

**Rev 2.0 2**

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01	COVER SHEET
02	BOM & PCB MODIFY HISTORY
03	TABLE LIST
04	BLOCK DIAGRAM
05-06	LGA1366-A CPU_DDRA_B_C
07	LGA1366-C CPU_CSI
08	LGA1366-D CPU_GND
09	LGA1366-E CPU_PER
10	IOH_CSI
11-12	IOH_PCIEx16 / PCIEx4
13-14	IOH_MISC_SRRAP
15-17	IOH_PWR_GND
18-20	DDRIII CHANNEL A_B_C
21	DDRIII TERMINATION
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24	PCI EXPRESS X8_1
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29	ICH10 GPIO, CTRL
30	ICH10 SATA, FAN PWM
31	ICH10 VCC, GND
32	ISL6312_VTTD
33	ICS9LPRS914
34	PCI EXPRESS x1 SLOTS
35	PCI SLOT 1,2
36	ITE 8720 (GB)
37	-PROHOT, DYNAMIC OC +12V保護線路
38	Dual BIOS , REAR USB , TPM

[illegible]

# GA-X58A-UD3R

### Component value change history

[illegible]

Circuit or PCB layout change  
for next version

[illegible]

ICH9 GPIO LIST TABLE

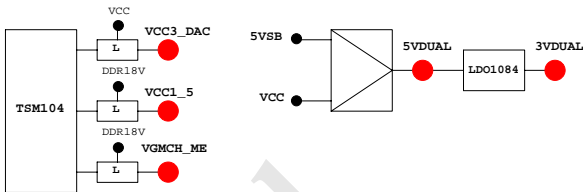
PIN NAME	PWR WELL	AFTER/BLDRST	USAGE	NOTE
GP0	MAIN	IN	VTT_GMCH_OV3	
GP1/TACH1	MAIN	IN	ICH_FAN_TACH1	P/U 8.2K VCC3
GP2/PIRQE#	MAIN	IN	-PIRQE	P/U 8.2K VCC3
GP3/PIRQF#	MAIN	IN	-PIRQF	P/U 8.2K VCC3
GP4/PIRQG#	MAIN	IN	-PIRQG	P/U 8.2K VCC3
GP5/PIRQH#	MAIN	IN	-PIRQH	P/U 8.2K VCC3
GP6/TACH2	MAIN	IN	ICH_FAN_TACH2	P/U 8.2K VCC3
GP7/TACH3	MAIN	IN	ICH_FAN_TACH3	P/U 8.2K VCC3
GP8	STBY	IN	DDR18V_OV4	
GP9	STBY	H-Z	GPIO9 (DUALBIOS INPUT)	
GP10	STBY	H-Z	DDR18V_OV5	P/D 100K GND/X
GP11/SMBALERT#	STBY	NATIVE	-SMBALRT	P/U 8.2K 3VDUAL
GP12	STBY	L OUT	AUDIO DETECT	P/U 8.2K VCC3
GP13	STBY	L IN	-LPCPME	P/U 8.2K 3VDUAL
GP14	STBY	H-Z	DDR18V_OV2	P/U 8.2K 3VDUAL
GP15	STBY	H-Z	SPI_WP	STP_PCI#
GP16	MAIN	L OUT	DUAL BIOS CONTROL	N/A
GP17/TACH0	MAIN	IN	ICH_FAN_TACH0	P/U 8.2K VCC3
GP18	MAIN	H OUT	MB_ID1	P/U 8.2K VCC3
GP19	MAIN	IN	VCC15_OV1	P/U 8.2K VCC3/X
GP20	MAIN	OUT	-SPI_WF0	P/U 1K 3VCL
GP21	MAIN	IN	VCC15_OV3	P/U 8.2K VCC3
GP22	MAIN	IN	VCORE_OV3	P/U 8.2K VCC3
GP23	MAIN	OUT	-LDRQ1	P/U 8.2K VCC3
GP24	STBY	OUT	TL5	P/U 8.2K 3VDUAL
GP25	STBY	IN	MB_ID2 (STP_CPU-)	P/U 8.2K 3VDUAL
GP26/S4_STATE#	STBY	OUT	MB_ID0	P/U 8.2K 3VDUAL
GP27	STBY	OUT/LOW	GPIO27 (EL_STATE0)	P/U 8.2K 3VDUAL
GP28	STBY	OUT/LOW	DUAL BIOS CONTROL	N/A
GP29/OC5#	STBY	IN	-USBOC_R	P/U FUSEVCC
GP30/OC6#	STBY	IN	-USBOC_R	P/U FUSEVCC
GP31/OC7#	STBY	IN	-USBOC_R	P/U FUSEVCC
GP32	MAIN	OUT	DUAL BIOS	P/U 100K+1M VCC3
GP33	MAIN	OUT		
GP34	MAIN	OUT/LOW		N/A
GP35	MAIN	L OUT	400K FS CONTROL	N/A
GP36	MAIN	IN	DUAL BIOS CONTROL	P/U 8.2K VCC3
GP37	MAIN	IN	150K FS CONTROL	P/U 8.2K VCC3
GP38	MAIN	IN	VCORE_OV2	P/U 8.2K VCC3
GP39	MAIN	IN	GPIO39	P/D 8.2K GND
GP48	MAIN	IN	VCORE_OV1	P/U 8.2K VCC3
GP49	MAIN	IN	STARPPING	P/D 8.2K

PIN NAME	PWR WELL	AFTER/BLDRST	USAGE	NOTE
GP50	MAIN	IN	REQ1#	
GP51	MAIN	IN	GNT1#	P/U 8.2K VCC3
GP52	MAIN	IN	REQ2#	P/U 8.2K VCC3
GP53	MAIN	IN	GNT2#	P/U 8.2K VCC3
GP54	MAIN	IN	REQ3#	P/U 8.2K VCC3
GP55	MAIN	IN	GNT3#	P/U 8.2K VCC3
GP56	STBY	IN	VCORE_OV5	
GP57	STBY	IN	VCORE_OV4	
GP58	STBY	IN	SPI_CS1#	
GP59	STBY		-USBOC_R	
GP60	STBY		LINKALRT#	

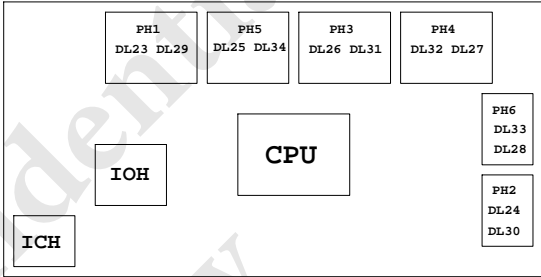
Super I/O GPIO Table

PIN NAME	USAGE	NOTE
SVC/PECI_RQT/GP14	-PECI_REQ	
PWROK1/GP13	PWROK1/ITE_PWROK	
KRST#/GP62	-KBRST	
SO/GP50	-ICH_SPI_CS	
IRTX/GP47/CE2_N/JP7	CEB_N	
GP46/IRRX	-LAN2_DSM	
PSION#/GP42	-PSON	
PWROK2#/GP41	PECI_CTL	
PCIRST3#/GP10/VDIMM_STR_EN	-PCIE_RST	
RSMRST#CIRRXL/GP55	-RSMRST	
PME#/GP54	-LPCPME	
PD5/GP75/BUSS00	N/A	

PIN NAME	USAGE	NOTE
FAN_TAC2/GP52	FANIO2	
FAN_TAC3/GP37	FANIO3	
VIDO3/FAN_TAC4/GP25/DSR2#	FANIO4	
FAN_CTL2/GP51	FANPWM2	
FAN_CTL3/GP36	FANPWM3	
VID4/GP34	BEEP-	
VID3/GP33	TURBO1	
VID2/GP32	TURBO0	
VCORE_GOOD/VID6/GP63	CPUT_LED1_C	
VID5/GP35	CPUT_LED2_C	
VID1/GP31	CPUT_LED3_C	
VID0/GP30	-LAN1_DSM	NBT_LED1_C
SLCT/GP80	CPU_LED1_C	
PE/GP81	CPU_LED2_C	
BUSY/GP82	CPU_LED3_C	
PD3/GP73/BUSS11	SB_LED1_C	
PD4/GP74/BUSS12	SB_LED2_C	
VCORE_EN/VID7/GP64	IT_GP64	SB_LED3_C
PD0/GP70	NB_LED1_C	
PD1/GP71	NB_LED2_C	
PD2/GP72/BUSS10	NB_LED3_C	
GP22/SCK	LOW_PWR_1	
VIDO5/GP27/SIN2	LOW_PWR_2	
PCIRST2#/GP11	-PFMRST1	
PCIRST1#/GP12	-PFMRST2	
3VSB5W#/GP40	CSI_F0	BSEL166_1
SUSC#/GP53	CSI_F1	BSEL166_2
GP23/SI	BSEL166_3/CSISBSL	
VIDO0/GP20/CTS2#	CPUT_LED1_C	BSEL166_4
GP65/VDDA_EN/GB_01	MB_ID2	
PD6/GP76/BUSS01	MB_ID3	
PD7/GP77/BUSS02	MB_ID4	
AFD#/GP86/SMB_C_R	2M PIN	FST_2X8
INIT#/GP85/SMB_D_M	SEC_2x8	GTLREF_AD2
ACK#/GP83	DDR_LED1_C	
VID01/GP21/DCD2#	DDR_LED2_C	
STB#/GP87/SMB_C_M	DDR_LED3_C	
PWRON#GP44	VCORE_OV1	
PANSWH#/GP43	PWRBTSW	
KDAT/GP61	-PWRBTSW	
KCLK/GP60	KDAT	
MDAT/GP57	KCLK	
MACL/GP56	MDAT	
GP66/VLDT_EN/GB_02	NBT_LED1_C	MCLK
SVD/PCIRSTIN#/CIRTX/GP15	PWM2_CR	
KDAT/GP61	PWM2_CR	
GP67/CPU_PG/GB_03	EN_LOADLINE	IT_GP67/-EN_PWM2
SLIN#/GP84/SMB_D_R	-EN_PWM2	
PSI_L/FAN_CLT5/CIRRXL2/GP16	-THERM	
VID04/GP26/SOUT2	DDR18V_PH2_EN	
VIDO2/FAN_TAC5/GP24/DSR2#	DDR18V_LED	
VIDO6/GP17/RI2#	1_1V_PH_EN	
VIDO7/JP6/DTR2#	JP6	
PD5/GP75/BUSS00	SB_LED3_C	



PWM各相位的擺法如下：



BIOS超電壓對應表：

線路圖名稱	BIOS選項
VTT_REF	DRAM Termination
CHAC-CHCC	address
DDR15V	DRAM voltage
VCC18_PLL	CPU PLL
VCCA1_1	CSI PLL
CPU Vcore	CPU Vcore
VCC15	ICH I/O
VCC1_1	IOH core
MCH_RAMVREF	MCH/DRAM Reference (不開放)
VTTD	CPU Termination
VCCA1_5	PCIE
CHA-CHC	Date
VCC1_1_ICH	ICH core

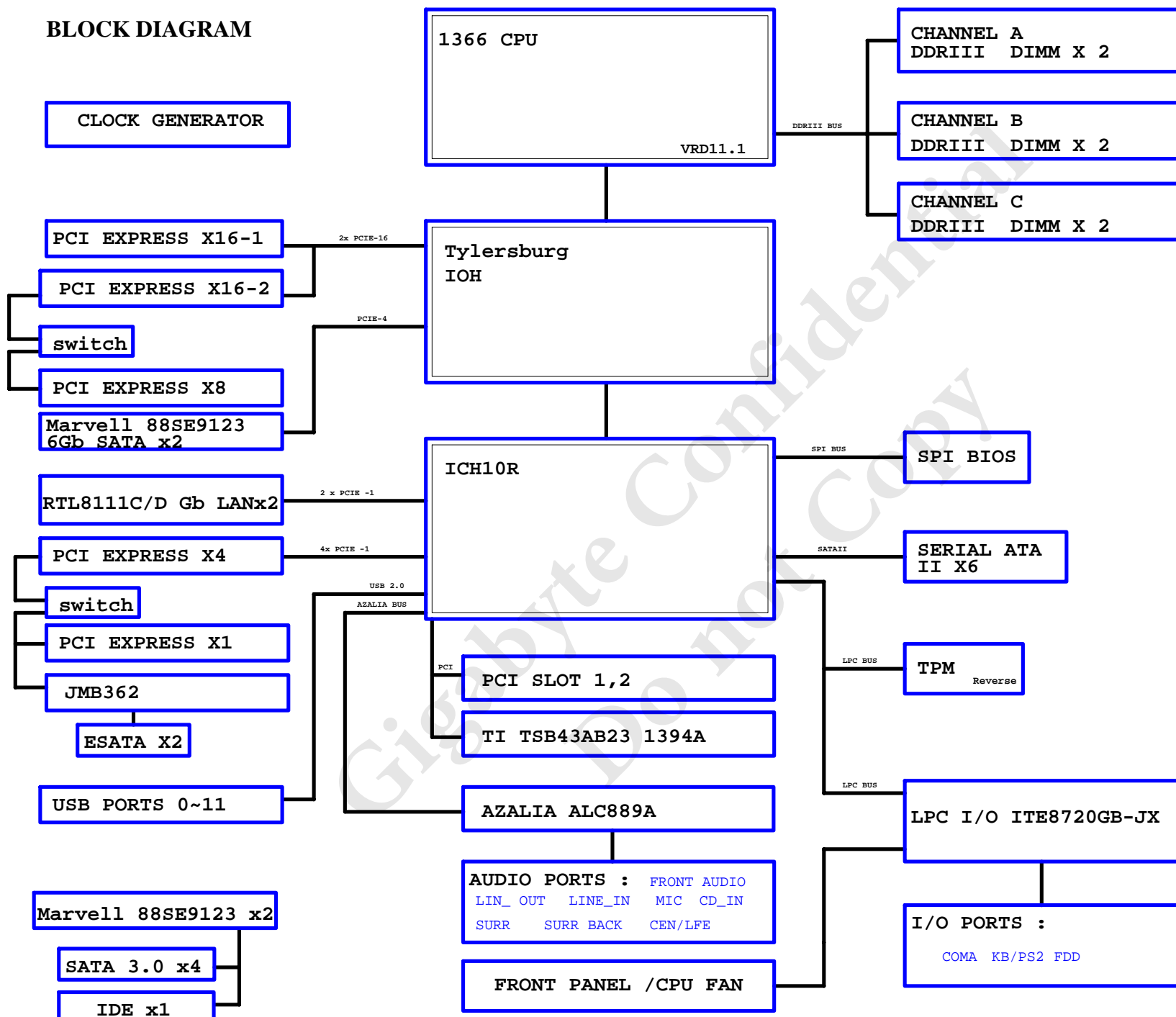
散熱模組料號：

EX58-EXTREME:  
1.12SP2-01A001-Y1R/Y2R  
2.12SP2-01A001-Z1R/Z2R  
(HIBRID模組)包材階

EX58-UD4&UD4P (TPM Function差異):  
12SP2-01A001-U1R/U2R

	3 pin FAN control	4 pin FAN control	FAN speed	Controller
CPU FAN	FANPWM1	FANPWM3	FANIO1	IT8718
	ICH_FAN_PWM2	ICH_FAN_PWM0	ICH_FAN_TACH0	ICH8
SYS FAN	FANPWM2	N/A	FANIO2	IT8718
	ICH_FAN_PWM1	N/A	ICH_FAN_TACH1	ICH8
PWR FAN	N/A	N/A	FANIO3	IT8718
			ICH_FAN_TACH2	ICH8

# BLOCK DIAGRAM



LGA1366A

[18] DCLKA3 <-> E20  
[18] -DCLKA3 <-> E18  
[18] DCLKA2 <-> E18  
[18] -DCLKA2 <-> E18  
[18] DCLKA1 <-> C19  
[18] -DCLKA1 <-> C19  
[18] DCLKA0 <-> J19  
[18] -DCLKA0 <-> K19

[18] -CSA5 <-> C15  
[18] -CSA4 <-> B15  
[18] -CSA1 <-> C15  
[18] -CSA0 <-> B15

[18] -SRASA <-> A15  
[18] -SCASA <-> C12  
[18] -SWEA <-> B13

[18] SBA2 <-> C28  
[18] SBA1 <-> A16  
[18] SBA0 <-> B16

[18] CKEA3 <-> C83  
[18] CKEA2 <-> B30  
[18] CKEA1 <-> A30  
[18] CKEA0 <-> C09

MAAA15 B29  
MAAA14 A28  
MAAA13 A10  
MAAA12 B16  
MAAA11 A26  
MAAA10 B19  
MAAA9 C26  
MAAA8 B25  
MAAA7 A25  
MAAA6 C24  
MAAA5 B24  
MAAA4 B23  
MAAA3 D24  
MAAA2 C23  
MAAA1 B21  
MAAA0 B20

DDR0\_MA\_PAR

DDR0\_PAR\_ERR\_3\*  
DDR0\_PAR\_ERR\_2\*  
DDR0\_PAR\_ERR\_1\*  
DDR0\_PAR\_ERR\_0\*

DOSA0 T43  
DOSA0 U43  
DOSA1 L41  
DOSA1 M41  
DOSA2 F41  
DOSA2 G41  
DOSA3 B40  
DOSA3 E4  
DOSA4 E4  
DOSA5 K2  
DOSA6 K2  
DOSA6 R2  
DOSA6 R3  
DOSA7 W2  
DOSA7 W1  
DOSA8 D34  
DOSA8 D35

DDR0\_DQS\_P9  
DDR0\_DQS\_N9  
DDR0\_DQS\_P10  
DDR0\_DQS\_N10  
DDR0\_DQS\_P11  
DDR0\_DQS\_N11  
DDR0\_DQS\_P12  
DDR0\_DQS\_N12  
DDR0\_DQS\_P13  
DDR0\_DQS\_N13  
DDR0\_DQS\_P14  
DDR0\_DQS\_N14  
DDR0\_DQS\_P15  
DDR0\_DQS\_N15  
DDR0\_DQS\_P16  
DDR0\_DQS\_N16  
DDR0\_DQS\_P17  
DDR0\_DQS\_N17

DDR0\_CS\_7\*  
DDR0\_CS\_6\*  
DDR0\_CS\_5\*  
DDR0\_CS\_4\*  
DDR0\_CS\_3\*  
DDR0\_CS\_2\*  
DDR0\_CS\_1\*  
DDR0\_CS\_0\*

DDR0\_ODT\_7  
DDR0\_ODT\_6  
DDR0\_ODT\_5  
DDR0\_ODT\_4  
DDR0\_ODT\_3  
DDR0\_ODT\_2  
DDR0\_ODT\_1  
DDR0\_ODT\_0

DDR0\_BA2  
DDR0\_BA1  
DDR0\_BA0

DDR0\_CKE\_3  
DDR0\_CKE\_2  
DDR0\_CKE\_1  
DDR0\_CKE\_0

DDR0\_MA\_15  
DDR0\_MA\_14  
DDR0\_MA\_13  
DDR0\_MA\_12  
DDR0\_MA\_11  
DDR0\_MA\_10  
DDR0\_MA\_9  
DDR0\_MA\_8  
DDR0\_MA\_7  
DDR0\_MA\_6  
DDR0\_MA\_5  
DDR0\_MA\_4  
DDR0\_MA\_3  
DDR0\_MA\_2  
DDR0\_MA\_1  
DDR0\_MA\_0

DDR0\_PAR\_ERR\_3\*  
DDR0\_PAR\_ERR\_2\*  
DDR0\_PAR\_ERR\_1\*  
DDR0\_PAR\_ERR\_0\*

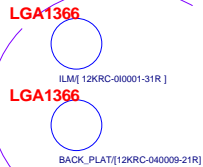
DDR0\_ECC\_7  
DDR0\_ECC\_6  
DDR0\_ECC\_5  
DDR0\_ECC\_4  
DDR0\_ECC\_3  
DDR0\_ECC\_2  
DDR0\_ECC\_1  
DDR0\_ECC\_0

DDR\_COMP\_0  
DDR\_COMP\_1

DDR0\_RESET\*  
DDR0\_RST0 [18]

DDR0\_DQS\_P9  
DDR0\_DQS\_N9  
DDR0\_DQS\_P10  
DDR0\_DQS\_N10  
DDR0\_DQS\_P11  
DDR0\_DQS\_N11  
DDR0\_DQS\_P12  
DDR0\_DQS\_N12  
DDR0\_DQS\_P13  
DDR0\_DQS\_N13  
DDR0\_DQS\_P14  
DDR0\_DQS\_N14  
DDR0\_DQS\_P15  
DDR0\_DQS\_N15  
DDR0\_DQS\_P16  
DDR0\_DQS\_N16  
DDR0\_DQS\_P17  
DDR0\_DQS\_N17

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CPU-SK1366P/S/15

[19] MDB[0..63] <-> MDB[0..63]  
[19] MAA[0..15] <-> MAA[0..15]  
MODT\_A[0..3] <-> MODT\_A[0..3] [19]  
[19] DOS[0..8] <-> DOS[0..8]  
[19] -DOS[0..8] <-> -DOS[0..8]  
[19] SACB[0..7] <-> SACB[0..7]  
[19] MDB[0..63] <-> MDB[0..63]  
[19] MAA[0..15] <-> MAA[0..15]  
MODT\_B[0..3] <-> MODT\_B[0..3] [19]  
[19] DOS[0..8] <-> DOS[0..8]  
[19] -DOS[0..8] <-> -DOS[0..8]  
[19] SBCB[0..7] <-> SBCB[0..7]

LGA1366B

[19] DCLKB3 <-> H18  
[19] -DCLKB3 <-> H18  
[19] DCLKB2 <-> L18  
[19] -DCLKB2 <-> L18  
[19] DCLKB1 <-> G19  
[19] -DCLKB1 <-> G19  
[19] DCLKB0 <-> C21  
[19] -DCLKB0 <-> C21

[19] -CSB5 <-> C54  
[19] -CSB4 <-> C54  
[19] -CSB1 <-> C54  
[19] -CSB0 <-> C54

[19] -SRASB <-> G14  
[19] -SCASB <-> E14  
[19] -SWEB <-> G13

[19] SBAB2 <-> H27  
[19] SBAB1 <-> K13  
[19] SBAB0 <-> C18

[19] CKEB3 <-> C27  
[19] CKEB2 <-> D27  
[19] CKEB1 <-> E27  
[19] CKEB0 <-> H28

MAAB15 F26  
MAAB14 H26  
MAAB13 B14  
MAAB12 E24  
MAAB11 F23  
MAAB10 H14  
MAAB9 G24  
MAAB8 F22  
MAAB7 D22  
MAAB6 J27  
MAAB5 F22  
MAAB4 K28  
MAAB3 L28  
MAAB2 J17  
MAAB1 J16  
MAAB0 J14

DDR1\_MA\_15  
DDR1\_MA\_14  
DDR1\_MA\_13  
DDR1\_MA\_12  
DDR1\_MA\_11  
DDR1\_MA\_10  
DDR1\_MA\_9  
DDR1\_MA\_8  
DDR1\_MA\_7  
DDR1\_MA\_6  
DDR1\_MA\_5  
DDR1\_MA\_4  
DDR1\_MA\_3  
DDR1\_MA\_2  
DDR1\_MA\_1  
DDR1\_MA\_0

DDR1\_PAR\_ERR\_3\*  
DDR1\_PAR\_ERR\_2\*  
DDR1\_PAR\_ERR\_1\*  
DDR1\_PAR\_ERR\_0\*

DOSB0 Y38  
DOSB0 Y37  
DOSB1 R38  
DOSB1 R37  
DOSB2 L36  
DOSB2 L36  
DOSB3 L30  
DOSB3 L31  
DOSB4 E7  
DOSB4 D7  
DOSB5 H6  
DOSB5 G6  
DOSB6 L6  
DOSB6 L6  
DOSB7 Y8  
DOSB7 Y8  
DOSB8 G33  
DOSB8 G34

DDR1\_DQS\_P9  
DDR1\_DQS\_N9  
DDR1\_DQS\_P10  
DDR1\_DQS\_N10  
DDR1\_DQS\_P11  
DDR1\_DQS\_N11  
DDR1\_DQS\_P12  
DDR1\_DQS\_N12  
DDR1\_DQS\_P13  
DDR1\_DQS\_N13  
DDR1\_DQS\_P14  
DDR1\_DQS\_N14  
DDR1\_DQS\_P15  
DDR1\_DQS\_N15  
DDR1\_DQS\_P16  
DDR1\_DQS\_N16  
DDR1\_DQS\_P17  
DDR1\_DQS\_N17

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CPU-SK1366P/S/15

DDR\_COMP1 R3873 24.9/4/1

Gigabyte Technology		
Title LGA1366-A CPU_DDRA_B		
Size Custom	Document Number GA-X58A-UD3R	Rev 2.02
Date:	Sheet 5 of 59	

LGA1366C	
[20] DCLKC3 <--> L22	DDR2_CLK_P3
[20] -DCLKC3 <--> L21	DDR2_CLK_N3
[20] DCLKC2 <--> H21	DDR2_CLK_P2
[20] -DCLKC2 <--> G21	DDR2_CLK_N2
[20] DCLKC1 <--> L20	DDR2_CLK_P1
[20] -DCLKC1 <--> K20	DDR2_CLK_N1
[20] DCLKC0 <--> J22	DDR2_CLK_P0
[20] -DCLKC0 <--> J21	DDR2_CLK_N0
--J15--	
[20] -CSC5 <--> -CSC5	DDR2_CS_7*
[20] -CSC4 <--> -CSC4	DDR2_CS_6*
[20] -CSC1 <--> -CSC1	DDR2_CS_4*
[20] -CSC0 <--> -CSC0	DDR2_CS_3*
	DDR2_CS_2*
	DDR2_CS_1*
	DDR2_CS_0*
--K27--	
[20] -D30 <--> -D30	DDR2_DOT_7
[20] -K29 <--> -K29	DDR2_DOT_6
[20] -J29 <--> -J29	DDR2_DOT_5
[20] -D10 <--> -D10	DDR2_DOT_4
[20] -D15 <--> -D15	DDR2_DOT_3
[20] -F13 <--> -F13	DDR2_DOT_2
[20] -L16 <--> -L16	DDR2_DOT_1
	DDR2_DOT_0
--D17--	
[20] -SRASC <--> -SRASC	DDR2_RAS*
[20] -SCASC <--> -SCASC	DDR2_CAS*
[20] -SWEC <--> -SWEC	DDR2_WE*
--L26--	
[20] SBAC2 <--> SBAC2	DDR2_BA_2
[20] SBAC1 <--> SBAC1	DDR2_BA_1
[20] SBAC0 <--> SBAC0	DDR2_BA_0
--L27--	
[20] CKEC3 <--> CKEC3	DDR2_CKE_3
[20] CKEC2 <--> CKEC2	DDR2_CKE_2
[20] CKEC1 <--> CKEC1	DDR2_CKE_1
[20] CKEC0 <--> CKEC0	DDR2_CKE_0
--G25--	
[20] MAAC15 <--> MAAC15	DDR2_MA_15
[20] MAAC14 <--> MAAC14	DDR2_MA_14
[20] MAAC13 <--> MAAC13	DDR2_MA_13
[20] MAAC12 <--> MAAC12	DDR2_MA_12
[20] MAAC11 <--> MAAC11	DDR2_MA_11
[20] MAAC10 <--> MAAC10	DDR2_MA_10
[20] MAAC9 <--> MAAC9	DDR2_MA_9
[20] MAAC8 <--> MAAC8	DDR2_MA_8
[20] MAAC7 <--> MAAC7	DDR2_MA_7
[20] MAAC6 <--> MAAC6	DDR2_MA_6
[20] MAAC5 <--> MAAC5	DDR2_MA_5
[20] MAAC4 <--> MAAC4	DDR2_MA_4
[20] MAAC3 <--> MAAC3	DDR2_MA_3
[20] MAAC2 <--> MAAC2	DDR2_MA_2
[20] MAAC1 <--> MAAC1	DDR2_MA_1
[20] MAAC0 <--> MAAC0	DDR2_MA_0
--B18--	
[20] -B18 <--> -B18	DDR2_MA_PAR
[20] -K25 <--> -K25	DDR2_PAR_ERR_3*
[20] -F22 <--> -F22	DDR2_PAR_ERR_2*
[20] -J25 <--> -J25	DDR2_PAR_ERR_1*
[20] -F21 <--> -F21	DDR2_PAR_ERR_0*
--W37--	
[20] -DQSC0 <--> -DQSC0	DDR2_DQS_P0
[20] -DQSC1 <--> -DQSC1	DDR2_DQS_N0
[20] -DQSC2 <--> -DQSC2	DDR2_DQS_P1
[20] -DQSC3 <--> -DQSC3	DDR2_DQS_N1
[20] -DQSC4 <--> -DQSC4	DDR2_DQS_P2
[20] -DQSC5 <--> -DQSC5	DDR2_DQS_N2
[20] -DQSC6 <--> -DQSC6	DDR2_DQS_P3
[20] -DQSC7 <--> -DQSC7	DDR2_DQS_N3
[20] -DQSC8 <--> -DQSC8	DDR2_DQS_P4
[20] -DQSC9 <--> -DQSC9	DDR2_DQS_N4
[20] -DQSC10 <--> -DQSC10	DDR2_DQS_P5
[20] -DQSC11 <--> -DQSC11	DDR2_DQS_N5
[20] -DQSC12 <--> -DQSC12	DDR2_DQS_P6
[20] -DQSC13 <--> -DQSC13	DDR2_DQS_N6
[20] -DQSC14 <--> -DQSC14	DDR2_DQS_P7
[20] -DQSC15 <--> -DQSC15	DDR2_DQS_N7
[20] -DQSC16 <--> -DQSC16	DDR2_DQS_P8
[20] -DQSC17 <--> -DQSC17	DDR2_DQS_N8
--L7--	
[20] -U35 <--> -U35	DDR2_DQS_P9
[20] -T35 <--> -T35	DDR2_DQS_N9
[20] -T40 <--> -T40	DDR2_DQS_P10
[20] -M38 <--> -M38	DDR2_DQS_N10
[20] -L38 <--> -L38	DDR2_DQS_P11
[20] -G38 <--> -G38	DDR2_DQS_N11
[20] -H11 <--> -H11	DDR2_DQS_P12
[20] -J11 <--> -J11	DDR2_DQS_N12
[20] -K9 <--> -K9	DDR2_DQS_P13
[20] -N4 <--> -N4	DDR2_DQS_N13
[20] -P4 <--> -P4	DDR2_DQS_P14
[20] -V6 <--> -V6	DDR2_DQS_N14
[20] -H31 <--> -H31	DDR2_DQS_P15
[20] -G31 <--> -G31	DDR2_DQS_N15
	DDR2_DQS_P16
	DDR2_DQS_N16
	DDR2_DQS_P17
	DDR2_DQS_N17

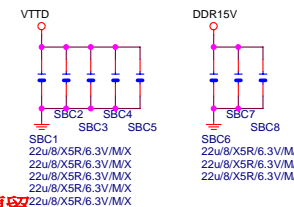
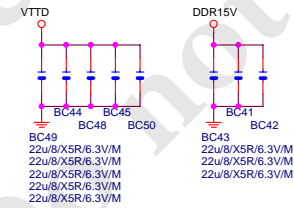
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DDR2_DQ_60	T6	MDC60
DDR2_DQ_59	U10	MDC59
DDR2_DQ_58	T10	MDC58
DDR2_DQ_57	U6	MDC57
DDR2_DQ_56	U5	MDC56
DDR2_DQ_55	R9	MDC55
DDR2_DQ_54	R10	MDC54
DDR2_DQ_53	N7	MDC53
DDR2_DQ_52	N8	MDC52
DDR2_DQ_51	P10	MDC51
DDR2_DQ_50	P9	MDC50
DDR2_DQ_49	N6	MDC49
DDR2_DQ_48	P7	MDC48
DDR2_DQ_47	M8	MDC47
DDR2_DQ_46	L8	MDC46
DDR2_DQ_45	M10	MDC45
DDR2_DQ_44	N9	MDC44
DDR2_DQ_43	M9	MDC43
DDR2_DQ_42	K10	MDC42
DDR2_DQ_41	L10	MDC41
DDR2_DQ_40	L12	MDC40
DDR2_DQ_39	H12	MDC39
DDR2_DQ_38	G10	MDC38
DDR2_DQ_37	G11	MDC37
DDR2_DQ_36	L13	MDC36
DDR2_DQ_35	H13	MDC35
DDR2_DQ_34	J12	MDC34
DDR2_DQ_33	K12	MDC33
DDR2_DQ_32	E38	MDC32
DDR2_DQ_31	F38	MDC31
DDR2_DQ_30	G39	MDC30
DDR2_DQ_29	H39	MDC29
DDR2_DQ_28	H37	MDC28
DDR2_DQ_27	J37	MDC27
DDR2_DQ_26	F40	MDC26
DDR2_DQ_25	G40	MDC25
DDR2_DQ_24	K38	MDC24
DDR2_DQ_23	L40	MDC23
DDR2_DQ_22	N36	MDC22
DDR2_DQ_21	P40	MDC21
DDR2_DQ_20	J39	MDC20
DDR2_DQ_19	J40	MDC19
DDR2_DQ_18	M40	MDC18
DDR2_DQ_17	M39	MDC17
DDR2_DQ_16	R40	MDC16
DDR2_DQ_15	T41	MDC15
DDR2_DQ_14	V39	MDC14
DDR2_DQ_13	T36	MDC13
DDR2_DQ_12	T36	MDC12
DDR2_DQ_11	R39	MDC11
DDR2_DQ_10	U39	MDC10
DDR2_DQ_9	U38	MDC9
DDR2_DQ_8	V38	MDC8
DDR2_DQ_7	V37	MDC7
DDR2_DQ_6	V34	MDC6
DDR2_DQ_5	U34	MDC5
DDR2_DQ_4	U36	MDC4
DDR2_DQ_3	V36	MDC3
DDR2_DQ_2	W35	MDC2
DDR2_DQ_1	W34	MDC1
DDR2_DQ_0		
DDR2_ECC_7	F30	SCBC7
DDR2_ECC_6	F31	SCBC6
DDR2_ECC_5	J30	SCBC5
DDR2_ECC_4	J31	SCBC4
DDR2_ECC_3	E30	SCBC3
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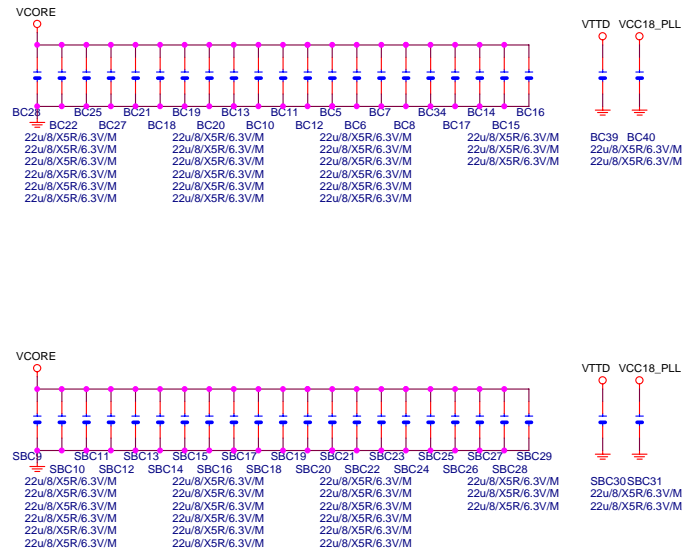
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DDR15V 3顆  
VTTD 5顆  
VCC18\_PLL 1顆  
VTTA 1顆



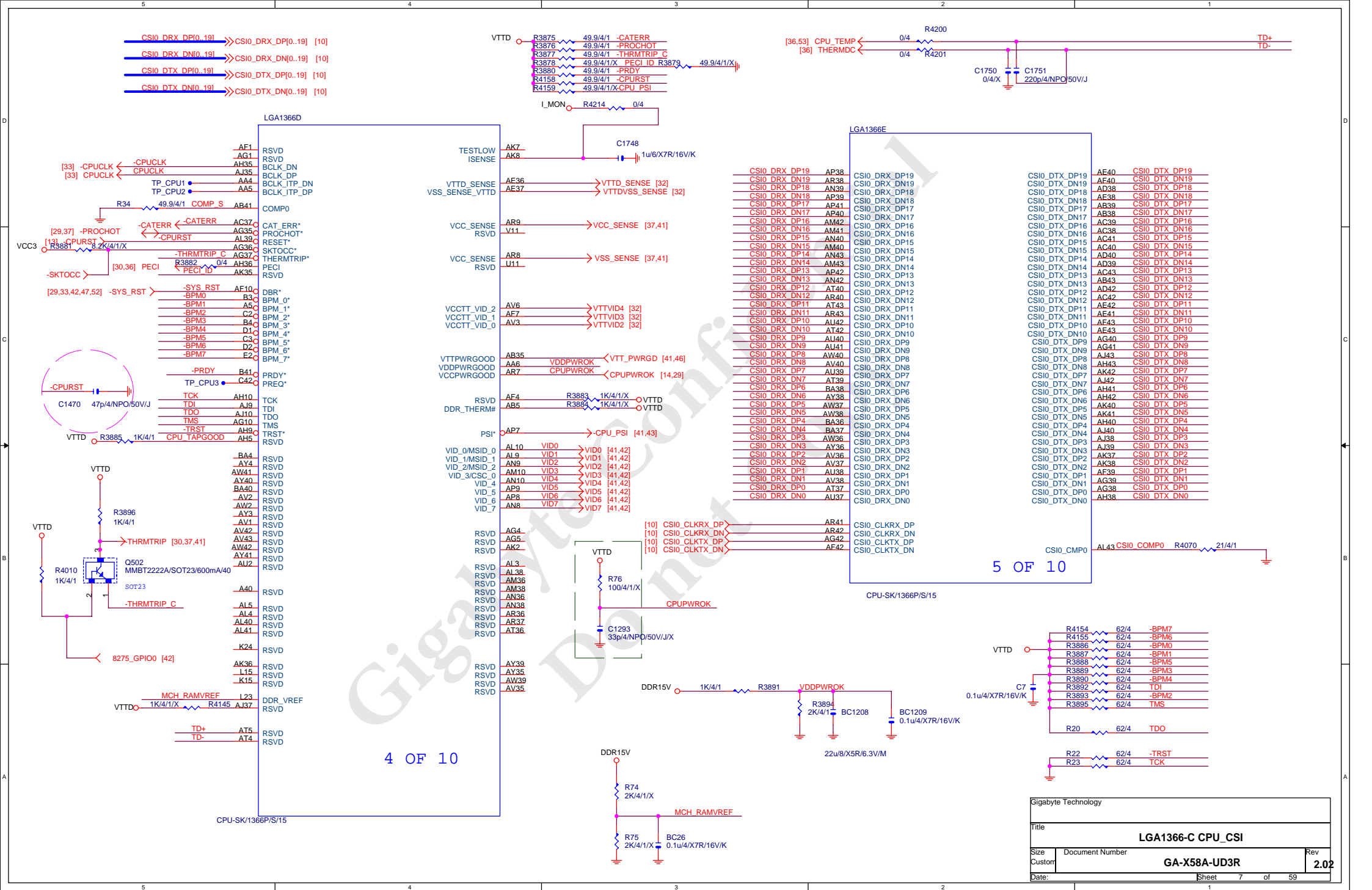
BOTTOM 預留  
CPU下電容 Vcore 24顆  
DDR15V 3顆  
VTTD 5顆  
VCC18\_PLL 1顆  
VTTA 1顆

LGA1366F	
AM8	RSVD
AL8	RSVD
AM6	RSVD
AM7	RSVD
AN5	RSVD
AN6	RSVD
AM4	RSVD
AN4	RSVD
AP3	RSVD
AP4	RSVD
AM2	RSVD
AM3	RSVD
AN1	RSVD
AM1	RSVD
AP2	RSVD
AN2	RSVD
AR4	RSVD
AT2	RSVD
AT1	RSVD
AR1	RSVD
AT3	RSVD
AT2	RSVD
AU4	RSVD
AU3	RSVD
AW4	RSVD
E38	RSVD
AU7	RSVD
AU6	RSVD
AY6	RSVD
AY5	RSVD
BA7	RSVD
BA6	RSVD
AV5	RSVD
AW5	RSVD
AY8	RSVD
BA8	RSVD
AV7	RSVD
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AU8	RSVD
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AD7	RSVD
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AH3	RSVD
AH4	RSVD
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AJ1	RSVD
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AG6	RSVD
AJ4	RSVD
AK4	RSVD
AK6	RSVD
AK5	RSVD
AH6	RSVD
AJ6	RSVD
AJ7	RSVD
AJ8	RSVD
AG8	RSVD
AH8	RSVD
AL6	RSVD

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Gigabyte Technology			
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LGA1366-B CPU_DDRC			
Size	Document Number	Rev	
Custom		2.02	
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LGA1366I

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B37	VSS	AV22	VSS
B2	VSS	AV20	VSS
A41	VSS	AV17	VSS
A39	VSS	AV14	VSS
A35	VSS	AV11	VSS
A6	VSS	AV4	VSS
A4	VSS	AU43	VSS
C5	VSS	AU36	VSS
E6	VSS	AU35	VSS
E1	VSS	AU32	VSS
D43	VSS	AU29	VSS
D38	VSS	AU26	VSS
D33	VSS	AU23	VSS
D8	VSS	AU22	VSS
D3	VSS	AU20	VSS
C43	VSS	AU17	VSS
C40	VSS	AU11	VSS
C35	VSS	AU14	VSS
E36	VSS	AU5	VSS
F41	VSS	AU23	VSS
F4	VSS	AT41	VSS
F9	VSS	AT38	VSS
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G37	VSS	AT17	VSS
G42	VSS	AT14	VSS
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H10	VSS	AT8	VSS
H30	VSS	AT7	VSS
H35	VSS	AK39	VSS
BA39	VSS	AK23	VSS
BA35	VSS	AK35	VSS
BA29	VSS	AK32	VSS
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BA20	VSS	AK27	VSS
BA17	VSS	AK26	VSS
BA14	VSS	AK23	VSS
BA11	VSS	AK22	VSS
BA5	VSS	AK20	VSS
BA3	VSS	AK17	VSS
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AY29	VSS	AK9	VSS
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AY20	VSS	AJ5	VSS
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AY14	VSS	AH37	VSS
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AV29	VSS	AD33	VSS
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		AC36	VSS
		AC9	VSS
		AC7	VSS
		AC5	VSS
		AC2	VSS
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		AN14	VSS
		AN11	VSS

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CPU-SK/1366P/S/15

LGA1366J

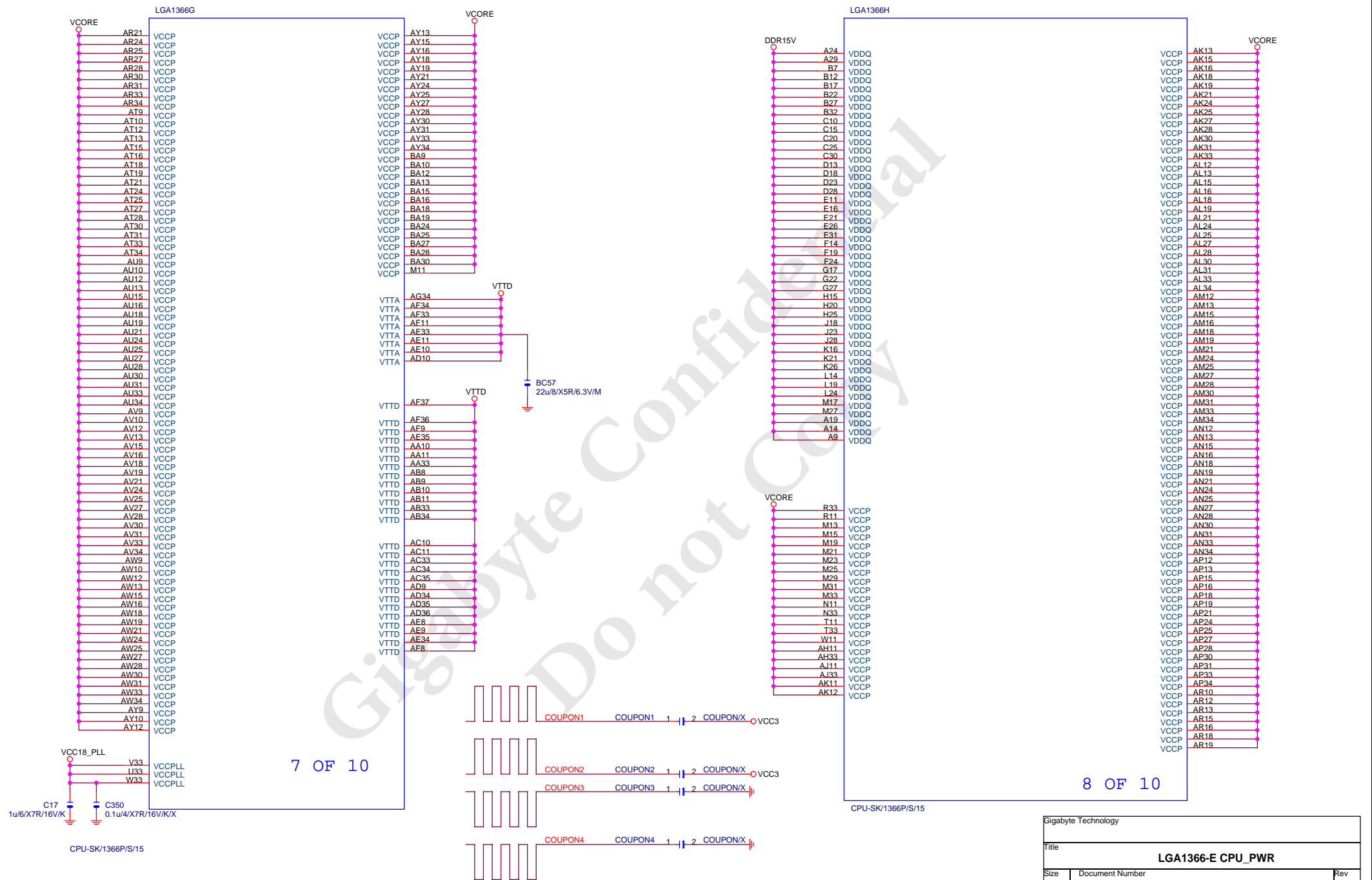
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AM32	VSS	AA38	VSS
AM29	VSS	AA34	VSS
AM26	VSS	AA9	VSS
AM23	VSS	AA3	VSS
AM22	VSS	Y41	VSS
AM20	VSS	Y36	VSS
AM17	VSS	Y33	VSS
AM14	VSS	Y11	VSS
AM11	VSS	Y6	VSS
AM9	VSS	Y1	VSS
AM5	VSS	W43	VSS
AL42	VSS	W38	VSS
AL37	VSS	W8	VSS
AL36	VSS	W3	VSS
AL35	VSS	V40	VSS
AL32	VSS	V35	VSS
AL29	VSS	V10	VSS
AL26	VSS	V5	VSS
AL23	VSS	U42	VSS
AL22	VSS	U37	VSS
AL20	VSS	U7	VSS
AL17	VSS	U2	VSS
AL14	VSS	T39	VSS
AL11	VSS	T34	VSS
AL7	VSS	T9	VSS
AL2	VSS	T4	VSS
AL1	VSS	R41	VSS
AK43	VSS	R36	VSS
AK39	VSS	R6	VSS
AK34	VSS	R1	VSS
AK32	VSS	P43	VSS
AK29	VSS	P38	VSS
AK27	VSS	P33	VSS
AK26	VSS	P11	VSS
AK23	VSS	P8	VSS
AK22	VSS	P3	VSS
AK20	VSS	N40	VSS
AK17	VSS	N35	VSS
AK14	VSS	N10	VSS
AK10	VSS	N5	VSS
AK9	VSS	M42	VSS
AK3	VSS	M37	VSS
AJ41	VSS	M32	VSS
AJ36	VSS	M30	VSS
AJ34	VSS	M28	VSS
AJ5	VSS	M26	VSS
AH39	VSS	M24	VSS
AH37	VSS	M22	VSS
AH34	VSS	M20	VSS
AH7	VSS	M18	VSS
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AP20	VSS	L29	VSS
AP17	VSS	L9	VSS
AP14	VSS	L4	VSS
AP11	VSS	K41	VSS
AE39	VSS	K36	VSS
AE7	VSS	K31	VSS
AE2	VSS	K11	VSS
AD43	VSS	K6	VSS
AD41	VSS	K1	VSS
AD37	VSS	J43	VSS
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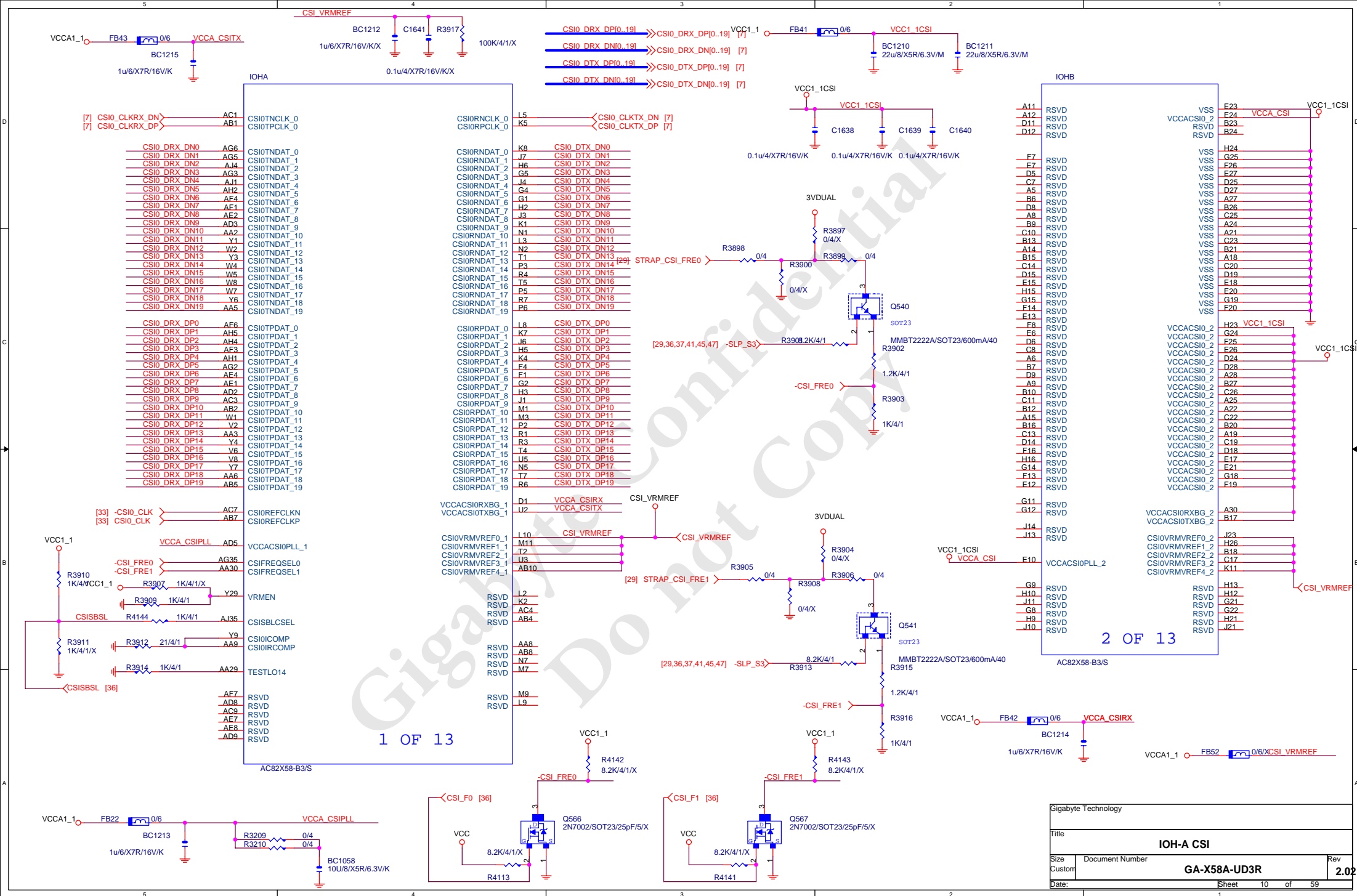
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CPU-SK/1366P/S/15

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Title		
LGA1366-D GND		
Size	Document Number	Rev
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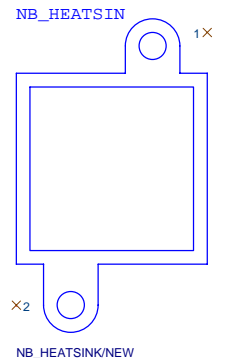
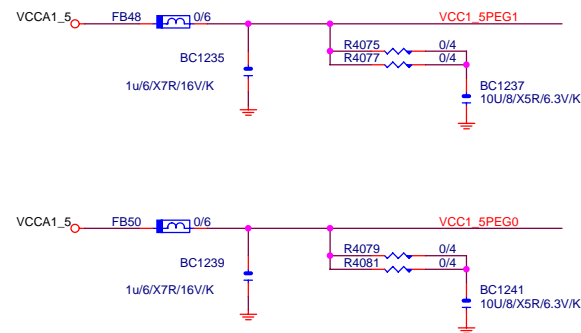
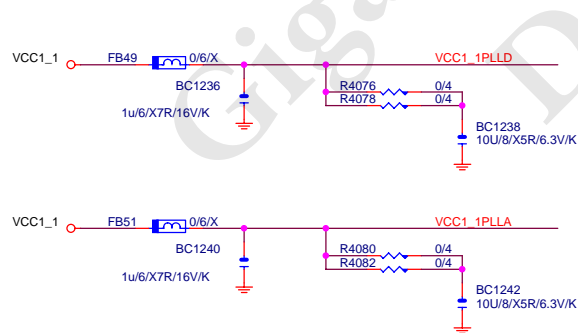
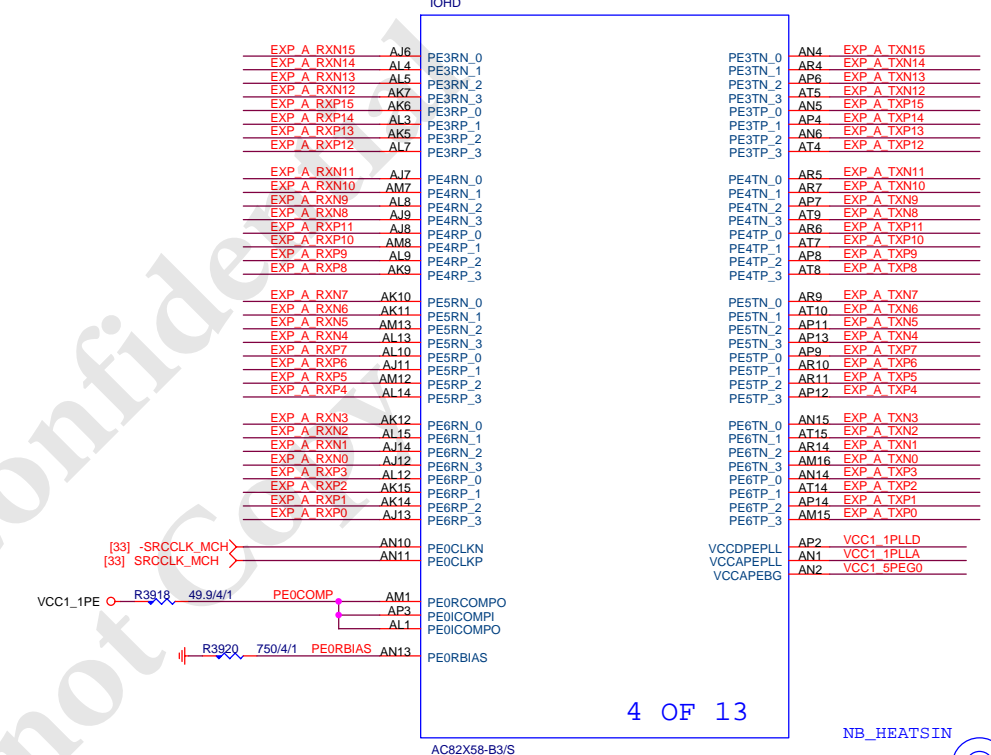
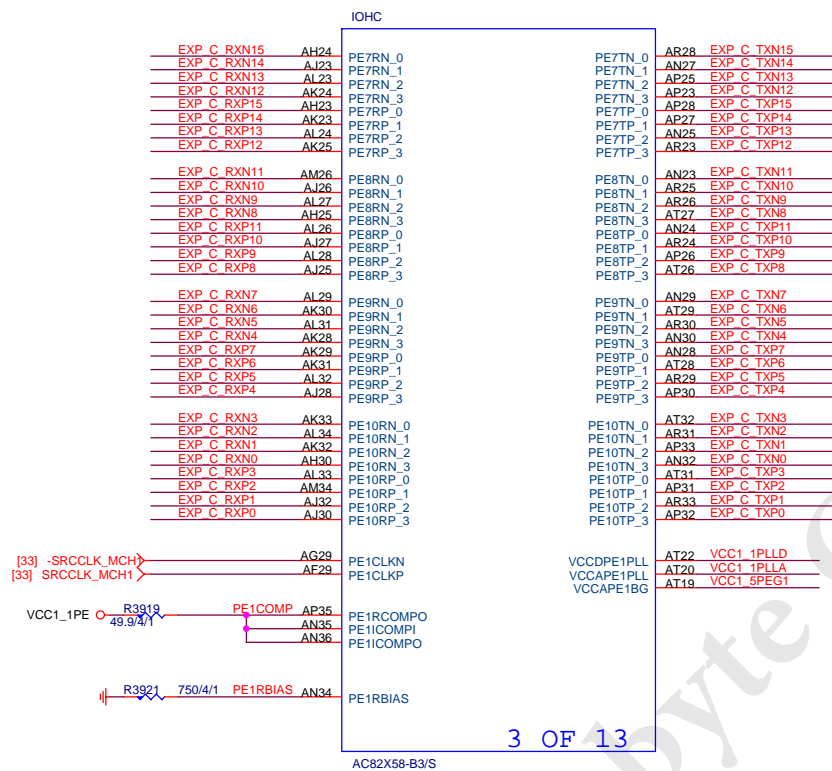


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EXP A TXN[0..7] >>> EXP\_A\_TXN[0..7] [23]  
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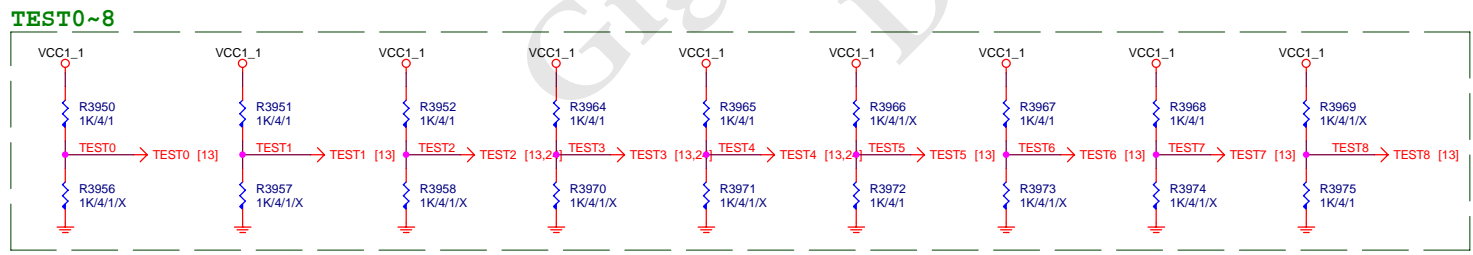
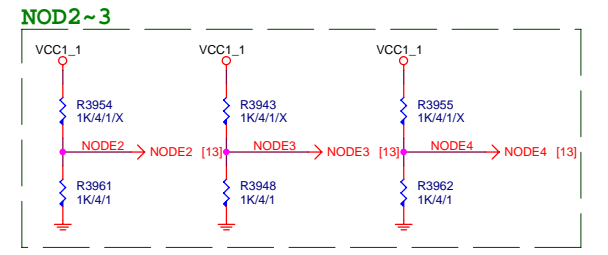
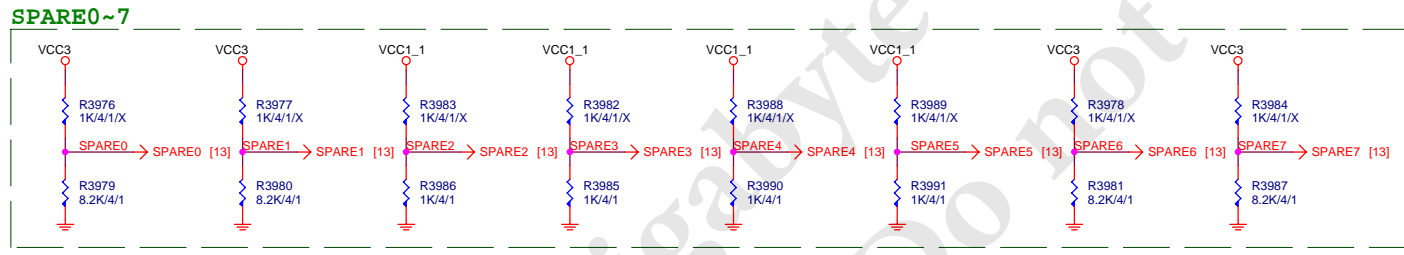
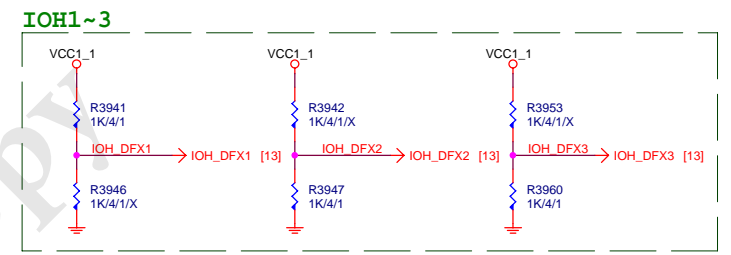
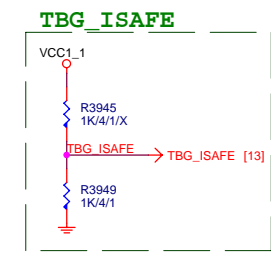
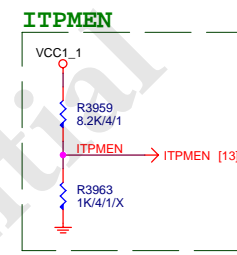
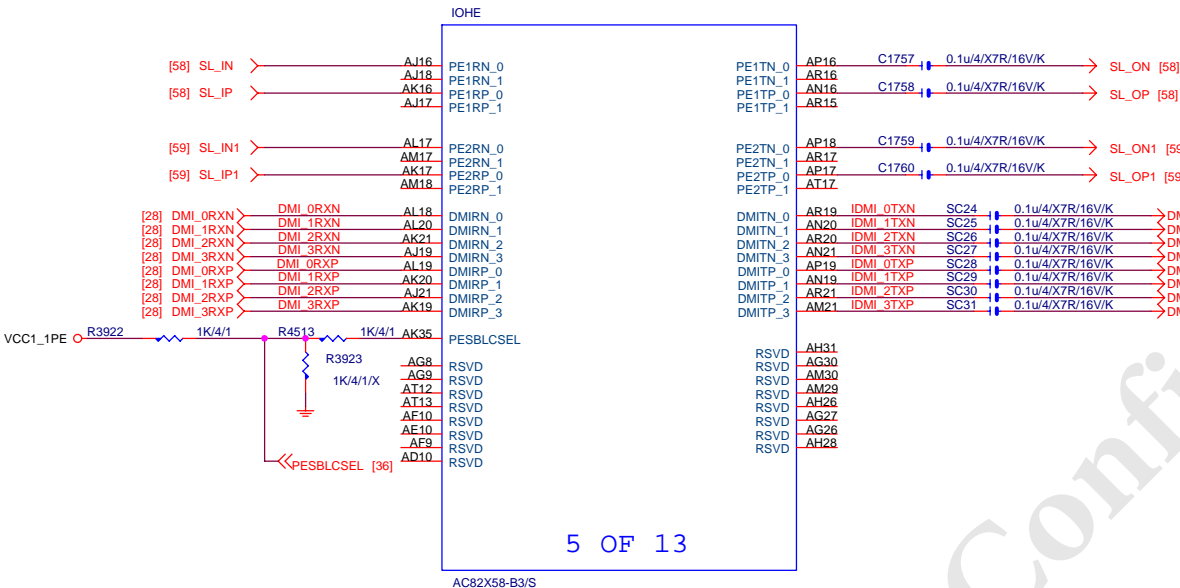
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EXP A TXN[8..15] >>> EXP\_A\_TXN[8..15] [22]  
EXP A RXP[8..15] >>> EXP\_A\_RXP[8..15] [22]  
EXP A RXN[8..15] >>> EXP\_A\_RXN[8..15] [22]

EXP C TXP[0..7] >>> EXP\_C\_TXP[0..7] [26]  
EXP C TXN[0..7] >>> EXP\_C\_TXN[0..7] [26]  
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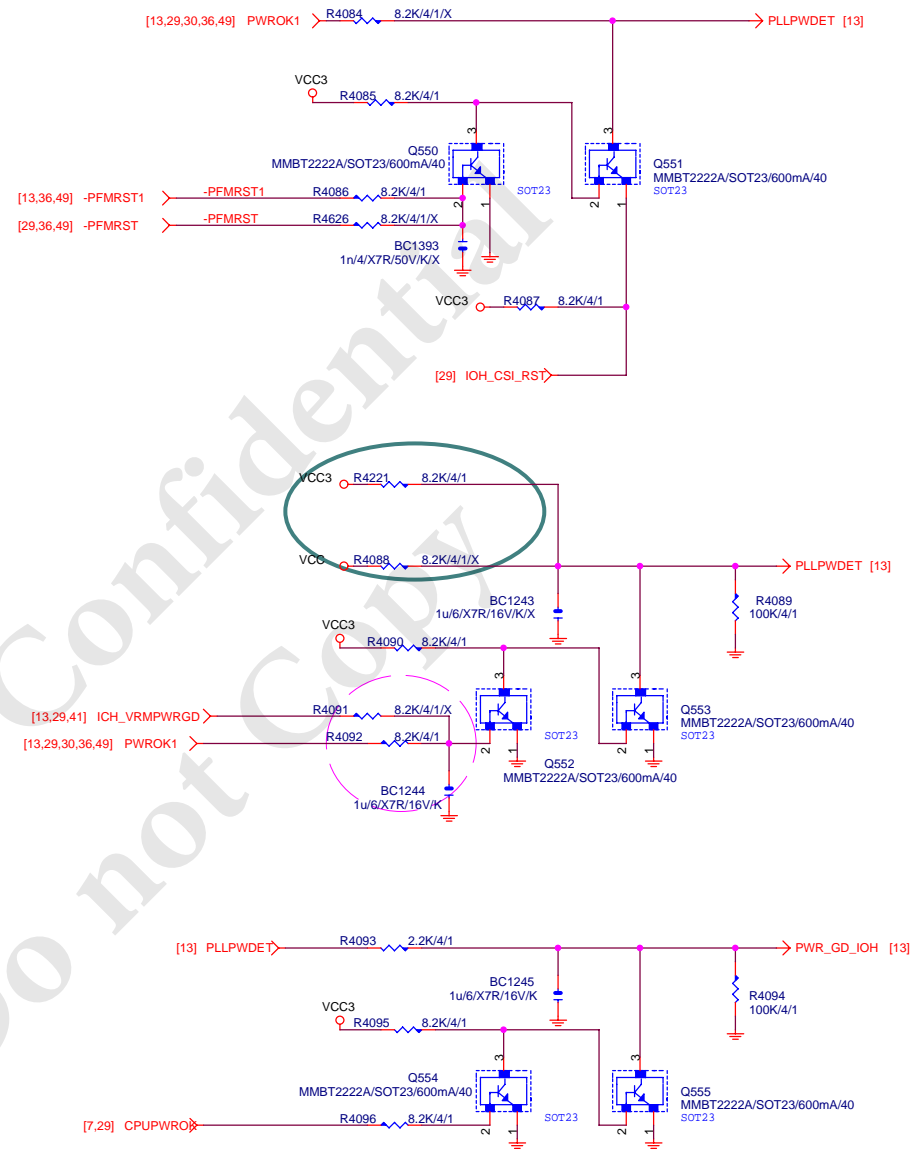
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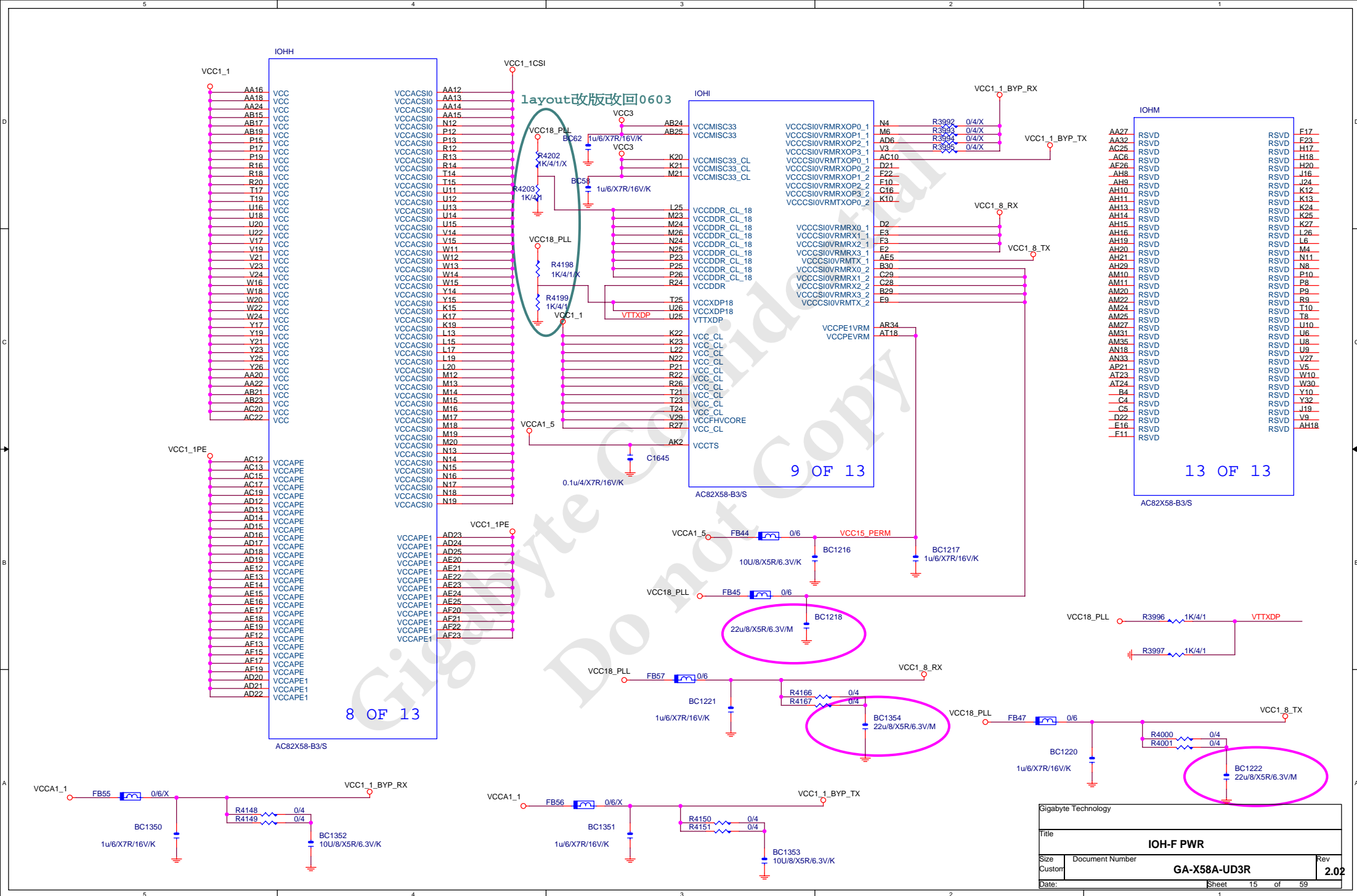
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Size	Document Number	Rev	
Custom	GA-X58A-UD3R	2.02	
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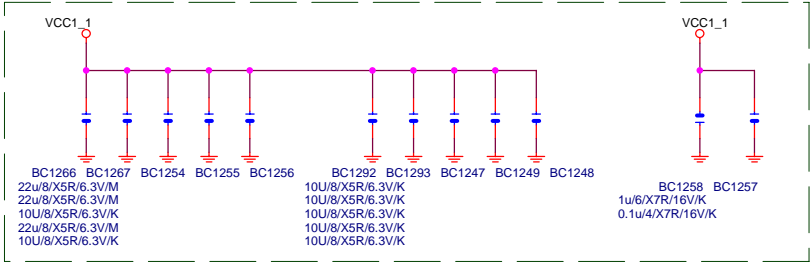
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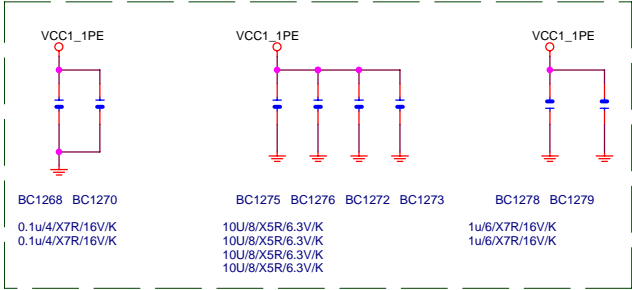


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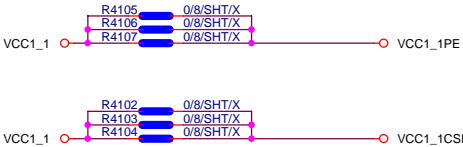
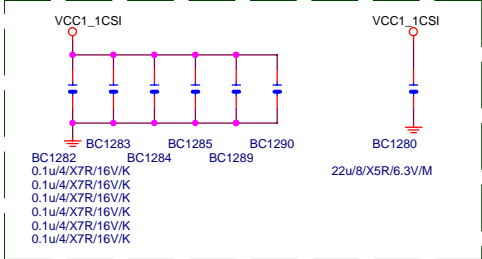
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VCC1\_1PE

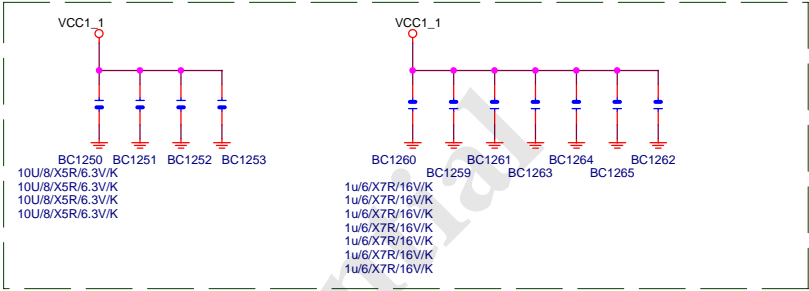


VCC1\_1CSI

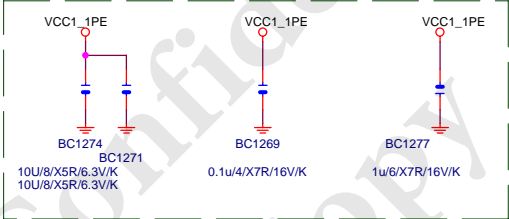


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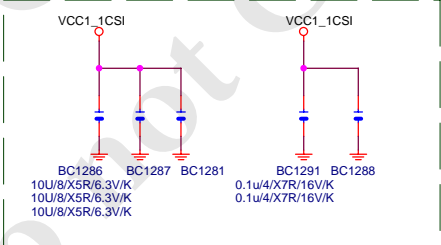
VCC1\_1



VCC1\_1PE



VCC1\_1CSI



IOHJ

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		VSS	<del>AP29</del>
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A10	VSS	VSS	<del>AR3</del>
A29	VSS	VSS	<del>AR8</del>
A32	VSS	VSS	<del>AR18</del>
A34	VSS	VSS	<del>AR22</del>
AA4	VSS	VSS	<del>AR35</del>
AA10	VSS	VSS	<del>AT2</del>
AA17	VSS	VSS	<del>AT11</del>
AA21	VSS	VSS	<del>AT25</del>
AA25	VSS	VSS	<del>AT30</del>
AA31	VSS	VSS	<del>AT34</del>
AB3	VSS	VSS	<del>B2</del>
AB9	VSS	VSS	<del>B3</del>
AB11	VSS	VSS	<del>B8</del>
AB13	VSS	VSS	<del>B25</del>
AB16	VSS	VSS	<del>B33</del>
AB20	VSS	VSS	<del>B36</del>
AB26	VSS	VSS	<del>C6</del>
AB35	VSS	VSS	<del>C21</del>
AC8	VSS	VSS	<del>C27</del>
AC14	VSS	VSS	<del>C30</del>
AC18	VSS	VSS	<del>C34</del>
AC21	VSS	VSS	<del>D3</del>
AC24	VSS	VSS	<del>D7</del>
AC30	VSS	VSS	<del>D10</del>
AC36	VSS	VSS	<del>D20</del>
AD4	VSS	VSS	<del>D26</del>
AD11	VSS	VSS	<del>D35</del>
AD31	VSS	VSS	<del>E5</del>
AE6	VSS	VSS	<del>E11</del>
AE11	VSS	VSS	<del>E19</del>
AE29	VSS	VSS	<del>E25</del>
AE32	VSS	VSS	<del>E30</del>
AF2	VSS	VSS	<del>E36</del>
AF8	VSS	VSS	<del>F5</del>
AF11	VSS	VSS	<del>F9</del>
AF16	VSS	VSS	<del>F18</del>
AF25	VSS	VSS	<del>F21</del>
AF30	VSS	VSS	<del>F27</del>
AF36	VSS	VSS	<del>G6</del>
AG7	VSS	VSS	<del>G23</del>
AG10	VSS	VSS	<del>G29</del>
AG12	VSS	VSS	<del>G32</del>
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AG22	VSS	VSS	<del>H27</del>
AG24	VSS	VSS	<del>H33</del>
AG28	VSS	VSS	
AG34	VSS	VSS	
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AH17	VSS	VSS	
AH27	VSS	VSS	
AH32	VSS	VSS	
AJ2	VSS	VSS	
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AJ22	VSS	VSS	
AJ29	VSS	VSS	
AJ33	VSS	VSS	
AK4	VSS	VSS	
AK13	VSS	VSS	
AK22	VSS	VSS	
AK27	VSS	VSS	
AL11	VSS	VSS	
AL21	VSS	VSS	
AL25	VSS	VSS	
AL35	VSS	VSS	

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IOHK

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		VSS	<del>R8</del>
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<del>K26</del>	VSS	VSS	<del>T26</del>
<del>K29</del>	VSS	VSS	<del>T29</del>
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<del>L12</del>	VSS	VSS	<del>U19</del>
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<del>L18</del>	VSS	VSS	<del>U24</del>
<del>L21</del>	VSS	VSS	<del>U27</del>
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<del>M25</del>	VSS	VSS	<del>V18</del>
<del>M28</del>	VSS	VSS	<del>V20</del>
<del>M31</del>	VSS	VSS	<del>V22</del>
<del>M34</del>	VSS	VSS	<del>V25</del>
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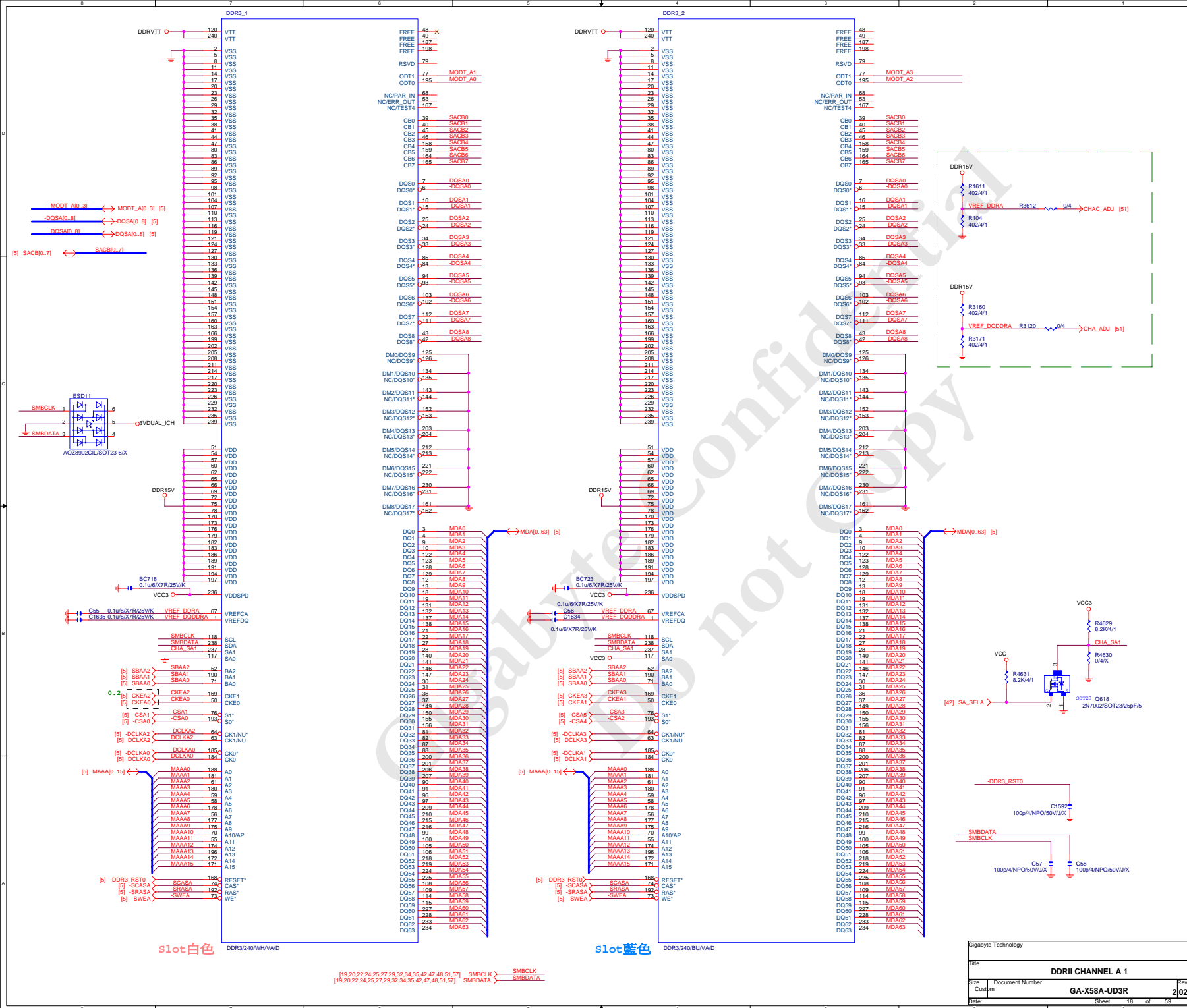
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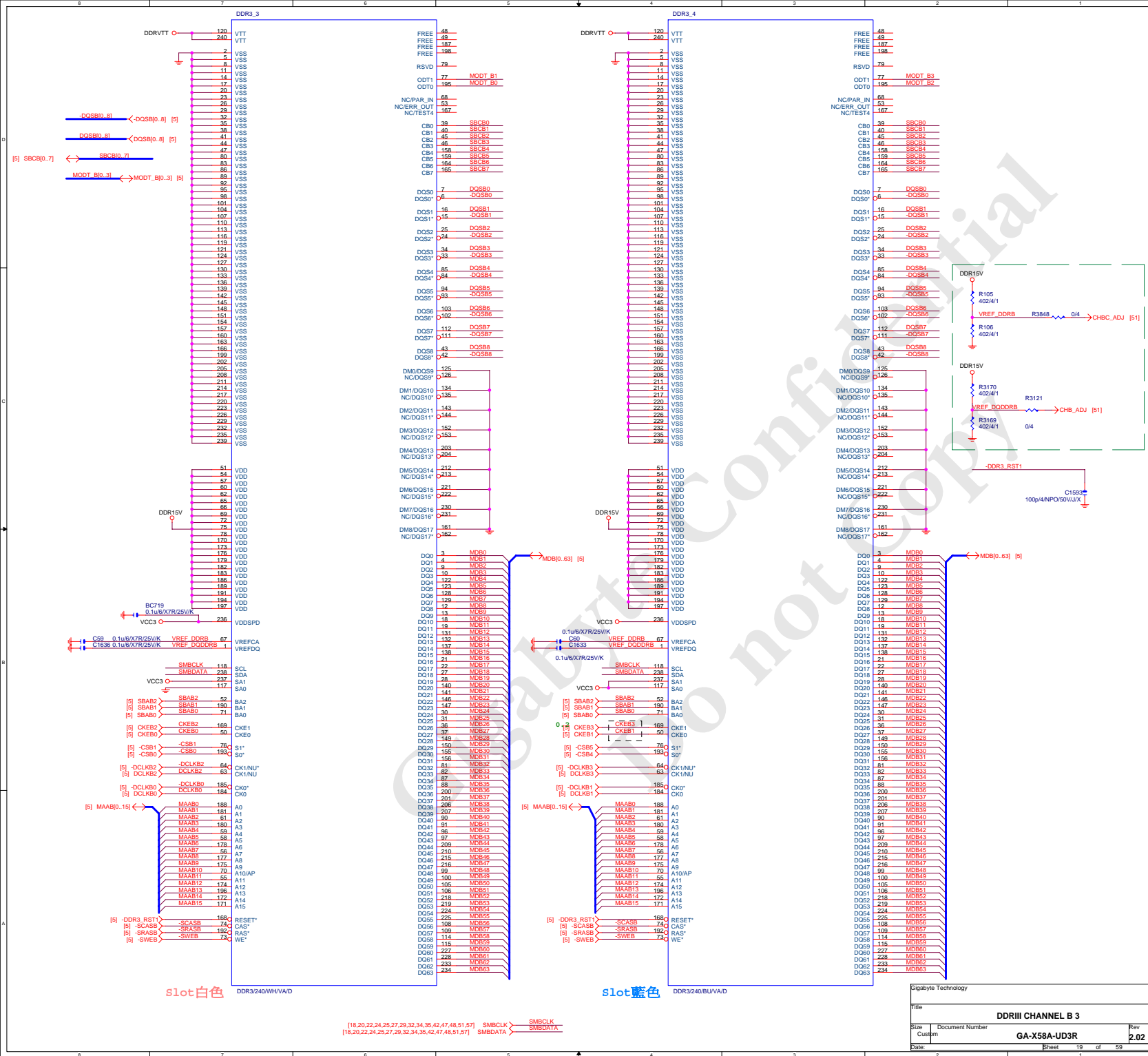
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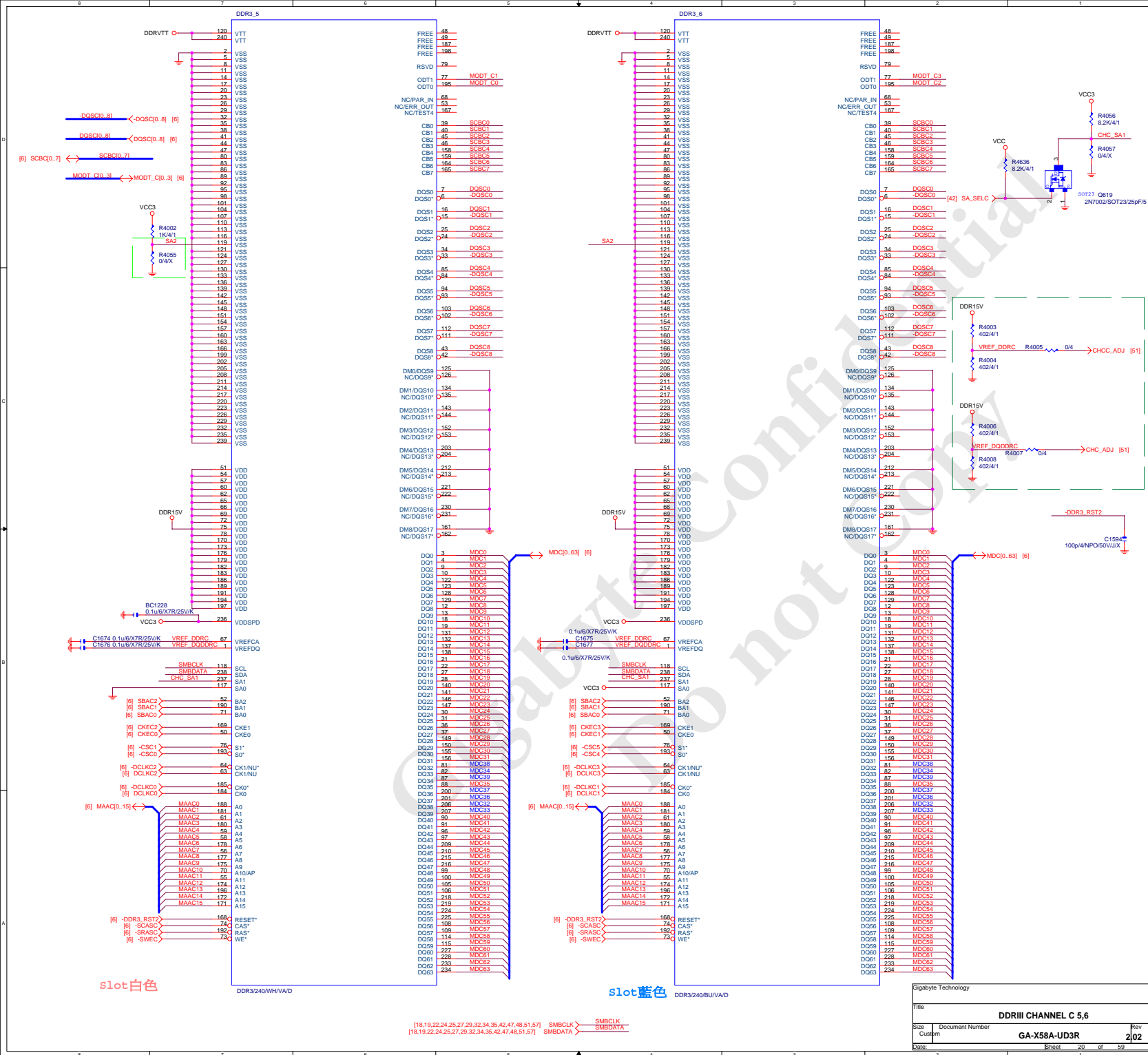
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		VSS	<del>AP34</del>
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A4	VSS	VSS	<del>AR13</del>
A33	VSS	VSS	<del>AR27</del>
A35	VSS	VSS	<del>AR32</del>
AA1	VSS	VSS	<del>AR36</del>
AA7	VSS	VSS	<del>AT3</del>
AA11	VSS	VSS	<del>AT6</del>
AA19	VSS	VSS	<del>AT16</del>
AA23	VSS	VSS	<del>AT21</del>
AA28	VSS	VSS	<del>AT33</del>
AA34	VSS	VSS	<del>AT35</del>
AB6	VSS	VSS	<del>B5</del>
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AB14	VSS	VSS	<del>B19</del>
AB18	VSS	VSS	<del>B22</del>
AB22	VSS	VSS	<del>B28</del>
AB29	VSS	VSS	<del>B31</del>
AB32	VSS	VSS	<del>B35</del>
AC2	VSS	VSS	<del>C1</del>
AC5	VSS	VSS	<del>C2</del>
AC11	VSS	VSS	<del>C3</del>
AC16	VSS	VSS	<del>C9</del>
AC23	VSS	VSS	<del>C24</del>
AC27	VSS	VSS	<del>C31</del>
AC33	VSS	VSS	<del>C36</del>
AD1	VSS	VSS	<del>D4</del>
AD7	VSS	VSS	<del>D23</del>
AD28	VSS	VSS	<del>D29</del>
AD34	VSS	VSS	<del>D32</del>
AE3	VSS	VSS	<del>E1</del>
AE9	VSS	VSS	<del>E4</del>
AE26	VSS	VSS	<del>E8</del>
AE35	VSS	VSS	<del>E22</del>
AF5	VSS	VSS	<del>E28</del>
AF14	VSS	VSS	<del>E33</del>
AF18	VSS	VSS	<del>F2</del>
AF24	VSS	VSS	<del>F6</del>
AF27	VSS	VSS	<del>F24</del>
AF33	VSS	VSS	<del>F28</del>
AG1	VSS	VSS	<del>F34</del>
AG4	VSS	VSS	<del>G3</del>
AG11	VSS	VSS	<del>G7</del>
AG13	VSS	VSS	<del>G10</del>
AG15	VSS	VSS	<del>G20</del>
AG17	VSS	VSS	<del>G26</del>
AG19	VSS	VSS	<del>G35</del>
AG21	VSS	VSS	<del>H7</del>
AG23	VSS	VSS	<del>H11</del>
AG25	VSS	VSS	<del>H19</del>
AG31	VSS	VSS	<del>H25</del>
AH3	VSS	VSS	<del>H30</del>
AH7	VSS	VSS	<del>H36</del>
AH12	VSS	VSS	<del>Y8</del>
AH22	VSS	VSS	
AH35	VSS	VSS	
AJ15	VSS	VSS	
AJ20	VSS	VSS	
AJ24	VSS	VSS	
AJ31	VSS	VSS	
AJ36	VSS	VSS	
AK1	VSS	VSS	
AK8	VSS	VSS	
AK18	VSS	VSS	
AK26	VSS	VSS	
AK34	VSS	VSS	
AL6	VSS	VSS	
AL16	VSS	VSS	
AL22	VSS	VSS	
AL30	VSS	VSS	

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Size	Document Number	Rev
Custom	GA-X58A-UD3R	2.02
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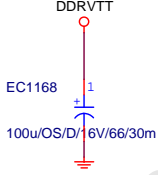
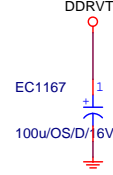
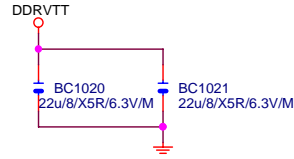
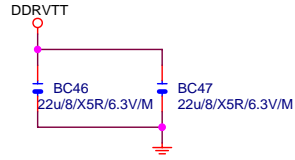
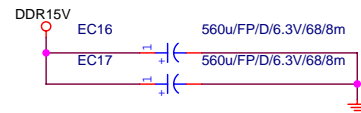
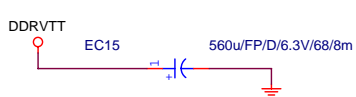




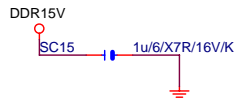
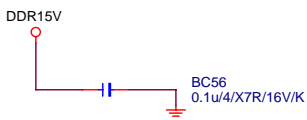


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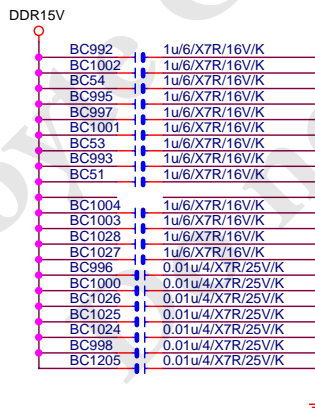
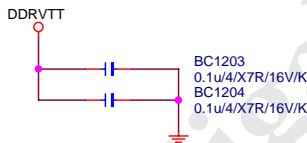
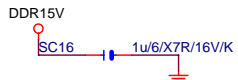
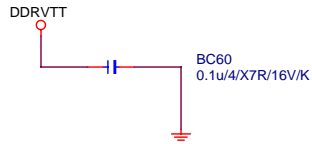
## DDRVTT Decouple



## DDR18V Decouple



## DDRVTT Decouple

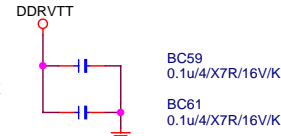


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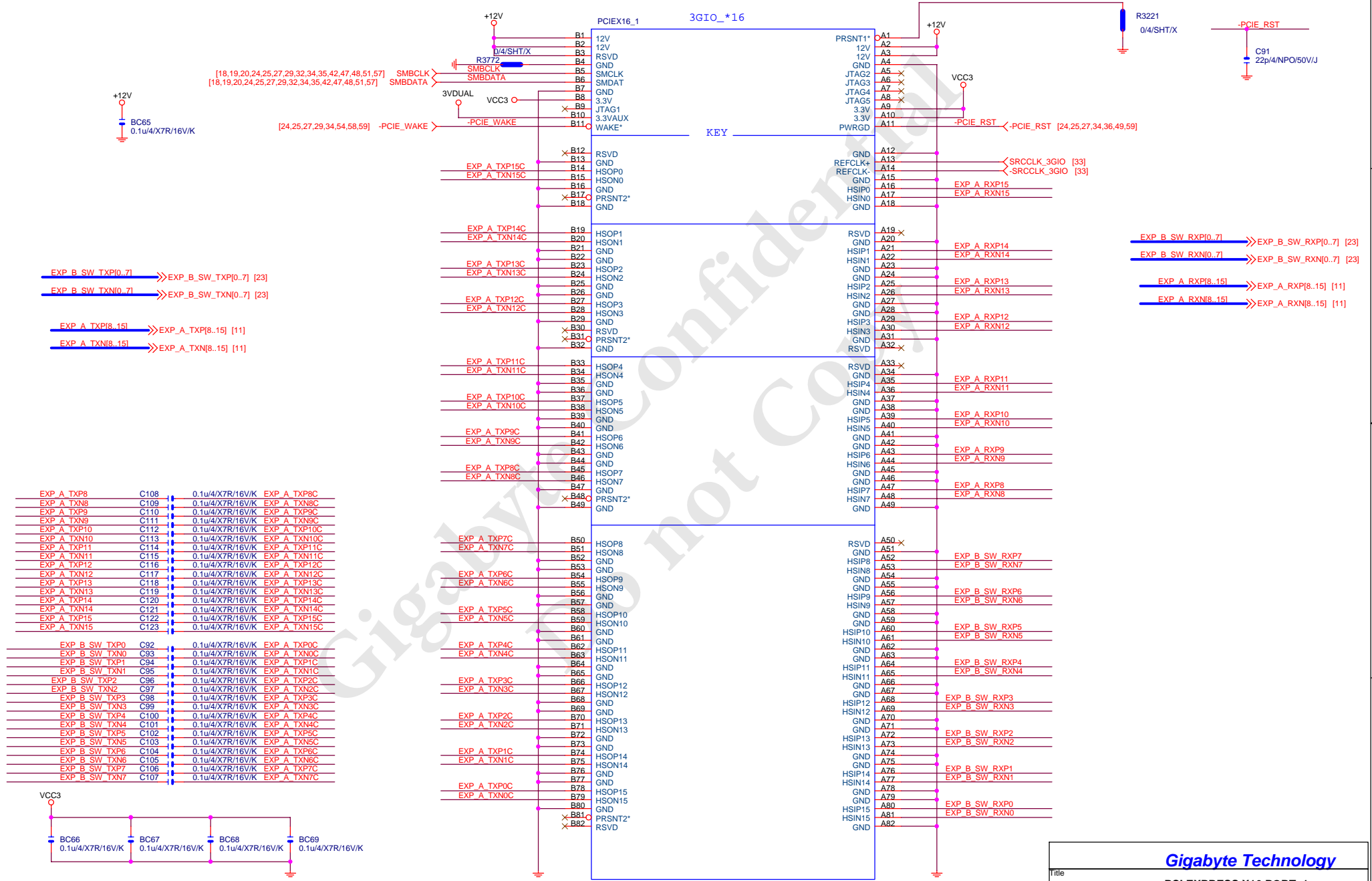
## DDRVTT Decouple



Gigabyte Technology

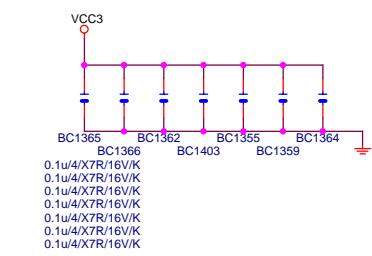
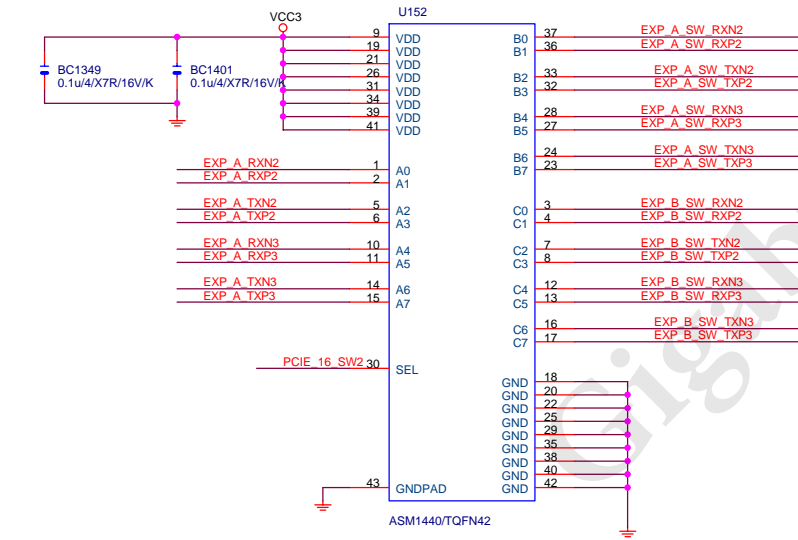
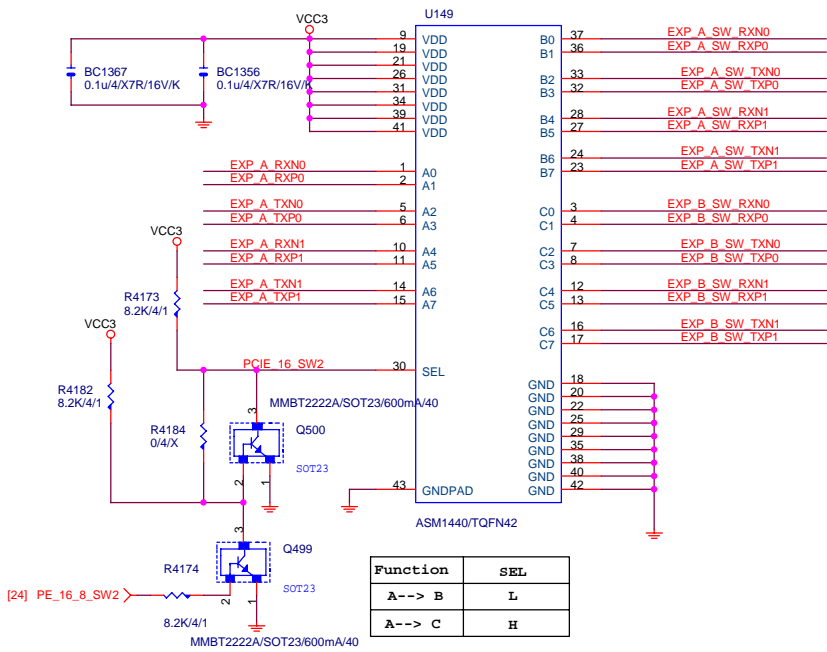
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Size	Document Number	Rev	
Custom	GA-X58A-UD3R	2.02	
Date:	Thursday, September 02, 2010	Sheet	21 of 59

# PCIESLOT-164DN-2



PCI-E/16X-164P/BU-297C/RIGHT PUSH





EXP A SW RXP0\_7] >>> EXP\_A\_SW\_RXP0[0..7] [24]

EXP A SW RXN0\_7] >>> EXP\_A\_SW\_RXN0[0..7] [24]

EXP A SW TXP0\_7] >>> EXP\_A\_SW\_TXP0[0..7] [24]

EXP A SW TXN0\_7] >>> EXP\_A\_SW\_TXN0[0..7] [24]

EXP B SW RXP0\_7] >>> EXP\_B\_SW\_RXP0[0..7] [22]

EXP B SW RXN0\_7] >>> EXP\_B\_SW\_RXN0[0..7] [22]

EXP B SW TXP0\_7] >>> EXP\_B\_SW\_TXP0[0..7] [22]

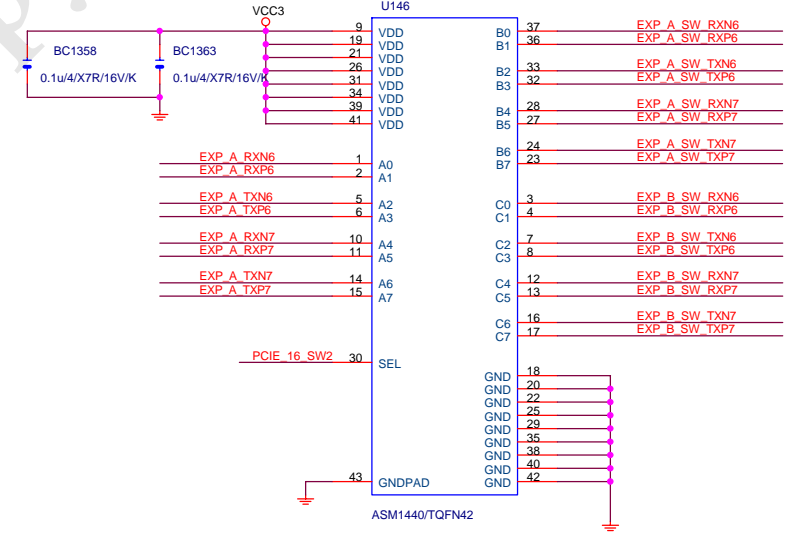
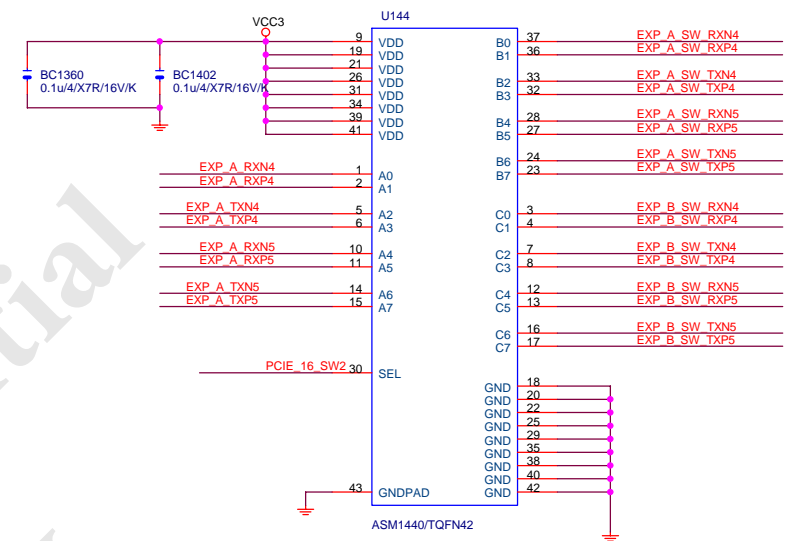
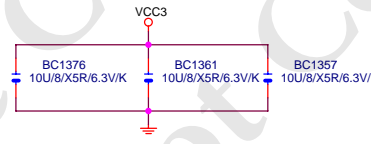
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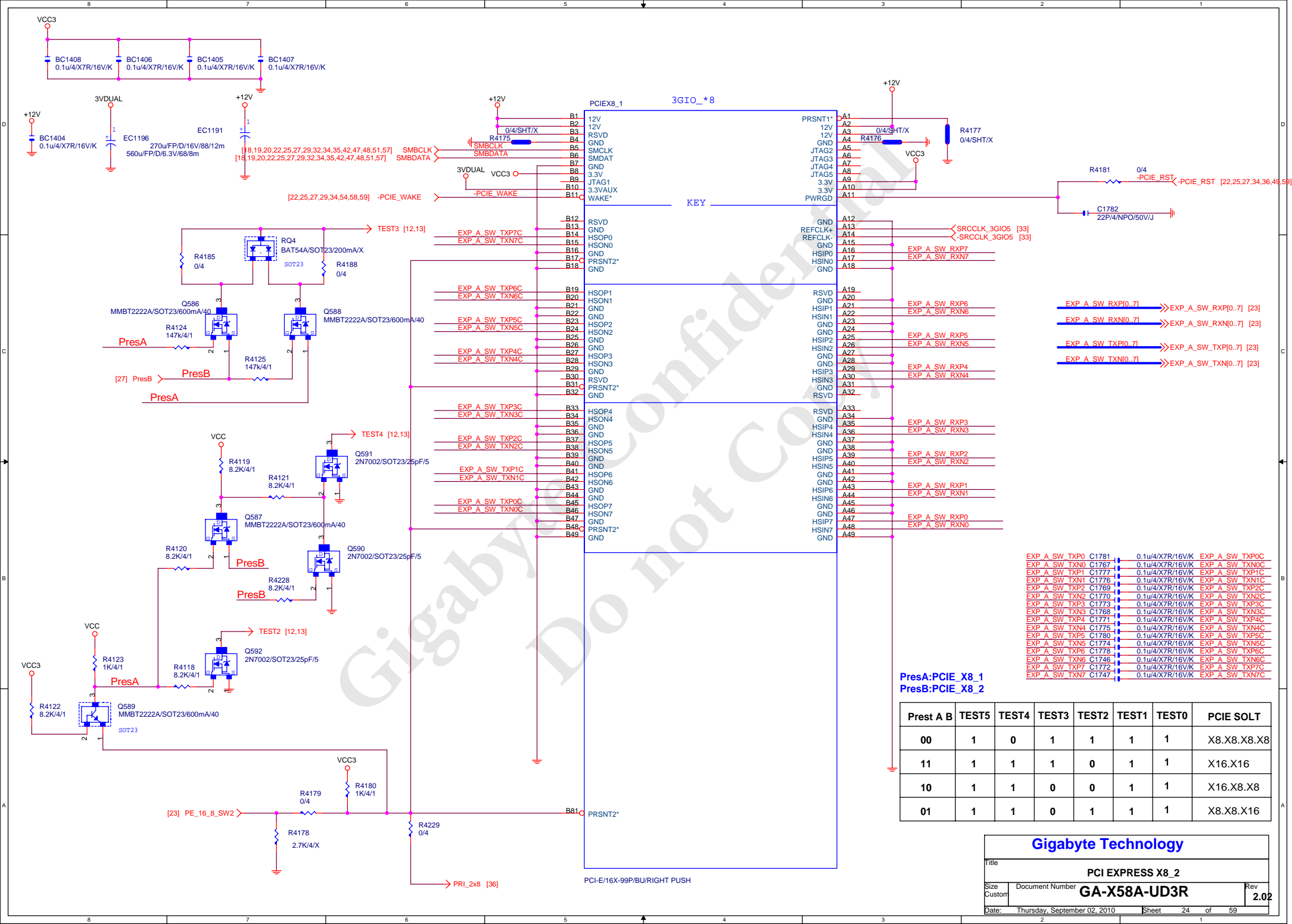
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EXP A TXN0\_7] >>> EXP\_A\_TXN0[0..7] [11]

EXP A RXP0\_7] >>> EXP\_A\_RXP0[0..7] [11]

EXP A RXN0\_7] >>> EXP\_A\_RXN0[0..7] [11]

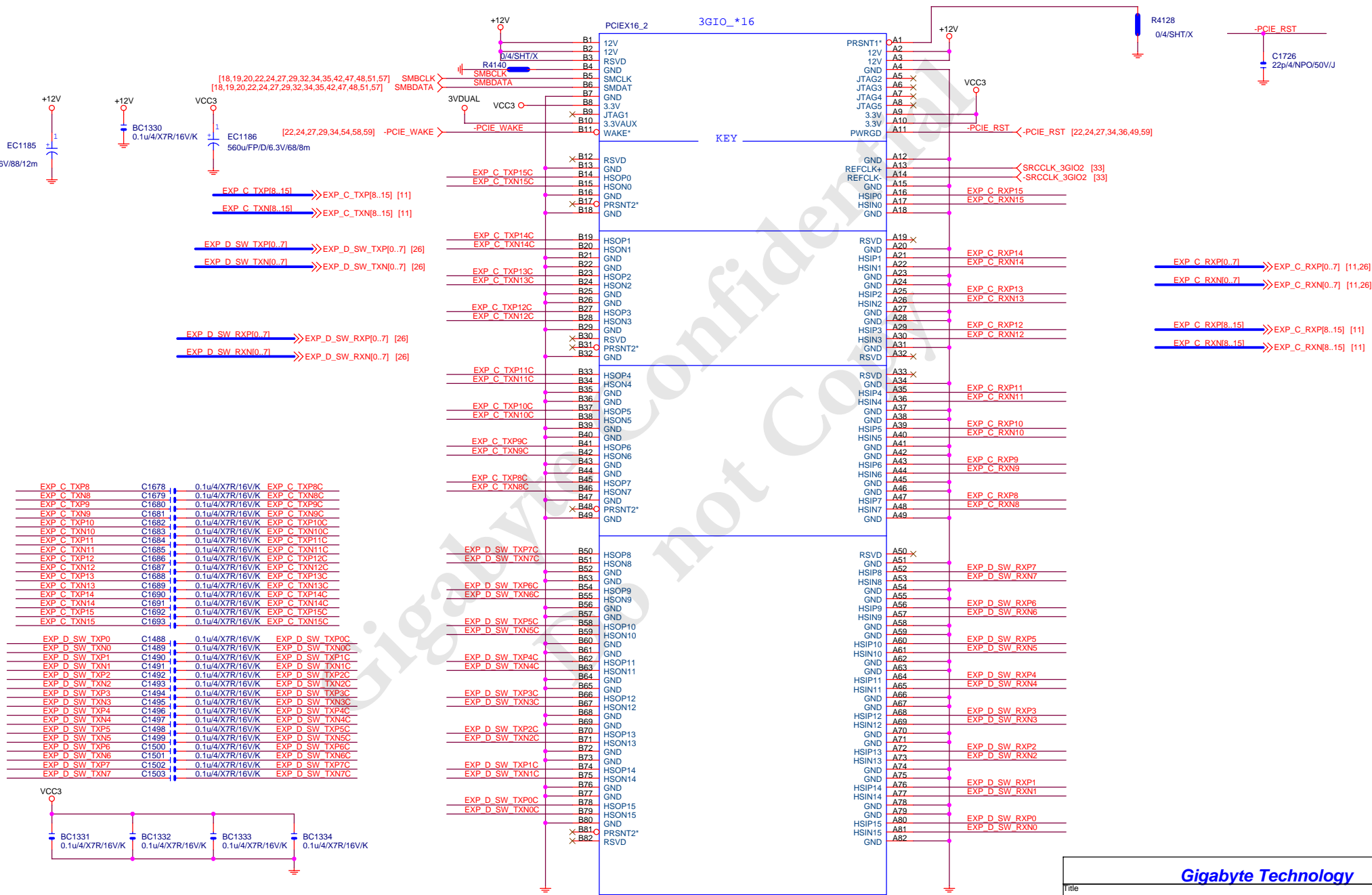




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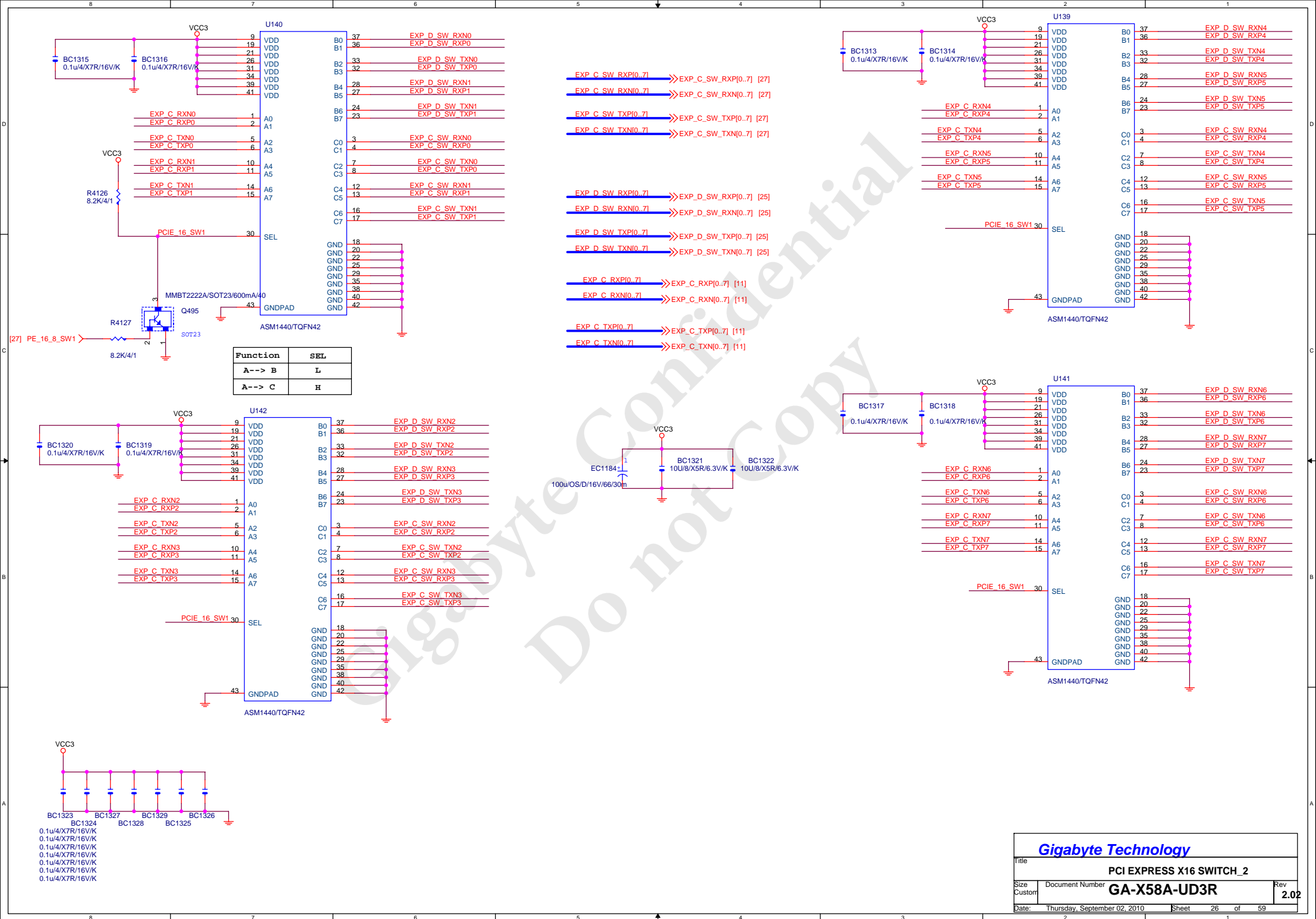
PCIE16\_2 3GIO\_\*16

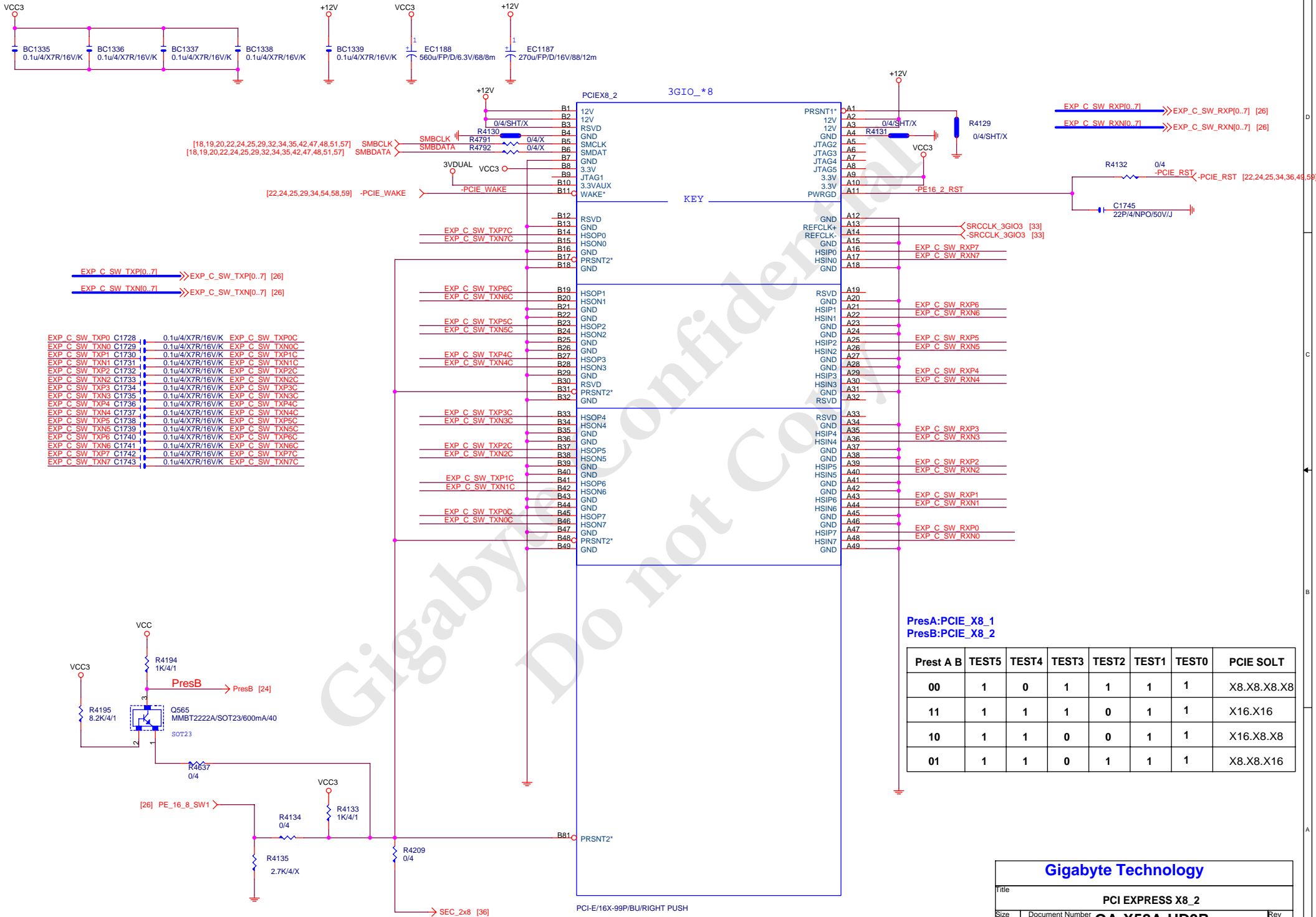
PCI-E/16X-164P/BU-297C/RIGHT PUSH



Gigabyte Technology

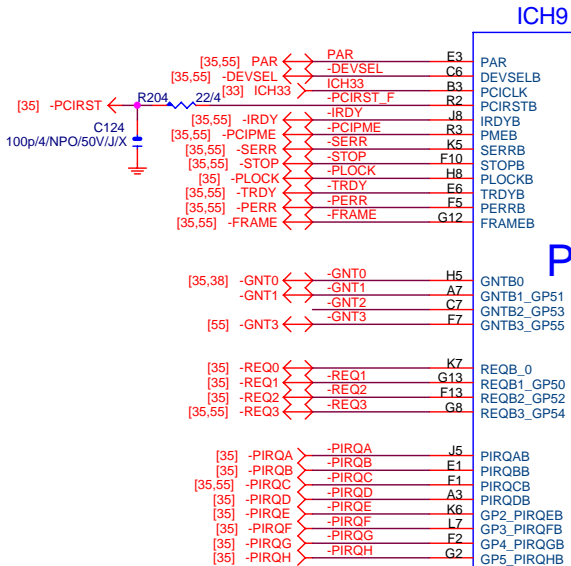
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Size				Document Number	
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Thursdays, September 02, 2010				2.02	
Sheet				25 of 59	





PresA:PCIE\_X8\_1  
PresB:PCIE\_X8\_2

PresA B	TEST5	TEST4	TEST3	TEST2	TEST1	TEST0	PCIE SOLT
00	1	0	1	1	1	1	X8.X8.X8.X8
11	1	1	1	0	1	1	X16.X16
10	1	1	0	0	1	1	X16.X8.X8
01	1	1	0	1	1	1	X8.X8.X16

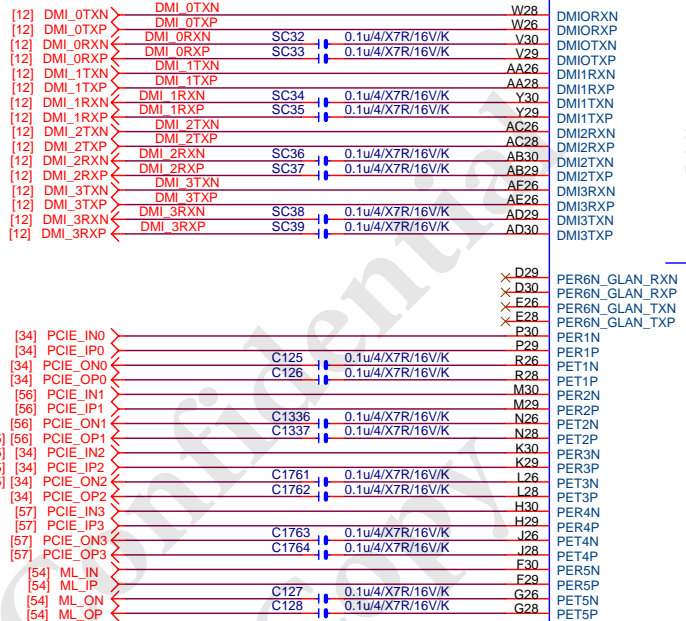


## PCI

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## ICH GPIO Table

PIN NAME	USAGE	NOTE
GP9_WOL_EN(GPIO9)	8268_P18	
GP20(GPIO20)	8268_P18	
GP0	-PECI_REQ	
GP8	STRAP_CSI_FRE1	
GP12	STRAP_CSI_FRE0	
GP27_QRT_STATE0	3VDUAL_ICH	原ISOLATEB_1
GP26_S4_STATEB	3VDUAL_ICH	原ISOLATEB_2
CLGPIO5_GP57	F_LED1_C	
GP1_TACH1	F_LED2_C	
GP22_SCLOCK	F_LED3_C	
GP28_SLOAD	F_LED4_C	
GP21_SATA0GP	F_LED5_C	
GP6_TACH2	NBT_LED2_C	
GP39_SDATAOUT0	-CPU_PSI_DIS	
GP34(GPIO34)	-SPI_WP0	
GP48_SDATAOUT1	-EN_PWM	
GP19_SATA1GP	-ACZ_DET	
GP25	-CPU_STOP	
GP36_SATA2GP	GPI036(FS)	
GP37_SATA3GP	SATA3GP	
SMBALERTB_GP11	-SMBALRT	
GP10_ALERTB	ICH_GP10(-CATERR)	原-LAN1_DSM
GP13	-LPCPME	



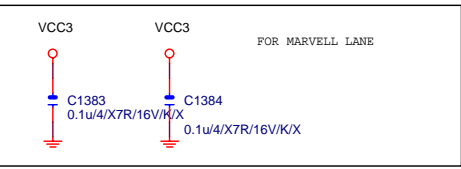
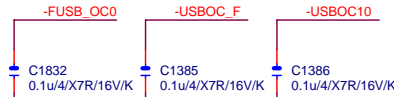
## ICH9

## DMI

## USB

## PCI-E

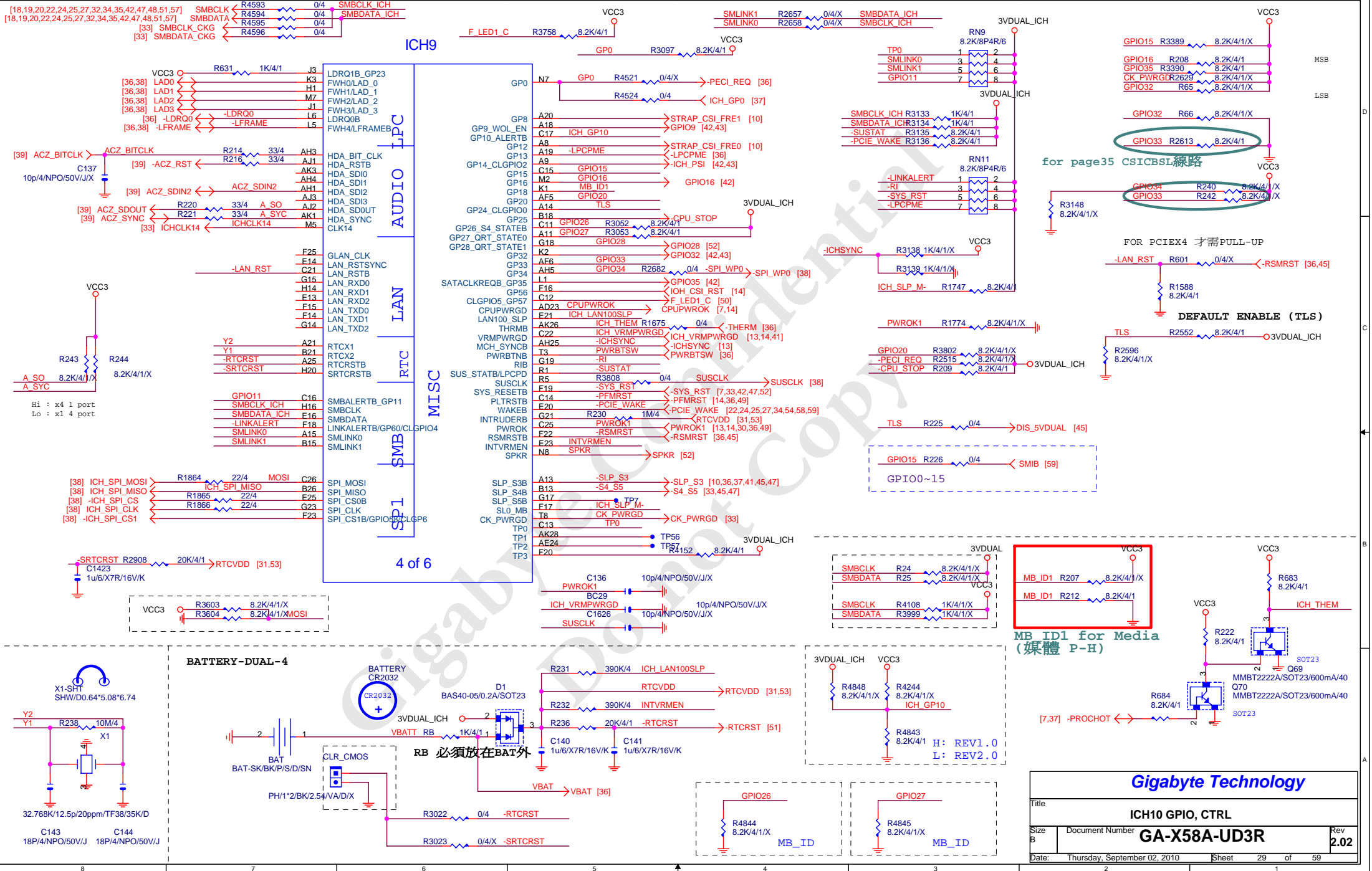
2 OF 6



## Gigabyte Technology

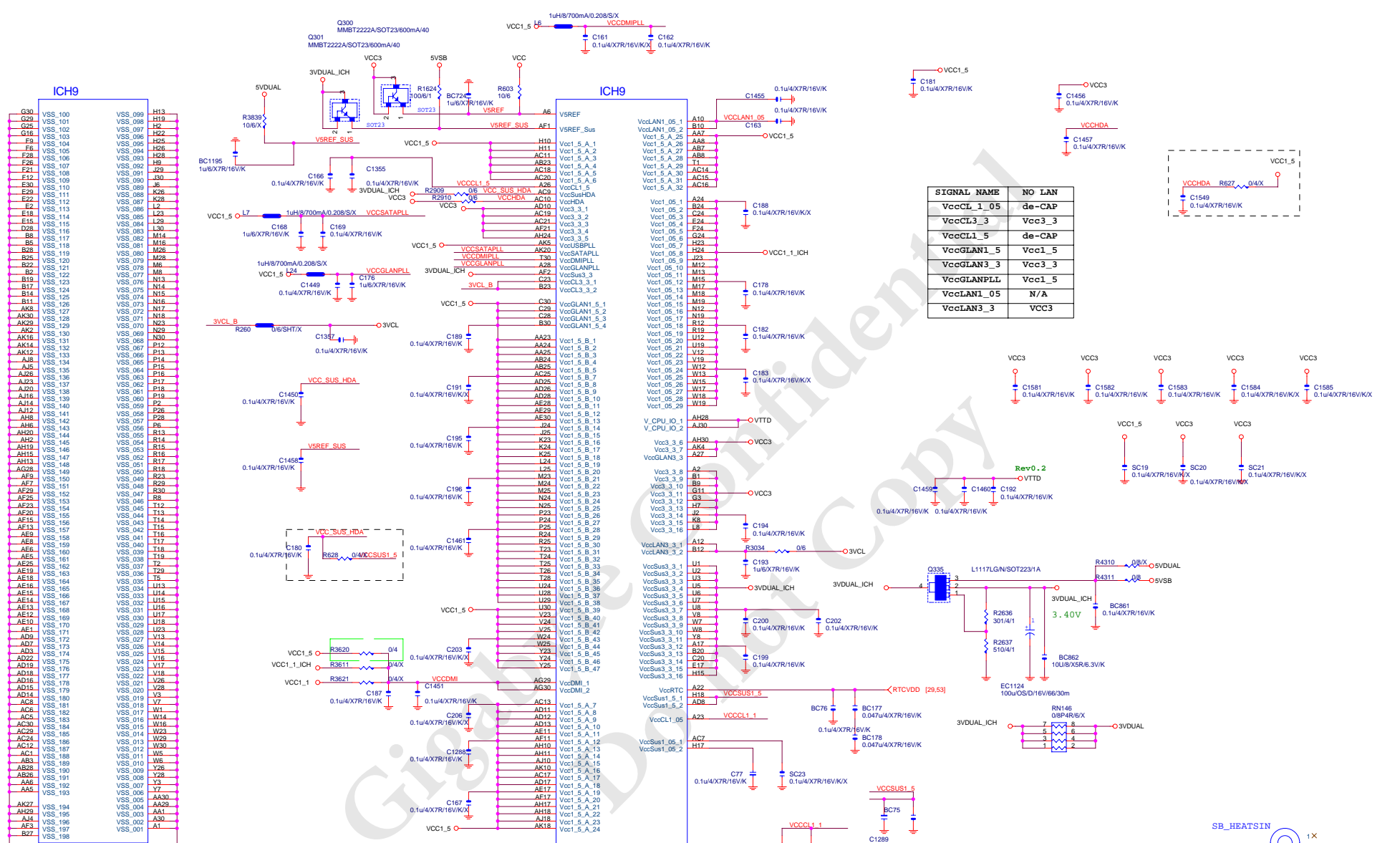
Title			ICH10 DMI, PCI, USB
Size	Document Number	Rev	
B	GA-X58A-UD3R	2.02	
Date:	Thursday, September 02, 2010	Sheet	28 of 59



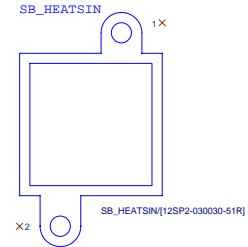




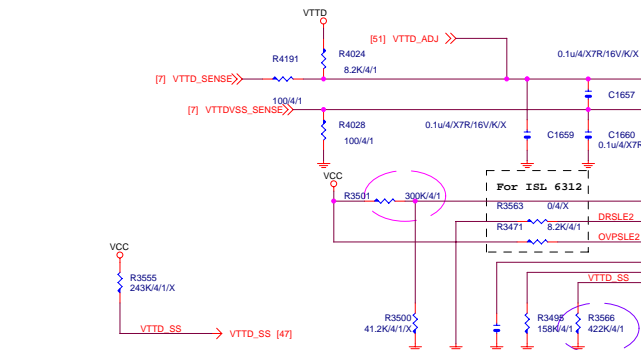
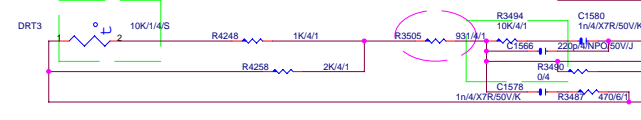
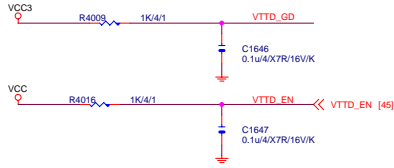




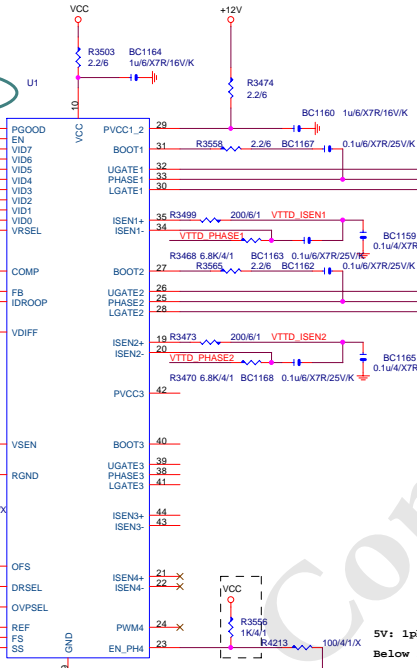
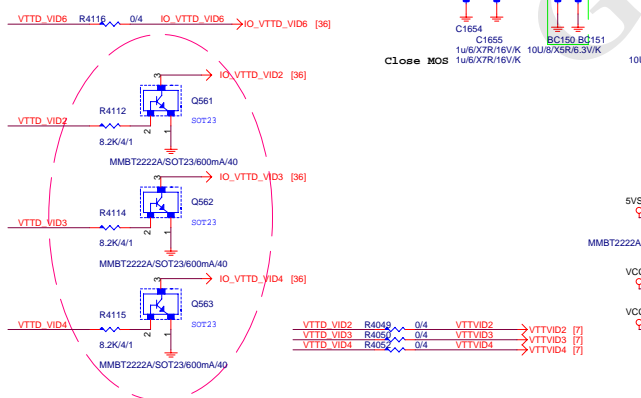
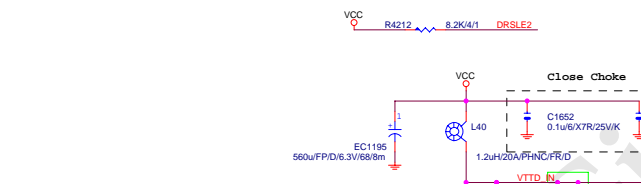
SIGNAL NAME	NO LAN
VccCL1_05	de-CAP
VccCL3_3	Vcc3_3
VccCL1_5	de-CAP
VccGLAN1_5	Vcc1_5
VccGLAN3_3	Vcc3_3
VccGLANPLL	Vcc1_5
VccLAN1_05	N/A
VccLAN3_3	VCC3



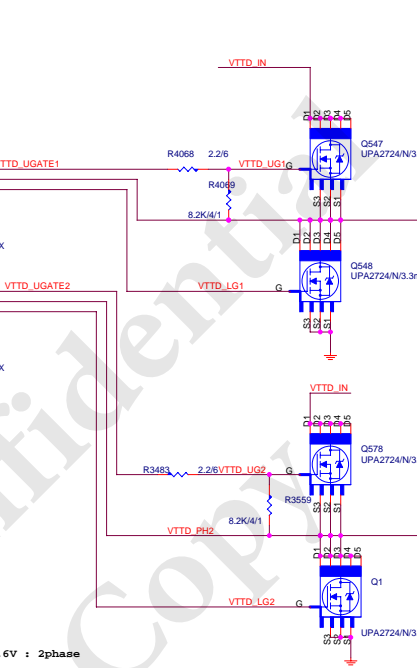
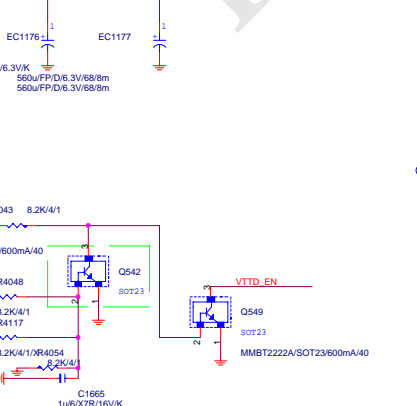
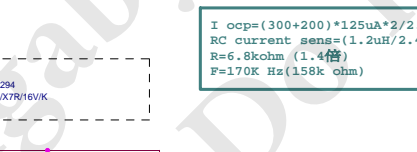
VCC  
R3561 15K/4/1  
VTDD\_VRS  
R3488 10K/4/1  
5V : AMD mode  
0.6V~3V : VRD11 mode  
0V : VRD10 mode



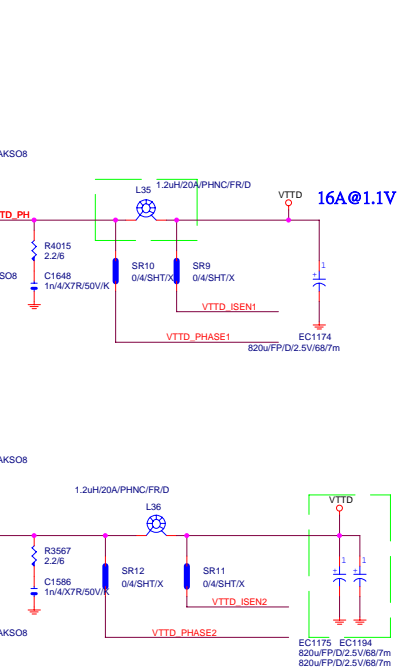
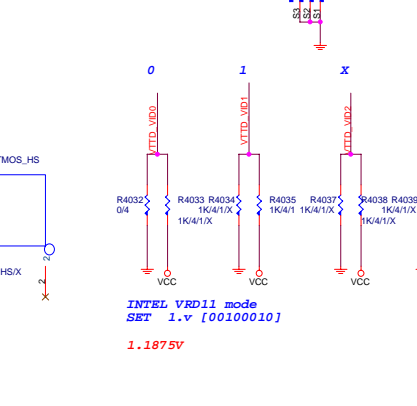
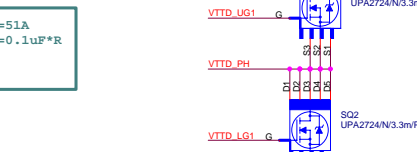
Pu for 6322 type2 SMBus address  
address 1000\_111x



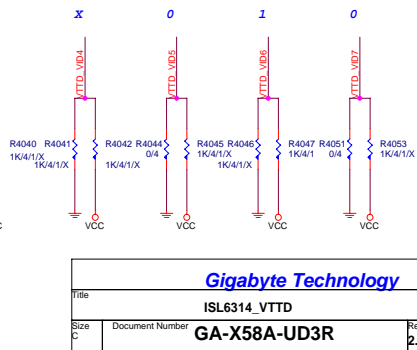
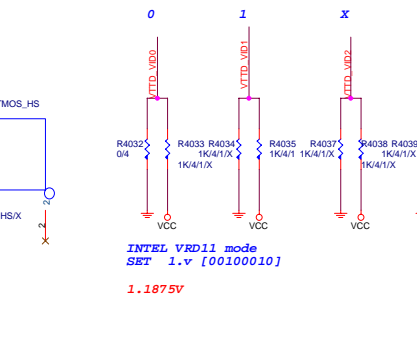
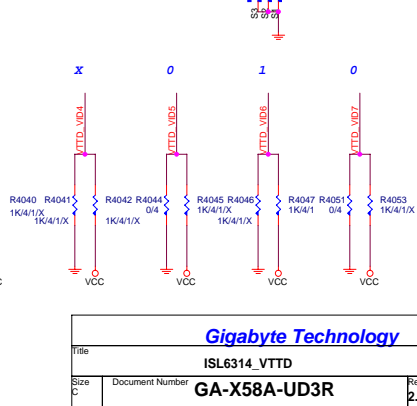
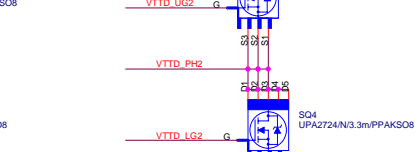
For ISL 6312  
DRSLE2  
OVPSLE2  
For ISL 6322  
DRSLE2  
OVPSLE2



5V: 1phase  
Below 5V~0.6V : 2phase

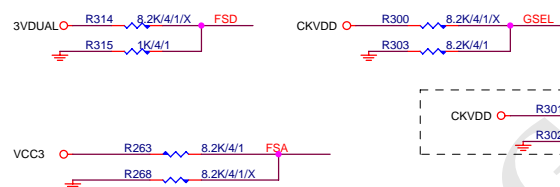
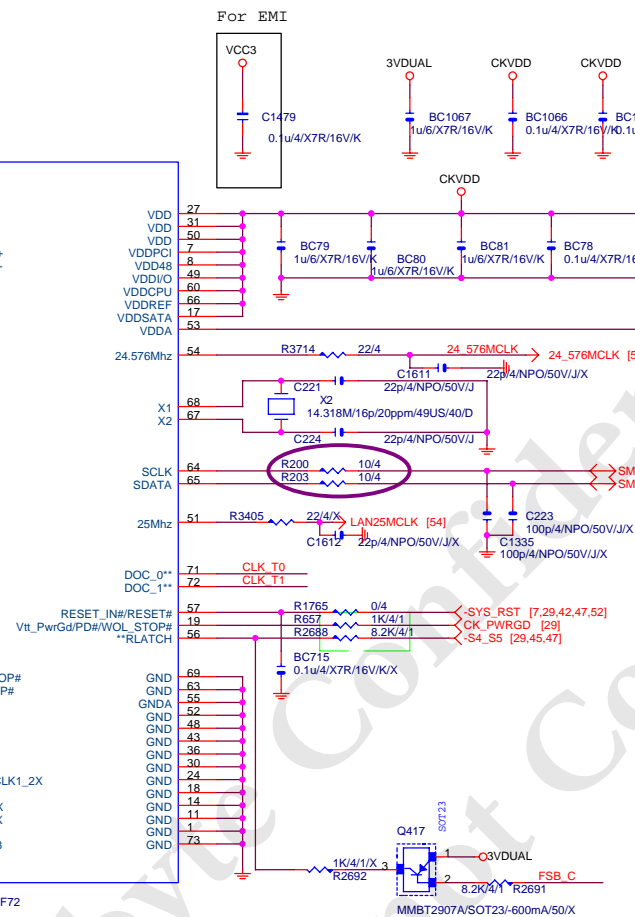
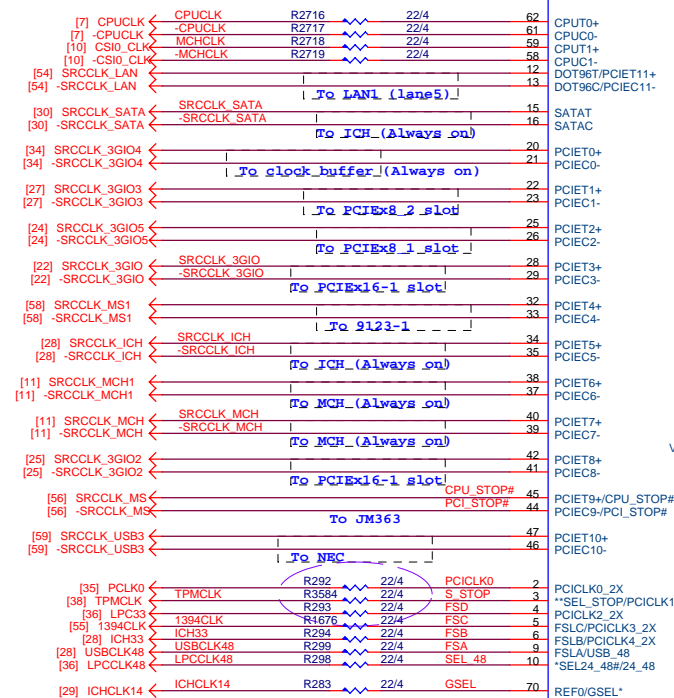


16A@1.1V



INTEL VRD11 mode  
SET 1.v [00100010]  
1.1875V

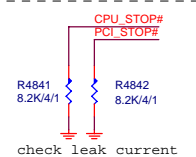
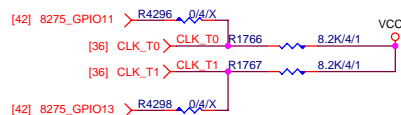
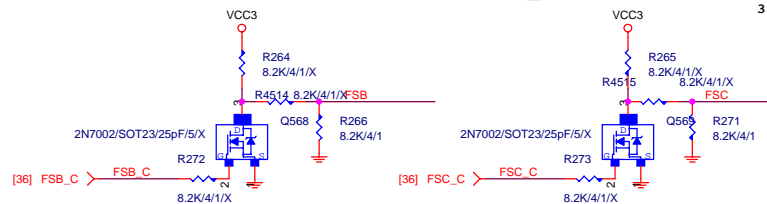
Gigabyte Technology		
ISL6314_VTDD		
Size	Document Number	Rev
C	GA-X58A-UD3R	2.02
Date: Thursday, September 02, 2010 Sheet 32 of 59		



GSEL=1 , DOTCLK 96Mhz from 12/13  
GSEL=0 , PCIECLK11 from 12/13

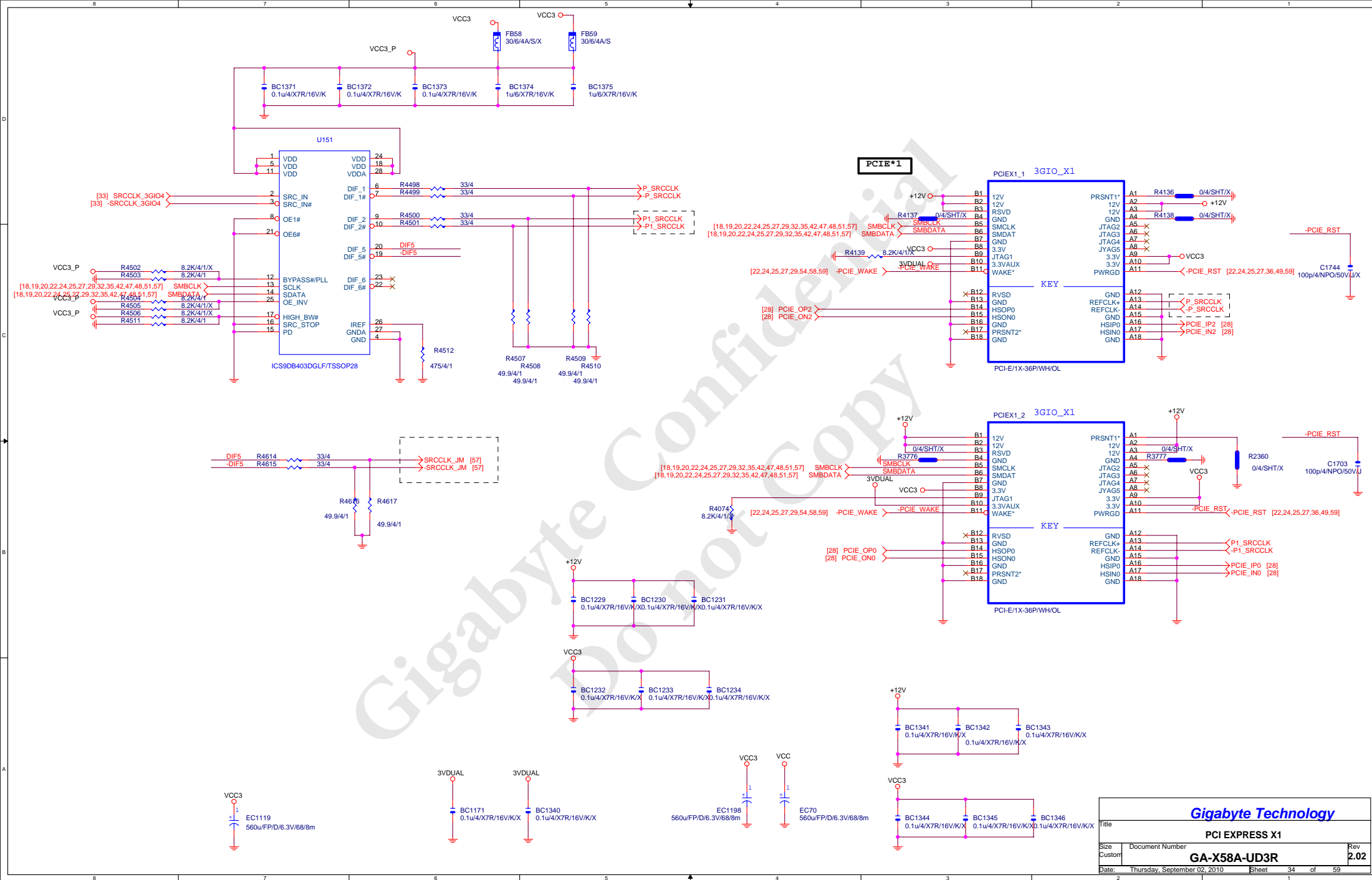


SEL\_STOP: latched input to select pin functionality  
1 = Selects pin 44/45 to be PCI\_STOP#/CPU\_STOP#  
0 = Selects pin 44/45 to be PCIe outputs ;  
3.3V PCICLK output

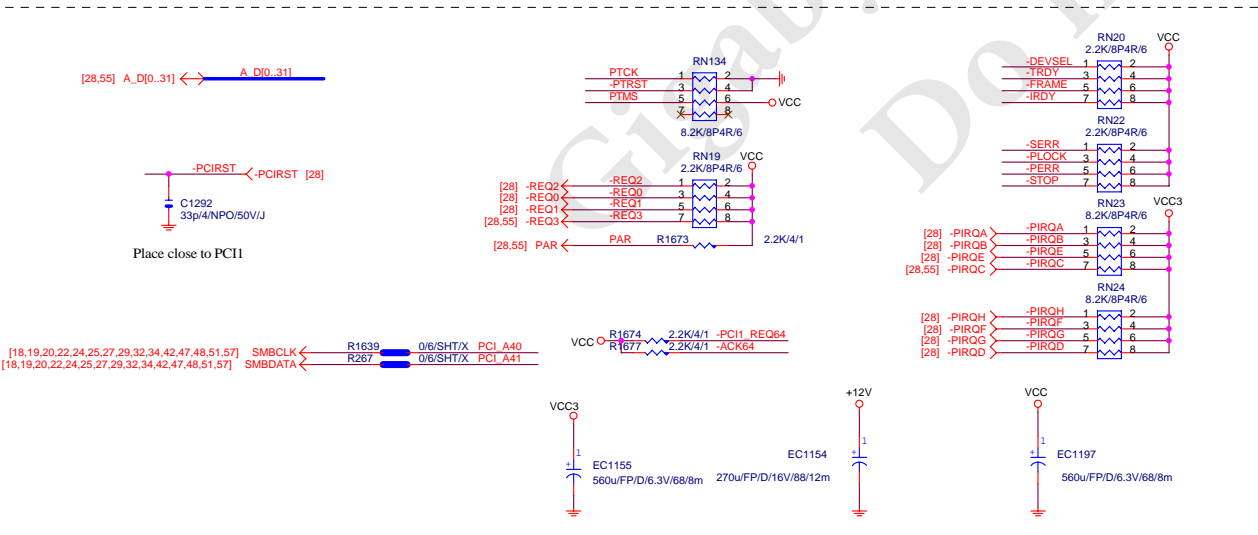
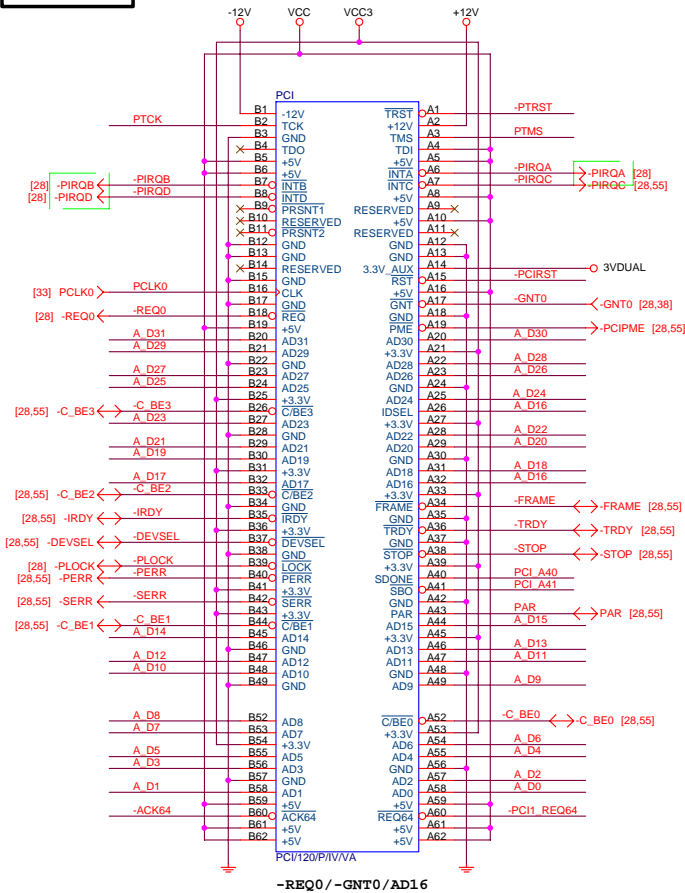


Gigabyte Technology

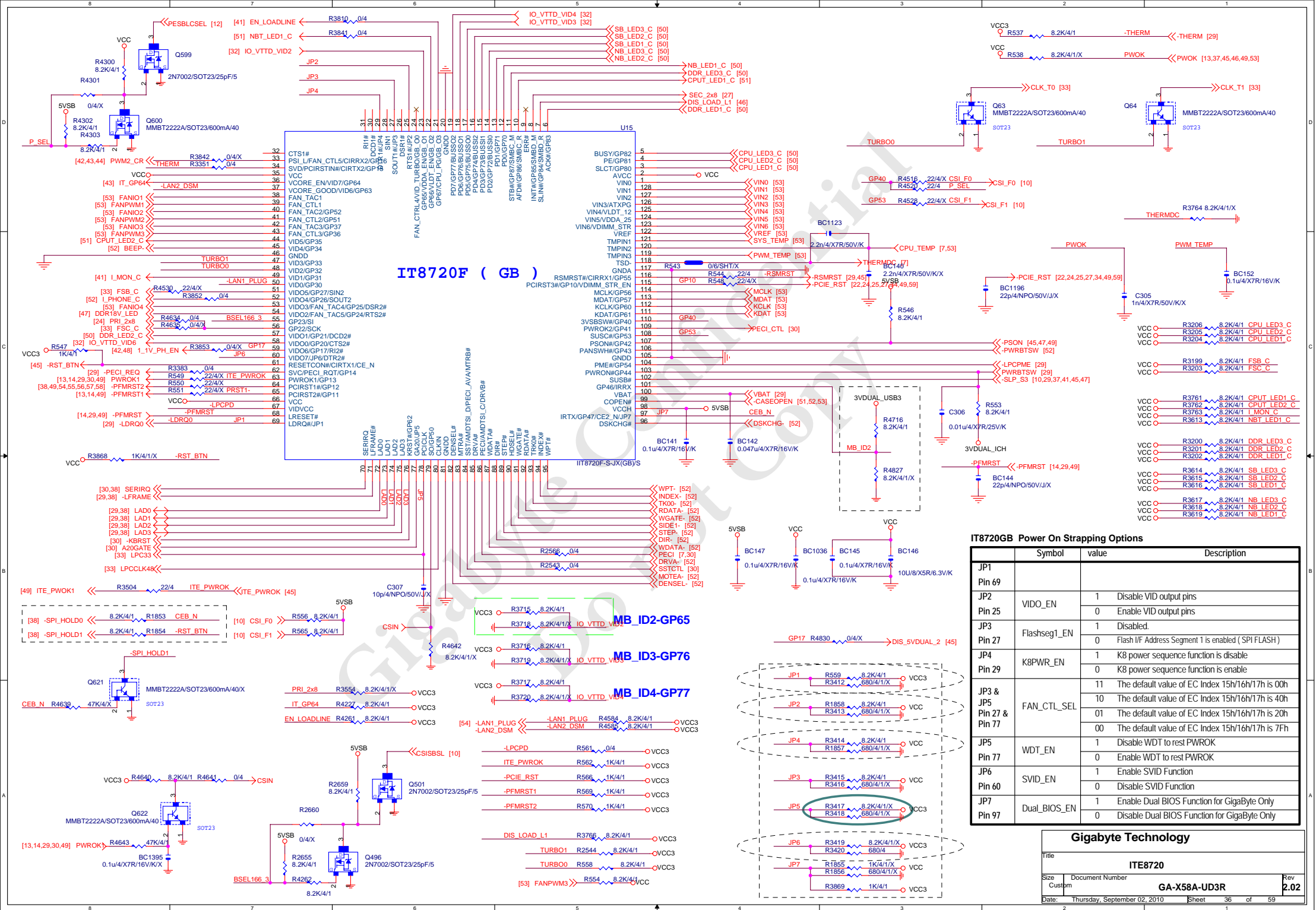
Title		
ICS9LPRS914		
Size	Document Number	Rev
Custom	GA-X58A-UD3R	2.02
Date:	Thursday, September 02, 2010	Sheet 33 of 59



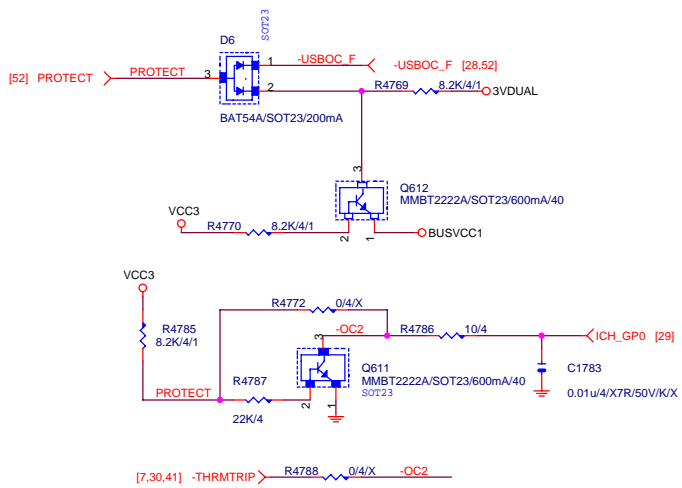
# PCI1,2 SLOT



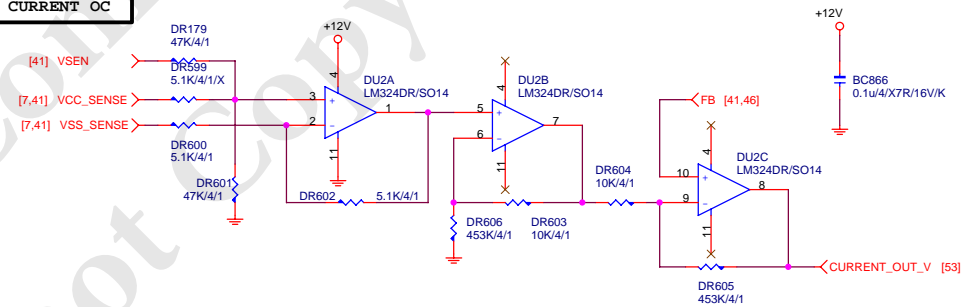




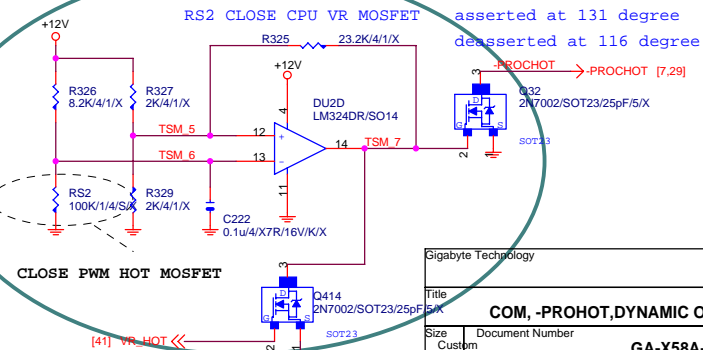
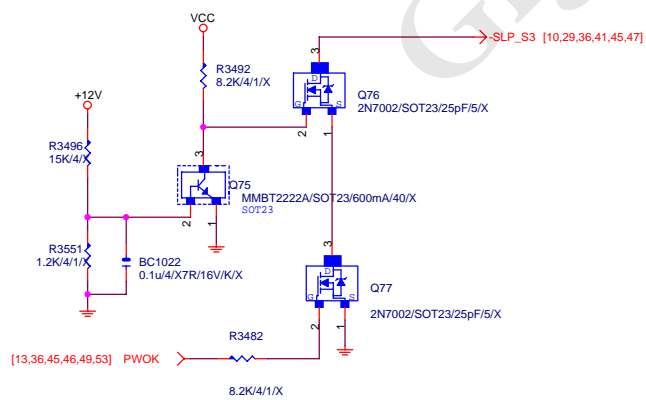




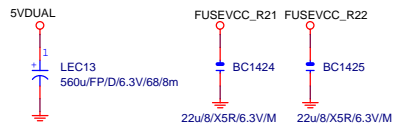
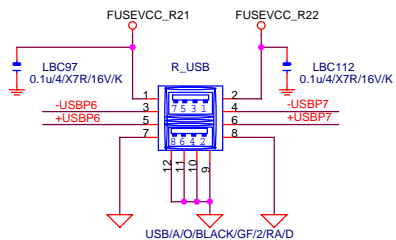
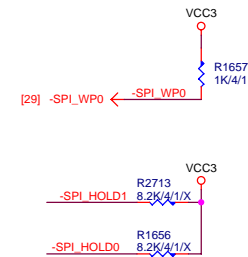
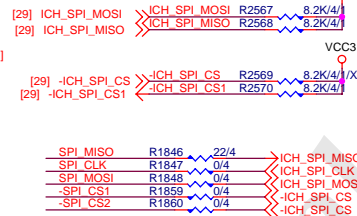
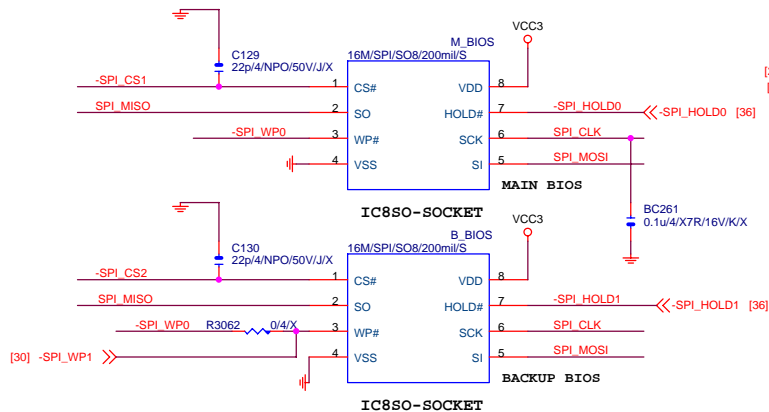
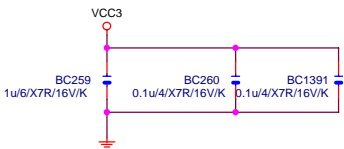
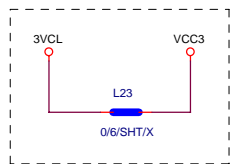
#### DYNAMIC CURRENT OC



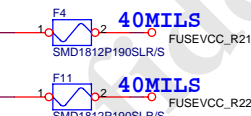
#### -PROHOT



Gigabyte Technology			
Title	COM, -PROHOT,DYNAMIC OC +12V保護線路		
Size	Document Number	Rev	
Custom	GA-X58A-UD3R	2.02	
Date:	Thursday, September 02, 2010	Sheet	37 of 59



距離LR29 在0.5cm以內

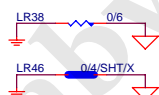
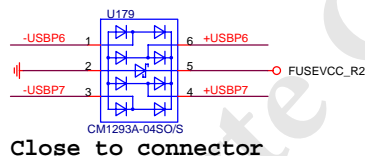


REMOVE PCI\_BT1.PCI\_BT2

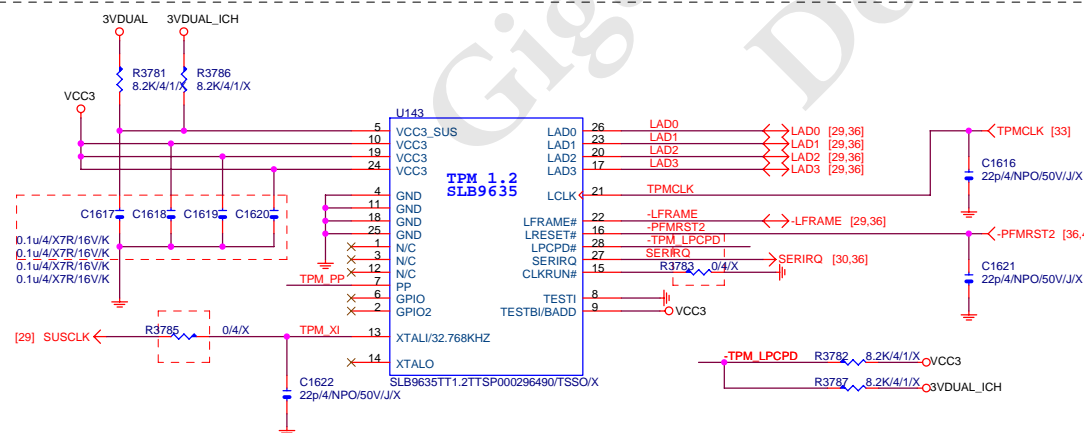
BOOT DEVICE	GNT0	CS1
SPI	0	X
PCI	1	0
FWH	1	1



90歐母:[15/4.5/7.5/4.5/15]

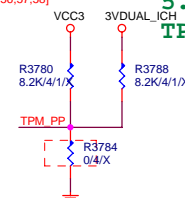


TPM



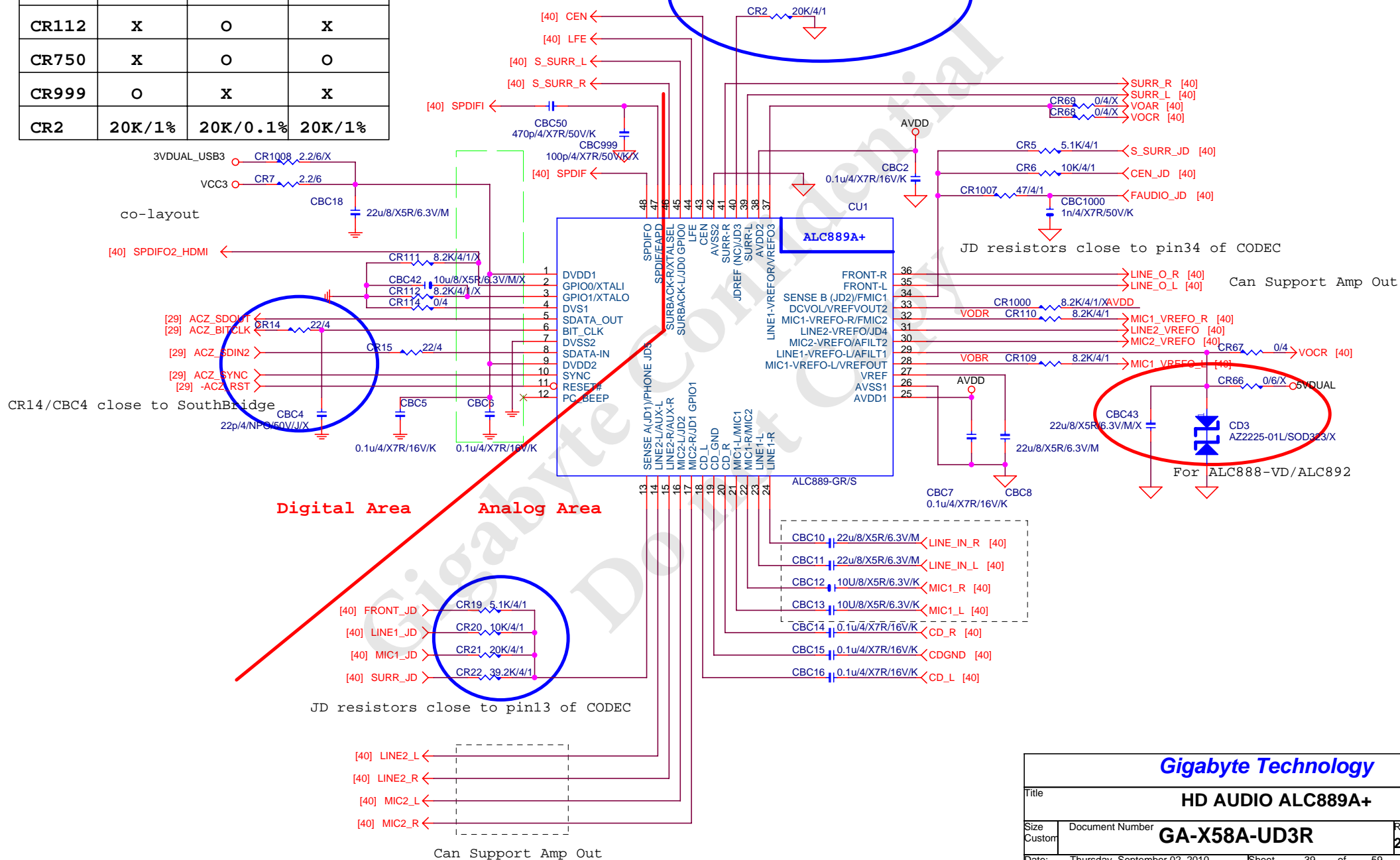
TPM Function

- 1.C1617.C16118.C1619.C1620
- 2.U143
- 3.R3782.R3783.R3784.R3785
- 4.R3584=15 ohm(TPM)不上(no TPM)
- 5.R295=15 ohm(TPM)22 ohm(no TPM)



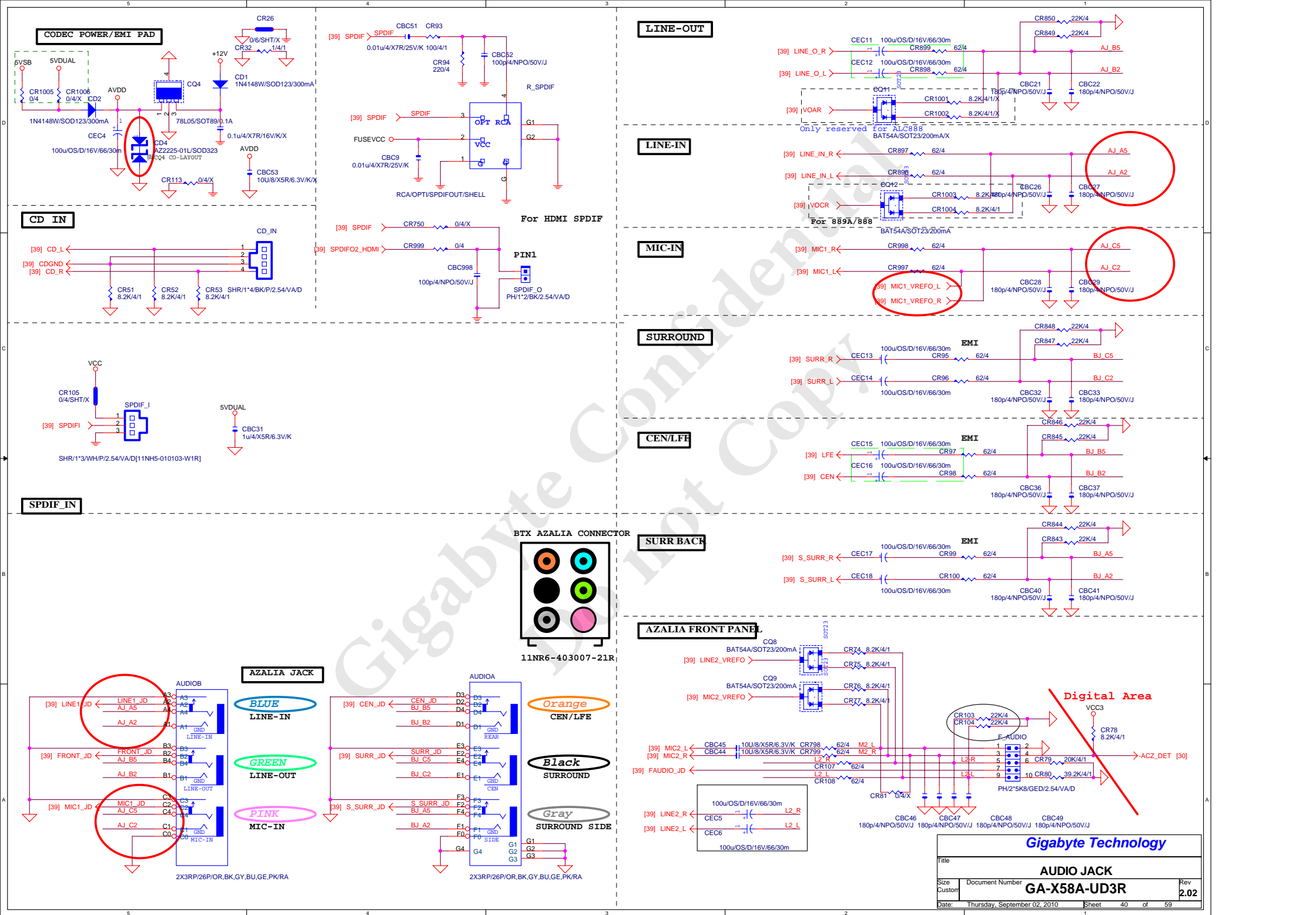
Gigabyte Technology			
Title DUAL BIOS TPM			
Size Custom	Document Number	GA-X58A-UD3R	Rev 2.02
Date:	Thursday, September 02, 2010	Sheet 38	of 59

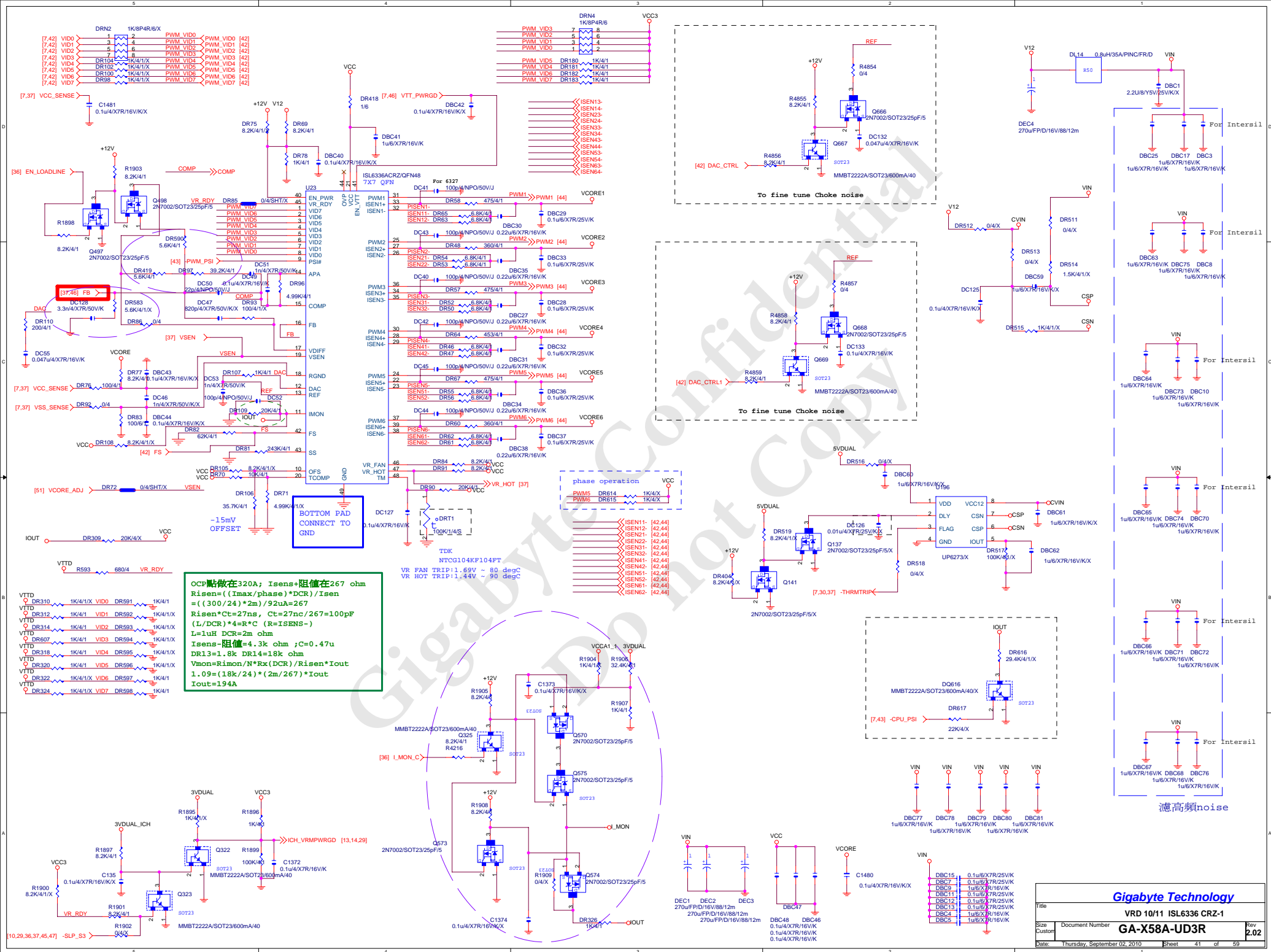
	ALC889A+	ALC889A	ALC888Vx
CR111	X	O	X
CR112	X	O	X
CR750	X	O	O
CR999	O	X	X
CR2	20K/1%	20K/0.1%	20K/1%

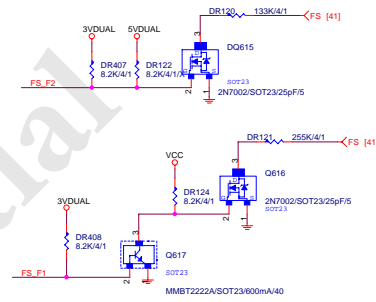


Gigabyte Technology

Title			HD AUDIO ALC889A+		
Size	Document Number	GA-X58A-UD3R			Rev
Custom					2.02
Date:	Thursday, September 02, 2010	Sheet	39	of	59

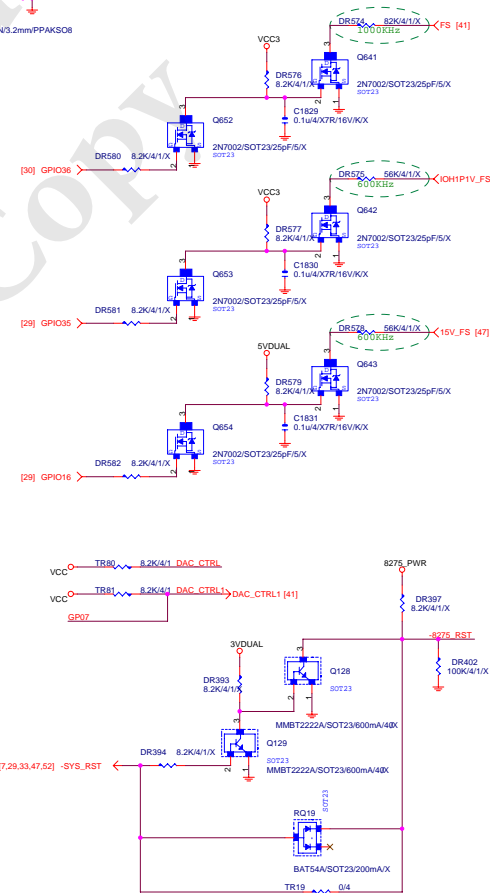
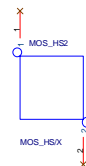






	IT8275 GP17	IT8275 GP16	PCH GP36
400K	L	X	X
500K	L	L	X
600K	X	X	X
700K	X	L	X
1MHz	X	L	L

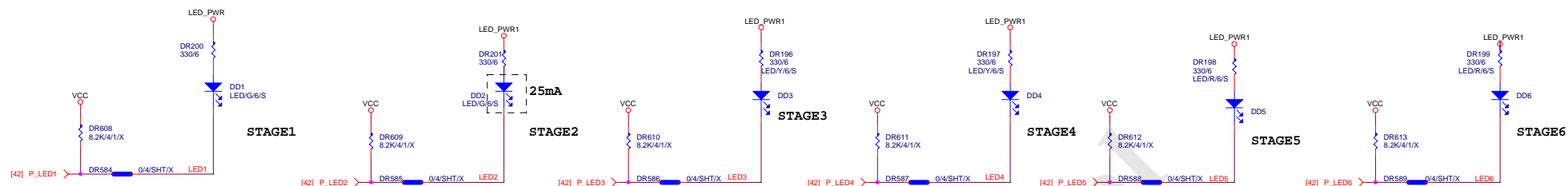
Diagram of a MOS transistor. The gate terminal is labeled MOS\_HS, the source terminal is labeled MOS\_HS/X, and the drain terminal is labeled X.



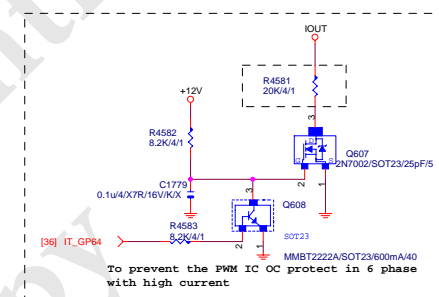
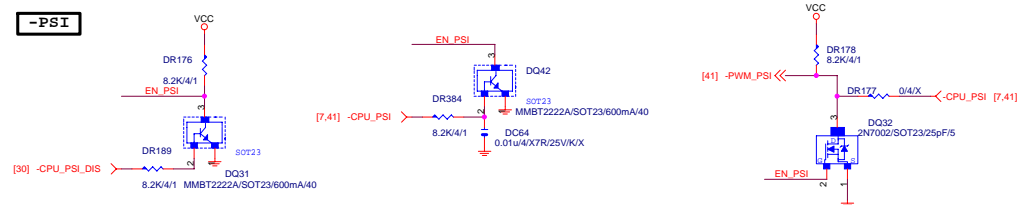
For old 8275	
	RT10
Lo	VR10 --> VR11
Hi	Bypass

For new 8275	
RT10	
LO	PRMO 0-4 control by FW
Hi	PRMO-4 bypass to PRMO0-4

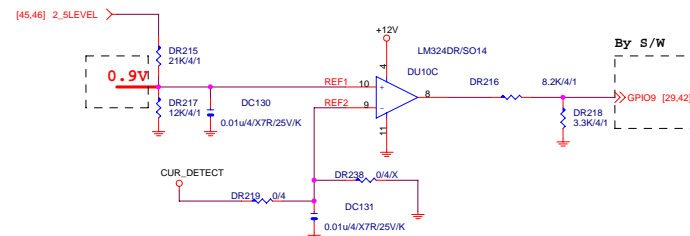
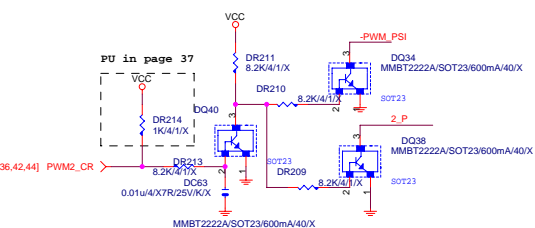
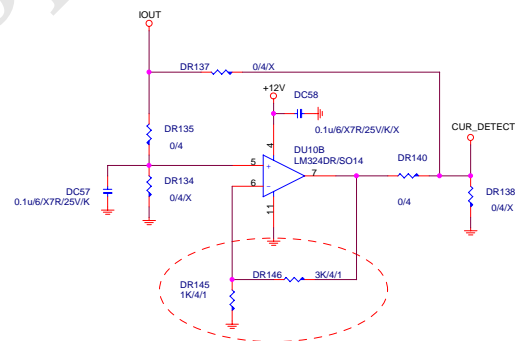
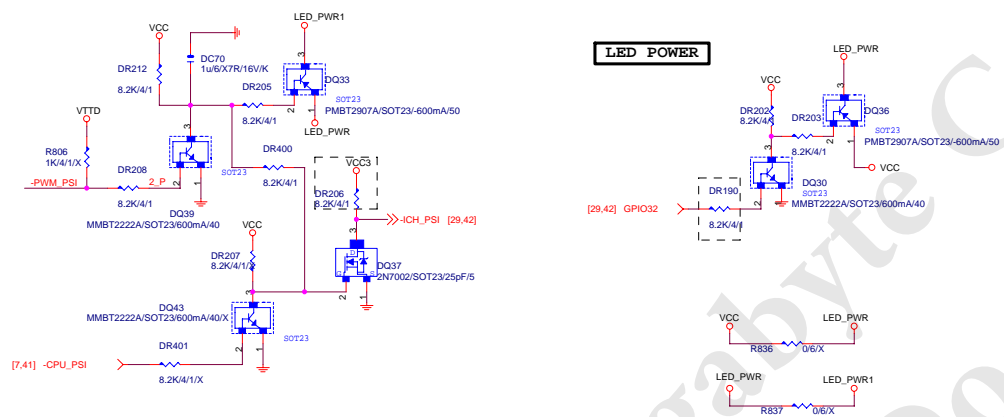
PHASE LED



-PSI

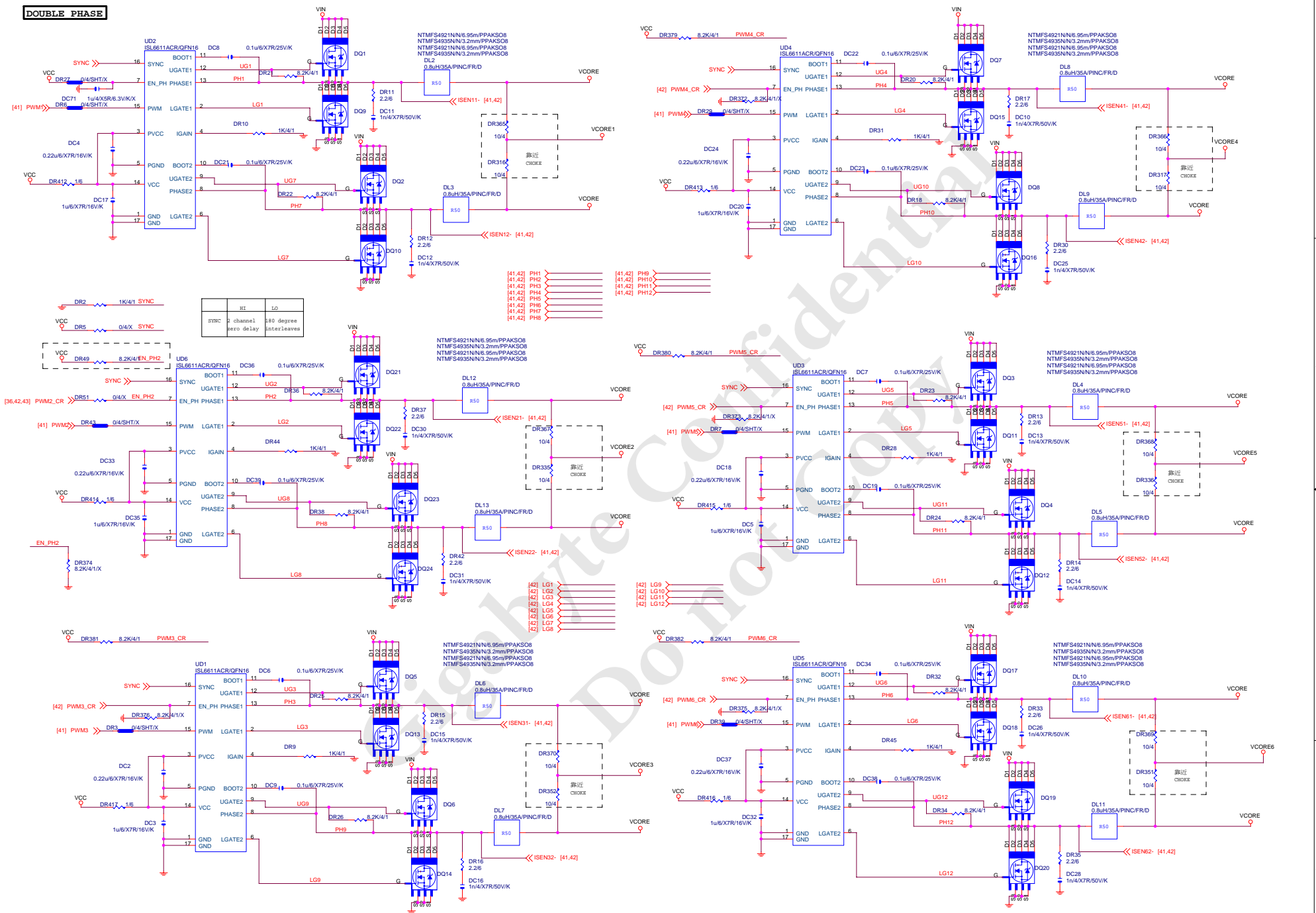


LED POWER



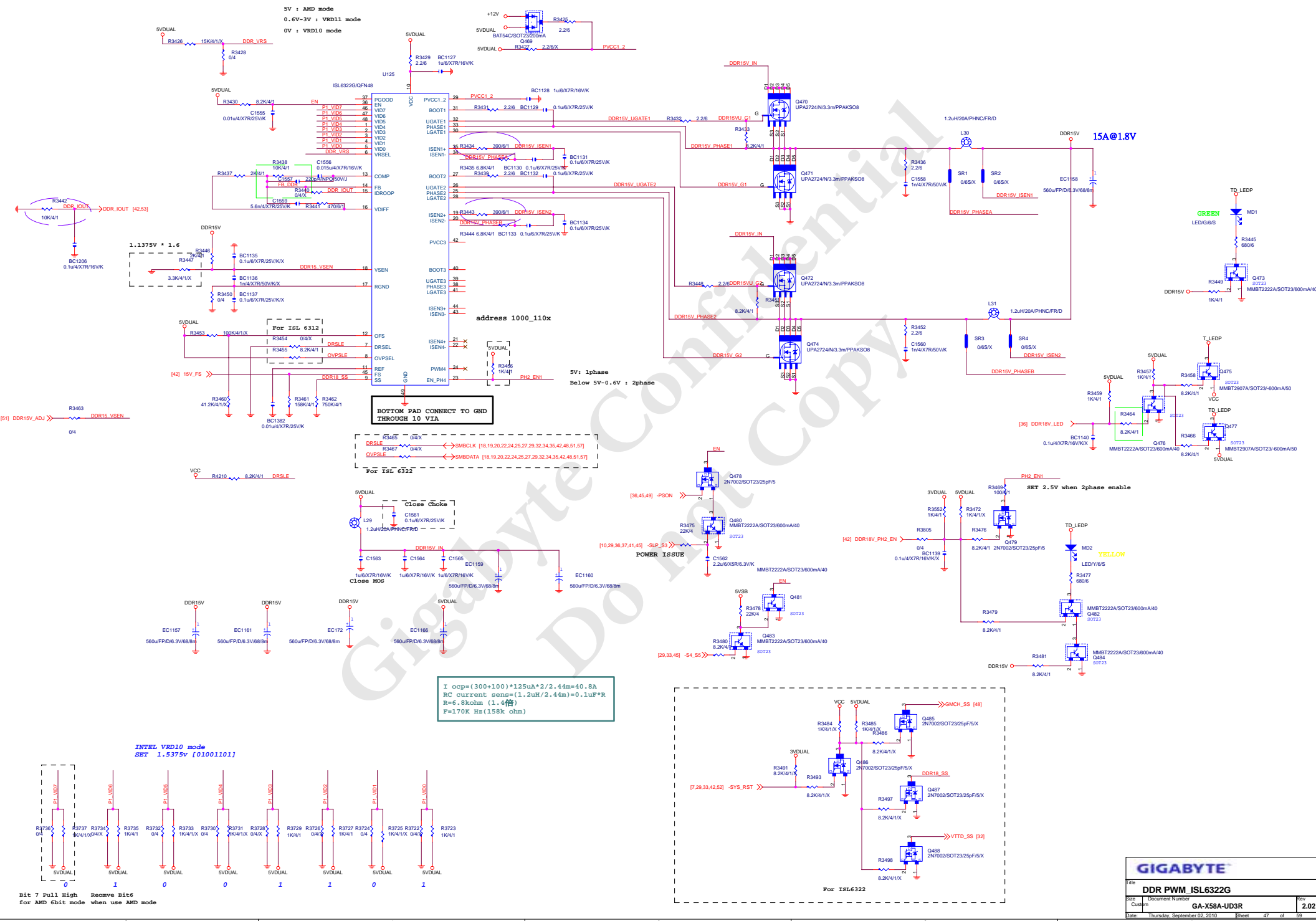


## DOUBLE PHASE



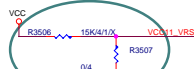






GIGABYTE			
File	DDR PWM ISL6322G		
Size	1500000	Rev	2.02
Customer	GA-X58A-UD3R		
Date	Thursday, September 02, 2010	Sheet	47 of 59

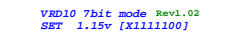
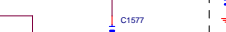
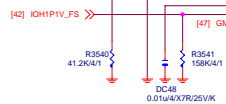
5V : AMD mode  
0.6V-3V : VRD11 mode  
0V : VRD10 mode



Increase the gain to reduce the VCC3 ripple & VCC1\_25 choke noise 12/15

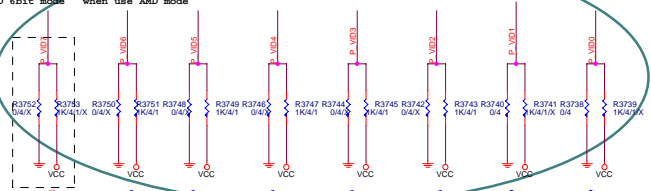


Pu for 6322 type2 SMBus address address 1000\_111x



Bit 7 Pull High for AMD 6bit mode Remove Bit6 when use AMD mode

VRD10 7bit mode Rev1.02 SET 1.15v [X1111100]



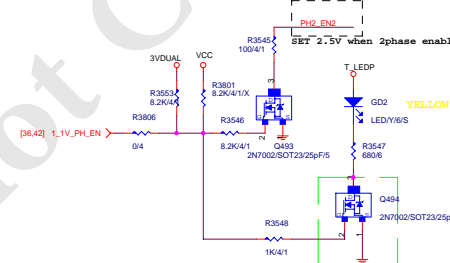
BOTTOM PAD CONNECT TO GND THROUGH 10 VIA

For ISL6322

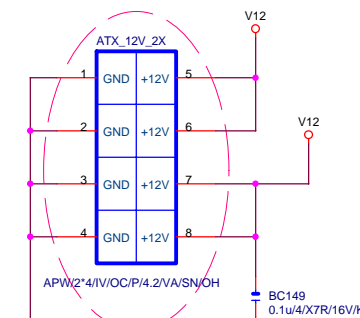
$I_{ocp} = (300+100) * 1.25uA * 2 / 2.44m = 40.8A$   
RC current sense =  $(1.2uH / 2.44m) = 0.1uP * R$   
 $R = 6.8kohm (1.44uH)$   
 $P = 1.70K Hz (1.58K ohm)$

5V: 1phase  
Below 5V-0.6V : 2phase

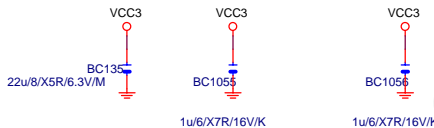
Set 2.5V when 2phase enable



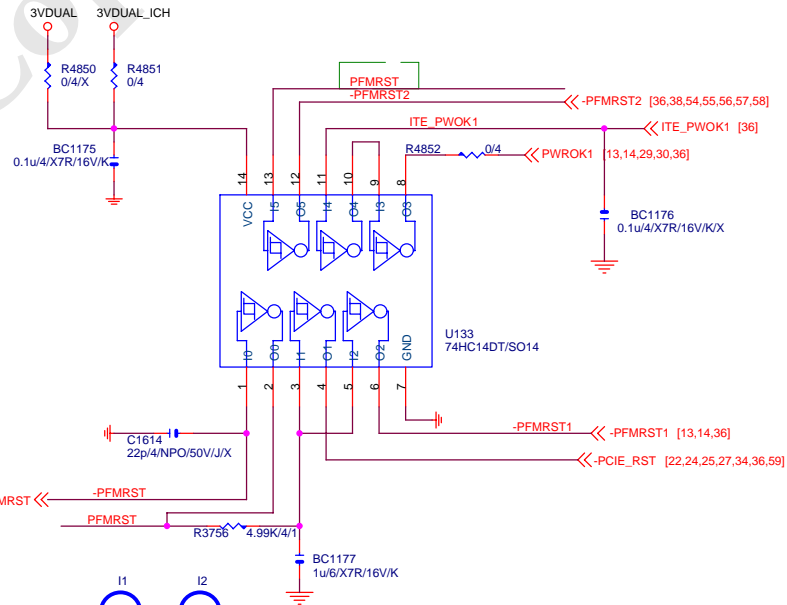
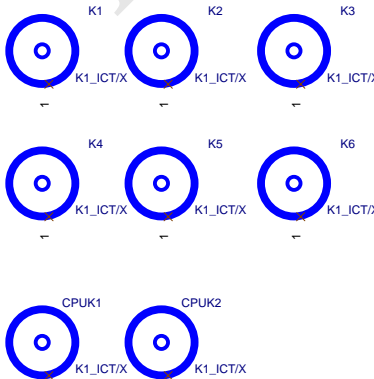
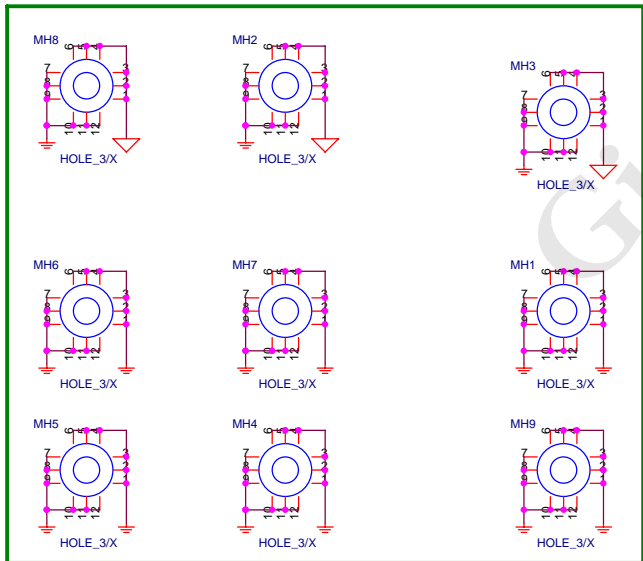
## ATX POWER CONNECTOR

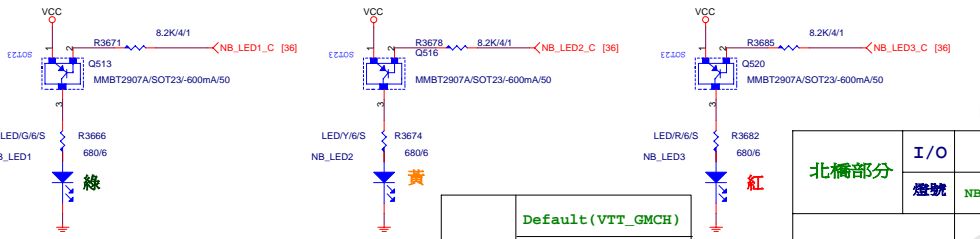


To prevent the 5VS  
under loading when  
boot



### PCB 螺絲孔位置(Footprint不同)



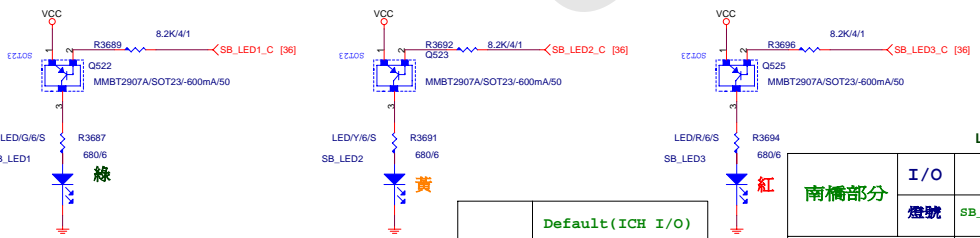


NB_LED 選擇	Default(VTT_GMCH)
	VCC1_1

## ICH Voltage

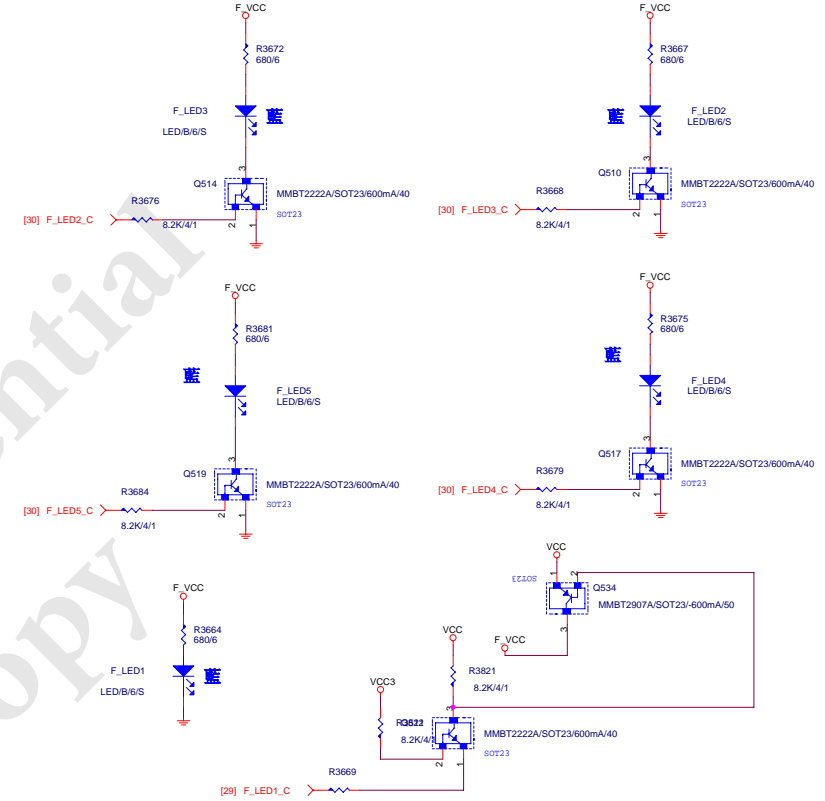
	L1	L2	L3
北橋部分	I/O	GP70	GP71
	燈號	NB_LED1_C	NB_LED2_C
VCC1_1	1.18V-1.3V	1.32-1.5V	1.52v以上

		L1	L2	L3
DDR部分	I/O	GP83	GP21	GP87
	燈號	DDR_LED1_C	DDR_LED2_C	DDR_LED3_C
DDR3電壓		1.55~1.65V	1.68~1.74V	1.76V以上



SB LED 测试座	Default(ICH I/O)
	VCC1_5
	VCC1_1_ICH

	L1	L2	L3
南橋部分	I/O	GP73	GP74
	燈號	SB_LED1_C	SB_LED2_C
VCC1_5	1.56~1.68V	1.68~1.86V	1.88V以上
VCC1_1_1CH	1.18V~1.3V	1.32~1.5V	1.52V以上



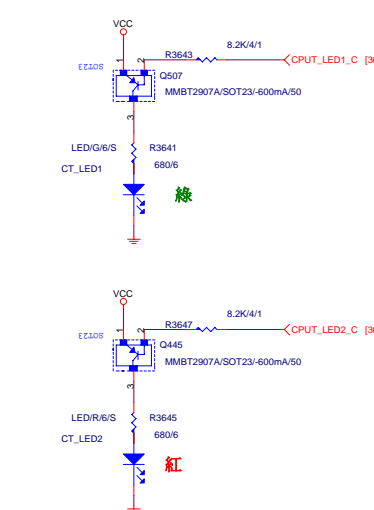
FSB LED	OFF	L1	L2	L3	L4	L5
GPIO		ICH GP57	ICH GP56	ICH GP22	ICH GP38	ICH GP21
CPU 133		145~	155~	165~	175~	185~

	L2(LED2)	L3 (LED3)
	黃	紅



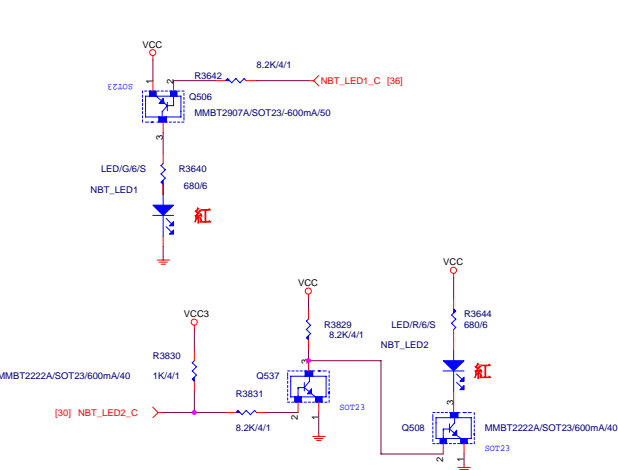
CPU溫度顯示

	I/O	Thermal
CPUT_LED1	GP63	60℃以上
CPUT_LED2	GP35	70℃以上



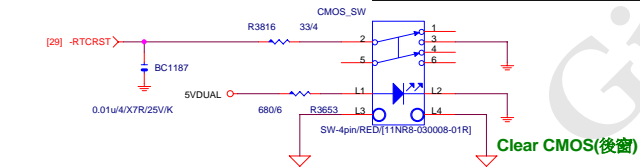
北橋(MCH)溫度顯示

	I/O	Thermal
NBT_LED1	GP30	60℃以上
NBT_LED2	GP31	70℃以上

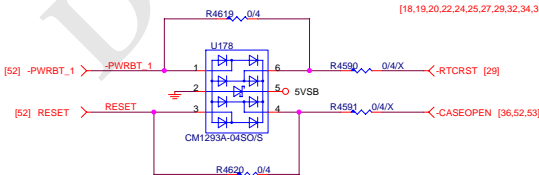


Switch 部分

Clear CMOS 90℃料號:11NR8-030008-01R.  
Clear CMOS 180℃料號:11NH7-060001-11R.  
Power 180℃料號:11NH7-030001-21R.  
Reset 180℃料號:11NH7-060001-51R.

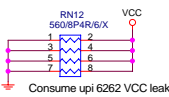
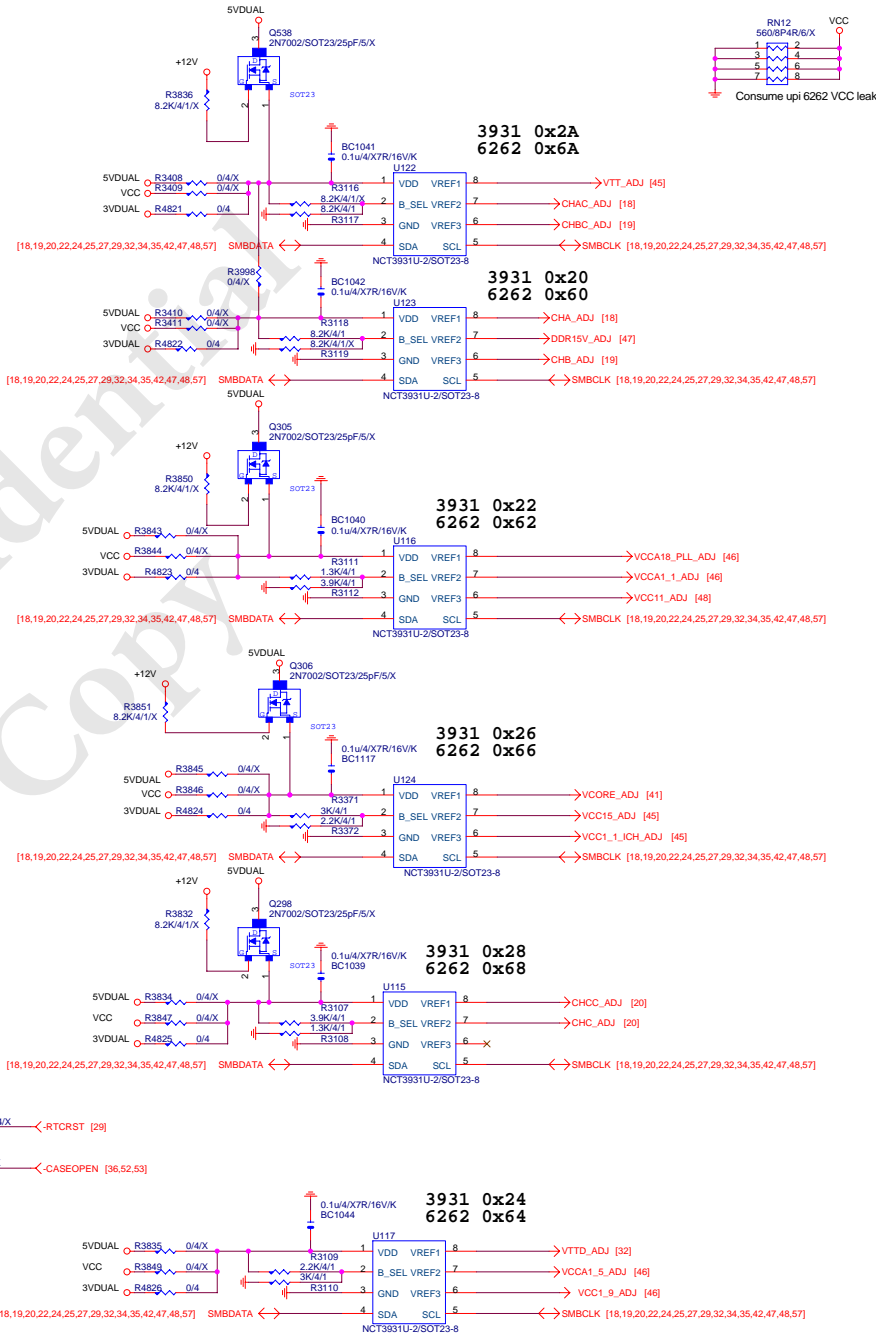


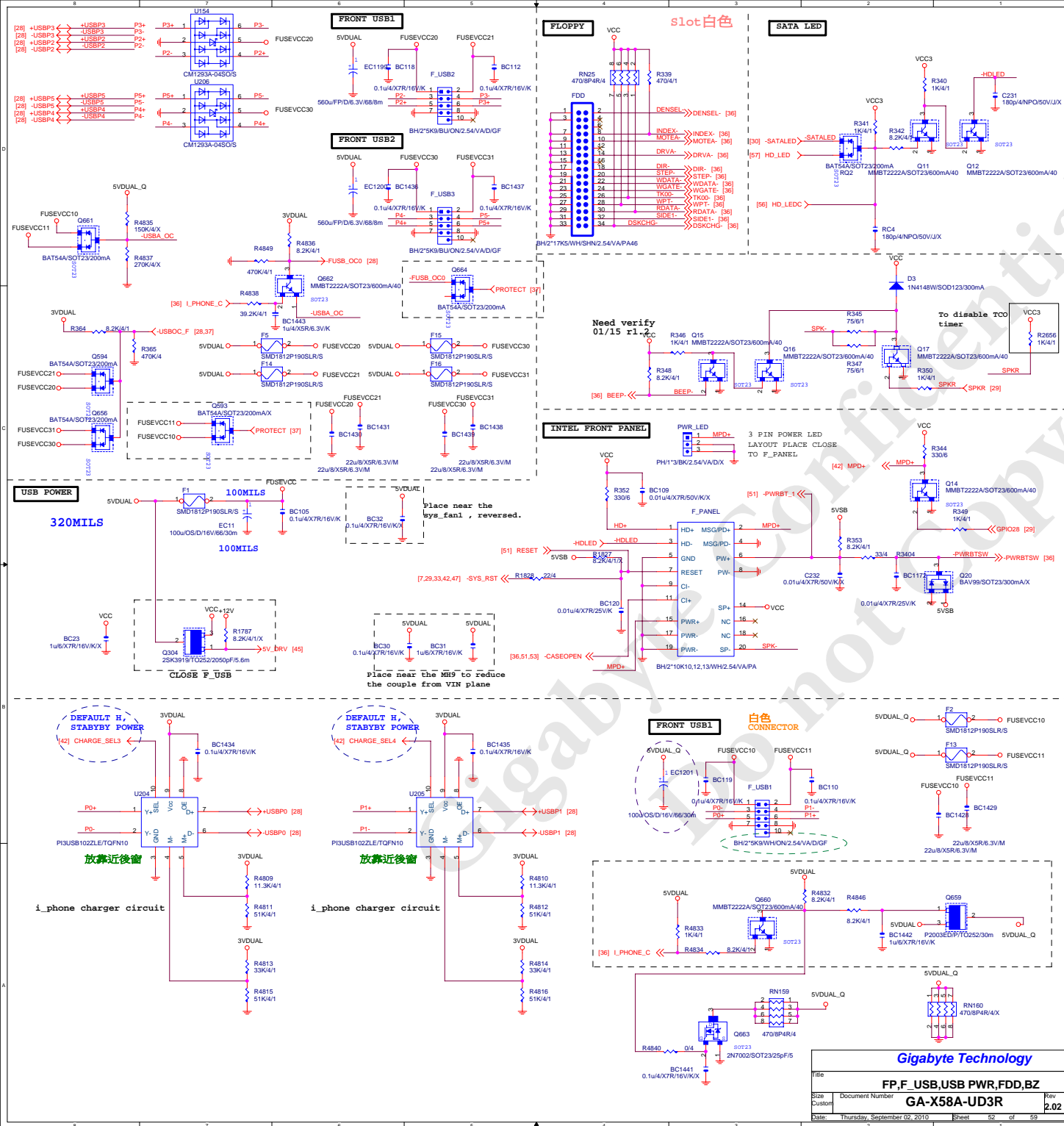
Clear CMOS(後窗)



UPI6262 Table

up6262	0X60-U123 (5VDUAL)	0X62-U116 (5VDUAL)	0X6A-U122 (5VDUAL)	0X66-U124 (5VDUAL)	0X68-U115 (5VDUAL)	0X64-U117 (5VDUAL)
VREF1	CHA_ADJ	VCCA18_PLL_ADJ	VTI_ADJ	VCORE_ADJ	CHCC_ADJ	VTTD_ADJ
VREF2	DDR18V_ADJ	VCCA1_1_ADJ	CHAC_ADJ	VCC15_ADJ	CHC_ADJ	VCC1_1_I_CH_ADJ
VREF3	CHB_ADJ	VCC11_ADJ	CHBC_ADJ	VCCA1_5_ADJ	MCH_RAMVREF_ADJ	VCC1_9_ADJ





[36] VREF ←  
 [36] SYS\_TEMP ←  
 [6] PWM\_TEMP ←  
 [6] CPU\_TEMP ←  
 C1294 1u6/X7R/16V/K  
 C1295 1u6/X7R/16V/K  
 RS1 10K/1/4/S  
 RS5 10K/1/4/S  
 C1296 1n4/X7R/50V/K/X

FOR EMI ONLY

Schematic diagram of the **-CASEOPEN** pin configuration. The pin is connected to **RTCVDD** via a resistor **R279** (1M/4). A capacitor **C1297** (0.01uF/X7R/25V/K) is connected from the pin to ground.

→ VCC11\_IOUT [42,48]

[illegible]

**KB/MS**

Pin	Signal
1	MCLK
2	MCLK
3	KDAT
4	KCLK
5	MDAT
6	MDAT
7	MSCLK
8	MSCLK

FUSEVCC

RN29

82/BP4R/6

CN1

180P/8P4C/6/NPO/50V/K

8.2K/8P4R/6\_MS

BC108  
0.1u/4/X7R/16V/K

BC258  
0.1u/4/X7R/16V/K

U180

A0Z8902CIL/SOT23-6/X

For

**Gigabyte Technology**

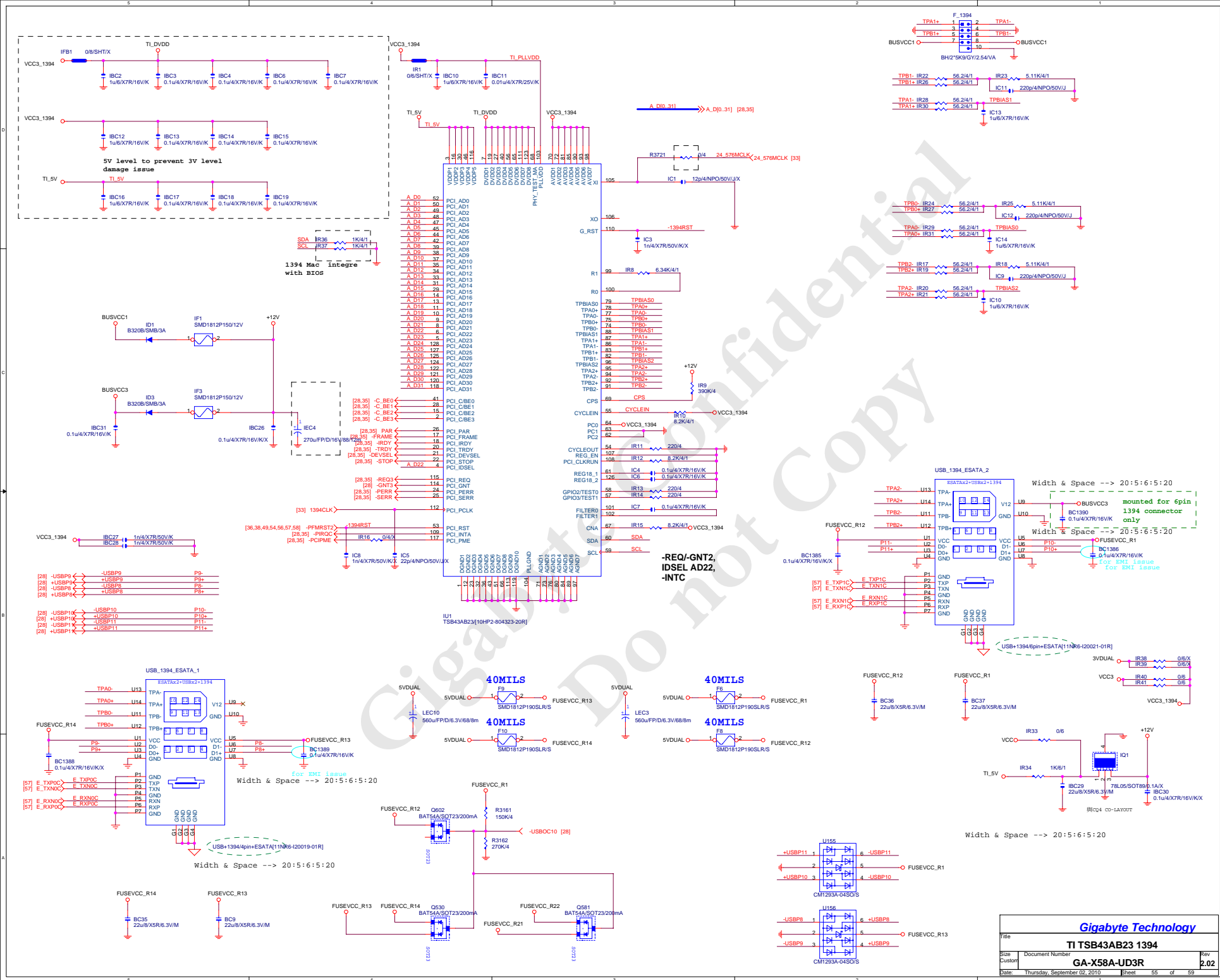
**HWM, KB/MS, FAN CTRL**

Size: Custom Document Number

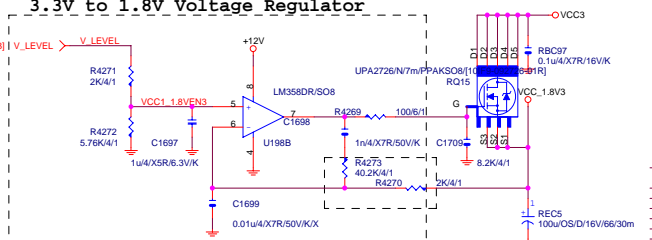
**GA-X58A-UD3R**

Title			
HWM,KB/MS, FAN CTRL			
Size	Document Number		Rev
Custom	GA-X58A-UD3R		2.02
Date:	Thursday, September 02, 2010	Sheet	53 of 59

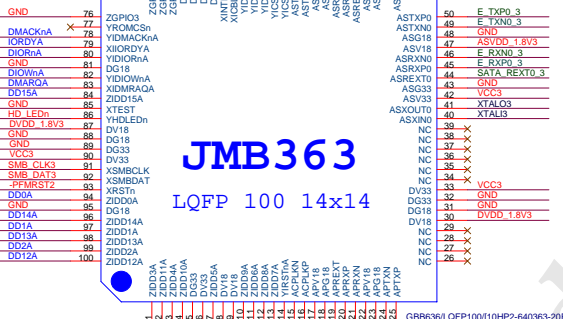
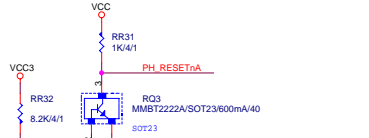
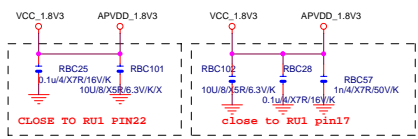
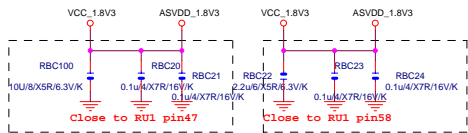
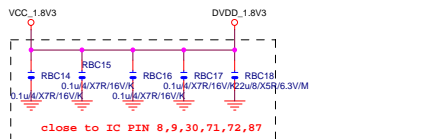
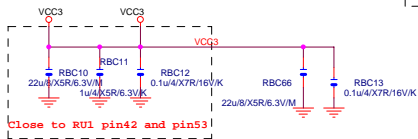
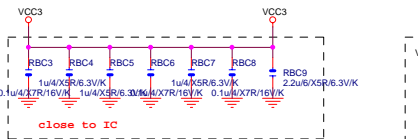
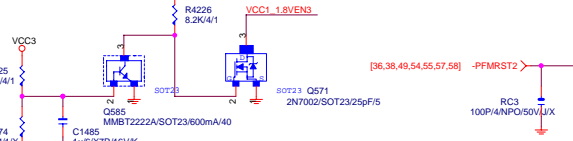




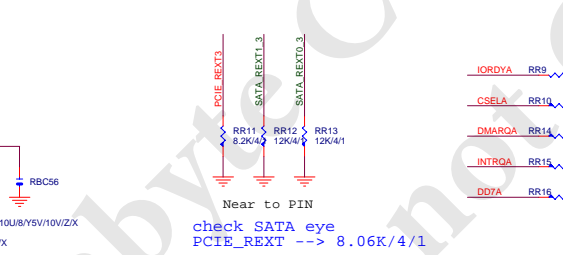
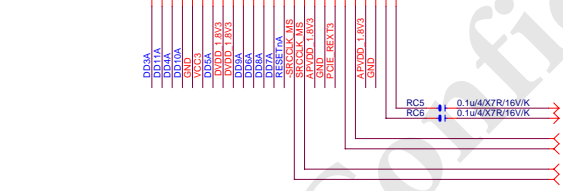
### 3.3V to 1.8V Voltage Regulator



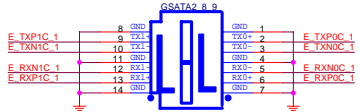
Check power ripple 5V/DUAL



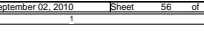
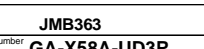
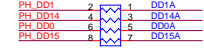
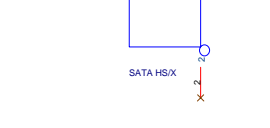
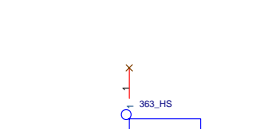
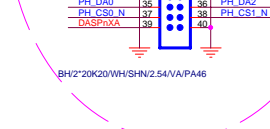
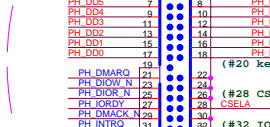
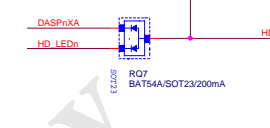
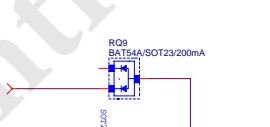
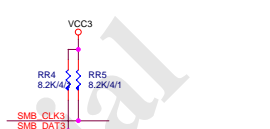
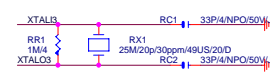
**JMB363**  
LQFP 100 14x14



Near to PIN  
check SATA eye  
PCIE\_REXT --> 8.06K/4/1



白色  
connector



### 3.3V to 1.8V Voltage Regulator

