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MS-7174H1

Version 0D

Intel (R) Grantsdale (GMCH) + ICH6 Chipset
Intel Prescott LGA775 Processor

CPU:

Intel Prescott Celeron D 350J (3.2GHz), P4 550J (3.4GHz)

System Chipset:

**Intel Grantsdale - GMCH (North Bridge 915GV or 910GE)
Intel ICH6 (South Bridge)**

On Board Chipset:

**BIOS -- FWH FLASH 4Mb
AC97 AUDIO -- ALC880
LPC Super I/O -- SMSC47M997
LAN -- Intel 82562GT
1394 -- VIA VT-6307
CLOCK -- Cypress CY28416**

Main Memory:

2 CHANNEL DDR II * 1 (Max 2GB)

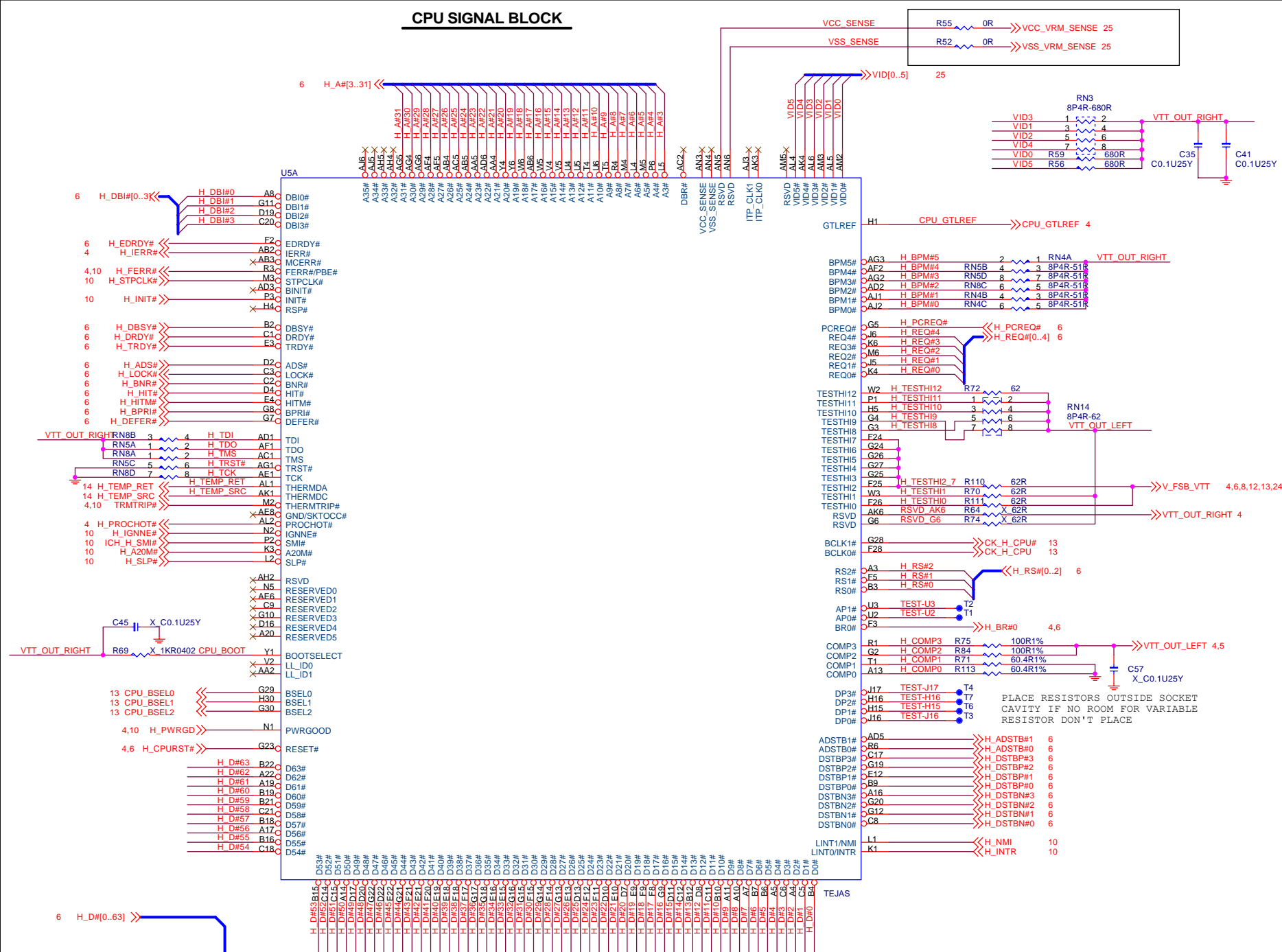
Expansion Slots:

PCI 2.3 SLOT * 3

Intersil PWM:

Controller: INTERSIL 6566 3PHASE

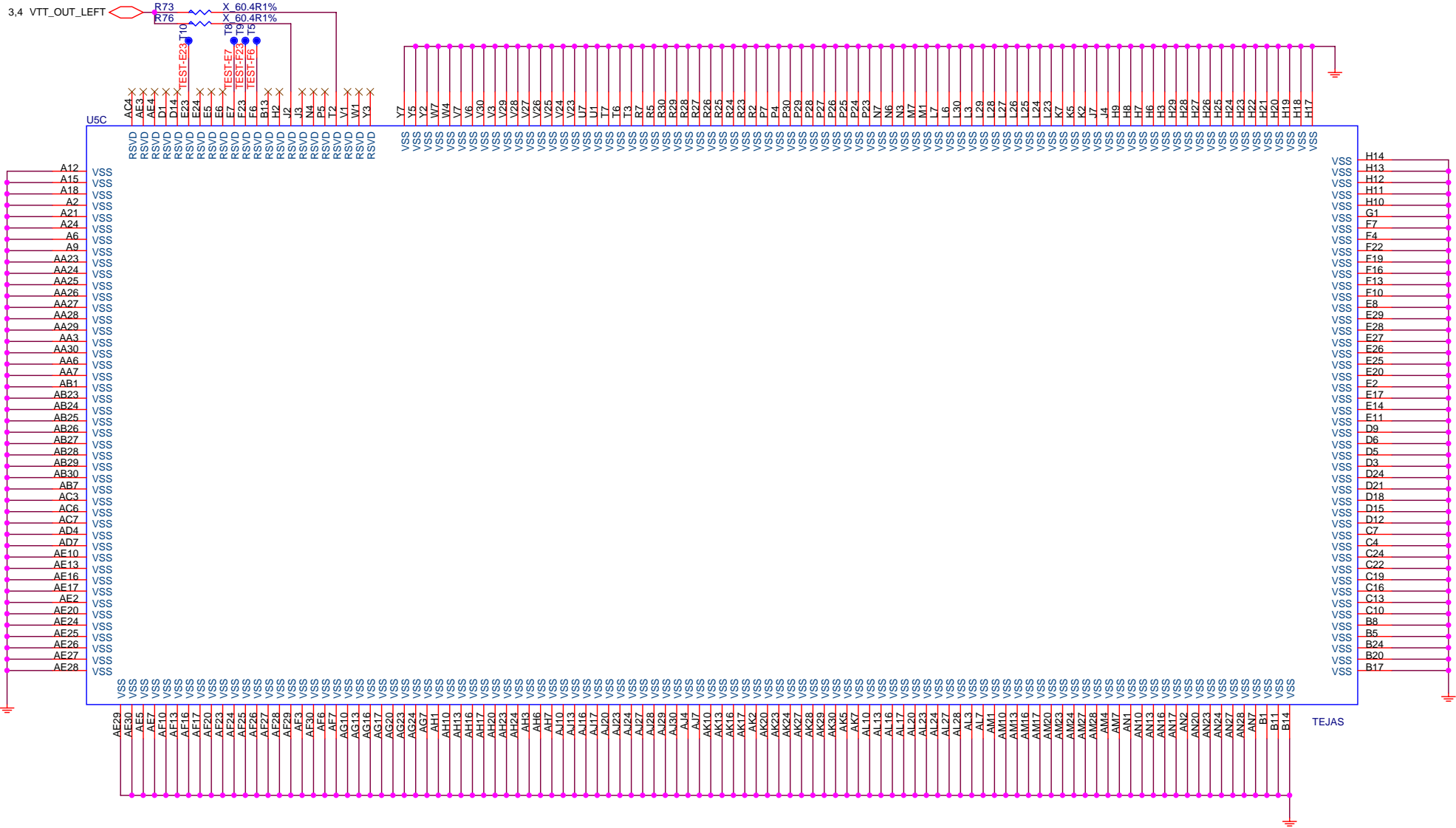
CPU SIGNAL BLOCK

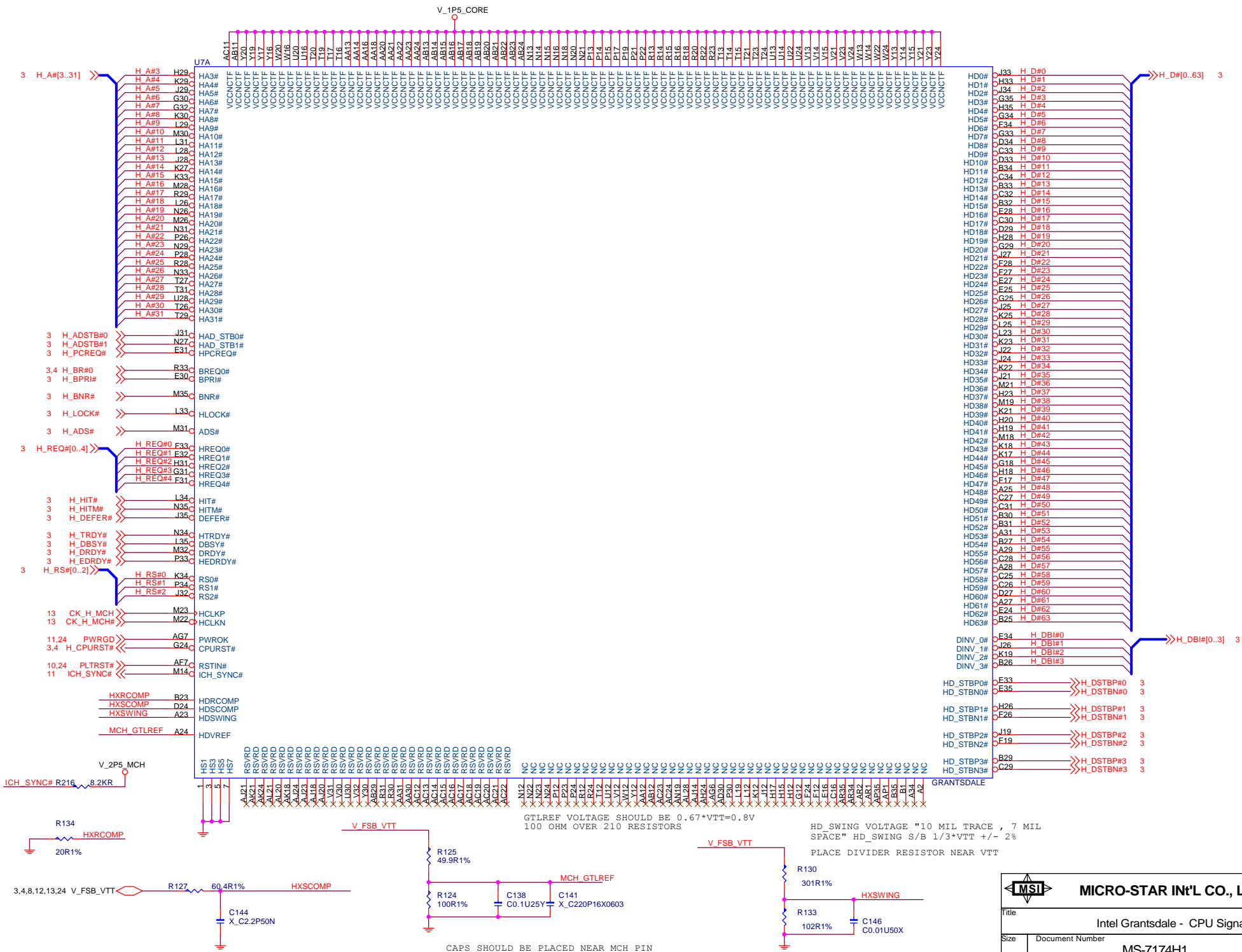


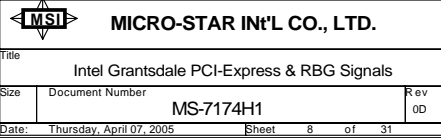
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Intel LGA775 CPU - Signals			
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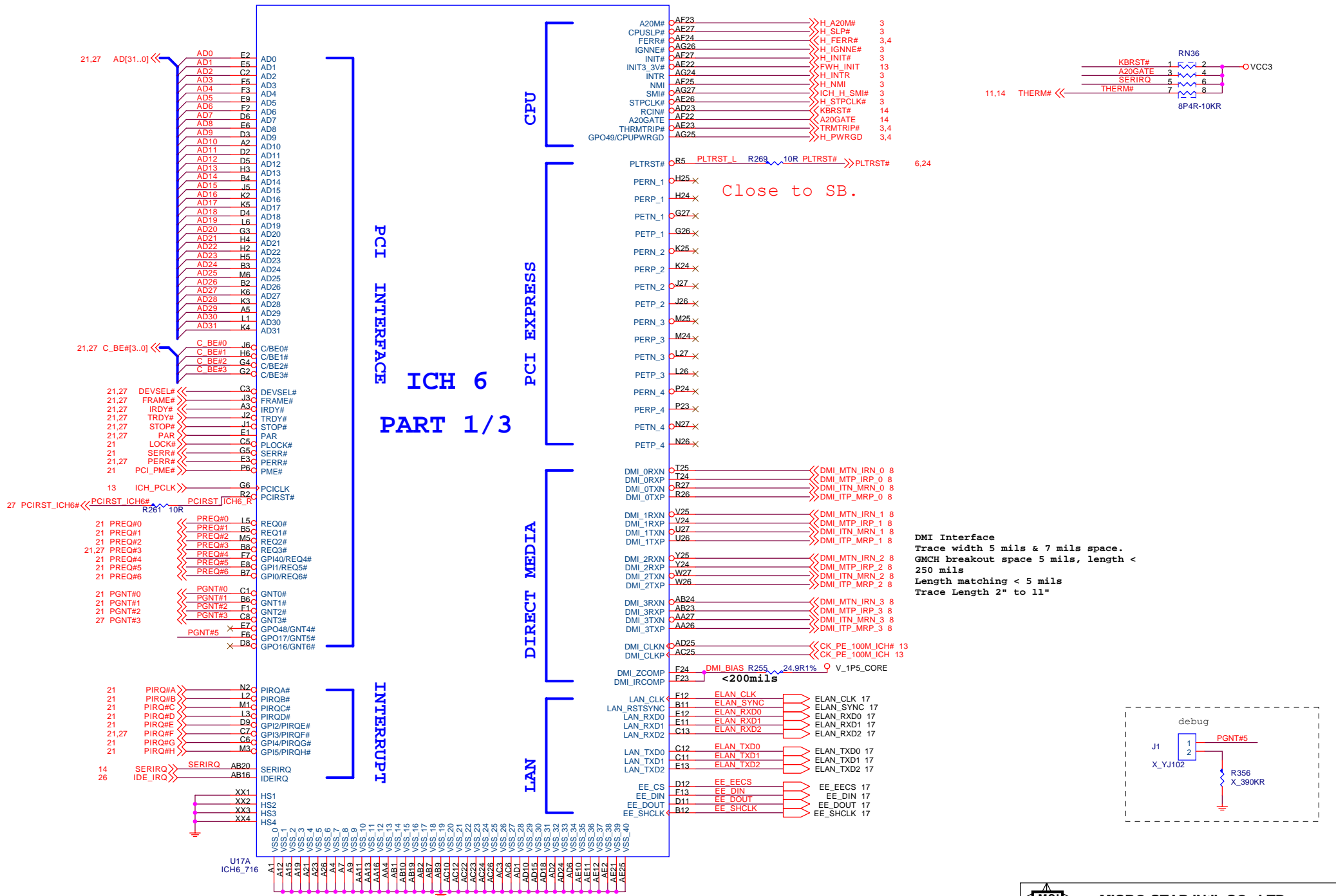
3,4 VTT_OUT_LEFT

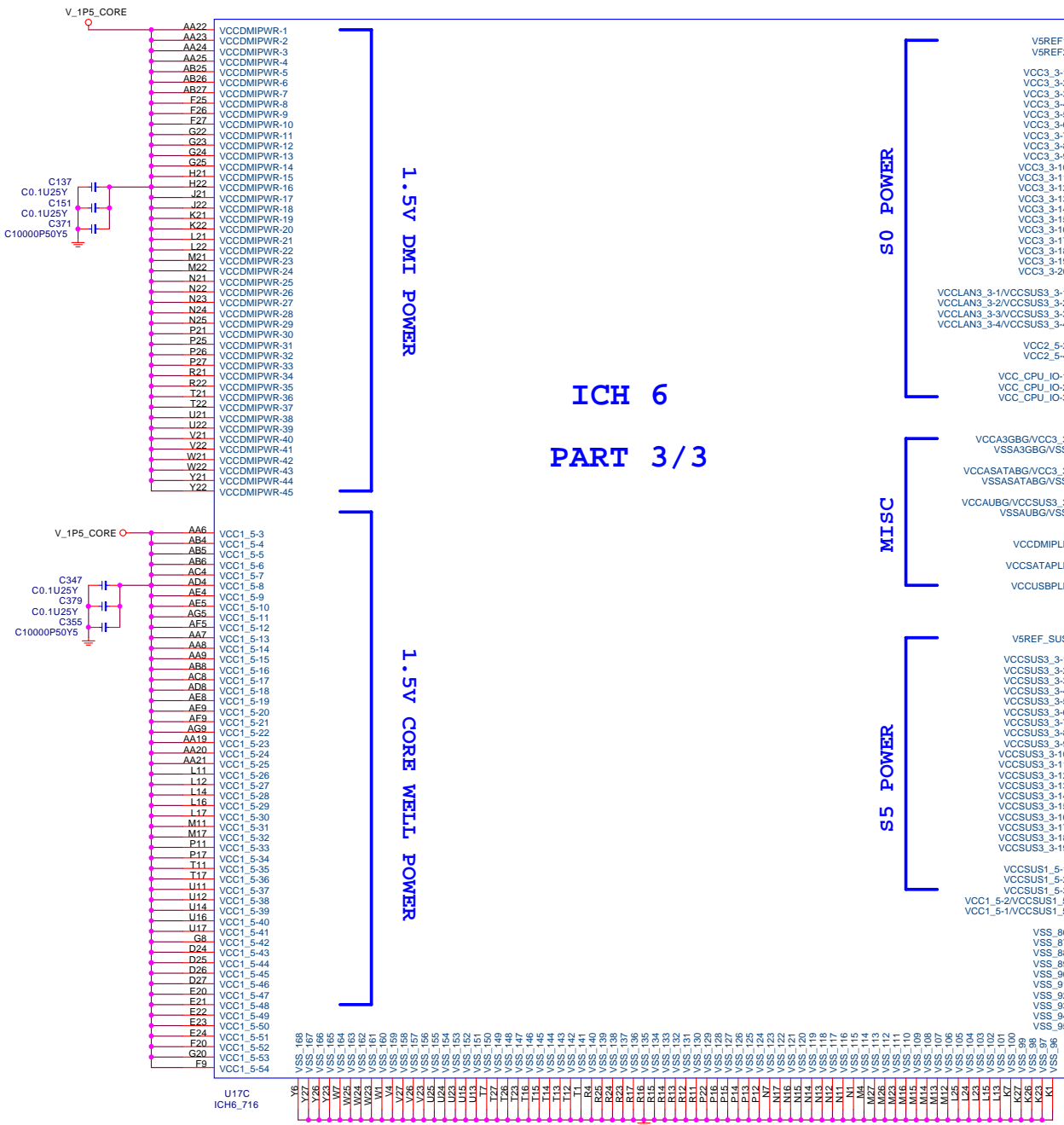






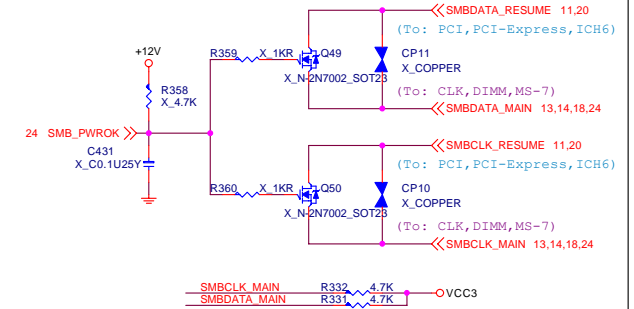




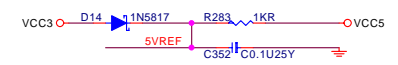


ICH 6 PART 3/3

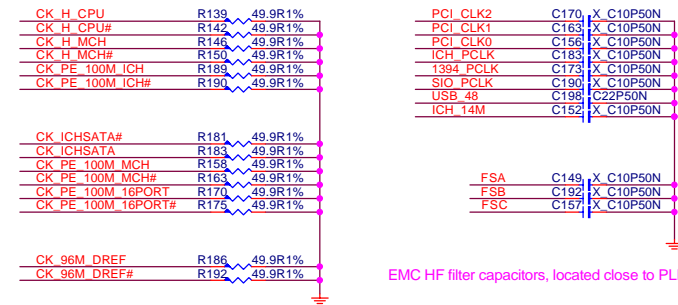
SM BUS ISOLATION



5VREF Sequencing Circuit



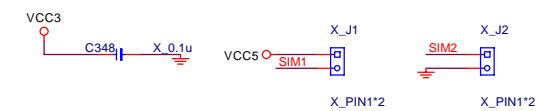
Trace length less than 0.5inches



The schematic diagram illustrates the electrical connections for the CPU board. It features a central vertical bus structure with several components and signal lines:

- Top Section:** A purple line labeled V_FSB_VTT with a value of 3, 4, 6, 8, 12, 24. It connects to a vertical stack of pins labeled 2, 4, and 6. A component labeled **RN32** (8P4R-470R) is connected to pins 2, 4, and 6.
- Left Section:** Three horizontal lines labeled **FSA**, **FSB**, and **FSC** are connected to a vertical stack of pins labeled 1, 3, and 5. Each line passes through a resistor labeled **R131**, **R159**, and **R137** respectively, all with a value of 10K Ω .
- Right Section:** Two horizontal lines labeled **H_BSL0** and **H_BSL2** are connected to a vertical stack of pins labeled 2, 4, and 6. Each line passes through a resistor labeled **RN34** (8P4R-10K Ω) and is connected to a component labeled **8P4R-10K Ω** .
- Bottom Section:** Three horizontal lines labeled **CPU_BSEL1**, **CPU_BSEL0**, and **CPU_BSEL2** are connected to a vertical stack of pins labeled 3, 4, and 5. Each line is connected to a component labeled **8P4R-10K Ω** .

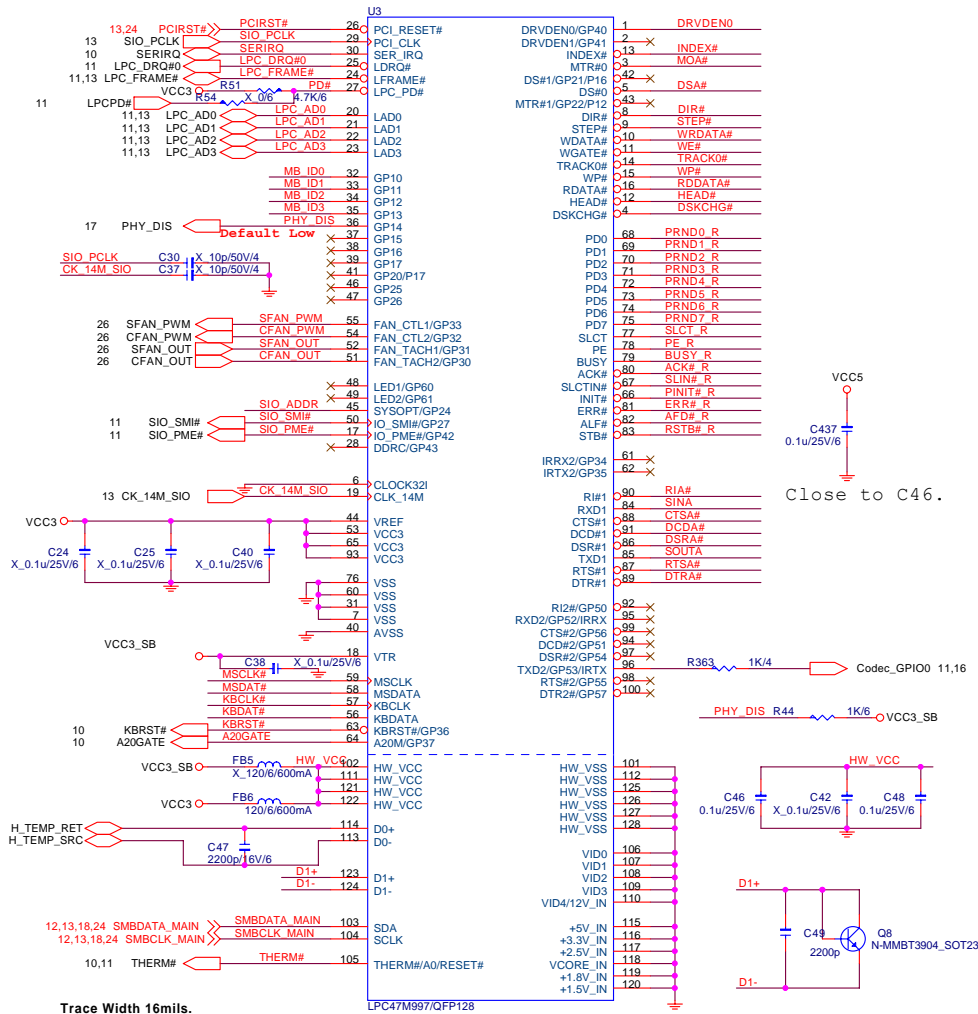
Wiring Diagrams



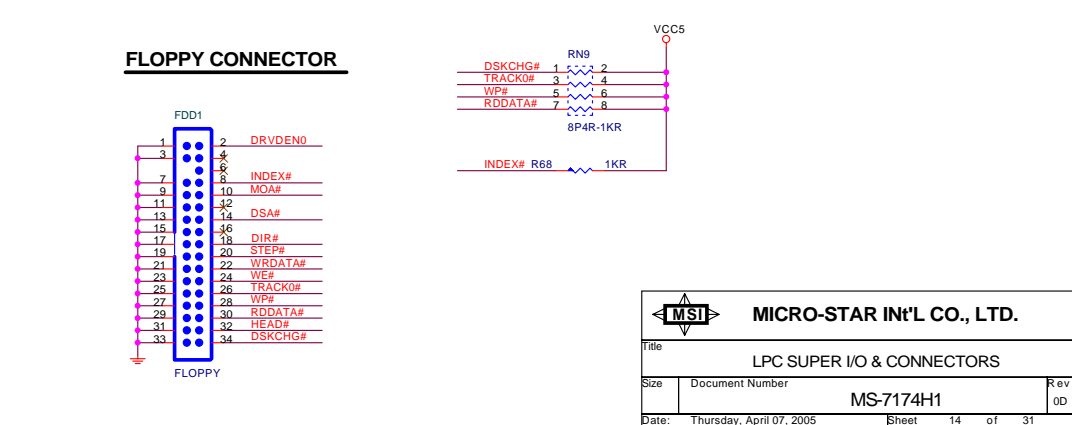
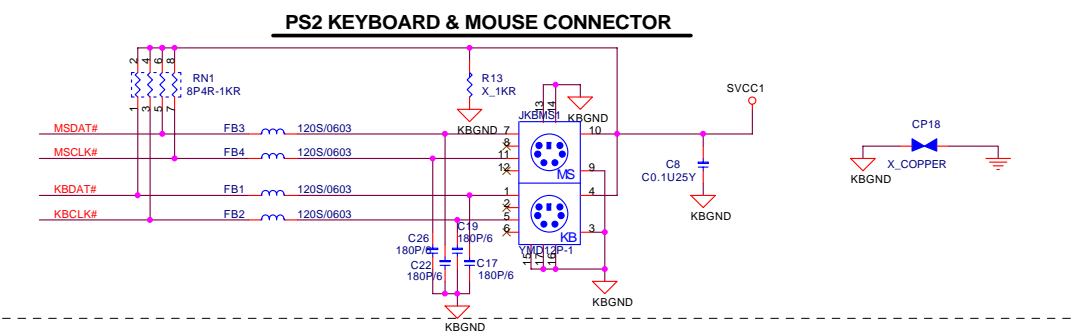
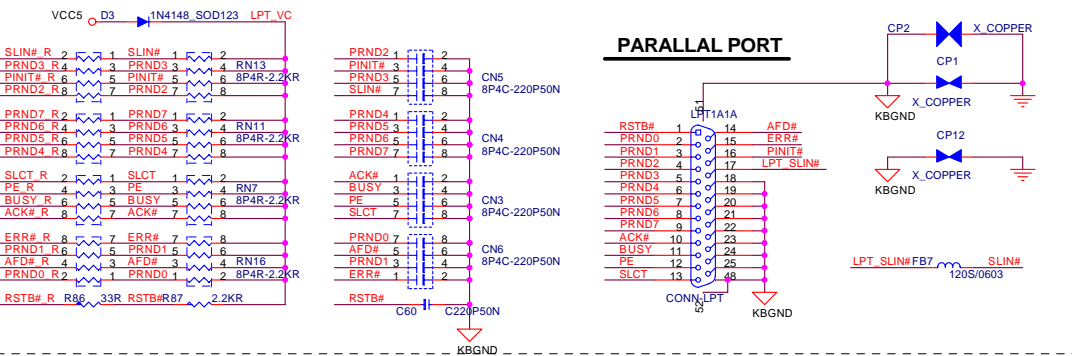
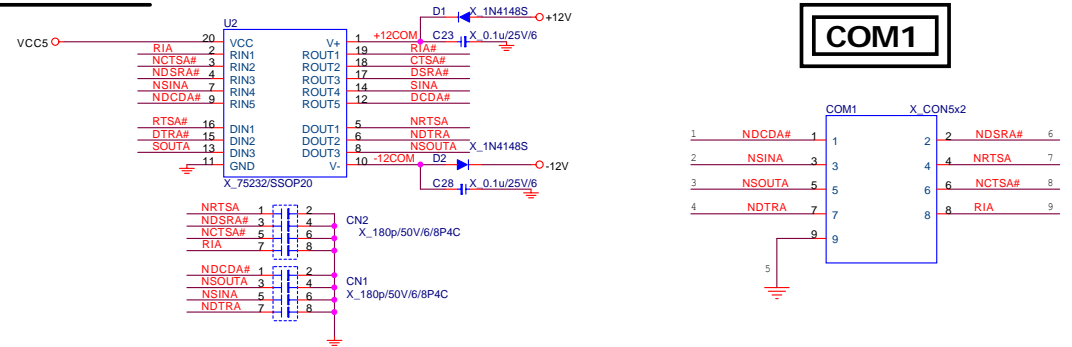
The diagram shows a circuit for CK_VID GD#. A purple line represents the CK_VID GD# signal. It has a pull-up resistor R199 (10K) connected to VCC3 and a pull-down resistor R194 (220R) connected to VCCP. A 2N3904S transistor Q24 is connected between the CK_VID GD# line and the VCCP line. The base of Q24 is connected to the CK_VID GD# line, and its emitter is connected to ground. The collector of Q24 is connected to the VCCP line through resistor R194.

[illegible]

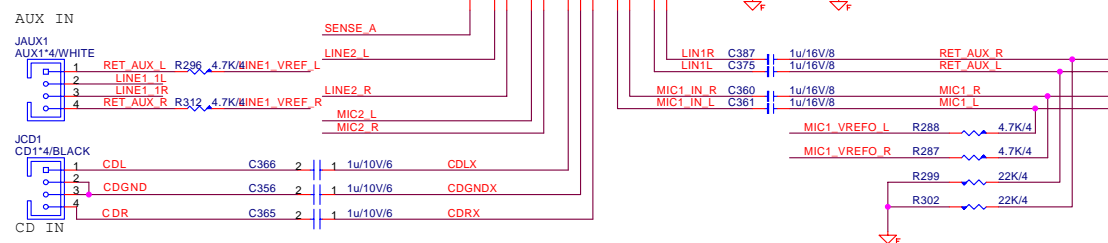
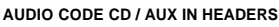
LPC SUPER I/O 47M997



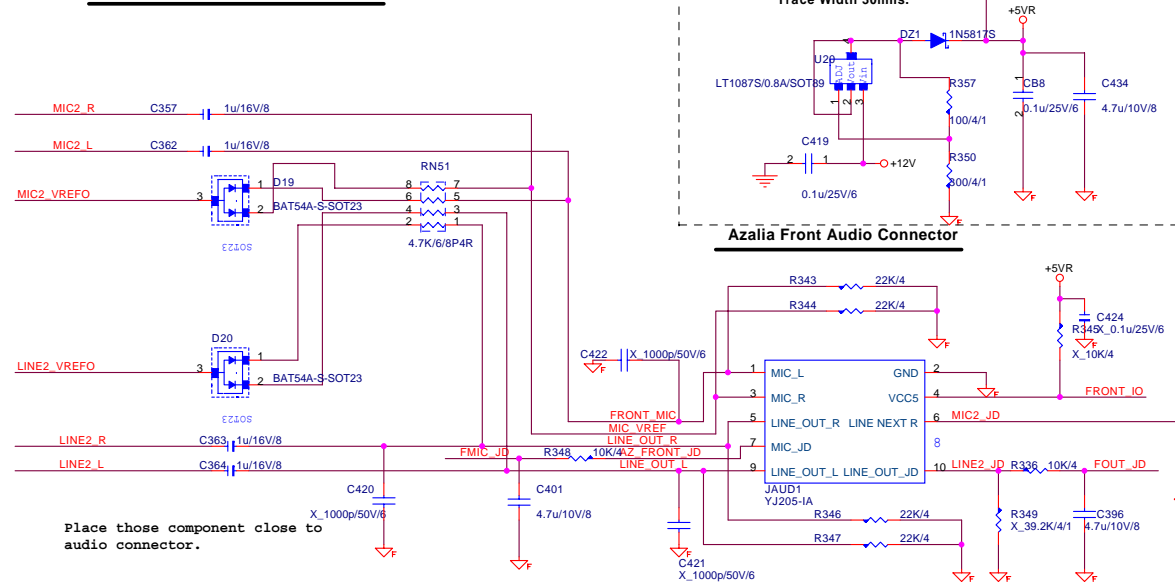
SERIAL PORT 1



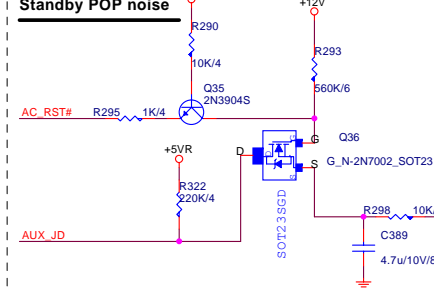
ALC880 CODEC



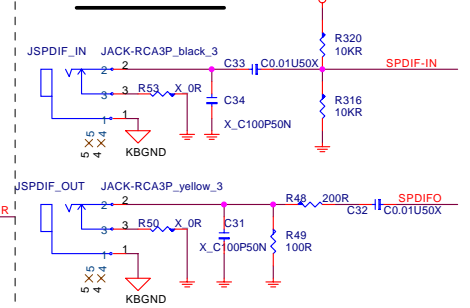
Speaker Out Decoupling



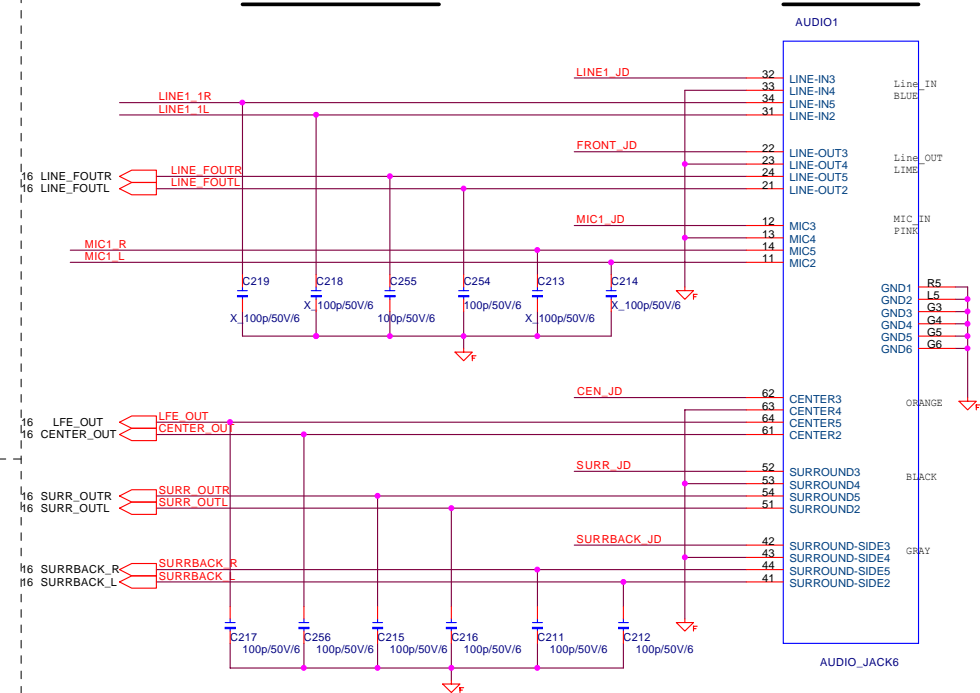
Standby POP noise



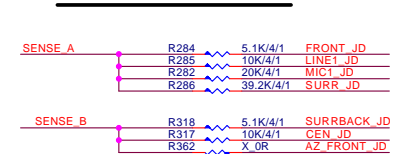
SPDIF IN & OUT



Rear audio jack



ALC880 JACK DETECT

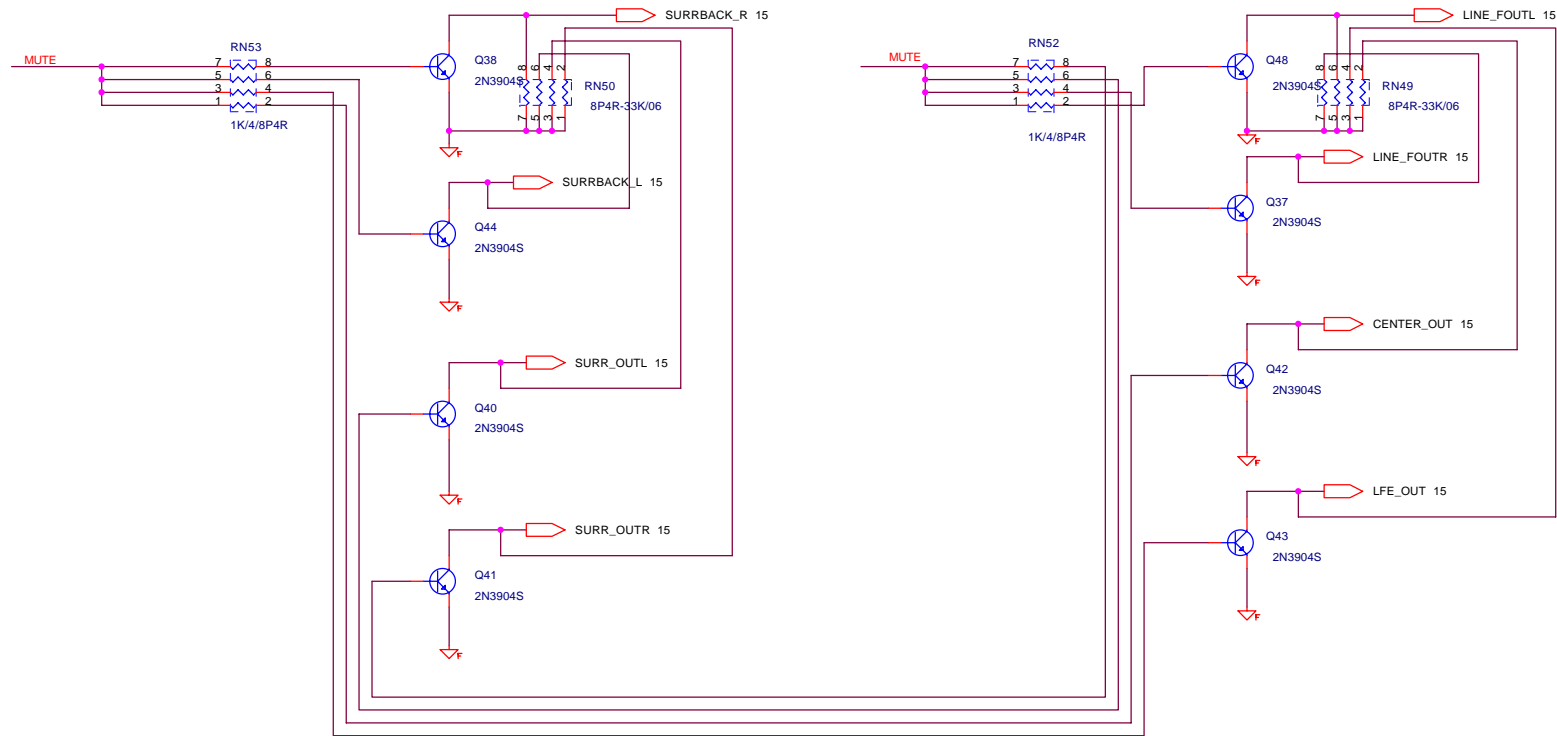


Closer to Codec.

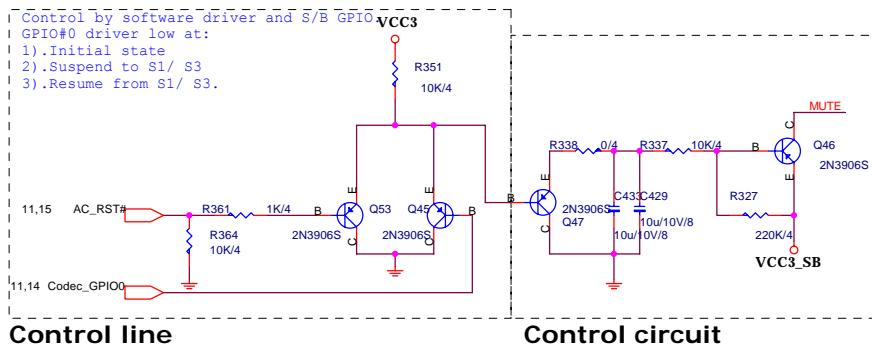


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Azalia & Interanl SPK			
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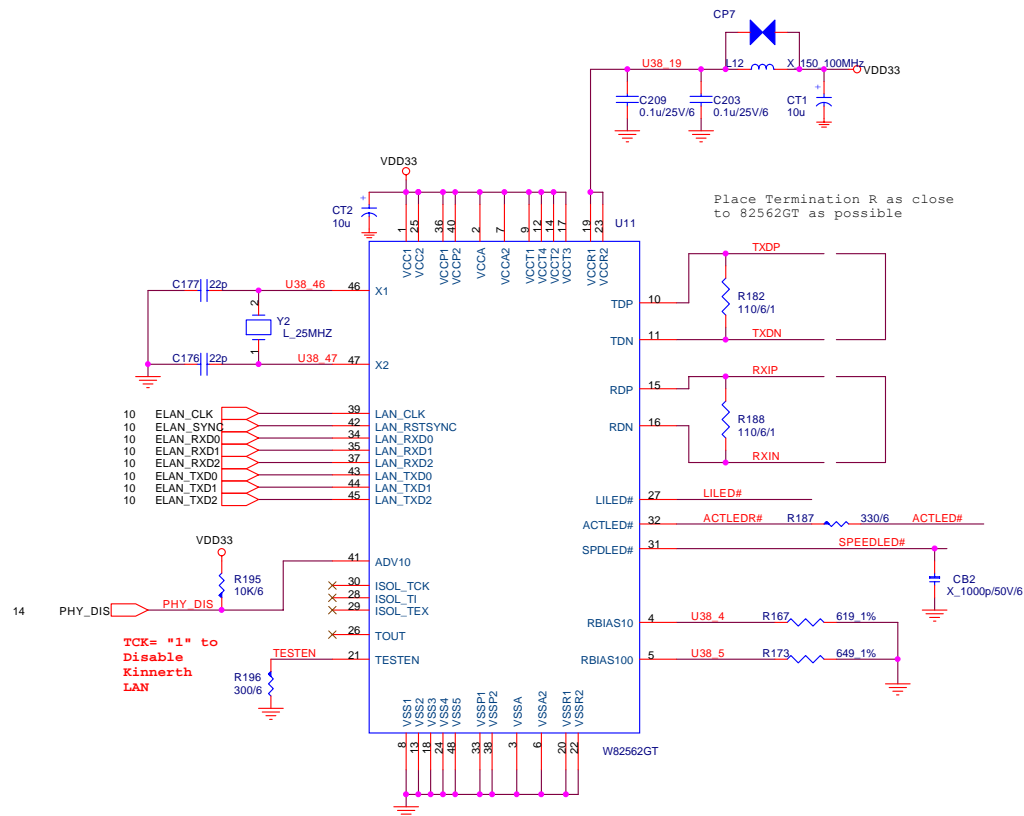
darlington circuit



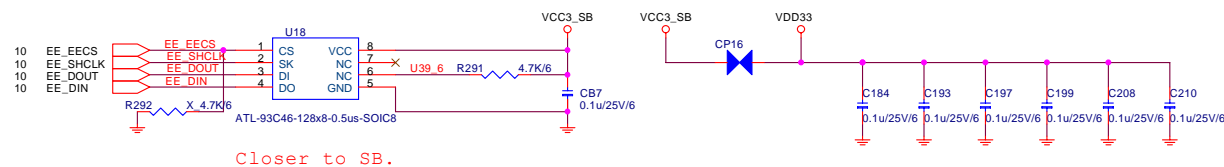
Control line

Control circuit

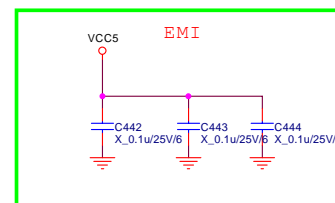
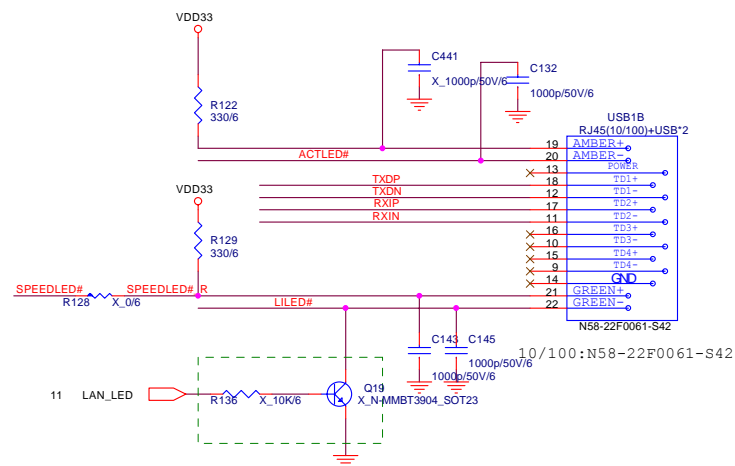
LAN - KINNERITH

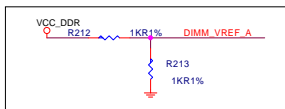
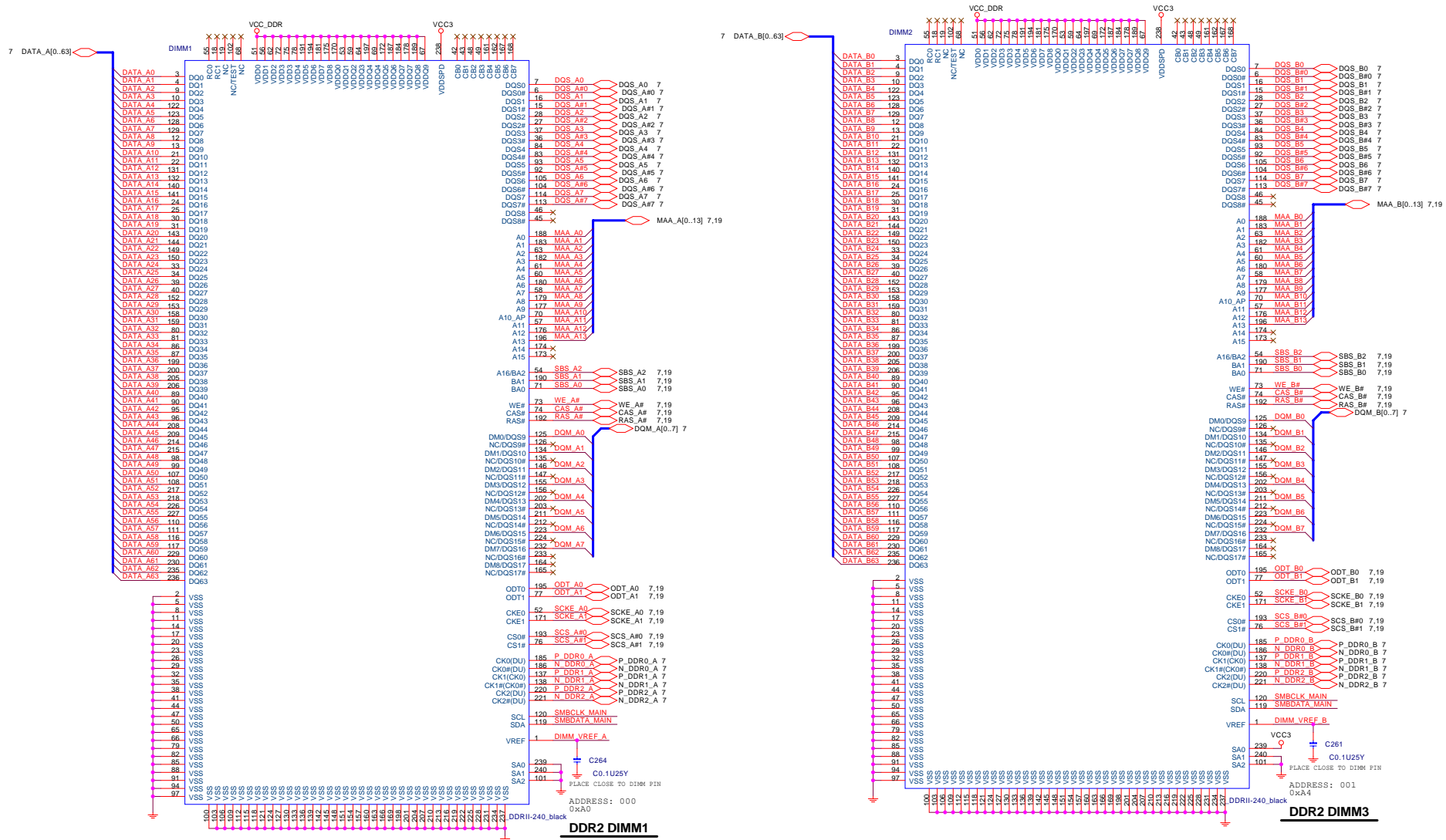


EEPROM

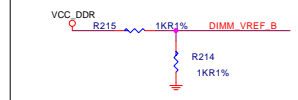


LAN CONNECTOR





SMBCLK MAIN
SMBDATA MAIN

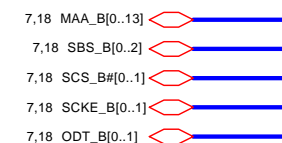
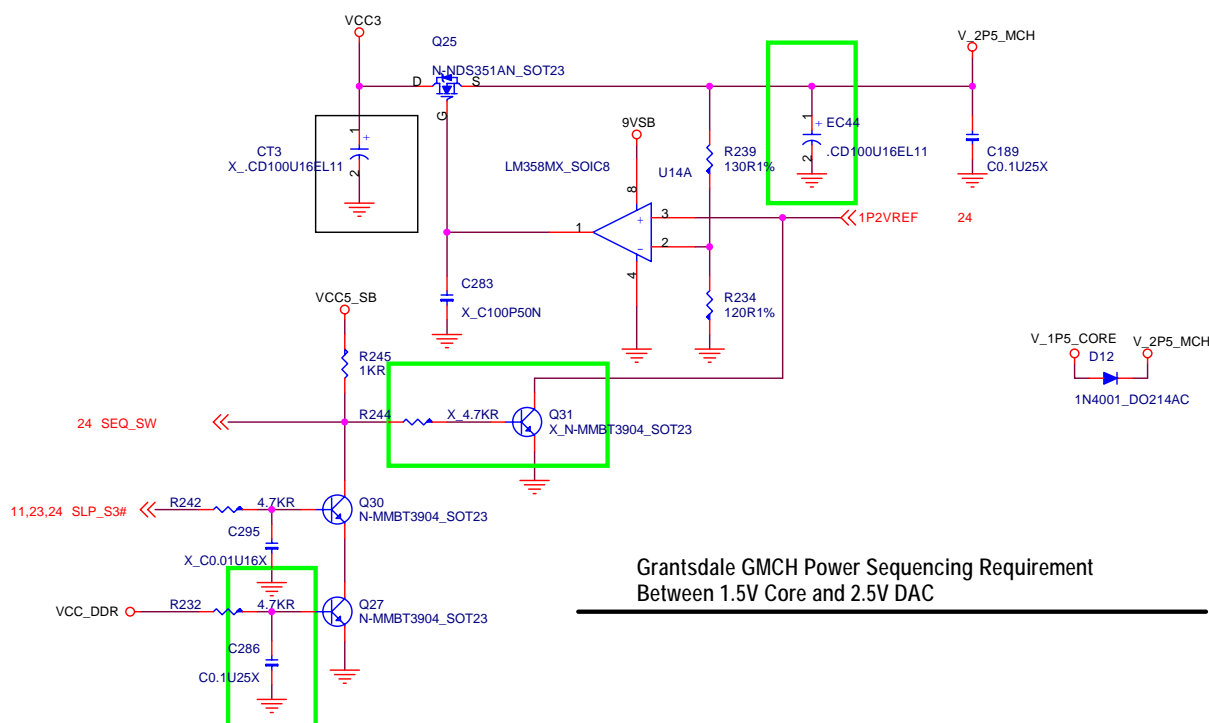
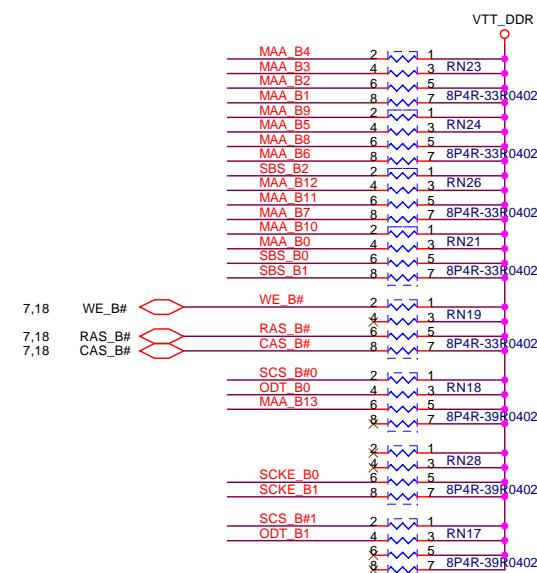
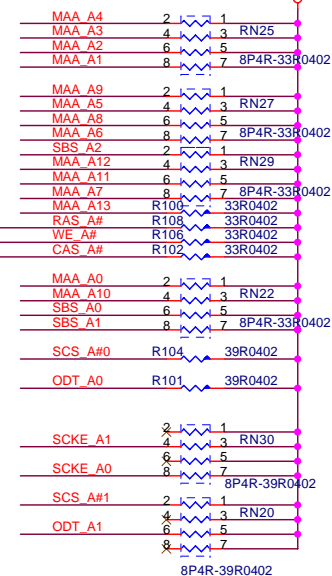
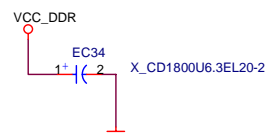
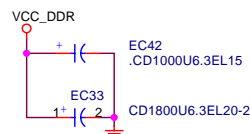
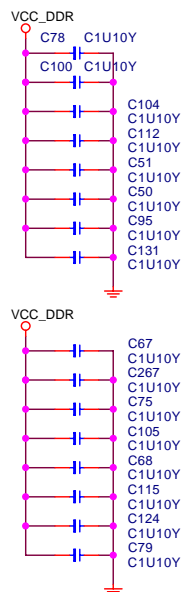
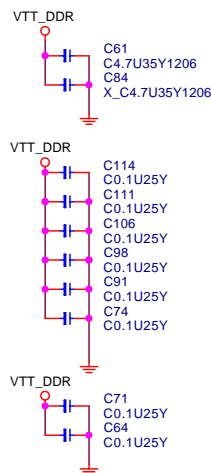


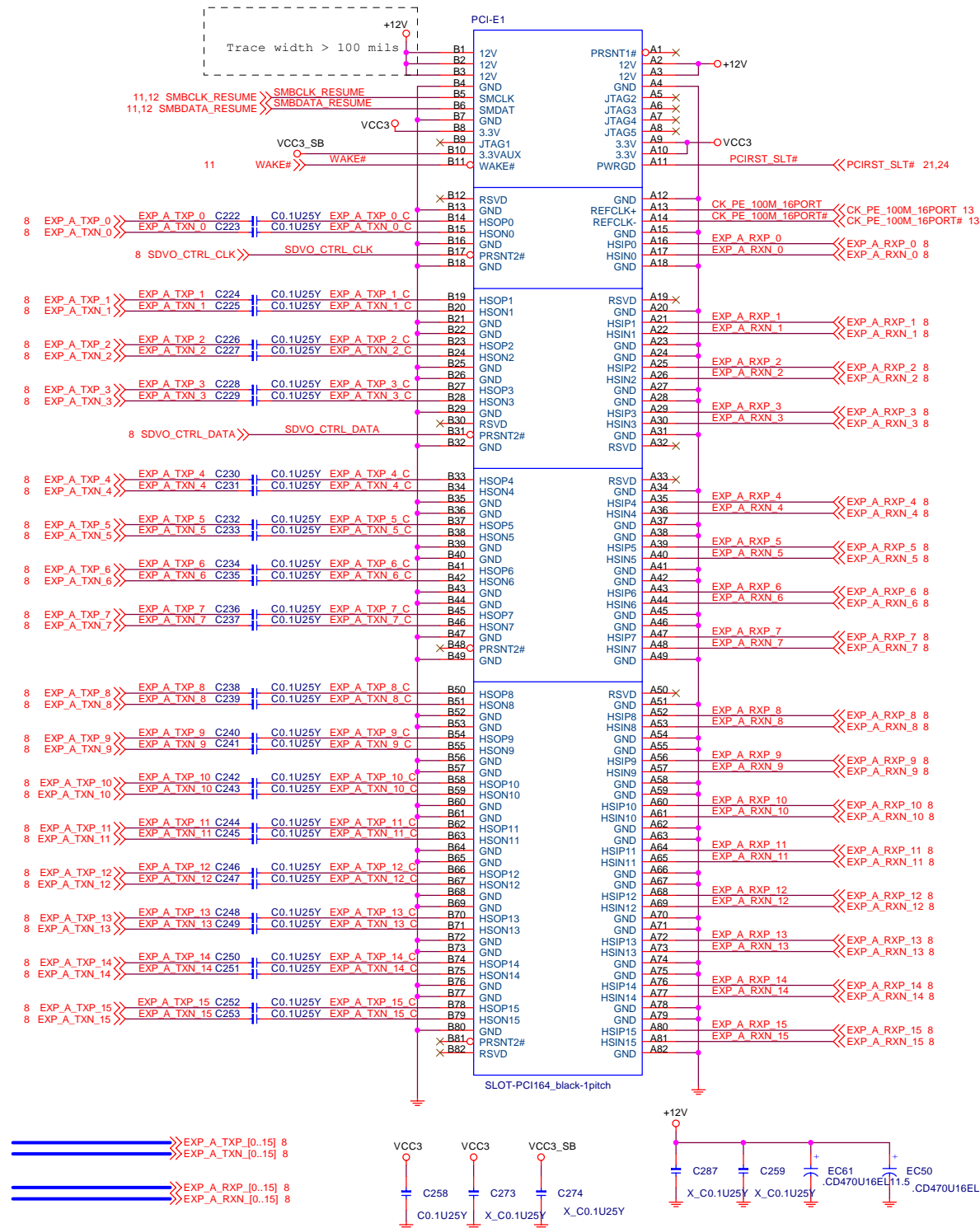
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DDR2 DIMM 1 & 2

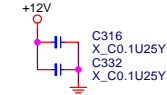
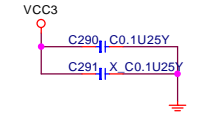
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PCI EXPRESS 1-PORT

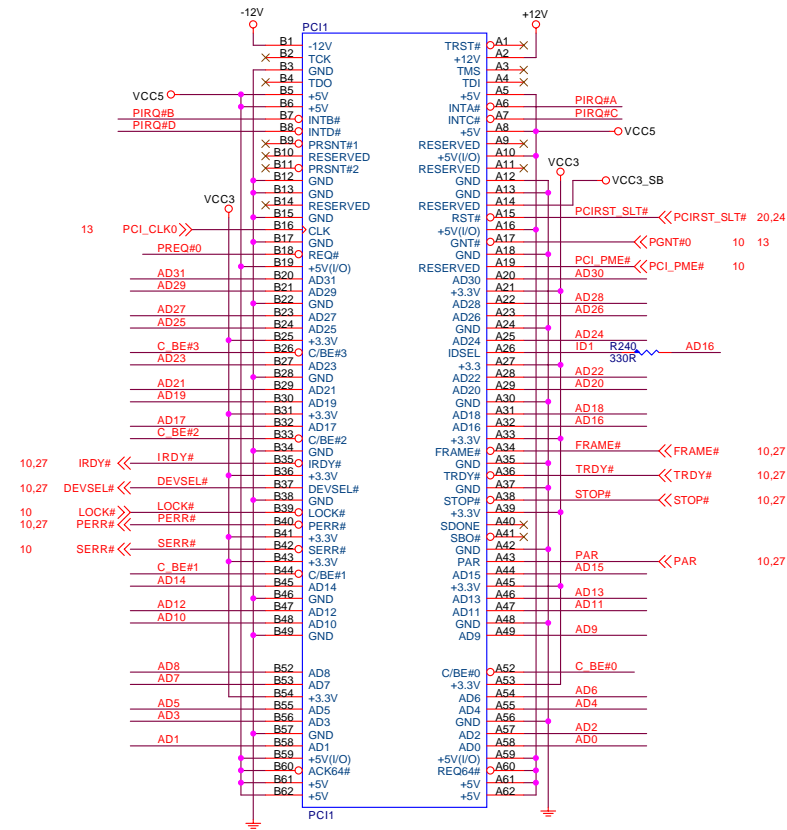


MICRO-STAR INT'L CO., LTD.

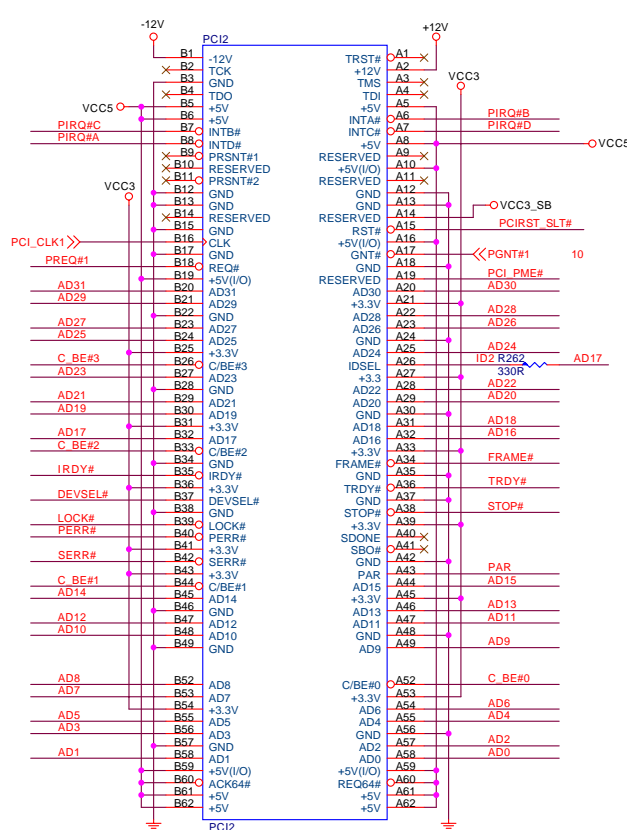
Title			PCI EXPRESS 16 PORT
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PCI SLOT 1 (PCI VER: 2.2 COMPLY)

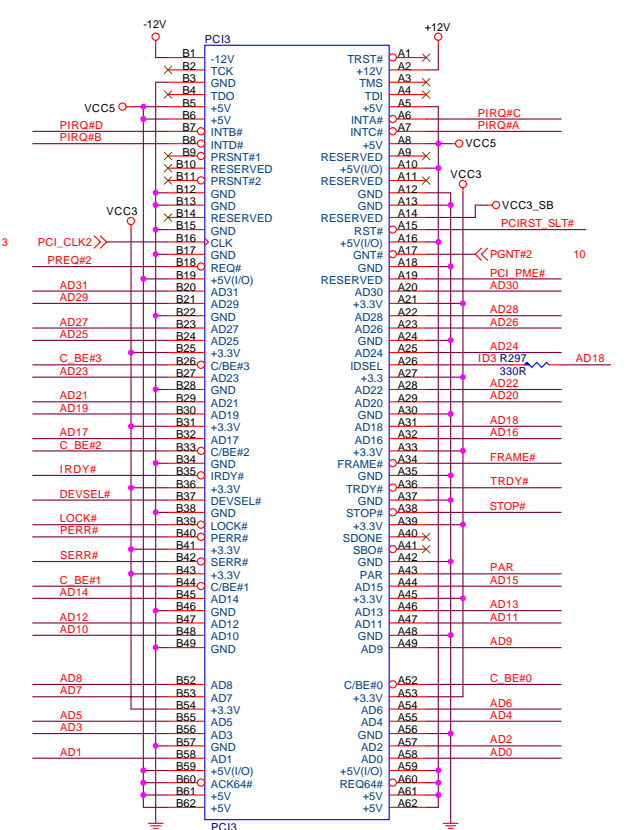
PCI SLOT 2 (PCI VER: 2.2 COMPLY)



ISDEL = AD16
MASTER = PREQ#0
PIRQ#A

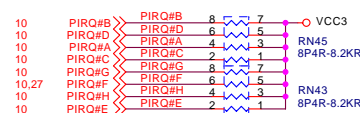
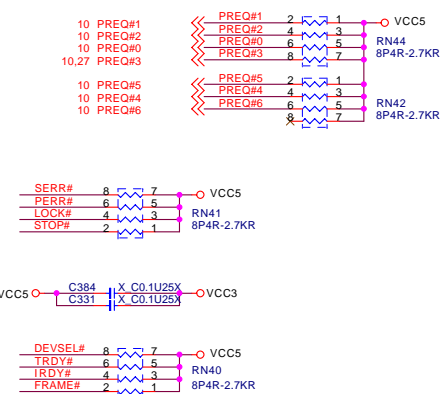


ISDEL = AD17
MASTER = PREQ#1
PIRQ#B

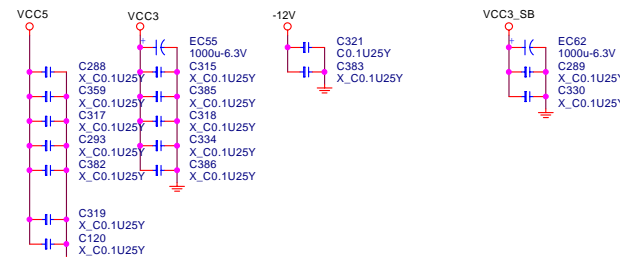


ISDEL = AD18
MASTER = PREQ#2
PIRQ#C

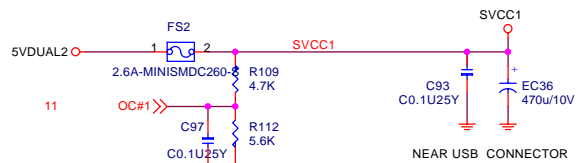
PCI PULL-UP / DOWN RESISTORS



PCI SLOT DECOUPLING CAPACITORS

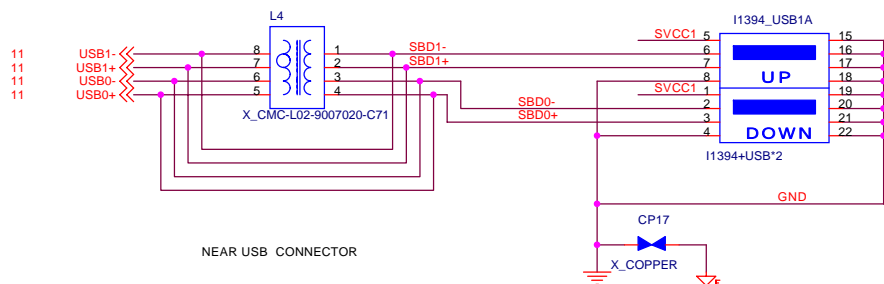


POWER CIRCUIT FOR USB PORT 0,1,2,3 (REAR)

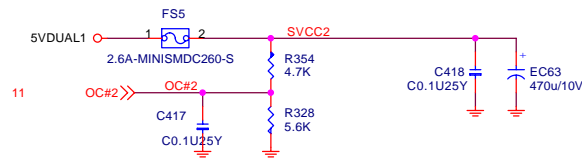


REAR PANEL USB CONNECTOR FOR USB PORT 0,1

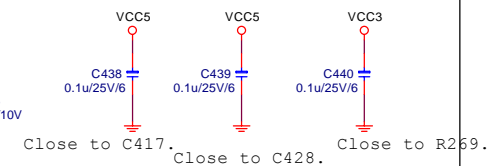
USB Interface
Diff. Trace width 7.5 mils & 7.5 mils space.
Diff. & other space 20 mils.
Length matching: < 150 mils
Ttrace length 0" to 17"



POWER CIRCUIT FOR USB PORT 4,5,6,7 (FRONT)

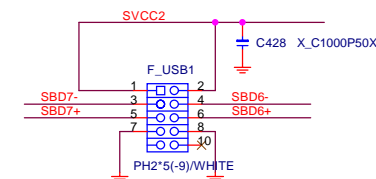
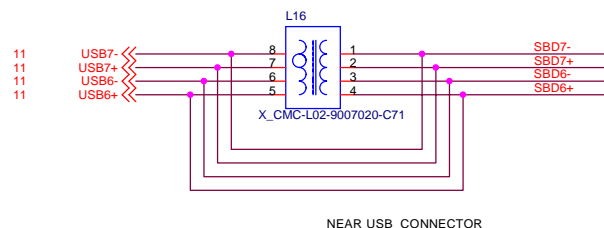


EMI solution

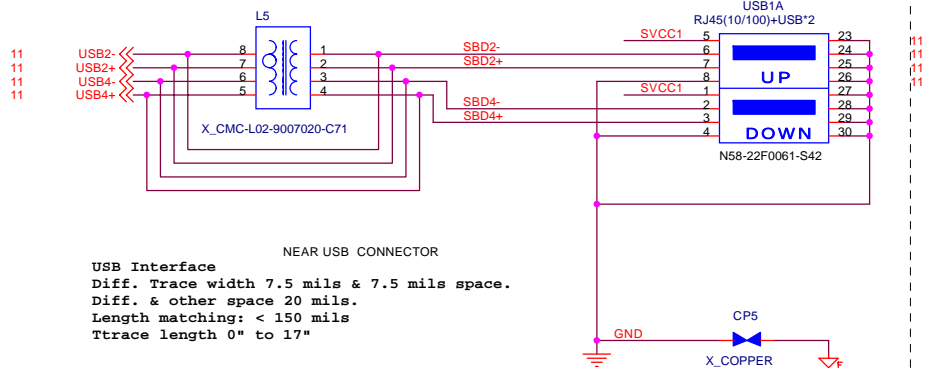


FRONT PANEL USB CONNECTOR FOR USB PORT 6,7

USB Interface
Diff. Trace width 7.5 mils & 7.5 mils space.
Diff. & other space 20 mils.
Length matching: < 150 mils
Ttrace length 0" to 17"

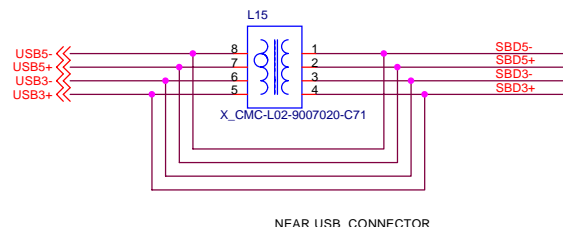


REAR PANEL USB CONNECTOR FOR USB PORT 2,3

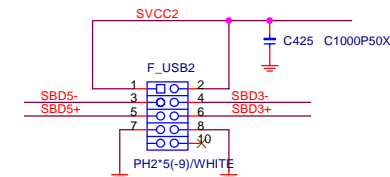


USB Interface
Diff. Trace width 7.5 mils & 7.5 mils space.
Diff. & other space 20 mils.
Length matching: < 150 mils
Ttrace length 0" to 17"

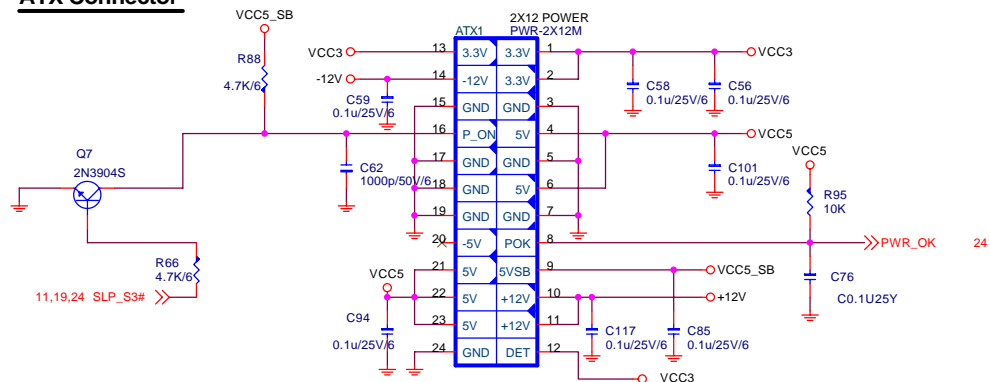
FRONT PANEL USB CONNECTOR FOR USB PORT 4,5



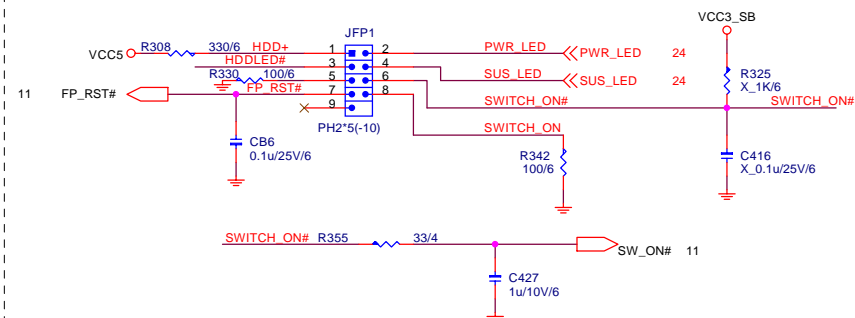
USB Interface
Diff. Trace width 7.5 mils & 7.5 mils space.
Diff. & other space 20 mils.
Length matching: < 150 mils
Ttrace length 0" to 17"



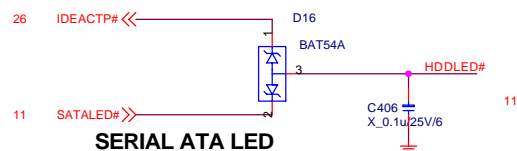
ATX Connector



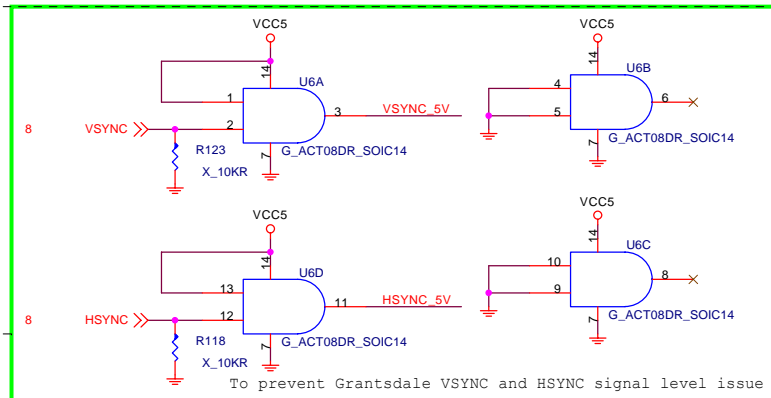
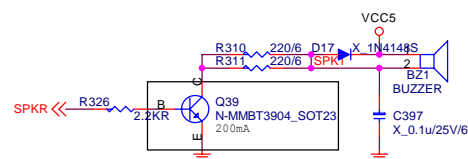
Intel Front Panel



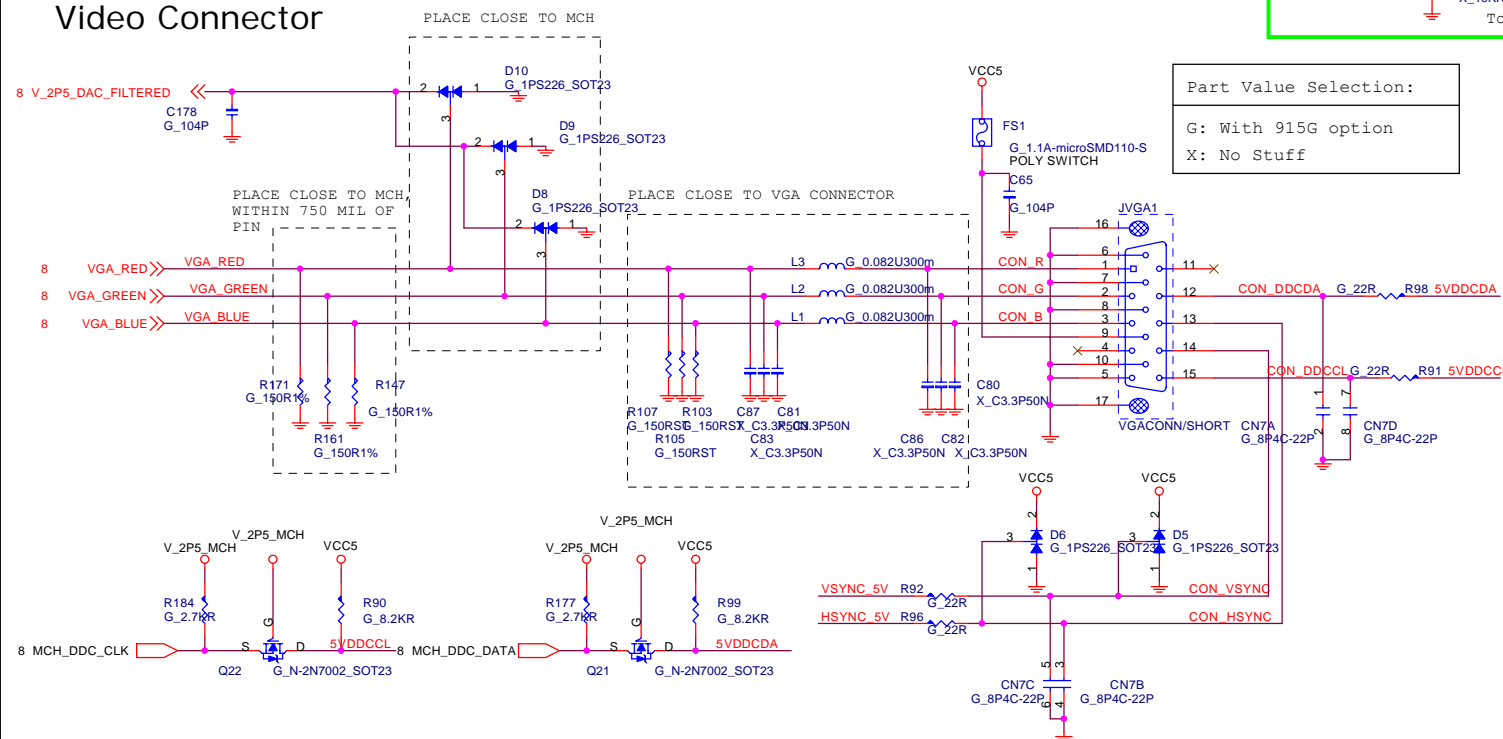
IDE LED



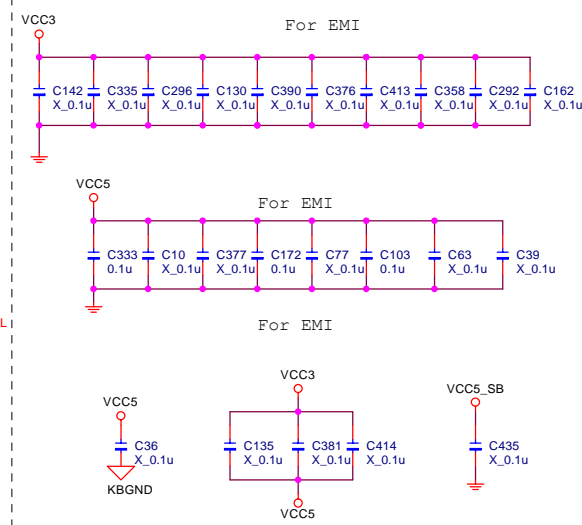
BUZZER



Video Connector

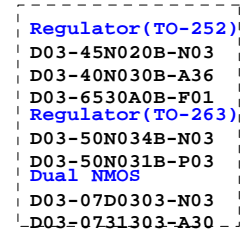


Part Value Selection:
G: With 915G option
X: No Stuff



3VSB MODE SELECT	
3VSB MODE	3VDLDEC#
SINGLE MOSFET	PULL HIGH
DUAL MOSFET	PULL LOW

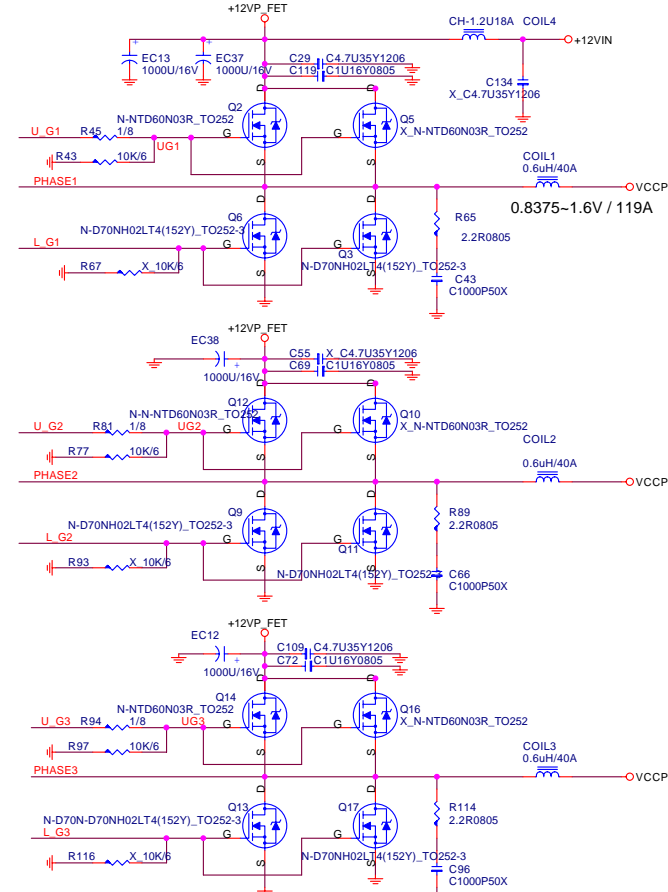
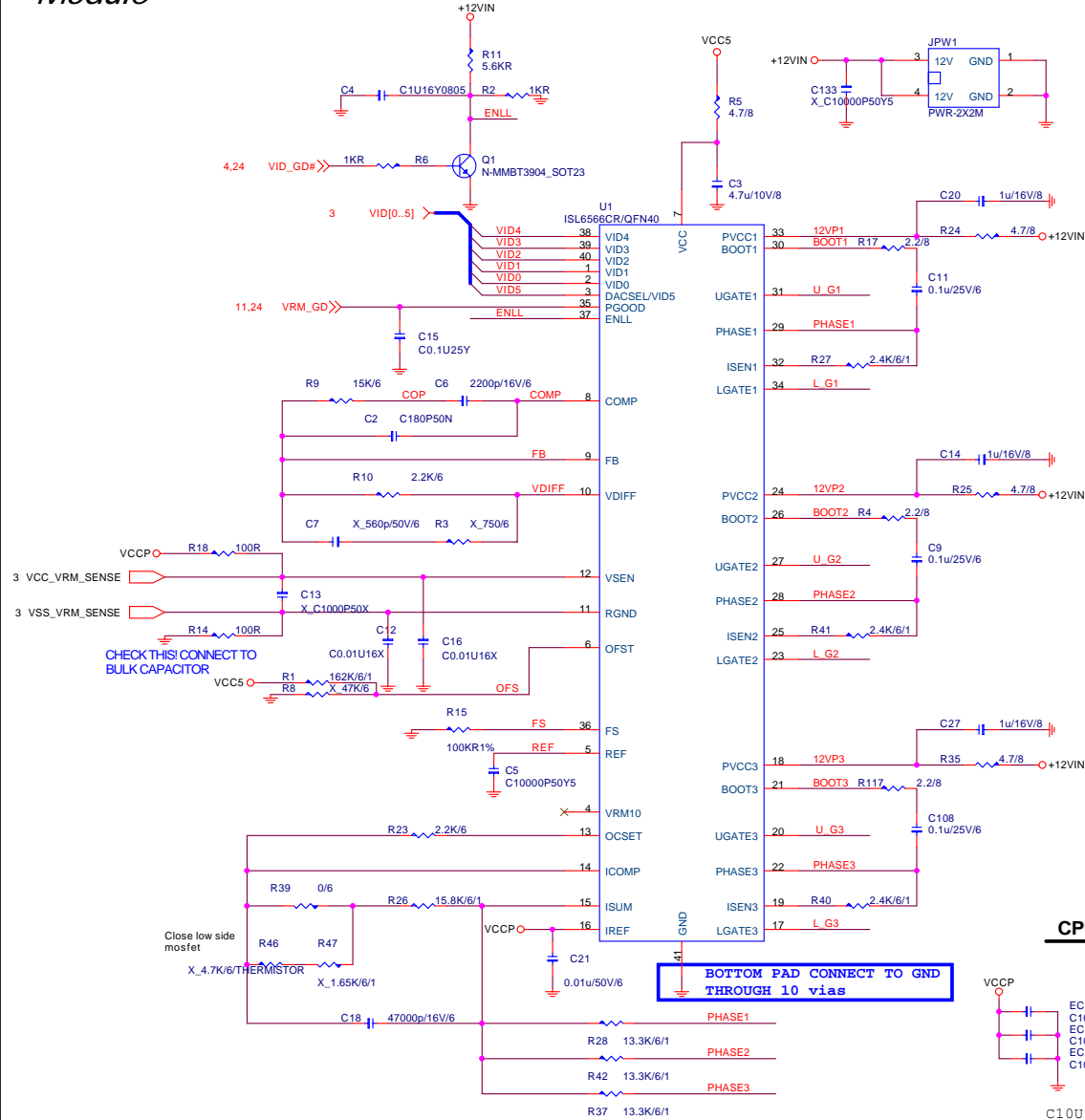
PCI-Express POWER



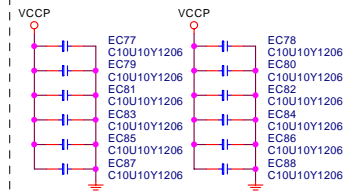
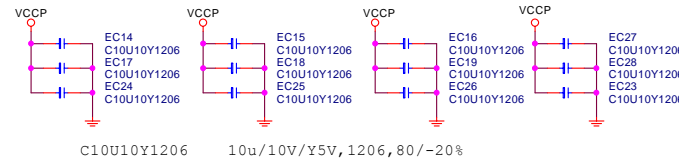
Voltage Regular Module

IPF06N03LA Rds(on)=8.7mΩ(@4.5V,30A), Vgs(on)=1.2~2V, Id=50A, Ciss=3110pf, Qg=10nC, Vds=25V, Vgs=±20V
C100U2SP ESR<13mΩ, Ripple cur.<2.7A, Lc<12uA, 105C
.CD3300U6.3EL25 ESR<12mΩ, Ripplecur.<2800mA, 105C, longlife3000hrs, KZGSeries
560u_2.5V ESR=6mΩ, Ripplecur.=4400mA, Lc.<500uA, 105C/2000hrs
1800UF/6.3V ESR<12mΩ, Ripplecur<2350mA, 105C, longlife change from 2000hrs to 3000hrs ,KZJ series
0.6uH/40A 0.6u/20%, Isat=40A, Rdc=1.2m ohm, PEW wire
CH-1.2U18A 1.2u/20%, Dip-2/vertical17.5mm, 1.2ψ/5.5turns, 18A

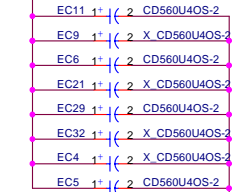
TDP = 115 W
VR_TDC = 101 A
Icc(max) = 119 A
Tejas Tcase = [P x 0.213] + 43.3
Prescott Tcase = [P x 0.25] + 43.3



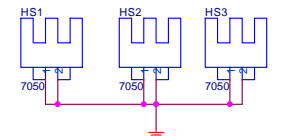
CPU DECOUPLING CAPACITORS



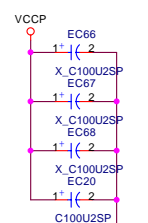
OS-CON Capacitors



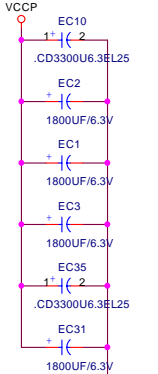
MOSFET Heatsinks



SP Capacitors

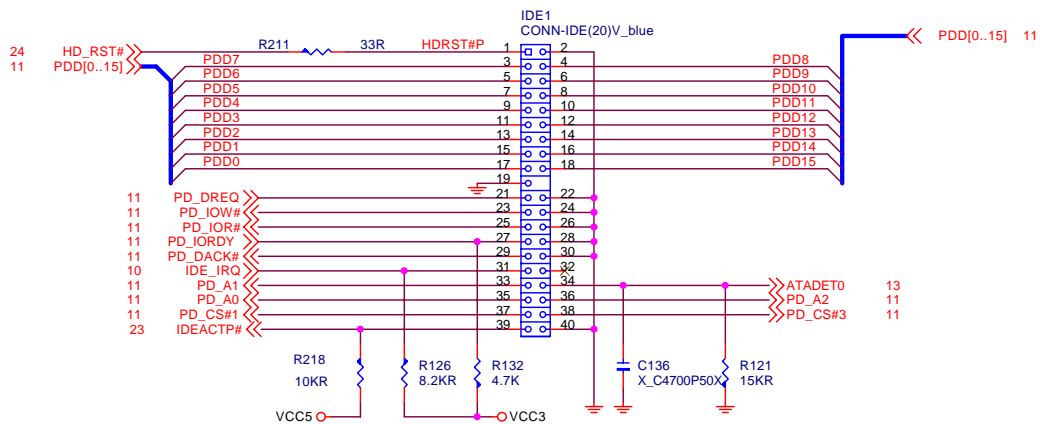


EL Capacitors

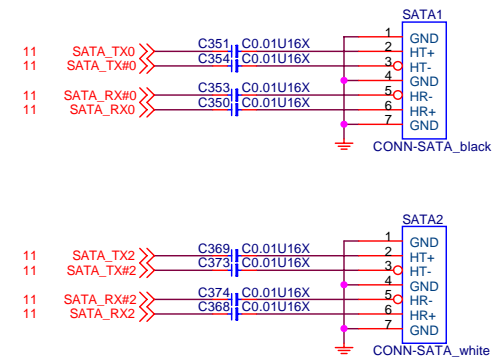


Solder Side

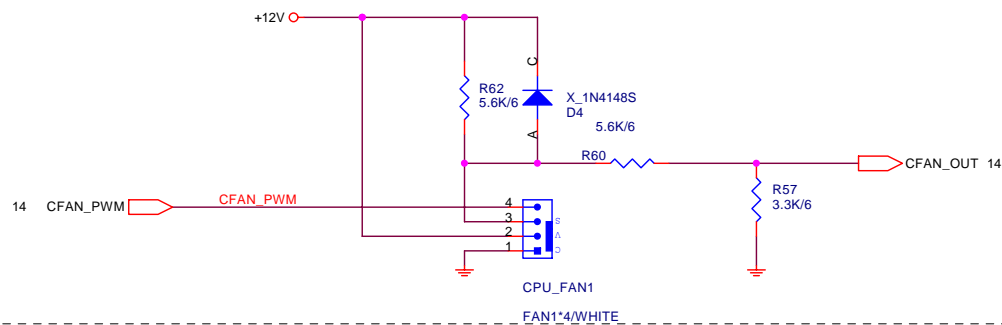
ATA 33/66/100 IDE Connectors



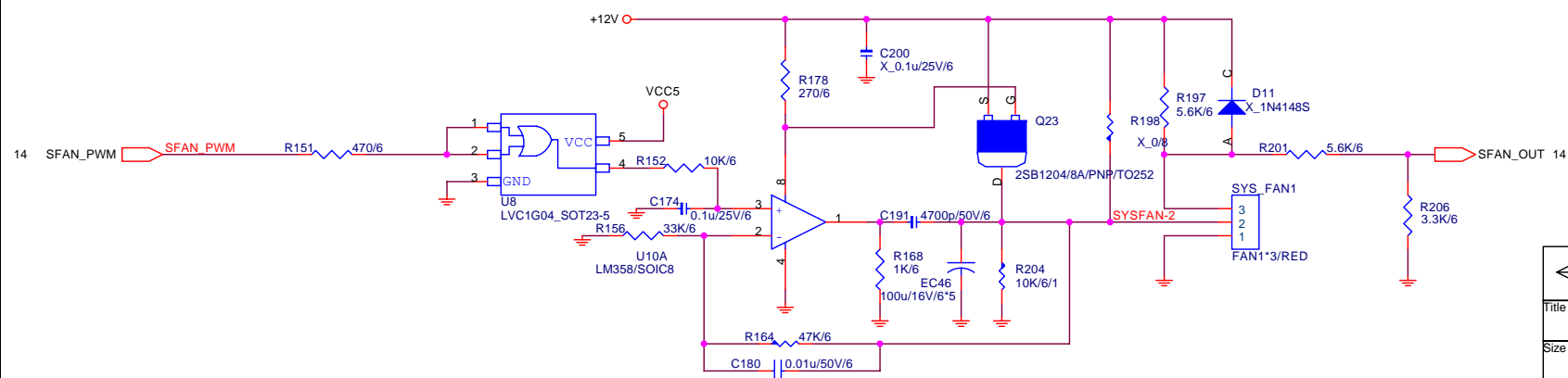
SERIAL ATA CONNECTOR BLOCK



CPU FAN



SYSTEM FAN



MICRO-STAR INT'L CO., LTD.

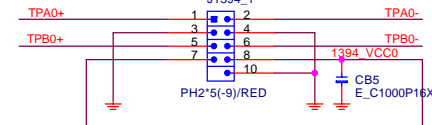
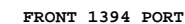
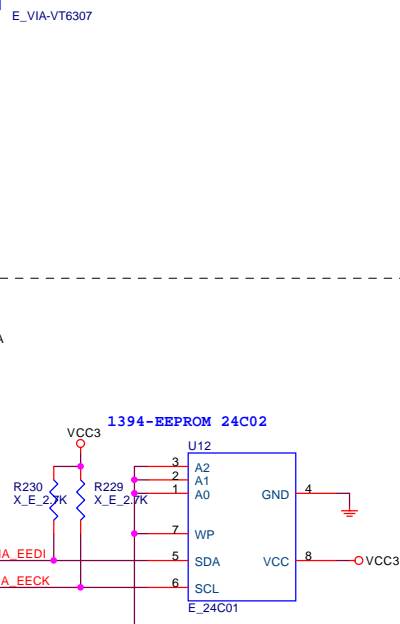
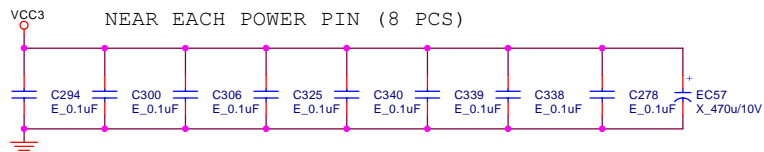
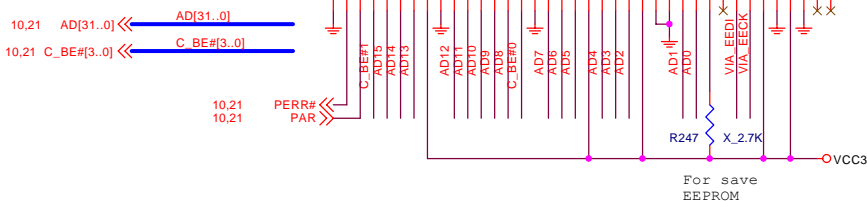
Title			
FAN & IDE Connectors			
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X: No Stuff

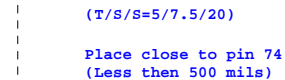
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MASTER = PREQ#3
PIRQ#F

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Rear 1394 PORT

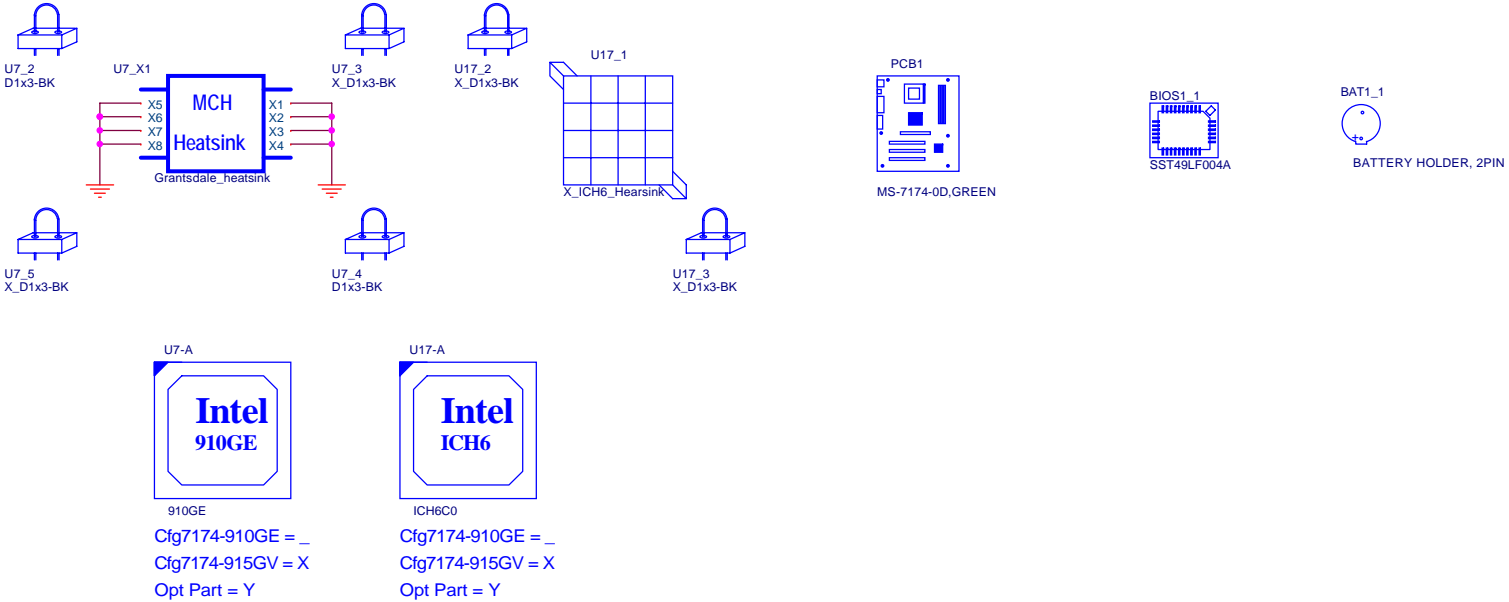



MSI
 MICRO-START INT'L CO., LTD.

Title
VIA-6307 IEEE1394 Controller

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MANUAL PART



Model option table

Model type	Function	BOM Config	ERP BOM No.
MS7174	915GV+ICH6+47M997+82562GT+ALC880+3PCI+u-ATX +2PS2+8USB+1COM+VGA+1Audio+LPT+RJ45+Intel pinhead+1394	Cfg7174-915GV	601-7174-***
MS7174	910GE+ICH6+47M997+82562GT+ALC880+3PCI+PCIE X16+u-ATX+2PS2+8USB+1COM+VGA+1Audio+LPT+RJ45+Intel pinhead+1394	Cfg7174-910GE	601-7174-B10