

Model Name: GA-X99-UD3P

Rev 1.0

SHEET TITLE

01	COVER SHEET
02	BOM & PCB MODIFY HISTORY
03	BLOCK DIAGRAM
04-06	CPU LGA2011-DDR
07	CPU LGA2011-CTRL
08	CPU LGA2011-PCIE DMI
09-10	CPU LGA2011-PWR
11	PCH SATA
12	PCH GPIO AUDIO
13	PCH DMI USB PCIE
14-15	PCH PWR GND
16-17	DDR III CHANNEL A/B
18-19	DDR III CHANNEL C/D
20	PCI EXPRESS X16 SLOT 2
21	PCI EXPRESS X16 SLOT 1
22	PCI EXPRESSX16 X8 SWITCH
23	PCI EXPRESS X8 SLOT 2
24	PCI EXPRESS X8 SLOT 1
25	PCI EXPRESS X1
26	ITE 8620 SIO
27	DUAL BIOS
28-29	VCORE IR3580+3553
30	DDR CH A/B & CH C/D IR3553
31	VPP25 CH A/B & CH C/D IR3553
32	DDR CH A/B & VPP25 IR3570A
33	DDR CH C/D & VPP25 IR3570A
34	VCC1 05 WBG RT8120

SHEET TITLE

35-36	DISCRETE POWER
37	ATX power
38	HWM ,FAN CTRL , EC FAN CTRL
39	PCIE CLK BUFFER
40	CPU CLK BUFFER
41	IT8791 EC
42	IT8951
43	M2 SLOT
44	M2 WIFI SLOT
45-47	AL1150 & AMP
48	INTEL LAN I218
49	LAN & AUDIO Connector
50-51	HUB & POWER (A)
52	R USB30/R USB Connector
53	PS2/USB & HS
54	F USB30 & F USB20
55	Front
56	Panel, TPM Sound Level
57	PCH GPIO LIST
58	POSITION

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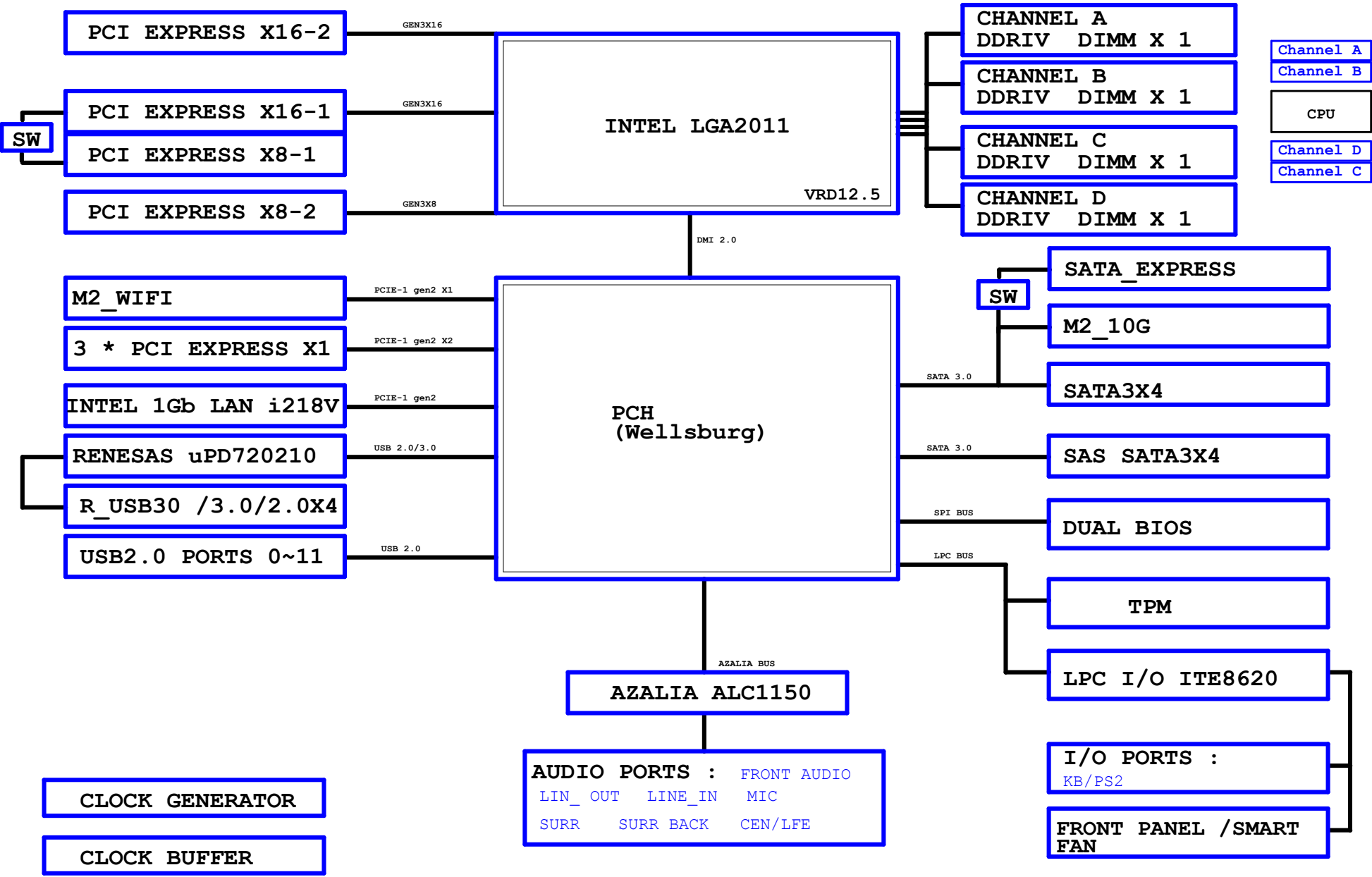
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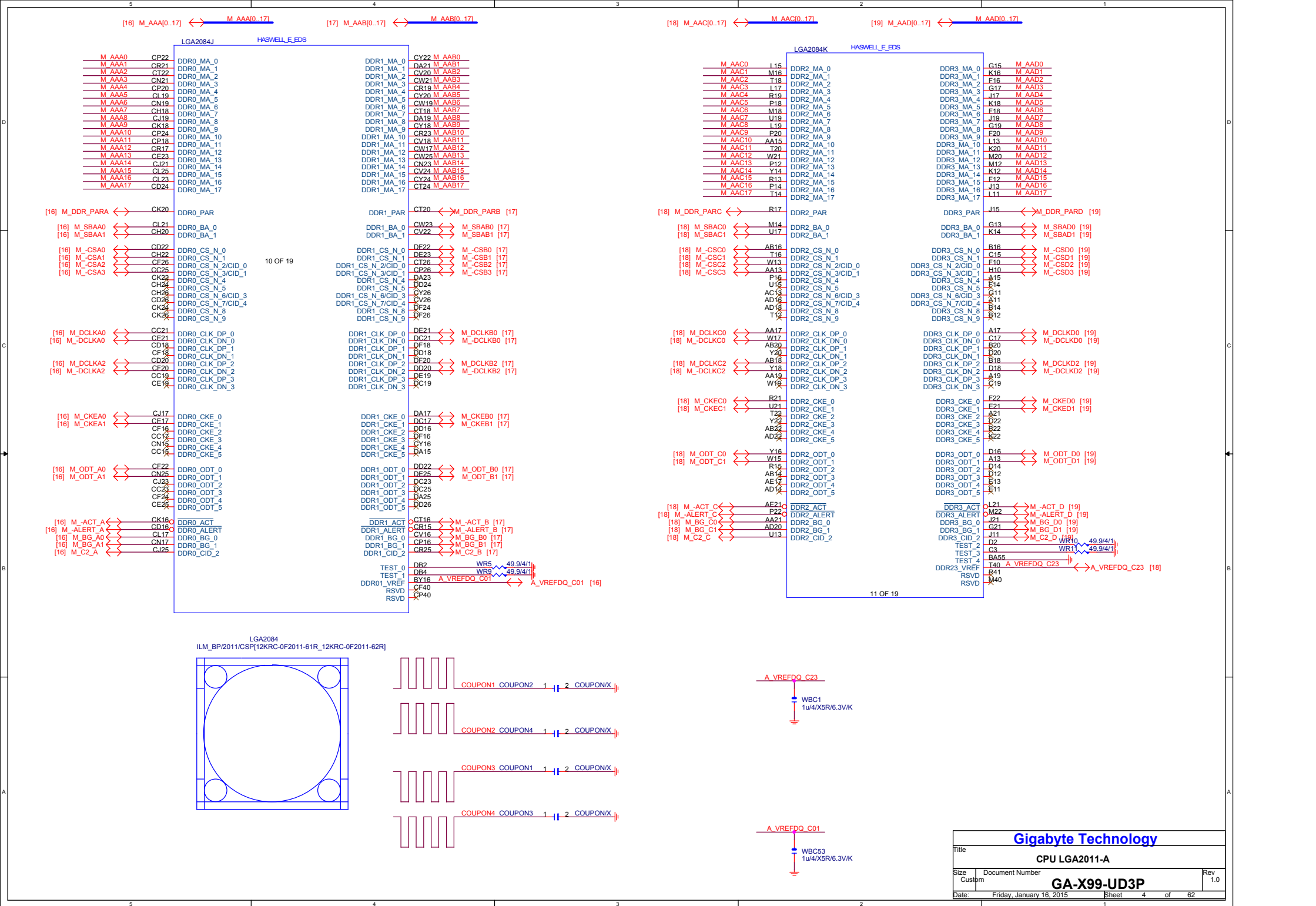
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BLOCK DIAGRAM





CHANNEL A

LGA2084F		HASWELL_E_EDS	
M DA0	BU7	DDR0_DQ_0	BY6 M_DQSA0
M DA1	BT6	DDR0_DQ_1	BV6 M_-DQSA0
M DA2	CA8	DDR0_DQ_2	
M DA3	CB8	DDR0_DQ_3	BV12 M_DQSA1
M DA4	BT8	DDR0_DQ_4	BW11 M_-DQSA1
M DA5	BU9	DDR0_DQ_5	
M DA6	CA7	DDR0_DQ_6	CH10 M_DQSA2
M DA7	CB6	DDR0_DQ_7	CG11 M_-DQSA2
M DA8	BT12	DDR0_DQ_8	
M DA9	BU11	DDR0_DQ_9	CK14 M_DQSA3
M DA10	BW13	DDR0_DQ_10	CJ13 M_-DQSA3
M DA11	BY14	DDR0_DQ_11	
M DA12	BT14	DDR0_DQ_12	CK30 M_DQSA4
M DA13	BU15	DDR0_DQ_13	CM30 M_-DQSA4
M DA14	CA11	DDR0_DQ_14	
M DA15	BY12	DDR0_DQ_15	CD30 M_DQSA5
M DA16	CE9	DDR0_DQ_16	CF30 M_-DQSA5
M DA17	CF8	DDR0_DQ_17	
M DA18	CK10	DDR0_DQ_18	CC37 M_DQSA6
M DA19	CI11	DDR0_DQ_19	CE37 M_-DQSA6
M DA20	CD10	DDR0_DQ_20	
M DA21	CE11	DDR0_DQ_21	CJ37 M_DQSA7
M DA22	CK8	DDR0_DQ_22	CI37 M_-DQSA7
M DA23	CJ8	DDR0_DQ_23	
M DA24	CE13	DDR0_DQ_24	CV10 M_DQSA8
M DA25	CG15	DDR0_DQ_25	CT10 M_-DQSA8
M DA26	CM14	DDR0_DQ_26	
M DA27	CH14	DDR0_DQ_27	BV8 M_DQSA9
M DA28	CC13	DDR0_DQ_28	BW9 M_-DQSA9
M DA29	CD14	DDR0_DQ_29	
M DA30	CM12	DDR0_DQ_30	BU13 M_DQSA10
M DA31	CI13	DDR0_DQ_31	BY14 M_-DQSA10
M DA32	CK28	DDR0_DQ_32	
M DA33	CH28	DDR0_DQ_33	CG9 M_DQSA11
M DA34	CK32	DDR0_DQ_34	CH8 M_-DQSA11
M DA35	CH32	DDR0_DQ_35	
M DA36	CI27	DDR0_DQ_36	CG13 M_DQSA12
M DA37	CJ27	DDR0_DQ_37	CE14 M_-DQSA12
M DA38	CI31	DDR0_DQ_38	
M DA39	CJ31	DDR0_DQ_39	CI29 M_DQSA13
M DA40	CD28	DDR0_DQ_40	CJ29 M_-DQSA13
M DA41	CB28	DDR0_DQ_41	
M DA42	CD32	DDR0_DQ_42	CE29 M_DQSA14
M DA43	CB32	DDR0_DQ_43	CC29 M_-DQSA14
M DA44	CE27	DDR0_DQ_44	
M DA45	CC27	DDR0_DQ_45	CF36 M_DQSA15
M DA46	CE31	DDR0_DQ_46	CD36 M_-DQSA15
M DA47	CC31	DDR0_DQ_47	
M DA48	CE35	DDR0_DQ_48	CM36 M_DQSA16
M DA49	CC35	DDR0_DQ_49	CK36 M_-DQSA16
M DA50	CE38	DDR0_DQ_50	
M DA51	CC39	DDR0_DQ_51	CU9 M_DQSA17
M DA52	CF34	DDR0_DQ_52	CW9 M_-DQSA17
M DA53	CD34	DDR0_DQ_53	
M DA54	CF38	DDR0_DQ_54	
M DA55	CD38	DDR0_DQ_55	
M DA56	CI35	DDR0_DQ_56	
M DA57	CJ35	DDR0_DQ_57	
M DA58	CI39	DDR0_DQ_58	
M DA59	CJ39	DDR0_DQ_59	
M DA60	CM34	DDR0_DQ_60	
M DA61	CK34	DDR0_DQ_61	
M DA62	CM38	DDR0_DQ_62	
M DA63	CK38	DDR0_DQ_63	
M AECC0	CT8	DDR0_ECC_0	
M AECC1	CY8	DDR0_ECC_1	
M AECC2	CW11	DDR0_ECC_2	
M AECC3	CU11	DDR0_ECC_3	
M AECC4	CP8	DDR0_ECC_4	
M AECC5	CN9	DDR0_ECC_5	
M AECC6	CB10	DDR0_ECC_6	
M AECC7	CR11	DDR0_ECC_7	

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CHANNEL B

LGA2084G		HASWELL_E_EDS	
M DB0	BV4	DDR1_DQ_0	BY4 M_DQSB0
M DB1	BU1	DDR1_DQ_1	BW3 M_-DQSB0
M DB2	CA3	DDR1_DQ_2	
M DB3	CB4	DDR1_DQ_3	CJ5 M_DQSB1
M DB4	BT4	DDR1_DQ_4	CH6 M_-DQSB1
M DB5	BT2	DDR1_DQ_5	
M DB6	CA1	DDR1_DQ_6	CT4 M_DQSB2
M DB7	BY2	DDR1_DQ_7	CV4 M_-DQSB2
M DB8	CE3	DDR1_DQ_8	
M DB9	CF4	DDR1_DQ_9	DB10 M_DQSB3
M DB10	CL5	DDR1_DQ_10	DC9 M_-DQSB3
M DB11	CM4	DDR1_DQ_11	
M DB12	CE5	DDR1_DQ_12	CT30 M_DQSB4
M DB13	CF6	DDR1_DQ_13	CV30 M_-DQSB4
M DB14	CK6	DDR1_DQ_14	
M DB15	CL3	DDR1_DQ_15	DD32 M_DQSB5
M DB16	CR3	DDR1_DQ_16	DB32 M_-DQSB5
M DB17	CV2	DDR1_DQ_17	
M DB18	CT6	DDR1_DQ_18	CR37 M_DQSB6
M DB19	CB6	DDR1_DQ_19	DC9 M_-DQSB6
M DB20	CR1	DDR1_DQ_20	
M DB21	CP2	DDR1_DQ_21	DB38 M_DQSB7
M DB22	CU5	DDR1_DQ_22	DA37 M_-DQSB7
M DB23	CR5	DDR1_DQ_23	
M DB24	DA7	DDR1_DQ_24	DB14 M_DQSB8
M DB25	DB8	DDR1_DQ_25	DA13 M_-DQSB8
M DB26	DE11	DDR1_DQ_26	
M DB27	DC11	DDR1_DQ_27	BV2 M_DQSB9
M DB28	DA5	DDR1_DQ_28	BW1 M_-DQSB9
M DB29	CY6	DDR1_DQ_29	
M DB30	DE9	DDR1_DQ_30	CH4 M_DQSB10
M DB31	DE10	DDR1_DQ_31	CG3 M_-DQSB10
M DB32	CT28	DDR1_DQ_32	
M DB33	CP28	DDR1_DQ_33	CW3 M_DQSB11
M DB34	CT32	DDR1_DQ_34	CU3 M_-DQSB11
M DB35	CP32	DDR1_DQ_35	
M DB36	CU27	DDR1_DQ_36	DC7 M_DQSB12
M DB37	CR27	DDR1_DQ_37	DD8 M_-DQSB12
M DB38	CU31	DDR1_DQ_38	
M DB39	CR31	DDR1_DQ_39	CU29 M_DQSB13
M DB40	DA29	DDR1_DQ_40	CR29 M_-DQSB13
M DB41	DB30	DDR1_DQ_41	
M DB42	DC33	DDR1_DQ_42	DA31 M_DQSB14
M DB43	DE34	DDR1_DQ_43	CY32 M_-DQSB14
M DB44	DB28	DDR1_DQ_44	
M DB45	CY28	DDR1_DQ_45	CV36 M_DQSB15
M DB46	DA33	DDR1_DQ_46	CT36 M_-DQSB15
M DB47	DE33	DDR1_DQ_47	
M DB48	CU35	DDR1_DQ_48	DD36 M_DQSB16
M DB49	CR35	DDR1_DQ_49	DE37 M_-DQSB16
M DB50	CU39	DDR1_DQ_50	
M DB51	CR39	DDR1_DQ_51	CW13 M_DQSB17
M DB52	CV34	DDR1_DQ_52	CY14 M_-DQSB17
M DB53	CT34	DDR1_DQ_53	
M DB54	CV38	DDR1_DQ_54	
M DB55	CT39	DDR1_DQ_55	
M DB56	DC37	DDR1_DQ_56	
M DB57	DE36	DDR1_DQ_57	
M DB58	DC39	DDR1_DQ_58	
M DB59	DA39	DDR1_DQ_59	
M DB60	DC35	DDR1_DQ_60	
M DB61	DB36	DDR1_DQ_61	
M DB62	DE38	DDR1_DQ_62	
M DB63	DE39	DDR1_DQ_63	
M BECC0	CU13	DDR1_ECC_0	
M BECC1	CV14	DDR1_ECC_1	
M BECC2	DD14	DDR1_ECC_2	
M BECC3	DE14	DDR1_ECC_3	
M BECC4	CR13	DDR1_ECC_4	
M BECC5	CT14	DDR1_ECC_5	
M BECC6	DC13	DDR1_ECC_6	
M BECC7	DE13	DDR1_ECC_7	

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[16] M_DA[0..63] ↔ M_DA[0..63]

[16] M_DQSA[0..17] ↔ M_DQSA[0..17]

[16] M_-DQSA[0..17] ↔ M_-DQSA[0..17]

[16] M_AECC[0..7] ↔ M_AECC[0..7]

[17] M_DB[0..63] ↔ M_DB[0..63]

[17] M_DQSB[0..17] ↔ M_DQSB[0..17]

[17] M_-DQSB[0..17] ↔ M_-DQSB[0..17]

[17] M_BECC[0..7] ↔ M_BECC[0..7]

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CHANNEL C

LGA2084H		HASMELL_E_EDS	
M DC0	AD38	DDR2_DQ_0	DDR2_QQS_DP_0
M DC1	AA37	DDR2_DQ_1	DDR2_QQS_DN_0
M DC2	R37	DDR2_DQ_2	
M DC3	Y38	DDR2_DQ_3	DDR2_QQS_DP_1
M DC4	AE37	DDR2_DQ_4	DDR2_QQS_DN_1
M DC5	AC38	DDR2_DQ_5	
M DC6	T38	DDR2_DQ_6	DDR2_QQS_DP_2
M DC7	U37	DDR2_DQ_7	DDR2_QQS_DN_2
M DC8	V34	DDR2_DQ_8	
M DC9	U33	DDR2_DQ_9	DDR2_QQS_DP_3
M DC10	V30	DDR2_DQ_10	DDR2_QQS_DN_3
M DC11	T30	DDR2_DQ_11	
M DC12	U35	DDR2_DQ_12	DDR2_QQS_DP_4
M DC13	R35	DDR2_DQ_13	DDR2_QQS_DN_4
M DC14	T32	DDR2_DQ_14	
M DC15	W31	DDR2_DQ_15	DDR2_QQS_DP_5
M DC16	AD34	DDR2_DQ_16	DDR2_QQS_DN_5
M DC17	AB34	DDR2_DQ_17	
M DC18	AD30	DDR2_DQ_18	DDR2_QQS_DP_6
M DC19	AB30	DDR2_DQ_19	DDR2_QQS_DN_6
M DC20	AC35	DDR2_DQ_20	
M DC21	AA35	DDR2_DQ_21	DDR2_QQS_DP_7
M DC22	AE31	DDR2_DQ_22	DDR2_QQS_DN_7
M DC23	AC31	DDR2_DQ_23	
M DC24	U27	DDR2_DQ_24	DDR2_QQS_DP_8
M DC25	R27	DDR2_DQ_25	DDR2_QQS_DN_8
M DC26	U23	DDR2_DQ_26	
M DC27	R23	DDR2_DQ_27	DDR2_QQS_DP_9
M DC28	V28	DDR2_DQ_28	DDR2_QQS_DN_9
M DC29	T28	DDR2_DQ_29	
M DC30	V24	DDR2_DQ_30	DDR2_QQS_DP_10
M DC31	T24	DDR2_DQ_31	DDR2_QQS_DN_10
M DC32	N8	DDR2_DQ_32	
M DC33	K8	DDR2_DQ_33	DDR2_QQS_DP_11
M DC34	R7	DDR2_DQ_34	DDR2_QQS_DN_11
M DC35	P6	DDR2_DQ_35	
M DC36	J8	DDR2_DQ_36	DDR2_QQS_DP_12
M DC37	L9	DDR2_DQ_37	DDR2_QQS_DN_12
M DC38	K6	DDR2_DQ_38	
M DC39	M6	DDR2_DQ_39	DDR2_QQS_DP_13
M DC40	U8	DDR2_DQ_40	DDR2_QQS_DN_13
M DC41	W11	DDR2_DQ_41	
M DC42	AA11	DDR2_DQ_42	DDR2_QQS_DP_14
M DC43	AB8	DDR2_DQ_43	DDR2_QQS_DN_14
M DC44	T10	DDR2_DQ_44	
M DC45	U11	DDR2_DQ_45	DDR2_QQS_DP_15
M DC46	AA9	DDR2_DQ_46	DDR2_QQS_DN_15
M DC47	Y8	DDR2_DQ_47	
M DC48	AE11	DDR2_DQ_48	DDR2_QQS_DP_16
M DC49	AE12	DDR2_DQ_49	DDR2_QQS_DN_16
M DC50	AK12	DDR2_DQ_50	
M DC51	AL13	DDR2_DQ_51	DDR2_QQS_DP_17
M DC52	AG15	DDR2_DQ_52	DDR2_QQS_DN_17
M DC53	AE14	DDR2_DQ_53	
M DC54	AK14	DDR2_DQ_54	
M DC55	AL15	DDR2_DQ_55	
M DC56	AG9	DDR2_DQ_56	
M DC57	AG7	DDR2_DQ_57	
M DC58	AK10	DDR2_DQ_58	
M DC59	AL9	DDR2_DQ_59	
M DC60	AE7	DDR2_DQ_60	
M DC61	AE9	DDR2_DQ_61	
M DC62	AK8	DDR2_DQ_62	
M DC63	AL7	DDR2_DQ_63	
M CECC0	AC27	DDR2_ECC_0	
M CECC1	AA27	DDR2_ECC_1	
M CECC2	AC23	DDR2_ECC_2	
M CECC3	AA23	DDR2_ECC_3	
M CECC4	AD28	DDR2_ECC_4	
M CECC5	AB28	DDR2_ECC_5	
M CECC6	AD24	DDR2_ECC_6	
M CECC7	AB24	DDR2_ECC_7	

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[18] M_DC[0..63] <-- M_DC[0..63]

[18] M_DQSC[0..17] <-- M_DQSC[0..17]

[18] M_-DQSC[0..17] <-- M_-DQSC[0..17]

[18] M_CECC[0..7] <-- M_CECC[0..7]

CHANNEL D

LGA2084I		HASMELL_E_EDS	
M DD0	D38	DDR3_DQ_0	DDR3_QQS_DP_0
M DD1	B38	DDR3_DQ_1	DDR3_QQS_DN_0
M DD2	L37	DDR3_DQ_2	
M DD3	M38	DDR3_DQ_3	DDR3_QQS_DP_1
M DD4	C39	DDR3_DQ_4	DDR3_QQS_DN_1
M DD5	A39	DDR3_DQ_5	
M DD6	G37	DDR3_DQ_6	DDR3_QQS_DP_2
M DD7	K38	DDR3_DQ_7	DDR3_QQS_DN_2
M DD8	A35	DDR3_DQ_8	
M DD9	B34	DDR3_DQ_9	DDR3_QQS_DP_3
M DD10	G31	DDR3_DQ_10	DDR3_QQS_DN_3
M DD11	E31	DDR3_DQ_11	
M DD12	F34	DDR3_DQ_12	DDR3_QQS_DP_4
M DD13	E35	DDR3_DQ_13	DDR3_QQS_DN_4
M DD14	D32	DDR3_DQ_14	
M DD15	E33	DDR3_DQ_15	DDR3_QQS_DP_5
M DD16	K34	DDR3_DQ_16	DDR3_QQS_DN_5
M DD17	M34	DDR3_DQ_17	
M DD18	K30	DDR3_DQ_18	DDR3_QQS_DP_6
M DD19	M30	DDR3_DQ_19	DDR3_QQS_DN_6
M DD20	J35	DDR3_DQ_20	
M DD21	L35	DDR3_DQ_21	DDR3_QQS_DP_7
M DD22	L31	DDR3_DQ_22	DDR3_QQS_DN_7
M DD23	N31	DDR3_DQ_23	
M DD24	F28	DDR3_DQ_24	DDR3_QQS_DP_8
M DD25	E27	DDR3_DQ_25	DDR3_QQS_DN_8
M DD26	F24	DDR3_DQ_26	
M DD27	E23	DDR3_DQ_27	DDR3_QQS_DP_9
M DD28	G29	DDR3_DQ_28	DDR3_QQS_DN_9
M DD29	F29	DDR3_DQ_29	
M DD30	C25	DDR3_DQ_30	DDR3_QQS_DP_10
M DD31	B24	DDR3_DQ_31	DDR3_QQS_DN_10
M DD32	K4	DDR3_DQ_32	
M DD33	H4	DDR3_DQ_33	DDR3_QQS_DP_11
M DD34	J1	DDR3_DQ_34	DDR3_QQS_DN_11
M DD35	L1	DDR3_DQ_35	
M DD36	P4	DDR3_DQ_36	DDR3_QQS_DP_12
M DD37	N3	DDR3_DQ_37	DDR3_QQS_DN_12
M DD38	K2	DDR3_DQ_38	
M DD39	R3	DDR3_DQ_39	DDR3_QQS_DP_13
M DD40	E9	DDR3_DQ_40	DDR3_QQS_DN_13
M DD41	F8	DDR3_DQ_41	
M DD42	E5	DDR3_DQ_42	DDR3_QQS_DP_14
M DD43	F6	DDR3_DQ_43	DDR3_QQS_DN_14
M DD44	C9	DDR3_DQ_44	
M DD45	A9	DDR3_DQ_45	DDR3_QQS_DP_15
M DD46	D6	DDR3_DQ_46	DDR3_QQS_DN_15
M DD47	G7	DDR3_DQ_47	
M DD48	AG3	DDR3_DQ_48	DDR3_QQS_DP_16
M DD49	AG1	DDR3_DQ_49	DDR3_QQS_DN_16
M DD50	AL3	DDR3_DQ_50	
M DD51	AL5	DDR3_DQ_51	DDR3_QQS_DP_17
M DD52	AG5	DDR3_DQ_52	DDR3_QQS_DN_17
M DD53	AE3	DDR3_DQ_53	
M DD54	AJ3	DDR3_DQ_54	
M DD55	AL1	DDR3_DQ_55	
M DD56	V4	DDR3_DQ_56	
M DD57	W3	DDR3_DQ_57	
M DD58	AC5	DDR3_DQ_58	
M DD59	AE5	DDR3_DQ_59	
M DD60	U5	DDR3_DQ_60	
M DD61	V6	DDR3_DQ_61	
M DD62	AC3	DDR3_DQ_62	
M DD63	AB6	DDR3_DQ_63	
M DECC0	L27	DDR3_ECC_0	
M DECC1	J27	DDR3_ECC_1	
M DECC2	L23	DDR3_ECC_2	
M DECC3	J23	DDR3_ECC_3	
M DECC4	K28	DDR3_ECC_4	
M DECC5	M28	DDR3_ECC_5	
M DECC6	M24	DDR3_ECC_6	
M DECC7	K24	DDR3_ECC_7	

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[19] M_DD[0..63] <-- M_DD[0..63]

[19] M_DQSD[0..17] <-- M_DQSD[0..17]

[19] M_-DQSD[0..17] <-- M_-DQSD[0..17]

[19] M_DECC[0..7] <-- M_DECC[0..7]

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LGA2084E HASWELL_E_EDS	
BJ54	QPI0_DRX_DP_0
BG54	QPI0_DRX_DN_0
BF54	QPI0_DRX_DP_1
BF54	QPI0_DRX_DN_1
BE53	QPI0_DRX_DP_2
BG53	QPI0_DRX_DN_2
BE55	QPI0_DRX_DP_3
BG55	QPI0_DRX_DN_3
BF56	QPI0_DRX_DP_4
BF56	QPI0_DRX_DN_4
BF54	QPI0_DRX_DP_5
BF54	QPI0_DRX_DN_5
BF50	QPI0_DRX_DP_6
BH50	QPI0_DRX_DN_6
BD58	QPI0_DRX_DP_7
BF58	QPI0_DRX_DN_7
BE57	QPI0_DRX_DP_8
BG57	QPI0_DRX_DN_8
BM56	QPI0_DRX_DP_9
BF56	QPI0_DRX_DN_9
BL56	QPI0_DRX_DP_10
BL56	QPI0_DRX_DN_10
BM54	QPI0_DRX_DP_11
BF54	QPI0_DRX_DN_11
BL53	QPI0_DRX_DP_12
BF53	QPI0_DRX_DN_12
BM52	QPI0_DRX_DP_13
BF52	QPI0_DRX_DN_13
BN51	QPI0_DRX_DP_14
BF51	QPI0_DRX_DN_14
BM50	QPI0_DRX_DP_15
BF50	QPI0_DRX_DN_15
BN49	QPI0_DRX_DP_16
BF49	QPI0_DRX_DN_16
BG49	QPI0_DRX_DP_17
BF49	QPI0_DRX_DN_17
BM48	QPI0_DRX_DP_18
BF48	QPI0_DRX_DN_18
BN47	QPI0_DRX_DP_19
BF47	QPI0_DRX_DN_19
CK44	QPI1_DRX_DP_0
CM44	QPI1_DRX_DN_0
CL46	QPI1_DRX_DP_1
CM46	QPI1_DRX_DN_1
CK46	QPI1_DRX_DP_2
CM46	QPI1_DRX_DN_2
CL46	QPI1_DRX_DP_3
CM46	QPI1_DRX_DN_3
CK48	QPI1_DRX_DP_4
CM48	QPI1_DRX_DN_4
CL48	QPI1_DRX_DP_5
CM48	QPI1_DRX_DN_5
CK50	QPI1_DRX_DP_6
CM50	QPI1_DRX_DN_6
CL51	QPI1_DRX_DP_7
CM51	QPI1_DRX_DN_7
CT53	QPI1_DRX_DP_8
CM53	QPI1_DRX_DN_8
CT54	QPI1_DRX_DP_9
CM54	QPI1_DRX_DN_9
CT56	QPI1_DRX_DP_10
CM56	QPI1_DRX_DN_10
CT56	QPI1_DRX_DP_11
CM56	QPI1_DRX_DN_11
CT58	QPI1_DRX_DP_12
CM58	QPI1_DRX_DN_12
CT57	QPI1_DRX_DP_13
CM57	QPI1_DRX_DN_13
CT58	QPI1_DRX_DP_14
CM58	QPI1_DRX_DN_14
CK56	QPI1_DRX_DP_15
CM56	QPI1_DRX_DN_15
CT56	QPI1_DRX_DP_16
CM56	QPI1_DRX_DN_16
CT56	QPI1_DRX_DP_17
CM56	QPI1_DRX_DN_17
CT56	QPI1_DRX_DP_18
CM56	QPI1_DRX_DN_18
CT56	QPI1_DRX_DP_19
CM56	QPI1_DRX_DN_19

LGA2084B HASWELL_E_EDS	
PA_EXP_A_RXP0	N55
PA_EXP_A_RXN0	L55
PA_EXP_A_RXP1	V54
PA_EXP_A_RXN1	T54
PA_EXP_A_RXP2	V56
PA_EXP_A_RXN2	T56
PA_EXP_A_RXP3	U55
PA_EXP_A_RXN3	U55
PA_EXP_A_RXP4	AB54
PA_EXP_A_RXN4	AB54
PA_EXP_A_RXP5	AB56
PA_EXP_A_RXN5	AB56
PA_EXP_A_RXP6	AE55
PA_EXP_A_RXN6	AE55
PA_EXP_A_RXP7	AE58
PA_EXP_A_RXN7	AE57
PA_EXP_A_RXP8	AK56
PA_EXP_A_RXN8	AK56
PA_EXP_A_RXP9	AM58
PA_EXP_A_RXN9	AM58
PA_EXP_A_RXP10	AL57
PA_EXP_A_RXN10	AL57
PA_EXP_A_RXP11	AU57
PA_EXP_A_RXN11	AU57
PA_EXP_A_RXP12	AV58
PA_EXP_A_RXN12	AT58
PA_EXP_A_RXP13	AT56
PA_EXP_A_RXN13	AT56
PA_EXP_A_RXP14	BA57
PA_EXP_A_RXN14	AM56
PA_EXP_A_RXP15	BS56
PA_EXP_A_RXN15	AY56

LGA2084C HASWELL_E_EDS	
PA_EXP_A_TXP0	AR49
PA_EXP_A_TXN0	AN49
PA_EXP_A_TXP1	AM50
PA_EXP_A_TXN1	AN51
PA_EXP_A_TXP2	AN51
PA_EXP_A_TXN2	AN51
PA_EXP_A_TXP3	AP52
PA_EXP_A_TXN3	AM52
PA_EXP_A_TXP4	AJ53
PA_EXP_A_TXN4	AG53
PA_EXP_A_TXP5	AK54
PA_EXP_A_TXN5	AH54
PA_EXP_A_TXP6	AN53
PA_EXP_A_TXN6	AN53
PA_EXP_A_TXP7	AT54
PA_EXP_A_TXN7	AT54
PA_EXP_A_TXP8	AV52
PA_EXP_A_TXN8	AV52
PA_EXP_A_TXP9	BA53
PA_EXP_A_TXN9	BA53
PA_EXP_A_TXP10	BH54
PA_EXP_A_TXN10	AY54
PA_EXP_A_TXP11	BA51
PA_EXP_A_TXN11	AY51
PA_EXP_A_TXP12	AV50
PA_EXP_A_TXN12	AY50
PA_EXP_A_TXP13	BA49
PA_EXP_A_TXN13	AW49
PA_EXP_A_TXP14	AY48
PA_EXP_A_TXN14	AW48
PA_EXP_A_TXP15	BA47
PA_EXP_A_TXN15	AW47

LGA2084C HASWELL_E_EDS	
PE3A_TX_DP_0	K50
PE3A_TX_DN_0	H50
PE3A_TX_DP_1	L51
PE3A_TX_DN_1	J51
PE3A_TX_DP_2	U47
PE3A_TX_DN_2	R47
PE3A_TX_DP_3	T48
PE3A_TX_DN_3	P48
PE3A_TX_DP_4	T52
PE3A_TX_DN_4	P52
PE3A_TX_DP_5	U51
PE3A_TX_DN_5	R51
PE3A_TX_DP_6	T50
PE3A_TX_DN_6	P50
PE3A_TX_DP_7	U49
PE3A_TX_DN_7	R49
PE3A_TX_DP_8	T46
PE3A_TX_DN_8	P46
PE3A_TX_DP_9	U45
PE3A_TX_DN_9	R45
PE3A_TX_DP_10	AC47
PE3A_TX_DN_10	AC47
PE3A_TX_DP_11	AB46
PE3A_TX_DN_11	Y46
PE3A_TX_DP_12	AC45
PE3A_TX_DN_12	Y44
PE3A_TX_DP_13	AB44
PE3A_TX_DN_13	Y44
PE3A_TX_DP_14	AC43
PE3A_TX_DN_14	T44
PE3A_TX_DP_15	T44
PE3A_TX_DN_15	T44

PA_EXP_A_RXP0_15	PA_EXP_A_RXP0_15 [20]
PA_EXP_A_RXN0_15	PA_EXP_A_RXN0_15 [20]
PA_EXP_A_TXP0_15	PA_EXP_A_TXP0_15 [20]
PA_EXP_A_TXN0_15	PA_EXP_A_TXN0_15 [20]

PB_EXP_B_RXP8_15	PB_EXP_B_RXP8_15 [21]
PB_EXP_B_RXN8_15	PB_EXP_B_RXN8_15 [21]
PB_EXP_B_TXP8_15	PB_EXP_B_TXP8_15 [21]
PB_EXP_B_TXN8_15	PB_EXP_B_TXN8_15 [21]

PB_EXP_B_RXP0_7	PB_EXP_B_RXP0_7 [22]
PB_EXP_B_RXN0_7	PB_EXP_B_RXN0_7 [22]
PB_EXP_B_TXP0_7	PB_EXP_B_TXP0_7 [22]
PB_EXP_B_TXN0_7	PB_EXP_B_TXN0_7 [22]

LGA2084A HASWELL_E_EDS	
PG_EXP_C_RXP0	E51
PG_EXP_C_RXN0	C51
PG_EXP_C_RXP1	F52
PG_EXP_C_RXN1	D52
PG_EXP_C_RXP2	F54
PG_EXP_C_RXN2	D54
PG_EXP_C_RXP3	G55
PG_EXP_C_RXN3	E55
PG_EXP_C_RXP4	L53
PG_EXP_C_RXN4	J53
PG_EXP_C_RXP5	M54
PG_EXP_C_RXN5	K54
PG_EXP_C_RXP6	L57
PG_EXP_C_RXN6	J57
PG_EXP_C_RXP7	M56
PG_EXP_C_RXN7	K56

LGA2084D HASWELL_E_EDS	
DM1_TX_DP_0	D50
DM1_TX_DN_0	B50
DM1_TX_DP_1	E49
DM1_TX_DN_1	C49
DM1_TX_DP_2	D48
DM1_TX_DN_2	B48
DM1_TX_DP_3	E47
DM1_TX_DN_3	C47
DM1_TX_DP_4	D46
DM1_TX_DN_4	B46
DM1_TX_DP_5	E45
DM1_TX_DN_5	C45
DM1_TX_DP_6	E44
DM1_TX_DN_6	C44
DM1_TX_DP_7	E43
DM1_TX_DN_7	C43
DM1_TX_DP_8	E42
DM1_TX_DN_8	C42
DM1_TX_DP_9	E41
DM1_TX_DN_9	C41
DM1_TX_DP_10	E40
DM1_TX_DN_10	C40
DM1_TX_DP_11	E39
DM1_TX_DN_11	C39
DM1_TX_DP_12	E38
DM1_TX_DN_12	C38
DM1_TX_DP_13	E37
DM1_TX_DN_13	C37
DM1_TX_DP_14	E36
DM1_TX_DN_14	C36
DM1_TX_DP_15	E35
DM1_TX_DN_15	C35

PCIEX16:18/5/7/5/18(breakout min 10/4/4/4/10) 外層
Impedance=85 +- 17.5%

PCIEX16:20/5/6/5/5/20(breakout min 10/4/4/4/10) 內層
Impedance=85 +- 12%

DMI:12/4/4/12(breakout min 10/4/4/4/10) 外層
Impedance=85 +- 15%

DMI:12/4/4/12(breakout min 10/4/4/4/10) 內層
Impedance=85 +- 15%

LGA2084P

HASWELL_E_EDS

CB56	VSS	AY12
CB54	VSS	CB52
CB4	VSS	CB50
CB6	VSS	CB48
CB4	VSS	CB46
CC49	VSS	CB44
CC47	VSS	CB42
CC45	VSS	CB40
CC43	VSS	CB38
CC33	VSS	CB36
CC11	VSS	CB34
CC9	VSS	CB30
CC7	VSS	CB14
CC5	VSS	CB12
CC3	VSS	CB10
BB58	VSS	CB2
BB50	VSS	CA57
AY44	VSS	CA55
AY16	VSS	CA41
AY14	VSS	CA39
CG45	VSS	CA37
CG43	VSS	CA35
CG39	VSS	CA33
CG37	VSS	CA31
CG35	VSS	CA29
CG33	VSS	CA27
CG31	VSS	CA25
CG29	VSS	CA23
CG27	VSS	CA21
CG7	VSS	CA19
CG5	VSS	CA17
CF32	VSS	CA15
CF28	VSS	CA13
CF12	VSS	CA5
CF10	VSS	BY58
CE45	VSS	BY32
CE43	VSS	BY28
CE33	VSS	BY10
CE15	VSS	BY8
CE7	VSS	BW49
CD40	VSS	BW17
CD12	VSS	BW15
BB46	VSS	BW7
BB42	VSS	BW5
BV10	VSS	BV16
BU51	VSS	BK50
BU47	VSS	BK48
BU45	VSS	BK46
BU5	VSS	BK42
BU3	VSS	BJ57
BT56	VSS	BJ55
BT54	VSS	BH58
BT52	VSS	BG47
BT50	VSS	BG45
BT48	VSS	BG17
BT46	VSS	BG15
BT42	VSS	BG13
BT16	VSS	BG11
BT10	VSS	BG9
BR57	VSS	BG7
BR55	VSS	BG5
BR53	VSS	AC3
BR15	VSS	BF42
BR13	VSS	BF16
BR11	VSS	BF14
BR9	VSS	BF12
BR7	VSS	BF10
BR5	VSS	BF8
BR3	VSS	BF6
BR1	VSS	BF4
RP58	VSS	BF2
RP14	VSS	BE49
RP12	VSS	BD56
BP8	VSS	BD54
BP6	VSS	BD52
BP4	VSS	BD50
BN67	VSS	BC57
BN43	VSS	BC55
BL57	VSS	BC53
BL49	VSS	BC51
BL45	VSS	BC49
BK54	VSS	BC47
BK52	VSS	BC45

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LGA2084Q

HASWELL_E_EDS

AW7	VSS	AT46
AW5	VSS	AT44
AW3	VSS	AP58
AV58	VSS	AP44
AV54	VSS	AP42
AV42	VSS	AV66
AU53	VSS	AN55
AU51	VSS	AN15
AU49	VSS	AN13
AU47	VSS	AN9
AU45	VSS	AN7
AT52	VSS	AN5
AT50	VSS	AN3
AT48	VSS	AN1
AF38	VSS	AM56
CB2	VSS	AM16
AF34	VSS	AM14
CA55	VSS	AM12
CA41	VSS	AM10
AF30	VSS	AM8
AF26	VSS	AM6
AF24	VSS	AM4
CA33	VSS	AM2
AF20	VSS	AL53
AF18	VSS	AL51
AF16	VSS	AL49
AF10	VSS	AL47
CA23	VSS	AL45
AF8	VSS	AL43
AF4	VSS	AL11
AF2	VSS	AK52
AF53	VSS	AK50
AF51	VSS	AK48
AF49	VSS	AK46
AF47	VSS	AK44
AF43	VSS	AK42
AE41	VSS	AK16
AE39	VSS	AK6
AE35	VSS	AK4
AE33	VSS	AJ17
AE29	VSS	AJ11
AE27	VSS	AH58
AE23	VSS	AH14
AE19	VSS	AH6
AE15	VSS	AH2
AE13	VSS	AG57
AD52	VSS	AG55
AD50	VSS	AG43
AD48	VSS	AG37
AD46	VSS	AG31
AD44	VSS	AG25
AD42	VSS	AG21
BG47	VSS	AG19
BG45	VSS	AG17
BG17	VSS	AG13
BG15	VSS	AG11
BG13	VSS	AF56
BG11	VSS	AF54
BG9	VSS	AF40
BG7	VSS	AB36
BG5	VSS	AB12
AC3	VSS	AA55
AC7	VSS	AA39
AB42	VSS	AA31
AB40	VSS	AA29
A47	VSS	AA25
A45	VSS	AA7
A43	VSS	AA3
A23	VSS	A51
A7	VSS	A49
A5	VSS	A41
BE39	VSS	A37
AW15	VSS	AW55
AW13	VSS	AW53
AW11	VSS	AW9

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LGA2084R

HASWELL_E_EDS

DA27	VSS	DA3
DA9	VSS	DA3
DB40	VSS	CY52
DB34	VSS	CY50
DB12	VSS	CY48
DB6	VSS	CY46
DA55	VSS	CY44
DA53	VSS	CY42
DA51	VSS	CY38
DA49	VSS	CY36
DA47	VSS	CY34
DA45	VSS	CY30
DA43	VSS	CY12
DA41	VSS	CY10
DA35	VSS	CY8
P24	VSS	CY4
P10	VSS	CY2
N49	VSS	CW57
N47	VSS	CW55
N45	VSS	CW53
DF52	VSS	CW39
DF50	VSS	CW37
DF48	VSS	CW35
DF46	VSS	CW33
DF44	VSS	CW31
DF42	VSS	CW29
DF40	VSS	CW27
DF12	VSS	CW15
DF8	VSS	CW7
DE35	VSS	CW5
DE15	VSS	CW1
DE7	VSS	CV58
DD40	VSS	CV54
DD38	VSS	CV40
DD34	VSS	CV32
DD12	VSS	CV28
DD10	VSS	CV12
DD6	VSS	CV6
DC55	VSS	CU33
DC53	VSS	CU15
DC5	VSS	CU7
DB58	VSS	CU1
N53	VSS	CT40
N51	VSS	CT12
CR49	VSS	CT2
CR47	VSS	CM28
CR45	VSS	CM10
CR41	VSS	CM8
CR33	VSS	CM6
CR9	VSS	CL15
CR7	VSS	CL11
CP56	VSS	CL9
CP50	VSS	CL7
CP48	VSS	CK54
CP46	VSS	CK52
CP44	VSS	CK40
CP42	VSS	CK12
CP38	VSS	CK4
CP36	VSS	CJ51
CP34	VSS	CJ49
CP30	VSS	CJ47
CP14	VSS	CJ45
CP12	VSS	CJ43
CP4	VSS	CJ41
CN67	VSS	CJ33
CN55	VSS	CJ15
CN53	VSS	CJ7
CN39	VSS	CJ3
CN37	VSS	CH56
CN35	VSS	CH54
CN33	VSS	CH52
CN31	VSS	CH50
CN29	VSS	CH48
CN27	VSS	CH46
CN13	VSS	CH44
CN11	VSS	CH42
CN7	VSS	CH40
CN5	VSS	CH38
CN3	VSS	CH36
CM54	VSS	CH34
CM52	VSS	CH30
CM40	VSS	CH12
CM32	VSS	CG53

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LGA2084S

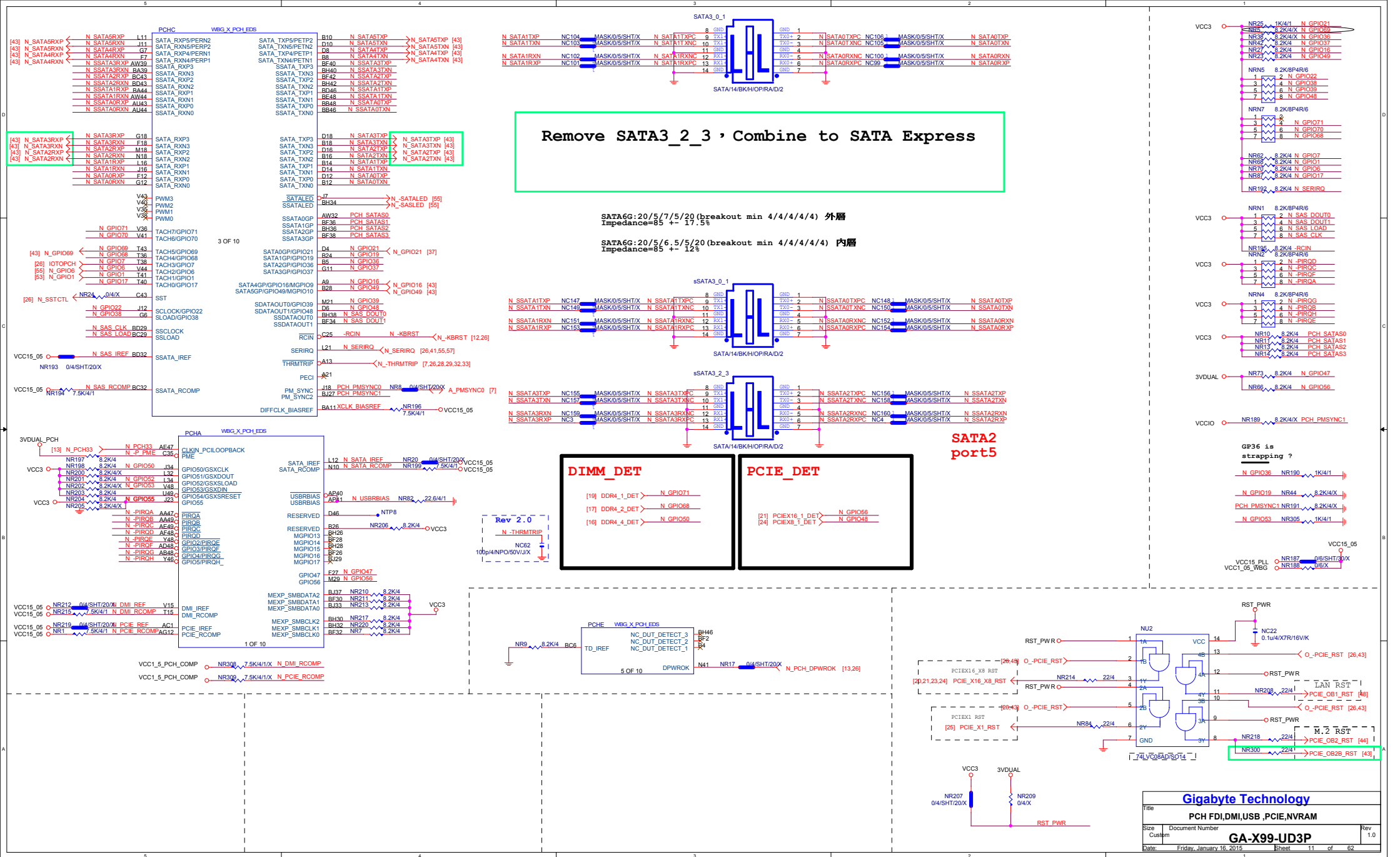
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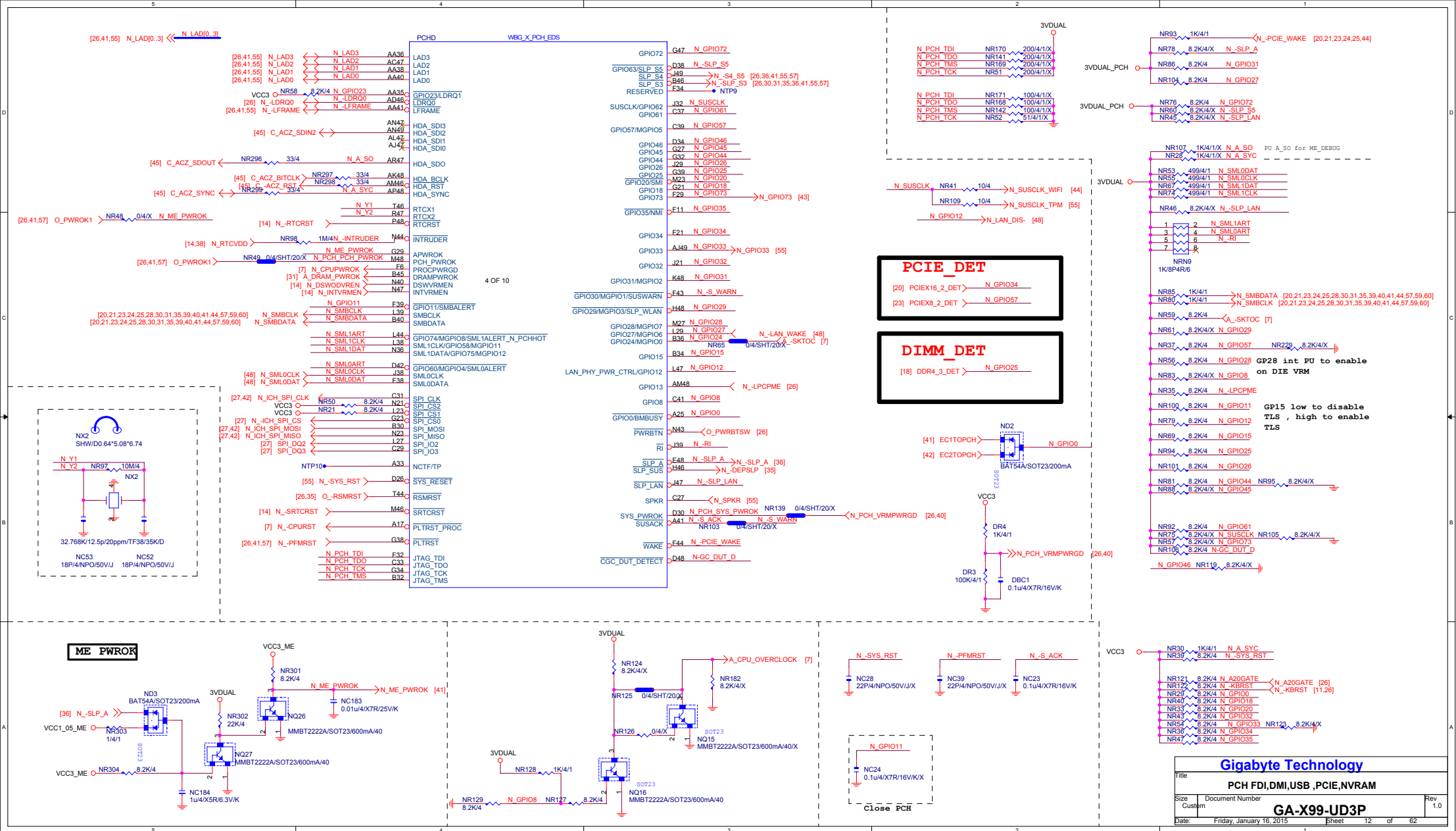
Y56	VSS	W47
Y42	VSS	W45
Y36	VSS	W43
Y34	VSS	W39
Y32	VSS	W35
Y30	VSS	W33
Y28	VSS	W27
Y24	VSS	W23
Y22	VSS	W17
Y20	VSS	W15
Y12	VSS	W12
Y4	VSS	W10
W53	VSS	W48
W51	VSS	W46
W49	VSS	W44
M42	VSS	W36
M36	VSS	W32
M10	VSS	W28
M2	VSS	W24
L41	VSS	W20
L39	VSS	W16
L29	VSS	W12
L5	VSS	W10
K40	VSS	U43
K36	VSS	U41
K10	VSS	U39
J65	VSS	U37
J37	VSS	U35
J31	VSS	U33
J29	VSS	U31
J25	VSS	U29
J7	VSS	U27
J5	VSS	U25
J3	VSS	U23
H54	VSS	U21
H40	VSS	U19
H36	VSS	U17
H34	VSS	U15
H32	VSS	U13
H30	VSS	U11
H28	VSS	U9
H26	VSS	U7
H24	VSS	U5
H8	VSS	U3
G67	VSS	T42
G63	VSS	T36
G61	VSS	T32
G47	VSS	T28
G45	VSS	T24
G41	VSS	T20
G39	VSS	T16
G35	VSS	T12
G33	VSS	T8
G27	VSS	T6
G23	VSS	T4
G9	VSS	R55
G5	VSS	R39
F50	VSS	R37
F48	VSS	R35
F44	VSS	R33
F42	VSS	R31
F32	VSS	R29
F30	VSS	R25
F28	VSS	R23
F24	VSS	R21
F22	VSS	R19
F20	VSS	R17
F18	VSS	R15
F16	VSS	R13
F14	VSS	R11
F12	VSS	R9
F10	VSS	R7
F8	VSS	R5
F6	VSS	R3
F4	VSS	R1
F2	VSS	R0
F0	VSS	R0

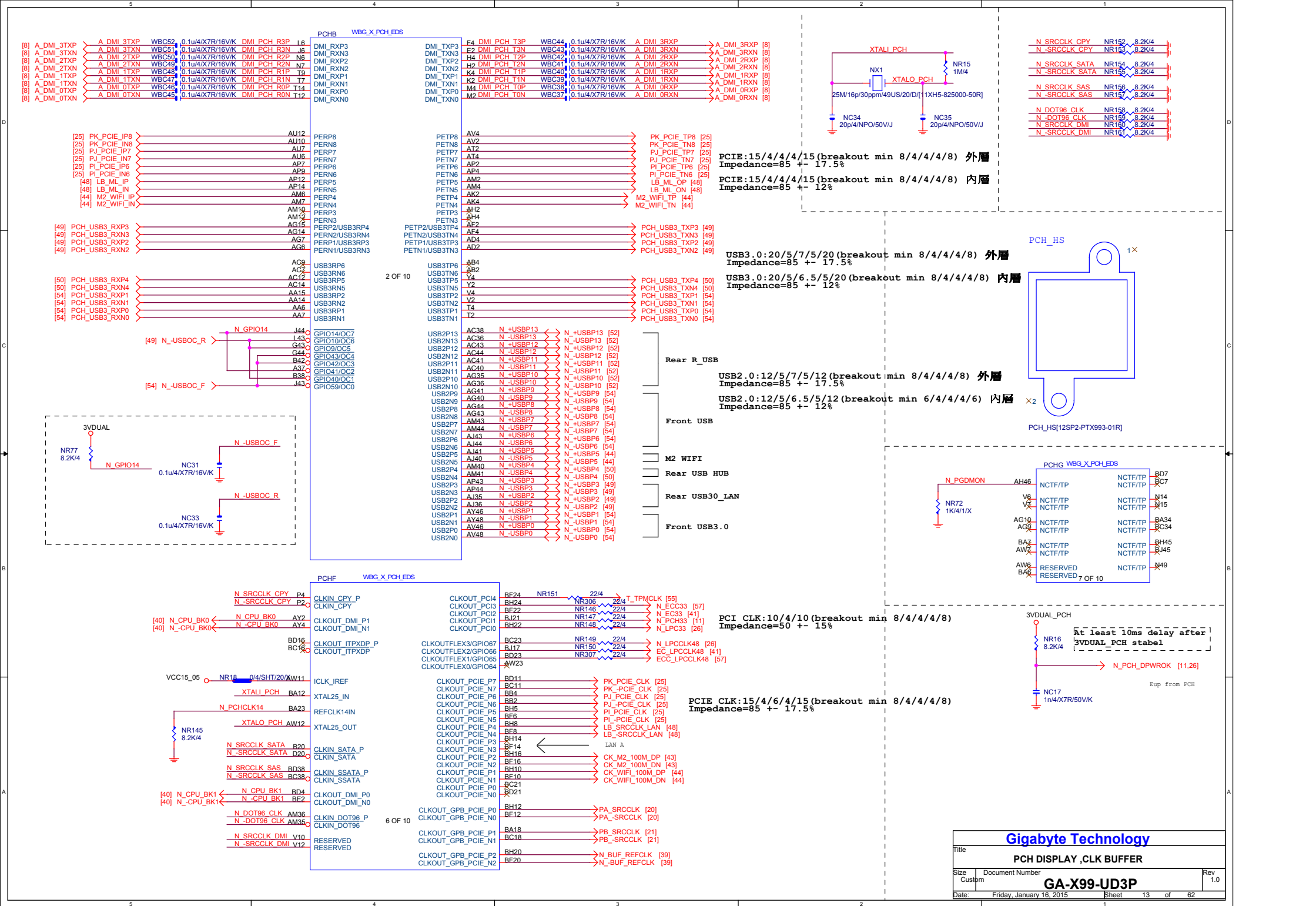
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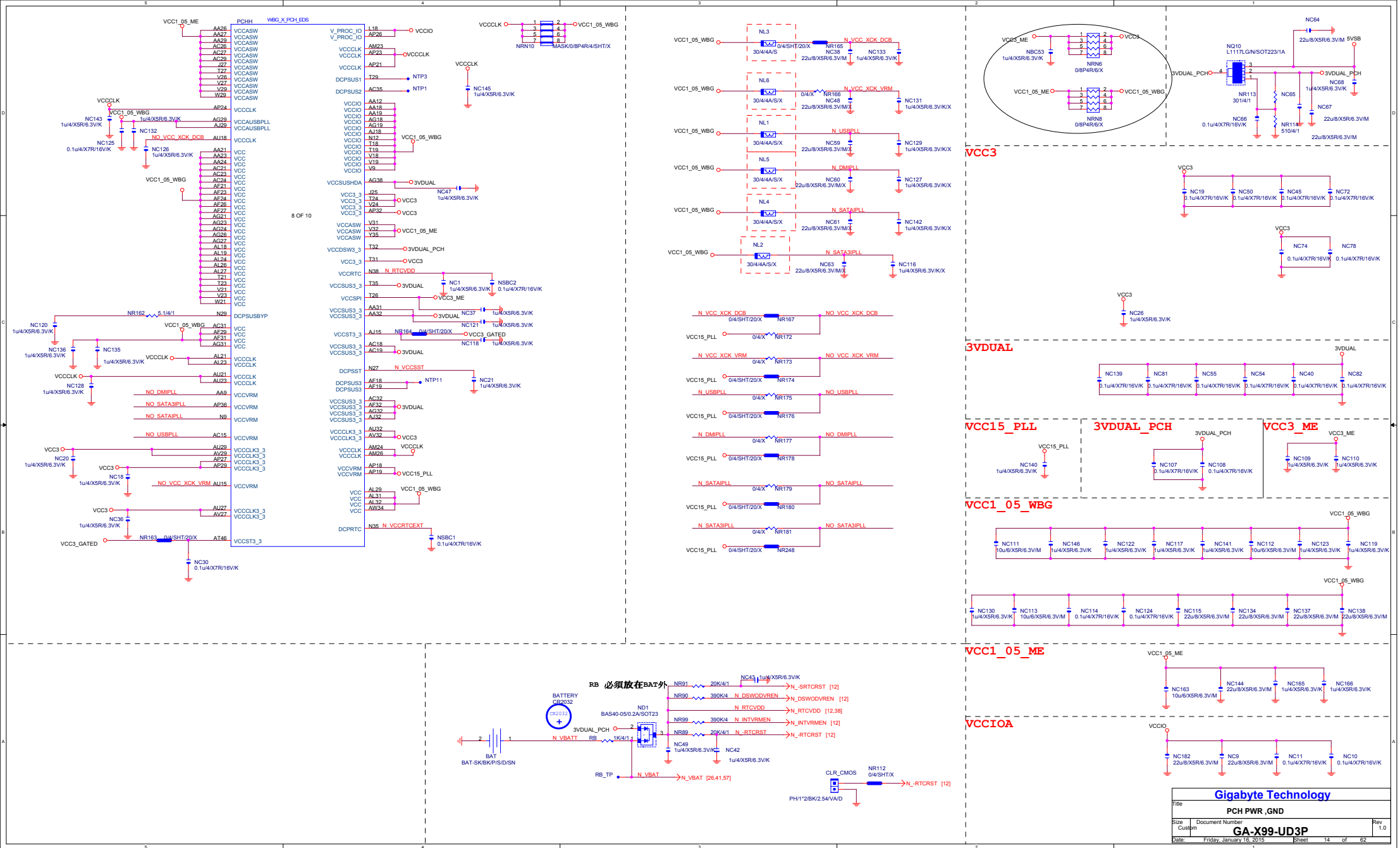
Gigabyte Technology

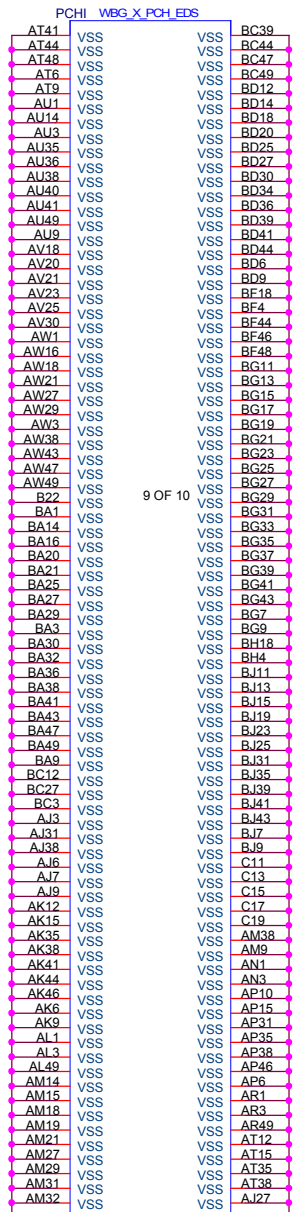
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Date:			Friday, January 16, 2015		
			Sheet 10 of 62		
			Rev 1.0		



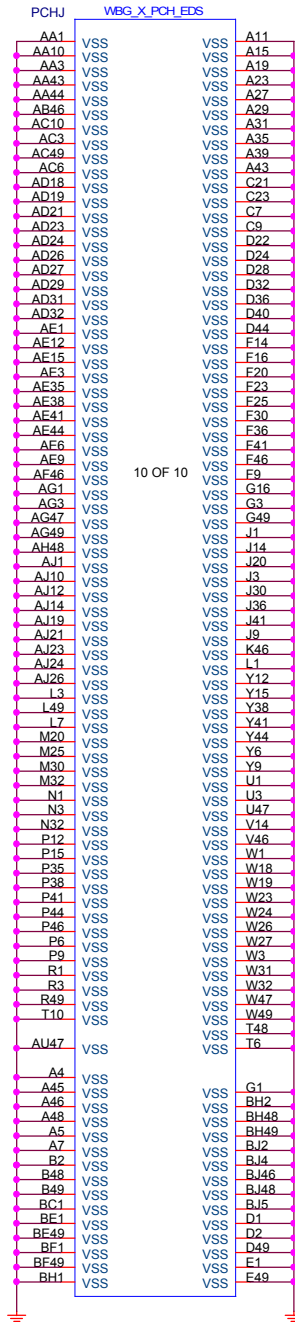






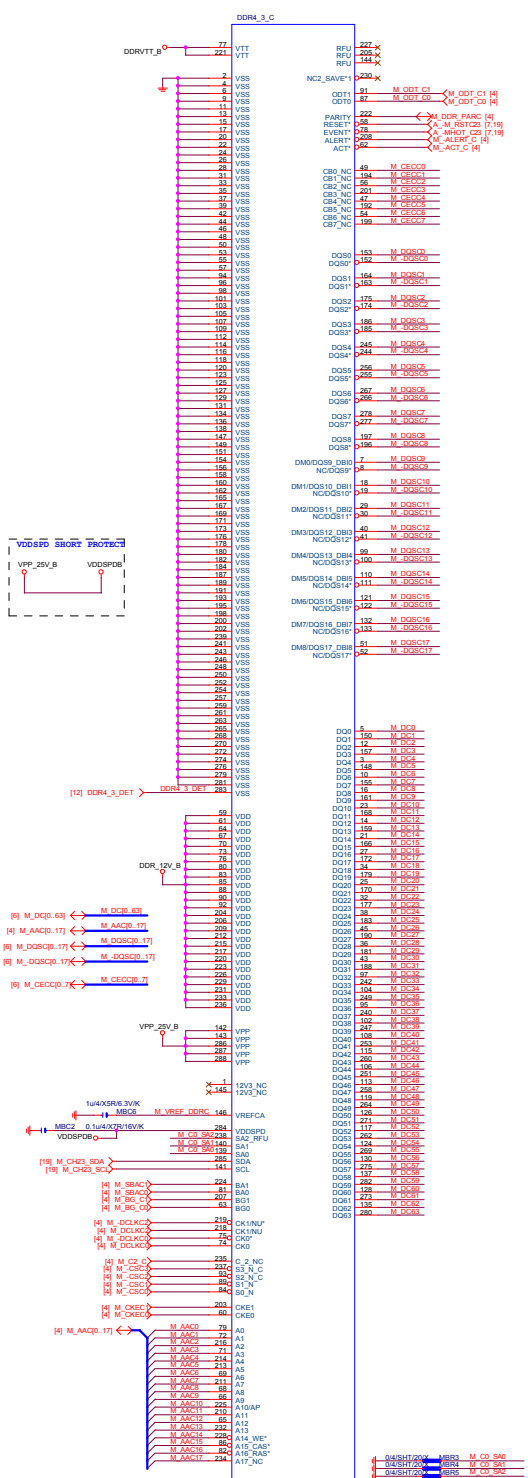


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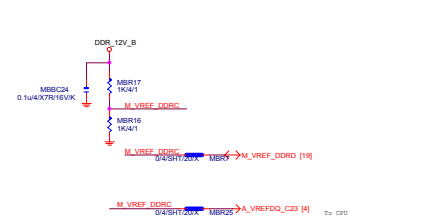


Gigabyte Technology

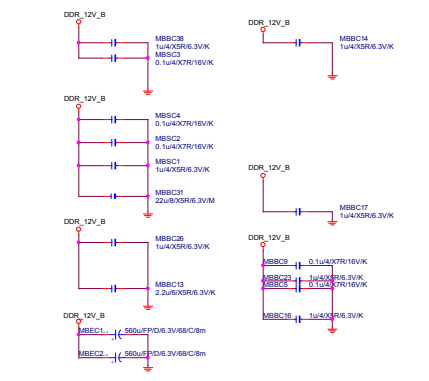
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Date:	Friday, January 16, 2015	Sheet	15 of 62



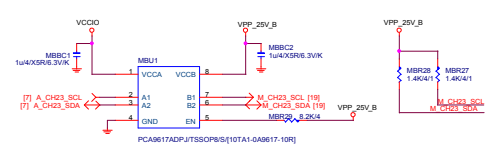
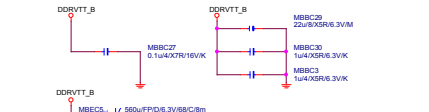
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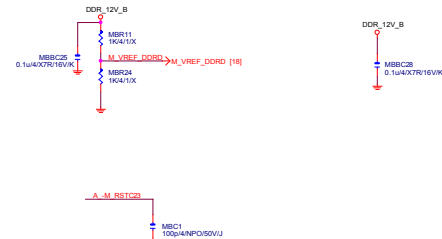
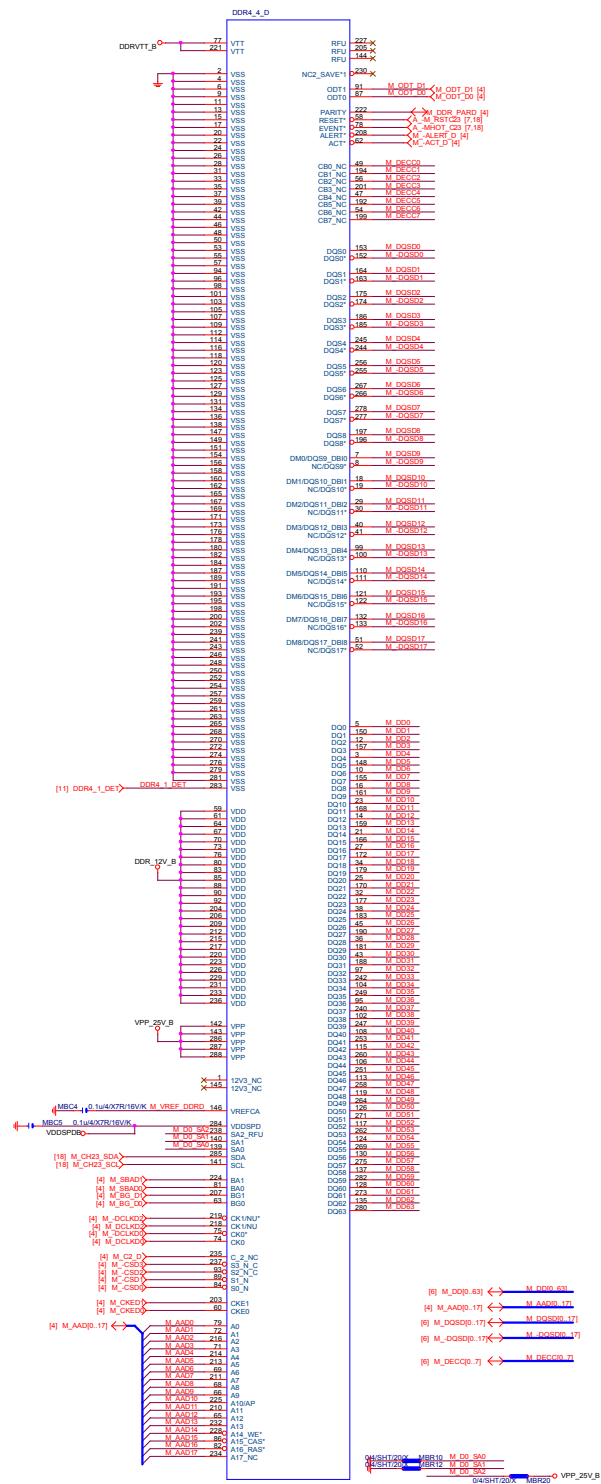


DDR12V Decouple



DDRVTT Decouple



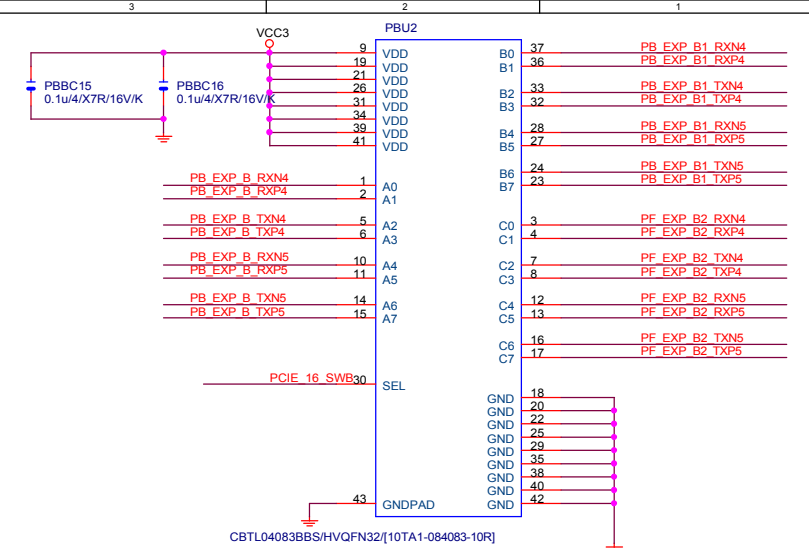


PCIE_2 3GIO_*16



PCIE_1 3GIO_*16

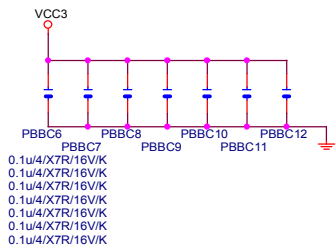
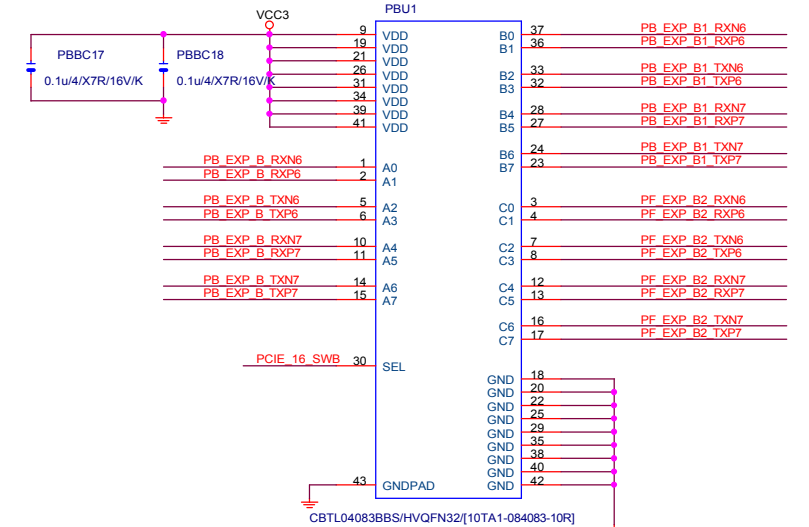


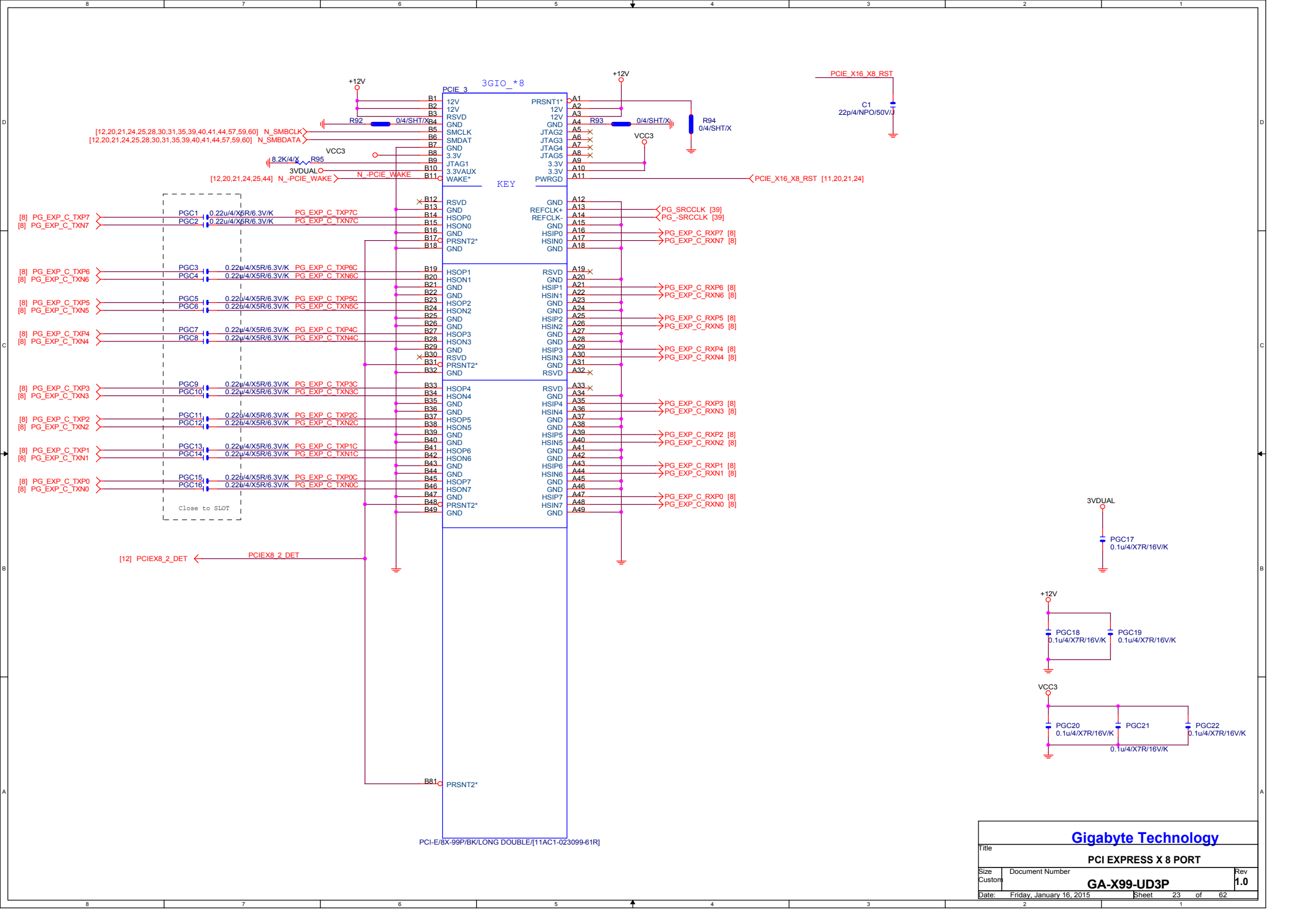


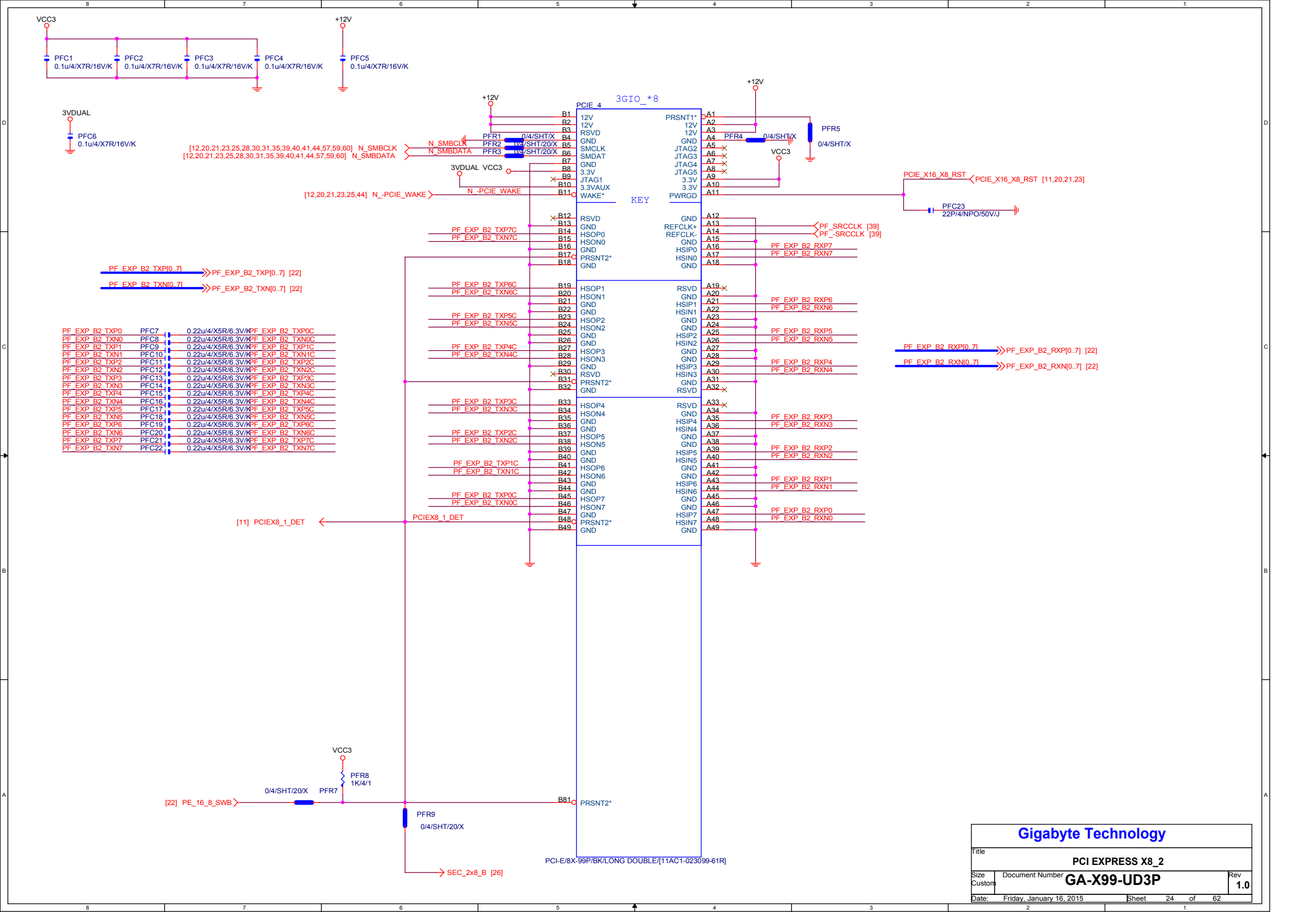
VCC3

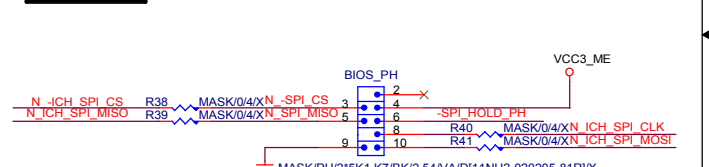
PBBC13
10uF/6/X5R/6.3V/M

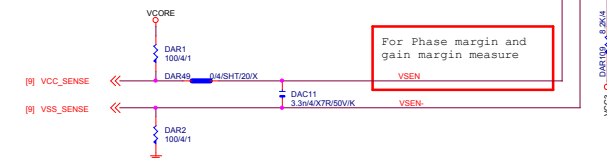
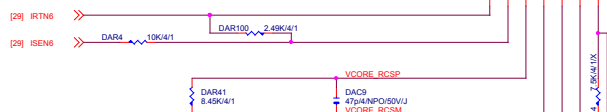
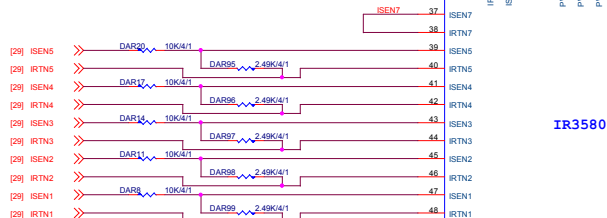
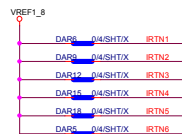
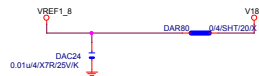
PBBC14
10uF/6/X5R/6.3V/M





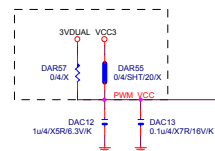
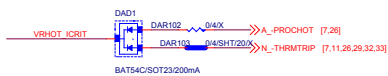




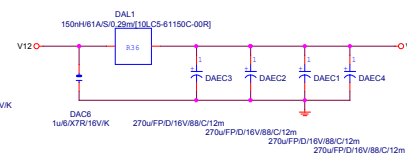
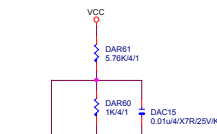


[26,58] VR_RDY << VR_RDY

~PROBOT

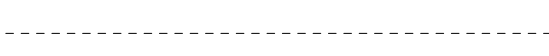


IR3580

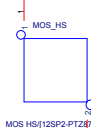


Debug Only

Remove PinHeader in modify PBOM



MOS HEATSINK

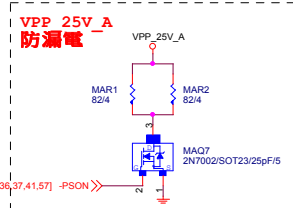
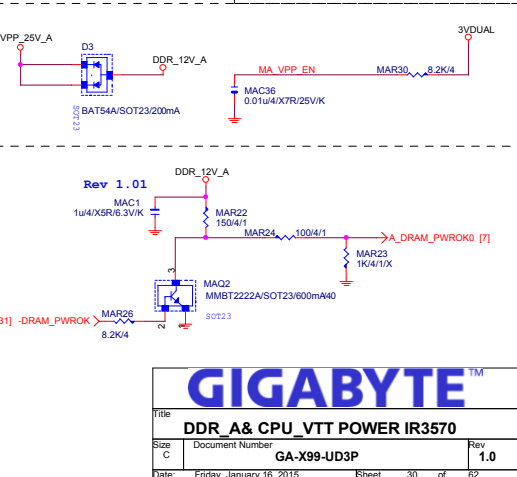
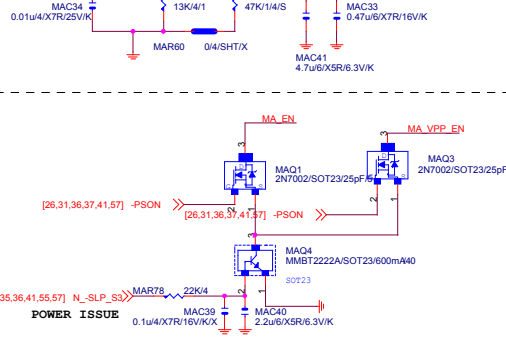
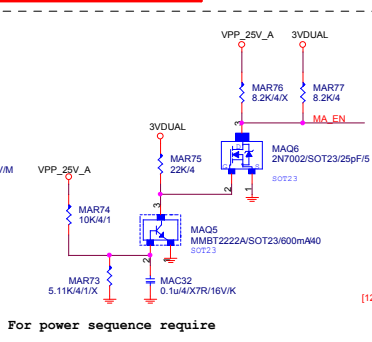
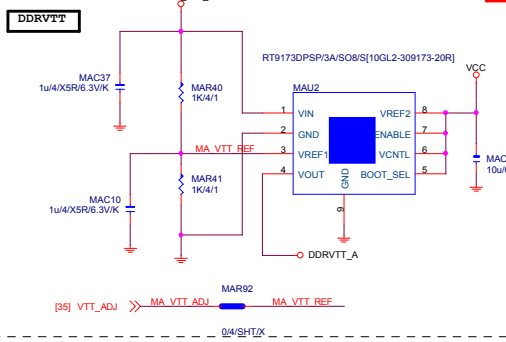
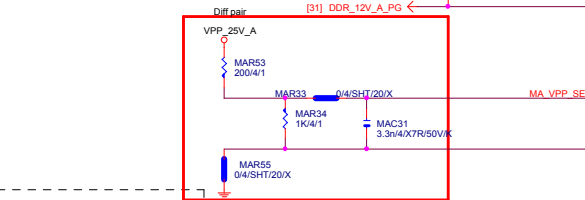
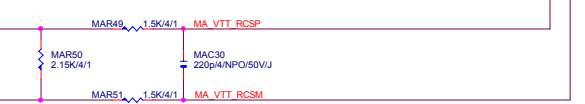
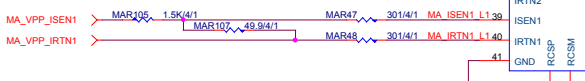
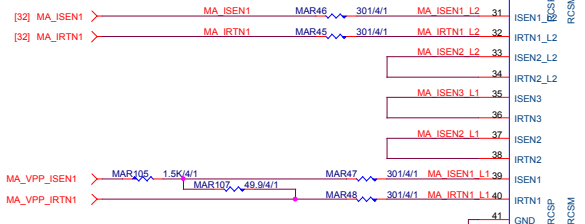
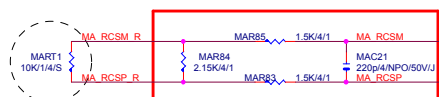
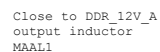


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須更換成0.36uH/40A
確認溫度是否會更高
超頻時是否imax-pk > 208A



Close to DDR_12V_B
output inductor MBL1

Close to VPP_25V_B
output inductor
MBL2

should be routed as
differential pair,
7mil width, 8mil
spacing

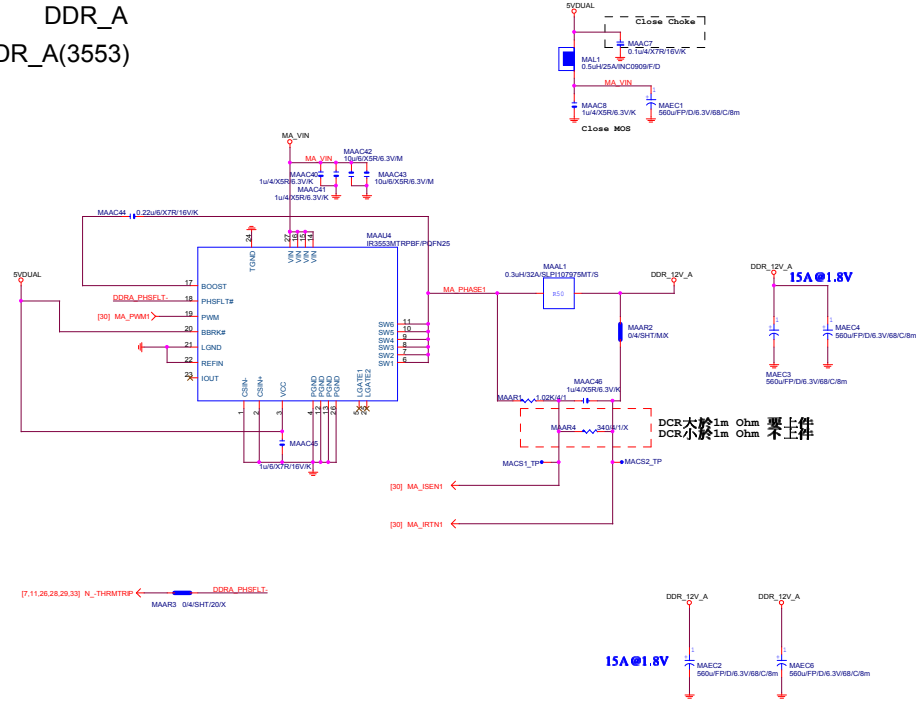
For power sequence require

POWER ISSUE

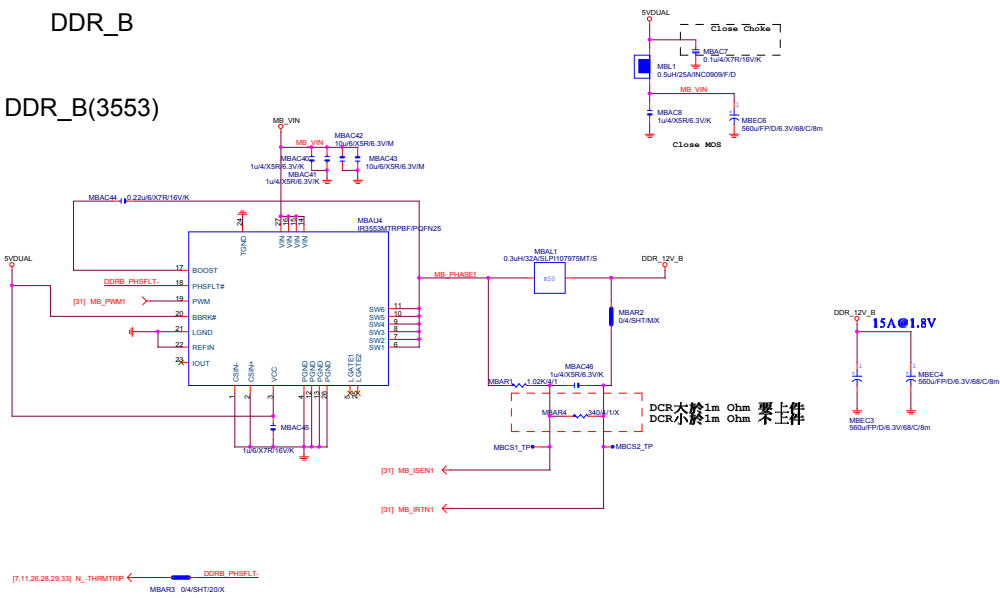
GIGABYTE™

Title			DDR_A& CPU_VTT POWER IR3570
Size			Document Number
C			GA-X99-UD3P
Date:			Friday, January 16, 2015
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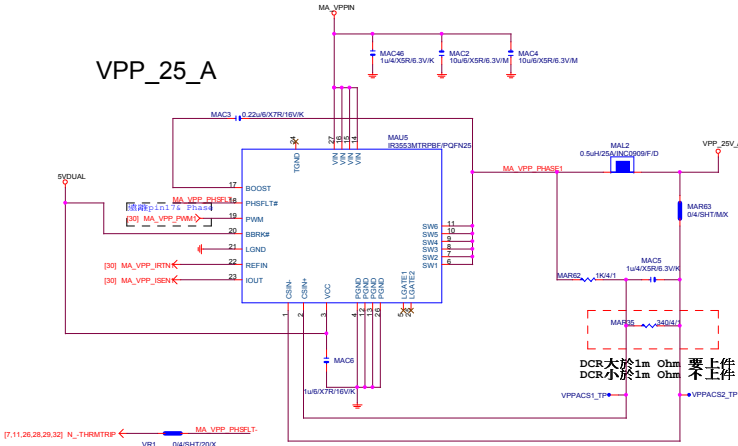
DDR_A
DDR_A(3553)



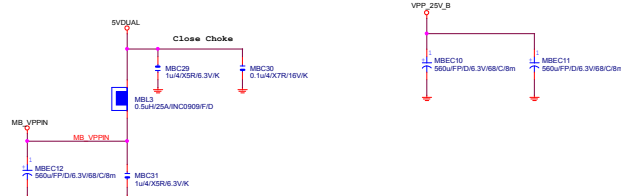
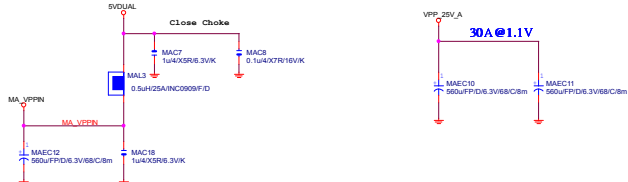
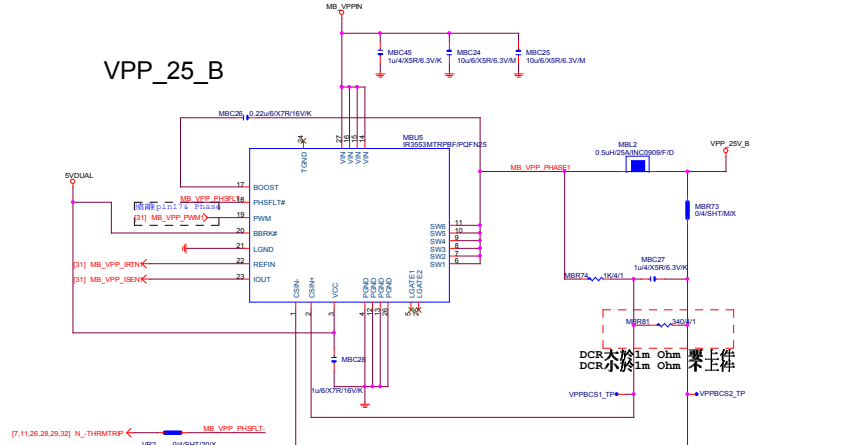
DDR_B
DDR_B(3553)

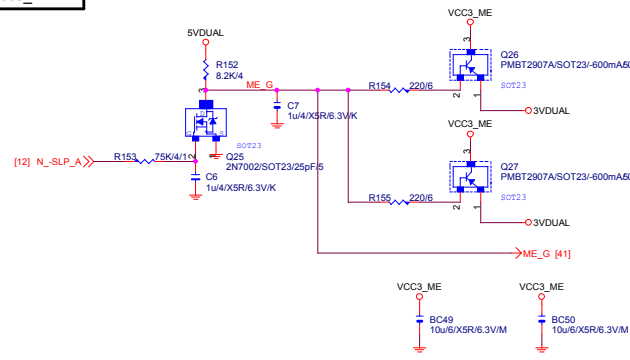
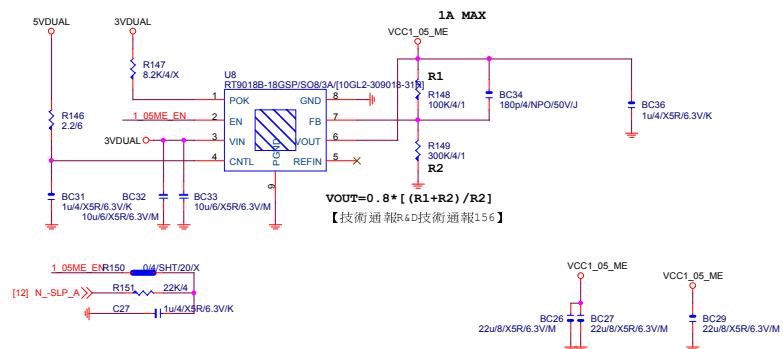
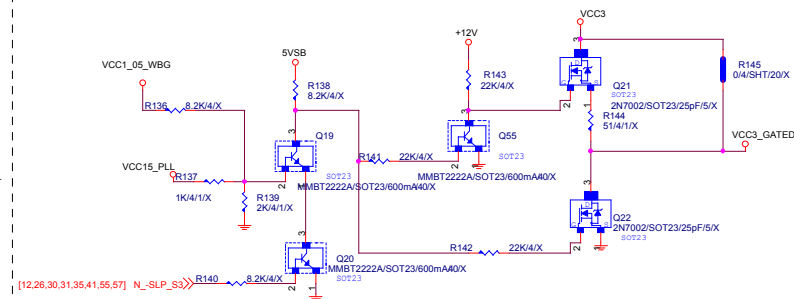
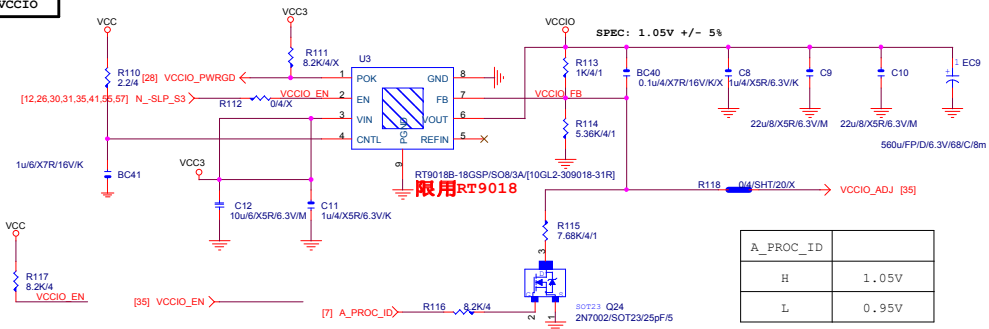
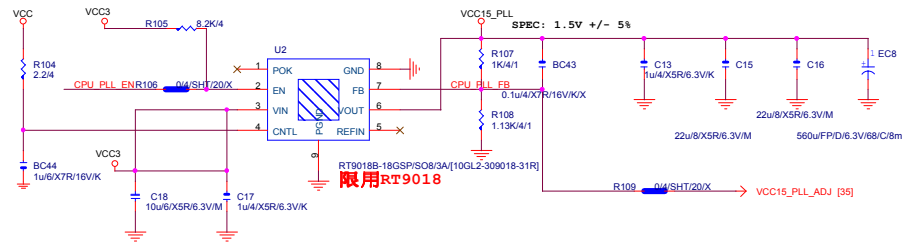


VPP_25_A

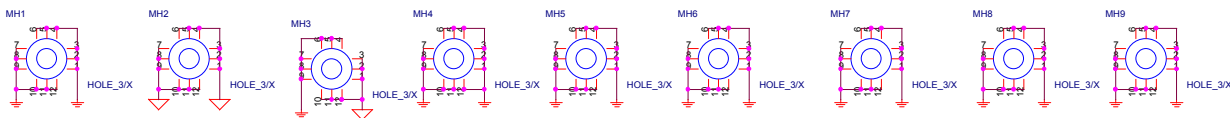
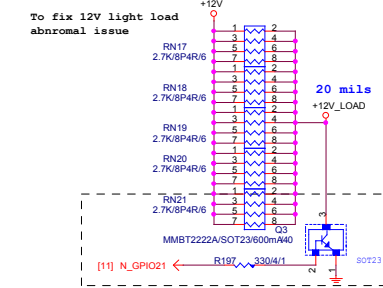
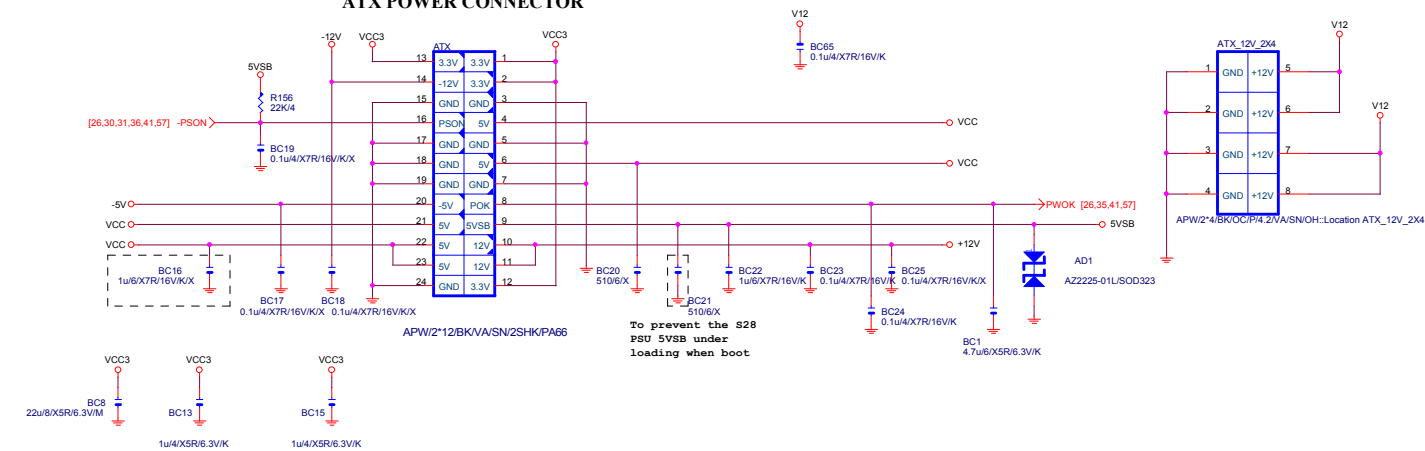


VPP_25_B

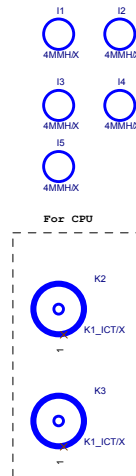
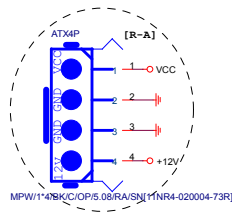




ATX POWER CONNECTOR

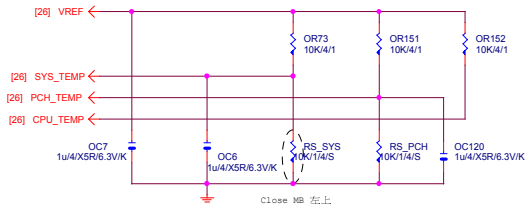


OVER CLOCKING

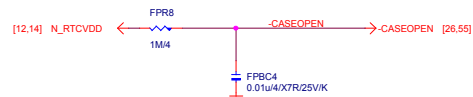


INPUT				OUTPUT	
PR	CL	CLOCK	DATA	Q	-Q
L	H	X	X	H	L
H	L	X	X	L	H
L	L	X	X	H	H
H	H	Rising	T	H	L
H	H	Rising	L	L	H
H	H	L	X	No Change	
H	H	H	X	No Change	
H	H	Falling	X	No Change	

TEMP H/W MONITOR

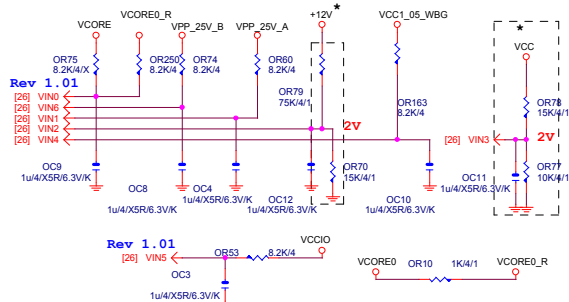


CASE OPEN

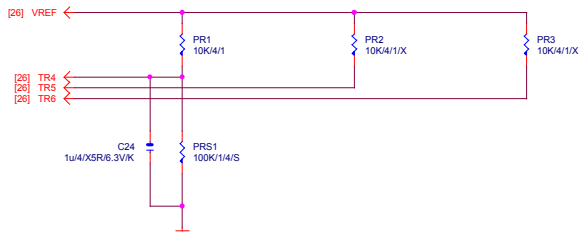


VOLTAGE-- H/W MONITOR

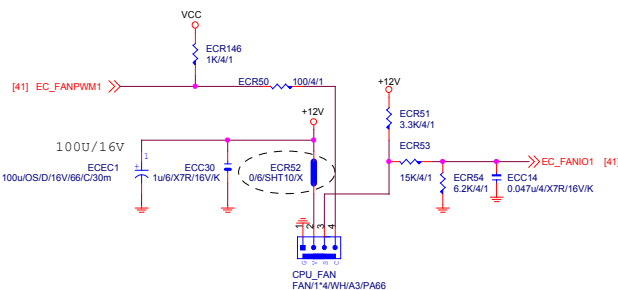
VIN2 must +12V input
VIN3 must VCC input



8620 PROCHOT



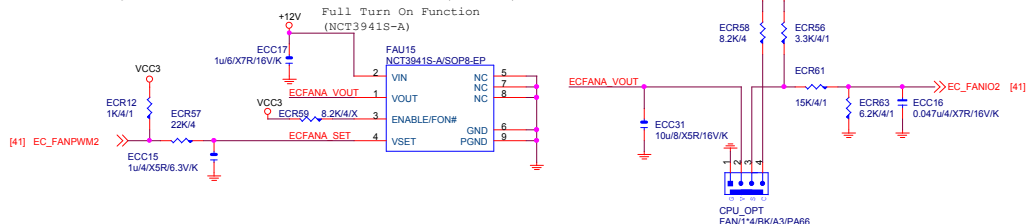
CPU SMART FAN



CPUOPT FAN

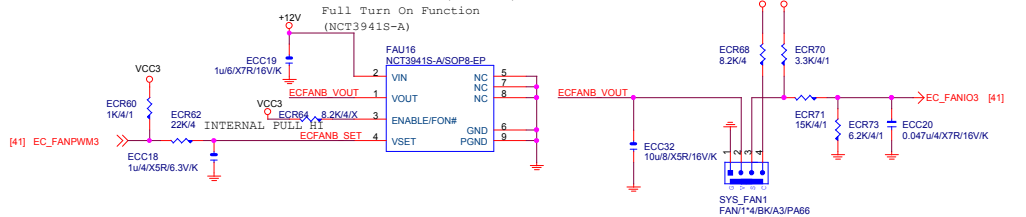
INTERNAL PULL HI

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



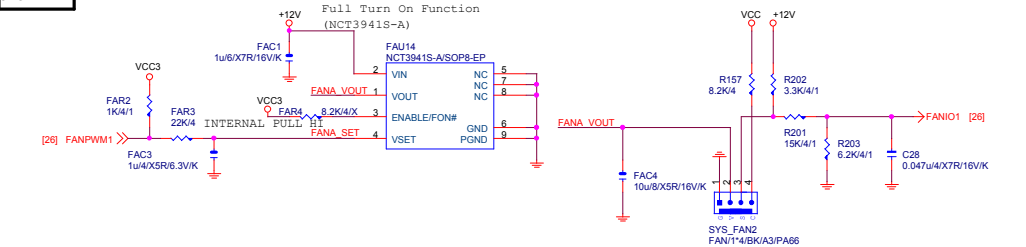
SYS FAN1

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



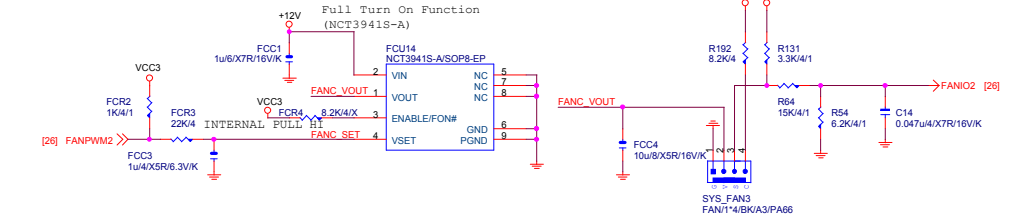
SYS FAN2

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



SYS FAN3

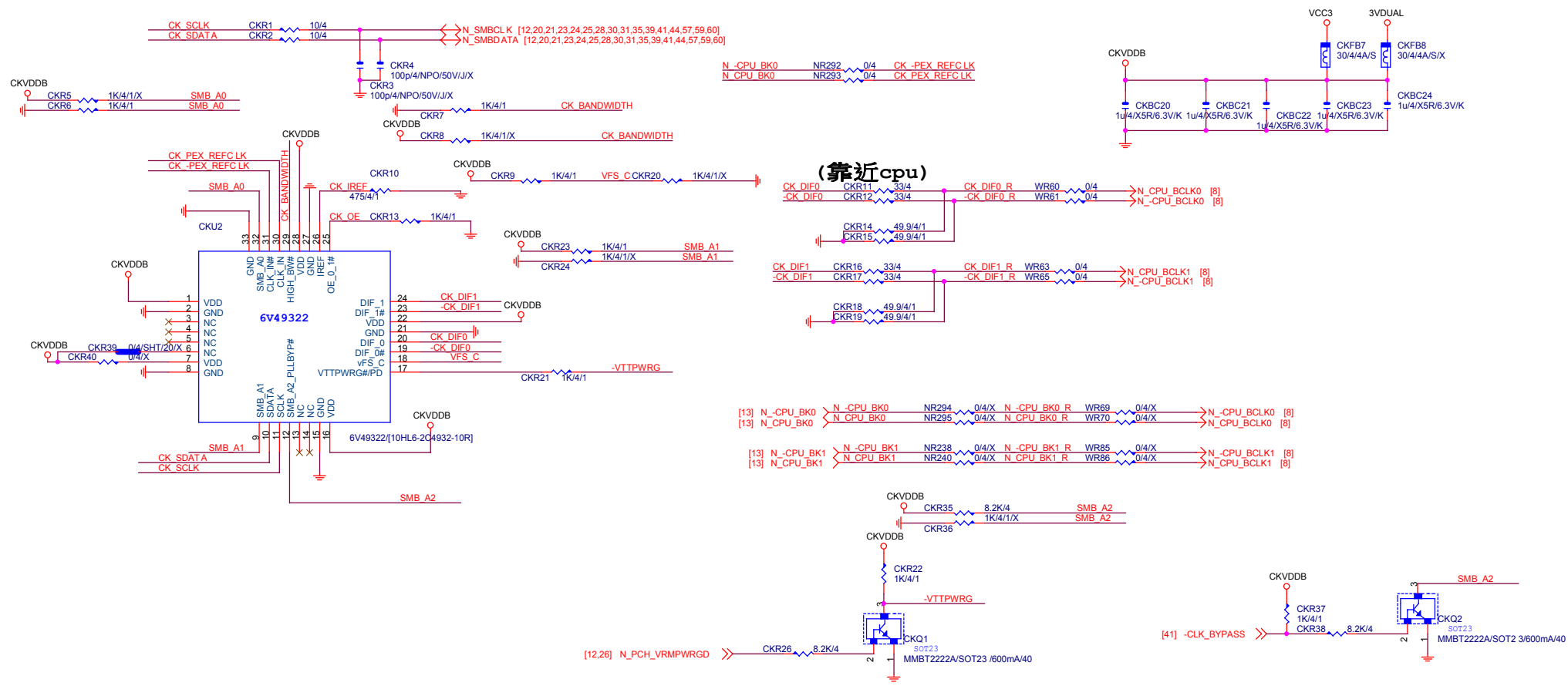
Enable Function (NCT3941S)
Full Turn On Function (NCT3941S-A)

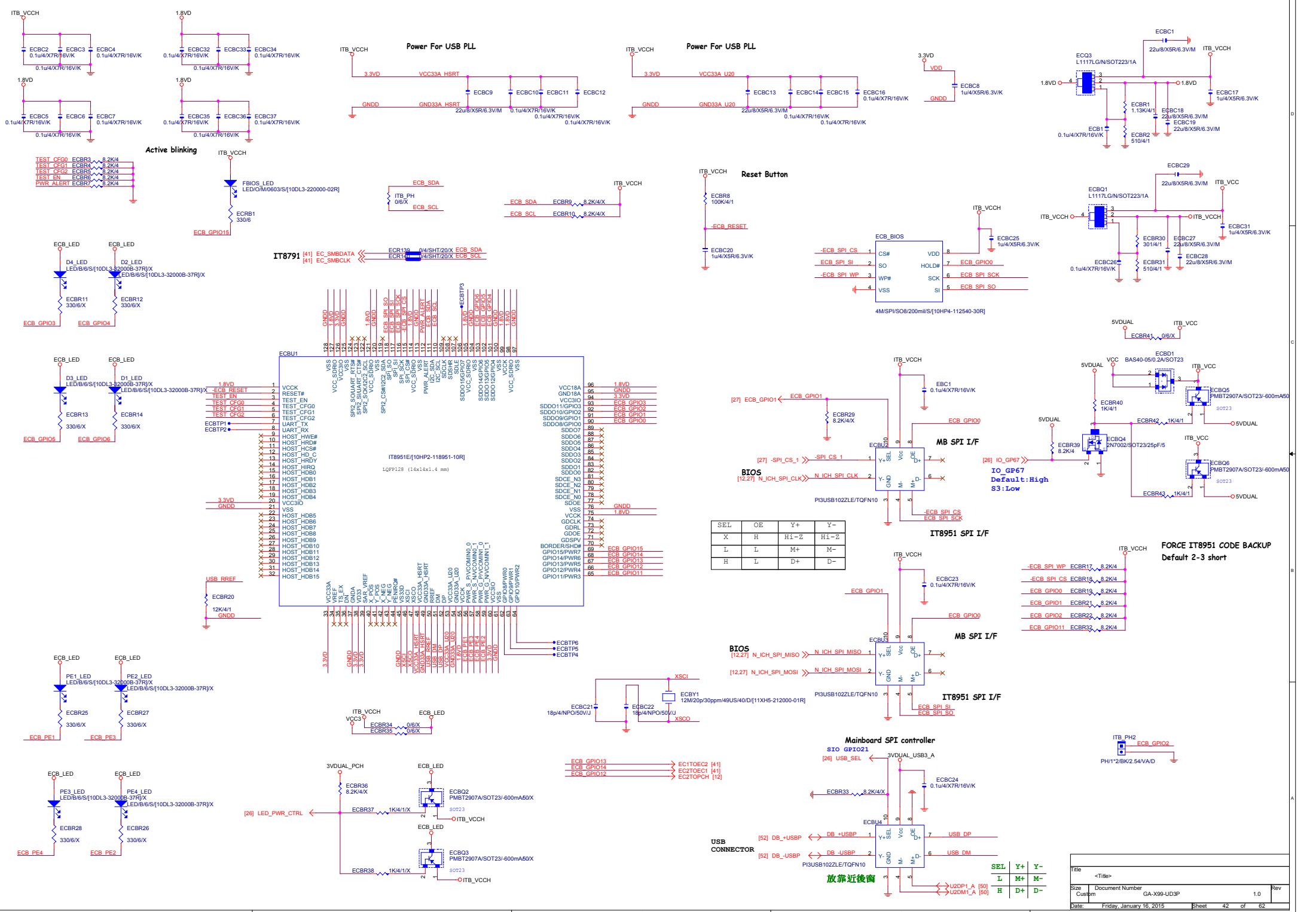


Gigabyte Technology

Title		HWM,FAN CTRL	
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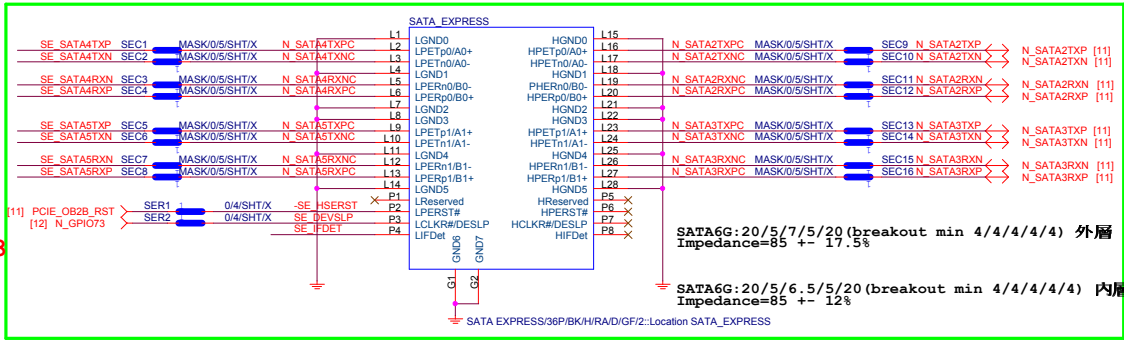
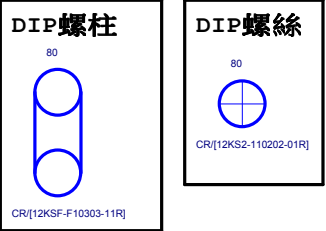
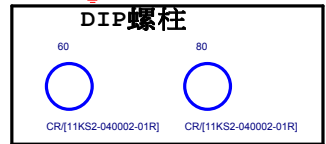
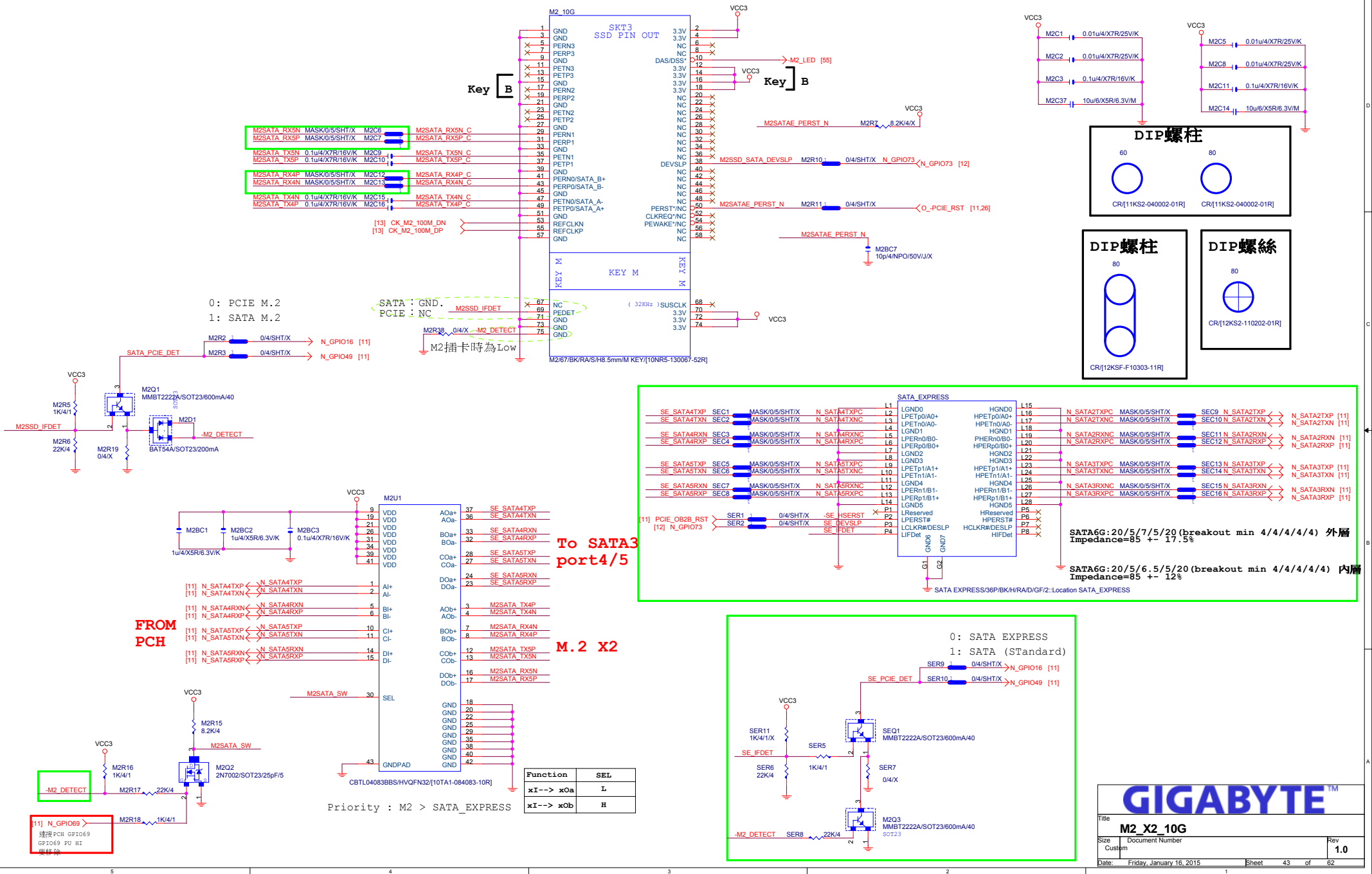
Rev
1.0





SEL	OE	Y+	Y-
X	H	H1-Z	H1-Z
L	L	M+	M-
H	L	D+	D-

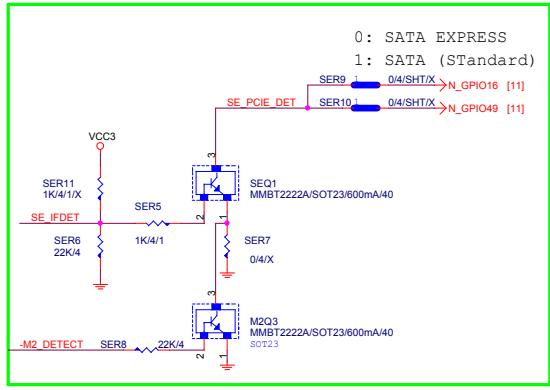
Title	<Title>
Size	Document Number
Custom	GA-X99-UD3P
Date	Friday, January 16, 2015
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SATA6G:20/5/7/5/20 (breakout min 4/4/4/4) 外層
Impedance=85 +- 17.5%

SATA6G:20/5/6.5/5/20 (breakout min 4/4/4/4) 內層
Impedance=85 +- 12%

SATA EXPRESS/36P/BK/H/RA/D/GF/2-Location SATA_EXPRESS



Title

M2_X2_10G

Size

Custom

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1.0

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請選擇適用的USBport :
SOC/UD7/UD5/G1/G7 : USB4
;UD3/G5:USB6

PCIE:15/4/4/4/15(breakout min 8/4/4/4/8) 外層
Impedance=85 +- 17.5%

PCIE:15/4/4/4/15(breakout min 8/4/4/4/8) 內層
Impedance=85 +- 12%

WIFI use PCIE port4 in X99 [13] M2_WIFI_TP
[13] M2_WIFI_TN

DIP螺絲

30



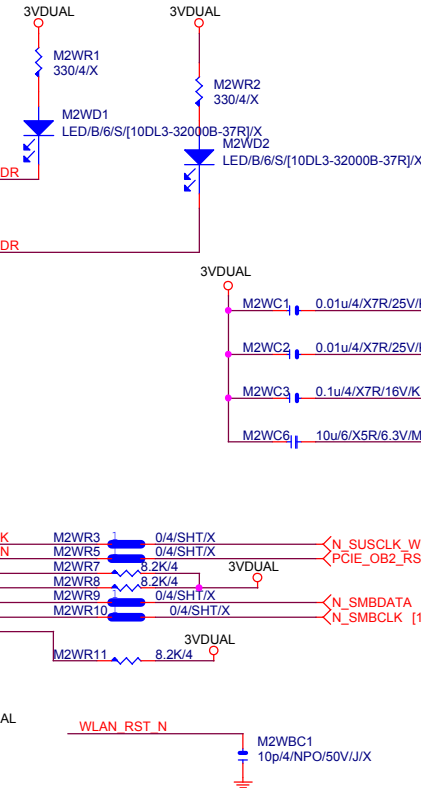
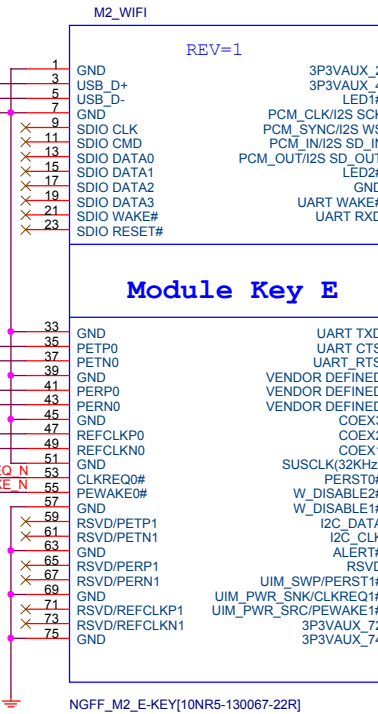
CR[12KS2-110202-01R]

SMD螺柱

30



CR[10KS2-040109-01R]
should be SMD level



GIGABYTE™

Title M2_WIFI		
Size B	Document Number	Rev 1.0
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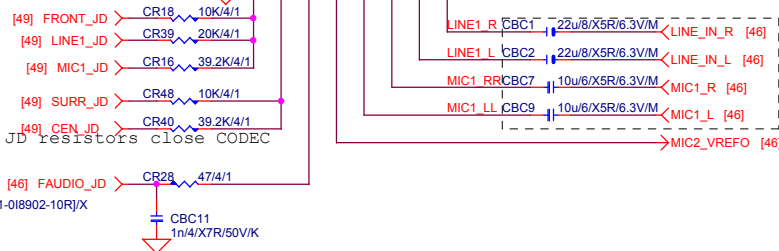
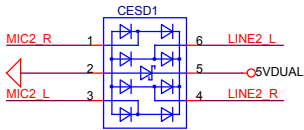
Thermal pad is DGND

Thermal pad is DGND

Digital Area

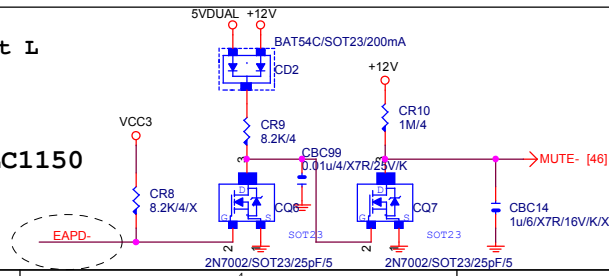
Analog Area

SMOATR1 MASK/0/6/X
0/6/X For AGND/GND
moat under Codec
_Body



EAPD: Default L
H : ON
L : OFF

Close to ALC1150



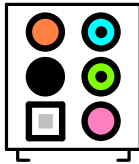
鍍黑鎳金屬外罩+
GND切割

AUDIO_HS([11NH1-00297S-03R])

Gigabyte Technology

Title	HD AUDIO ALC887B-VD2/VT1708S/VT2021		
Size	Document Number	GA-X99-UD3P	Rev
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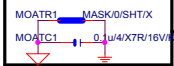
AZALIA JACK



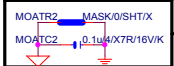
Audio jack -> USB (各打2 VIA hole)



Under Audio jack (各打2 VIA hole)



Near F_AUDIO (各打2 VIA hole)



Near Codec (各打2 VIA hole)

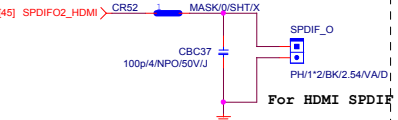


Near R_AUDIO (各打2 VIA hole)



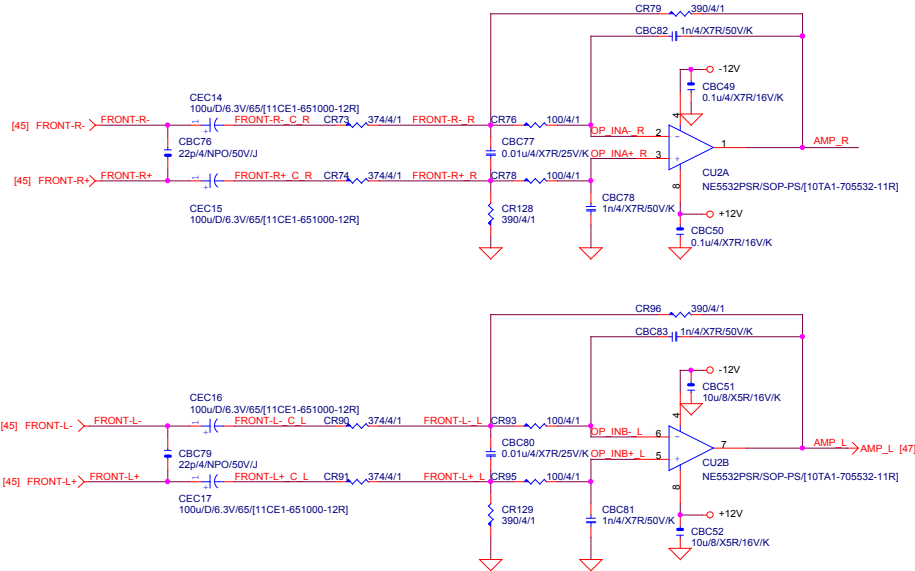
Near AMP (各打2 VIA hole)

SPDIF OUT



For HDMI SPDIF

Differential to Single-End AMPLIFIED



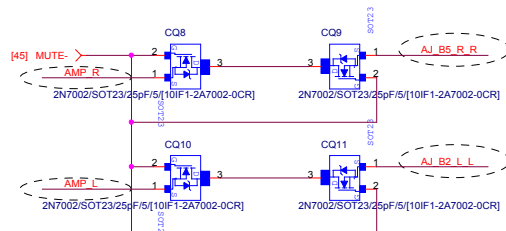
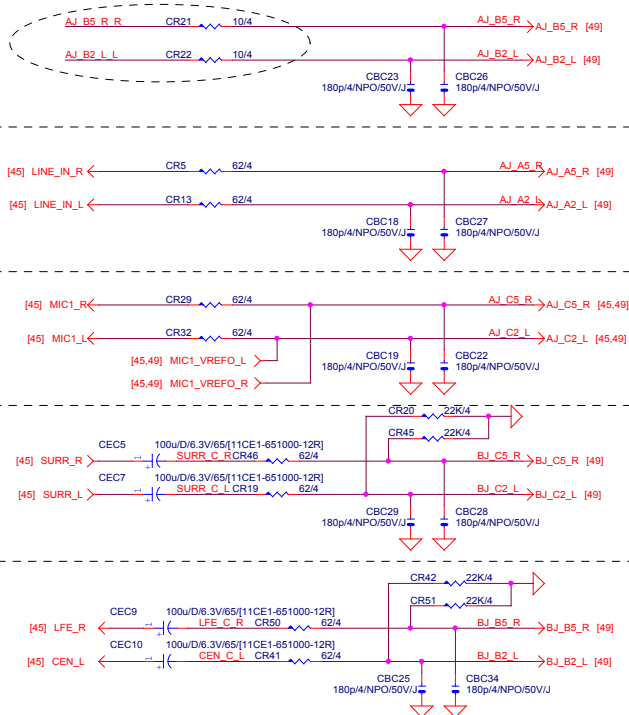
LINE-OUT

LINE-IN

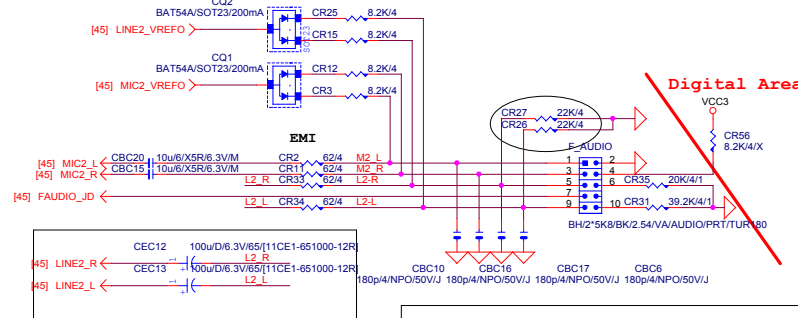
MIC-IN

SURROUND

CEN/LFE

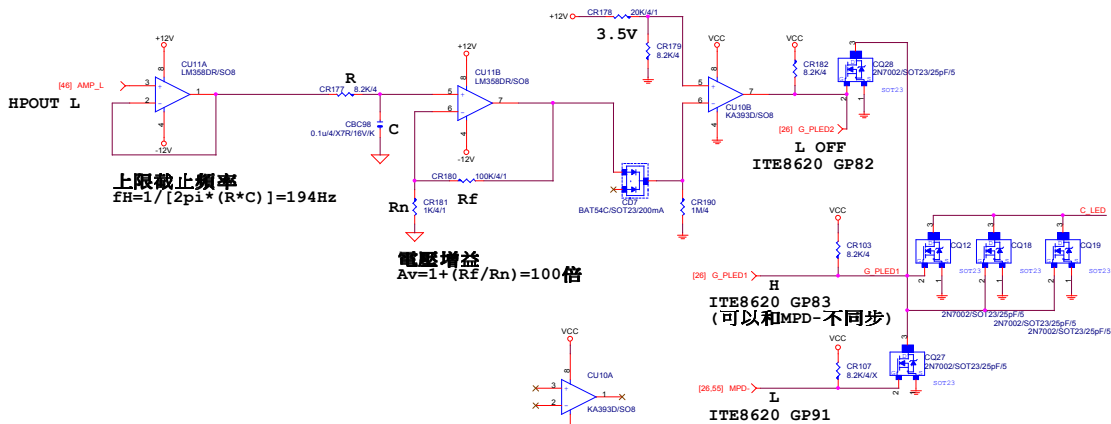
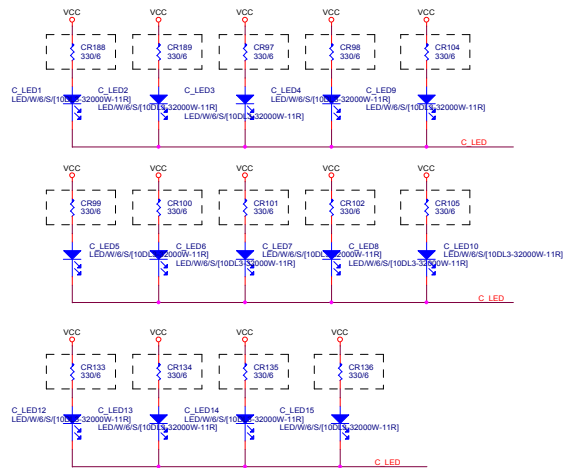


AZALIA FRONT PANEL



Gigabyte Technology

Title	AUDIO JACK	
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AUDIO LED Control

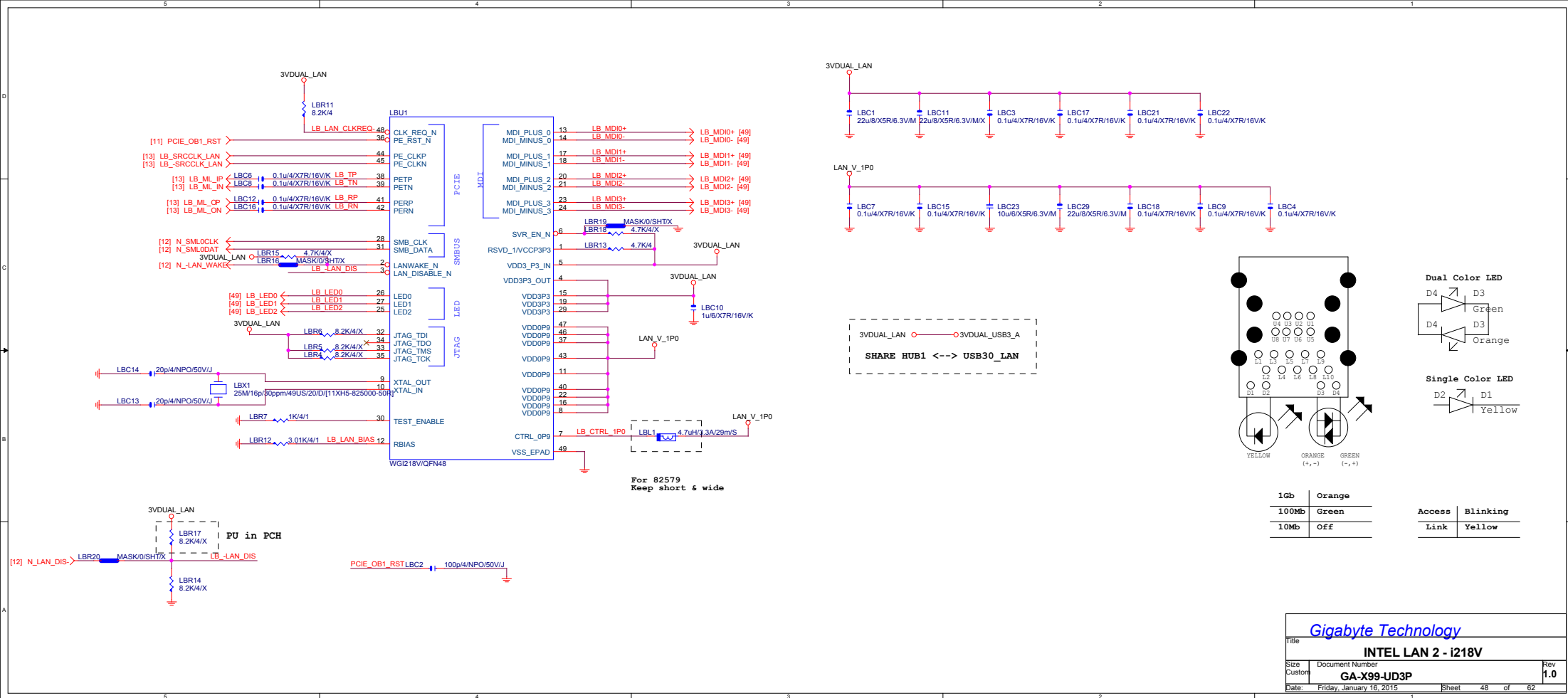
	IO GP82	IO GP83	IO GP91
Still Mode	L	H	L
OFF Mode	L	L	L
Pluse Mode	L	H	BREATH
Beat Mode	OD	H	L

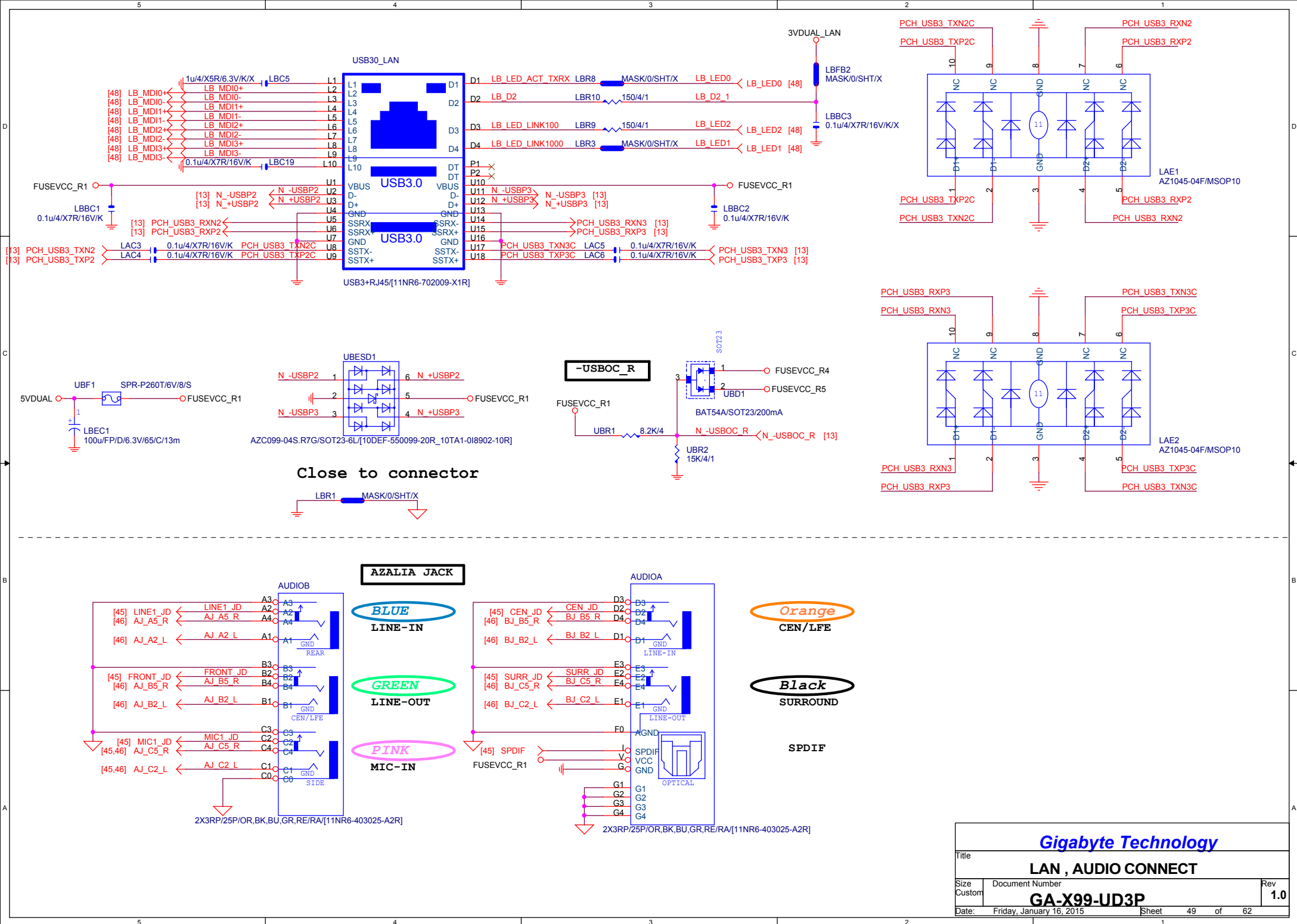
Rear Panel LED ON/OFF

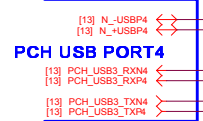
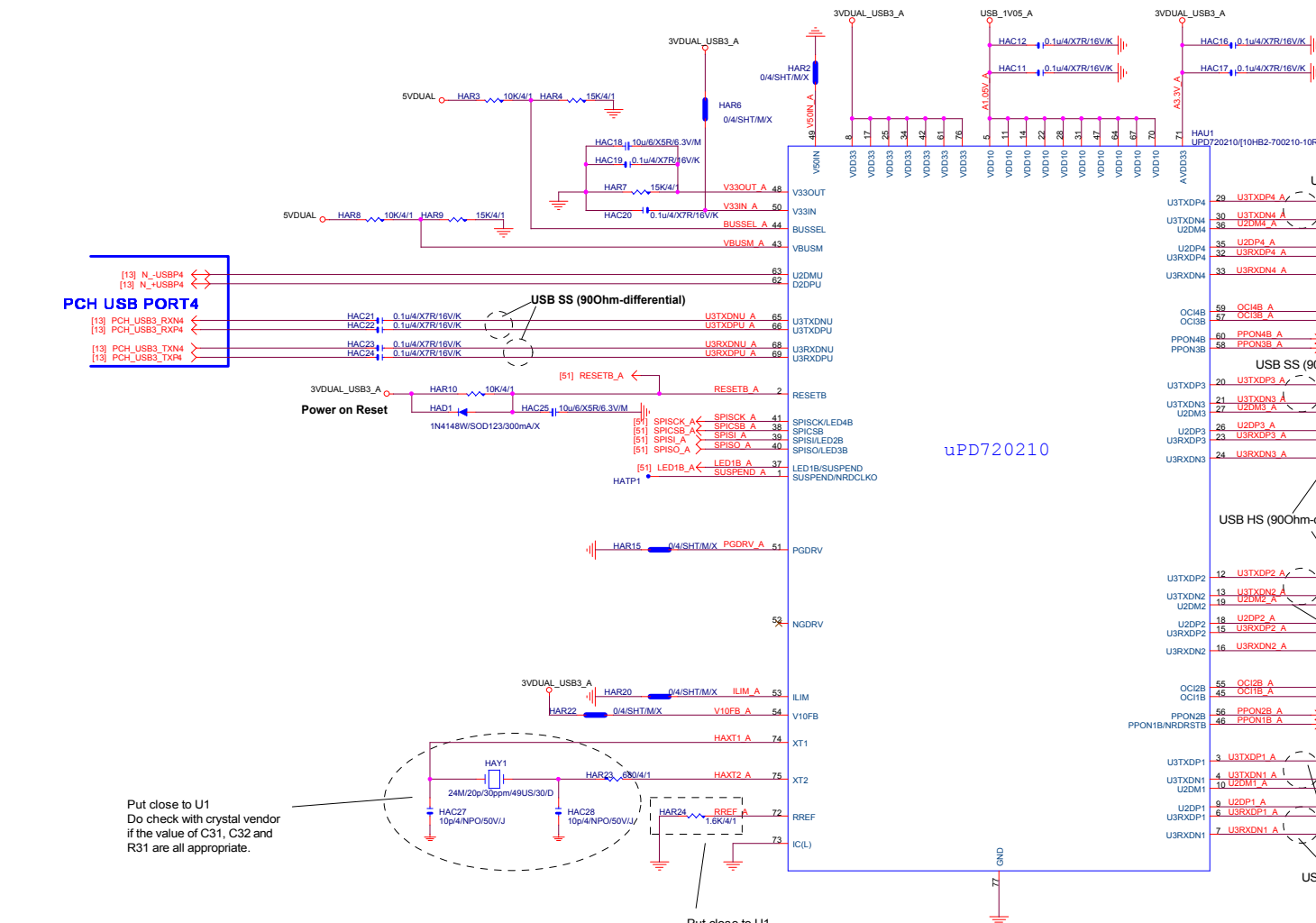
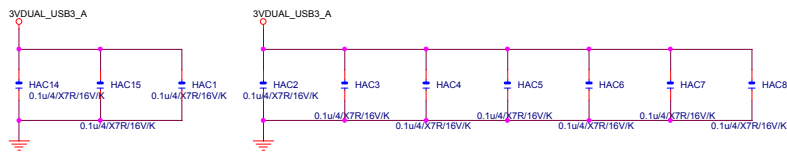
	IO_GP81
REAR LED ON	H
REAR LED OFF	L

GIGABYTE

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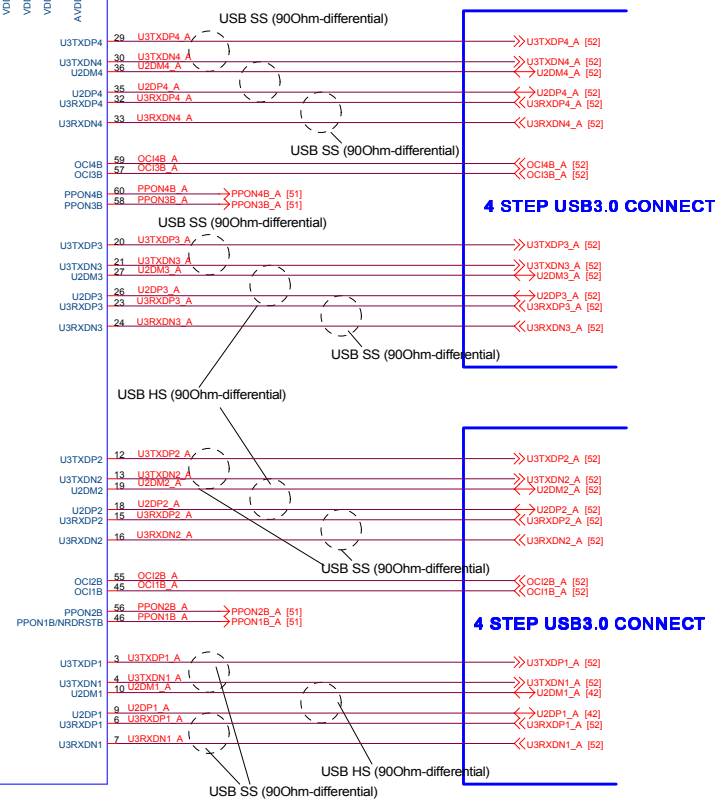
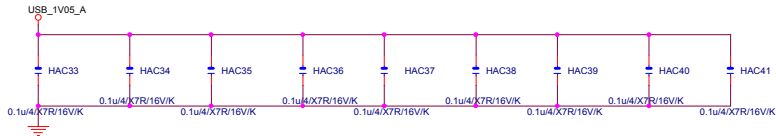
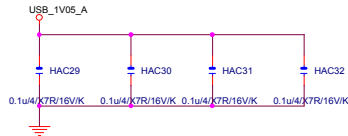




Power on Reset

Put close to U1
Do check with crystal vendor
if the value of C31, C32 and
R31 are all appropriate.

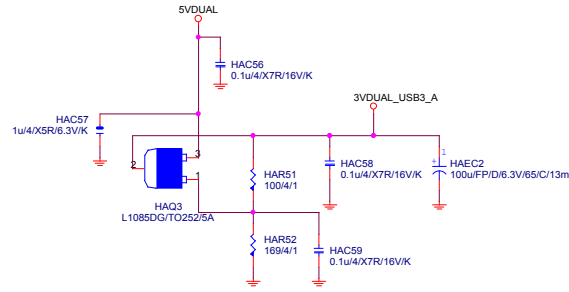
Put close to U1
Short and broad connection to GND
Don't split R32 into multiple
resistors.



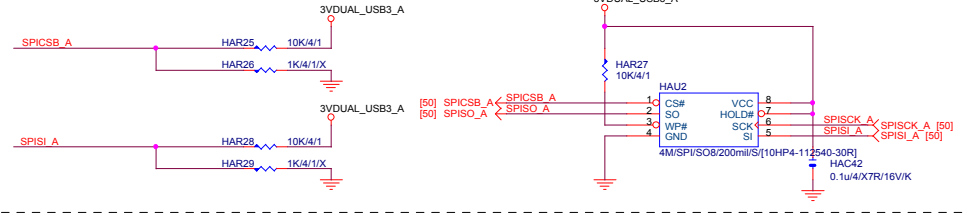
Gigabyte Technology

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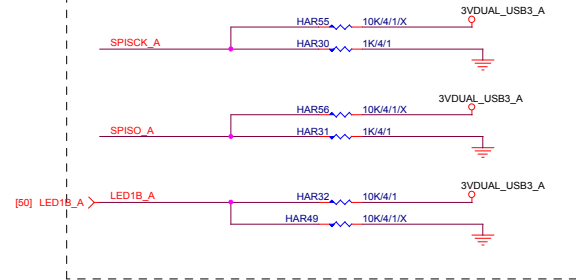
3VDUAL_USB_1



External SPI ROM ; SPI ROM attached mode

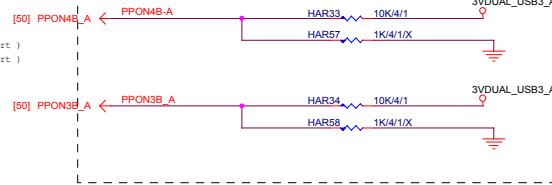


Battery Charging

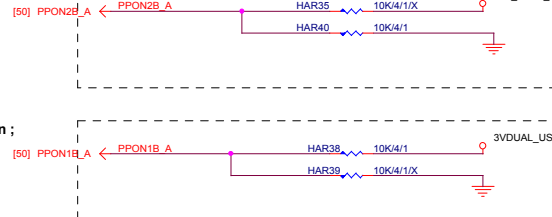


Number of Ports ; 4Ports mode

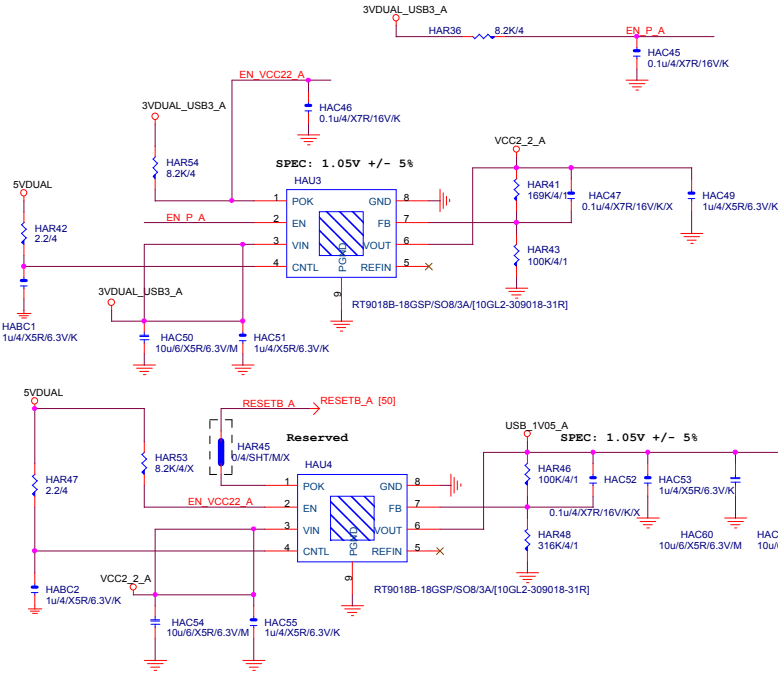
PPON3B / PPON4B : H / H (4 port)
PPON3B / PPON4B : L / L (2 port)



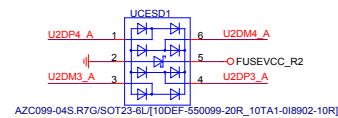
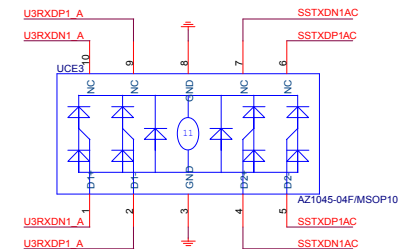
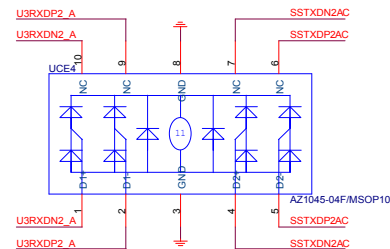
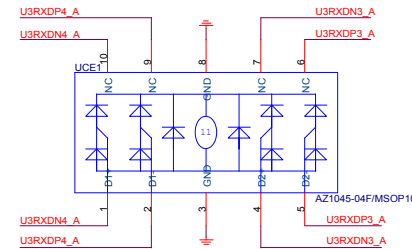
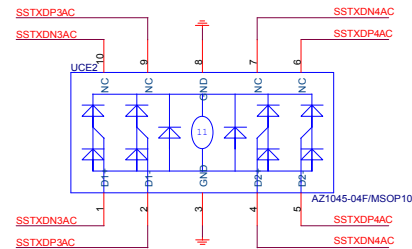
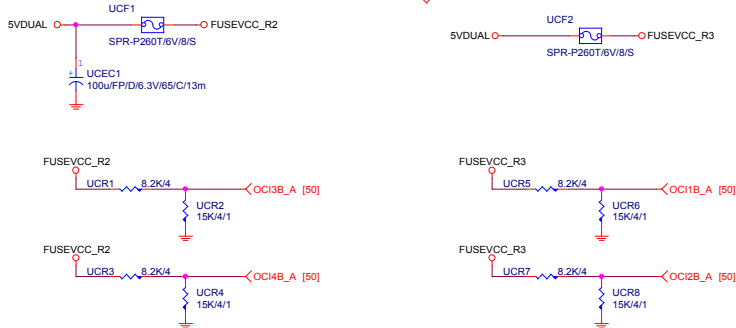
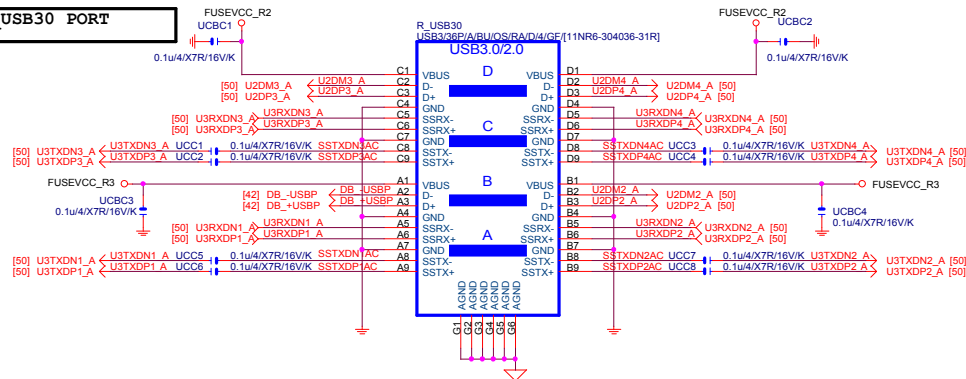
VBUS Power Control ; Individual mode



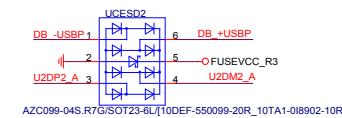
PPON1B Pin Function ; Port1 PPONB mode



R_USB30 PORT

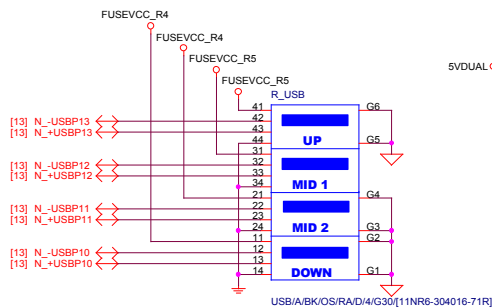


Close to connector

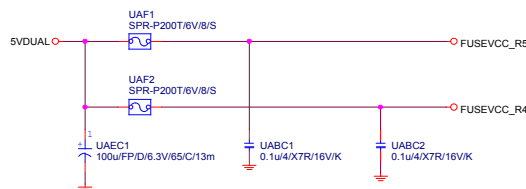


Close to connector

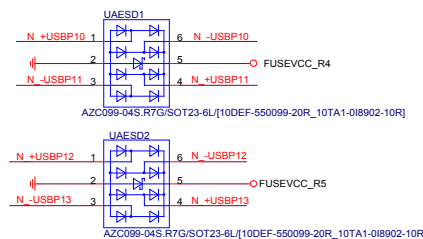
R_USB



USB20 FUSE



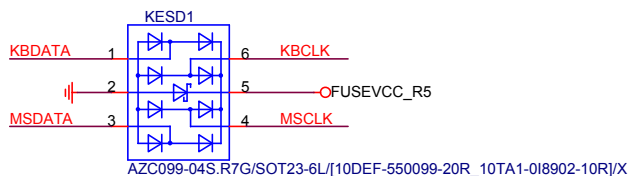
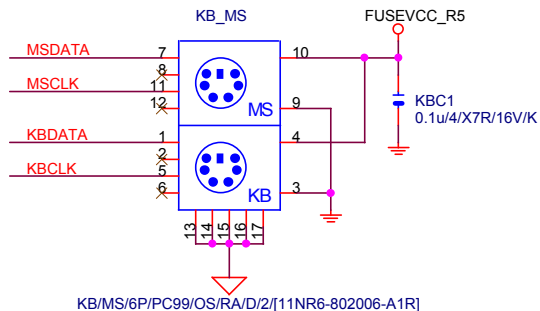
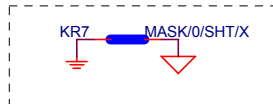
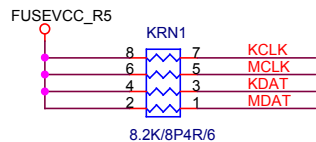
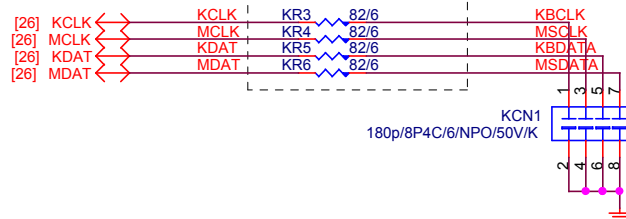
USB20 ESD PROTECT



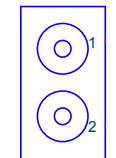
Gigabyte Technology

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R_USB30 , R_USB3		
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FOR鹽化短路

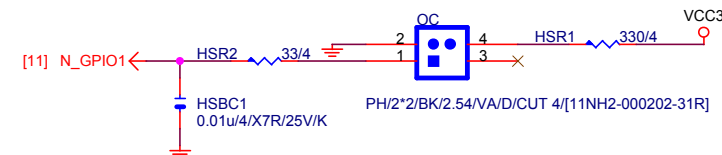


ANTENNA_BRACKET



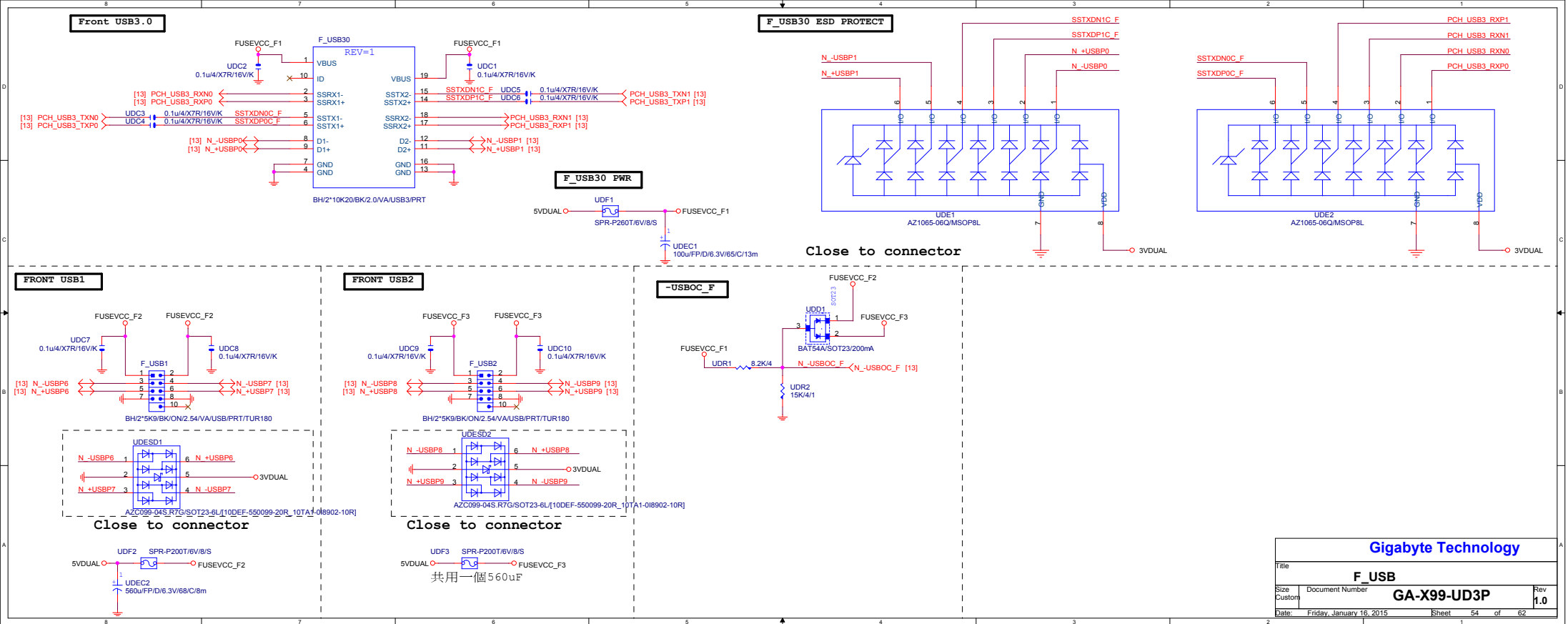
WIFI-BRACKET_Verical/[12AC2-000001-31R]::Location ANTENNA_BRACKET

4GHz

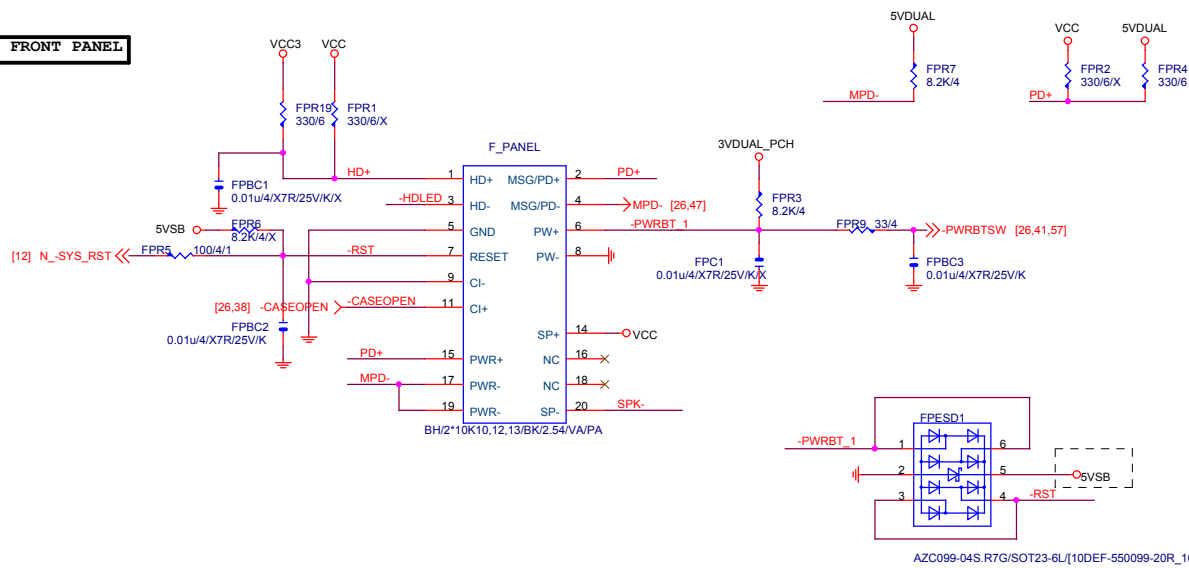


Gigabyte Technology

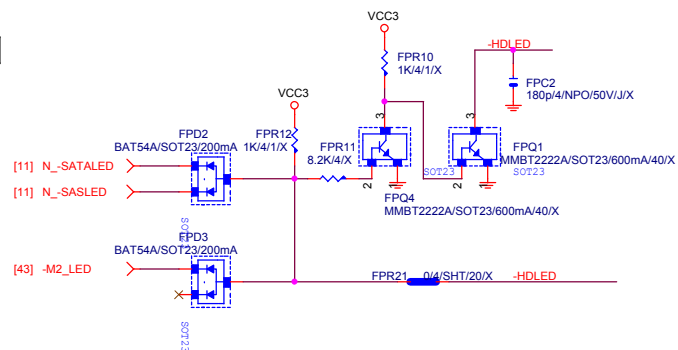
Title			
USB DAC-UP , PS2 ,WIFI			
Size	Document Number		Rev
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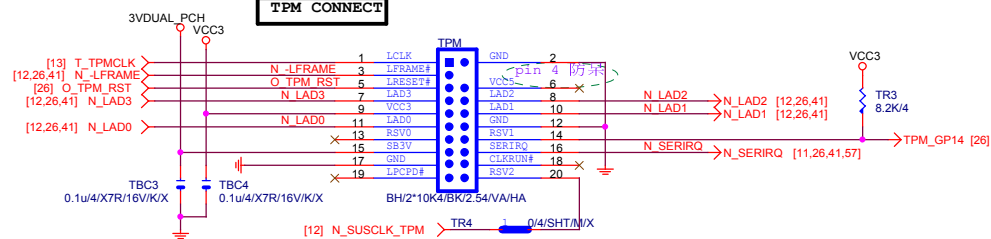
INTEL FRONT PANEL



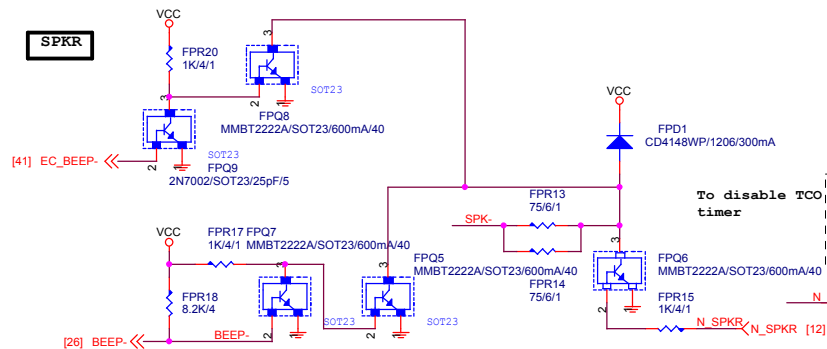
SATA LED



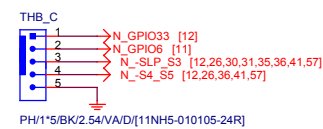
TPM CONNECT



SPKR



Thunderbolt



SL_MIC1

DUST STICKER[11WL1-014090-01R]/X

+/- 10mV AC

Gain=1+(R1/R2)

SL_MIC1 EN

前級放大

濾成DC

後級放大

加快放電速度

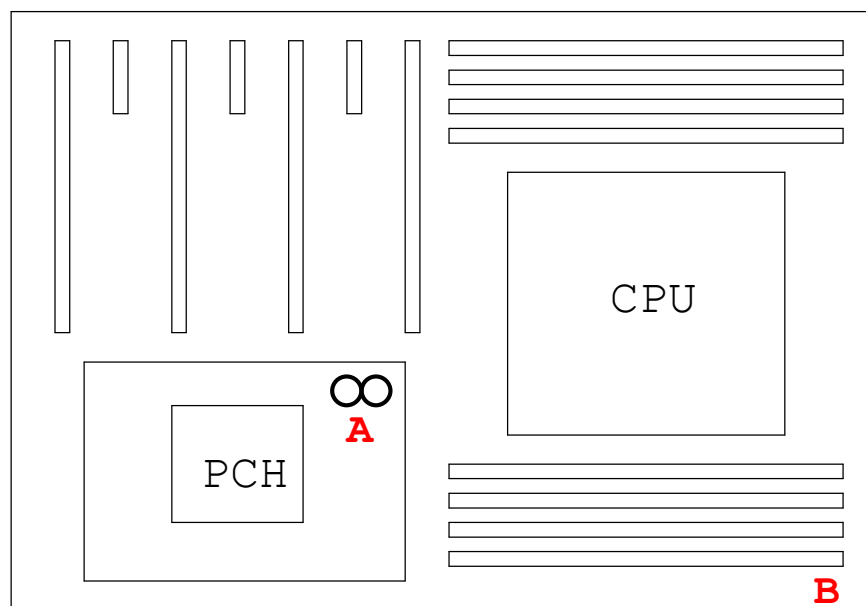
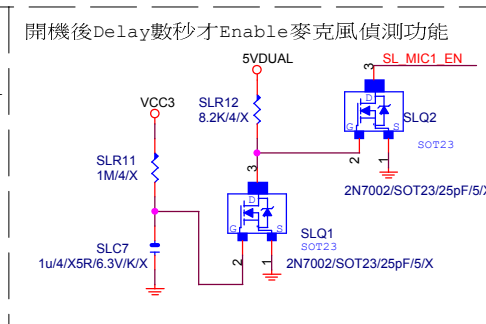
<=3.3V DC

8620's VIN

MIC/VIN

防止瞬間噪音反應過快

[MIC1放在PCH_SINK下, 靠近PCIEX16_1處]



1. 假設User設定系統噪音要低於45dB(即VINx=1.75V)，當VINx高於1.75V，8620會把PCH的GPI7拉Low一次。
2. 當噪音降低到VINx低於1.65V(即1.75V-0.1V)時，8620會再把PCH的GPI7拉Low一次。
3. 超過Th時，將CPU & VGA降頻或Throttle。低於Tl時，則回復正常頻率運作。

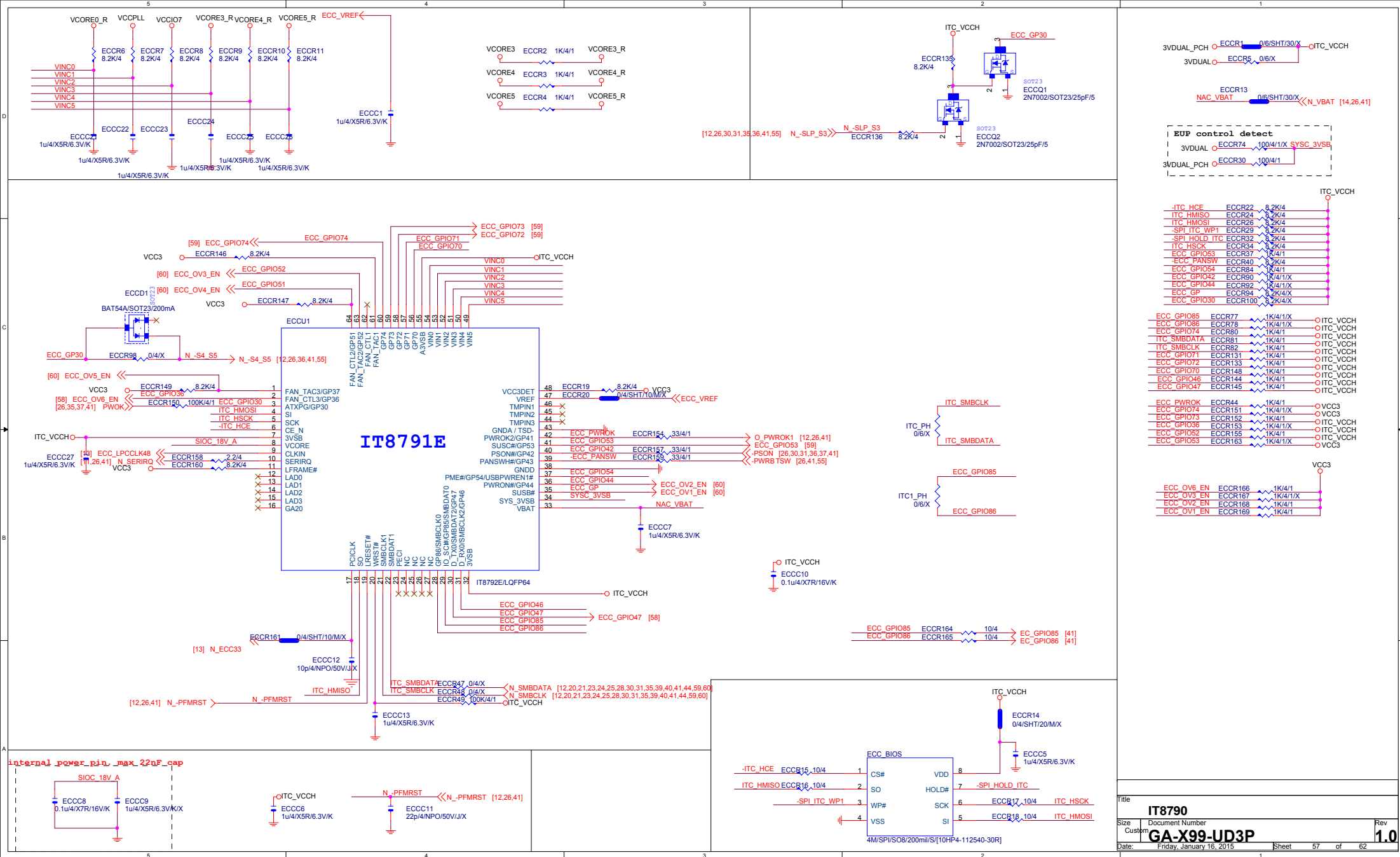
Figure 10.10 illustrates the Interrupt Mode. The graph shows Temperature (Y-axis) versus Time (X-axis). The temperature signal oscillates between levels T_h and T_L . The Interrupt signal is a square wave that transitions from low to high whenever the temperature crosses T_h or T_L . Vertical dashed lines mark the points where the temperature crosses these thresholds.

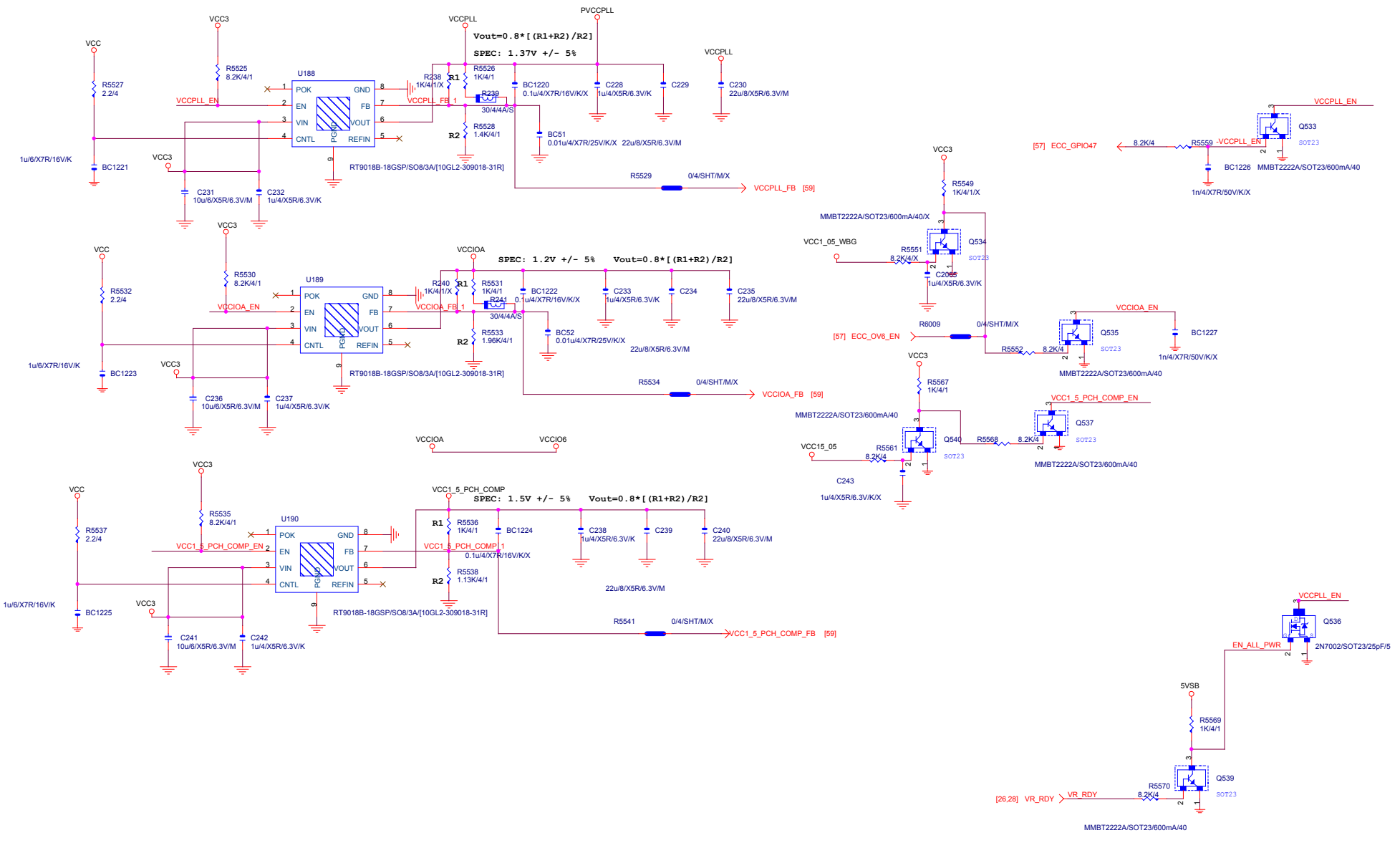
1. 麥克風不可被CPU_FAN & VGA_FAN吹到，用DIP電容擋住顯卡的風。
2. 麥克風需和OP-AMP越靠近越好，<1000mil。
3. IT8620偵測到dB值超過user設定值，通知PCH的GPI7發SMI。
4. 麥克風料號為：[10BM1-014030-01R]

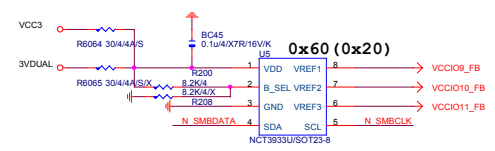
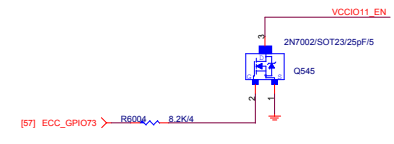
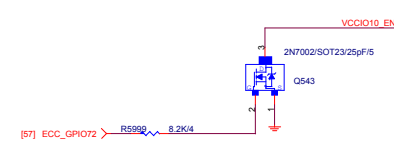
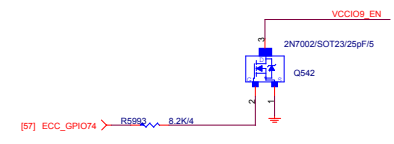
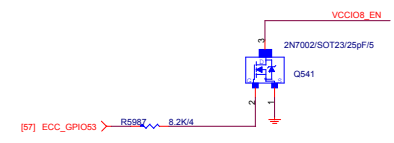
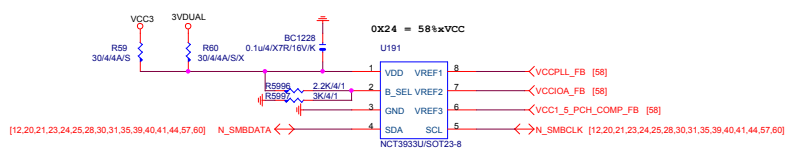
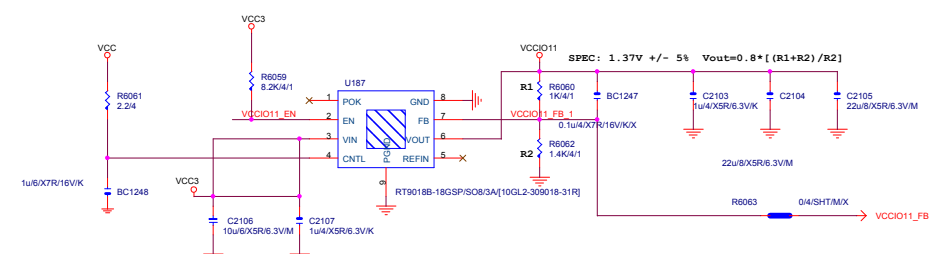
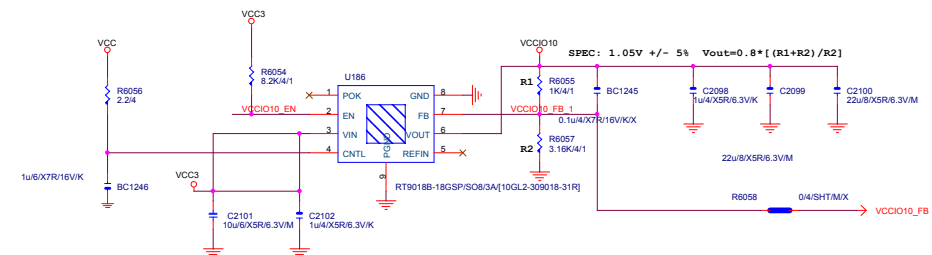
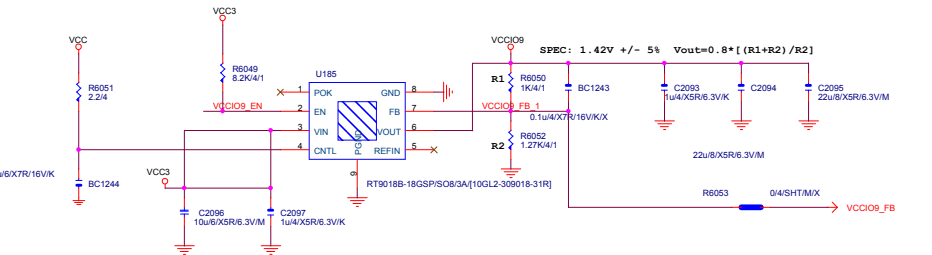
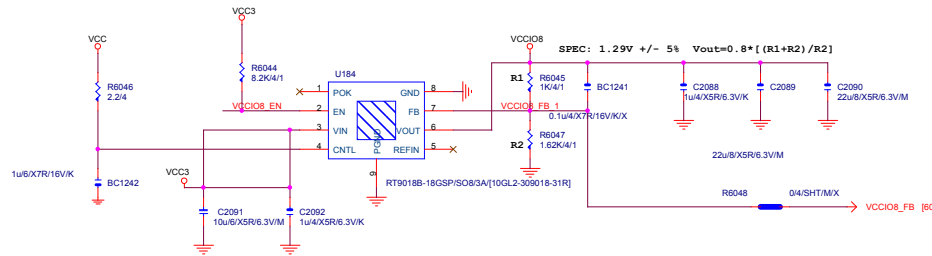
dB	VINx
30	1.30V
35	1.45V
40	1.60V
45	1.75V
50	1.90V
55	2.05V
60	2.20V
65	2.35V
70	2.50V
75	2.65V
80	2.80V
85	2.95V
90	3.10V
95	3.25V
100	3.33V

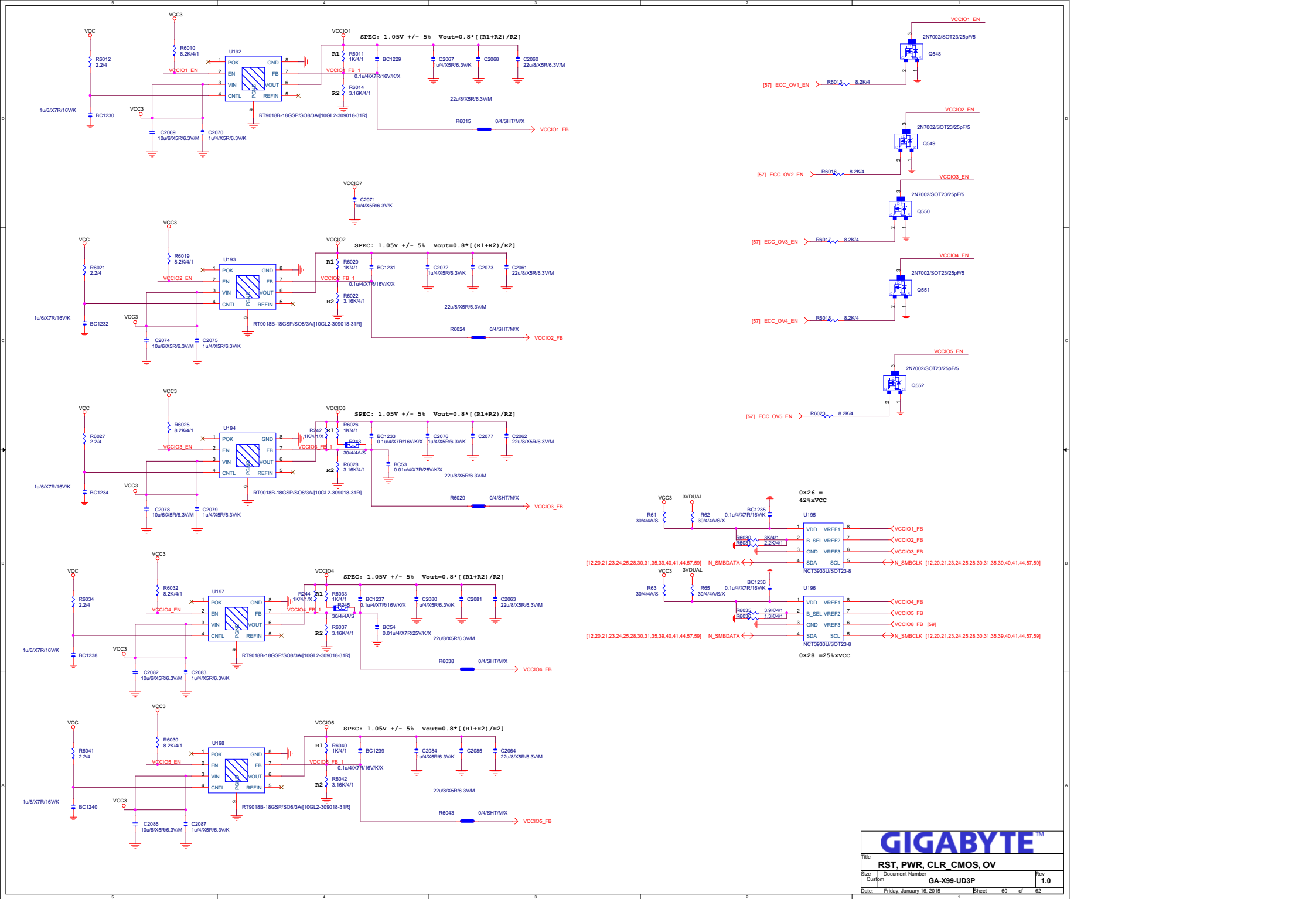
此Table只是假設值，需至無響室測試後確認。

Gigabyte Technology			
Sound Level			
Title			
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PCH GPIO

PIN NAME	POWER WELL	USAGE	AFTER PLTRST	S3/S5	NOTES
GP[0]	VCC3	-ICH_PSI	IN		8.2K P/U TO VCC3
GP[1]	VCC3	SPARE	IN		8.2K P/U TO VCC3
GP[2]	VCC3	-PIRQE	IN		8.2K P/U TO VCC3
GP[3]	VCC3	-PIRQF	IN		8.2K P/U TO VCC3
GP[4]	VCC3	-PIRQG	IN		8.2K P/U TO VCC3
GP[5]	VCC3	-PIRQH	IN		8.2K P/U TO VCC3
GP[6]	VCC3	GPIO6	IN		8.2K P/U TO VCC3
GP[7]	VCC3	GPIO7	IN		8.2K P/U TO VCC3
GP[8]	3VDUAL	GPIO8	OUT		8.2K P/U TO 3VDUAL
GP[9]	3VDUAL	-USBOC5	IN		USB OVER-CURRENT
GP[10]	3VDUAL	-USBOC6	IN		USB OVER-CURRENT
GP[11]	3VDUAL	GPIO11	IN		8.2K P/U TO 3VDUAL
GP[12]	3VDUAL	GPIO12	OUT		8.2K P/U TO 3VDUAL
GP[13]	3VDUAL	-LPCPME	IN		8.2K P/U TO 3VDUAL
GP[14]	3VDUAL	GPIO14	IN		8.2K P/U TO 3VDUAL
GP[15]	3VDUAL	SPARE	OUT		8.2K P/U TO 3VDUAL (N/A)
GP[16]	VCC3	SPARE	IN		8.2K P/U TO VCC3
GP[17]	VCC3	SPARE	IN		8.2K P/U TO VCC3
GP[18]	VCC3	-SPI_WP0	OUT		8.2K P/U TO VCC3
GP[19]	VCC3	SPARE	OUT		8.2K P/U TO VCC3
GP[20]	VCC3	-SPI_WP1	OUT		8.2K P/U TO VCC3
GP[21]	VCC3	SPARE	IN		8.2K P/U TO VCC3
GP[22]	VCC3	SPARE	IN		1K P/U TO VCC3
GP[23]	VCC3	SPARE	IN		8.2K P/U TO VCC3
GP[24]	3VDUAL	-SKTOC	IN		8.2K P/U TO 3VDUAL (N/A)
GP[25]	3VDUAL	GPIO25	OUT		8.2K P/U TO 3VDUAL
GP[26]	3VDUAL	SPARE	OUT		8.2K P/U TO 3VDUAL
GP[27]	3VDUAL_PCH	SPARE	OUT		8.2K P/U TO 3VDUAL_PCH
GP[28]	3VDUAL	GPIO28	OUT		8.2K P/U TO 3VDUAL
GP[29]	3VDUAL	SPARE	OUT		8.2K P/U TO 3VDUAL (N/A)
GP[30]	3VDUAL	-S_WARN	OUT		CONNECT TO -S_ACK
GP[31]	3VDUAL_PCH	SPARE	IN		8.2K P/U TO 3VDUAL_PCH (N/A)
GP[32]	VCC3	SPARE	OUT		8.2K P/U TO VCC3
GP[33]	VCC3	SPARE	OUT		8.2K P/U TO VCC3
GP[34]	VCC3	SPARE	IN		8.2K P/U TO VCC3
GP[35]	VCC3	-ACZ_DET	OUT		8.2K P/U TO VCC3
GP[36]	VCC3	SPARE	IN		8.2K P/U TO VCC3 (N/A)
GP[37]	VCC3	SPARE	IN		8.2K P/U TO VCC3
GP[38]	VCC3	SPARE	IN		1K P/U TO VCC3

PIN NAME	POWER WELL	USAGE	AFTER PLTRST	S3/S5	NOTES
GP[39]	VCC3	SPARE	IN		1K P/U TO VCC3
GP[40]	3VDUAL	-USBOC1	IN		USB OVER-CURRENT
GP[41]	3VDUAL	-USBOC2	IN		USB OVER-CURRENT
GP[42]	3VDUAL	-USBOC3	IN		USB OVER-CURRENT
GP[43]	3VDUAL	-USBOC4	IN		USB OVER-CURRENT
GP[44]	3VDUAL	SPARE	IN		1K P/U TO 3VDUAL
GP[45]	3VDUAL	SPARE	IN		1K P/U TO 3VDUAL
GP[46]	3VDUAL	SPARE	IN		1K P/U TO 3VDUAL
GP[47]	3VDUAL	SPARE	IN		1K P/U TO 3VDUAL
GP[48]	VCC3	SPARE	IN		1K P/U TO VCC3
GP[49]	VCC3	SPARE	IN		8.2K P/U TO VCC3
GP[50]	VCC3	-REQ1	OUT		8.2K P/U TO VCC3
GP[51]	VCC3	-GNT1	OUT		1K P/U TO VCC3
GP[52]	VCC3	-REQ2	OUT		8.2K P/U TO VCC3
GP[53]	VCC3	-GNT2	IN		8.2K P/U TO VCC3 (N/A)
GP[54]	VCC3	-REQ3	IN		8.2K P/U TO VCC3
GP[55]	VCC3	-GNT3	IN		8.2K P/U TO VCC3 (N/A)
GP[56]	3VDUAL	SPARE	IN		8.2K P/U TO 3VDUAL
GP[57]	3VDUAL	SPARE	IN		8.2K P/U TO 3VDUAL
GP[58]	3VDUAL	SML1CLK	OUT		8.2K P/U TO 3VDUAL
GP[59]	3VDUAL	-USBOC0	IN		USB OVER-CURRENT
GP[60]	3VDUAL	SML0ART	OUT		1K P/U TO 3VDUAL
GP[61]	3VDUAL	SPARE	OUT		8.2K P/U TO 3VDUAL
GP[62]	3VDUAL	SUSCLK	OUT		8.2K P/U TO 3VDUAL (N/A)
GP[63]	3VDUAL	-SLP_S5	OUT		8.2K P/U TO 3VDUAL (N/A)
GP[64]	VCC3	SPARE	OUT		8.2K P/U TO VCC3
GP[65]	VCC3	SPARE	OUT		8.2K P/U TO VCC3
GP[66]	VCC3	SPARE	OUT		8.2K P/U TO VCC3
GP[67]	VCC3	SPARE	OUT		8.2K P/U TO VCC3
GP[68]	VCC3	SPARE	OUT		8.2K P/U TO VCC3
GP[69]	VCC3	SPARE	OUT		8.2K P/U TO VCC3
GP[70]	VCC3	SPARE	OUT		8.2K P/U TO VCC3
GP[71]	VCC3	SPARE	OUT		8.2K P/U TO VCC3
GP[72]	3VDUAL	SPARE	OUT		8.2K P/U TO 3VDUAL
GP[73]	3VDUAL	SPARE	OUT		8.2K P/U TO 3VDUAL
GP[74]	3VDUAL	SML1ART	OUT		1K P/U TO 3VDUAL
GP[75]	3VDUAL	SML1DAT	IN/OUT		8.2K P/U TO 3VDUAL

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PCH GPIO LIST			
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