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H61M06

Fab A

Micro ATX 8.9X6.8

CPU:

Intel Sandy Bridge processors in LGA1155 Package

System Chipset:

PCH

Main Memory:

Dual Channel / DDR-III * 2 (Max 8GB)

On Board Device:

SIO: IT8772

LAN: Realtek RTL8111F/8105E

HDA Codec: ALC662

BIOS:SPI Flash ROM 4Mbyte

Expansion Slots:

PCI EXPRESS 16X SLOT *1

PCI EXPRESS 1X SLOT * 2

H61MXE-S

USB3+RTL8111F+POWER MOS+Solid CAP


H61MXE

RTL8111F

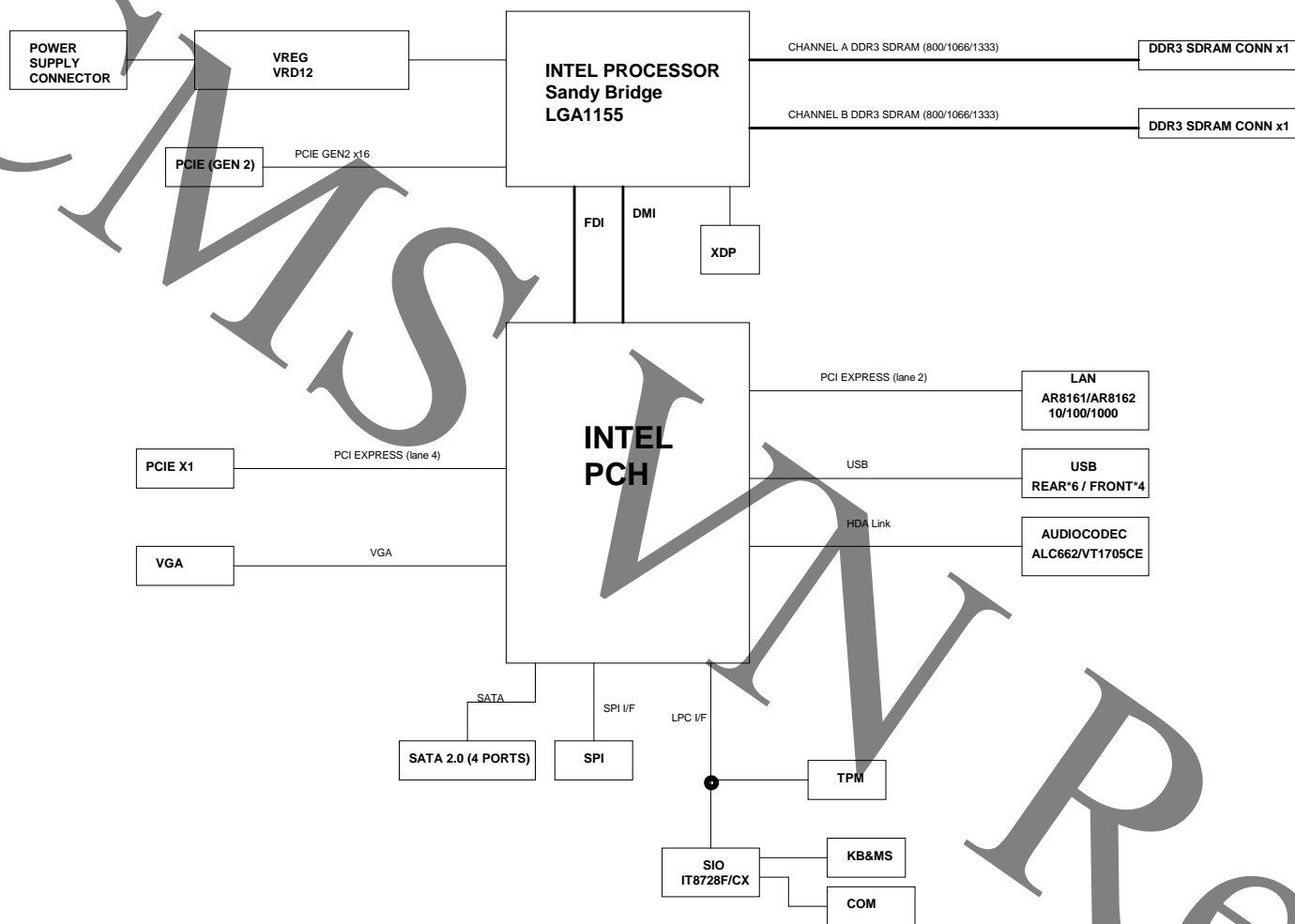
H61MXE-V

RTL8105E

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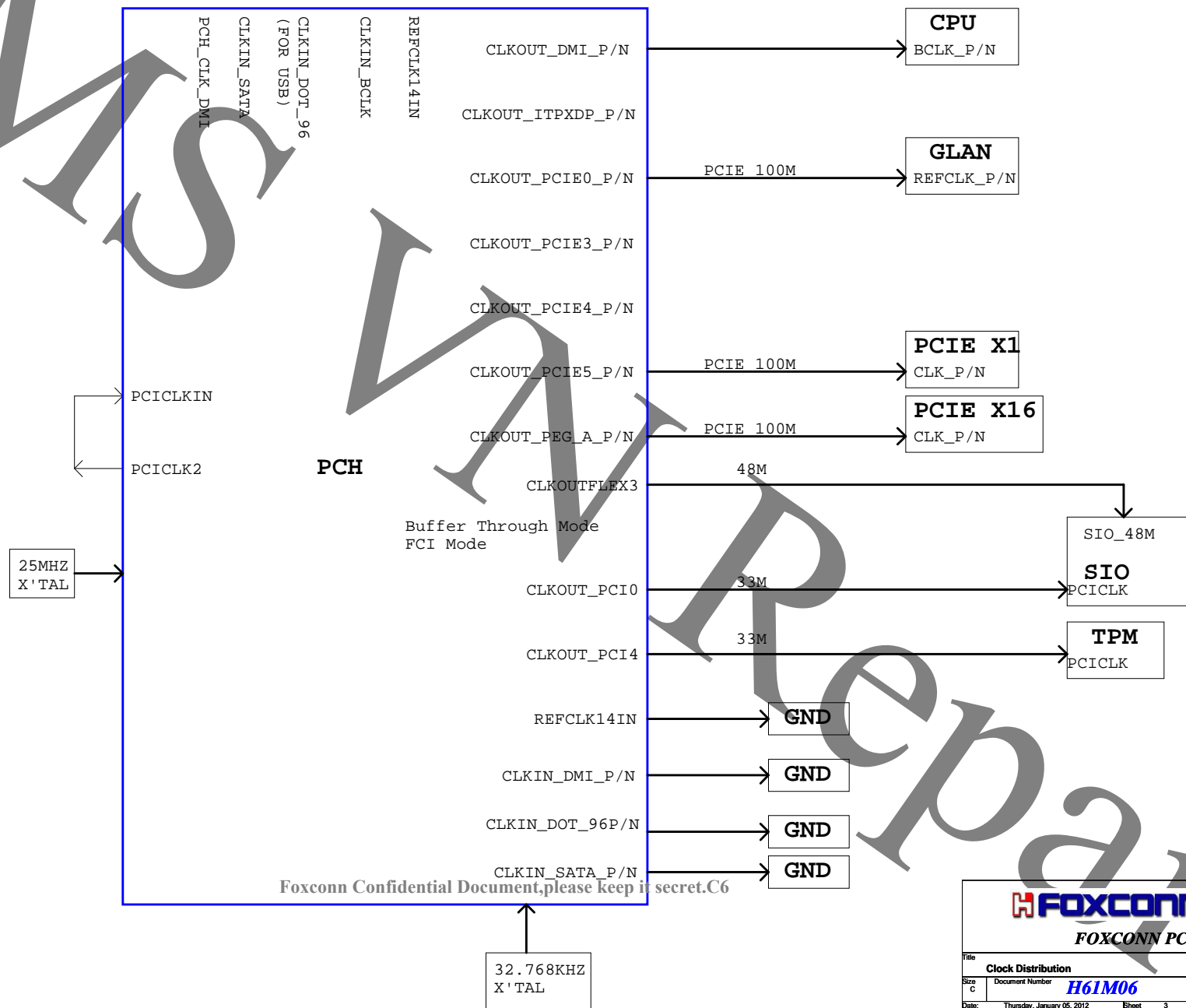
 FOXCONN PCEG		
Title		
Cover Sheet		
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BLOCK DIAGRAM



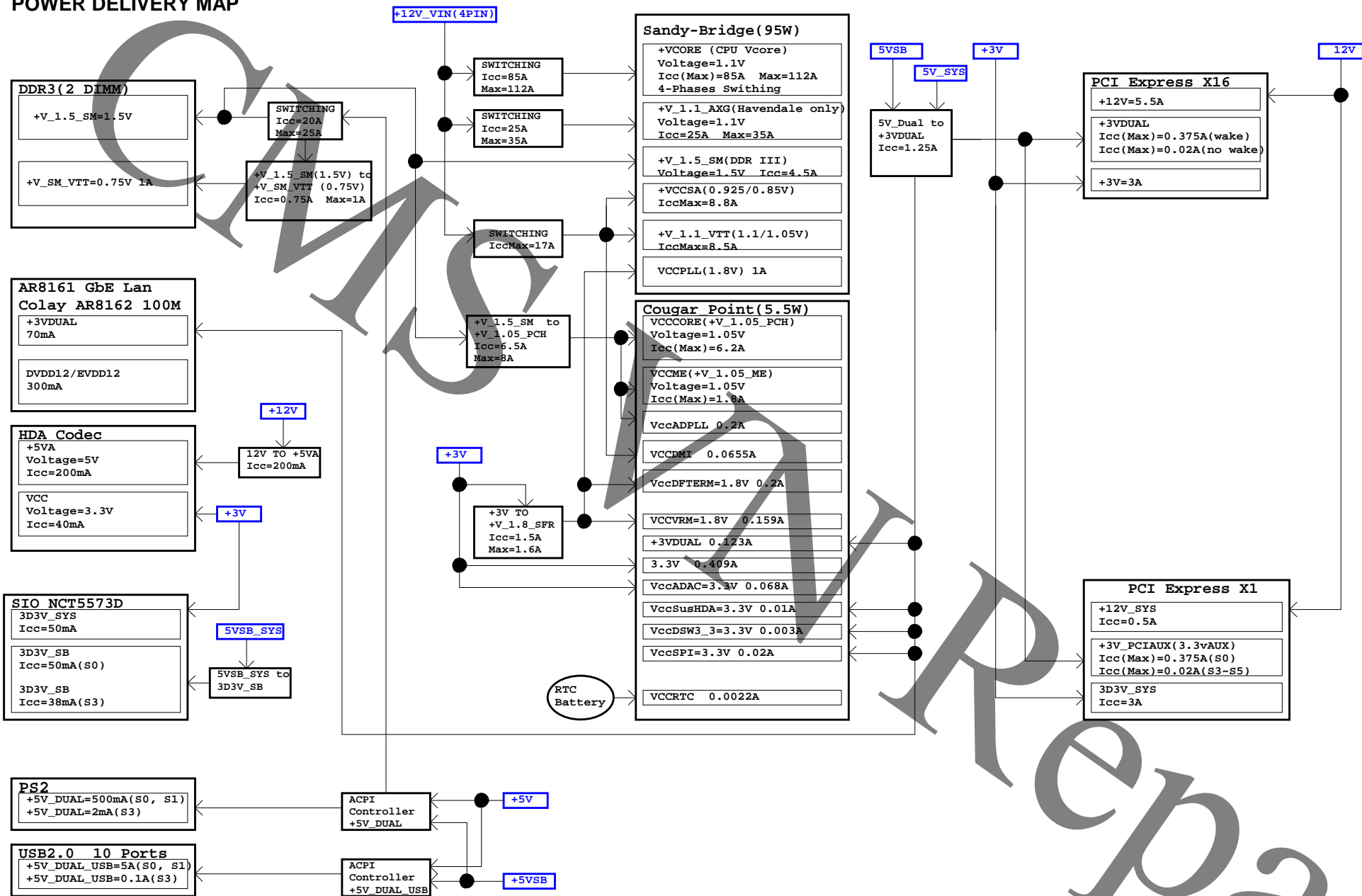
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POWER DELIVERY MAP



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RESET / Power Good MAP

Sequence Signal Name:

- (1) O_PWRBTN#IN
- (2) S_SLP_S4# S_SLP_S3# S_SLP_M#
- (3) O_PSON#
- (4) B_ATX_PWROK
- (5) PCH_MEPWRGD
- (6) S_PCH_SYSPWROK P_VR_READY
- (7) PWRGD_3V
- (8) H_DRAMPWRGD D3_RESET#
- (9) H_PWRGD
- (10) S_PLTRST# H_RESET# R S_PLTRST# R
- (11) X_PLTRST_PCIE_SLOT# K_PCIRST# SLOT
- (12) A_Z_RST#

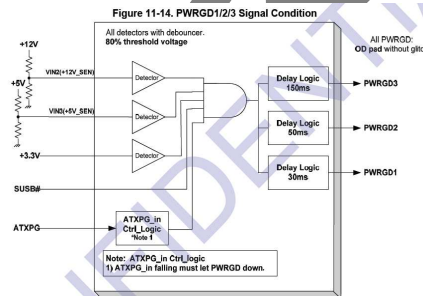
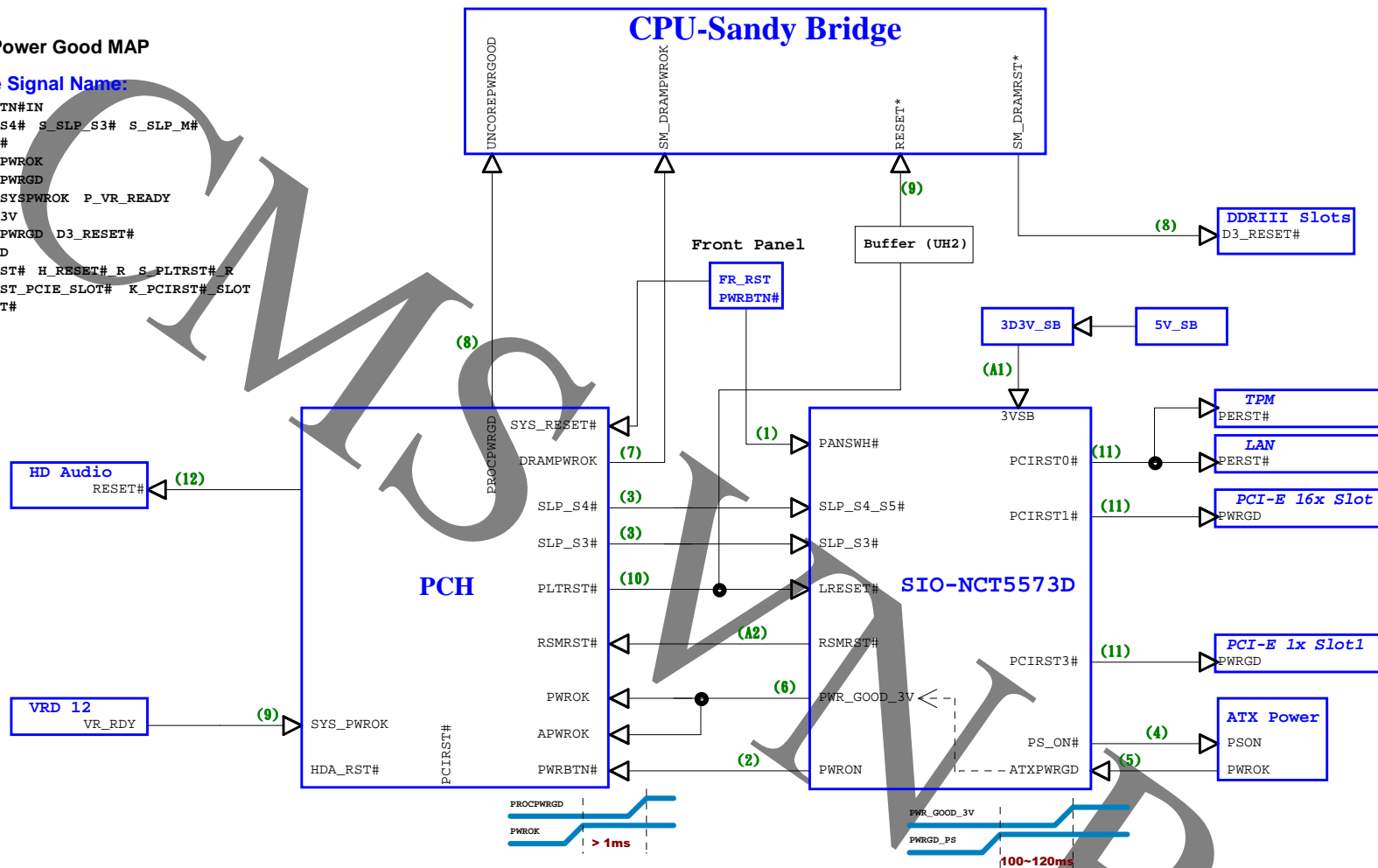


Figure 11-15. PWRGD1/2/3 Signal Timings

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		Reset/power good	
		FOXCONN PCEG	
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IRQ Routing Table

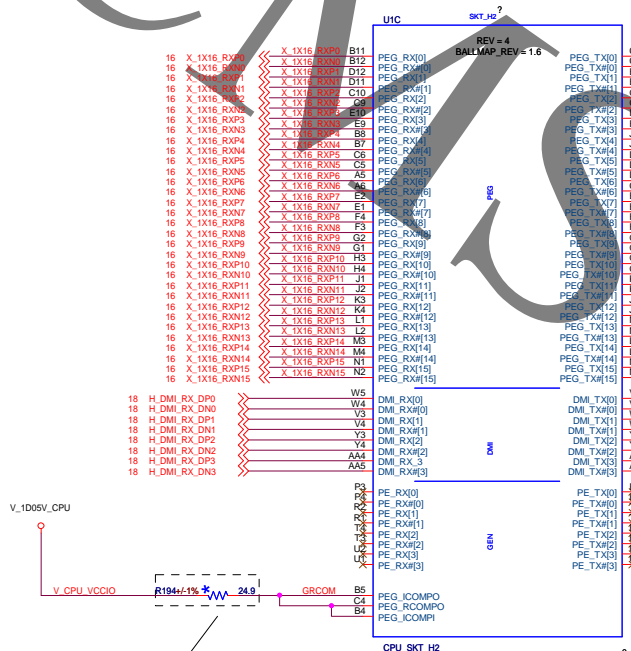
	INTA#	INTB#	INTC#	INTD#	IDSEL	REQn#	GNTn#
Slot1	A	B	C	D	16	0	0

	INTA#	INTB#	INTC#	INTD#	IDSEL	REQn#	GNTn#
Slot2	B	C	D	A	17	2	2

STRAPPING Table

CPU side

CFG[17:0]	Description	
[2]	PCI Express static x16 lane numbering reversal	1: normal Default
		0: lane numbers reversed
[6:5]	PCI Express Bifurcation	00: 1x8, 2x4 PCI Express
		01: reserved
		10: 2x8 PCI Express
		11: 1x16 PCI Express Default

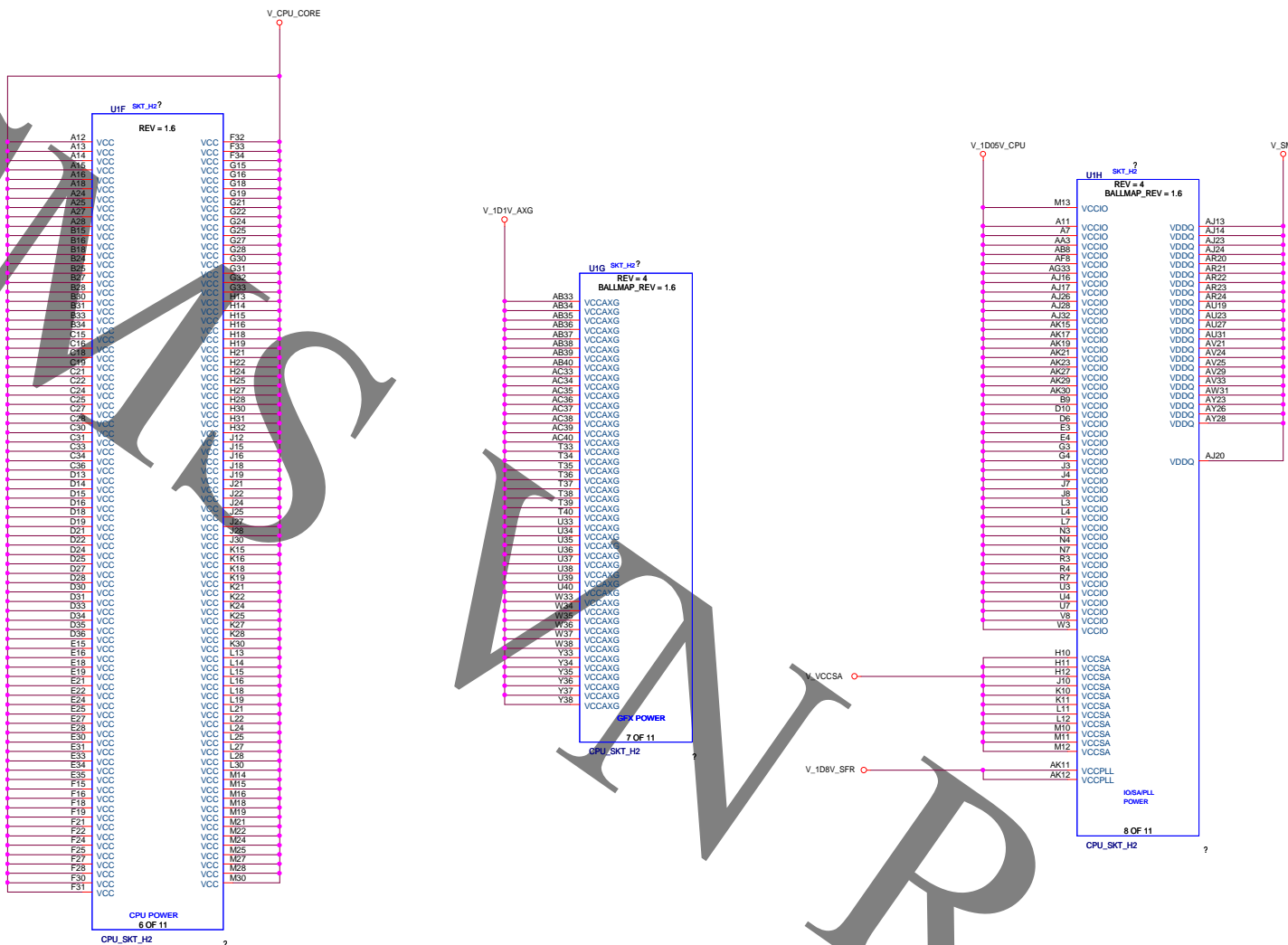


DESIGN NOTE:
N/T: PCIE X4 LANES ARE NOT SUPPORTED ON DESKTOP CPU SKUS

Short B4 & C4 together, route as a single 4 mil trace to R2
Route B5 to R2 as a separate 10 mil trace

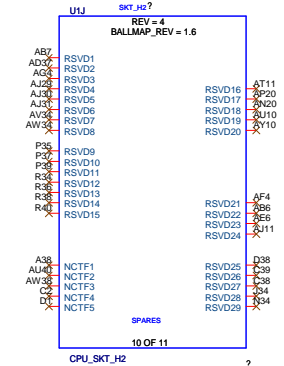
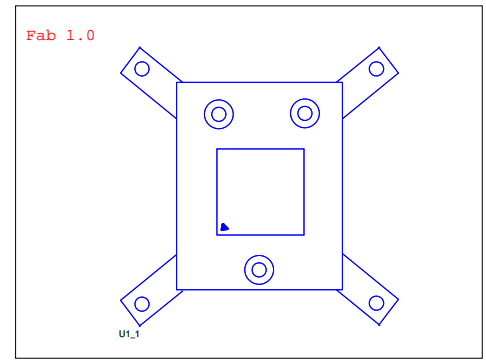
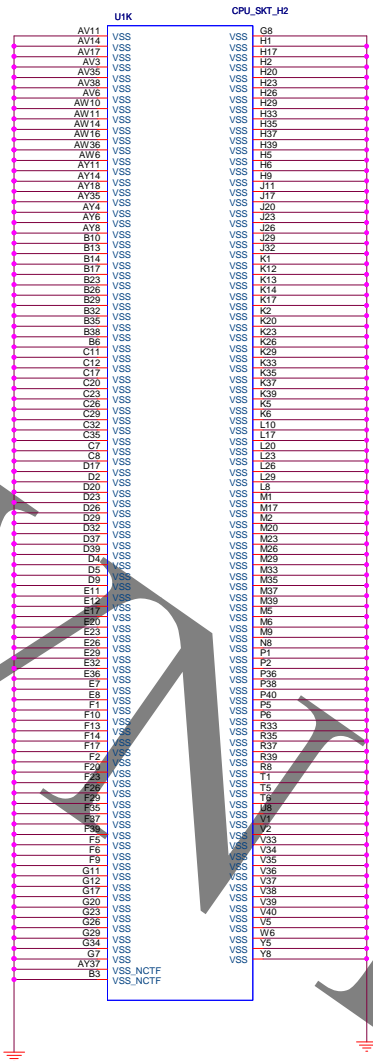
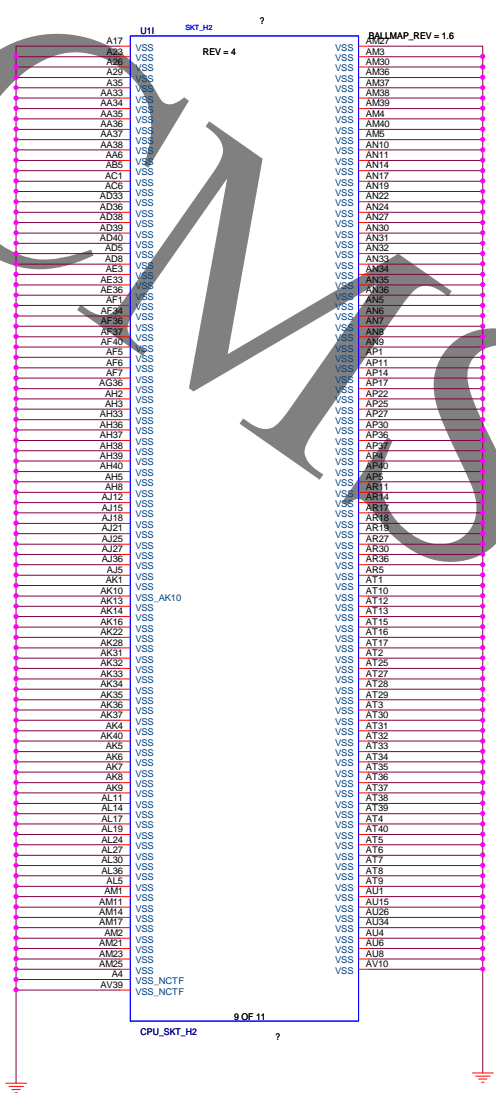
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 FOXCONN PCEG		
Title		
CPU2-PEG/DMI/FDI		
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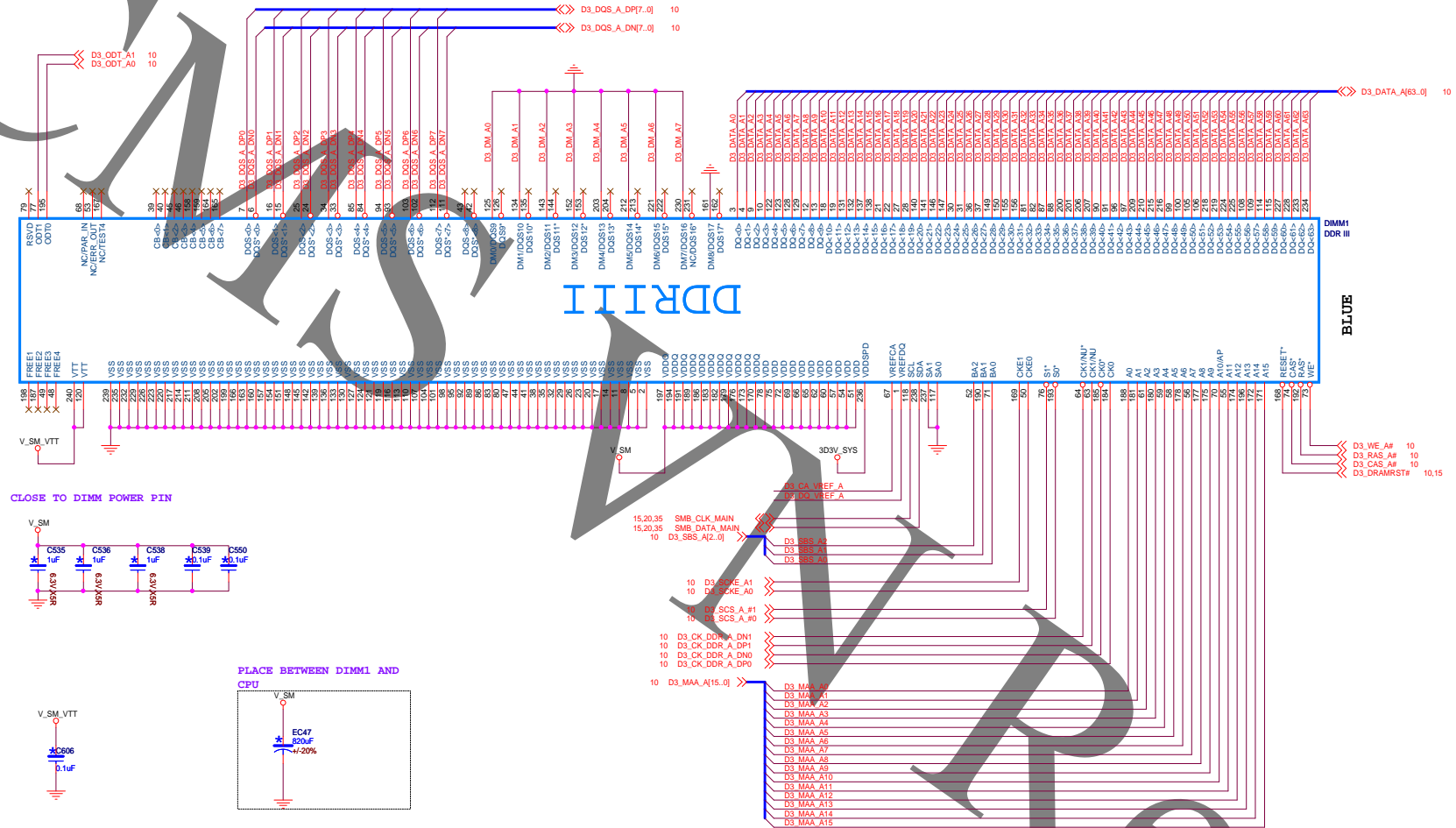
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Title		
CPU5-POWER		
Size	Document Number	Rev
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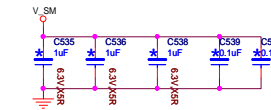


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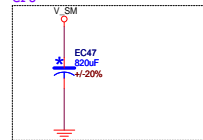
CHANNEL A DIMM 1
SMB ADDRESS:000



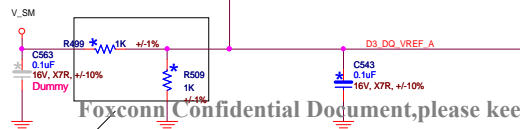
CLOSE TO DIMM POWER PIN



PLACE BETWEEN DIMM1 AND CPU



11 DIMM_DQ_VREF_A



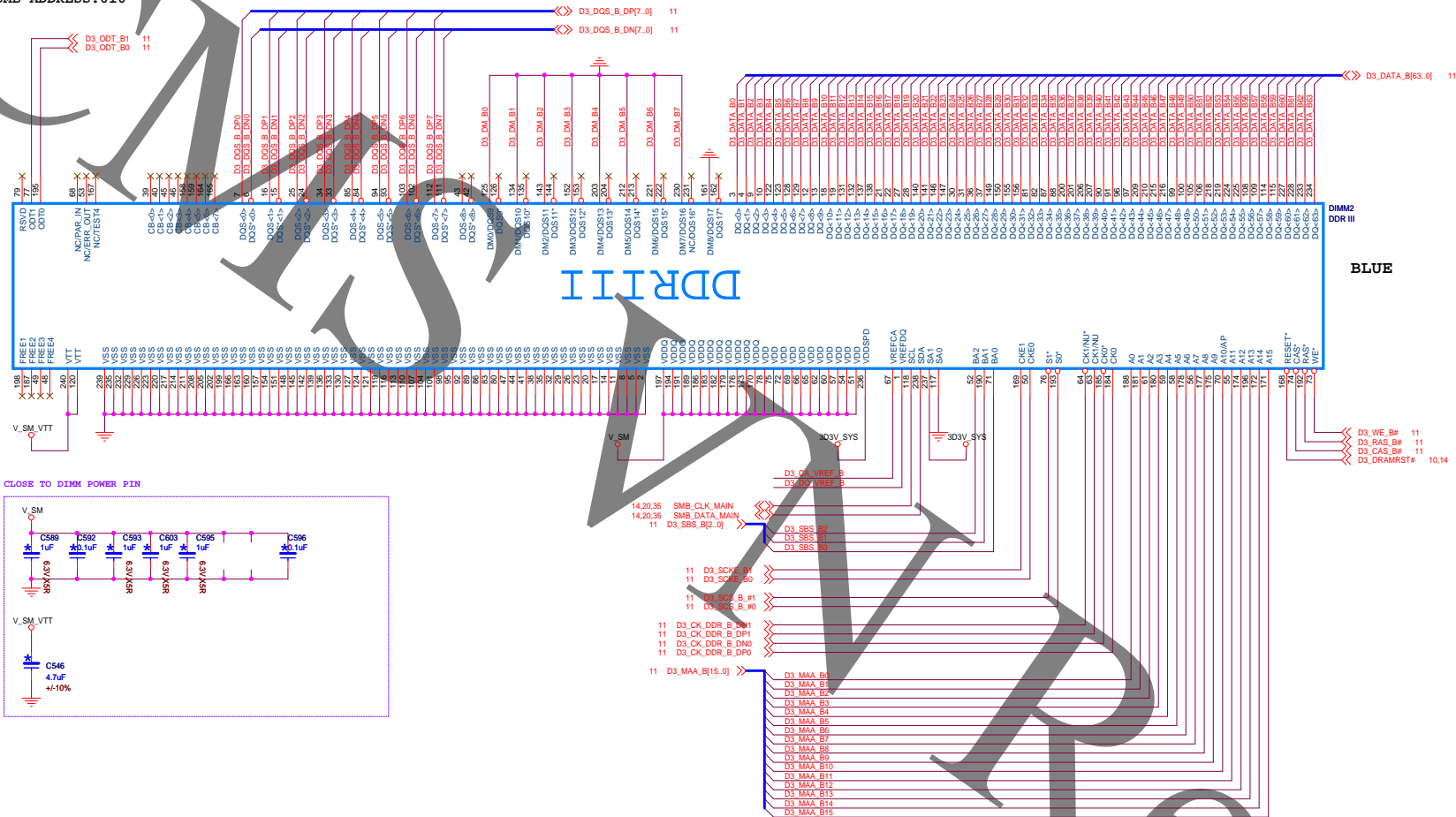
PLACE RESISTORS CLOSE TO CH_A DIMMS
ON DIMM_VREF_A

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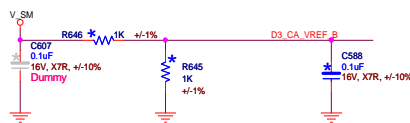
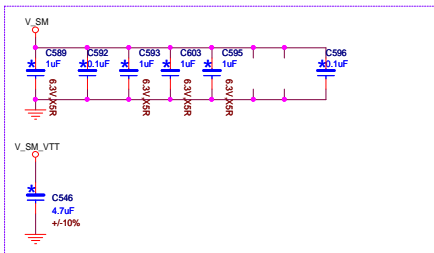
FOXCONN
FOXCONN PCEG

Title		
DDR3-1:CHA		
Size	Document Number	Rev
C	H61M06	A
Date:	Thursday, January 05, 2012	Sheet 14 of 45

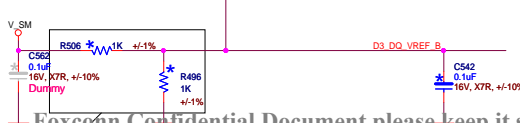
CHANNEL B DIMM 3
SMB ADDRESS:010



CLOSE TO DIMM POWER PIN



11 DIMM_DQ_CPU_VREF_B

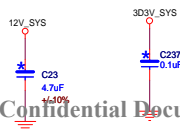


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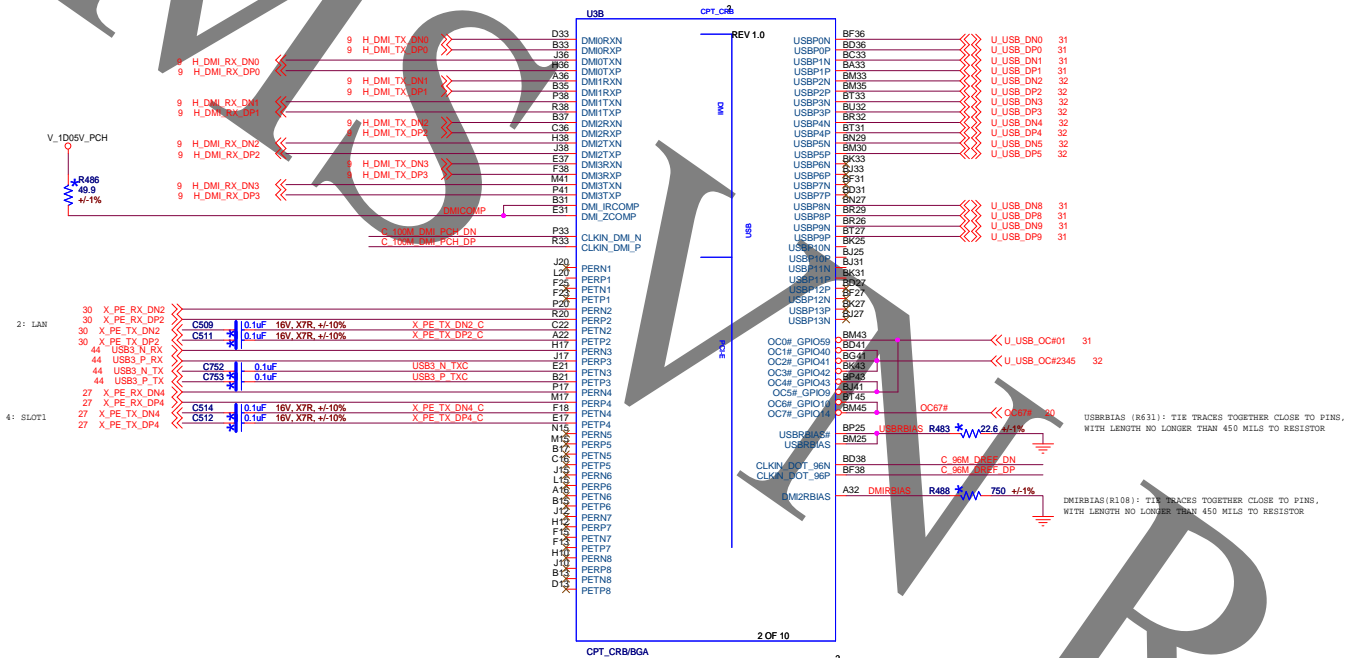
PLACE RESISTORS CLOSE TO CH_B DIMMS
ON DIMM_VREF_B

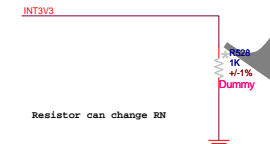
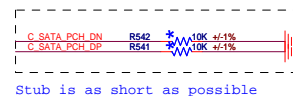
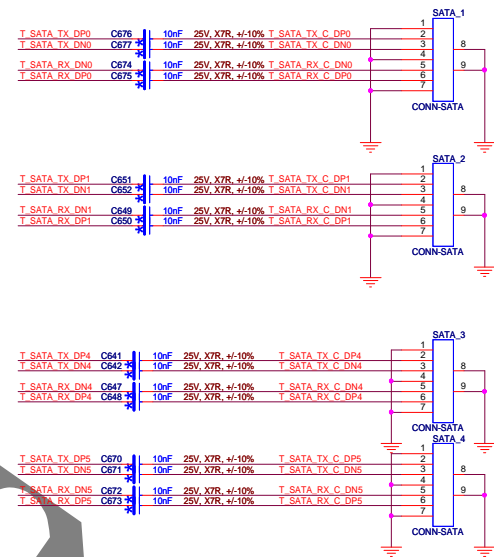
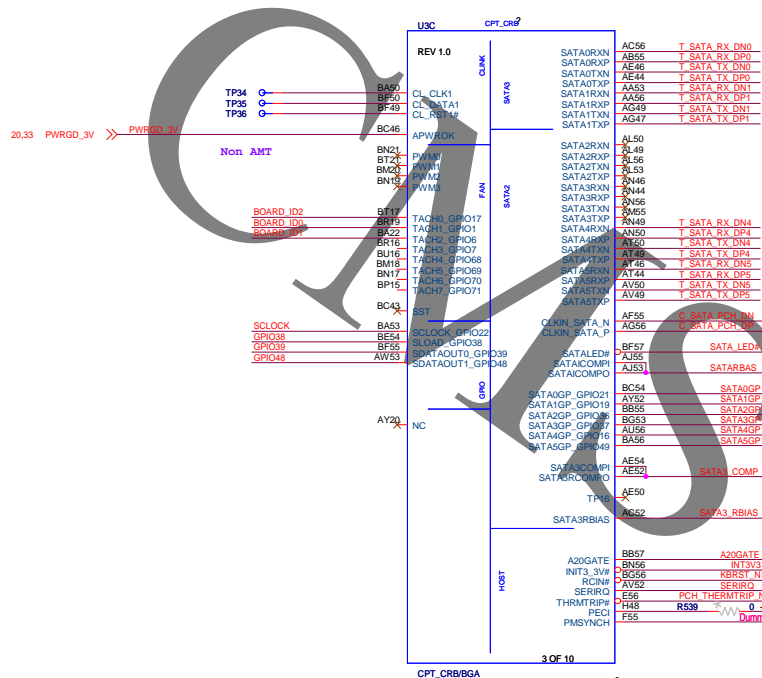
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FOXCONN PCEG

Title		Rev
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C	H61M06	
Date:	Thursday, January 05, 2012	Sheet 15 of 45

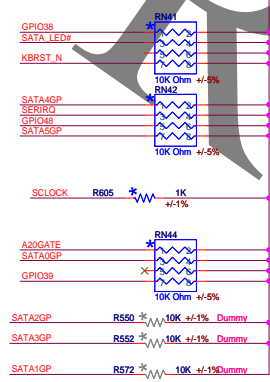
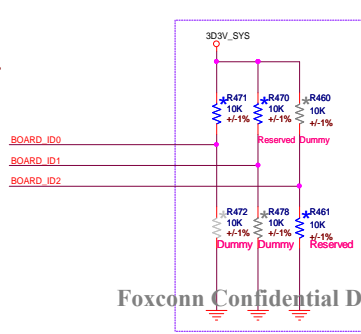
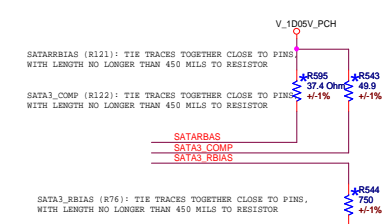


near slot





Need double check

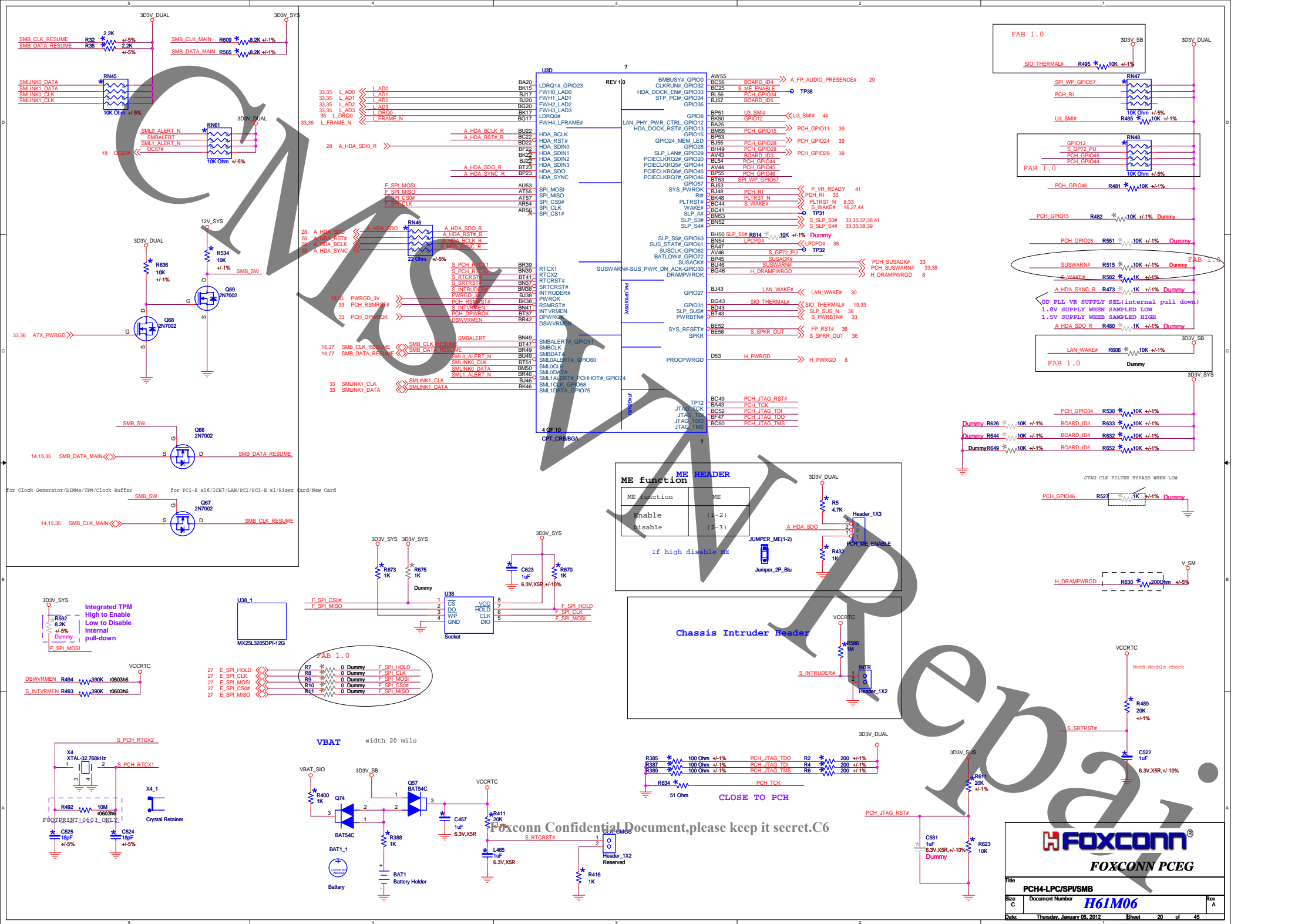


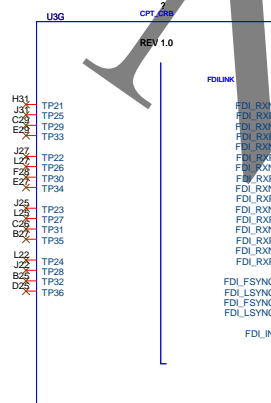
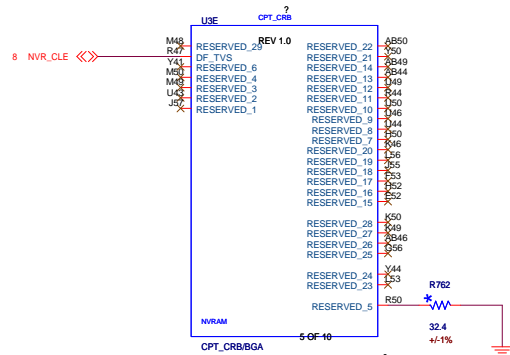
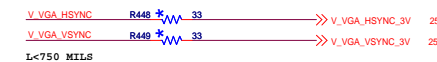
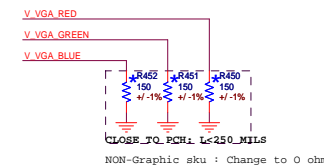
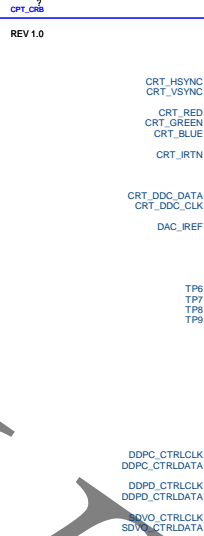
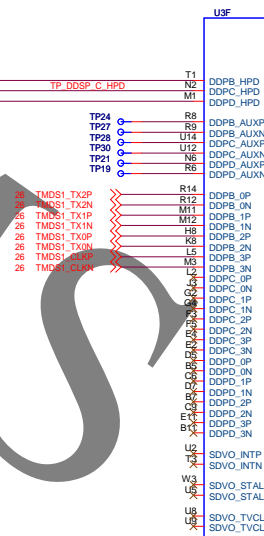
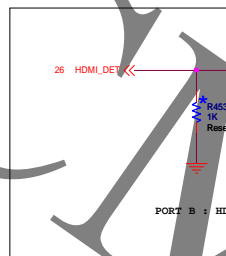
BOARD_ID2 BOARD_ID1 BOARD_ID0

H61MXE-S	0	0	1
H61MXE	0	1	0
H61MXE-V	0	1	1

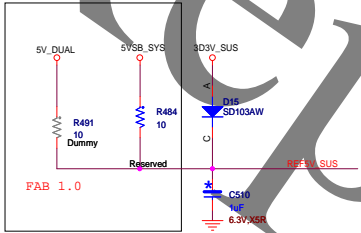
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Title PCH3-SATA/Host		
Size C	Document Number H61M06	Rev A
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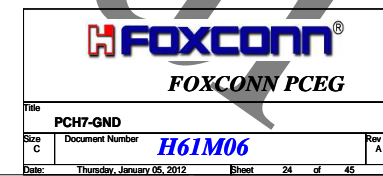


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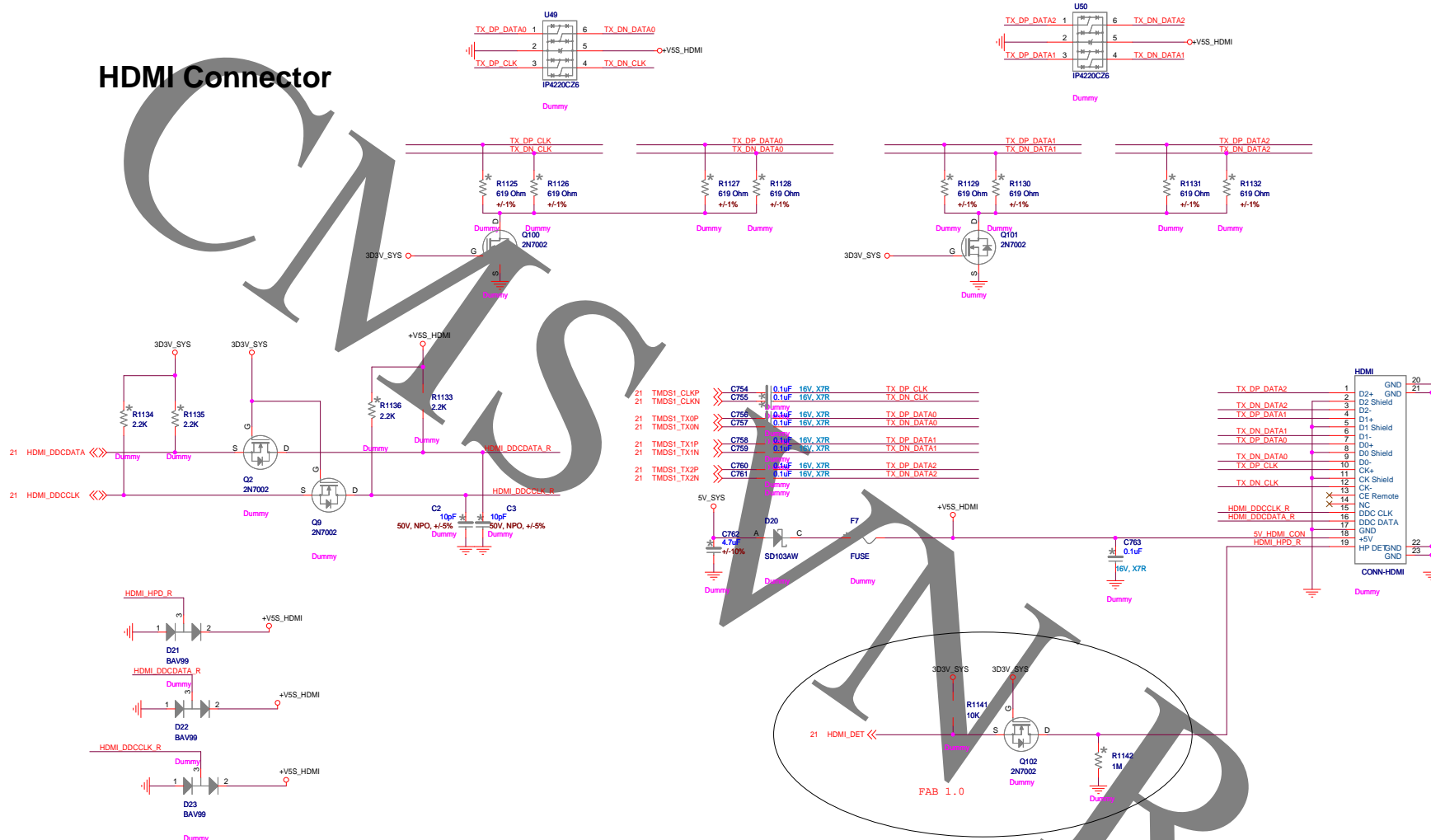
FOXCONN®
FOXCONN PCEG

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Size	Document Number	Rev	
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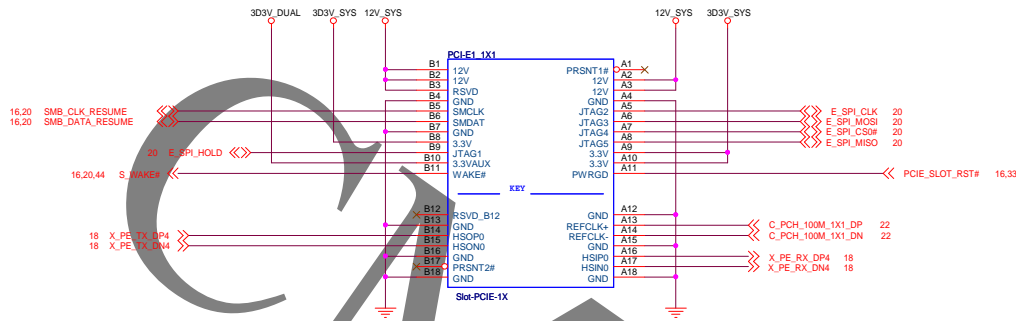
			
VGA			
Size C	Document Number	H61M06	Rev
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HDMI Connector



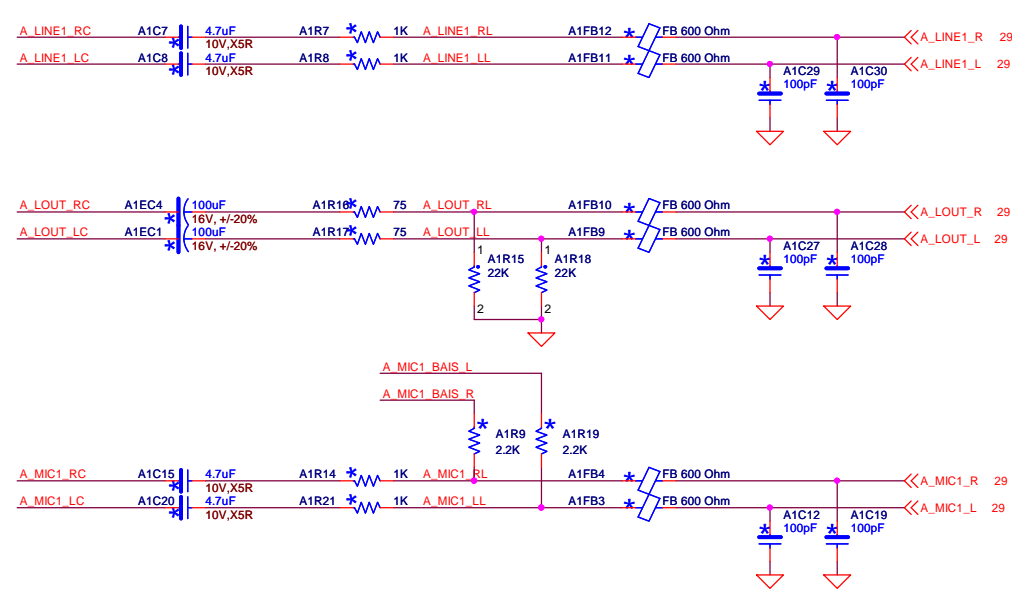
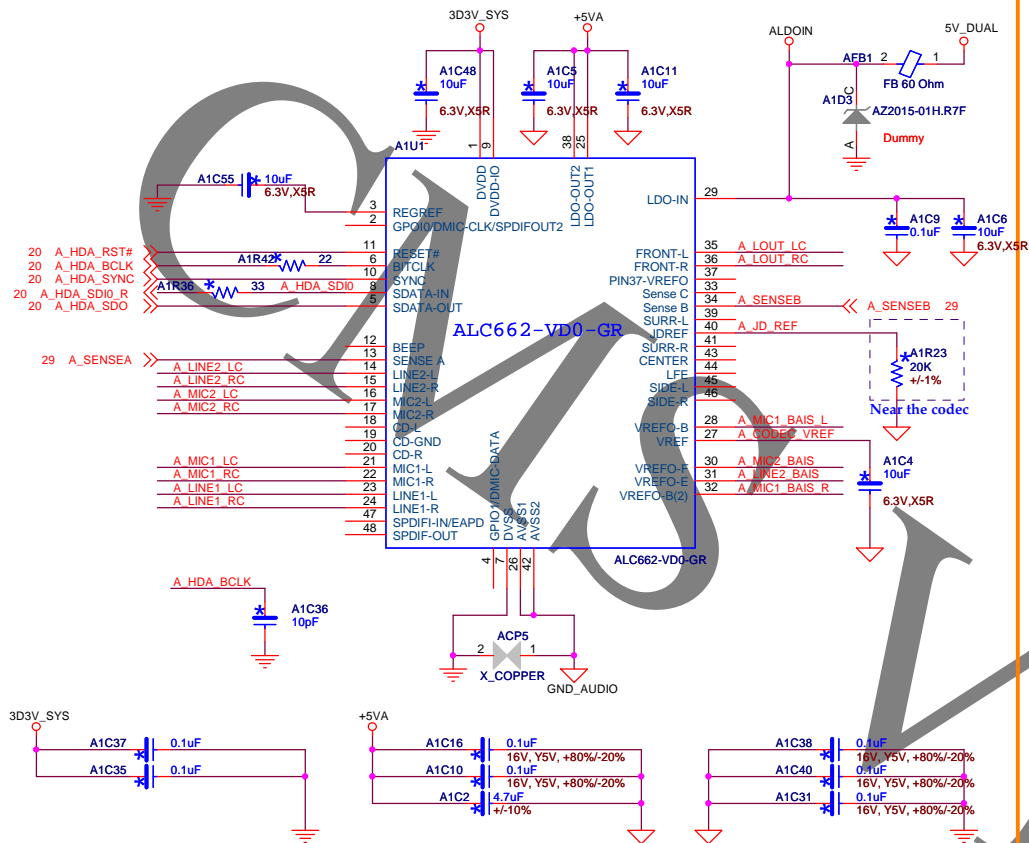
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DVI		
Size	Document Number	Rev
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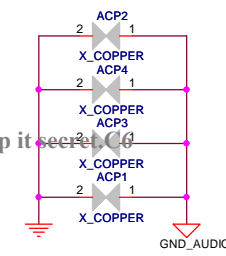
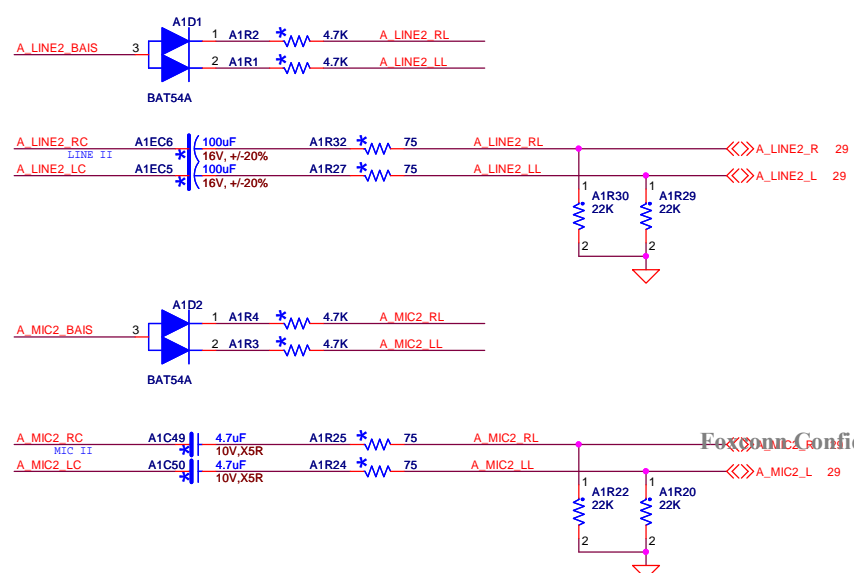


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Title		
PCIE 1X		
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FRONT PANEL

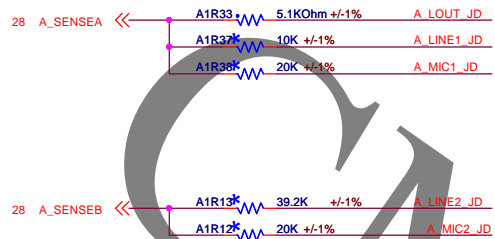


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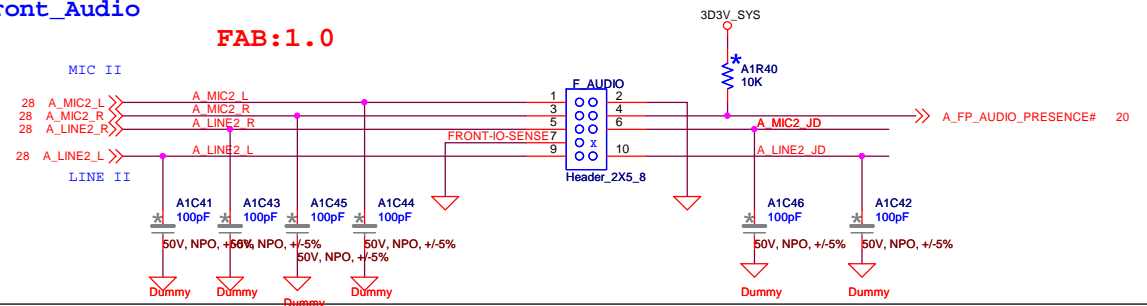
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Size	A3	Document Number	H61M06
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		Rev	A

JACK SENSE



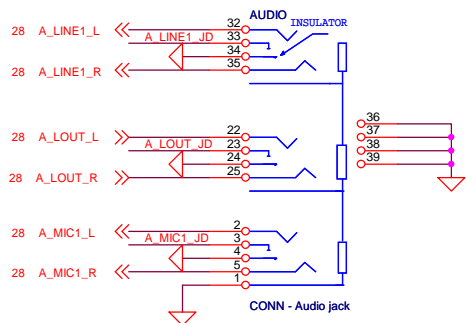
Front_Audio

FAB:1.0



+5VA for AUDIO

Audio Jack



Audio Jack

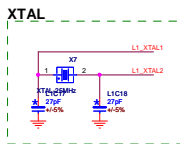



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FOXCONN

FOXCONN PCEG

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Size	Document Number	H61M06	
A3		Rev	A
Date:	Thursday, January 05, 2012	Sheet	29 of 45

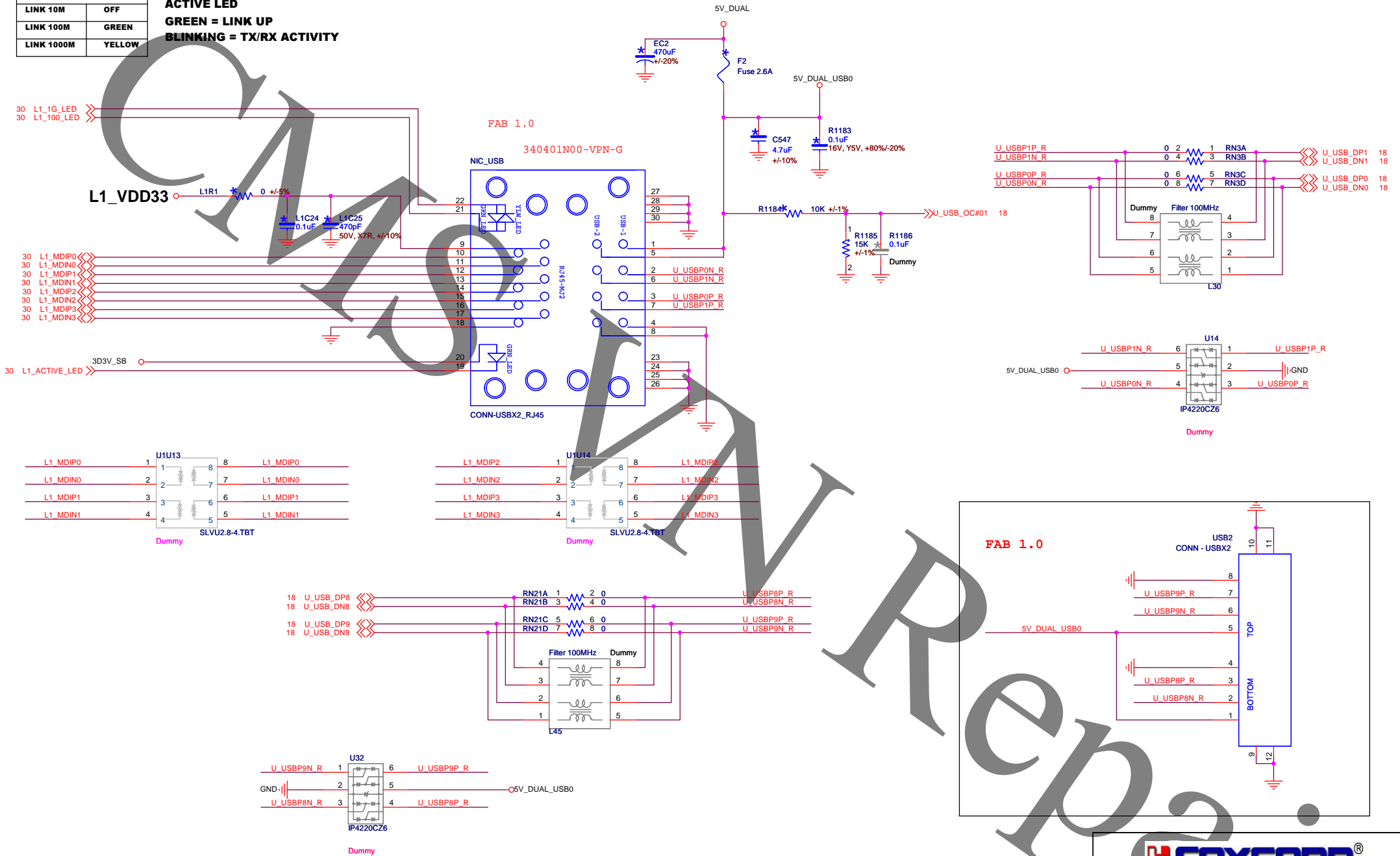
[illegible]

			
FOXCONN PCEG			
LAN			
Size Customers	Document Number H61M06		Rev A
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BACK PANEL (LAN 1+ 2 USB Connector)

SPEED LED	
LINK 10M	OFF
LINK 100M	GREEN
LINK 1000M	YELLOW

ACTIVE LED
GREEN = LINK UP
BLINKING = TX/RX ACTIVITY



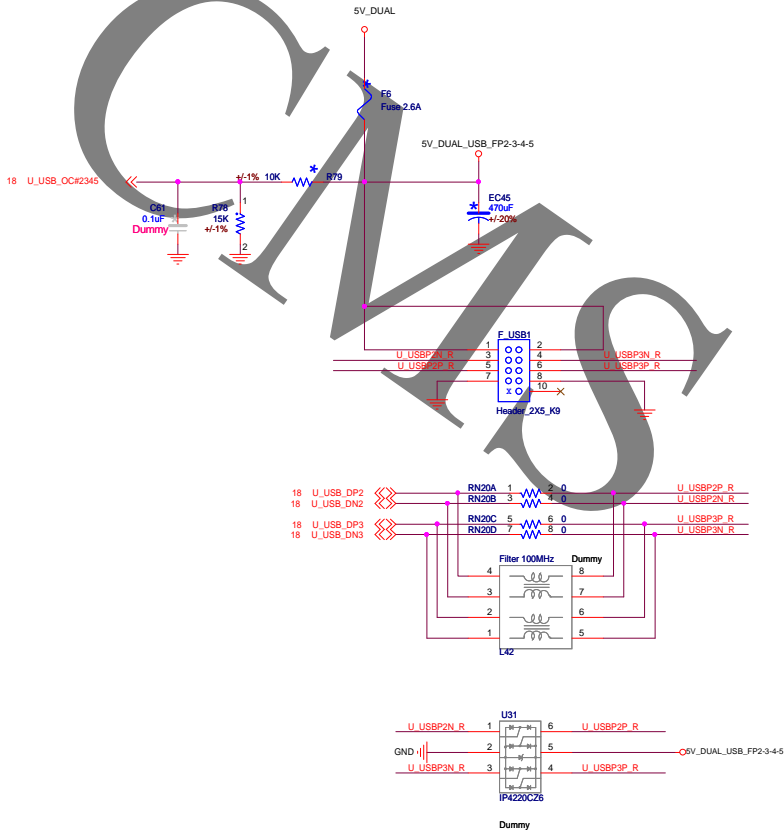
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FOXCONN

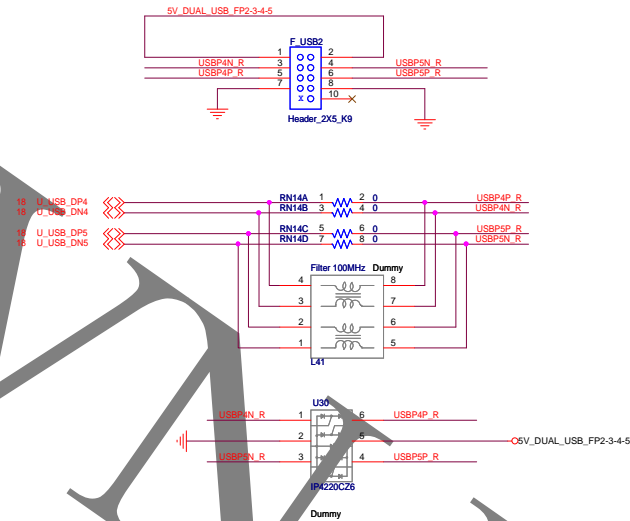
FOXCONN PCEG

Title	LAN1 / USB Connectors	
Size	Document Number	Rev A
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Front_USB1



Front_USB2



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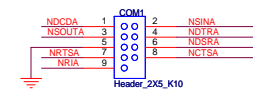
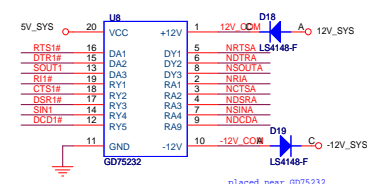
 FOXCONN PCEG		
Title Front USB2.0 Header		
Size C	Document Number H61M06	Rev A
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	Symbol	Value	Description
JP1	DSW_EUP_SEL	0	EUP(default)
Pin-23		0	DSW
JP2	WDT_EN	0	Disable WDT to reset PMKOK(default)
Pin-57		0	Enable WDT to reset PMKOK
JP3	FAN_CTL_SEL	1	EC Index 68h/73h default = 80h
JP4		0	EC Index 68h/73h default = 00h
Pin-59	KSPWR_EN	0	Disable KSPWR Sequence(default)
Pin-61		0	Enable KSPWR Sequence

```

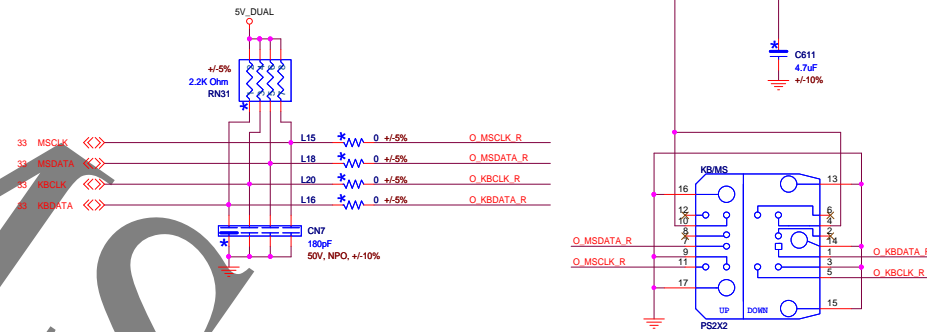
1.Pin 6:ATXPG
2.Pin 30:SUSB#
3.Pin Pin 23 / Pin 57/ Pin 59/ Pin61
4.Pin38-41 KCLK/KDAT/MCLK/MDAT
5.Pin 63 pull high to 3VSB

```



Add for EMI on 0929

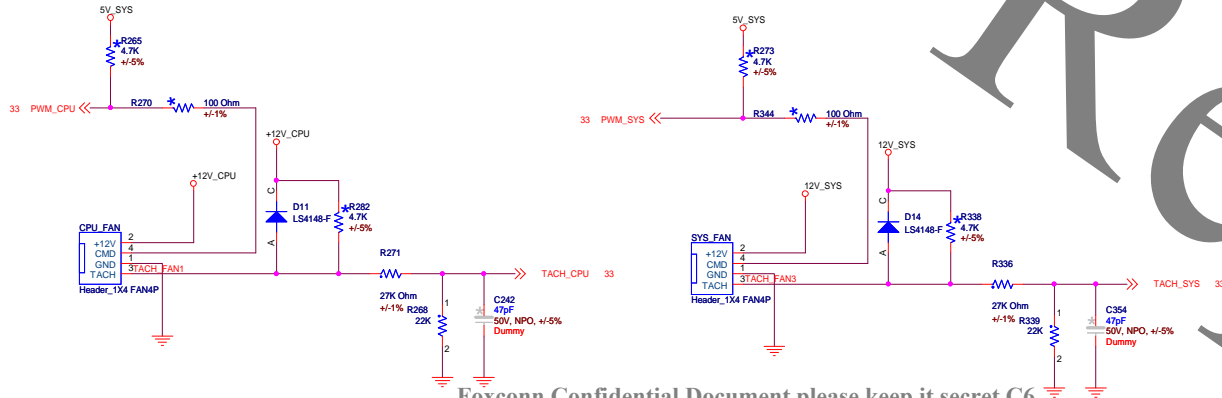
KB /USB connect



CPU FAN

SYN FAN

New FAN Header Definition
pin1. GND
pin2. +12V
pin3. Sense
pin4. PWM

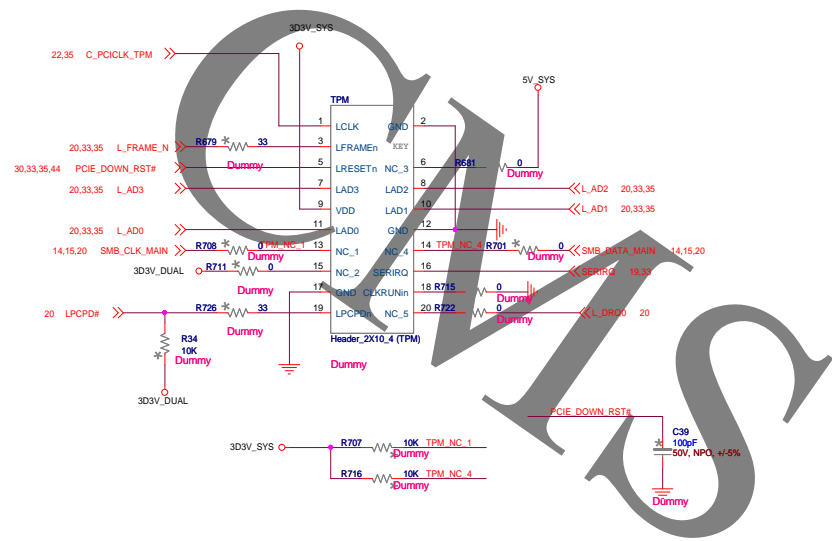


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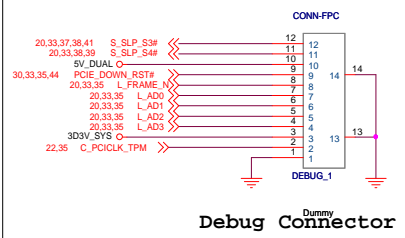
FOXCONN PCEG

Title		PS2/FAN	
Size	Document Number	H61M06	
C			
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TPM



LPT PORT

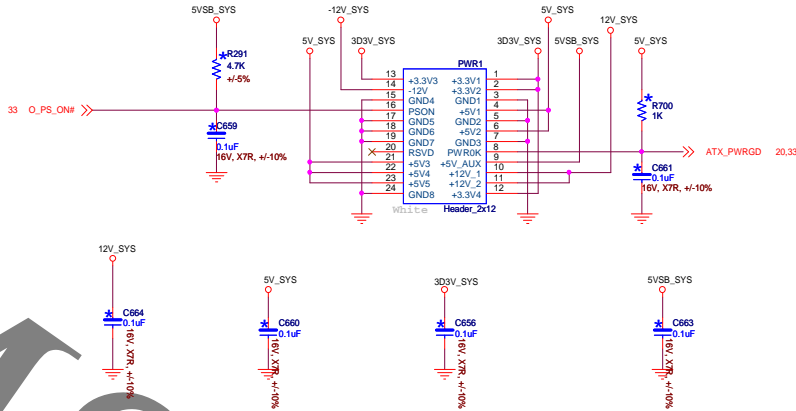


COM HEADER

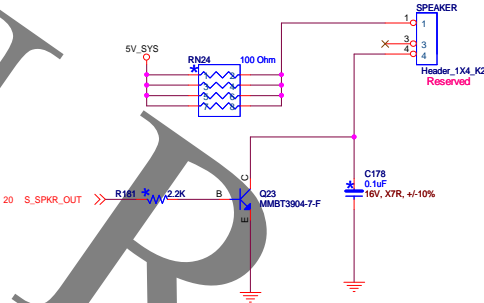
COM PORT

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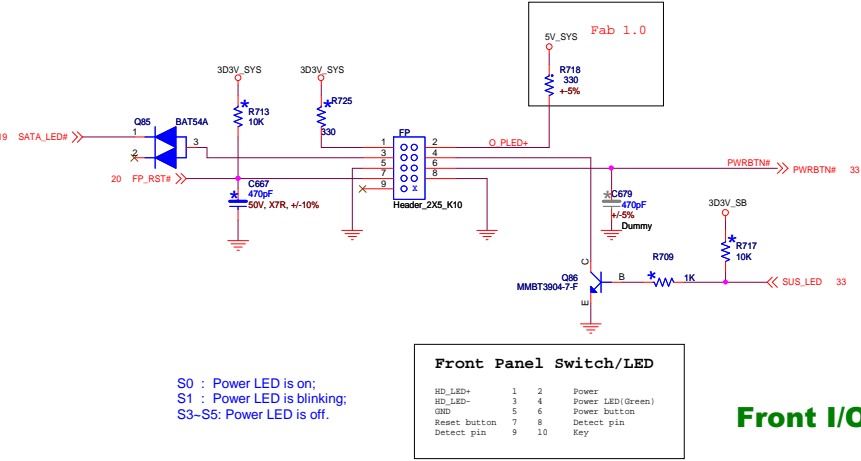
ATX POWER CONNECTOR



BUZZER/Speaker Header

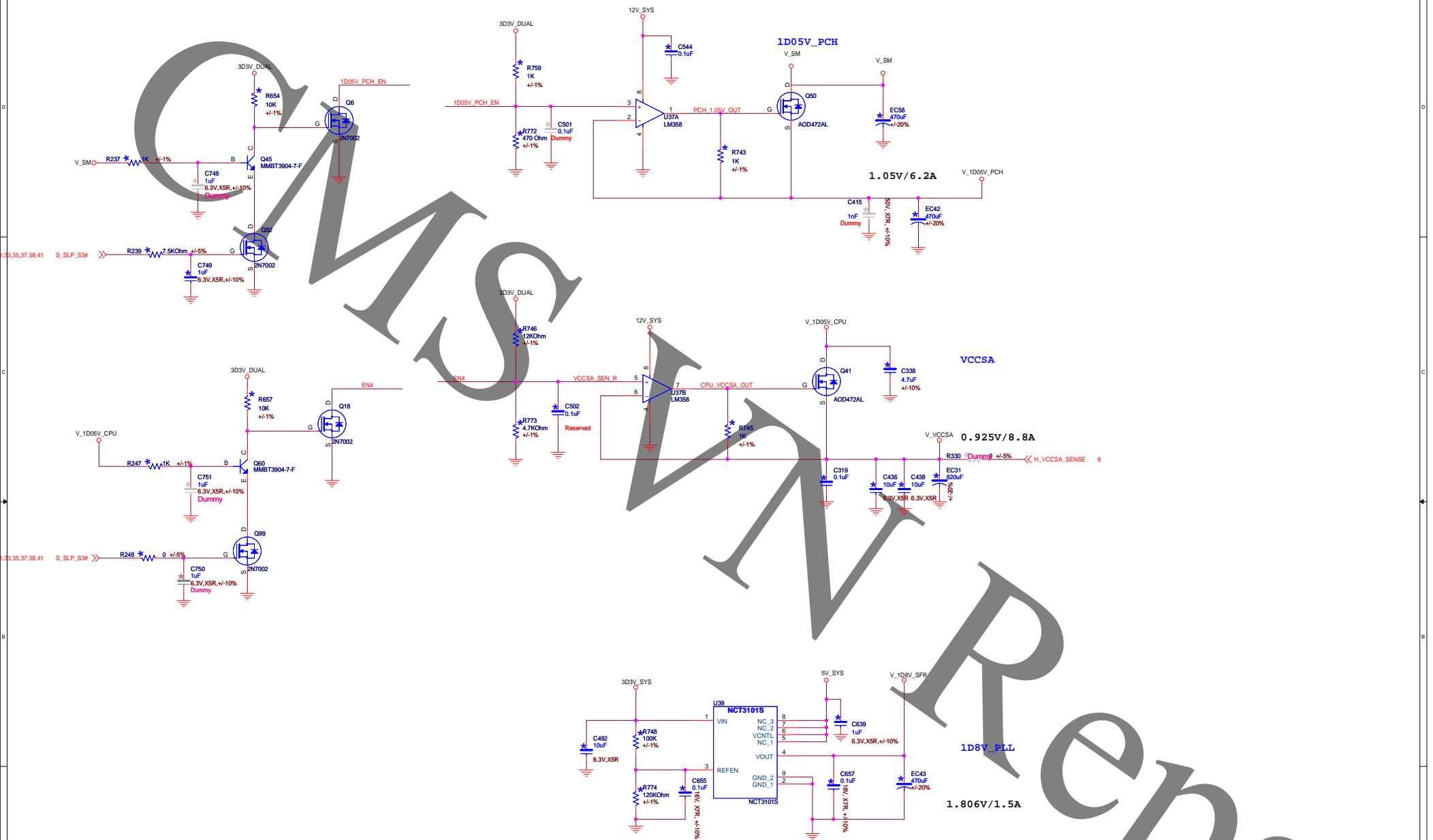


Front I/O Header



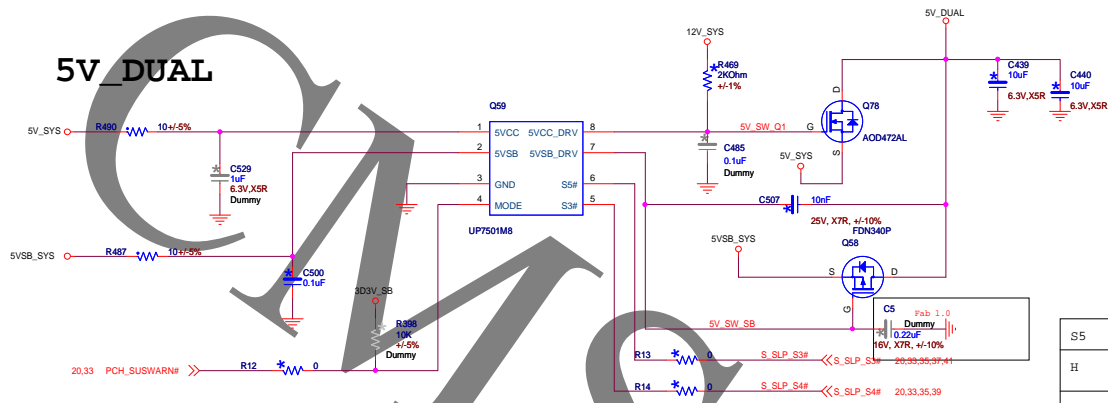
Front Panel Switch/LED			
HD_LED+	1	2	Power
HD_LED-	3	4	Power LED(green)
GND	5	6	Power button
Reset button	7	8	Detect pin
Detect pin	9	10	Key

Pull 1s for 0.9V vref out and address 54h



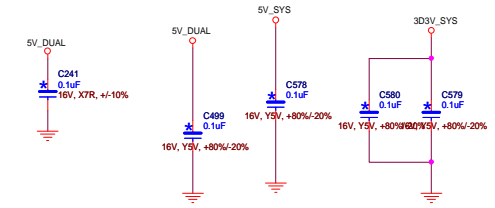
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5V_DUAL

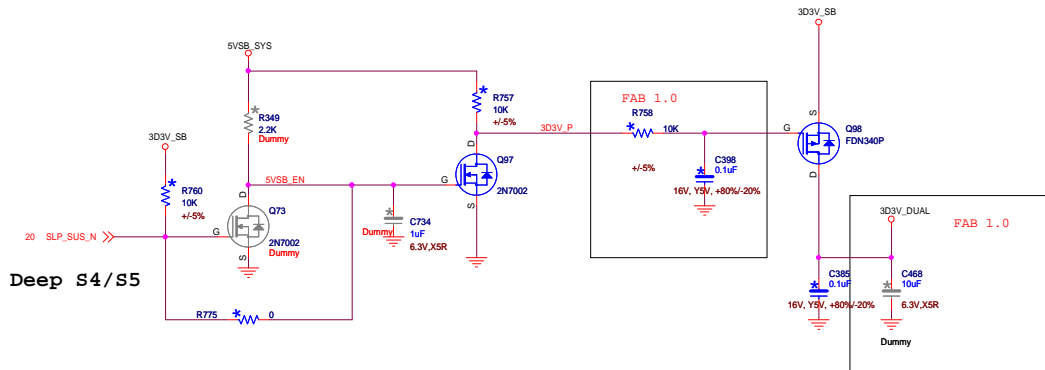


HI= S4/S5 5VDUAL FORM 5VSB
Low= S4/S5 5VDUAL TURN OFF

S5	S3	NODE	5VDUAL
H	H	X	5VCC
H	L	X	5VSB
L	X	H	5VSB
L	X	L	Shutdown

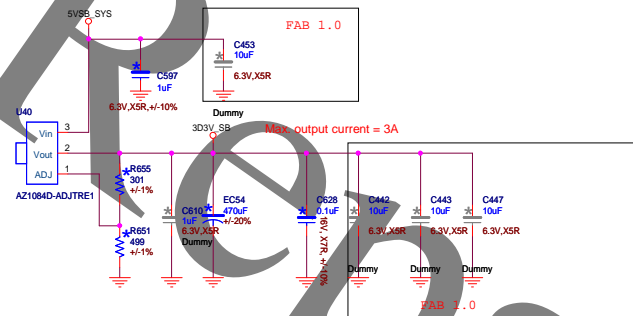


3D3V_DUAL



Deep S4/S5

3D3V_SB



$V_{out} = V_{ref}(1 + R2/R1) + I_{adj}R2$
R1 is Up Resistor.
 $I_{adj} = 50\mu A$
 $V_{ref} = 1.25V$

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UP1514QSA8

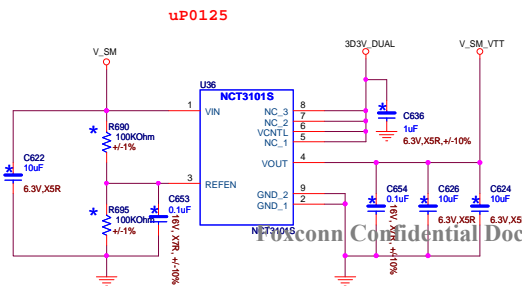
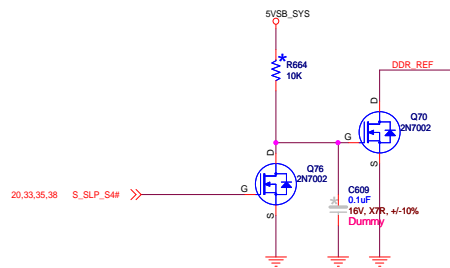
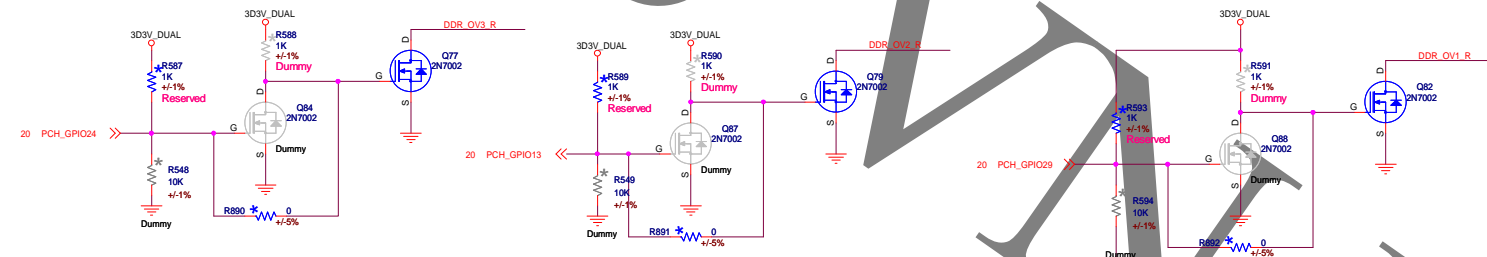
OCF 40A

V_SM 20A MAX

DDR POWER

DDR Voltage

Max=40A
27A in design guide

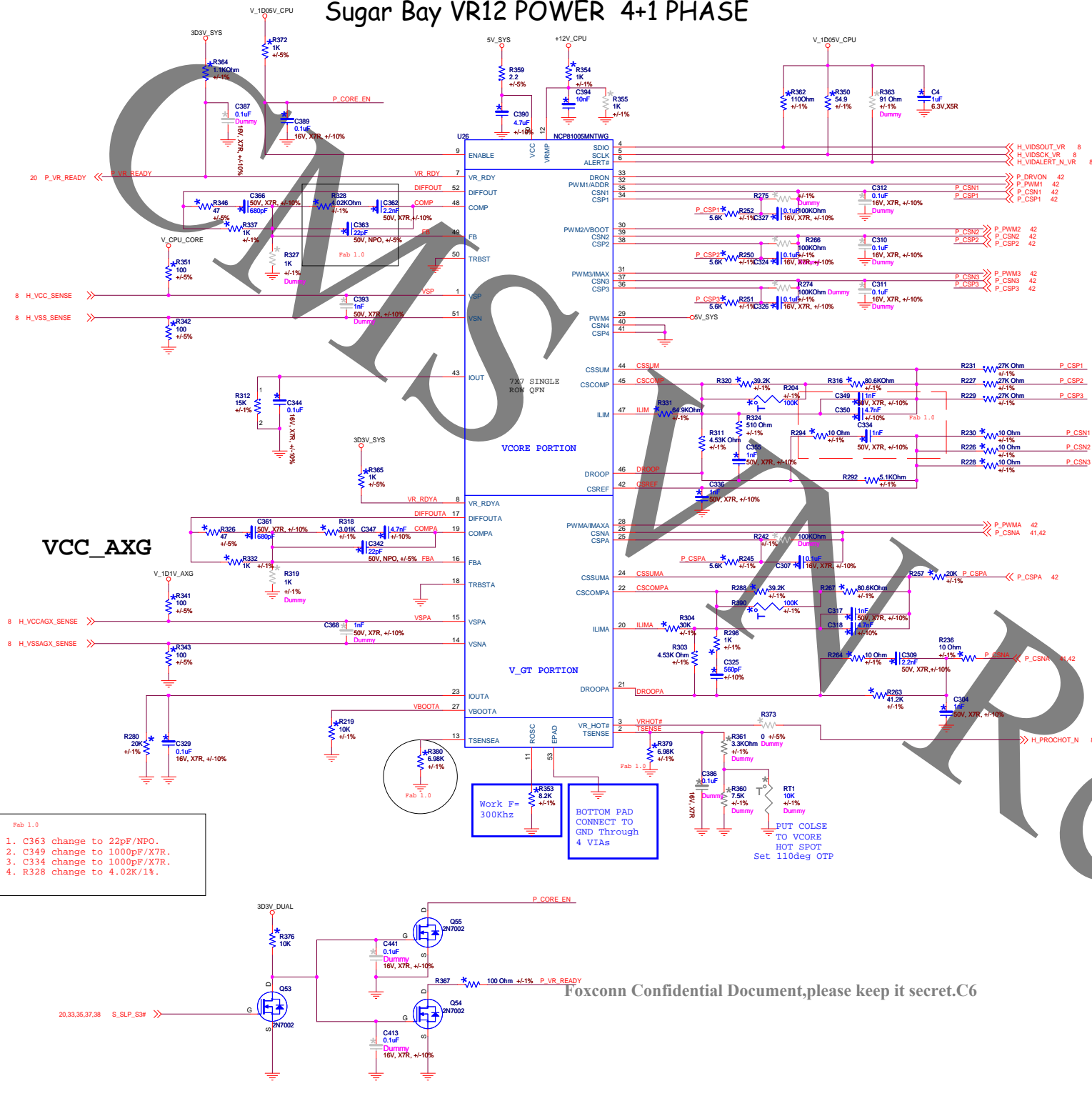


GPIO24	GPIO13	GPIO29	Voltage
0	0	0	1.563636364
0	0	1	1.675636364
0	1	0	1.656969697
0	1	1	1.768969697
1	0	0	1.787636364
1	0	1	1.899636364
1	1	0	1.880969697
1	1	1	1.992969697

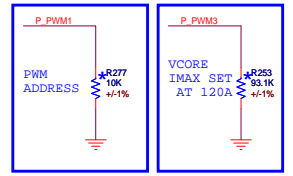
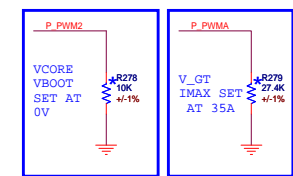
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Sugar Bay VR12 POWER 4+1 PHASE



VCC_CORE



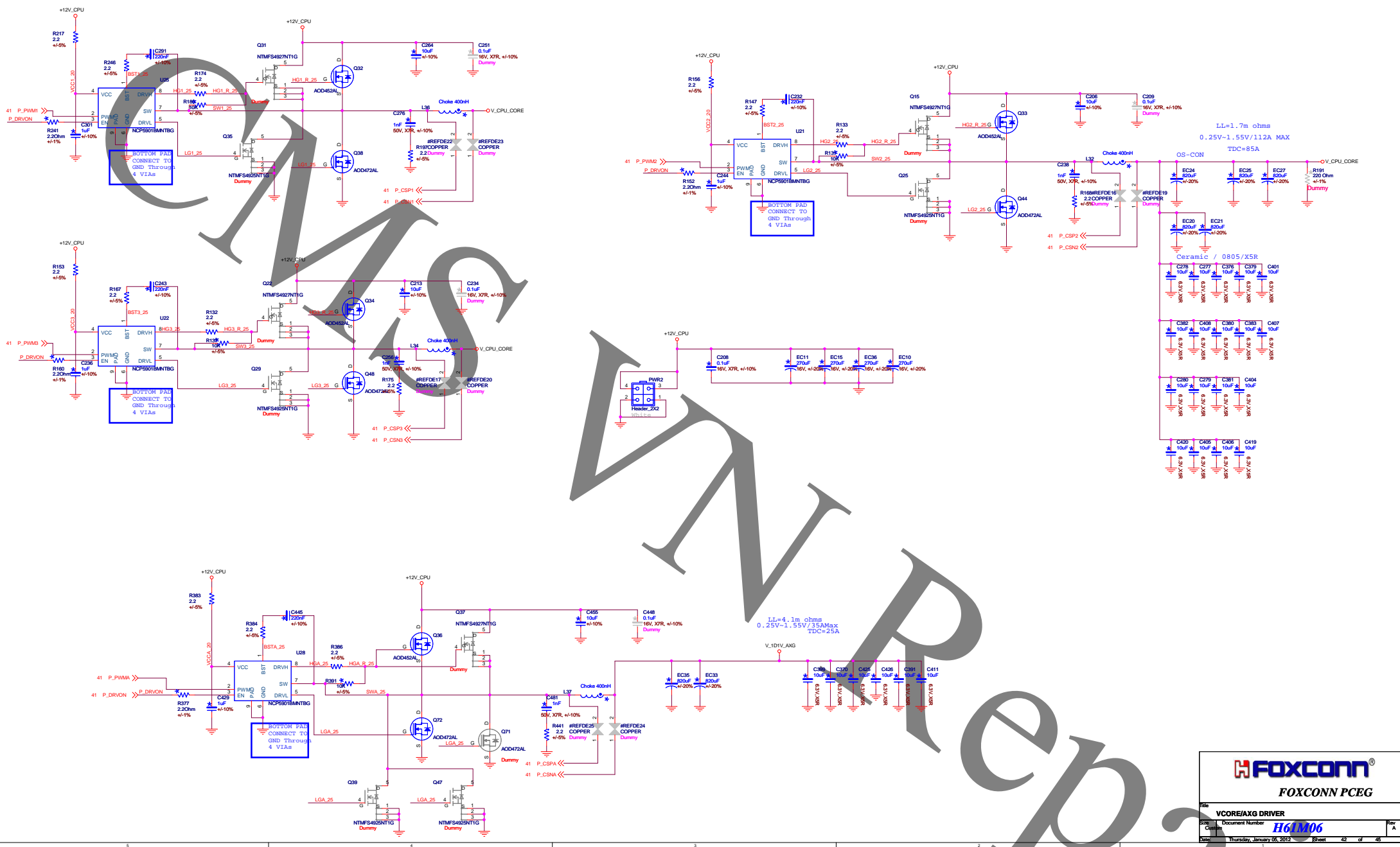
BOOT VOLTAGE

RESISTOR VALUE	BOOT VOLTAGE
10K	0V
25K	0.9V
45K	1.0V
70K	1.1V
95K	1.2V
125K	1.35V
165K	1.5V

PWM ADDRESS

RESISTOR VALUE	SVID ADDRESS FOR VCORE RAIL	SVID ADDRESS FOR V_GT RAIL
10K	0000	0001
25K	0010	0011
45K	0100	0101
70K	0110	0111
95K	1000	1001
125K	1010	1011
165K	1100	1101

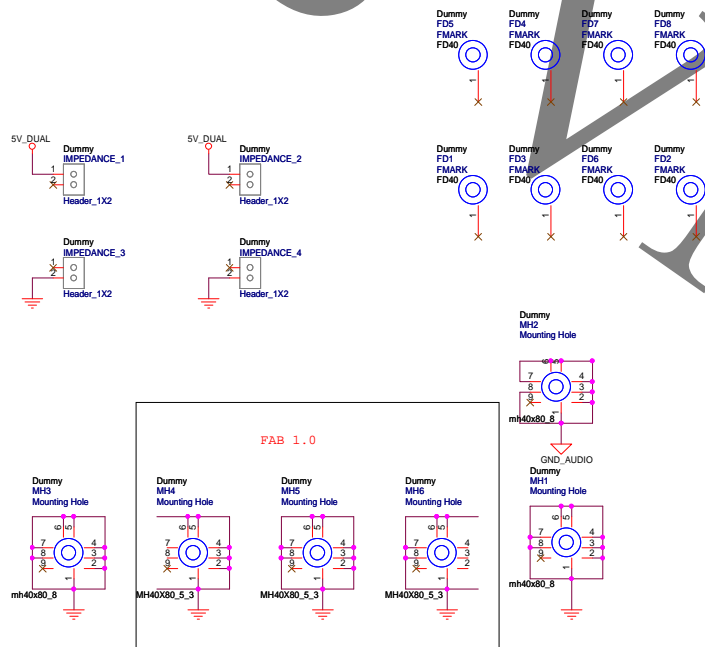
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**FOXCONN**
FOXCONN PCEG

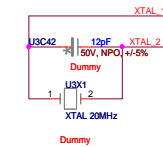
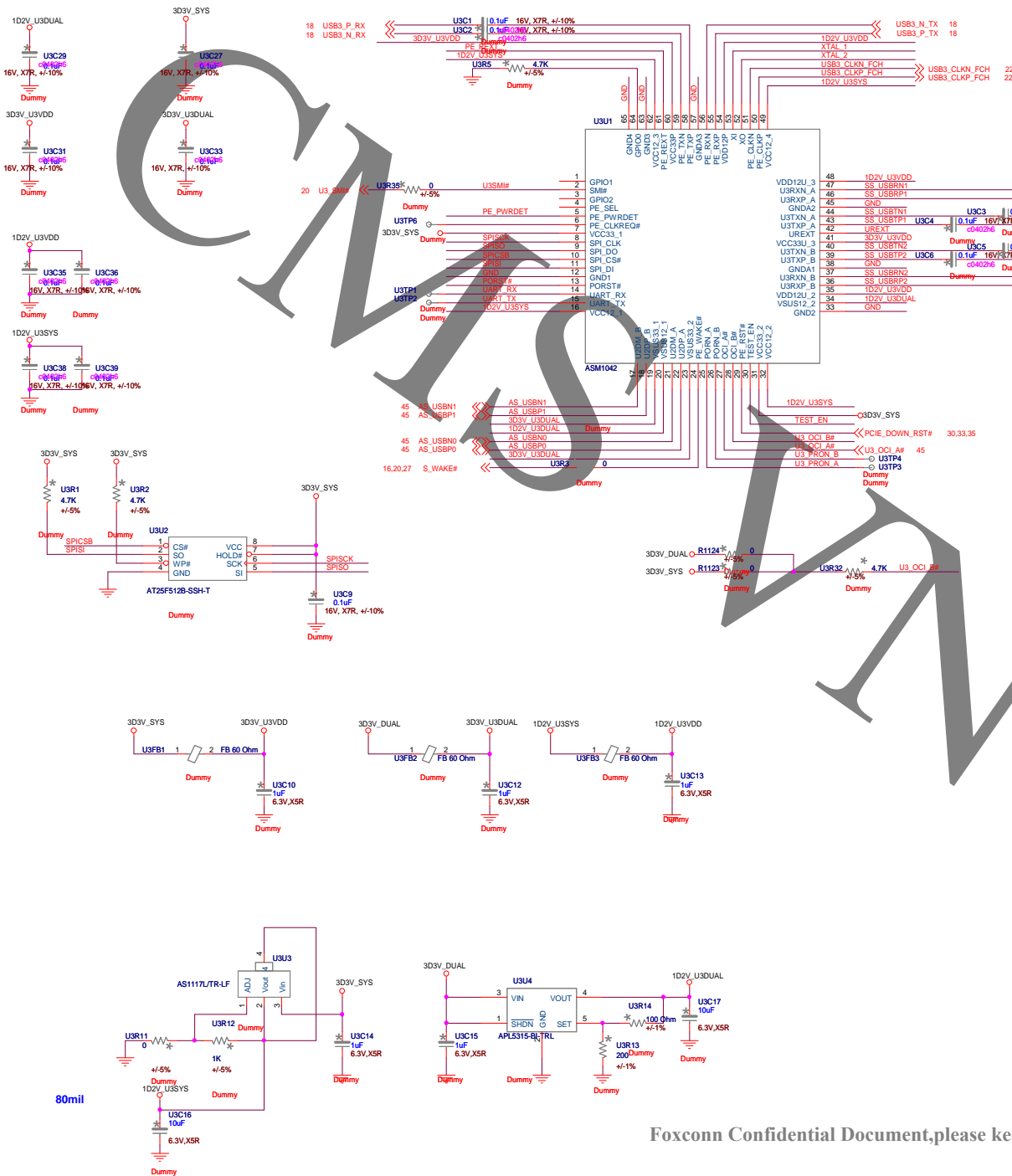
Vcore/AXG DRIVER		
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CMS

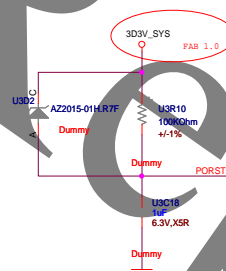
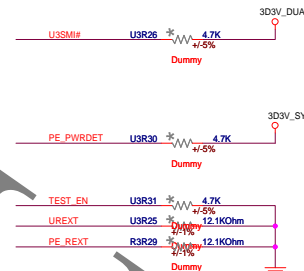


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THROUGH HOLE		
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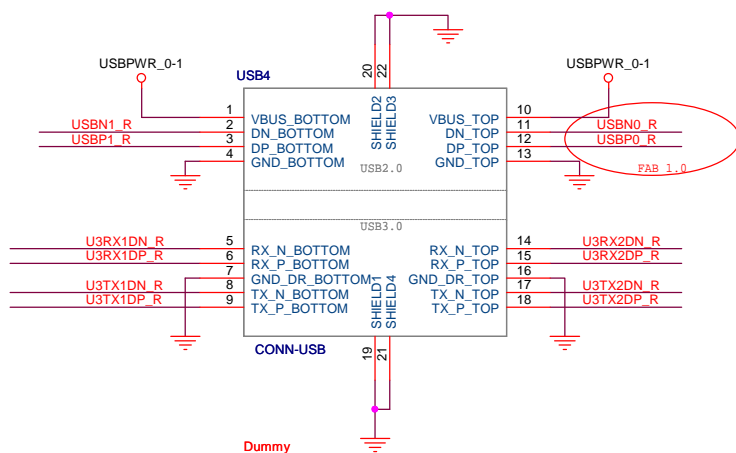
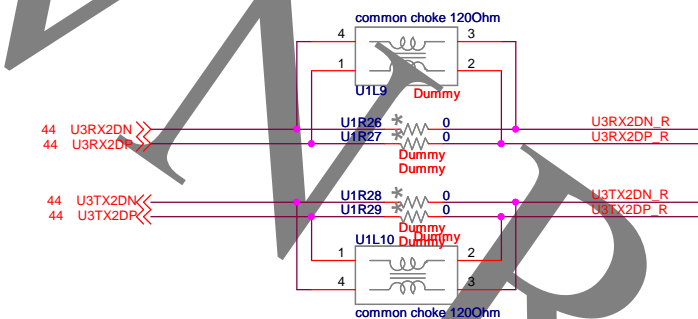
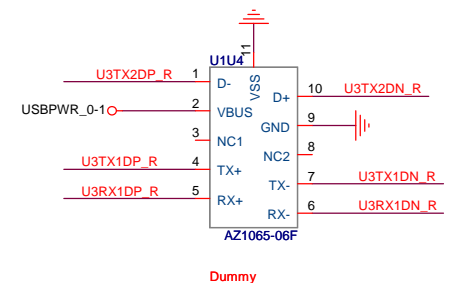
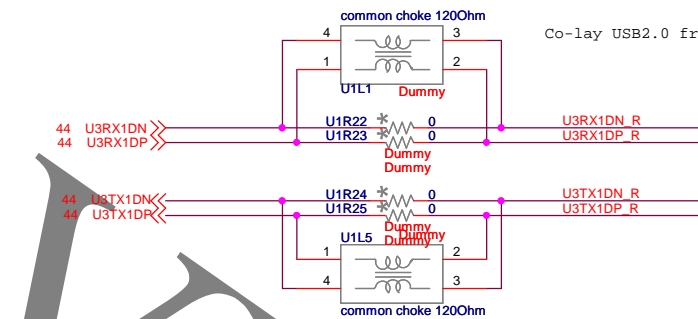
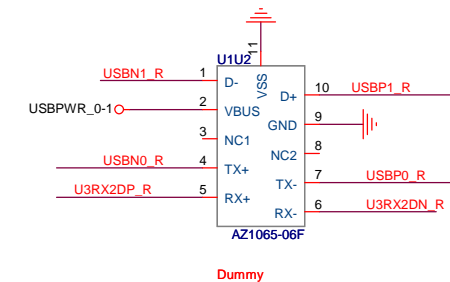
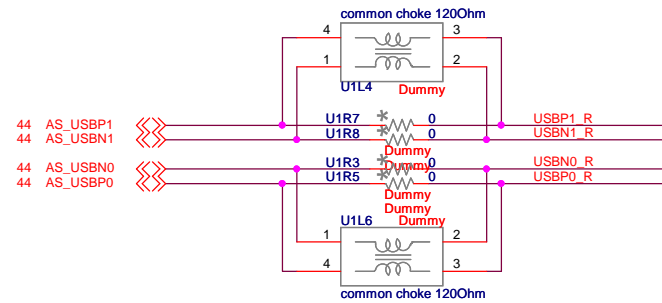
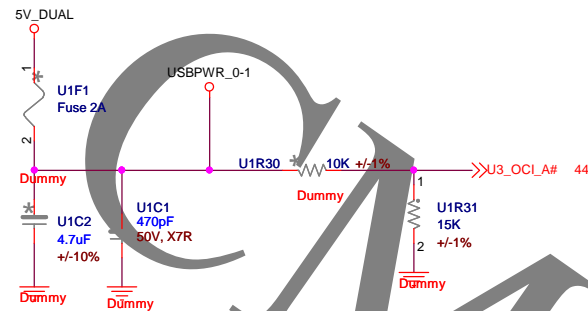


Pin44-XTAL2 is External Clock Input Pin.



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File USB3			
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Title: **USB PORT**

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