

Model Name: GA-X99-UD4P

Rev 1.0

SHEET

TITLE

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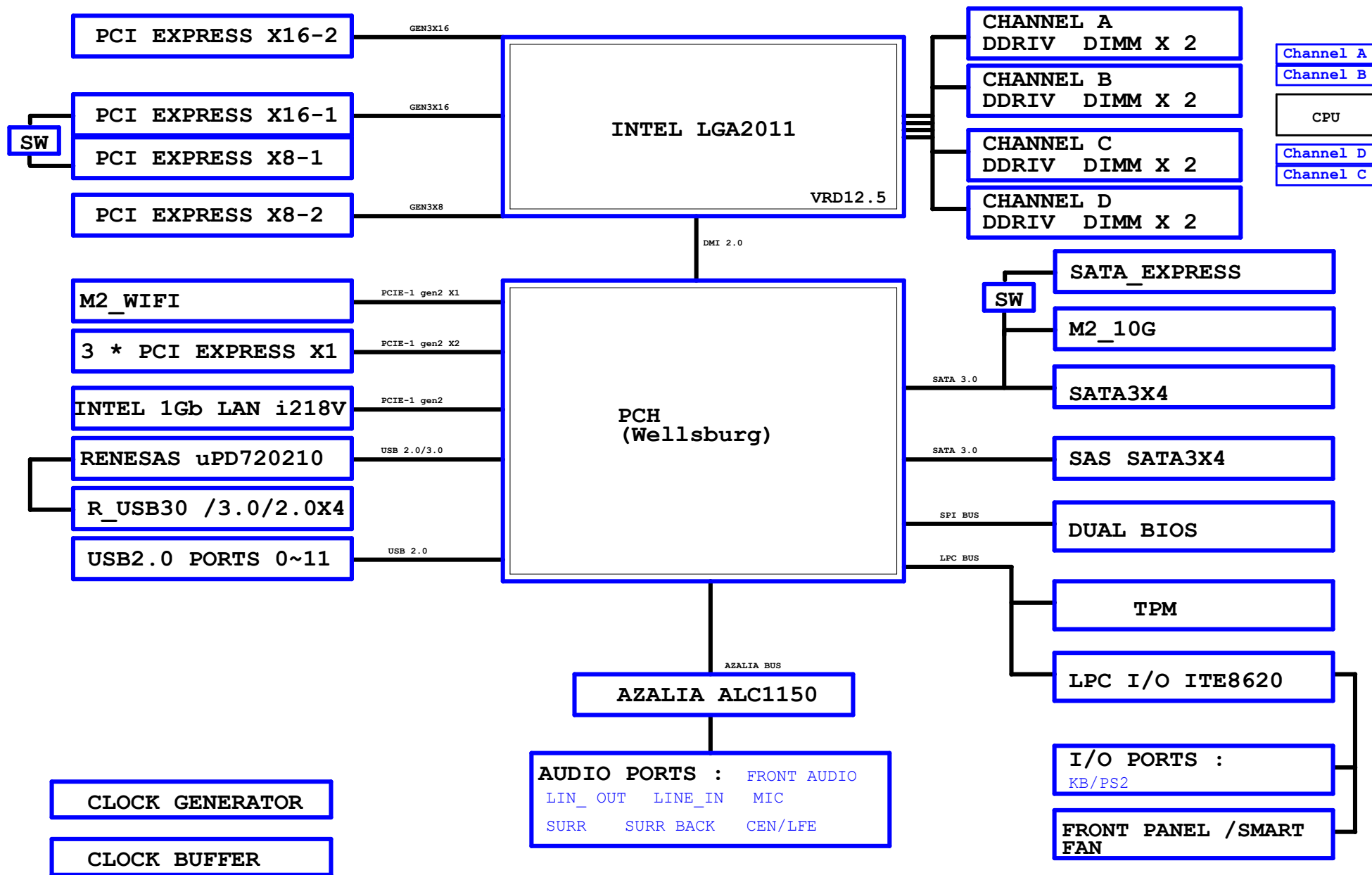
Component value change history

Data	Change Item	Reason
2014/05/09	9MX99UD3-00-01	
2014/05/09 X99-UD3-0.1	1. 注意SLOT配色 2. DAR7=6.49K/4/1 , DAR3=10K/4/1 3. AUDIO connect change to "11NR6-403025-A2R" 4. WIFI天線:12AC2-000001-31R	
2014/07/07 X99-UD4-0.1	1. UPDATE HEATSINK 料號	
2014/07/18 X99-UD4-1.0	1. REMOVE DAJF1 2. REMOVE IT_PH pin header 3. REMOVE BIOS_PH , M_BIOS SOCKET 4. Add NR305=1K/4/1,NR190=1K/4/1 , REMOVE R202=8.2K/4	
2014/07/24 1.0B	1. Remove CKFB8 , 改上 CKFB7=30/4/4A/S 2. MAR6 0/4 --> 2.2/4	
2014/08/04 1.0C	1. Remove ECBR9,ECBR10=8.2K/4	
2014/08/25 1.0D	1. Remove M2 GPIO73 pull-up NR57=8.2K/4 2. NR97 1M/4 --> 10M/4 , BAT放電後, 開機延遲問題	
2014/10/17 1.1A	1. DDR4每個channel 各新增了8組DQS差動訊號/ECC訊號	
	2. ADD CR190 10M/4	
	3. NX2 update footprint "XTALS-RH-N"	
1.1B	1. CR190 10M/4 --> 1M/4	
2.0		
2.0A	1. MAU40,MBU40 改2PHASE "IR3570A-C-2+1[10TA1-603570-ANR]" 2. PCH_HS/[12SP2-PTX994-11R] 3. MB_ID2 Rev1.1-->Hi , Rev2.0 --> Lo (For 2 PHASE DDR) 4. 發行ITE8792_B firmware	
2.0B	1. LGA2084 : 10SC1-J02084-01R --> 10SC1-J02083-11R 2. 11SM1-520288-32R 改上 11SM1-520288-61R , 11SM1-520288-52R 改上 11SM1-520288-71R	
2015-01-15 10A	1. X99-UD4 Rev2.0 --> X99-UD4P Rev1.0	

Circuit or PCB layout change

DATE	Change Item	Reason
2014-05-16 X99-UD3-0.1	X99-ROG Rev0.2 --> X99-UD3 Rev0.1 1. LAN E2201-->i218 (COPY X99-SOC-Force_01B) 2. AUDIO Creativer -->ALC1150 (COPY X99-SOC-Force_01B) 3. Add TPM Connect 4. Remove USB_DAC power	
2014-07-07 X99-UD4-0.1	1. IT8951 的PIN7 & PIN8留測試點方便debug 2. Modify IR3556 FAULT control circuit 3. Remove "BAT" to PCIE8_2 右邊 4. DDR_LED mapping DDR SLOT 5. Add OC panel 6. Remove MAF1,MAF2,MBF1,MBF2 7. Add SATA/SATA EXPRESS/M2 change to 0 OHM SHORT AD 8. Add EC power diable control in S3 MODE 9. ALL 0 ohm --> 0 ohm short pad	
2014-07-18 X99-UD4-1.0	1. 囊空GIGABYTE logo移除 2. SATA EXPRESS 文字面確認 3. BIOS PH mask 4. IT_PH,IT1_PH,ITB_PH,ITB_PH2 --> R0603-RH 4. Add CD2 for AC OFF POP-NOISE 5. EC POWER DISABLE IO_GP95 --> IO_GP67 6. Add ECR35 7. Add N_GPIO53 pull-down "NR305" 8. Add ECR150 For IT8792 ERP Function 9. NRN10 changt to short pad 10. DDR4 SLOT NAME CHANGE "DDR4_1_1A~DDR4_8_2D 11. PCIE SLOT NAME CHANGE "PCIE_1~PCIE_7 12. LED NAME CHANGE "PE2_LED~PE4_LED" 13. ECR142,ECR143 short pad change to "R0402-2"	
2014-07-21 X99-UD4-1.01	1. NR292,NR293,WR60,WR61,WR63,WR65 change to "R0402-2"	
2014-10-13 X99-UD4-1.1	1. DDR4每個channel 各新增了8組DQS差動訊號/ECC訊號 2. ADD CR190 10M/4 3. NX2 update footprint "XTALS-RH-N"	
2015-01-15 X99-UD4P	1. X99-UD4 Rev2.0 --> X99-UD4P Rev1.0	

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	CE36 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	J39	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
CL55	QPI1_DRX_DP_16
CM55	QPI1_DRX_DN_16
CD54	QPI1_DRX_DP_17
CF54	QPI1_DRX_DN_17
CD56	QPI1_DRX_DP_18
CF56	QPI1_DRX_DN_18
CD56	QPI1_DRX_DP_19
CF56	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	AH56
PA_EXP_A_RXP9	AL57
PA_EXP_A_RXN9	AL57
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	AB56
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	AB53
PA_EXP_A_TXN9	AB53
PA_EXP_A_TXP10	BH54
PA_EXP_A_TXN10	AE50
PA_EXP_A_TXP11	BA51
PA_EXP_A_TXN11	AB51
PA_EXP_A_TXP12	AV50
PA_EXP_A_TXN12	AV50
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

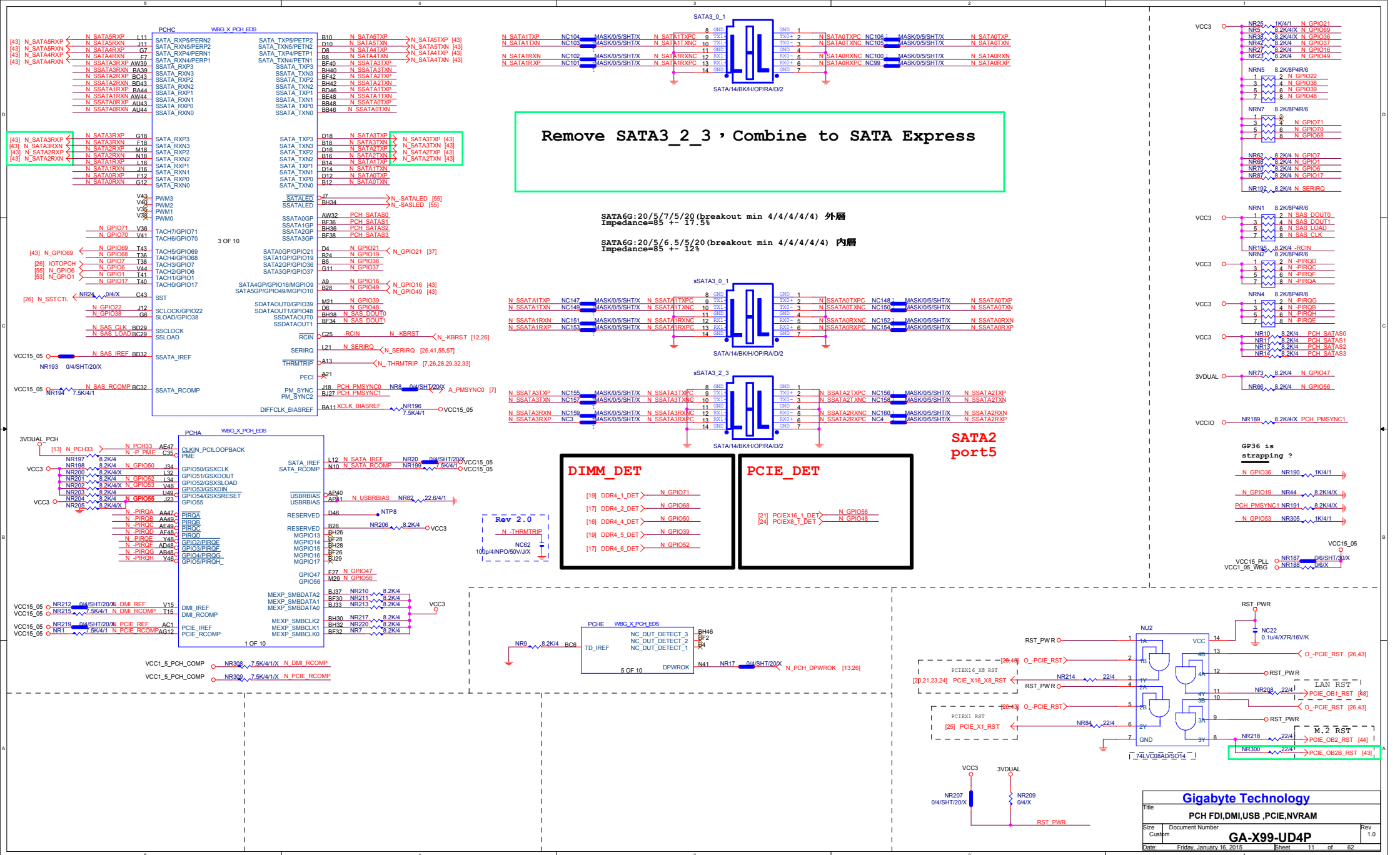
LGA2084D HASWELL_E_EDS	
DM1_TX_DP_0	D50
DM1_TX_DN_0	B50
DM1_TX_DP_1	E49
DM1_TX_DN_1	C49
DM1_TX_DP_2	D48
DM1_TX_DN_2	B48
DM1_TX_DP_3	E47
DM1_TX_DN_3	C47
DM1_TX_DP_4	D46
DM1_TX_DN_4	B46
DM1_TX_DP_5	E45
DM1_TX_DN_5	C45
DM1_TX_DP_6	E44
DM1_TX_DN_6	C44
DM1_TX_DP_7	E43
DM1_TX_DN_7	C43

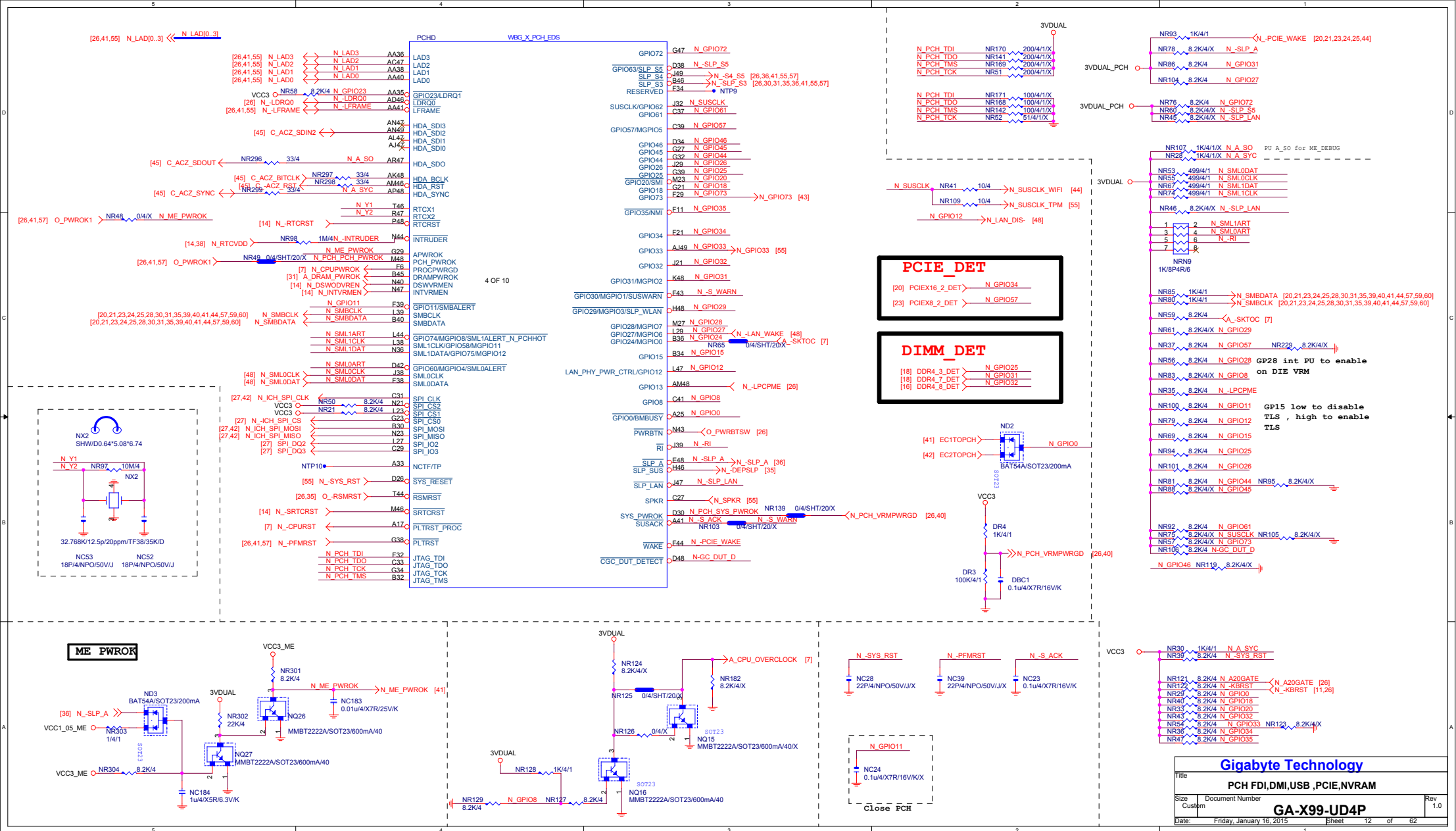
PCIEX16:18/5/7/5/18(breakout min 10/4/4/4/10) 外層
Impedance=85 +- 17.5%

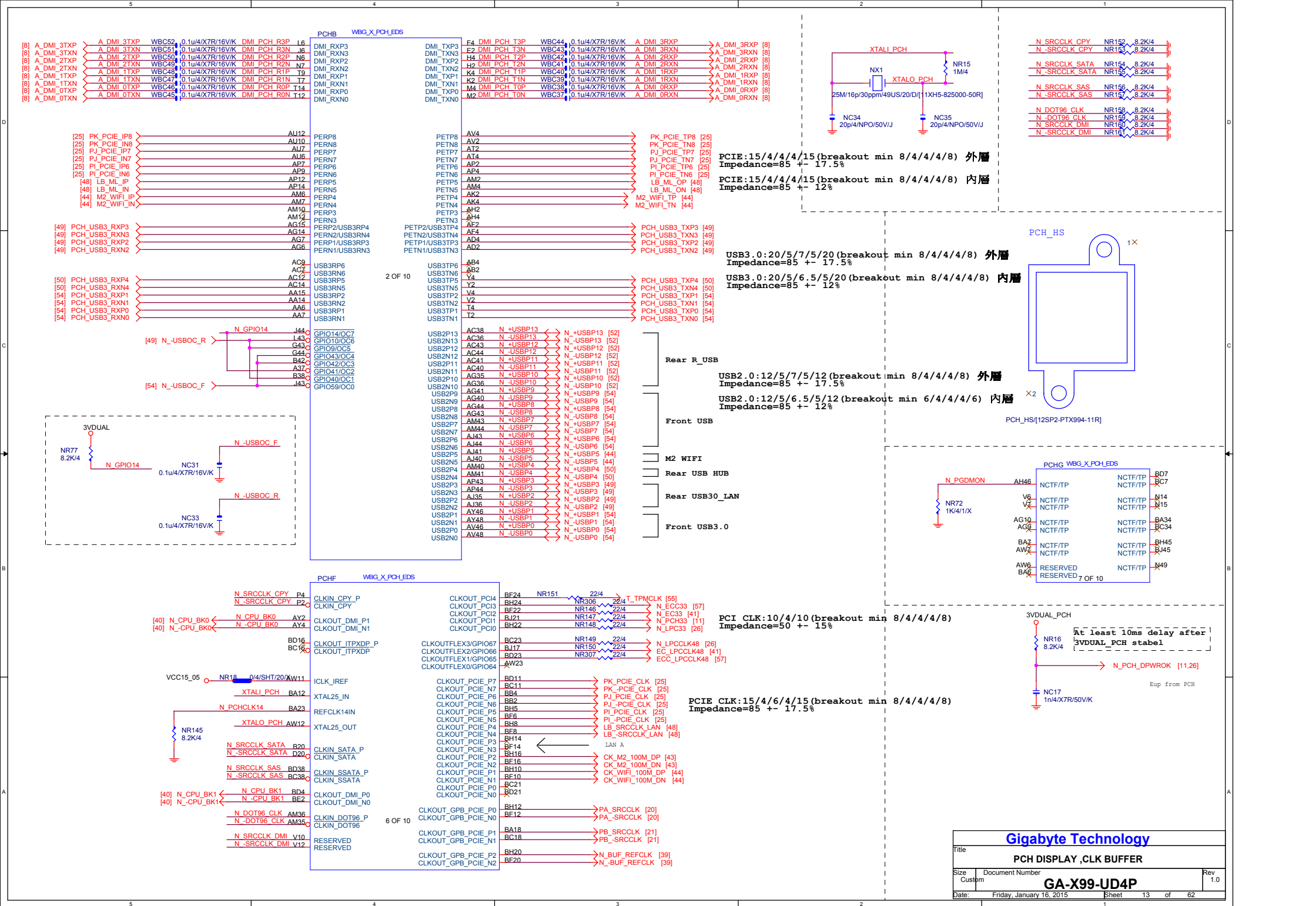
PCIEX16:20/5/6/5/5/20(breakout min 10/4/4/4/10) 內層
Impedance=85 +- 12%

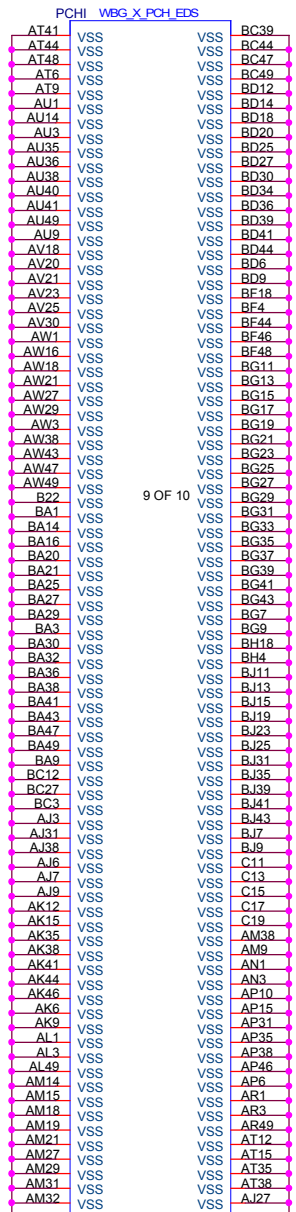
DMI:12/4/4/12(breakout min 10/4/4/4/10) 外層
Impedance=85 +- 15%

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

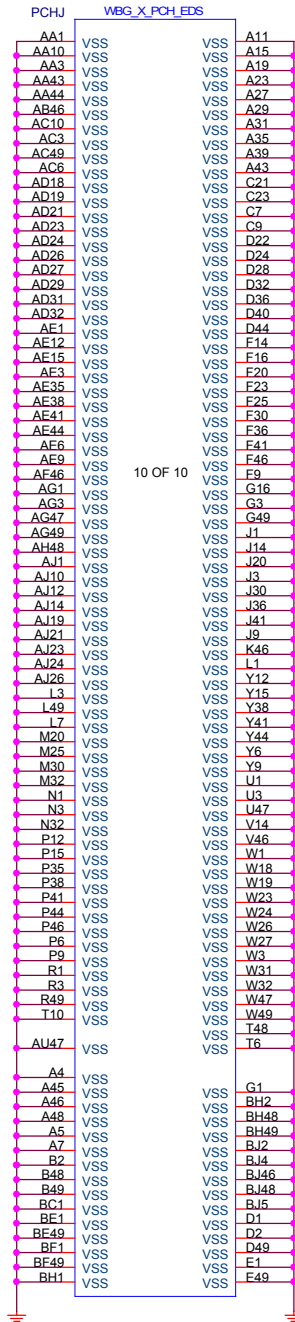






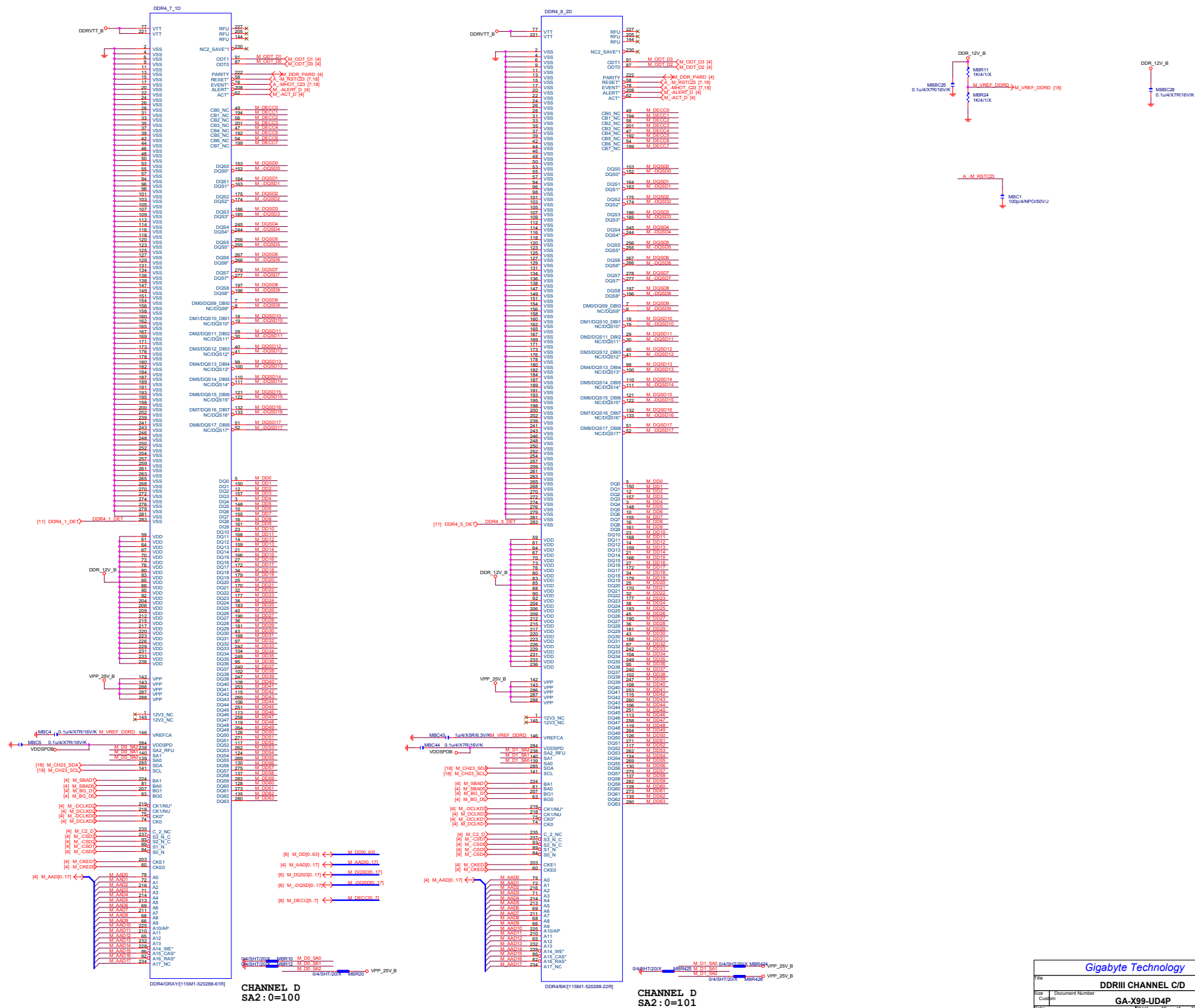


L1117LG/N/SOT223/1A



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PCH PWR ,GND			
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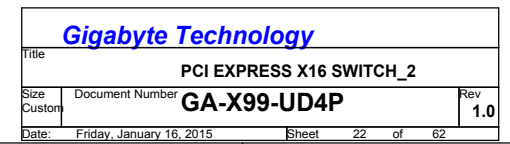
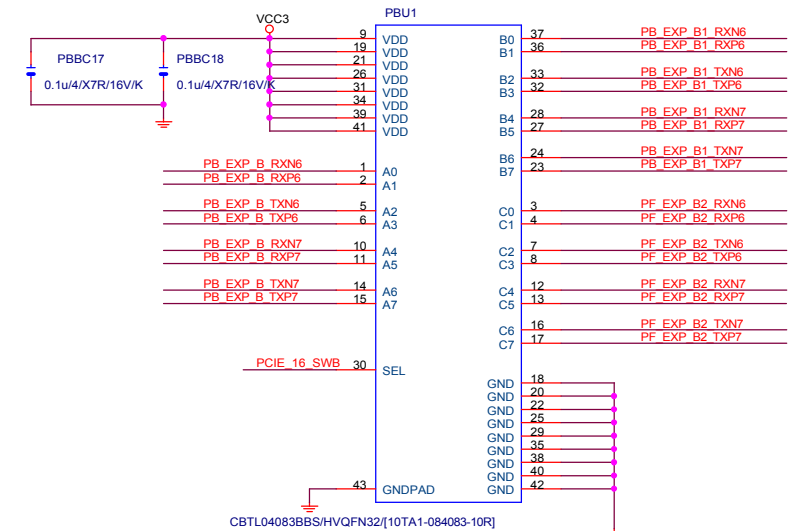
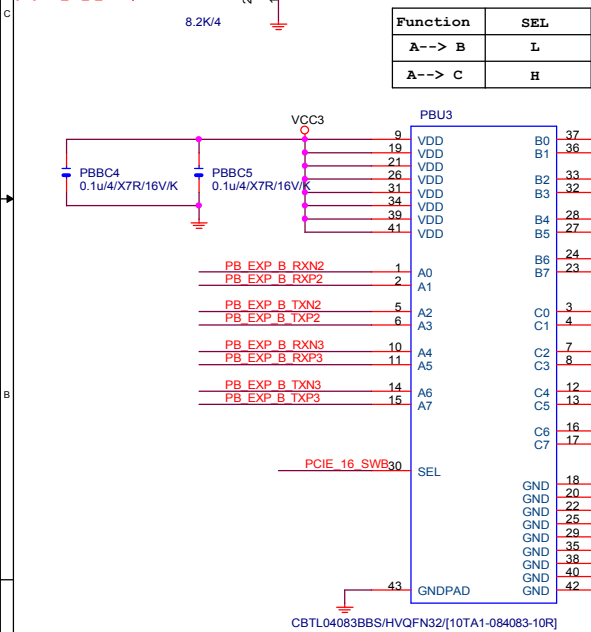
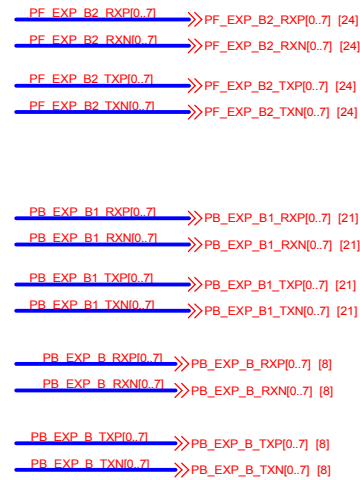


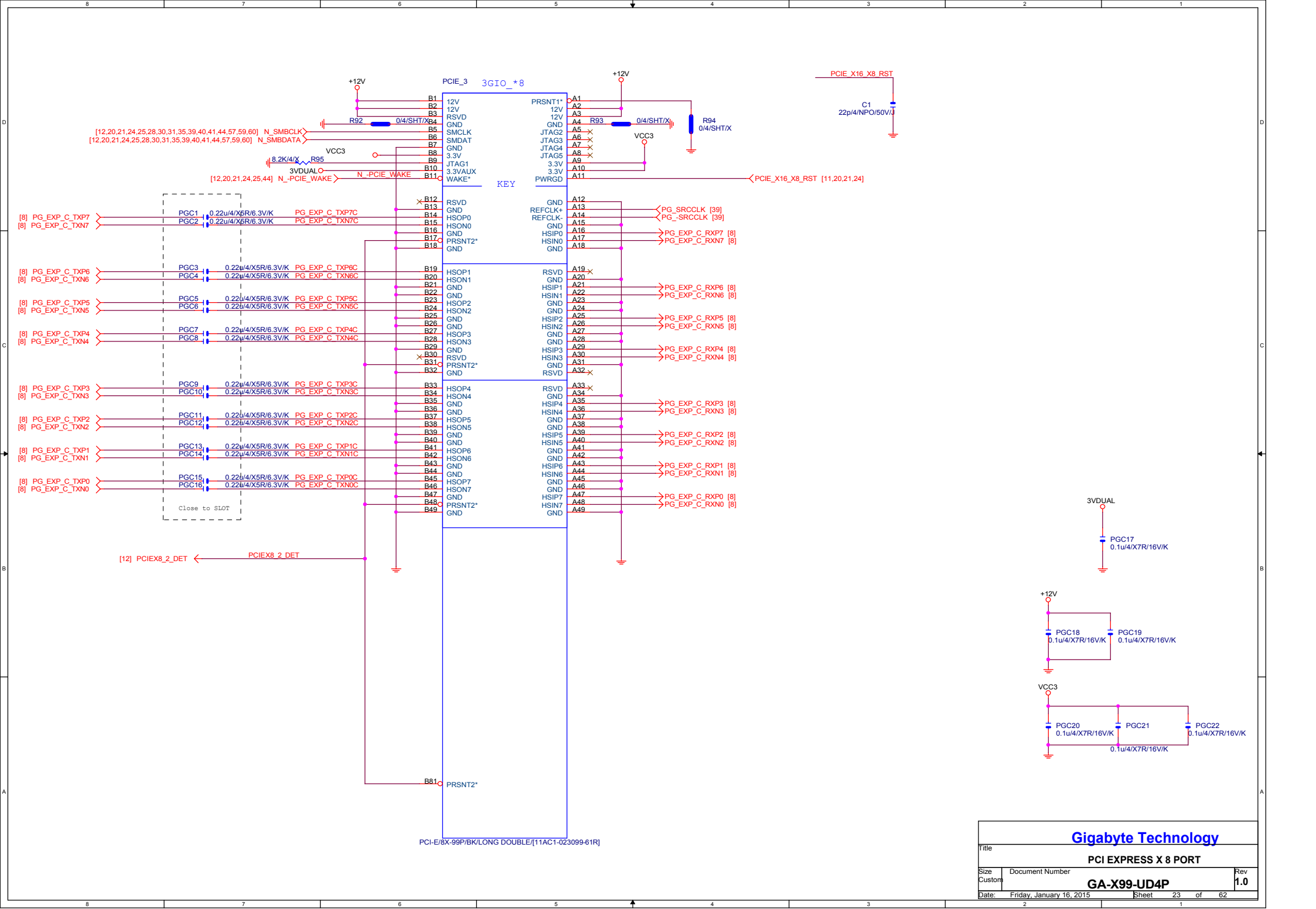
PCIE_2 3GIO_*16

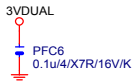
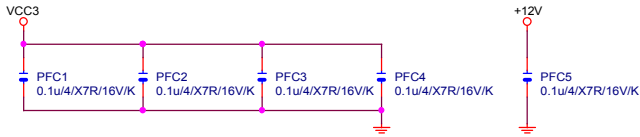


PCIE_1 3GIO_*16









[12,20,21,23,25,28,30,31,35,39,40,41,44,57,59,60] N_SMBCLK
[12,20,21,23,25,28,30,31,35,39,40,41,44,57,59,60] N_SMBDATA

[12,20,21,23,25,44] N_-PCIE_WAKE

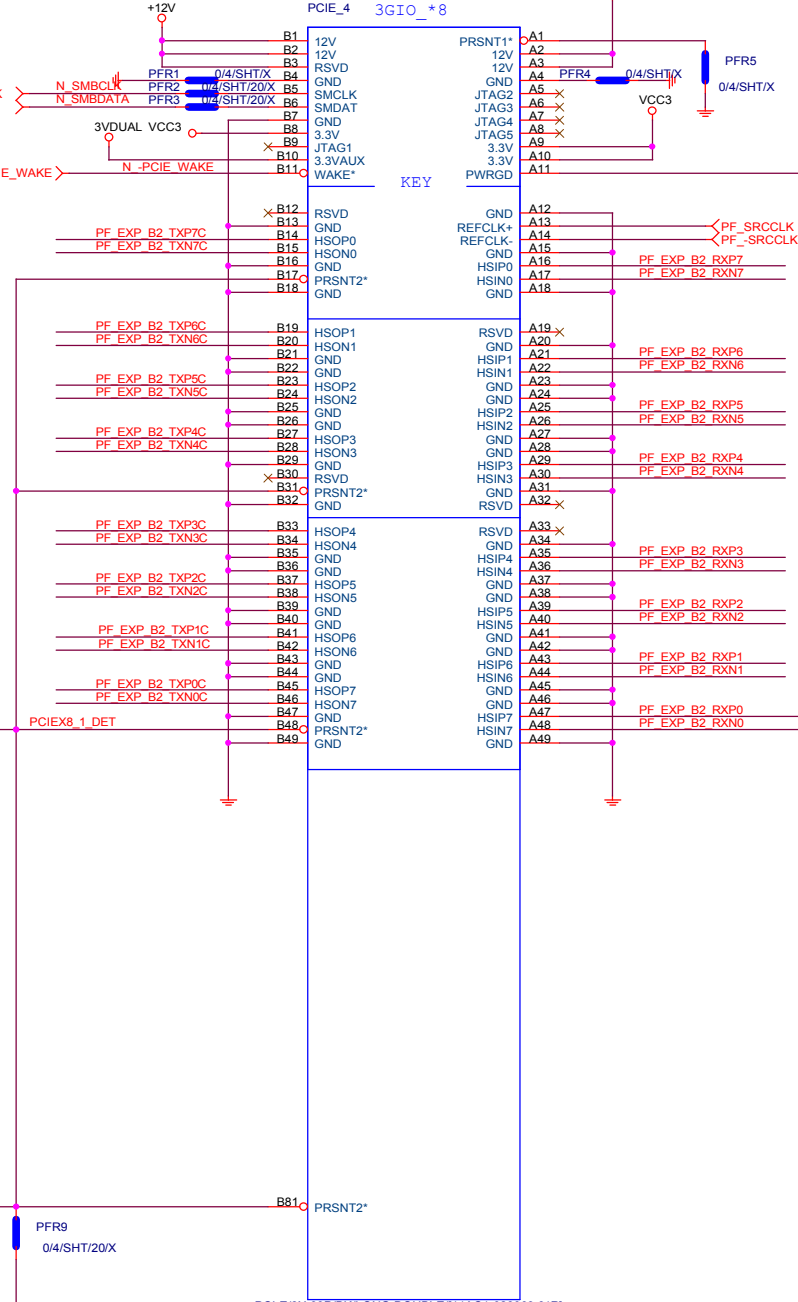
PF_EXP_B2_TXP0.7I >> PF_EXP_B2_TXP[0..7] [22]
PF_EXP_B2_TXN0.7I >> PF_EXP_B2_TXN[0..7] [22]

PF_EXP_B2_TXP0	PFC7	0.22u/4/X5R/6.3V/K	PF_EXP_B2_TXP0C
PF_EXP_B2_TXN0	PFC8	0.22u/4/X5R/6.3V/K	PF_EXP_B2_TXN0C
PF_EXP_B2_TXP1	PFC9	0.22u/4/X5R/6.3V/K	PF_EXP_B2_TXP1C
PF_EXP_B2_TXN1	PFC10	0.22u/4/X5R/6.3V/K	PF_EXP_B2_TXN1C
PF_EXP_B2_TXP2	PFC11	0.22u/4/X5R/6.3V/K	PF_EXP_B2_TXP2C
PF_EXP_B2_TXN2	PFC12	0.22u/4/X5R/6.3V/K	PF_EXP_B2_TXN2C
PF_EXP_B2_TXP3	PFC13	0.22u/4/X5R/6.3V/K	PF_EXP_B2_TXP3C
PF_EXP_B2_TXN3	PFC14	0.22u/4/X5R/6.3V/K	PF_EXP_B2_TXN3C
PF_EXP_B2_TXP4	PFC15	0.22u/4/X5R/6.3V/K	PF_EXP_B2_TXP4C
PF_EXP_B2_TXN4	PFC16	0.22u/4/X5R/6.3V/K	PF_EXP_B2_TXN4C
PF_EXP_B2_TXP5	PFC17	0.22u/4/X5R/6.3V/K	PF_EXP_B2_TXP5C
PF_EXP_B2_TXN5	PFC18	0.22u/4/X5R/6.3V/K	PF_EXP_B2_TXN5C
PF_EXP_B2_TXP6	PFC19	0.22u/4/X5R/6.3V/K	PF_EXP_B2_TXP6C
PF_EXP_B2_TXN6	PFC20	0.22u/4/X5R/6.3V/K	PF_EXP_B2_TXN6C
PF_EXP_B2_TXP7	PFC21	0.22u/4/X5R/6.3V/K	PF_EXP_B2_TXP7C
PF_EXP_B2_TXN7	PFC22	0.22u/4/X5R/6.3V/K	PF_EXP_B2_TXN7C

[11] PCIE_X8_1_DET

[22] PE_16_8_SWB

SEC_2x8_B [26]



PCIE_X16_X8_RST < PCIE_X16_X8_RST [11,20,21,23]

PFC23 22P/4/NPO/50V/J

PF_EXP_B2_RXP0.7I >> PF_EXP_B2_RXP[0..7] [22]

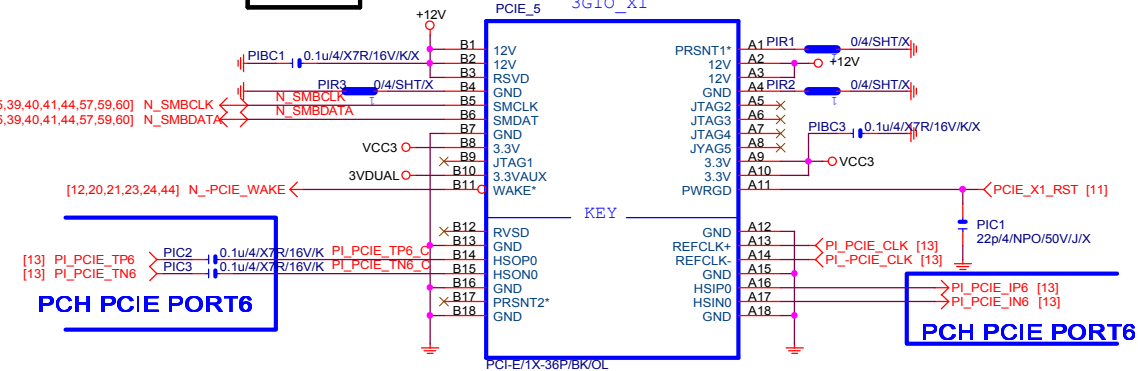
PF_EXP_B2_RXN0.7I >> PF_EXP_B2_RXN[0..7] [22]

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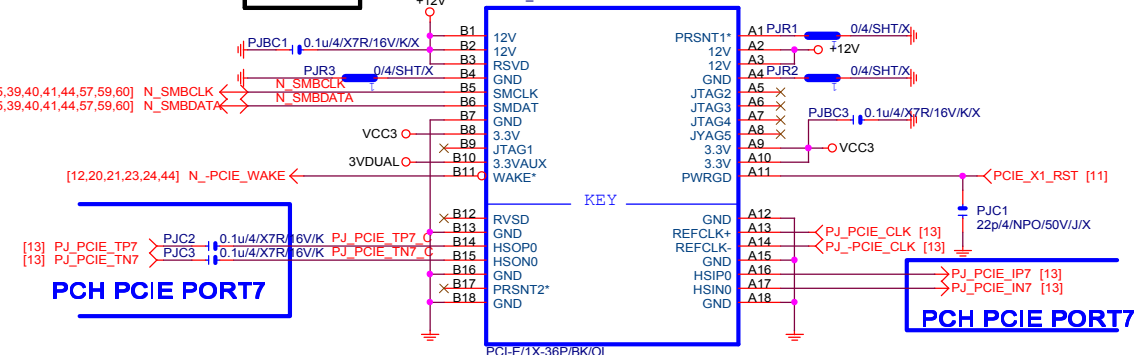
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PCI EXPRESS X8_2		
Size	Document Number	Rev
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PCIEX1 SLOT

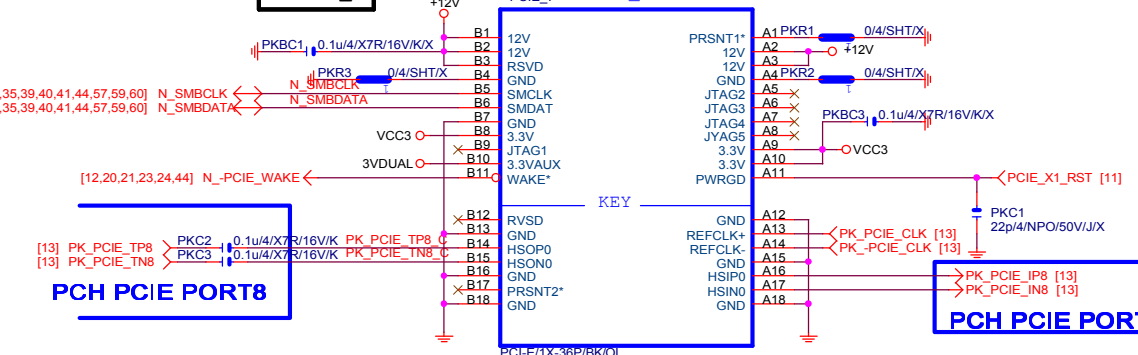
PCIEX1_1



PCIEX1_2

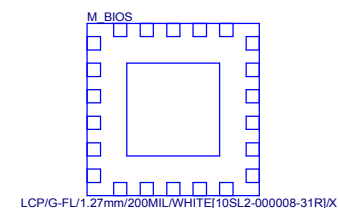
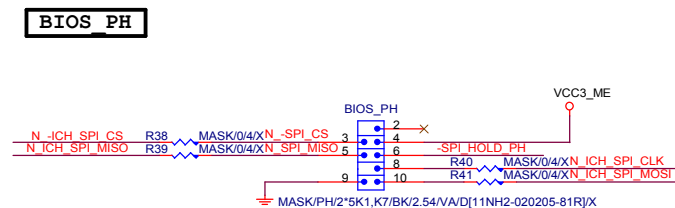


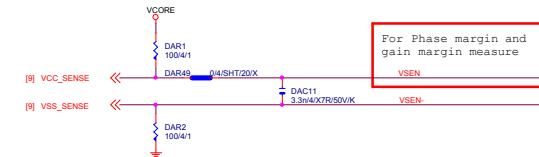
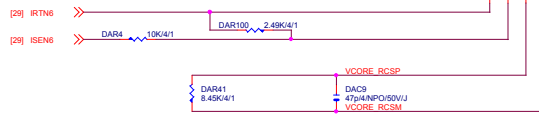
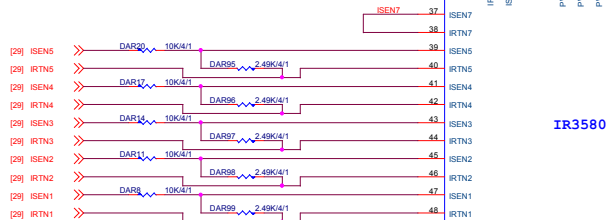
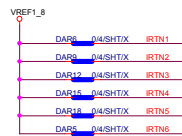
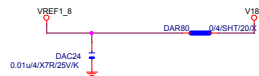
PCIEX1_3



Gigabyte Technology

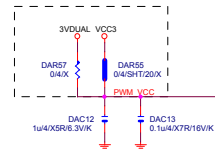
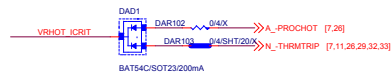
Title			PCIEX1 1,2,3
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[26,58] VR_RDY << VR_RDY

~PROBOT



IR3580

IR3580-6+0_B[10TA1-603580-05R]

V18A

V18A

V18A

V18A

V18A

V18A

V18A

V18A

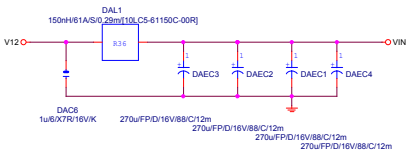
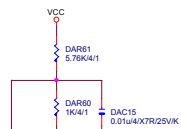
V18A

V18A

V18A

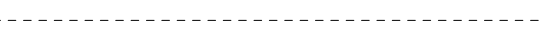
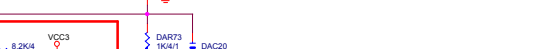
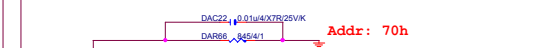
V18A

V18A



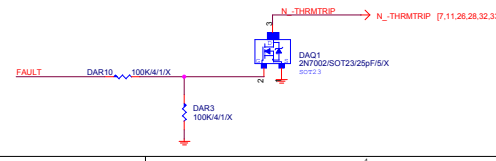
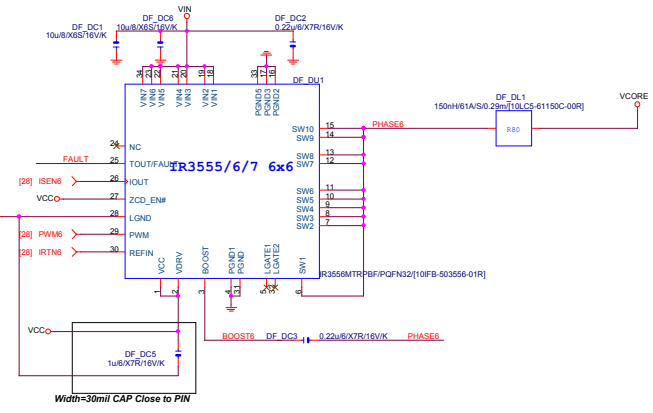
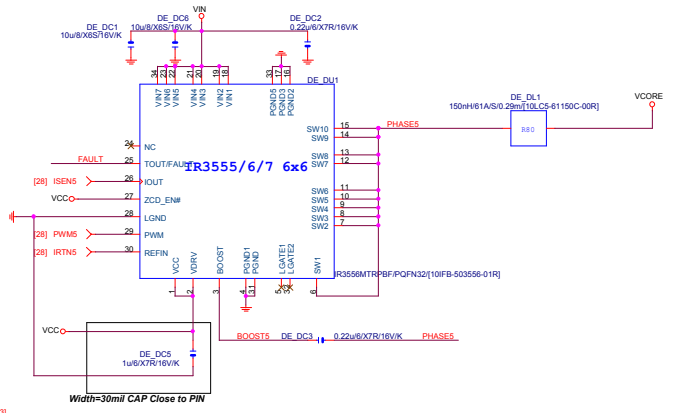
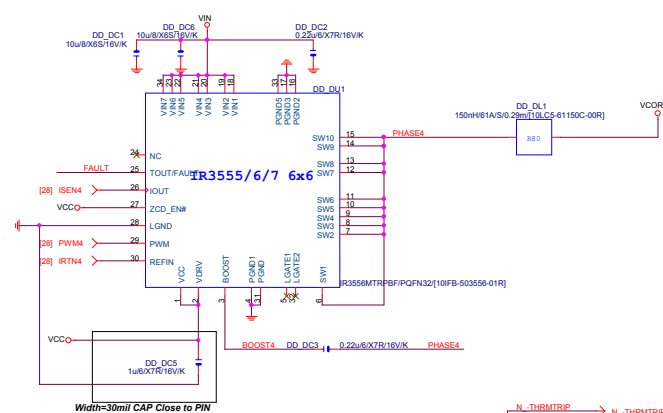
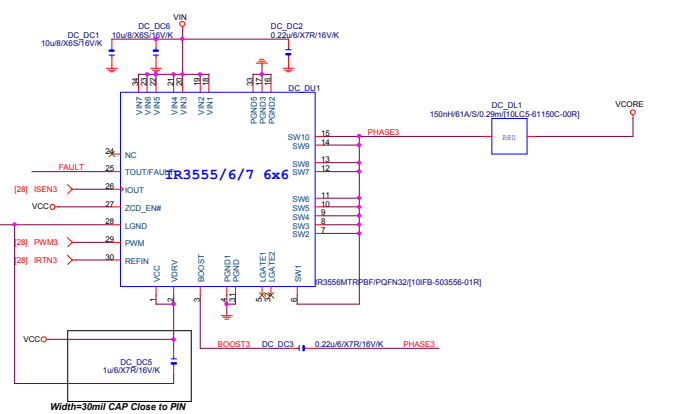
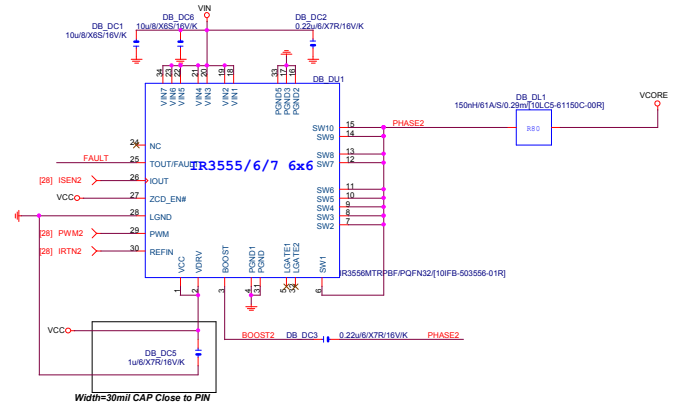
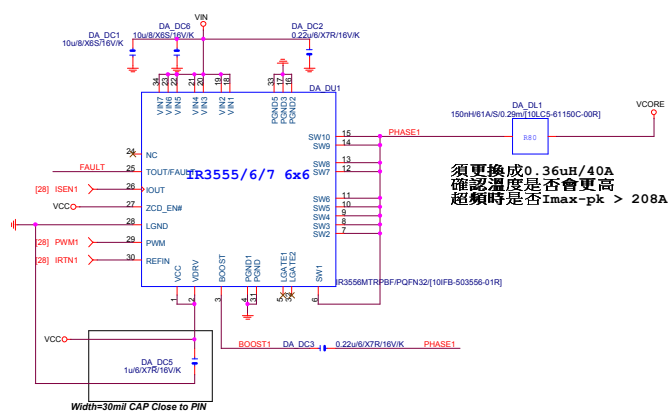
Debug Only

Remove PinHeader in modify PBOM



MOS HEATSINK





GIGABYTE™		
CPU CORE VR		
File	Document Number	Rev
GA-X99-UD4P		1.0
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Close to Vcore
output inductor

VPP 25V_A
防漏電

[26,31,36,37,41,57] -PSON>>

VPP_25V_A

DDR_12V_A

MA_VPP_EN

MA_VPP_EN

MA_VPP_EN

MA_VPP_EN

MA_VPP_EN

MA_VPP_EN

MA_VPP_EN

MA_VPP_EN

MA_VPP_EN

MA_VPP_EN

MA_VPP_EN

MA_VPP_EN

MA_VPP_EN

MA_VPP_EN

GIGABYTE™

DDR_A& CPU_VTT POWER IR3570

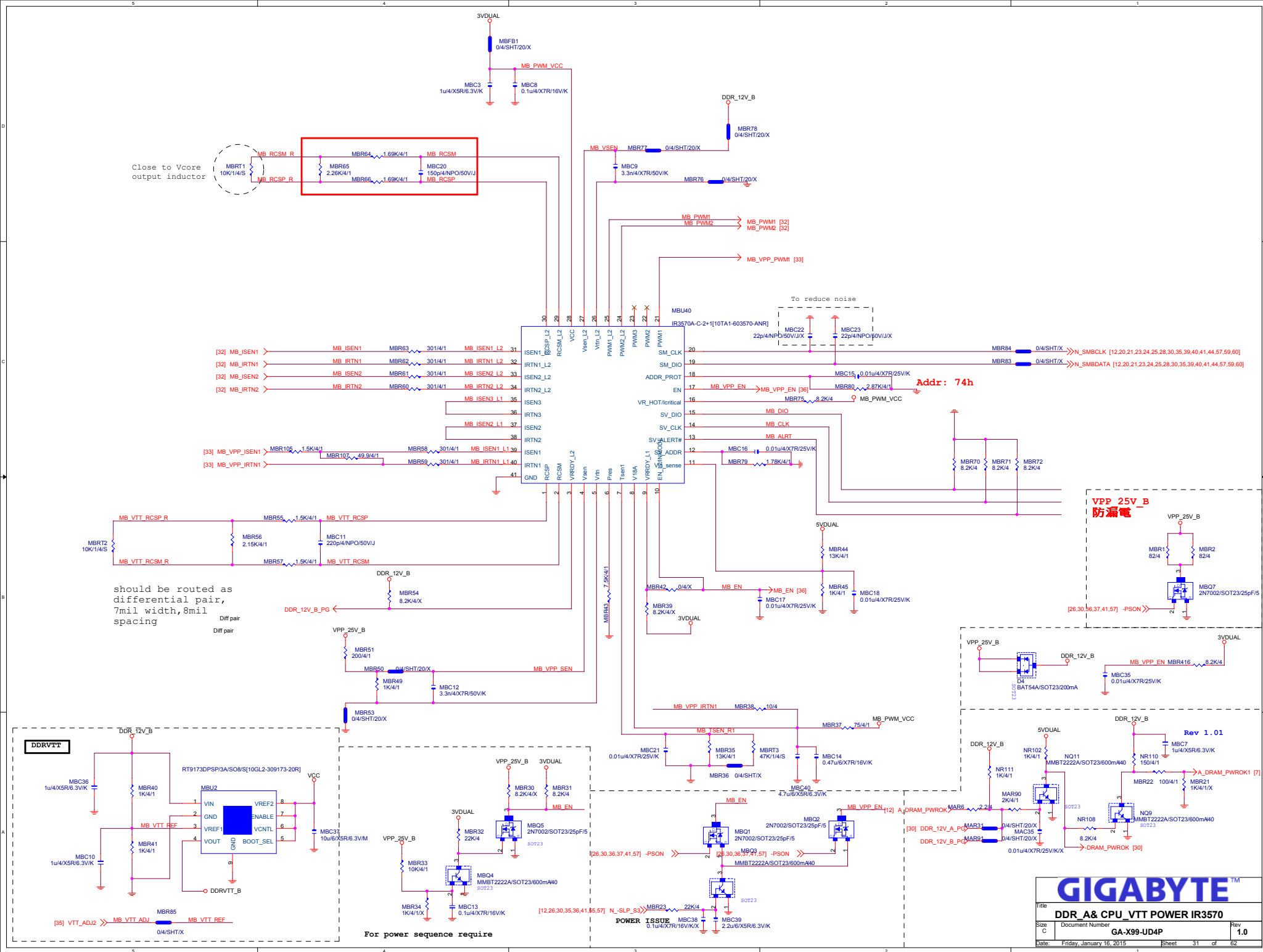
Document Number GA-X99-UD4P

Rev 1.0

Date: Friday, January 16, 2015

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MA_VPP_EN



DDR_A(3553)

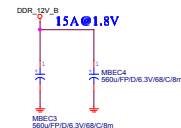


DDR_A(3553)



DDR_B

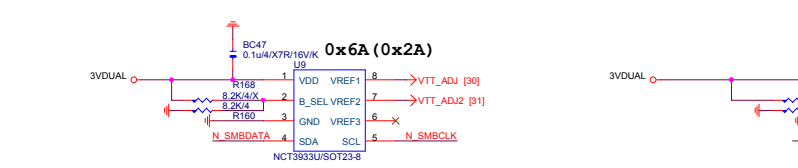
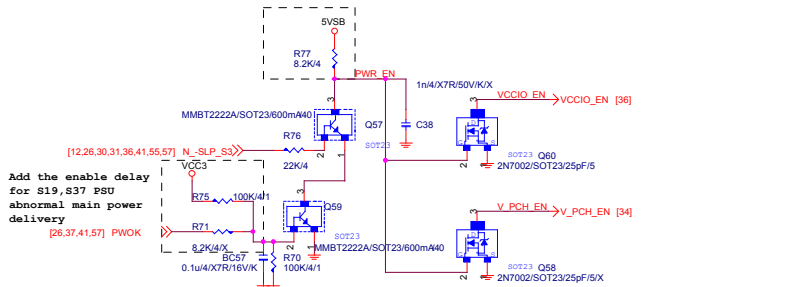
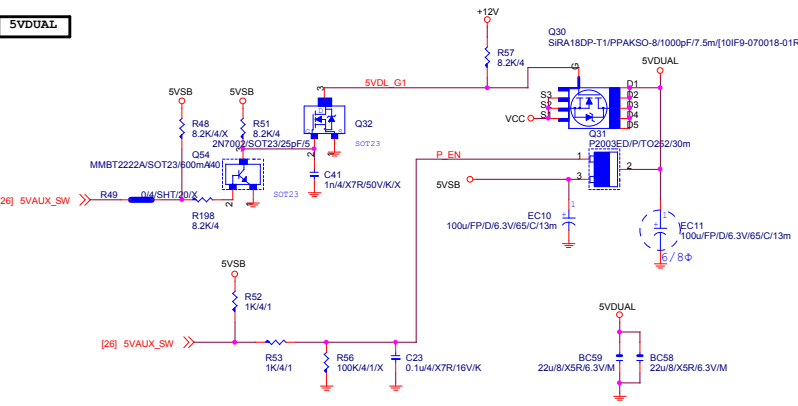
DDR_B(3553)



DDR_B(3553)



5VDUAL



0x6A (0x2A)

BC47 0.1u4/X7R/16V/K

R168 8.2K/4/1

R169 8.2K/4/1

N_SMBDATA 4

N_SMBCLK 4

NCT3933U/SOT23-8

0x62 (0x22)

BC46 0.1u4/X7R/16V/K

R102 1.3K/4/1

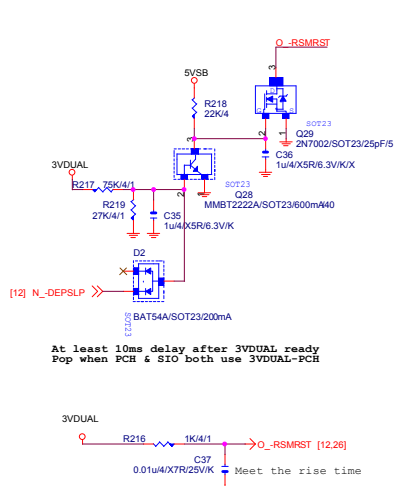
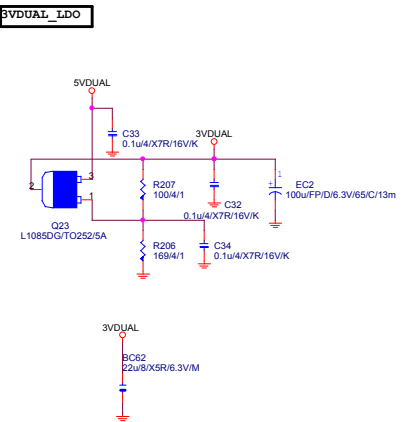
R103 3.9K/4/1

N_SMBDATA 4

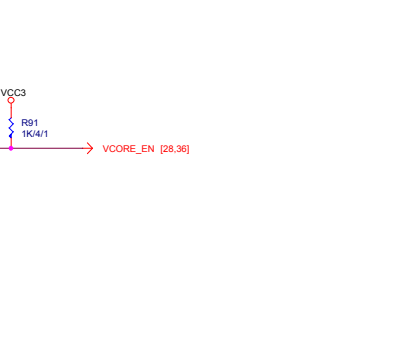
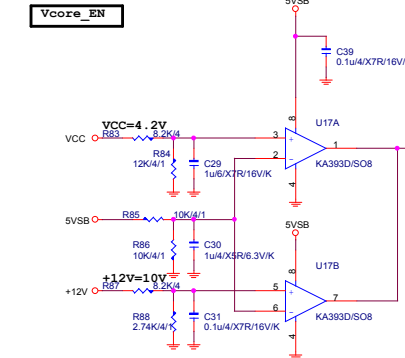
N_SMBCLK 4

NCT3933U/SOT23-8

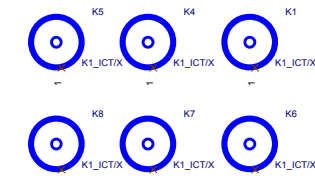
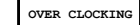
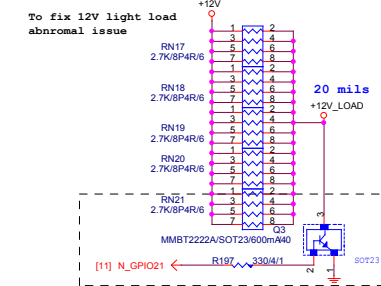
3VDUAL_IDO



Vcore_EN



【技術通報R&D技術通報153】

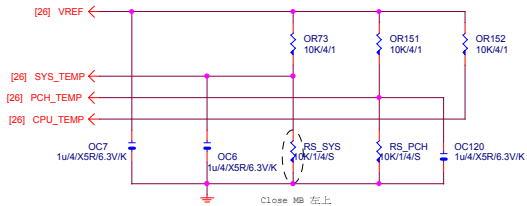


INPUT				OUTPUT	
FR	CL	CLOCK	DATA	Q	-Q
L	H	X	X	H	L
H	L	X	X	L	H
L	L	X	X	H	H
H	H	Rising	H	H	L
H	H	Rising	L	L	H
H	H	L	X	No Change	
H	H	H	X	No Change	
H	H	Falling	X	No Change	

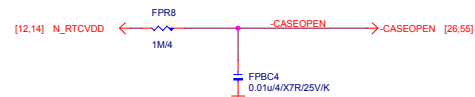
Gigabyte Technology

Title			
ATX / CLOCK BUFFER			
Size C	Document Number		Rev
	GA-X99-UD4P		1.0
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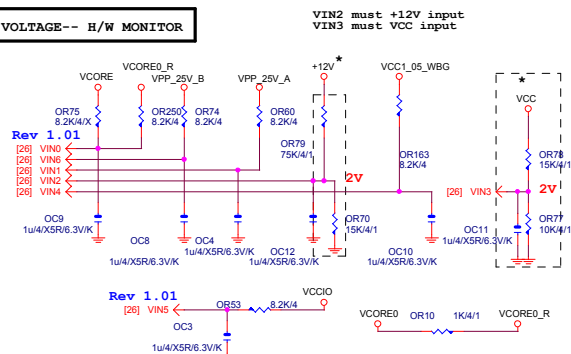
TEMP H/W MONITOR



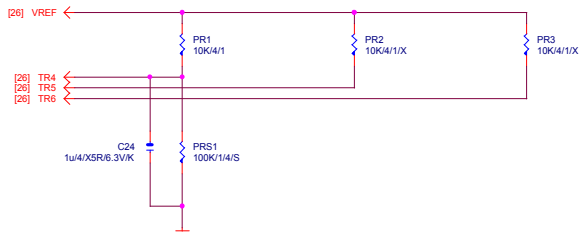
CASE OPEN



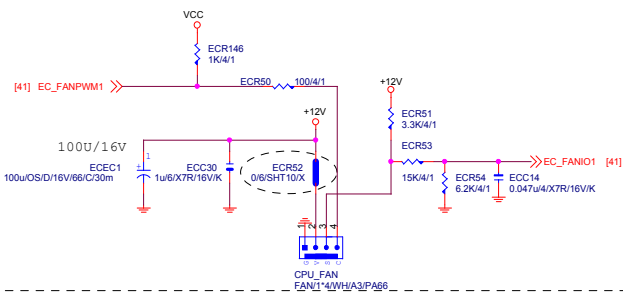
VOLTAGE-- H/W MONITOR



8620 PROCHOT

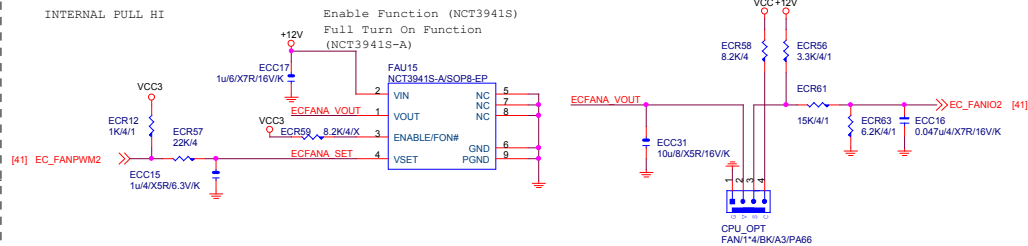


CPU SMART FAN

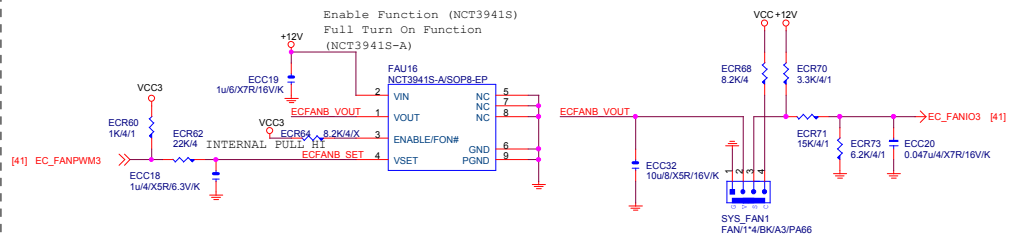


CPUOPT FAN

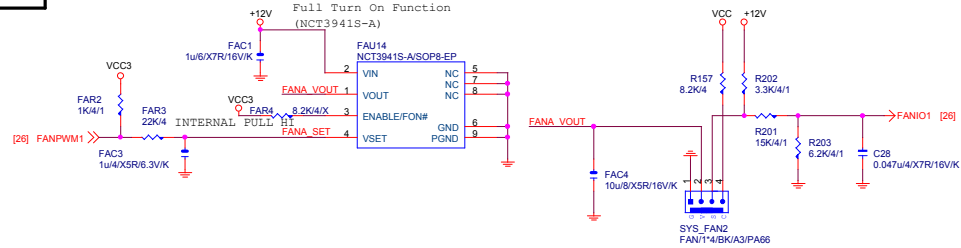
INTERNAL PULL HI



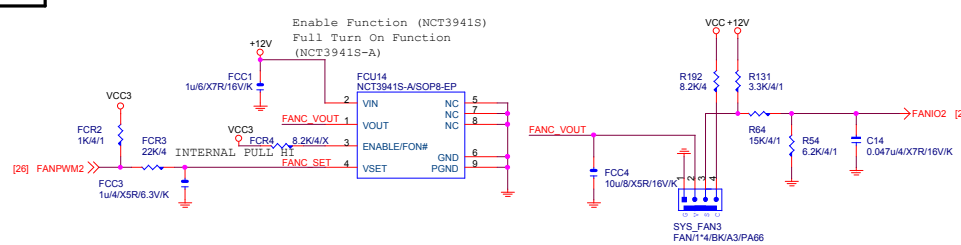
SYS FAN1



SYS FAN2



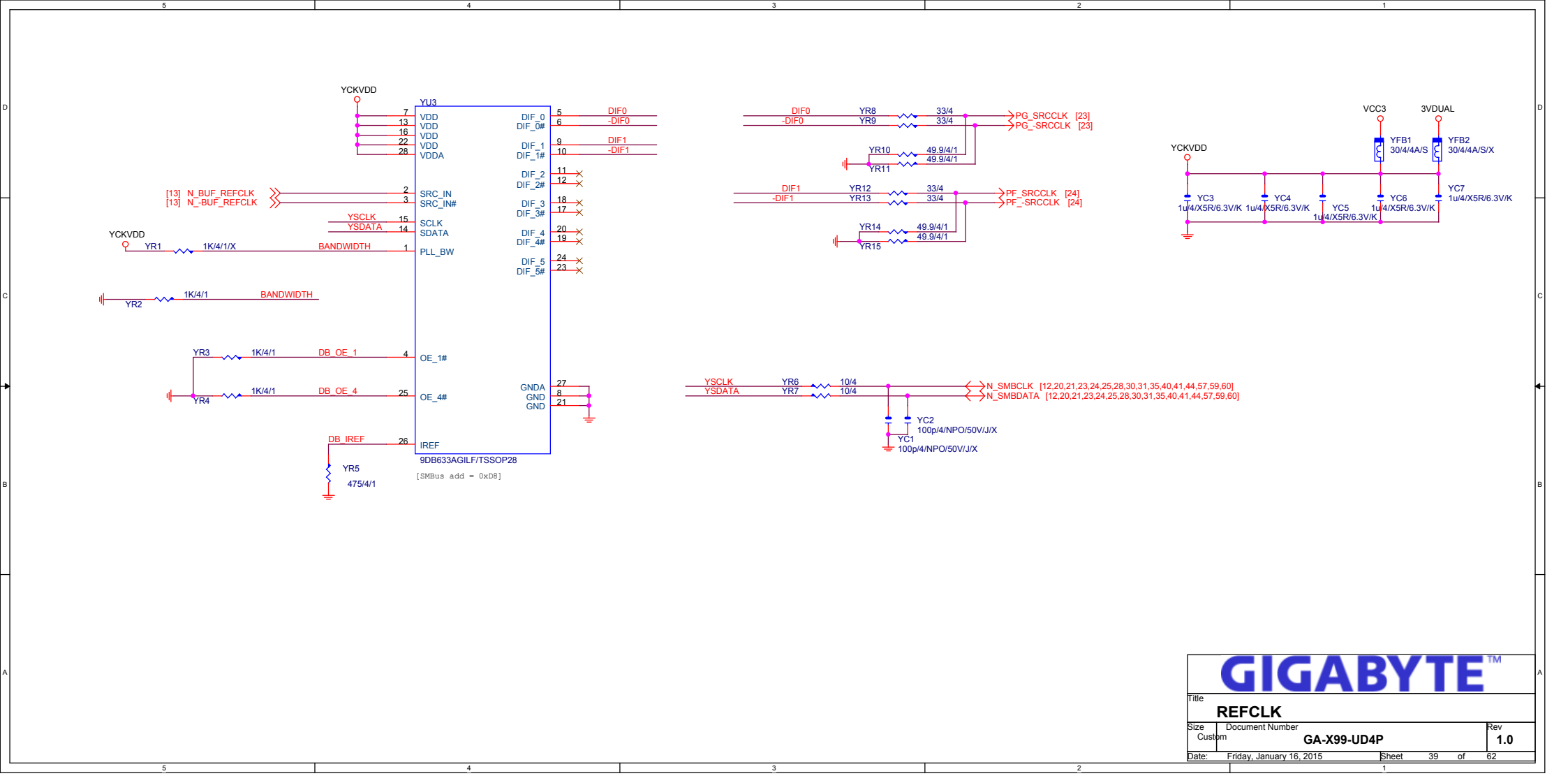
SYS FAN3

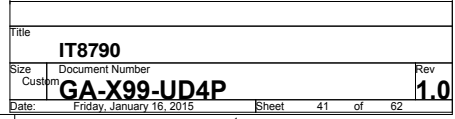


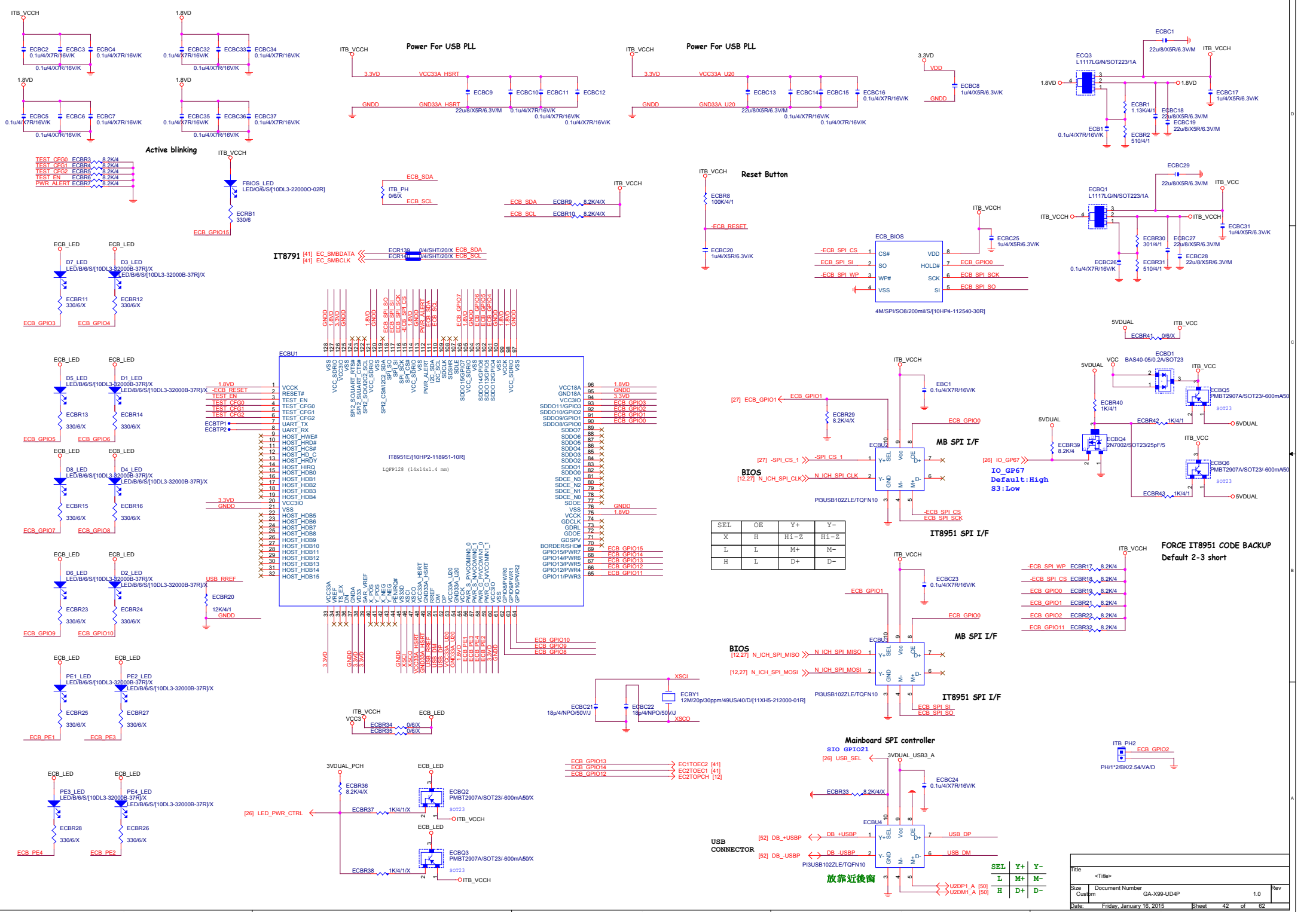
Gigabyte Technology

Title		HWM,FAN CTRL	
Size	Customer	Document Number	GA-X99-UD4P
Date	Friday, January 16, 2015	Sheet	38 of 62

Rev
1.0

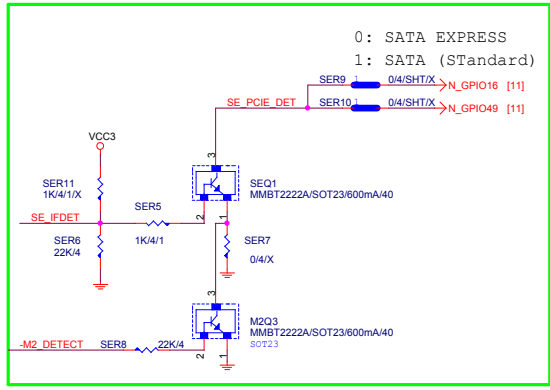
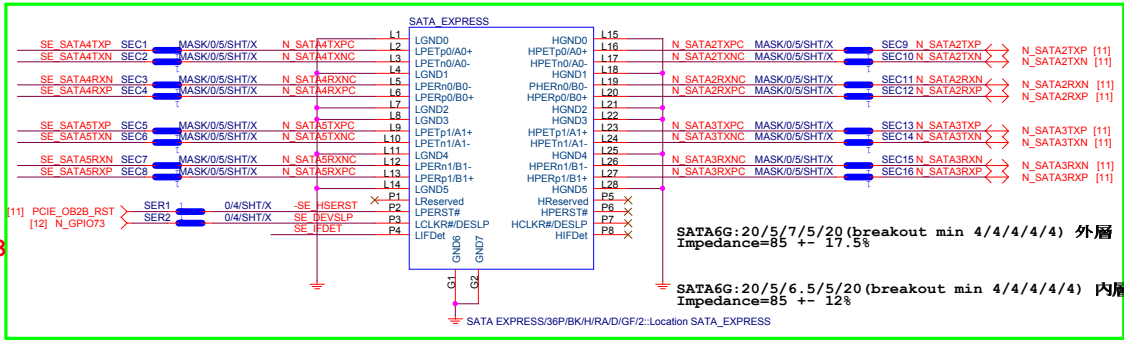
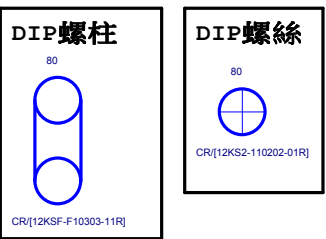
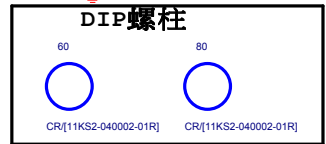
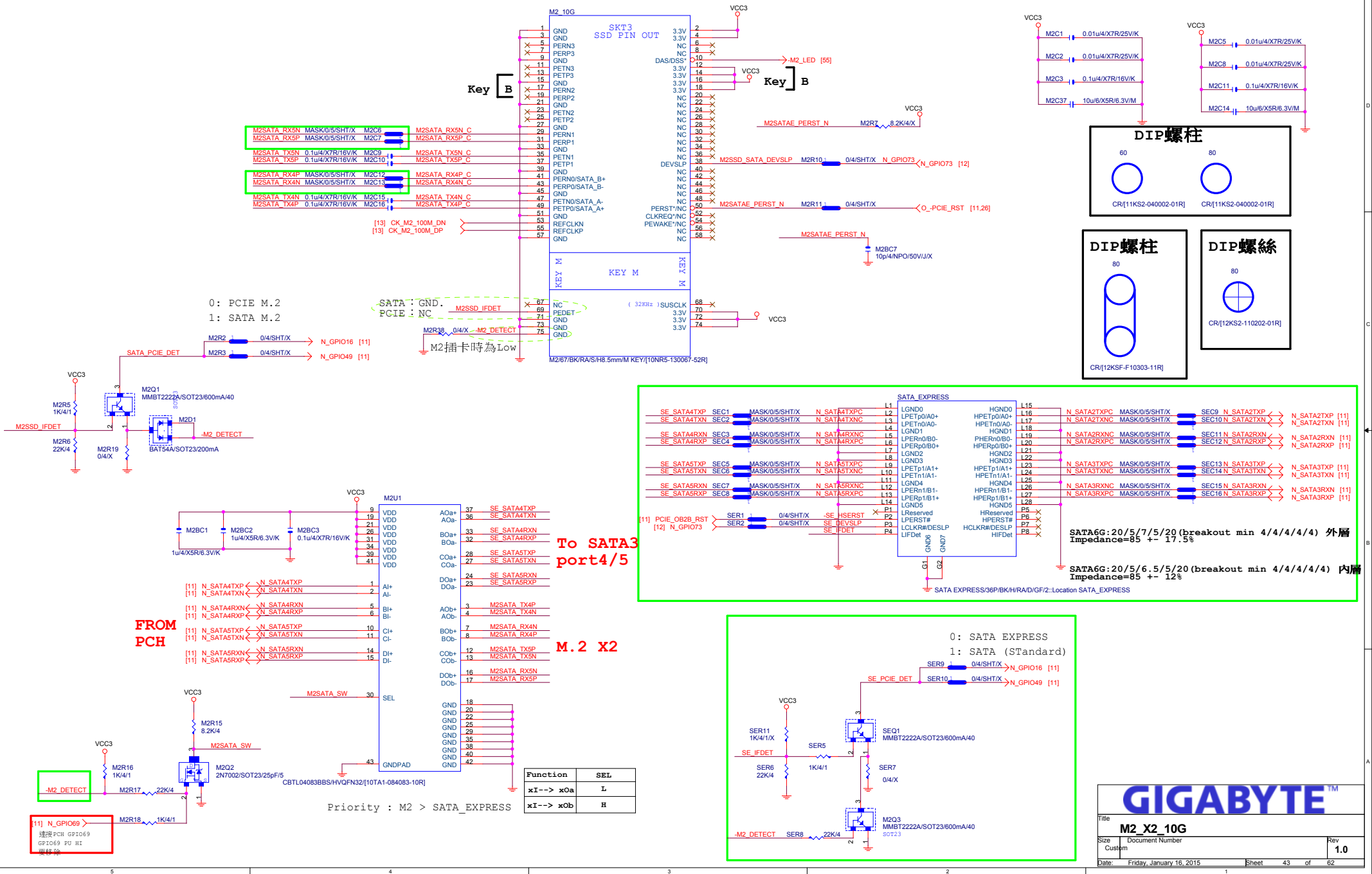






SEL	OE	Y+	Y-
X	H	H1-Z	H1-Z
L	L	M+	M-
H	L	D+	D-

Title	<Title>
Size	Document Number
Custom	GA-X99-UD4P
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Rev	1.0



Title

M2_X2_10G

Size

Custom

Document Number

Rev 1.0

Date

Friday, January 16, 2015

Sheet

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Function	SEL
xI--> x0a	L
xI--> x0b	H

Priority : M2 > SATA_EXPRESS

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]

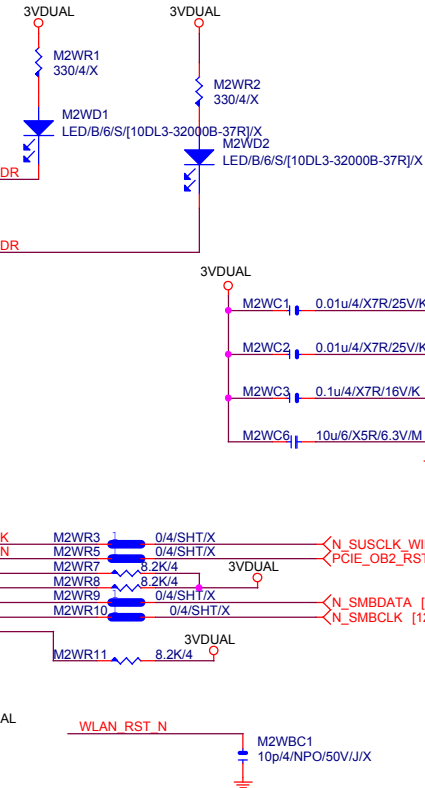
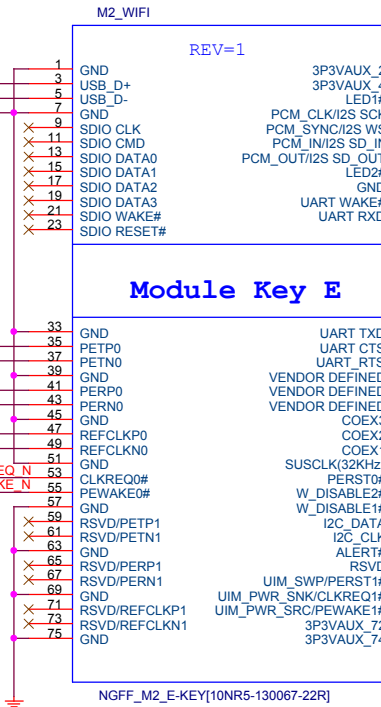
SMD螺柱

30



CR[10KS2-040109-01R]

should be SMD level



GIGABYTE™

Title M2_WIFI		
Size B	Document Number	Rev 1.0
Date:	Friday, January 16, 2015	Sheet 44 of 62

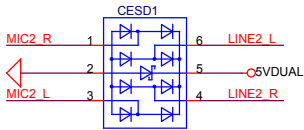
Thermal pad is DGND

Thermal pad is DGND

Digital Area

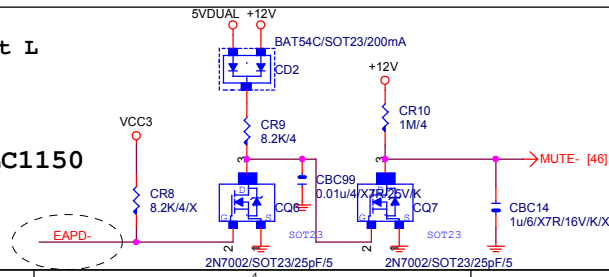
Analog Area

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



EAPD: Default L
H : ON
L : OFF

Close to ALC1150

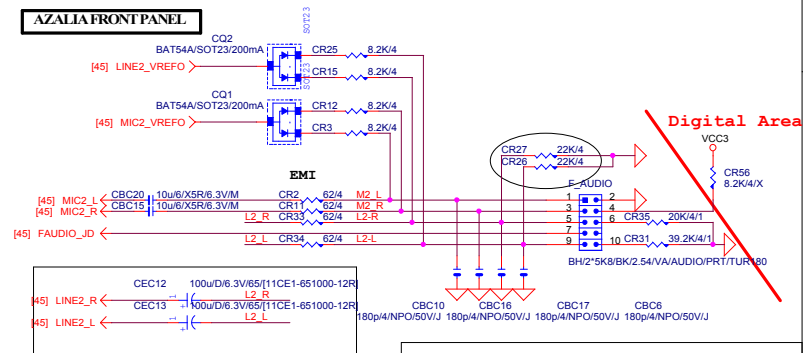
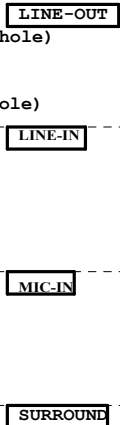
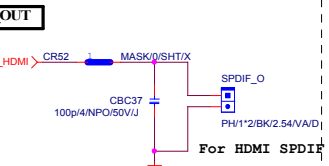


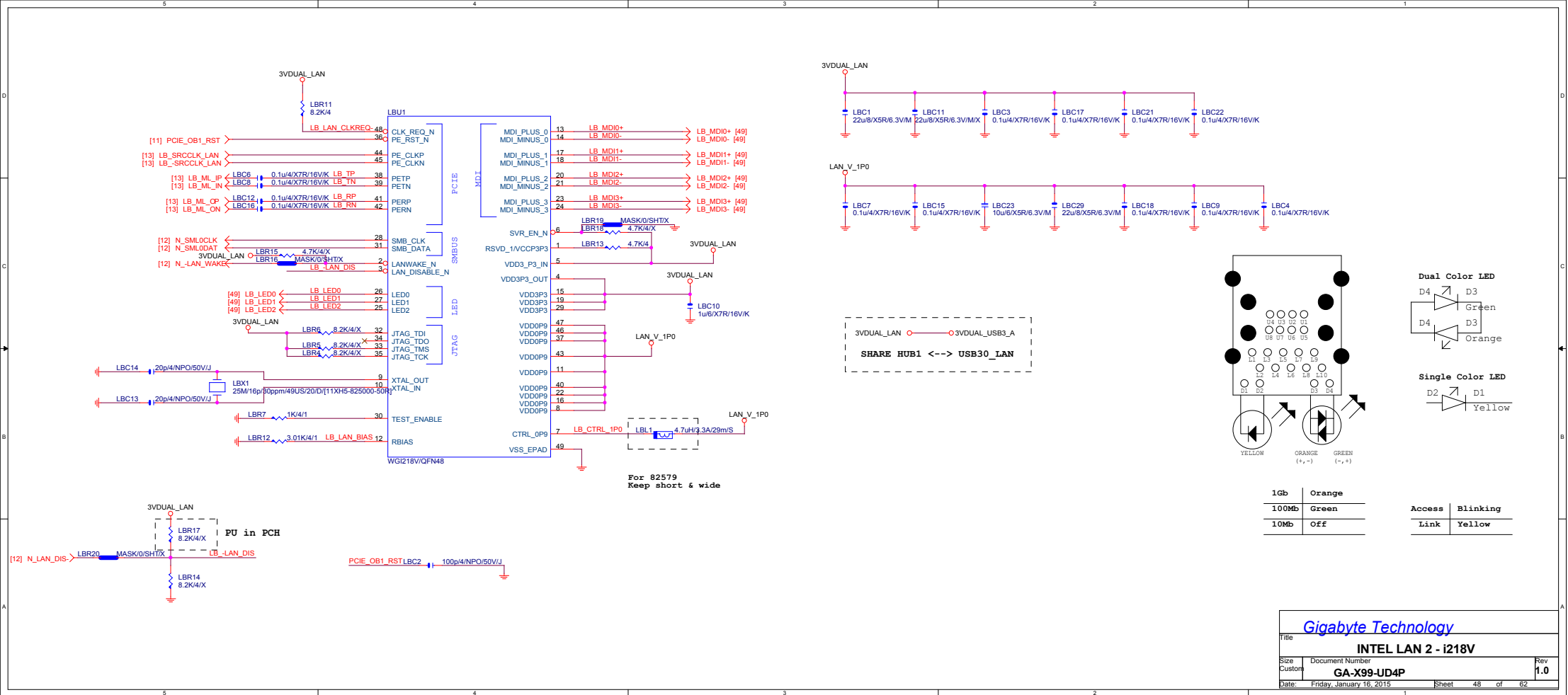
鍍黑鎳金屬外罩+
GND切割

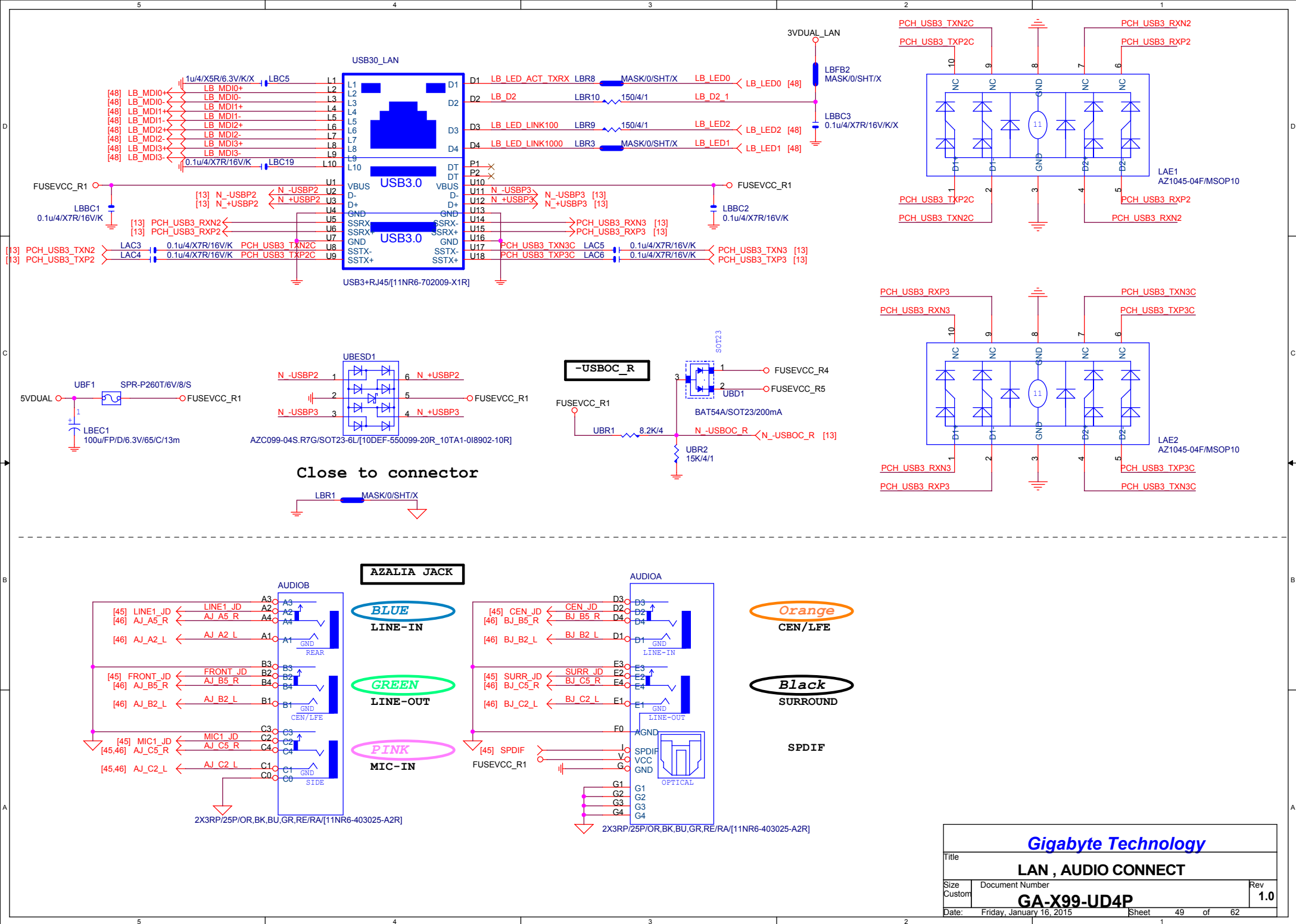
AUDIO_HS([11NH1-00297S-03R])

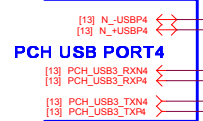
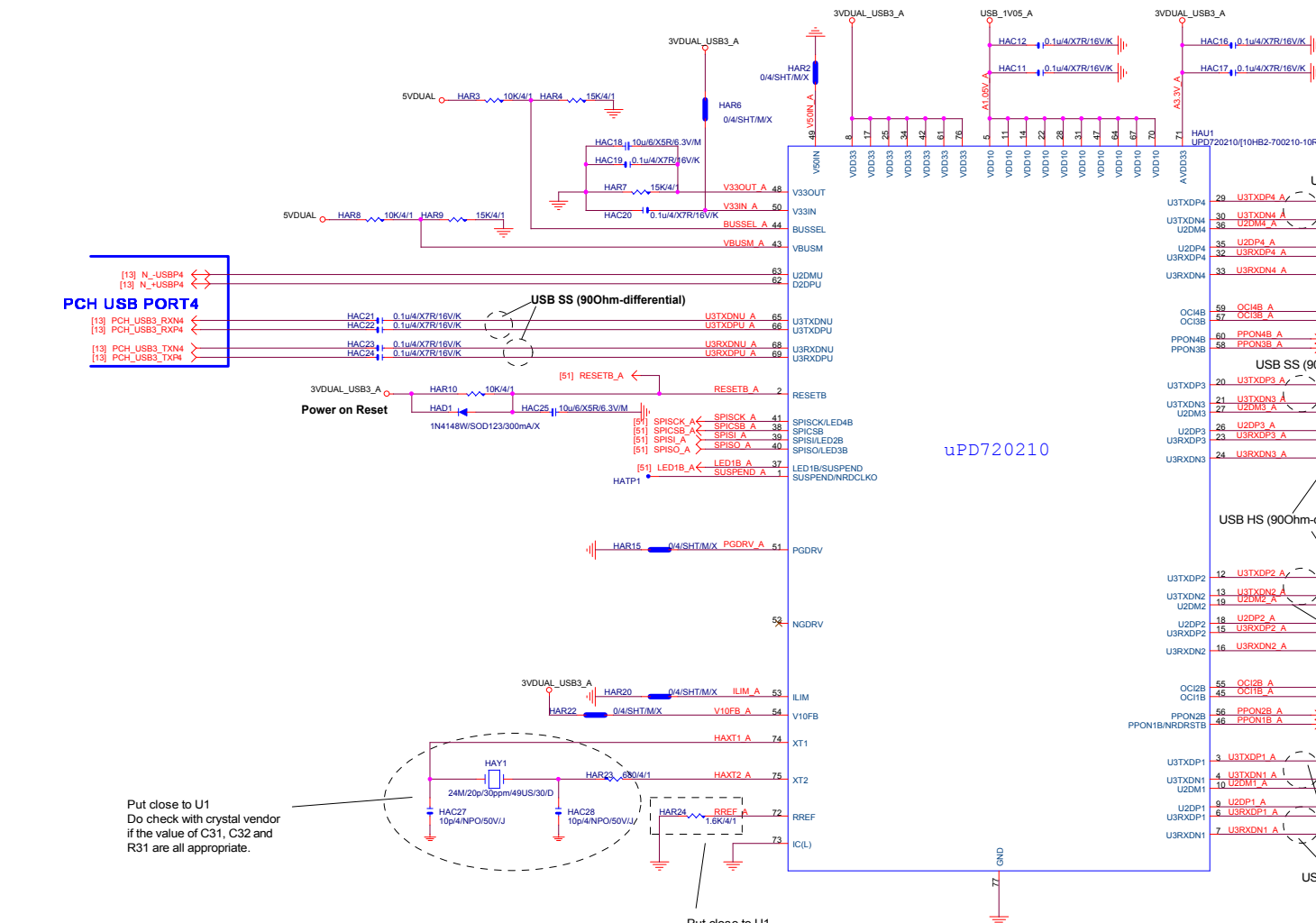
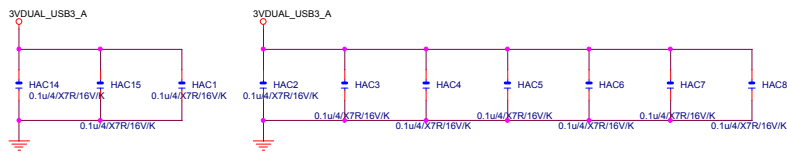
Gigabyte Technology

Title			HD AUDIO ALC887B-VD2/VT1708S/VT2021
Size	Document Number	GA-X99-UD4P	
Custom		Rev	1.0
Date:	Friday, January 16, 2015	Sheet	45 of 62



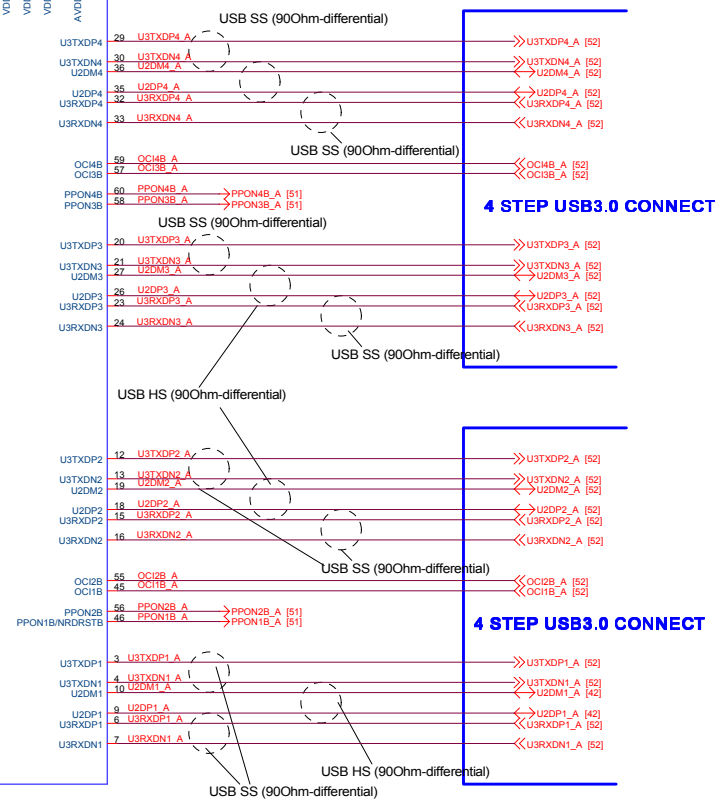
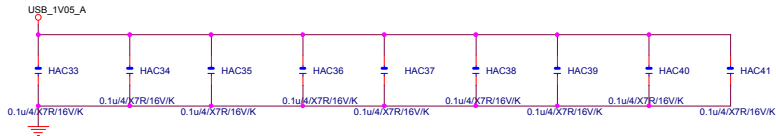
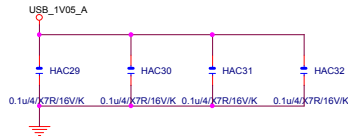






Put close to U1
Do check with crystal vendor
if the value of C31, C32 and
R31 are all appropriate.

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

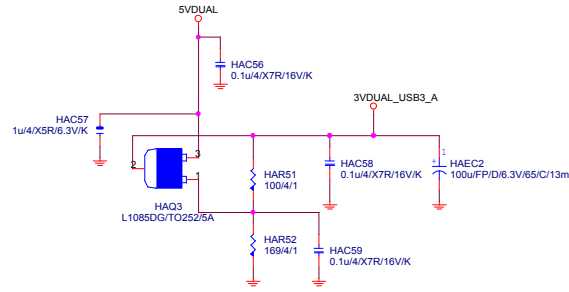


4 STEP USB3.0 CONNECT

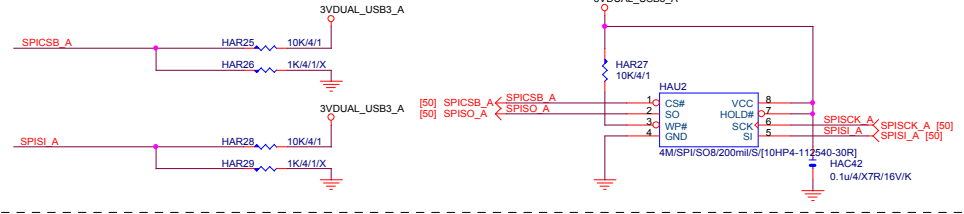
4 STEP USB3.0 CONNECT

Gigabyte Technology			
Title	D720210		
Size	Document Number	GA-X99-UD4P	
C			Rev 1.0
Date:	Friday, January 16, 2015	Sheet	50 of 62

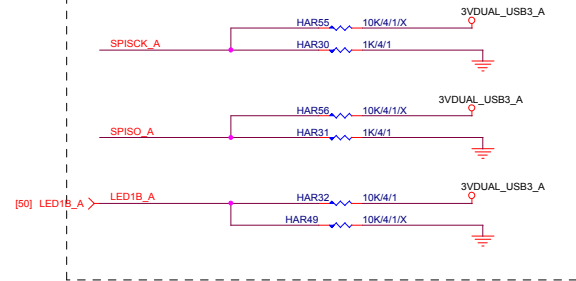
3VDUAL_USB_1



External SPI ROM ; SPI ROM attached mode

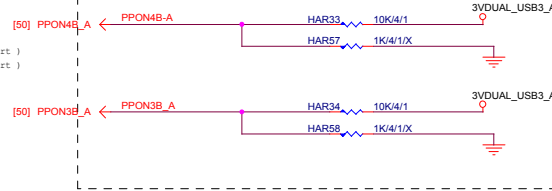


Battery Charging

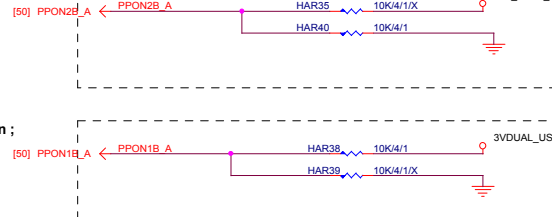


Number of Ports ; 4Ports mode

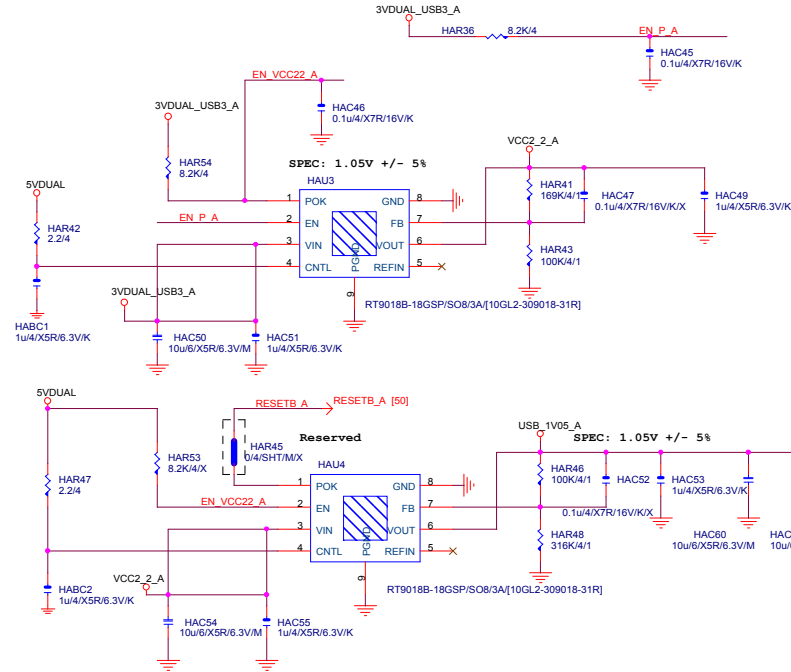
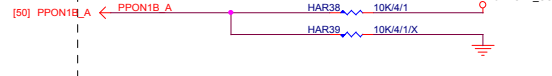
PPON3B / PPON4B : H / H (4 port)
PPON3B / PPON4B : L / L (2 port)



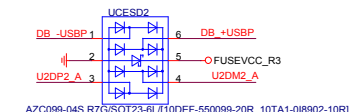
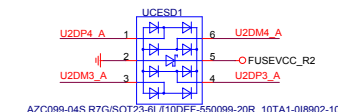
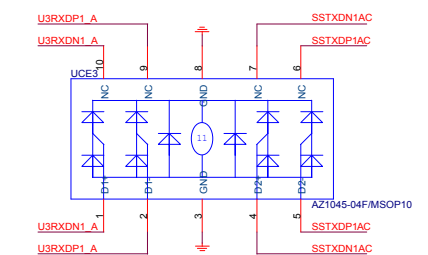
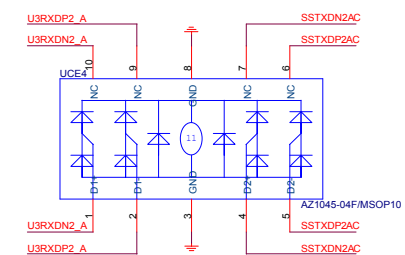
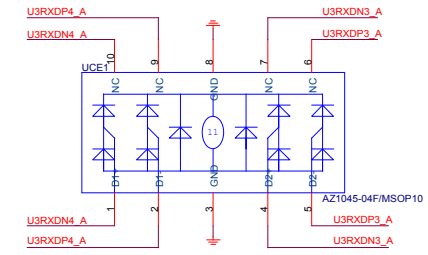
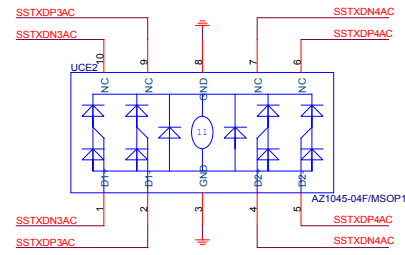
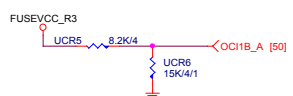
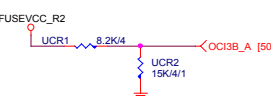
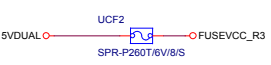
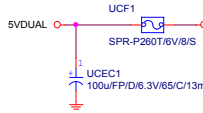
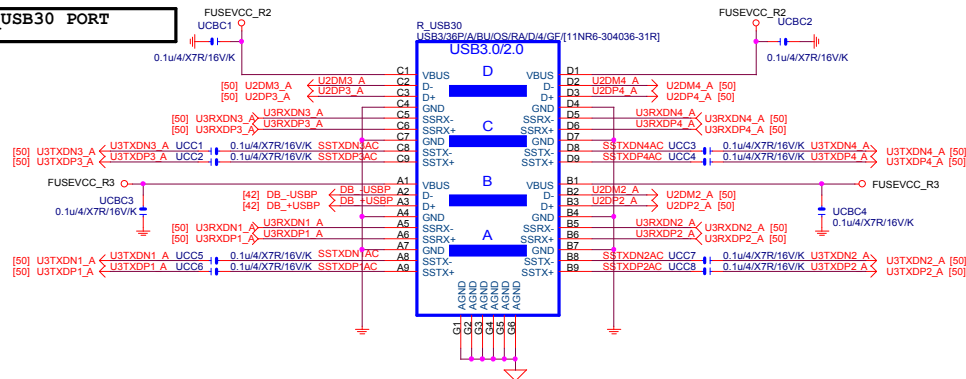
VBUS Power Control ; Individual mode



PPON1B Pin Function ; Port1 PPONB mode



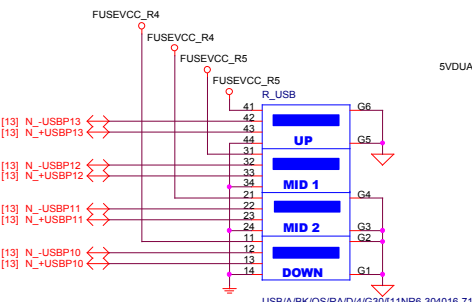
R_USB30 PORT



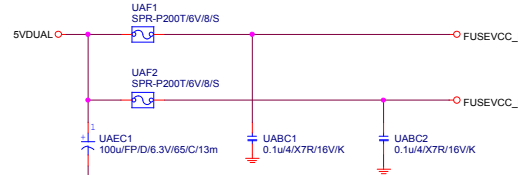
Close to connector

Close to connector

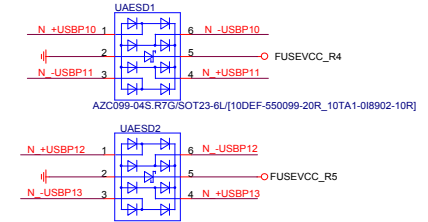
R_USB



USB20 FUSE

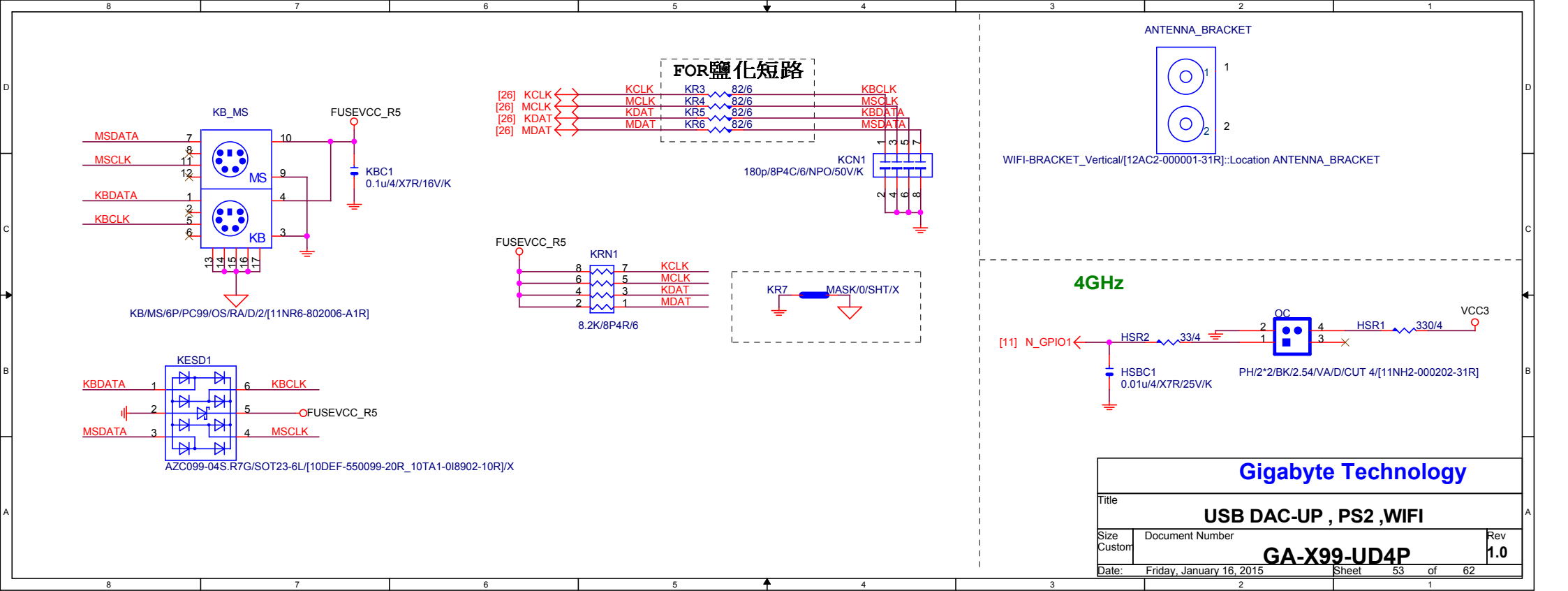


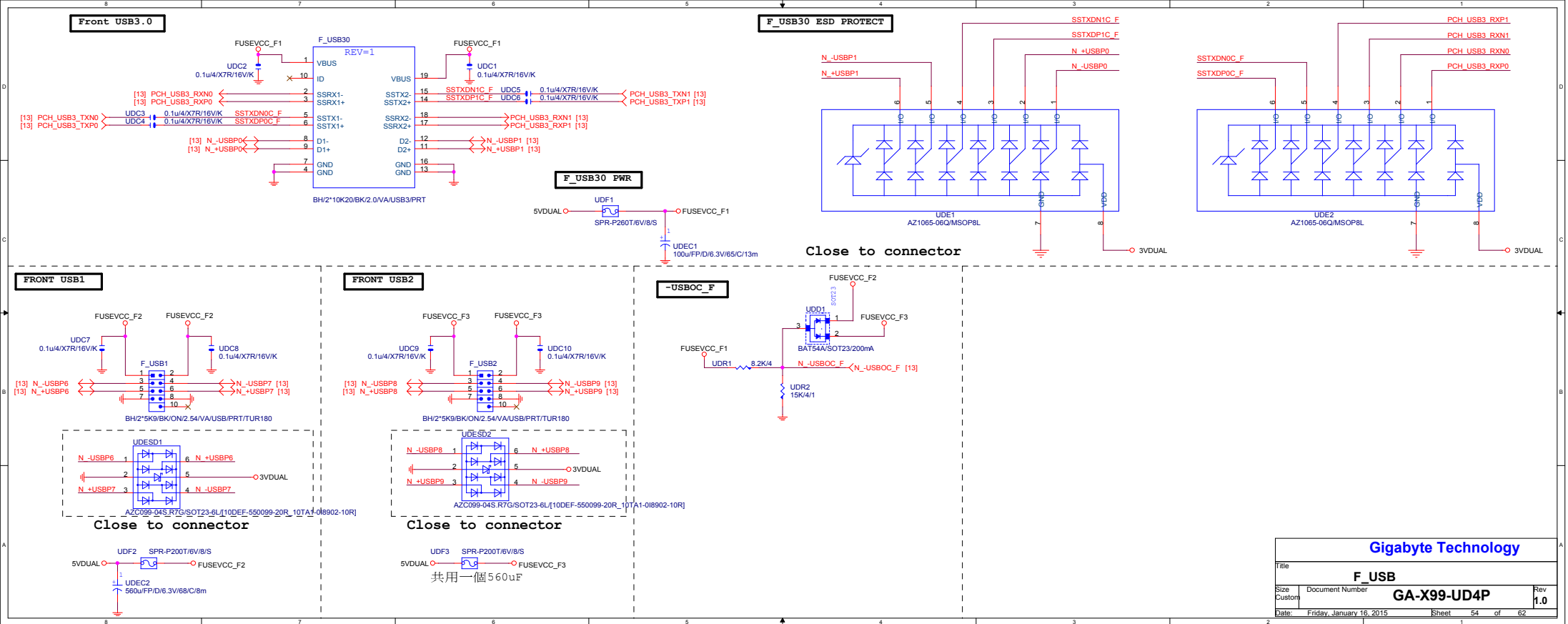
USB20 ESD PROTECT



Gigabyte Technology

Title		
R_USB30 , R_USB3		
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SL_MIC1

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

+/- 10mV AC

Gain=1+(R1/R2)

VCC3

SLR1 2.2K/4/1/X

2V BIAS

SLC1

1u/4/X5R/6.3V/K/X

SLR2 4.7K/4/X

SLR3 150K/4/X

SLC2

0.01u/4/X7R/25V/K/X

濾掉高頻

SLR4 56K/4/1/X

SLR5 1K/4/1/X

R2

SL_MIC1 EN

前級放大

SLU1A LM358DR/SO8/X

SLR6 330K/4/1/X

R1

SLD1

BAT54A/SOT23/200mA/X

濾成DC

SLR7 56K/4/1/X

SLC4

1u/4/X5R/6.3V/K/X

SLR8 1K/4/1/X

R2

VCC

SLC3

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

後級放大

SLU1B LM358DR/SO8/X

SLR9 1K/4/1/X

R1

SLD2

BAT54A/SOT23/200mA/X

SLR10 100K/4/1/X

SLC5

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

防止瞬間

SLC6

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

噪音反應過快

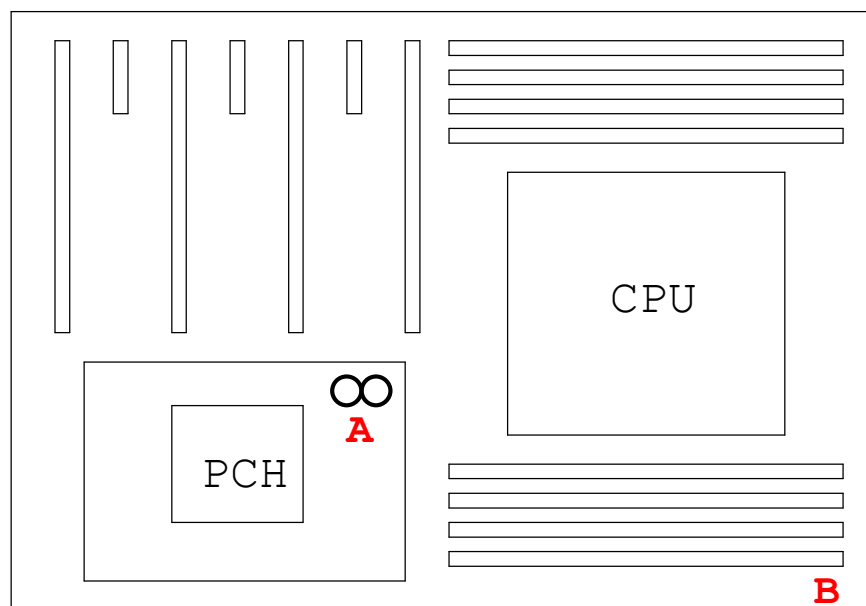
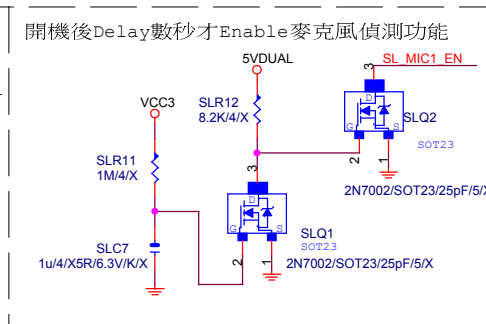
MIC+ VIN

<=3.3V DC

8620's VIN

加快放電速度

[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。

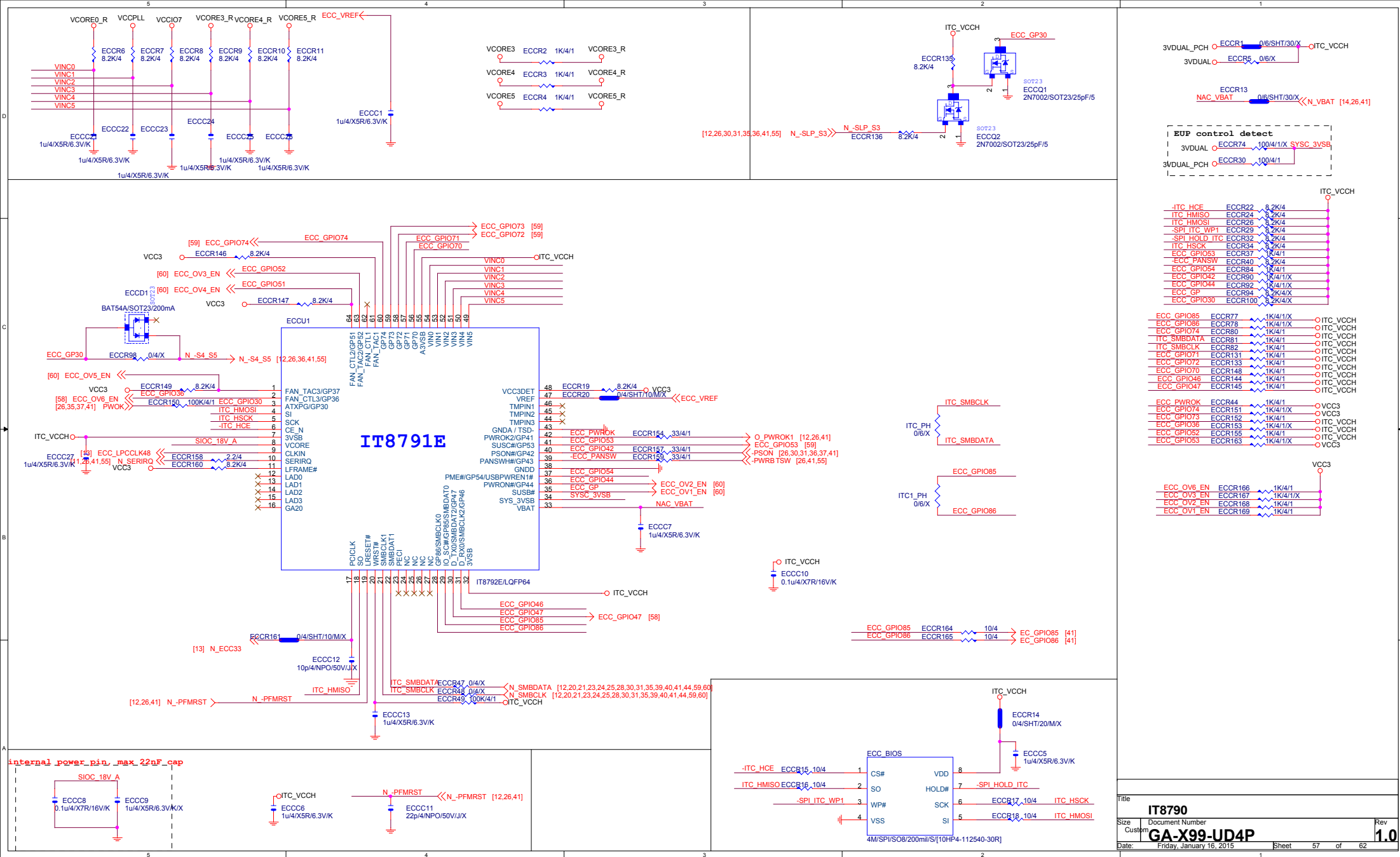
Figure 10.10 illustrates the Interrupt Mode. The graph plots Temperature (Y-axis) against Time (X-axis). The temperature signal oscillates between levels T_h and T_L . The Interrupt signal is a square wave that transitions from low to high whenever the temperature crosses the T_h threshold.

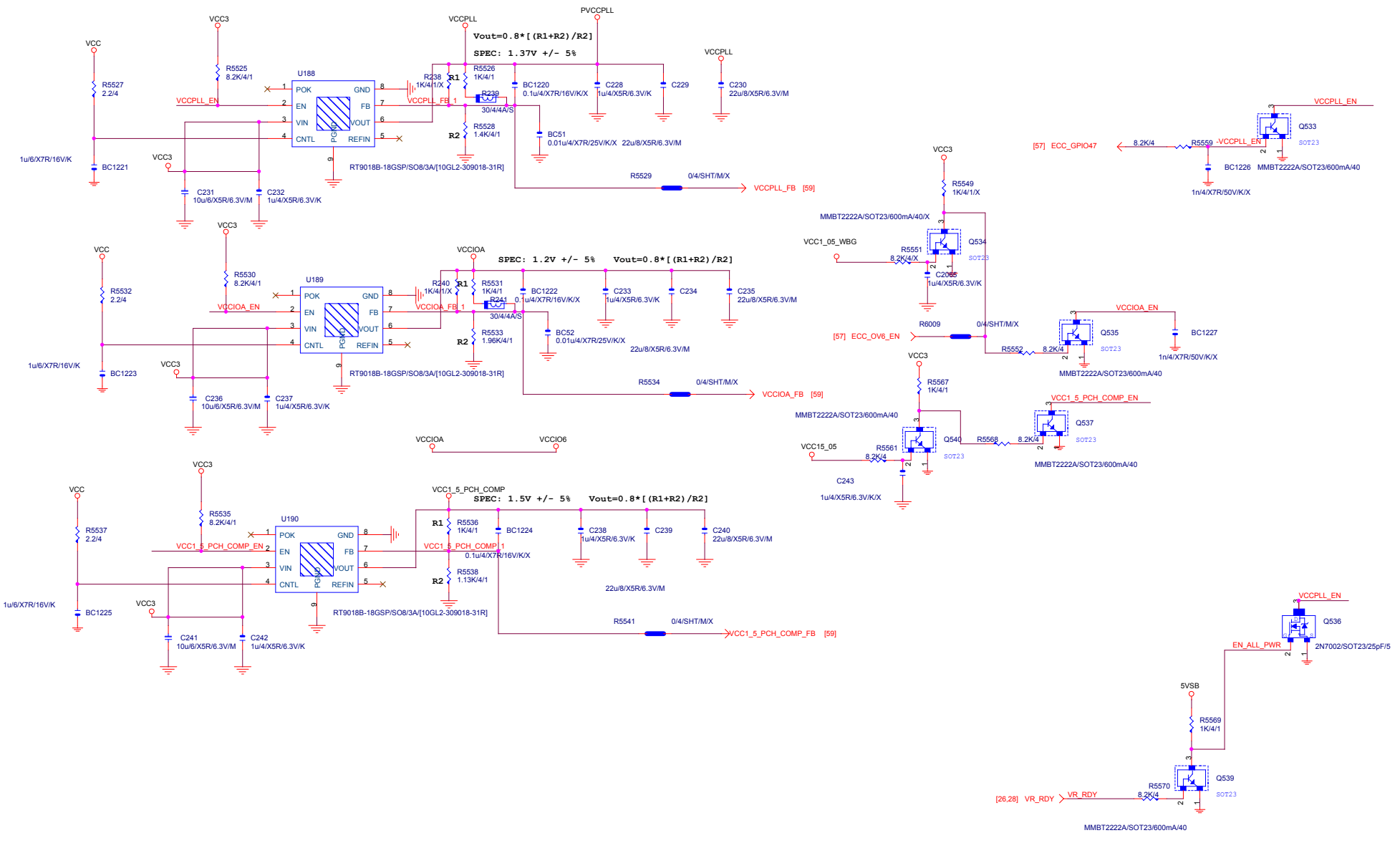
1. 麥克風不可被CPU_FAN & VGA_FAN吹到，用DIP電容擋住顯卡的風。
2. 麥克風需和OP-AMP越靠近越好，<1000mil。
3. IT8620偵測到dB值超過user設定值，通知PCH的GPI7發SMI。
4. 麥克風料號為：[10BM1-014030-01R]

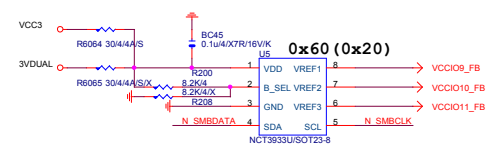
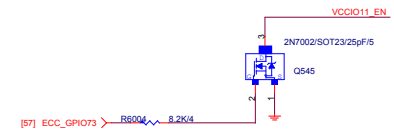
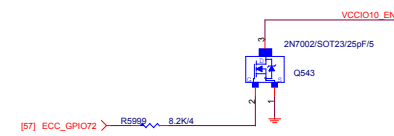
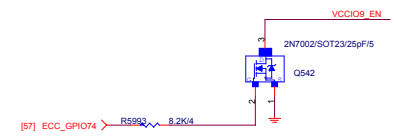
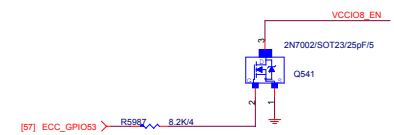
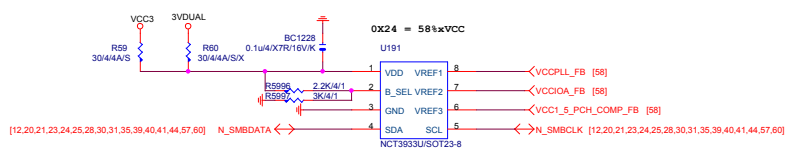
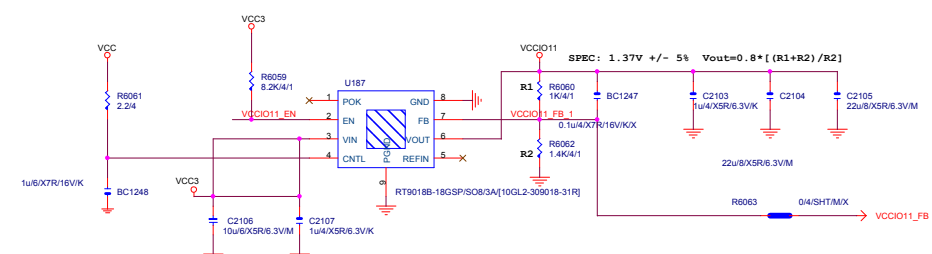
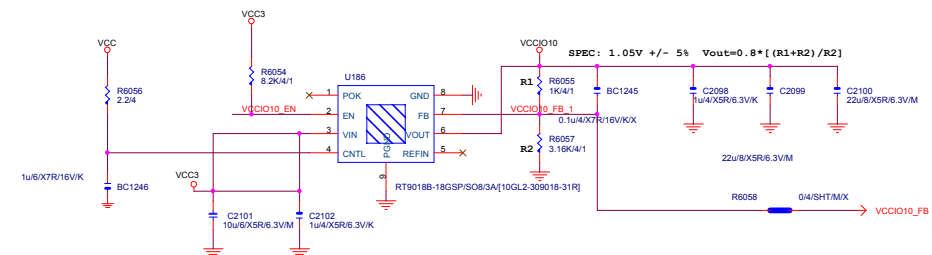
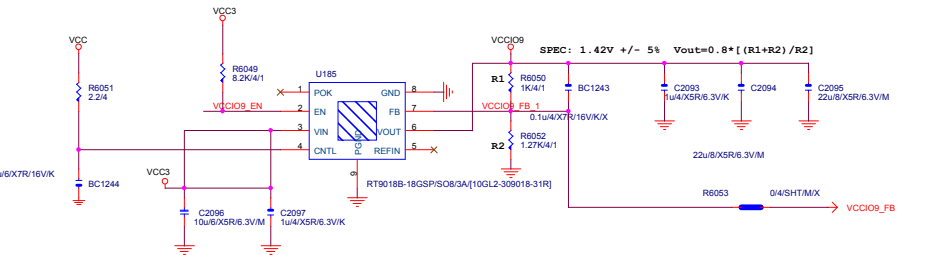
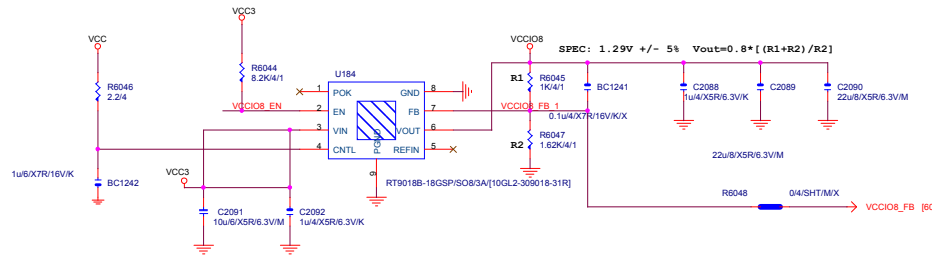
dB	VINx
30	1.30V
35	1.45V
40	1.60V
45	1.75V
50	1.90V
55	2.05V
60	2.20V
65	2.35V
70	2.50V
75	2.65V
80	2.80V
85	2.95V
90	3.10V
95	3.25V
100	3.33V

此Table只是假設值，需至無響室測試後確認。

<p align="center">Gigabyte Technology</p>			
<p align="center">Sound Level</p>			
<p>Title</p>			
<p>Size B</p>	<p>Document Number</p>	<p align="center">GA-X99-UD4P</p>	<p>Rev</p>
			1.
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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

Gigabyte Technology

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PCH GPIO LIST			
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