GIGABYTE GA-M57SLI-S4 Schematics

Revision:2.03

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02	BOM & PCB MODIFY HISTORY
03	BLOCK DIAGRAM
04	PROCESSOR HT INTERFACE
05	PROCESSOR DDR INTERFACE
06	PROCESSOR DDR INTERFACE
07	PROCESSOR CONTROL & DEBUG
08	DIMM A0,B0
09	DIMM A1,B1
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12	MCP55 PCIE X16
13	MCP55 PCIE X8 X1
14	MCP55 PCI
15	MCP55 SATA , IDE
16	MCP55 AUDIO , USB , MISC
17	MCP55 DUAL RGMII
18	MCP55 PWR/GND
19	MCP55 DECOUPLING
20	PCI EXPRESS X16 SLOT
21	PCI EXPRESS X8 SLOT
22	PCI EXPRESS X1 SLOT1,2,3
23	PCI 1,2 SLOT
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SHEET	TITLE
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29	VCC12_HT,VCCA25,VCC15,PLL POWER
30	PWR SEQUENCE PWR
31	DDR18 , DDRVTT , 5VDUAL
32	ATX POWER CONNCTOR,VCC15
33	DUAL BIOS
34	FRONT PANEL
35	ITE 8716F (GB)
36	FAN/HW MONITOR
37	F_USB1/F_USB2/F_USB3 CONNECTOR
38	COMA , LPT , TPM , R_USB
39	MARVELL 1116 RGMII PHY -A
40	TI TSB43AB23 1394A
41	CURRENT_OUT
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GIGABYTE CORP.

Title: BLOCK DIAGRAM

Size	Document Number	Rev
Custom	GA-M57SLI-S4	2.03

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Model Name: GA-M57SLI-S4

Version: 2.03

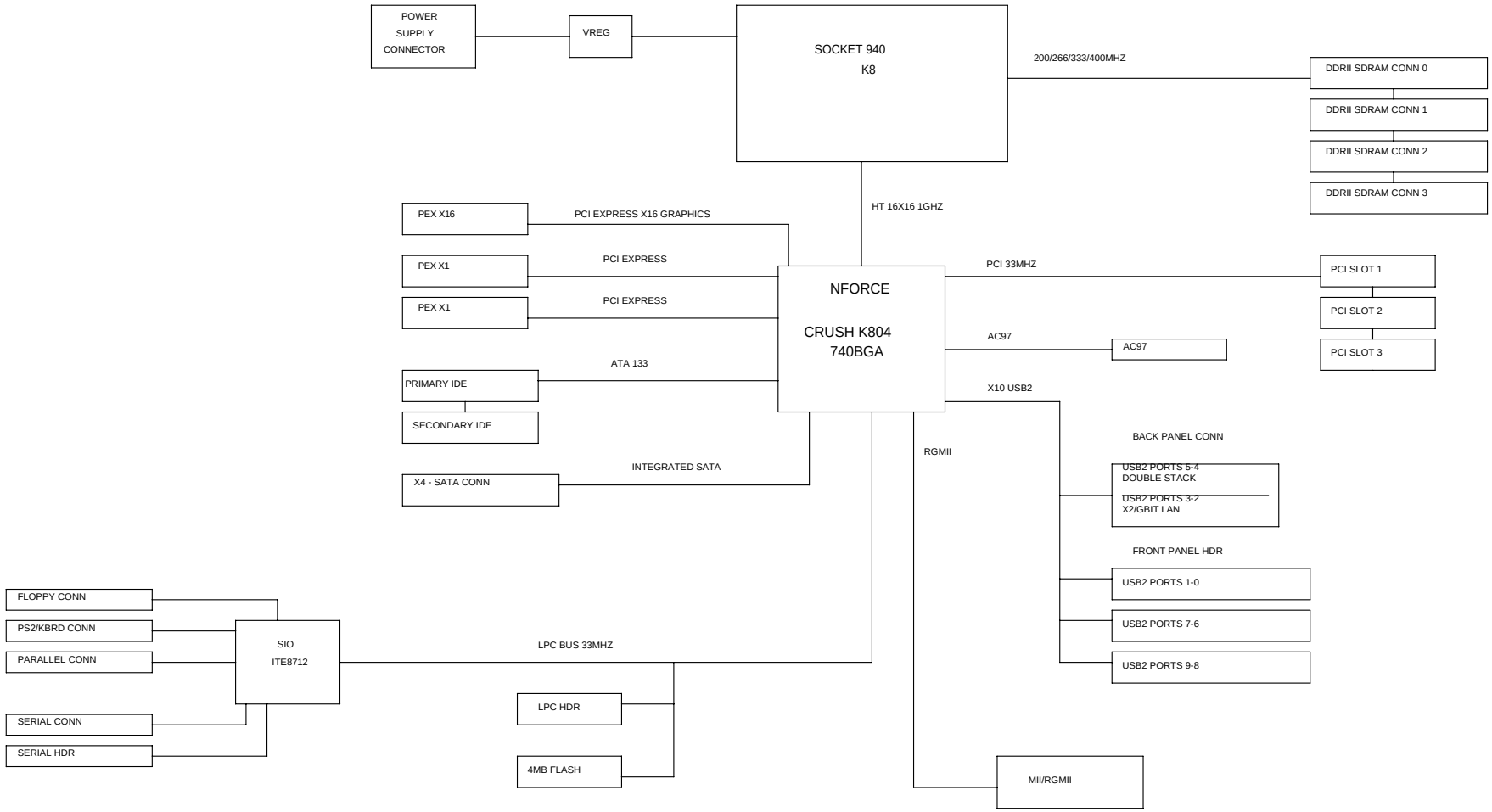
Component value change history

Date	Change Item	Reason
REV0.1 2006/03/27	First release.	
2006/11/16	REV2.01	
	change codec from ALC883 to ALC888	
	remove CR10	
	change CR32 from 220ohm to 2.2ohm	
	CR45 change to 470pf	
	CBC17,CBC18,CBC21 change to 0.1uf	
2006/12/05	REV2.01	
	remove C66 R85	
2006/12/12	REV2.02	
	DL1,DL2,DL3,DL4 footprint-->CHOCK06U-40A_1PDL-2	
	L1,L4, footprint-->CHOCK2U-20A_SQ-2	
	L2,L3, footprint-->CHOCK08U-15A_1P-1	
2006/12/26	REV2.02	
	CBC50,CBC51,CBC52,CBC53:4.7u/8/X5R/25V/K-->4.7u/8/X5R/10V/K	
	REV2.03	
2007/01/26	Q48 改 TO252	
	M57SLI-S4 rev 2.03	
2007/03/08	All solid polymer capacitors change to electrolytic capacitors	

Circuit or PCB layout change for next version

Date	Change Item	Reason
REV0.1 2006/03/27		
2006/11/17	REV2.01	
	remove U6,U10,BC72 ,R131,R97,C236,C65,R367	
	remove NET-EOMCLK33	

BLOCK DIAGRAM



GIGABYTE CORP.

Title: BLOCK DIAGRAM		
Size: Custom	Document Number: GA-M57SLI-S4	Rev: 2.03
Date: Friday, March 09, 2007	Sheet 3 of 41	

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_VDDA_RUN = VDDA25
CPU_VDDIO_SUS = DDR18V
CPU_VTT_SUS = DDRVTT

CPU_VDD_RUN = VCORE

VLDT_RUN = VCC12_HT

VLDT_A = VCC12_HT
VLDT_B = HT12B

U12A

HYPERTRANSPORT

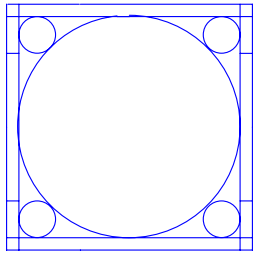
L0_CLKIN_H1	N6	L0_CLKIN_H(1)	L0_CLKOUT_H(1)	AD5	L0_CLKOUT_H1
L0_CLKIN_L1	P6	L0_CLKIN_L(1)	L0_CLKOUT_L(1)	AD4	L0_CLKOUT_L1
L0_CLKIN_H0	N3	L0_CLKIN_H(0)	L0_CLKOUT_H(0)	AD1	L0_CLKOUT_H0
L0_CLKIN_L0	N2	L0_CLKIN_L(0)	L0_CLKOUT_L(0)	AC1	L0_CLKOUT_L0
R156 49.9/6/1	V4	L0_CTLIN_H(1)	L0_CTLOUT_H(1)	Y6	1 TP3
R163 49.9/6/1	V5	L0_CTLIN_L(1)	L0_CTLOUT_L(1)	W6	1 TP4
L0_CTLIN_H0	U1	L0_CTLIN_H(0)	L0_CTLOUT_H(0)	W2	L0_CTLOUT_H0 [11]
L0_CTLIN_L0	V1	L0_CTLIN_L(0)	L0_CTLOUT_L(0)	W3	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

VCC12_HT
GND

VCORE
SC24 0.01U/4/Y5V/25V/Z
SC23 0.01U/4/Y5V/25V/Z
SC18 0.01U/4/Y5V/25V/Z

CLOSE CHIPSET & CROSSING BOUNDARY

SOCKET_M2
M2_RM/PLASTICS/[12KRC-04K807-41R]



GIGABYTE CORP.

Title: CPU HYPER TRANSPORT
Size: Custom
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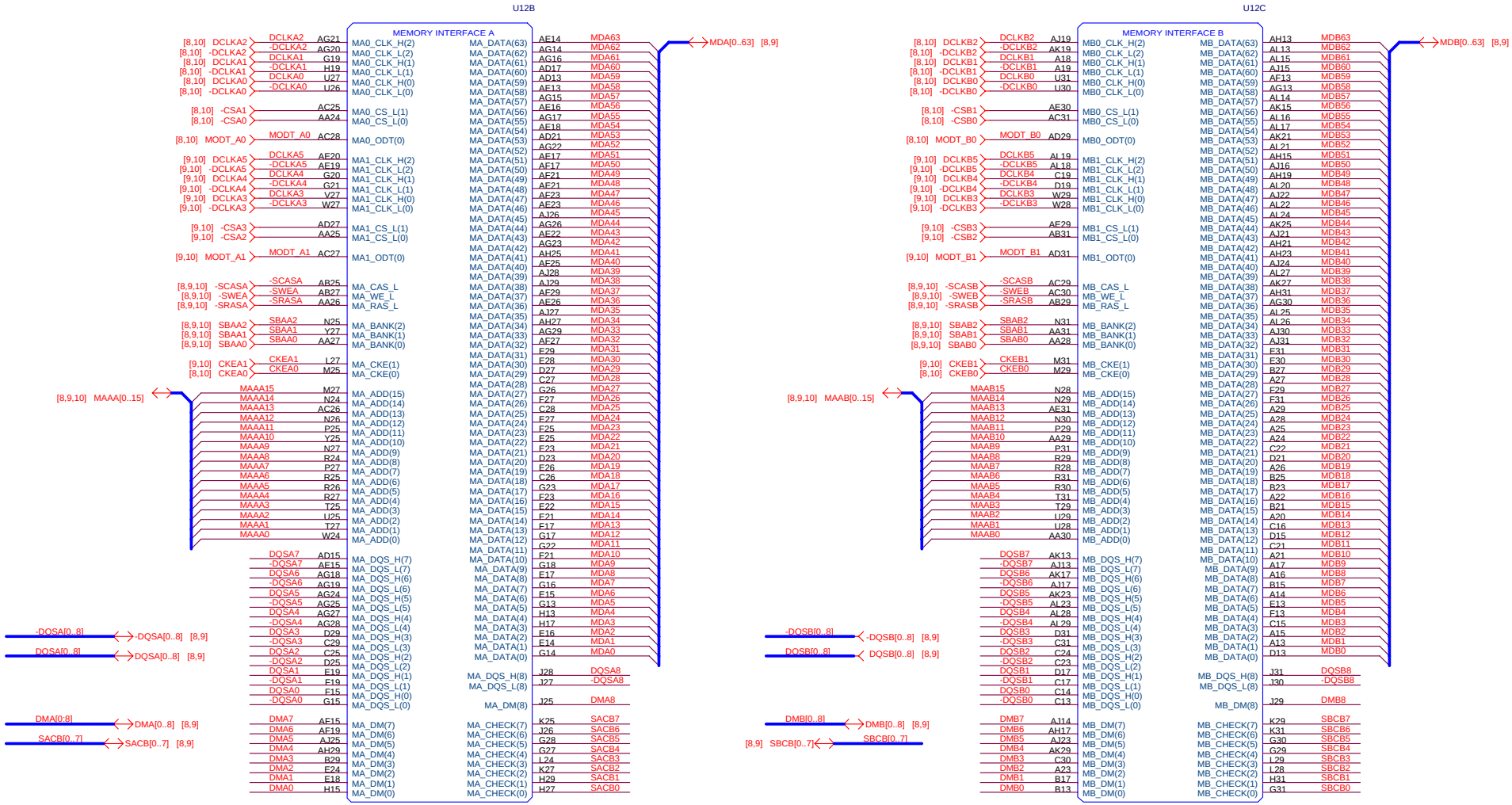

GIGABYTE CORP.		
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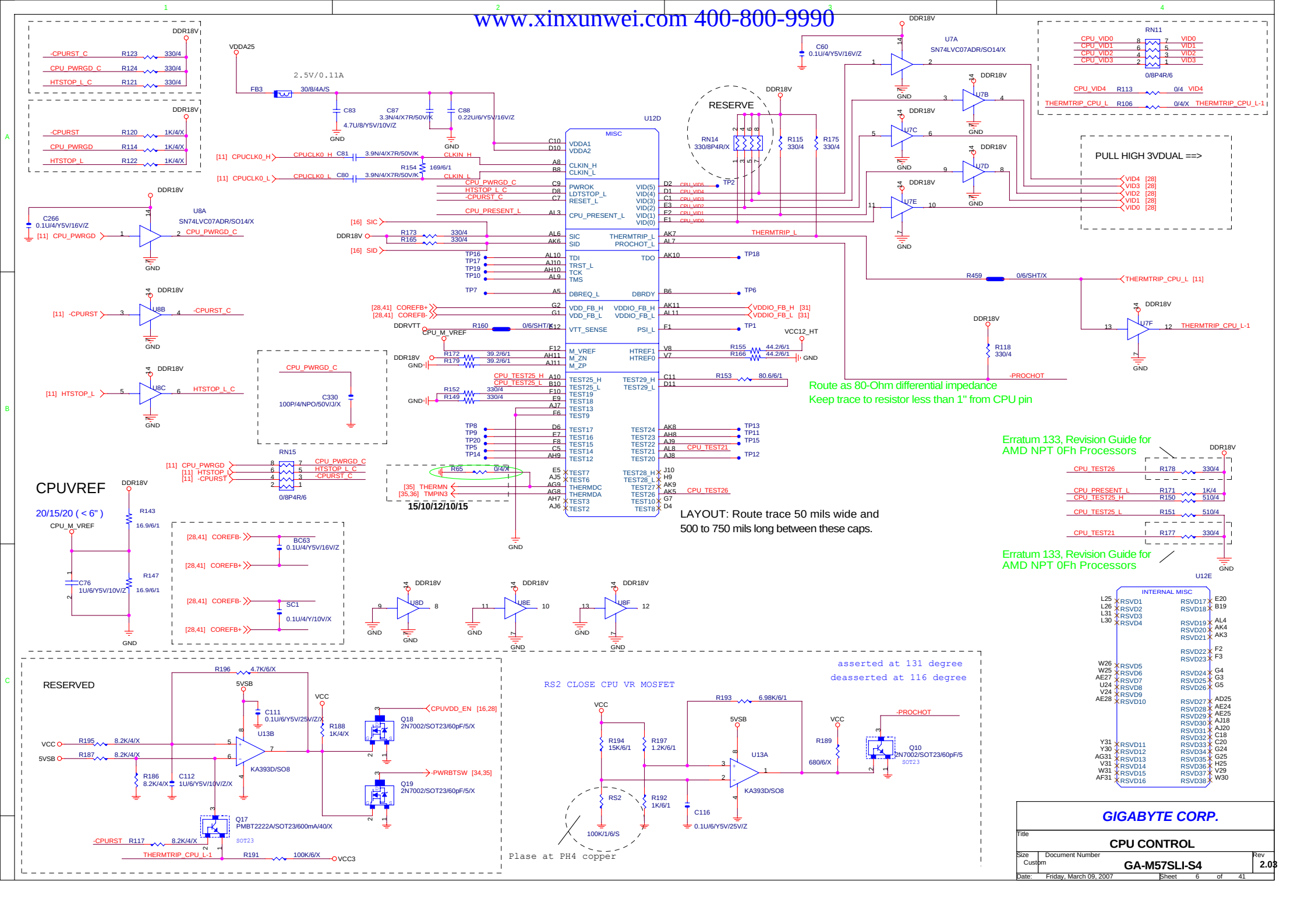
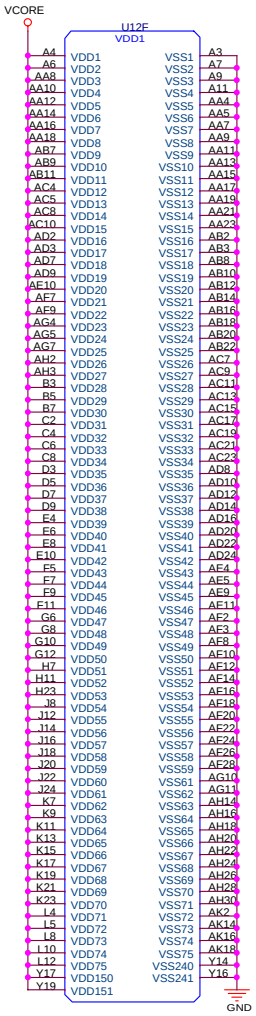
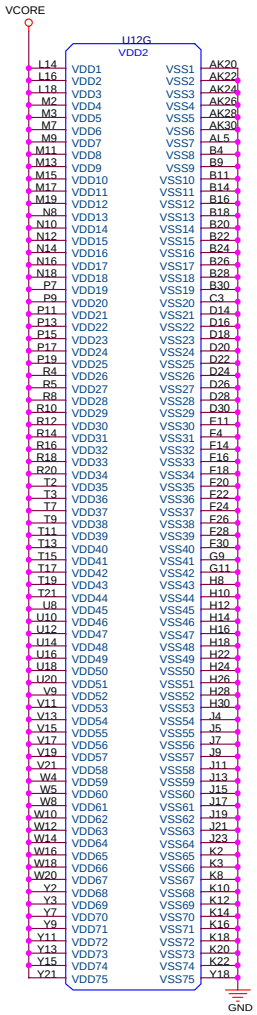
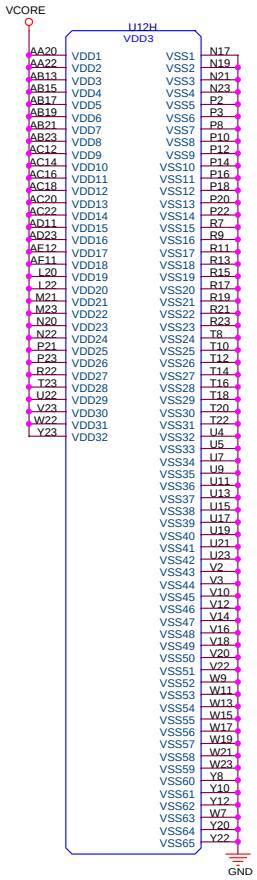
Size: Custom	Document Number: GA-M57SLI-S4	Rev: 2.03
Date: Friday, March 09, 2007	Sheet 5 of 41	

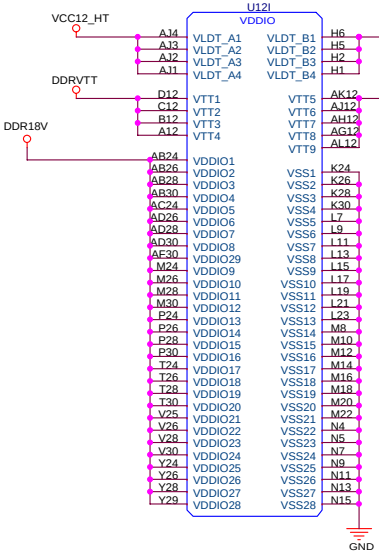


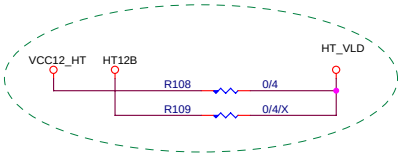
VLDT_RUN_B is connected to the VLDT_RUN power supply through the package or on the die. It is only connected on the board to decoupling near the CPU package.

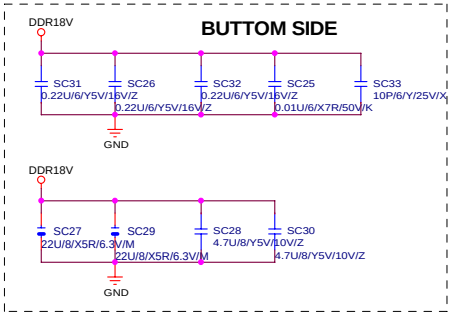


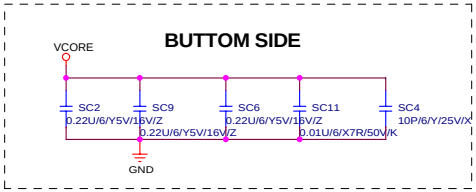


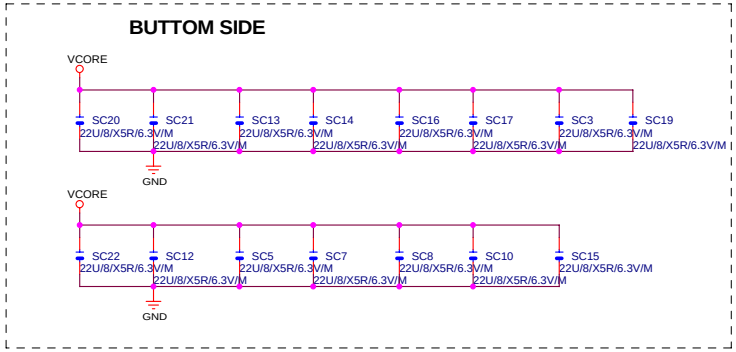


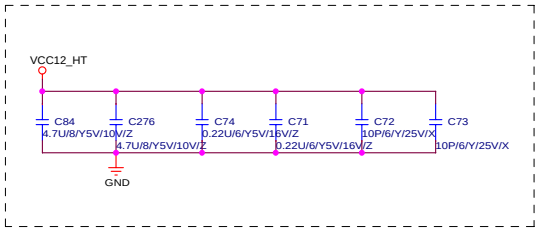


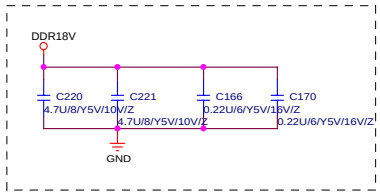


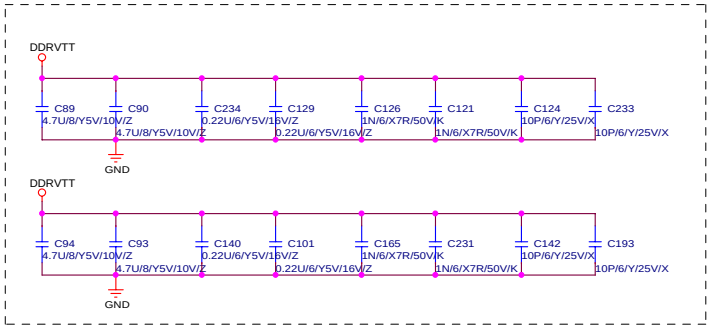


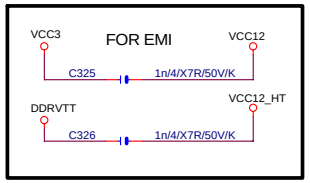












GIGABYTE CORP.

Title: CPU POWER & GND

Size	Document Number	Rev
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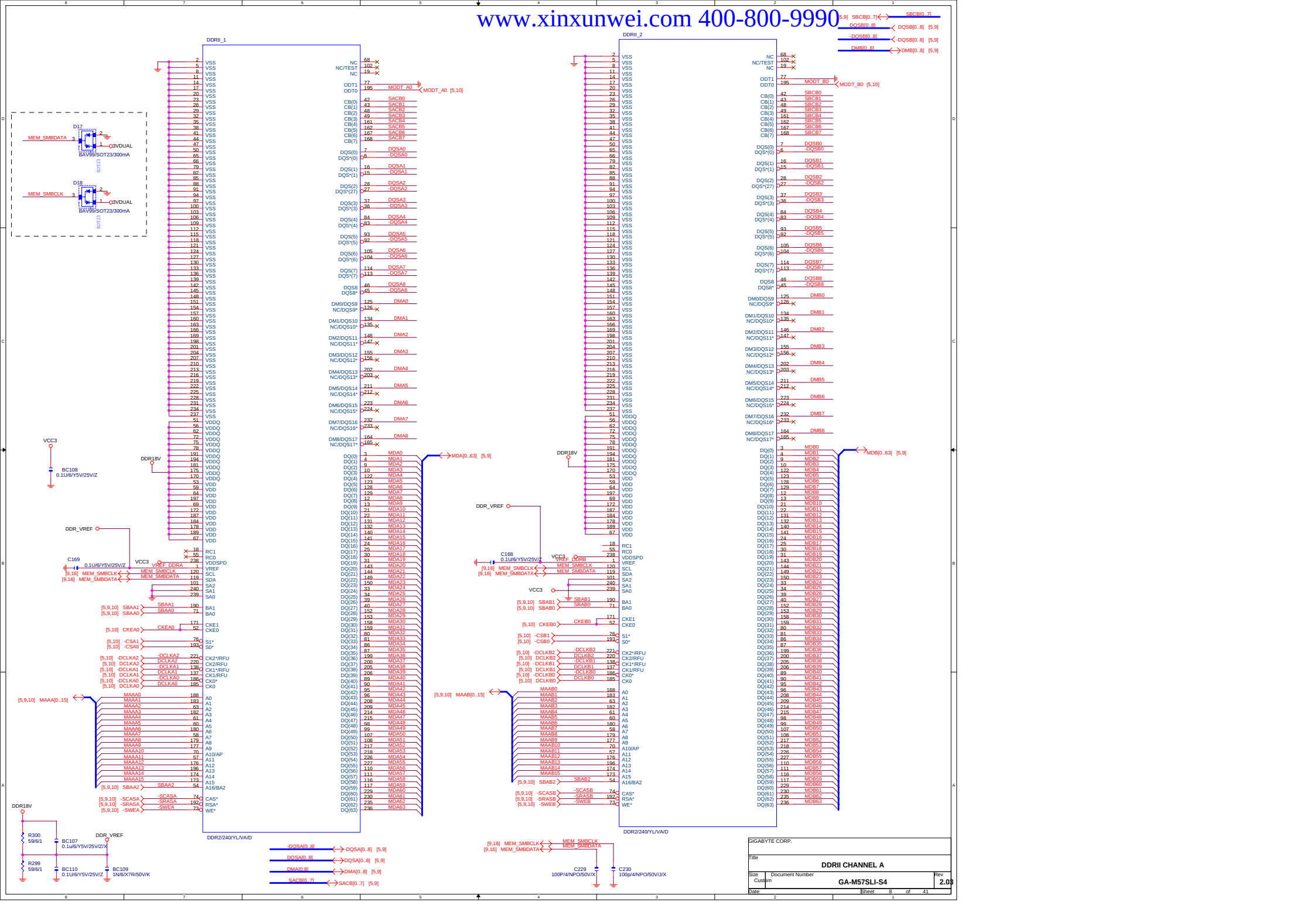

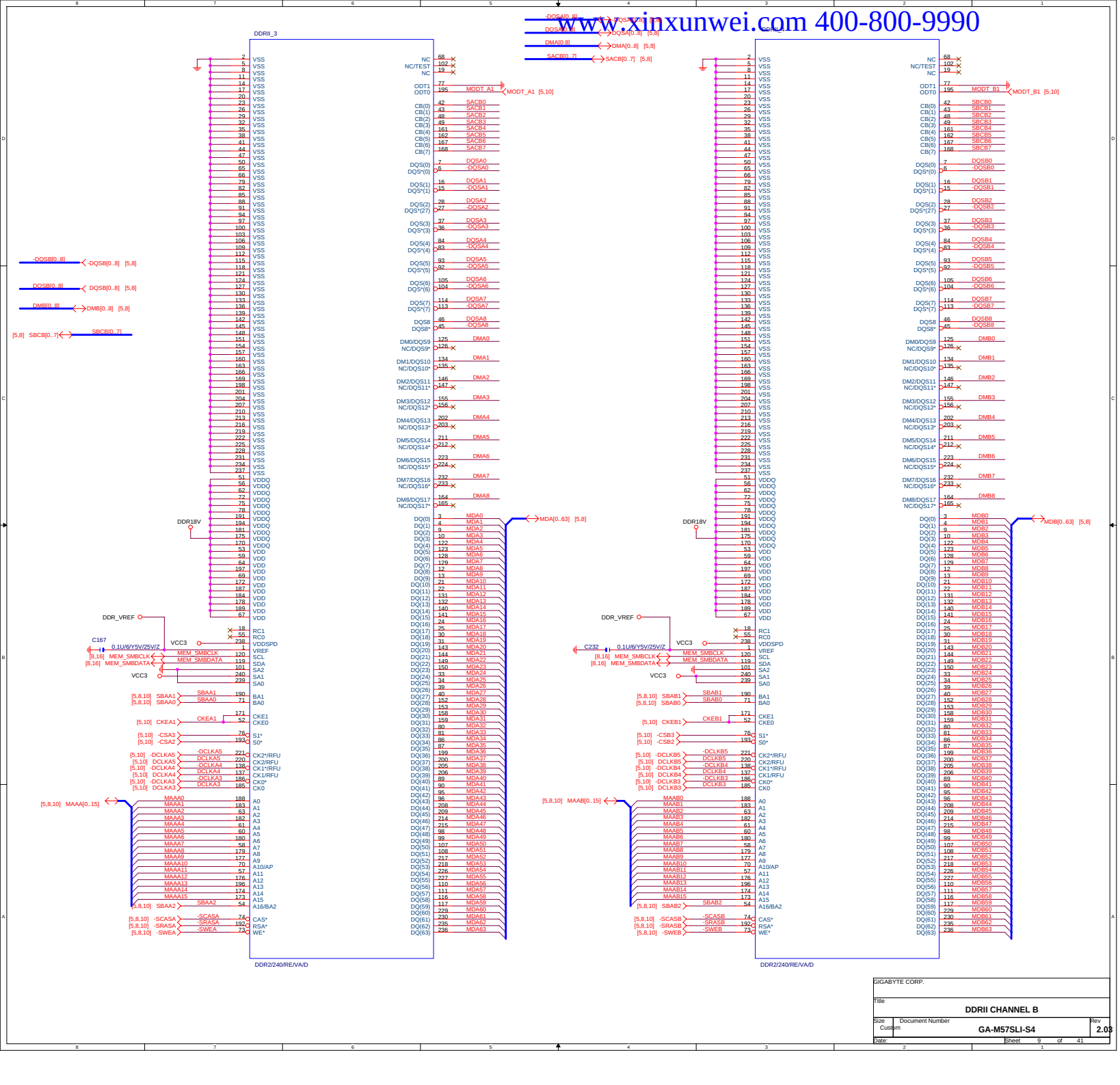

GIGABYTE CORP.		
Title: DDRII CHANNEL B		
Size: Custom	Document Number: GA-M57SLI-S4	Rev: 2.03
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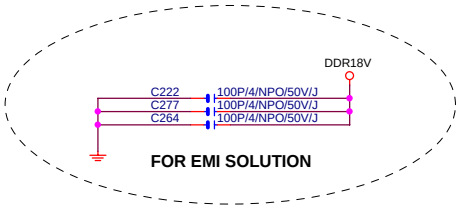

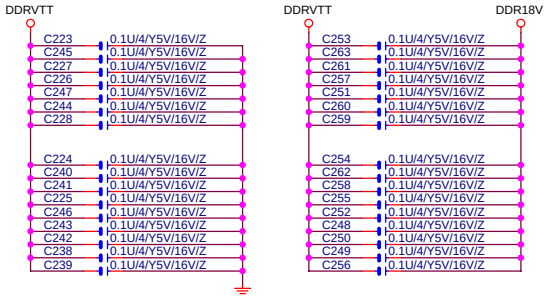

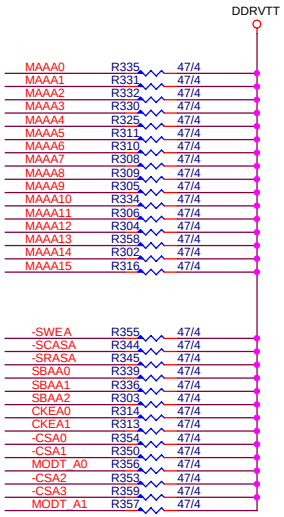

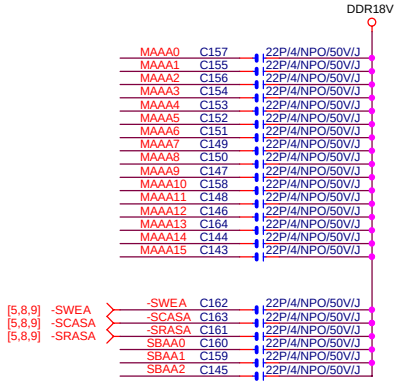

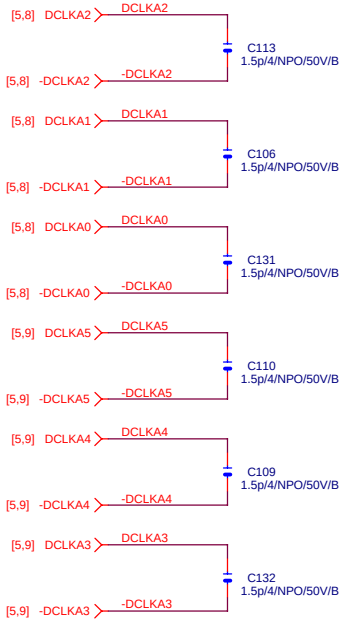

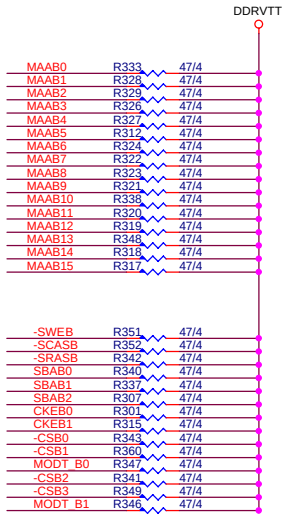

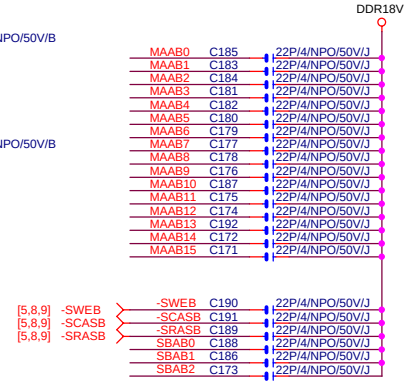

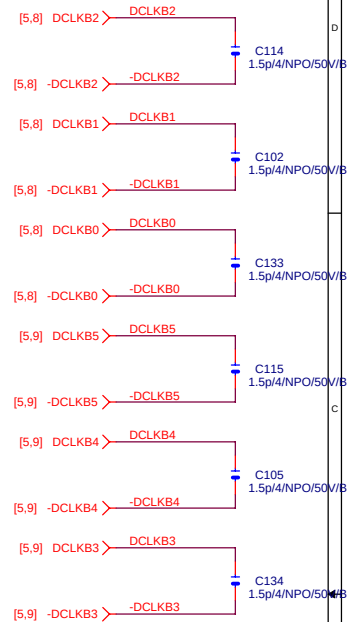

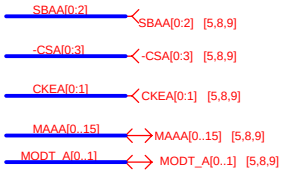

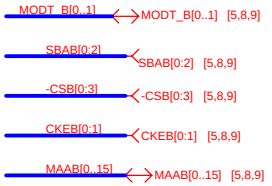

GIGABYTE CORP.

Title: DDRII TERMINATOR

Size: B | Document Number: GA-M57SLI-S4 | Rev: 2.03

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N.B HEATSINK or FANSINK

U5G1A PBGA776-NVIDIA-MCP55
MCP55
MCP55P-N-A1
SEC 1 OF 9

HS2 HS1
FAN SINK/X
HEAT SINK/[12SP2-01A002-81R_12SP2-01A002-82R]

[4] L0_CADOUT_L[0..15] L0_CADOUT_L[0..15]
L0_CADOUT_H0 AK32 HT_MCP_RXD0_P
L0_CADOUT_H1 AJ32 HT_MCP_RXD1_P
L0_CADOUT_H2 AH32 HT_MCP_RXD2_P
L0_CADOUT_H3 AH30 HT_MCP_RXD3_P
L0_CADOUT_H4 AF31 HT_MCP_RXD4_P
L0_CADOUT_H5 AE32 HT_MCP_RXD5_P
L0_CADOUT_H6 AD32 HT_MCP_RXD6_P
L0_CADOUT_H7 AD30 HT_MCP_RXD7_P
L0_CADOUT_H8 AG27 HT_MCP_RXD8_P
L0_CADOUT_H9 AF27 HT_MCP_RXD9_P
L0_CADOUT_H10 AD26 HT_MCP_RXD10_P
L0_CADOUT_H11 AE29 HT_MCP_RXD11_P
L0_CADOUT_H12 AB23 HT_MCP_RXD12_P
L0_CADOUT_H13 AB26 HT_MCP_RXD13_P
L0_CADOUT_H14 AB28 HT_MCP_RXD14_P
L0_CADOUT_H15 AA28 HT_MCP_RXD15_P

[4] L0_CADOUT_H[0..15] L0_CADOUT_H[0..15]
L0_CADOUT_L0 AK31 HT_MCP_RXD0_N
L0_CADOUT_L1 AJ31 HT_MCP_RXD1_N
L0_CADOUT_L2 AH31 HT_MCP_RXD2_N
L0_CADOUT_L3 AH29 HT_MCP_RXD3_N
L0_CADOUT_L4 AE30 HT_MCP_RXD4_N
L0_CADOUT_L5 AE31 HT_MCP_RXD5_N
L0_CADOUT_L6 AD31 HT_MCP_RXD6_N
L0_CADOUT_L7 AD29 HT_MCP_RXD7_N
L0_CADOUT_L8 AG28 HT_MCP_RXD8_N
L0_CADOUT_L9 AF28 HT_MCP_RXD9_N
L0_CADOUT_L10 AD25 HT_MCP_RXD10_N
L0_CADOUT_L11 AE28 HT_MCP_RXD11_N
L0_CADOUT_L12 AB24 HT_MCP_RXD12_N
L0_CADOUT_L13 AB25 HT_MCP_RXD13_N
L0_CADOUT_L14 AB27 HT_MCP_RXD14_N
L0_CADOUT_L15 AA29 HT_MCP_RXD15_N

HT_MCP_TXD0_P R29 L0_CADIN_H0
HT_MCP_TXD1_P T29 L0_CADIN_H1
HT_MCP_TXD2_P T31 L0_CADIN_H2
HT_MCP_TXD3_P U31 L0_CADIN_H3
HT_MCP_TXD4_P W29 L0_CADIN_H4
HT_MCP_TXD5_P Y29 L0_CADIN_H5
HT_MCP_TXD6_P Y31 L0_CADIN_H6
HT_MCP_TXD7_P AA31 L0_CADIN_H7
HT_MCP_TXD8_P R24 L0_CADIN_H8
HT_MCP_TXD9_P T28 L0_CADIN_H9
HT_MCP_TXD10_P U28 L0_CADIN_H10
HT_MCP_TXD11_P T25 L0_CADIN_H11
HT_MCP_TXD12_P V27 L0_CADIN_H12
HT_MCP_TXD13_P V26 L0_CADIN_H13
HT_MCP_TXD14_P Y28 L0_CADIN_H14
HT_MCP_TXD15_P Y26 L0_CADIN_H15
L0_CADIN_H[0..15] L0_CADIN_H[0..15] [4]

HT_MCP_TXD0_N R30 L0_CADIN_L0
HT_MCP_TXD1_N T30 L0_CADIN_L1
HT_MCP_TXD2_N T32 L0_CADIN_L2
HT_MCP_TXD3_N U32 L0_CADIN_L3
HT_MCP_TXD4_N W30 L0_CADIN_L4
HT_MCP_TXD5_N Y30 L0_CADIN_L5
HT_MCP_TXD6_N Y32 L0_CADIN_L6
HT_MCP_TXD7_N AA32 L0_CADIN_L7
HT_MCP_TXD8_N T24 L0_CADIN_L8
HT_MCP_TXD9_N T27 L0_CADIN_L9
HT_MCP_TXD10_N U29 L0_CADIN_L10
HT_MCP_TXD11_N T26 L0_CADIN_L11
HT_MCP_TXD12_N V28 L0_CADIN_L12
HT_MCP_TXD13_N V25 L0_CADIN_L13
HT_MCP_TXD14_N Y27 L0_CADIN_L14
HT_MCP_TXD15_N Y25 L0_CADIN_L15
L0_CADIN_L[0..15] L0_CADIN_L[0..15] [4]

COUPON1 COUPON1 1 2 COUPON/X
COUPON2 COUPON2 1 2 COUPON/X
VCC

[4] L0_CLKOUT_H0 L0_CLKOUT_H0 AG30 HT_MCP_RX_CLK0_P
[4] L0_CLKOUT_L0 L0_CLKOUT_L0 AG29 HT_MCP_RX_CLK0_N
[4] L0_CLKOUT_H1 L0_CLKOUT_H1 AD27 HT_MCP_RX_CLK1_P
[4] L0_CLKOUT_L1 L0_CLKOUT_L1 AD28 HT_MCP_RX_CLK1_N

HT_MCP_TX_CLK0_P V30 L0_CLKIN_H0
HT_MCP_TX_CLK0_N V31 L0_CLKIN_L0
HT_MCP_TX_CLK1_P V24 L0_CLKIN_H1
HT_MCP_TX_CLK1_N W24 L0_CLKIN_L1
L0_CLKIN_H0 [4]
L0_CLKIN_L0 [4]
L0_CLKIN_H1 [4]
L0_CLKIN_L1 [4]

[4] L0_CTLOUT_H0 L0_CTLOUT_H0 AC30 HT_MCP_RXCTL_P
[4] L0_CTLOUT_L0 L0_CTLOUT_L0 AC29 HT_MCP_RXCTL_N

HT_MCP_TXCTL_P AB30 L0_CTLIN_H0
HT_MCP_TXCTL_N AB31 L0_CTLIN_L0
L0_CTLIN_H0 [4]
L0_CTLIN_L0 [4]

HT_MCP_REQ P25 -HT_REQ R232 1K/4 3VDUAL
HT_MCP_STOP P28 HTSTOP_L HTSTOP_L [6]
HT_MCP_RST P27 -CPURST -CPURST [6]
HT_MCP_PWRGD P26 CPU_PWRGD CPU_PWRGD [6]

R297 150/6/1 HT_COMP1 AG26 HT_MCP_COMP_GND1
R295 49.9/6/1 HT_COMP2 AG25 HT_MCP_COMP_GND2

CLKOUT0_CLKIN_200MHZ_P N32 SR3 0/6/SHT/X CPUCLK0_H CPUCLK0_H [6]
CLKOUT0_CLKIN_200MHZ_N N31 SR1 0/6/SHT/X CPUCLK0_L CPUCLK0_L [6]
CLKOUT1_200MHZ_P M30 SR_CLKOUT1_P 1 TP41
CLKOUT1_200MHZ_N M29 TP_CLKOUT1_N 1 TP42
CLKOUT2_200MHZ_P L30 TP_CLKOUT2_P 1 TP37
CLKOUT2_200MHZ_N L29 TP_CLKOUT2_N 1 TP36

[6] THERMTRIP_CPU_L THERMTRIP_CPU_L AJ29 THERMTRIP/GPIO*

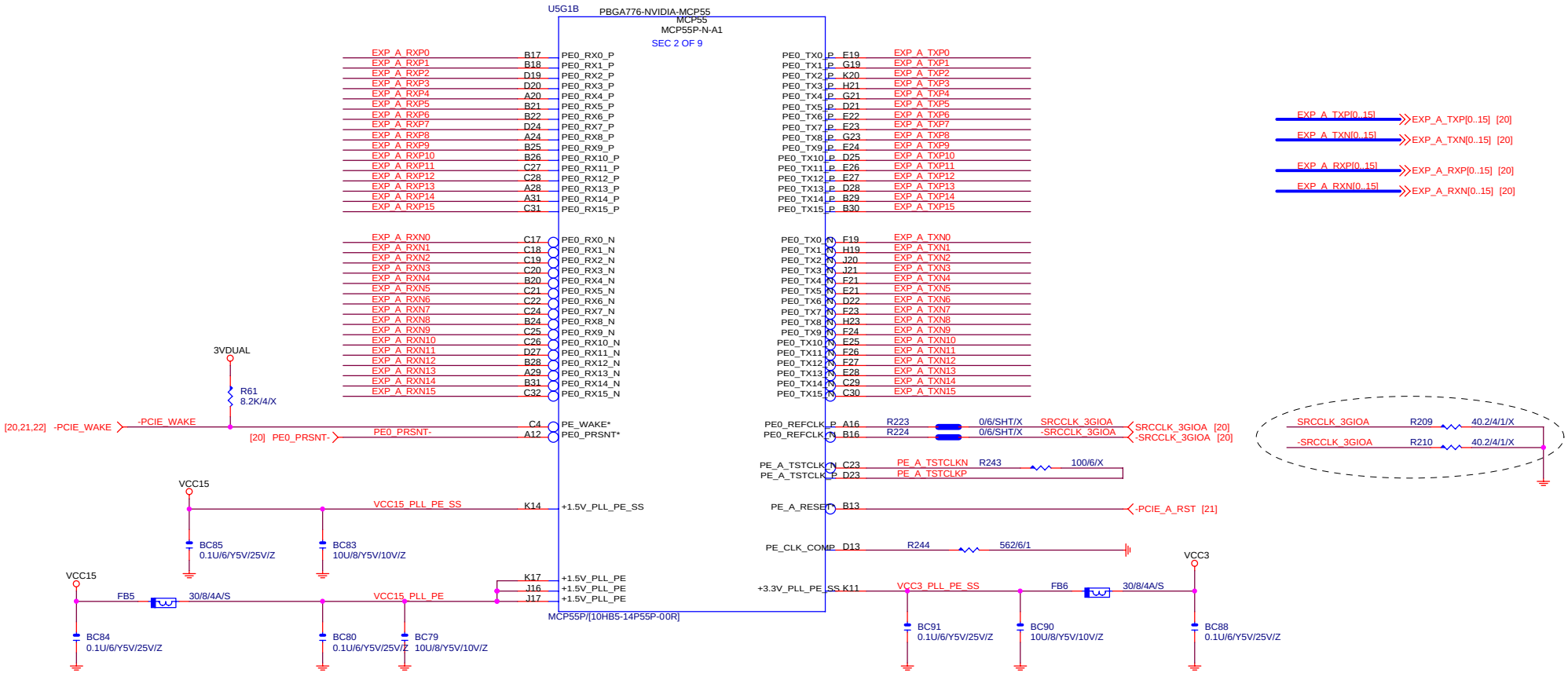
VCC15 P23 +1.5V_PLL_CPU_HT
VCC3 AC21 +3.3V_HT
AC22 +3.3V_PLL_CPU
AC23 +3.3V_PLL_HT
VCC12_HT
HT_VREF U23
CLKOUT_25MHZ N26 TP_CLKOUT_25M 1 TP45
CLK200_TERM_GND M28 R207 562/6/1
SC47 0.1U/4/Y5V/16V/Z

VCC3 FB9 30/8/4A/S VCC3_PLL_HT
C267 0.1U/6/Y5V/25V/Z
BC105 10U/8/Y5V/10V/Z
C217 0.1U/4/Y5V/16V/Z
C219 C194
0.1U/4/Y5V/16V/Z 0.1U/4/Y5V/16V/Z

MCP55P/[10HB5-14P55P-00R]

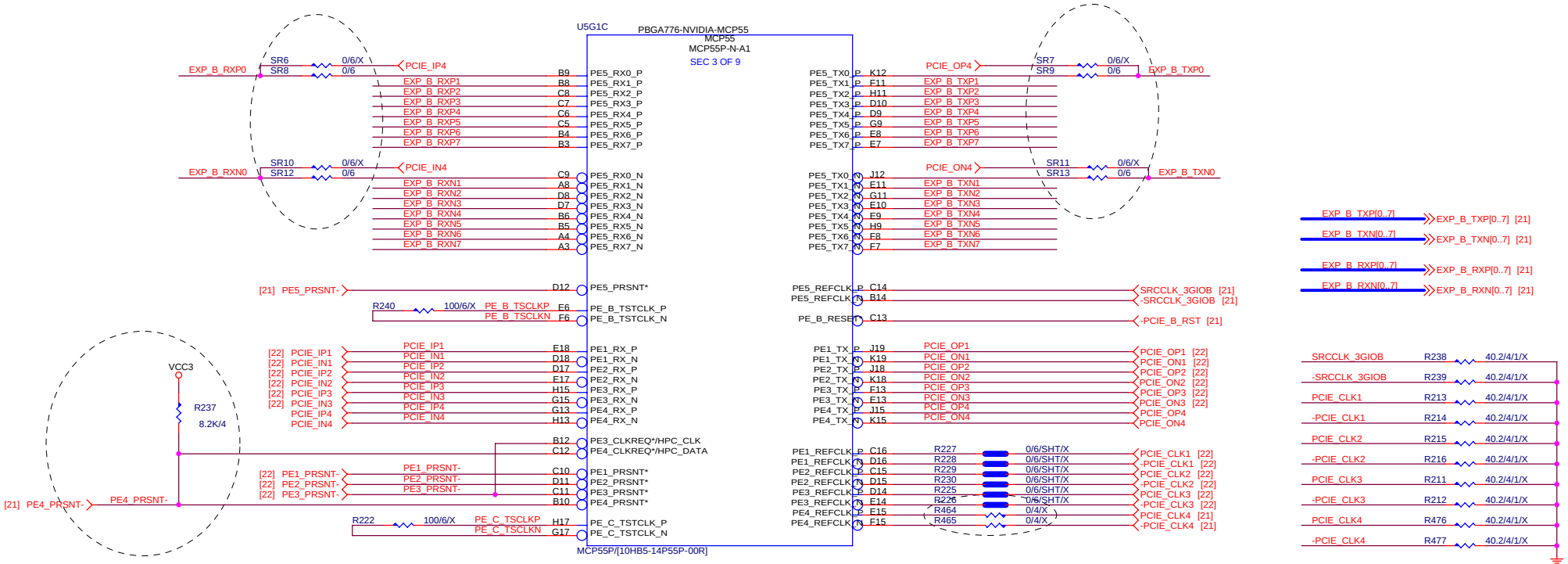
HTSTOP_L
[20,21] -CK8PWOK Q25 2N7002/SOT23/60pF/5
CPU_PWRGD Q22 2N7002/SOT23/60pF/5
3VDUAL R233 8.2K/4
-CPURST Q27 2N7002/SOT23/60pF/5
Q24 2N7002/SOT23/60pF/5
R201
[16,21,30] CK8_PWOK
0/6/SHT/X

GIGABYTE CORP.		
Title: MCP55 HT/CLK		
Size: Custom	Document Number: GA-M57SLI-S4	Rev: 2.03
Date: Friday, March 09, 2007	Sheet 11 of 41	



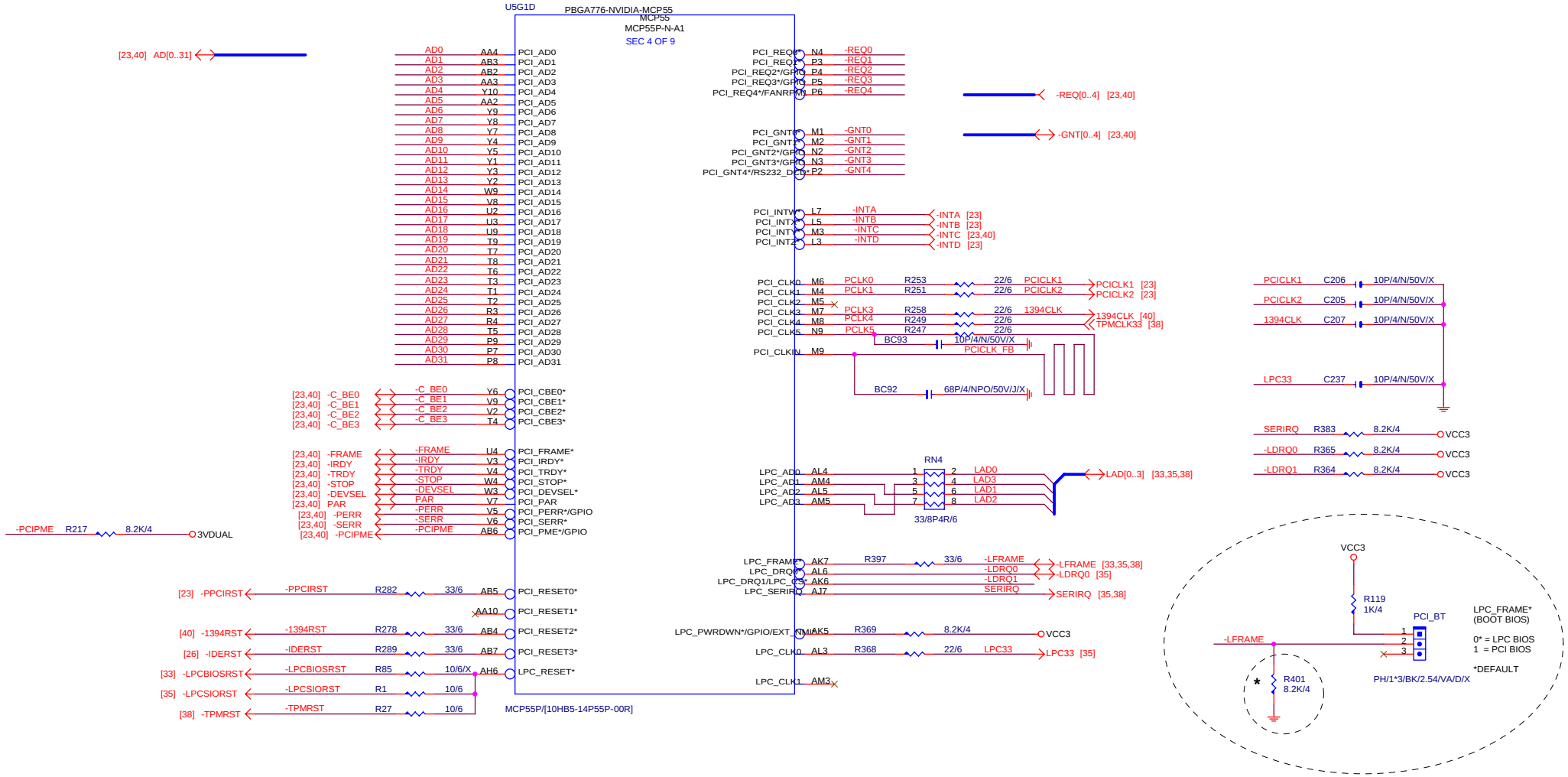
GIGABYTE CORP.

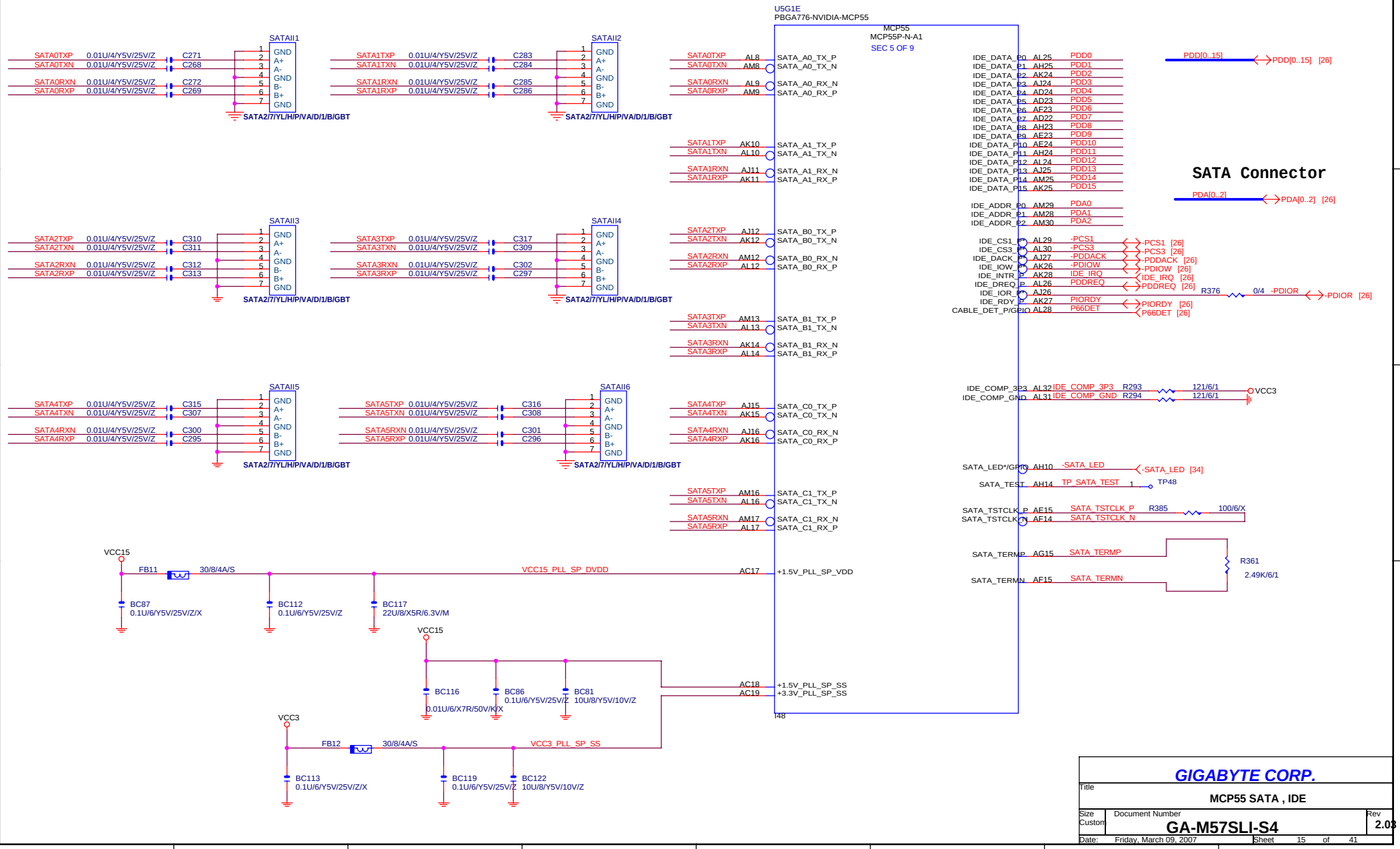
Title	MCP55 PCIE X16	
Size: Custom	Document Number: GA-M57SLI-S4	Rev: 2.03
Date: Friday, March 09, 2007	Sheet 12 of 41	



Title	MCP55 PCIE X8 , X1	
Size: Custom	Document Number: GA-M57SLI-S4	Rev: 2.03
Date: Friday, March 09, 2007	Sheet 13 of 41	

GIGABYTE CORP.





GIGABYTE CORP.		
Title	MCP55 SATA , IDE	
Size: Custom	Document Number: GA-M57SLI-S4	Rev: 2.03
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HDA_RST* (MAC 0) 1* = RGMII 0 = MII

HDA_SYNC (SIO CLK) 1* = 24MHZ 0 = 14.318MHZ

*DEFAULT

U5G1F
PBGA776-NVIDIA-MCP55

MCP55
MCP55P-N-A1
SEC 6 OF 9

PROG_REFCLK
HDA_BCLK
HDA_SDATA_OUT0/GPIO_45
HDA_SDATA_IN0/GPIO_22/MGPIO_0
HDA_SDATA_IN1/GPIO_23/MGPIO_1
HDA_SDATA_IN2/GPIO_24/MGPIO_2
HDA_RESET*/MGPIO_3
HDA_SYNC/GPIO_44

GPIO_1/SLV_RDY4PWRDWN
GPIO_2/CPU_SLP*/NMI
GPIO_3/CPU_CLKRUN/SMI*
GPIO_4/SUS_STAT*/SCI
GPIO_5/SYS_SHUTDOWN*/INIT*
GPIO_6/NFERR*/SYS_PERR*
GPIO_7/FERR*/SYS_SERR*
GPIO_8/MSMB_CLK
GPIO_9/MSMB_DATA
GPIO_10/THERM_SID1
GPIO_11/CPU_VID0/RS232_SIN*
GPIO_12/CPU_VID1/RS232_SOUT*
GPIO_13/CPU_VID2/RS232_DTR*
GPIO_14/CPU_VID3/RS232_DSR*
GPIO_15/CPU_VID4/RS232_RTS*
GPIO_16/CPU_VID5/RS232_CTS*
GPIO_17/SPI_DI
GPIO_18/SPI_DO
GPIO_19/SPI_CS
GPIO_20/SPI_CLK

N/C

USB0_P USB0_N USB1_P USB1_N USB2_P USB2_N USB3_P USB3_N USB4_P USB4_N USB5_P USB5_N USB6_P USB6_N USB7_P USB7_N USB8_P USB8_N USB9_P USB9_N

USB_OC0*/GPIO_MGPIO_4
USB_OC1*/GPIO/MGPIO_5
USB_OC2*/GPIO/MGPIO_6
USB_OC3*/GPIO/MGPIO_7
USB_OC4*/GPIO/MGPIO_4
USB_RBIAS_GND

A20GATE/GPIO
INTRUDER*
EXT_SMI*/GPIO
RI*/GPIO
SPKR
PWRBTN*
SIO_PME*/GPIO
KBRDRSTIN*/GPIO

SMB_CLK0 SMB_DATA0 SMB_CLK1 SMB_DATA1 +3.3V_VBAT BUF_SIO_CLK SUS_CLK/GPIO THERM*/GPIO RSTBTN* SLP_S5* SLP_S3* PWRGD_SB PWRGD FANRPM/GPIO FANCTL0/GPIO FANCTL1/GPIO THERM_SIC/GPIO THERM_SID0/GPIO

TEST_MODE_EN

GPIO17 OPEN
GPIO18 LOW
GPIO19 HIGH
GPIO20 LOW

GPIO5/INIT# FOR RGMII PHY

3VDUAL 5VDUAL VCC3 VCC15 RTCVDD DDR18V

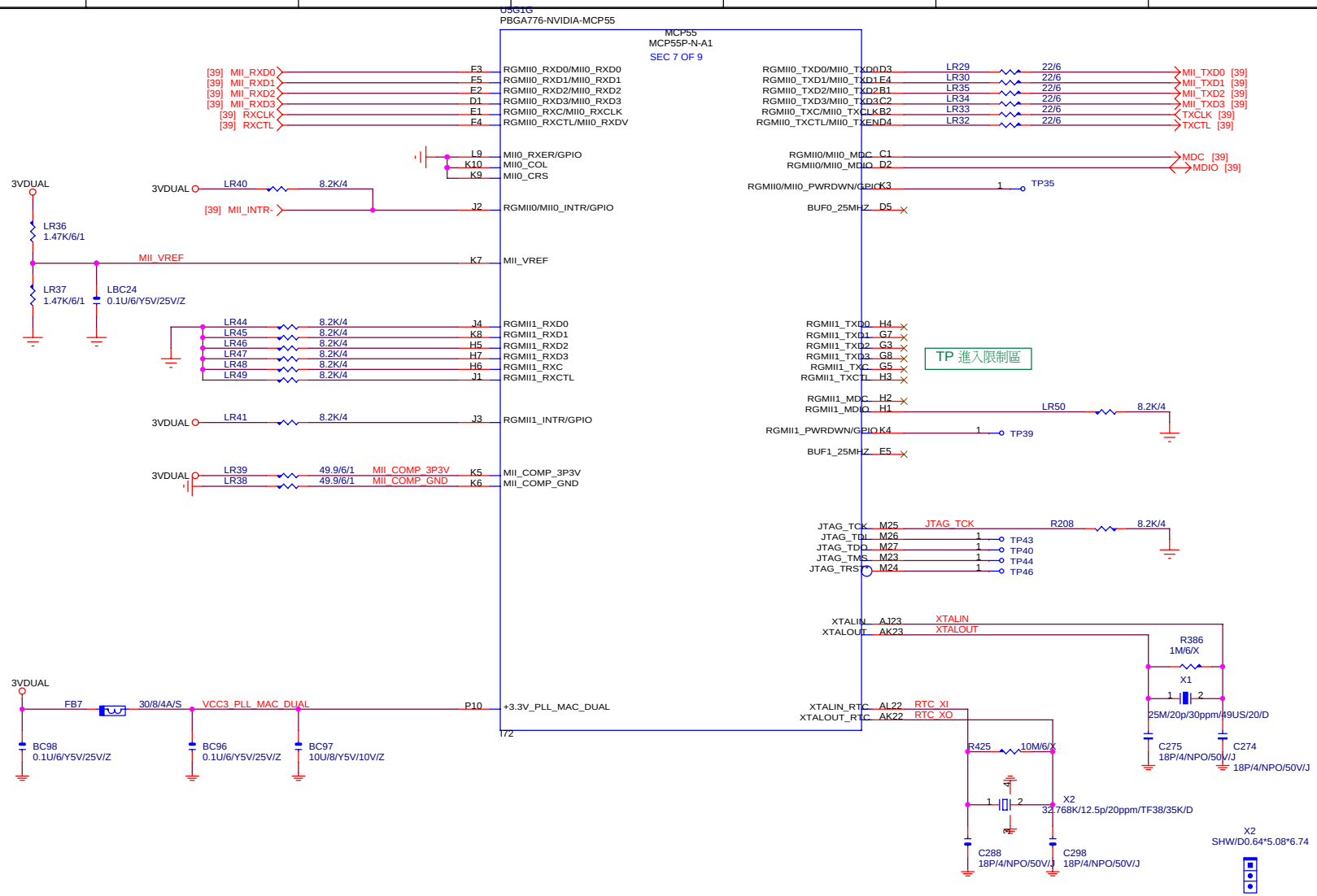
Q58 2N7002/SOT23/SOT23
Q59 PMBT2222A/SOT23/600mA/40

FB8 30/8/4A/S VCC3_PLL_USB

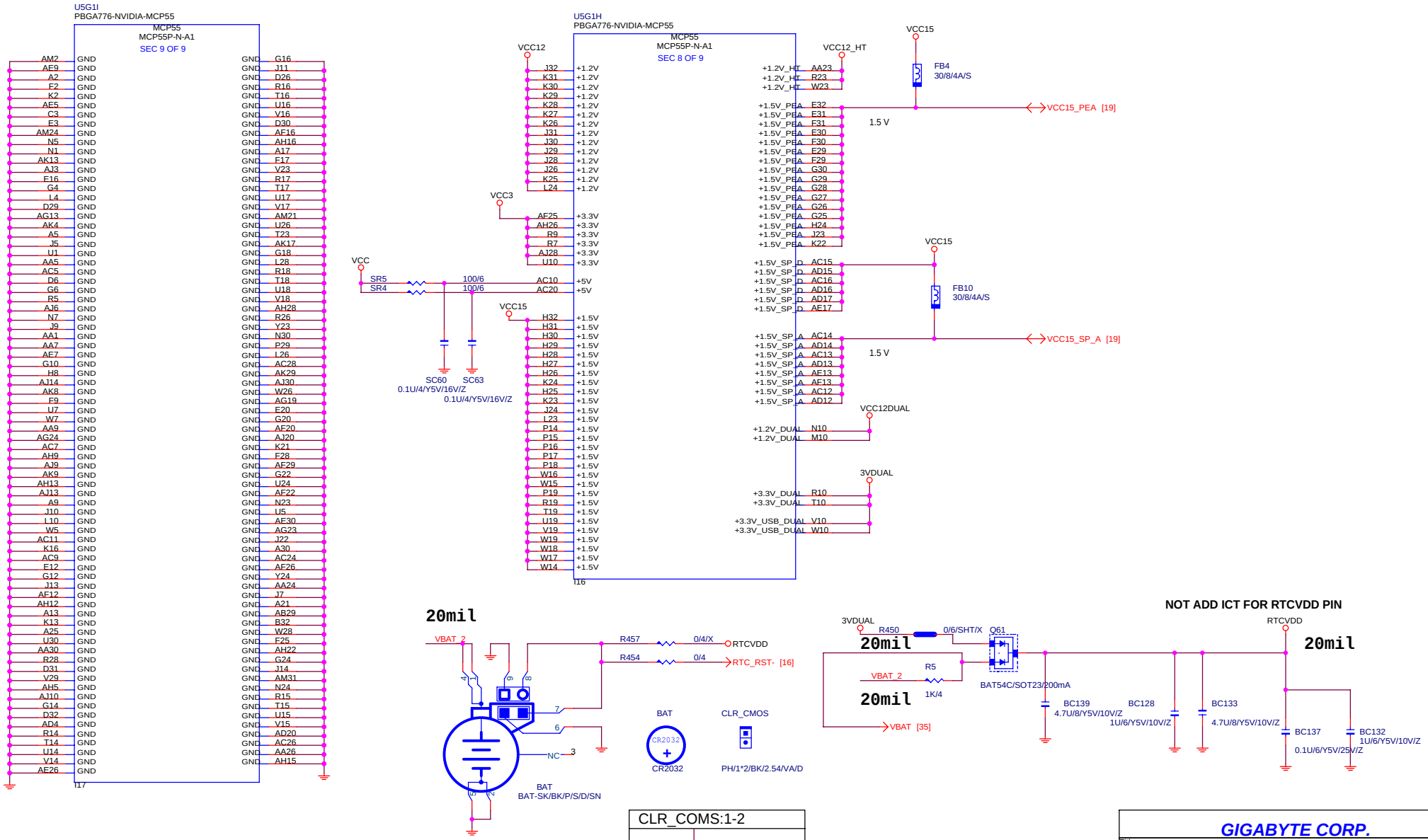
BC100 0.1U/6/Y5V/25V/Z
BC102 0.1U/6/Y5V/25V/Z
BC101 10U/8/Y5V/10V/Z
BC89 0.1U/6/Y5V/25V/Z
BC114 0.1U/6/Y5V/25V/Z

0: Normal (default)
1: Reserved

L : USER MODE
H: SAFE MODE



GIGABYTE CORP.		
Title: MCP55 DUAL RGMII		
Size: Custom	Document Number: GA-M57SLI-S4	Rev: 2.03
Date: Friday, March 09, 2007	Sheet 17 of 41	



CLR_COMS:1-2	
SHORT	CLEAR CMOS
OPEN	NORMAL

GIGABYTE CORP.

Title: MCP55 PWR/GND

Size: Custom | Document Number: GA-M57SLI-S4 | Rev: 2.03

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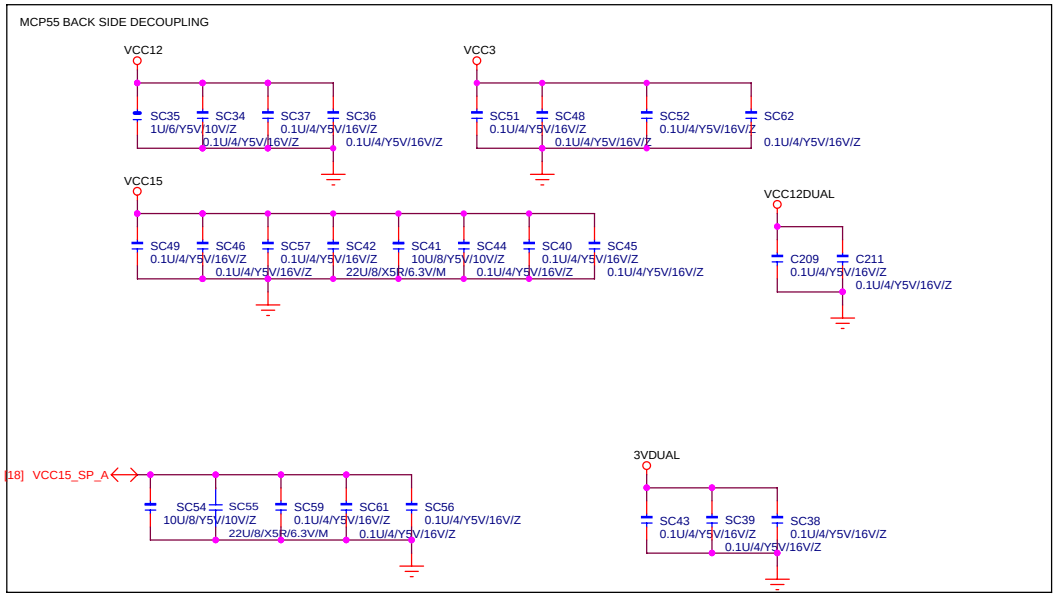

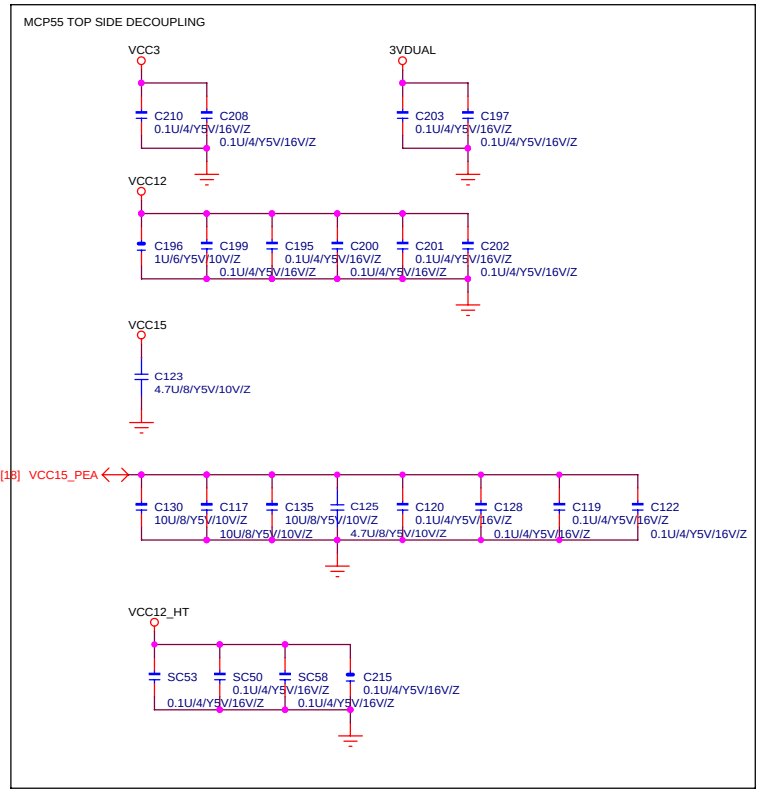

MCP55 INTERNAL PULL-UP/PULL-DOWN

PIN	VOLTAGE
A20GATE/GPIO	+3.3V
EXT_SMI*/GPIO	+3.3V_DUAL
HDA_SDATA_IN0/GPIO_22/MGPIO_0	+3.3V_DUAL/GND
HDA_SDATA_IN1/GPIO_23/MGPIO_1	+3.3V_DUAL/GND
HDA_SDATA_IN2/GPIO_24/MGPIO_2	+3.3V_DUAL/GND
HDA_SDATA_OUT/GPIO_45	+3.3V_DUAL/GND
JTAG_TDI	+3.3V
JTAG_TMS	+3.3V
JTAG_TRST*	GND
KBRDRSTIN*/GPIO	+3.3V
PE_WAKE*	+3.3V_DUAL
SIO_PME*/GPIO	+3.3V_DUAL
THERM*/GPIO	+3.3V

GIGABYTE CORP.

Title: MCP55 DECOUPLING

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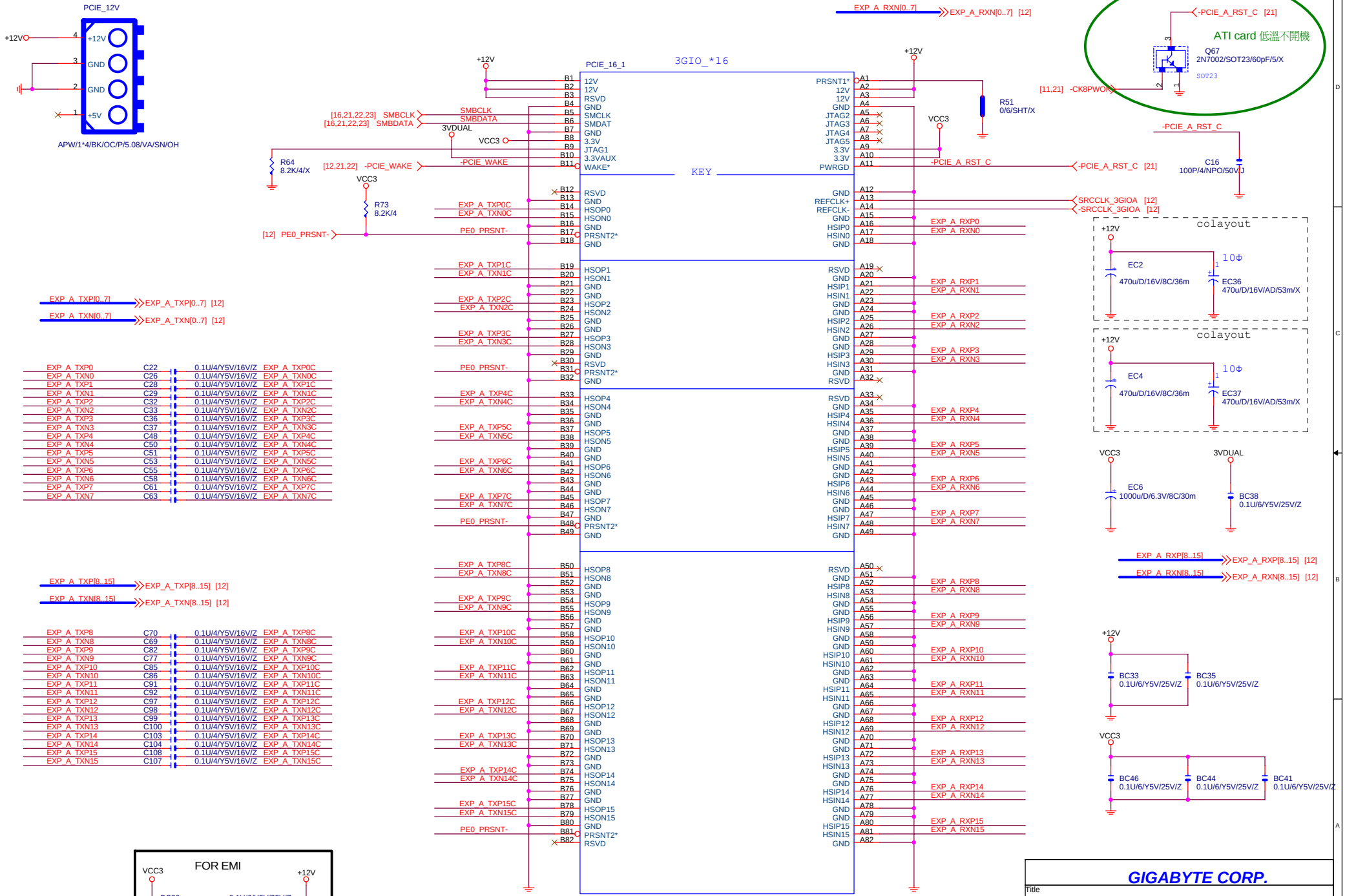


EXP_A_TXP0	C22	0.1U/4/Y5V/16V/Z EXP_A_TXP0C
EXP_A_TXN0	C26	0.1U/4/Y5V/16V/Z EXP_A_TXN0C
EXP_A_TXP1	C28	0.1U/4/Y5V/16V/Z EXP_A_TXP1C
EXP_A_TXN1	C29	0.1U/4/Y5V/16V/Z EXP_A_TXN1C
EXP_A_TXP2	C32	0.1U/4/Y5V/16V/Z EXP_A_TXP2C
EXP_A_TXN2	C33	0.1U/4/Y5V/16V/Z EXP_A_TXN2C
EXP_A_TXP3	C36	0.1U/4/Y5V/16V/Z EXP_A_TXP3C
EXP_A_TXN3	C37	0.1U/4/Y5V/16V/Z EXP_A_TXN3C
EXP_A_TXP4	C48	0.1U/4/Y5V/16V/Z EXP_A_TXP4C
EXP_A_TXN4	C50	0.1U/4/Y5V/16V/Z EXP_A_TXN4C
EXP_A_TXP5	C51	0.1U/4/Y5V/16V/Z EXP_A_TXP5C
EXP_A_TXN5	C53	0.1U/4/Y5V/16V/Z EXP_A_TXN5C
EXP_A_TXP6	C55	0.1U/4/Y5V/16V/Z EXP_A_TXP6C
EXP_A_TXN6	C58	0.1U/4/Y5V/16V/Z EXP_A_TXN6C
EXP_A_TXP7	C61	0.1U/4/Y5V/16V/Z EXP_A_TXP7C
EXP_A_TXN7	C63	0.1U/4/Y5V/16V/Z EXP_A_TXN7C

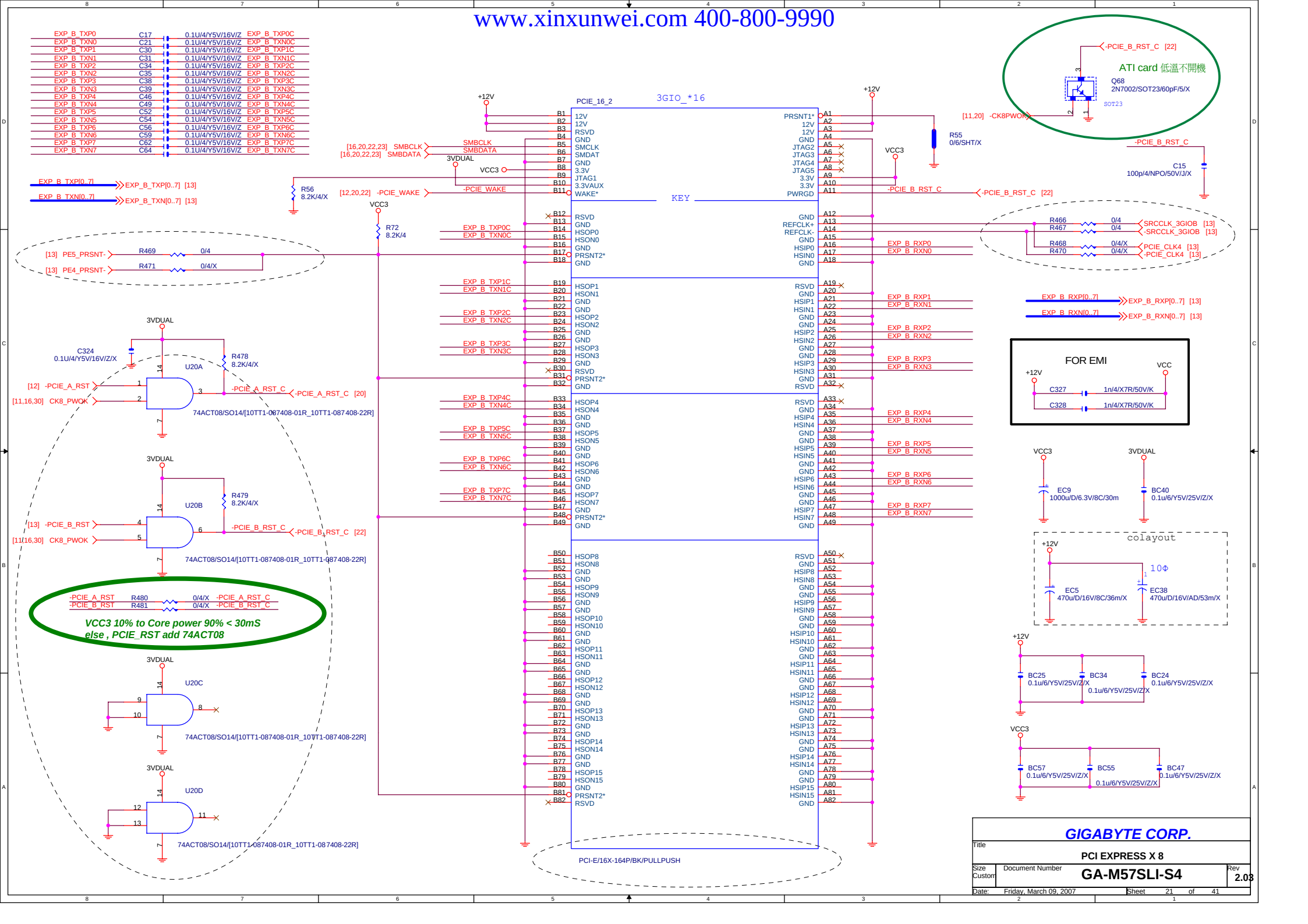
EXP_A_TXP8	C70	0.1U/4/Y5V/16V/Z EXP_A_TXP8C
EXP_A_TXN8	C69	0.1U/4/Y5V/16V/Z EXP_A_TXN8C
EXP_A_TXP9	C82	0.1U/4/Y5V/16V/Z EXP_A_TXP9C
EXP_A_TXN9	C77	0.1U/4/Y5V/16V/Z EXP_A_TXN9C
EXP_A_TXP10	C85	0.1U/4/Y5V/16V/Z EXP_A_TXP10C
EXP_A_TXN10	C86	0.1U/4/Y5V/16V/Z EXP_A_TXN10C
EXP_A_TXP11	C91	0.1U/4/Y5V/16V/Z EXP_A_TXP11C
EXP_A_TXN11	C92	0.1U/4/Y5V/16V/Z EXP_A_TXN11C
EXP_A_TXP12	C97	0.1U/4/Y5V/16V/Z EXP_A_TXP12C
EXP_A_TXN12	C98	0.1U/4/Y5V/16V/Z EXP_A_TXN12C
EXP_A_TXP13	C99	0.1U/4/Y5V/16V/Z EXP_A_TXP13C
EXP_A_TXN13	C100	0.1U/4/Y5V/16V/Z EXP_A_TXN13C
EXP_A_TXP14	C103	0.1U/4/Y5V/16V/Z EXP_A_TXP14C
EXP_A_TXN14	C104	0.1U/4/Y5V/16V/Z EXP_A_TXN14C
EXP_A_TXP15	C108	0.1U/4/Y5V/16V/Z EXP_A_TXP15C
EXP_A_TXN15	C107	0.1U/4/Y5V/16V/Z EXP_A_TXN15C

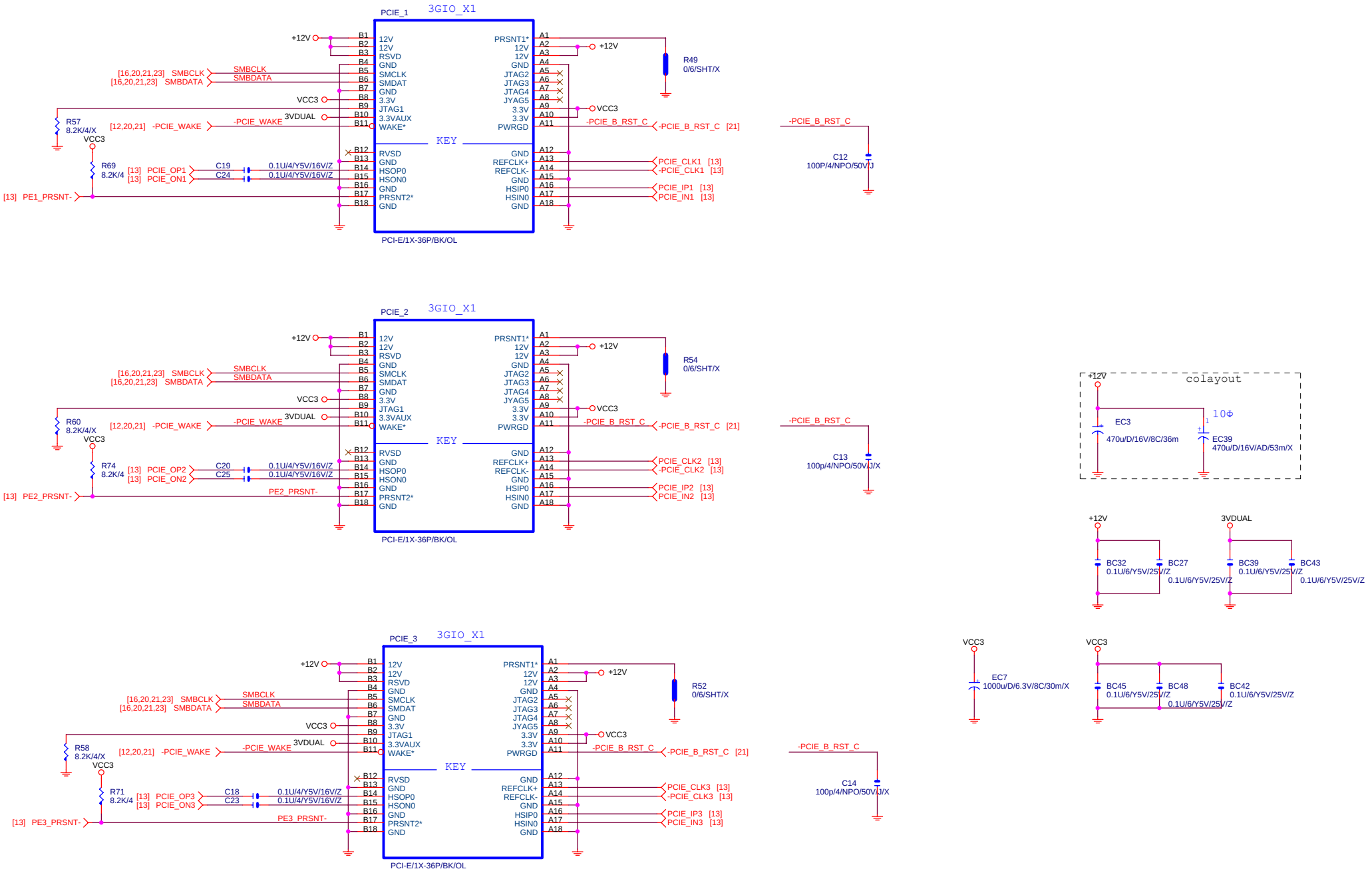
GIGABYTE CORP.

Title: PCI EXPRESS X 16

Size: Custom | Document Number: GA-M57SLI-S4 | Rev: 2.03

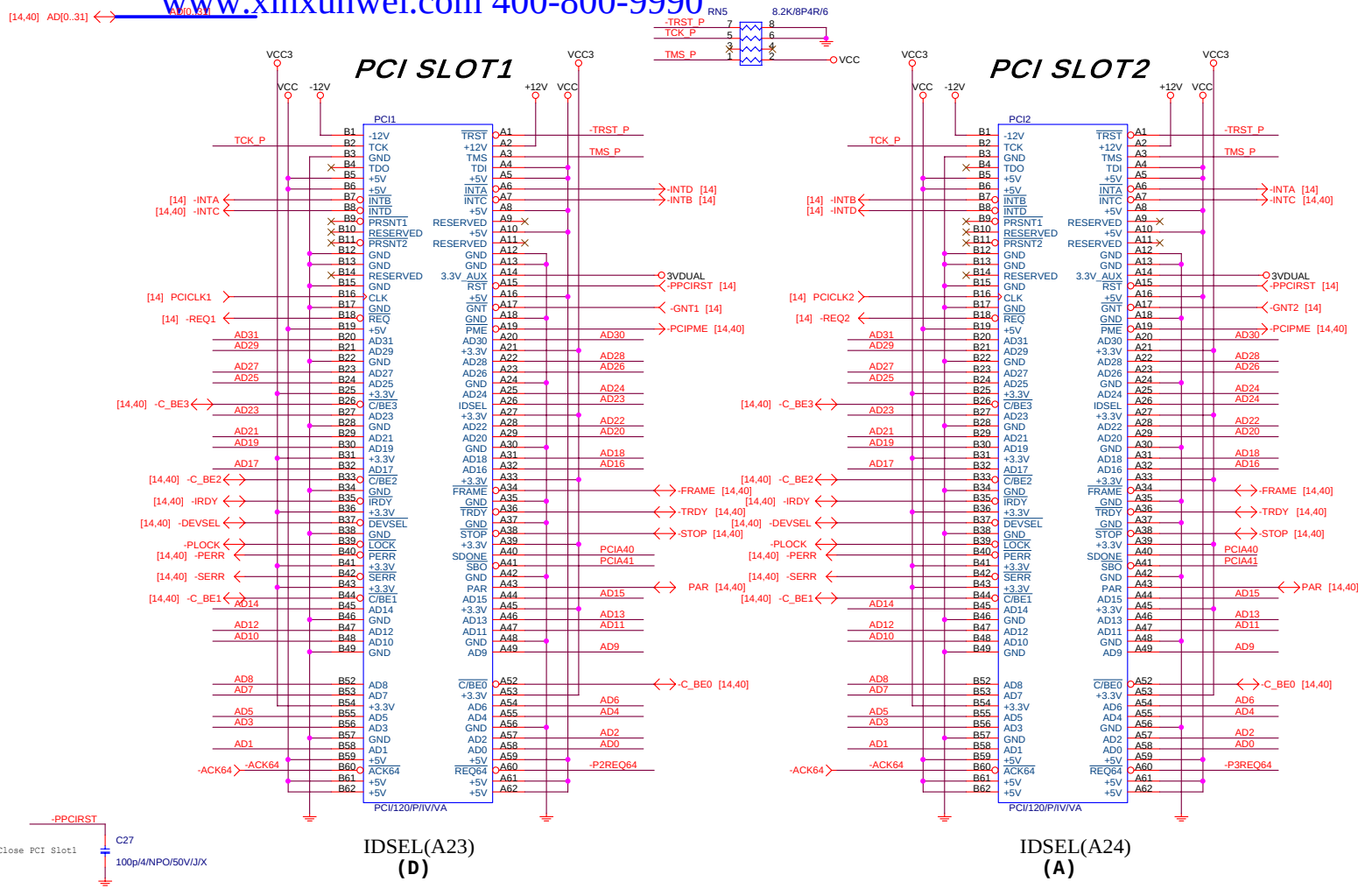
Date: Friday, March 09, 2007 | Sheet 20 of 41

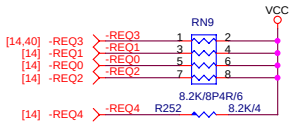


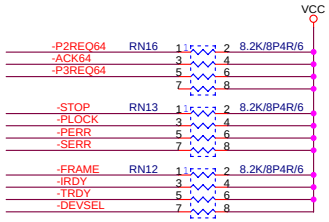


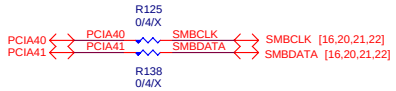
GIGABYTE CORP.		
Title: PCI E SLOT 1, 2		
Size: B	Document Number: GA-M57SLI-S4	Rev: 2.03
Date: Friday, March 09, 2007	Sheet 22 of 41	

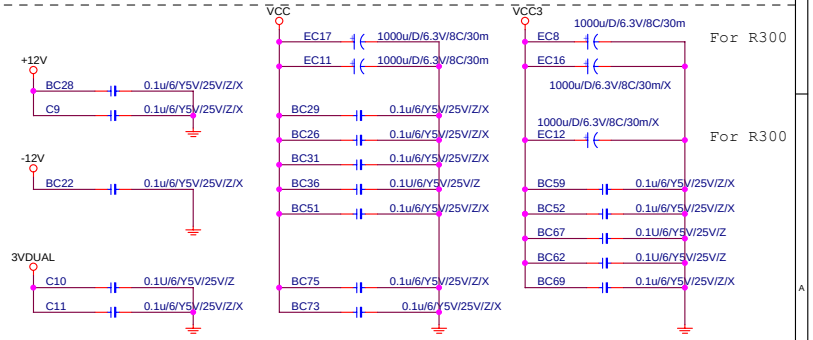
PCI SLOT 1,2





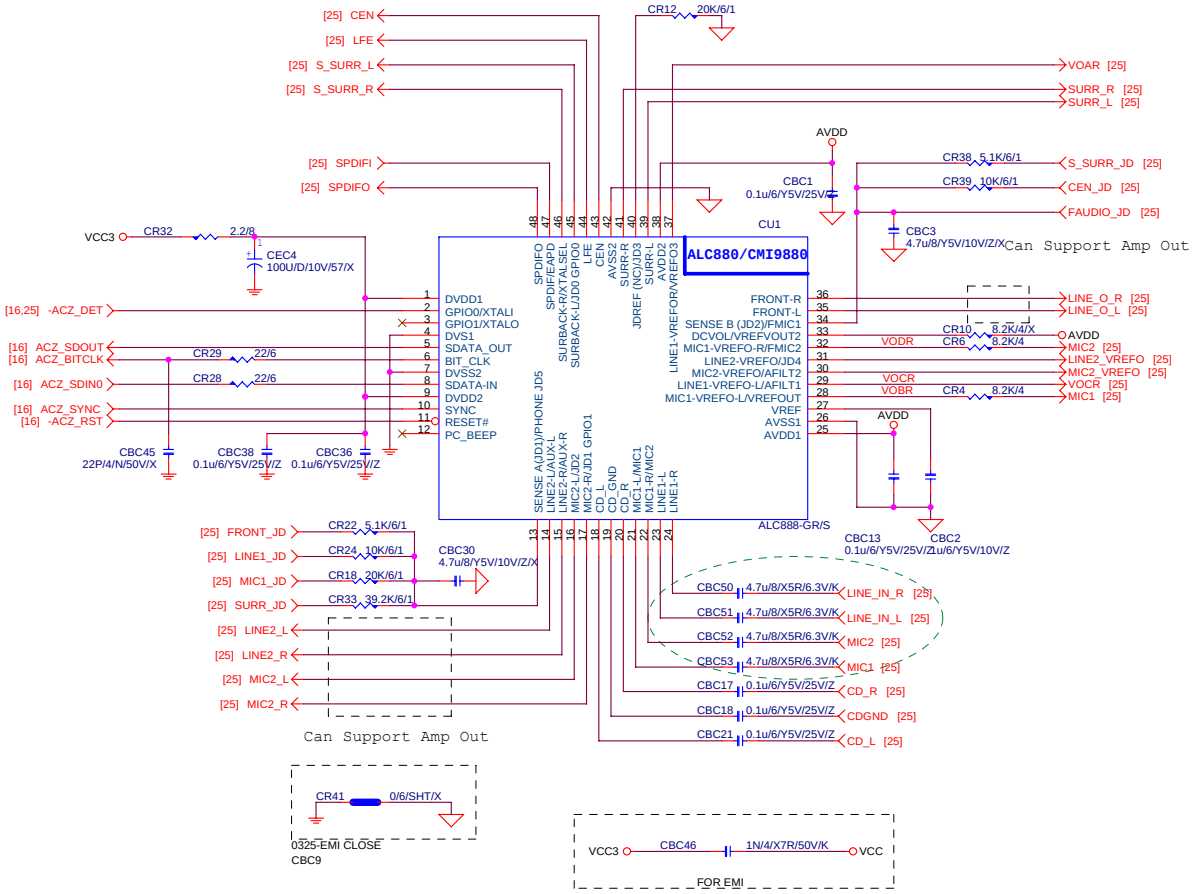






GIGABYTE CORP.		
Title: PCI SLOT 1,2		
Size: Custom	Document Number: GA-M57SLI-S4	Rev: 2.03
Date: Friday, March 09, 2007	Sheet 23 of 41	

AZALIA CODEC



GIGABYTE CORP.		
Title: AZALIA-ALC888		
Size: Custom	Document Number: GA-M57SLI-S4	Rev: 2.03
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CODEC POWER/EMI PAD

FOR EMI

+12V
CQ3
78L05/TO92/100mA
CD2
1N4148W/SOD123/300mA
5VSB
AVDD
CD1
1N4148W/SOD123/300mA
CEC1
100U/D/10V/57
CBC37
0.1u/6/Y5V/25V/Z

CR31 0/6/SHT/X
CR3 0/6/SHT/X
CR11 2.2/6
VCC3
CBC47 0.1u/6/Y5V/25V/Z

CD IN

CD_IN
[24] CD_L
[24] CDGND
[24] CD_R
CR43 8.2K/4
CR44 8.2K/4
CR42 8.2K/4
SHR/1*4/BK/P/2.54/VA/D

VCC3
[24] SPDIFI
SPDIFI
CR45
CR47 12K/6/X
CR46 8.2K/4/X
470P/6/X7R/50V/K
VCC
SPDIF_I
SHR/1*3/RE/P/2.54/VA/D

SPDIF

[24] SPDIFO
SPDIFO
CBC29
0.01u/4/X7R/16V/K
CR14
100/6
RCA/4P/ORANGE/OS/RA/D/1
SPDIF_O
CR15
220/6
CBC15
180p/4/NPO/50V/J
EMI
CBC28
100p/4/NPO/50V/J/X

FUSEVCC
OPT_VCC
FB1
0/6/SHT/X
[24] SPDIFO
SPDIFO
BC5
0.1u/6/Y5V/25V/Z
SPDIFO_OPT
FR/5P/BK/T/D/S(GY)
SPDIF OUT

AZALIA JACK

BTX AZALIA CONNECTOR

11NR6-403007-21

AUDIOB
[24] LINE1_JD
LINE1_JD
LINE_IN_RR
LINE_IN_LL
BLUE
LINE-IN
[24] FRONT_JD
FRONT_JD
AJ_B5
AJ_B2
GREEN
LINE-OUT
[24] MIC1_JD
MIC1_JD
MIC22
MIC11
PINK
MIC-IN
2X3RP/26P/OR,BK,GY,BU,GE,PK/RA

AUDIOA
[24] CEN_JD
CEN_JD
BJ_B5
BJ_B2
Orange
CEN/LFE
[24] SURR_JD
SURR_JD
BJ_C5
BJ_C2
Black
SURROUND
[24] S_SURR_JD
S_SURR_JD
BJ_A5
BJ_A2
Gray
SURROUND SIDE
2X3RP/26P/OR,BK,GY,BU,GE,PK/RA

LINE-OUT

0805 OSC co-lay
[24] LINE_O_R
[24] LINE_O_L
[24] VOAR
CEC5
CEC6
CQ4
BAT54A/SOT23/200mA/X
CR2
CR8
CR48 8.2K/4/X
CR49 8.2K/4/X
10U/S/16V/45/[10CL4-45100A-03R_10CL4-45100A-04R_10CL4-45100A-05R]
30/6/4A/S
CBC16
CBC20
180p/4/NPO/50V/J
AJ_B5
AJ_B2
NON - mount
For Vista Premium (Crosstalk issue)

LINE-IN

[24] LINE_IN_R
[24] LINE_IN_L
[24] VOCR
[24] VOAR
CR5 8.2K/4/X
CR27 8.2K/4/X
CQ5
BAT54A/SOT23/200mA
CR50 8.2K/4
CR51 8.2K/4
CR30
CR19
30/6/4A/S
LINE_IN_RR
LINE_IN_LL
CBC31
CBC35
180p/4/NPO/50V/J

MIC-IN

[24] MIC2
[24] MIC1
CR7
CR9
30/6/4A/S
MIC22
MIC11
CBC6
CBC7
180p/4/NPO/50V/J

SURROUND

0805 OSC co-lay
[24] SURR_R
[24] SURR_L
CEC7
CEC8
CR35
CR40
10U/S/16V/45/[10CL4-45100A-03R_10CL4-45100A-04R_10CL4-45100A-05R]
30/6/4A/S
BJ_C5
BJ_C2
CBC40
CBC42
180p/4/NPO/50V/J

CEN/LFE

0805 OSC co-lay
[24] LFE
[24] CEN
CEC9
CEC10
CR36
CR34
10U/S/16V/45/[10CL4-45100A-03R_10CL4-45100A-04R_10CL4-45100A-05R]
30/6/4A/S
BJ_B5
BJ_B2
CBC41
CBC44
180p/4/NPO/50V/J

SURR BACK

0805 OSC co-lay
[24] S_SURR_R
[24] S_SURR_L
CEC11
CEC12
CR37
CR1
10U/S/16V/45/[10CL4-45100A-03R_10CL4-45100A-04R_10CL4-45100A-05R]
30/6/4A/S
BJ_A5
BJ_A2
CBC10
CBC43
180p/4/NPO/50V/J
10U/8/Y5V/10V/Z

AZALIA FRONT PANEL

[24] LINE2_VREFO
CQ1
BAT54A/SOT23/200mA
CR21 8.2K/4
CR16 8.2K/4
[24] MIC2_VREFO
CQ2
BAT54A/SOT23/200mA
CR17 8.2K/4
CR13 8.2K/4
CR54 22K/4
CR55 22K/4
F_AUDIO
VCC3
CR26 8.2K/4
[24] MIC2_L
[24] MIC2_R
[24] LINE2_R
[24] FAUDIO_JD
[24] LINE2_L
CBC27 4.7u/8/Y5V/10V/Z
CBC24 4.7u/8/Y5V/10V/Z
CEC2 100U/D/10V/57
CEC3 100U/D/10V/57
CR52 75/4
CR53 75/4
75/4
CR20 0/4/X
CBC48 4.7u/8/Y5V/10V/Z/X
CBC49 4.7u/8/Y5V/10V/Z/X
ACZ_DET [16,24]
CR23 20K/6/1
CR25 39.2K/6/1
PH/2*5K8/GED/2.54/VA/D
FOR AC97 FRONT PANEL
CBC39
CBC34
CBC33
CBC32
180p/4/NPO/50V/J

GIGABYTE CORP.

Title: AUDIO JACK

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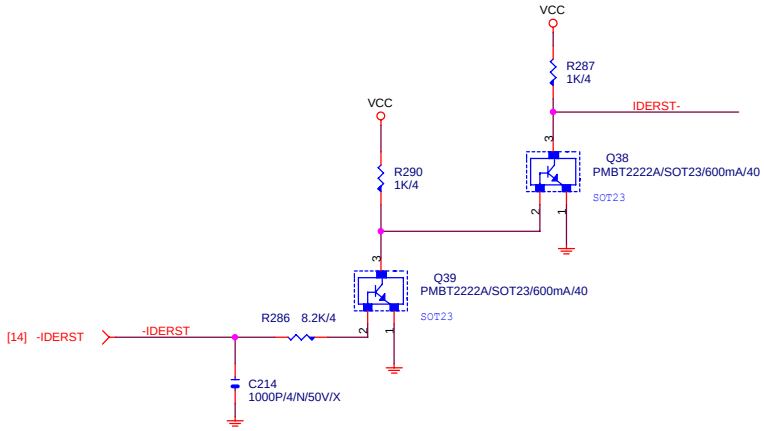
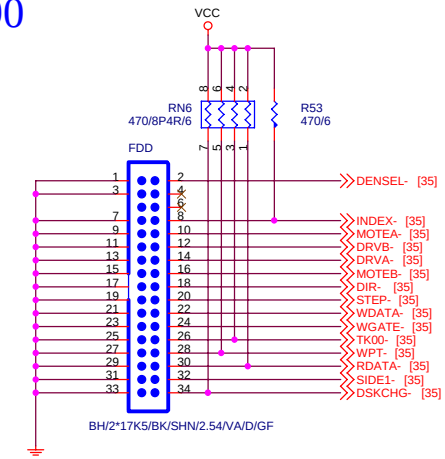
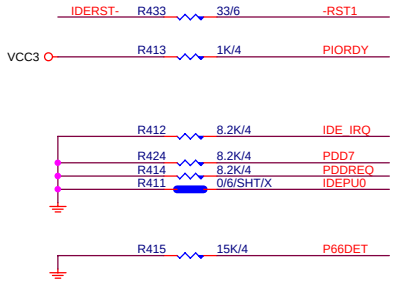
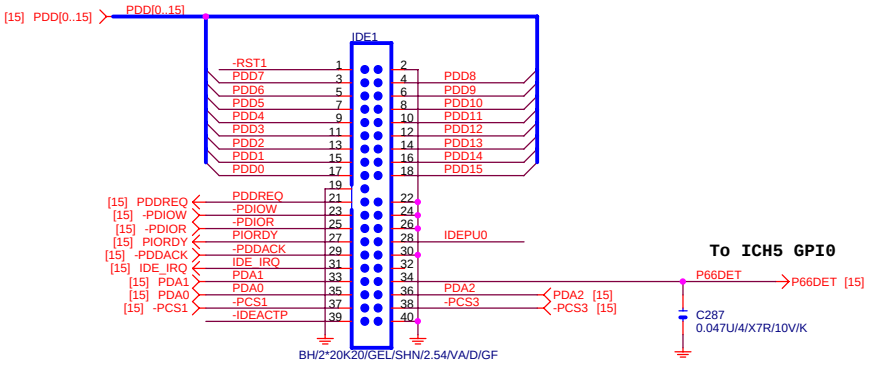




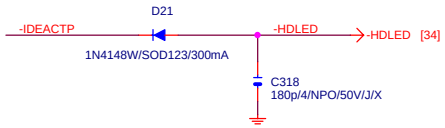


PRIMARY IDE CONNECTOR



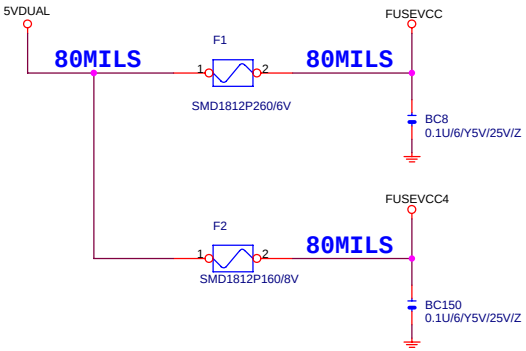
To ICH5 GPI0

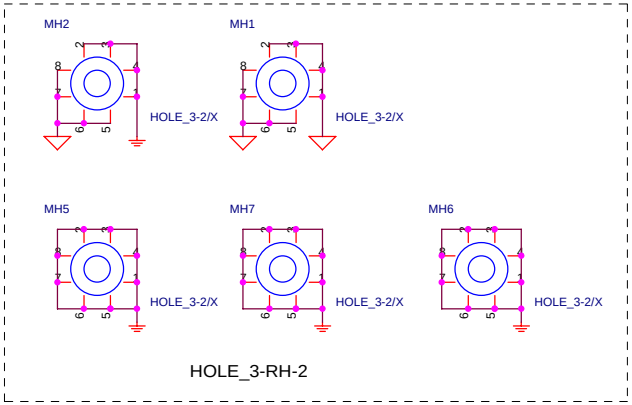
Close to connector

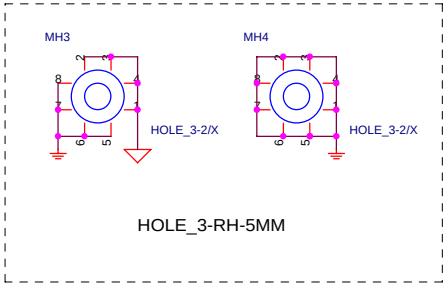


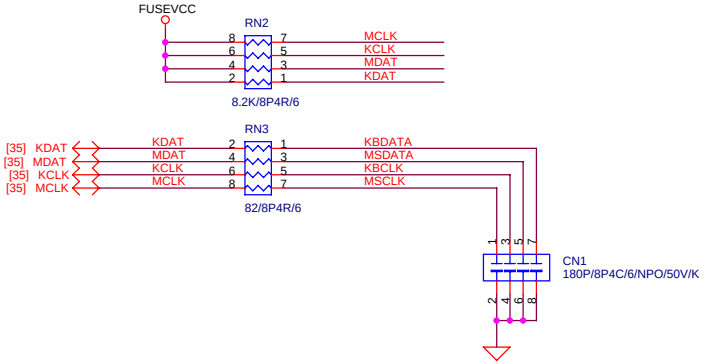
GIGABYTE CORP.

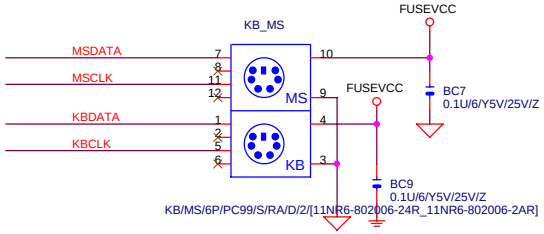
Title: IDE CONNECTOR		
Size: B	Document Number: GA-M57SLI-S4	Rev: 2.03
Date:	Sheet 26 of 41	











GIGABYTE CORP.		
Title: KB & PS2 MOUSE & IR		
Size: B	Document Number: GA-M57SLI-S4	Rev: 2.03
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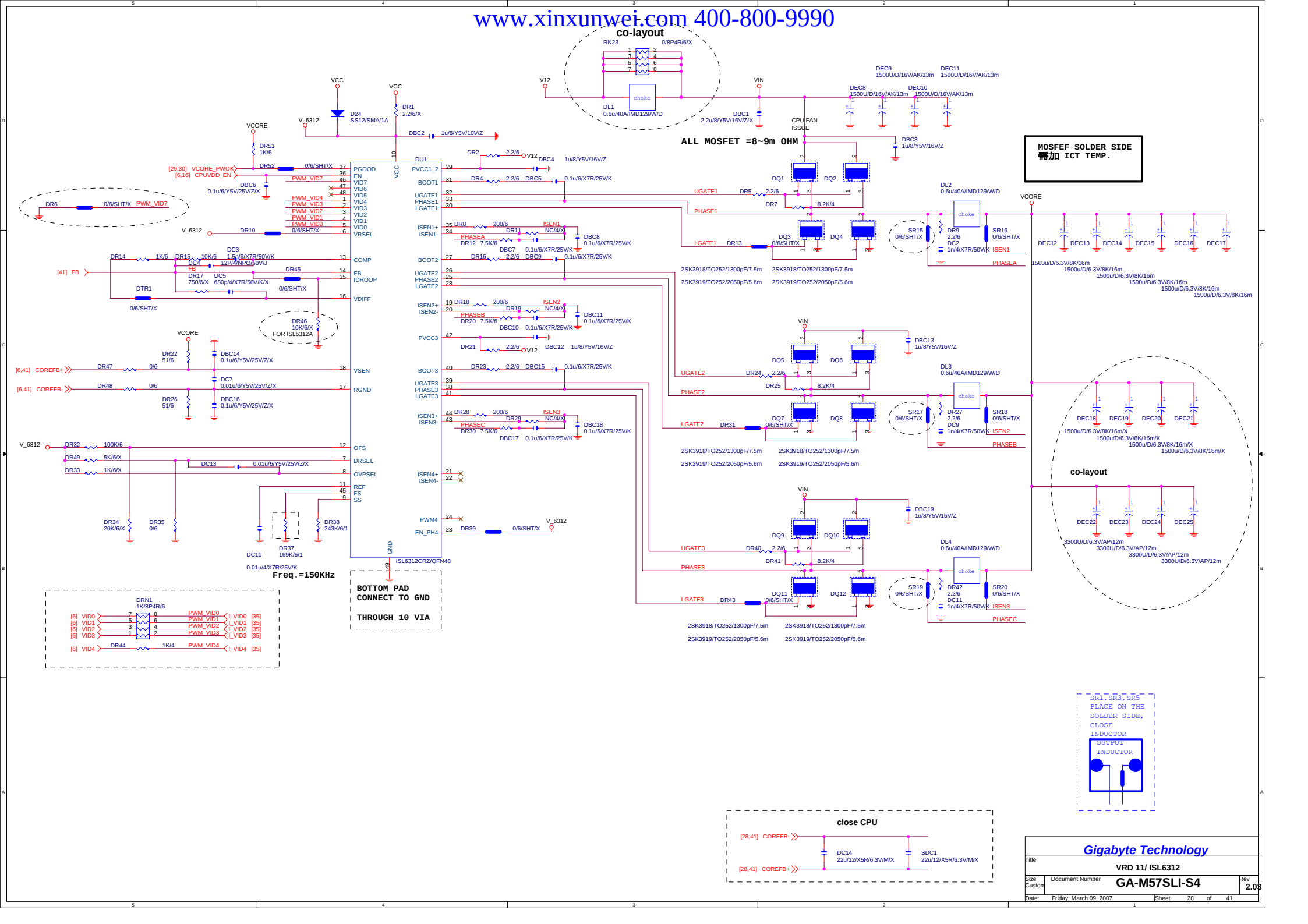

Gigabyte Technology		
Title	VRD 11/ ISL6312	
Size: Custom	Document Number: GA-M57SLI-S4	Rev: 2.03
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1.4V@150mA Max

1.25(1+12/100)=1.4V

8A 三顆118度C
量測值 VCC15 電流:5.68A

850mA

1.4V+-10%
3500mA 三顆109度C
量測值 VCC12 電流:3.38A

reserved

CLOSE R418

GIGABYTE CORP.	
Title	VCC12_HT,VCCA25,PLL POWER
Size	Document Number: GA-M57SLI-S4
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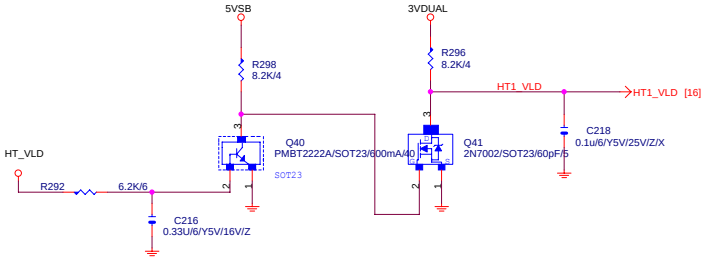

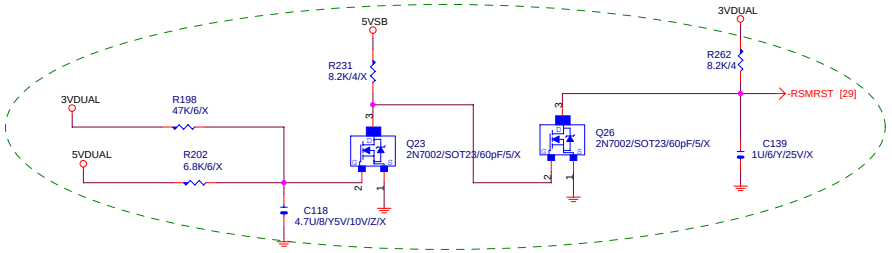

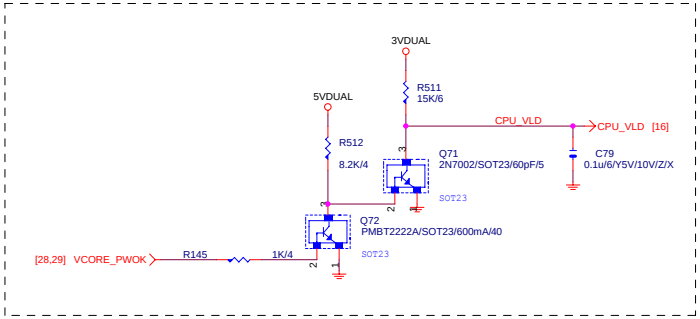

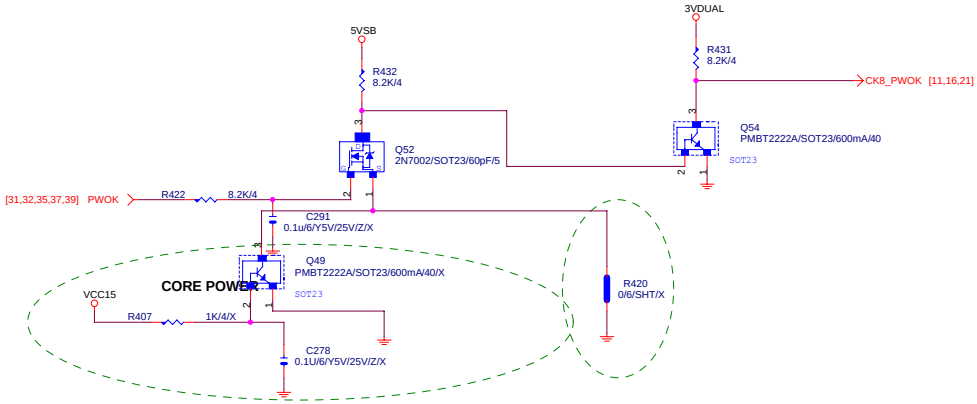

GIGABYTE CORP.		
Title: POWER SEQUENCE POWER		
Size	Document Number: GA-M57SLI-S4	Rev: 2.03
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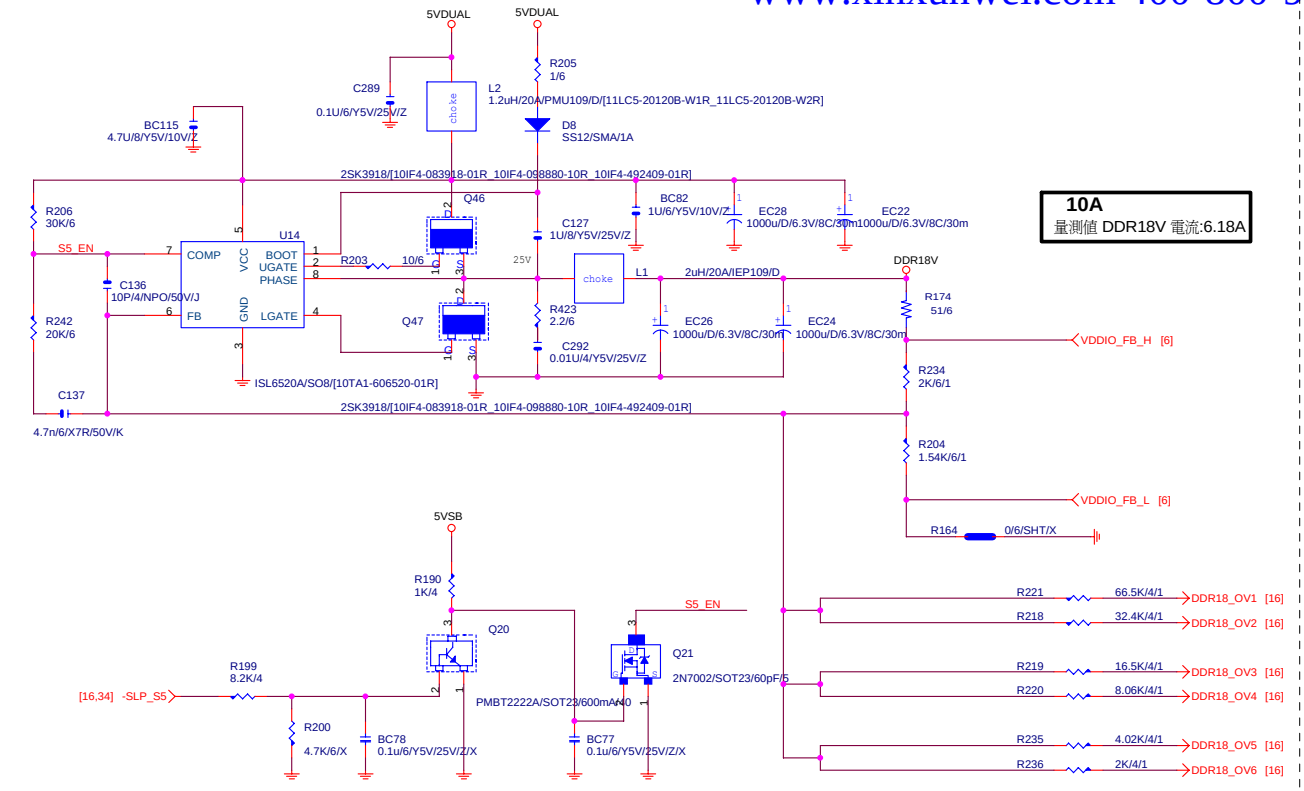

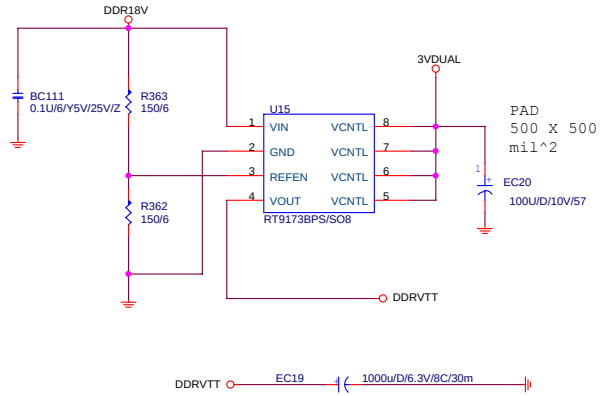

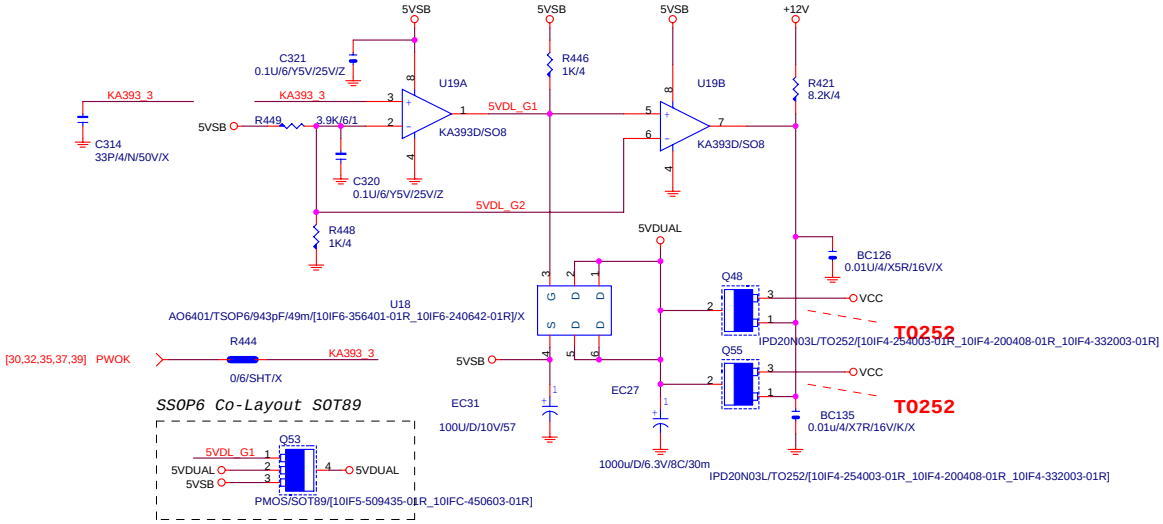

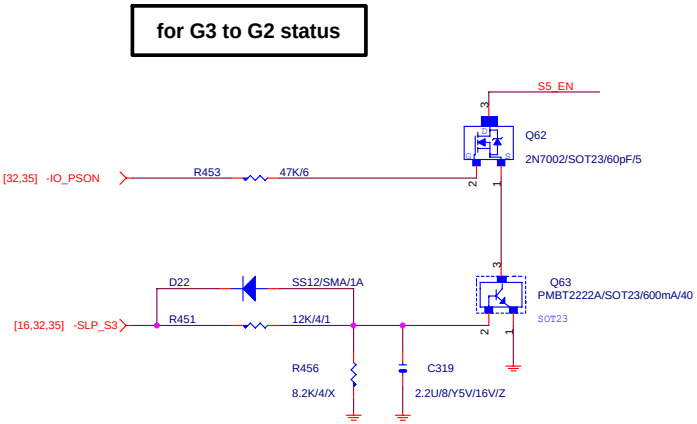

	G2	S5/S4	S3	S1/S0
-SLP_S5	H	L	H	H
-IO_PSON	H	H	H	L
-SLP_S3	H	L	L	H
DDR18V				

GIGABYTE CORP.

Title: DDR18 , DDRVTT , 5VDUAL

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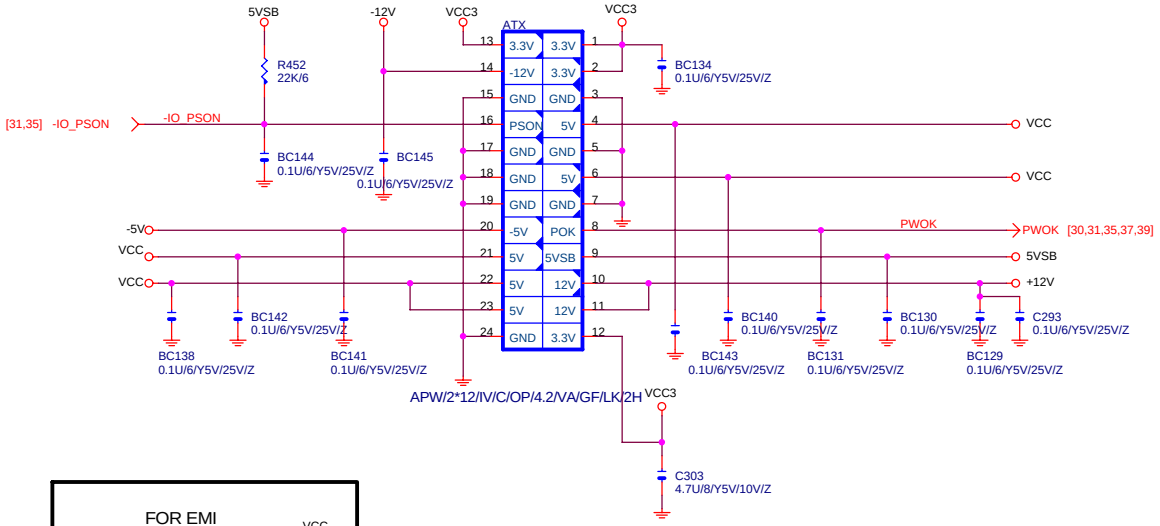
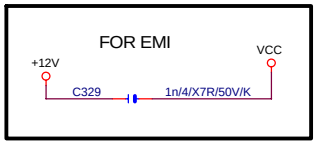
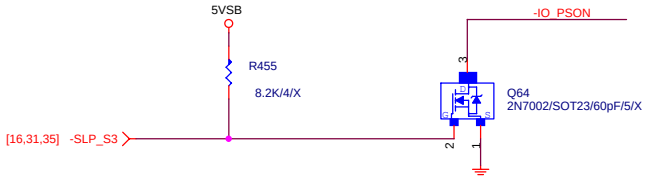
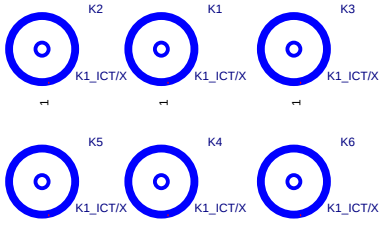
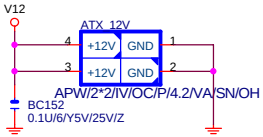
ATX POWER CONNECTOR











GIGABYTE CORP.		
Title: Misc. PWR & ATX CONN.		
Size: B	Document Number: GA-M57SLI-S4	Rev: 2.03
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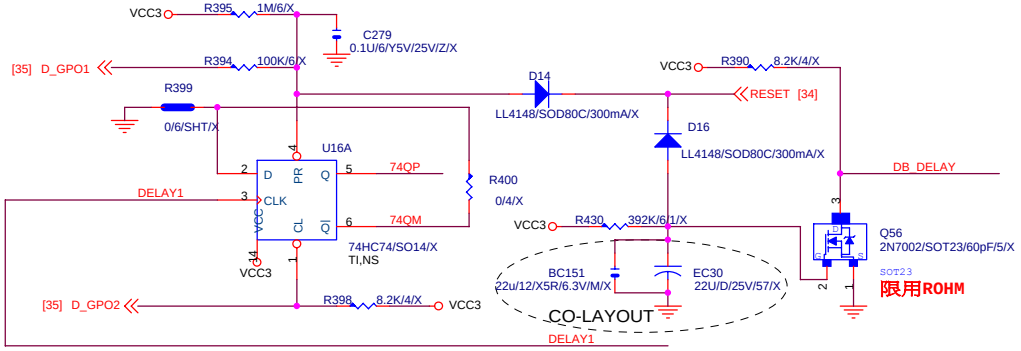
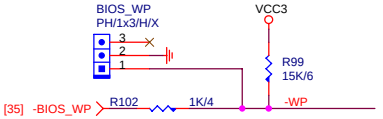
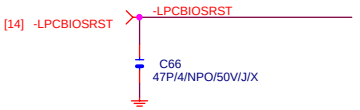
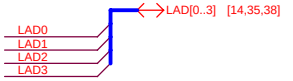


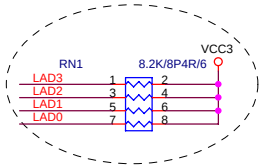


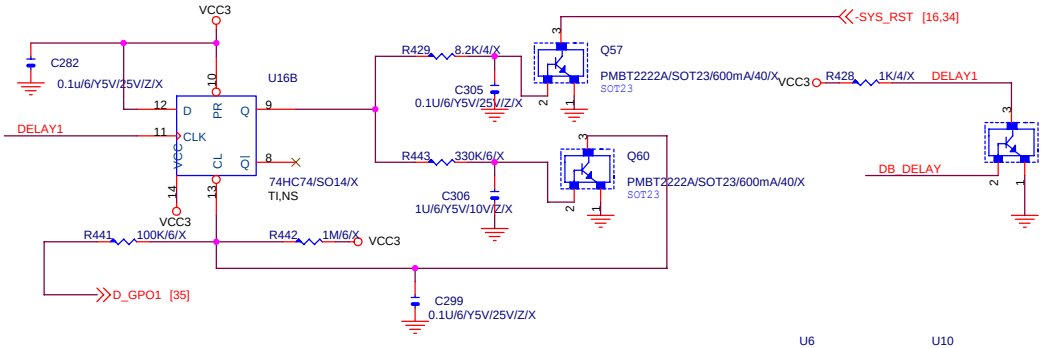


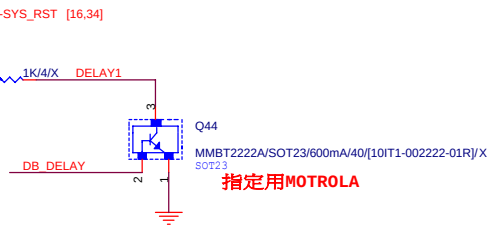


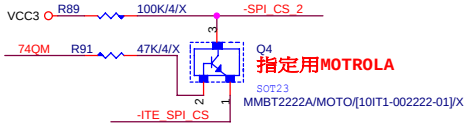
DUAL BIOS SELECTION

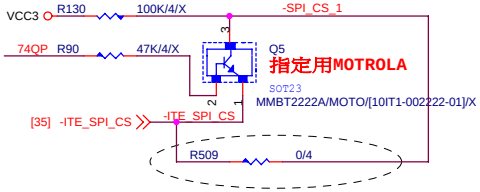
	Main	Backup
GPO30	0	1
GPO28	1	0

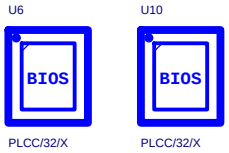


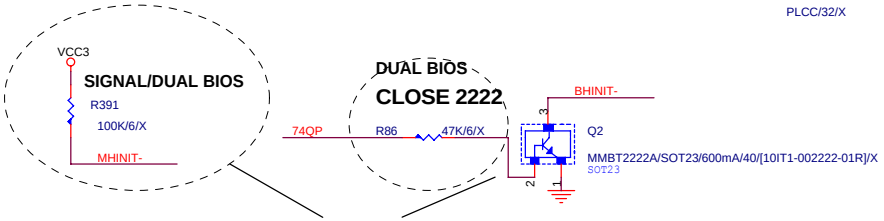


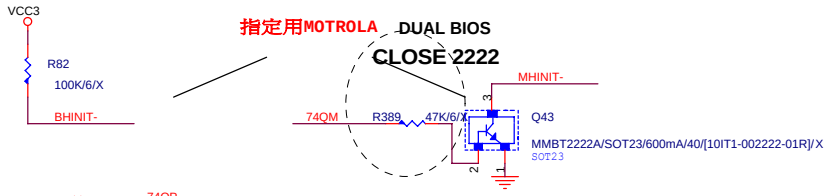


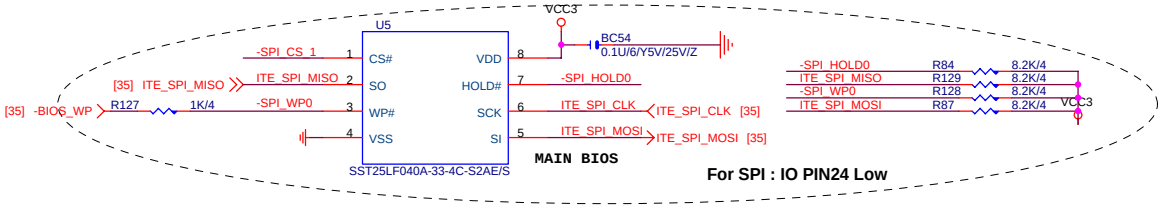


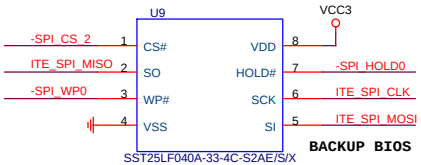




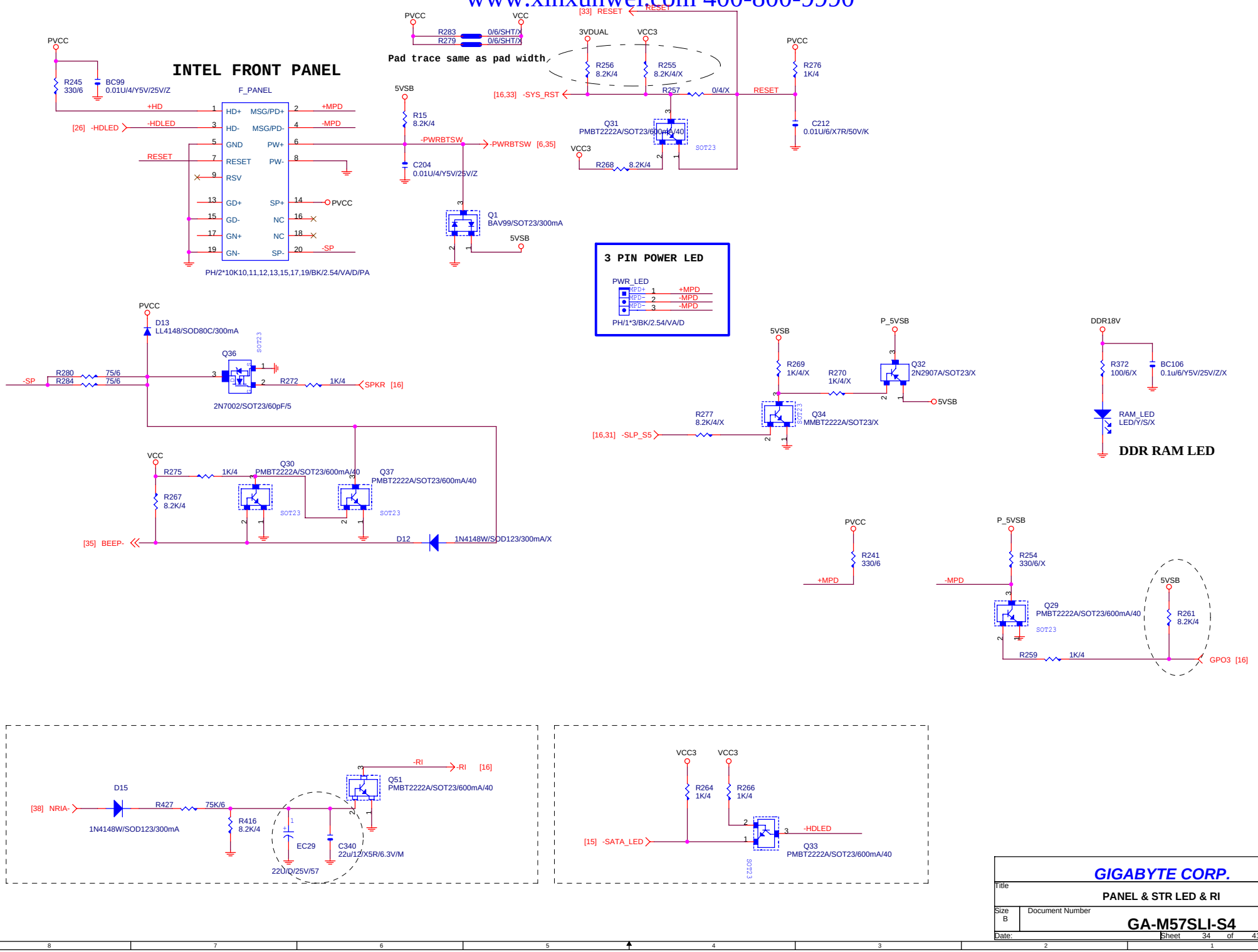








GIGABYTE CORP.			
Title: DUAL BIOS			
Size: B	Document Number: GA-M57SLI-S4		Rev: 2.03
Date: Friday, March 09, 2007	Sheet 33 of 41		



Title	PANEL & STR LED & RI
Size	B
Document Number	GA-M57SLI-S4
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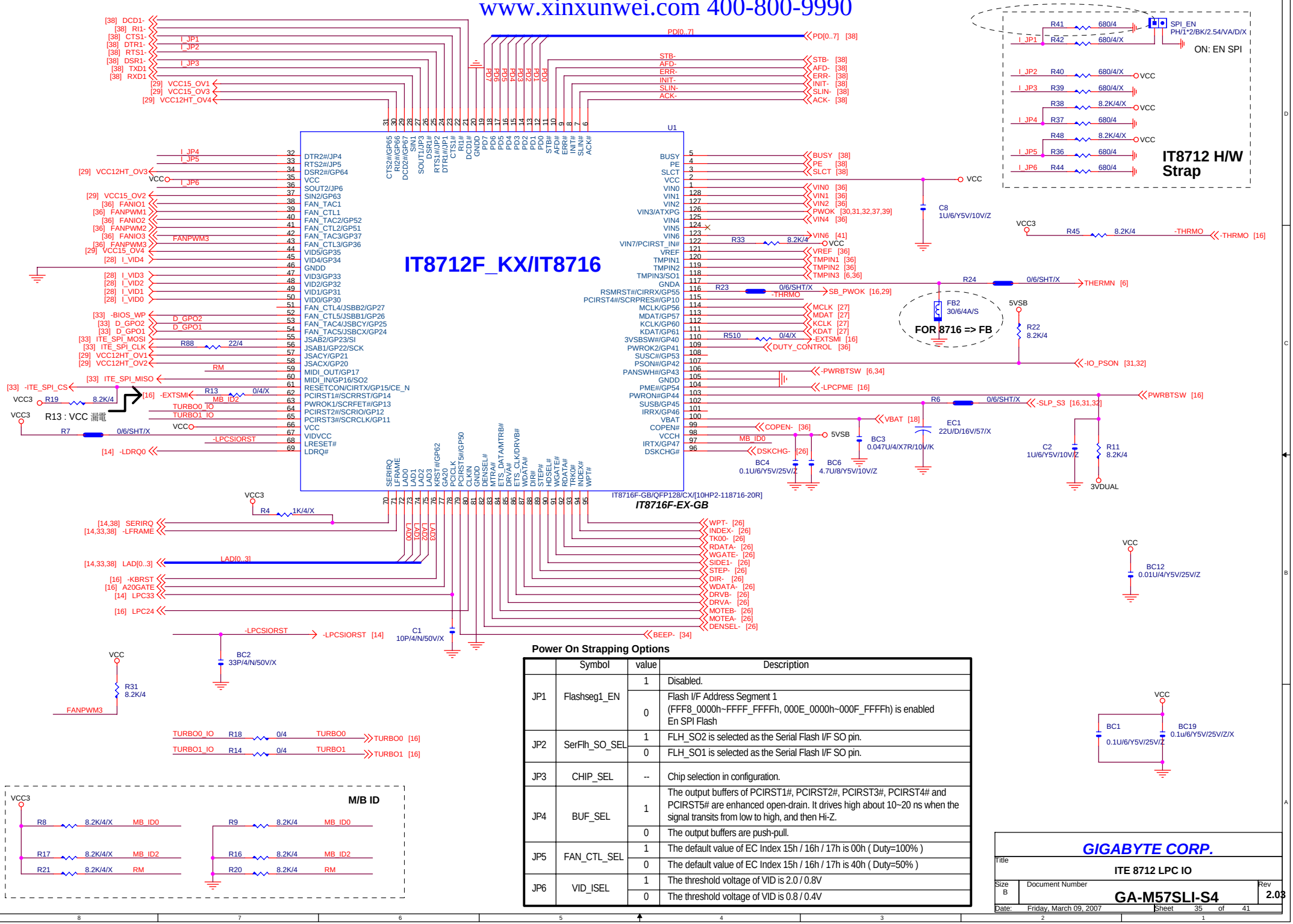
GIGABYTE CORP.



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 En SPI Flash
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 (Duty=100%)
		0	The default value of EC Index 15h / 16h / 17h is 40h (Duty=50%)
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 CORP.		
Title	ITE 8712 LPC IO	
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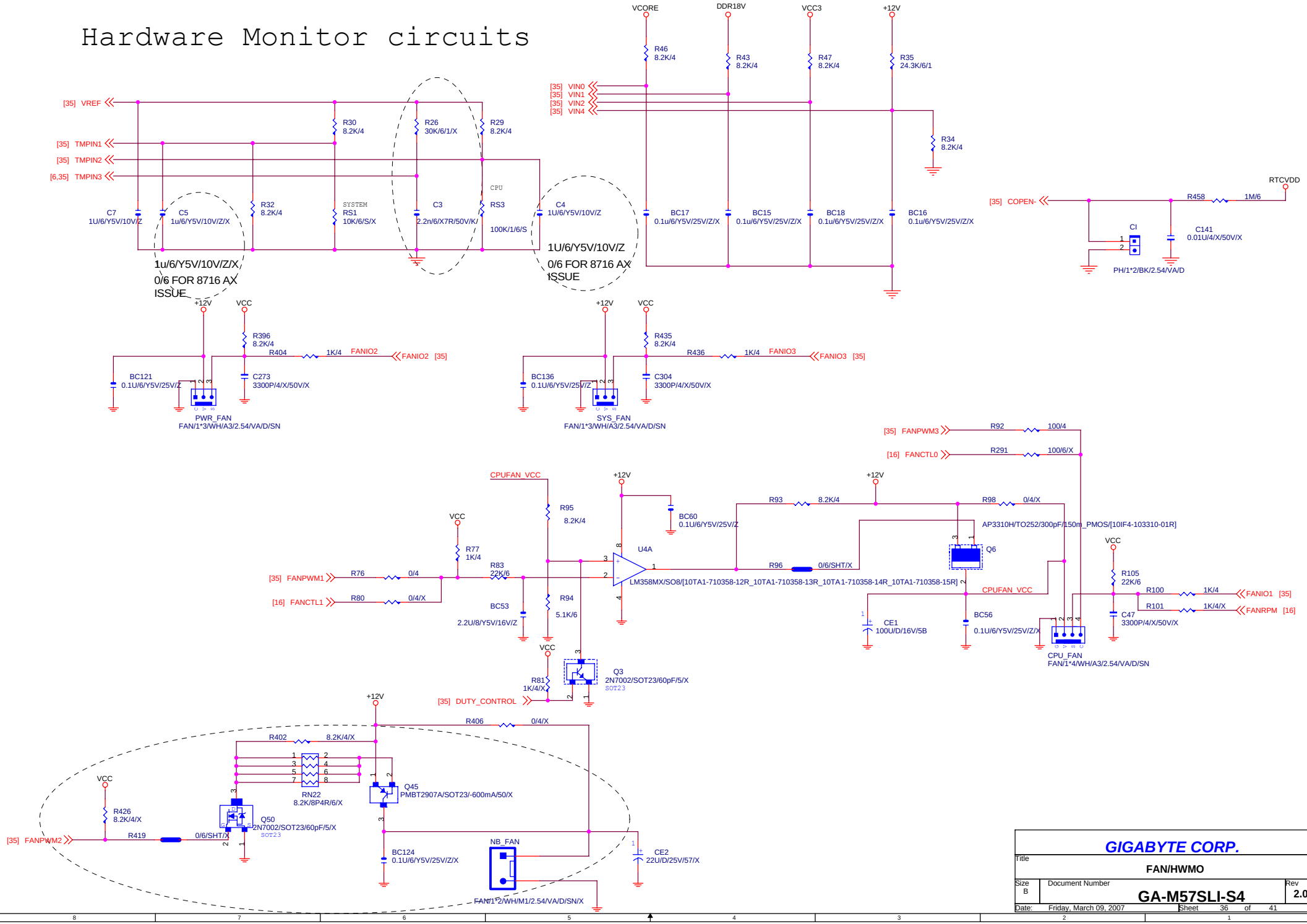
Hardware Monitor circuits



GIGABYTE CORP.		
Title: FAN/HWMO		
Size: B	Document Number: GA-M57SLI-S4	Rev: 2.03
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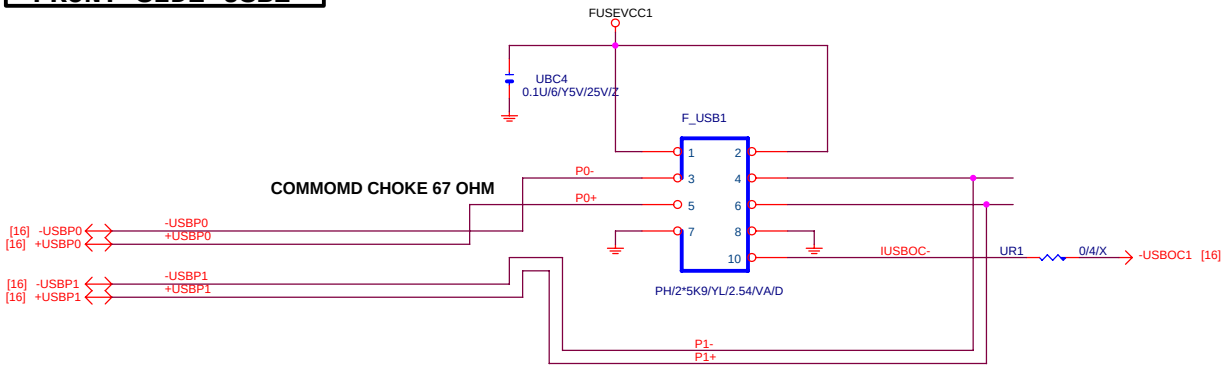
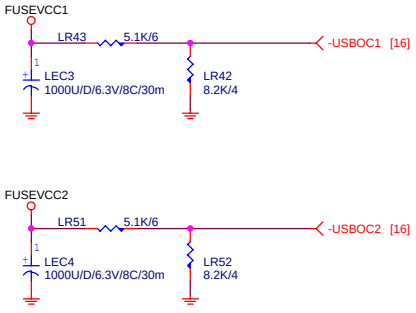
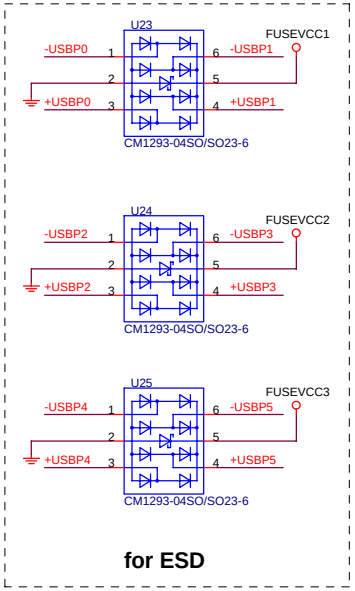
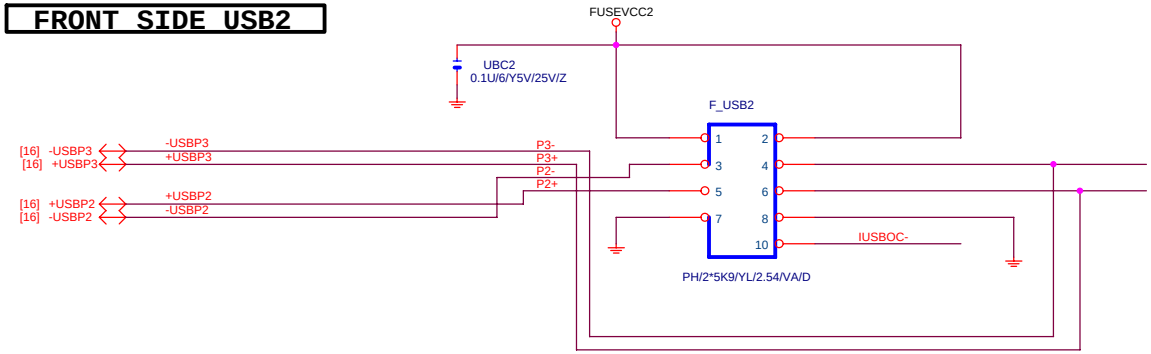
FRONT SIDE USB1

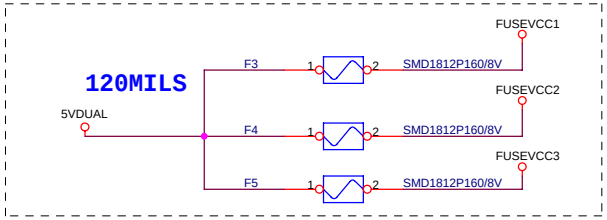




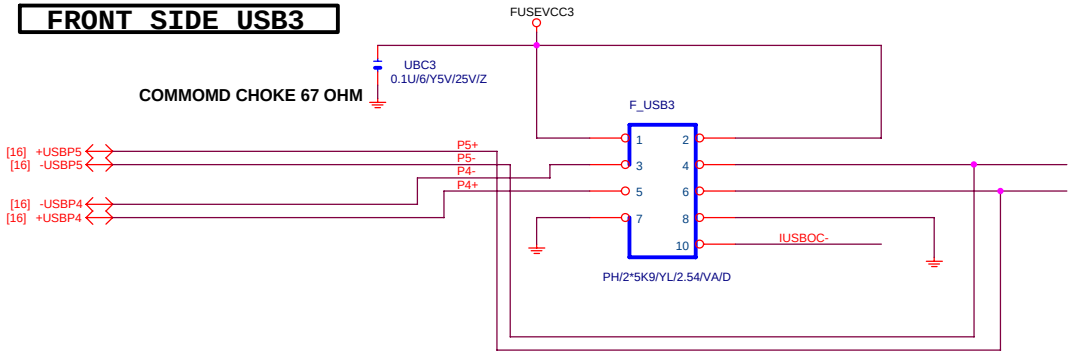


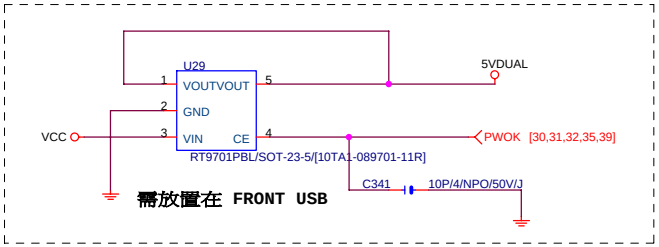
FRONT SIDE USB2

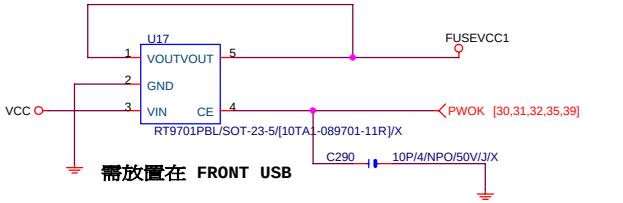


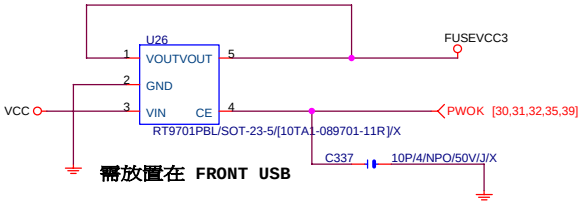


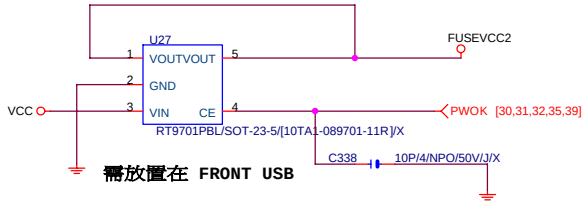
FRONT SIDE USB3











GIGABYTE CORP.

Title: USB PORT		
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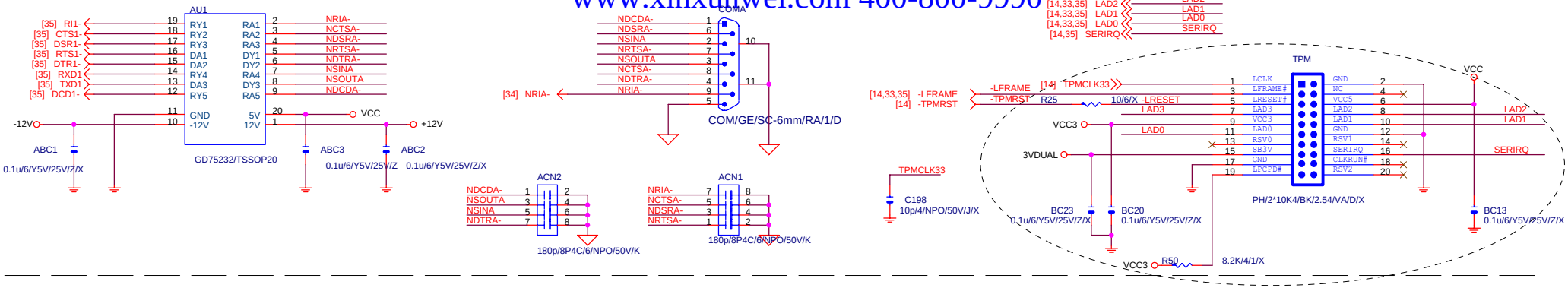

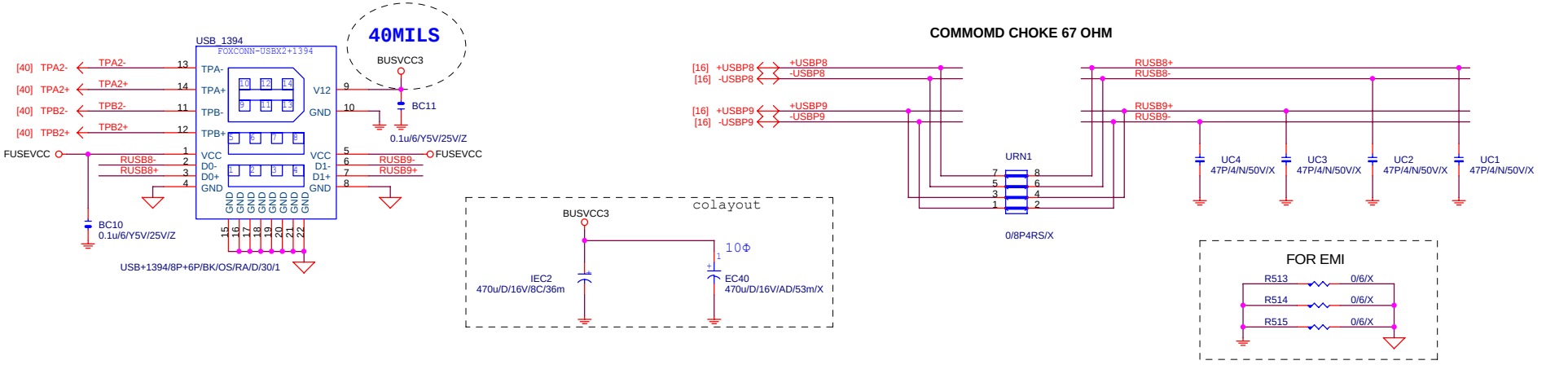

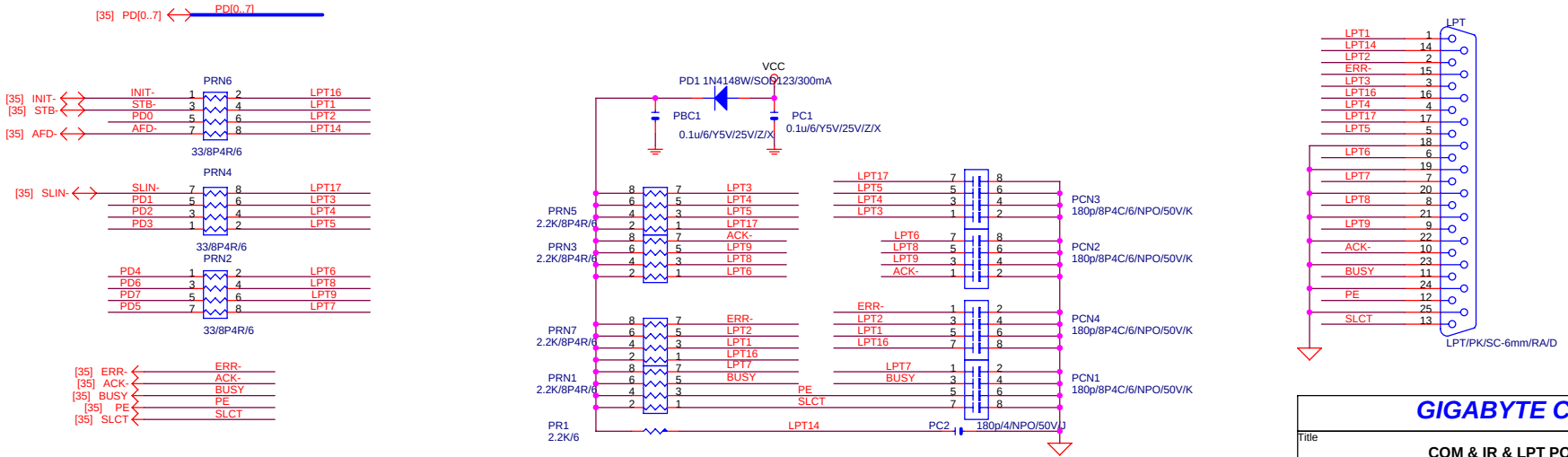

GIGABYTE CORP.			
Title: COM & IR & LPT PORT			
Size: B	Document Number: GA-M57SLI-S4		Rev: 2.03
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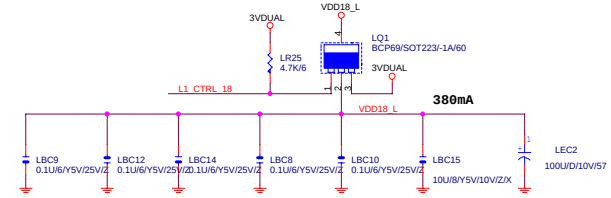
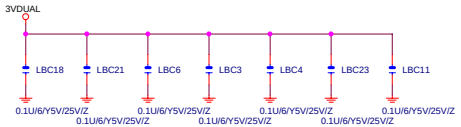
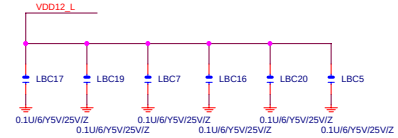
E1116 use external 2.5V single power supply.
1.8V create by PNP and 1.2V use internal reg.

Hardware Configuration: See config_0:4

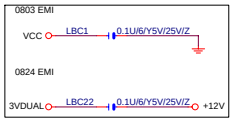
1. PHY address:00001
2. ENA_XC:Enable Auto-Crossover
3. RGMII_TX:Transmit clock not internally delayed
4. RGMII_RX:Receive clock transition when data transitions
5. Advertise all capabilities

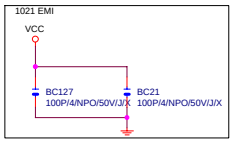




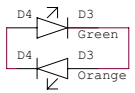


Bypass cap can share. User check it by layout consideration.

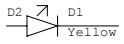


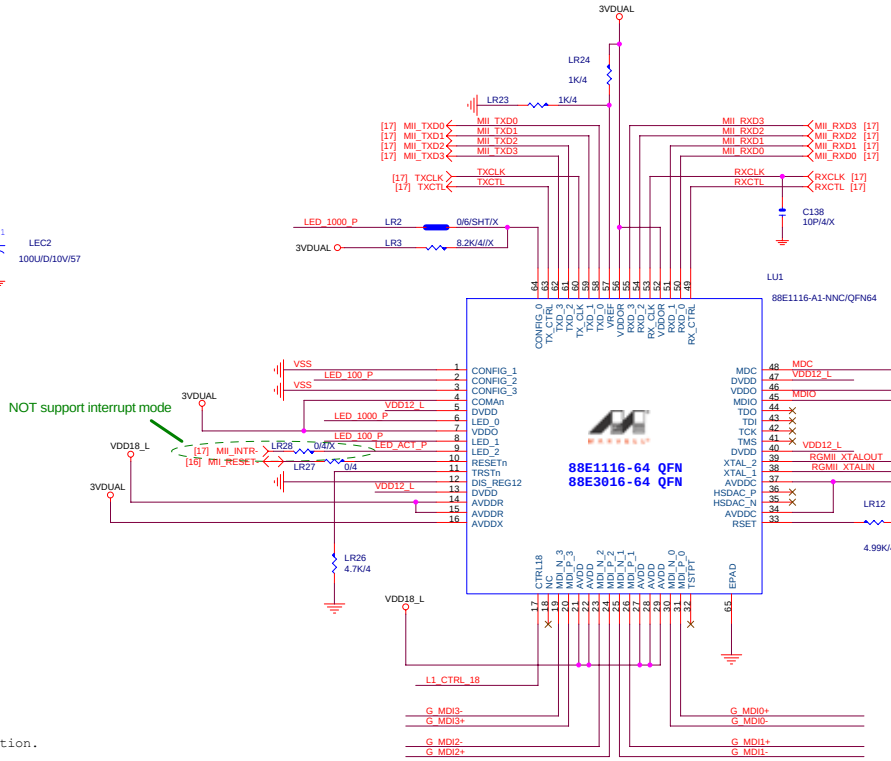


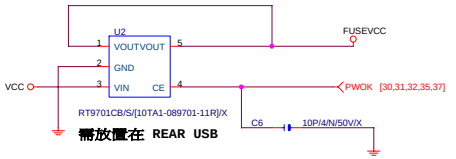
Dual Color LED



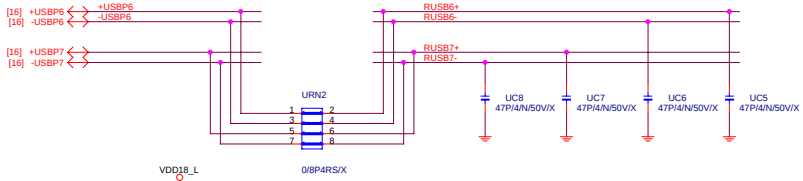
Single Color LED

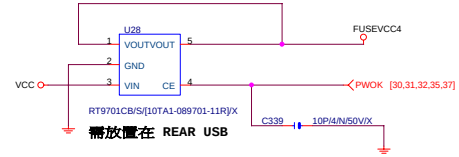


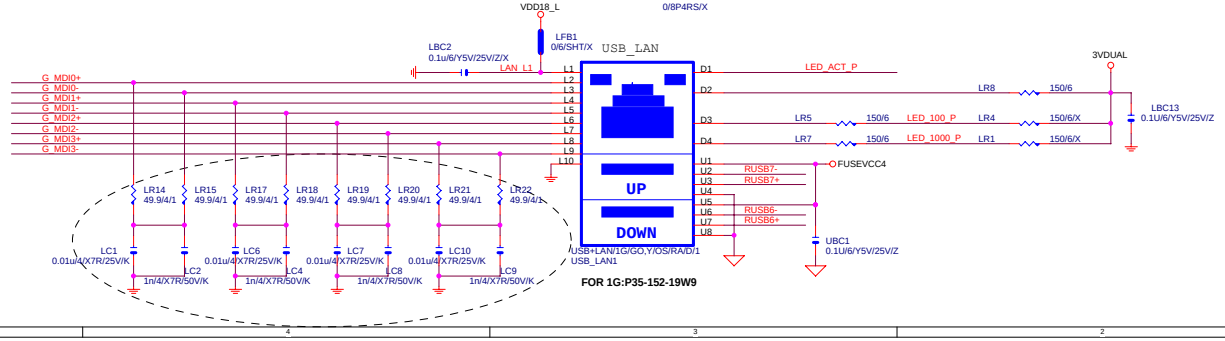


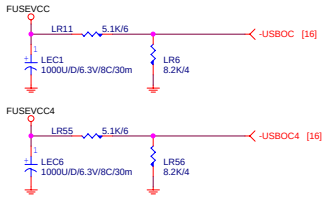


COMMOMD CHOKE 67 OHM









Title	Marvell_88E1115_88E1116_88E3016	
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120MILS

TSB43AB23PDT/S

AT24C02N/[10HP4-180108-72R_10HP4-180108-60R]

PH/2*5K9/GY/2.54/VA/D

PH/2*5K9/GY/2.54/VA/D

IRN1 0/8P4RS/X

IRN2 0/8P4RS/X

Disable by IDSEL

REQ3/GNT3 INTC AD (26)

GIGABYTE CORP.	
Title	TSB43AB23A 1394A
Size: Custom	Document Number: GA-M57SLI-S4
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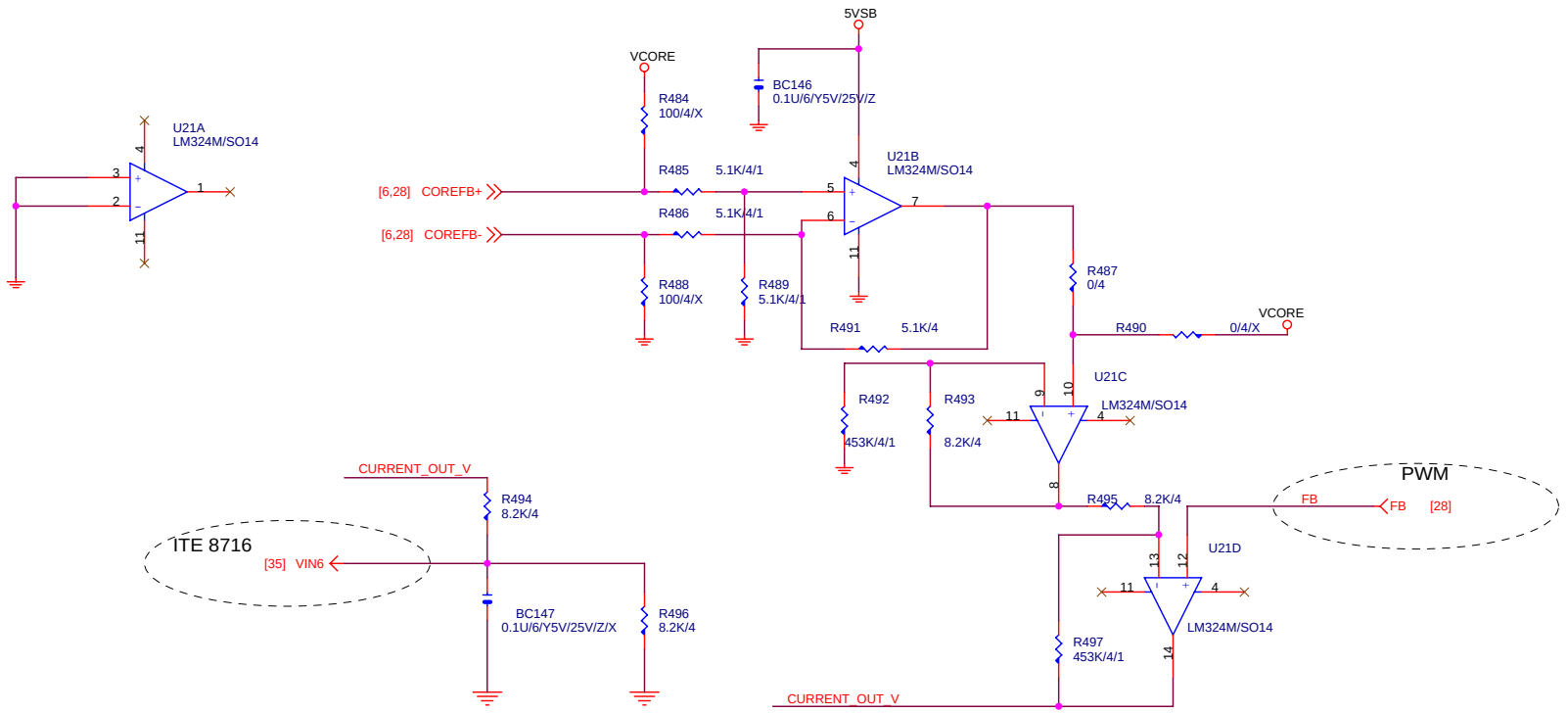

GIGABYTE CORP.		
Title: CURRENT_OUT		
Size: B	Document Number: GA-M57SLI-S4	Rev: 2.03
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