

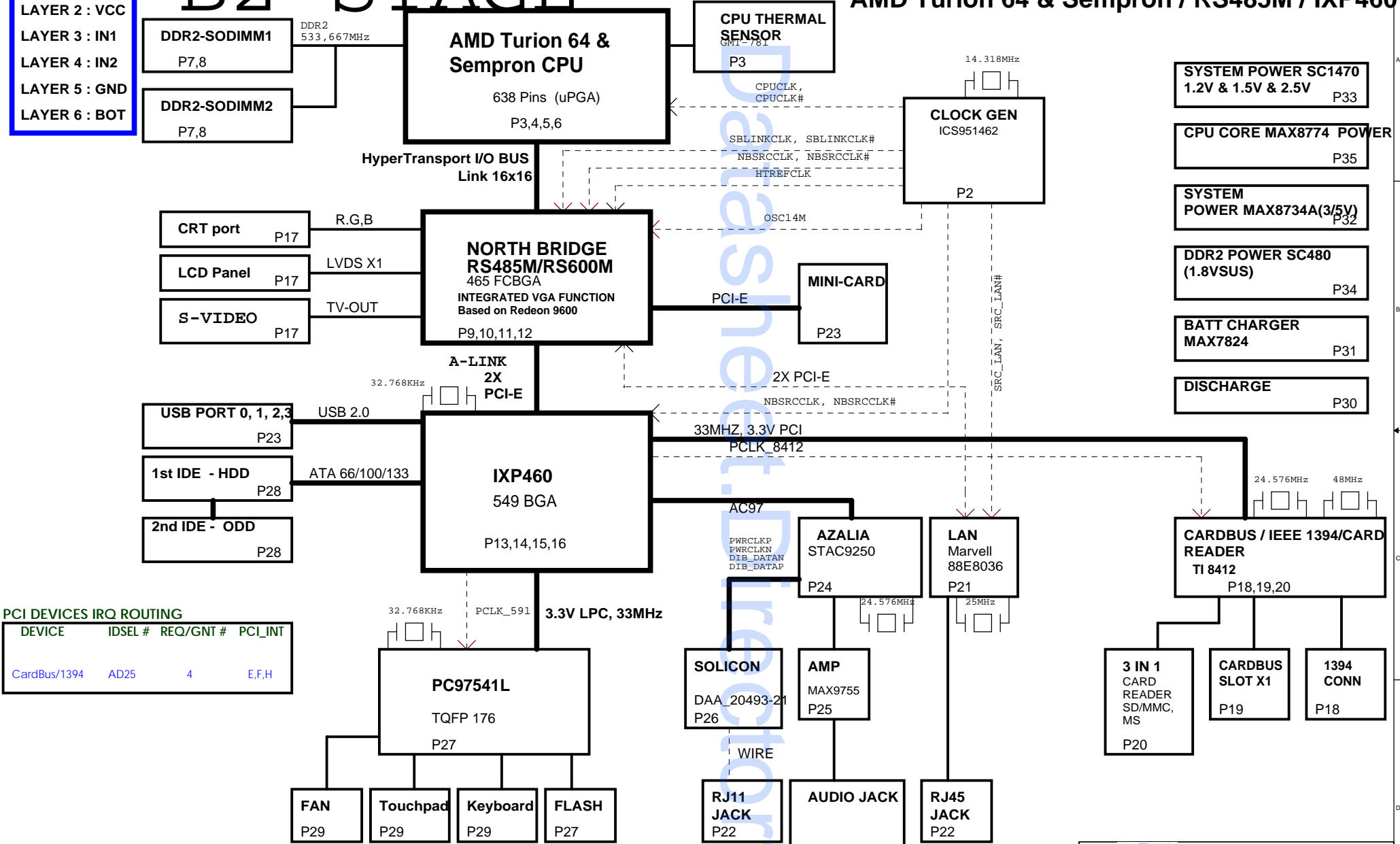
PCB STACK UP

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

B2 STAGE

MA3F BLOCK DIAGRAM

AMD Turion 64 & Sempron / RS485M / IXP460

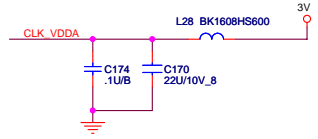
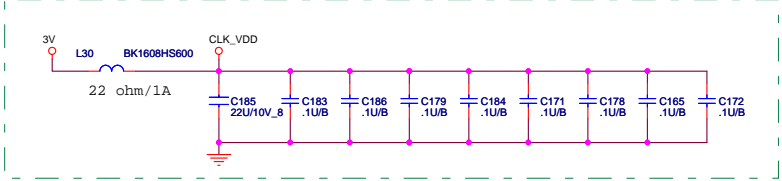


PCI DEVICES IRQ ROUTING

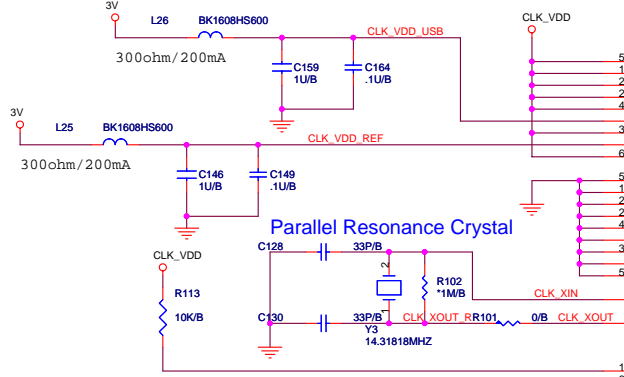
DEVICE	IDSEL #	REQ/GNT #	PCI_INT
CardBus/1394	AD25	4	E,F,H

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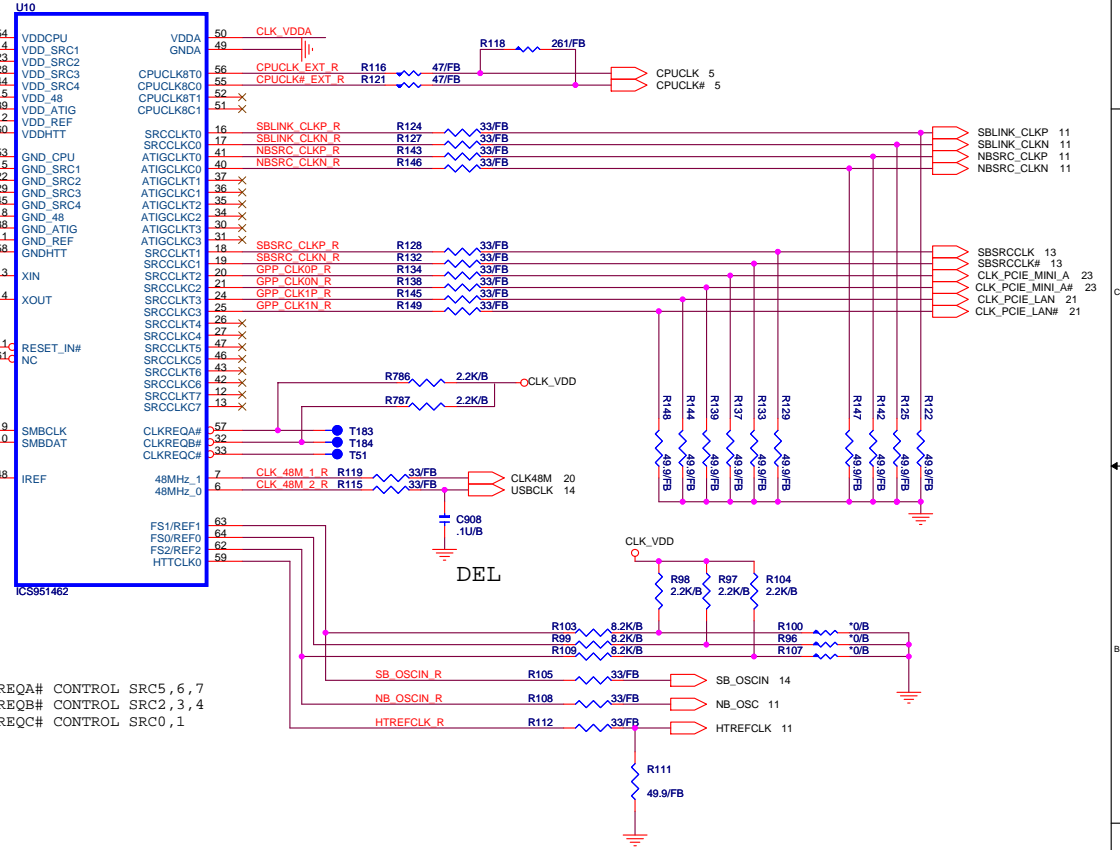
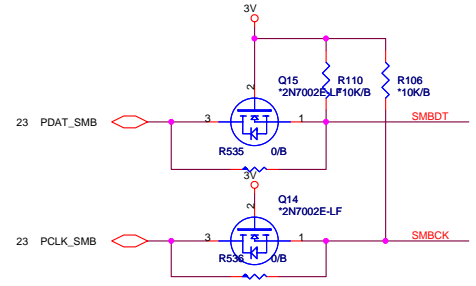


- 1- PLACE ALL SERIAL TERMINATION RESISTORS CLOSE TO U800
- 2- PUT DECOUPLING CAPS CLOSE TO Clock Gen. POWER PIN



Parallel Resonance Crystal

$I_{oh} = 5 \cdot I_{ref}$
(2.32mA)
 $V_{oh} = 0.71V @ 60 \text{ ohm}$



CLKREQA# CONTROL SRC5, 6, 7
CLKREQB# CONTROL SRC2, 3, 4
CLKREQC# CONTROL SRC0, 1

EXT CLK FREQUENCY SELECT TABLE(MHZ)

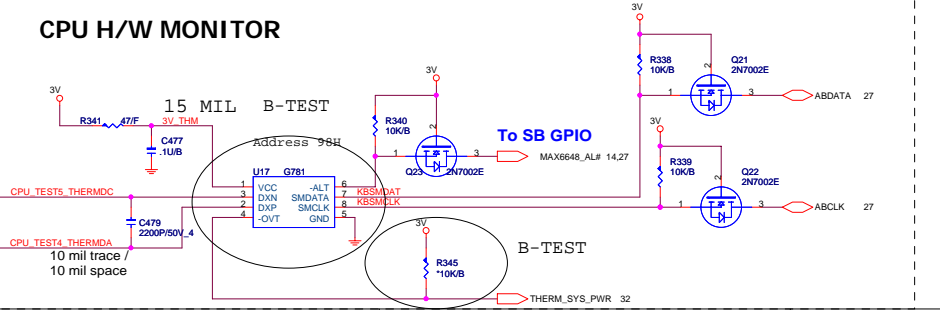
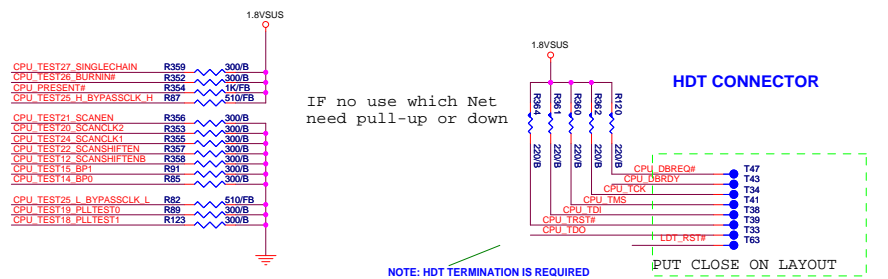
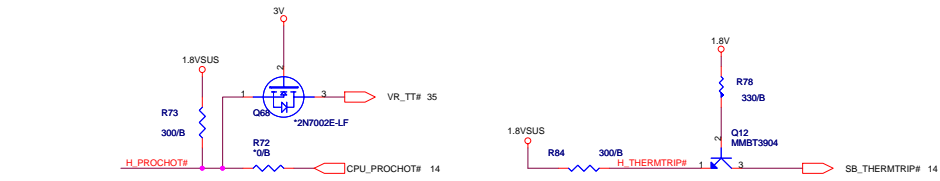
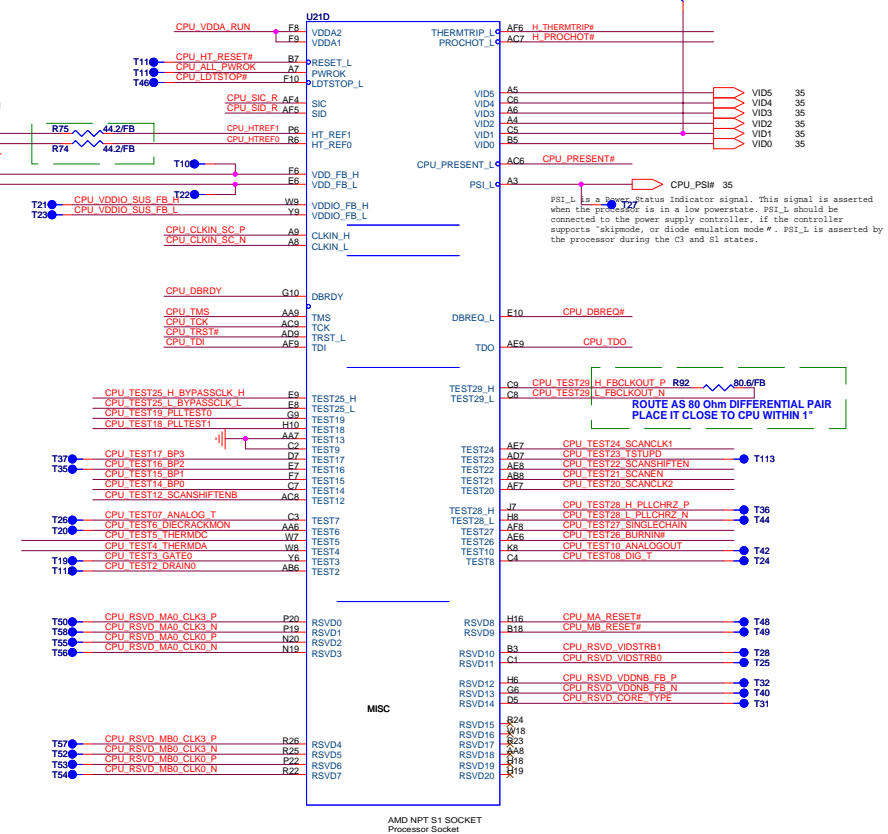
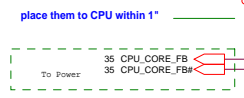
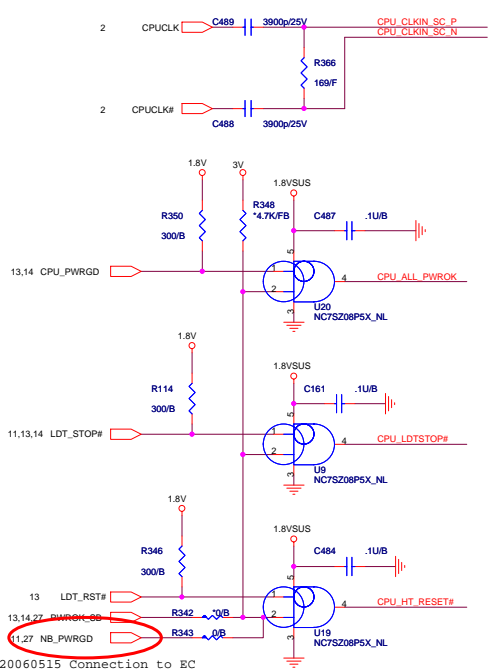
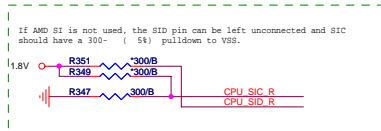
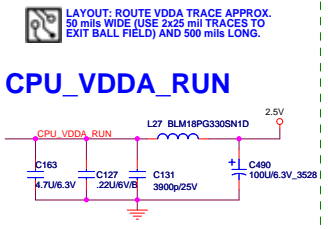
FS2	FS1	FS0	CPU	SRCCLK [2:1]	HTT	PCI	USB	COMMENT
0	0	0	Hi-Z	100.00	Hi-Z	Hi-Z	48.00	Reserved
0	0	1	X	100.00	X/3	X/6	48.00	Reserved
0	1	0	180.00	100.00	60.00	30.00	48.00	Reserved
0	1	1	220.00	100.00	36.56	73.12	48.00	Reserved
1	0	0	100.00	100.00	66.66	33.33	48.00	Reserved
1	0	1	133.33	100.00	66.66	33.33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

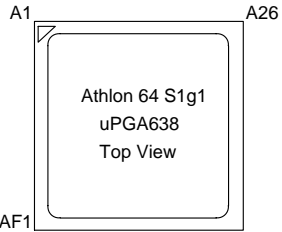
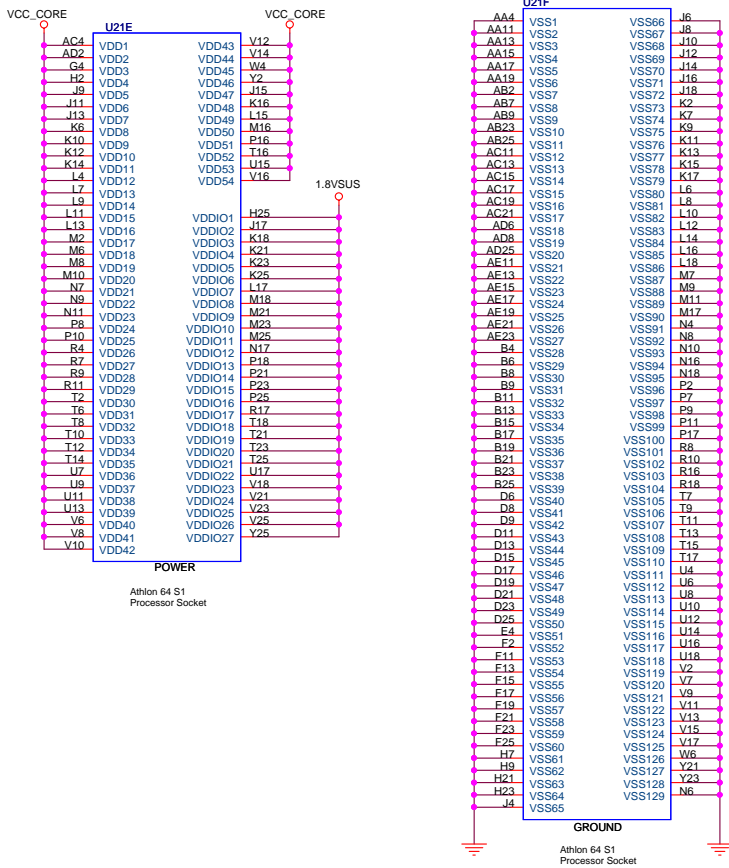
Check AMD clock

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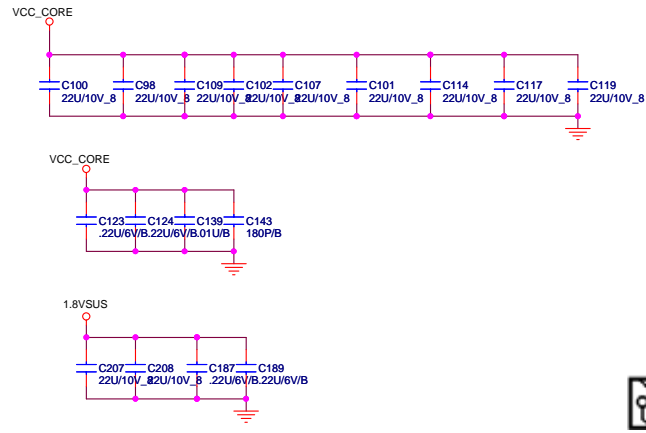
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ATHLON Control and Debug

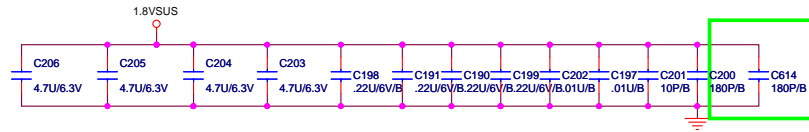




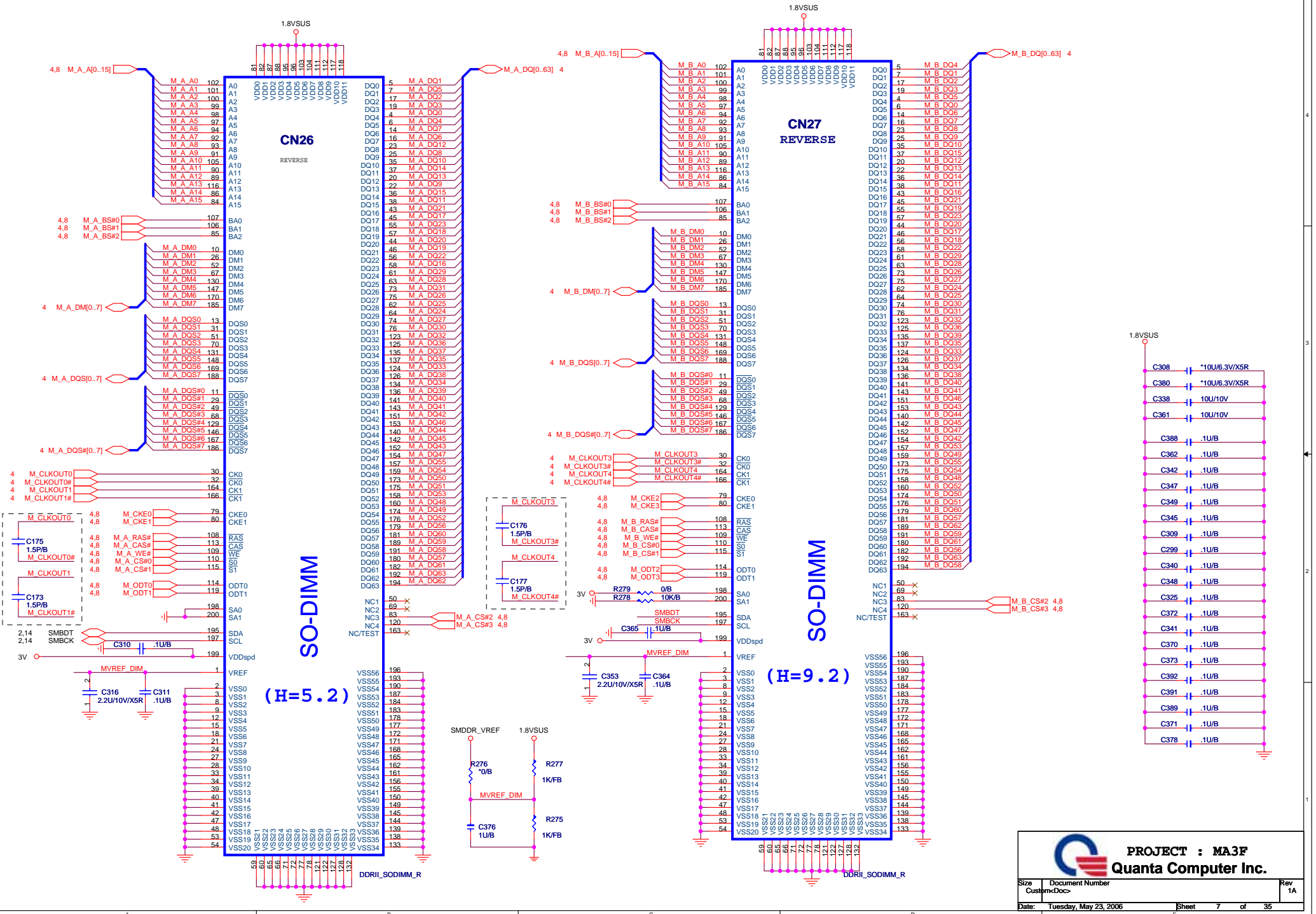
BOTTOMSIDE DECOUPLING



DECOUPLING BETWEEN PROCESSOR AND DIMMS PLACE CLOSE TO PROCESSOR AS POSSIBLE

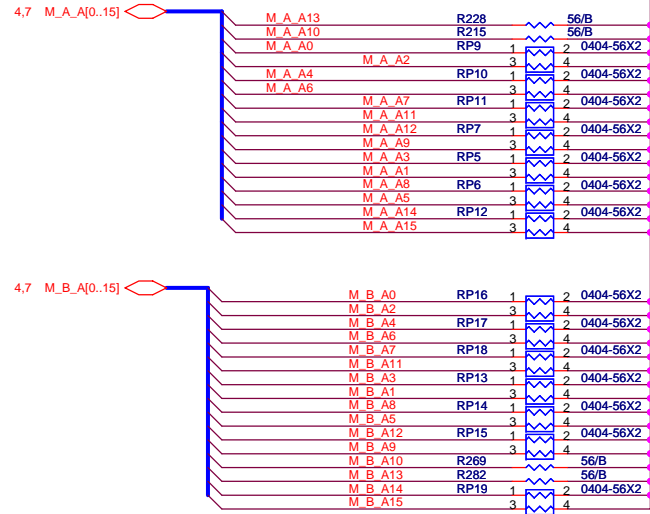
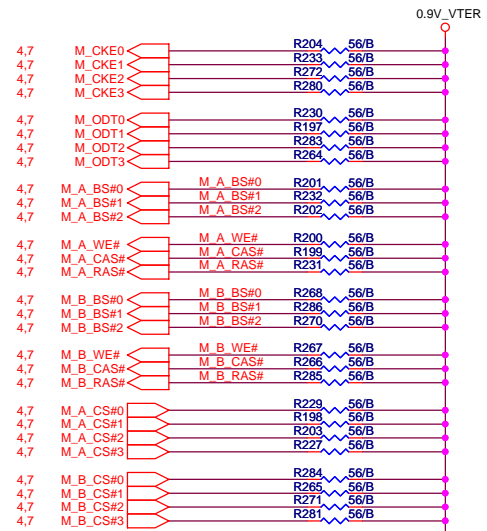
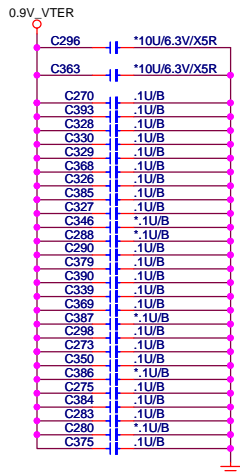


PROCESSOR POWER AND GROUND



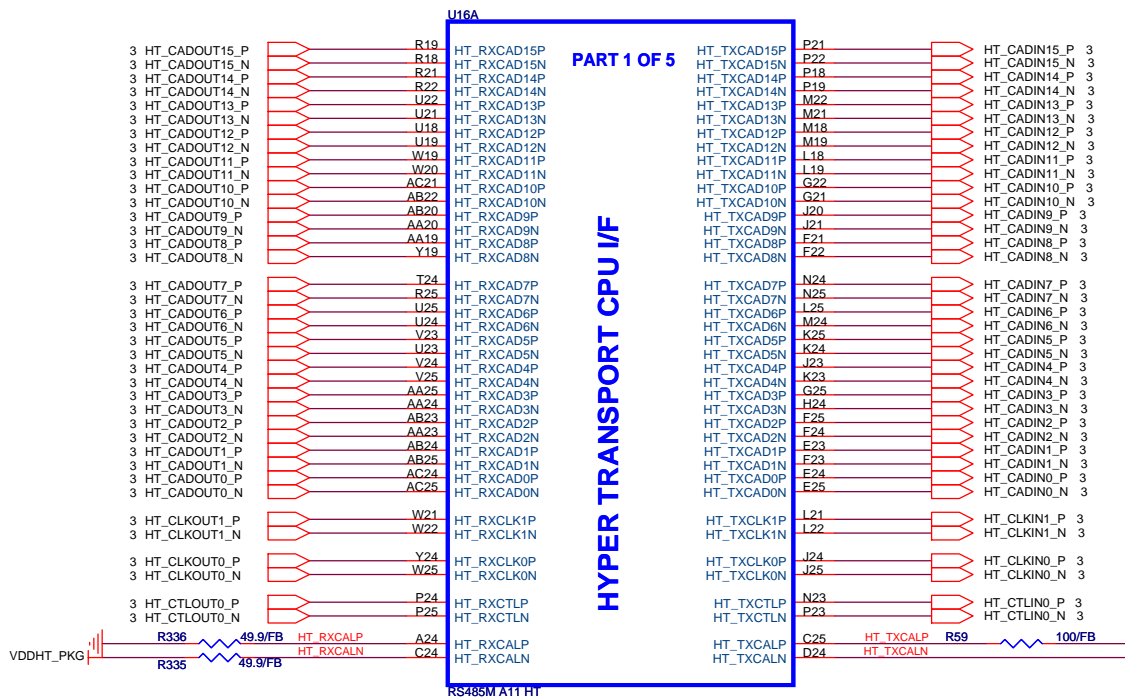
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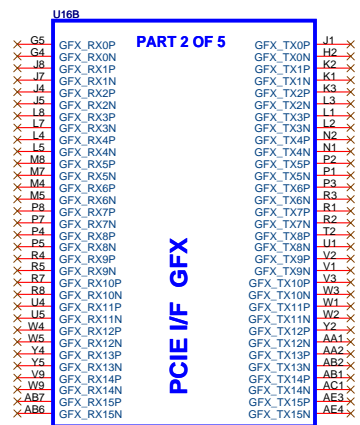
PROJECT : MA3F
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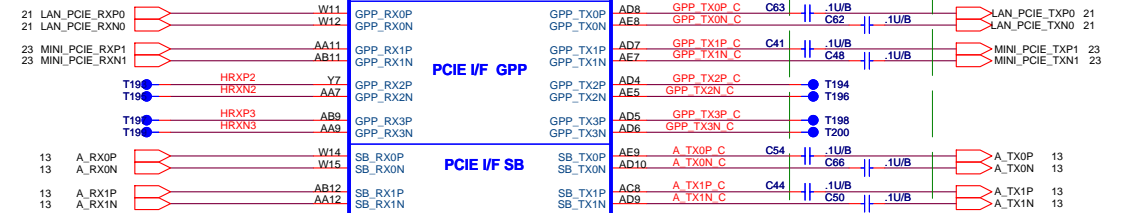


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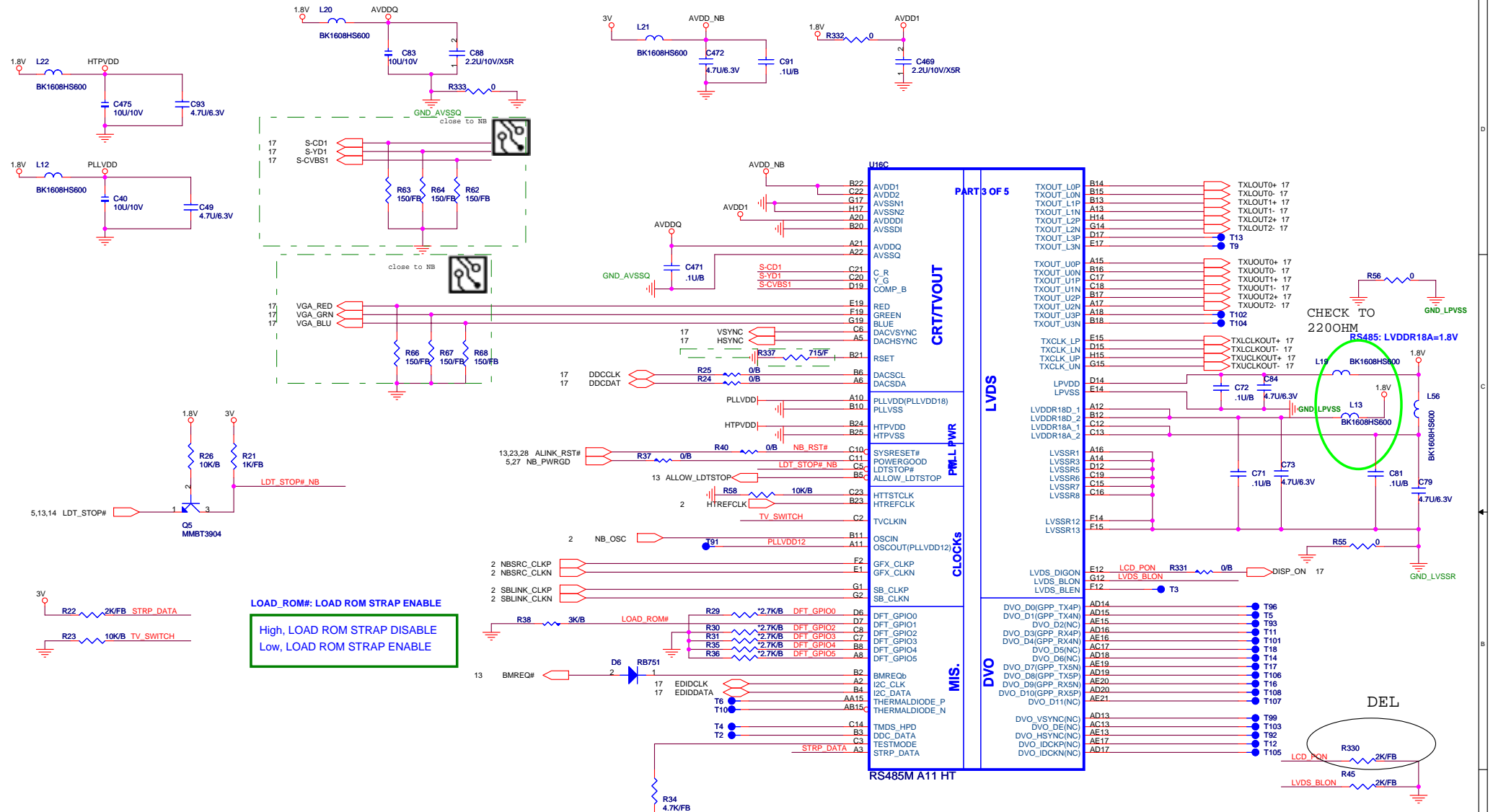
PCIE I/F GFX



PCIE I/F SB

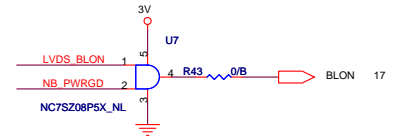
Place these caps close to connector





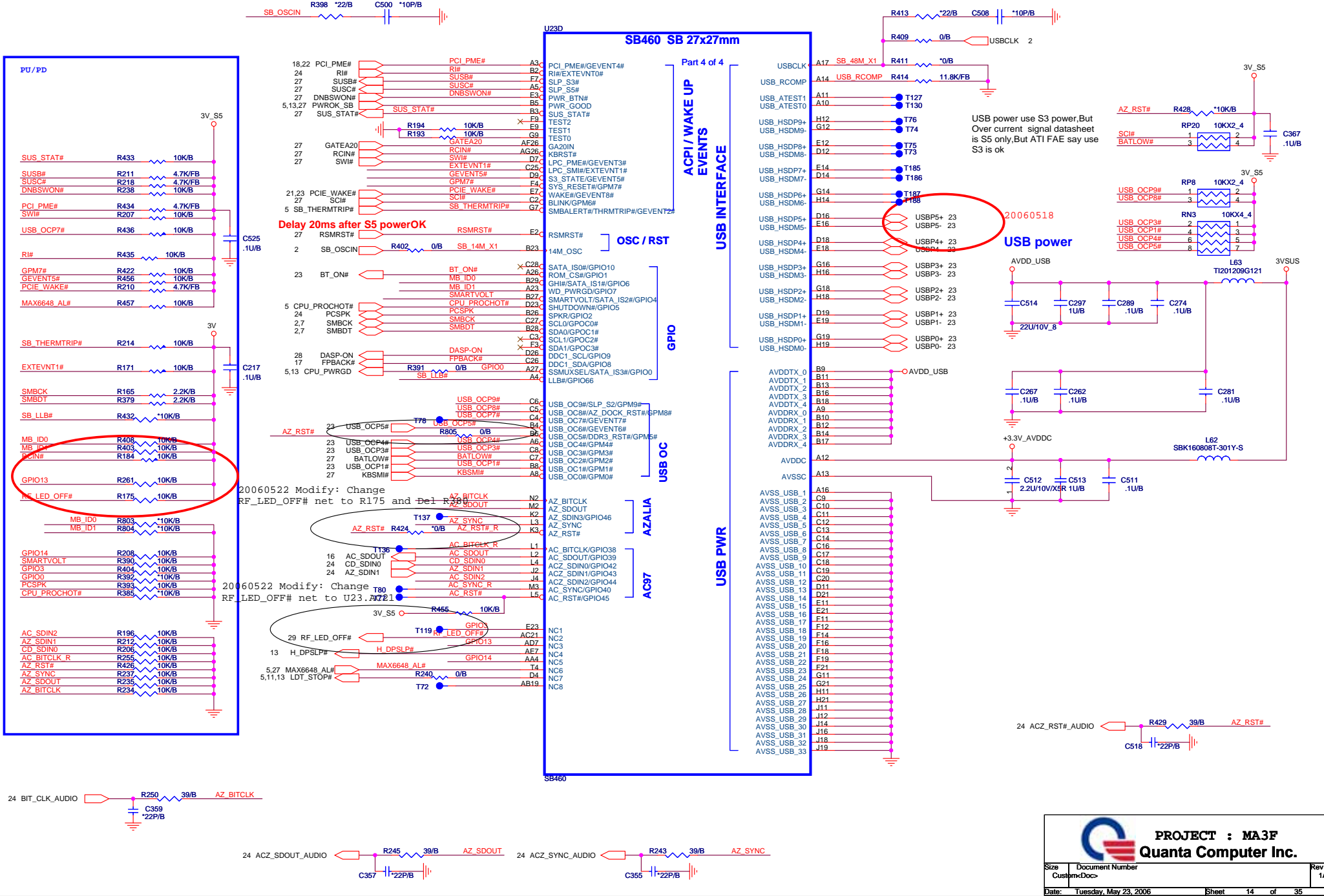
LOAD_ROM#: LOAD ROM STRAP ENABLE
 High, LOAD ROM STRAP DISABLE
 Low, LOAD ROM STRAP ENABLE

	RS485	RS690
OSCOU(A11)	OSCOU	PLLVDD12
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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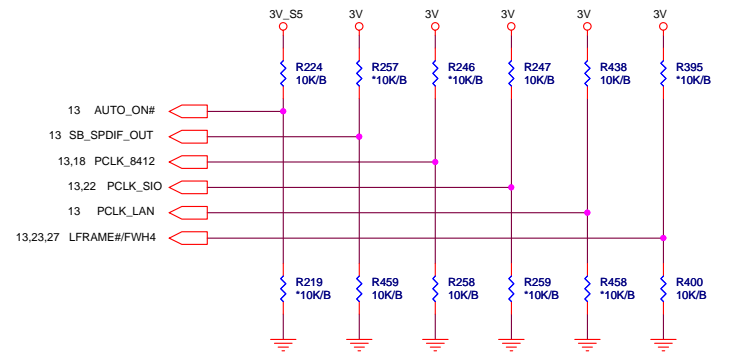
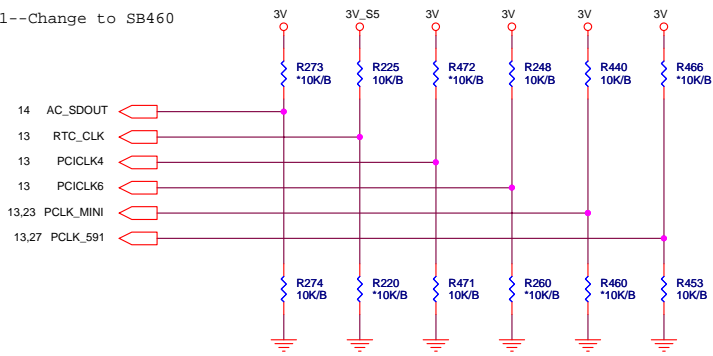
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Edison-11/01--Change to SB460



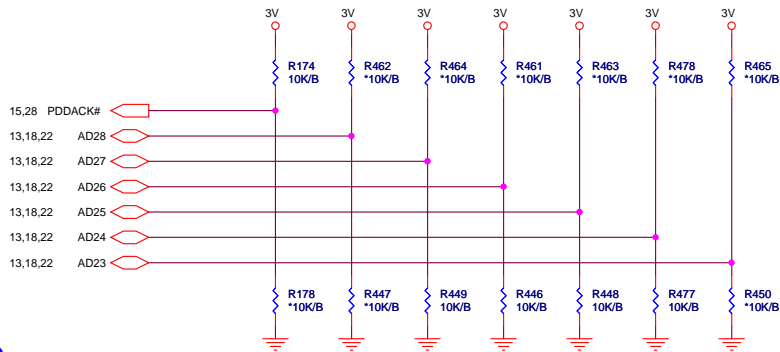
REQUIRED STRAPS

				PCLK_MINI	PCLK_591
PULL HIGH	AC_SDOUT	USE DEBUG STRAPS	INTERNAL RTC DEFAULT	PCI_CLK4 USE INT. PLL48	PCI_CLK6 CPU IF=K6
					ROM TYPE: H, H = PCI ROM L, L = LPC TYPE I ROM L, H = LPC TYPE II ROM
PULL LOW	AC_SDOUT	IGNORE DEBUG STRAPS DEFAULT	EXTERNAL RTC	USE EXT. 48MHZ DEFAULT	CPU IF=P4 DEFAULT
					L, L = FWH ROM NOTE: FOR SB460, PCI_CLK[8:7] ARE CONNECTED TO SUBSTRATE BALLS PCI_CLK[1:0]


		AUTO_ON#	SB_SPDIF_OUT	PCLK_8412	PCLK_SIO	PCLK_LAN	LFRAME#
PULL HIGH	ACPWRON	MANUAL PWR ON DEFAULT	SIO 24MHz	XTAL MODE NOT SUPPORTED	USB PHY POWERDOWN DISABLE DEFAULT	PCIE_CM_SET LOW DEFAULT	ENABLE THERMTRIP# DEFAULT
	PULL LOW	AUTO PWR ON	SIO 48MHz DEFAULT	48MHZ OSC MODE DEFAULT	USB PHY POWERDOWN ENABLE	PCIE_CM_SET HIGH	DISABLE THERMTRIP#

BIOS ENABLE AFTER STARTUP

DEBUG STRAPS



	PDDACK#	PCI_AD28	PCI_AD27	PCI_AD26	PCI_AD25	PCI_AD24	PCI_AD23
PULL HIGH	USE LONG RESET DEFAULT	Reserved	BYPASS PCI PLL	BYPASS ACPI BCLK	BYPASS IDE PLL	USE EEPROM PCIE STRAPS	Reserved
PULL LOW	USE SHORT RESET		USE PCI PLL DEFAULT	USE ACPI BCLK DEFAULT	USE IDE PLL DEFAULT	USE DEFAULT PCIE STRAPS DEFAULT	

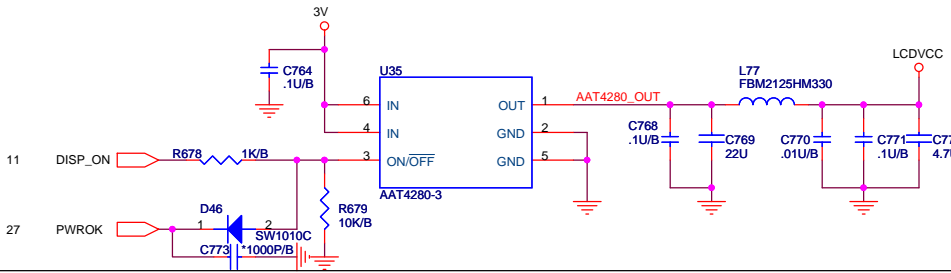


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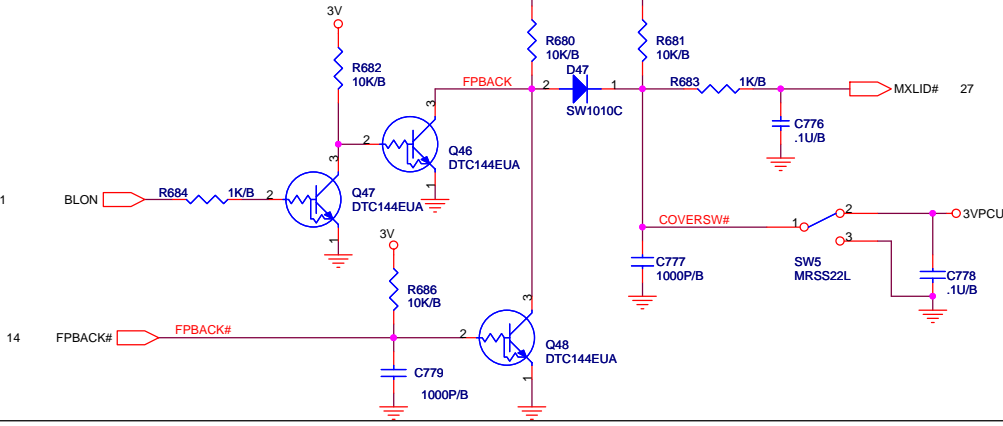
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SB-4

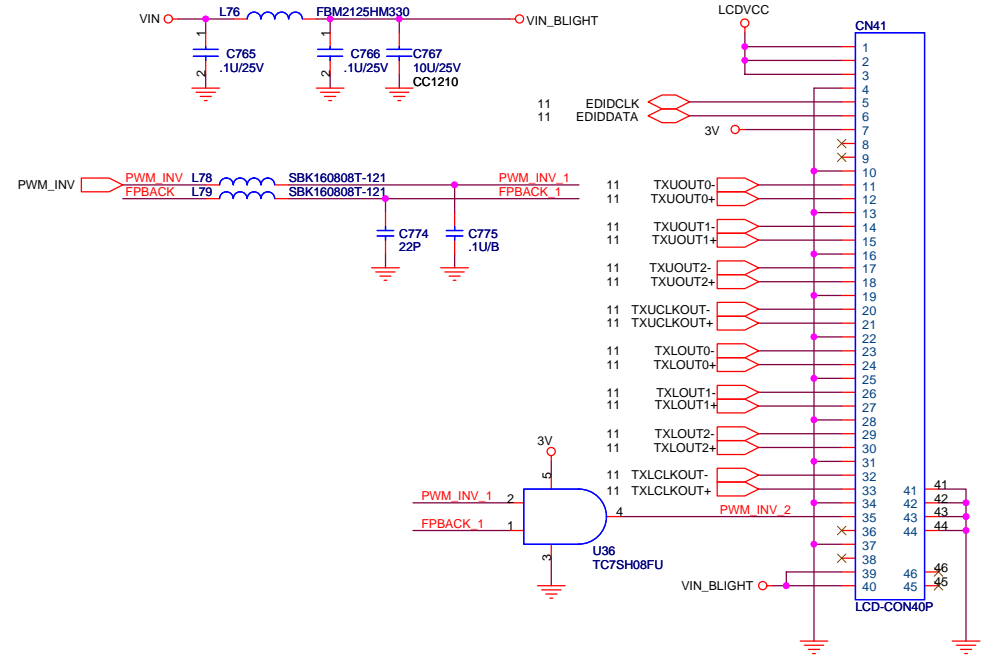
PANEL VCC CONTROL



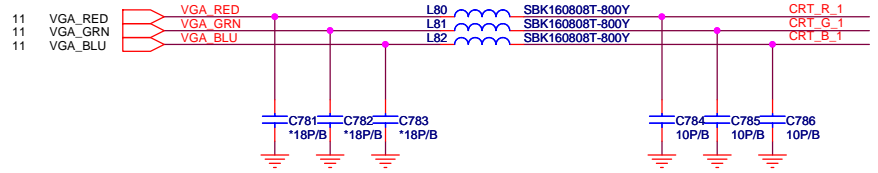
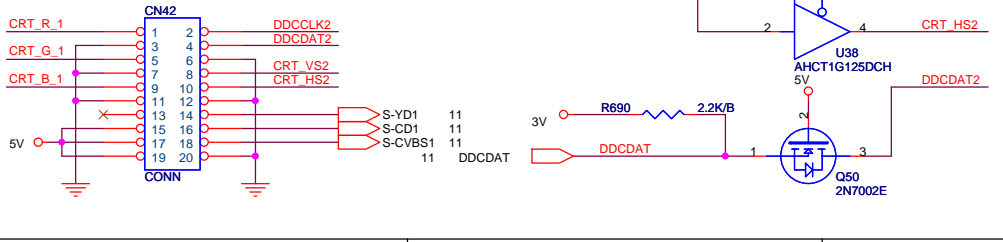
BACKLIGHT CONTROL



LCD CONNECTOR

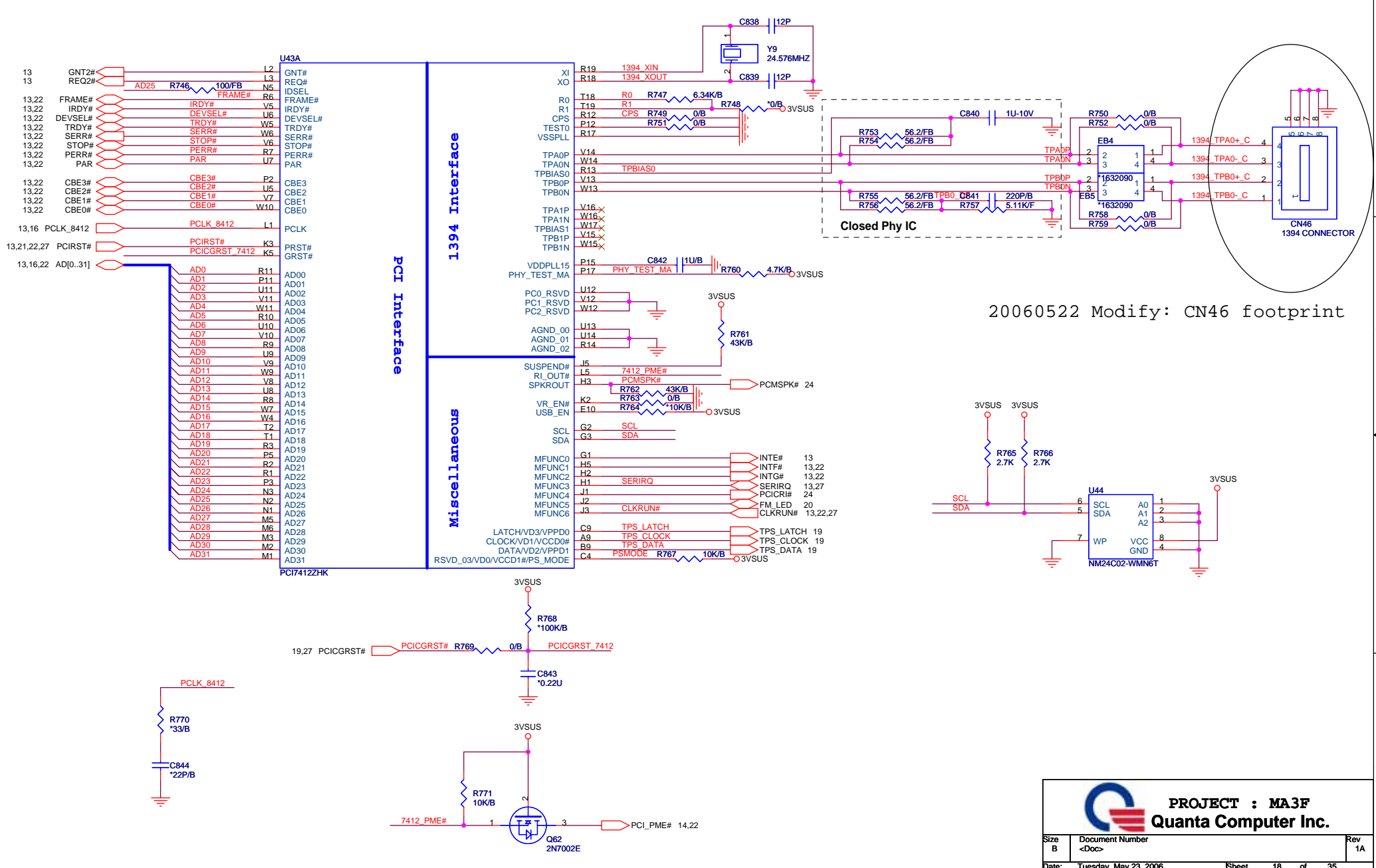


CRT PORT




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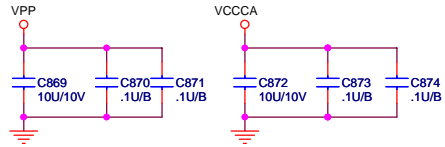
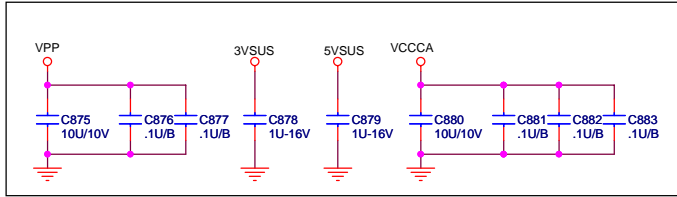
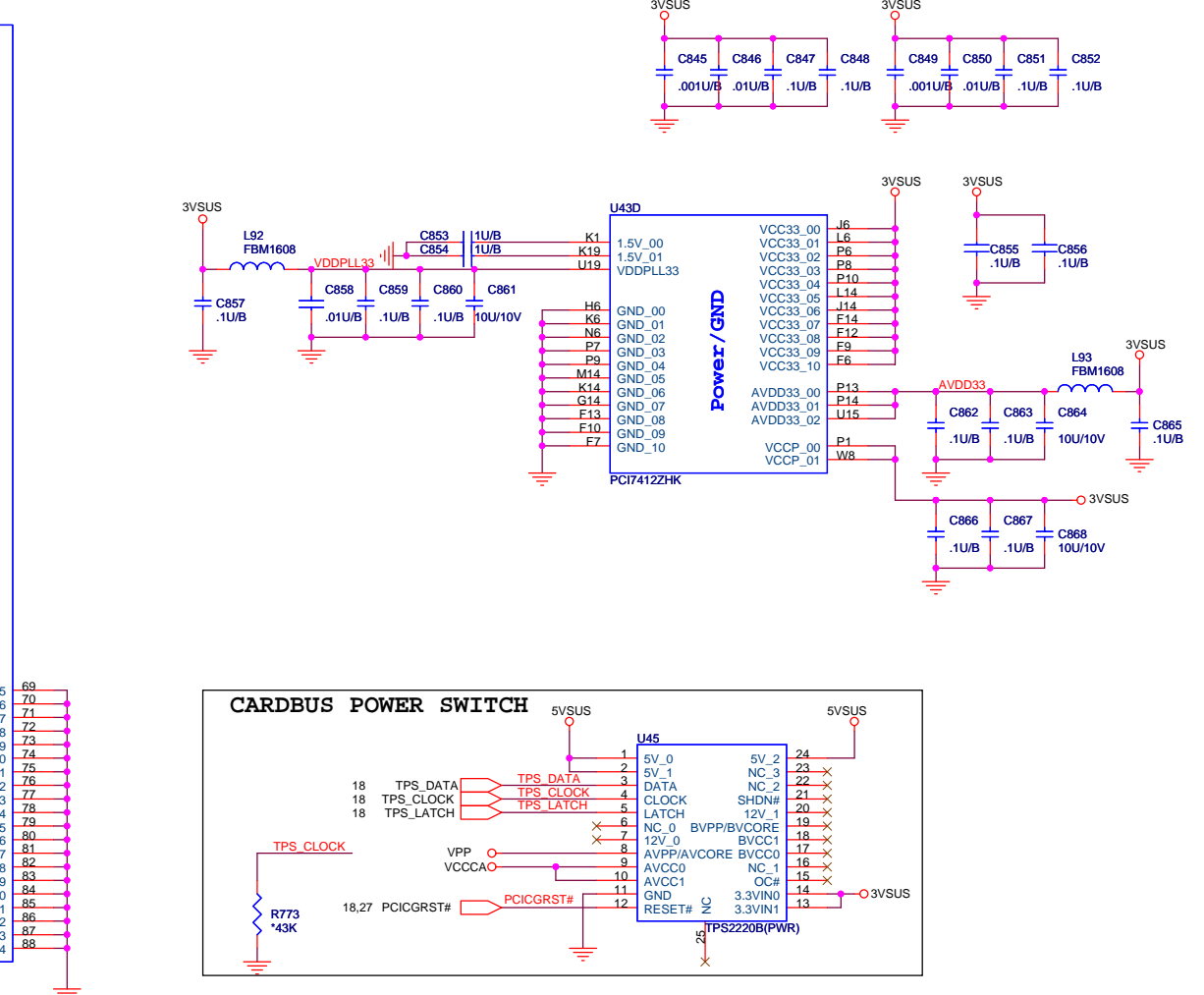
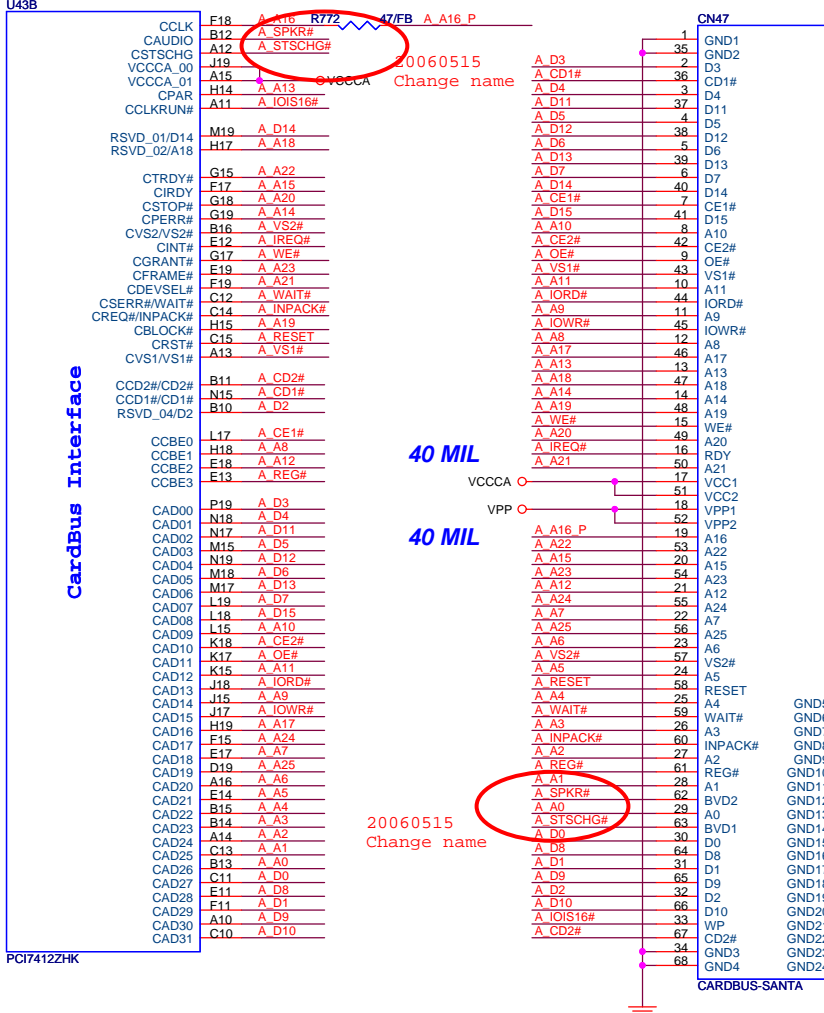


20060522 Modify: CN46 footprint



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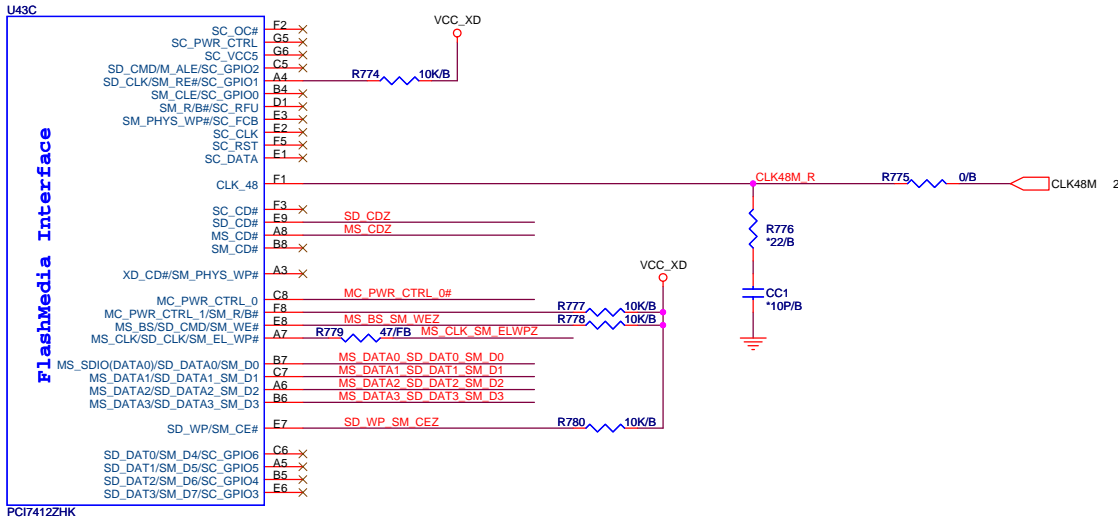
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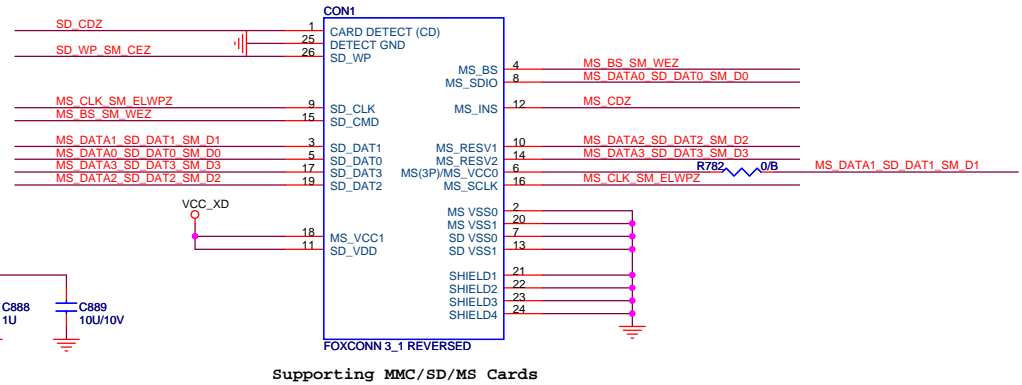
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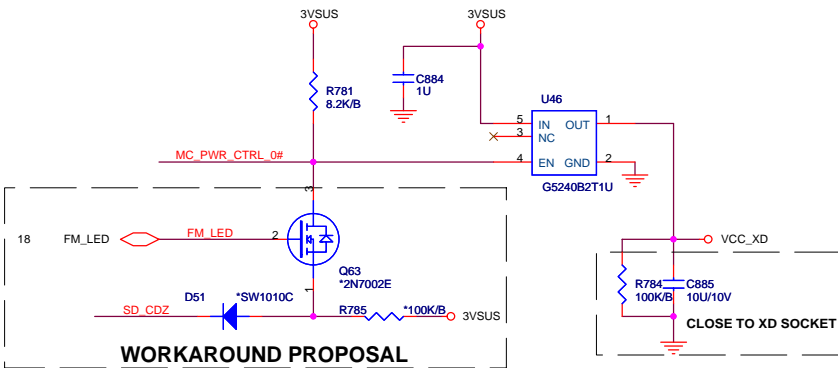
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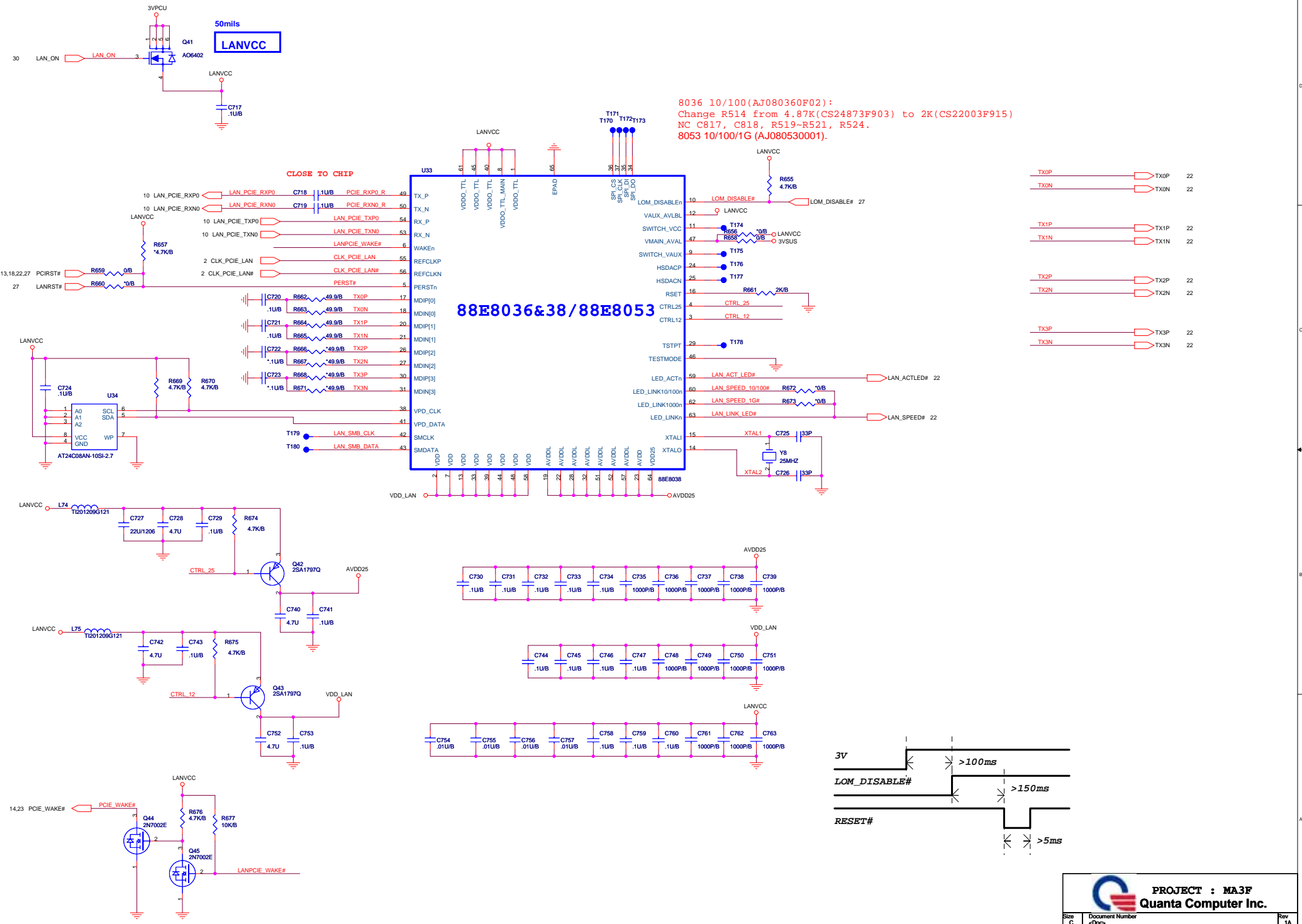


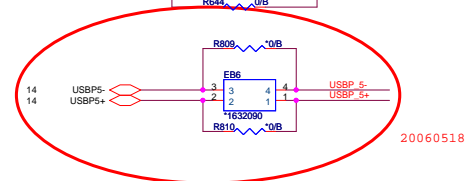
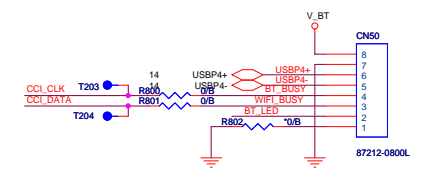
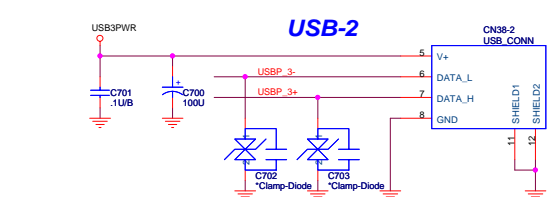
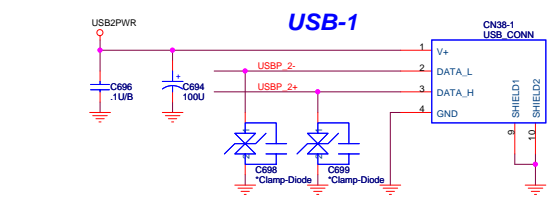
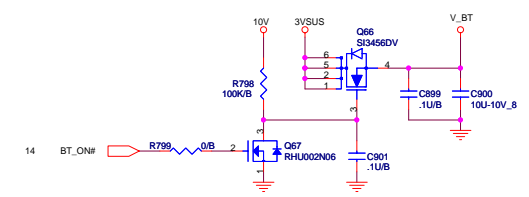
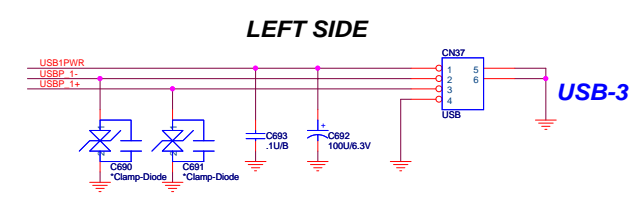
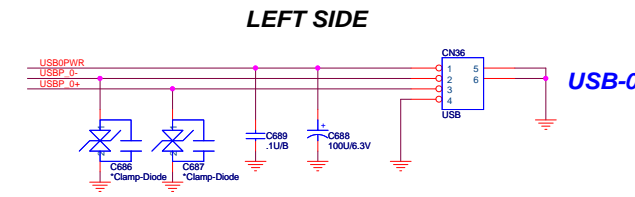
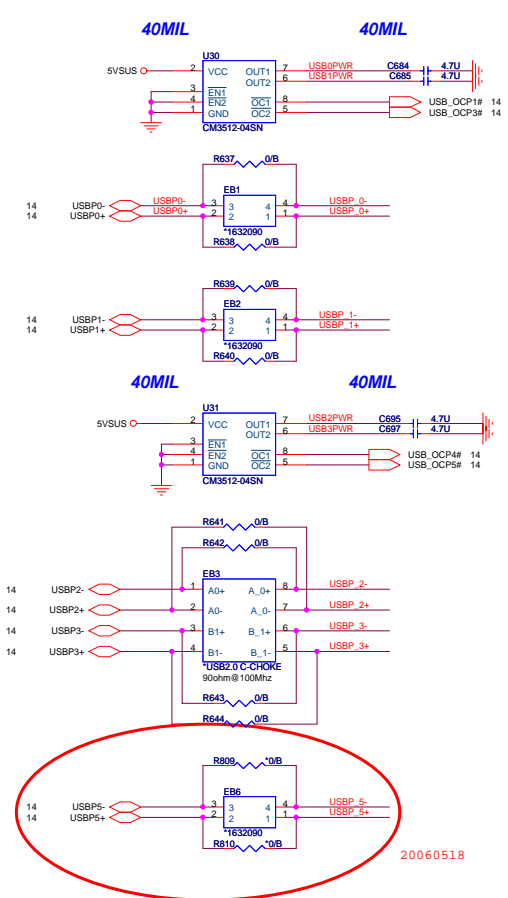
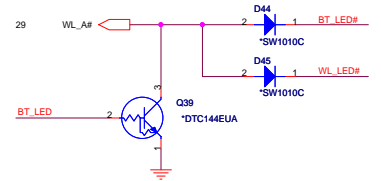
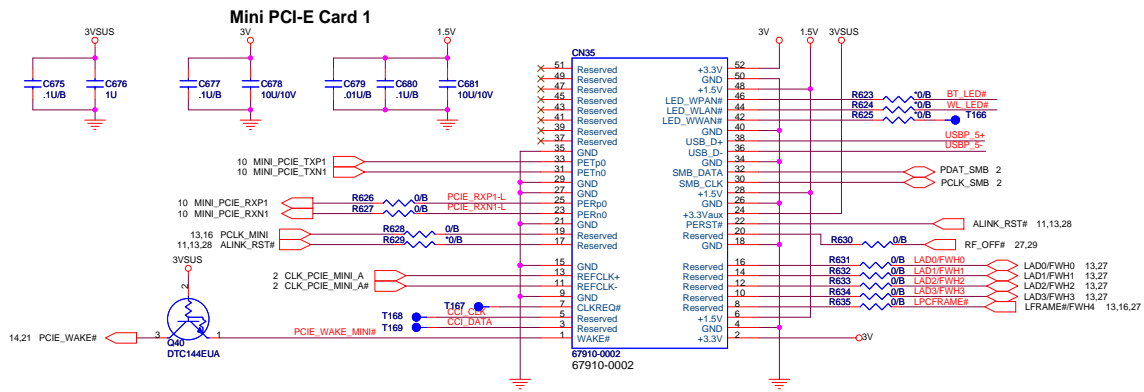
4 IN1 CARD READER

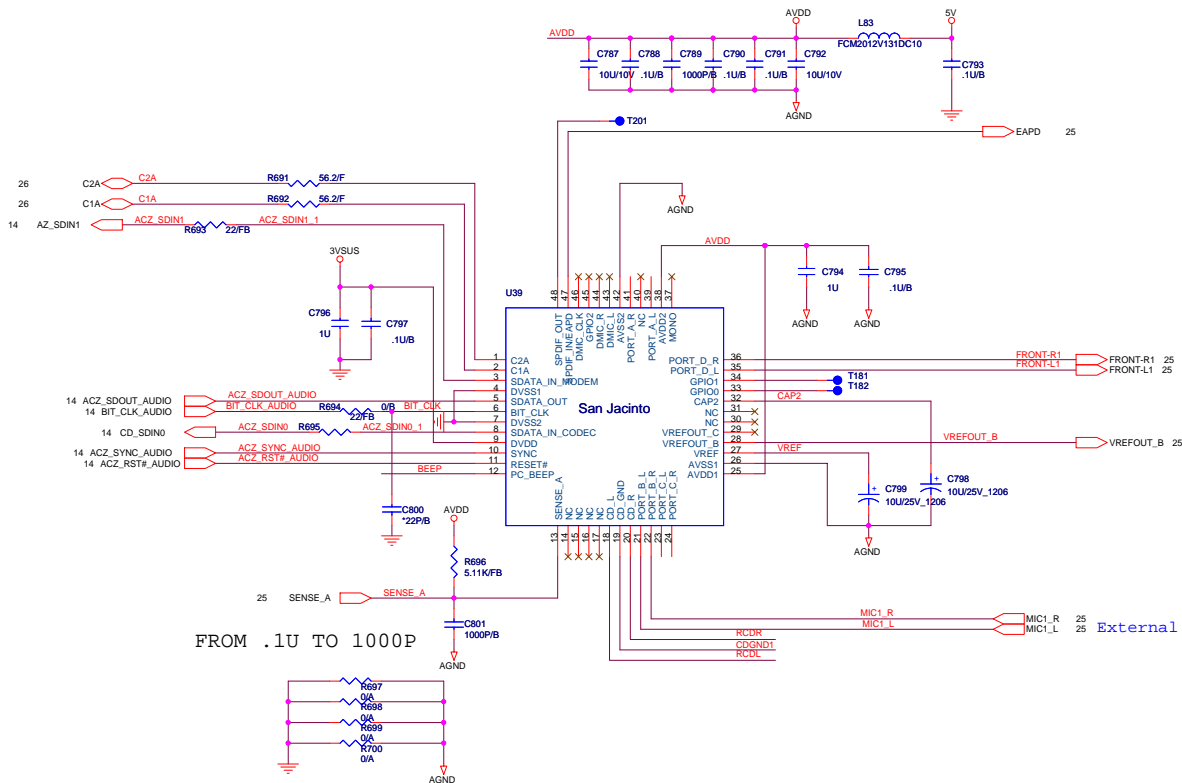


WORKAROUND PROPOSAL







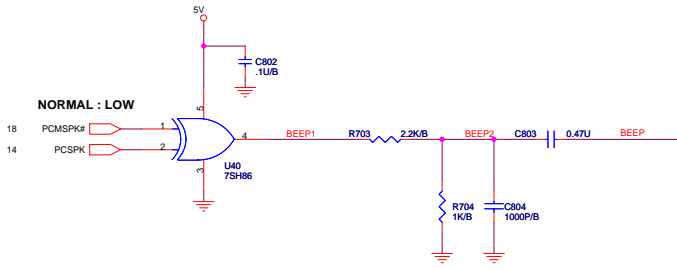


speakers

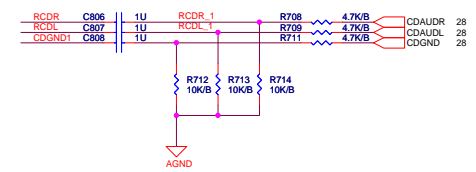
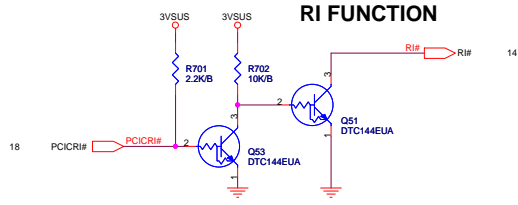
External mic

FROM .1U TO 1000P

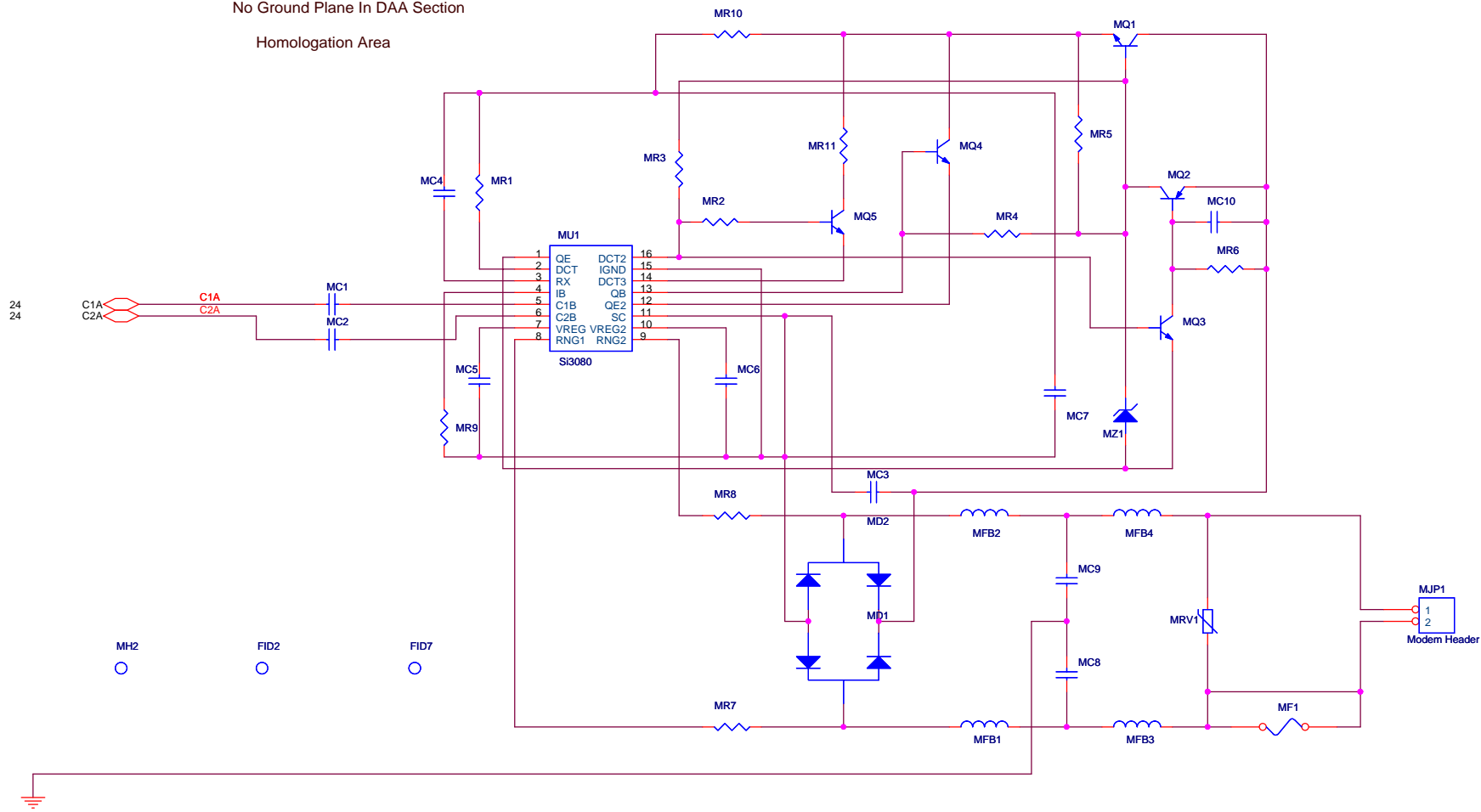
PC BEEP CONTROL



RI FUNCTION

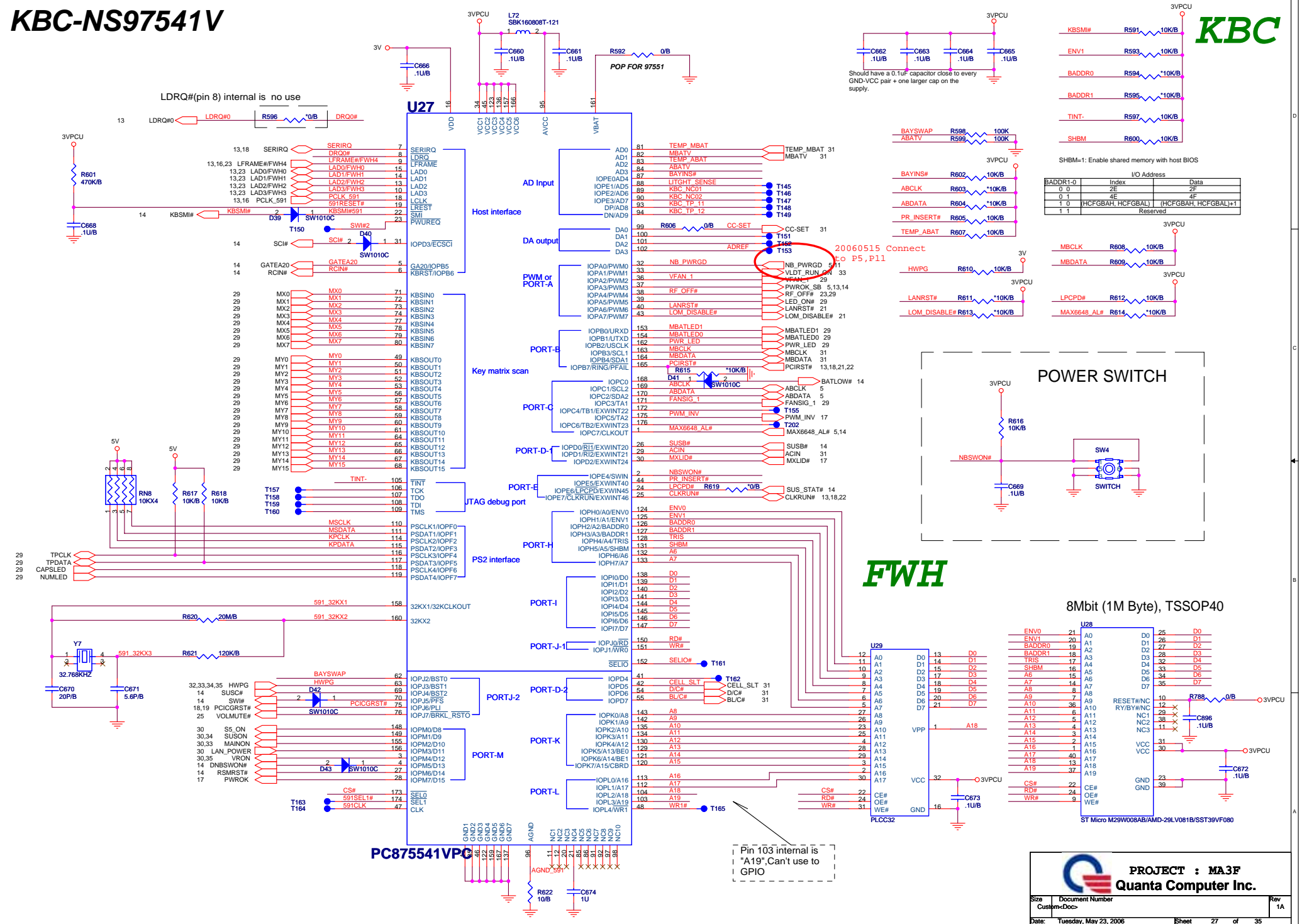


No Ground Plane In DAA Section
Homologation Area



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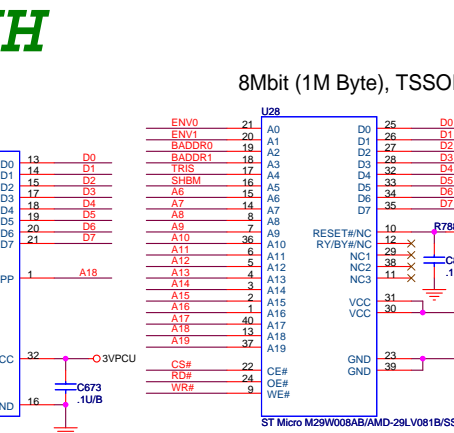
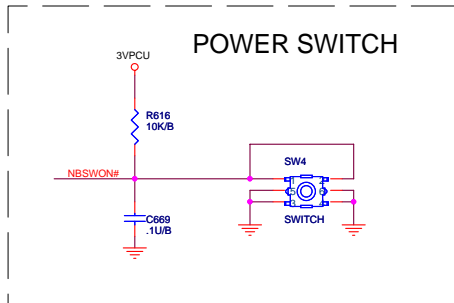
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Should have a 0.1uF capacitor close to every GND-VCC pair + one larger cap on the supply.

BADDR1-0	Index	Data
0 0	2E	2F
0 1	4E	4F
1 0	HCFGBAH, HCFGBAL	(HCFGBAH, HCFGBAL)+1
1 1	Reserved	

IO Address	Index	Data
BADDR1-0	2E	2F
0 0	4E	4F
1 0	HCFGBAH, HCFGBAL	(HCFGBAH, HCFGBAL)+1
1 1	Reserved	

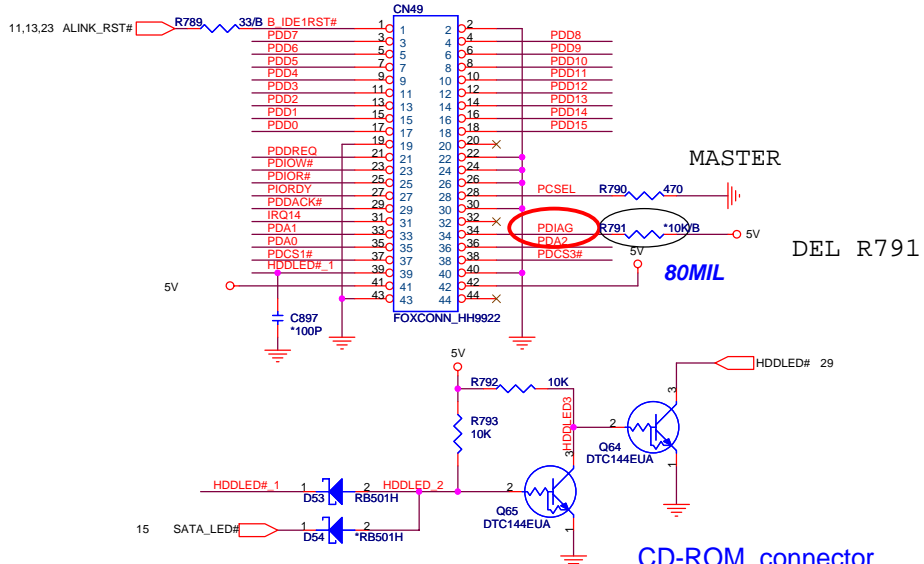


Pin 103 internal is "A19", Can't use to GPIO

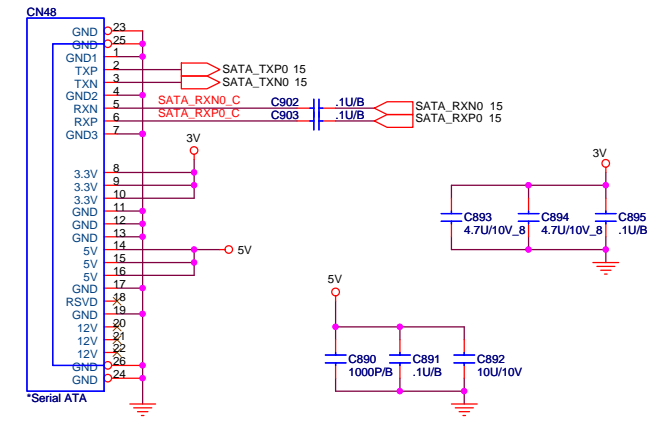
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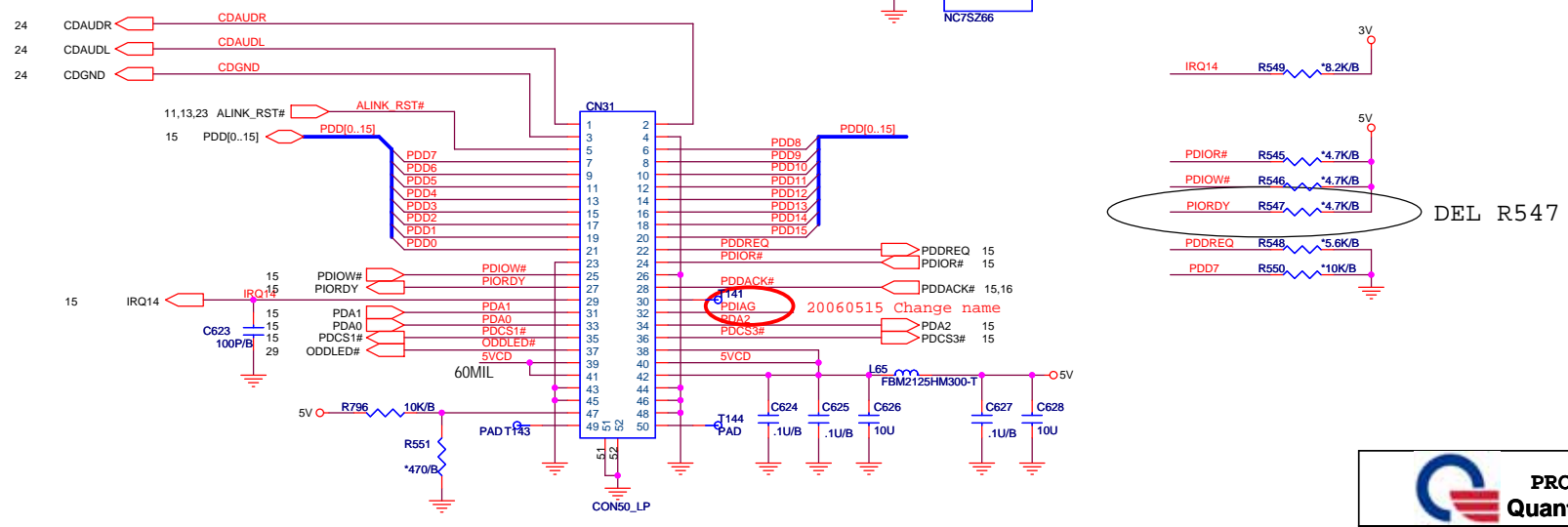
HDD CONNECTOR



SATA CONNECTOR



CD-ROM connector

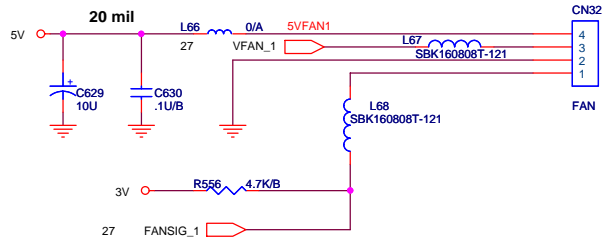


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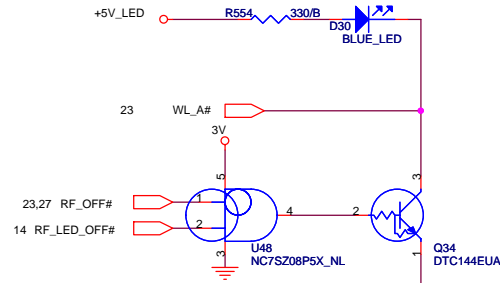
FAN OUT PWM CONNECTOR

THM



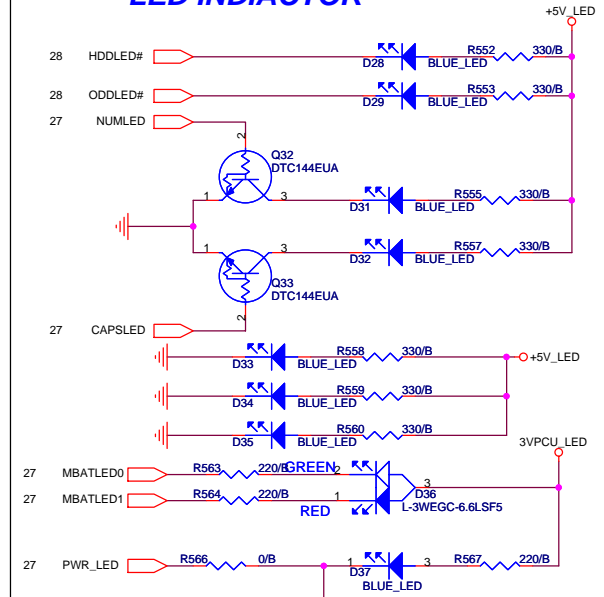
UIF

WIRELESS LED



UIF

LED INDIATOR

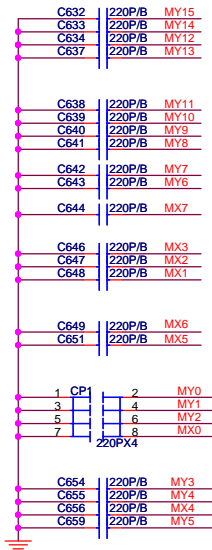
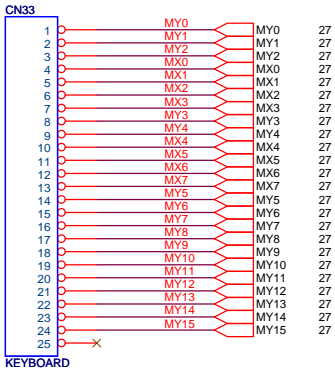


KEYBOARD

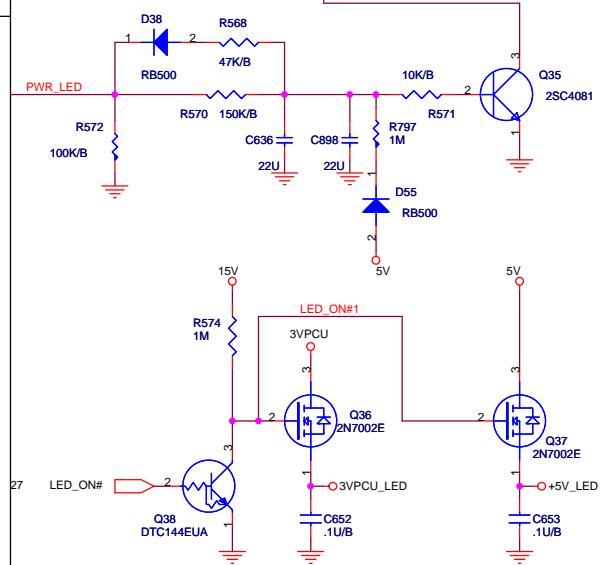
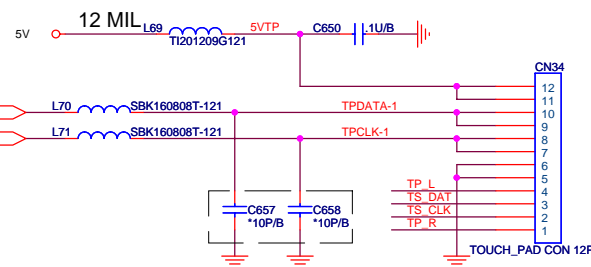
KBC

TPD

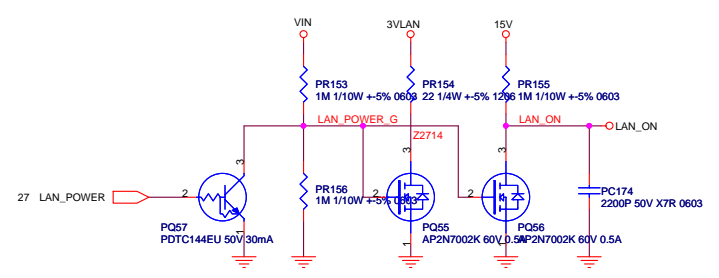
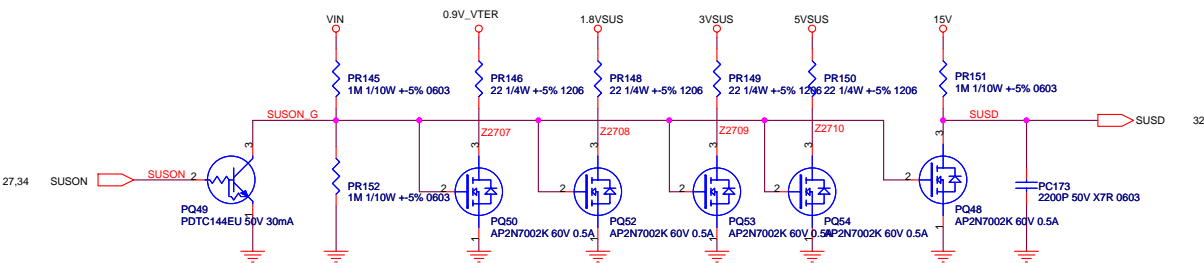
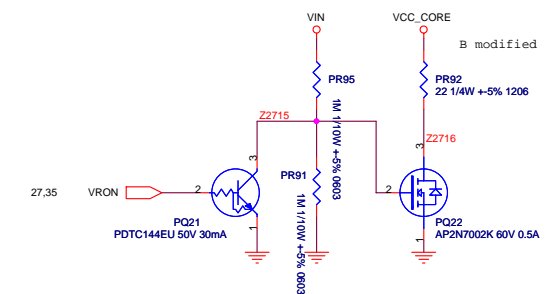
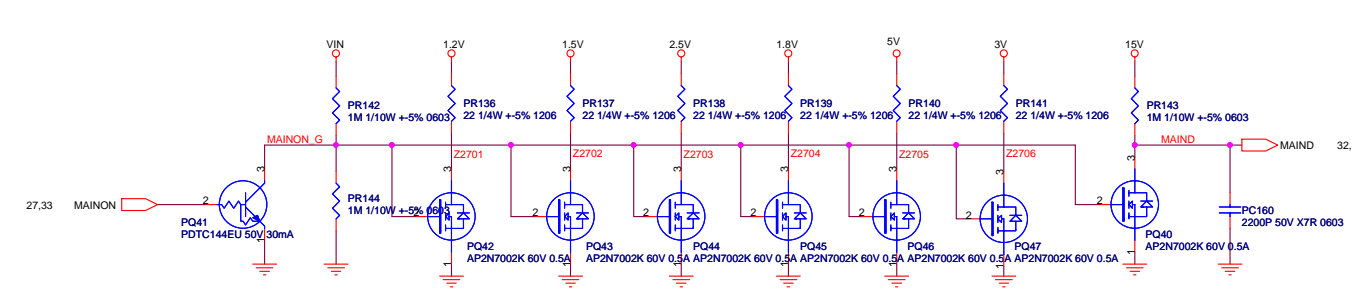
TOUCHPAD



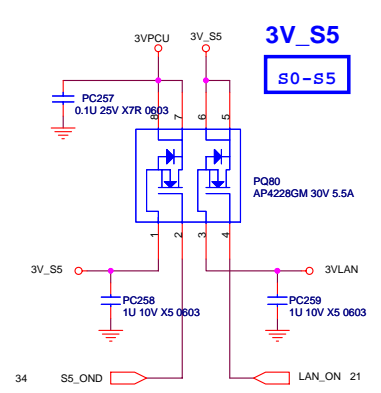
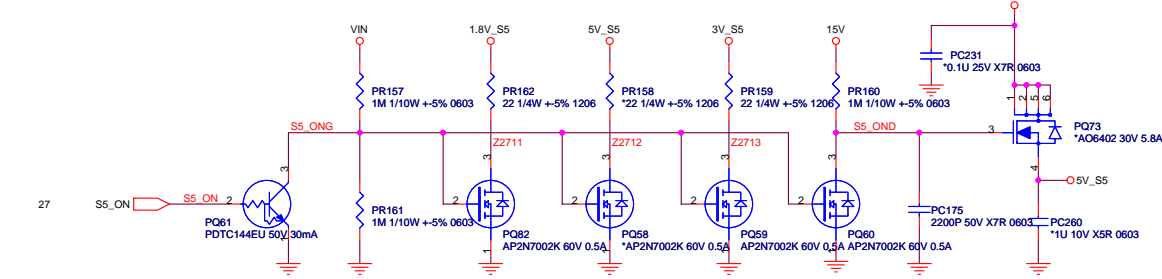
DFHS12FS238



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5V S5
S0-S5

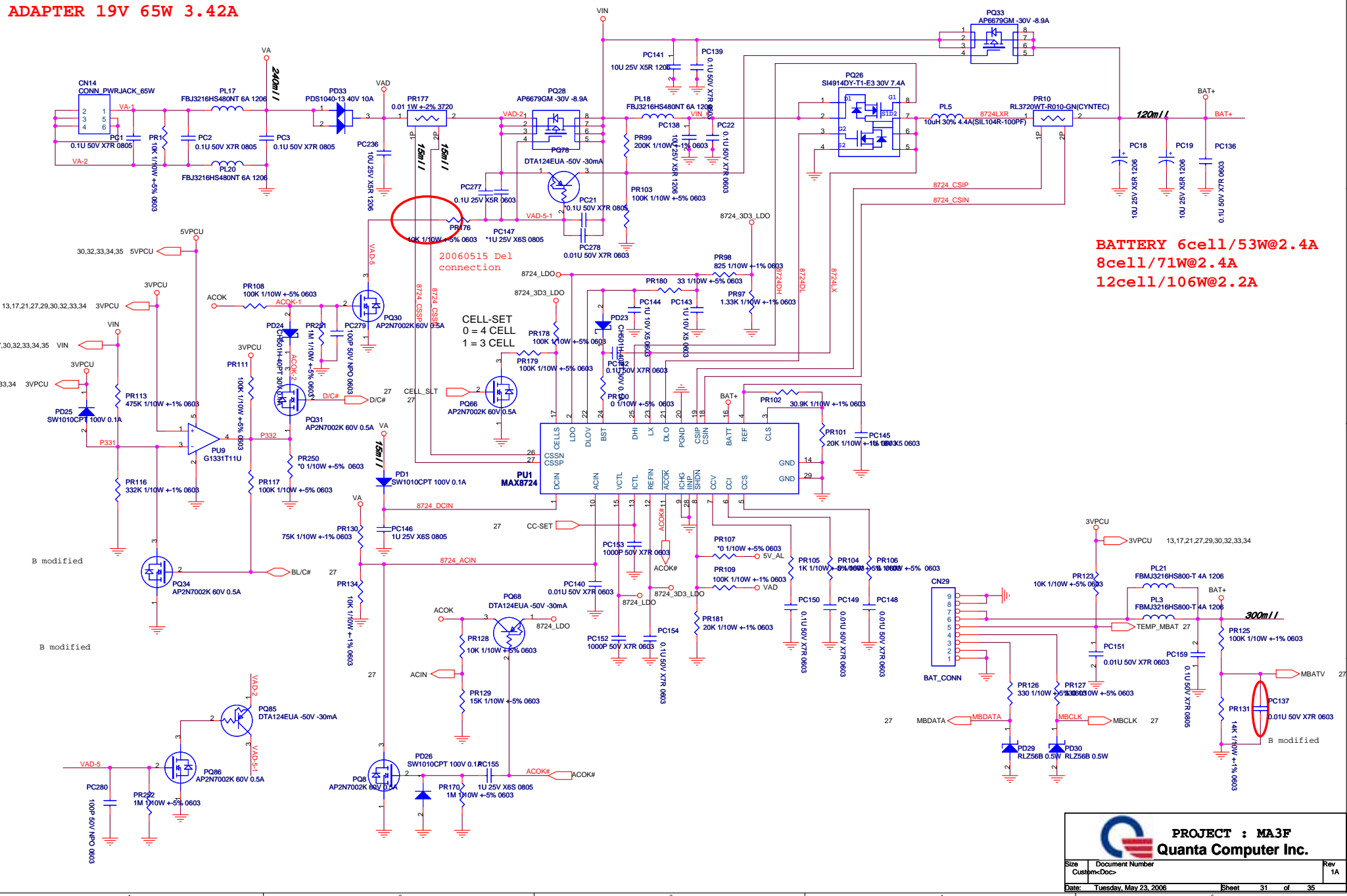


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BATTERY CHARGER

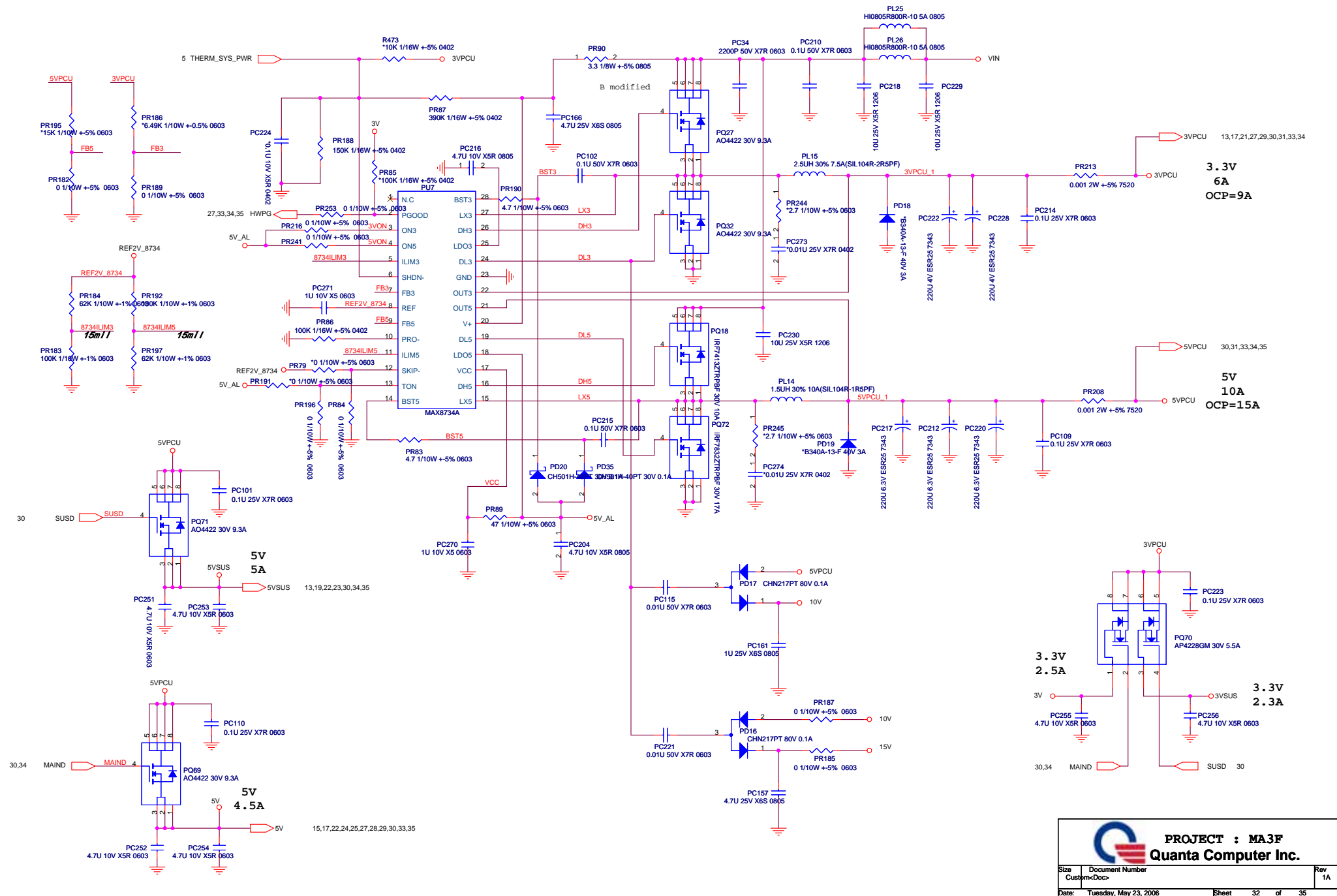
ADAPTER 19V 65W 3.42A



BATTERY 6cell/53W@2.4A
8cell/71W@2.4A
12cell/106W@2.2A

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**3.3V
6A
OCP=9A**

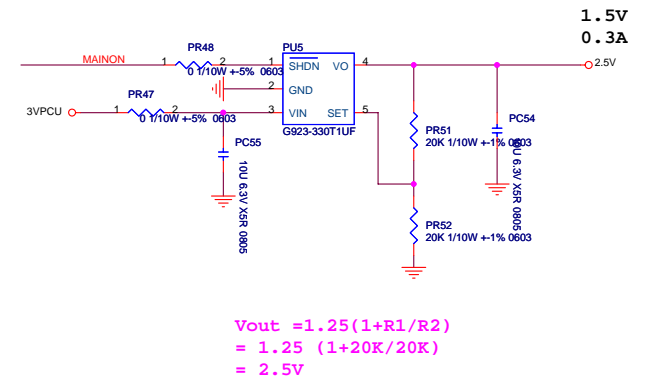
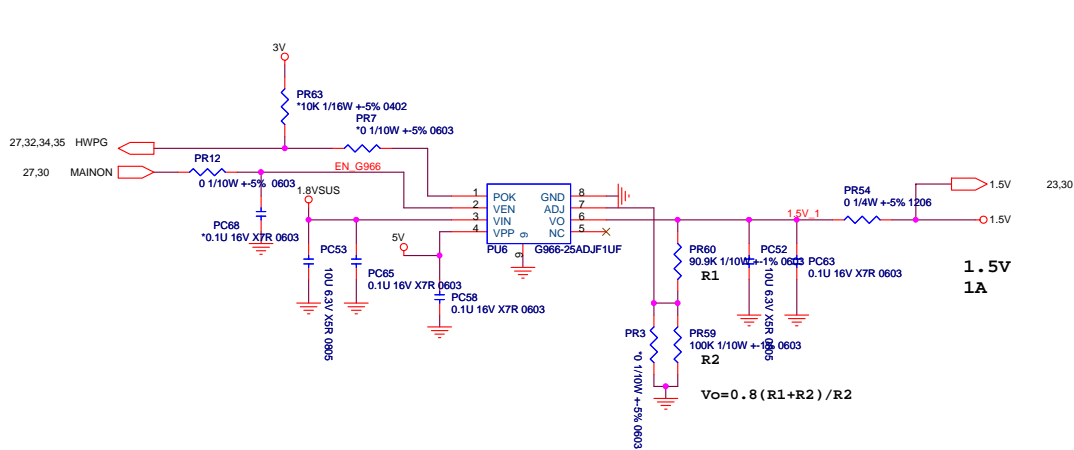
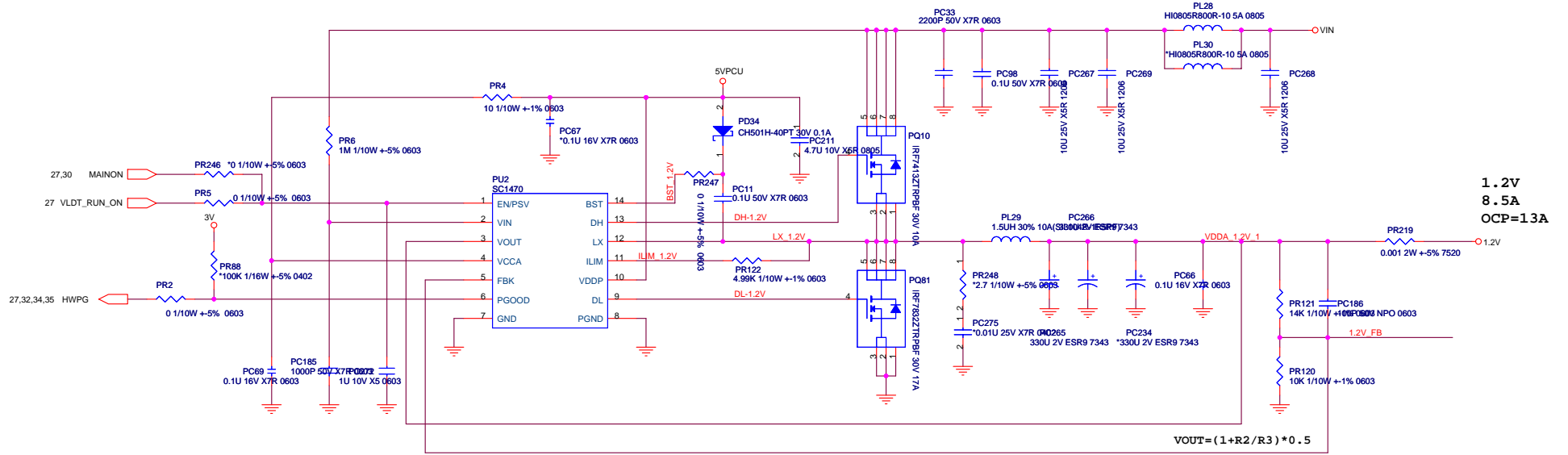
**5V
10A
OCP=15A**

**3.3V
2.5A**

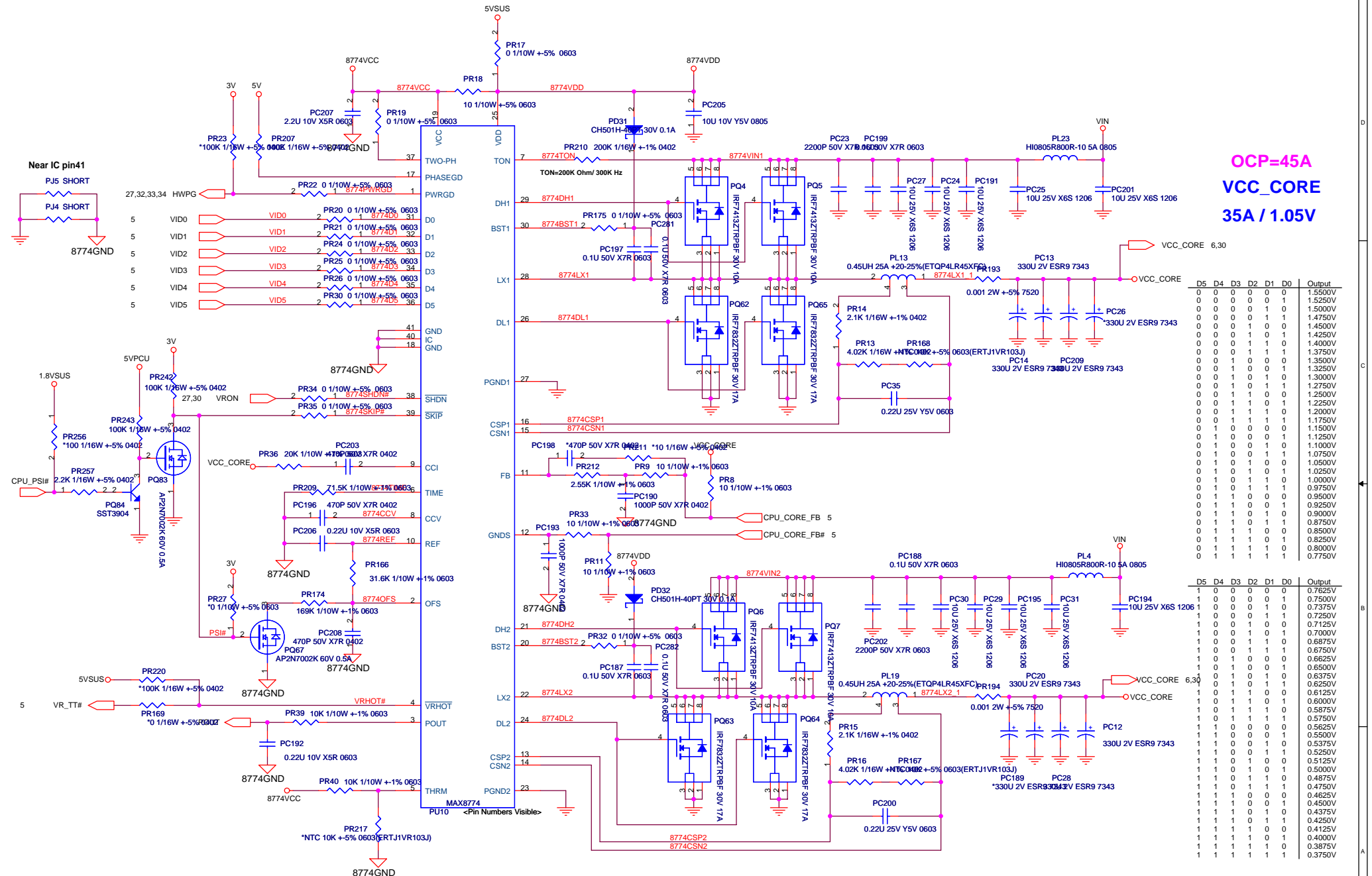
**3.3V
2.3A**

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OCP=45A
 VCC_CORE
 35A / 1.05V

D5	D4	D3	D2	D1	D0	Output
0	0	0	0	0	0	1.5500V
0	0	0	0	0	1	1.5250V
0	0	0	0	0	1	1.5000V
0	0	0	0	0	1	1.4750V
0	0	0	0	0	1	1.4500V
0	0	0	0	0	1	1.4250V
0	0	0	0	0	1	1.4000V
0	0	0	0	0	1	1.3750V
0	0	0	0	0	1	1.3500V
0	0	0	0	0	1	1.3250V
0	0	0	0	0	1	1.3000V
0	0	0	0	0	1	1.2750V
0	0	0	0	0	1	1.2500V
0	0	0	0	0	1	1.2250V
0	0	0	0	0	1	1.2000V
0	0	0	0	0	1	1.1750V
0	0	0	0	0	1	1.1500V
0	0	0	0	0	1	1.1250V
0	0	0	0	0	1	1.1000V
0	0	0	0	0	1	1.0750V
0	0	0	0	0	1	1.0500V
0	0	0	0	0	1	1.0250V
0	0	0	0	0	1	1.0000V
0	0	0	0	0	1	0.9750V
0	0	0	0	0	1	0.9500V
0	0	0	0	0	1	0.9250V
0	0	0	0	0	1	0.9000V
0	0	0	0	0	1	0.8750V
0	0	0	0	0	1	0.8500V
0	0	0	0	0	1	0.8250V
0	0	0	0	0	1	0.8000V
0	0	0	0	0	1	0.7750V

D5	D4	D3	D2	D1	D0	Output
1	0	0	0	0	0	0.7625V
1	0	0	0	0	0	0.7500V
1	0	0	0	0	1	0.7375V
1	0	0	0	0	1	0.7250V
1	0	0	0	0	1	0.7125V
1	0	0	0	0	1	0.7000V
1	0	0	0	0	1	0.6875V
1	0	0	0	0	1	0.6750V
1	0	0	0	0	1	0.6625V
1	0	0	0	0	1	0.6500V
1	0	0	0	0	1	0.6375V
1	0	0	0	0	1	0.6250V
1	0	0	0	0	1	0.6125V
1	0	0	0	0	1	0.6000V
1	0	0	0	0	1	0.5875V
1	0	0	0	0	1	0.5750V
1	0	0	0	0	1	0.5625V
1	0	0	0	0	1	0.5500V
1	0	0	0	0	1	0.5375V
1	0	0	0	0	1	0.5250V
1	0	0	0	0	1	0.5125V
1	0	0	0	0	1	0.5000V
1	0	0	0	0	1	0.4875V
1	0	0	0	0	1	0.4750V
1	0	0	0	0	1	0.4625V
1	0	0	0	0	1	0.4500V
1	0	0	0	0	1	0.4375V
1	0	0	0	0	1	0.4250V
1	0	0	0	0	1	0.4125V
1	0	0	0	0	1	0.4000V
1	0	0	0	0	1	0.3875V
1	0	0	0	0	1	0.3750V

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