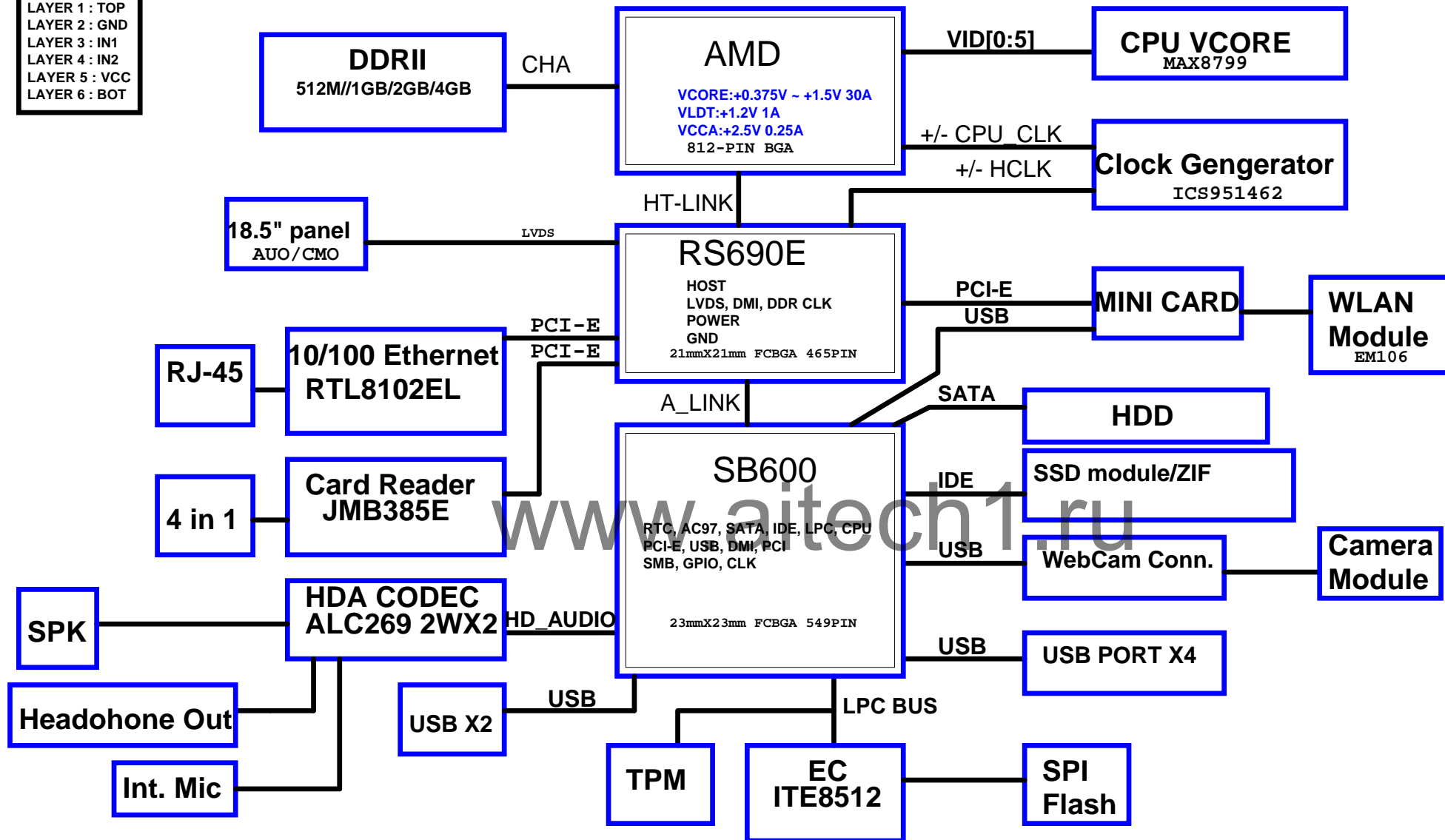


## PCB STACK UP

LAYER 1 : TOP  
LAYER 2 : GND  
LAYER 3 : IN1  
LAYER 4 : IN2  
LAYER 5 : VCC  
LAYER 6 : BOT

**BENQ(EL3) LCDPC Block Diagram**

Quanta Computer Inc.

PROJECT : BENQ

Size

Document Number

Block Diagram

Rev

1A

Date: Monday, January 19, 2009

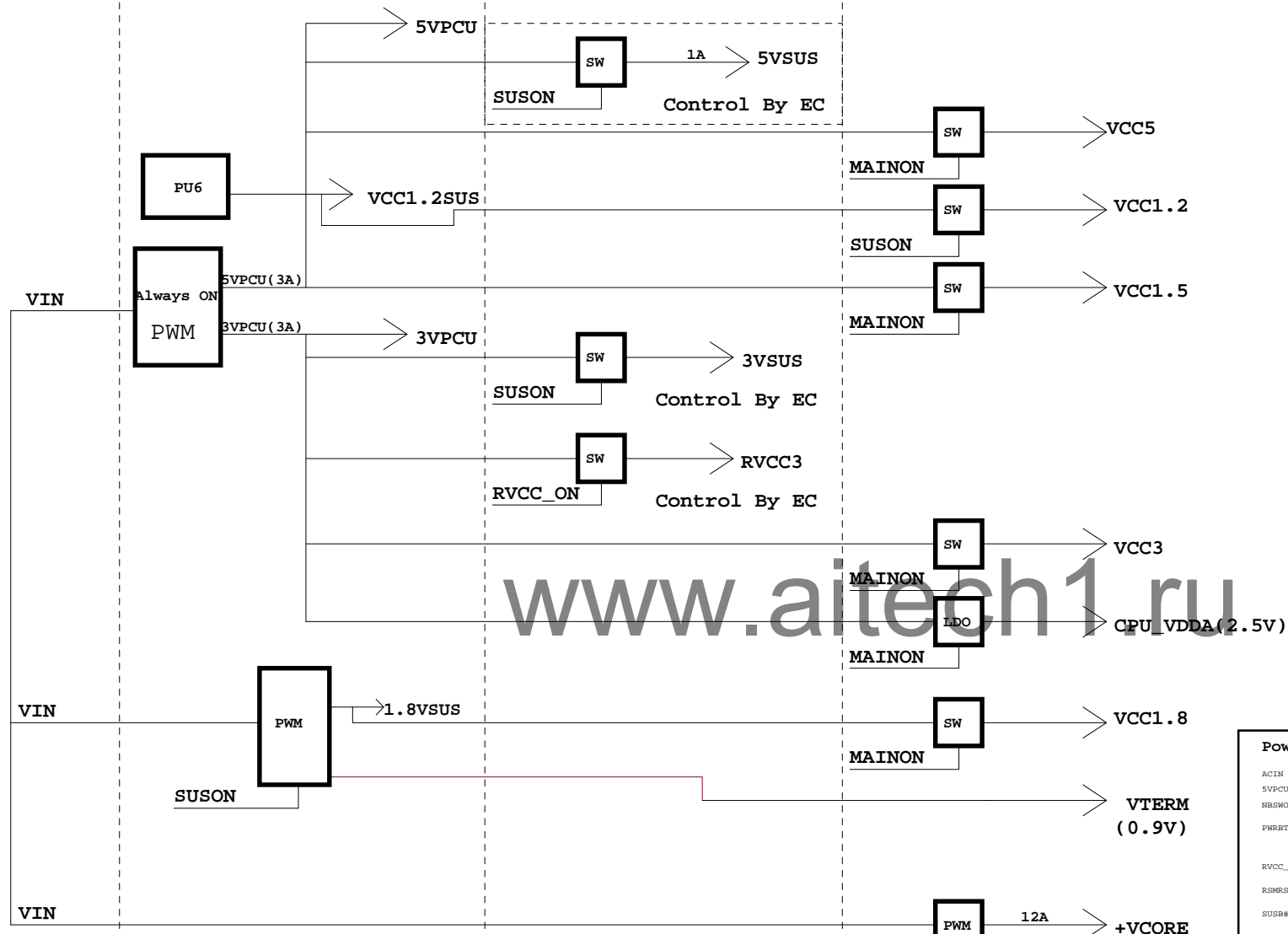
Sheet 1 of 35

DCIN

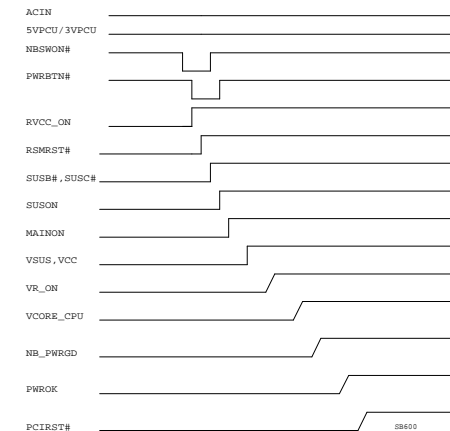
ALWAYS ON

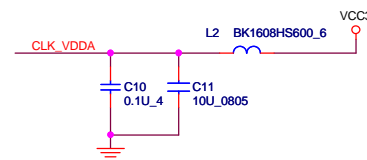
S4 OFF

S3 OFF



#### Power On Sequence



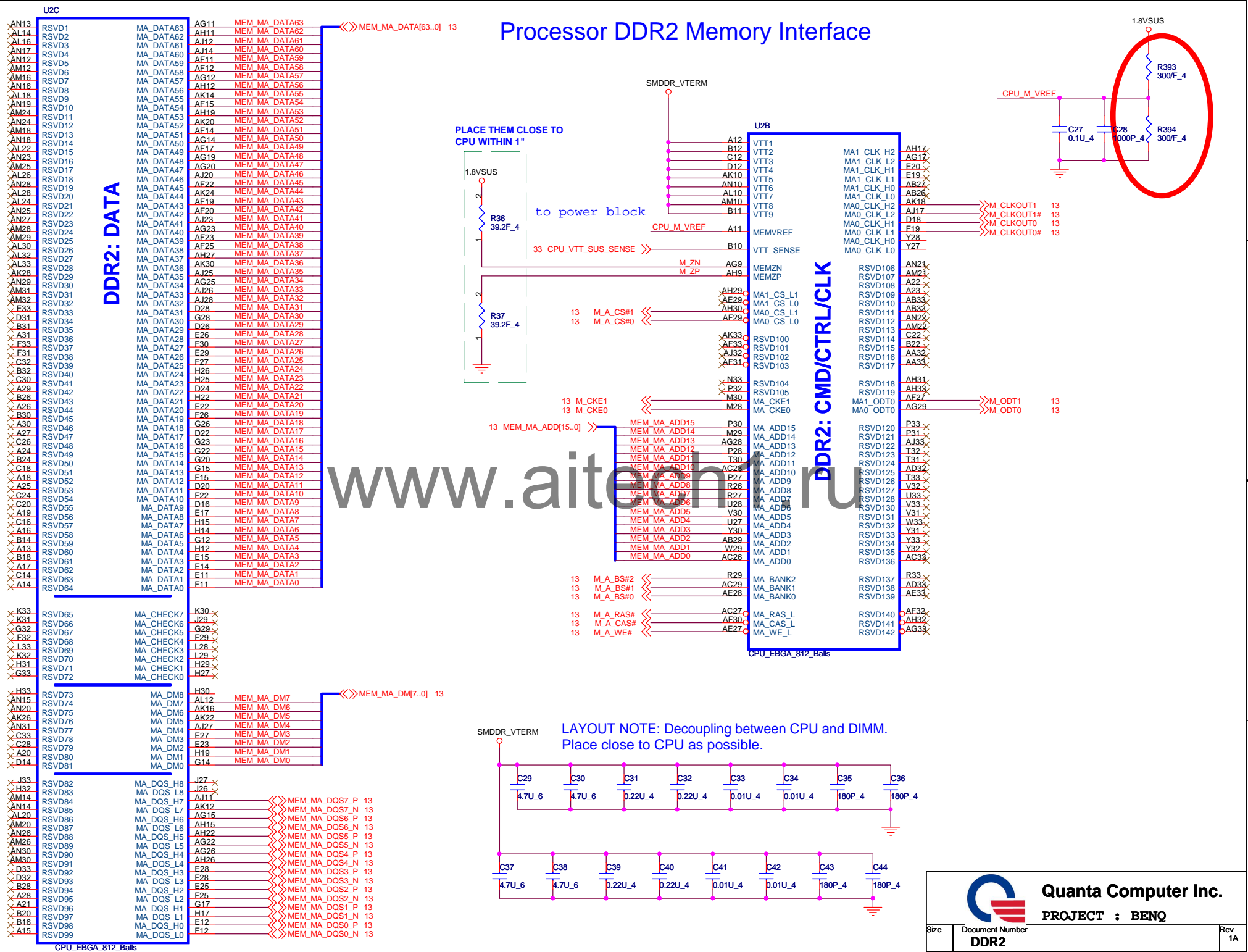


The schematic diagram illustrates the ICS9514B2 clock divider circuit. The input is a 14.318MHz parallel resonance crystal (Y1) connected to the CLK\_XIN and CLK\_XOUT pins. The crystal is biased by a current source (IREF) and a voltage divider (R16). The ICS9514B2 is configured to divide the 14.318MHz input into various output frequencies: 200MHz (CPUCLK), 100MHz (SBLINK, NBSRC), and 48MHz (USBCLK). The circuit also shows power supply connections (VCC3, CLK\_VDD\_USB, CLK\_VDD\_REF, CLK\_VDD) and ground connections. A large watermark 'www.aitech1.ru' is overlaid on the diagram.

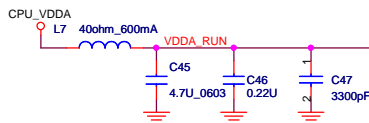
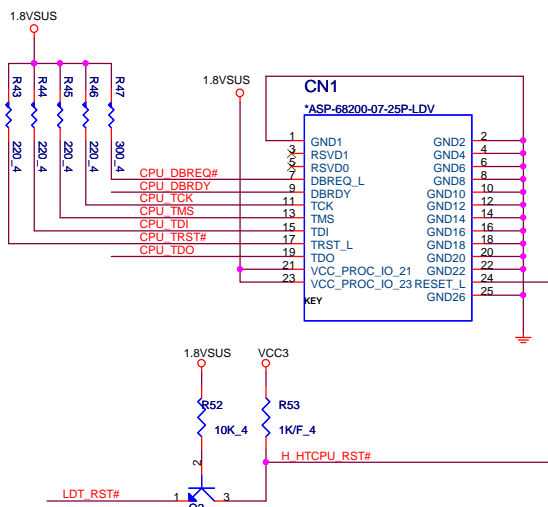
FS2	FS1	FS0	CPU	SRCCLK [2:1]	HTT	PCI	USB	COMMENT
0	0	0	Hi-Z	100.00	Hi-Z	Hi-Z	48.00	Reserved
0	0	1	X	100.00	X/3	X/6	48.00	Reserved
0	1	0	180.00	100.00	60.00	30.00	48.00	Reserved
0	1	1	220.00	100.00	36.56	73.12	48.00	Reserved
1	0	0	100.00	100.00	66.66	33.33	48.00	Reserved
1	0	1	133.33	100.00	66.66	33.33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



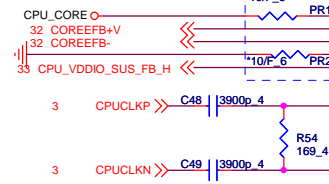
# Processor DDR2 Memory Interface



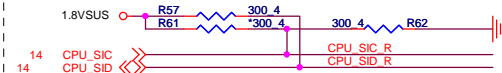
# HDT Connector



## To power Block

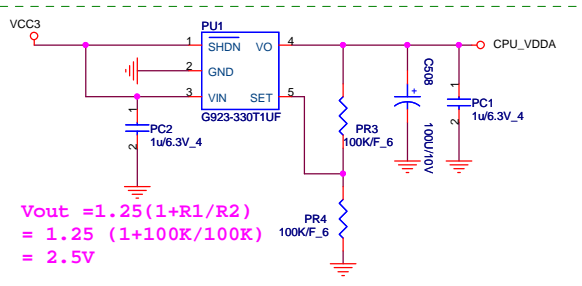
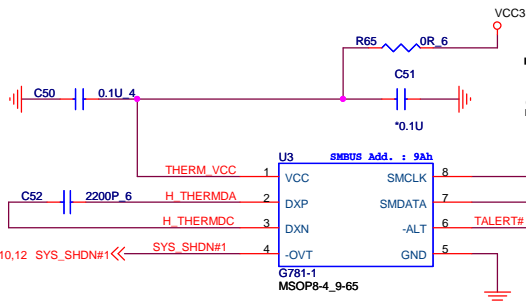


IF AMD SI is not used, the SID pin can be left unconnected and SIC should have a 300-Ω (±5%) pullup to VSS.

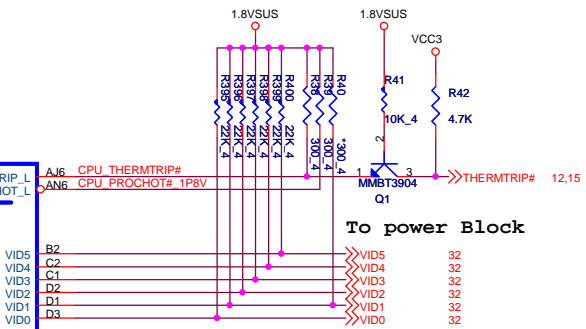
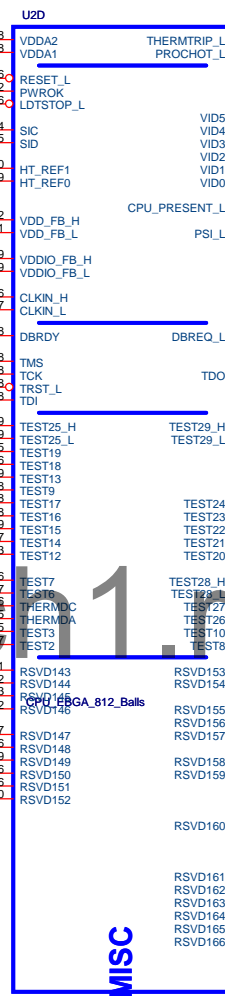
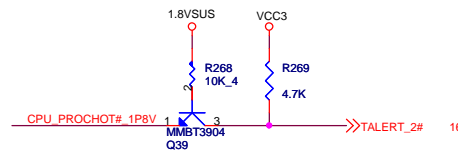


## Thermal Sensor

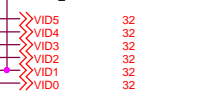
SMBUS SLAVE ADDRESS	
G781	98 (NB)
G781-1	9A (CPU)



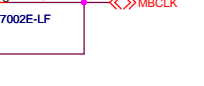
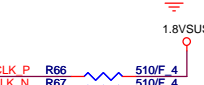
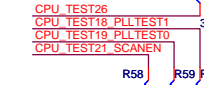
$$V_{out} = 1.25(1 + R1/R2) = 1.25(1 + 100K/100K) = 2.5V$$



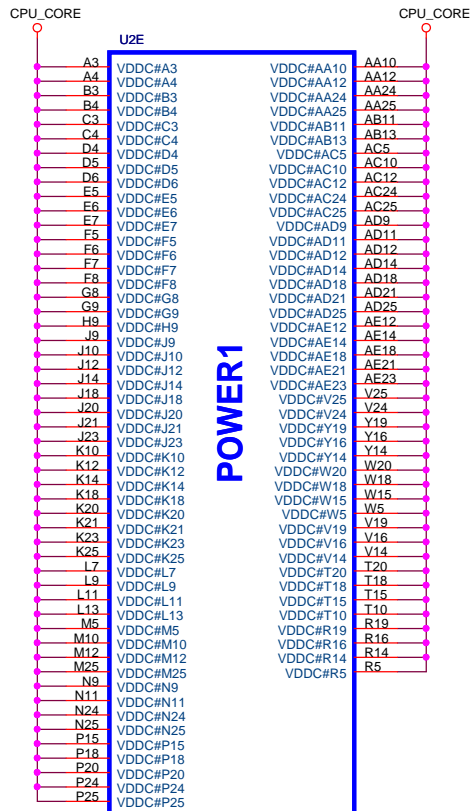
## To power Block



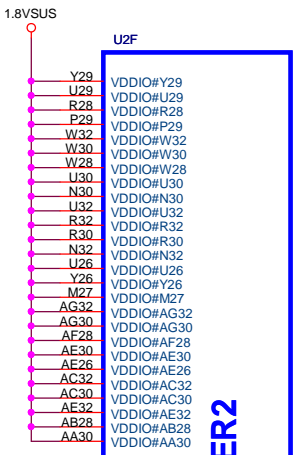
## To power Block



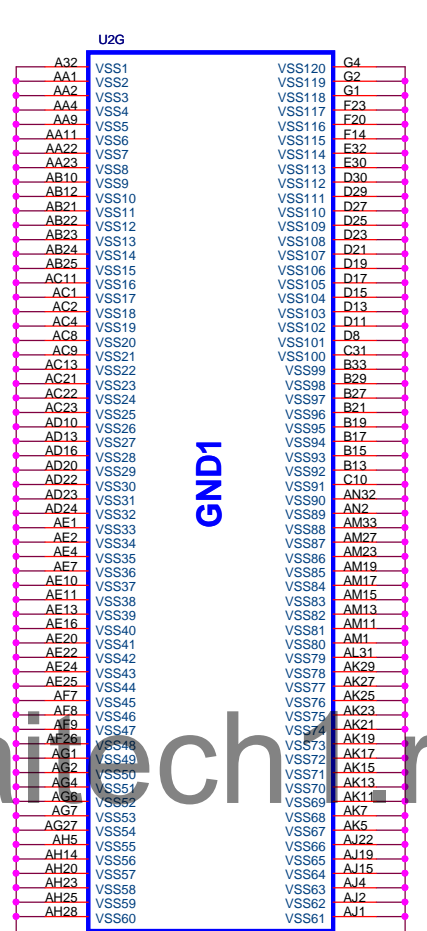
**Quanta Computer Inc.**  
**PROJECT : BENQ**



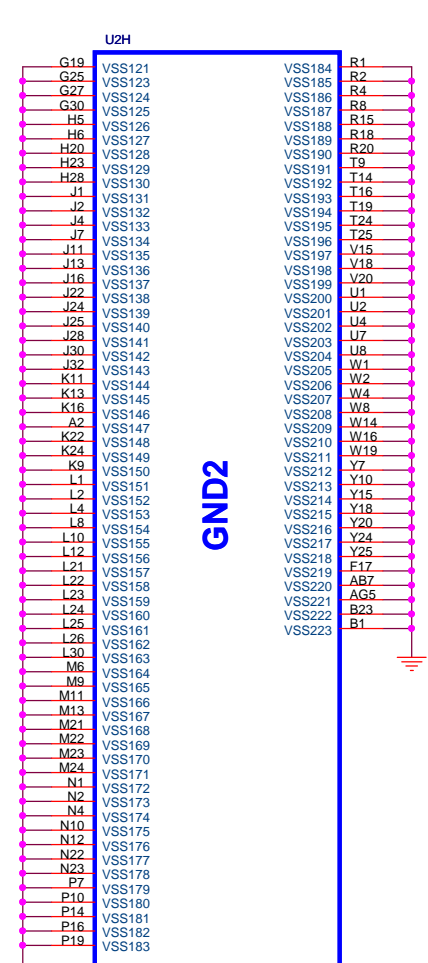
POWER1



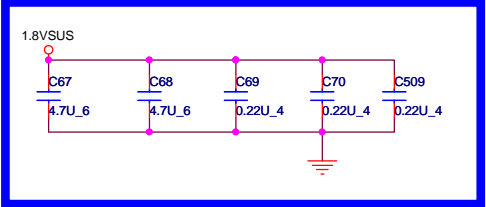
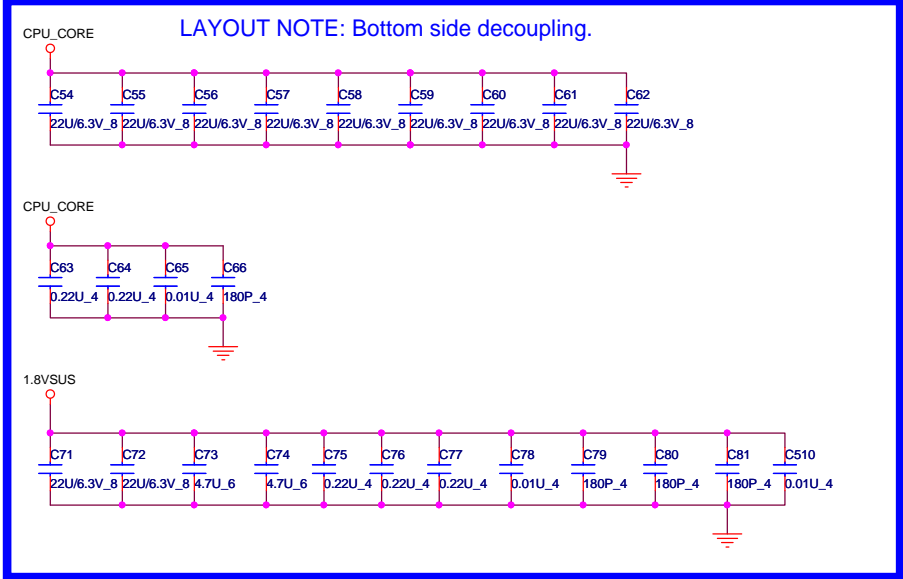
POWER2



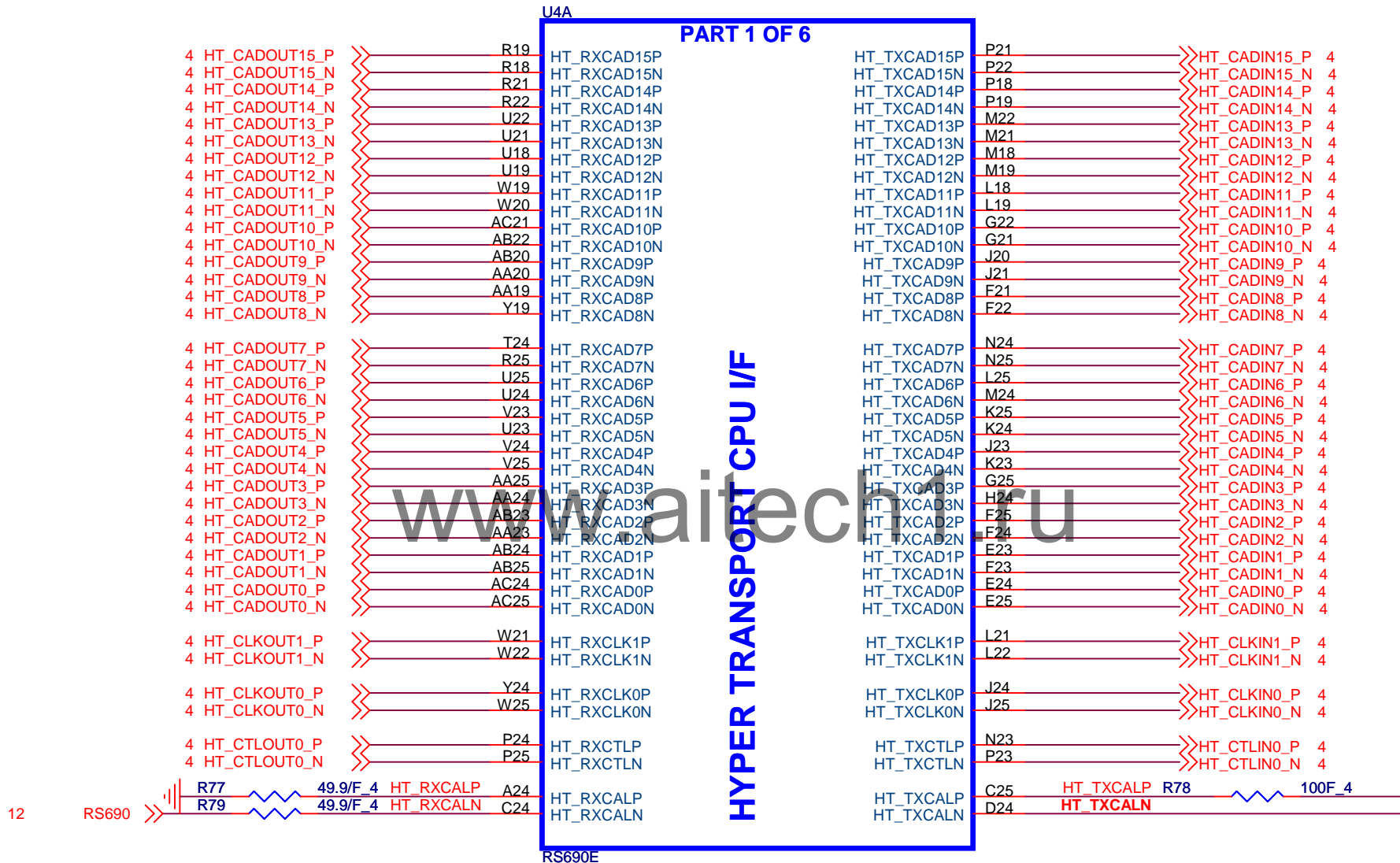
GND1



GND2

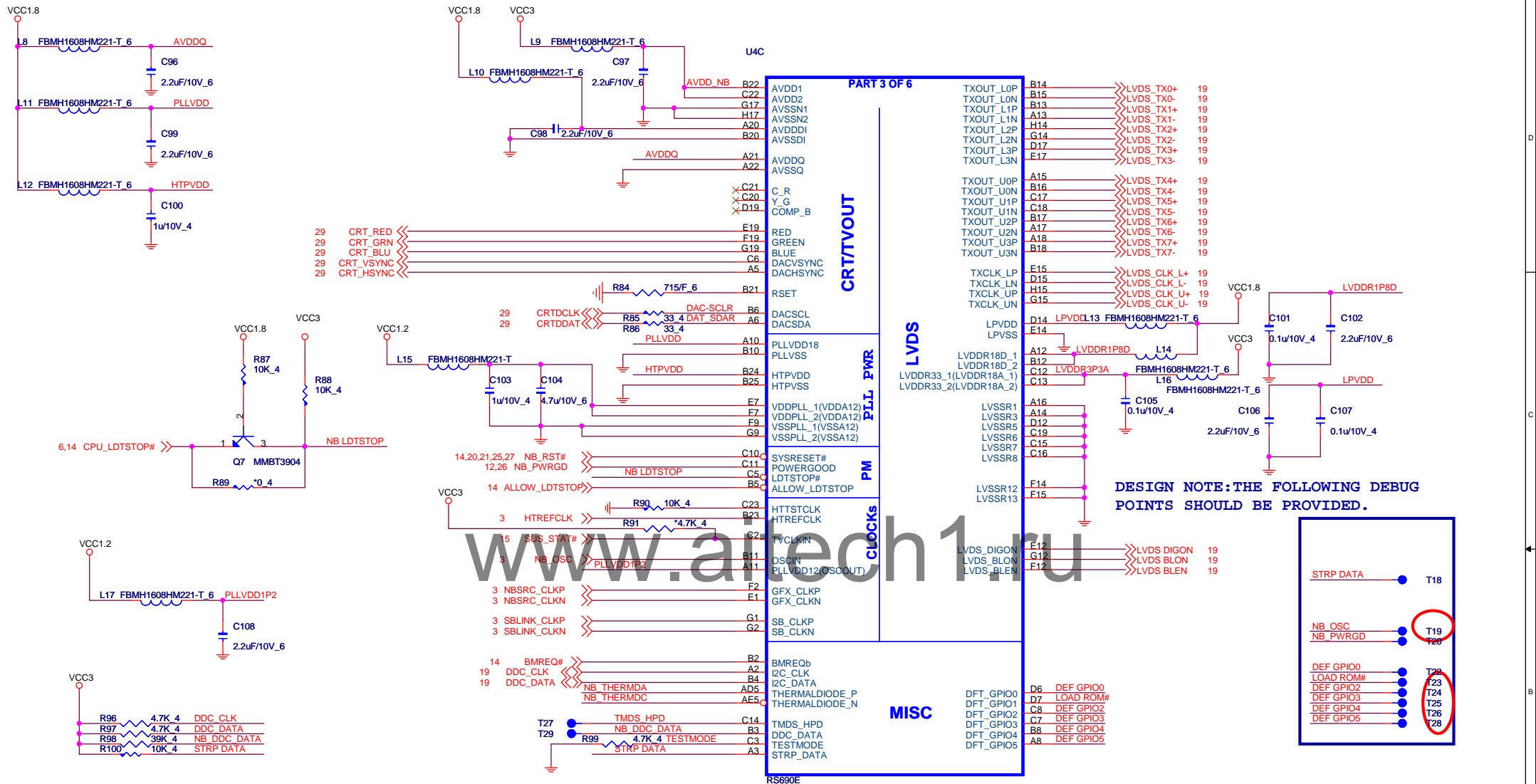




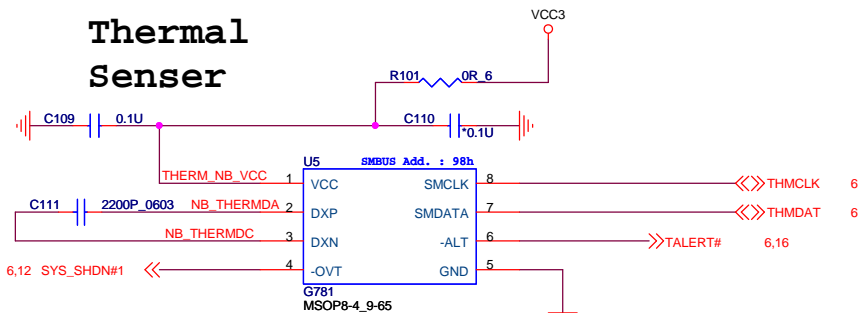




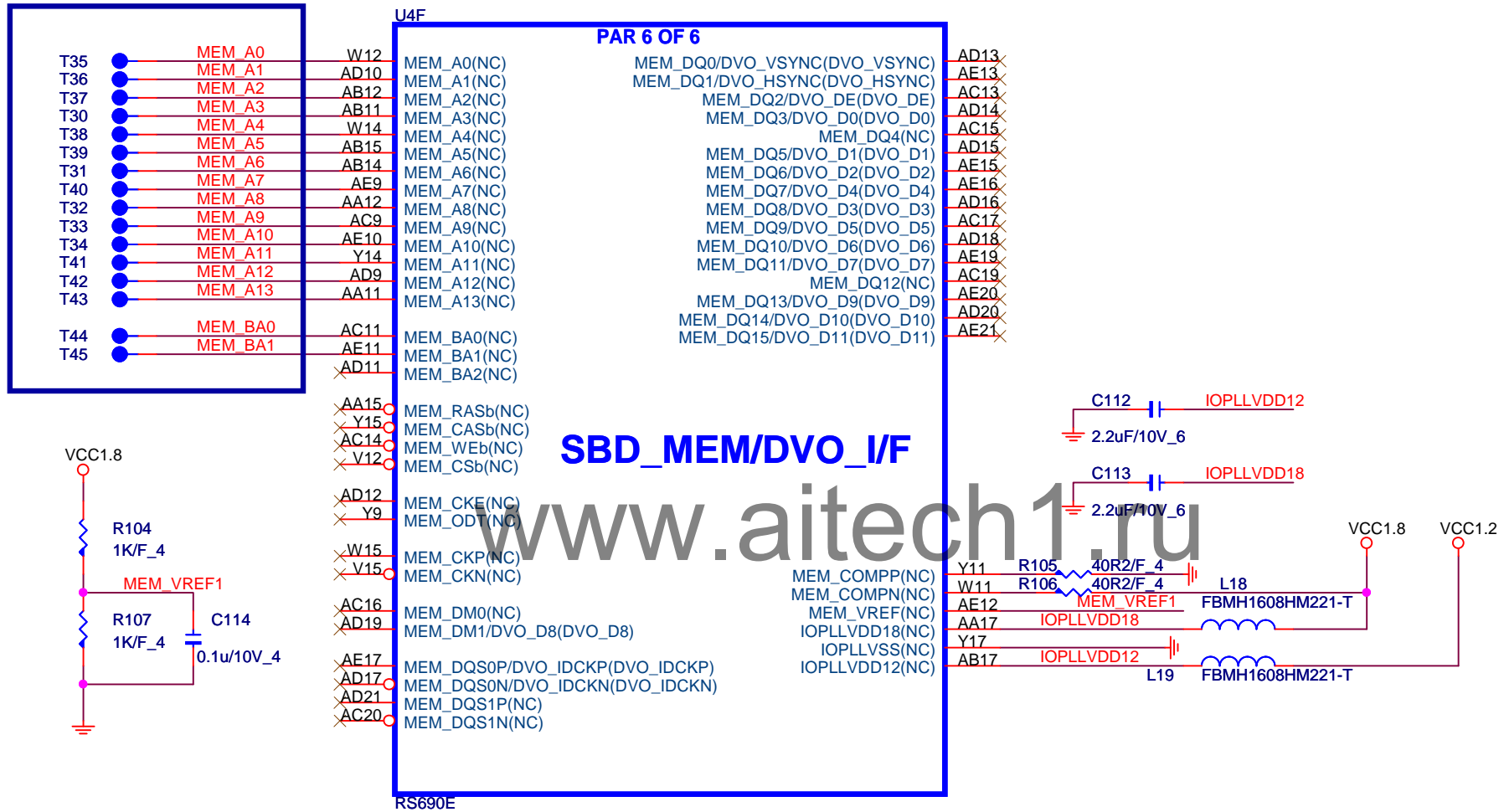




## Thermal Sensor



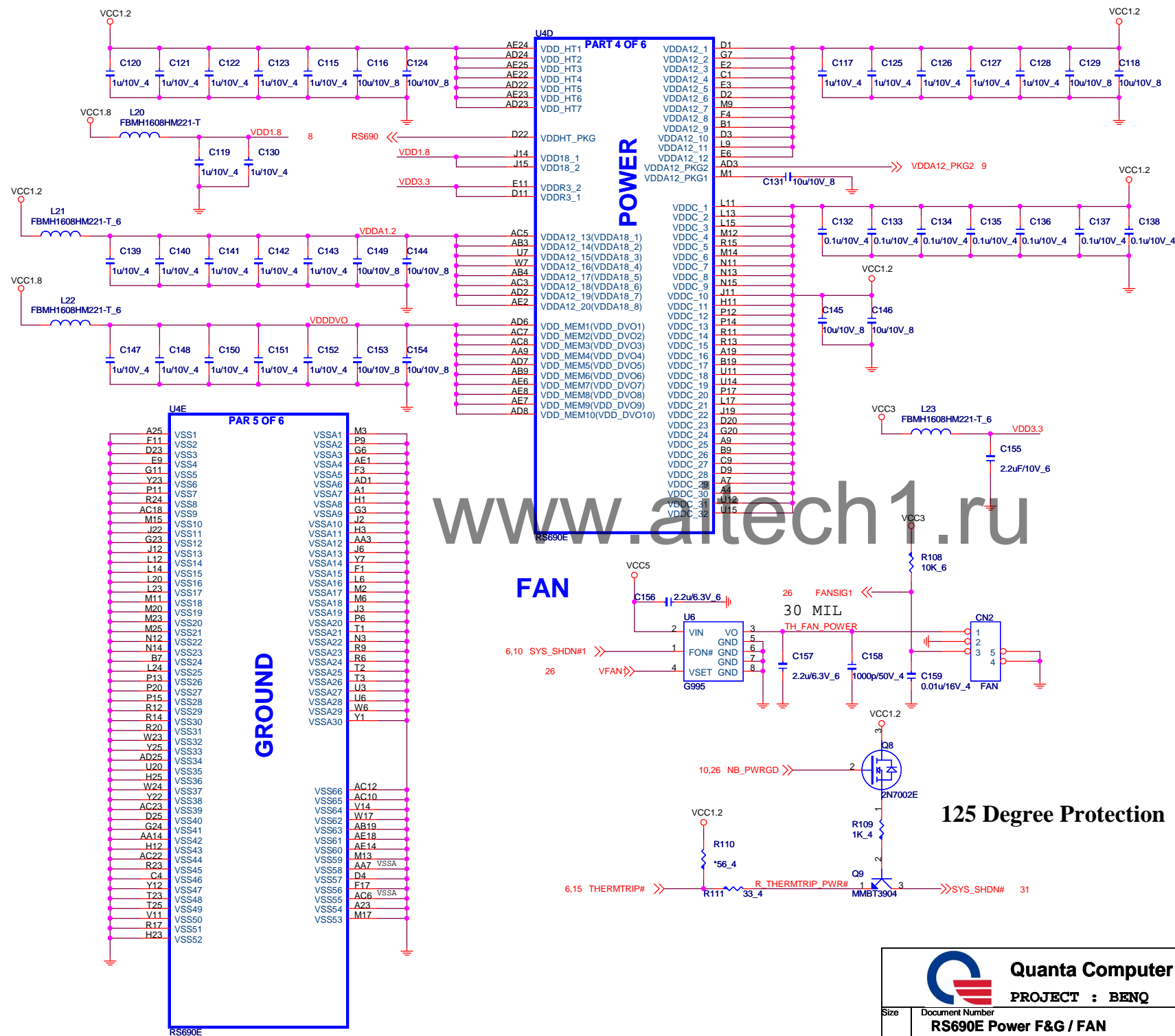
DESIGN NOTE:THE FOLLOWING DEBUG  
POINTS SHOULD BE PROVIDED.



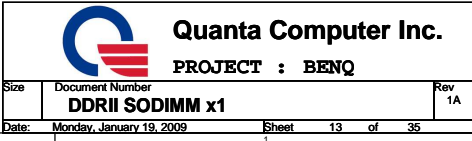
Quanta Computer Inc.

PROJECT : BENQ

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	RS690E PCIE	1A
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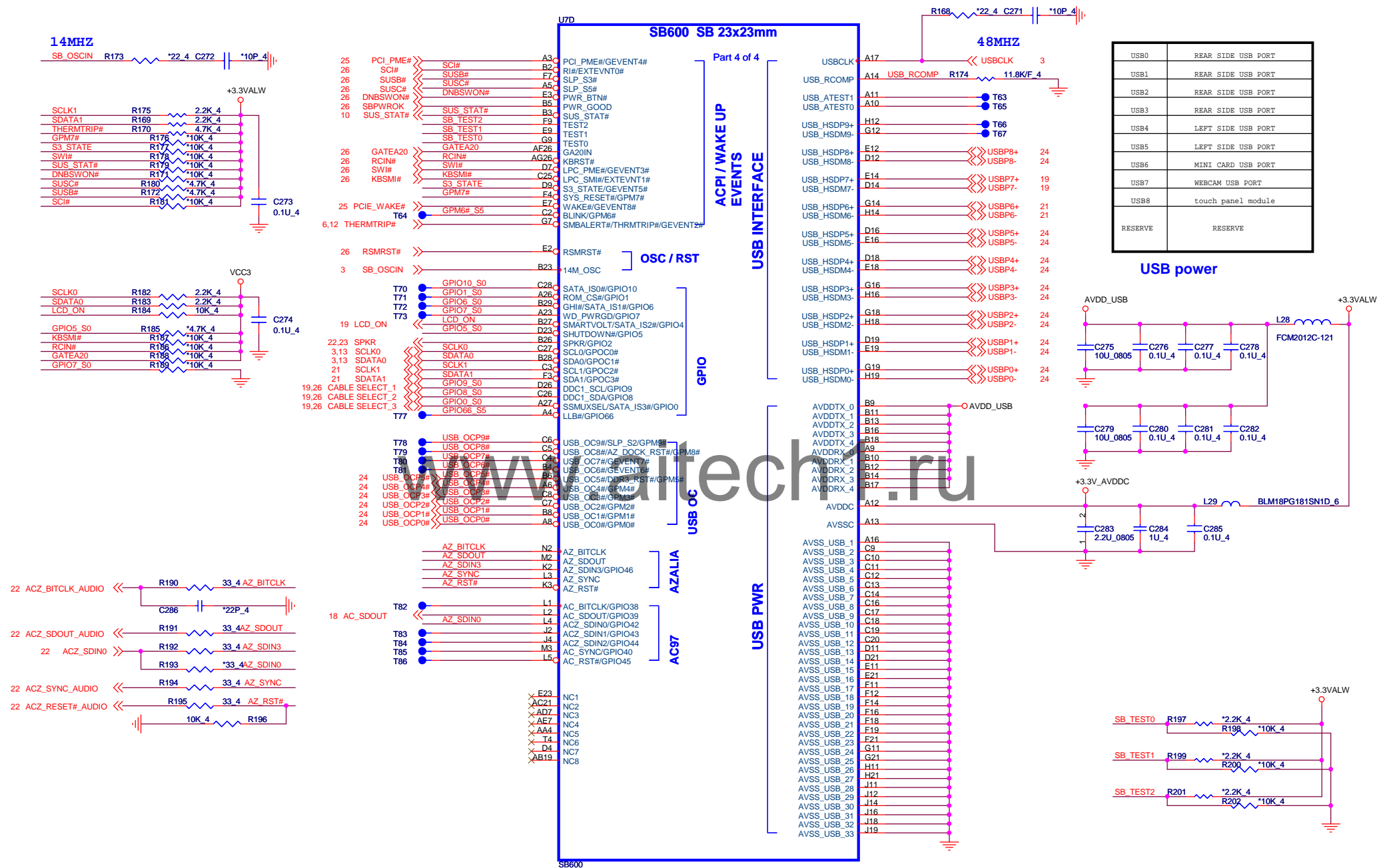


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PROJECT : BENQ





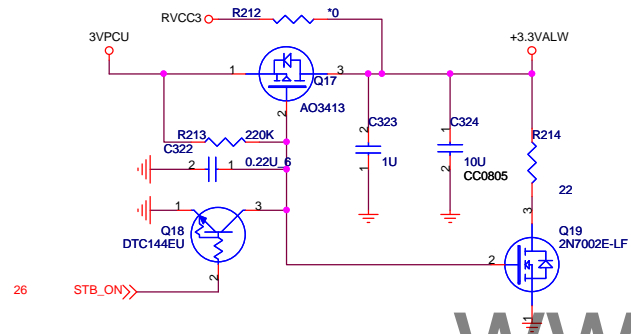




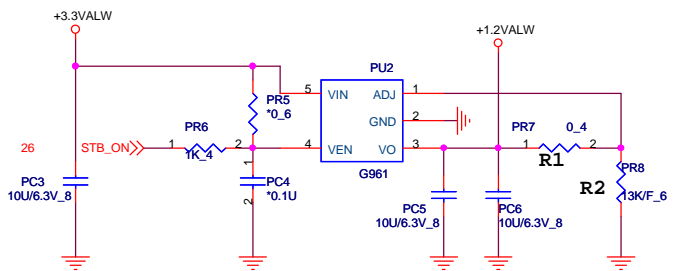
USB0	REAR SIDE USB PORT
USB1	REAR SIDE USB PORT
USB2	REAR SIDE USB PORT
USB3	REAR SIDE USB PORT
USB4	LEFT SIDE USB PORT
USB5	LEFT SIDE USB PORT
USB6	MINI CARD USB PORT
USB7	WEBCAM USB PORT
USB8	touch panel module
RESERVE	RESERVE



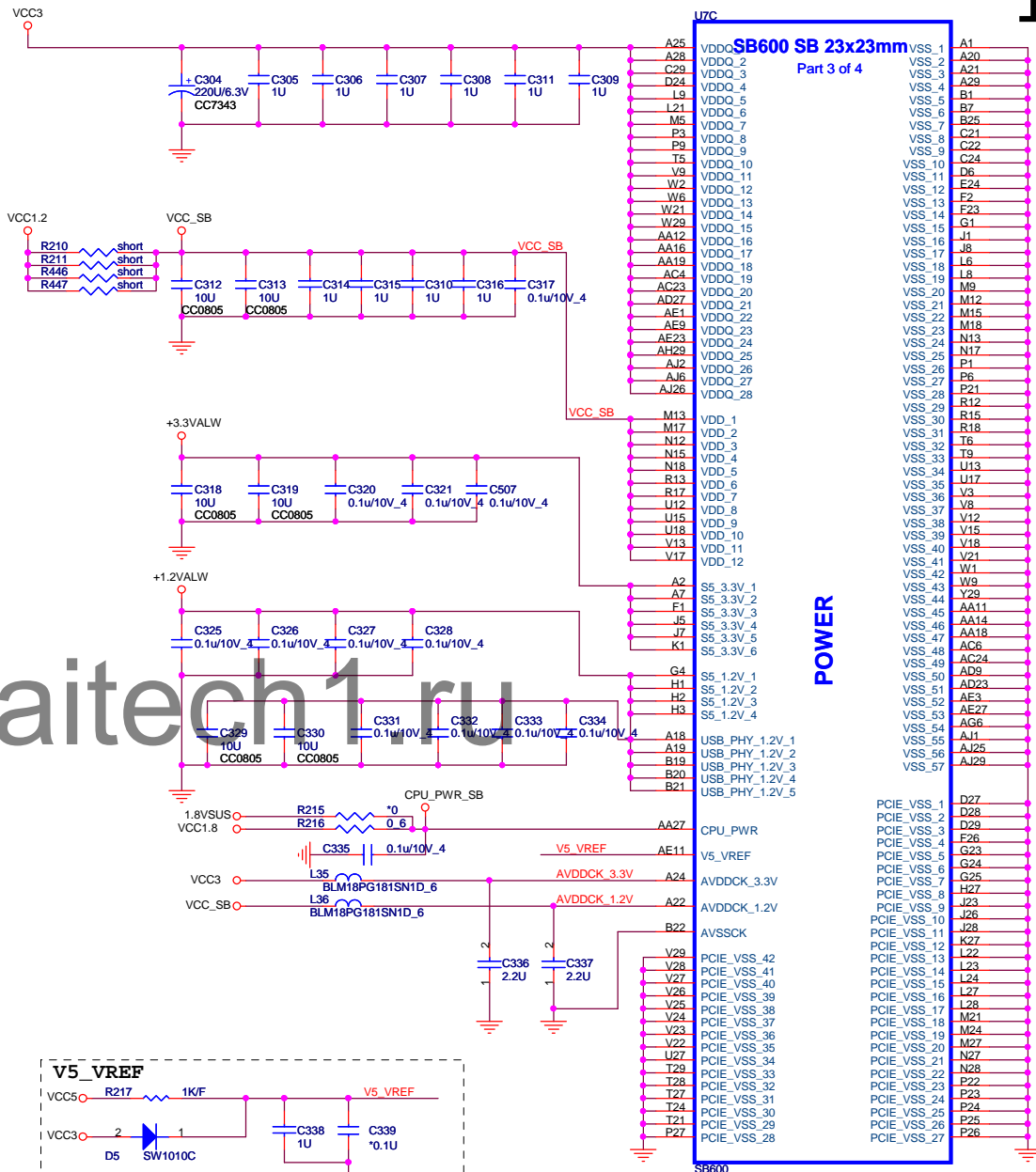




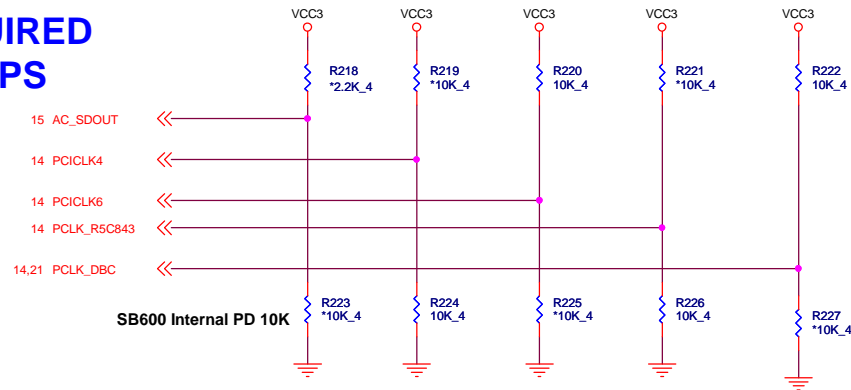
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1.2V R1= 0 R2=13K  
Vo=1.2\*(1+R1/R2)

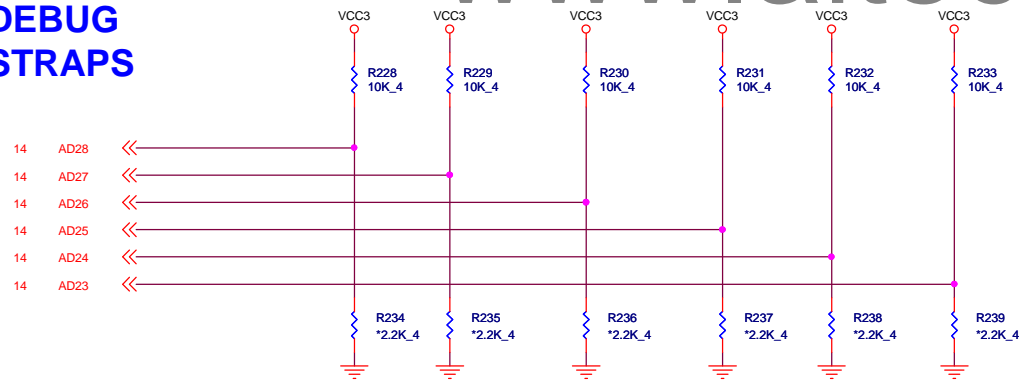


## REQUIRED STRAPS



				PCLK_R5C843	PCLK_DBC
	AC_SDOUT	PCICLK4	PCICLK6	PCI_CLK0	PCI_CLK1
PULL HIGH	USE DEBUG STRAPS	USE INT. PLL48	CPU IF=K8 DEFAULT	ROM TYPE: H, H = PCI ROM H, L = SPI ROM L, H = LPC ROM L, L = FWH ROM	DEFAULT
PULL LOW	IGNORE DEBUG STRAPS DEFAULT	USE EXT. 48MHZ DEFAULT	CPU IF=P4		

## 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	BOOTFAILTIMER DISABLED DEFAULT
PULL LOW	USE SHORT RESET	BYPASS PCI PLL	BYPASS ACPI BCLK	BYPASS IDE PLL	USE EEPROM PCIE STRAPS	BOOTFAILTIMER ENABLED



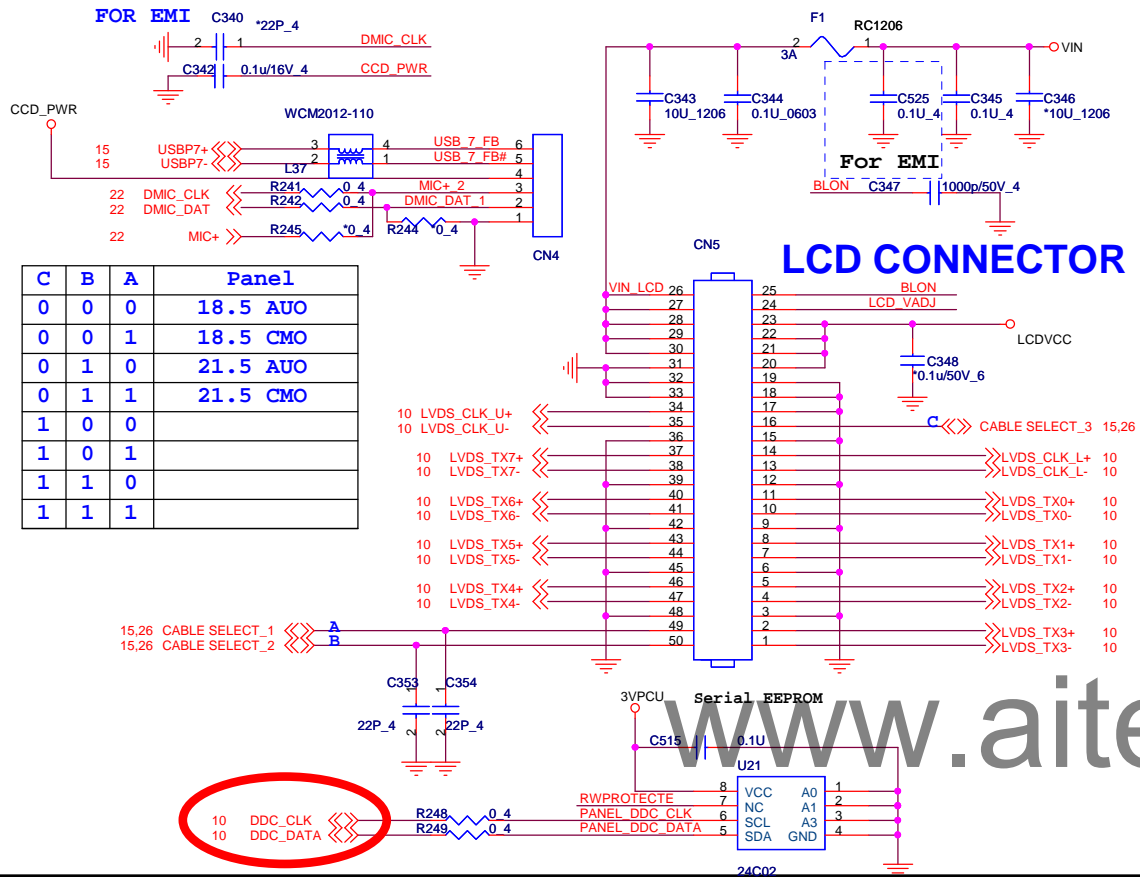
Quanta Computer Inc.

PROJECT : BENQ

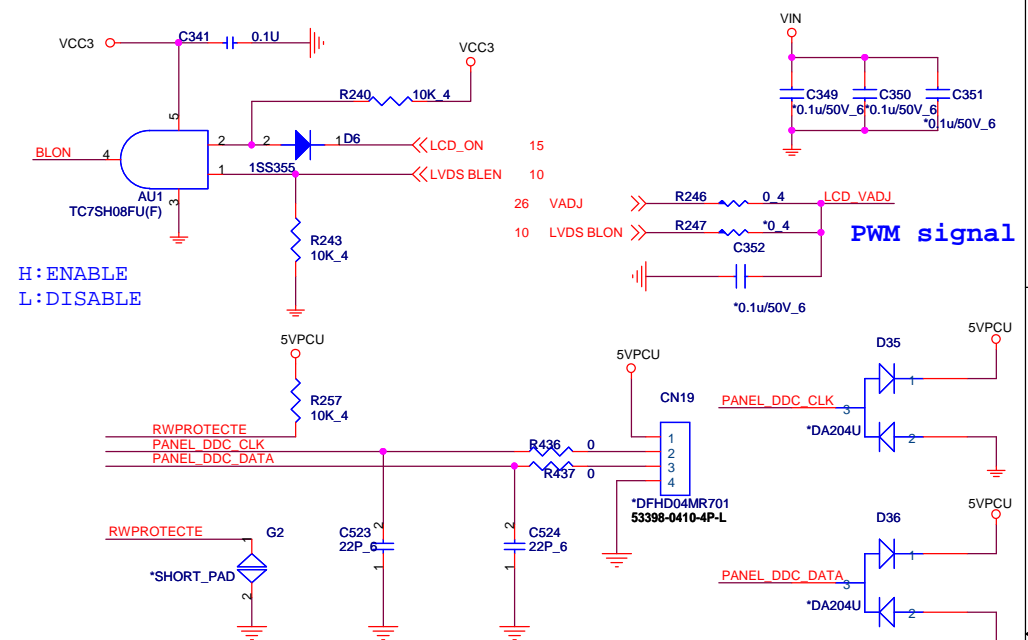
# WEB CAM MODULE

## TO INVERTER POWER

FOR EMI

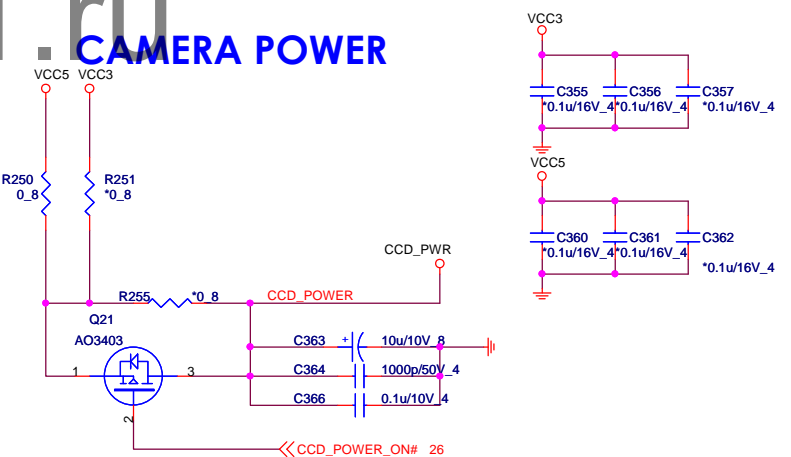


## BACKLIGHT ON/OFF CONTROL

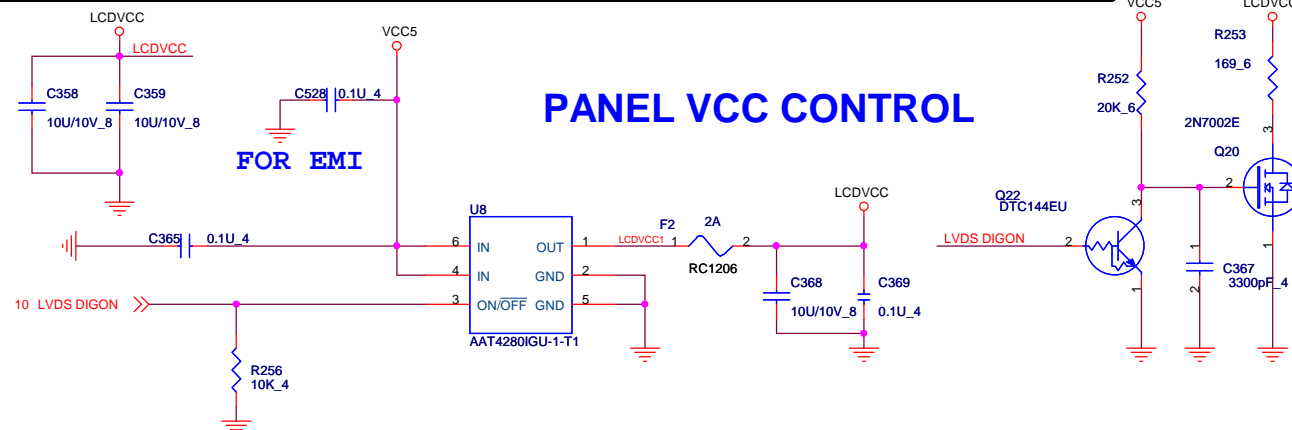


H: ENABLE  
L: DISABLE

## CAMERA POWER

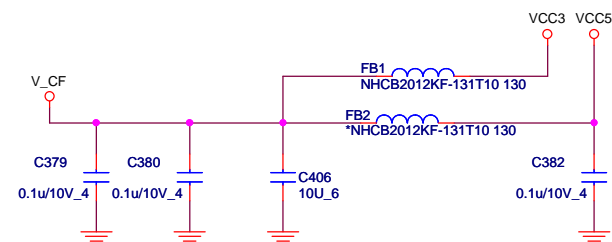
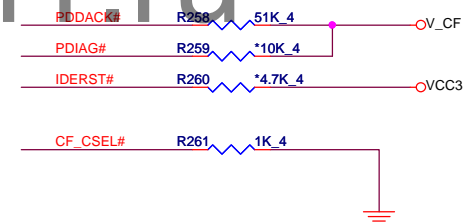


## PANEL VCC CONTROL

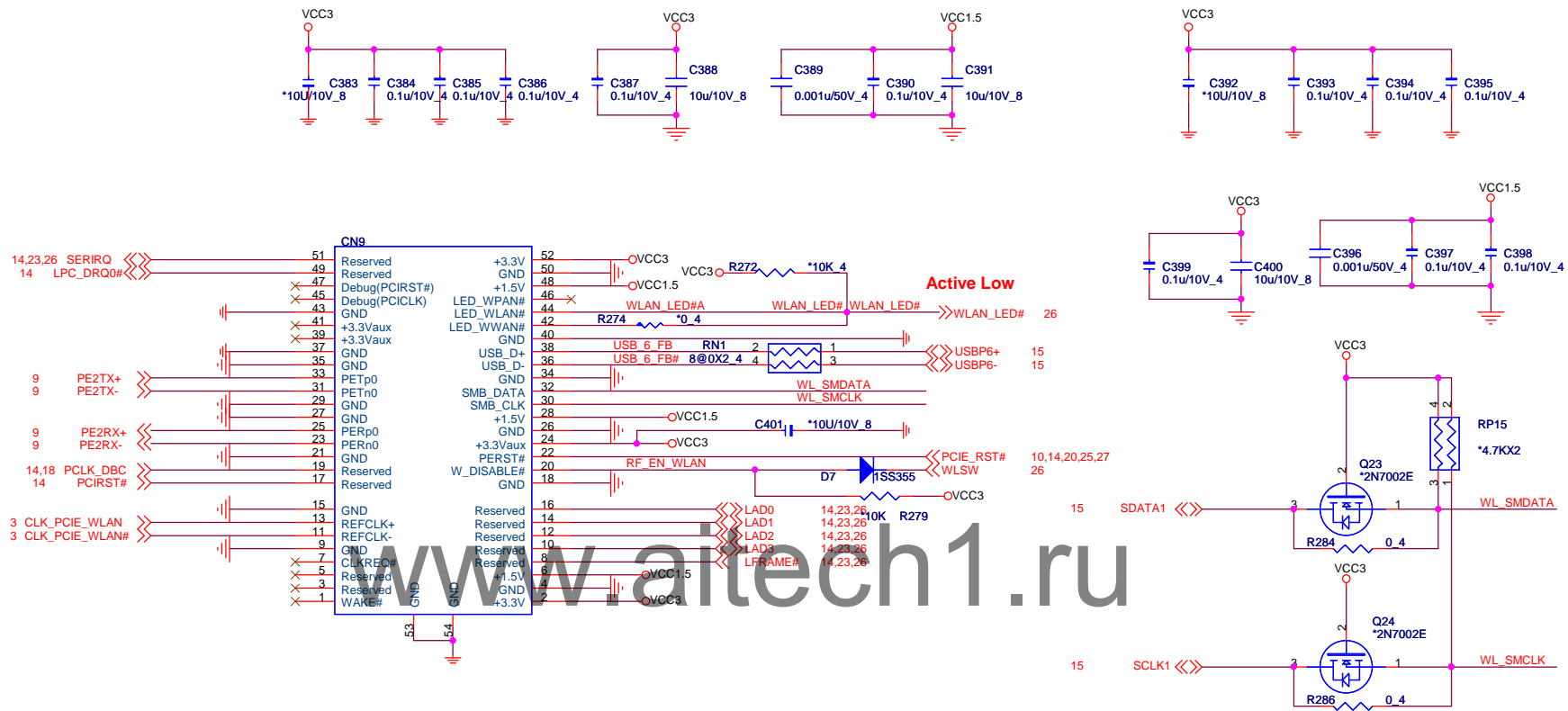


Quanta Computer Inc.  
PROJECT : BENQ

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	LCD PANEL/CCD	1A
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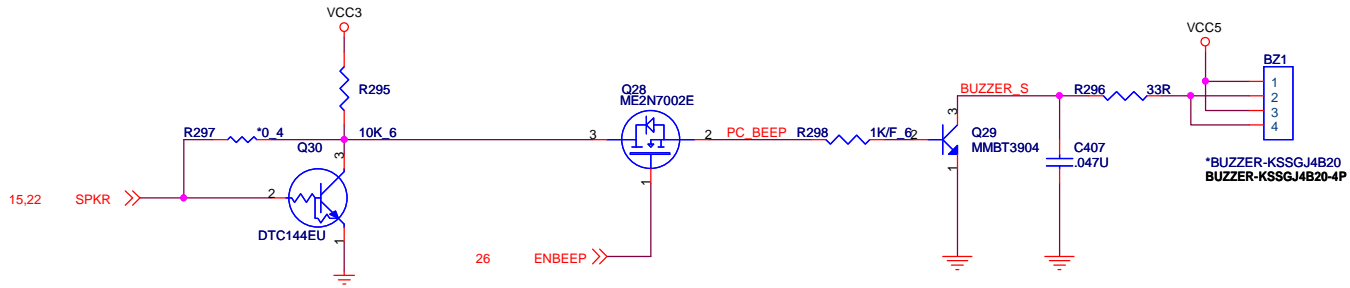
## 21.5" MINI-Card I (WLAN/ WiMAX)



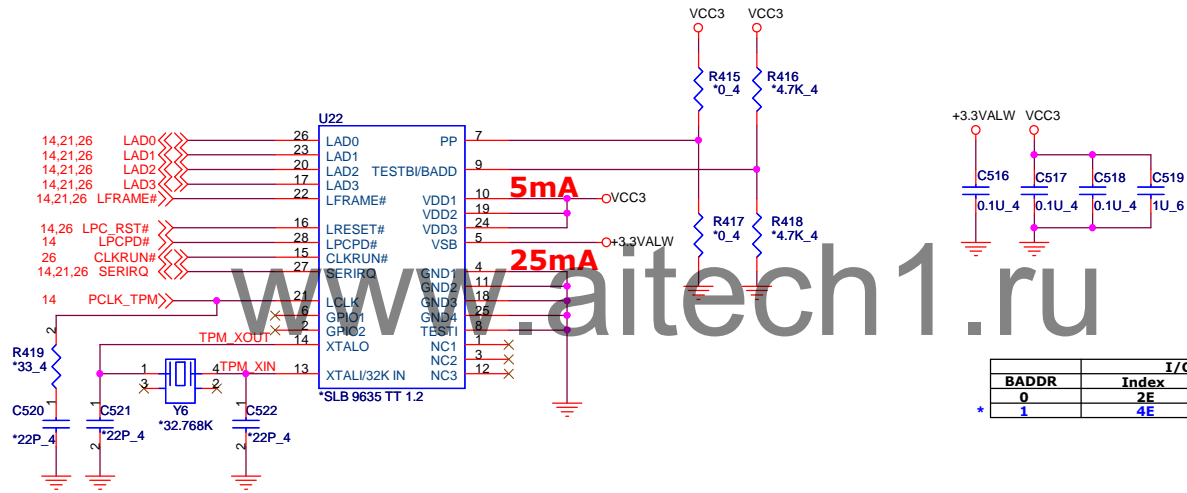




**BUZZER**



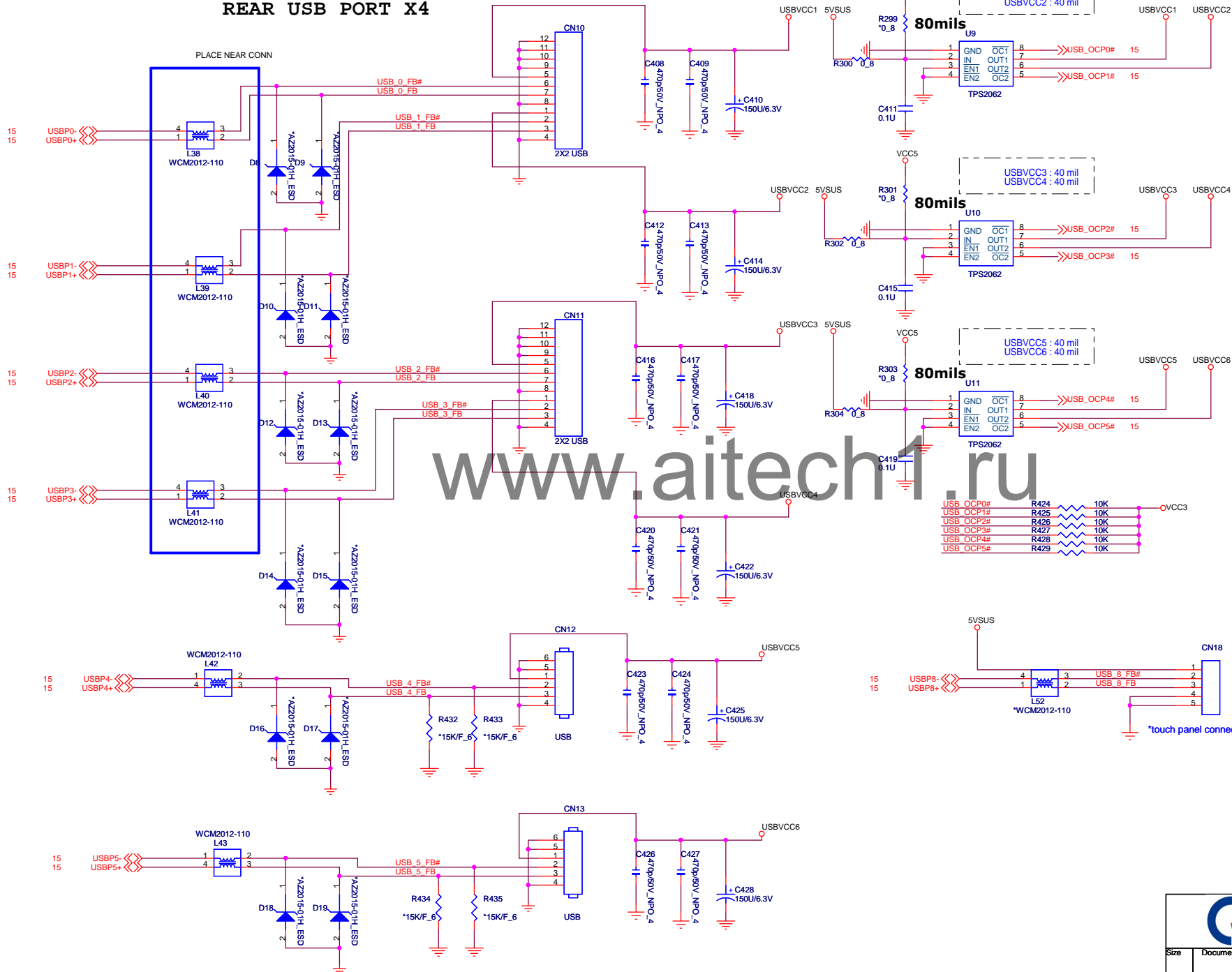
## TPM1.2



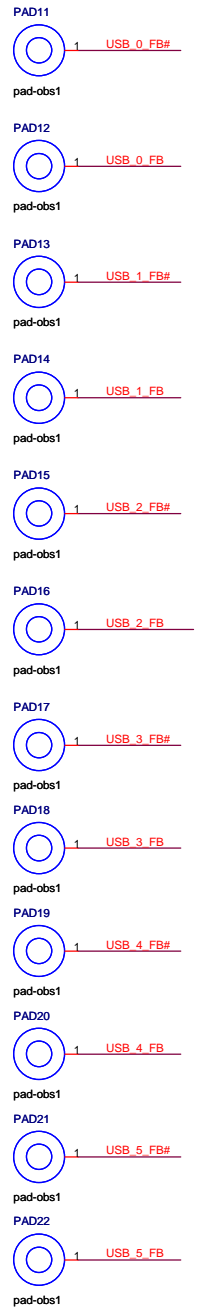
	I/O Address	
BADDR	Index	Data
0	2E	2F
1	4E	4F

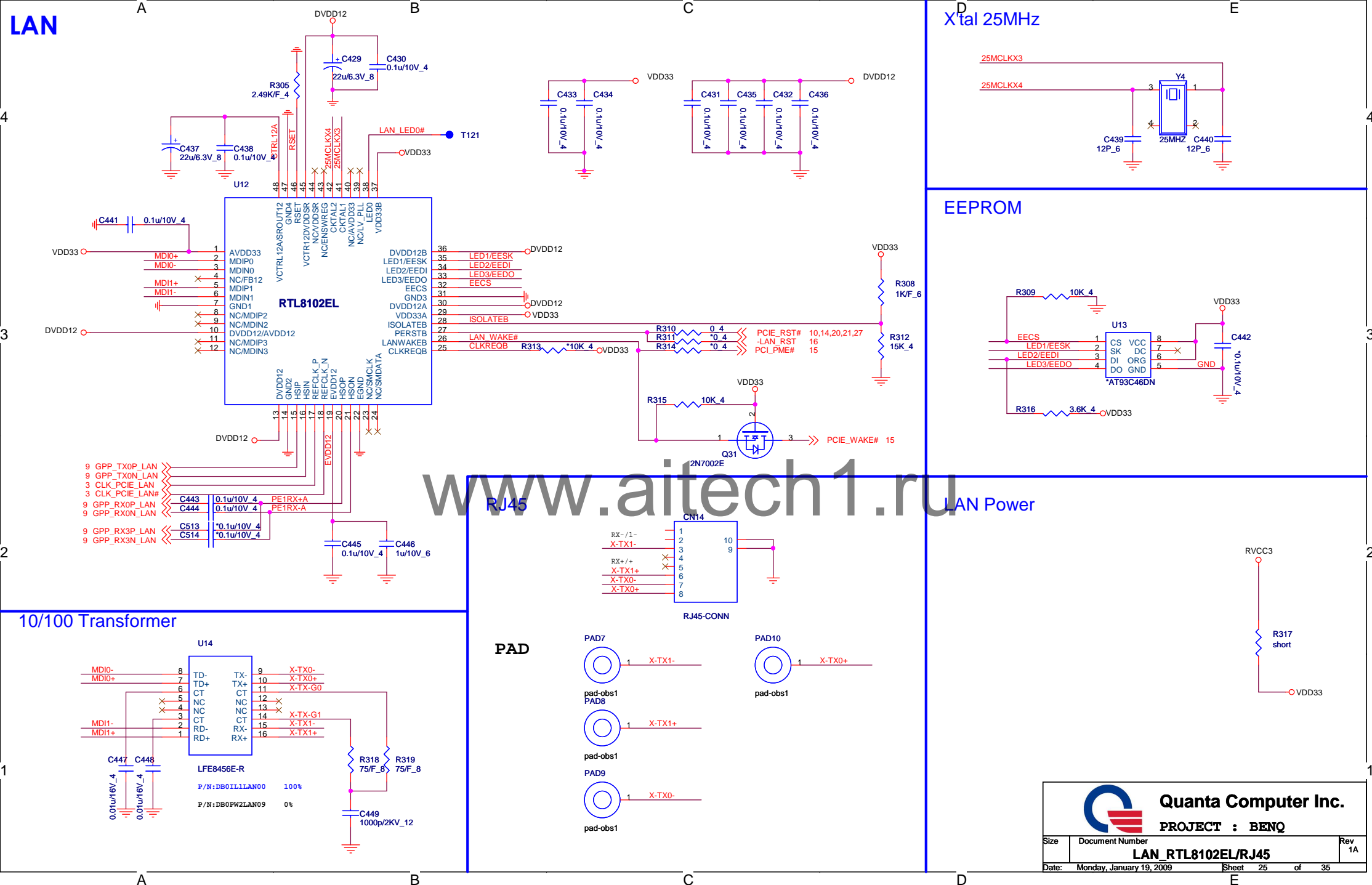
## USB on M/B

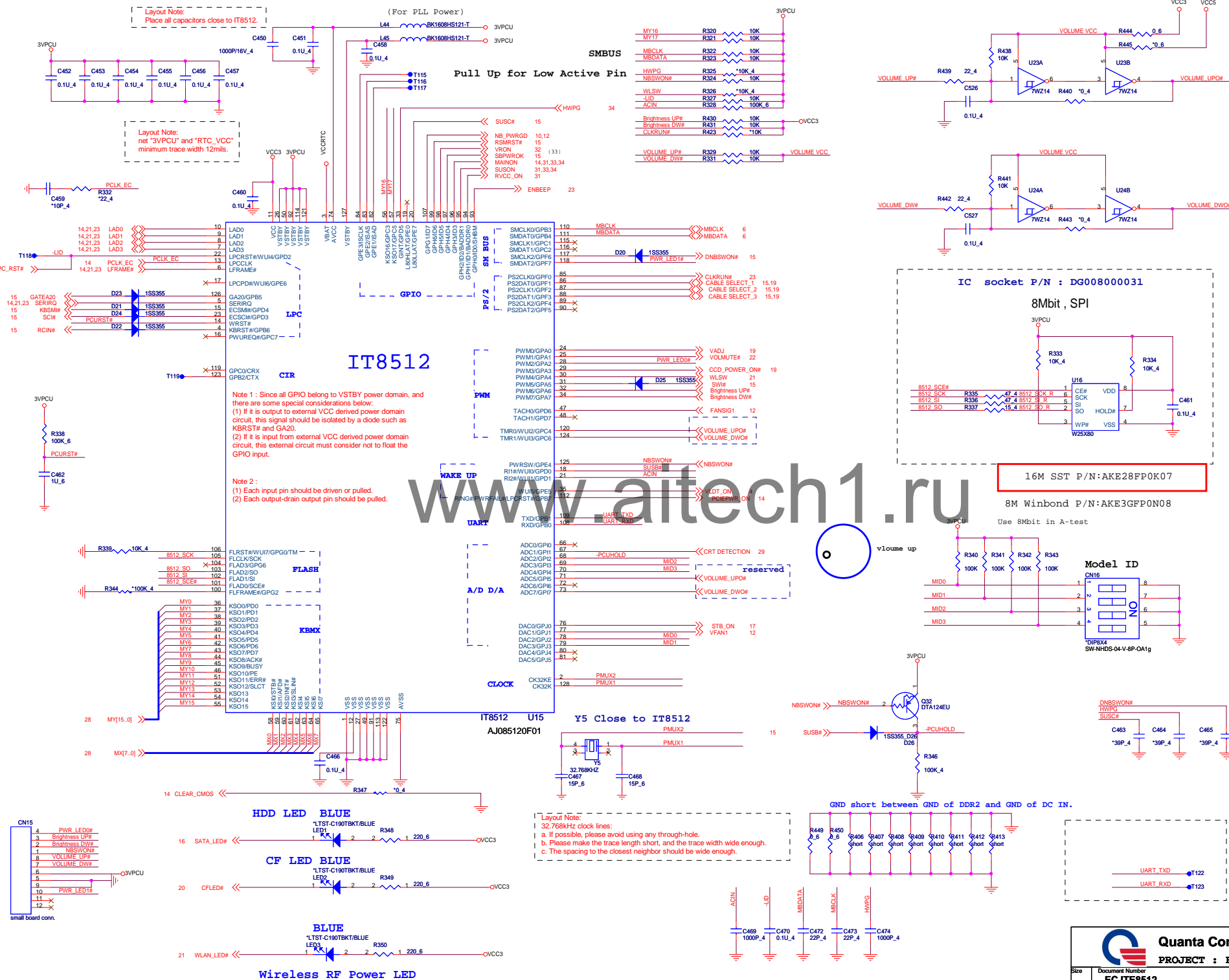
REAR USB PORT X4



PAD





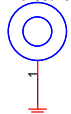




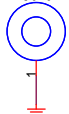
Need to change drill hole size

## SCREW HOLE

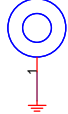
H1  
h-c256d185P2



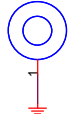
H7  
H-C315D106P2



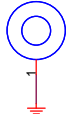
H13  
H-C315D146P2



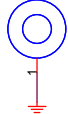
H2  
h-c256d185P2



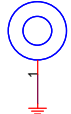
H8  
H-C315D106P2



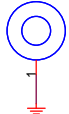
H14  
H-C315D146P2



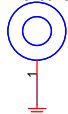
H3  
h-c256d185P2



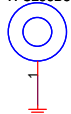
H9  
h-c256d185P2



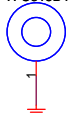
H15  
H-C256D59PT



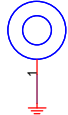
H4  
H-C256D59PT



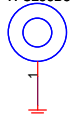
H10  
H-C315D106P2



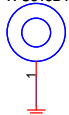
H16  
H-C256D59PT



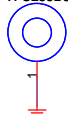
H5  
H-C256D59PT



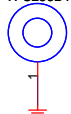
H11  
H-C315D106P2



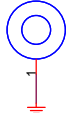
H17  
H-C256D59PT



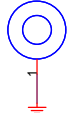
H6  
H-C256D110P2



H12  
H-C315D106P2



H18  
H-C256D59PT



## Keyboard CONN Reserved for EC Debug

### KEYBOARD

\*88502-2401-24P-L

24	24	MX2	MX2	26
23	23	MX4	MX4	26
22	22	MX1	MX1	26
21	21	MX7	MX7	26
20	20	MX3	MX3	26
19	19	MX0	MX0	26
18	18	MX6	MX6	26
17	17	MX5	MX5	26
16	16	MY4	MY4	26
15	15	MY1	MY1	26
14	14	MY3	MY3	26
13	13	MY5	MY5	26
12	12	MY6	MY6	26
11	11	MY7	MY7	26
10	10	MY8	MY8	26
9	9	MY9	MY9	26
8	8	MY10	MY10	26
7	7	MY11	MY11	26
6	6	MY12	MY12	26
5	5	MY13	MY13	26
4	4	MY14	MY14	26
3	3	MY15	MY15	26
2	2			26
1	1			26

CON2

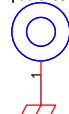
MX3	7	8	CP1
MX0	5	6	220pX4_4
MX6	3	4	
MX5	1	2	
MY10	7	8	CP2
MY14	5	6	220pX4_4
MY11	3	4	
MY2	1	2	
MY4	7	8	CP3
MY1	5	6	220pX4_4
MY3	3	4	
MY5	1	2	
MY6	7	8	CP4
MY7	5	6	220pX4_4
MY8	3	4	
MY9	1	2	
MX2	7	8	CP5
MX4	5	6	220pX4_4
MX1	3	4	
MX7	1	2	
MY0	7	8	CP6
MY12	5	6	220pX4_4
MY13	3	4	
MY15	1	2	

0402 size

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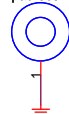
### PAD

PAD1  
pad-s203

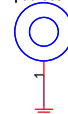


AMP\_GND

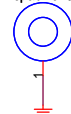
PAD5  
pad-obs2



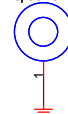
PAD6  
pad-obs2



PAD23  
spad-re70x120-np



PAD24  
spad-re70x120np



SATA screw hole H19 ; H20

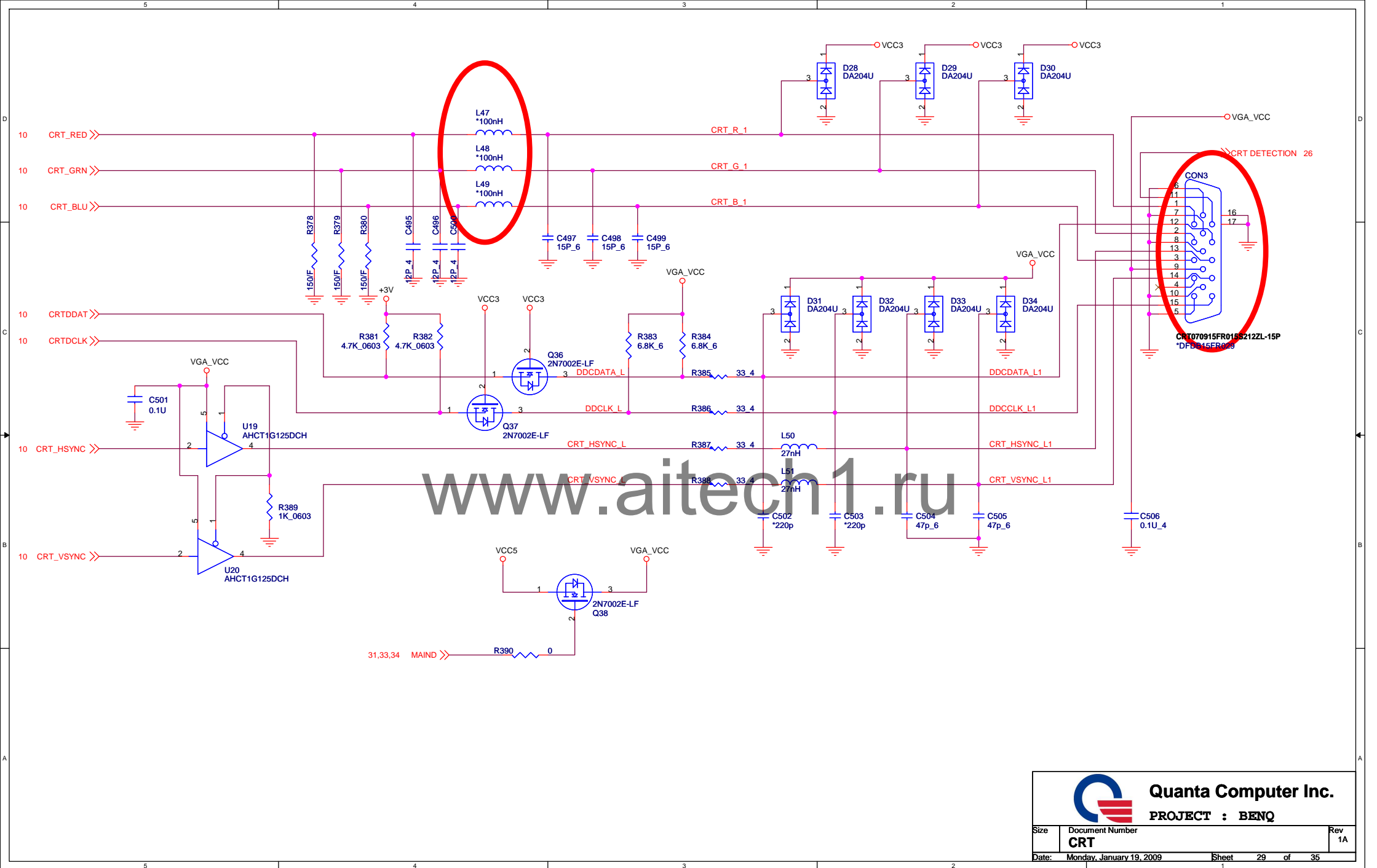


Quanta Computer Inc.

PROJECT : BENQ

Size	Document Number	Rev
	SCREW HOLE/DEBUG KEY	1A

Date: Monday, January 19, 2009 Sheet 28 of 35

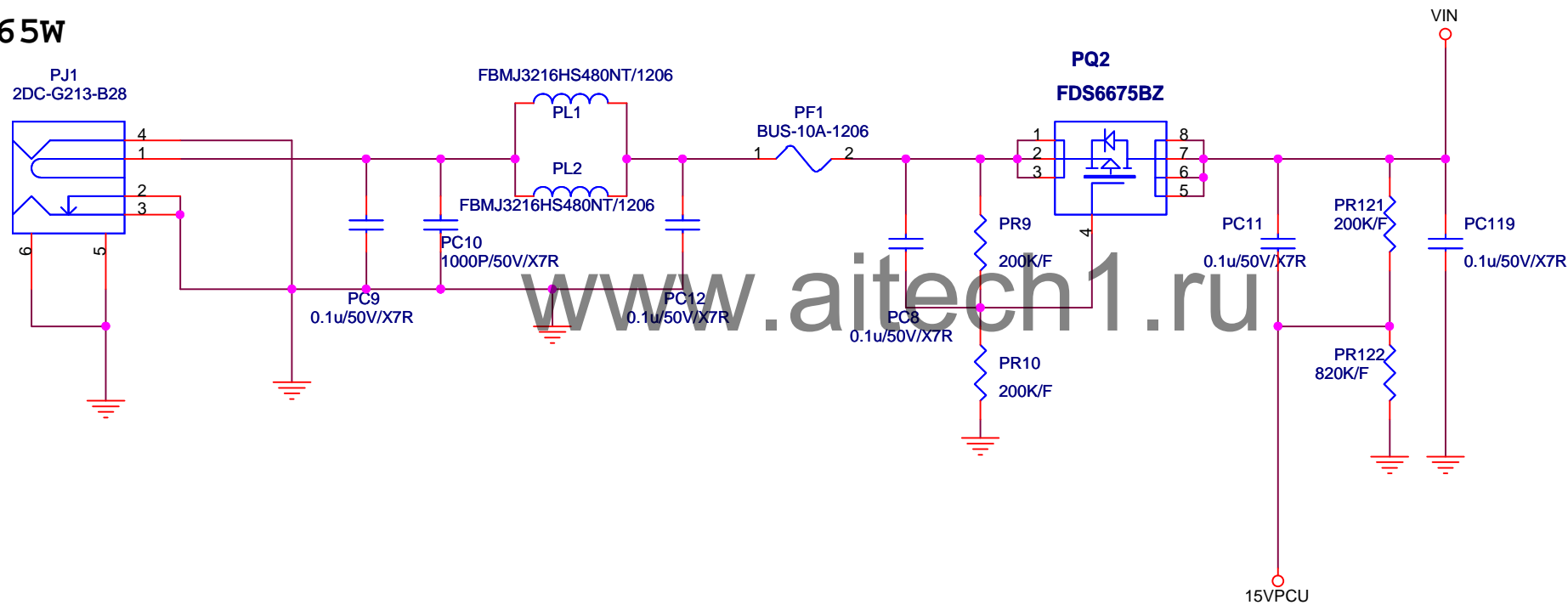


**Quanta Computer Inc.**  
PROJECT : BENQ

Size	Document Number	Rev
	CRT	1A
Date:	Monday, January 19, 2009	Sheet 29 of 35



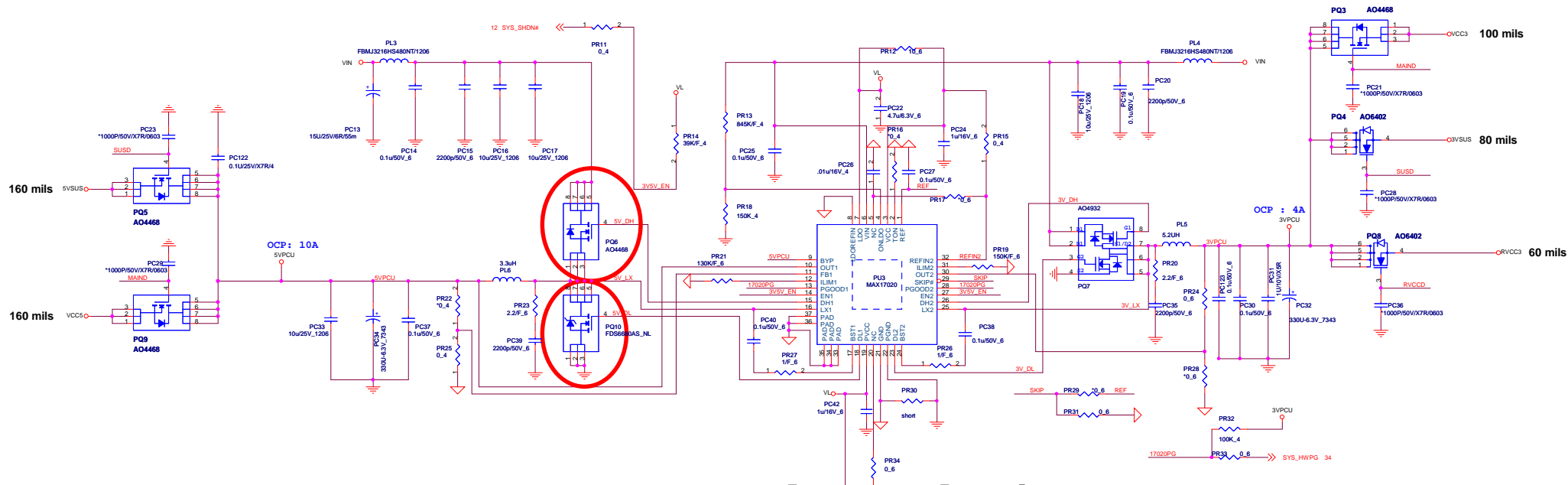
DC IN JACK  
65W



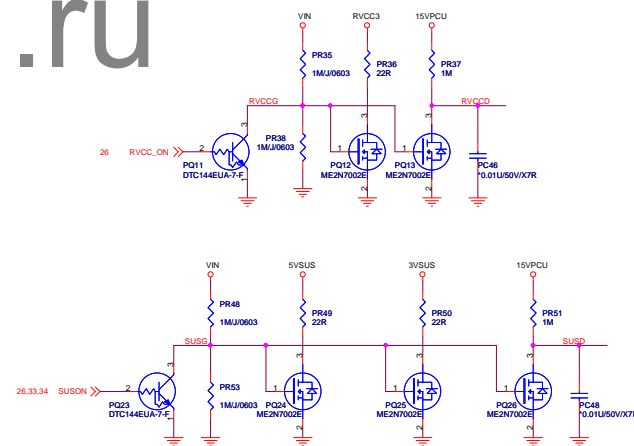
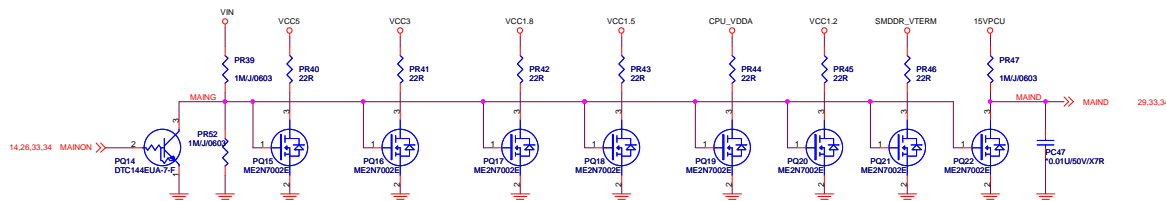
Quanta Computer Inc.

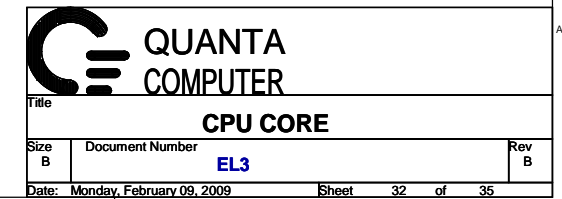
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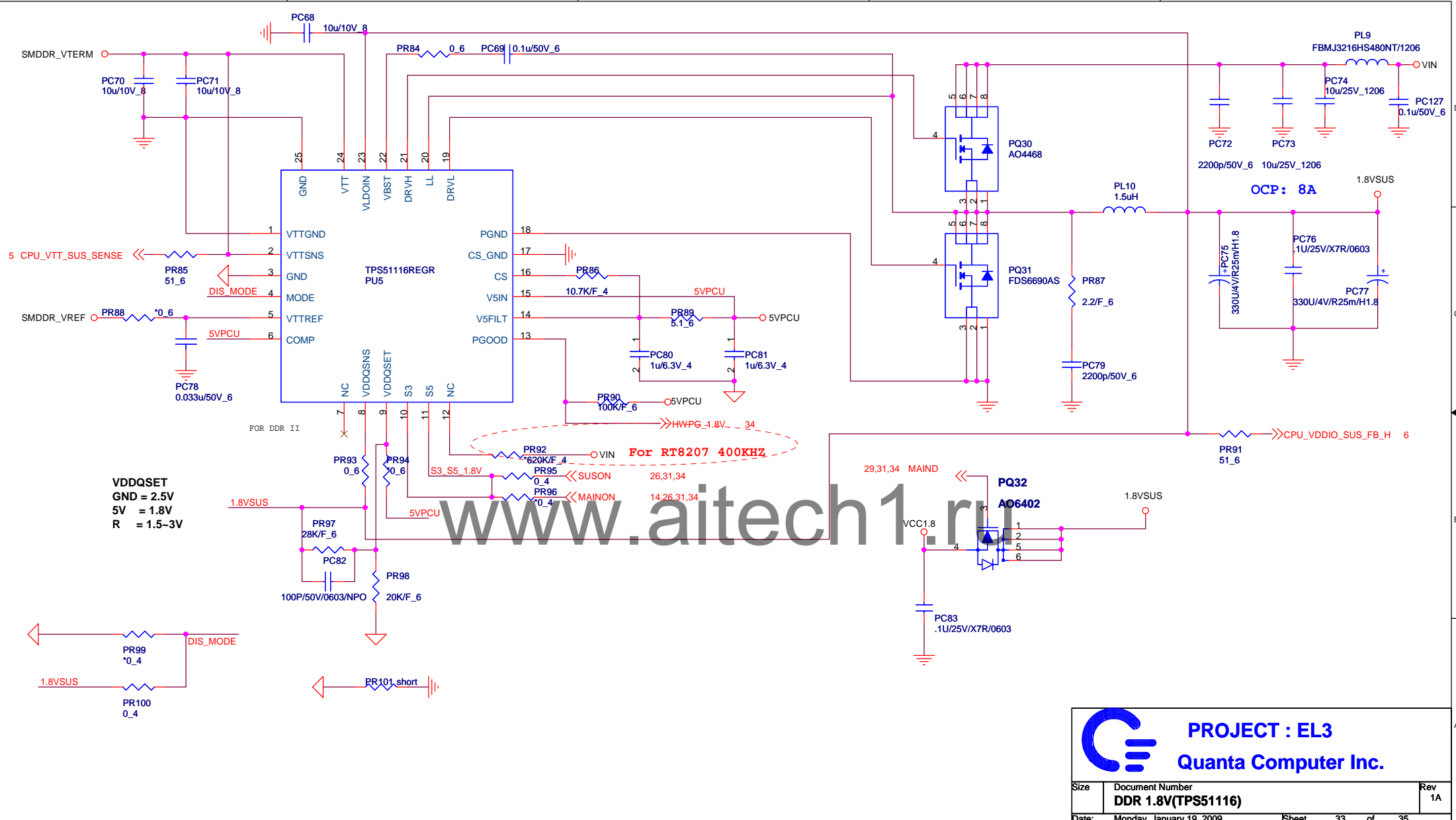
Size	Document Number	Rev
	DC IN	2B
Date:	Monday, January 19, 2009	Sheet 30 of 35

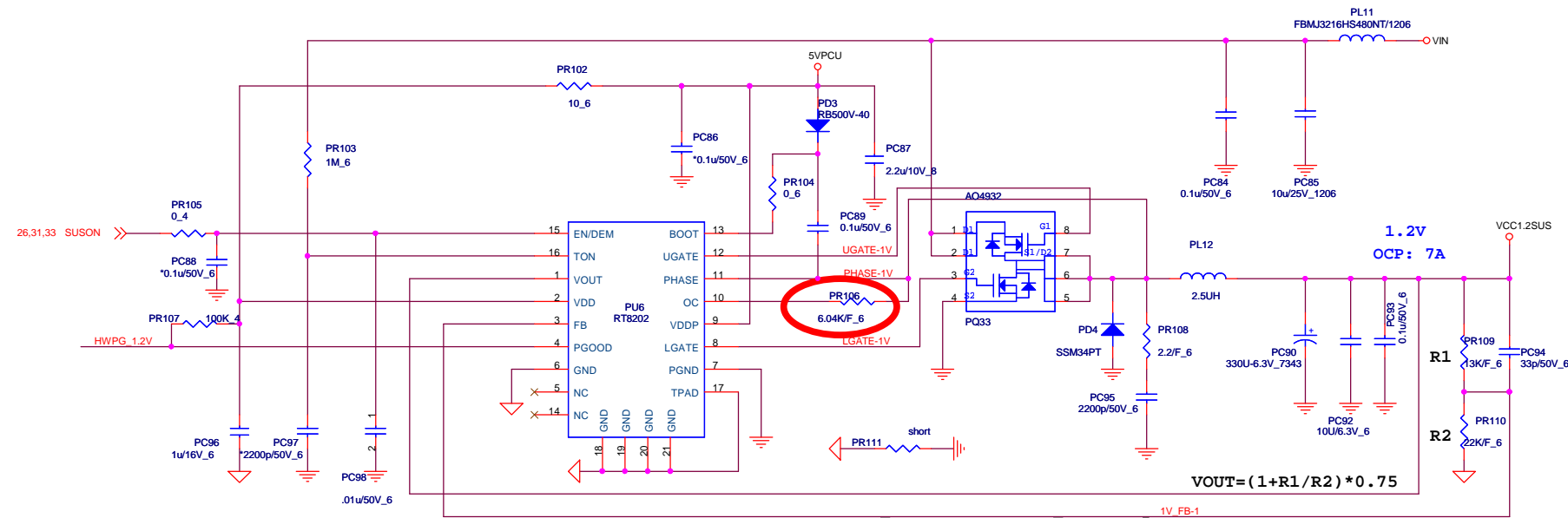


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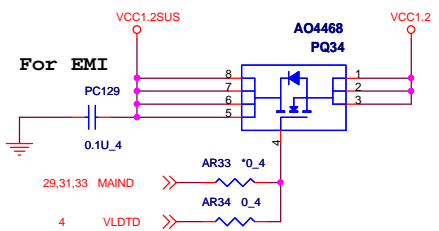
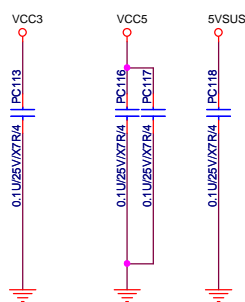
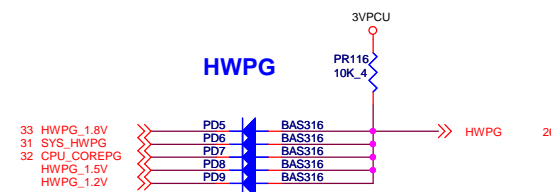
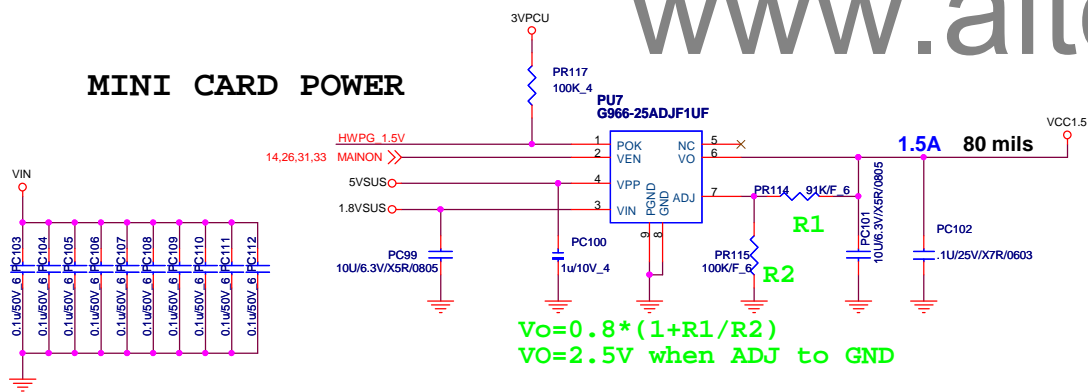




$$\text{TON} = 3.85\text{p} * 1\text{M} * 1 / (\text{Vin} - 0.5)$$
$$\text{Frequency} = 1 / (0.0036767) = 272\text{K}$$


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## MINI CARD POWER



DATE	Description	Note	Page
2008 1006	1.page 3 pin9&pin10 short issue 2.page 5 change U2B VTT net SMDDR to SMDDR_VTERM 3.page 6 U2 E1&E2 symbol pin swap;AL6&AM5 pin swap 4.page 6 TALERT# pull high high 4.7K(CS24702FB10) 5.page 14 add LPC_RST to U7 A_RST 6.page 16 Y3 change P/N:BG625000A09 7.page19 add L37 P/N:CX201290009 8.page19 reserve the EEPROM 24c02 to panel edid data 9.page 21 USB6+/USB6- pin swap 10.page 24 change CN10 and CN11 pin symbol define 11.page 26 reserve LPC_RST# to SB600 12.page 27 update the CON1 symbol pin define 13.page 17 add D5 P/N:BC001010Z17 14.page 31add PQ11,PQ23,PQ14 P/N:BA001440013 15.page 34 delete PC97 for 1.2VSUS output 16.page 34 HWPGL1.5V add resistor 10k to VCC3 17.page 25 pin 10 of CN15 Vcc 5V change to PWR_LED1#		
	18.Page 26 Add R430,R431 for brightness up and down. 19.C472, C473 changes to 22P. 20.The pin S3 and pin S5 of PU5 short and delete PR96. 21.Add R432,433,434,435 for USB detection. 22. Page 30 Add PC119,PR121,PR122 for 15VPCU. 23. Page 34 Change PR110 to 20.5K/F_6, Change PL12 to 2.5uH. 24. Page 31 Del PC41,PC43,PC44,PC45,PD1,PD2 for 15VPCU 25. Page 32 Change PR62 to 1.2R_4 26. Page 33 Change PR97 to 29.4K/F_6 27. Add the PC129 and C525 for EMI solution. 28. Add PQ35 ~ 38 for HT voltage (1.2V). 29. Add R424 ~ R429 for USB detection. 30. Add R448 for RTC clock. 31. Change the PQ06 and PQ10.		