MS-7C31

ATX:226mm*185mm

Ver: 1.0

Intel -CoffeeLake-S plamform

CPU:

LGA1151

*CPU POWER PAK *4 Phase*

*GT POWER PAK *2 Phase*

System Chipset:

Cannon Lake B360

Onboard Chip:

SIO: NCT5567D colay NCT5565D
HD Audio Codec: ALC887
LAN: RTL8111H
Flash ROM: SPI 128 MB
DP to VGA: RTD2166

PWM:

VCORE - RT3607	*138A*
DDR - RT8231	*11.525A*
DDR VPP25- MP2333H	*1.12A*
PCH(1V) - RT8125E	*10.743A*
VCCSA - MP8712	*11.1A*
VCCIO - SY8288	*6.4A*

Main Memory:

*DDR4 * 2 (Dual Channel)*

ACPI:

5VDAUL:uP7501
5VDIMM:uP7501
3VSB:LDO+MOS
3VDSW:GS7133
VCCSTPLL:GS7133

Expansion Slots:

*PCI Express (X16) Slot * 1*

*PCI Express (X1) Slot * 2*

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MS-7C31

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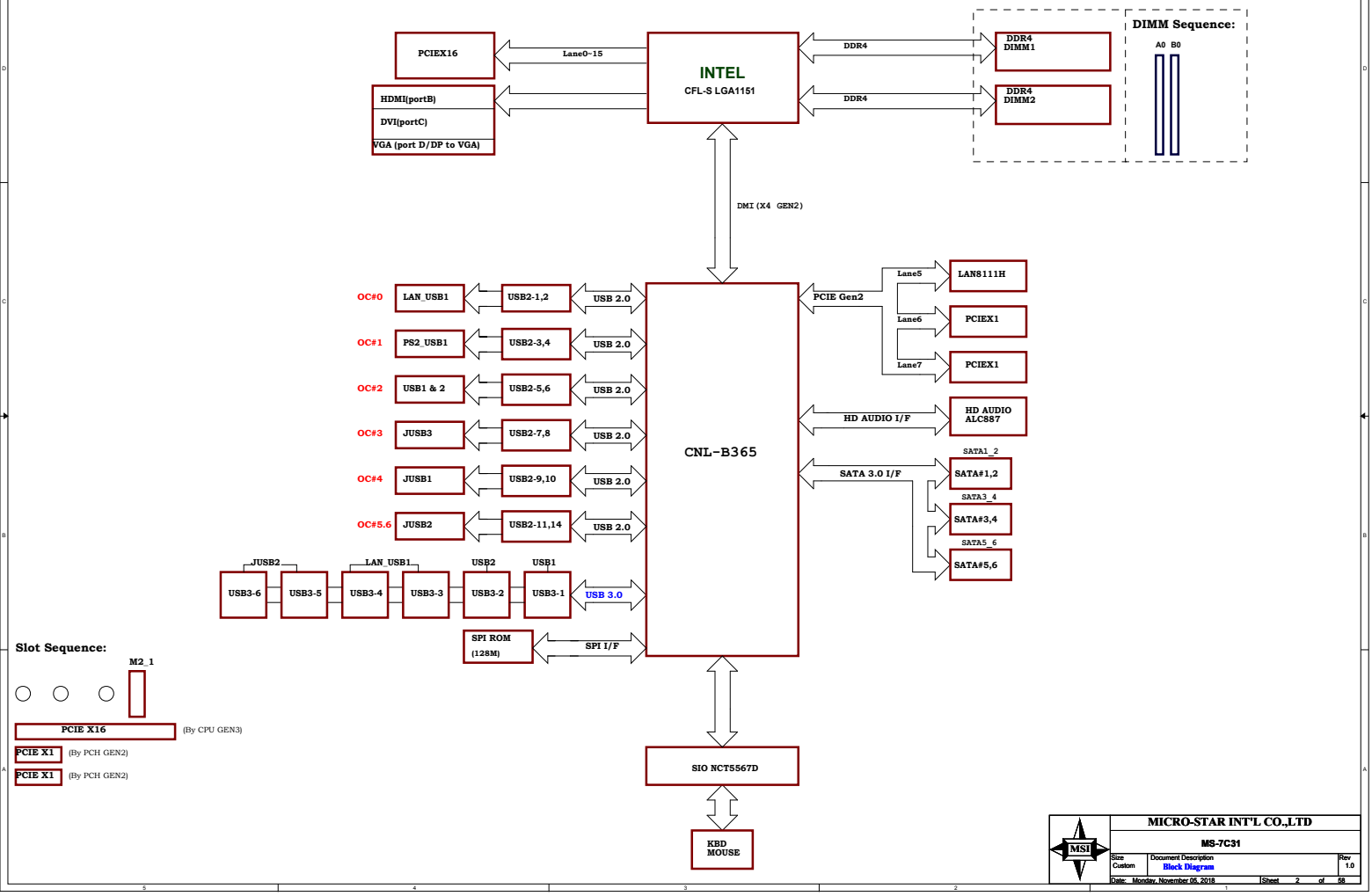
MS-7C31 Block Diagram



Slot Sequence:

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MS-7C31		
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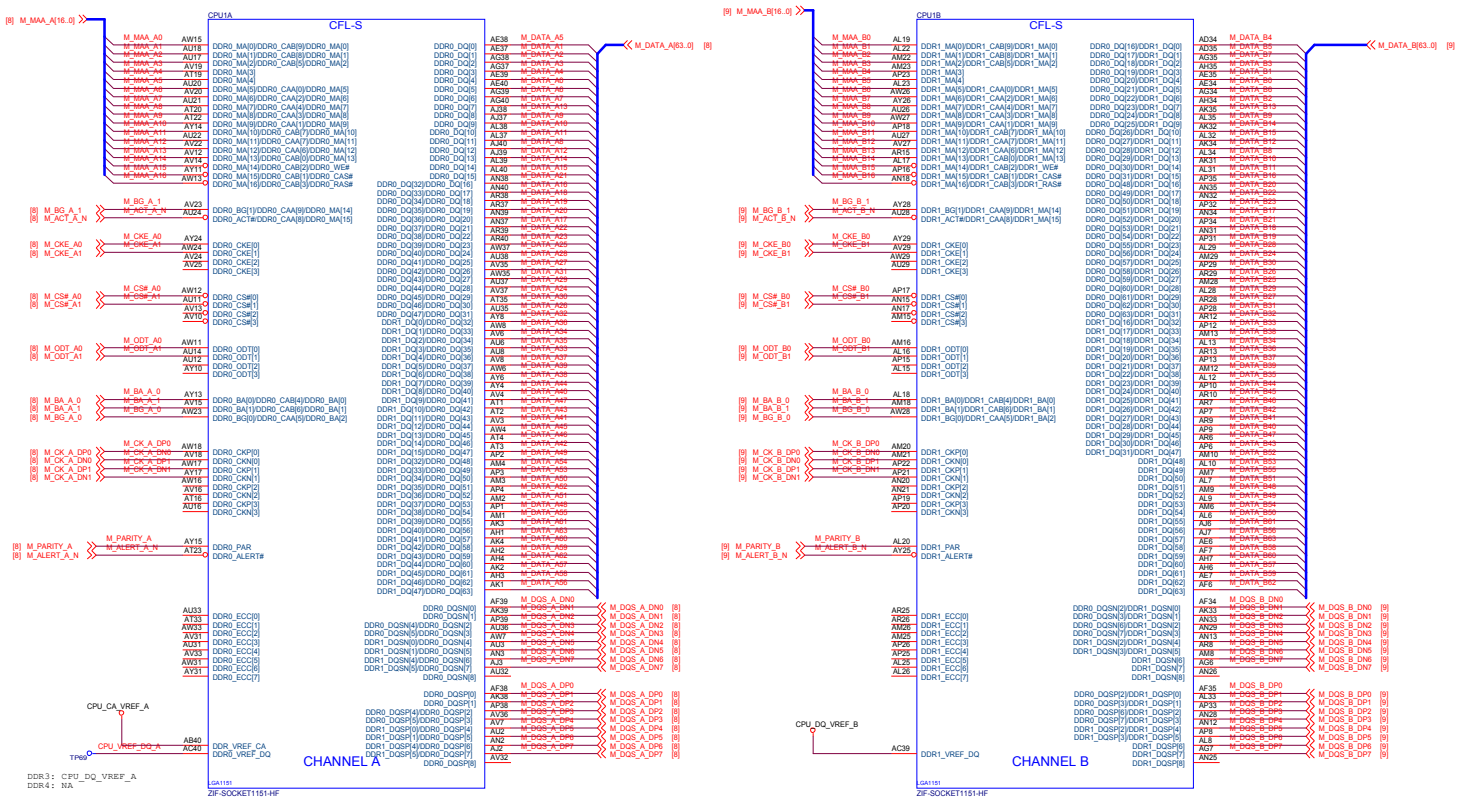

MICRO-STAR INT'L CO.,LTD			
MS-7C31			
Size: Custom	Document Description: CPU-Memory		Rev: 1.0
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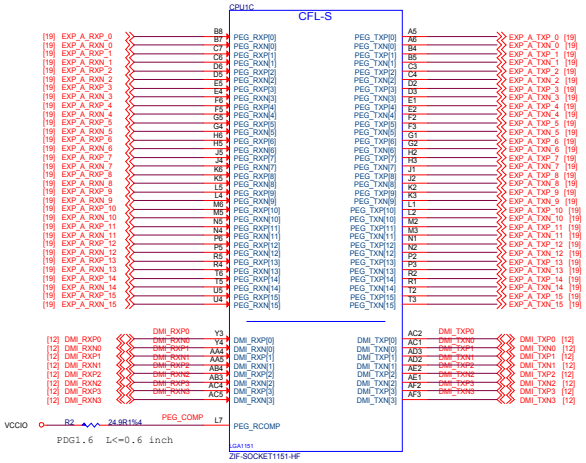

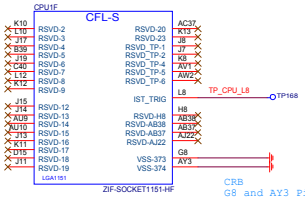

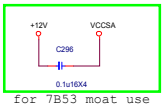

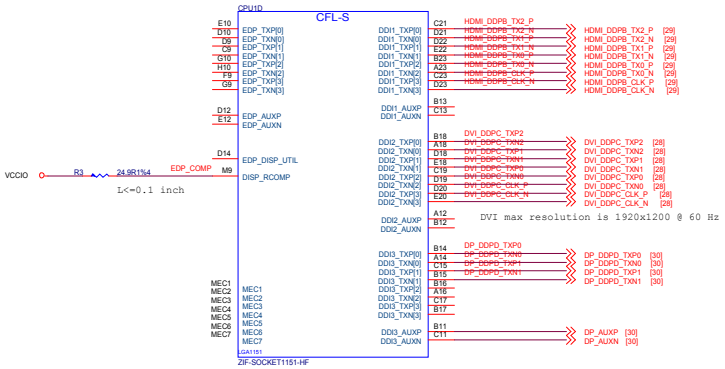

MICRO-STAR INT'L CO.,LTD		
MS-7C31		
Size: Custom	Document Description: CPU-PEG/Display	Rev: 1.0
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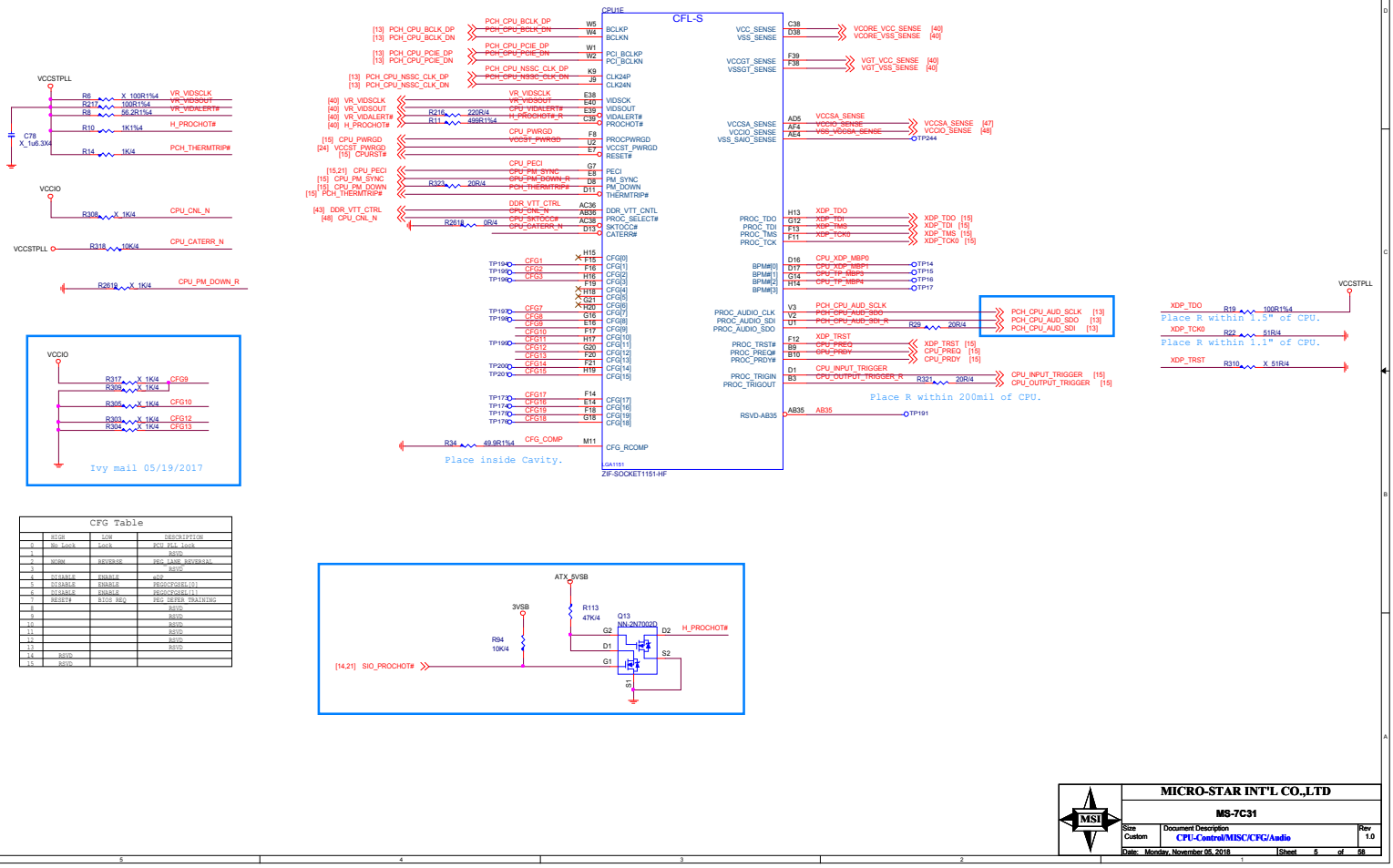

CFG Table

	HIGH	LOW	DESCRIPTION
0	No Lock	Lock	PCU PLL Lock
1			RSVD
2	NORM	REVERSE	PEG LANE REVERSAL
3			RSVD
4	DISABLE	ENABLE	x2D
5	DISABLE	ENABLE	PEGGCFGSEL[0]
6	DISABLE	ENABLE	PEGGCFGSEL[1]
7	RESET#	BIOS REQ	PEG DEFER TRAINING
8			RSVD
9			RSVD
10			RSVD
11			RSVD
12			RSVD
13			RSVD
14	RSVD		
15	RSVD		

MICRO-STAR INT'L CO.,LTD		
MS-7C31		
Size: Custom	Document Description: CPU-Control/MISC/CFG/Audio	Rev: 1.0
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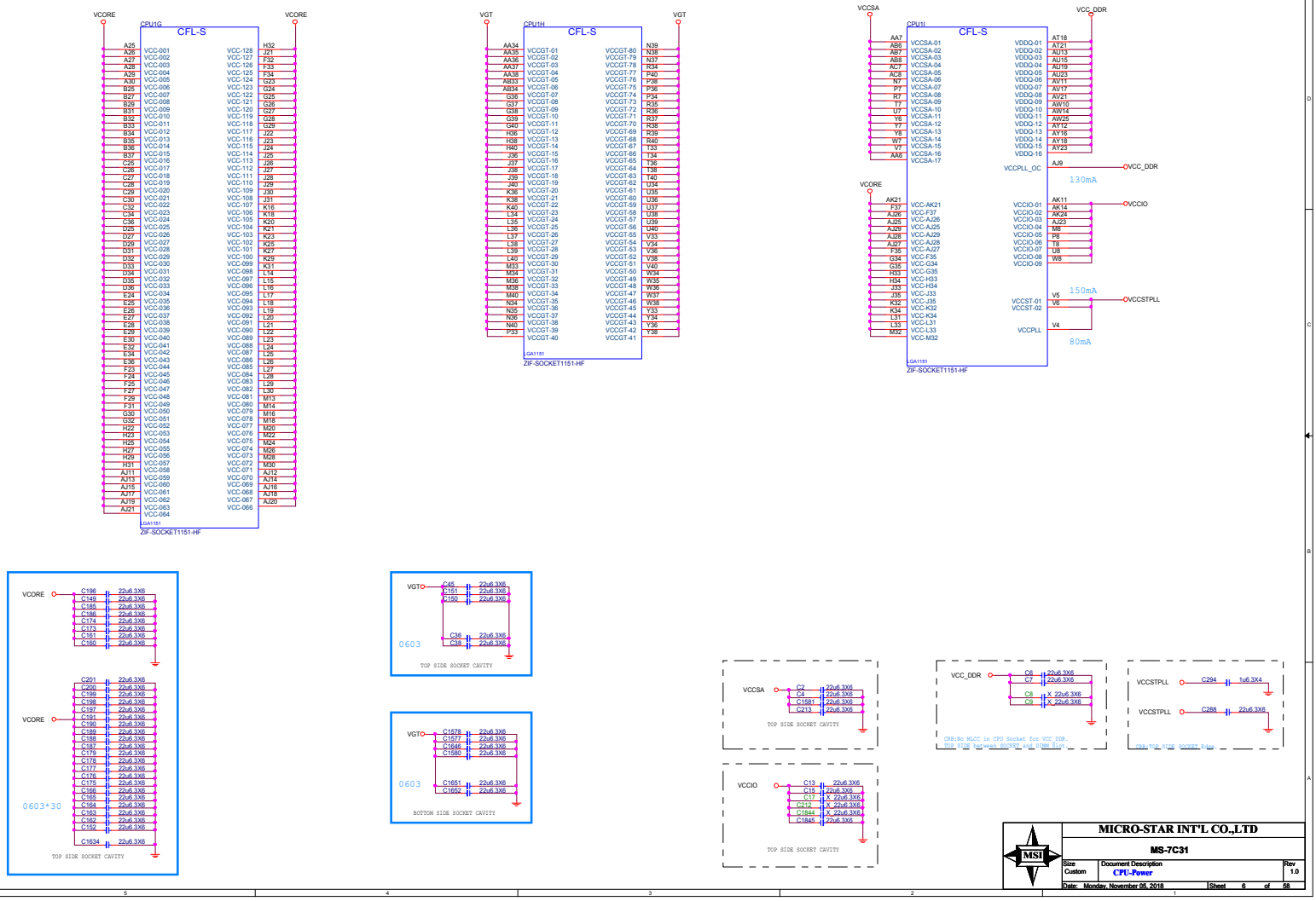

MICRO-STAR INT'L CO.,LTD

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Size	Document Description	Rev
Custom	CPU-Power	1.0

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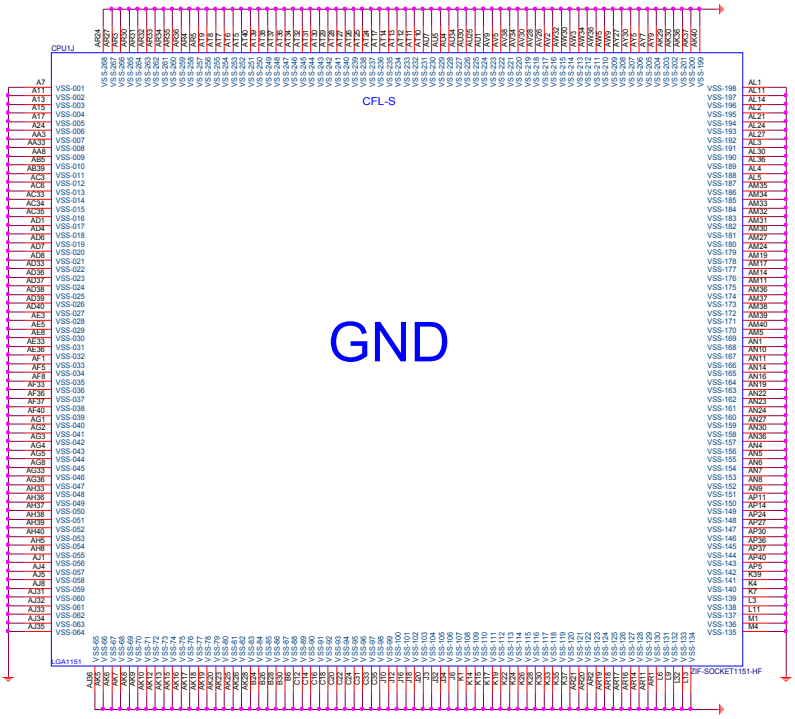
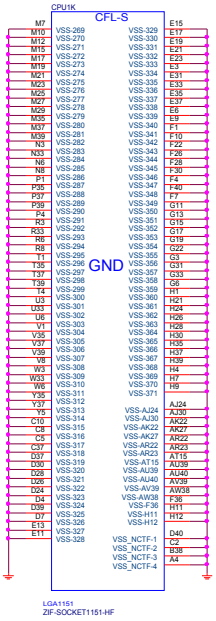
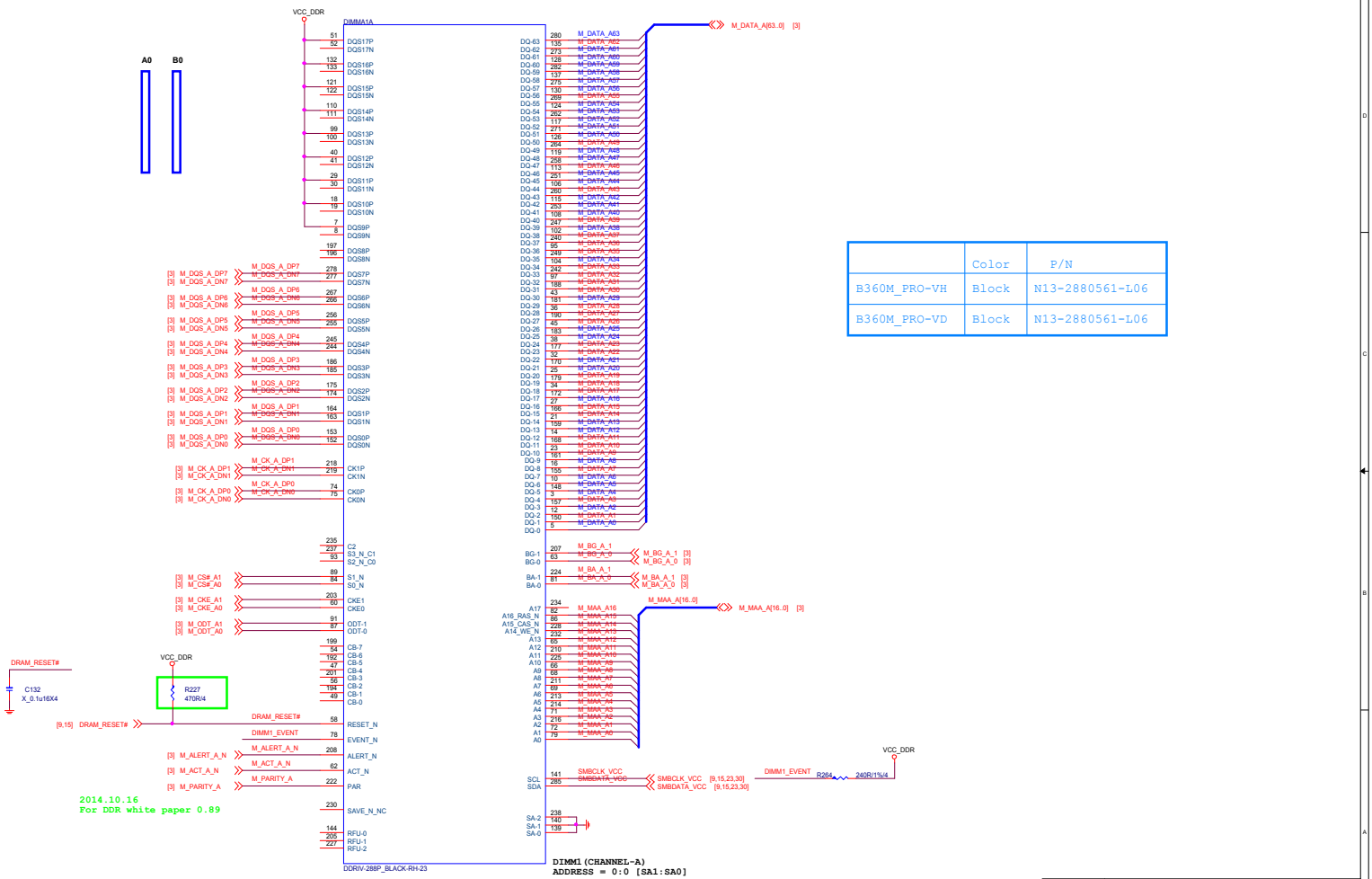




MICRO-STAR INT'L CO.,LTD		
MS-7C31		
Size: Custom	Document Description: CPU-GND	Rev: 1.0
Date: Monday, November 05, 2018	Sheet 7 of 58	



	Color	P/N
B360M_PRO-VH	Block	N13-2880561-L06
B360M_PRO-VD	Block	N13-2880561-L06

MICRO-STAR INT'L CO.,LTD		
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Size: Custom	Document Description: DDR4 DIMM 1	Rev: 1.0
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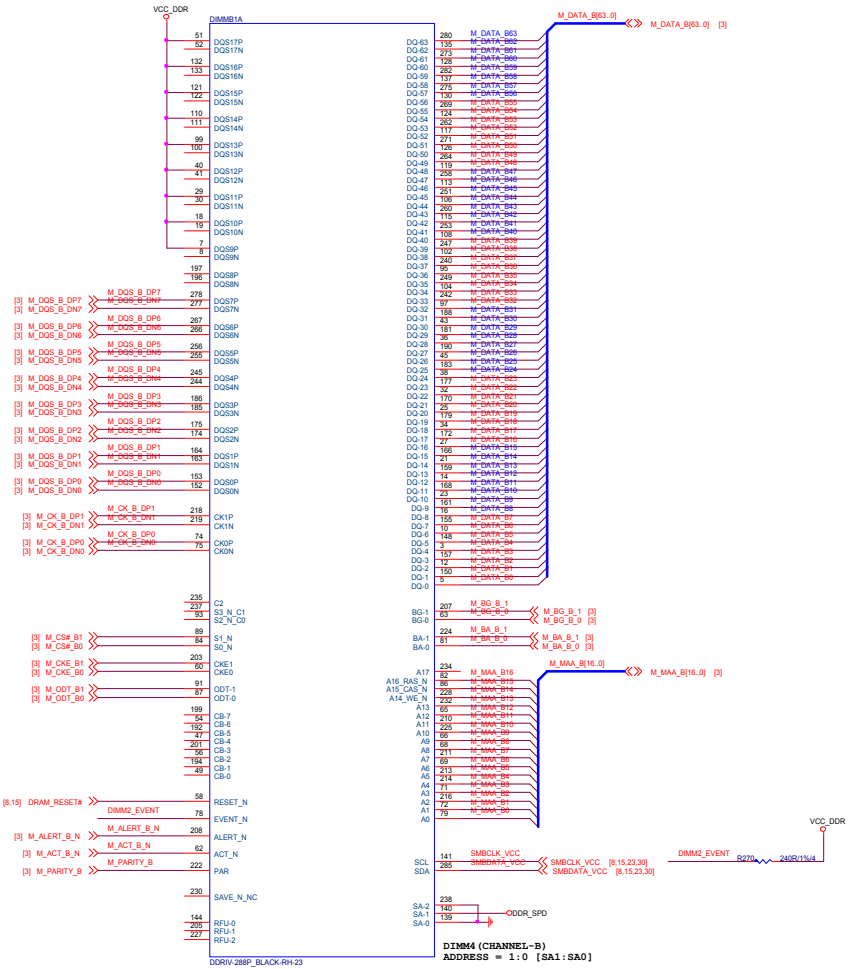
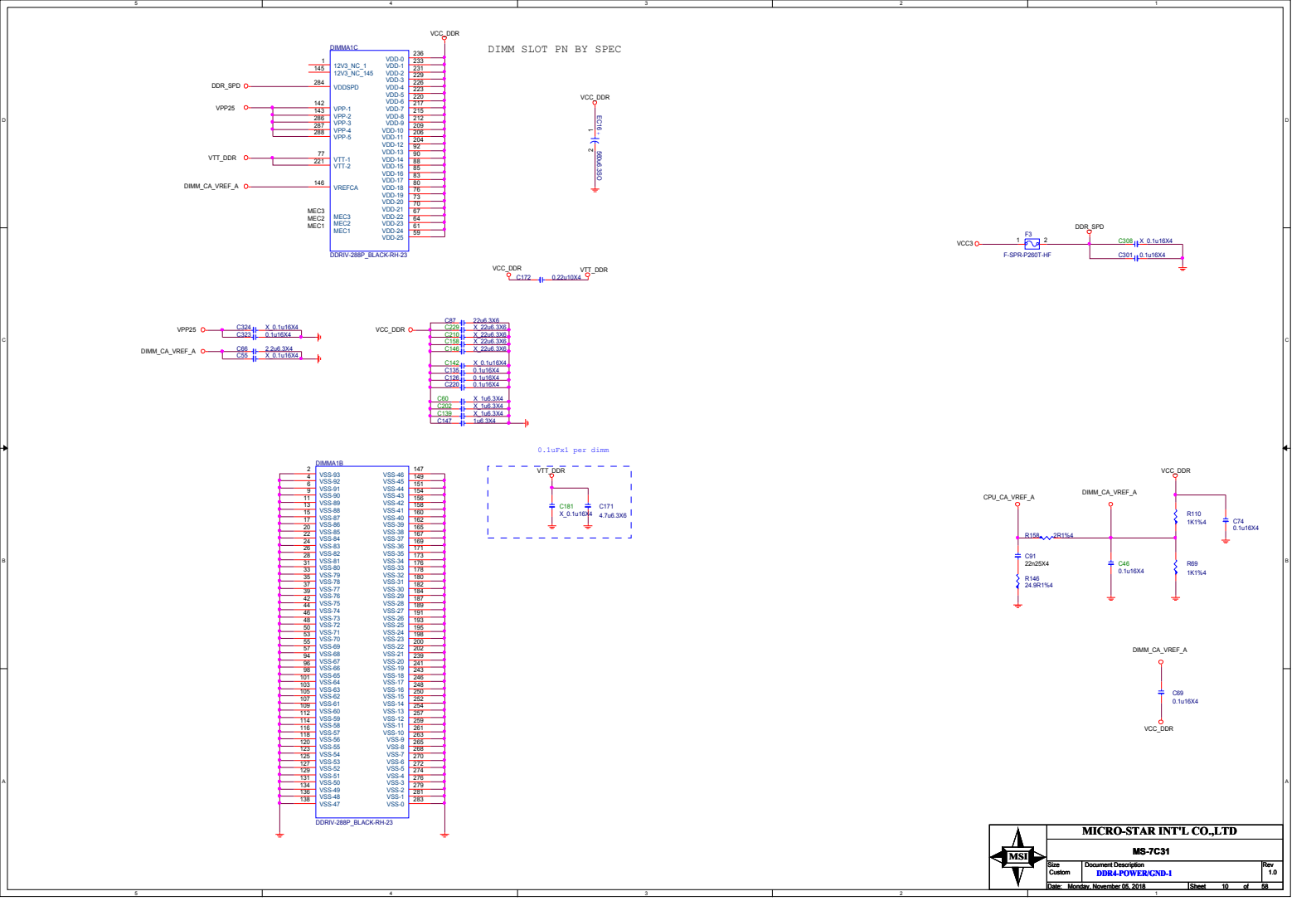
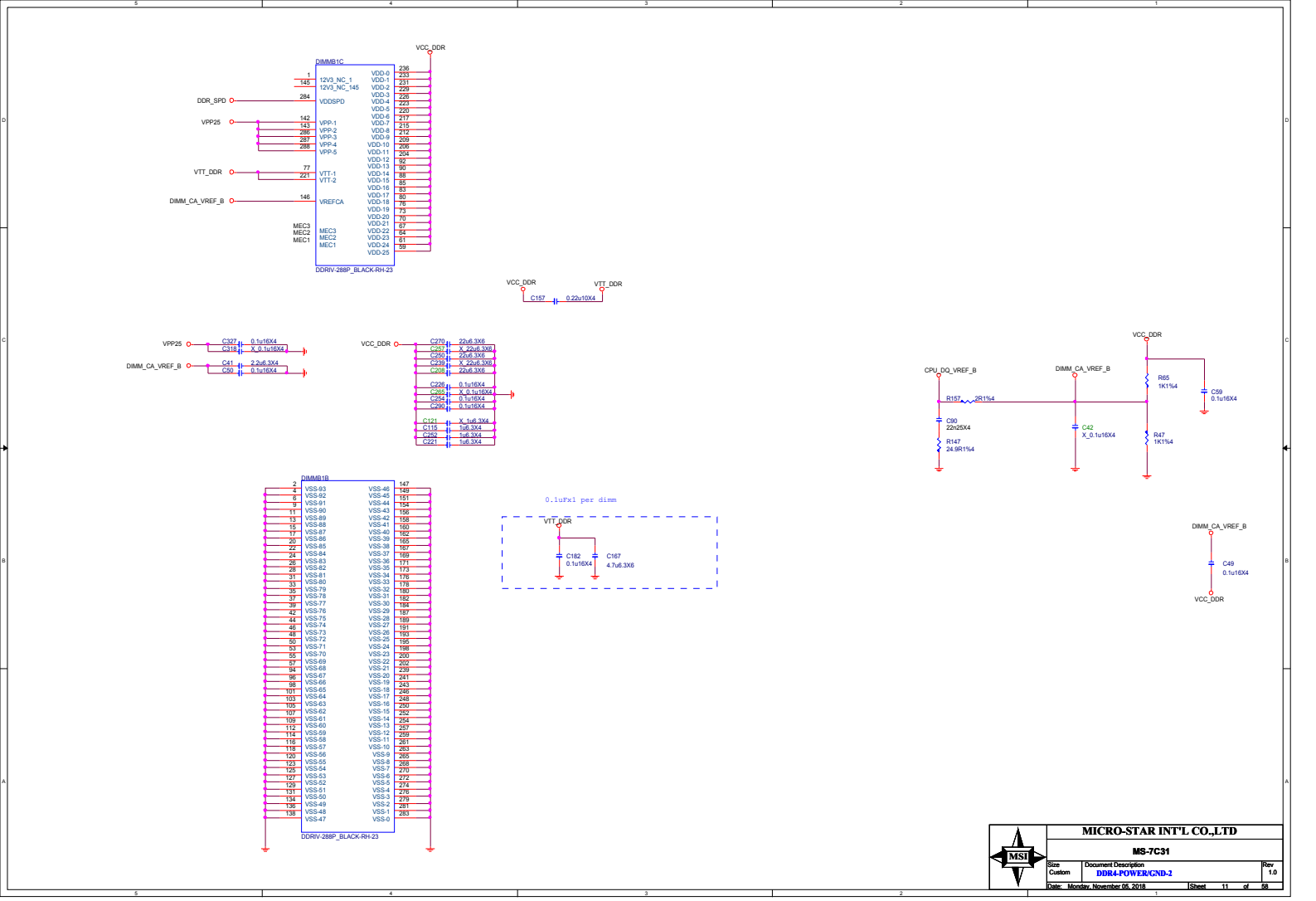


MICRO-STAR INT'L CO.,LTD	
MS-7C31	
Size: Custom	Document Description: DDR4 DIMM 2
Rev: 1.0	
Date: Monday, November 05, 2018	Sheet 9 of 58





MICRO-STAR INT'L CO.,LTD		
MS-7C31		
Size: Custom	Document Description: DDR4-POWER/GND-2	Rev: 1.0
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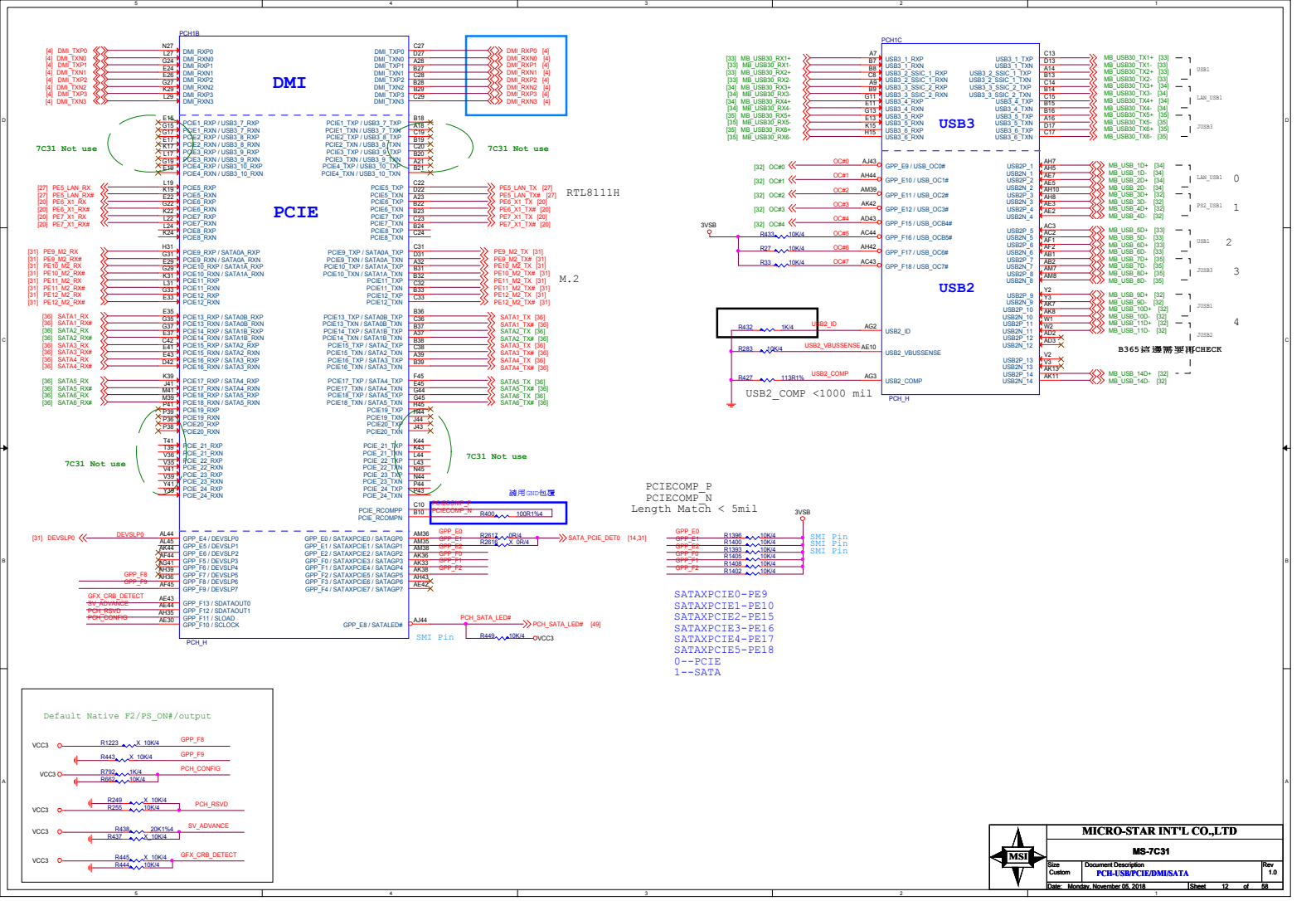

Company	MICRO-STAR INT'L CO.,LTD
Model	MS-7C31
Size / Custom	Document Description: PCH-USB/PCIE/DMI/SATA
Rev	1.0
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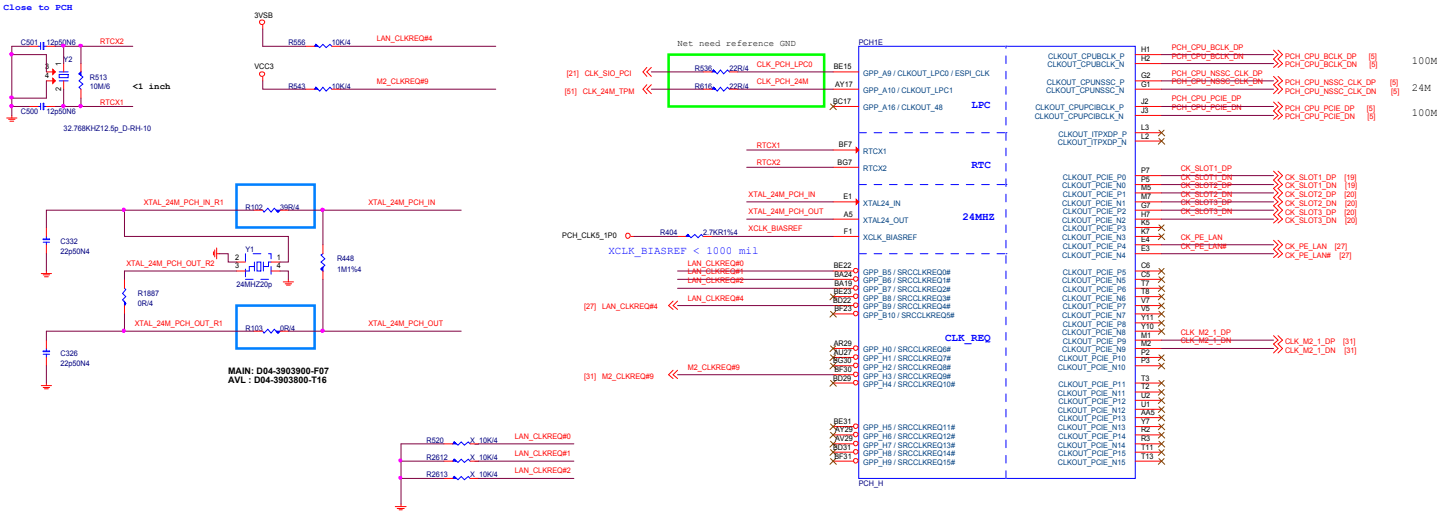
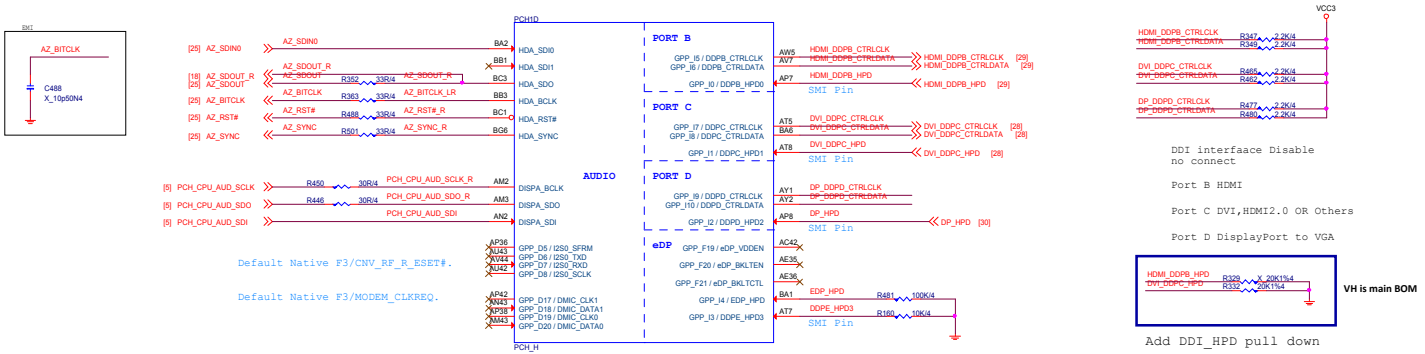
RTC Block

Close to PCH





MICRO-STAR INT'L CO.,LTD

MS-7C31

Size	Document Description	Rev
Custom	PCH-Audio/Display/Clock	1.0

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GPIO(SMI/NMI):
GPP_B14,GPP_B20,GPP_B23
GPP_C[23:22]
GPP_D[4:0]
GPP_E[8:0]
GPP_I[3:0]
GPP_G[7:0](Support SMI# only)

	GPP_I12	GPP_I13	GPP_I14
B365M_PRO-VH	0	0	0
B365M_PRO-VD	0	0	1

MICRO-STAR INT'L CO.,LTD			
MS-7C31			
Size: Custom	Document Description: PCH-GPIO		Rev: 1.0
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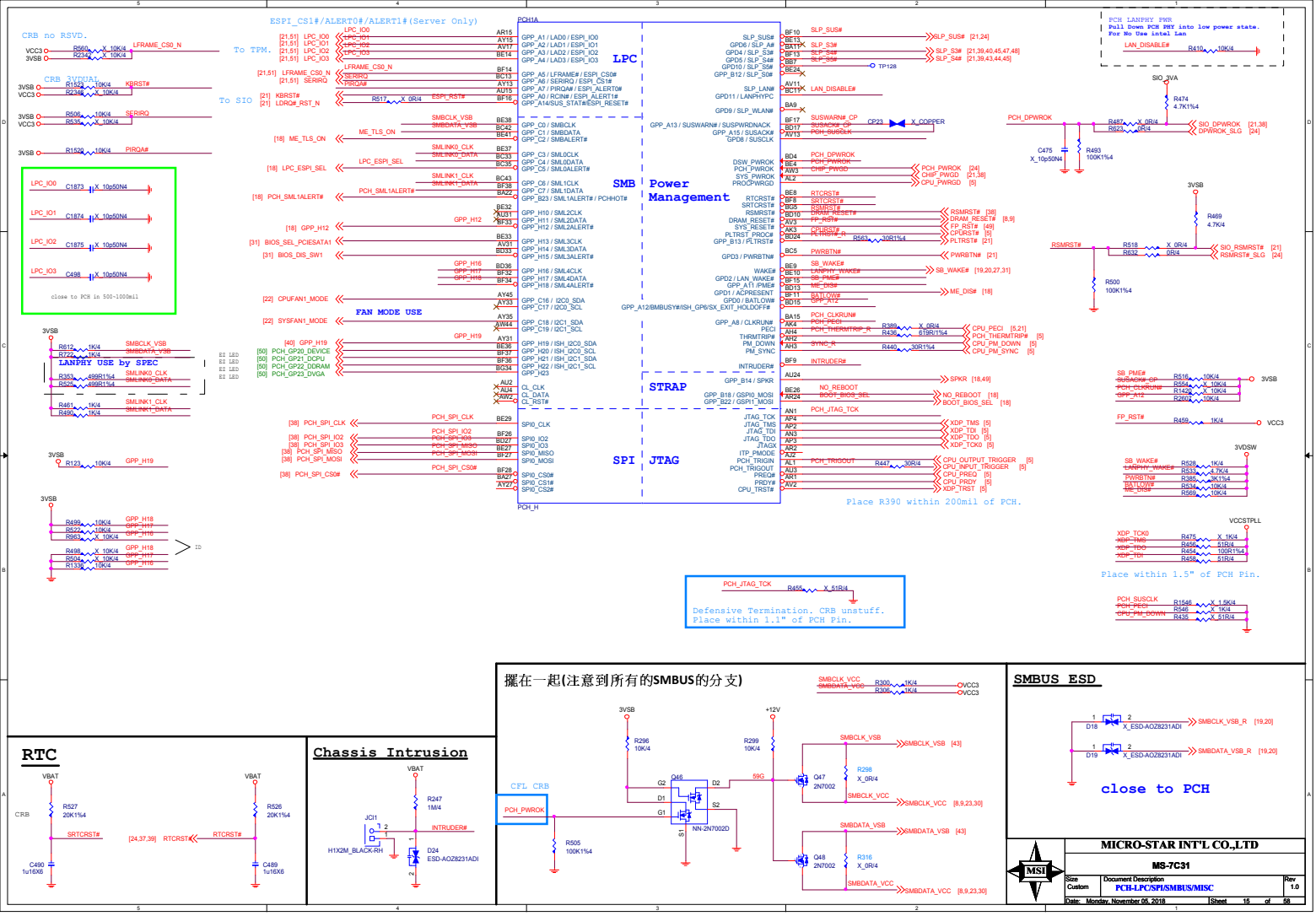

擺在一起(注意到所有的SMBUS的分支)

SMBUS ESD

RTC

Chassis Intrusion

MICRO-STAR INT'L CO.,LTD		
MS-7C31		
Size: Custom	Document Description: PCH-LPC/SPI/SMBUS/MISC	Rev: 1.0
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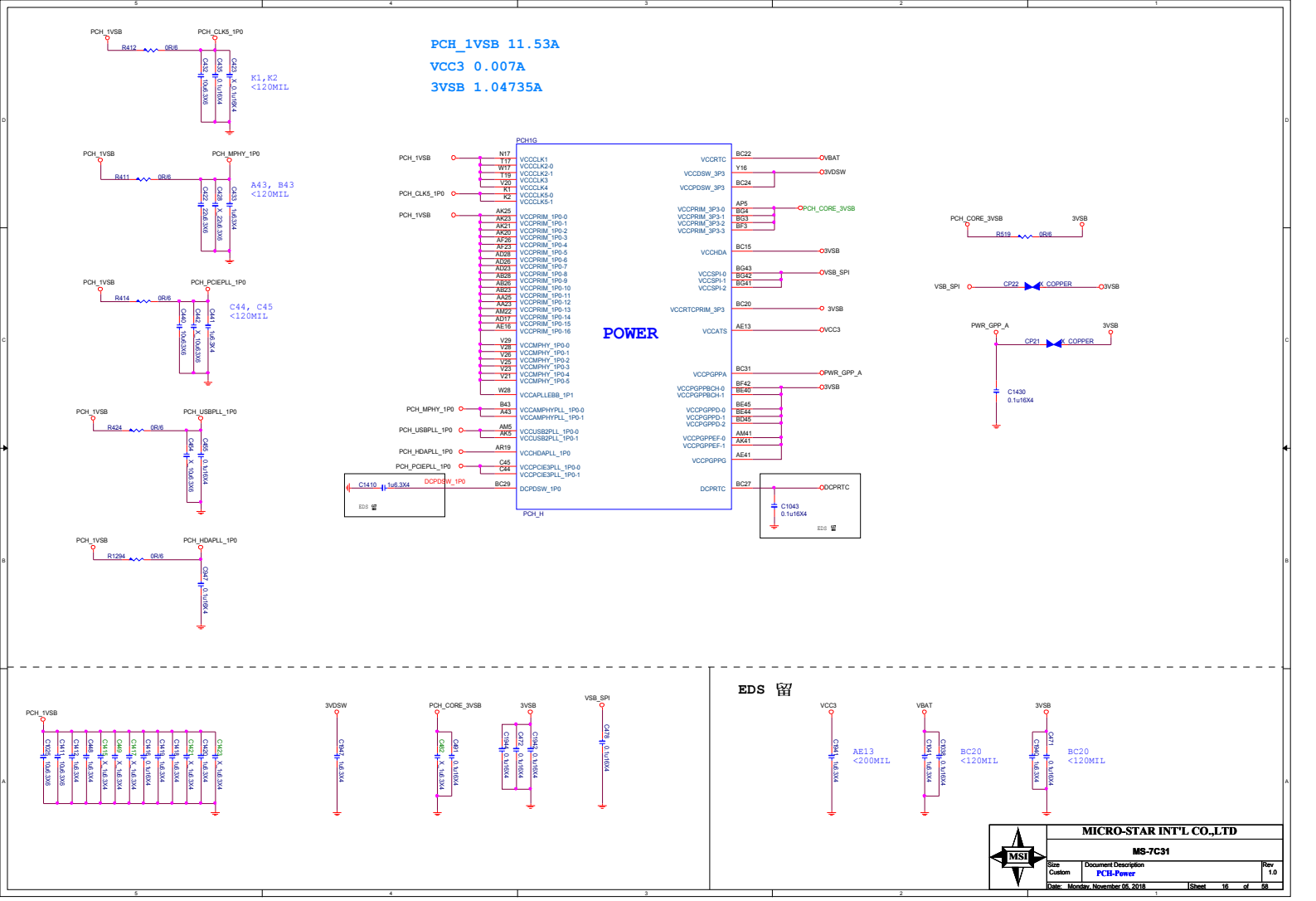

MICRO-STAR INT'L CO.,LTD			
MS-7C31			
Size: Custom	Document Description: PCH-Power		Rev: 1.0
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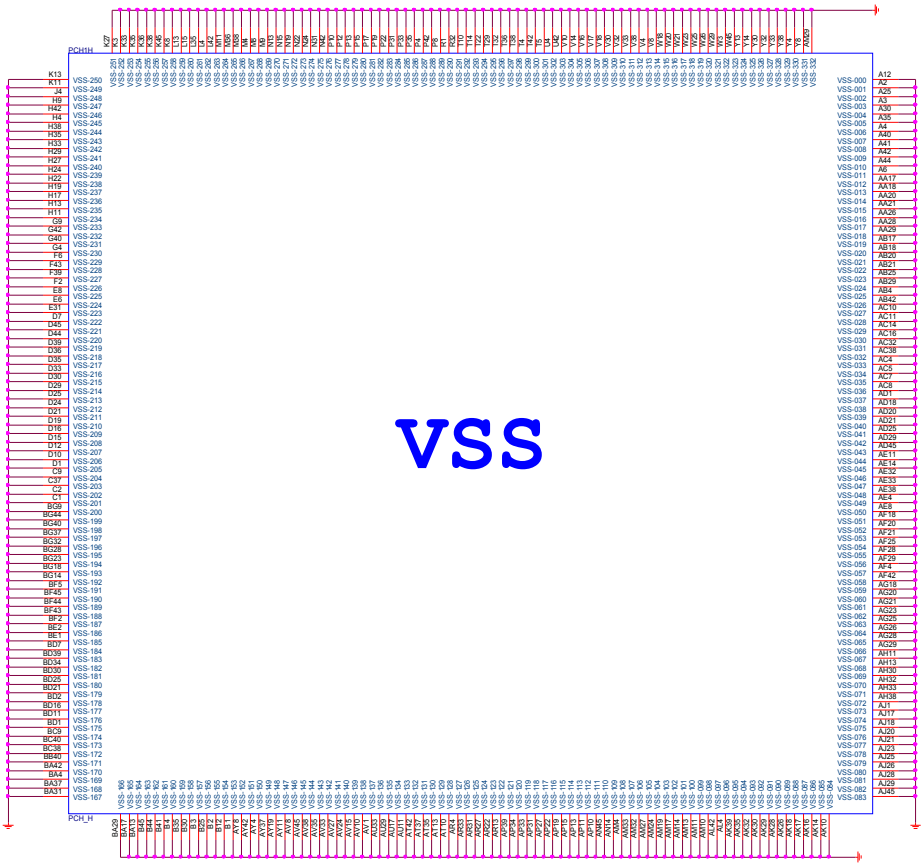

MICRO-STAR INT'L CO.,LTD	
MS-7C31	
Size: Custom	Document Description: PCH-GND
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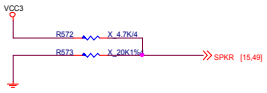
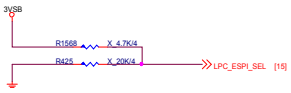
TOP Swap



Internal pull-down 20K is disabled after PLTRST#

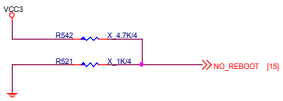
LPC eSPI Mode



0 : LPC
1 : eSPI

Internal pull-down 20K is disabled after RSMRST

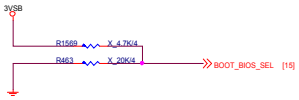
No Reboot



0 : DISABLE (Default)
1 : ENABLE

Internal pull-down 20K is disabled after PLTRST#

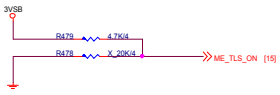
Boot BIOS



0 : SPI
1 : LPC

Internal pull-down 20K is disabled after PLTRST

AMT and SBA with confidentiality

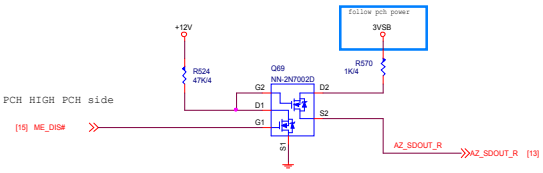


0 : DISABLE
1 : ENABLE (Default)

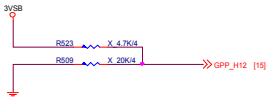
Internal pull-down 20K is disabled after RSMRST

HDA_SDO

ME flash by GPIO



ESPI FLASH SHARING MODE



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

Internal pull-down 20K is disabled after RSMRST

Reserved

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Size: Custom	Document Description: PCH-Strap	Rev: 1.0
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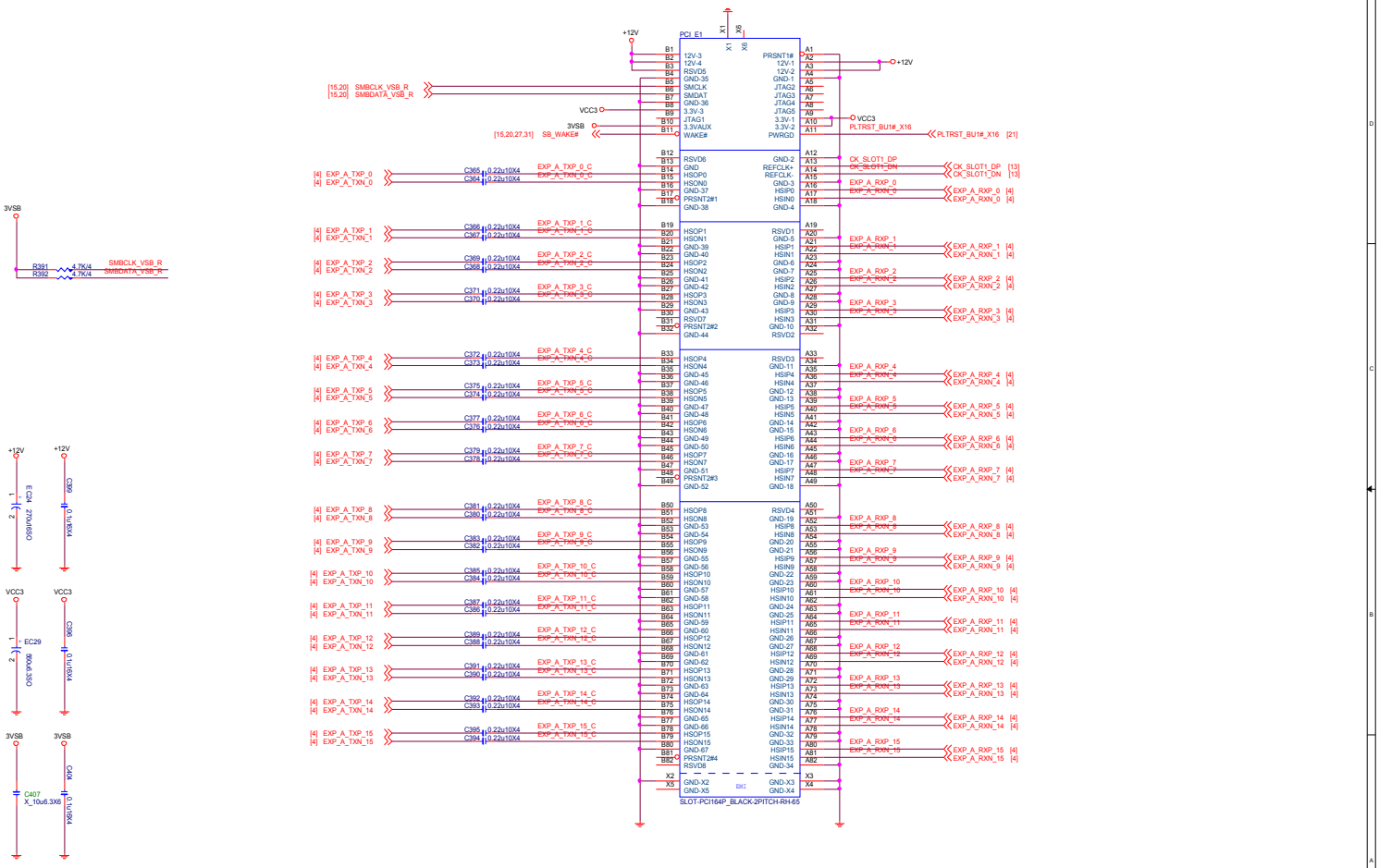

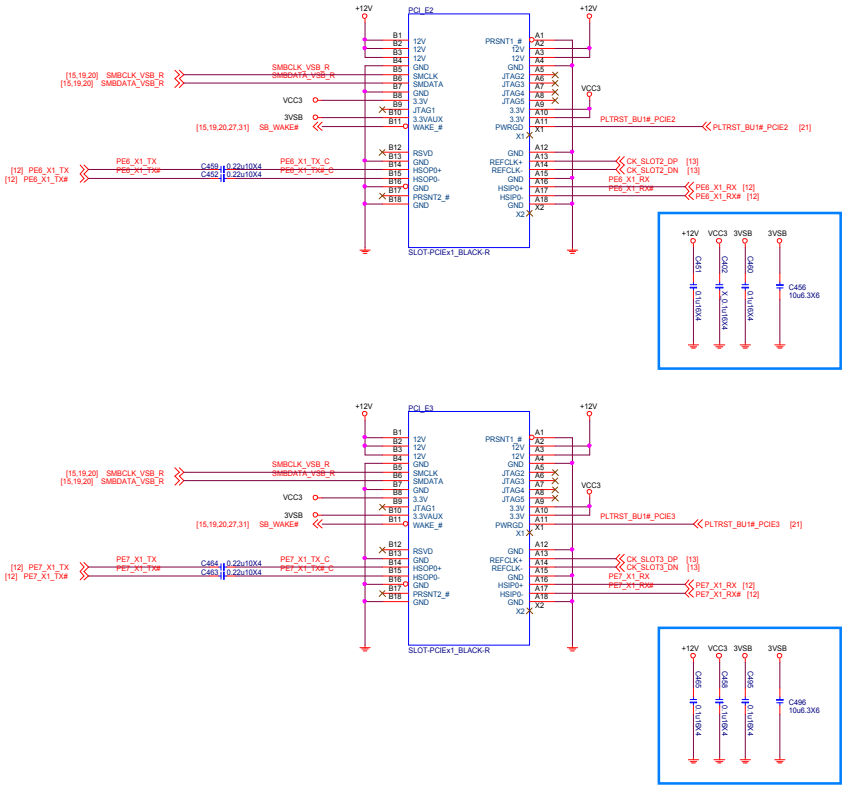

MICRO-STAR INT'L CO.,LTD		
MS-7C31		
Size: Custom	Document Description: PCIE SLOT-PCH(X1)	Rev: 1.0
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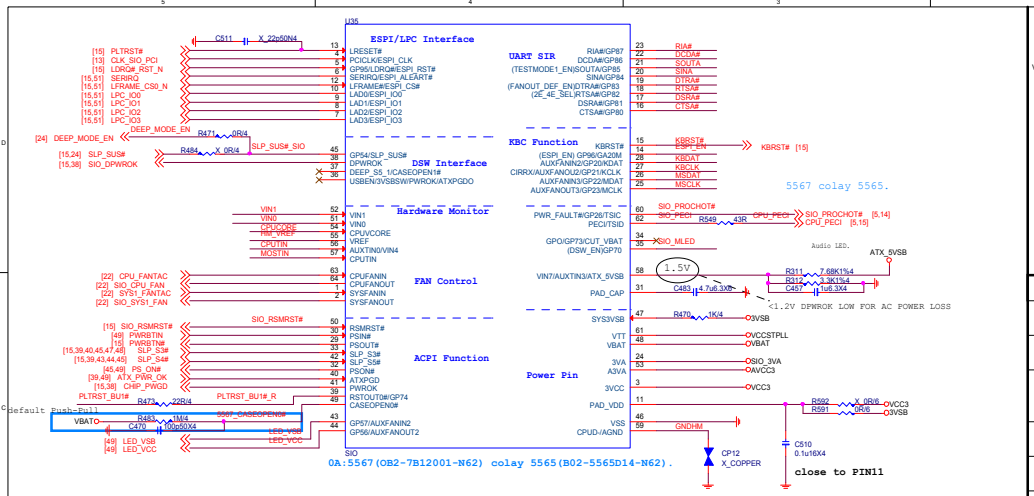
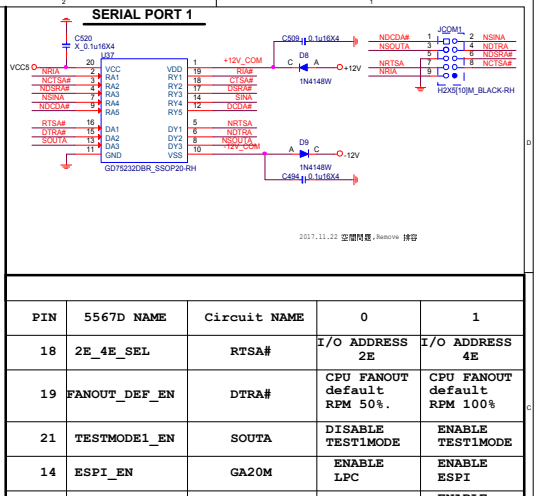
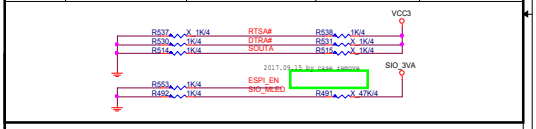
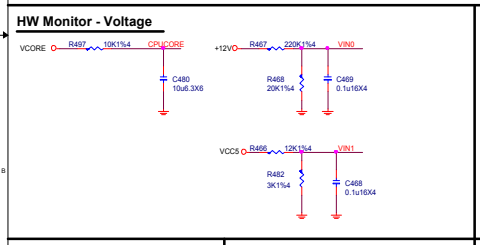
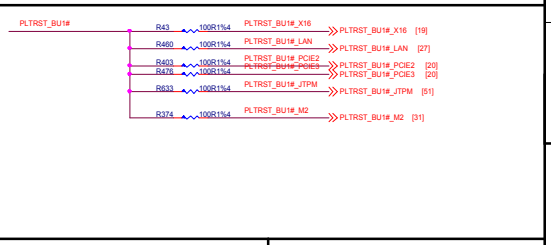


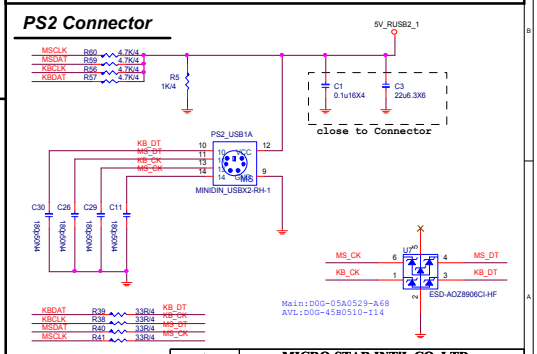


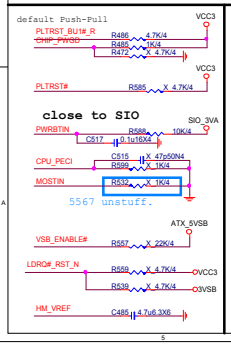
PIN	5567D NAME	Circuit NAME	0	1
18	2E_4E_SEL	RTSA#	I/O ADDRESS 2E	I/O ADDRESS 4E
19	FANOUT_DEF_EN	DTRA#	CPU FANOUT default RPM 50%.	CPU FANOUT default RPM 100%
21	TESTMODE1_EN	SOUTA	DISABLE TEST1MODE	ENABLE TEST1MODE
14	ESPI_EN	GA20M	ENABLE LPC	ENABLE ESPI
35	DSW_EN	DSW_EN	DISABLE	ENABLE DSW_EN

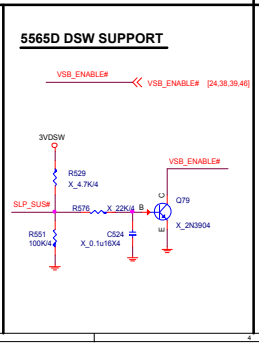


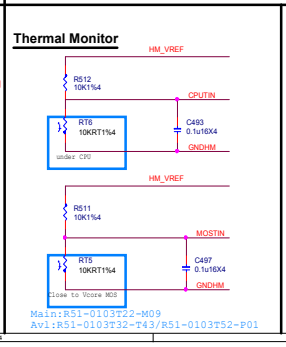


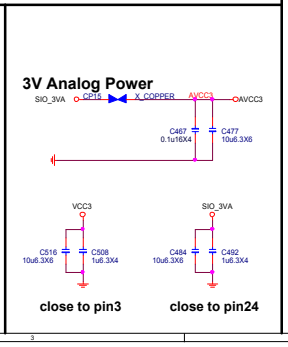












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Size: Custom	Document Description: SIO-NCT5563D-M
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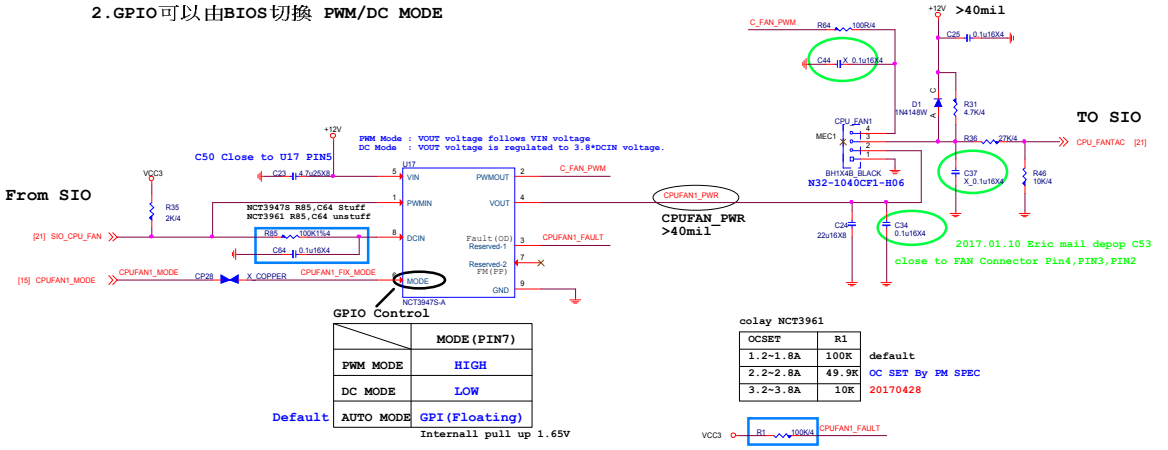
TYPE K : 4 PIN CPU FAN USE NCT3947S USE PCH GPIO CONTROL FAN MODE

2.GPIO可以由BIOS切換 PWM/DC MODE

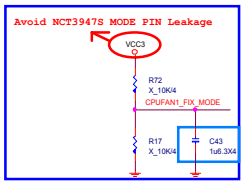


	MODE(PIN7)
PWM MODE	HIGH
DC MODE	LOW
Default AUTO MODE	GPI(Floating)

Internall pull up 1.65V

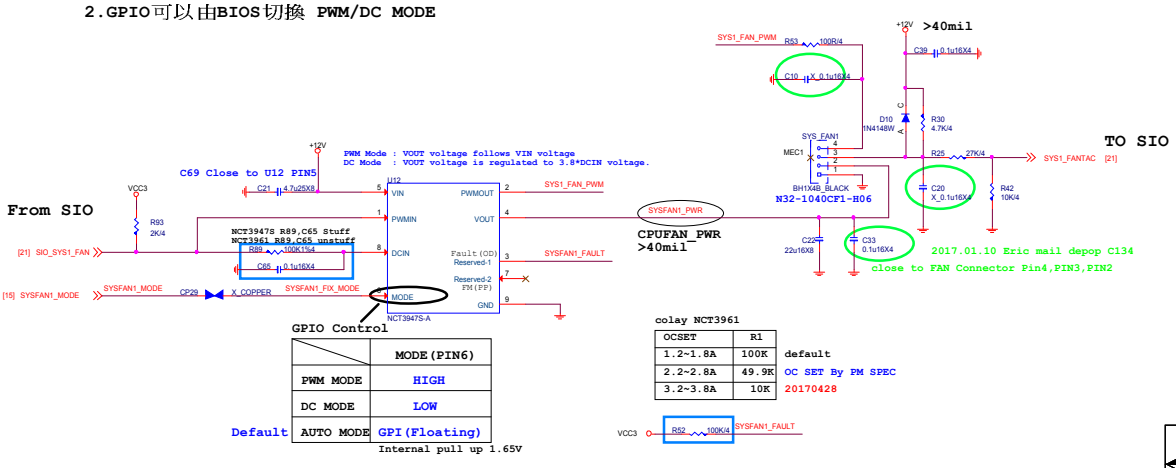
colay NCT3961

OCSET	R1	
1.2~1.8A	100K	default
2.2~2.8A	49.9K	OC SET By PM SPEC
3.2~3.8A	10K	20170428



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

2.GPIO可以由BIOS切換 PWM/DC MODE

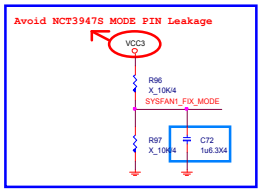


	MODE(PIN6)
PWM MODE	HIGH
DC MODE	LOW
Default AUTO MODE	GPI(Floating)

Internal pull up 1.65V

colay NCT3961

OCSET	R1	
1.2~1.8A	100K	default
2.2~2.8A	49.9K	OC SET By PM SPEC
3.2~3.8A	10K	20170428



MICRO-STAR INT'L CO.,LTD		
MS-7C31		
Size: Custom	Document Description: FAN CONTROLLOR	Rev: 1.0
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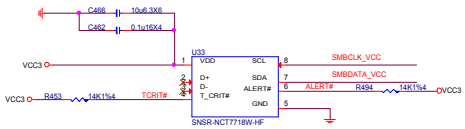
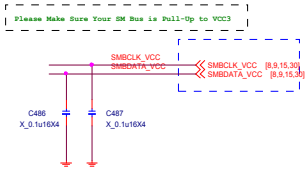
NCT7718W





NCT7718W SM Bus address is 98h (1001100xb)

Default: ALERT# Output Comparator Mode

TEMPERATURE (℃)		T_CRIT#				
		2KΩ	7.5KΩ	10.5KΩ	14KΩ	18.7KΩ
ALERT#	2KΩ	77	87	97	107	117
	7.5KΩ	79	89	99	109	119
	10.5KΩ	81	91	101	111	121
	14KΩ	83	93	103	113	123
	18.7KΩ	85	95	105	115	125

MICRO-STAR INT'L CO.,LTD

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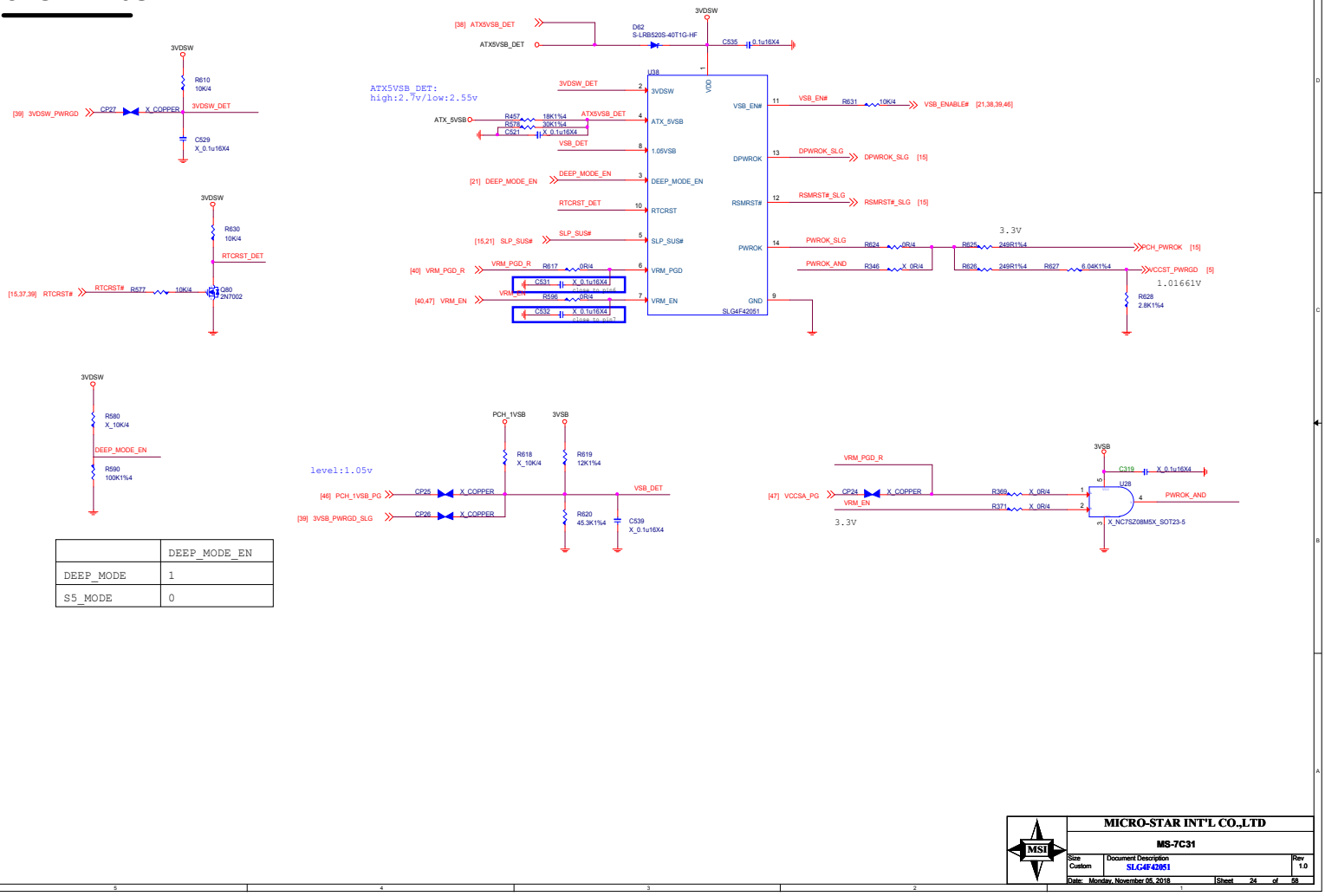
SLG4F42051



	DEEP_MODE_EN
DEEP_MODE	1
S5_MODE	0

MSI	MICRO-STAR INT'L CO.,LTD	
	MS-7C31	
Size: Custom	Document Description: SLG4F42051	Rev: 1.0
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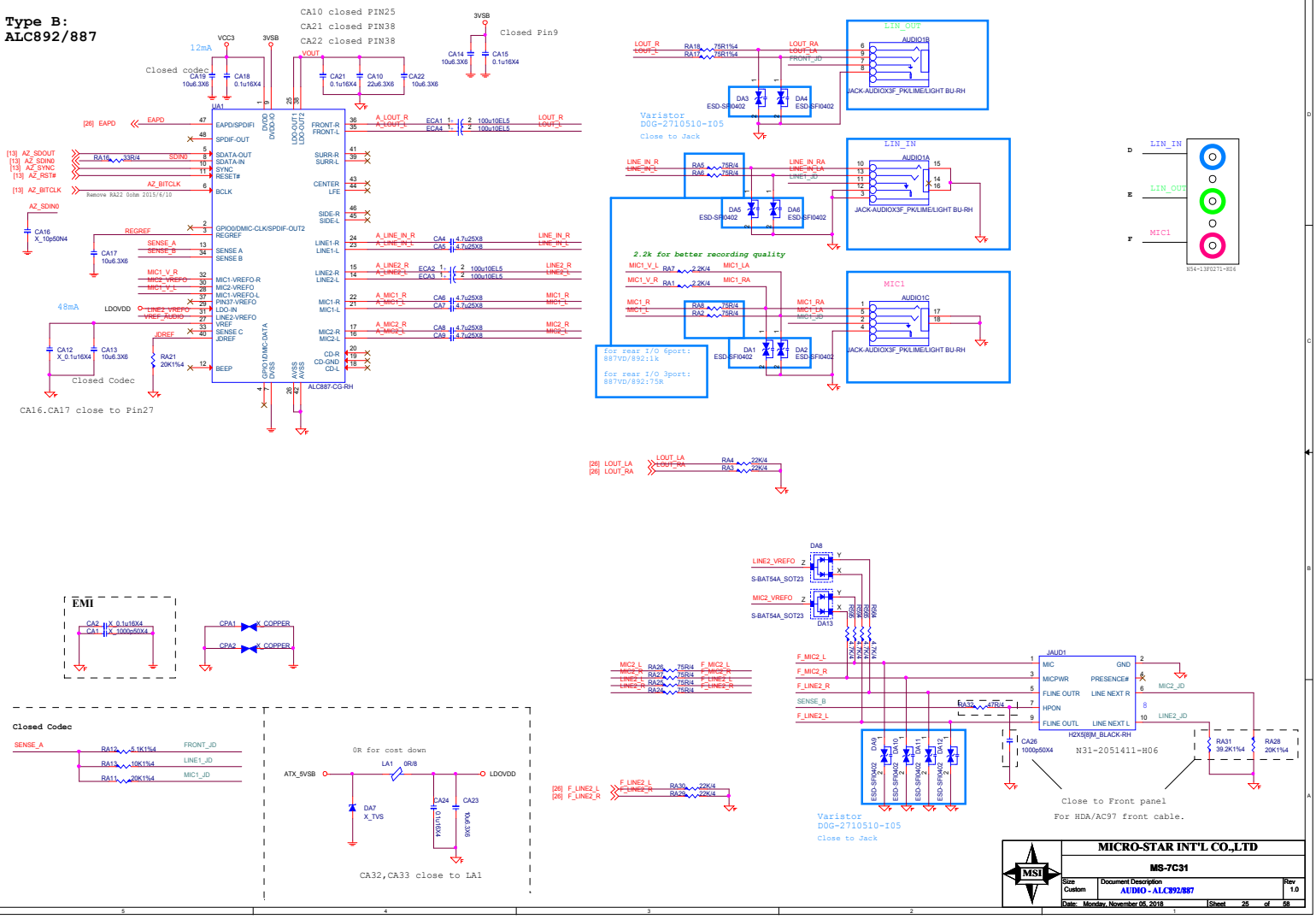
Type B:
ALC892/887



MICRO-STAR INT'L CO.,LTD

MS-7C31

Size: Custom | Document Description: AUDIO - ALC892/887 | Rev: 1.0

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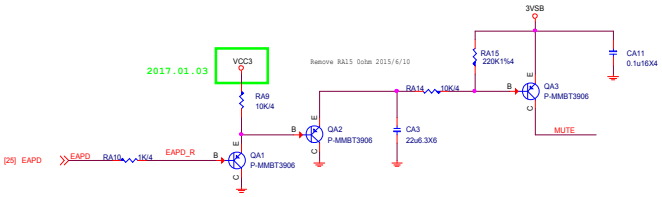
Rear Line OUT De-POP circuit

History:

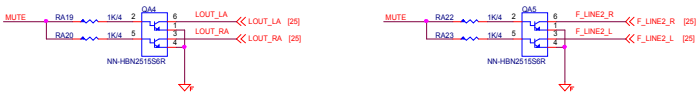
2014/02/13: stuff de-pop circuit of Line out & HP out.

De-pop circuit for Rear Line out & Front Headphone out)



Digital

Analog



Audio moat is transparent and width 40mil

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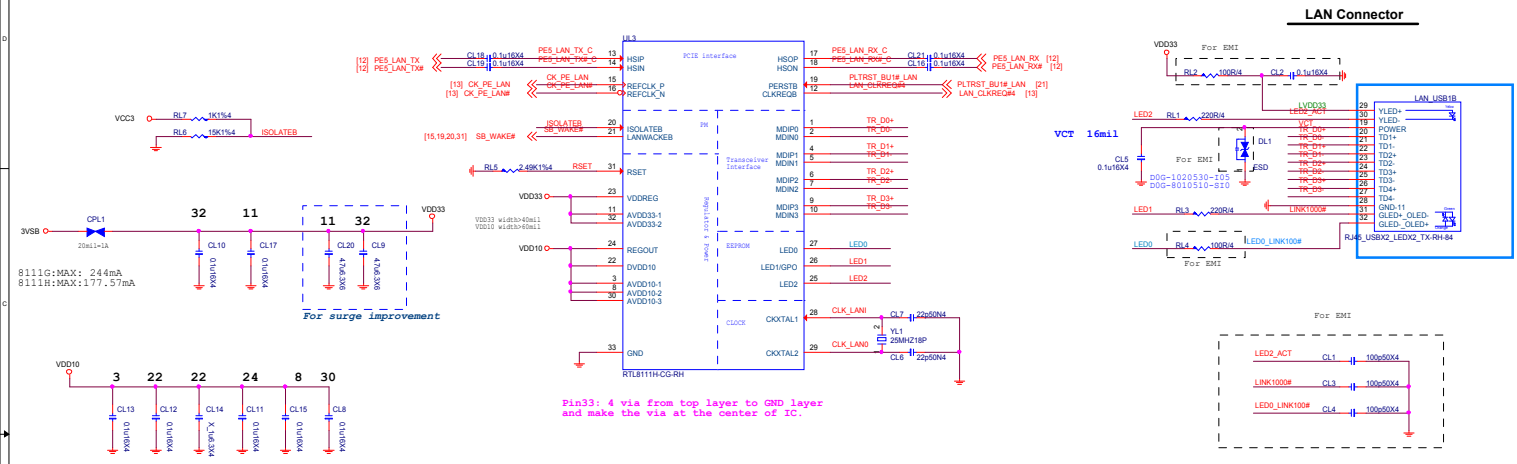
RTL8111G/RTL8111H Giga LAN

8111H:B06-08111CC-R09
8111G:B06-08111GC-R09



8111G POWER Consumption

	3.3V @ mA	mW
10 M Idle/TxRx	17.15/116.7	56.6/385.1
100 M Idle/TxRx	71.45/129.5	235.8/427.4
Giga Idle/TxRx	179.1/243.9	591/804.9
ALDPS	6.41	21.15

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

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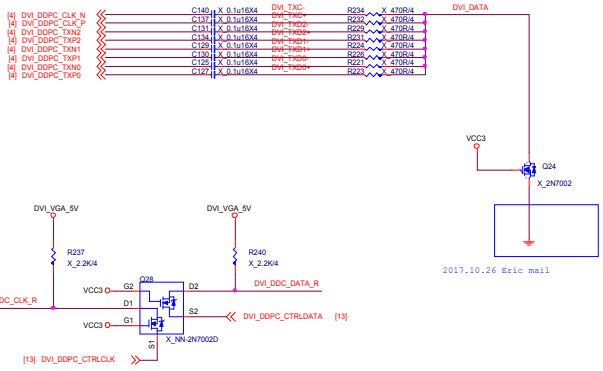
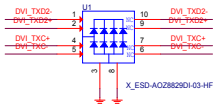
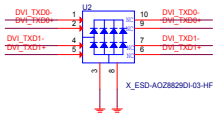
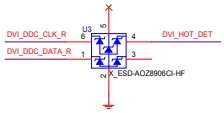
DVI level shifter

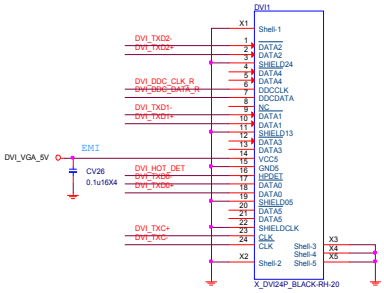
VGA: resolution of 2048x1536 pixels with 32-bit color at 75 Hz (4:3 QXGA)



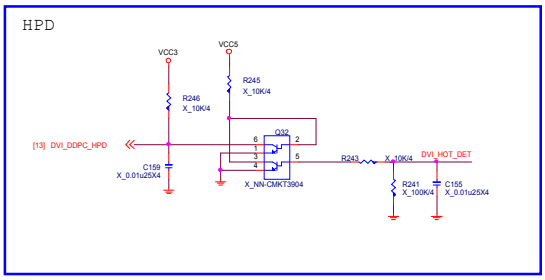


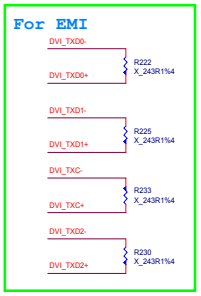


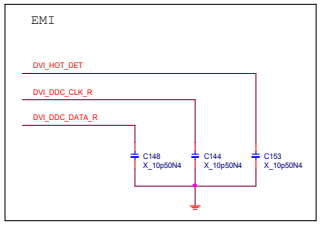




	DVI
B365M_PRO-VH	X
B365M_PRO-VD	-







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Size: Custom	Document Description: DVI	Rev: 1.0
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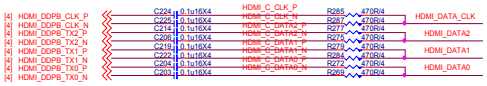
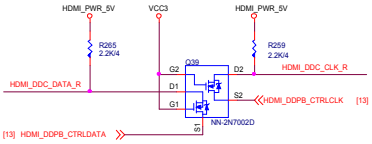
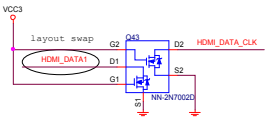
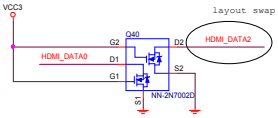
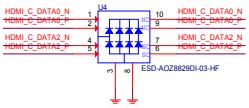
HDMI, DVI : 1920x1200 at 60 Hz (16:10 WUXGA)

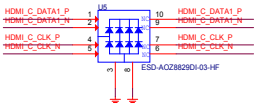


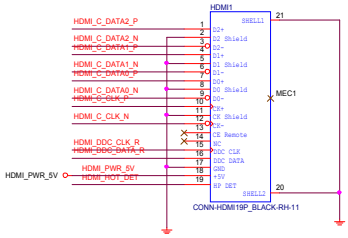




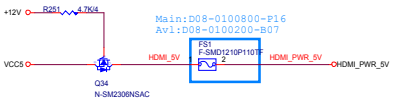




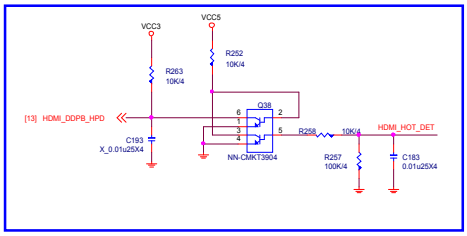


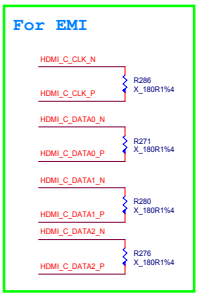


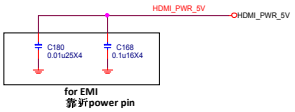
	HDMI
B365M_PRO-VH	-
B365M_PRO-VD	X

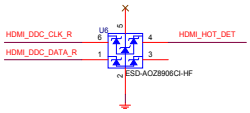


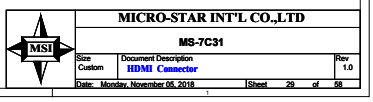
HPD





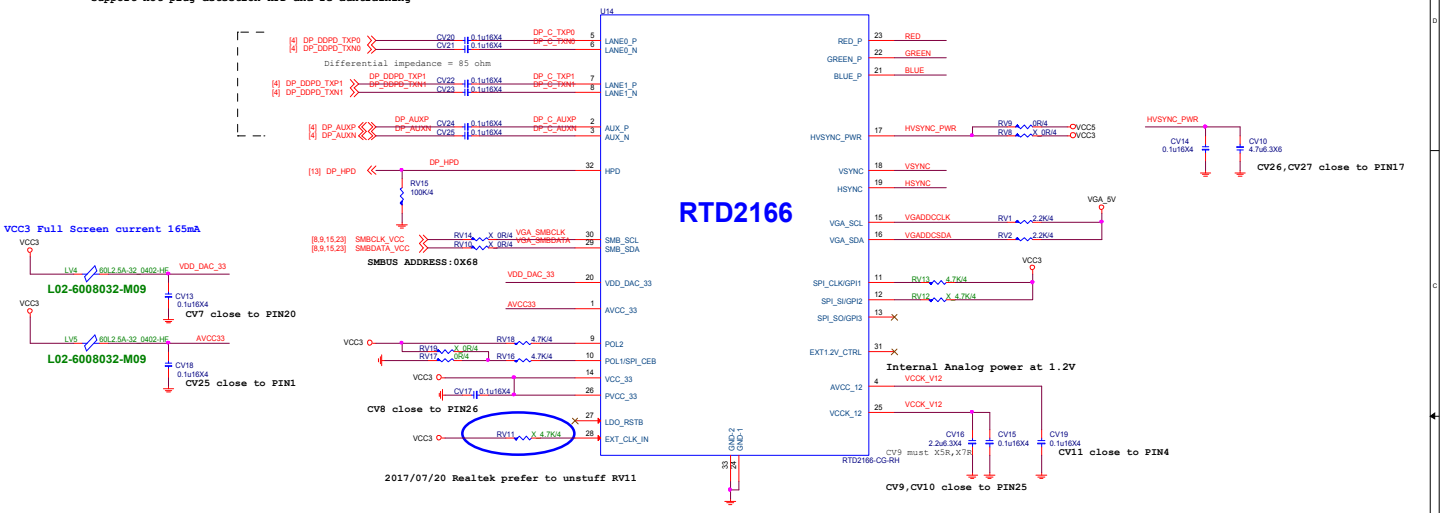


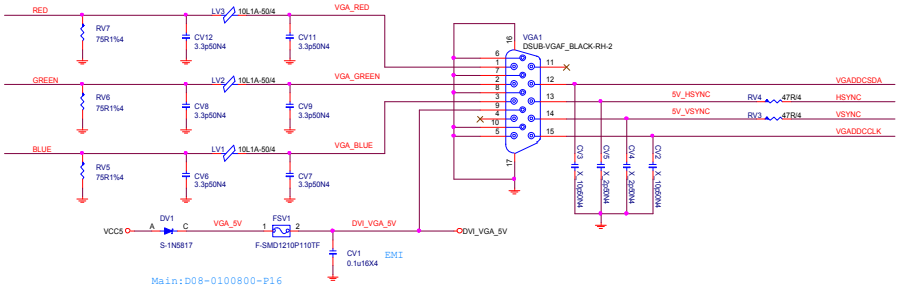




Note:

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





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Avl:D08-0100200-B07

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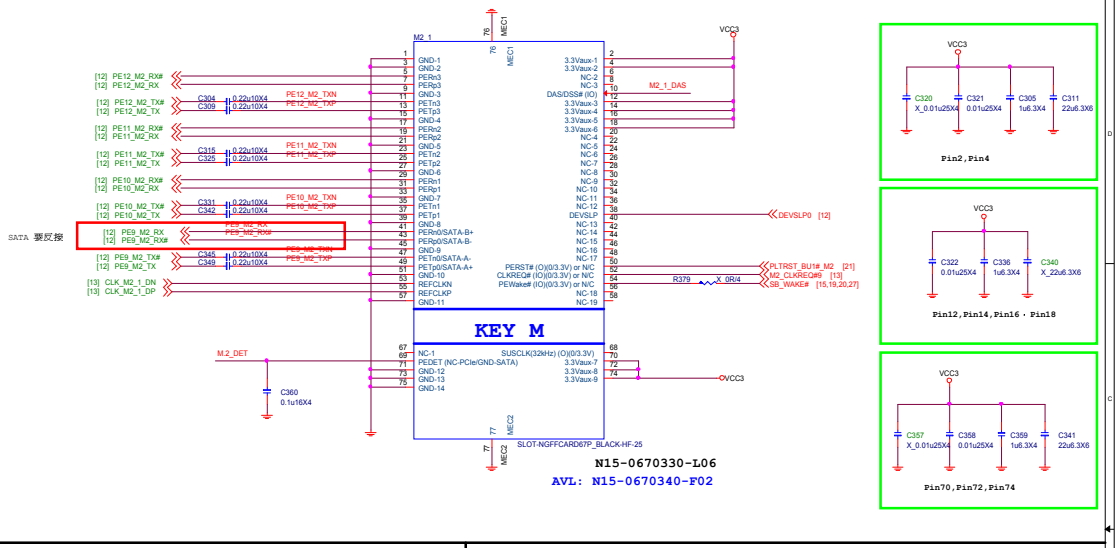

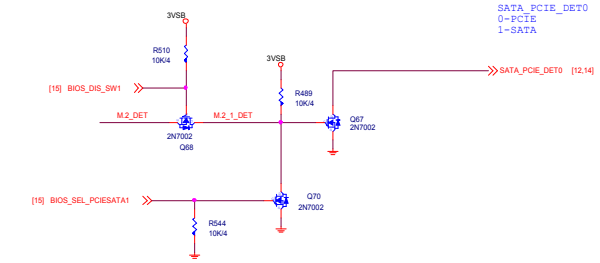

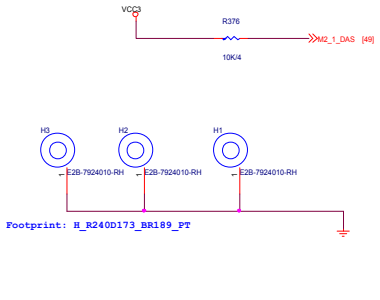

BIOS_MODE

GPP_H15	GPP_H13	
BIOS_DIS_SW1	***BIOS_SEL_PCIESATA1***	***Mode***
0	*1*	***M2-SATA***
0	*0*	***M2-PCIE***
GPI	*GPI*	***AUTO***

MS1	MICRO-STAR INT'L CO.,LTD	
	MS-7C31	
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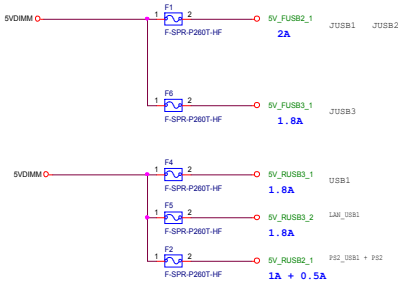
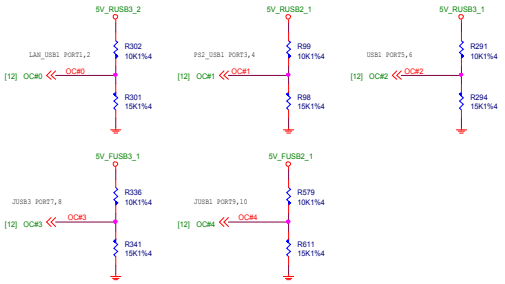
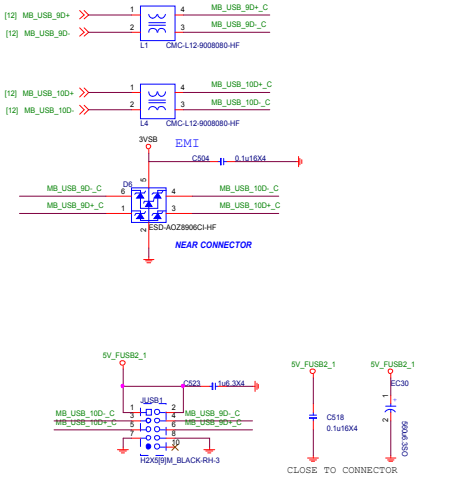


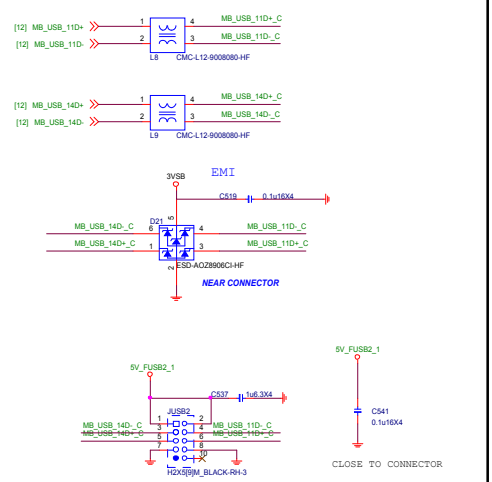


USB CONN	USB POWER	PCH PORT	OC# SIGNAL
LAN_USB1	5V_RUSB3_2	Port1,2	OC#0
PS2_USB1	5V_RUSB2_1	Port3,4	OC#1
USB1	5V_RUSB3_1	Port5,6	OC#2
JUSB3	5V_FUSB3_1	Port7,8	OC#3
JUSB1,2	5V_FUSB2_1	Port9,10,11,14	OC#4

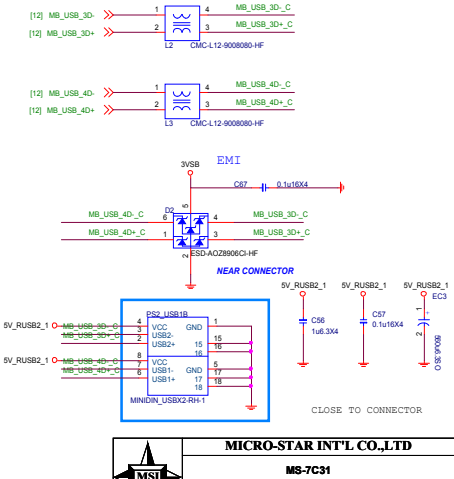
JUSB1 PORT 9,10



JUSB2 PORT 11,14



PS2_USB1 PORT 3,4



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MS-7C31		
Size: Custom	Document Description: USB2.0 Connector	Rev: 1.0
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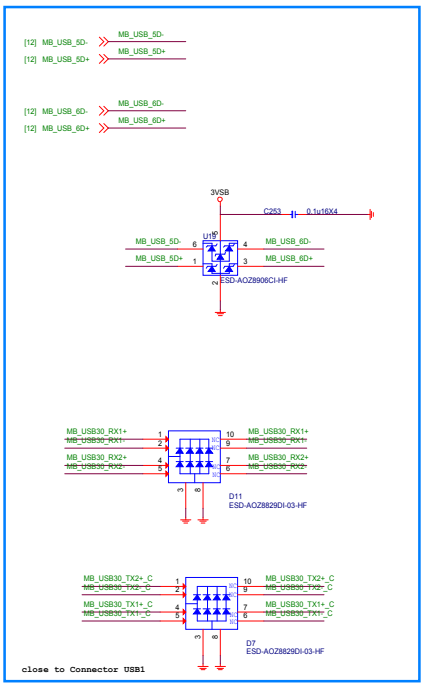
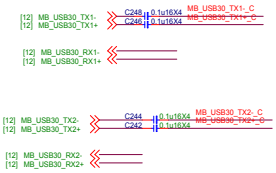
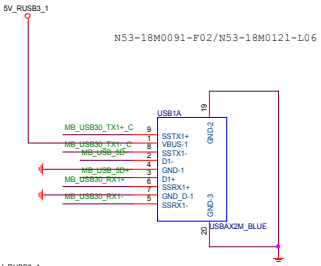
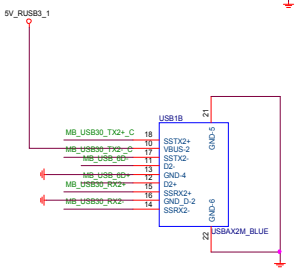
REAR USB1 Connect

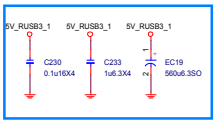








close to Connector USB1



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MS-7C31		
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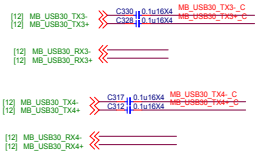
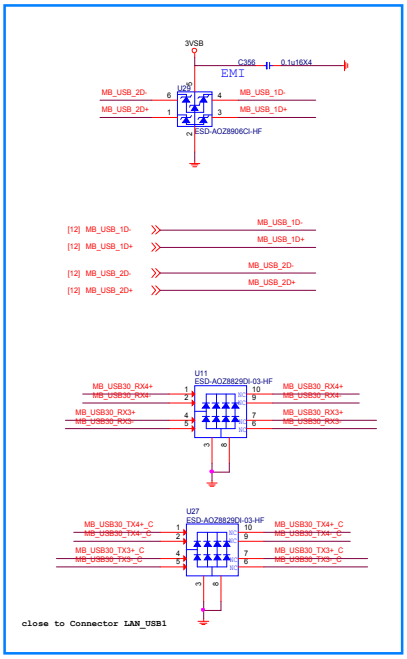
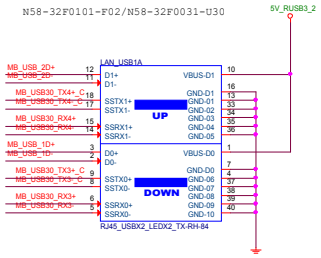
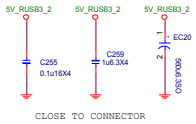
Rear USB1 port 1,2









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MS-7C31		
Size: Custom	Document Description: USB3.0 Rear Connector	Rev: 1.0
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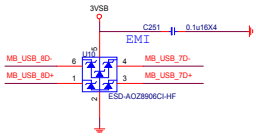
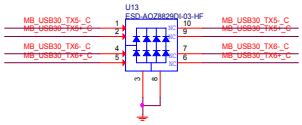
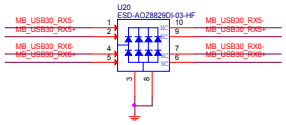
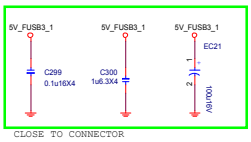
Front JUSB3 port 7,8

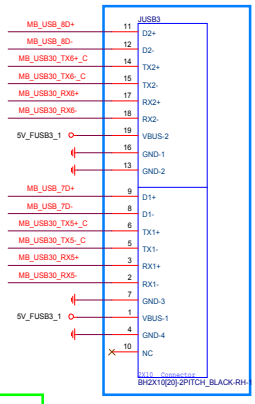








CLOSE TO CONNECTOR



MICRO-STAR INT'L CO.,LTD		
MS-7C31		
Size: Custom	Document Description: Front USB3.0 Connector	Rev: 1.0
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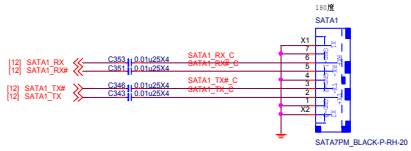
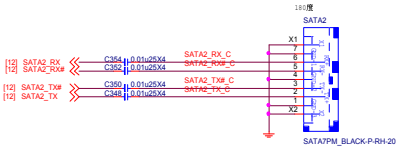
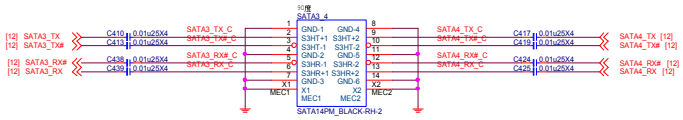
SATA 6G PORT 1



SATA 6G PORT 2



SATA 6G PORT 3.4



SATA 6G PORT 5.6

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	MS-7C31	
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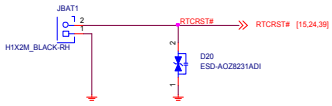
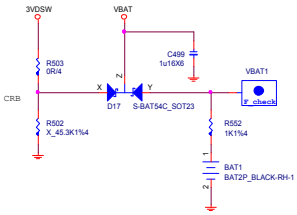
Cut VBAT

VBAT



By Ivy's word document.
Main:D0G-1300500-A68
Avl:D0G-3000600-L07/D0G-1200520-I05



MICRO-STAR INT'L CO.,LTD		
MS-7C31		
Size: Custom	Document Description: CUT VBAT circuit	Rev: 1.0
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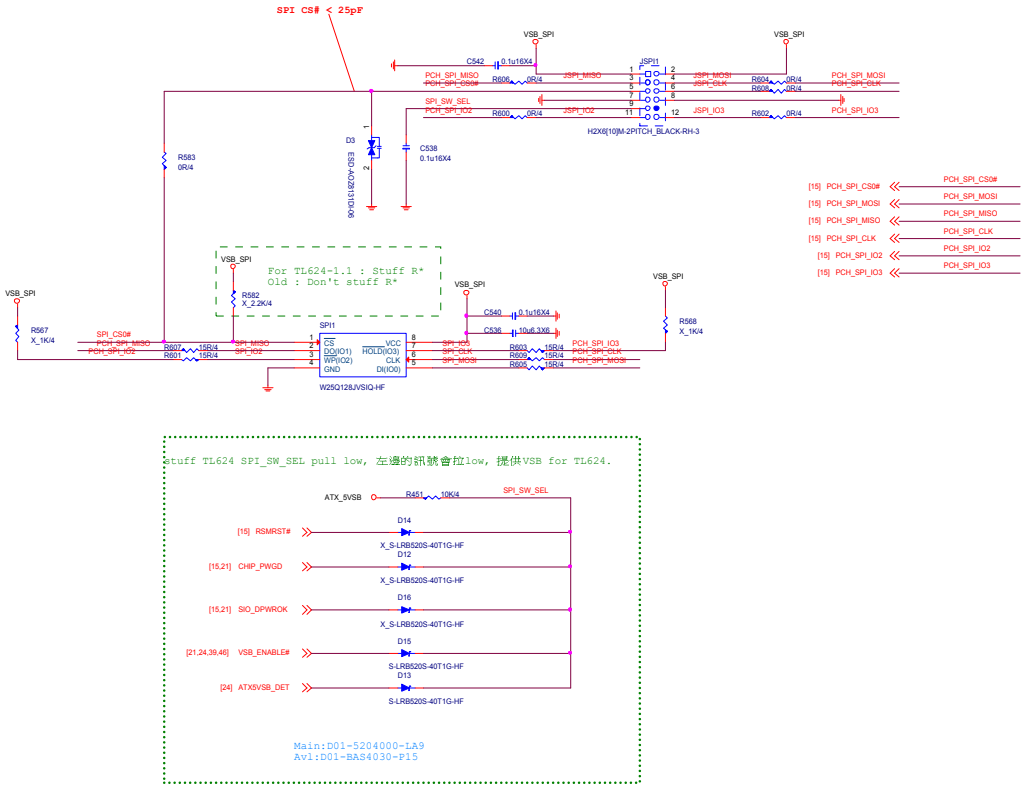
BIOS ROM



MSI	MICRO-STAR INT'L CO.,LTD	
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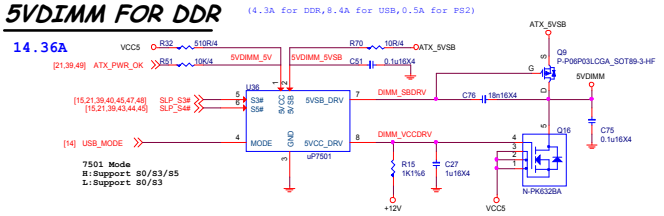
5VDIMM FOR DDR

(4.3A for DDR,8.4A for USB,0.5A for PS2)

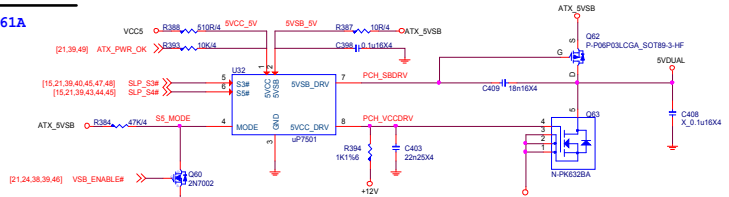
14.36A

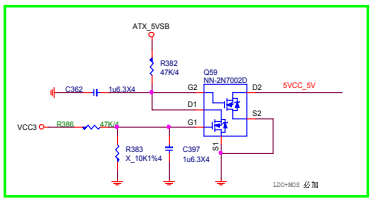


5VDUAL

4.61A

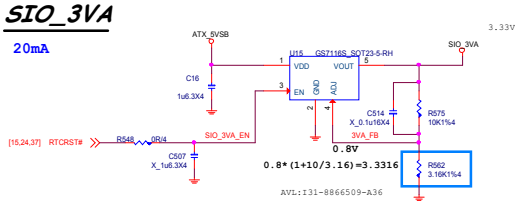
5VDUAL is power source of IPOSB, 1.89SB & 3VSB





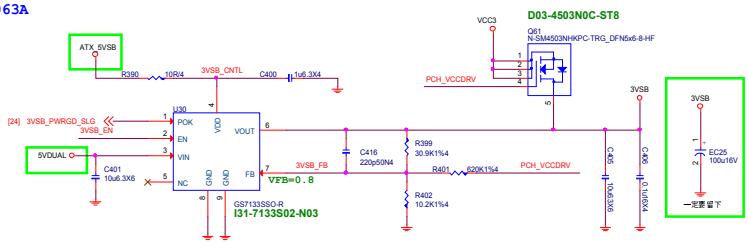
SIO_3VA

20mA



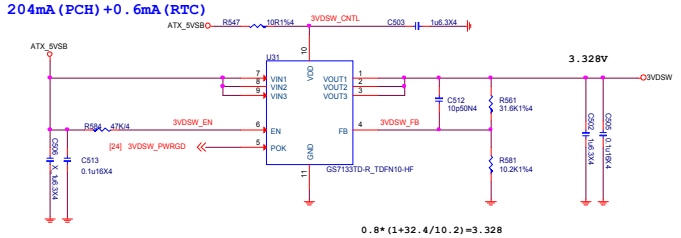
3VSB cost down@3.3V

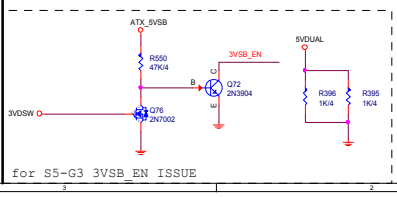
2.063A

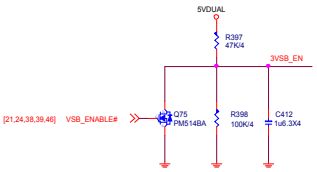


3VDSW

204mA(PCH)+0.6mA(RTC)







MICRO-STAR INT'L CO.,LTD		
MS-7C31		
Size: Custom	Document Description: ACPI CONTROLLER	Rev: 1.0
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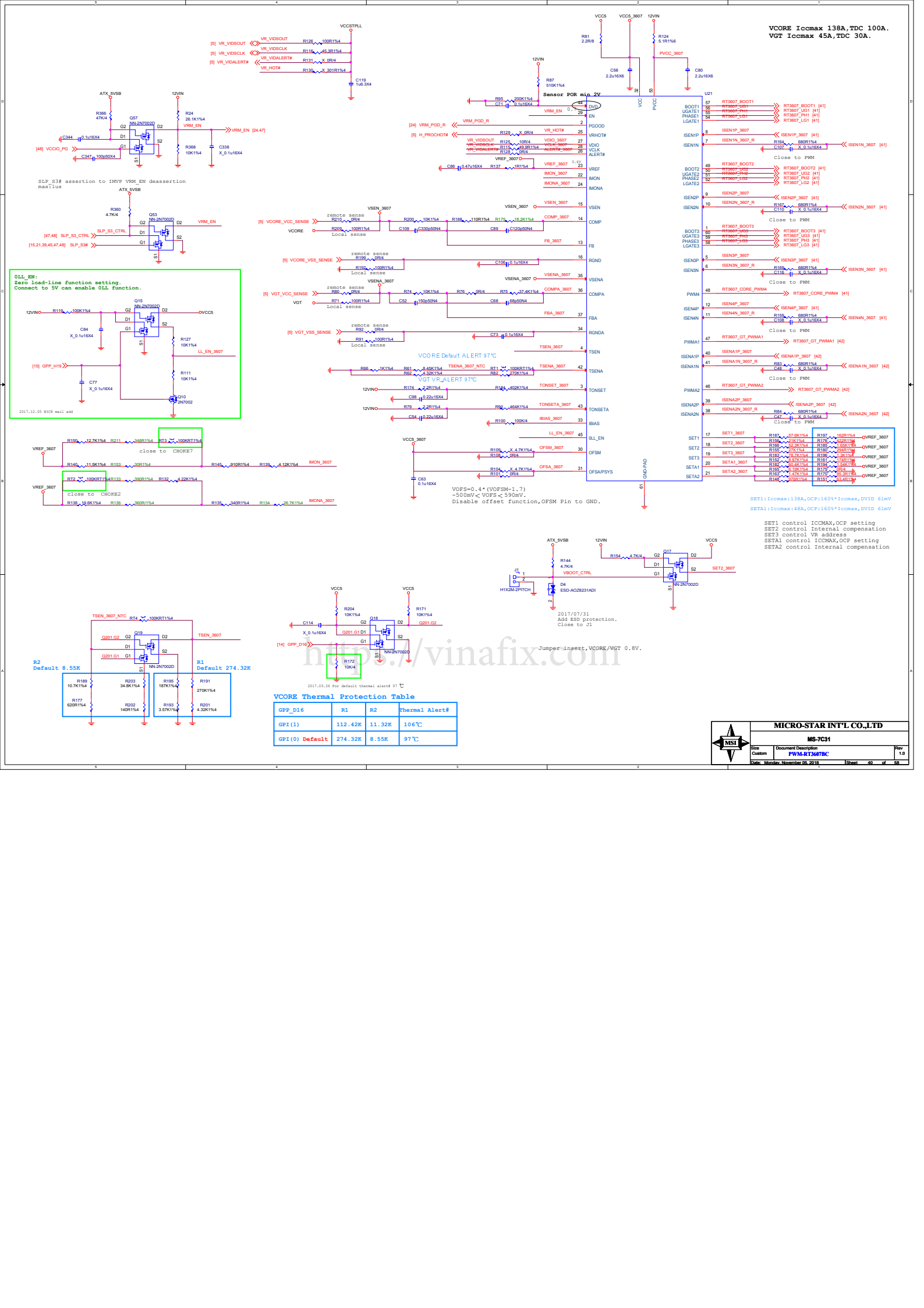
VCORE Iccmax 138A,TDC 100A.
VGT Iccmax 45A,TDC 30A.
Sensor POR min 2V
SLP_S3# assertion to IMVP VRM_EN deassertion max:1us
0LL_EN:
Zero load-line function setting.
Connect to 5V can enable 0LL function.
VCORE Default ALERT 97℃
VGT VR_ALERT 97℃
VOFS=0.4*(VOFSM-1.7)
-500mV< VOFS< 590mV.
Disable offset function,OFSM Pin to GND.
SET1:Iccmax:138A,OCP:160%*Iccmax,DVID 61mV
SETA1:Iccmax:48A,OCP:160%*Iccmax,DVID 61mV
SET1 control ICCMAX,OCP setting
SET2 control Internal compensation
SET3 control VR address
SETA1 control ICCMAX,OCP setting
SETA2 control Internal compensation
Close to PWM
close to CHOKE1
close to CHOKE2
R2
Default 8.55K
R1
Default 274.32K
Jumper insert,VCORE/VGT 0.8V.
2017/07/31
Add ESD protection.
Close to J1
2017.09.26 For default thermal alert# 97 ℃
VCORE Thermal Protection Table
GPP_D16 | R1 | R2 | Thermal Alert#
GPI(1) | 112.42K | 11.32K | 106℃
GPI(0) Default | 274.32K | 8.55K | 97℃
MICRO-STAR INT'L CO.,LTD
MS-7C31
Document Description
PWM-RT3607BC
Rev 1.0
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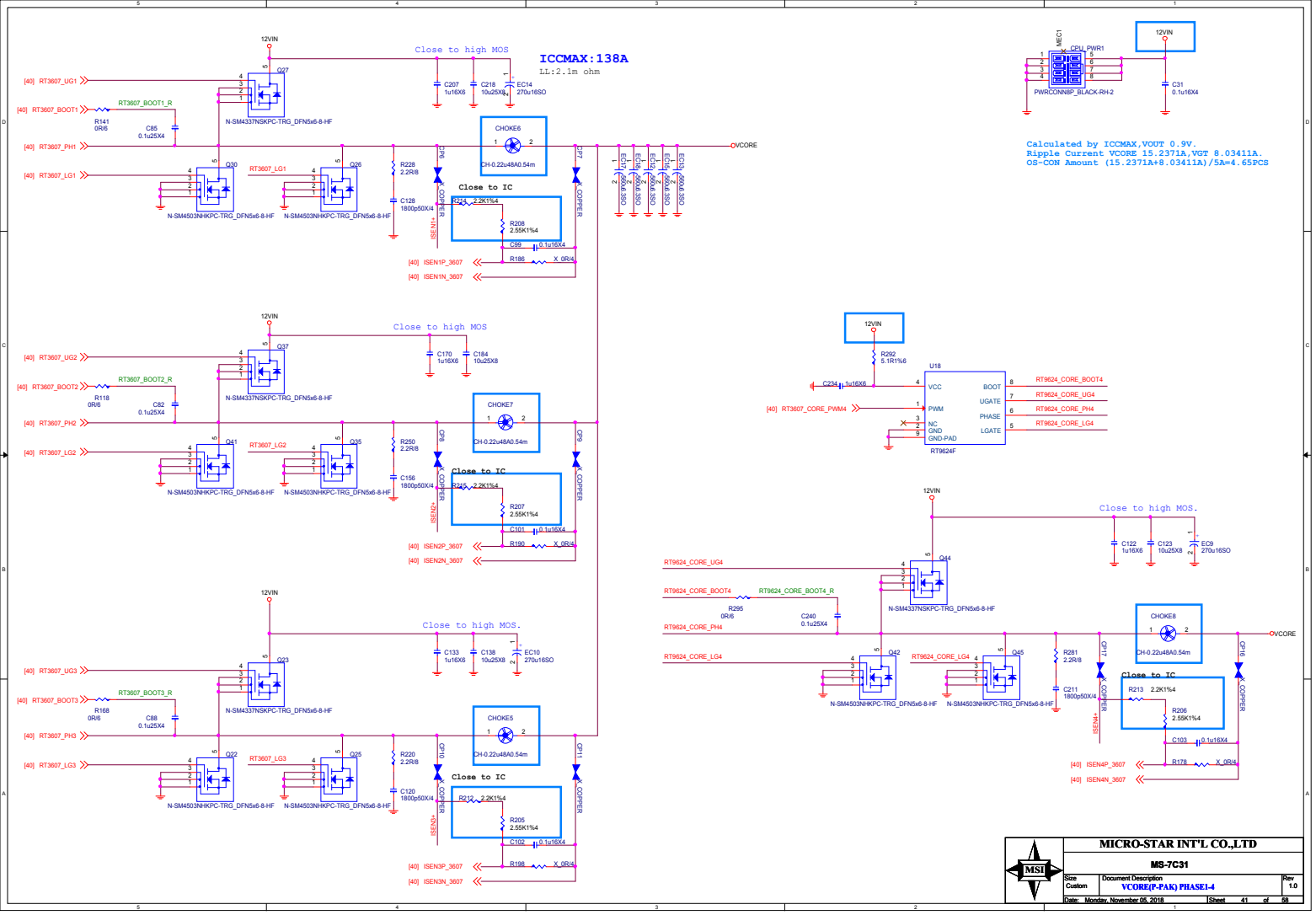

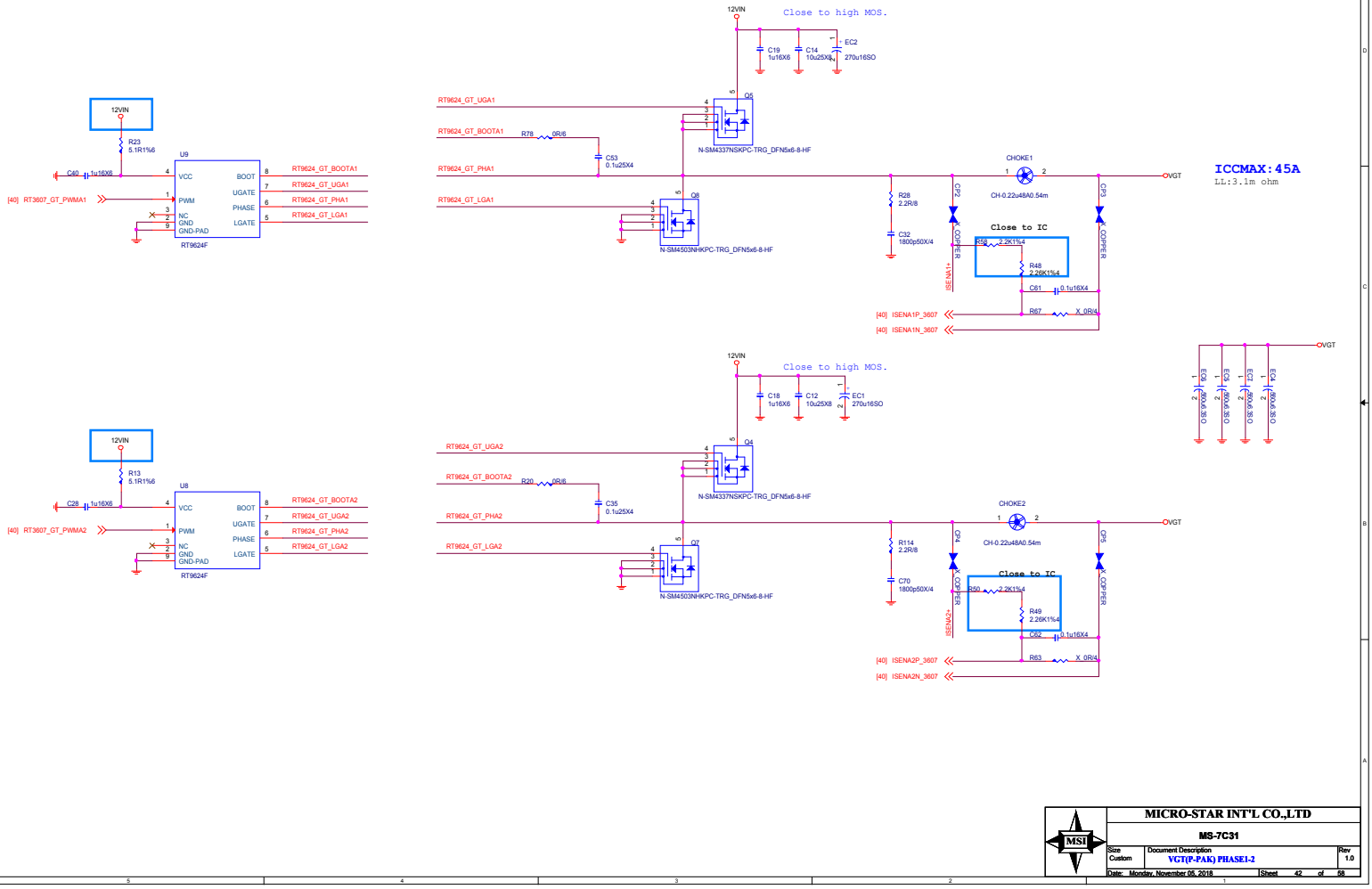

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MS-7C31		
Size: Custom	Document Description: VGT(P-PAK) PHASE1-2	Rev: 1.0
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DDR4_1.2V 3.3A+ 7.85A+0.375A=11.525A

3.3A FOR CPU
7.85A FOR 2DIMM DDR4
0.375A FOR VTT_DDR

OCP: 14.9825
實測約17.6A OCP

Rlimit = Llimit * Rds * 10 /5uA
= 14.9825*4.6*10/5 = 152.8K
0.4V<=Rlimit *5uA<=3V

D03-632BA0C-N03
Current limit= 150K*5uA/10/3mohm)=25A
Current limit= 150K*5uA/10/4.6mohm)=16.304A

D03-4C02403-O05
Current limit= 150K*5uA/10/3.3mohm)=22.727A
Current limit= 150K*5uA/10/4mohm)=18.75A

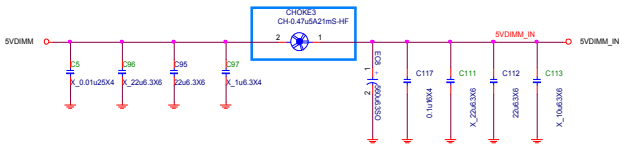
D03-4503N0C-ST8
Current limit= 150K*5uA/10/3.9mohm)=19.23A
Current limit= 150K*5uA/10/5.1mohm)=14.705A

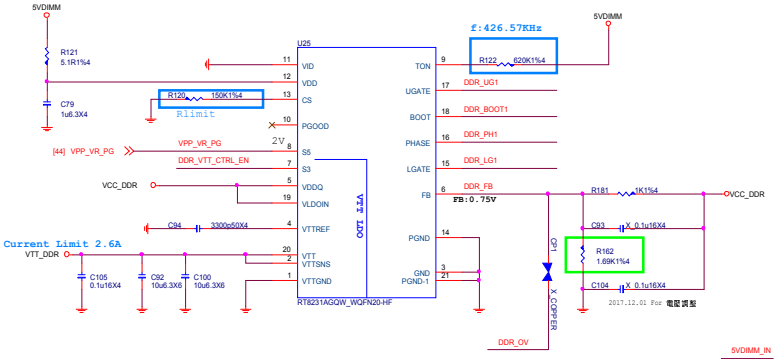
CHOKE = 32A

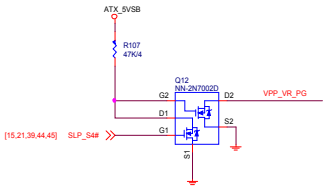
Iin=11.525A*1.2V/0.8/5V=3.4575A
L02-3008043-M26
Over 85℃ ,Rated Current 1.5A.

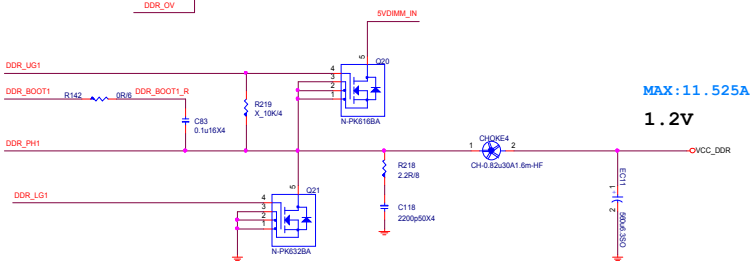
VID	Reference Voltage (V)
H	0.675
L	0.75

Irms = Iout * SQRT((Vout/Vin) * (1-(Vout/Vin)))
=11.525* 0.427
= 4.921175A







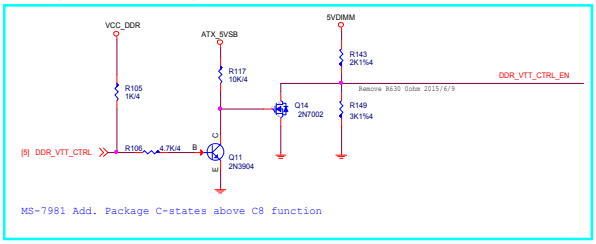


MAX:11.525A

1.2V

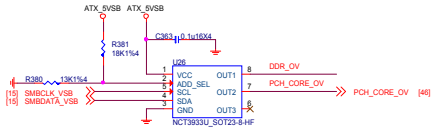
SLP_S4# de-assertion to VDDQ ramp down start

VPP ramp down after VDDQ ramp down



UPI VOLTAGE CONSOLE

0x26:RH=18K,RL=13K



MICRO-STAR INT'L CO.,LTD		
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2DIMM :1.12A FOR DDR VPP2.5V

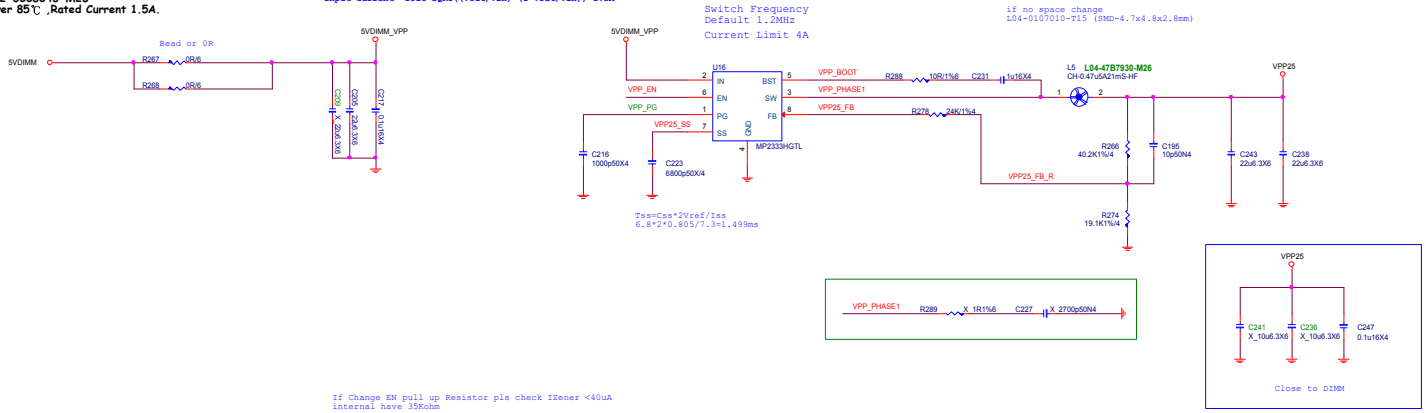
VPP25 Power
2.5V; 2A

Iin=IOCP*Vout/08/Vin
=4A*2.5V/0.8/5V=2.5A
L02-3008043-M26
Over 85℃ ,Rated Current 1.5A.

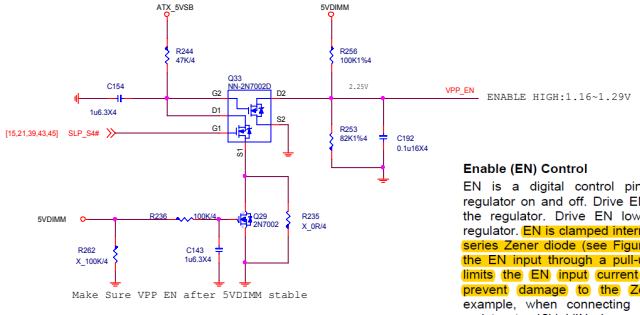
Input Current= Iout*SQRT((Vout/Vin)*(1-Vout/Vin))=1.5A

Out put CHOKE
L04-0107020-L65 (SMD-7.1x6.6x2.8mm)
L04-0107020-T15 (SMD-7.1x6.6x2.8mm)

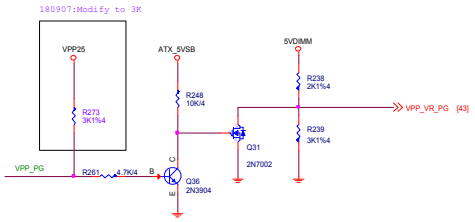
if no space change
L04-0107010-T15 (SMD-4.7x4.8x2.8mm)



If Change EN pull up Resistor pls check IZener <40uA
internal have 35Kohm



180907:Modify to 3K



Enable (EN) Control

EN is a digital control pin that turns the regulator on and off. Drive EN high to turn on the regulator. Drive EN low to turn off the regulator. EN is clamped internally using a 2.8V series Zener diode (see Figure 2). Connecting the EN input through a pull-up resistor to V_{IN} limits the EN input current below 40µA to prevent damage to the Zener diode. For example, when connecting a 604kΩ pull-up resistor to 12V VIN, I_{Zener} = (12V - 2.8V) / (604kΩ + 35kΩ) = 14µA.

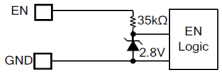


Figure 2: Zener Diode between EN and GND

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MS-7C31		
Size: Custom	Document Description: DDR-MP2333-VPP25	Rev: 1.0
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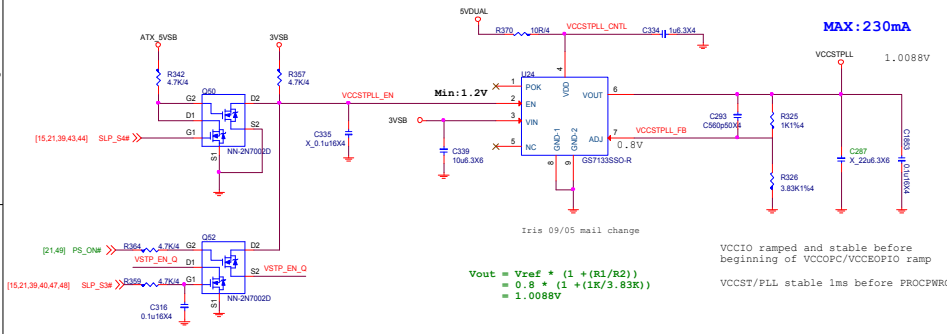
VCCSTPLL

1.0V; 230mA



Iris 09/05 mail change

Vout = Vref * (1 +(R1/R2))
= 0.8 * (1 +(1K/3.83K))
= 1.0088V

VCCIO ramped and stable before beginning of VCCOPC/VCCEOPIO ramp

VCCST/PLL stable 1ms before PROCPWRGD

MICRO-STAR INT'L CO.,LTD		
MS-7C31		
Size: Custom	Document Description: CPU PWR_ST/PLL	Rev: 1.0
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PCH_1VSB

1.05V; 11.717A

OCP = 15.575

CHOKE = 18A

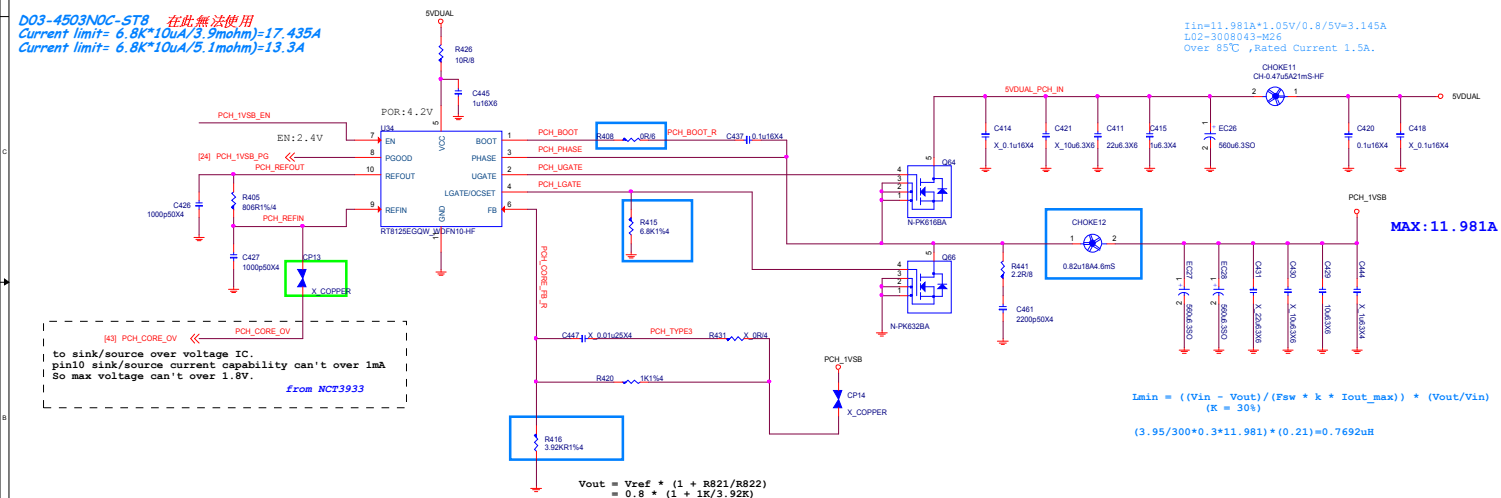
DO3-632BA0C-N03
Current limit= 6.8K*10uA/3mohm)=22.66A
Current limit= 6.8K*10uA/4.6mohm)=14.782A

DO3-4C02403-O05
Current limit= 6.8K*10uA/3.3mohm)=20.6A
Current limit= 6.8K*10uA/4mohm)=17A

DO3-4503N0C-ST8 在此無法使用
Current limit= 6.8K*10uA/3.9mohm)=17.435A
Current limit= 6.8K*10uA/5.1mohm)=13.3A

Irms = Iout * SQRT((Vout/Vin) * (1 - (Vout/Vin)))
=11.981 * 0.407
=4.876A

Iin=11.981A*1.05V/0.8/5V=3.145A
L02-3008043-M26
Over 85℃ ,Rated Current 1.5A.



MICRO-STAR INT'L CO.,LTD		
MS-7C31		
Size: Custom	Document Description: PCH Core power	Rev: 1.0
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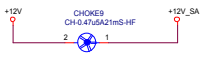
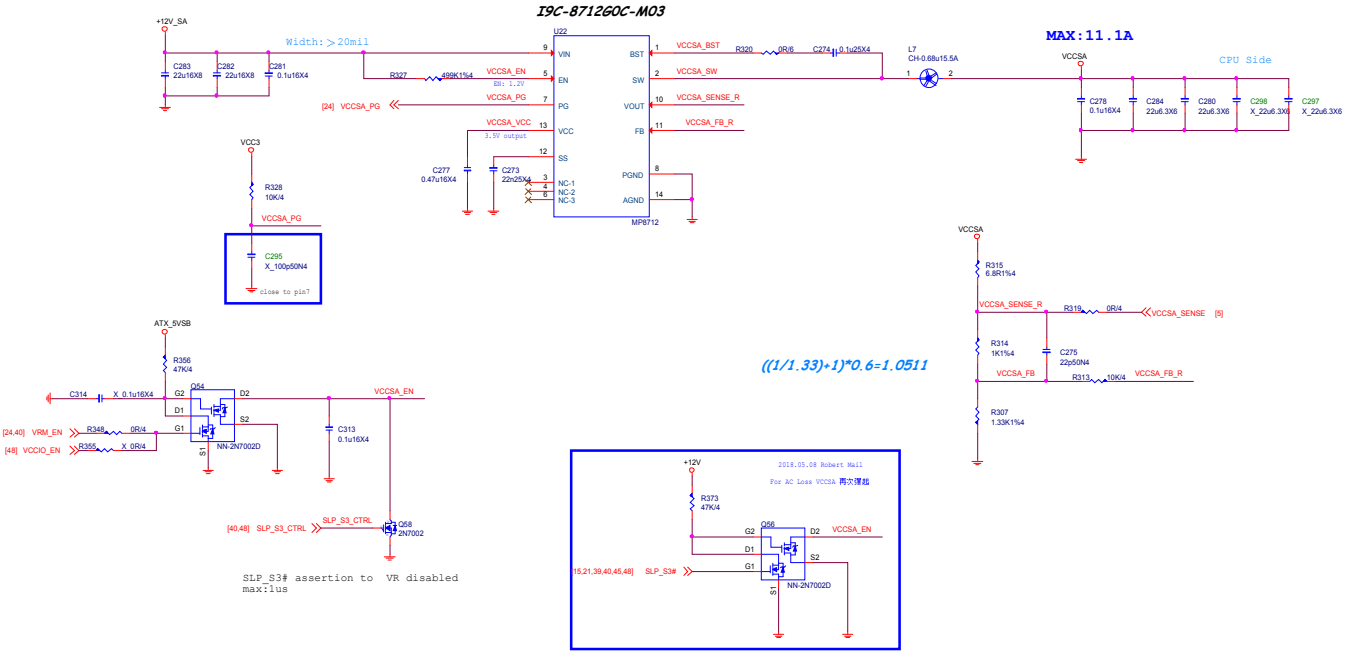
VCCSA

Iin =12V, 1.214A

Iout = 1.05V , 11.1A



Iin=11.1*1.05/0.8/12=1.214



MICRO-STAR INT'L CO.,LTD		
MS-7C31		
Size: Custom	Document Description: VCCSA - POWER TPS56C215	Rev: 1.0
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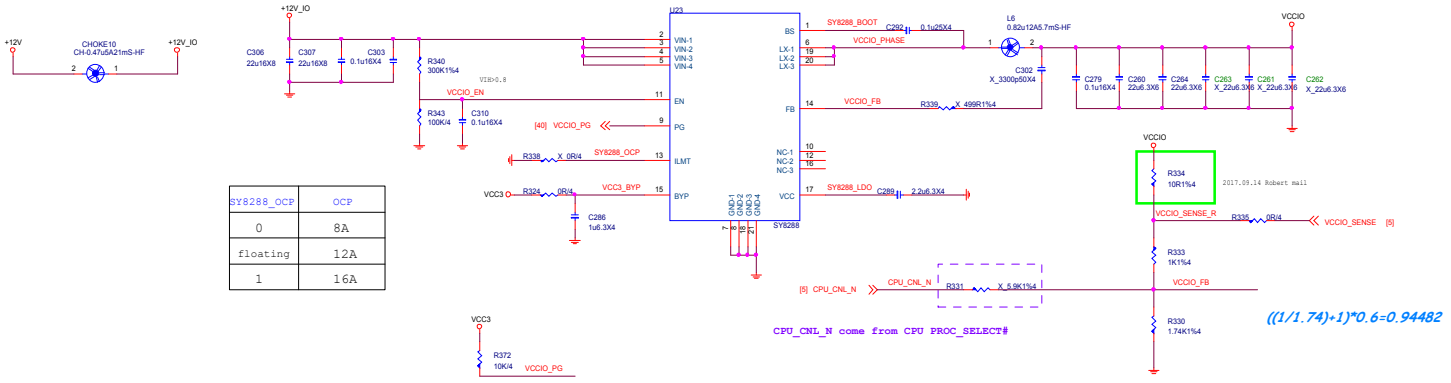
VCCIO

Iin = 12V , 0.63A

Iout = 0.95V; 6.4A

IMAX 10A
ILIMIT=10A~12A
*IOC=ILIMIT+40%*IMAX/2=12A~14A.*

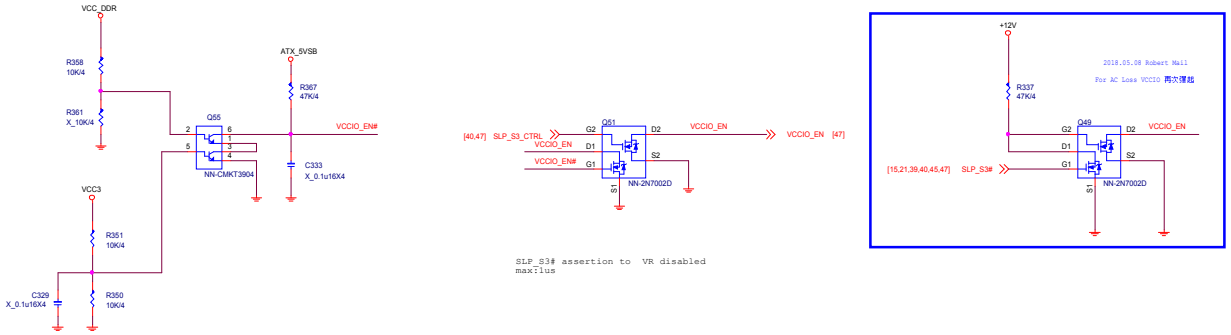
MAX: 6.4A



SY8288_OCP	OCP
0	8A
floating	12A
1	16A

CPU_CNL_N come from CPU PROC_SELECT#

*((1/1.74)+1)*0.6=0.94482*



MICRO-STAR INT'L CO.,LTD		
MS-7C31		
Size: Custom	Document Description: VCCIO - POWER SY8288	Rev: 1.0
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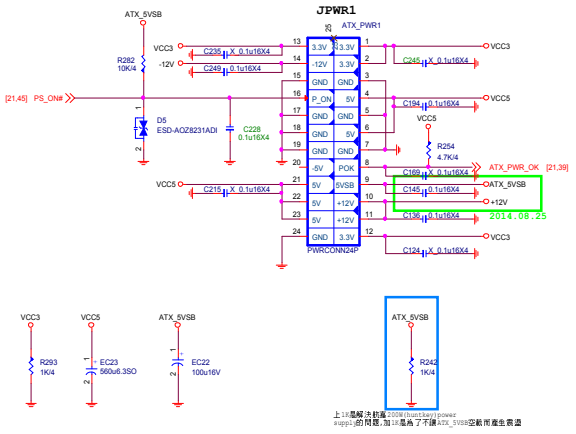
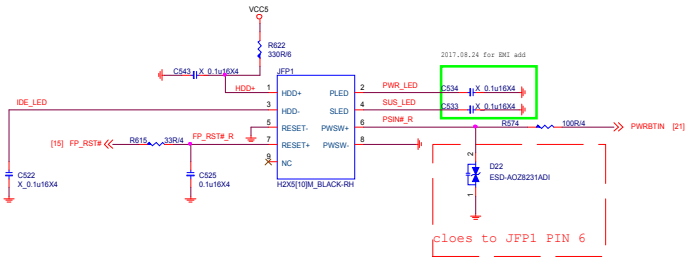
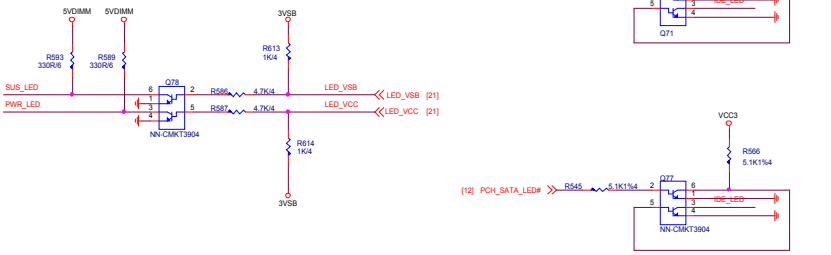
ATX POWER CONNECTOR

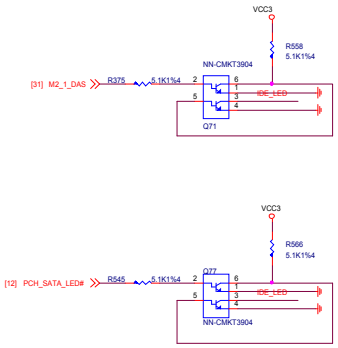


FRONT PANNEL

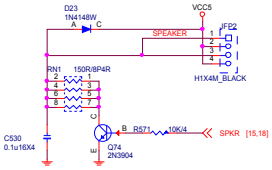


LED





Speaker Pin Header



MSI	MICRO-STAR INT'L CO.,LTD	
	MS-7C31	
Size: Custom	Document Description: ATX F_Panel/MSI_LED	Rev: 1.0
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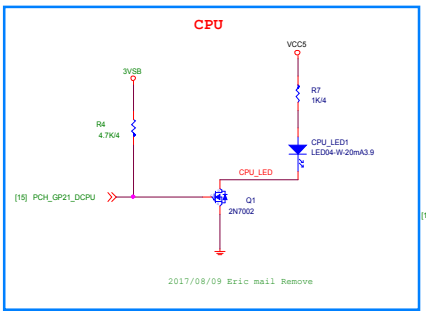
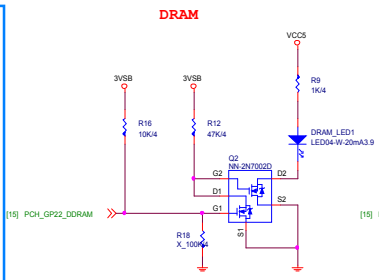
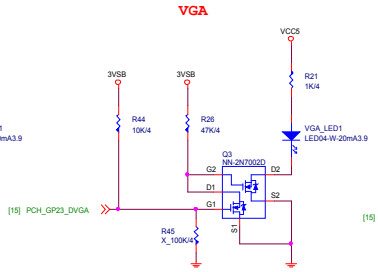
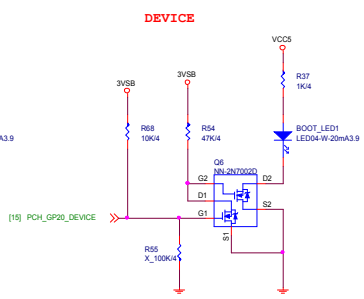
DEBUG LED









LED	PCH_GP20	PCH_GP21	PCH_GP22	PCH_GP23
亮	NATIVE PULL HIGH	GPO PULL HIGH	GPO PULL HIGH	NATIVE PULL HIGH
滅	NATIVE LOW	GPO LOW (default LOW)	GPO LOW (default LOW)	GPO LOW (default LOW)

關機斷電狀態下，3個LED先維持default全暗，開機通電後：
1. 首先進行CPU checkCPU LED 亮，check PASS後則CPU LED滅掉。
2. 接著依序進行Memory /memory LED亮check PASS後則memory LED滅掉。
3. VGA的check/VGA LED亮，check PASS後則VGA LED滅掉。
4. 因此最後正常順利開機後，三個LED燈都是滅掉的。（系統重啟或其他原因造成系統重開機，則LED仍按上述行為動作）

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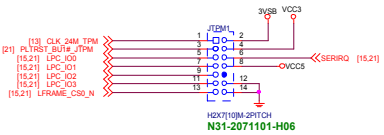
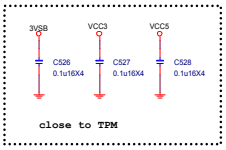
TPM





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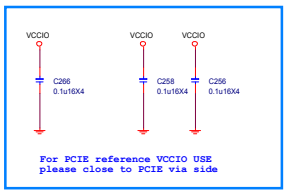
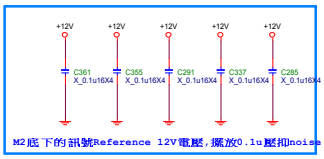
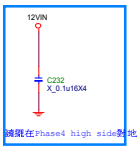
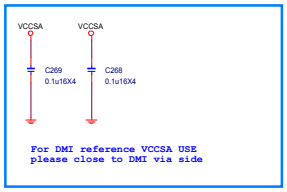
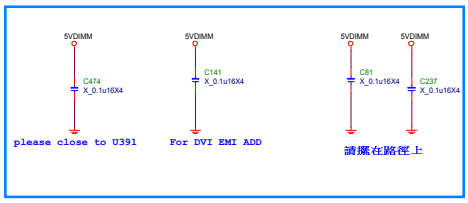
EMI CAP

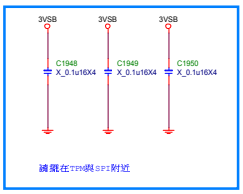












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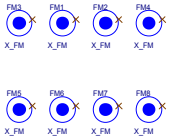
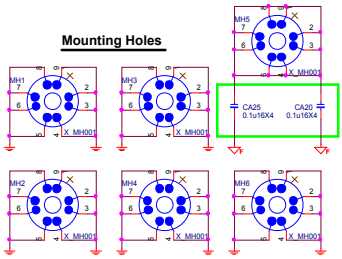
Optical Fiducial Marks-120



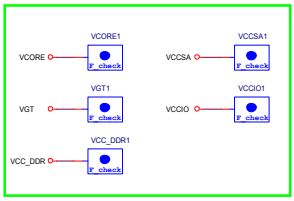
Mounting Holes



HS_PCH1
PCH Shink
MCE1
MCE2
HS-0409430-RH

Simulation

DFM check(Bottom)



BAT1_X1
BAT-BCR2032P-RH

CPU_H1
CPU 鐵座
E21-7557050-L06

BIOS_LA1
AMI
AMI

HDMI_LA1
HDMI VIRTUAL
HDMI LABEL

PCB1
7C31_0A
PK0-07C3110-G37
PK0-07C3110-E48

Marketing Name

LA10
B365 PRO-VE
MKT

LA11
B365 PRO-VD
X_MKT

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