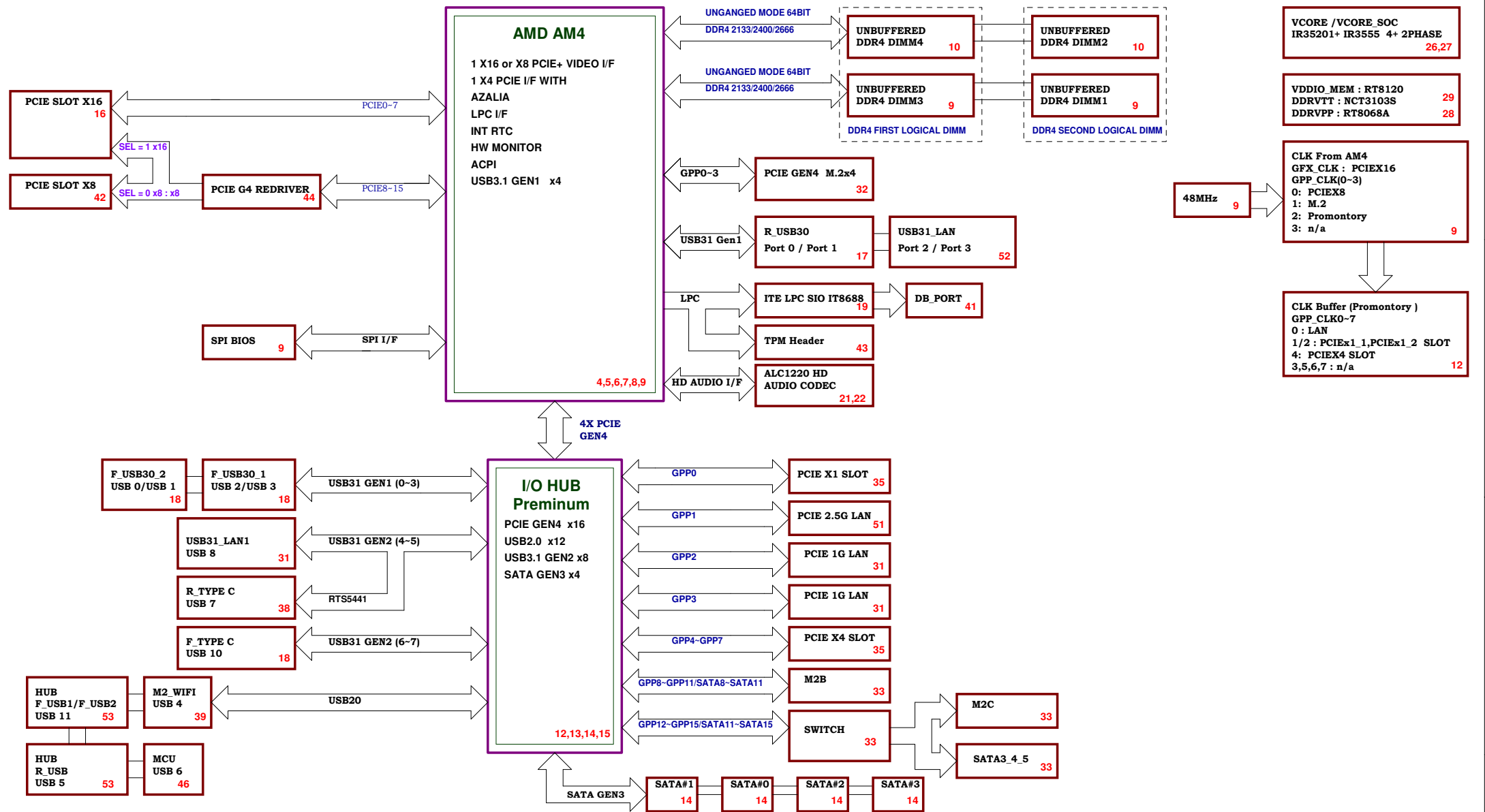
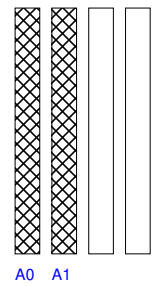


[illegible][illegible][illegible]

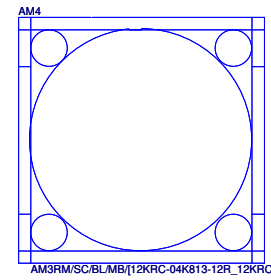
[illegible][illegible][illegible][illegible][illegible][illegible]



MEM CHA



- [10] MODT_A[0..3] <=> MODT_A[0..3]
- [10] MDA[0..63] <=> MDA[0..63]
- [10] MAAA[0..17] <=> MAAA[0..17]
- [10] DQSA[0..8] <=> DQSA[0..8]
- [10] -DQSA[0..8] <=> -DQSA[0..8]



2020.02.17
12KRC-04K813-12R/14R
抽芽式

GIGABYTE™

Title: **APU DDR4**

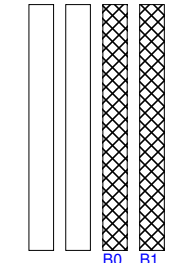
Size: Custom Document Number: **B550M DS3H** Rev: **1.01**

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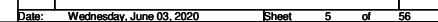
A0 A1

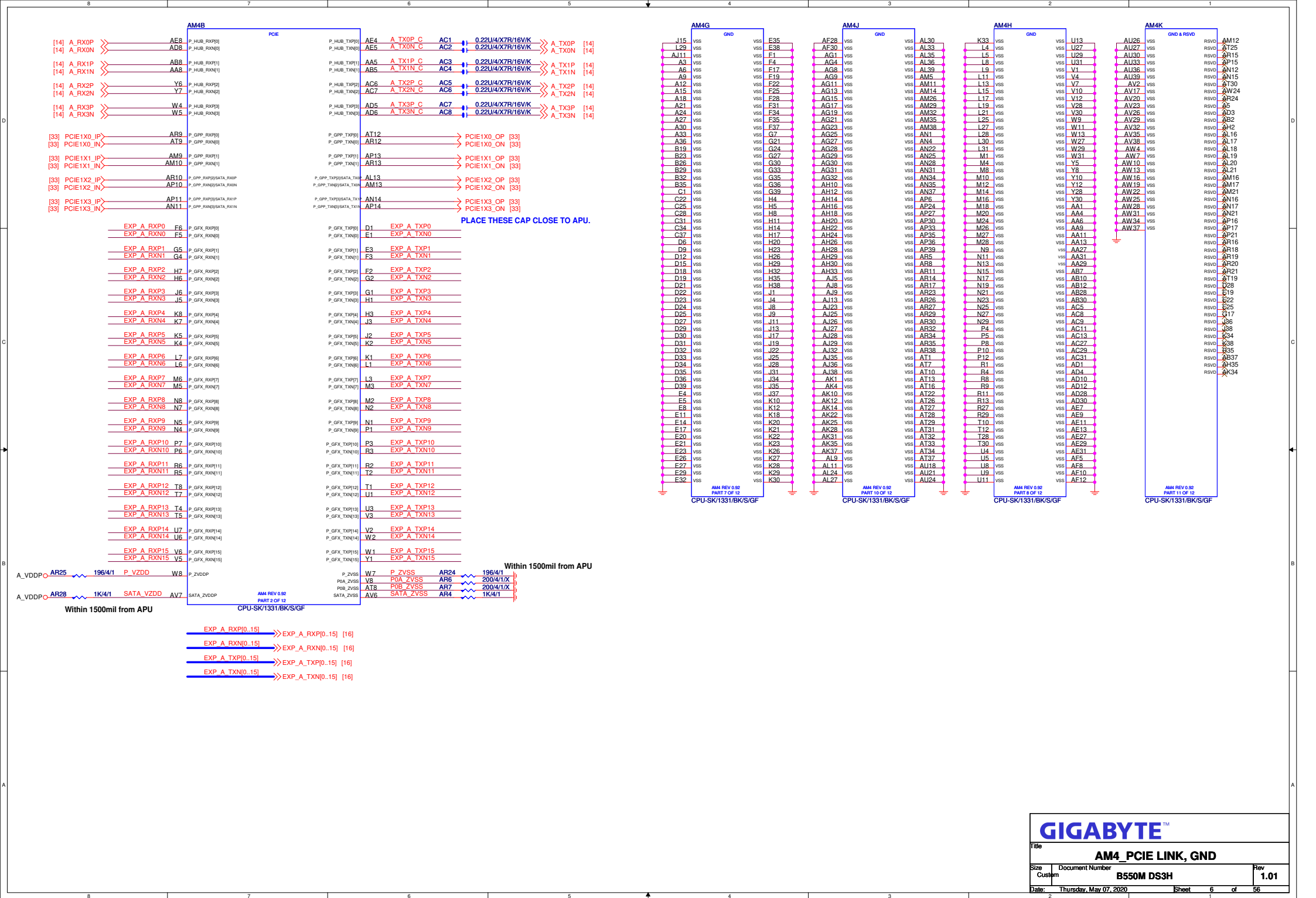
MEM CHB

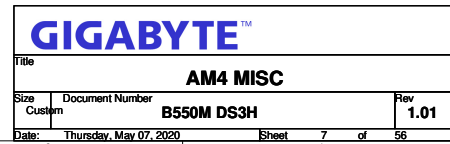


- [11] MODT_B[0..3] <=> MODT_B[0..3]
- [11] MDB[0..63] <=> MDB[0..63]
- [11] MAAB[0..17] <=> MAAB[0..17]
- [11] DQSB[0..8] <=> DQSB[0..8]
- [11] -DQSB[0..8] <=> -DQSB[0..8]

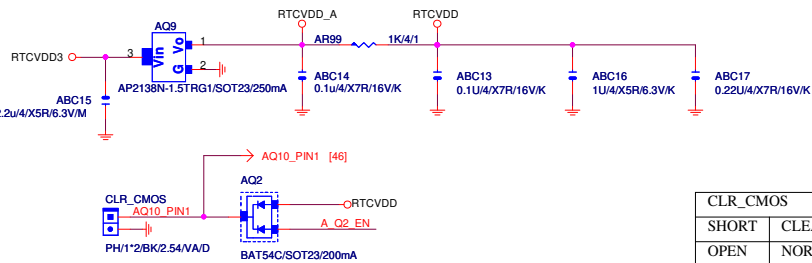
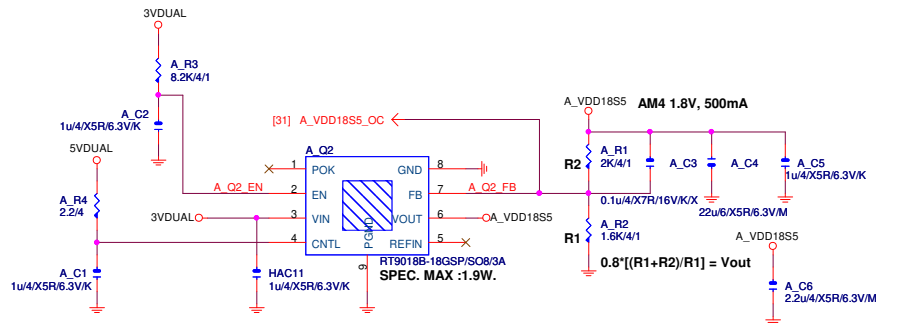
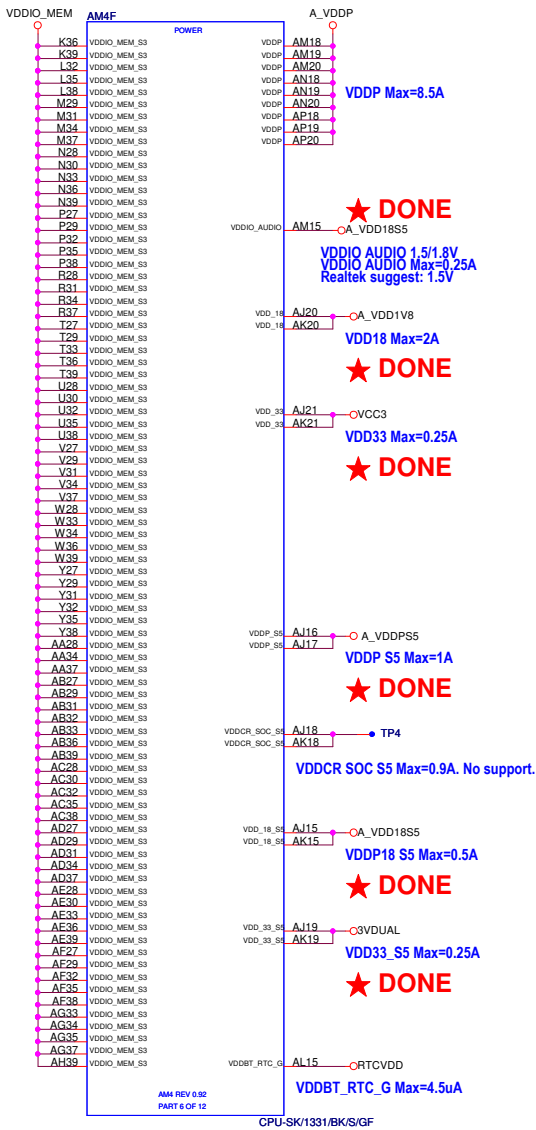
Place within 1" of APU.





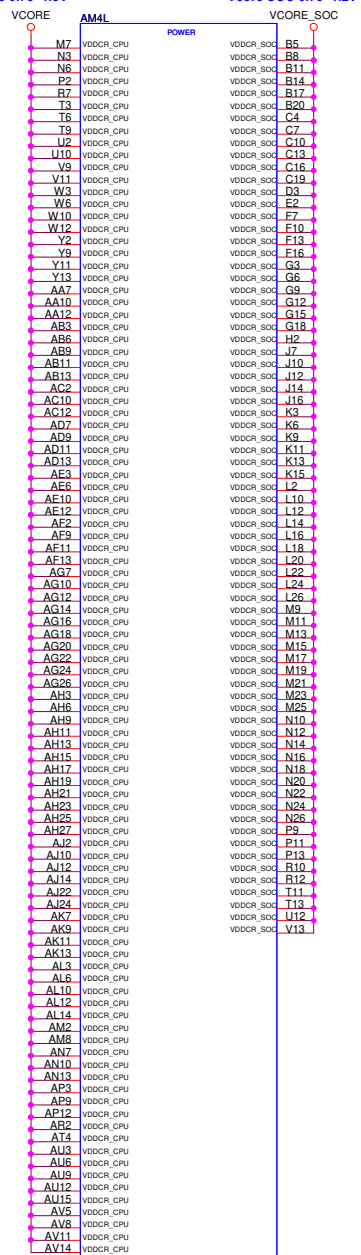


VDDIO Max=15.5A



CLR_CMOS	
SHORT	CLEAR CMOS
OPEN	NORMAL
NOT ADD ICT FOR RTCVDD PIN	

Vcore EDC=125A
Vcore 0.75-1.5V



CPU POWER & GND

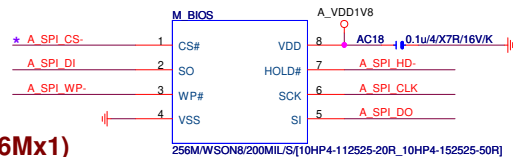
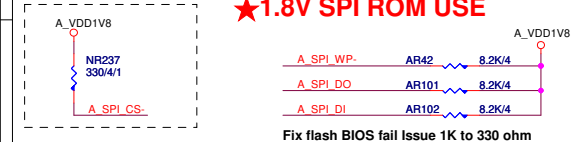
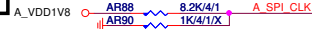
Size: Custom Document Number: B550M DS3H Rev: 1.01

Date: Thursday, May 07, 2020 Sheet: 8 of 56




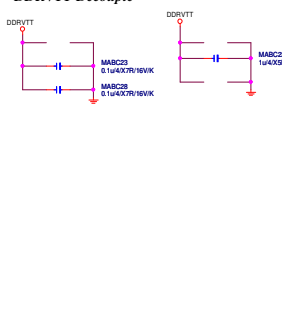
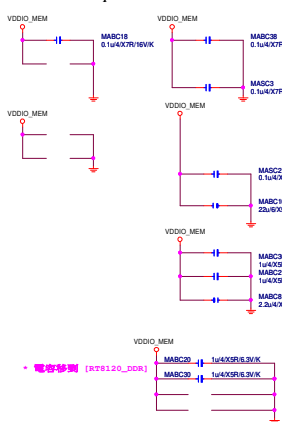
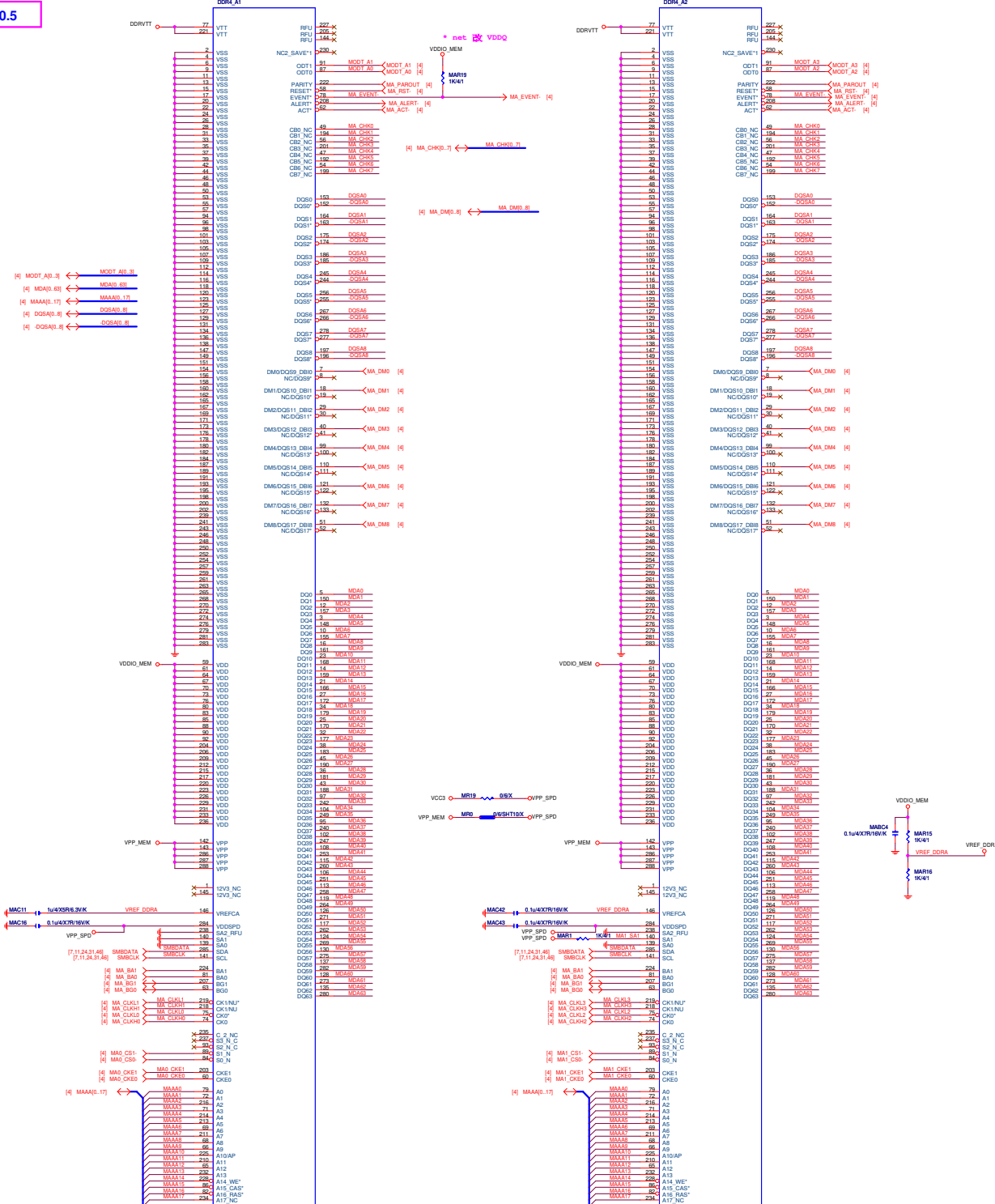
	SPI_CLK	LFRAME-	SYS_RST-	LPC_CLK0	LPC_CLK1
PULL HIGH	Internal clock mode	SPI ROM	Normal reset mode	PSP modify SPI page reg bits[24:24]	Use 48MHz crystal clock
PULL LOW	Extal clock mode	LPC ROM	Short reset mode	PSP not modify SPI page reg bits[24:24]	Use 100MHz extl clock input.

Bule: default



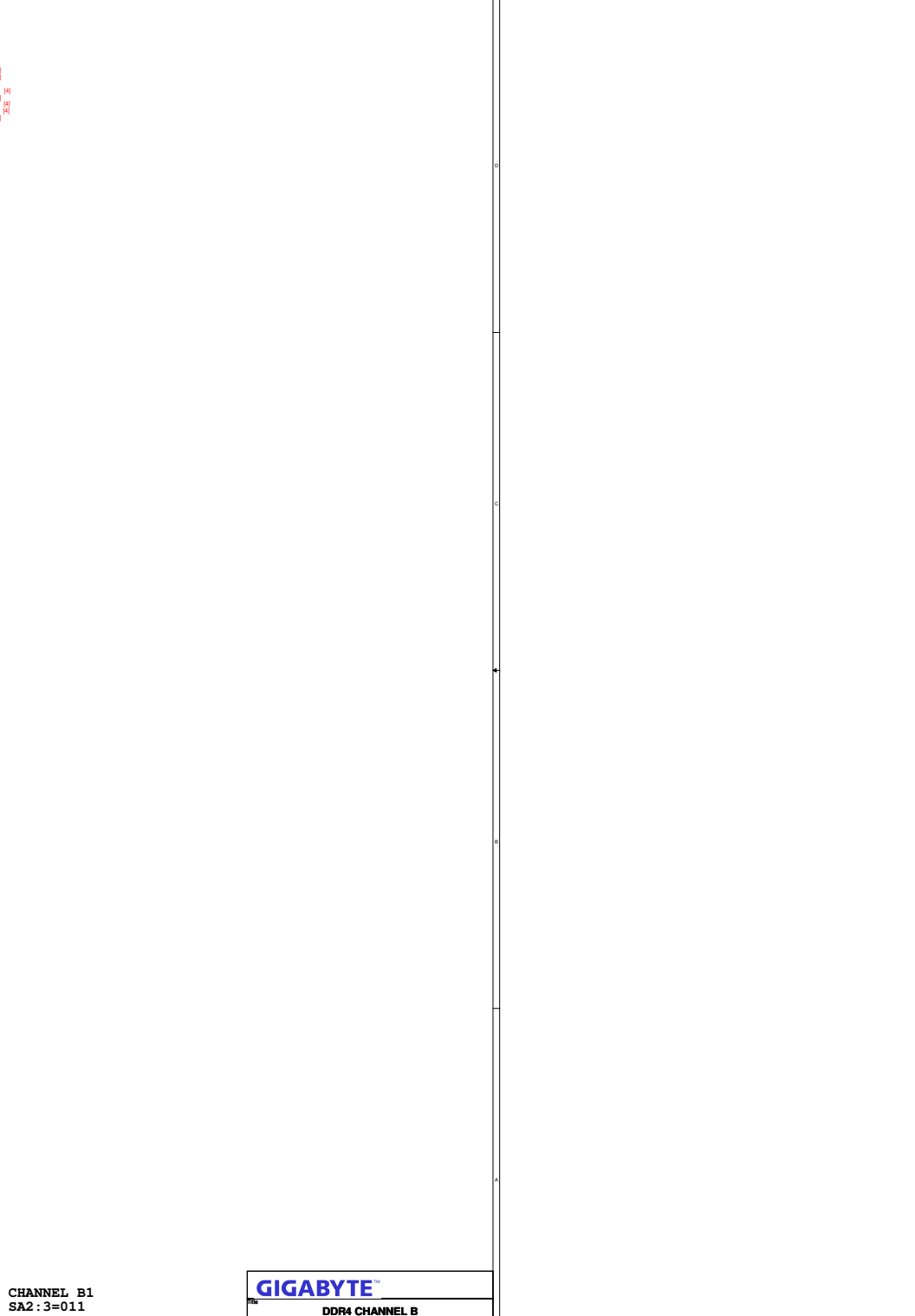
Single (256Mx1)
Layout colay 128Mx1

			
Title			
APU USB, GPP			
Size	Document Number		Rev
Custom	B550M DS3H		1.01
Date:	Thursday, May 07, 2020	Sheet	9 of 56



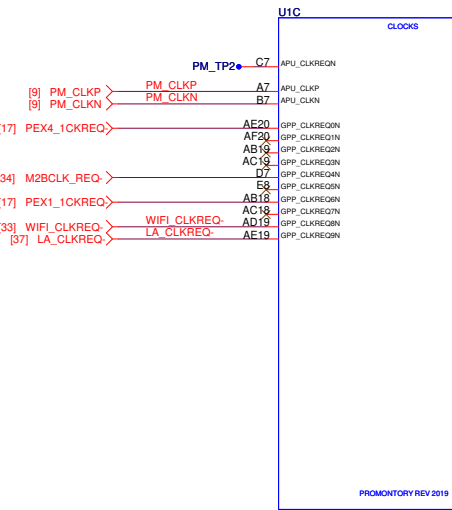


CHANNEL B0
SA2:1=001



CHANNEL B1
SA2:3=011

GIGABYTE		
DDR4 CHANNEL B		
Size	Document Number	Rev
8GB	B550M DGSB	1.01
Date	Thursday, May 09, 2020	Page 11 of 56



R0.2 Update
CLK & CLK REQ 需與PCIE Port mapping

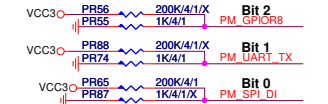


PROMTORY REV 2019

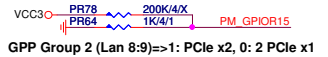
218-0891014-00/S



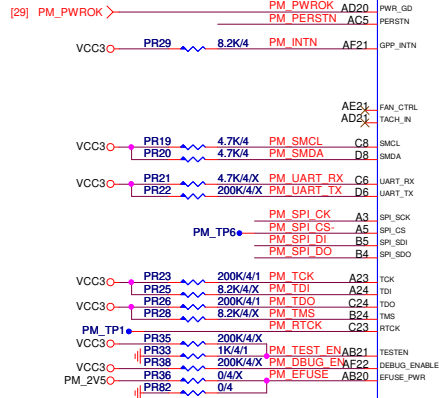
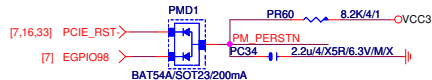
Bit 2	Bit 1	Bit 0	GPP Group 0 (Lanes 3:0)
0	0	0	4 PCIe x1
0	0	1	2 PCIe x1 + 1 PCIe x2
0	1	0	1 PCIe x2 + 2 PCIe x1
0	1	1	1 PCIe x2 + 1 PCIe x2
1	1	1	1 PCIe x4
Others: Reserved			



Bit 2	Bit 1	Bit 0	GPP Group 1 (Lanes 7:4)
0	0	0	4 PCIe x1
0	0	1	2 PCIe x1 + 1 PCIe x2
0	1	0	1 PCIe x2 + 2 PCIe x1
0	1	1	1 PCIe x2 + 1 PCIe x2
1	1	1	1 PCIe x4
Others: Reserved			



GPP Group 2 (Lan 8:9)=>1: PCIe x2, 0: 2 PCIe x1



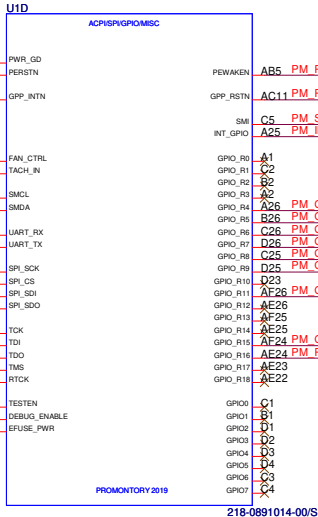
PR71 1K/4/1 PM_DEBUG_EN

PR79 1K/4/X PM_TCK

PR80 1K/4/X PM_TDO

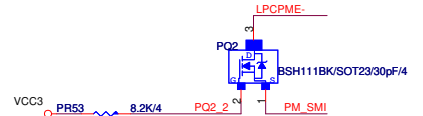
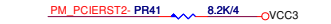
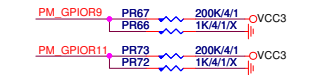
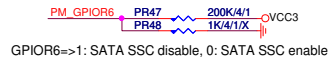
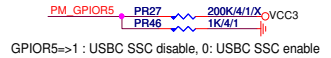
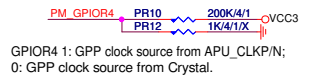
TESTEN=>1:Test Mode, 0:Function mode.

DEBUG=>1:Debug Mode, 0:Function mode.



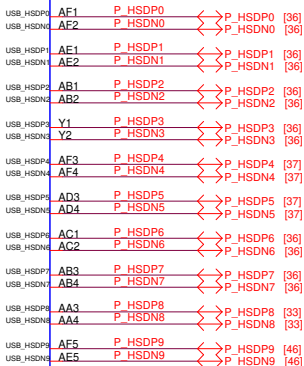
PROMTORY 2019

218-0891014-00/S



GIGABYTE™				ANS 8054891
Title				
PREMIUM CPU/CLK/MISC				
Size	Document Number	B550M DS3H		Rev
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Date:	Friday, July 17, 2020	Sheet	12	of 56

USB port power control 9:0
(VCC3). Output.



KB_MS_USB OK

KB_MS_USB OK

F_USB30 OK

F_USB30 OK

LAN_USB OK

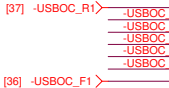
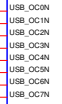
LAN_USB OK

F_USB20 OK

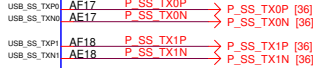
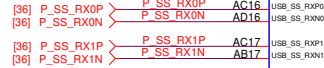
F_USB20 OK

M2 WIFI OK

MCU OK



USB 3.1 Gen 1



HSD 2 F_USB30 OK

HSD 3 F_USB30 OK

USB 3.1 Gen 2



HSD 0

HSD 1

USB32G2	USB20	USB_OC
0	0	0
1	1	1
USB32G1		
0	2	2
1	3	3
	4	4
	5	5
	6	6
	7	7
	8	7
	9	7

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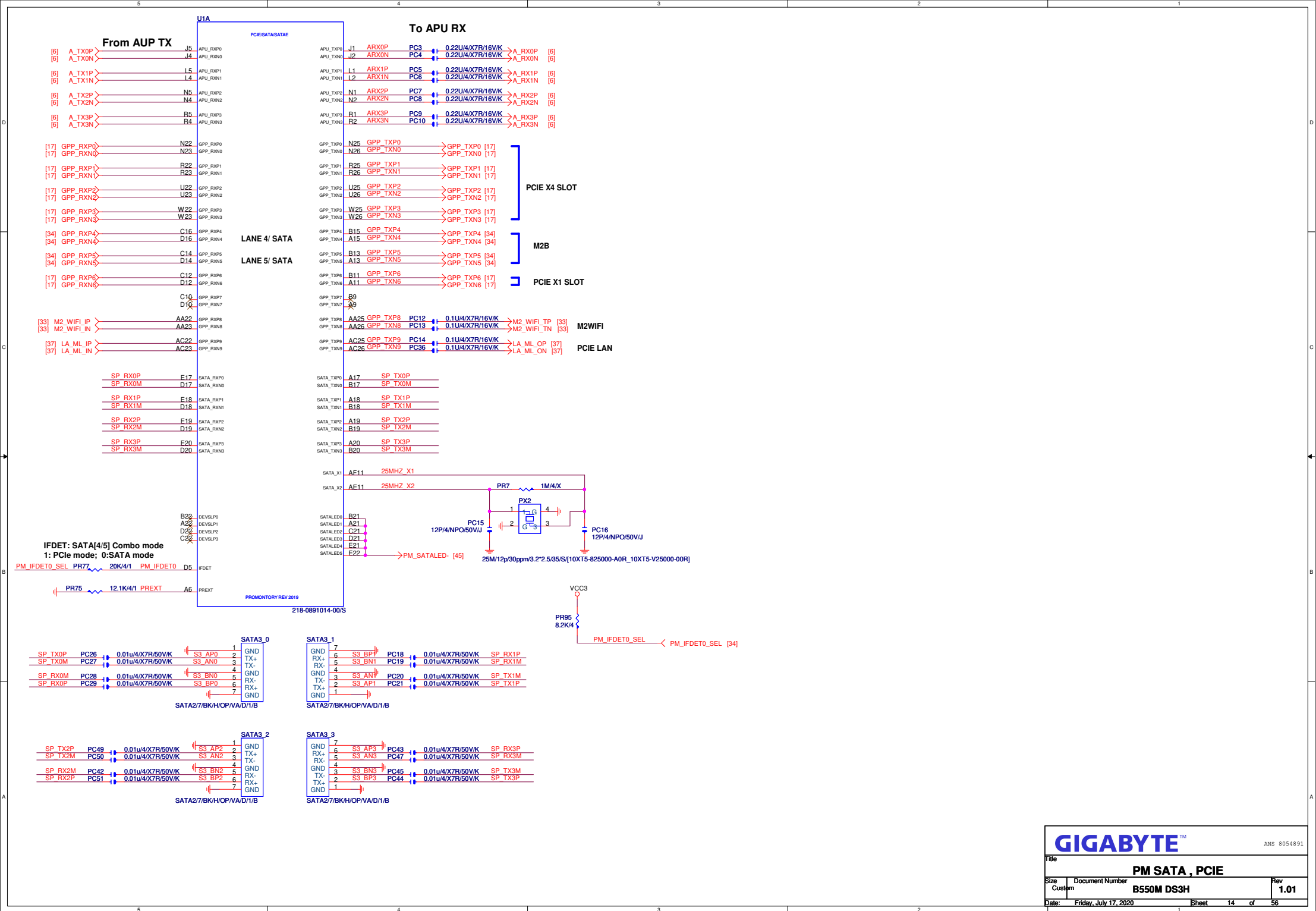
ANS 8054891

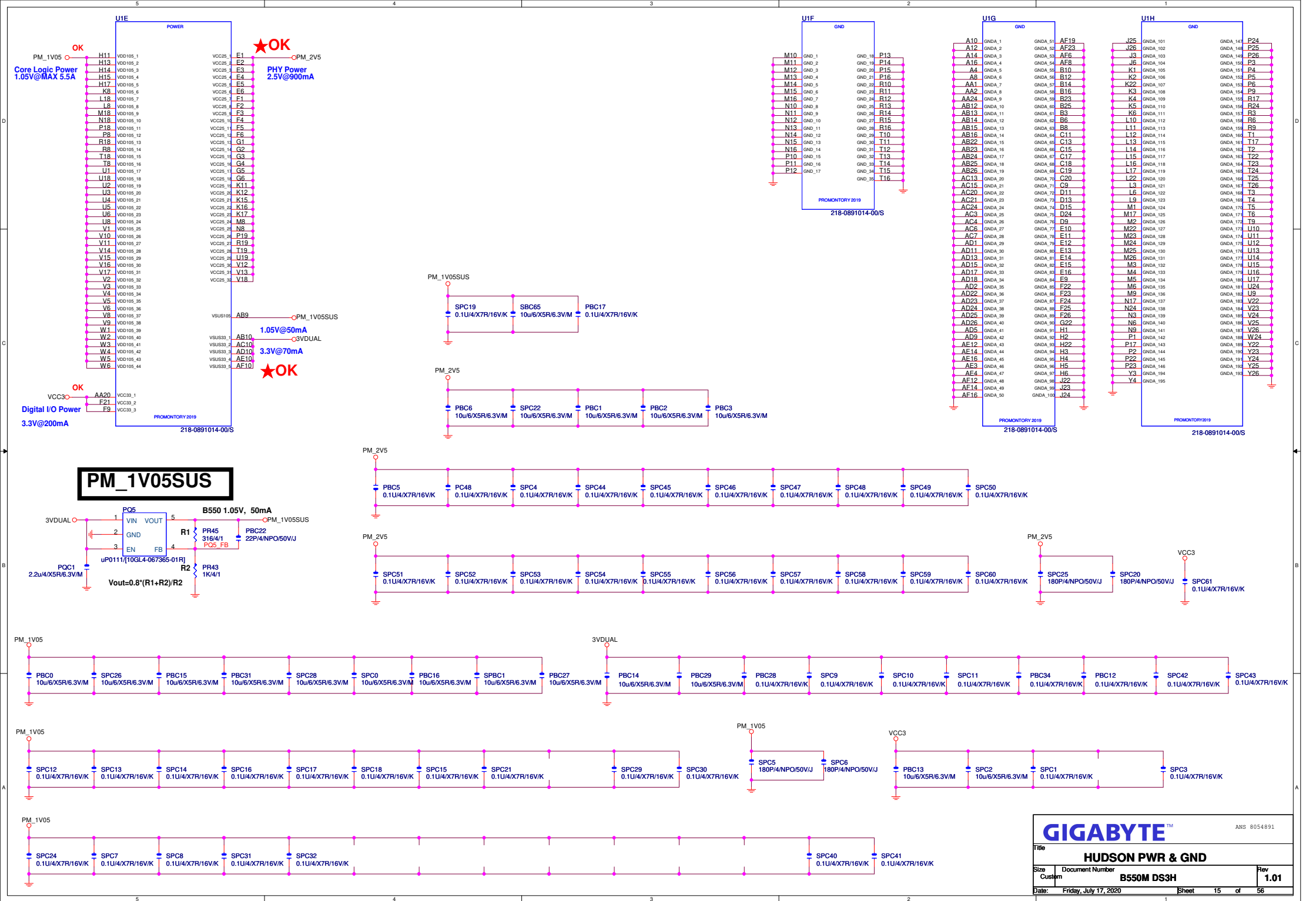
Title PM USB

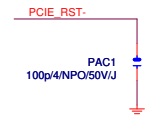
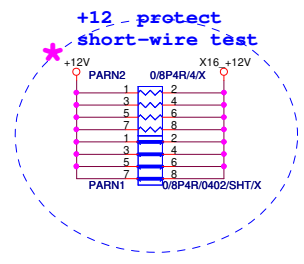
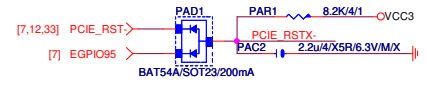
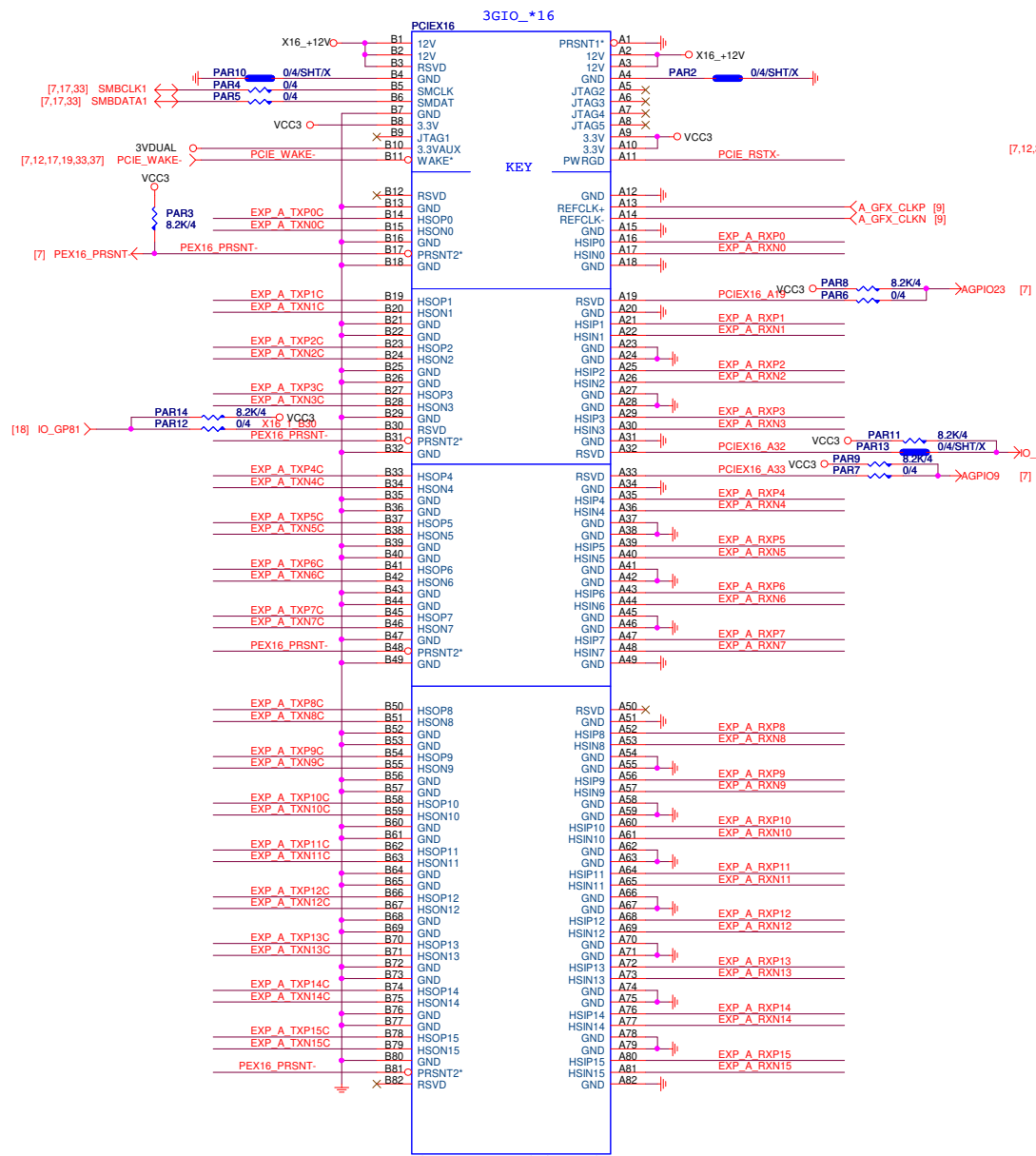
Size Custom Document Number B550M DS3H

Rev 1.01

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EXP A TXP0	PAC4	0.22u/4X5R/6.3V/K	EXP A TXP0C
EXP A TXN0	PAC5	0.22u/4X5R/6.3V/K	EXP A TXN0C
EXP A TXP1	PAC6	0.22u/4X5R/6.3V/K	EXP A TXP1C
EXP A TXN1	PAC7	0.22u/4X5R/6.3V/K	EXP A TXN1C
EXP A TXP2	PAC8	0.22u/4X5R/6.3V/K	EXP A TXP2C
EXP A TXN2	PAC9	0.22u/4X5R/6.3V/K	EXP A TXN2C
EXP A TXP3	PAC10	0.22u/4X5R/6.3V/K	EXP A TXP3C
EXP A TXN3	PAC11	0.22u/4X5R/6.3V/K	EXP A TXN3C
EXP A TXP4	PAC12	0.22u/4X5R/6.3V/K	EXP A TXP4C
EXP A TXN4	PAC13	0.22u/4X5R/6.3V/K	EXP A TXN4C
EXP A TXP5	PAC14	0.22u/4X5R/6.3V/K	EXP A TXP5C
EXP A TXN5	PAC15	0.22u/4X5R/6.3V/K	EXP A TXN5C
EXP A TXP6	PAC16	0.22u/4X5R/6.3V/K	EXP A TXP6C
EXP A TXN6	PAC17	0.22u/4X5R/6.3V/K	EXP A TXN6C
EXP A TXP7	PAC18	0.22u/4X5R/6.3V/K	EXP A TXP7C
EXP A TXN7	PAC19	0.22u/4X5R/6.3V/K	EXP A TXN7C
EXP A TXP8	PAC20	0.22u/4X5R/6.3V/K	EXP A TXP8C
EXP A TXN8	PAC21	0.22u/4X5R/6.3V/K	EXP A TXN8C
EXP A TXP9	PAC22	0.22u/4X5R/6.3V/K	EXP A TXP9C
EXP A TXN9	PAC23	0.22u/4X5R/6.3V/K	EXP A TXN9C
EXP A TXP10	PAC24	0.22u/4X5R/6.3V/K	EXP A TXP10C
EXP A TXN10	PAC25	0.22u/4X5R/6.3V/K	EXP A TXN10C
EXP A TXP11	PAC26	0.22u/4X5R/6.3V/K	EXP A TXP11C
EXP A TXN11	PAC27	0.22u/4X5R/6.3V/K	EXP A TXN11C
EXP A TXP12	PAC28	0.22u/4X5R/6.3V/K	EXP A TXP12C
EXP A TXN12	PAC29	0.22u/4X5R/6.3V/K	EXP A TXN12C
EXP A TXP13	PAC30	0.22u/4X5R/6.3V/K	EXP A TXP13C
EXP A TXN13	PAC31	0.22u/4X5R/6.3V/K	EXP A TXN13C
EXP A TXP14	PAC32	0.22u/4X5R/6.3V/K	EXP A TXP14C
EXP A TXN14	PAC33	0.22u/4X5R/6.3V/K	EXP A TXN14C
EXP A TXP15	PAC34	0.22u/4X5R/6.3V/K	EXP A TXP15C
EXP A TXN15	PAC35	0.22u/4X5R/6.3V/K	EXP A TXN15C

EXP A RXP0..15]	>>>EXP_A_RXP[0..15]	[6]
EXP A RXN0..15]	>>>EXP_A_RXN[0..15]	[6]
EXP A TXP0..15]	>>>EXP_A_TXP[0..15]	[6]
EXP A TXN0..15]	>>>EXP_A_TXN[0..15]	[6]

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Title

PCI EXPRESS X 16

Size

Custom

Document Number

B550M DS3H

Date

Friday, May 08, 2020

Sheet

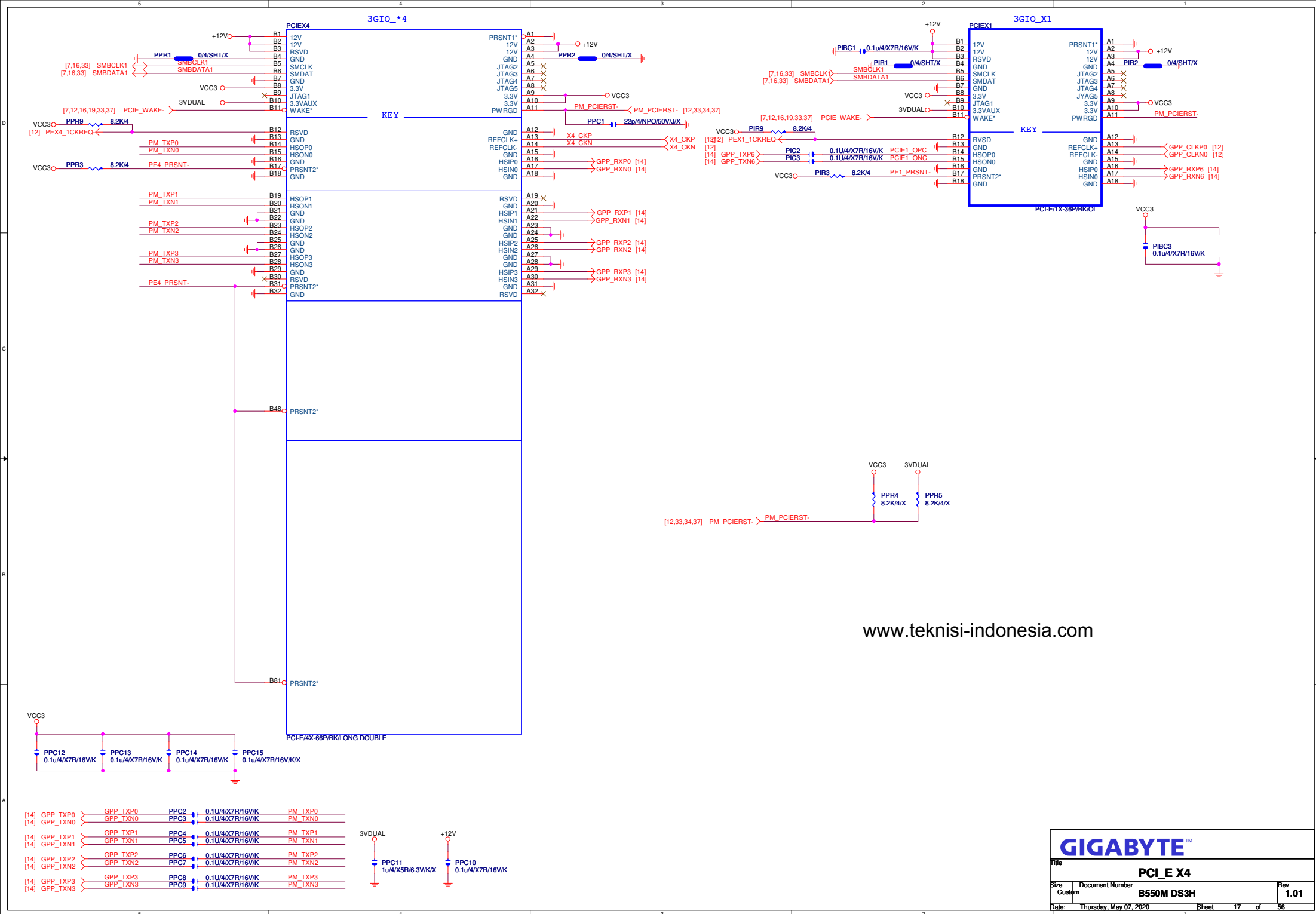
16

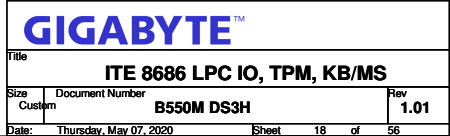
of

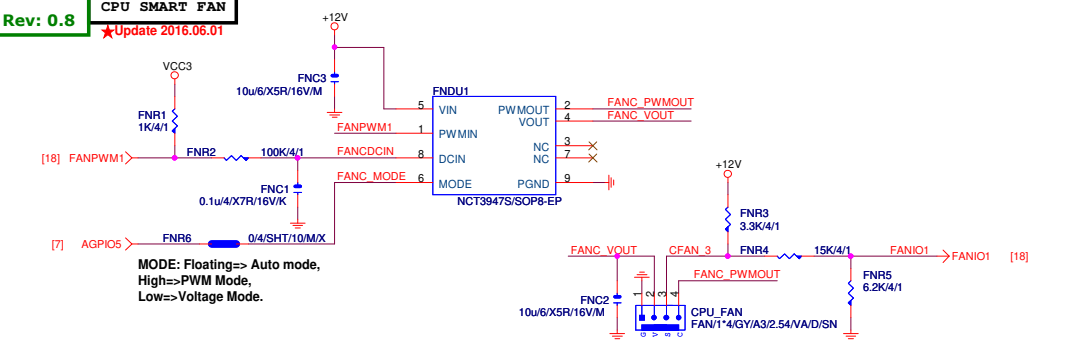
56

Rev

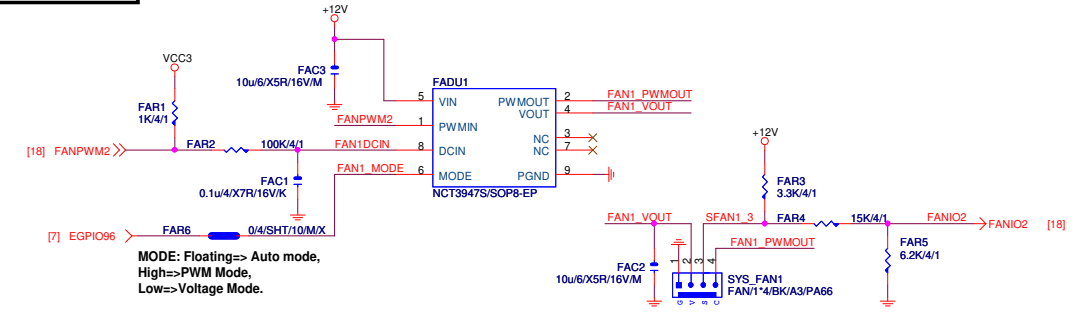
1.01



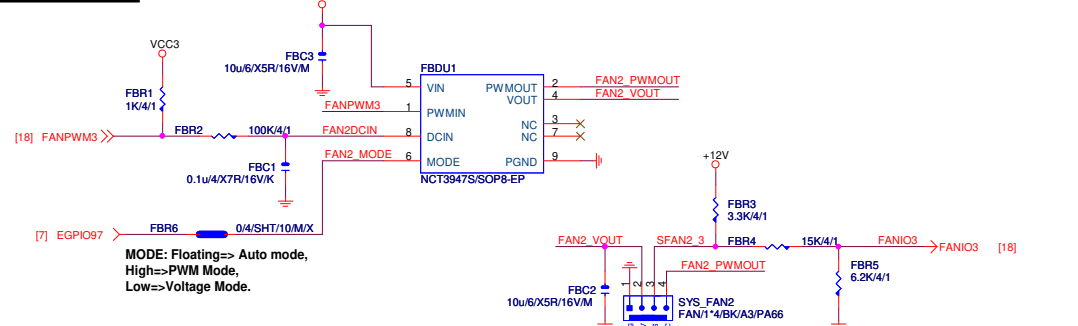




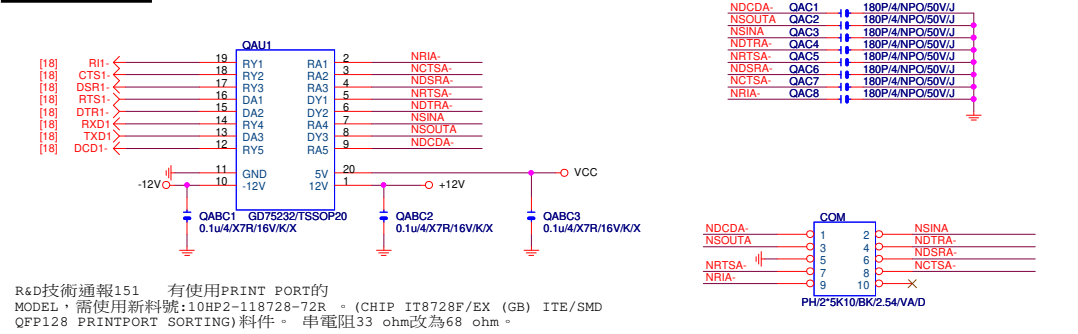
SYSTEM FAN1



SYSTEM FAN2

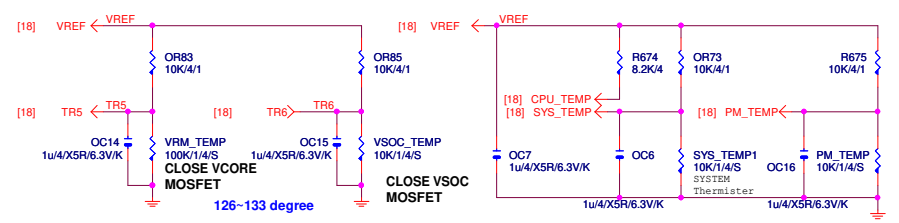


COM PORT

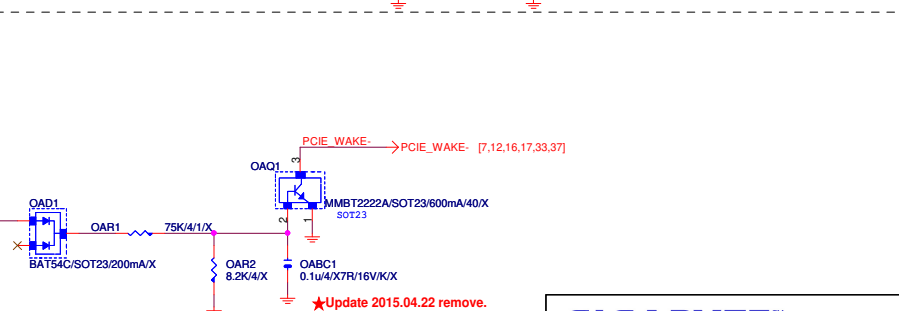
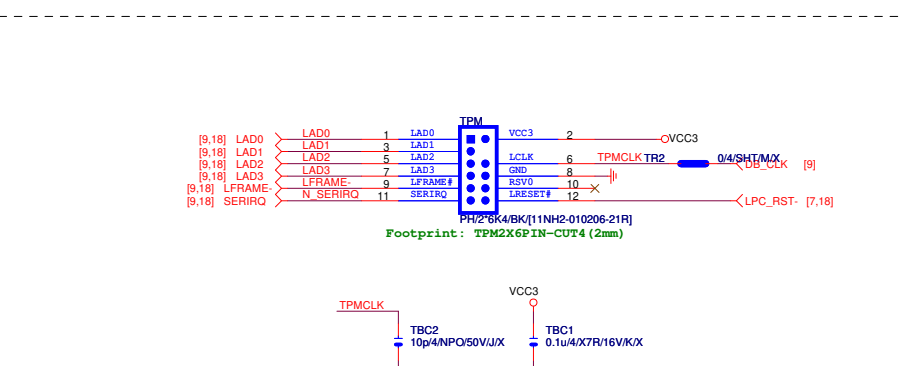
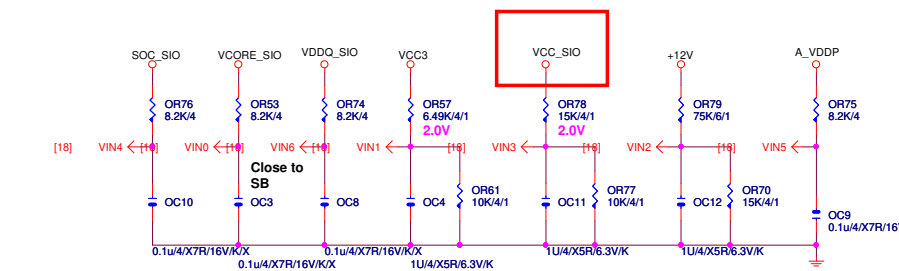


R&D技術通報151 有使用PRINT PORT的
MODEL, 需使用新料號:10HP2-118728-72R (CHIP IT8728F/EX (GB) ITE/SMD
QFP128 PRINTPORT SORTING)料件。串電阻33 ohm改為68 ohm。

Hardware Monitor circuits - Temperature



Hardware Monitor circuits - VOLTAGE



★Update 2015.04.22 remove.

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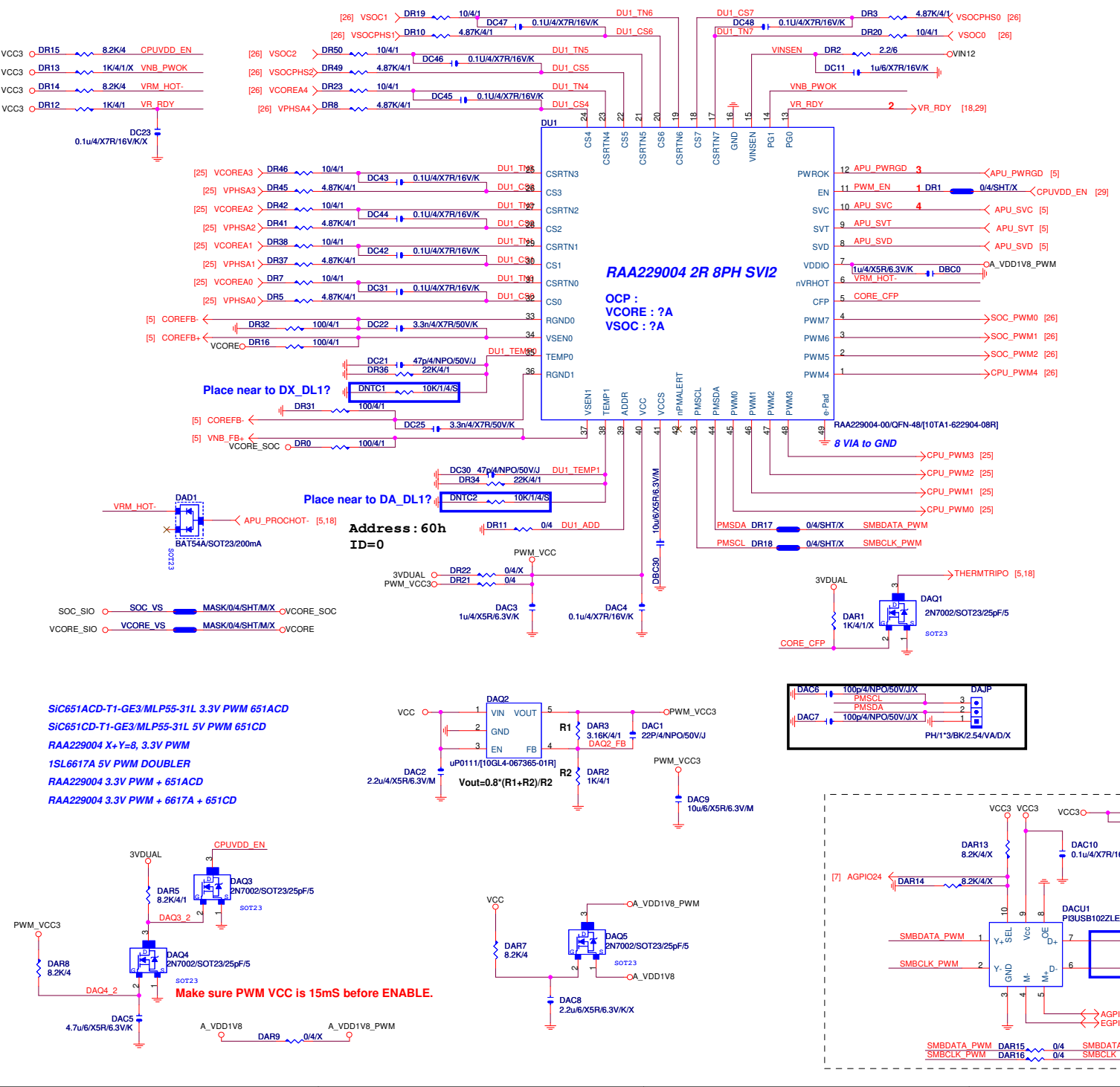
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Size: B550M DS3H

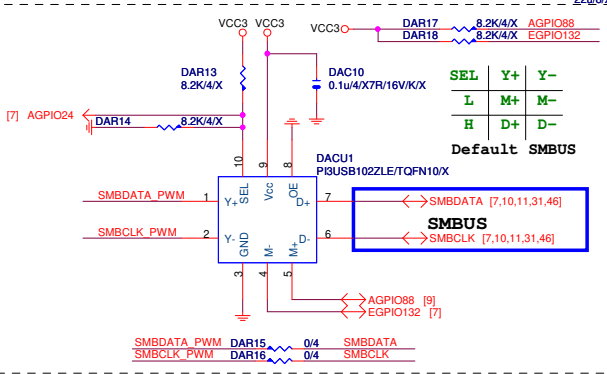
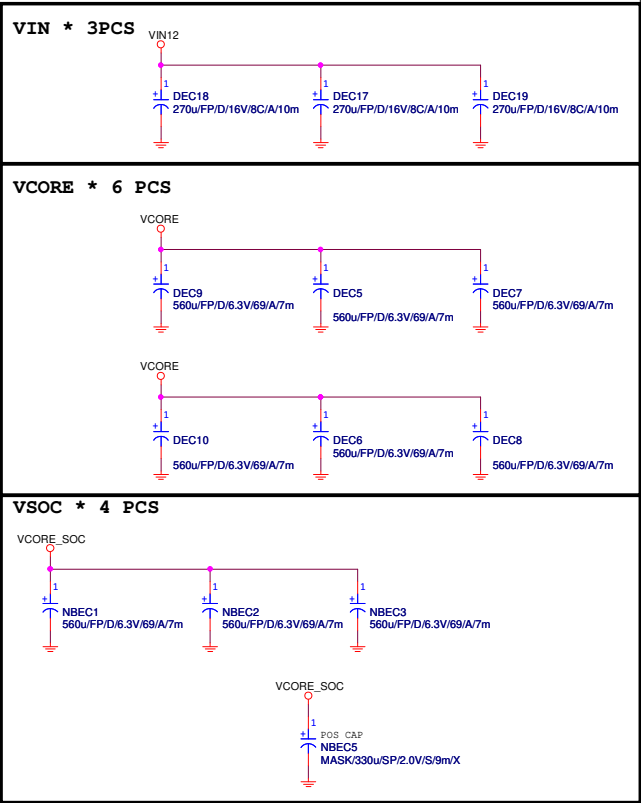
Document Number: 1.01

Date: Thursday, May 07, 2020

Sheet: 19 of 56



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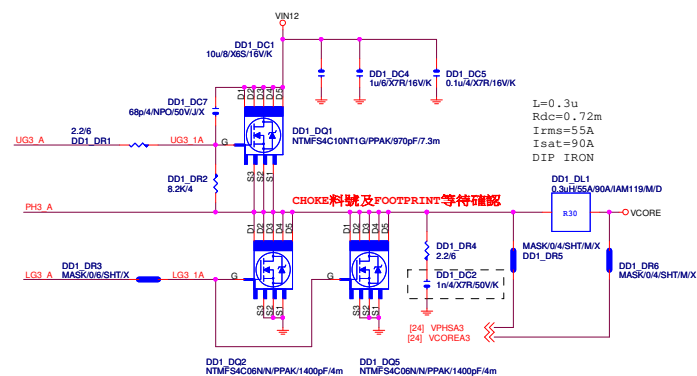
PWM RAA229004

B550M DS3H

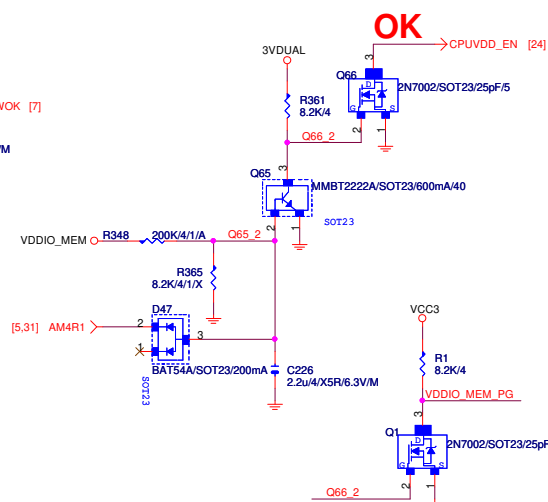
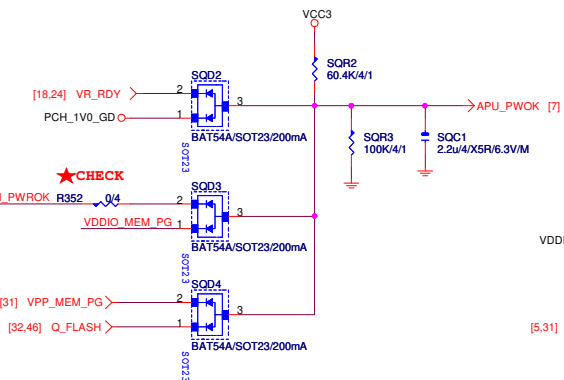
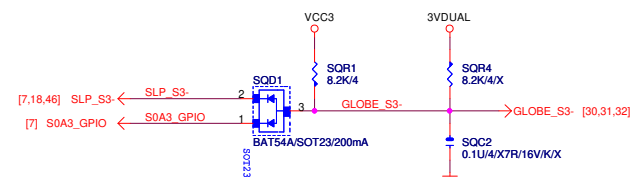
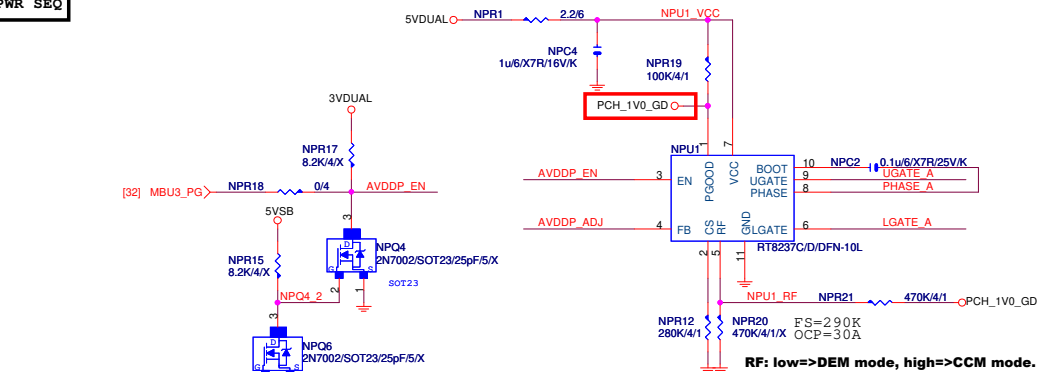
Rev 1.01

Date: Wednesday, June 03, 2020

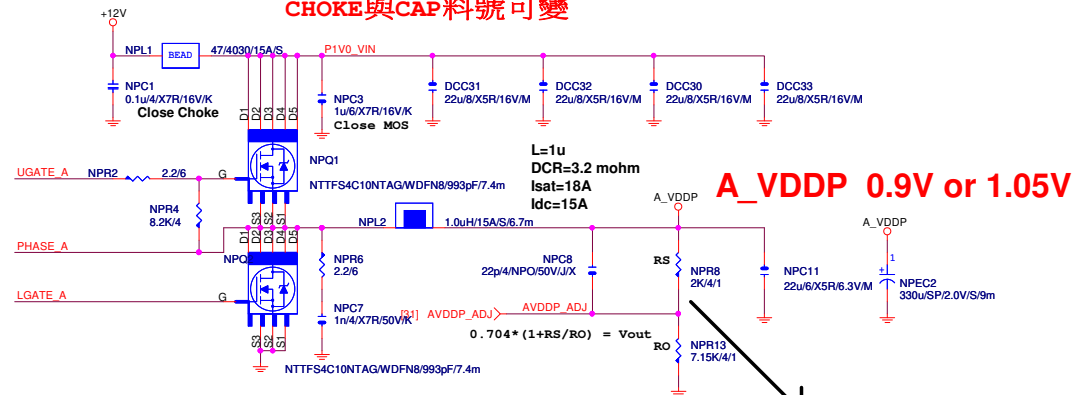
Sheet 24 of 56







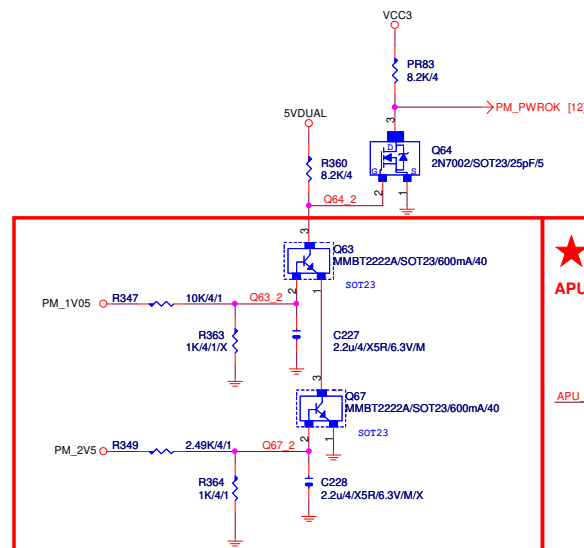
CHOKE與CAP料號可變



請放置CHOKE一出來的地方

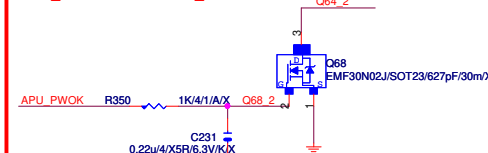
CORETYPE1	CORETYPE0	VPPD_ALW
1	X	0.9V
0	X	1.05V

[5,7,32] CORETYPE1 CORETYPE1 PR85 8.2K/4 NPO7 2



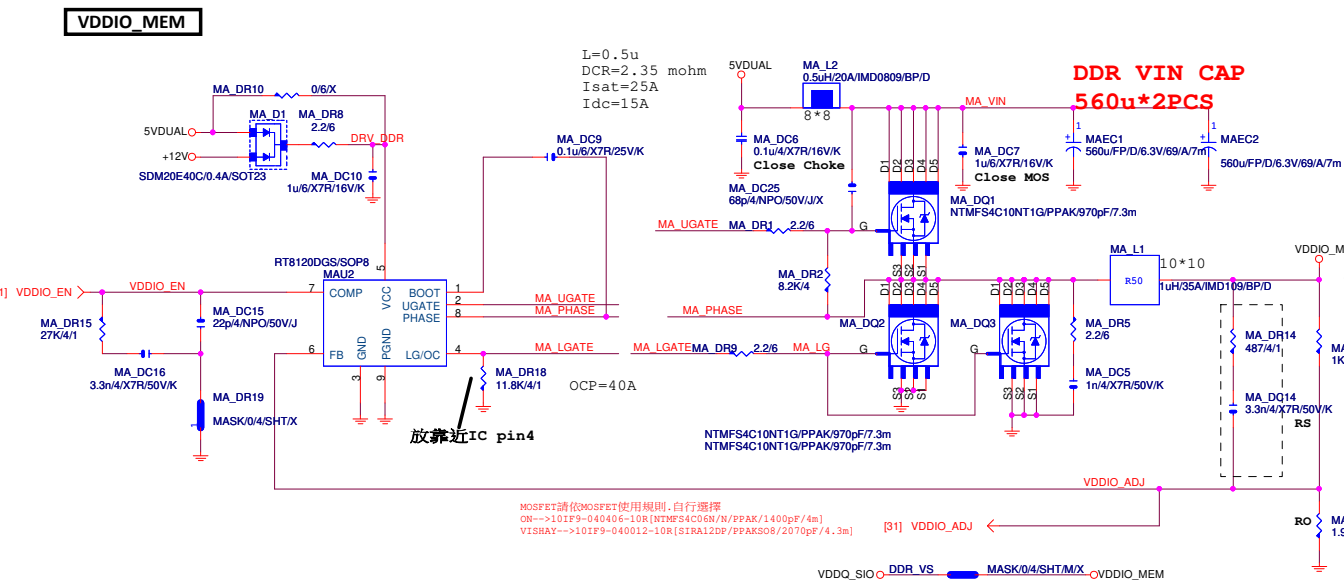
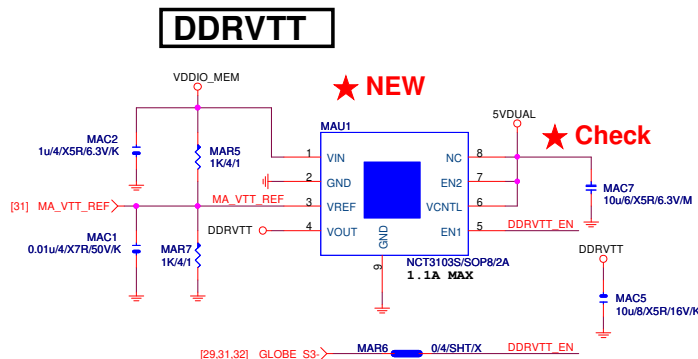
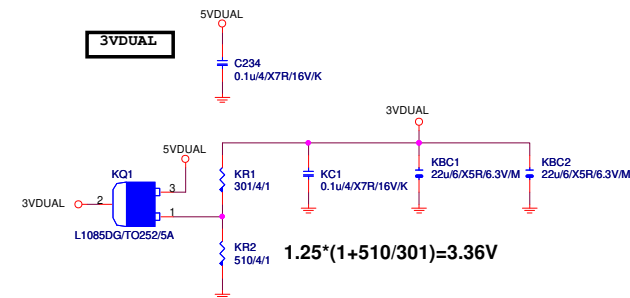
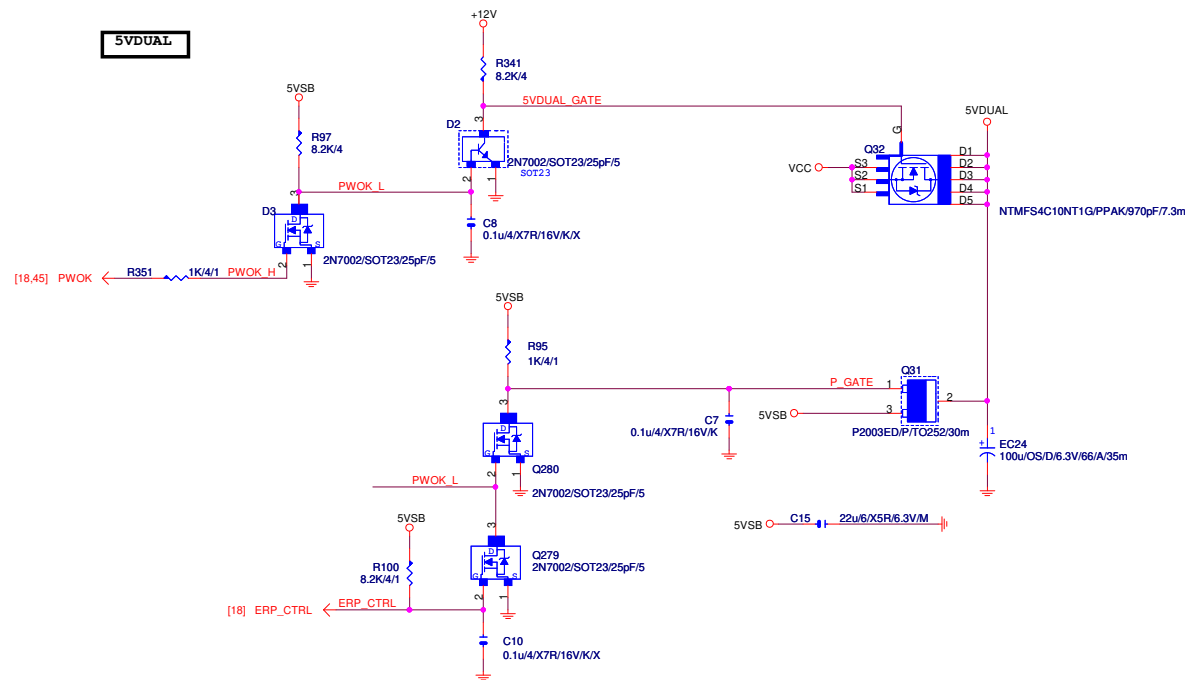
★Sequence

APU_PWOK control PM_PWROK



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POWER SEQUENCE		
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1.2V

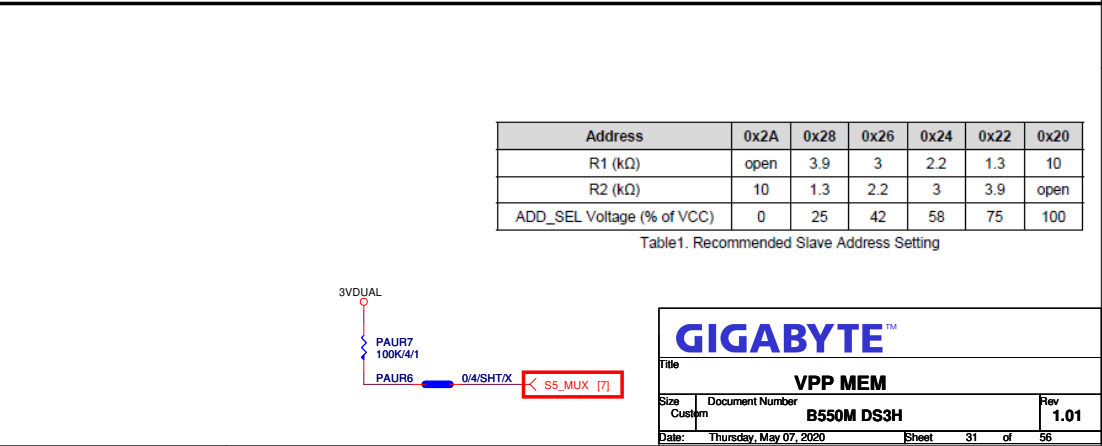
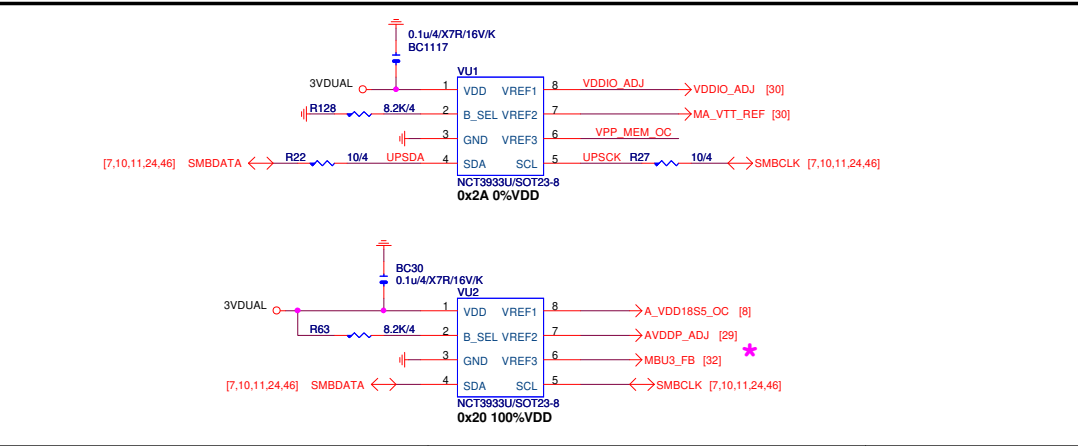
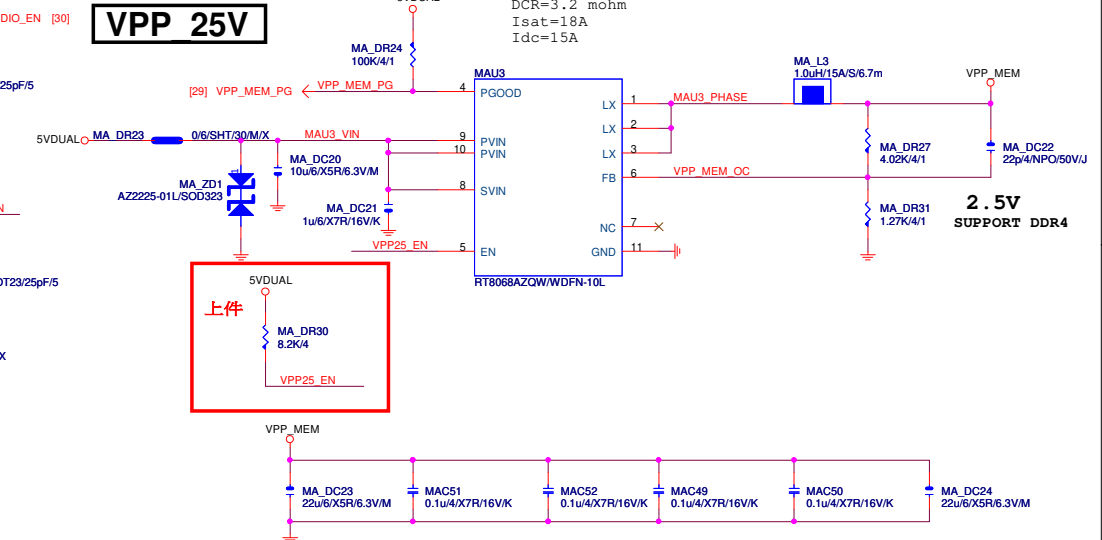
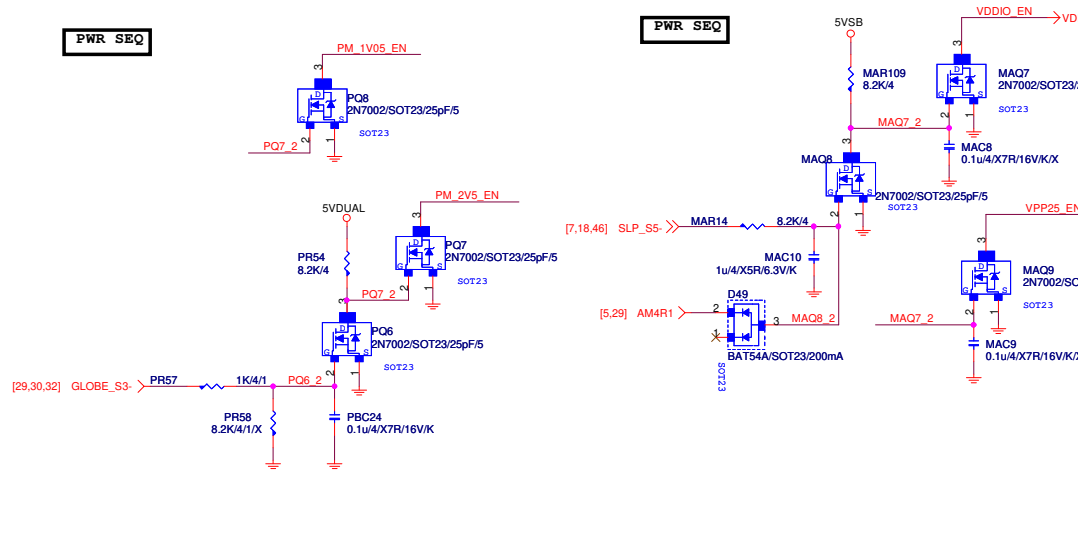
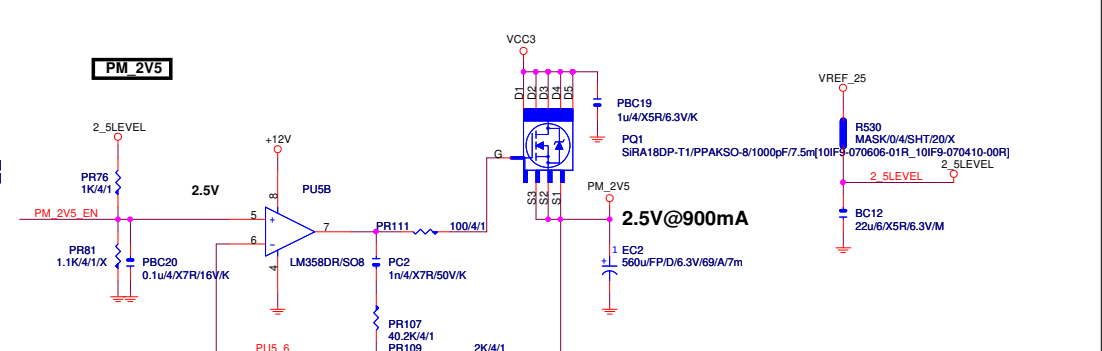
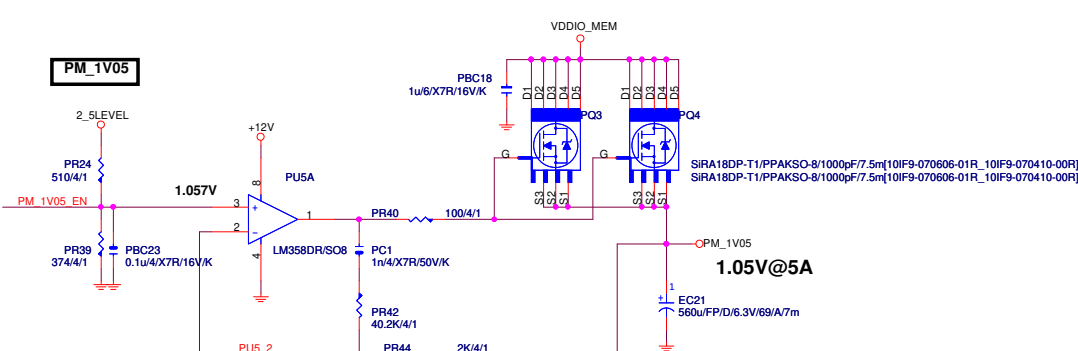
請放置CHOKE一出來位置,先預留.
請自行確認ripple後再決定是否上件

Remote sense請從最重的負載端點拉回

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DDR PWR, 5VDUAL, 3VDUAL		
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Address	0x2A	0x28	0x26	0x24	0x22	0x20
R1 (kΩ)	open	3.9	3	2.2	1.3	10
R2 (kΩ)	10	1.3	2.2	3	3.9	open
ADD_SEL Voltage (% of VCC)	0	25	42	58	75	100

Table1. Recommended Slave Address Setting

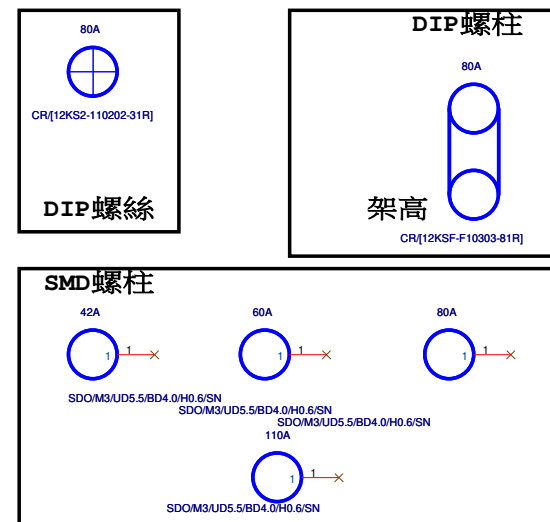
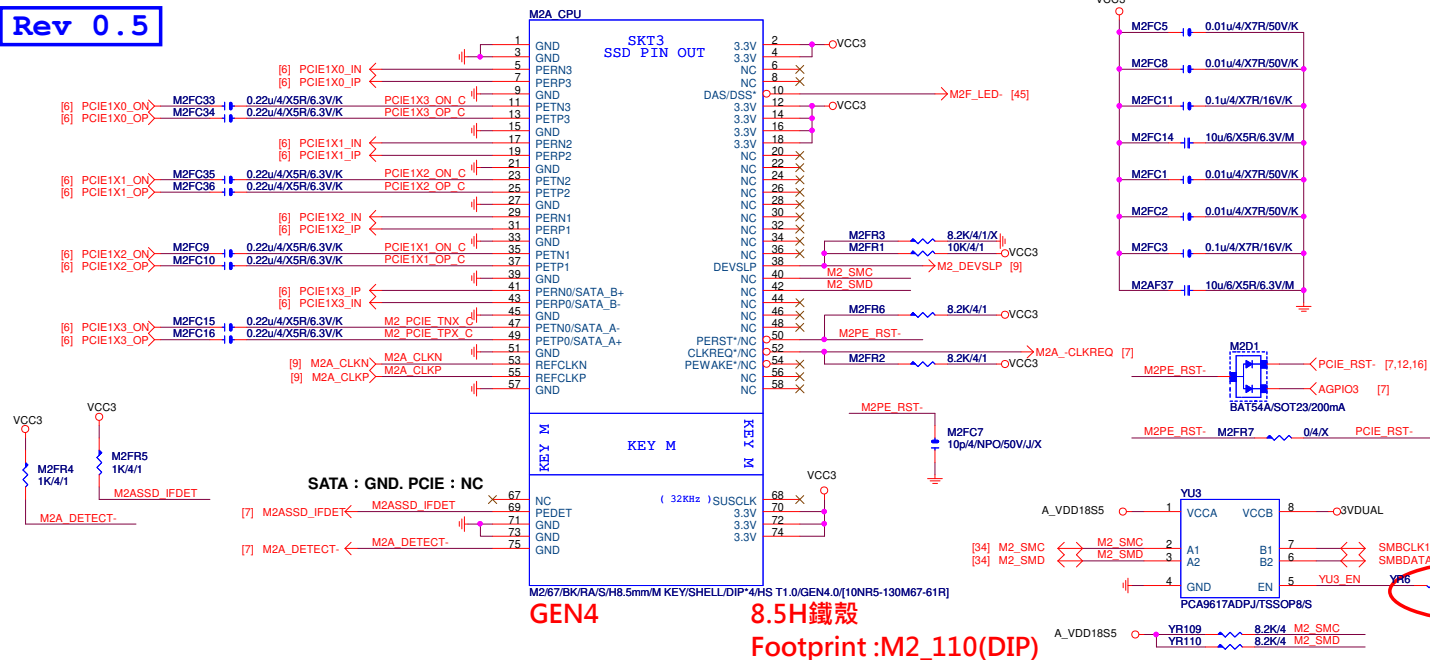
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Title: **VPP MEM**

Size: Custom Document Number: **B550M DS3H** Rev: **1.01**

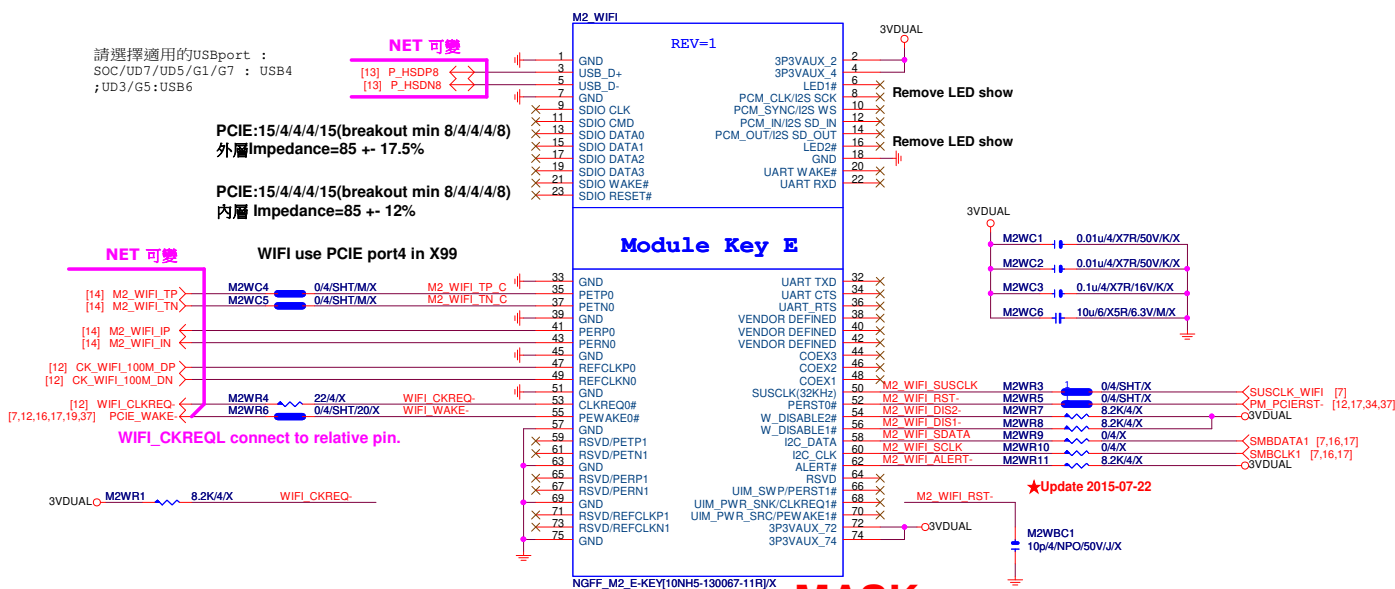
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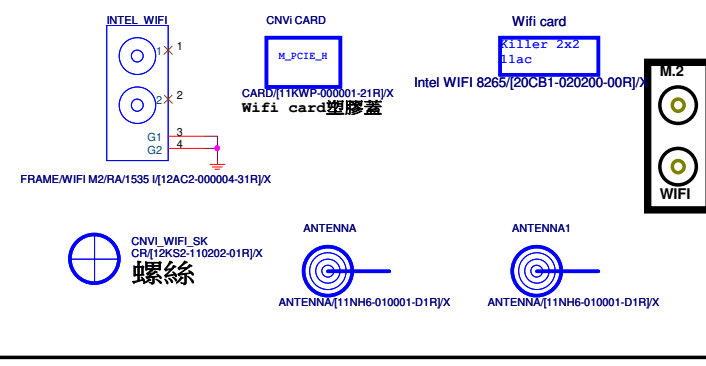
Rev: 0.2

FOR M.2 WIFI MODULE @ REAR PANEL



★Update 2015-02-11

一套WIFI MODULE包含外框+WIFI CARD+天線



Footprint Notice.

★Update 2015-07-22

★Footprint for
直立式 SMD:
WIFI-EKEY

Footprint Notice.

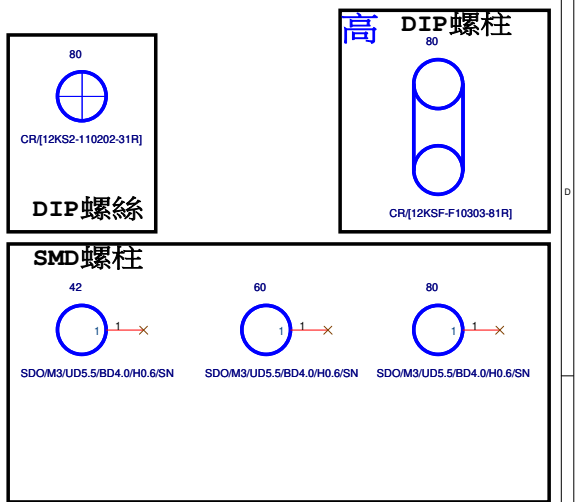
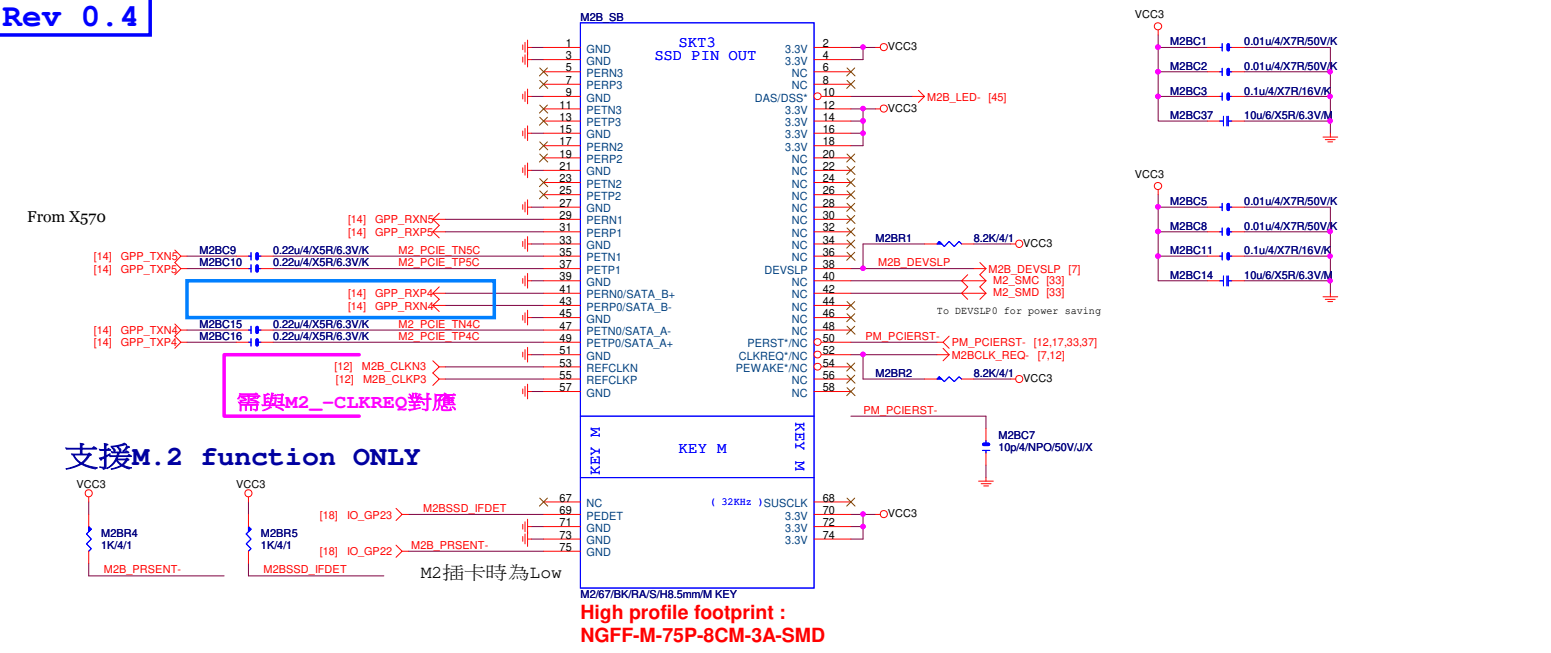
★Update 2015-07-22

★Footprint for
橫插式SMD: NGFF-E-75P-2

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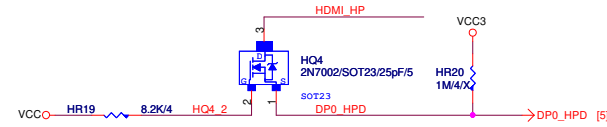
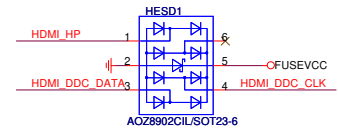
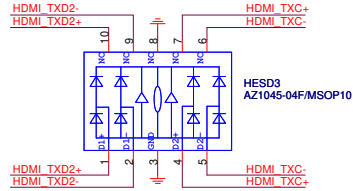
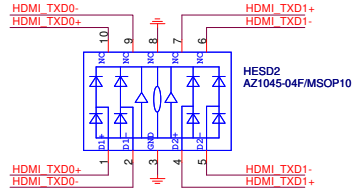
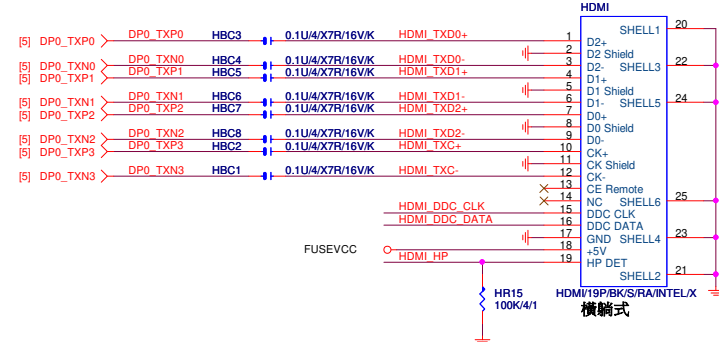
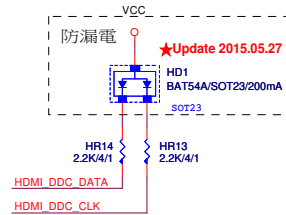
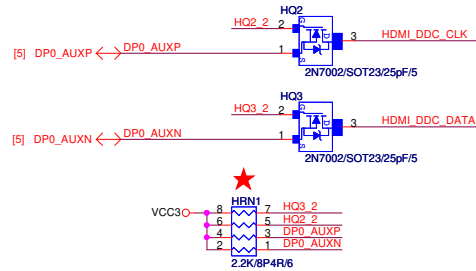
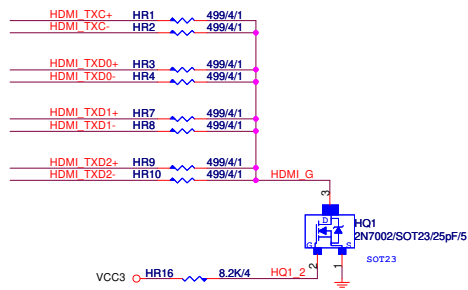
Title	M.2 SOCKET
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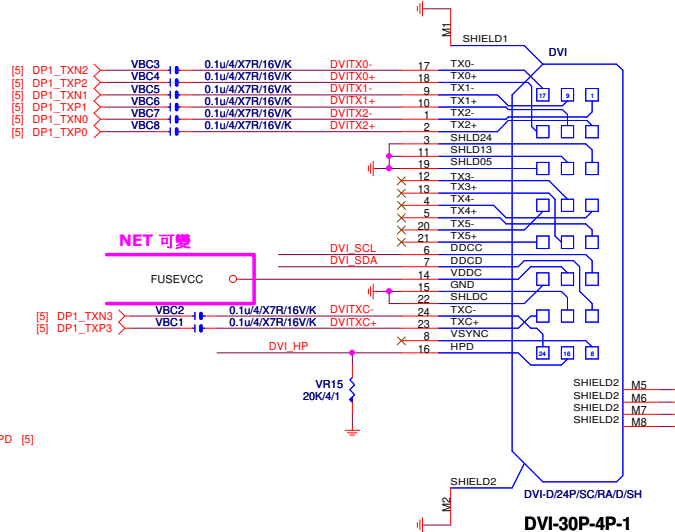
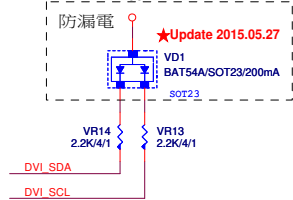
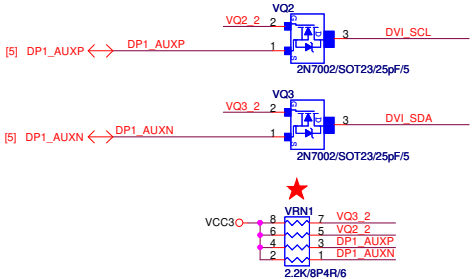
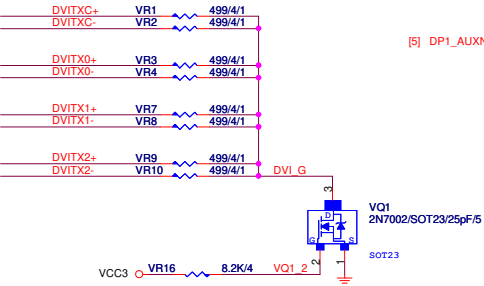
刪除M2C_SOCKET & PU1



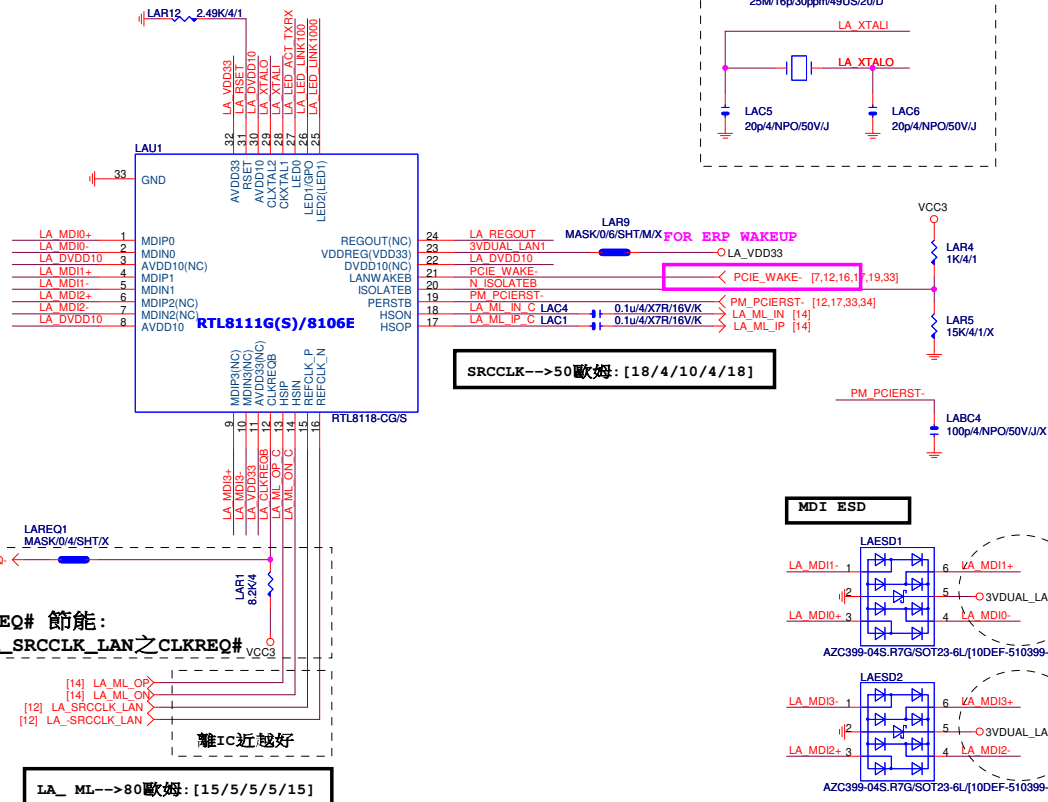
Rev: 0.73

DVI CONN

DVI : 20/4/6/4/20
Impedance=85 +- 17.5%

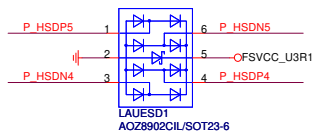


LAN:RTL8111G	R2.03
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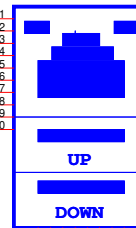
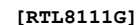
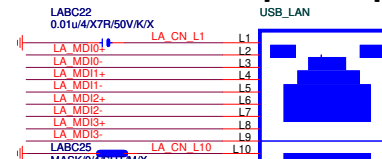


USB_LAN CONNECTOR	R2.03
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RMA ESD PROTECT



USB_LAN CONNECTOR

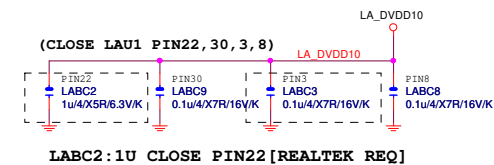


R2.0

USB+LAN/1G/GO, 1/OS/HARD/1/15KV

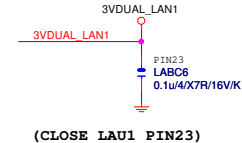
LA_MDI-->100歐姆:[20/4/8/4/20]

LAN POWER

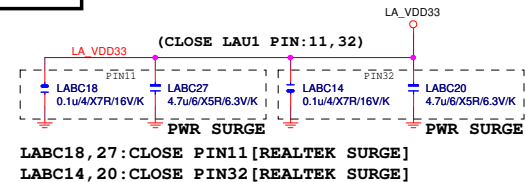


LAN POWER

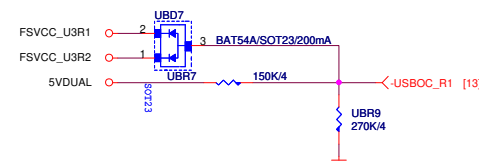
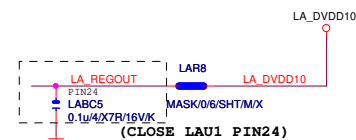
note: lan power連接及電流



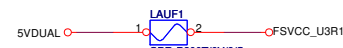
LAN POWER



LAN POWER



USB POWER



Close to connector
USB_LAN 2-Port 2.0A
FUSE-0805

LAN POWER



EMI

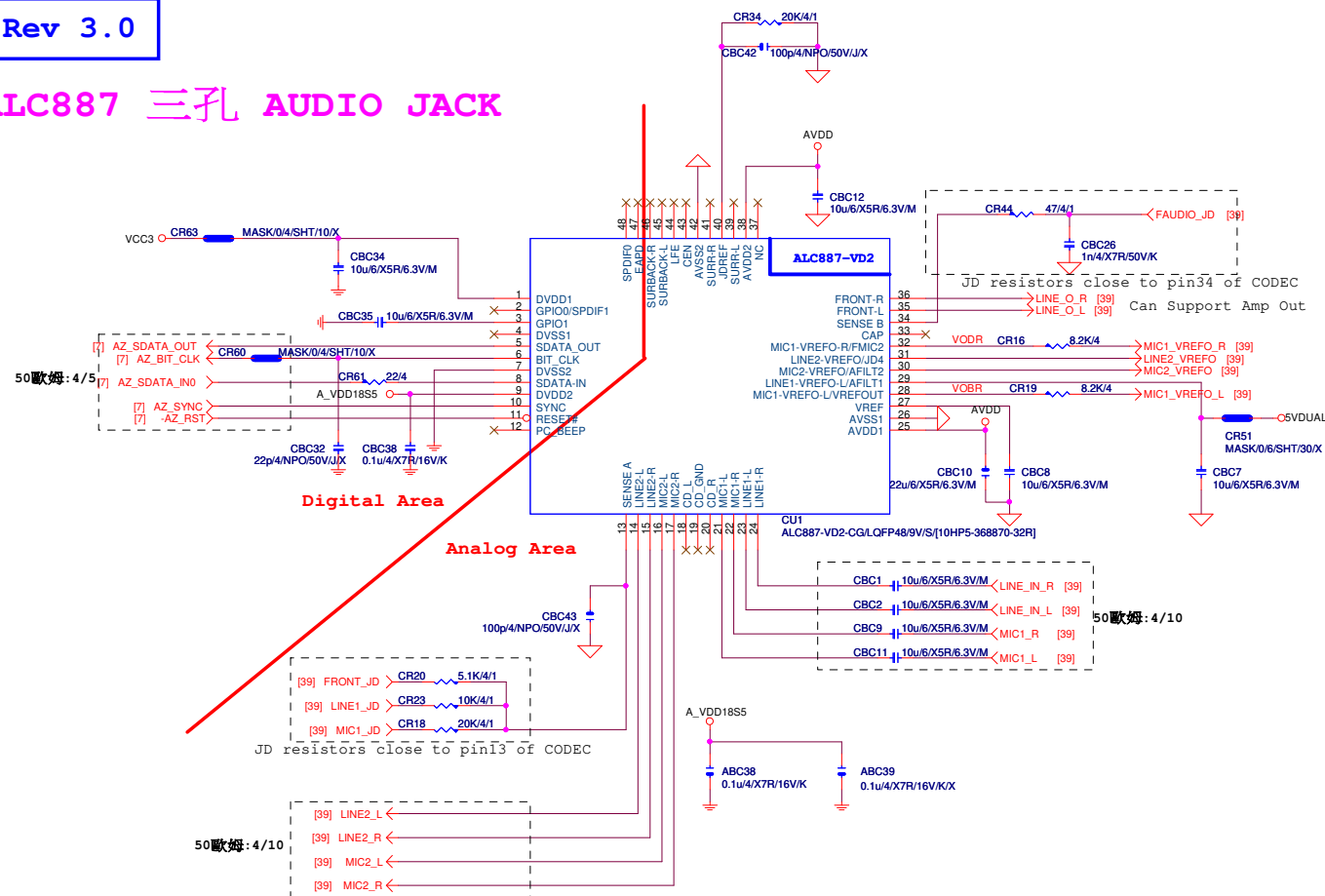
LAN AGND change GND
Remove Short Pad

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ALC887 三孔 AUDIO JACK

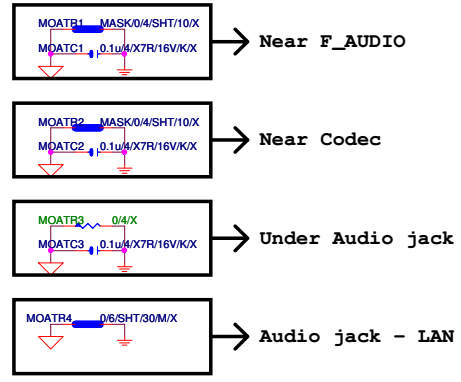


LAYOUT注意: 螺絲孔下GND方式

1. MH1空間夠, 下DGND
空間不夠, 改為Isolate
2. MH2一律改為Isolate

<input type="radio"/> MH1	<input type="radio"/> MH2
DGND	Isolate

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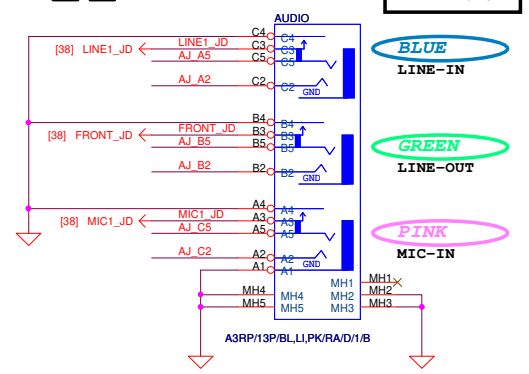


*量産前, 0ohm改short pad

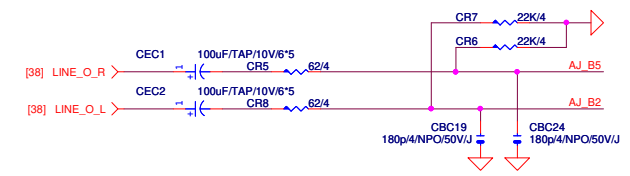
AZALIA JACK



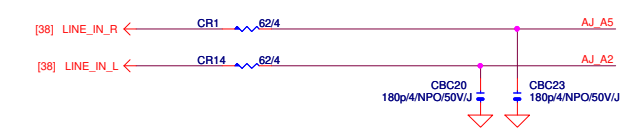
AZALIA JACK



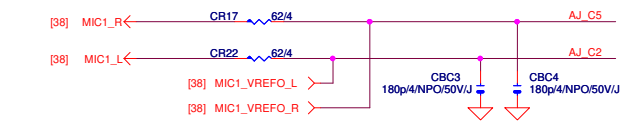
LINE-OUT



LINE-IN



MIC-IN

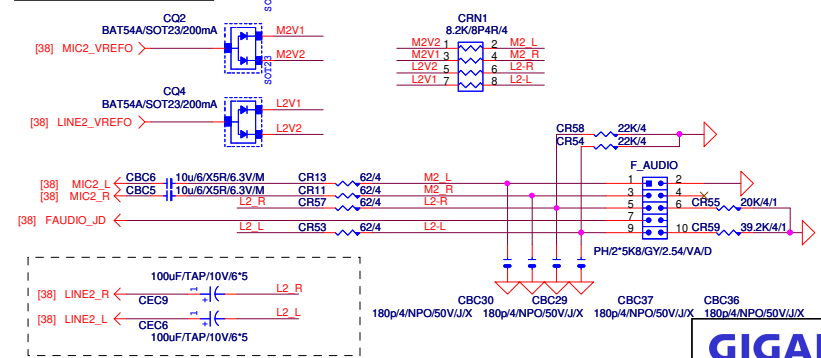


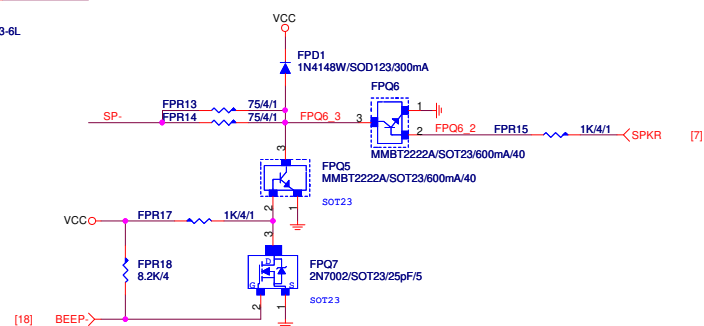
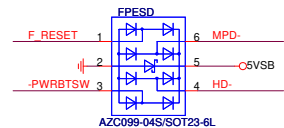
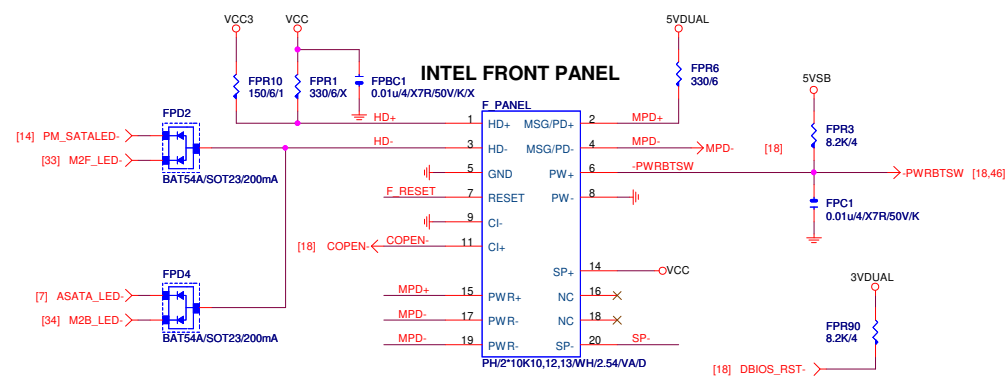
SURROUND

CEN/LFE

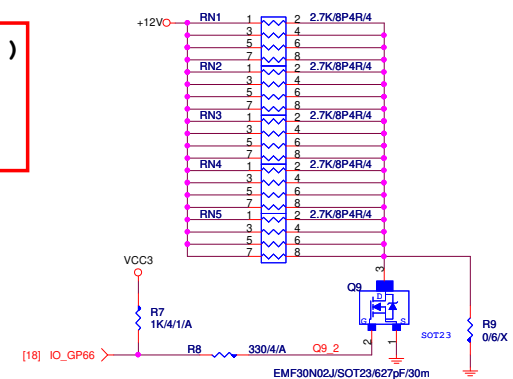
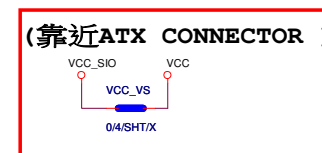
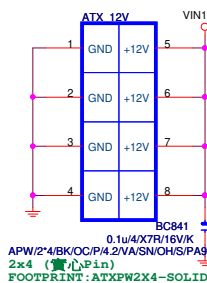
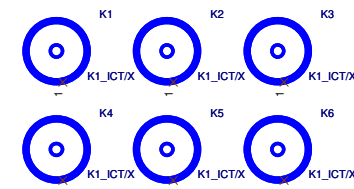
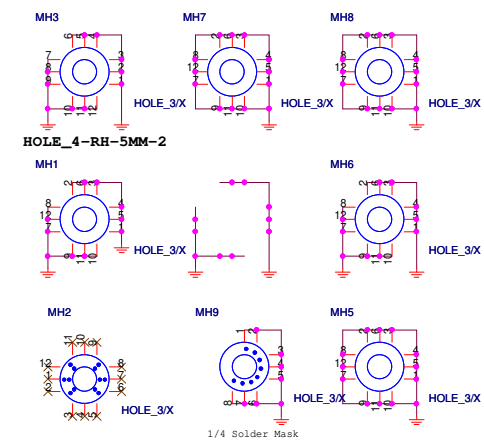
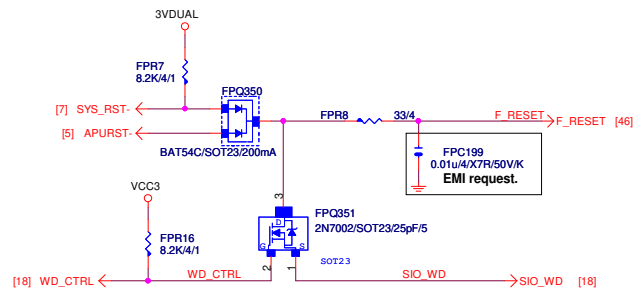
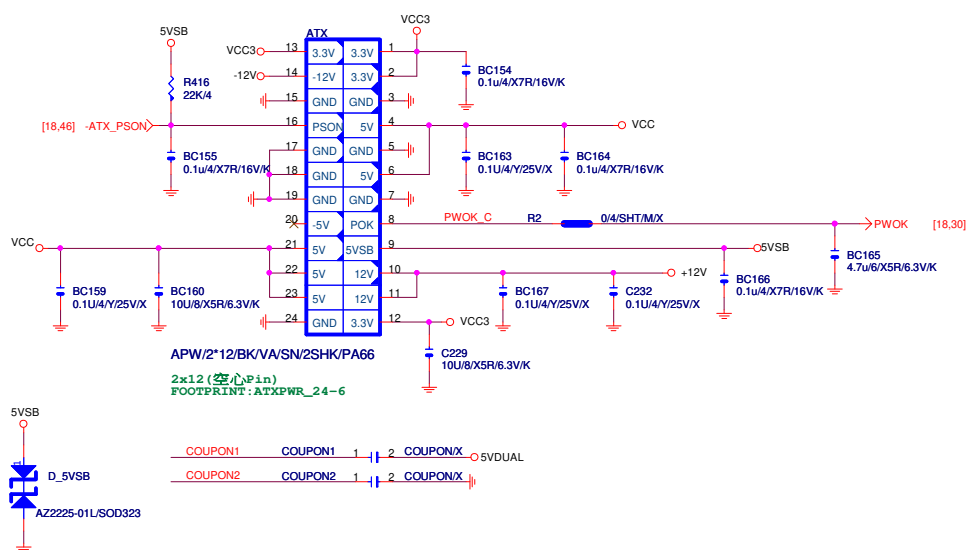
SURR BACK

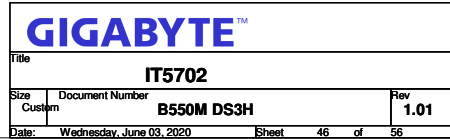
AZALIA FRONT PANEL





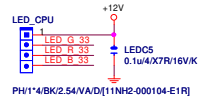
ATX POWER CONNECTOR





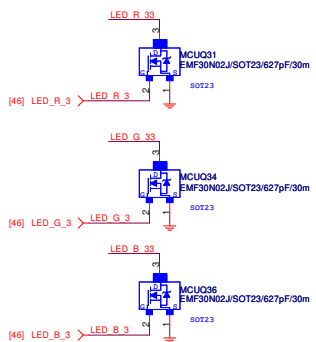
第三區 LED

燈條 LED (LED_CPU放在CPU附近位置)



Footprint "PH1X4-FAN-AMD-L"

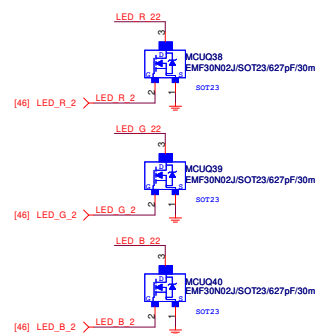
第三區 LED CONTROL



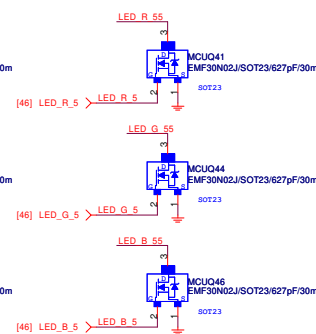
第四區 LED

第五區 LED

第二區 LED CONTROL

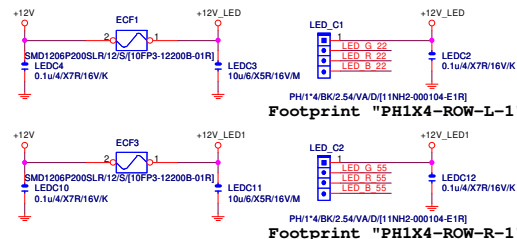


第五區 LED CONTROL



燈條 LED (LED_C1放在PCB左邊板邊位置)

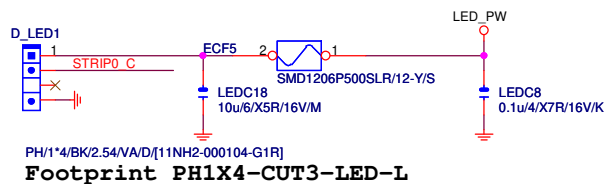
燈條 LED (LED_C2放在PCB右邊板邊位置)



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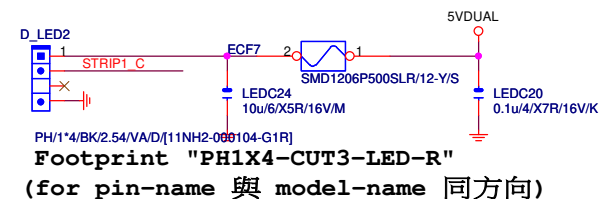
第六區 LED (靠近左上板邊位置)

Digital LED Strip1

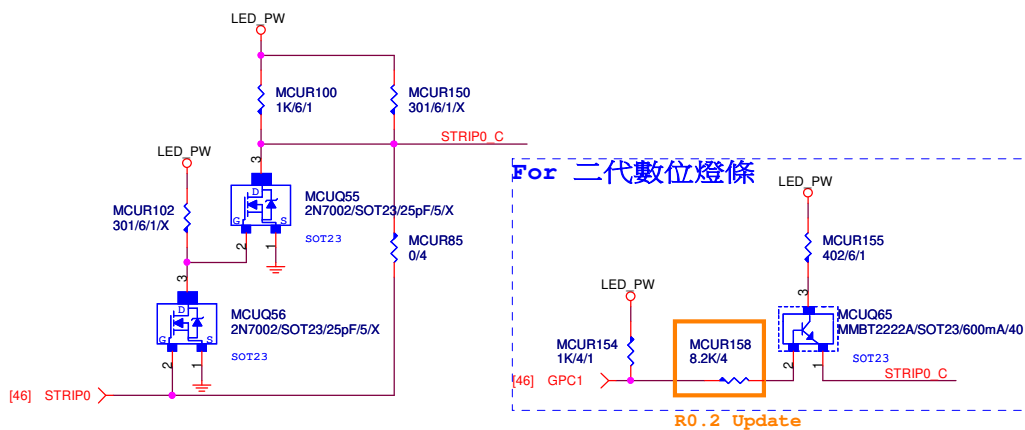


第七區 (靠近右下CPU板邊位置)

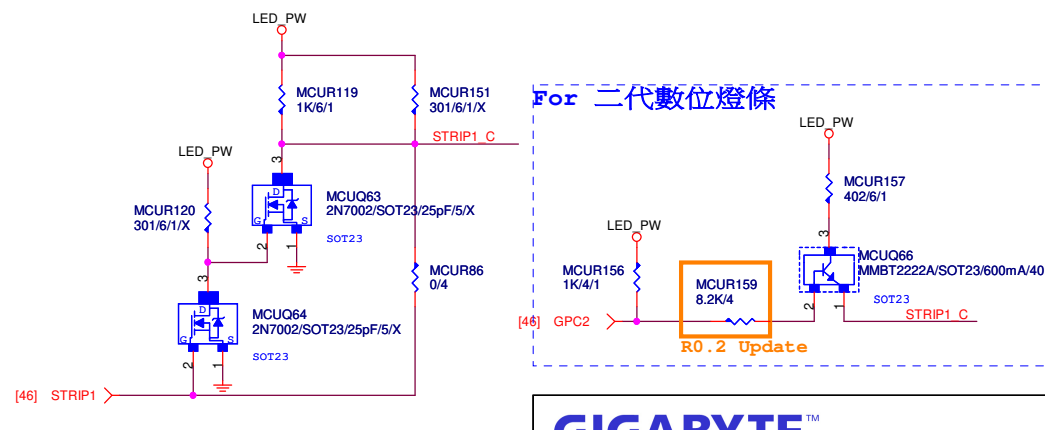
Digital LED Strip2



燈條 Level shift

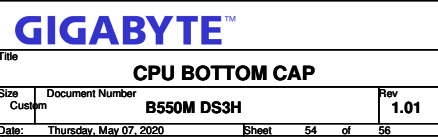


燈條 Level shift

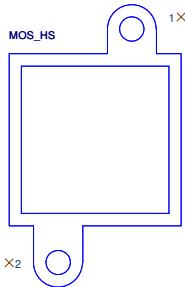
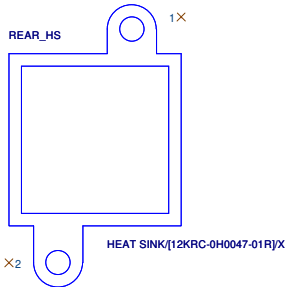
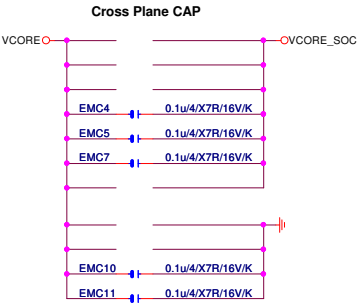
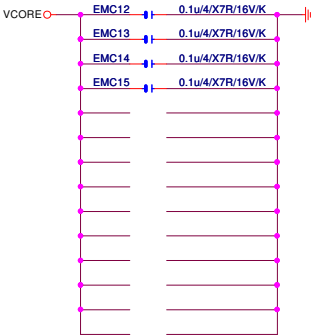
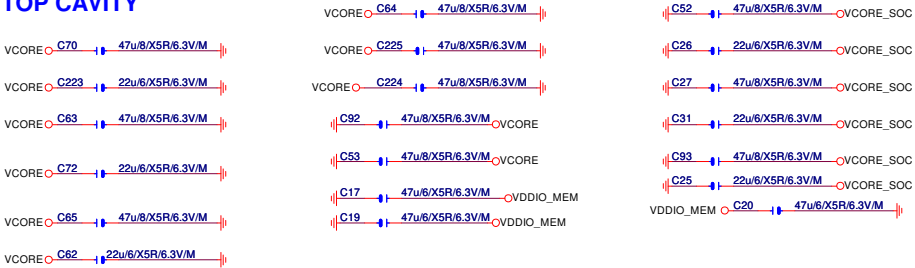


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D_LED			
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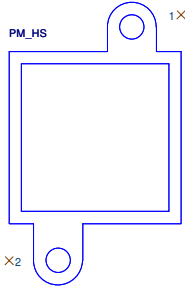
CPU TOP CAVITY



MOS_HS

T+R
Footprint :
sink_z490_ud-t

HEAT SINK[I12SP2-S09325-71R_12SP2-S09325-72R_12SP2-S09325-73R]



PCH_HS

Footprint :BGAHSINK_SB-N

PM_HS[I12SP2-S03507-61R_12SP2-S03507-62R_12SP2-S03507-63R]

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Title			CPU TOP CAP	
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