internal weak Pull-down) 1 = No Reboot Mode with TCO Disabled	+3V R307 1K_4 SPKR
HDA_DOCK# / GPIO33	Flash Descriptor Security Override	0 = Flash Descriptor Security will be overridden 1 = Security measure defined in the Flash Descriptor will be enabled.	PCH_GPIO33 J3 1 2 SHORT_PAD1 R322 10K_4 +3V
GNT0#, GNT1#	Boot BIOS Strap	(0,0) = LPC (0,1) = Reserved NAND (1,0) = PCI (1,1) = SPI	10 PCI_GNT0# R315 1K_4 10 PCI_GNT1# R310 1K_4
GNT2# / GPIO53	ESI Strap (Server Only)	ESI compatible mode is for server platforms only	10 PCI_GNT2# R313 1K_4 Modify 1019
GNT3# / GPIO55	Top-Block Swap Override	0 = Top Block Swap Mode 1 = Default Mode (Internal pull-up)	10 PCI_GNT3# R560 10K_4
NV_ALE	IntelR Anti-Theft Technology HDD Data Protection (Intel AT-d) Enable	1 = Enabled 0 = Disabled (Default)	10 NV_ALE R231 1K_4 +1.8V
NV_CLE	DMI Termination Voltage	DMI termination voltage. Weak internal pull-up. Do not pull low.	10 NV_CLE R230 1K_4 +1.8V
GPIO8	Reserved	This signal has a weak internal pull up. NOTE: This signal should not be pulled low	8SV_GPIO8 R325 10K_4 +3V_SS R320 1K_4
GPIO15	Reserved	0 = Intel ME Crypto Transport Layer Security (TLS) cipher suite with no confidentiality 1 = Intel ME Crypto Transport Layer Security (TLS) cipher suite with confidentiality	CR_WAKE# R282 1K_4 +3V_SS
GPIO27	On-Die PLL Voltage Regulator <internal weak pull-up>	0 = Disables the VccVRM. 1 = Enables the internal VccVRM to have a clean supply for analog rails.	11 PCH_GPIO27 R263 10K_4

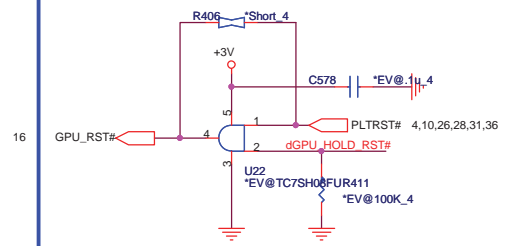


IBEX PEAK-M (GPIO, VSS_NCTF, RSVD)

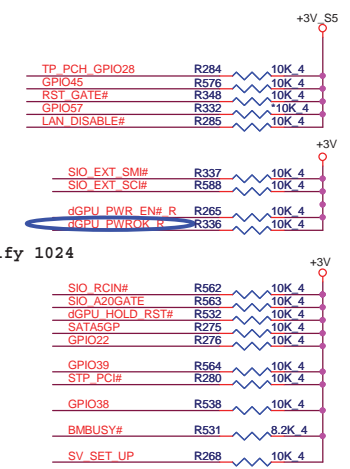


SATA5GP / GPIO49 / TEMP_ALERT# is used to alert for EC when CPU or Graph/Memory controllers' temperature go out of limit. So connecting GPIO49 to EC and avoid this pin to be used for other purpose

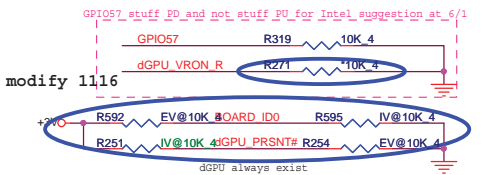
GPU_RST#



GPIO Pull-up/Pull-down



SV_SET_UP 1-X High = Strong (Default)



modify 1116

Integrated Clock Chip Enable	
BOARD_ID0	High = Discrete Low = IV
RSV_GPIO8	High = Disable Low = Enable

IBEX PEAK-M (GND)

U28H	
AB16	VSS[0]
AA19	VSS[1]
AA20	VSS[2]
AA22	VSS[3]
AM19	VSS[4]
AA24	VSS[5]
AA26	VSS[6]
AA28	VSS[7]
AA30	VSS[8]
AA31	VSS[9]
AA32	VSS[10]
AB11	VSS[11]
AB15	VSS[12]
AB23	VSS[13]
AB30	VSS[14]
AB31	VSS[15]
AB32	VSS[16]
AB39	VSS[17]
AB43	VSS[18]
AB47	VSS[19]
AB5	VSS[20]
AB8	VSS[21]
AC2	VSS[22]
AC52	VSS[23]
AD11	VSS[24]
AD12	VSS[25]
AD16	VSS[26]
AD23	VSS[27]
AD30	VSS[28]
AD31	VSS[29]
AD32	VSS[30]
AD34	VSS[31]
AU22	VSS[32]
AD42	VSS[33]
AD46	VSS[34]
AD49	VSS[35]
AD7	VSS[36]
AE2	VSS[37]
AE4	VSS[38]
AF12	VSS[39]
X13	VSS[40]
AH49	VSS[41]
AU4	VSS[42]
AF35	VSS[43]
AF13	VSS[44]
AN34	VSS[45]
AF45	VSS[46]
AF46	VSS[47]
AF49	VSS[48]
AF5	VSS[49]
AF8	VSS[50]
AG2	VSS[51]
AG52	VSS[52]
AH11	VSS[53]
AH15	VSS[54]
AH16	VSS[55]
AH24	VSS[56]
AH32	VSS[57]
AV18	VSS[58]
AH43	VSS[59]
AH47	VSS[60]
AH7	VSS[61]
AJ19	VSS[62]
AJ2	VSS[63]
AJ20	VSS[64]
AJ22	VSS[65]
AJ23	VSS[66]
AJ26	VSS[67]
AJ28	VSS[68]
AJ32	VSS[69]
AJ34	VSS[70]
AT5	VSS[71]
AJ4	VSS[72]
AK12	VSS[73]
AM41	VSS[74]
AN19	VSS[75]
AK26	VSS[76]
AK22	VSS[77]
AK23	VSS[78]
AK28	VSS[79]

IbexPeak-M_R1P0

U28I

AY7	VSS[159]
B11	VSS[160]
B15	VSS[161]
B19	VSS[162]
B23	VSS[163]
B31	VSS[164]
B35	VSS[165]
B39	VSS[166]
B43	VSS[167]
B47	VSS[168]
B7	VSS[169]
BG12	VSS[170]
BB12	VSS[171]
BB16	VSS[172]
BB20	VSS[173]
BB24	VSS[174]
BB30	VSS[175]
BB34	VSS[176]
BB38	VSS[177]
BB42	VSS[178]
BB49	VSS[179]
BB5	VSS[180]
BC10	VSS[181]
BC14	VSS[182]
BC18	VSS[183]
BC2	VSS[184]
BC22	VSS[185]
BC32	VSS[186]
BC36	VSS[187]
BC40	VSS[188]
BC44	VSS[189]
BC52	VSS[190]
BH9	VSS[191]
BD48	VSS[192]
BD49	VSS[193]
BD5	VSS[194]
AM20	VSS[195]
AM22	VSS[196]
AM24	VSS[197]
AM26	VSS[198]
AM28	VSS[199]
AM30	VSS[200]
AM31	VSS[201]
AM32	VSS[202]
AM34	VSS[203]
AM35	VSS[204]
AM38	VSS[205]
AM39	VSS[206]
AM42	VSS[207]
AU20	VSS[208]
AM46	VSS[209]
AV22	VSS[210]
BE8	VSS[211]
BF3	VSS[212]
BF49	VSS[213]
BF51	VSS[214]
BG18	VSS[215]
BG24	VSS[216]
BG4	VSS[217]
BG50	VSS[218]
AN32	VSS[219]
AN50	VSS[220]
AN52	VSS[221]
AP12	VSS[222]
AP42	VSS[223]
AP46	VSS[224]
AP49	VSS[225]
AP5	VSS[226]
AP8	VSS[227]
AR2	VSS[228]
AR52	VSS[229]
AT11	VSS[230]
BA12	VSS[231]
VSS[129]	VSS[232]
VSS[130]	VSS[233]
VSS[131]	VSS[234]
VSS[132]	VSS[235]
VSS[133]	VSS[236]
VSS[134]	VSS[237]
VSS[135]	VSS[238]
VSS[136]	VSS[239]
VSS[137]	VSS[240]
VSS[138]	VSS[241]
VSS[139]	VSS[242]
VSS[140]	VSS[243]
VSS[141]	VSS[244]
VSS[142]	VSS[245]
VSS[143]	VSS[246]
VSS[144]	VSS[247]
VSS[145]	VSS[248]
VSS[146]	VSS[249]
VSS[147]	VSS[250]
VSS[148]	VSS[251]
VSS[149]	VSS[252]
VSS[150]	VSS[253]
VSS[151]	VSS[254]
VSS[152]	VSS[255]
VSS[153]	VSS[256]
VSS[154]	VSS[257]
VSS[155]	VSS[258]
VSS[156]	VSS[259]
VSS[157]	VSS[260]
VSS[158]	VSS[261]

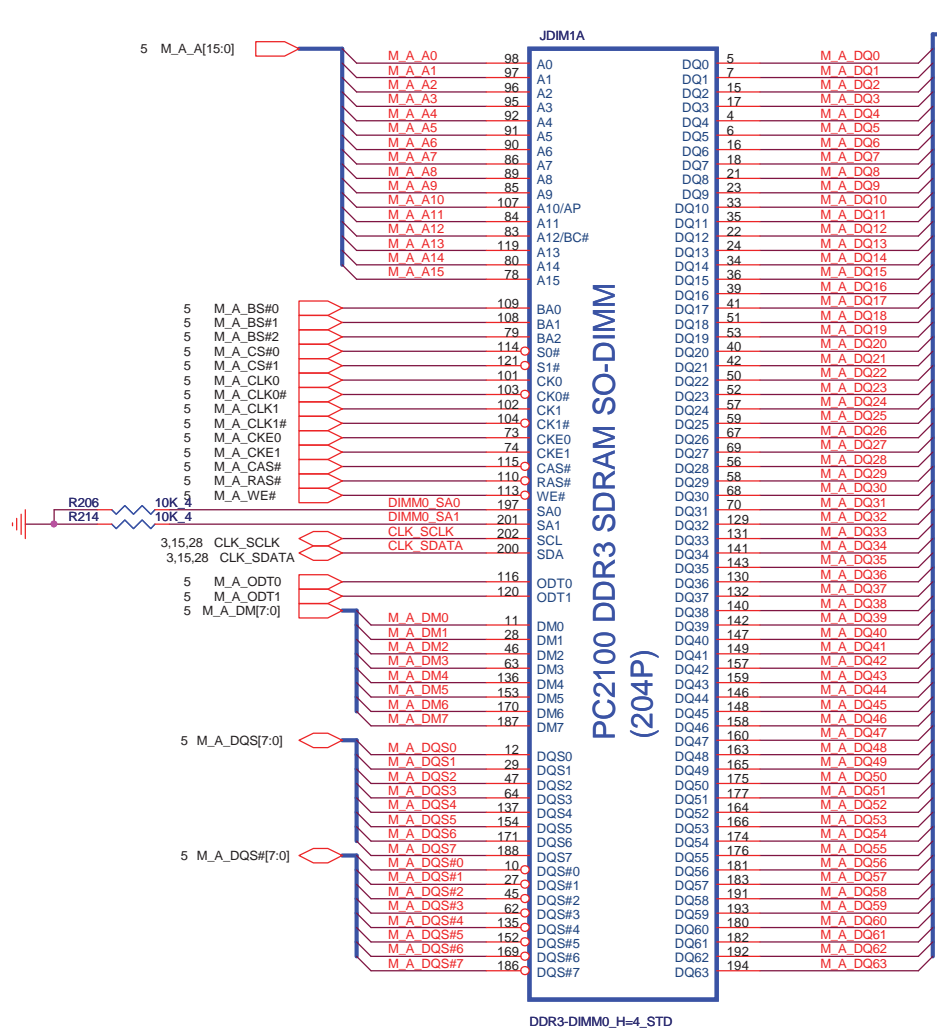
VSS[259]	H49
VSS[260]	H5
VSS[261]	J24
VSS[262]	K11
VSS[263]	K43
VSS[264]	K47
VSS[265]	K7
VSS[266]	L14
VSS[267]	L18
VSS[268]	L22
VSS[269]	L32
VSS[270]	L36
VSS[271]	L40
VSS[272]	L52
VSS[273]	M12
VSS[274]	M16
VSS[275]	M20
VSS[276]	M34
VSS[277]	M38
VSS[278]	M42
VSS[279]	M46
VSS[280]	M49
VSS[281]	M5
VSS[282]	M8
VSS[283]	P11
VSS[284]	AD15
VSS[285]	P22
VSS[286]	P30
VSS[287]	P32
VSS[288]	P34
VSS[289]	P42
VSS[290]	P45
VSS[291]	P47
VSS[292]	R2
VSS[293]	R52
VSS[294]	T12
VSS[295]	T41
VSS[296]	T46
VSS[297]	T49
VSS[298]	T5
VSS[299]	T8
VSS[300]	U30
VSS[301]	U31
VSS[302]	U32
VSS[303]	U34
VSS[304]	P38
VSS[305]	V11
VSS[306]	P16
VSS[307]	V19
VSS[308]	V20
VSS[309]	V22
VSS[310]	V30
VSS[311]	V31
VSS[312]	V32
VSS[313]	V34
VSS[314]	V35
VSS[315]	V38
VSS[316]	V43
VSS[317]	V45
VSS[318]	V46
VSS[319]	V47
VSS[320]	V49
VSS[321]	V5
VSS[322]	V7
VSS[323]	V8
VSS[324]	W2
VSS[325]	W52
VSS[326]	Y11
VSS[327]	Y12
VSS[328]	Y15
VSS[329]	Y19
VSS[330]	Y23
VSS[331]	Y28
VSS[332]	Y30
VSS[333]	Y31
VSS[334]	Y32
VSS[335]	Y38
VSS[336]	Y43
VSS[337]	Y46
VSS[338]	P49
VSS[339]	V5
VSS[340]	V6
VSS[341]	V8
VSS[342]	Y8
VSS[343]	Y11
VSS[344]	Y12
VSS[345]	Y15
VSS[346]	Y19
VSS[347]	Y23
VSS[348]	Y28
VSS[349]	Y30
VSS[350]	Y31
VSS[351]	Y32
VSS[352]	Y38
VSS[353]	Y43
VSS[354]	Y46
VSS[355]	AT12
VSS[356]	AM6
VSS[357]	AT13
VSS[358]	AK39
VSS[359]	AV14

IbexPeak-M_R1P0

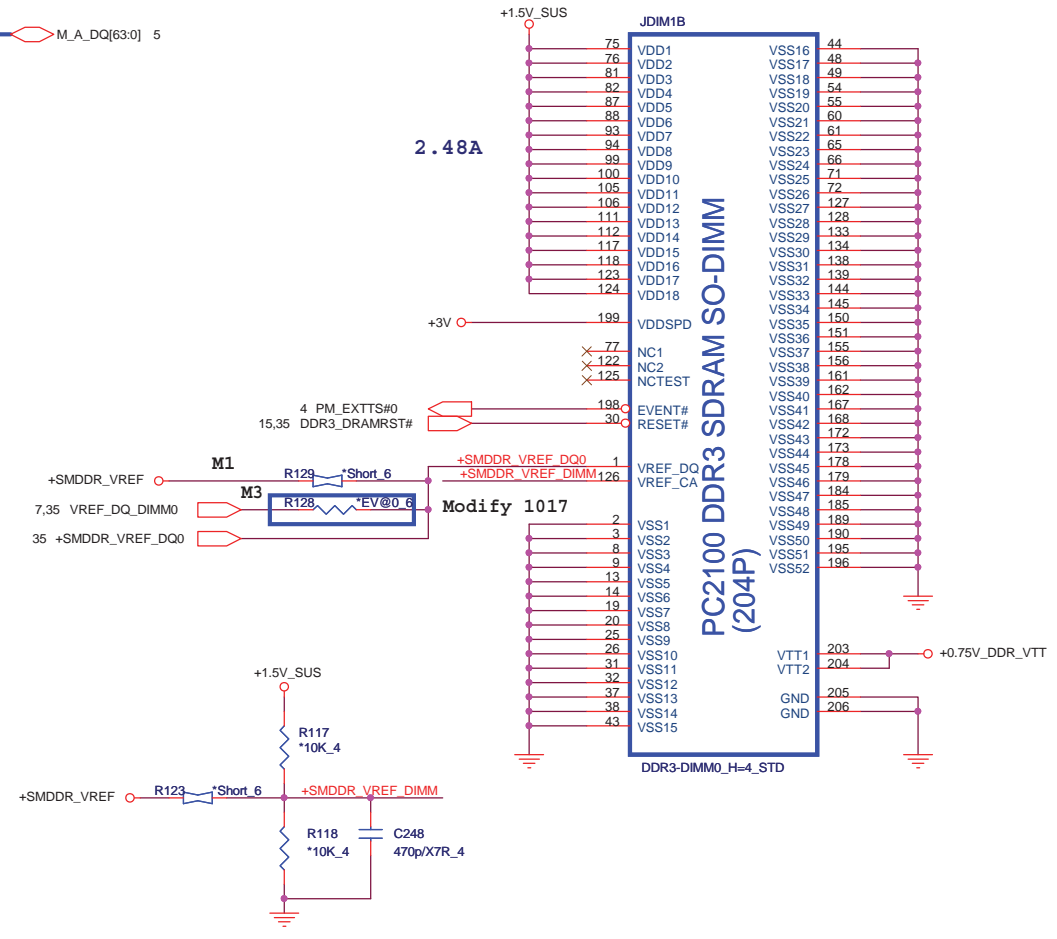


Quanta Computer Inc.
PROJECT : ZYD

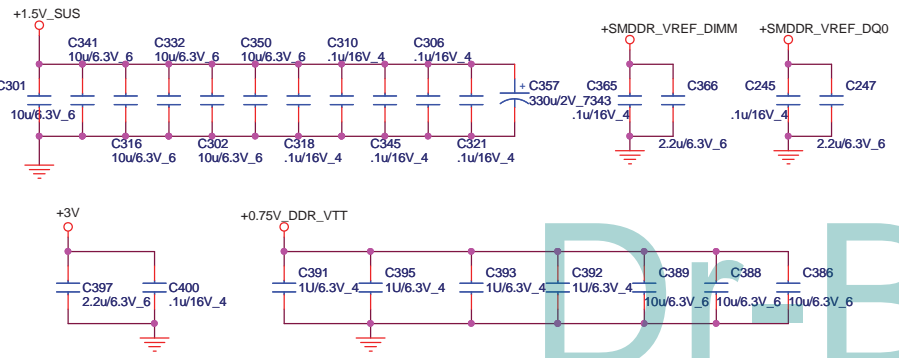
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DDR3-DIMM0_H=4_STD

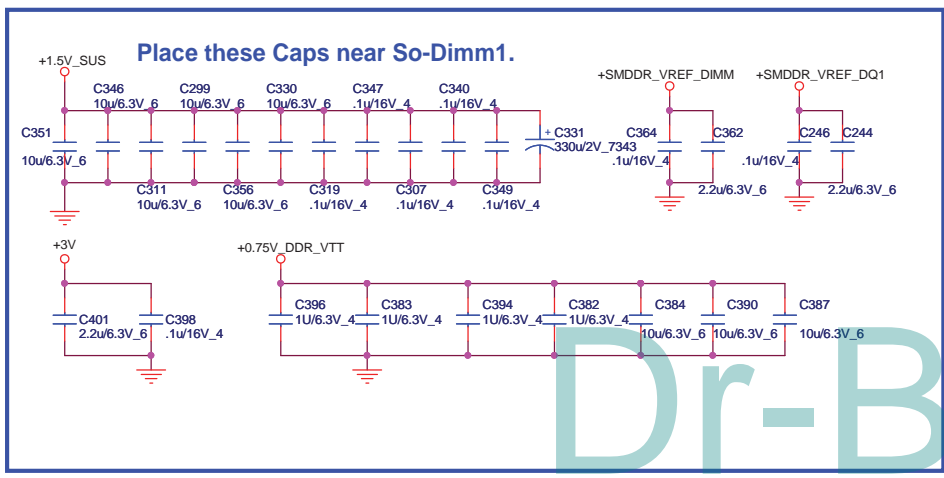
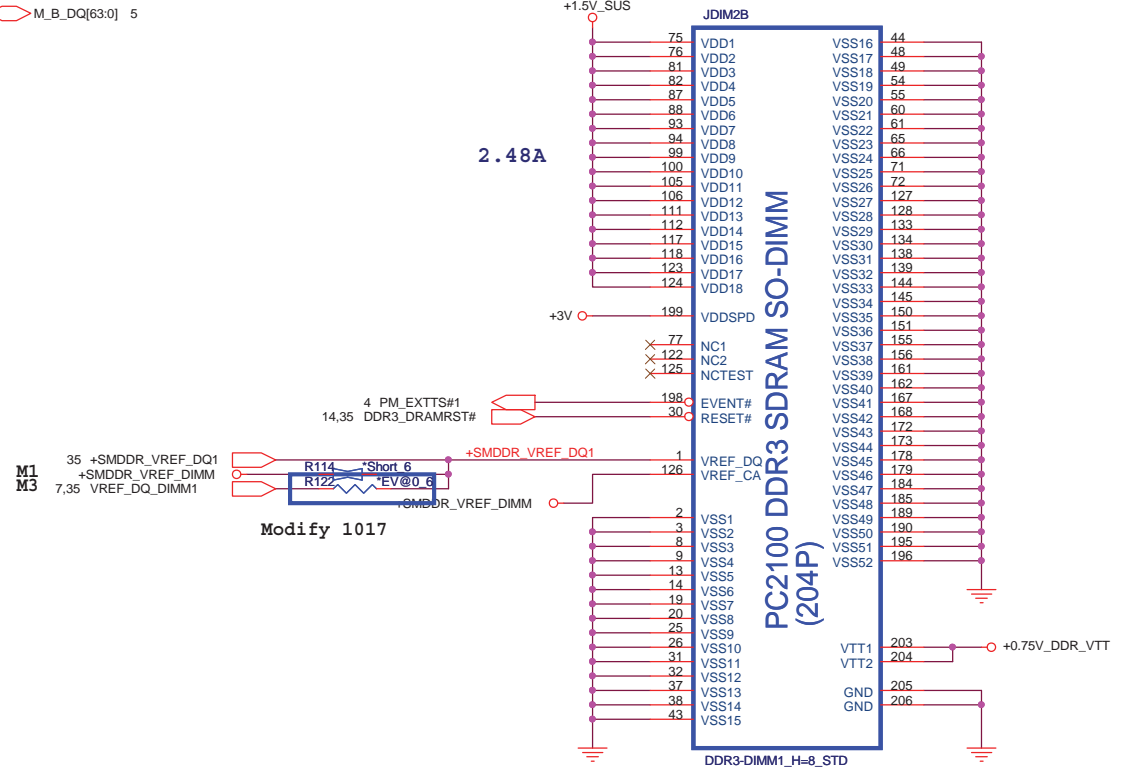
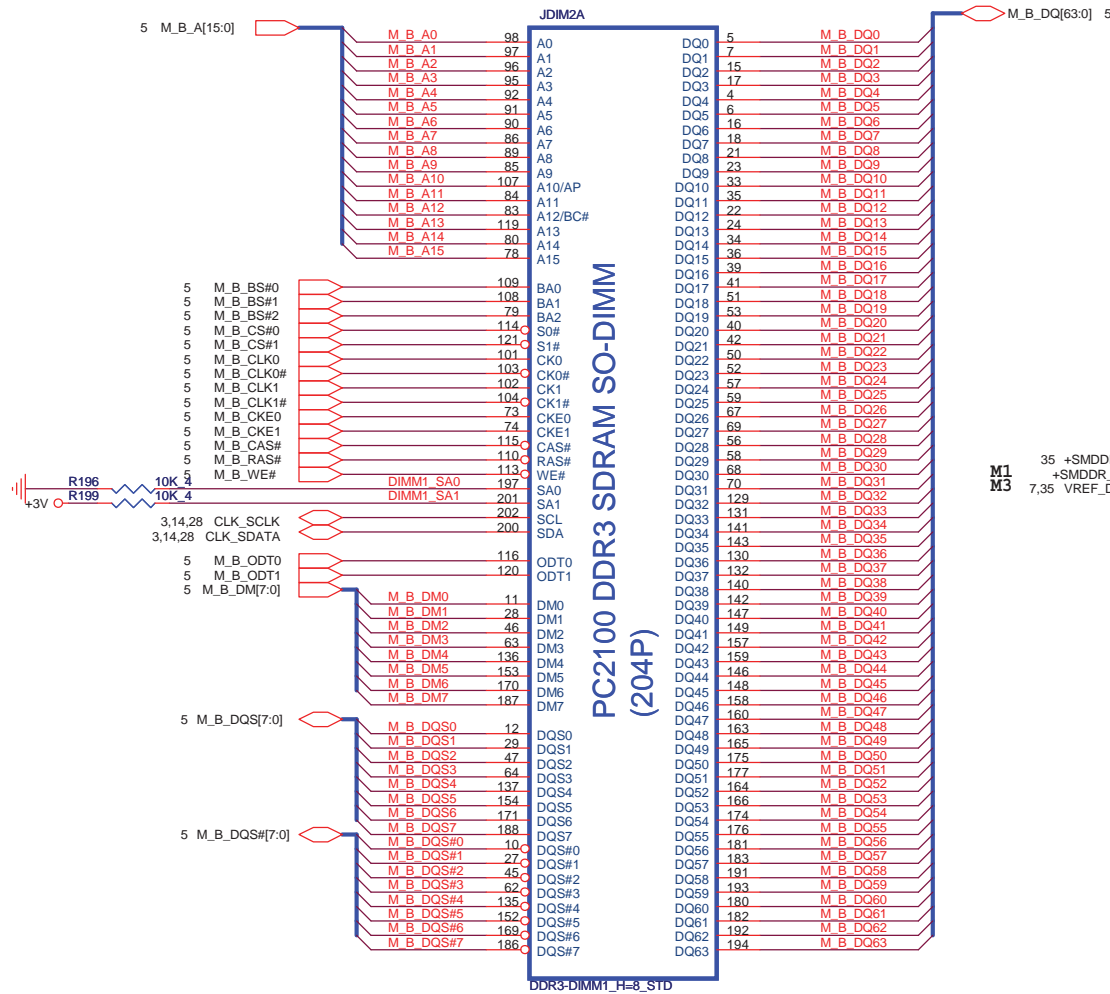


Place these Caps near So-Dimm0.



For Arrandale only designs--->Only method M1 should be enabled.
 For Clarkfield only designs--->Both M1 AND M3 methods should be enabled simultaneously
 For Common Motherboard designs--->Both M1 AND M3 methods should be enabled simultaneously.

- M1:PWR SMDRR_VREF
- M1+:voltage divider(Default)
- M3:CPU VREF_DQ_DIMM0

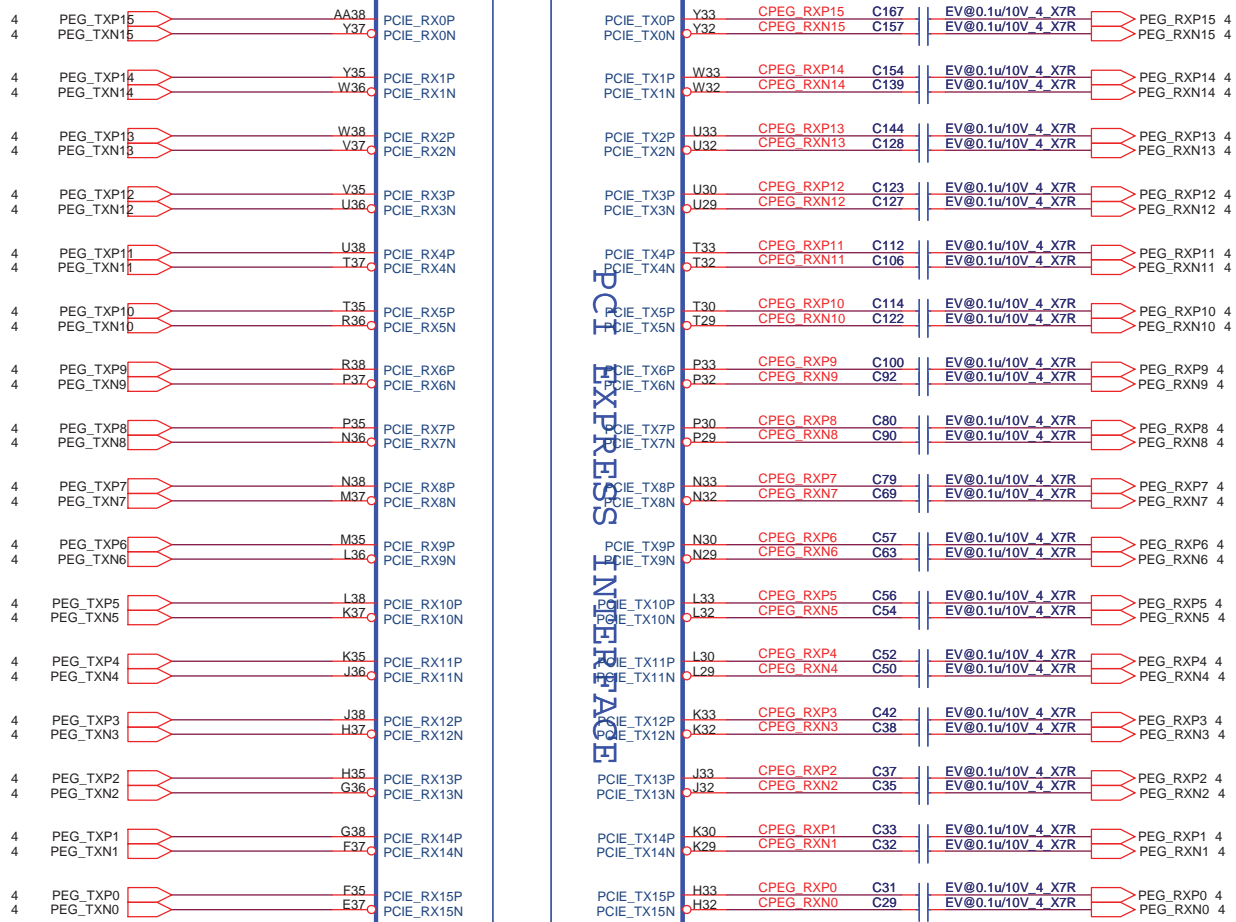


For Arrandale only designs--->Only method M1 should be enabled.
 For Clarksfield only designs--->Both M1 AND M3 methods should be enabled simultaneously
 For Common Motherboard designs--->Both M1 AND M3 methods should be enabled simultaneously.



U18A

PCI EXPRESS INTERFA



For Broadway, Madison and Park
PWRGOOD is not required since it is generated internally.
the PWRGOOD ball must be connected to ground



For M97, Broadway, Madison and Park PCIE_VDDC is 1.0V

EV@Madison/Park_M2

Quanta Computer Inc.
PROJECT : ZYD

Size	Document Number	Rev
	Madison/Park M2 PCIE I/F	3B

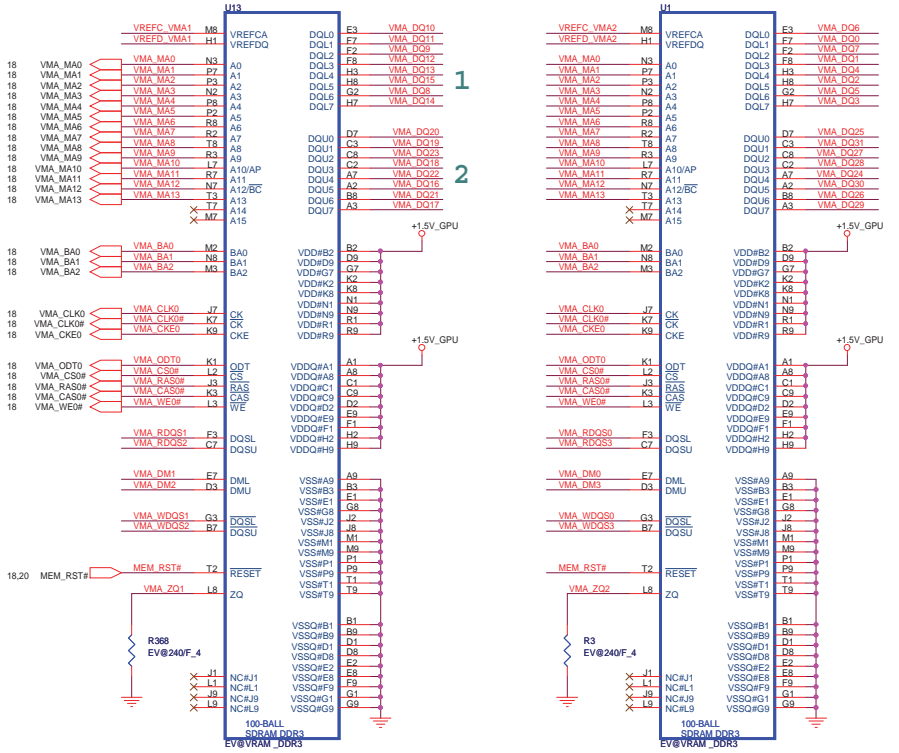
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18 VMA_DQ[63..0] VMA_DQ[63..0]
 18 VMA_DM[7..0] VMA_DM[7..0]
 18 VMA_RDQS[7..0] VMA_RDQS[7..0] QSA[7..0]
 18 VMA_WDQS[7..0] VMA_WDQS[7..0] QSA#[7..0]

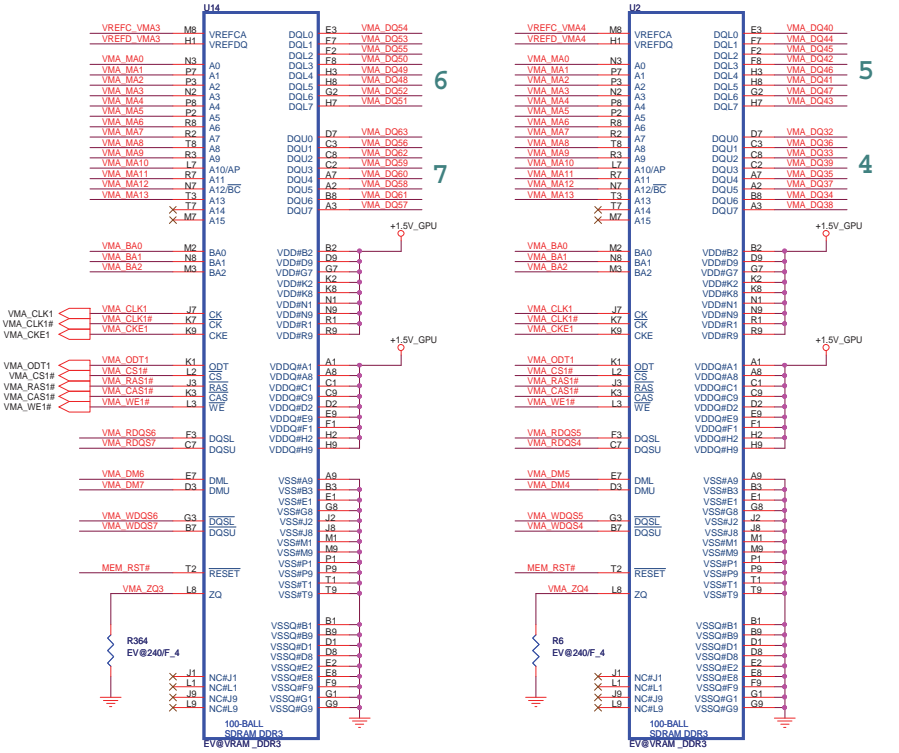
CHANNEL A: 512MB DDR3 (64M*16*4pcs)

Park, M92M Use Channel B Memory Interface Only



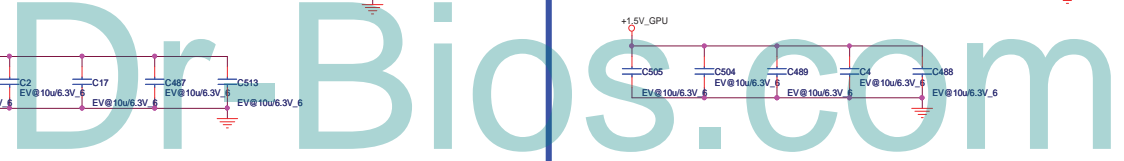
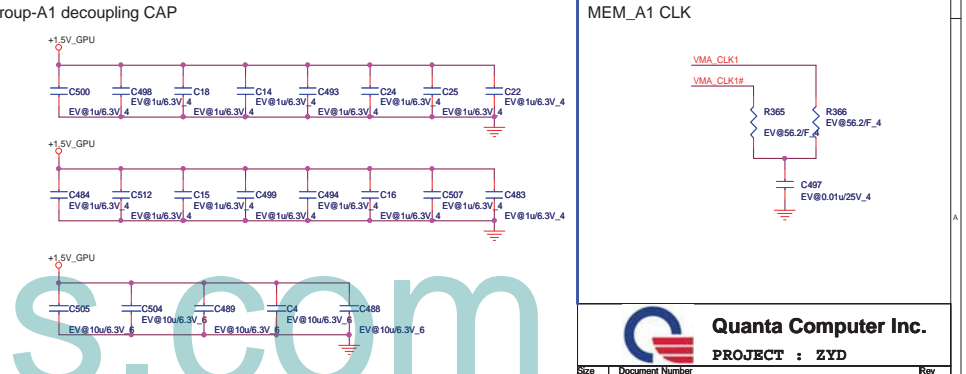
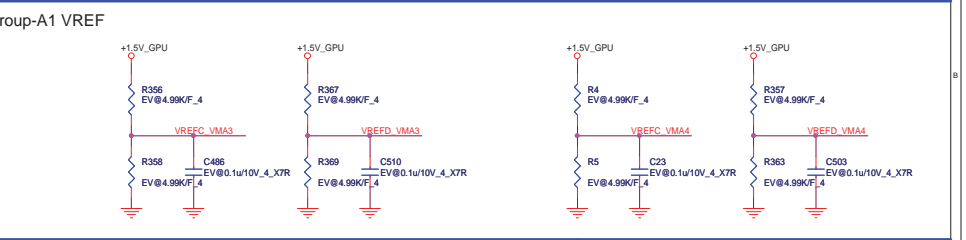
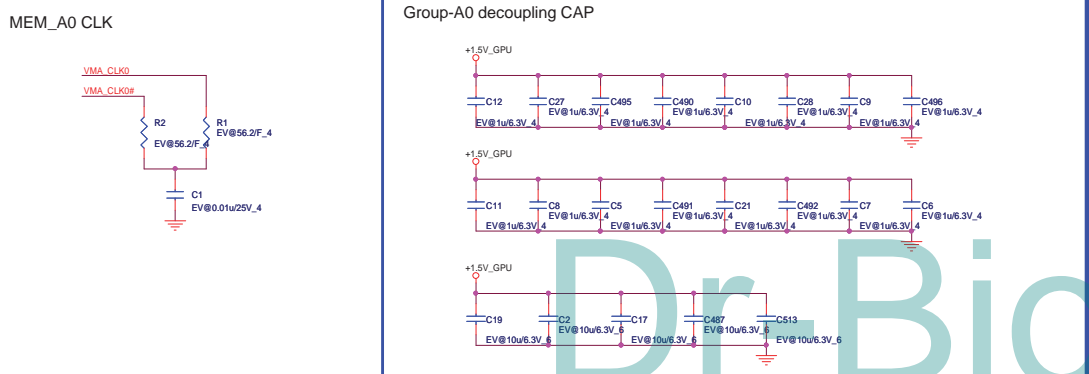
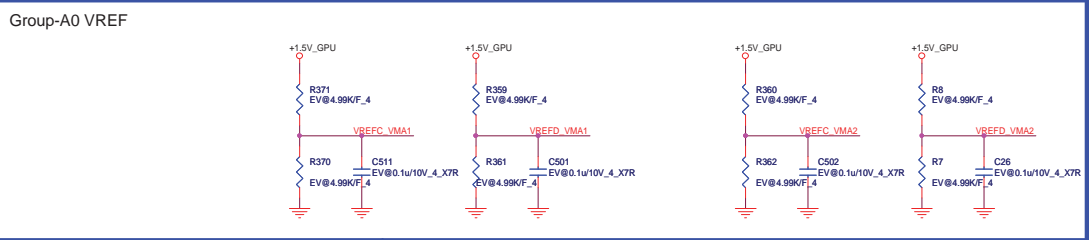
TOP Left

BOT Left



BOT Right

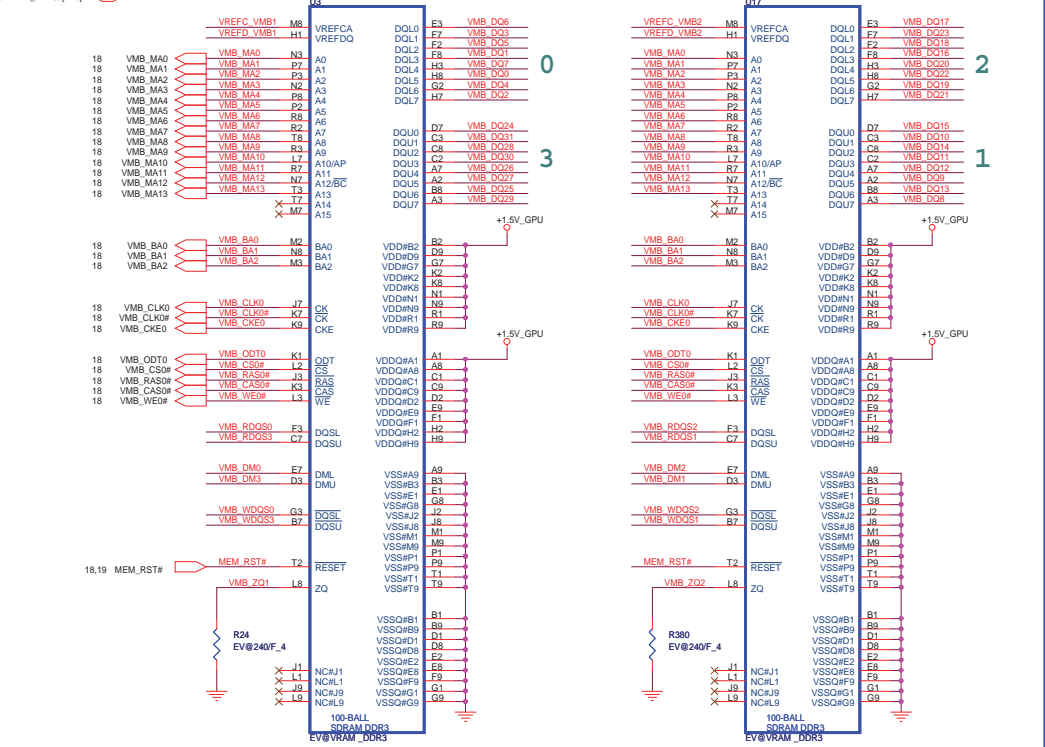
TOP Right



CHANNEL B: 512MB DDR3 (64M*16*4pcs)

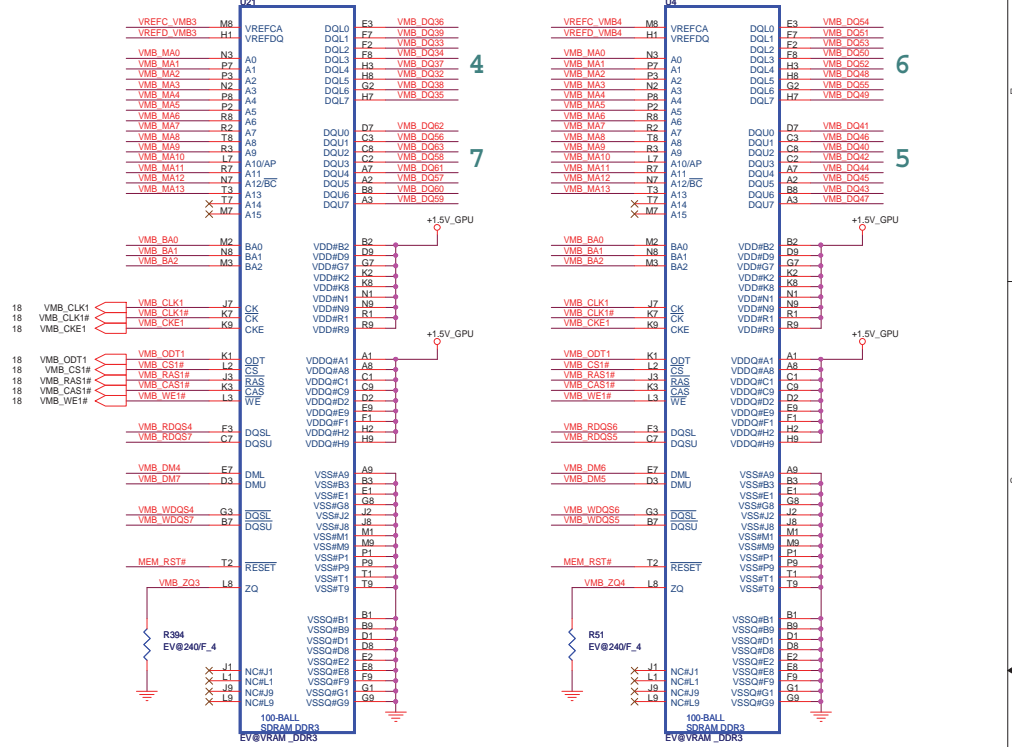
- 18 VMB_DQ[63..0] VMB_DQ[63..0]
- 18 VMB_DM[7..0] VMB_DM[7..0]
- 18 VMB_RDQS[7..0] VMB_RDQS[7..0]
- 18 VMB_WDQS[7..0] VMB_WDQS[7..0]

QSA[7..0]
QSA#[7..0]



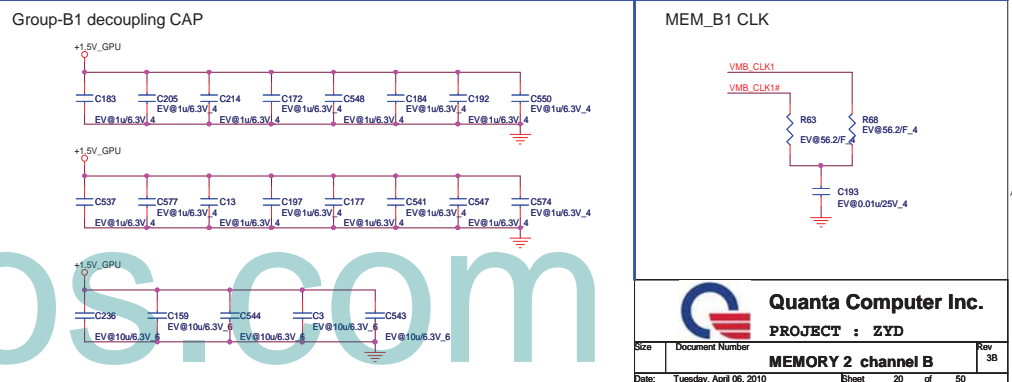
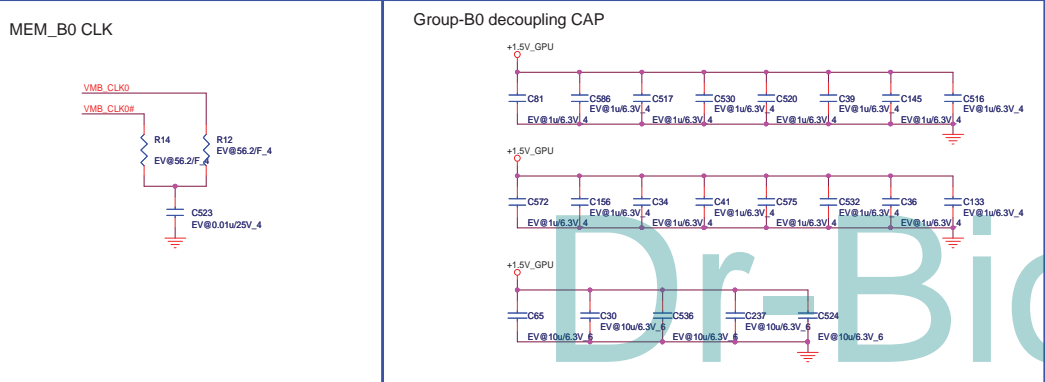
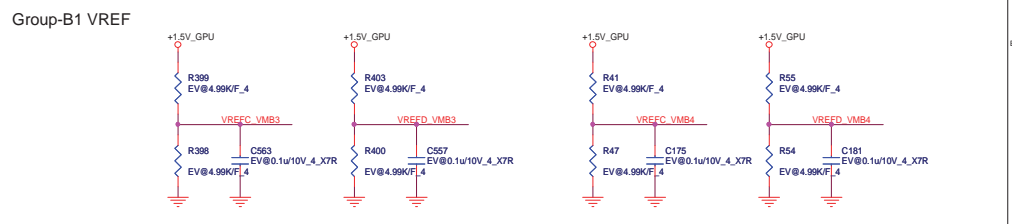
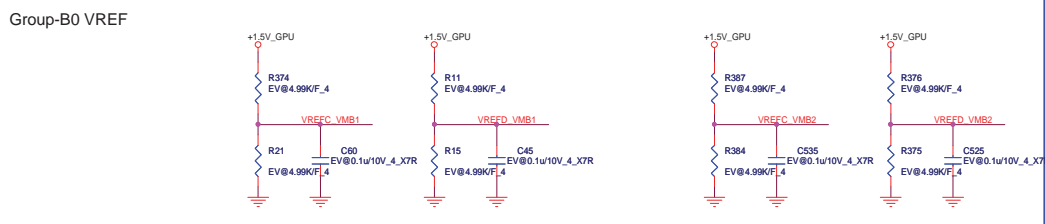
BOT Down

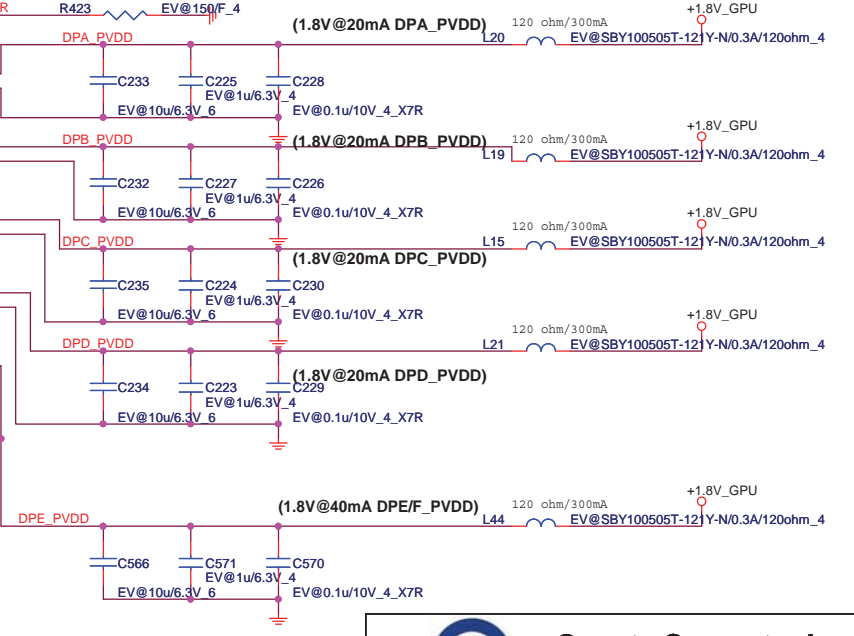
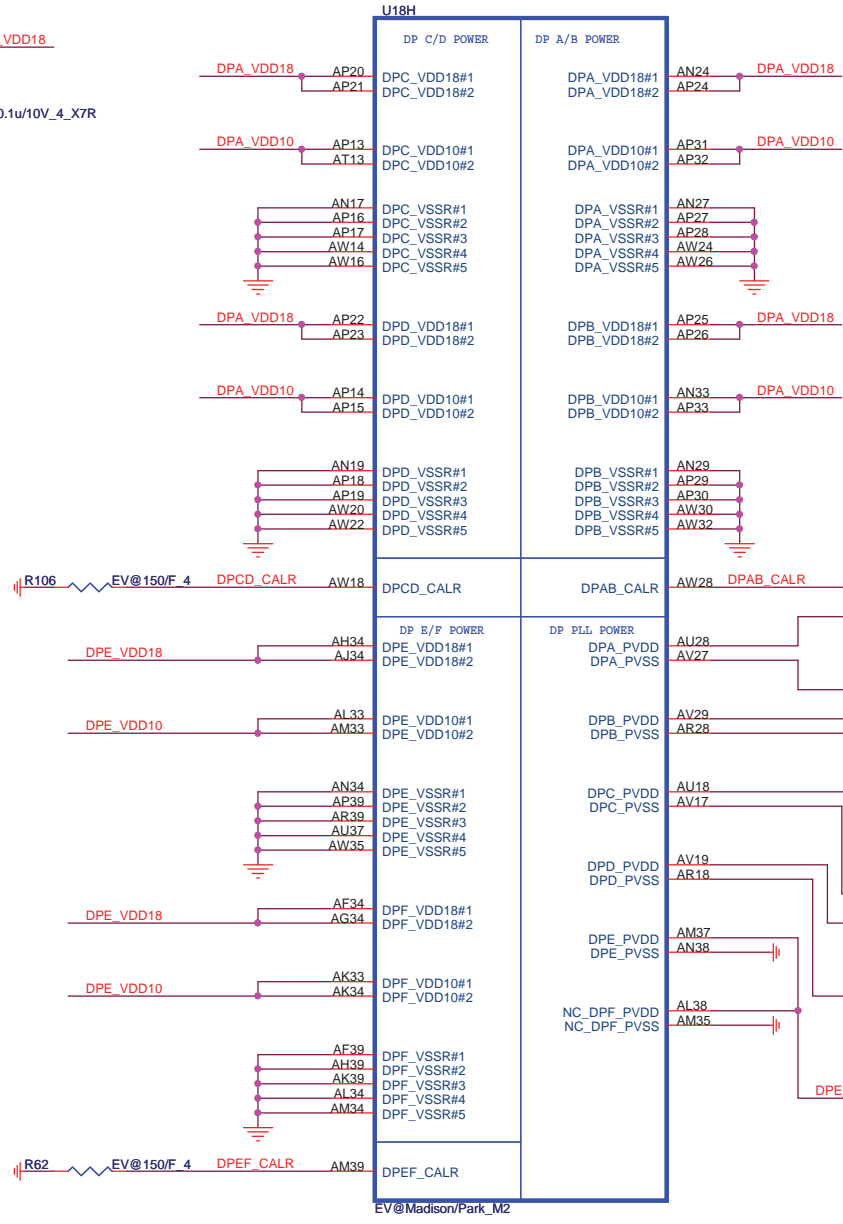
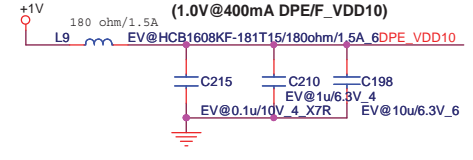
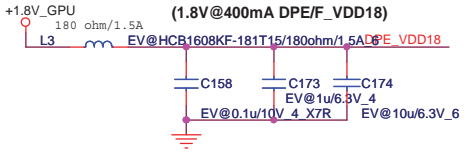
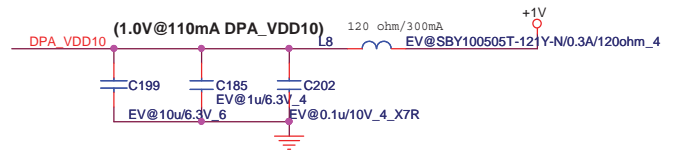
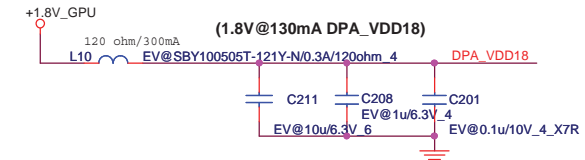
TOP Down



TOP Up

BOT Up

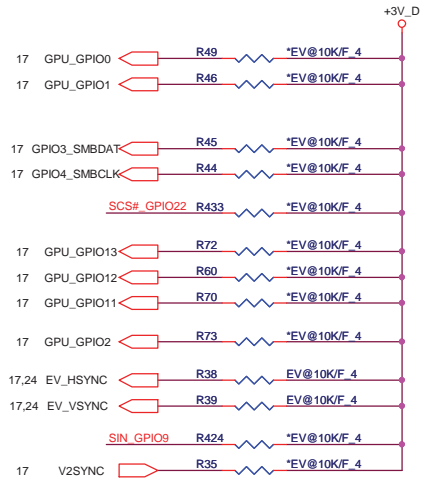




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Size	Document Number	Rev
	Madison/Park M2 DPPW_GND	3B
Date:	Tuesday, April 06, 2010	Sheet 22 of 50

PIN STRAPS



Memory Aperture size

GPIO [13:11]	Size
000	128MB
001	256MB
010	64MB
011	32MB

Audio Table

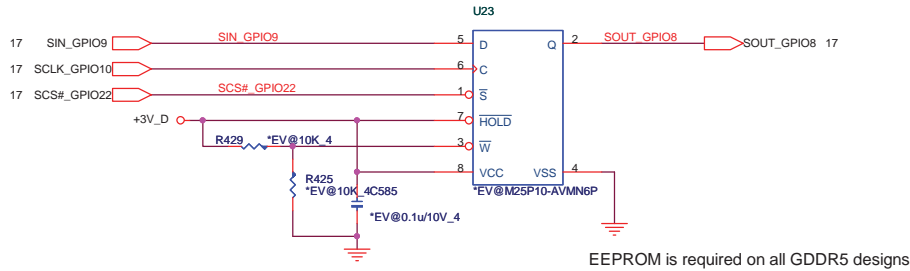
EXT_HSYNC	EXT_VSYNC	Discription
0	0	No Audio
0	1	Any one by detect
1	0	DP only
1	1	Both DP & HDMI

CONFIGURATION STRAPS

ALLOW FOR PULLUP PADS FOR THESE STRAPS AND IF THESE GPIOs ARE USED, THEY MUST NOT CONFLICT DURING RESET

STRAPS	PIN	DESCRIPTION OF DEFAULT SETTINGS	DEFAULT	REMARK
TX_PWRS_ENB	GPIO0	0 = 50% TX OUTPUT SWING 1 = FULL TX OUTPUT SWING	0	
TX_DEEMPH_EN	GPIO1	PCIe TRANSMITTER DE-EMPHASIS ENABLED 0 = TX DE-EMPHASIS DISABLED 1 = TX DE-EMPHASIS ENABLED	0	
BIOS_ROM_EN	GPIO_22_ROMCSB	ENABLE EXTERNAL BIOS ROM 0 = DISABLE 1 = ENABLE	0	
ROMIDCFG(2:0)	GPIO[13:11]	SERIAL ROM TYPE OR MEMORY APERTURE SIZE SELECT	000	See Memory Aperture size
BIF_GEN2_EN_A	GPIO2	0 = PCIe DEVICE AS 2.5GT/S CAPABLE 1 = PCIe DEVICE AS 5GT/S CAPABLE	0	
GPIO_8_ROMSO H2SYNC GPIO_21_BB_EN	GPIO8 H2SYNC GPIO21	Reserved Only	0	
AUD[1] AUD[0]	HSYNC VSYNC	AUD[1:0] 00: NO AUDIO FUNCTION. 01: AUDIO FOR DISPLAYPORT AND HDMI IF ADAPTER IS DETECTED. 10: AUDIO FOR DISPLAYPORT ONLY. 11: AUDIO FOR BOTH DISPLAYPORT AND HDMI.	11	See Audio table
GPIO_9_ROMSI	GPIO9	0 = VGA controller capacity enable	0	
VIP_DEVICE_STRAP_ENA	V2SYNC	0 = DRIVER would ignore the value sample on VHAD_0 during RESET.	0	

EEPROM



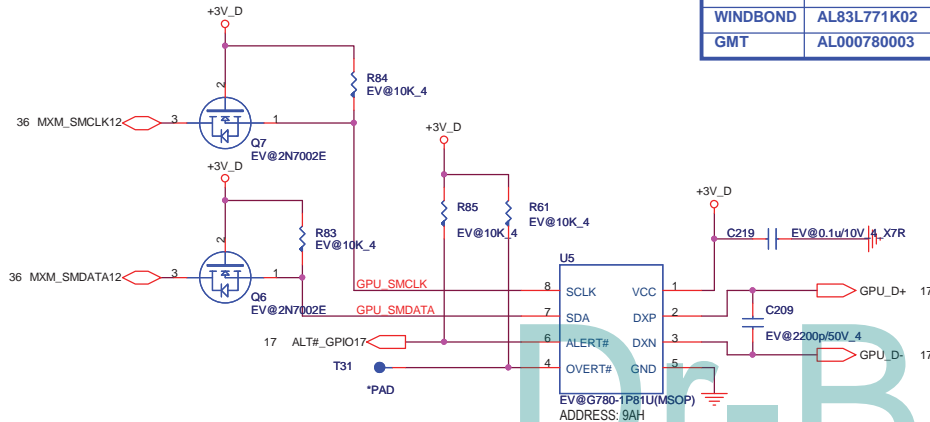
EEPROM is required on all GDDR5 designs

DDR3 Memory Aperture size

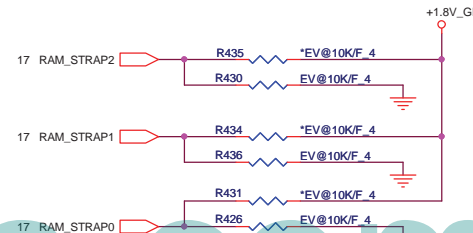
DDR3 VRAM size

Vendor	Vendor P/N	STN B/S P/N	Size	RAM_STRAP2 DVPPDATA_2	RAM_STRAP1 DVPPDATA_1	RAM_STRAP0 DVPPDATA_0
Hynix	H5TQ1G63BFR-12C	AKD5LZGTW04 (64M*16)	512MB	1	1	0
			1GB	1	0	0
			2GB	1	0	1
Samsung	K4W1G1646E-HC12	AKD5LGGT506 (64M*16)	512MB	0	1	0
			1GB	0	0	0
			2GB	0	0	1
AMD	23EY2387MA-12	AKD5LGGT700		0	1	0

Thermal Sensor



NS	none
WINDBOND	AL83L771K02
GMT	AL000780003



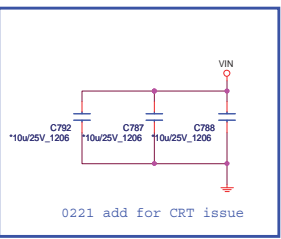
RAM_STRAP2 SET DDR3 Vendor
RAM_STRAP[1:0] SET SIZE.

Quanta Computer Inc.
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Size	Document Number	Rev
	Strip/Thermal	3B
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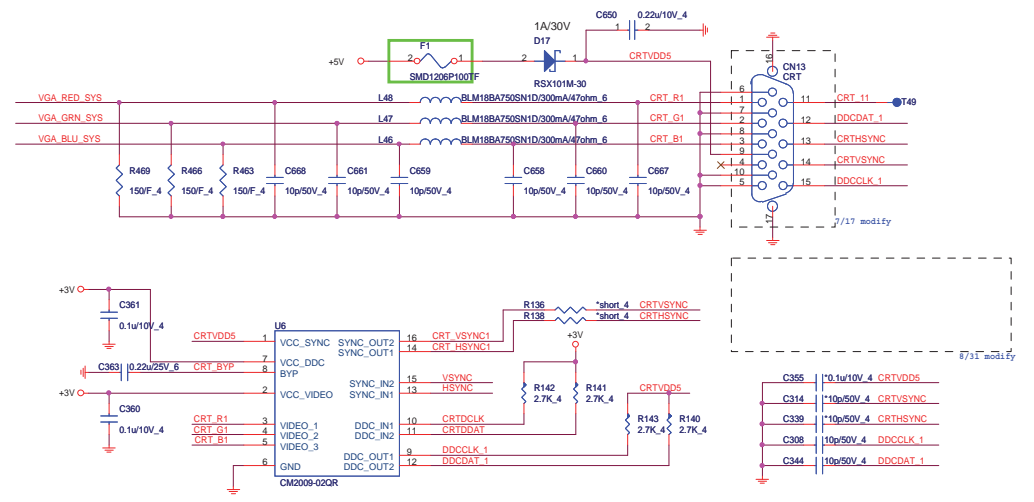
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CRT(CRT)

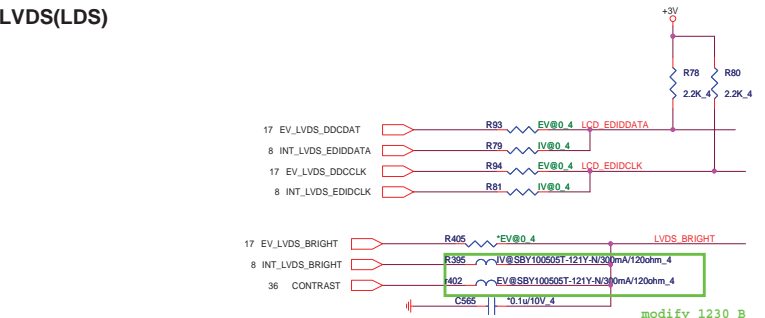


8 INT_CRT_RED	INT_CRT_RED	R470	IV@0_4	VGA_RED_SYS
8 INT_CRT_GRN	INT_CRT_GRN	R467	IV@0_4	VGA_GRN_SYS
8 INT_CRT_BLU	INT_CRT_BLU	R464	IV@0_4	VGA_BLU_SYS
8 INT_VSYNC	INT_VSYNC	R139	IV@0_4	VSYNC
8 INT_HSYNC	INT_HSYNC	R138	IV@0_4	HSYNC
8 INT_CRT_DDCDAT	INT_CRT_DDCDAT	R459	IV@0_4	CRDSDAT
8 INT_CRT_DDCCLK	INT_CRT_DDCCLK	R460	IV@0_4	CRTDCLK

17 EV_CRT_RED	R468	EV@0_4	VGA_RED_SYS
17 EV_CRT_GRN	R465	EV@0_4	VGA_GRN_SYS
17 EV_CRT_BLU	R462	EV@0_4	VGA_BLU_SYS
17.23 EV_VSYNC	R456	EV@0_4	VSYNC
17.23 EV_HSYNC	R457	EV@0_4	HSYNC
17 EV_CRTDDAT	R458	EV@0_4	CRDSDAT
17 EV_CRTDCLK	R461	EV@0_4	CRTDCLK



LVDS(LDS)



17 EV_LVDS_DDCDAT	R93	EV@0_4	LQD_EDIDDATA
8 INT_LVDS_EDIDDATA	R79	IV@0_4	
17 EV_LVDS_DDCCLK	R94	EV@0_4	LQD_EDIDCLK
8 INT_LVDS_EDIDCLK	R81	IV@0_4	

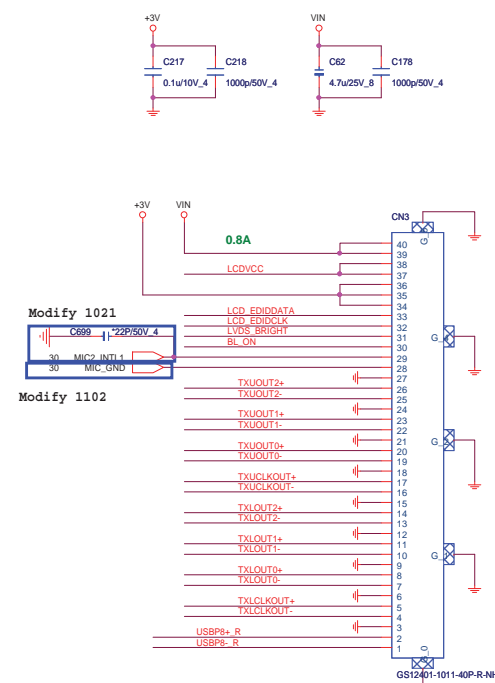
17 EV_LVDS_BRIGHT	R405	EV@0_4	LVDS_BRIGHT
8 INT_LVDS_BRIGHT	R395	IV@SBY100505T-121Y-N30mA/120ohm_4	
36 CONTRAST	R402	EV@SBY100505T-121Y-N30mA/120ohm_4	

17 EV_TXCLKOUT-	RN15	3	4	EV@0_4P2R	TXCLKOUT-
17 EV_TXCLKOUT+	RN11	3	4	EV@0_4P2R	TXCLKOUT+
17 EV_TXL0UT0-	RN1	1	2	EV@0_4P2R	TXL0UT0-
17 EV_TXL0UT0+	RN16	3	4	EV@0_4P2R	TXL0UT0+
17 EV_TXL0UT1-	RN12	3	4	EV@0_4P2R	TXL0UT1-
17 EV_TXL0UT1+	RN2	1	2	EV@0_4P2R	TXL0UT1+
17 EV_TXL0UT2-	RN1	1	2	EV@0_4P2R	TXL0UT2-
17 EV_TXL0UT2+	RN1	1	2	EV@0_4P2R	TXL0UT2+

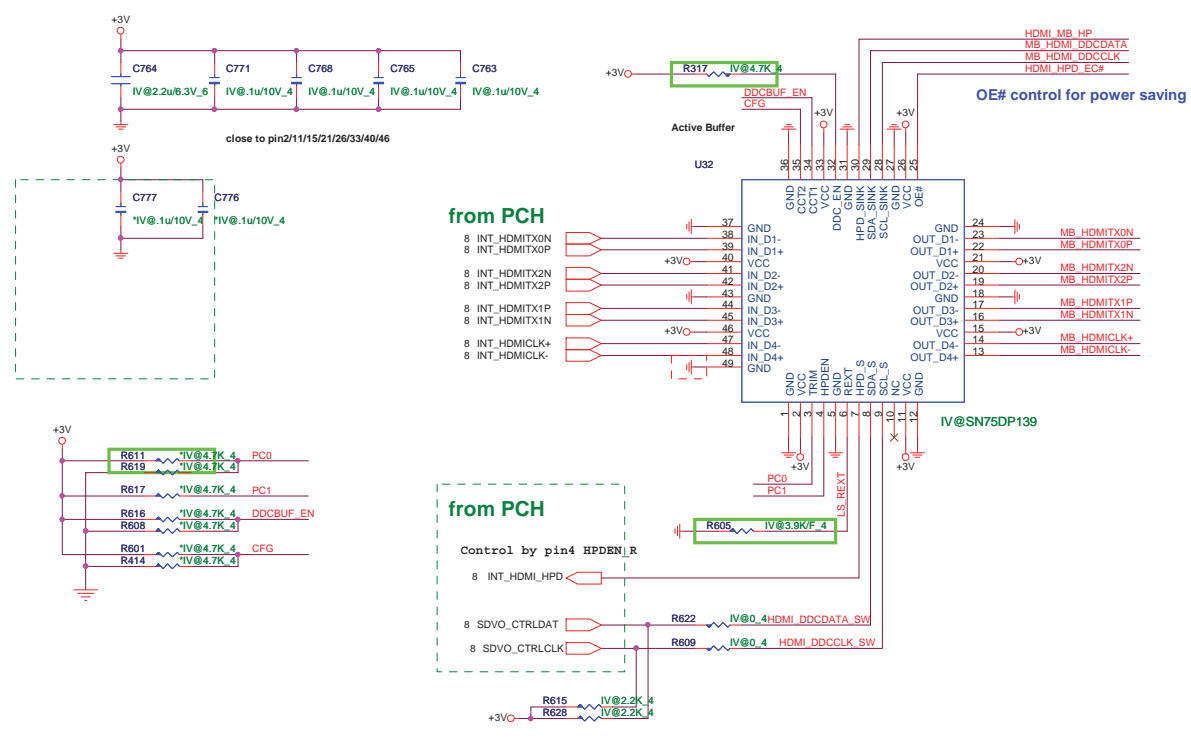
17 EV_LVDS_VDDEN	RN1	3	4	EV@0_4P2R	LVDS_VDDEN
17 EV_LVDS_BLON	RN17	3	4	EV@0_4P2R	LVDS_BLON
17 EV_TXCLKOUT-	RN17	3	4	EV@0_4P2R	TXCLKOUT-
17 EV_TXCLKOUT+	RN1	1	2	EV@0_4P2R	TXCLKOUT+
17 EV_TXL0UT0-	RN13	3	4	EV@0_4P2R	TXL0UT0-
17 EV_TXL0UT0+	RN1	1	2	EV@0_4P2R	TXL0UT0+
17 EV_TXL0UT1-	RN18	3	4	EV@0_4P2R	TXL0UT1-
17 EV_TXL0UT1+	RN1	1	2	EV@0_4P2R	TXL0UT1+
17 EV_TXL0UT2-	RN14	3	4	EV@0_4P2R	TXL0UT2-
17 EV_TXL0UT2+	RN1	1	2	EV@0_4P2R	TXL0UT2+

8 INT_TXCLKOUT+	INT_TXCLKOUT+	RN7	3	4	IV@0_4P2R	TXCLKOUT+
8 INT_TXCLKOUT-	INT_TXCLKOUT-	RN1	1	2	IV@0_4P2R	TXCLKOUT-
8 INT_TXL0UT0+	INT_TXL0UT0+	RN3	3	4	IV@0_4P2R	TXL0UT0+
8 INT_TXL0UT0-	INT_TXL0UT0-	RN1	1	2	IV@0_4P2R	TXL0UT0-
8 INT_TXL0UT1+	INT_TXL0UT1+	RN8	3	4	IV@0_4P2R	TXL0UT1+
8 INT_TXL0UT1-	INT_TXL0UT1-	RN1	1	2	IV@0_4P2R	TXL0UT1-
8 INT_TXL0UT2+	INT_TXL0UT2+	RN4	3	4	IV@0_4P2R	TXL0UT2+
8 INT_TXL0UT2-	INT_TXL0UT2-	RN1	1	2	IV@0_4P2R	TXL0UT2-

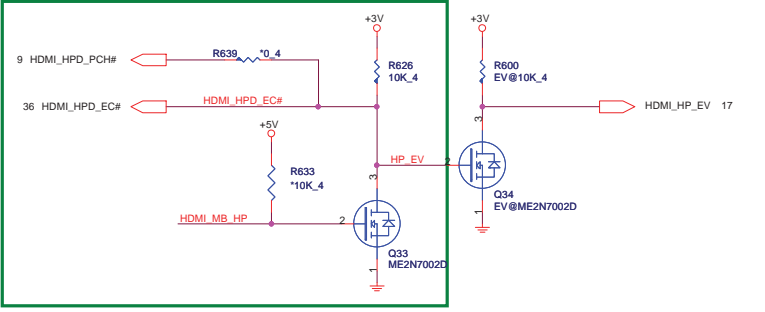
8 INT_LVDS_DIGON	INT_LVDS_DIGON	RN2	2	IV@0_4P2R	LVDS_VDDEN	
8 INT_LVDS_BLON	INT_TXCLKOUT+	RN9	3	4	IV@0_4P2R	TXCLKOUT+
8 INT_TXCLKOUT+	INT_TXCLKOUT+	RN5	3	4	IV@0_4P2R	TXL0UT0+
8 INT_TXL0UT0+	INT_TXL0UT0+	RN10	3	4	IV@0_4P2R	TXL0UT0+
8 INT_TXL0UT0-	INT_TXL0UT0-	RN1	1	2	IV@0_4P2R	TXL0UT0-
8 INT_TXL0UT1+	INT_TXL0UT1+	RN6	3	4	IV@0_4P2R	TXL0UT1+
8 INT_TXL0UT1-	INT_TXL0UT1-	RN1	1	2	IV@0_4P2R	TXL0UT1-
8 INT_TXL0UT2+	INT_TXL0UT2+	RN6	3	4	IV@0_4P2R	TXL0UT2+
8 INT_TXL0UT2-	INT_TXL0UT2-	RN1	1	2	IV@0_4P2R	TXL0UT2-



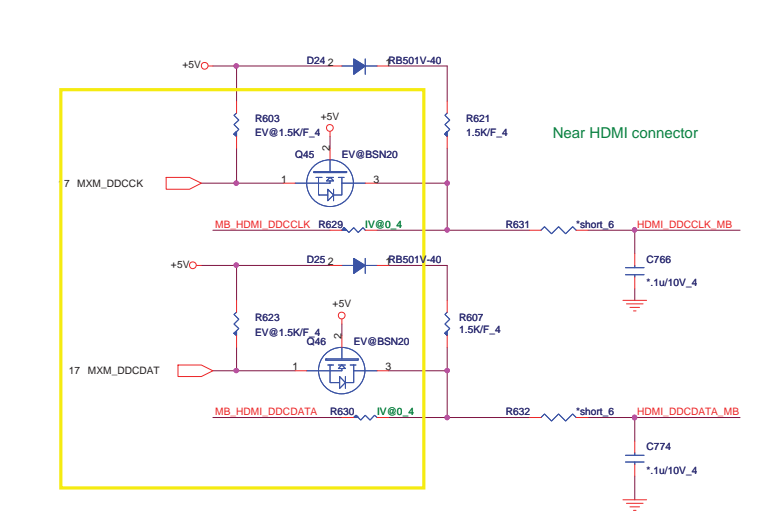
IV @ HDMI LEVEL SHIFTER



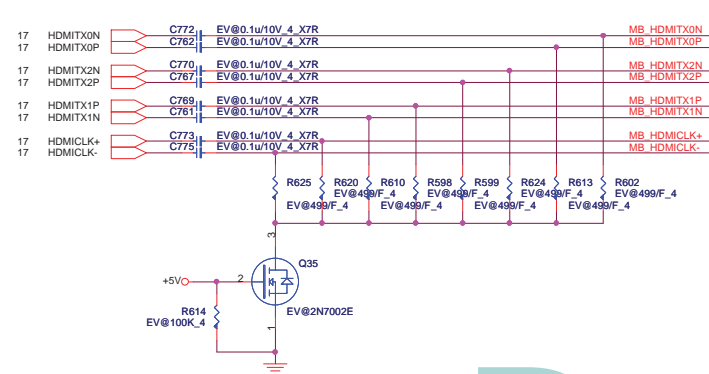
HDMI-detect



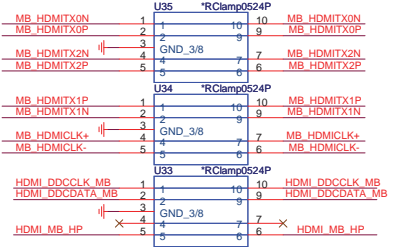
I2C



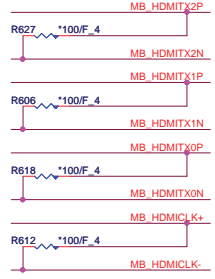
External Graphic HDMI source



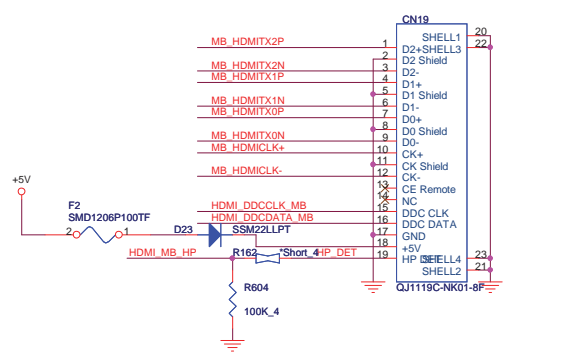
ESD Protect



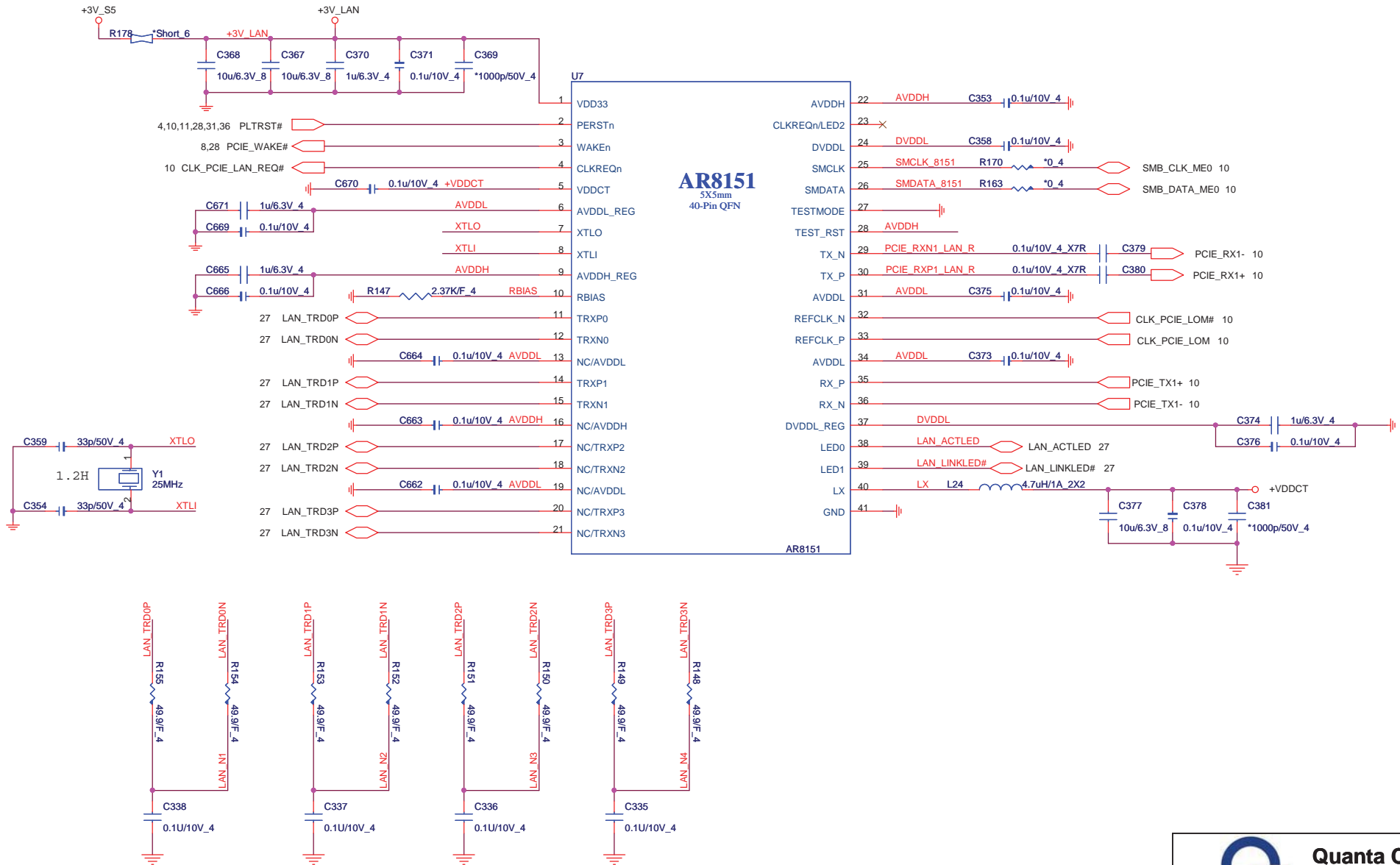
EMI




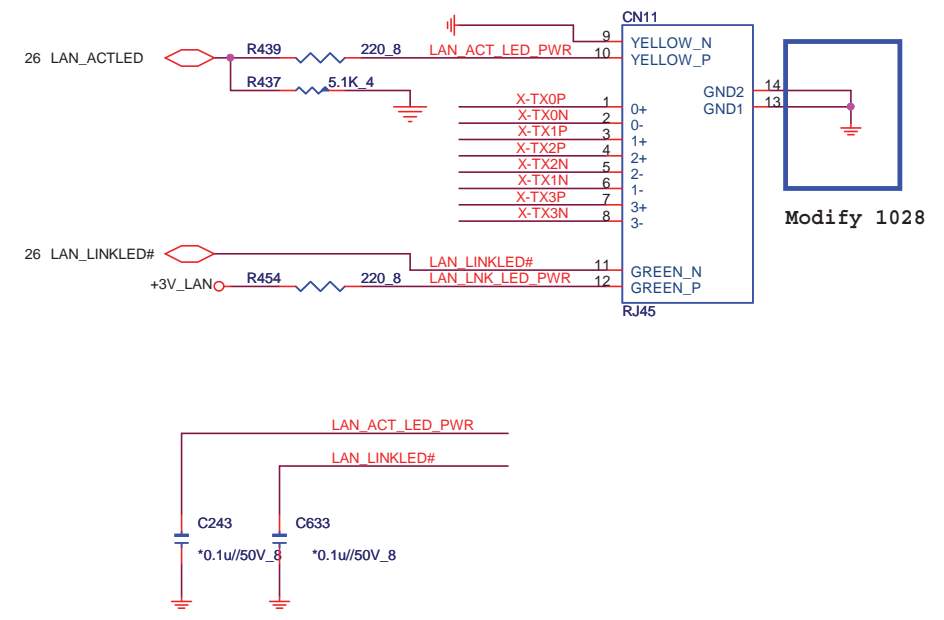
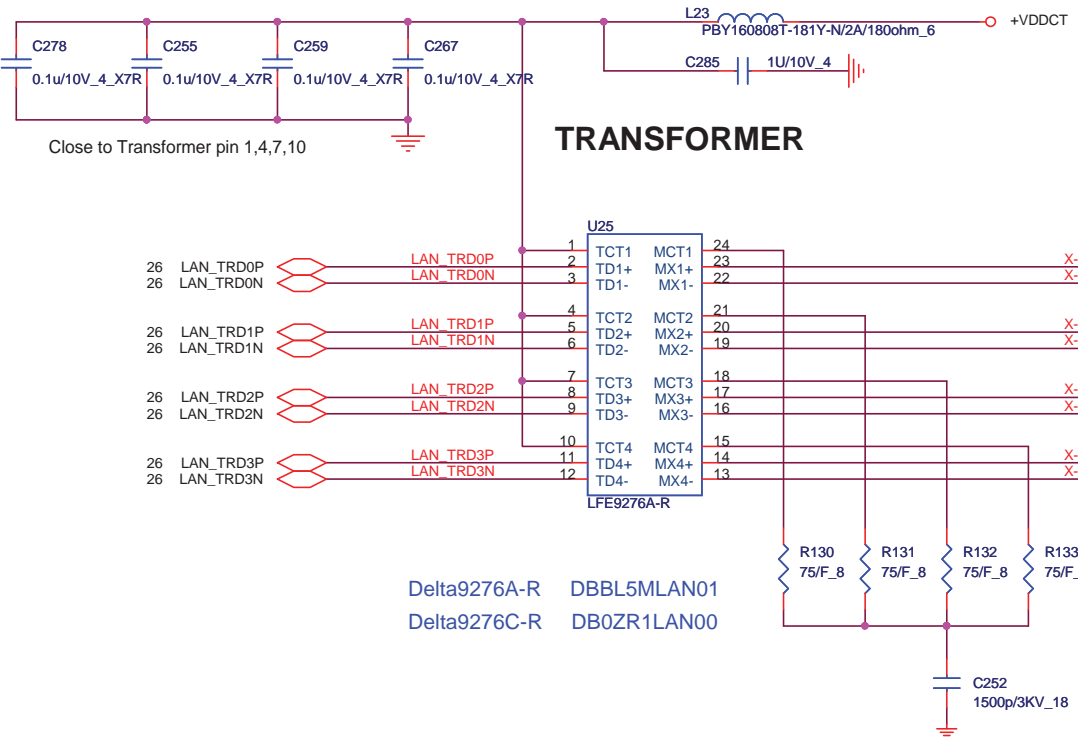
HDMI connector



Giga-LAN AR8151

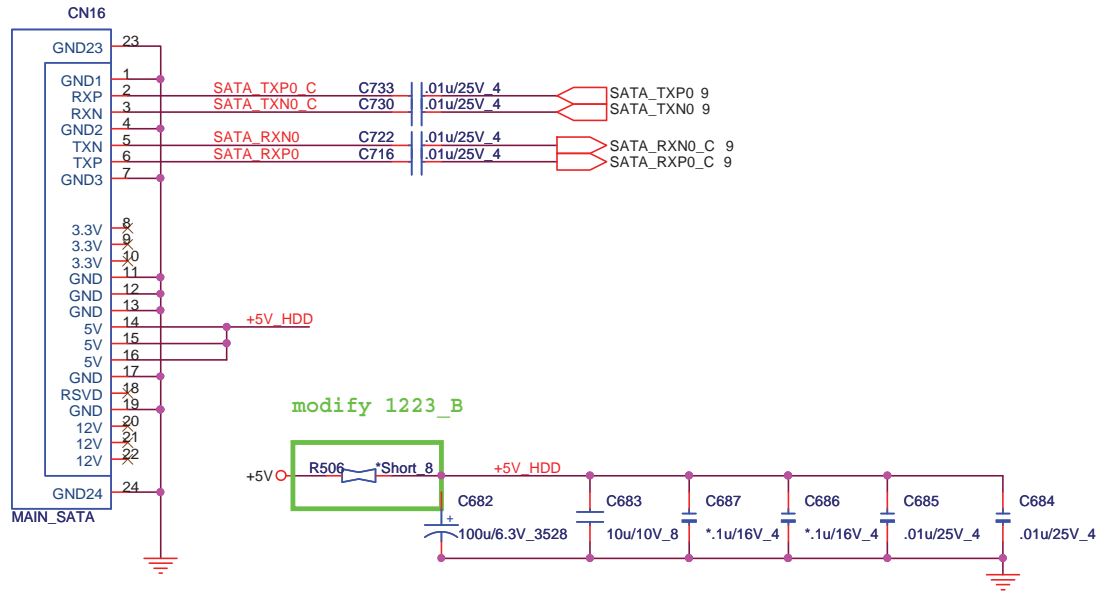


 Quanta Computer Inc. PROJECT : ZYD		Rev 3B
GLAN BCM57780		
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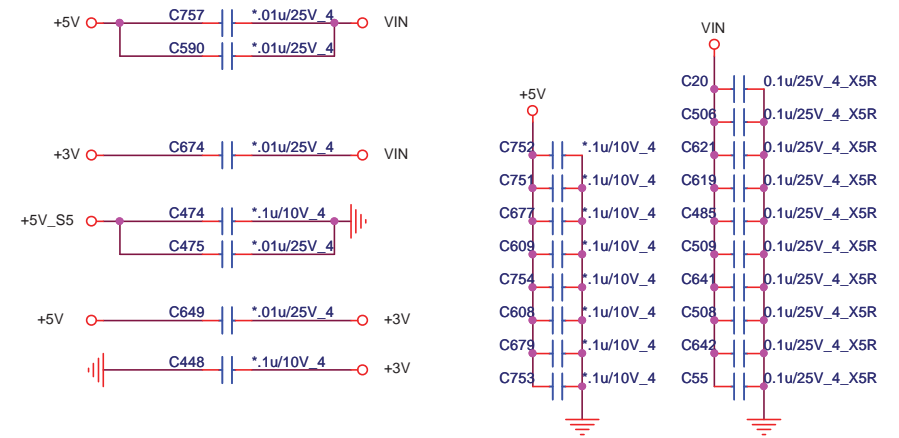


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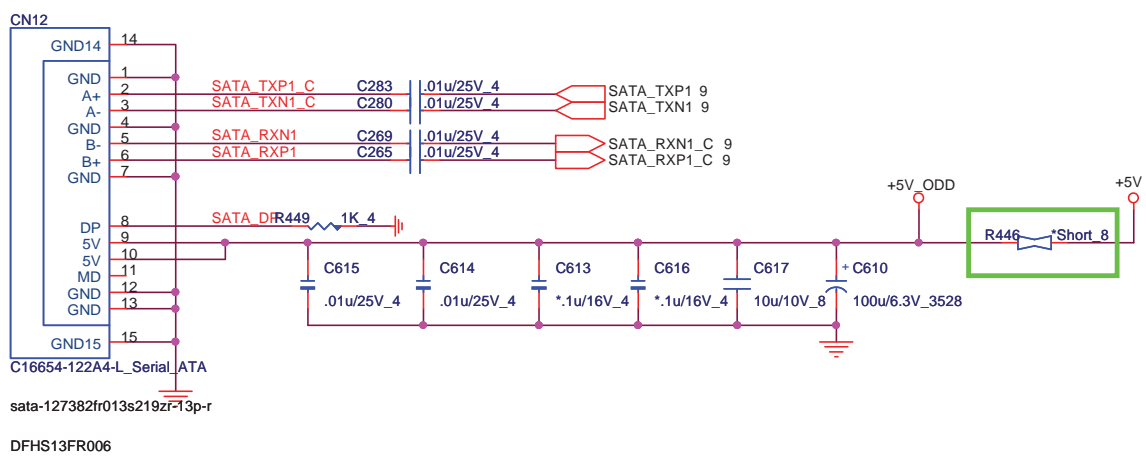
MAIN SATA HDD



EE RETURN-PATH CAPACITORS

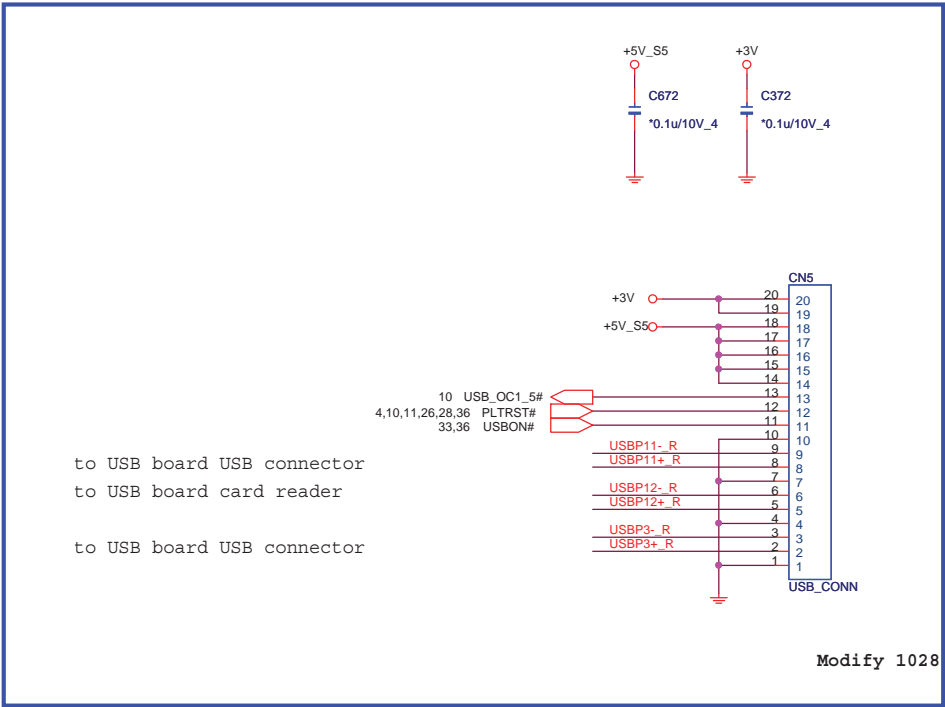
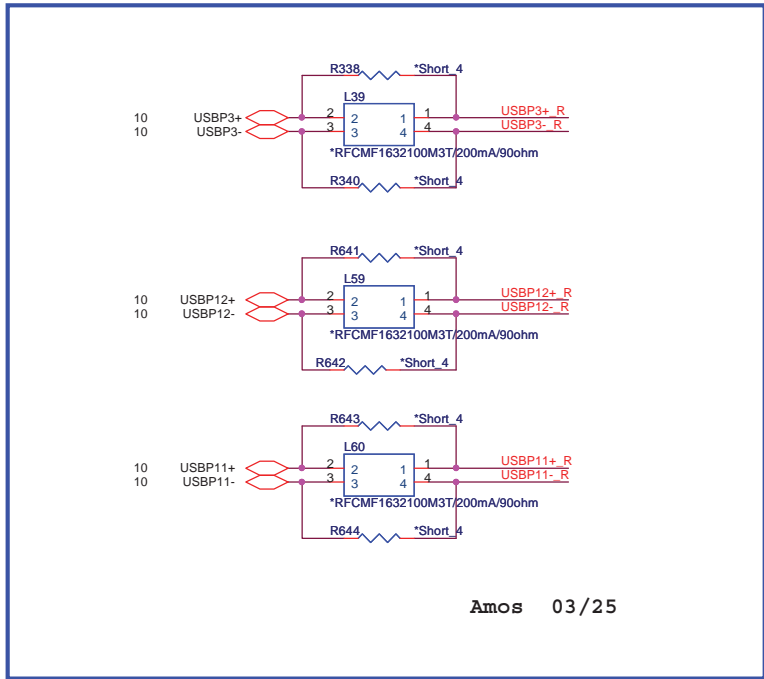


ODD (SATA)



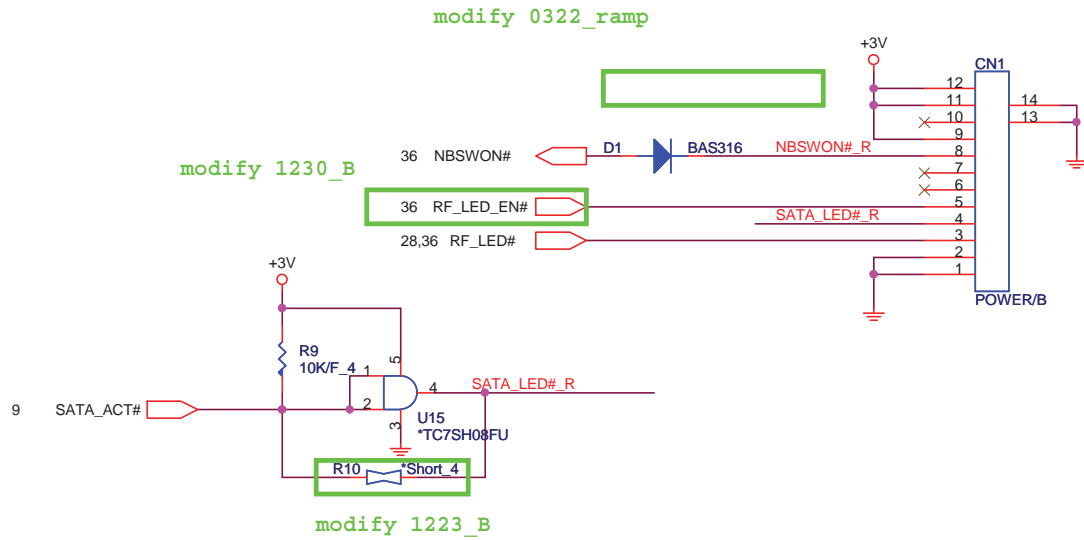
		Quanta Computer Inc. PROJECT : ZYD	
		Size: _____ Document Number: SATA-HDD/ODD/USB-ESATA	Rev: 3B
Date: Tuesday, April 06, 2010		Sheet: 29 of 50	

Cardreader CONN(MMC)

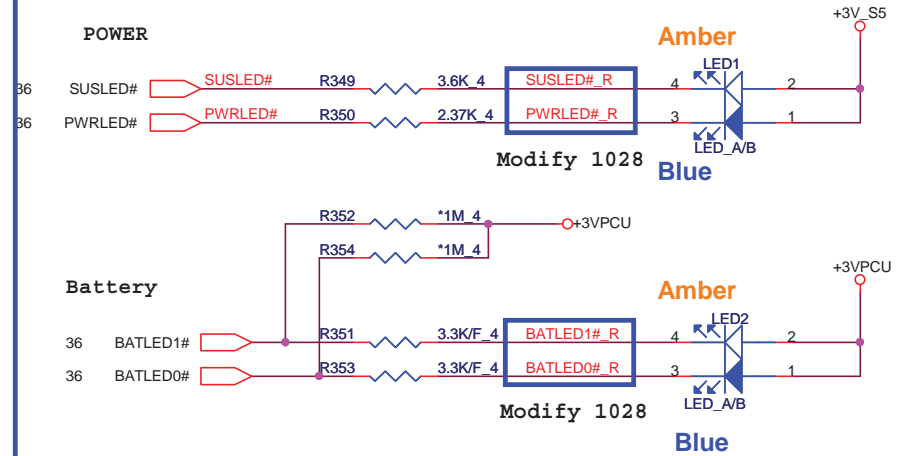



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POWER BOARD CONN(UIF)

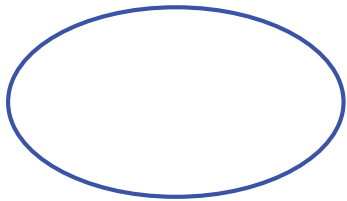


LED(UIF)



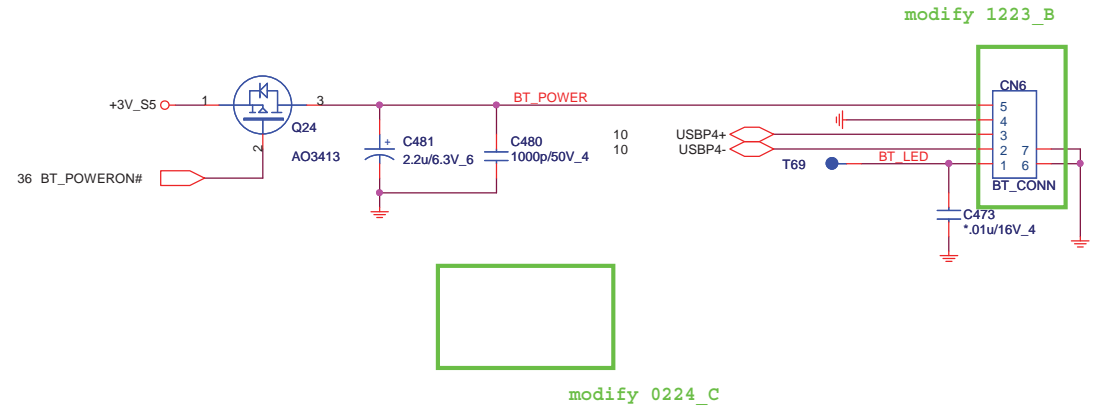
 Quanta Computer Inc. PROJECT : ZYD		Size	Document Number	Rev
				3B
Date: Tuesday, April 06, 2010		Sheet 32 of 50		

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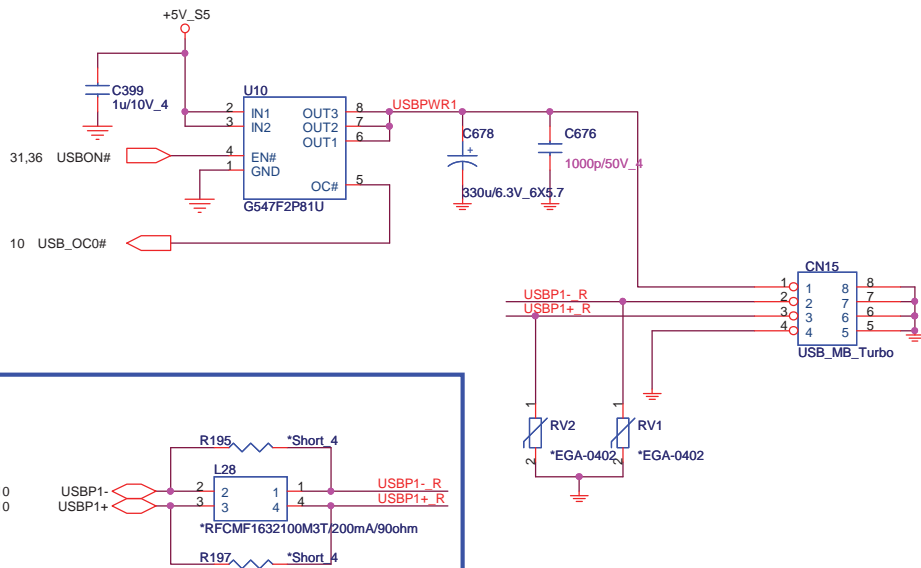


Modify 1022

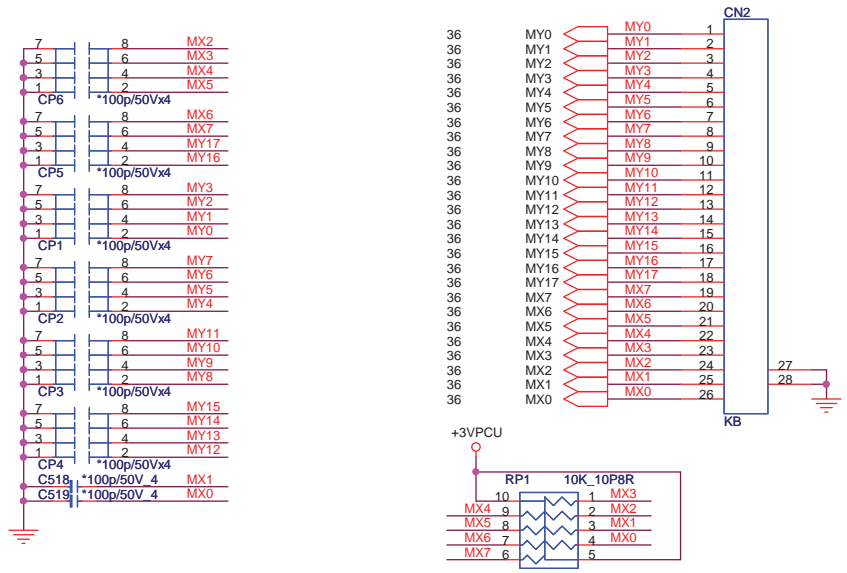
BLUETOOTH CONNECTOR(BTM)



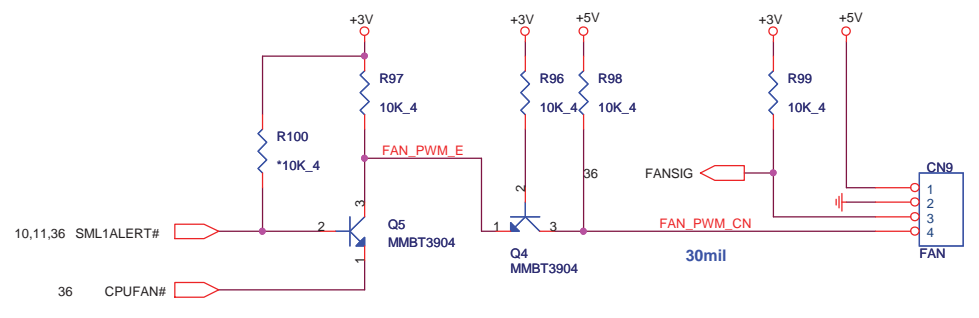
USBX1(USB)



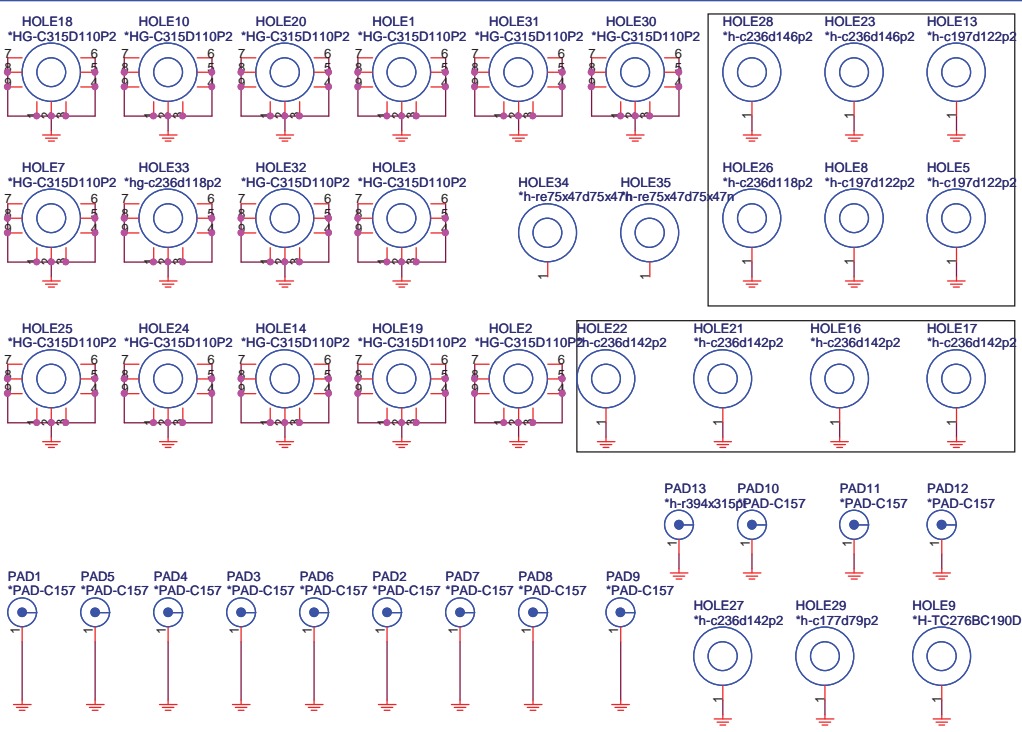
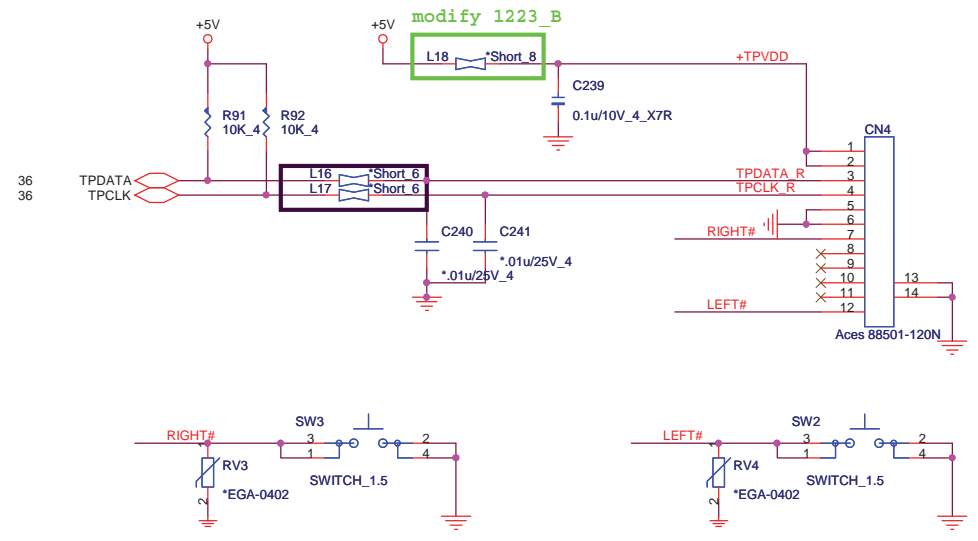
		Quanta Computer Inc.	
		PROJECT : ZYD	
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Date:	Tuesday, April 06, 2010	Sheet	33 of 50



CPU FAN(THM)



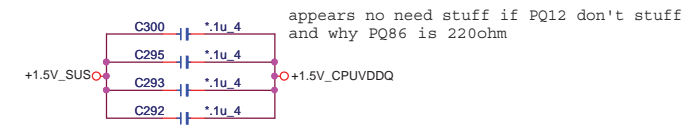
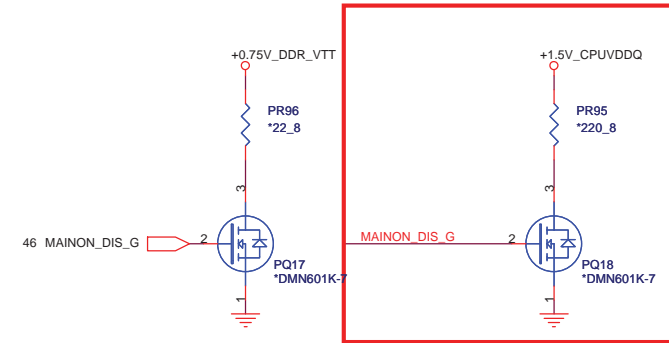
TOUCHPAD & Switch CONN.(TPD)



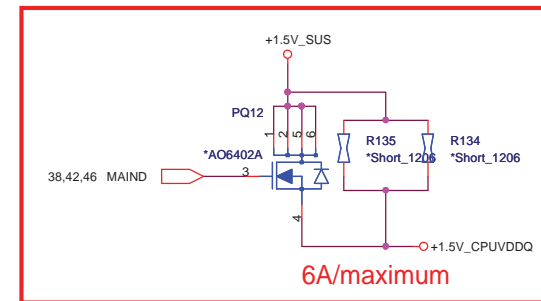
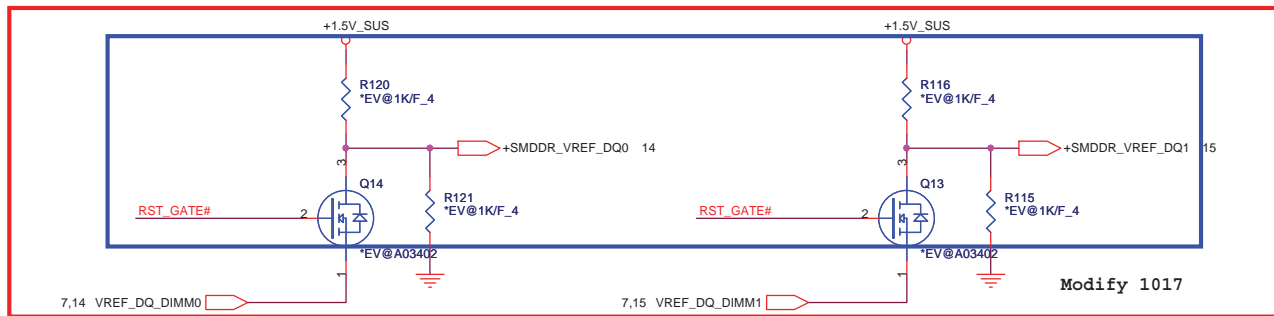
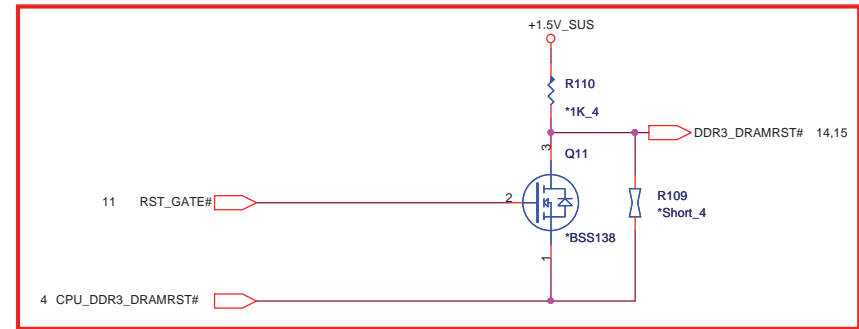
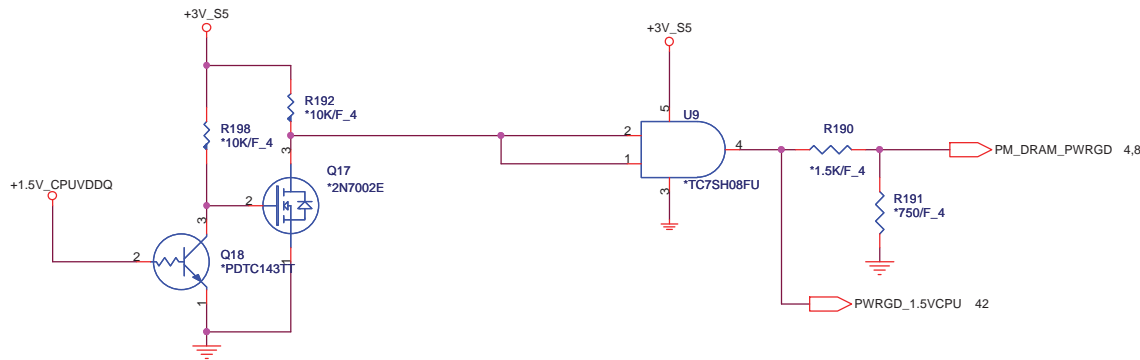
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PROJECT : ZYD

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	KB/FAN/TP+FP	3B
Date:	Tuesday, April 06, 2010	Sheet 34 of 50

SM_DRAMRST# signal (to system memory) to be driven high
 CKE signals (to system memory) to be driven low
 VREFDQ and VREFCA voltage (on system memory) needs to be maintained
 1.5-V power rail to system memory to be maintained.
 All other DDR3 memory interface signals are don't care during S3 state for
 memory self refresh.
 SM_DRAMPWRK (to processor) is driven low during S3 as Processor VDDQ (1.5 V)
 is turned off with this implementation.



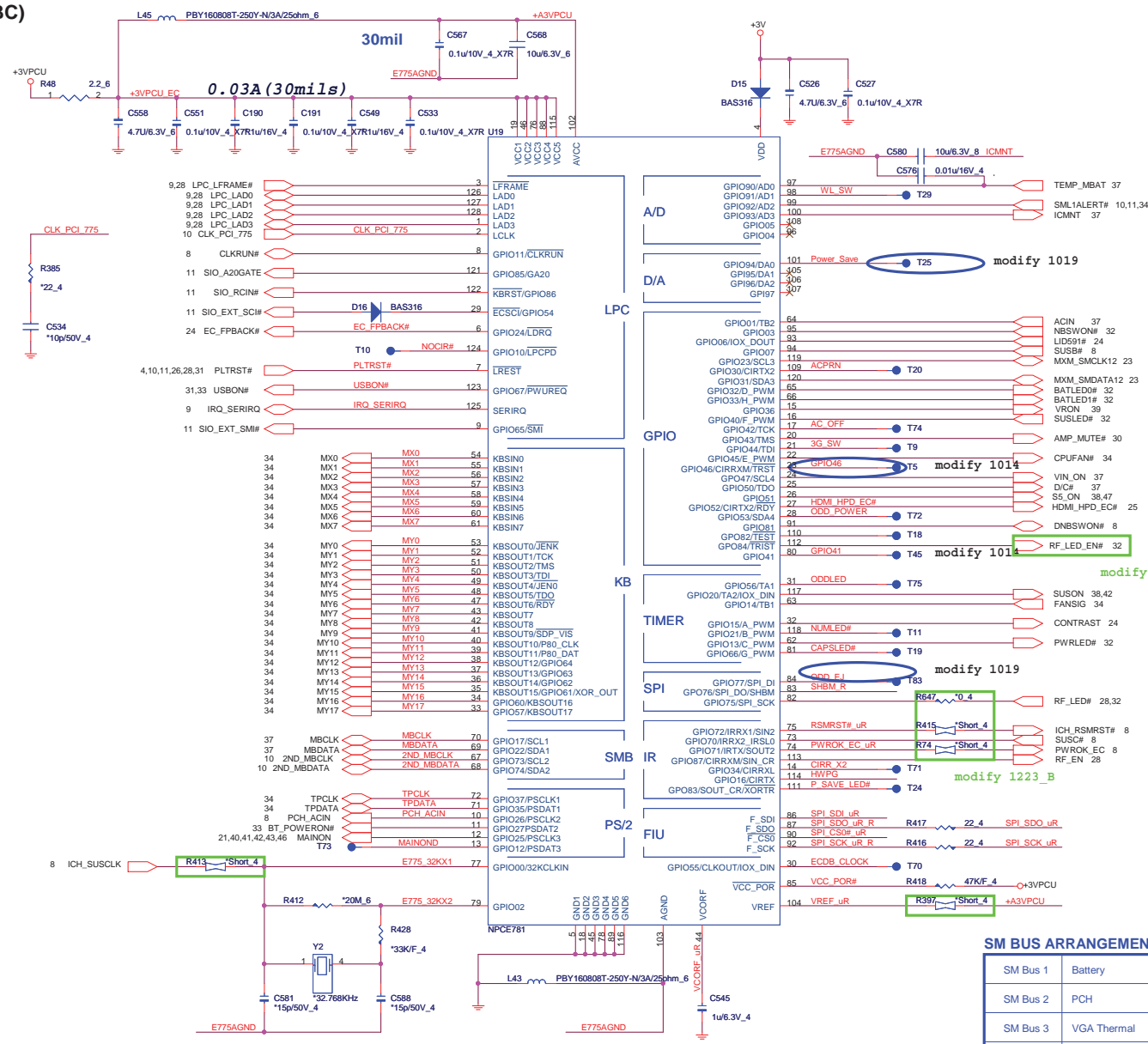
appears no need stuff if PQ12 don't stuff
 and why PQ86 is 220ohm



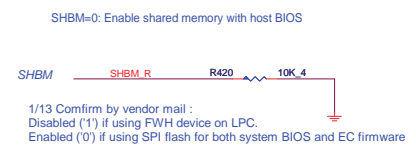
These isolation FETs are not required for ARD-only
 designs. Only CFD and common motherboard designs need to implement this circuit to
 meet the DDR3 VREF specification during S3.

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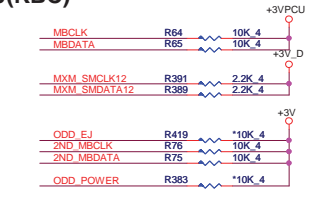
EC(KBC)



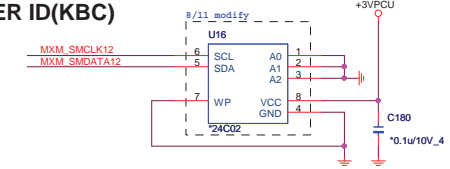
I/O ADDRESS SETTING(KBC)



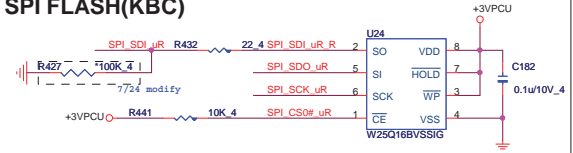
SM BUS PU(KBC)



ACER ID(KBC)

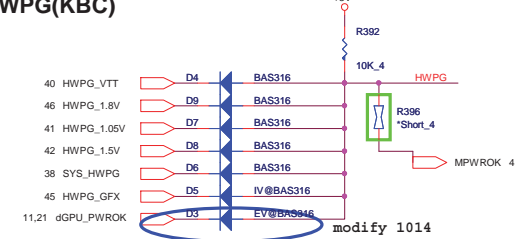


SPI FLASH(KBC)



1/13 Confirm by vendor mail :
If the Southbridge enables "Long Wait Abort" by default, the flash device should be 50MHz (or faster)
At 11/24 add Winbond W25X16AVSSIG MXIC MX25L1605AM2C-15G EON EN25F16-100HIP AMIC A25L016 AKE382PN01 AKE37FP0213 AKE382A0Q00 AKE382N0800

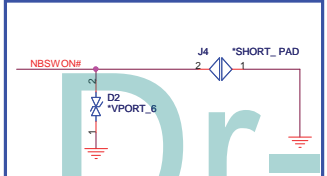
HWPG(KBC)



SM BUS ARRANGEMENT TABLE

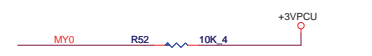
SM Bus 1	Battery
SM Bus 2	PCH
SM Bus 3	VGA Thermal
SM Bus 4	

POWER-ON Switch(KBC)

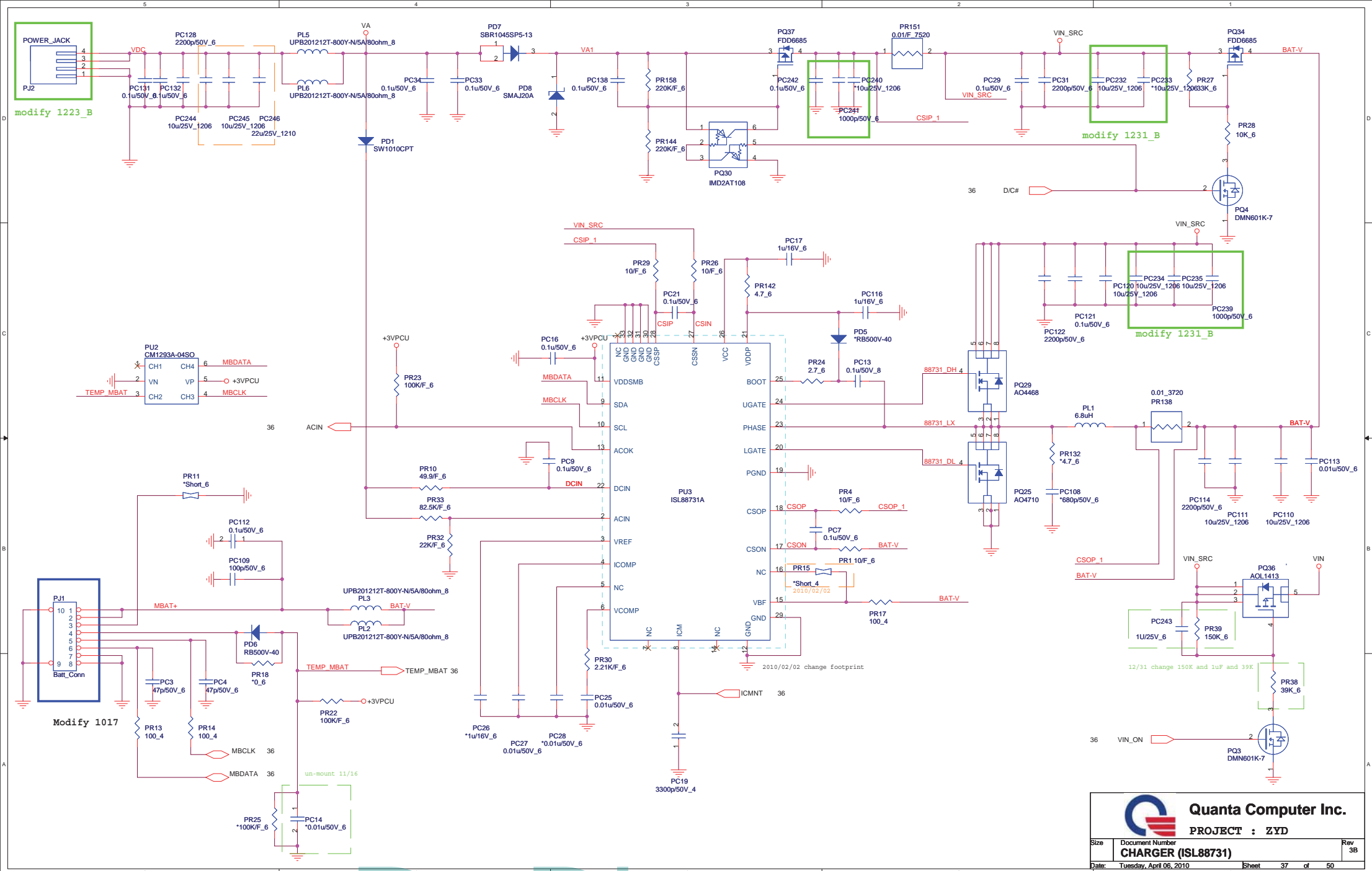



Modify 1028

INTERNAL KEYBOARD STRIP SET(KBC)



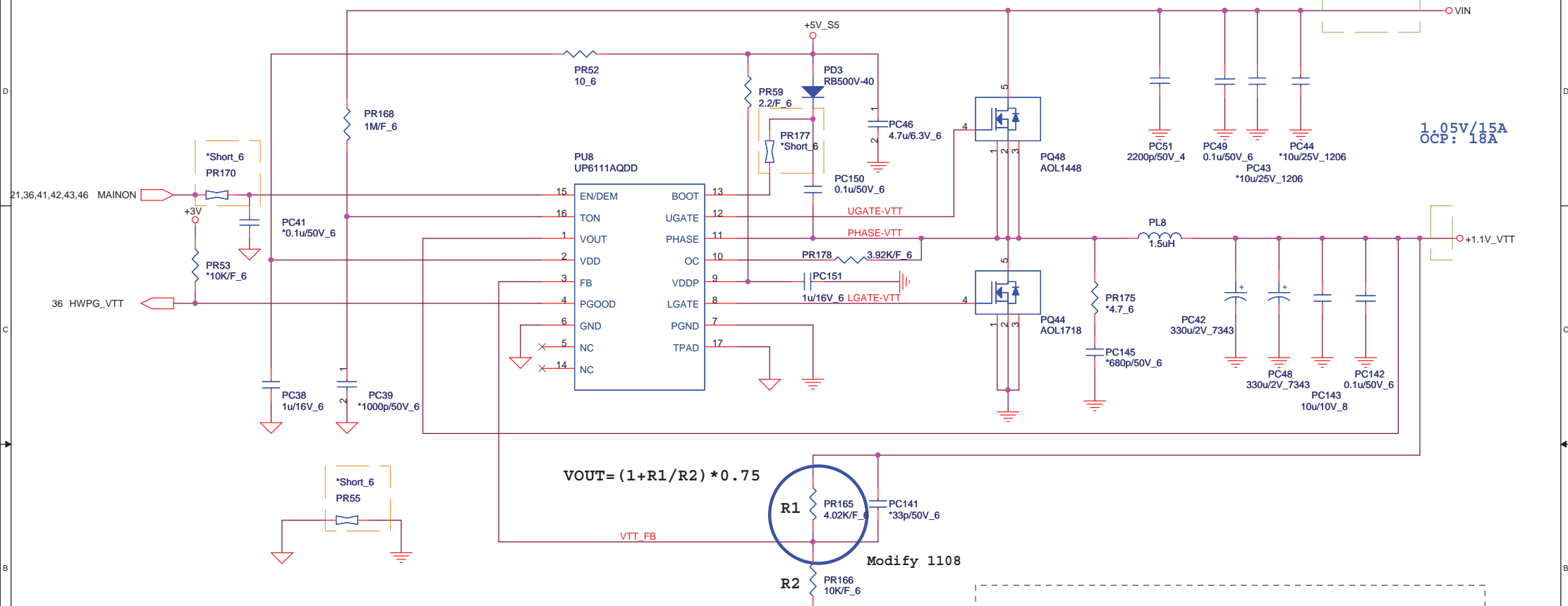
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Size Document Number WPCE781 & FLASH Rev 3B
Date: Tuesday, April 06, 2010 Sheet 36 of 50



			
Quanta Computer Inc.			
PROJECT : ZYD			
Size	Document Number	Rev	
	CHARGER (ISL88731)	3B	
Date:	Tuesday, April 06, 2010	Sheet	37 of 50

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[PWM]




1.05V/15A
OCP: 18A

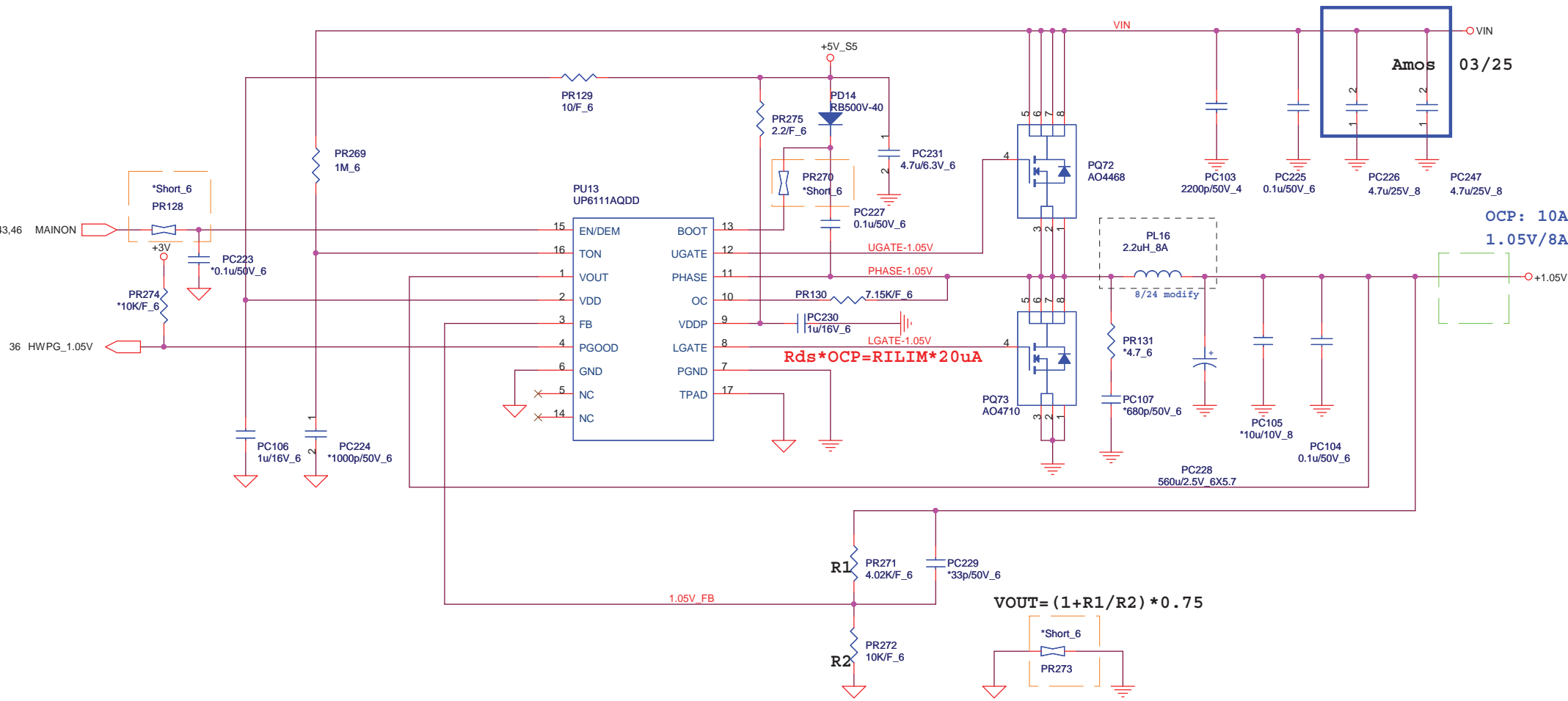
$$V_{OUT} = (1 + R1/R2) * 0.75$$

TON=3.85p*RTON*Vout/(Vin-0.5)
 Frequency=Vout/(Vin*TON)
 TON=3.85p*1M*1/(Vin-0.5)
 Frequency=1/(0.0036767)=272K

AO1718 Rdson=3~4.3mOhm
 L(ripple current)
 =(19-1.05)*1.05/(1u*272k*19)
 ~3.64A
 4.3m*18=RILIM*20uA
 RILIM=3.87K --- 3.92K

Aurbundale (1.05V) R1 = 4.02K (CS24023F928)
 Clarksfield(1.1V) R1 = 4.75K (CS24753F919)


 Quanta Computer Inc. PROJECT : ZYD		Size	Document Number	Rev
			+VTT (UP6111A)	3B
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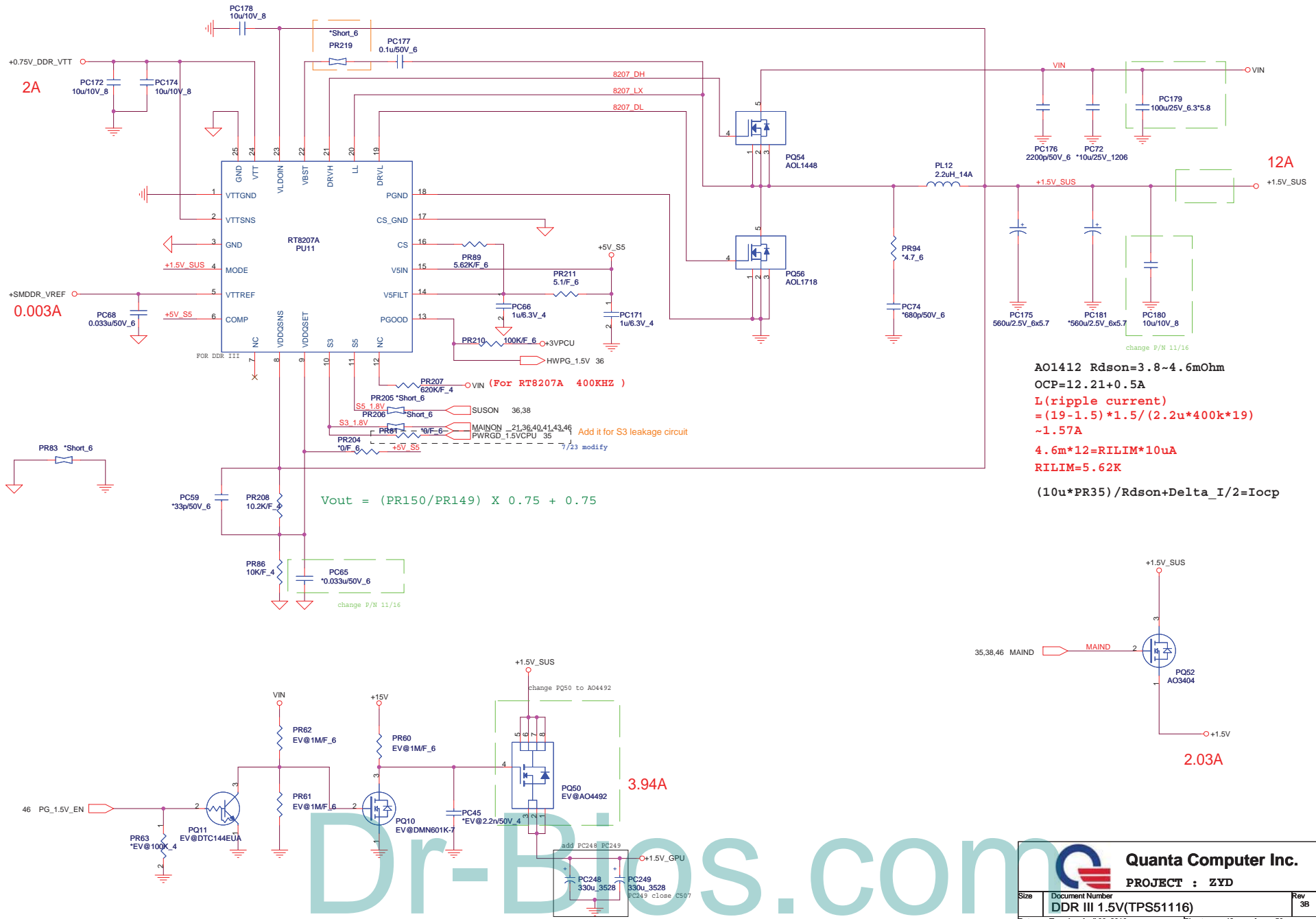


$TON = 3.85p * RTON * Vout / (Vin - 0.5)$
 $Frequency = Vout / (Vin * TON)$
 $TON = 3.85p * 1M * 1 / (Vin - 0.5)$
 $Frequency = 1 / (0.0036767) = 272K$

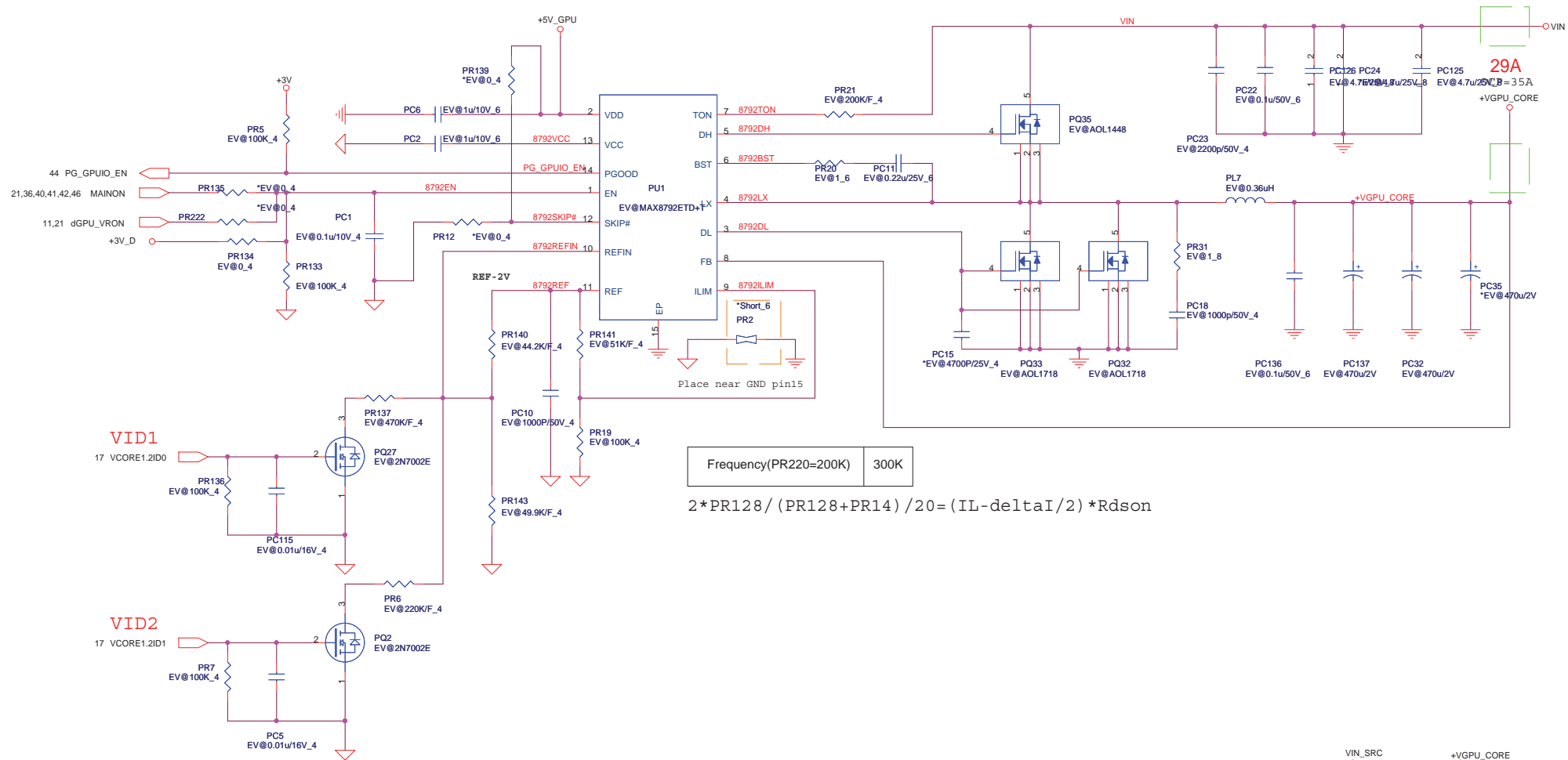
AO4710 $R_{dson} = 11.7 \sim 14.2m\Omega$
 $L(\text{ripple current}) = (19 - 1.05) * 1.05 / (1u * 272k * 19) \sim 3.646A$
 $14.2m * 10 = RILIM * 20uA$
 $RILIM = 7.1K \text{ --- } 7.15K$

$VOUT = (1 + R1/R2) * 0.75$

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		3B
Size	Document Number	
VCCP 1.05V(UP6111A)		
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AO1412 $R_{dson}=3.8\sim 4.6m\Omega$
OCP=12.21+0.5A
L(ripple current)
 $= (19-1.5) * 1.5 / (2.2u * 400k * 19)$
 $\sim 1.57A$
 $4.6m * 12 = R_{ILIM} * 10uA$
RILIM=5.62K
 $(10u * PR35) / R_{dson} + \Delta I / 2 = I_{ocp}$



Frequency(PR220=200K) 300K

$$2 * PR128 / (PR128 + PR14) / 20 = (IL - \Delta I / 2) * R_{dson}$$

Madison VID Table

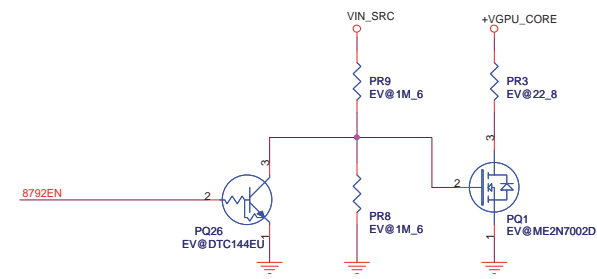
VID1		VID2		+VCC_GFX_CORE
VCORE1.2ID0	VCORE1.2ID1			
LOW (0)	LOW (0)			1.05V
HIGH (1)	LOW (0)			1.0V
LOW (0)	HIGH (1)			0.95V
HIGH (1)	HIGH (1)			0.90V

PR140 = 44.2K
 PR143 = 49.9K
 PR137 = 470K
 PR6 = 220K

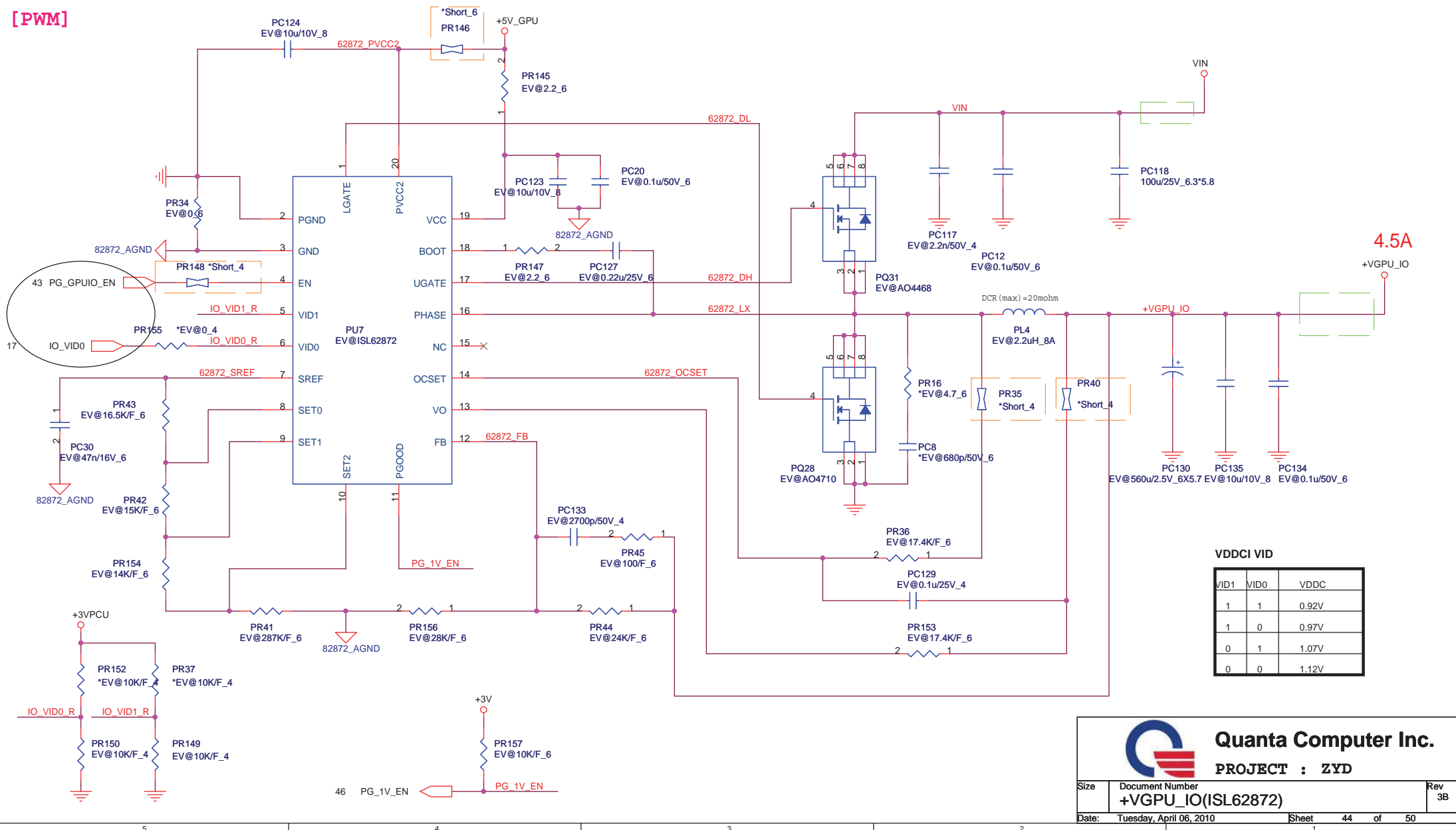
PARK XT VID Table

VID1		VID2		+VCC_GFX_CORE
VCORE1.2ID0	VCORE1.2ID1			
LOW (0)	LOW (0)			1.12V
HIGH (1)	LOW (0)			1.05V
LOW (0)	HIGH (1)			0.95V
HIGH (1)	HIGH (1)			0.90V

PR140 = 39.2K CS33922FB15
 PR143 = 49.9K CS43322FB15
 PR137 = 332K CS41302FB00
 PR6 = 130K



[PWM]

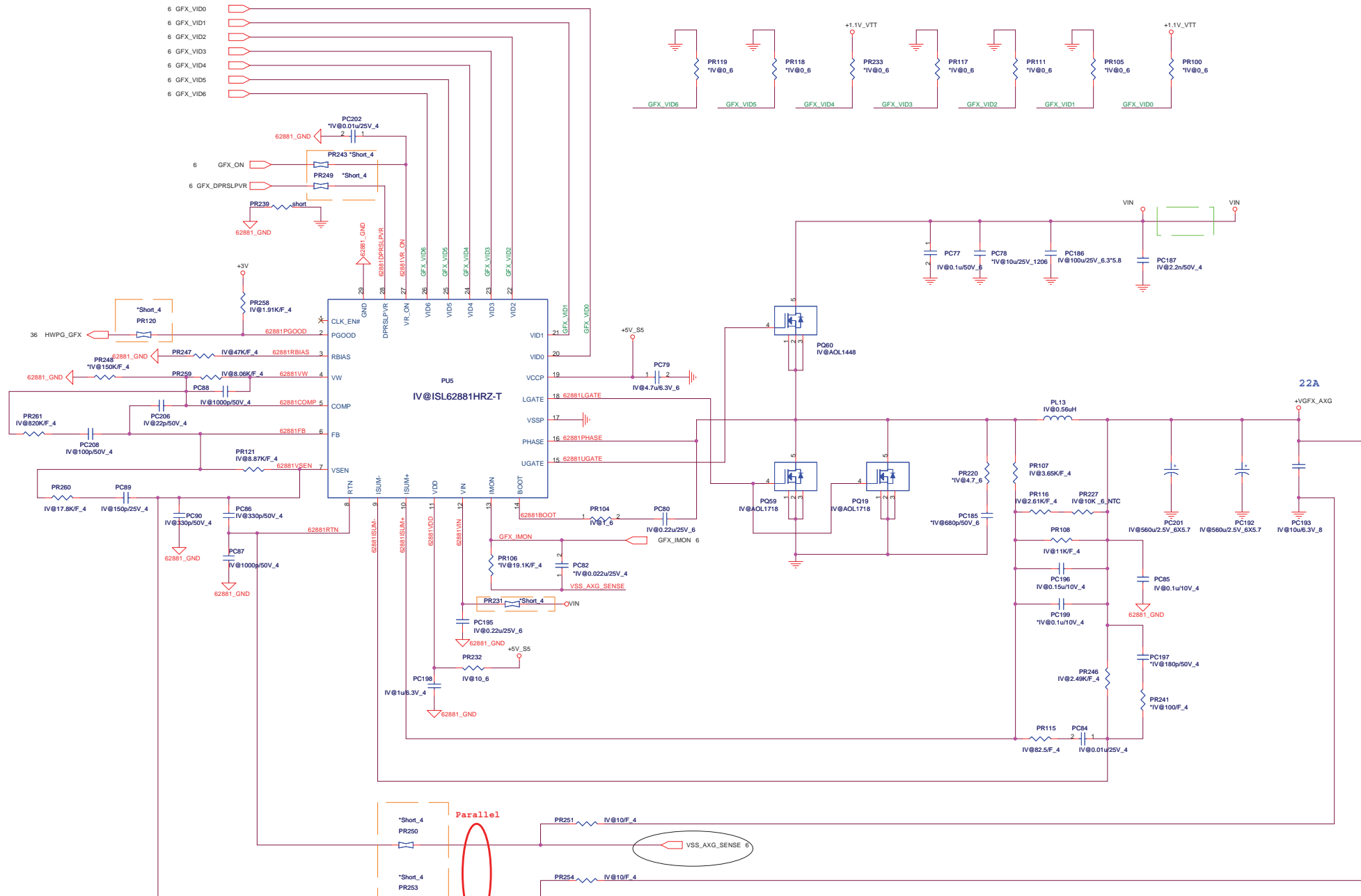


VDDCI VID

VID1	VID0	VDDC
1	1	0.92V
1	0	0.97V
0	1	1.07V
0	0	1.12V

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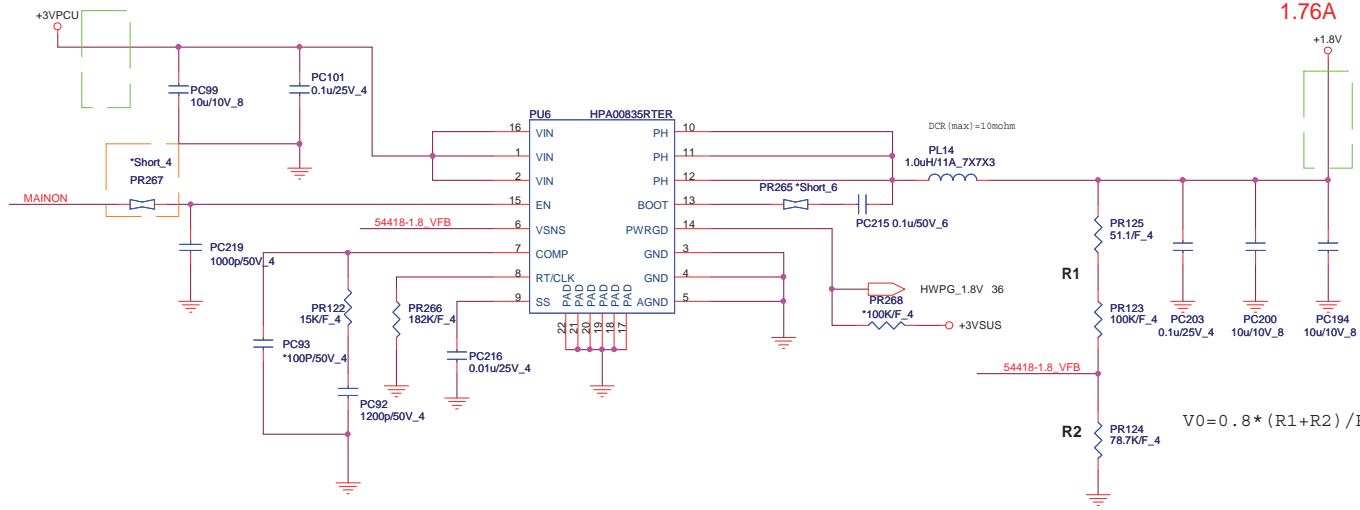
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	+VGPU_IO(ISL62872)	3B
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DCR=1.6-1.8mOhm
 Load Line=7mV/A
 $1.6m\Omega \cdot 6168=0.986m$
 $0.986m / .49K=396p$
 $392p * 2 * 8.87K=7.03m$
 OCP
 $20\mu / 2 * 2.49K=24.9m$
 $24.9m / 0.6168=40.3m$
 $40.3m / 1.6m=25.2A$

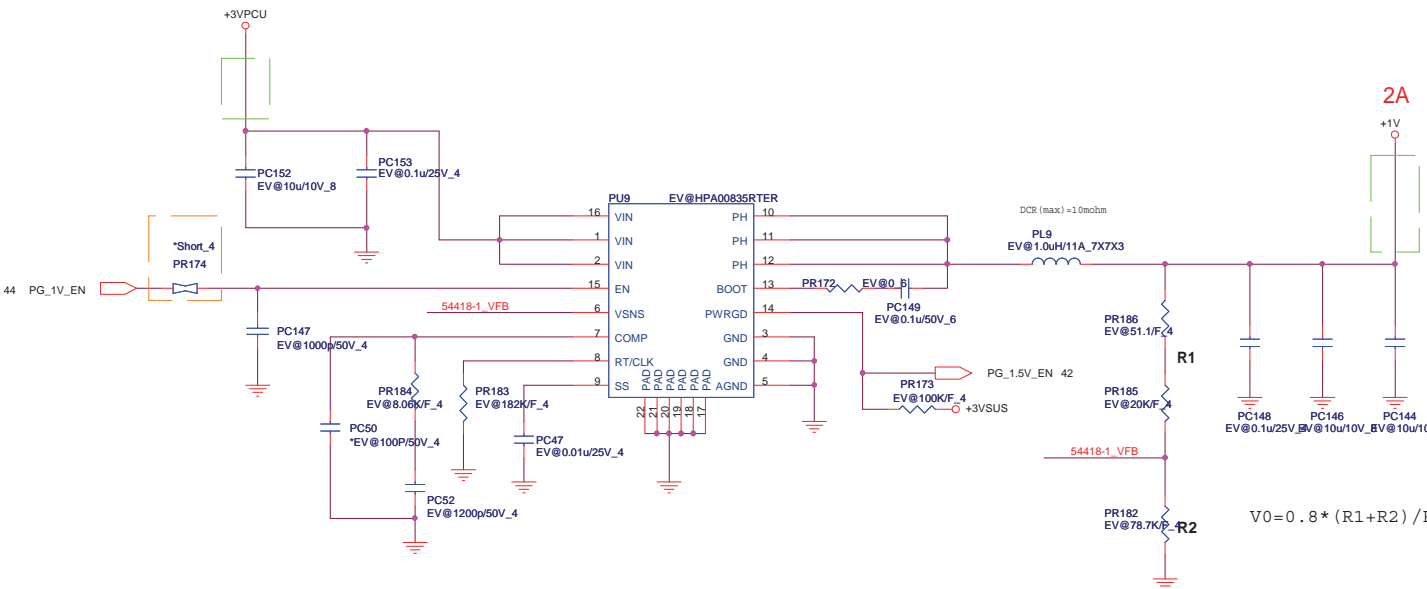
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1. Level 1 Environment-related Substances should NEVER be Used.
 2. Purchase Ink, Paint, wire rodday and Soldering resins only from the business Partners that Sony approves as Green Partners.



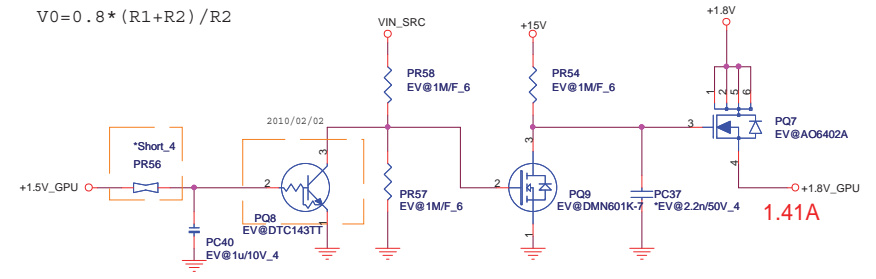
1.76A

$$V0 = 0.8 * (R1 + R2) / R2$$

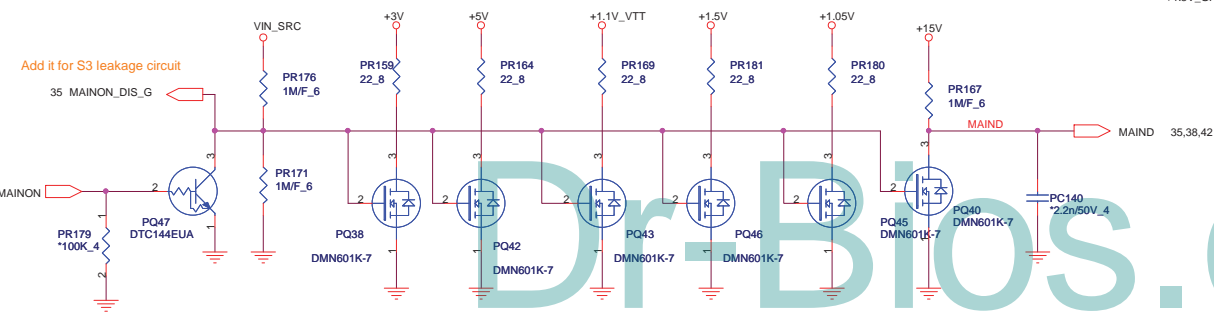


2A

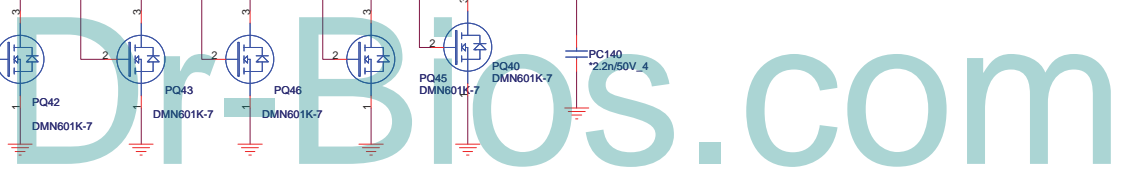
$$V0 = 0.8 * (R1 + R2) / R2$$

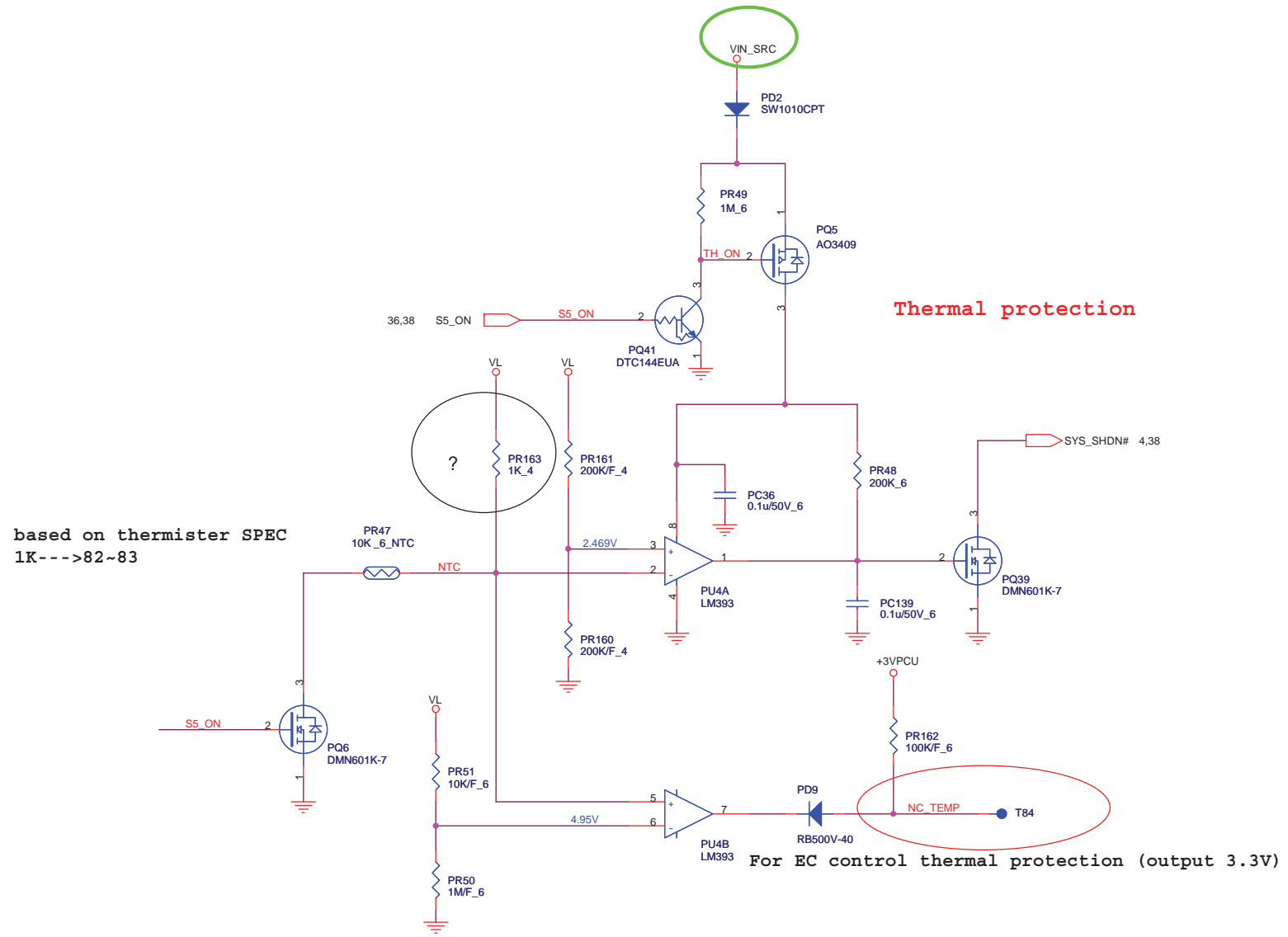


1.41A



Add it for S3 leakage circuit




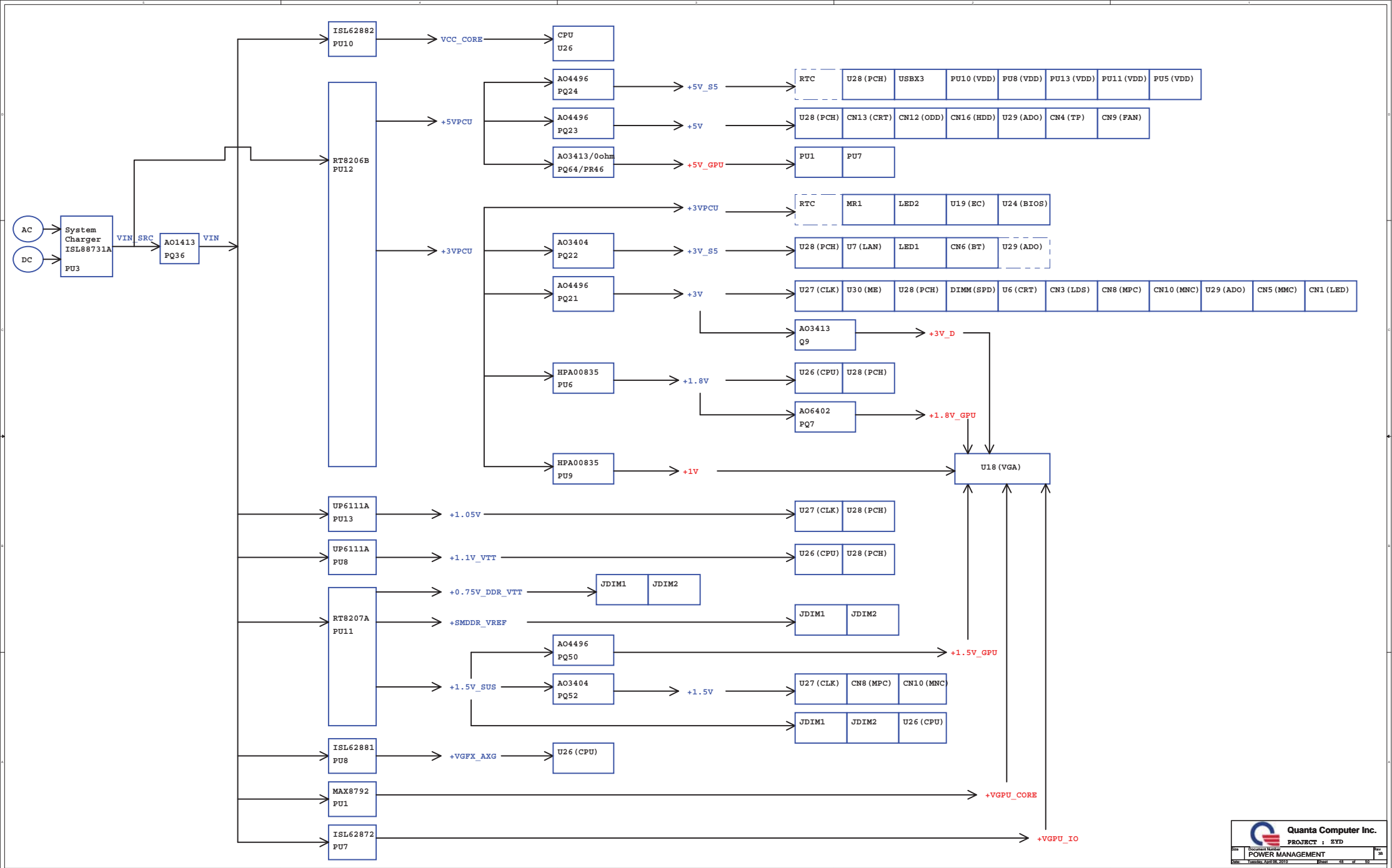


Thermal protection

based on thermister SPEC
1K--->82~83


For EC control thermal protection (output 3.3V)

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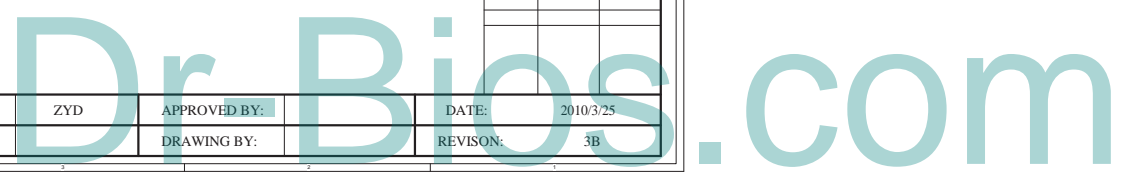


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Model	REV	CHANGE LIST	MODEL	ZYD	
				FROM	To
ZYD MB	1A	20091028 Page 30, Move the resistors and common chokes from M/S to daughter board	X	1A	
		20091028 Page 30, Move the R1027 and R1059 to daughter board and change to 0402 (place closer).	X	1A	
		20091028 Page 30, Move USB Power switch to daughter board	X	1A	
		20091028 Page 30, Change card reader/USB board COMN P/N to DPFC109P255	X	1A	
		20091028 Page 36, Delete R203 and R171 to leave R245 chassis contact to GND directly	X	1A	
		20091028 Page 31, Add net name sude#_R, Pwled#_R,BATLED#_R, BATLED1#_R,RFLLED#_R,RFLLED2#_R	X	1A	
		20091028 Page 35, Add SW1 for debug purpose	X	1A	
		20091028 Page 33, update Hole footprints	X	1A	
		20091029 Page 41, Change PR199, PR200 P/N from CS80003J951 to CS80003P916	X	1A	
		20091102 Page 24, 29, Add Mic_GND for internal analog MIC	X	1A	
		20091102 Page 27, Delete C204, C208, C558, R411, R385, R373, RFP3, Q27, Q26. and change C578 from 0.47u to 4.7u	X	1A	
		20091102 Page 30, Stuff R1001, R1002, R503	X	1A	
		20091103 Page 33, Delete Hole4, Hole5, Hole8, Hole18	X	1A	
		20091104 Page 33, update power schematic	X	1A	
		20091104 Page 30, swap L38,L39,L58 USB nets for layout request.	X	1A	
		20091108 Page 45, Delete net name MAINOM_0	X	1A	
		20091108 Page 39, Change PR151 P/N from CS24703F908 to CS24023F928 for support Arrandale only	X	1A	
		20091108 Page 33, Delete Hole36	X	1A	
		20091110 Page 31, Move Wi-Fi LED to PB	X	1A	
		20091111 Page 39, Delete P18 and Change P18 footprint and value(1.5uh footprint:.CHOKE-STOP4LR36WPC-NB4)	X	1A	
		20091111 Page 41, Stuff +1.5V_GPU power source for EVB only	X	1A	
		20091111 Page 37, reserve PR275 for GPU power	X	1A	
		20091112 Page 18, Follow ATI suggestion to modify R419 from 680ohm to 51 ohm.	X	1A	
		20091112 Page 27, Remove LPC from Mini PCIE port CN24	X	1A	
		20091112 Page 37,45, unstuff +3V_SUS components	X	1A	
		20091113 Page 27, Two Wi-Fi LED share one net RF_LED#	X	1A	
		20091113 Page 31, Delete Q21,Q23, R347	X	1A	
		20091113 Page 29, Reserve three more resistors R373, R368, R385 for ESD solution	X	1A	
		20091116 Page 34, unstuff PR95, PR96, PQ17, PQ15	X	1A	
		20091116 Page 24, Change C650 from 0.22u/6.3V_4 to 0.22u/10V_4	X	1A	
		20091116 Page 32, Change C399 from 1u/6.3V_4 to 1u/10V_4	X	1A	
		20091116 Page 7, unstuff R159	X	1A	
		20091116 Page 11, stuff R592 for DIS and stuff R595 for UMA	X	1A	
		20091116 Page 11, Reserve pull low for unused pin dGPU_VCOM_R	X	1A	
		20091116 Page 8, Delete R414	X	1A	
		20091116 Page 25, Delete R162	X	1A	
		20091116 Page 36-45, PC14 un-mount; PC207 change P/N; PC154 change P/N and value.; PC155 un-mount; PC180 change P/N; PC119 change P/N; PC118 change P/N	X	1A	
		2A	20091119 Page 36, Modify Bat CCNN P/N and footprint	1A	2A
			20091119 Page 29, Modify Speaker CN7 P/N from DFHD04MR779 to DFHD04MR057	1A	2A
			20091120 Page 8'13, Modify PCH P/N from AJ0QMS80T05 to AJSLS0Z80T07	1A	2A
			20091124 Page 27, Short Pin42 and Pin44 of CN8 and CN10 to support Intel WIMAX/WiFi combo module	1A	2A
			20091128 Page 37, stuff L36 for discrete sku	1A	2A
			20091128 Page 9, change U30(MR ROM) P/N from AKE391P0N00 to AKE392P0N01	1A	2A
			20091202 Page 3, reserve 1U for CLK GEN +1.5V power	1A	2A
			20091203 Page 27, Stuff Q26 and Q28; unstuff R401 and R447; and add LPC bus to CN24 for debug purpose	1A	2A
20091209 Page 42, add VID table for Park XT	1A		2A		
20091209 Page 3, change R257 from 0ohm to 33ohm	1A		2A		
20091209 Page 3,17,18 follow AMD suggestion to stuff R257, R301, R407,R409 and remove R36 to fix AMD pre-production silicon bug	1A		2A		
20091214 Page 9, change R317 to a JP and stuff R322	1A		2A		
20091214 Page 32, change CN6 from DFHD05MRD98 to DPWF05MR027	1A		2A		
20091221 Page 29, change R533 from CS03923P916 to CS33922P915	1A		2A		
20091223 Page 10, change R202, R203, R540, R566, R547 to short pad	1A		2A		
20091223 Page 36, change DC jack P/N to DPWB04FR741	1A		2A		
20091223 Page 32, change CN6 P/N to DPWF05MR012	1A		2A		
20091225 Page 50, change CN19 P/N to DFHD19MR083	1A		2A		
20091230 Page 12, Add C786 for CRT flicker issue	1A		2A		
20091230 Page 27, change transformer footprint to TRF-10-1-24P-SMT	1A		2A		
20091230 Page 17, change VGPU_CORE VID control pin	1A		2A		
20091230 Page 28, Exchange P/N for cn8 and cn10	1A		2A		
20091230 Page 28, Move controller link from CN10 to CN8	1A		2A		
3A	20100129 Page 32, remove power LED MOS Q25		2A	3A	
	20100130 Page 18, Remove AMD option 2 workaround for Madison and Park; and change R36 from 1K to 10K		2A	3A	
	20100130 Page 28, Change Mini card footprint to MIPCI-800555P80520X-52P-LDV-NB4	2A	3A		
	20100201 Page 32, restore power LED MOS Q25	2A	3A		
	20100201 Page 25, Change Q33,Q34 to ESD protection part	2A	3A		
	20100222 Page 24, Reserve C787 and C788 for CRT flicker issue	2A	3A		
	20100222 Page 36, Reserve SW1	2A	3A		
	20100222 Page 12, Add C789 for VCCADAC	2A	3A		
	20100222 Page 17, Reserve 10U'2 caps for +1.5V_GPU	2A	3A		
	20100222 Page 30, Add short Pad R615,R616,R637,R638,R640 for SW1	2A	3A		
	20100222 Page 24, unstuff L13 and stuff R89 and R90	2A	3A		


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	PART NUMBER:		DRAWING BY :	REVISION:	3B



Model	REV	CHANGE LIST	MODEL	ZYD	
				FROM	To
ZYD MB	3B	<p>20100322 Page 32, delete Q25</p> <p>20100322 Page 44,45 modify P05,PU7 footprint</p> <p>20100324 Page 44,45 change PC184,PC179,PC207,PC125,PC236,PC118,PC186 P/N to CC71004M204</p> <p>20100324 Page 43 change PC126, PC24, PC125 to CH5474KEA06(4.7uF 25V 0805)</p> <p>20100324 Page 30 change R298,R314 to 39ohm</p> <p>20100325 reserved EMI chock location for USB 1/3/11/12/8</p> <p>20100325 Page 41 change PC226 to 0805 4.7uF/25V,and add PC247 ,BOM stuff.</p> <p>20100325 Page 30 change R223,R347,C444,R252, R590 and R306 to short pad.</p>		3A	3B
				3A	3B
				3A	3B
				3A	3B
				3A	3B
				3A	3B
				3A	3B
				3A	3B
				3A	3B
				3A	3B
				3A	3B
				3A	3B
				3A	3B
				3A	3B
				3A	3B

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	Change list2 <small>Page 50 of 50</small>	PART NUMBER:	DRAWING BY:	REVISION: 3B

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