GA-M52L-S3

Revision:1.0

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02	BOM & PCB MODIFY HISTORY
03	BLOCK DIAGRAM
04	PROCESSOR HT INTERFACE
05	PROCESSOR DDR2 INTERFACE
06	PROCESSOR CONTROL & DEBUG
07	PROCESSOR POWER & GND
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09	DIMM 3,4
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12	MCP61-PCI_EXPRESS
13	MCP61-DAC, RGMII
14	MCP61-PCI
15	MCP61-SATA, IDE
16	MCP61-USB, HD-Audio, GPIO
17	MCP61-Power, Gnd
18	PCI EXPRESS x16, x1 SLOT
19	PCI 1,2,3 SLOT
20	PCI 4 SLOT
21	Realtek 8211SC GIGA LAN
22	H/W MONITOR & FAN CONTROL
23	IDE/FDD/COM/LPT/KB/MS
24	F_USB/ R_USB
25	ALC883 HD-AUDIO

SHEET	TITLE
26	AUDIO JACK, L_OUT, F_AUDIO
27	FRONT PANEL POWER SEQUENCE
28	ATX CONN VCC12_DUAL,VDDA25
29	PWM ISL6312
30	ITE 8716GB/ SPI BIOS
31	DDRII POWER

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Title: BLOCK DIAGRAM

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Model Name:GA-M52L-S3 *Revision:1.0*

Component value change history

P-Code: U96058-0

Date	Change Item	Reason
2007.06.05	0.1 E_BOM release PCB:0.1	New BOM for MCP65V.
2007.06.13	0.2 E_BOM release PCB:0.2	Change chip to MCP61D for no MCP65V in MP
2007.07.06	1.0A P_BOM release PCB:1.0	Change PCB REV. to 1.0 Remove BC179 ADD AM2 TYCO socket & add packing BOM
2007.07.23	1.0A P_BOM release PCB:1.0	Add second source ---> W83310 & BAT54A & .22uF cap

Circuit or PCB layout change for next version

Date	Change Item	Reason
2007.06.04	0.1 Gerber Out	Modify from M52S-S3P, change to MCP65V chip
2007.06.12	0.2 Gerber Out	Modify from M52L-S3, change to MCP61D chip
		Add 2.2 ohm for noise.

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Title: BOM & PCB MODIFY HISTORY

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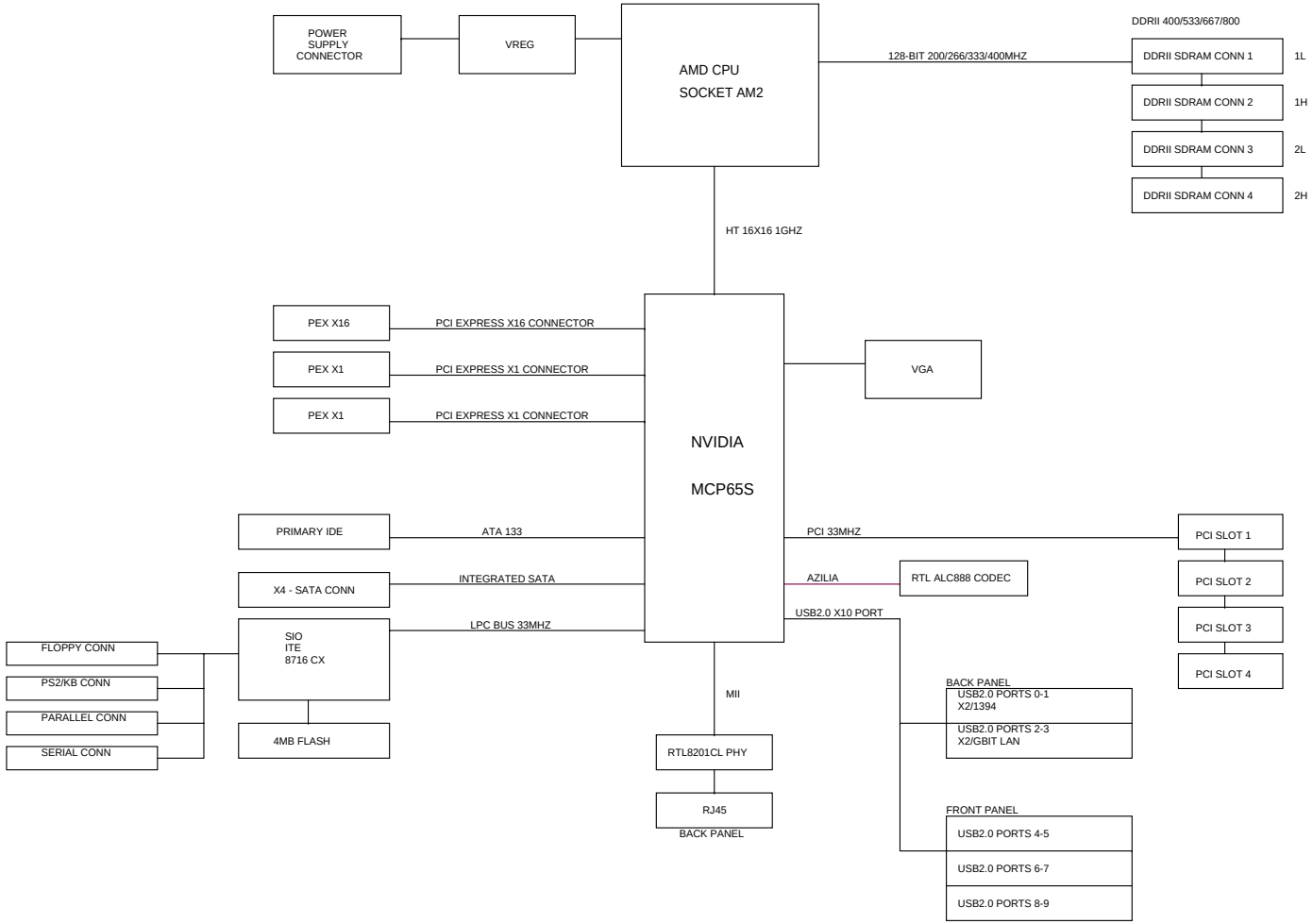
BLOCK DIAGRAM



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Title: BLOCK DIAGRAM		
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L0_CADIN_L[0..15] L0_CADIN_L[0..15] <11>
L0_CADIN_H[0..15] L0_CADIN_H[0..15] <11>
L0_CLKIN_L[0..1] L0_CLKIN_L[0..1] <11>
L0_CLKIN_H[0..1] L0_CLKIN_H[0..1] <11>
L0_CADOUT_L[0..15] L0_CADOUT_L[0..15] <11>
L0_CADOUT_H[0..15] L0_CADOUT_H[0..15] <11>
L0_CLKOUT_L[0..1] L0_CLKOUT_L[0..1] <11>
L0_CLKOUT_H[0..1] L0_CLKOUT_H[0..1] <11>

CPU_VDD_RUN = VCORE
CPU_VDDA_RUN = VDDA25
VLDT_RUN = VCC12_HT
CPU_VDDIO_SUS = DDR18V
CPU_VTT_SUS = DDRVTT

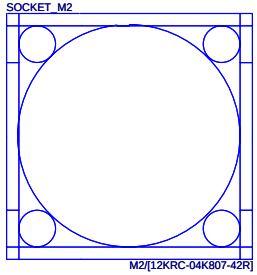
VLDT_A = VCC12_HT
VLDT_B = HT12B

M2CPUA

HYPERTRANSPORT

L0_CLKIN_H1	N6	L0_CLKIN_H(1)	L0_CLKOUT_H(1)	AD5	L0_CLKOUT_H1
L0_CLKIN_L1	P6	L0_CLKIN_L(1)	L0_CLKOUT_L(1)	AD4	L0_CLKOUT_L1
L0_CLKIN_H0	N3	L0_CLKIN_H(0)	L0_CLKOUT_H(0)	AD1	L0_CLKOUT_H0
L0_CLKIN_L0	N2	L0_CLKIN_L(0)	L0_CLKOUT_L(0)	AC1	L0_CLKOUT_L0
VCC12_HT R3 49.9/4/1	V4	L0_CTLIN_H(1)	L0_CTLOUT_H(1)	Y6 1	TP78
GND R4 49.9/4/1	V5	L0_CTLIN_L(1)	L0_CTLOUT_L(1)	W6 1	TP79
<11> L0_CTLIN_H0	U1	L0_CTLIN_H(0)	L0_CTLOUT_H(0)	W2 L0_CTLOUT_H0	<11> L0_CTLOUT_H0 <11>
<11> L0_CTLIN_L0	V1	L0_CTLIN_L(0)	L0_CTLOUT_L(0)	W3 L0_CTLOUT_L0	<11> L0_CTLOUT_L0 <11>
L0_CADIN_H15	U6	L0_CADIN_H(15)	L0_CADOUT_H(15)	Y5	L0_CADOUT_H15
L0_CADIN_L15	V6	L0_CADIN_L(15)	L0_CADOUT_L(15)	Y4	L0_CADOUT_L15
L0_CADIN_H14	T4	L0_CADIN_H(14)	L0_CADOUT_H(14)	AB6	L0_CADOUT_H14
L0_CADIN_L14	T5	L0_CADIN_L(14)	L0_CADOUT_L(14)	AA6	L0_CADOUT_L14
L0_CADIN_H13	R6	L0_CADIN_H(13)	L0_CADOUT_H(13)	AB5	L0_CADOUT_H13
L0_CADIN_L13	T6	L0_CADIN_L(13)	L0_CADOUT_L(13)	AB4	L0_CADOUT_L13
L0_CADIN_H12	P4	L0_CADIN_H(12)	L0_CADOUT_H(12)	AD6	L0_CADOUT_H12
L0_CADIN_L12	P5	L0_CADIN_L(12)	L0_CADOUT_L(12)	AC6	L0_CADOUT_L12
L0_CADIN_H11	M4	L0_CADIN_H(11)	L0_CADOUT_H(11)	AE6	L0_CADOUT_H11
L0_CADIN_L11	M5	L0_CADIN_L(11)	L0_CADOUT_L(11)	AE6	L0_CADOUT_L11
L0_CADIN_H10	L6	L0_CADIN_H(10)	L0_CADOUT_H(10)	AF5	L0_CADOUT_H10
L0_CADIN_L10	M6	L0_CADIN_L(10)	L0_CADOUT_L(10)	AF4	L0_CADOUT_L10
L0_CADIN_H9	K4	L0_CADIN_H(9)	L0_CADOUT_H(9)	AH6	L0_CADOUT_H9
L0_CADIN_L9	K5	L0_CADIN_L(9)	L0_CADOUT_L(9)	AG6	L0_CADOUT_L9
L0_CADIN_H8	J6	L0_CADIN_H(8)	L0_CADOUT_H(8)	AH5	L0_CADOUT_H8
L0_CADIN_L8	K6	L0_CADIN_L(8)	L0_CADOUT_L(8)	AH4	L0_CADOUT_L8
L0_CADIN_H7	U3	L0_CADIN_H(7)	L0_CADOUT_H(7)	Y1	L0_CADOUT_H7
L0_CADIN_L7	U2	L0_CADIN_L(7)	L0_CADOUT_L(7)	W1	L0_CADOUT_L7
L0_CADIN_H6	R1	L0_CADIN_H(6)	L0_CADOUT_H(6)	AA2	L0_CADOUT_H6
L0_CADIN_L6	T1	L0_CADIN_L(6)	L0_CADOUT_L(6)	AA3	L0_CADOUT_L6
L0_CADIN_H5	R3	L0_CADIN_H(5)	L0_CADOUT_H(5)	AB1	L0_CADOUT_H5
L0_CADIN_L5	R2	L0_CADIN_L(5)	L0_CADOUT_L(5)	AA1	L0_CADOUT_L5
L0_CADIN_H4	N1	L0_CADIN_H(4)	L0_CADOUT_H(4)	AC2	L0_CADOUT_H4
L0_CADIN_L4	P1	L0_CADIN_L(4)	L0_CADOUT_L(4)	AC3	L0_CADOUT_L4
L0_CADIN_H3	L1	L0_CADIN_H(3)	L0_CADOUT_H(3)	AE2	L0_CADOUT_H3
L0_CADIN_L3	M1	L0_CADIN_L(3)	L0_CADOUT_L(3)	AE3	L0_CADOUT_L3
L0_CADIN_H2	L3	L0_CADIN_H(2)	L0_CADOUT_H(2)	AF1	L0_CADOUT_H2
L0_CADIN_L2	L2	L0_CADIN_L(2)	L0_CADOUT_L(2)	AE1	L0_CADOUT_L2
L0_CADIN_H1	J1	L0_CADIN_H(1)	L0_CADOUT_H(1)	AG2	L0_CADOUT_H1
L0_CADIN_L1	K1	L0_CADIN_L(1)	L0_CADOUT_L(1)	AG3	L0_CADOUT_L1
L0_CADIN_H0	J3	L0_CADIN_H(0)	L0_CADOUT_H(0)	AH1	L0_CADOUT_H0
L0_CADIN_L0	J2	L0_CADIN_L(0)	L0_CADOUT_L(0)	AG1	L0_CADOUT_L0

SOCKET_M2



M2/[12KRC-04K807-42R]

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Title: CPU HYPER TRANSPORT

Size	Document Number	Rev
Custom	GA-M52L-S3	1.0

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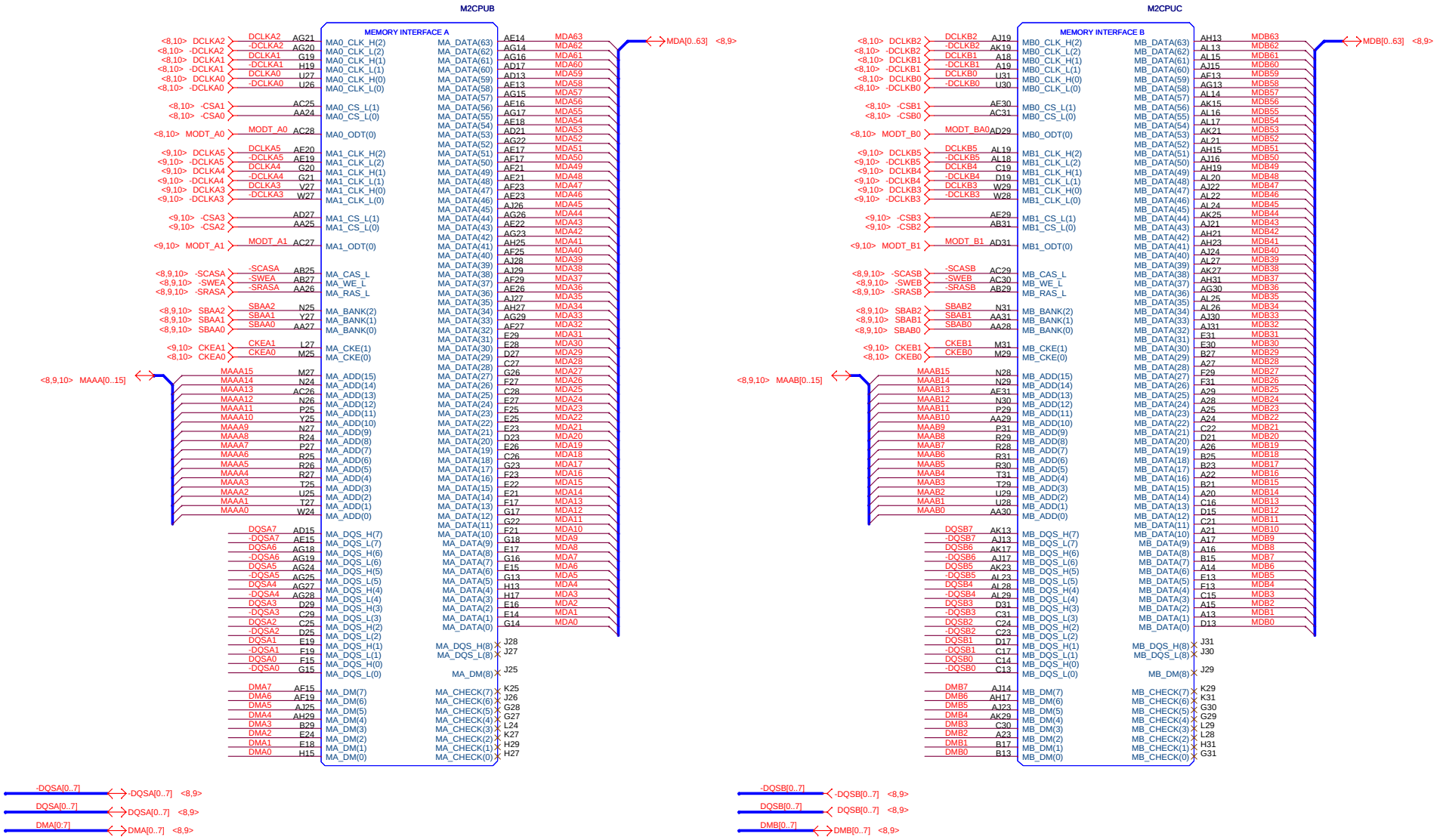

Title	CPU DDRII MEMORY	
Size: Custom	Document Number: GA-M52L-S3	Rev: 1.0
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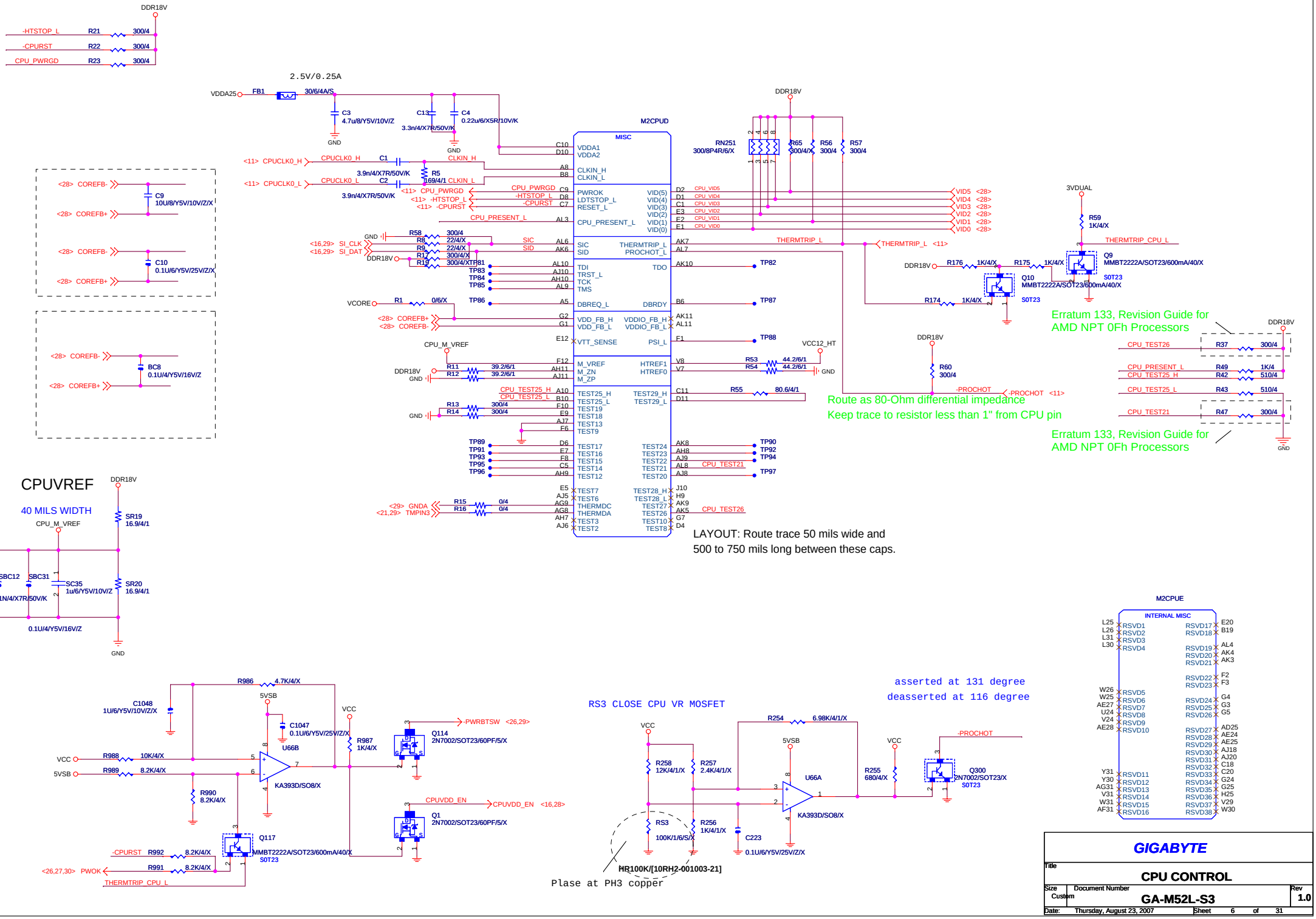
DDR18V
-HTSTOP_L R21 300/4
-CPURST R22 300/4
CPU_PWRGD R23 300/4
2.5V/0.25A
VDDA25 FB1 30/6/4A/S
C3 4.7u/8/Y5V/10V/Z
C13 3.3n/4/X7R/50V/K
C4 0.22u/6/X5R/10V/K
GND
M2CPUD
MISC
VDDA1
VDDA2
CLKIN_H
CLKIN_L
PWROK
LDTSTOP_L
RESET_L
CPU_PRESENT_L
SIC
SID
TDI
TRST_L
TCK
TMS
DBREQ_L
DBRDY
VDD_FB_H
VDD_FB_L
VDDIO_FB_H
VDDIO_FB_L
VTT_SENSE
PSI_L
M_VREF
M_ZN
M_ZP
HTREF1
HTREF0
TEST25_H
TEST25_L
TEST19
TEST18
TEST13
TEST9
TEST17
TEST16
TEST15
TEST14
TEST12
TEST29_H
TEST29_L
TEST24
TEST23
TEST22
TEST21
TEST20
TEST7
TEST6
THERMDC
THERMDA
TEST3
TEST2
TEST28_H
TEST28_L
TEST27
TEST26
TEST10
TEST8
VID(5)
VID(4)
VID(3)
VID(2)
VID(1)
VID(0)
THERMTRIP_L
PROCHOT_L
TDO
VID5 <28>
VID4 <28>
VID3 <28>
VID2 <28>
VID1 <28>
VID0 <28>
THERMTRIP_L <11>
-PROCHOT <11>
RN251 300/8P4R/6/X
R65 300/4/X
R56 300/4
R57 300/4
3VDUAL
R59 1K/4/X
Q9 MMBT2222A/SOT23/600mA/40/X
Q10 MMBT2222A/SOT23/600mA/40/X
S0T23
R176 1K/4/X
R175 1K/4/X
R174 1K/4/X
R60 300/4
R53 44.2/6/1
R54 44.2/6/1
R55 80.6/4/1
VCC12_HT
Erratum 133, Revision Guide for AMD NPT 0Fh Processors
Route as 80-Ohm differential impedance
Keep trace to resistor less than 1" from CPU pin
CPU_TEST26 R37 300/4
CPU_PRESENT_L R49 1K/4
CPU_TEST25_H R42 510/4
CPU_TEST25_L R43 510/4
CPU_TEST21 R47 300/4
CPUVREF
40 MILS WIDTH
SR19 16.9/4/1
SR20 16.9/4/1
SBC12 1N/4/X7R/50V/K
SBC31
SC35 1u/6/Y5V/10V/Z
0.1U/4/Y5V/16V/Z
C9 10U/8/Y5V/10V/Z/X
C10 0.1U/6/Y5V/25V/Z/X
BC8 0.1U/4/Y5V/16V/Z
CPU_M_VREF
R11 39.2/6/1
R12 39.2/6/1
R13 300/4
R14 300/4
R15 0/4
R16 0/4
VCORE R1 0/6/X
R58 300/4
R8 22/4/X
R9 22/4/X
R1 300/4/X
R18 300/4/XTR81
TP82
TP83
TP84
TP85
TP86
TP87
TP88
TP89
TP91
TP93
TP95
TP96
TP90
TP92
TP94
TP97
LAYOUT: Route trace 50 mils wide and
500 to 750 mils long between these caps.
R986 4.7K/4/X
C1048 1U/6/Y5V/10V/Z/X
C1047 0.1U/6/Y5V/25V/Z/X
U66B
KA393D/SO8/X
R988 10K/4/X
R989 8.2K/4/X
R990 8.2K/4/X
R987 1K/4/X
Q114 2N7002/SOT23/60PF/5/X
-PWRBTSW <26,29>
Q1 2N7002/SOT23/60PF/5/X
CPUVDD_EN
CPUVDD_EN <16,28>
Q117 MMBT2222A/SOT23/600mA/40/X
R992 8.2K/4/X
R991 8.2K/4/X
PWOK <26,27,30>
THERMTRIP_CPU_L
RS3 CLOSE CPU VR MOSFET
R254 6.98K/4/1/X
R258 12K/4/1/X
R257 2.4K/4/1/X
R256 1K/4/1/X
RS3 100K/1/6/S/X
C223 0.1U/6/Y5V/25V/Z/X
U66A
R255 680/4/X
Q300 2N7002/SOT23/X
asserted at 131 degree
deasserted at 116 degree
HR100K/[10RH2-001003-21]
Plase at PH3 copper
M2CPUE
INTERNAL MISC
RSVD1
RSVD2
RSVD3
RSVD4
RSVD5
RSVD6
RSVD7
RSVD8
RSVD9
RSVD10
RSVD11
RSVD12
RSVD13
RSVD14
RSVD15
RSVD16
RSVD17
RSVD18
RSVD19
RSVD20
RSVD21
RSVD22
RSVD23
RSVD24
RSVD25
RSVD26
RSVD27
RSVD28
RSVD29
RSVD30
RSVD31
RSVD32
RSVD33
RSVD34
RSVD35
RSVD36
RSVD37
RSVD38
GIGABYTE
Title
CPU CONTROL
Size Custom
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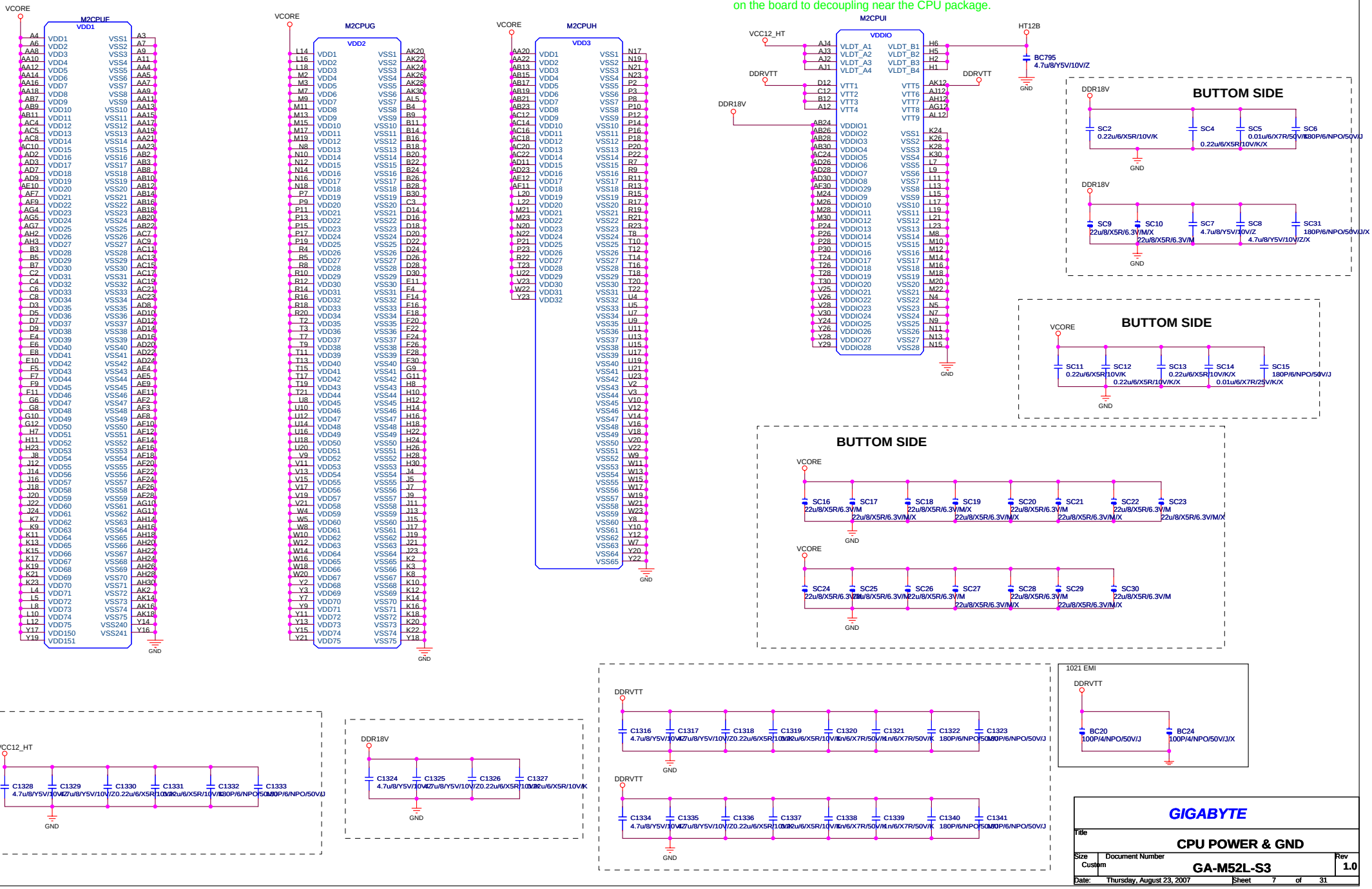
VLDT_RUN_B is connected to the VLDT_RUN power supply through the package or on the die. It is only connected on the board to decoupling near the CPU package.



Title	CPU POWER & GND		
Size: Custom	Document Number: GA-M52L-S3		Rev: 1.0
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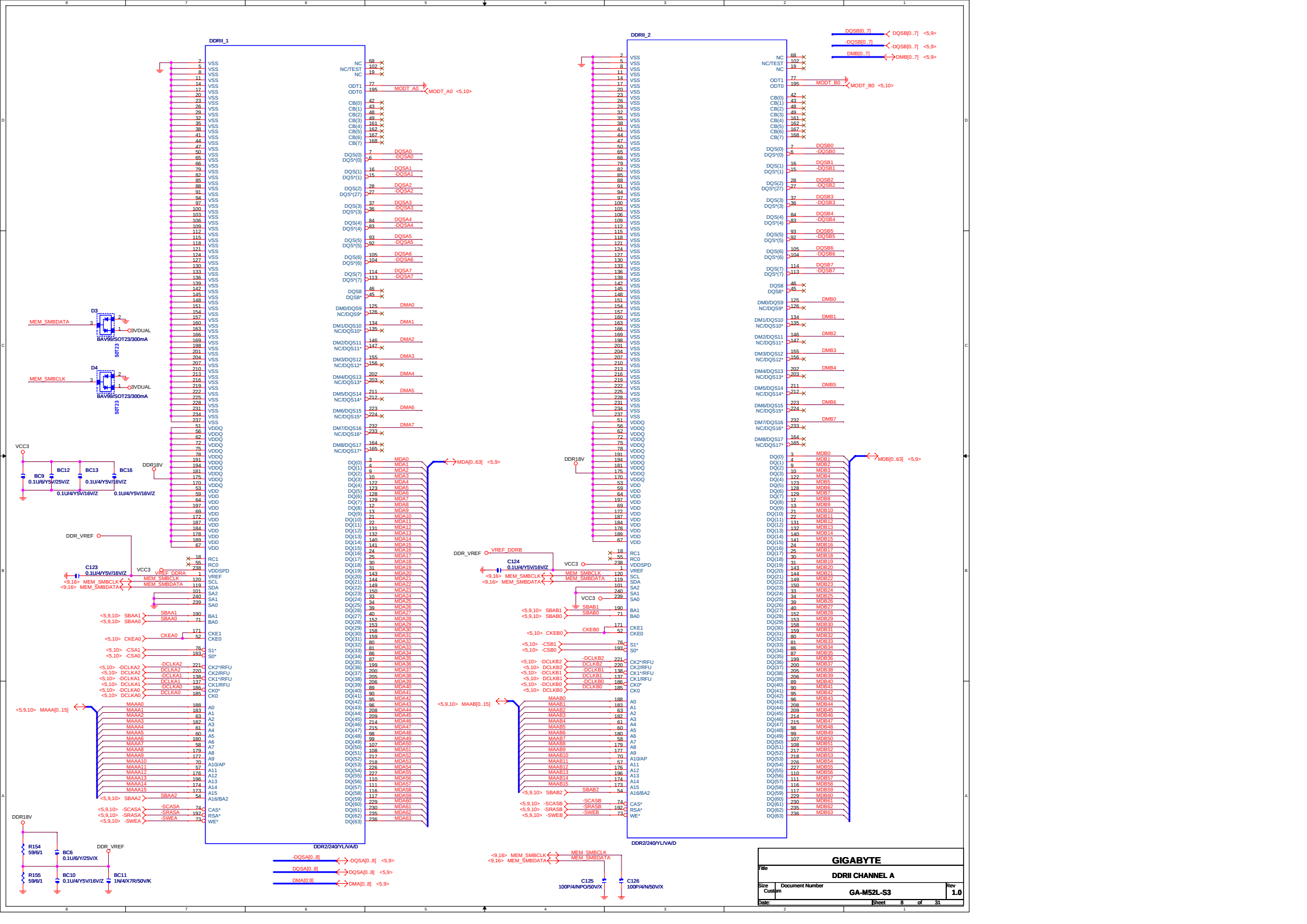

Title	DDRII CHANNEL A
Size	Custom
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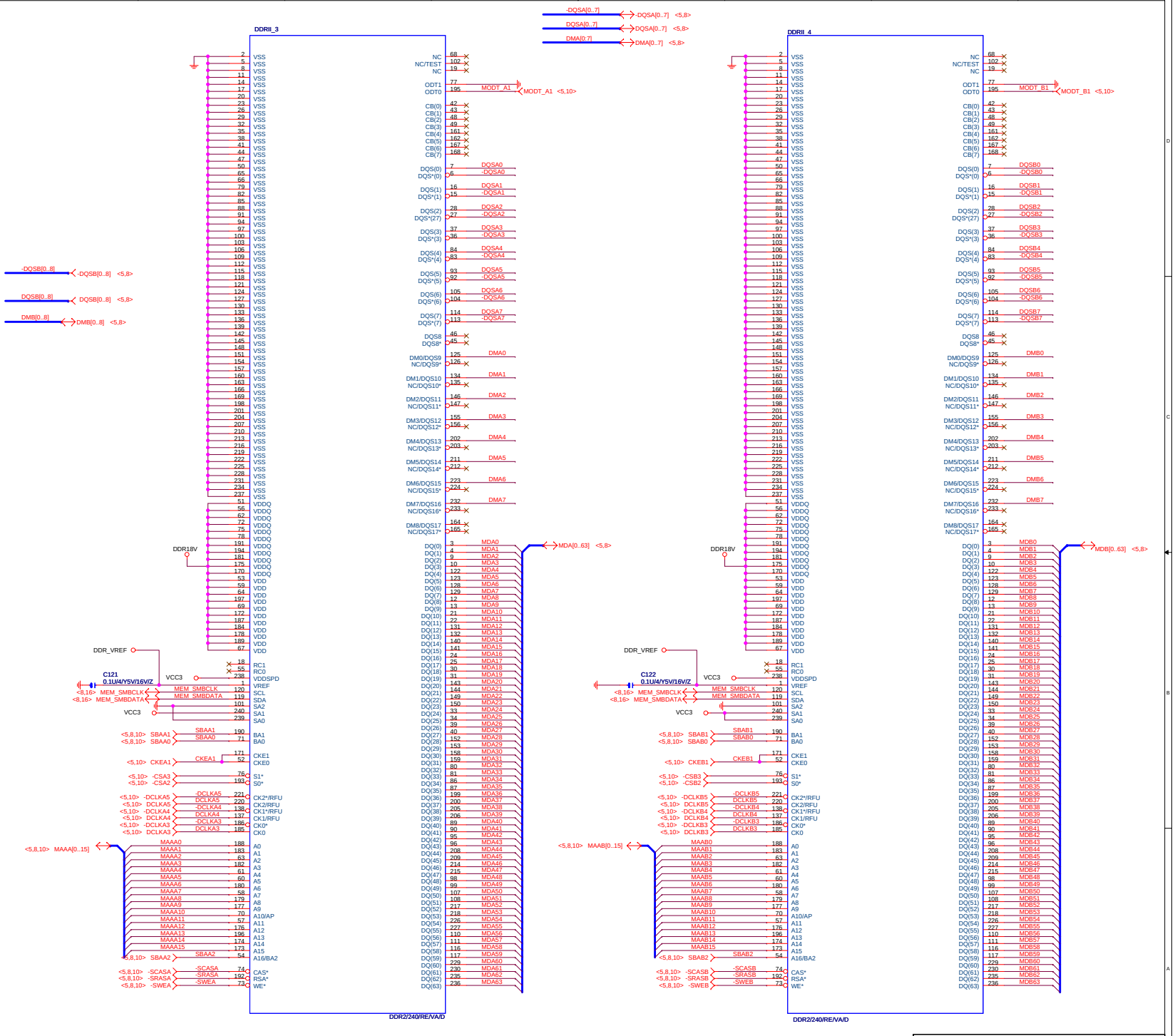
DDRII_3
DDRII_4
-DQSA[0..7]
DQSA[0..7]
DMA[0..7]
-DQSB[0..8]
DQSB[0..8]
DMB[0..8]
MDA[0..63]
MDB[0..63]
MAA[0..15]
MAAB[0..15]
DDR18V
DDR_VREF
VCC3
C121
C122
0.1U/4/Y5V/16V/Z
MEM_SMBCLK
MEM_SMBDATA
MODT_A1
MODT_B1
DDR2/240/RE/VA/D
GIGABYTE
DDRII CHANNEL B
GA-M52L-S3
1.0
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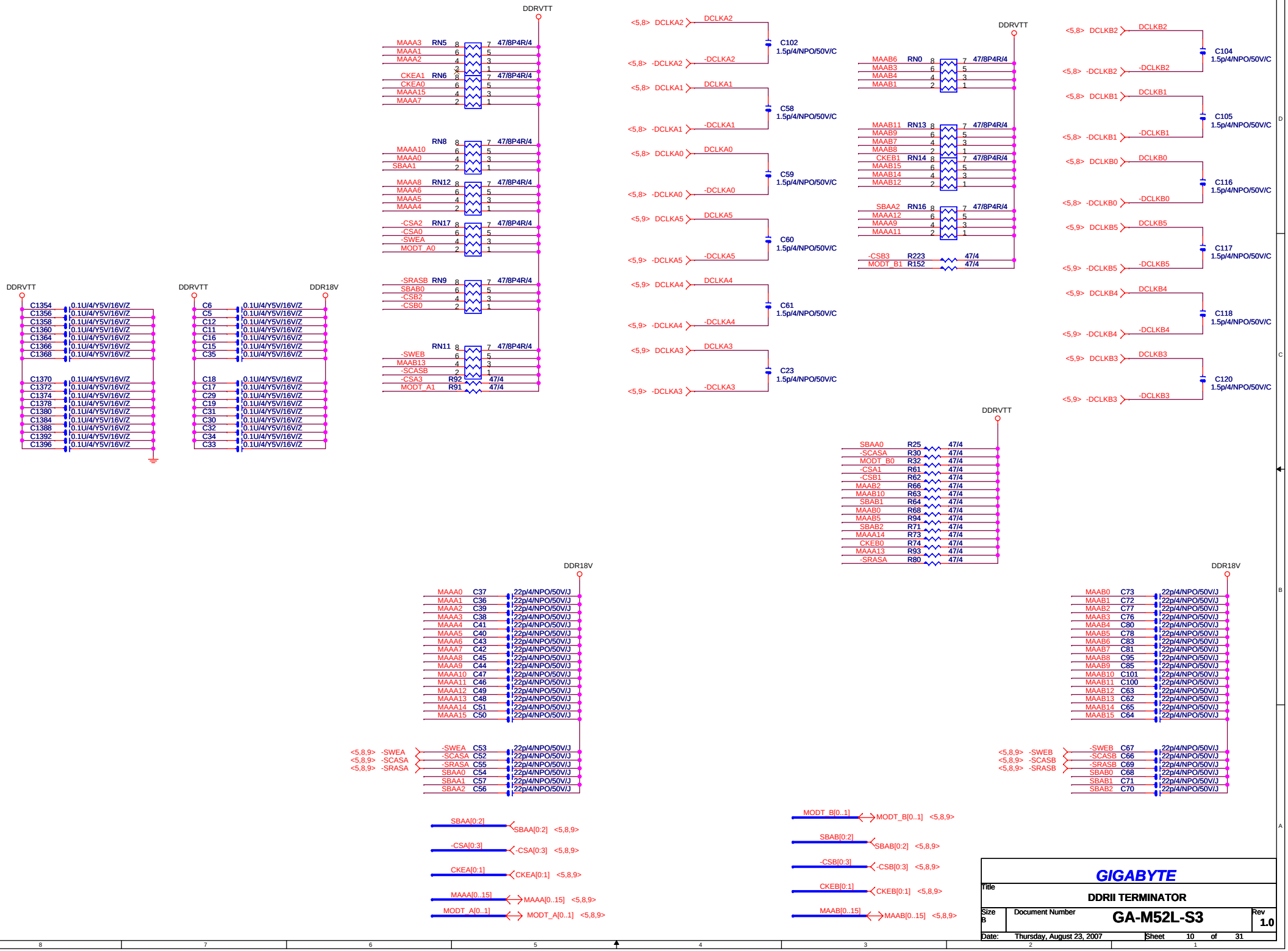
DDRVTT
MAAA3 RN5 8 7 47/8P4R/4
MAAA1 6 5
MAAA2 4 3
2 1
CKEA1 RN6 8 7 47/8P4R/4
CKEA0 6 5
MAAA15 4 3
MAAA7 2 1
RN8 8 7 47/8P4R/4
MAAA10 6 5
MAAA0 4 3
SBAA1 2 1
MAAA8 RN12 8 7 47/8P4R/4
MAAA6 6 5
MAAA5 4 3
MAAA4 2 1
-CSA2 RN17 8 7 47/8P4R/4
-CSA0 6 5
-SWEA 4 3
MODT_A0 2 1
-SRASB RN9 8 7 47/8P4R/4
SBAB0 6 5
-CSB2 4 3
-CSB0 2 1
RN11 8 7 47/8P4R/4
-SWEB 6 5
MAAB13 4 3
-SCASB 2 1
-CSA3 R92 47/4
MODT_A1 R91 47/4
<5,8> DCLKA2 DCLKA2
C102 1.5p/4/NPO/50V/C
<5,8> -DCLKA2 -DCLKA2
<5,8> DCLKA1 DCLKA1
C58 1.5p/4/NPO/50V/C
<5,8> -DCLKA1 -DCLKA1
<5,8> DCLKA0 DCLKA0
C59 1.5p/4/NPO/50V/C
<5,8> -DCLKA0 -DCLKA0
<5,9> DCLKA5 DCLKA5
C60 1.5p/4/NPO/50V/C
<5,9> -DCLKA5 -DCLKA5
<5,9> DCLKA4 DCLKA4
C61 1.5p/4/NPO/50V/C
<5,9> -DCLKA4 -DCLKA4
<5,9> DCLKA3 DCLKA3
C23 1.5p/4/NPO/50V/C
<5,9> -DCLKA3 -DCLKA3
DDRVTT
MAAB6 RN0 8 7 47/8P4R/4
MAAB3 6 5
MAAB4 4 3
MAAB1 2 1
MAAB11 RN13 8 7 47/8P4R/4
MAAB9 6 5
MAAB7 4 3
MAAB8 2 1
CKEB1 RN14 8 7 47/8P4R/4
MAAB15 6 5
MAAB14 4 3
MAAB12 2 1
SBAA2 RN16 8 7 47/8P4R/4
MAAA12 6 5
MAAA9 4 3
MAAA11 2 1
-CSB3 R223 47/4
MODT_B1 R152 47/4
<5,8> DCLKB2 DCLKB2
C104 1.5p/4/NPO/50V/C
<5,8> -DCLKB2 -DCLKB2
<5,8> DCLKB1 DCLKB1
C105 1.5p/4/NPO/50V/C
<5,8> -DCLKB1 -DCLKB1
<5,8> DCLKB0 DCLKB0
C116 1.5p/4/NPO/50V/C
<5,8> -DCLKB0 -DCLKB0
<5,9> DCLKB5 DCLKB5
C117 1.5p/4/NPO/50V/C
<5,9> -DCLKB5 -DCLKB5
<5,9> DCLKB4 DCLKB4
C118 1.5p/4/NPO/50V/C
<5,9> -DCLKB4 -DCLKB4
<5,9> DCLKB3 DCLKB3
C120 1.5p/4/NPO/50V/C
<5,9> -DCLKB3 -DCLKB3
DDRVTT
C1354 0.1U/4/Y5V/16V/Z
C1356 0.1U/4/Y5V/16V/Z
C1358 0.1U/4/Y5V/16V/Z
C1360 0.1U/4/Y5V/16V/Z
C1364 0.1U/4/Y5V/16V/Z
C1366 0.1U/4/Y5V/16V/Z
C1368 0.1U/4/Y5V/16V/Z
C1370 0.1U/4/Y5V/16V/Z
C1372 0.1U/4/Y5V/16V/Z
C1374 0.1U/4/Y5V/16V/Z
C1378 0.1U/4/Y5V/16V/Z
C1380 0.1U/4/Y5V/16V/Z
C1384 0.1U/4/Y5V/16V/Z
C1388 0.1U/4/Y5V/16V/Z
C1392 0.1U/4/Y5V/16V/Z
C1396 0.1U/4/Y5V/16V/Z
DDRVTT
DDR18V
C6 0.1U/4/Y5V/16V/Z
C5 0.1U/4/Y5V/16V/Z
C12 0.1U/4/Y5V/16V/Z
C11 0.1U/4/Y5V/16V/Z
C16 0.1U/4/Y5V/16V/Z
C15 0.1U/4/Y5V/16V/Z
C35 0.1U/4/Y5V/16V/Z
C18 0.1U/4/Y5V/16V/Z
C17 0.1U/4/Y5V/16V/Z
C29 0.1U/4/Y5V/16V/Z
C19 0.1U/4/Y5V/16V/Z
C31 0.1U/4/Y5V/16V/Z
C30 0.1U/4/Y5V/16V/Z
C32 0.1U/4/Y5V/16V/Z
C34 0.1U/4/Y5V/16V/Z
C33 0.1U/4/Y5V/16V/Z
DDRVTT
SBAA0 R25 47/4
-SCASA R30 47/4
MODT_B0 R32 47/4
-CSA1 R61 47/4
-CSB1 R62 47/4
MAAB2 R66 47/4
MAAB10 R63 47/4
SBAB1 R64 47/4
MAAB0 R68 47/4
MAAB5 R94 47/4
SBAB2 R71 47/4
MAAA14 R73 47/4
CKEB0 R74 47/4
MAAA13 R93 47/4
-SRASA R80 47/4
DDR18V
MAAA0 C37 22p/4/NPO/50V/J
MAAA1 C36 22p/4/NPO/50V/J
MAAA2 C39 22p/4/NPO/50V/J
MAAA3 C38 22p/4/NPO/50V/J
MAAA4 C41 22p/4/NPO/50V/J
MAAA5 C40 22p/4/NPO/50V/J
MAAA6 C43 22p/4/NPO/50V/J
MAAA7 C42 22p/4/NPO/50V/J
MAAA8 C45 22p/4/NPO/50V/J
MAAA9 C44 22p/4/NPO/50V/J
MAAA10 C47 22p/4/NPO/50V/J
MAAA11 C46 22p/4/NPO/50V/J
MAAA12 C49 22p/4/NPO/50V/J
MAAA13 C48 22p/4/NPO/50V/J
MAAA14 C51 22p/4/NPO/50V/J
MAAA15 C50 22p/4/NPO/50V/J
<5,8,9> -SWEA -SWEA C53 22p/4/NPO/50V/J
<5,8,9> -SCASA -SCASA C52 22p/4/NPO/50V/J
<5,8,9> -SRASA -SRASA C55 22p/4/NPO/50V/J
SBAA0 C54 22p/4/NPO/50V/J
SBAA1 C57 22p/4/NPO/50V/J
SBAA2 C56 22p/4/NPO/50V/J
DDR18V
MAAB0 C73 22p/4/NPO/50V/J
MAAB1 C72 22p/4/NPO/50V/J
MAAB2 C77 22p/4/NPO/50V/J
MAAB3 C76 22p/4/NPO/50V/J
MAAB4 C80 22p/4/NPO/50V/J
MAAB5 C78 22p/4/NPO/50V/J
MAAB6 C83 22p/4/NPO/50V/J
MAAB7 C81 22p/4/NPO/50V/J
MAAB8 C95 22p/4/NPO/50V/J
MAAB9 C85 22p/4/NPO/50V/J
MAAB10 C101 22p/4/NPO/50V/J
MAAB11 C100 22p/4/NPO/50V/J
MAAB12 C63 22p/4/NPO/50V/J
MAAB13 C62 22p/4/NPO/50V/J
MAAB14 C65 22p/4/NPO/50V/J
MAAB15 C64 22p/4/NPO/50V/J
<5,8,9> -SWEB -SWEB C67 22p/4/NPO/50V/J
<5,8,9> -SCASB -SCASB C66 22p/4/NPO/50V/J
<5,8,9> -SRASB -SRASB C69 22p/4/NPO/50V/J
SBAB0 C68 22p/4/NPO/50V/J
SBAB1 C71 22p/4/NPO/50V/J
SBAB2 C70 22p/4/NPO/50V/J
SBAA[0:2] SBAA[0:2] <5,8,9>
-CSA[0:3] -CSA[0:3] <5,8,9>
CKEA[0:1] CKEA[0:1] <5,8,9>
MAAA[0..15] MAAA[0..15] <5,8,9>
MODT_A[0..1] MODT_A[0..1] <5,8,9>
MODT_B[0..1] MODT_B[0..1] <5,8,9>
SBAB[0:2] SBAB[0:2] <5,8,9>
-CSB[0:3] -CSB[0:3] <5,8,9>
CKEB[0:1] CKEB[0:1] <5,8,9>
MAAB[0..15] MAAB[0..15] <5,8,9>
GIGABYTE
Title
DDRII TERMINATOR
Size B
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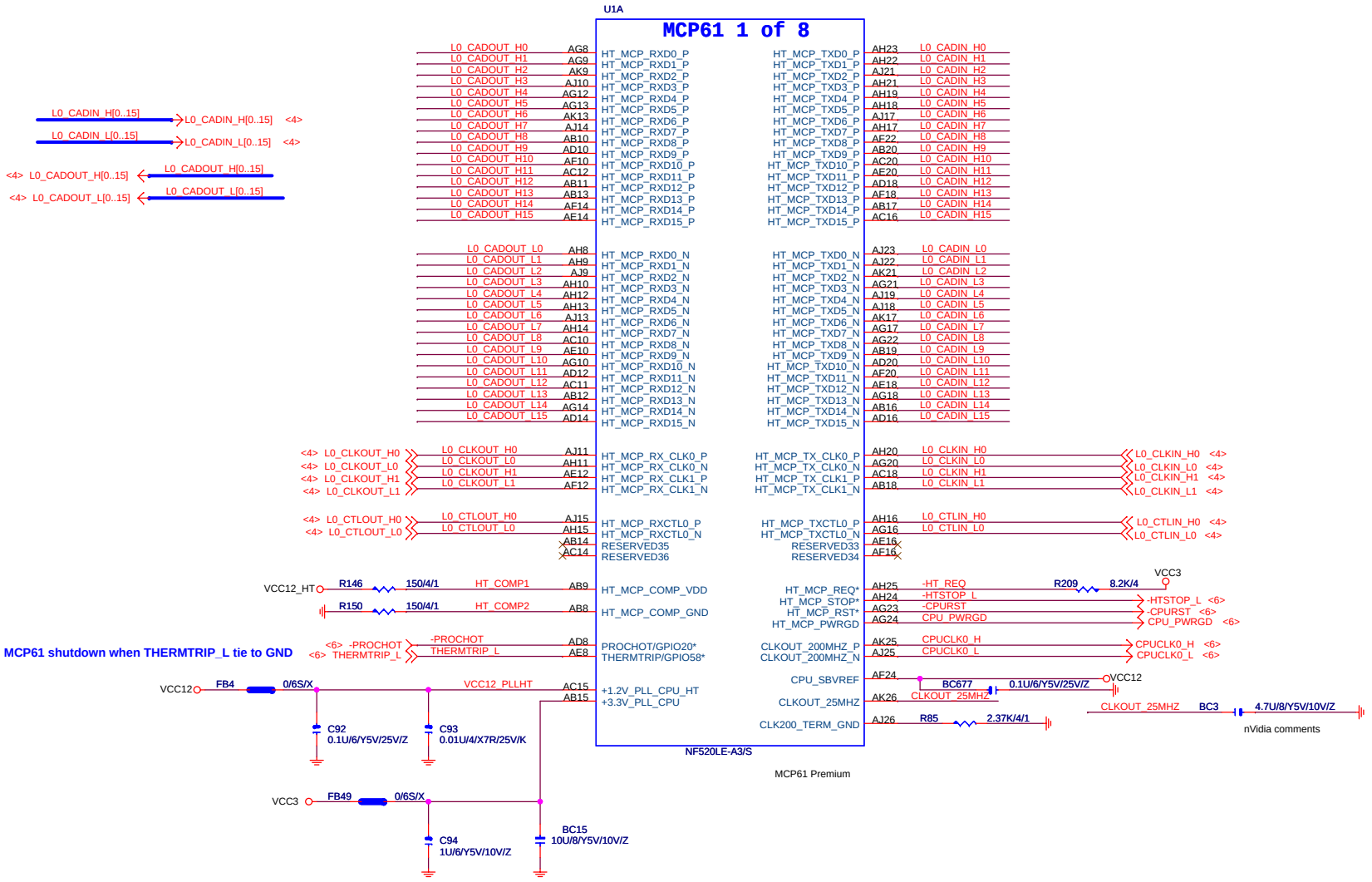
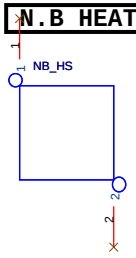
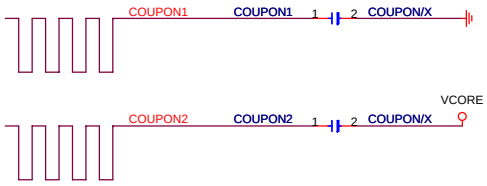


N.B HEATSINK

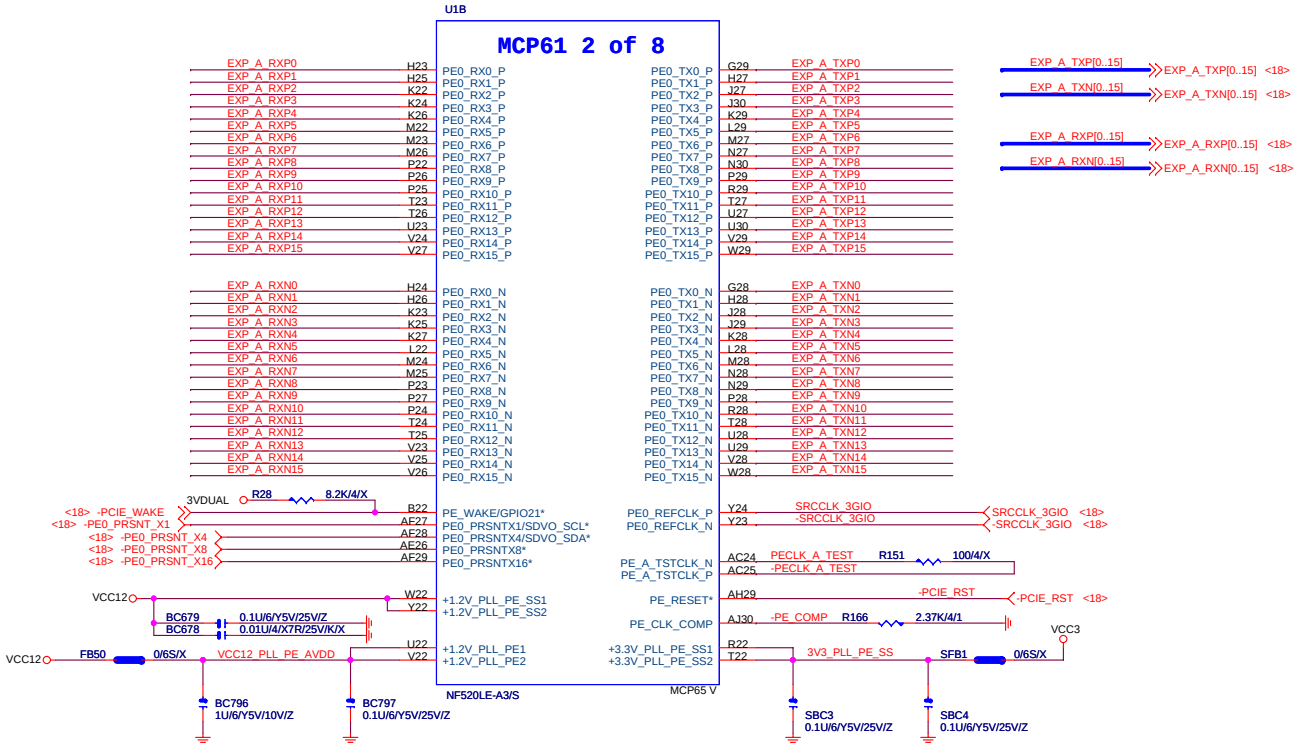


BGASINK_NB/[12SP2-01A002-51R_12SP2-01A002-52R_12SP2-01A002-53R]



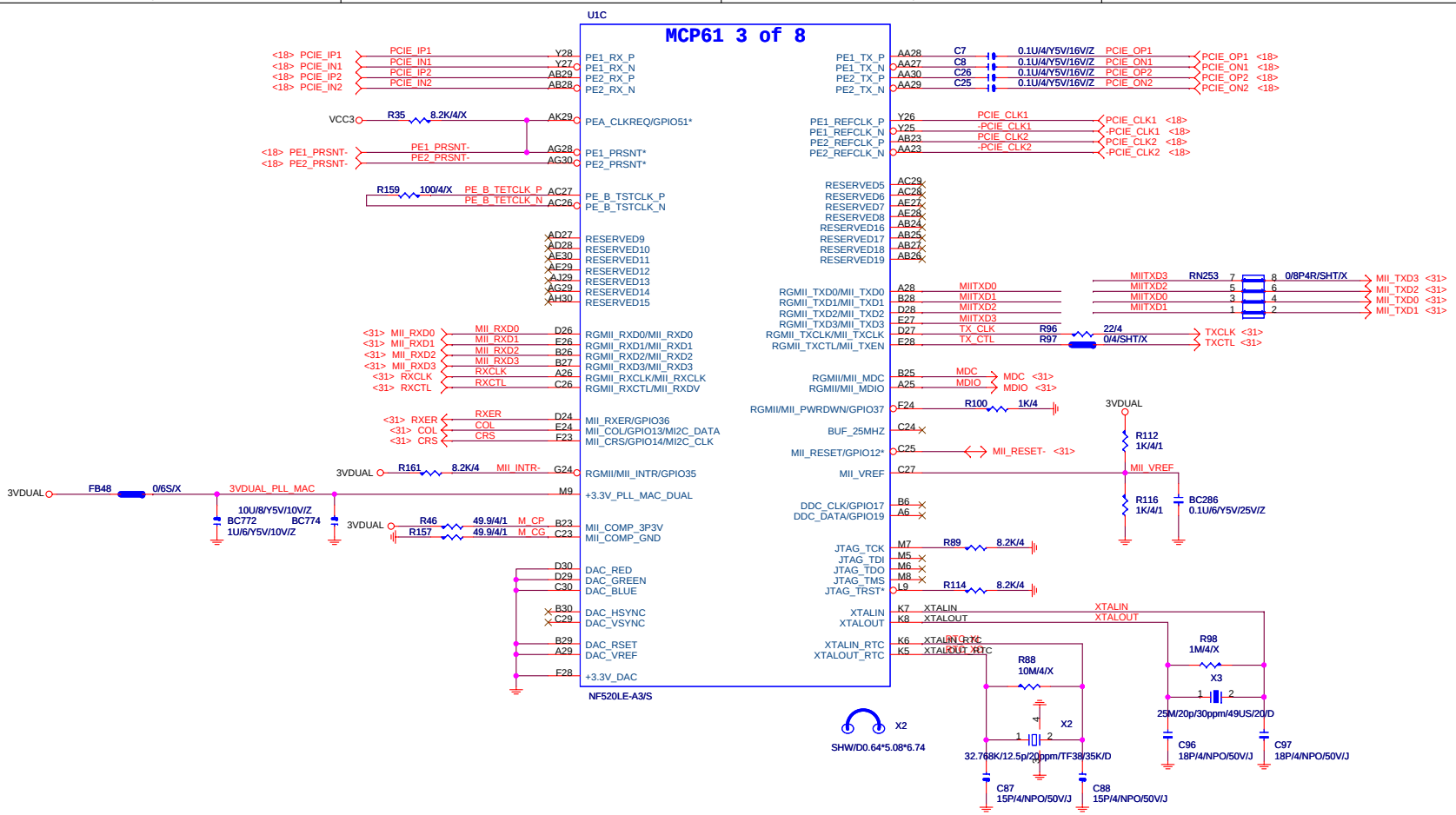
GIGABYTE

Title	MCP61D-HOST	
Size: Custom	Document Number: GA-M52L-S3	Rev: 1.0
Date: Thursday, August 23, 2007	Sheet 11 of 31	



GIGABYTE

Title	MCP61D-PCI_E	
Size: Custom	Document Number: GA-M52L-S3	Rev: 1.0
Date: Thursday, August 23, 2007	Sheet 12 of 31	



GIGABYTE

Title	MCP61D-DAC, RGMII	
Size: Custom	Document Number: GA-M52L-S3	Rev: 1.0
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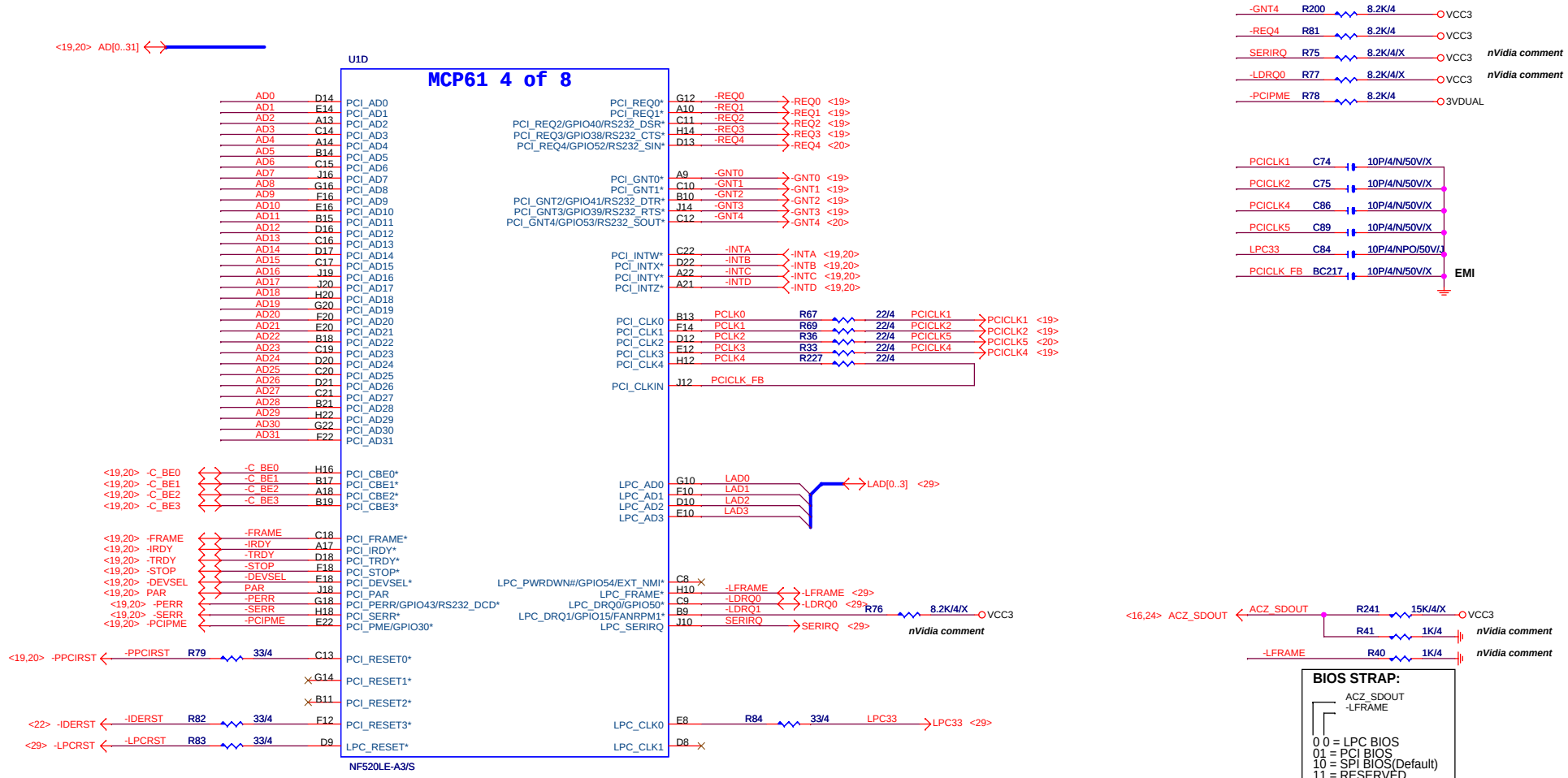
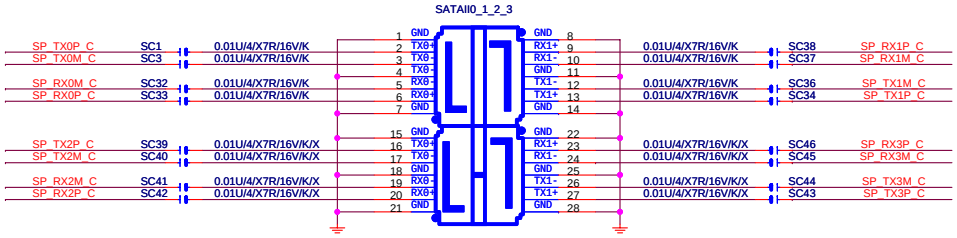


GIGABYTE		
Title	MCP61D-PCI BUS	
Size: Custom	Document Number: GA-M52L-S3	Rev: 1.0
Date: Thursday, August 23, 2007	Sheet 14 of 31	



SATA2/7/YL/H/P/VA/D/2/B/GBT=>2 SATA PORT
770-44-28SY00 =>4 SATA PORT

U1E

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SATA_A0_TX_P / SATA_A0_TX_N — SP_TX0P_C (V2), SP_TX0M_C (V1)
SATA_A0_RX_N / SATA_A0_RX_P — SP_RX0M_C (W3), SP_RX0P_C (W2)
SATA_A1_TX_P / SATA_A1_TX_N — SP_TX1P_C (Y8), SP_TX1M_C (Y7)
SATA_A1_RX_N / SATA_A1_RX_P — SP_RX1M_C (Y5), SP_RX1P_C (Y6)
SATA_B0_TX_P / SATA_B0_TX_N — SP_TX2P_C (Y4), SP_TX2M_C (Y3)
SATA_B0_RX_N / SATA_B0_RX_P — SP_RX2M_C (AA4), SP_RX2P_C (AA3)
SATA_B1_TX_P / SATA_B1_TX_N — SP_TX3P_C (AA2), SP_TX3M_C (AA1)
SATA_B1_RX_N / SATA_B1_RX_P — SP_RX3M_C (AB1), SP_RX3P_C (AB2)

SATA B port is NC for MCP61D

RESERVED20 (AC3), RESERVED21 (AC2), RESERVED23 (AD4), RESERVED22 (AD3), RESERVED24 (AE4), RESERVED25 (AE3), RESERVED27 (AE1), RESERVED26 (AE2)

IDE_DATA_P0 (AJ3) PDD0
IDE_DATA_P1 (AJ2) PDD1
IDE_DATA_P2 (AH3) PDD2
IDE_DATA_P3 (AH1) PDD3
IDE_DATA_P4 (AG2) PDD4
IDE_DATA_P5 (AF2) PDD5
IDE_DATA_P6 (AF4) PDD6
IDE_DATA_P7 (AE6) PDD7
IDE_DATA_P8 (AE5) PDD8
IDE_DATA_P9 (AF5) PDD9
IDE_DATA_P10 (AF3) PDD10
IDE_DATA_P11 (AG1) PDD11
IDE_DATA_P12 (AG3) PDD12
IDE_DATA_P13 (AH2) PDD13
IDE_DATA_P14 (AJ1) PDD14
IDE_DATA_P15 (AK2) PDD15

PDD[0..15] ↔ PDD[0..15] <22>

IDE_ADDR_P0 (AG6) PDA0
IDE_ADDR_P1 (AJ5) PDA1
IDE_ADDR_P2 (AH6) PDA2

PDA[0..2] ↔ PDA[0..2] <22>

IDE_CS1_P* (AK6) -PCS1 → -PCS1 <22>
IDE_CS3_P* (AJ6) -PCS3 → -PCS3 <22>
IDE_DACK_P* (AG5) -PDDACK → -PDDACK <22>
IDE_IOW_P* (AH4) -PDIOW → -PDIOW <22>
IDE_INTR_P (AH5) IRQ14 → IRQ14 <22>
IDE_DREQ_P (AK3) PDDREQ → PDDREQ <22>
IDE_IOR_P* (AJ4) -PDIOR → -PDIOR <22>
IDE_RDY_P (AK4) PIORDY → PIORDY <22>
CABLE_DET_P/GPIO63 (AF6) P66DET → P66DET <22>

IDE_COMP_3P3 (AD5) — IDE_COMP_3P3V — R50 121/4/1 — VCC3
IDE_COMP_GND (AD6) — IDE_COMP_GND — R51 121/4/1

SATA_LED/GPIO57* (A5) -SATA_LED → -SATA_LED <26>

SATA_TSTCLK_P (AA6) SPTSTCLK — R242 100/4/X
SATA_TSTCLK_N (AB6) -SPTSTCLK
nVidia comment

SATA_TERMP (AB5) — SP_TERMP — R253 2.49K/4/1

+1.2V_PLL_SP_VDD (Y9) ← VCC12 via FB41 0/6S/X; VCC12_PLL_SP_VDD
10U/8/Y5V/10V/Z
BC686
BC685 0.1U/6/Y5V/25V/Z

+1.2V_PLL_SP_SS (U13)
+3.3V_PLL_SP_SS (U12)
+3.3V_PLL_LEG (V12)
+3.3V_PLL_DISP (M12)
VCC12
VCC3 via FB10 0/6S/X; VCC3_PLL_SP_SS
BC680 0.1U/6/Y5V/25V/Z
BC321 0.01U/4/X7R/25V/K/X
BC322 0.1U/6/Y5V/25V/Z
BC323 0.1U/6/Y5V/25V/Z

NF520LE-A3/S

PCI LOADING

VCC3
EC1 1000U/D/6.3V/8C/30m

VCC3_PLL_SP_SS
SBC1 0.1U/4/Y5V/16V/Z/X
SBC2 0.1U/4/Y5V/16V/Z

GIGABYTE		
Title	MCP61D-SATA IDE	
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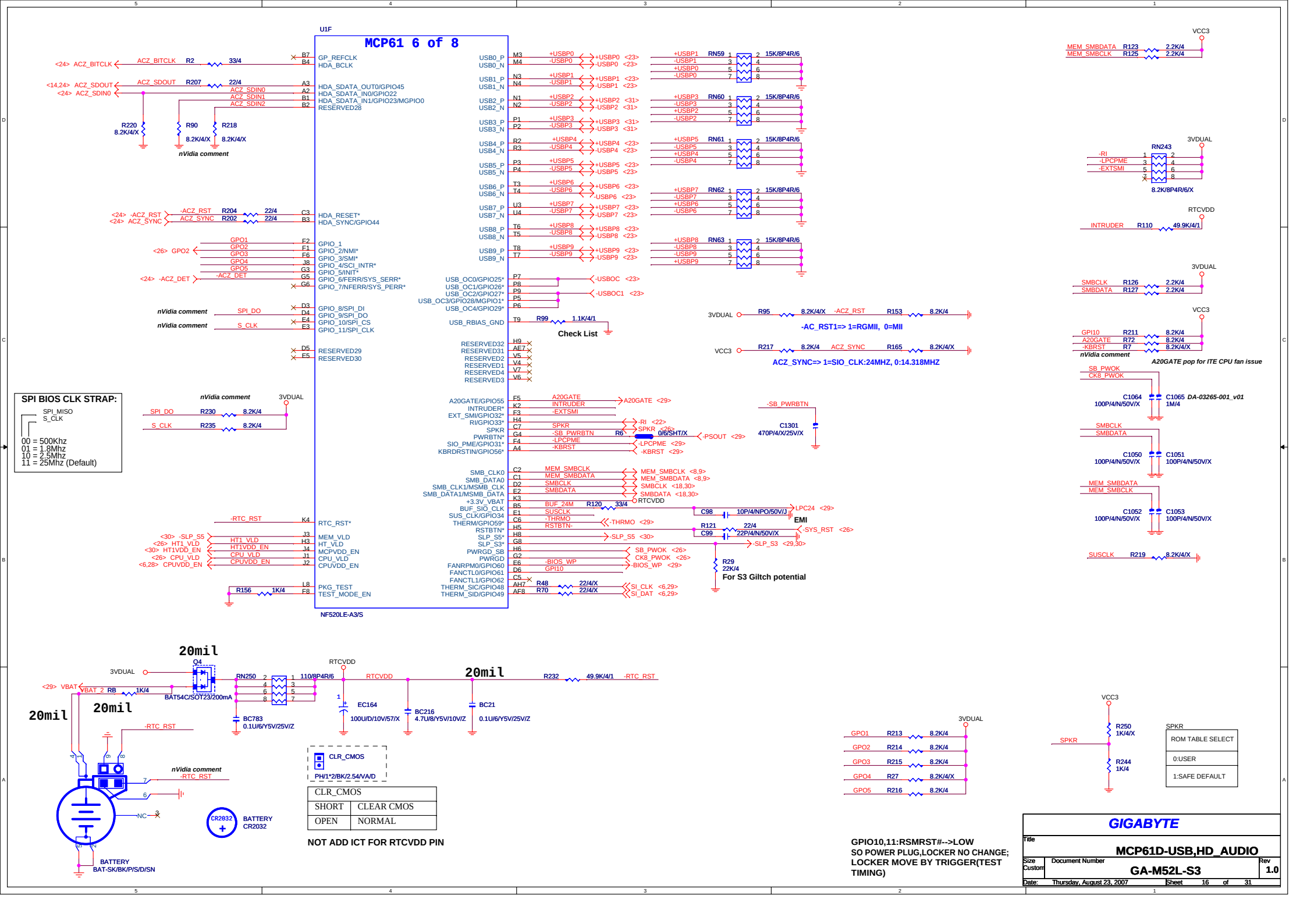
U1F
MCP61 6 of 8
NF520LE-A3/S
SPI BIOS CLK STRAP:
SPI_MISO
S_CLK
00 = 500Khz
01 = 1.8Mhz
10 = 2.5Mhz
11 = 25Mhz (Default)
Check List
-AC_RST1=> 1=RGMII, 0=MII
ACZ_SYNC=> 1=SIO_CLK:24MHZ, 0:14.318MHZ
A20GATE pop for ITE CPU fan issue
EMI
For S3 Giltch potential
20mil
BATTERY
BAT-SK/BK/P/S/D/SN
CR2032
BATTERY
CR2032
CLR_CMOS
PH/1*2/BK/2.54/VA/D
CLR_CMOS
SHORT
CLEAR CMOS
OPEN
NORMAL
NOT ADD ICT FOR RTCVDD PIN
GPIO10,11:RSMRST#-->LOW
SO POWER PLUG,LOCKER NO CHANGE;
LOCKER MOVE BY TRIGGER(TEST TIMING)
ROM TABLE SELECT
0:USER
1:SAFE DEFAULT
GIGABYTE
MCP61D-USB,HD_AUDIO
GA-M52L-S3
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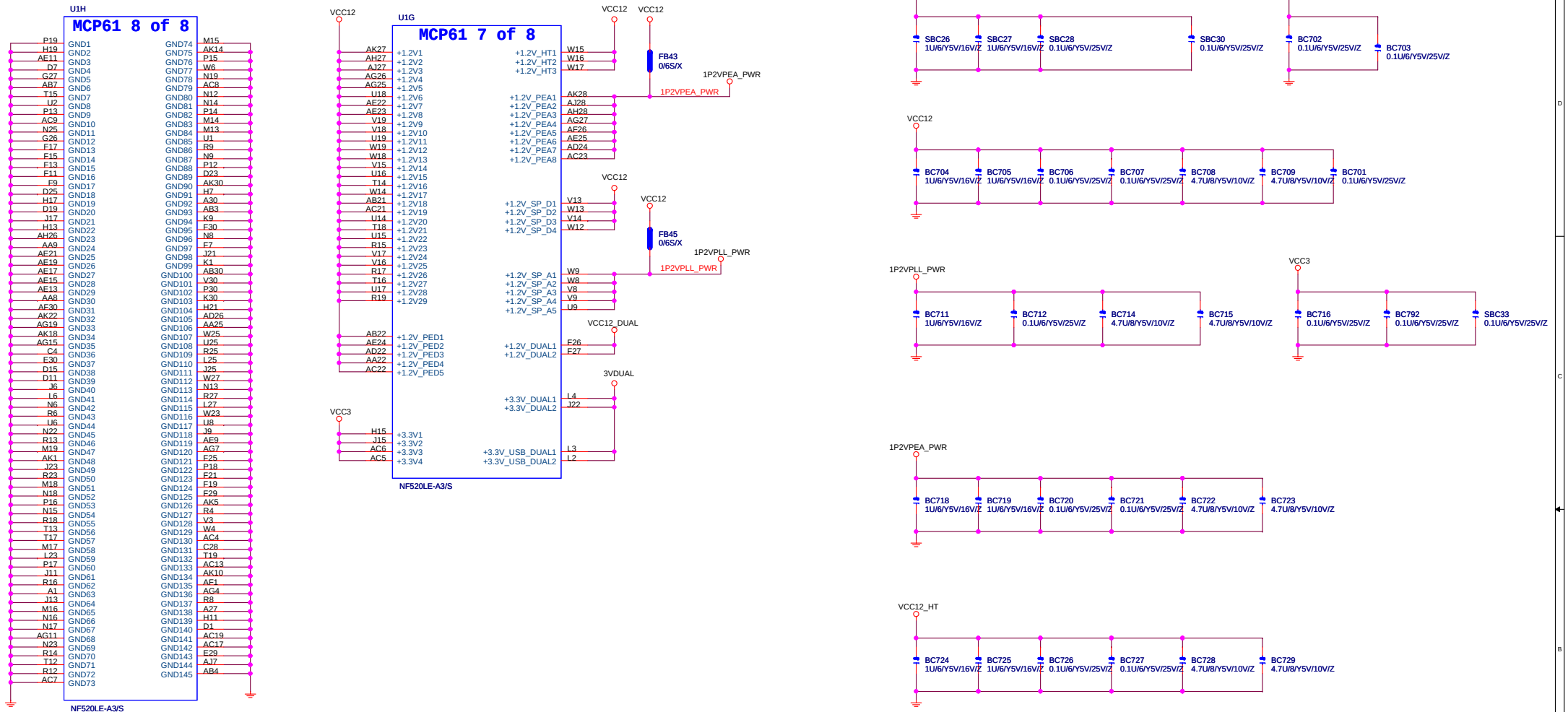
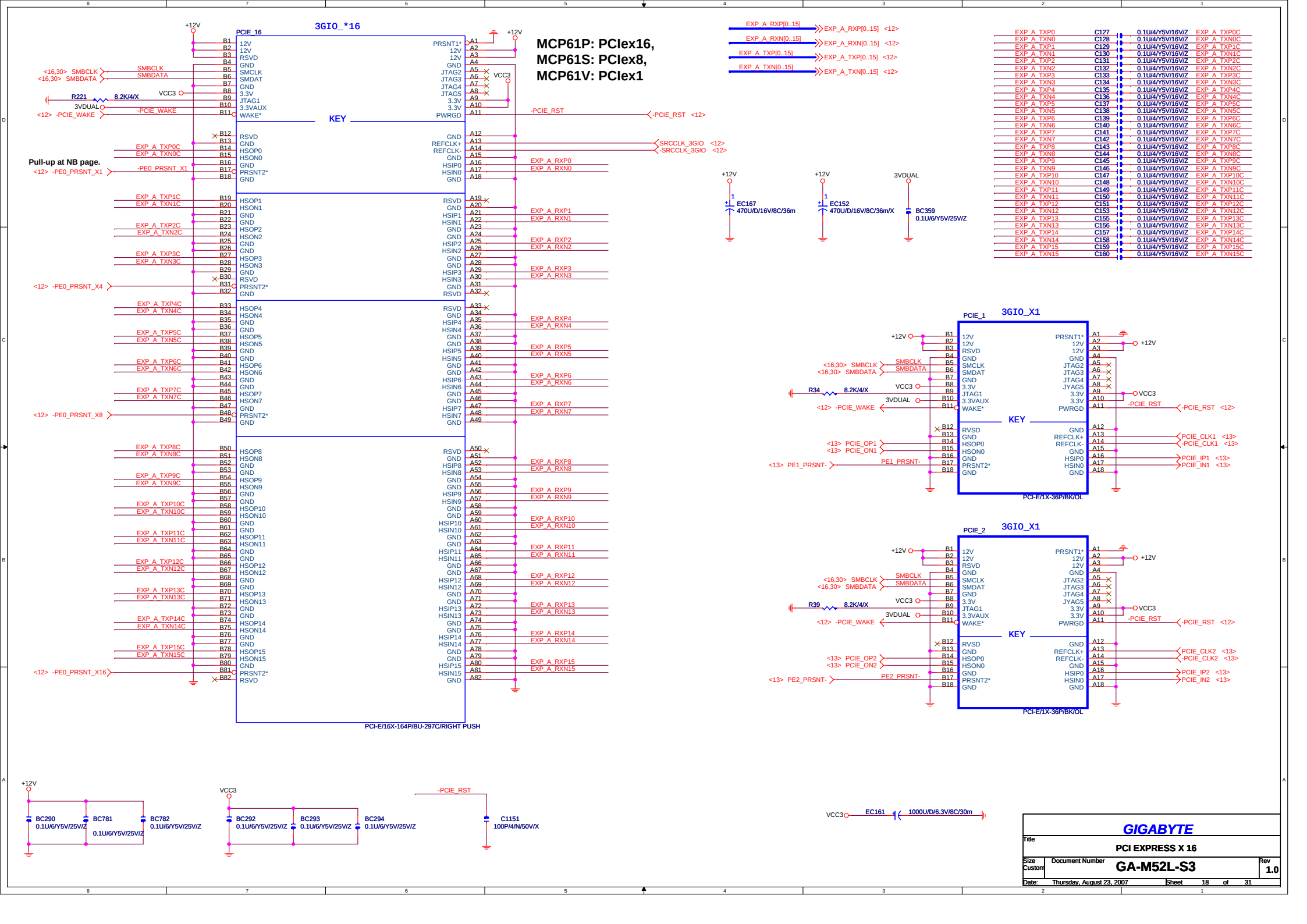


GIGABYTE

Title	MCP61D-PWR,GND	
Size: Custom	Document Number: GA-M52L-S3	Rev: 1.0
Date: Thursday, August 23, 2007	Sheet 17 of 31	


3GIO_*16
PCIE_16
KEY
PCI-E/16X-164P/BU-297C/RIGHT PUSH
MCP61P: PCIex16,
MCP61S: PCIex8,
MCP61V: PCIex1
Pull-up at NB page.
3GIO_X1
PCIE_1
PCIE_2
PCI-E/1X-36P/BK/OL
EC167 470U/D/16V/8C/36m
EC152 470U/D/16V/8C/36m/X
BC359 0.1U/6/Y5V/25V/Z
EC161 1000U/D/6.3V/8C/30m
BC290 0.1U/6/Y5V/25V/Z
BC781 0.1U/6/Y5V/25V/Z
BC782 0.1U/6/Y5V/25V/Z
BC292 0.1U/6/Y5V/25V/Z
BC293 0.1U/6/Y5V/25V/Z
BC294 0.1U/6/Y5V/25V/Z
C1151 100P/4/N/50V/X
R221 8.2K/4/X
R34 8.2K/4/X
R39 8.2K/4/X
GIGABYTE
Title
PCI EXPRESS X 16
Size Custom
Document Number
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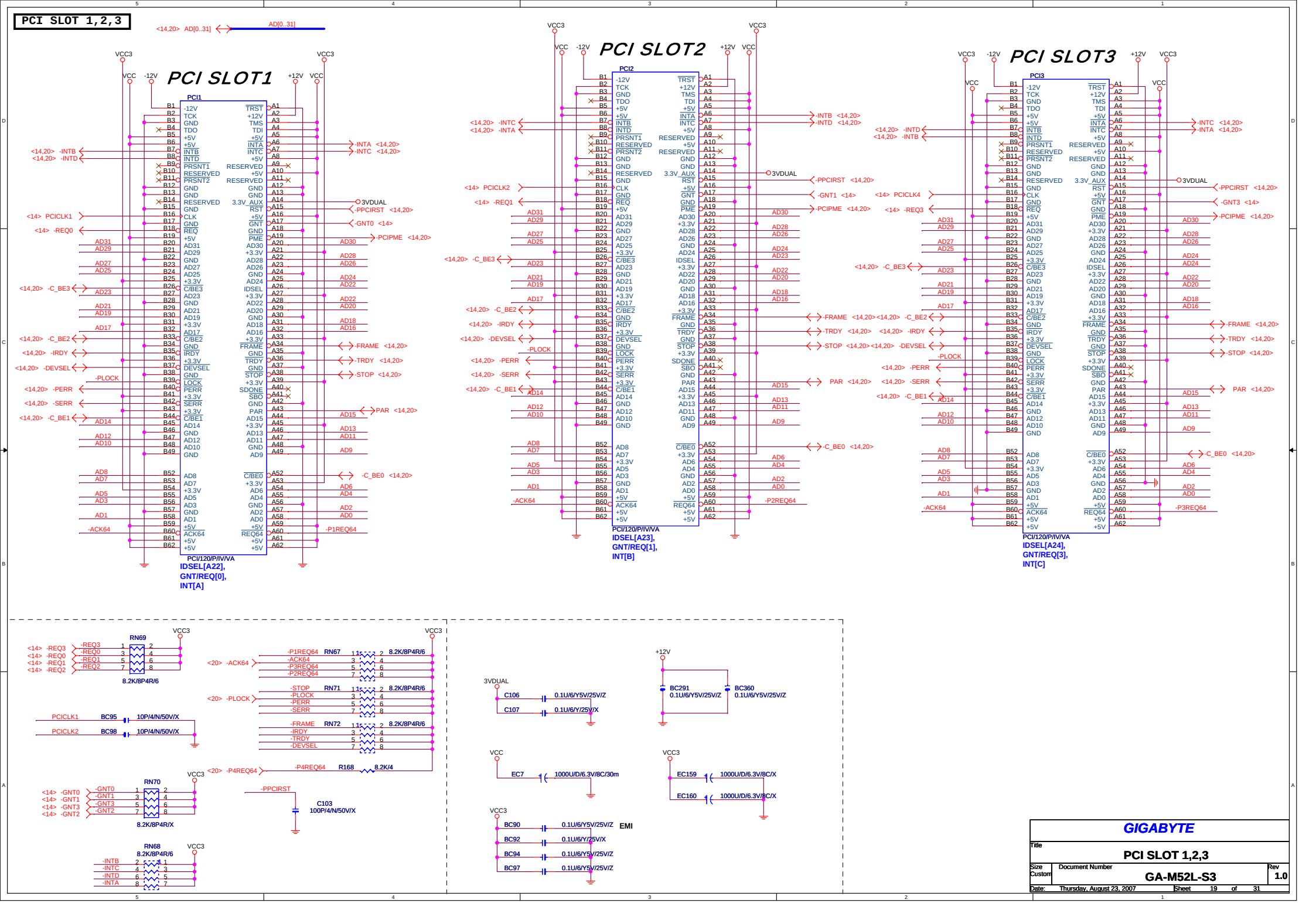
PCI SLOT 1,2,3



GIGABYTE

Title	PCI SLOT 1,2,3	
Size: Custom	Document Number: GA-M52L-S3	Rev: 1.0
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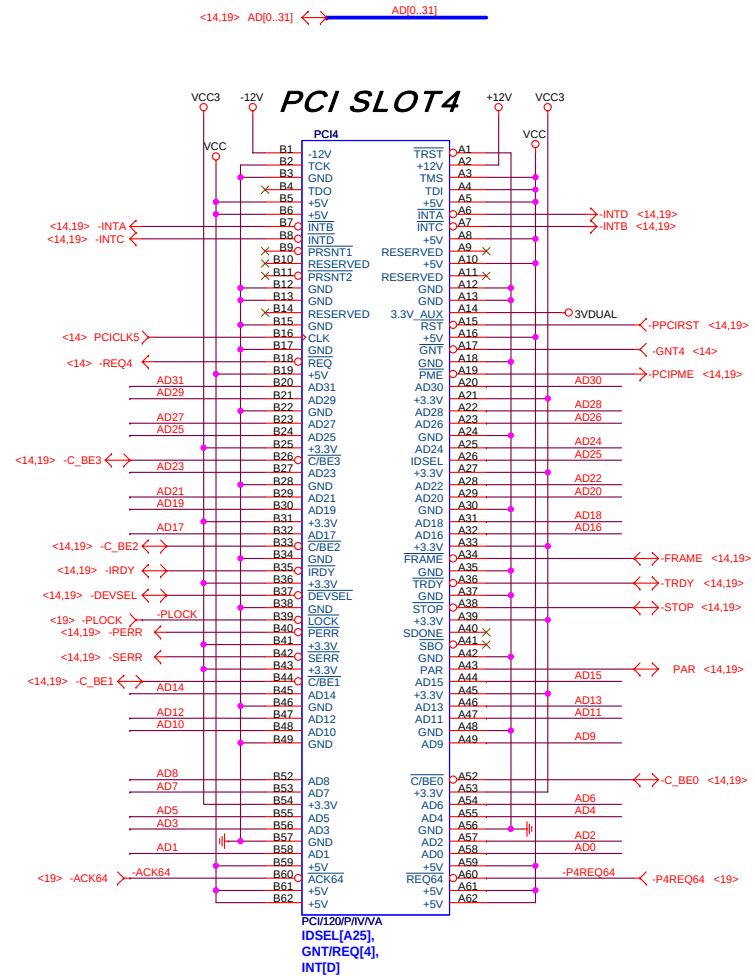

GIGABYTE		
Title: PCI SLOT 4		
Size: Custom	Document Number: GA-M52L-S3	Rev: 1.0
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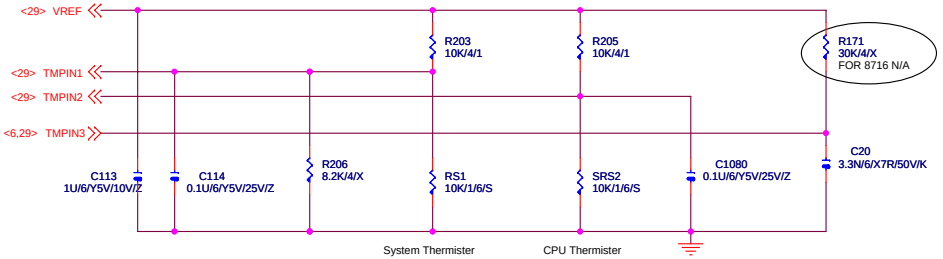
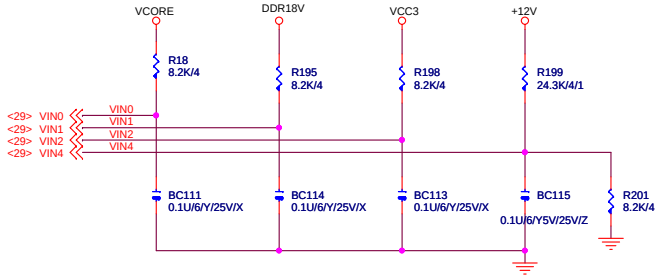
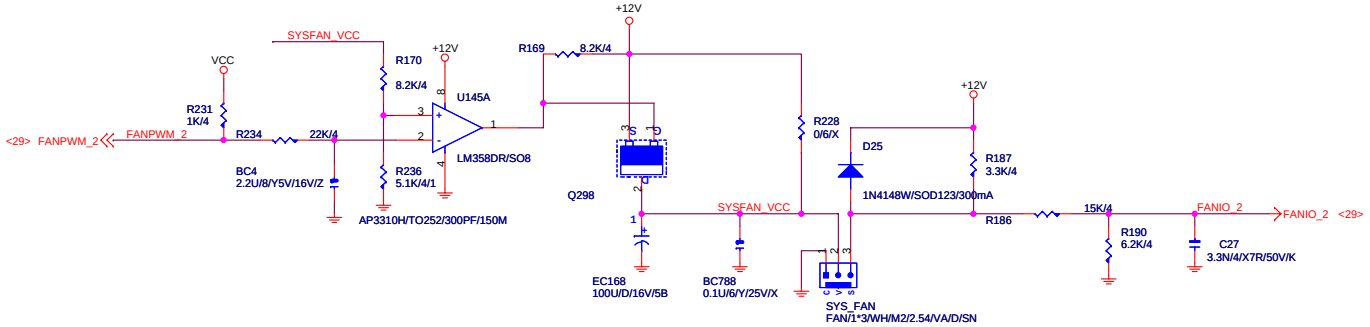
Hardware Monitor circuits

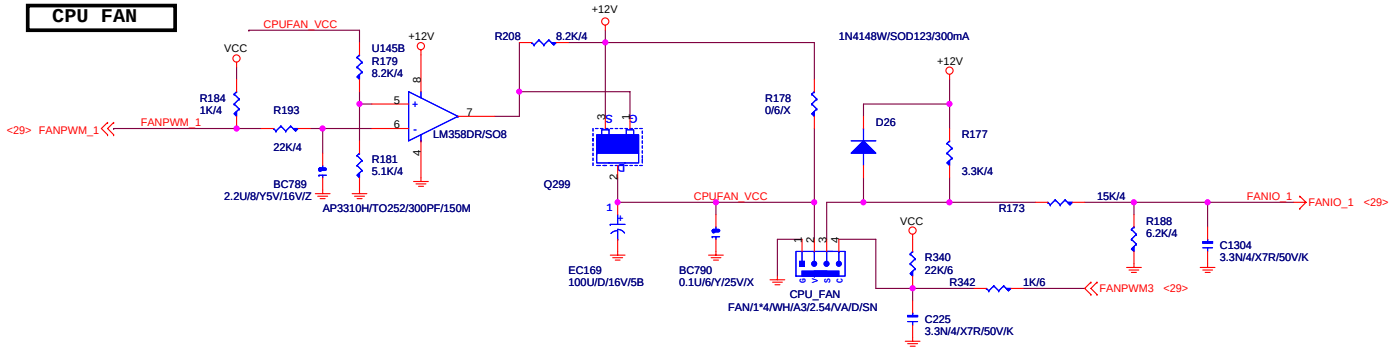




SYSTEM FAN



CPU FAN



GIGABYTE

Title	FAN/HWMO
Size: Custom	Document Number: GA-M52L-S3
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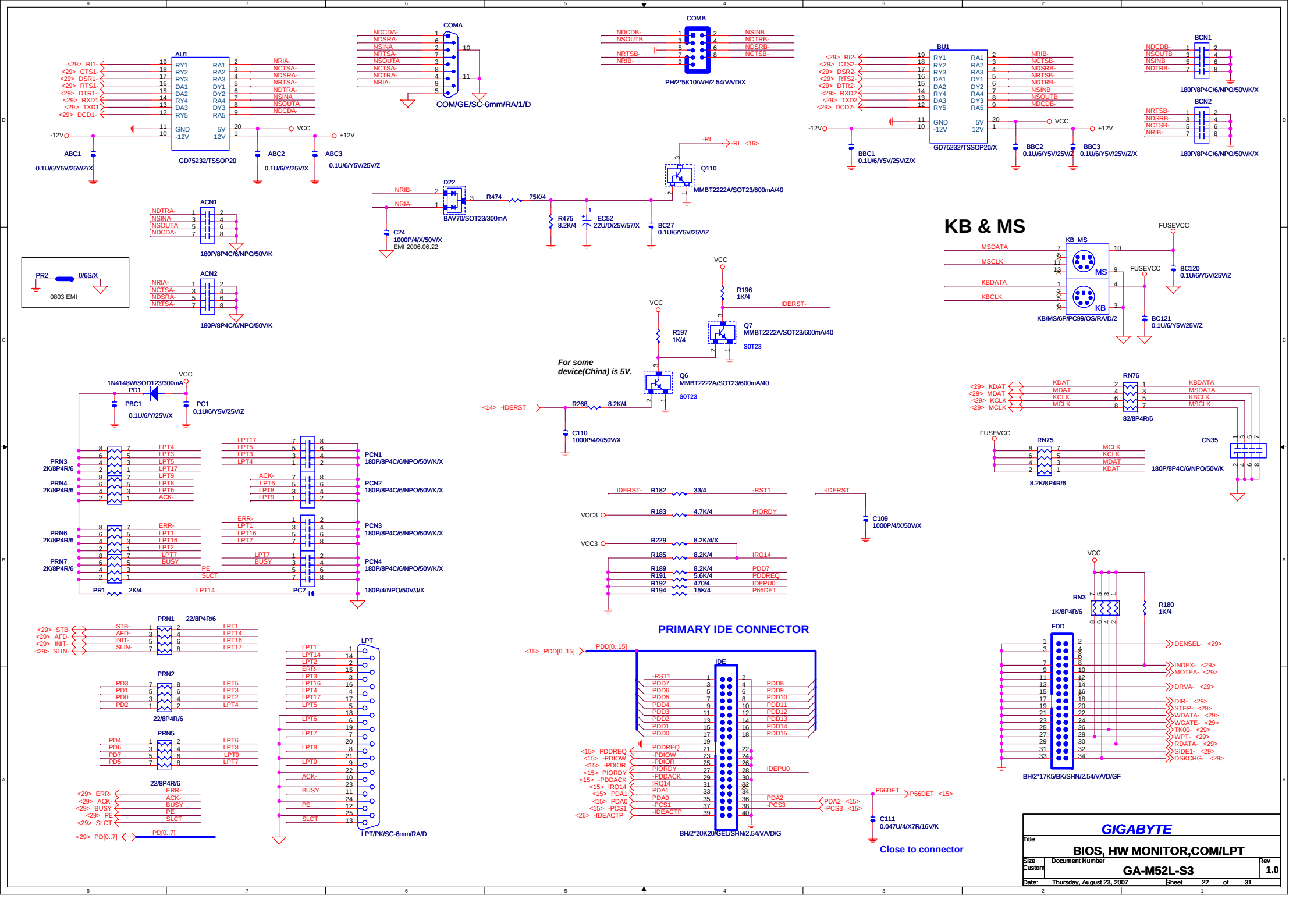
AU1
GD75232/TSSOP20
ABC1
0.1U/6/Y5V/25V/Z/X
ABC2
0.1U/6/Y/25V/X
ABC3
0.1U/6/Y5V/25V/Z
COMA
COM/GE/SC-6mm/RA/1/D
COMB
PH/2*5K10/WH/2.54/VA/D/X
BU1
GD75232/TSSOP20/X
BBC1
0.1U/6/Y5V/25V/Z/X
BBC2
0.1U/6/Y5V/25V/Z
BBC3
0.1U/6/Y5V/25V/Z/X
BCN1
BCN2
180P/8P4C/6/NPO/50V/K/X
ACN1
ACN2
180P/8P4C/6/NPO/50V/K
PR2
0/6S/X
0803 EMI
D22
BAV70/SOT23/300mA
R474
75K/4
R475
8.2K/4
EC52
22U/D/25V/57/X
C24
1000P/4/X/50V/X
EMI 2006.06.22
Q110
MMBT2222A/SOT23/600mA/40
BC27
0.1U/6/Y5V/25V/Z
KB & MS
KB_MS
KB/MS/6P/PC99/OS/RA/D/2
BC120
BC121
0.1U/6/Y5V/25V/Z
For some
device(China) is 5V.
R196
1K/4
R197
1K/4
Q7
Q6
S0T23
R268
8.2K/4
C110
1000P/4/X/50V/X
1N4148W/SOD123/300mA
PD1
PBC1
PC1
PRN3
PRN4
PRN6
PRN7
2K/8P4R/6
PCN1
PCN2
PCN3
PCN4
180P/8P4C/6/NPO/50V/K/X
PR1
2K/4
PC2
180P/4/NPO/50V/J/X
RN76
82/8P4R/6
RN75
8.2K/8P4R/6
CN35
180P/8P4C/6/NPO/50V/K
R182
33/4
R183
4.7K/4
R229
8.2K/4/X
R185
8.2K/4
R189
8.2K/4
R191
5.6K/4
R192
470/4
R194
15K/4
C109
1000P/4/X/50V/X
PRIMARY IDE CONNECTOR
IDE
BH/2*20K20/GEL/SHN/2.54/VA/D/G
C111
0.047U/4/X7R/16V/K
Close to connector
RN3
1K/8P4R/6
R180
1K/4
FDD
BH/2*17K5/BK/SHN/2.54/VA/D/GF
PRN1
PRN2
PRN5
22/8P4R/6
LPT
LPT/PK/SC-6mm/RA/D
GIGABYTE
BIOS, HW MONITOR,COM/LPT
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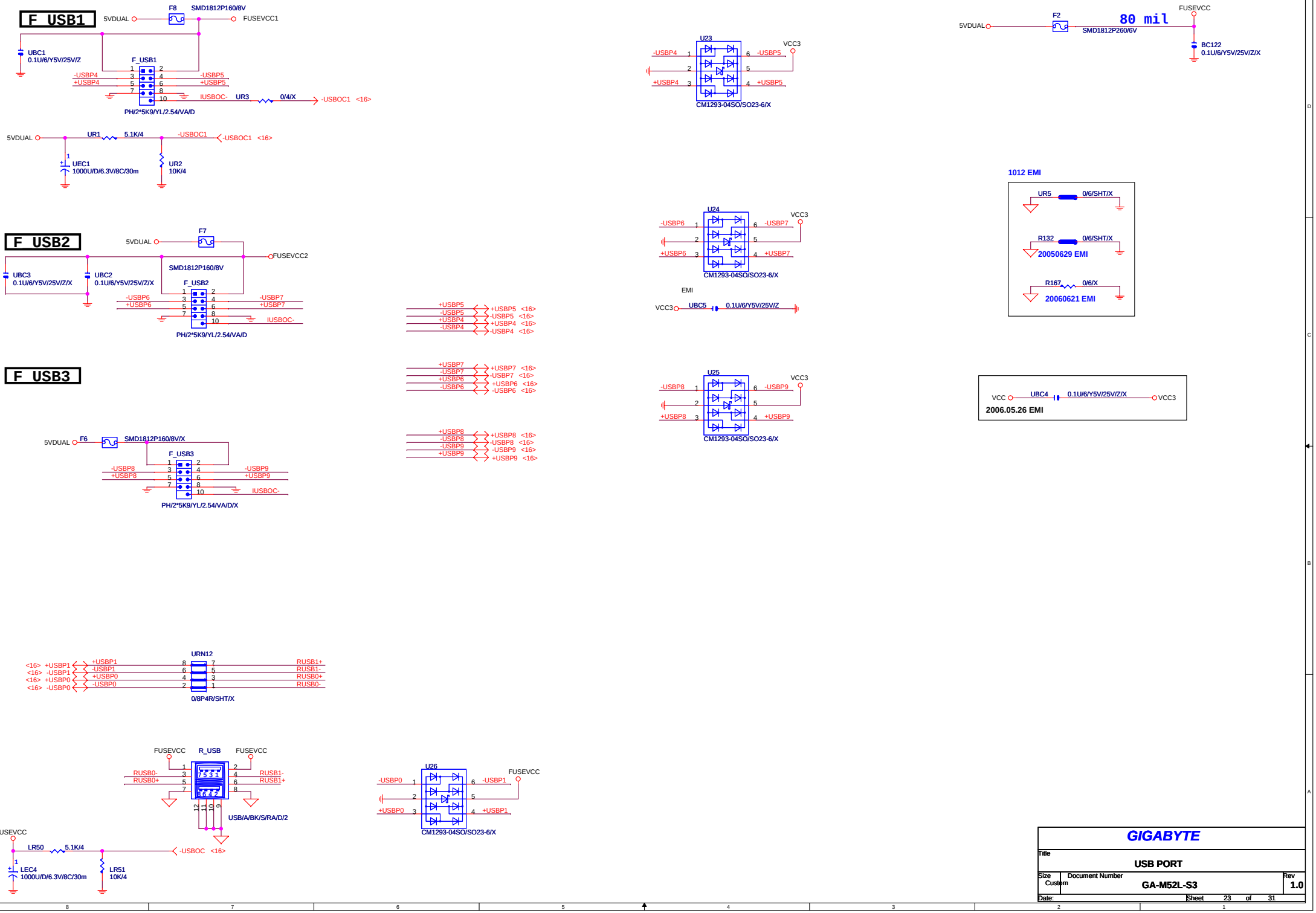
F_USB1
5VDUAL
F8
SMD1812P160/8V
FUSEVCC1
UBC1
0.1U/6/Y5V/25V/Z
F_USB1
-USBP4
+USBP4
-USBP5
+USBP5
IUSBOC-
UR3
0/4/X
-USBOC1 <16>
PH/2*5K9/YL/2.54/VA/D
UR1
5.1K/4
UEC1
1000U/D/6.3V/8C/30m
UR2
10K/4
F_USB2
F7
FUSEVCC2
UBC3
UBC2
SMD1812P160/8V
F_USB2
-USBP6
+USBP6
-USBP7
+USBP7
F_USB3
F6
-USBP8
+USBP8
-USBP9
+USBP9
URN12
0/8P4R/SHT/X
R_USB
USB/A/BK/S/RA/D/2
LR50
LEC4
LR51
10K/4
-USBOC <16>
U23
U24
U25
U26
CM1293-04SO/SO23-6/X
VCC3
EMI
UBC5
0.1U/6/Y5V/25V/Z
F2
80 mil
SMD1812P260/6V
FUSEVCC
BC122
1012 EMI
UR5
0/6/SHT/X
R132
20050629 EMI
R167
20060621 EMI
UBC4
2006.05.26 EMI
GIGABYTE
USB PORT
Custom
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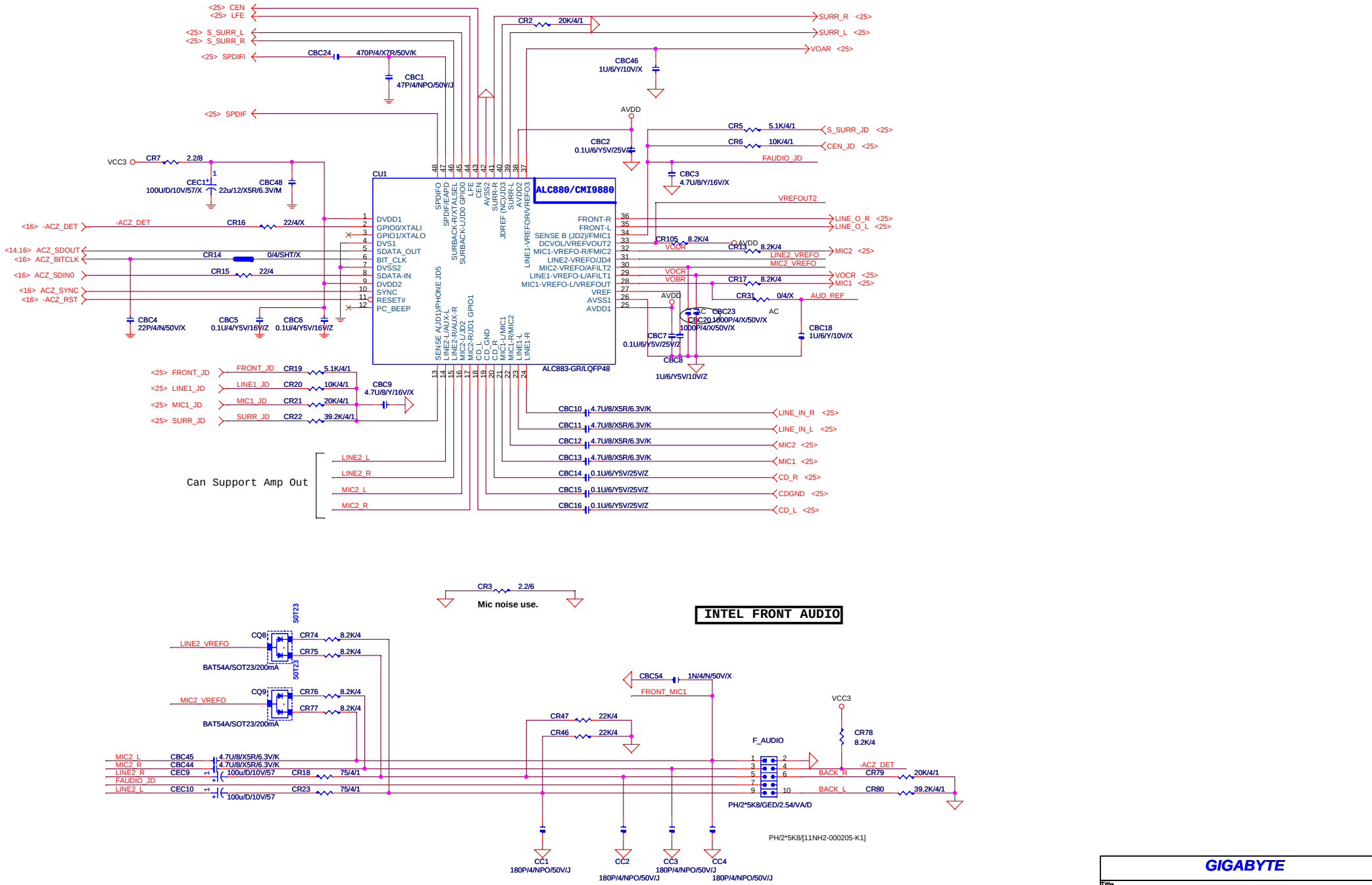
ALC880/CMI9880
ALC883-GR/LQFP48
Can Support Amp Out
Mic noise use.
INTEL FRONT AUDIO
PH/2*5K8/[11NH2-000205-K1]
PH/2*5K8/GED/2.54/VA/D
BAT54A/SOT23/200mA
GIGABYTE
AC97 ALC658
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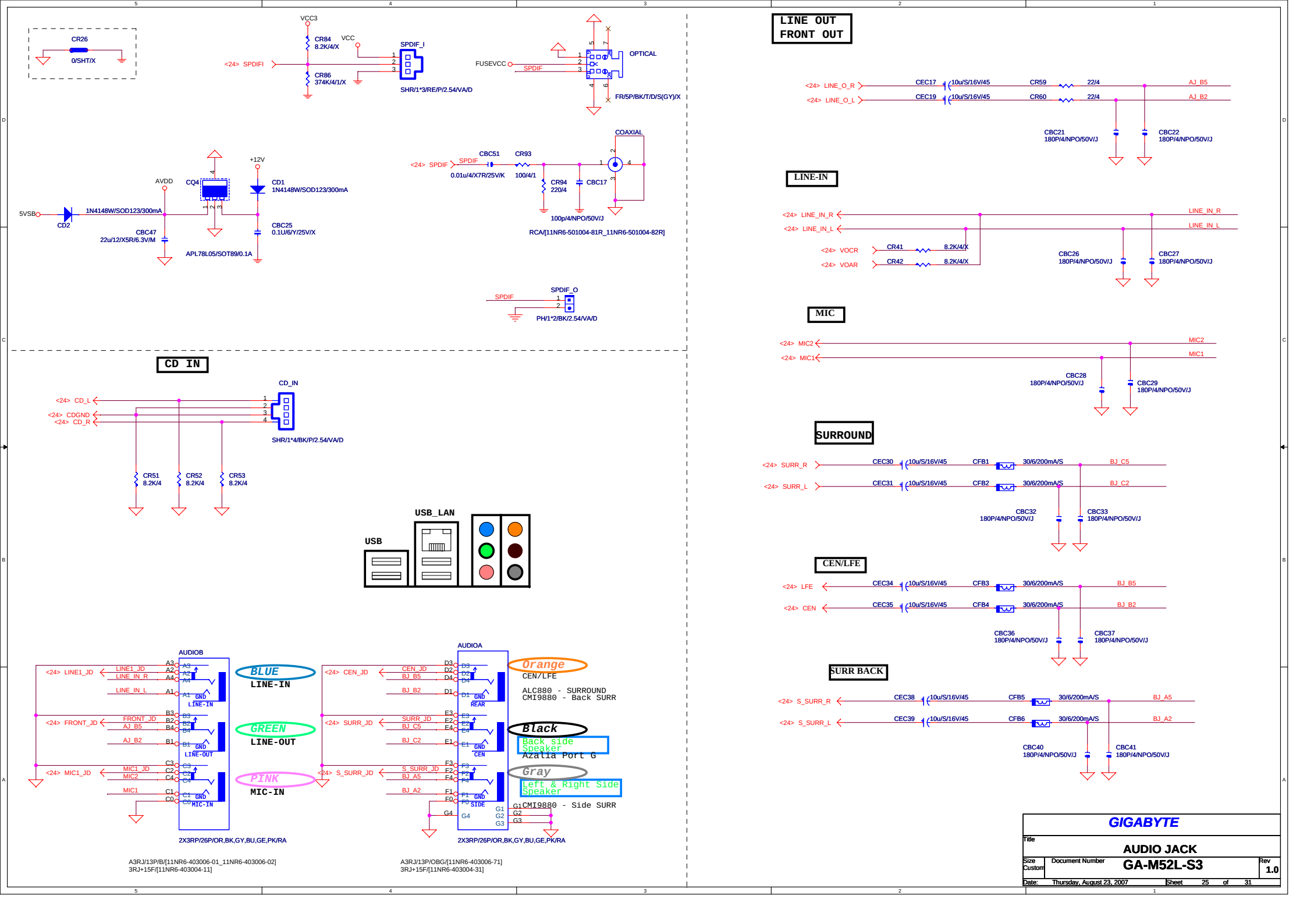
CR26
0/SHT/X
VCC3
CR84
8.2K/4/X
VCC
<24> SPDIFI
CR86
374K/4/1/X
SPDIF_I
SHR/1*3/RE/P/2.54/VA/D
FUSEVCC
SPDIF
OPTICAL
FR/5P/BK/T/D/S(GY)/X
AVDD
CQ4
+12V
CD1
1N4148W/SOD123/300mA
5VSB
CD2
1N4148W/SOD123/300mA
CBC47
22u/12/X5R/6.3V/M
CBC25
0.1U/6/Y/25V/X
APL78L05/SOT89/0.1A
COAXIAL
<24> SPDIF
SPDIF
CBC51
0.01u/4/X7R/25V/K
CR93
100/4/1
CR94
220/4
CBC17
100p/4/NPO/50V/J
RCA/[11NR6-501004-81R_11NR6-501004-82R]
SPDIF
SPDIF_O
PH/1*2/BK/2.54/VA/D
CD IN
CD_IN
<24> CD_L
<24> CDGND
<24> CD_R
SHR/1*4/BK/P/2.54/VA/D
CR51
8.2K/4
CR52
8.2K/4
CR53
8.2K/4
USB_LAN
USB
AUDIOB
<24> LINE1_JD
LINE1_JD
LINE_IN_R
LINE_IN_L
LINE-IN
<24> FRONT_JD
FRONT_JD
AJ_B5
AJ_B2
LINE-OUT
<24> MIC1_JD
MIC1_JD
MIC2
MIC1
MIC-IN
BLUE
LINE-IN
GREEN
LINE-OUT
PINK
MIC-IN
2X3RP/26P/OR,BK,GY,BU,GE,PK/RA
A3RJ/13P/B/[11NR6-403006-01_11NR6-403006-02]
3RJ+15F/[11NR6-403004-11]
AUDIOA
<24> CEN_JD
CEN_JD
BJ_B5
BJ_B2
REAR
<24> SURR_JD
SURR_JD
BJ_C5
BJ_C2
CEN
<24> S_SURR_JD
S_SURR_JD
BJ_A5
BJ_A2
SIDE
Orange
CEN/LFE
ALC880 - SURROUND
CMI9880 - Back SURR
Black
Back Side Speaker
Azalia Port G
Gray
Left & Right Side Speaker
CMI9880 - Side SURR
2X3RP/26P/OR,BK,GY,BU,GE,PK/RA
A3RJ/13P/OBG/[11NR6-403006-71]
3RJ+15F/[11NR6-403004-31]
LINE OUT
FRONT OUT
<24> LINE_O_R
<24> LINE_O_L
CEC17
CEC19
10u/S/16V/45
CR59
CR60
22/4
AJ_B5
AJ_B2
CBC21
180P/4/NPO/50V/J
CBC22
180P/4/NPO/50V/J
LINE-IN
<24> LINE_IN_R
<24> LINE_IN_L
LINE_IN_R
LINE_IN_L
<24> VOCR
<24> VOAR
CR41
CR42
8.2K/4/X
CBC26
180P/4/NPO/50V/J
CBC27
180P/4/NPO/50V/J
MIC
<24> MIC2
<24> MIC1
MIC2
MIC1
CBC28
180P/4/NPO/50V/J
CBC29
180P/4/NPO/50V/J
SURROUND
<24> SURR_R
<24> SURR_L
CEC30
CEC31
CFB1
CFB2
30/6/200mA/S
BJ_C5
BJ_C2
CBC32
180P/4/NPO/50V/J
CBC33
180P/4/NPO/50V/J
CEN/LFE
<24> LFE
<24> CEN
CEC34
CEC35
CFB3
CFB4
BJ_B5
BJ_B2
CBC36
180P/4/NPO/50V/J
CBC37
180P/4/NPO/50V/J
SURR BACK
<24> S_SURR_R
<24> S_SURR_L
CEC38
CEC39
CFB5
CFB6
BJ_A5
BJ_A2
CBC40
180P/4/NPO/50V/J
CBC41
180P/4/NPO/50V/J
GIGABYTE
Title
AUDIO JACK
Size
Custom
Document Number
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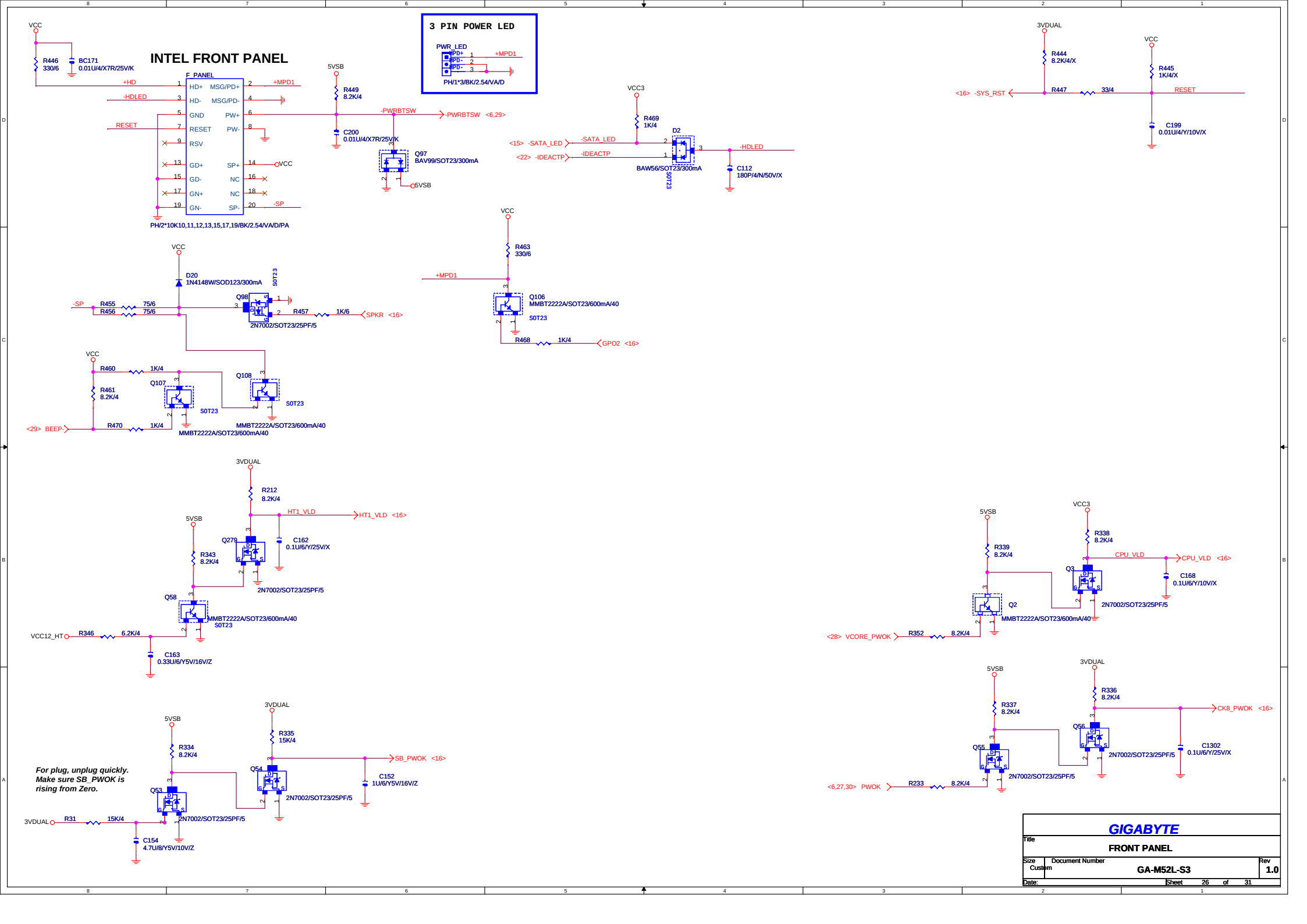
INTEL FRONT PANEL
3 PIN POWER LED
PWR_LED
PH/1*3/BK/2.54/VA/D
F_PANEL
PH/2*10K10,11,12,13,15,17,19/BK/2.54/VA/D/PA
R446 330/6
BC171 0.01U/4/X7R/25V/K
R449 8.2K/4
C200 0.01U/4/X7R/25V/K
Q97 BAV99/SOT23/300mA
R469 1K/4
D2
BAW56/SOT23/300mA
C112 180P/4/N/50V/X
R444 8.2K/4/X
R445 1K/4/X
R447 33/4
C199 0.01U/4/Y/10V/X
R463 330/6
Q106 MMBT2222A/SOT23/600mA/40
R468 1K/4
D20 1N4148W/SOD123/300mA
Q98
2N7002/SOT23/25PF/5
R455 75/6
R456 75/6
R457 1K/6
R460 1K/4
R461 8.2K/4
R470 1K/4
Q107
Q108
MMBT2222A/SOT23/600mA/40
R212 8.2K/4
R343 8.2K/4
Q279
C162 0.1U/6/Y/25V/X
Q58
R346 6.2K/4
C163 0.33U/6/Y5V/16V/Z
R339 8.2K/4
R338 8.2K/4
Q3
C168 0.1U/6/Y/10V/X
Q2
R352 8.2K/4
R335 15K/4
Q54
C152 1U/6/Y5V/16V/Z
R334 8.2K/4
Q53
R31 15K/4
C154 4.7U/8/Y5V/10V/Z
For plug, unplug quickly.
Make sure SB_PWOK is
rising from Zero.
R337 8.2K/4
R336 8.2K/4
Q56
Q55
C1302 0.1U/6/Y/25V/X
R233 8.2K/4
GIGABYTE
FRONT PANEL
GA-M52L-S3
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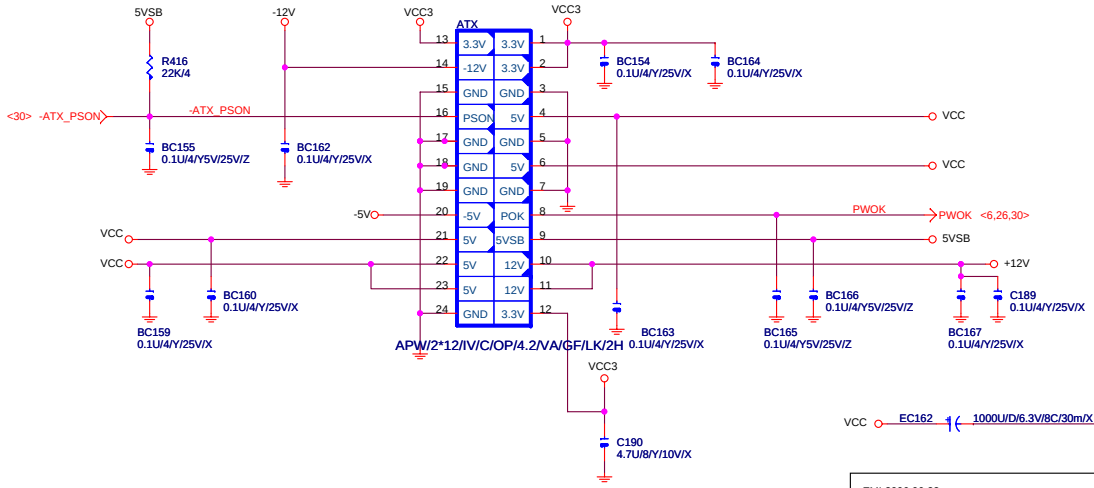
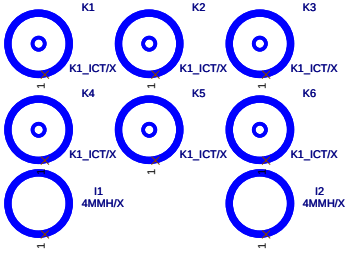
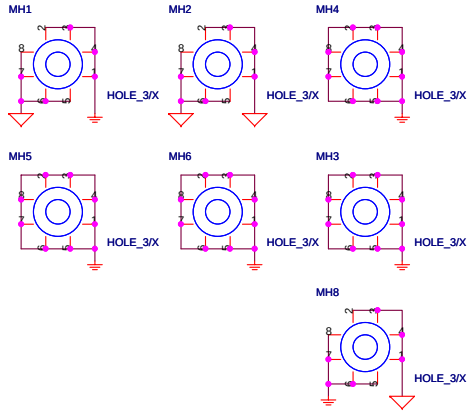
ATX POWER CONNECTOR

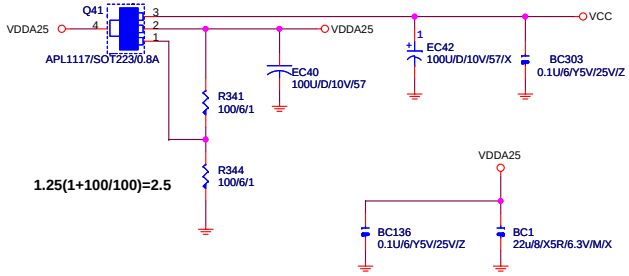


EMI 2006.06.22

+12V C21 0.1U/4/Y5V/16V/Z





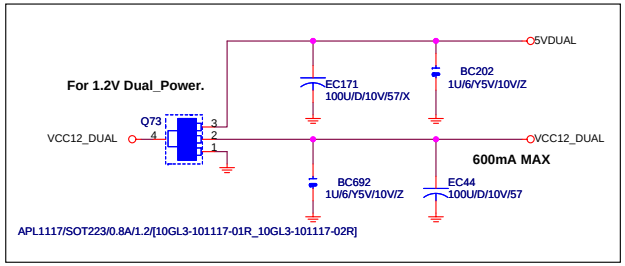


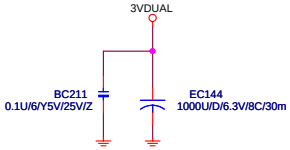
For Seasonic PSU can't boot issue

Close to ATX PSU connector

5VSB

R87
300/6/X





GIGABYTE

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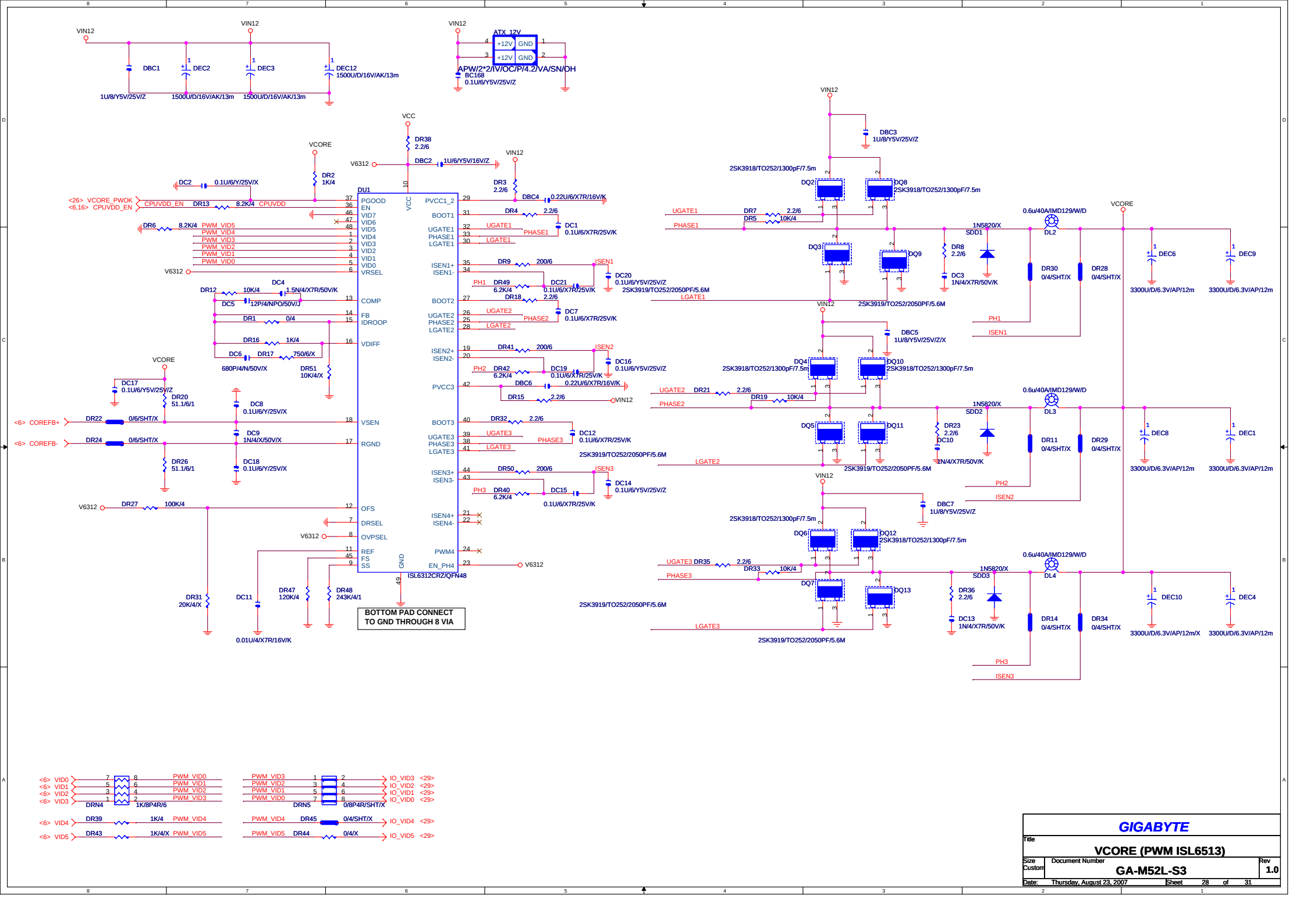
VIN12
DBC1
1U/8/Y5V/25V/Z
DEC2
1500U/D/16V/AK/13m
DEC3
1500U/D/16V/AK/13m
DEC12
1500U/D/16V/AK/13m
ATX_12V
+12V
GND
APW/2*2/IV/OC/P/4.2/VA/SN/OH
BC168
0.1U/6/Y5V/25V/Z
VCC
DR38
2.2/6
VCORE
DR2
1K/4
V6312
DBC2
1U/6/Y5V/16V/Z
DR3
2.2/6
DBC4
0.22U/6/X7R/16V/K
DU1
DC2
0.1U/6/Y/25V/X
<26> VCORE_PWOK
<6,16> CPUVDD_EN
CPUVDD_EN
DR13
8.2K/4
CPUVDD
DR6
8.2K/4
PWM_VID5
PWM_VID4
PWM_VID3
PWM_VID2
PWM_VID1
PWM_VID0
PGOOD
EN
VID7
VID6
VID5
VID4
VID3
VID2
VID1
VID0
VRSEL
PVCC1_2
BOOT1
UGATE1
PHASE1
LGATE1
ISEN1+
ISEN1-
DR9
200/6
ISEN1
DC20
0.1U/6/Y5V/25V/Z
2SK3919/TO252/2050PF/5.6M
PH1
DR49
6.2K/4
DC21
0.1U/6/X7R/25V/K
DR18
2.2/6
BOOT2
UGATE2
PHASE2
LGATE2
DC7
0.1U/6/X7R/25V/K
DR12
10K/4
DC4
1.5N/4/X7R/50V/K
DC5
12P/4/NPO/50V/J
COMP
FB
IDROOP
VDIFF
DR1
0/4
DR16
1K/4
DC6
680P/4/N/50V/X
DR17
750/6/X
DR51
10K/4/X
ISEN2+
ISEN2-
DR41
200/6
ISEN2
DC16
0.1U/6/Y5V/25V/Z
PH2
DR42
6.2K/4
DC19
0.1U/6/X7R/25V/K
PVCC3
DBC6
0.22U/6/X7R/16V/K
DR15
2.2/6
VIN12
DC17
0.1U/6/Y5V/25V/Z
DR20
51.1/6/1
DC8
0.1U/6/Y/25V/X
<6> COREFB+
DR22
0/6/SHT/X
VSEN
<6> COREFB-
DR24
0/6/SHT/X
DC9
1N/4/X/50V/X
RGND
DR26
51.1/6/1
DC18
0.1U/6/Y/25V/X
BOOT3
UGATE3
PHASE3
LGATE3
DR32
2.2/6
DC12
0.1U/6/X7R/25V/K
2SK3919/TO252/2050PF/5.6M
ISEN3+
ISEN3-
DR50
200/6
ISEN3
DC14
0.1U/6/Y5V/25V/Z
PH3
DR40
6.2K/4
DC15
0.1U/6/X7R/25V/K
V6312
DR27
100K/4
OFS
DRSEL
OVPSEL
REF
FS
SS
GND
ISEN4+
ISEN4-
PWM4
EN_PH4
ISL6312CRZ/QFN48
DR31
20K/4/X
DC11
0.01U/4/X7R/16V/K
DR47
120K/4
DR48
243K/4/1
BOTTOM PAD CONNECT
TO GND THROUGH 8 VIA
DBC3
1U/8/Y5V/25V/Z
2SK3918/TO252/1300pF/7.5m
DQ2
DQ8
UGATE1
PHASE1
DR7
2.2/6
DR5
10K/4
1N5820/X
SDD1
DL2
0.6u/40A/IMD129/W/D
DQ3
DQ9
DR8
2.2/6
DC3
1N/4/X7R/50V/K
DR30
0/4/SHT/X
DR28
0/4/SHT/X
DEC6
3300U/D/6.3V/AP/12m
DEC9
3300U/D/6.3V/AP/12m
LGATE1
PH1
ISEN1
DBC5
1U/8/Y5V/25V/Z/X
DQ4
DQ10
UGATE2
PHASE2
DR21
2.2/6
DR19
10K/4
SDD2
DL3
DQ5
DQ11
DR23
2.2/6
DC10
1N/4/X7R/50V/K
DR11
0/4/SHT/X
DR29
0/4/SHT/X
DEC8
DEC1
LGATE2
PH2
ISEN2
DBC7
1U/8/Y5V/25V/Z
DQ6
DQ12
UGATE3
DR35
DR33
SDD3
DL4
DQ7
DQ13
DR36
2.2/6
DC13
1N/4/X7R/50V/K
DR14
0/4/SHT/X
DR34
0/4/SHT/X
DEC10
3300U/D/6.3V/AP/12m/X
DEC4
LGATE3
PH3
ISEN3
<6> VID0
<6> VID1
<6> VID2
<6> VID3
DRN4
1K/8P4R/6
PWM_VID0
PWM_VID1
PWM_VID2
PWM_VID3
DRN5
0/8P4R/SHT/X
IO_VID3 <29>
IO_VID2 <29>
IO_VID1 <29>
IO_VID0 <29>
<6> VID4
DR39
1K/4
PWM_VID4
DR45
0/4/SHT/X
IO_VID4 <29>
<6> VID5
DR43
1K/4/X
PWM_VID5
DR44
0/4/X
IO_VID5 <29>
GIGABYTE
Title
VCORE (PWM ISL6513)
Size
Custom
Document Number
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1.0
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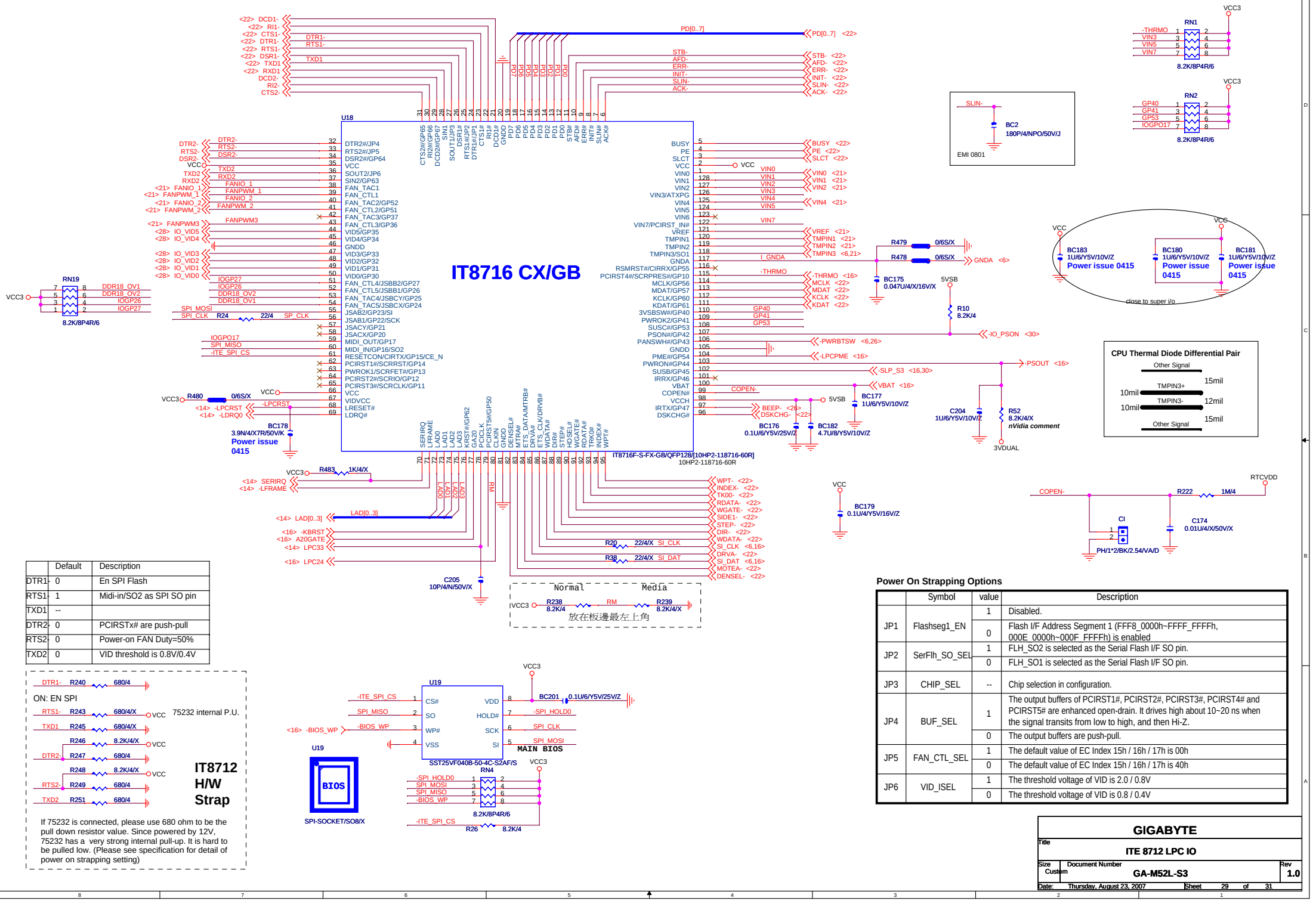

	Default	Description
DTR1-	0	En SPI Flash
RTS1-	1	Midi-in/SO2 as SPI SO pin
TXD1	--	
DTR2-	0	PCIRSTx# are push-pull
RTS2-	0	Power-on FAN Duty=50%
TXD2	0	VID threshold is 0.8V/0.4V

IT8712 H/W Strap

If 75232 is connected, please use 680 ohm to be the pull down resistor value. Since powered by 12V, 75232 has a very strong internal pull-up. It is hard to be pulled low. (Please see specification for detail of power on strapping setting)

Power On Strapping Options

	Symbol	value	Description
JP1	Flashseg1_EN	1	Disabled.
		0	Flash I/F Address Segment 1 (FFF8_0000h~FFFF_FFFFh, 000E_0000h~000F_FFFFh) is enabled
JP2	SerFlh_SO_SEL	1	FLH_SO2 is selected as the Serial Flash I/F SO pin.
		0	FLH_SO1 is selected as the Serial Flash I/F SO pin.
JP3	CHIP_SEL	--	Chip selection in configuration.
JP4	BUF_SEL	1	The output buffers of PCIRST1#, PCIRST2#, PCIRST3#, PCIRST4# and PCIRST5# are enhanced open-drain. It drives high about 10~20 ns when the signal transits from low to high, and then Hi-Z.
		0	The output buffers are push-pull.
JP5	FAN_CTL_SEL	1	The default value of EC Index 15h / 16h / 17h is 00h
		0	The default value of EC Index 15h / 16h / 17h is 40h
JP6	VID_ISEL	1	The threshold voltage of VID is 2.0 / 0.8V
		0	The threshold voltage of VID is 0.8 / 0.4V

GIGABYTE		
Title	ITE 8712 LPC IO	
Size: Custom	Document Number: GA-M52L-S3	Rev: 1.0
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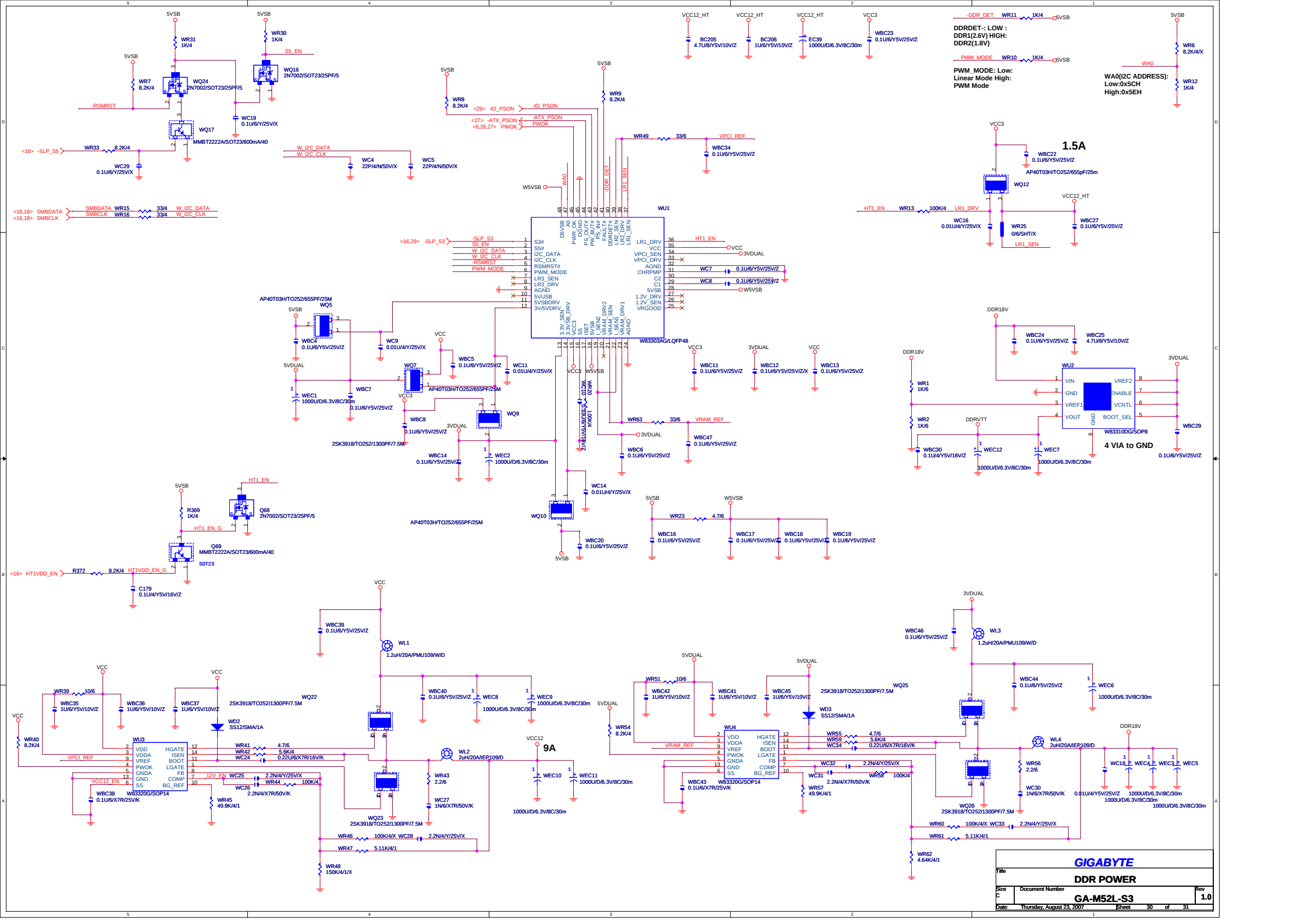
DDRDET-: LOW :
DDR1(2.6V) HIGH:
DDR2(1.8V)
PWM_MODE: Low:
Linear Mode High:
PWM Mode
WA0(I2C ADDRESS):
Low:0x5CH
High:0x5EH
1.5A
4 VIA to GND
W83303AG/LQFP48
W83310DG/SOP8
W83320G/SOP14
AP40T03H/TO252/655PF/25M
2SK3918/TO252/1300PF/7.5M
MMBT2222A/SOT23/600mA/40
2N7002/SOT23/25PF/5
SS12/SMA/1A
1.2uH/20A/PMU109/W/D
2uH/20A/IEP109/D
9A
GIGABYTE
DDR POWER
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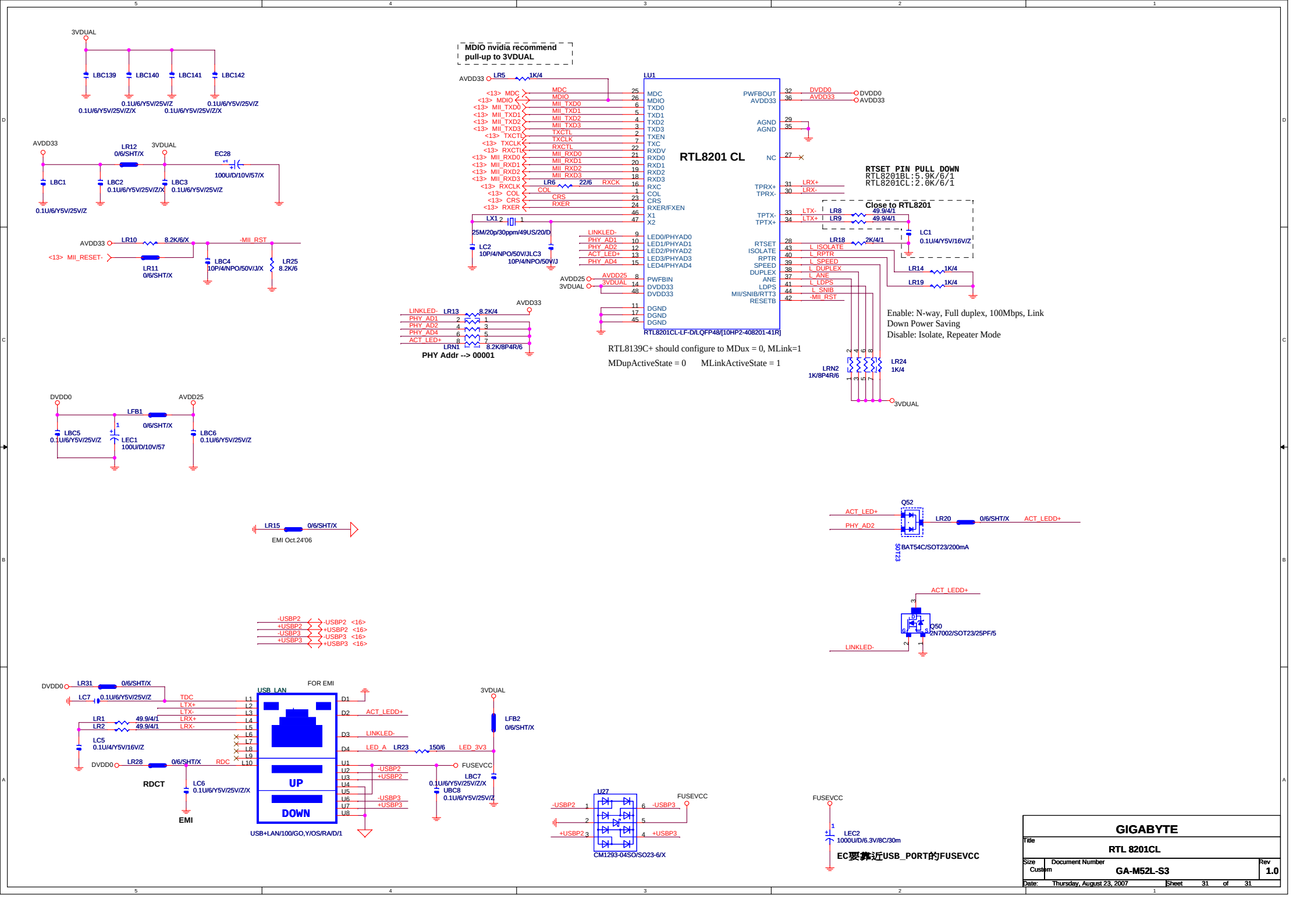

GIGABYTE			
Title	RTL 8201CL		
Size: Custom	Document Number: GA-M52L-S3		Rev: 1.0
Date: Thursday, August 23, 2007	Sheet 31 of 31		