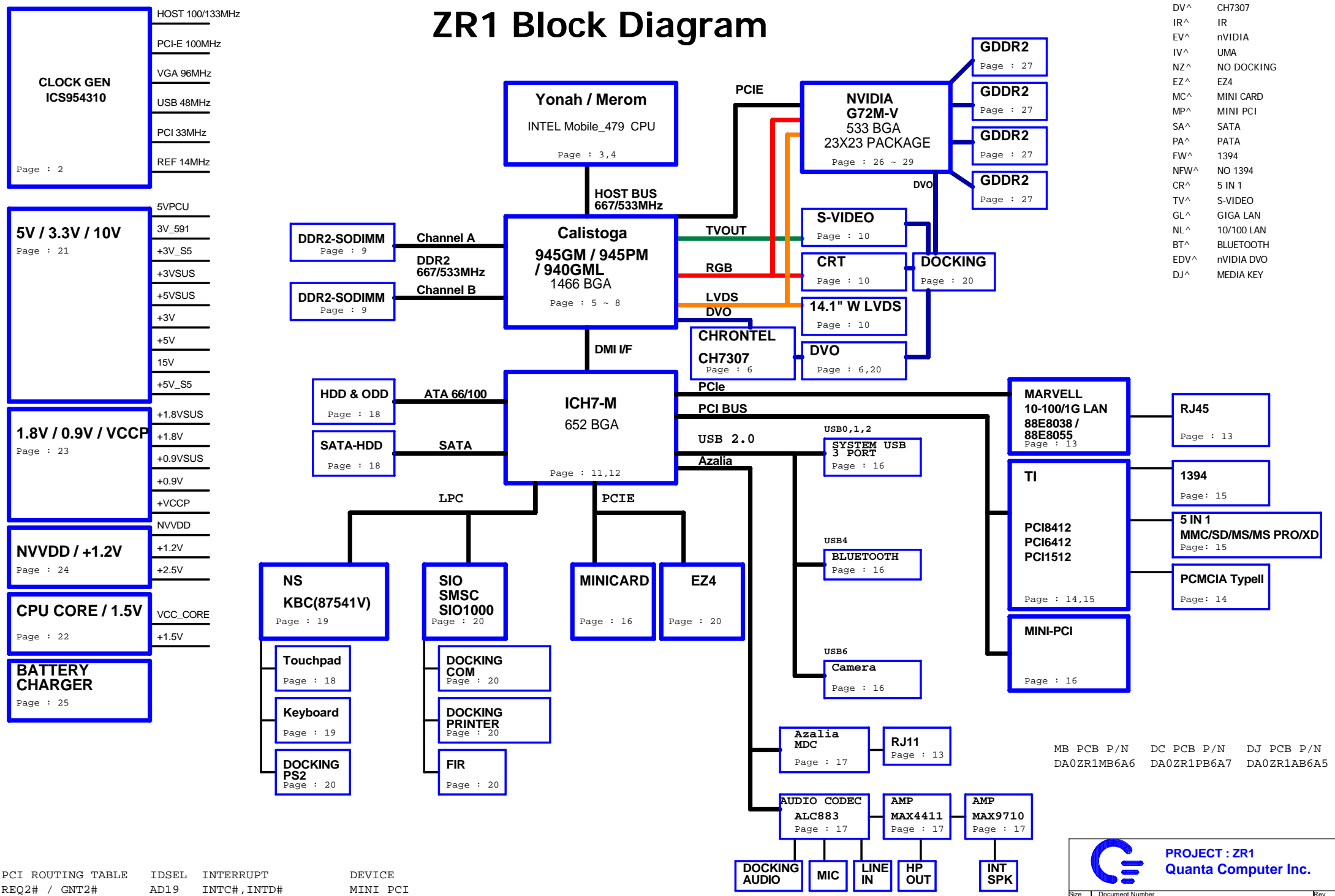


ZR1 Block Diagram



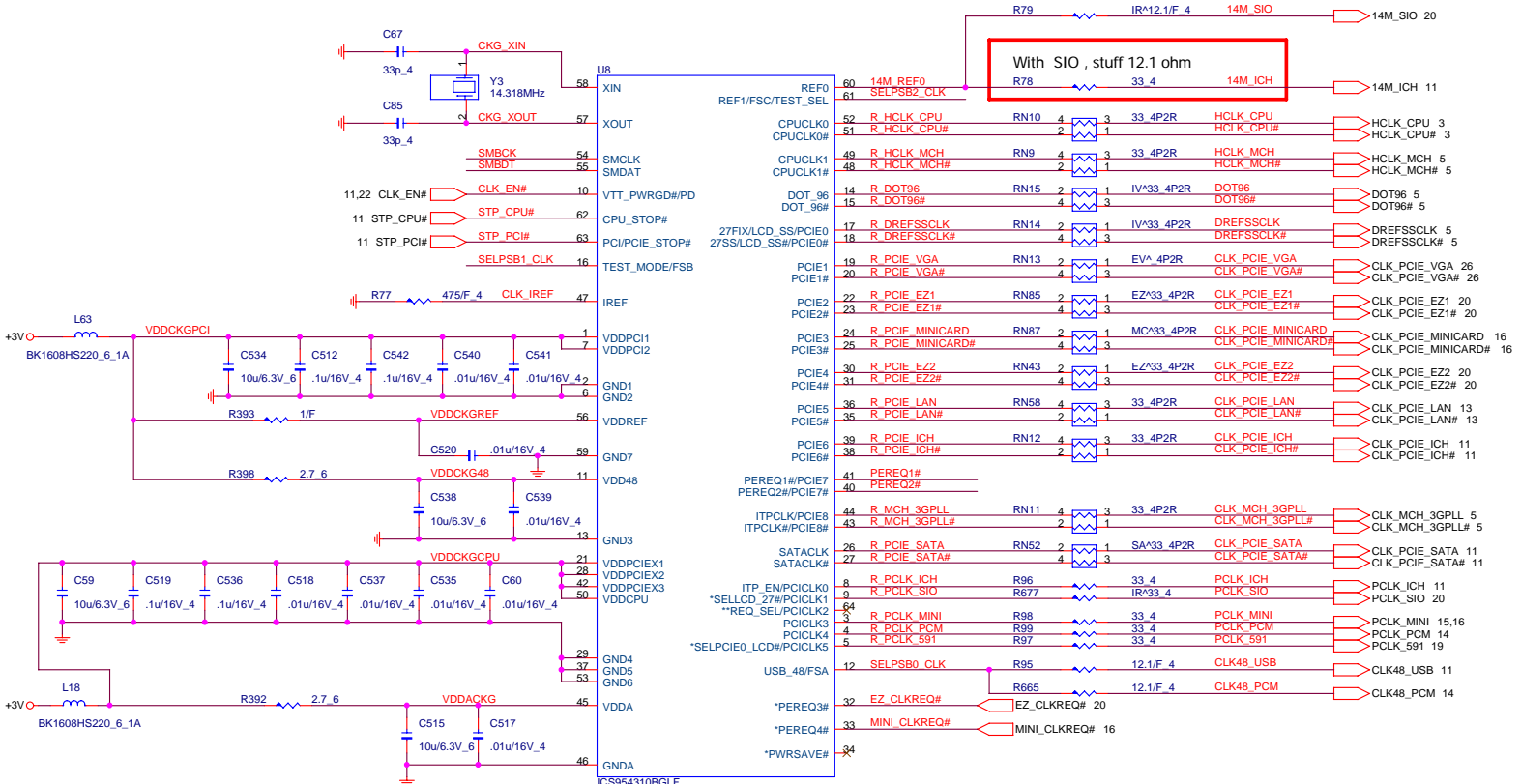
MB PCB P/N DC PCB P/N DJ PCB P/N
 DA0ZR1MB6A6 DA0ZR1PB6A7 DA0ZR1AB6A5

PCI ROUTING TABLE	IDSEL	INTERRUPT	DEVICE
REQ2# / GNT2#	AD19	INTC#, INTD#	MINI PCI
REQ0# / GNT0#	AD25	INTE#, INTF#, INTG#	TI XX12

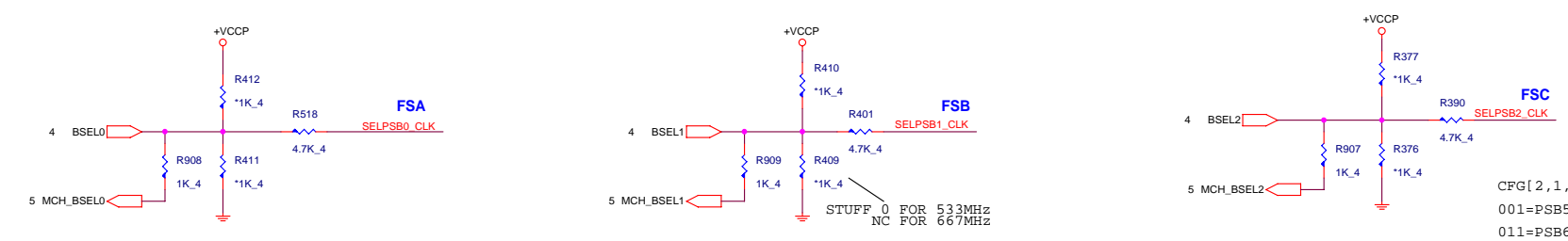
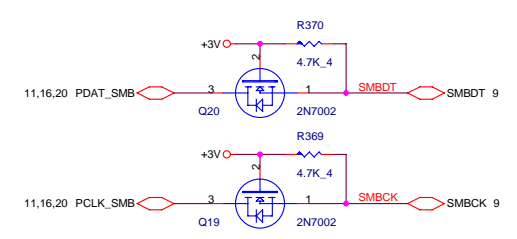
PROJECT : ZR1
Quanta Computer Inc.

Size	Document Number	Rev
	BLOCK DIAGRAM	1A
Date:	Wednesday, March 29, 2006	Sheet 1 of 29

CLOCK GENERATOR



PEREQ1# --> PCIE0 & PCIE6
 PEREQ2# --> PCIE1 & PCIE8
 PEREQ3# --> PCIE2 & PCIE4
 PEREQ4# --> PCIE3 & PCIE5 & PCIE7



CFG[2,1,0]
 001=PSB533
 011=PSB667

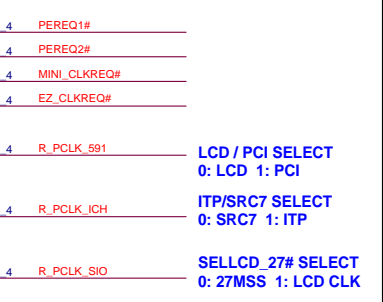
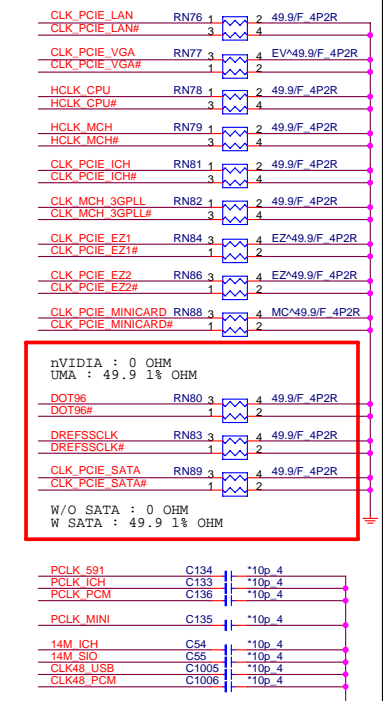
FSB SETTING

FSC	FSB	FSA	CPU	PCIE	PCI
0	0	0	266	100	33
0	0	1	133	100	33
0	1	0	200	100	33
0	1	1	166	100	33
1	0	0	333	100	33
1	0	1	100	100	33
1	1	0	400	100	33
1	1	1	200	100	33

PROJECT : ZR1
Quanta Computer Inc.

Size: Document Number
CLOCK GENERATOR
 Rev 1A

Date: Wednesday, March 29, 2006 Sheet 2 of 29



COMPO - COMP3
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Length < 500mil

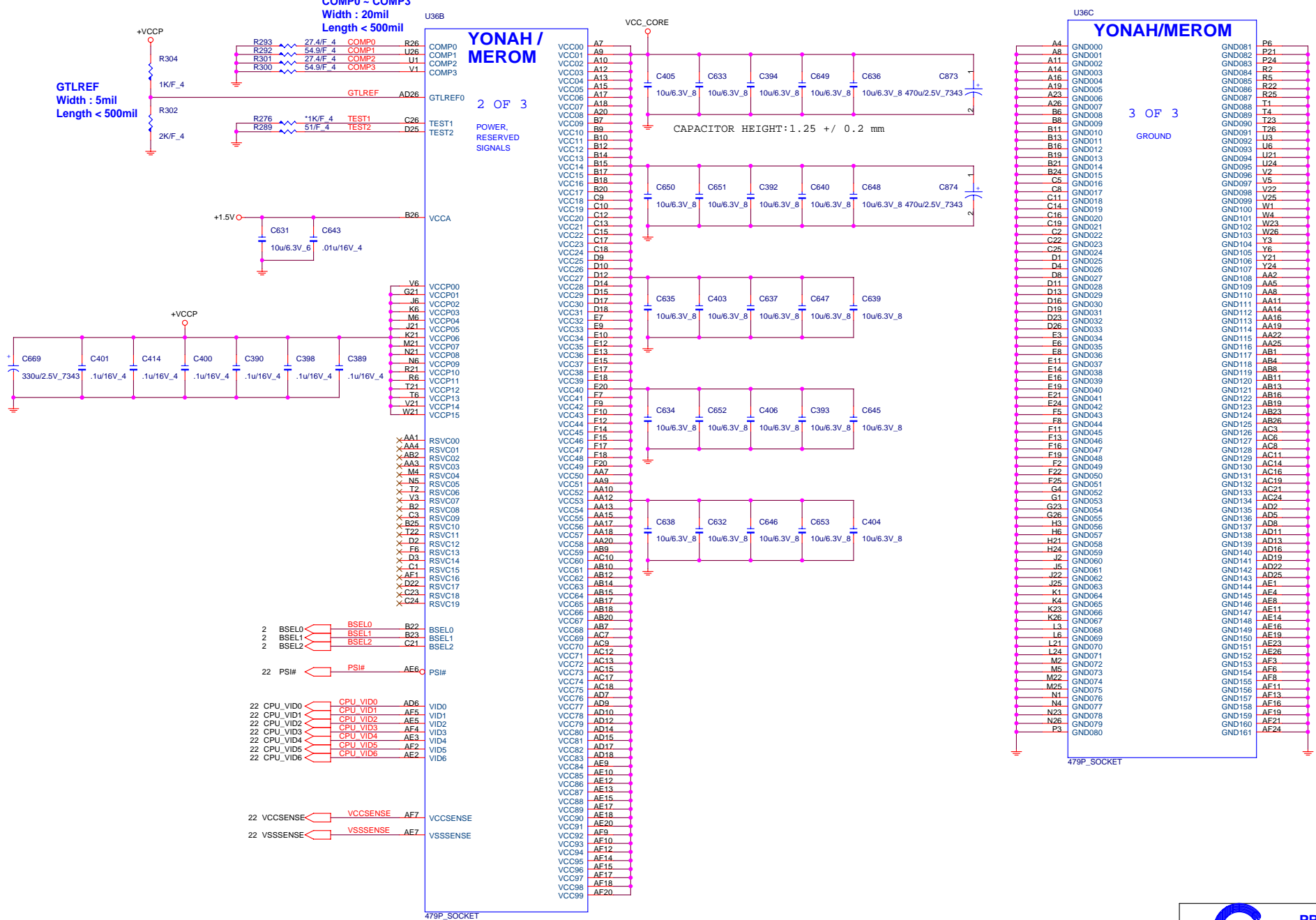
GTLREF
Width : 5mil
Length < 500mil

YONAH/
MEROM

2 OF 3
POWER,
RESERVED
SIGNALS

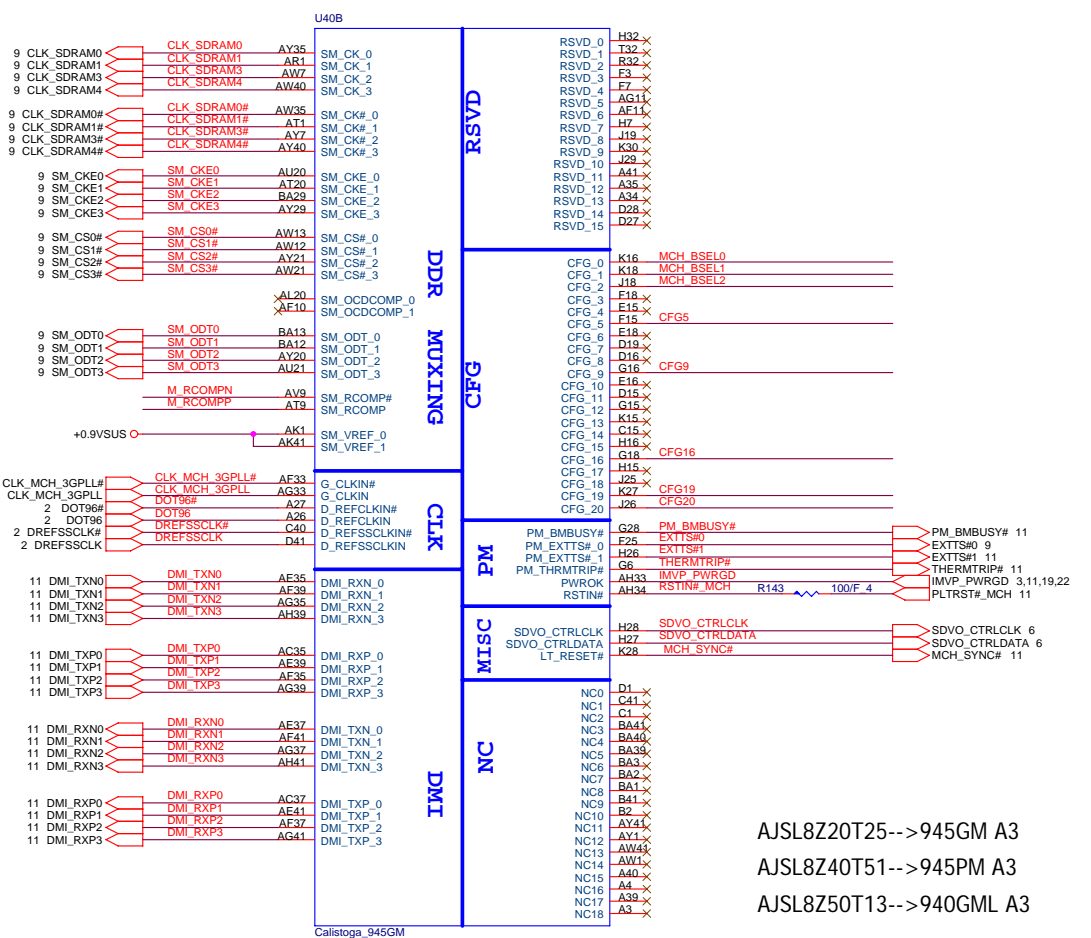
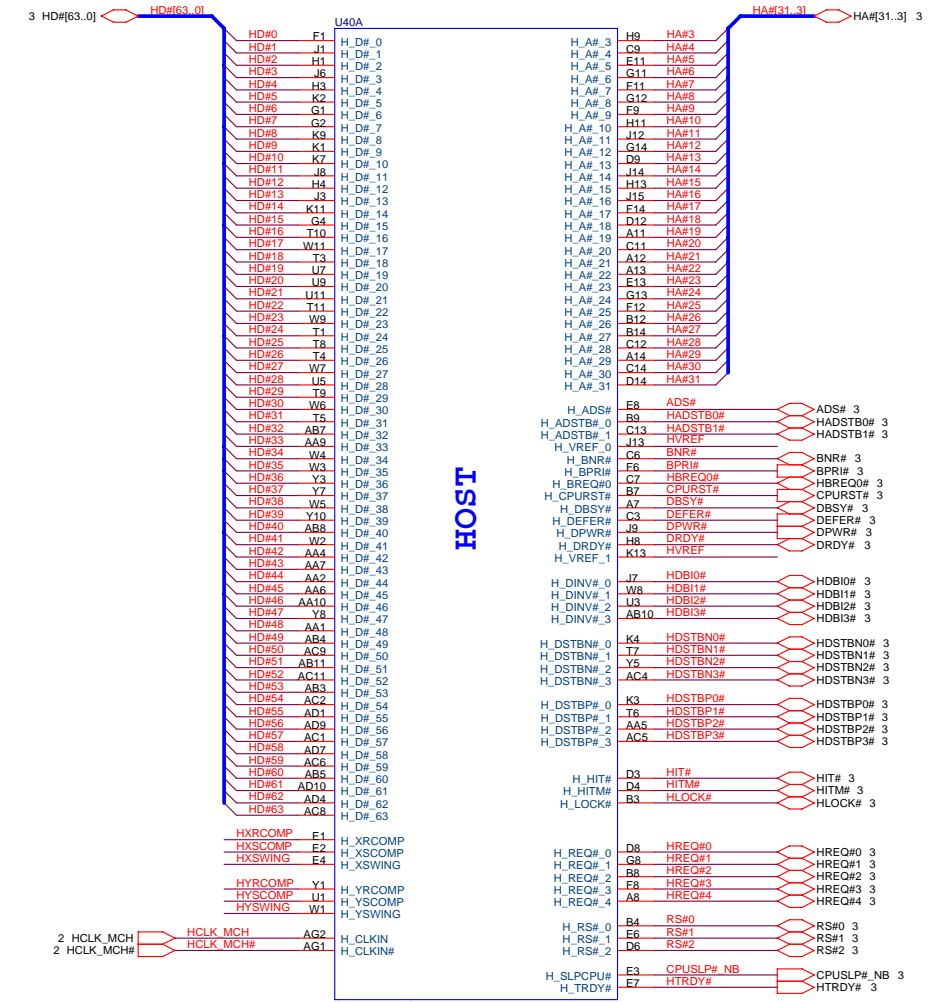
YONAH/MEROM

3 OF 3
GROUND

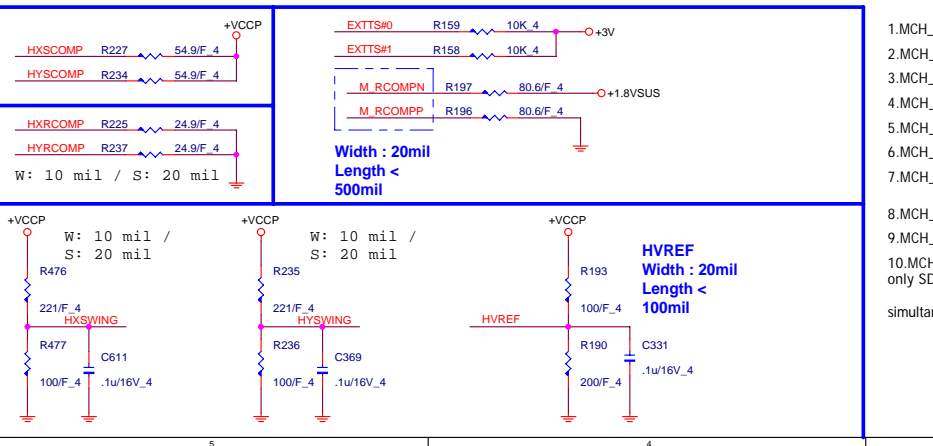


PROJECT : ZR1
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NB_945GM/PM/940GML



AJSL8Z20T25-->945GM A3
 AJSL8Z40T51-->945PM A3
 AJSL8Z50T13-->940GML A3



1.MCH_CFG_5 : Low = DMI X2, High=DMIX4

2.MCH_CFG_6 : Low = Moby Dick, High = Calistoga (Default)

3.MCH_CFG_7 : Low = RSVD, High = Mobile CPU

4.MCH_CFG_9 PCI Exp Graphics Lane: Low =Reverse lane ,High=Normal

5.MCH_CFG_10 Host PLL VCC Select: Low=Reserved, High=Mobility

6.MCH_CFG_11: PSB 4x Enable : Low=Rsvd, High=Calistoga.

7.MCH_CFG_16 FSB Dymnic ODT: Low = Dynamic ODT Disabled, High= Dynamic ODT Enabled.

8.MCH_CFG_18 VCC Select: LOW=1.05V, High=1.5V

9.MCH_CFG_19 DMI LANE Reversal:Low=Normal,High=LANES Reversed.

10.MCH_CFG_20 PCIe Backward interoperability mode: Low= only SDVO or PCIe x1 is operational (defaults) , High=SDVO and PCIe x1 are operation simultaneously via the PEG port.

GMCH Strap pin

MCH_BSEL0 R520 *2.2K 4

MCH_BSEL1 R523 *2.2K 4

MCH_BSEL2 R528 *2.2K 4

CFG5 R520 *2.2K 4

CFG9 R523 *2.2K 4

CFG16 R528 *2.2K 4

CFG19 R530 *1K 4

CFG20 R531 *1K 4

MCH_BSEL0 MCH_BSEL0 2 CFG[2,1,0]

MCH_BSEL1 MCH_BSEL1 2 001=PSB533

MCH_BSEL2 MCH_BSEL2 2 011=PSB667

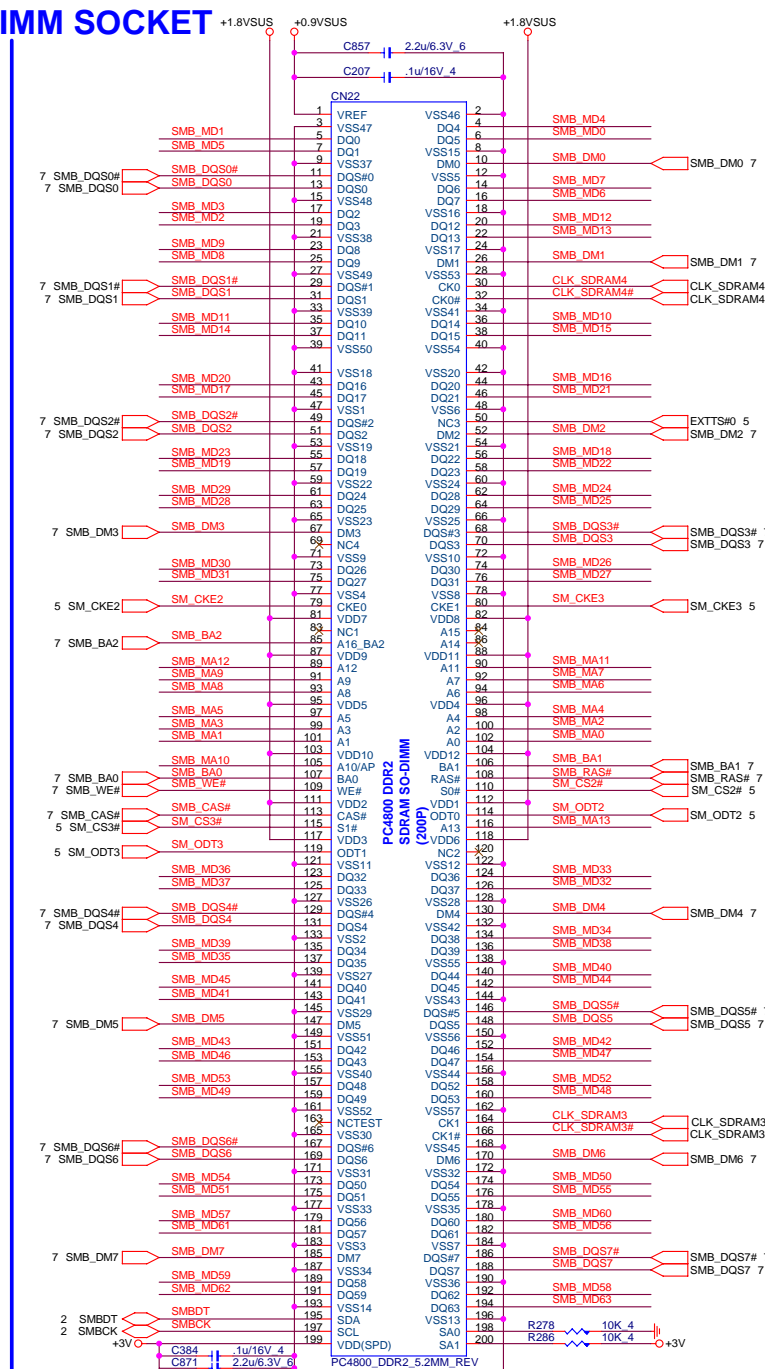
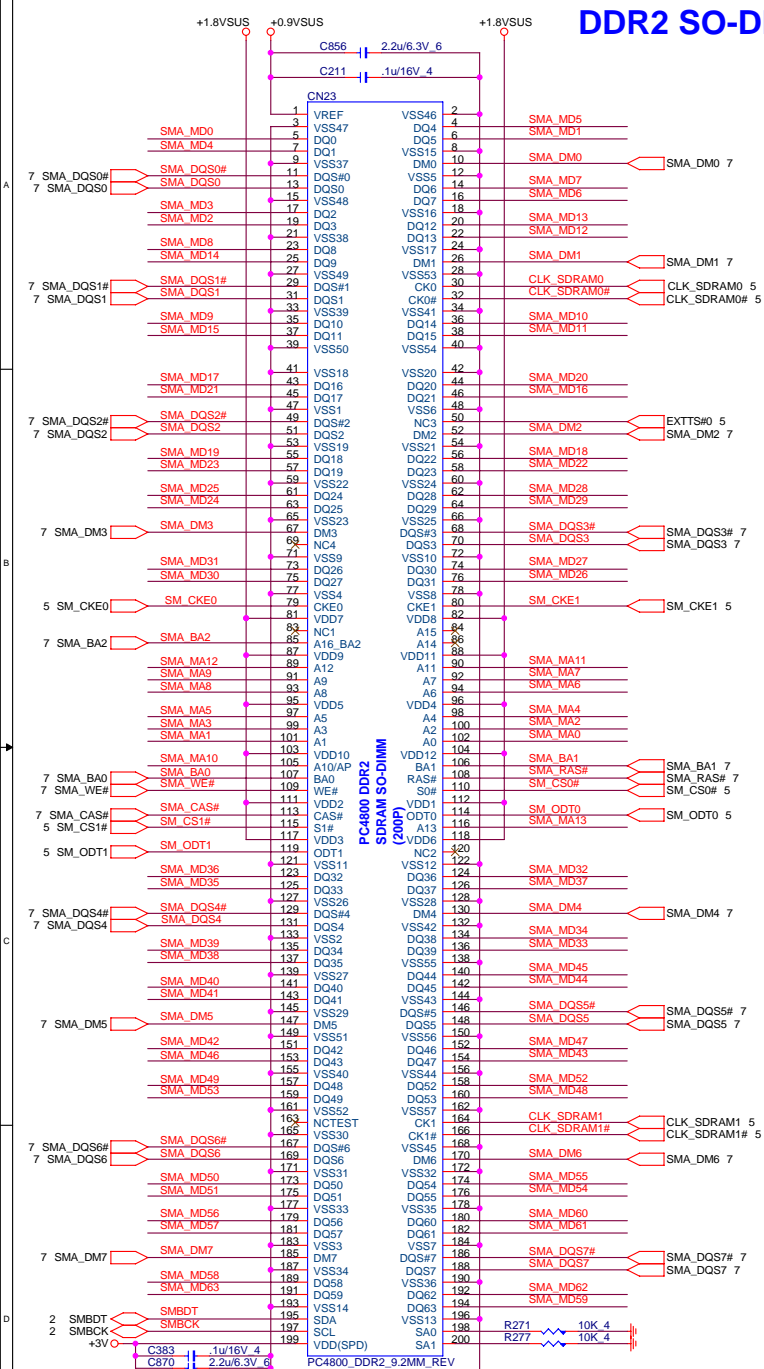
PROJECT : ZR1

Quanta Computer Inc.

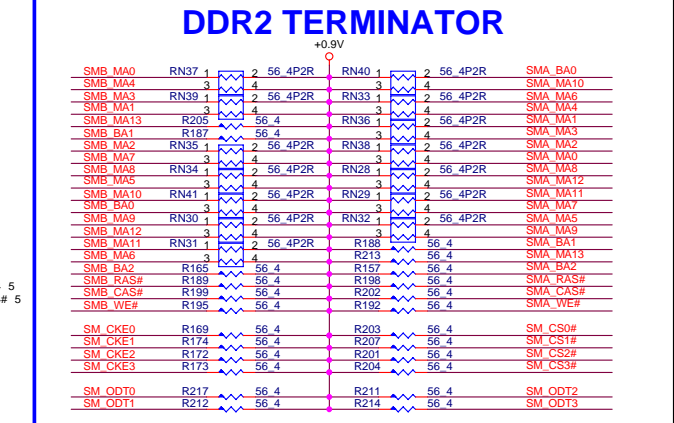
Size Document Number
GMCH (HOST / DMI)

Date: Wednesday, March 29, 2006 Sheet 5 of 29 Rev 1A

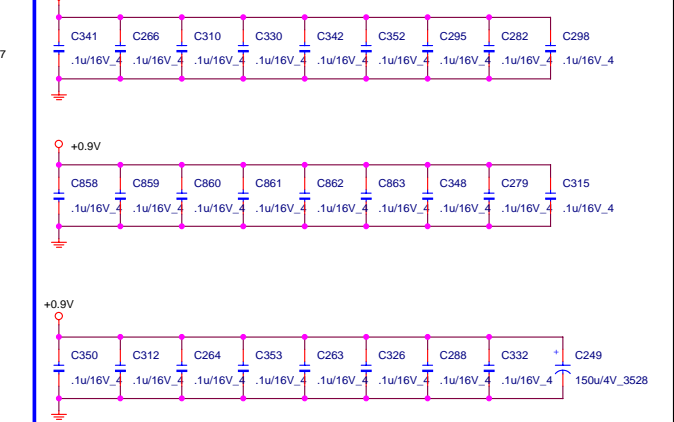
DDR2 SO-DIMM SOCKET



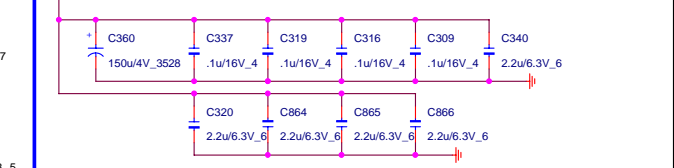
DDR2 TERMINATOR



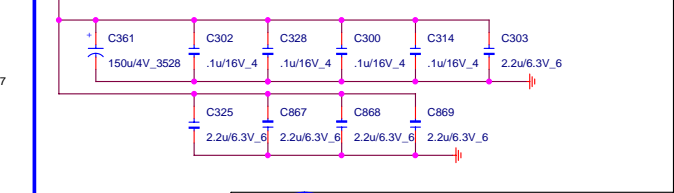
TERMINATOR DECOUPLING CAPACITOR



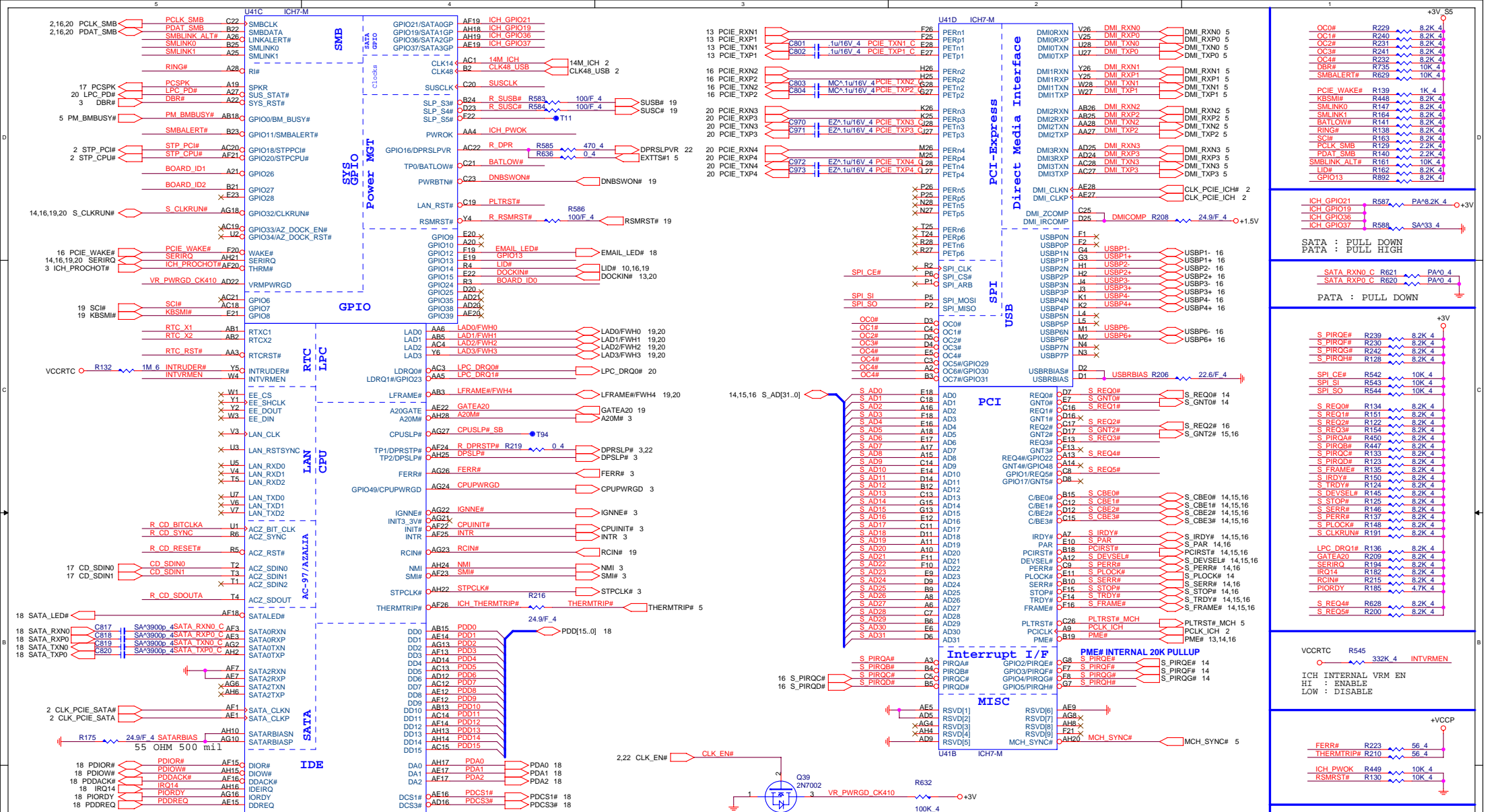
CLOSE SO-DIMM SOCKET CAPACITORS



CLOSE SO-DIMM SOCKET CAPACITORS



PROJECT : ZR1
Quanta Computer Inc.

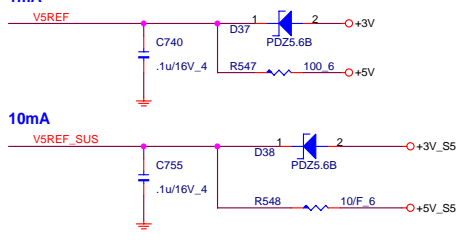


PROJECT : ZR1
Quanta Computer Inc.

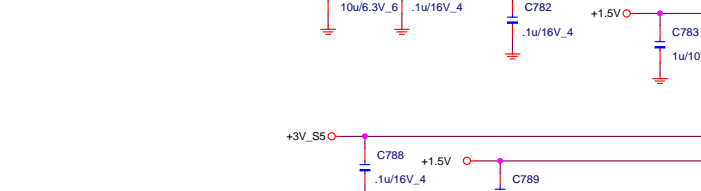
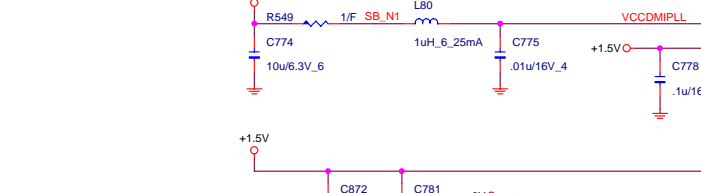
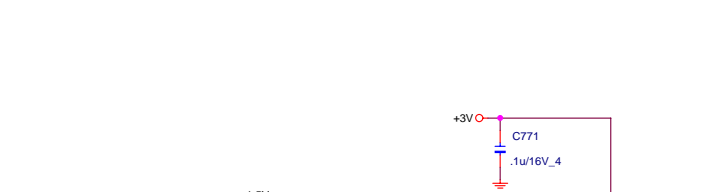
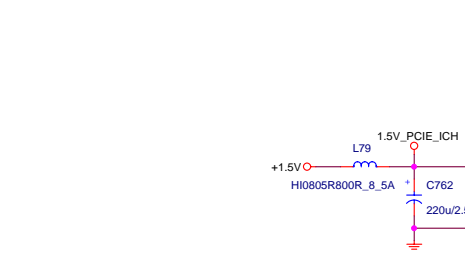
Size: _____ Document Number: **ICH7 (CPU/PCIE/IDE/USB)** Rev: 1A
 Date: Wednesday, March 29, 2006 Sheet: 11 of 29

U41E	Pin	Signal	Pin	Signal
A4	VSS[1]	VSS[98]	P28	
A23	VSS[2]	VSS[99]	R1	
B1	VSS[3]	VSS[100]	R11	
B8	VSS[4]	VSS[101]	R12	
B14	VSS[5]	VSS[102]	R13	
B17	VSS[6]	VSS[103]	R14	
B20	VSS[7]	VSS[104]	R15	
B26	VSS[8]	VSS[105]	R16	
B28	VSS[9]	VSS[106]	R17	
C2	VSS[10]	VSS[107]	R18	
C6	VSS[11]	VSS[108]	T6	
C27	VSS[12]	VSS[109]	T12	
D10	VSS[13]	VSS[110]	T13	
D13	VSS[14]	VSS[111]	T14	
D18	VSS[15]	VSS[112]	T15	
D21	VSS[16]	VSS[113]	T16	
D24	VSS[17]	VSS[114]	T17	
E1	VSS[18]	VSS[115]	U12	
E2	VSS[19]	VSS[116]	U13	
E4	VSS[20]	VSS[117]	U14	
E8	VSS[21]	VSS[118]	U15	
E16	VSS[22]	VSS[119]	U16	
F3	VSS[23]	VSS[120]	U17	
F4	VSS[24]	VSS[121]	U24	
F8	VSS[25]	VSS[122]	U25	
F12	VSS[26]	VSS[123]	U26	
F27	VSS[27]	VSS[124]	V2	
F28	VSS[28]	VSS[125]	V26	
G1	VSS[29]	VSS[126]	V13	
G5	VSS[30]	VSS[127]	V15	
G6	VSS[31]	VSS[128]	V27	
G9	VSS[32]	VSS[129]	V28	
G14	VSS[33]	VSS[130]	V28	
G18	VSS[34]	VSS[131]	W6	
G21	VSS[35]	VSS[132]	W24	
G24	VSS[36]	VSS[133]	W25	
G28	VSS[37]	VSS[134]	W26	
G29	VSS[38]	VSS[135]	Y3	
G36	VSS[39]	VSS[136]	Y24	
H5	VSS[40]	VSS[137]	Y27	
H4	VSS[41]	VSS[138]	Y28	
H5	VSS[42]	VSS[139]	AA1	
H5	VSS[43]	VSS[140]	AA24	
H24	VSS[44]	VSS[141]	AA25	
H28	VSS[45]	VSS[142]	AA26	
J1	VSS[46]	VSS[143]	AB4	
J1	VSS[47]	VSS[144]	AB6	
J2	VSS[48]	VSS[145]	AB11	
J24	VSS[49]	VSS[146]	AB14	
J25	VSS[50]	VSS[147]	AB19	
J26	VSS[51]	VSS[148]	AB21	
K24	VSS[52]	VSS[149]	AB24	
K27	VSS[53]	VSS[150]	AB27	
K28	VSS[54]	VSS[151]	AB28	
L13	VSS[55]	VSS[152]	AC2	
L15	VSS[56]	VSS[153]	AC5	
L24	VSS[57]	VSS[154]	AC9	
L25	VSS[58]	VSS[155]	AC11	
L26	VSS[59]	VSS[156]	AD1	
M3	VSS[60]	VSS[157]	AD3	
M4	VSS[61]	VSS[158]	AD4	
M5	VSS[62]	VSS[159]	AD7	
M12	VSS[63]	VSS[160]	AD8	
M13	VSS[64]	VSS[161]	AD11	
M14	VSS[65]	VSS[162]	AD15	
M15	VSS[66]	VSS[163]	AD19	
M16	VSS[67]	VSS[164]	AD23	
M17	VSS[68]	VSS[165]	AE2	
M24	VSS[69]	VSS[166]	AE4	
M27	VSS[70]	VSS[167]	AE8	
N1	VSS[71]	VSS[168]	AE11	
N14	VSS[72]	VSS[169]	AE13	
N2	VSS[73]	VSS[170]	AE18	
N6	VSS[74]	VSS[171]	AE21	
N11	VSS[75]	VSS[172]	AE24	
N12	VSS[76]	VSS[173]	AE25	
N13	VSS[77]	VSS[174]	AF2	
N14	VSS[78]	VSS[175]	AF2	
N15	VSS[79]	VSS[176]	AF4	
N16	VSS[80]	VSS[177]	AF8	
N17	VSS[81]	VSS[178]	AF27	
N18	VSS[82]	VSS[179]	AF28	
N24	VSS[83]	VSS[180]	AG1	
N25	VSS[84]	VSS[181]	AG3	
N26	VSS[85]	VSS[182]	AG7	
P3	VSS[86]	VSS[183]	AG11	
P4	VSS[87]	VSS[184]	AG14	
P12	VSS[88]	VSS[185]	AG17	
P13	VSS[89]	VSS[186]	AG20	
P14	VSS[90]	VSS[187]	AG25	
P15	VSS[91]	VSS[188]	AH1	
P16	VSS[92]	VSS[189]	AH3	
P17	VSS[93]	VSS[190]	AH7	
P24	VSS[94]	VSS[191]	AH12	
P27	VSS[95]	VSS[192]	AH23	
P27	VSS[96]	VSS[193]	AH27	
P27	VSS[97]	VSS[194]	AH27	

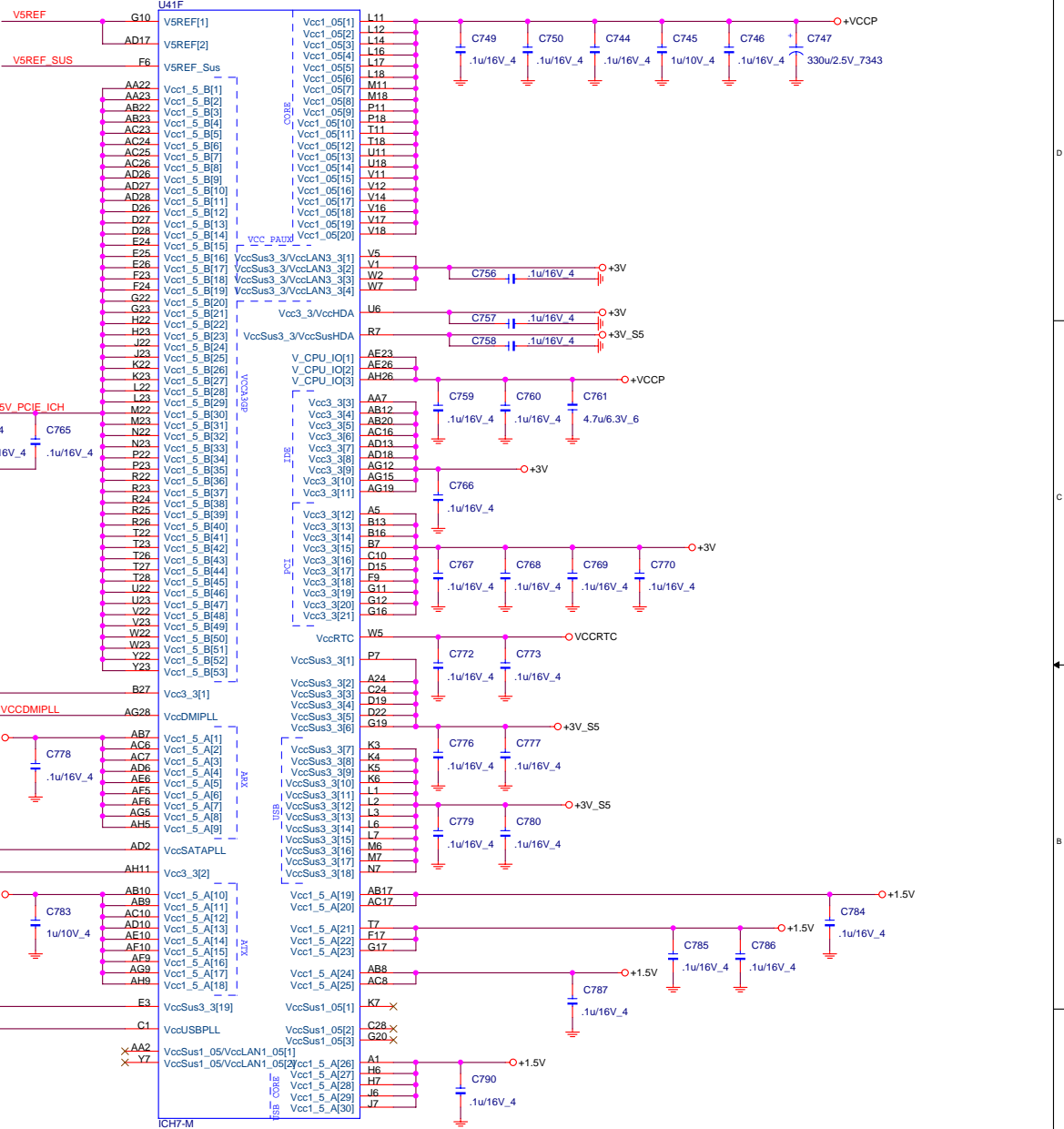
1mA



10mA

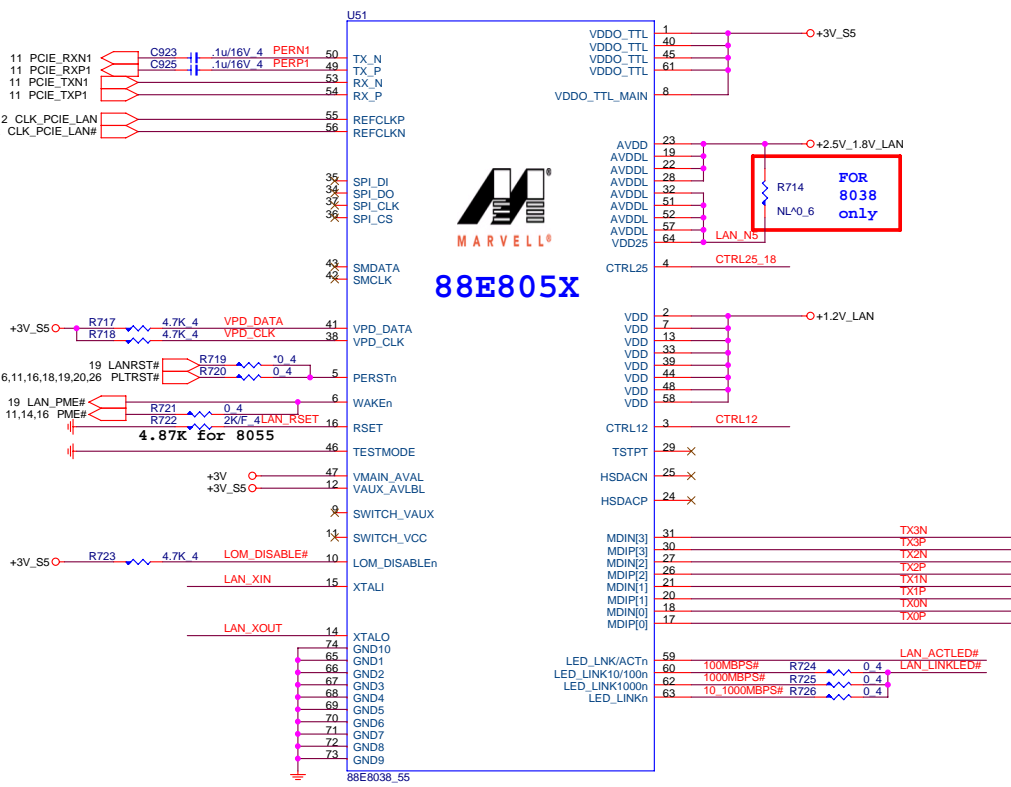


U41F

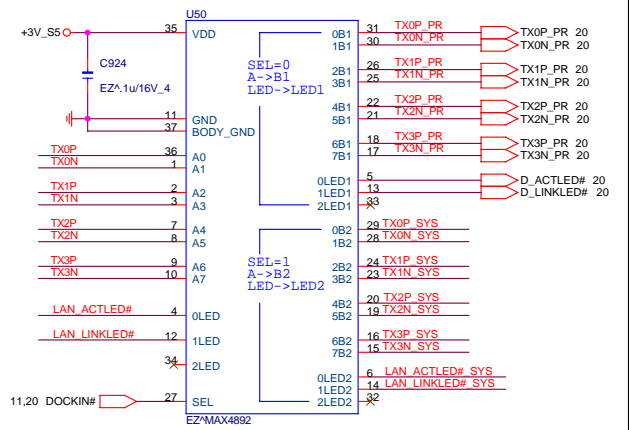
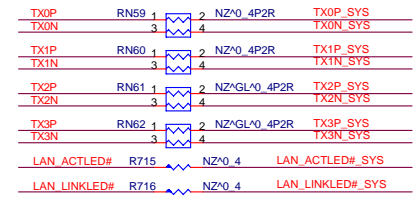
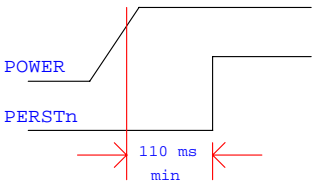




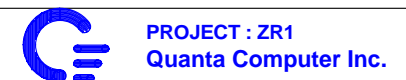
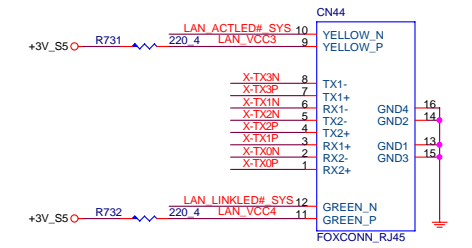
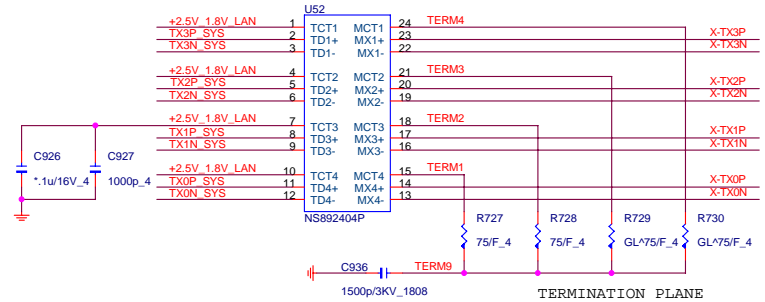
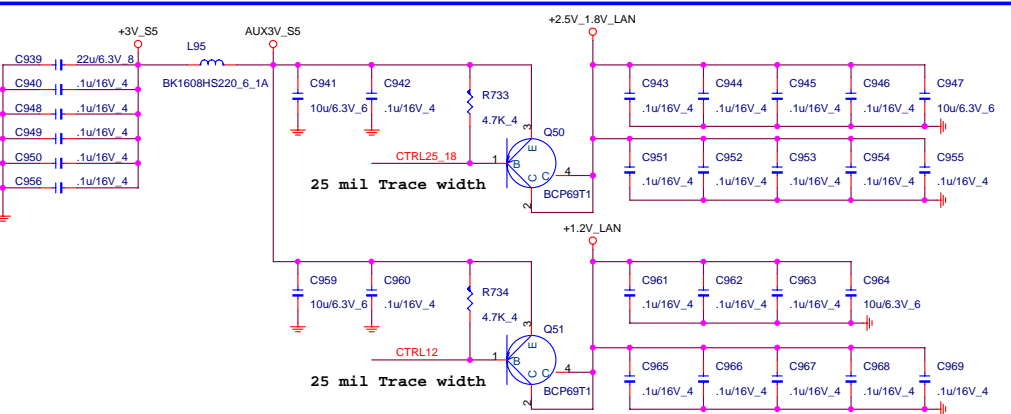
88E805X



RESET TIMING

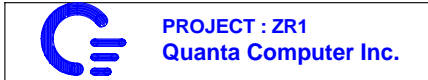
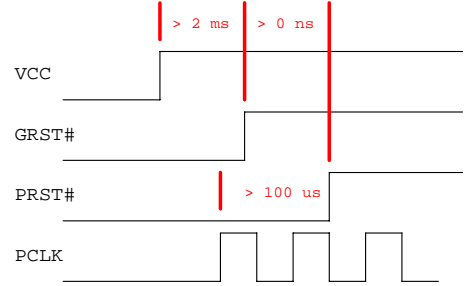
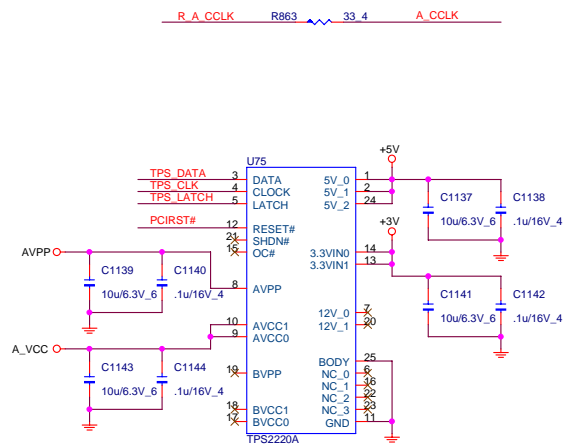
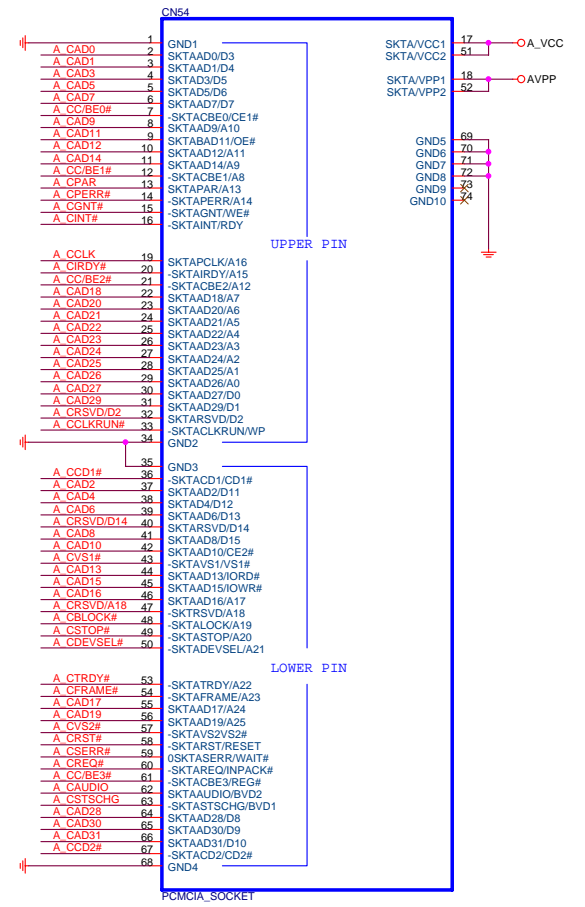
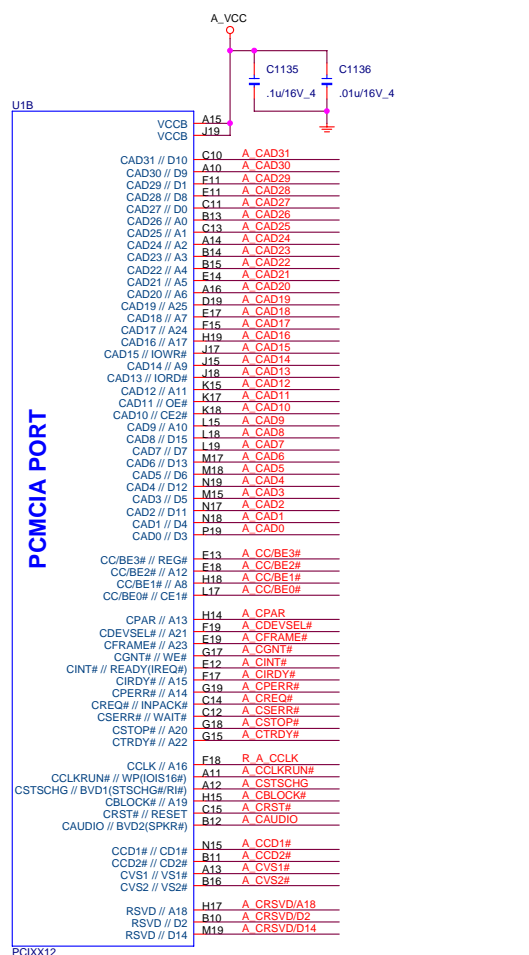
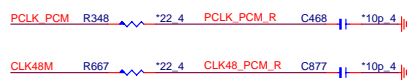
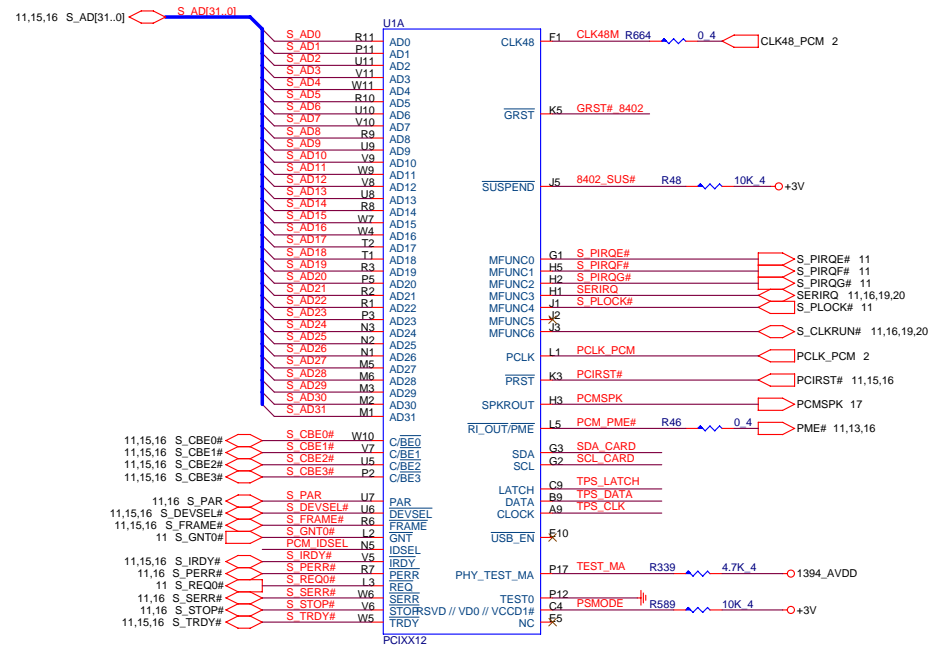
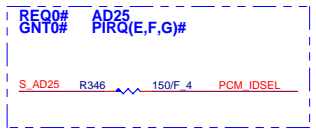


BOTHAND FCE
10/100 DBOKN7LAN24 DBED2LLAN05
GiGa DBKN1NLAN03 DBOZH1LAN06

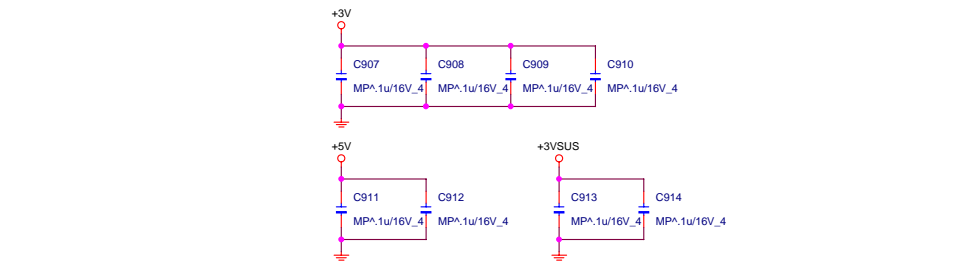
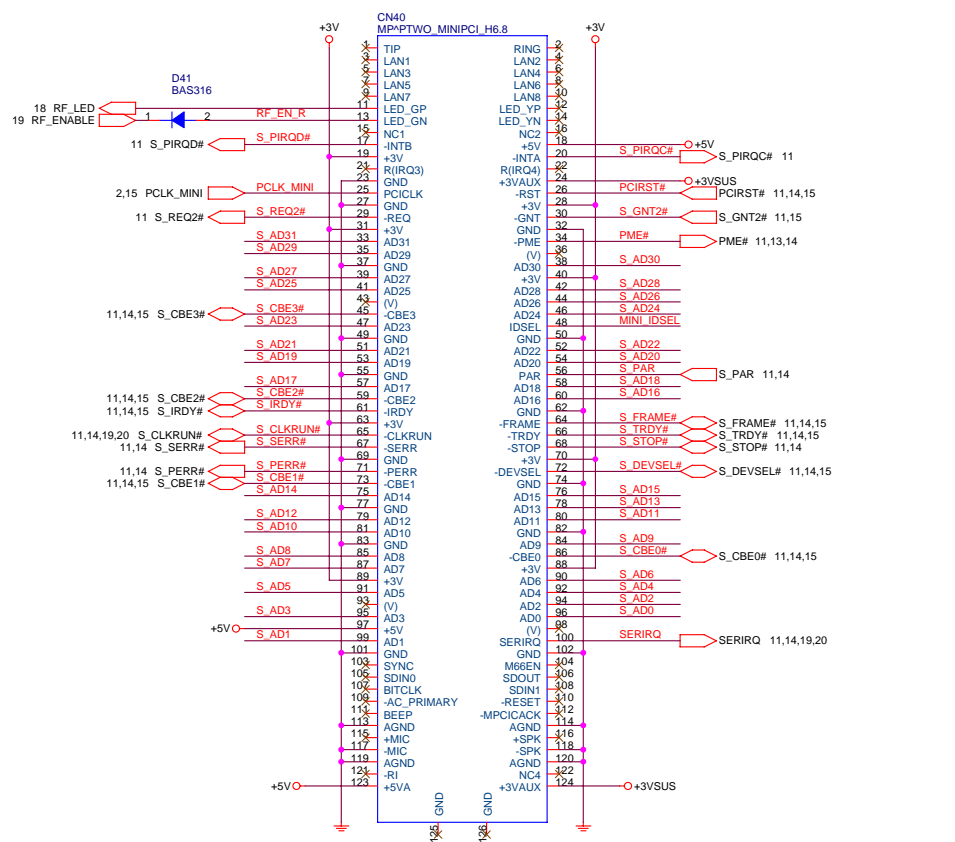
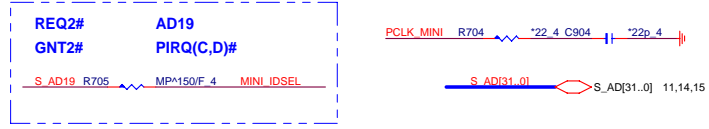


PCIXX12_PCMCIA

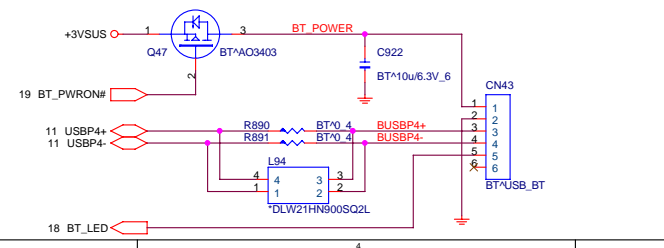
PCI8412 : AJ084120T08 PCMCIA / 1394 / 5 IN 1
 PCI6412 : AL064120T04 PCMCIA / 5 IN 1
 PCI1512 : AJ015120T02 PCMCIA



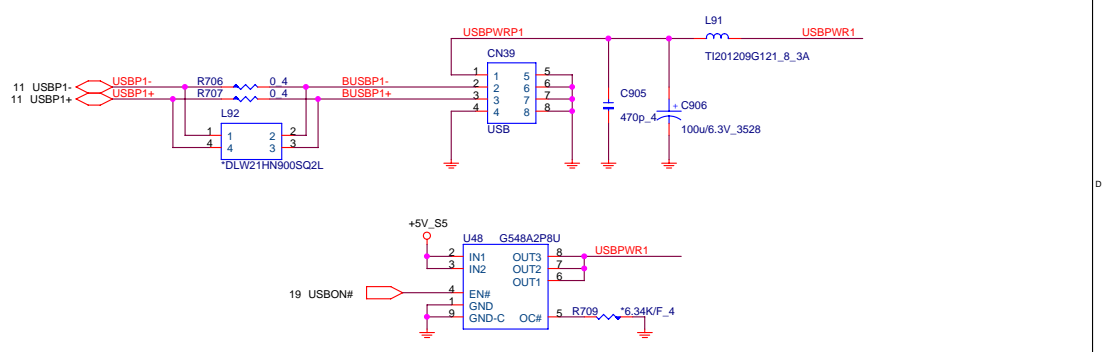
MINI-PCI



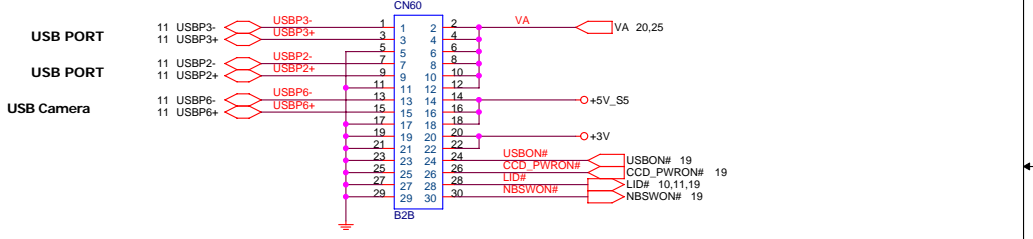
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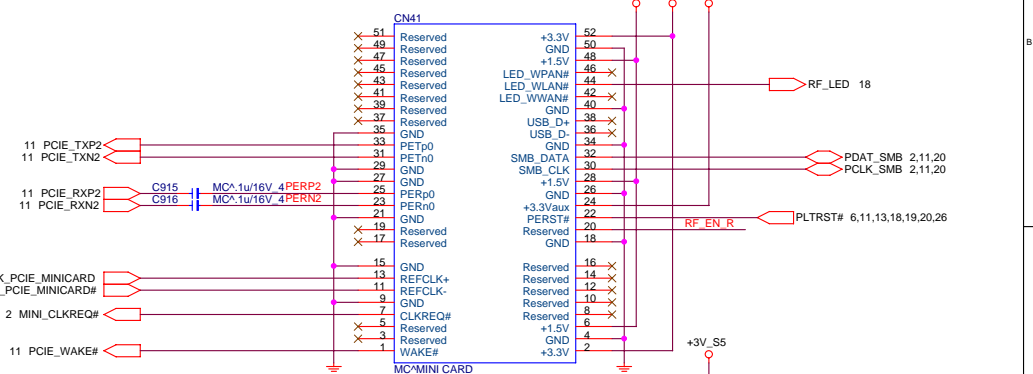
USB



DC/B CONNECTOR



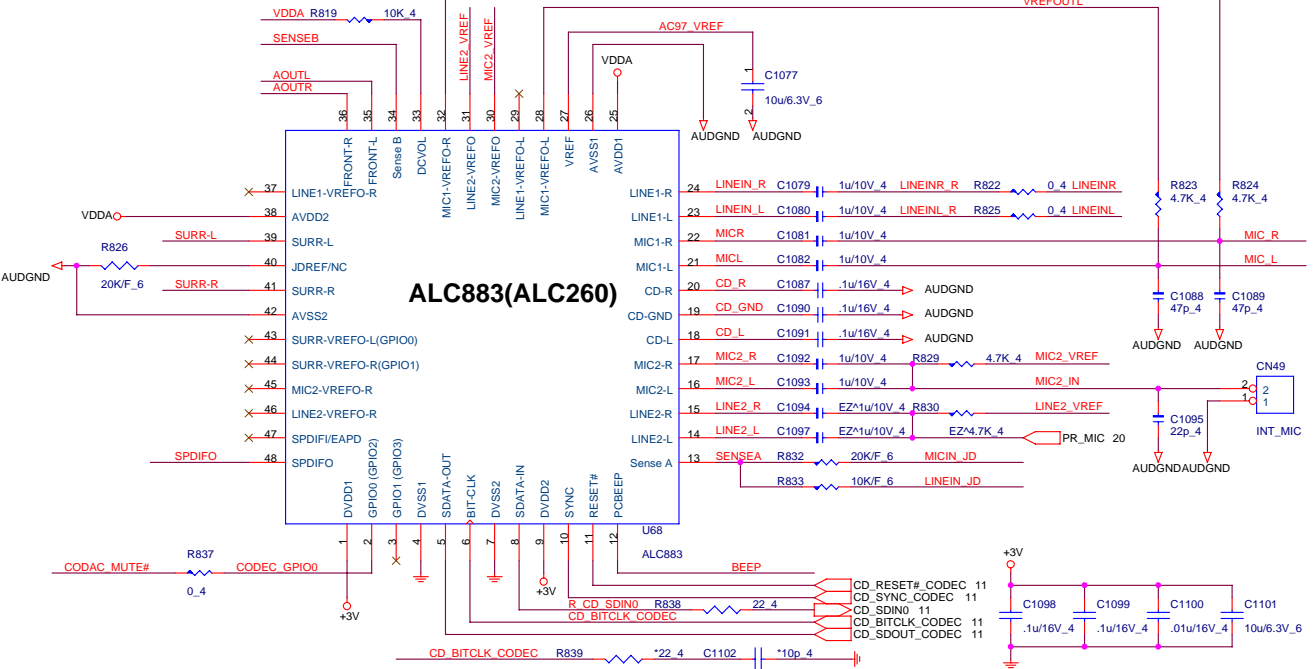
MINI-CARD



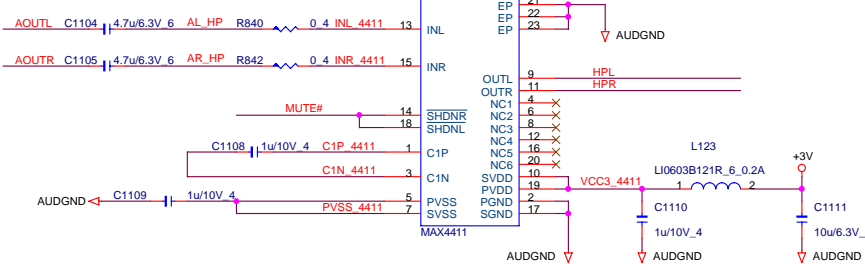
PROJECT : ZR1
Quanta Computer Inc.

Size	Document Number	Rev
	MINI_CARDPC/USB/BT/DC	1A
Date:	Wednesday, March 29, 2006	Sheet 16 of 29

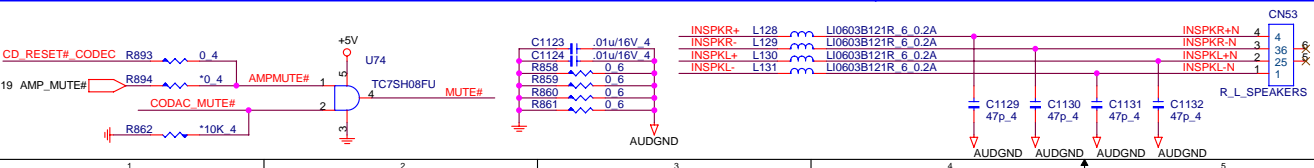
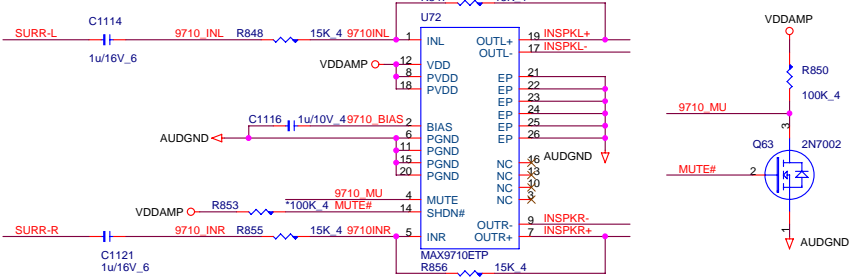
Audio Codec_ALC883



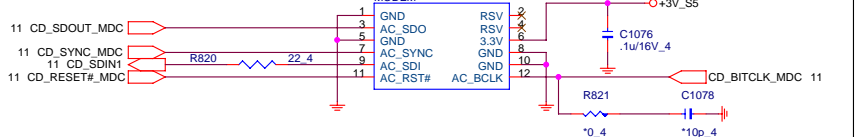
LINE OUT Amplifier



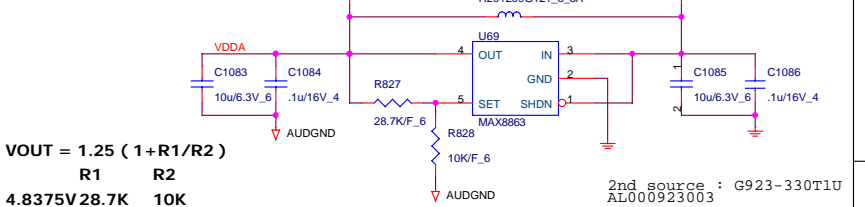
SPEAKER Amplifier



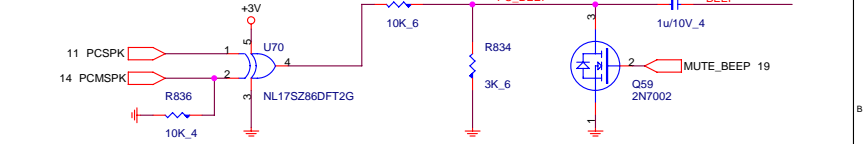
MDC



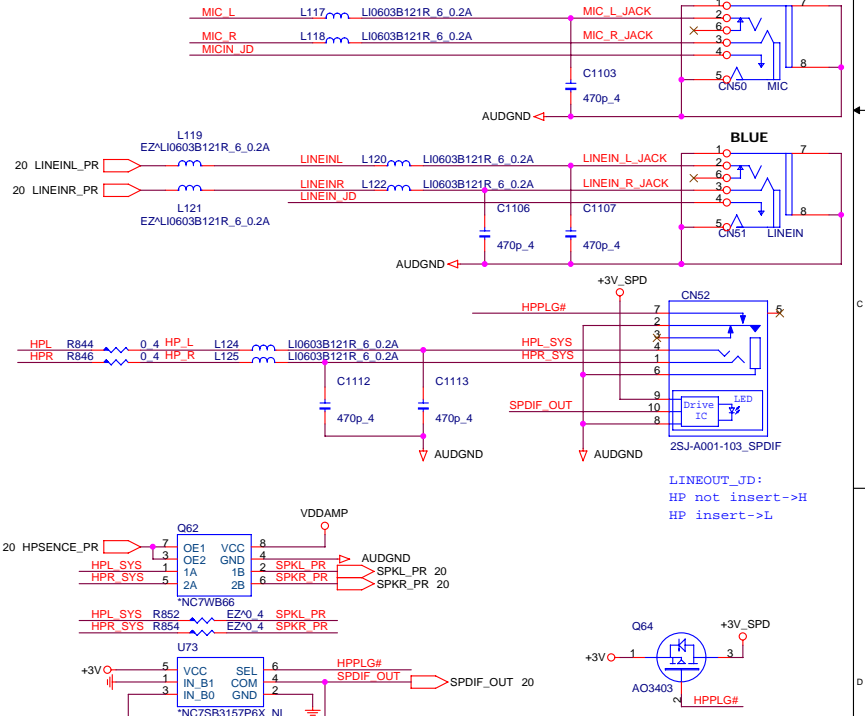
Audio Codec Power



BEEP



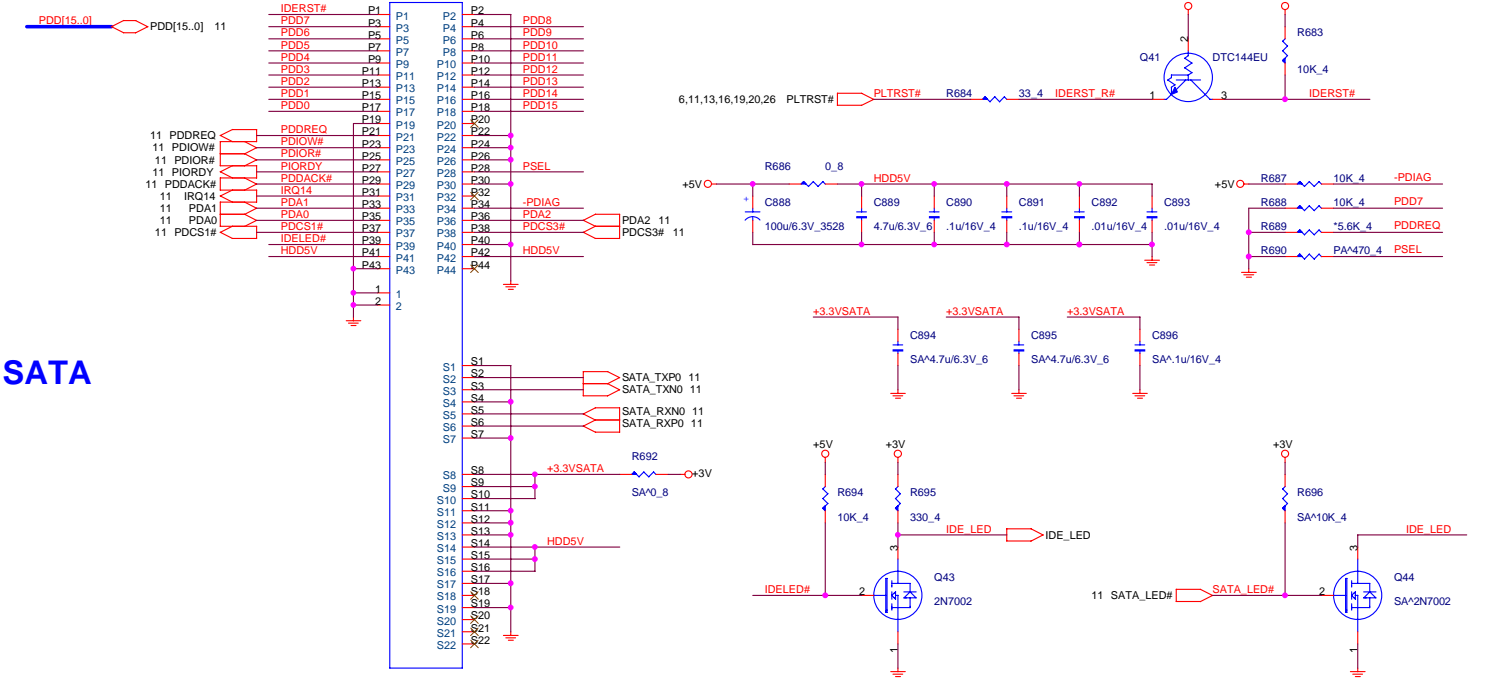
Audio Jack



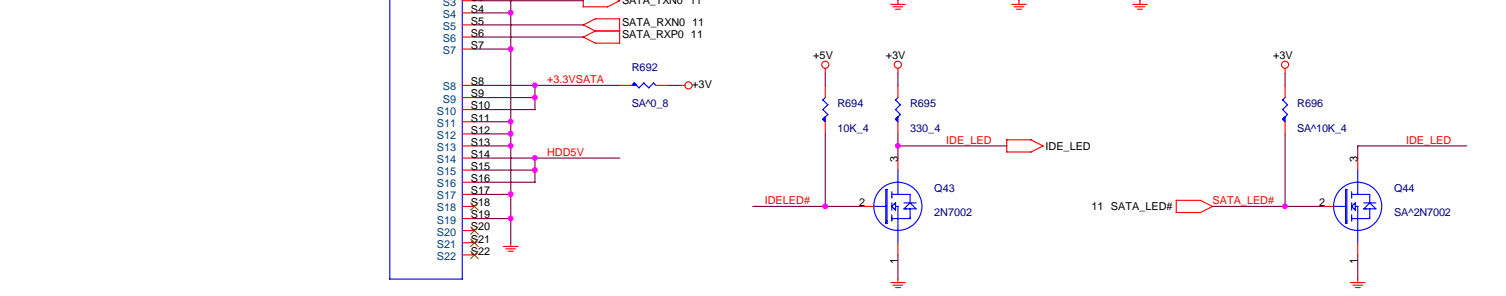
PROJECT : ZR1
Quanta Computer Inc.

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	Audio Codec (ALC883)	1A
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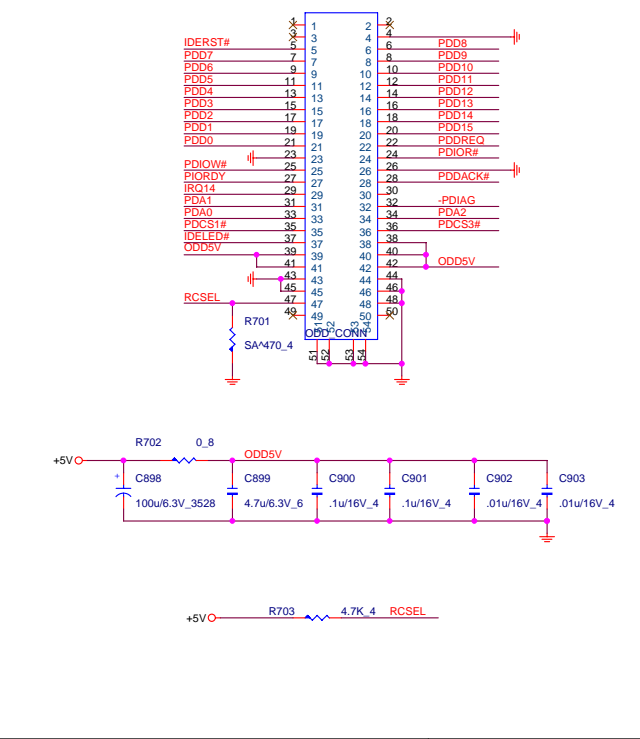
HDD



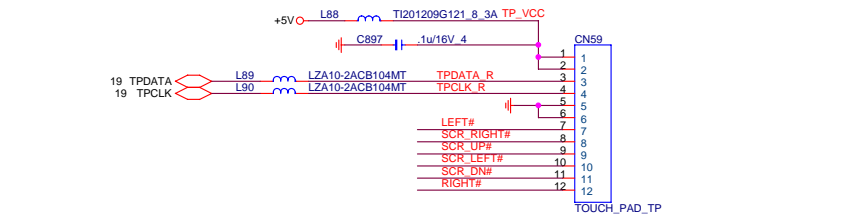
SATA



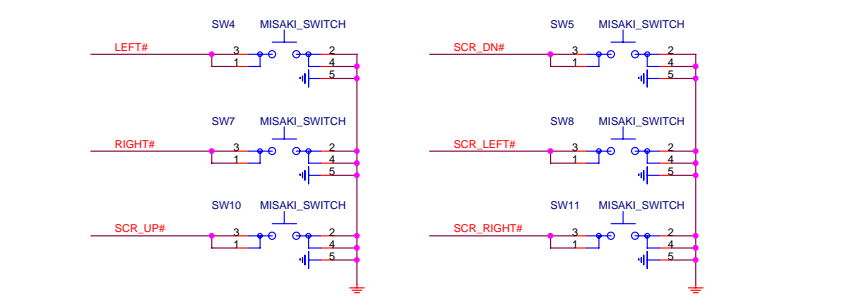
ODD



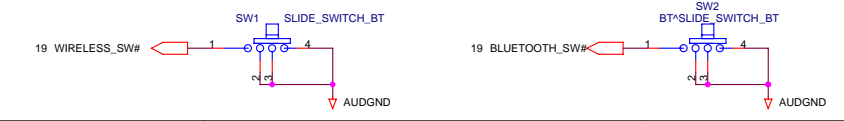
TP CONN



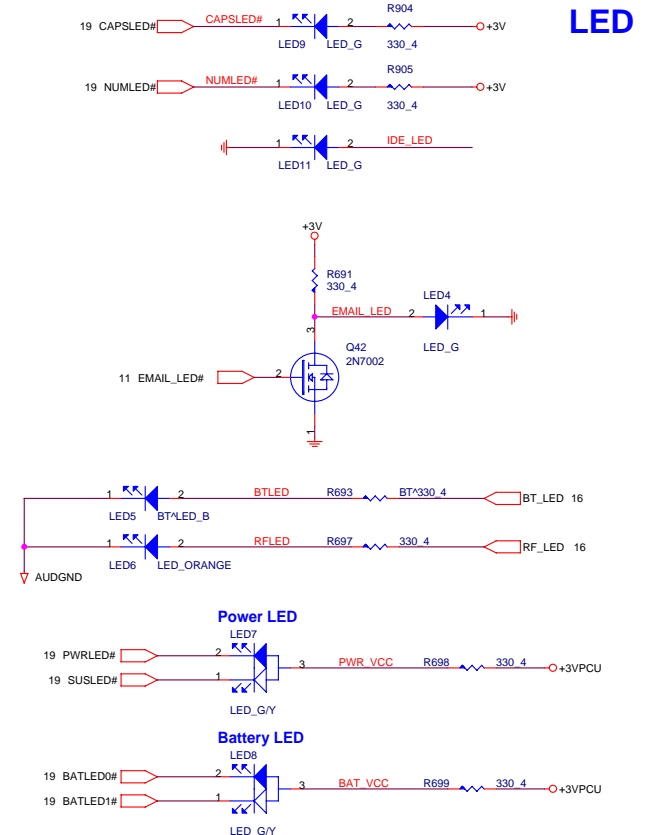
TP SWITCH



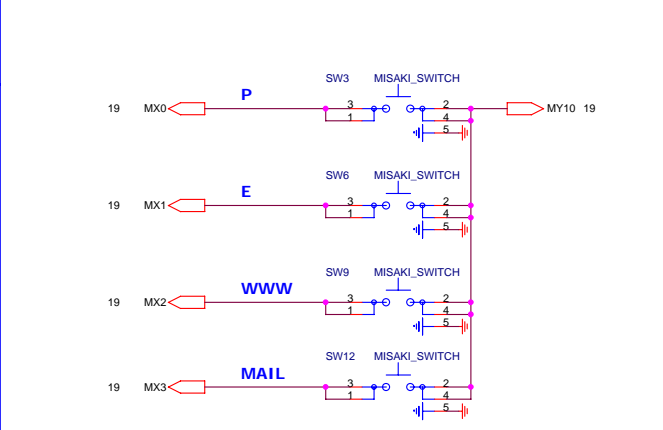
WL & BT SWITCH




LED



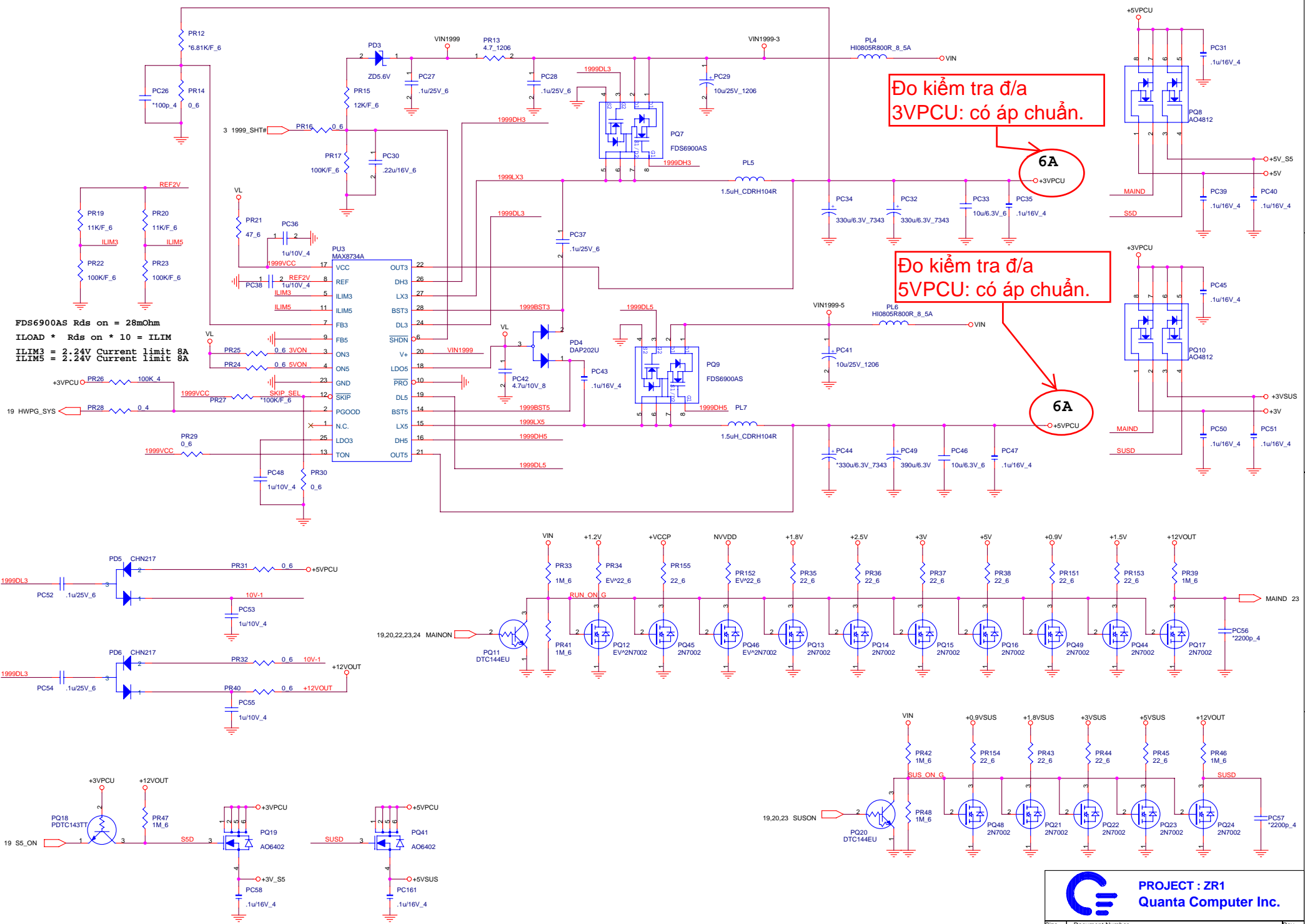
QUICK KEY SWITCH





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HDD/ODD/LED/SW/TP		Sheet 18 of 29



FDS6900AS Rds on = 28mOhm
 ILOAD * Rds on * 10 = ILIM
 ILIM3 = 2.24V Current limit 8A
 ILIM5 = 2.24V Current limit 8A

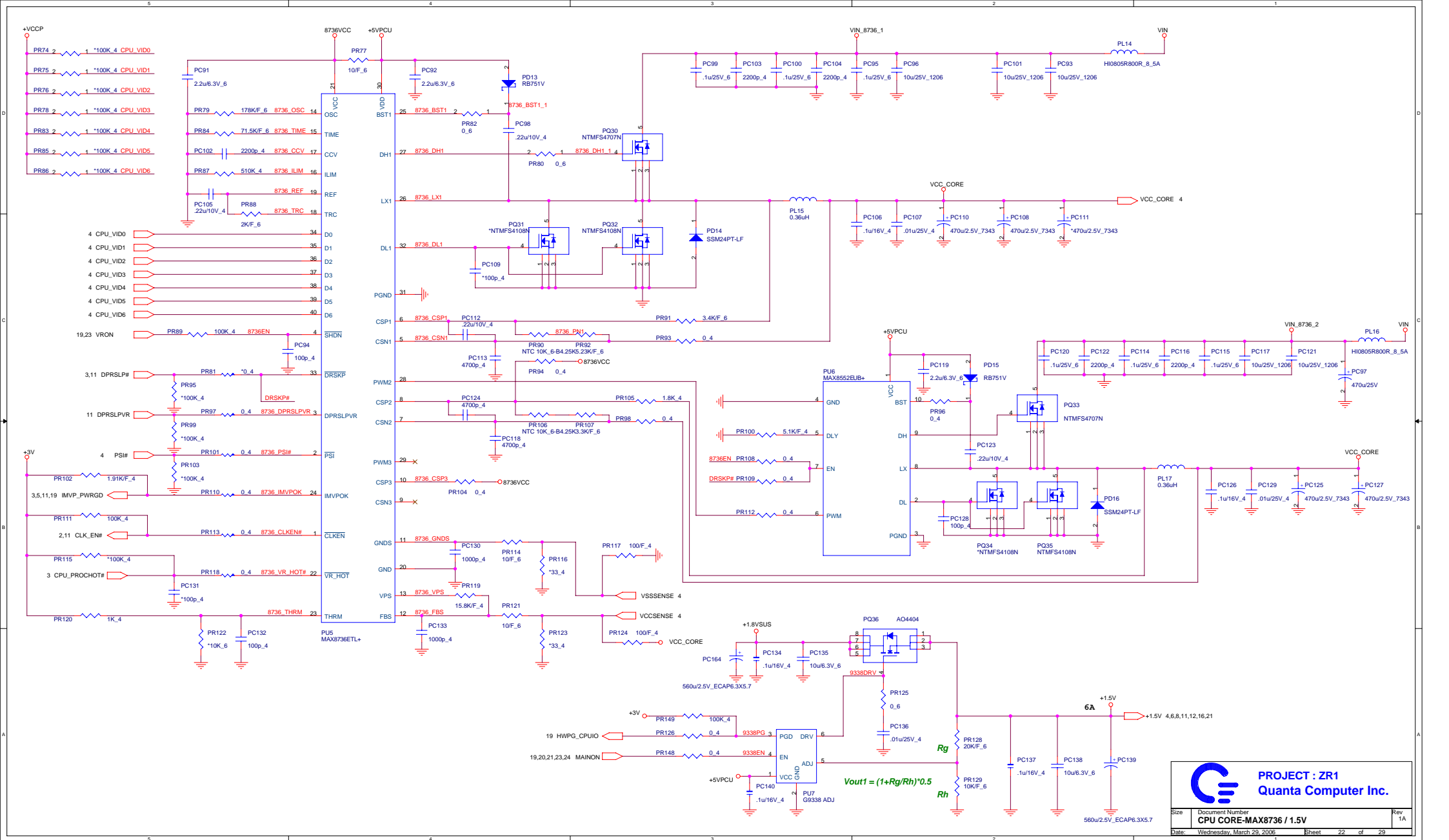
Đo kiểm tra đ/a
 3VPCU: có áp chuẩn.

6A
 +3VPCU

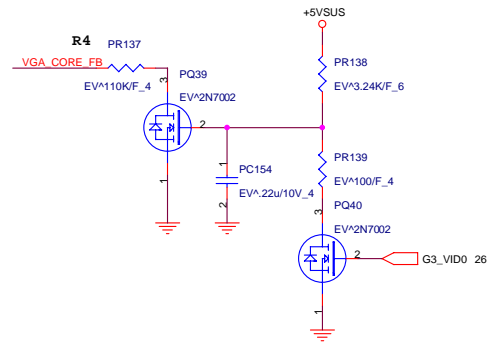
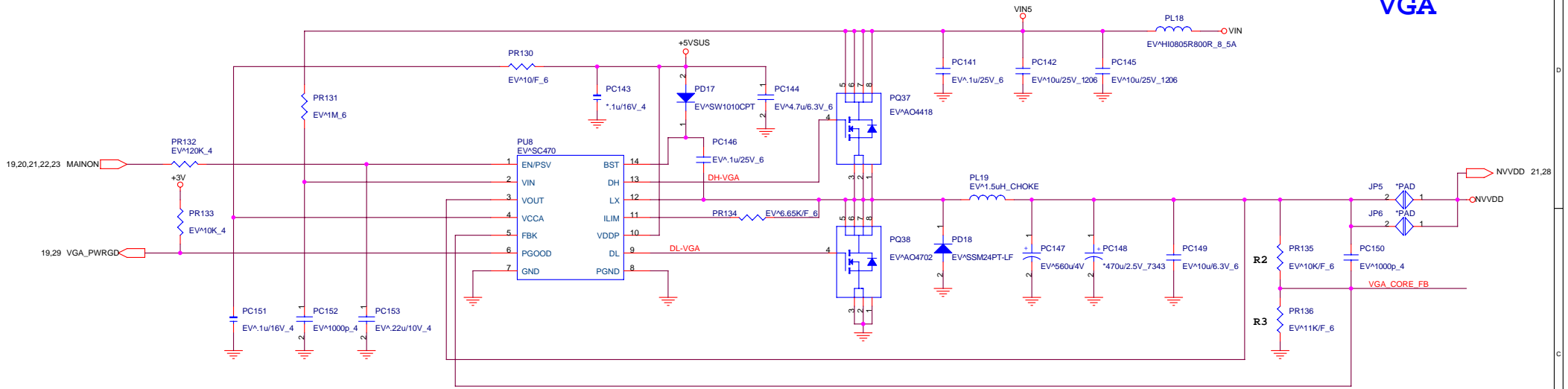
Đo kiểm tra đ/a
 5VPCU: có áp chuẩn.

6A
 +5VPCU

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Quanta Computer Inc.



VGA

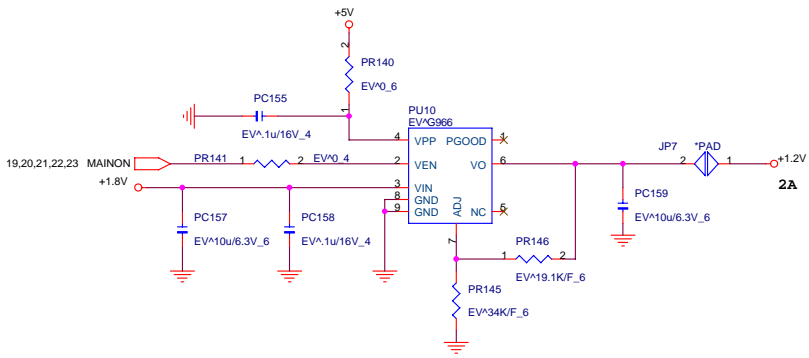


HI --> $V_{OUT} = (1 + R2/R3) * 0.5$
 LO --> $V_{OUT} = (1 + R2 / (R3 // R4)) * 0.5$

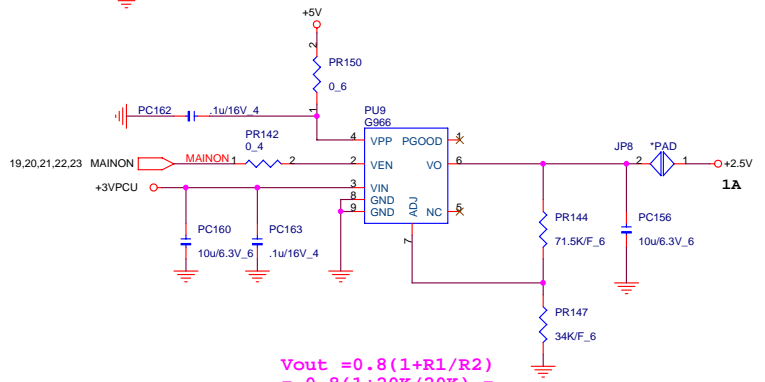
- M52P(G)**
 PR1 : 10K
 PR4 : 11K
 PR2 : 110K
- M54P**
 PR1 : 12K
 PR4 : 12K
 PR2 : 60.4K

Power Play Mode

VGA_PWR_SW	VGA_CORE
HI	0.95V--M52P(G) 1.0V--M54P
Default LO	1.0V--M52P(G) 1.1V--M54P



$V_{out} = 0.8(1 + R1/R2) = 0.8(1 + 20K/20K) = 1.2V$



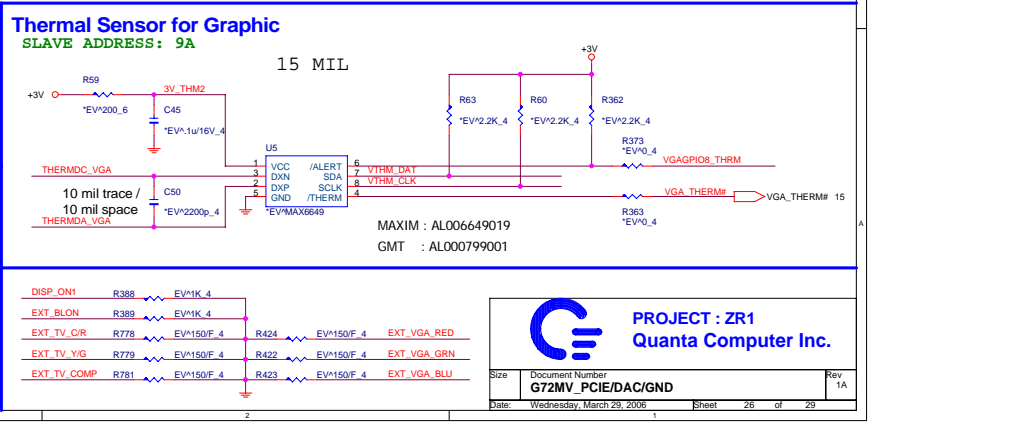
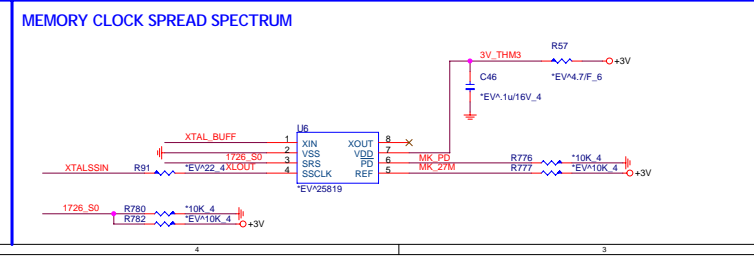
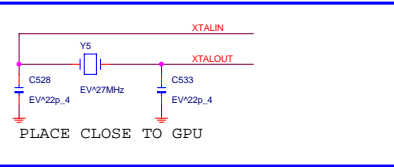
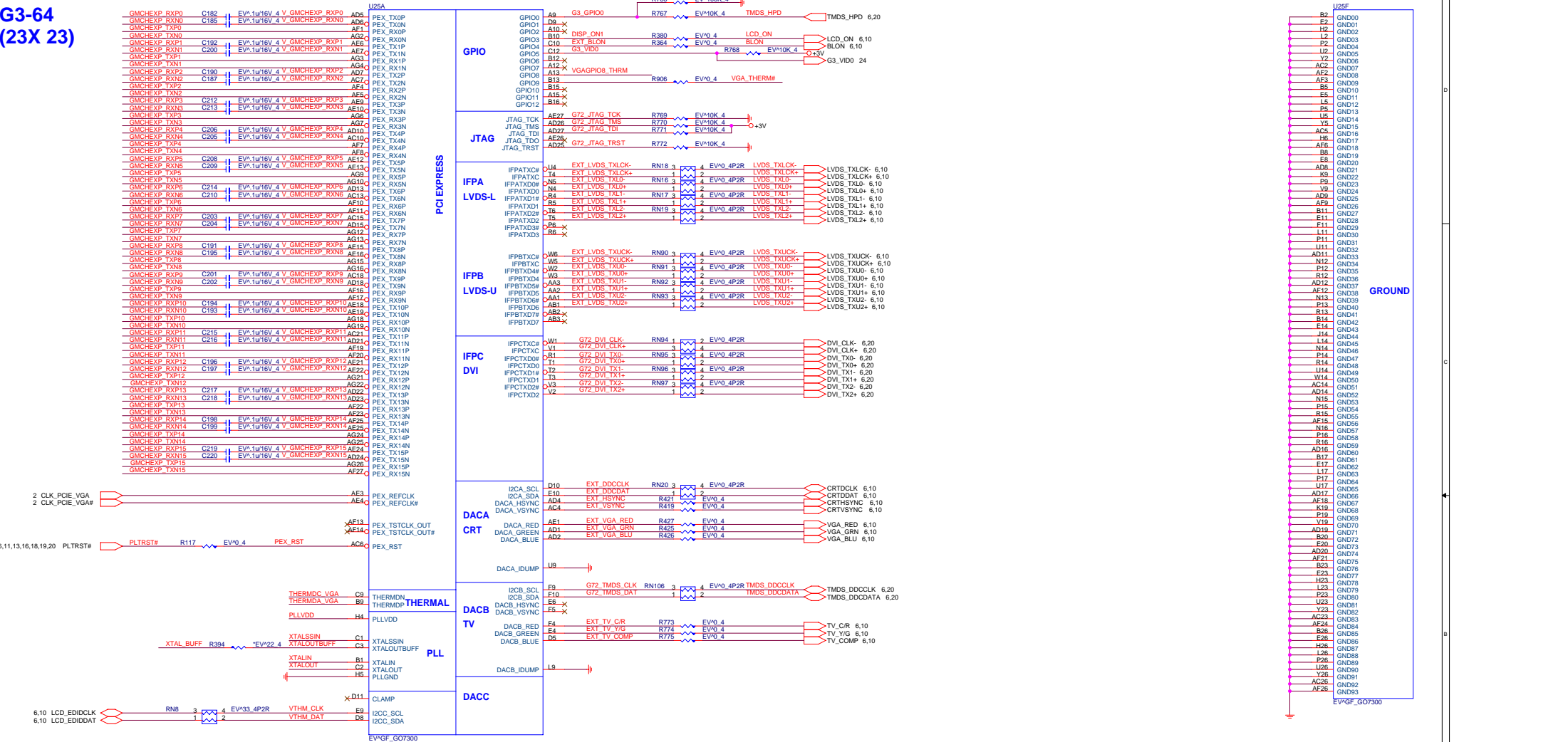
$V_{out} = 0.8(1 + R1/R2) = 0.8(1 + 20K/20K) = 2.5V$

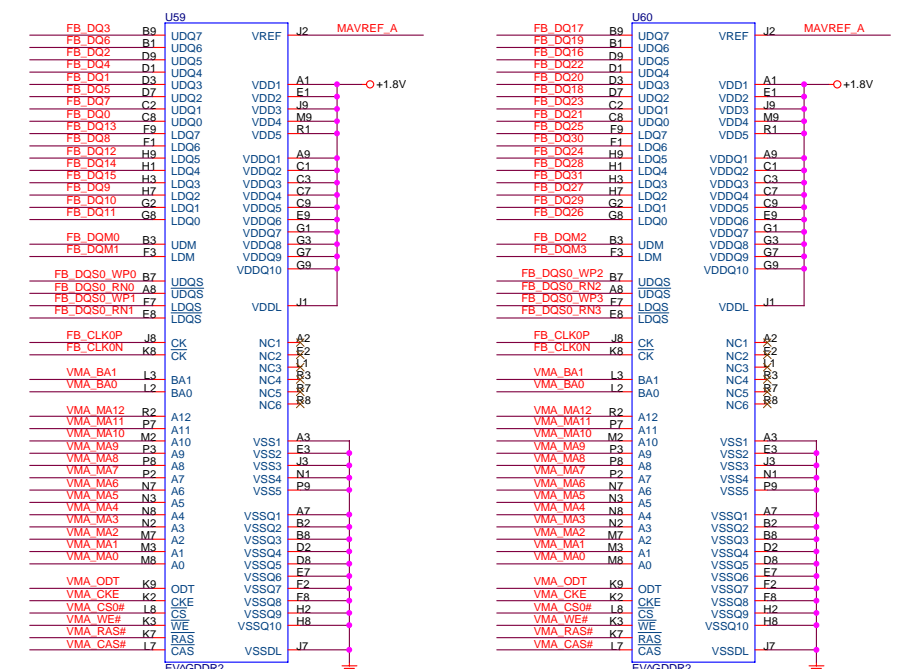
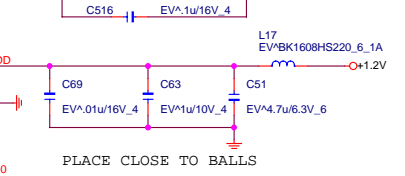
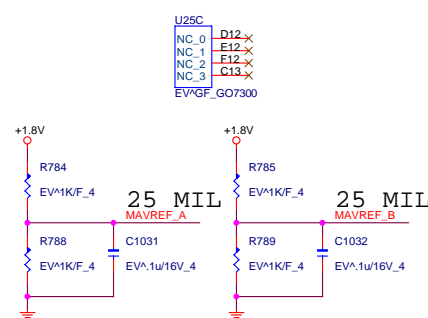
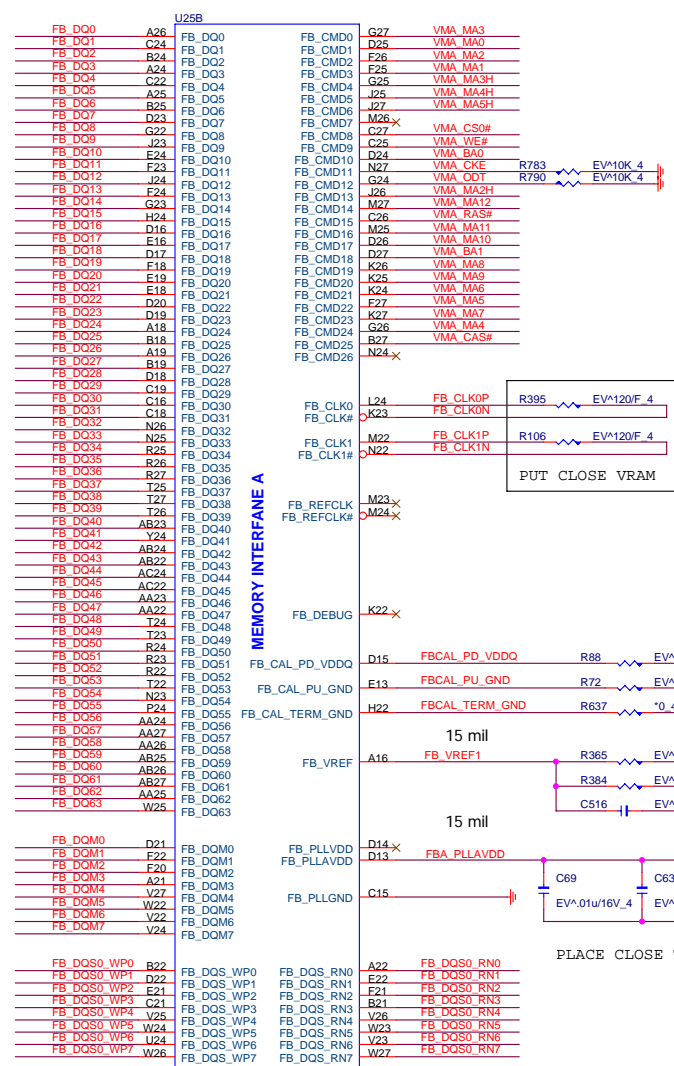
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	VGA (1.0V/1.2V/2.5V)	1A
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NVIDIA G72M G3-64 (23X 23)

0.1u Capacitors place at last 1/3 of trace

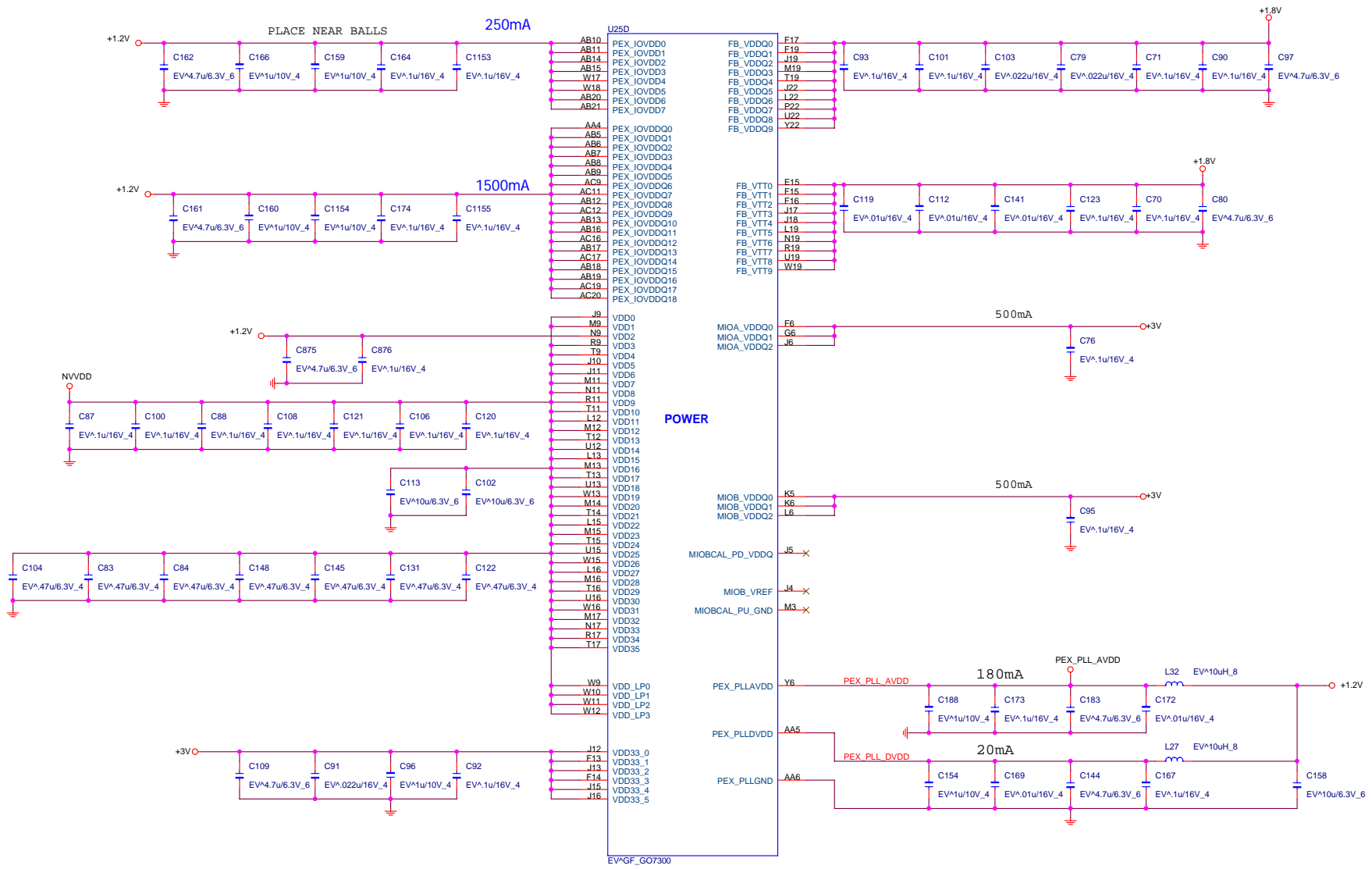


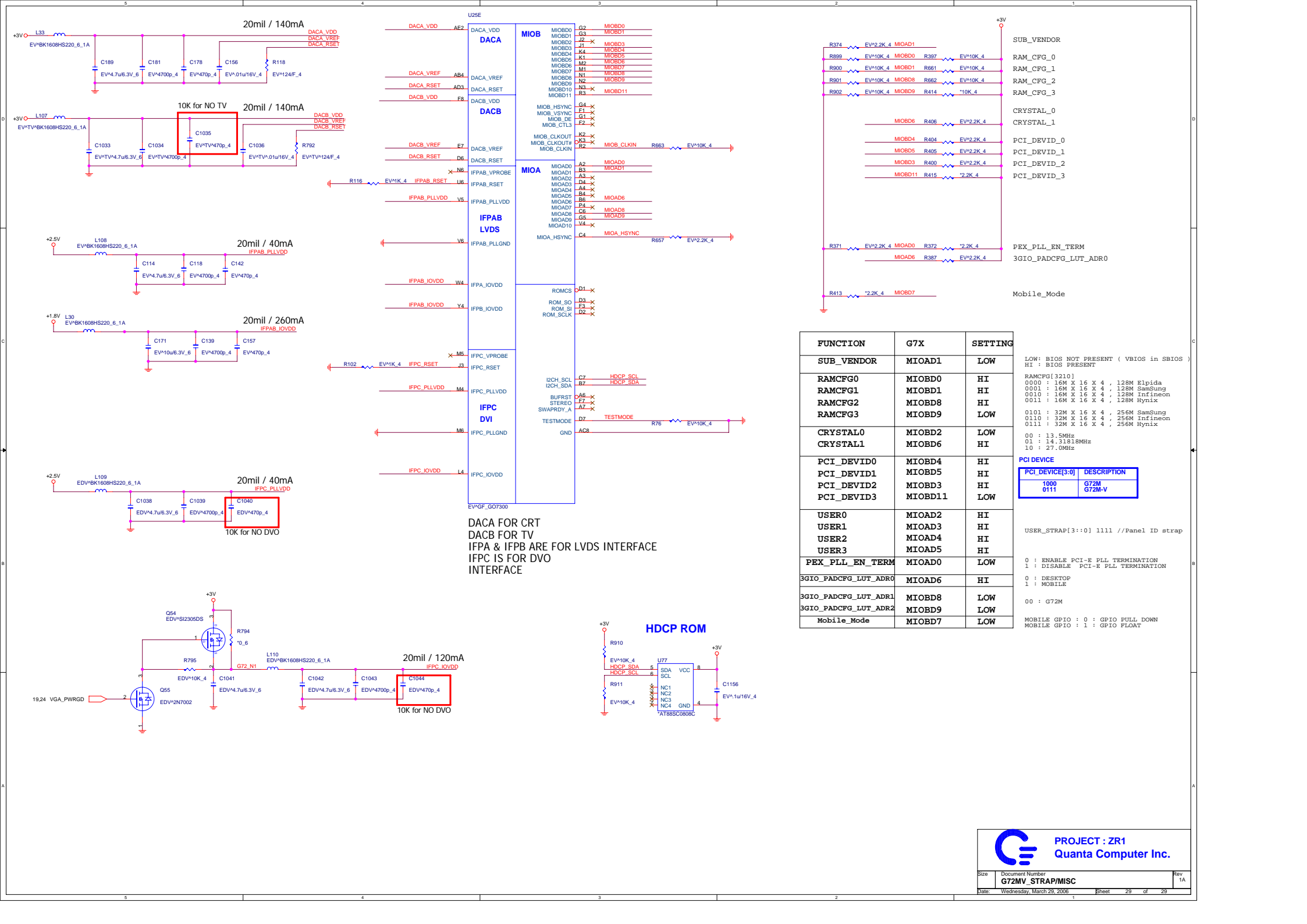


- SAMSUNG 16M*16 --> AKD5JGBT509
- SAMSUNG 32M*16 --> AKD5FGBT501
- INFI 16M*16 --> AKD5JG-T*08
- INFI 32M*16 --> AKD5FG-T*00
- HYNIX 16M*16 --> AKD5JG-TW12
- HYNIX 32M*16 --> AKD5FG-TW14

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	G72MV_MEMORY A/B/C/D	1A
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DACA FOR CRT
 DACB FOR TV
 IFPA & IFPB ARE FOR LVDS INTERFACE
 IFPC IS FOR DVO INTERFACE

FUNCTION	G7X	SETTING
SUB_VENDOR	MIOAD1	LOW
RAMCFG0	MIOBD0	HI
RAMCFG1	MIOBD1	HI
RAMCFG2	MIOBD8	HI
RAMCFG3	MIOBD9	LOW
CRYSTAL0	MIOBD2	LOW
CRYSTAL1	MIOBD6	HI
PCI_DEVID0	MIOBD4	HI
PCI_DEVID1	MIOBD5	HI
PCI_DEVID2	MIOBD3	HI
PCI_DEVID3	MIOBD11	LOW
USER0	MIOAD2	HI
USER1	MIOAD3	HI
USER2	MIOAD4	HI
USER3	MIOAD5	HI
PEX_PLL_EN_TERM	MIOAD0	LOW
3GIO_PADCFG_LUT_ADR0	MIOAD6	HI
3GIO_PADCFG_LUT_ADR1	MIOBD8	LOW
3GIO_PADCFG_LUT_ADR2	MIOBD9	LOW
Mobile_Mode	MIOBD7	LOW

LOW: BIOS NOT PRESENT (VBIOS in SBIOS)
 HI: BIOS PRESENT

RAMCFG[3210]
 0000 : 16M X 16 X 4 , 128M Elpida
 0001 : 16M X 16 X 4 , 128M Samsung
 0010 : 16M X 16 X 4 , 128M Infineon
 0011 : 16M X 16 X 4 , 128M Hynix

0101 : 32M X 16 X 4 , 256M Samsung
 0110 : 32M X 16 X 4 , 256M Infineon
 0111 : 32M X 16 X 4 , 256M Hynix

00 : 13.5MHz
 01 : 14.318MHz
 10 : 27.0MHz

PCI DEVICE

PCI_DEVICE[3:0]	DESCRIPTION
1000	G72M
0111	G72M-V

USER_STRAP[3:1:0] 1111 //Panel ID strap

0 : ENABLE PCI-E PLL TERMINATION
 1 : DISABLE PCI-E PLL TERMINATION

0 : DESKTOP
 1 : MOBILE

00 : G72M

MOBILE GPIO : 0 : GPIO PULL DOWN
 MOBILE GPIO : 1 : GPIO FLOAT

