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MS-7B75

ATX:236mm*205mm
Ver: 10

Intel -CoffeeLake-S plamform

CPU:

LGA1151
CPU POWER PAK *4Phase
GT POWER PAK *2 Phase

System Chipset:

Cannon Lake H310

Onboard Chip:

SIO: NCT6797D
HD Audio Codec: ALC887
LAN: RTL8111H
Flash ROM: SPI 128 MB
DP to VGA: ITE6516
CUT VBAT:SLG4B41231

PWM:

VCORE - RT3606
DDR - RT8231
DDR VPP25- MP2143
PCH(1.05V) - RT8125E
VCCSA - RT8125E
VCCIO - SY8288

Main Memory:

DDR4 * 2 (Dual Channel)

Other:

SERIAL PORT*2
PARALLAL PORT*1

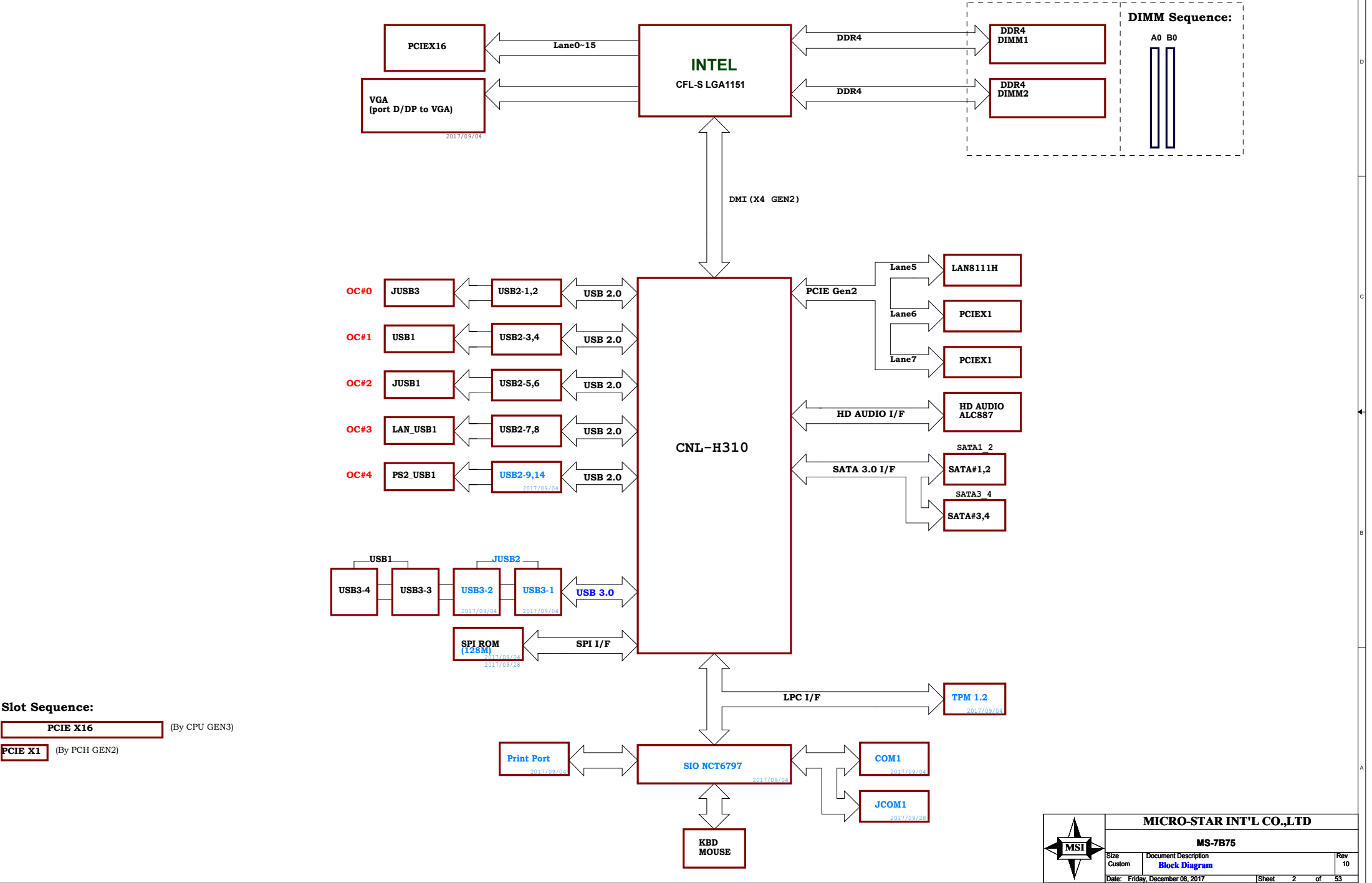
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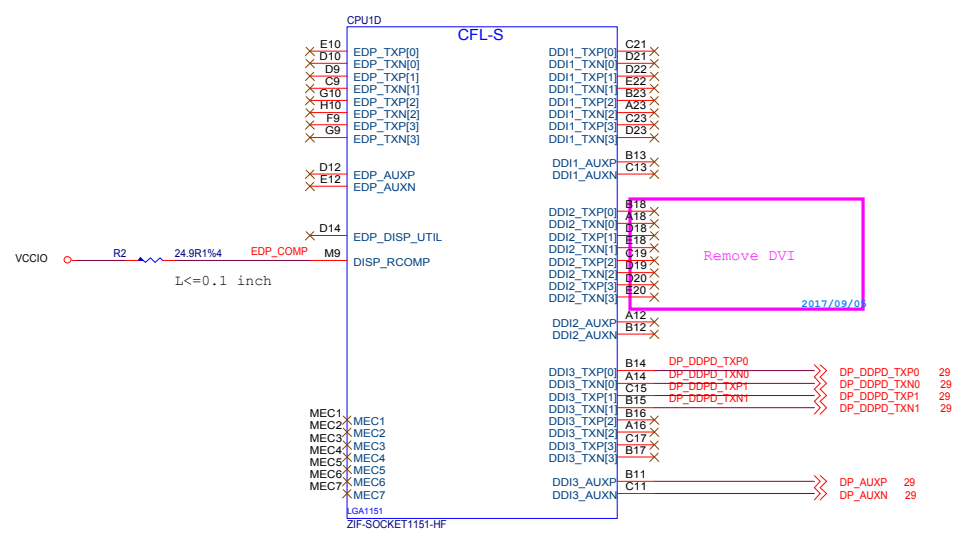
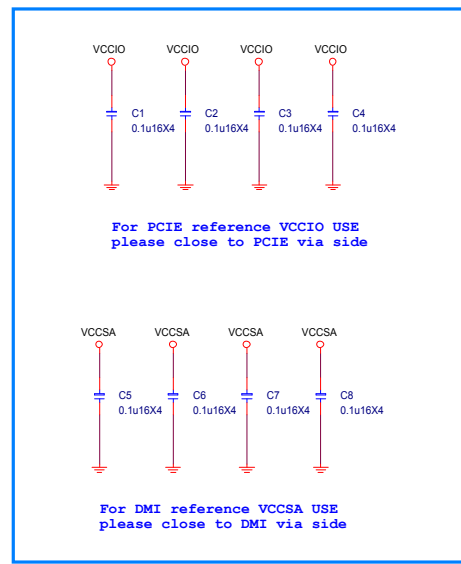
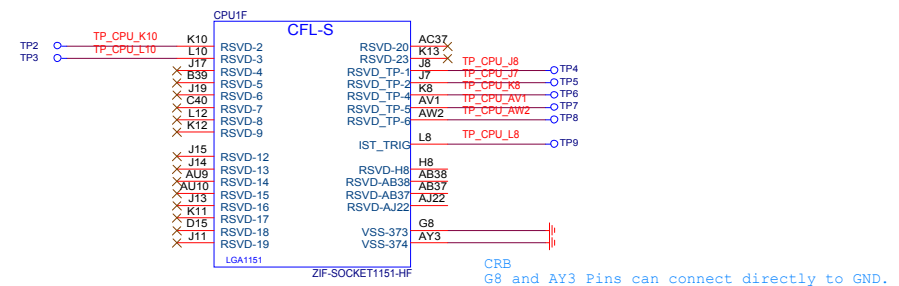
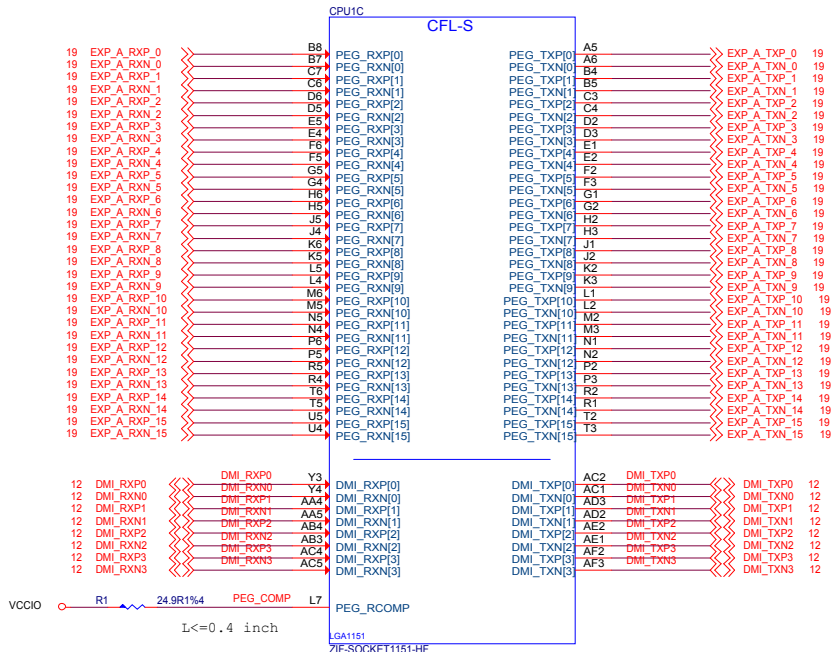
5VDAUL:uP7501
5VDIMM:uP7501
3VSB:GS7133+N MOS
1P8_VSB:GS7116
3VDSW:GS7116
VCCSTPLL:GS7133

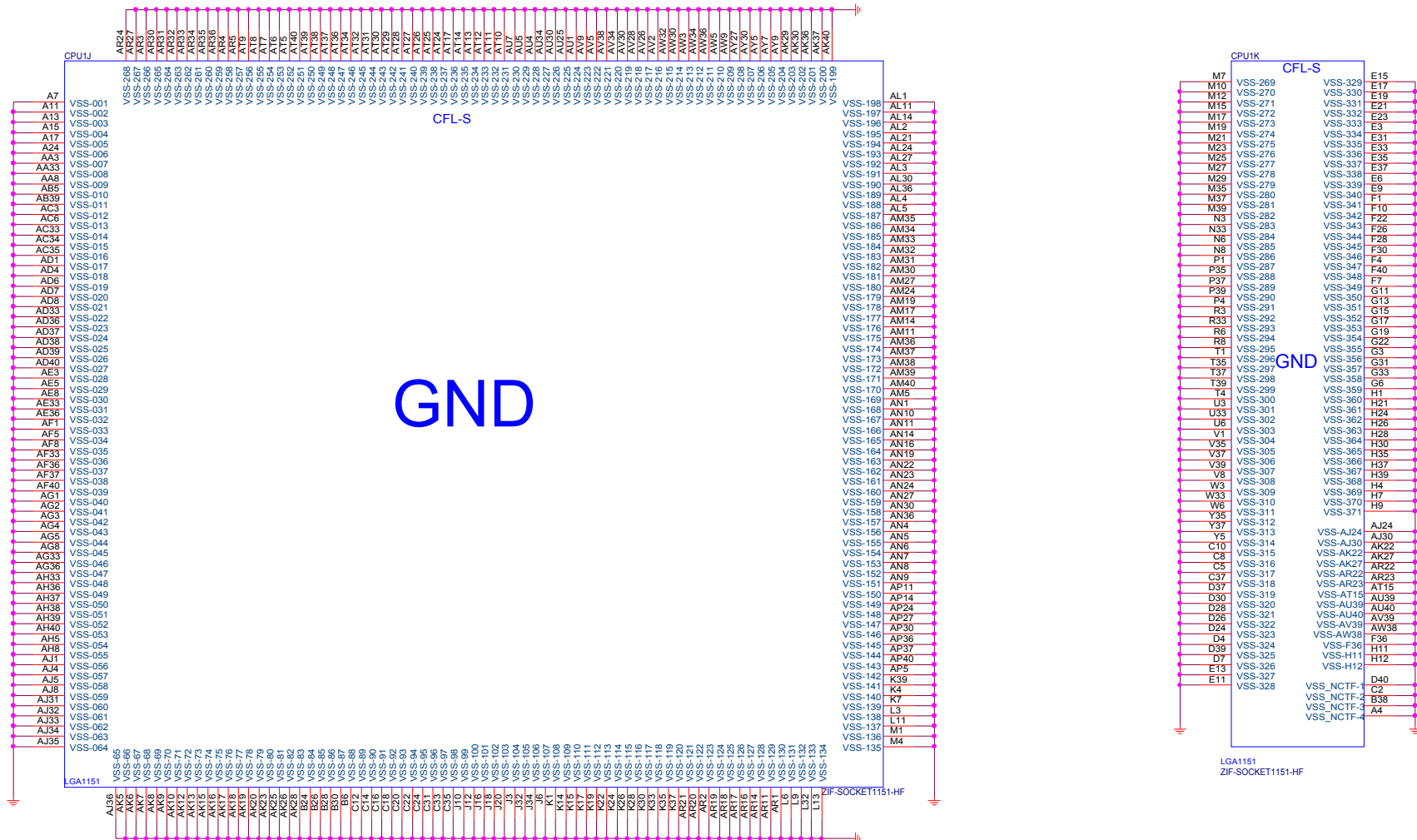
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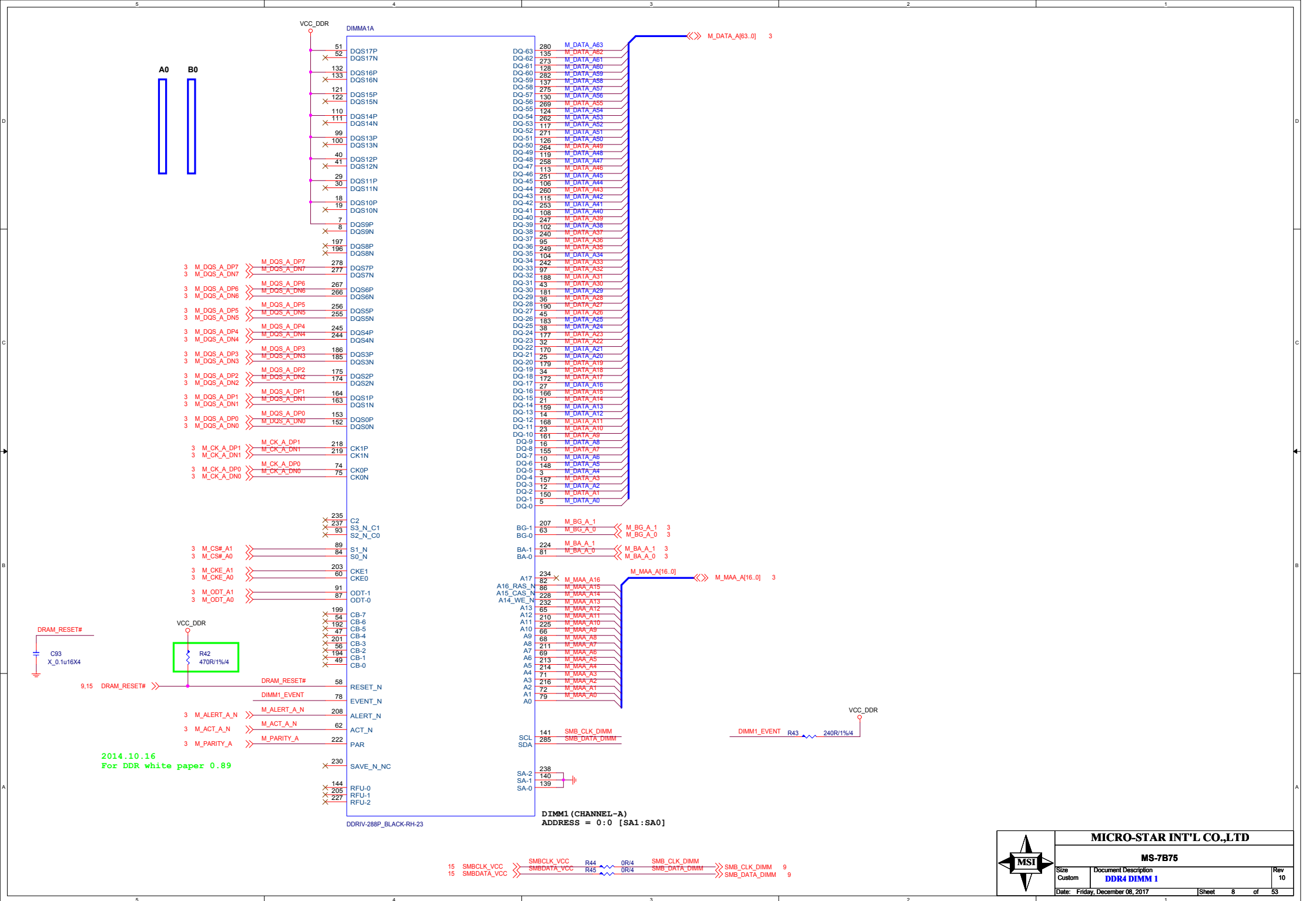
PCI Express (X16) Slot * 1
PCI Express (X1) Slot * 1

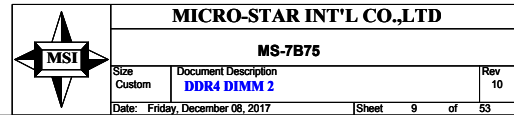
MS-7B75 Block Diagram

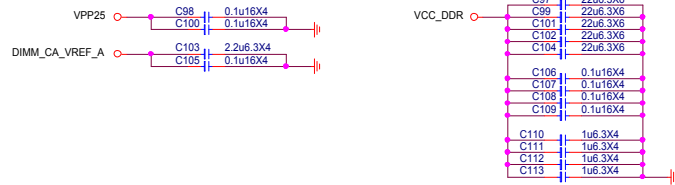
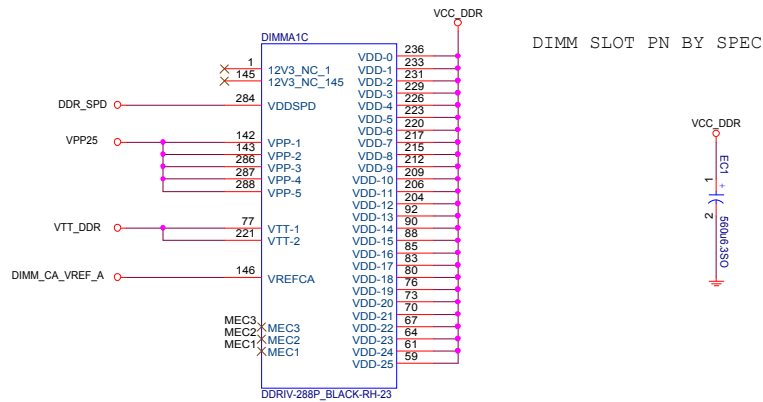




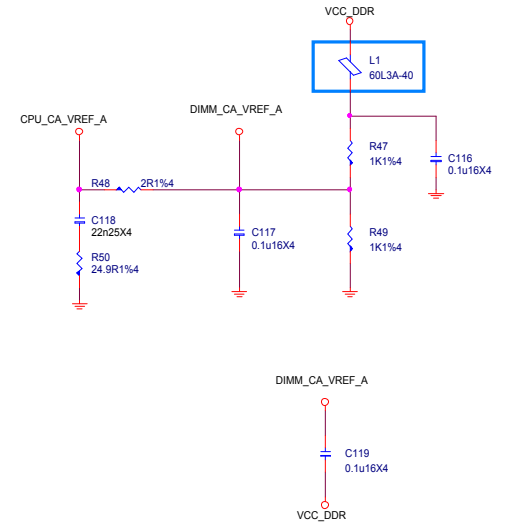
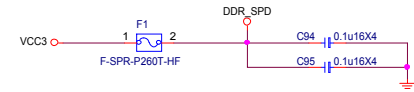
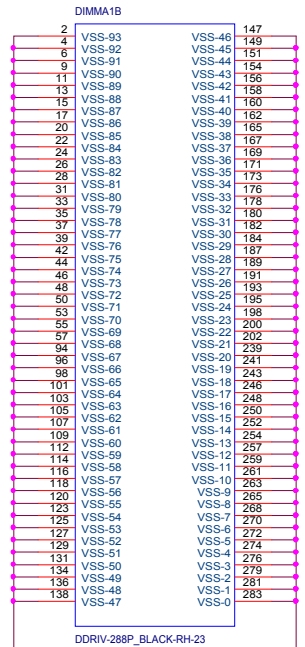
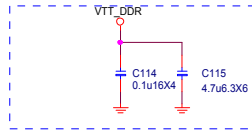


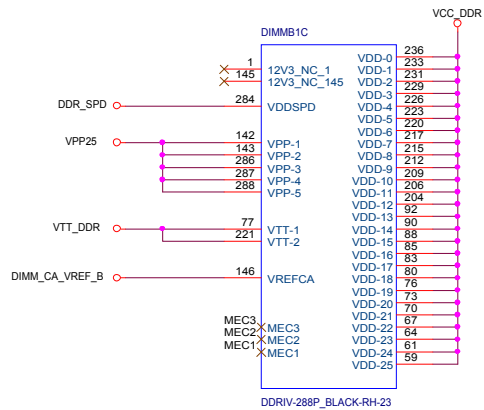




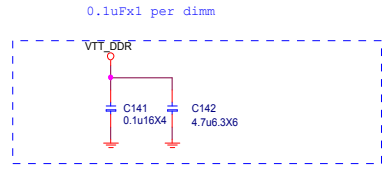
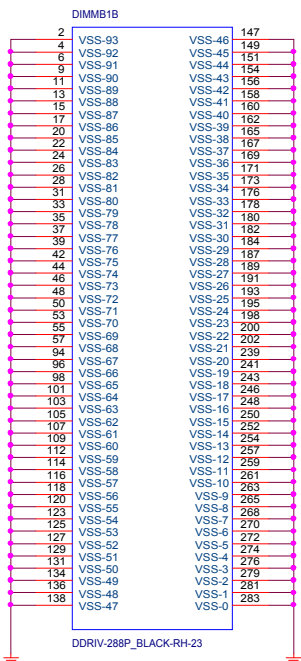
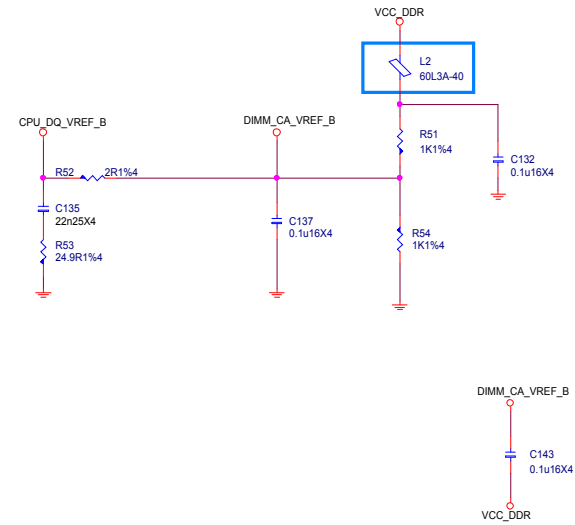
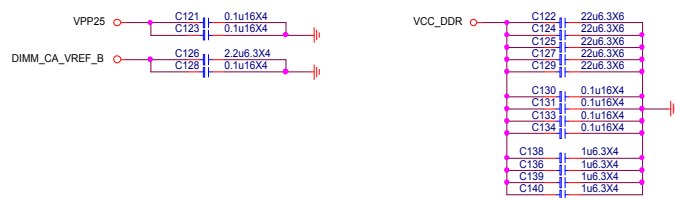


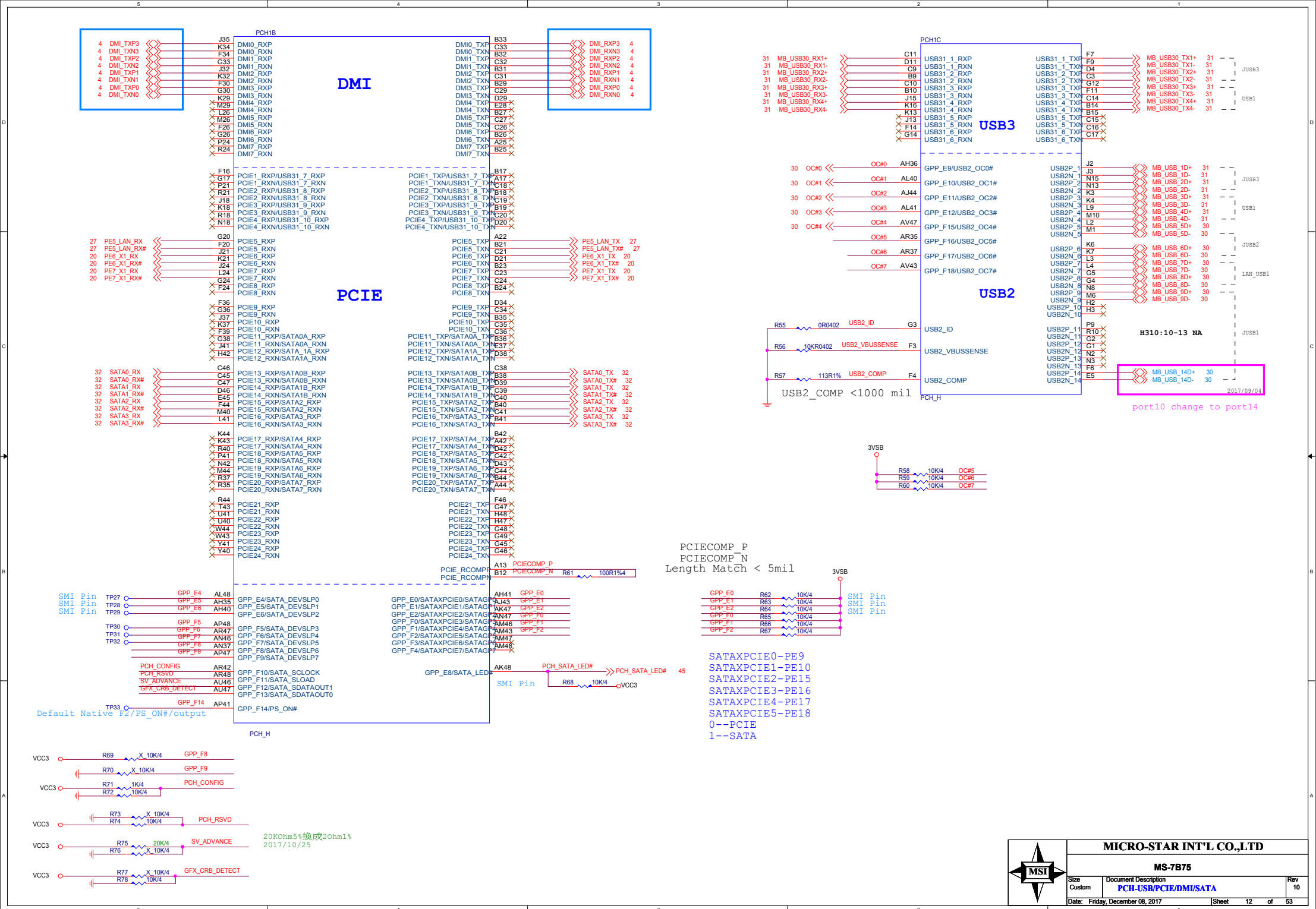
0.1uF/x1 per dimm





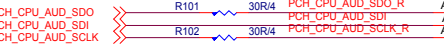
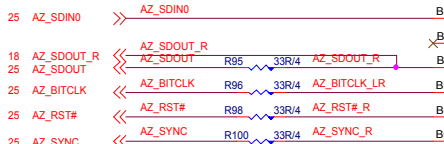
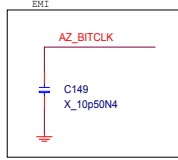
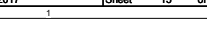
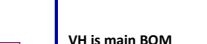
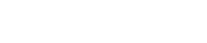
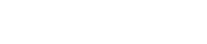
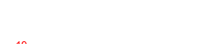
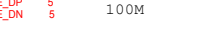
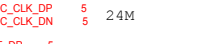
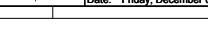
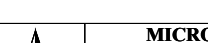
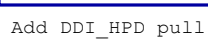
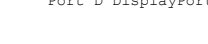
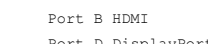
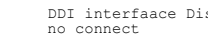
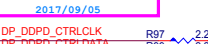
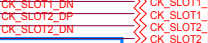
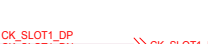
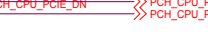
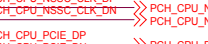
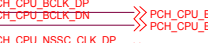
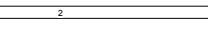
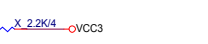
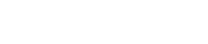
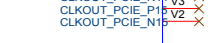
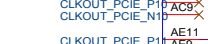
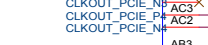
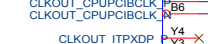
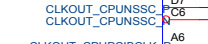
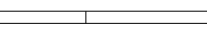
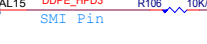
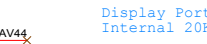
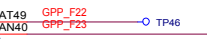
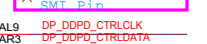
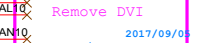
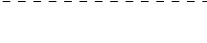
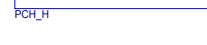
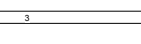
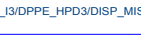
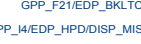
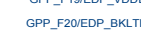
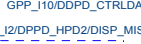
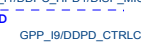
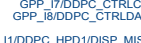
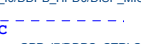
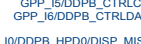
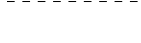
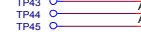
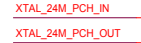
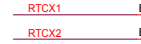
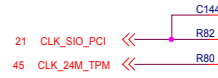
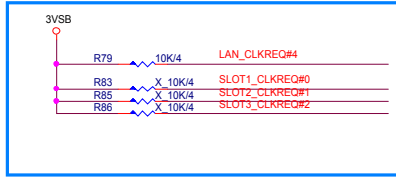
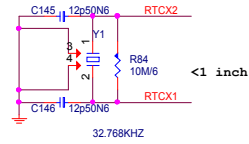
Place close to DIMM2





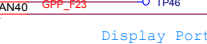
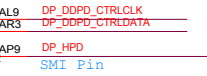
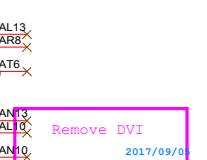
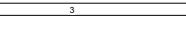
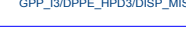
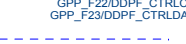
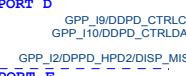
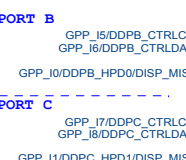
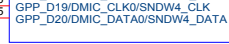
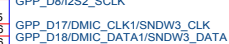
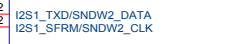
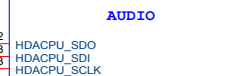
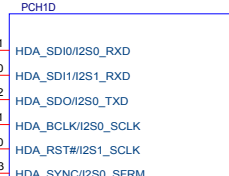
RTC Block

Close to PCH

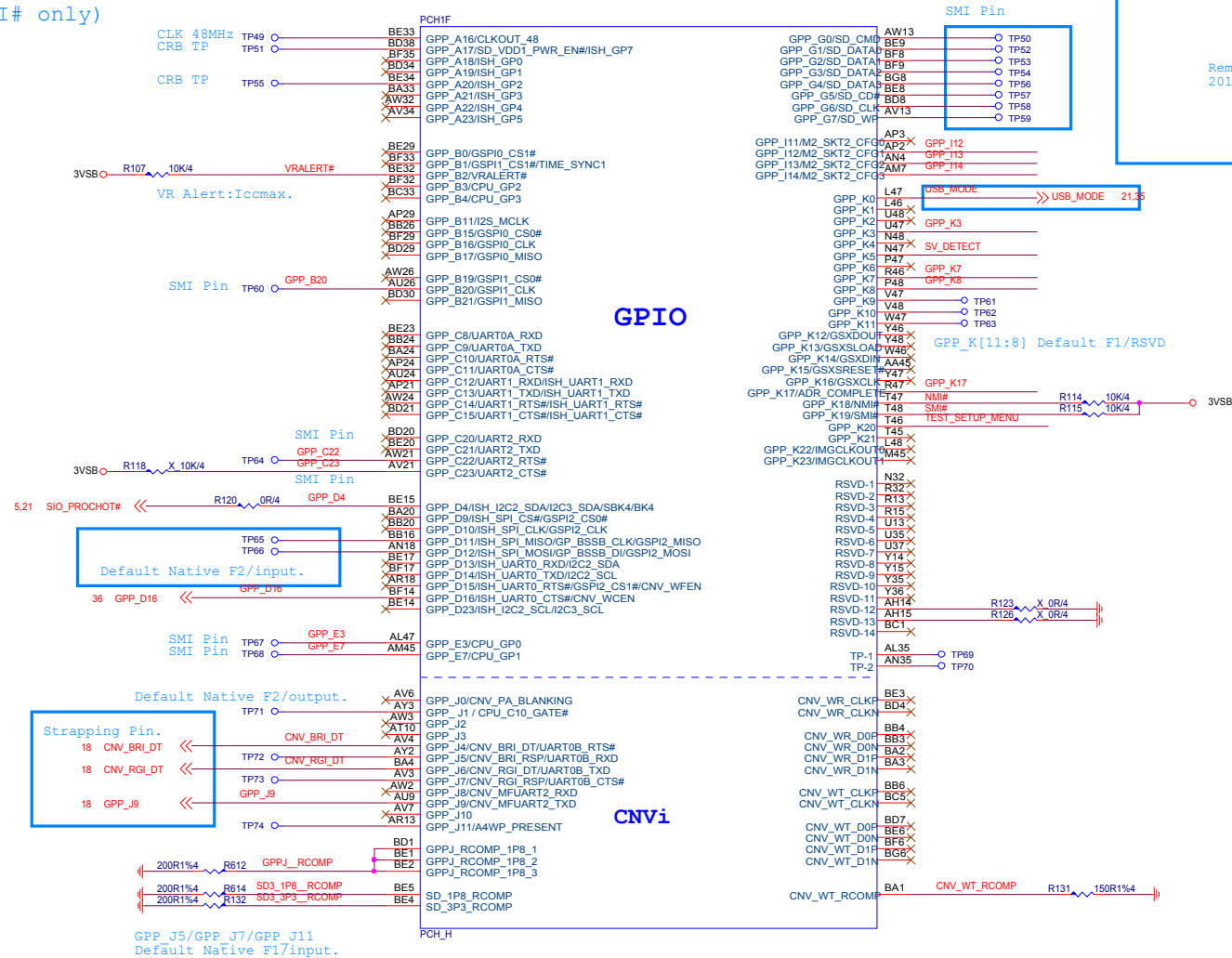


Default Native F3/CNV_RF_R RESET#.

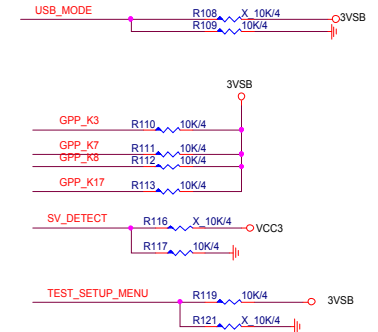
Default Native F3/MODEM_CLKREQ.



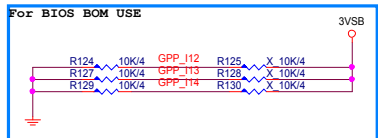
```
GPIO (SMI/NMI) :
GPP_B14,GPP_B20,GPP_B23
GPP_C[23:22]
GPP_D[4:0]
GPP_E[8:0]
GPP_I[3:0]
GPP_G[7:0] (Support SMI# only)
```



Remove ALL_LED_OFF#
2017/09/19



For BIOS BOM USE



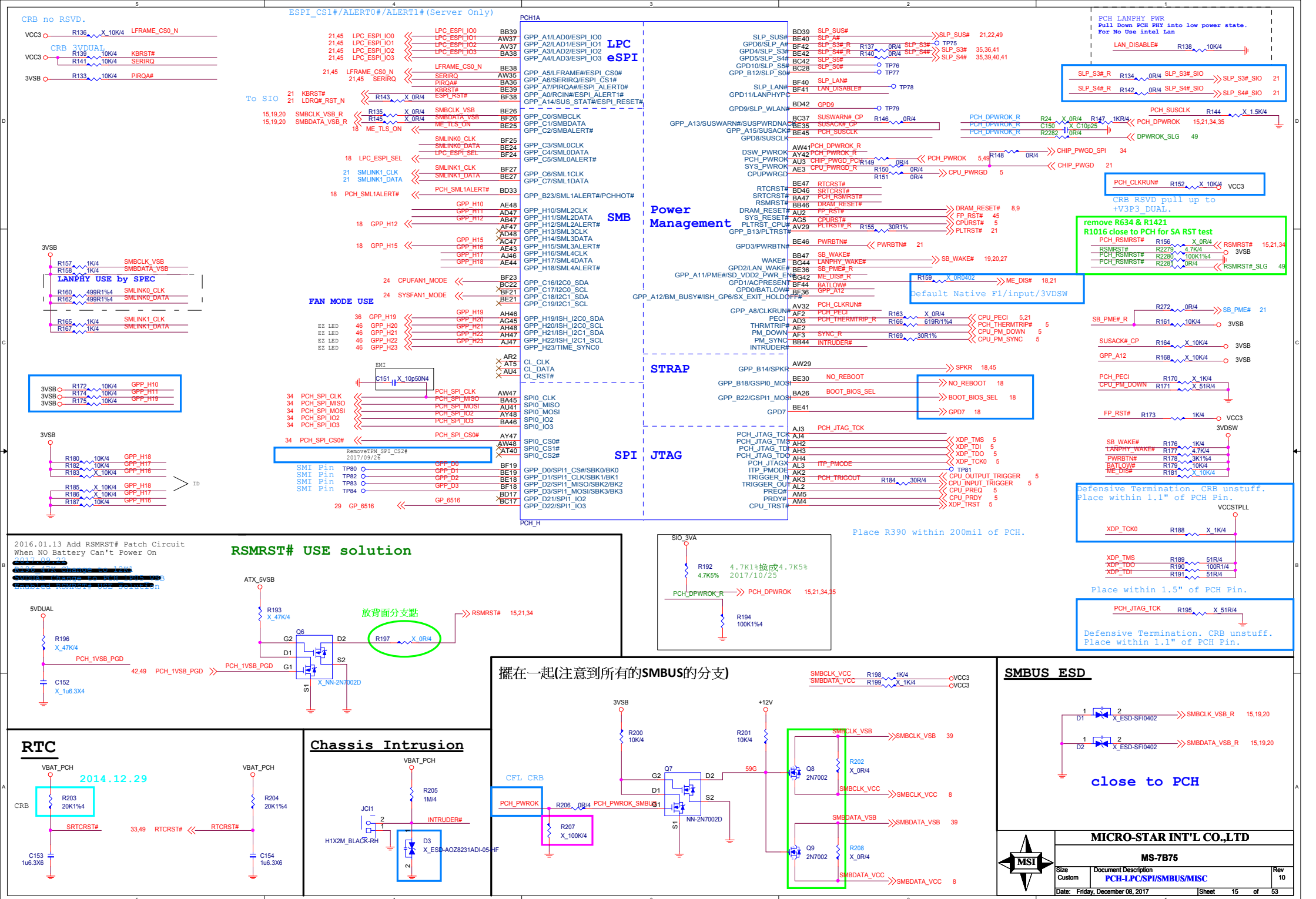
| | GPP_I12 | GPP_I13 | GPP_I14 |
|---------|---------|---------|---------|
| H310_VH | 0 | 0 | 0 |
| H310_VD | 0 | 0 | 1 |

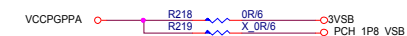
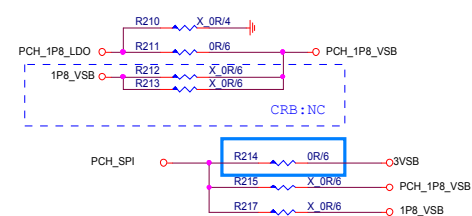
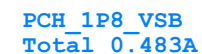
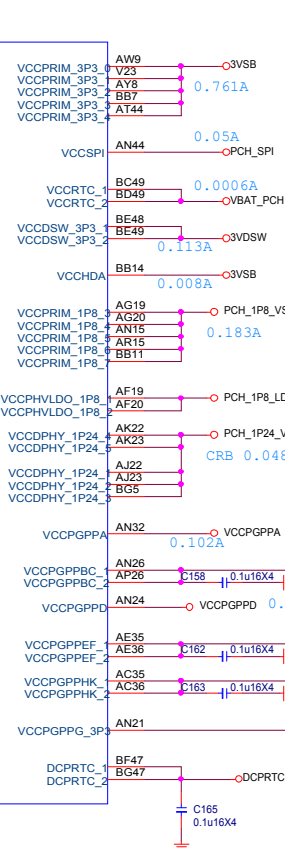
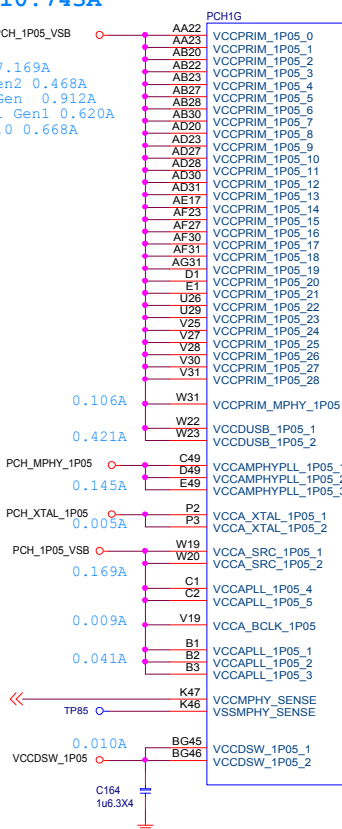
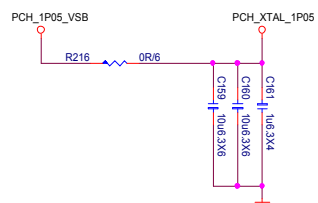
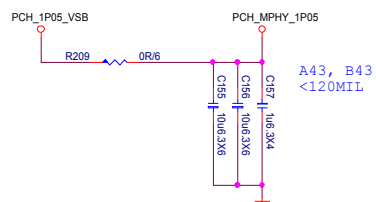
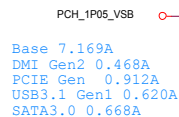


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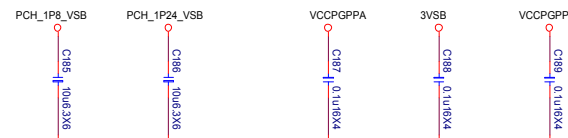
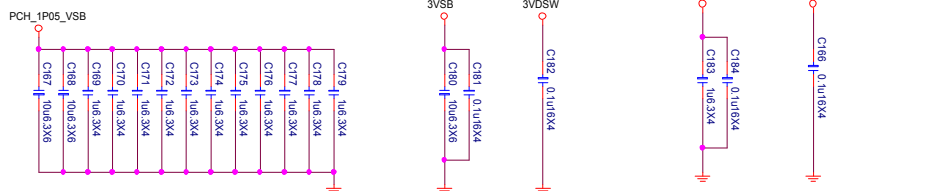
MS-7B75

| | | |
|---------------------------------|----------------------------------------------------------|-----------|
| Size Custom | Document Description PCH-GPIO/USBOC#/SATASTRAP | Rev 10 |
| Date: Friday, December 08, 2017 | Sheet 14 of 53 | |





ESPI signals are multiplexed with Group A GPIOs. When ESPI is utilized on the platform, all Group A GPIO will operate at 1.8V.



| | | | |
|---------------------------------|------------------------------------------|-----------|-------|
| MICRO-STAR INT'L CO.,LTD | | | |
| MS-7B75 | | | |
| Size Custom | Document Description PCH-Power | Rev 10 | |
| Date: Friday, December 08, 2017 | Sheet | 16 | of 53 |

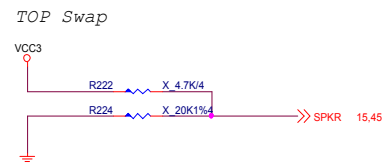
VSS



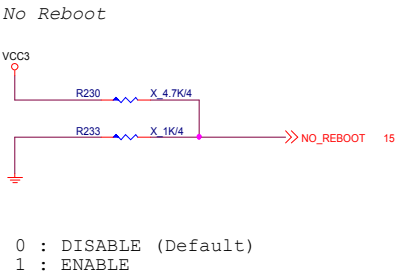
MICRO-STAR INT'L CO.,LTD

MS-7B75

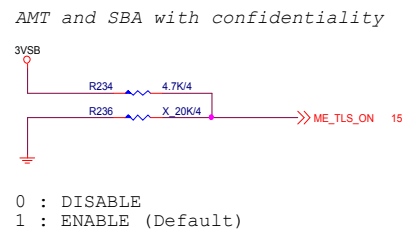
| | | |
|---------------------------------|----------------------------------------|----------------|
| Size Custom | Document Description PCH-GND | Rev 10 |
| Date: Friday, December 08, 2017 | | Sheet 17 of 53 |



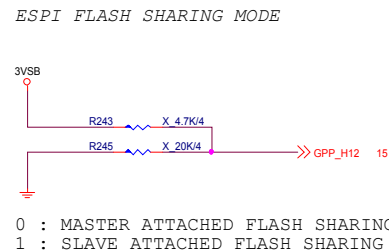
Internal pull-down 20K is disabled after PLTRST#



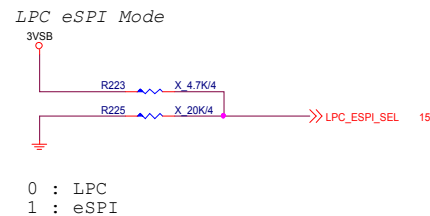
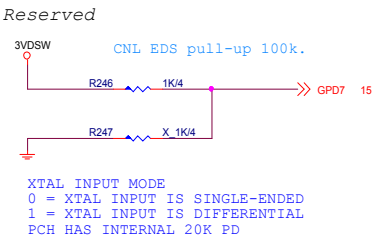
Internal pull-down 20K is disabled after PLTRST#



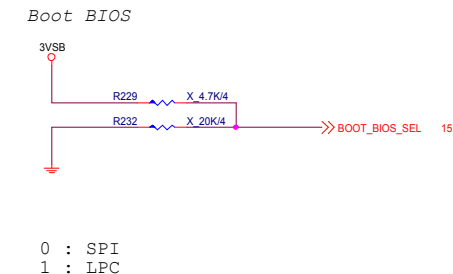
Internal pull-down 20K is disabled after RSMRST



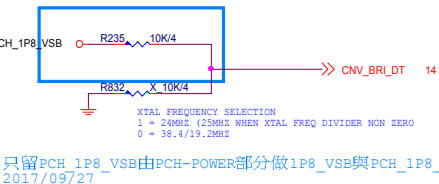
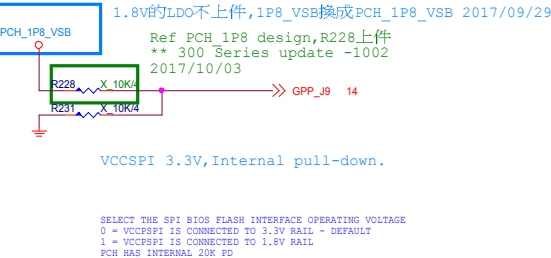
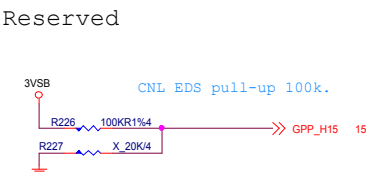
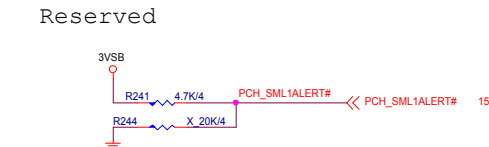
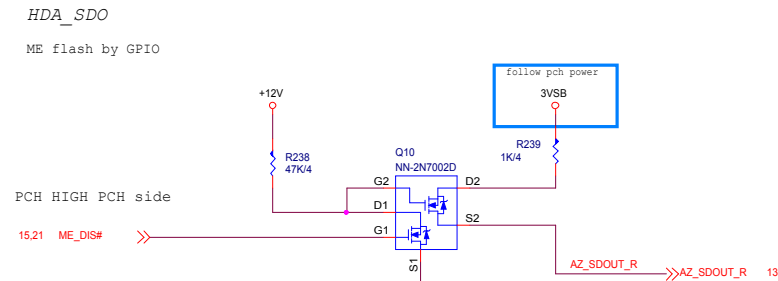
Internal pull-down 20K is disabled after RSMRST



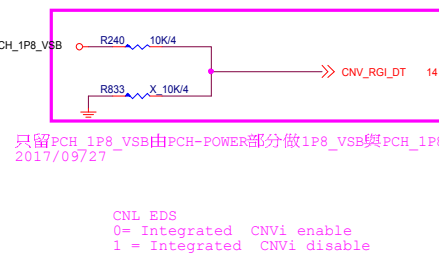
Internal pull-down 20K is disabled after RSMRST



Internal pull-down 20K is disabled after PLTRST#



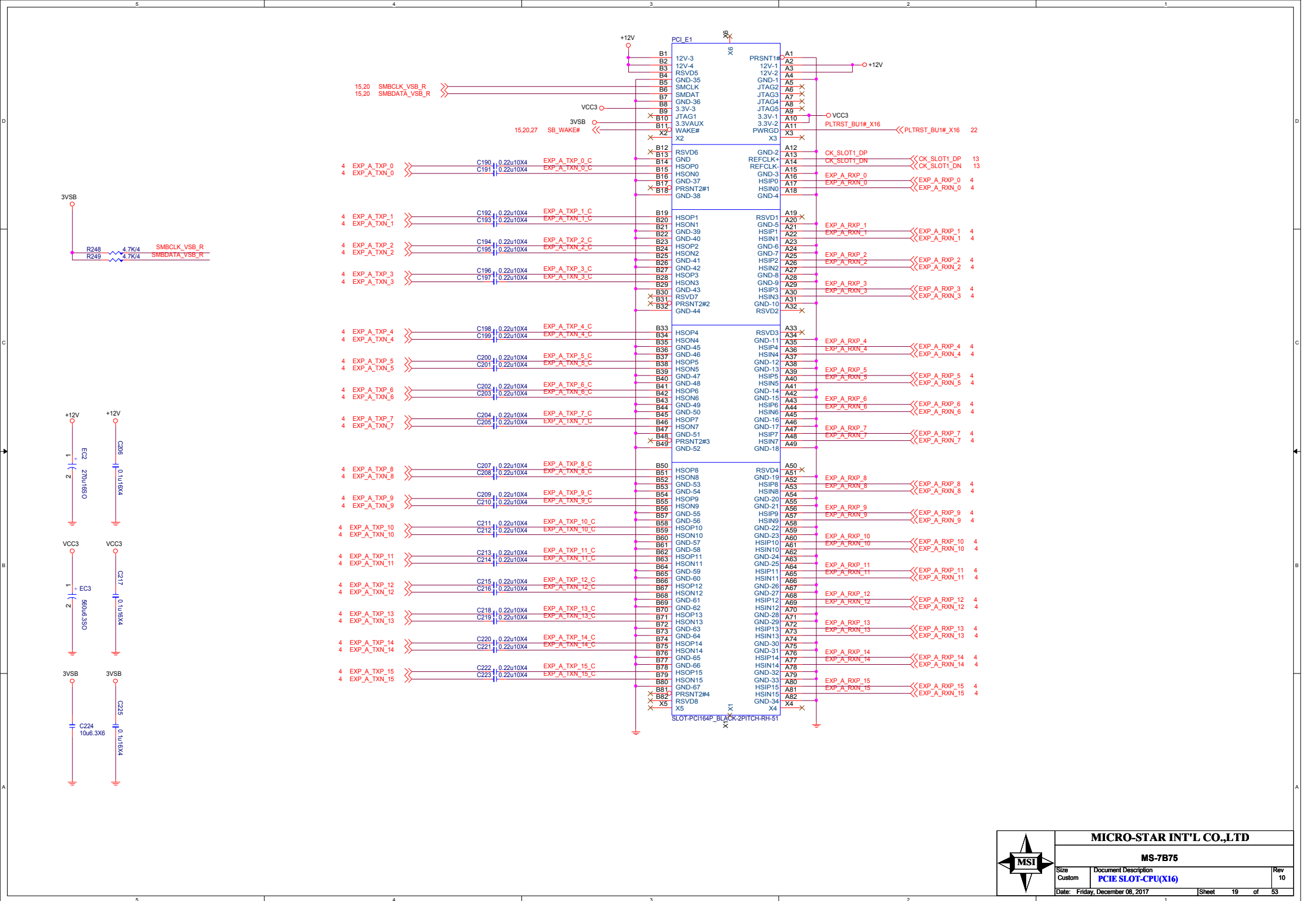
只留PCH 1P8_VSB由PCH-POWER部分做1P8_VSB與PCH_1P8_LDO切换
2017/09/27



MICRO-STAR INT'L CO.,LTD

MS-7B75

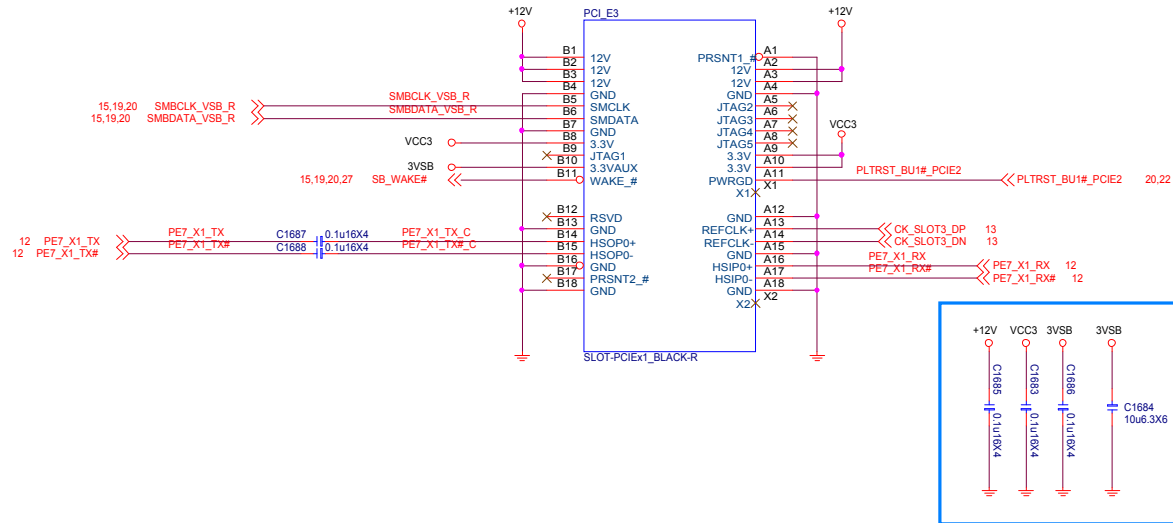
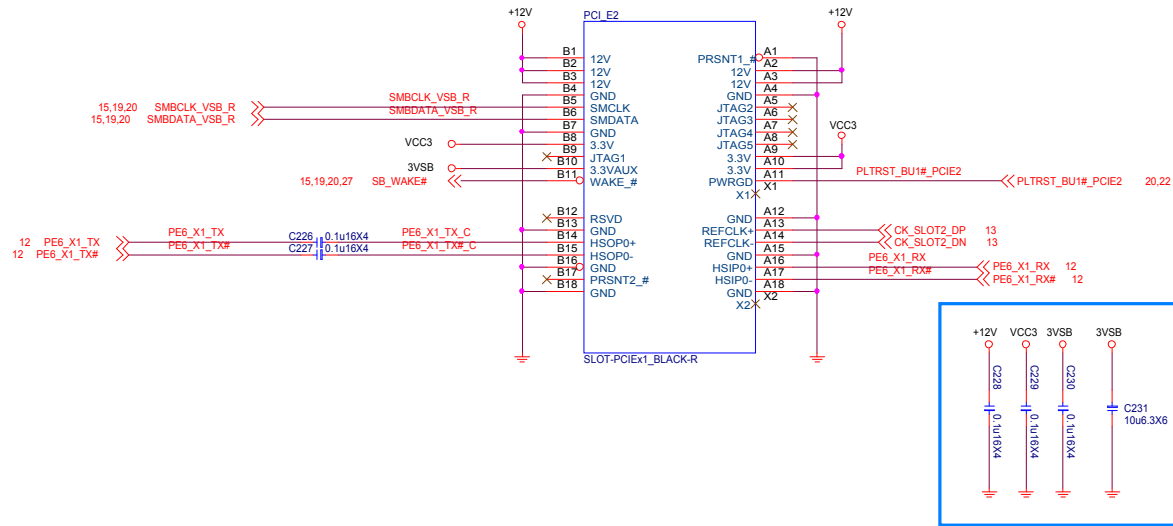
| Size | Document Description | Rev |
|---------------------------------|----------------------|-----|
| Custom | PCH-Strap | 10 |
| Date: Friday, December 08, 2017 | Sheet 18 of 53 | |

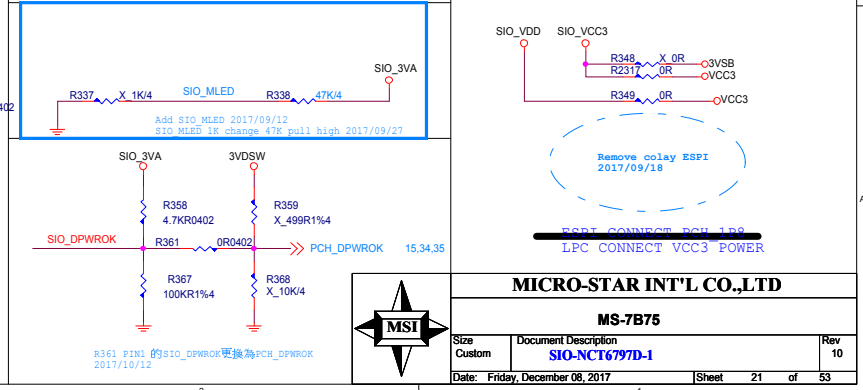
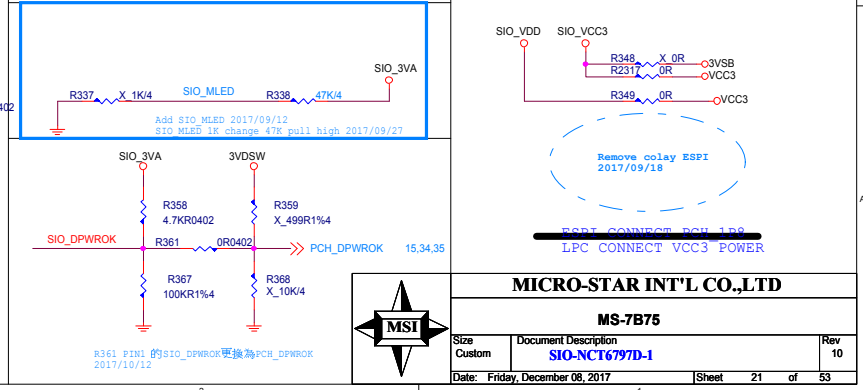


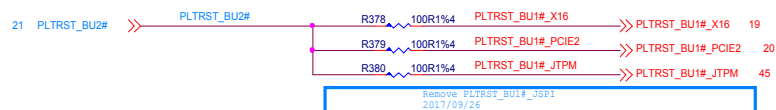
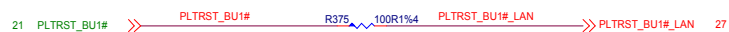
MICRO-STAR INT'L CO.,LTD

MS-7B75

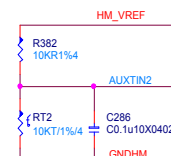
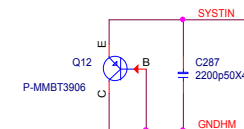
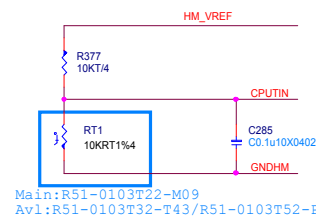
| | | |
|---------------------------------|---------------------------------------------------|-----------|
| Size Custom | Document Description PCIE SLOT-CPU(X16) | Rev 10 |
| Date: Friday, December 08, 2017 | Sheet 19 of 53 | |





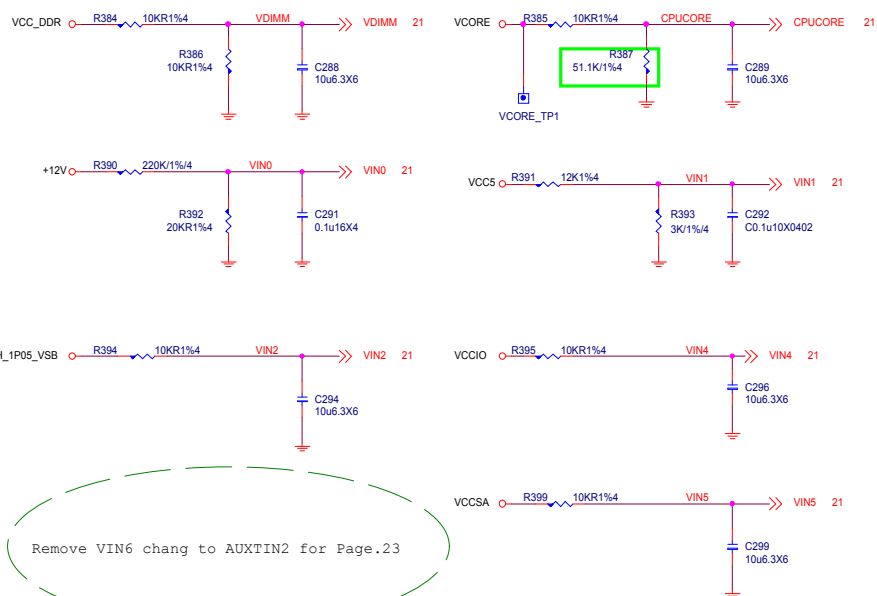


Thermal Monitor

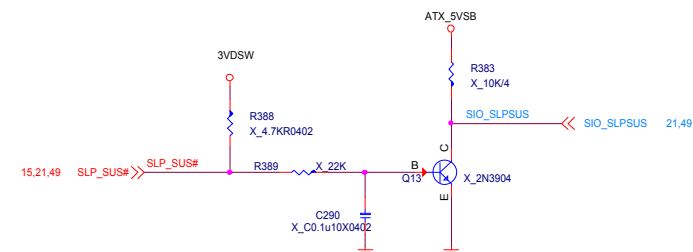


| HW Monitor - Voltage |
|----------------------|
|----------------------|

SIO HM Voltage voer 2V will not detect

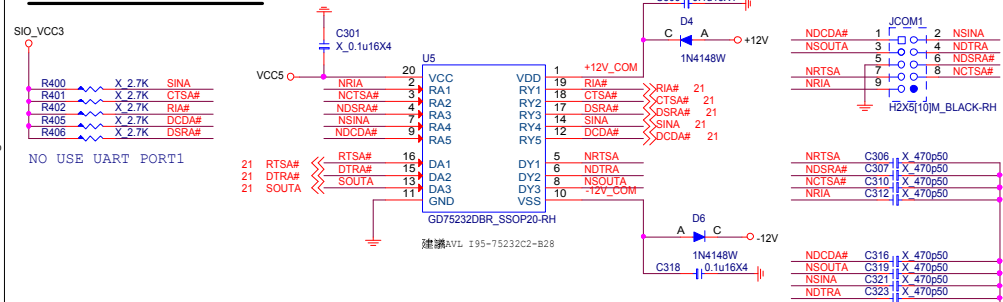


SLP_SUS Co-lay circuit

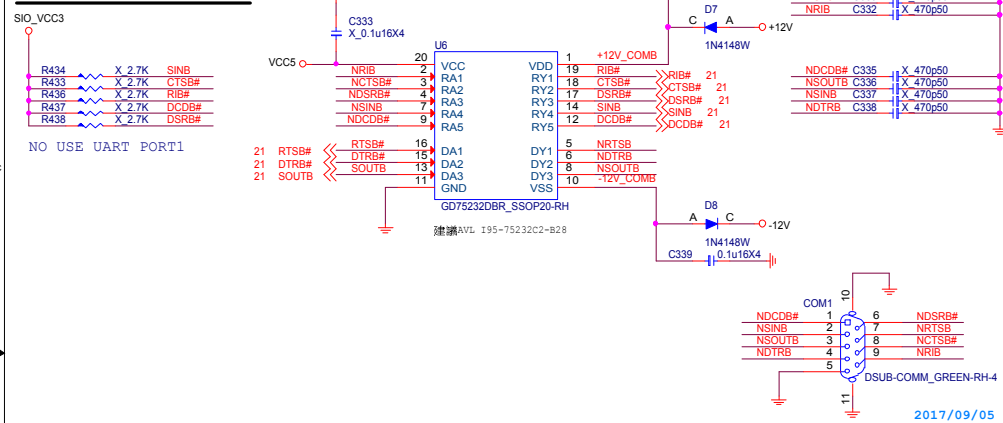


移除多餘的SIO 3VA

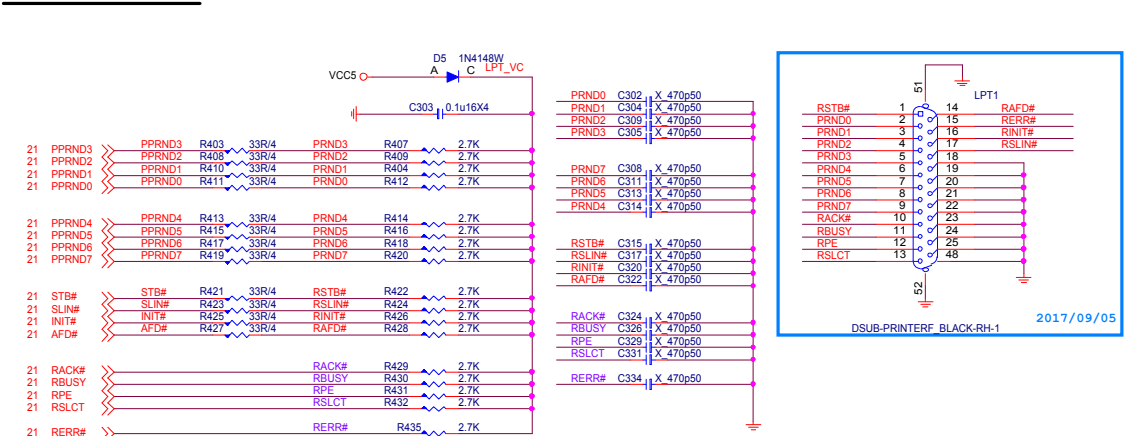
SERIAL PORT 1(front)



SERIAL PORT 2 (rear)

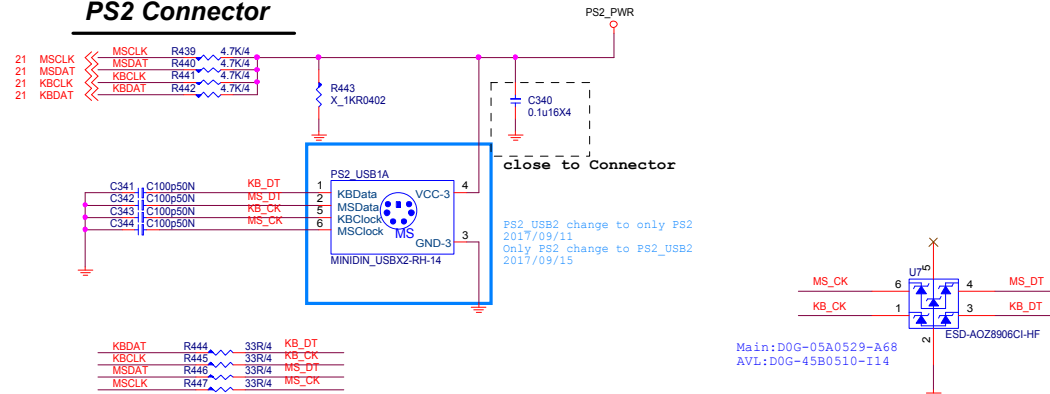


PARALLAL PORT



PS2 KEYBOARD & MOUSE CONNECTOR

PS2 Connector



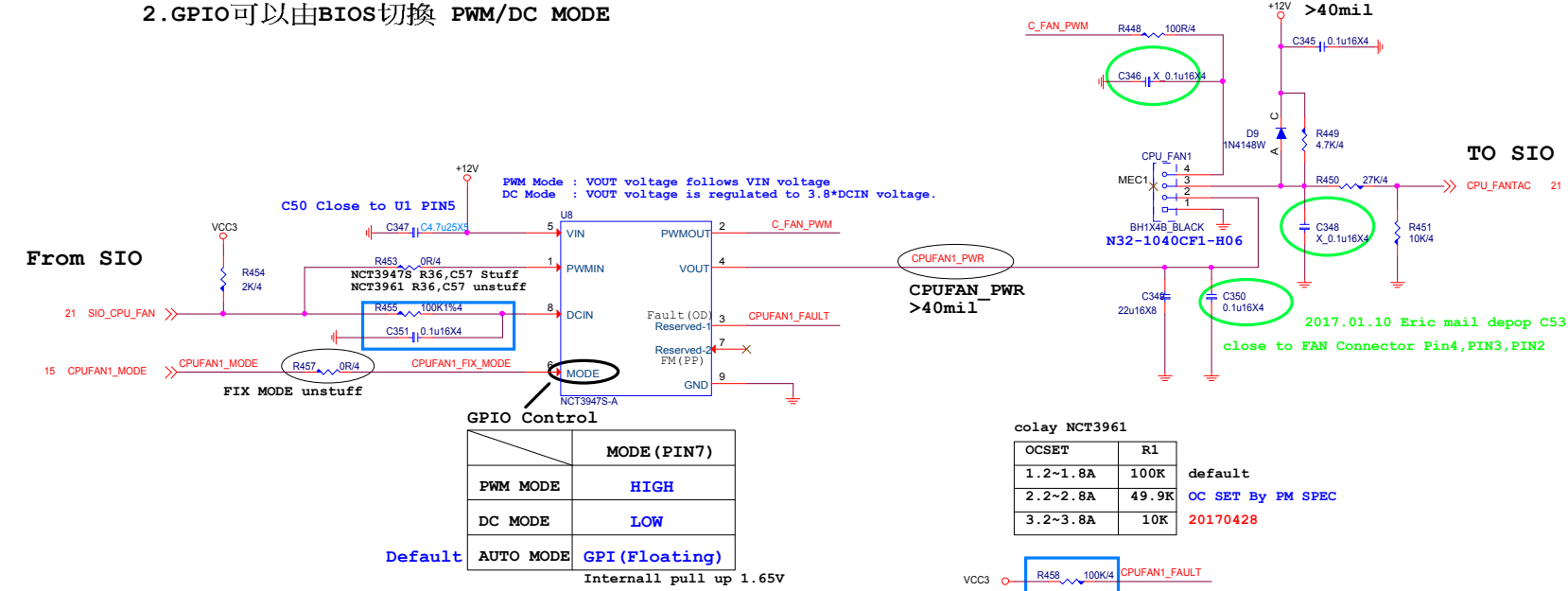
move to page 47 PS2 power

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

| | | |
|-------|---------------------------|----------------|
| File | COM/LPT/PS2 | |
| Size | Document Number | Rev |
| | MS-7B75 | 10 |
| Date: | Friday, December 08, 2017 | Sheet 23 of 53 |

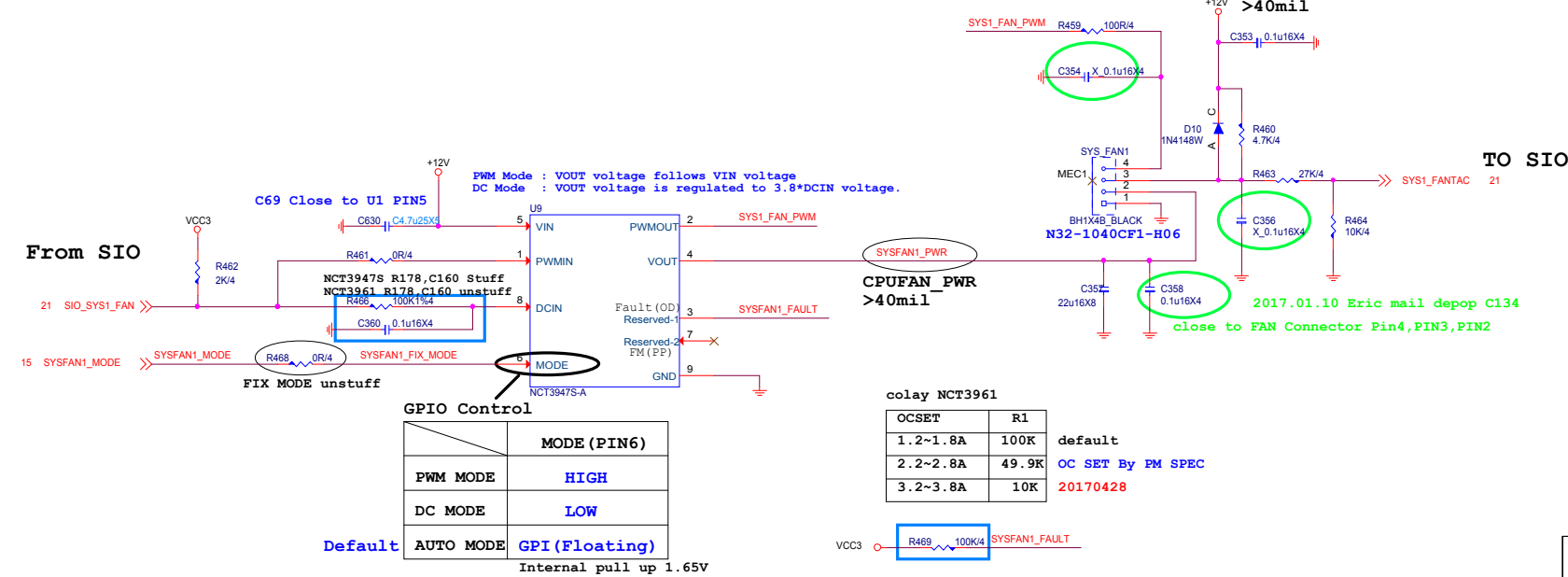
TYPE K : 4 PIN CPU FAN USE NCT3947S USE PCH GPIO CONTROL FAN MODE

2.GPIO可以由BIOS切换 PWM/DC MODE



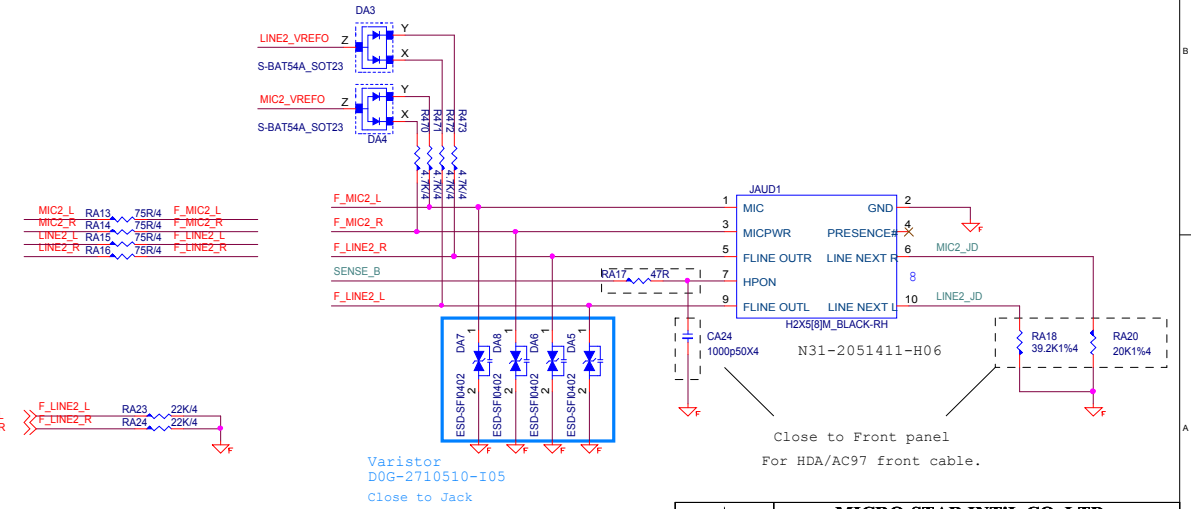
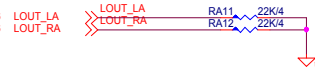
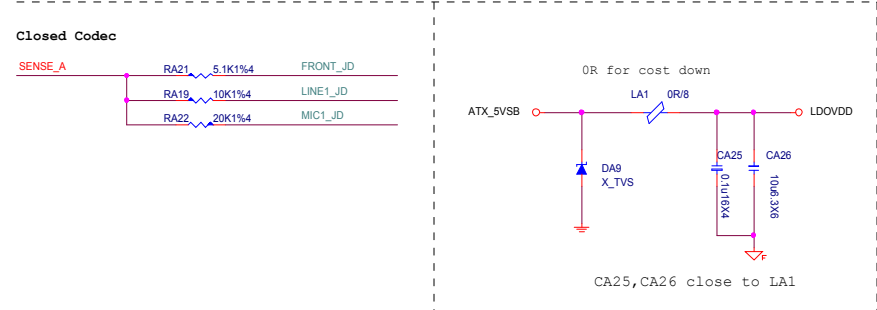
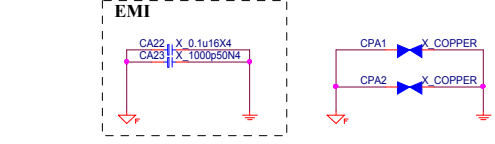
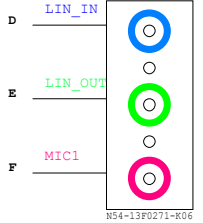
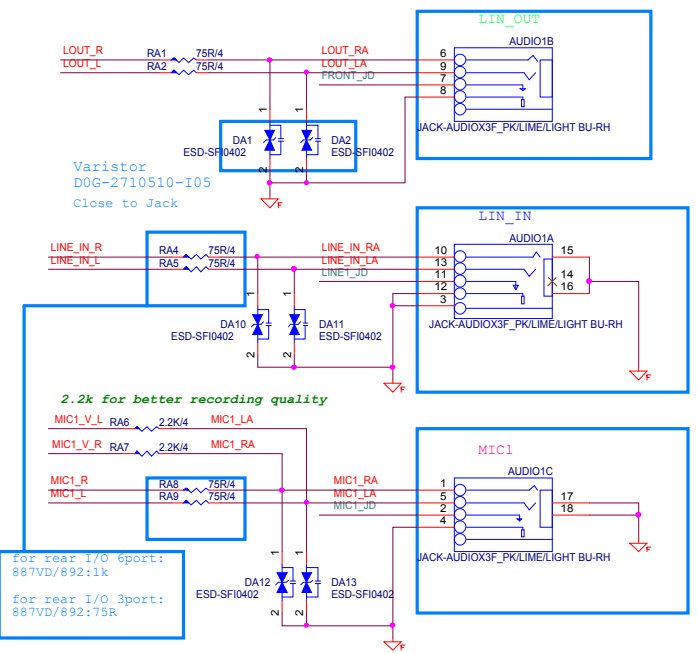
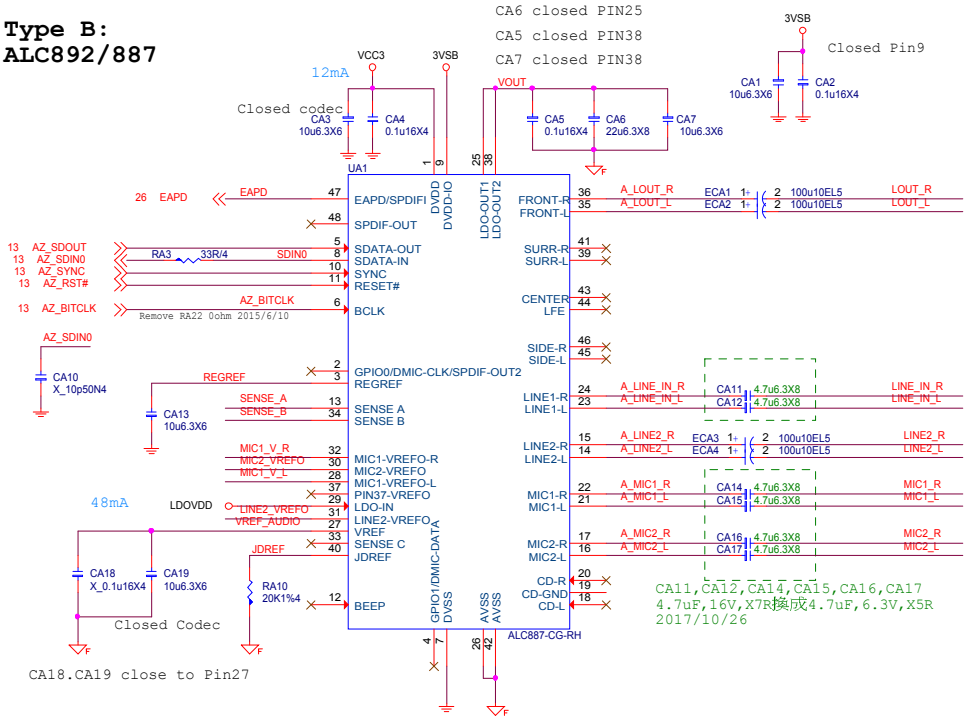
TYPE K : 4 PIN CPU FAN USE NCT3947S USE PCH GPIO CONTROL FAN MODE

2.GPIO可以由BIOS切换 PWM/DC MODE



| MICRO-STAR INT'L CO.,LTD | | | |
|--------------------------|---------------------------|-------|----------|
| MS-7B75 | | | |
| Size | Document Description | Rev | |
| Custom | FAN CONTROLLER | 10 | |
| Date: | Friday, December 08, 2017 | Sheet | 24 of 53 |

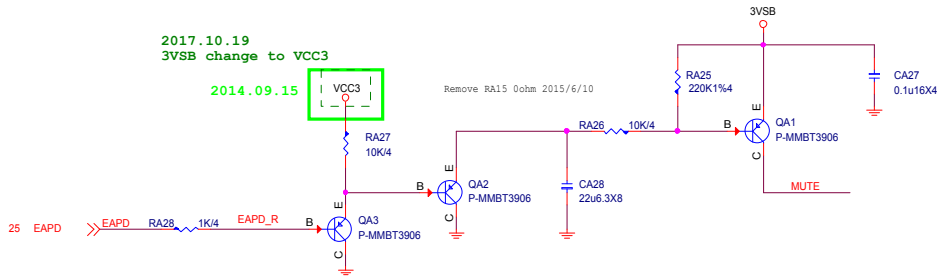
Type B:
ALC892/887



| | | | |
|--------------------------|---------------------------|-------|----------|
| MICRO-STAR INT'L CO.,LTD | | | |
| MS-7B75 | | | |
| Size | Document Description | Rev | |
| Custom | AUDIO - ALC892/887 | 10 | |
| Date: | Friday, December 08, 2017 | Sheet | 25 of 53 |

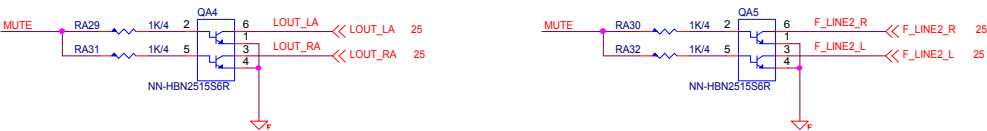
Rear Line OUT De-POP circuit

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

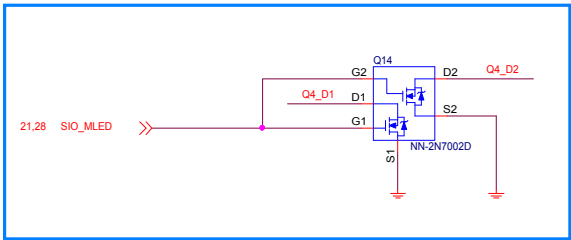
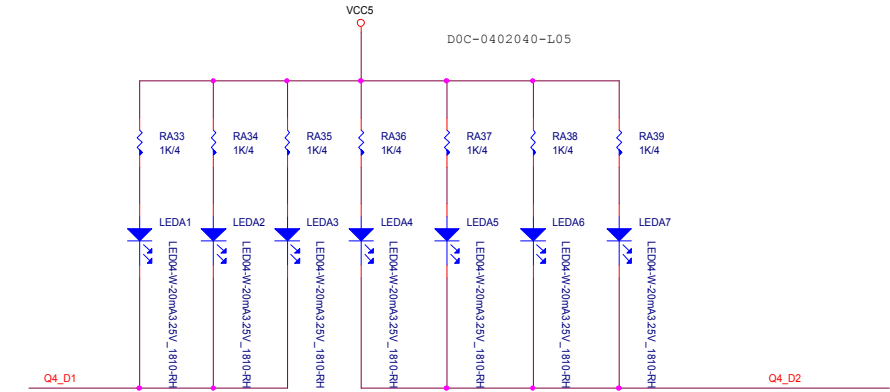


Digital

Analog



Audio LED



2016.01.12:Modify Q4 to Dual 7002 & Remove OR

History:

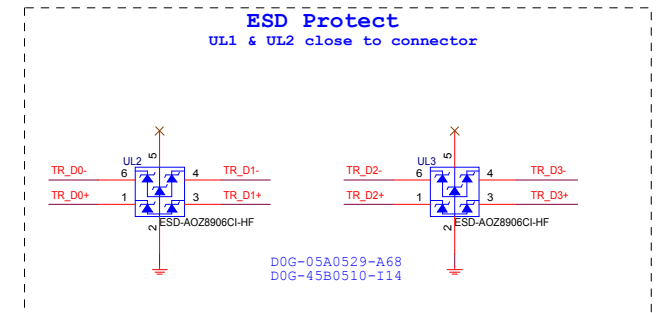
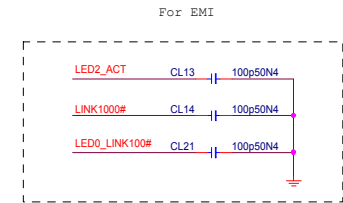
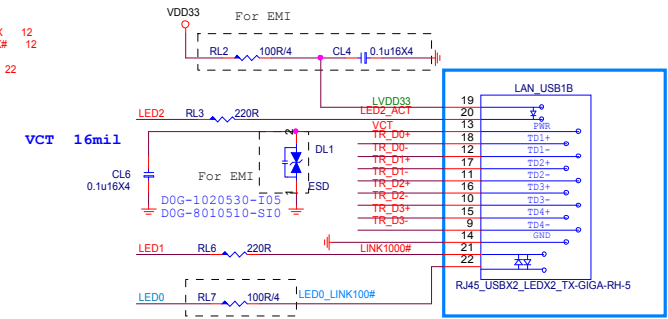
2014/02/13: stuff de-pop circuit of Line out & HP out.

RTL8111G/RTL8111H Giga LAN

8111H:B06-08111CC-R09
8111G:B06-081116C-R09

LAN_CLKREQ#_R R474 0R/4 LAN_CLKREQ# 13

LAN Connector



Pin33: 4 via from top layer to GND layer and make the via at the center of IC.

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 |

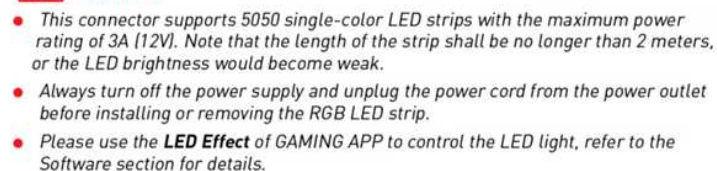
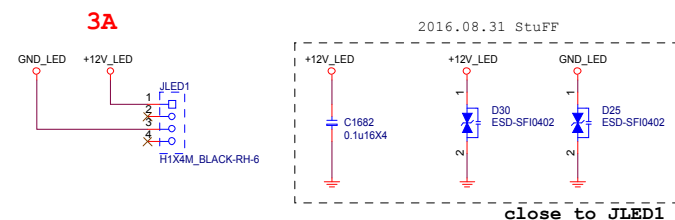


MICRO-STAR INT'L CO.,LTD

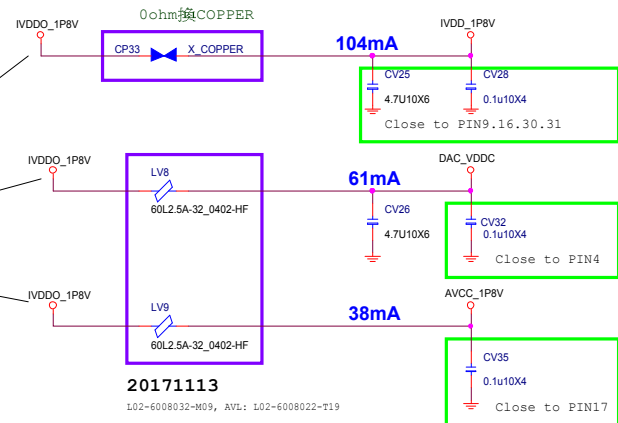
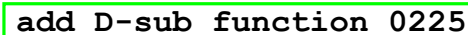
MS-7B75

| Size | Document Description | Rev |
|---------------------------------|----------------------|-----|
| Custom | LAN - RTL8111H | 10 |
| Date: Friday, December 08, 2017 | Sheet 27 of 53 | |

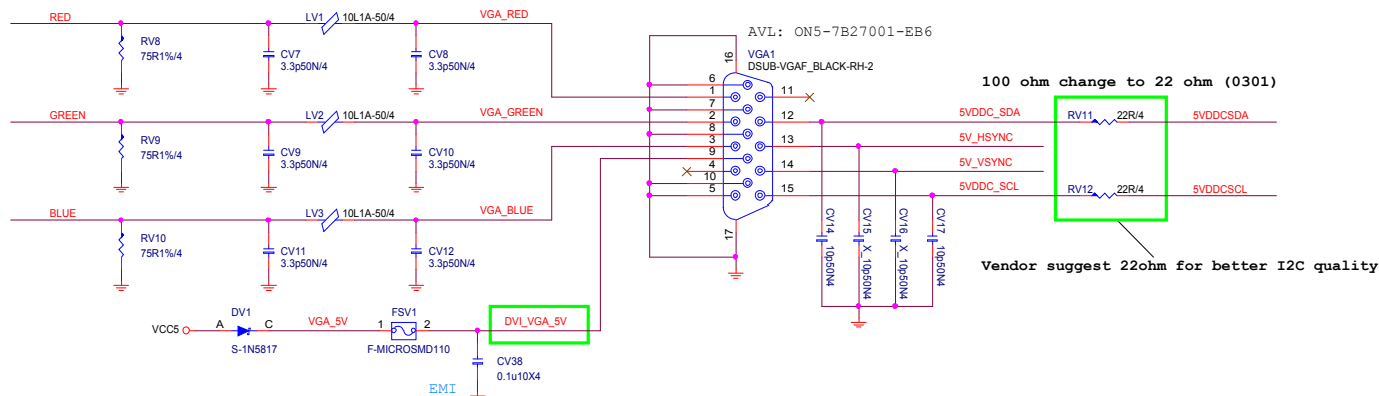
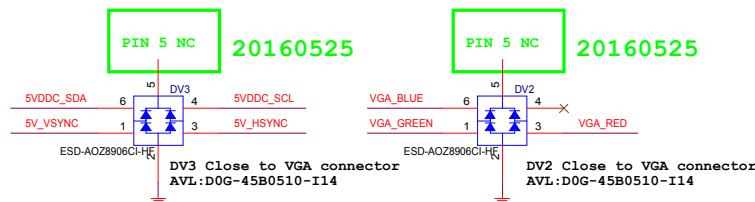
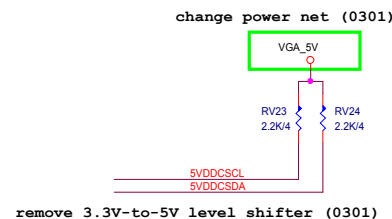
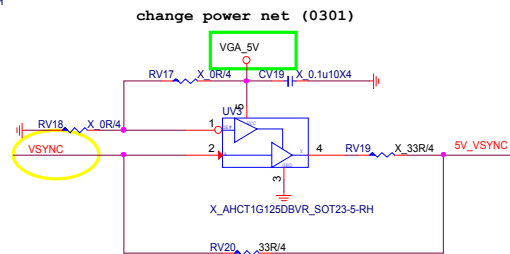
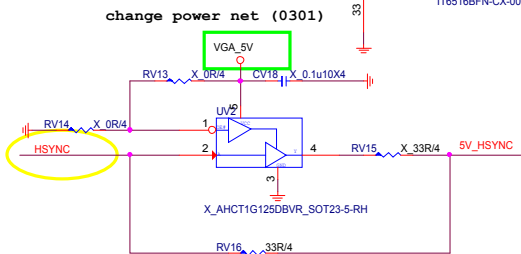
----- 手冊註明接頭支援標準 5050 RGB or 單色 LED 共陽燈條 (12V+/G/R/B) or (12V+/-/S/-) , 燈條總輸出電流限制為3安培 (12 伏特) , 長度限制為2公尺

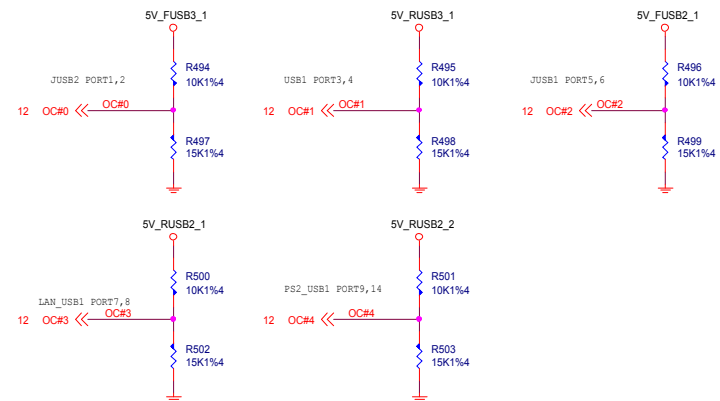


If connect to eDP port,must confirm whether it support hot plug detection HPD and re-auxtraining



| | | |
|-------------------------------------|------|------------------------------------------|
| System Status | GPIO | IT6516b's HPD |
| Legacy Mode (VBIOS) /DOS MOde | HIGH | Force HIGH |
| Windows /UEFI Mode (GOP) | LOW | Depend on VGA device's plug/unplug |

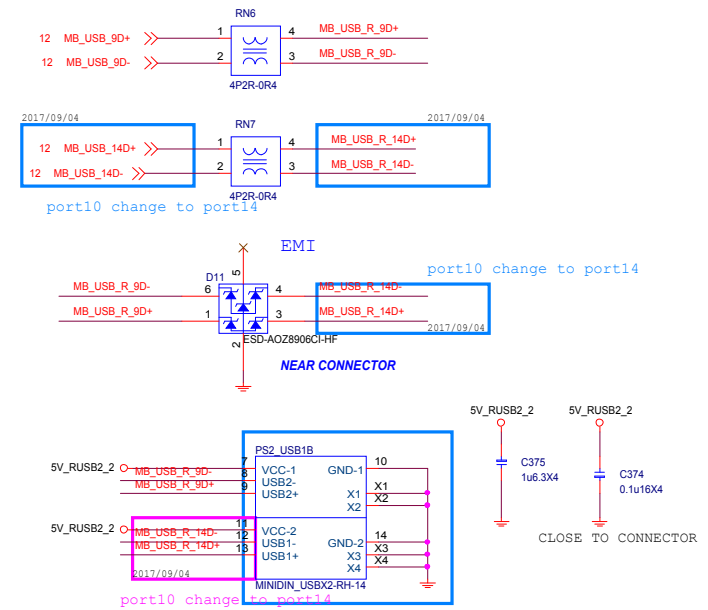
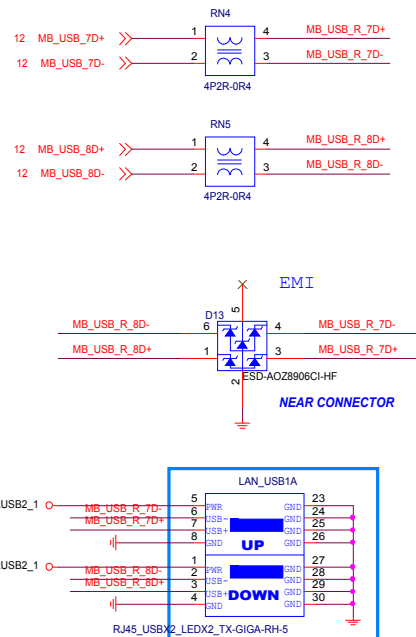




| USB CONN | USB POWER | PCB PORT | OC# SIGNAL |
|----------|------------|----------|------------|
| JUSB1 | 5V_FUSB2_1 | Port5,6 | OC#2 |
| PS2_USB1 | 5V_RUSB2_2 | Port9,14 | OC#4 |
| JUSB3 | 5V_FUSB3_1 | Port1,2 | OC#0 |
| USB1 | 5V_RUSB3_1 | Port3,4 | OC#1 |
| LAN_USB1 | 5V_RUSB2_1 | Port7,8 | OC#3 |

USB1 PORT 7,8

FRONT PS2_USB1 PORT 9,14

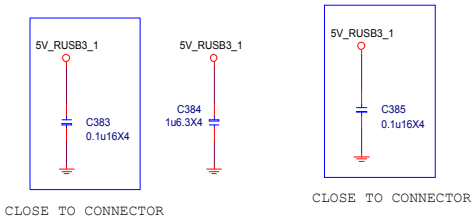
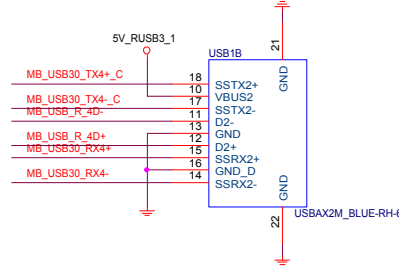
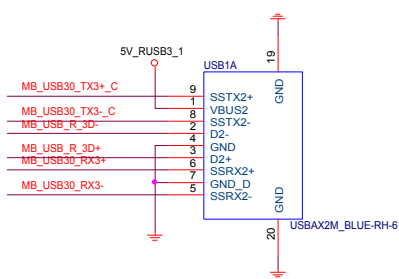
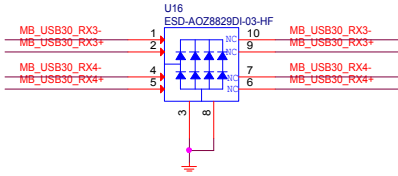
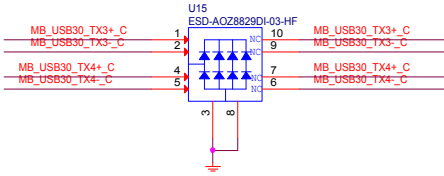
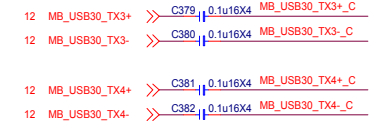
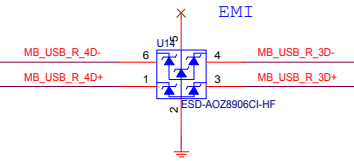
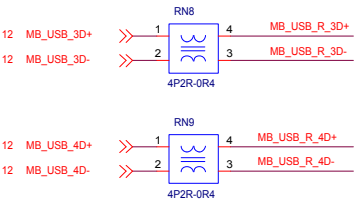


MICRO-STAR INT'L CO.,LTD

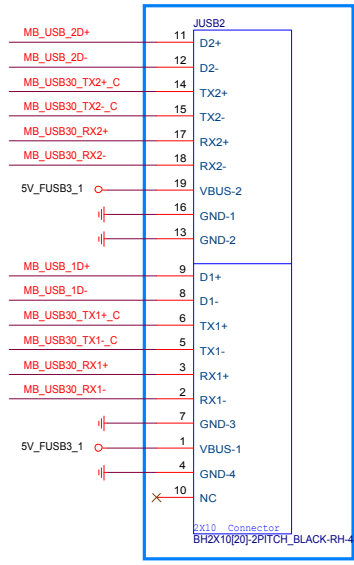
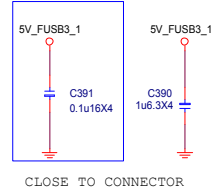
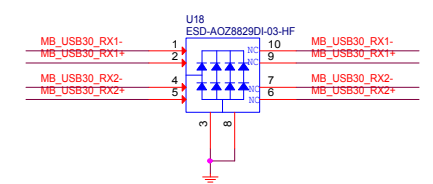
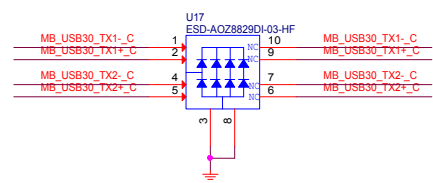
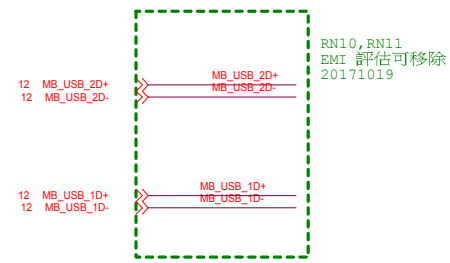
MS-7B75

| | | |
|---------------------------------|-------------------------------------------------|----------------|
| Size Custom | Document Description USB2.0 Connector | Rev 10 |
| Date: Friday, December 08, 2017 | | Sheet 30 of 53 |

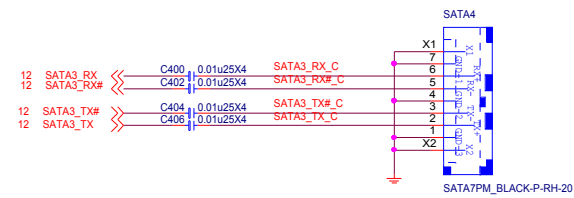
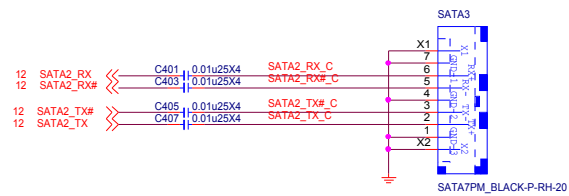
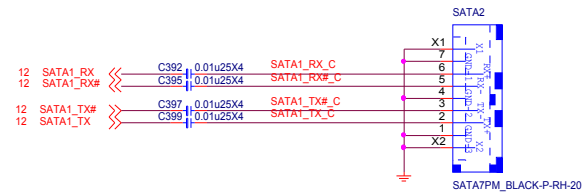
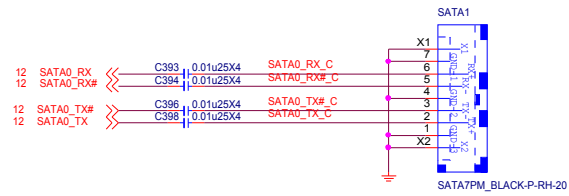
Rear USB1 port 9,10



Front JUSB3 port 1,2



| MICRO-STAR INT'L CO.,LTD | | |
|---------------------------------|--------------------------------------------------|--------|
| MS-7B75 | | |
| Size Custom | Document Description Rear USB3 & Front Connector | Rev 10 |
| Date: Friday, December 08, 2017 | Sheet 31 | of 53 |



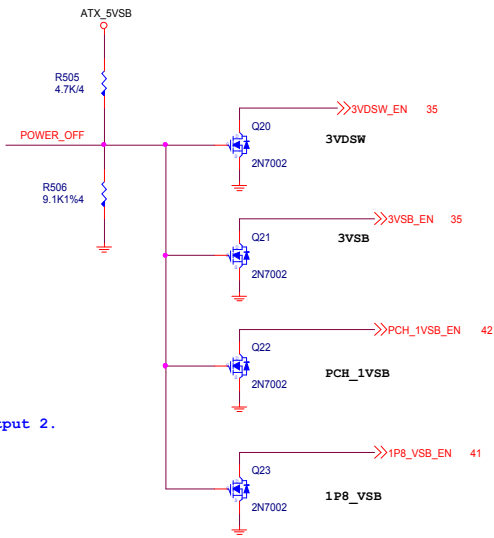
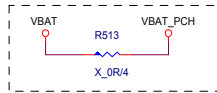
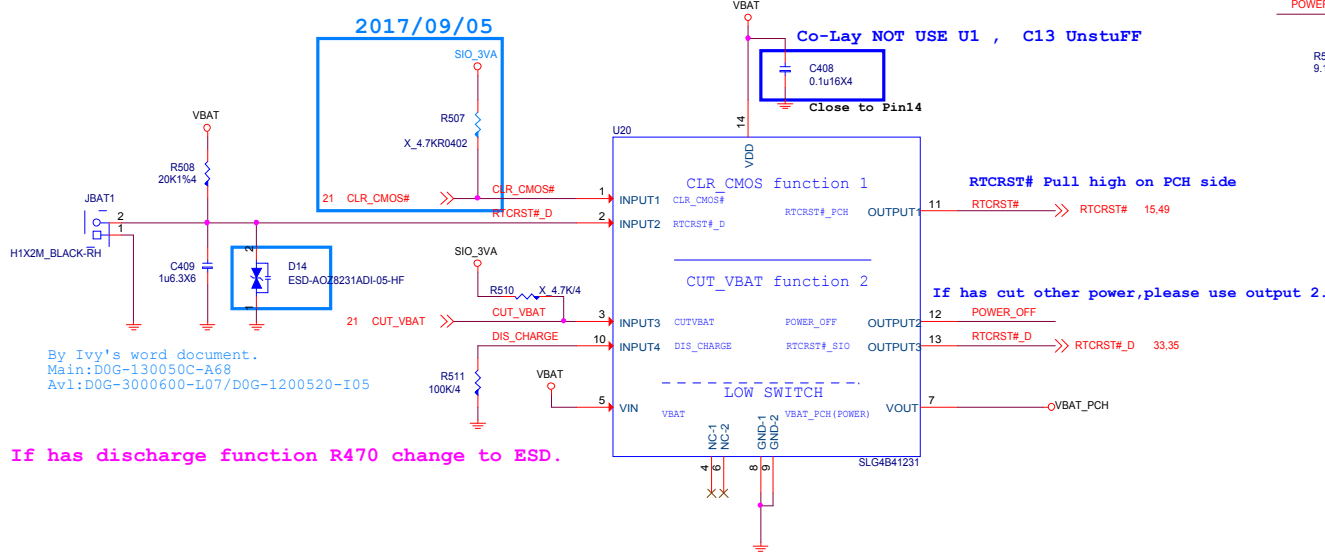
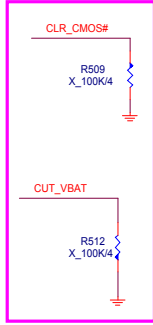
Cut VBAT



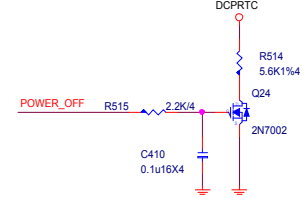
If STUFF R20 Please Check RTCRST# Double Pull High

2017/09/05

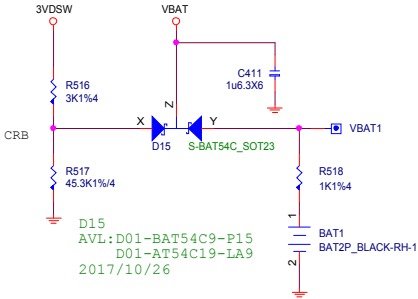
20160629



Add DCRTC discharge circuit



VBAT



| Function 1 | | |
|------------|--------|---------|
| IN | | OUT |
| INPUT1 | INPUT2 | OUTPUT1 |
| 0 | 1 | 1 |
| 1 | 0 | 0 |
| 1 | 1 | 0 |
| 0 | 0 | 0 |

Default

| Function 2 | | | | |
|-----------------------|--------|---------|---------|---------------|
| IN | | OUT | | |
| INPUT3 & lowswitch EN | INPUT4 | OUTPUT2 | OUTPUT3 | VOUT |
| 0 | 0 | 0 | 1 | 1 |
| 1 | 0 | 1 | 1 | 0 (discharge) |
| 0 | 1 | 1 | 0 | 0 (discharge) |
| 1 | 1 | 1 | 0 | 0 (discharge) |

Default

Co-Lay NOT USE U1 , R20 STUFF



MICRO-STAR INT'L CO.,LTD

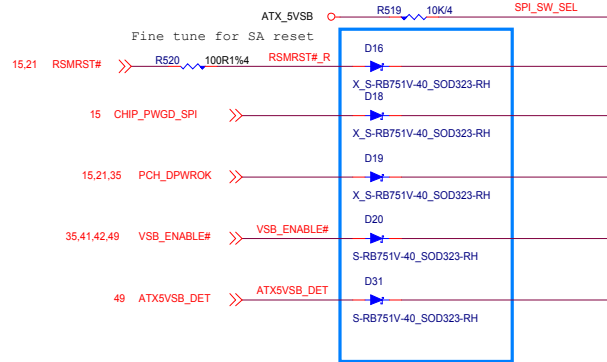
MS-7B75

| Size | Document Description | Rev |
|--------|---------------------------|----------------|
| Custom | CUT VBAT circuit | 10 |
| Date: | Friday, December 08, 2017 | Sheet 33 of 53 |

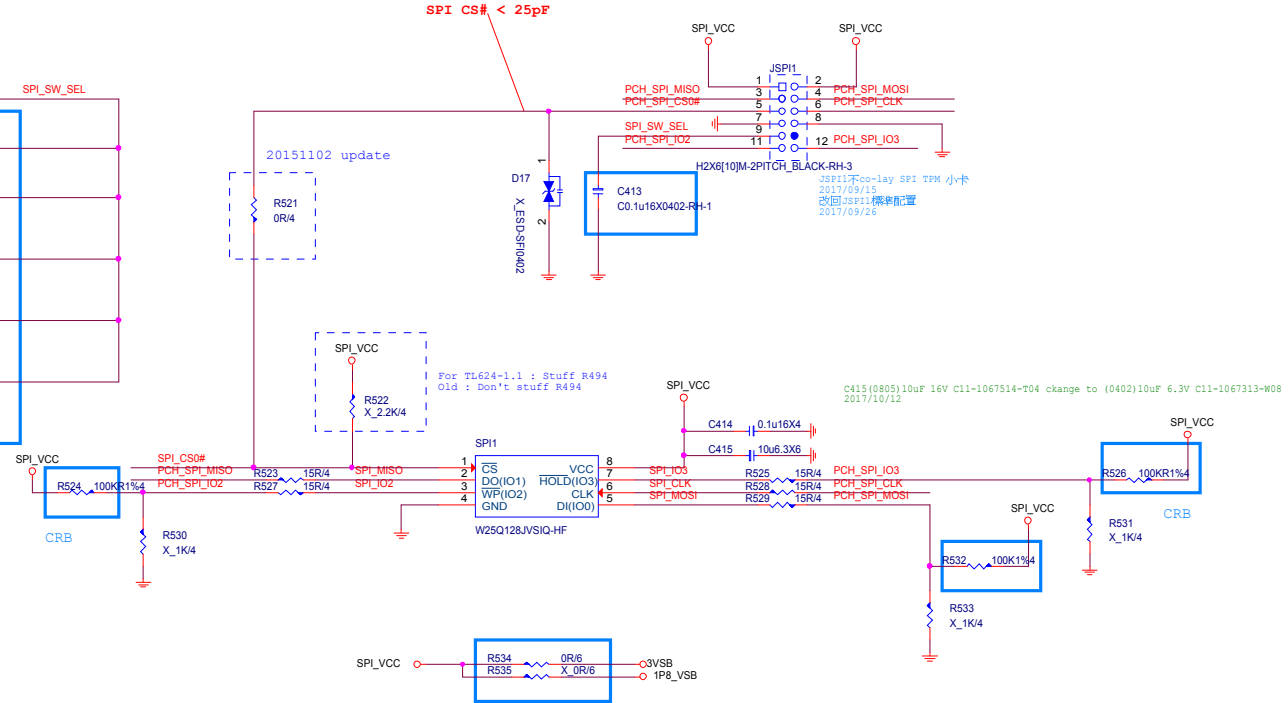
15 PCH_SPI_MOSI << PCH_SPI_MOSI
15 PCH_SPI_MISO << PCH_SPI_MISO
15 PCH_SPI_CLK << PCH_SPI_CLK
15 PCH_SPI_CS0# << PCH_SPI_CS0#
15 PCH_SPI_IO2 << PCH_SPI_IO2
15 PCH_SPI_IO3 << PCH_SPI_IO3

改回JSP11標準配置
移除P17807 D011_JSP1
移除TPM_SPI_CS2#
2017/09/26

20171019
diode_sod523 change to diode_sod323
D01-5204000-LA9/DIODE_SOD523
change to
D01-RB751V0-W12/DIODE_SOD323



Main:D01-RB751V0-W12
Av1:D01-BAS4030-P15
2017/10/19



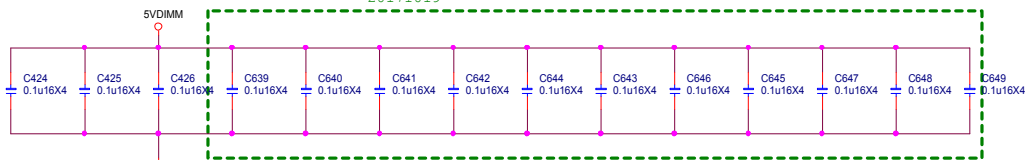
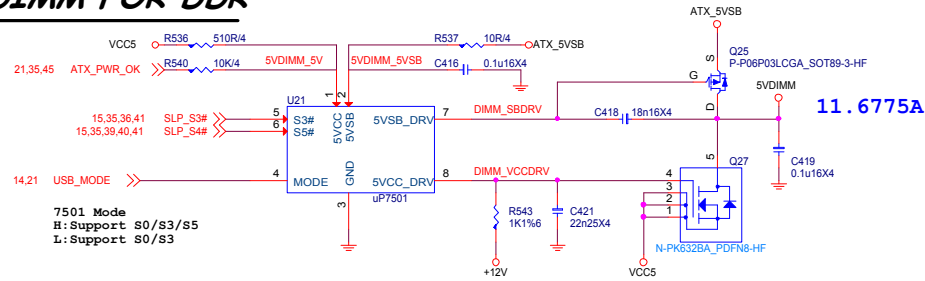
MICRO-STAR INT'L CO.,LTD

MS-7B75

| | | |
|---------------------------------|----------------------------------|-----------|
| Size Custom | Document Description BIOS ROM | Rev 10 |
| Date: Friday, December 08, 2017 | Sheet 34 of 53 | |

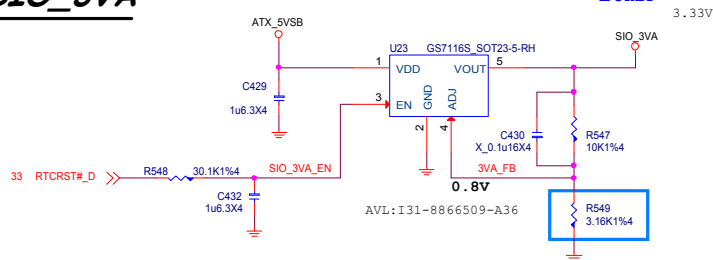
5VDIMM FOR DDR

(3A for DDR, 6.6A for USB)



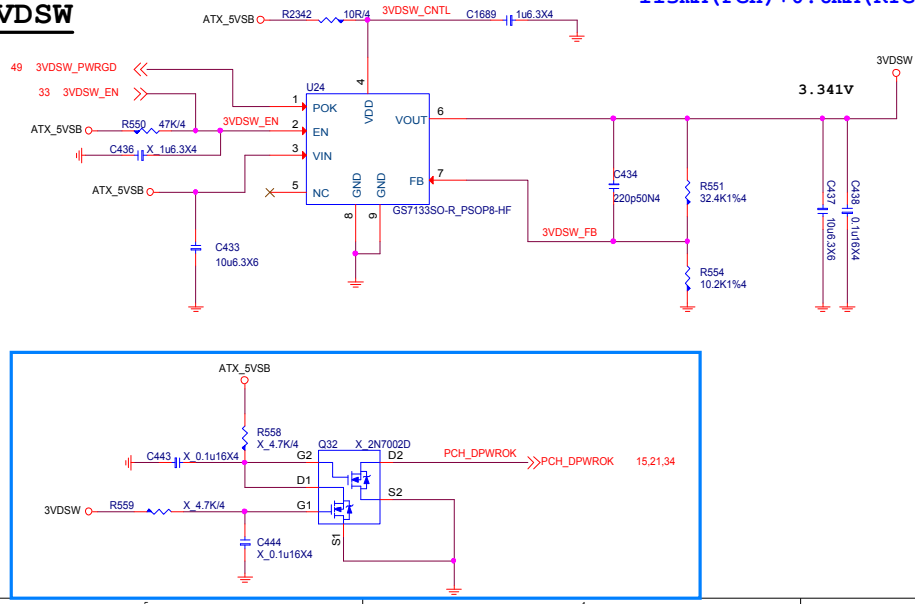
SIO_3VA

20mA



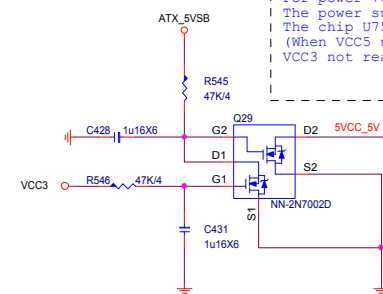
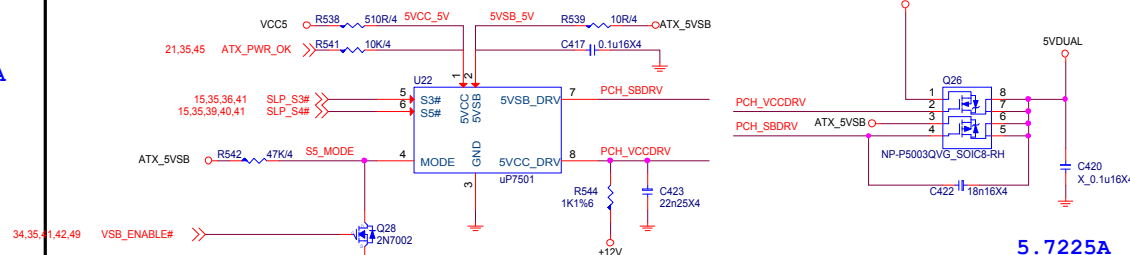
3VDSW

113mA (PCH) + 0.6mA (RTC)

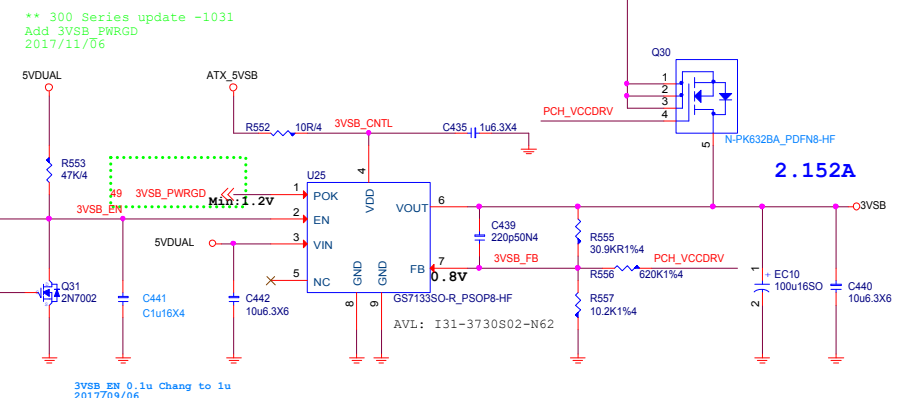


5VDUAL

5VDUAL is power source of 1P0SB, 1.8PSB & 3VSB

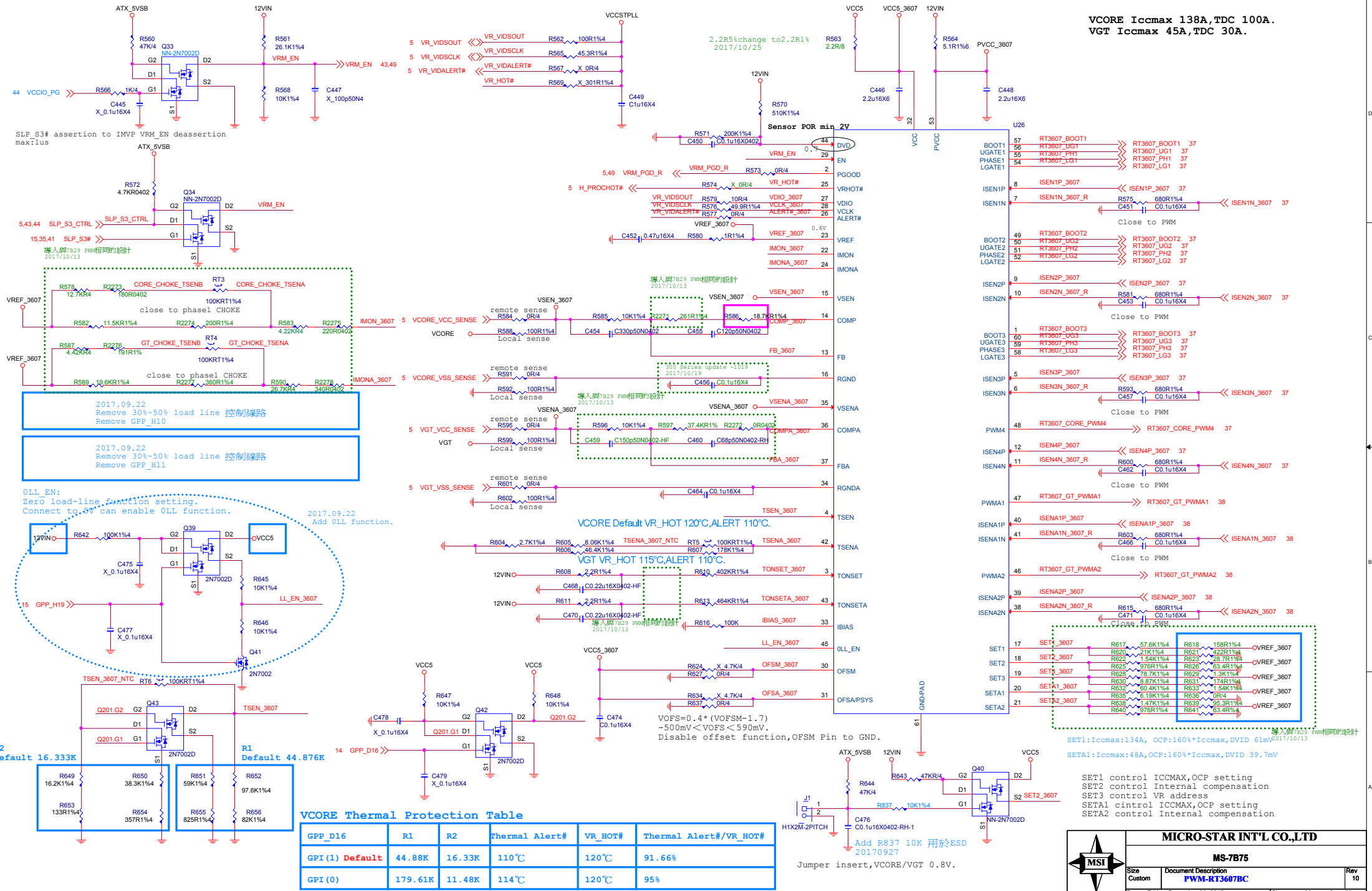


3VSB cost down



| MICRO-STAR INT'L CO.,LTD | | | |
|---------------------------------|----------------------|-----|-------|
| MS-7B75 | | | |
| Size | Document Description | Rev | |
| Custom | ACPI CONTROLLER | 10 | |
| Date: Friday, December 08, 2017 | Sheet | 35 | of 53 |

VCORE Iccmax 138A,TDC 100A.
VGT Iccmax 45A,TDC 30A.



VCORE Thermal Protection Table

| GPP_D16 | R1 | R2 | Thermal Alert# | VR_HOT# | Thermal Alert#/VR_HOT# |
|-----------------|---------|--------|----------------|---------|------------------------|
| GPI (1) Default | 44.88K | 16.33K | 110°C | 120°C | 91.66% |
| GPI (0) | 179.61K | 11.48K | 114°C | 120°C | 95% |

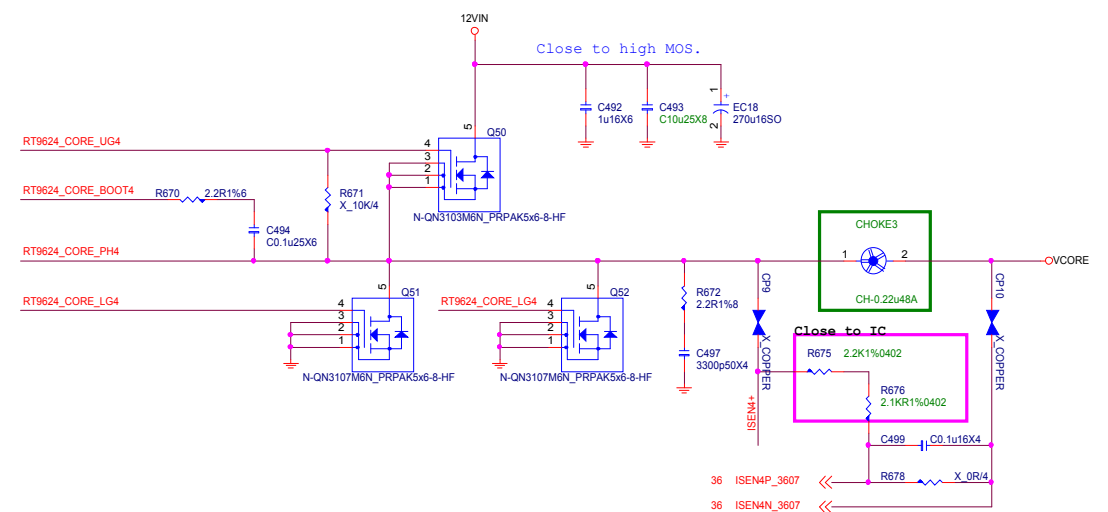
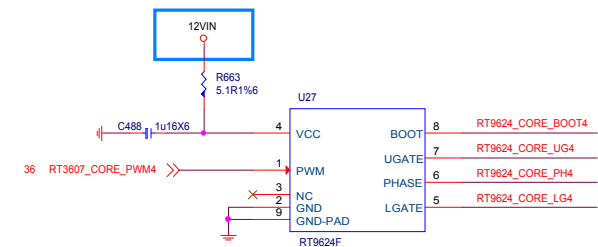
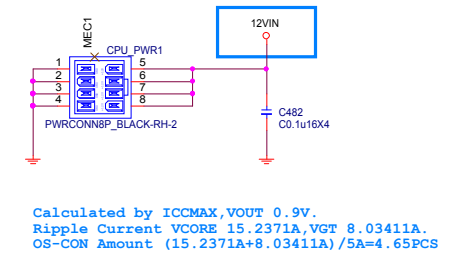


MICRO-STAR INT'L CO.,LTD

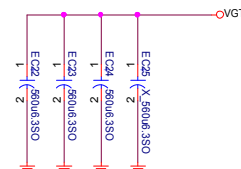
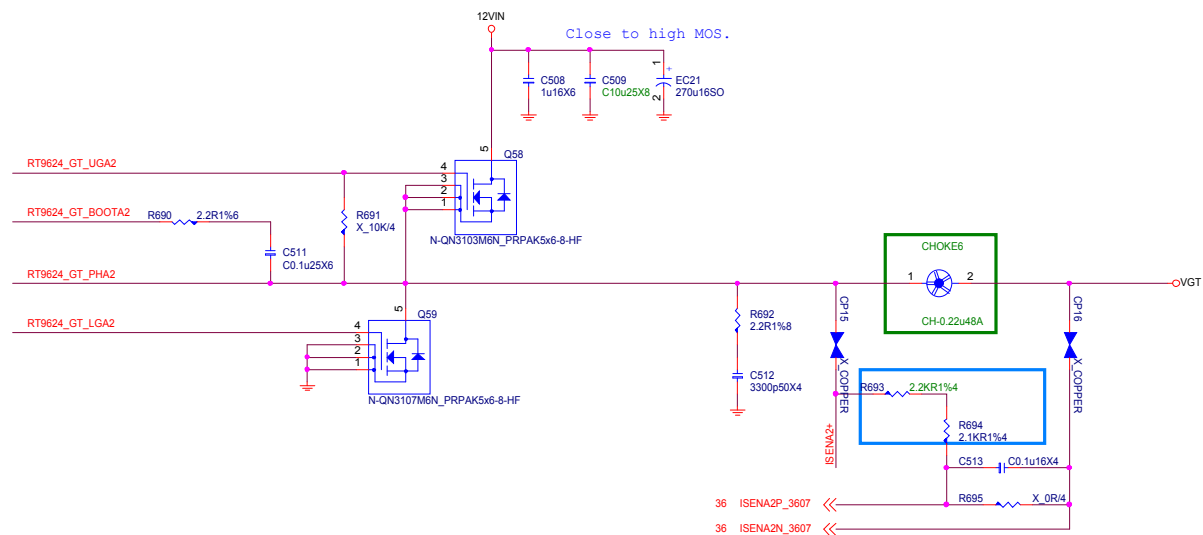
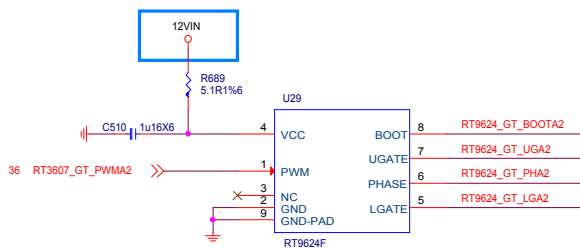
MS-7B75

| Size | Document Description | Rev |
|--------|----------------------|-----|
| Custom | PWM-RT3607BC | 10 |

Date: Friday, December 08, 2017 Sheet 36 of 53

**MS-7B75**

| | | |
|---------------------------------|------------------------------------------------------|-----------|
| Size Custom | Document Description VCORE(P-PAK) PHASE1-4 | Rev 10 |
| Date: Friday, December 08, 2017 | Sheet 37 of 53 | |



ICCMAX: 45A
LL: 3.1m ohm

DDR4_1.2V 3.3A+ 5.85A+0.375A=9.525A

3.3A FOR CPU
5.85A FOR 2DIMM DDR4
0.375A FOR VTT_DDR

D03-4503NOC-ST8
Current limit= $143K \cdot 5\mu A / 10 / 5.1mohm = 14.02A$

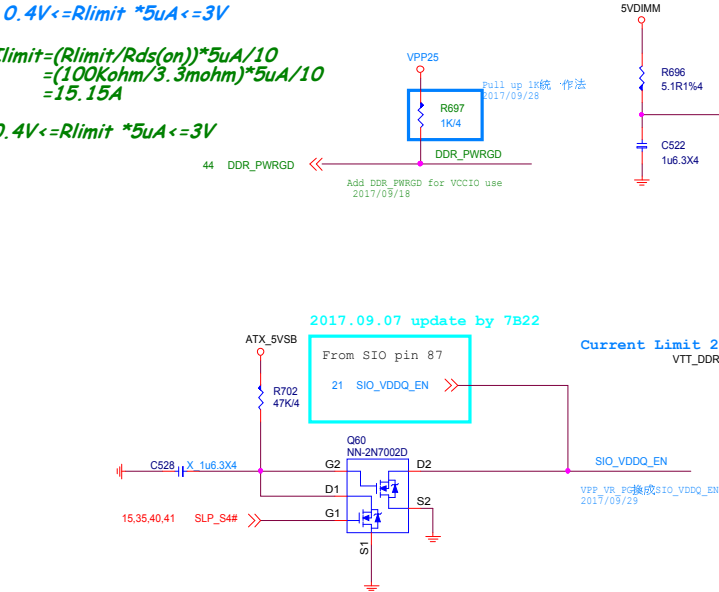
D03-4C02403-Q05
Current limit= $143K \cdot 5\mu A / 10 / 4mohm = 17.875A$

D03-3109M00-U47
Current limit= $143K \cdot 5\mu A / 10 / 2.5mohm = 28.6A$
(If UBIQ used finally, Rlimit need to be Calculated again.)

$0.4V \leq Rlimit \cdot 5\mu A \leq 3V$

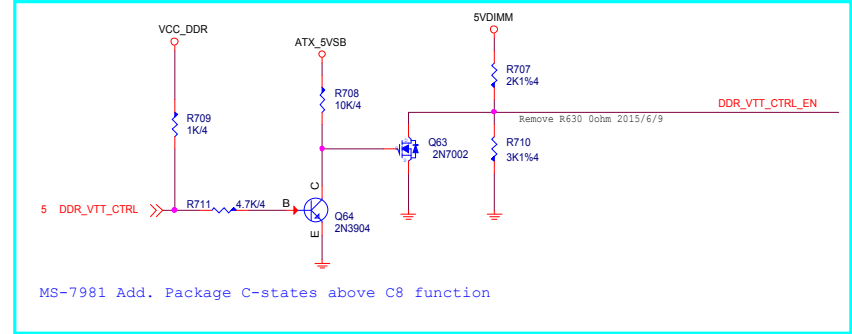
$Ilimit = (Rlimit / Rds(on)) \cdot 5\mu A / 10$
 $= (100kohm / 3.3mohm) \cdot 5\mu A / 10$
 $= 15.15A$

$0.4V \leq Rlimit \cdot 5\mu A \leq 3V$



SLP_S4# de-assertion to VDDQ ramp down start

VPP ramp down after VDDQ ramp down



| VID | Reference Voltage (V) |
|-----|-----------------------|
| H | 0.675 |
| L | 0.75 |

20171016:
R698:143K->100K
for Ilimit

$Rlimit = 100K$

$Rlimit = 100K$

$Rlimit = 100K$

$Rlimit = 100K$

$Rlimit = 100K$

$Rlimit = 100K$

$Rlimit = 100K$

$Rlimit = 100K$

$Rlimit = 100K$

$Rlimit = 100K$

$Rlimit = 100K$

$Rlimit = 100K$

$Rlimit = 100K$

$Rlimit = 100K$

$Rlimit = 100K$

$Rlimit = 100K$

$Rlimit = 100K$

$Rlimit = 100K$

$Rlimit = 100K$

$Rlimit = 100K$

$Rlimit = 100K$

$Rlimit = 100K$

$Rlimit = 100K$

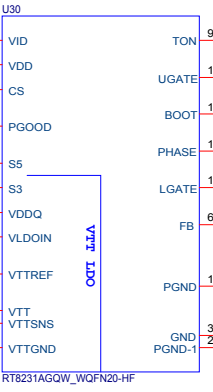
$Rlimit = 100K$

$Rlimit = 100K$

$Rlimit = 100K$

$Rlimit = 100K$

$Rlimit = 100K$



Current Limit 2.6A

VTT_DDR

VTT_DDR

VTT_DDR

VTT_DDR

VTT_DDR

VTT_DDR

VTT_DDR

VTT_DDR

VTT_DDR

VTT_DDR

VTT_DDR

VTT_DDR

VTT_DDR

VTT_DDR

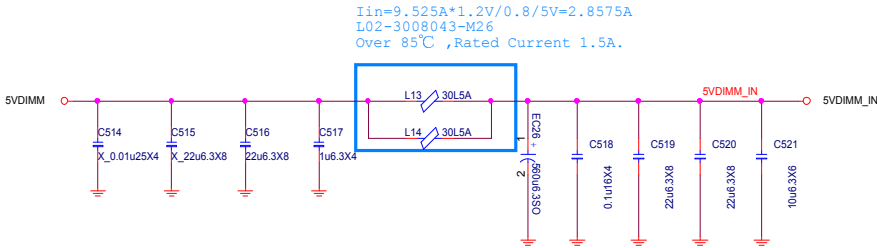
VTT_DDR

VTT_DDR

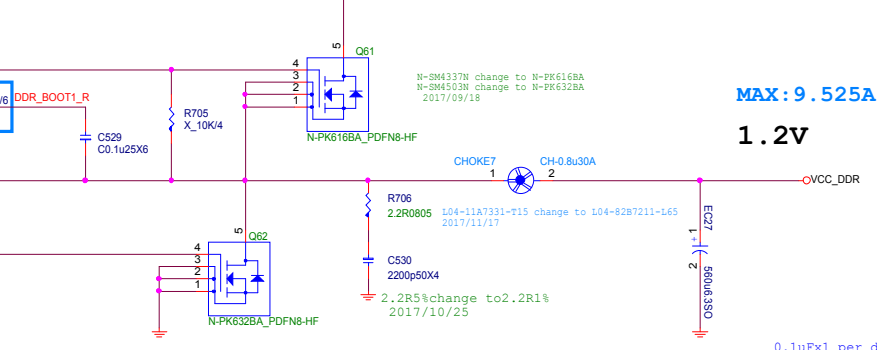
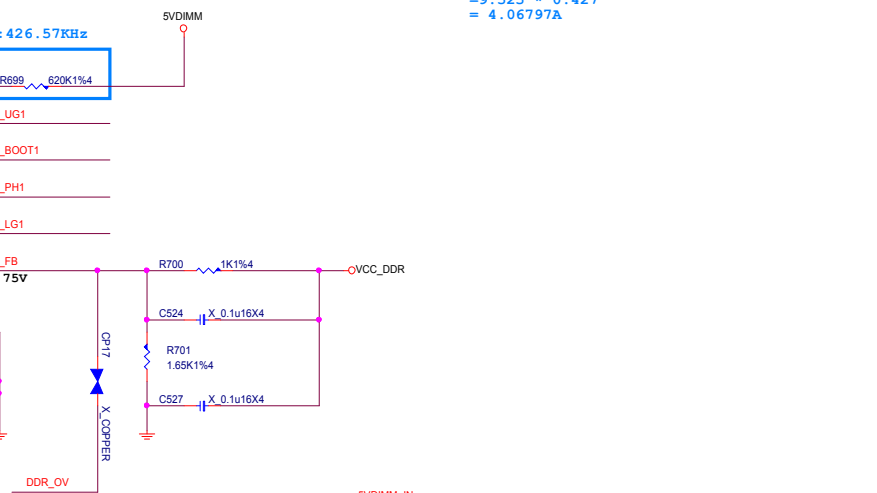
VTT_DDR

VTT_DDR

VTT_DDR

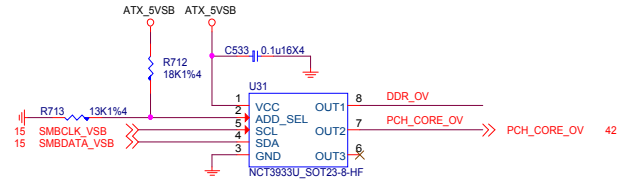



$I_{rms} = I_{out} \cdot \sqrt{(V_{out}/V_{in}) \cdot (1 - (V_{out}/V_{in}))}$
 $= 9.525 \cdot 0.427$
 $= 4.06797A$



UPI VOLTAGE CONSOLE

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

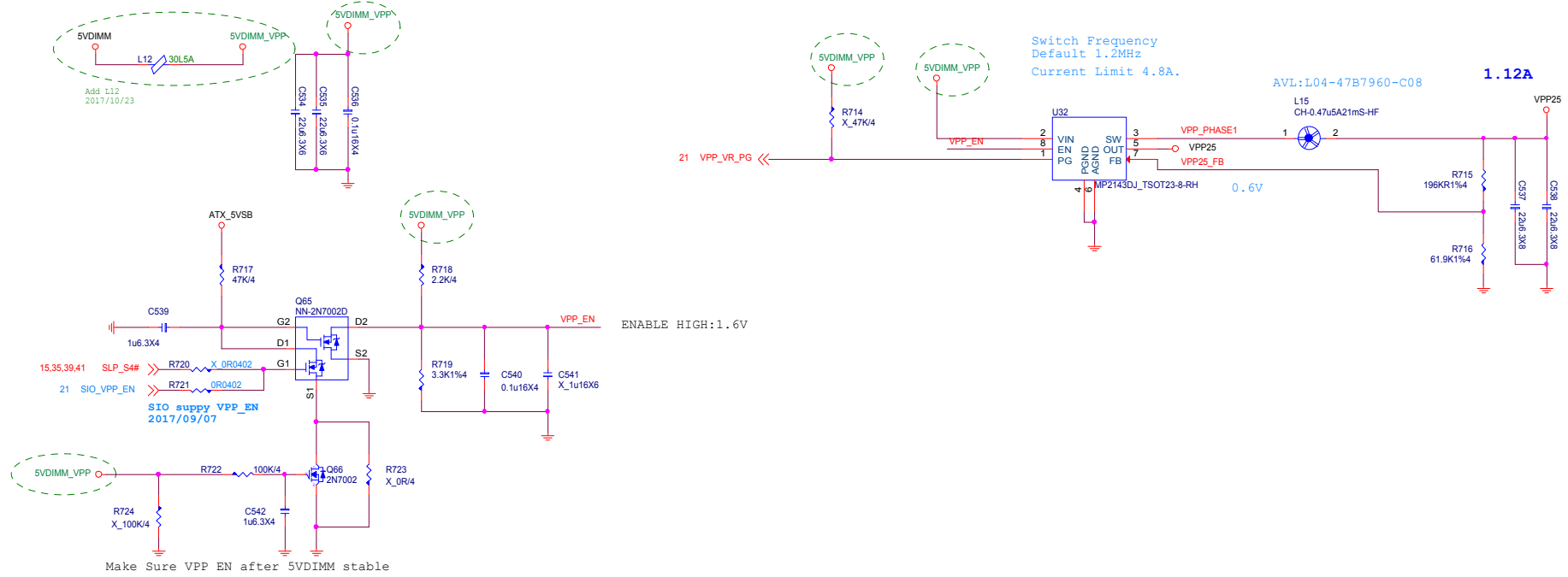




| MICRO-STAR INT'L CO.,LTD | | |
|---------------------------------|----------------------|----------------|
| MS-7B75 | | |
| Size | Document Description | Rev |
| Custom | DDR-R18231 | 10 |
| Date: Friday, December 08, 2017 | | Sheet 39 of 53 |

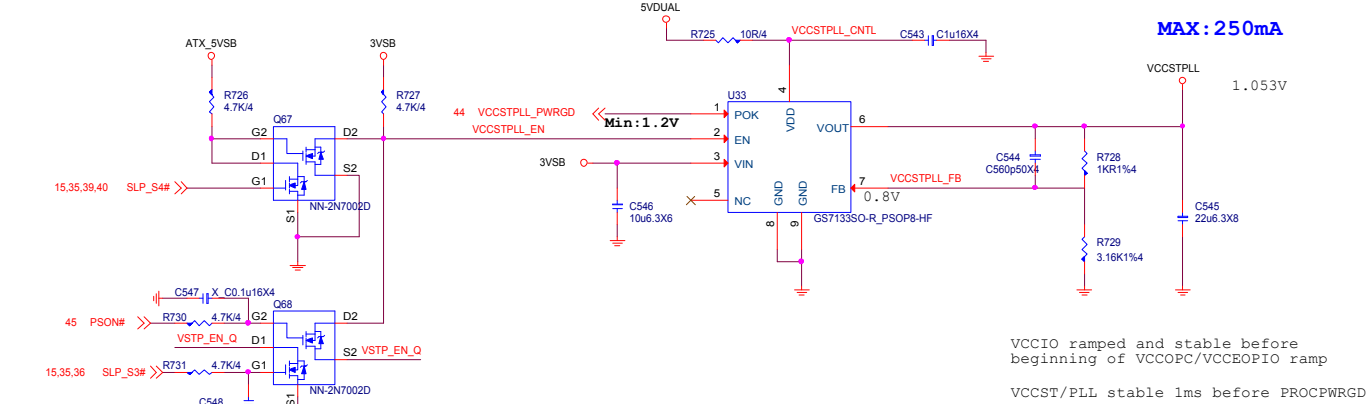
2DIMM :1.12A FOR
DDR VPP2.5V

VPP25 Power
2.5V; 1.12A



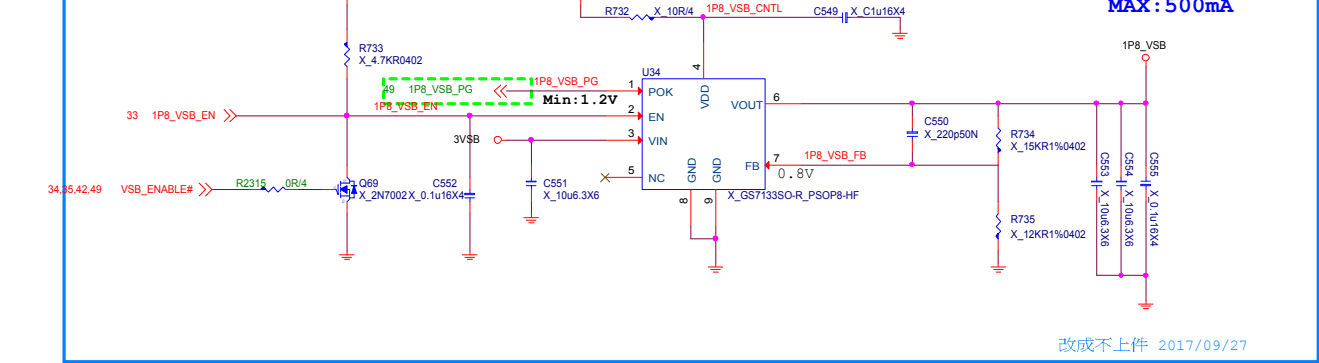
VCCSTPLL

1.05V; 250mA



1P8_VSB

1.8V; 500mA



PCH 1VSB

1.05V; 10.743A+6.4A=17.143A

D03-4503NOC-ST8
Current limit= $11K \cdot 10uA / 5.1mohm = 21.568A$

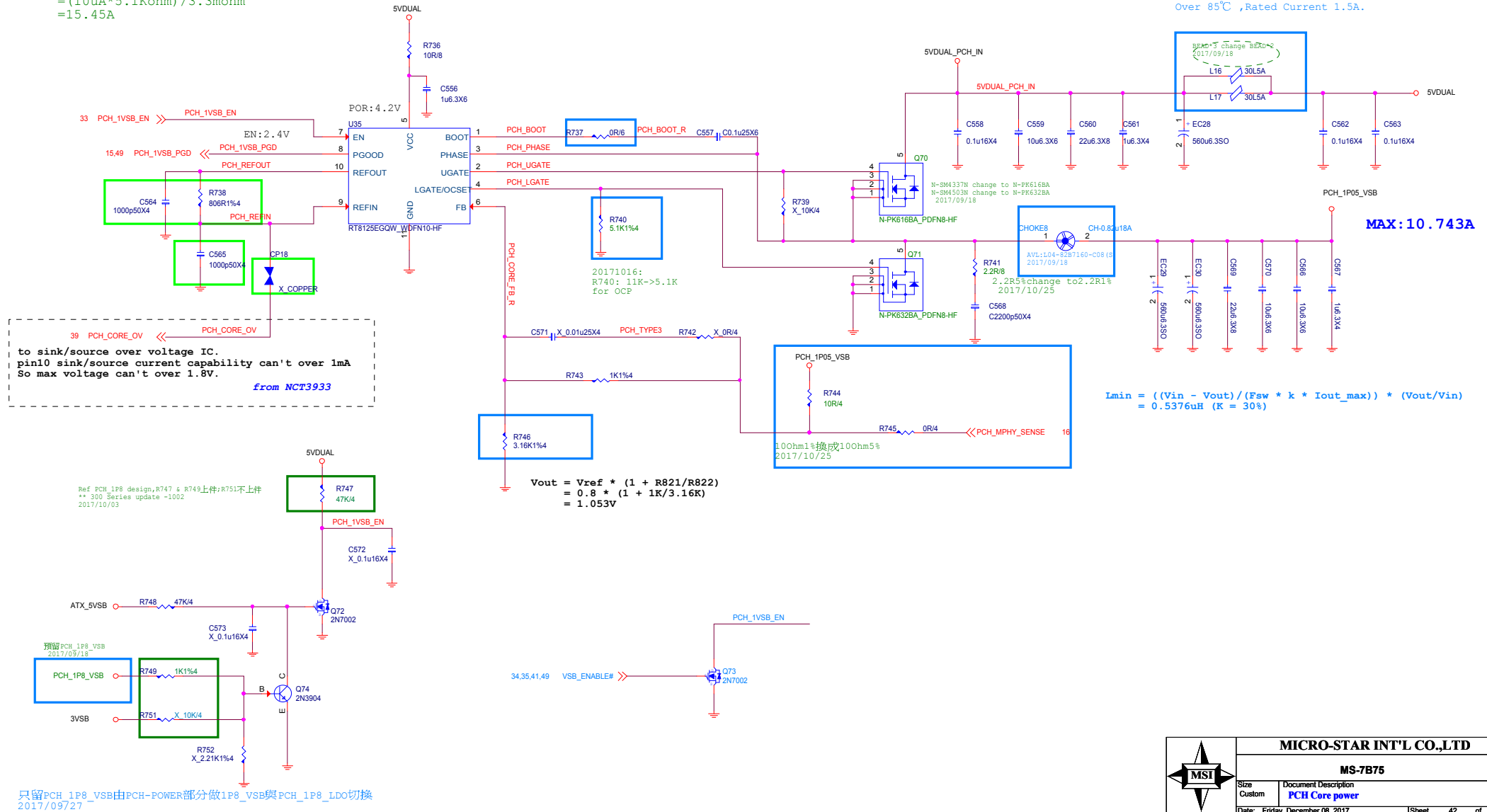
D03-4C02403-O05
Current limit= $11K \cdot 10uA / 4mohm = 27.5A$
(If ON used finally, Rocset need to be Calculated again.)

D03-3109M00-U47
Current limit= $11K \cdot 10uA / 2.5mohm = 44A$
(If UBIQ used finally, Rocset need to be Calculated again.)

$I_{valley} = (I_{ocset} \cdot R_{ocset}) / R_{lgs}(on)$
= $(10uA \cdot 5.1Kohm) / 3.3mohm$
= 15.45A

$I_{rms} = I_{out} \cdot \sqrt{(V_{out}/V_{in}) \cdot (1 - (V_{out}/V_{in}))}$
= $17.143 \cdot \sqrt{0.407}$
= 6.977A

$I_{in} = 17.143A \cdot 1.05V / 0.8 / 5V = 4.5A$
L02-3008043-M26
Over 85°C, Rated Current 1.5A.



| MICRO-STAR INT'L CO.,LTD | | | |
|--------------------------|---------------------------|-------|----------|
| MS-7B75 | | | |
| Size | Document Description | Rev | |
| Custom | PCH Core power | 10 | |
| Date: | Friday, December 08, 2017 | Sheet | 42 of 53 |

只留PCH_1P8_VSB由PCH-POWER部分做1P8_VSB與PCH_1P8_LDO切换
2017/09/27

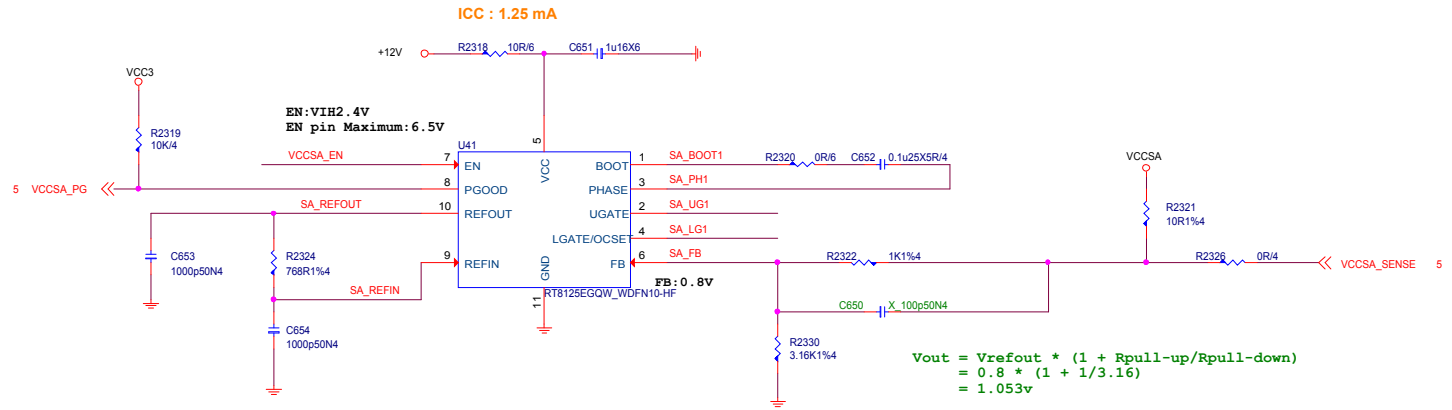
SA Power:1.05V,11.1A

OCP:16.65A

$$\begin{aligned} R_{ocset} &= 1.5 * I_{max} * R_{dson(10V)} / I_{ocset} \\ &= 16.65 * 3m\Omega / 10\mu A \\ &= 14.28K \end{aligned}$$

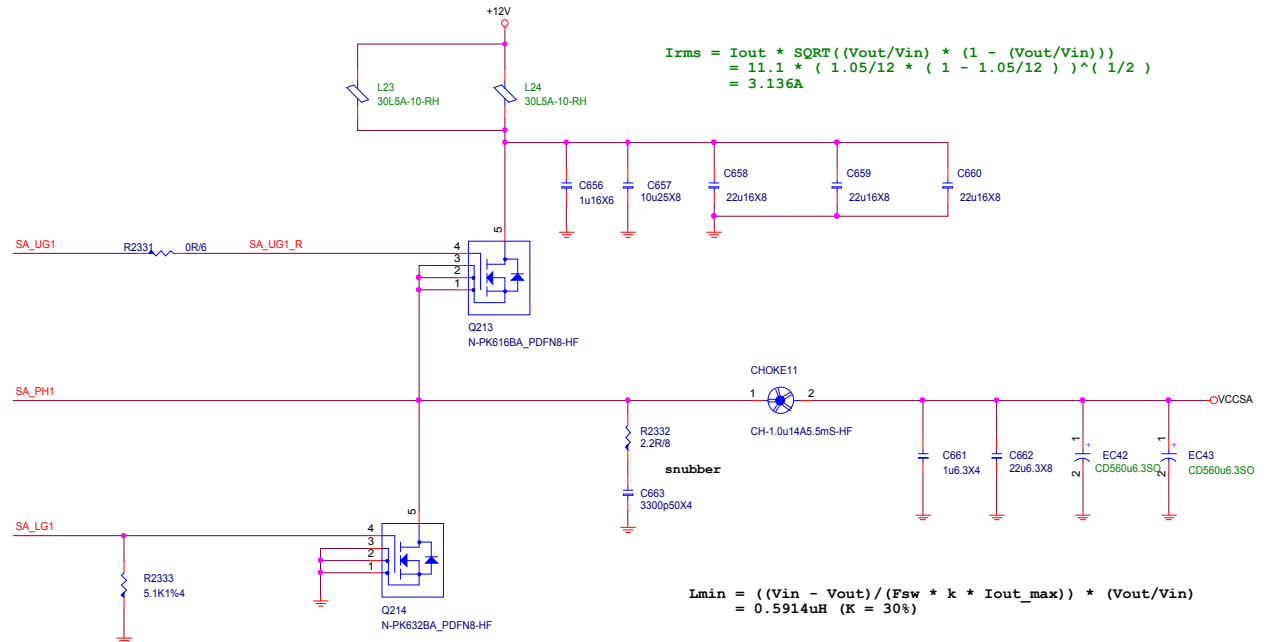
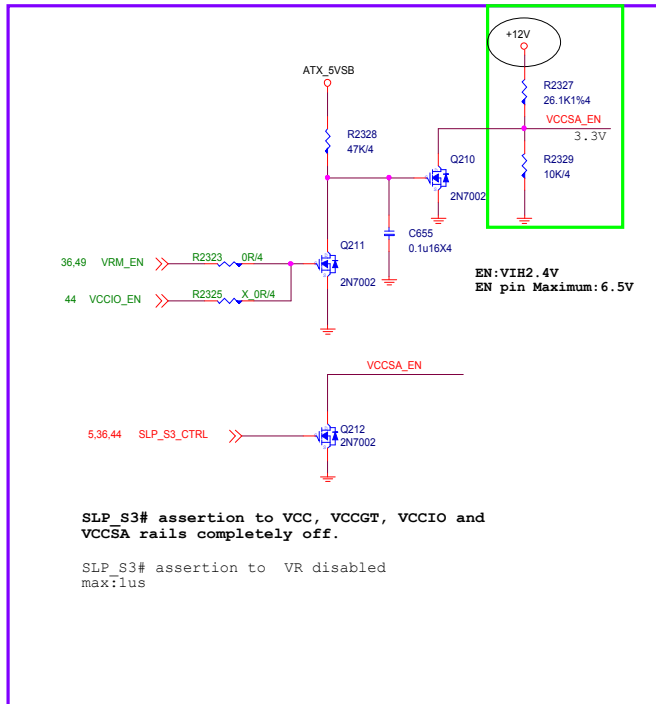
Rdson(10V)10V

MOS : 5.1mohm



2014.08.21 update

Pull up by layout&Check level



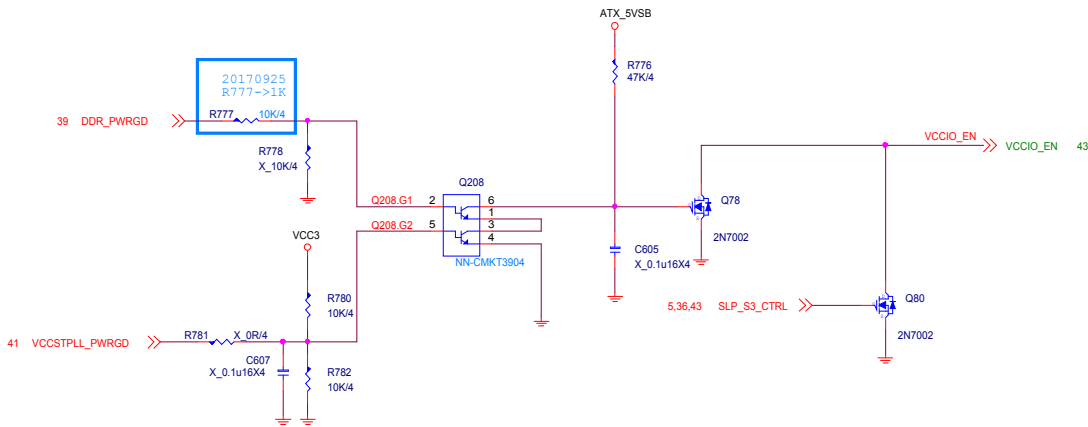
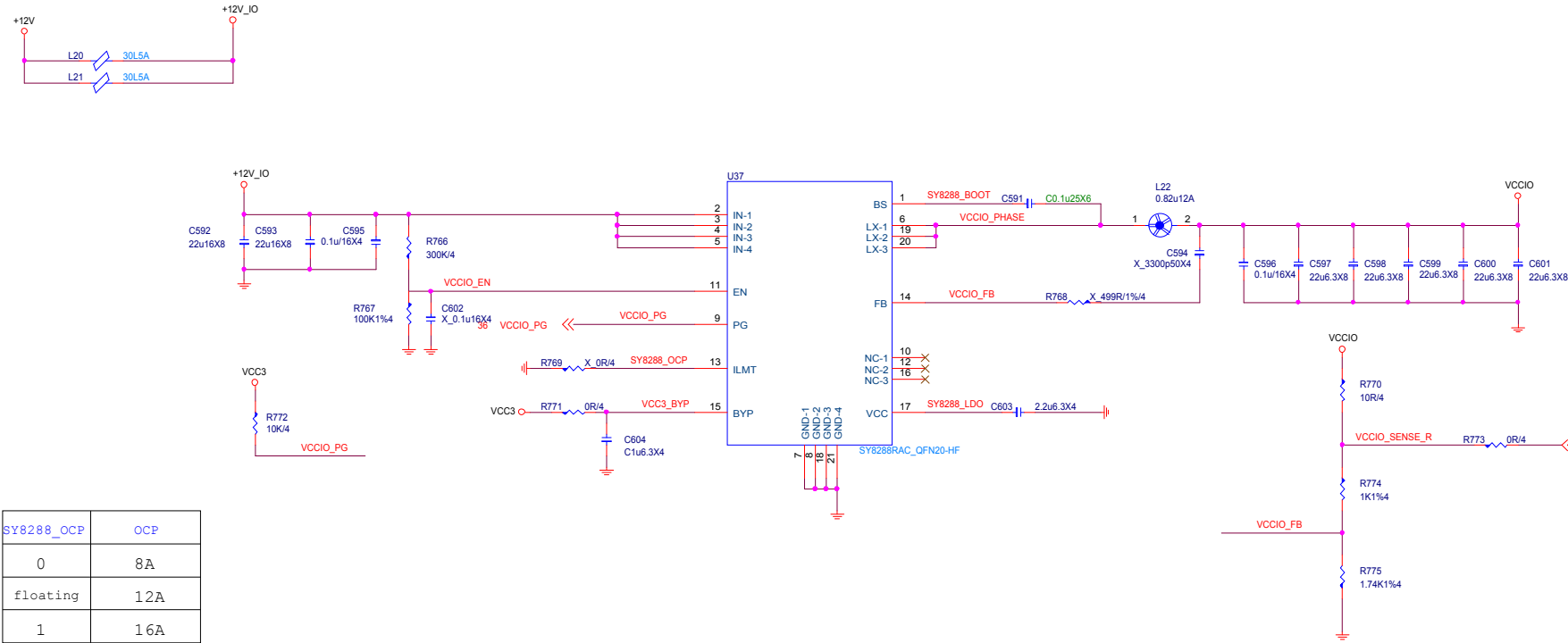
MICRO-STAR INT'L CO.,LTD

MS-7B75

| Size | Document Description | Rev |
|--------|---------------------------|----------------|
| Custom | VCCSA - POWER RT8125E | 10 |
| Date: | Friday, December 08, 2017 | Sheet 43 of 53 |

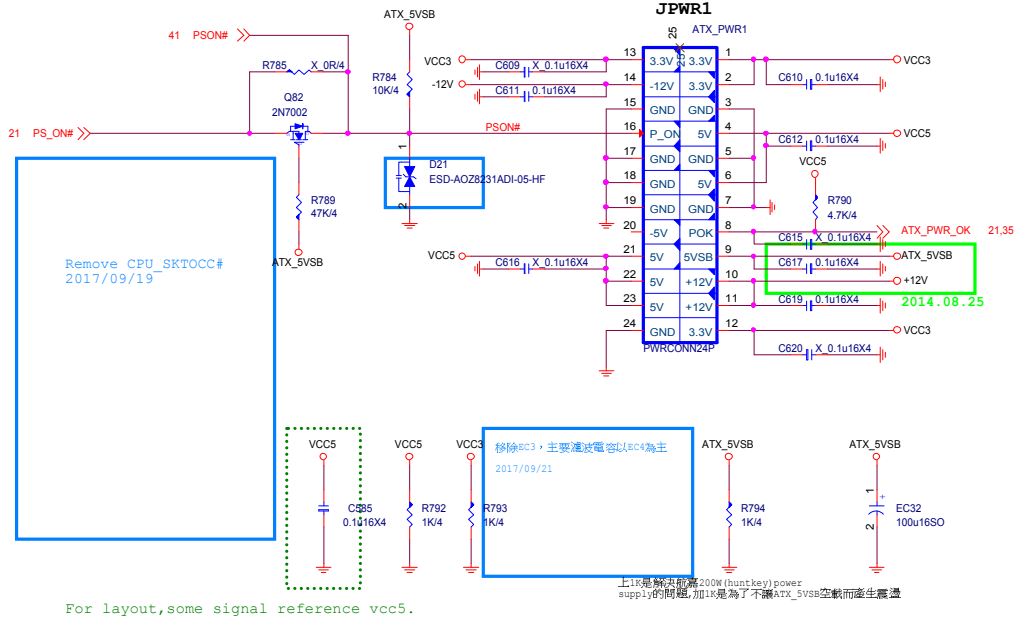
IO Power:0.95V,6.4A

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



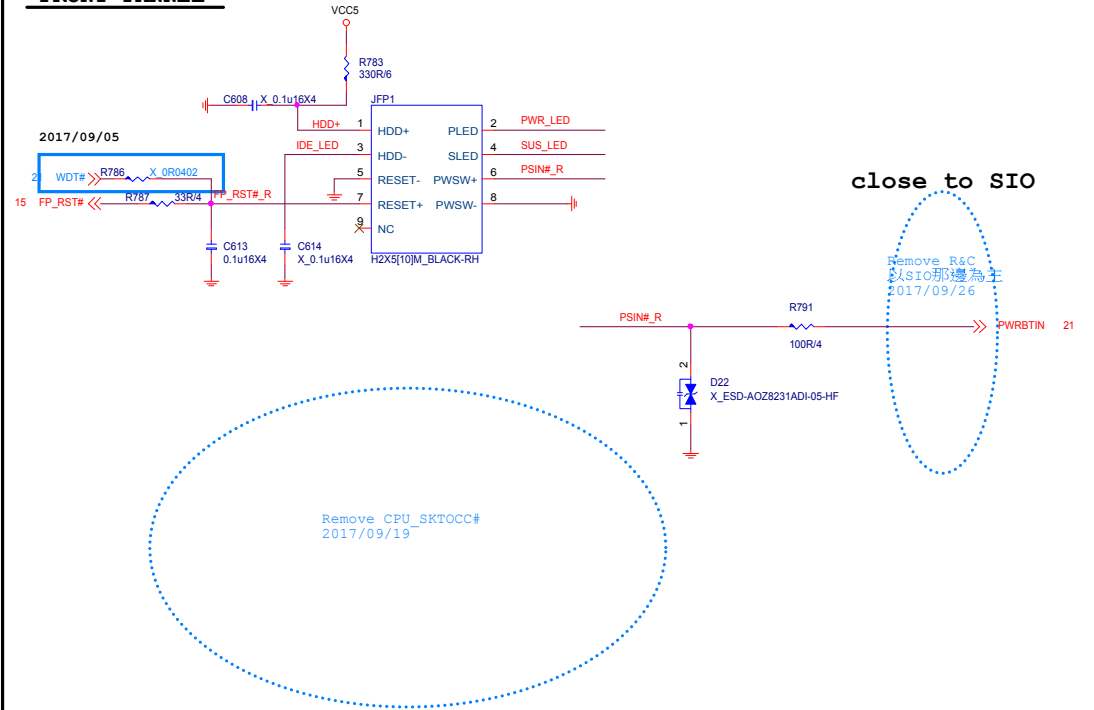
ATX POWER CONNECTOR

D26:By Ivy's word document.
Main:D0G-130050C-A68
Av1:D0G-3000600-L07/D0G-1200520-I05

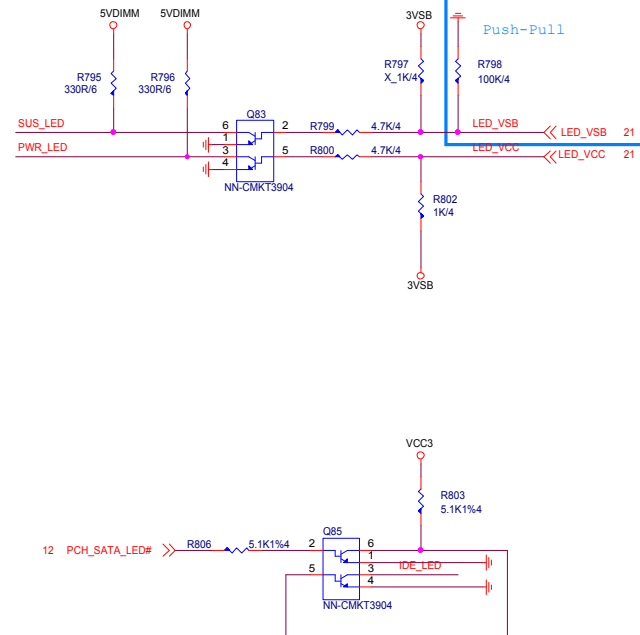


FRONT PANNEL

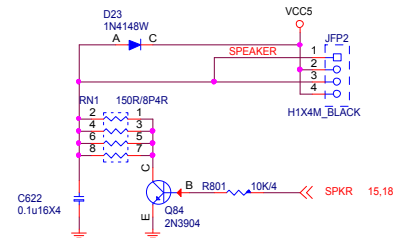
2017/09/05



LED

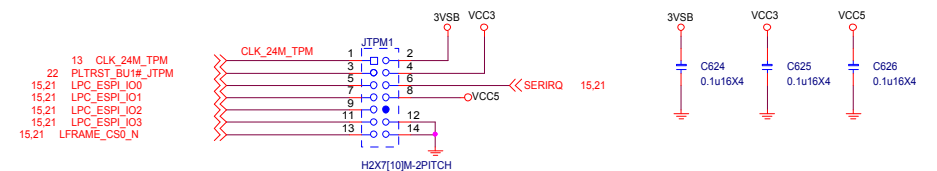


Speaker Pin Header



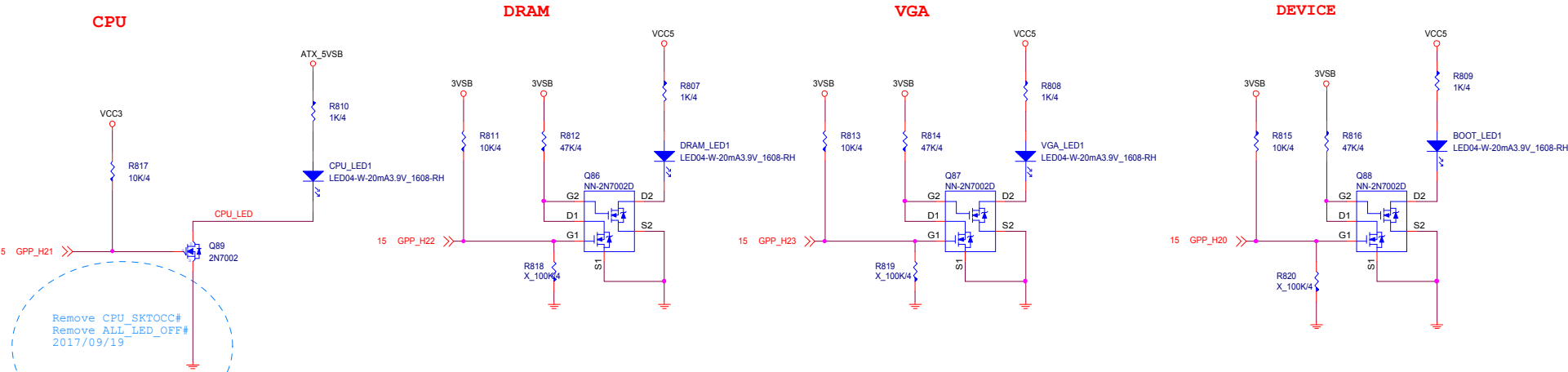
TPM

Don't colay espi debug.



| MICRO-STAR INT'L CO.,LTD | | | |
|---------------------------------|-------------------------|-------|----------|
| MS-7B75 | | | |
| Size | Document Description | Rev | |
| Custom | ATX F_Panel/TPM/MSI_LED | 10 | |
| Date: Friday, December 08, 2017 | | Sheet | 45 of 53 |

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) |

LED
RED:D0C-040P100-H91
AVL:D0C-040S500-E07


WHI:D0C-040T200-H91
AVL:D0C-040S200-E07

- 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）

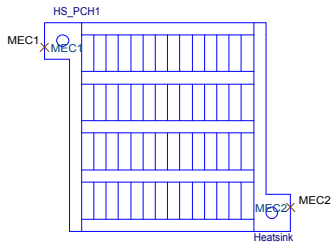
JLED

2017/9/20
移除JLED
2017/9/19
Based on "MSI-Header 20170712"
Change RGB to 單色LED
2017/7/28
[REDACTED]
[REDACTED]
[REDACTED]

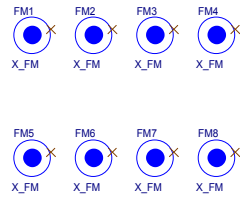
EMI CAP



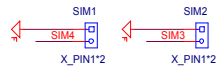
| | | |
|---------------------------------|-----------------------------|----------------|
| MICRO-STAR INT'L CO.,LTD | | |
| MS-7B75 | | |
| Size Custom | Document Description EMI | Rev 10 |
| Date: Friday, December 08, 2017 | | Sheet 47 of 53 |



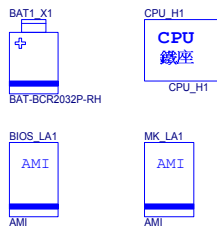
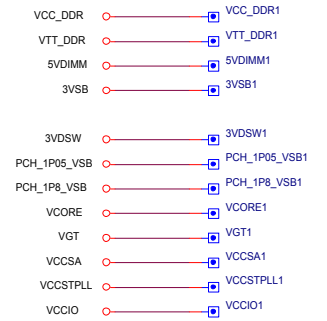
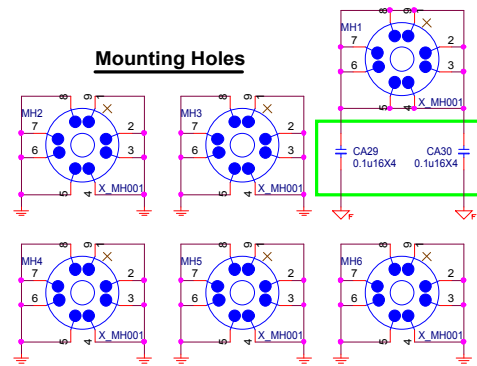
Optical Fiducial Marks-120



Simulation



Mounting Holes



PK0-07B270A-G37, 精成-深圳, 1, 台北微星廠 (MSI)
PK0-07B270A-E48, 競華, 1, 台北微星廠 (MSI)

-**-***

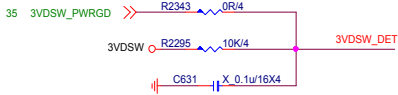
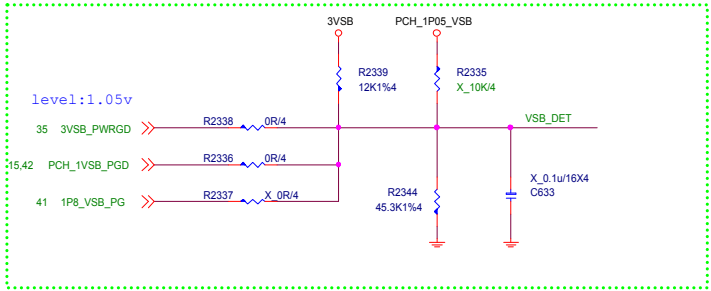
Marketing Name

MARKT

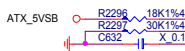
X_MARKT

| | |
|-----------|--------------|
| | DEEP_MODE_EN |
| DEEP_MODE | 1 |
| S5_MODE | 0 |

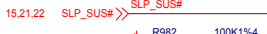
20171019
diode sod523 change to diode_sod323
D01-5204000-LA9/DIODE_SOD523
change to
D01-RB751V0-W12/DIODE_SOD323



34 ATX5VSB_DET



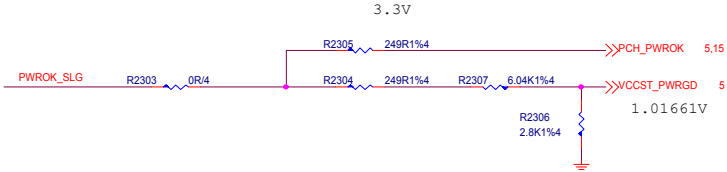
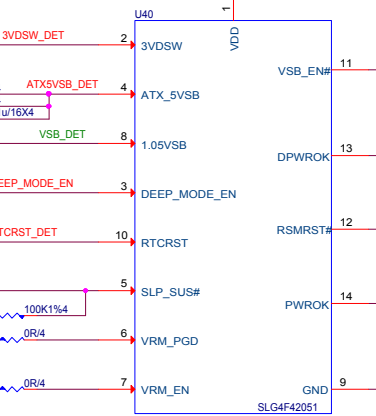
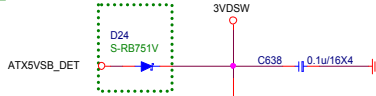
21 DEEP_MODE_EN



5,36 VRM_PGD_R



36,43 VRM_EN



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| Size | Document Description | Rev |
| Custom | SILEGO-PWR-Sequence | 10 |
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