GA-F2A68HM-S1

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22	VCORE MOS
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24	RTL8111G
25	VCC_SB , APU_VDDP , VCC11_DUAL , VDDA25

Revision : 1.1

APU_VDDIO_SUS=DDR15V

APU_VTT_SUS=DDRVTT
APU_VDDP_RUN=APU_VDDR_RUN=APU_VDDP

+1.1V_RUN=FCH_VDD_11_RUN=VCC_SB

+3.3V_RUN=VCC3
+3.3V_ALW=3VDUAL

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Title: COVER SHEET		
Size: Custom	Document Number: GA-F2A68HM-S1	Rev: 1.1
Date: Wednesday, December 17, 2014	Sheet 1 of 25	

Model Name:GA-F2A68HM-S1

Version: 1.1
111111111111
P-Code:

Component value change history

Date	Change Item	Reason
2014.08.22	3.1A New BOM release PCB:3.1	Modify From F2A88XM-DS2-EC 31A : 1. CEC1,CEC2,CEC6,CEC9 Change to 100uF/D/10V/6*5/[11CE2-651000-05R] 2. PCB Update
2014.08.28	3.1A New BOM release PCB:3.1	Modify From F2A88XM-DS2-EC 31A : 1.CHIPSET CHANGE TO D2H(A68H) 2.ONLY SUPPORT TWO USB3 PORT 3.REMOVE F_USB30 4.ADD SYS_FAN2 5.ADD R_USB
2014.09.26	1.0A New BOM release PCB:1.0	Modify From F2A88XM-DS2 31A : 1. Change model Name : F2A68HM-S1 2. F_USB30 & R_USB30 PIN SWAP 3. DEL F_USB30 4. ADD SYS_FAN2 5. ADD R_USB 6. remove FPBC1 (EMI) 7. -A_RST & IO_KBRST- 有移動(EMI) 8.5VDUAL COLAY (POWER ISSUE) 9.ADD SPEAKER (1*4 pin)
2014.11.04	1.0B P-BOM release PCB:1.0	1. 2N7002 指定用料(NXP) 2. R100 8.2K -- > 1K
2014.12.17	1.1A P-BOM release PCB:1.1	1. DU1 ISL62773A, DR19 715 ohm , DR23 1.8K 2. DDR POWER Output Cap change to OSCON Cap

Circuit or PCB layout change for next version

Date	Change Item	Reason
2014.08.05	Rev 3.1 Gerber-out	Modify From F2A88XM-DS2 31A : 1. Change model Name : F2A88XM-DS2-TM , UEFI DualBIOS to UEFI BIOS 2. CEC1,CEC2,CEC6,CEC9 Footprints Change to EC6D8MM-RH-1 3.
2014.10.03	Rev 1.0 Gerber-out	Modify From F2A88XM-DS2 31A : 1. Change model Name : F2A68HM-S1 2. F_USB30 & R_USB30 PIN SWAP 3. DEL F_USB30 4. ADD SYS_FAN2 5. ADD R_USB 6. remove FPBC1 (EMI) 7. -A_RST & IO_KBRST- 有移動(EMI) 8.5VDUAL COLAY (POWER ISSUE) 9.ADD SPEAKER (1*4 pin)
2014.12.22	Rev 1.1 Gerber-out	1. DDR POWER Output Cap change to OSCON Cap 2. change to Rev1.1

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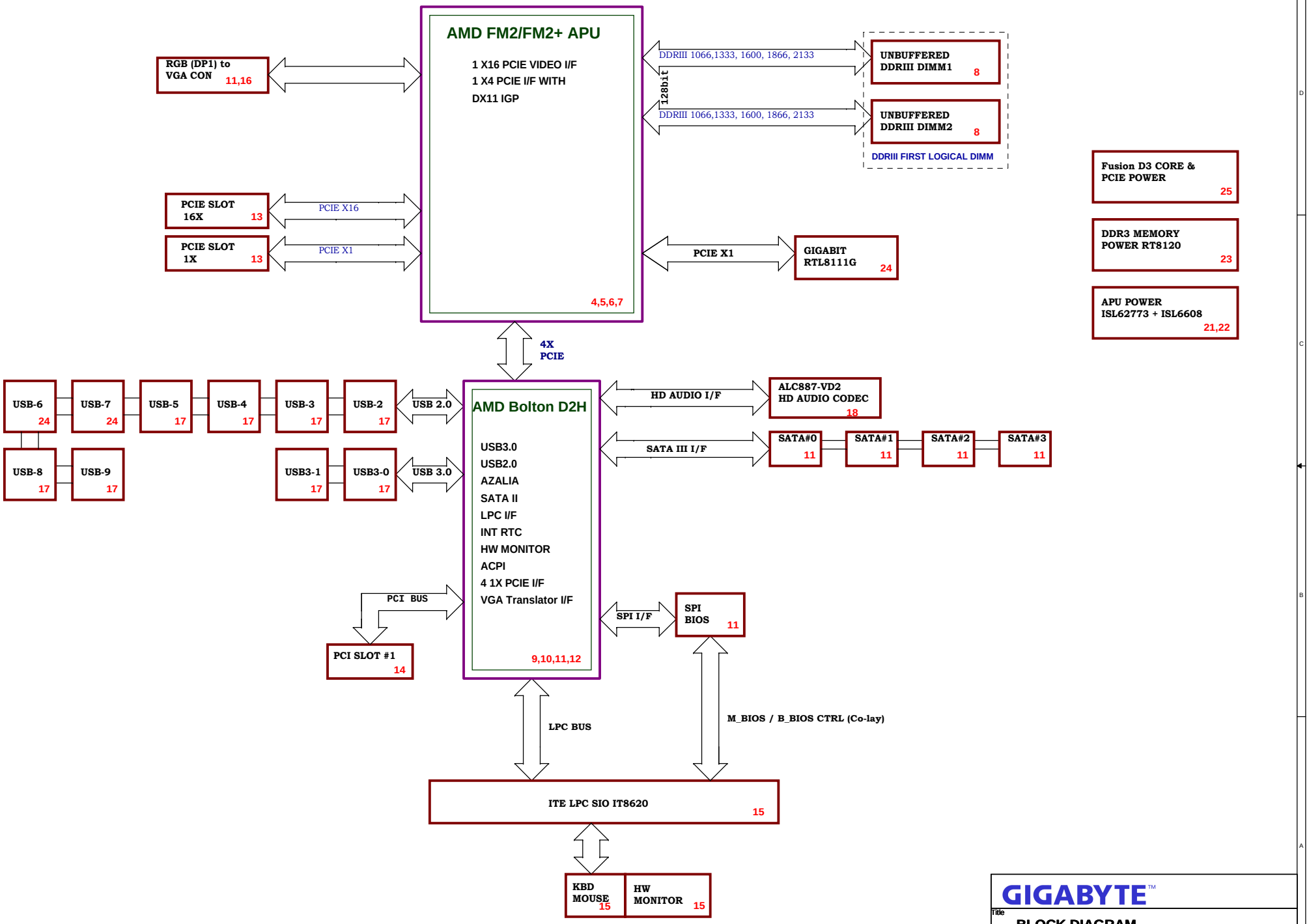
Title: BOM & PCB HISTORY

Size	Document Number	Rev
Custom	GA-F2A68HM-S1	1.1

Date: Monday, December 22, 2014 Sheet 2 of 25



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Title: BLOCK DIAGRAM

Size	Document Number	Rev
Custom	GA-F2A68HM-S1	1.1

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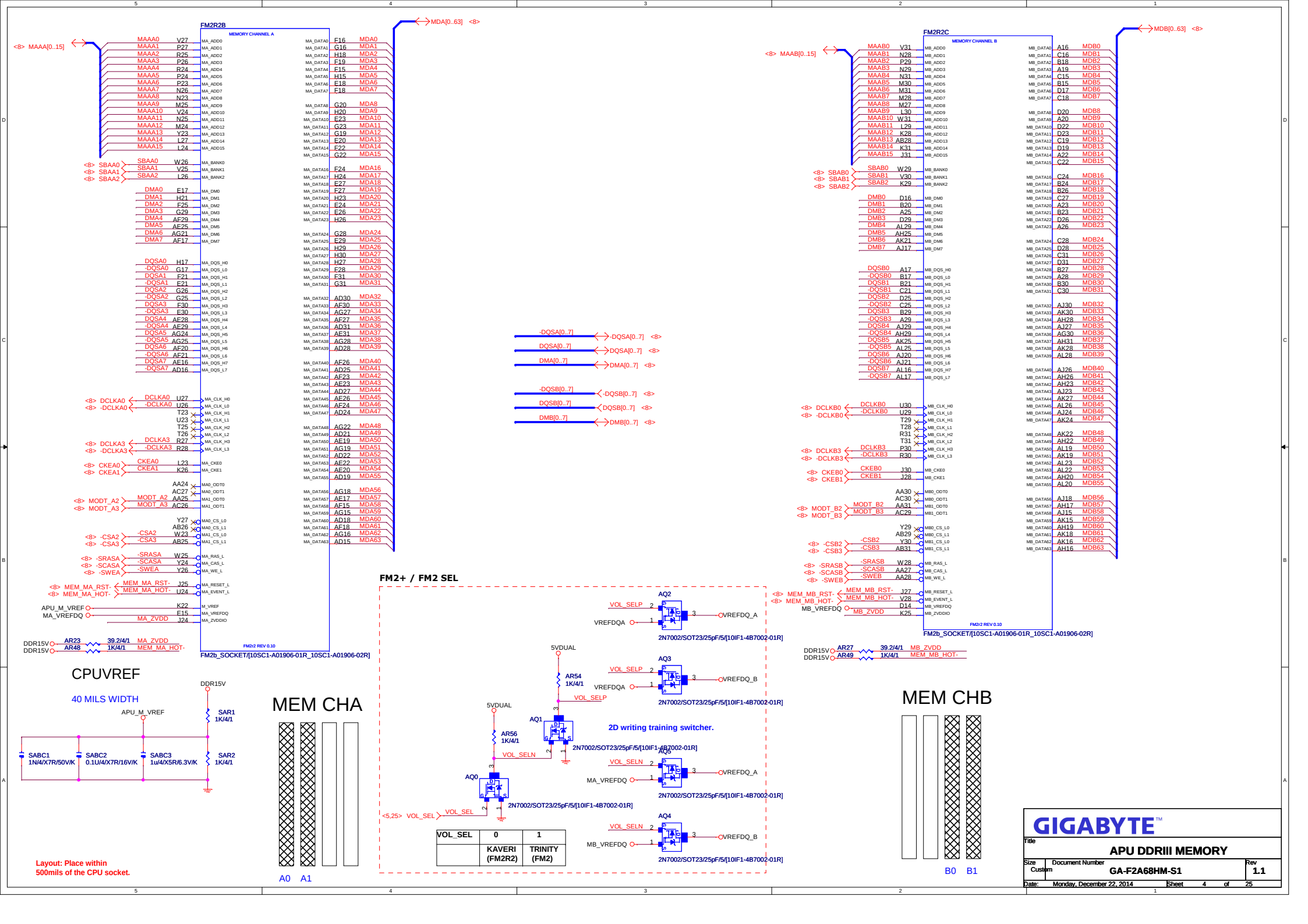
FM2R2B
MEMORY CHANNEL A
FM2b_SOCKET/[10SC1-A01906-01R_10SC1-A01906-02R]
FM2R2C
MEMORY CHANNEL B
FM2b_SOCKET/[10SC1-A01906-01R_10SC1-A01906-02R]
FM2+ / FM2 SEL
2D writing training switcher.
CPUVREF
40 MILS WIDTH
Layout: Place within
500mils of the CPU socket.
MEM CHA
A0 A1
MEM CHB
B0 B1
GIGABYTE
APU DDRIII MEMORY
GA-F2A68HM-S1
Rev 1.1
Monday, December 22, 2014
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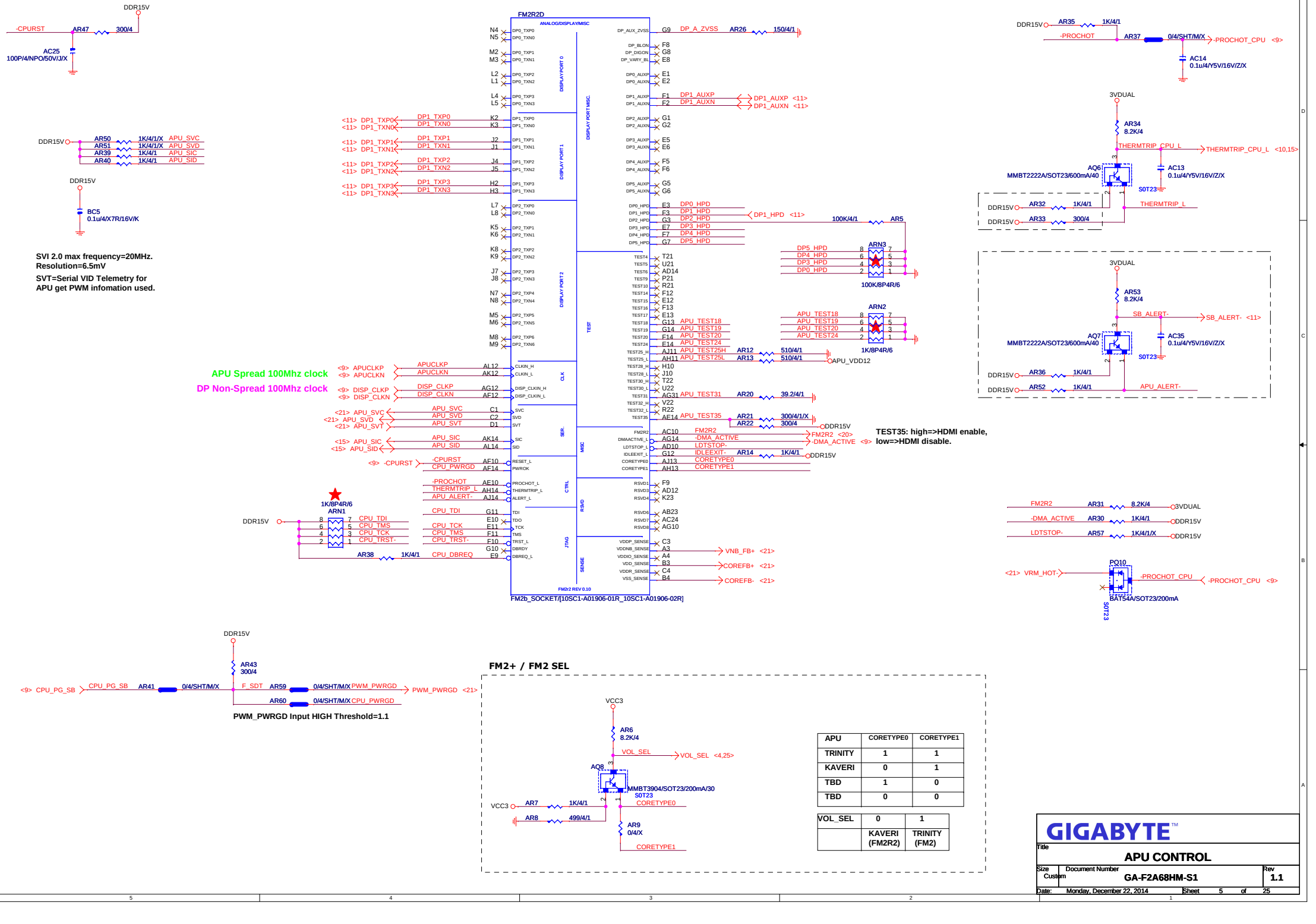
FM2R2D
ANALOG/DISPLAY/MISC
FM2b_SOCKET/[10SC1-A01906-01R_10SC1-A01906-02R]
FM2/2 REV 0.10
DISPLAY PORT 0
DISPLAY PORT MISC.
DISPLAY PORT 1
DISPLAY PORT 2
TEST
CLK.
SER.
MISC
CTRL
RSVD
JTAG
SENSE
DDR15V
-CPURST
AR47 300/4
AC25 100P/4/NPO/50V/J/X
BC5 0.1u/4/X7R/16V/K
AR50 1K/4/1/X APU_SVC
AR51 1K/4/1/X APU_SVD
AR39 1K/4/1 APU_SIC
AR40 1K/4/1 APU_SID
SVI 2.0 max frequency=20MHz.
Resolution=6.5mV
SVT=Serial VID Telemetry for
APU get PWM infomation used.
APU Spread 100Mhz clock
DP Non-Spread 100Mhz clock
APUCLKP
APUCLKN
DISP_CLKP
DISP_CLKN
APU_SVC
APU_SVD
APU_SVT
APU_SIC
APU_SID
-CPURST
CPU_PWRGD
-PROCHOT
THERMTRIP_L
APU_ALERT-
CPU_TDI
CPU_TCK
CPU_TMS
CPU_TRST-
CPU_DBREQ
1K/8P4R/6
ARN1
AR38 1K/4/1
DP1_TXP0
DP1_TXN0
DP1_TXP1
DP1_TXN1
DP1_TXP2
DP1_TXN2
DP1_TXP3
DP1_TXN3
DP_A_ZVSS AR26 150/4/1
DP1_AUXP
DP1_AUXN
DP0_HPD
DP1_HPD
DP2_HPD
DP3_HPD
DP4_HPD
DP5_HPD
100K/4/1 AR5
100K/8P4R/6
ARN3
ARN2
APU_TEST18
APU_TEST19
APU_TEST20
APU_TEST24
APU_TEST25H AR12 510/4/1
APU_TEST25L AR13 510/4/1
APU_VDD12
1K/8P4R/6
APU_TEST31 AR20 39.2/4/1
APU_TEST35 AR21 300/4/1/X
AR22 300/4
DDR15V
FM2R2
-DMA_ACTIVE
LDTSTOP-
IDLEEXIT- AR14 1K/4/1
CORETYPE0
CORETYPE1
VNB_FB+
COREFB+
COREFB-
TEST35: high=>HDMI enable,
low=>HDMI disable.
AR35 1K/4/1
-PROCHOT
AR37 0/4/SHT/M/X
-PROCHOT_CPU
AC14 0.1u/4/Y5V/16V/Z/X
3VDUAL
AR34 8.2K/4
THERMTRIP_CPU_L
AQ6 MMBT2222A/SOT23/600mA/40
S0T23
AC13 0.1u/4/Y5V/16V/Z/X
AR32 1K/4/1
AR33 300/4
AR53 8.2K/4
SB_ALERT-
AQ7 MMBT2222A/SOT23/600mA/40
AC35 0.1u/4/Y5V/16V/Z/X
AR36 1K/4/1
AR52 1K/4/1
APU_ALERT-
FM2R2 AR31 8.2K/4
-DMA_ACTIVE AR30 1K/4/1
LDTSTOP- AR57 1K/4/1/X
VRM_HOT-
PQ10
BAT54A/SOT23/200mA
AR43 300/4
CPU_PG_SB AR41 0/4/SHT/M/X
F_SDT AR59 0/4/SHT/M/X PWM_PWRGD
AR60 0/4/SHT/M/X CPU_PWRGD
PWM_PWRGD Input HIGH Threshold=1.1
FM2+ / FM2 SEL
VCC3
AR6 8.2K/4
VOL_SEL
AQ8 MMBT3904/SOT23/200mA/30
S0T23
AR7 1K/4/1
AR8 499/4/1
AR9 0/4/X
CORETYPE0
CORETYPE1
APU CORETYPE0 CORETYPE1
TRINITY 1 1
KAVERI 0 1
TBD 1 0
TBD 0 0
VOL_SEL 0 1
KAVERI (FM2R2) TRINITY (FM2)
GIGABYTE
Title
APU CONTROL
Size Custom
Document Number GA-F2A68HM-S1
Rev 1.1
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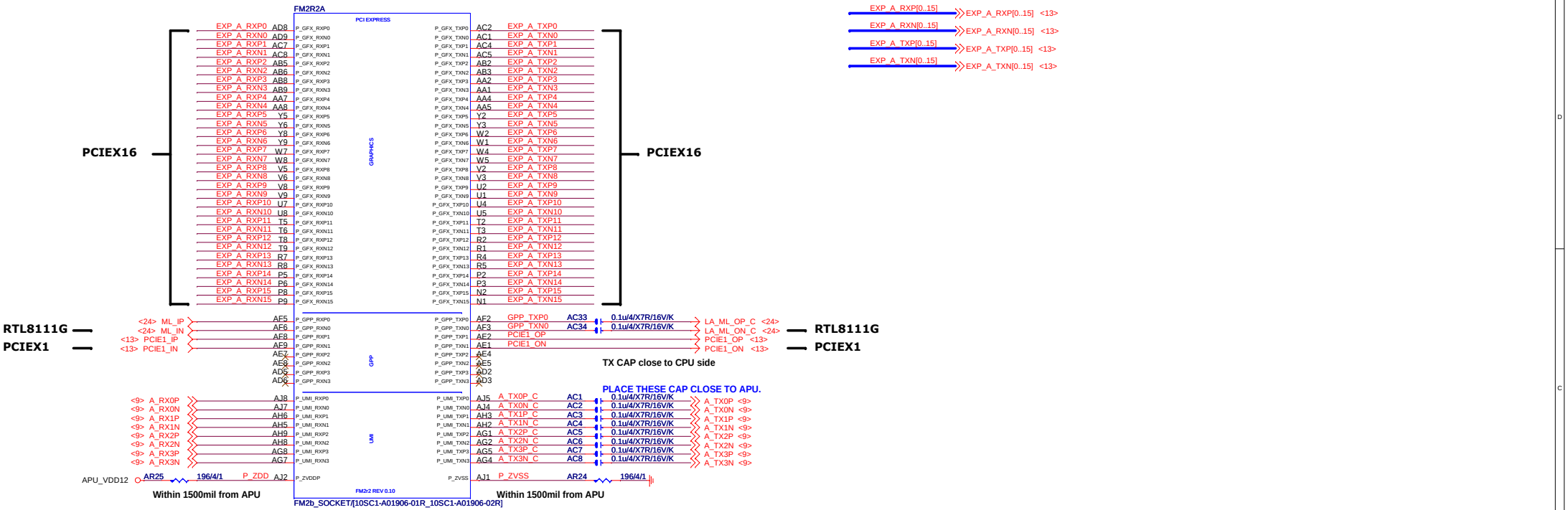

Title	APU GFX PCIE	
Size: Custom	Document Number: GA-F2A68HM-S1	Rev: 1.1
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DDR15V=1.25V/1.35V/1.5V(DDR3)

VCORE

VCORE

DDR15V

FM2R2E

FM2b_SOCKET/[10SC1-A01906-01R_10SC1-A01906-02R]

FM2R2F

FM2b_SOCKET/[10SC1-A01906-01R_10SC1-A01906-02R]

VDDA25

VCORE_NB

GND:232 pin,
VCORE:99 pin,
VCORE_NB: 30 pin,
DDR15V:49 pin,
VDDP:9 pin, VDDR:9 pin, VDDA25:2 pin,
VDDNB_CAP:2 pin,Total:430 pin.

VDDNB_CAP

SAC1 22u/8/X5R/6.3V/M

SAC2 22u/8/X5R/6.3V/M

Place close N13, M14 pin inside the backplate cavity opeining.

APU_VDD12

APU_VDD12

Check Power from AMD

VDDA25

ABC16 4.7u/6/X5R/6.3V/K

ABC1 0.22U/4/X5R/6.3V/K

ABC2 3.3N/4/X7R/50V/K

PCIE_X16 Cross Moat CAP

VCORE

DC1 0.01U/4/X7R/25V/K

DC2 0.01U/4/X7R/25V/K

DC3 0.01U/4/X7R/25V/K

FM2R2G

FM2b_SOCKET/[10SC1-A01906-01R_10SC1-A01906-02R]

FM2R2H

FM2b_SOCKET/[10SC1-A01906-01R_10SC1-A01906-02R]

VCORE_NB

ABC4 22u/8/X5R/6.3V/M

ABC8 22u/8/X5R/6.3V/M

ABC9 22u/8/X5R/6.3V/M

ABC5 22u/8/X5R/6.3V/M

VCORE_NB

AC15 0.22U/4/X5R/6.3V/K

AC16 0.22U/4/X5R/6.3V/K

ABC6 22u/8/X5R/6.3V/M

ABC7 22u/8/X5R/6.3V/M

VCORE_NB

ABC20 22u/8/X5R/6.3V/M

ABC21 22u/8/X5R/6.3V/M

ABC22 22u/8/X5R/6.3V/M

ABC23 22u/8/X5R/6.3V/M

FM2R2

AMD RM/BLACK/[12KRC-04K812-31R_12KRC-04K812-32R]

BUTTOM SIDE

VCORE

SAC6 22u/8/X5R/6.3V/M

SAC7 22u/8/X5R/6.3V/M

SAC8 22u/8/X5R/6.3V/M

SAC9 22u/8/X5R/6.3V/M

SAC10 22u/8/X5R/6.3V/M

SAC11 22u/8/X5R/6.3V/M

SAC12 22u/8/X5R/6.3V/M

SAC13 22u/8/X5R/6.3V/M

VCORE

SAC18 22u/8/X5R/6.3V/M

SAC14 22u/8/X5R/6.3V/M

SAC17 22u/8/X5R/6.3V/M

SAC19 22u/8/X5R/6.3V/M

SAC20 22u/8/X5R/6.3V/M

SAC21 22u/8/X5R/6.3V/M

SAC23 22u/8/X5R/6.3V/M

SAC22 22u/8/X5R/6.3V/M

VCORE

SAC16 0.22U/4/X5R/6.3V/K

SAC24 0.22U/4/X5R/6.3V/K

SABC9 22u/8/X5R/6.3V/M

SABC10 22u/8/X5R/6.3V/M

SAC3 180P/4/NPO/50V/J

SAC5 180P/4/NPO/50V/J

SAC4 180P/4/NPO/50V/J

DDR15V

SAC27 22u/8/X5R/6.3V/M

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

SAC28

22u/8/X5R/6.3V/M

SAC29

0.22U/6/X7R/16V/K/X

SAC15

180P/4/NPO/50V/J

SAC30

4.7u/6/X5R/6.3V/K

SAC31

0.22U/4/X5R/6.3V/K

SAC32

0.22U/4/X5R/6.3V/K

SAC54

4.7u/6/X5R/6.3V/K

SAC55

SAC53 22u/8/X5R/6.3V/M

APU_VDD12

AC21 22u/8/X5R/6.3V/M

ABC10 4.7u/6/X5R/6.3V/K

AC19 0.22U/4/X5R/6.3V/K

AC17 1N/4/X7R/50V/K

APU_VDD12

AC27 22u/8/X5R/6.3V/M/X

AC26 4.7u/6/X5R/6.3V/K/X

AC22 4.7u/6/X5R/6.3V/K

AC32 0.22U/4/X5R/6.3V/K

SAC47 180P/4/NPO/50V/J

SAC52 1N/4/X7R/50V/K

APU_VDD12

AC31 22u/8/X5R/6.3V/M/X

SAC43 180P/4/NPO/50V/J/X

APU_VDD12

AC12 22u/8/X5R/6.3V/M/X

ABC3 4.7u/6/X5R/6.3V/K/X

AC11 0.22U/6/X7R/16V/K/X

AC9 180P/4/NPO/50V/J/X

VCORE

SAC25 22u/8/X5R/6.3V/M/X

SAC33 22u/8/X5R/6.3V/M/X

SAC34 22u/8/X5R/6.3V/M/X

SAC35 22u/8/X5R/6.3V/M/X

SAC36 22u/8/X5R/6.3V/M/X

SAC38 22u/8/X5R/6.3V/M/X

SAC37 22u/8/X5R/6.3V/M/X

SAC39 22u/8/X5R/6.3V/M/X

SAC41 22u/8/X5R/6.3V/M/X

SAC40 22u/8/X5R/6.3V/M/X

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Title: APU POWER & GND

Size: Custom | Document Number: GA-F2A68HM-S1 | Rev: 1.1

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Title	DDR III CHANNEL A		
Size: Custom	Document Number: GA-F2A68HM-S1		Rev: 1.1
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PLACE THESE PCIE AC COUPLING CAPS CLOSE TO SB850

For APU PCI_E devices.

U1E

HUDSON-2

Part 1 of 5

PCI EXPRESS INTERFACES

PCI INTERFACE

PCI CLKS

CLOCK GENERATOR

LPC

APU

SS PLUS

218-0844029/S

S.B HEATSINK

SB_HS

SB_HS/[12SP2-SA0301-11R _12SP2-SA0301-12R _12SP2-SA0301-13R]

DISP CLK

APU CLK

PCIEx16

RTL8111G

PCIEx1

Note: LDT_STP# leave NC--DG1.0

PCLK3

PULL HIGH	USE DEBUG STRAPS
PULL LOW	IGNORE DEBUG STRAPS DEFAULT

CLKGEN Mode: Only for integrated clock mode.

	LPC_CLK0	LPC_CLK1
PULL HIGH	IMC ENABLED	CLKGEN ENABLED
	AOD Extreme	
PULL LOW	IMC DISABLED DEFAULT	CLKGEN DISABLED DEFAULT

20mil 20mil

20mil

CLR_CMOS	
SHORT	CLEAR CMOS
OPEN	NORMAL

NOT ADD ICT FOR RTCVDD PIN

Pull down for S5+ Mode

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Title: Bolton D4PCIE/PCI/CPU/LPC

Size: Custom | Document Number: GA-F2A68HM-S1 | Rev: 1.1

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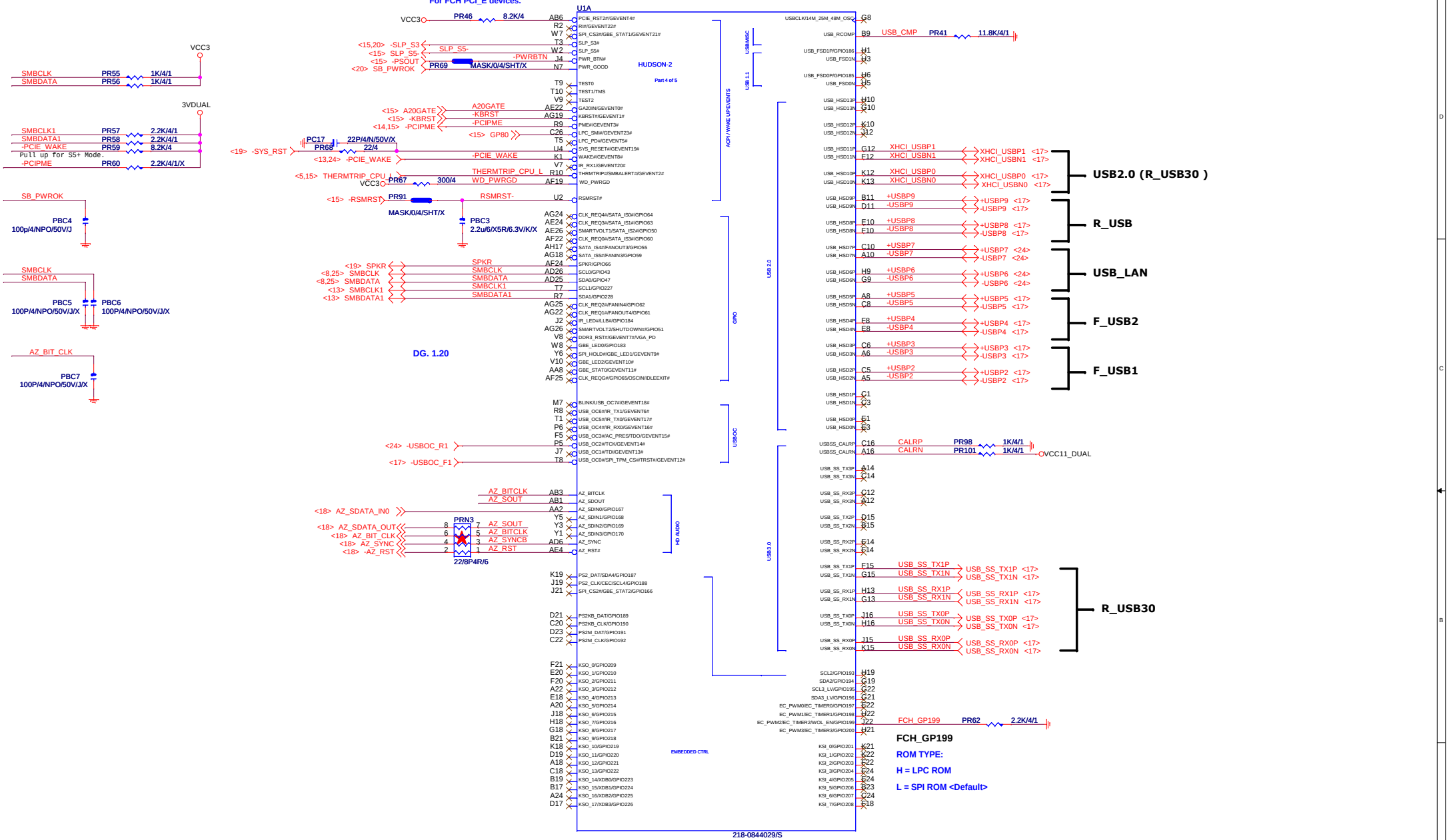

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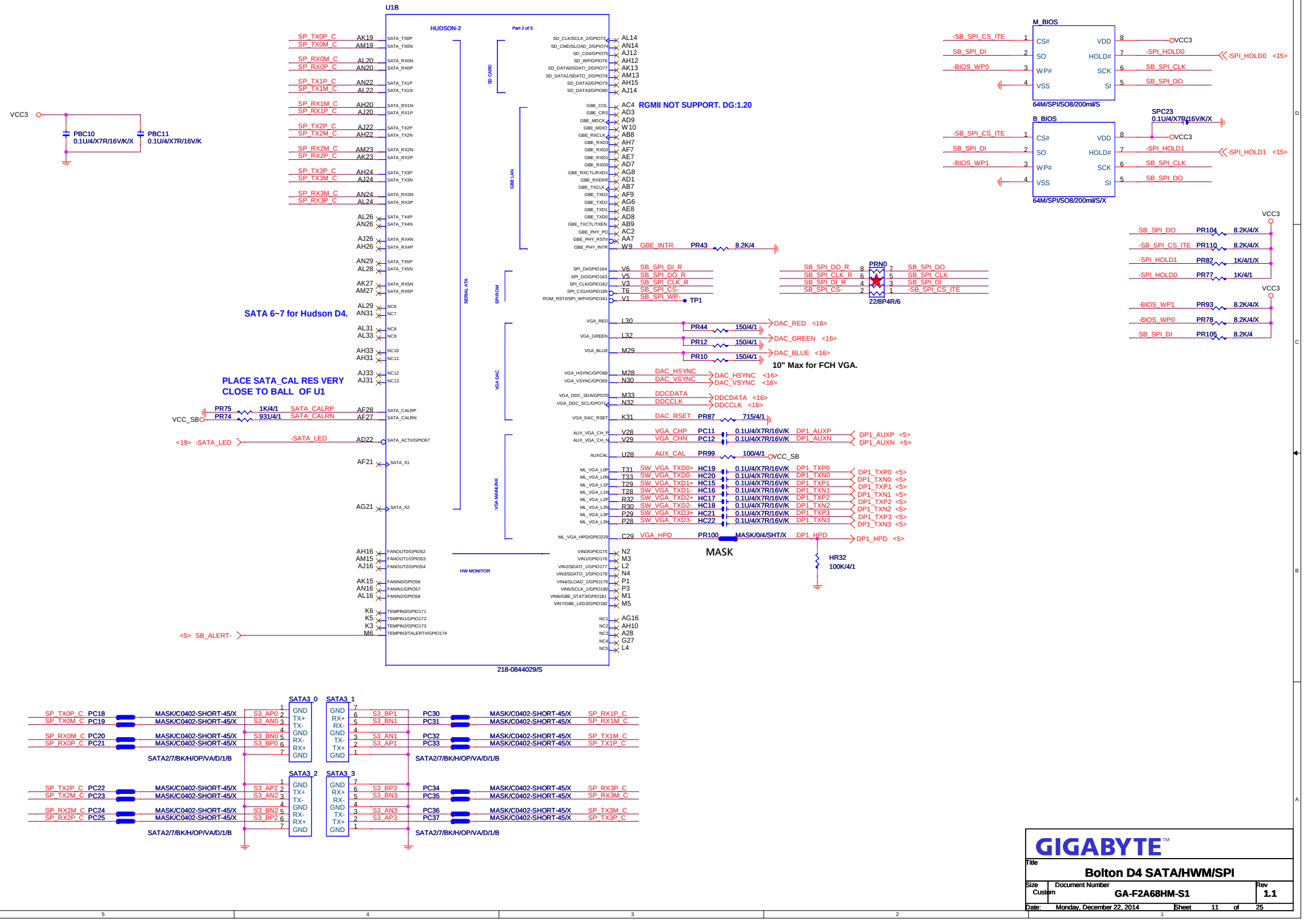
Title	Bolton D4 ACPI/USB/AUDIO/GPIO	
Size: Custom	Document Number: GA-F2A68HM-S1	Rev: 1.1
Date: Monday, December 22, 2014	Sheet 10 of 25	


U1B
HUDSON-2
Part 2 of 5
SD CARD
GBE LAN
SPIROM
SERIAL ATA
VGA DAC
VGA MAIN LINK
HW MONITOR
RGMII NOT SUPPORT. DG:1.20
SATA 6~7 for Hudson D4.
PLACE SATA_CAL RES VERY CLOSE TO BALL OF U1
10" Max for FCH VGA.
MASK
218-0844029/S
M_BIOS
B_BIOS
64M/SPI/SO8/200mil/S
64M/SPI/SO8/200mil/S/X
22/8P4R/6
SATA3_0
SATA3_1
SATA3_2
SATA3_3
SATA2/7/BK/H/OP/VA/D/1/B
GIGABYTE
Bolton D4 SATA/HWM/SPI
GA-F2A68HM-S1
Rev 1.1
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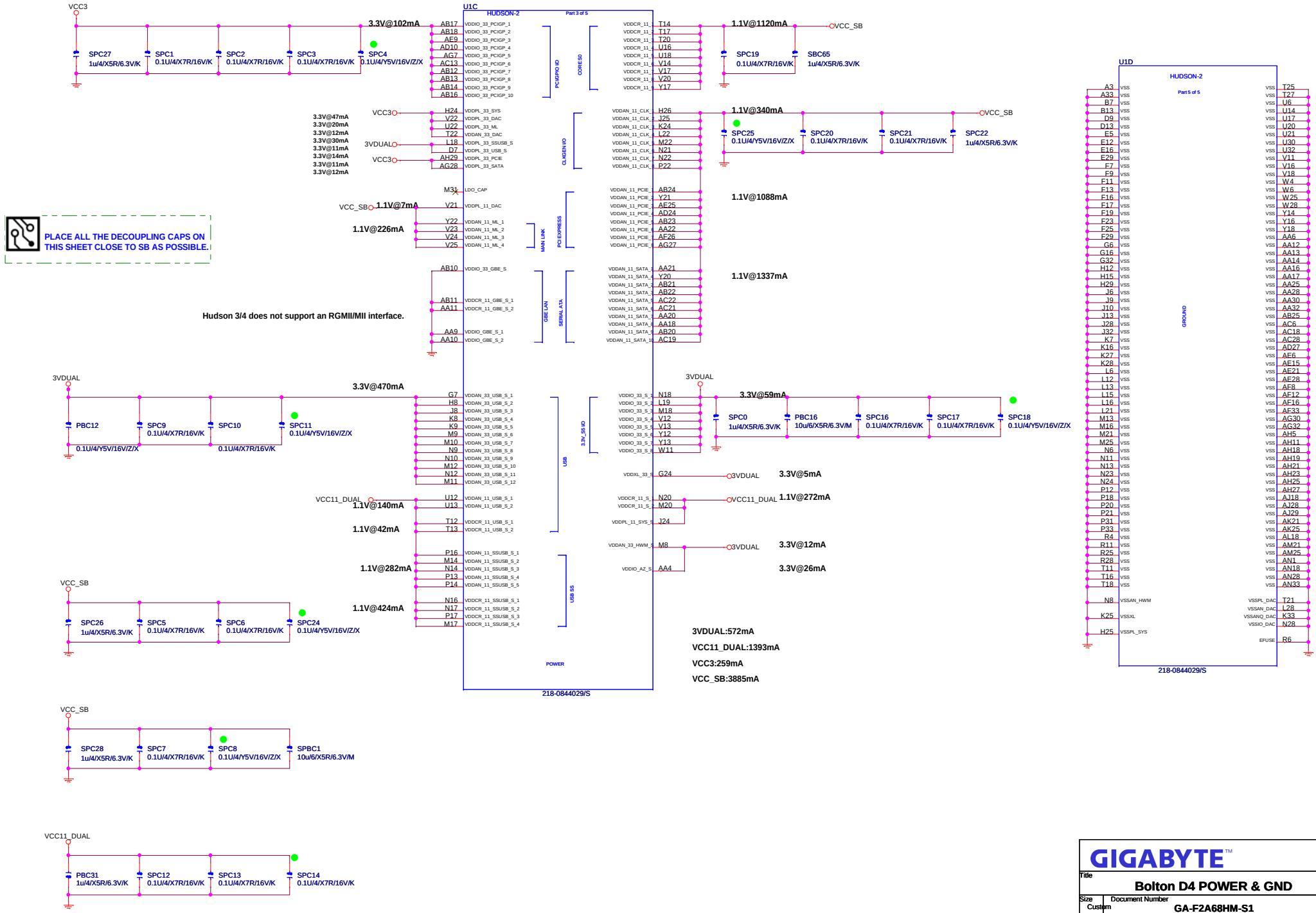

Title	Bolton D4 POWER & GND
Size	Custom
Document Number	GA-F2A68HM-S1
Rev	1.1
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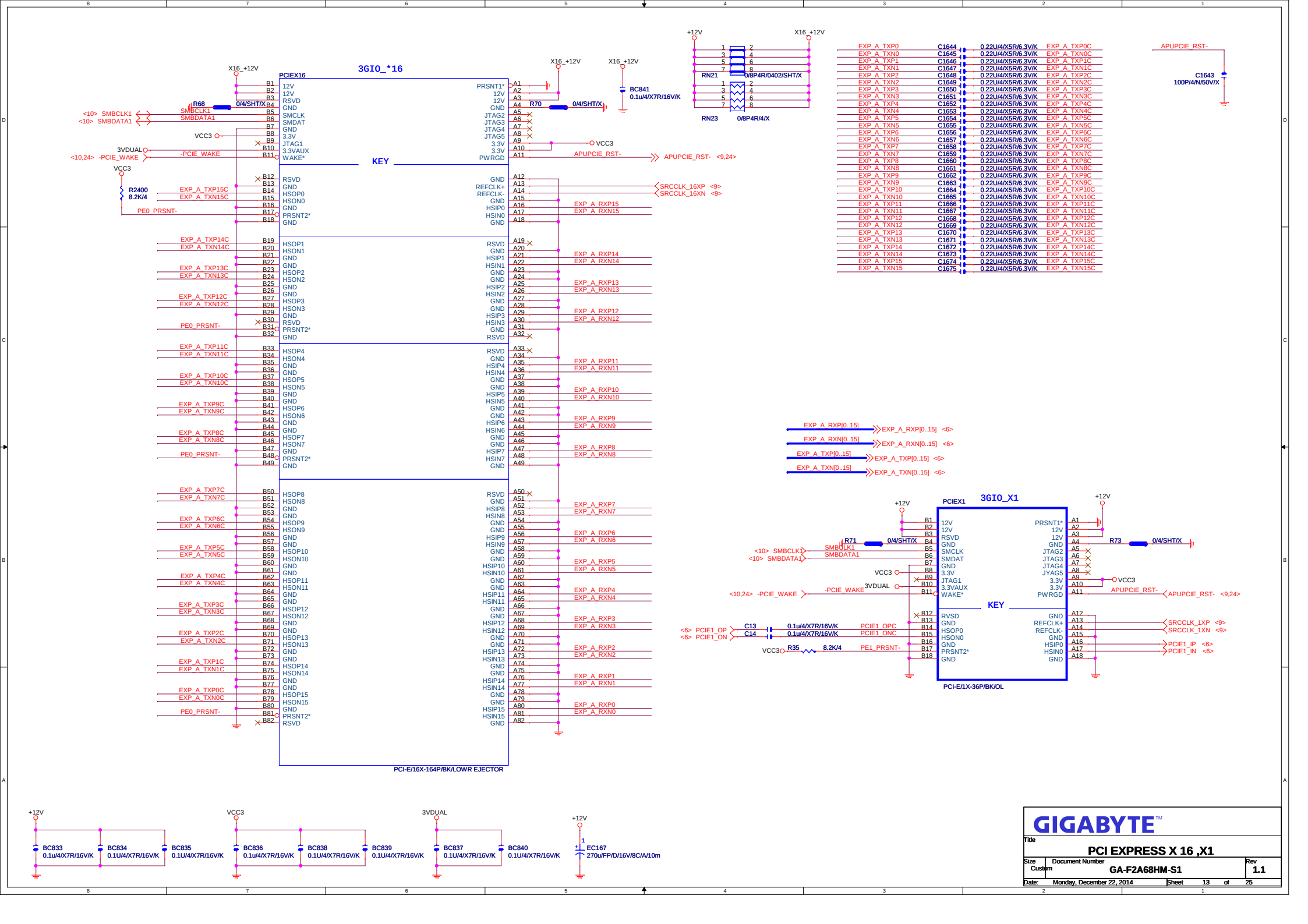
3GIO_*16
PCIEX16
KEY
PCI-E/16X-164P/BK/LOWR EJECTOR
3GIO_X1
PCIEX1
PCI-E/1X-36P/BK/OL
R68 0/4/SHT/X
R70 0/4/SHT/X
R71 0/4/SHT/X
R73 0/4/SHT/X
R2400 8.2K/4
R35 8.2K/4
RN21 0/8P4R/0402/SHT/X
RN23 0/8P4R/4/X
BC841 0.1u/4/X7R/16V/K
C1643 100P/4/N/50V/X
C1644 C1645 C1646 C1647 C1648 C1649 C1650 C1651 C1652 C1653 C1654 C1655 C1656 C1657 C1658 C1659 C1660 C1661 C1662 C1663 C1664 C1665 C1666 C1667 C1668 C1669 C1670 C1671 C1672 C1673 C1674 C1675 0.22U/4/X5R/6.3V/K
C13 C14 0.1u/4/X7R/16V/K
BC833 BC834 BC835 0.1u/4/X7R/16V/K
BC836 BC838 BC839 0.1u/4/X7R/16V/K
BC837 BC840 0.1u/4/X7R/16V/K
EC167 270u/FP/D/16V/8C/A/10m
GIGABYTE
PCI EXPRESS X 16 ,X1
GA-F2A68HM-S1
1.1
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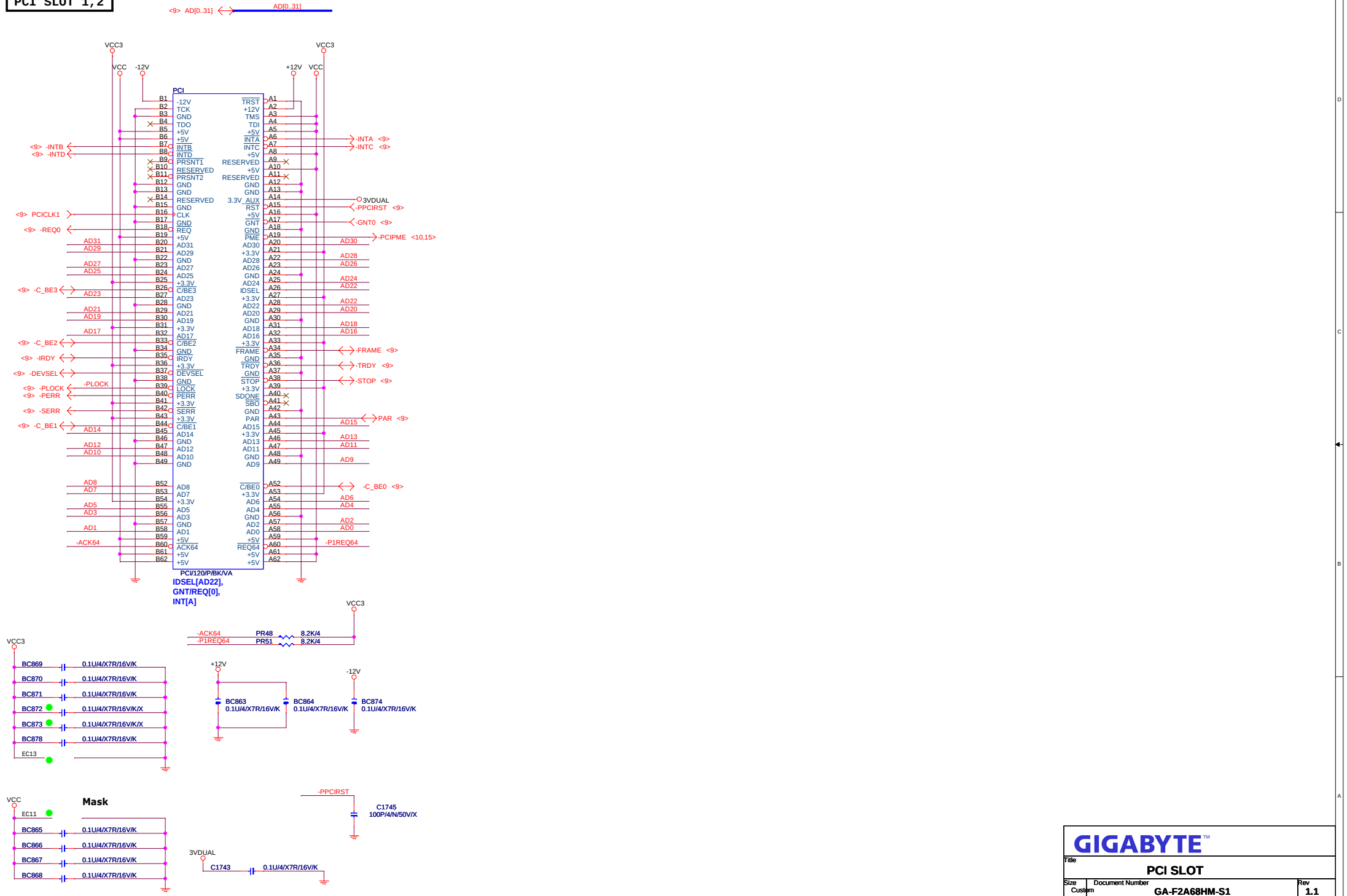
PCI SLOT 1,2



GIGABYTE™

Title	PCI SLOT	
Size: Custom	Document Number: GA-F2A68HM-S1	Rev: 1.1
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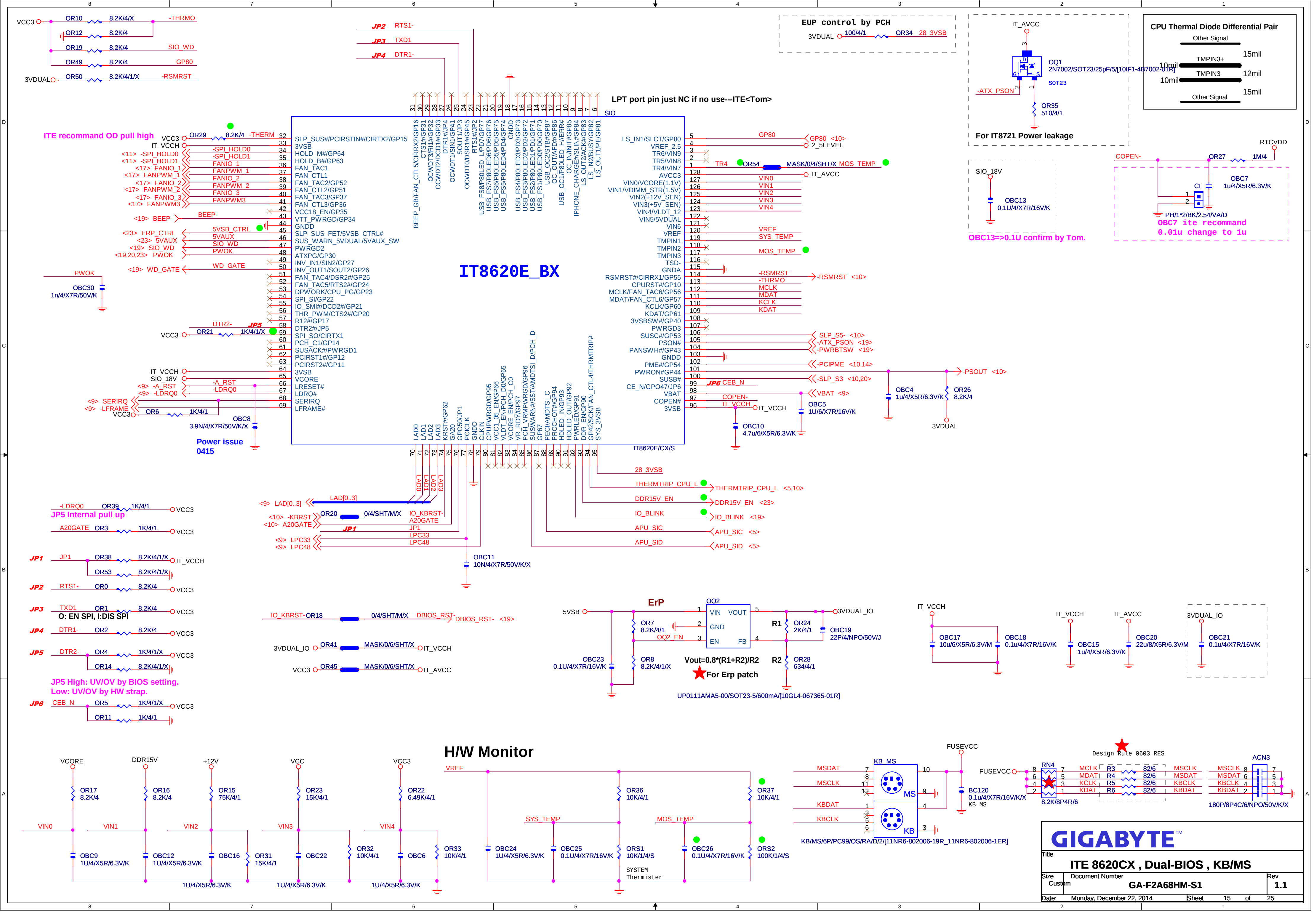
IT8620E_BX
IT8620E/CX/S
H/W Monitor
EUP control by PCH
CPU Thermal Diode Differential Pair
LPT port pin just NC if no use---ITE<Tom>
ITE recommand OD pull high
For IT8721 Power leakage
OBC13=>0.1U confirm by Tom.
OBC7 ite recommand
0.01u change to 1u
Power issue
0415
JP5 Internal pull up
O: EN SPI, I:DIS SPI
JP5 High: UV/OV by BIOS setting.
Low: UV/OV by HW strap.
ErP
Vout=0.8*(R1+R2)/R2
For Erp patch
UP0111AMA5-00/SOT23-5/600mA/[10GL4-067365-01R]
Design Rule 0603 RES
KB/MS/6P/PC99/OS/RA/D/2/[11NR6-802006-19R_11NR6-802006-1ER]
SYSTEM
Thermister
GIGABYTE
Title
ITE 8620CX , Dual-BIOS , KB/MS
Size
Custom
Document Number
GA-F2A68HM-S1
Rev
1.1
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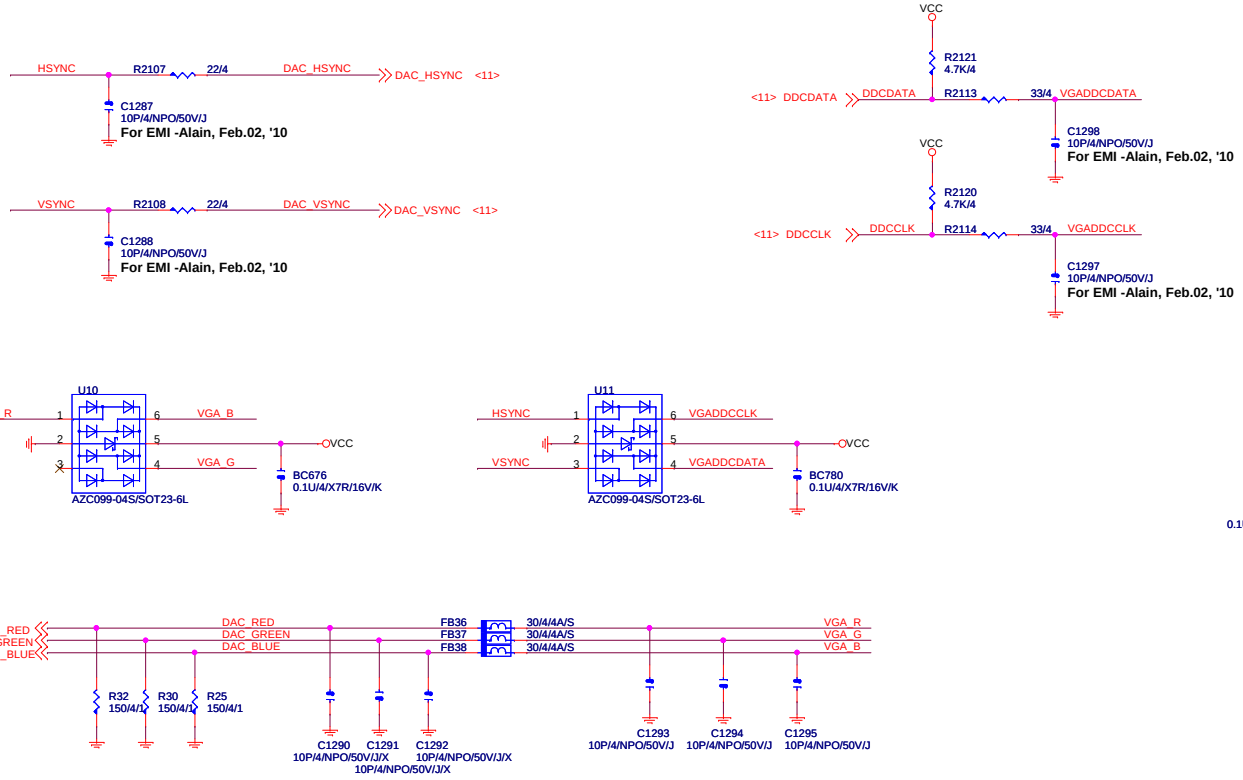

GIGABYTE™

Title: RGB		
Size: Custom	Document Number: GA-F2A68HM-S1	Rev: 1.1
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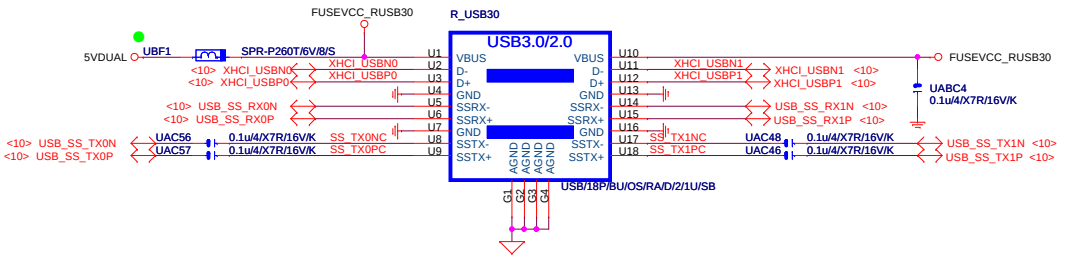
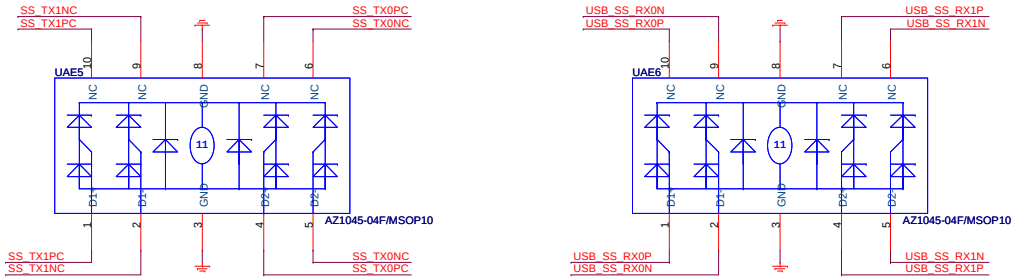
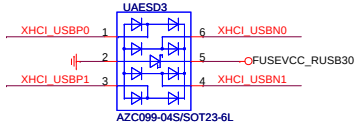
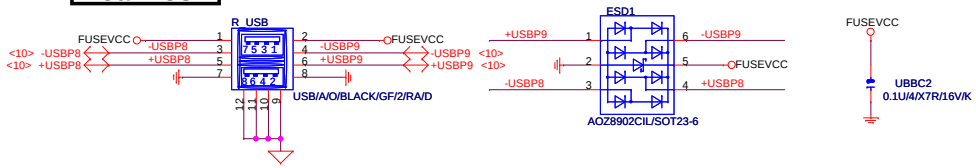


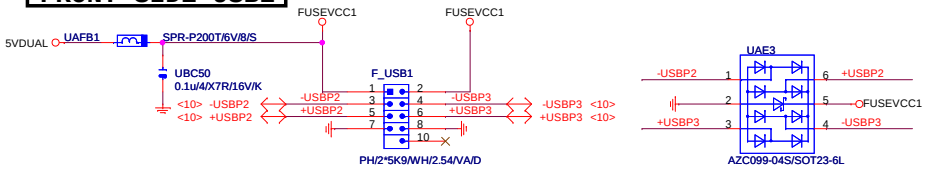




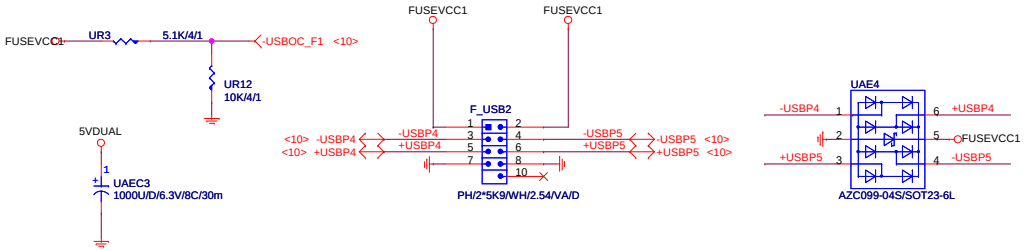
Real USB



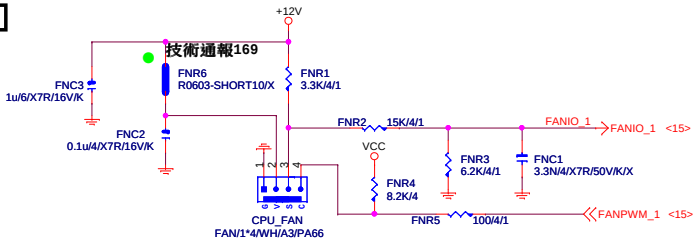
FRONT SIDE USB1



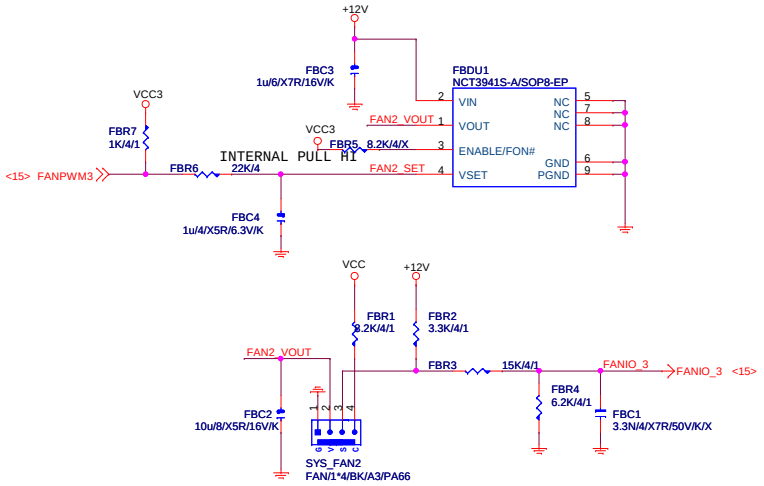
FRONT SIDE USB2



CPU SMART FAN



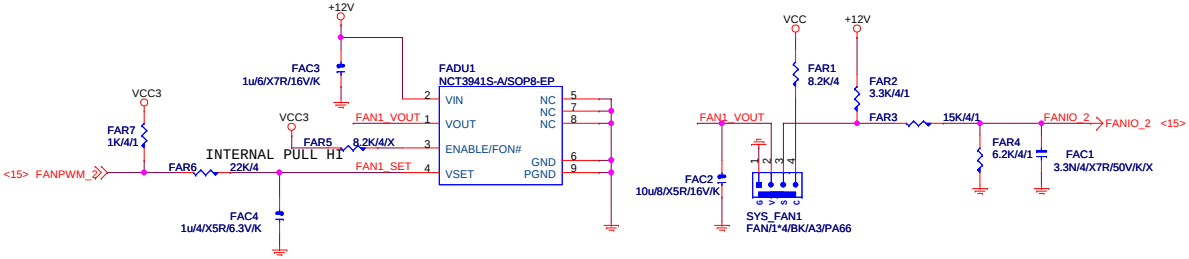
SYSTEM FAN2



SYSTEM FAN1

Linear SYS_FAN

Enable Function (NCT3941S)
Full Turn On Function (NCT3941S-A)



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Title	FAN ,USB30,F_USB2	
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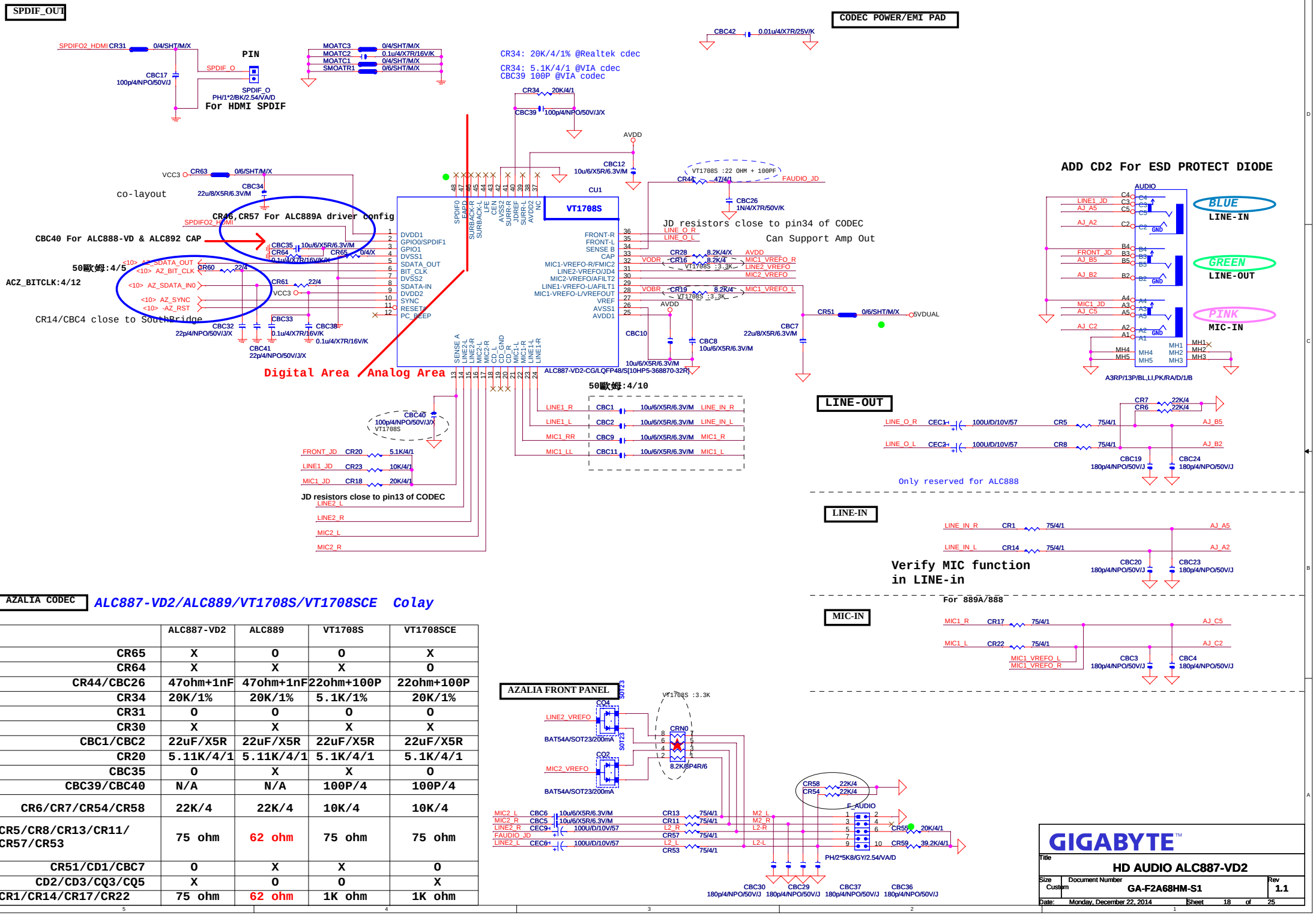

AZALIA CODEC

ALC887-VD2/ALC889/VT1708S/VT1708SCE Colay

	ALC887-VD2	ALC889	VT1708S	VT1708SCE
CR65	X	O	O	X
CR64	X	X	X	O
CR44/CBC26	47ohm+1nF	47ohm+1nF	22ohm+100P	22ohm+100P
CR34	20K/1%	20K/1%	5.1K/1%	20K/1%
CR31	O	O	O	O
CR30	X	X	X	X
CBC1/CBC2	22uF/X5R	22uF/X5R	22uF/X5R	22uF/X5R
CR20	5.11K/4/1	5.11K/4/1	5.1K/4/1	5.1K/4/1
CBC35	O	X	X	O
CBC39/CBC40	N/A	N/A	100P/4	100P/4
CR6/CR7/CR54/CR58	22K/4	22K/4	10K/4	10K/4
CR5/CR8/CR13/CR11/ CR57/CR53	75 ohm	62 ohm	75 ohm	75 ohm
CR51/CD1/CBC7	O	X	X	O
CD2/CD3/CQ3/CQ5	X	O	O	X
CR1/CR14/CR17/CR22	75 ohm	62 ohm	1K ohm	1K ohm

GIGABYTE™

Title: HD AUDIO ALC887-VD2

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INTEL FRONT PANEL

F_PANEL

PH/2*5K10/WH/2.54/VA/D

FPR1 330/6 · FPBC1 0.01u/4/X7R/25V/K · FPR6 330/6 · FPR3 8.2K/4 · FPC1 0.01u/4/X7R/25V/K

+HD · -HD · F_RESET · +MPD1 · -MPD1 · -PWRBTSW · -PWRBTSW <15>

-MPD1 · FPR450 · 0/4/SHT/M/X · IO_BLINK <15>

-HD · FPR2 · 0/4/SHT/M/X · -SATA_LED <15>

FPR5 8.2K/4/X

FPESD · AZC099-04S/SOT23-6L

FPR7 1K/4/1 · FPD2 BAT54A/SOT23/200mA · FPR8 33/4 · FPC199 0.01U/4/X7R/25V/K EMI request.

FPR9 8.2K/4 · FPD3 2N7002/SOT23/25pF/5/[10IF1-4B7002-01R] SOT23

<10> -SYS_RST · RESET <20> · F_RESET · WD_RST · WD_GATE · SIO_WD

<15> WD_GATE · <15> SIO_WD

EMI request.

FPQ80 MMBT2222A/SOT23/600mA/40/X SOT23 · FPR91 1K/4/1/X

FPQ8 MMBT2222A/SOT23/600mA/40/X SOT23 · FPR90 8.2K/4/X · FPR92 1K/4/1/X

<15> DBIOS_RST-

VRM 12V POWER CONNECTOR

ATX_12V · APW/2*2/BK/P/4.2/SN/PA66

BC832 0.1u/4/X7R/16V/K

FPD1 1N4148W/SOD323/300mA · FPQ6 · FPQ5 · MMBT2222A/SOT23/600mA/40 SOT23

FPR13 75/6/1 · FPR14 75/6/1 · FPR15 1K/4/1 · SPKR <10>

FPR17 1K/4/1 · FPR18 8.2K/4/1 · FPQ7 2N7002/SOT23/25pF/5/[10IF1-4B7002-01R] SOT23

<15> BEEP

SPEAKER · PH/1*4/BK/2.54/VA/D · BC180 0.01u/4/X7R/25V/K

For SPKR voltage issue. FPQ6=>2222, FPQ7=>7002

COUPON1 · COUPON2 · APU_VDD12

ATX POWER CONNECTOR

ATX · APW/2*12/BK/VA/SN/2SHK/PA66

R416 22K/4 · BC155 0.1u/4/X7R/16V/K · BC154 0.1u/4/X7R/16V/K · BC160 10u/6/X5R/6.3V/M · BC167 0.1u/4/X7R/16V/K · BC166 0.1u/4/X7R/16V/K · BC165 4.7u/6/X5R/6.3V/K · C190 10u/6/X5R/6.3V/M

-ATX_PSON · PWOK_C · R1 0/4/SHT/M/X · PWOK · PWOK <15,20,23>

D_5VSB · AZ2225-01L/SOD323

PEMC3 0.1U/4/X7R/16V/K · PEMC2 0.01u/4/X7R/25V/K · PEMC1 0.1U/4/X7R/16V/K/X

For EMI requires 0620

【技術通報R&D技術通報153】

RN2 · RN3 · RN6 · RN7 · RN8 · 2.7K/8P4R/4/X

To fix 12V light load abnromal issue

R84 330/6/X · R85 330/6/X · R677 8.2K/4/X · Q1 2N7002/SOT23/25pF/5/[10IF1-4B7002-01R]/X SOT23

DUM_GATE

For S28/S12 Can't PWR-ON issue

K1 · K2 · K3 · K4 · K5 · K6 · K1_ICT/X

MH1 · MH2 · MH8 · MH3 · MH4 · MH5 · HOLE_3/X

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Title	ATX, FRONT PANEL	
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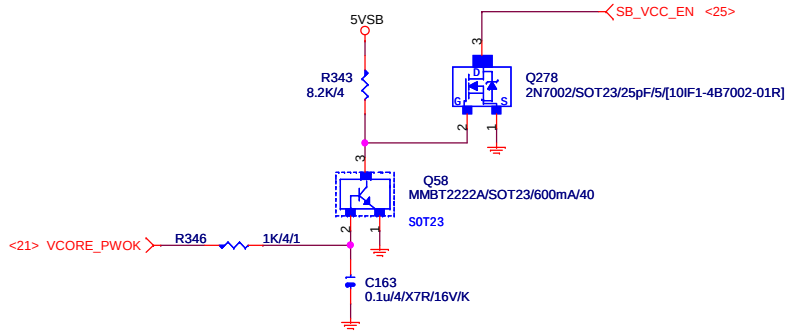
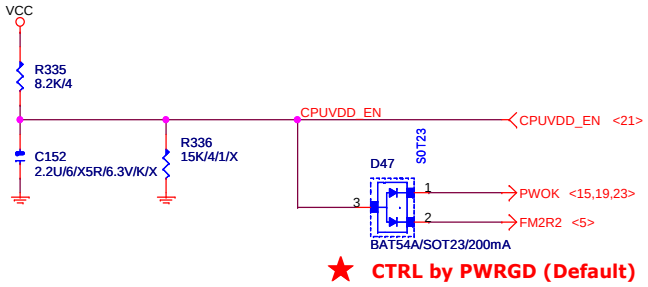
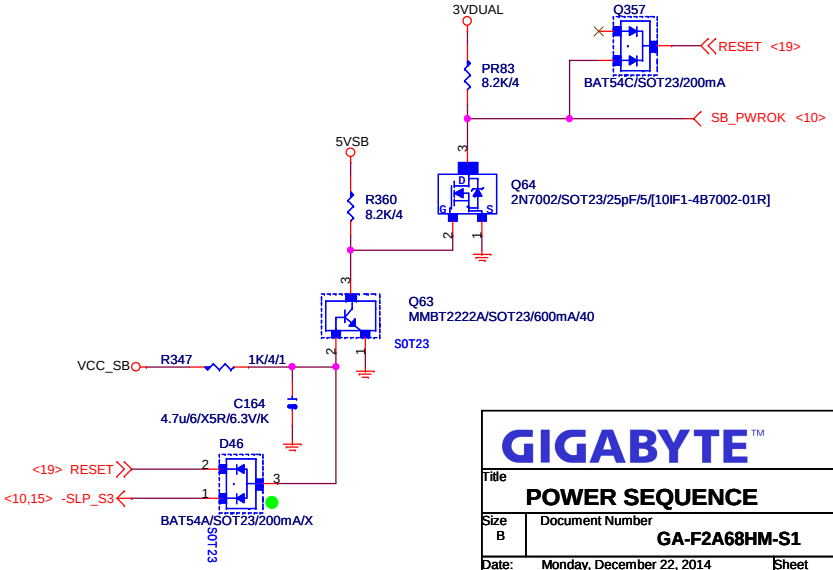




★ **CTRL by PWRGD (Default)**



GIGABYTE™

Title: POWER SEQUENCE		
Size: B	Document Number: GA-F2A68HM-S1	Rev: 1.1
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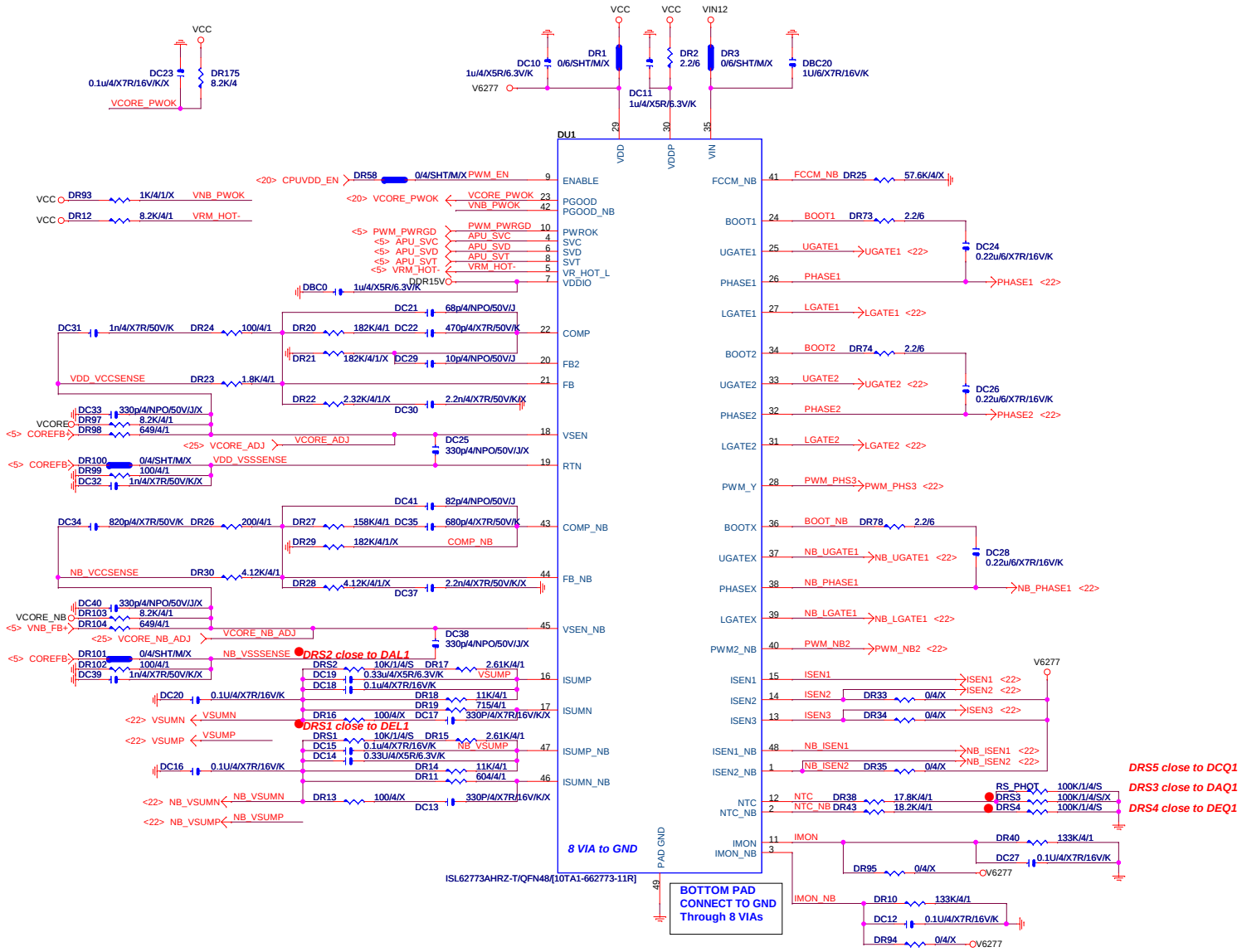

GIGABYTE™

Title	VCORE (ISL62773)	
Size: Custom	Document Number: GA-F2A68HM-S1	Rev: 1.1
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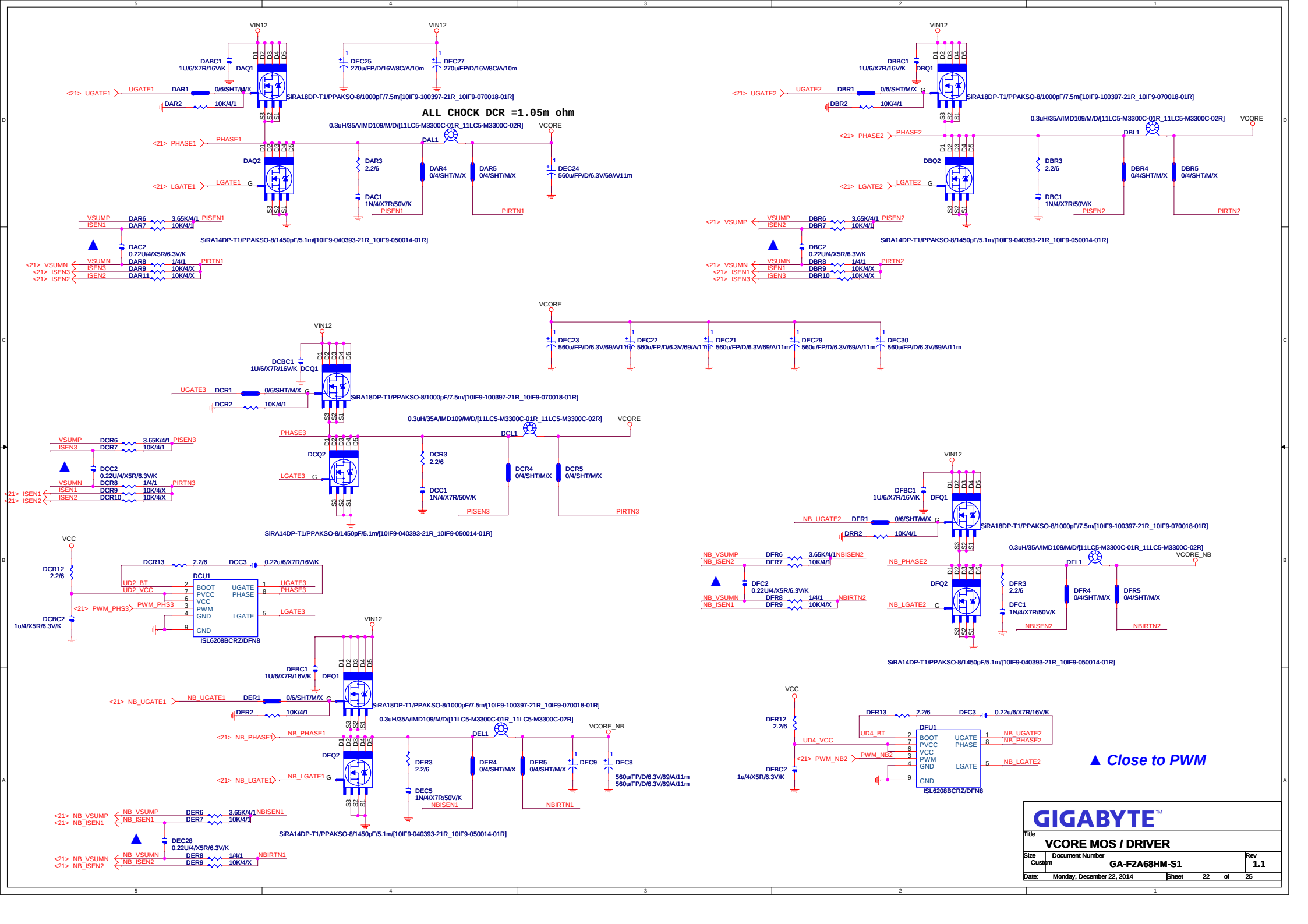
ALL CHOCK DCR =1.05m ohm
VIN12
VCORE
VCORE_NB
DABC1 1U/6/X7R/16V/K
DAQ1
DAR1 0/6/SHT/M/X
DAR2 10K/4/1
SiRA18DP-T1/PPAKSO-8/1000pF/7.5m/[10IF9-100397-21R_10IF9-070018-01R]
DEC25 270u/FP/D/16V/8C/A/10m
DEC27 270u/FP/D/16V/8C/A/10m
0.3uH/35A/IMD109/M/D/[11LC5-M3300C-01R_11LC5-M3300C-02R]
DAL1
DAR3 2.2/6
DAR4 0/4/SHT/M/X
DAR5 0/4/SHT/M/X
DEC24 560u/FP/D/6.3V/69/A/11m
DAC1 1N/4/X7R/50V/K
PHASE1
LGATE1
PIRTN1
PISEN1
DAR6 3.65K/4/1
DAR7 10K/4/1
DAC2 0.22U/4/X5R/6.3V/K
DAR8 1/4/1
DAR9 10K/4/X
DAR11 10K/4/X
SiRA14DP-T1/PPAKSO-8/1450pF/5.1m/[10IF9-040393-21R_10IF9-050014-01R]
DBBC1 1U/6/X7R/16V/K
DBQ1
DBR1 0/6/SHT/M/X
DBR2 10K/4/1
DBL1
DBR3 2.2/6
DBR4 0/4/SHT/M/X
DBR5 0/4/SHT/M/X
DBC1 1N/4/X7R/50V/K
DBR6 3.65K/4/1
DBR7 10K/4/1
DBC2 0.22U/4/X5R/6.3V/K
DBR8 1/4/1
DBR9 10K/4/X
DBR10 10K/4/X
DEC23 560u/FP/D/6.3V/69/A/11m
DEC22 560u/FP/D/6.3V/69/A/11m
DEC21 560u/FP/D/6.3V/69/A/11m
DEC29 560u/FP/D/6.3V/69/A/11m
DEC30 560u/FP/D/6.3V/69/A/11m
DCBC1 1U/6/X7R/16V/K
DCQ1
DCR1 0/6/SHT/M/X
DCR2 10K/4/1
DCL1
DCR3 2.2/6
DCR4 0/4/SHT/M/X
DCR5 0/4/SHT/M/X
DCC1 1N/4/X7R/50V/K
DCR6 3.65K/4/1
DCR7 10K/4/1
DCC2 0.22U/4/X5R/6.3V/K
DCR8 1/4/1
DCR9 10K/4/X
DCR10 10K/4/X
DFBC1 1U/6/X7R/16V/K
DFQ1
DRR2 10K/4/1
DFL1
DFR3 2.2/6
DFR4 0/4/SHT/M/X
DFR5 0/4/SHT/M/X
DFC1 1N/4/X7R/50V/K
DFR6 3.65K/4/1
DFR7 10K/4/1
DFC2 0.22U/4/X5R/6.3V/K
DFR8 1/4/1
DFR9 10K/4/X
NB_UGATE2
NB_PHASE2
NB_LGATE2
NBISEN2
NBIRTN2
DCR12 2.2/6
DCR13 2.2/6
DCC3 0.22u/6/X7R/16V/K
DCBC2 1u/4/X5R/6.3V/K
DCU1
ISL6208BCRZ/DFN8
UGATE3
PHASE3
LGATE3
PWM_PHS3
UD2_BT
UD2_VCC
DEBC1 1U/6/X7R/16V/K
DEQ1
DER1 0/6/SHT/M/X
DER2 10K/4/1
DEL1
DEQ2
DER3 2.2/6
DER4 0/4/SHT/M/X
DER5 0/4/SHT/M/X
DEC9
DEC8 560u/FP/D/6.3V/69/A/11m
DEC5 1N/4/X7R/50V/K
NBISEN1
NBIRTN1
DER6 3.65K/4/1
DER7 10K/4/1
DEC28 0.22U/4/X5R/6.3V/K
DER8 1/4/1
DER9 10K/4/X
DFR12 2.2/6
DFR13 2.2/6
DFC3 0.22u/6/X7R/16V/K
DFBC2 1u/4/X5R/6.3V/K
DFU1
UD4_BT
UD4_VCC
PWM_NB2
NB_UGATE2
NB_PHASE2
NB_LGATE2
▲ Close to PWM
GIGABYTE
VCORE MOS / DRIVER
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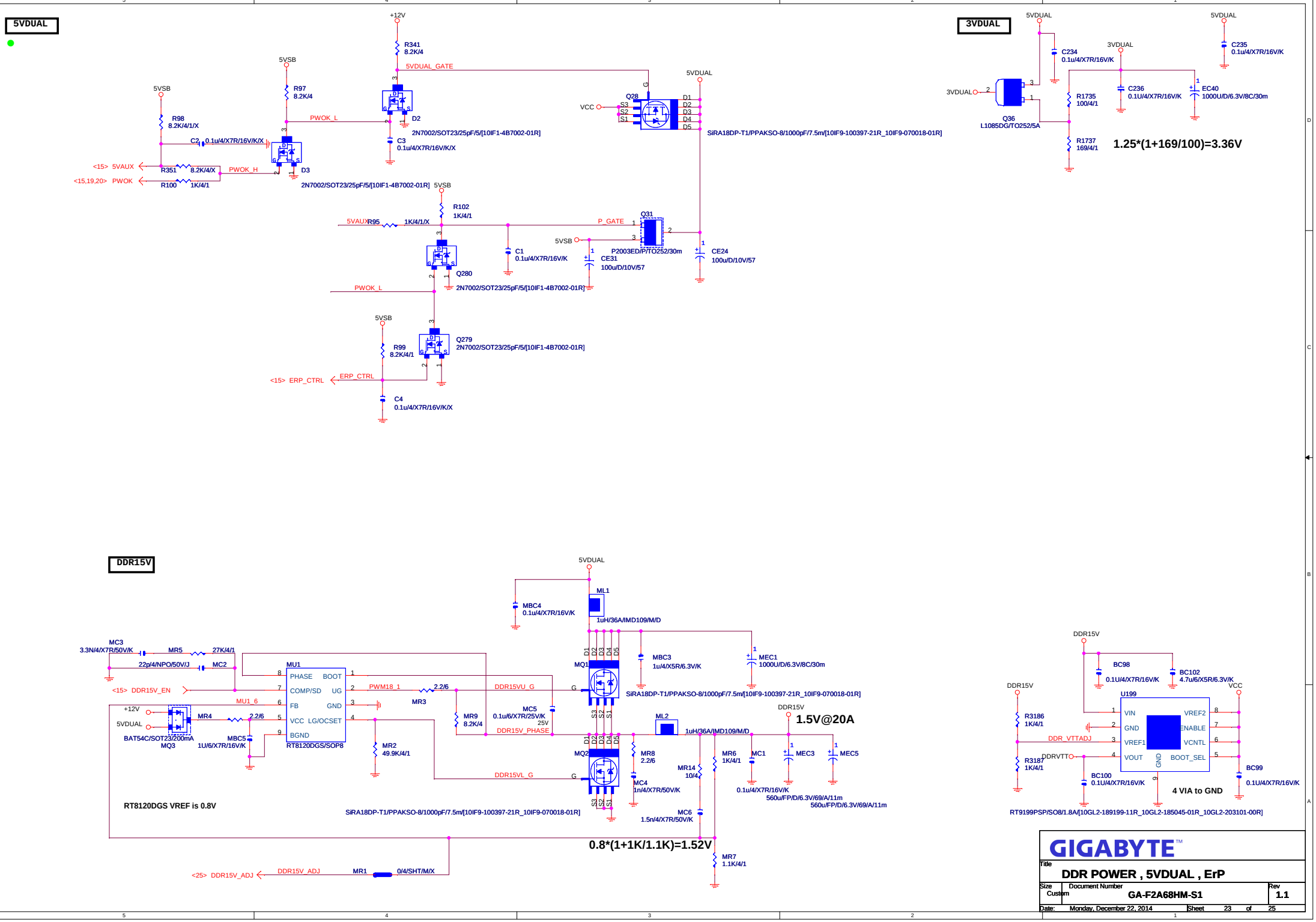
5VDUAL
+12V
R341
8.2K/4
5VDUAL_GATE
5VSB
R97
8.2K/4
PWOK_L
D2
2N7002/SOT23/25pF/5/[10IF1-4B7002-01R]
C3
0.1u/4/X7R/16V/K/X
R98
8.2K/4/1/X
C2
0.1u/4/X7R/16V/K/X
<15> 5VAUX
R351
8.2K/4/X
PWOK_H
D3
2N7002/SOT23/25pF/5/[10IF1-4B7002-01R]
<15,19,20> PWOK
R100
1K/4/1
Q28
VCC
SiRA18DP-T1/PPAKSO-8/1000pF/7.5m/[10IF9-100397-21R_10IF9-070018-01R]
R102
1K/4/1
5VAUX
R95
1K/4/1/X
P_GATE
Q31
P2003EDP/PTO252/30m
C1
0.1u/4/X7R/16V/K
CE31
100u/D/10V/57
CE24
100u/D/10V/57
Q280
2N7002/SOT23/25pF/5/[10IF1-4B7002-01R]
R99
8.2K/4/1
Q279
2N7002/SOT23/25pF/5/[10IF1-4B7002-01R]
<15> ERP_CTRL
C4
0.1u/4/X7R/16V/K/X
3VDUAL
C234
0.1u/4/X7R/16V/K
C235
0.1u/4/X7R/16V/K
C236
0.1u/4/X7R/16V/K
EC40
1000U/D/6.3V/8C/30m
Q36
L1085DG/TO252/5A
R1735
100/4/1
R1737
169/4/1
1.25*(1+169/100)=3.36V
DDR15V
MC3
3.3N/4/X7R/50V/K
MR5
27K/4/1
22p/4/NPO/50V/J
MC2
<15> DDR15V_EN
MU1
PHASE
BOOT
COMP/SD
UG
FB
GND
VCC LG/OCSET
BGND
RT8120DGS/SOP8
PWM18_1
2.2/6
MR3
MU1_6
MR4
2.2/6
BAT54C/SOT23/200mA
MQ3
MBC5
1U/6/X7R/16V/K
MR2
49.9K/4/1
MR9
8.2K/4
DDR15VU_G
MC5
0.1u/6/X7R/25V/K
DDR15V_PHASE
DDR15VL_G
MBC4
0.1u/4/X7R/16V/K
ML1
1uH/36A/IMD109/M/D
MQ1
MBC3
1u/4/X5R/6.3V/K
MEC1
1000U/D/6.3V/8C/30m
SiRA18DP-T1/PPAKSO-8/1000pF/7.5m/[10IF9-100397-21R_10IF9-070018-01R]
ML2
1uH/36A/IMD109/M/D
MQ2
MR8
2.2/6
MC4
1n/4/X7R/50V/K
MR14
10/4
MR6
1K/4/1
MC1
0.1u/4/X7R/16V/K
MEC3
MEC5
560u/FP/D/6.3V/69/A/11m
1.5V@20A
MC6
1.5n/4/X7R/50V/K
MR7
1.1K/4/1
0.8*(1+1K/1.1K)=1.52V
RT8120DGS VREF is 0.8V
<25> DDR15V_ADJ
MR1
0/4/SHT/M/X
BC98
0.1U/4/X7R/16V/K
BC102
4.7u/6/X5R/6.3V/K
U199
VIN
VREF2
GND
ENABLE
VREF1
VCNTL
VOUT
BOOT_SEL
GND
R3186
1K/4/1
DDR_VTTADJ
R3187
1K/4/1
DDRVTT
BC100
0.1U/4/X7R/16V/K
BC99
0.1U/4/X7R/16V/K
4 VIA to GND
RT9199PSP/SO8/1.8A/[10GL2-189199-11R_10GL2-185045-01R_10GL2-203101-00R]
GIGABYTE
Title
DDR POWER , 5VDUAL , ErP
Size
Custom
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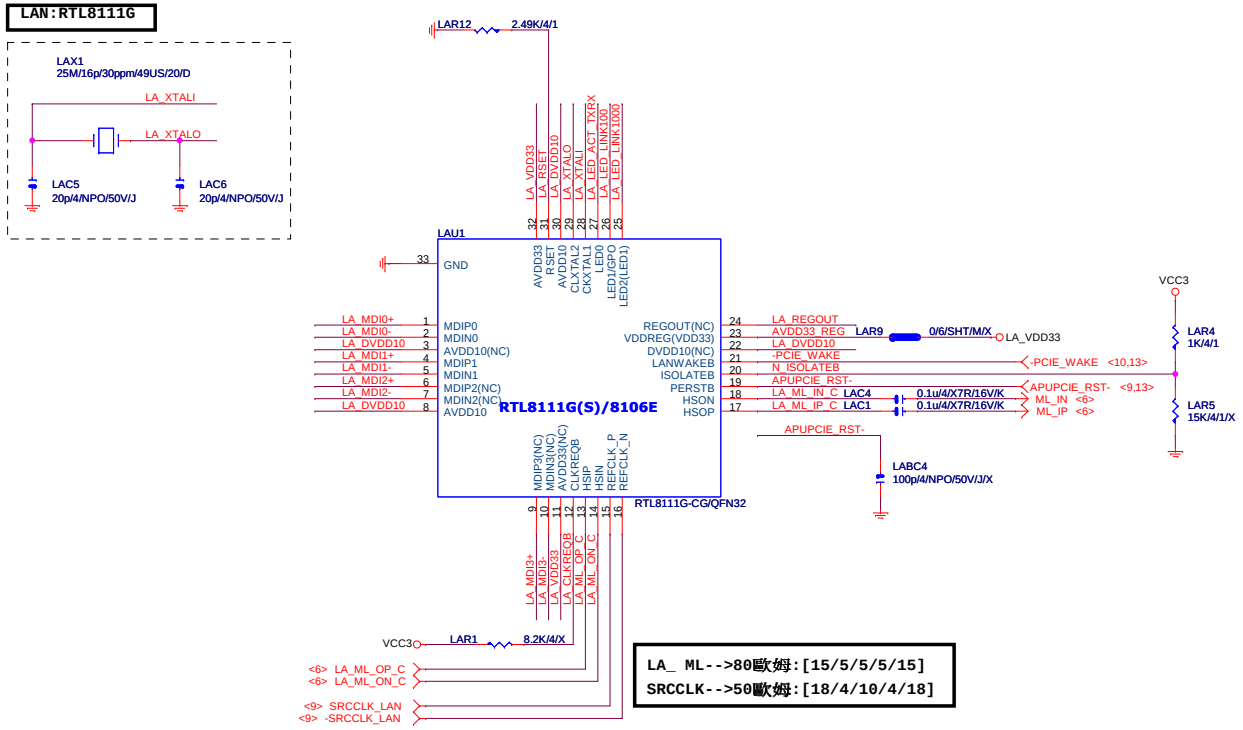
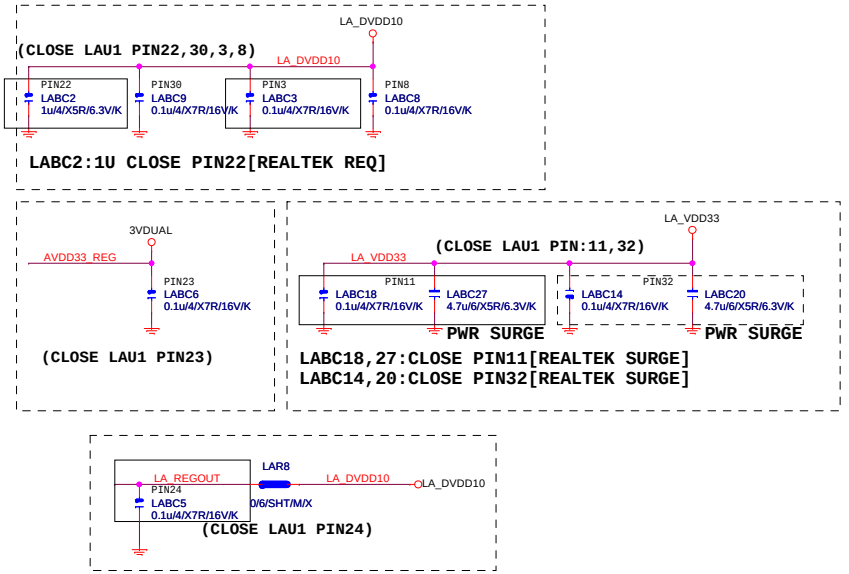
LAN:RTL8111G



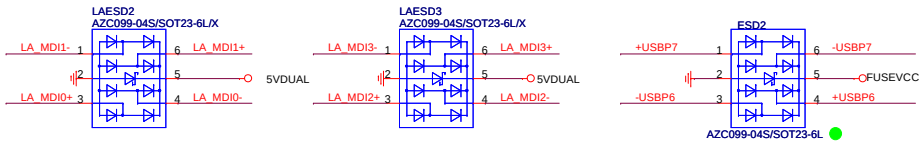
LA_ ML-->80歐姆:[15/5/5/5/15]
SRCCLK-->50歐姆:[18/4/10/4/18]

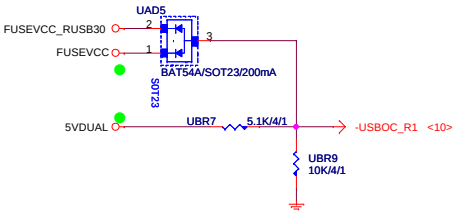
LAN POWER



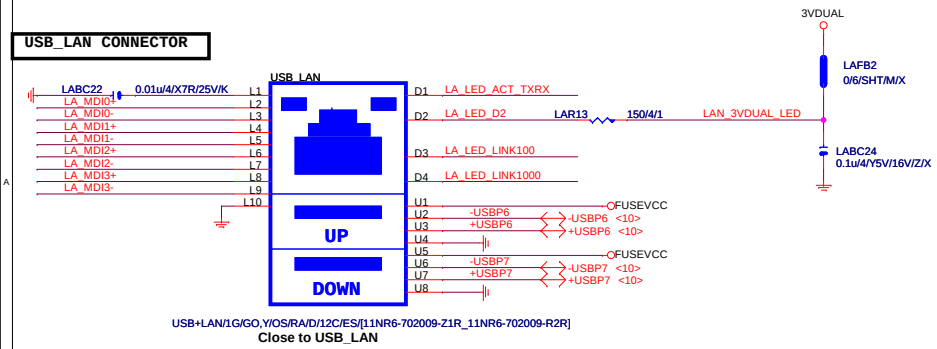
NOTE:
RT8106E:PIN3,11,22,24-->NC
LABC2LABC3,LABC5,LABC18,LABC27-->N/A

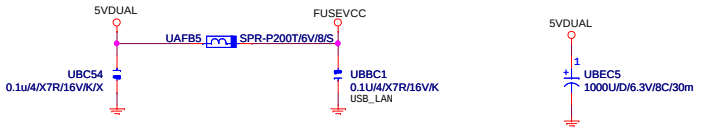
USB_LAN





USB_LAN CONNECTOR





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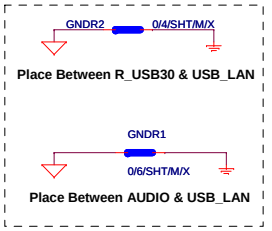

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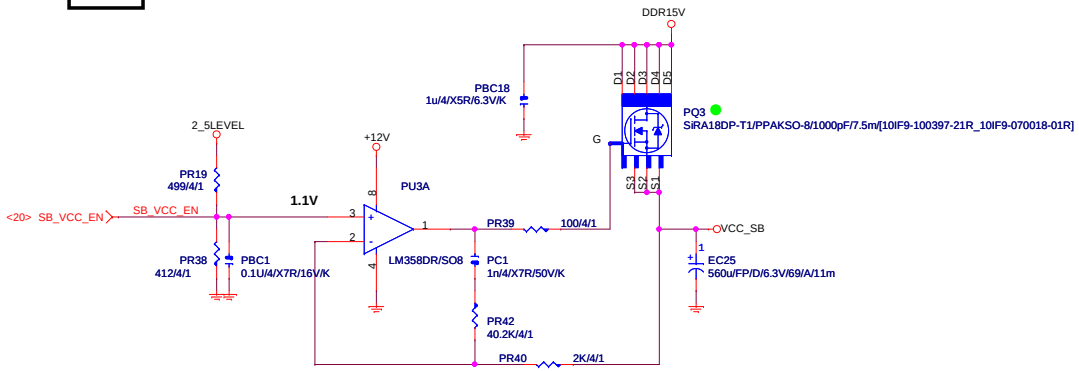
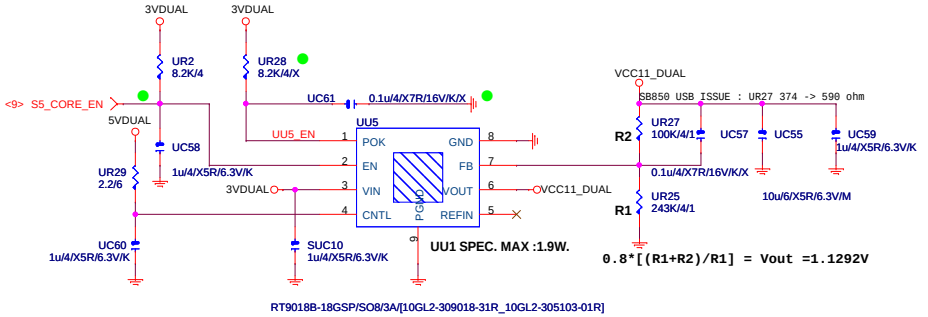
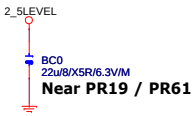
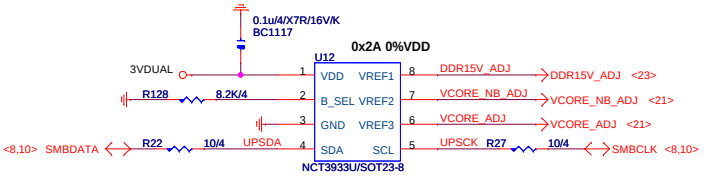
VCC_SB



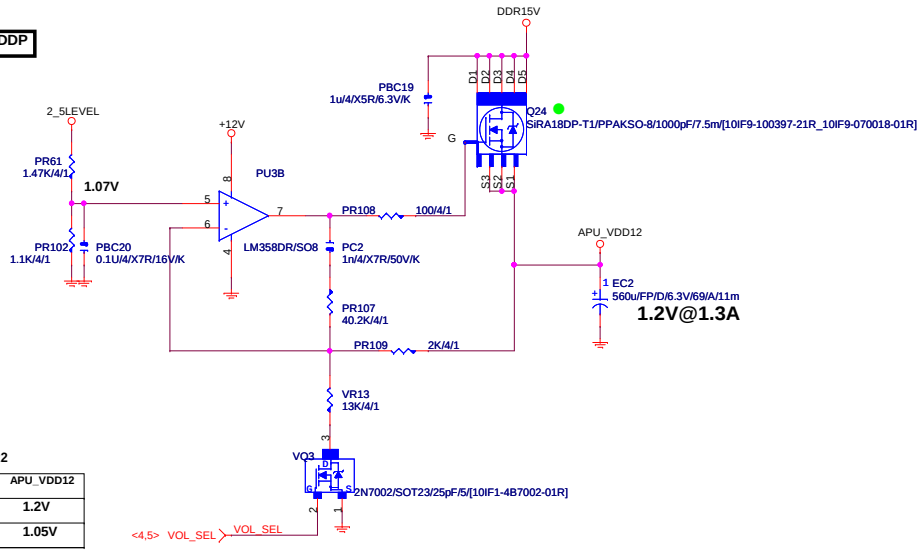


【技術通報R&D技術通報156】
RT9018(RICHTEK)與NCT3730(NUVOTON),
EM5103GE(EMC)做共用,針對PIN7(FB)分壓阻值部份
(R1/R2)須做修改為100K以上電阻值



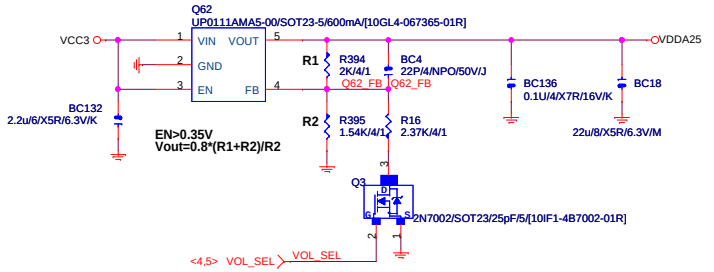


APU_VDDP



Vout=1.07*(R1+R2)/R2

APU	VOL_SEL	APU_VDD12
FM2	1	1.2V
FM2+	0	1.05V



APU	VOL_SEL	VDDA25
FM2	1	2.5V
FM2+	0	1.8V

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Title: VCC_SB , APU_VDDP,VCC11_DUAL,VDDA25

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