

IH61X-MHS V7.0(Model name : H61MHV) 半固 + HDMI + Gbe LAN

IH61X-MHS V7.1(Model name : H61MHV) 全固 + HDMI + Gbe LAN

IH61Y-MHS V7.0(Model name : H61MGV) 半固 + Gbe LAN

IH61Z-MHS V7.0(Model name : H61MLC2) 半固 + 10/100M LAN

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40	OVER VOLTAGE
41	BOM

CPU:

Intel Sandy/Ivy Bridge processors in LGA1155 Package 95W

System Chipset:

Cugar Point H61

Main Memory:

Dual Channel/DDR-III*2(Max 16GB) 1066/1333

DDR3-1600 /1333 /1066 /800

Onboard Device:

Super I/O:IT8772E

LAN:REALTEK 8111F/8105E

HD Codec:ALC662CG 3 jacks

Power solution:

CPU Voltage Regulators:2phase by ISL6363

AXG voltage Regulators:1phase by ISL6363

VTT voltage Regulators:1Phase by FP6326

DDR voltage Regulators:1Phase by FP6326

Expansion Slots:

PCI EXPRESS 16X SLOT*1

PCI EXPRESS 1X SLOT*1

REAR IO:

PS/2 KB/MS

VGA

2 layer USB2.0 Ports

2 layer USB2.0 + RJ-45 Ports

Audio Jackets

Front I/O:

SATA2 * 4

USB Header * 2

CPU /System1

Front Audio Header

COM1

IH61X-MHS V7.0 V.S V7.1

ACT1,ACT2,ACT3,ACT4,ACT5CT4,CT6,CT8MCT6

NETIN: 100UF 16V 5X11 2MM LR 6.3X5

BOM: 100UF 16V 5X11 2MM LR 6.3X5---電解

100UF-S 16V 6.3X5 5X11---固態

ECT4,ECT5CT2,CT3,CT6

NETIN: 1000UF 6.3V 8X12 6.3X9

BOM: 1000UF 6.3V 8X12 6.3X9---電解

560UF-S 6.3V 6.3X9 APAQ---固態

CT9,CT11MCT2

NETIN: 1000UF 6.3V 8X12 6.3X9

BOM: 1000UF 6.3V 8X12 6.3X9---電解

820UF-S 3V 6.3X9 APAQ---固態

IH61X-MHS V7.0 V.S IH61Y-MHS V7.0

ALL Page 24 comonent N/I

Page 23 GF1,GC8 N/I

IH61X-MHS V7.0 V.S IH61Z-MHS V7.0

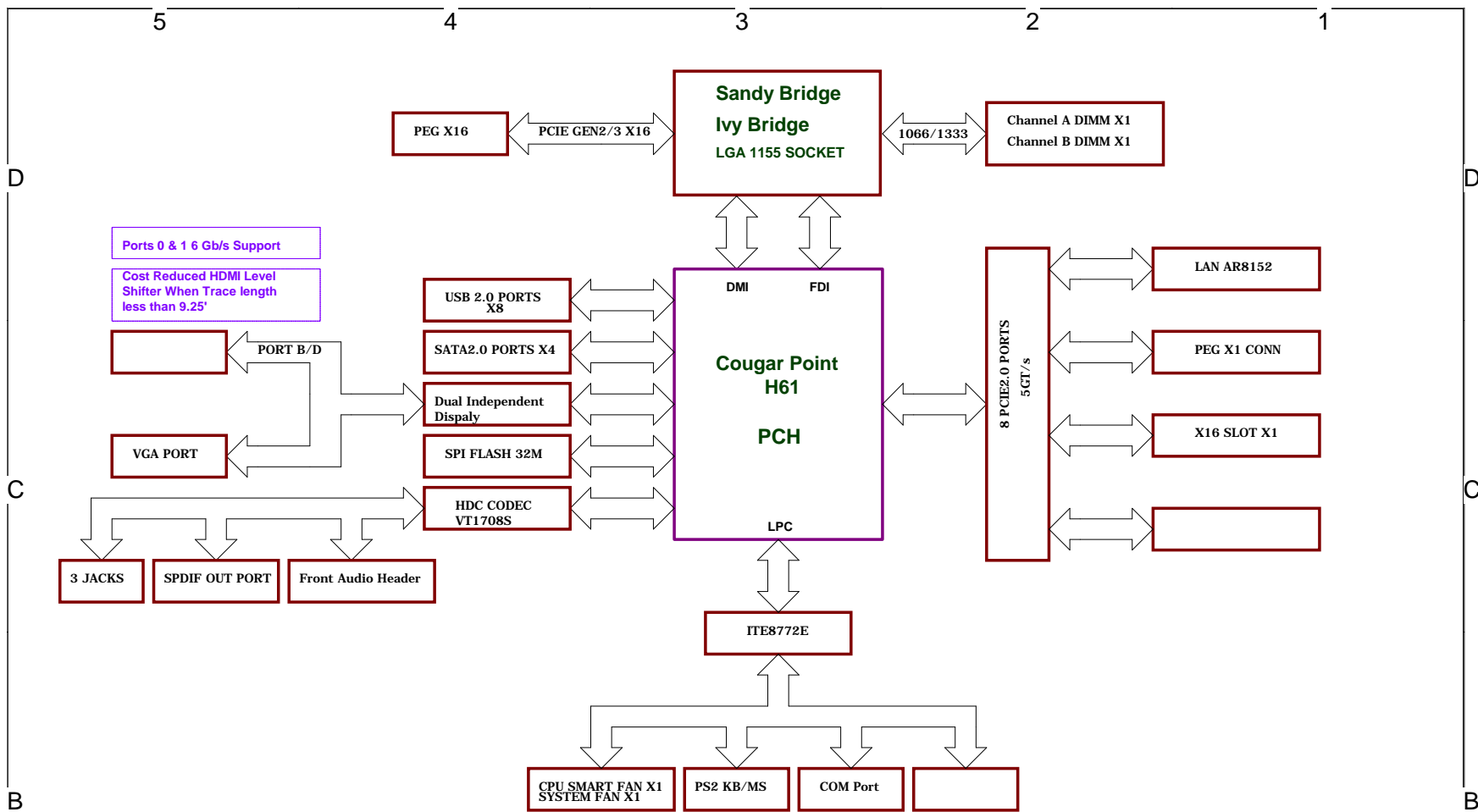
Change Page 27 LAN to 8105E

ALL Page 24 comonent N/I

Page 23 GF1,GC8 N/I

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Title INDEX		
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Feature Set	SKU Name(s)					
	Q67	Q65	B65	H67	P67	H61
PCI Express* 2.0 Ports	8	8	8	8	8	6 ⁹
PCI Interface	Yes	Yes	Yes	No ¹⁰	No ¹⁰	No ¹⁰
USB 2.0 Ports	14	14	12 ⁶	14	14	10 ⁷
Total number of SATA ports	6	6	6	6	6	4
• SATA Ports (6 Gb/s, 3 Gb/s, and 1.5 Gb/s)	2 ⁴	1 ⁵	1 ⁵	2 ⁴	2 ⁴	0
• SATA Ports (3 Gb/s and 1.5 Gb/s only)	4	5	5	4	4	4 ⁸
HDMI/DVI/VGA/DisplayPort*/eDP*	Yes	Yes	Yes	Yes	No	Yes
Integrated Graphics Support with PAVP	Yes	Yes	Yes	Yes	No	Yes
Intel® Rapid Storage Technology	AHCI	Yes	Yes	Yes	Yes	No
	RAID 0/1/5/10 Support	Yes	No	No	Yes	No
Intel® AT	Yes	Yes	No	No	No	No
Intel® AMT 7.0	Yes	No	No	No	No	No
Intel® Remote PC Assist Technology - Proactive	Yes	No	Yes	No	No	No
Intel® Remote PC Assist Technology - Reactive	No	No	Yes	Yes	No	No

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Title: **BLOCK DIAGRAM**

Size: Custom Document Number: **IH61X-MHS** Rev: 7.0


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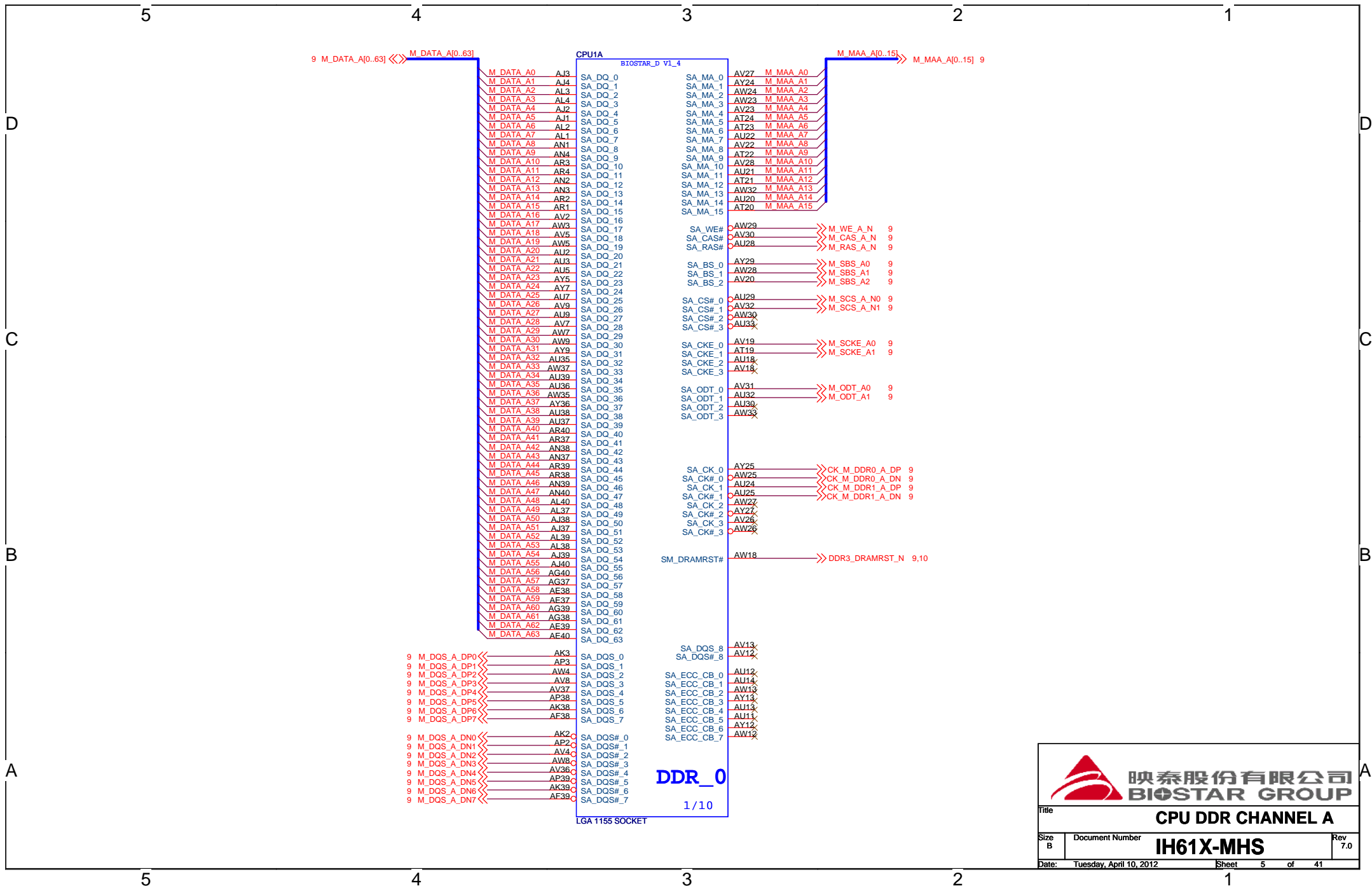
ver:0.7


1. Schematic change from IH61W VER:0.8
2. add HDMI CONN(passive type) (PAGE.16/24)
3. Change LAN-AR8152 to RTL8111F/8105E (PAGE.27)
4. Change Codec VT1708S to ALC662 (PAGE.25)

ver:0.7-->7.0

1. Schematic change from IH61W VER:0.8
2. add add AR36/AR37 22K 0402,AR34 20K 0402, AR35 39.2K 0402 for front AUDIO sense can't work (PAGE.26)
3. Change BOM for LAN-AR8111E to RTL8111F (PAGE.27)

		映泰股份有限公司 BIOSTAR GROUP	
Title CHANGE LIST			
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TitleCPU DDR CHANNEL A

Size B

Document Number

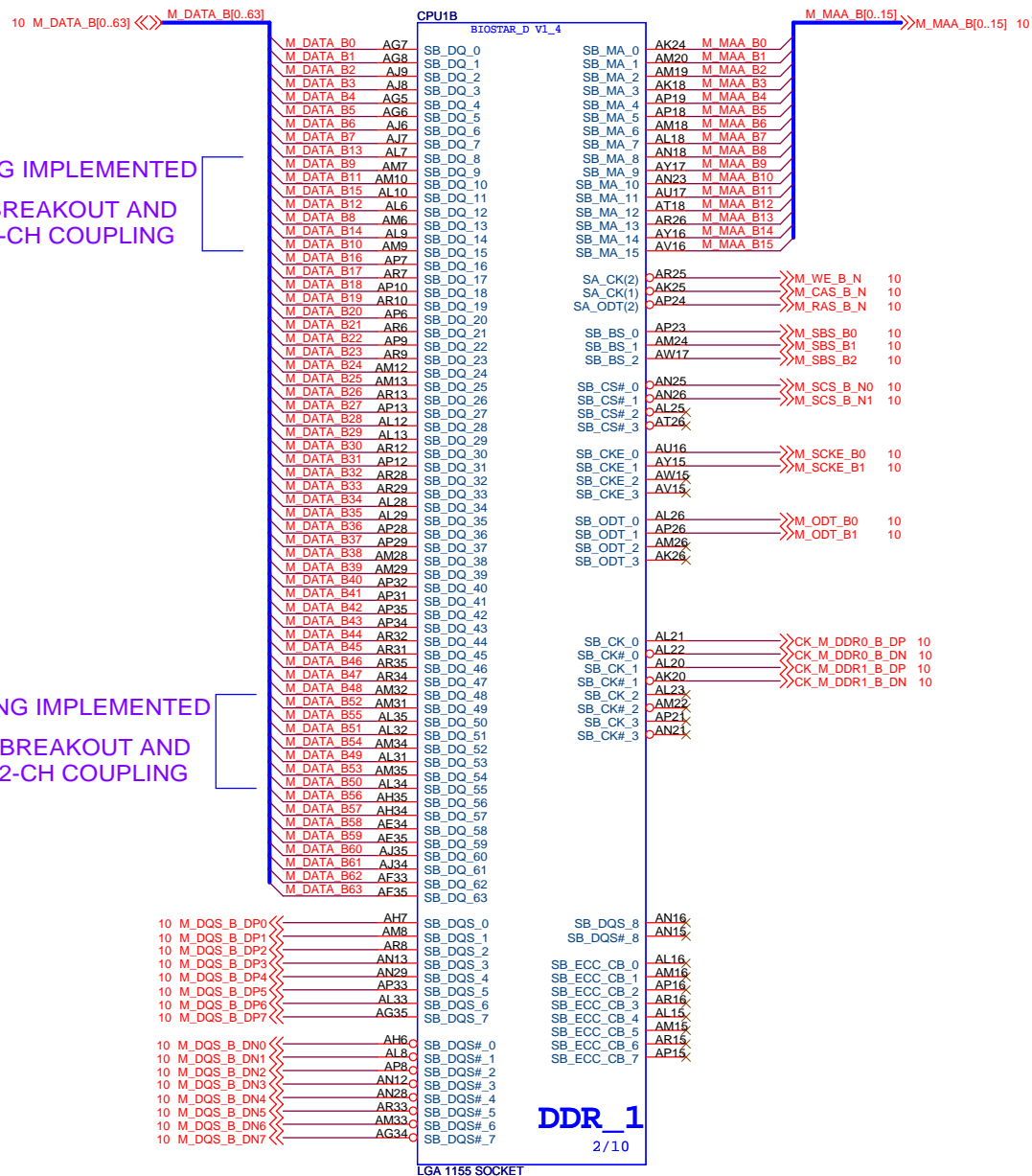
Rev 7.0

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DQ REMAPPING IMPLEMENTED
TO IMPROVE BREAKOUT AND
MINIMIZE CH-2-CH COUPLING

DQ REMAPPING IMPLEMENTED
TO IMPROVE BREAKOUT AND
MINIMIZE CH-2-CH COUPLING



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Title: **CPU DDR CHANNEL A**

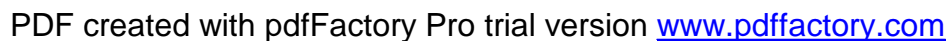
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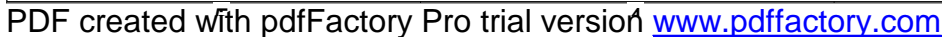
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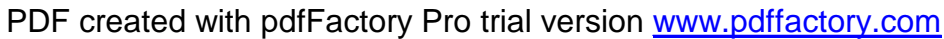
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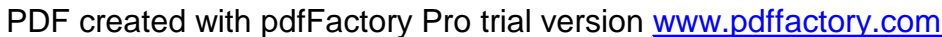
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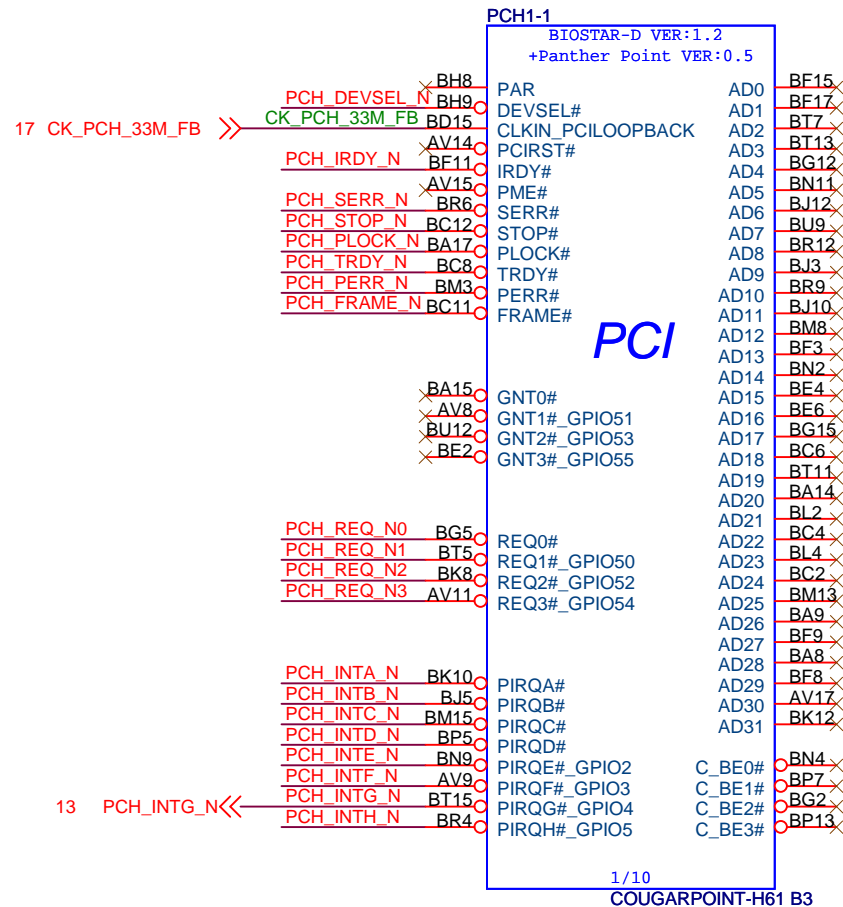
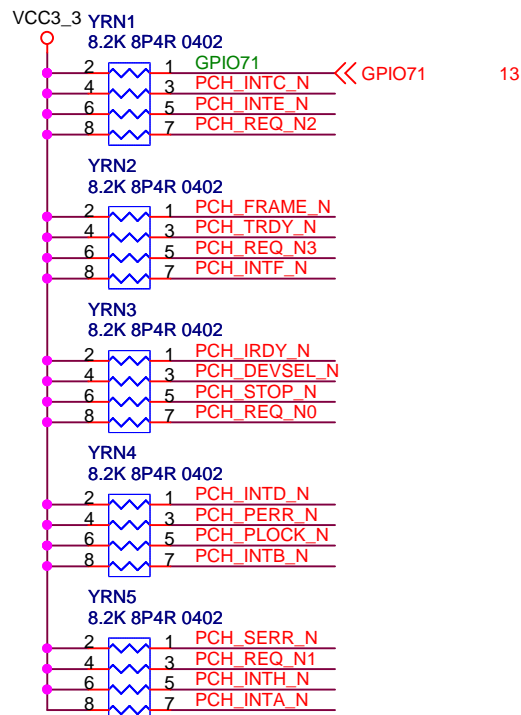
Rev 7.0








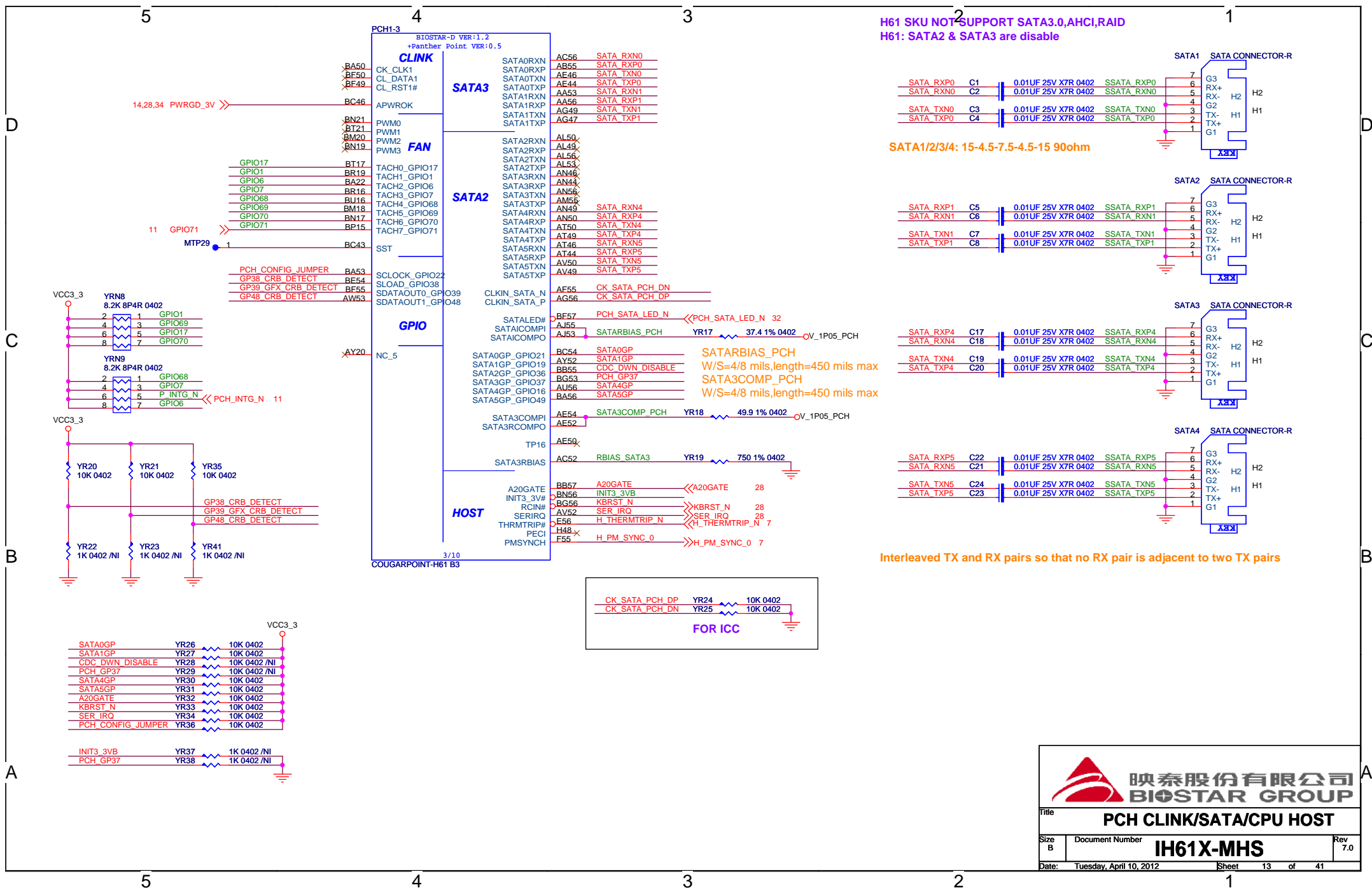




WEAK INTERNAL PULLUPS ON GNT*.DEFAULT SPI BOOT DEVICE

GNT1	GNT0/SATA1GP	BOOT DEVICE
0	0	LPC
0	1	NANO
1	0	PCI
1	1	SPI

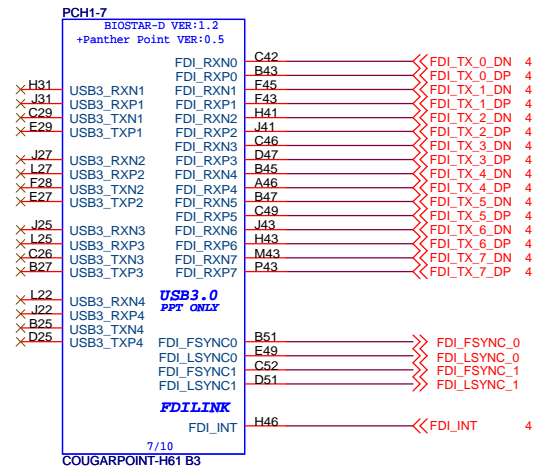
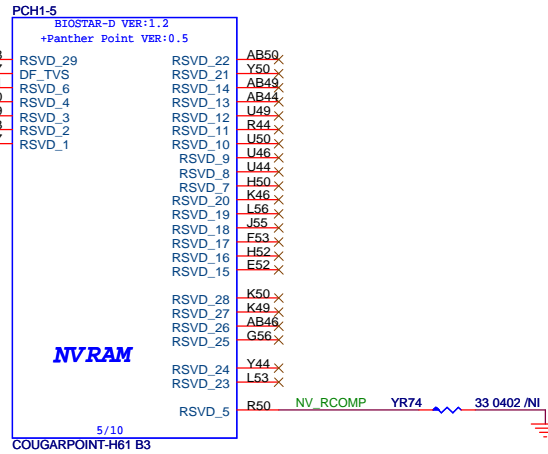
 映泰股份有限公司 BIOSTAR GROUP		
Title PCH PCI		
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DMI/FDI Termination Select

H:For Sandy Bridge

L:For Ivy Bridge



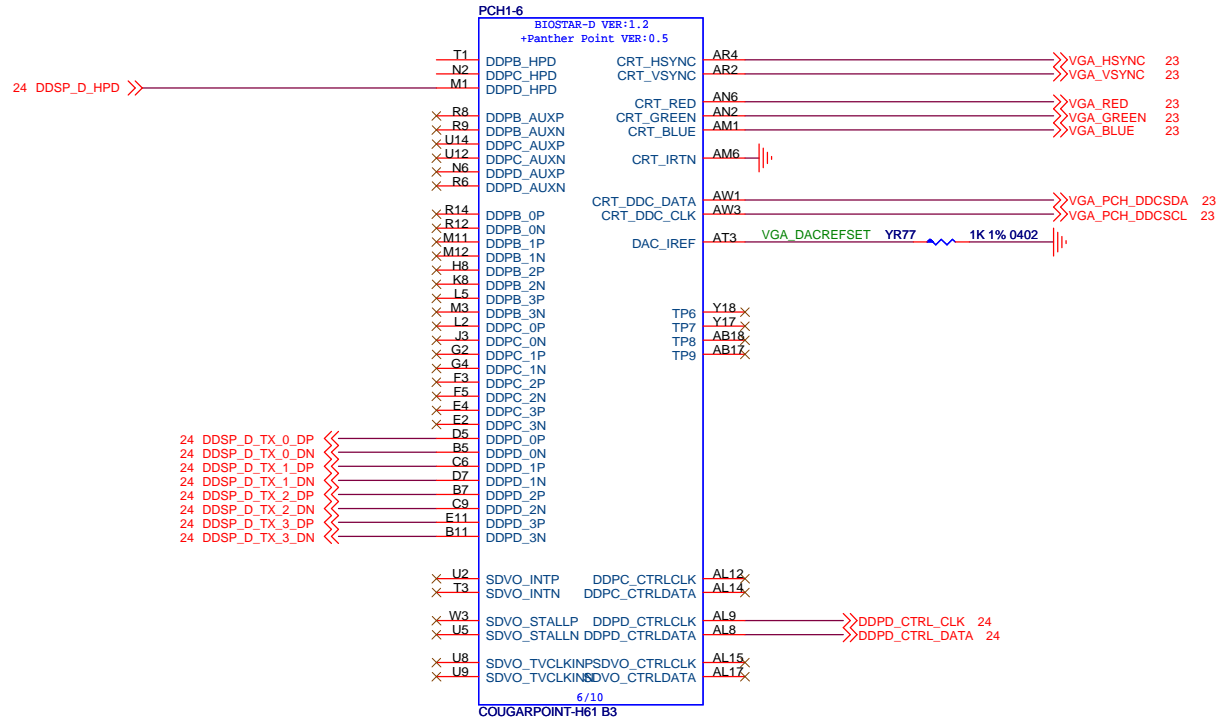
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Title: **PCH NVRAM & FDI LINK**

Size B Document Number **IH61X-MHS** Rev 7.0

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3.3V TOLERANT,HIGH ACTIVE

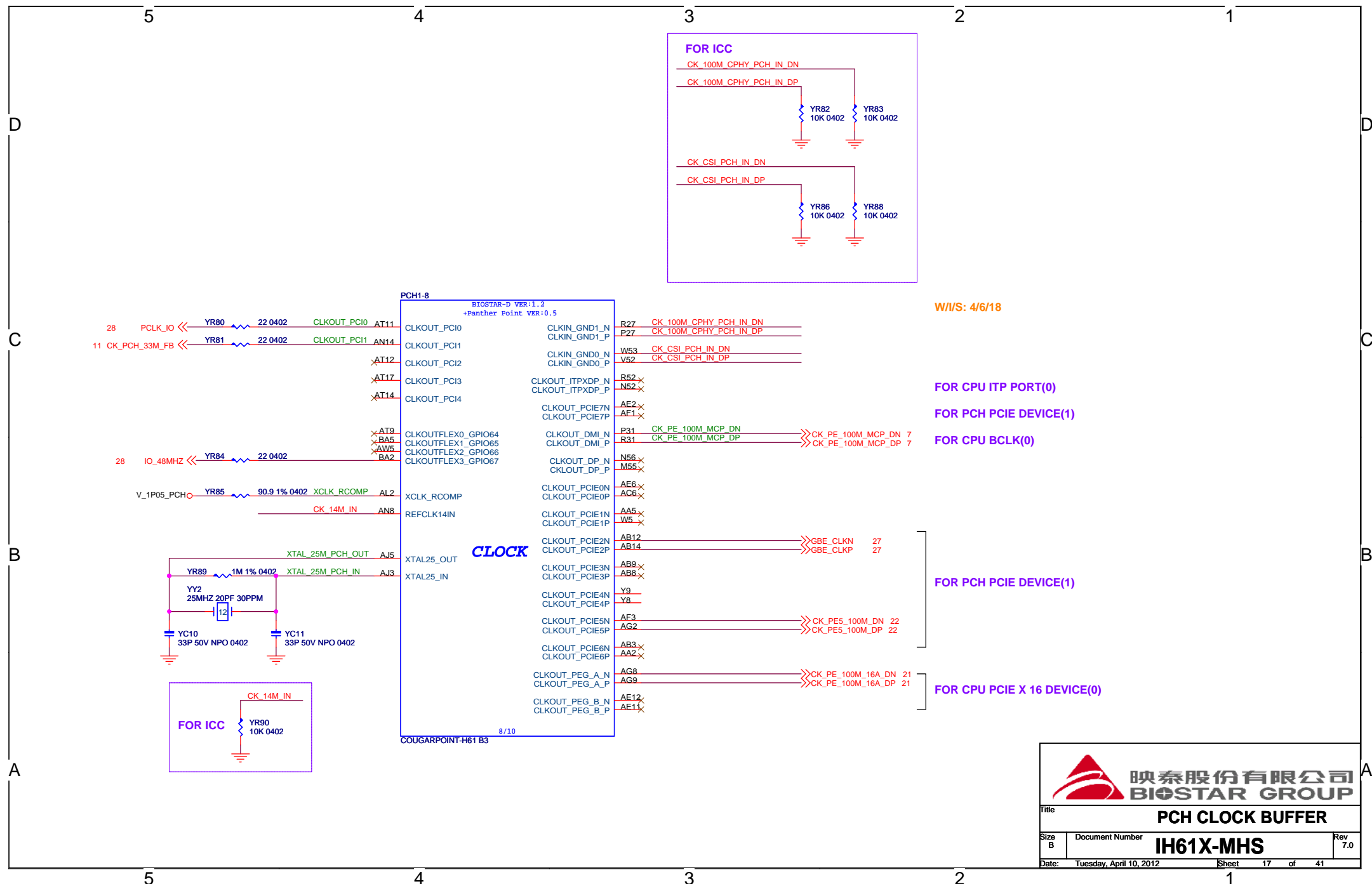


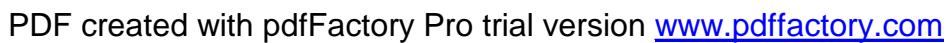
	FUNCTION
PORTB	DVI OR SDVO
PORTC	DISPLAY PORT
PORTD	HDMI/DVI/eDP

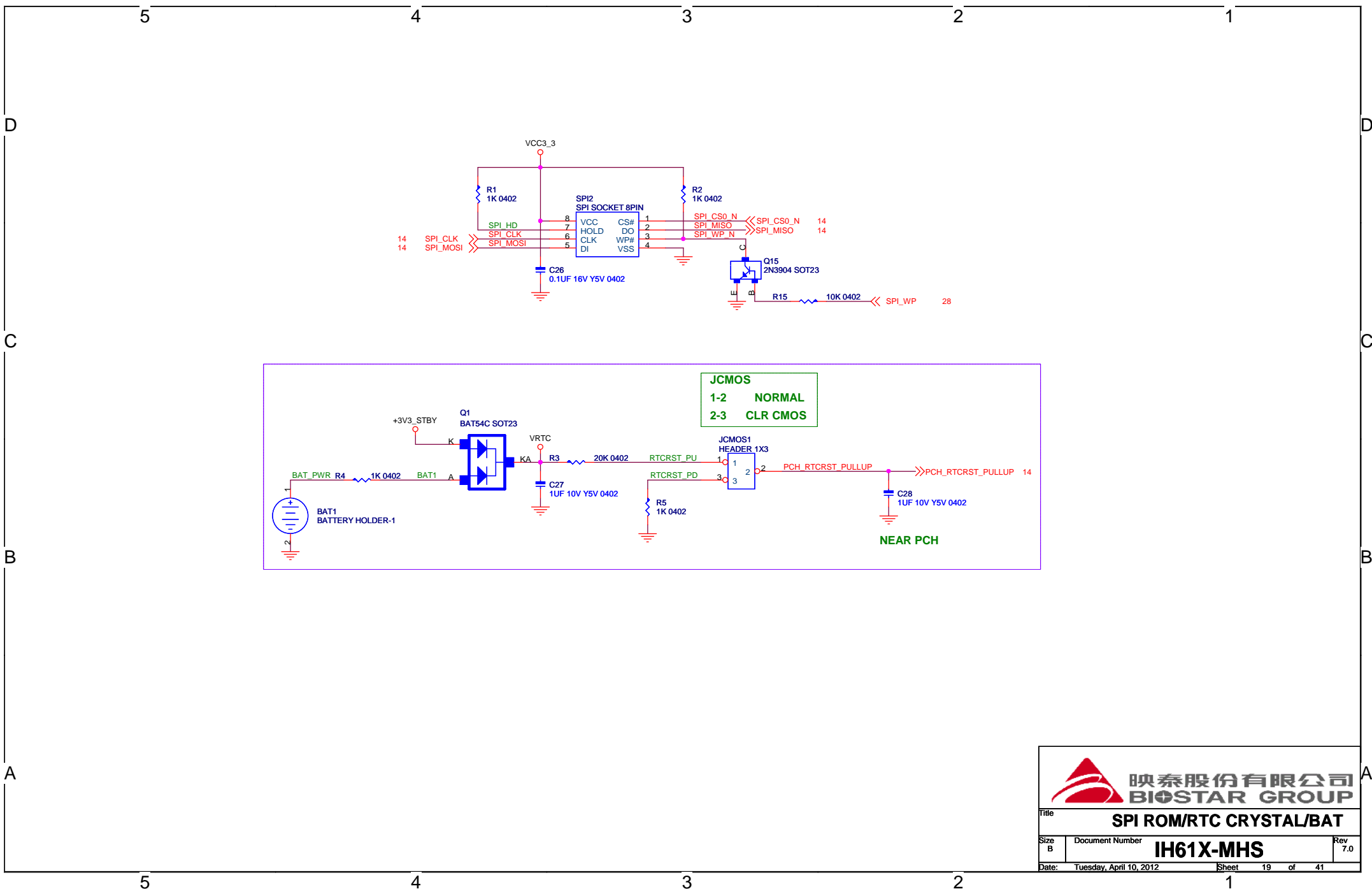
REMOVE LEVEL SHIFTER WHEN TRACE
LENGHT LESS THAN 9.25 INCHES

If DisplayPort interface is not implemented,
the Main Link, aux channel differential
signals and HPD signals can be left as No
Connects./DG108

		
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Title PCH VGA/DISPLAY PORT		
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Title: **SPI ROM/RTC CRYSTAL/BAT**

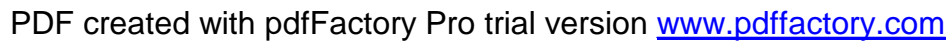
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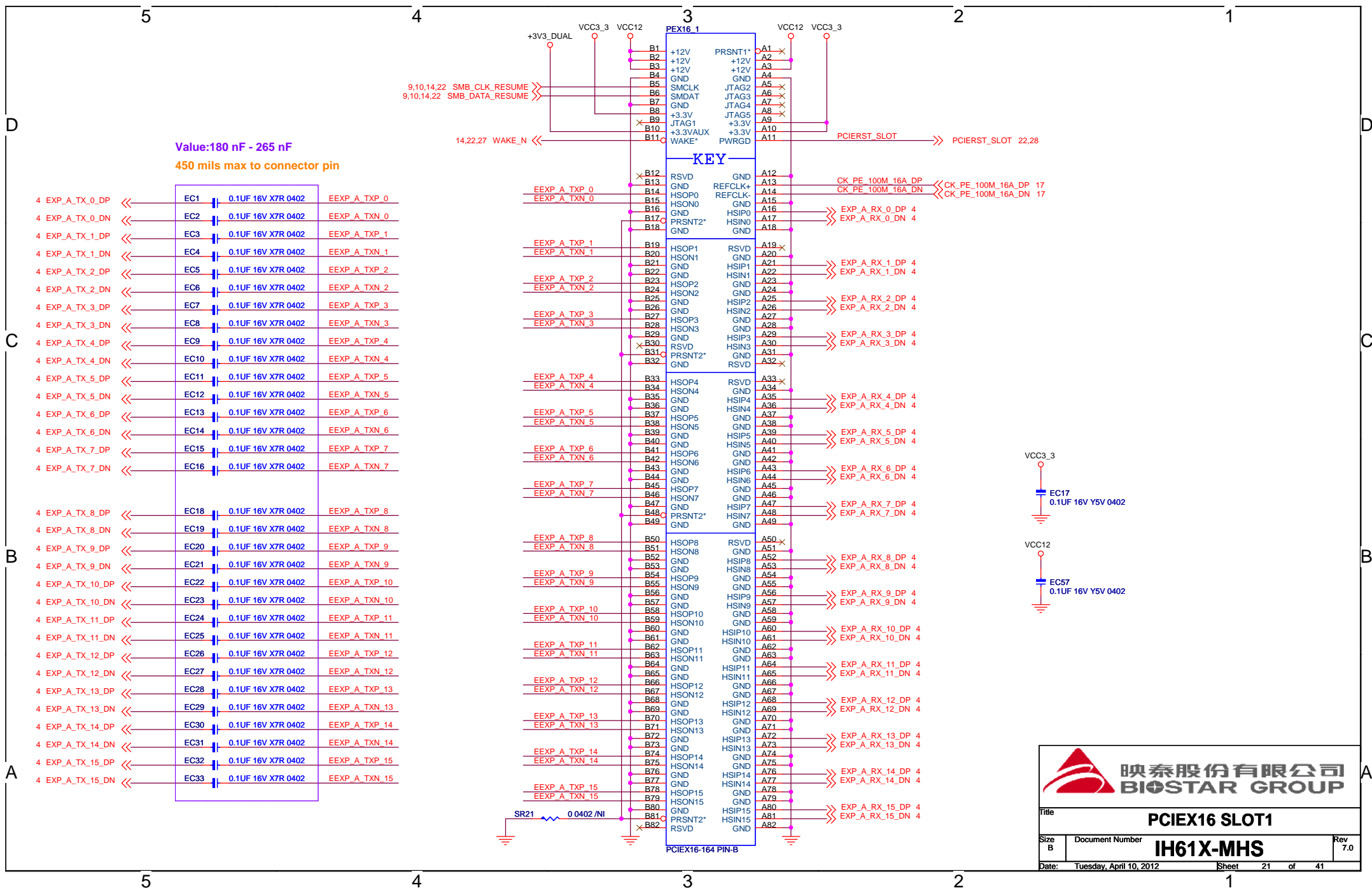
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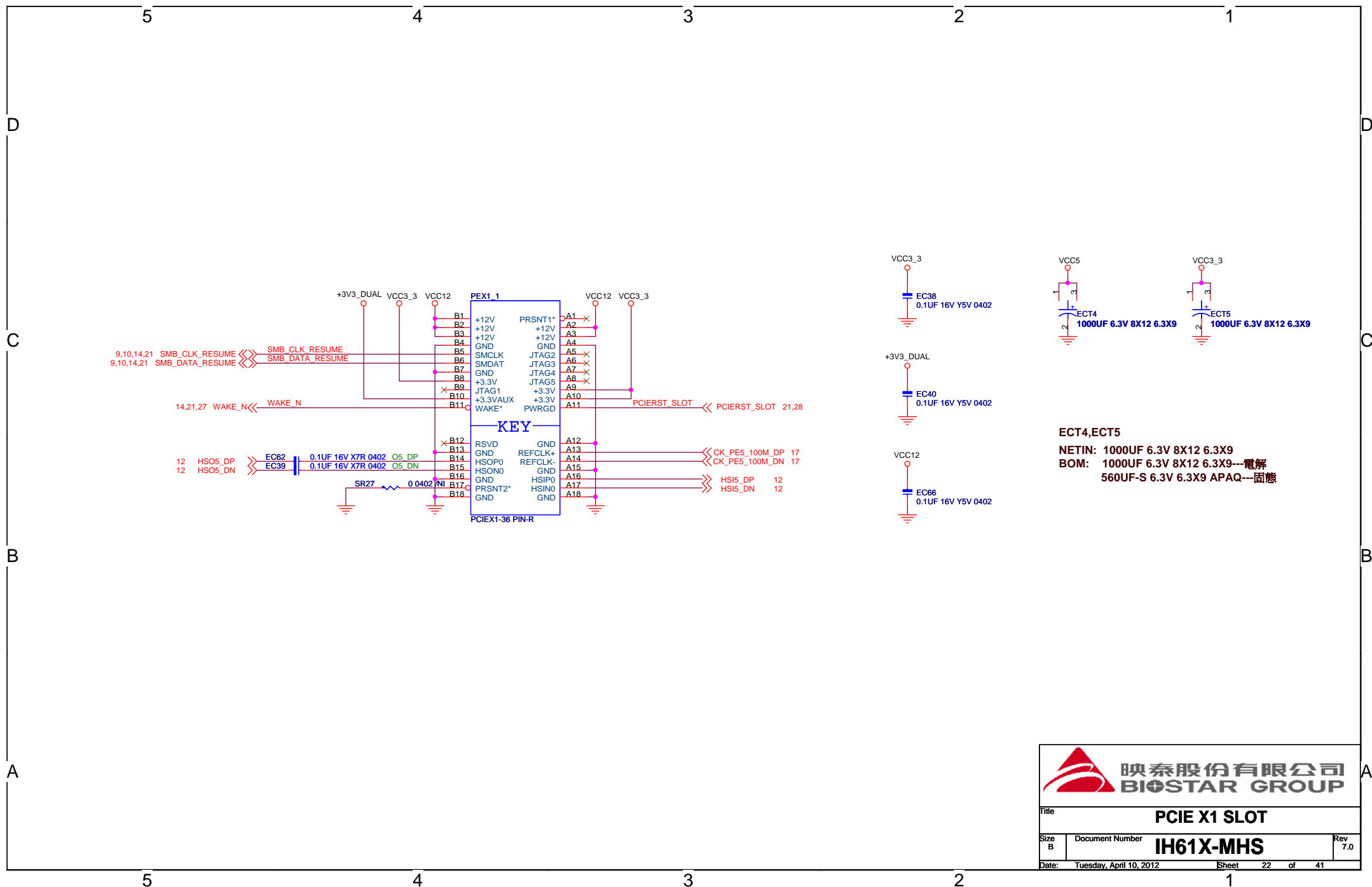
Date: Tuesday, April 10, 2012

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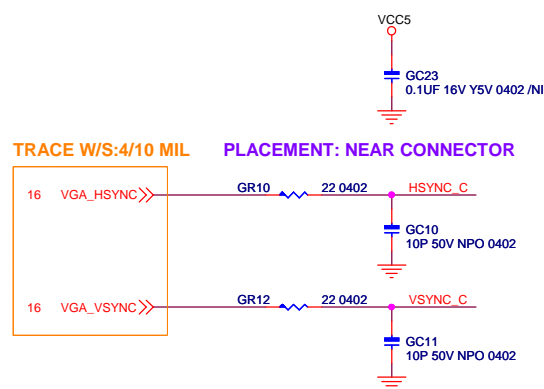
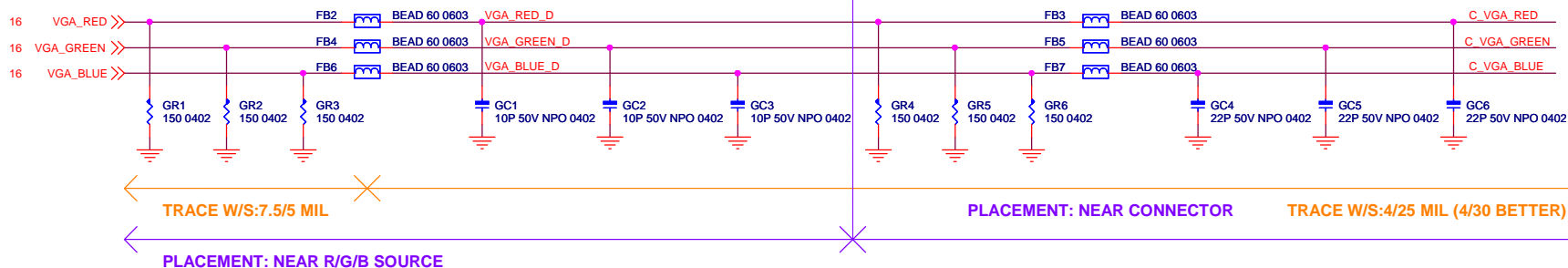
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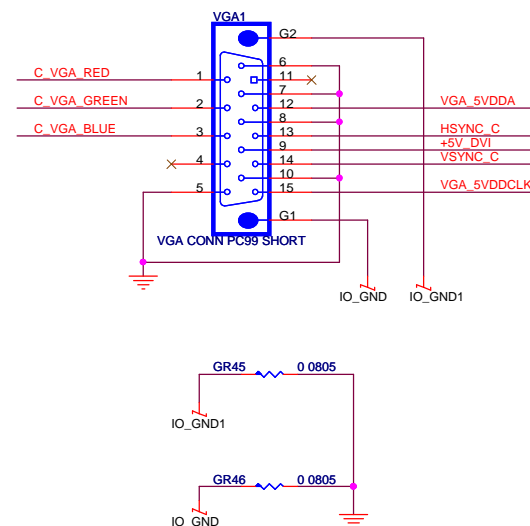
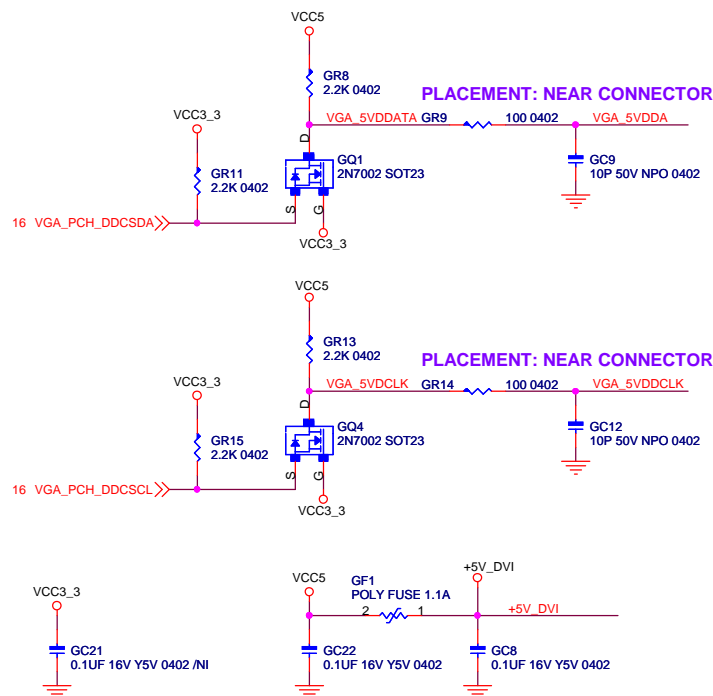




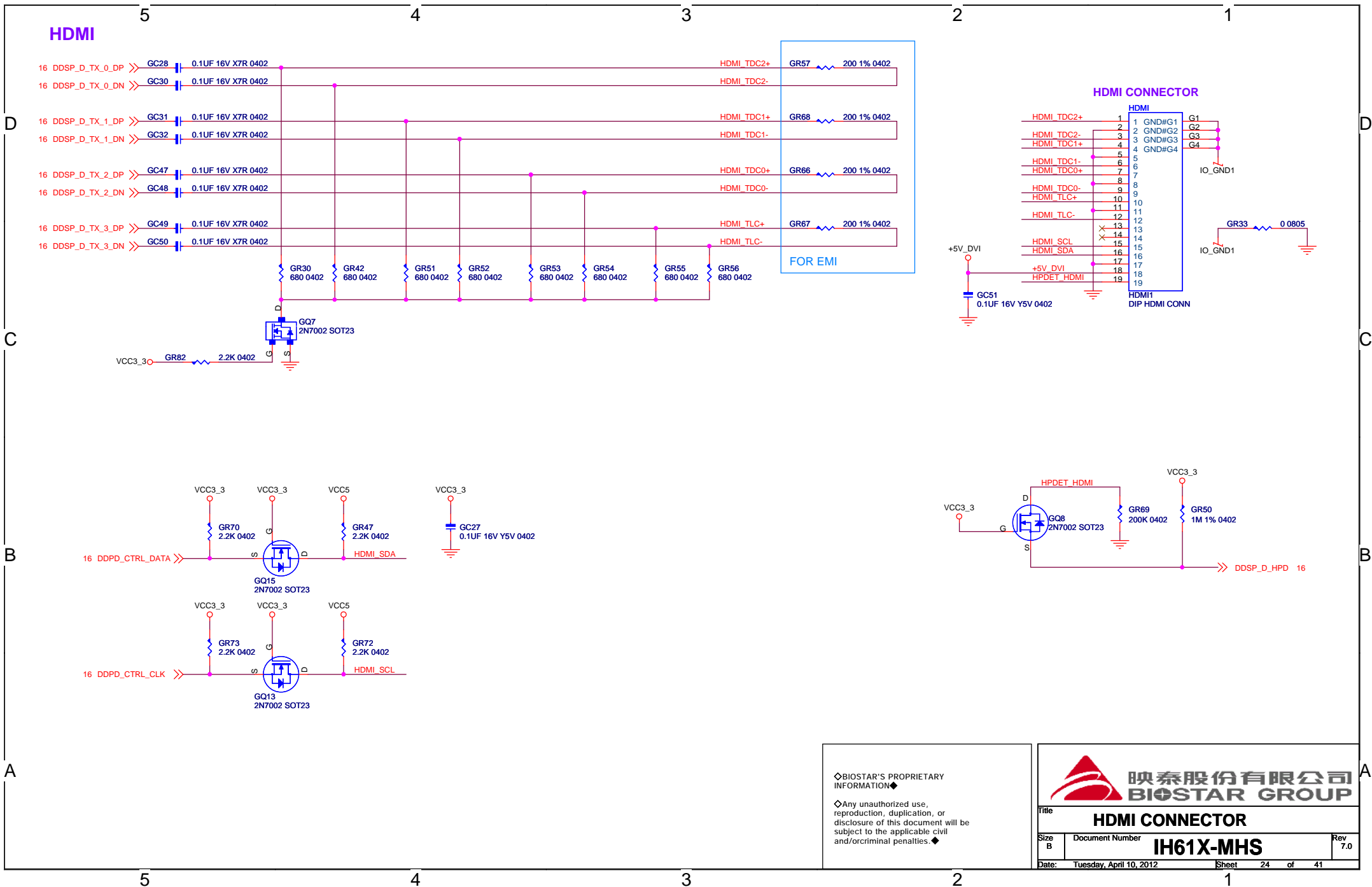
Title PCIE X1 SLOT			
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D_SUB



		
Title		
VGA CONNECTOR		
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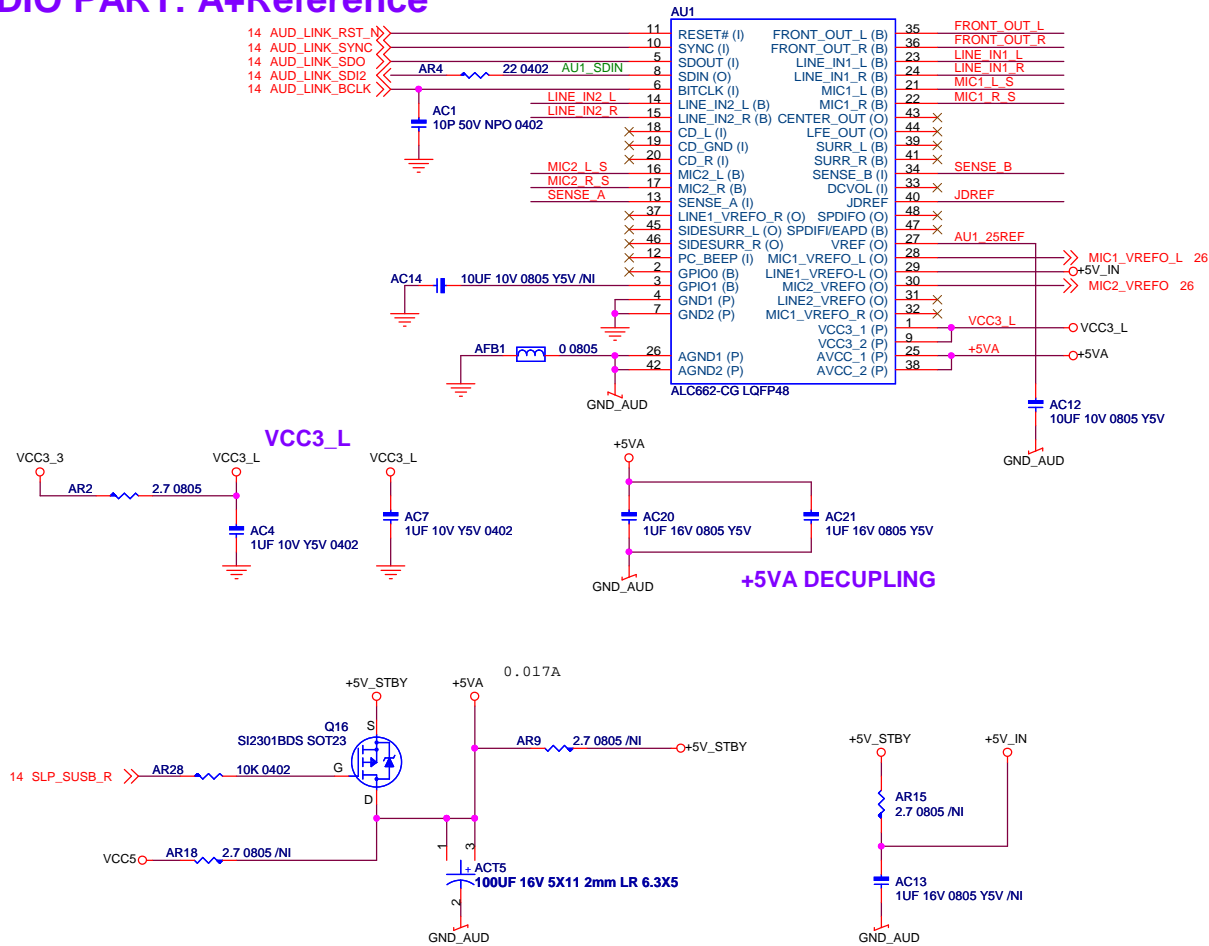
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Title
HDMI CONNECTOR

Size B Document Number
IH61X-MHS

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AUDIO PART: A+Reference



ACT1,ACT2,ACT3,ACT4,ACT5

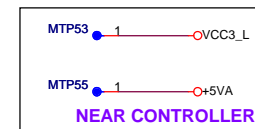
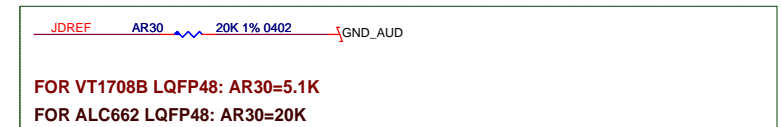
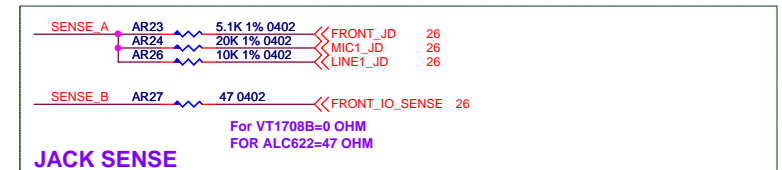
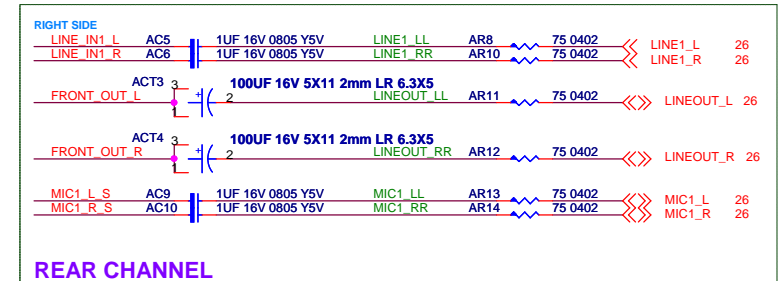
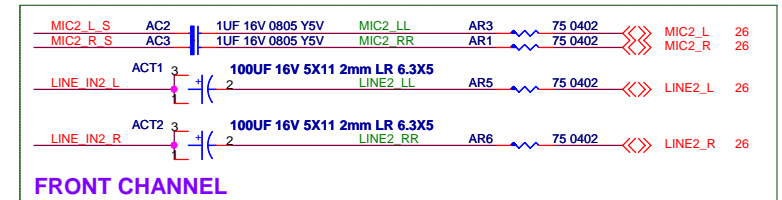
NETIN: 100UF 16V 5X11 2MM LR 6.3X5

BOM: 100UF 16V 5X11 2MM LR 6.3X5---電解

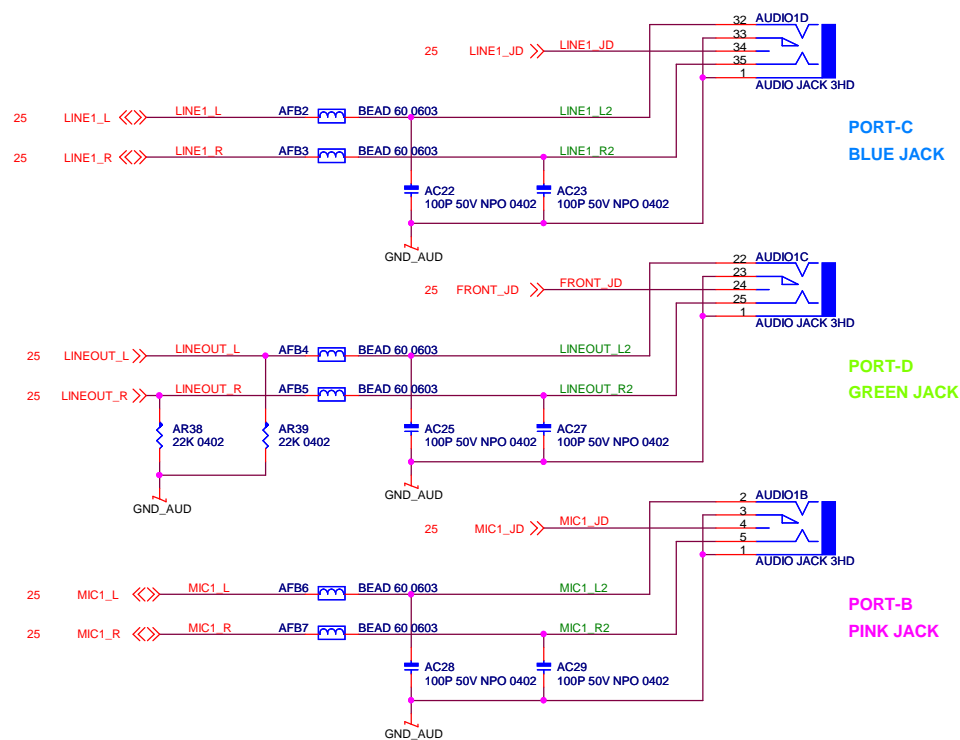
100UF-S 16V 6.3X5 5X11---固態

COMPONENT CONTRAST LIST

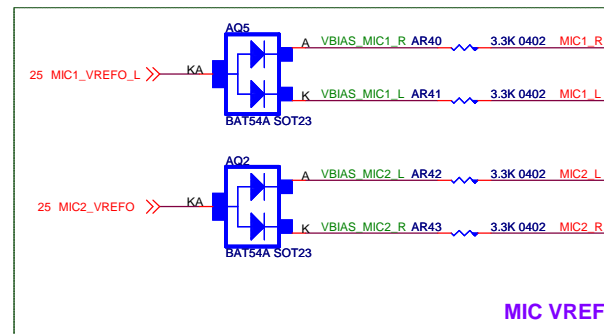
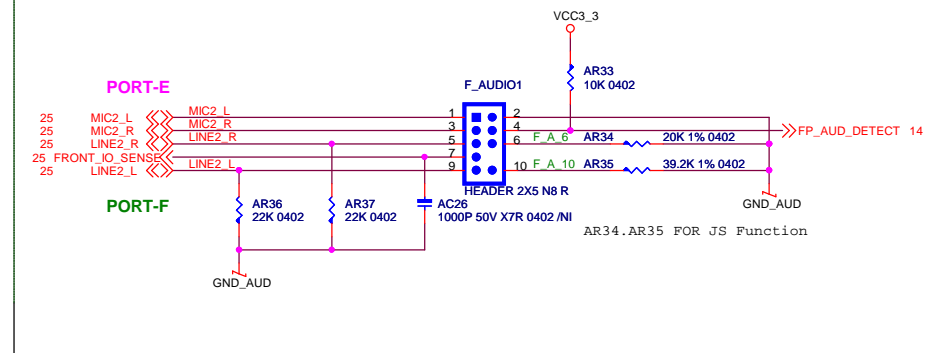
AUDIO	AR7	ACT5	AR15	AC13	AC14	AC20	AC21	AR27	AR30
ALC662VD	X	X	2.7	O	O	10UF 10V 0805 Y5V	10UF 10V 0805 Y5V	47 OHM	20K
VT1708	2.7 0805	O	X	X	X	1UF 16V 0805 Y5V	1UF 16V 0805 Y5V	0 OHM	5.1K
ALC662CG	2.7 0805	O	X	X	X	1UF 16V 0805 Y5V	1UF 16V 0805 Y5V	47 OHM	20K



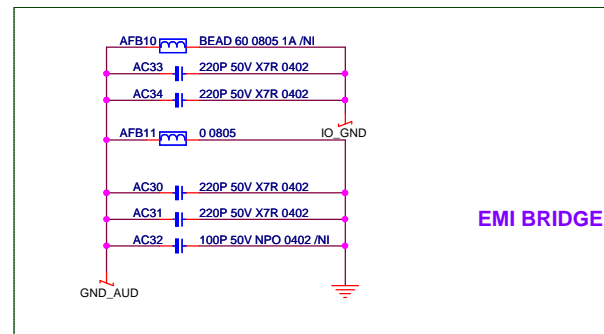
				
映泰股份有限公司 BIOS*AR GROUP				
Title CODEC ALC662CG				
Size B	Document Number IH61X-MHS			Rev 7.0
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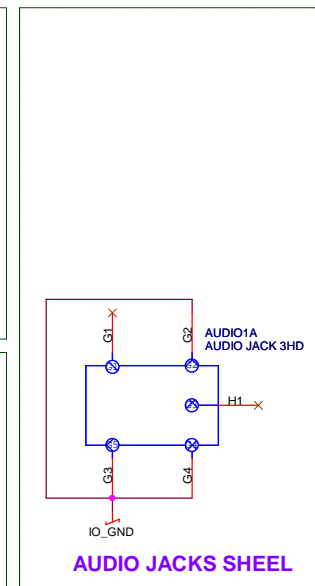
REAR AUDIO JACKS



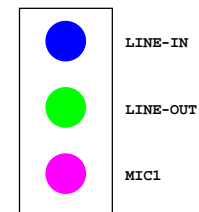
MIC VREF



EMI BRIDGE



AUDIO JACKS SHEEL



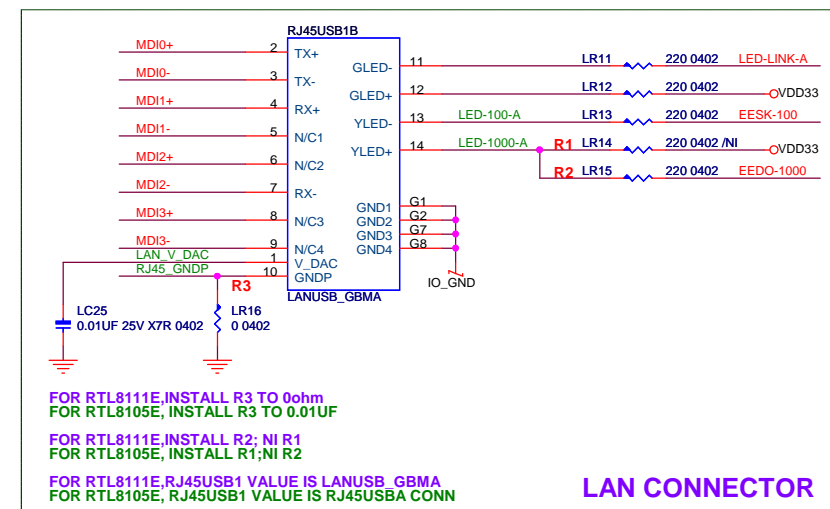
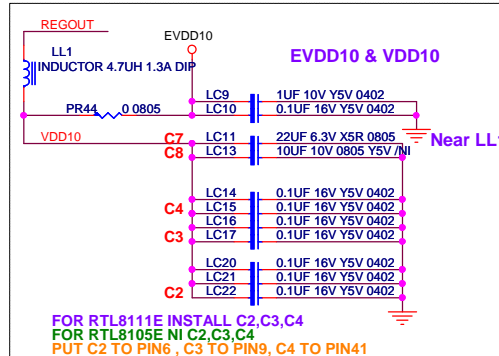
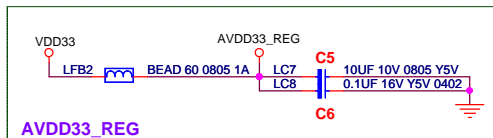
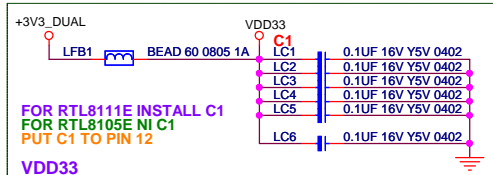
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Title: **AUDIO CONNECTOR**

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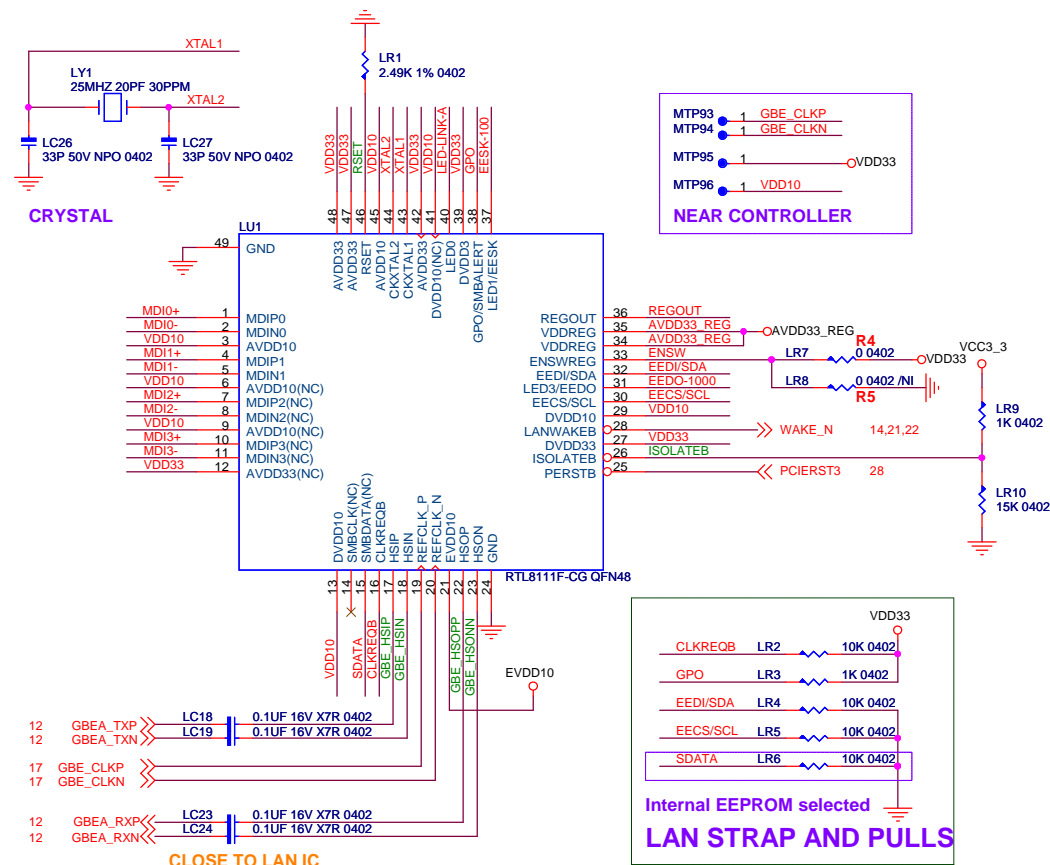
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LAN PART: L+Reference



COMPONENT CONTRAST LIST

LAN PARTS	C1	C2	C3	C4	R1	R2	R3	L1	R4	R5	L2	C5	C6	C7	C8	RJ45 CONN
RTL8111E/F	O	O	O	O	X	O	0ohm	O	O	X	O	O	O	O	O	LANUSB_GBMA
RTL8105E	X	X	X	X	O	X	0.01uF	X	X	O	X	X	X	X	X	RJ45USBA CONN



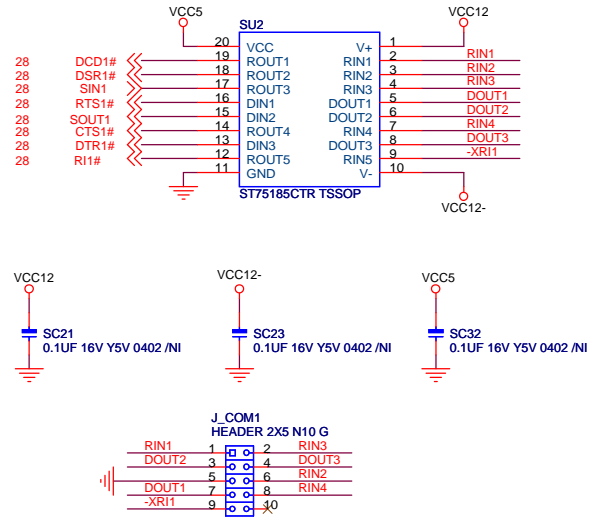
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Title **RTL8111F/8105E**

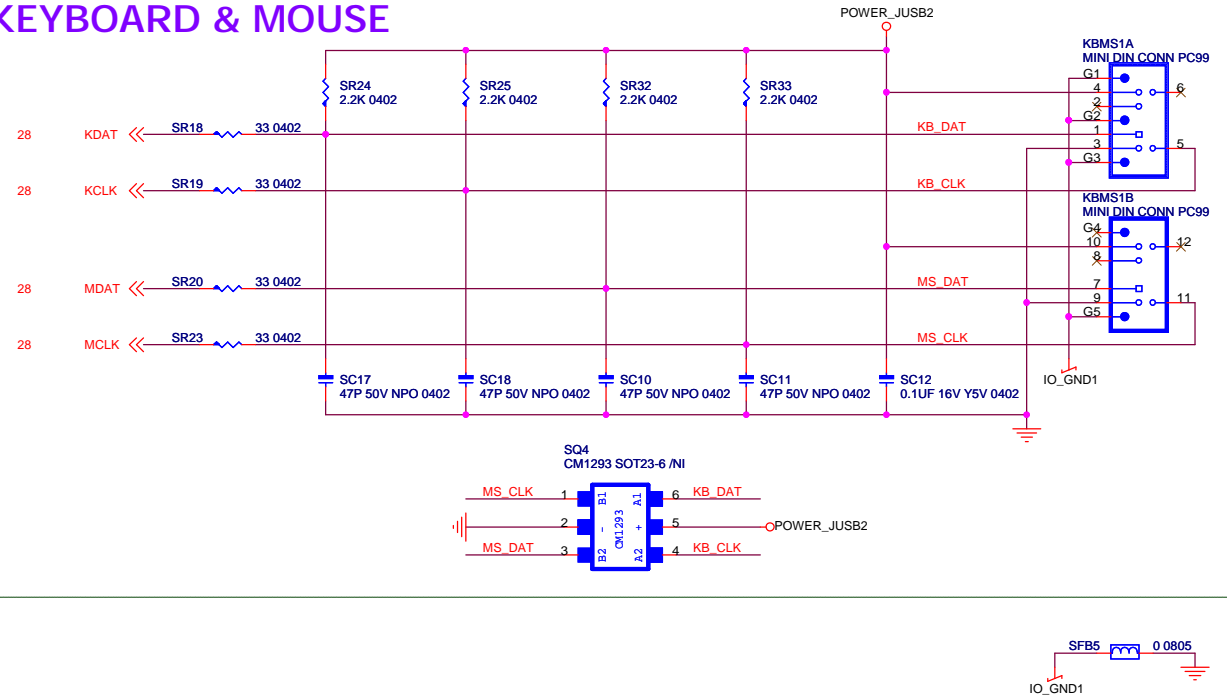
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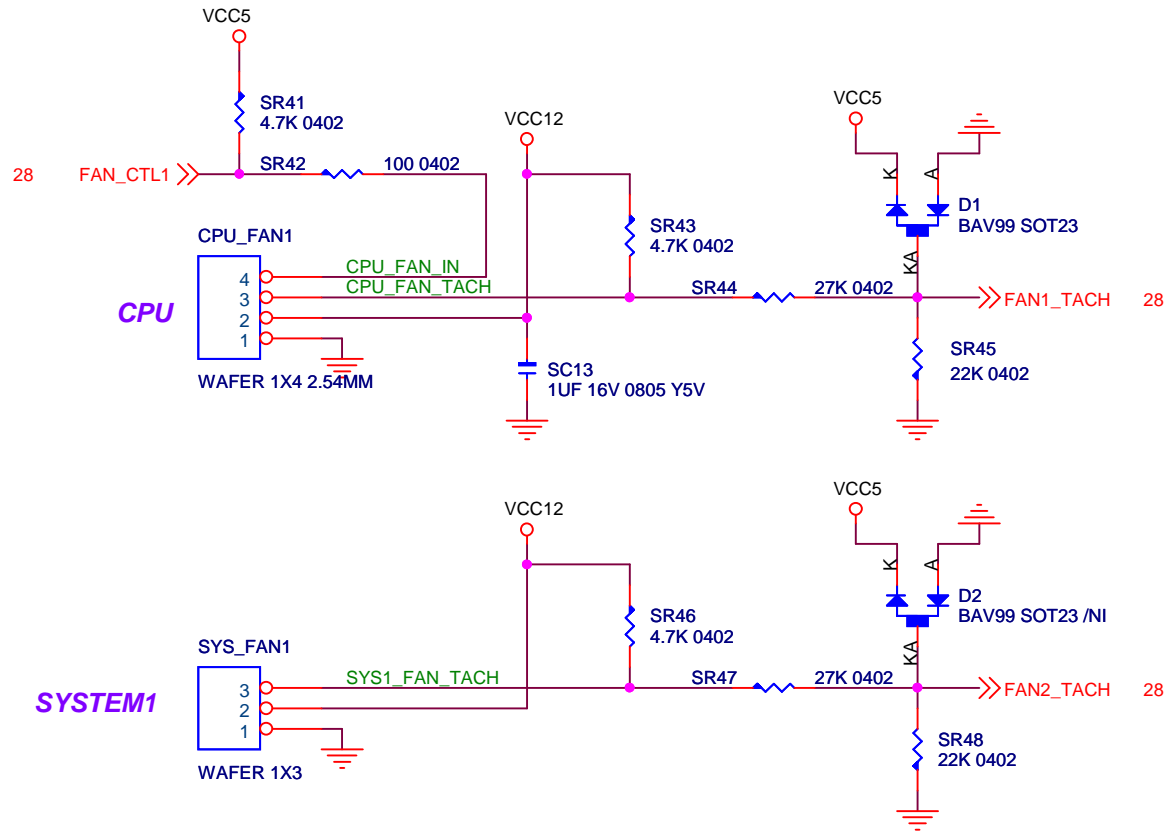
COM PORT




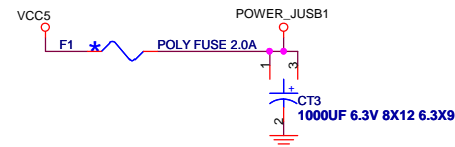
KEYBOARD & MOUSE



CPU FAN/SYSTEM FAN1



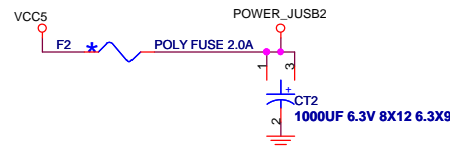
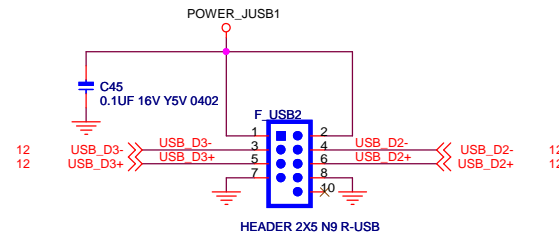
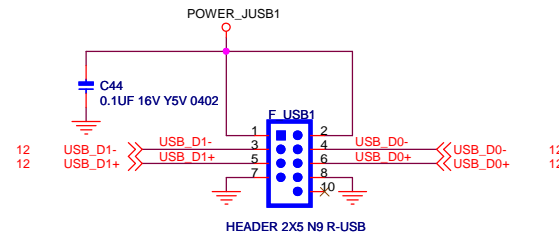
 映泰股份有限公司 BIOSSTAR GROUP		
Title HW MONITOR/FAN CONTROL		
Size A	Document Number IH61X-MHS	Rev 7.0
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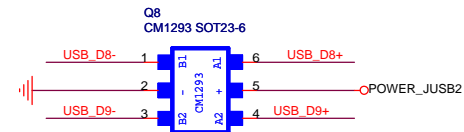
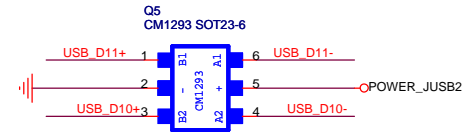
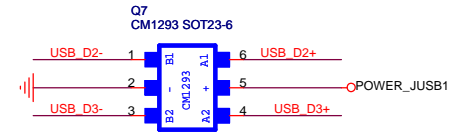
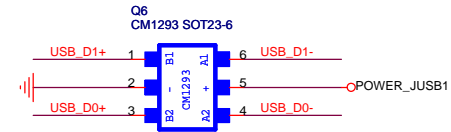
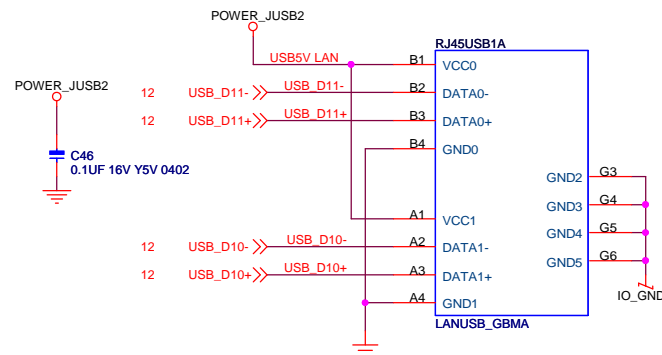
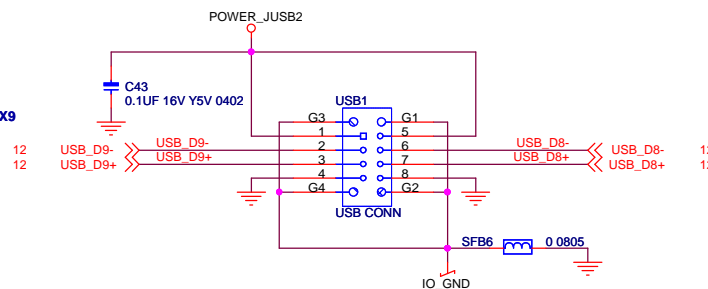
CT2,CT3


NETIN: 1000UF 6.3V 8X12 6.3X9

BOM: 1000UF 6.3V 8X12 6.3X9---電解
560UF-S 6.3V 6.3X9 APAQ---固態



BACK PANEL USB
PLACE NEAR CONN



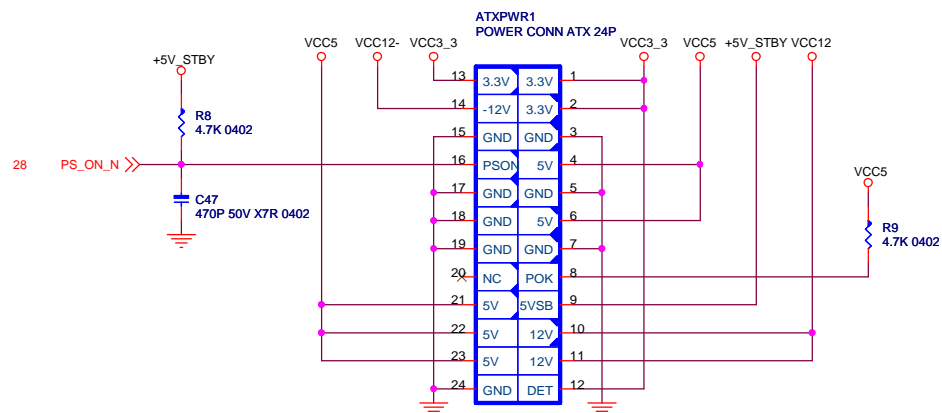


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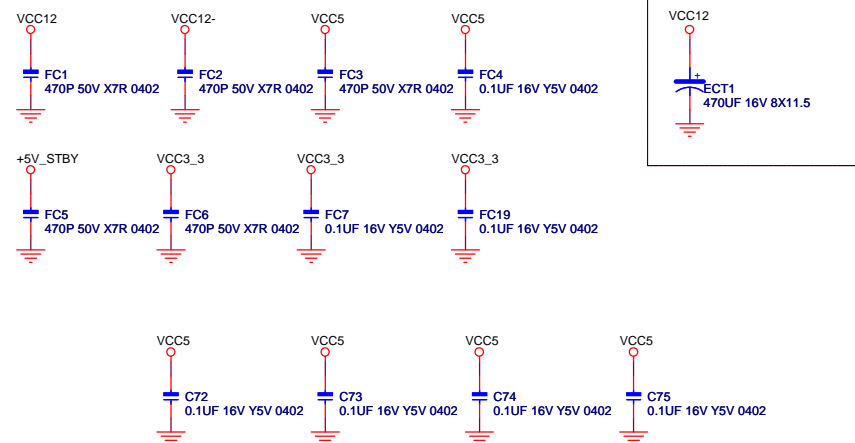
Title		
USB CONN		
Size	Document Number	Rev
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24 PIN POWER CONNECTOR

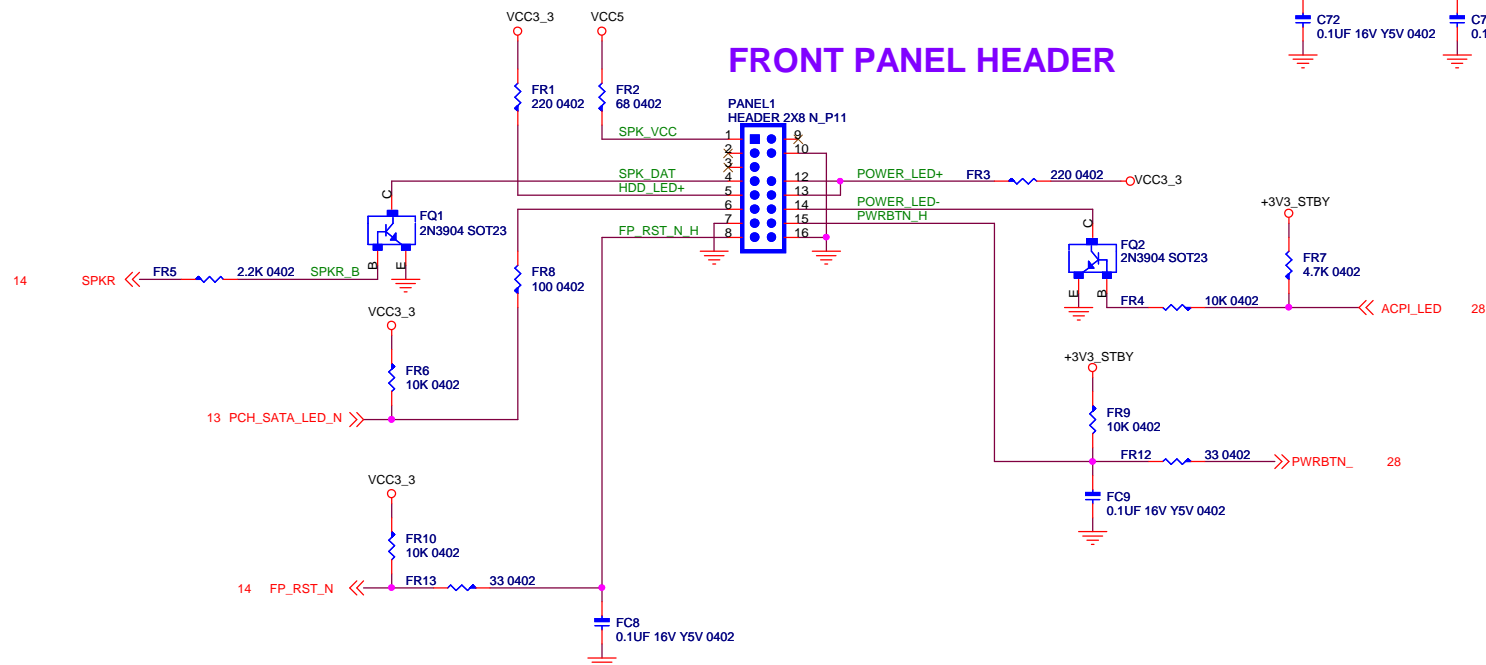
JATXPWR



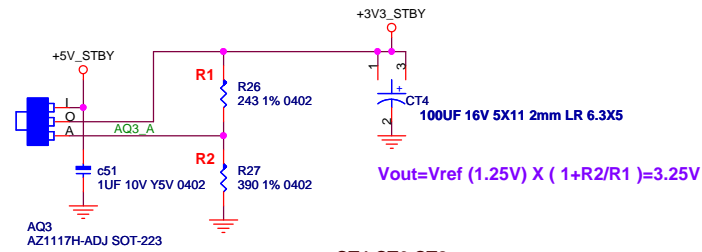
FOR EMI



FRONT PANEL HEADER



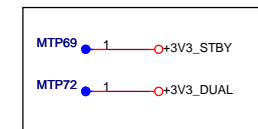
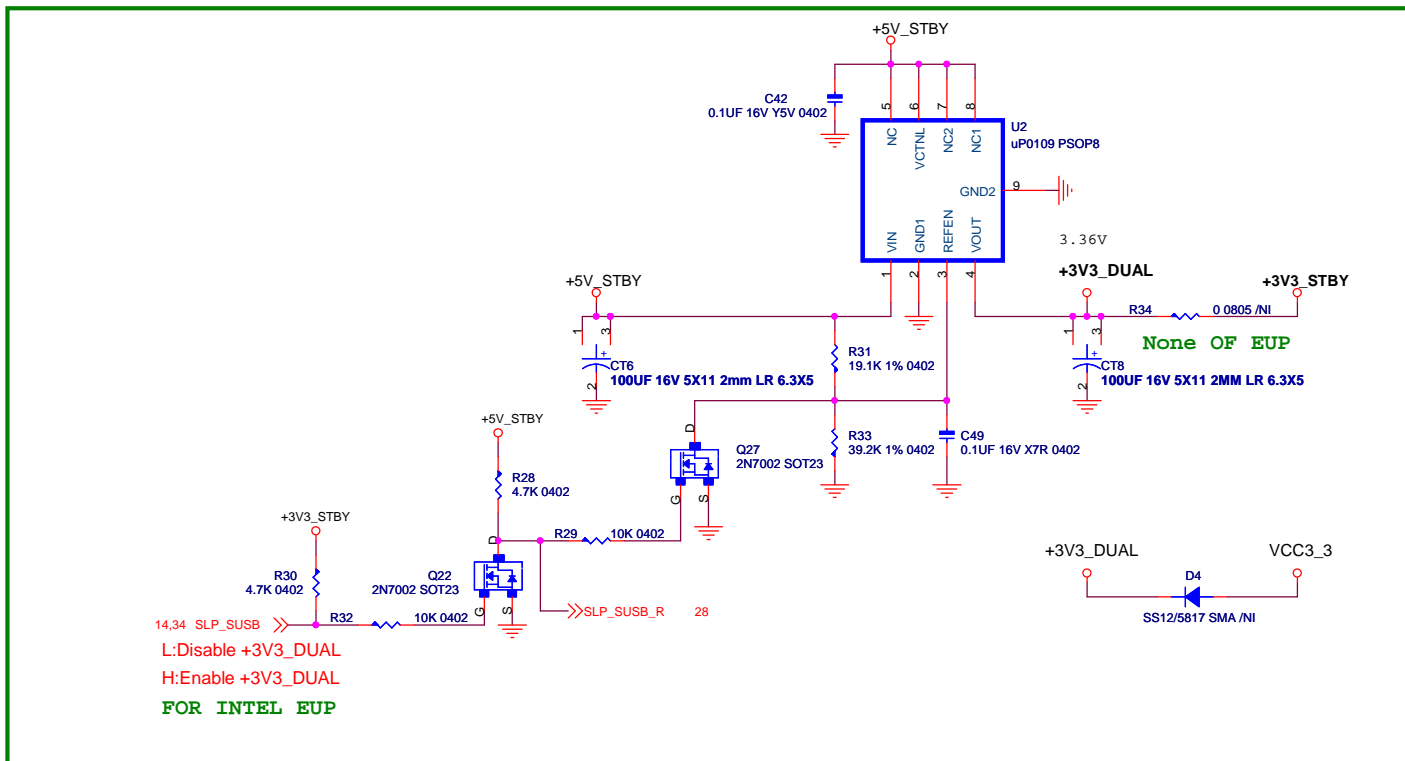
 映泰股份有限公司 BIOSTAR GROUP			
Title 24PIN POWER CONN&FP			
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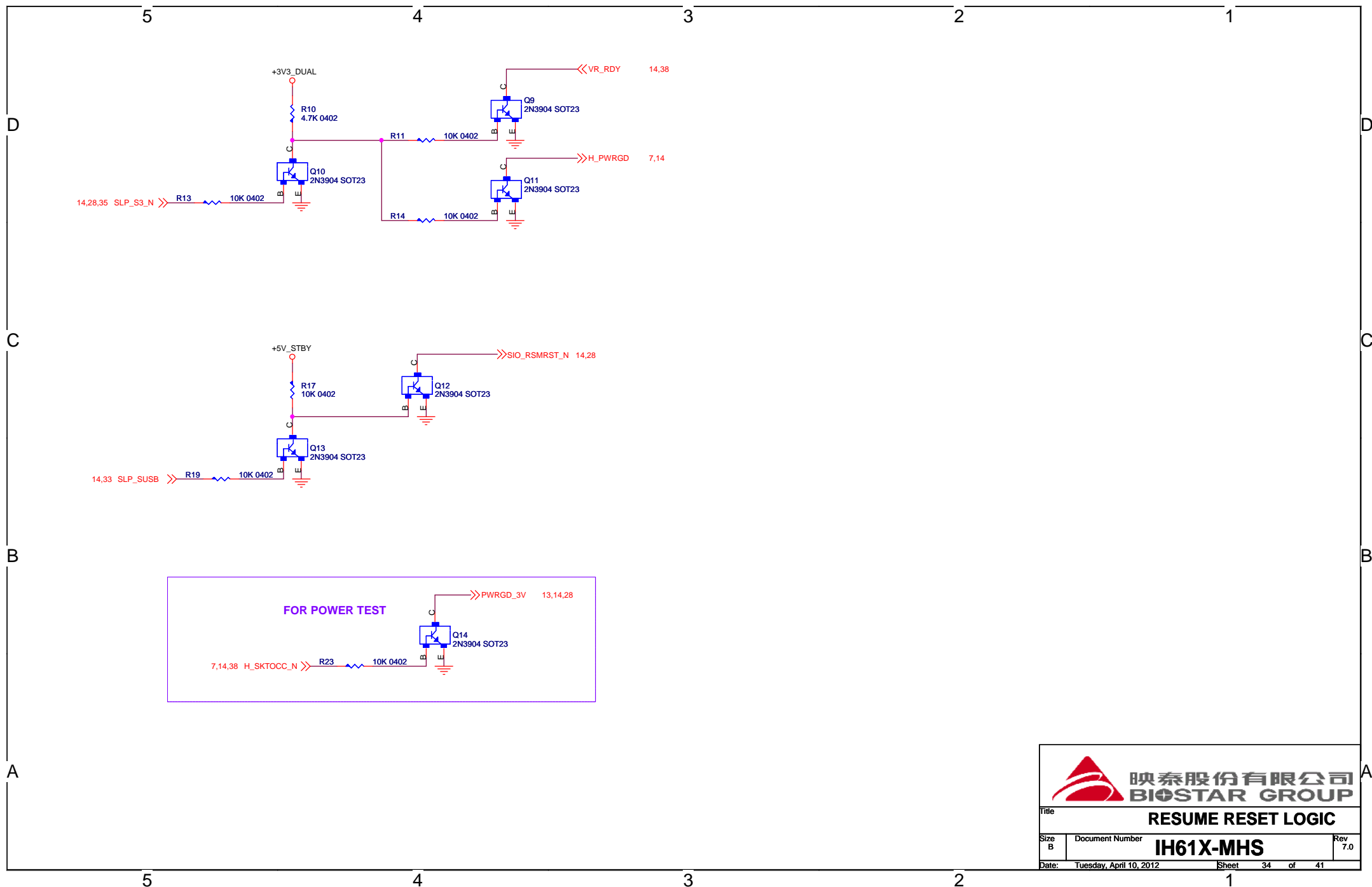
CT4,CT6,CT8

NETIN: 100UF 16V 5X11 2MM LR 6.3X5

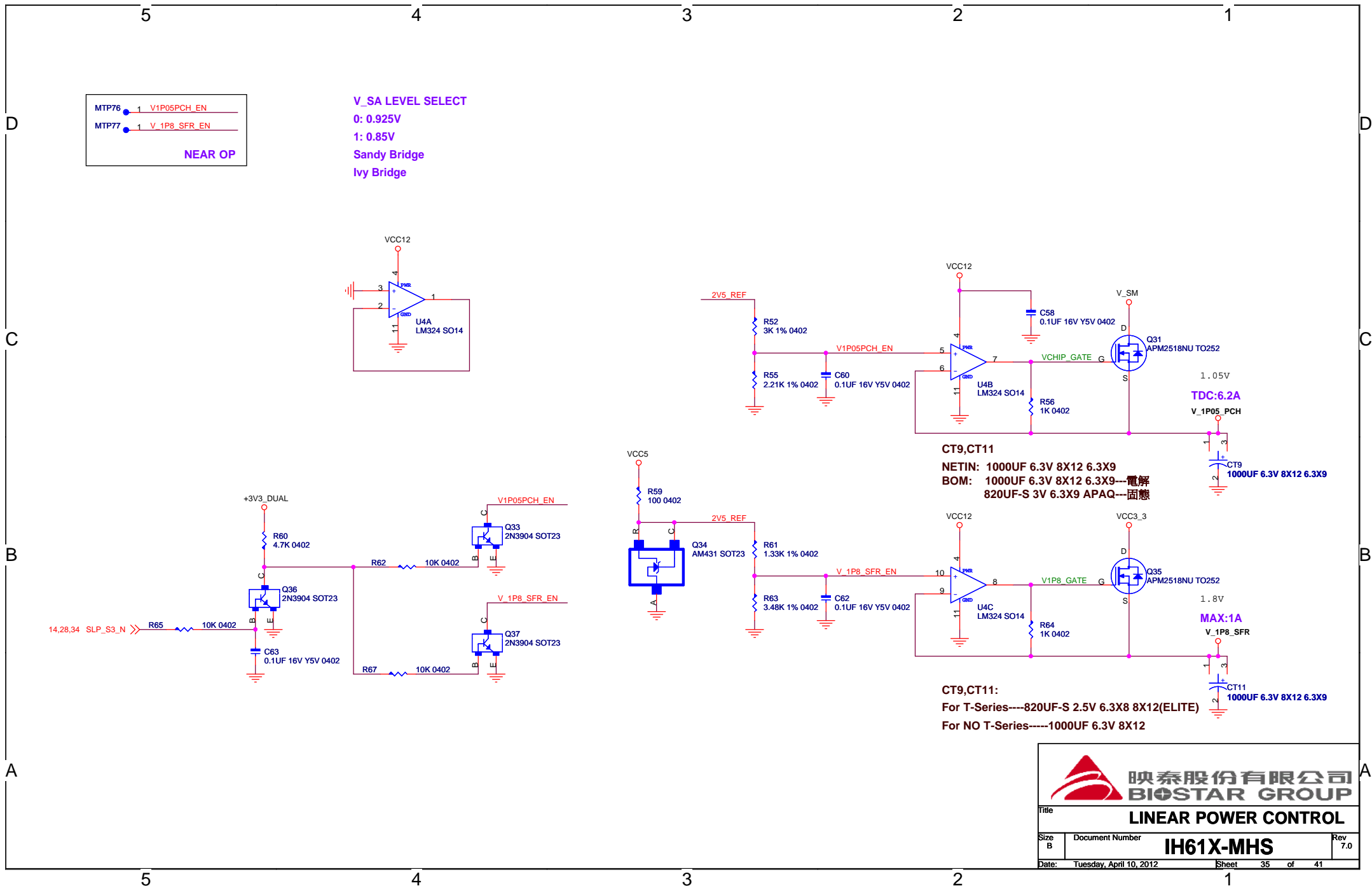
BOM: 100UF 16V 5X11 2MM LR 6.3X5---電解
100UF-S 16V 6.3X5 5X11---固態



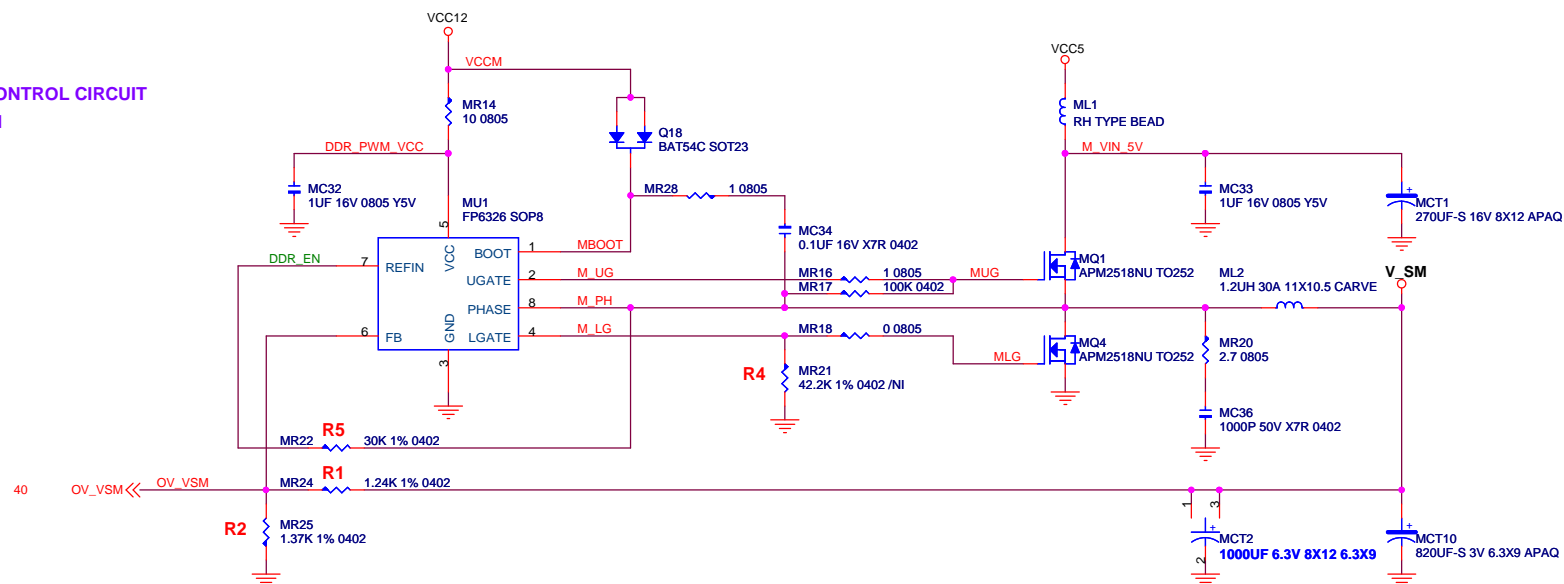
Title ACPI POWER CONTROL		
Size B	Document Number IH61X-MHS	Rev 7.0
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 映泰股份有限公司 BIOSTAR GROUP			
Title RESUME RESET LOGIC			
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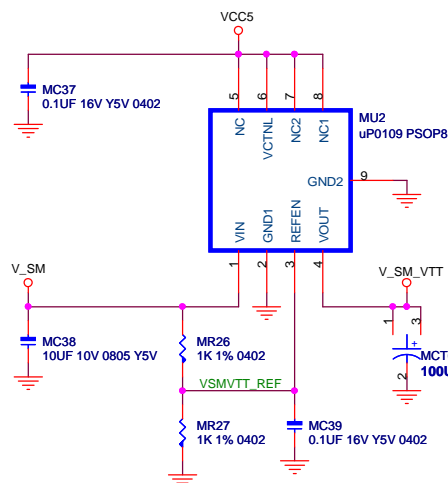


MEMORY VLOTAGE CONTROL CIRCUIT FOR INTEL PLATFORM



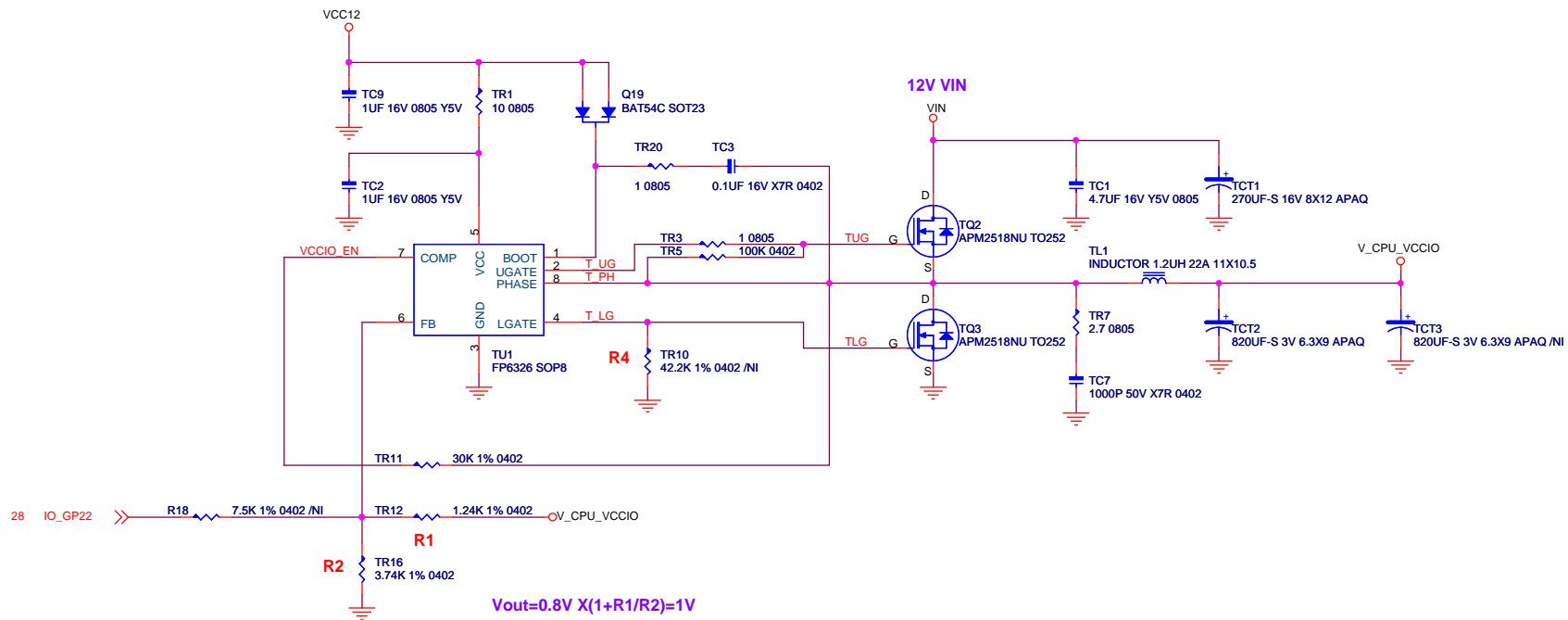
$V_SM = 0.8(1 + R1/R2) = 1.524V$ ($R1 = 1.24K$ $R2 = 1.37K$)
R5 Only For FP6326 **R4 Only For UP6109**
 $(40\mu A \cdot R5 - 0.4V) / R_{ds} = I_{OC}$ **OCF Set : 31A**
FOR ONE LS MOSFET, R5=14.7K 1% **FOR ONE LS MOSFET, P0603BDL : R4=42.2K 1%**

MCT2
NETIN: 1000UF 6.3V 8X12 6.3X9
BOM: 1000UF 6.3V 8X12 6.3X9---電解
820UF-S 3V 6.3X9 APAQ---固態

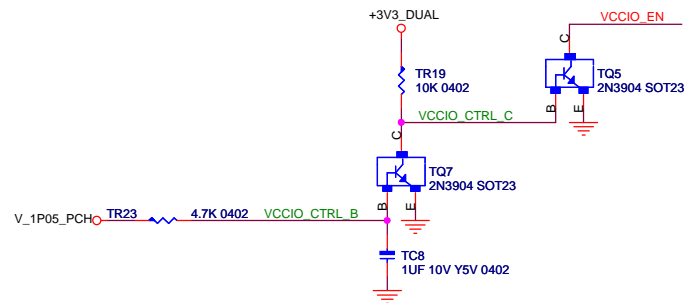


MCT6
NETIN: 100UF 16V 5X11 2MM LR 6.3X5
BOM: 100UF 16V 5X11 2MM LR 6.3X5---電解
100UF-S 16V 6.3X5 5X11---固態
100UF 16V 5X11 2mm LR 6.3X5

Title			
VSM DC-DC Converter			
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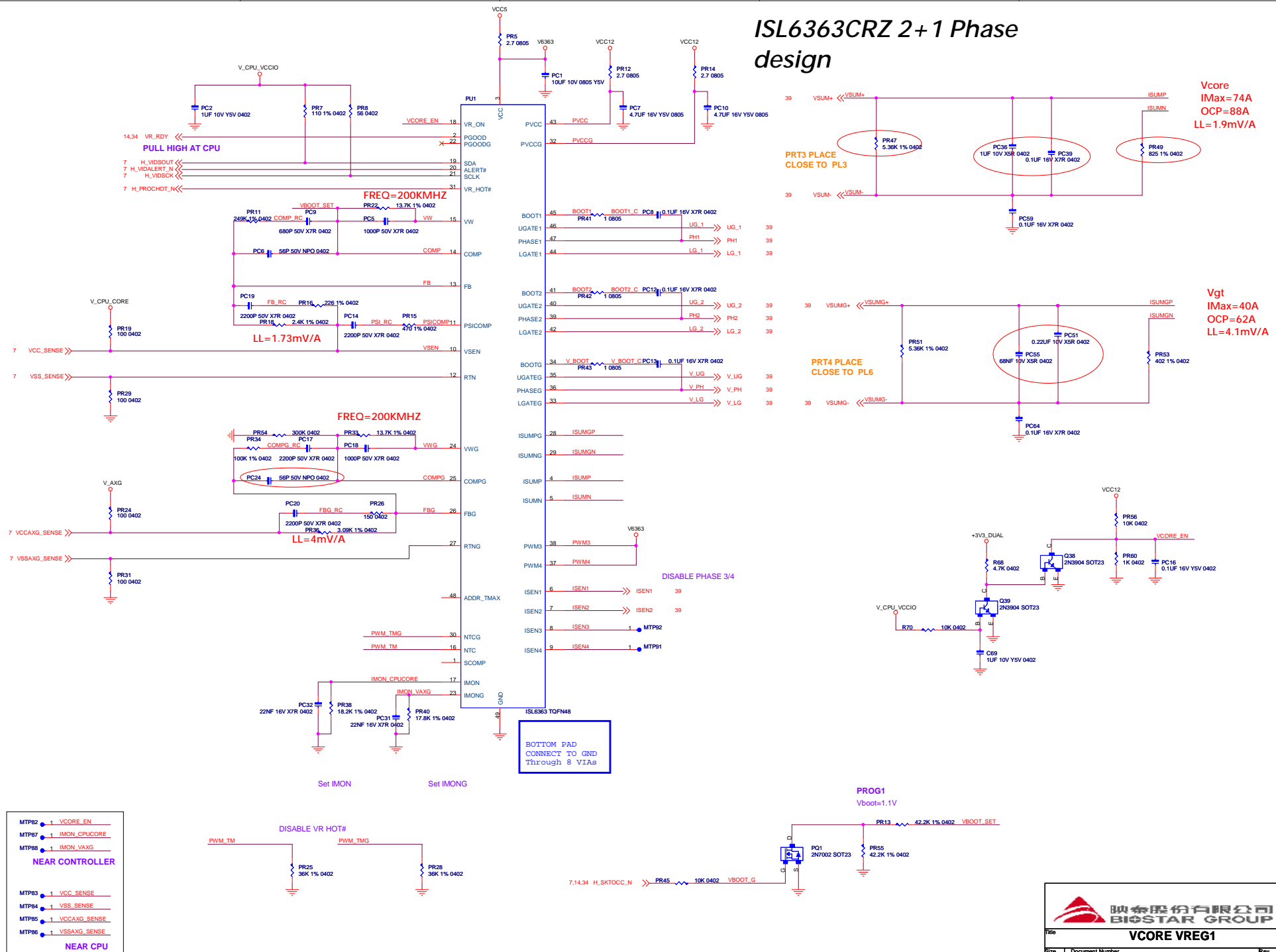


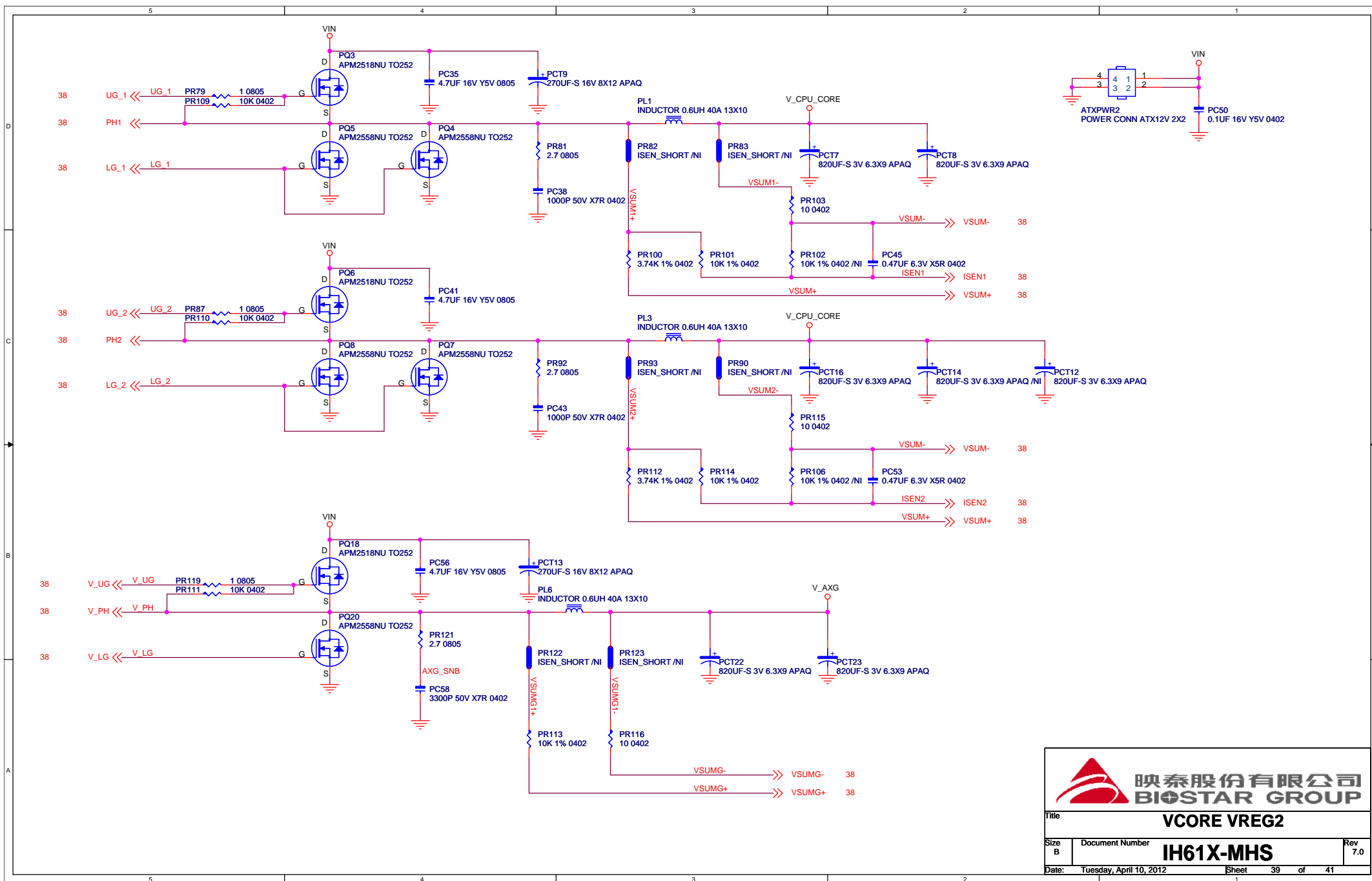
MTP78 1 VCCIO_EN
 NEAR CONTROLLER

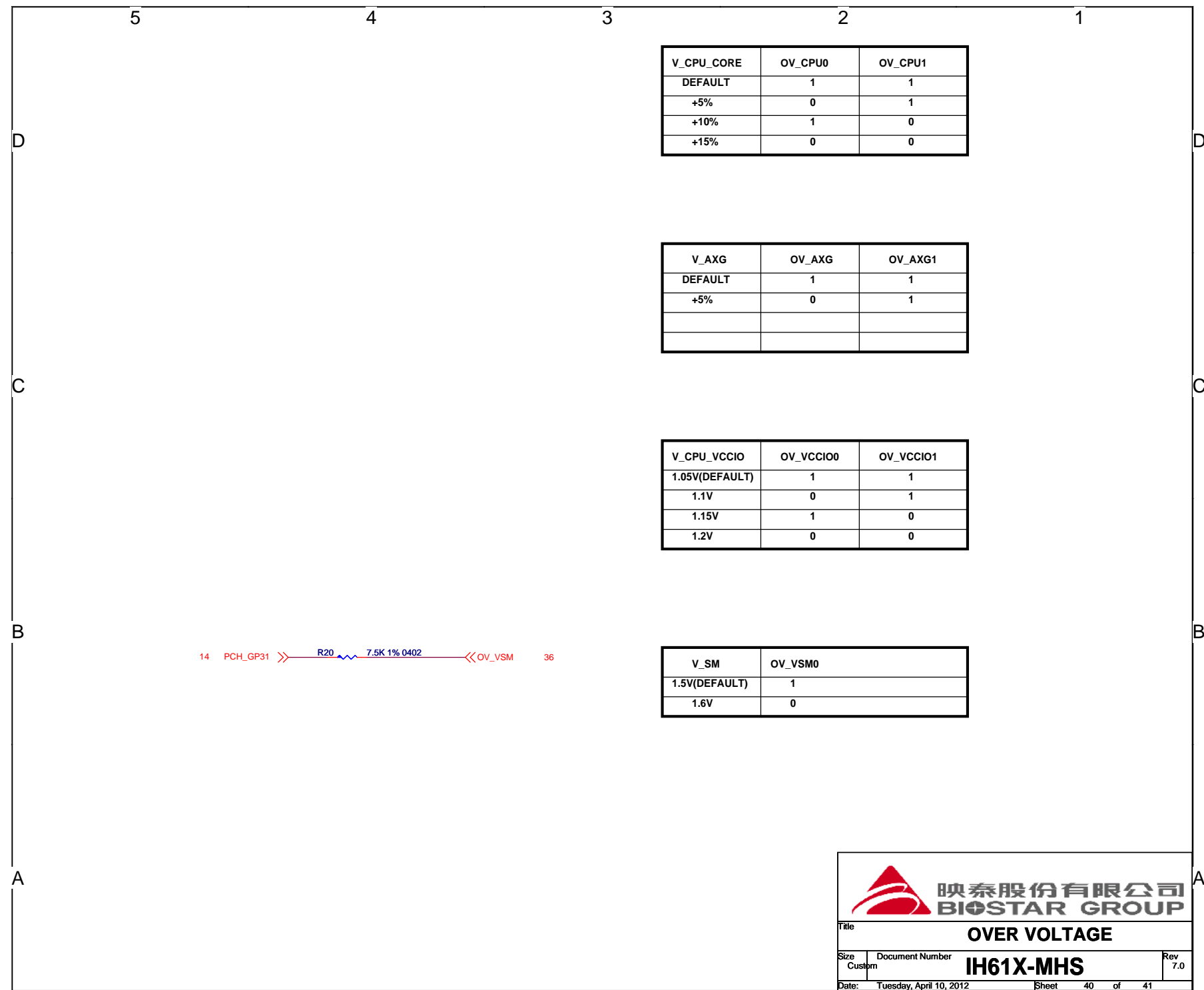


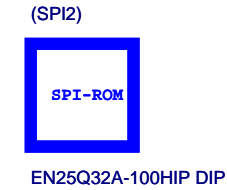
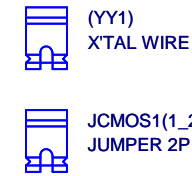
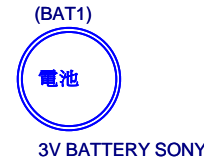
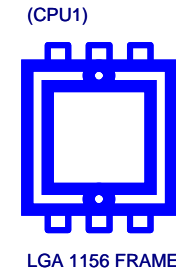
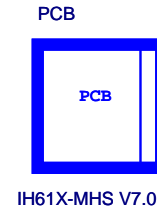
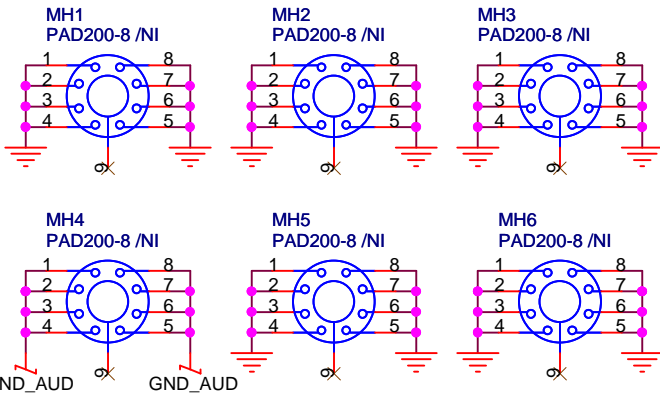
Title VTT DC-DC Conver			
Size B	Document Number	IH61X-MHS	
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ISL6363CRZ 2+1 Phase design

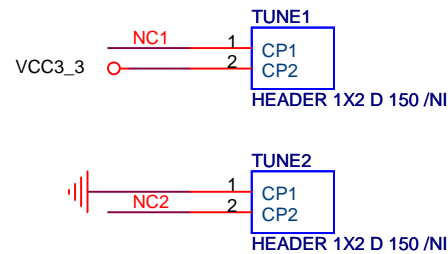








Impedance Testing Coupon



New PANEL1
PANEL1 2*8

YELLOW COLOR



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