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52	PWR 12V OCP - UP6273A
53	CPU PWR VCCIO - NB681G
54	CPU PWR ST/PLL
55	CPU PWR SA-RT8125E
56	DDR4 Power-RT8125E
57	DDR4 Power-VFP25
58	PCH Core Power-RT8125E
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65	Power Sequence
66	Revision History

# MS-7B48

## Intel -CFL Z370

Ver: 11 ATX  
PCB size : 304.8mm \* 244mm

### CPU:

**CFL**

### System Chipset:

**Z370**

### Onboard Chip:

**HD Audio Codec : ALC892**

**LAN : Realtek RTL8111H**

**SIO : Nuvoton 6795**

**Flash ROM : 16MB Z270**

**U3.1 Gen2 : ASM3142 (option)**

### Main Memory:

**DDRIV (800/1066/1333/1600/2133MHz) \* 4 (Dual Channel)**

### ACPI:

**NIKO/UPI**

### PWM:

**UP9508**

### Expansion Slots:

**PCI Express (X16) Slot \*1**

**PCI Express (X4) Slot \* 1**

**PCI Express (X1) Slot \* 4**

**M2 M-Key \* 1**

### Other:

**SATA3.0 \*6**

**FRONT USB2.0 \*4**

**FRONT USB3.0 \*4**

**REAR USB3.0 GEN1 Z270 \*4**

**REAR USB3.1 GEN2 TYPE A \*2 (option)**

### Display :

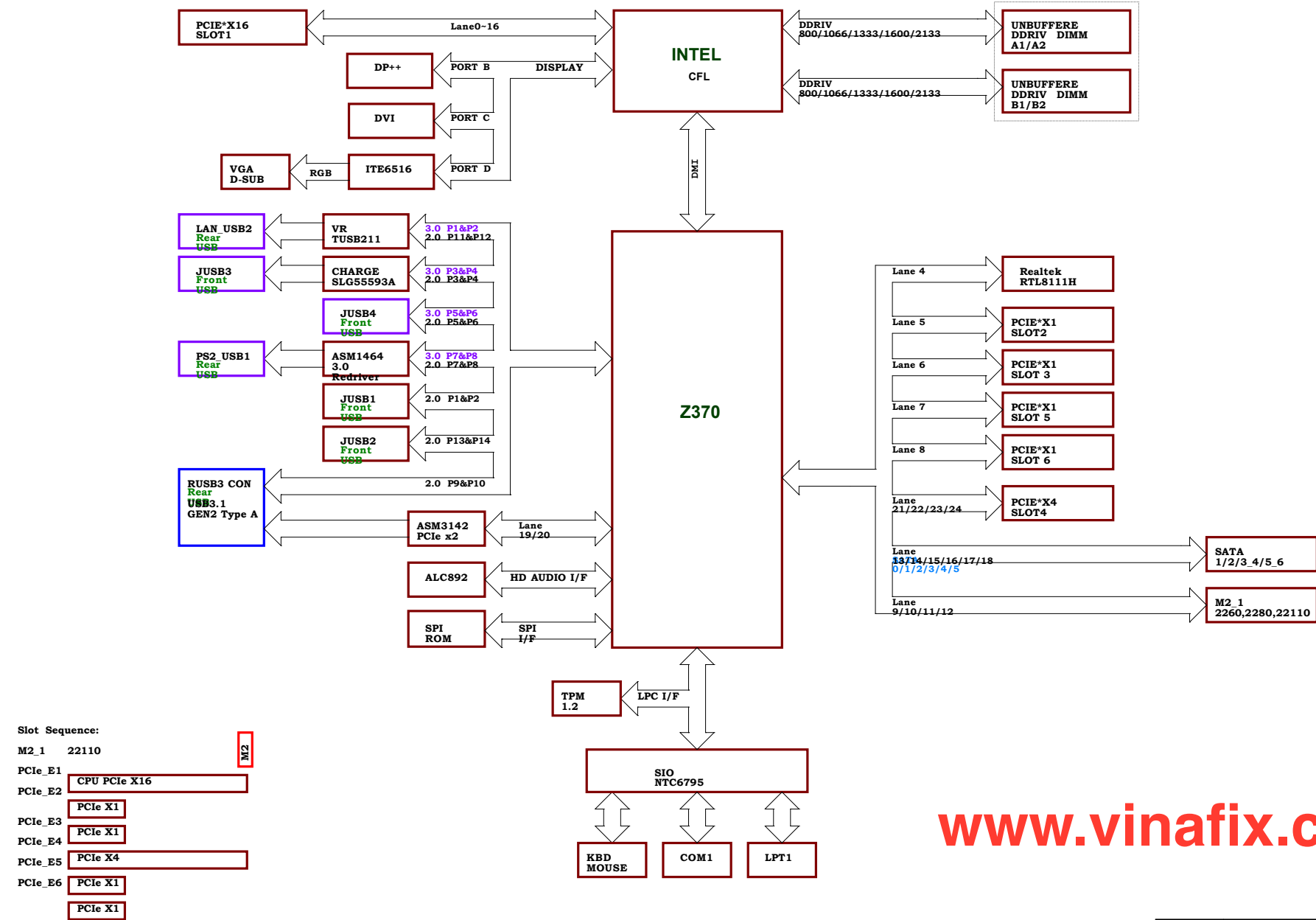
**DISPLAY PORT**

**DVI**

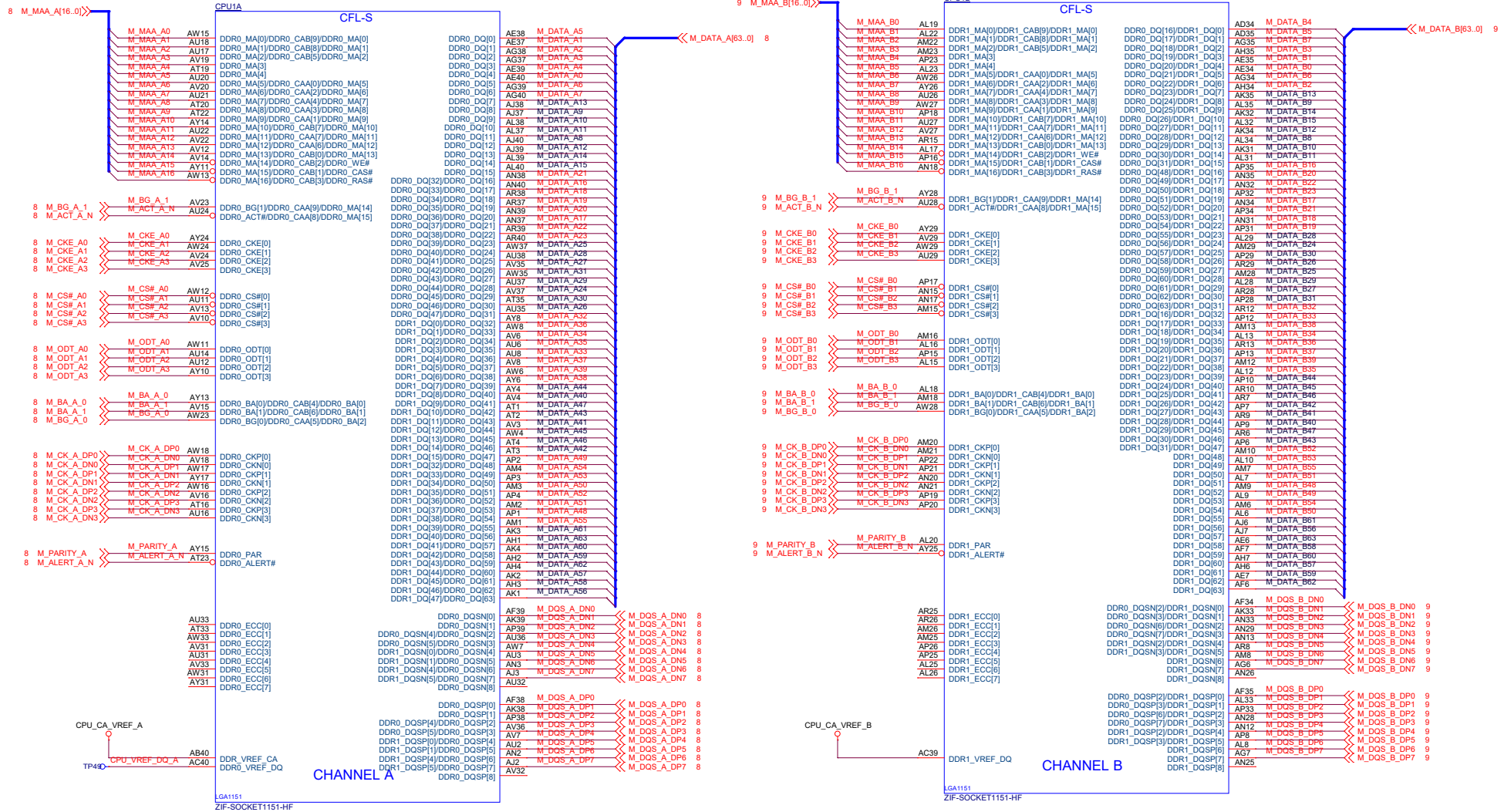
**VGA-ITE6516 DDI to D-SUB**

MICRO-STAR INT'L CO.,LTD			
MS-7B48..			
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MS-7B48 Block Diagram



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MS-7B48..

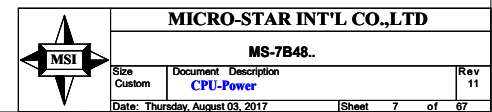
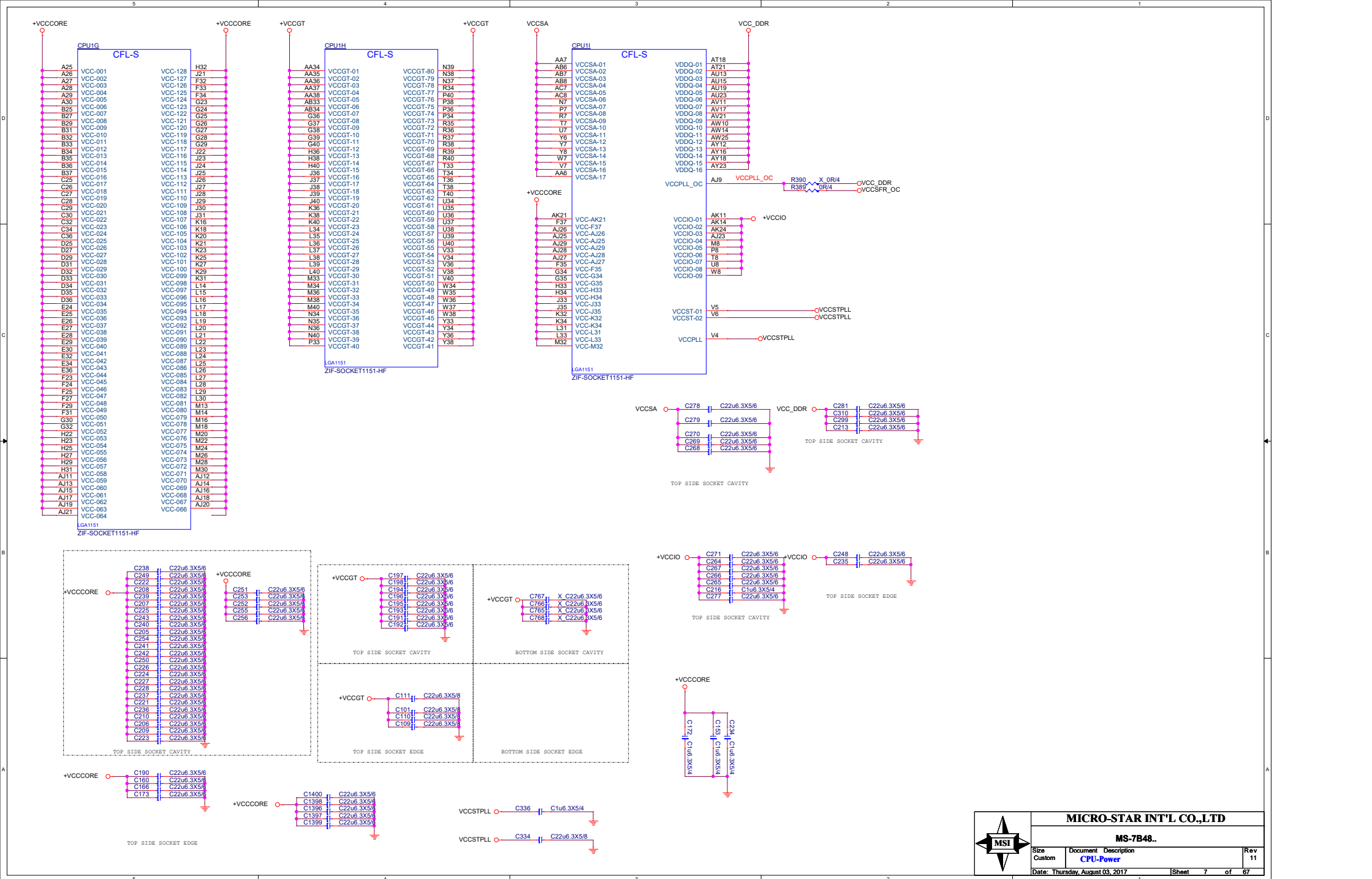
Size Custom	Document Description	Rev
11	CPU-Memory	11

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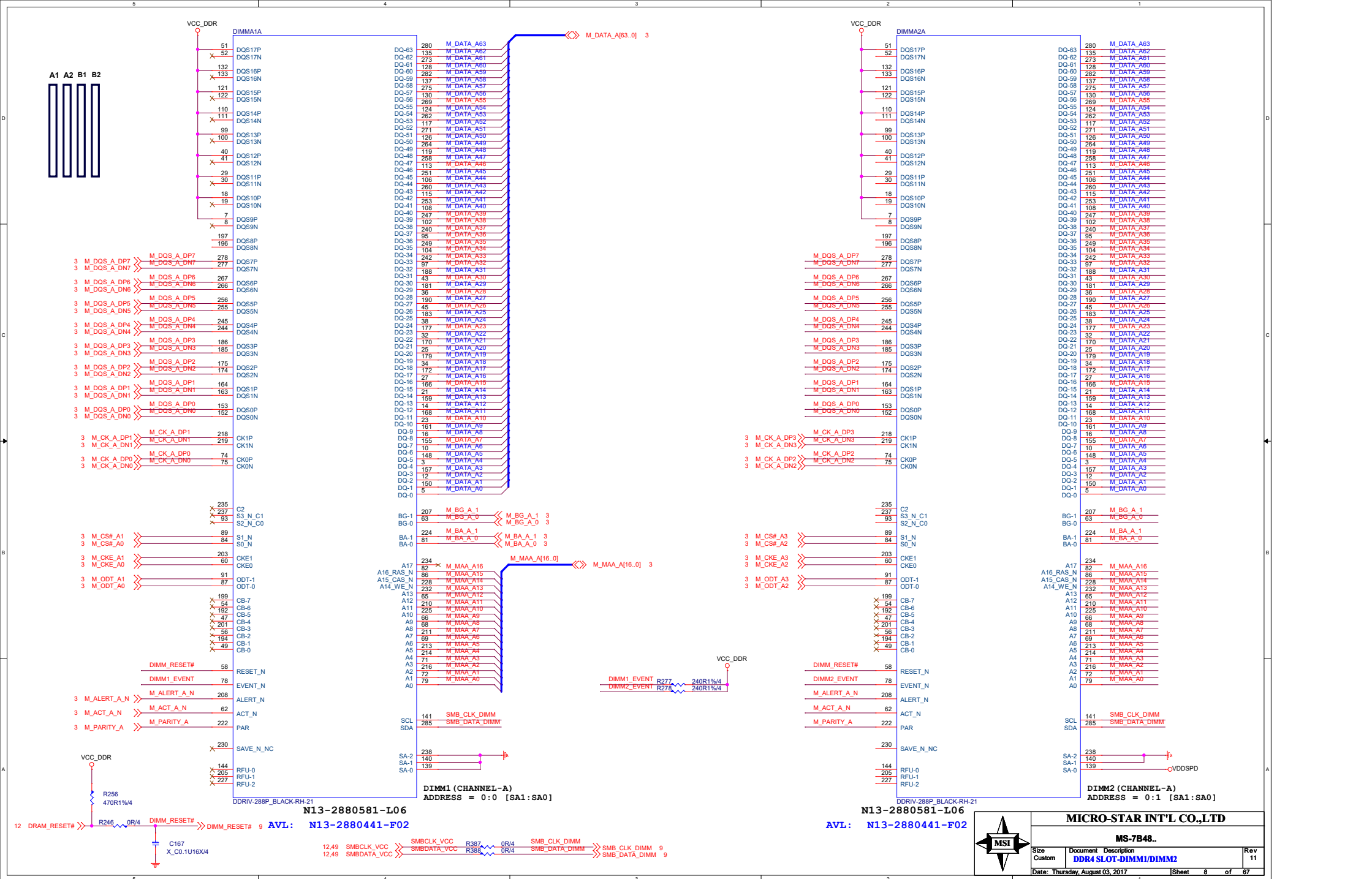






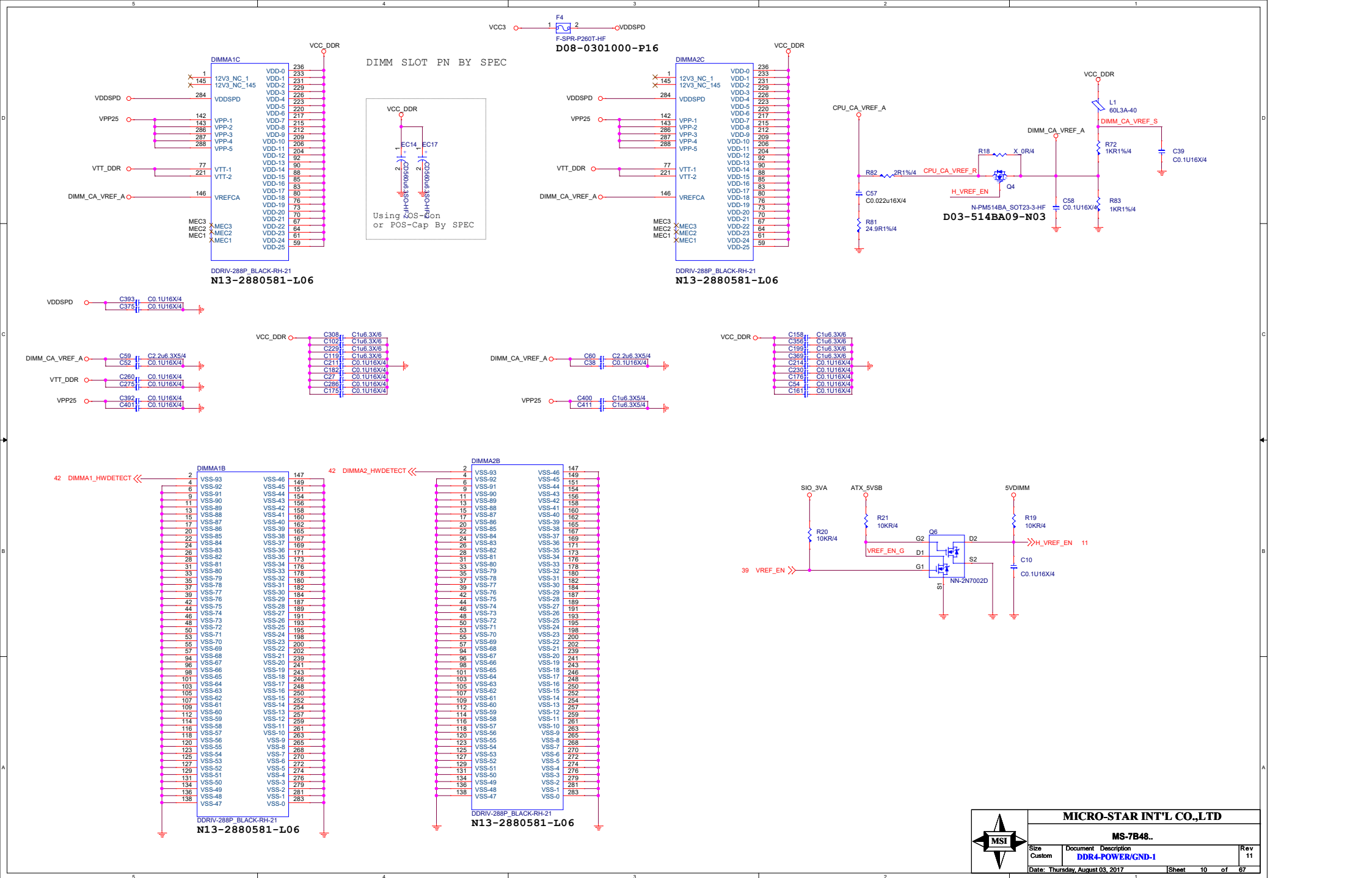


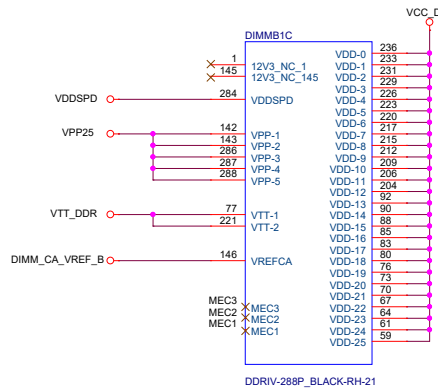




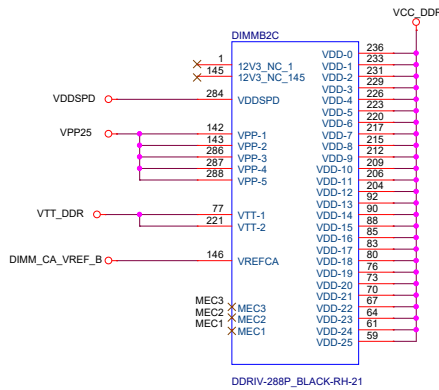




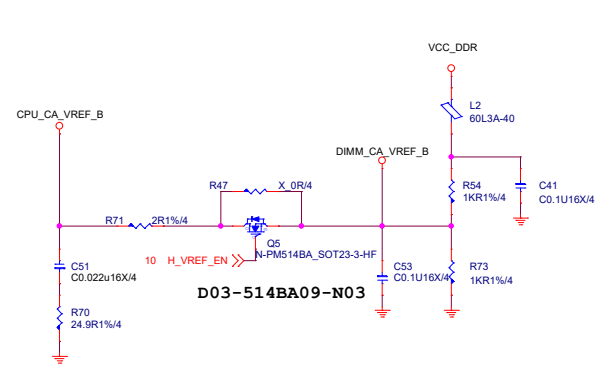




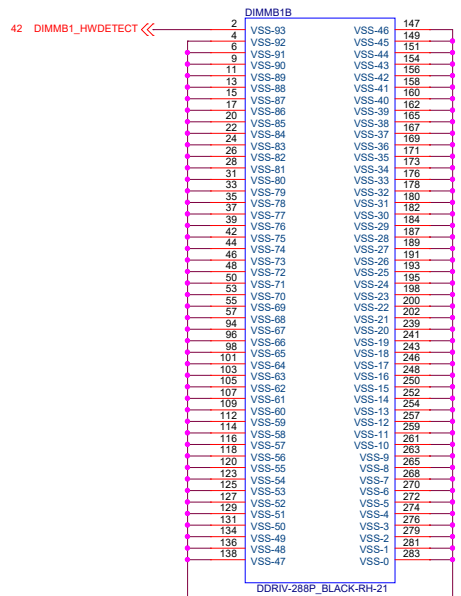
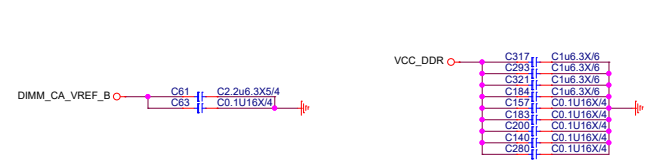
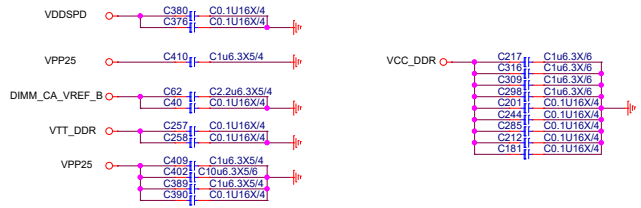
N13-2880581-L06



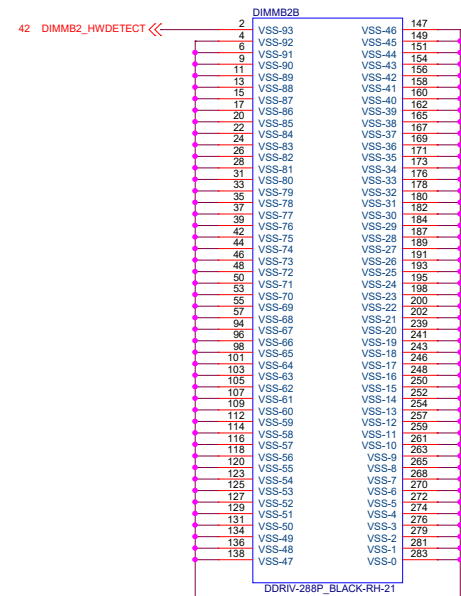
N13-2880581-L06




D03-514BA09-N03



N13-2880581-L06



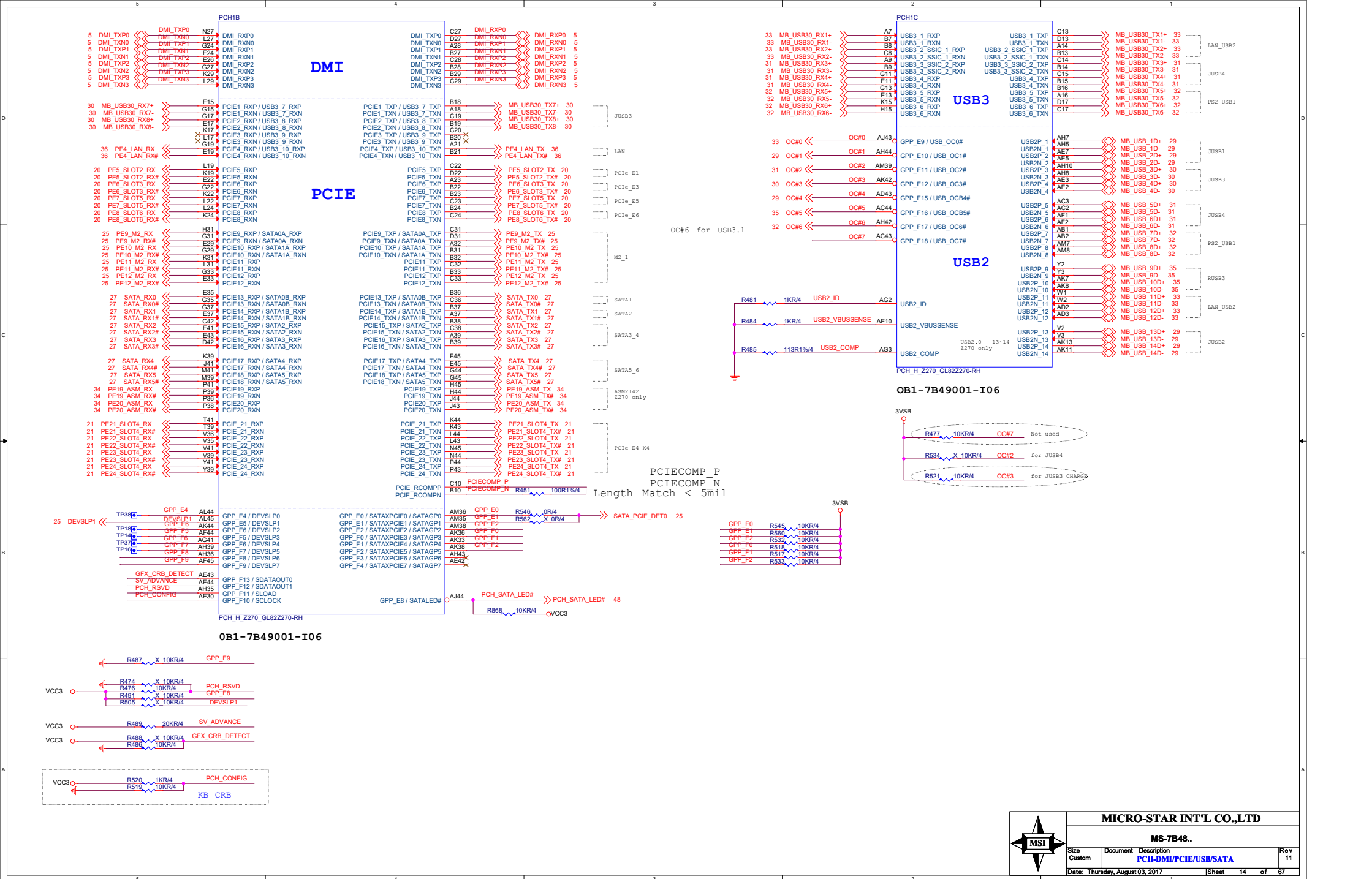
N13-2880581-L06



MICRO-STAR INT'L CO.,LTD		
MS-7B48..		
Size Custom	Document Description DDR4-POWER/GND-2	Rev 11
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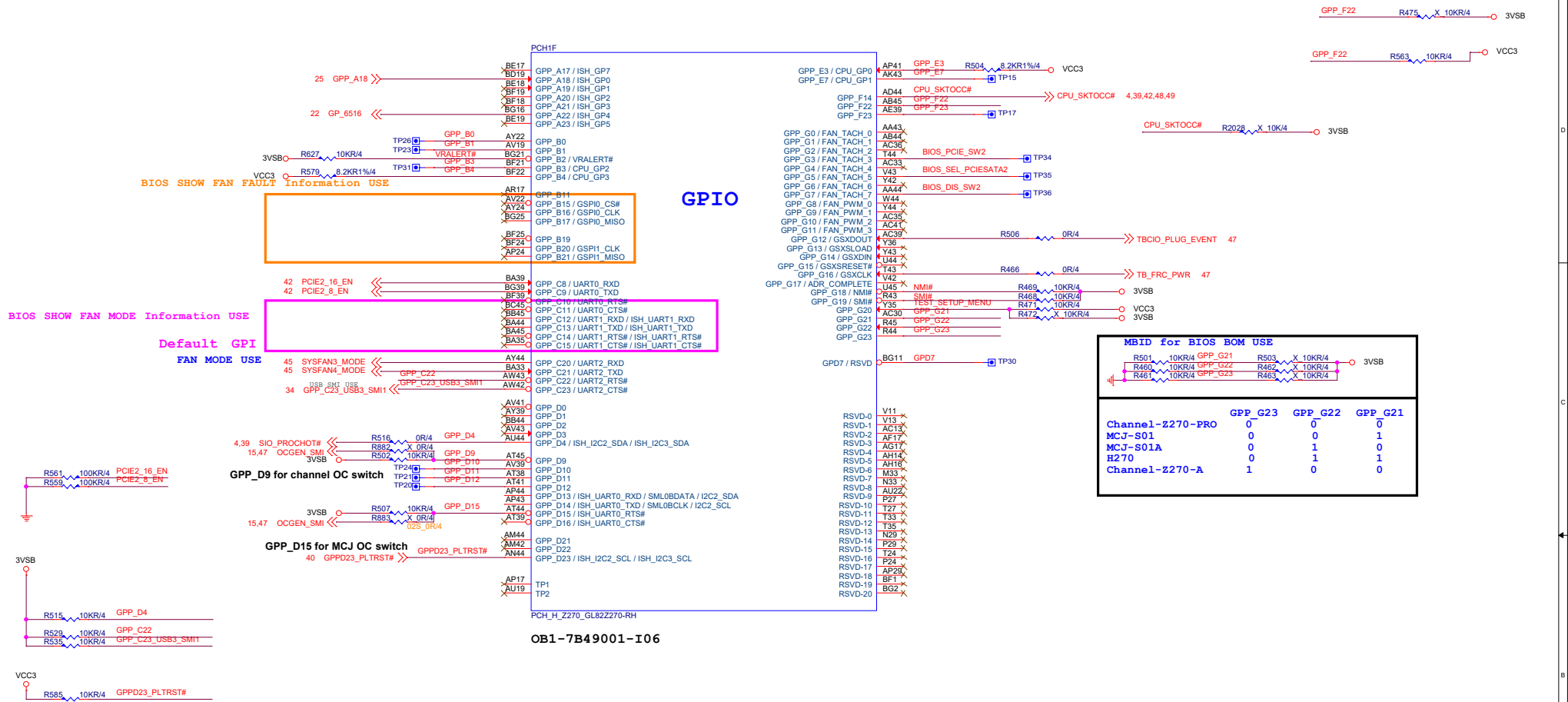




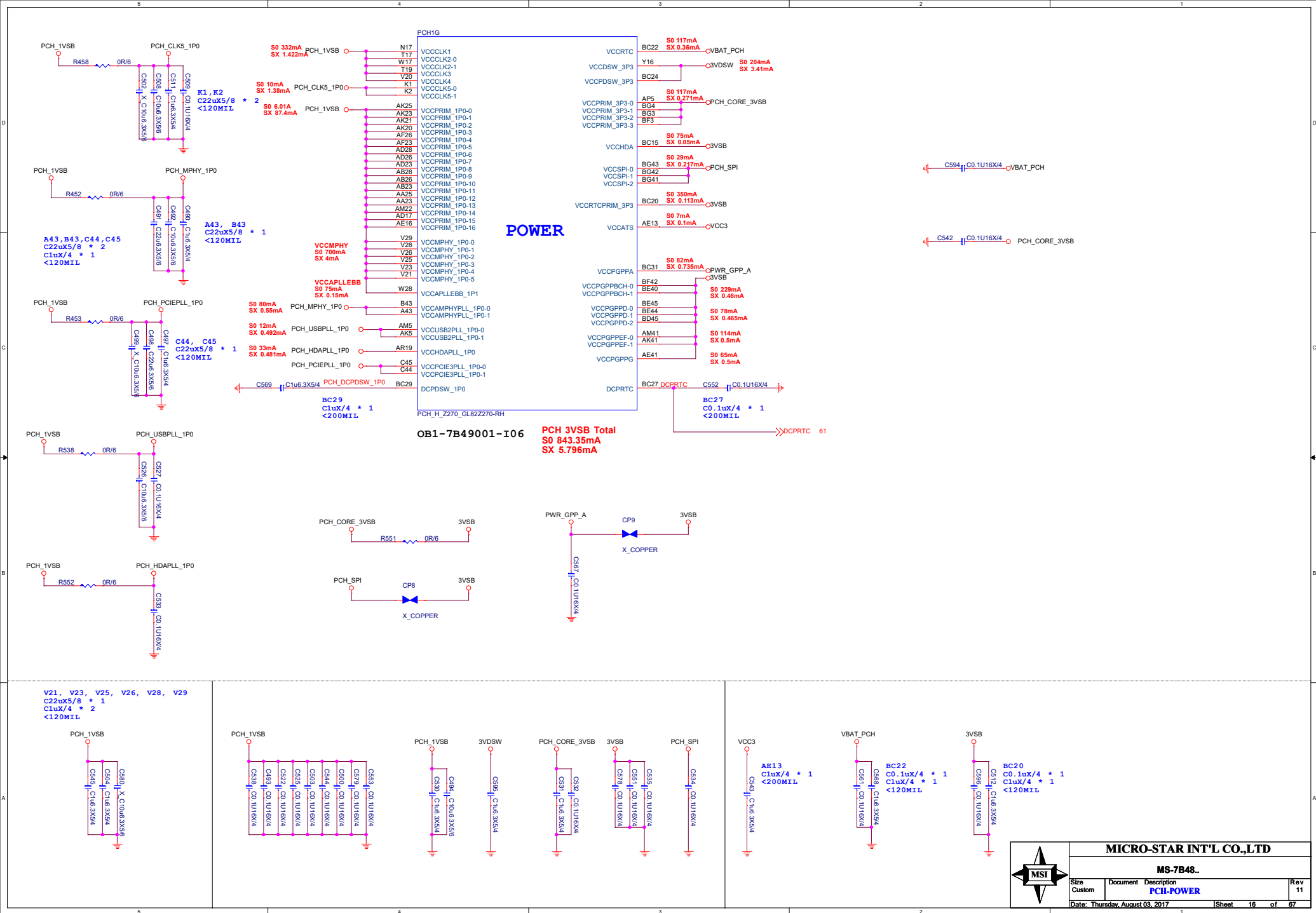
MS-7B48..

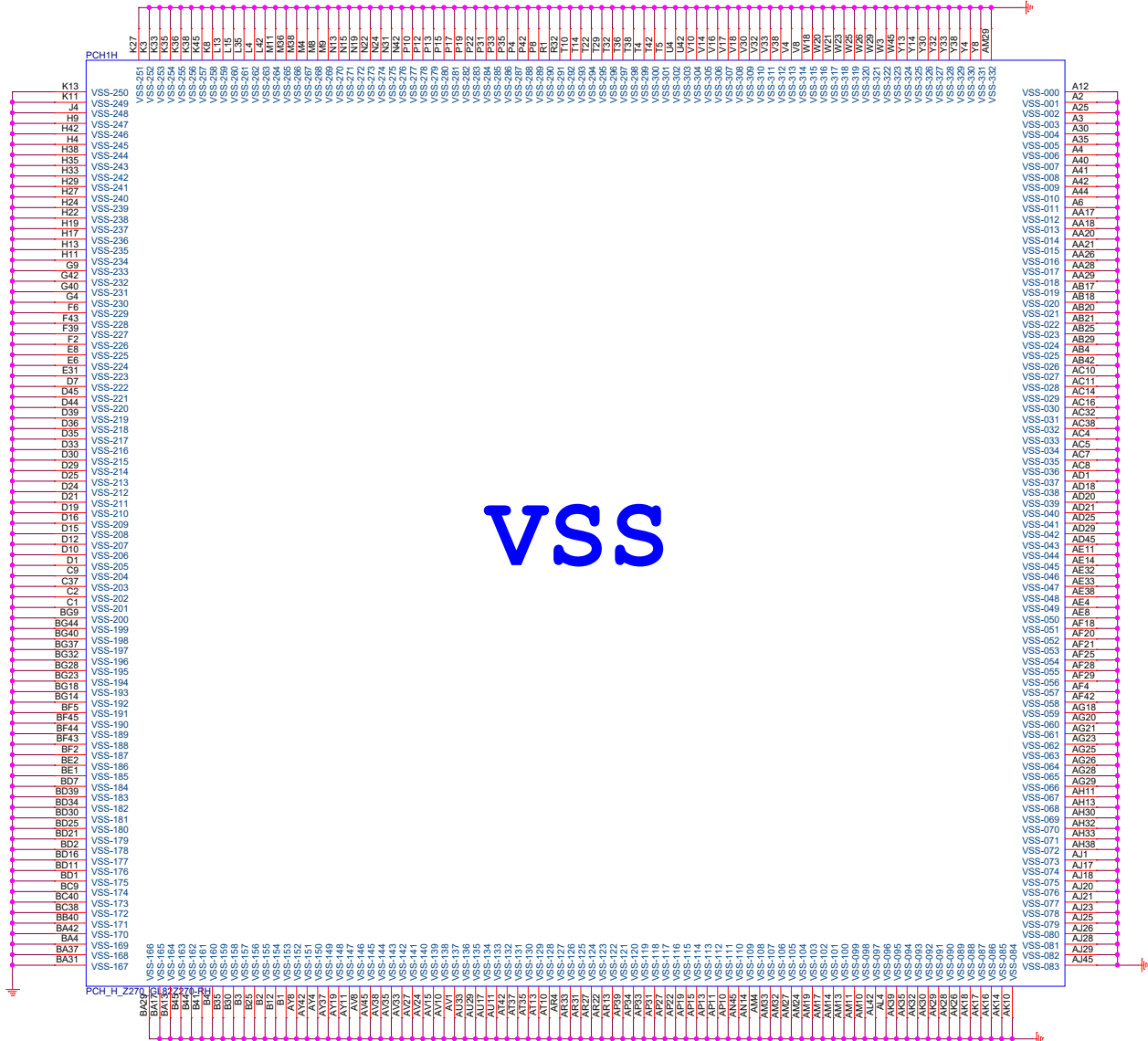
Size Custom	Document Description <b>PCH-DMI/PCIE/USB/SATA</b>	Rev 11
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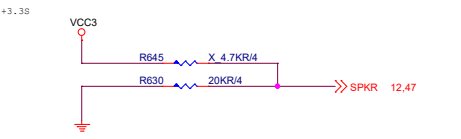


OB1-7B49001-I06



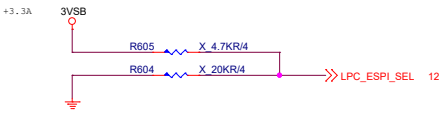
MICRO-STAR INT'L CO.,LTD			
MS-7B48..			
Size	Document	Description	Rev
Custom		PCH-GND	11
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TOP Swap



Internal pull-down is disabled after PLTRST#

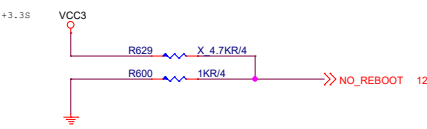
LPC eSPI Mode



0 : LPC  
1 : eSPI

Internal pull-down is disabled after RSMRST

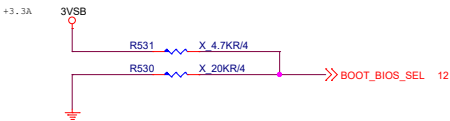
No Reboot



0 : DISABLE (Default)  
1 : ENABLE

Internal pull-down is disabled after PLTRST#

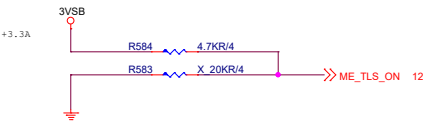
Boot BIOS



0 : SPI  
1 : LPC

Internal pull-down is disabled after PLTRST

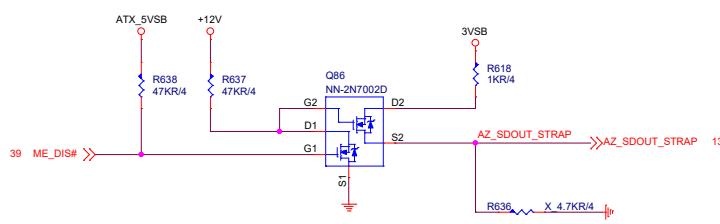
AMT and SBA with confidentiality



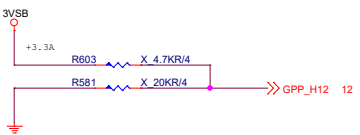
0 : DISABLE  
1 : ENABLE (Default)

Internal pull-down is disabled after RSMRST

HDA\_SDO

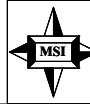


ESPI FLASH SHARING MODE



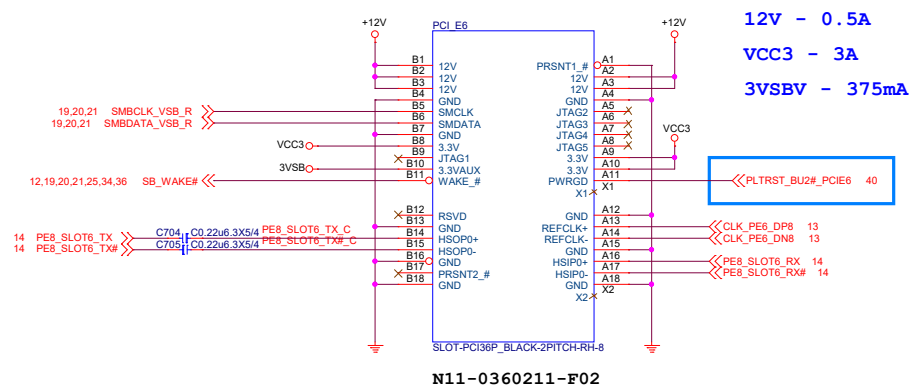
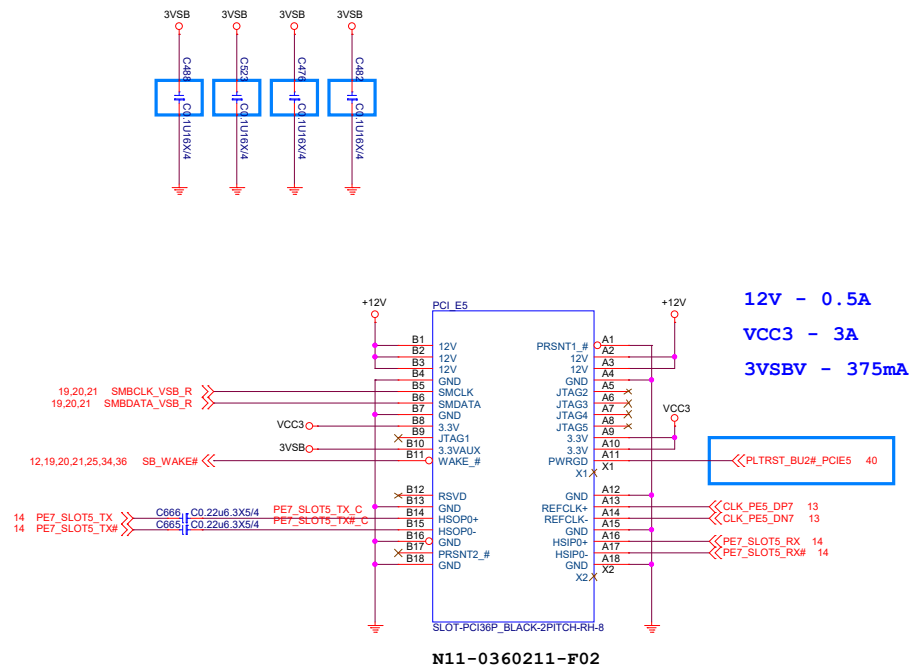
0 : MASTER ATTACHED FLASH SHARING  
1 : SLAVE ATTACHED FLASH SHARING

Internal pull-down is disabled after RSMRST



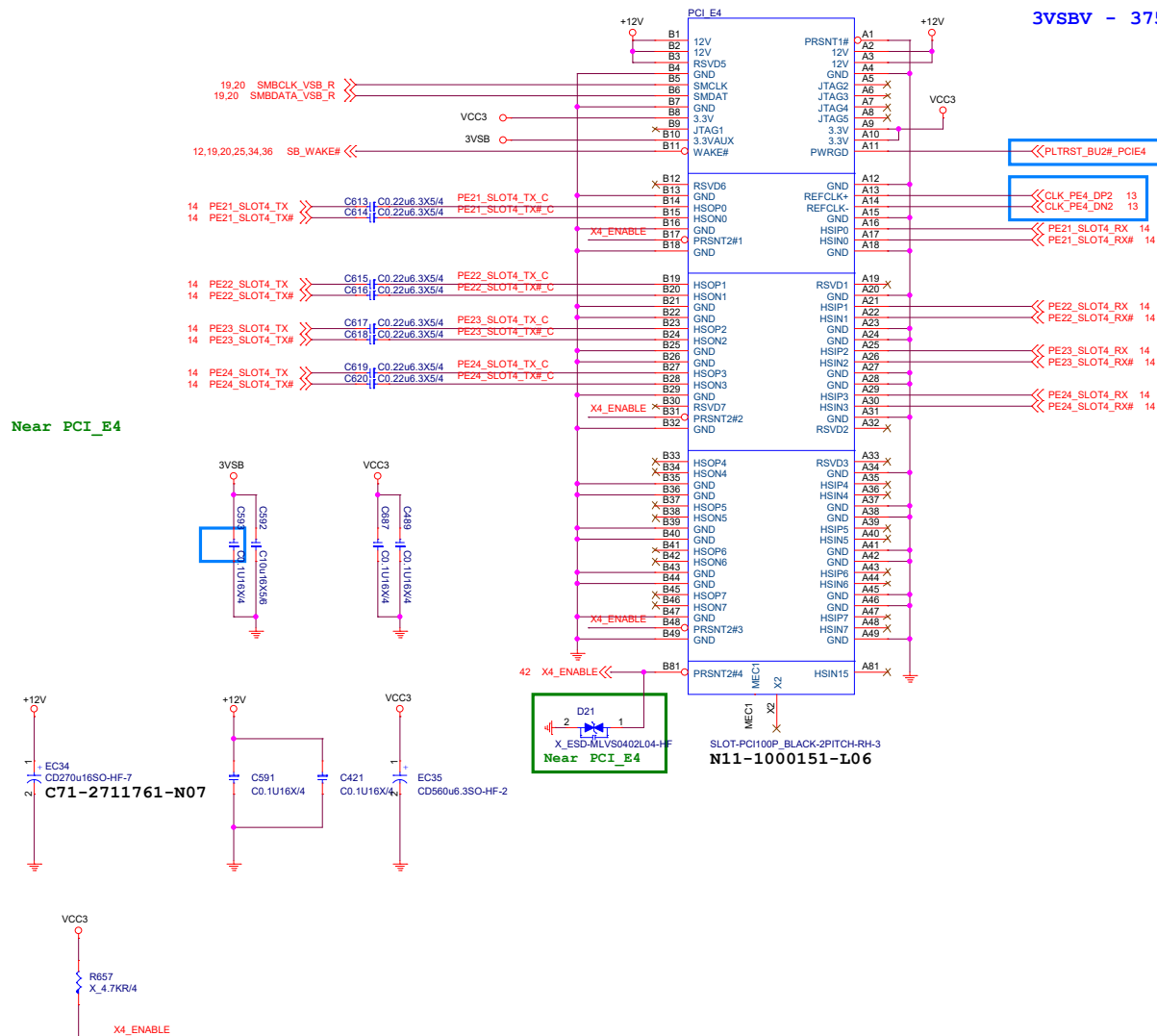
MICRO-STAR INT'L CO.,LTD			
MS-7B48..			
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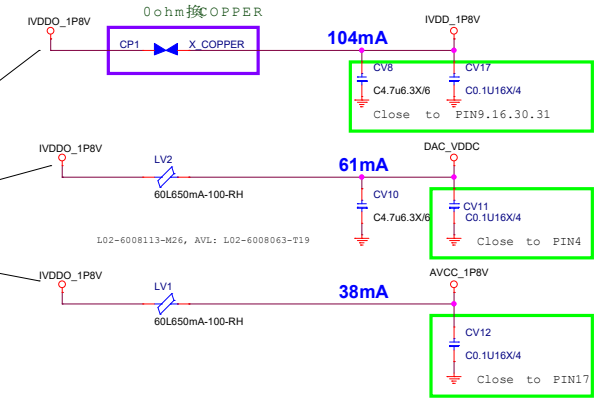
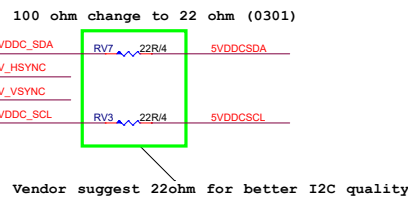
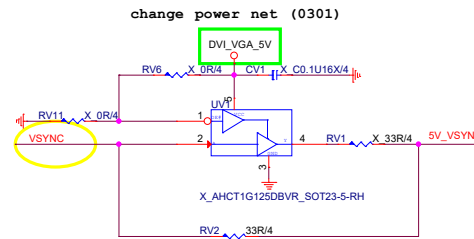
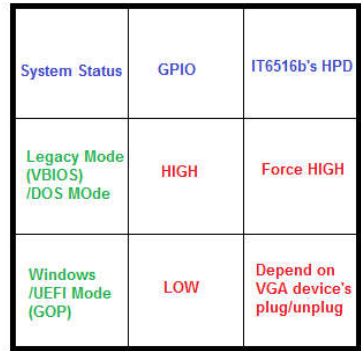


# PCI Express X4 Slot

12V - 2.1A  
VCC3 - 3A  
3VSBV - 375mA




If connect to eDP port,must confirm whether it support hot plug detection HPD and re-auxtraining



DVI\_VGA\_5V

**D65**



VGA\_BLUE 4 3 VGA\_RED  
5 2  
VGA\_GREEN 6 1  
GND

ESD-ESDV5USULC-HF  
**NEAR CONNECTOR**  
**DOG-45B0510-I14**  
DOG-45B0510-I14 (M)  
DOG-0200529-A68 (AVL)  
DOG-05A0529-A68 (AVL)



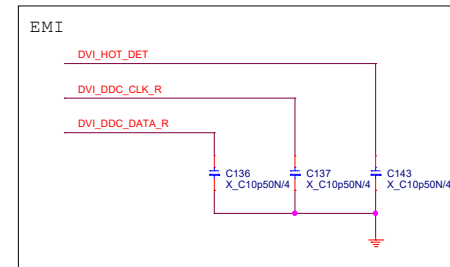
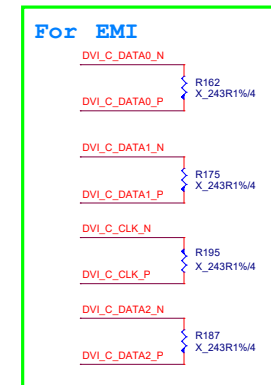
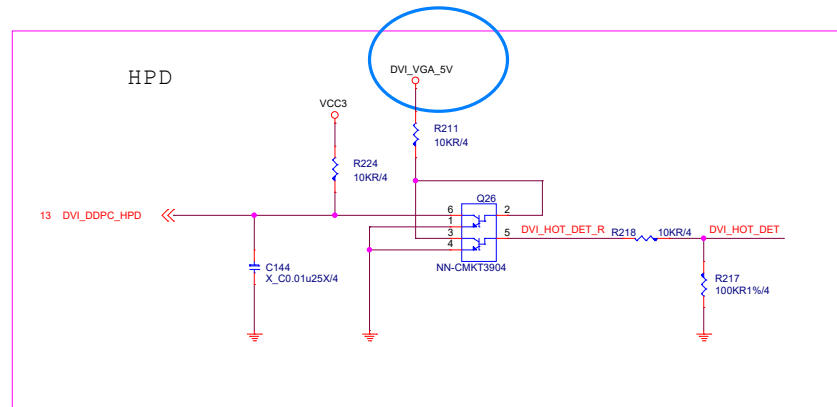
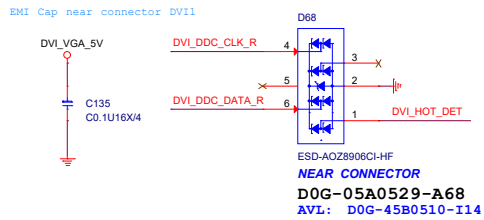
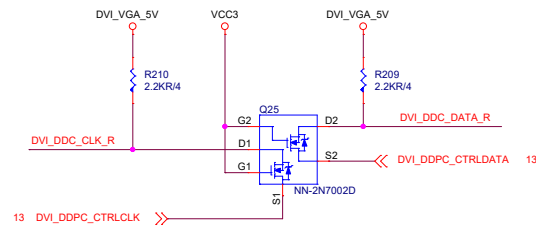
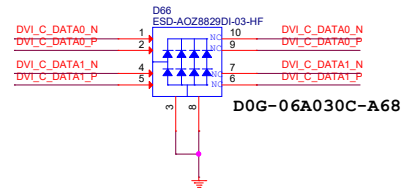
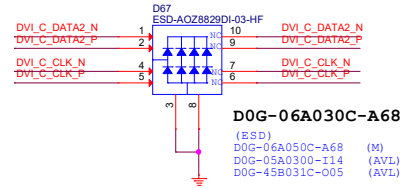
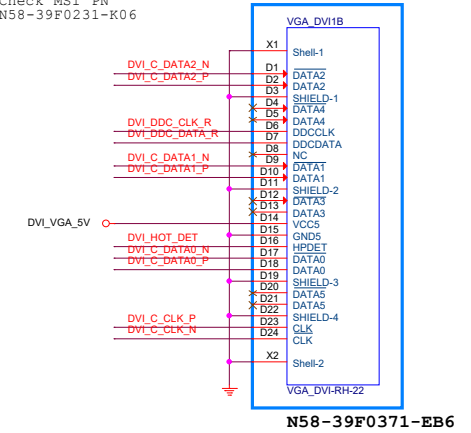
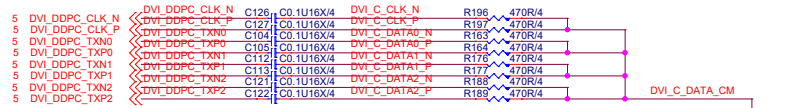
**MS-7B48..**

Size Custom	Document Description <b>VGA - ITE6516</b>	Rev 11
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VGA: resolution of 2048x1536 pixels with 32-bit color at 75 Hz(4:3 QXGA)

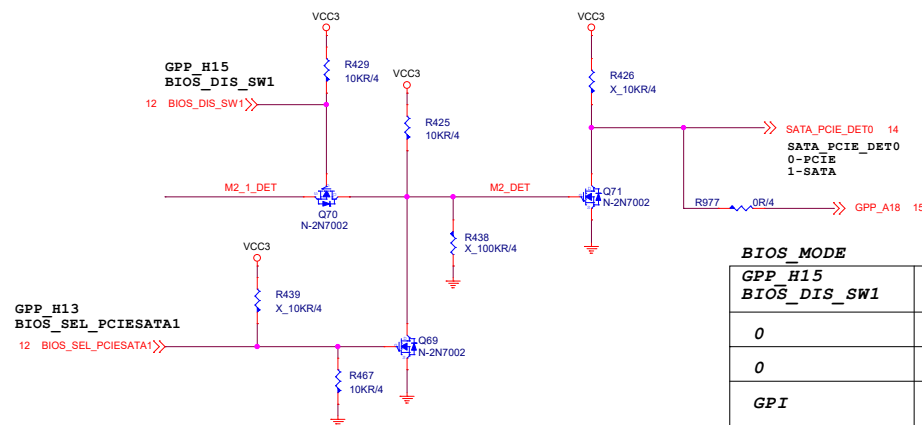
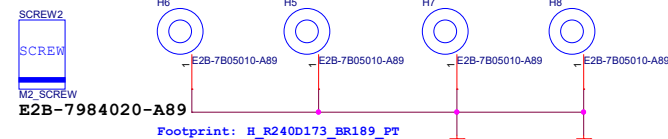
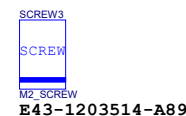
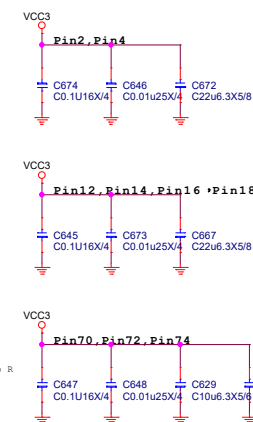
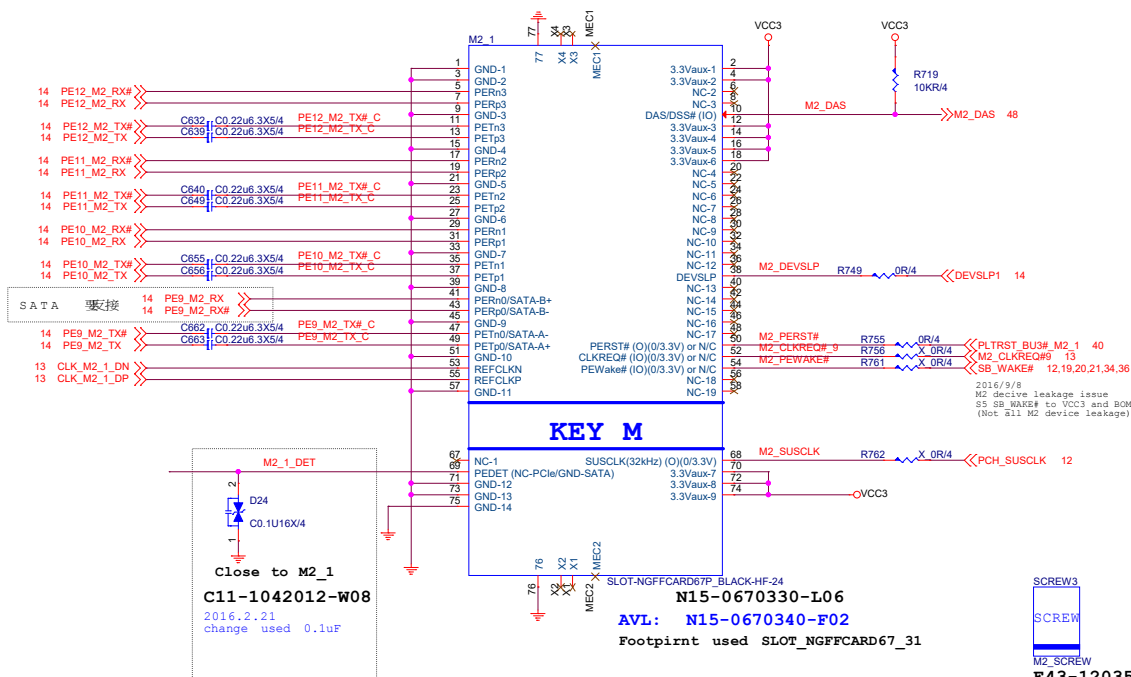
Check MSI PN  
N58-39F0231-K06



MSI		MICRO-STAR INT'L CO.,LTD	
Size Custom		MS-7B48..	
Document Description		DVI Connector	
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	<b>MICRO-STAR INT'L CO.,LTD</b>			
	<b>MS-7B48..</b>			
	Size Custom	Document <b>DISPLAY PORT CON</b>		Rev 11
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# M2\_1 2242/2260/2280/22110 (PCIeX4 mode and SATA mode)



BIOS MODE		
GPP H15 BIOS_DIS_SW1	GPP H13 BIOS_SEL_PCIESATA1	
0	1	M2-SATA
0	0	M2-PCIE X4
GPI	GPI	AUTO

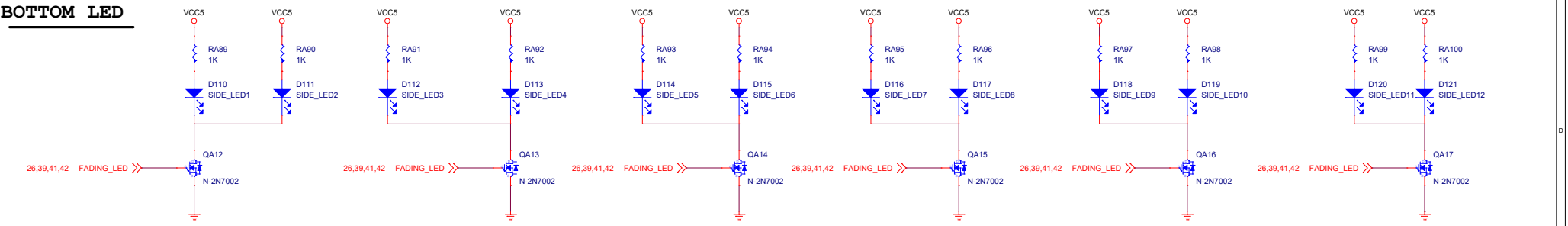
**MICRO-STAR INT'L CO.,LTD**

**MS-7B48..**

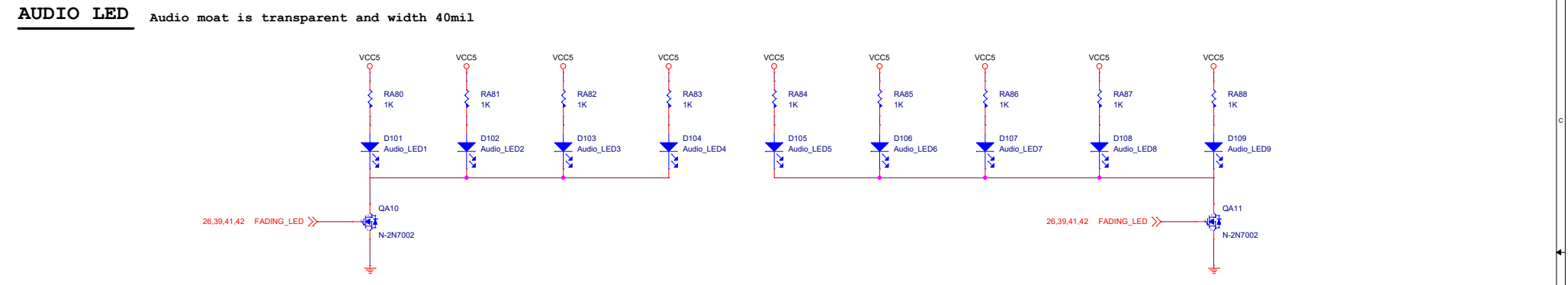
Size	Document	Description	Rev
Custom	M2_1 2242/2260/2280		11

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**BOTTOM LED**

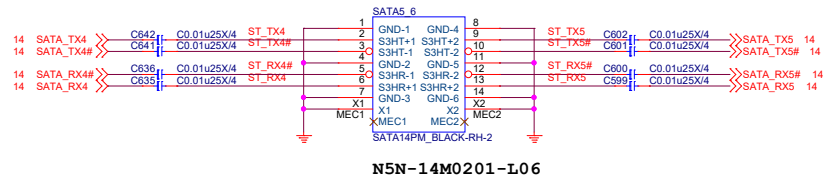
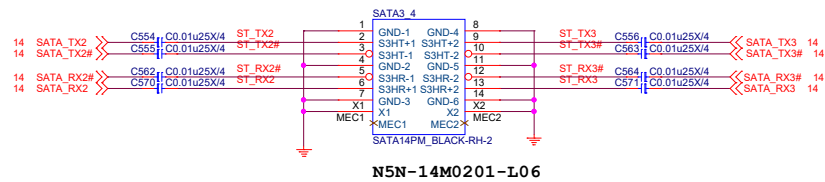
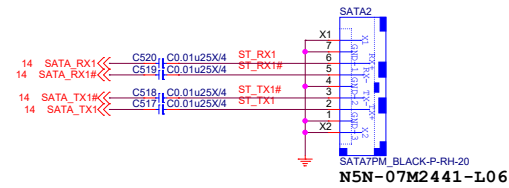
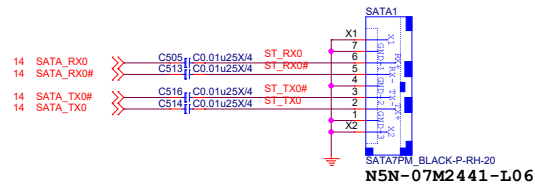


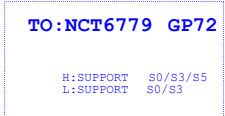
**AUDIO LED** Audio moat is transparent and width 40mil





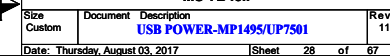
MICRO-STAR INT'L CO.,LTD			
MS-7B48..			
Size	Document	Description	Rev
Custom		Audio&Side LED	11
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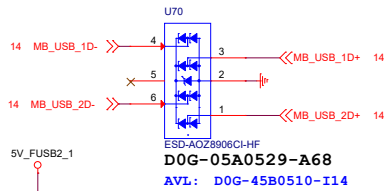
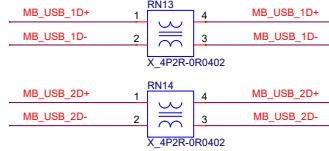
N-MOS  
D03-510BA0C-N03  
D03-3056M00-U47  
D03-4C05N03-O05  
D03-3830D09-N47  
D03-632BA0C-N03

D08-0301000-P16 D08-2000400-P16 (Itrip=3.5A; 0.003ohm)  
D08-0301000-P16 (Itrip=2.6A; 0.015ohm)



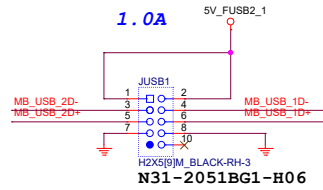
# FRONT USB2.0 PORT 3,4

ComChoke co-lay 4P2R-0R0402  
Footprint: FILTER\_S4\_RN4P2R\_COLAY  
Default ComChoke: L12-9008080-P01  
4P2R-0R0402: R3C-0000012-W08

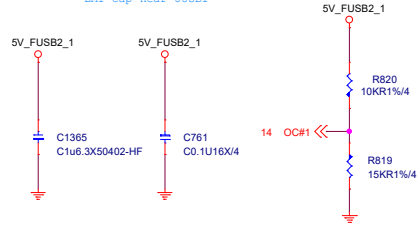


C71-5610671-N07

1.0A

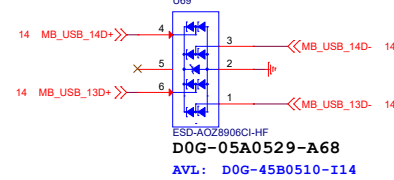
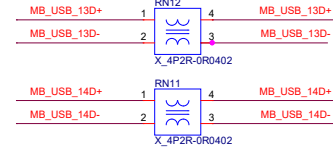


EMI Cap near JUSB1

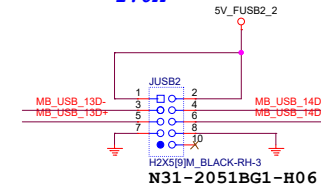


# FRONT USB2.0 PORT 5,6 (Z270 only)

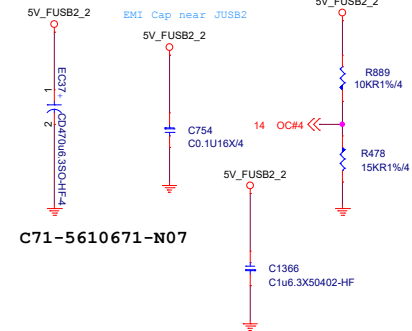
ComChoke co-lay 4P2R-0R0402  
Footprint: FILTER\_S4\_RN4P2R\_COLAY  
Default ComChoke: L12-9008080-P01  
4P2R-0R0402: R3C-0000012-W08



1.0A

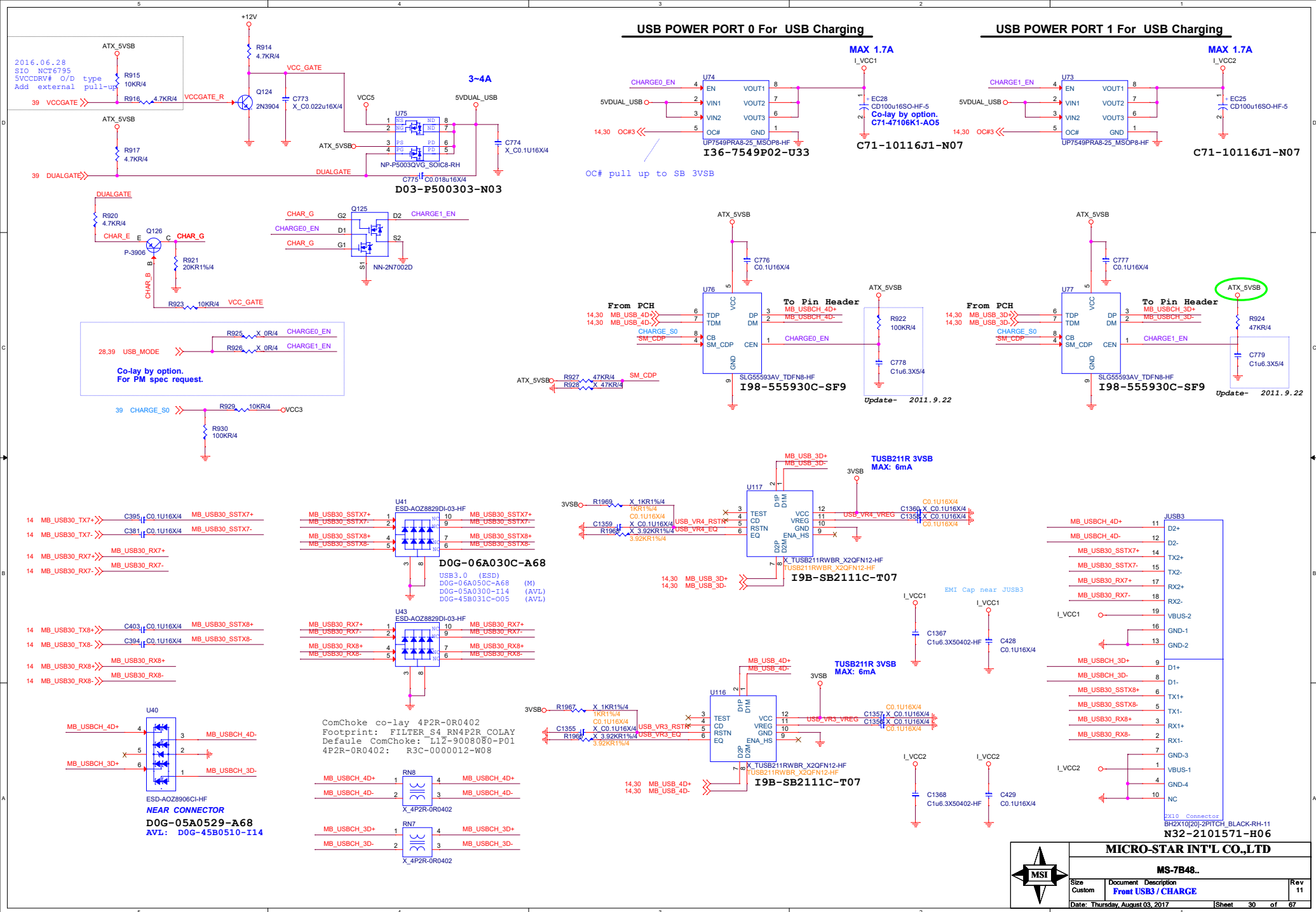


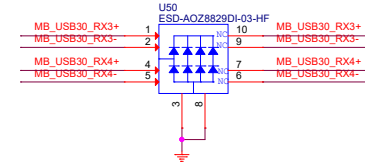
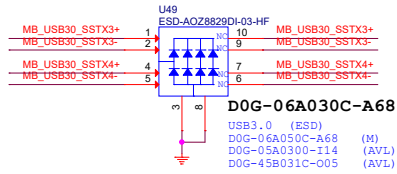
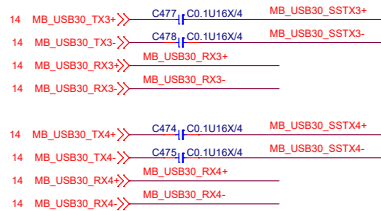
EMI Cap near JUSB2



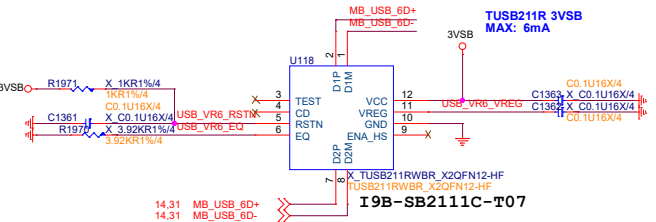
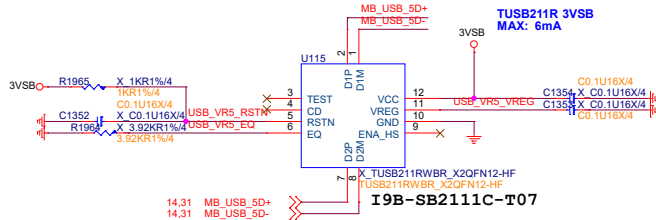
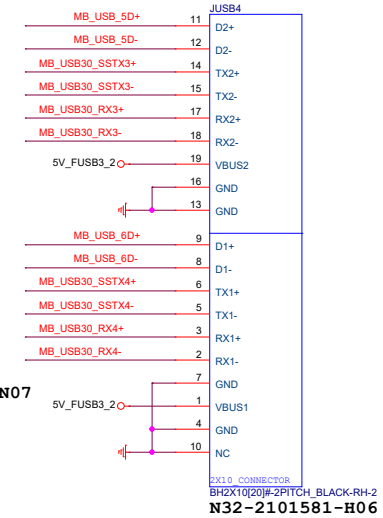
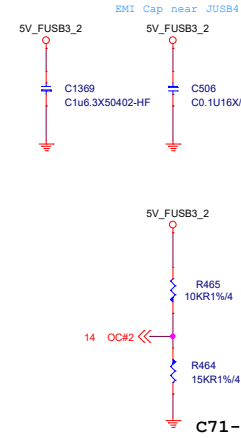
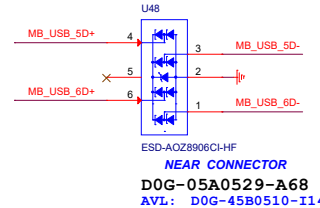
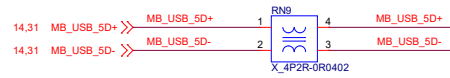
C71-5610671-N07



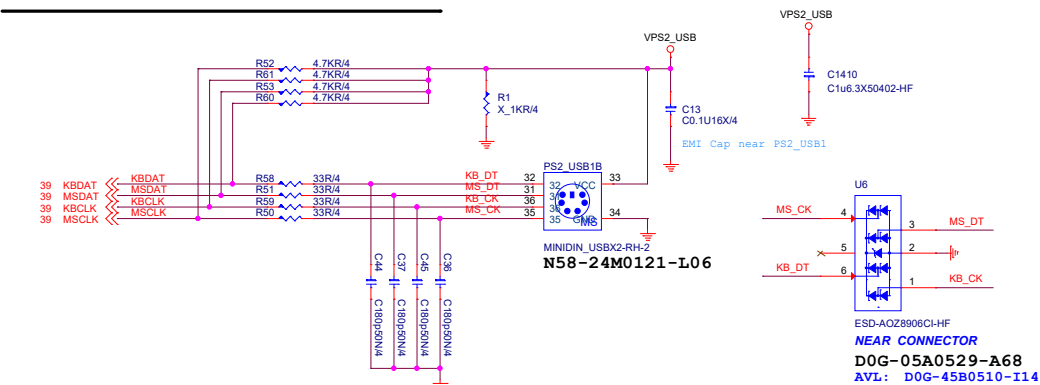




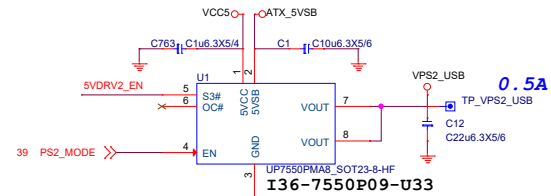
ComChoke co-lay 4P2R-0R0402  
 Footprint: FILTER\_S4 RN4P2R\_COLAY  
 Defaule ComChoke: L12-9008080-P01  
 4P2R-0R0402: R3C-0000012-W08



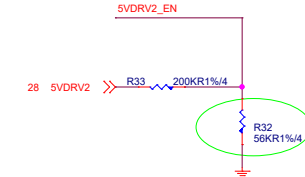
## PS2 KEYBOARD & MOUSE CONNECTOR



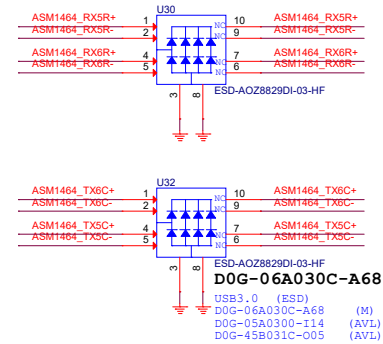
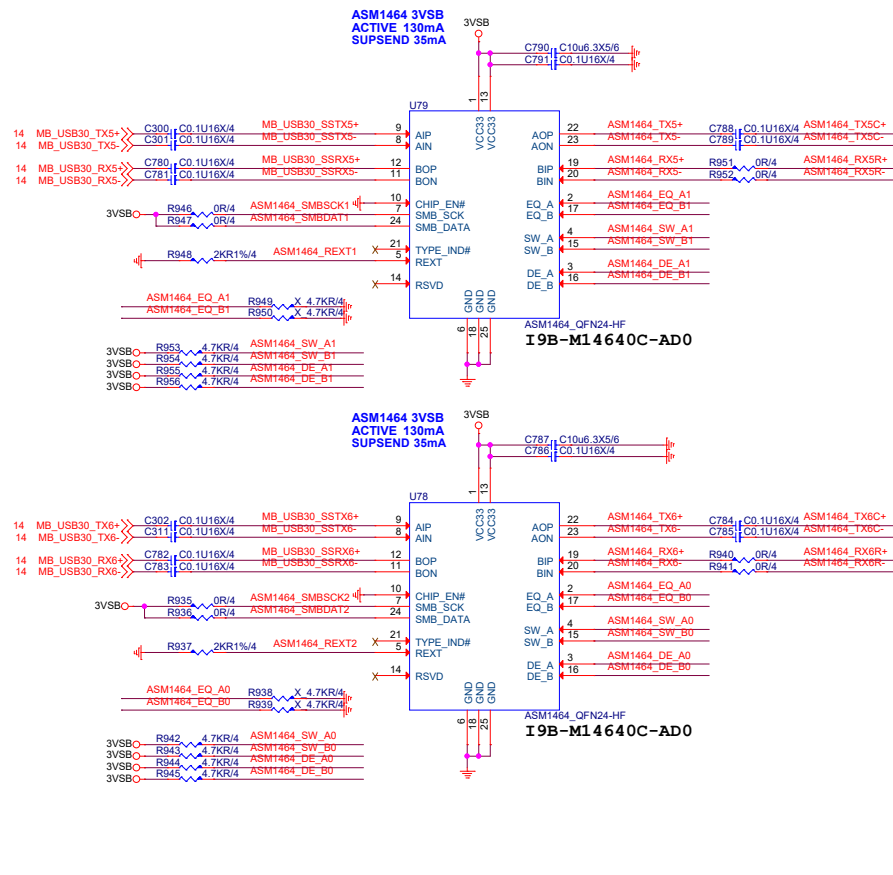
## PS2 Power



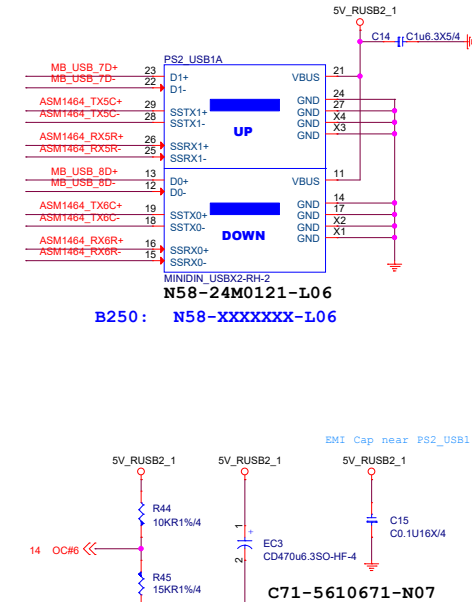
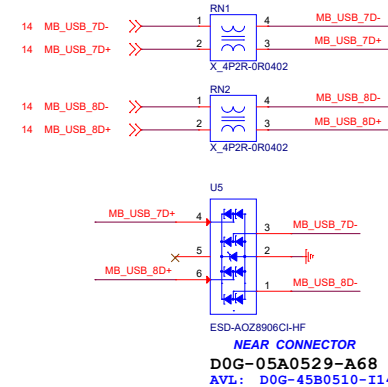
## USB MODE



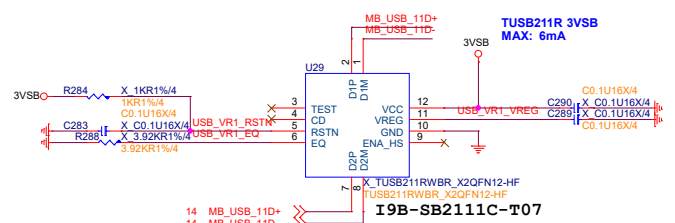
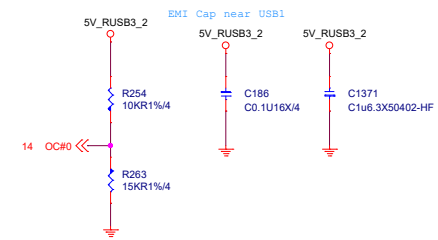
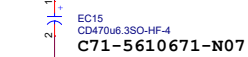
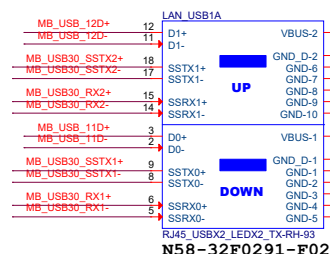
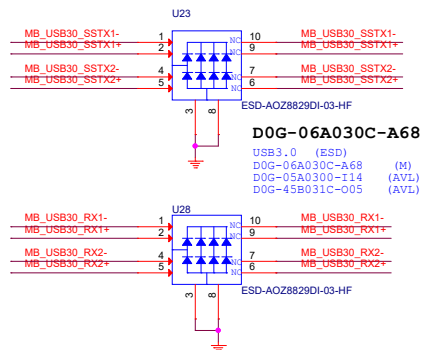
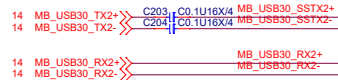
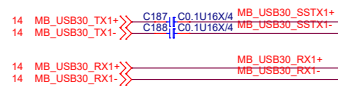
**PS2\_USB USB3.0 Port 7,8**



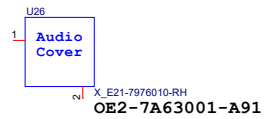
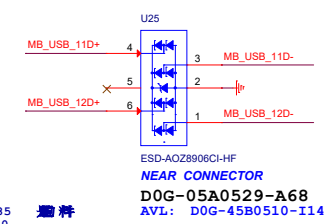
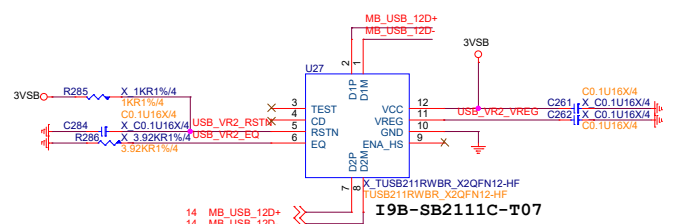
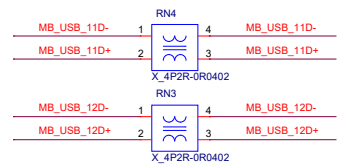
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ComChoke co-lay 4P2R-0R0402
Footprint: FILTER S4 RN4P2R COLAY
Defaule ComChoke: _L1Z-9008080-P01
4P2R-0R0402: R3C-0000012-W08
```



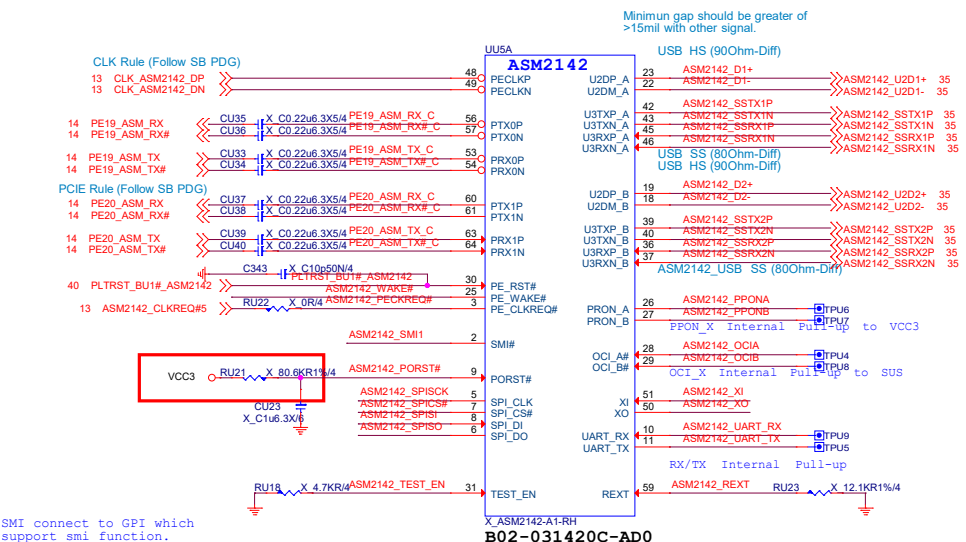
<b>MICRO-STAR INT'L CO.,LTD</b>			
<b>MS-7B48..</b>			
n	Document	Description	Rev
		<b>Rear PS2 USB1 / 3.0 Redriver</b>	1



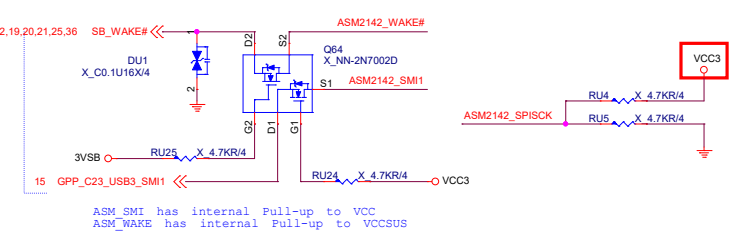
ComChoke co-lay 4P2R-0R0402  
Footprint: FILTER S4 RN4P2R COLAY  
Defaule ComChoke: L1Z-9008080-P01  
4P2R-0R0402: R3C-0000012-W08



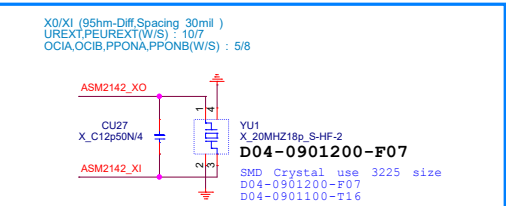
MICRO-STAR INT'L CO.,LTD		
MSI		
MS-7B48..		
Size Custom	Document Description Rear LAN_USB / VR	Rev 11
Date: Thursday, August 03, 2017		Sheet 33 of 67



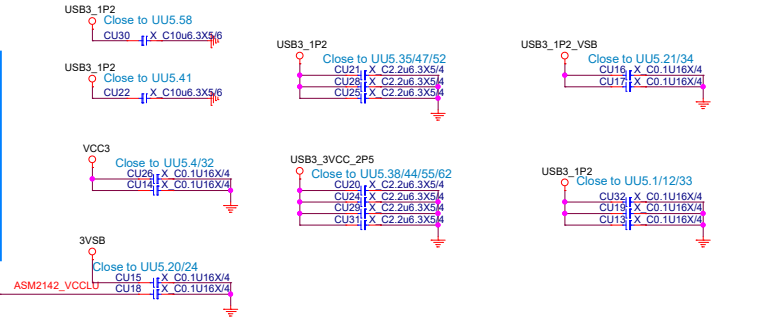
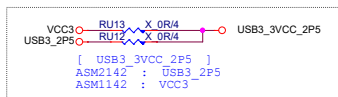
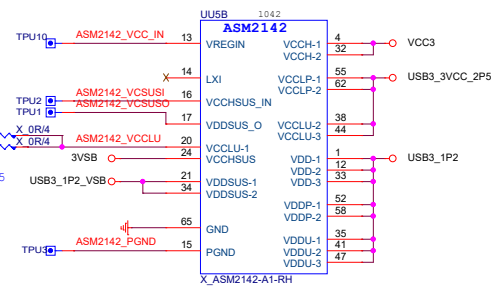
SMI connect to GPI which support smi function. SB side pull high 10K ohm to 3VSB. (Intel 8X & 9X series use GPIO10) (Intel SKL use GPP\_C23)



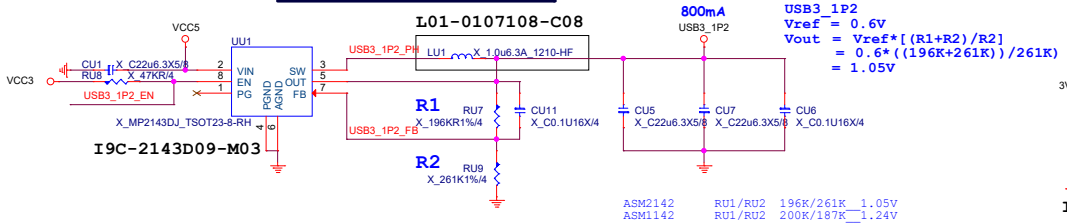
Differential pair Layout Guide:  
1.) USB3.1 to Connector Total Length < 1.5"  
2.) VIA hole < 2"



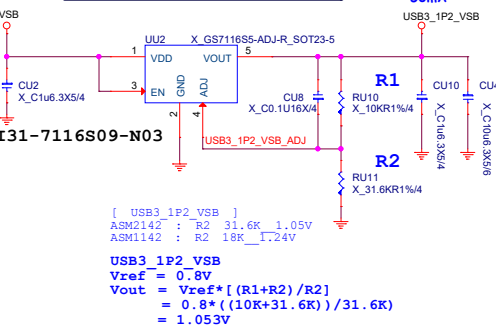
Power Consumption	3.3V	1.2V(1.05V)	3.3VSUS	1.05VSUS(1.2VSUS)	2.5V	Total Power
ASM1142	245mA	634mA	1mA	1mA	NA	1573.8(mW)
ASM2142	300mA	800mA	100mA	50mA	300mA	TDP



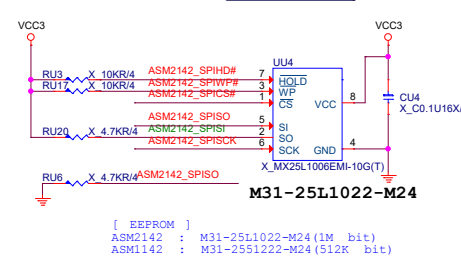
### ASM1142 1.2 VCC Power



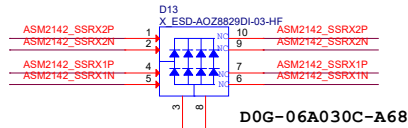
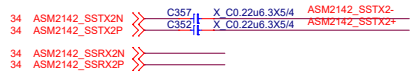
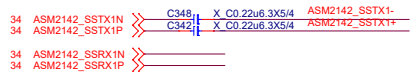
### ASM2142 1.2 VSB Power



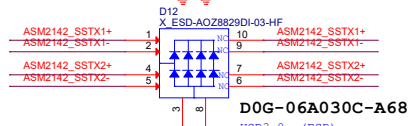
### EEPROM



# ESD Protection NEAR CONNECTOR



D0G-06A030C-A68

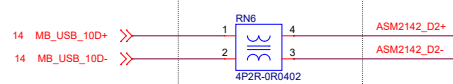
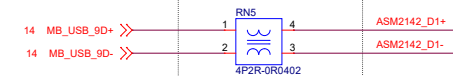
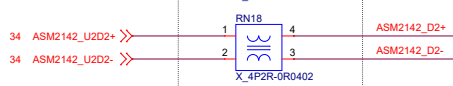
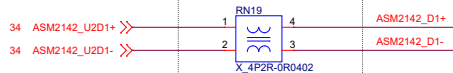


D0G-06A030C-A68

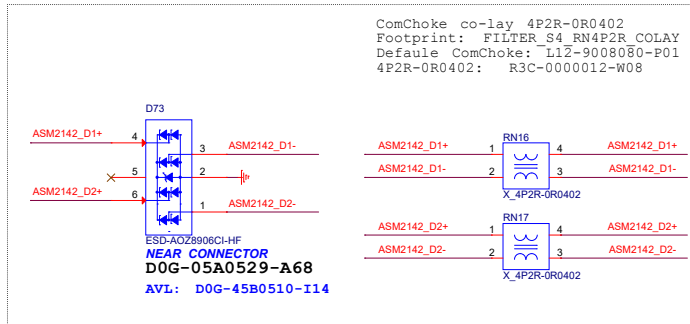
USB3.0 (ESD)  
D0G-06A050C-A68 (M)  
D0G-05A0300-I14 (AVL)  
D0G-45B031C-005 (AVL)

## NEAR UUS

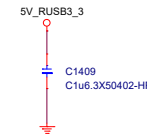
Co-layer  
USB2.0 form ASM2142  
USB2.0 from PCH



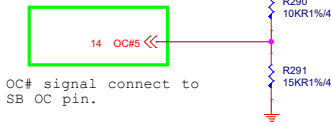
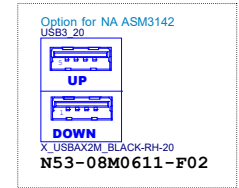
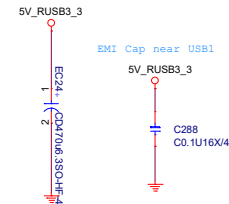
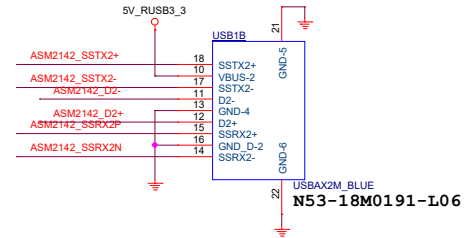
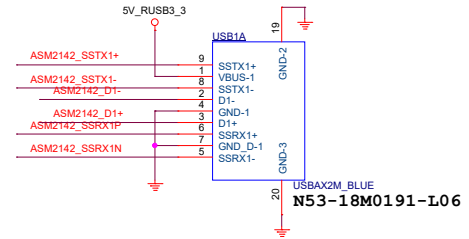
ComChoke co-layer 4P2R-0R0402  
Footprint: FILTER\_S4 RN4P2R COLAY  
Defaule ComChoke: L1Z-9008080-P01  
4P2R-0R0402: R3C-0000012-W08



ESD-AOZ8829DI-03-HF  
NEAR CONNECTOR  
D0G-05A0529-A68  
AVL: D0G-45B0510-I14

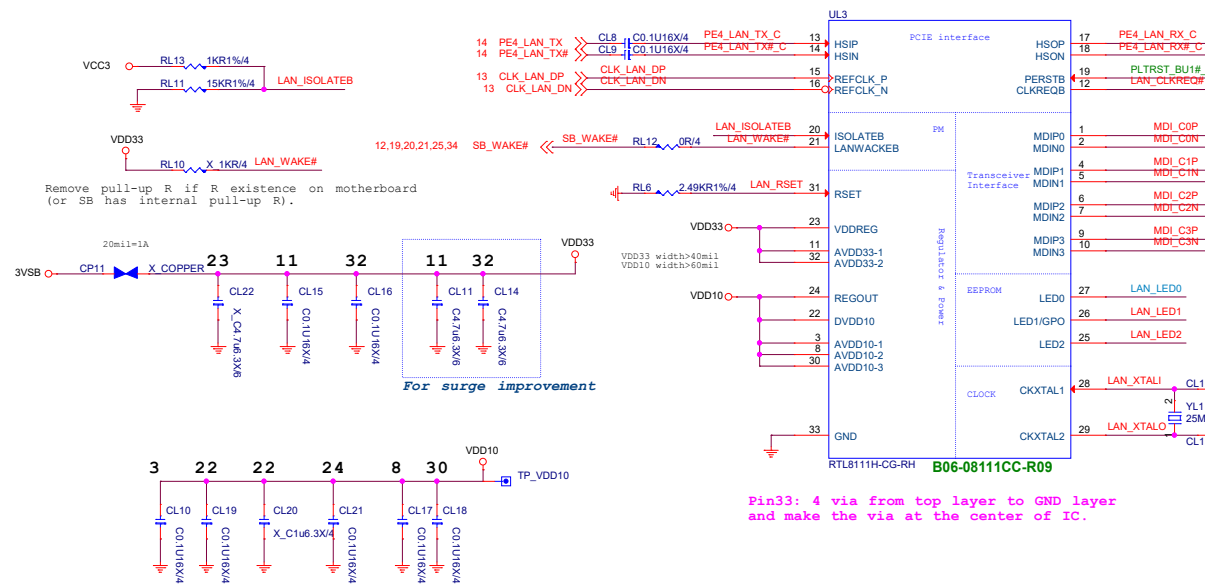


C71-5610671-N07

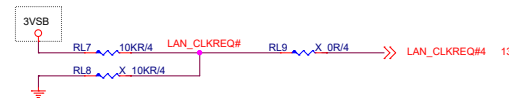


# RTL8111H Giga LAN

3.3V@177.57mA



Pull-up resistor RL9 required to either 3.3V suspend or core rail depending on the power well of the PCH input CLKREQ# buffer.

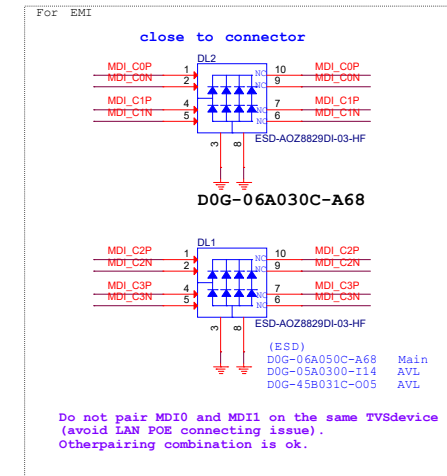
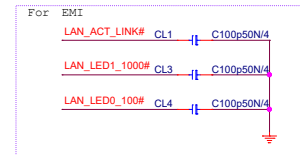
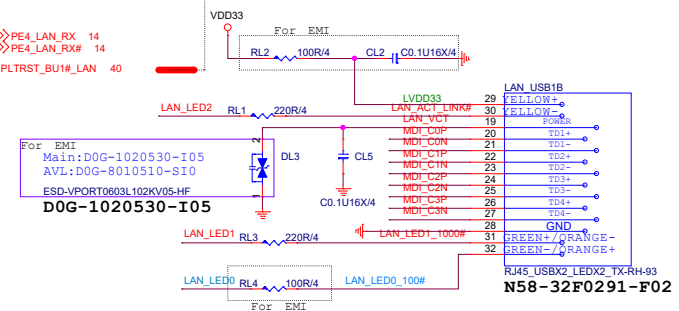


## 8111H POWER Consumption

	3.3V @ mA	mW
10 M Idle/TxRx	9.9/84.69	32.67/279.48
100 M Idle/TxRx	48.11/92.44	158.76/305.05
Giga Idle/TxRx	124.5/177.57	410.85/585.98
ALDPS	5.50	18.15

PIN19:  
INTEL platform connect to PLT\_RST#,

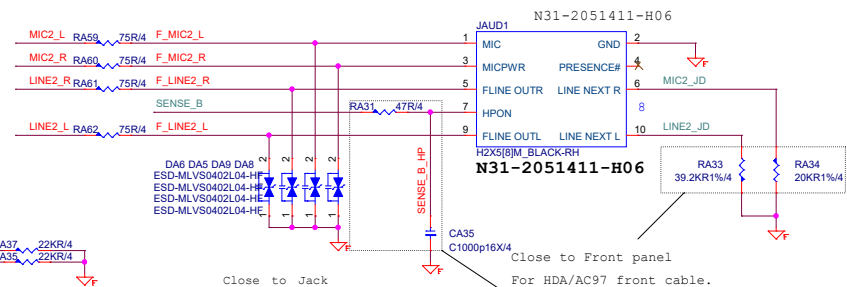
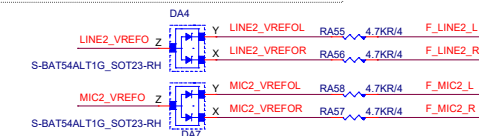
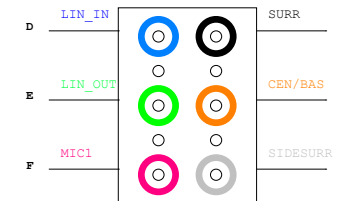
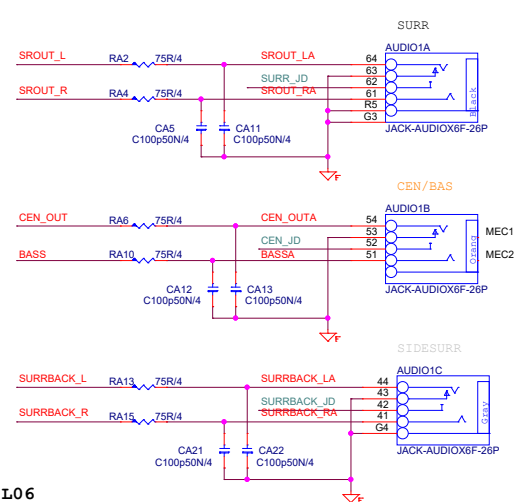
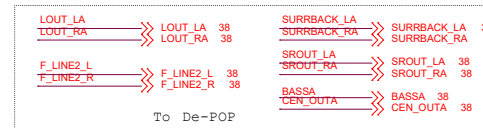
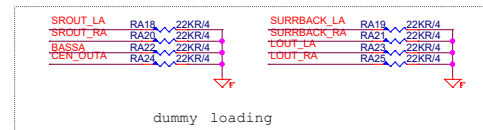
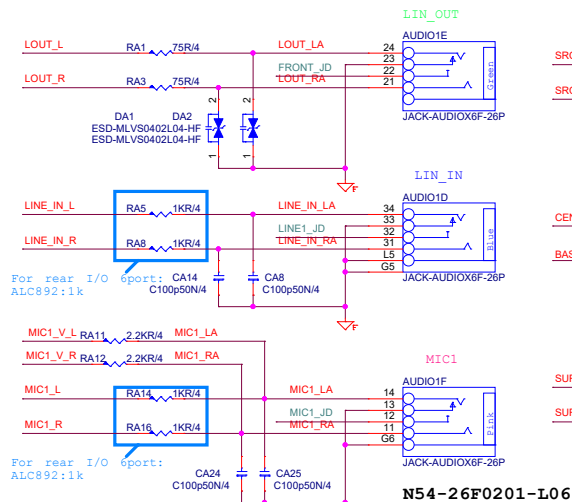
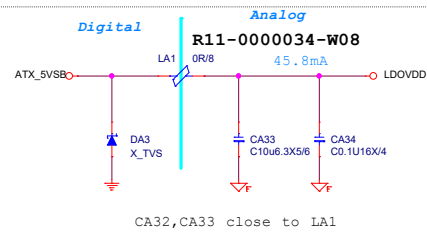
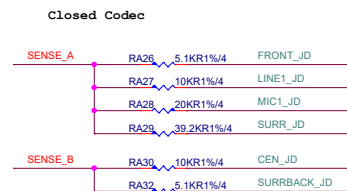
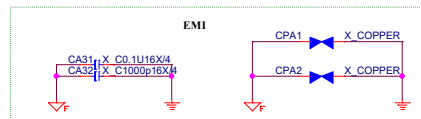
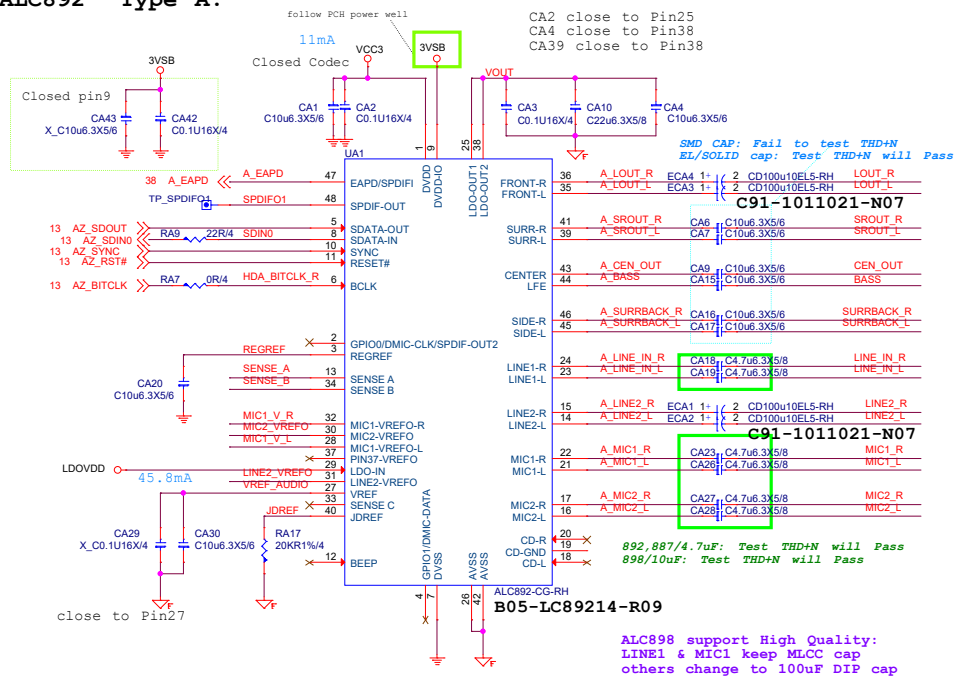
## LAN Connector



Do not pair MDI0 and MDI1 on the same TVS device (avoid LAN POE connecting issue). Otherpairing combination is ok.

MSI		MICRO-STAR INT'L CO.,LTD	
MS-7B48..		Rev 11	
Size Custom	Document Description	LAN-RTL8111H	
Date: Thursday, August 03, 2017		Sheet 36 of 67	

## ALC892 Type A:



**ESD protect**  
D0G-2710510-I05  
avl:D0G-2950500-SI0

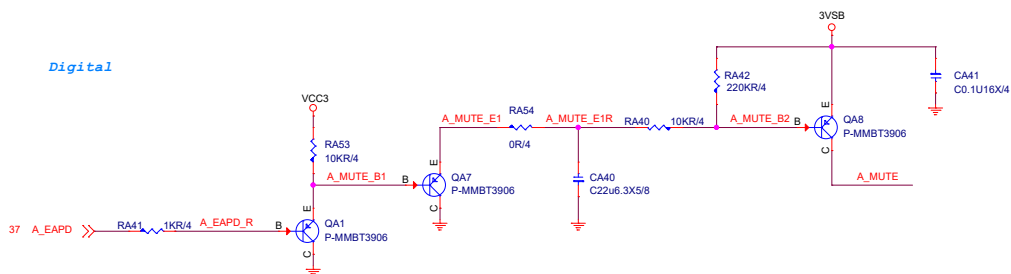


<b>MICRO-STAR INT'L CO.,LTD</b>			
<b>MS-7B48..</b>			
Size Custom	Document Description <b>AUDIO ALC892</b>		Rev 11
Date: Thursday, August 03, 2017		Sheet 37	of 67

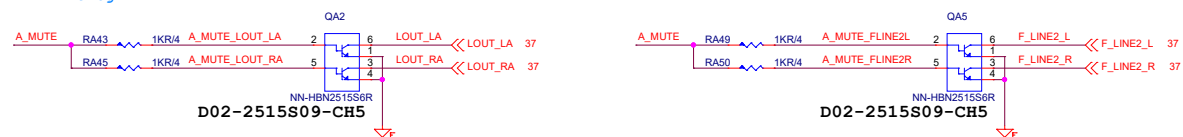


**Rear Line OUT De-POP circuit**  
*(De-pop circuit for Rear Line out & Front Headphone out)*

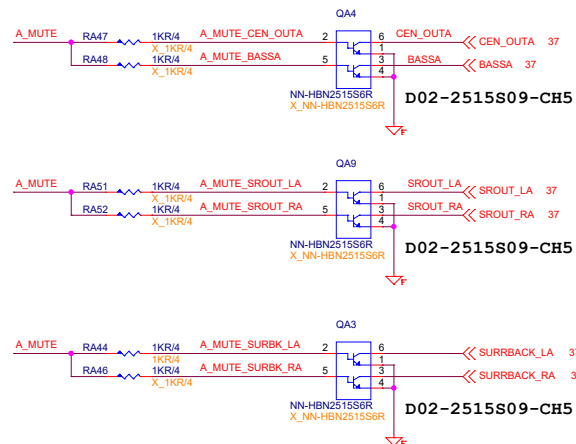
Digital



Analog



*(add de-pop circuit by PM spec or customer request,  
 NOTE: add de-pop circuit need to change CA5,CA11, CA12, CA13, CA21, CA22 to TVS)*




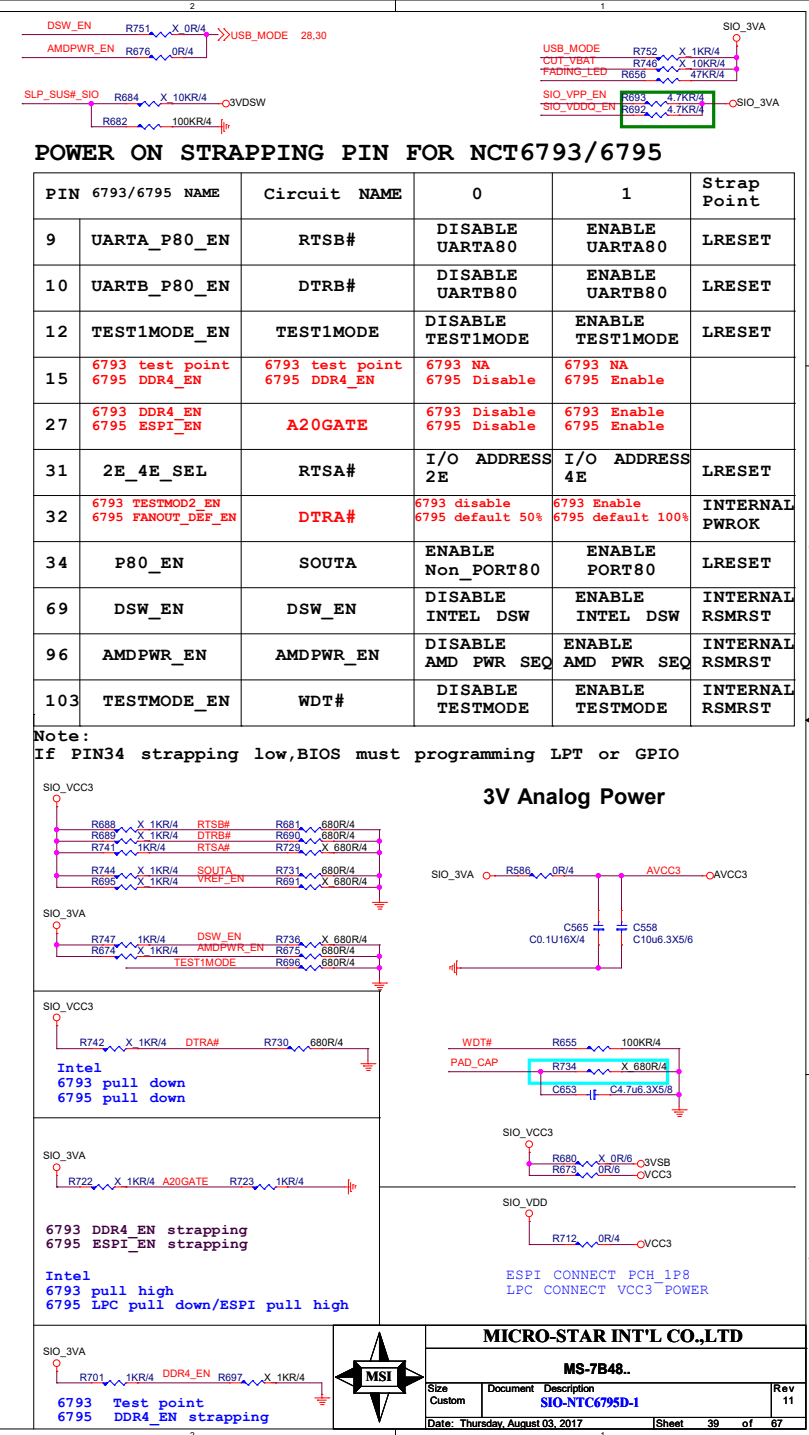
History:

2014/02/13: stuff de-pop circuit of Line out & HP out.

2014/09/11:  
 RNA1 change to  
 RA55/RA56/RA58/RA57  
 RNA2 change to  
 RA59/RA60/RA61/RA62

2015/11/09:  
 esd p/n m:D0G-2710510-I05;av1:D0G-2950500-SI0

	<b>MICRO-STAR INT'L CO.,LTD</b>				
	<b>MS-7B48..</b>				
	Size	Document	Description		Rev
	Custom		<b>AUDIO ALC892 De-POP</b>		11
	Date: Thursday, August 03, 2017			Sheet 38 of 67	



SIO HM Voltage voer 2V will not detect



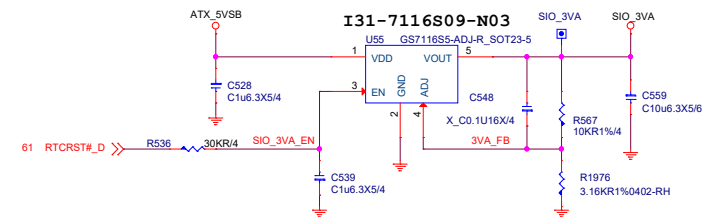
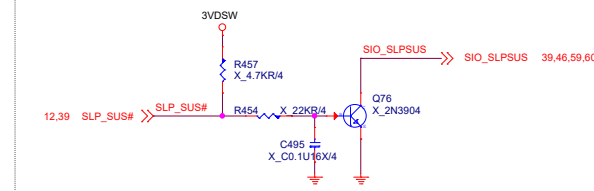
D02-0390629-005



SIO\_VCC3

R743	X 2.7KR/4	SINA
R728	X 2.7KR/4	CTSA#
R733	X 2.7KR/4	RIA#
R732	X 2.7KR/4	DCDA#
R740	X 2.7KR/4	DSRA#

NO USE UART PORT1



**MICRO-STAR INT'L CO.,LTD**

**MS-7B48..**

Size Custom	Document Description <b>SIO-NTC6795D-2</b>
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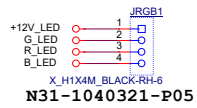
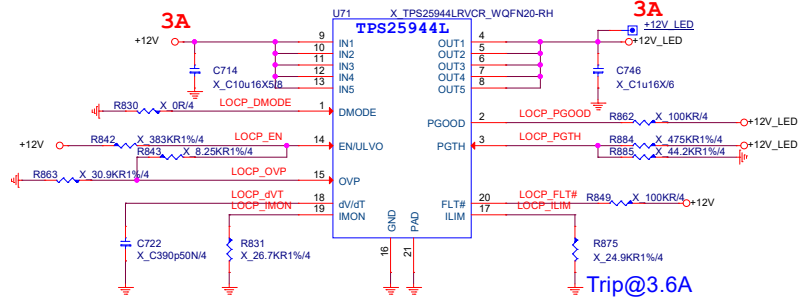
Date: Thursday, August 03, 2017	Sheet 40 of 67
---------------------------------	----------------

LED Light bar 3A OCP

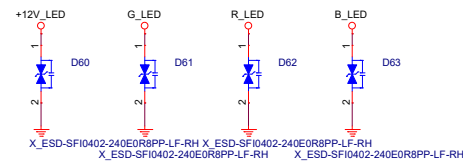
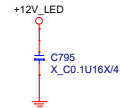
2016.08.06 Use TPS25944L

I36-259440C-T07

RVCR\_WQFN20-RH

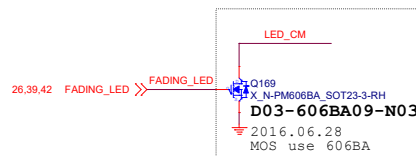
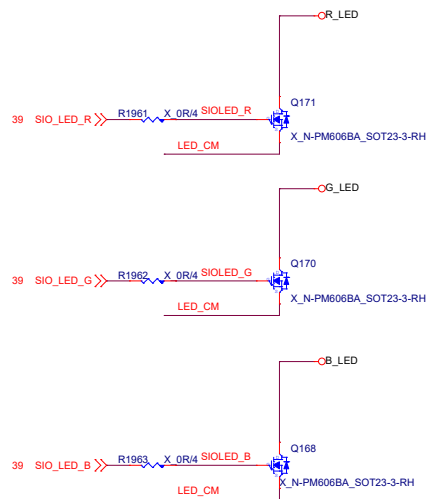


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2016.08.02
Add +12V_LED 0.1uF
```



D0G-0402200-SI0

2016.08.02 stuff ESD, ESD > 16V



**MICRO-STAR INT'L CO.,LTD**

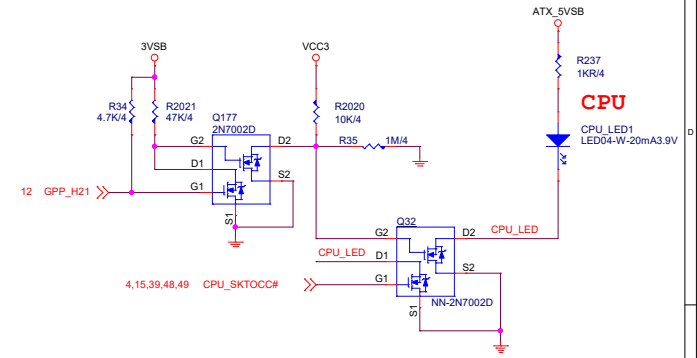
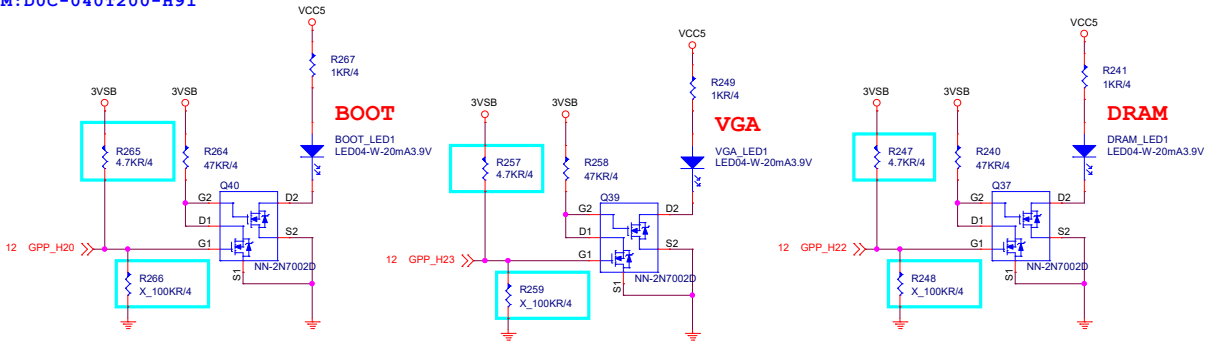
**MS-7B48..**

Size Custom	Document Description <b>LED-BOT/AUD/LBAR</b>	Rev 11
Date: Thursday, August 03, 2017		Sheet 41 of 67

Date: Thursday, August 03, 2017	Sheet 41 of 67
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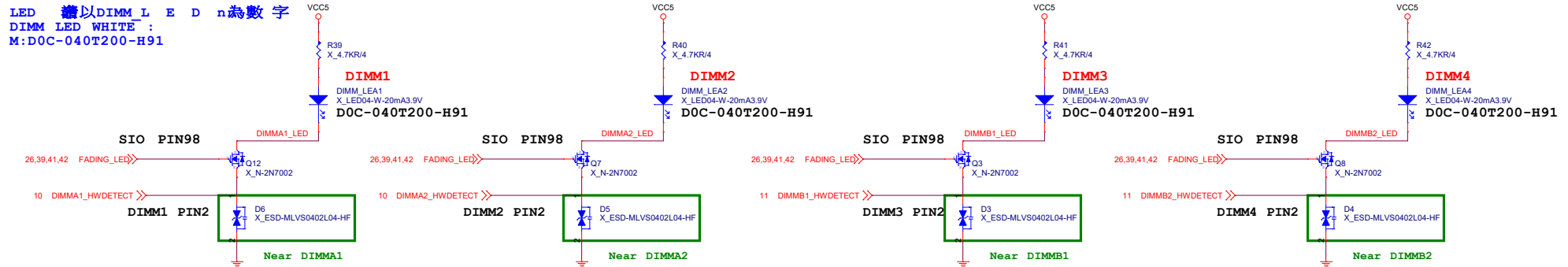
## EZ Debug

EZ Debug LED WHITE :  
M:D0C-040T200-H91



## DIMM

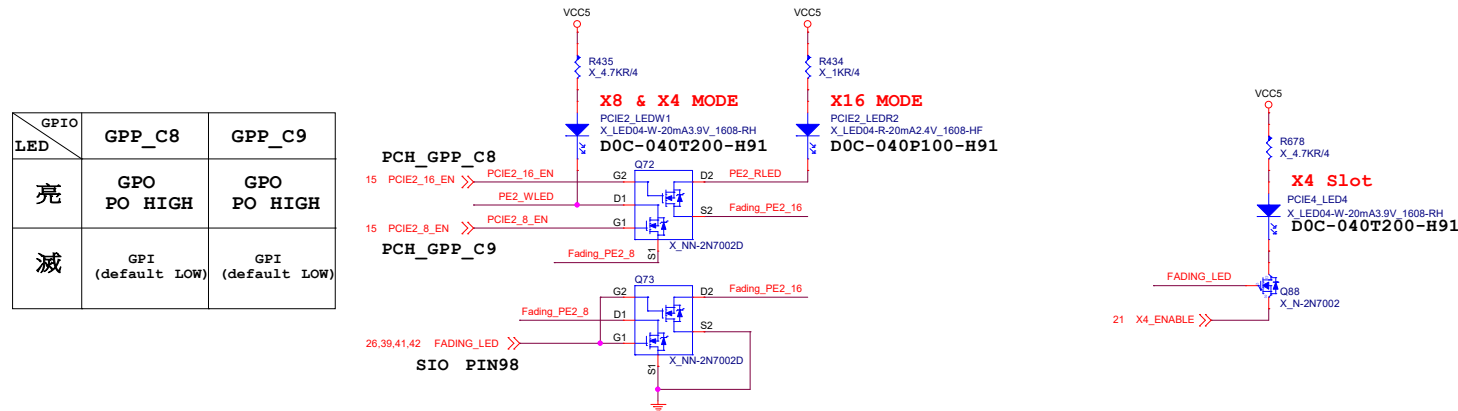
LED 續以DIMM L E D n為數字  
DIMM LED WHITE :  
M:D0C-040T200-H91



## PCIE

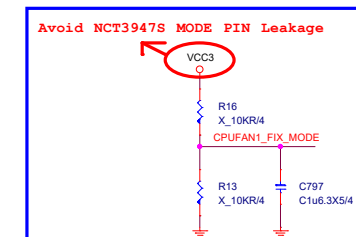
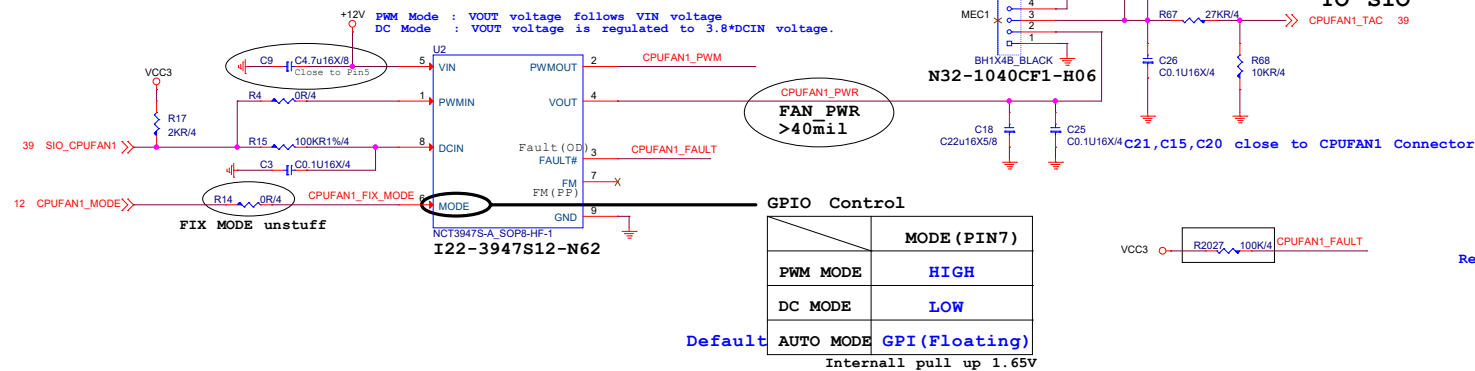
### PCIE SLOT LED

PCIE SLOT LED 續以PCIE L E D nn為數字  
PCIE x16 紅 : M:D0C-040P100-H91 / S:D0C-040S500-E07  
PCIE x4 白 : D0C-040T200-H91 / S:D0C-040S200-E07  
PCIE x1 白 : D0C-040T200-H91 / S:D0C-040S200-E07



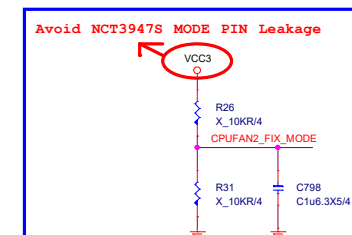
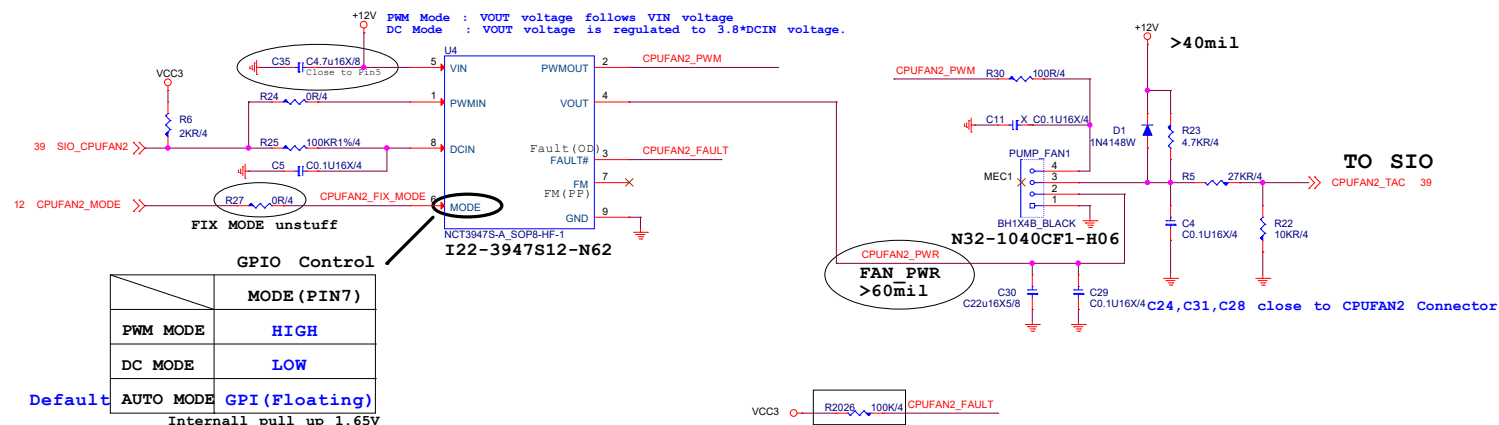
```
TYPE K : 4 PIN CPU FAN USE NCT3947S USE PCH GPIO CONTROL FAN MODE
```

1. PWM/DC/OCF LED (變成 RGB 色 L E D)
2. GPIO 由 B 切換 PW M/DC MODE
3. OCF 扣回 GPD 給 B D 認
4. PWM OR DC FAN GPIO 給 B S 認
5. FAN 轉動的時候由 S O F T W A R E 控制 G P D 讓的變上



Resever For FIX DC or PWM MODE USE By PM SPEC

## TYPEK : 4 PIN CPU FAN USE NCT3947S USE PCH GPIO CONTROL FAN MODE (2A pump FAN)



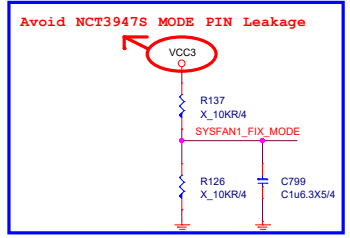
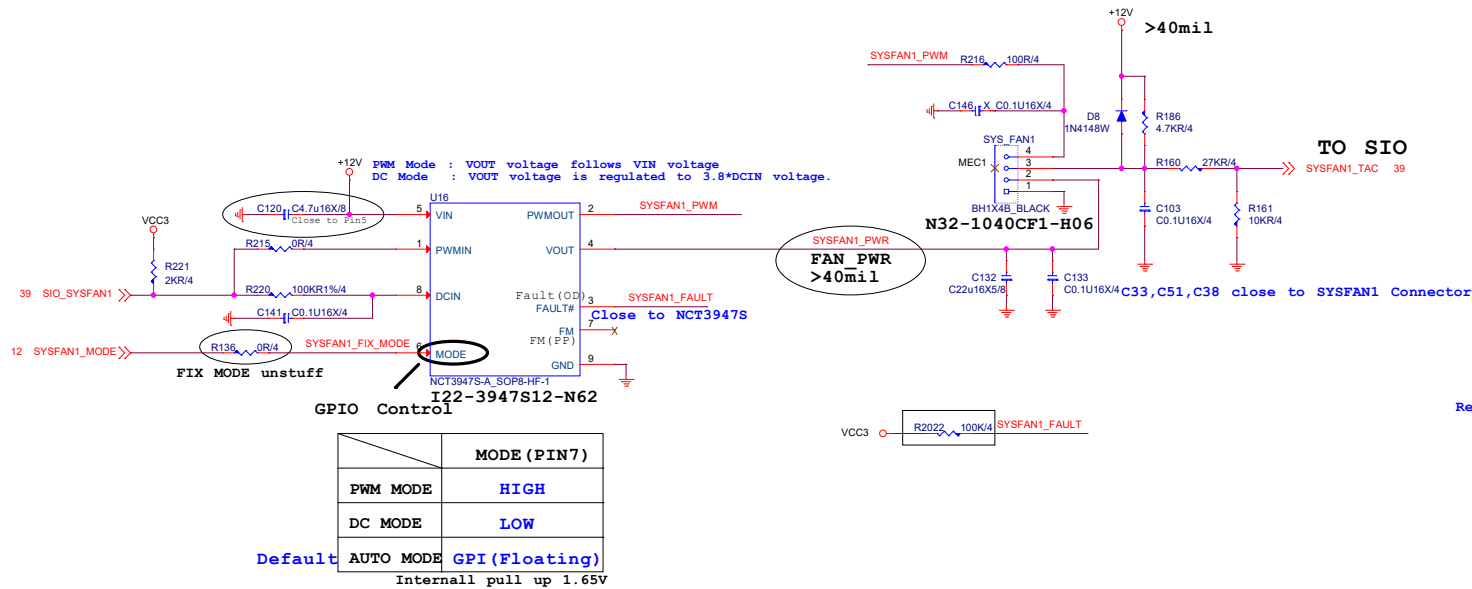
Resever For FIX DC or PWM MODE USE By PM SPEC

- 1.MODE : USE MODE PIN change FAN MODE(PWM or DC FAN)  
2.FAULT : USE FAULT PIN Triger OVT/OC Protection,LOW Atcive (Reserve NEW IC)  
3.FM : USE FM PIN For BIOS USE to Detect PWM or DC FAN & Show information(Reserve NEW IC)

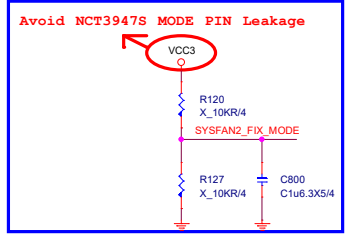
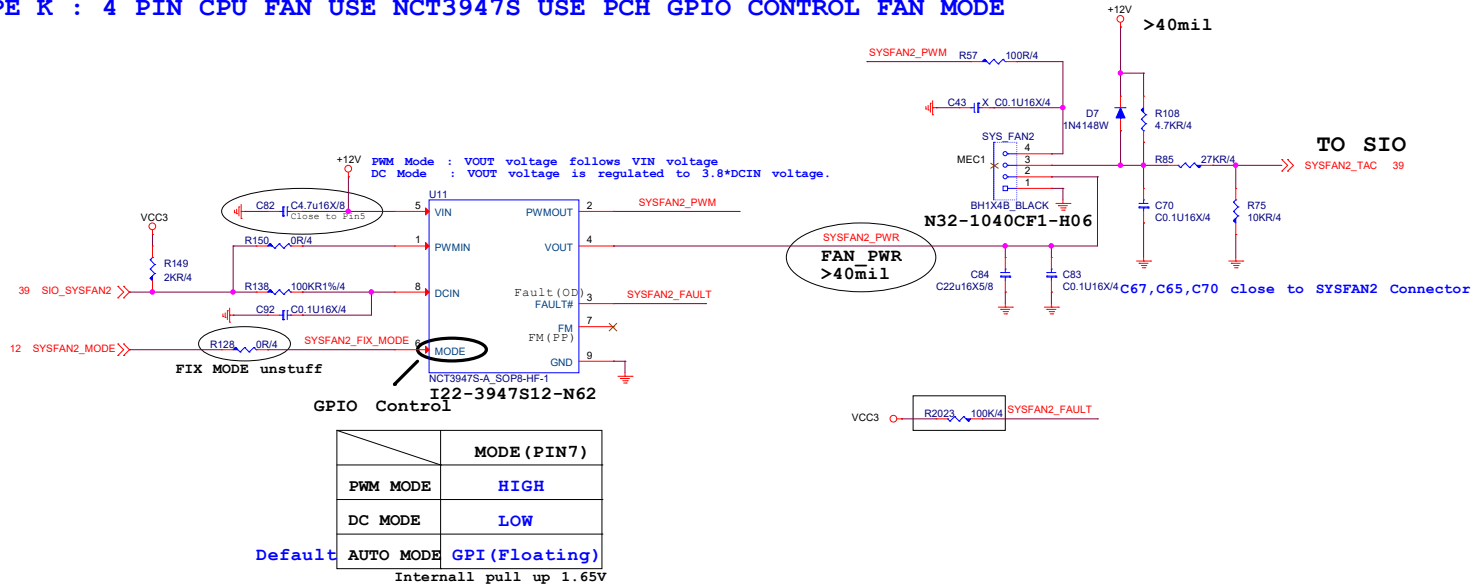


<b>MICRO-STAR INT'L CO.,LTD</b>			
<b>MS-7B4..</b>			
Size Custom	Document	Description <b>CPU FAN1 / PUMP_FAN1</b>	Re 1
Date: Thursday, August 03, 2017		Sheet 43 of 67	

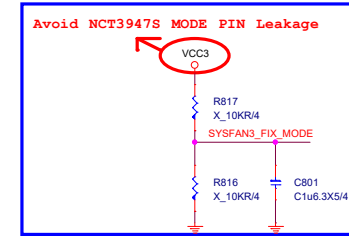
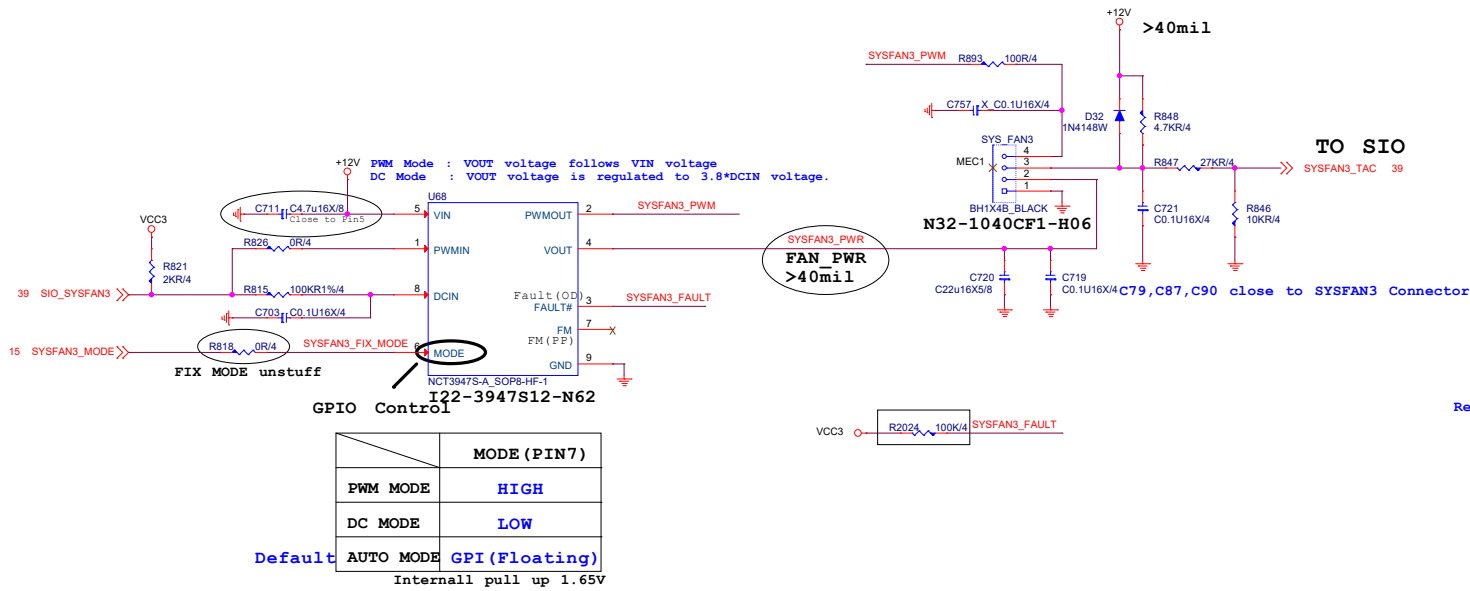
TYPE K : 4 PIN CPU FAN USE NCT3947S USE PCH GPIO CONTROL FAN MODE



TYPE K : 4 PIN CPU FAN USE NCT3947S USE PCH GPIO CONTROL FAN MODE

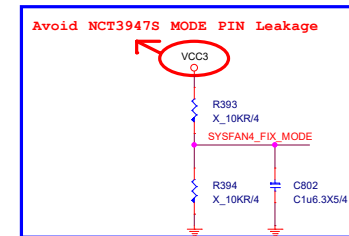
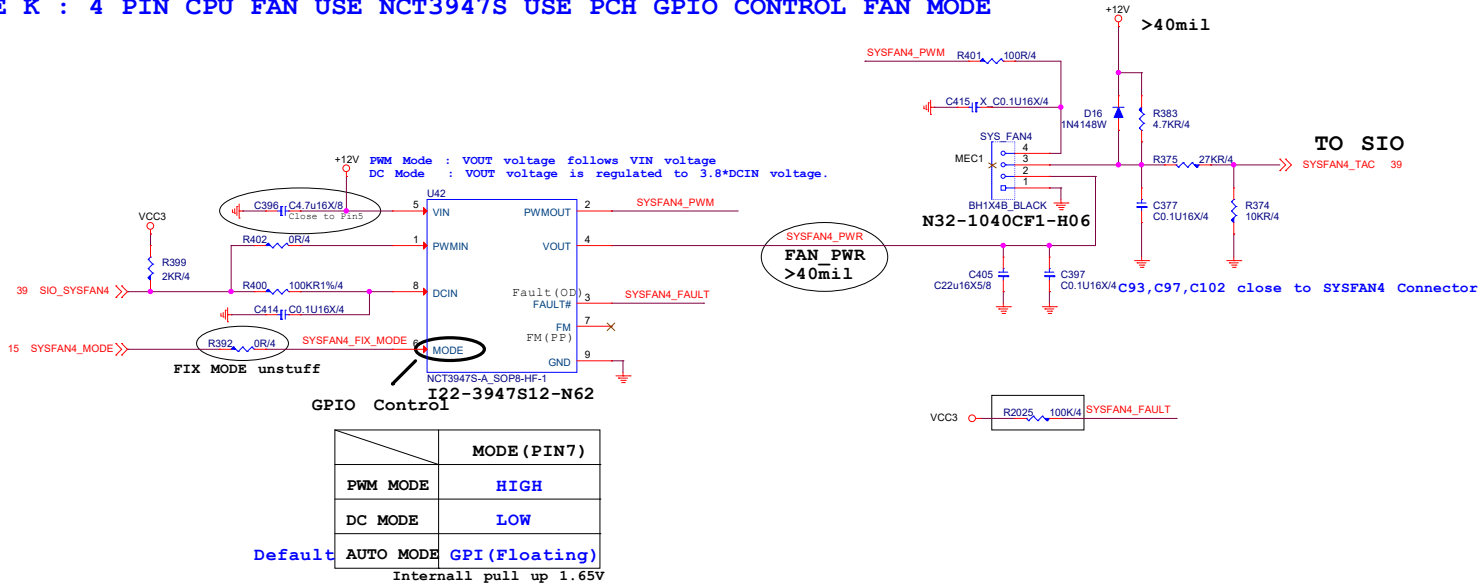


TYPE K : 4 PIN CPU FAN USE NCT3947S USE PCH GPIO CONTROL FAN MODE



Resever For FIX DC or PWM MODE USE By PM SPEC

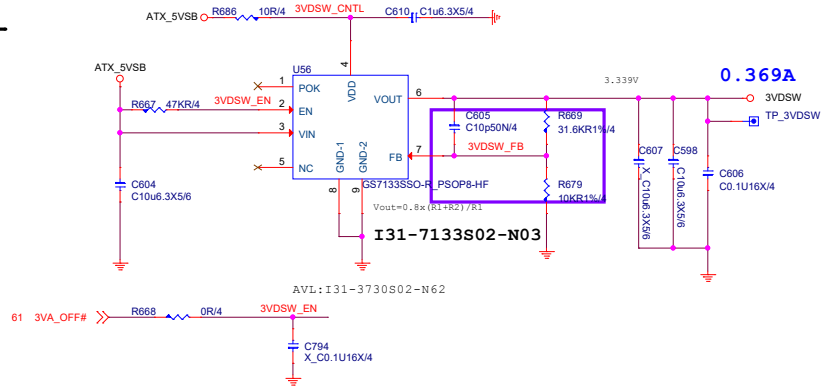
TYPE K : 4 PIN CPU FAN USE NCT3947S USE PCH GPIO CONTROL FAN MODE



Resever For FIX DC or PWM MODE USE By PM SPEC

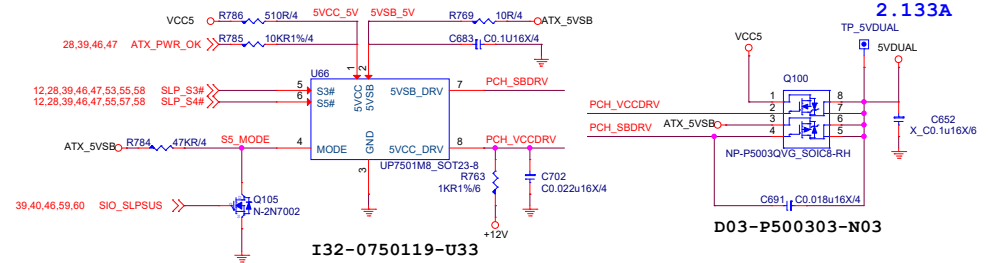


## 3VDSW

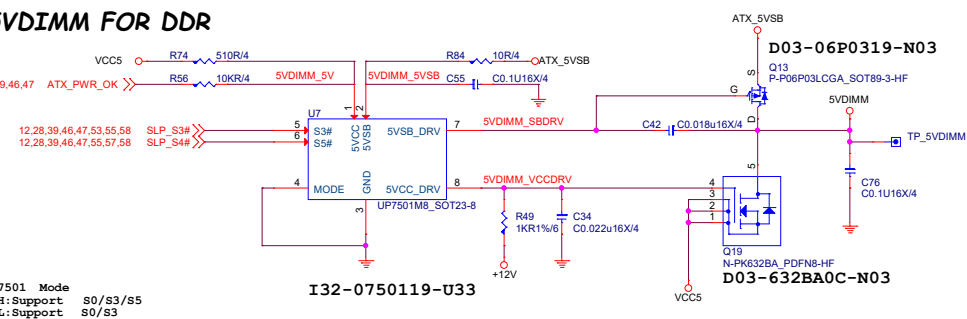


## 5VDUAL

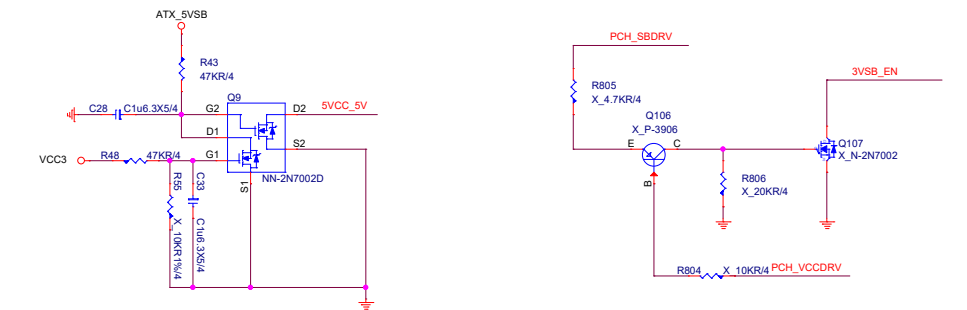
5VDUAL is power source of 1F0SB



## 5VDIMM FOR DDR

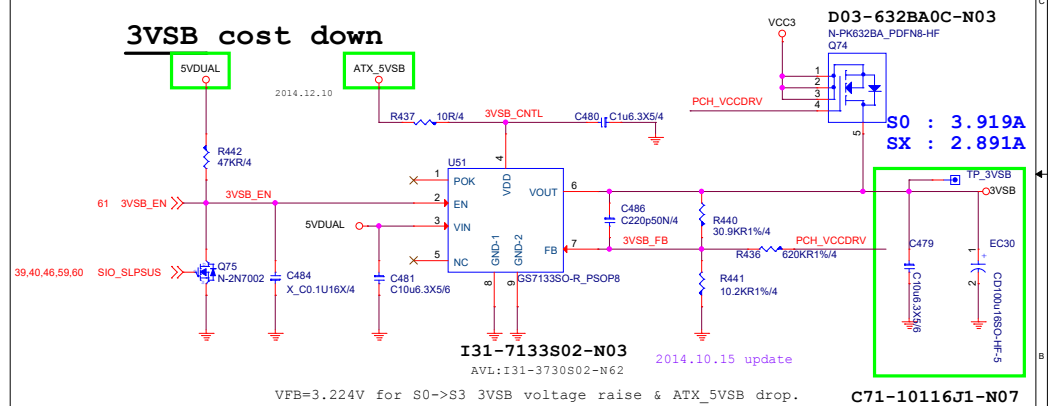


7501 Mode  
H:Support s0/s3/s5  
L:Support s0/s3



防G3--->S3底下5VSB驱动电路有电使下一级电路有驱动

## 3VSB cost down



VFB=3.224V for S0->S3 3VSB voltage raise & ATX\_5VSB drop.

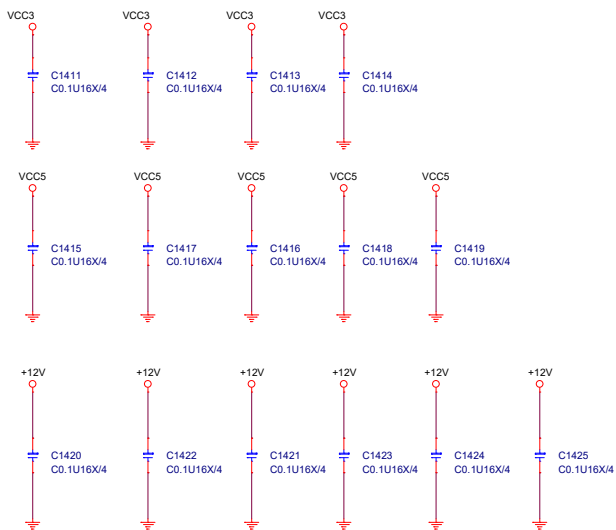
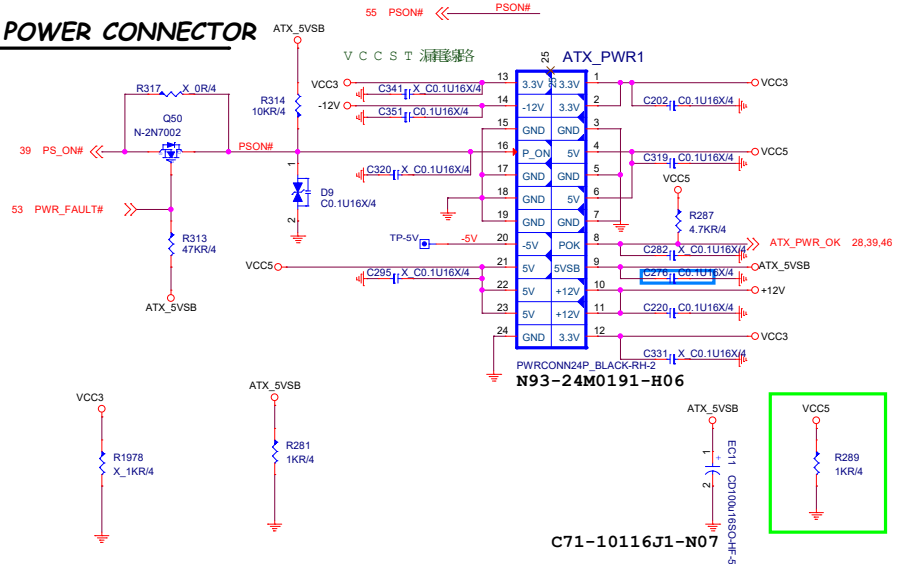


MICRO-STAR INT'L CO.,LTD

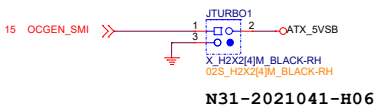
MS-7B48..

Size	Document	Description	Rev
Custom	ACPI UPI POWER		11
Date: Thursday, August 03, 2017	Sheet	46 of 67	

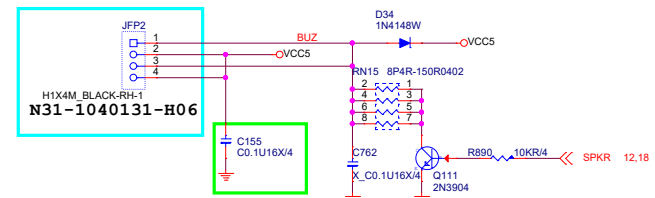
## ATX POWER CONNECTOR



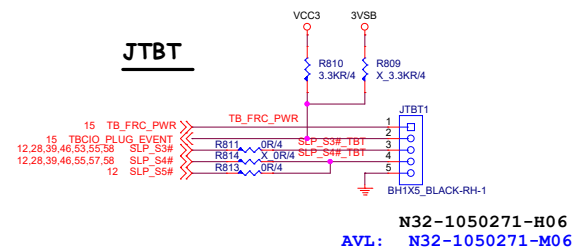
### External Turbo switch pin header



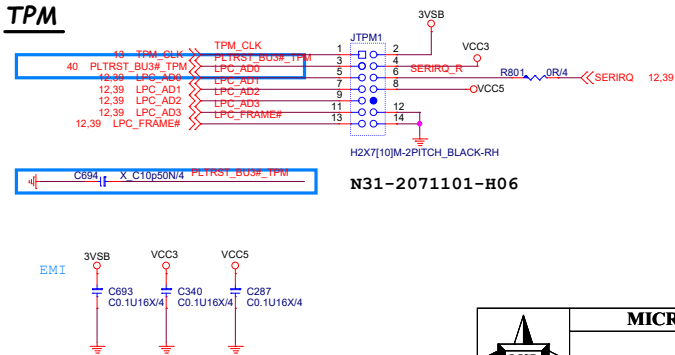
### Front Panel



**JTBT**



TPM



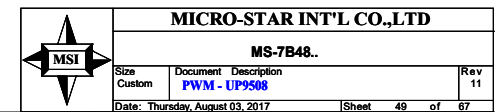
**MICRO-STAR INT'L CO.,LTD**

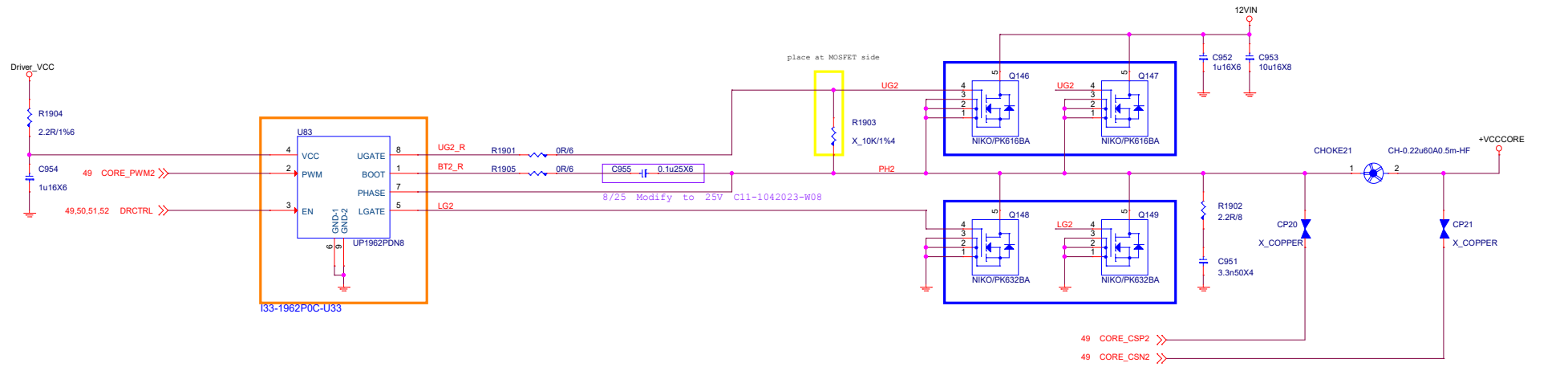
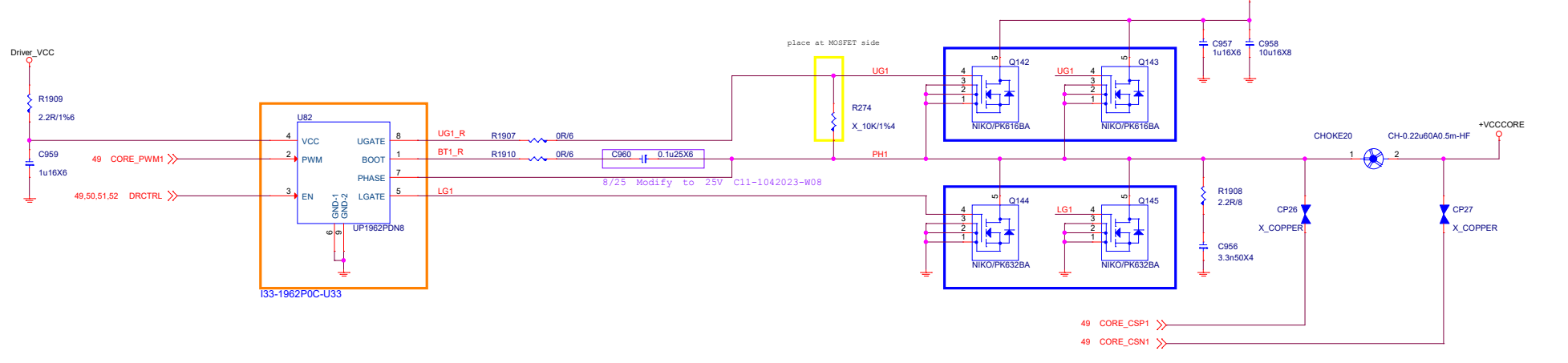
MS-7B48..

Size Custom	Document Description <b>ATX Power/F_Panel/JTPM/JTBT</b>	Rev 11
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VGT: ICC Max 45A  
LL: 3.1 mohm  
OCP: 75A



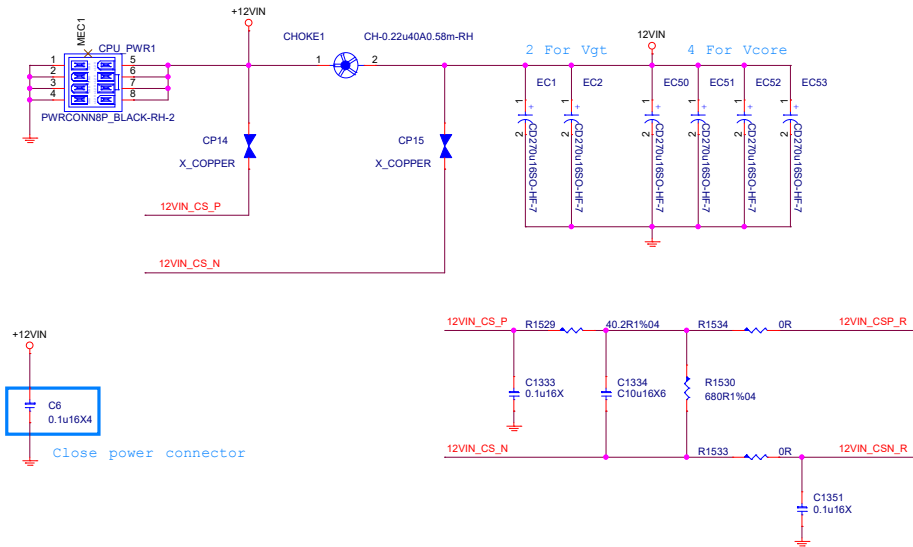




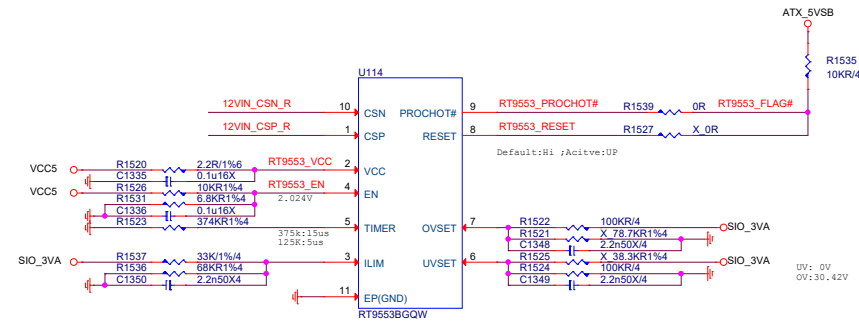


## ATX POWER CONNECTOR

Iripple = 27.04A  
 Vcore = 17.25A  
 VGT = 9.79A

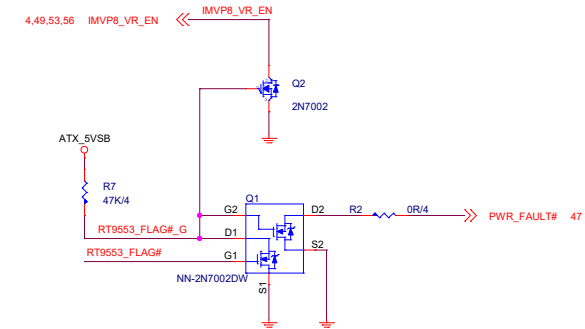
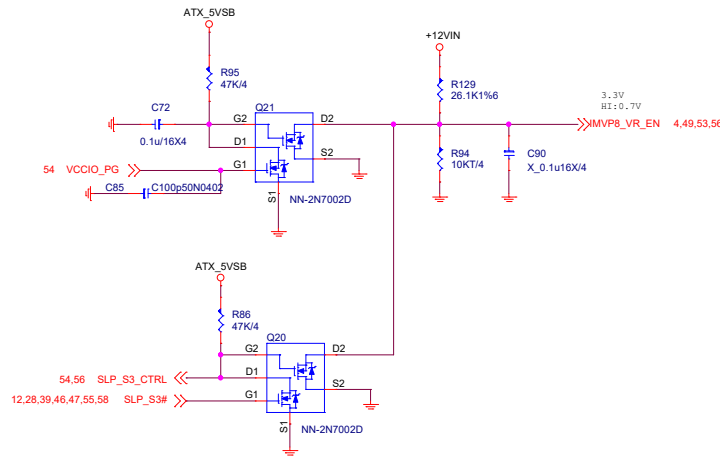


## RT9553B CURRENT SENSE



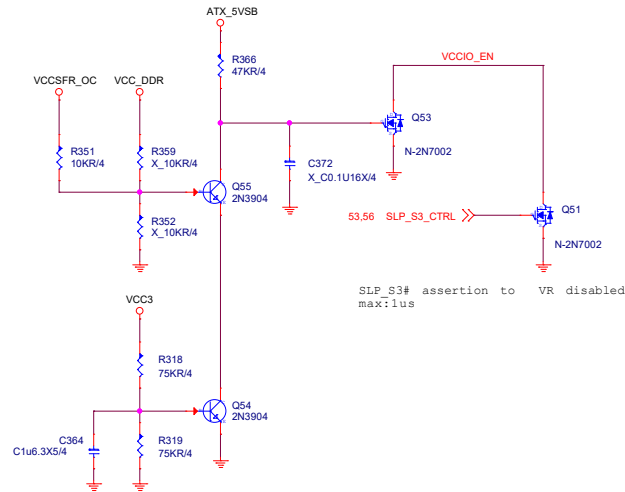
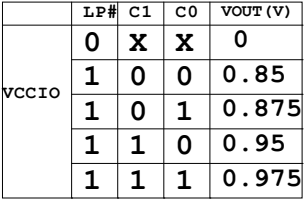
OCP:30A  
 Real OCP:30.05A  
 $R17+R18 > 100k$   $V_{sio\_3va} = 3.33V$   $R_{dcr} = 0.58 \text{ mohm}$

$I3933\_imon * [R17 * R18 / (R17 + R18)] = Istep * R_{dcr} * 100$   
 $I3933\_imon = 10uA/step$   
 $Istep = 4.785A$





0.95V; 5.5A      IMAX 6A  
ILIMIT=8.5~9A



Size	Document Description
Custom	<b>CPU PWR_VCCIO - NB681G</b>

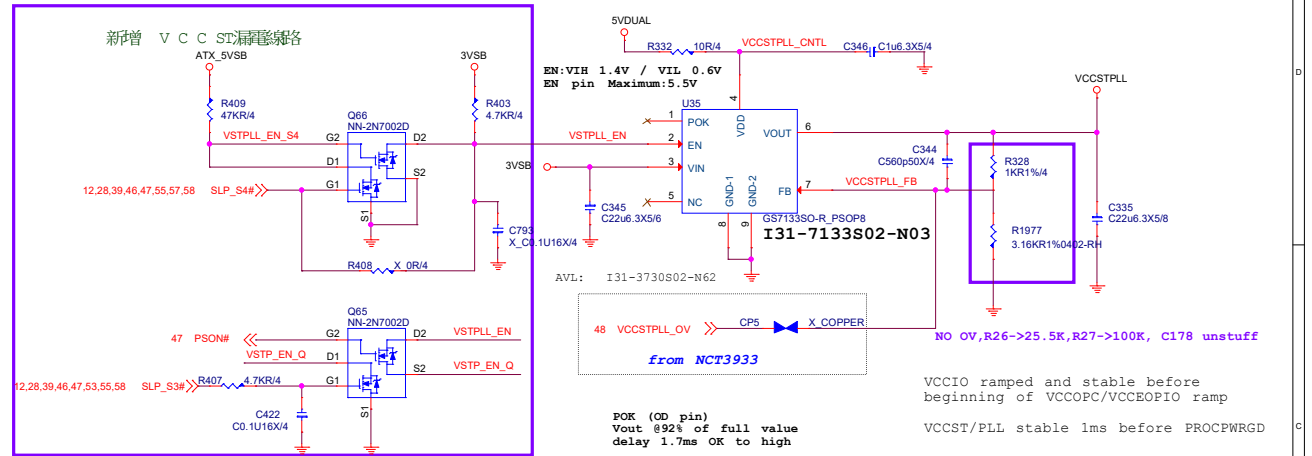
Date: Thursday, August 03, 2017	Sheet 54 of 67
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# VCCSTPLL

1.0V; 250mA

For Cost down VCCST&VCCPLL merge

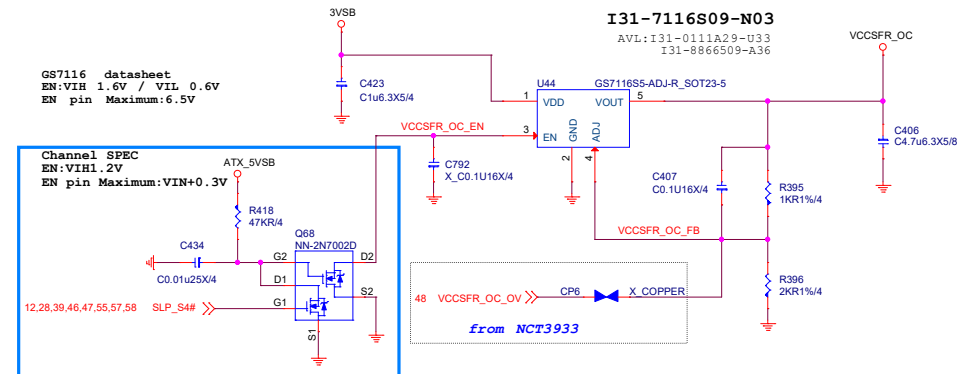
for Gaming3/5, Classic, ECO  
and H110



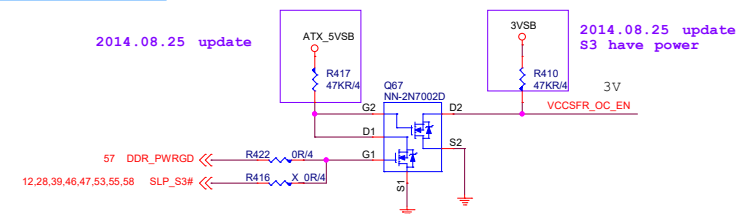
# VCCPLL OC

1.2V; 110mA

2014.08.21 update



2014.08.25 update



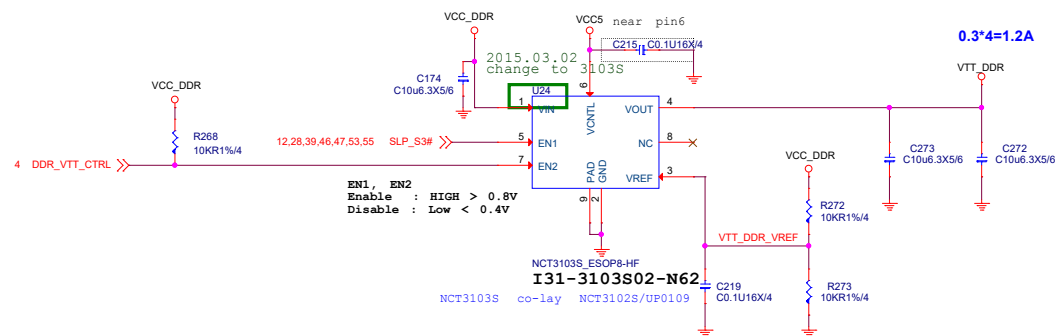
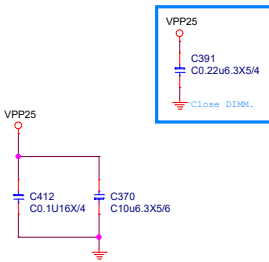
MICRO-STAR INT'L CO.,LTD		
MS-7B48..		
Size	Document Description	Rev
Custom	CPU PWR ST/PLL	11
Date: Thursday, August 03, 2017	Sheet 55 of 67	



```
Rdson (low) 4.5V
D03-4C05N03-005 : 5 mohm
D03-632BA0C-N03 : 4.6mohm
D03-3056M00-U47 : 6.2mohm
```



**VPP25 Power**  
2.5V; 2.24A



**MS-7B48..**

Size Custom	Document Description <b>DDR4 Power-VPP25</b>	Rev 11
Date: Thursday, August 03, 2017		Sheet 58 of 67

# PCH 1VSB

1.0V; 11A

OCF = 16.69A

OCF = 10uA\*7.68K / 4.6 mohm  
= 16.69 A

Rocs:7.87K,OCF:

D03-4C05N03-005 : 15.74A

D03-632BA0C-N03 : 17.1A

use UBIQ MOS need Check

Rdson(low side mosfet)4.5V

D03-3116M00-U47 : 3.6 mohm

D03-632BA0C-N03 : 4.6mohm

D03-3056M00-U47 : 6.2mohm

EN:VIH 2.4V / VIL 0.4V  
EN pin Maximum:5.5V  
Internal Pull-high

2014.08.21 update

PCH\_REFOUT

PCH\_REFIN

PCH\_SWIC\_VCC

PCH\_BOOT

PCH\_PHASE

PCH\_UGATE

PCH\_LGATE

PCH\_CORE\_FB

PCH\_CORE\_FB\_RC

PCH\_CORE\_FB\_CP

PCH\_1VSB\_EN

PCH\_1VSB

PCH\_1VSB\_EN

PCH\_1VSB

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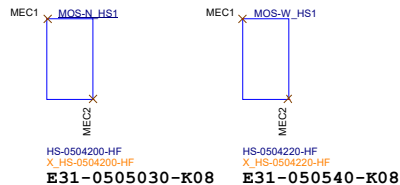
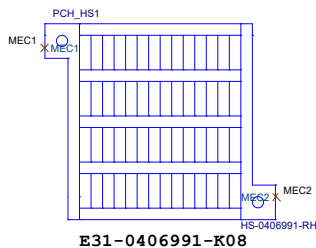




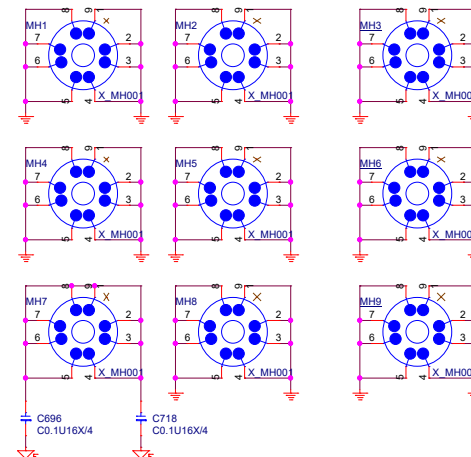
7B48\_10  
**PK0-07B4810-G37**  
PK0-07B4810-E48, 華, 23 爾斯邁廠 MS  
PK0-07B4810-G37, 精深圳 爾斯邁廠 MS

### CPU Socket metal sheet

CPU\_H1  
**CPU 鐵座**  
CPU\_H1 (PT44A34-641C)  
**E21-7869020-F02**



### Mounting Holes



### BIOS Label

AMI\_LABEL  
**AMI BIOS LABEL**  
BIOS\_LABEL  
**G51-M1SPXXA-A09**

PCH  
OPT\_B250  
**B250**  
X\_B250  
**B01-82B2505-I06**

H270  
**H270**  
X\_GL82H270-RH  
**B01-82H2705-I06**

### USB3.1 Label

LABEL1  
**Label**  
X\_USB3.1  
**G51-M1SPG42-Q13**

### MARKET Label 1

MKT\_LABEL1  
**MKT**  
X\_MKT\_Channel\_Z370-A PRO  
**G51-M1SPL93-Q13**

### MARKET Label2

MKT\_LABEL2  
**MKT**  
X\_MKT\_MCJ\_Z370-S01A  
**G51-M1SPL92-Q13**

### Simulation



### Test point



### Optical Fiducial Marks-120

