B450M DS3H V2

Revision :1.01

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15	PM POWER, GND
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2015.12.30--B.L

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Model Name: B450M DS3H V2

Version: 1.01

Component value change history

P-Code: U20132-0
Tip-Top: 9MB45MSH2-00-10B

Date	Change Item	Reason
2018.04.23	1.0A New BOM release PCB:1.0	New Model ,Modify from B450M-DS3H Rev1.05Q 1. VRM ISL95712 4+3 t0op IR3567B 4+2
2020.08.12	1.0B New BOM release PCB:1.01	1. VCORE MLCC C94,C97,C203,C221 22uf to 47uf for Stardust

Circuit or PCB layout change for next version

Date	Change Item	Reason
2018.04.19	Rev 1.0 Gerber-out	New Model ,Modify from B450M-DS3H Rev1.05 VRM ISL95712 4+3 t0op IR3567B 4+2
2020.08.10	Rev 1.01 Gerber-out	1. VR_RDY 連至SQD2 2. DBQ2 MOS 無零件框

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Title	BOM & PCB HISTORY	
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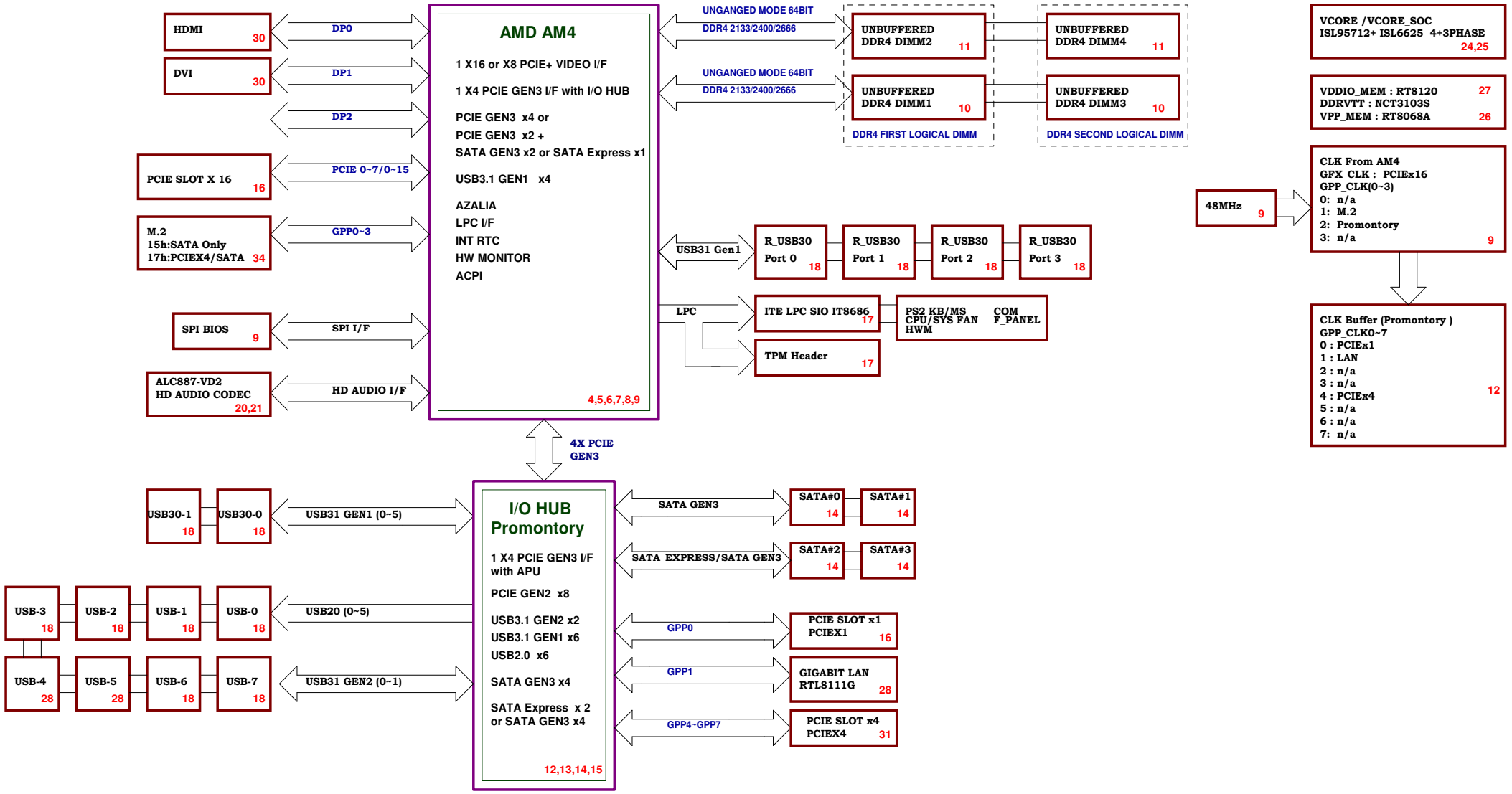

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Title: BLOCK DIAGRAM		
Size: Custom	Document Number: B450M DS3H V2	Rev: 1.01
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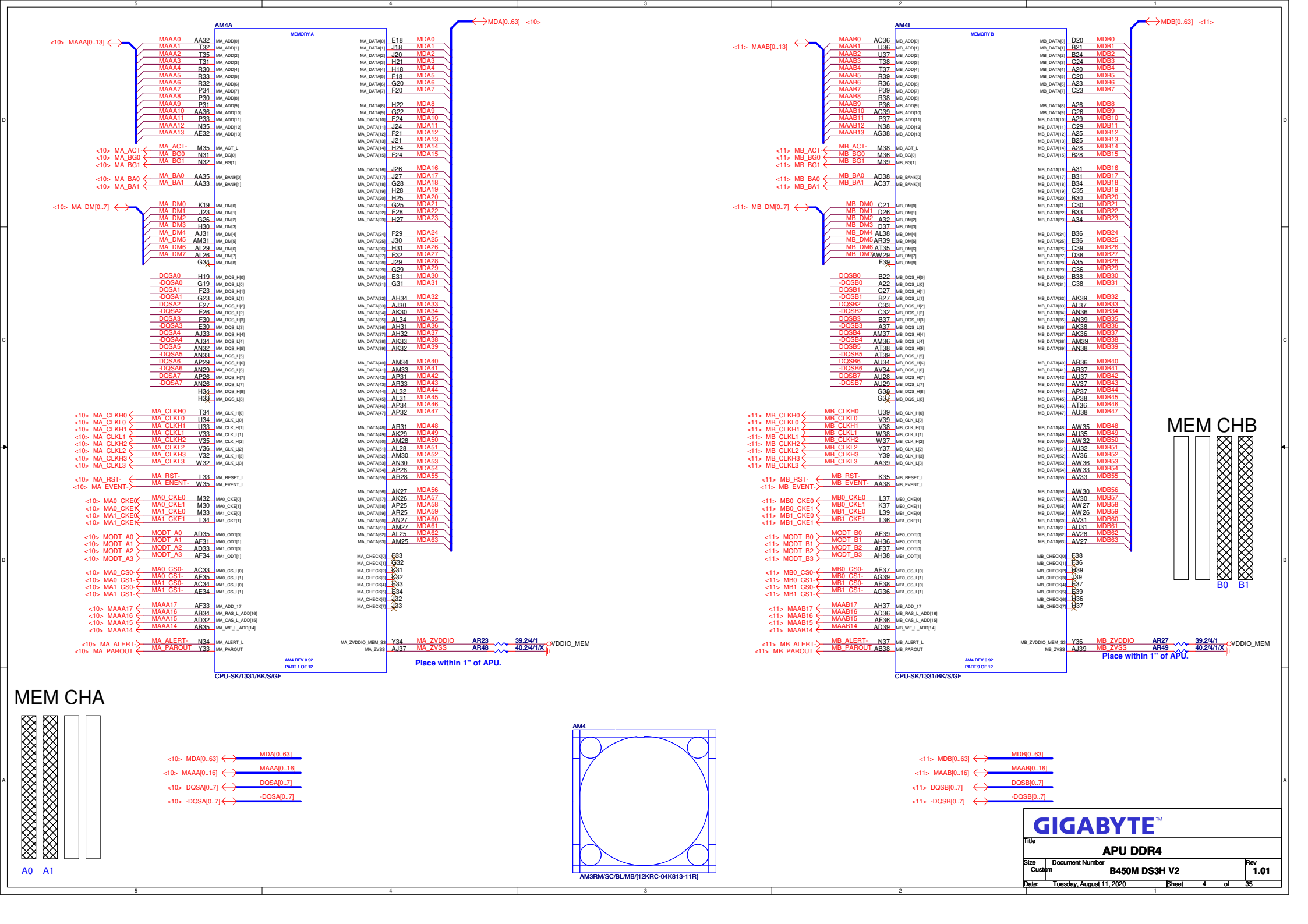
AM4A
MEMORY A
<10> MAAA[0..13]
MAAA0 AA32
MAAA1 T32
MAAA2 T35
MAAA3 T31
MAAA4 R30
MAAA5 R33
MAAA6 R32
MAAA7 P34
MAAA8 P30
MAAA9 P31
MAAA10 AA36
MAAA11 P33
MAAA12 N35
MAAA13 AE32
<10> MA_ACT-
<10> MA_BG0
<10> MA_BG1
MA_ACT- M35
MA_BG0 N31
MA_BG1 N32
<10> MA_BA0
<10> MA_BA1
MA_BA0 AA35
MA_BA1 AA33
<10> MA_DM[0..7]
MA_DM0 K19
MA_DM1 J23
MA_DM2 G26
MA_DM3 H30
MA_DM4 AJ31
MA_DM5 AM31
MA_DM6 AL29
MA_DM7 AL26
G34
DQSA0 H19
-DQSA0 G19
DQSA1 F23
-DQSA1 G23
DQSA2 F27
-DQSA2 F26
DQSA3 F30
-DQSA3 E30
DQSA4 AJ33
-DQSA4 AJ34
DQSA5 AN32
-DQSA5 AN33
DQSA6 AP29
-DQSA6 AN29
DQSA7 AP26
-DQSA7 AN26
H34
H33
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<10> MA_CLKL0
<10> MA_CLKH1
<10> MA_CLKL1
<10> MA_CLKH2
<10> MA_CLKL2
<10> MA_CLKH3
<10> MA_CLKL3
MA_CLKH0 T34
MA_CLKL0 U34
MA_CLKH1 U33
MA_CLKL1 V33
MA_CLKH2 V35
MA_CLKL2 V36
MA_CLKH3 V32
MA_CLKL3 W32
<10> MA_RST-
<10> MA_EVENT-
MA_RST- L33
MA_ENENT- W35
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<10> MA0_CKE1
<10> MA1_CKE0
<10> MA1_CKE1
MA0_CKE0 M32
MA0_CKE1 M30
MA1_CKE0 M33
MA1_CKE1 L34
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<10> MODT_A1
<10> MODT_A2
<10> MODT_A3
MODT_A0 AD35
MODT_A1 AF31
MODT_A2 AD33
MODT_A3 AF34
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<10> MA0_CS1-
<10> MA1_CS0-
<10> MA1_CS1-
MA0_CS0- AC33
MA0_CS1- AE35
MA1_CS0- AC34
MA1_CS1- AE34
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<10> MAAA15
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MAAA16 AB34
MAAA15 AD32
MAAA14 AB35
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<10> MA_PAROUT
MA_ALERT- N34
MA_PAROUT Y33
MA_ADD[0..13]
MA_ACT_L
MA_BG[0..1]
MA_BANK[0..1]
MA_DM[0..8]
MA_DQS_H[0..8]
MA_DQS_L[0..8]
MA_CLK_H[0..3]
MA_CLK_L[0..3]
MA_RESET_L
MA_EVENT_L
MA0_CKE[0..1]
MA1_CKE[0..1]
MA0_ODT[0..1]
MA1_ODT[0..1]
MA0_CS_L[0..1]
MA1_CS_L[0..1]
MA_ADD_17
MA_RAS_L_ADD[16]
MA_CAS_L_ADD[15]
MA_WE_L_ADD[14]
MA_ALERT_L
MA_PAROUT
AM4 REV 0.92
PART 1 OF 12
<10> MDA[0..63]
MA_DATA[0..63]
MDA0 E18
MDA1 J18
MDA2 J20
MDA3 H21
MDA4 H18
MDA5 F18
MDA6 G20
MDA7 F20
MDA8 H22
MDA9 G22
MDA10 E24
MDA11 J24
MDA12 F21
MDA13 J21
MDA14 H24
MDA15 F24
MDA16 J26
MDA17 J27
MDA18 G28
MDA19 H28
MDA20 H25
MDA21 G25
MDA22 E28
MDA23 H27
MDA24 F29
MDA25 J30
MDA26 H31
MDA27 F32
MDA28 J29
MDA29 G29
MDA30 E31
MDA31 G31
MDA32 AH34
MDA33 AJ30
MDA34 AK30
MDA35 AL34
MDA36 AH31
MDA37 AH32
MDA38 AK33
MDA39 AK32
MDA40 AM34
MDA41 AM33
MDA42 AP31
MDA43 AR33
MDA44 AL32
MDA45 AL31
MDA46 AP34
MDA47 AP32
MDA48 AR31
MDA49 AK29
MDA50 AM28
MDA51 AL28
MDA52 AM30
MDA53 AN30
MDA54 AP28
MDA55 AR28
MDA56 AK27
MDA57 AK26
MDA58 AP25
MDA59 AR25
MDA60 AN27
MDA61 AM27
MDA62 AL25
MDA63 AM25
MA_CHECK[0..7]
E33
G32
K31
K32
E33
E34
J32
J33
MA_ZVDDIO_MEM_S3
MA_ZVSS
Y34
AJ37
MA_ZVDDIO
MA_ZVSS
AR23
AR48
39.2/4/1
40.2/4/1/X
VDDIO_MEM
Place within 1" of APU.
CPU-SK/1331/BK/S/GF
AM4I
MEMORY B
<11> MAAB[0..13]
MAAB0 AC36
MAAB1 U36
MAAB2 U37
MAAB3 T38
MAAB4 T37
MAAB5 R39
MAAB6 R36
MAAB7 P39
MAAB8 R38
MAAB9 P36
MAAB10 AC39
MAAB11 P37
MAAB12 N38
MAAB13 AG38
<11> MB_ACT-
<11> MB_BG0
<11> MB_BG1
MB_ACT- M38
MB_BG0 M36
MB_BG1 M39
<11> MB_BA0
<11> MB_BA1
MB_BA0 AD38
MB_BA1 AC37
<11> MB_DM[0..7]
MB_DM0 C21
MB_DM1 D26
MB_DM2 A32
MB_DM3 D37
MB_DM4 AL38
MB_DM5 AR39
MB_DM6 AT35
MB_DM7 AW29
F39
DQSB0 B22
-DQSB0 A22
DQSB1 C27
-DQSB1 B27
DQSB2 C33
-DQSB2 C32
DQSB3 B37
-DQSB3 A37
DQSB4 AM37
-DQSB4 AM36
DQSB5 AT38
-DQSB5 AT39
DQSB6 AU34
-DQSB6 AV34
DQSB7 AU28
-DQSB7 AU29
G38
G32
<11> MB_CLKH0
<11> MB_CLKL0
<11> MB_CLKH1
<11> MB_CLKL1
<11> MB_CLKH2
<11> MB_CLKL2
<11> MB_CLKH3
<11> MB_CLKL3
MB_CLKH0 U39
MB_CLKL0 V39
MB_CLKH1 V38
MB_CLKL1 W38
MB_CLKH2 W37
MB_CLK2 Y37
MB_CLKH3 Y39
MB_CLKL3 AA39
<11> MB_RST-
<11> MB_EVENT-
MB_RST- K35
MB_EVENT- AA38
<11> MB0_CKE0
<11> MB0_CKE1
<11> MB1_CKE0
<11> MB1_CKE1
MB0_CKE0 L37
MB0_CKE1 K37
MB1_CKE0 L39
MB1_CKE1 L36
<11> MODT_B0
<11> MODT_B1
<11> MODT_B2
<11> MODT_B3
MODT_B0 AF39
MODT_B1 AH36
MODT_B2 AF37
MODT_B3 AH38
<11> MB0_CS0-
<11> MB0_CS1-
<11> MB1_CS0-
<11> MB1_CS1-
MB0_CS0- AE37
MB0_CS1- AG39
MB1_CS0- AE38
MB1_CS1- AG36
<11> MAAB17
<11> MAAB16
<11> MAAB15
<11> MAAB14
MAAB17 AH37
MAAB16 AD36
MAAB15 AF36
MAAB14 AD39
<11> MB_ALERT-
<11> MB_PAROUT
MB_ALERT- N37
MB_PAROUT AB38
MB_ADD[0..13]
MB_ACT_L
MB_BG[0..1]
MB_BANK[0..1]
MB_DM[0..8]
MB_DQS_H[0..8]
MB_DQS_L[0..8]
MB_CLK_H[0..3]
MB_CLK_L[0..3]
MB_RESET_L
MB_EVENT_L
MB0_CKE[0..1]
MB1_CKE[0..1]
MB0_ODT[0..1]
MB1_ODT[0..1]
MB_CS_L[0..1]
MB_ADD_17
MB_RAS_L_ADD[16]
MB_CAS_L_ADD[15]
MB_WE_L_ADD[14]
MB_ALERT_L
MB_PAROUT
AM4 REV 0.92
PART 9 OF 12
<11> MDB[0..63]
MB_DATA[0..63]
MDB0 D20
MDB1 B21
MDB2 B24
MDB3 C24
MDB4 A20
MDB5 C20
MDB6 A23
MDB7 C23
MDB8 A26
MDB9 C26
MDB10 A29
MDB11 C29
MDB12 A25
MDB13 B25
MDB14 A28
MDB15 B28
MDB16 A31
MDB17 B31
MDB18 B34
MDB19 C35
MDB20 B30
MDB21 C30
MDB22 B33
MDB23 A34
MDB24 B36
MDB25 E36
MDB26 C39
MDB27 D38
MDB28 A35
MDB29 C36
MDB30 B38
MDB31 C38
MDB32 AK39
MDB33 AL37
MDB34 AN36
MDB35 AN39
MDB36 AK38
MDB37 AK36
MDB38 AM39
MDB39 AN38
MDB40 AR36
MDB41 AR37
MDB42 AU37
MDB43 AV37
MDB44 AP37
MDB45 AP38
MDB46 AT36
MDB47 AU38
MDB48 AW35
MDB49 AU35
MDB50 AW32
MDB51 AU32
MDB52 AV36
MDB53 AW36
MDB54 AW33
MDB55 AV33
MDB56 AW30
MDB57 AV30
MDB58 AW27
MDB59 AW26
MDB60 AV31
MDB61 AU31
MDB62 AV28
MDB63 AV27
MB_CHECK[0..7]
E38
E36
J39
J39
E37
E39
J36
J37
MB_ZVDDIO_MEM_S3
MB_ZVSS
Y36
AJ39
MB_ZVDDIO
MB_ZVSS
AR27
AR49
39.2/4/1
40.2/4/1/X
VDDIO_MEM
Place within 1" of APU.
CPU-SK/1331/BK/S/GF
MEM CHB
B0 B1
MEM CHA
A0 A1
<10> MDA[0..63]
MDA[0..63]
<10> MAAA[0..16]
MAAA[0..16]
<10> DQSA[0..7]
DQSA[0..7]
<10> -DQSA[0..7]
-DQSA[0..7]
AM4
AM3RM/SC/BL/MB/[12KRC-04K813-11R]
<11> MDB[0..63]
MDB[0..63]
<11> MAAB[0..16]
MAAB[0..16]
<11> DQSB[0..7]
DQSB[0..7]
<11> -DQSB[0..7]
-DQSB[0..7]
GIGABYTE
Title
APU DDR4
Size
Custom
Document Number
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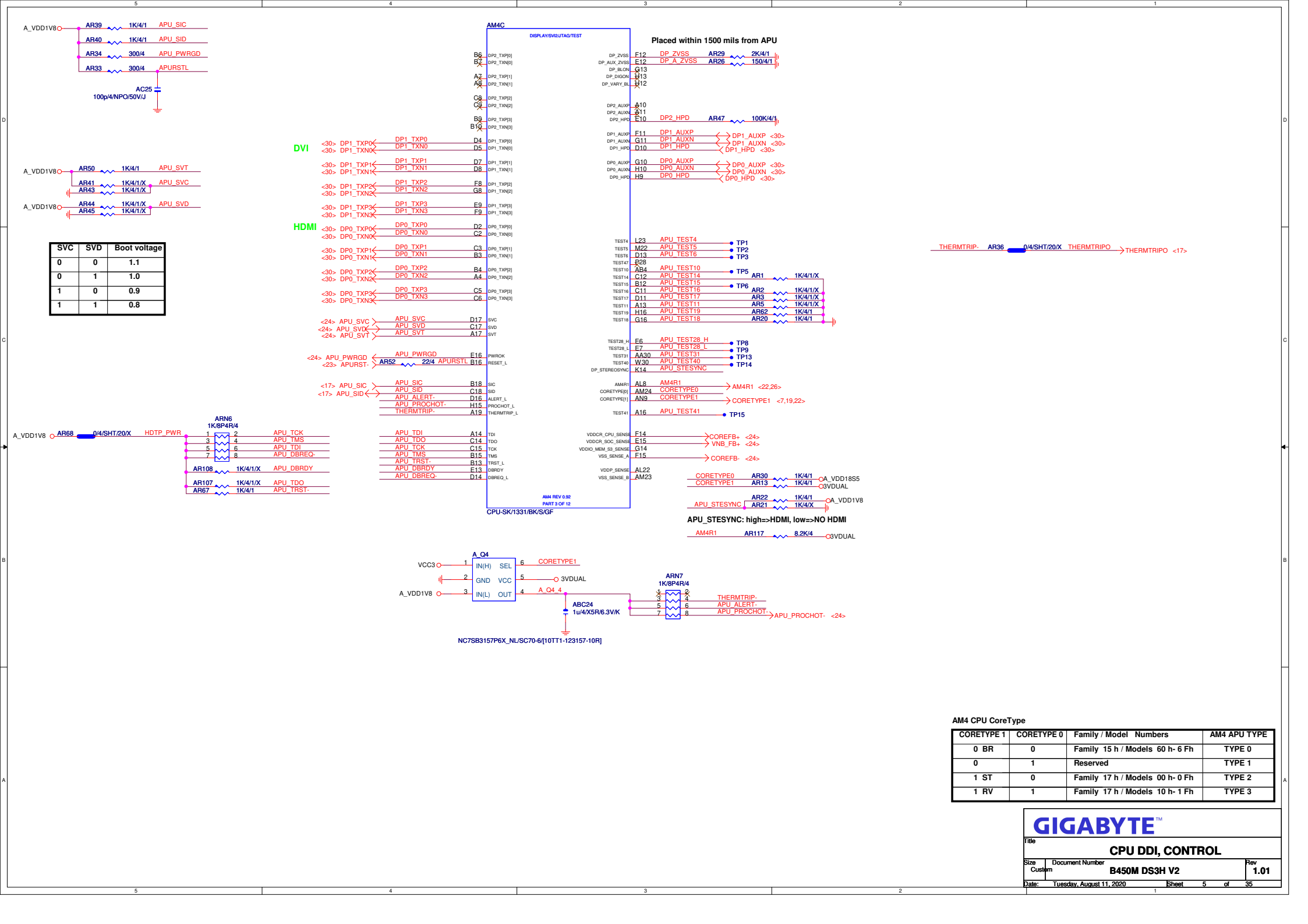

AM4 CPU CoreType

CORETYPE 1	CORETYPE 0	Family / Model Numbers	AM4 APU TYPE
0 BR	0	Family 15 h / Models 60 h- 6 Fh	TYPE 0
0	1	Reserved	TYPE 1
1 ST	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 DDI, CONTROL	
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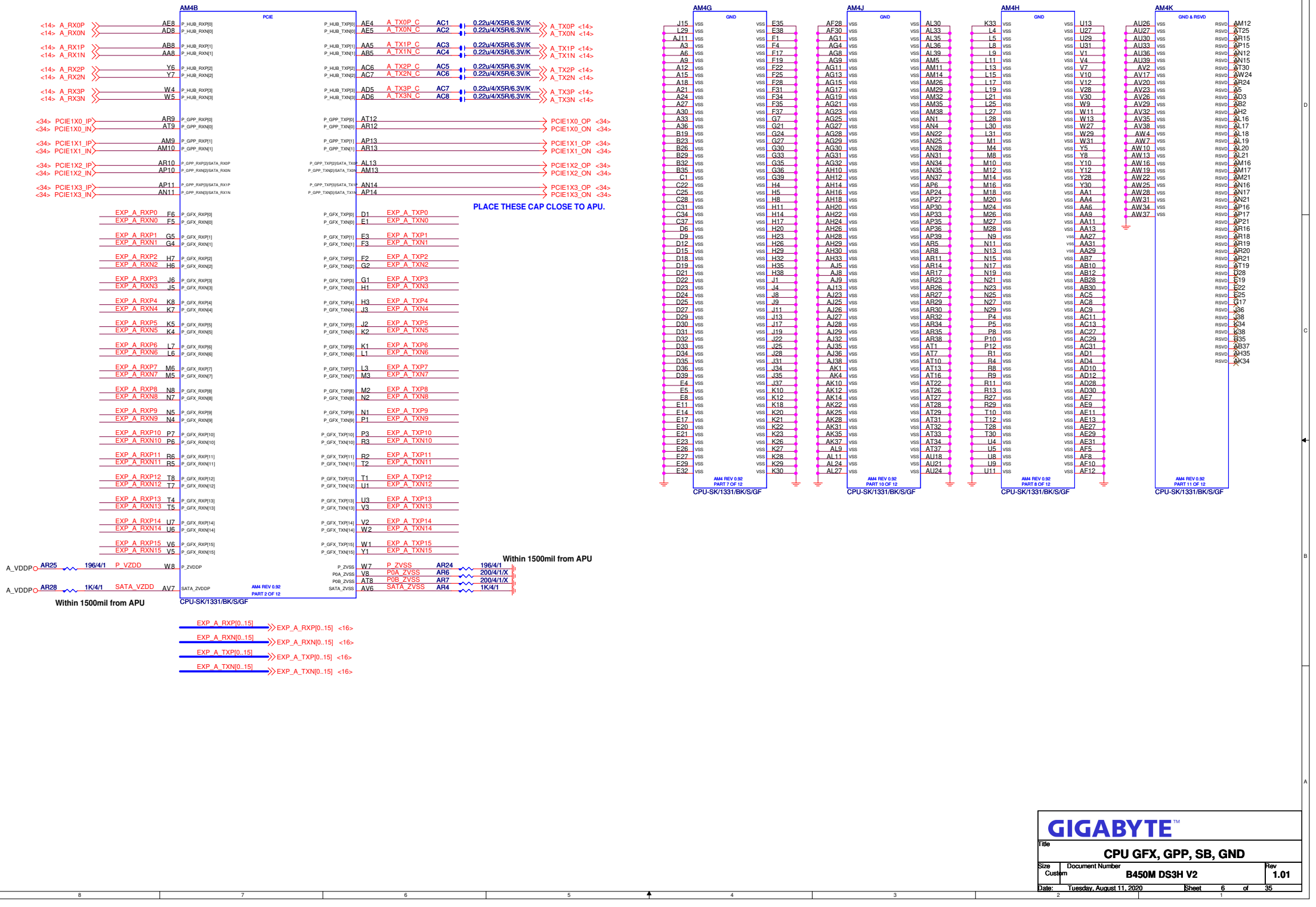

Title	CPU GFX, GPP, SB, GND
Size	Custom
Document Number	B450M DS3H V2
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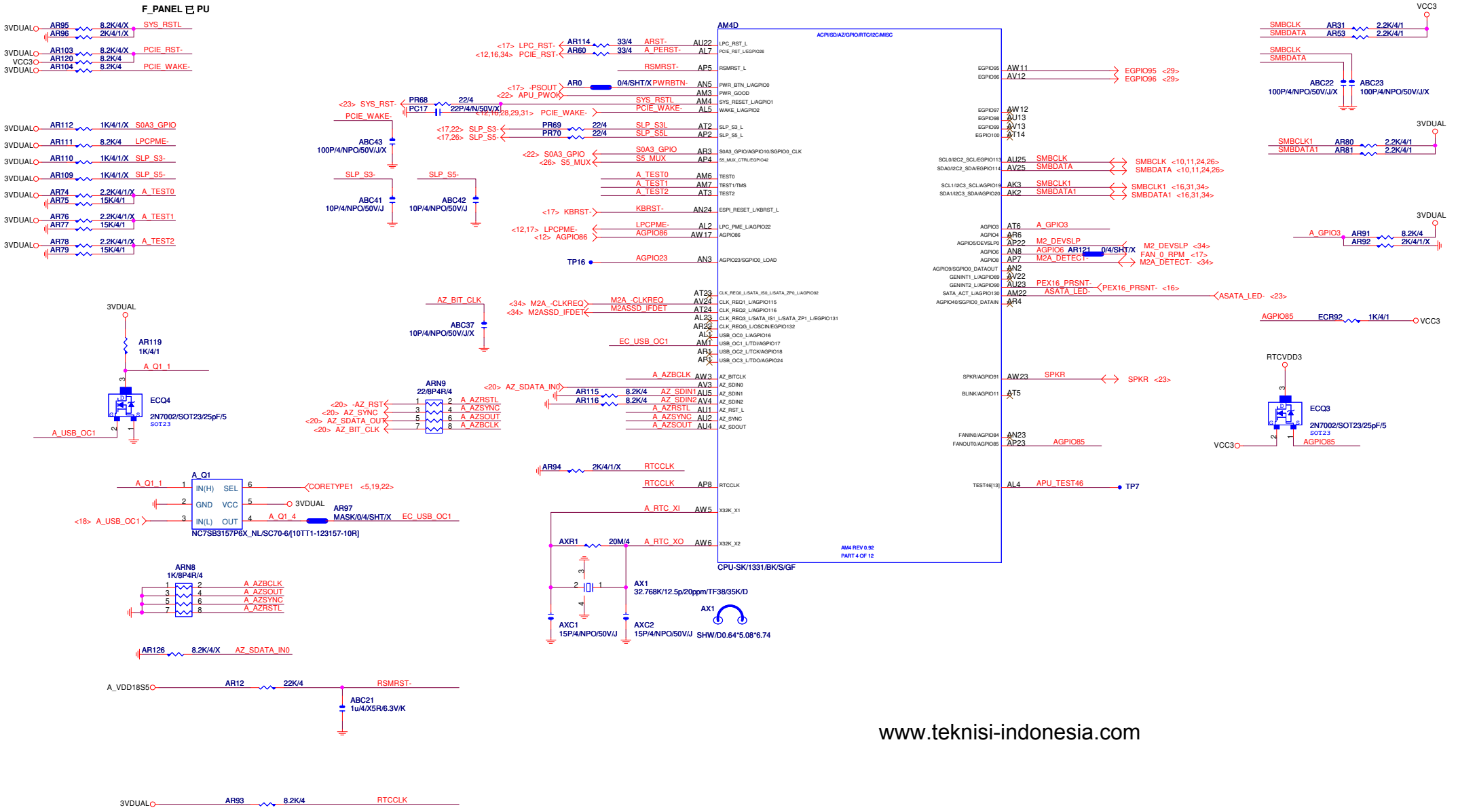

Internal Debug Only

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.

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Title: AM4 MISC

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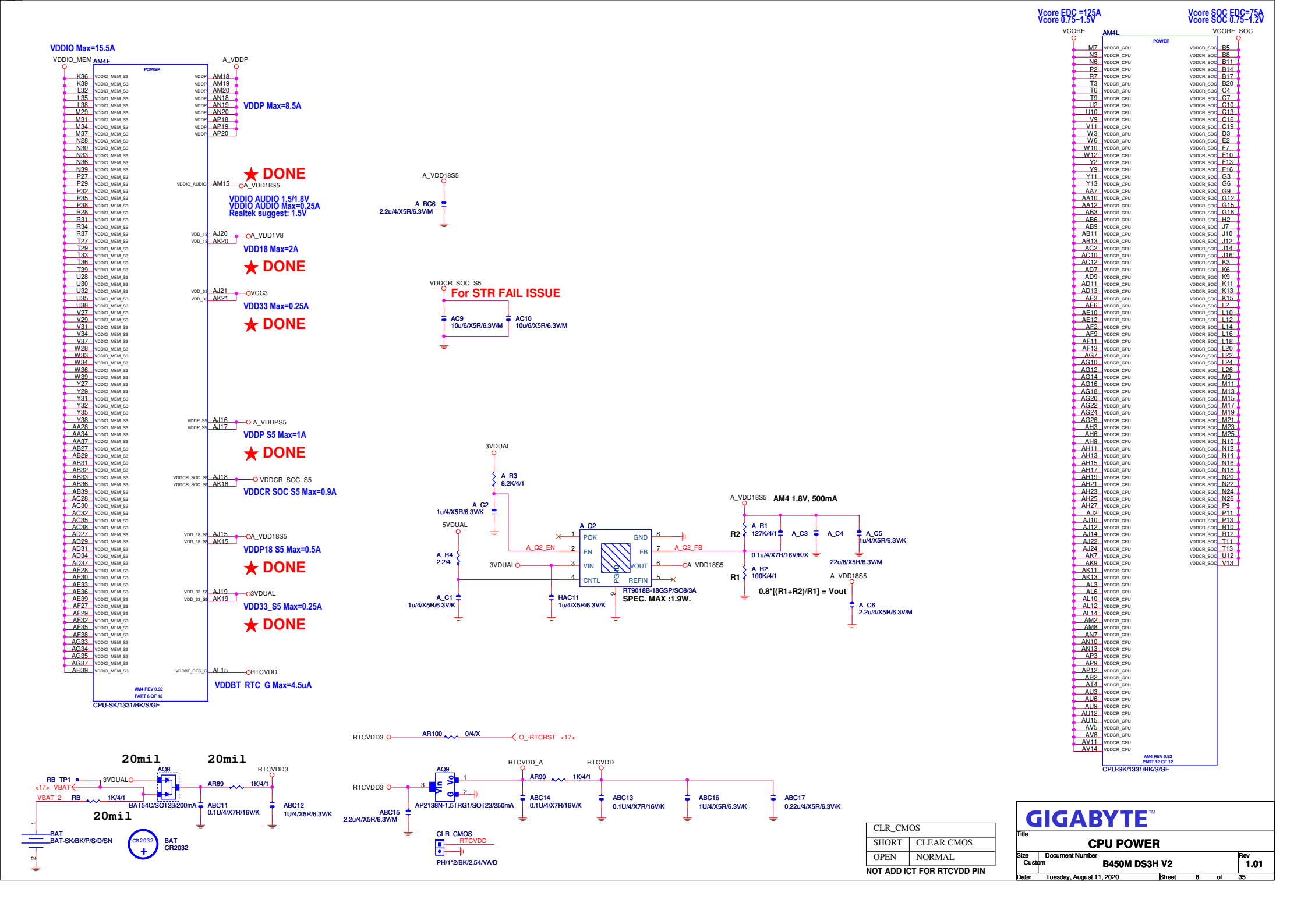
VDDIO Max=15.5A
VDDIO_MEM
AM4F
POWER
A_VDDP
VDDP Max=8.5A
DONE
VDDIO_AUDIO
A_VDD18S5
VDDIO AUDIO 1.5/1.8V
VDDIO AUDIO Max=0.25A
Realtek suggest: 1.5V
A_VDD1V8
VDD18 Max=2A
DONE
VCC3
VDD33 Max=0.25A
DONE
A_VDDPS5
VDDP S5 Max=1A
DONE
VDDCR_SOC_S5
VDDCR SOC S5 Max=0.9A
A_VDD18S5
VDDP18 S5 Max=0.5A
DONE
3VDUAL
VDD33_S5 Max=0.25A
DONE
RTCVDD
VDDBT_RTC_G Max=4.5uA
AM4 REV 0.92
PART 6 OF 12
CPU-SK/1331/BK/S/GF
A_VDD18S5
A_BC6
2.2u/4/X5R/6.3V/M
VDDCR_SOC_S5
For STR FAIL ISSUE
AC9
10u/6/X5R/6.3V/M
AC10
10u/6/X5R/6.3V/M
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
3VDUAL
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/8/X5R/6.3V/M
R1
A_R2
100K/4/1
0.8*[(R1+R2)/R1] = Vout
A_VDD18S5
A_C6
2.2u/4/X5R/6.3V/M
Vcore EDC =125A
Vcore 0.75~1.5V
Vcore SOC EDC=75A
Vcore SOC 0.75~1.2V
VCORE
VCORE_SOC
AM4L
POWER
AM4 REV 0.92
PART 12 OF 12
CPU-SK/1331/BK/S/GF
20mil
20mil
20mil
RB_TP1
3VDUAL
AQ8
<17> VBAT
VBAT_2
RB
1K/4/1
BAT54C/SOT23/200mA
AR89
1K/4/1
RTCVDD3
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
0/4/X
O_-RTCRST <17>
AQ9
RTCVDD3
AP2138N-1.5TRG1/SOT23/250mA
ABC15
2.2u/4/X5R/6.3V/M
RTCVDD_A
AR99
1K/4/1
RTCVDD
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/X5R/6.3V/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
Size
Custom
Document Number
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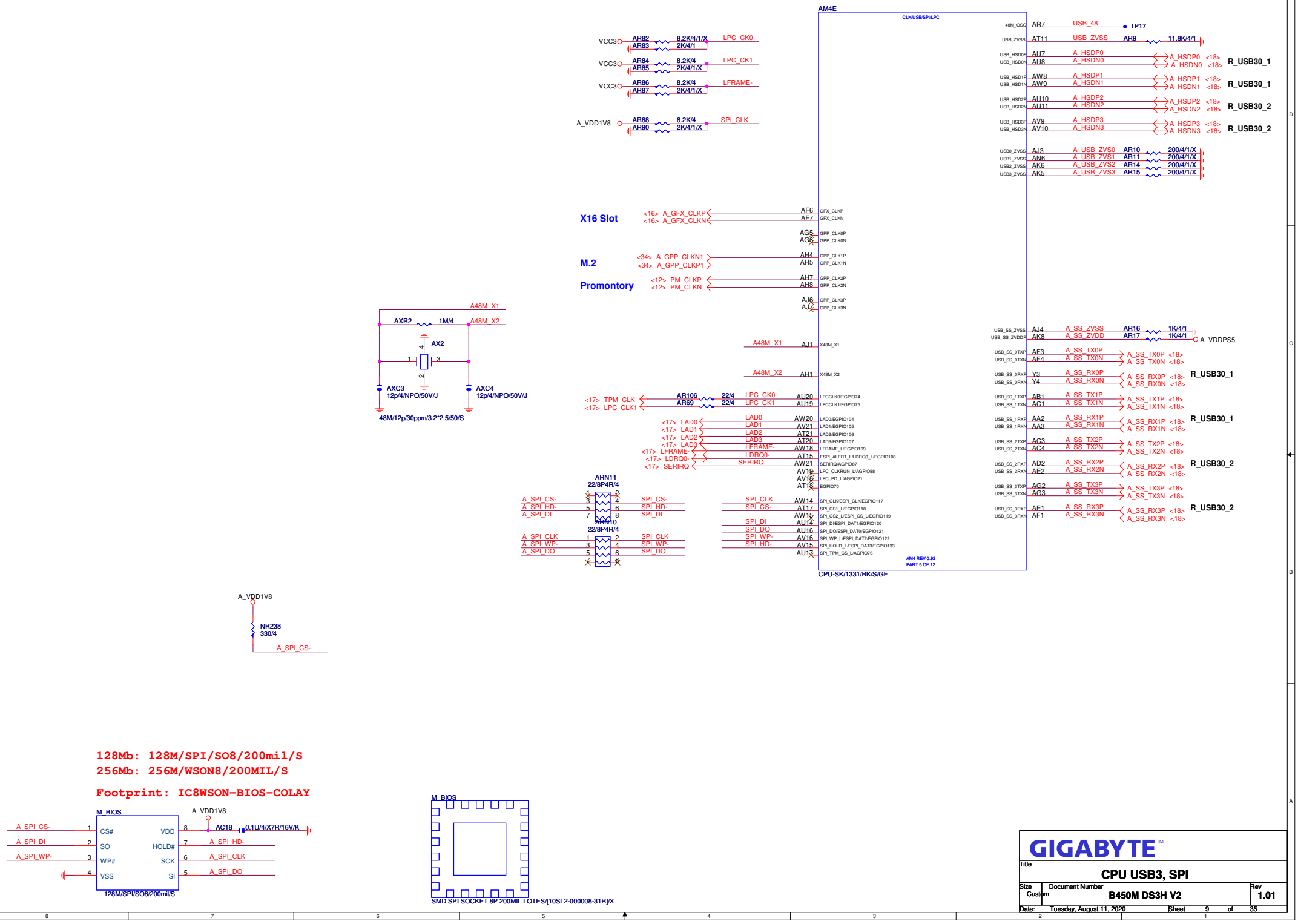
AM4E
CLK/USB/SPI/LPC
VCC3
AR82 8.2K/4/1/X
AR83 2K/4/1
LPC_CK0
AR84 8.2K/4
AR85 2K/4/1/X
LPC_CK1
AR86 8.2K/4
AR87 2K/4/1/X
LFRAME-
A_VDD1V8
AR88 8.2K/4
AR90 2K/4/1/X
SPI_CLK
48M_OSC AR7 USB_48 TP17
USB_ZVSS AT11 USB_ZVSS AR9 11.8K/4/1
USB_HSD0P AU7 A_HSDP0
USB_HSD0N AU8 A_HSDN0
A_HSDP0 <18>
A_HSDN0 <18>
R_USB30_1
USB_HSD1P AW8 A_HSDP1
USB_HSD1N AW9 A_HSDN1
A_HSDP1 <18>
A_HSDN1 <18>
R_USB30_1
USB_HSD2P AU10 A_HSDP2
USB_HSD2N AU11 A_HSDN2
A_HSDP2 <18>
A_HSDN2 <18>
R_USB30_2
USB_HSD3P AV9 A_HSDP3
USB_HSD3N AV10 A_HSDN3
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A_HSDN3 <18>
R_USB30_2
USB0_ZVSS AJ3 A_USB_ZVS0 AR10 200/4/1/X
USB1_ZVSS AN6 A_USB_ZVS1 AR11 200/4/1/X
USB2_ZVSS AK6 A_USB_ZVS2 AR14 200/4/1/X
USB3_ZVSS AK5 A_USB_ZVS3 AR15 200/4/1/X
X16 Slot
<16> A_GFX_CLKP
<16> A_GFX_CLKN
AF6 GFX_CLKP
AF7 GFX_CLKN
AG5 GPP_CLK0P
AG6 GPP_CLK0N
M.2
<34> A_GPP_CLKN1
<34> A_GPP_CLKP1
AH4 GPP_CLK1P
AH5 GPP_CLK1N
Promontory
<12> PM_CLKP
<12> PM_CLKN
AH7 GPP_CLK2P
AH8 GPP_CLK2N
AJ6 GPP_CLK3P
AJ7 GPP_CLK3N
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
A48M_X1 AJ1 X48M_X1
A48M_X2 AH1 X48M_X2
USB_SS_ZVSS AJ4 A_SS_ZVSS AR16 1K/4/1
USB_SS_ZVDDP AK8 A_SS_ZVDD AR17 1K/4/1
A_VDDPS5
USB_SS_0TXP AF3 A_SS_TX0P
USB_SS_0TXN AF4 A_SS_TX0N
A_SS_TX0P <18>
A_SS_TX0N <18>
USB_SS_0RXP Y3 A_SS_RX0P
USB_SS_0RXN Y4 A_SS_RX0N
A_SS_RX0P <18>
A_SS_RX0N <18>
R_USB30_1
USB_SS_1TXP AB1 A_SS_TX1P
USB_SS_1TXN AC1 A_SS_TX1N
A_SS_TX1P <18>
A_SS_TX1N <18>
USB_SS_1RXP AA2 A_SS_RX1P
USB_SS_1RXN AA3 A_SS_RX1N
A_SS_RX1P <18>
A_SS_RX1N <18>
R_USB30_1
USB_SS_2TXP AC3 A_SS_TX2P
USB_SS_2TXN AC4 A_SS_TX2N
A_SS_TX2P <18>
A_SS_TX2N <18>
USB_SS_2RXP AD2 A_SS_RX2P
USB_SS_2RXN AE2 A_SS_RX2N
A_SS_RX2P <18>
A_SS_RX2N <18>
R_USB30_2
USB_SS_3TXP AG2 A_SS_TX3P
USB_SS_3TXN AG3 A_SS_TX3N
A_SS_TX3P <18>
A_SS_TX3N <18>
USB_SS_3RXP AE1 A_SS_RX3P
USB_SS_3RXN AF1 A_SS_RX3N
A_SS_RX3P <18>
A_SS_RX3N <18>
R_USB30_2
<17> TPM_CLK
<17> LPC_CLK1
AR106 22/4 LPC_CK0 AU20 LPCCLK0/EGPIO74
AR69 22/4 LPC_CK1 AU19 LPCCLK1/EGPIO75
<17> LAD0 LAD0 AW20 LAD0/EGPIO104
<17> LAD1 LAD1 AV21 LAD1/EGPIO105
<17> LAD2 LAD2 AT21 LAD2/EGPIO106
<17> LAD3 LAD3 AT20 LAD3/EGPIO107
<17> LFRAME- LFRAME- AW18 LFRAME_L/EGPIO109
<17> LDRQ0- LDRQ0- AT15 ESPI_ALERT_L/LDRQ0_L/EGPIO108
<17> SERIRQ SERIRQ AW21 SERIRQ/AGPIO87
AV19 LPC_CLKRUN_L/AGPIO88
AV18 LPC_PD_L/AGPIO21
AT18 EGPIO70
ARN11
22/8P4R/4
A_SPI_CS- SPI_CS-
A_SPI_HD- SPI_HD-
A_SPI_DI SPI_DI
ARN10
22/8P4R/4
A_SPI_CLK SPI_CLK
A_SPI_WP- SPI_WP-
A_SPI_DO SPI_DO
SPI_CLK AW14 SPI_CLK/ESPI_CLK/EGPIO117
SPI_CS- AT17 SPI_CS1_L/EGPIO118
AW15 SPI_CS2_L/ESPI_CS_L/EGPIO119
SPI_DI AU14 SPI_DI/ESPI_DAT1/EGPIO120
SPI_DO AU16 SPI_DO/ESPI_DAT0/EGPIO121
SPI_WP- AV16 SPI_WP_L/ESPI_DAT2/EGPIO122
SPI_HD- AV15 SPI_HOLD_L/ESPI_DAT3/EGPIO133
AU17 SPI_TPM_CS_L/AGPIO76
AM4 REV 0.92
PART 5 OF 12
CPU-SK/1331/BK/S/GF
A_VDD1V8
NR238
330/4
A_SPI_CS-
128Mb: 128M/SPI/SO8/200mil/S
256Mb: 256M/WSON8/200MIL/S
Footprint: IC8WSON-BIOS-COLAY
M_BIOS
A_VDD1V8
A_SPI_CS- 1 CS#
A_SPI_DI 2 SO
A_SPI_WP- 3 WP#
4 VSS
VDD 8
HOLD# 7
SCK 6
SI 5
AC18 0.1U/4/X7R/16V/K
A_SPI_HD-
A_SPI_CLK
A_SPI_DO
128M/SPI/SO8/200mil/S
M_BIOS
SMD SPI SOCKET 8P 200MIL LOTES/[10SL2-000008-31R]/X
GIGABYTE
Title
CPU USB3, SPI
Size
Custom
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Rev:0.5

DDR4_4

DDR4_2

* net 改 VDDQ

DDRVTT

VDDIO_MEM

VPP_MEM

MAR19 1K/4/1

MA_EVENT- <4>

MODT_A[0..3] <4>

MDA[0..63] <4>

MAAA[0..16] <4>

DQSA[0..7] <4>

-DQSA[0..7] <4>

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

MAC16 0.1u/4/X7R/16V/K

VPP_SPD

MAR0 0/6/SHT/30/X

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

MAC43 0.1u/4/X7R/16V/K

MAR1 1K/4/1

CHANNEL A0
SA2:0=000

CHANNEL A1
SA2:2=010

DDR4288SBK/VA/D/GF/TWO LATCH

DDR4288GY/VA/D/GF/TWO LATCH

DDR12V Decouple

VDDIO_MEM

MABC18 0.1u/4/X7R/16V/K

MABC15 0.1u/4/X7R/16V/K

MABC38 0.1u/4/X7R/16V/K

MASC3 0.1u/4/X7R/16V/K

MABC37 1u/4/X5R/6.3V/K

MABC34 1u/4/X5R/6.3V/K

MASC2 0.1u/4/X7R/16V/K

MABC10 22u/8/X5R/6.3V/M

MABC36 1u/4/X5R/6.3V/K

MABC21 1u/4/X5R/6.3V/K

MABC8 2.2u/4/X5R/6.3V/M

MABC20 1u/4/X5R/6.3V/K

MABC30 1u/4/X5R/6.3V/K

MABC12 1u/4/X5R/6.3V/K

MABC16 1u/4/X5R/6.3V/K

* 電容移到 [RT8120_DDR]

DDRVTT Decouple

DDRVTT

MABC23 0.1u/4/X7R/16V/K

MABC28 0.1u/4/X7R/16V/K

MABC22 1u/4/X5R/6.3V/K

MABC4 0.1u/4/X7R/16V/K

MAR15 1K/4/1

MAR16 1K/4/1

VREF_DDRA

VREF_DDRA

GIGABYTE

Title	DDR4 CHANNEL A	
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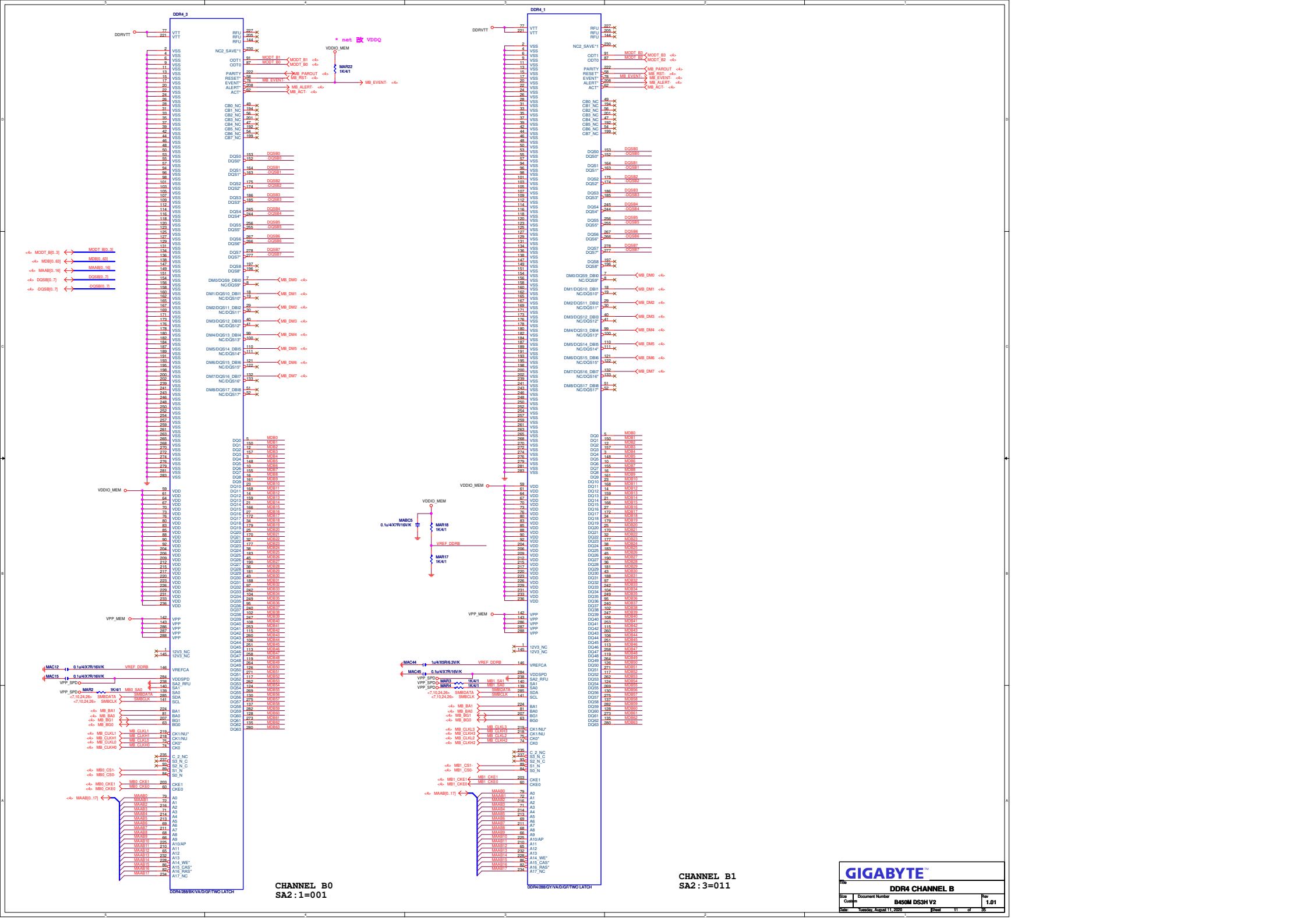

GIGABYTE

Title	DDR4 CHANNEL B		
Size: Custom	Document Number: B450M DS3H V2		Rev: 1.01
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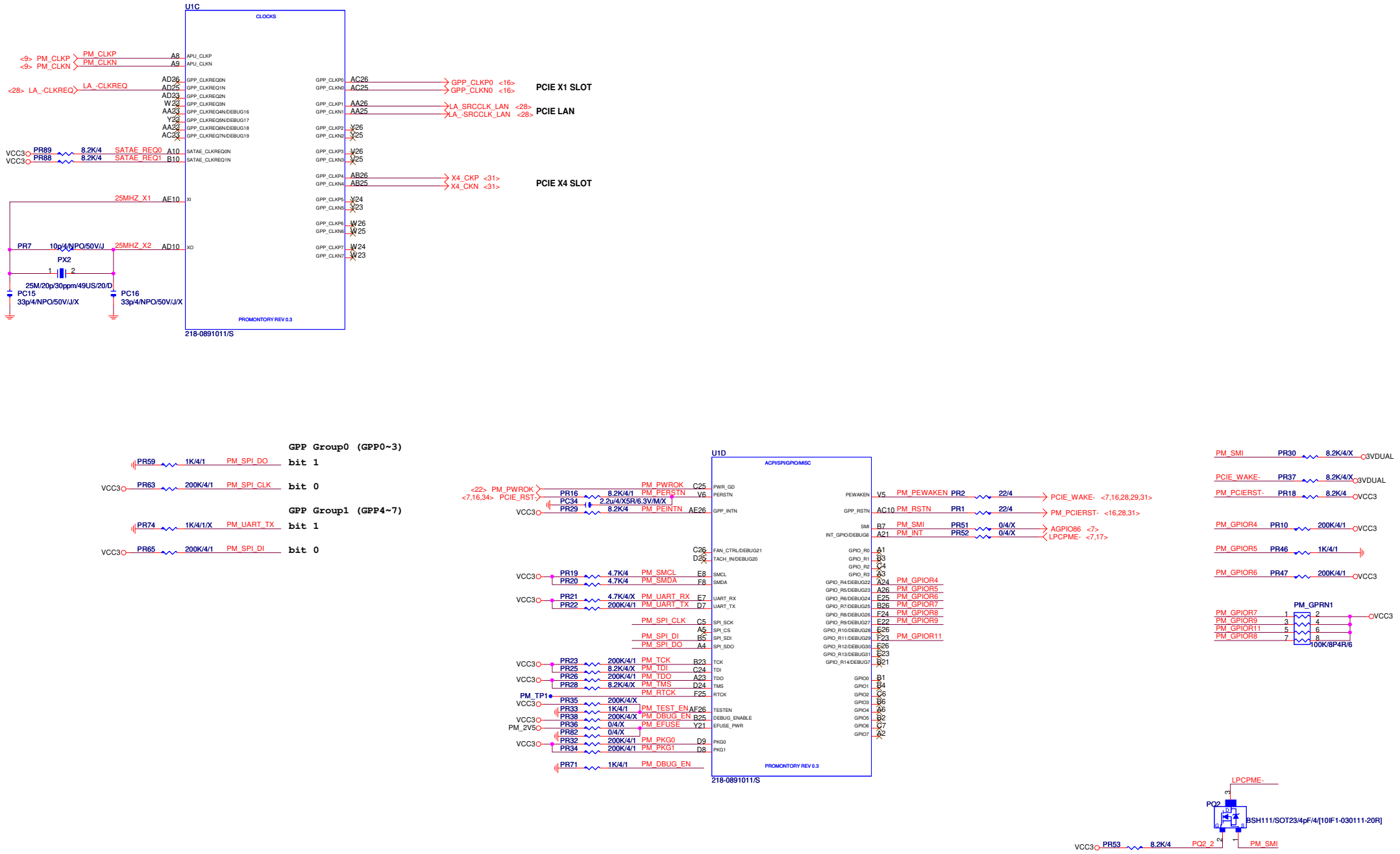

+3.3V_RUN = PM_3V3_S0_B (Through 60R choke/bead)
+3.3V_ALW = PM_3V3_S5_B (Through 60R choke/bead)
1.05V_PROM_S5 = PM_1V05_S5_B (Through 60R choke/bead)
2.5V_PROM = PM_2V5_RUN_B (Through 60R choke/bead)
1.05_PROM_RUN = PM_1V05_RUN_B (Through 60R choke/bead)

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Title	PM CLK, SPI, MISC	
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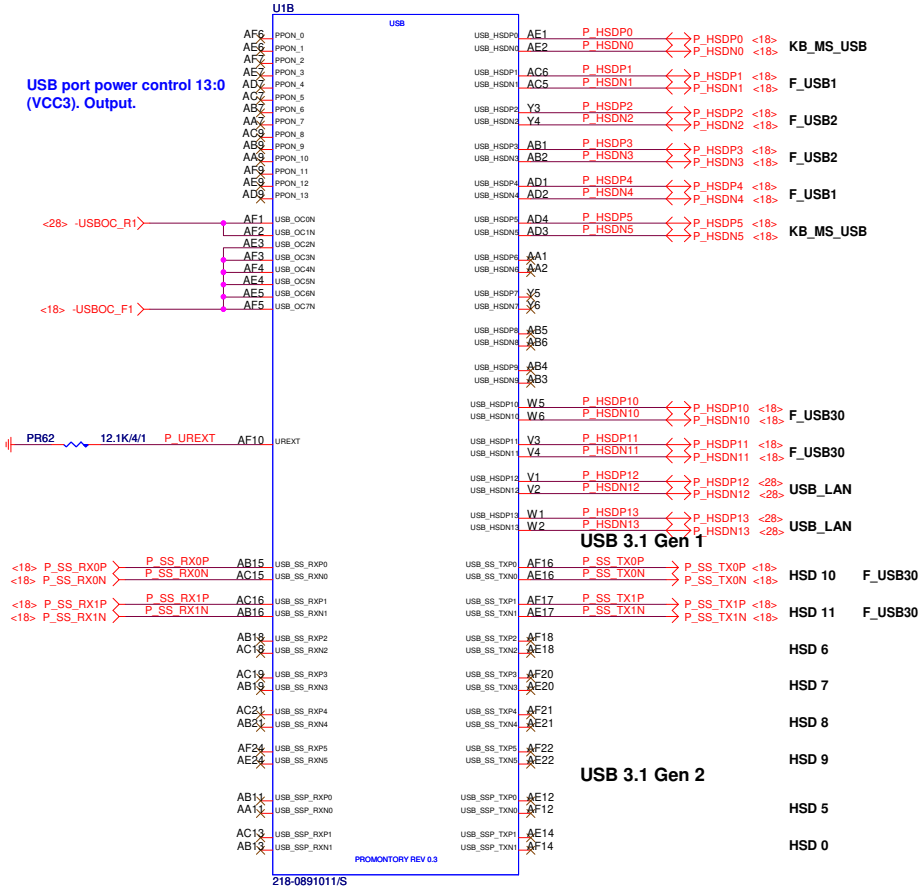

USB3.1	USB2.0	USB_OC
USB_SSP_TX/RXP/N[0]	USB_HSDP/N[5]	USB_OC0N
USB_SSP_TX/RXP/N[1]	USB_HSDP/N[0]	USB_OC1N
USB3.0	**USB2.0**	**USB_OC**
USB_SS_TX/RXP/N[0]	USB_HSDP/N[10]	USB_OC2N
USB_SS_TX/RXP/N[1]	USB_HSDP/N[11]	USB_OC3N
USB_SS_TX/RXP/N[2]	USB_HSDP/N[6]	USB_OC4N
USB_SS_TX/RXP/N[3]	USB_HSDP/N[7]	USB_OC5N
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
PROM3	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

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Title: PM USB

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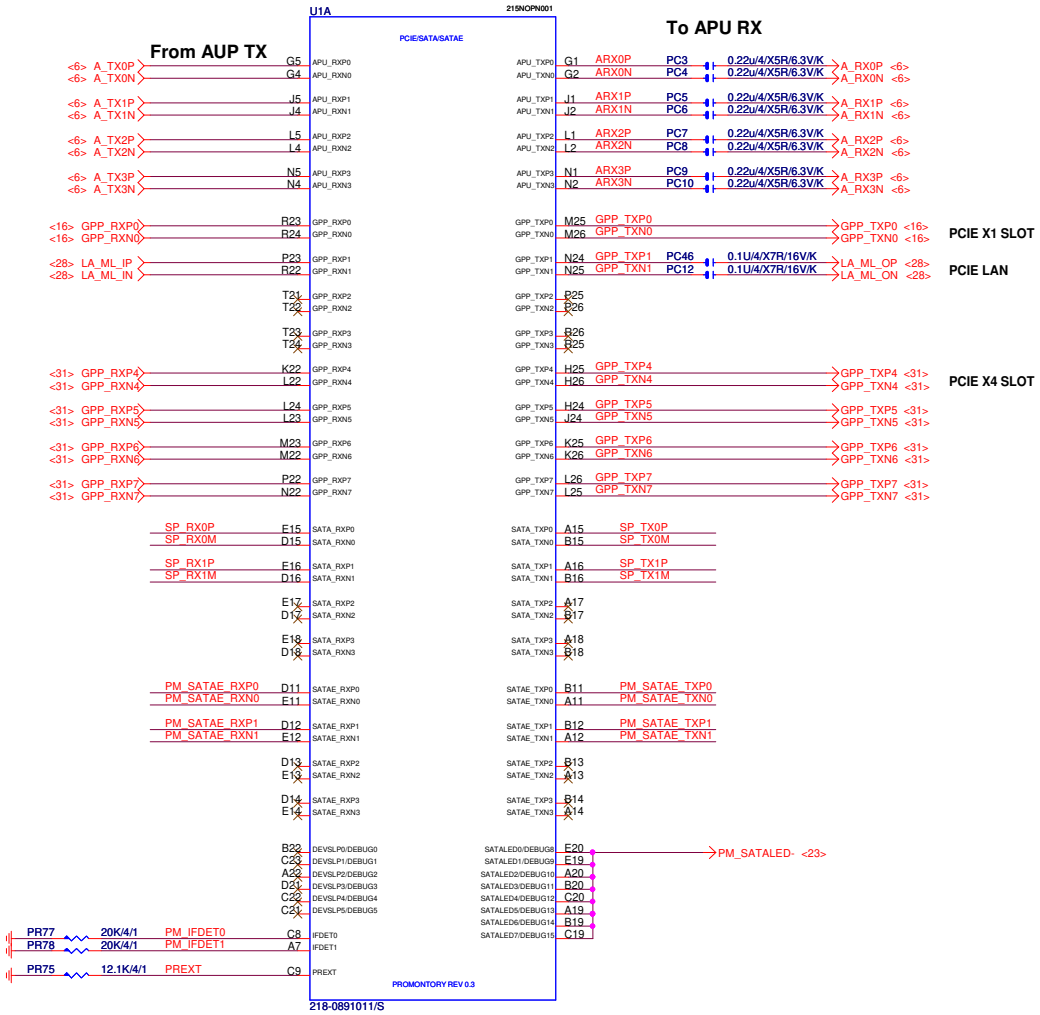

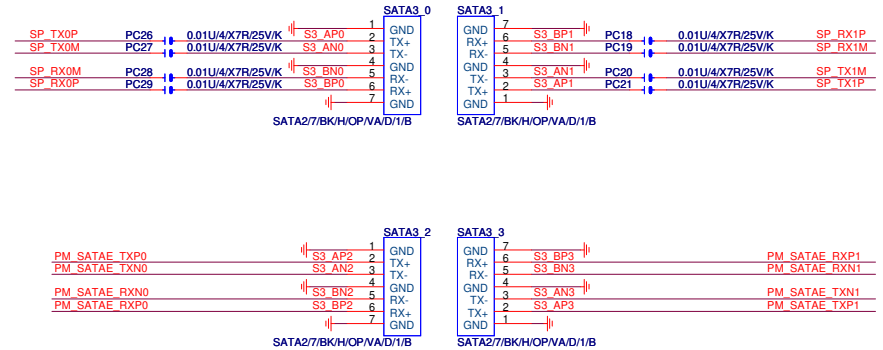

BUS Model	SATA 3.0	SATA Express	PCI Express® Gen2 GPP	PCI Express® CLK
PROM4	SATA port0~3	SATAE port0~3	GPP lane0~7	CLK0~7
PROM3	SATA port0~3	SATAE port0~3	GPP lane0~7	CLK0~7
PROM2	SATA port0~1	SATAE port0~1	GPP lane0~1 GPP lane4~7	CLK0~1 CLK4~7
PROM1	SATA port0~1	SATAE port0~1	GPP lane4~7	CLK4~7

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Title: PM SATA, GPP

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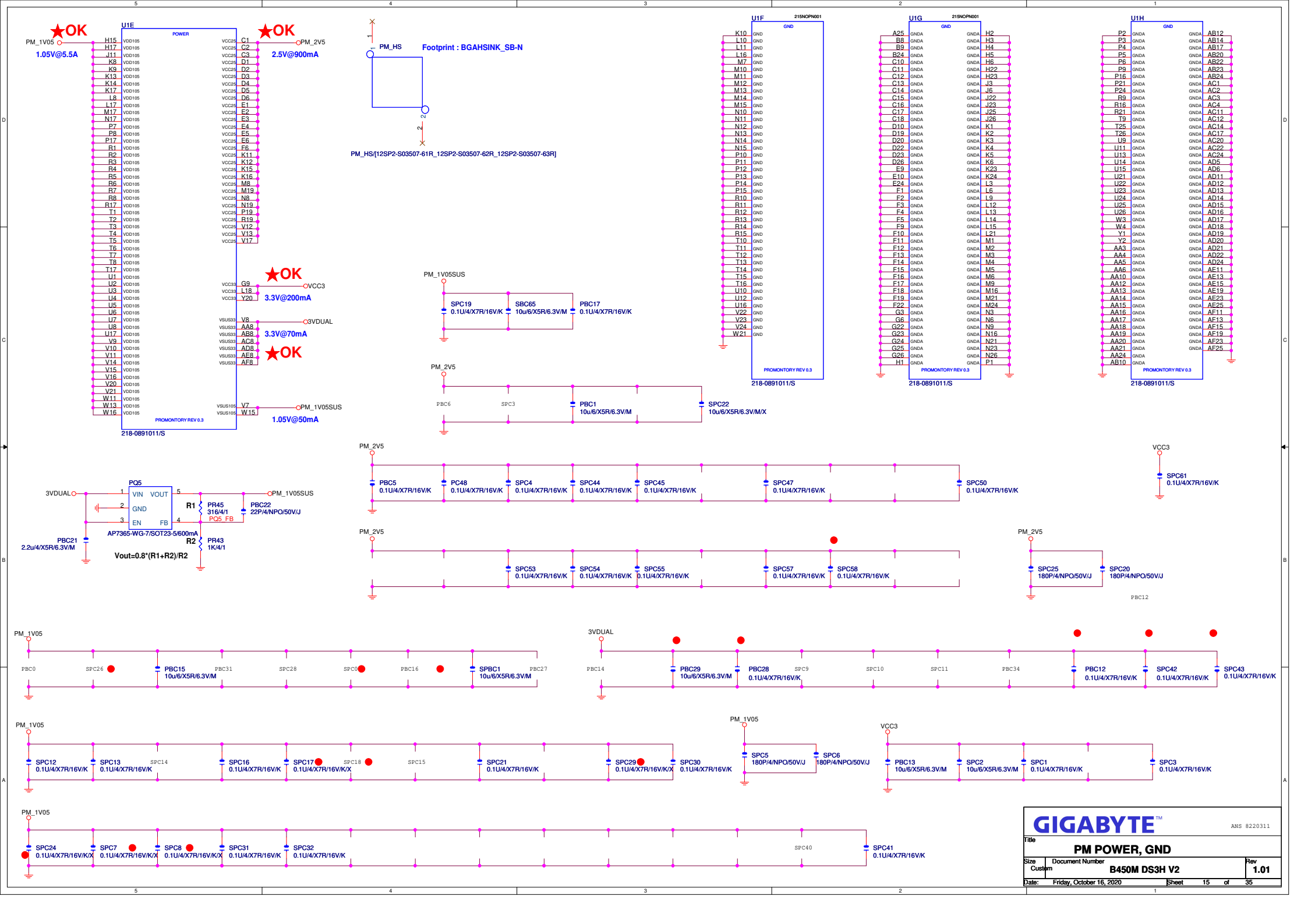
U1E
POWER
PM_1V05
1.05V@5.5A
OK
PM_2V5
2.5V@900mA
OK
VCC3
3.3V@200mA
OK
3VDUAL
3.3V@70mA
OK
PM_1V05SUS
1.05V@50mA
PROMONTORY REV 0.3
218-0891011/S
PM_HS
Footprint : BGAHSINK_SB-N
PM_HS/[12SP2-S03507-61R_12SP2-S03507-62R_12SP2-S03507-63R]
U1F
U1G
U1H
215NOPN001
GND
PROMONTORY REV 0.3
218-0891011/S
PM_1V05SUS
SPC19 0.1U/4/X7R/16V/K
SBC65 10u/6/X5R/6.3V/M
PBC17 0.1U/4/X7R/16V/K
PM_2V5
PBC6
SPC3
PBC1 10u/6/X5R/6.3V/M
SPC22 10u/6/X5R/6.3V/M/X
PQ5
3VDUAL
VIN
VOUT
GND
EN
FB
AP7365-WG-7/SOT23-5/600mA
R1
PR45 316/4/1
PQ5_FB
R2
PR43 1K/4/1
PBC21 2.2u/4/X5R/6.3V/M
PBC22 22P/4/NPO/50V/J
PM_1V05SUS
Vout=0.8*(R1+R2)/R2
PM_2V5
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
SPC47 0.1U/4/X7R/16V/K
SPC50 0.1U/4/X7R/16V/K
VCC3
SPC61 0.1U/4/X7R/16V/K
PM_2V5
SPC53 0.1U/4/X7R/16V/K
SPC54 0.1U/4/X7R/16V/K
SPC55 0.1U/4/X7R/16V/K
SPC57 0.1U/4/X7R/16V/K
SPC58 0.1U/4/X7R/16V/K
PM_2V5
SPC25 180P/4/NPO/50V/J
SPC20 180P/4/NPO/50V/J
PBC12
PM_1V05
PBC0
SPC26
PBC15 10u/6/X5R/6.3V/M
PBC31
SPC28
SPC0
PBC16
SPBC1 10u/6/X5R/6.3V/M
PBC27
3VDUAL
PBC14
PBC29 10u/6/X5R/6.3V/M
PBC28 0.1U/4/X7R/16V/K
SPC9
SPC10
SPC11
PBC34
PBC12 0.1U/4/X7R/16V/K
SPC42 0.1U/4/X7R/16V/K
SPC43 0.1U/4/X7R/16V/K
PM_1V05
SPC12 0.1U/4/X7R/16V/K
SPC13 0.1U/4/X7R/16V/K
SPC14
SPC16 0.1U/4/X7R/16V/K
SPC17
SPC18
SPC15
SPC21 0.1U/4/X7R/16V/K
SPC29 0.1U/4/X7R/16V/K/X
SPC30 0.1U/4/X7R/16V/K
PM_1V05
SPC5 180P/4/NPO/50V/J
SPC6 180P/4/NPO/50V/J
VCC3
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
PM_1V05
SPC24 0.1U/4/X7R/16V/K/X
SPC7 0.1U/4/X7R/16V/K/X
SPC8 0.1U/4/X7R/16V/K/X
SPC31 0.1U/4/X7R/16V/K
SPC32 0.1U/4/X7R/16V/K
SPC40
SPC41 0.1U/4/X7R/16V/K
GIGABYTE
ANS 8220311
Title
PM POWER, GND
Size
Custom
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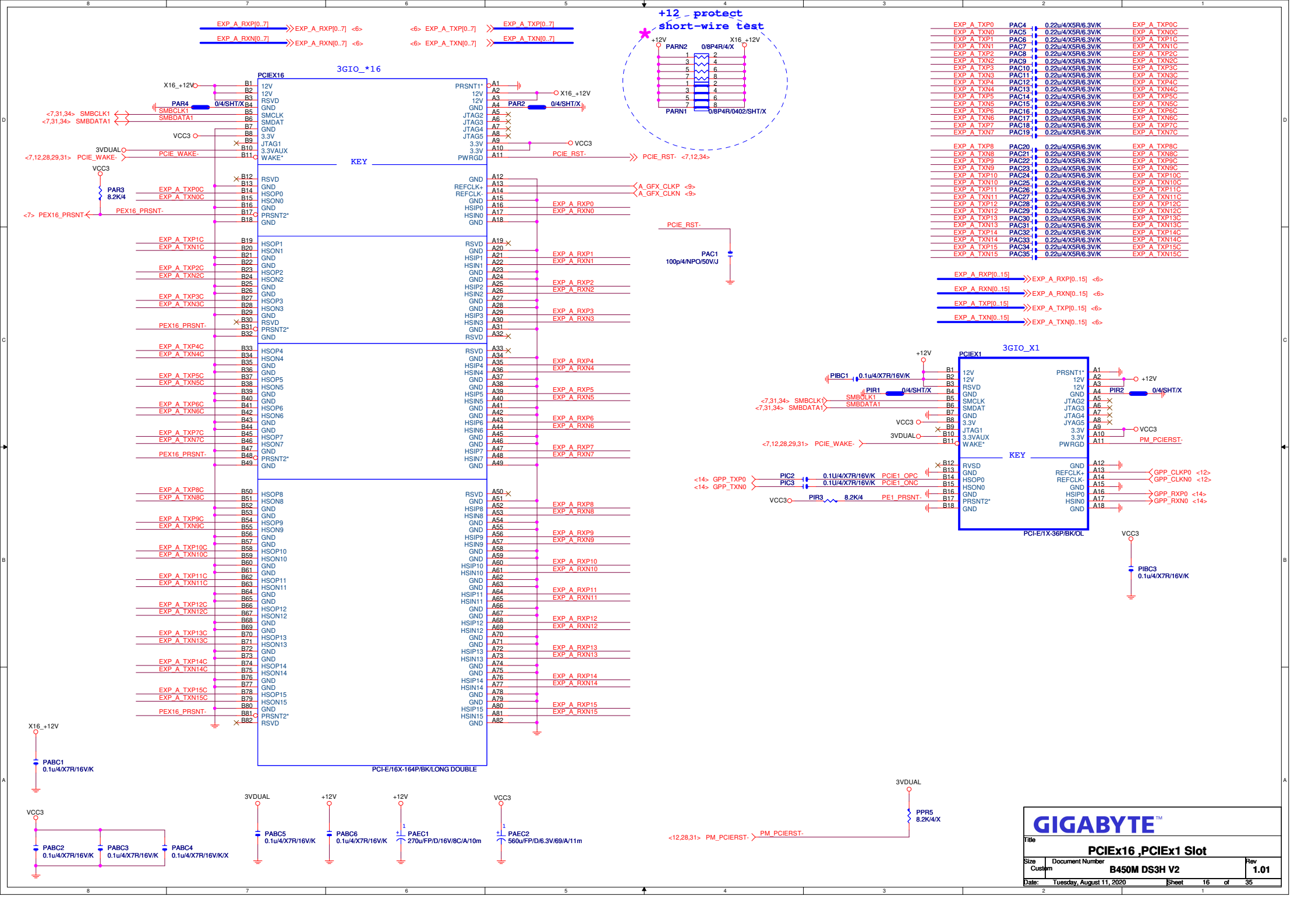

Title	PCIEx16 ,PCIEx1 Slot
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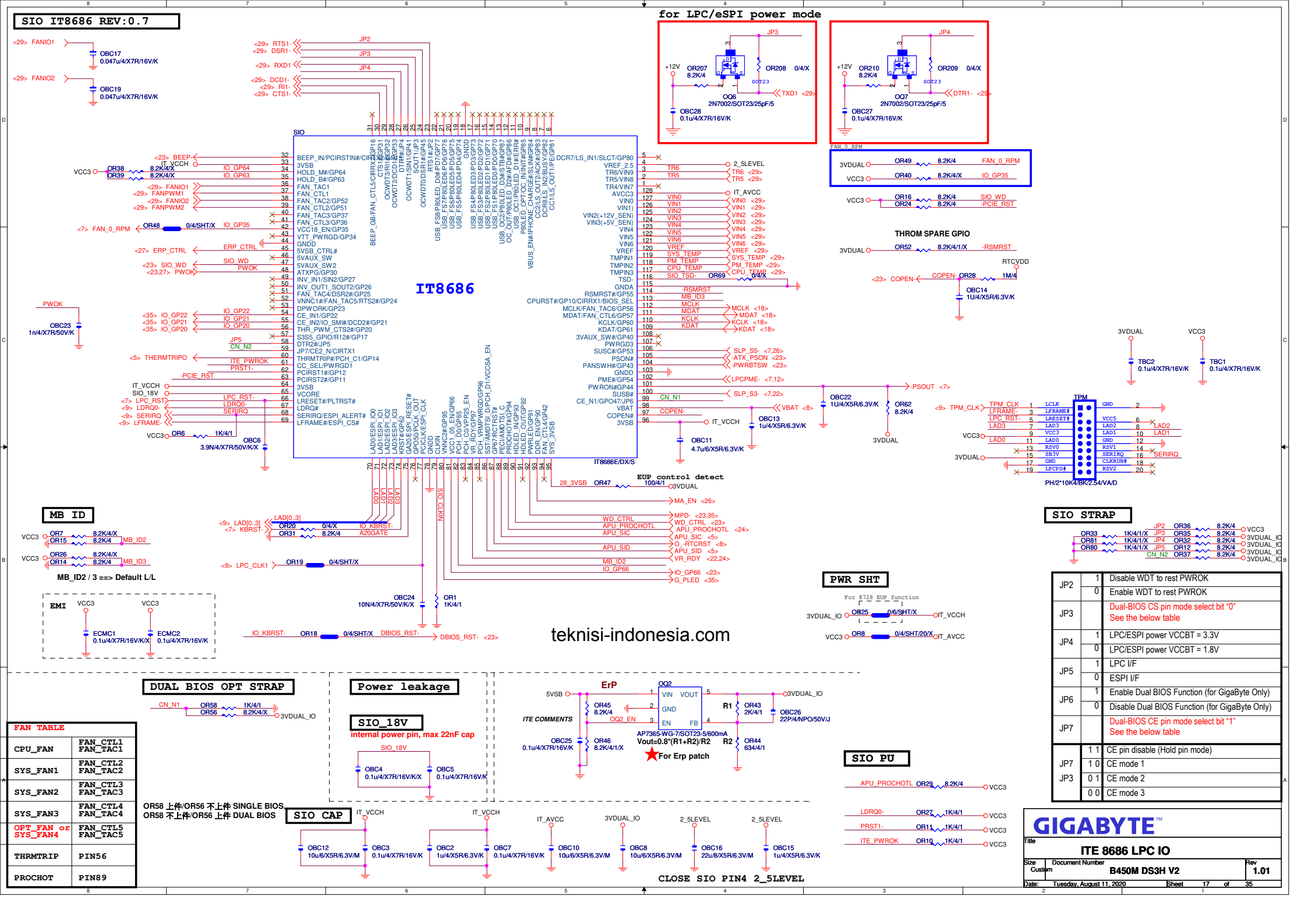

FAN TABLE	
CPU_FAN	FAN_CTL1 FAN_TAC1
SYS_FAN1	FAN_CTL2 FAN_TAC2
SYS_FAN2	FAN_CTL3 FAN_TAC3
SYS_FAN3	FAN_CTL4 FAN_TAC4
OPT_FAN or SYS_FAN4	FAN_CTL5 FAN_TAC5
THRMTRIP	PIN56
PROCHOT	PIN89

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

GIGABYTE™

Title: ITE 8686 LPC IO

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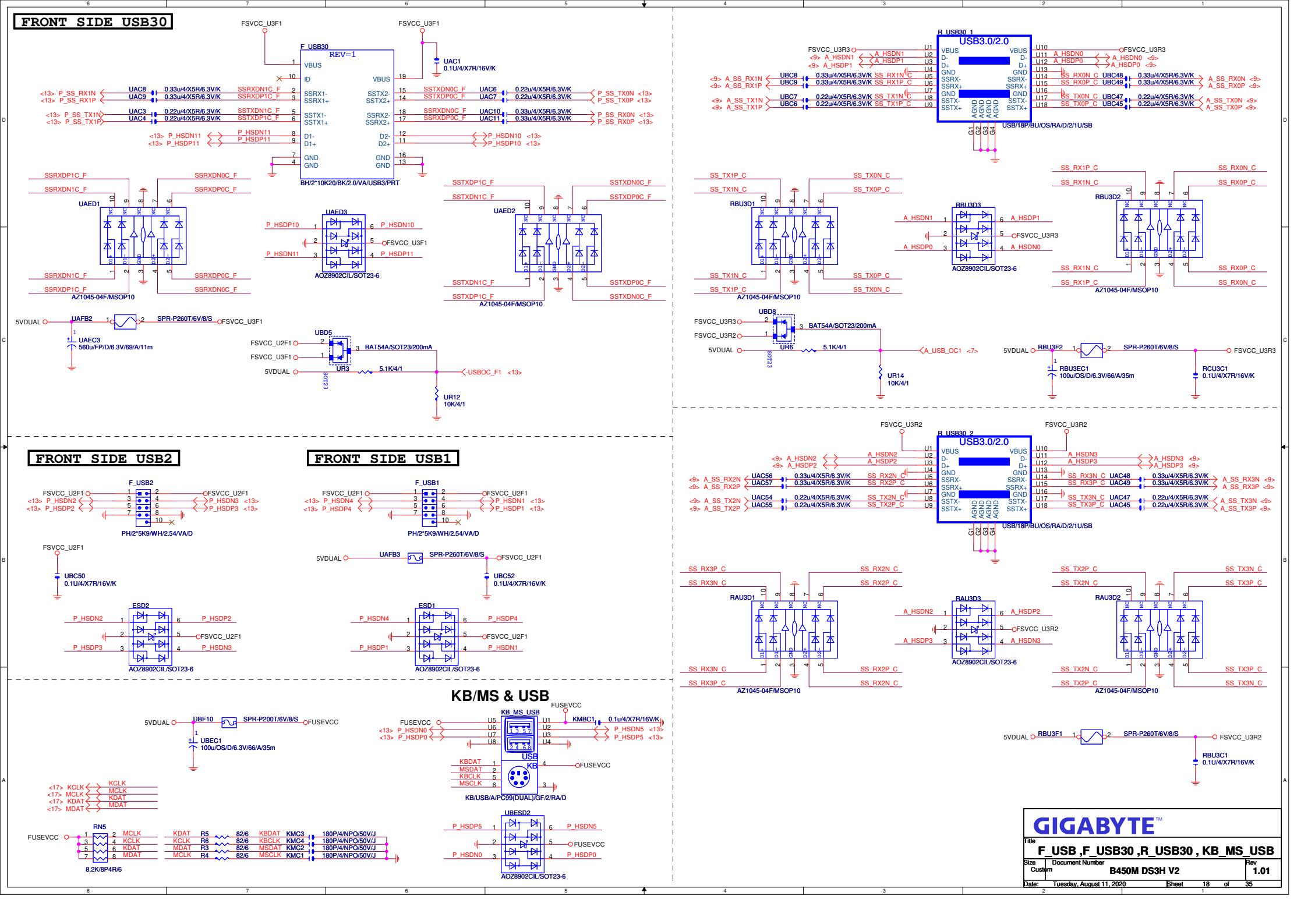
FRONT SIDE USB30
F_USB30
REV=1
BH/2*10K20/BK/2.0/VA/USB3/PRT
UAED1
UAED2
UAED3
AZ1045-04F/MSOP10
AOZ8902CIL/SOT23-6
UAFB2
SPR-P260T/6V/8/S
UAEC3
560u/FP/D/6.3V/69/A/11m
UBD5
BAT54A/SOT23/200mA
UR3
5.1K/4/1
UR12
10K/4/1
R_USB30_1
USB3.0/2.0
USB/18P/BU/OS/RA/D/2/1U/SB
RBU3D1
RBU3D3
RBU3D2
UBD8
UR6
UR14
RBU3F2
RBU3EC1
100u/OS/D/6.3V/66/A/35m
RCU3C1
FRONT SIDE USB2
FRONT SIDE USB1
F_USB2
F_USB1
PH/2*5K9/WH/2.54/VA/D
UBC50
UBC52
ESD2
ESD1
R_USB30_2
RAU3D1
RAU3D3
RAU3D2
RBU3F1
RBU3C1
KB/MS & USB
UBF10
SPR-P200T/6V/8/S
UBEC1
100u/OS/D/6.3V/66/A/35m
KB_MS_USB
KMBC1
KB/USB/A/PC99(DUAL)/GF/2/RA/D
RN5
8.2K/8P4R/6
UBESD2
GIGABYTE
Title
F_USB ,F_USB30 ,R_USB30 , KB_MS_USB
Size
Custom
Document Number
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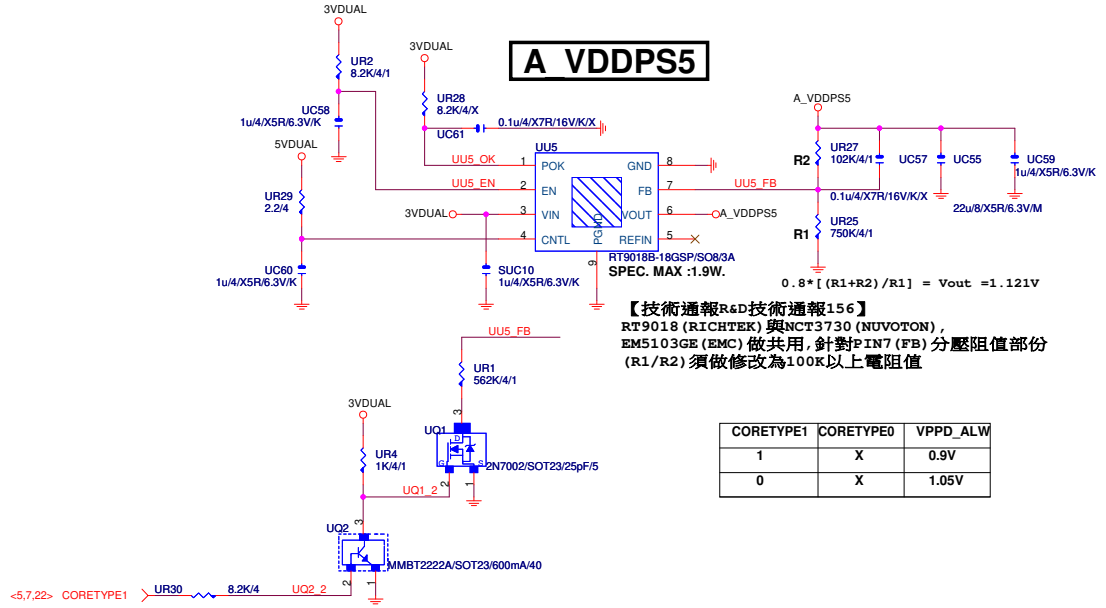
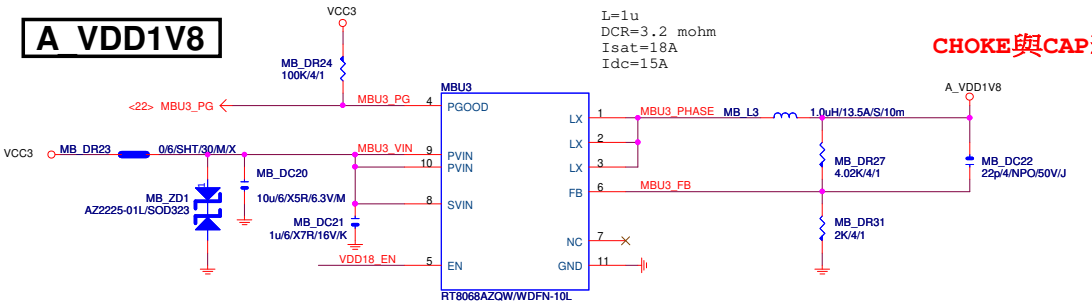


【技術通報R&D技術通報156】
RT9018(RICHTEK)與NCT3730(NUVOTON),
EM5103GE(EMC)做共用,針對PIN7(FB)分壓阻值部份
(R1/R2)須做修改為100K以上電阻值

CORETYPE1	CORETYPE0	VPPD_ALW
1	X	0.9V
0	X	1.05V

REV:0.4

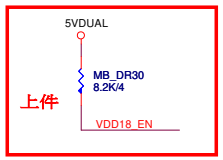
A_VDD1V8



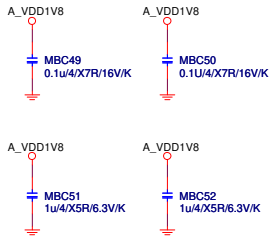
L=1u
DCR=3.2 mohm
Isat=18A
Idc=15A

CHOKE與CAP料號可變

PWR SEQ

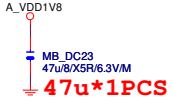


* 刪 MA_DR32



VPP CAP

* 大電容 x0



47u*1PCS

GIGABYTE™

Title	A_VDD1V8, A_VDDPS5	
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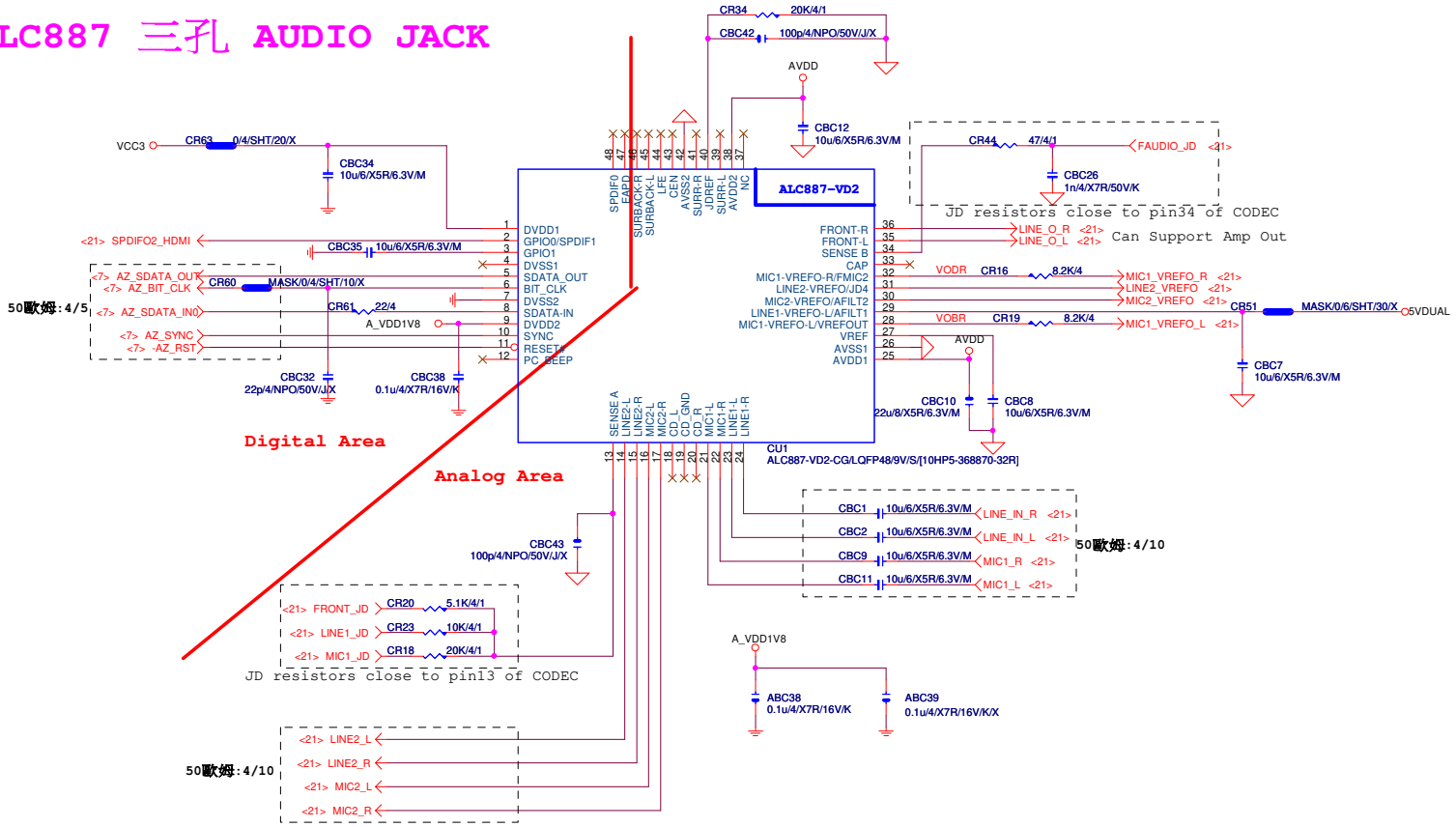
Rev 3.1

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

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 (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)

GIGABYTE™

Title	ALC887 CODEC	
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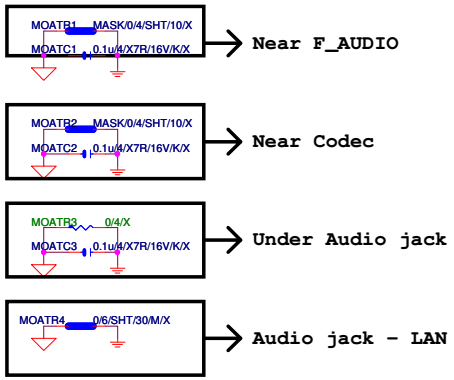
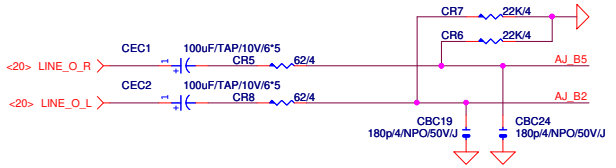
Rev 3.1

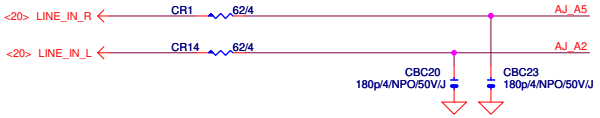


*量產前,0ohm改short pad

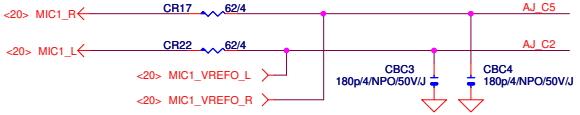
LINE-OUT



LINE-IN



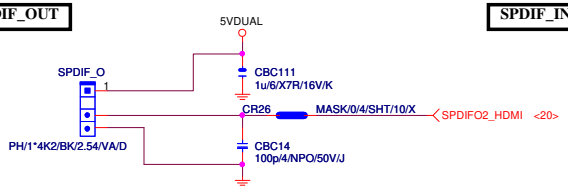
MIC-IN



SURROUND

CEN/LFE

SPDIF_OUT

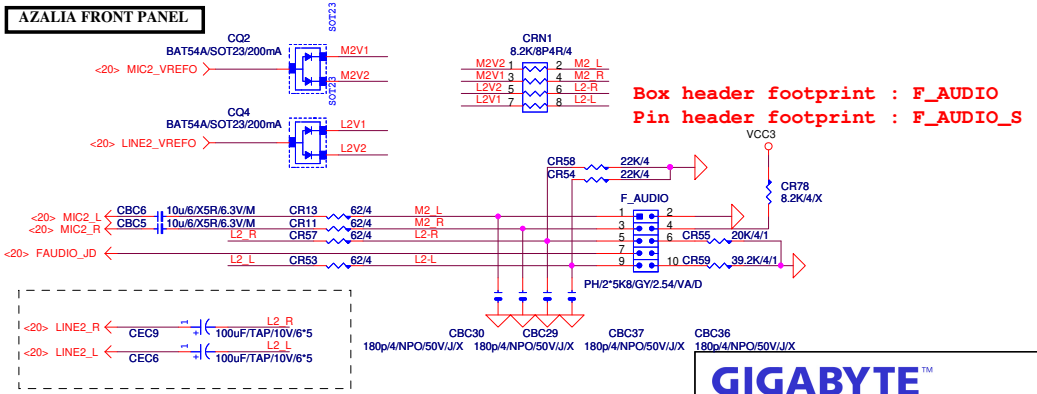


For HDMI SPDIF （依SPEC保留或移除）

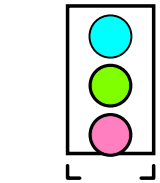
SPDIF_IN

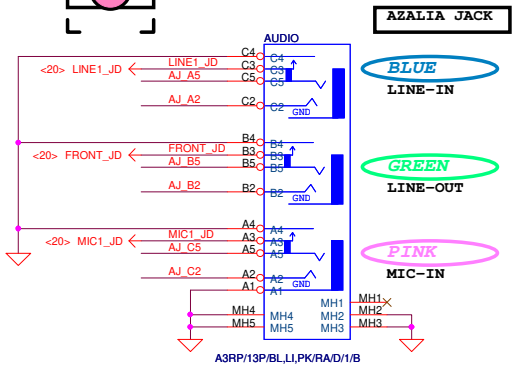
SURR BACK

AZALIA FRONT PANEL



AZALIA JACK





AZALIA JACK

BLUE
LINE-IN

GREEN
LINE-OUT

PINK
MIC-IN

GIGABYTE™

Title: AUDIO JACK		
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PWR SEQ

5VDUAL NPR1 2.2/6 NPU1_VCC
NPC4 1u/6/X7R/16V/K
NPR19 100K/4/1
PCH_1V0_GD
NPU1 RT8237C/D/DFN-10L
AVDDP_EN
AVDDP_ADJ
NPC2 0.1u/6/X7R/25V/K
UGATE_A
PHASE_A
LGATE_A
<19> MBU3_PG NPR18 0/4/SHT/X AVDDP_EN
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 47/4030/15A/S BEAD
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
NPQ1 NTTFS4C10NTAG/WDFN8/993pF/7.4m
NPR2 2.2/6
NPR4 8.2K/4
NPQ2 NTTFS4C10NTAG/WDFN8/993pF/7.4m
NPR6 2.2/6
NPC7 1n/4/X7R/50V/K
NPL2 1.0uH/13.5A/S/10m
L=1u
DCR=3.2 mohm
Isat=18A
Idc=15A
A_VDDP
A_VDDP 0.9V or 1.05V
NPC8 22p/4/NPO/50V/J/X
AVDDP_ADJ
0.704*(1+RS/RO) = Vout
RS NPR8 2K/4/1
RO NPR13 7.15K/4/1
NPC11 22u/8/X5R/6.3V/M
NPEC2 560u/FP/D/6.3V/69/A/11m
NPEC3 560u/FP/D/6.3V/69/A/11m
NPC10 22u/8/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

Remote sense請從最重的負載端點拉回
AVDDP_ADJ NPR3 9.31K/4/1
VCC3 PR84 1K/4/1
NPQ5 2N7002/SOT23/25pF/5
NPQ7 MMBT2222A/SOT23/600mA/40
<5,7,19> CORETYPE1 PR85 8.2K/4 NPQ7_2

VCC3 3VDUAL
SQD1 BAT54A/SOT23/200mA
SQR1 8.2K/4
SQR4 8.2K/4/X
<7,17> SLP_S3-
<7> S0A3_GPIO
GLOBE_S3-
GLOBE_S3- <19,26,27>
SQC2 0.1U/4/X7R/16V/K/X

VCC3
SQD2 BAT54A/SOT23/200mA
SQR2 39K/4/1
<17,24> VR_RDY
PCH_1V0_GD
APU_PWOK <7>
SQR3 100K/4/1
SQC1 2.2u/4/X5R/6.3V/M
SQD3 BAT54A/SOT23/200mA
PM_PWROK
VDDIO_MEM_PG
SQD4 BAT54A/SOT23/200mA
<26> VPP_MEM_PG

VCC3
R362 8.2K/4
OK
CPUVDD_EN <24>
3VDUAL
Q66 2N7002/SOT23/25pF/5
R361 8.2K/4
Q66_2
Q65 MMBT2222A/SOT23/600mA/40
VDDIO_MEM R348 1K/4/1 Q65_2
R365 8.2K/4/1/X
<5,26> AM4R1
D47 BAT54A/SOT23/200mA/X
C226 2.2u/4/X5R/6.3V/M/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
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
PM_2V5 R349 2.49K/4/1 Q67_2
R364 1K/4/1
C228 2.2u/4/X5R/6.3V/M/X

GIGABYTE™

Title	POWER SEQ, A_VDDP	
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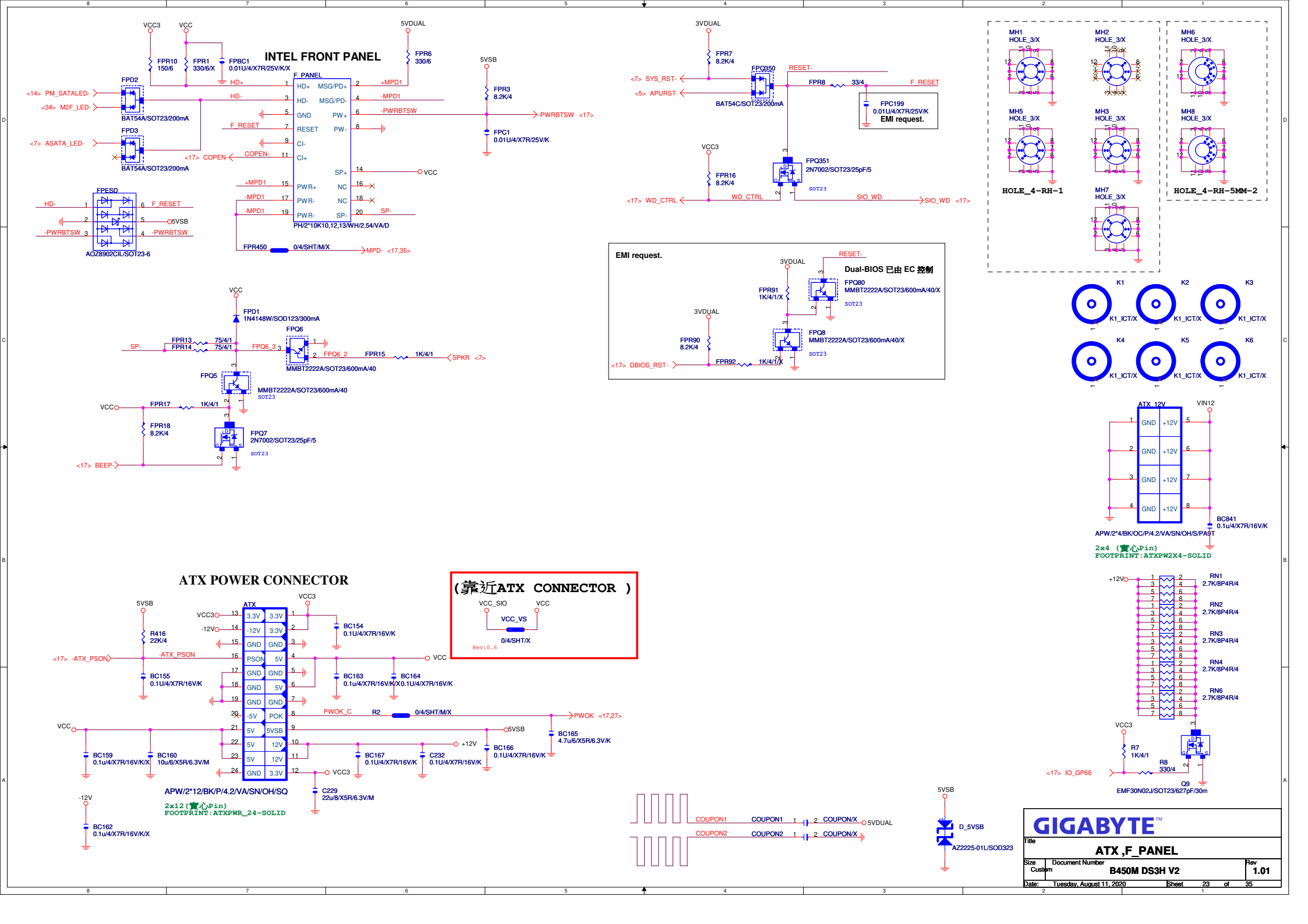
INTEL FRONT PANEL
F_PANEL
PH/2*10K10,12,13/WH/2.54/VA/D
FPESD
AOZ8902CIL/SOT23-6
ATX POWER CONNECTOR
APW/2*12/BK/P4.2/VA/SN/OH/SQ
2x12 (實心Pin)
FOOTPRINT:ATXPWR_24-SOLID
(靠近ATX CONNECTOR)
Rev:0.6
EMI request.
Dual-BIOS 已由 EC 控制
HOLE_4-RH-1
HOLE_4-RH-5MM-2
APW/2*4/BK/OC/P/4.2/VA/SN/OH/S/PA9T
2x4 (實心Pin)
FOOTPRINT:ATXPW2X4-SOLID
EMF30N02J/SOT23/627pF/30m
AZ2225-01L/SOD323
GIGABYTE
ATX ,F_PANEL
B450M DS3H V2
1.01
Tuesday, August 11, 2020
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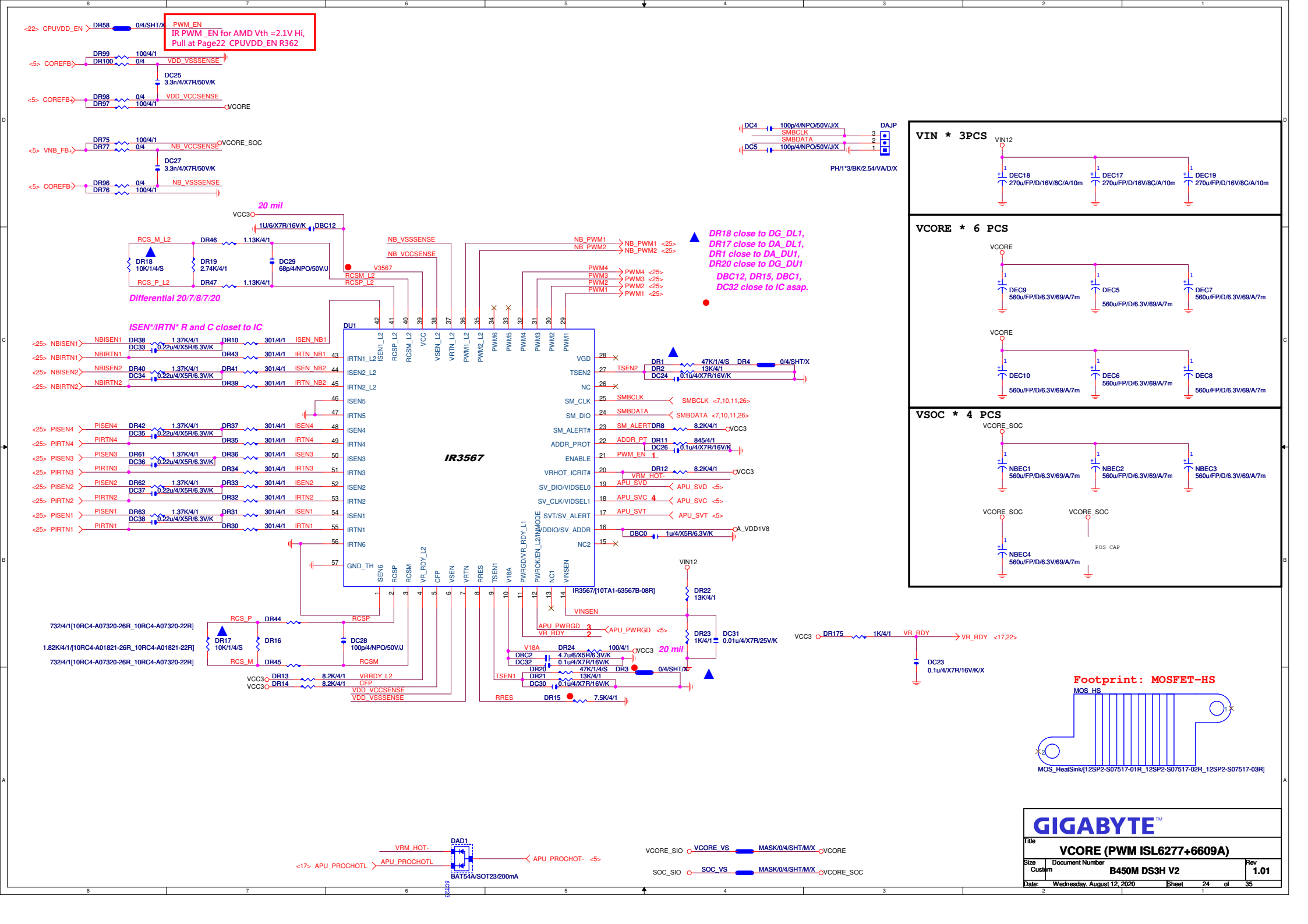
IR PWM _EN for AMD Vth =2.1V Hi,
Pull at Page22 CPUVDD_EN R362
IR3567
IR3567/[10TA1-63567B-08R]
20 mil
Differential 20/7/7/20
ISEN*/IRTN* R and C closet to IC
DR18 close to DG_DL1,
DR17 close to DA_DL1,
DR1 close to DA_DU1,
DR20 close to DG_DU1
DBC12, DR15, DBC1,
DC32 close to IC asap.
VIN * 3PCS
VCORE * 6 PCS
VSOC * 4 PCS
Footprint: MOSFET-HS
MOS_HeatSink/[12SP2-S07517-01R_12SP2-S07517-02R_12SP2-S07517-03R]
BAT54A/SOT23/200mA
GIGABYTE
VCORE (PWM ISL6277+6609A)
B450M DS3H V2
1.01
Wednesday, August 12, 2020
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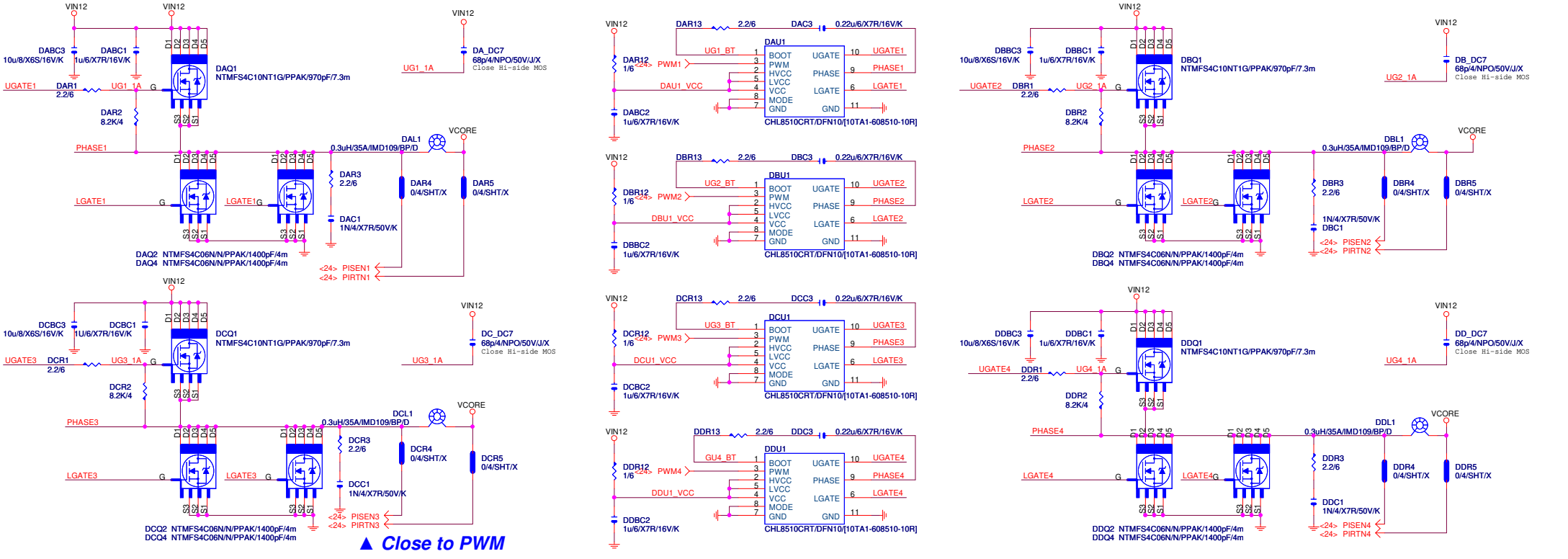

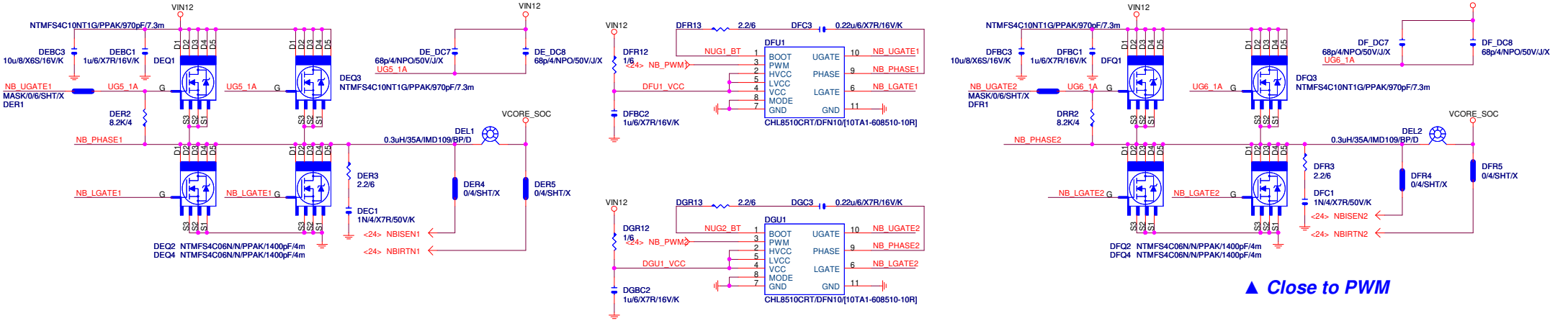

GIGABYTE™

Title	VCORE MOS	
Size: Custom	Document Number: B450M DS3H V2	Rev: 1.01
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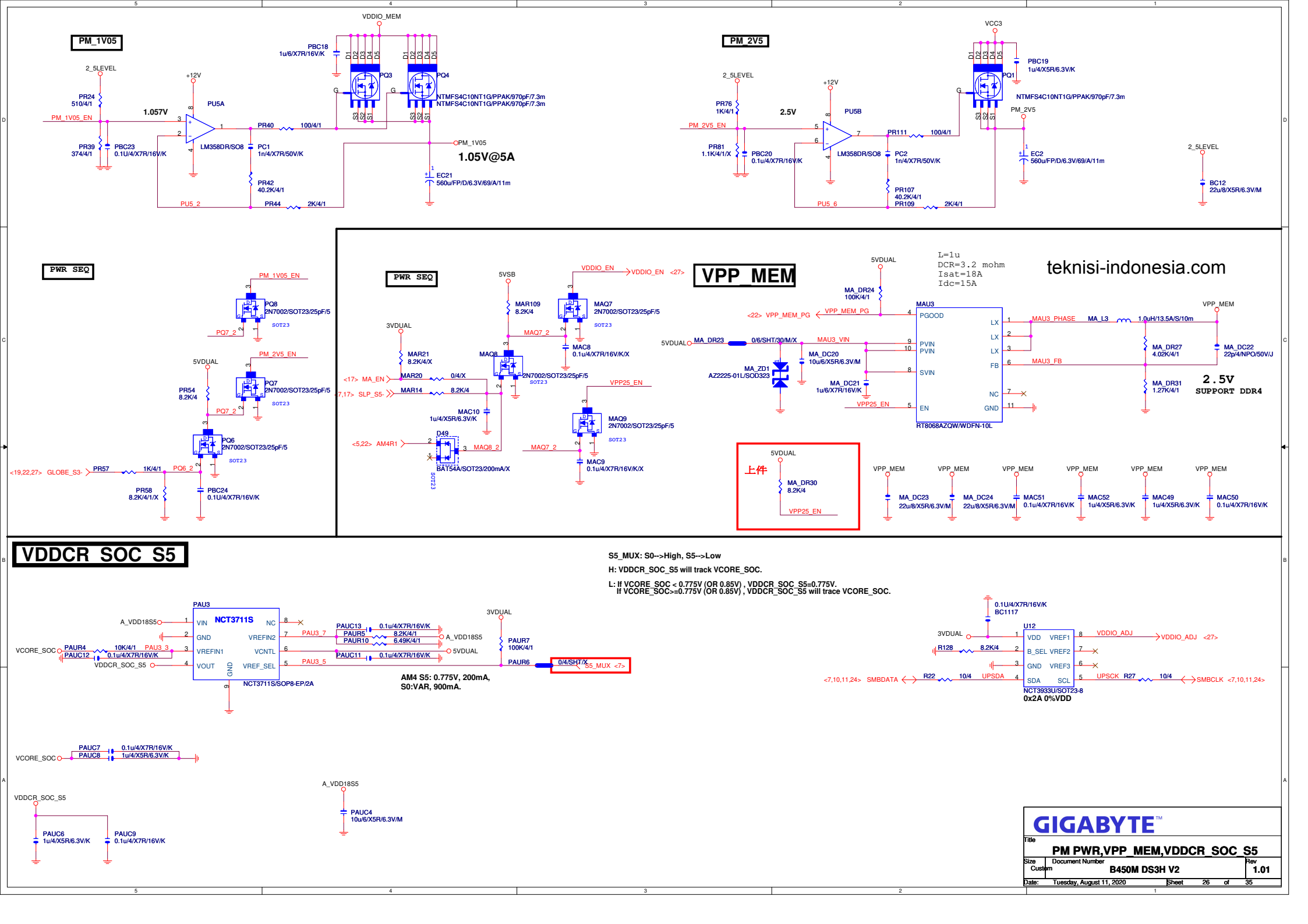
PM_1V05
VDDIO_MEM
PBC18
1u/6/X7R/16V/K
PQ3
PQ4
NTMFS4C10NT1G/PPAK/970pF/7.3m
NTMFS4C10NT1G/PPAK/970pF/7.3m
2_5LEVEL
PR24
510/4/1
1.057V
+12V
PU5A
PM_1V05_EN
PR39
374/4/1
PBC23
0.1U/4/X7R/16V/K
LM358DR/SO8
PR40
100/4/1
PC1
1n/4/X7R/50V/K
PR42
40.2K/4/1
PU5_2
PR44
2K/4/1
PM_1V05
1.05V@5A
EC21
560u/FP/D/6.3V/69/A/11m
PM_2V5
VCC3
PBC19
1u/4/X5R/6.3V/K
PQ1
NTMFS4C10NT1G/PPAK/970pF/7.3m
PM_2V5
2_5LEVEL
PR76
1K/4/1
2.5V
PU5B
PM_2V5_EN
PR81
1.1K/4/1/X
PBC20
0.1u/4/X7R/16V/K
LM358DR/SO8
PR111
100/4/1
PC2
1n/4/X7R/50V/K
PR107
40.2K/4/1
PR109
2K/4/1
PU5_6
EC2
560u/FP/D/6.3V/69/A/11m
2_5LEVEL
BC12
22u/8/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
2N7002/SOT23/25pF/5
PQ6
2N7002/SOT23/25pF/5
<19,22,27> GLOBE_S3-
PR57
1K/4/1
PQ6_2
PR58
8.2K/4/1/X
PBC24
0.1U/4/X7R/16V/K
PWR SEQ
5VSB
VDDIO_EN
VDDIO_EN <27>
MAR109
8.2K/4
MAQ7
2N7002/SOT23/25pF/5
3VDUAL
MAR21
8.2K/4/X
MAQ8
MAC8
0.1u/4/X7R/16V/K/X
<17> MA_EN
MAR20
0/4/X
7,17> SLP_S5-
MAR14
8.2K/4
MAC10
1u/4/X5R/6.3V/K
VPP25_EN
MAC9
2N7002/SOT23/25pF/5
D49
<5,22> AM4R1
BAT54A/SOT23/200mA/X
MAC9
0.1u/4/X7R/16V/K/X
VPP_MEM
5VDUAL
L=1u
DCR=3.2 mohm
Isat=18A
Idc=15A
teknisi-indonesia.com
MA_DR24
100K/4/1
<22> 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/8/X5R/6.3V/M
MA_DC24
22u/8/X5R/6.3V/M
MAC51
0.1u/4/X7R/16V/K
MAC52
1u/4/X5R/6.3V/K
MAC49
1u/4/X5R/6.3V/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
A_VDD18S5
VIN
GND
VREFIN1
VOUT
VREF_SEL
NC
VREFIN2
VCNTL
VCORE_SOC
PAUR4
10K/4/1
PAUC12
0.1u/4/X7R/16V/K
VDDCR_SOC_S5
PAU3_3
PAU3_7
PAU3_5
PAUC13
0.1u/4/X7R/16V/K
PAUR5
8.2K/4/1
PAUR10
6.49K/4/1
PAUC11
0.1u/4/X7R/16V/K
A_VDD18S5
5VDUAL
3VDUAL
PAUR7
100K/4/1
PAUR6
0/4/SHT/X
S5_MUX <7>
NCT3711S/SOP8-EP/2A
AM4 S5: 0.775V, 200mA,
S0:VAR, 900mA.
0.1u/4/X7R/16V/K
BC1117
3VDUAL
U12
R128
8.2K/4
VDD
VREF1
B_SEL
VREF2
GND
VREF3
SDA
SCL
VDDIO_ADJ
VDDIO_ADJ <27>
<7,10,11,24> SMBDATA
R22
10/4
UPSDA
UPSCK
R27
10/4
SMBCLK <7,10,11,24>
NCT3933U/SOT23-8
0x2A 0%VDD
PAUC7
0.1u/4/X7R/16V/K
PAUC8
1u/4/X5R/6.3V/K
VCORE_SOC
VDDCR_SOC_S5
PAUC6
1u/4/X5R/6.3V/K
PAUC9
0.1u/4/X7R/16V/K
A_VDD18S5
PAUC4
10u/6/X5R/6.3V/M
GIGABYTE
Title
PM PWR,VPP_MEM,VDDCR_SOC_S5
Size
Custom
Document Number
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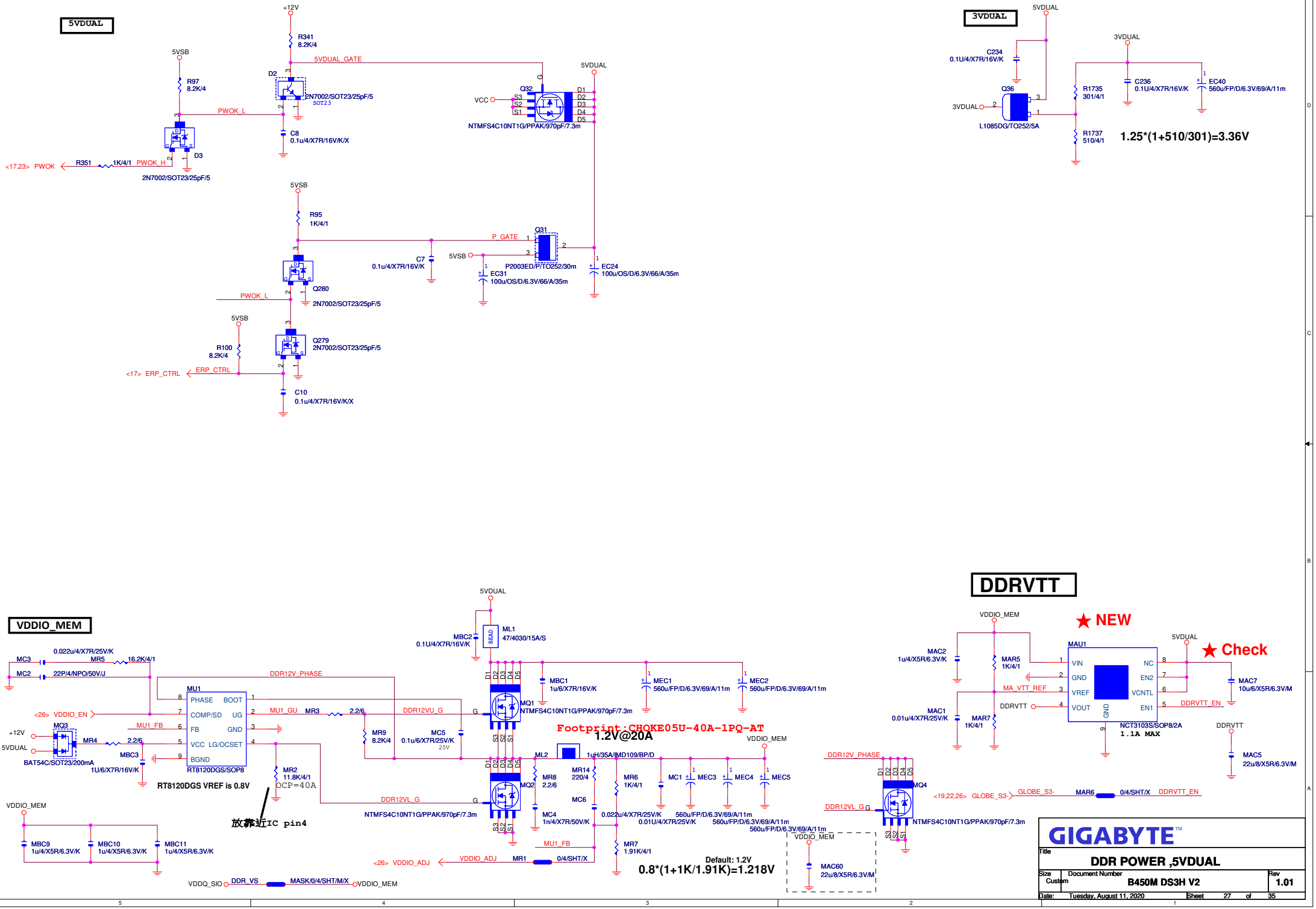
5VDUAL
+12V
R341
8.2K/4
5VDUAL_GATE
5VSB
R97
8.2K/4
D2
2N7002/SOT23/25pF/5
SOT23
PWOK_L
C8
0.1u/4/X7R/16V/K/X
D3
<17,23> PWOK
R351
1K/4/1
PWOK_H
2N7002/SOT23/25pF/5
VCC
Q32
NTMFS4C10NT1G/PPAK/970pF/7.3m
R95
1K/4/1
P_GATE
Q31
C7
0.1u/4/X7R/16V/K
P2003EDP/TO252/30m
EC31
100u/OS/D/6.3V/66/A/35m
EC24
100u/OS/D/6.3V/66/A/35m
Q280
2N7002/SOT23/25pF/5
R100
8.2K/4
Q279
2N7002/SOT23/25pF/5
<17> ERP_CTRL
ERP_CTRL
C10
0.1u/4/X7R/16V/K/X
3VDUAL
C234
0.1U/4/X7R/16V/K
Q36
L1085DG/TO252/5A
R1735
301/4/1
C236
0.1U/4/X7R/16V/K
EC40
560u/FP/D/6.3V/69/A/11m
R1737
510/4/1
1.25*(1+510/301)=3.36V
VDDIO_MEM
MC3
0.022u/4/X7R/25V/K
MR5
16.2K/4/1
MC2
22P/4/NPO/50V/J
DDR12V_PHASE
MU1
PHASE
BOOT
COMP/SD
UG
FB
GND
VCC LG/OCSET
BGND
RT8120DGS/SOP8
<26> VDDIO_EN
MU1_FB
MU1_GU
MR3
2.2/6
DDR12VU_G
MQ3
BAT54C/SOT23/200mA
MR4
2.2/6
MBC3
1U/6/X7R/16V/K
MR9
8.2K/4
MC5
0.1u/6/X7R/25V/K
25V
RT8120DGS VREF is 0.8V
MR2
11.8K/4/1
OCP=40A
放靠近IC pin4
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
MBC2
0.1U/4/X7R/16V/K
BEAD
ML1
47/4030/15A/S
MBC1
1u/6/X7R/16V/K
MEC1
560u/FP/D/6.3V/69/A/11m
MEC2
560u/FP/D/6.3V/69/A/11m
MQ1
NTMFS4C10NT1G/PPAK/970pF/7.3m
Footprint:CHOKE05U-40A-1PQ-AT
1.2V@20A
ML2
1uH/35A/IMD109/BP/D
MR8
2.2/6
MR14
220/4
MR6
1K/4/1
MC1
MEC3
MEC4
MEC5
MQ2
MC6
0.022u/4/X7R/25V/K
0.01U/4/X7R/25V/K
560u/FP/D/6.3V/69/A/11m
MC4
1n/4/X7R/50V/K
NTMFS4C10NT1G/PPAK/970pF/7.3m
MR7
1.91K/4/1
MU1_FB
<26> VDDIO_ADJ
VDDIO_ADJ
MR1
0/4/SHT/X
Default: 1.2V
0.8*(1+1K/1.91K)=1.218V
MAC60
22u/8/X5R/6.3V/M
DDRVTT
★ NEW
★ Check
MAU1
VIN
GND
VREF
VOUT
NC
EN2
VCNTL
EN1
NCT3103S/SOP8/2A
1.1A MAX
MAC2
1u/4/X5R/6.3V/K
MAR5
1K/4/1
MA_VTT_REF
DDRVTT
MAC1
0.01u/4/X7R/25V/K
MAR7
1K/4/1
MAC7
10u/6/X5R/6.3V/M
DDRVTT_EN
MAC5
22u/8/X5R/6.3V/M
MQ4
NTMFS4C10NT1G/PPAK/970pF/7.3m
<19,22,26> GLOBE_S3-
MAR6
0/4/SHT/X
GIGABYTE
Title
DDR POWER ,5VDUAL
Size
Custom
Document Number
B450M DS3H V2
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1.01
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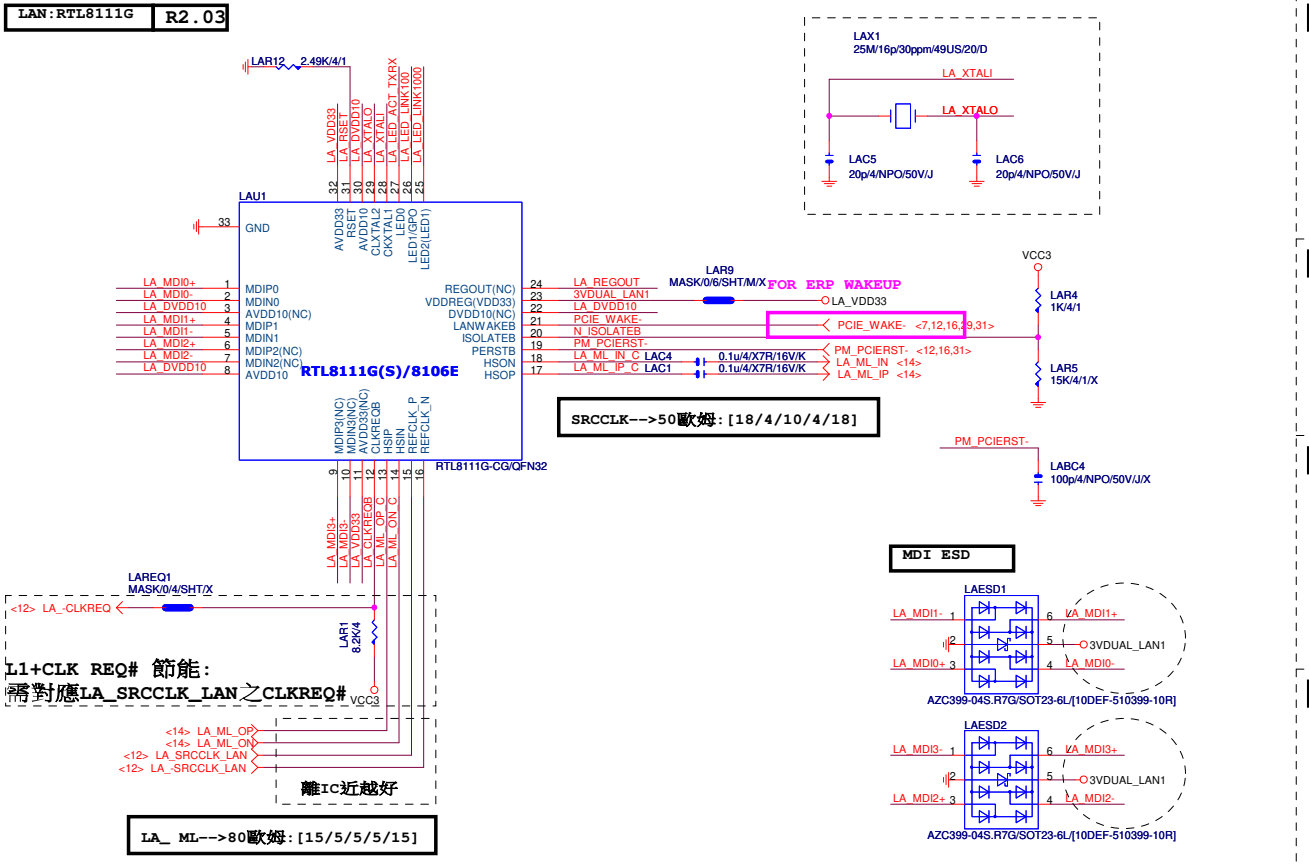
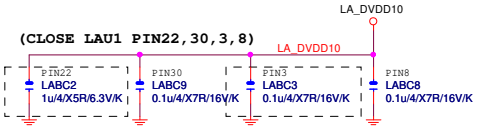
LAN:RTL8111G R2.03



MDI ESD

LAN POWER



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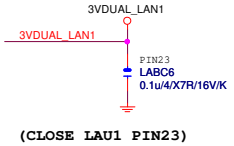

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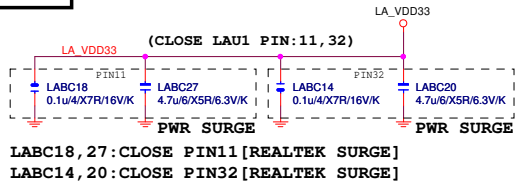
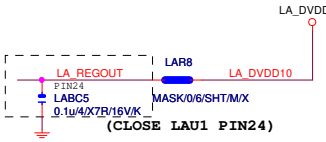
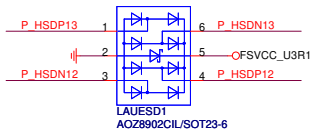


LAN POWER

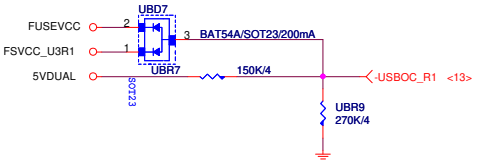


USB_LAN CONNECTOR R2.03

RMA ESD PROTECT



teknisi-indonesia.com



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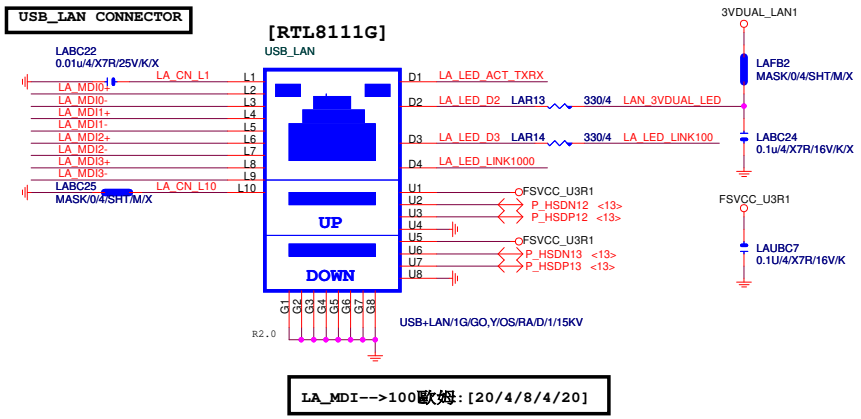

USB POWER

LAN POWER

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

EMI

LAN AGND change GND
Remove Short Pad

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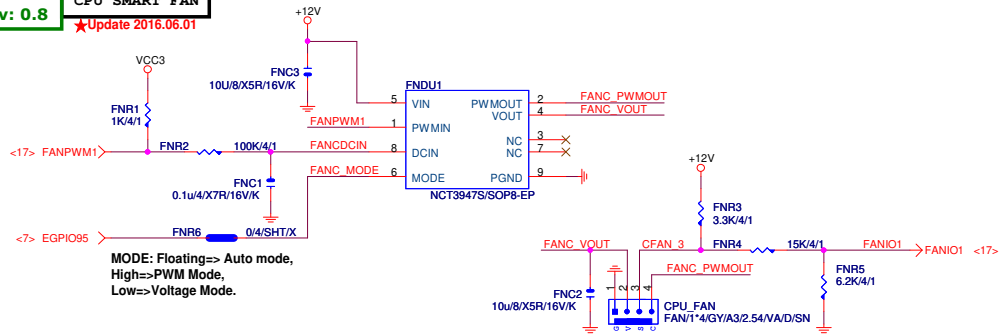
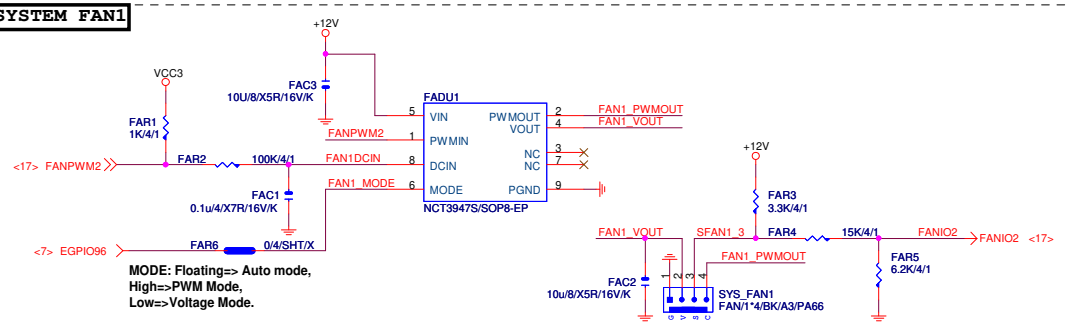
CPU SMART FAN

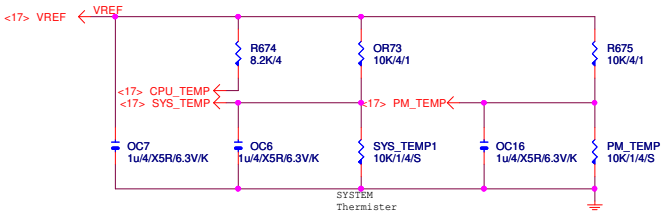
★Update 2016.06.01

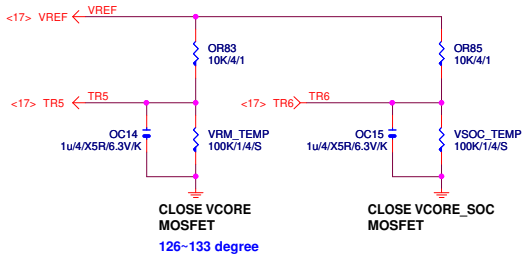


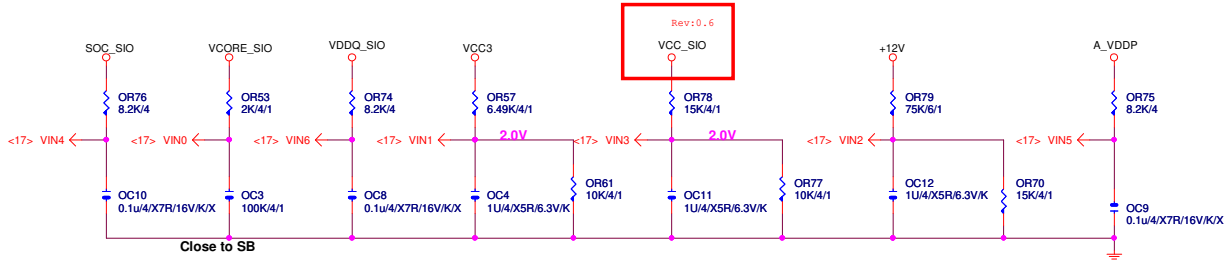
SYSTEM FAN1



Hardware Monitor circuits

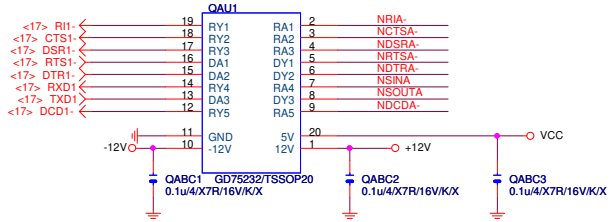




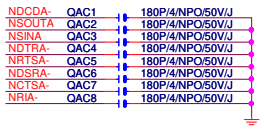


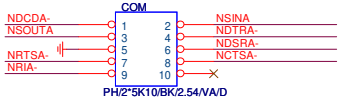
LPT PORT

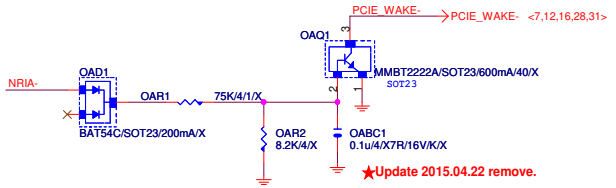
COM PORT



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。







★Update 2015.04.22 remove.

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Title	FAN, LPT, COM ,HWM	
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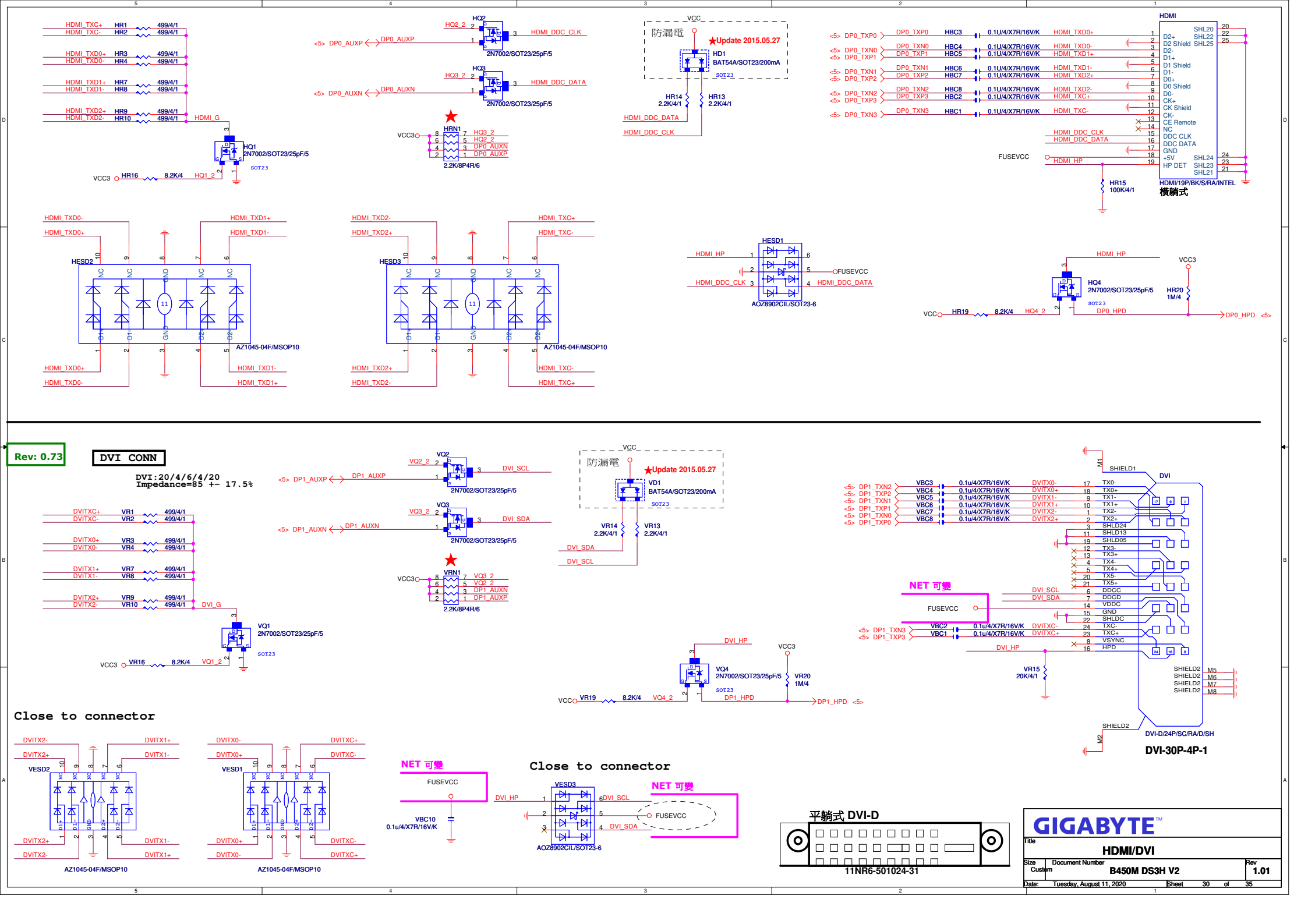
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HDMI_TXC- HR2 499/4/1
HDMI_TXD0+ HR3 499/4/1
HDMI_TXD0- HR4 499/4/1
HDMI_TXD1+ HR7 499/4/1
HDMI_TXD1- HR8 499/4/1
HDMI_TXD2+ HR9 499/4/1
HDMI_TXD2- HR10 499/4/1
HDMI_G
HQ1
2N7002/SOT23/25pF/5
SOT23
VCC3 HR16 8.2K/4 HQ1_2
HQ2_2
HQ3_2
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<5> DP0_AUXN DP0_AUXN
HDMI_DDC_CLK
HDMI_DDC_DATA
HRN1
2.2K/8P4R/6
VCC
防漏電
★Update 2015.05.27
HD1
BAT54A/SOT23/200mA
HR14 2.2K/4/1
HR13 2.2K/4/1
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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
橫躺式
FUSEVCC
HDMI_HP
HR15 100K/4/1
HESD2
HESD3
AZ1045-04F/MSOP10
HESD1
AOZ8902CIL/SOT23-6
HQ4
2N7002/SOT23/25pF/5
HR20 1M/4
DP0_HPD
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
VCC3 VR16 8.2K/4 VQ1_2
VQ2_2
VQ3_2
<5> DP1_AUXP DP1_AUXP
<5> DP1_AUXN DP1_AUXN
DVI_SCL
DVI_SDA
VRN1
2.2K/8P4R/6
VD1
BAT54A/SOT23/200mA
VR14 2.2K/4/1
VR13 2.2K/4/1
<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+
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<5> DP1_TXP3 VBC1 0.1u/4/X7R/16V/K DVITXC+
DVI
TX0- TX0+ TX1- TX1+ TX2- TX2+ SHLD24 SHLD13 SHLD05 TX3- TX3+ TX4- TX4+ TX5- TX5+ DDCC DDCD VDDC GND SHLDC TXC- TXC+ VSYNC HPD
SHIELD1 M1
SHIELD2 M2 M5 M6 M7 M8
DVI-D/24P/SC/RA/D/SH
DVI-30P-4P-1
NET 可變
FUSEVCC
VR15 20K/4/1
DVI_HP
VQ4
2N7002/SOT23/25pF/5
VR20 1M/4
DP1_HPD
VR19 8.2K/4 VQ4_2
Close to connector
VESD2
VESD1
AZ1045-04F/MSOP10
VBC10 0.1u/4/X7R/16V/K
VESD3
AOZ8902CIL/SOT23-6
平躺式 DVI-D
11NR6-501024-31
GIGABYTE
Title
HDMI/DVI
Size Custom
Document Number B450M DS3H V2
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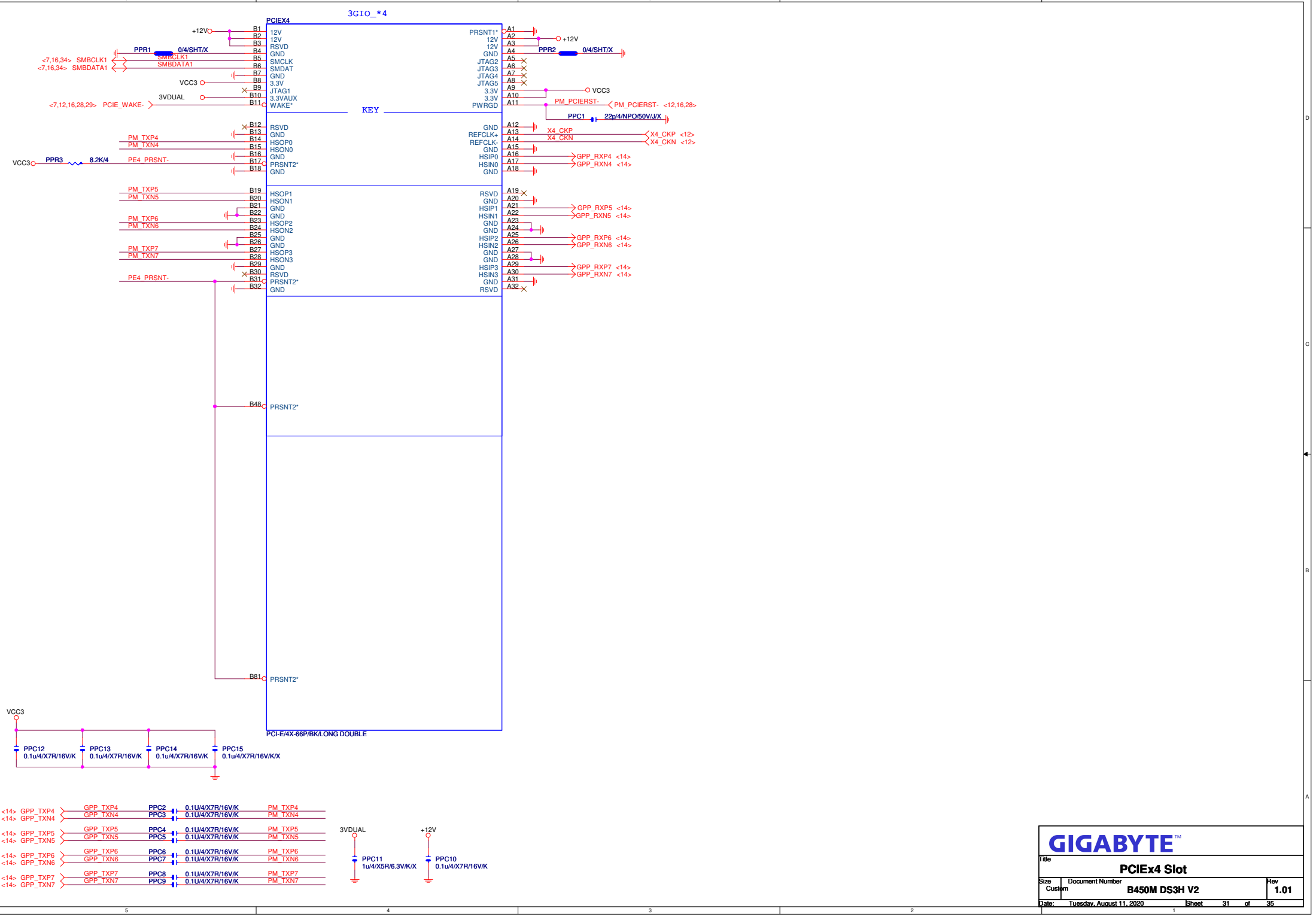

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Size: Custom	Document Number: B450M DS3H V2	Rev: 1.01
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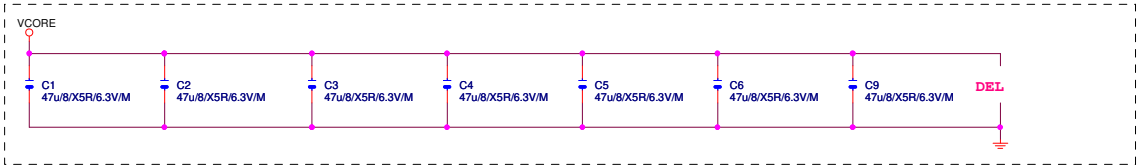

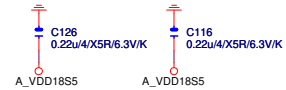

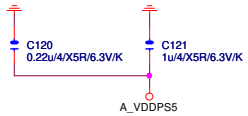

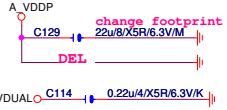

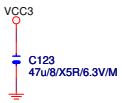

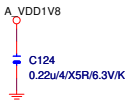

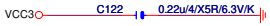

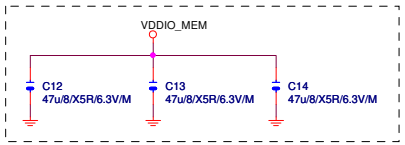

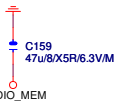

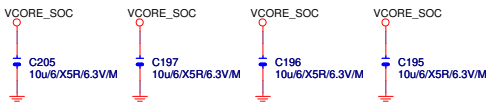

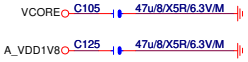

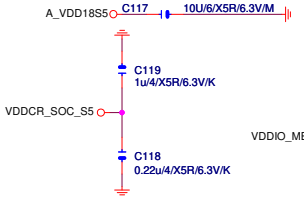

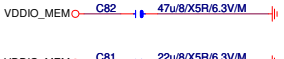

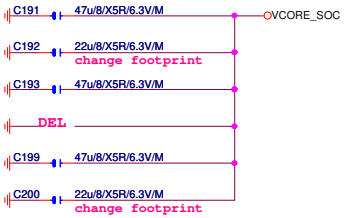

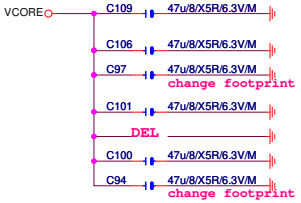

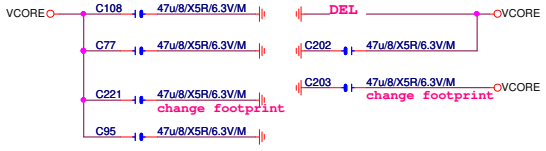

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Title	CPU SMD CAP BOTTOM	
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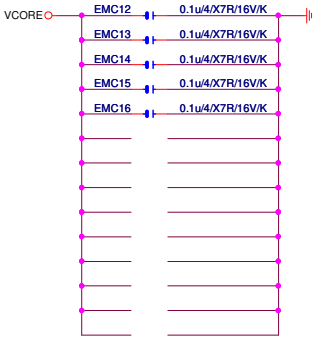
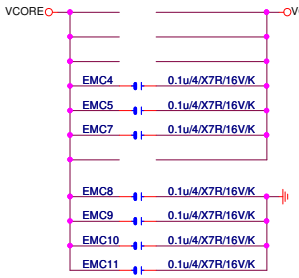
CPU TOP CAVITY



Cross Plane CAP



GIGABYTE™

Title: CPU SMD CAP TOP		
Size: Custom	Document Number: B450M DS3H V2	Rev: 1.01
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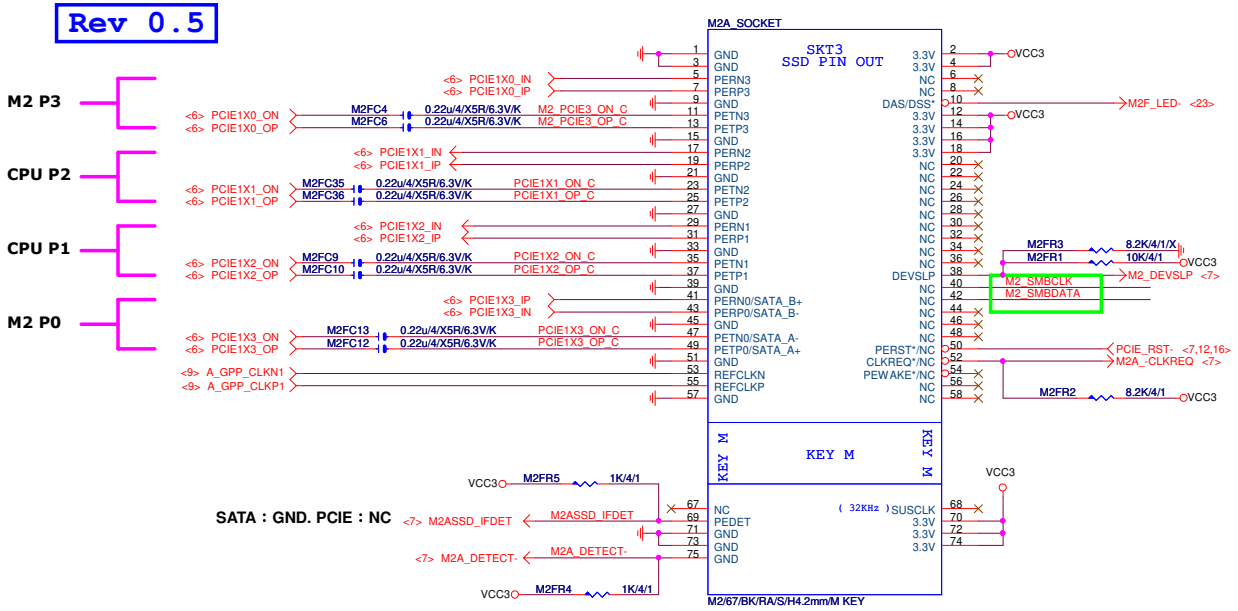
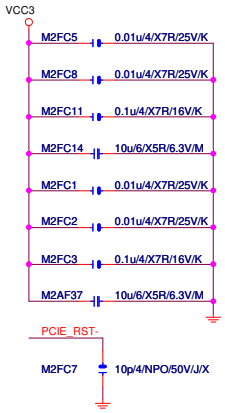
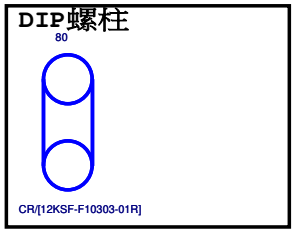
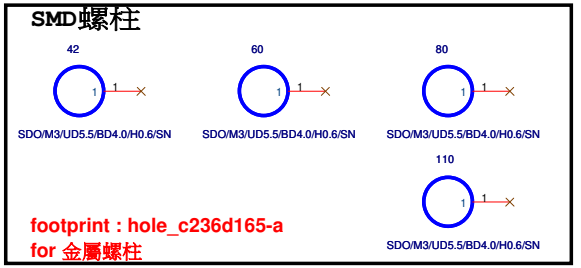
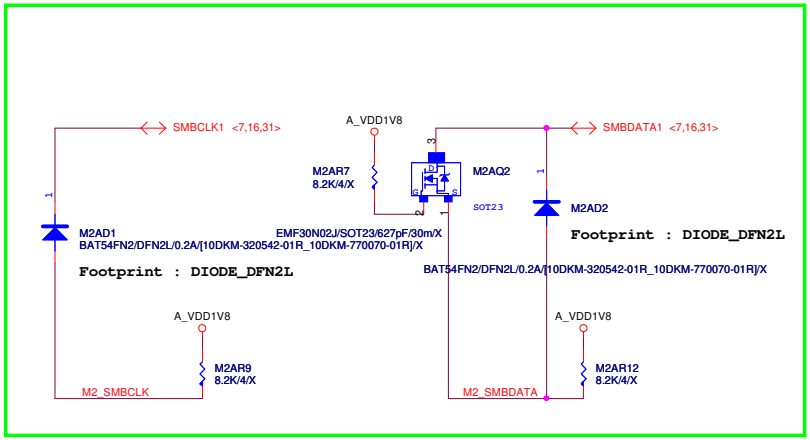


footprint : NGFF-M-75P-11CM-09MM-SMD









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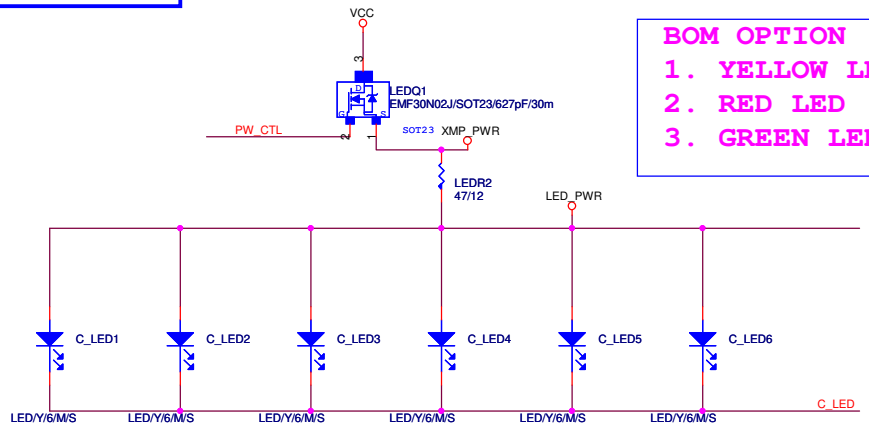
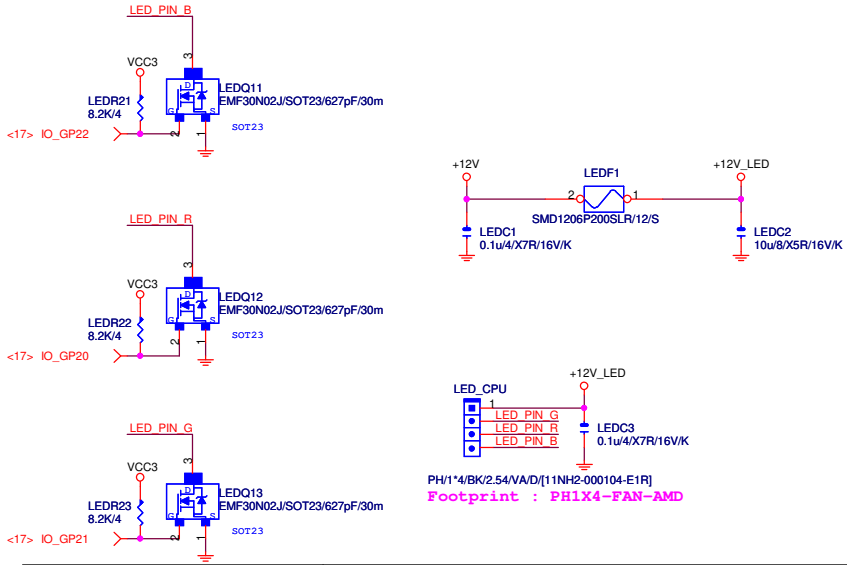
BOM OPTION :
1. YELLOW LED : LED/Y/6/M/S
2. RED LED : LED/R/H/0603/S
3. GREEN LED : LED/G/0603/S

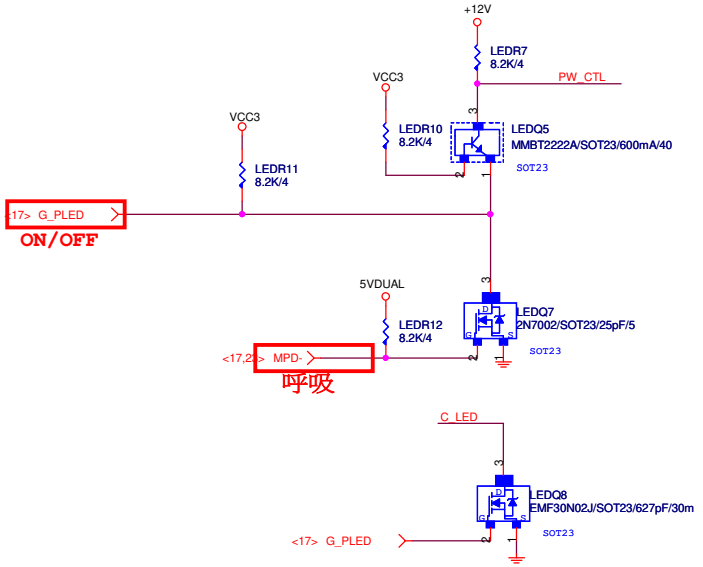
Ambient LED Control

	IO_GP95	IO_GP91
Still Mode	H	L
OFF Mode	L	L
Pluse Mode	H	BREATH



RGB LED CONTROL





三色 LED Control

	IO_GP20(R)	IO_GP21(G)	IO_GP22(B)
Blue	L	L	H
Green	L	H	L
Light Blue	L	H	H
Red	H	L	L
Pink	H	L	H
Light Green	H	H	L
White	H	H	H
Cycle Mode	順序:Blue-Green-Light Blue-Red-Pink-Light Green-White 切換間隔時間為 1 秒		

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