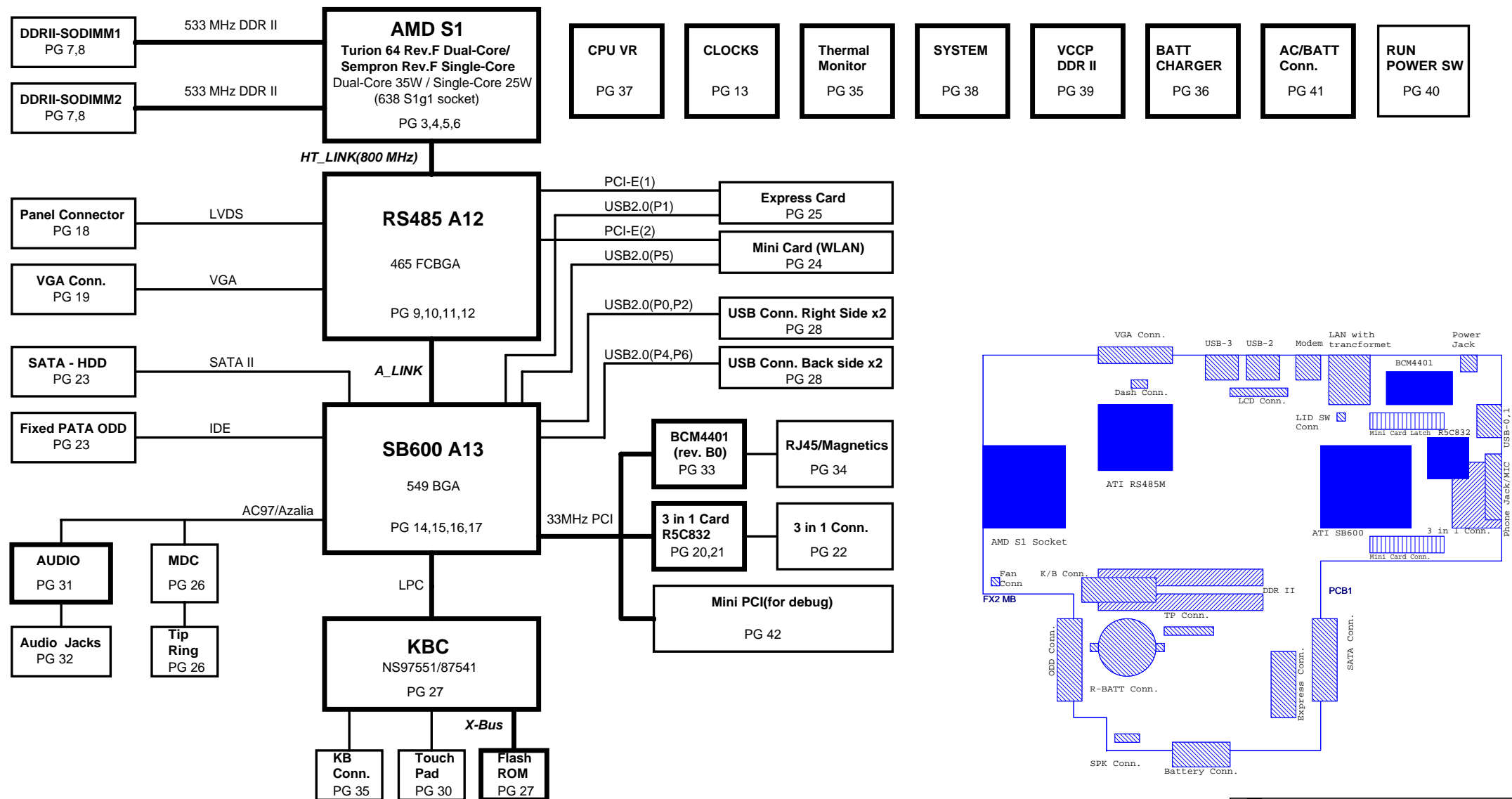


Kirin (FX2 with NS)


VER : 3A



Title			BLOCK DIAGRAM
Size	Document Number	Rev	
	FX2	3A	
Date:	Thursday, September 07, 2006	Sheet	1 of 51

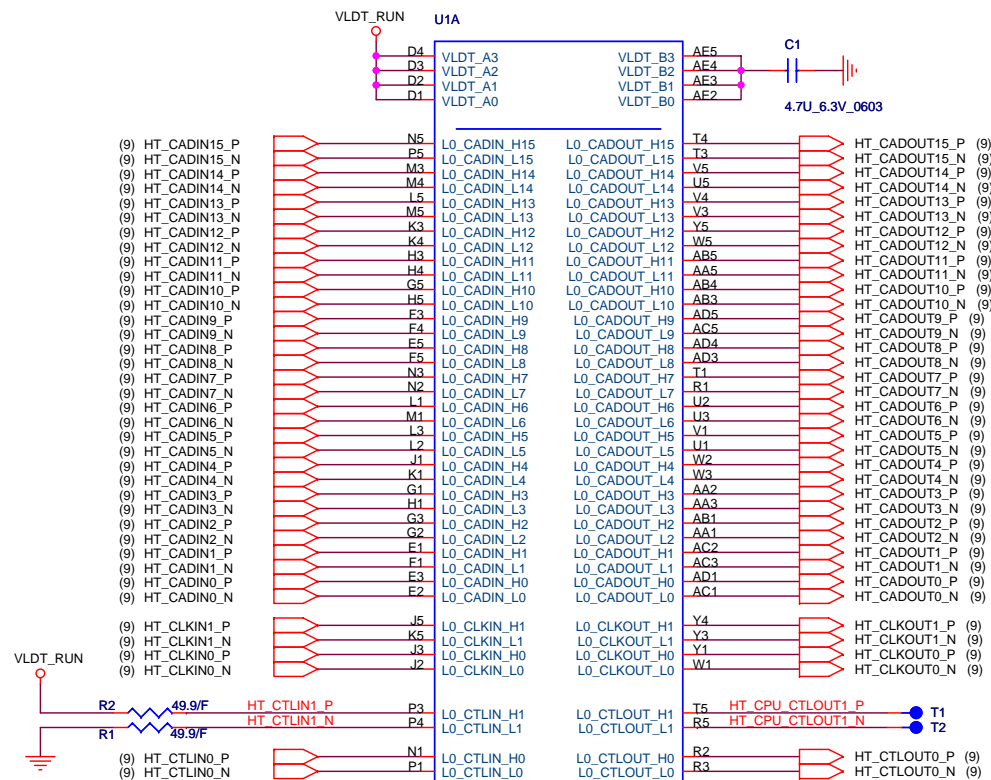
INDEX

Page	Description
1	BLOCK DIAGRAM
2	FRONT PAGE
3	ATHLON64 HT I/F
4	ATHLON64 DDRII MEMORY
5	ATHLON64 CTRL & DEBUG
6	ATHLON64 PWR & GND
7	DDRII SODIMMX2
8	DDRII TERMINATION
9	RS485-HT LINK0 I/F
10	RS485-PCIE LINK I/F
11	RS485-LVDS
12	RS485-POWER
13	CLOCK GENERATOR
14	SB600M-PCIE/PCI/LPC
15	SB600M ACPI/USB/AC97
16	SB600M HDD/POWER
17	SB600M STRAPS
18	LCD CONN
19	CRT
20	5C832/PCI
21	CARD READER
22	CARD READER CONN
23	SATA HDD & PATA ODD
24	MINI Card
25	MINI Card
26	MDC CONN
27	PC87541 & FLASH
28	USB
29	EMI & Screw hole
30	SWITCH & TP & LED
31	Azelia CODEC
32	AUDIO CONN
33	LAN(BCM4401)
34	LAN JACK
35	KB & THERMAL & FAN
36	CHARGER (MAX8731)
37	VHCORE (MAX8774)
38	SYSTEM (MAX8734)
39	VCCP & DDR2 (MAX8743)
40	RUN POWER SW
41	DCIN,Batt
42	MINI PCI(for debug)
43	Power On Sequence
44	Power On Diagram
45	SMBUS BLOCK

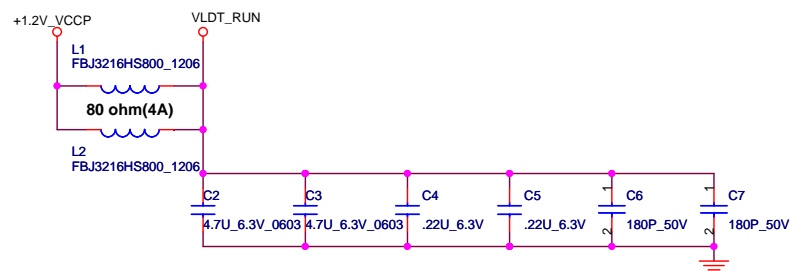
 QUANTA COMPUTER		
Title FRONT PAGE		
Size FX2	Document Number	Rev 1A
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**PROCESSOR HYPERTRANSPORT INTERFACE**

VLDT_Ax AND VLDT_Bx ARE CONNECTED TO THE LDT_RUN POWER SUPPLY THROUGH THE PACKAGE OR ON THE DIE. IT IS ONLY CONNECTED ON THE BOARD TO DECOUPLING NEAR THE CPU PACKAGE



Athlon 64 S1
Processor Socket

**LAYOUT: Place bypass cap on topside of board**

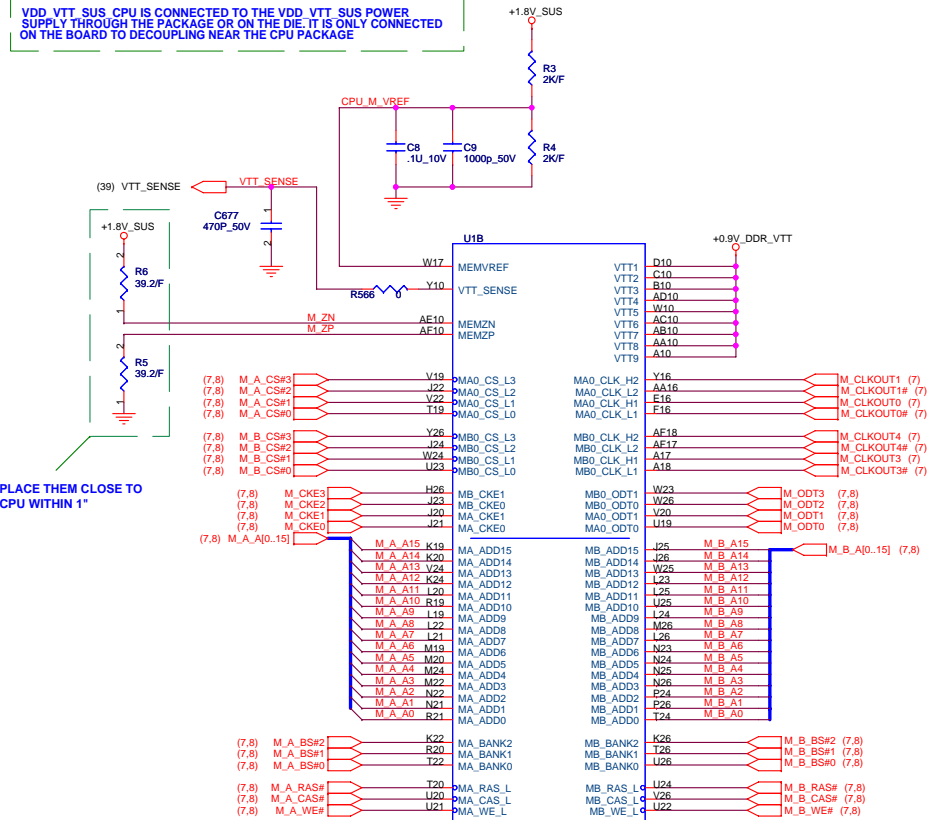
NEAR HT POWER PINS THAT ARE NOT CONNECTED DIRECTLY TO DOWNSTREAM HT DEVICE, BUT CONNECTED INTERNALLY TO OTHER HT POWER PINS
PLACE CLOSE TO VLDT0 POWER PINS



QUANTA
COMPUTER

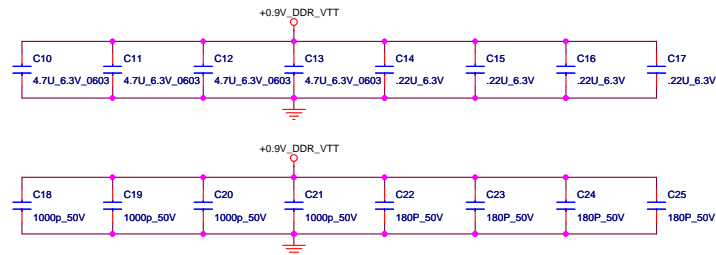
Title			ATHLON64 HT I/F
Size	Document Number	Rev	
	FX2	2B	
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VDD_VTT_SUS CPU IS CONNECTED TO THE VDD_VTT_SUS POWER SUPPLY THROUGH THE PACKAGE OR ON THE DIE. IT IS ONLY CONNECTED ON THE BOARD TO DECOUPLING NEAR THE CPU PACKAGE

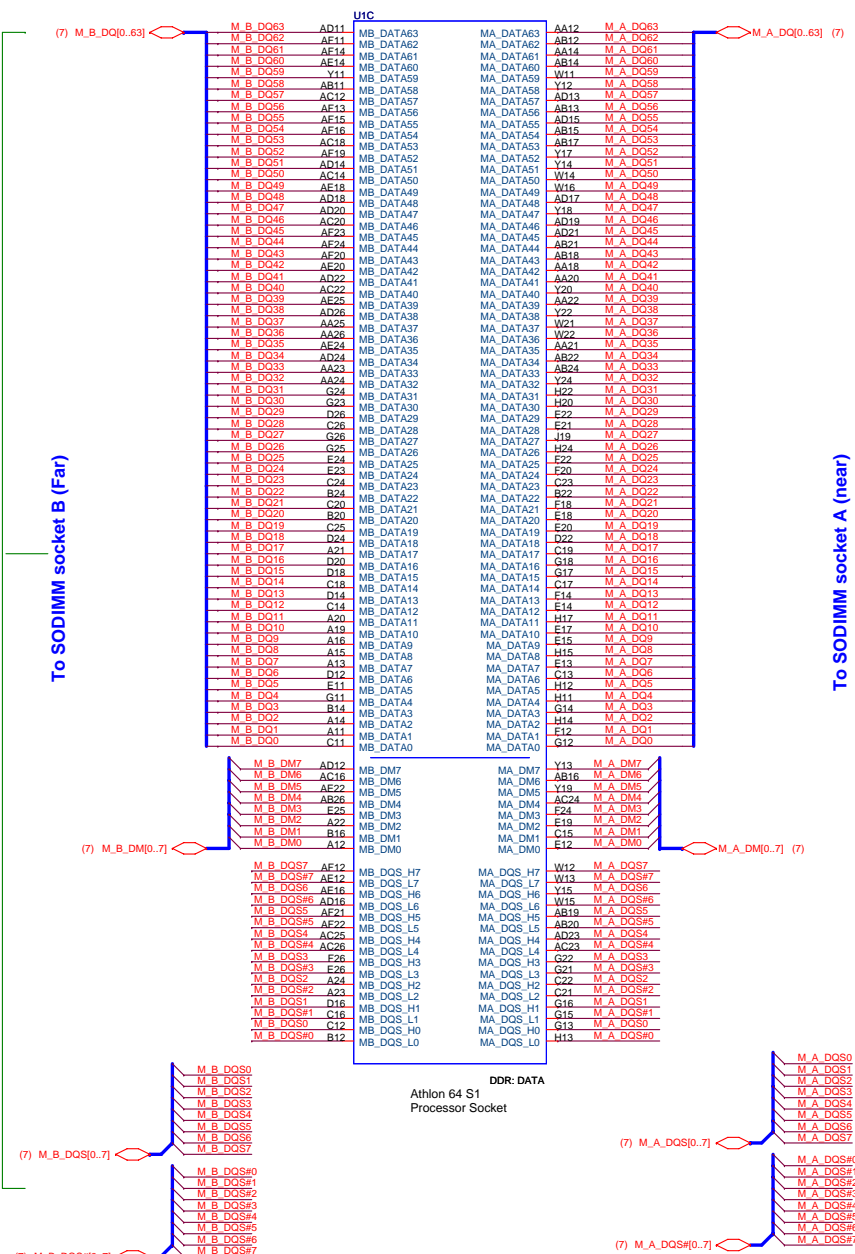


PLACE THEM CLOSE TO CPU WITHIN 1"

DDR II: CMD/CTL/CLK
Athlon 64 S1
Processor Socket



Processor DDR2 Memory Interface



To SODIMM socket B (Far)

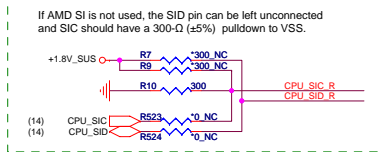
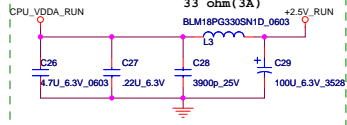
To SODIMM socket A (near)

DDR: DATA
Athlon 64 S1
Processor Socket



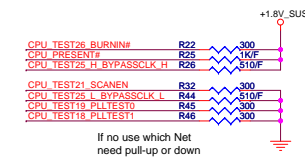
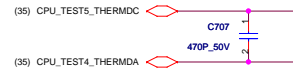
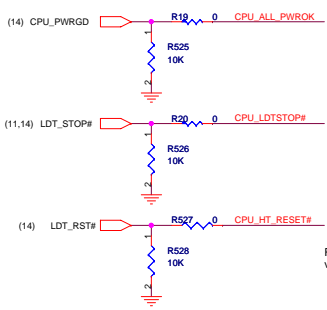
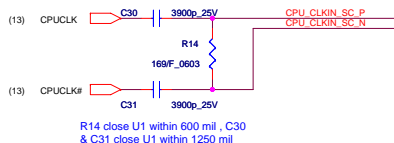
ATHLON Control and Debug

CPU_VDDA_RUN



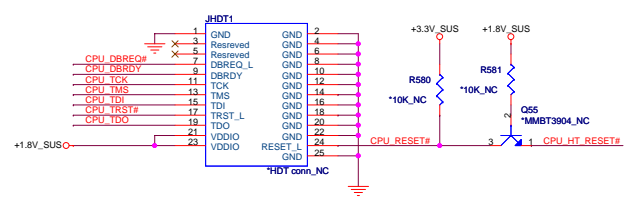
for CPU rev.F, if for rev.G, populate R7,R9,R523,R524 and depopulate R10

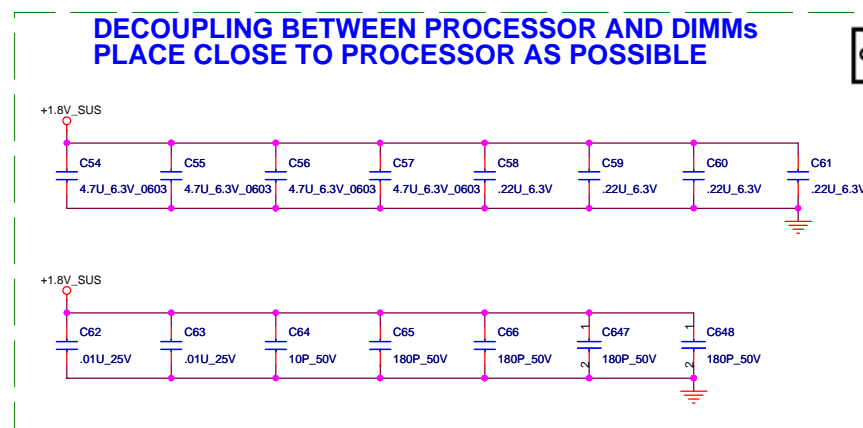
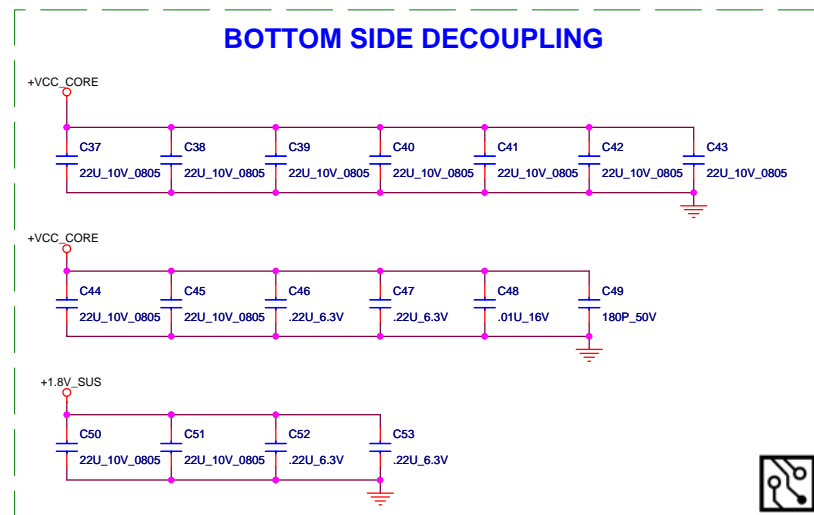
place them to CPU within 1"



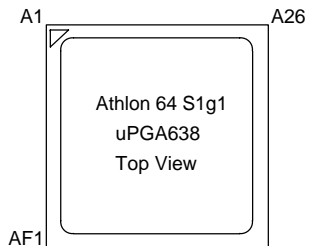
HDT connector is added for debug convenience.

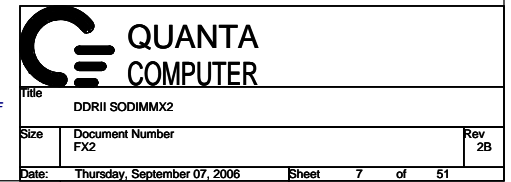
HDT CONNECTOR

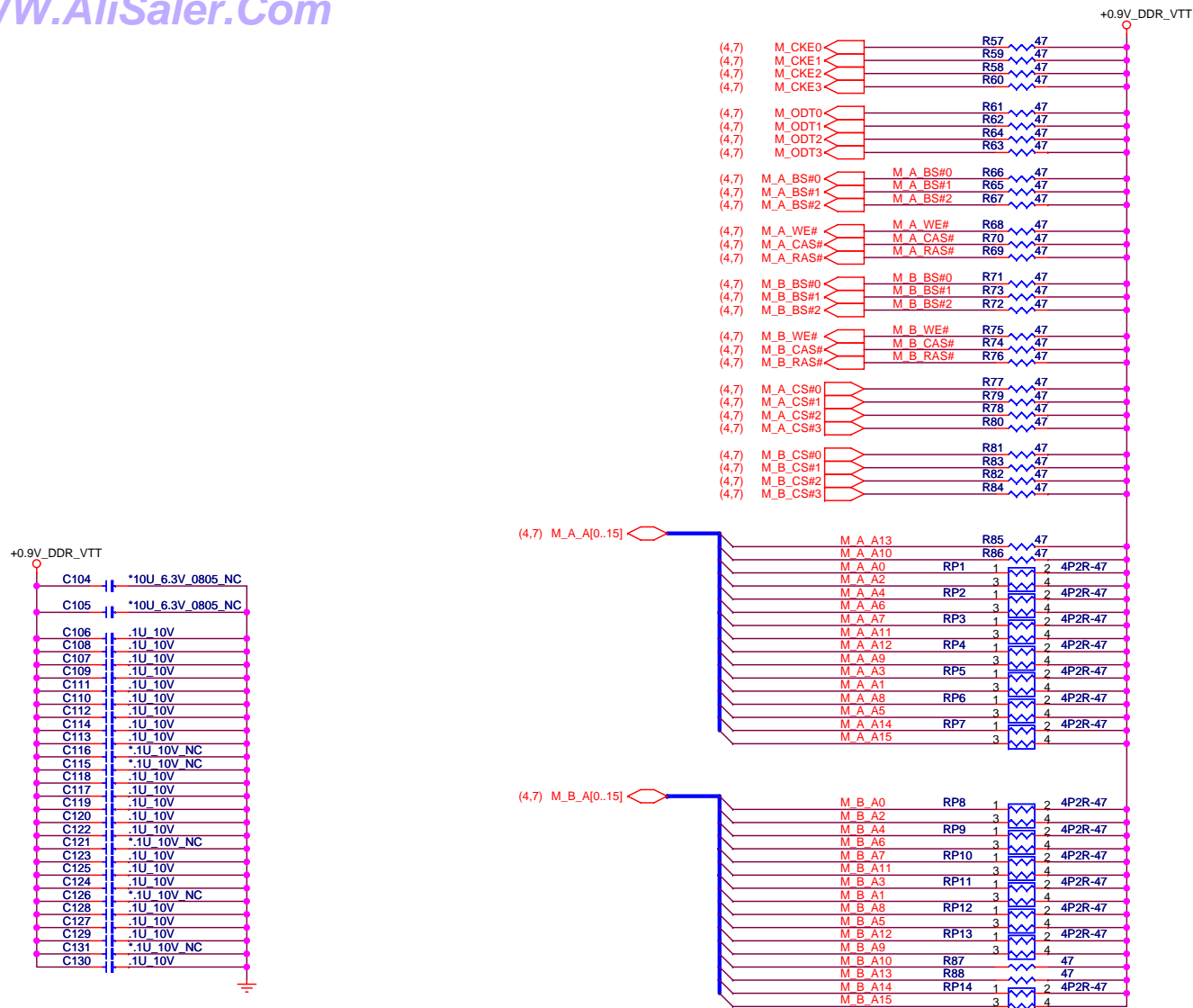




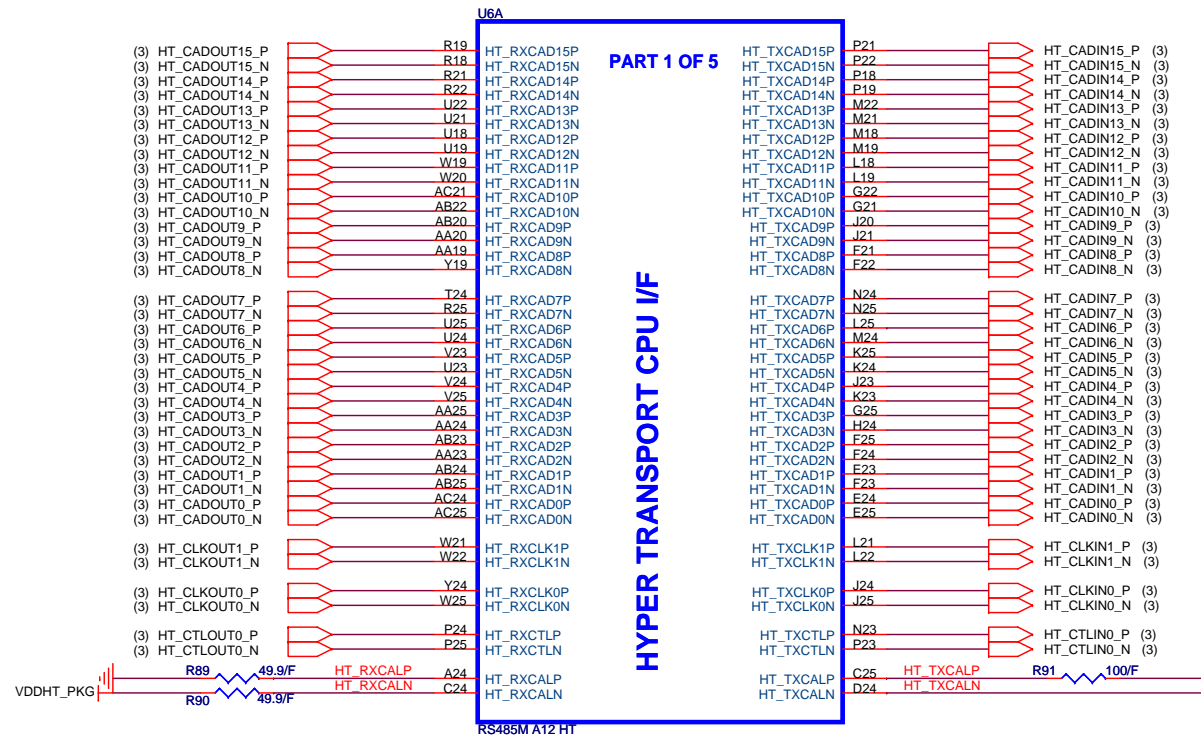
PROCESSOR POWER AND GROUND



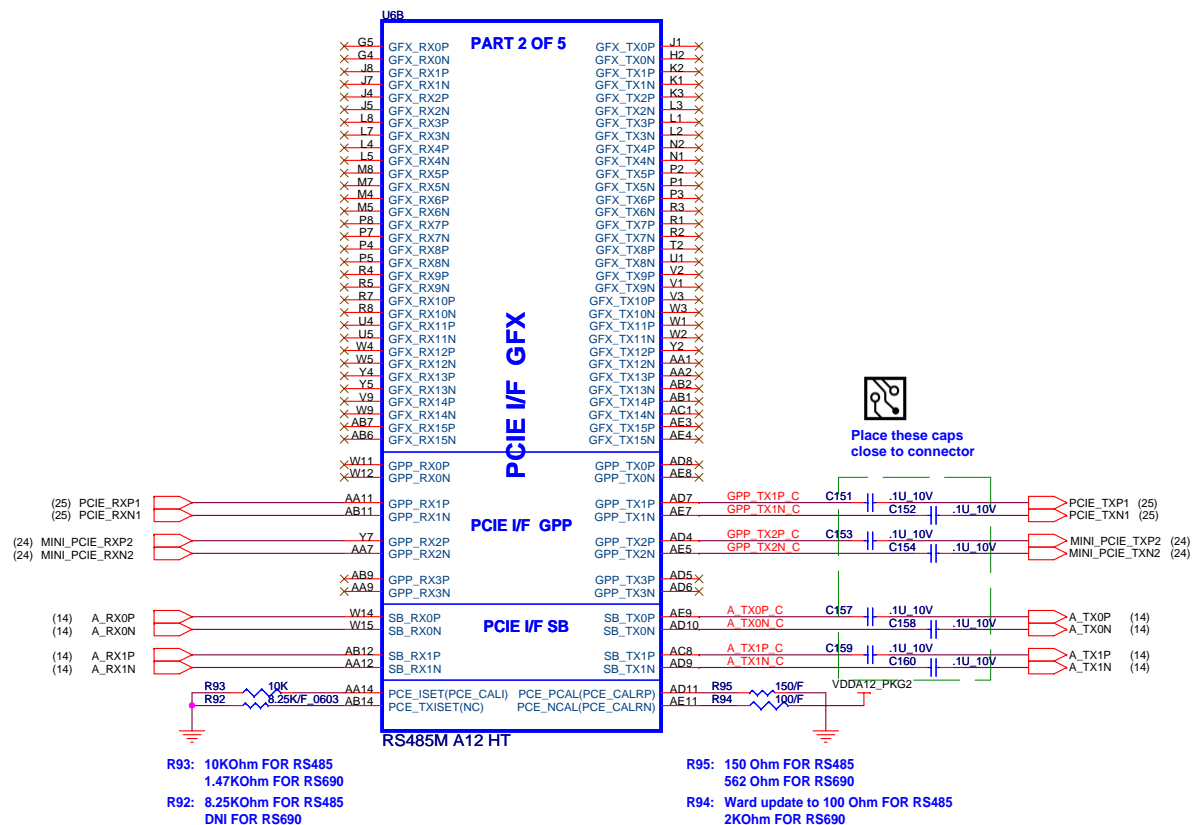




Title			DDR2 TERMINATION
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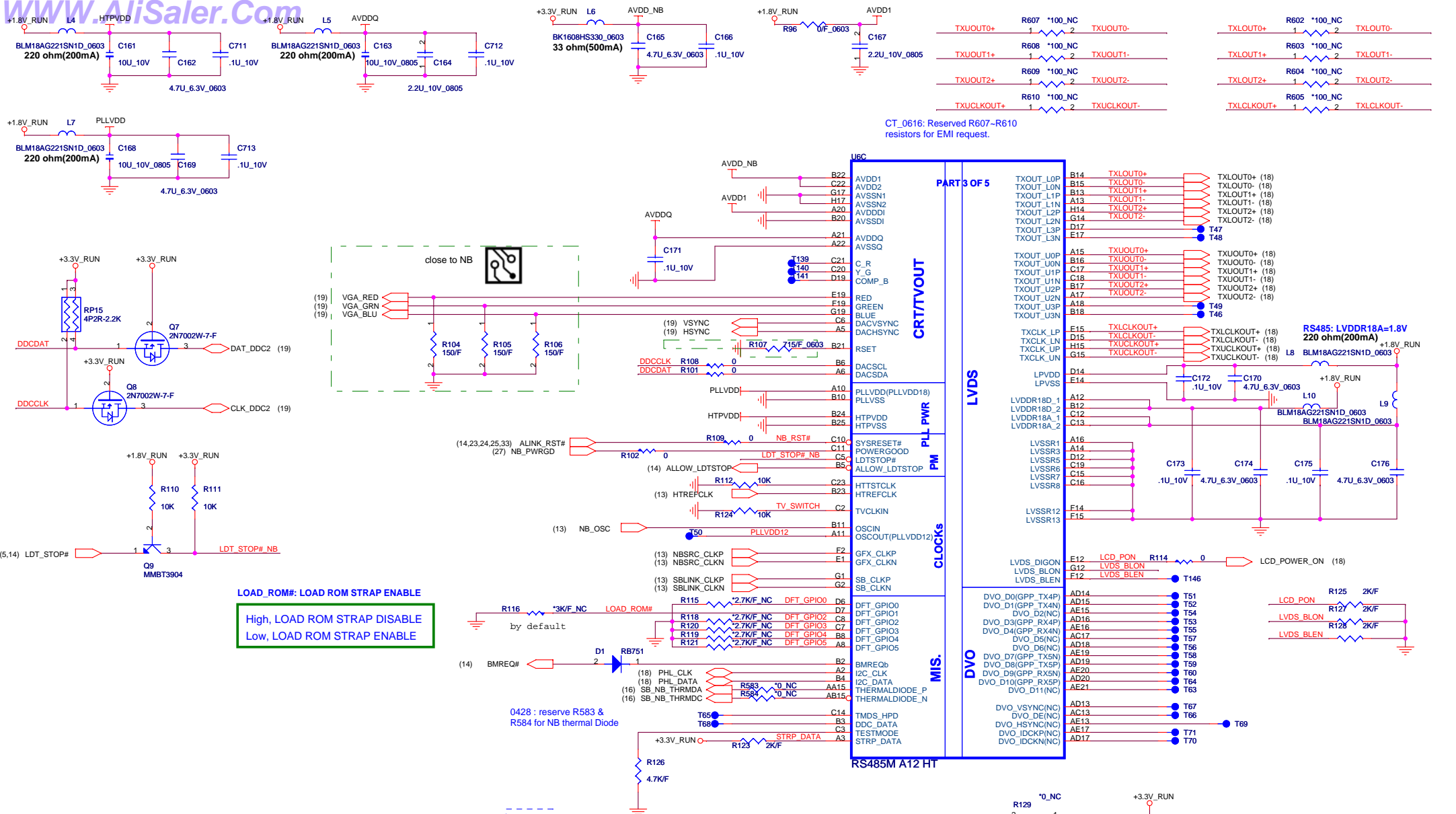


Title		
RS485-HT LINK0 I/F		
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Rev
1A

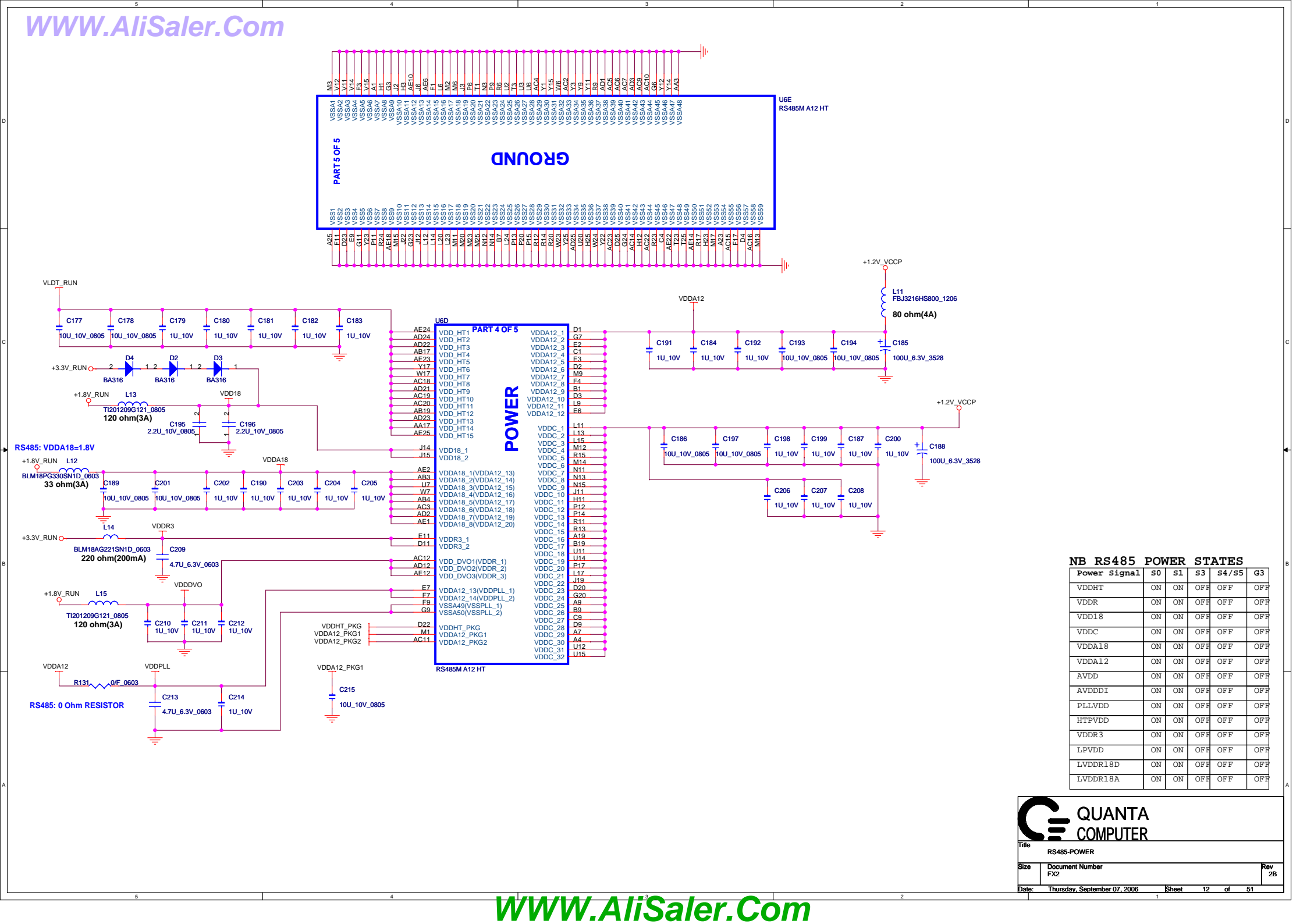


LOAD_ROM#: LOAD ROM STRAP ENABLE

High, LOAD ROM STRAP DISABLE

Low, LOAD ROM STRAP ENABLE

	RS485	RS690
OSCOUT(A11)	OSCOUT	PLLVD12
DVO_D0(AD14)	DVO_D0	GPP_TX4P
DVO_D1(AD15)	DVO_D1	GPP_TX4N
DVO_D3(AD16)	DVO_D3	GPP_RX4P
DVO_D4(AE16)	DVO_D4	GPP_RX4N
DVO_D7(AE19)	DVO_D7	GPP_TX5N
DVO_D8(AD19)	DVO_D8	GPP_TX5P
DVO_D9(AE20)	DVO_D9	GPP_RX5N
DVO_D10(AD20)	DVO_D10	GPP_RX5P



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RS485 POWER STATES

Power Signal	S0	S1	S3	S4/S5	G3
VDDHT	ON	ON	OFF	OFF	OFF
VDDR	ON	ON	OFF	OFF	OFF
VDD18	ON	ON	OFF	OFF	OFF
VDDC	ON	ON	OFF	OFF	OFF
VDDA18	ON	ON	OFF	OFF	OFF
VDDA12	ON	ON	OFF	OFF	OFF
AVDD	ON	ON	OFF	OFF	OFF
AVDDDI	ON	ON	OFF	OFF	OFF
PLLVDD	ON	ON	OFF	OFF	OFF
HTPVDD	ON	ON	OFF	OFF	OFF
VDDR3	ON	ON	OFF	OFF	OFF
LPVDD	ON	ON	OFF	OFF	OFF
LVDDR18D	ON	ON	OFF	OFF	OFF
LVDDR18A	ON	ON	OFF	OFF	OFF

QUANTA COMPUTER

Title: RS485-POWER

Size: Document Number FX2

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Rev: 2B

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RS485 POWER STATES

Power Signal	S0	S1	S3	S4/S5	G3
VDDHT	ON	ON	OFF	OFF	OFF
VDDR	ON	ON	OFF	OFF	OFF
VDD18	ON	ON	OFF	OFF	OFF
VDDC	ON	ON	OFF	OFF	OFF
VDDA18	ON	ON	OFF	OFF	OFF
VDDA12	ON	ON	OFF	OFF	OFF
AVDD	ON	ON	OFF	OFF	OFF
AVDDDI	ON	ON	OFF	OFF	OFF
PLLVDD	ON	ON	OFF	OFF	OFF
HTPVDD	ON	ON	OFF	OFF	OFF
VDDR3	ON	ON	OFF	OFF	OFF
LPVDD	ON	ON	OFF	OFF	OFF
LVDDR18D	ON	ON	OFF	OFF	OFF
LVDDR18A	ON	ON	OFF	OFF	OFF

QUANTA COMPUTER

Title: RS485-POWER

Size: Document Number FX2

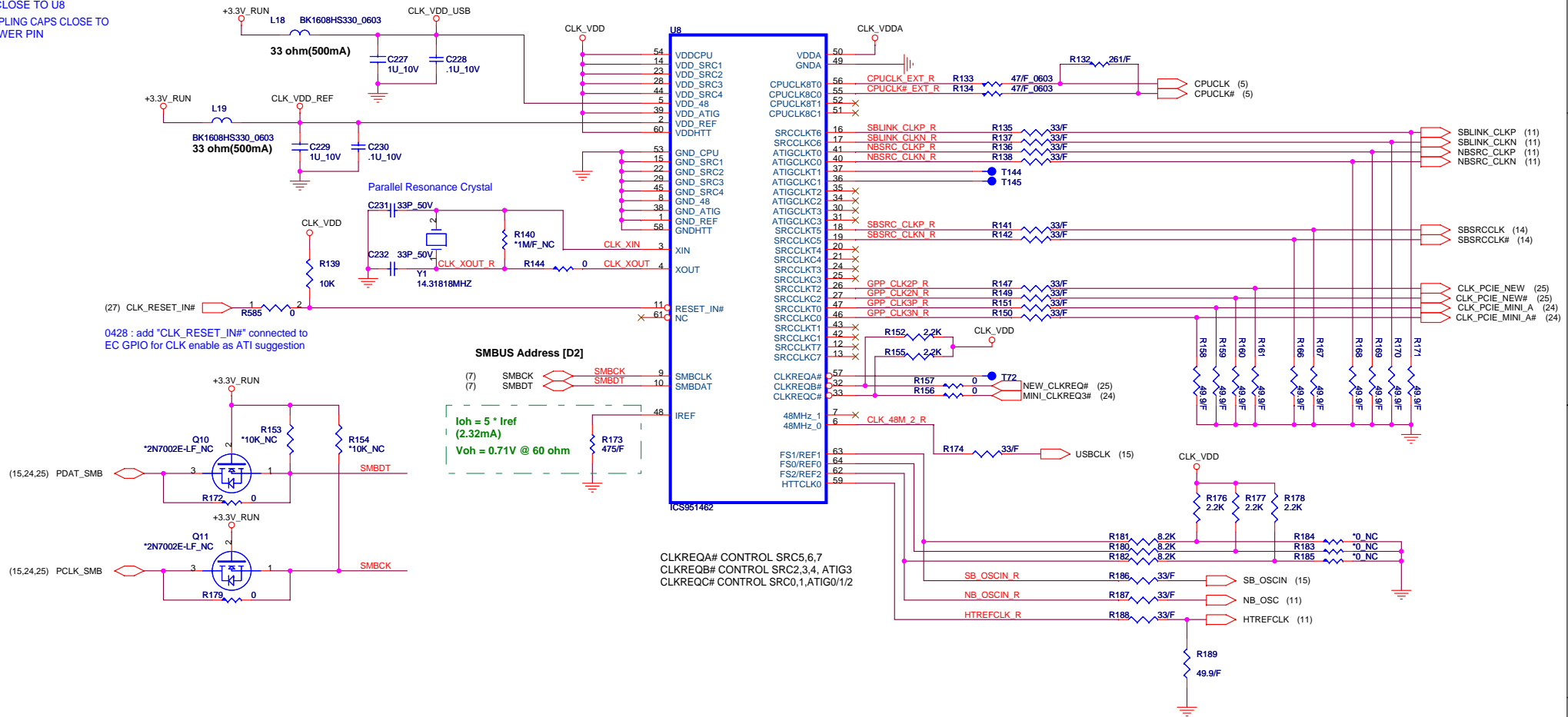
Date: Thursday, September 07, 2006

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Rev: 2B

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- 1- PLACE ALL SERIAL TERMINATION RESISTORS CLOSE TO U8
- 2- PUT DECOUPLING CAPS CLOSE TO Clock Gen. POWER PIN



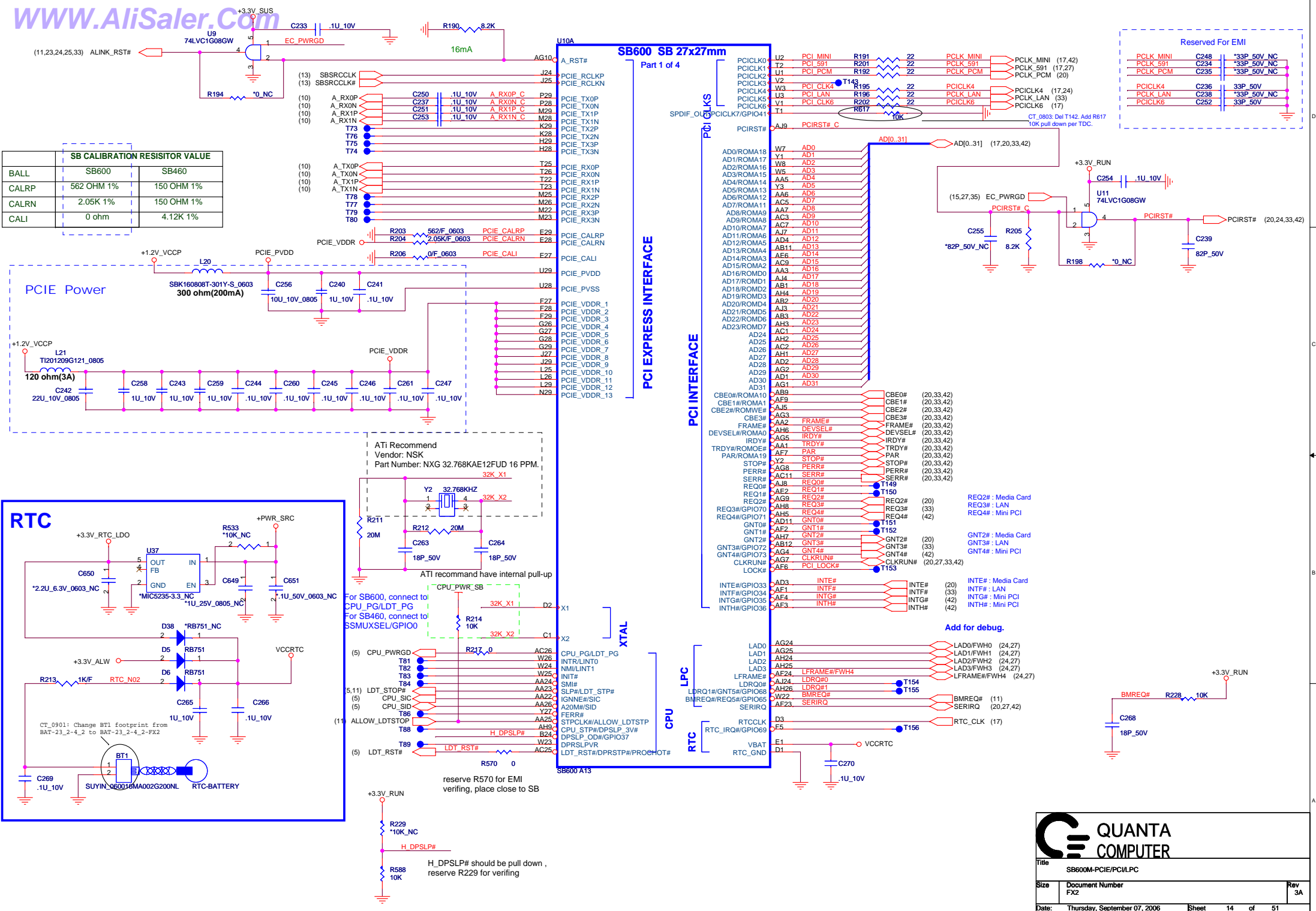
EXT CLK FREQUENCY SELECT TABLE(MHZ)

FS2	FS1	FS0	CPU	SRCCLK [2:1]	HTT	PCI	USB	COMMENT
0	0	0	Hi-Z	100.00	Hi-Z	Hi-Z	48.00	Reserved
0	0	1	X	100.00	X/3	X/6	48.00	Reserved
0	1	0	180.00	100.00	60.00	30.00	48.00	Reserved
0	1	1	220.00	100.00	36.56	73.12	48.00	Reserved
1	0	0	100.00	100.00	66.66	33.33	48.00	Reserved
1	0	1	133.33	100.00	66.66	33.33	48.00	Reserved
1	1	1	200.00	100.00	66.66	33.33	48.00	Normal ATHLON64 operation

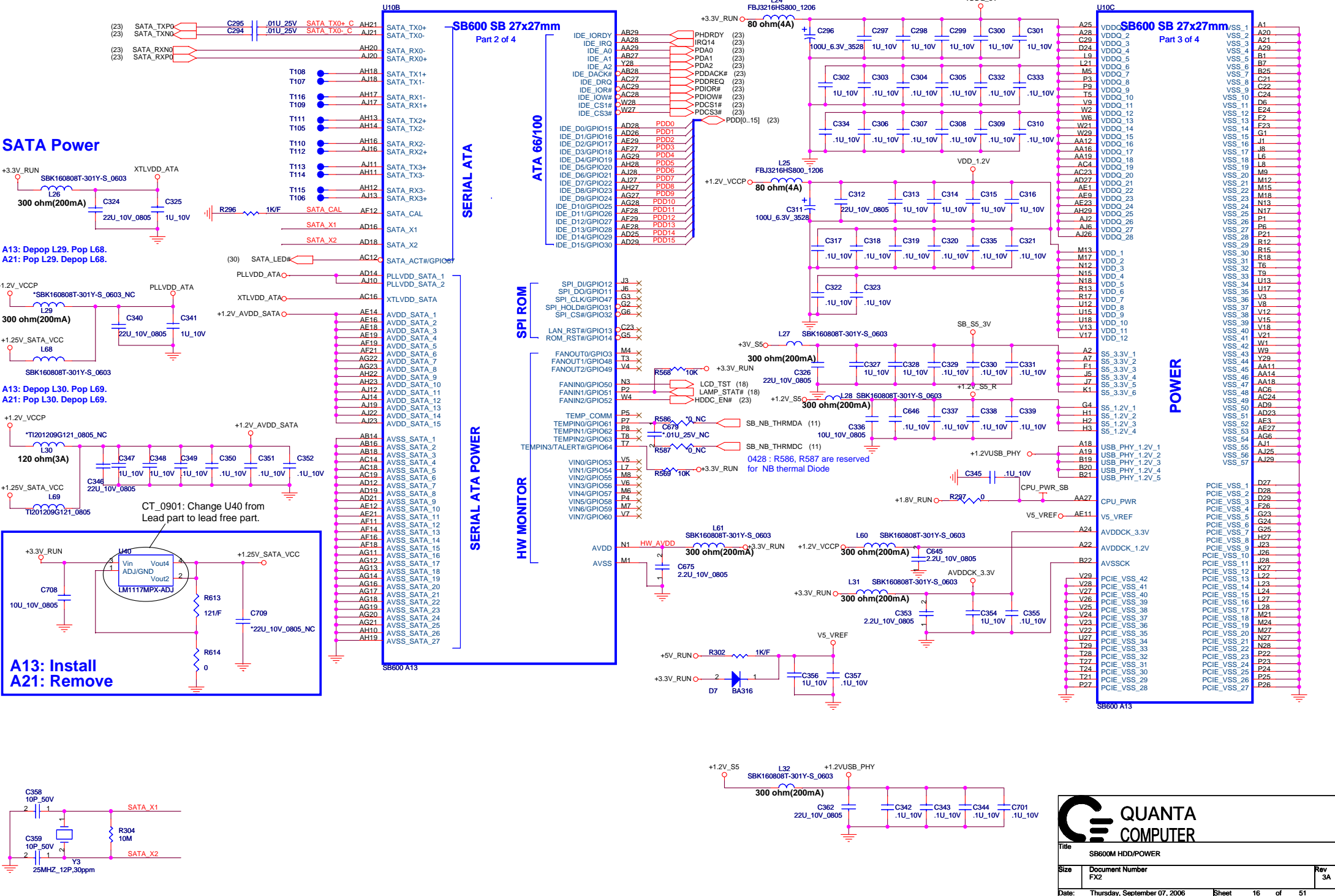
Check AMD clock

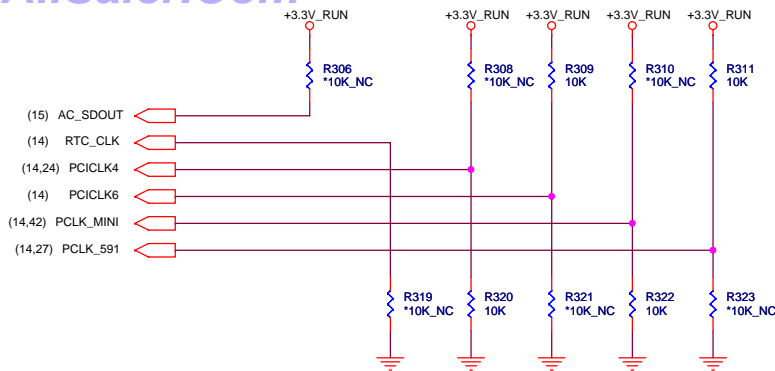


Title			CLOCK GENERATOR		
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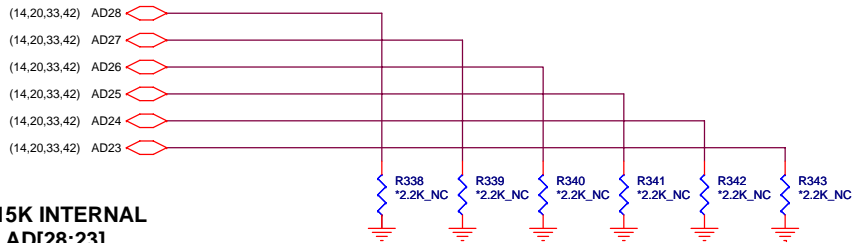




SB600 has 15K internal PD for AC_SDOUT
15K internal PU for RTC_CLK ,External PU/PD is not required.

REQUIRED STRAPS

	AC_SDOUT	RTC_CLK	PCI_CLK4	PCI_CLK6	PCLK_MINI	PCLK_591
PULL HIGH	USE DEBUG STRAPS	INTERNAL RTC DEFAULT	USE INT. PLL48 DEFAULT	CPU IF=K8 DEFAULT	H, H = PCI ROM H, L = SPI ROM	
PULL LOW	IGNORE DEBUG STRAPS DEFAULT	EXTERNAL RTC	USE EXT. 48MHZ	CPU IF=P4	L, H = LPC ROM L, L = FWH ROM	DEFAULT



SB600 HAS 15K INTERNAL PU FOR PCI_AD[28:23]

DEBUG STRAPS

	PCI_AD28	PCI_AD27	PCI_AD26	PCI_AD25	PCI_AD24	PCI_AD23
PULL HIGH	Use Long Reset DEFAULT	USE PCI PLL DEFAULT	USE ACPI BCLK DEFAULT	USE IDE PLL DEFAULT	USE DEFAULT PCIE STRAPS DEFAULT	boot fail time disabled DEFAULT
PULL LOW	Use Short Reset	BYPASS PCI PLL	BYPASS ACPI BCLK	BYPASS IDE PLL	USE EEPROM PCIE STRAPS	boot fail time enabled

SB600 Only

SB600 Only

QUANTA
COMPUTER

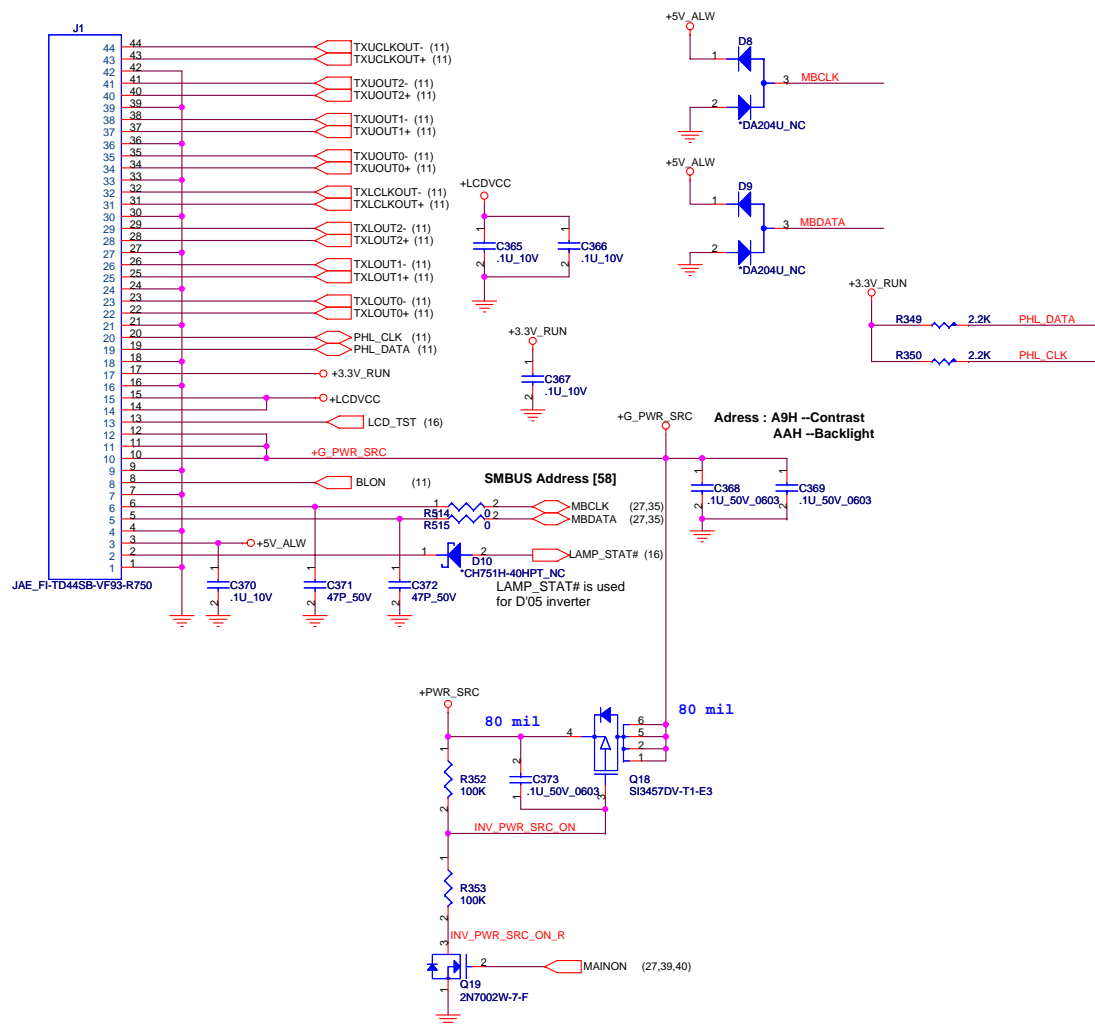
Title SB600M STRAPS

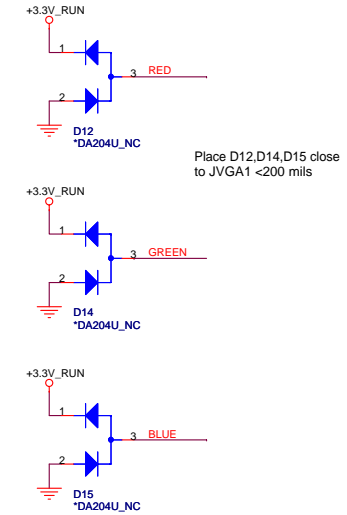
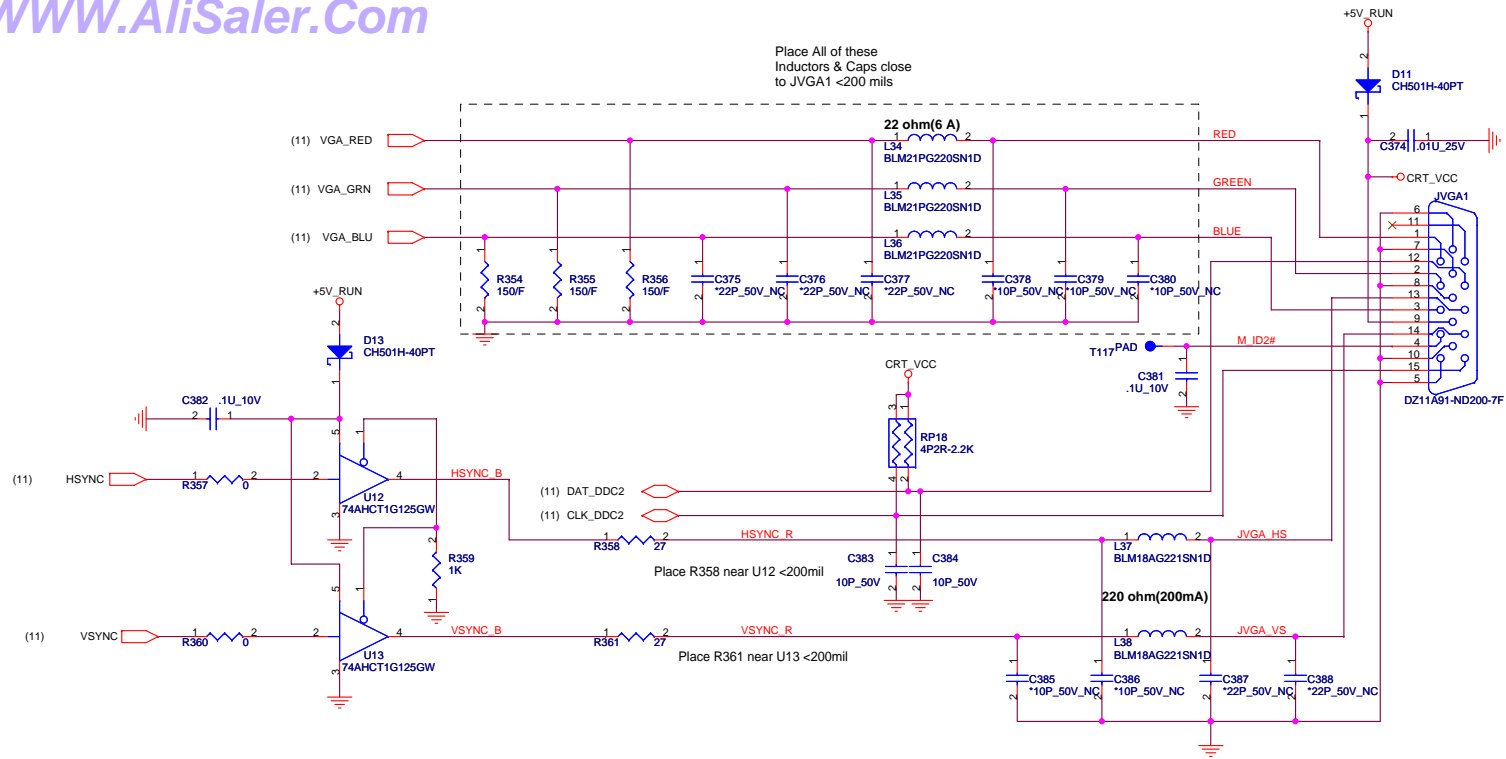
Size

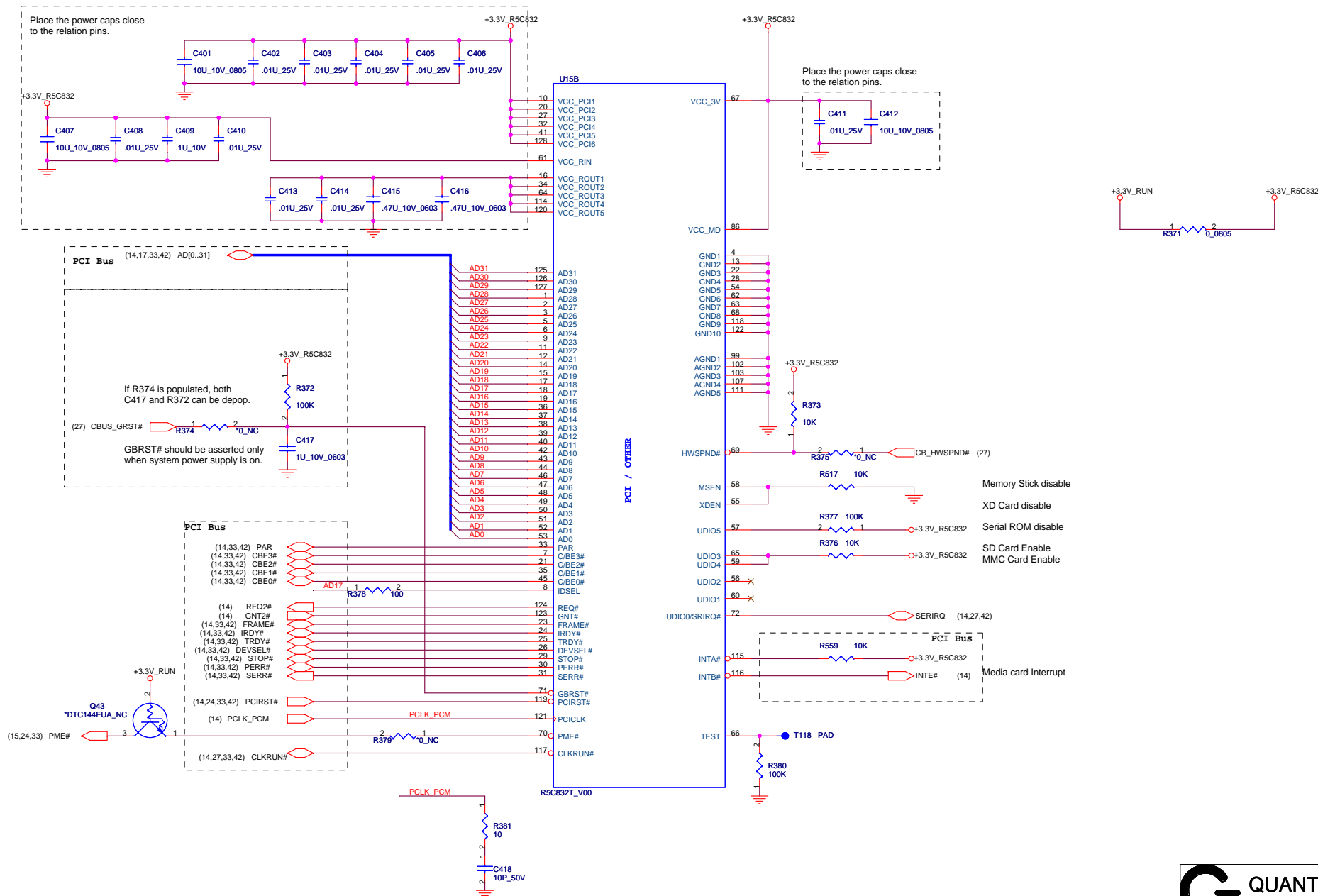
Document Number FX2

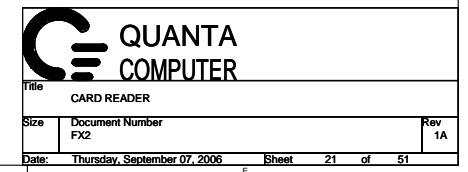
Rev 2A

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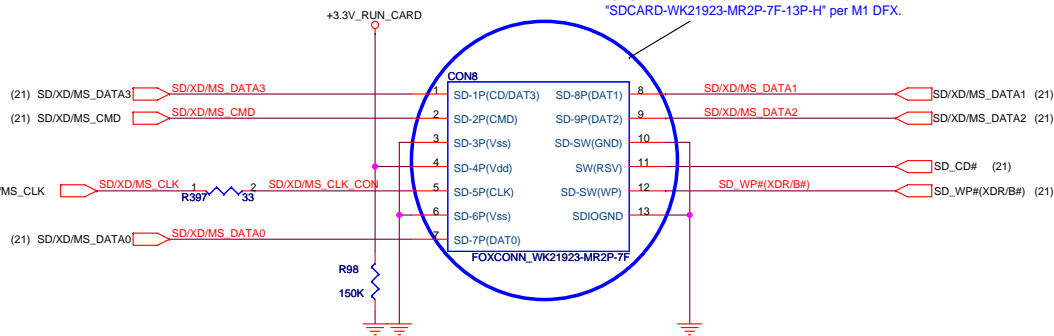






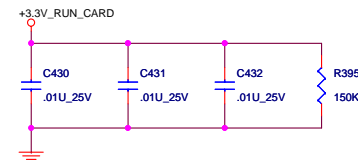
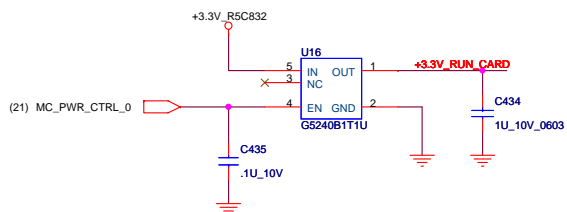
DO NOT INSERT SD/MMC SIMULTANEOUSLY.

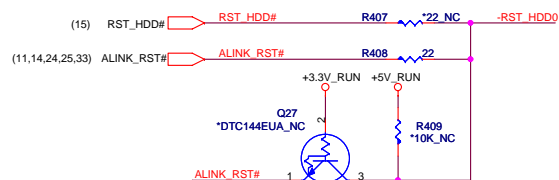
CT_0831: Change footprint from
"SDCARD-WK21923-MR2P-7F-13P-V" to
"SDCARD-WK21923-MR2P-7F-13P-H" per M1 DFX.



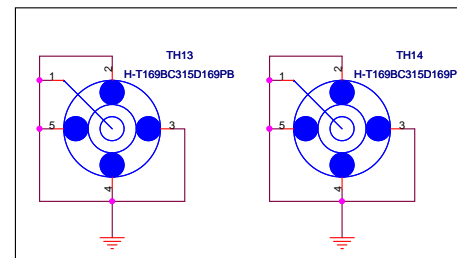
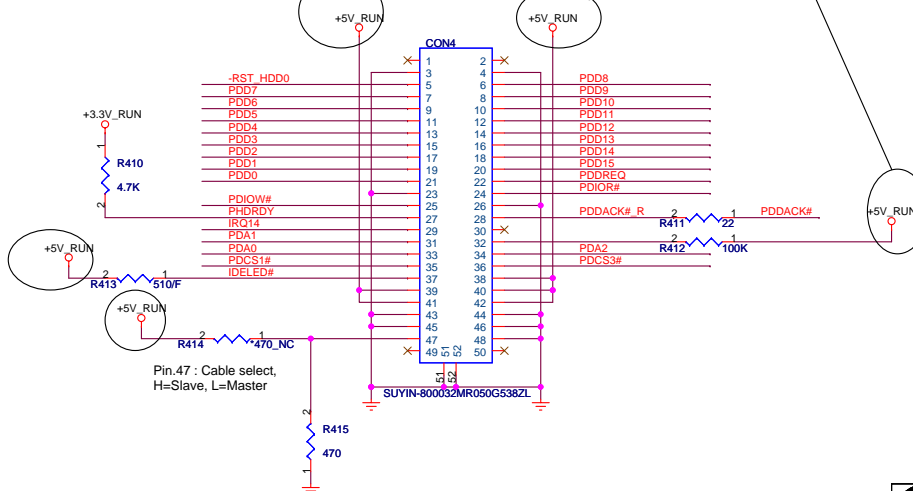
3 IN 1 CARD READER

For SD/MS power





PATA ODD



Place C436, C437 close
to connector side

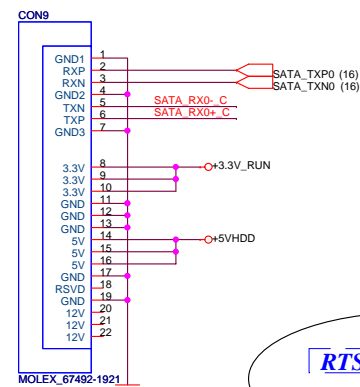
SATA_RX0- C436 .01U_25V SATA_RXN0 (16)

SATA_RX0+_C C437 .01U_25V SATA_RXP0 (16)

Locate caps C436, C437 near HDD Conn.
Length match SATA_C_RX0- & SATA_C_RX0+ within 20mils.

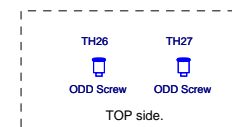
SATA drive vendors will use only 5V supply from the system and will derive 3.3V on the drive. If drive power goals are not achieved, drive vendors will use both 5V and 3.3V supplies from the system. Initial power saving using 3.3V from system is less than 5%.

Power Estimate:
SATA drive power consumption estimate at MobileMark is 1.1W. An additional 150mW can be saved using Intel's IMST driver.

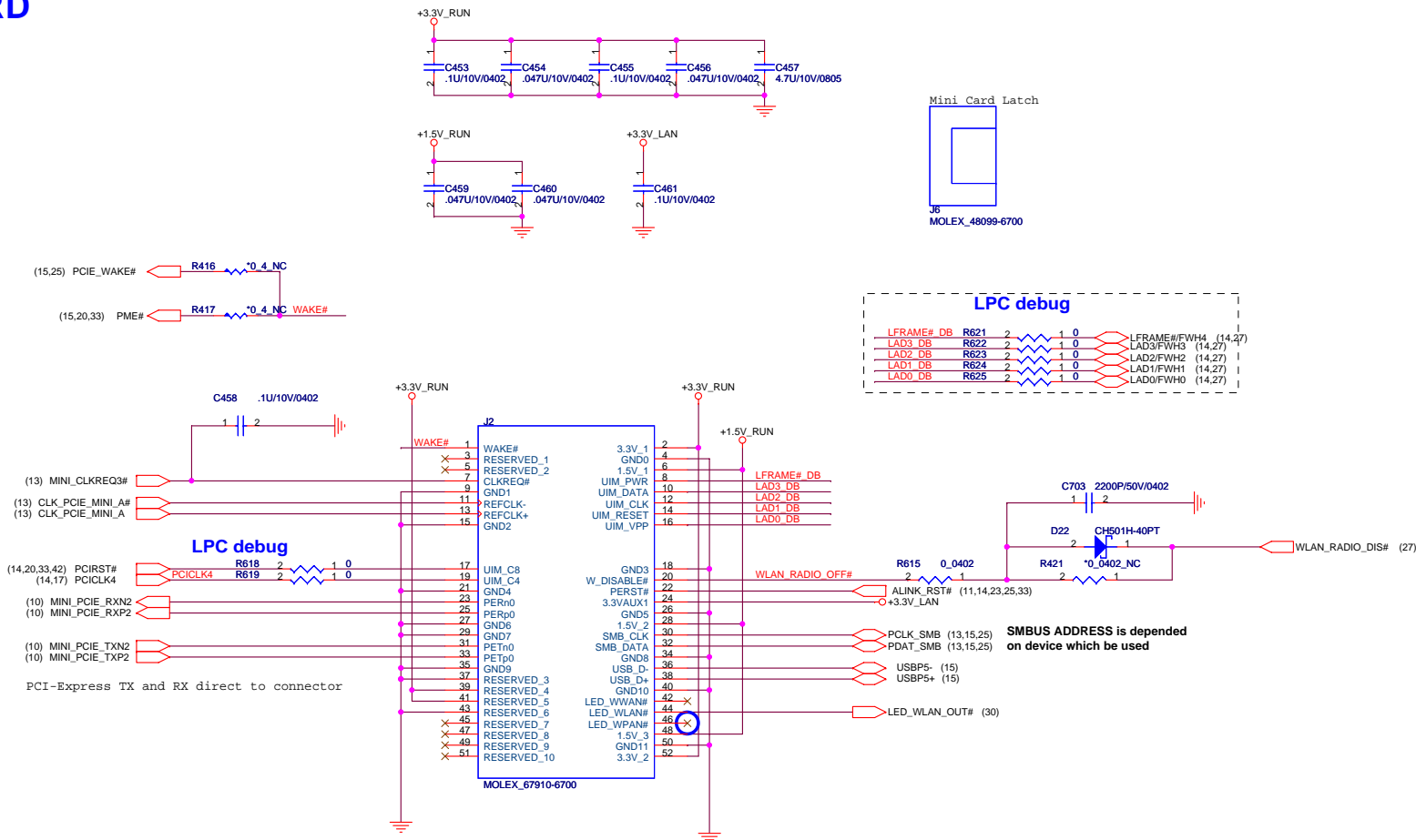


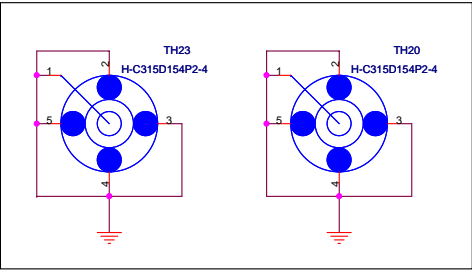
RTS: Remove L66.

CT 0831: Removed L66 for RTS.

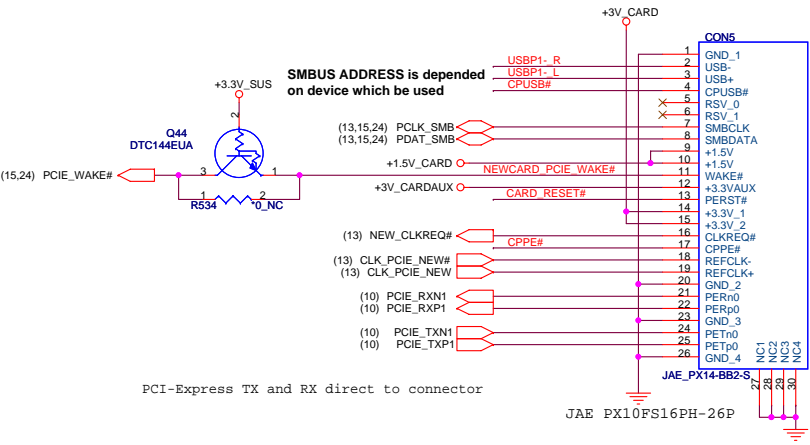
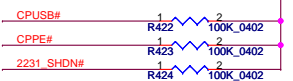
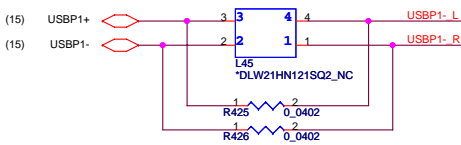


MINI CARD



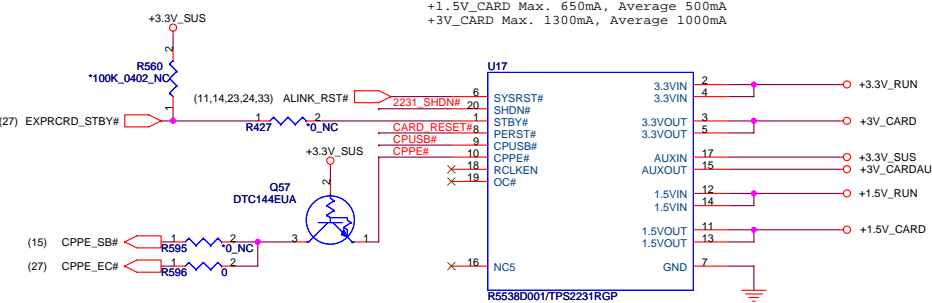


NEW CARD GUIDE POS
TOP side



PCI-Express TX and RX direct to connectors

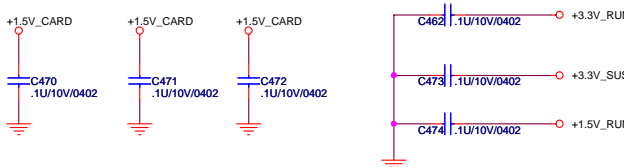
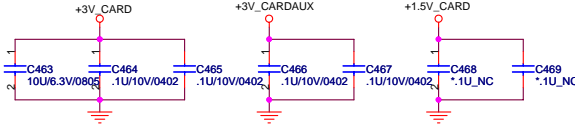
JAE PX10FS16PH-26P



+1.5V_CARD Max. 650mA, Average 500mA
+3V_CARD Max. 1300mA, Average 1000mA

CPPE# be acknowledged by	R595	R596
South Bridge	Pop	NC
EC(KBC)	NC	Pop

+1.5V_CARD Max. 650mA, Average 500mA
+3V_CARD Max. 1300mA, Average 1000mA



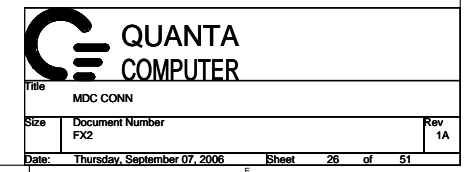
Title Express Card

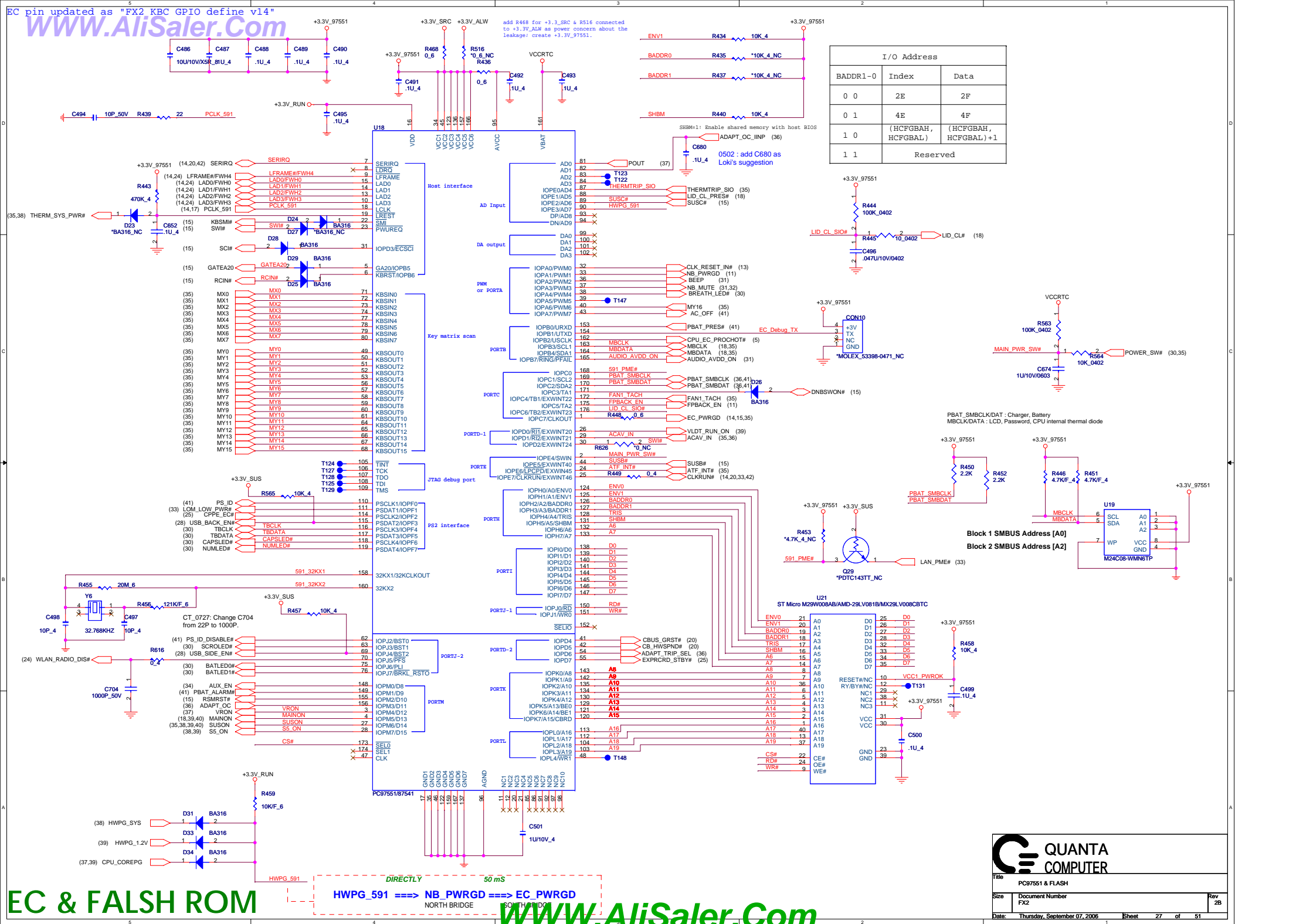
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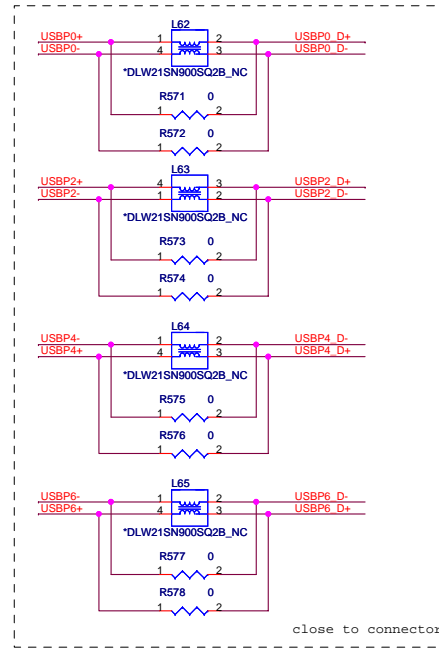
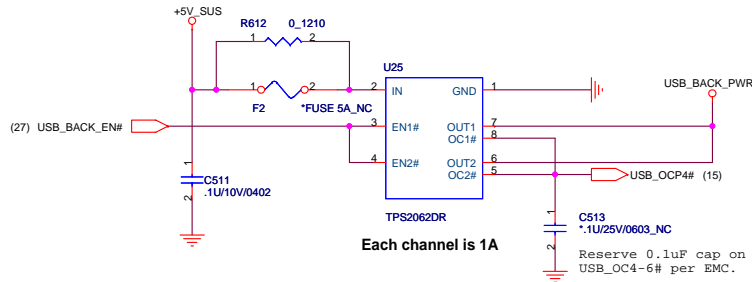
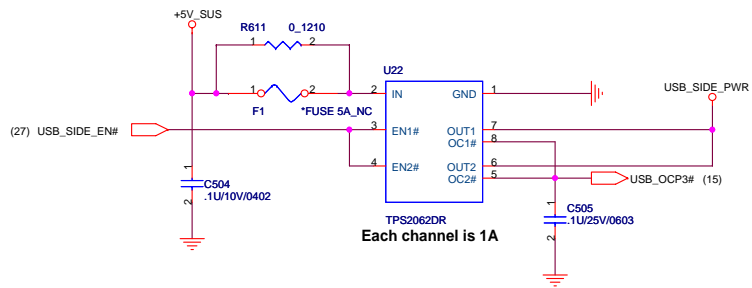
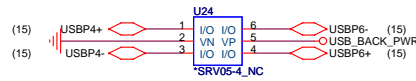
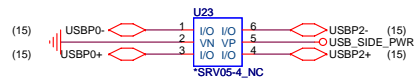
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1. Tip and Ring trace width = 25 mils
2. Spacing between Tip and Ring = 25 mils
3. Tip and Ring connector pitch = 25 mils
4. Keep out area from Tip and Ring to other signals = 100 mils
5. Power and Ground minimum trace width to connector = 20 mils
6. Route Tip and Ring on one layer only (top or bottom)
7. Modem internal cable wire size = 26 AWG
(stranded or twisted pair wire)

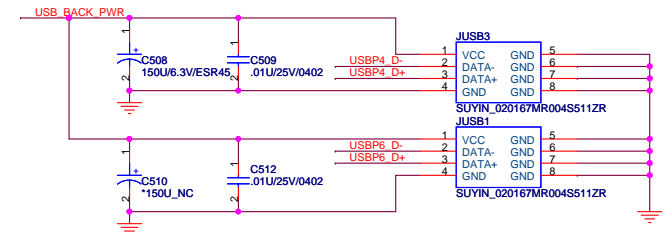
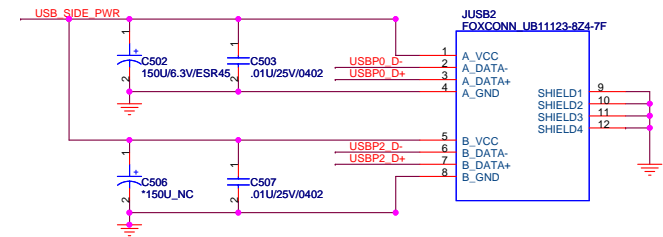




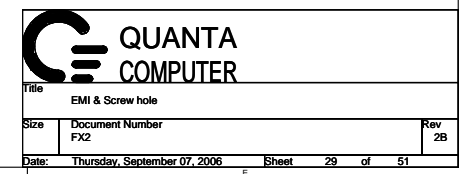
- change name for ED5
- copy ED5 to FX2
- Waiting to check

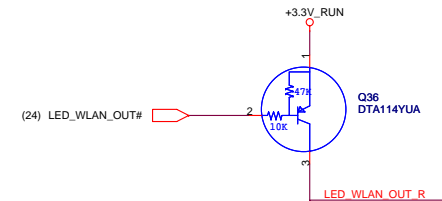
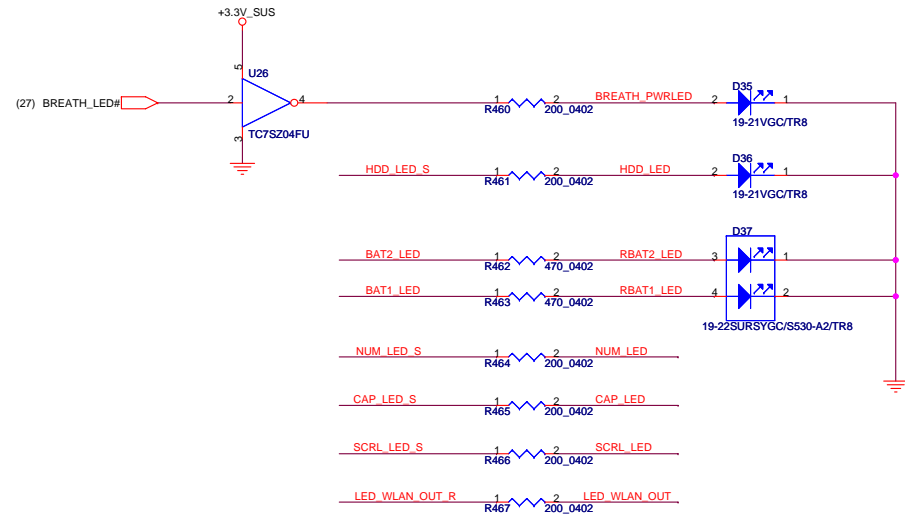
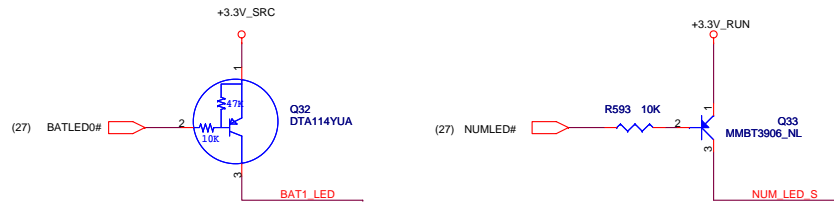


add common mode choke as EMI suggestion

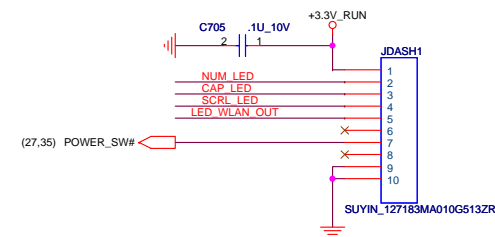
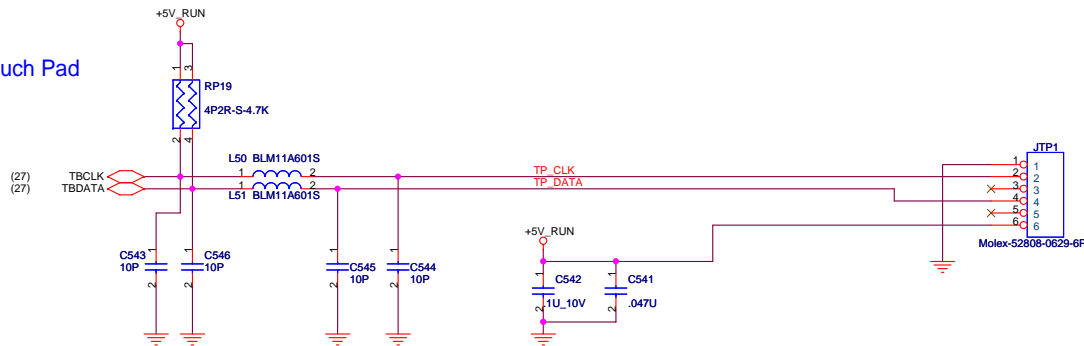


Title			USB
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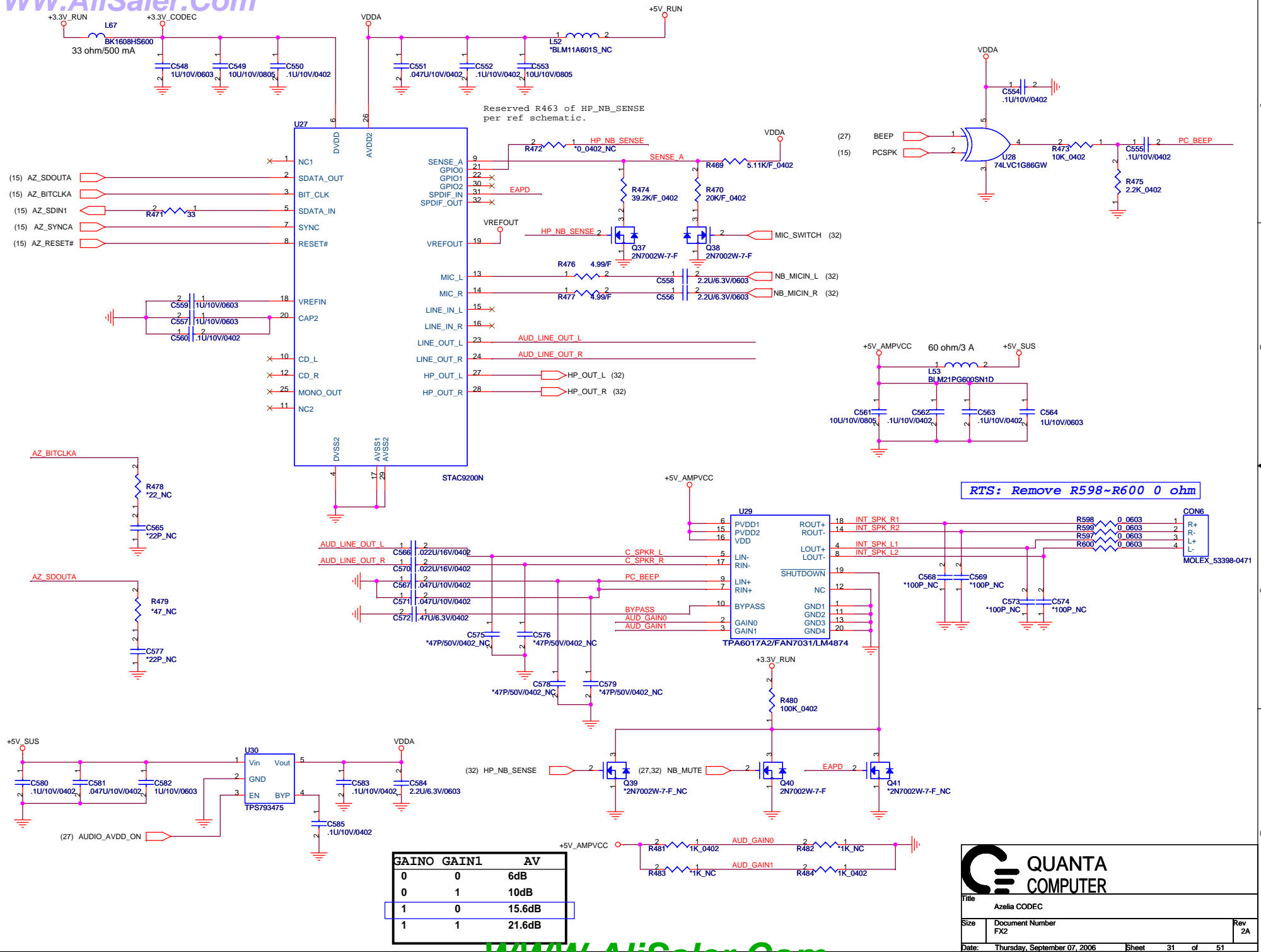
Touch Pad



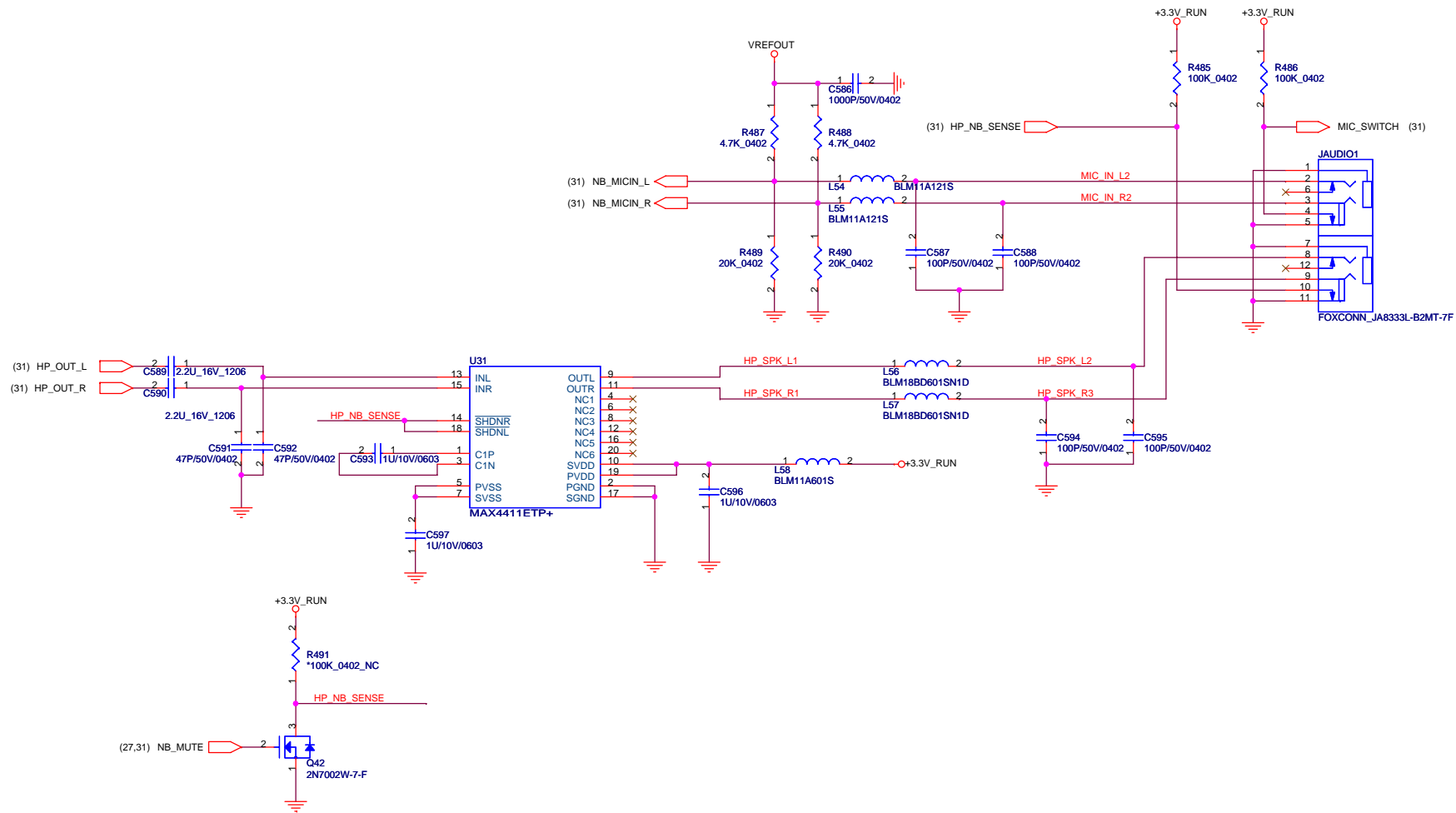
Switch & TP & LED

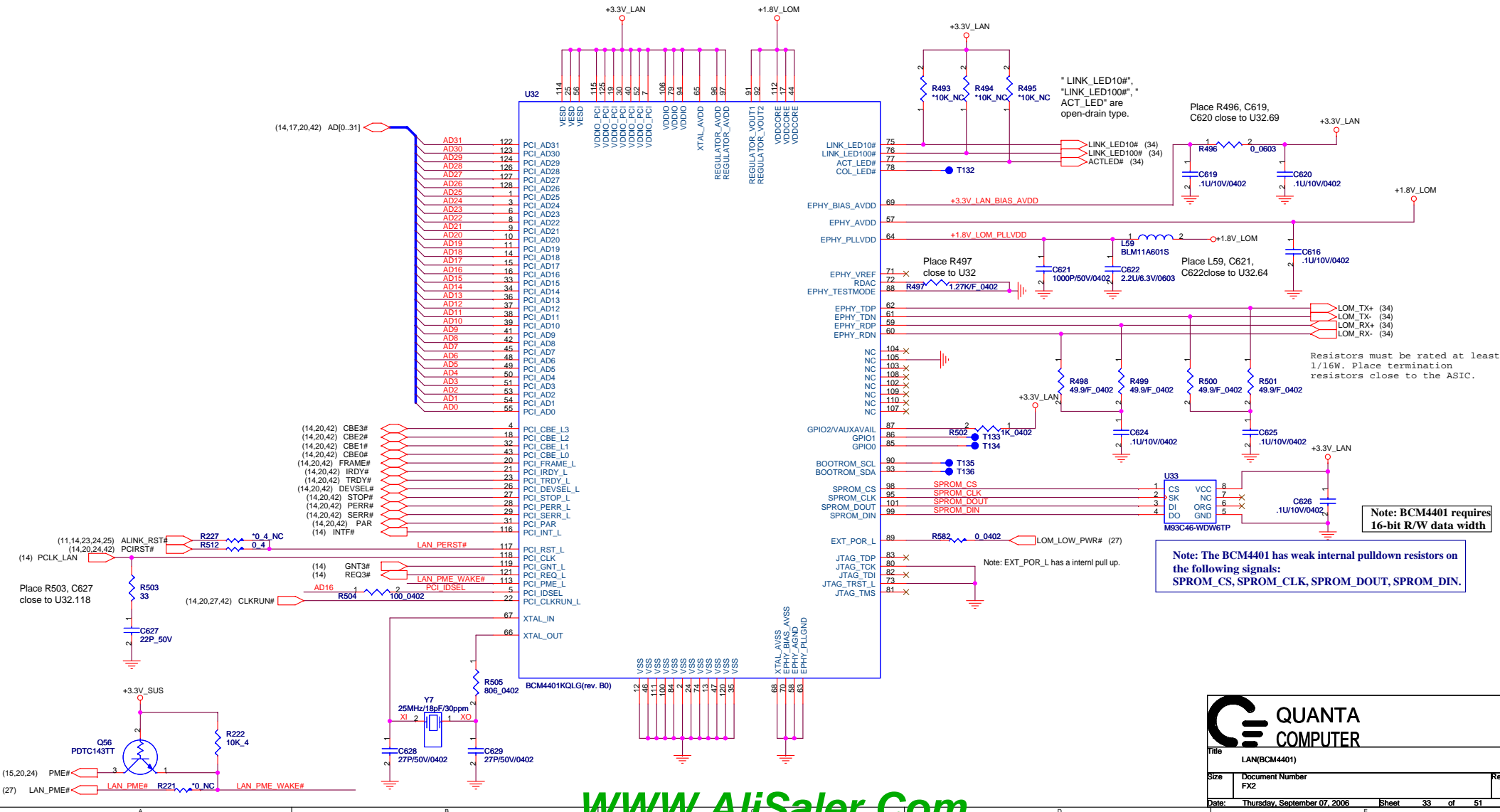
Size Document Number FX2 Rev 2B

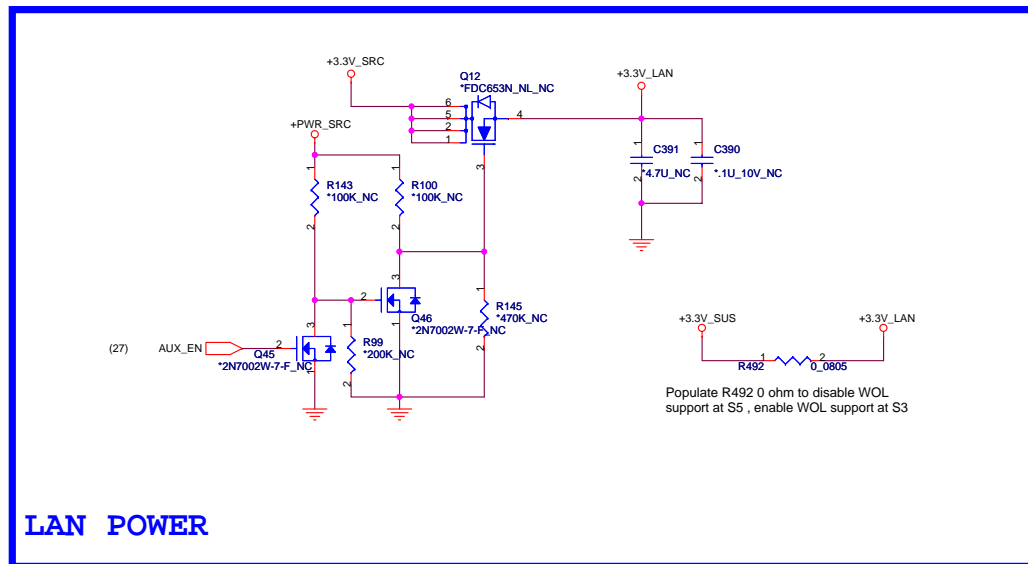
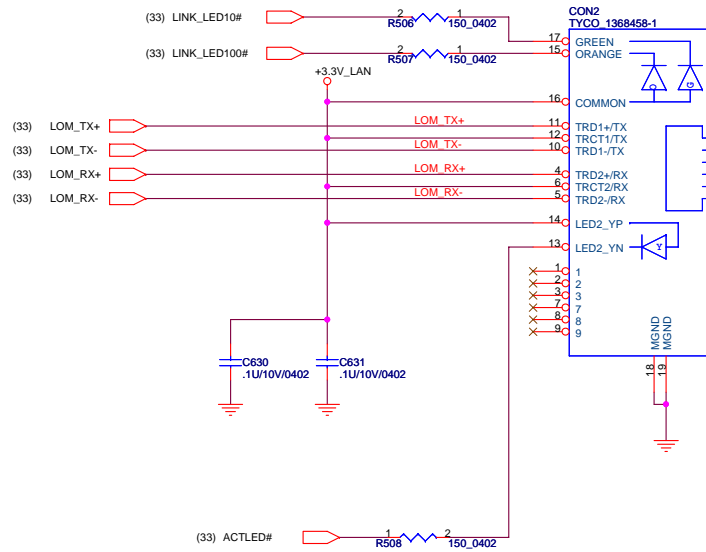
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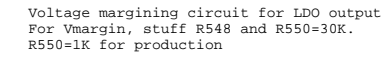


QUANTA
COMPUTER

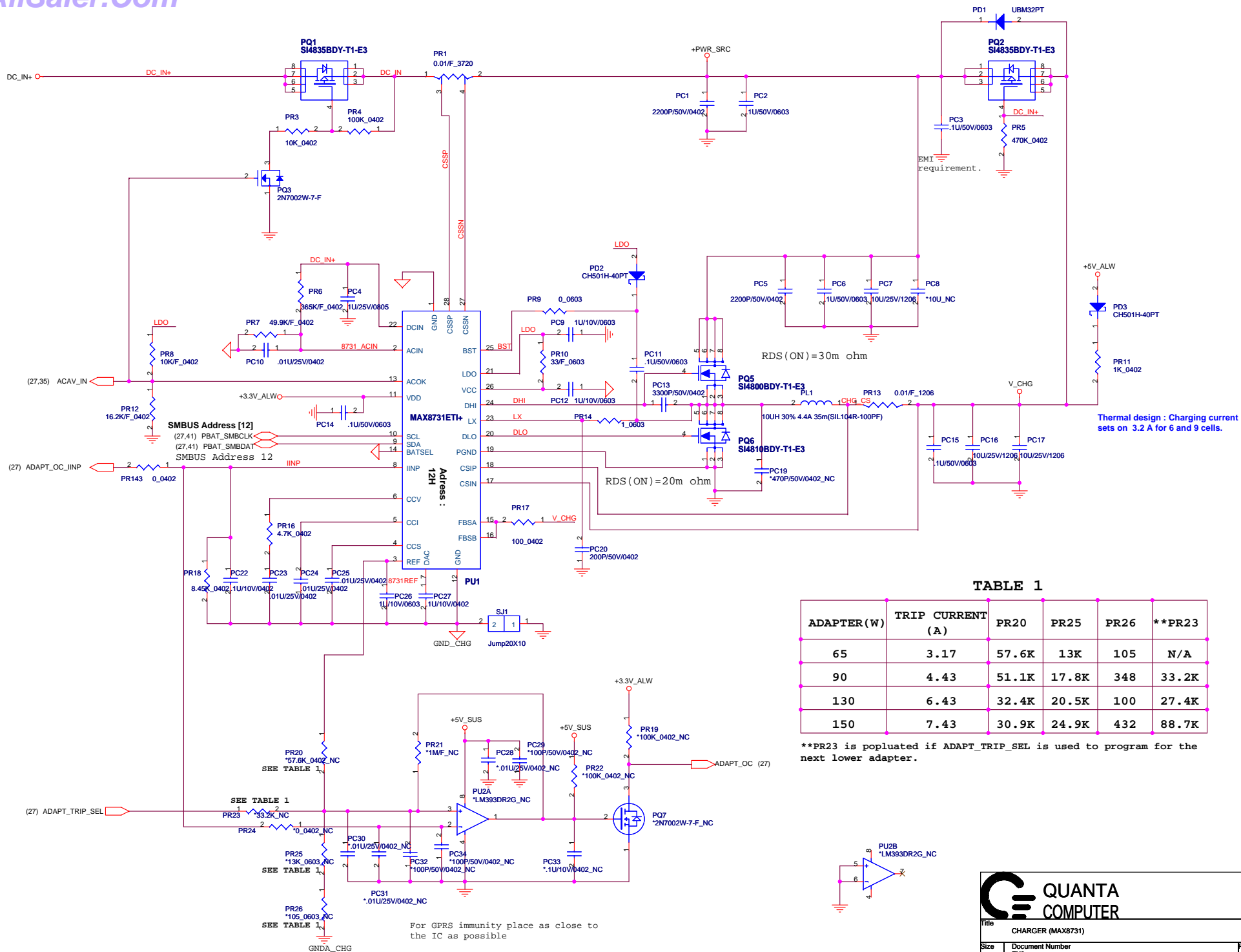


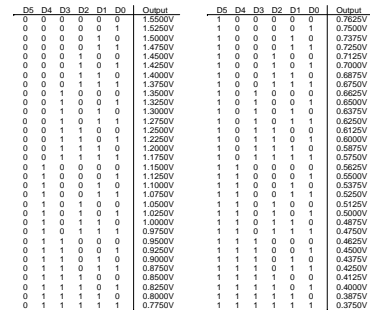


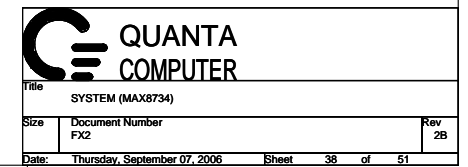


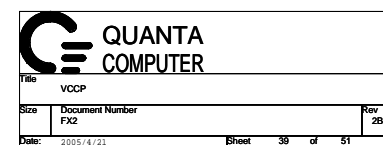


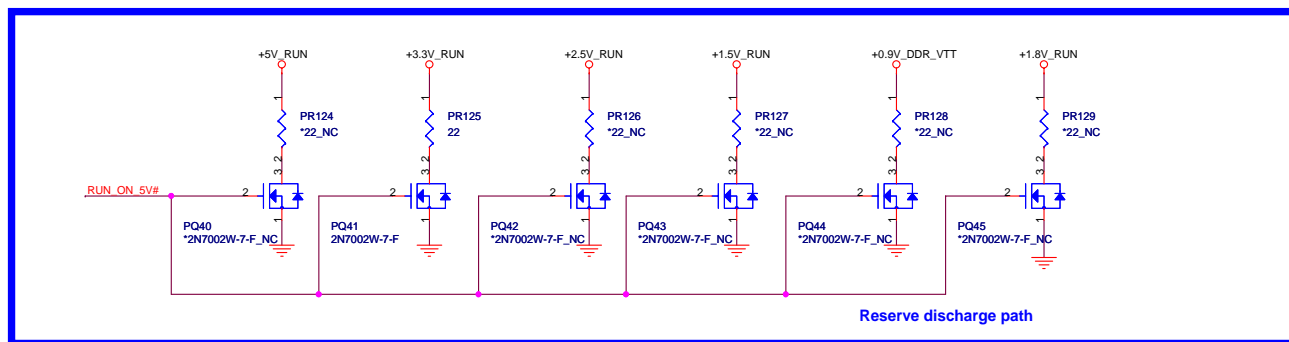
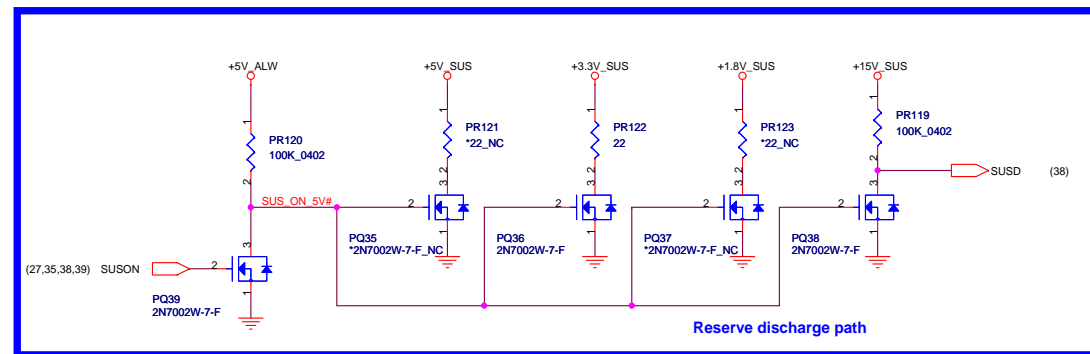
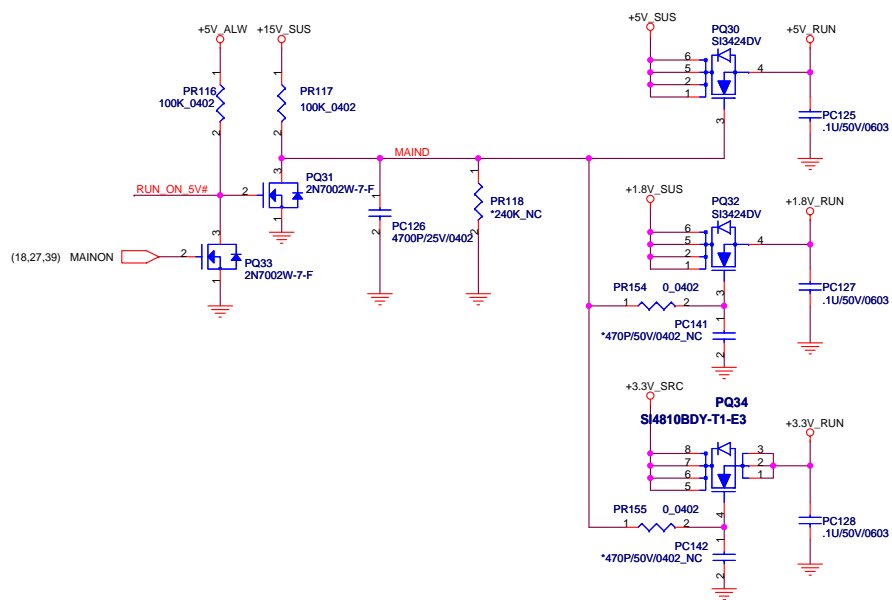
WWW.AliSaler.Com




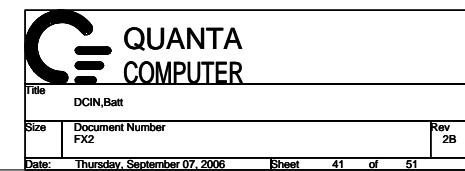






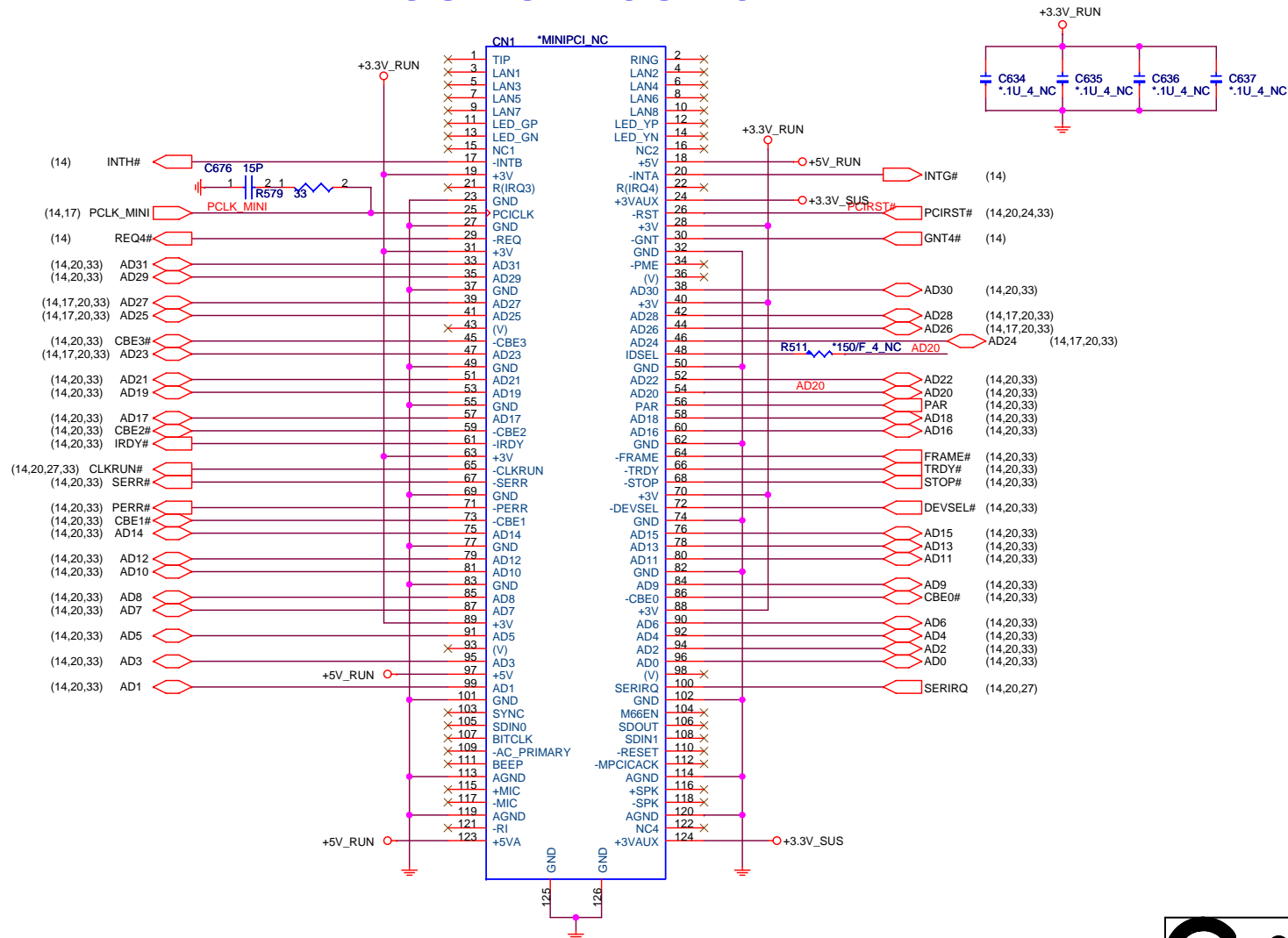


 QUANTA COMPUTER		
Title	RUN POWER SW	
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ID Select : AD20
Interrupt Pin : INTG# , INT#
Request Indicate : REQ4#
Grant Indicate : GNT4#

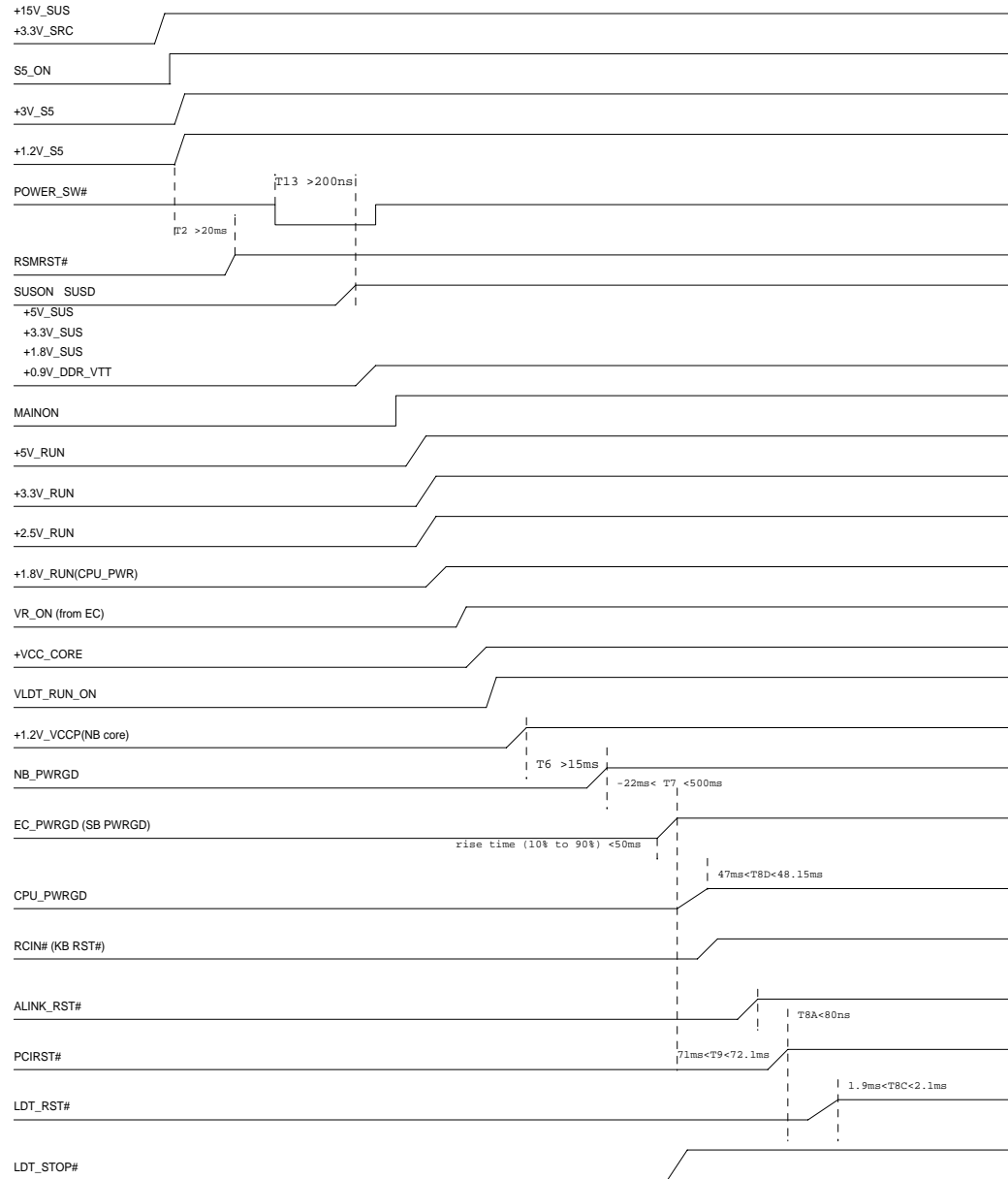
DEBUG PURPOSE ONLY



Title		
MINI PCI(for debug)		
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MPC

Power On Sequence



T6: NB core voltage to NB_PWRGD
T7: NB_PWRGD to SB_PWRGD
T8D: SB_PWRGD to CPU_PWRGD

T8A: ALINK_RST# to PCIRST#
T9: SB_PWRGD to PCIRST#
T8C: PCIRST# to LDT_RST#

 QUANTA COMPUTER		File: Power On Sequence	
		Size: Document Number FX2	Rev: 1A
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