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# Archer

**DTX(9.6"x7.9")**

(Version: A )

**CPU:** Intel Conroe, Wolfdale, Yorkfield processors in LGA775 Package.  
TDP=95W

## System Chipset:

North Bridge ... Eaglelake-G41  
South Bridge ... ICH7

## Main Memory:

Dual Channel / DDR-III \* 2

## On Board Device:

Clock Generator ... IDTCV186-2APAG8  
Super I/O ... IT8721F/BX  
LAN-BCM57760  
HDA Codec ... ALC662  
BIOS ... SPI Flash ROM(8M)

## Expansion Slots:

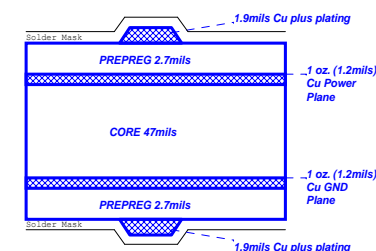
PCI EXPRESS 16X SLOT \*1  
PCI EXPRESS 1X SLOT \* 1

## PWM Controller:

Controller ... NCP5395TMNR2G (3Phase)

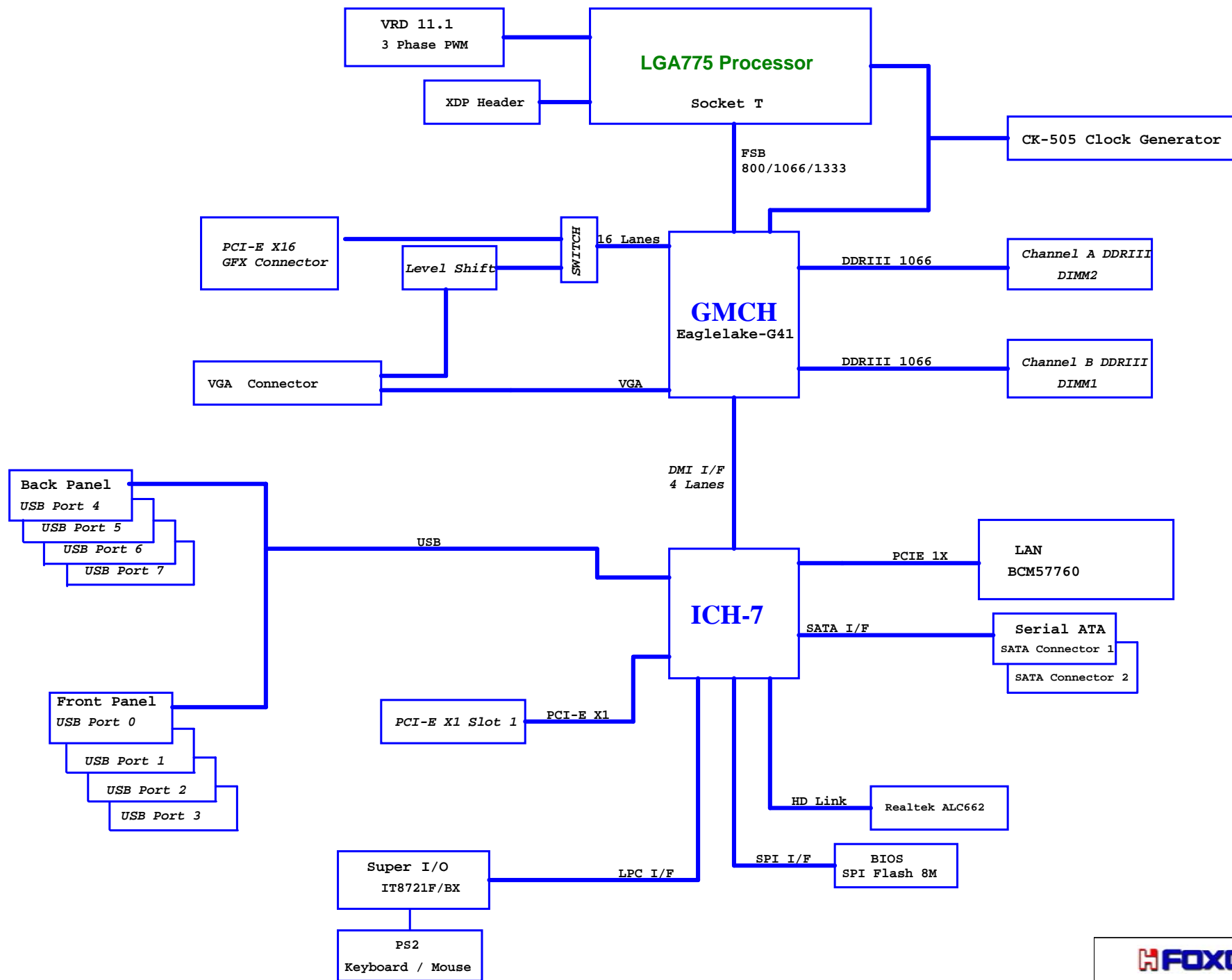
## Board Stack-up

(1080 Prepreg Considerations)



Single End 50ohm Top/Bottom : 4mils  
USB2.0 - 90ohm : 15/4.5/7.5/4.5/15  
SATA - 95ohm : 15/4/8/4/15  
PCI-E - 95ohm : 15/4/8/4/15  
DMI - 95ohm : 15/4/8/4/15

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14.318MHz

CPU

CPU 200/266/333 MHz Diff Pair

MCH 200/266/333 MHz Diff Pair

PCI Express 100 MHz Diff Pair

PCI Express x16 Gfx

DOT 96 MHz Diff Pair

PCI Express/DMI 100 MHz Diff Pair

PCI Express/DMI 100 MHz Diff Pair

USB/SIO 48 MHz

ICH 33 MHz

REF 14 MHz

CK-505

DDRIII 2 Slots 8 Diff CLKs

Channel A DDRIII DIMM2

Channel B DDRIII DIMM1

GMCH  
Eaglelake

ICH7

Azalia Bit Clock

32.768KHz

HD Audio

Super I/O

PCI Express x1 Slot 1

SIO 33 MHz

SATA 100 MHz Diff Pair

PCI Express 100 Mhz Diff Pair

XDP 200/266/333 MHz Diff Pair

XDP

LAN  
BCM57760

25M Hz

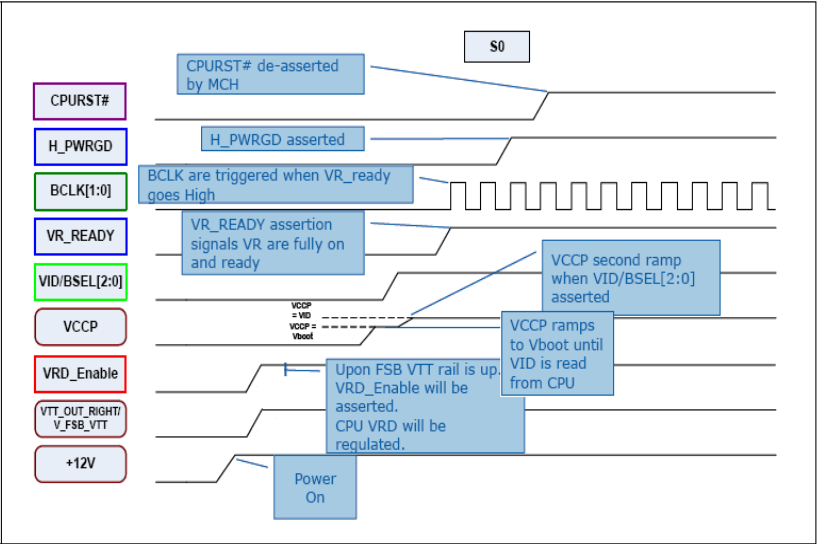
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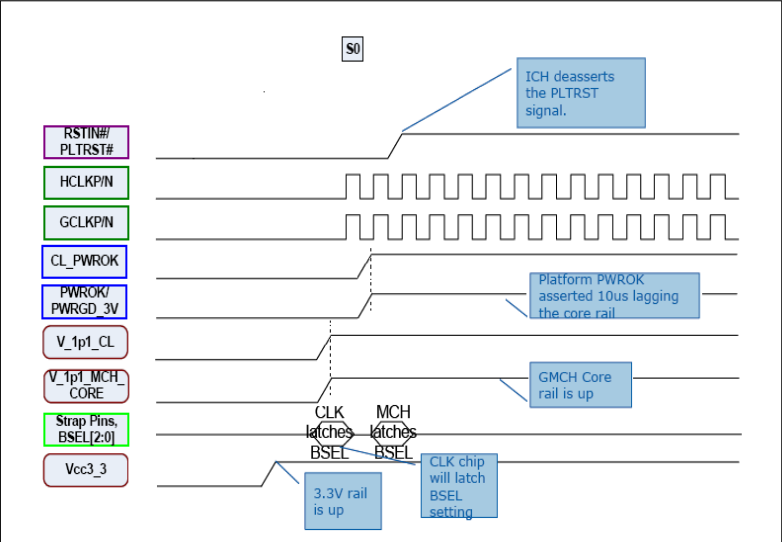
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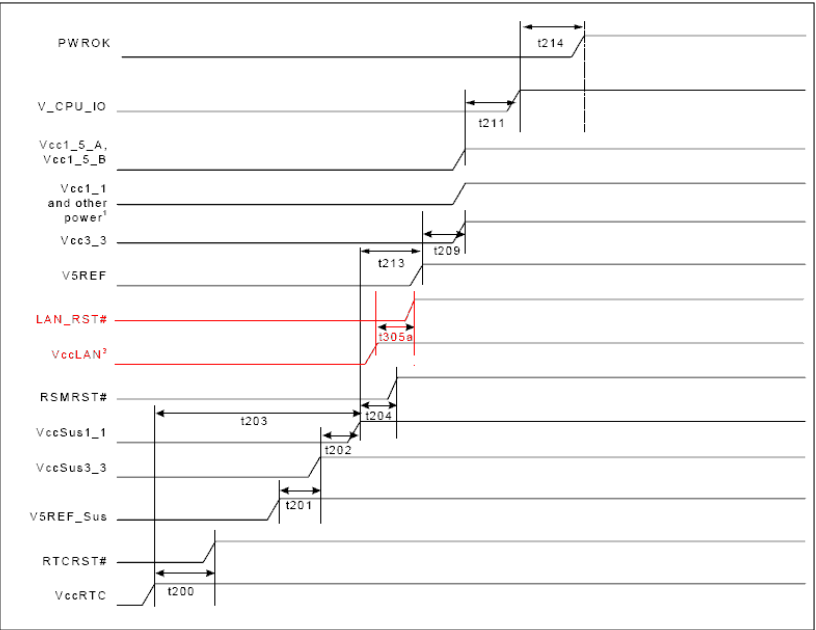
Eaglelake Platform Sequencing:- CPU VR Sequencing Diagram

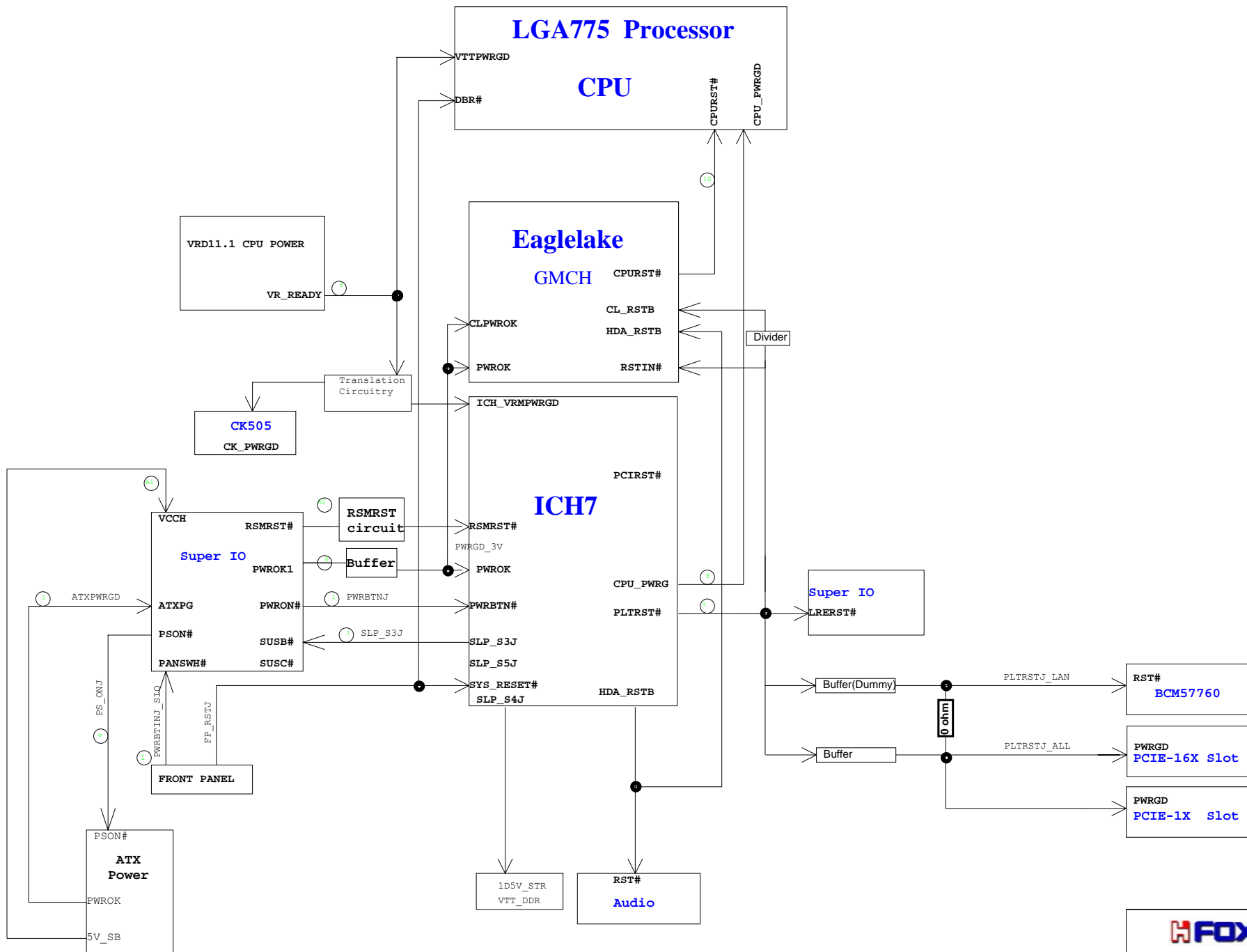


Eaglelake Platform Sequencing:- GMCH Sequencing Diagram

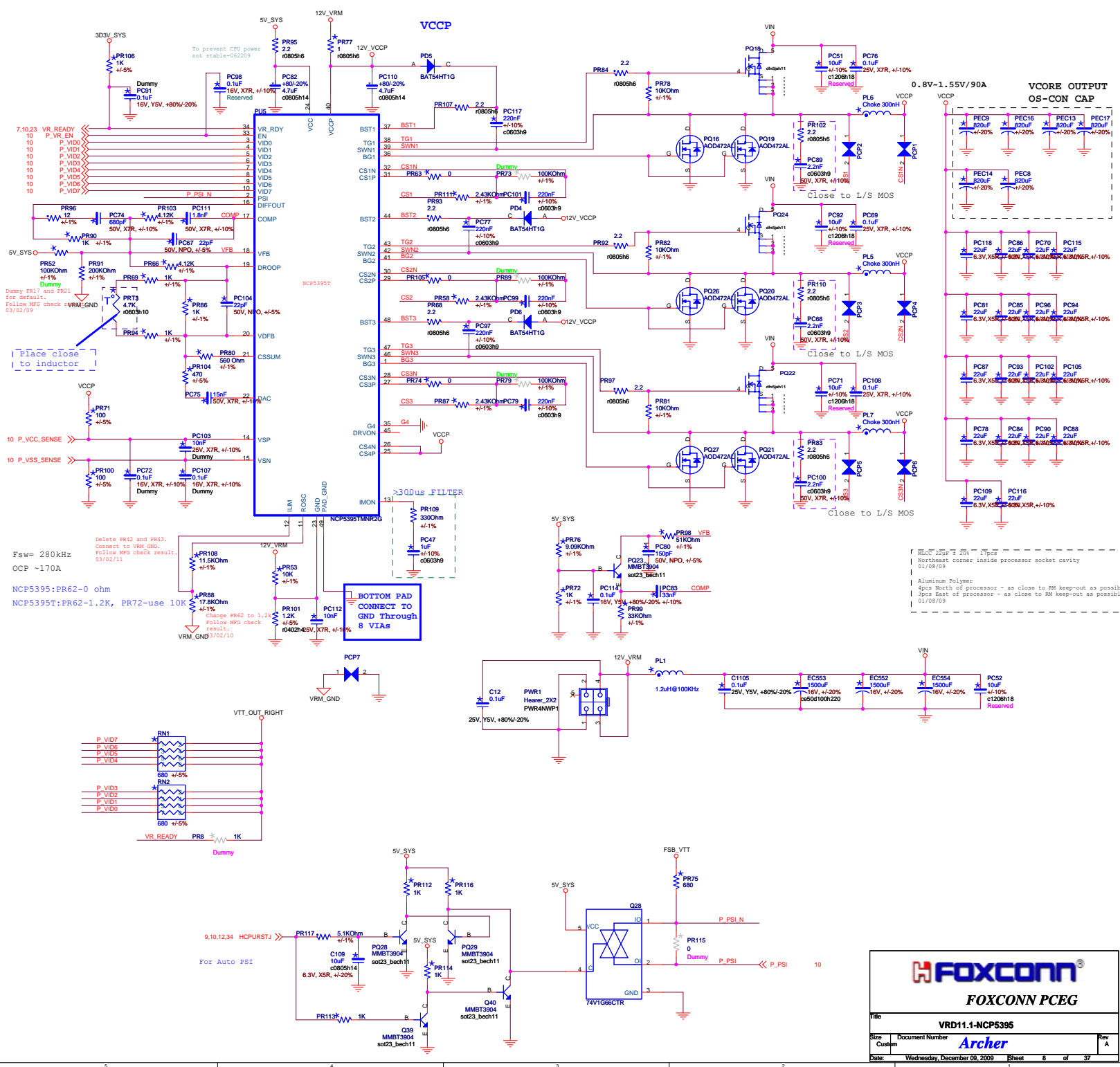


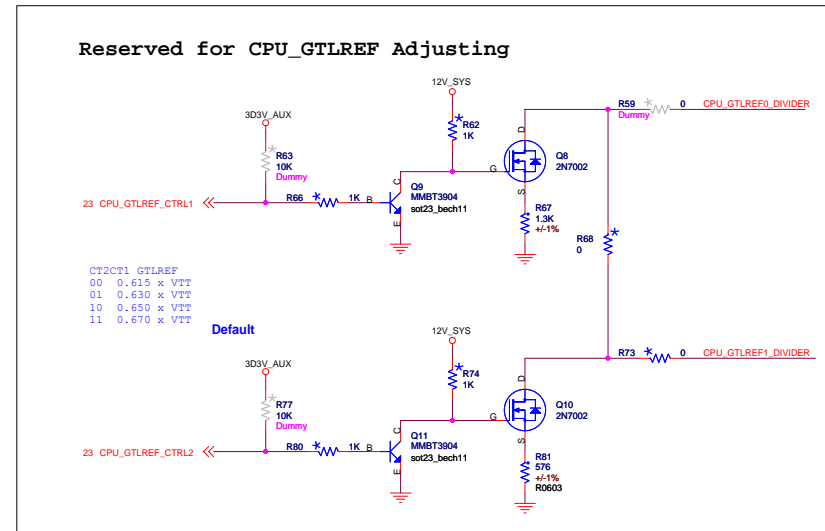
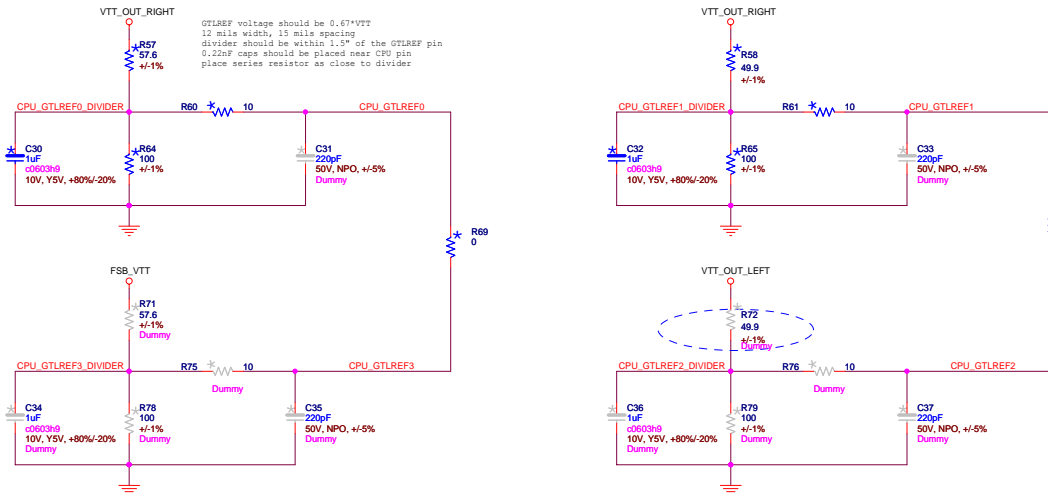
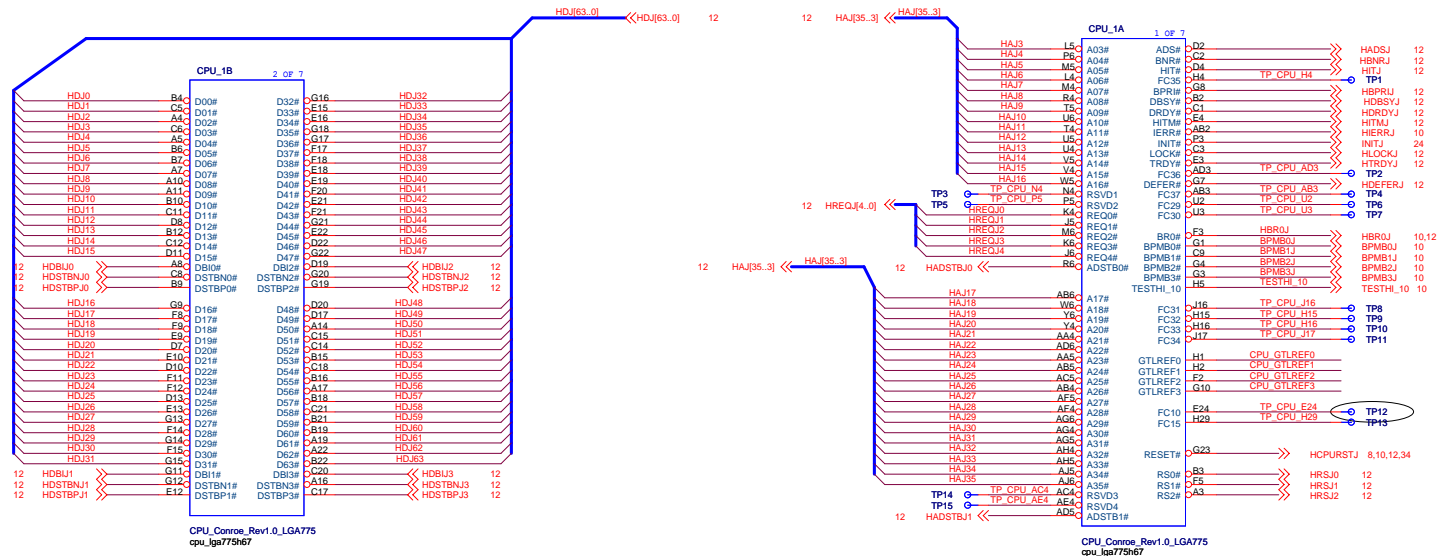
Power Sequencing and Reset Signal Timings

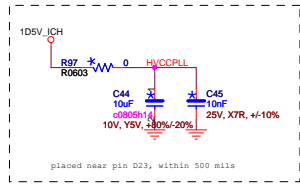
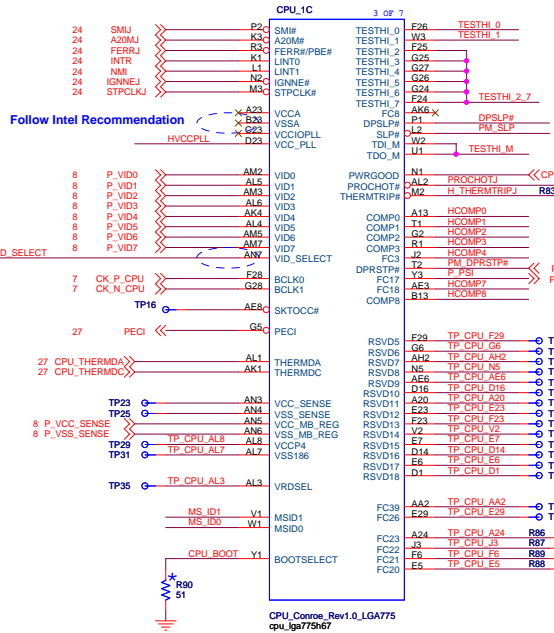






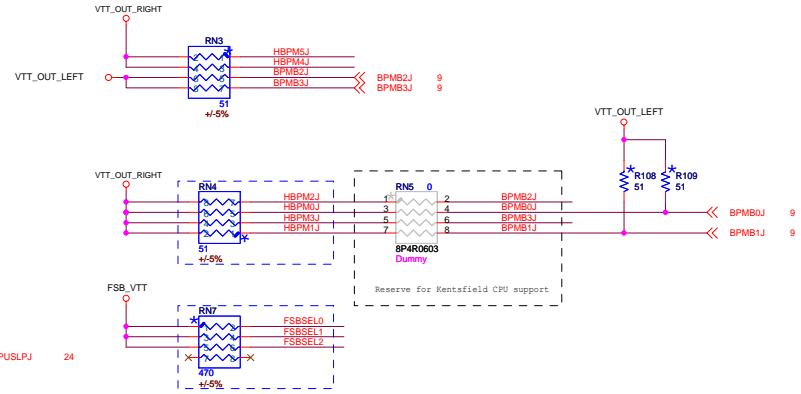
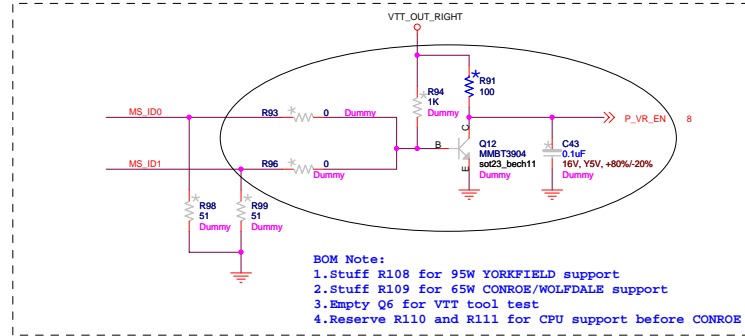
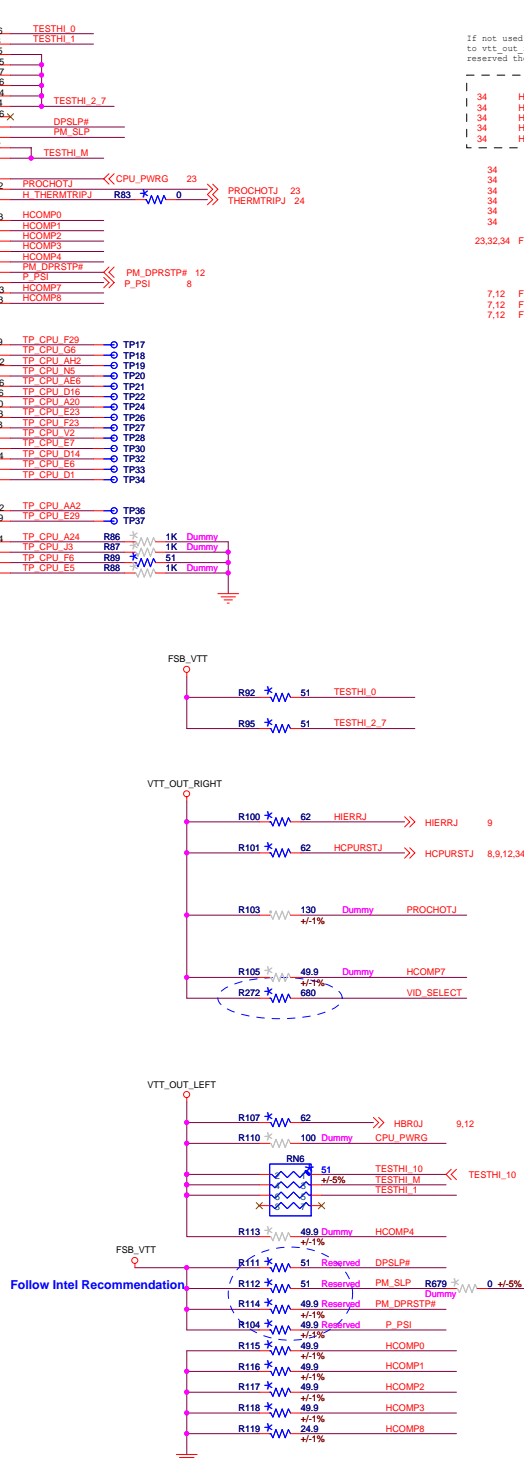


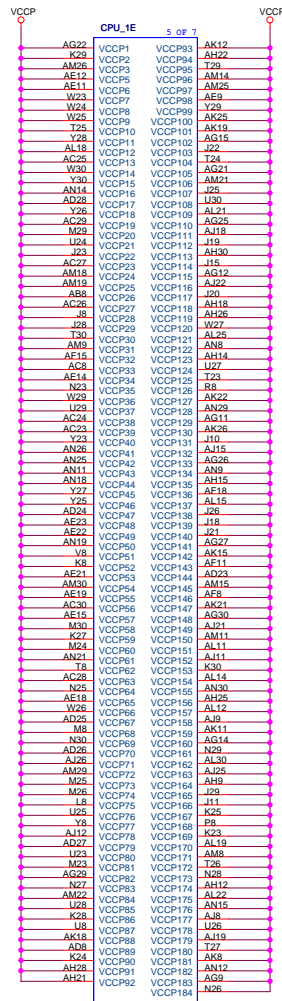




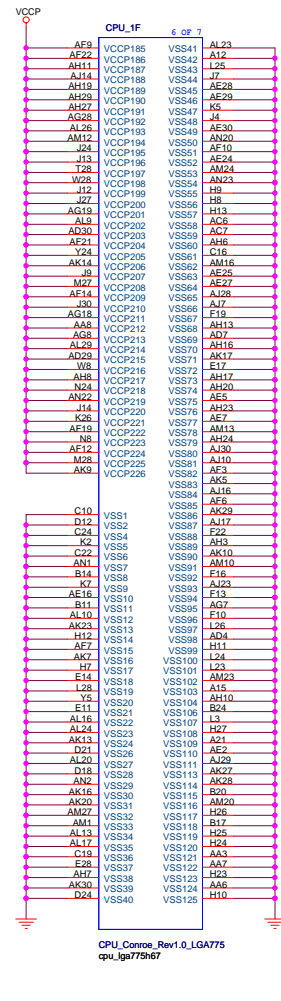
#### No C3/C4 Support Signal connection recommendation for G41 Sku

Component	Signals	Connect
MCH	SLP#	NC
MCH	DPRSTP#	49.9 ohm to V_FSB_Vtt
CPU	CPU_SLP#	51 ohm to V_FSB_Vtt
CPU	DPSLP#	51 ohm to V_FSB_Vtt
CPU	CPU_PSI	49.9 ohm to V_FSB_Vtt
CPU	DPRSTP#	49.9 ohm to V_FSB_Vtt

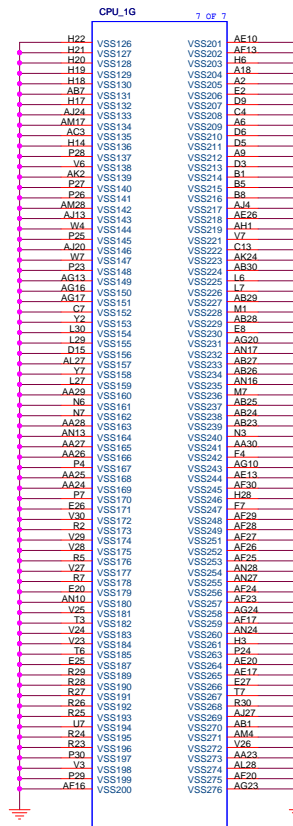




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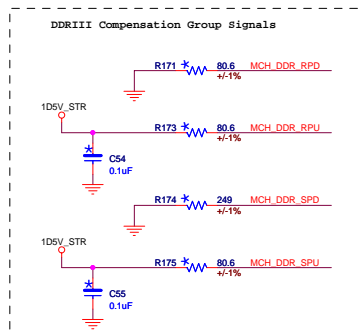
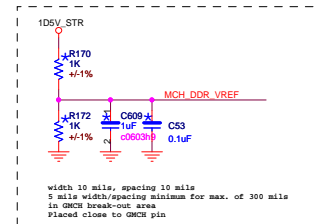
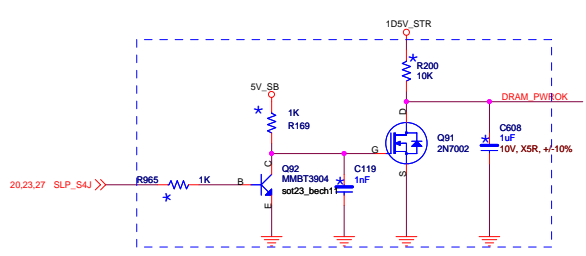
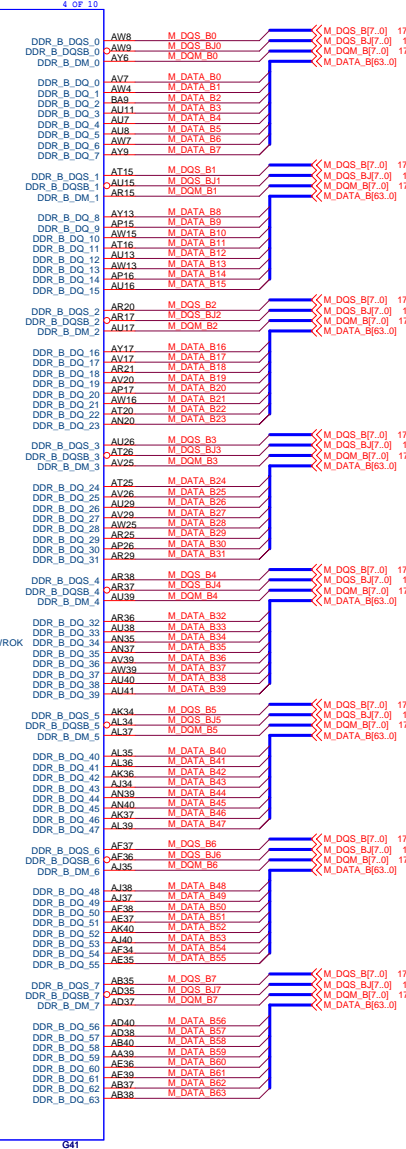
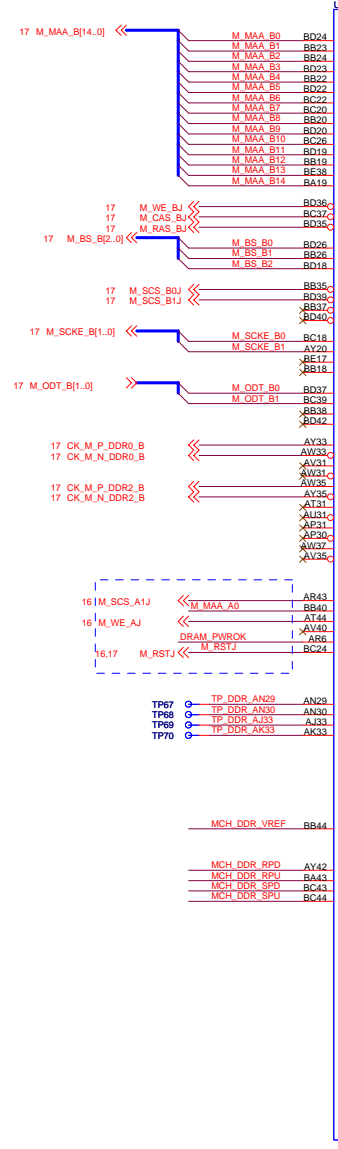
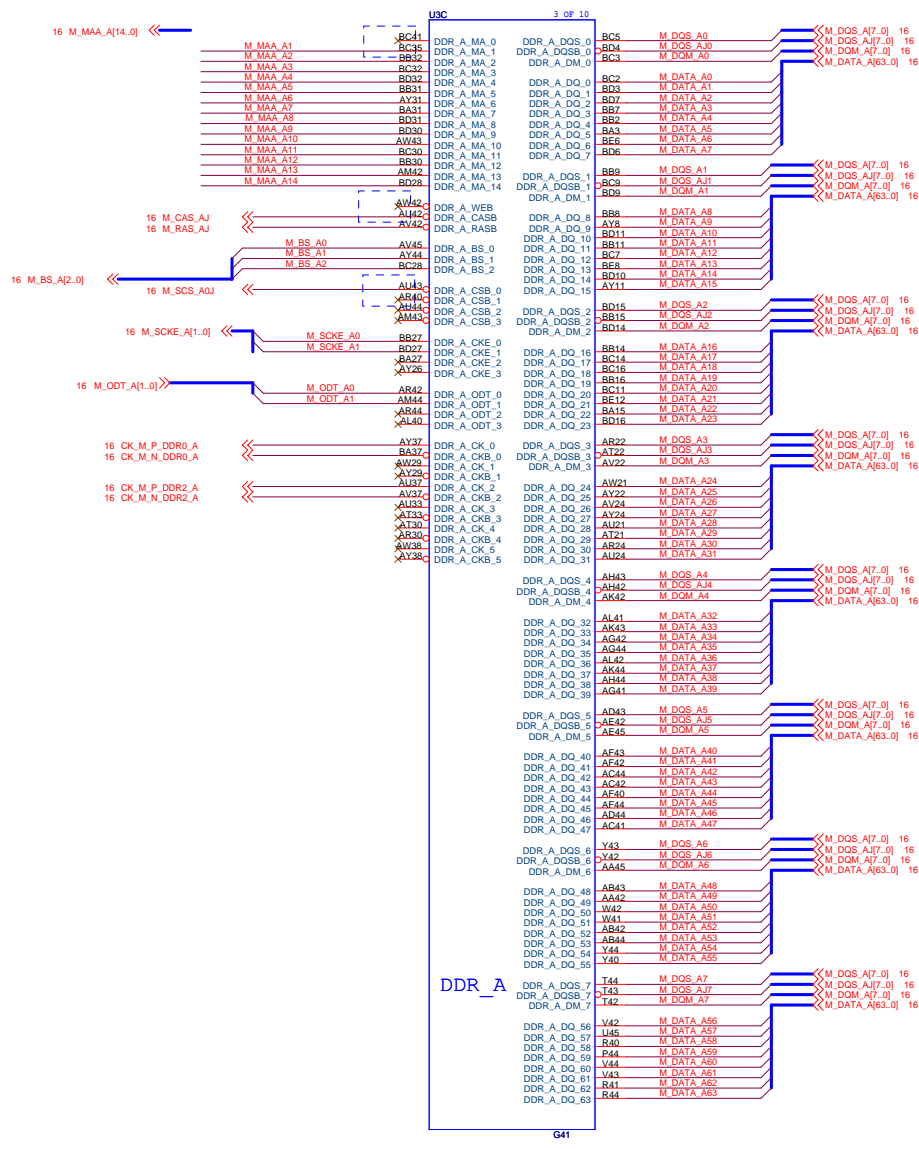


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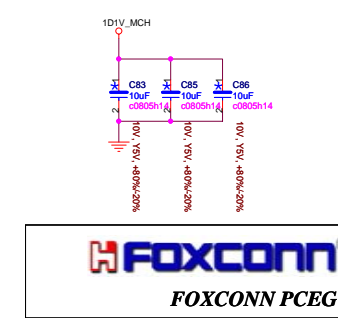
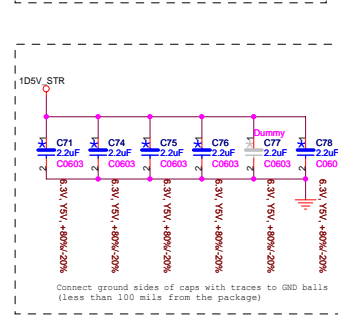
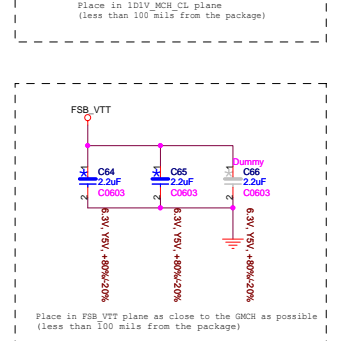
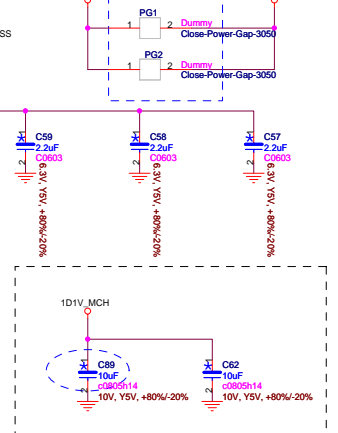
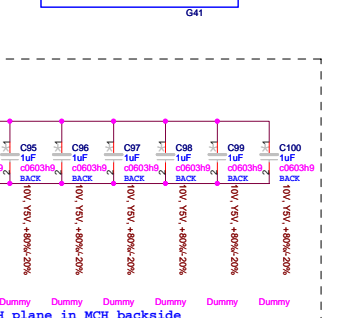
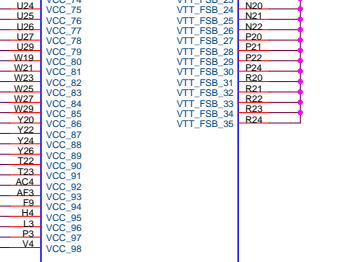
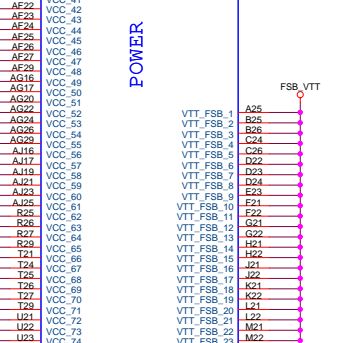
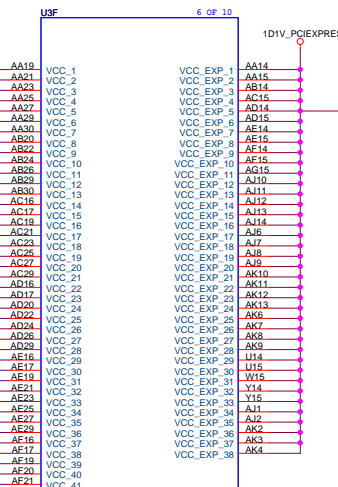
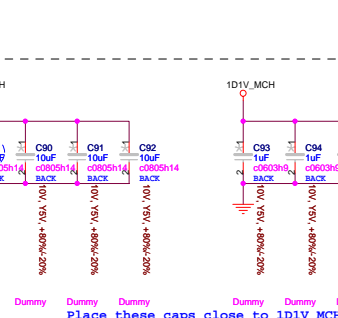
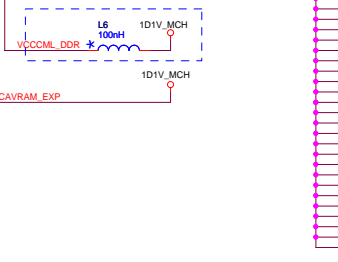
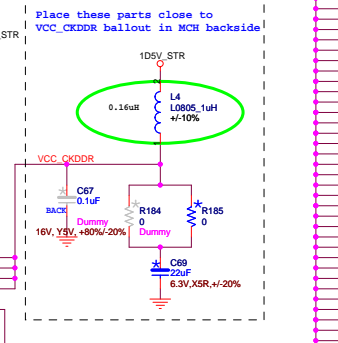
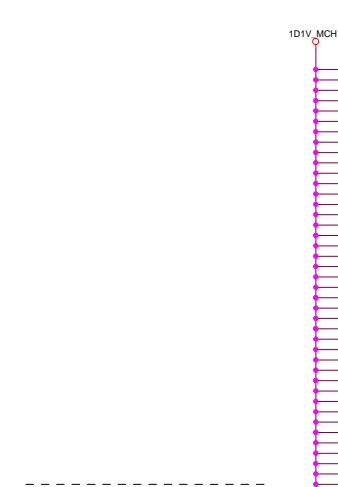
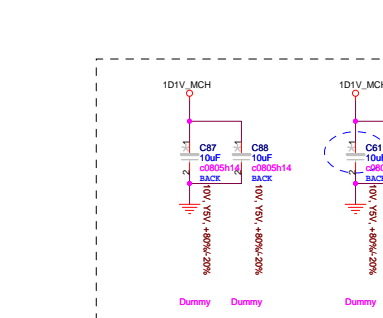
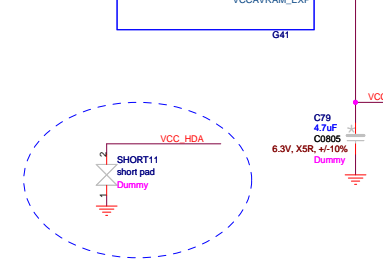
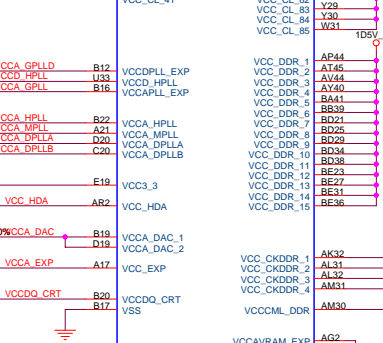
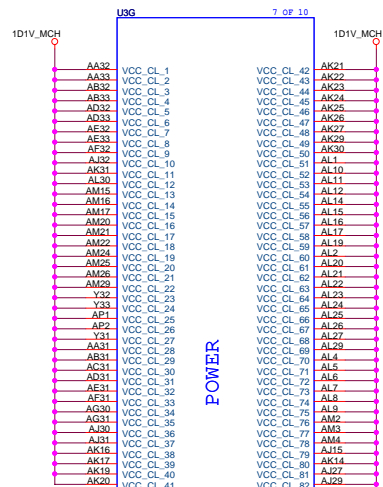
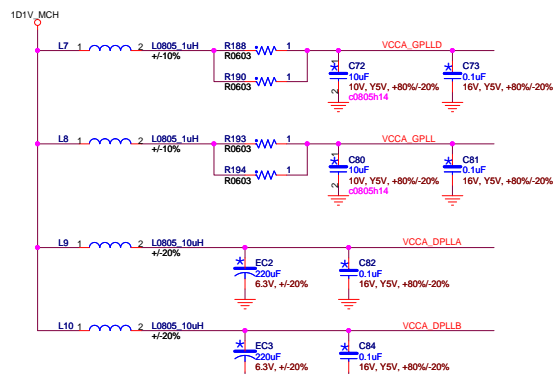
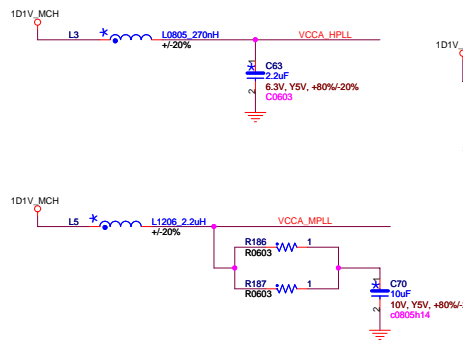
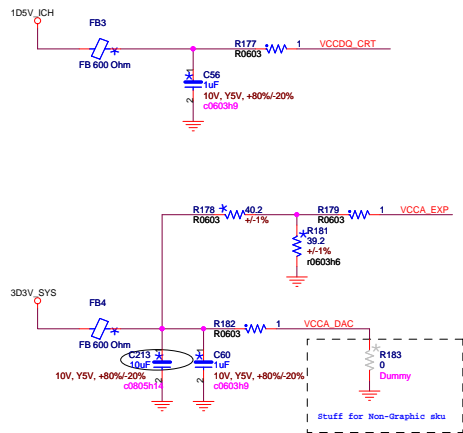


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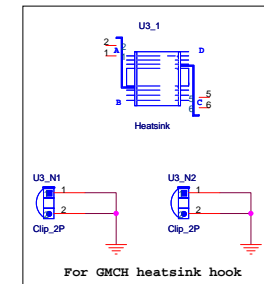
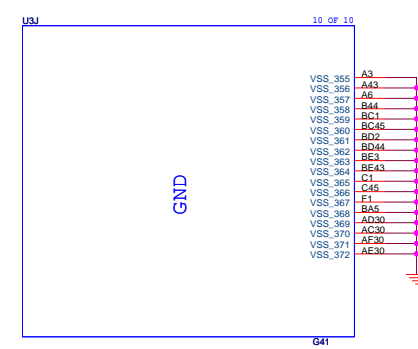
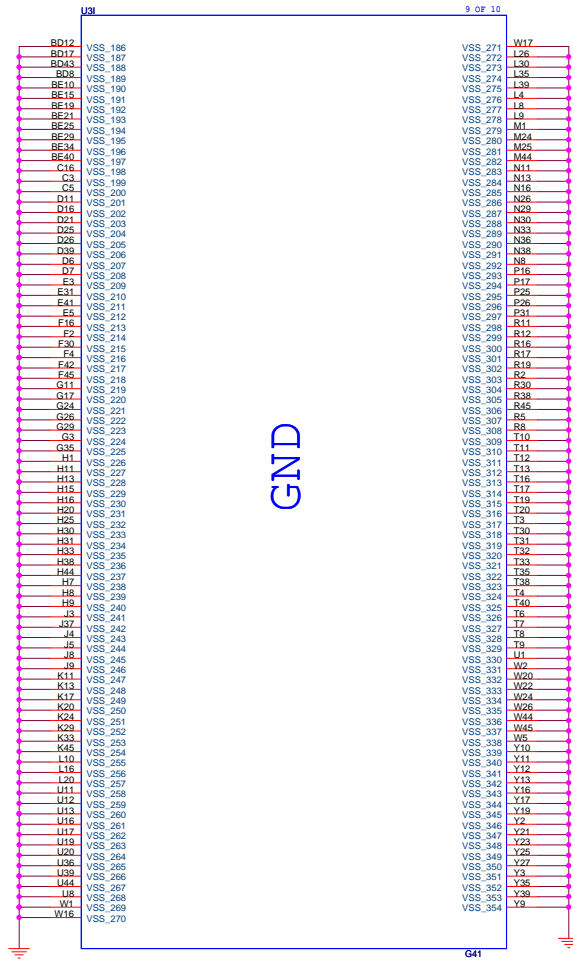


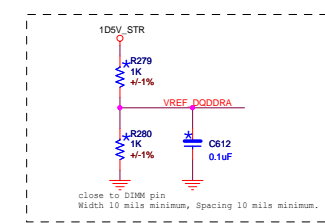
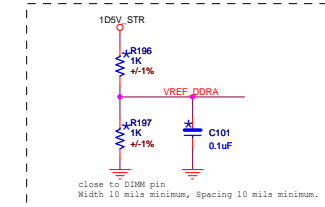
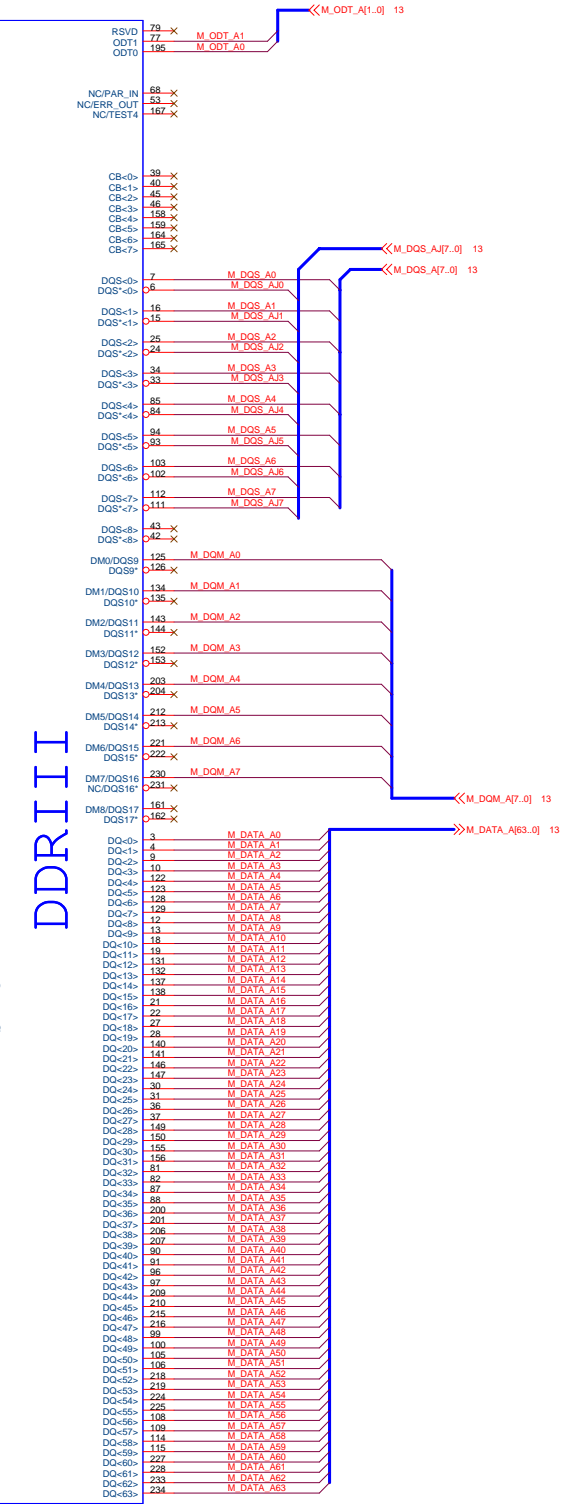
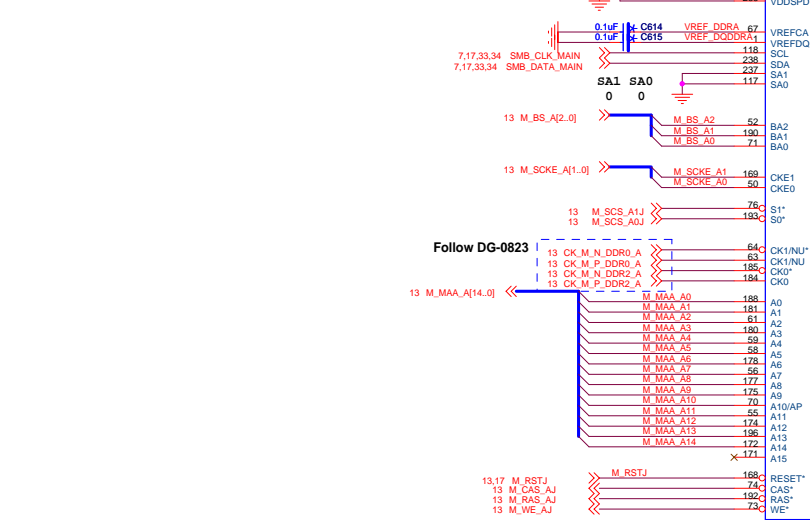
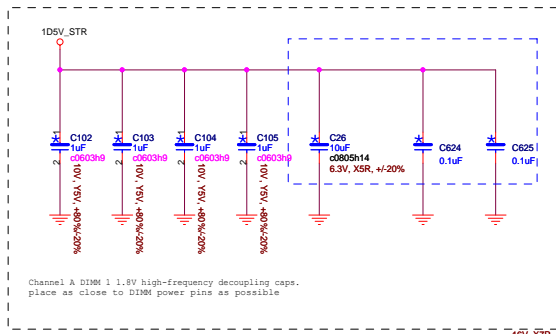
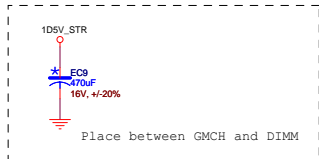
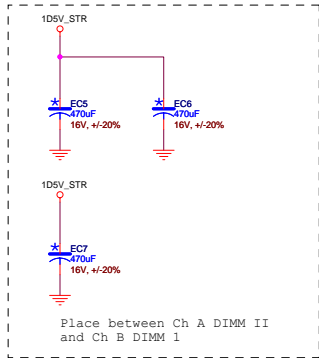


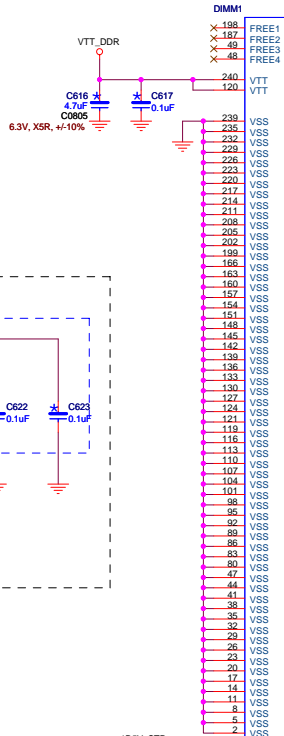
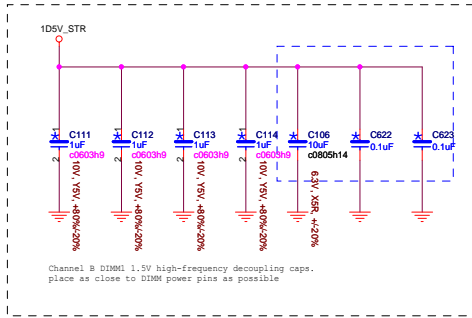
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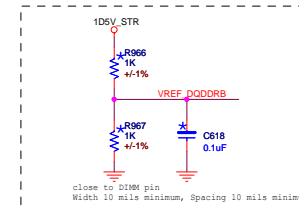
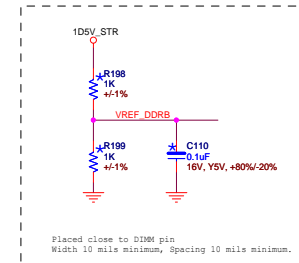
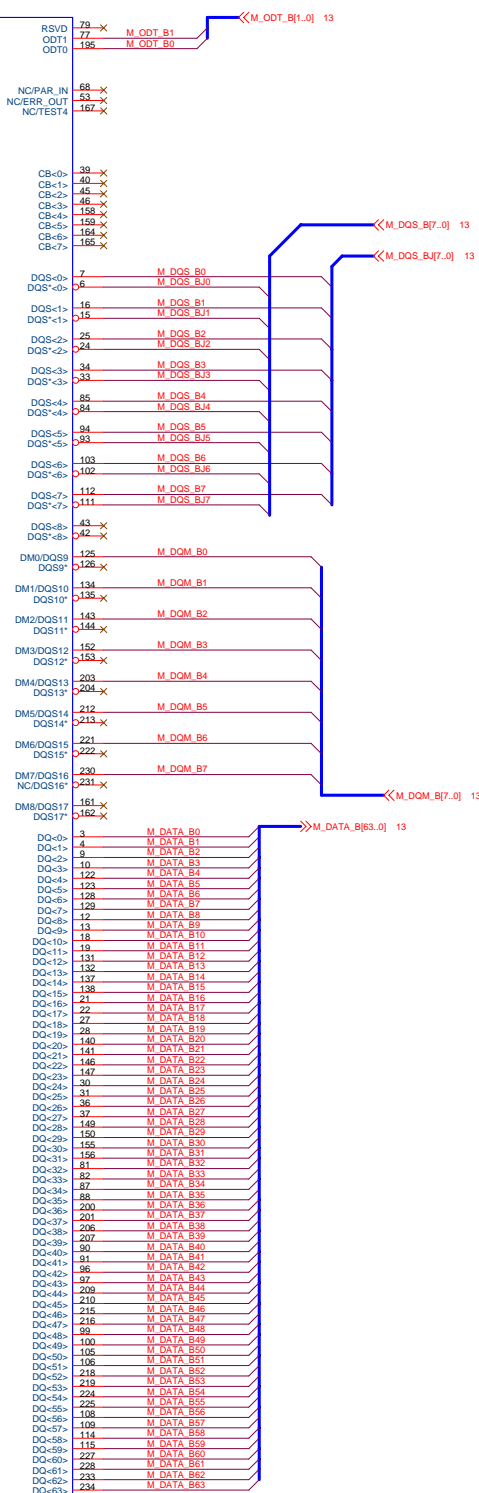
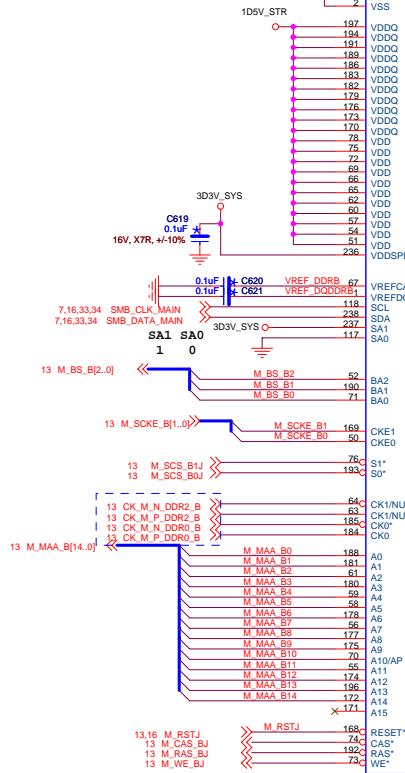
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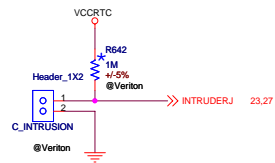
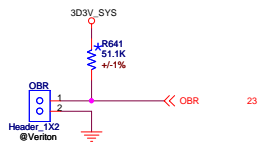
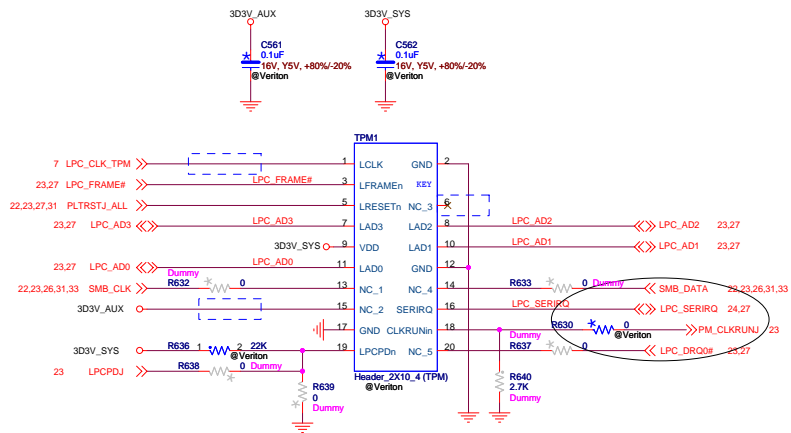






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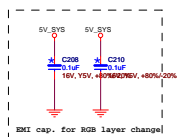
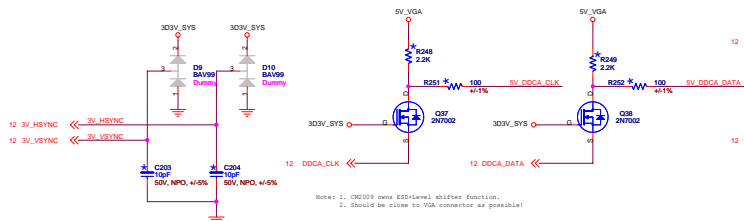




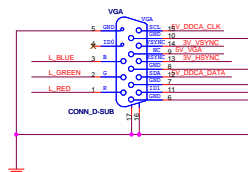
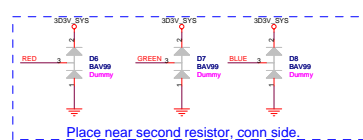
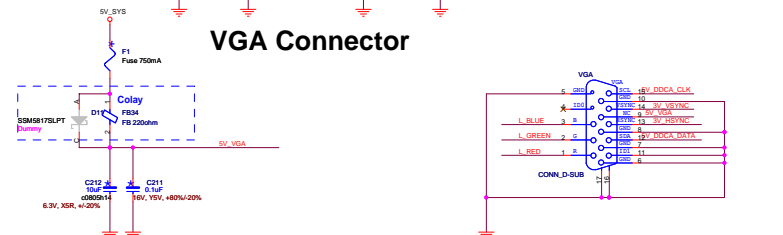
The 150 ohm resistors near VGA connector and minimizing length to filter. The filters to VGA connector maximum distance 800 mils.

#### RGB routing

1. from GND to the first 150 ohm resistor: 7.5 mils (min. 6 mils spacing)
2. from the first 150 ohm res. to the second 150 ohm resistor: 4 mils
3. from the second 150 ohm resistor to connector: 4 mils
4. spacing minimum 6 mils, 30 mils spacing is recommended
5. R,G,B should be length matched to 700 mils, max. length is 8400 mils
6. R,G,B signals should be ground referenced

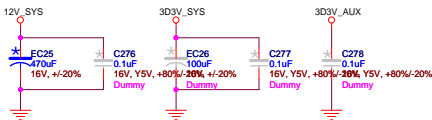
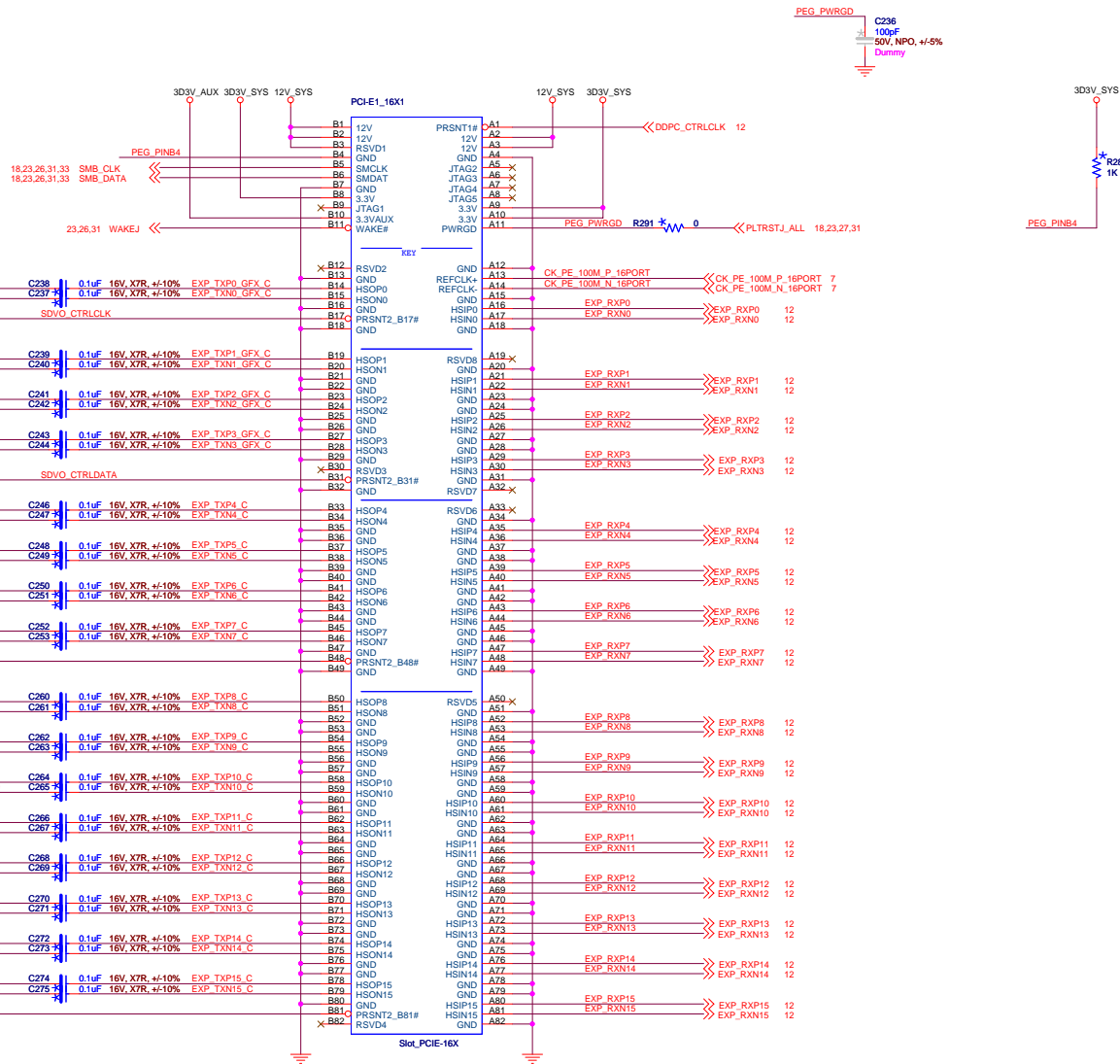


## VGA Connector

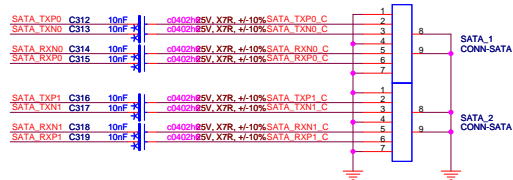
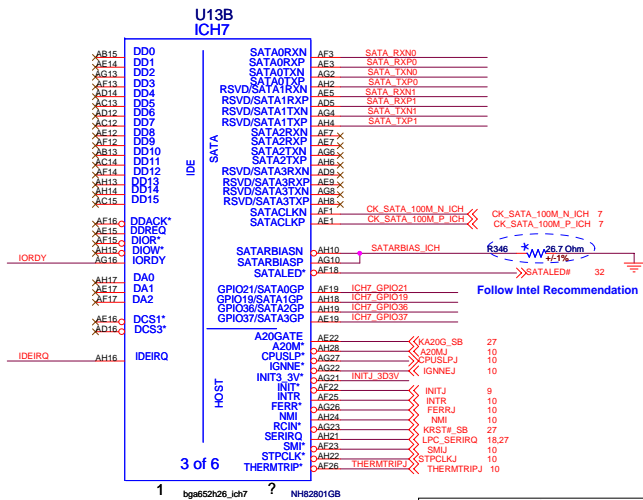


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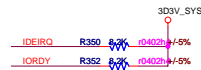
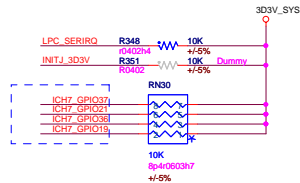
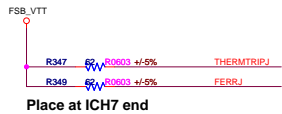
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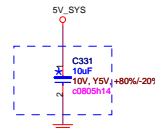




SATARBIA5 connection  
5 mils width, length no longer than 500 mils  
Trace tied together close to pins.

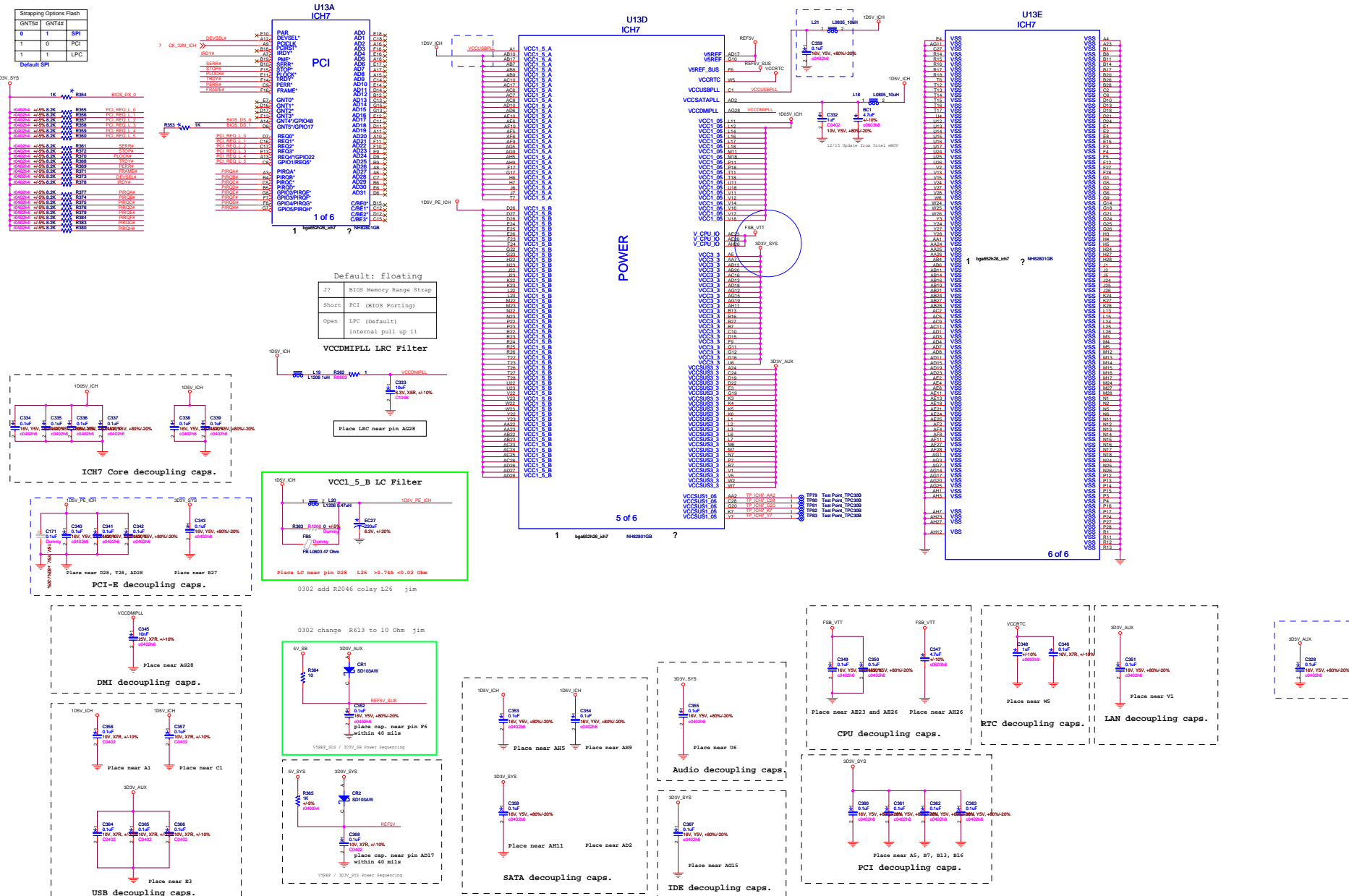


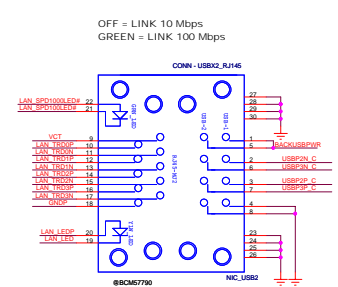
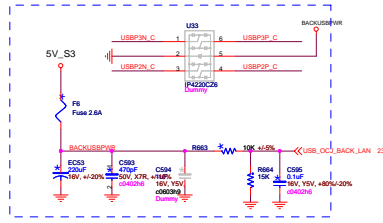
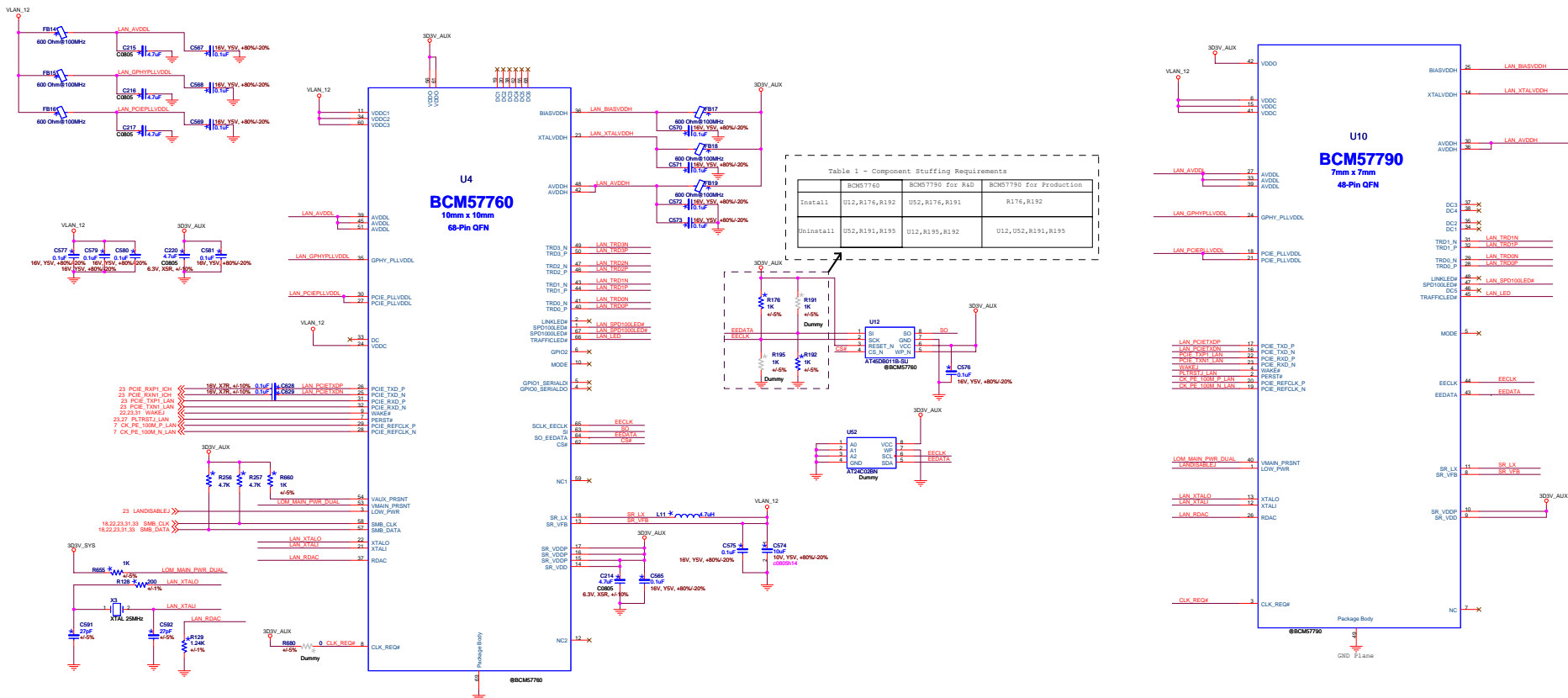
IDE data lines should be matched to strobes (IOR#, RD#) within +/- 250 mils,  
strobes should be matched to their complement within +/- 10 mils



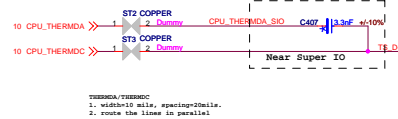
For ICH heatsink hook



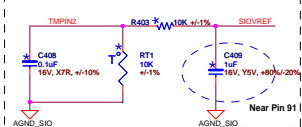




## CPU Temperature Monitor



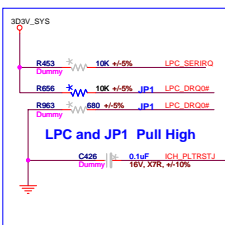
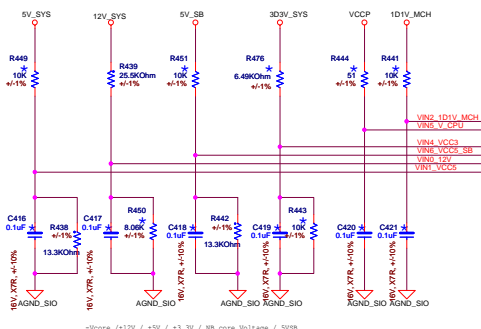
## System Temperature Monitor



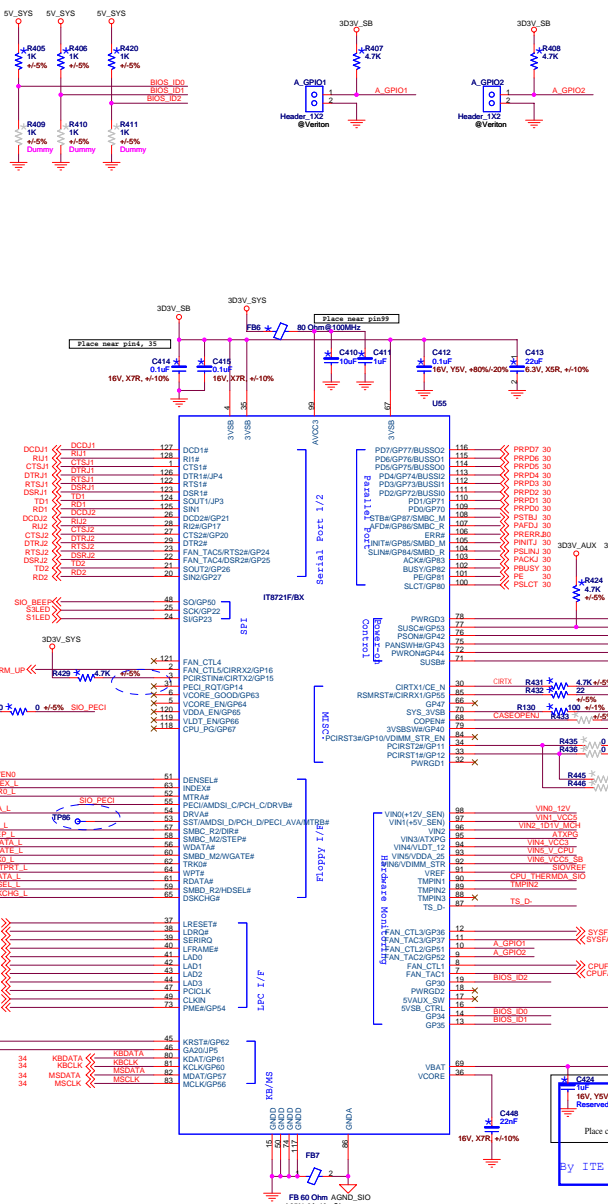
## Power On Strapping Options

Symbol	value	Description
JP1 (pin 38)	Flashseg1_EN	1 Disable
JP2 (pin 122)	VIDO_SEL	1 Disable VIDOOUT pins
JP3 (pin 124)	CHIP_SEL	Chip selection in configuration.
JP4 (pin 126)	K8PWR_EN	1 K8 power sequence function is disable
JP3 & JP5 (pin124&pin 46)	FAN_CTL_SEL	10 The default of EC index 15h/16h/17h is 40h
		01 The default of EC index 15h/16h/17h is 00h(Fan full speed)
		00 The default of EC index 15h/16h/17h is 20h
JP5 (pin 46)	WDT_EN	1 Disable WDT to reset PWROK
JP6 (pin 29)	SVID_EN	0 Enable SVID Function

## Voltage Monitor

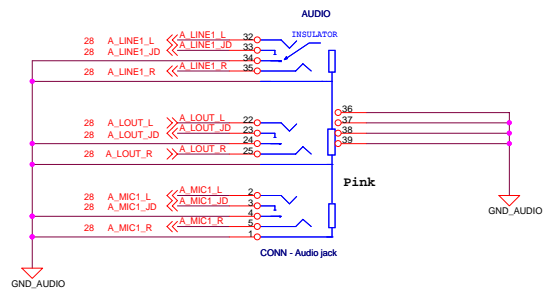


## BIOS ID Schematic

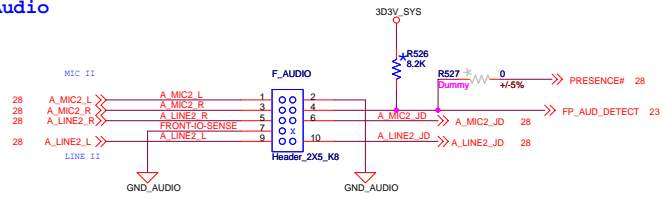




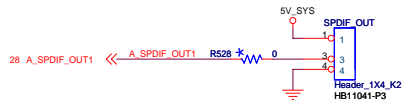
Audio CONN (3 Port)



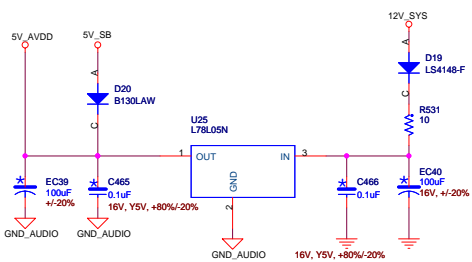
Front\_Audio



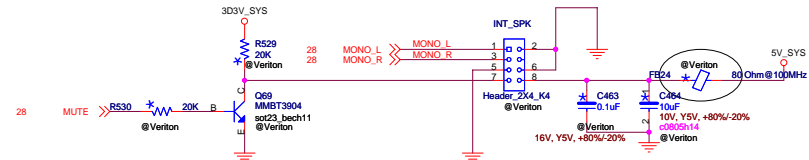
SPDIF\_OUT



12V to 5V Power Regulator



Internal Speaker Header for Acer

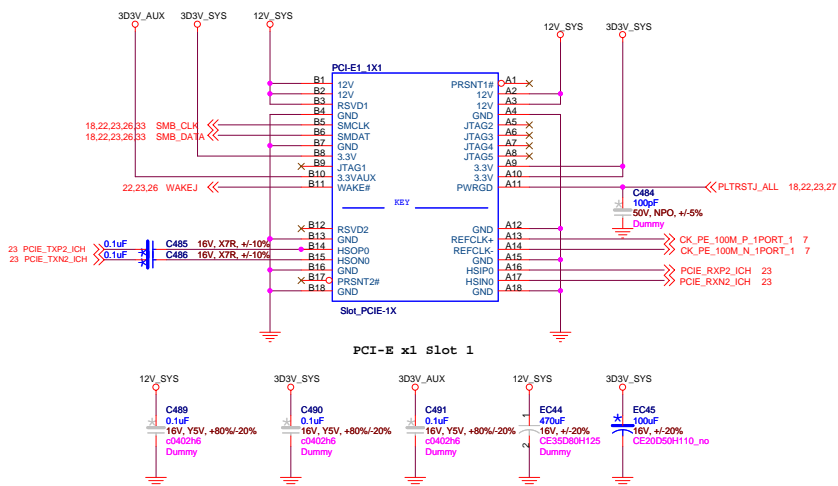


FOXCONN PCEG

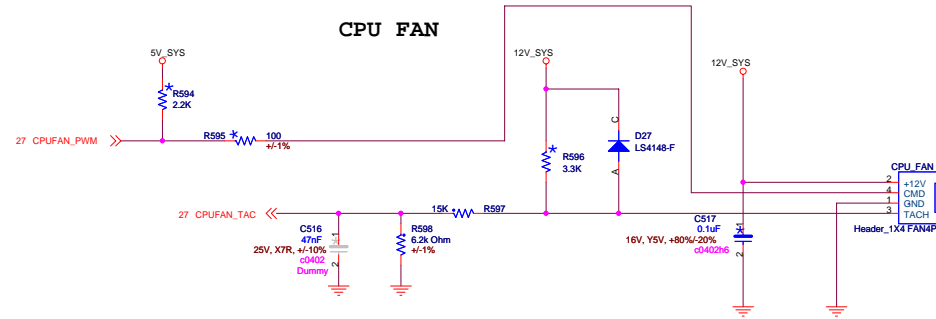
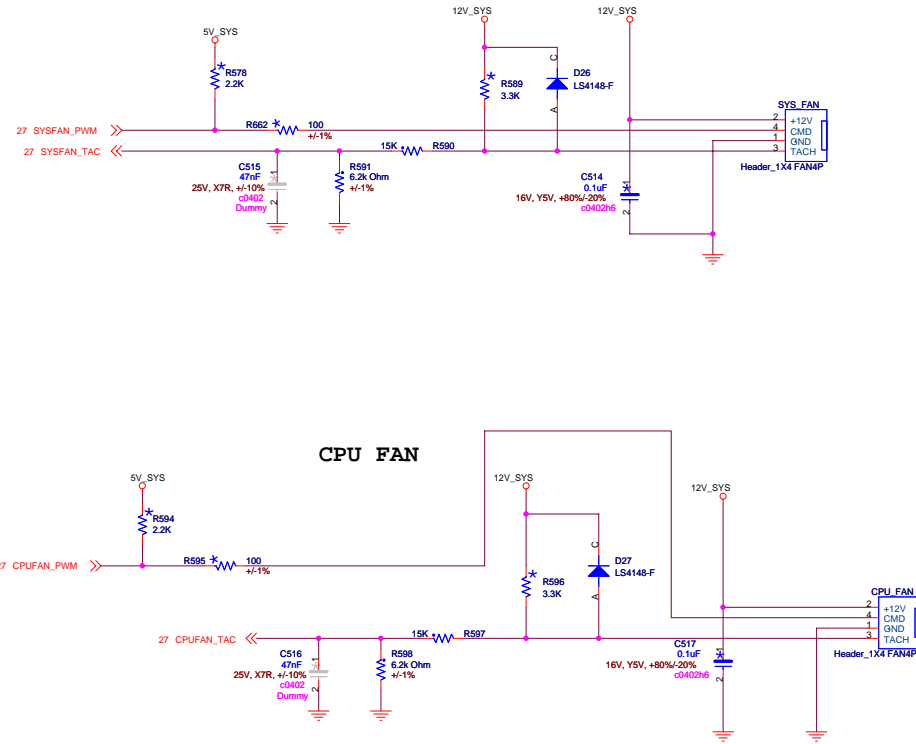
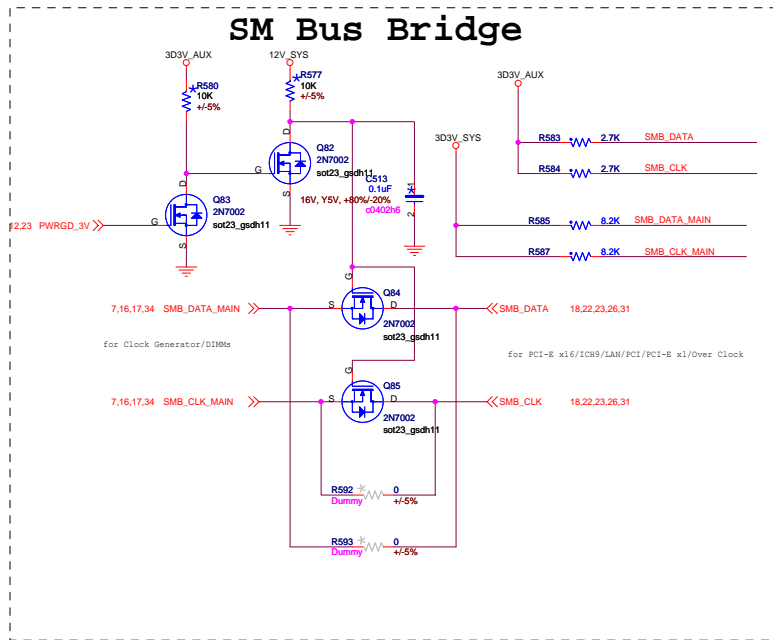
File		
Audio Conn		
Size	Document Number	Rev
C	Archer	A
Date:	Wednesday, December 06, 2006	Sheet 29 of 37



## PCIE 1X Slot

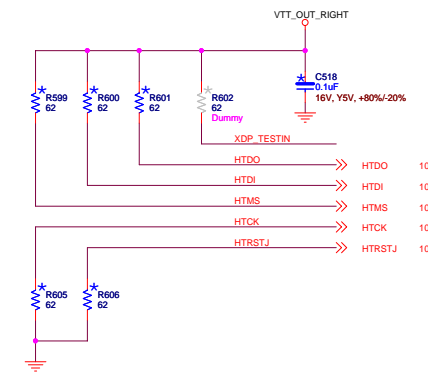
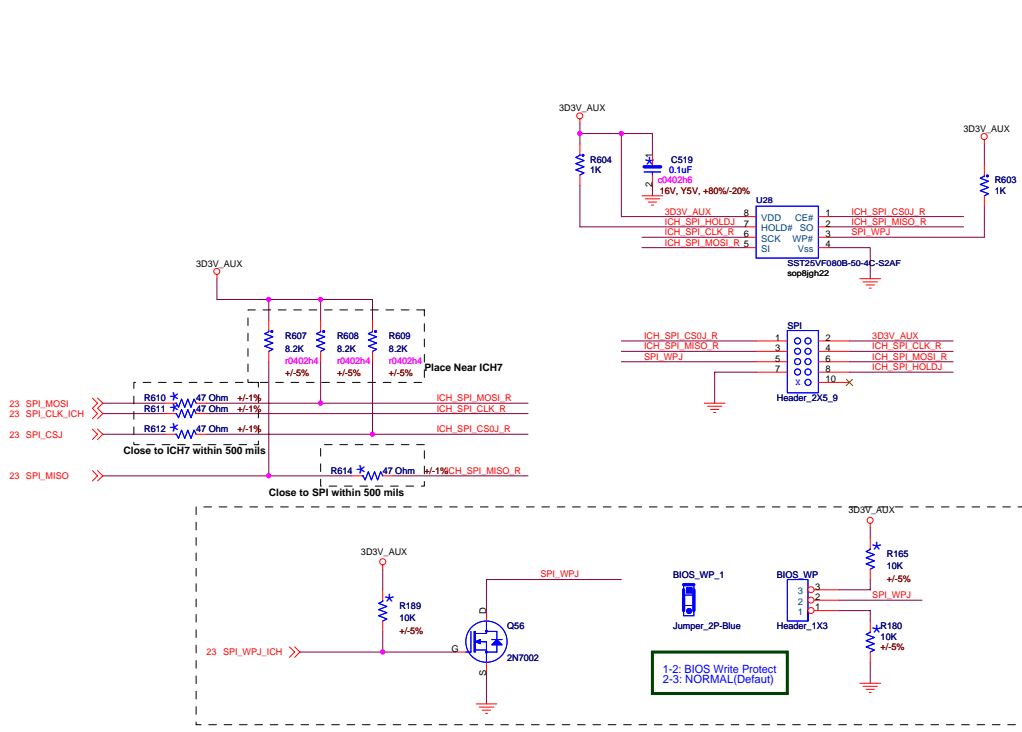




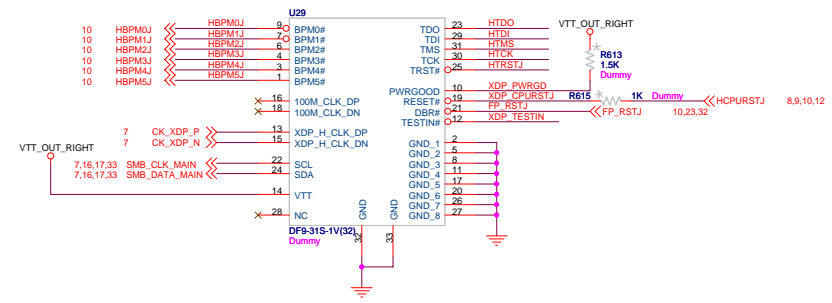


Peak fan current draw: 1.5A  
 Average fan current draw: 1.1A  
 Fan start-up current draw: 2.2A  
 Fan start-up current draw maximum duration: 1.0 second  
 Fan header voltage: 12V +/- 10%

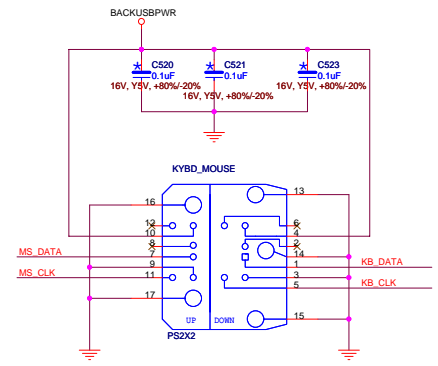
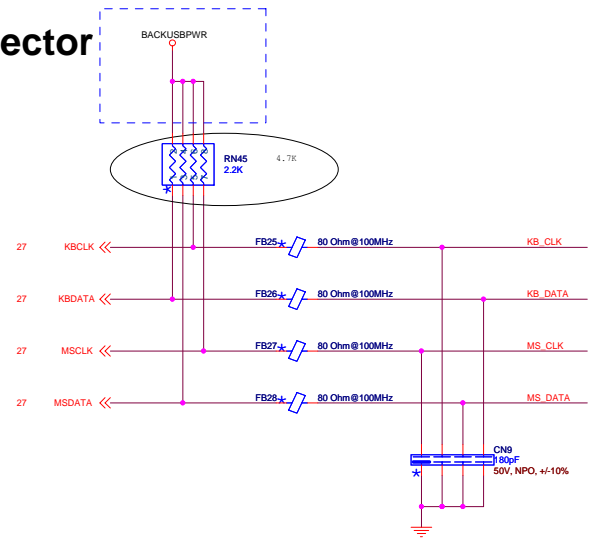
4-pin FAN Header Definition  
 pin1. GND  
 pin2. +12V  
 pin3. Sense  
 pin4. Control



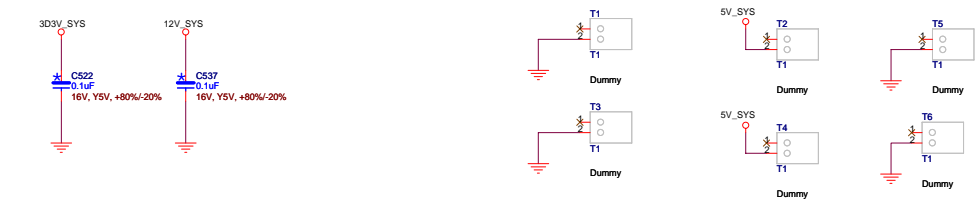
## XDP Connector

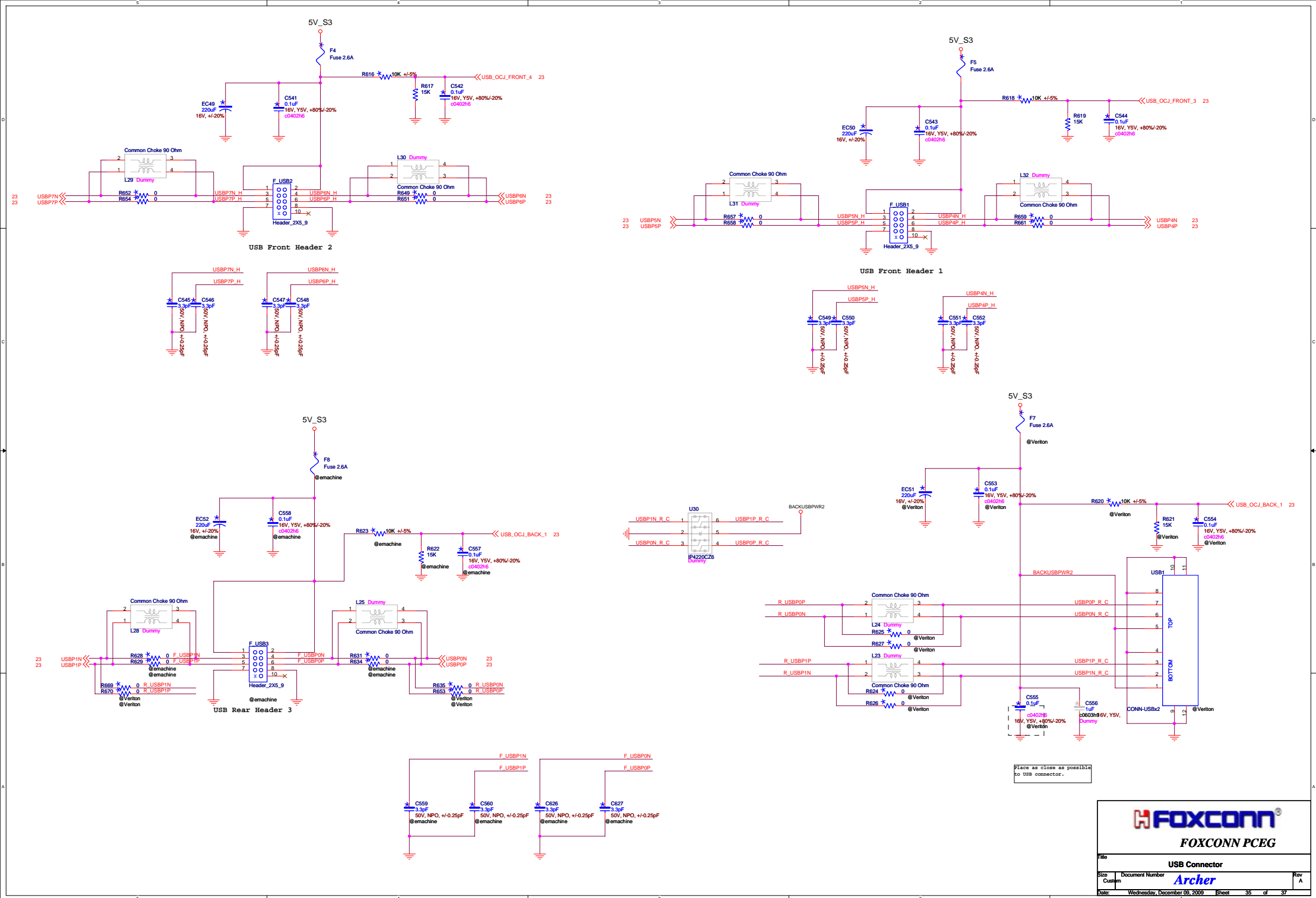


## KB / MS Connector



GREEN	PURPLE
Mouse	Keyboard



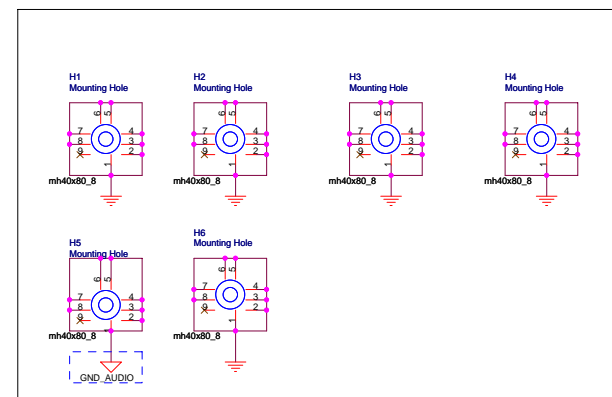
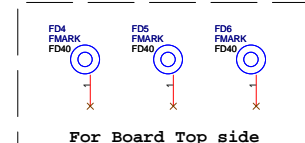
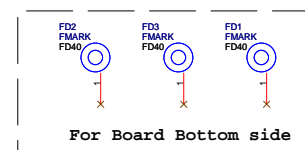


# ICH7 GPIO Summary

Name	Power Well	Type	Description
GPIO0	3.3V	I/O	
GPIO1	3.3V	I/O	
GPIO2	5V	I/OD	
GPIO3	5V	I/OD	
GPIO4	5V	I/OD	
GPIO5	5V	I/OD	
GPIO6	3.3V	I/O	
GPIO7	3.3V	I/O	
GPIO8	3.3V_SB	I/O	
GPIO9	3.3V_SB	I/O	
GPIO10	3.3V_SB	I/O	
GPIO11	3.3V_SB	I/O	
GPIO12	3.3V_SB	I/O	
GPIO13	3.3V_SB	I/O	
GPIO14	3.3V_SB	I/O	
GPIO15	3.3V_SB	I/O	
GPIO16	3.3V	I/O	
GPIO17	3.3V	I/O	
GPIO18	3.3V	I/O	
GPIO19	3.3V	I/O	
GPIO20	3.3V	I/O	
GPIO21	3.3V	I/O	
GPIO22	3.3V	I/O	
GPIO23	3.3V	I/O	
GPIO24	3.3V_SB	I/O	
GPIO25	3.3V_SB	I/O	
GPIO26	3.3V_SB	I/O	
GPIO27	3.3V_SB	I/O	
GPIO28	3.3V_SB	I/O	
GPIO29	3.3V_SB	I/O	
GPIO30	3.3V_SB	I/O	
GPIO31	3.3V_SB	I/O	
GPIO32	3.3V	I/O	
GPIO33	3.3V	I/O	
GPIO34	3.3V	I/O	
GPIO35	3.3V	I/O	
GPIO36	3.3V	I/O	
GPIO37	3.3V	I/O	
GPIO38	3.3V	I/O	
GPIO39	3.3V	I/O	
GPIO40	3.3V_SB	I/O	
GPIO41	3.3V_SB	I/O	
GPIO42	3.3V_SB	I/O	
GPIO43	3.3V_SB	I/O	
GPIO44	3.3V_SB	N/A	
GPIO45	3.3V_SB	N/A	
GPIO46	3.3V_SB	N/A	
GPIO47	3.3V_SB	N/A	
GPIO48	3.3V	I/O	
GPIO49	3.3V	I/O	
GPIO50	5.5V	I/O	
GPIO51	3.3V	I/O	
GPIO52	5.5V	I/O	
GPIO53	3.3V	I/O	
GPIO54	5.5V	I/O	
GPIO55	3.3V	I/O	
GPIO56	3.3V_SB	I/O	
GPIO57	3.3V_SB	I/O	
GPIO58	3.3V_SB	I/O	
GPIO59	3.3V_SB	I/O	
GPIO60	3.3V_SB	I/O	

# PCI Routing Summary

	PCI1	PCI2				
INTAJ	A	E				
INTBJ	B	F				
INTCJ	C	G				
INTDJ	D	H				
INTEJ						
INTFJ						
INTGJ						
INTHJ						
REG#/GNT#	0	1				
IDSEL	22	24				



- 54321
- 1.Connect MS1 Pin3 to GND.  
2.Dummy L23,L24.  
3.Change R214 to 1.05K  
Change R244 to 510 OHM  
Change Q17 to AOD 452  
4.Change U15 PWR to 3D3V\_SB  
5.Change FP1 to 340600D00-GRV-G  
6.U11 Rev. to B0  
7.Change R231 to 10k,Q26 to 2N7002,Add C108  
8.Reserved R329,Dummy Q45,D15,D16,R333,R340,R341.Change C307 to 0.01u  
9.Reserved R424  
10.Change EXP\_TXP[7..4]\_GFX Connection  
11.Change DIMM2 CLK Connection