B450 AORUS M

Revision : 1.01

PAGE	TITLE
01	COVER SHEET
02	BOM & PCB MODIFY HISTORY
03	BLOCK DIAGRAM
04	CPU DDR4 MEMORY
05	CPU CONTROL
06	CPU GFX, GPP, SB, GND
07	CPU ACPI/GPIO/USB/AUDIO
08	CPU POWER & GND
09	CPU CLK/SPI/USB
10	DDR4 CHANNEL A
11	DDR4 CHANNEL B
12	PM CLK/GPIO/FAN
13	PM USB
14	PM UMI/GPP/SATA
15	PM POWER & GND
16	PCI EXPRESS x16
17	HDMI , DVI
18	IT8686CX , TPM
19	F_USB30 , R_USB30 , F_USB20
20	A_VDD1V8 / A_VDDPS5
21	ALC892 CODEC
22	AUDIO JACK
23	AUDIO LED
24	POWER SEQUENCE , A_VDDP
25	PWM SL95712

PAGE	TITLE
26	VCORE MOS , VCORE_SOC MOS
27	ATX , F_PANEL
28	VPP_MEM , VDDCR_SOC_S5 , PM_1V05 , PM_2V5
29	5VDUAL , 3VDUAL , VDDIO_MEM , DDRVTT
30	REALTK RTL8118
31	FAN, LPT, COM
32	RTD2168
33	M.2 , SWITCH
34	PCIEx4 , PCIEx1
35	CPU SMD CAP BOTTOM
36	CPU SMD CAP TOP
37	EC8792 FOR DUAL BIOS

2015.12.30--B.L

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Title: COVER SHEET		
Size: Custom	Document Number: B450 AORUS M	Rev: 1.01
Date: Monday, November 19, 2018	Sheet 1 of 38	

Model Name:B450 AORUS M

Component value change history

Version: 1.01

P-Code: U98126-0

Date	Change Item	Reason
2017.11.01	10C BOM Release. PCB: 1.01	1. update B33006 RoHS LOGO & 小版本修改 , other not change
2018.01.17	11A E-BOM Release. PCB:1.11	1. rename DR25 2. PCB cheange to Rev1.11 3. SIO OR15 NA , OR7 上件
2018.06.14	10A P-BOM Release. PCB:1.0	1. SEQUENCE CHANGE (PC34 NA, SQR2 8.2K-->39K , SQC1-->2.2u) 2. PCB cheange to Rev1.0 3. F_PANNEL (ADD MPD-) 4. M2 SOCKET SMBUS NA 5. DR38 20.5K-->18.7K
2018.08.20	10G P-BOM Release. PCB:1.01	1. Vcore SENSE 位置 2. C125 10u change to 22u 3. VINA0 change to APU_PWRGD(for summit / Pinnacle 不上DIMM時,值亮CPU DEBUD LED,應改為亮DDR DEBUG LED) 4.BRN1 change to 1K

Circuit or PCB layout change for next version

Date	Change Item	Reason
		1. Add USB 3.1 2nd re-driver. 2. Fix VDDCR_SOC_S5 power issue. 3. PWM/DRIVER change to 12V. 4. LAN, R_USB30_1 signal swap. 5. CPU side 0603 10u change to 0805 22u. 6. Add POS CAP 470U DEC3. 7. Debug port turn to left. 8. KB/MS EMI CAP change to 0402. 9. Update PWM choke (P/N not done). 10. Update PWM OV (current dac)

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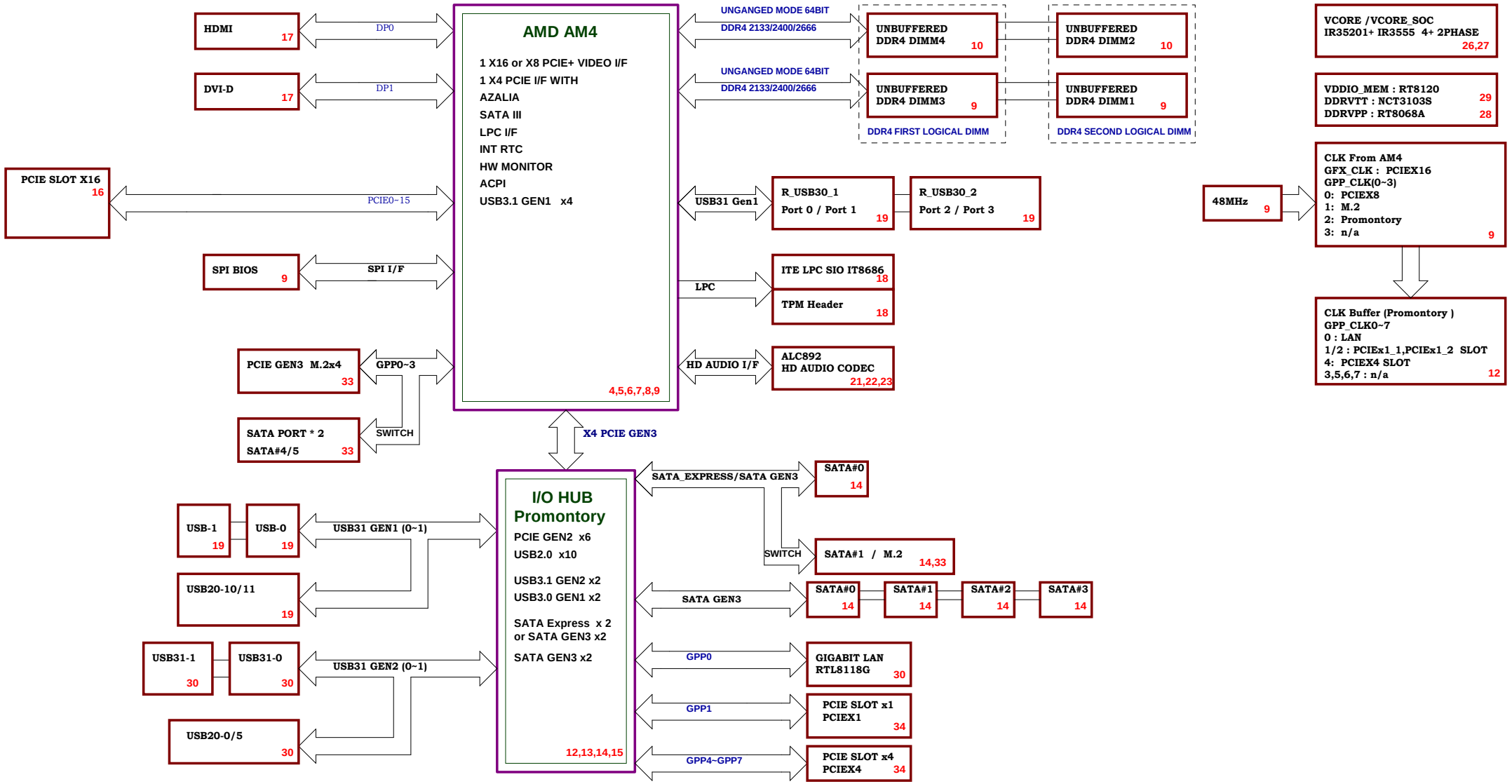
Title: BOM & PCB HISTORY		
Size: Custom	Document Number: B450 AORUS M	Rev: 1.01
Date: Monday, November 19, 2018	Sheet 2 of 38	



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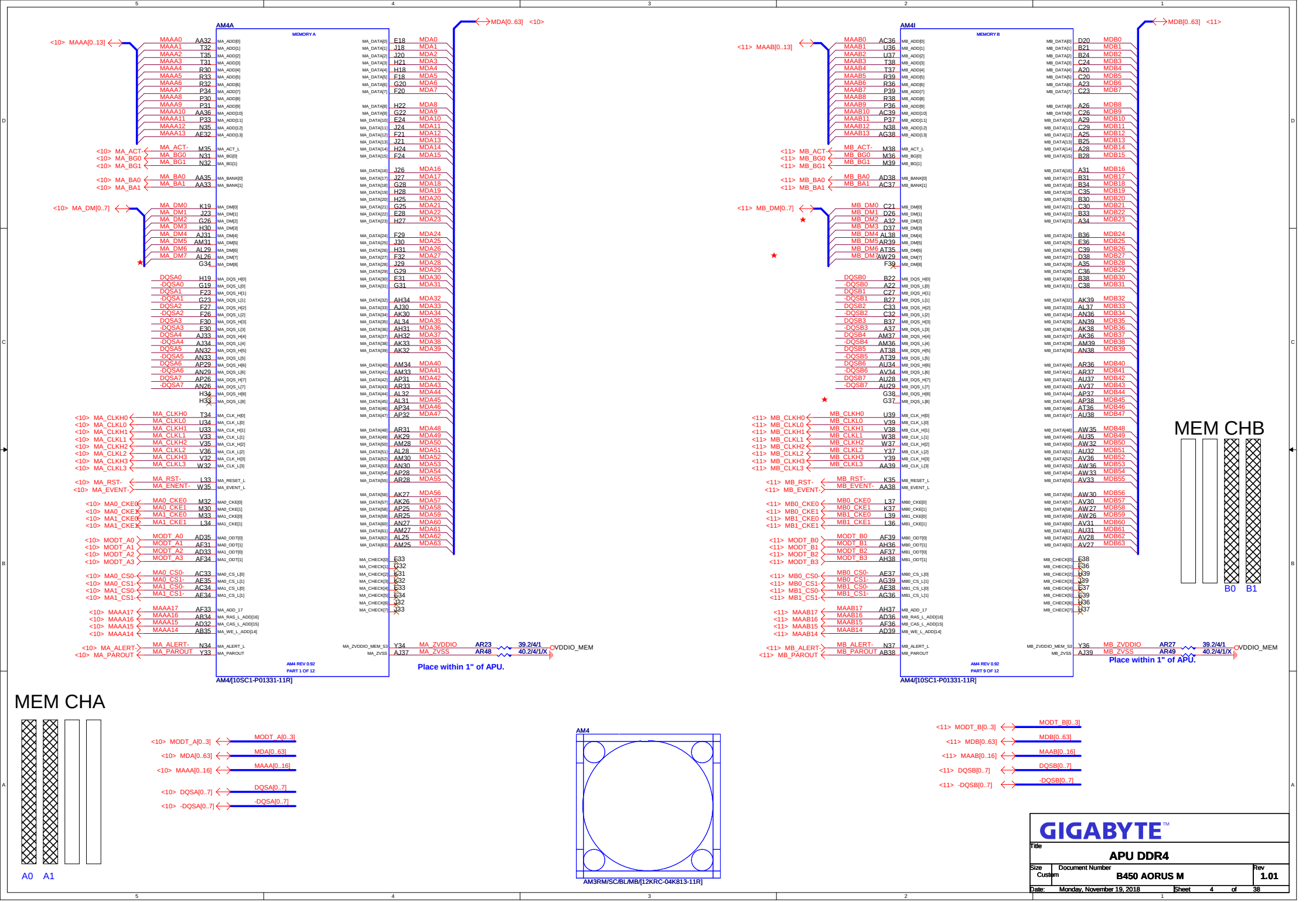
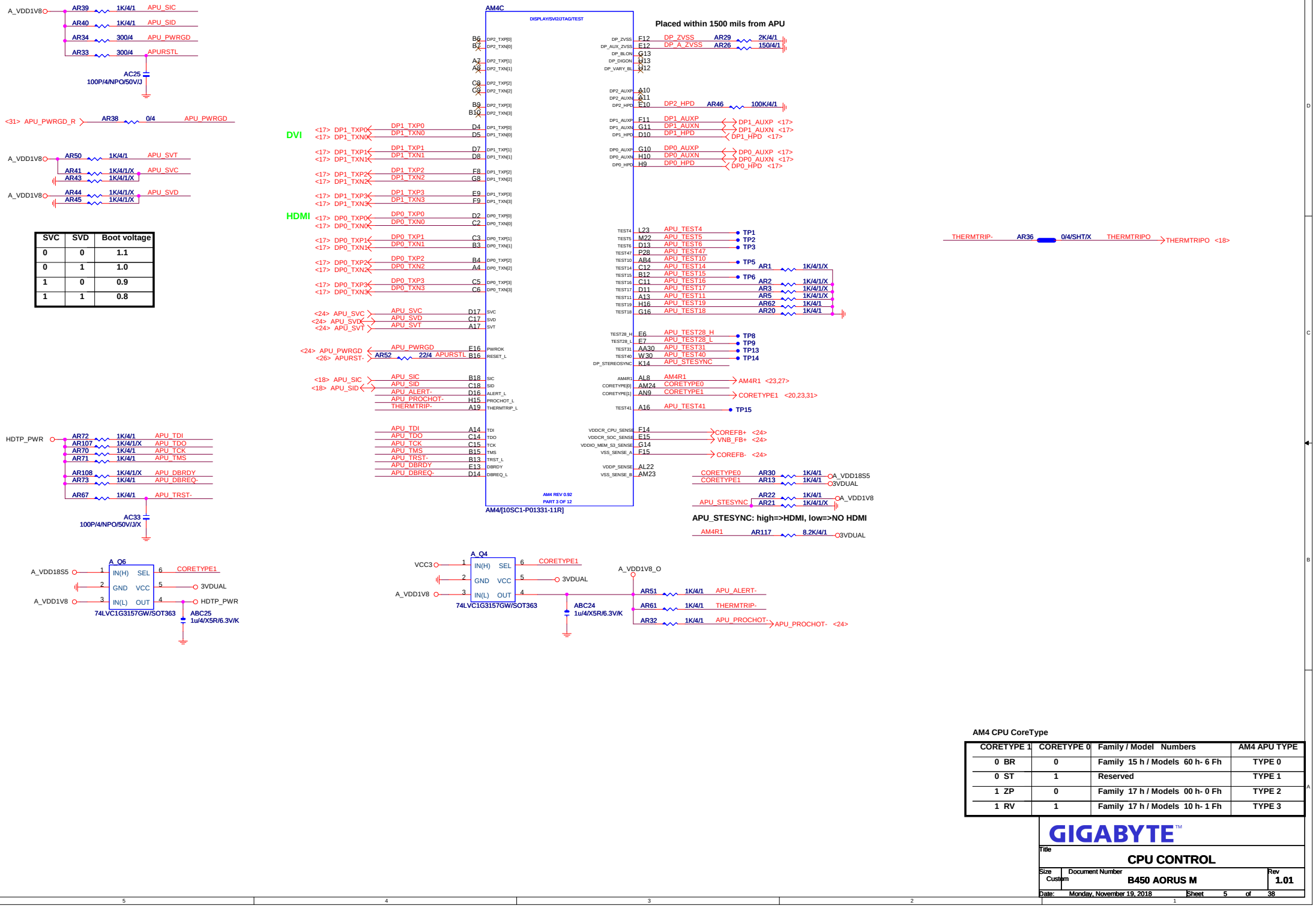
Title	BLOCK DIAGRAM	
Size: Custom	Document Number: B450 AORUS M	Rev: 1.01
Date: Monday, November 19, 2018	Sheet 3 of 38	


AM4A
MEMORY A
AM4 REV 0.92
PART 1 OF 12
AM4/[10SC1-P01331-11R]
MDA[0..63]
MAAA[0..13]
MA_DM[0..7]
MA_CLKH0
MA_CLKL0
MA_CLKH1
MA_CLKL1
MA_CLKH2
MA_CLKL2
MA_CLKH3
MA_CLKL3
MA_RST-
MA_EVENT-
MA0_CKE0
MA0_CKE1
MA1_CKE0
MA1_CKE1
MODT_A0
MODT_A1
MODT_A2
MODT_A3
MA0_CS0-
MA0_CS1-
MA1_CS0-
MA1_CS1-
MAAA17
MAAA16
MAAA15
MAAA14
MA_ALERT-
MA_PAROUT
MA_ACT-
MA_BG0
MA_BG1
MA_BA0
MA_BA1
DQSA0
-DQSA0
DQSA1
-DQSA1
DQSA2
-DQSA2
DQSA3
-DQSA3
DQSA4
-DQSA4
DQSA5
-DQSA5
DQSA6
-DQSA6
DQSA7
-DQSA7
MA_ZVDDIO_MEM_S3
MA_ZVSS
MA_ZVDDIO
MA_ZVSS
AR23
39.2/4/1
AR48
40.2/4/1/X
VDDIO_MEM
Place within 1" of APU.
AM4I
MEMORY B
AM4 REV 0.92
PART 9 OF 12
AM4/[10SC1-P01331-11R]
MDB[0..63]
MAAB[0..13]
MB_DM[0..7]
MB_CLKH0
MB_CLKL0
MB_CLKH1
MB_CLKL1
MB_CLKH2
MB_CLKL2
MB_CLKH3
MB_CLKL3
MB_RST-
MB_EVENT-
MB0_CKE0
MB0_CKE1
MB1_CKE0
MB1_CKE1
MODT_B0
MODT_B1
MODT_B2
MODT_B3
MB0_CS0-
MB0_CS1-
MB1_CS0-
MB1_CS1-
MAAB17
MAAB16
MAAB15
MAAB14
MB_ALERT-
MB_PAROUT
MB_ACT-
MB_BG0
MB_BG1
MB_BA0
MB_BA1
DQSB0
-DQSB0
DQSB1
-DQSB1
DQSB2
-DQSB2
DQSB3
-DQSB3
DQSB4
-DQSB4
DQSB5
-DQSB5
DQSB6
-DQSB6
DQSB7
-DQSB7
MB_ZVDDIO_MEM_S3
MB_ZVSS
MB_ZVDDIO
MB_ZVSS
AR27
39.2/4/1
AR49
40.2/4/1/X
VDDIO_MEM
Place within 1" of APU.
MEM CHB
B0
B1
MEM CHA
A0
A1
MODT_A[0..3]
MDA[0..63]
MAAA[0..16]
DQSA[0..7]
-DQSA[0..7]
AM4
AM3RM/SC/BL/MB/[12KRC-04K813-11R]
MODT_B[0..3]
MDB[0..63]
MAAB[0..16]
DQSB[0..7]
-DQSB[0..7]
GIGABYTE
Title
APU DDR4
Size
Custom
Document Number
B450 AORUS M
Rev
1.01
Date:
Monday, November 19, 2018
Sheet
4
of
38



AM4 CPU CoreType

CORETYPE 1	CORETYPE 0	Family / Model Numbers	AM4 APU TYPE
0 BR	0	Family 15 h / Models 60 h- 6 Fh	TYPE 0
0 ST	1	Reserved	TYPE 1
1 ZP	0	Family 17 h / Models 00 h- 0 Fh	TYPE 2
1 RV	1	Family 17 h / Models 10 h- 1 Fh	TYPE 3

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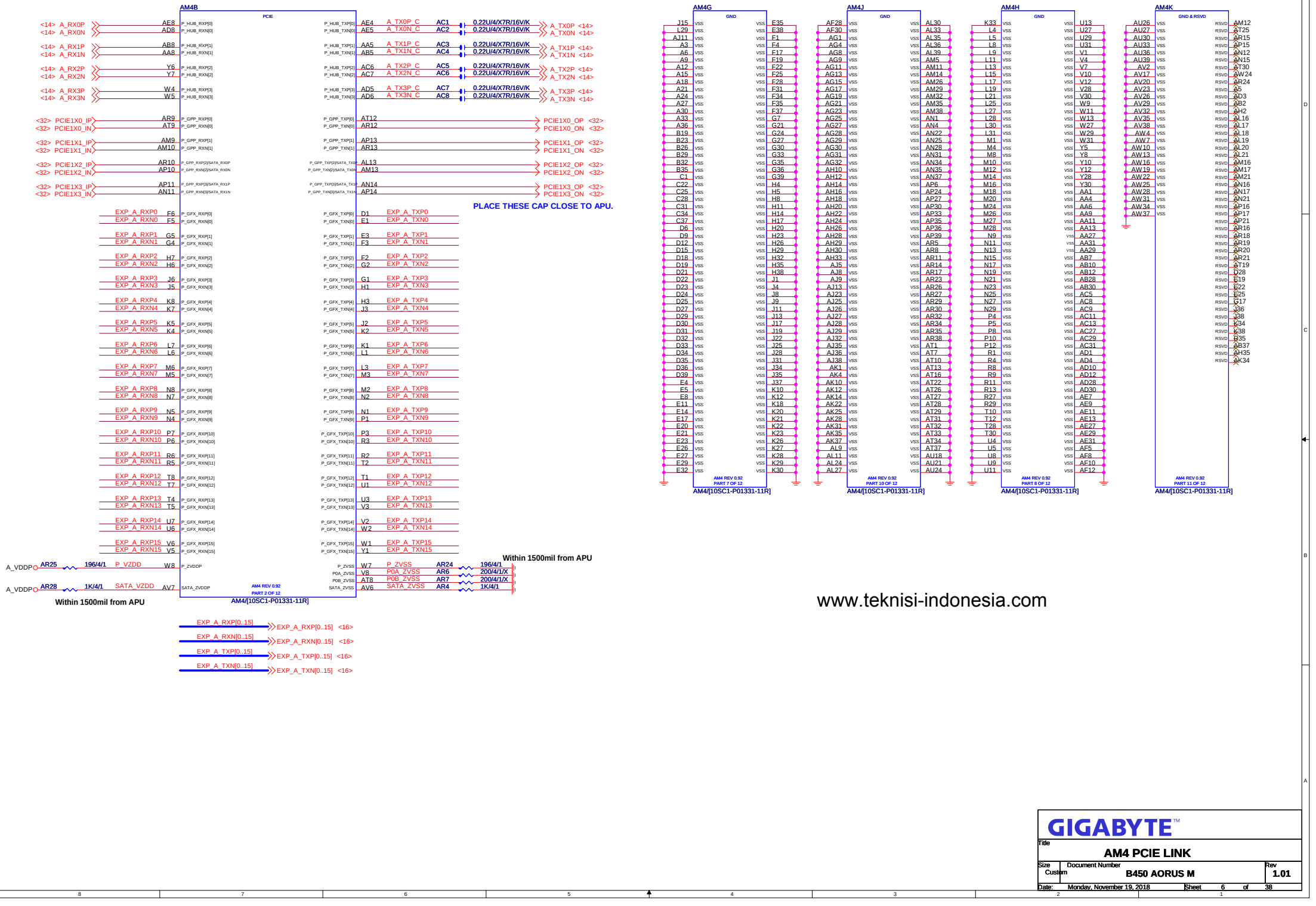
Title	CPU CONTROL	
Size: Custom	Document Number: B450 AORUS M	Rev: 1.01
Date: Monday, November 19, 2018	Sheet 5 of 38	



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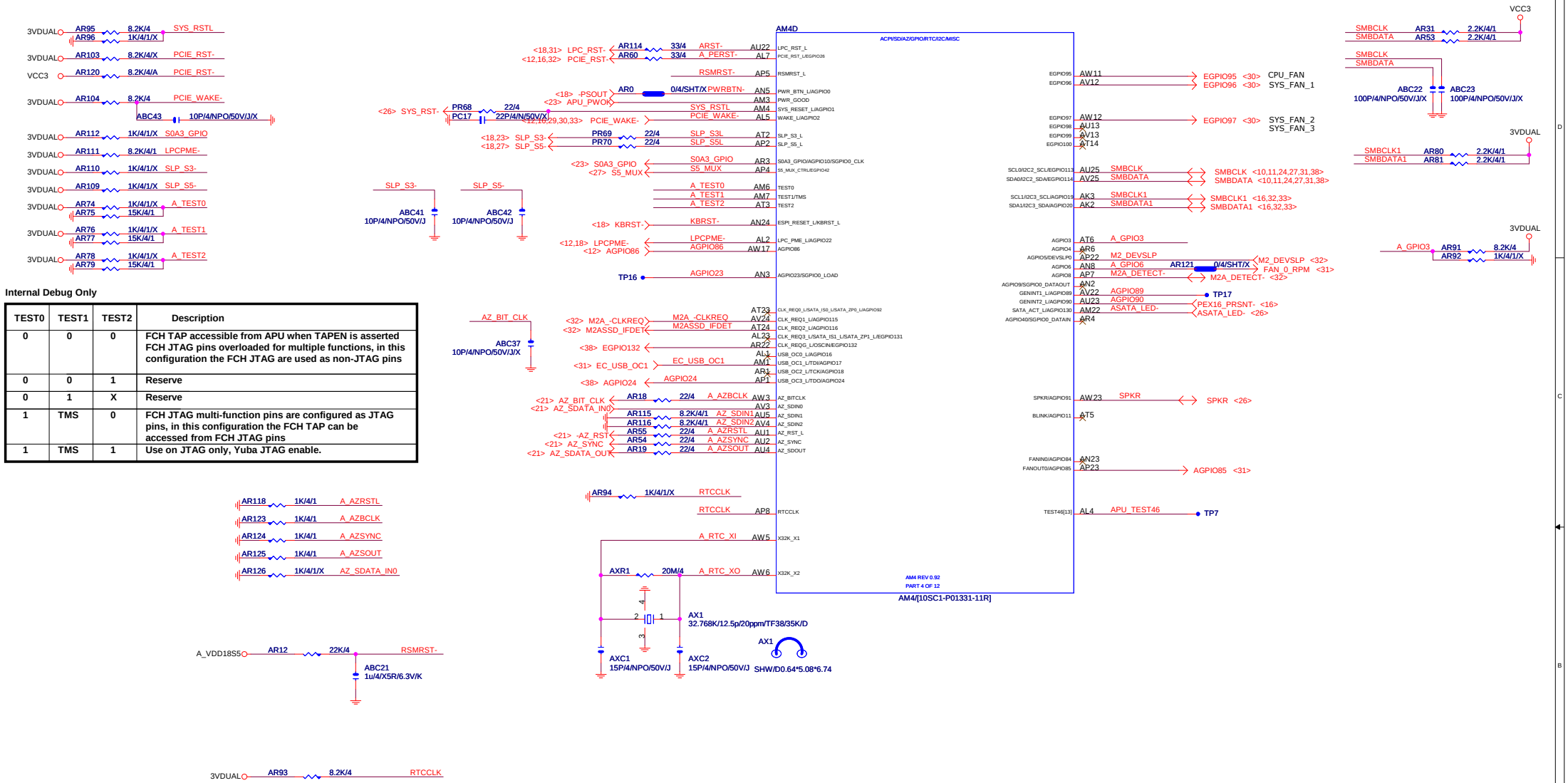
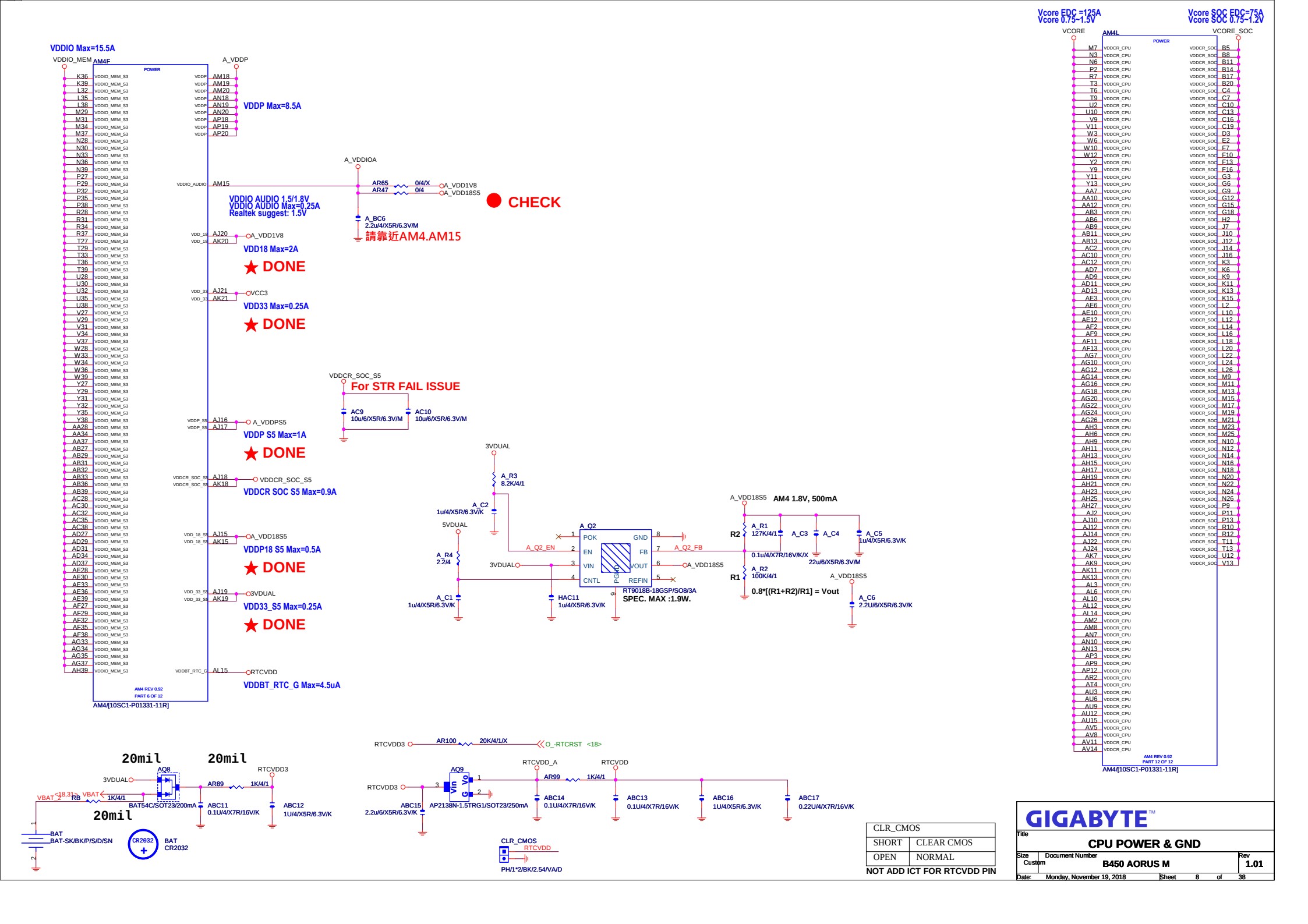
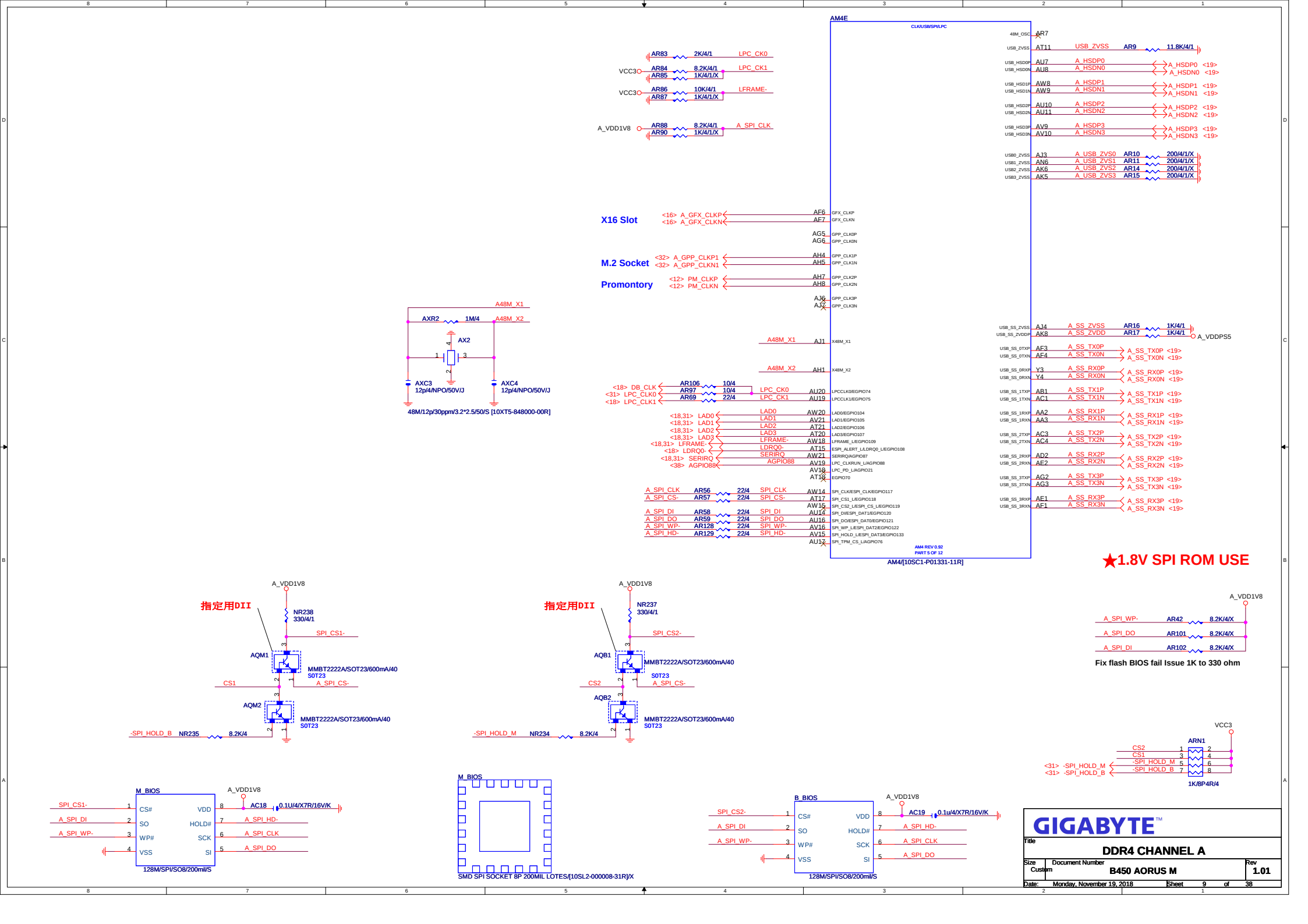
Title	AM4 PCIE LINK
Size / Document Number	Custom / B450 AORUS M
Rev	1.01
Date:	Monday, November 19, 2018
Sheet	6 of 38


AM4D
ACPI/SD/AZ/GPIO/RTC/I2C/MISC
AM4 REV 0.92
PART 4 OF 12
AM4/[10SC1-P01331-11R]
3VDUAL
VCC3
AR95 8.2K/4 SYS_RSTL
AR96 1K/4/1/X
AR103 8.2K/4/X PCIE_RST-
AR120 8.2K/4/A PCIE_RST-
AR104 8.2K/4 PCIE_WAKE-
ABC43 10P/4/NPO/50V/J/X
AR112 1K/4/1/X S0A3_GPIO
AR111 8.2K/4/1 LPCPME-
AR110 1K/4/1/X SLP_S3-
AR109 1K/4/1/X SLP_S5-
AR74 1K/4/1/X A_TEST0
AR75 15K/4/1
AR76 1K/4/1/X A_TEST1
AR77 15K/4/1
AR78 1K/4/1/X A_TEST2
AR79 15K/4/1
Internal Debug Only
TEST0 TEST1 TEST2 Description
0 0 0 FCH TAP accessible from APU when TAPEN is asserted FCH JTAG pins overloaded for multiple functions, in this configuration the FCH JTAG are used as non-JTAG pins
0 0 1 Reserve
0 1 X Reserve
1 TMS 0 FCH JTAG multi-function pins are configured as JTAG pins, in this configuration the FCH TAP can be accessed from FCH JTAG pins
1 TMS 1 Use on JTAG only, Yuba JTAG enable.
AR118 1K/4/1 A_AZRSTL
AR123 1K/4/1 A_AZBCLK
AR124 1K/4/1 A_AZSYNC
AR125 1K/4/1 A_AZSOUT
AR126 1K/4/1/X AZ_SDATA_IN0
A_VDD18S5 AR12 22K/4 RSMRST-
ABC21 1u/4/X5R/6.3V/K
3VDUAL AR93 8.2K/4 RTCCLK
<18,31> LPC_RST- AR114 33/4 ARST- AU22
<12,16,32> PCIE_RST- AR60 33/4 A_PERST- AL7
RSMRST- AP5
<18> -PSOUT AR0 0/4/SHT/X PWRBTN- AN5
<23> APU_PWOK AM3
SYS_RSTL AM4
<26> SYS_RST- PR68 22/4 PCIE_WAKE- AL5
PC17 22P/4/N/50V/X
<18,23> SLP_S3- PR69 22/4 SLP_S3L AT2
<18,27> SLP_S5- PR70 22/4 SLP_S5L AP2
<23> S0A3_GPIO AR3
<27> S5_MUX AP4
SLP_S3- ABC41 10P/4/NPO/50V/J
SLP_S5- ABC42 10P/4/NPO/50V/J
A_TEST0 AM6
A_TEST1 AM7
A_TEST2 AT3
<18> KBRST- AN24
<12,18> LPCPME- AL2
<12> AGPIO86 AW17
TP16 AGPIO23 AN3
AZ_BIT_CLK ABC37 10P/4/NPO/50V/J/X
<32> M2A_-CLKREQ M2A_-CLKREQ AV24
<32> M2ASSD_IFDET M2ASSD_IFDET AT24
AL23
<38> EGPIO132 AR22
AL1
<31> EC_USB_OC1 EC_USB_OC1 AM1
AR1
<38> AGPIO24 AGPIO24 AP1
<21> AZ_BIT_CLK AR18 22/4 A_AZBCLK AW3
<21> AZ_SDATA_IN0 AV3
AR115 8.2K/4/1 AZ_SDIN1 AU5
AR116 8.2K/4/1 AZ_SDIN2 AV4
<21> -AZ_RST AR55 22/4 A_AZRSTL AU1
<21> AZ_SYNC AR54 22/4 A_AZSYNC AU2
<21> AZ_SDATA_OUT AR19 22/4 A_AZSOUT AU4
AR94 1K/4/1/X RTCCLK
RTCCLK AP8
A_RTC_XI AW5
AXR1 20M/4 A_RTC_XO AW6
AX1 32.768K/12.5p/20ppm/TF38/35K/D
AXC1 15P/4/NPO/50V/J
AXC2 15P/4/NPO/50V/J
AX1 SHW/D0.64*5.08*6.74
EGPIO95 AW11 EGPIO95 <30> CPU_FAN
EGPIO96 AV12 EGPIO96 <30> SYS_FAN_1
EGPIO97 AW12 EGPIO97 <30> SYS_FAN_2
EGPIO98 AU13 SYS_FAN_3
EGPIO99 AV13
EGPIO100 AT14
SCL0/I2C2_SCL/EGPIO113 AU25 SMBCLK <10,11,24,27,31,38>
SDA0/I2C2_SDA/EGPIO114 AV25 SMBDATA <10,11,24,27,31,38>
SCL1/I2C3_SCL/AGPIO19 AK3 SMBCLK1 <16,32,33>
SDA1/I2C3_SDA/AGPIO20 AK2 SMBDATA1 <16,32,33>
AGPIO3 AT6 A_GPIO3
AGPIO4 AR6
AGPIO5/DEVSLP0 AP22 M2_DEVSLP
AGPIO6 AN8 A_GPIO6 AR121 0/4/SHT/X FAN_0_RPM <31>
AGPIO8 AP7 M2A_DETECT- M2_DEVSLP <32>
AGPIO9/SGPIO0_DATAOUT AN2 M2A_DETECT- <32>
GENINT1_L/AGPIO89 AV22 AGPIO89 TP17
GENINT2_L/AGPIO90 AU23 AGPIO90 PEX16_PRSNT- <16>
SATA_ACT_L/AGPIO130 AM22 ASATA_LED- ASATA_LED- <26>
AGPIO40/SGPIO0_DATAIN AR4
SPKR/AGPIO91 AW23 SPKR SPKR <26>
BLINK/AGPIO11 AT5
FANIN0/AGPIO84 AN23
FANOUT0/AGPIO85 AP23 AGPIO85 <31>
TEST46[13] AL4 APU_TEST46 TP7
SMBCLK AR31 2.2K/4/1
SMBDATA AR53 2.2K/4/1
ABC22 100P/4/NPO/50V/J/X
ABC23 100P/4/NPO/50V/J/X
SMBCLK1 AR80 2.2K/4/1
SMBDATA1 AR81 2.2K/4/1
A_GPIO3 AR91 8.2K/4
AR92 1K/4/1/X
ORTCXO
ORTCR1 20M/4 ORTCXI
ORTCX 32.768K/12.5p/20ppm/TF38/35K/D
ORTC2 12P/4/NPO/50V/J/X
ORTC1 12P/4/NPO/50V/J/X
ORTCX SHW/D0.64*5.08*6.74
RTC
XI VDD ORTCVDD3
XO CLKOUT TP12
INT- SCL SMBCLK1
VSS BGND SDA SMBDATA1
PCF85063TP/HWSON8
LPC_CLK0 LPC_CLK1 AGPIO3 RTC_CLK LFRAME_L SYS_RST# SPI CLK (ZP)
PULL HIGH BOOT FAIL TIMER ENABLED (DEFAULT) Use 48Mhz crystal clock and generate both internal and external clocks (DEFAULT) Enhanced reset logic (for quicker S5 S5 resume) (DEFAULT) Coin battery is on board. (DEFAULT) SPI ROM (DEFAULT) normal reset mode (DEFAULT) Use 48Mhz crystal clock and generate both internal and external clocks (DEFAULT)
PULL LOW BOOT FAIL TIMER DISABLED (DEFAULT) Use 100Mhz PCIE clock as reference clock and generate internal clocks only Default to traditional reset logic Coin battery is not on board. LPC ROM short reset mode Use 100Mhz PCIE clock as reference clock and generate internal clocks only
CZ/ST DIE ONLY
ZP DIE ONLY
GIGABYTE
Title
AM4 MISC
Size Custom
Document Number B450 AORUS M
Rev 1.01
Date: Monday, November 19, 2018
Sheet 7 of 38


VDDIO Max=15.5A
VDDIO_MEM
AM4F
POWER
A_VDDP
VDDP Max=8.5A
A_VDDIOA
VDDIO AUDIO 1.5/1.8V
VDDIO AUDIO Max=0.25A
Realtek suggest: 1.5V
CHECK
A_BC6
2.2u/4/X5R/6.3V/M
請靠近AM4.AM15
VDD18 Max=2A
DONE
VDD33 Max=0.25A
DONE
VDDCR_SOC_S5
For STR FAIL ISSUE
AC9
10u/6/X5R/6.3V/M
AC10
10u/6/X5R/6.3V/M
VDDP S5 Max=1A
DONE
VDDCR SOC S5 Max=0.9A
VDDP18 S5 Max=0.5A
DONE
VDD33_S5 Max=0.25A
DONE
VDDBT_RTC_G Max=4.5uA
AM4 REV 0.92
PART 6 OF 12
AM4/[10SC1-P01331-11R]
3VDUAL
A_R3
8.2K/4/1
A_C2
1u/4/X5R/6.3V/K
5VDUAL
A_R4
2.2/4
A_C1
1u/4/X5R/6.3V/K
A_Q2
POK
EN
VIN
CNTL
GND
FB
VOUT
REFIN
PGND
A_Q2_EN
A_Q2_FB
A_VDD18S5
HAC11
1u/4/X5R/6.3V/K
RT9018B-18GSP/SO8/3A
SPEC. MAX :1.9W.
A_VDD18S5
AM4 1.8V, 500mA
R2
A_R1
127K/4/1
A_C3
A_C4
A_C5
1u/4/X5R/6.3V/K
0.1u/4/X7R/16V/K/X
22u/6/X5R/6.3V/M
R1
A_R2
100K/4/1
0.8*[(R1+R2)/R1] = Vout
A_VDD18S5
A_C6
2.2U/6/X5R/6.3V/K
VCORE
AM4L
POWER
VCORE_SOC
Vcore EDC =125A
Vcore 0.75~1.5V
Vcore SOC EDC=75A
Vcore SOC 0.75~1.2V
AM4 REV 0.92
PART 12 OF 12
AM4/[10SC1-P01331-11R]
20mil
20mil
20mil
3VDUAL
AQ8
AR89
1K/4/1
RTCVDD3
VBAT
BAT54C/SOT23/200mA
ABC11
0.1U/4/X7R/16V/K
ABC12
1U/4/X5R/6.3V/K
BAT
BAT-SK/BK/P/S/D/SN
CR2032
BAT
CR2032
RTCVDD3
AR100
20K/4/1/X
O_-RTCRST <18>
AQ9
RTCVDD_A
AR99
1K/4/1
RTCVDD
ABC15
2.2u/6/X5R/6.3V/K
AP2138N-1.5TRG1/SOT23/250mA
ABC14
0.1U/4/X7R/16V/K
ABC13
0.1U/4/X7R/16V/K
ABC16
1U/4/X5R/6.3V/K
ABC17
0.22U/4/X7R/16V/K
CLR_CMOS
RTCVDD
PH/1*2/BK/2.54/VA/D
CLR_CMOS
SHORT
CLEAR CMOS
OPEN
NORMAL
NOT ADD ICT FOR RTCVDD PIN
GIGABYTE
Title
CPU POWER & GND
Size
Custom
Document Number
B450 AORUS M
Rev
1.01
Date:
Monday, November 19, 2018
Sheet
8
of
38


AM4E
CLK/USB/SPI/LPC
AM4 REV 0.92
PART 5 OF 12
AM4/[10SC1-P01331-11R]
X16 Slot
M.2 Socket
Promontory
AR83 2K/4/1 LPC_CK0
AR84 8.2K/4/1 LPC_CK1
AR85 1K/4/1/X
AR86 10K/4/1 LFRAME-
AR87 1K/4/1/X
AR88 8.2K/4/1 A_SPI_CLK
AR90 1K/4/1/X
A48M_X1
AXR2 1M/4
A48M_X2
AX2
AXC3 12p/4/NPO/50V/J
AXC4 12p/4/NPO/50V/J
48M/12p/30ppm/3.2*2.5/50/S [10XT5-848000-00R]
AR106 10/4
AR97 10/4
AR69 22/4
LPC_CK0
LPC_CK1
LAD0
LAD1
LAD2
LAD3
LFRAME-
LDRQ0-
SERIRQ
AGPIO88
A_SPI_CLK AR56 22/4 SPI_CLK
A_SPI_CS- AR57 22/4 SPI_CS-
A_SPI_DI AR58 22/4 SPI_DI
A_SPI_DO AR59 22/4 SPI_DO
A_SPI_WP- AR128 22/4 SPI_WP-
A_SPI_HD- AR129 22/4 SPI_HD-
USB_ZVSS AR9 11.8K/4/1
A_HSDP0
A_HSDN0
A_HSDP1
A_HSDN1
A_HSDP2
A_HSDN2
A_HSDP3
A_HSDN3
A_USB_ZVS0 AR10 200/4/1/X
A_USB_ZVS1 AR11 200/4/1/X
A_USB_ZVS2 AR14 200/4/1/X
A_USB_ZVS3 AR15 200/4/1/X
A_SS_ZVSS AR16 1K/4/1
A_SS_ZVDD AR17 1K/4/1
A_VDDPS5
A_SS_TX0P
A_SS_TX0N
A_SS_RX0P
A_SS_RX0N
A_SS_TX1P
A_SS_TX1N
A_SS_RX1P
A_SS_RX1N
A_SS_TX2P
A_SS_TX2N
A_SS_RX2P
A_SS_RX2N
A_SS_TX3P
A_SS_TX3N
A_SS_RX3P
A_SS_RX3N
★1.8V SPI ROM USE
A_VDD1V8
指定用DII
NR238 330/4/1
SPI_CS1-
AQM1
MMBT2222A/SOT23/600mA/40 S0T23
CS1
A_SPI_CS-
AQM2
MMBT2222A/SOT23/600mA/40 S0T23
-SPI_HOLD_B NR235 8.2K/4
NR237 330/4/1
SPI_CS2-
AQB1
AQB2
CS2
-SPI_HOLD_M NR234 8.2K/4
A_SPI_WP- AR42 8.2K/4/X
A_SPI_DO AR101 8.2K/4/X
A_SPI_DI AR102 8.2K/4/X
Fix flash BIOS fail Issue 1K to 330 ohm
VCC3
ARN1
-SPI_HOLD_M
-SPI_HOLD_B
1K/8P4R/4
M_BIOS
AC18 0.1U/4/X7R/16V/K
A_SPI_HD-
A_SPI_CLK
A_SPI_DO
128M/SPI/SO8/200mil/S
SMD SPI SOCKET 8P 200MIL LOTES/[10SL2-000008-31R]/X
B_BIOS
AC19 0.1u/4/X7R/16V/K
GIGABYTE
Title
DDR4 CHANNEL A
Size Custom
Document Number B450 AORUS M
Rev 1.01
Date: Monday, November 19, 2018
Sheet 9 of 38

Rev:0.5

DDR4_4

DDR4_2

* net 改 VDDQ

VDDIO_MEM

MR19 1K/4/1

MA_EVENT* <4>

DDRVTT

VTT

RFU RFU RFU

NC2_SAVE*1

ODT1 ODT0

MODT_A1 <4> MODT_A0 <4>

PARITY RESET* EVENT* ALERT* ACT*

MA_PAROUT <4> MA_RST* <4> MA_EVENT* <4> MA_ALERT* <4> MA_ACT* <4>

VSS

CB0_NC CB1_NC CB2_NC CB3_NC CB4_NC CB5_NC CB6_NC CB7_NC

DQS0 DQS0* DQS1 DQS1* DQS2 DQS2* DQS3 DQS3* DQS4 DQS4* DQS5 DQS5* DQS6 DQS6* DQS7 DQS7* DQS8 DQS8*

DQSA0 DQSA0* DQSA1 DQSA1* DQSA2 DQSA2* DQSA3 DQSA3* DQSA4 DQSA4* DQSA5 DQSA5* DQSA6 DQSA6* DQSA7 DQSA7*

DM0/DQS9_DBI0 NC/DQS9* DM1/DQS10_DBI1 NC/DQS10* DM2/DQS11_DBI2 NC/DQS11* DM3/DQS12_DBI3 NC/DQS12* DM4/DQS13_DBI4 NC/DQS13* DM5/DQS14_DBI5 NC/DQS14* DM6/DQS15_DBI6 NC/DQS15* DM7/DQS16_DBI7 NC/DQS16* DM8/DQS17_DBI8 NC/DQS17*

MA_DM0 <4> MA_DM1 <4> MA_DM2 <4> MA_DM3 <4> MA_DM4 <4> MA_DM5 <4> MA_DM6 <4> MA_DM7 <4>

<4> MODT_A[0..3] MODT_A[0..3]

<4> MDA[0..63] MDA[0..63]

<4> MAAA[0..16] MAAA[0..16]

<4> DQSA[0..7] DQSA[0..7]

<4> -DQSA[0..7] -DQSA[0..7]

DQ0 DQ1 DQ2 DQ3 DQ4 DQ5 DQ6 DQ7 DQ8 DQ9 DQ10 DQ11 DQ12 DQ13 DQ14 DQ15 DQ16 DQ17 DQ18 DQ19 DQ20 DQ21 DQ22 DQ23 DQ24 DQ25 DQ26 DQ27 DQ28 DQ29 DQ30 DQ31 DQ32 DQ33 DQ34 DQ35 DQ36 DQ37 DQ38 DQ39 DQ40 DQ41 DQ42 DQ43 DQ44 DQ45 DQ46 DQ47 DQ48 DQ49 DQ50 DQ51 DQ52 DQ53 DQ54 DQ55 DQ56 DQ57 DQ58 DQ59 DQ60 DQ61 DQ62 DQ63

MDA0 MDA1 MDA2 MDA3 MDA4 MDA5 MDA6 MDA7 MDA8 MDA9 MDA10 MDA11 MDA12 MDA13 MDA14 MDA15 MDA16 MDA17 MDA18 MDA19 MDA20 MDA21 MDA22 MDA23 MDA24 MDA25 MDA26 MDA27 MDA28 MDA29 MDA30 MDA31 MDA32 MDA33 MDA34 MDA35 MDA36 MDA37 MDA38 MDA39 MDA40 MDA41 MDA42 MDA43 MDA44 MDA45 MDA46 MDA47 MDA48 MDA49 MDA50 MDA51 MDA52 MDA53 MDA54 MDA55 MDA56 MDA57 MDA58 MDA59 MDA60 MDA61 MDA62 MDA63

VDDIO_MEM

VDD

VPP_MEM

VPP

12V3_NC 12V3_NC

MAC11 1u/4X5R/6.3V/K VREF_DDRA VREFCA

MAC16 0.1U/4X7R/16V/K VPP_SPD VDDSPD SA2_RFU SA1 SA0 SDA SCL

<7,11,24,27,31,38> SMBDATA <7,11,24,27,31,38> SMBCLK SMBDATA SMBCLK

<4> MA_BA1 <4> MA_BA0 <4> MA_BG1 <4> MA_BG0 BA1 BA0 BG1 BG0

<4> MA_CLK11 <4> MA_CLK01 <4> MA_CLK10 <4> MA_CLK00 MA_CLK11 MA_CLK01 MA_CLK10 MA_CLK00 CK1/NU* CK1/NU CK0* CK0

C_2_NC S3_N_C S2_N_C S1_N S0_N

<4> MA0_CS1- <4> MA0_CS0- <4> MA0_CKE1 <4> MA0_CKE0 MA0_CKE1 MA0_CKE0 CKE1 CKE0

<4> MAAA[0..17] MAAA0 MAAA1 MAAA2 MAAA3 MAAA4 MAAA5 MAAA6 MAAA7 MAAA8 MAAA9 MAAA10 MAAA11 MAAA12 MAAA13 MAAA14 MAAA15 MAAA16 MAAA17 A0 A1 A2 A3 A4 A5 A6 A7 A8 A9 A10/AP A11 A12 A13 A14_WE* A15_CAS* A16_RAS* A17_NC

DDR4288IBK/VA/D/GF/TWO LATCH

CHANNEL A0
SA2:0=000

VCC3 MR19 0/6/X VPP_SPD

VPP_MEM MR0 0/6/SHT30/M/X VPP_SPD

MAC42 0.1U/4X7R/16V/K VREF_DDRA

MAC43 0.1U/4X7R/16V/K VPP_SPD MAR1 1K/4/1 MA1_SA1

<7,11,24,27,31,38> SMBDATA <7,11,24,27,31,38> SMBCLK SMBDATA SMBCLK

<4> MA_BA1 <4> MA_BA0 <4> MA_BG1 <4> MA_BG0

<4> MA_CLK13 <4> MA_CLK03 <4> MA_CLK12 <4> MA_CLK02 MA_CLK13 MA_CLK03 MA_CLK12 MA_CLK02

<4> MA1_CS1- <4> MA1_CS0- <4> MA1_CKE1 <4> MA1_CKE0 MA1_CKE1 MA1_CKE0

<4> MAAA[0..17]

DDR4288IRE/VA/D/GF/TWO LATCH

CHANNEL A1
SA2:2=010

DDR12V Decouple

VDDIO_MEM

MABC18 0.1U/4X7R/16V/K MABC15 0.1U/4X7R/16V/K MABC38 0.1U/4X7R/16V/K MASC3 0.1u/4X7R/16V/K/X MABC37 1u/4X5R/6.3V/K MABC34 1u/4X5R/6.3V/K MASC2 0.1U/4X7R/16V/K MABC10 22u/6/X5R/6.3V/M MABC36 1u/4X5R/6.3V/K MABC21 1u/4X5R/6.3V/K MABC8 2.2u/6/X5R/6.3V/K

* 電容移到 [RT8120_DDR]

MABC20 1u/4X5R/6.3V/K MABC30 1u/4X5R/6.3V/K MABC12 1u/4X5R/6.3V/K MABC16 1u/4X5R/6.3V/K

DDRVTT Decouple

DDRVTT

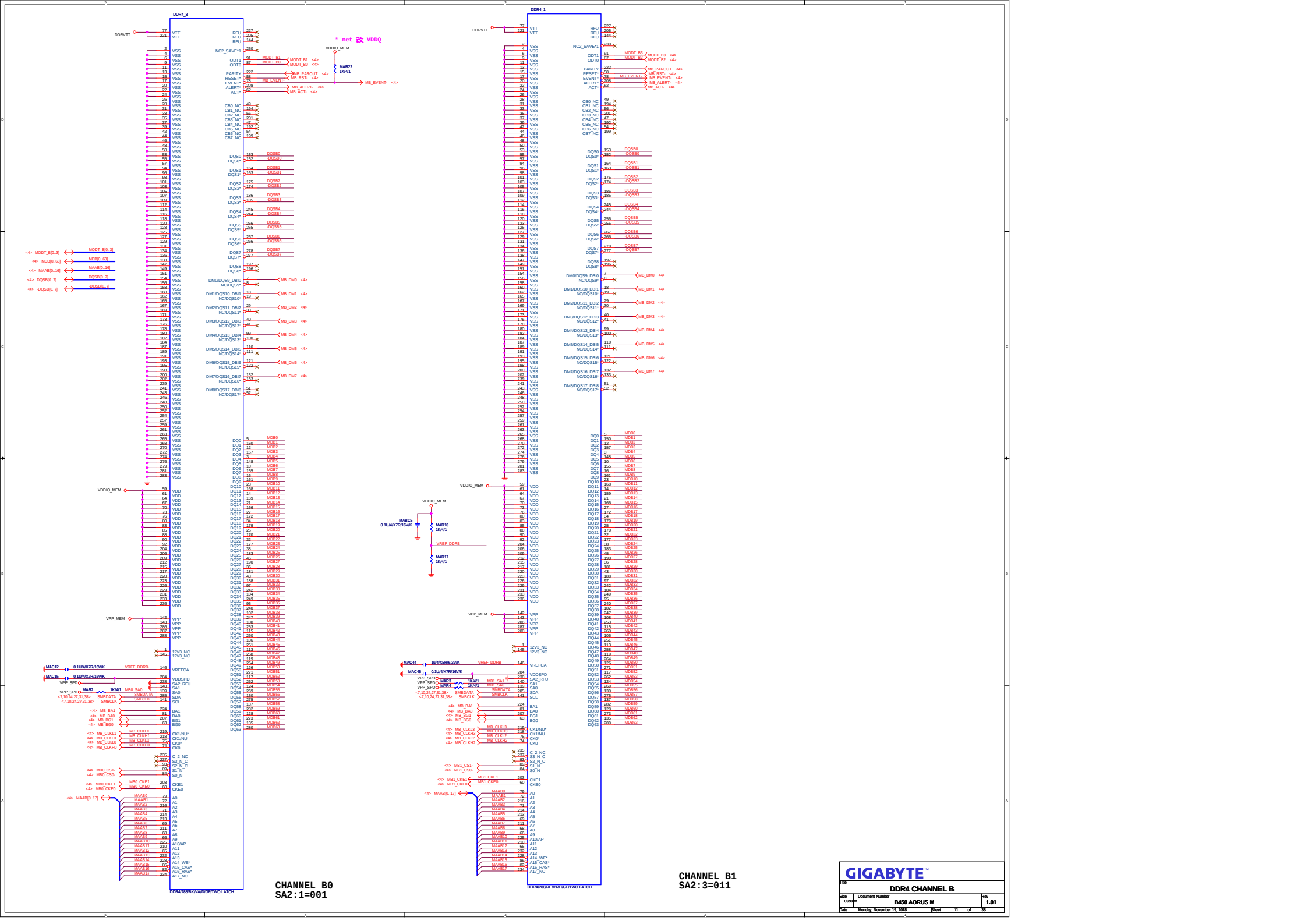
MABC23 0.1U/4X7R/16V/K MABC28 0.1U/4X7R/16V/K MABC22 1u/4X5R/6.3V/K

VDDIO_MEM

MABC4 0.1U/4X7R/16V/K MAR15 1K/4/1 VREF_DDRA MAR16 1K/4/1 VREF_DDRA

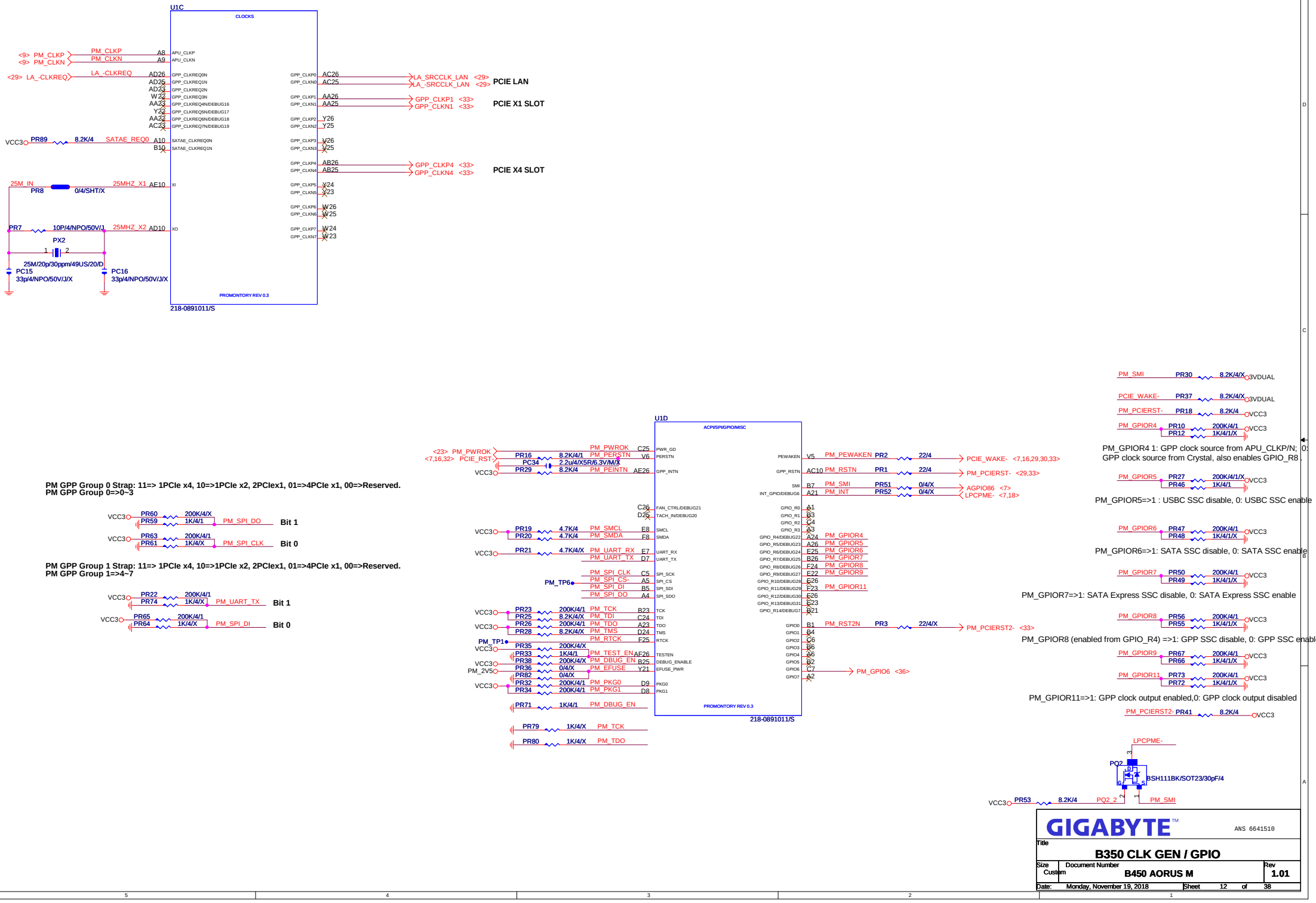
GIGABYTE

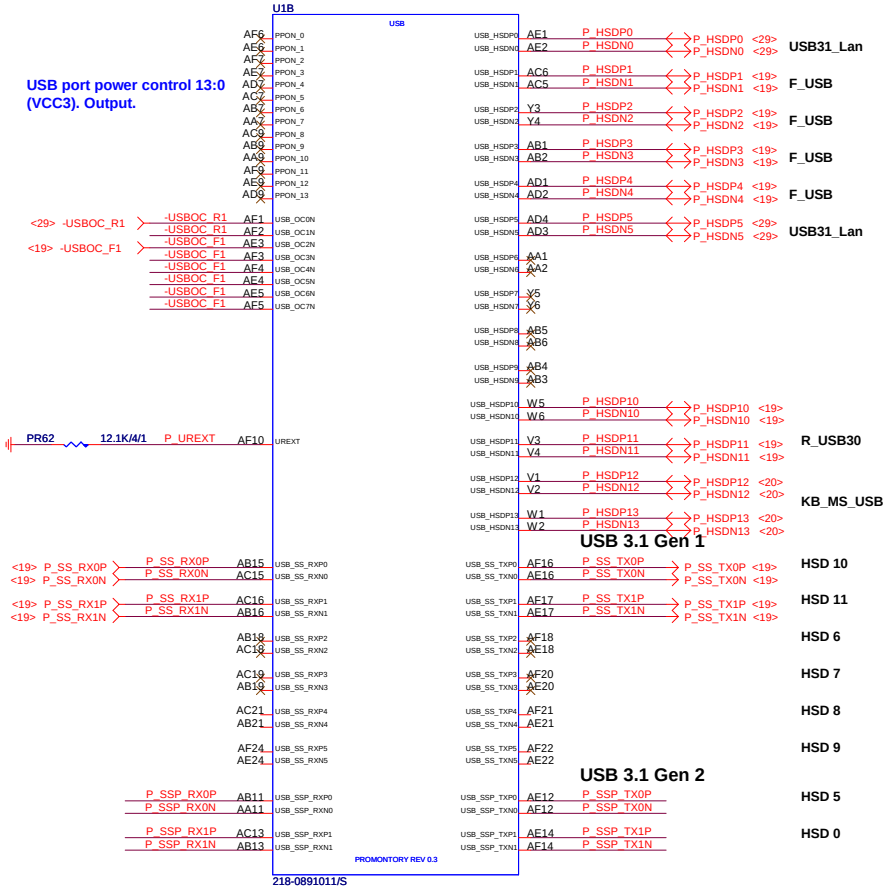
Title	DDR4 CHANNEL A	
Size: Custom	Document Number: B450 AORUS M	Rev: 1.01
Date: Monday, November 19, 2018	Sheet 10 of 38	

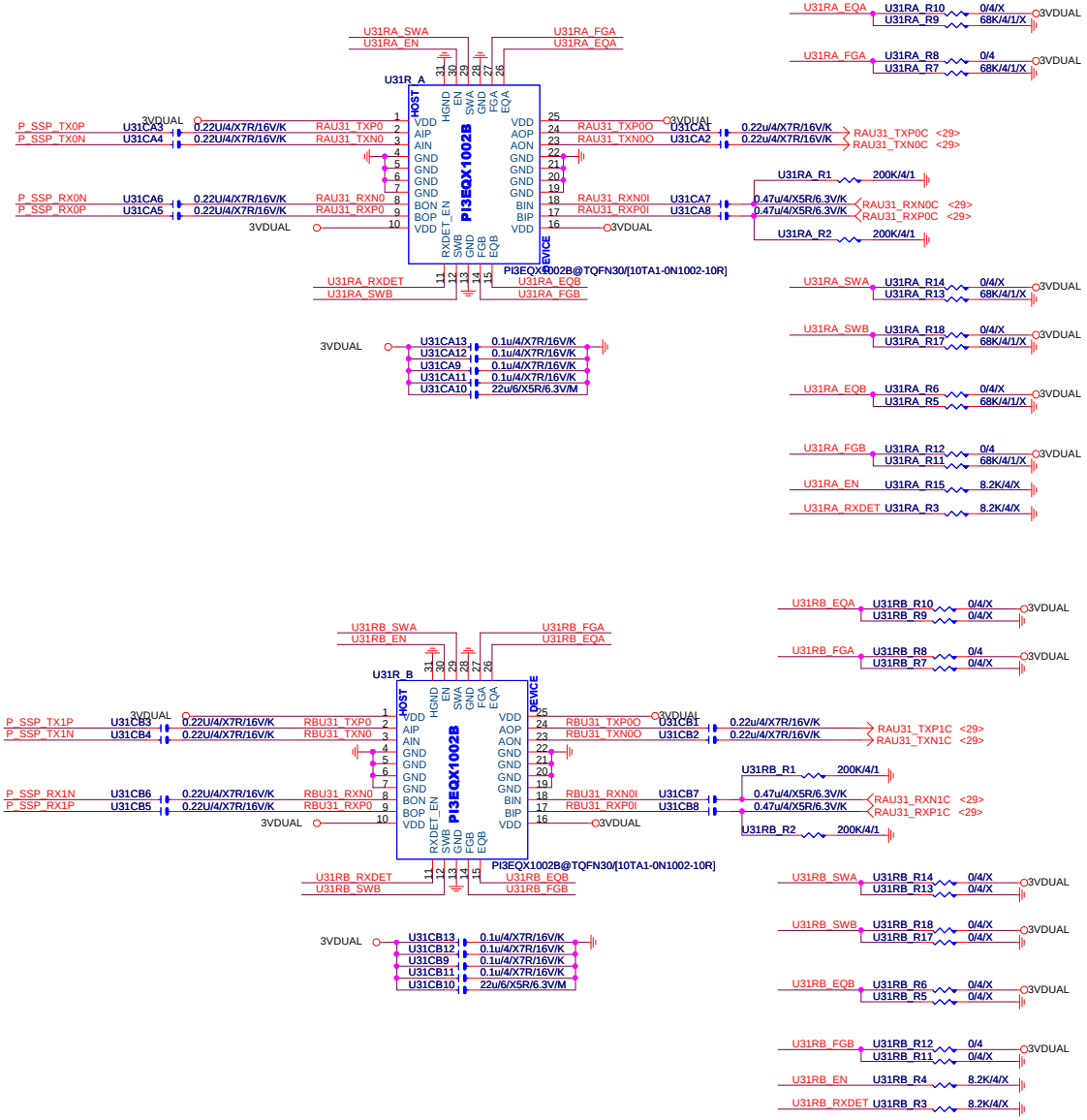


GIGABYTE

Title	DDR4 CHANNEL B		
Size: Custom	Document Number: B450 AORUS M		Rev: 1.01
Date: Monday, November 19, 2018	Sheet 11 of 38		


U1C
CLOCKS
PROMONTORY REV 0.3
218-0891011/S
PCIE LAN
PCIE X1 SLOT
PCIE X4 SLOT
U1D
ACPI/SPI/GPIO/MISC
PROMONTORY REV 0.3
218-0891011/S
PM GPP Group 0 Strap: 11=> 1PCIe x4, 10=>1PCIe x2, 2PClex1, 01=>4PCIe x1, 00=>Reserved.
PM GPP Group 0=>0~3
Bit 1
Bit 0
PM GPP Group 1 Strap: 11=> 1PCIe x4, 10=>1PCIe x2, 2PClex1, 01=>4PCIe x1, 00=>Reserved.
PM GPP Group 1=>4~7
Bit 1
Bit 0
PM_GPIOR4 1: GPP clock source from APU_CLKP/N; 0: GPP clock source from Crystal, also enables GPIO_R8 .
PM_GPIOR5=>1 : USBC SSC disable, 0: USBC SSC enable
PM_GPIOR6=>1: SATA SSC disable, 0: SATA SSC enable
PM_GPIOR7=>1: SATA Express SSC disable, 0: SATA Express SSC enable
PM_GPIOR8 (enabled from GPIO_R4) =>1: GPP SSC disable, 0: GPP SSC enable
PM_GPIOR11=>1: GPP clock output enabled,0: GPP clock output disabled
GIGABYTE
ANS 6641510
Title
B350 CLK GEN / GPIO
Size
Custom
Document Number
B450 AORUS M
Rev
1.01
Date: Monday, November 19, 2018
Sheet 12 of 38





USB3.1	USB2.0	USB_OC
USB_SSP_TX/RXP/N[0]	USB_HSDP/N[5]	USB_OC0N
USB_SSP_TX/RXP/N[1]	USB_HSDP/N[0]	USB_OC1N
USB3.0	**USB2.0**	**USB_OC**
USB_SS_TX/RXP/N[0]	USB_HSDP/N[10]	USB_OC2N
USB_SS_TX/RXP/N[1]	USB_HSDP/N[11]	USB_OC3N
USB_SS_TX/RXP/N[2]	USB_HSDP/N[6]	USB_OC4N
USB_SS_TX/RXP/N[3]	USB_HSDP/N[7]	USB_OC5N
USB_SS_TX/RXP/N[4]	USB_HSDP/N[8]	USB_OC6N
USB_SS_TX/RXP/N[5]	USB_HSDP/N[9]	USB_OC7N
	USB_HSDP/N[1]	USB_OC7N
	USB_HSDP/N[2]	USB_OC7N
	USB_HSDP/N[3]	USB_OC7N
	USB_HSDP/N[4]	USB_OC7N
	USB_HSDP/N[12]	USB_OC7N
	USB_HSDP/N[13]	USB_OC7N

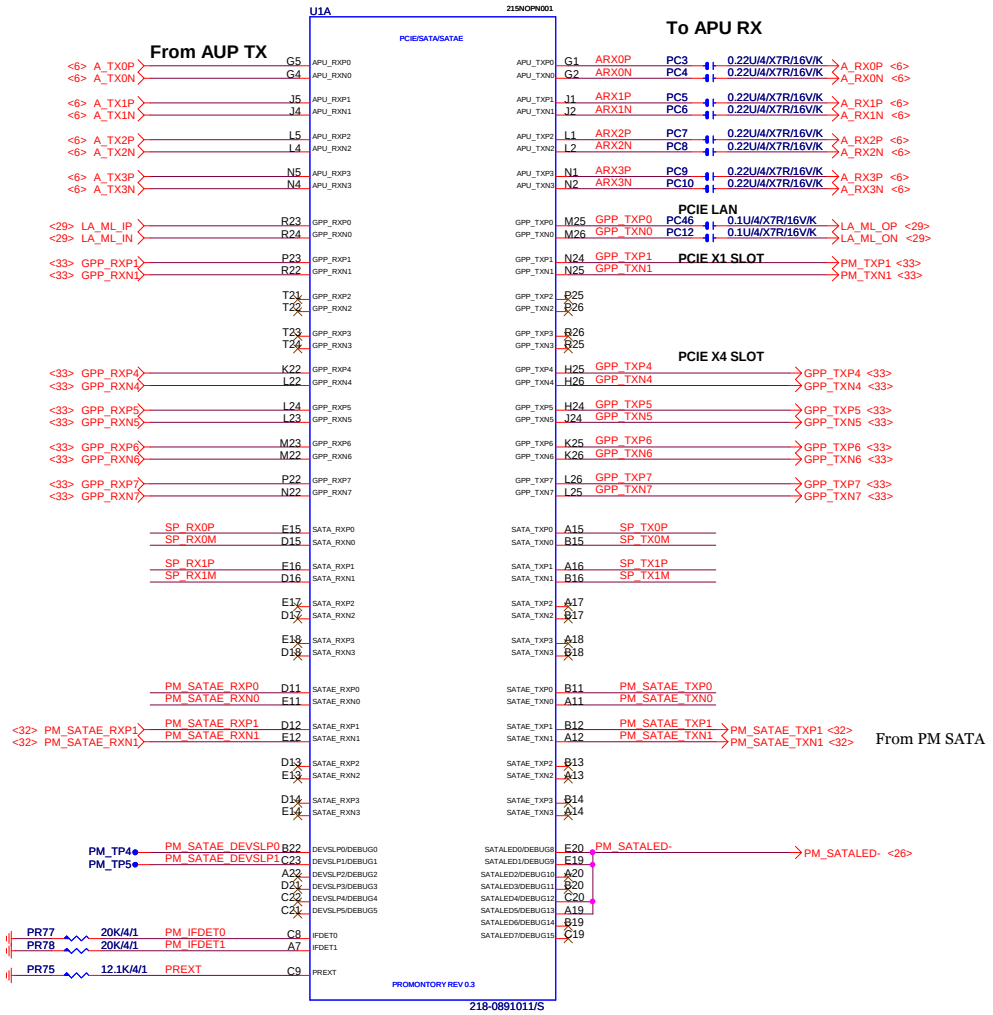
BUS Model	USB			
	3.1 Gen2 10 Gbps	3.1 Gen1 5 Gbps	2.0	Debug Port
PROM4	USB_SSP Port0~1	USB_SS Port 0~5	USB_HSD Port0~13	USB_SSP Port0
PROM2	USB_SSP Port0~1	USB_SS Port 0~1	USB_HSD Port0~5 USB_HSD Port10~13	USB_SSP Port0
PROM1	USB_SSP Port0	USB_SS Port0 USB_SSP Port1	USB_HSD Port0~5 USB_HSD Port10, 12~13	USB_SSP Port0

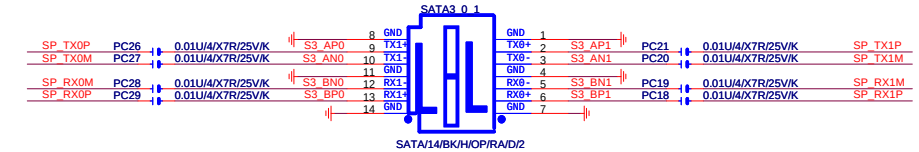
GIGABYTE™ ANS 6641510

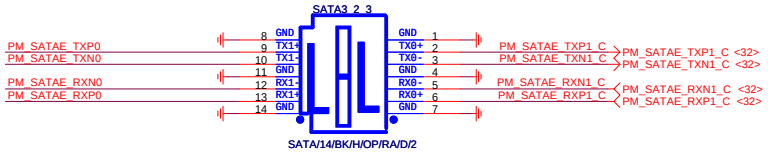
Title: B350 USB , PI3EQX1002B

Size: Custom | Document Number: B450 AORUS M | Rev: 1.01

Date: Monday, November 19, 2018 | Sheet 13 of 38







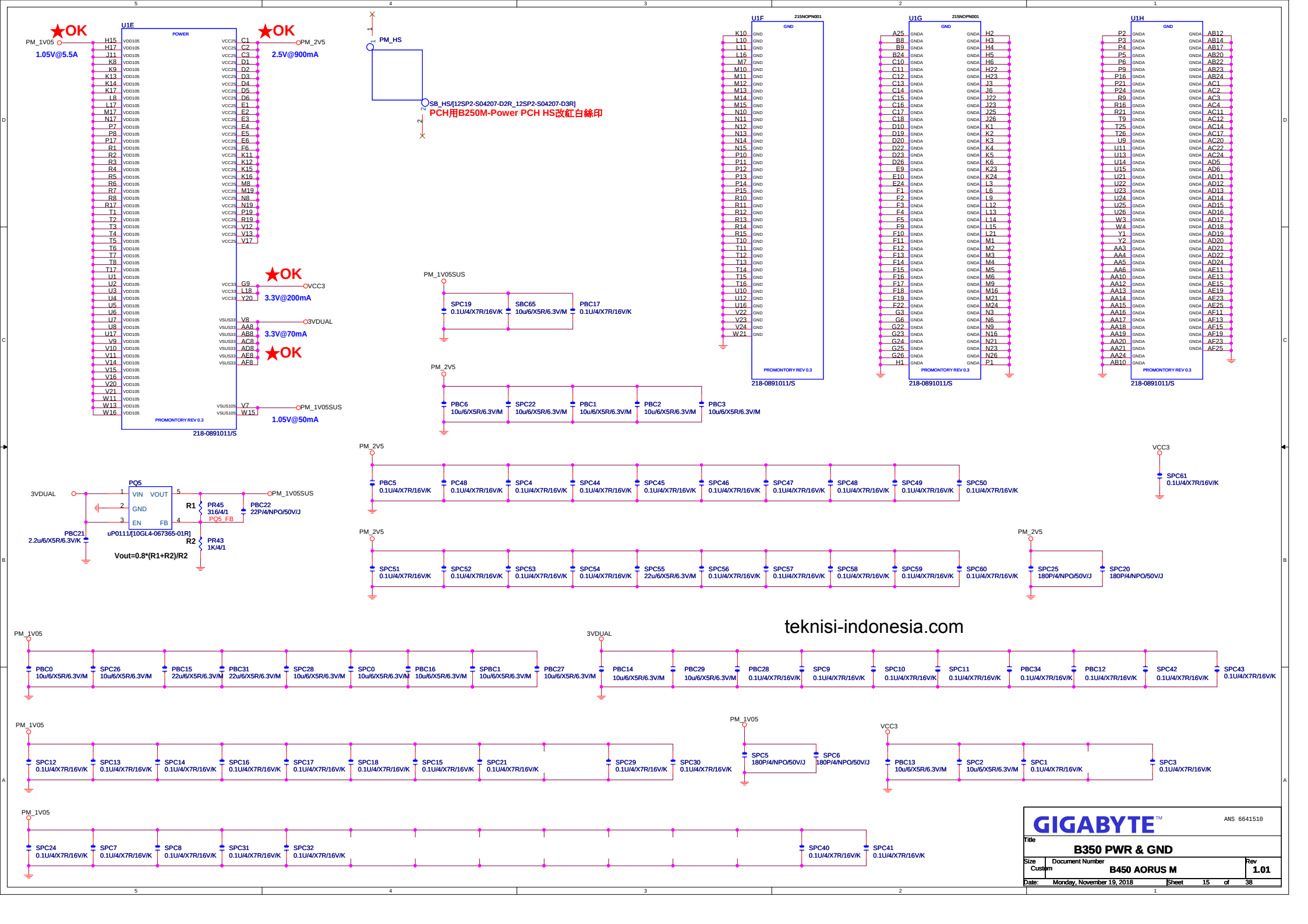
BUS Model	SATA 3.0	SATA Express	PCI Express® Gen2 GPP	PCI Express® CLK
PROM4	SATA port0~3	SATAE port0~3	GPP lane0~7	CLK0~7
PROM2	SATA port0~1	SATAE port0~1	GPP lane0~1 GPP lane4~7	CLK0~1 CLK4~7
PROM1	SATA port0~1	SATAE port0~1	GPP lane4~7	CLK4~7

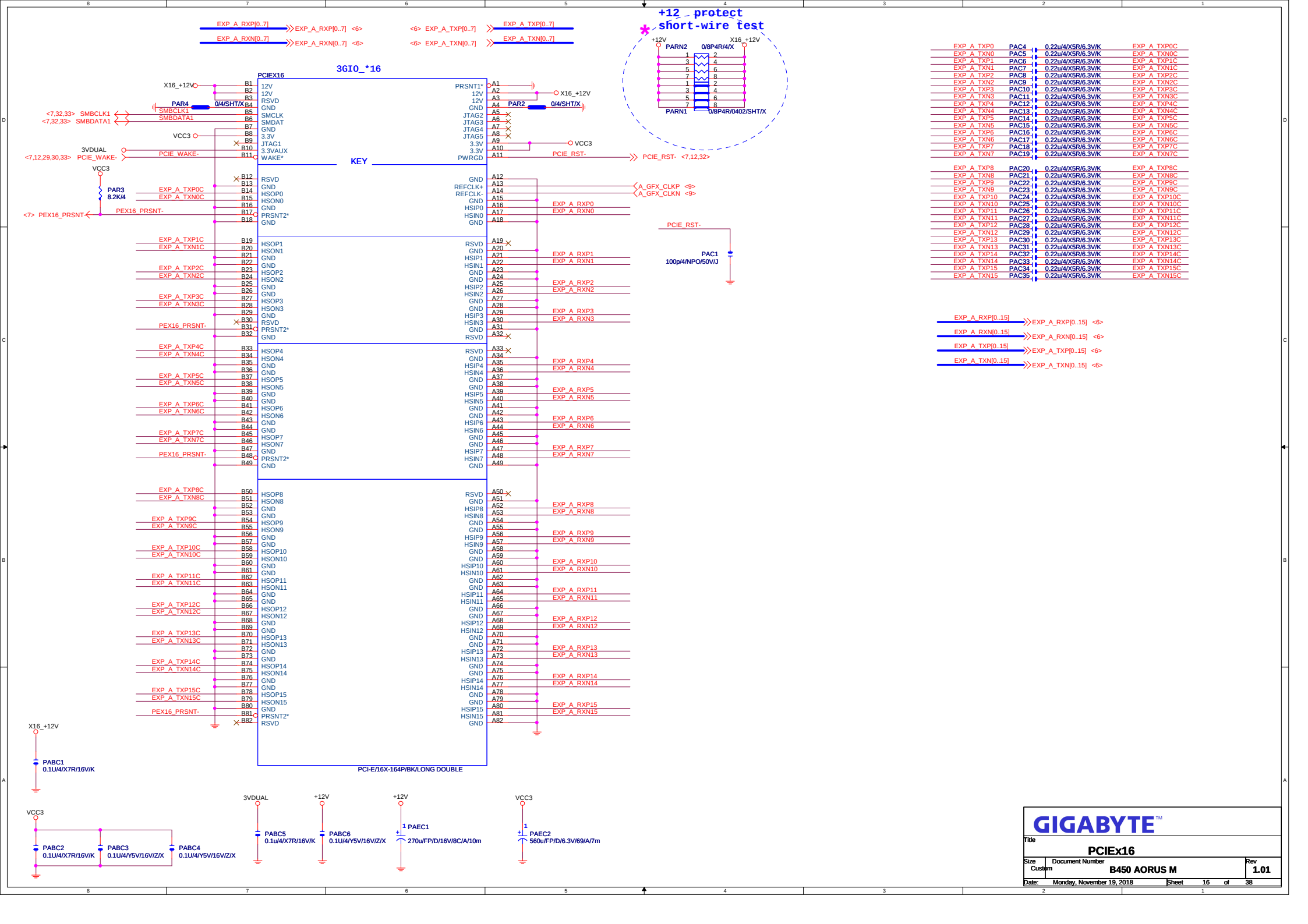
GIGABYTE™ ANS 6641510

Title: B350 SATA/SPI

Size: Custom | Document Number: B450 AORUS M | Rev: 1.01

Date: Monday, November 19, 2018 | Sheet 14 of 38


U1E
POWER
PM_1V05
1.05V@5.5A
OK
PM_2V5
2.5V@900mA
VCC3
3.3V@200mA
3VDUAL
3.3V@70mA
PM_1V05SUS
1.05V@50mA
PROMONTORY REV 0.3
218-0891011/S
PM_HS
SB_HS/[12SP2-S04207-D2R_12SP2-S04207-D3R]
PCH用B250M-Power PCH HS改紅白絲印
U1F
U1G
U1H
215NOPN001
GND
PROMONTORY REV 0.3
218-0891011/S
PM_1V05SUS
SPC19 0.1U/4/X7R/16V/K
SBC65 10u/6/X5R/6.3V/M
PBC17 0.1U/4/X7R/16V/K
PM_2V5
PBC6 10u/6/X5R/6.3V/M
SPC22 10u/6/X5R/6.3V/M
PBC1 10u/6/X5R/6.3V/M
PBC2 10u/6/X5R/6.3V/M
PBC3 10u/6/X5R/6.3V/M
PQ5
3VDUAL
VIN
VOUT
GND
EN
FB
PM_1V05SUS
R1
PR45 316/4/1
PBC22 22P/4/NPO/50V/J
PQ5_FB
PBC21 2.2u/6/X5R/6.3V/K
uP0111/[10GL4-067365-01R]
R2
PR43 1K/4/1
Vout=0.8*(R1+R2)/R2
PBC5 0.1U/4/X7R/16V/K
PC48 0.1U/4/X7R/16V/K
SPC4 0.1U/4/X7R/16V/K
SPC44 0.1U/4/X7R/16V/K
SPC45 0.1U/4/X7R/16V/K
SPC46 0.1U/4/X7R/16V/K
SPC47 0.1U/4/X7R/16V/K
SPC48 0.1U/4/X7R/16V/K
SPC49 0.1U/4/X7R/16V/K
SPC50 0.1U/4/X7R/16V/K
VCC3
SPC61 0.1U/4/X7R/16V/K
SPC51 0.1U/4/X7R/16V/K
SPC52 0.1U/4/X7R/16V/K
SPC53 0.1U/4/X7R/16V/K
SPC54 0.1U/4/X7R/16V/K
SPC55 22u/6/X5R/6.3V/M
SPC56 0.1U/4/X7R/16V/K
SPC57 0.1U/4/X7R/16V/K
SPC58 0.1U/4/X7R/16V/K
SPC59 0.1U/4/X7R/16V/K
SPC60 0.1U/4/X7R/16V/K
SPC25 180P/4/NPO/50V/J
SPC20 180P/4/NPO/50V/J
teknisi-indonesia.com
PBC0 10u/6/X5R/6.3V/M
SPC26 10u/6/X5R/6.3V/M
PBC15 22u/6/X5R/6.3V/M
PBC31 22u/6/X5R/6.3V/M
SPC28 10u/6/X5R/6.3V/M
SPC0 10u/6/X5R/6.3V/M
PBC16 10u/6/X5R/6.3V/M
SPBC1 10u/6/X5R/6.3V/M
PBC27 10u/6/X5R/6.3V/M
PBC14 10u/6/X5R/6.3V/M
PBC29 10u/6/X5R/6.3V/M
PBC28 0.1U/4/X7R/16V/K
SPC9 0.1U/4/X7R/16V/K
SPC10 0.1U/4/X7R/16V/K
SPC11 0.1U/4/X7R/16V/K
PBC34 0.1U/4/X7R/16V/K
PBC12 0.1U/4/X7R/16V/K
SPC42 0.1U/4/X7R/16V/K
SPC43 0.1U/4/X7R/16V/K
SPC12 0.1U/4/X7R/16V/K
SPC13 0.1U/4/X7R/16V/K
SPC14 0.1U/4/X7R/16V/K
SPC16 0.1U/4/X7R/16V/K
SPC17 0.1U/4/X7R/16V/K
SPC18 0.1U/4/X7R/16V/K
SPC15 0.1U/4/X7R/16V/K
SPC21 0.1U/4/X7R/16V/K
SPC29 0.1U/4/X7R/16V/K
SPC30 0.1U/4/X7R/16V/K
SPC5 180P/4/NPO/50V/J
SPC6 180P/4/NPO/50V/J
PBC13 10u/6/X5R/6.3V/M
SPC2 10u/6/X5R/6.3V/M
SPC1 0.1U/4/X7R/16V/K
SPC3 0.1U/4/X7R/16V/K
SPC24 0.1U/4/X7R/16V/K
SPC7 0.1U/4/X7R/16V/K
SPC8 0.1U/4/X7R/16V/K
SPC31 0.1U/4/X7R/16V/K
SPC32 0.1U/4/X7R/16V/K
SPC40 0.1U/4/X7R/16V/K
SPC41 0.1U/4/X7R/16V/K
GIGABYTE
ANS 6641510
Title
B350 PWR & GND
Size
Custom
Document Number
B450 AORUS M
Rev
1.01
Date: Monday, November 19, 2018
Sheet 15 of 38


+12 protect
short-wire test
3GIO_*16
PCIEX16
KEY
PCI-E/16X-164P/BK/LONG DOUBLE
PAR1 0/8P4R/0402/SHT/X
PAR2 0/8P4R/4/X
PAR3 8.2K/4
PAR4 0/4/SHT/X
PAC1 100p/4/NPO/50V/J
PABC1 0.1U/4/X7R/16V/K
PABC2 0.1U/4/X7R/16V/K
PABC3 0.1U/4/Y5V/16V/Z/X
PABC4 0.1U/4/Y5V/16V/Z/X
PABC5 0.1u/4/X7R/16V/K
PABC6 0.1U/4/Y5V/16V/Z/X
PAEC1 270u/FP/D/16V/8C/A/10m
PAEC2 560u/FP/D/6.3V/69/A/7m
0.22u/4/X5R/6.3V/K
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Title
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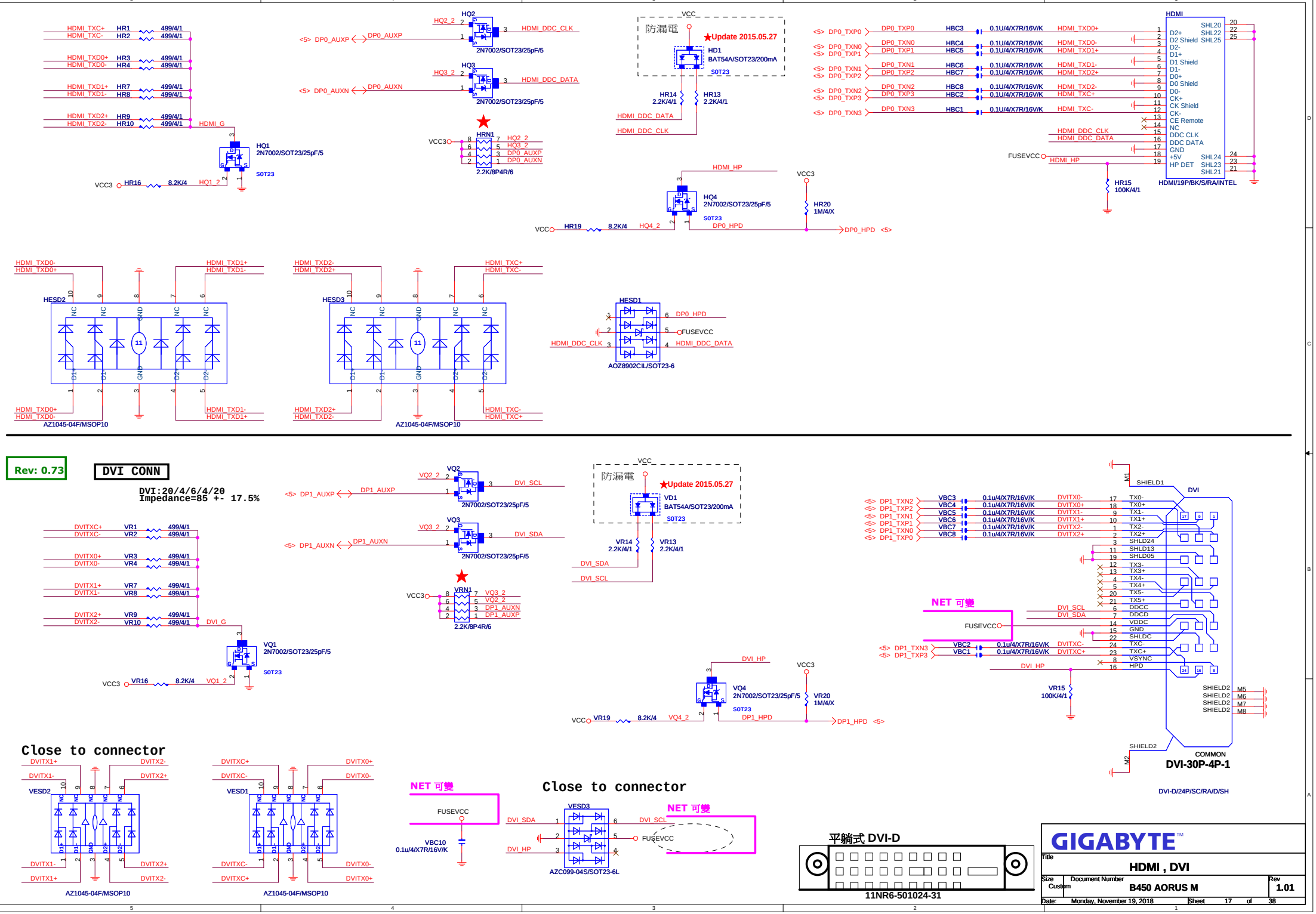
Size Custom
Document Number B450 AORUS M
Rev 1.01
Date: Monday, November 19, 2018
Sheet 16 of 38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HDMI_TXC- HR2 499/4/1
HDMI_TXD0+ HR3 499/4/1
HDMI_TXD0- HR4 499/4/1
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HDMI_TXD1- HR8 499/4/1
HDMI_TXD2+ HR9 499/4/1
HDMI_TXD2- HR10 499/4/1
HDMI_G
HQ1
2N7002/SOT23/25pF/5
SOT23
VCC3 HR16 8.2K/4 HQ1_2
HQ2
HQ2_2
<5> DP0_AUXP DP0_AUXP
HDMI_DDC_CLK
2N7002/SOT23/25pF/5
HQ3
HQ3_2
<5> DP0_AUXN DP0_AUXN
HDMI_DDC_DATA
2N7002/SOT23/25pF/5
HRN1
VCC3
HQ2_2
HQ3_2
DP0_AUXP
DP0_AUXN
2.2K/8P4R/6
防漏電
Update 2015.05.27
HD1
BAT54A/SOT23/200mA
SOT23
HR14 2.2K/4/1
HR13 2.2K/4/1
HDMI_DDC_DATA
HDMI_DDC_CLK
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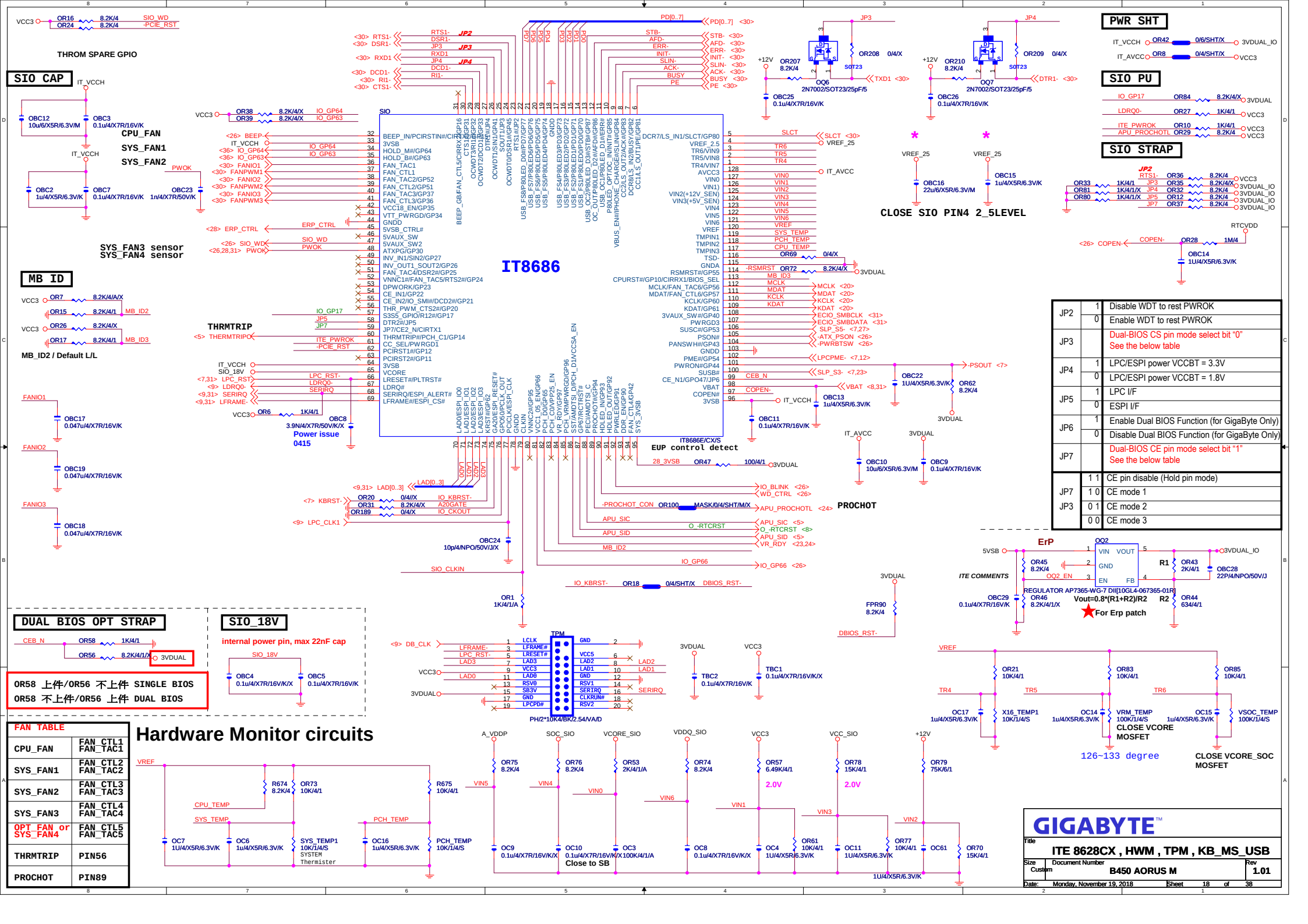
<5> DP0_TXN0 DP0_TXP1 HBC4 0.1U/4/X7R/16V/K HDMI_TXD0-
<5> DP0_TXN1 DP0_TXP2 HBC5 0.1U/4/X7R/16V/K HDMI_TXD1+
<5> DP0_TXN2 DP0_TXP3 HBC6 0.1U/4/X7R/16V/K HDMI_TXD1-
<5> DP0_TXN3 HBC7 0.1U/4/X7R/16V/K HDMI_TXD2+
HBC8 0.1U/4/X7R/16V/K HDMI_TXD2-
HBC2 0.1U/4/X7R/16V/K HDMI_TXC+
HBC1 0.1U/4/X7R/16V/K HDMI_TXC-
HDMI
D2+ D2 Shield D2- D1+ D1 Shield D1- D0+ D0 Shield D0- CK+ CK Shield CK- CE Remote NC DDC CLK DDC DATA GND +5V HP DET
SHL20 SHL22 SHL25 SHL24 SHL23 SHL21
HDMI/19P/BK/S/RA/INTEL
HDMI_DDC_CLK
HDMI_DDC_DATA
FUSEVCC
HDMI_HP
HR15 100K/4/1
HDMI_HP
HQ4
2N7002/SOT23/25pF/5
SOT23
VCC HR19 8.2K/4 HQ4_2
DP0_HPD
HR20 1M/4/X
DP0_HPD <5>
HESD2
HDMI_TXD0- HDMI_TXD0+ HDMI_TXD1+ HDMI_TXD1-
NC NC GND NC NC
D1+ D1- GND D2+ D2-
AZ1045-04F/MSOP10
HESD3
HDMI_TXD2- HDMI_TXD2+ HDMI_TXC+ HDMI_TXC-
AZ1045-04F/MSOP10
HESD1
DP0_HPD
FUSEVCC
HDMI_DDC_CLK
HDMI_DDC_DATA
AOZ8902CIL/SOT23-6
Rev: 0.73
DVI CONN
DVI:20/4/6/4/20
Impedance=85 +- 17.5%
DVITXC+ VR1 499/4/1
DVITXC- VR2 499/4/1
DVITX0+ VR3 499/4/1
DVITX0- VR4 499/4/1
DVITX1+ VR7 499/4/1
DVITX1- VR8 499/4/1
DVITX2+ VR9 499/4/1
DVITX2- VR10 499/4/1
DVI_G
VQ1
2N7002/SOT23/25pF/5
SOT23
VCC3 VR16 8.2K/4 VQ1_2
VQ2
VQ2_2
<5> DP1_AUXP DP1_AUXP
DVI_SCL
2N7002/SOT23/25pF/5
VQ3
VQ3_2
<5> DP1_AUXN DP1_AUXN
DVI_SDA
2N7002/SOT23/25pF/5
VRN1
VCC3
VQ3_2
VQ2_2
DP1_AUXN
DP1_AUXP
2.2K/8P4R/6
防漏電
Update 2015.05.27
VD1
BAT54A/SOT23/200mA
SOT23
VR14 2.2K/4/1
VR13 2.2K/4/1
DVI_SDA
DVI_SCL
<5> DP1_TXN2 VBC3 0.1u/4/X7R/16V/K DVITX0-
<5> DP1_TXP2 VBC4 0.1u/4/X7R/16V/K DVITX0+
<5> DP1_TXN1 VBC5 0.1u/4/X7R/16V/K DVITX1-
<5> DP1_TXP1 VBC6 0.1u/4/X7R/16V/K DVITX1+
<5> DP1_TXN0 VBC7 0.1u/4/X7R/16V/K DVITX2-
<5> DP1_TXP0 VBC8 0.1u/4/X7R/16V/K DVITX2+
DVI
SHIELD1
TX0- TX0+ TX1- TX1+ TX2- TX2+ SHLD24 SHLD13 SHLD05 TX3- TX3+ TX4- TX4+ TX5- TX5+ DDCC DDCD VDDC GND SHLDC TXC- TXC+ VSYNC HPD
NET 可變
FUSEVCC
DVI_SCL
DVI_SDA
<5> DP1_TXN3 VBC2 0.1u/4/X7R/16V/K DVITXC-
<5> DP1_TXP3 VBC1 0.1u/4/X7R/16V/K DVITXC+
DVI_HP
VR15 100K/4/1
SHIELD2 M5
SHIELD2 M6
SHIELD2 M7
SHIELD2 M8
SHIELD2 M2
COMMON
DVI-30P-4P-1
DVI-D/24P/SC/RA/D/SH
DVI_HP
VQ4
2N7002/SOT23/25pF/5
SOT23
VCC VR19 8.2K/4 VQ4_2
DP1_HPD
VR20 1M/4/X
DP1_HPD <5>
Close to connector
VESD2
DVITX1+ DVITX2- DVITX1- DVITX2+ DVITX1+ DVITX2-
AZ1045-04F/MSOP10
VESD1
DVITXC+ DVITX0+ DVITXC- DVITX0- DVITXC- DVITX0+
AZ1045-04F/MSOP10
NET 可變
FUSEVCC
VBC10
0.1u/4/X7R/16V/K
Close to connector
VESD3
DVI_SDA DVI_SCL DVI_HP FUSEVCC
AZC099-04S/SOT23-6L
NET 可變
平躺式 DVI-D
11NR6-501024-31
GIGABYTE
Title
HDMI , DVI
Size Custom
Document Number
B450 AORUS M
Rev 1.01
Date: Monday, November 19, 2018
Sheet 17 of 38

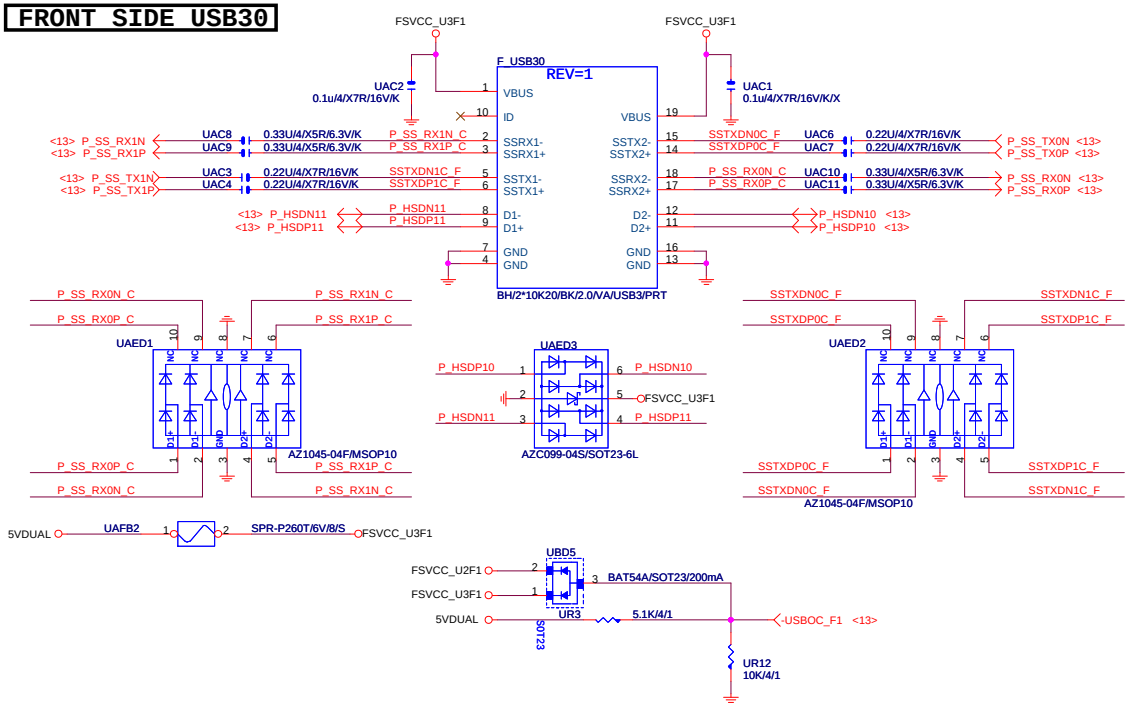


JP2	1	Disable WDT to rest PWROK
	0	Enable WDT to rest PWROK
JP3		Dual-BIOS CS pin mode select bit "0" See the below table
JP4	1	LPC/ESPI power VCCBT = 3.3V
	0	LPC/ESPI power VCCBT = 1.8V
JP5	1	LPC I/F
	0	ESPI I/F
JP6	1	Enable Dual BIOS Function (for GigaByte Only)
	0	Disable Dual BIOS Function (for GigaByte Only)
JP7		Dual-BIOS CE pin mode select bit "1" See the below table

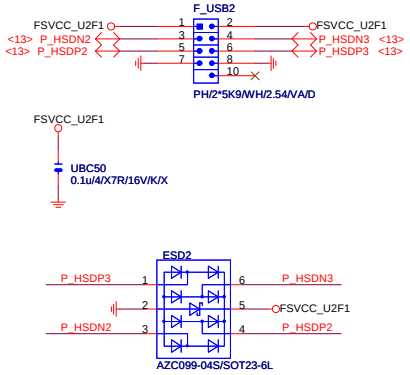
JP7	JP3	
	1 1	CE pin disable (Hold pin mode)
	1 0	CE mode 1
	0 1	CE mode 2
	0 0	CE mode 3

FAN TABLE	
CPU_FAN	FAN_CTL1 FAN_TAC1
SYS_FAN1	FAN_CTL2 FAN_TAC2
SYS_FAN2	FAN_CTL3 FAN_TAC3
SYS_FAN3	FAN_CTL4 FAN_TAC4
OPT_FAN or SYS_FAN4	FAN_CTL5 FAN_TAC5
THRMTRIP	PIN56
PROCHOT	PIN89

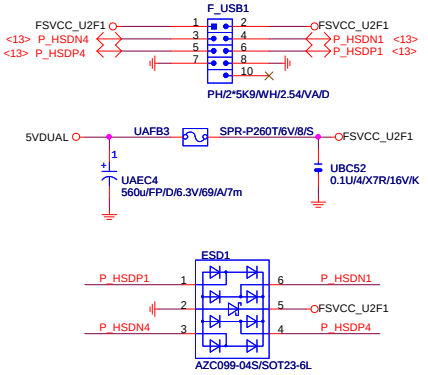
FRONT SIDE USB30



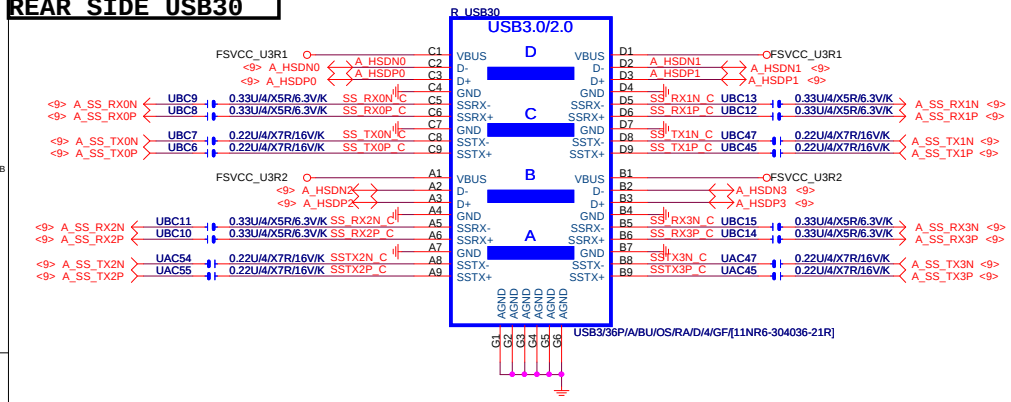
FRONT SIDE USB2

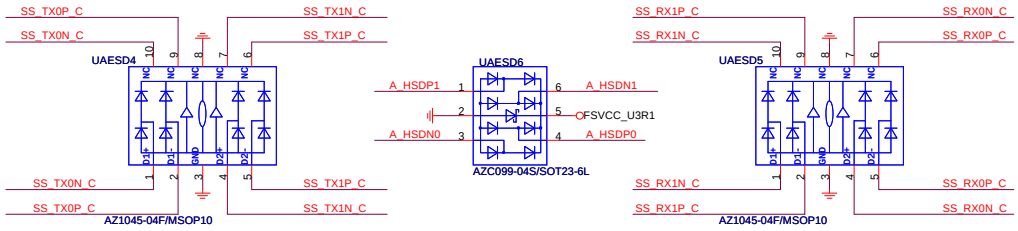


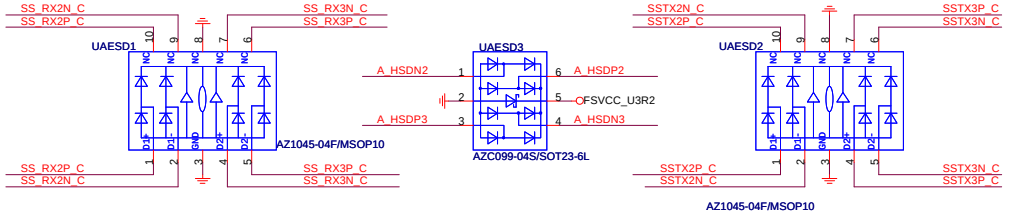
FRONT SIDE USB1

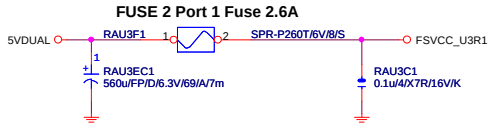


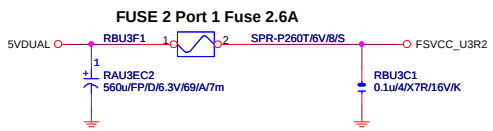
REAR SIDE USB30

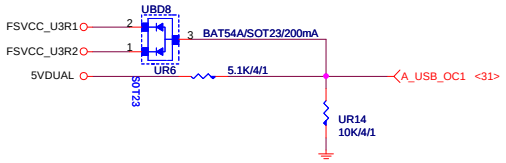












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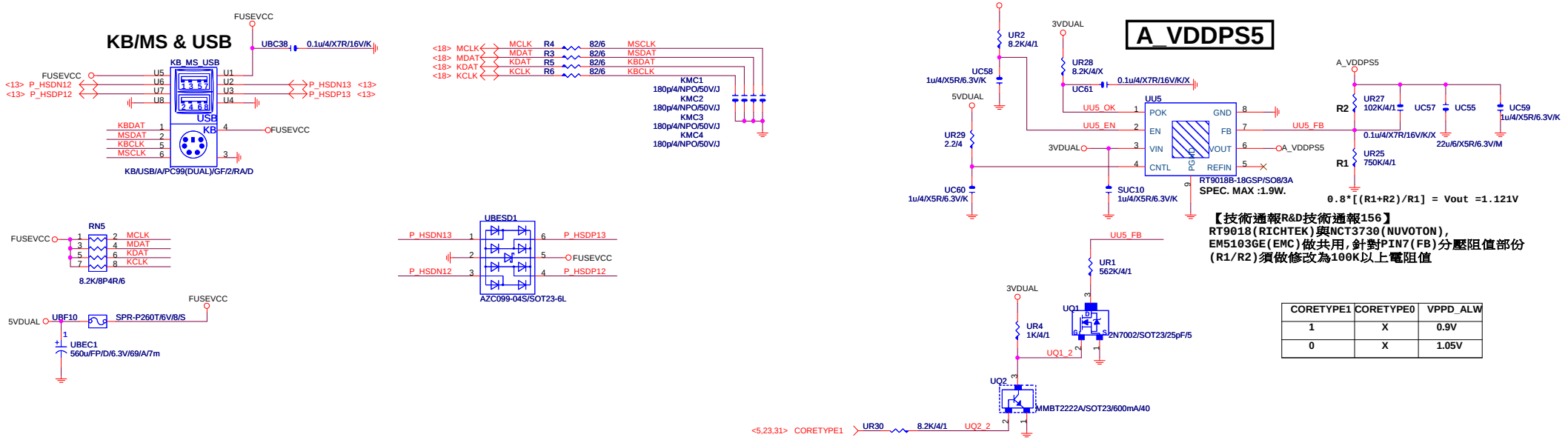
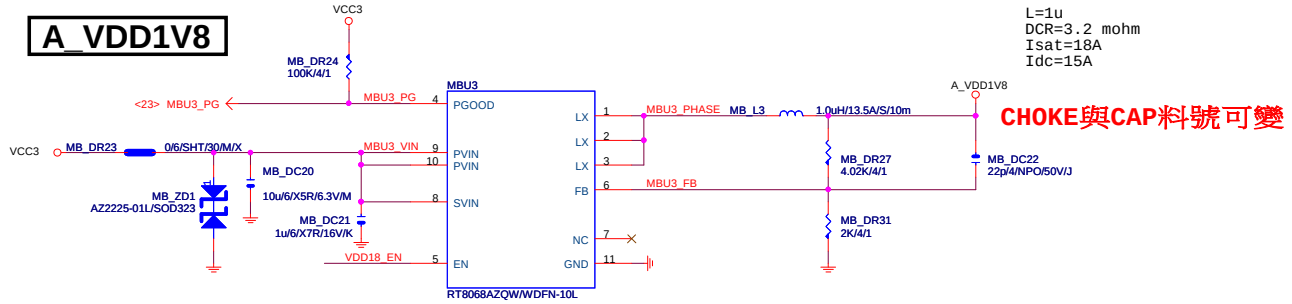
Title	F_USB30_20 , R_USB30	
Size: Custom	Document Number: B450 AORUS M	Rev: 1.01
Date: Monday, November 19, 2018	Sheet 19 of 38	



CORETYPE1	CORETYPE0	VPPD_ALW
1	X	0.9V
0	X	1.05V

REV:0.4



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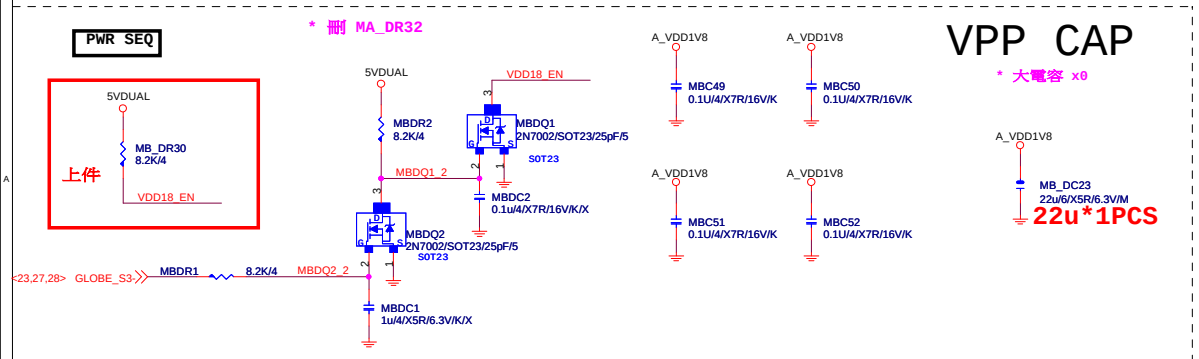
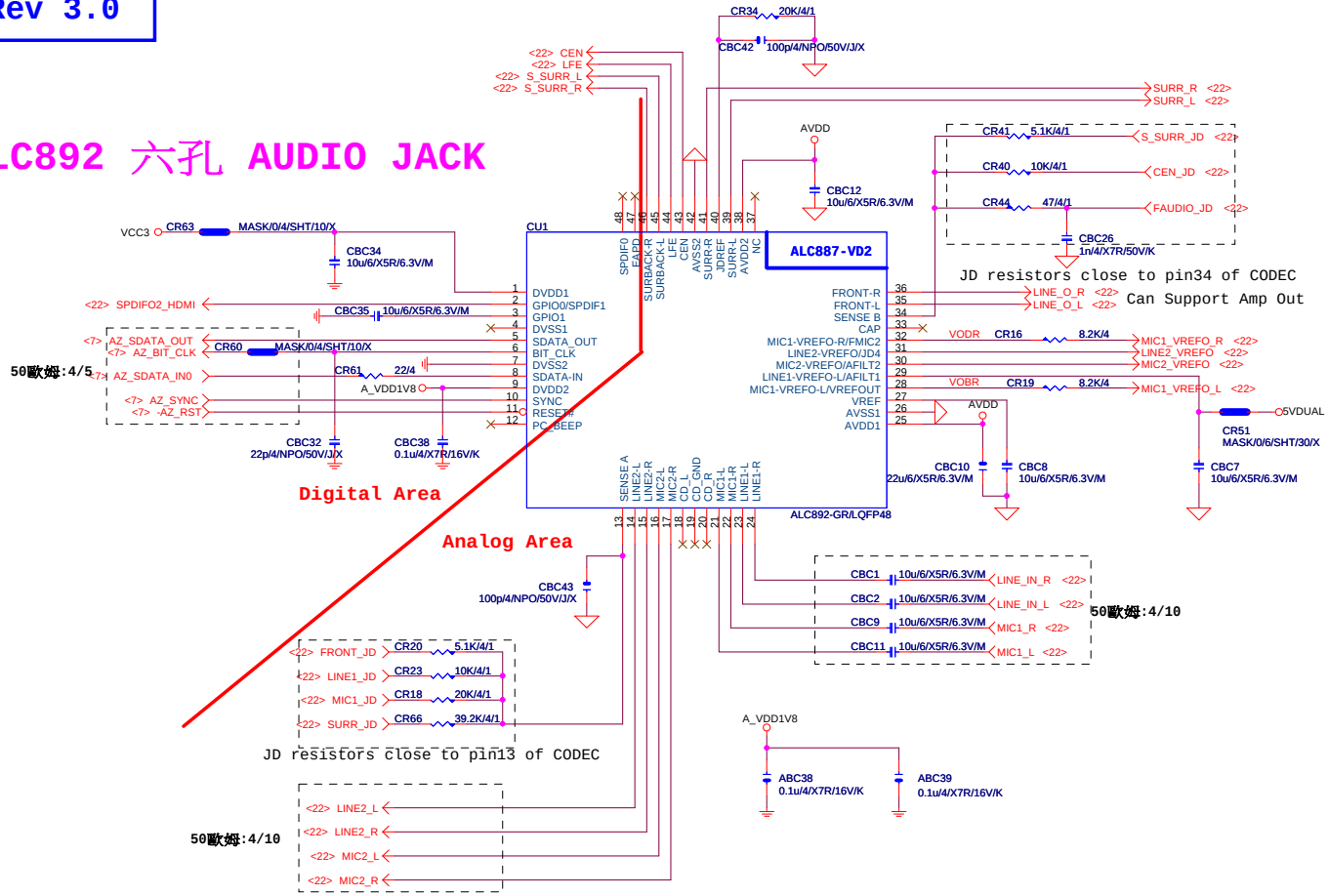


Title	A_VDD1V8 , A_VDDPS5
Size / Document Number	Custom / B450 AORUS M
Rev	1.01
Date:	Monday, November 19, 2018
Sheet	20 of 38

Rev 3.0

ALC892 六孔 AUDIO JACK



LAYOUT注意:螺絲孔下GND方式

1. MH1空間夠,下DGND
   空間不夠,才改為Isolate
2. MH2一律改為Isolate
3. Codec下方,第二層必須參考GND

MH1	MH2
DGND	Isolate

LAYOUT注意:要加

GND切割線

音效區域印刷

BOM OPTION :
1. Chemicon音效電容
2. 金屬外罩 Reserve (LAYOUT上件與否,依照各Model spec)
3. LED Reserve (上件與否和LED顏色,依照各Model spec)

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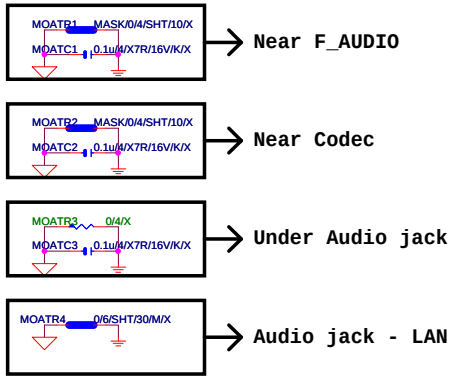
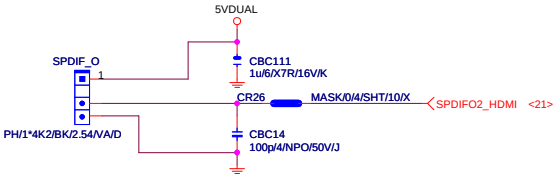
Title	ALC887 CODEC	
Size: Custom	Document Number: B450 AORUS M	Rev: 1.01
Date: Monday, November 19, 2018	Sheet 21 of 38	

Rev 3.0

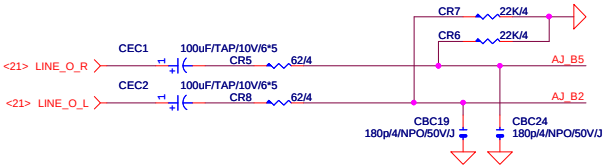


*量產前,0ohm改short pad

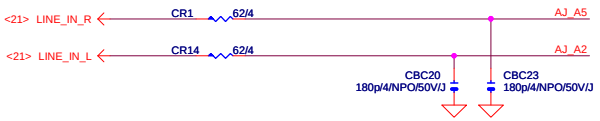


For HDMI SPDIF （依SPEC保留或移除）

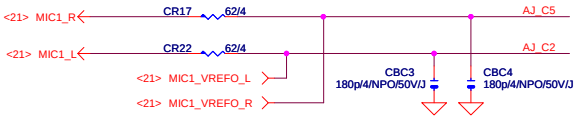
LINE-OUT



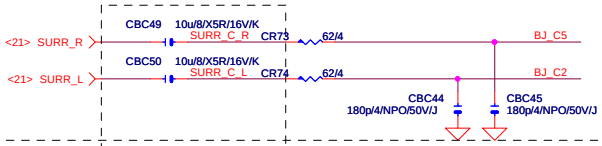
LINE-IN



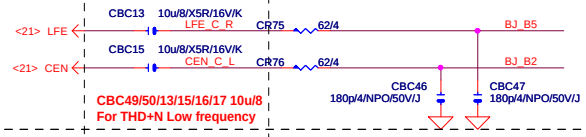
MIC-IN



SURROUND

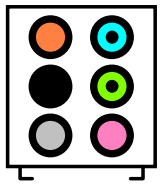


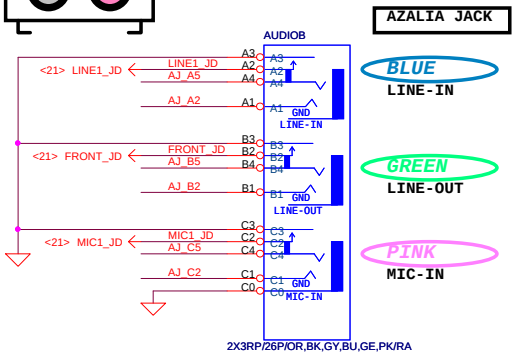
CEN/LFE

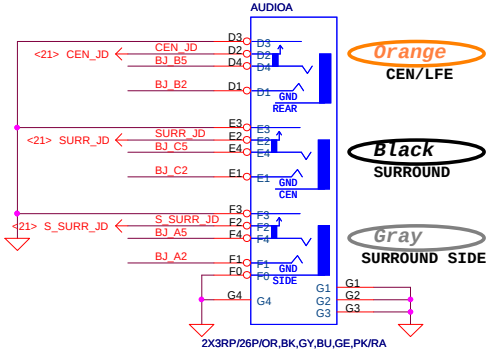


CBC49/50/13/15/16/17 10u/8
For THD+N Low frequency

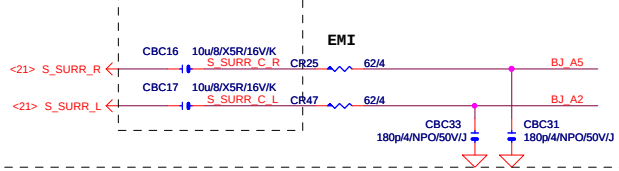
AZALIA JACK



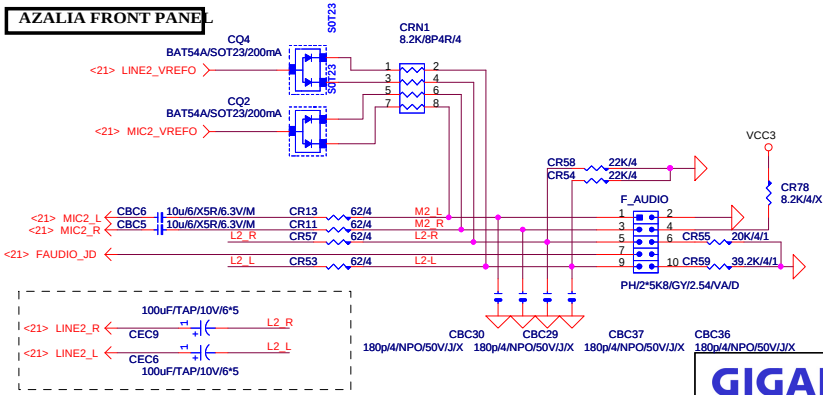




SURR BACK



AZALIA FRONT PANEL



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Title	AUDIO JACK	
Size: Custom	Document Number: B450 AORUS M	Rev: 1.01
Date: Monday, November 19, 2018	Sheet 22 of 38	

PWR SEQ

5VDUAL NPR1 2.2/6 NPU1_VCC
NPC4 1u/6/X7R/16V/K
NPR19 100K/4/1
PCH_1V0_GD
NPU1
<20> MBU3_PG NPR18 0/4/SHT/10/M/X AVDDP_EN
AVDDP_ADJ
EN PGOOD VCC BOOT UGATE PHASE FB CS RF GND LGATE
NPC2 0.1u/6/X7R/25V/K
UGATE_A PHASE_A LGATE_A
RT8237C/D/DFN-10L
NPU1_RF NPR21 470K/4/1 PCH_1V0_GD
NPR12 280K/4/1
NPR20 470K/4/1/X
FS=290K
OCP=30A
RF: low=>DEM mode, high=>CCM mode.

+12V
NPL1 BEAD 47/4030/15A/S P1V0_VIN
NPC1 0.1U/4/X7R/16V/K Close Choke
NPC3 1u/6/X7R/16V/K Close MOS
NPEC1 100u/OS/D/16V/69/A/35m
CHOKE與CAP料號可變
L=1u
DCR=3.2 mohm
Isat=18A
Idc=15A
NPQ1
NTTFS4C10NTAG/WDFN8/993pF/7.4m
UGATE_A NPR2 2.2/6
NPR4 8.2K/4
PHASE_A
NPL2 1.0uH/13.5A/S/10m
NPQ2 NPR6 2.2/6
NPC7 1n/4/X7R/50V/K
LGATE_A
NTTFS4C10NTAG/WDFN8/993pF/7.4m
A_VDDP
A_VDDP 0.9V or 1.05V
NPC8 22p/4/NPO/50V/J/X
AVDDP_ADJ
RS NPR8 2K/4/1
NPC11 22u/6/X5R/6.3V/M
NPEC2 560u/FP/D/6.3V/69/A/7m
0.704*(1+RS/R0) = Vout
R0 NPR13 7.15K/4/1
Remote sense請從最重的負載端點拉回

A_VDDP
NPC10 22u/6/X5R/6.3V/M
請放置CHOKE一出來的地方

CORETYPE1	CORETYPE0	VPPD_ALW
1	X	0.9V
0	X	1.05V

AVDDP_ADJ NPR3 9.31K/4/1
VCC3 PR84 1K/4/1
NPQ5 2N7002/SOT23/25pF/5
NPQ5_2
NPQ7 MMBT2222A/SOT23/600mA/40 S0T23
<5,20,31> CORETYPE1 CORETYPE1 PR85 8.2K/4 NPQ7_2

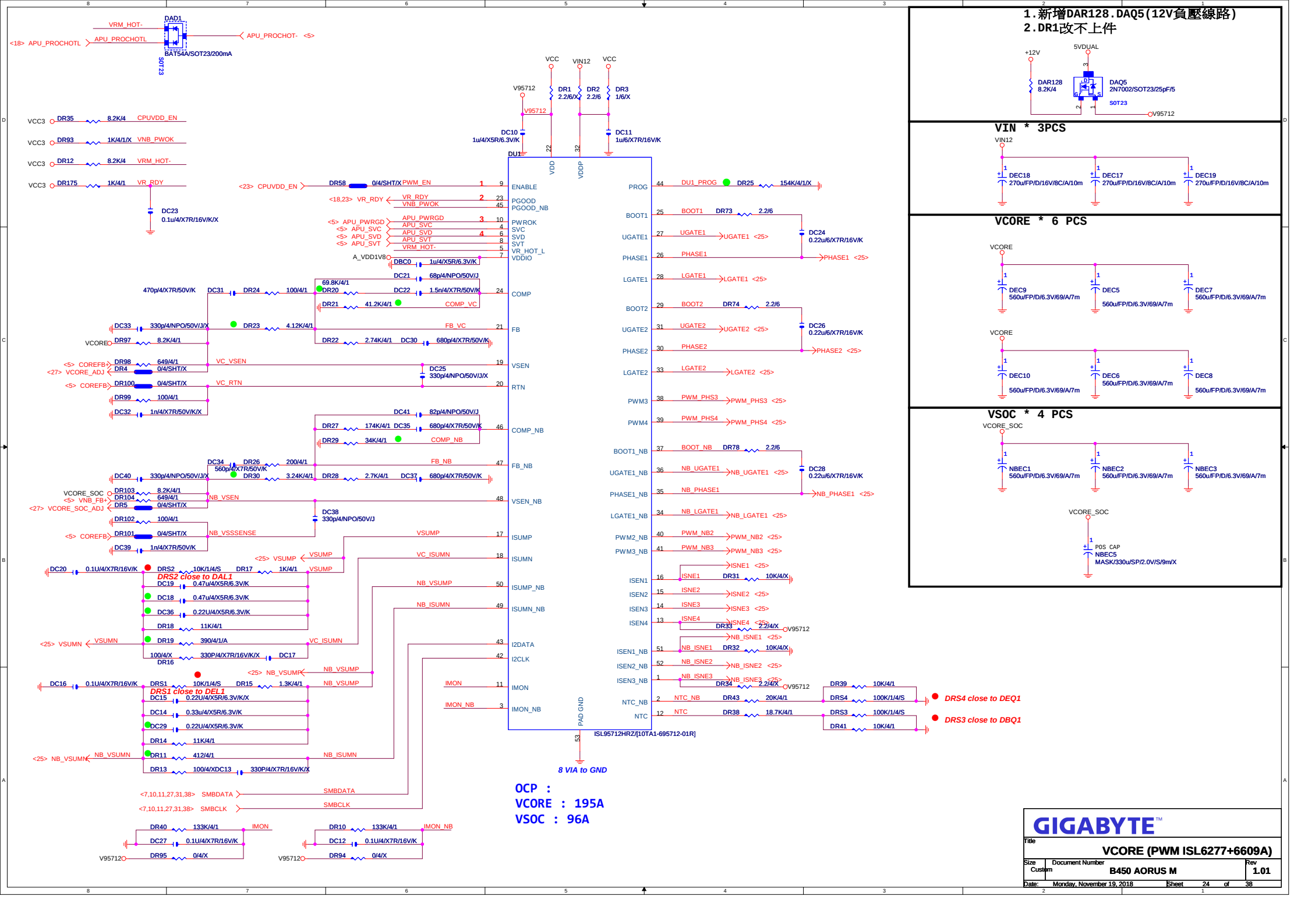
VCC3 SQR1 8.2K/4
SQD1
<7,18> SLP_S3- SLP_S3-
<7> S0A3_GPIO S0A3_GPIO
GLOBE_S3- GLOBE_S3- <20,27,28>
BAT54A/SOT23/200mA S0T23
SQC2 0.1U/4/X7R/16V/K/X

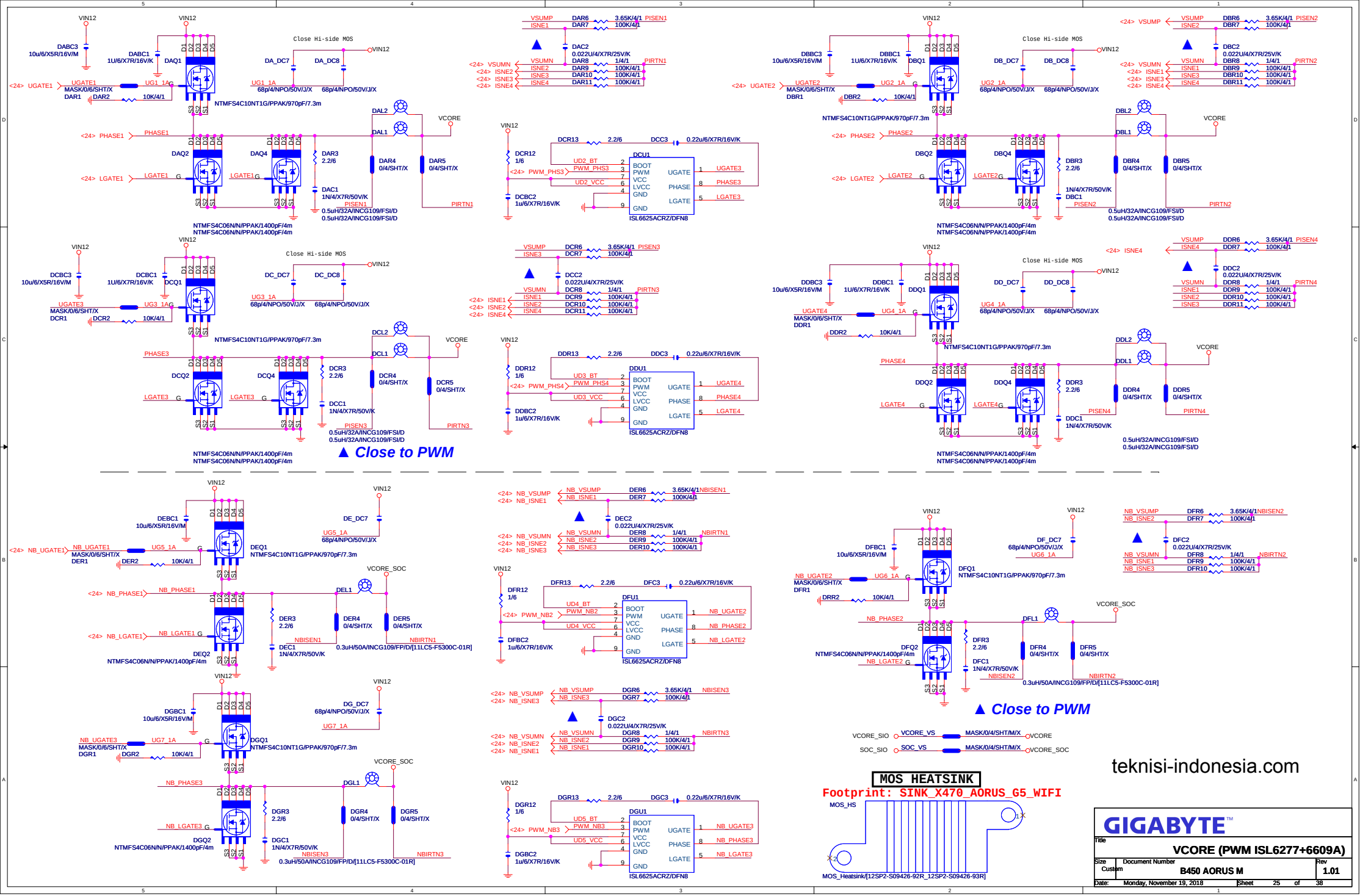
VCC3 SQR2 39K/4/1/A
SQD2
<18,24> VR_RDY
PCH_1V0_GD
APU_PWOK <7>
BAT54A/SOT23/200mA S0T23
SQR3 100K/4/1
SQC1 2.2u/4/X5R/6.3V/M
SQD3
PM_PWROK
VDDIO_MEM_PG
BAT54A/SOT23/200mA S0T23
SQD4
<27> VPP_MEM_PG
BAT54A/SOT23/200mA S0T23

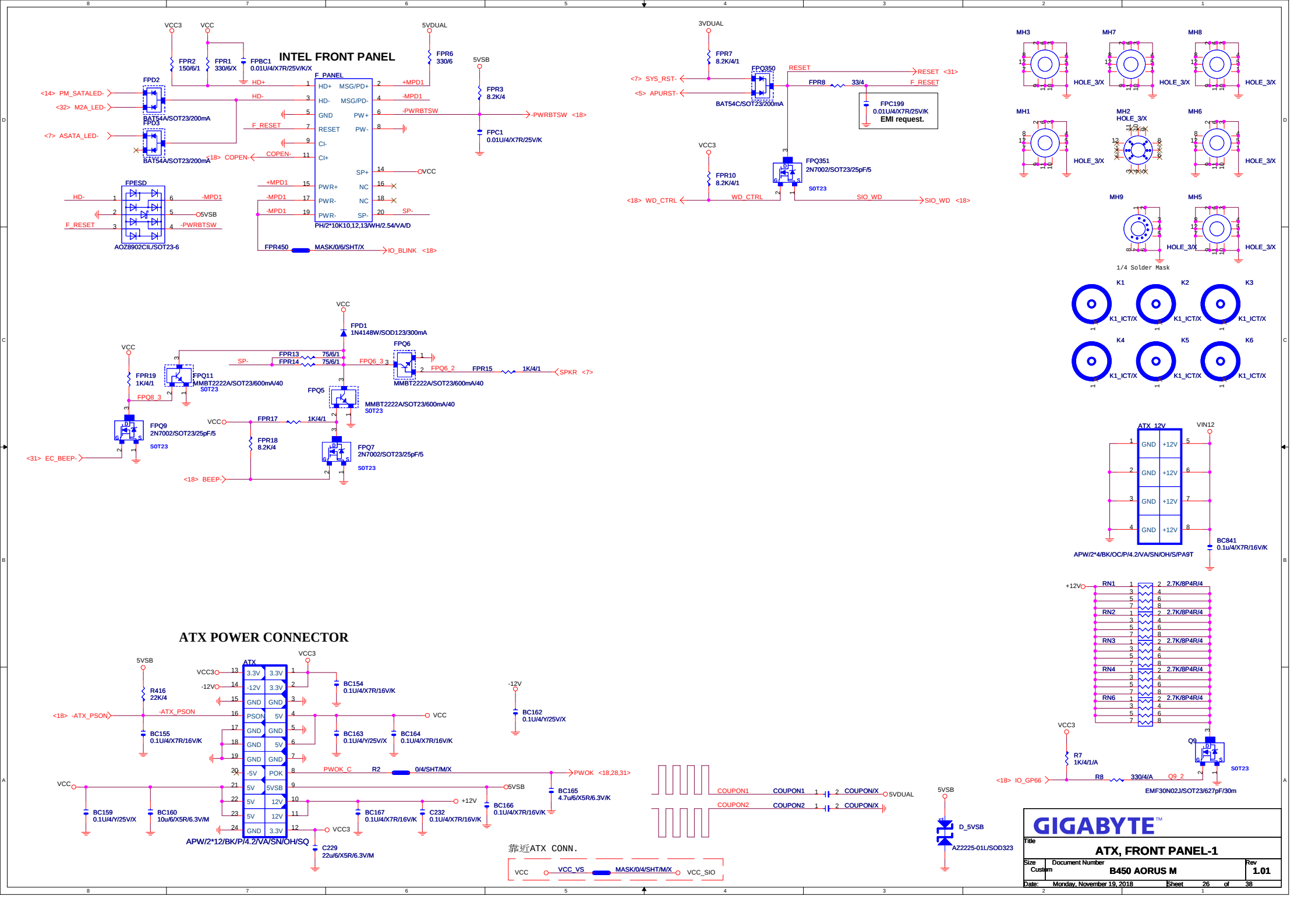
OK
3VDUAL
Q66 2N7002/SOT23/25pF/5
R361 8.2K/4
Q66_2
CPUVDD_EN <24>
Q65 MMBT2222A/SOT23/600mA/40 S0T23
VDDIO_MEM R348 1K/4/1
Q65_2
R365 8.2K/4/1/X
<5,27> AM4R1
D47 BAT54A/SOT23/200mA S0T23
C226 2.2U/6/X5R/6.3V/K/X
VCC3 R1 8.2K/4
VDDIO_MEM_PG
Q1 2N7002/SOT23/25pF/5
Q66_2

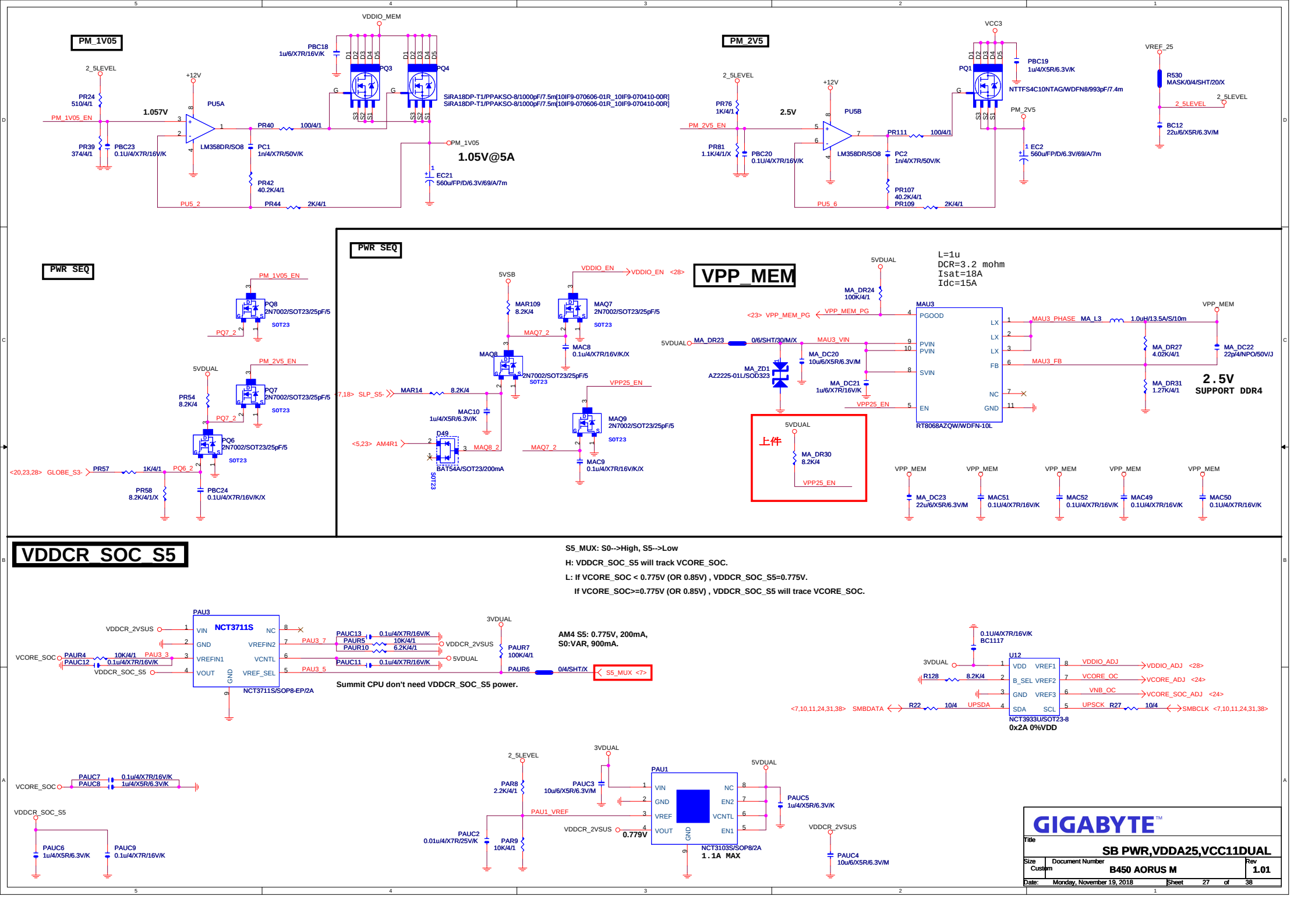
VCC3 PR83 8.2K/4
PM_PWROK <12>
5VDUAL
R360 8.2K/4
Q64 2N7002/SOT23/25pF/5
Q64_2
Q63 MMBT2222A/SOT23/600mA/40 S0T23
PM_1V05 R347 10K/4/1
Q63_2
R363 1K/4/1/X
C227 2.2U/4/X5R/6.3V/M
Q67 MMBT2222A/SOT23/600mA/40 S0T23
PM_2V5 R349 2.49K/4/1
Q67_2
R364 1K/4/1
C228 2.2U/6/X5R/6.3V/K/X

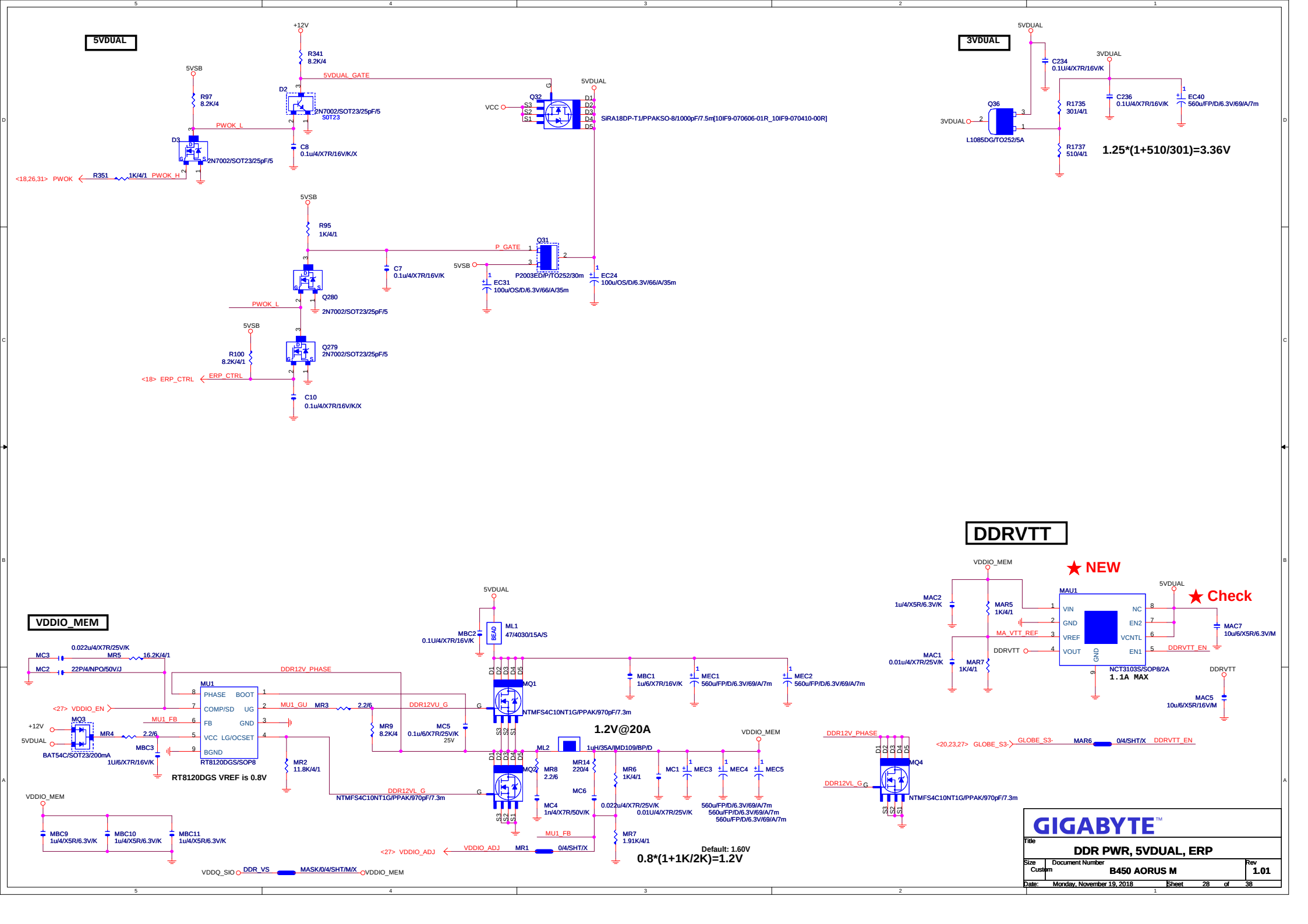
GIGABYTE™
Title: POWER SEQUENCE
Size: Custom
Document Number: B450 AORUS M
Rev: 1.01
Date: Monday, November 19, 2018
Sheet 23 of 38


1.新增DAR128.DAQ5(12V負壓線路)
2.DR1改不上件
+12V
5VDUAL
DAR128
8.2K/4
DAQ5
2N7002/SOT23/25pF/5
SOT23
V95712
VIN * 3PCS
VIN12
DEC18
270u/FP/D/16V/8C/A/10m
DEC17
270u/FP/D/16V/8C/A/10m
DEC19
270u/FP/D/16V/8C/A/10m
VCORE * 6 PCS
VCORE
DEC9
560u/FP/D/6.3V/69/A/7m
DEC5
560u/FP/D/6.3V/69/A/7m
DEC7
560u/FP/D/6.3V/69/A/7m
DEC10
560u/FP/D/6.3V/69/A/7m
DEC6
560u/FP/D/6.3V/69/A/7m
DEC8
560u/FP/D/6.3V/69/A/7m
VSOC * 4 PCS
VCORE_SOC
NBEC1
560u/FP/D/6.3V/69/A/7m
NBEC2
560u/FP/D/6.3V/69/A/7m
NBEC3
560u/FP/D/6.3V/69/A/7m
VCORE_SOC
POS CAP
NBEC5
MASK/330u/SP/2.0V/S/9m/X
DAD1
BAT54A/SOT23/200mA
SOT23
VRM_HOT-
APU_PROCHOTL
APU_PROCHOTL
APU_PROCHOTL- <5>
VCC
VIN12
VCC
V95712
DR1 2.2/6/X
DR2 2.2/6
DR3 1/6/X
DC10 1u/4/X5R/6.3V/K
DC11 1u/6/X7R/16V/K
DU1
VDD
VDDP
ENABLE
PGOOD
PGOOD_NB
PWROK
SVC
SVD
SVT
VR_HOT_L
VDDIO
COMP
FB
VSEN
RTN
COMP_NB
FB_NB
VSEN_NB
ISUMP
ISUMN
ISUMP_NB
ISUMN_NB
I2DATA
I2CLK
IMON
IMON_NB
PAD GND
PROG
BOOT1
UGATE1
PHASE1
LGATE1
BOOT2
UGATE2
PHASE2
LGATE2
PWM3
PWM4
BOOT1_NB
UGATE1_NB
PHASE1_NB
LGATE1_NB
PWM2_NB
PWM3_NB
ISEN1
ISEN2
ISEN3
ISEN4
ISEN1_NB
ISEN2_NB
ISEN3_NB
NTC_NB
NTC
ISL95712HRZ/[10TA1-695712-01R]
8 VIA to GND
DRS2 close to DAL1
DRS1 close to DEL1
DRS4 close to DEQ1
DRS3 close to DBQ1
OCP :
VCORE : 195A
VSOC : 96A
SMBDATA
SMBCLK
IMON
IMON_NB
VCORE (PWM ISL6277+6609A)
B450 AORUS M
Rev 1.01
Monday, November 19, 2018
Sheet 24 of 38


VIN12
DABC3 10u/6/X5R/16V/M
DABC1 1U/6/X7R/16V/K
DAQ1
UGATE1
MASK/0/6/SHT/X
DAR1
DAR2
10K/4/1
UG1_1A
68p/4/NPO/50V/J/X
Close Hi-side MOS
DA_DC7
DA_DC8
NTMFS4C10NT1G/PPAK/970pF/7.3m
PHASE1
DAQ2
DAQ4
LGATE1
DAR3 2.2/6
DAC1 1N/4/X7R/50V/K
PISEN1
0.5uH/32A/INCG109/FSI/D
DAL2
DAL1
VCORE
DAR4 0/4/SHT/X
DAR5 0/4/SHT/X
PIRTN1
NTMFS4C06N/N/PPAK/1400pF/4m
VSUMP
VSUMN
ISNE1
ISNE2
ISNE3
ISNE4
DAR6 3.65K/4/1
DAR7 100K/4/1
PISEN1
DAC2 0.022U/4/X7R/25V/K
DAR8 1/4/1
DAR9 100K/4/1
DAR10 100K/4/1
DAR11 100K/4/1
PIRTN1
DCR13 2.2/6
DCC3 0.22u/6/X7R/16V/K
DCR12 1/6
DCBC2 1u/6/X7R/16V/K
PWM_PHS3
UD2_BT
UD2_VCC
DCU1
BOOT
PWM
VCC
LVCC
GND
UGATE
PHASE
LGATE
UGATE3
PHASE3
LGATE3
ISL6625ACRZ/DFN8
DBBC3 10u/6/X5R/16V/M
DBBC1 1U/6/X7R/16V/K
DBQ1
UGATE2
DBR1
DBR2
DB_DC7
DB_DC8
UG2_1A
DBC2 0.022U/4/X7R/25V/K
DBR8 1/4/1
DBR9 100K/4/1
DBR10 100K/4/1
DBR11 100K/4/1
PIRTN2
DBL2
DBL1
DBQ2
DBQ4
LGATE2
DBR3 2.2/6
DBR4 0/4/SHT/X
DBR5 0/4/SHT/X
DBC1 1N/4/X7R/50V/K
PISEN2
PIRTN2
DCBC3 10u/6/X5R/16V/M
DCBC1 1U/6/X7R/16V/K
DCQ1
UGATE3
DCR1
DCR2
UG3_1A
DC_DC7
DC_DC8
DCL2
DCL1
DCQ2
DCQ4
DCR3 2.2/6
DCC1 1N/4/X7R/50V/K
DCR4 0/4/SHT/X
DCR5 0/4/SHT/X
PISEN3
PIRTN3
DCC2 0.022U/4/X7R/25V/K
DCR8 1/4/1
DCR9 100K/4/1
DCR10 100K/4/1
DCR11 100K/4/1
DCR6 3.65K/4/1
DCR7 100K/4/1
DDR13 2.2/6
DDC3 0.22u/6/X7R/16V/K
DDR12 1/6
DDBC2 1u/6/X7R/16V/K
DDU1
UGATE4
PHASE4
LGATE4
DDBC3 10u/6/X5R/16V/M
DDBC1 1U/6/X7R/16V/K
DDQ1
DDR2
DD_DC7
DD_DC8
UG4_1A
DDL2
DDL1
DDQ2
DDQ4
DDR3 2.2/6
DDC1 1N/4/X7R/50V/K
DDR4 0/4/SHT/X
DDR5 0/4/SHT/X
PISEN4
PIRTN4
DDC2 0.022U/4/X7R/25V/K
DDR8 1/4/1
DDR9 100K/4/1
DDR10 100K/4/1
DDR11 100K/4/1
DDR6 3.65K/4/1
DDR7 100K/4/1
0.5uH/32A/INCG109/FSI/D
▲ Close to PWM
NB_UGATE1
NB_PHASE1
NB_LGATE1
DEBC1 10u/6/X5R/16V/M
DEQ1
DEQ2
DE_DC7
UG5_1A
DEL1
DER3 2.2/6
DEC1 1N/4/X7R/50V/K
DER4 0/4/SHT/X
DER5 0/4/SHT/X
NBISEN1
NBIRTN1
0.3uH/50A/INCG109/FP/D/[11LC5-F5300C-01R]
VCORE_SOC
NB_VSUMP
NB_VSUMN
NB_ISNE1
NB_ISNE2
NB_ISNE3
DER6 3.65K/4/1
DER7 100K/4/1
NBISEN1
DEC2 0.022U/4/X7R/25V/K
DER8 1/4/1
DER9 100K/4/1
DER10 100K/4/1
NBIRTN1
DFR13 2.2/6
DFC3 0.22u/6/X7R/16V/K
DFR12 1/6
DFBC2 1u/6/X7R/16V/K
DFU1
NB_UGATE2
NB_PHASE2
NB_LGATE2
DFBC1 10u/6/X5R/16V/M
DFQ1
DFQ2
DF_DC7
UG6_1A
DFL1
DFR3 2.2/6
DFC1 1N/4/X7R/50V/K
DFR4 0/4/SHT/X
DFR5 0/4/SHT/X
NBISEN2
NBIRTN2
DFR6 3.65K/4/1
DFR7 100K/4/1
DFC2 0.022U/4/X7R/25V/K
DFR8 1/4/1
DFR9 100K/4/1
DFR10 100K/4/1
DGBC1 10u/6/X5R/16V/M
DGQ1
DGQ2
DG_DC7
UG7_1A
DGL1
DGR3 2.2/6
DGC1 1N/4/X7R/50V/K
DGR4 0/4/SHT/X
DGR5 0/4/SHT/X
NBISEN3
NBIRTN3
DGR6 3.65K/4/1
DGR7 100K/4/1
DGC2 0.022U/4/X7R/25V/K
DGR8 1/4/1
DGR9 100K/4/1
DGR10 100K/4/1
DGR13 2.2/6
DGC3 0.22u/6/X7R/16V/K
DGR12 1/6
DGBC2 1u/6/X7R/16V/K
DGU1
NB_UGATE3
NB_PHASE3
NB_LGATE3
VCORE_SIO
SOC_SIO
VCORE_VS
SOC_VS
MASK/0/4/SHT/M/X
MOS HEATSINK
Footprint: SINK_X470_AORUS_G5_WIFI
MOS_HS
MOS_Heatsink/[12SP2-S09426-92R_12SP2-S09426-93R]
teknisi-indonesia.com
GIGABYTE
Title
VCORE (PWM ISL6277+6609A)
Size
Custom
Document Number
B450 AORUS M
Rev
1.01
Date: Monday, November 19, 2018
Sheet 25 of 38


INTEL FRONT PANEL
F_PANEL
PH/2*10K10,12,13/WH/2.54/VA/D
FPD2
FPD3
BAT54A/SOT23/200mA
FPESD
AOZ8902CiL/SOT23-6
FPD1
1N4148W/SOD123/300mA
FPQ6
FPQ11
FPQ5
FPQ9
FPQ7
MMBT2222A/SOT23/600mA/40
2N7002/SOT23/25pF/5
S0T23
ATX POWER CONNECTOR
ATX
APW/2*12/BK/P/4.2/VA/SN/OH/SQ
靠近ATX CONN.
FPQ350
BAT54C/SOT23/200mA
FPQ351
EMI request.
MH1
MH2
MH3
MH5
MH6
MH7
MH8
MH9
HOLE_3/X
1/4 Solder Mask
K1
K2
K3
K4
K5
K6
K1_ICT/X
ATX_12V
APW/2*4/BK/OC/P/4.2/VA/SN/OH/S/PA9T
RN1
RN2
RN3
RN4
RN6
2.7K/8P4R/4
EMF30N02J/SOT23/627pF/30m
D_5VSB
AZ2225-01L/SOD323
GIGABYTE
ATX, FRONT PANEL-1
B450 AORUS M
1.01
Monday, November 19, 2018
26
38


PM_1V05
VDDIO_MEM
PBC18
1u/6/X7R/16V/K
PQ3
PQ4
SiRA18DP-T1/PPAKSO-8/1000pF/7.5m[10IF9-070606-01R_10IF9-070410-00R]
SiRA18DP-T1/PPAKSO-8/1000pF/7.5m[10IF9-070606-01R_10IF9-070410-00R]
2_5LEVEL
PR24
510/4/1
1.057V
+12V
PU5A
PM_1V05_EN
PR39
374/4/1
PBC23
0.1U/4/X7R/16V/K
LM358DR/SO8
PR40
100/4/1
PC1
1n/4/X7R/50V/K
PR42
40.2K/4/1
PU5_2
PR44
2K/4/1
PM_1V05
1.05V@5A
EC21
560u/FP/D/6.3V/69/A/7m
PM_2V5
VCC3
PBC19
1u/4/X5R/6.3V/K
PQ1
NTTFS4C10NTAG/WDFN8/993pF/7.4m
PR76
1K/4/1
2.5V
PU5B
PM_2V5_EN
PR81
1.1K/4/1/X
PBC20
0.1U/4/X7R/16V/K
PR111
100/4/1
PC2
1n/4/X7R/50V/K
PR107
40.2K/4/1
PR109
2K/4/1
PU5_6
PM_2V5
EC2
560u/FP/D/6.3V/69/A/7m
VREF_25
R530
MASK/0/4/SHT/20/X
BC12
22u/6/X5R/6.3V/M
PWR SEQ
PM_1V05_EN
PQ8
2N7002/SOT23/25pF/5
SOT23
PQ7_2
PM_2V5_EN
5VDUAL
PR54
8.2K/4
PQ7
PQ6
PQ6_2
<20,23,28> GLOBE_S3-
PR57
1K/4/1
PR58
8.2K/4/1/X
PBC24
0.1U/4/X7R/16V/K/X
PWR SEQ
5VSB
VDDIO_EN
VDDIO_EN <28>
MAR109
8.2K/4
MAQ7
2N7002/SOT23/25pF/5
MAQ7_2
MAC8
0.1u/4/X7R/16V/K/X
MAQ8
2N7002/SOT23/25pF/5
VPP25_EN
<7,18> SLP_S5-
MAR14
8.2K/4
MAC10
1u/4/X5R/6.3V/K
MAQ9
2N7002/SOT23/25pF/5
MAQ8_2
MAC9
0.1u/4/X7R/16V/K/X
<5,23> AM4R1
D49
BAT54A/SOT23/200mA
VPP_MEM
L=1u
DCR=3.2 mohm
Isat=18A
Idc=15A
5VDUAL
MA_DR24
100K/4/1
<23> VPP_MEM_PG
VPP_MEM_PG
MAU3
PGOOD
MA_DR23
0/6/SHT/30/M/X
MAU3_VIN
PVIN
MA_DC20
10u/6/X5R/6.3V/M
MA_ZD1
AZ2225-01L/SOD323
SVIN
MA_DC21
1u/6/X7R/16V/K
VPP25_EN
EN
LX
FB
NC
GND
RT8068AZQW/WDFN-10L
MAU3_PHASE
MA_L3
1.0uH/13.5A/S/10m
MAU3_FB
MA_DR27
4.02K/4/1
MA_DR31
1.27K/4/1
MA_DC22
22p/4/NPO/50V/J
2.5V
SUPPORT DDR4
上件
MA_DR30
8.2K/4
MA_DC23
22u/6/X5R/6.3V/M
MAC51
0.1U/4/X7R/16V/K
MAC52
0.1U/4/X7R/16V/K
MAC49
0.1U/4/X7R/16V/K
MAC50
0.1U/4/X7R/16V/K
VDDCR_SOC_S5
S5_MUX: S0-->High, S5-->Low
H: VDDCR_SOC_S5 will track VCORE_SOC.
L: If VCORE_SOC < 0.775V (OR 0.85V) , VDDCR_SOC_S5=0.775V.
If VCORE_SOC>=0.775V (OR 0.85V) , VDDCR_SOC_S5 will trace VCORE_SOC.
PAU3
NCT3711S
VDDCR_2VSUS
VIN
GND
VREFIN1
VOUT
NC
VREFIN2
VCNTL
VREF_SEL
NCT3711S/SOP8-EP/2A
VCORE_SOC
PAUR4
PAUC12
10K/4/1
0.1u/4/X7R/16V/K
PAU3_3
VDDCR_SOC_S5
PAU3_7
PAU3_5
PAUC13
0.1u/4/X7R/16V/K
PAUR5
10K/4/1
PAUR10
6.2K/4/1
PAUC11
0.1u/4/X7R/16V/K
3VDUAL
PAUR7
100K/4/1
PAUR6
0/4/SHT/X
S5_MUX <7>
AM4 S5: 0.775V, 200mA,
S0:VAR, 900mA.
Summit CPU don't need VDDCR_SOC_S5 power.
0.1U/4/X7R/16V/K
BC1117
U12
3VDUAL
R128
8.2K/4
VDD
B_SEL
GND
SDA
VREF1
VREF2
VREF3
SCL
VDDIO_ADJ
VCORE_OC
VNB_OC
VCORE_SOC_ADJ <24>
<7,10,11,24,31,38> SMBDATA
R22
10/4
UPSDA
UPSCK
R27
10/4
SMBCLK <7,10,11,24,31,38>
NCT3933U/SOT23-8
0x2A 0%VDD
PAUC7
0.1u/4/X7R/16V/K
PAUC8
1u/4/X5R/6.3V/K
PAUC6
1u/4/X5R/6.3V/K
PAUC9
0.1u/4/X7R/16V/K
2_5LEVEL
PAR8
2.2K/4/1
PAUC3
10u/6/X5R/6.3V/M
PAU1
PAU1_VREF
PAUC2
0.01u/4/X7R/25V/K
PAR9
10K/4/1
0.779V
NCT3103S/SOP8/2A
1.1A MAX
5VDUAL
PAUC5
1u/4/X5R/6.3V/K
PAUC4
10u/6/X5R/6.3V/M
GIGABYTE
Title
SB PWR,VDDA25,VCC11DUAL
Size
Custom
Document Number
B450 AORUS M
Rev
1.01
Date:
Monday, November 19, 2018
Sheet
27
of
38


5VDUAL
+12V
R341
8.2K/4
5VDUAL_GATE
5VSB
R97
8.2K/4
D2
2N7002/SOT23/25pF/5
SOT23
PWOK_L
C8
0.1u/4/X7R/16V/K/X
D3
2N7002/SOT23/25pF/5
<18,26,31> PWOK
R351
1K/4/1
PWOK_H
VCC
Q32
SiRA18DP-T1/PPAKSO-8/1000pF/7.5m[10IF9-070606-01R_10IF9-070410-00R]
R95
1K/4/1
P_GATE
Q31
P2003EDP/PTO252/30m
C7
0.1u/4/X7R/16V/K
EC31
100u/OS/D/6.3V/66/A/35m
EC24
100u/OS/D/6.3V/66/A/35m
Q280
2N7002/SOT23/25pF/5
R100
8.2K/4/1
Q279
2N7002/SOT23/25pF/5
<18> ERP_CTRL
C10
0.1u/4/X7R/16V/K/X
3VDUAL
C234
0.1U/4/X7R/16V/K
C236
0.1U/4/X7R/16V/K
EC40
560u/FP/D/6.3V/69/A/7m
Q36
L1085DG/TO252/5A
R1735
301/4/1
R1737
510/4/1
1.25*(1+510/301)=3.36V
DDRVTT
★ NEW
★ Check
VDDIO_MEM
MAU1
MAC2
1u/4/X5R/6.3V/K
MAR5
1K/4/1
MA_VTT_REF
MAC1
0.01u/4/X7R/25V/K
MAR7
1K/4/1
VIN
GND
VREF
VOUT
NC
EN2
VCNTL
EN1
NCT3103S/SOP8/2A
1.1A MAX
DDRVTT_EN
MAC7
10u/6/X5R/6.3V/M
MAC5
10u/6/X5R/16V/M
VDDIO_MEM
MC3
0.022u/4/X7R/25V/K
MR5
16.2K/4/1
MC2
22P/4/NPO/50V/J
DDR12V_PHASE
<27> VDDIO_EN
MU1
PHASE
BOOT
COMP/SD
UG
FB
GND
VCC_LG/OCSET
BGND
RT8120DGS/SOP8
MU1_FB
MU1_GU
MR3
2.2/6
DDR12VU_G
MR9
8.2K/4
MC5
0.1u/6/X7R/25V/K
25V
+12V
5VDUAL
MQ3
BAT54C/SOT23/200mA
MR4
2.2/6
MBC3
1U/6/X7R/16V/K
MR2
11.8K/4/1
RT8120DGS VREF is 0.8V
5VDUAL
MBC2
0.1U/4/X7R/16V/K
BEAD
ML1
47/4030/15A/S
MQ1
NTMFS4C10NT1G/PPAK/970pF/7.3m
MBC1
1u/6/X7R/16V/K
MEC1
560u/FP/D/6.3V/69/A/7m
MEC2
560u/FP/D/6.3V/69/A/7m
1.2V@20A
ML2
1uH/35A/IMD109/BP/D
MQ2
NTMFS4C10NT1G/PPAK/970pF/7.3m
MR8
2.2/6
MR14
220/4
MR6
1K/4/1
MC1
MEC3
MEC4
MEC5
MC6
0.022u/4/X7R/25V/K
0.01U/4/X7R/25V/K
560u/FP/D/6.3V/69/A/7m
560u/FP/D/6.3V/69/A/7m
560u/FP/D/6.3V/69/A/7m
MC4
1n/4/X7R/50V/K
MR7
1.91K/4/1
MU1_FB
<27> VDDIO_ADJ
VDDIO_ADJ
MR1
0/4/SHT/X
Default: 1.60V
0.8*(1+1K/2K)=1.2V
VDDIO_MEM
MBC9
1u/4/X5R/6.3V/K
MBC10
1u/4/X5R/6.3V/K
MBC11
1u/4/X5R/6.3V/K
VDDQ_SIO
DDR_VS
MASK/0/4/SHT/M/X
VDDIO_MEM
DDR12V_PHASE
MQ4
NTMFS4C10NT1G/PPAK/970pF/7.3m
DDR12VL_G
<20,23,27> GLOBE_S3-
GLOBE_S3-
MAR6
0/4/SHT/X
DDRVTT_EN
GIGABYTE
Title
DDR PWR, 5VDUAL, ERP
Size
Custom
Document Number
B450 AORUS M
Rev
1.01
Date:
Monday, November 19, 2018
Sheet
28
of
38

LAN:RTL8118 R2.03

EMI SHORT PAD

PS:視EMI需求

LAN POWER

(CLOSE LAU1 PIN22,30,3,8)

LABC2:1U CLOSE PIN22[REALTEK REQ]

LAN POWER

note: lan power連接及電流

(CLOSE LAU1 PIN23)

LAN POWER

(CLOSE LAU1 PIN:11,32)

PWR SURGE

PWR SURGE

LABC18,27:CLOSE PIN11[REALTEK SURGE]

LABC14,20:CLOSE PIN32[REALTEK SURGE]

LAN POWER

(CLOSE LAU1 PIN24)

LAN POWER

note: lan power連接及電流

可變

RTL8111G(S)/8106E

RTL8118-CG/S/[10HP2-408118-20R]

FOR ERP WAKEUP

MASK/0/6/SHT/M/X

SRCCLK-->50歐姆:[18/4/10/4/18]

LA_ ML-->80歐姆:[15/5/5/5/15]

MDI ESD

AZC399-04S.R7G/SOT23-6L/[10DEF-510399-10R]

AZC399-04S.R7G/SOT23-6L/[10DEF-510399-10R]

L1+CLK REQ# 節能:

需對應LA_SRCCLK_LAN之CLKREQ#

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USB_LAN CONNECTOR

LAN 100 Ohm

USB 90 Ohm

USB3.0

USB31_LAN

USB3.1+LAN/1G/RE/GO,Y/OS/RA/D/1/15KV

AZ164S-04F.R7G/DFN10/[10DE2-510164-10R_10DE2-508809-10R]

AZ164S-04F.R7G/DFN10/[10DE2-510164-10R_10DE2-508809-10R]

AZC099-04S/SOT23-6L

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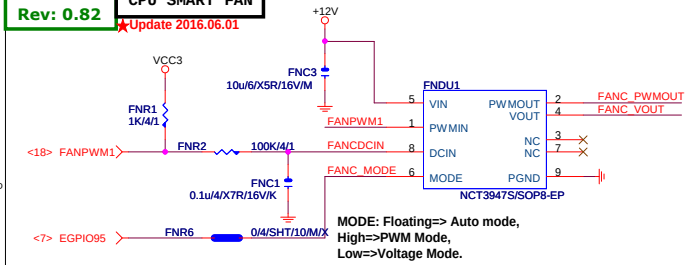
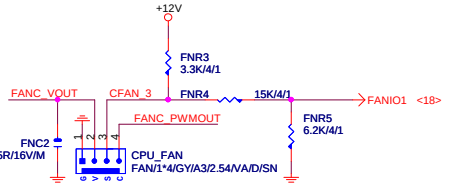
Title	RTL8111G , USB31	
Size: Custom	Document Number: B450 AORUS M	Rev: 1.01
Date: Monday, November 19, 2018	Sheet 29 of 38	

Rev: 0.82

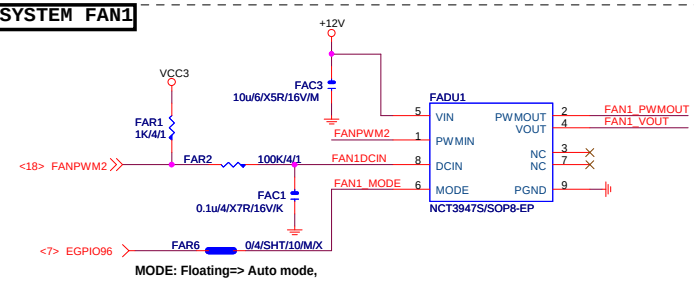
CPU SMART FAN

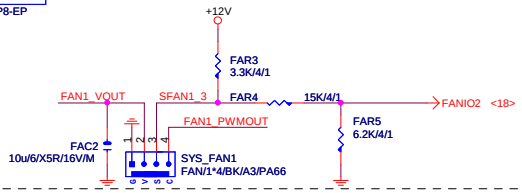
★Update 2016.06.01





SYSTEM FAN1





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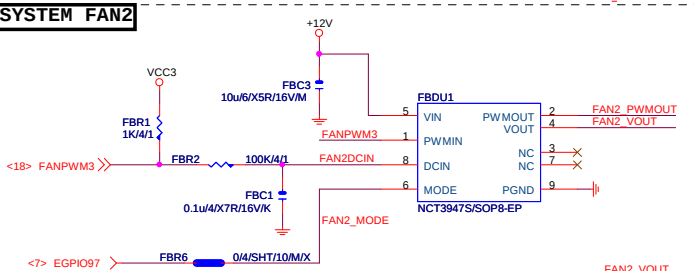
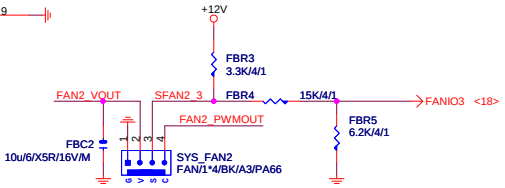
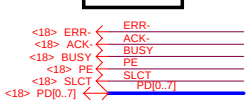
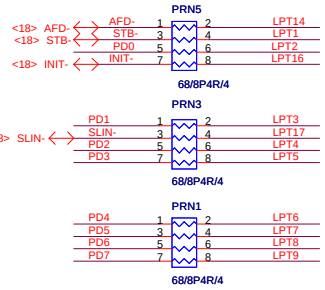
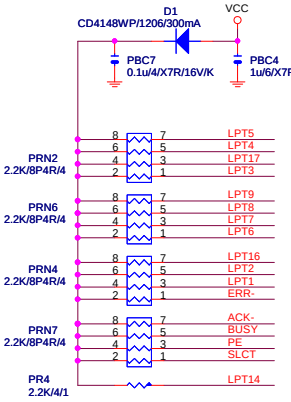


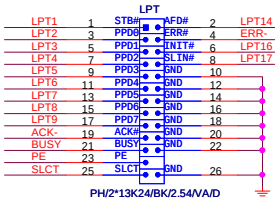


LPT PORT

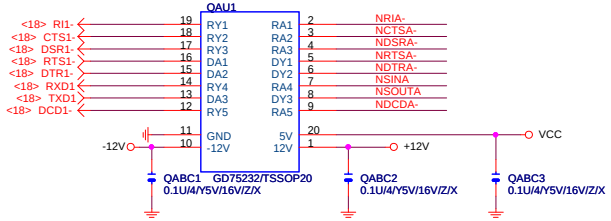


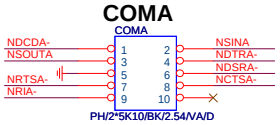


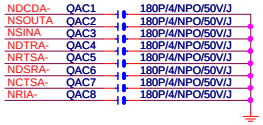


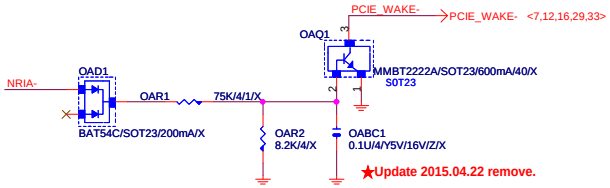


COM PORT









★Update 2015.04.22 remove.

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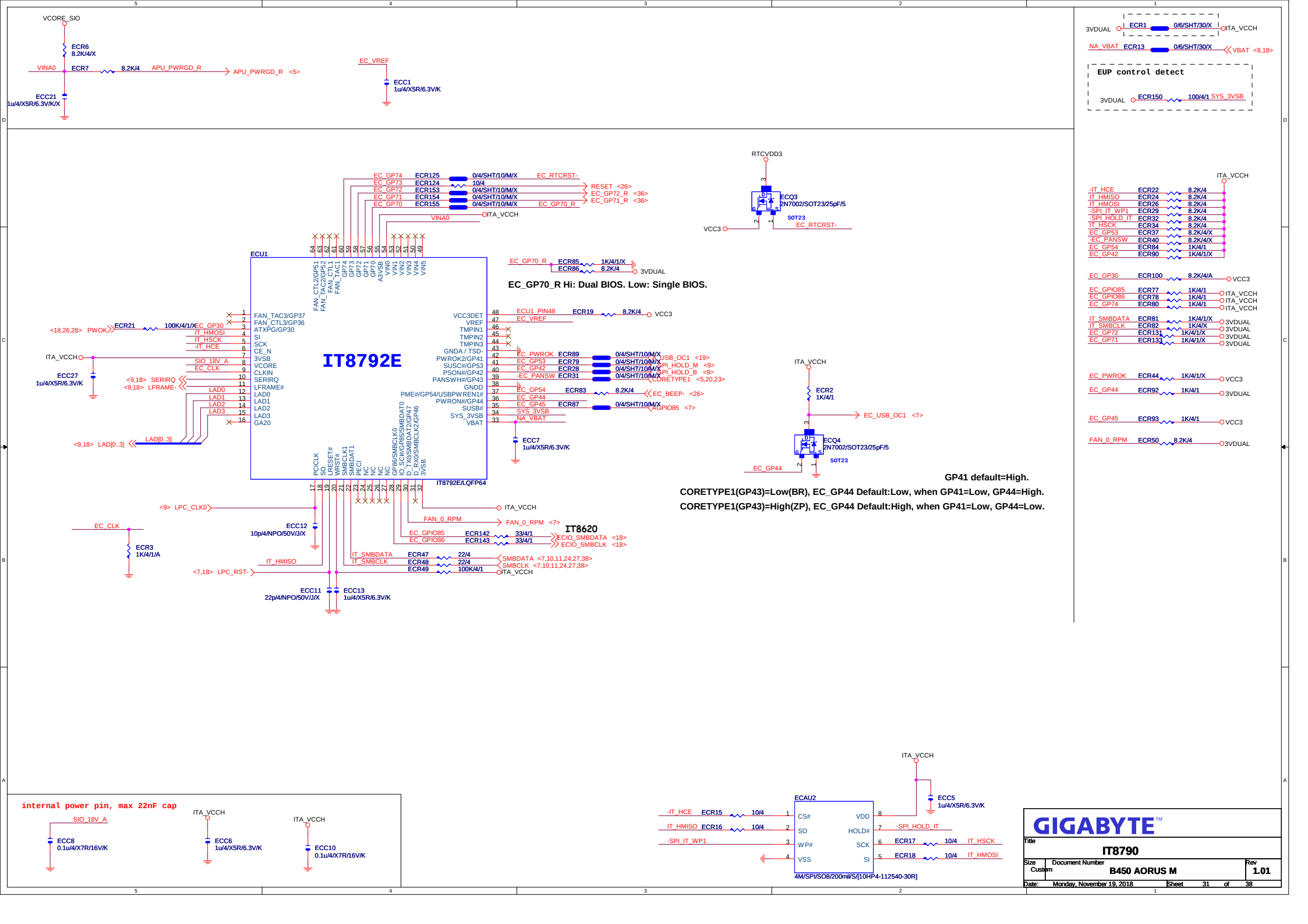
Size: Custom	Document Number: B450 AORUS M	Rev: 1.01
Date: Monday, November 19, 2018	Sheet 30 of 38	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VINA0
ECR7 8.2K/4 APU_PWRGD_R
APU_PWRGD_R <5>
ECC21 1u/4/X5R/6.3V/K/X
EC_VREF
ECC1 1u/4/X5R/6.3V/K
3VDUAL
ECR1 0/6/SHT/30/X
ITA_VCCH
NA_VBAT ECR13 0/6/SHT/30/X
VBAT <8,18>
EUP control detect
3VDUAL ECR150 100/4/1 SYS_3VSB
RTCVDD3
ECQ3 2N7002/SOT23/25pF/5
SOT23
VCC3
EC_RTCRST-
EC_GP74 ECR125 0/4/SHT/10/M/X EC_RTCRST-
EC_GP73 ECR124 10/4 RESET <26>
EC_GP72 ECR153 0/4/SHT/10/M/X EC_GP72_R <36>
EC_GP71 ECR154 0/4/SHT/10/M/X EC_GP71_R <36>
EC_GP70 ECR155 0/4/SHT/10/M/X EC_GP70_R
VINA0
ITA_VCCH
ECU1
IT8792E
IT8792E/LQFP64
EC_GP70_R ECR85 1K/4/1/X
ECR86 8.2K/4
3VDUAL
EC_GP70_R Hi: Dual BIOS. Low: Single BIOS.
ECU1_PIN48 ECR19 8.2K/4 VCC3
EC_VREF
EC_PWROK ECR89 0/4/SHT/10/M/X USB_OC1 <19>
EC_GP53 ECR79 0/4/SHT/10/M/X SPI_HOLD_M <9>
EC_GP42 ECR28 0/4/SHT/10/M/X SPI_HOLD_B <9>
-EC_PANSW ECR31 0/4/SHT/10/M/X CORETYPE1 <5,20,23>
EC_GP54 ECR83 8.2K/4 EC_BEEP- <26>
EC_GP44
EC_GP45 ECR87 0/4/SHT/10/M/X AGPIO85 <7>
SYS_3VSB
NA_VBAT
ECC7 1u/4/X5R/6.3V/K
<18,26,28> PWOK
ECR21 100K/4/1/X EC_GP30
IT_HMOSI
IT_HSCK
-IT_HCE
SIO_18V_A
EC_CLK
SERIRQ
LFRAME#
LAD0
LAD1
LAD2
LAD3
LAD[0..3]
ECC27 1u/4/X5R/6.3V/K
<9,18> SERIRQ
<9,18> LFRAME-
<9,18> LAD[0..3]
ITA_VCCH
ECR2 1K/4/1
EC_USB_OC1 <7>
ECQ4 2N7002/SOT23/25pF/5
SOT23
EC_GP44
GP41 default=High.
CORETYPE1(GP43)=Low(BR), EC_GP44 Default:Low, when GP41=Low, GP44=High.
CORETYPE1(GP43)=High(ZP), EC_GP44 Default:High, when GP41=Low, GP44=Low.
<9> LPC_CLK0
ECC12 10p/4/NPO/50V/J/X
EC_CLK
ECR3 1K/4/1/A
FAN_0_RPM
FAN_0_RPM <7>
IT8620
EC_GPIO85 ECR142 33/4/1 ECIO_SMBDATA <18>
EC_GPIO86 ECR143 33/4/1 ECIO_SMBCLK <18>
IT_SMBDATA ECR47 22/4 SMBDATA <7,10,11,24,27,38>
IT_SMBCLK ECR48 22/4 SMBCLK <7,10,11,24,27,38>
ECR49 100K/4/1
IT_HMISO
<7,18> LPC_RST-
ECC11 22p/4/NPO/50V/J/X
ECC13 1u/4/X5R/6.3V/K
-IT_HCE ECR22 8.2K/4
IT_HMISO ECR24 8.2K/4
IT_HMOSI ECR26 8.2K/4
-SPI_IT_WP1 ECR29 8.2K/4
-SPI_HOLD_IT ECR32 8.2K/4
IT_HSCK ECR34 8.2K/4
EC_GP53 ECR37 8.2K/4/X
-EC_PANSW ECR40 8.2K/4/X
EC_GP54 ECR84 1K/4/1
EC_GP42 ECR90 1K/4/1/X
EC_GP30 ECR100 8.2K/4/A VCC3
EC_GPIO85 ECR77 1K/4/1 ITA_VCCH
EC_GPIO86 ECR78 1K/4/1 ITA_VCCH
EC_GP74 ECR80 1K/4/1 ITA_VCCH
IT_SMBDATA ECR81 1K/4/1/X 3VDUAL
IT_SMBCLK ECR82 1K/4/X 3VDUAL
EC_GP72 ECR131 1K/4/1/X 3VDUAL
EC_GP71 ECR133 1K/4/1/X 3VDUAL
EC_PWROK ECR44 1K/4/1/X VCC3
EC_GP44 ECR92 1K/4/1 3VDUAL
EC_GP45 ECR93 1K/4/1 VCC3
FAN_0_RPM ECR50 8.2K/4 3VDUAL
internal power pin, max 22nF cap
SIO_18V_A
ECC8 0.1u/4/X7R/16V/K
ITA_VCCH
ECC6 1u/4/X5R/6.3V/K
ECC10 0.1u/4/X7R/16V/K
ECAU2
-IT_HCE ECR15 10/4
IT_HMISO ECR16 10/4
-SPI_IT_WP1
CS#
SO
WP#
VSS
VDD
HOLD#
SCK
SI
ECC5 1u/4/X5R/6.3V/K
-SPI_HOLD_IT
ECR17 10/4 IT_HSCK
ECR18 10/4 IT_HMOSI
4M/SPI/SO8/200mil/S/[10HP4-112540-30R]
GIGABYTE
Title
IT8790
Size Custom
Document Number B450 AORUS M
Rev 1.01
Date: Monday, November 19, 2018
Sheet 31 of 38

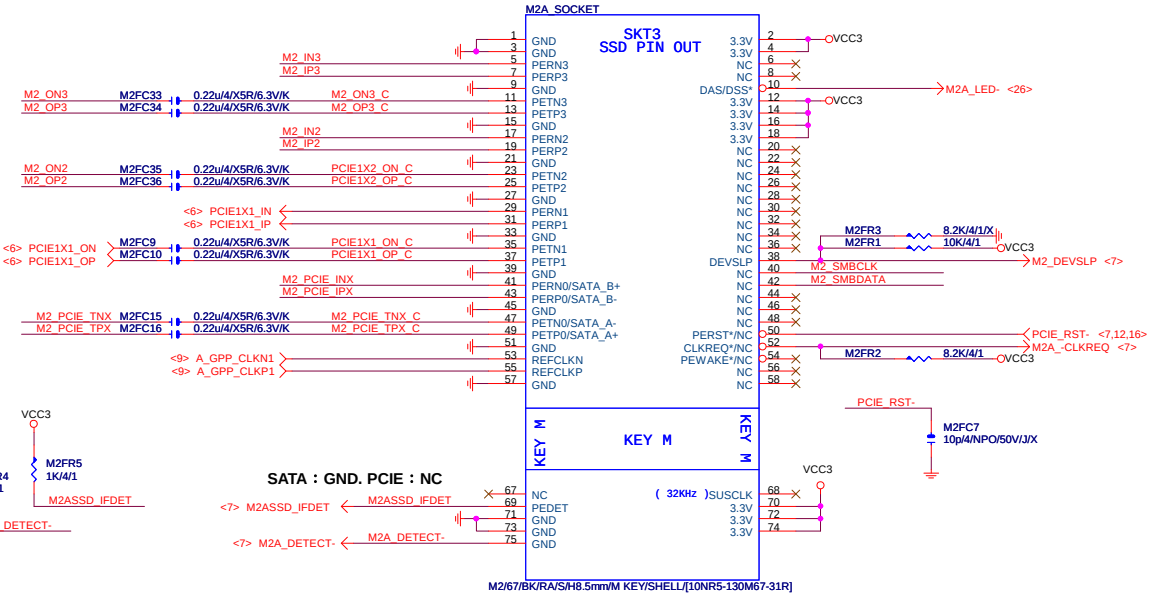
Rev 0.5

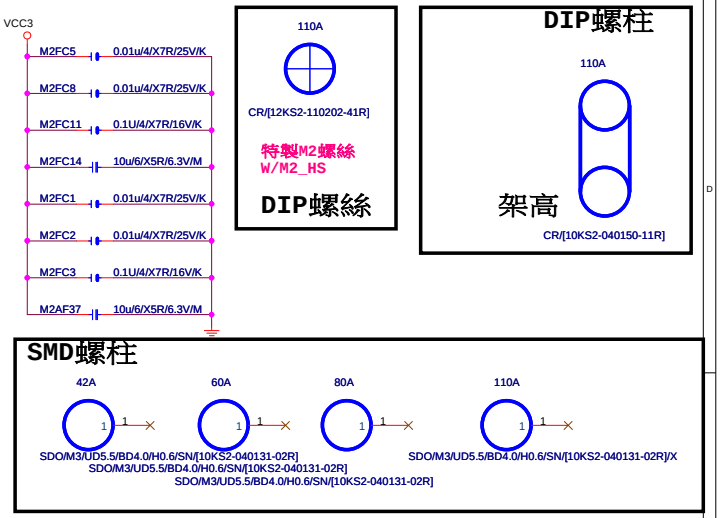
M.2 Lane4 from AM4 port3

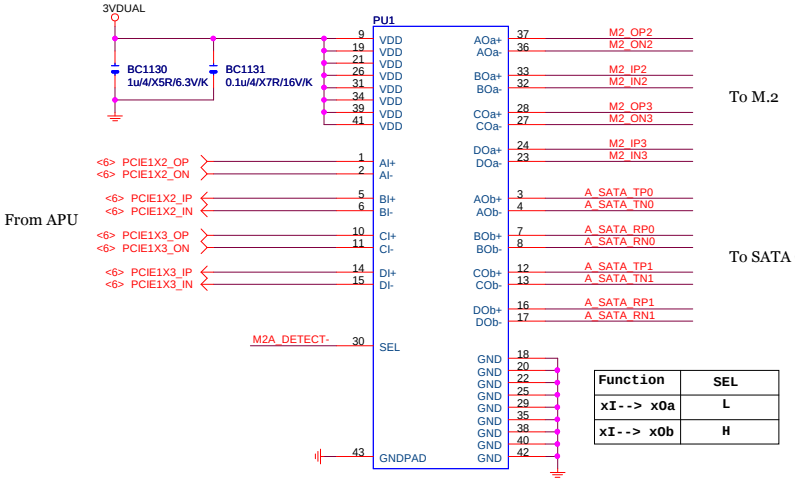
M.2 Lane4 from AM4 port2

M.2 Lane4 from AM4 port1

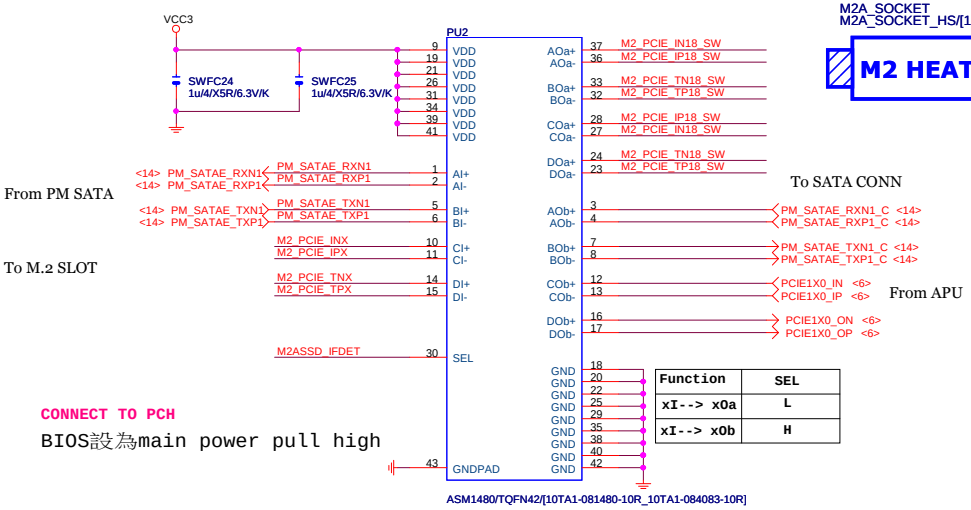
by SWITCH Select





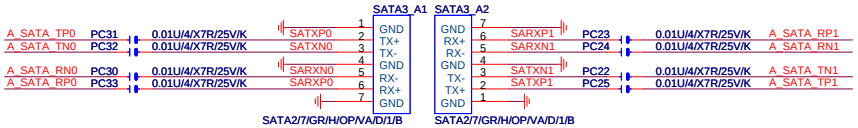


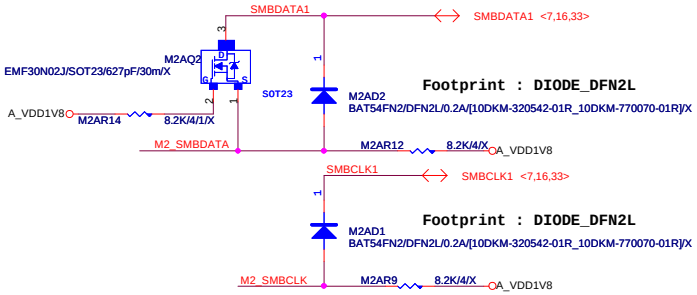
Function	SEL
xI--> xOa	L
xI--> xOb	H



Function	SEL
xI--> xOa	L
xI--> xOb	H

M2A_SOCKET
M2A_SOCKET_HS/[12SP1-S10205-32R_12SP1-S10205-33R]
M2 HEATSINK





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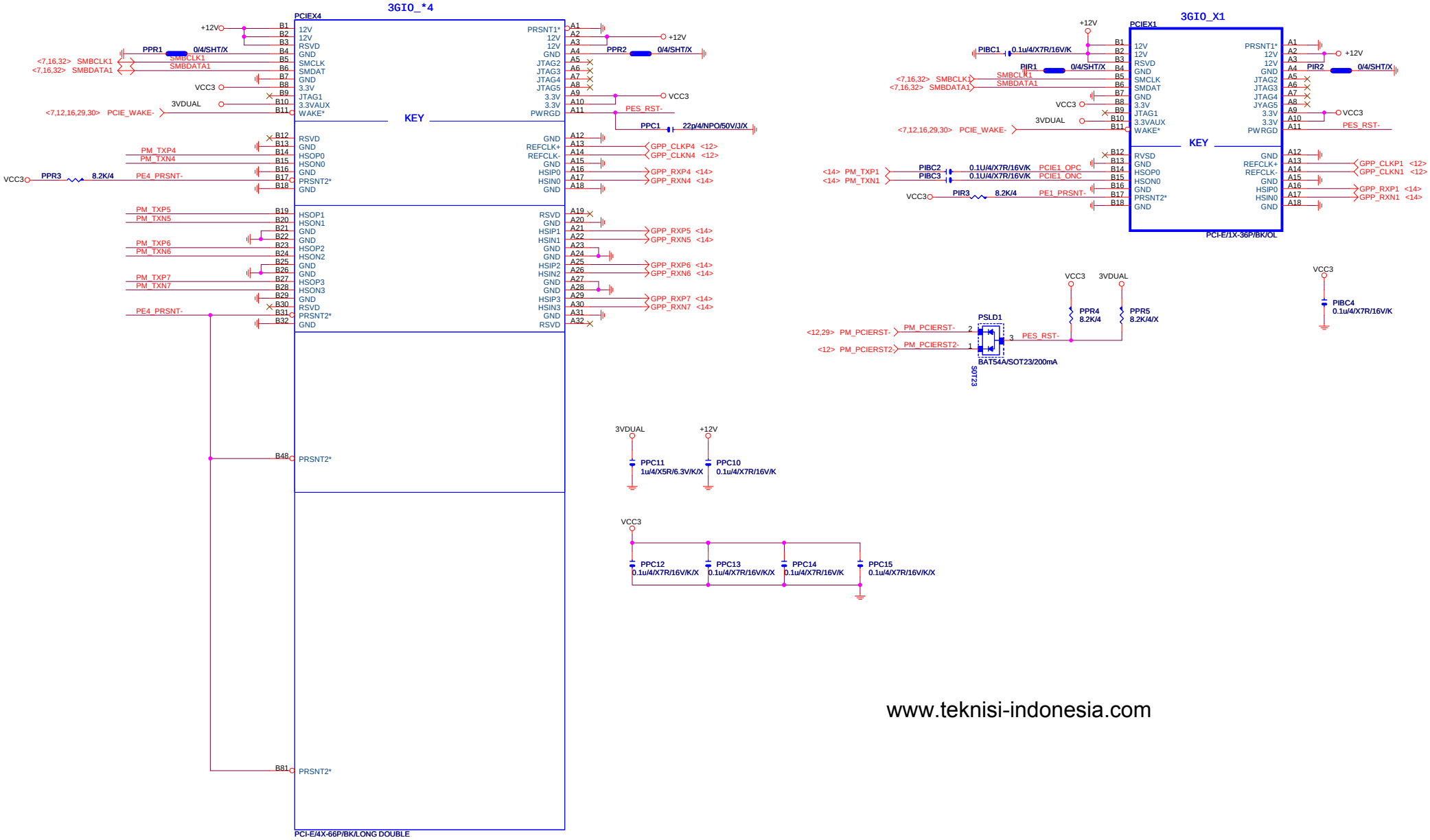
Size: Custom	Document Number: B450 AORUS M	Rev: 1.01
Date: Monday, November 19, 2018	Sheet 32 of 38	



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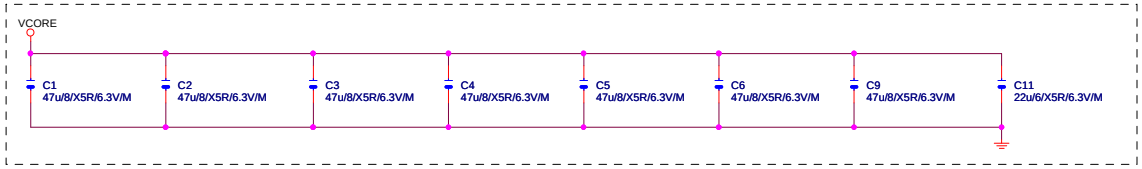
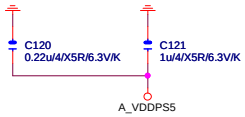
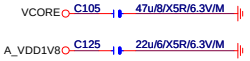
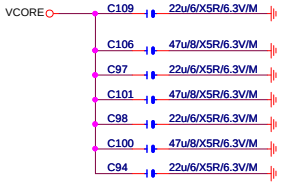
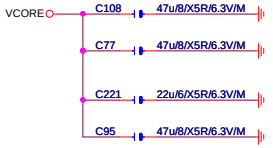
Title	PCIEx4 , PCIEx1	
Size: Custom	Document Number: B450 AORUS M	Rev: 1.01
Date: Monday, November 19, 2018	Sheet 33 of 38	

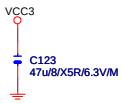


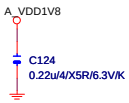


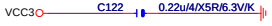


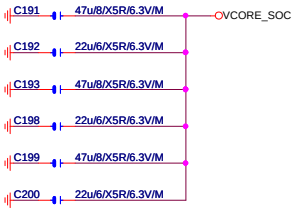


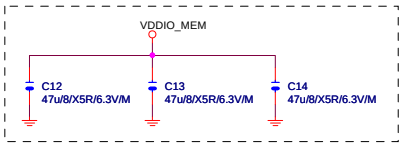


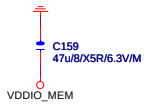


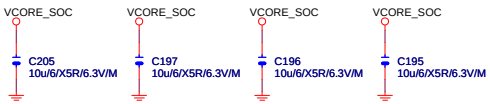












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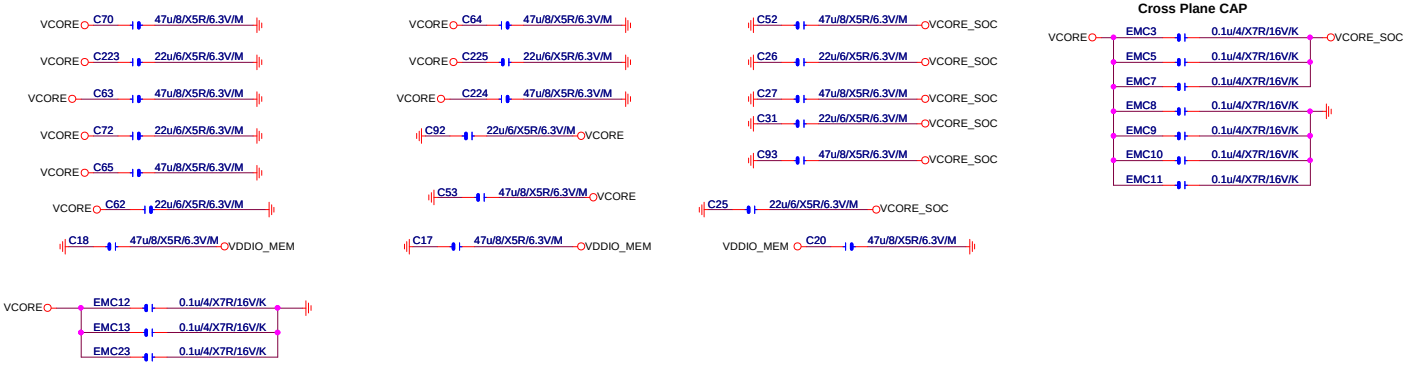
Title: CPU BOTTOM		
Size: Custom	Document Number: B450 AORUS M	Rev: 1.01
Date: Monday, November 19, 2018	Sheet 34 of 38	

CPU TOP CAVITY



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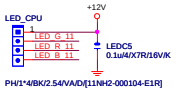
Title: CPU TOP		
Size: Custom	Document Number: B450 AORUS M	Rev: 1.01
Date: Monday, November 19, 2018	Sheet 35 of 38	

Rev 3.1

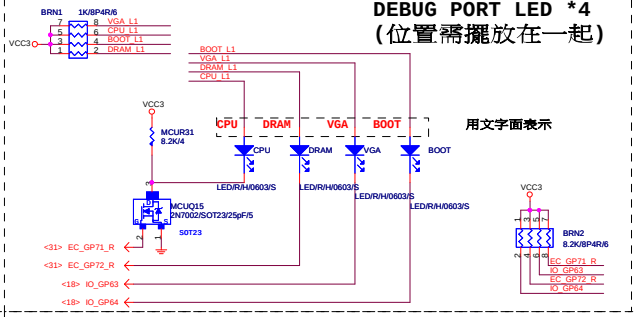
第一區 LED

FOR CPU 正發光 LED*4
(在CPU CHOKE之間,MOS_HS下方,不外露)

AMD CPU_FAN LED connector



DEBUG PORT LED *4
(位置需擺放在一起)



EC_GP71	CPU DEBUG
EC_GP72	DDR DEBUG
IO_GP63	VGA DEBUG
IO_GP64	BOOT DEVICE DEBUG
PM_GPIO6	software beat mode control
N_GPP_A22	
N_GPP_D12	

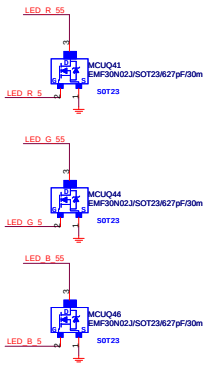
第二區 LED

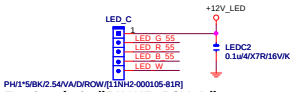
FOR DIMM 側發光 LED*12
(位置在DIMM兩側)

第五區 LED

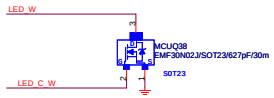
燈條 LED (LED_C1放在PCB左邊板邊位置)

第五區 LED CONTROL

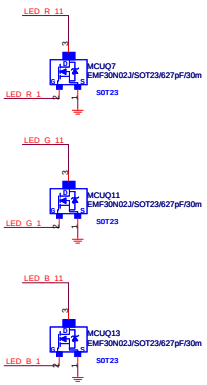


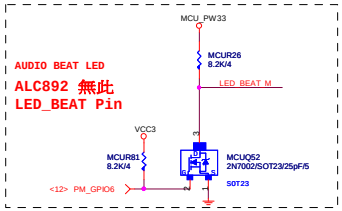


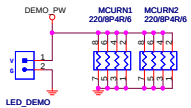
Footprint "PH1X5-ROW-L"



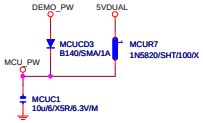
第一區 LED CONTROL

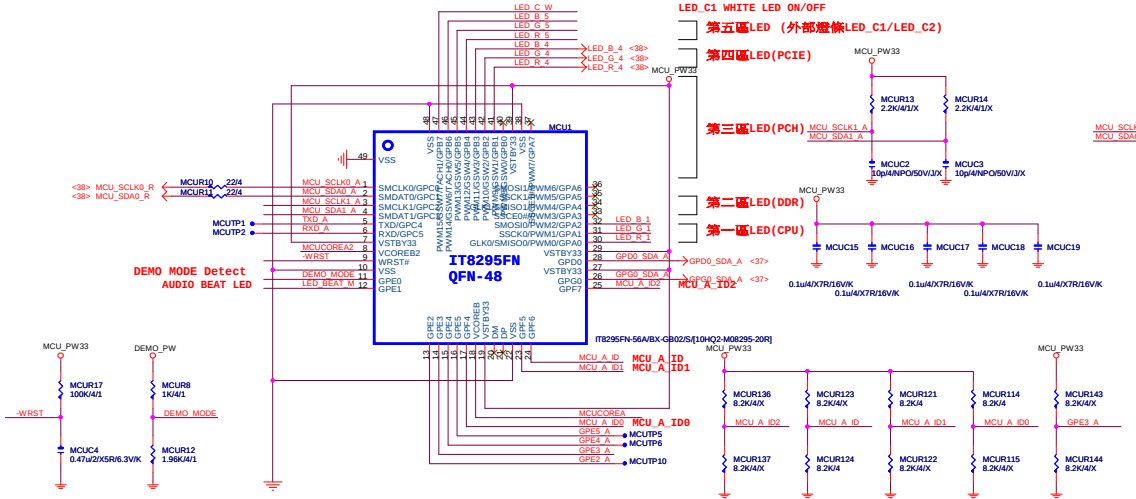






BATTERY CHARGE LOAD





LED_C1 WHITE LED ON/OFF

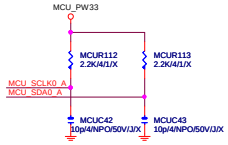
第五區LED (外部燈條LED_C1/LED_C2)

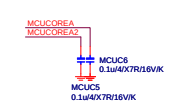
第四區LED(PCIE)

第三區LED(PCH)

第二區LED(DDR)

第一區LED(CPU)





Address:011

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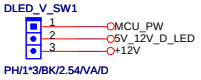
Title	CPU / AUDIO / PCIE/REAR LED	
Size: Custom	Document Number: B450 AORUS M	Rev: 1.01
Date: Monday, November 19, 2018	Sheet 36 of 38	

Rev 3.1

第六區 LED (靠近左上板邊位置)

DLED_V_SW1



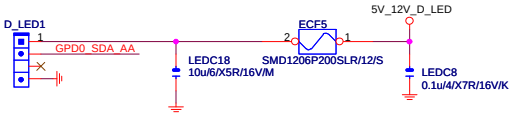
PH/1*3/BK/2.54/VA/D

DLED_V_SW1

DLED_V_SW1	
1-2	5V
2-3	12V

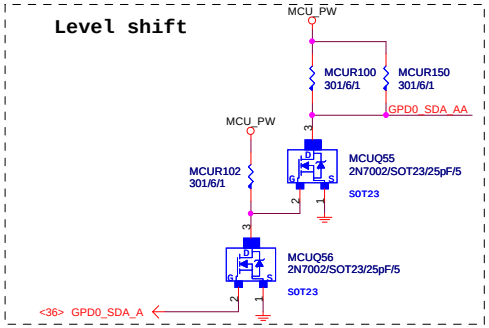
JP/1*2/BK/H/2.54/C/GF/[11NH1-000102-V1R]::[1-2]CLOSE

Digital LED Strip1



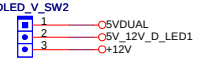
PH/1*4/BK/2.54/VA/D/[11NH2-000104-G1R]

Footprint "PH1X4-CUT3-LED-L"



第七區 LED (靠近右下DDR板邊位置)

DLED_V_SW2



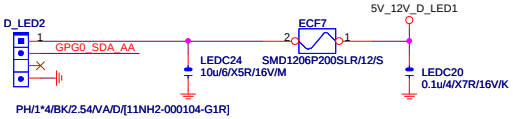
PH/1*3/BK/2.54/VA/D

DLED_V_SW2

DLED_V_SW2	
1-2	5V
2-3	12V

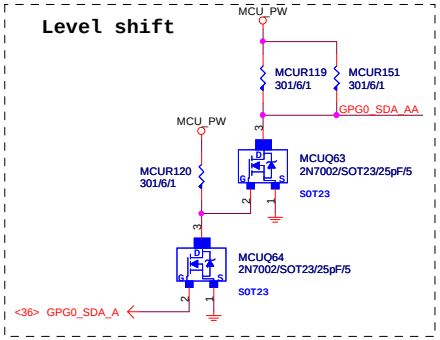
JP/1*2/BK/H/2.54/C/GF/[11NH1-000102-V1R]::[1-2]CLOSE

Digital LED Strip2



PH/1*4/BK/2.54/VA/D/[11NH2-000104-G1R]

Footprint "PH1X4-CUT3-LED-L"
(for pin-name 與 model-name 同方向)



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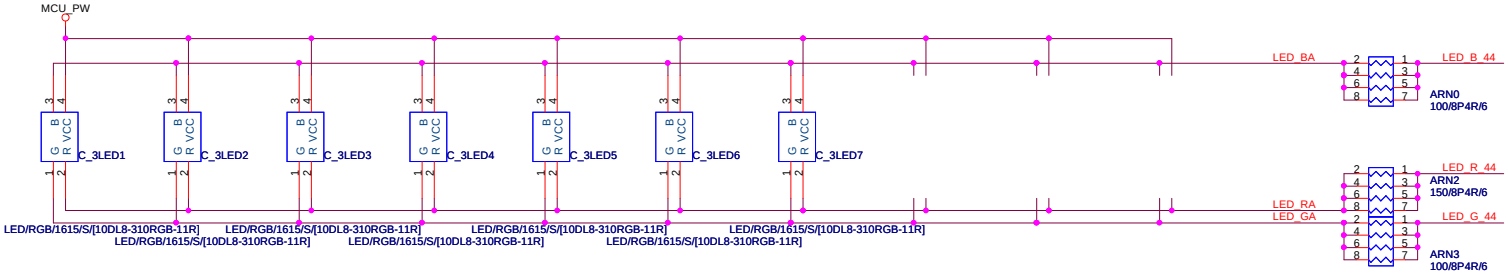
Title	TYPE C	
Size: Custom	Document Number: B450 AORUS M	Rev: 1.01
Date: Monday, November 19, 2018	Sheet 37 of 38	

Rev 3.1

第三區 LED

第四區 LED

FOR AUDIO 正發光 LED*8 C_3LED1~8)



FOOTPRINT:LED-4P-RGB

FOR PCIEX16_1 側發光 LED*4
(位置在PCIEX16_1 SLOT兩側各4顆)

FOR PCIEX8 側發光 LED*4
(位置在PCIEX8 SLOT兩側各4顆)

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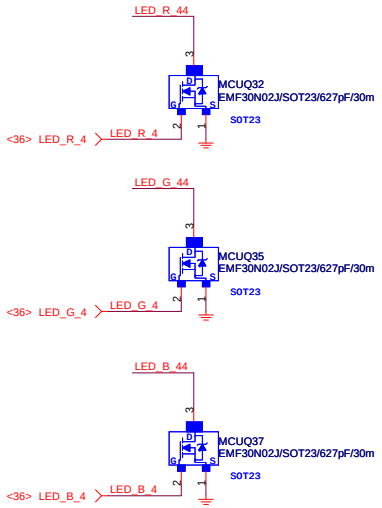
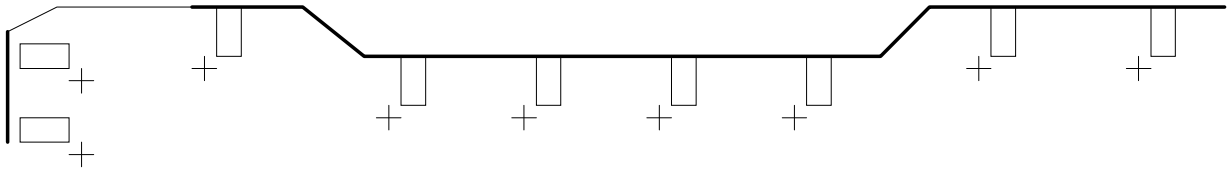
第四區 LED CONTROL



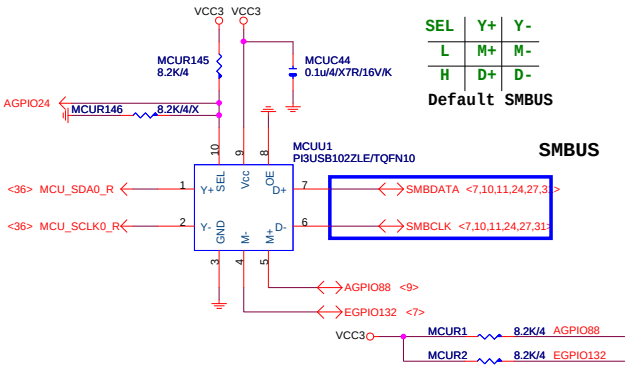
Audio Ground切割線+背面 RGB LED



RGB LED LAYOUT 注意事項 :

1. **Debug LED (各LED依CPU/DRAM/VGA/BOOT個別位置擺放)**
2. 背板 **RGB LED** 方向整板請統一如下
   (整板正極可統一朝下或朝上)
3. 正板 **RGB LED** 統一方向即可
4. **MCU_PW & MCU_PW33電源一律走20mils**
5. **ECF1,ECF2,ECF3,ECF5** 兩端電源走**80mils**或用鋪銅方式加粗
6. **MCU LED** 出pin的走線**4mils,**如:**LED_R_1,LED_G_1,LED_B_1 .....**
7. **LED RGBW rule :W/S=10/5 mils** 如:**LED_R_11,LED_G_11,LED_B_11,LED_W.....**
   (包含從晶體到排阻到LED的net)
8. **Digital LED NET rule W/S=4/8 mils**
   GPD0_SDA_B,GPD0_SDA_BB,GPD0_SDA_C,GPD0_SDA_CC

For AMD MCU update



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Title	PCH / AUDIO LED	
Size: Custom	Document Number: B450 AORUS M	Rev: 1.01
Date: Monday, November 19, 2018	Sheet 38 of 38	