

IH81A-AHS Hi-Fi H81S2 VER 6.0

CPU:
Haswell LGA1150
System Chipset:
LYNXPOINT-H81
Main Memory:
Dual Channel/DDR-III*2(Max 32GB)
DDR3- 1600/ 1333 /1066

Onboard Device:
Super I/O 818728F-EX
LAN Realtek 8111G
HD Codec ALC887

Power solution:
CPU Voltage Regulators:4Phase by ISL95820
DDR Voltage Regulators:1Phase by UP1514

Expansion Slots:
PCI EXPRESS 16X SLOT*1
PCI EXPRESS 1X SLOT*5


REAR IO:
PS/2 Keyboard + Mouse Ports
DVI Ports
VGA Ports
2 layer USB3.0(2.0) Ports
RJ-45 +2 USB2.0 Ports
Audio Jacks

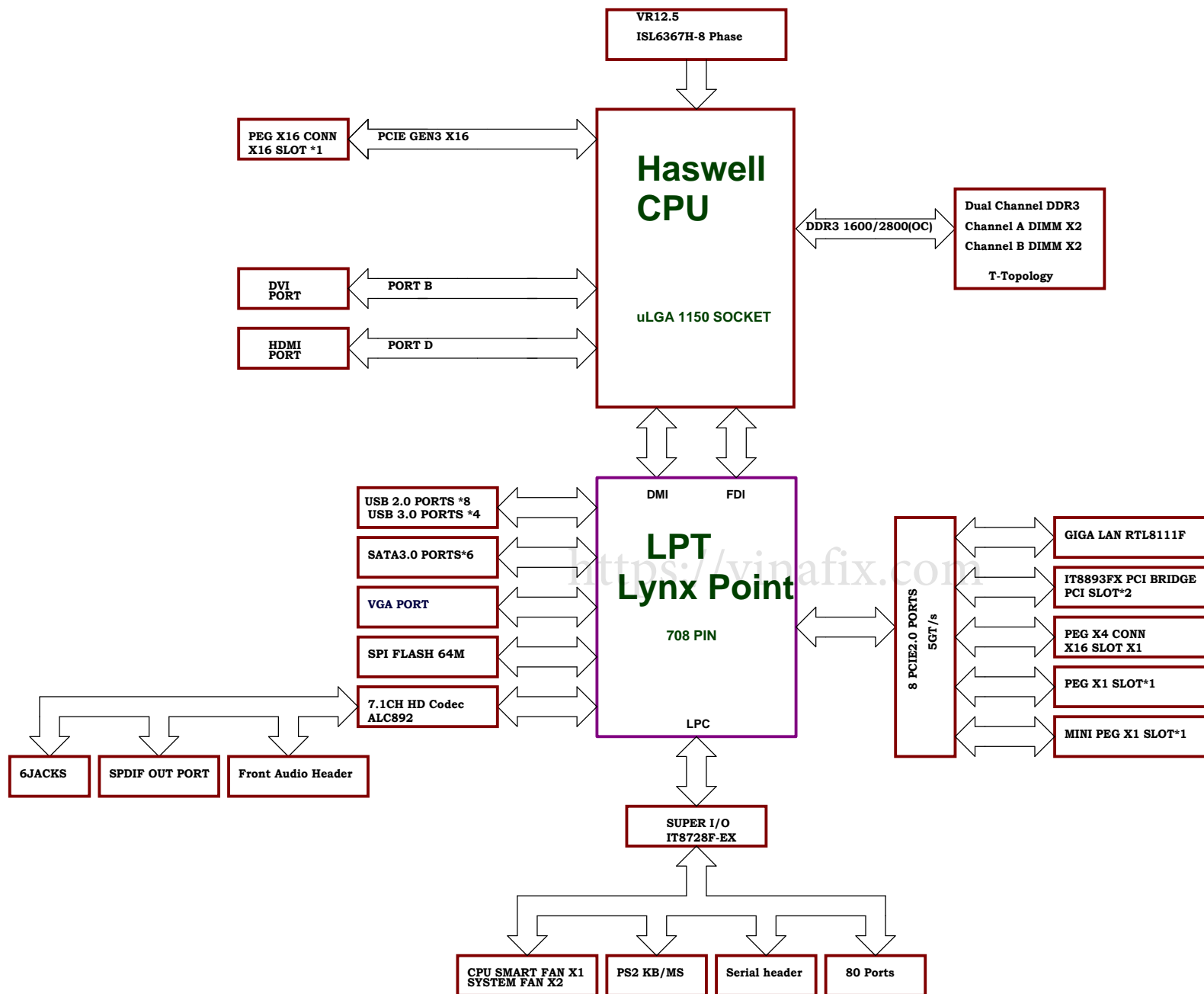
Front I/O:
SATA3 *2 + SATA2 *2
USB 2.0 Header * 2
CPU /System1/System2 FAN
Serial Header
Parallel Header
CIR Header
SPDIF Out *1
Front Audio Header

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44	BOM

Table 1-2. Desktop Lynx Point SKUs

Feature Set		SKU Name					
		Intel® Q87 Express Chipset	Intel® Q85 Express Chipset	Intel® B85 Express Chipset	Intel® Z87 Express Chipset	Intel® H87 Express Chipset	Intel® H81 Express Chipset
Flexible I/O		Yes	No	No	Yes	Yes	No
PCI Express* 2.0 Ports		8 ⁴	8	8	8 ⁴	8 ⁴	6
Total number of USB ports		14	14	12 ⁵	14	14	10 ⁶
• USB 3.0 Capable Ports (SuperSpeed and all USB 2.0 speeds)		4(6) ⁷	4	4	4(6) ⁷	4(6) ⁷	2 ⁸
• USB 2.0 Only Ports		10(8) ⁹	10	8	10(8) ⁹	10(8) ⁹	8
Total number of SATA ports		4(6) ¹⁰	6	6	4(6) ¹⁰	4(6) ¹⁰	4 ¹¹
• SATA Ports (6 Gb/s, 3 Gb/s, and 1.5 Gb/s)		6	4 ¹²	4 ¹²	6	6	2 ¹³
• SATA Ports (3 Gb/s and 1.5 Gb/s only)		0	2	2	0	0	2
VGA		Yes	Yes	Yes	Yes	Yes	Yes
Intel® Rapid Storage Technology	AHCI	Yes	Yes	Yes	Yes	Yes	Yes
	RAID 0/1/5/10 Support	Yes	No	No	Yes	Yes	No
	Intel® Smart Response Technology ¹⁴	Yes	No	No	Yes	Yes	No
Intel® Anti-Theft Technology ¹⁵		Yes	Yes	Yes	Yes	Yes	Yes
Intel® Active Management Technology 9.0		Yes	No	No	No	No	No
Intel® Small Business Advantage ¹⁶		Yes	Yes	Yes	No	Yes ¹⁷	No
Intel Rapid Start Technology ¹⁸		Yes	Yes	Yes	Yes	Yes	No
Intel® Identity Protection Technology (Intel® IPT) ¹⁹		Yes	No	No	No	No	No
Near Field Communication ²⁰		Yes	Yes	Yes	Yes	Yes	Yes
ACPI S1 State Support		Yes	Yes	Yes	Yes	Yes	Yes

HW Engineer:		Date:	
HW Leader1:		Date:	
HW Leader2:		Date:	
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1.Page28: Add HIFI_VCC for Colay

2.Page30: Update LAN circuit as below:
a.BEAD 60 0805 1A-->0 0805
b.0.1UF 16V Y5V 0402-->1UF 6.3V X5R 0402
c.Add LC17 10UF 0805
d.+3V3_DUAL--->+3V3_AUX

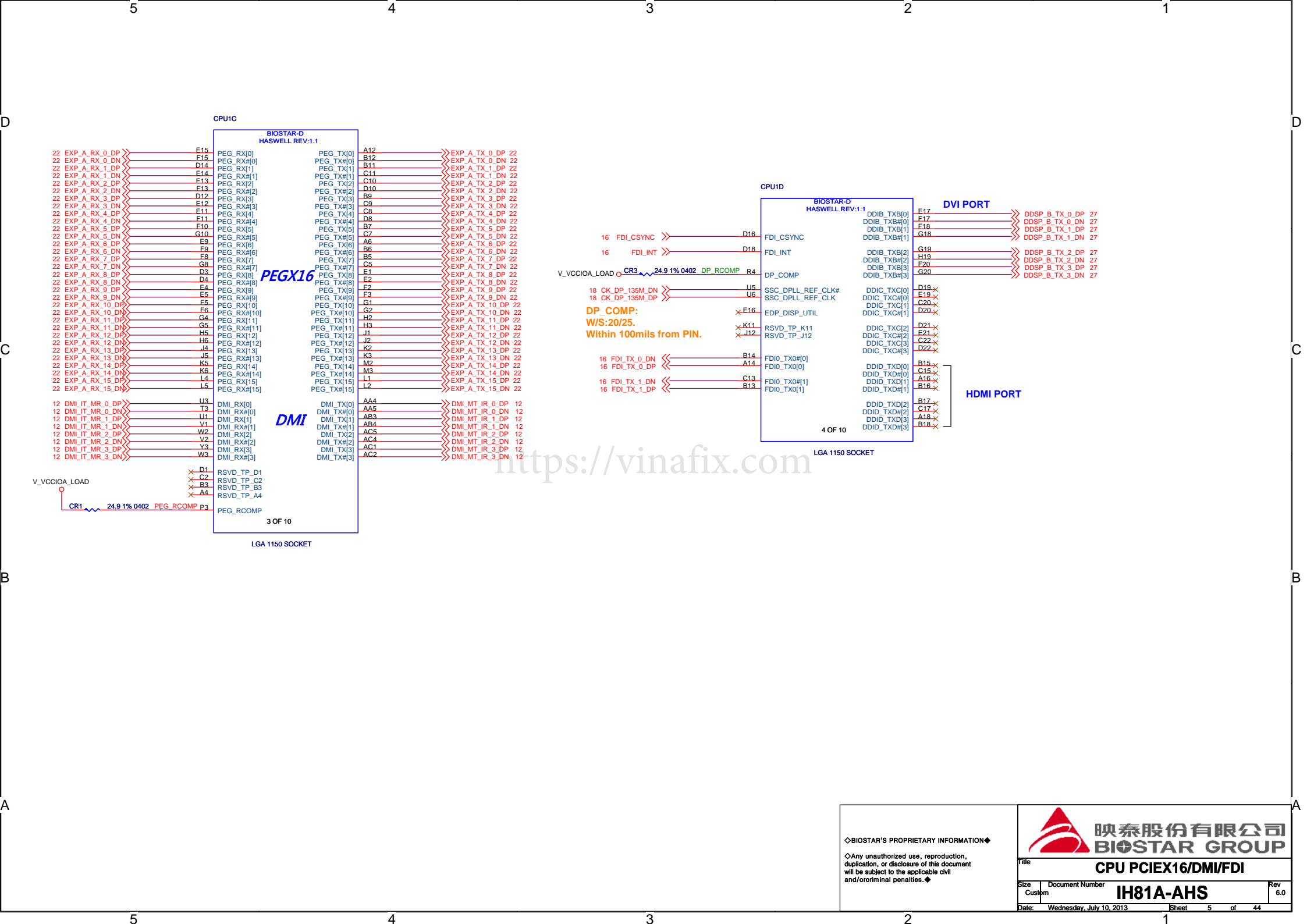
3.Page31: Reserve Debug LPC Port Header For New Request

4.Page40: Adjust V_SM Rocset 16K 1% 0402--->22.6K 1% 0402

5.Change all "1UF 10V Y5V 0402"--->"1UF 6.3V X5R 0402"

6.Page14: Modify ME FW Flash circuit resistors' value

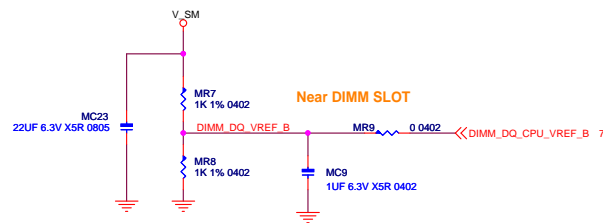
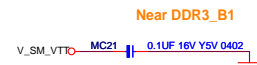
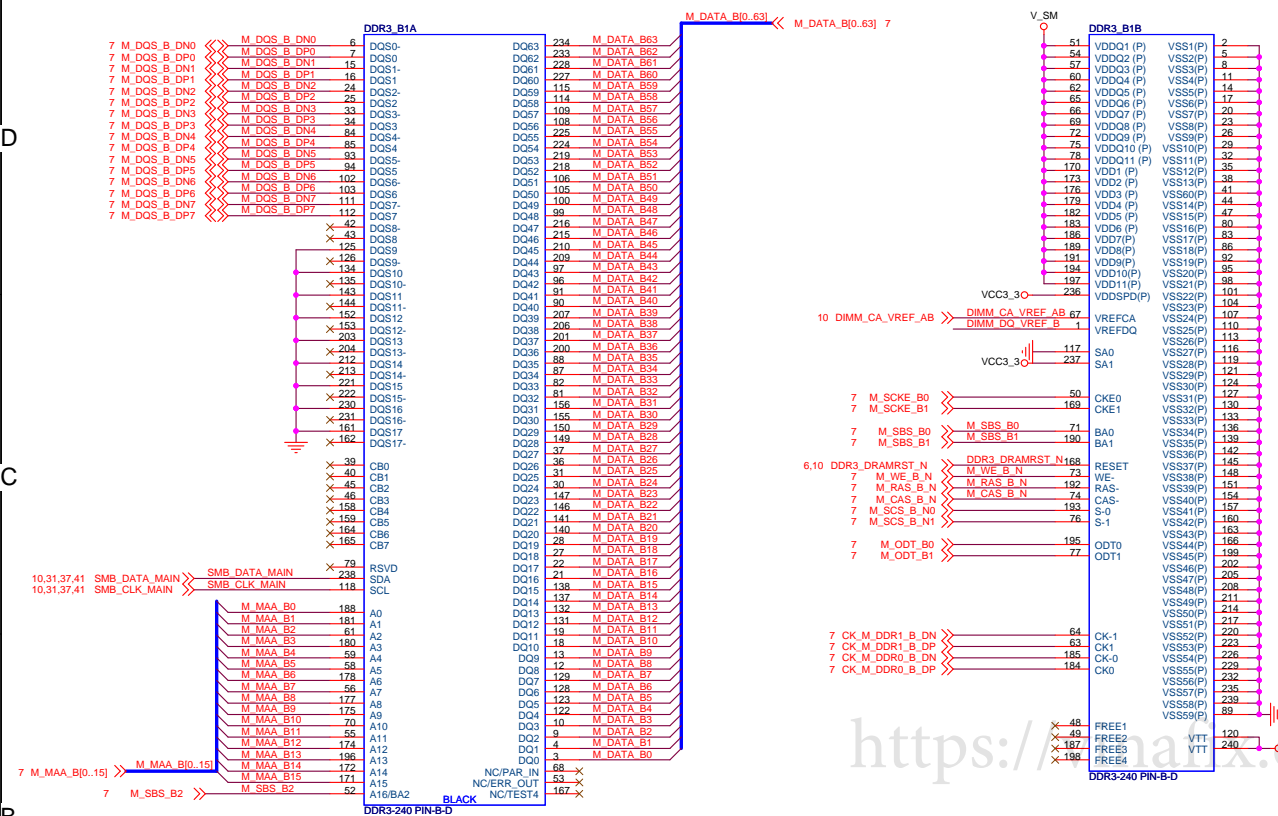
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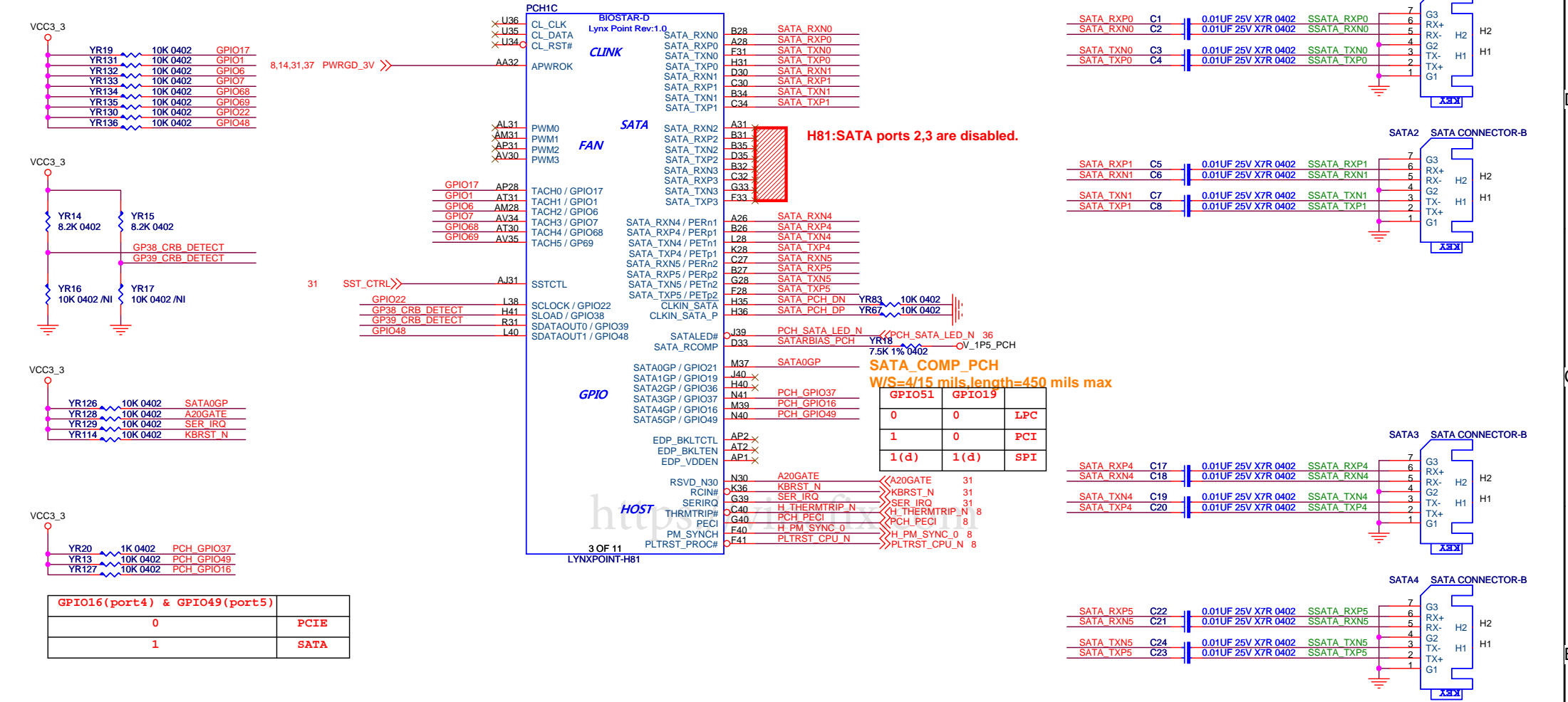


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MEMORY PART: M+Reference



PCH PART: Y+Reference



PCH PART: Y+Reference

D

C

B

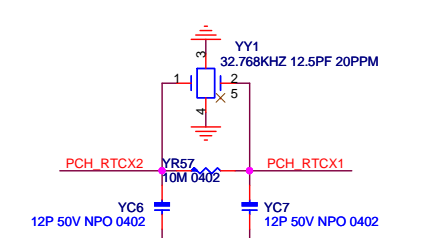
A

teknisi indonesia

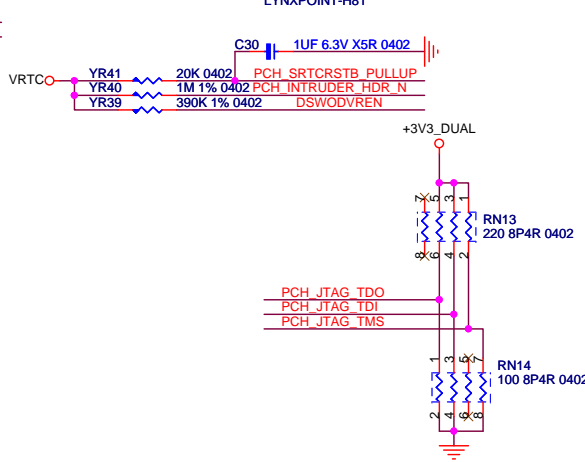
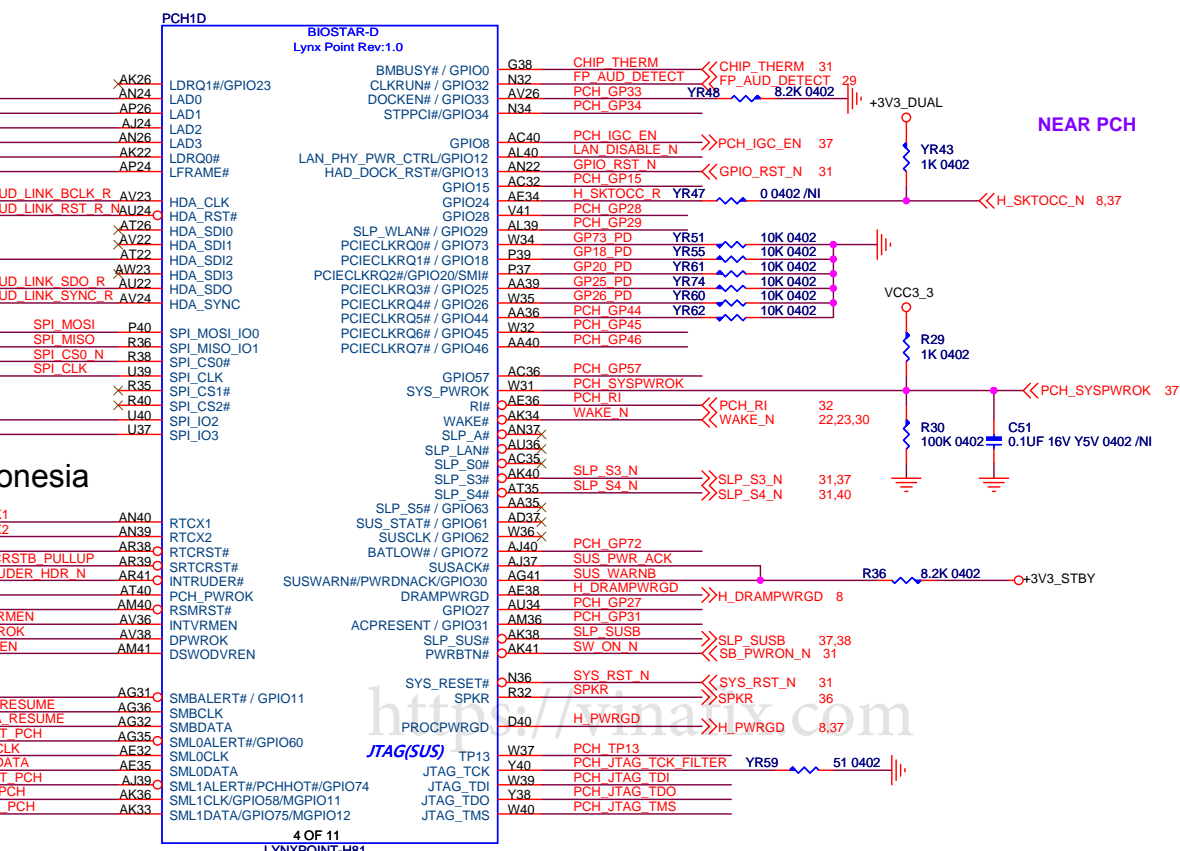
MAIN SMBUS

TO SUPER IO

+3V3_DUAL



RTC CRISTAL



ME FW Flash
GP27:Hi =Disabled
GP27:Low =Enabled

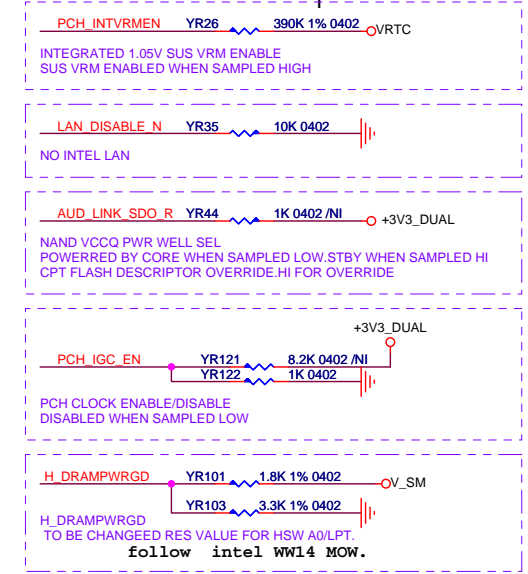


Modify:2013-07-03;V6.0
Change Value 4.7K-->2.7K

Modify:2013-07-09;V6.0
Change Value 8.2K-->2.7K



Title		
PCH LPC/HDA/SPI/MISC		
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D

C

B

A

5

4

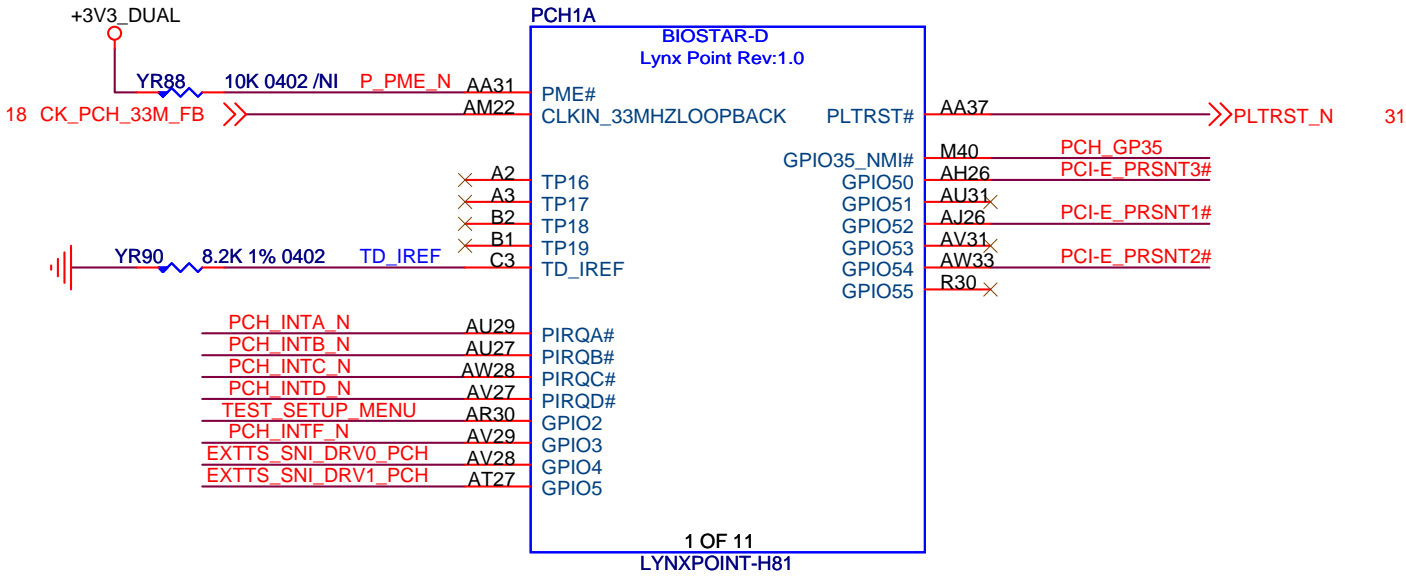
3

2

1

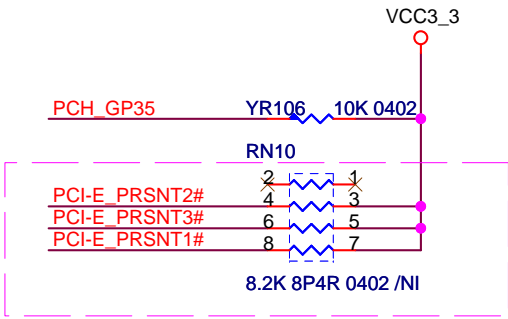
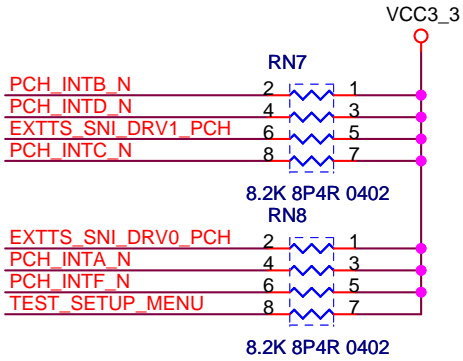
PCH PART: Y+Reference

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GPIO51	GPIO19	
0	0	LPC
1	0	PCI
1(d)	1(d)	SPI

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Modify:2013-05-08;V0.6
RN10-->NI,
GPIO50/52/54 Only For CPU PCI-E 1X8+2X4

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Title

PCH NVRAM

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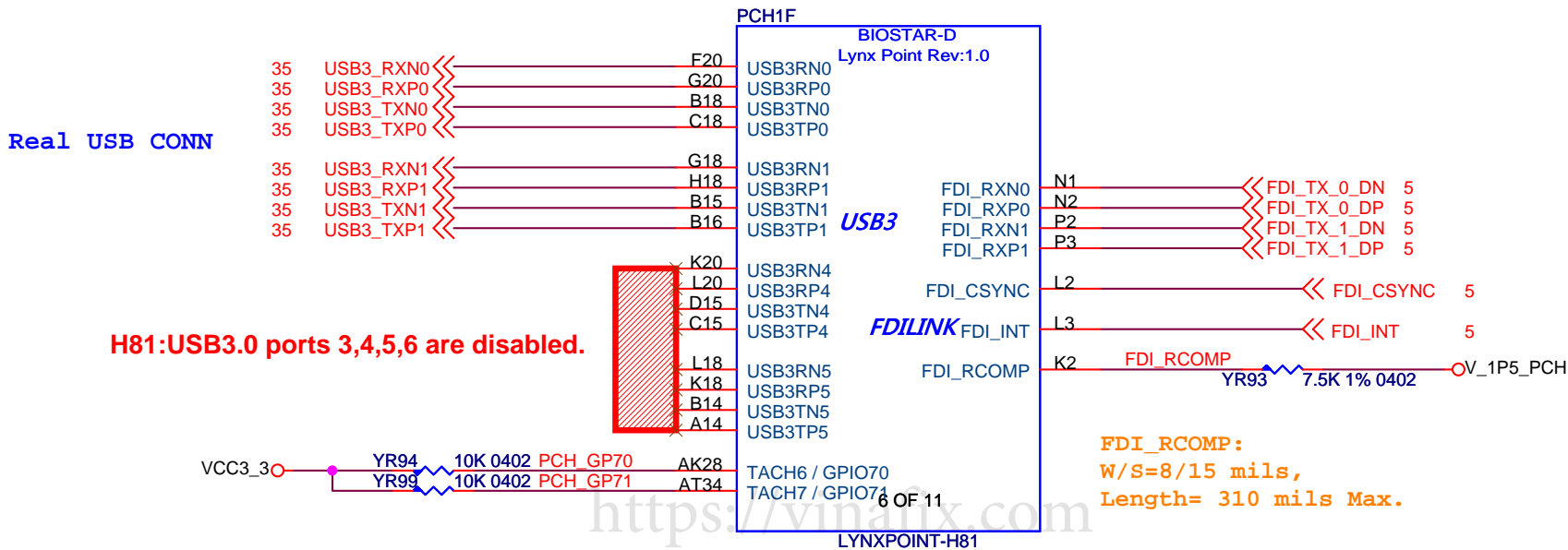
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PCH PART: Y+Reference



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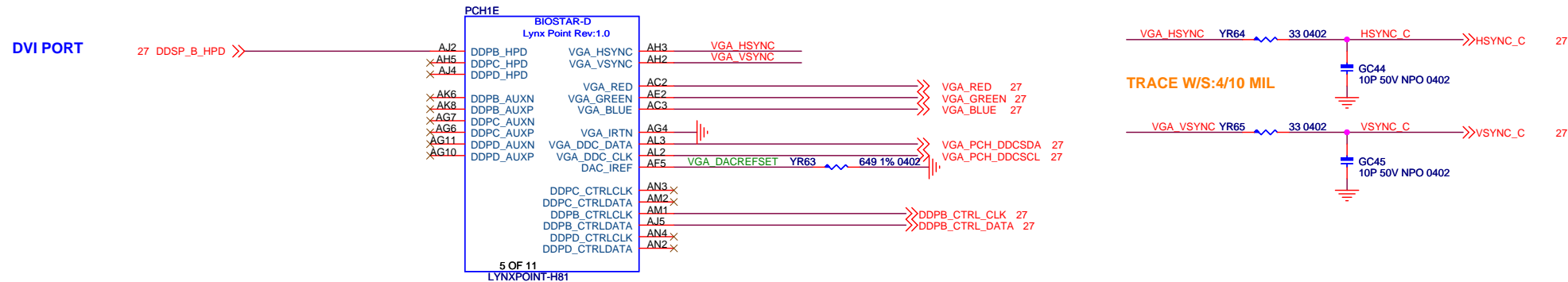
PCH USB3/FDI LINK

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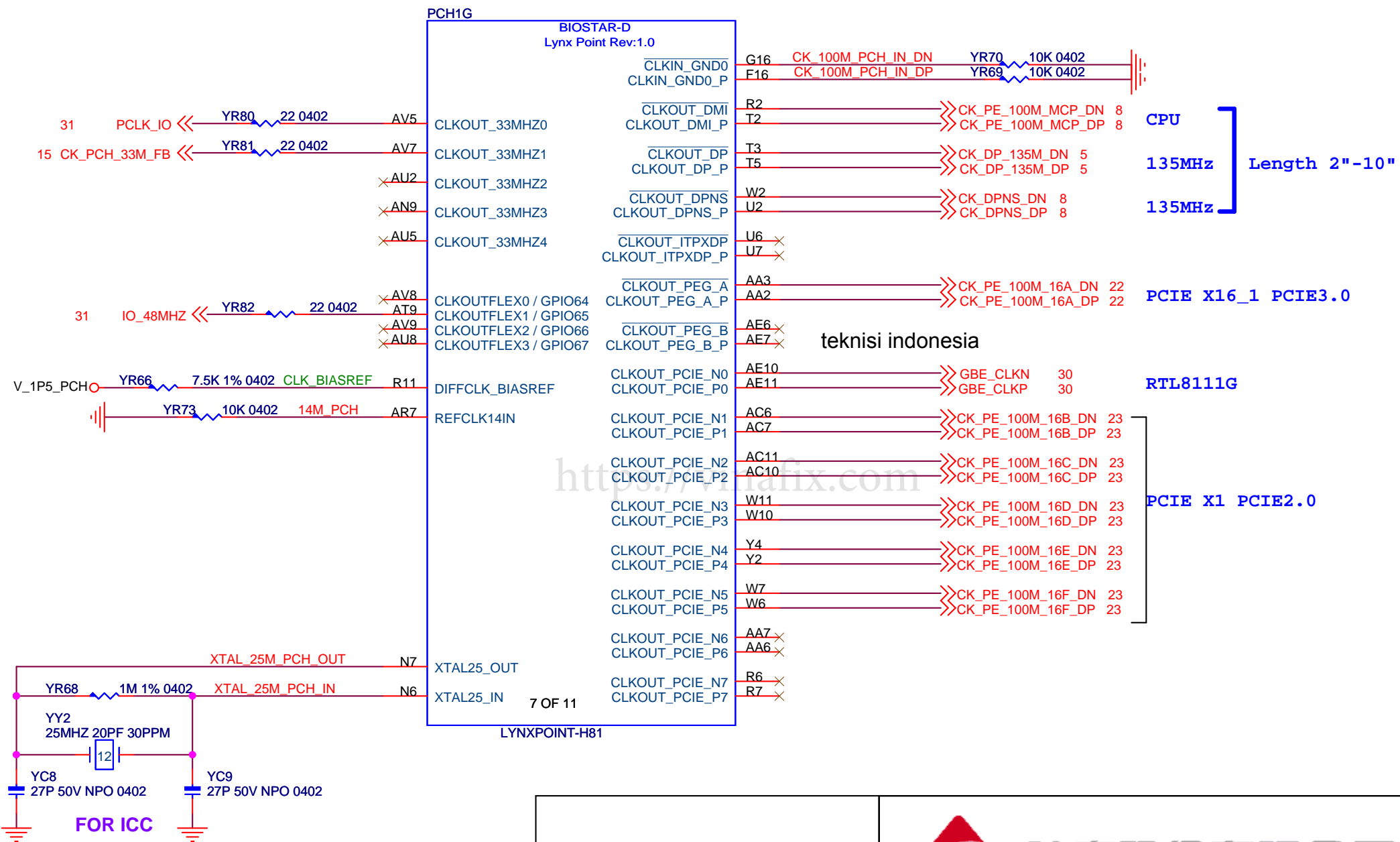


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PCH VGA/DISPLAY PORT

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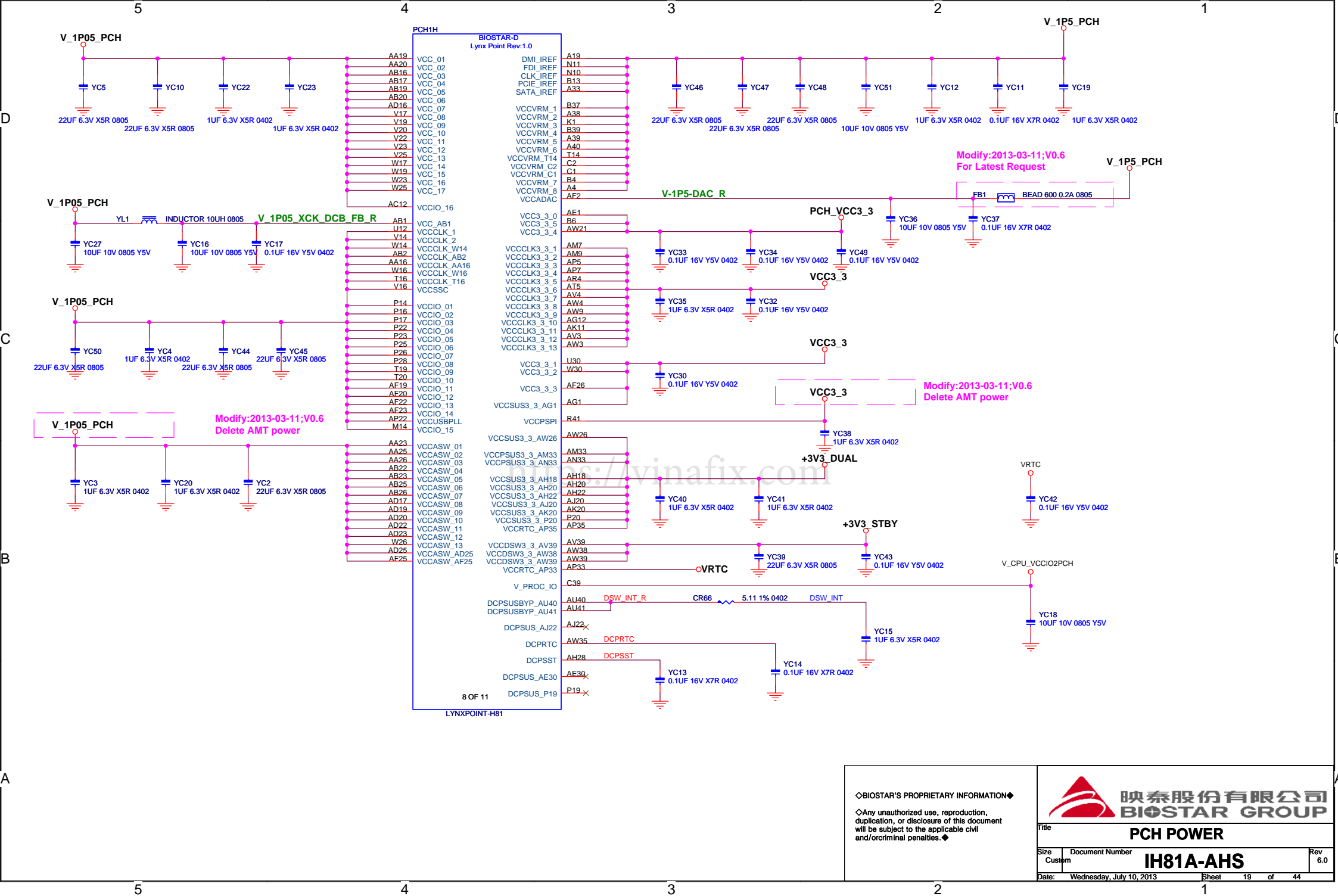


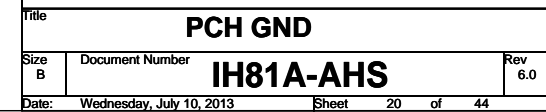
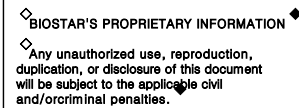
Title **PCH CLOCK BUFFER**

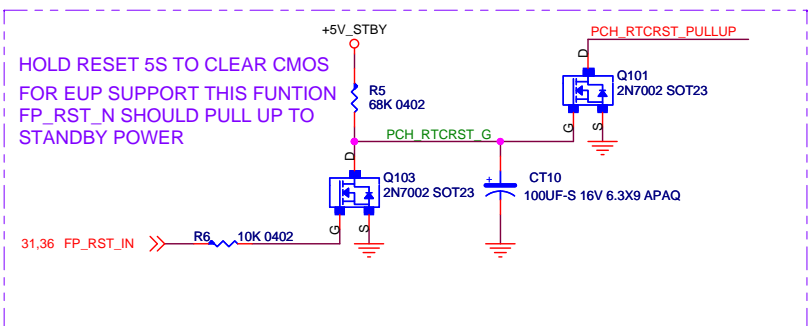
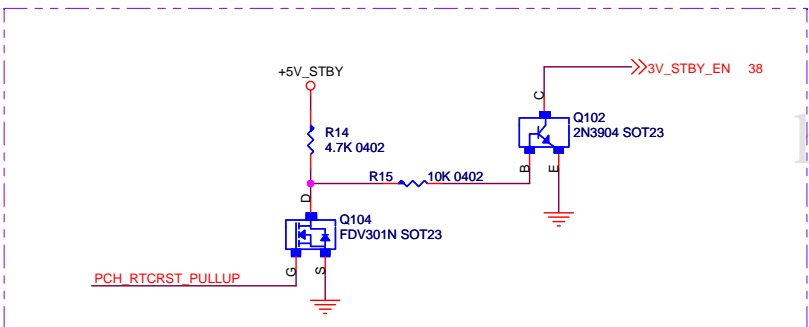
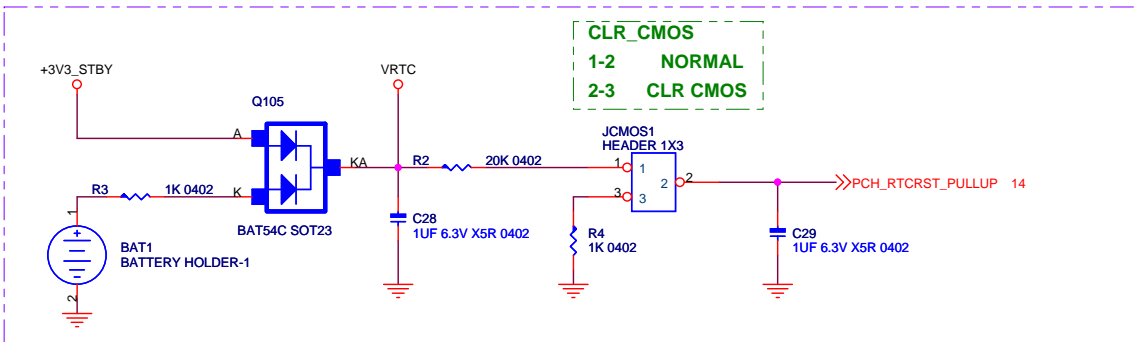
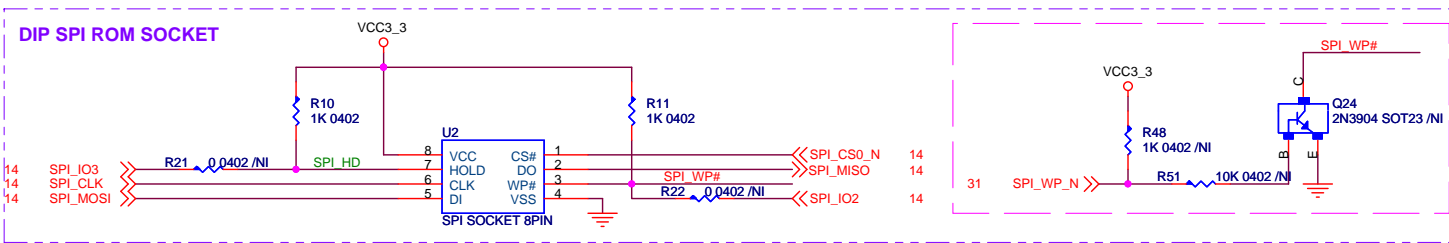
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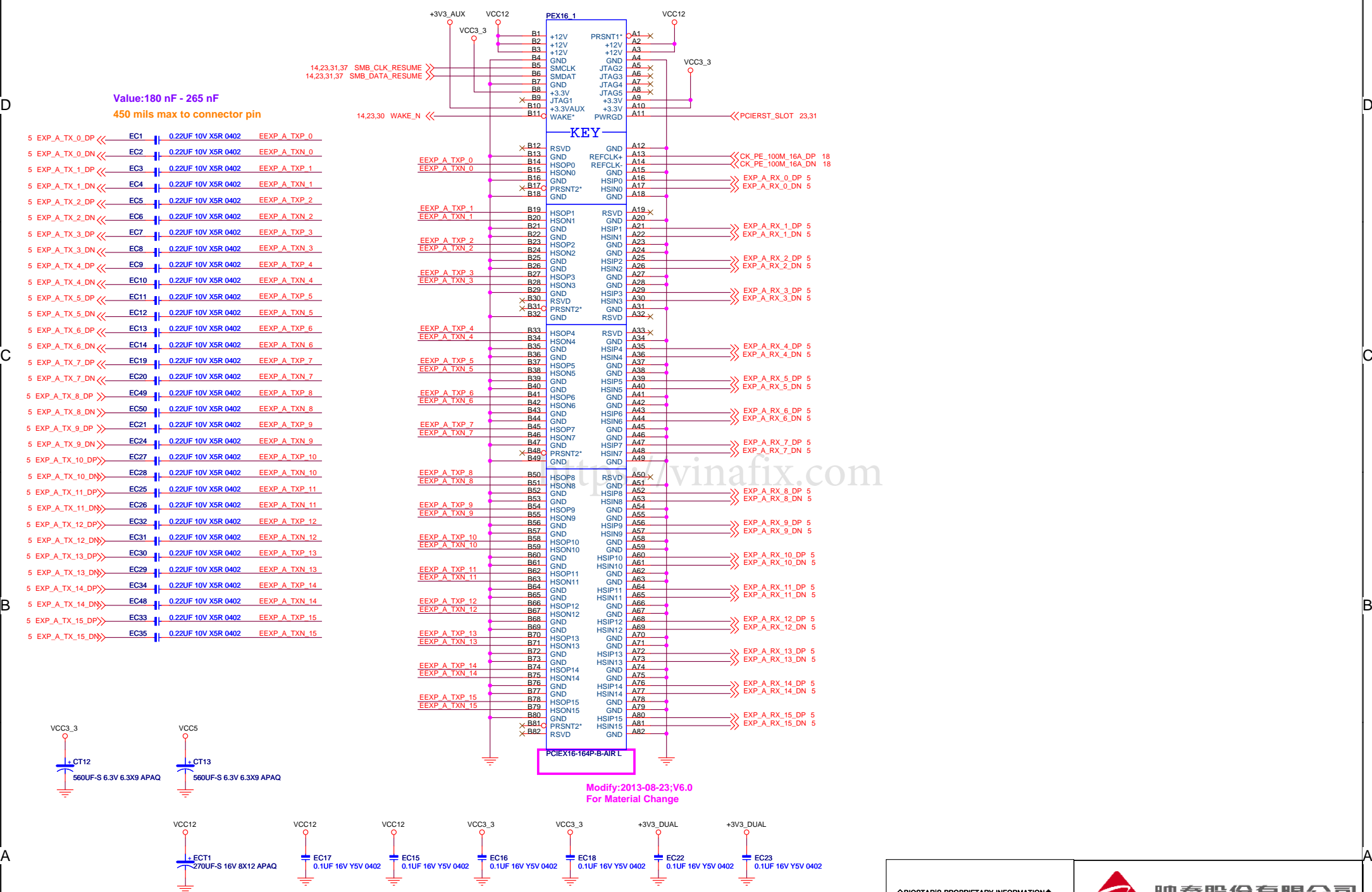
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Title SPI ROM/RTC CRYSTAL/BAT		
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SLOT PART: E+Reference



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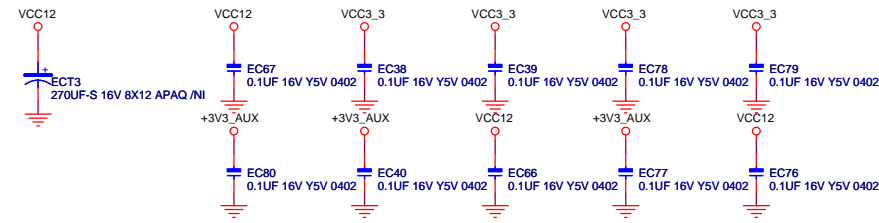
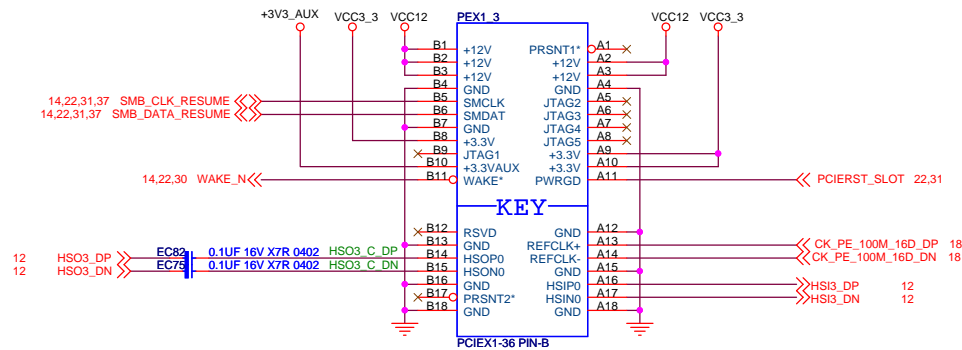
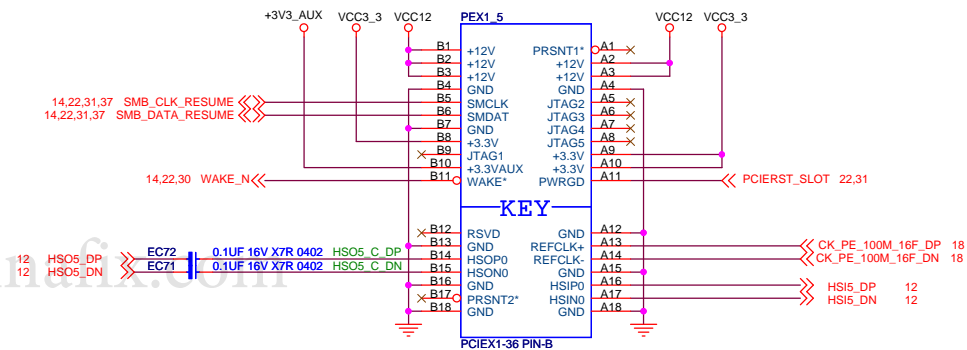
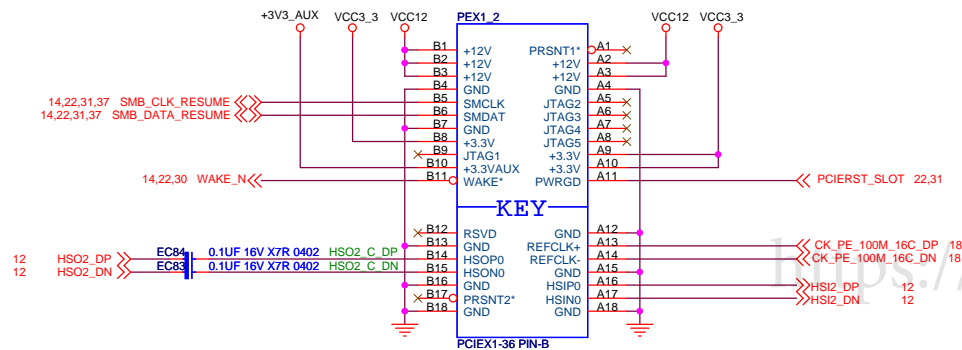
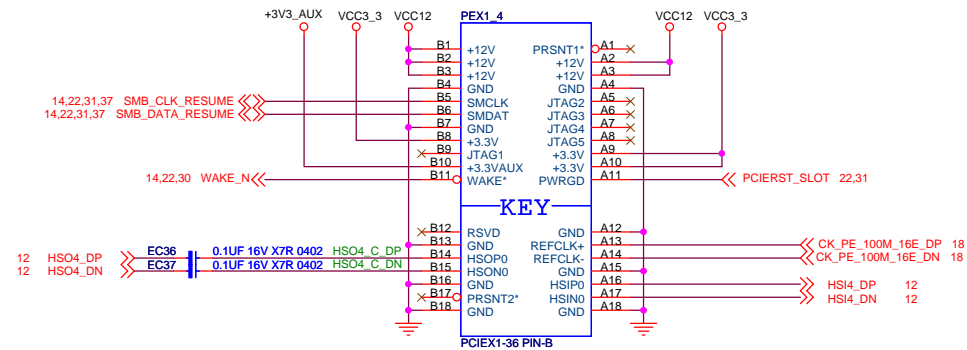
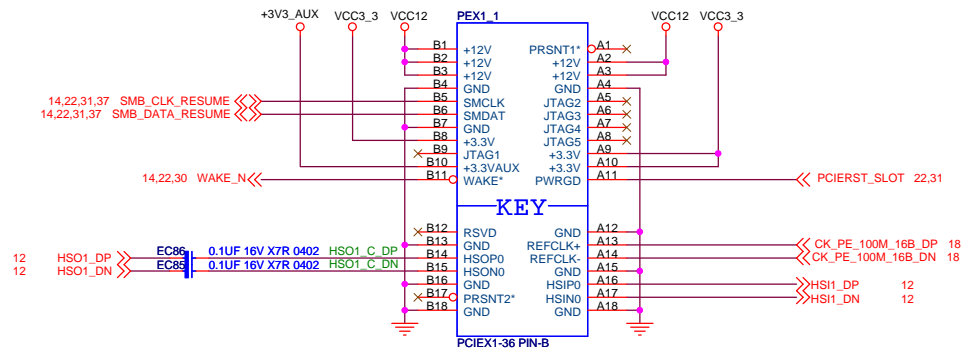
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Title	PCIEX16 SLOT 1&2
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PCI BRIDGE IT8893

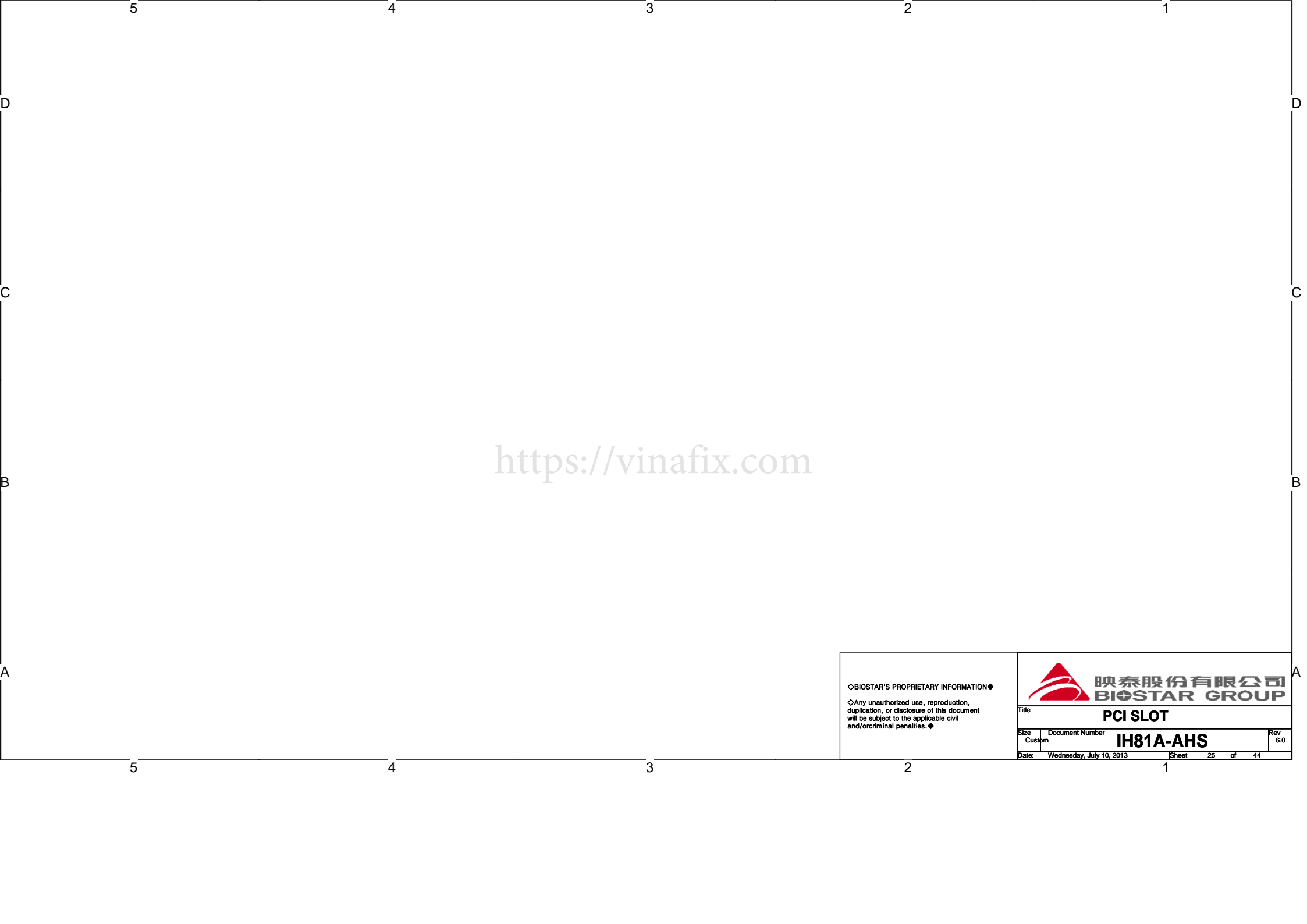
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	Title <div>PCI SLOT</div>		
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Title

HDMI CONNECTOR

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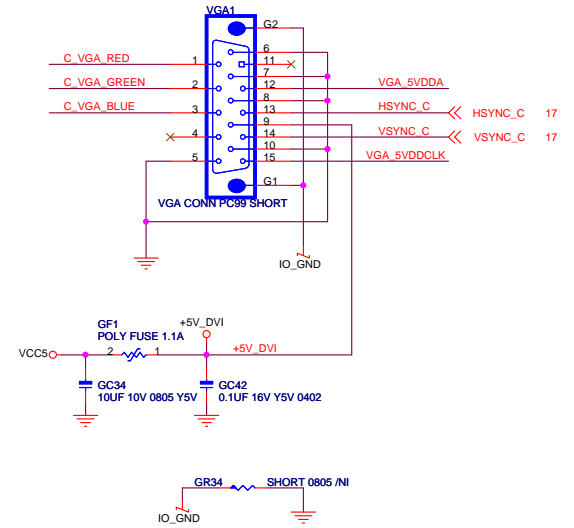
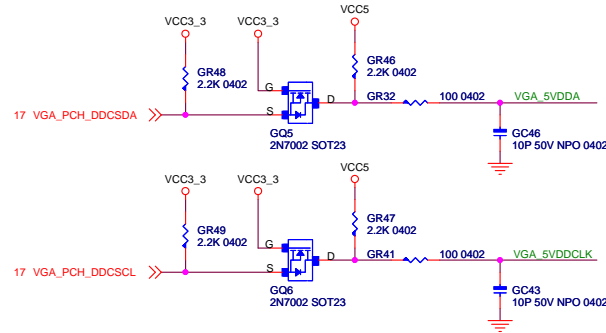
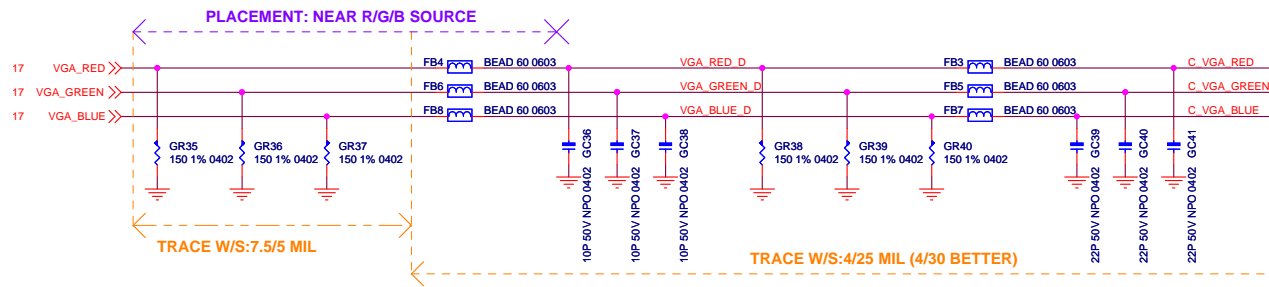
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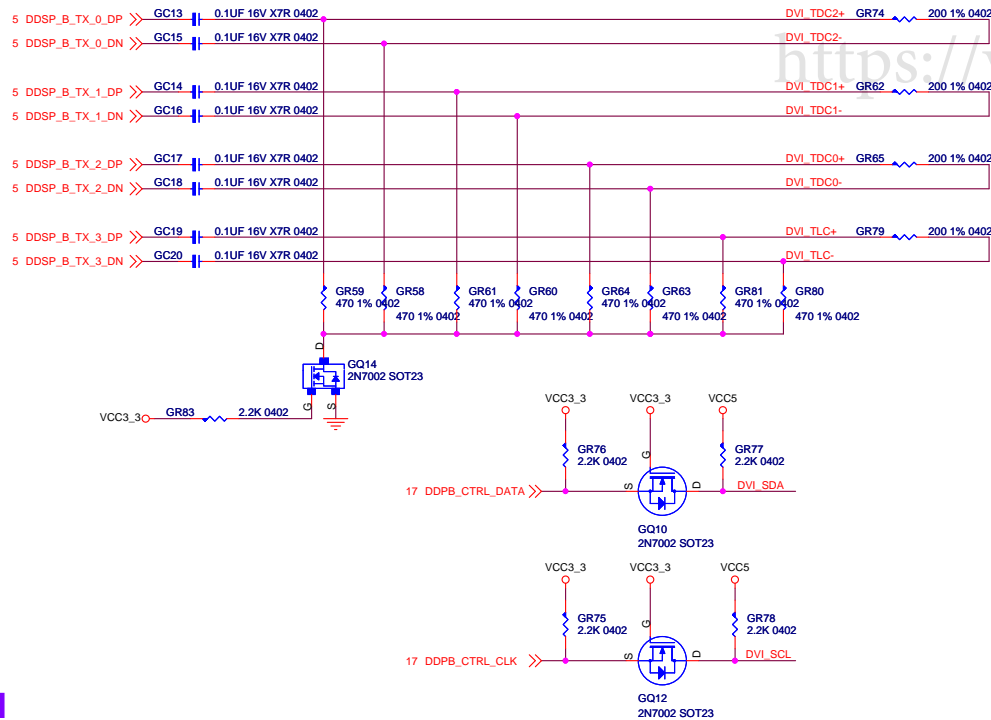
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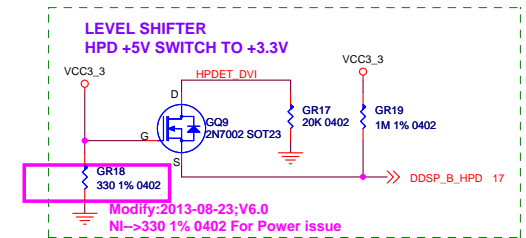
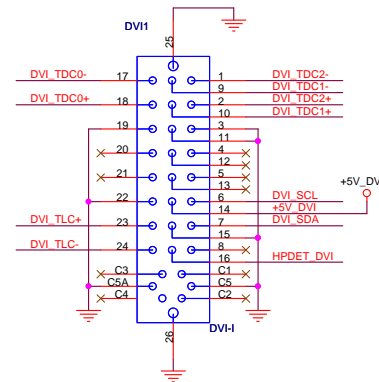


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D_SUB



DVI CONNECTOR
DVI CONNECTOR TYPE ACCORD WITH SPEC



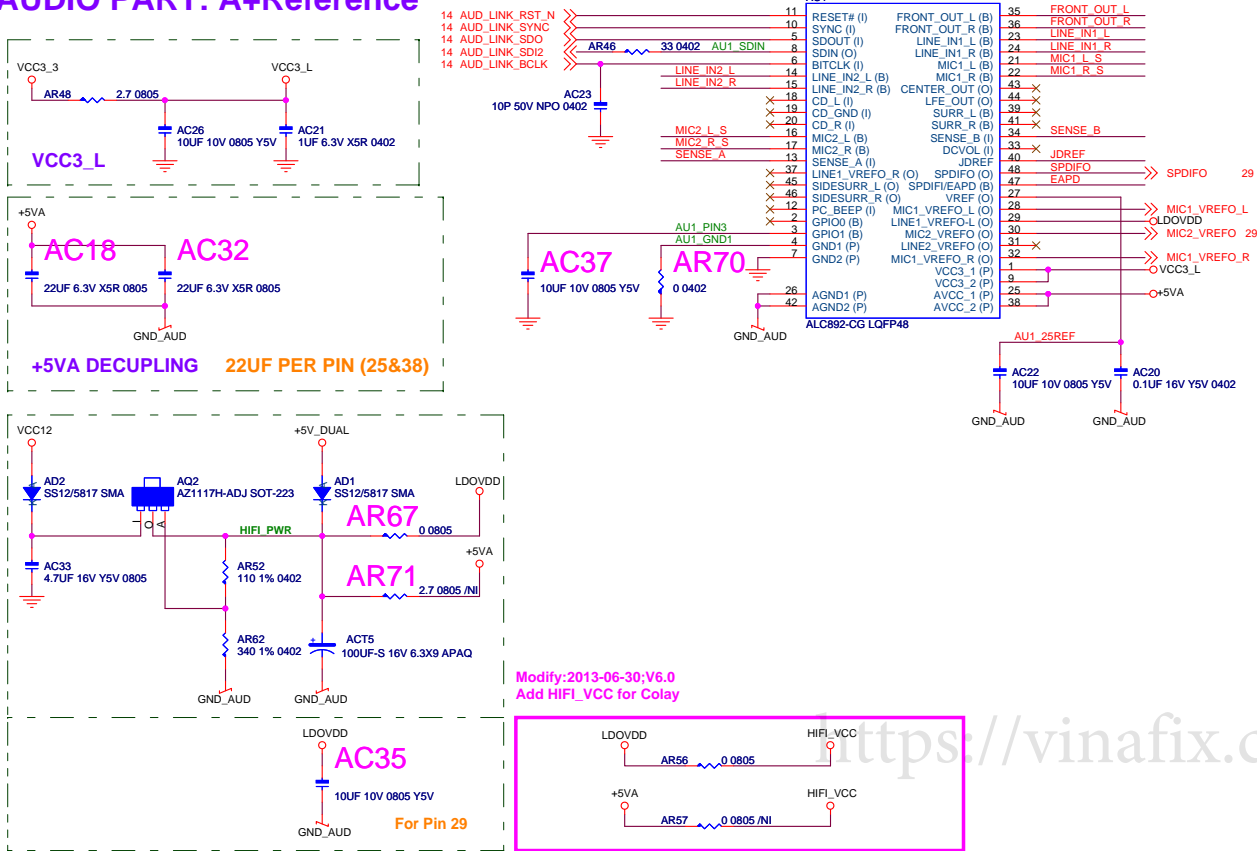
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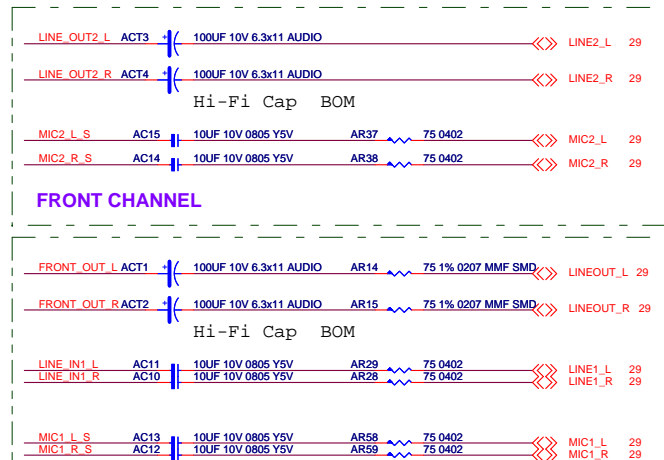
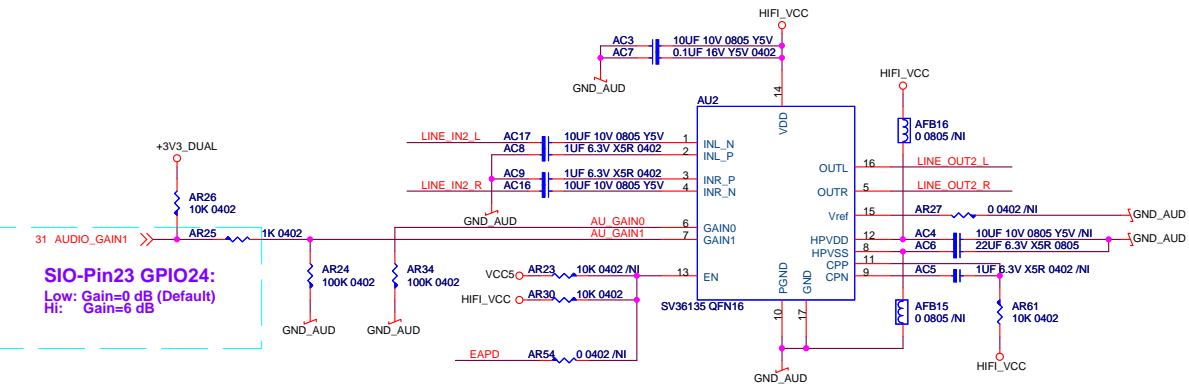
DVI

AUDIO PART: A+Reference

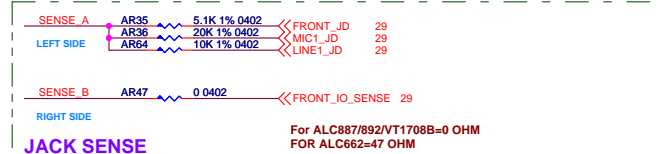


COMPONENT CONTRAST LIST

AUDIO	AR67	AC35	AC37	AR70	AR71	AC18	AC32
ALC 892CG	2.7 0805	10UF 10V 0805 Y5V	10UF 10V 0805 Y5V	0 0402	NI	22UF 6.3V X5R 0805	22UF 6.3V X5R 0805
ALC 887VD	2.7 0805	10UF 10V 0805 Y5V	10UF 10V 0805 Y5V	NI	NI	22UF 6.3V X5R 0805	22UF 6.3V X5R 0805
ALC 662CG	NI	NI	NI	0 0402	2.7 0805	10UF 10V 0805 Y5V	10UF 10V 0805 Y5V

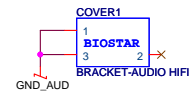
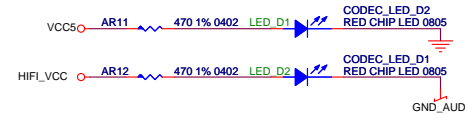


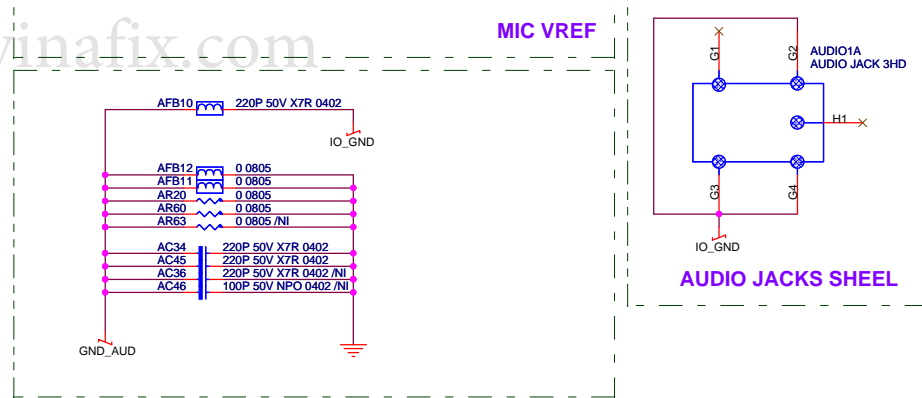
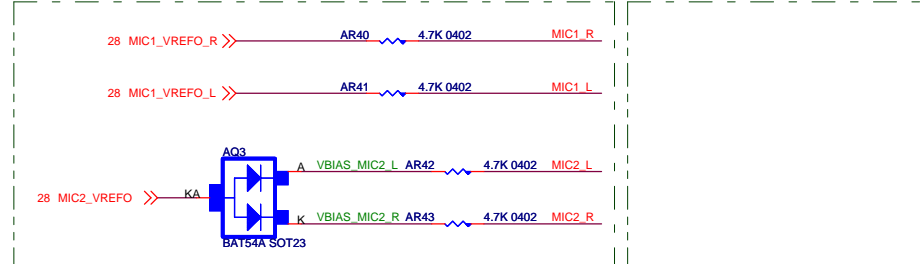
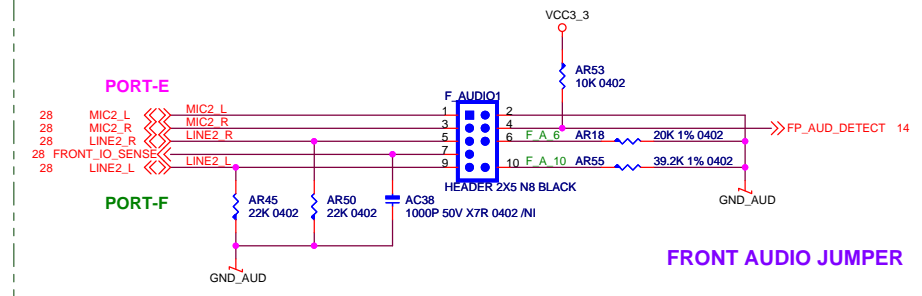
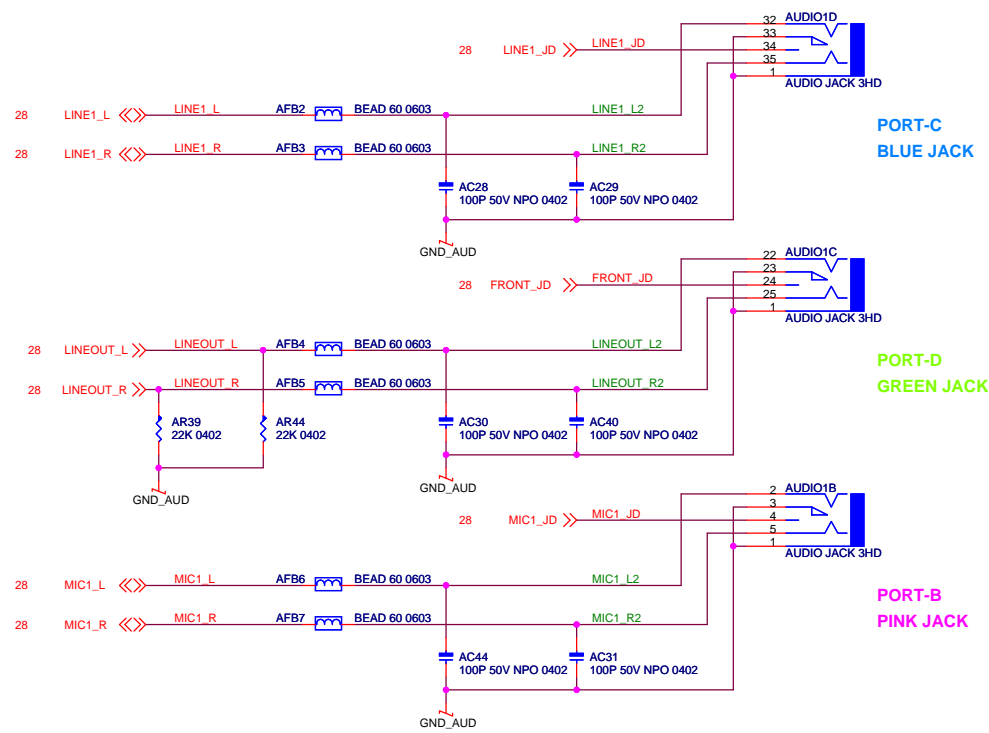
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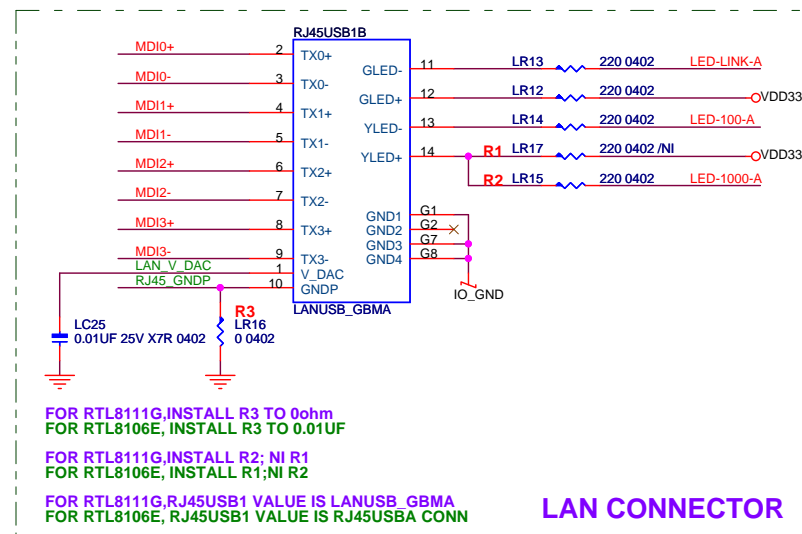
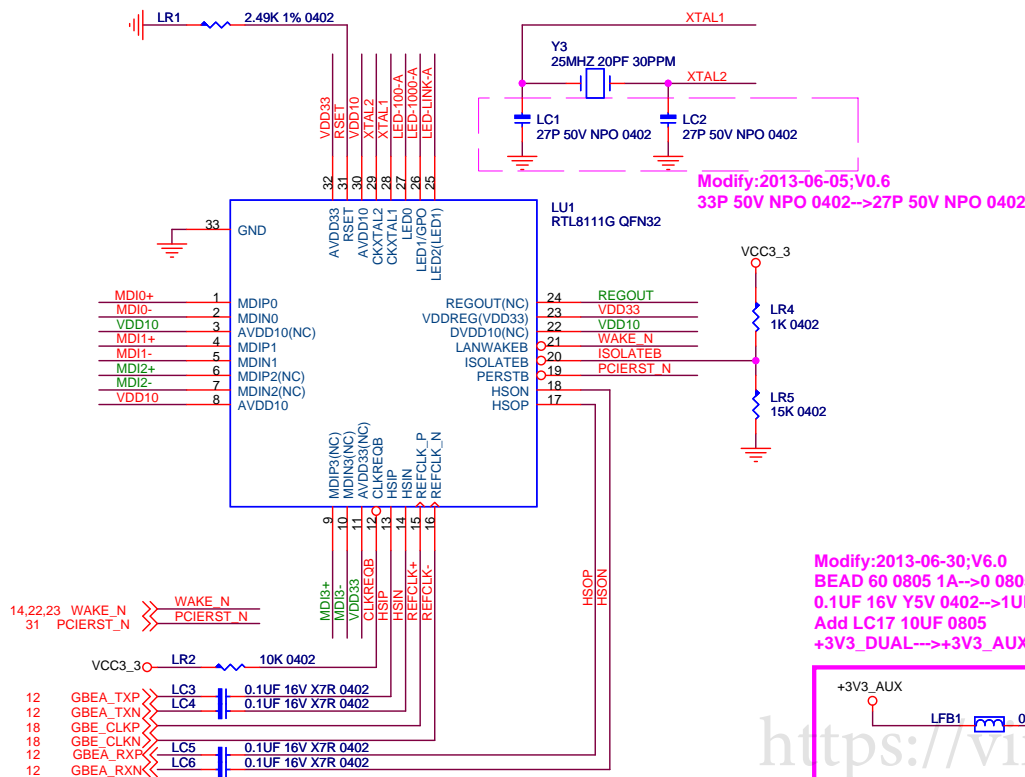
JACK SENSE

PLACE CLOSE TO CODEC

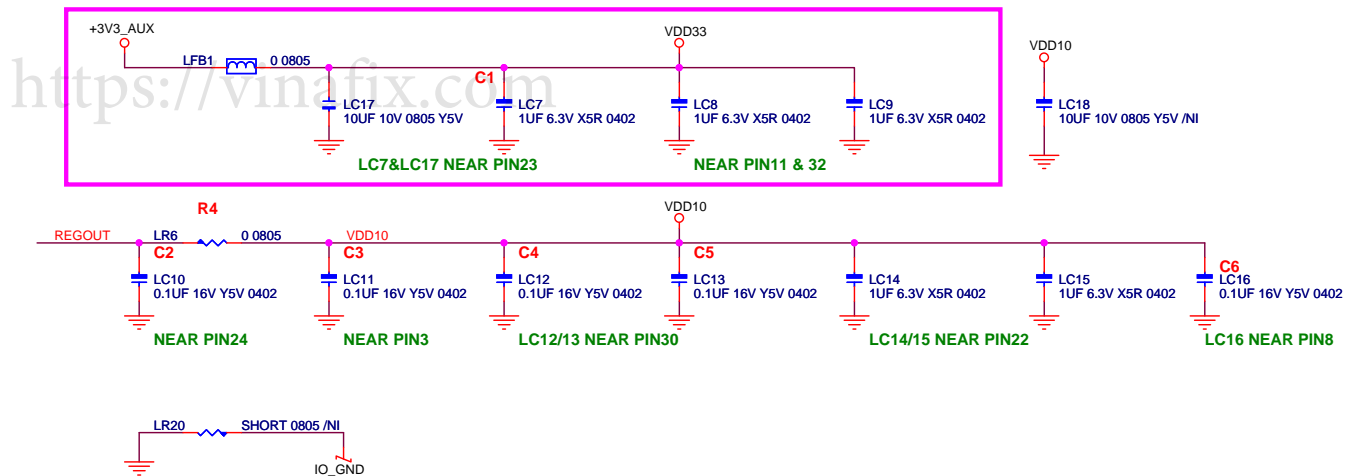




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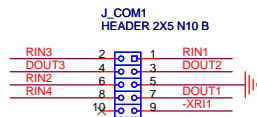
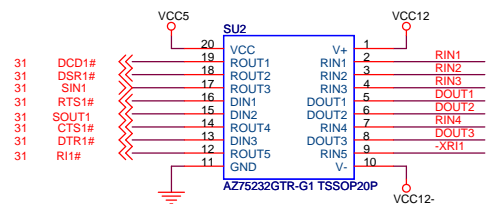
LAN PARTS	R1	R2	R3	R4	C1	C2	C3	C4	C5	C6	RJ45 CONN
RTL8111G	X	O	0ohm	O	O	O	O	O	O	O	LANUSB_GBMA
RTL8106E	O	X	0.01uF	X	X	X	X	X	X	O	RJ45USBA CONN

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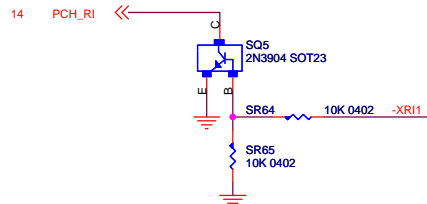
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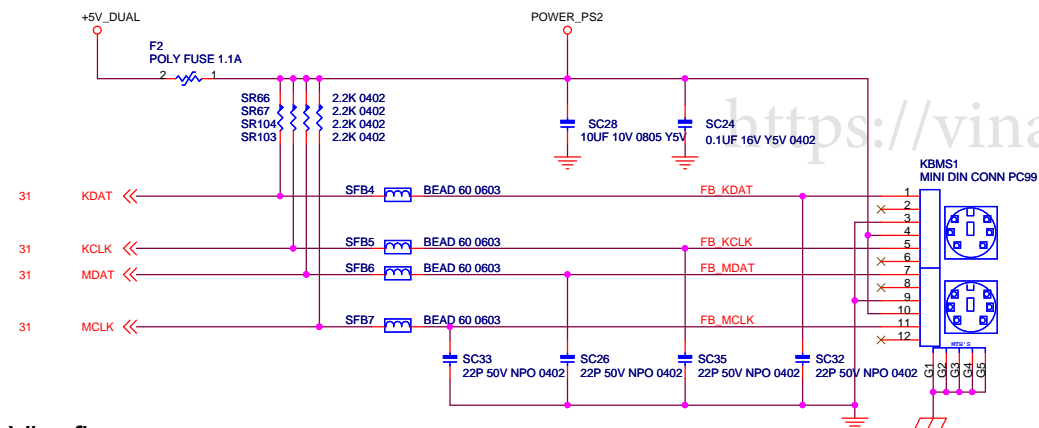
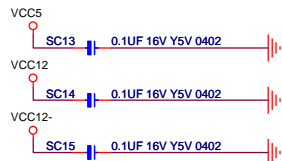
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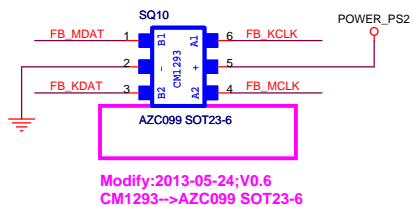
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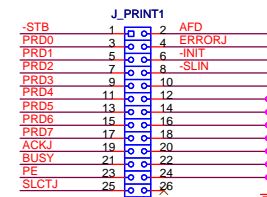
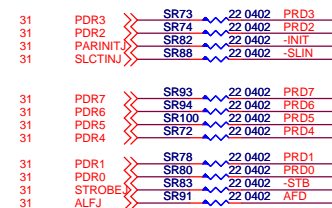
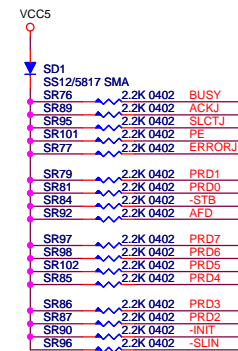
WAKE ON RING



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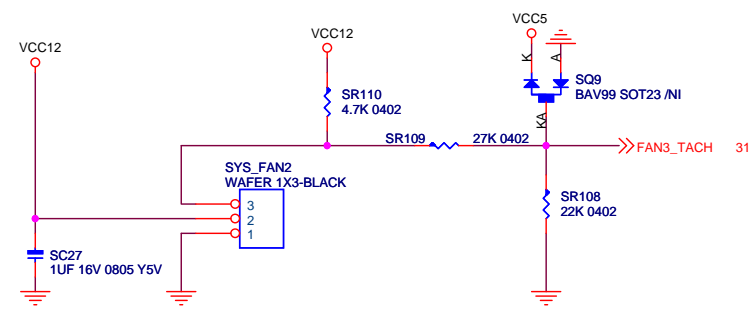
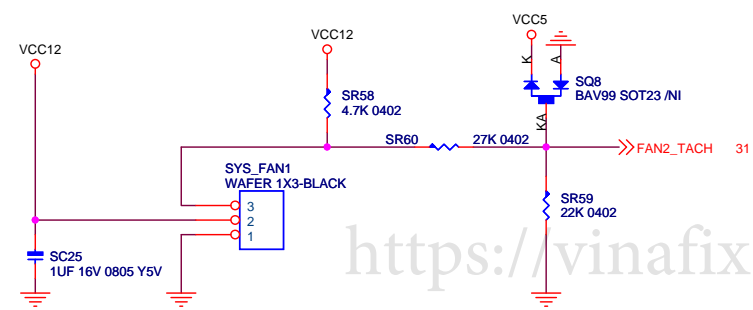
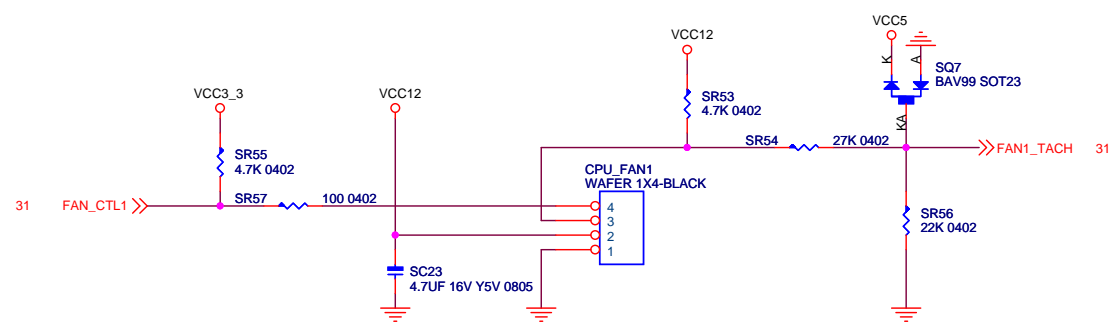
KEYBOARD & MOUSE




PARALLEL CONNECTOR

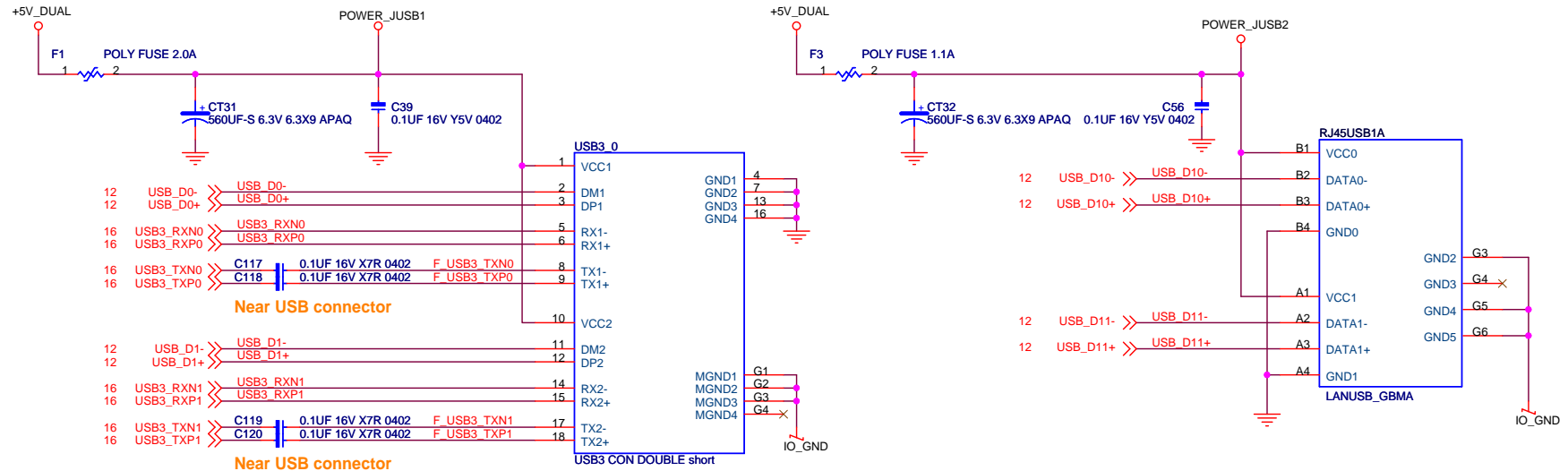
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CPU FAN/SYSTEM FAN1/SYSTEM FAN2

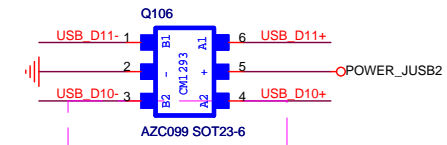
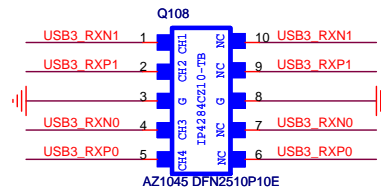
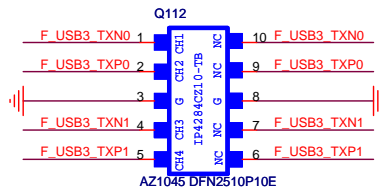
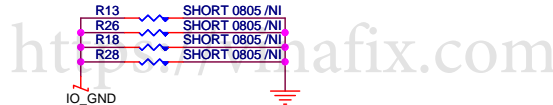


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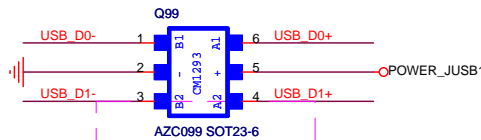
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<p>Title</p> <p>HW MONITOR/FAN CONTROL</p>		<p>Rev</p> <p>6.0</p>	
<p>Size</p> <p>B</p>	<p>Document Number</p> <p>IH81A-AHS</p>		<p>Date:</p> <p>Wednesday, July 10, 2013</p>
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USB3.0 PORTS



Modify:2013-05-24;V0.6
CM1293-->AZC099 SOT23-6



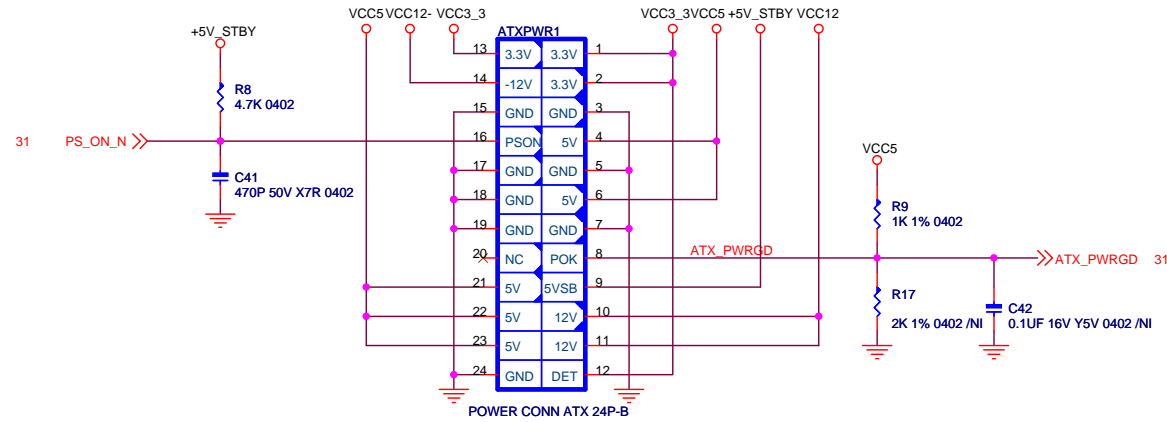
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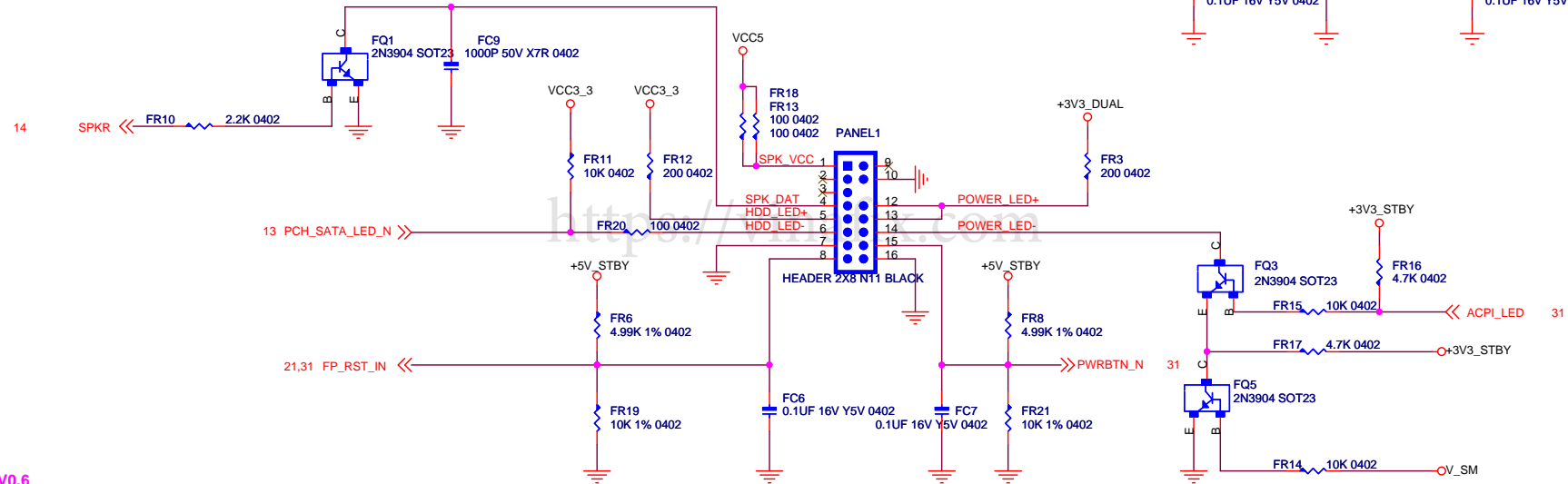
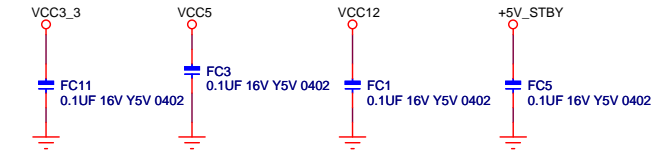
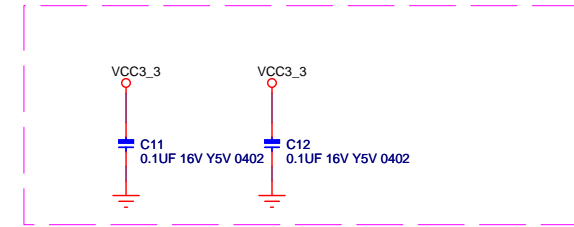


Title		
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Size	Document Number	Rev
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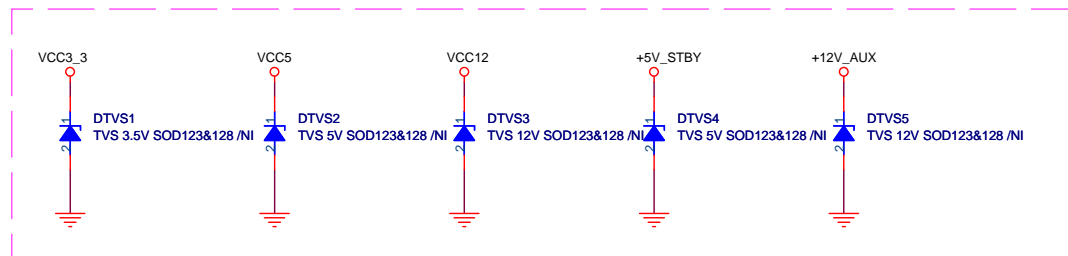
FP PART: F+Reference



Modify:2013-05-28;V0.6
EMI Solution



Modify:2013-05-06;V0.6
Add TVS Diode For SPEC



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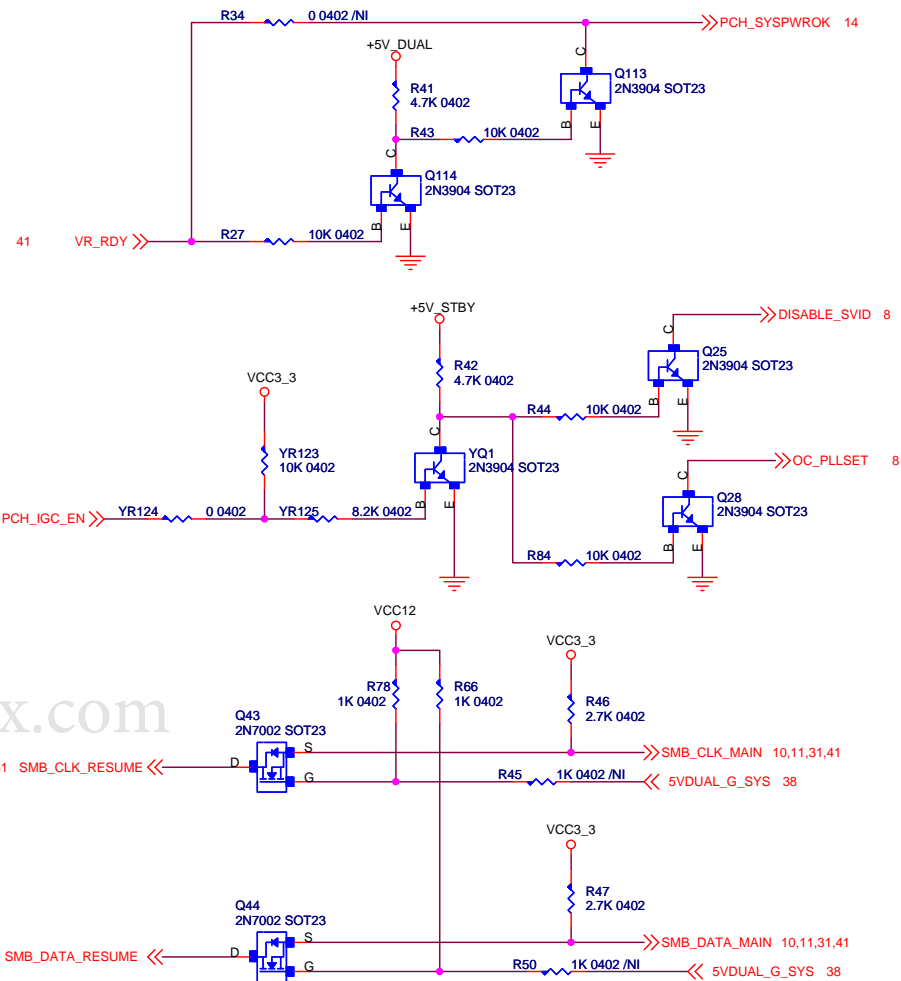
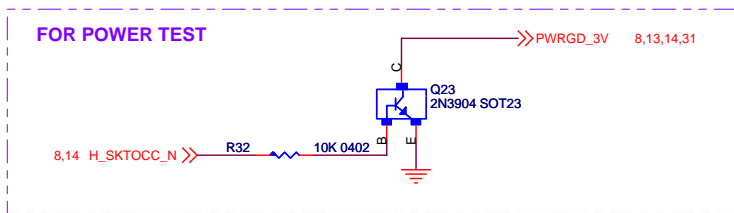
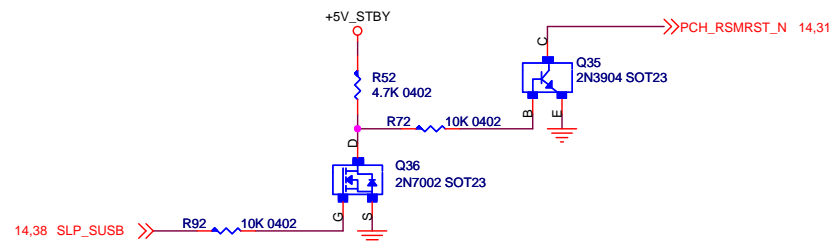
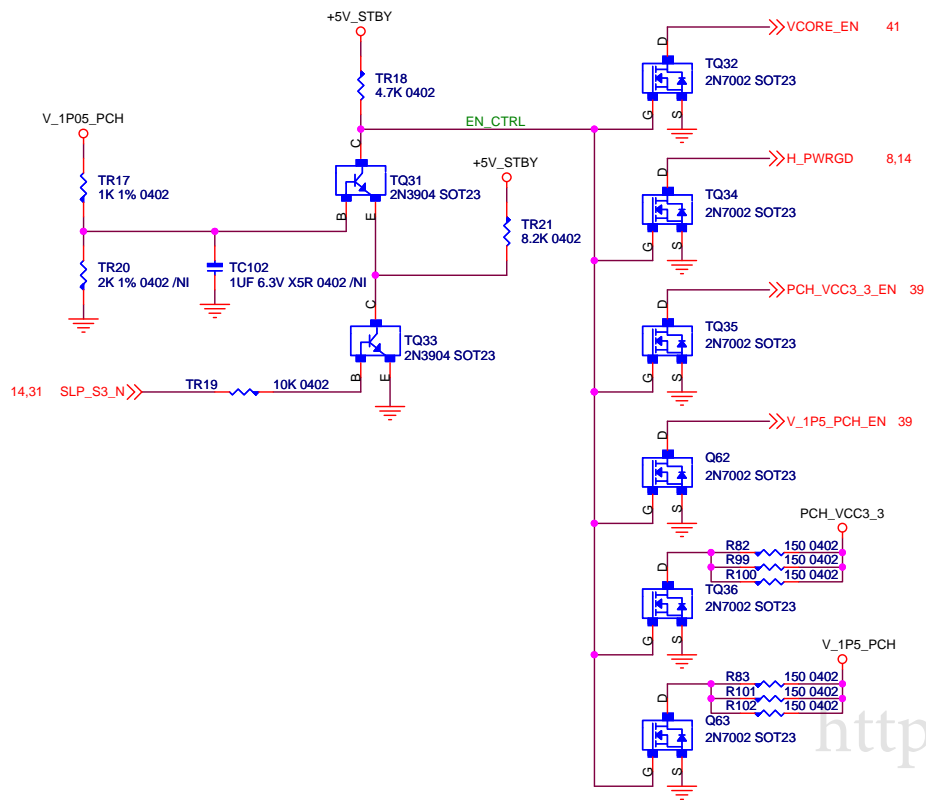
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Title 24PIN POWER CONN&FP

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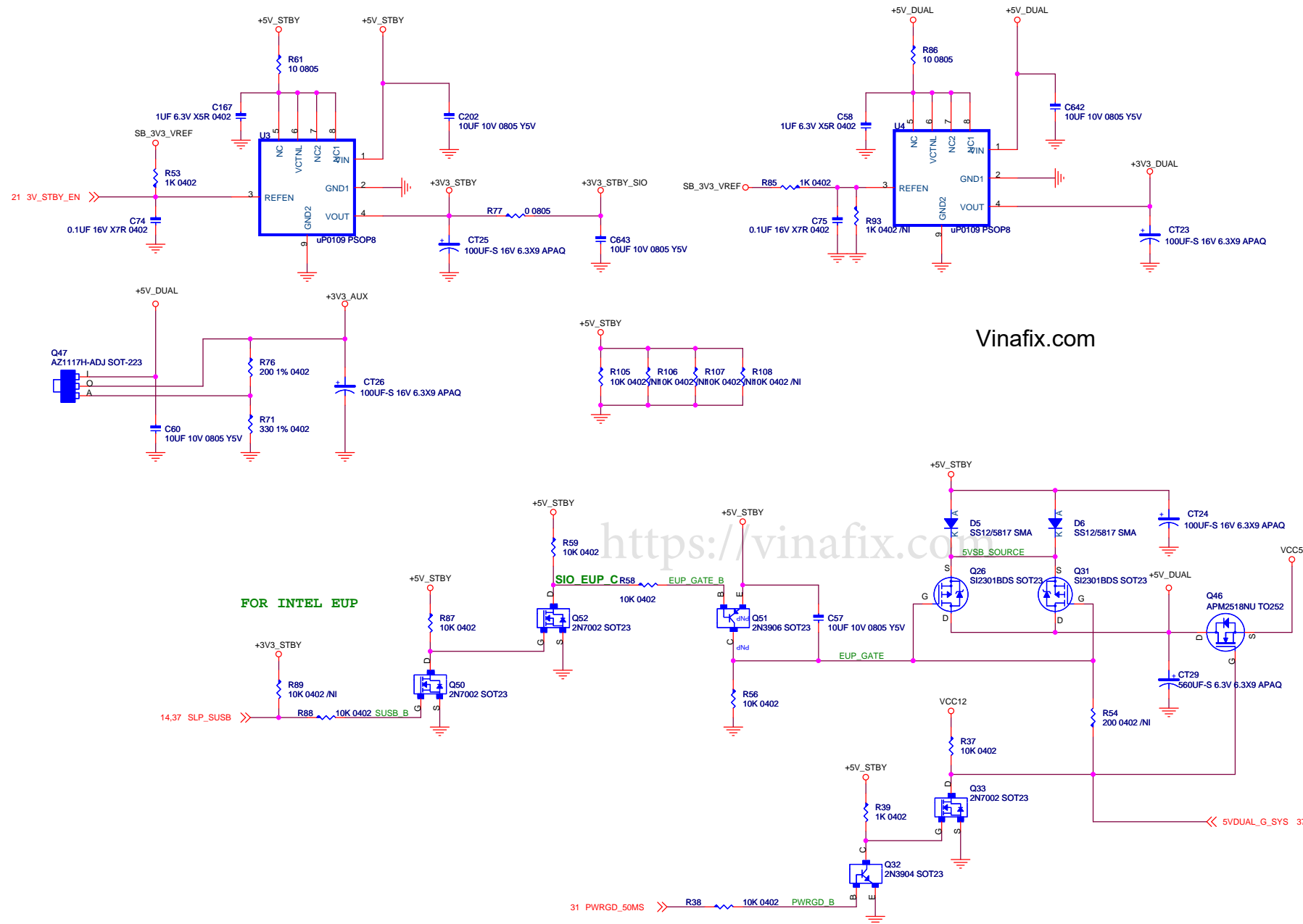


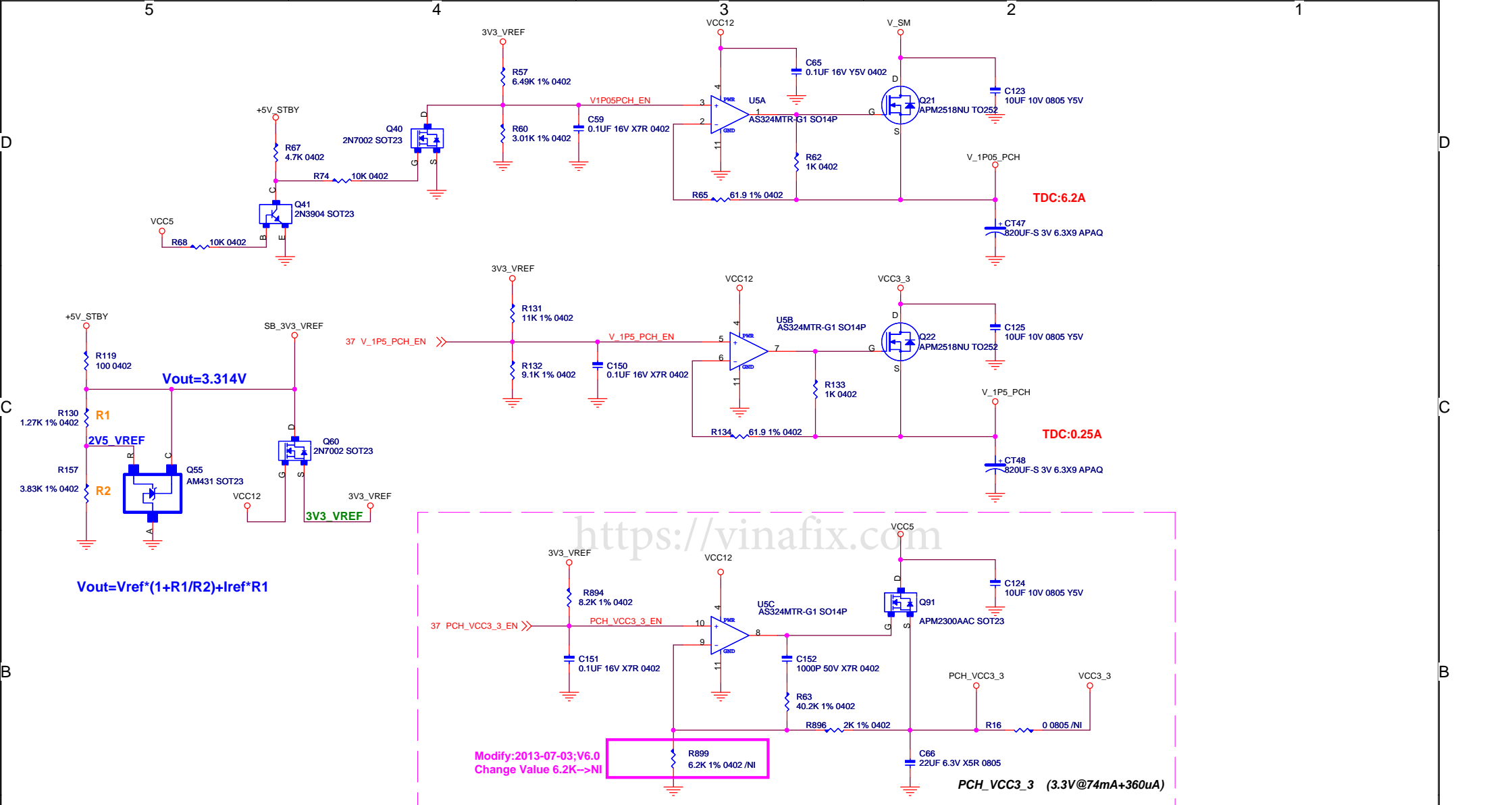
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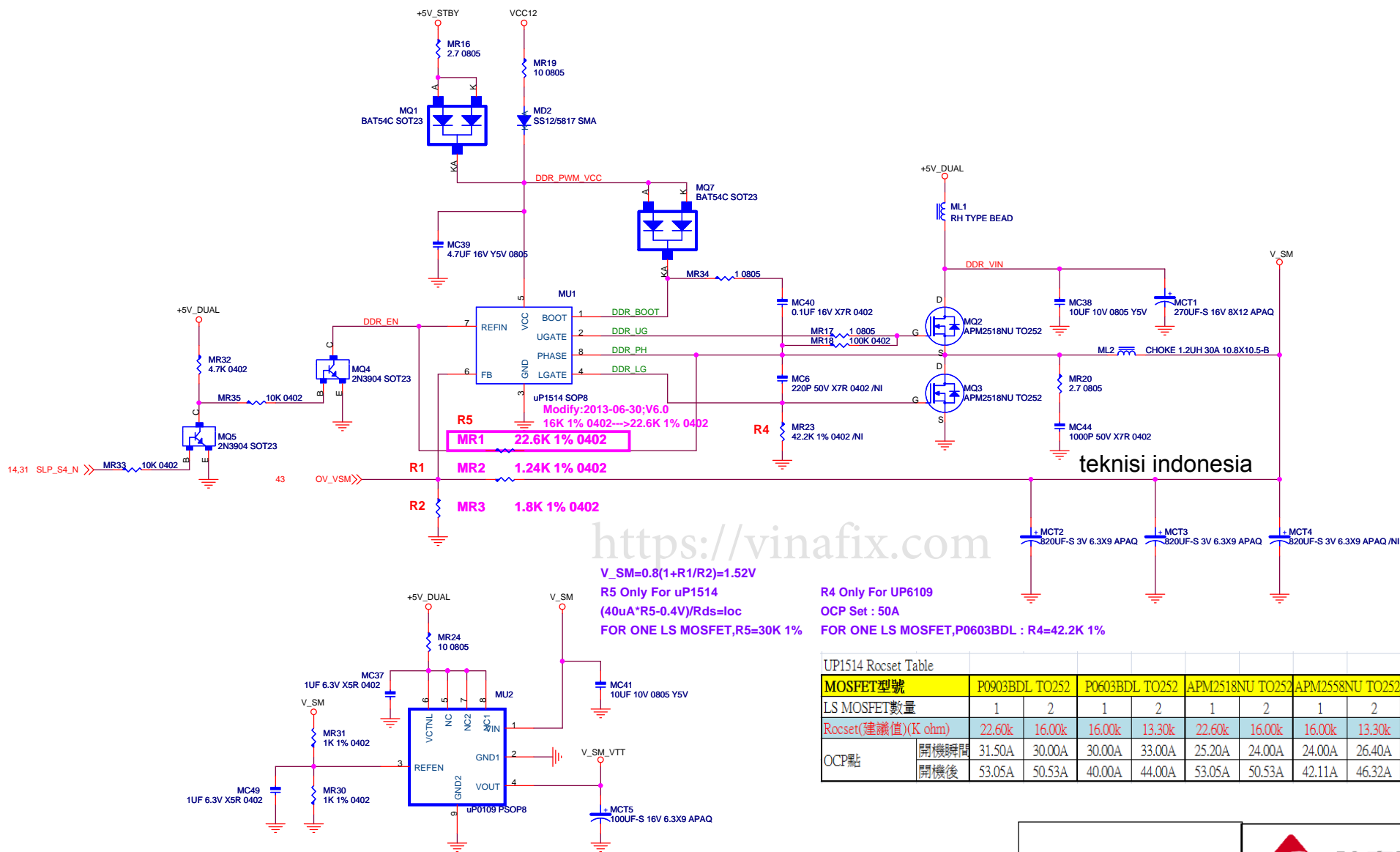


RESUME RESET LOGIC		
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MEMORY PART:M+Reference



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$V_SM=0.8(1+R1/R2)=1.52V$
R5 Only For uP1514
(40uA*R5-0.4V)/Rds=loc
FOR ONE LS MOSFET,R5=30K 1%

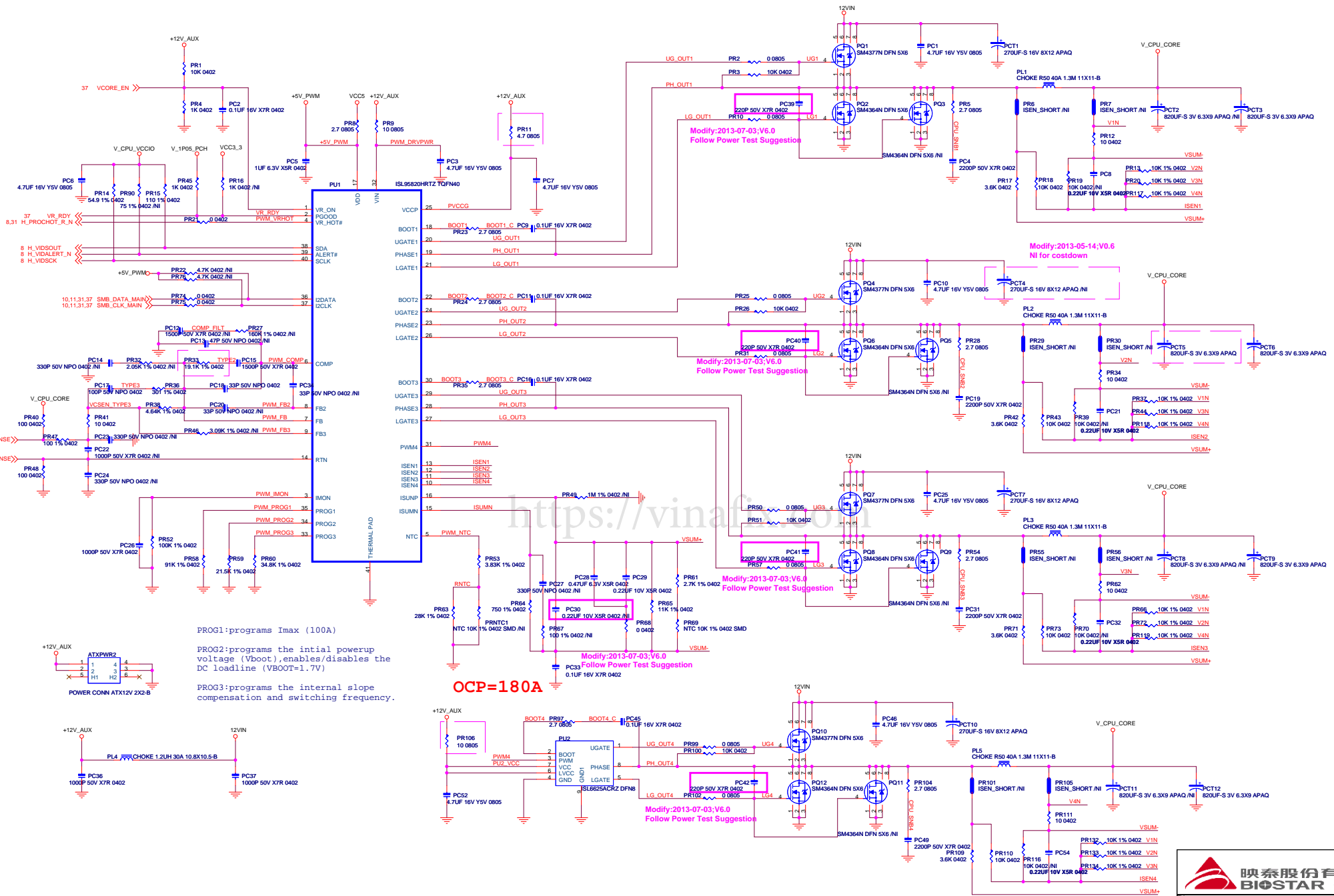
R4 Only For UP6109
OCP Set : 50A
FOR ONE LS MOSFET,P0603BDL : R4=42.2K 1%

UP1514 Rocset Table									
MOSFET型號		P0903BDL TO252		P0603BDL TO252		APM2518NU TO252		APM2558NU TO252	
LS MOSFET數量		1	2	1	2	1	2	1	2
Rocset(建議值)(K ohm)		22.60k	16.00k	16.00k	13.30k	22.60k	16.00k	16.00k	13.30k
OCP點	開機瞬間	31.50A	30.00A	30.00A	33.00A	25.20A	24.00A	24.00A	26.40A
	開機後	53.05A	50.53A	40.00A	44.00A	53.05A	50.53A	42.11A	46.32A

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Title			
VSM DC-DC Conver			
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PROG1:programs Imax (100A)
PROG2:programs the intial powerup voltage (Vboot),enables/disables the DC loadline (VBOOT=1.7V)
PROG3:programs the internal slope compensation and switching frequency.

OCP=180A



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File
ISL6367 PWM controller

Size
Custom

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D


C

B

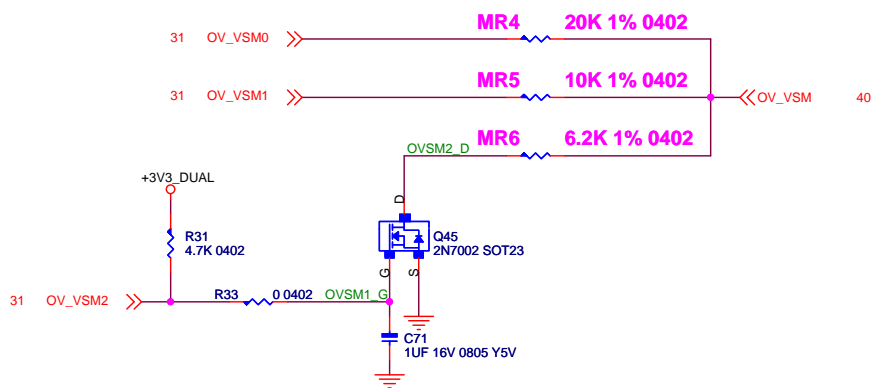
A

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Title		VCORE PHASE	
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5 4 3 2 1



V_SM	OV_VSM2	OV_VSM1	OV_VSM0
1.35V	0	1	1
1.51V(DEFAULT)	1	1	1
1.56V	1	1	0
1.61V	1	0	1
1.66V	1	0	0

CPU_VCCIO_VOL C84 0.1UF 16V Y5V 0402
 CPU_VRING_VOL C85 0.1UF 16V Y5V 0402
 CPU_VSA_VOL C86 0.1UF 16V Y5V 0402
 CPU_VGT_VOL C87 0.1UF 16V Y5V 0402

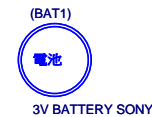
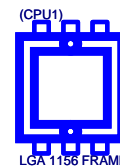
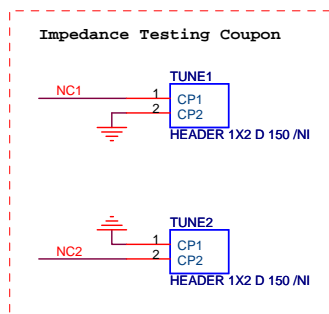
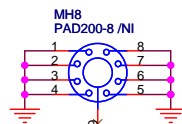
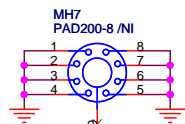
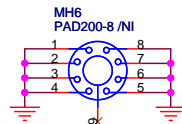
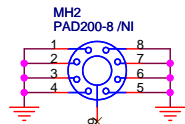
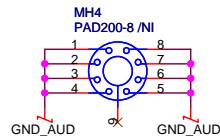
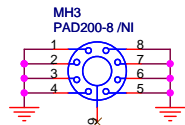
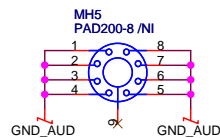
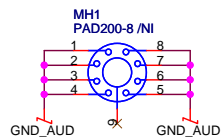
CPU_CORE1_VOL C88 0.1UF 16V Y5V 0402
 CPU_CORE2_VOL C89 0.1UF 16V Y5V 0402
 CPU_CORE3_VOL C90 0.1UF 16V Y5V 0402

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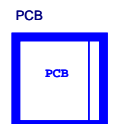
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Title **OVER VOLTAGE/TEST POINT**
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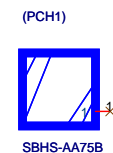
H81&Z87:SPI W25Q64 DIP
B85&H87:W25Q32BV DIP



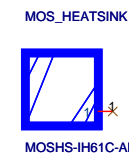
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20-120-105301H11

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96-IH81AAHS-R01P-60

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