

SHEET

TITLE

01	COVER SHEET
02	BOM & PCB MODIFY HISTORY
03	BLOCK DIAGRAM
04	J1800 MEMORY CONTROLLER
05	J1800 DISPLAY,SATA,SD,GBE
06	J1800 USB,CLK,SPI,LPC
07	J1800 POWER/GND_1
08	J1800 POWER/GND_2
09	DDR3L SO-DIMM CHANNEL A,B
10	SMBUS,SIGNAL L/S
11	PCIE X1 SLOT /MINI PCIE SLOT
12	USB3.0/2.0,CLK BUF
13	HWM,FAN CTRL,-PROCHIT
14	COM,FP,SPK,SATALED,KB/MS
15	ITE 8620 LPC IO
16	SPI SINGLE BIOS
17	Realtek ALC887-VD2
18	REAR AUDIO JACK
19	REALTEK RTL8111F-VL
20	POWER SEQUENCE
21	DISCRETE POWER
22	ATX
23	VCORE ISL95836_1
24	VCORE ISL95836_2,VCORE,VAXG
25	HDMI,LPT
26	GENESYS GL850S

Gigabyte Technology

Title		
Cover Sheet		
Size Custom	Document Number GA-J1800N-D2H	Rev 1.01
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Model Name: GA-J1800N-D2H

Revision 1.01

SHEET

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01	COVER SHEET
02	BOM & PCB MODIFY HISTORY
03	BLOCK DIAGRAM
04	J1800 MEMORY CONTROLLER
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Gigabyte Technology

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Cover Sheet

Size
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GA-J1800N-D2H

Rev
1.01

Date: Thursday, February 06, 2014

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Revision 1.01

Component value change history

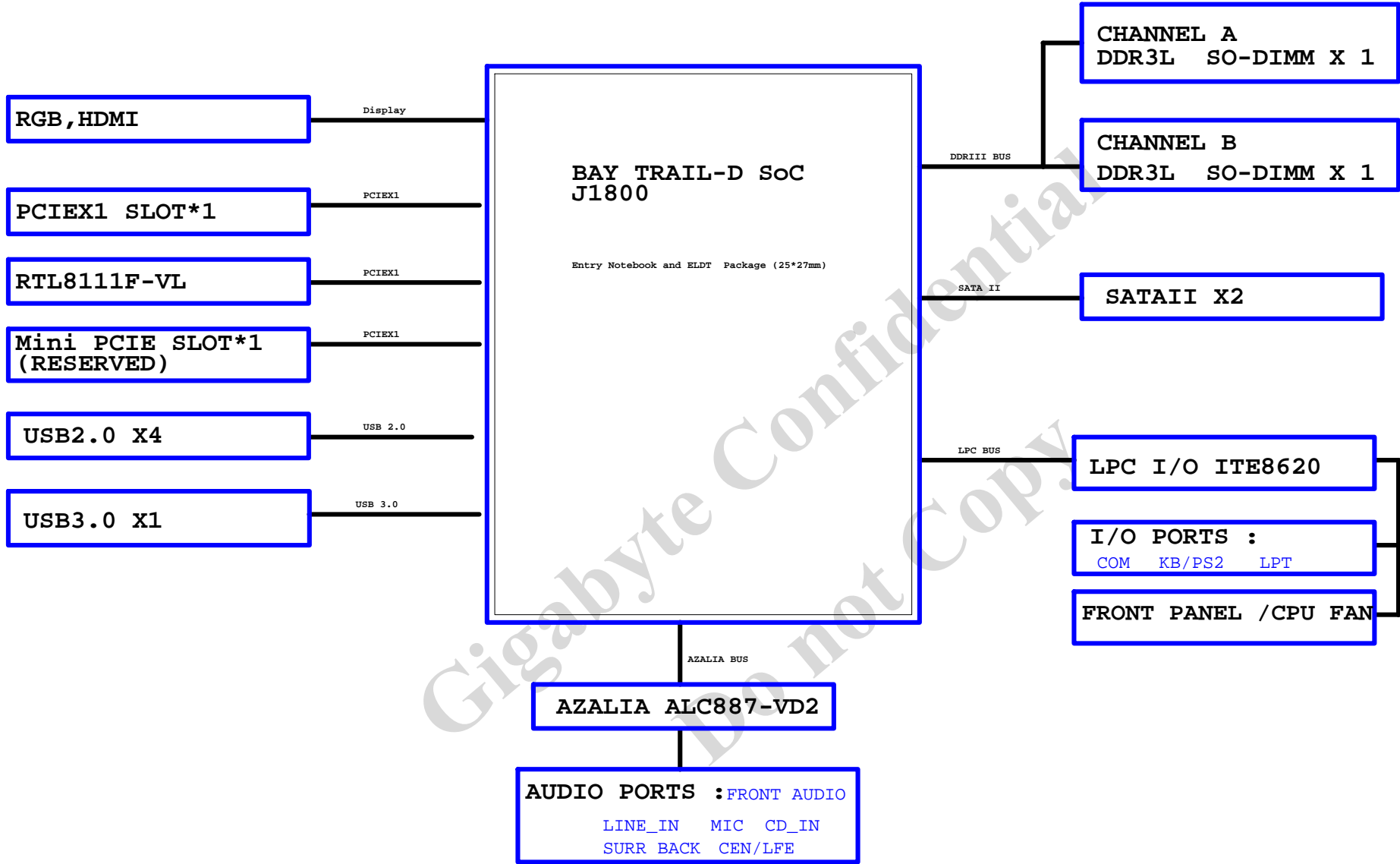
[illegible][illegible]

Revision 1.01

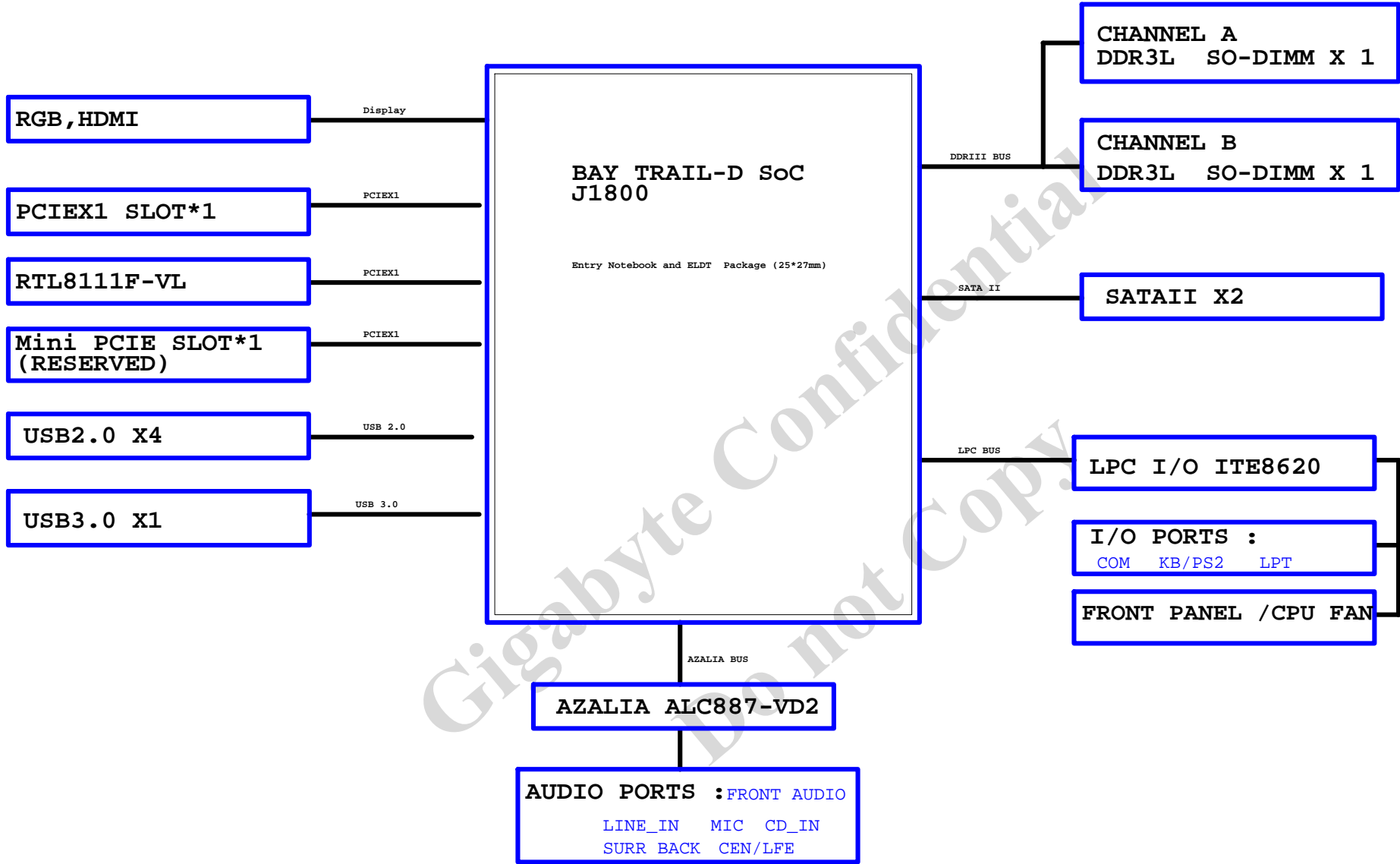
Component value change history

[illegible][illegible]

BLOCK DIAGRAM



BLOCK DIAGRAM



DDR0

U1A

MAAA0	K45	DRAM0_MA_0
MAAA1	H47	DRAM0_MA_1
MAAA2	L41	DRAM0_MA_2
MAAA3	H44	DRAM0_MA_3
MAAA4	H50	DRAM0_MA_4
MAAA5	G53	DRAM0_MA_5
MAAA6	H49	DRAM0_MA_6
MAAA7	D50	DRAM0_MA_7
MAAA8	G52	DRAM0_MA_8
MAAA9	E52	DRAM0_MA_9
MAAA10	K48	DRAM0_MA_10
MAAA11	E51	DRAM0_MA_11
MAAA12	F47	DRAM0_MA_12
MAAA13	J51	DRAM0_MA_13
MAAA14	B49	DRAM0_MA_14
MAAA15	B50	DRAM0_MA_15

[9] -SRASA ← -SRASA M45C
[9] -SCASA ← -SCASA M44C
[9] -SWEA ← -SWEA H51C

[9] SBAA0 ← SBAA0 K47
[9] SBAA1 ← SBAA1 K44
[9] SBAA2 ← SBAA2 D52

[9] -CSA0 ← -CSA0 P44C
[9] -CSA2 ← -CSA2 P45C

[9] CKEA0 ← CKEA0 C47
[9] CKEA2 ← CKEA2 X D48
[9] CKEA2 ← CKEA2 F44
[9] CKEA2 ← CKEA2 X E46

[9] MODT_A0 ← MODT_A0 T41
[9] MODT_A2 ← MODT_A2 P42

[9] DCLKA0 ← DCLKA0 M50
[9] -DCLKA0 ← -DCLKA0 M48

[9] DCLKA2 ← DCLKA2 P50
[9] -DCLKA2 ← -DCLKA2 P48

[9] M_DMA0 ← M_DMA0 G36
[9] M_DMA1 ← M_DMA1 B36
[9] M_DMA2 ← M_DMA2 B38
[9] M_DMA3 ← M_DMA3 B42
[9] M_DMA4 ← M_DMA4 P51
[9] M_DMA5 ← M_DMA5 V42
[9] M_DMA6 ← M_DMA6 Y50
[9] M_DMA7 ← M_DMA7 Y52

[9] -DDR3A_RST ← -DDR3A_RST P41C

DDR3_VREF AF44

DRAM_PWROK AD42
[10] DCORE_PWROK ← DCORE_PWROK AB42

R2 23.2/4/1 DDR3_ODTPU AD44
R3 29.4/4/1 DDR3_DQPU AF45
R4 162/4/1 DDR3_CMDPU AD45

R5 100K/4/1 AF42
R6 100K/4/1 AH42

AF40
AF41
AD40
AD41

J1800/2.41G/B3/[10HB5-621800-10R]

DRAM0_DQ_0	M36	MDA0
DRAM0_DQ_1	J36	MDA1
DRAM0_DQ_2	P40	MDA2
DRAM0_DQ_3	M40	MDA3
DRAM0_DQ_4	P36	MDA4
DRAM0_DQ_5	N36	MDA5
DRAM0_DQ_6	K40	MDA6
DRAM0_DQ_7	K42	MDA7
DRAM0_DQ_8	B32	MDA8
DRAM0_DQ_9	C32	MDA9
DRAM0_DQ_10	C36	MDA10
DRAM0_DQ_11	A37	MDA11
DRAM0_DQ_12	C33	MDA12
DRAM0_DQ_13	A33	MDA13
DRAM0_DQ_14	C37	MDA14
DRAM0_DQ_15	B38	MDA15
DRAM0_DQ_16	F36	MDA16
DRAM0_DQ_17	G38	MDA17
DRAM0_DQ_18	F42	MDA18
DRAM0_DQ_19	J42	MDA19
DRAM0_DQ_20	G40	MDA20
DRAM0_DQ_21	C38	MDA21
DRAM0_DQ_22	G44	MDA22
DRAM0_DQ_23	D42	MDA23
DRAM0_DQ_24	A41	MDA24
DRAM0_DQ_25	C41	MDA25
DRAM0_DQ_26	A45	MDA26
DRAM0_DQ_27	B46	MDA27
DRAM0_DQ_28	C40	MDA28
DRAM0_DQ_29	B40	MDA29
DRAM0_DQ_30	B48	MDA30
DRAM0_DQ_31	B47	MDA31
DRAM0_DQ_32	K52	MDA32
DRAM0_DQ_33	K51	MDA33
DRAM0_DQ_34	T52	MDA34
DRAM0_DQ_35	T51	MDA35
DRAM0_DQ_36	L51	MDA36
DRAM0_DQ_37	L53	MDA37
DRAM0_DQ_38	R51	MDA38
DRAM0_DQ_39	R53	MDA39
DRAM0_DQ_40	T47	MDA40
DRAM0_DQ_41	T45	MDA41
DRAM0_DQ_42	Y40	MDA42
DRAM0_DQ_43	V41	MDA43
DRAM0_DQ_44	T48	MDA44
DRAM0_DQ_45	T50	MDA45
DRAM0_DQ_46	Y42	MDA46
DRAM0_DQ_47	AB40	MDA47
DRAM0_DQ_48	V45	MDA48
DRAM0_DQ_49	V47	MDA49
DRAM0_DQ_50	AD48	MDA50
DRAM0_DQ_51	AD50	MDA51
DRAM0_DQ_52	V48	MDA52
DRAM0_DQ_53	V50	MDA53
DRAM0_DQ_54	AB44	MDA54
DRAM0_DQ_55	Y45	MDA55
DRAM0_DQ_56	V52	MDA56
DRAM0_DQ_57	W51	MDA57
DRAM0_DQ_58	AC53	MDA58
DRAM0_DQ_59	AC51	MDA59
DRAM0_DQ_60	W53	MDA60
DRAM0_DQ_61	Y51	MDA61
DRAM0_DQ_62	AD52	MDA62
DRAM0_DQ_63	AD51	MDA63

DRAM0_DQSP_0	J38	DQSA0
DRAM0_DQSP_1	C35	DQSA1
DRAM0_DQSP_2	D40	DQSA2
DRAM0_DQSP_3	B44	DQSA3
DRAM0_DQSP_4	N53	DQSA4
DRAM0_DQSP_5	T42	DQSA5
DRAM0_DQSP_6	Y47	DQSA6
DRAM0_DQSP_7	AB52	DQSA7

DRAM0_DQSN_0	K38	-DQSA0
DRAM0_DQSN_1	B34	-DQSA1
DRAM0_DQSN_2	F40	-DQSA2
DRAM0_DQSN_3	C43	-DQSA3
DRAM0_DQSN_4	M52	-DQSA4
DRAM0_DQSN_5	T44	-DQSA5
DRAM0_DQSN_6	Y48	-DQSA6
DRAM0_DQSN_7	AA51	-DQSA7

DDR1

U1B

MAAB0	AY45	DRAM1_MA_0
MAAB1	BB47	DRAM1_MA_1
MAAB2	AW41	DRAM1_MA_2
MAAB3	BB44	DRAM1_MA_3
MAAB4	BB50	DRAM1_MA_4
MAAB5	BC53	DRAM1_MA_5
MAAB6	BB49	DRAM1_MA_6
MAAB7	BF50	DRAM1_MA_7
MAAB8	BC52	DRAM1_MA_8
MAAB9	BE52	DRAM1_MA_9
MAAB10	AY48	DRAM1_MA_10
MAAB11	BE51	DRAM1_MA_11
MAAB12	BD47	DRAM1_MA_12
MAAB13	BA51	DRAM1_MA_13
MAAB14	BH49	DRAM1_MA_14
MAAB15	BH50	DRAM1_MA_15

[9] -SRASB ← -SRASB AV45C
[9] -SCASB ← -SCASB AV44C
[9] -SWEB ← -SWEB BB51C

[9] SBAB0 ← SBAB0 AY47
[9] SBAB1 ← SBAB1 AY44
[9] SBAB2 ← SBAB2 BF52

[9] -CSB0 ← -CSB0 AT44C
[9] -CSB2 ← -CSB2 AT45C

[9] CKEB0 ← CKEB0 BG47
[9] CKEB2 ← CKEB2 X BE46
[9] CKEB2 ← CKEB2 BD44
[9] CKEB2 ← CKEB2 X BF48

[9] MODT_B0 ← MODT_B0 AP41
[9] MODT_B2 ← MODT_B2 AT42

[9] DCLKB0 ← DCLKB0 AV50
[9] -DCLKB0 ← -DCLKB0 AV48

[9] DCLKB2 ← DCLKB2 AT50
[9] -DCLKB2 ← -DCLKB2 AT48

[9] M_DMB0 ← M_DMB0 BD38
[9] M_DMB1 ← M_DMB1 BH38
[9] M_DMB2 ← M_DMB2 BC36
[9] M_DMB3 ← M_DMB3 BH42
[9] M_DMB4 ← M_DMB4 AT51
[9] M_DMB5 ← M_DMB5 AM42
[9] M_DMB6 ← M_DMB6 AK50
[9] M_DMB7 ← M_DMB7 AK52

[9] -DDR3B_RST ← -DDR3B_RST AT41C

DRAM1_MA_0	MAAB0	AY45
DRAM1_MA_1	MAAB1	BB47
DRAM1_MA_2	MAAB2	AW41
DRAM1_MA_3	MAAB3	BB44
DRAM1_MA_4	MAAB4	BB50
DRAM1_MA_5	MAAB5	BC53
DRAM1_MA_6	MAAB6	BB49
DRAM1_MA_7	MAAB7	BF50
DRAM1_MA_8	MAAB8	BC52
DRAM1_MA_9	MAAB9	BE52
DRAM1_MA_10	MAAB10	AY48
DRAM1_MA_11	MAAB11	BE51
DRAM1_MA_12	MAAB12	BD47
DRAM1_MA_13	MAAB13	BA51
DRAM1_MA_14	MAAB14	BH49
DRAM1_MA_15	MAAB15	BH50

DRAM1_RAS#
DRAM1_CAS#
DRAM1_WE#

DRAM1_BS_0
DRAM1_BS_1
DRAM1_BS_2

DRAM1_CS_0#
DRAM1_CS_2#

DRAM1_CKE_0
RSVD_BE46
DRAM1_CKE_2
RSVD_BF48

DRAM1_ODT_0
DRAM1_ODT_2

DRAM1_CKP_0
DRAM1_CKN_0

DRAM1_CKP_2
DRAM1_CKN_2

DRAM1_DM_0
DRAM1_DM_1
DRAM1_DM_2
DRAM1_DM_3
DRAM1_DM_4
DRAM1_DM_5
DRAM1_DM_6
DRAM1_DM_7

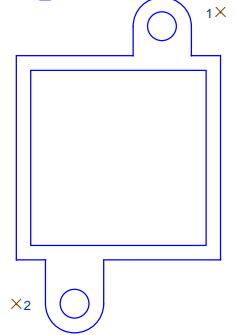
DRAM1_DRAMRST#

DRAM1_DQSP_0	BF40	DQSB0
DRAM1_DQSP_1	BG35	DQSB1
DRAM1_DQSP_2	BA38	DQSB2
DRAM1_DQSP_3	BH44	DQSB3
DRAM1_DQSP_4	AU53	DQSB4
DRAM1_DQSP_5	AP42	DQSB5
DRAM1_DQSP_6	AK47	DQSB6
DRAM1_DQSP_7	AH52	DQSB7

DRAM1_DQSN_0	-BD40	-DQSB0
DRAM1_DQSN_1	BH34	-DQSB1
DRAM1_DQSN_2	AY38	-DQSB2
DRAM1_DQSN_3	BG43	-DQSB3
DRAM1_DQSN_4	AY52	-DQSB4
DRAM1_DQSN_5	AP44	-DQSB5
DRAM1_DQSN_6	AK48	-DQSB6
DRAM1_DQSN_7	AA51	-DQSB7

HEAT SINK

NB_HEATSINK

FANLESS HEATSINK
COST DOWNSOC_HS
CPU_HS[12SP2-SA0601-01R]

[9] MDA[0..63] ↔ MDA[0..63]

[9] MDB[0..63] ↔ MDB[0..63]

[9] DQSA[0..7] ↔ DQSA[0..7]

[9] -DQSA[0..7] ↔ -DQSA[0..7]

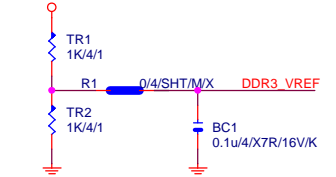
[9] MAAA[0..15] ↔ MAAA[0..15]

[9] MAAB[0..15] ↔ MAAB[0..15]

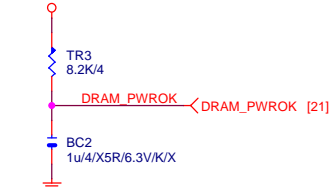
[9] DQSB[0..7] ↔ DQSB[0..7]

[9] -DQSB[0..7] ↔ -DQSB[0..7]

+VCCDDRXXS3_1P35



DDR1_35V



Gigabyte Technology

Title	VLV-M/D MEMROY		
Size B	Document Number	GA-J1800N-D2H	
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DDR0

U1A

MAAA0	K45	DRAM0_MA_0
MAAA1	H47	DRAM0_MA_1
MAAA2	L41	DRAM0_MA_2
MAAA3	H44	DRAM0_MA_3
MAAA4	H50	DRAM0_MA_4
MAAA5	G53	DRAM0_MA_5
MAAA6	H49	DRAM0_MA_6
MAAA7	D50	DRAM0_MA_7
MAAA8	G52	DRAM0_MA_8
MAAA9	E52	DRAM0_MA_9
MAAA10	K48	DRAM0_MA_10
MAAA11	E51	DRAM0_MA_11
MAAA12	F47	DRAM0_MA_12
MAAA13	J51	DRAM0_MA_13
MAAA14	B49	DRAM0_MA_14
MAAA15	B50	DRAM0_MA_15

[9] -SRASA ← -SRASA M45C
[9] -SCASA ← -SCASA M44C
[9] -SWEA ← -SWEA H51C

[9] SBAA0 ← SBAA0 K47
[9] SBAA1 ← SBAA1 K44
[9] SBAA2 ← SBAA2 D52

[9] -CSA0 ← -CSA0 P44C
[9] -CSA2 ← -CSA2 P45C

[9] CKEA0 ← CKEA0 C47
[9] CKEA2 ← CKEA2 X D48
[9] CKEA2 ← CKEA2 F44
[9] CKEA2 ← CKEA2 X E46

[9] MODT_A0 ← MODT_A0 T41
[9] MODT_A2 ← MODT_A2 P42

[9] DCLKA0 ← DCLKA0 M50
[9] -DCLKA0 ← -DCLKA0 M48

[9] DCLKA2 ← DCLKA2 P50
[9] -DCLKA2 ← -DCLKA2 P48

[9] M_DMA0 ← M_DMA0 G36
[9] M_DMA1 ← M_DMA1 B36
[9] M_DMA2 ← M_DMA2 B38
[9] M_DMA3 ← M_DMA3 B42
[9] M_DMA4 ← M_DMA4 P51
[9] M_DMA5 ← M_DMA5 V42
[9] M_DMA6 ← M_DMA6 Y50
[9] M_DMA7 ← M_DMA7 Y52

[9] -DDR3A_RST ← -DDR3A_RST P41C

DDR3_VREF AF44

DRAM_PWROK AD42
[10] DCORE_PWROK ← DCORE_PWROK AB42

R2 23.2/4/1 DDR3_ODTPU AD44
R3 29.4/4/1 DDR3_DQPU AF45
R4 162/4/1 DDR3_CMDPU AD45

R5 100K/4/1 AF42
R6 100K/4/1 AH42

AF40
AF41
AD40
AD41

J1800/2.41G/B3/[10HB5-621800-10R]

DRAM0_DQ_0	M36	MDA0
DRAM0_DQ_1	J36	MDA1
DRAM0_DQ_2	P40	MDA2
DRAM0_DQ_3	M40	MDA3
DRAM0_DQ_4	P36	MDA4
DRAM0_DQ_5	N36	MDA5
DRAM0_DQ_6	K40	MDA6
DRAM0_DQ_7	K42	MDA7
DRAM0_DQ_8	B32	MDA8
DRAM0_DQ_9	C32	MDA9
DRAM0_DQ_10	C36	MDA10
DRAM0_DQ_11	A37	MDA11
DRAM0_DQ_12	C33	MDA12
DRAM0_DQ_13	A33	MDA13
DRAM0_DQ_14	C37	MDA14
DRAM0_DQ_15	B38	MDA15
DRAM0_DQ_16	F36	MDA16
DRAM0_DQ_17	G38	MDA17
DRAM0_DQ_18	F42	MDA18
DRAM0_DQ_19	J42	MDA19
DRAM0_DQ_20	G40	MDA20
DRAM0_DQ_21	C38	MDA21
DRAM0_DQ_22	G44	MDA22
DRAM0_DQ_23	D42	MDA23
DRAM0_DQ_24	A41	MDA24
DRAM0_DQ_25	C41	MDA25
DRAM0_DQ_26	A45	MDA26
DRAM0_DQ_27	B46	MDA27
DRAM0_DQ_28	C40	MDA28
DRAM0_DQ_29	B40	MDA29
DRAM0_DQ_30	B48	MDA30
DRAM0_DQ_31	B47	MDA31
DRAM0_DQ_32	K52	MDA32
DRAM0_DQ_33	K51	MDA33
DRAM0_DQ_34	T52	MDA34
DRAM0_DQ_35	T51	MDA35
DRAM0_DQ_36	L51	MDA36
DRAM0_DQ_37	L53	MDA37
DRAM0_DQ_38	R51	MDA38
DRAM0_DQ_39	R53	MDA39
DRAM0_DQ_40	T47	MDA40
DRAM0_DQ_41	T45	MDA41
DRAM0_DQ_42	Y40	MDA42
DRAM0_DQ_43	V41	MDA43
DRAM0_DQ_44	T48	MDA44
DRAM0_DQ_45	T50	MDA45
DRAM0_DQ_46	Y42	MDA46
DRAM0_DQ_47	AB40	MDA47
DRAM0_DQ_48	V45	MDA48
DRAM0_DQ_49	V47	MDA49
DRAM0_DQ_50	AD48	MDA50
DRAM0_DQ_51	AD50	MDA51
DRAM0_DQ_52	V48	MDA52
DRAM0_DQ_53	V50	MDA53
DRAM0_DQ_54	AB44	MDA54
DRAM0_DQ_55	Y45	MDA55
DRAM0_DQ_56	V52	MDA56
DRAM0_DQ_57	W51	MDA57
DRAM0_DQ_58	AC53	MDA58
DRAM0_DQ_59	AC51	MDA59
DRAM0_DQ_60	W53	MDA60
DRAM0_DQ_61	Y51	MDA61
DRAM0_DQ_62	AD52	MDA62
DRAM0_DQ_63	AD51	MDA63

DRAM0_DQSP_0	J38	DQSA0
DRAM0_DQSP_1	C35	DQSA1
DRAM0_DQSP_2	D40	DQSA2
DRAM0_DQSP_3	B44	DQSA3
DRAM0_DQSP_4	N53	DQSA4
DRAM0_DQSP_5	T42	DQSA5
DRAM0_DQSP_6	Y47	DQSA6
DRAM0_DQSP_7	AB52	DQSA7

DRAM0_DQSN_0	K38	-DQSA0
DRAM0_DQSN_1	B34	-DQSA1
DRAM0_DQSN_2	F40	-DQSA2
DRAM0_DQSN_3	C43	-DQSA3
DRAM0_DQSN_4	M52	-DQSA4
DRAM0_DQSN_5	T44	-DQSA5
DRAM0_DQSN_6	Y48	-DQSA6
DRAM0_DQSN_7	AA51	-DQSA7

DDR1

U1B

MAAB0	AY45	DRAM1_MA_0
MAAB1	BB47	DRAM1_MA_1
MAAB2	AW41	DRAM1_MA_2
MAAB3	BB44	DRAM1_MA_3
MAAB4	BB50	DRAM1_MA_4
MAAB5	BC53	DRAM1_MA_5
MAAB6	BB49	DRAM1_MA_6
MAAB7	BF50	DRAM1_MA_7
MAAB8	BC52	DRAM1_MA_8
MAAB9	BE52	DRAM1_MA_9
MAAB10	AY48	DRAM1_MA_10
MAAB11	BE51	DRAM1_MA_11
MAAB12	BD47	DRAM1_MA_12
MAAB13	BA51	DRAM1_MA_13
MAAB14	BH49	DRAM1_MA_14
MAAB15	BH50	DRAM1_MA_15

[9] -SRASB ← -SRASB AV45C
[9] -SCASB ← -SCASB AV44C
[9] -SWEB ← -SWEB BB51C

[9] SBAB0 ← SBAB0 AY47
[9] SBAB1 ← SBAB1 AY44
[9] SBAB2 ← SBAB2 BF52

[9] -CSB0 ← -CSB0 AT44C
[9] -CSB2 ← -CSB2 AT45C

[9] CKEB0 ← CKEB0 BG47
[9] CKEB2 ← CKEB2 X BE46
[9] CKEB2 ← CKEB2 BD44
[9] CKEB2 ← CKEB2 X BF48

[9] MODT_B0 ← MODT_B0 AP41
[9] MODT_B2 ← MODT_B2 AT42

[9] DCLKB0 ← DCLKB0 AV50
[9] -DCLKB0 ← -DCLKB0 AV48

[9] DCLKB2 ← DCLKB2 AT50
[9] -DCLKB2 ← -DCLKB2 AT48

[9] M_DMB0 ← M_DMB0 BD38
[9] M_DMB1 ← M_DMB1 BH38
[9] M_DMB2 ← M_DMB2 BC36
[9] M_DMB3 ← M_DMB3 BH42
[9] M_DMB4 ← M_DMB4 AT51
[9] M_DMB5 ← M_DMB5 AM42
[9] M_DMB6 ← M_DMB6 AK50
[9] M_DMB7 ← M_DMB7 AK52

[9] -DDR3B_RST ← -DDR3B_RST AT41C

DRAM1_MA_0	MAAB0	AY45
DRAM1_MA_1	MAAB1	BB47
DRAM1_MA_2	MAAB2	AW41
DRAM1_MA_3	MAAB3	BB44
DRAM1_MA_4	MAAB4	BB50
DRAM1_MA_5	MAAB5	BC53
DRAM1_MA_6	MAAB6	BB49
DRAM1_MA_7	MAAB7	BF50
DRAM1_MA_8	MAAB8	BC52
DRAM1_MA_9	MAAB9	BE52
DRAM1_MA_10	MAAB10	AY48
DRAM1_MA_11	MAAB11	BE51
DRAM1_MA_12	MAAB12	BD47
DRAM1_MA_13	MAAB13	BA51
DRAM1_MA_14	MAAB14	BH49
DRAM1_MA_15	MAAB15	BH50

DRAM1_RAS#
DRAM1_CAS#
DRAM1_WE#

DRAM1_BS_0
DRAM1_BS_1
DRAM1_BS_2

DRAM1_CS_0#
DRAM1_CS_2#

DRAM1_CKE_0
RSVD_BE46
DRAM1_CKE_2
RSVD_BF48

DRAM1_ODT_0
DRAM1_ODT_2

DRAM1_CKP_0
DRAM1_CKN_0

DRAM1_CKP_2
DRAM1_CKN_2

DRAM1_DM_0	MAAB0	AY45
DRAM1_DM_1	MAAB1	BB47
DRAM1_DM_2	MAAB2	AW41
DRAM1_DM_3	MAAB3	BB44
DRAM1_DM_4	MAAB4	BB50
DRAM1_DM_5	MAAB5	BC53
DRAM1_DM_6	MAAB6	BB49
DRAM1_DM_7	MAAB7	BF50

DRAM1_DRAMRST#

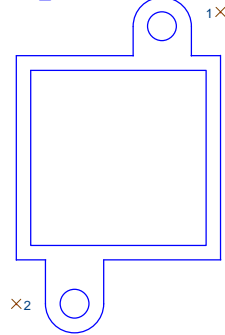
DRAM1_DQ_0	BG38	MDB0
DRAM1_DQ_1	BC40	MDB1
DRAM1_DQ_2	BA42	MDB2
DRAM1_DQ_3	BD42	MDB3
DRAM1_DQ_4	BC38	MDB4
DRAM1_DQ_5	BD36	MDB5
DRAM1_DQ_6	BF42	MDB6
DRAM1_DQ_7	BC44	MDB7
DRAM1_DQ_8	BH32	MDB8
DRAM1_DQ_9	BG32	MDB9
DRAM1_DQ_10	BG36	MDB10
DRAM1_DQ_11	BJ37	MDB11
DRAM1_DQ_12	BG33	MDB12
DRAM1_DQ_13	BJ33	MDB13
DRAM1_DQ_14	BG37	MDB14
DRAM1_DQ_15	BH38	MDB15
DRAM1_DQ_16	AJ36	MDB16
DRAM1_DQ_17	AT36	MDB17
DRAM1_DQ_18	AV40	MDB18
DRAM1_DQ_19	AT40	MDB19
DRAM1_DQ_20	BA36	MDB20
DRAM1_DQ_21	AV36	MDB21
DRAM1_DQ_22	AY42	MDB22
DRAM1_DQ_23	AY40	MDB23
DRAM1_DQ_24	BJ41	MDB24
DRAM1_DQ_25	BG41	MDB25
DRAM1_DQ_26	BJ45	MDB26
DRAM1_DQ_27	BH46	MDB27
DRAM1_DQ_28	BG40	MDB28
DRAM1_DQ_29	BH40	MDB29
DRAM1_DQ_30	BH48	MDB30
DRAM1_DQ_31	BH47	MDB31
DRAM1_DQ_32	AY52	MDB32
DRAM1_DQ_33	AY51	MDB33
DRAM1_DQ_34	AP52	MDB34
DRAM1_DQ_35	AP51	MDB35
DRAM1_DQ_36	AW51	MDB36
DRAM1_DQ_37	AW53	MDB37
DRAM1_DQ_38	AS51	MDB38
DRAM1_DQ_39	AS53	MDB39
DRAM1_DQ_40	AP47	MDB40
DRAM1_DQ_41	AP45	MDB41
DRAM1_DQ_42	AK40	MDB42
DRAM1_DQ_43	AM41	MDB43
DRAM1_DQ_44	AP48	MDB44
DRAM1_DQ_45	AP50	MDB45
DRAM1_DQ_46	AP50	MDB46
DRAM1_DQ_47	AM40	MDB47
DRAM1_DQ_48	AM45	MDB48
DRAM1_DQ_49	AM47	MDB49
DRAM1_DQ_50	AF48	MDB50
DRAM1_DQ_51	AF50	MDB51
DRAM1_DQ_52	AM48	MDB52
DRAM1_DQ_53	AM50	MDB53
DRAM1_DQ_54	AK44	MDB54
DRAM1_DQ_55	AM52	MDB55
DRAM1_DQ_56	AL51	MDB56
DRAM1_DQ_57	AG53	MDB57
DRAM1_DQ_58	AG51	MDB58
DRAM1_DQ_59	AL53	MDB59
DRAM1_DQ_60	AK51	MDB60
DRAM1_DQ_61	AF52	MDB61
DRAM1_DQ_62	AF52	MDB62
DRAM1_DQ_63	AF51	MDB63

DRAM1_DQSP_0	BF40	DQSB0
DRAM1_DQSP_1	BG35	DQSB1
DRAM1_DQSP_2	BA38	DQSB2
DRAM1_DQSP_3	BH44	DQSB3
DRAM1_DQSP_4	AJ53	DQSB4
DRAM1_DQSP_5	AP42	DQSB5
DRAM1_DQSP_6	AK47	DQSB6
DRAM1_DQSP_7	AH52	DQSB7

DRAM1_DQSN_0	-BD40	-DQSB0
DRAM1_DQSN_1	BH34	-DQSB1
DRAM1_DQSN_2	AY38	-DQSB2
DRAM1_DQSN_3	BG43	-DQSB3
DRAM1_DQSN_4	AY52	-DQSB4
DRAM1_DQSN_5	AP44	-DQSB5
DRAM1_DQSN_6	AK48	-DQSB6
DRAM1_DQSN_7	AJ51	-DQSB7

HEAT SINK

NB_HEATSINK

FANLESS HEATSINK
COST DOWNSOC_HS
CPU_HS[12SP2-SA0601-01R]

[9] MDA[0..63] ↔ MDA[0..63]

[9] MDB[0..63] ↔ MDB[0..63]

[9] DQSA[0..7] ↔ DQSA[0..7]

[9] -DQSA[0..7] ↔ -DQSA[0..7]

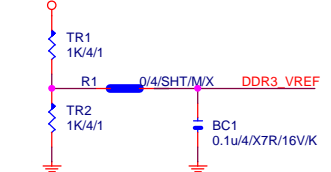
[9] MAAA[0..15] ↔ MAAA[0..15]

[9] MAAB[0..15] ↔ MAAB[0..15]

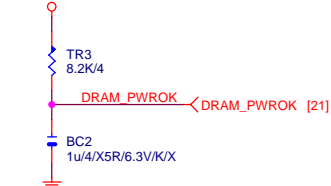
[9] DQSB[0..7] ↔ DQSB[0..7]

[9] -DQSB[0..7] ↔ -DQSB[0..7]

+VCCDDRXXS3_1P35



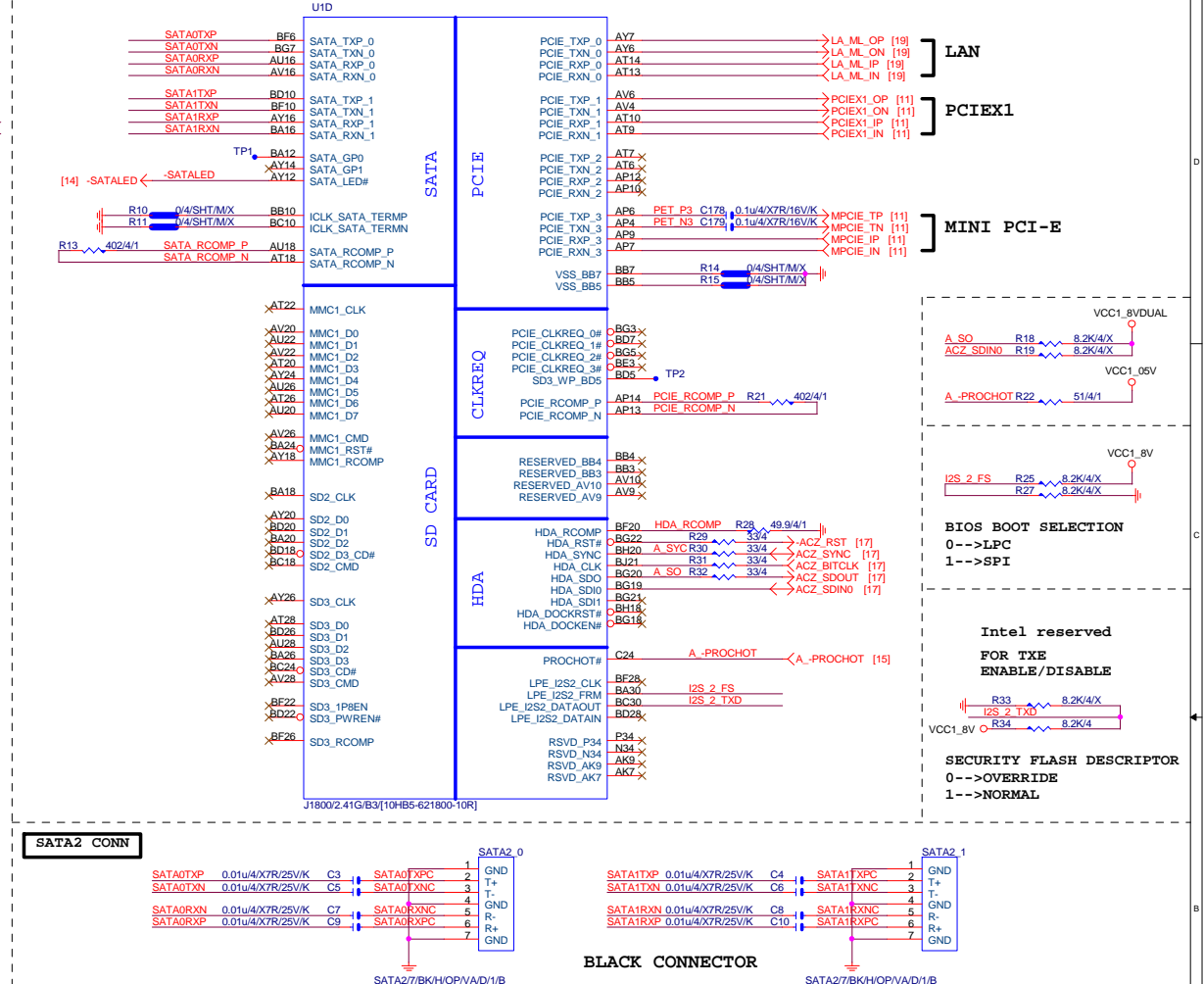
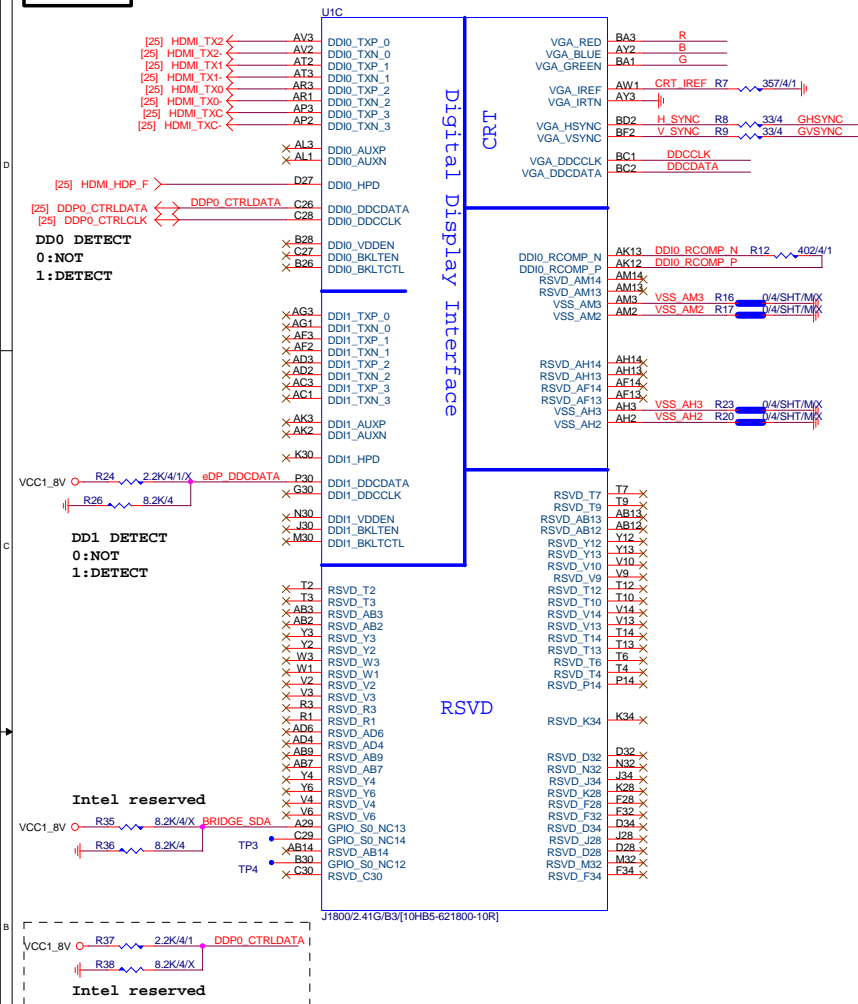
DDR1_35V



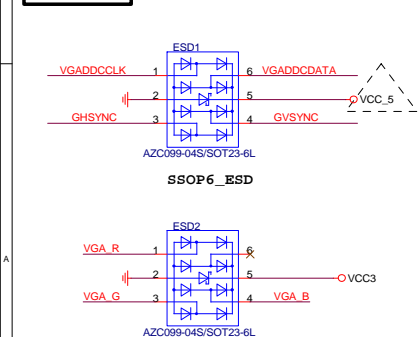
Gigabyte Technology

Title	VLV-M/D MEMROY		
Size B	Document Number	GA-J1800N-D2H	
Date:	Thursday, February 06, 2014	Sheet	4 of 26
Rev	1.0		

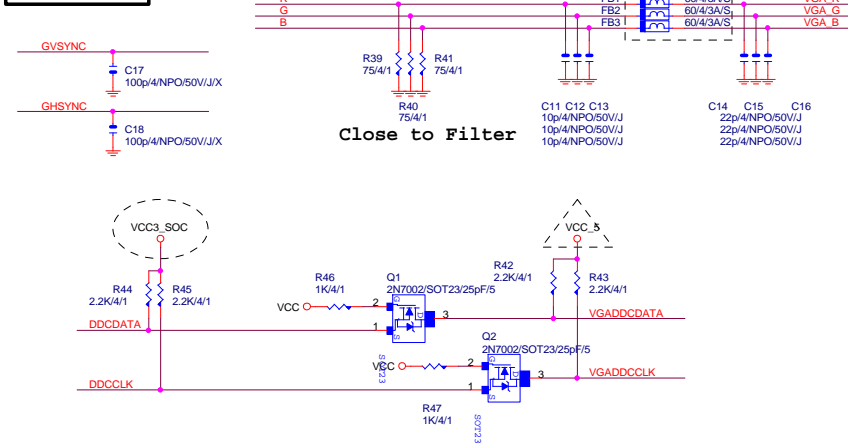
DISPLAY



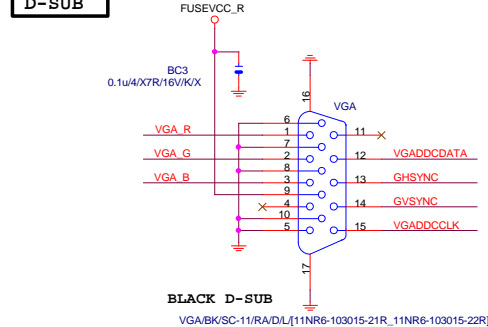
VGA ESD



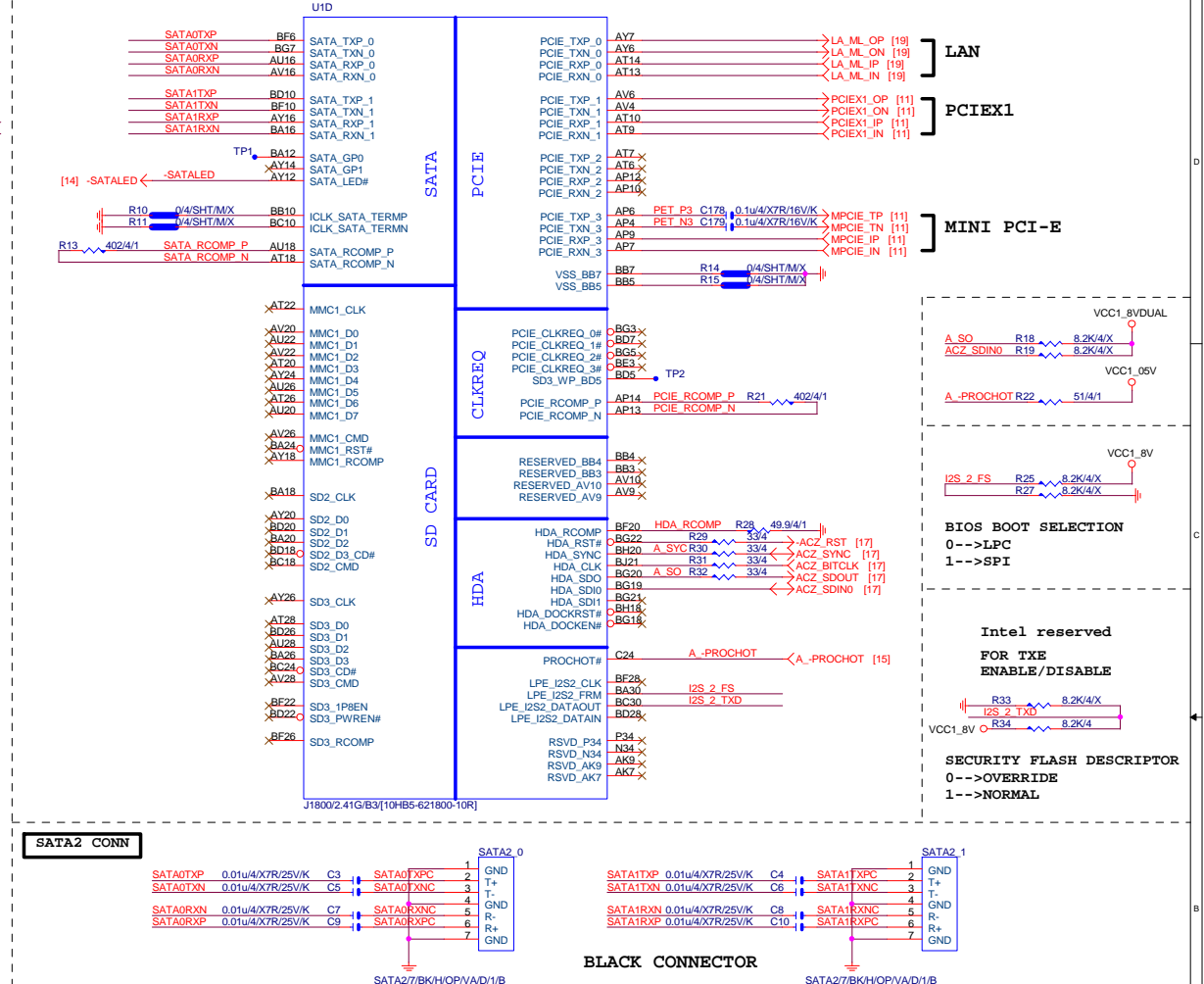
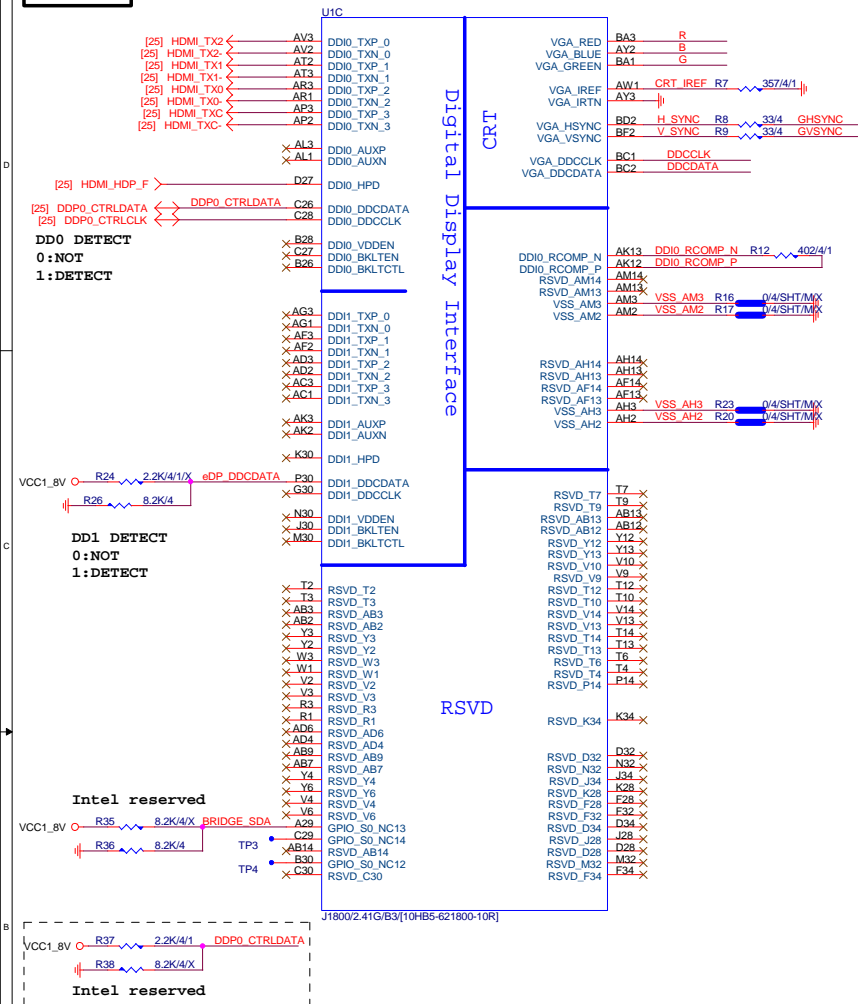
VGA SIGNAL



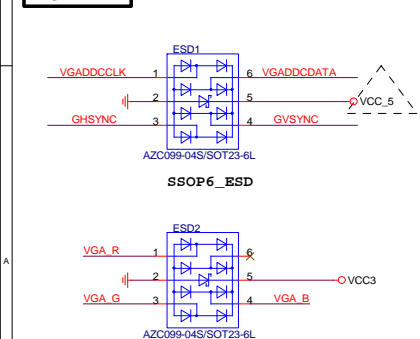
D. CUP



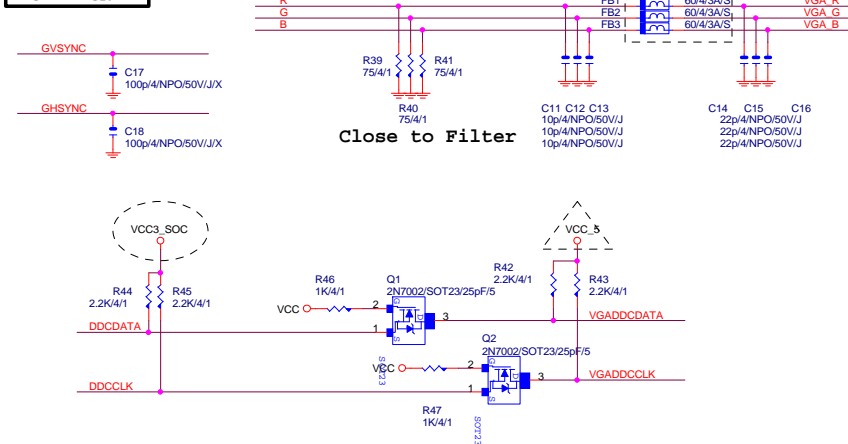
DISPLAY



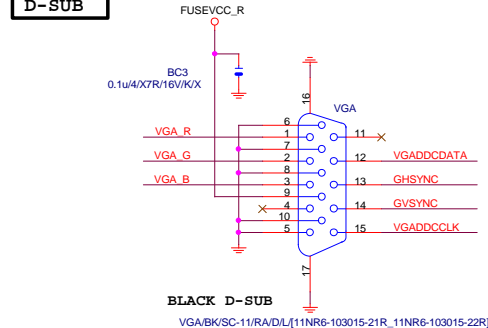
VGA ESD

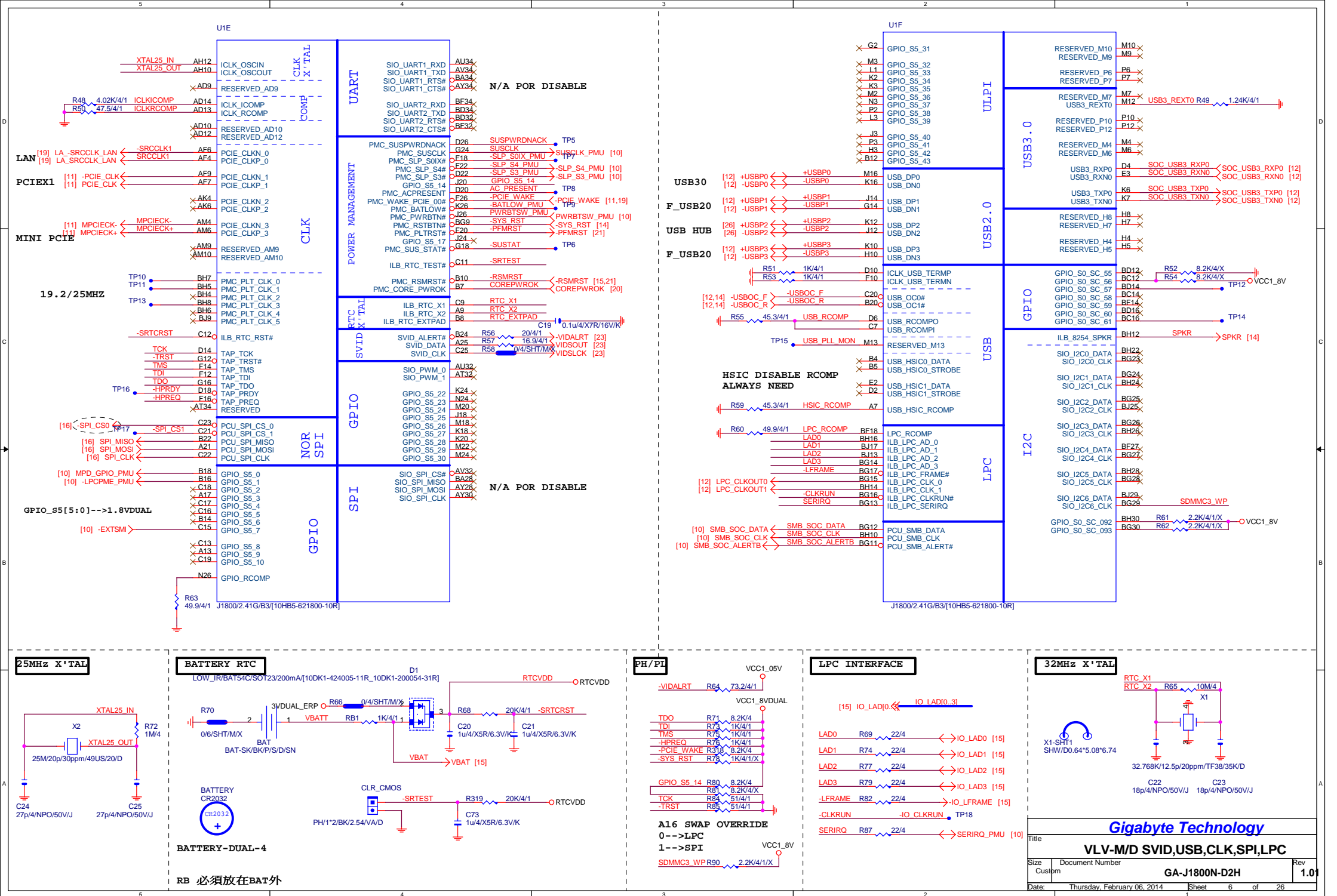


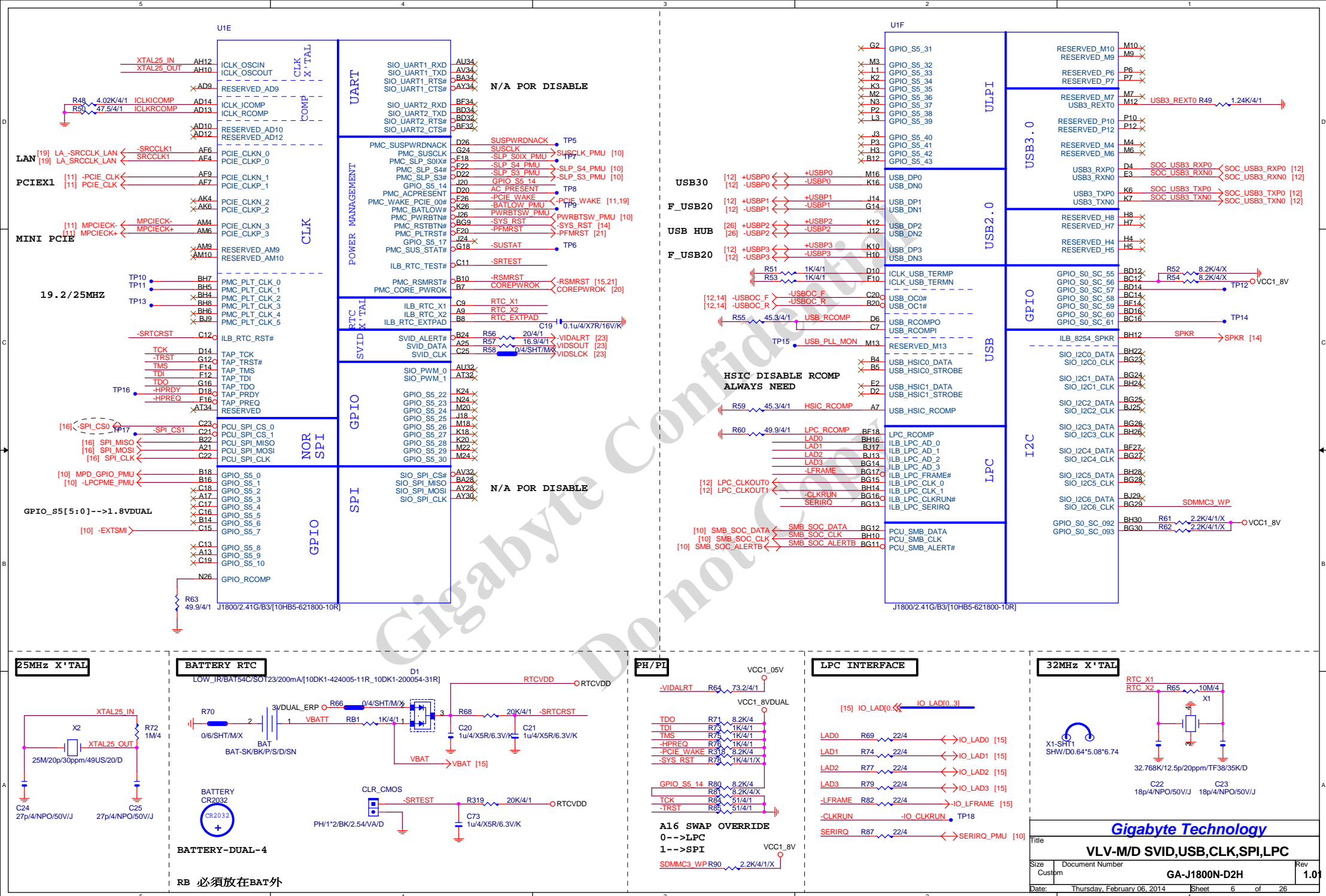
VGA SIGNAL

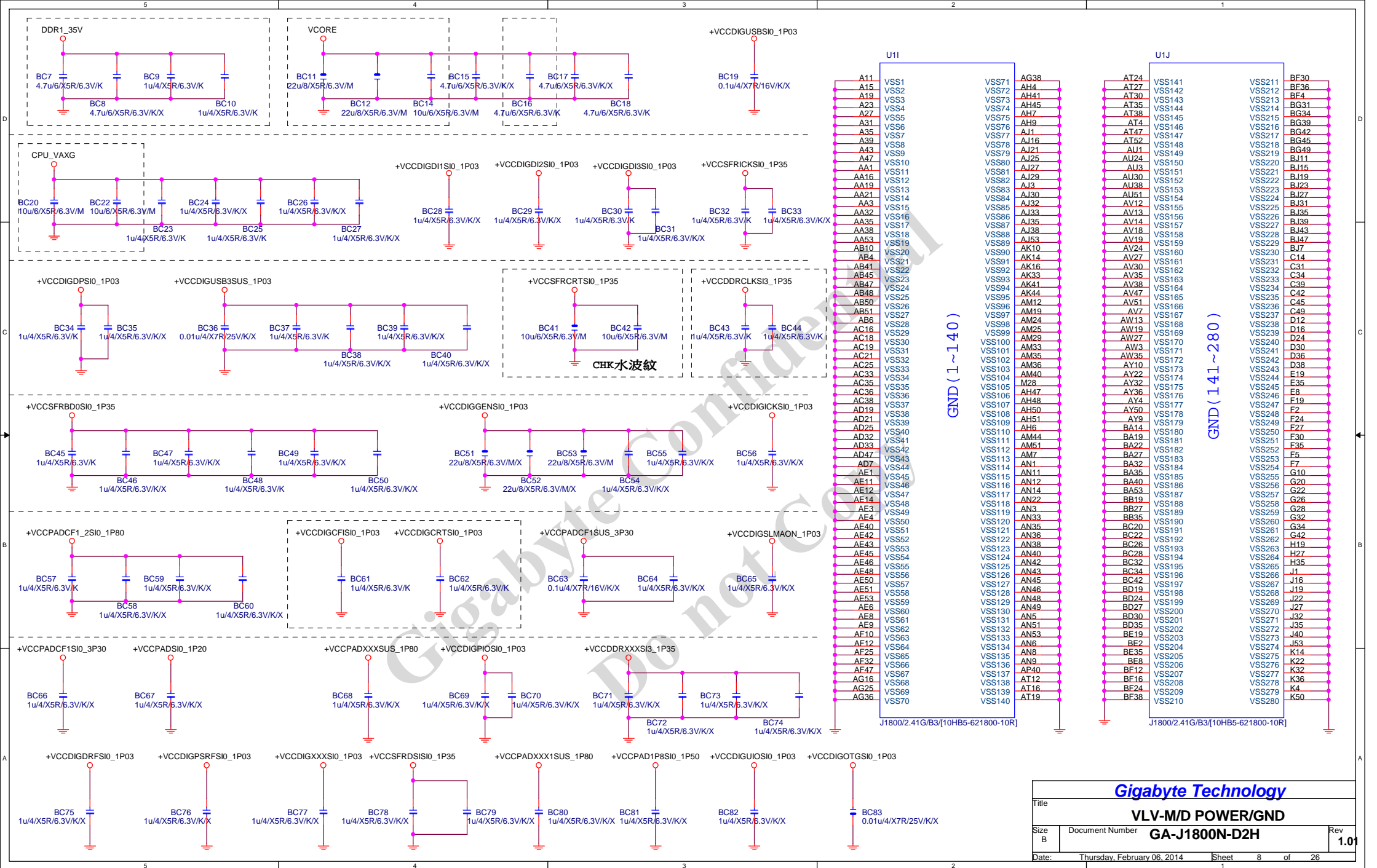


D. GUP



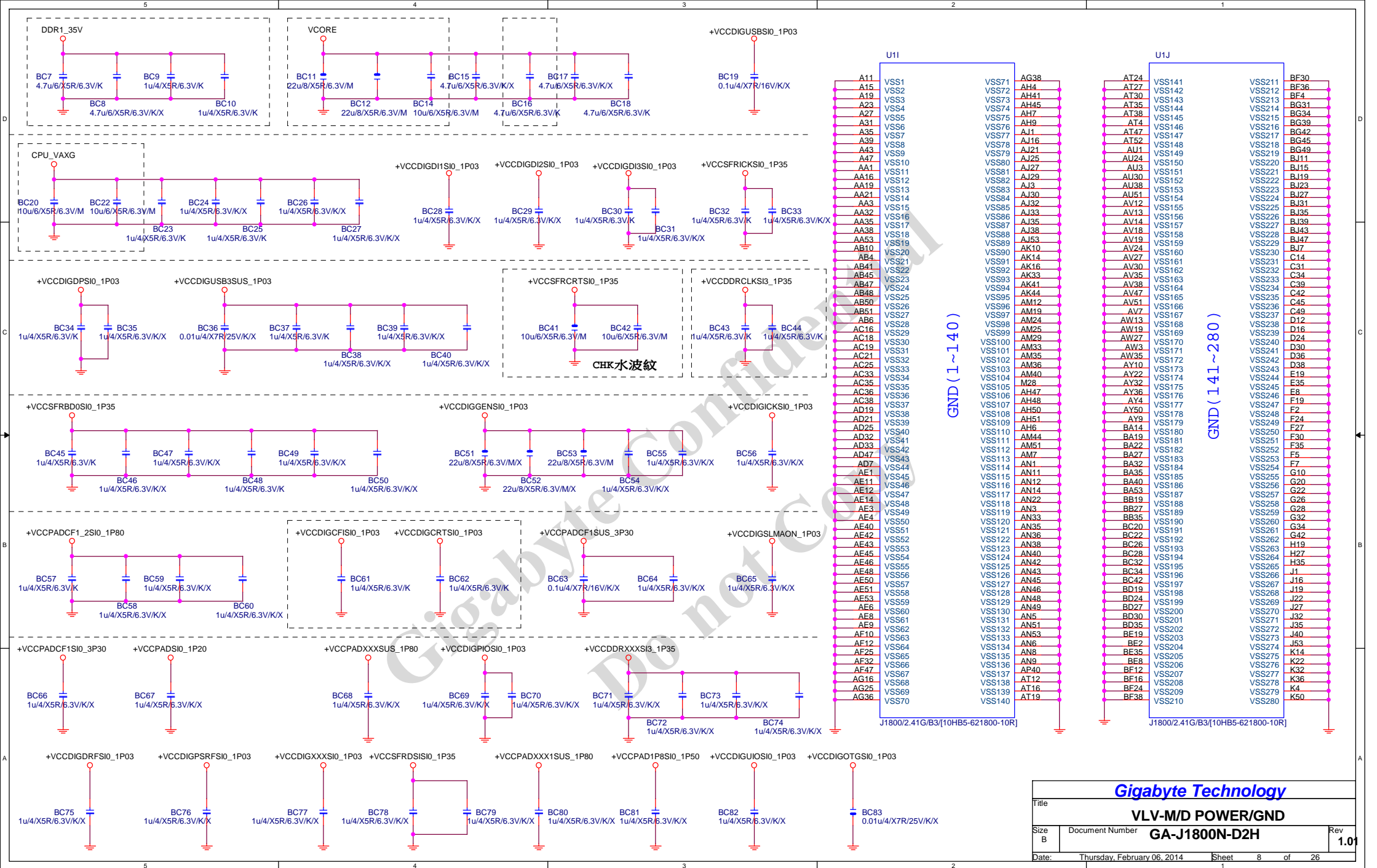






Gigabyte Technology

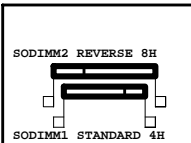
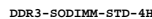
Title			VLV-M/D POWER/GND
Size B	Document Number	GA-J1800N-D2H	
Date:	Thursday, February 06, 2014	Sheet	8 of 26



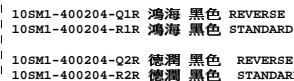
Gigabyte Technology

Title		VLV-M/D POWER/GND	
Size B	Document Number	GA-J1800N-D2H	
Date:	Thursday, February 06, 2014	Sheet	8 of 26

DUAL CHANNEL



DDR3-SODIMM-RVS-8H



DDR1_35V

560uF/FP/D/6.3V/69A/11mm11C02-695600-09R_11C02-685560-01R

TEC1

TBC5 10u/8X5R/6.3V/M

TBC6 10u/8X5R/6.3V/MX

DDR1_35V

TBC7 1u/4X5R/6.3V/K

TBC8 0.1u/4X7R/16V/K

TBC9 1u/4X5R/6.3V/K

DDR1_35V

TBC10 1u/4X5R/6.3V/K

TBC11 1u/4X5R/6.3V/K

TBC12 0.1u/4X7R/16V/K

DDR1_35V

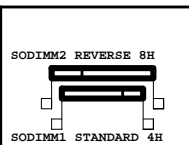
TBC13 0.1u/4X7R/16V/K

TBC14 0.1u/4X7R/16V/K

DUAL CHANNEL



DDR3-SODIMM-STD-4H



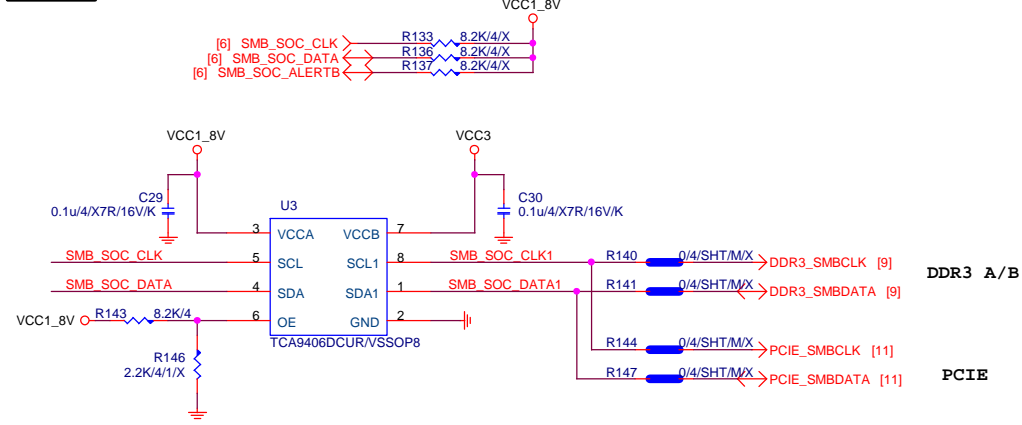
DDR3-SODIMM-RVS-8H

10SM1-400204-Q2R	德潤 黑色	REVERSE
10SM1-400204-R2R	德潤 黑色	STANDARD

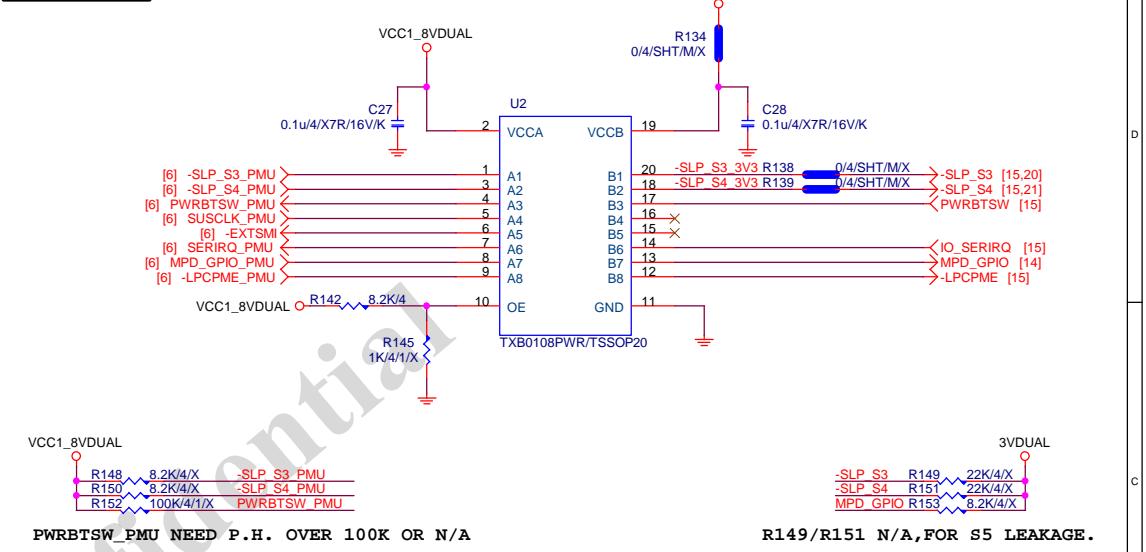
Gigabyte Technology

Gigabyte Technology			
Title DDR3L SO-DIMM 1,2			
Size C	Document Number GA-J1800N-D2H		Rev 1.0
Date:	Thursday, Februar 06, 2014	Sheet 9 of 26	

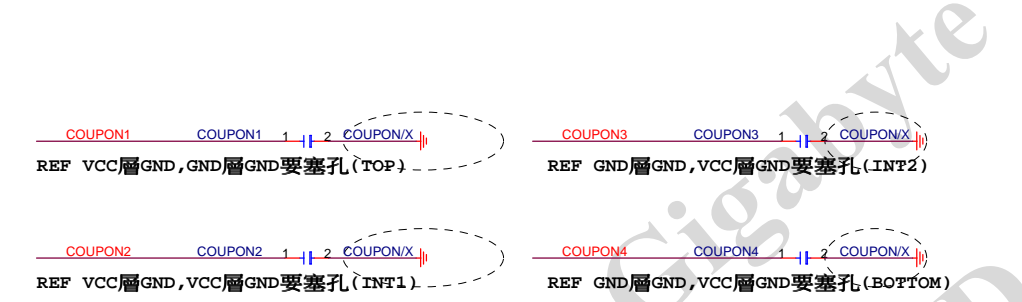
SMBUS



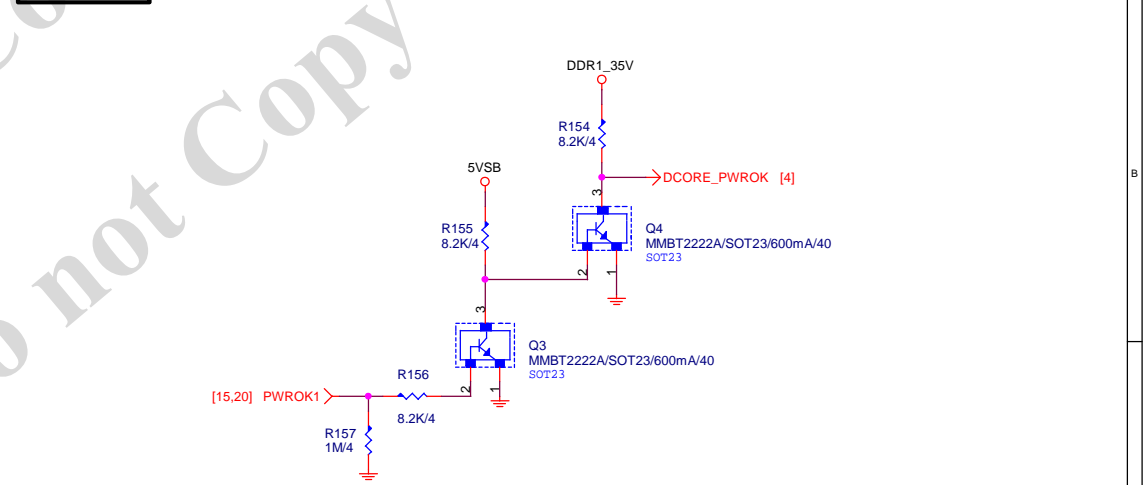
SIGNAL L/S



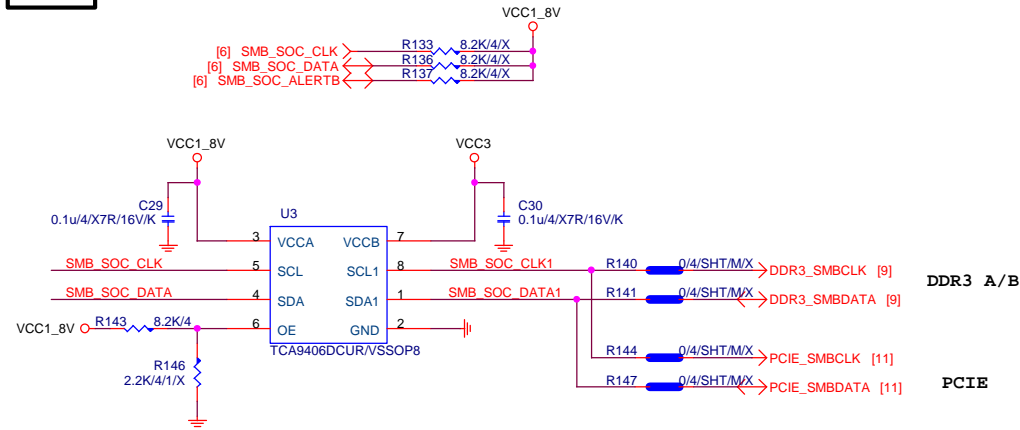
COUPON



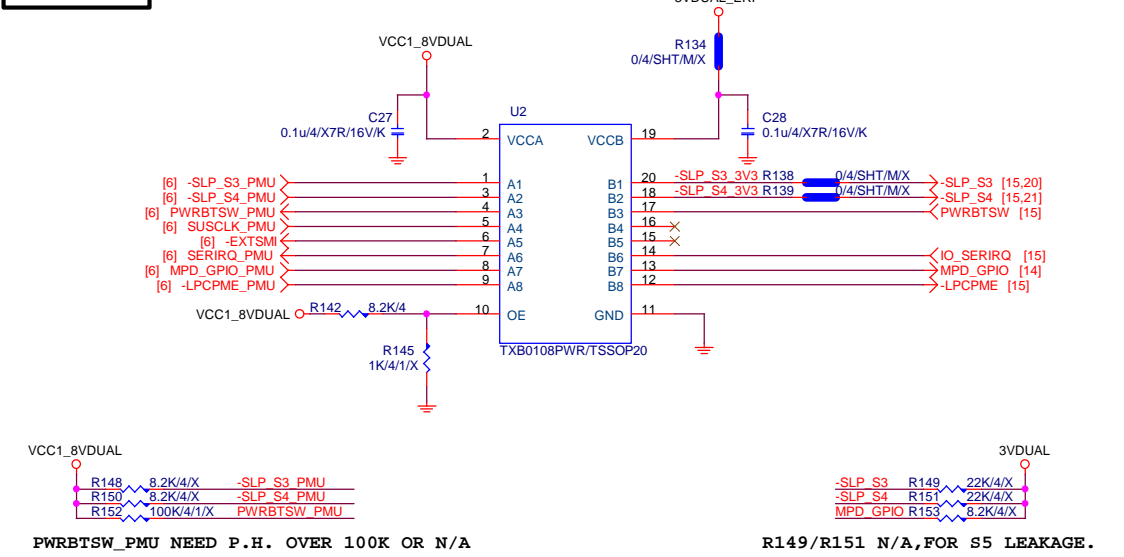
DDR PWROK



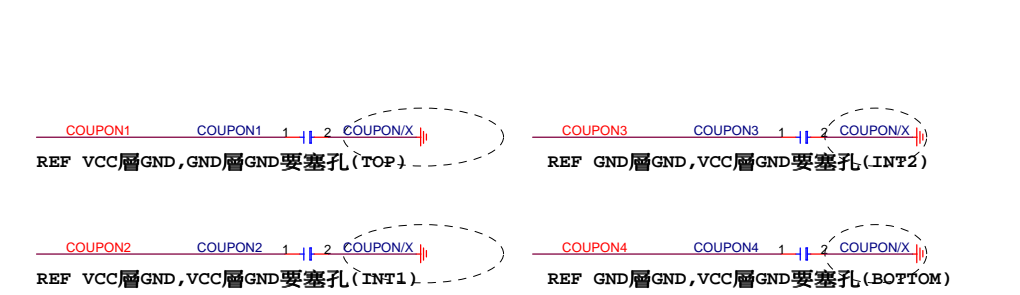
SMBUS



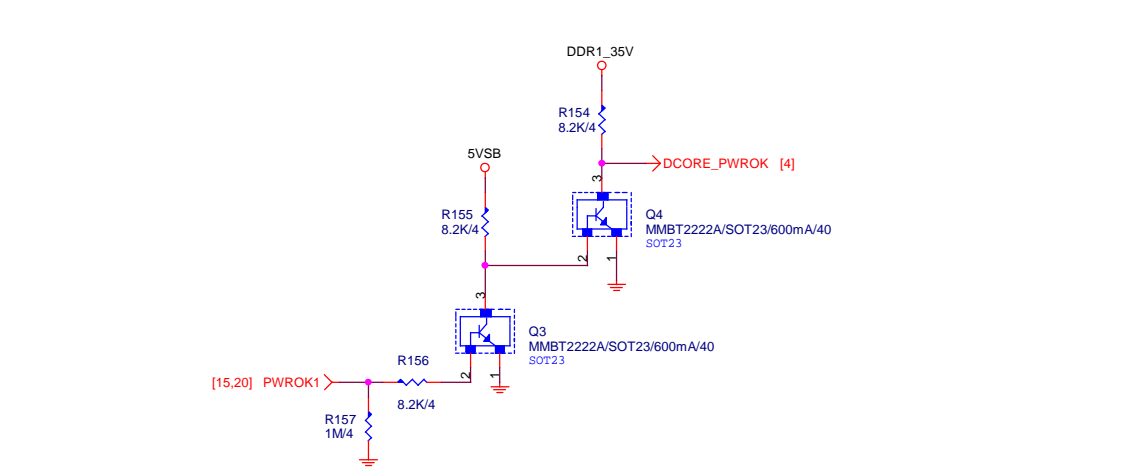
SIGNAL L/S



COUPON

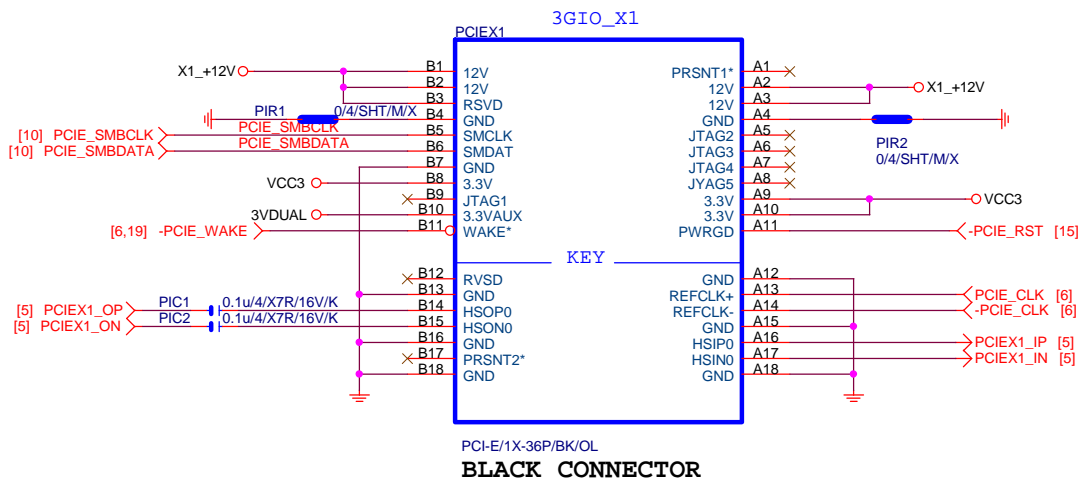


DDR PWROK

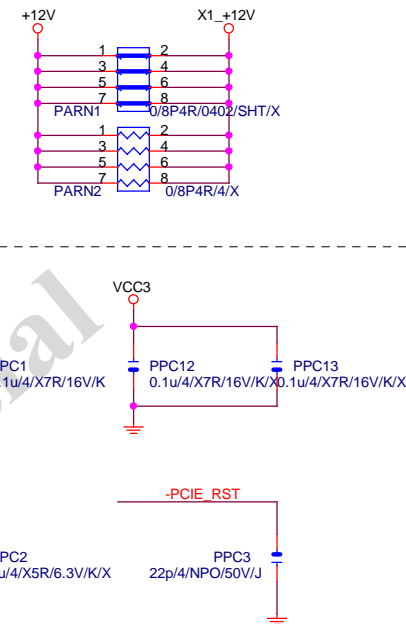


Gigabyte Technology			
Title			
SMBUS,SIGNAL L/S			
Size B	Document Number	GA-J1800N-D2H	Rev 1.0
Date:	Thursday, February 06, 2014	Sheet 10	of 26

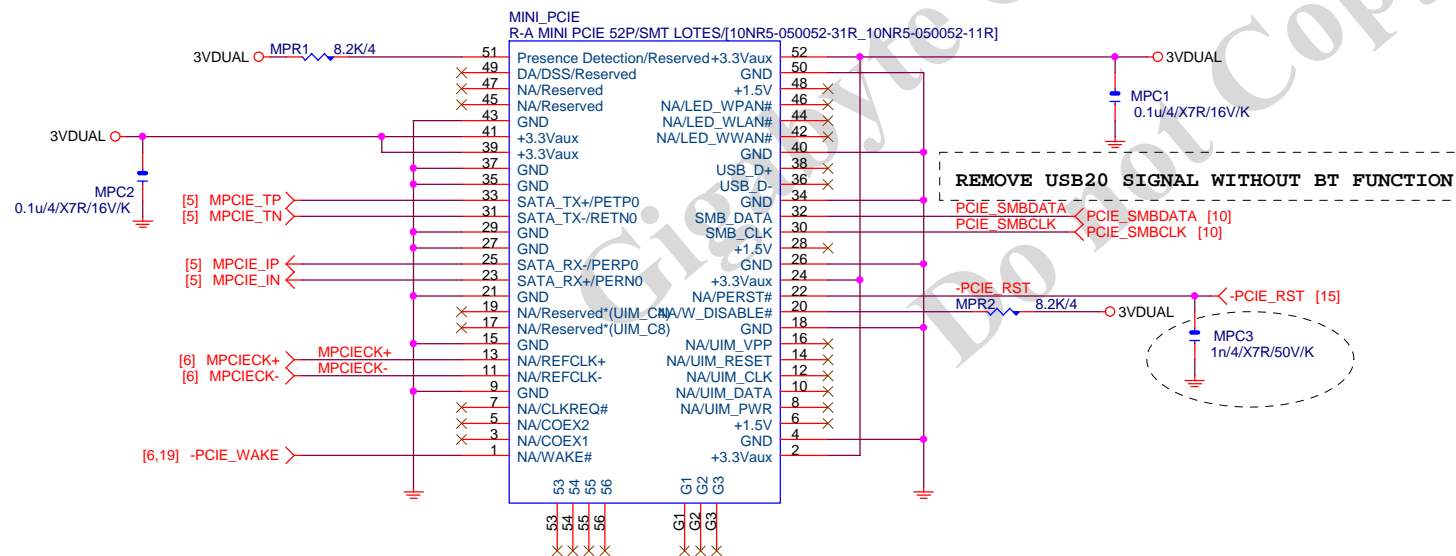
PCIEX1 SLOT



PCIEX16 PROTECT SHT



mini PCI-E



SMD HEADER:

HS_1
HEADER_5/[10KS2-040031-12R]

SCREW:

HS_1-SHT
SCREW/[12KS2-010204-31R]

AT THE SAME LOCATION

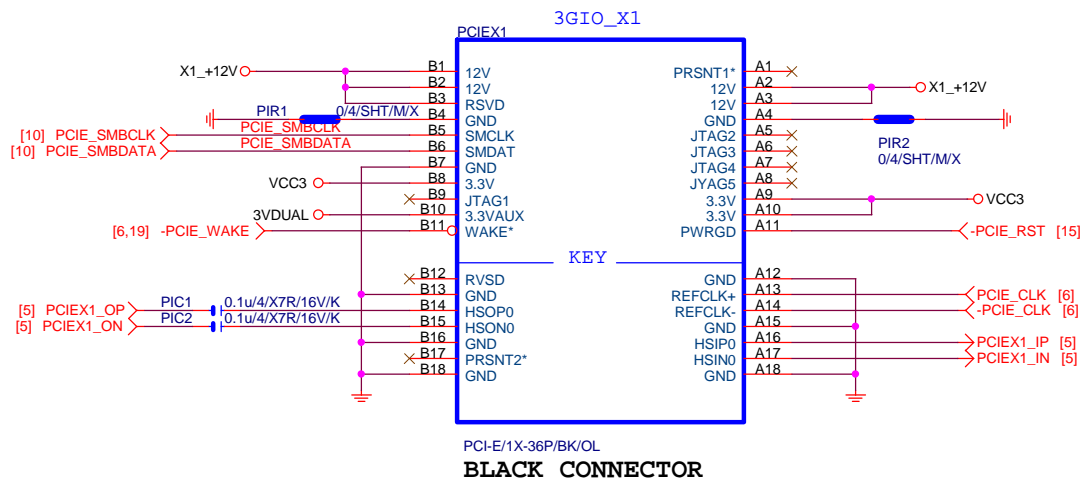
MINI_PCIE52P-HALF-A

BLACK CONNECTOR

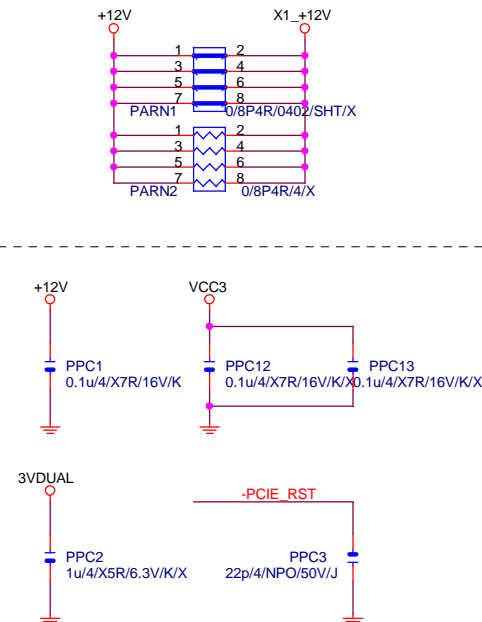
Gigabyte Technology

Title		
PCIE*1 SLOT/MINI PCIE		
Size	Document Number	Rev
Custom	GA-J1800N-D2H	1.01
Date:	Thursday, February 06, 2014	Sheet 11 of 26

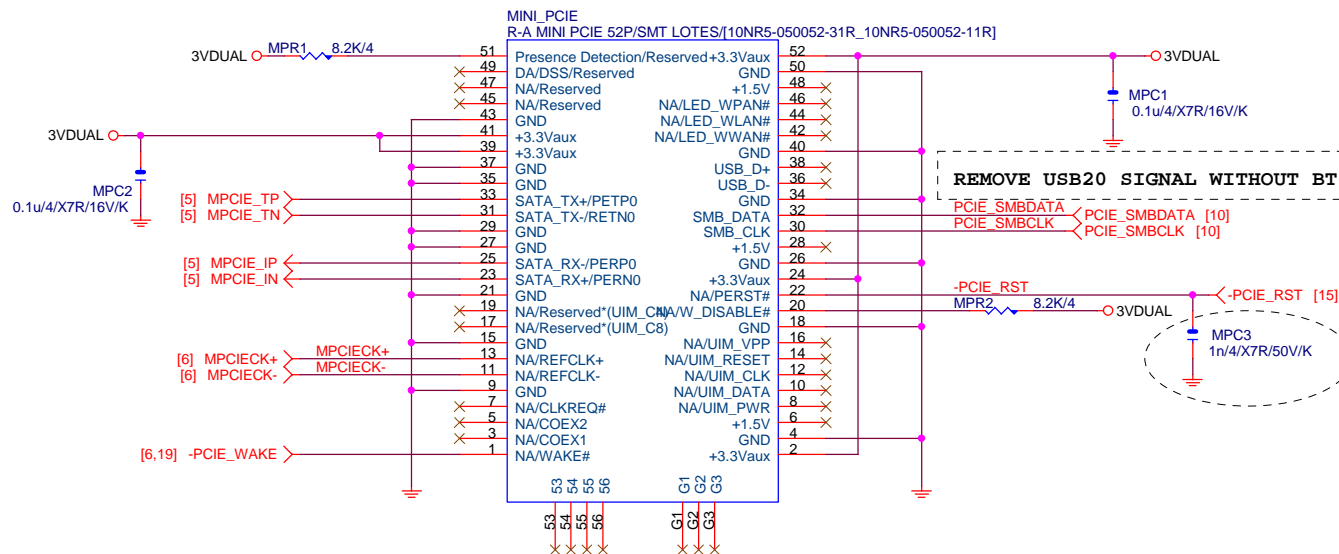
PCIEX1 SLOT



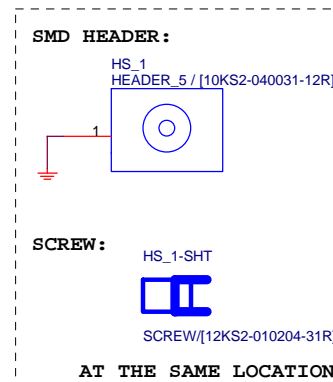
PCIEX16	PROTECT	SHT
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mini PCI-E

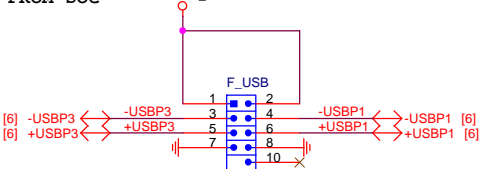


MINI_PCIE52P-HALF-A
BLACK CONNECTOR

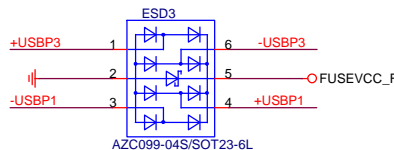


FRONT USB20

FROM SOC FUSEVCC_F



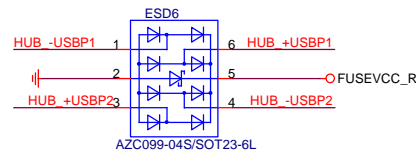
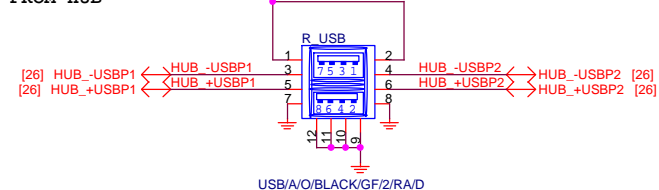
WHITE CONNECTOR



Close to connector

REAR USB20

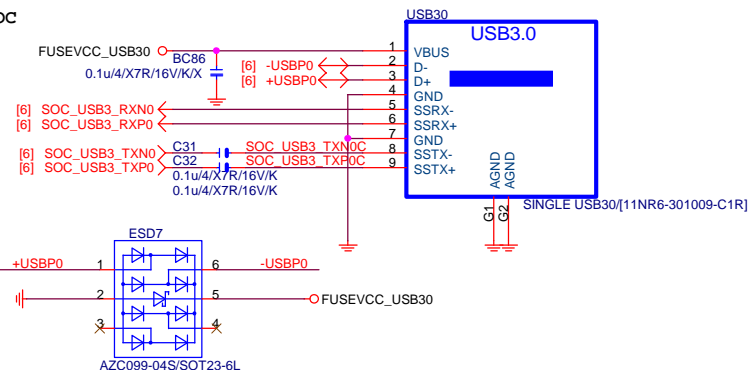
FROM HUB



Close to connector

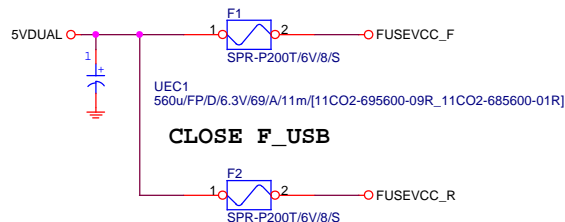
REAR USB30

FROM SOC

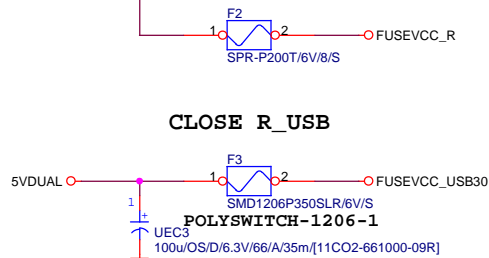


Close to connector

USB POWER

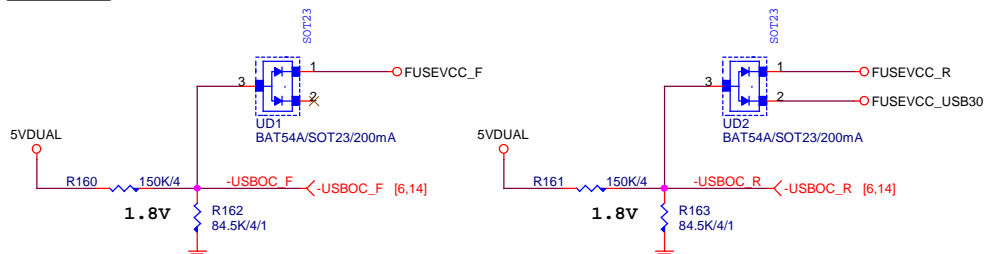


CLOSE F_USB

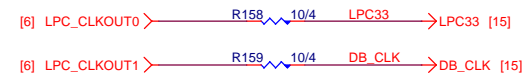
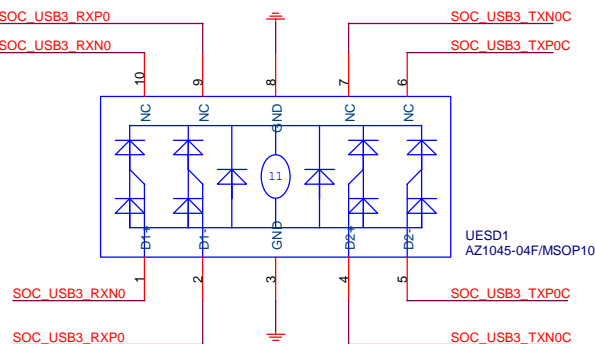


CLOSE R_USB

USB_OC

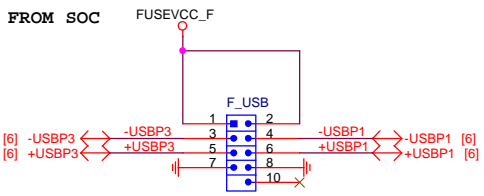


CLK BUFFER

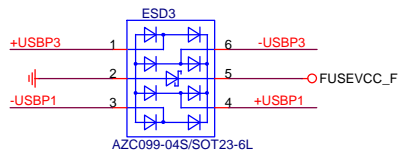


FRONT USB20

FROM SOC FU



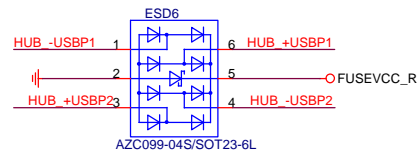
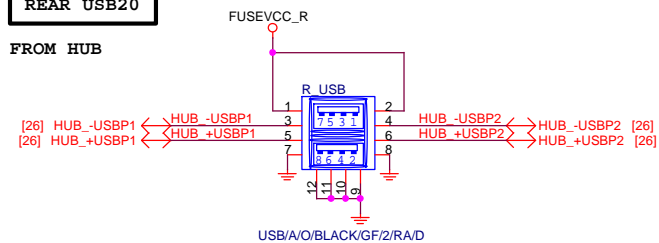
WHITE CONNECTOR



Close to connector

REAR USB20

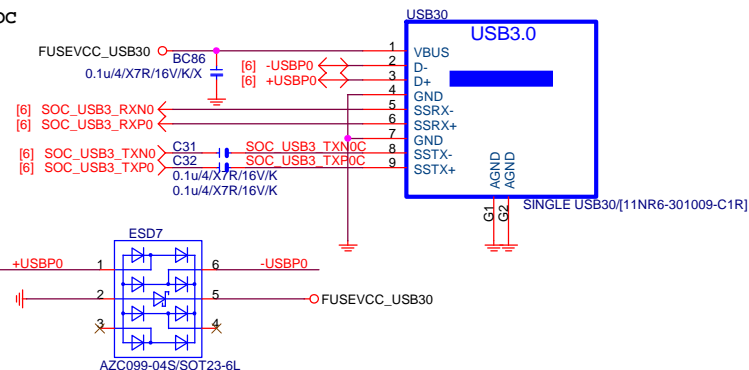
FROM HUB



Close to connector

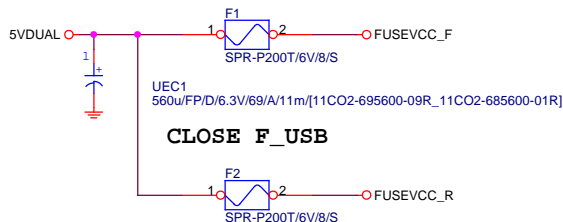
REAR USB30

FROM SOC

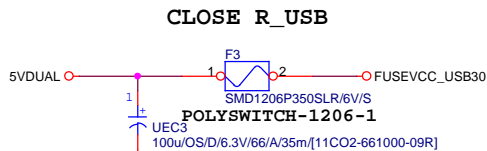


Close to connector

USB POWER

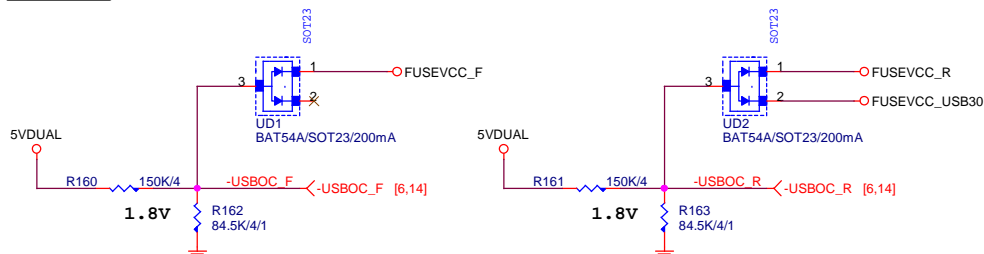


CLOSE F USB

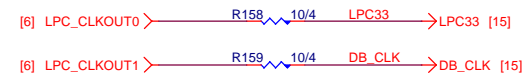
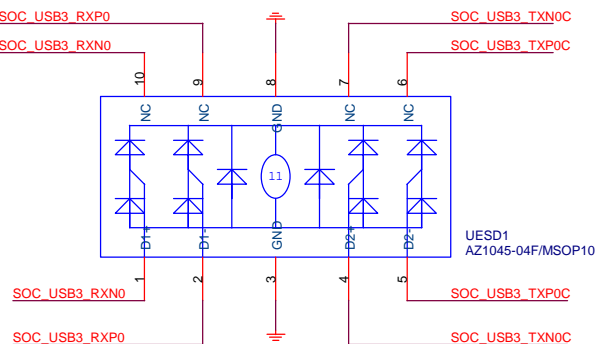


CLOSE R USB

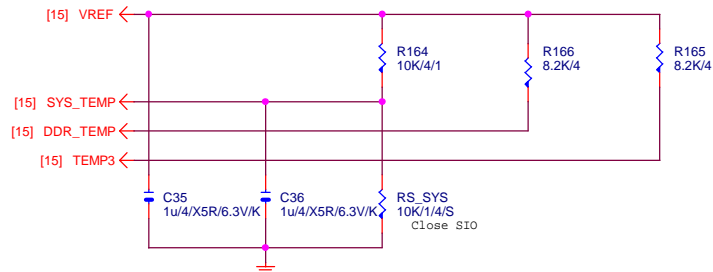
USB_OC



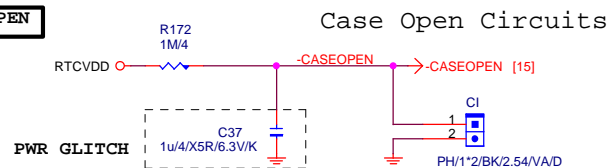
CLK BUFFER



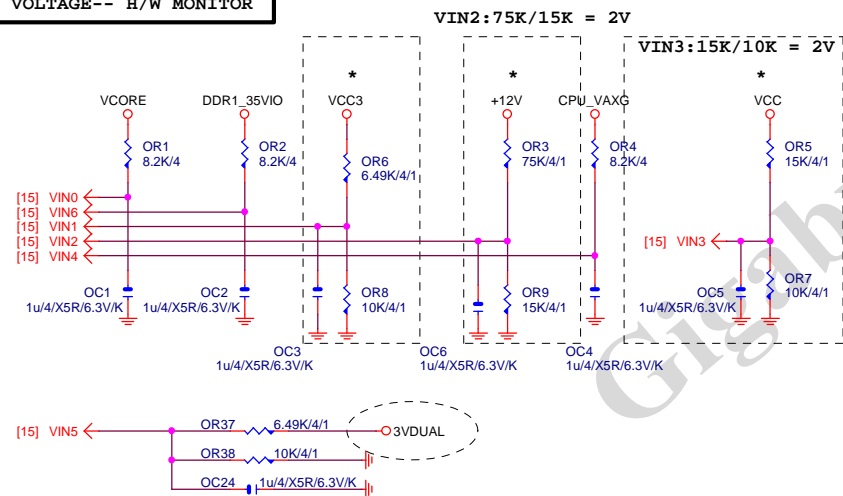
TEMP H/W MONITOR



CASE OPEN



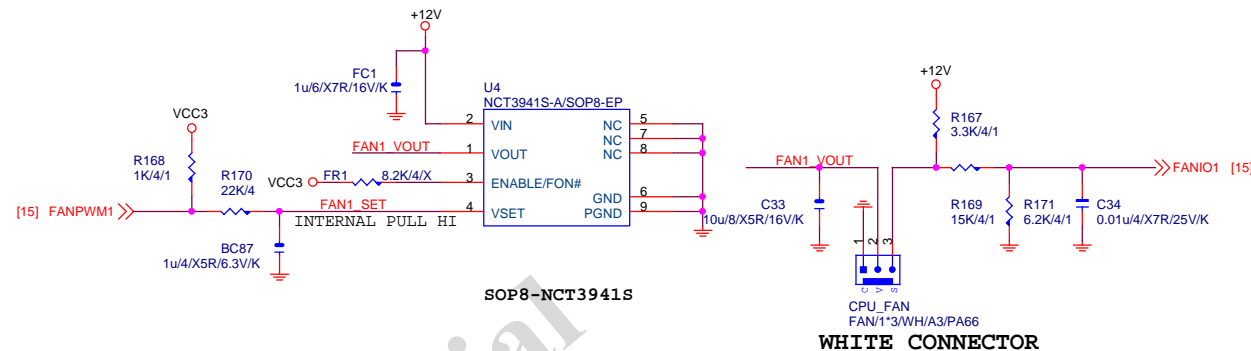
VOLTAGE-- H/W MONITOR



-PROHOT

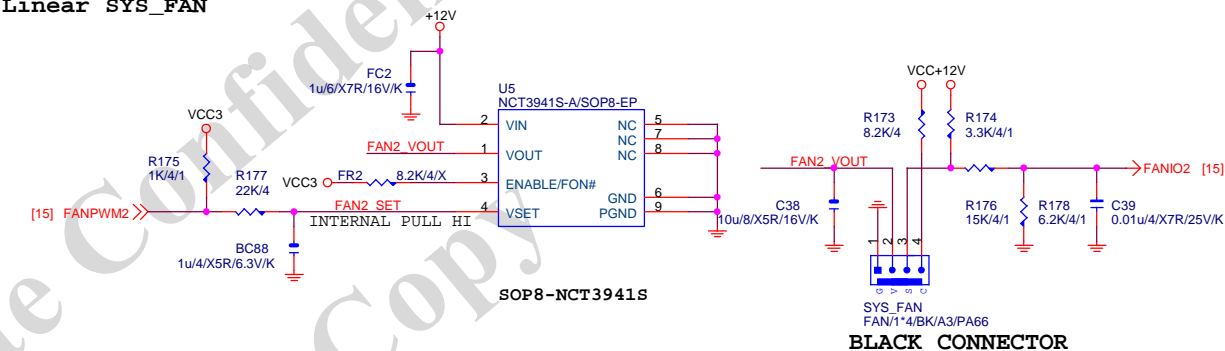
N/A

CPU SMART FAN

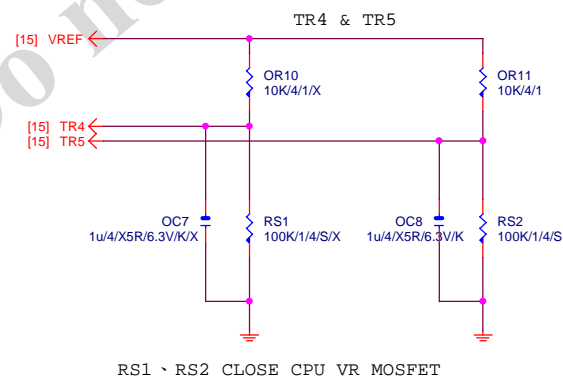


SYS SMART FAN

Linear SYS FAN

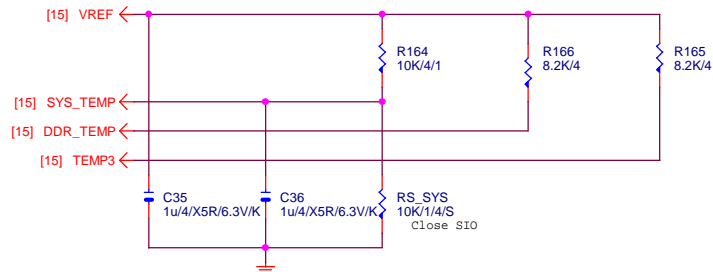


I/O	IT8620	THERMAL	SENSOR
-----	--------	---------	--------

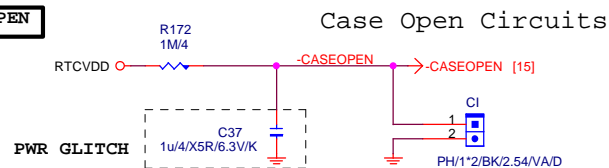


RS1、RS2 CLOSE CPU VR MOSFET

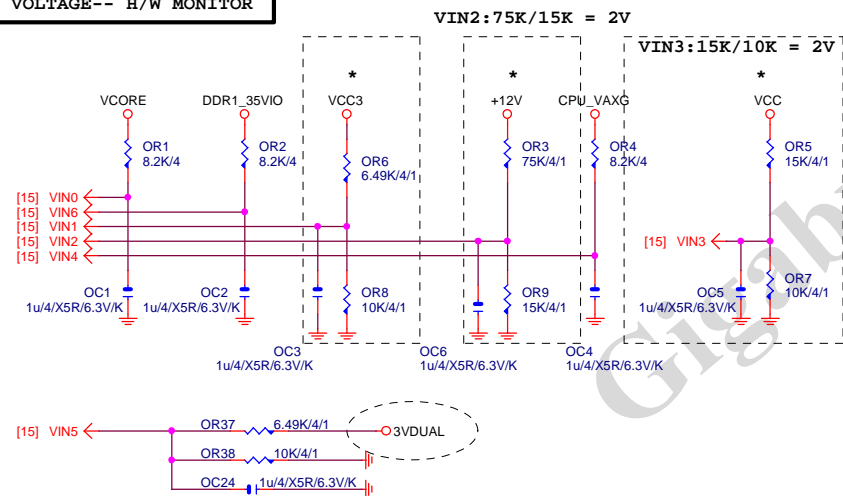
TEMP H/W MONITOR



CASE OPEN



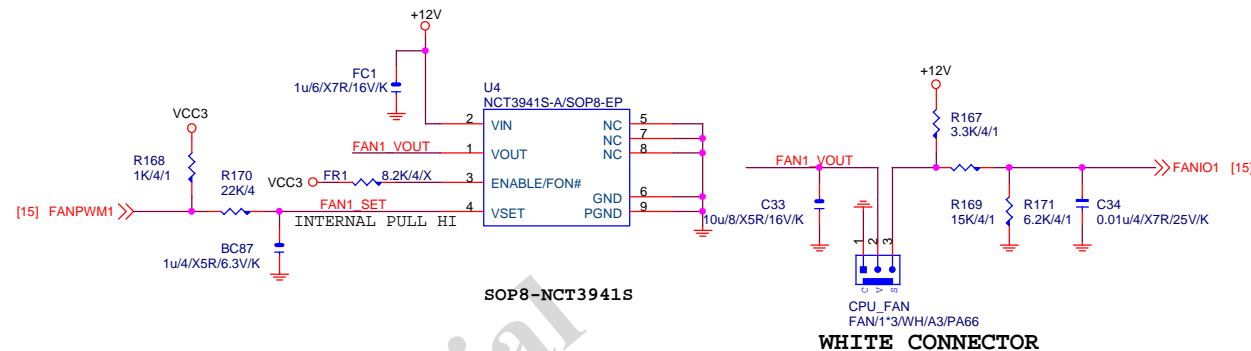
VOLTAGE-- H/W MONITOR



-PROHOT

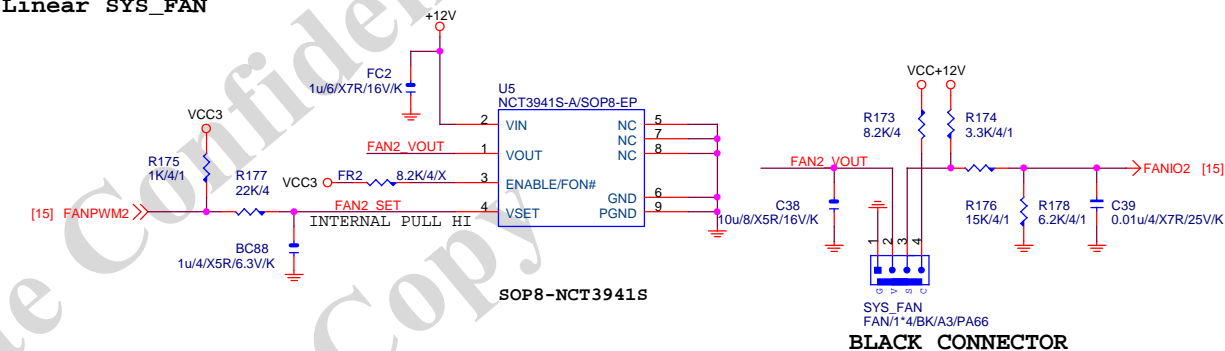
N/A

CPU SMART FAN

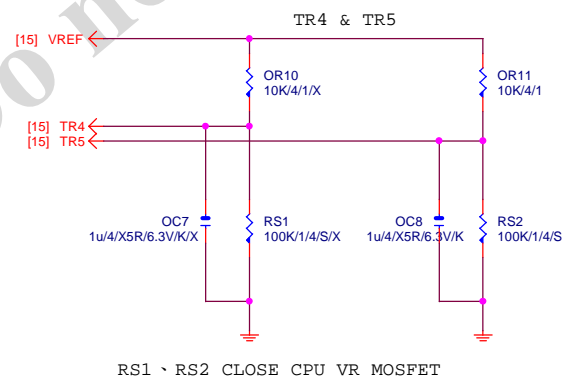


SYS SMART FAN

Linear SYS FAN

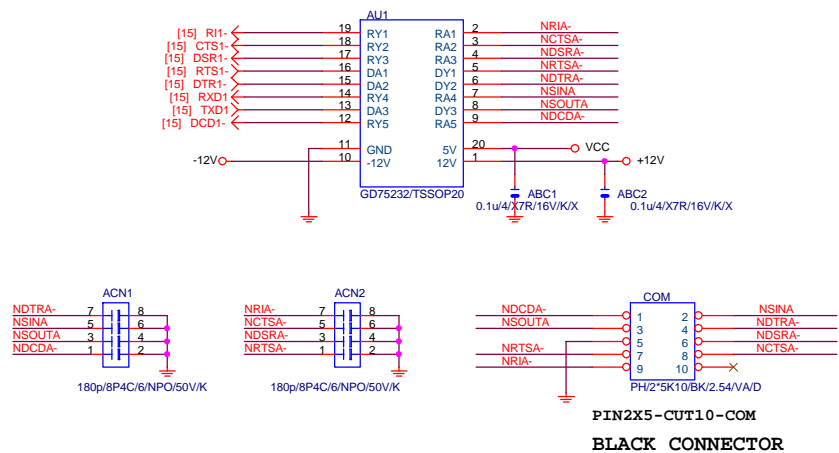


I/O	IT8620	THERMAL	SENSOR
-----	--------	---------	--------

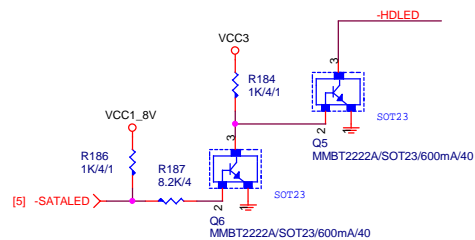


RS1、RS2 CLOSE CPU VR MOSFET

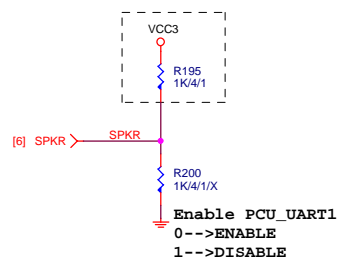
COM



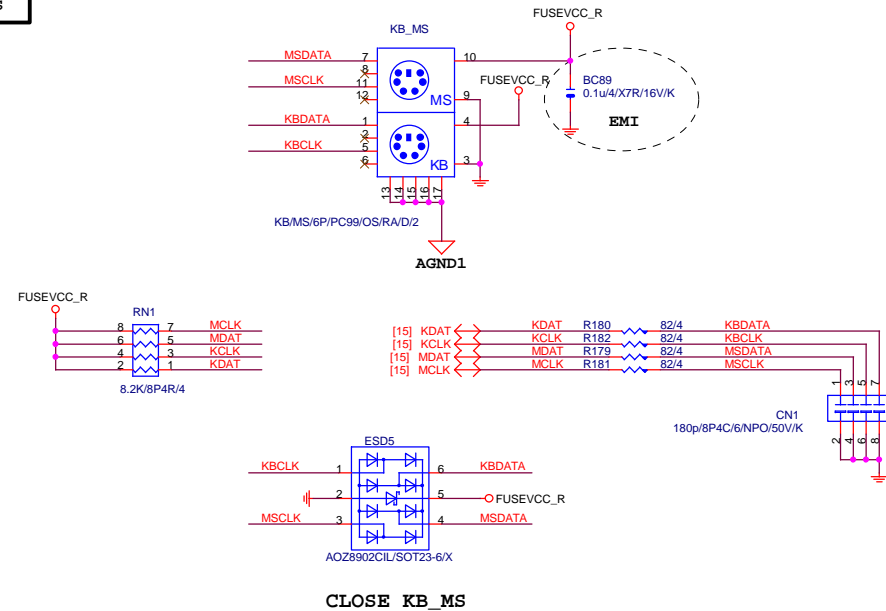
SATA LED



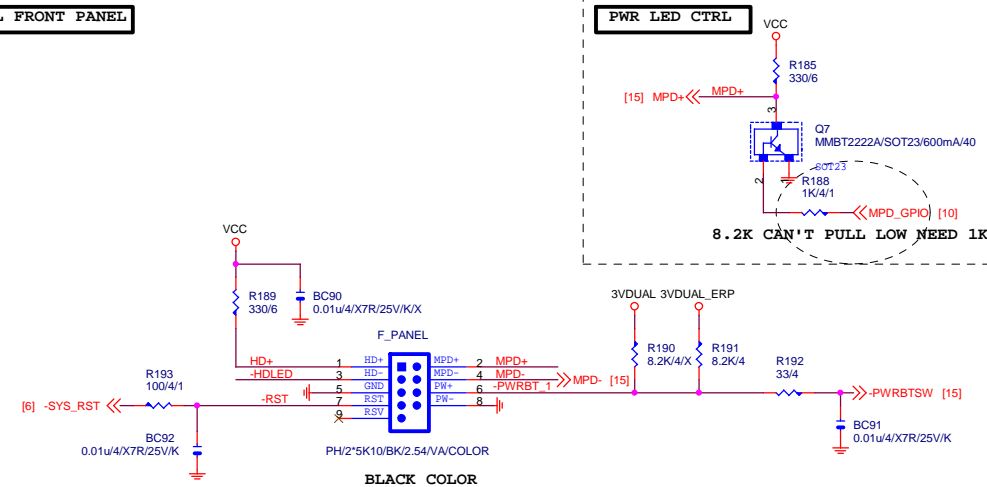
SPKR



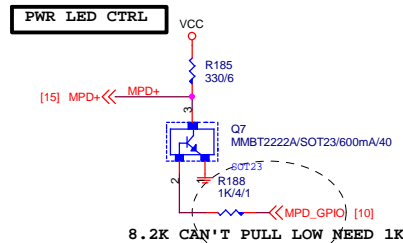
KB/MS



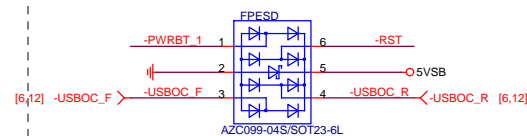
INTEL FRONT PANEL



PWR LED CTRL



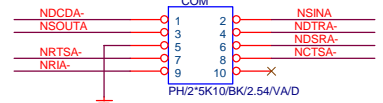
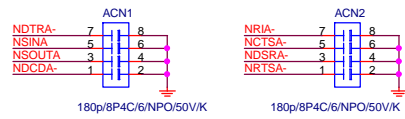
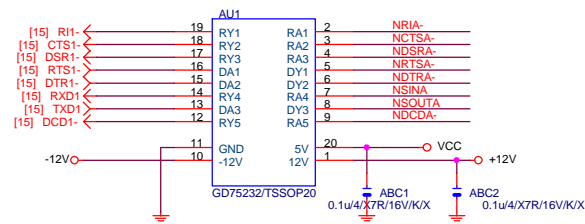
SYSTEM ESD



Gigabyte Technology

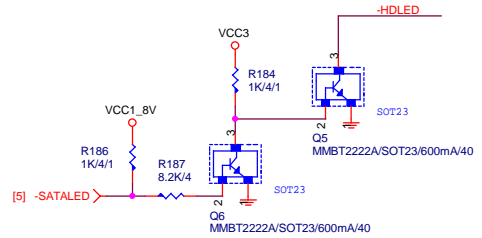
Title			
FP,F_USB,USB PWR,SPKR,SATA LED			
Size	Document Number	Rev	
Custom	GA-J1800N-D2H	1.01	
Date:	Thursday, February 06, 2014	Sheet	14 of 26

COM

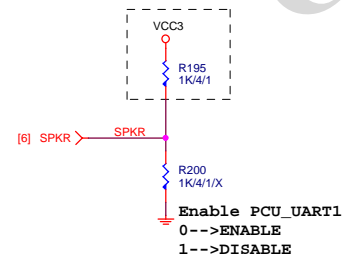


PIN2X5-CUT10-COM
BLACK CONNECTOR

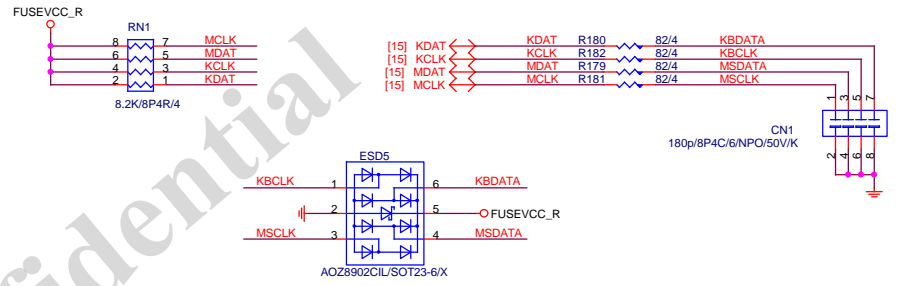
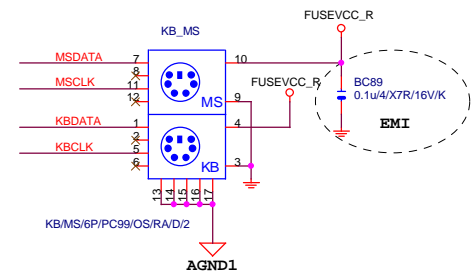
SATA LED



SPKR

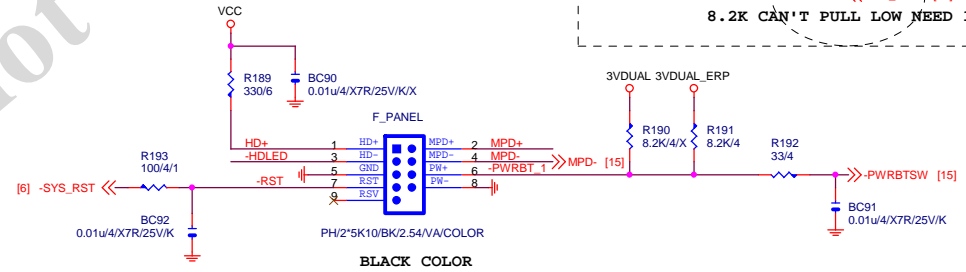


KB/MS



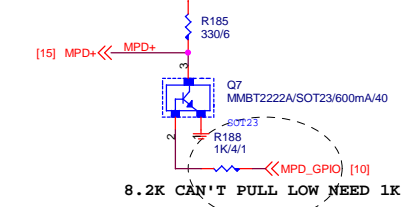
CLOSE KB_MS

INTEL FRONT PANEL



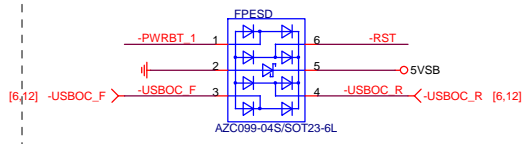
BLACK COLOR

PWR LED CTRL



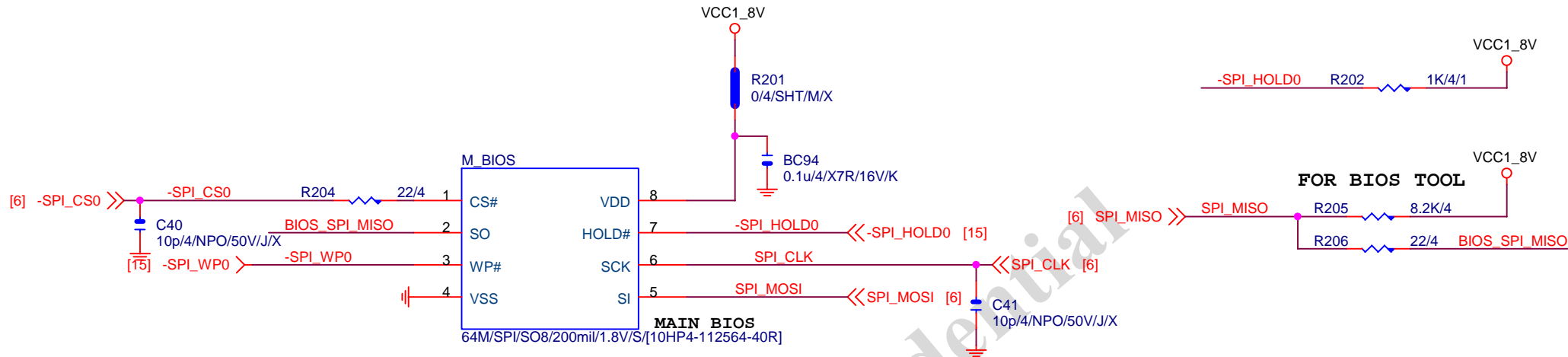
8.2K CAN'T PULL LOW NEED 1K

SYSTEM ESD



Gigabyte Technology			
Title	FP,F_USB,USB PWR,SPKR,SATA LED		
Size	Custom	Document Number	GA-J1800N-D2H
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Rev	1.01		

MAIN BIOS



SPI ROM(1.8V)

Gigabyte Technology

Title

SPI BIOS

Size
Custom

Document Number

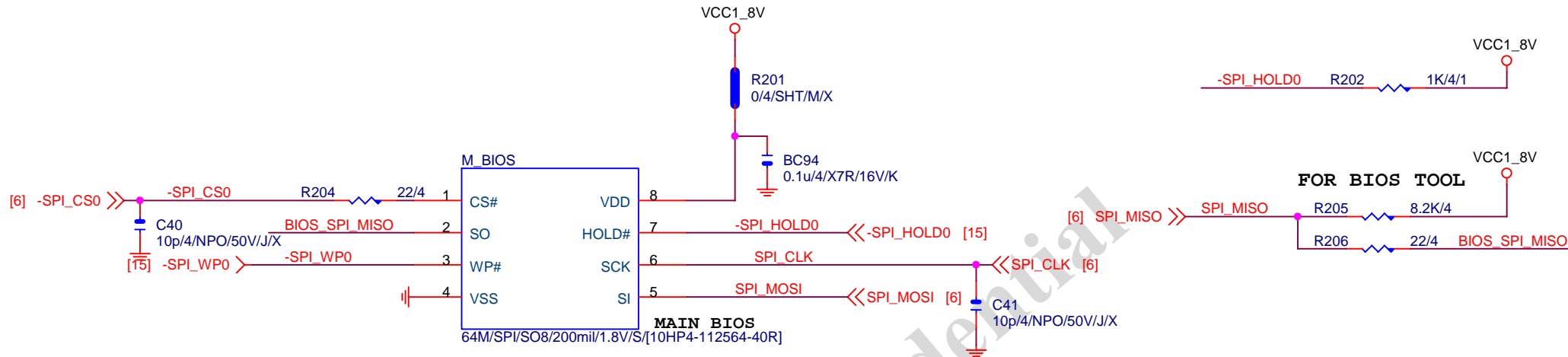
GA-J1800N-D2H

Rev
1.01

Date: Thursday, February 06, 2014

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MAIN BIOS



SPI ROM(1.8V)

Gigabyte Technology

Title

SPI BIOS

Size
Custom

Document Number

GA-J1800N-D2H

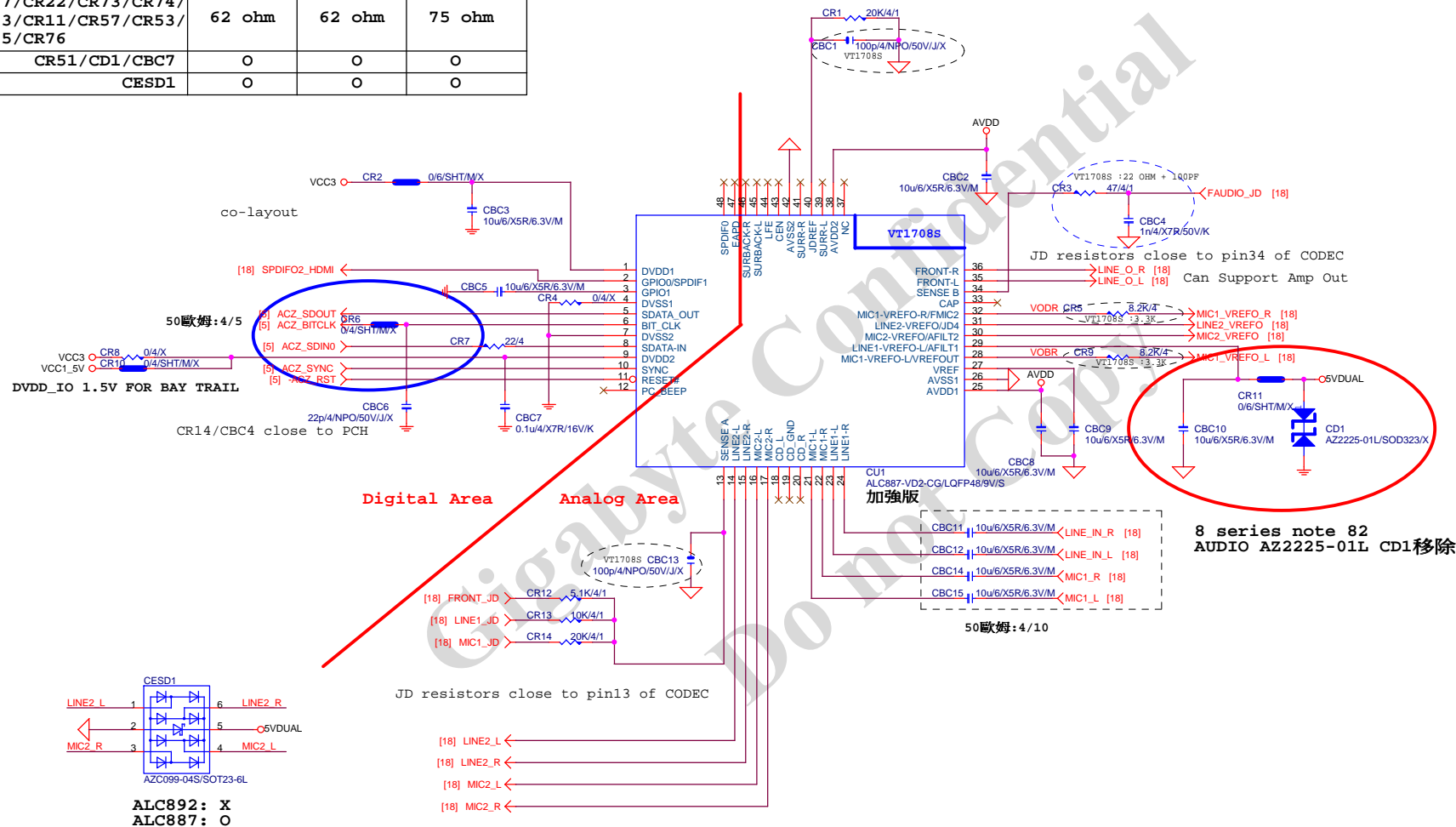
Rev
1.01

Date: Thursday, February 06, 2014

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AZALIA CODEC **ALC892/ALC887-VD2/VT1708-CE Colay**

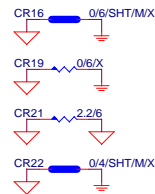
	ALC892	ALC887-VD2	VT1708S-CE
CR44/CBC26	47ohm+1nF	47ohm+1nF	22ohm+100P
CBC42/CBC43	X	X	100P/4
CR6/CR7/CR58/CR54/ CR67/CR68/CR69/CR70	22K/4	22K/4	10K/4/1
CR5/CR8/CR1/CR14/ CR17/CR22/CR73/CR74/ CR13/CR11/CR57/CR53/ CR75/CR76	62 ohm	62 ohm	75 ohm
CR51/CD1/CBC7	O	O	O
CESD1	O	O	O



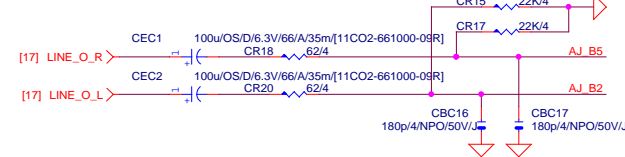
8 series note 82
AUDIO AZ2225-01L CD1移除

Gigabyte Technology

Title	HD AUDIO ALC887B-VD2/VT1708S/VT2021
Size	Document Number
Custom	GA-J1800N-D2H
Date:	Thursday, February 06, 2014
Sheet	17 of 26
Rev	1.01

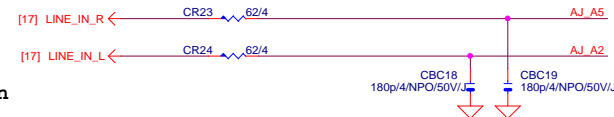


LINE-OUT



Only reserved for ALC888

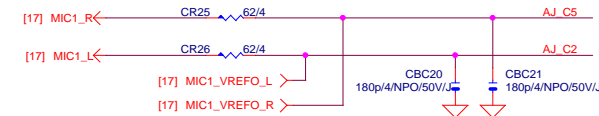
LINE-IN



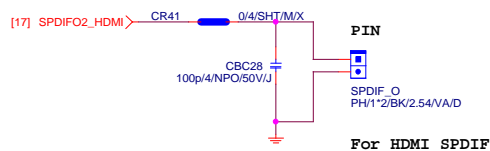
Verify MIC function
in LINE-in

For 889A/888

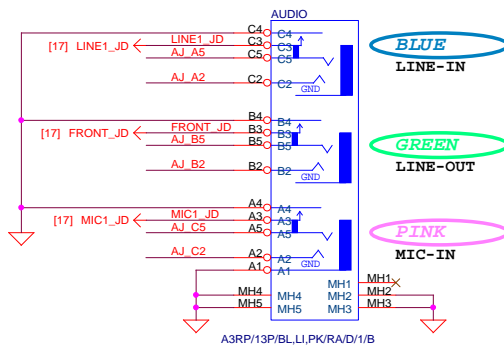
MIC-IN



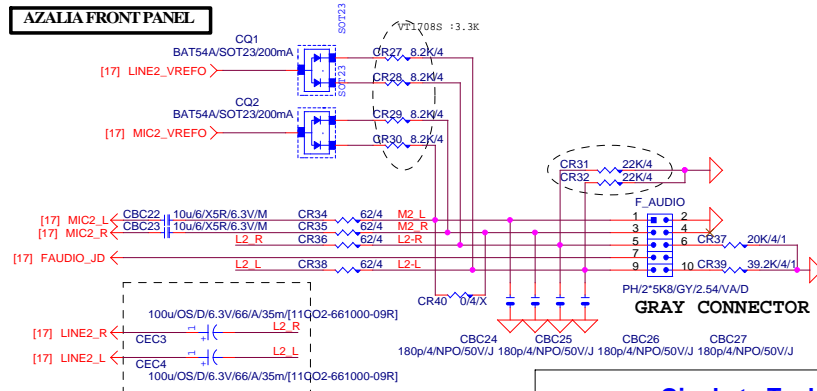
SPDIF_OUT



For HDMI SPDIF



AZALIA FRONT PANEL



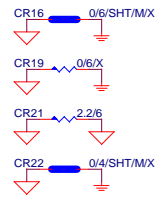
Gigabyte Technology

AUDIO JACK

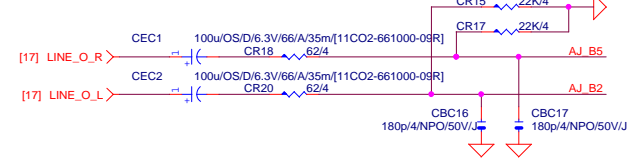
GA-J1800N-D2H

Rev 1.01

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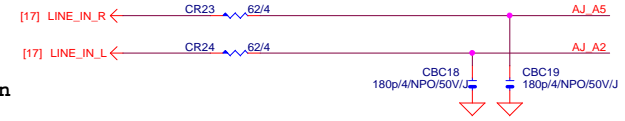
LINE-OUT



LINE-IN

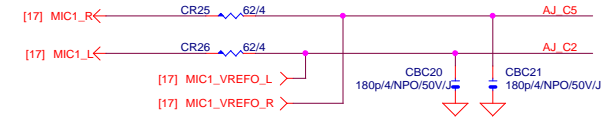
Verify MIC function
in LINE-in

Only reserved for ALC888

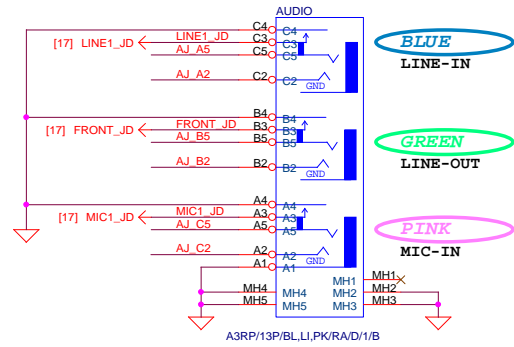
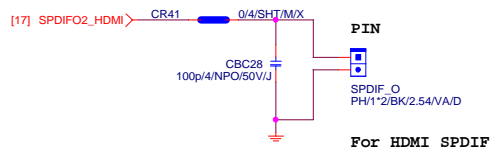


For 889A/888

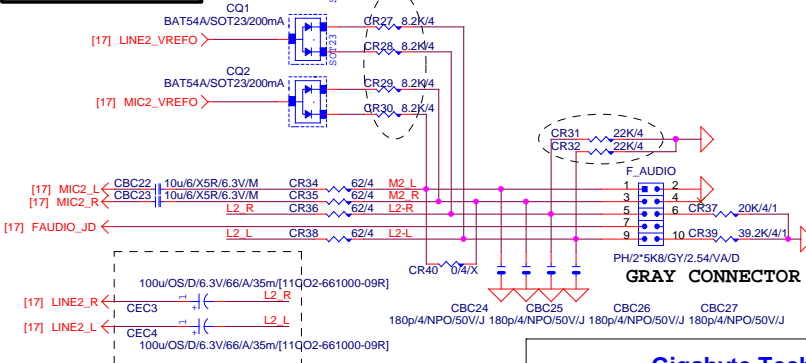
MIC-IN



SPDIF_OUT

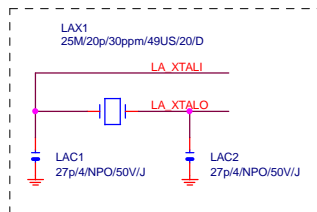
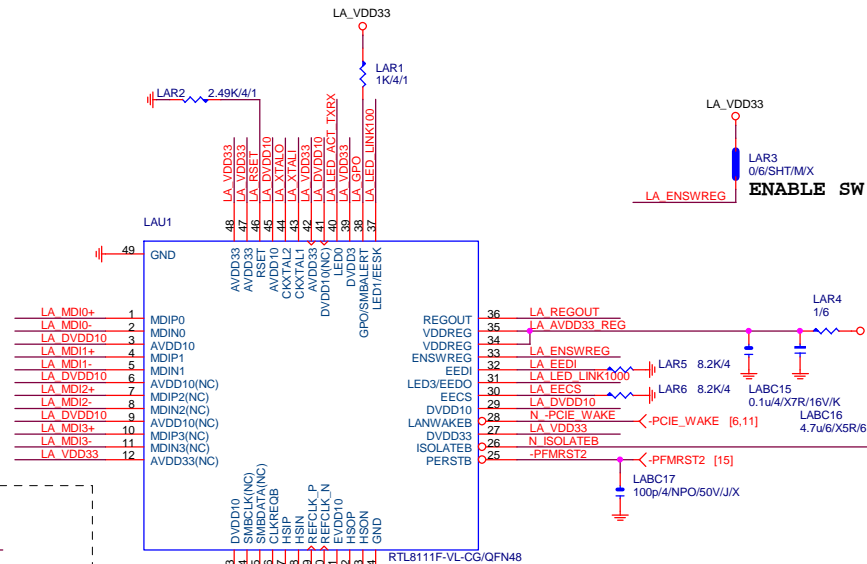


AZALIA FRONT PANEL



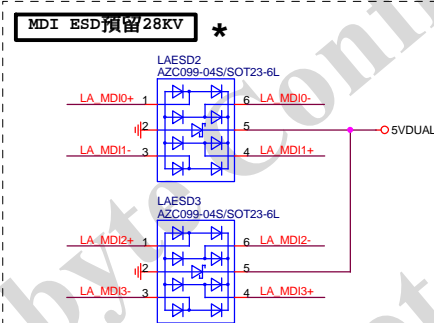
Gigabyte Technology			
Title			
AUDIO JACK			
GA-J1800N-D2H			
Size	Document Number	Rev	1.01
Custom			
Date:	Thursday, February 06, 2014	Sheet	18 of 26

LAN RTL8111F-VL

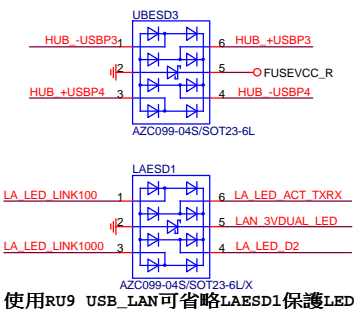


LA_ ML-->80歐姆:[15/5/5/5/15]

SRCCLK-->50歐姆:[18/4/10/4/18]



LAN CONNECTOR ESD



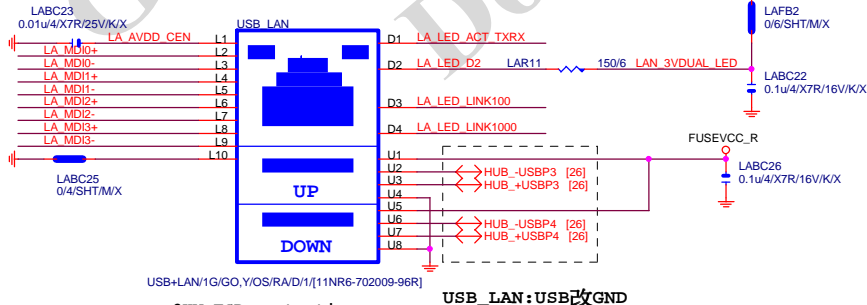
使用RU9 USB_LAN可省略LAESD1保護LED

EMI SHORT PAD



PS:視EMI需求

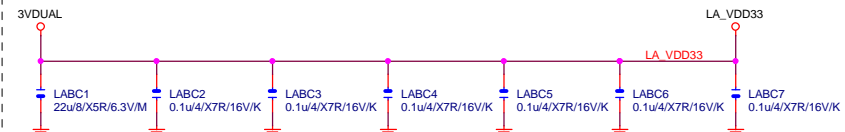
LA MDI-->100歐姐:[20/4/8/4/20]



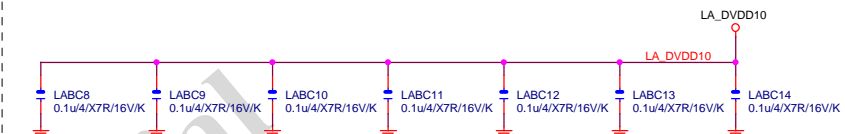
9KV ESD protection

USB LAN:USB改GND

LAN POWER

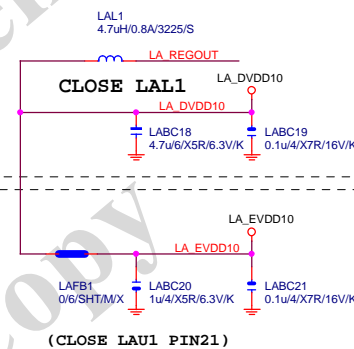


(CLOSE LAU1 PIN:12,27,39,42,47,48)



(CLOSE LAU1 PIN3,6,9,13,29,41,45)

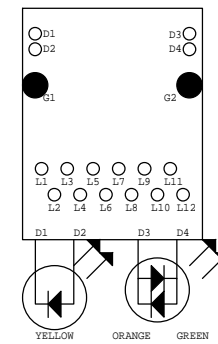
(CLOSE LAU1 PIN36)



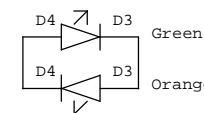
(CLOSE LAU1 PIN21)

Power domain chart

	RTL8111E
AVDD33	3.3V
DVDD33	3.3V
VDDREG	3.3V
DVDD10	1.05V



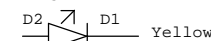
Dual Color LED



Green

Orange

Single Color LED

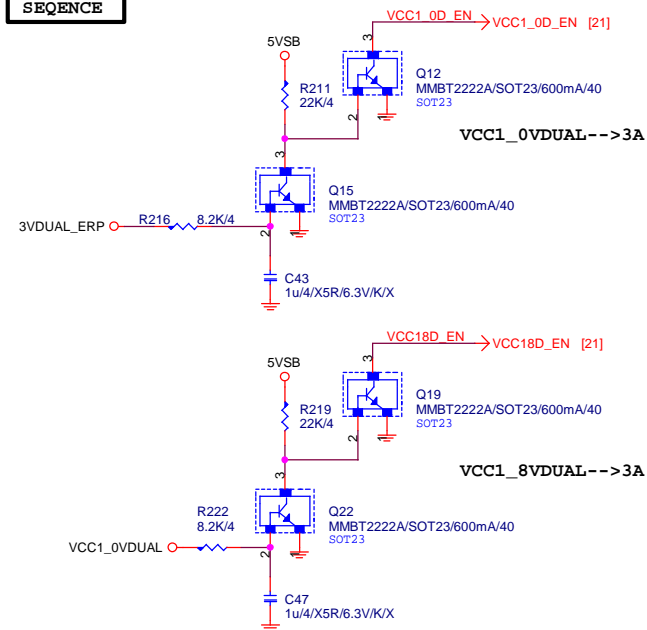


Yellow

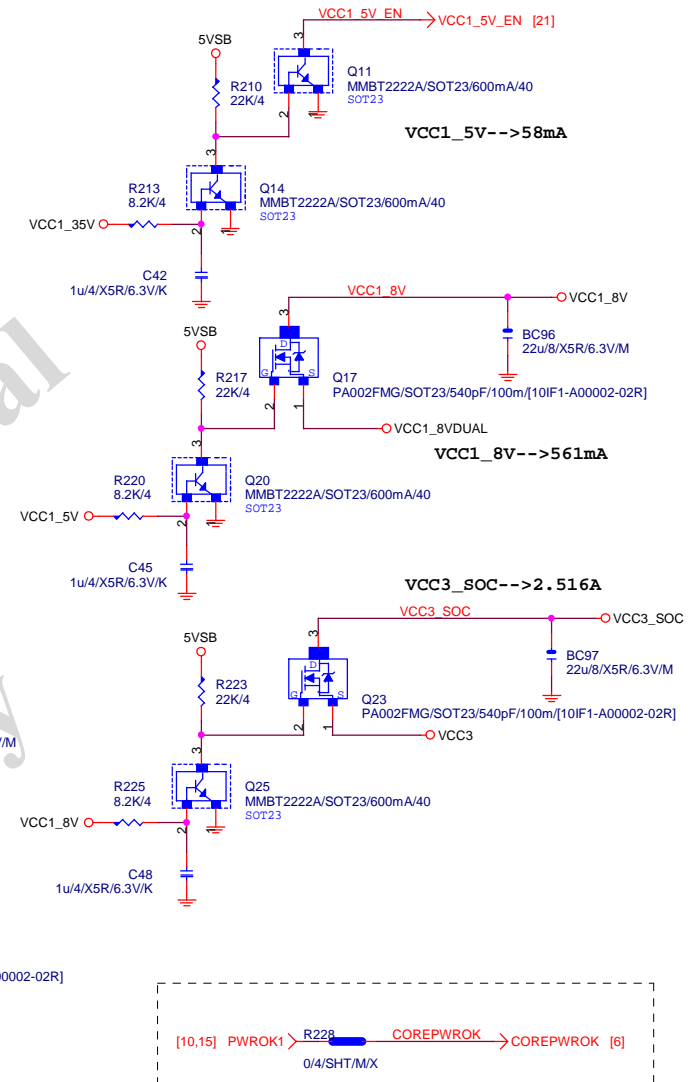
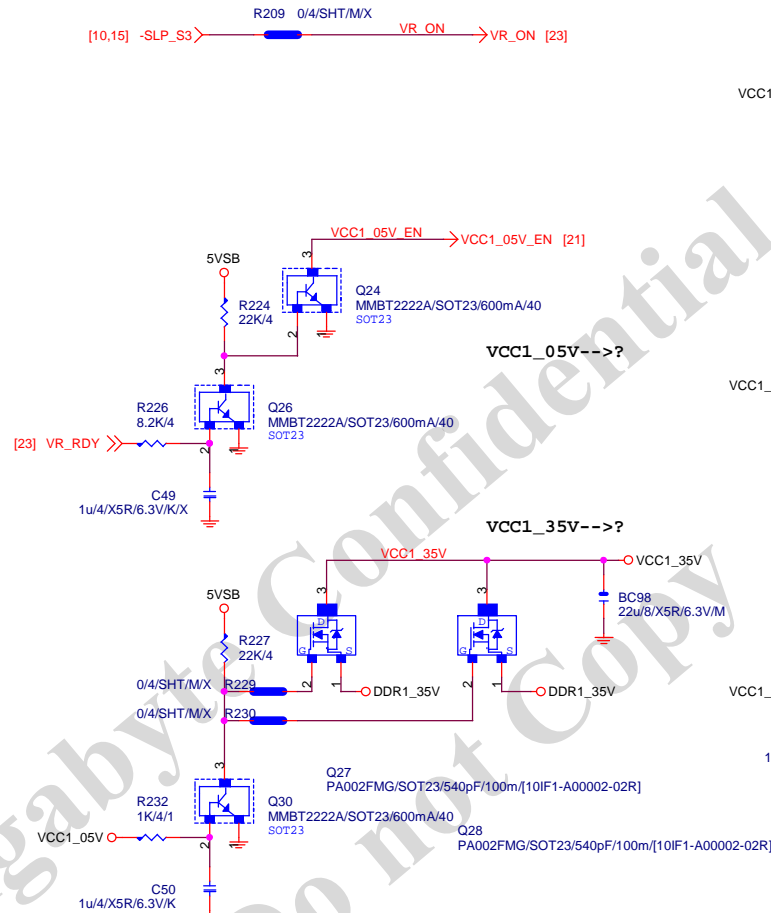
Gigabyte Technology

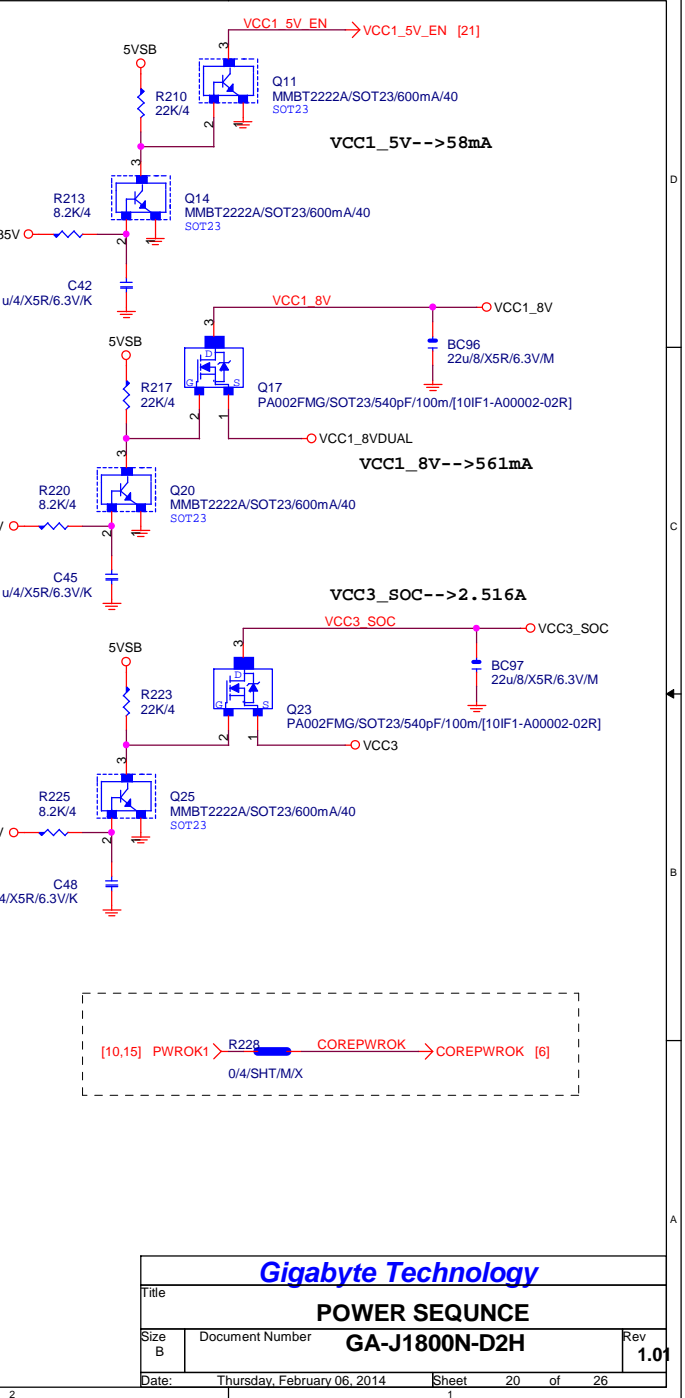
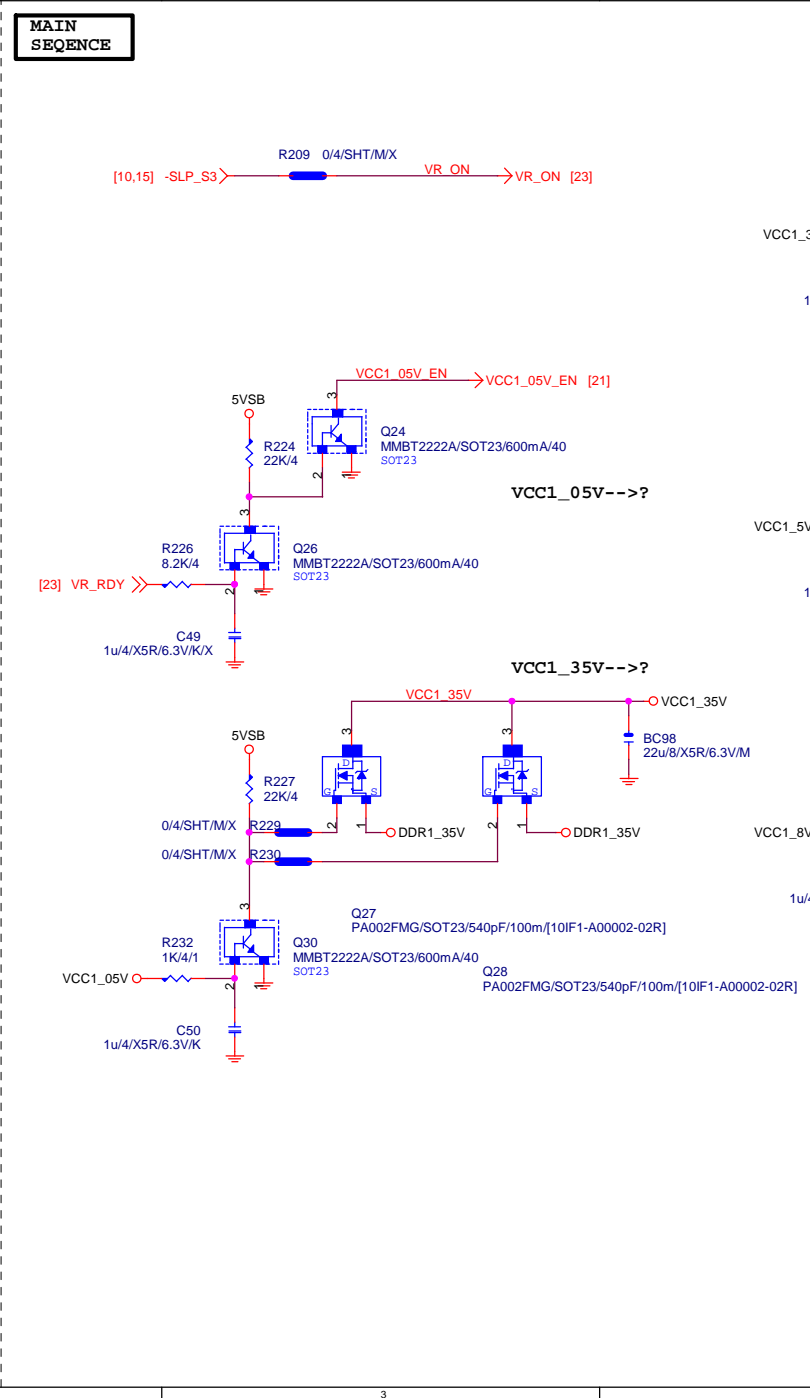
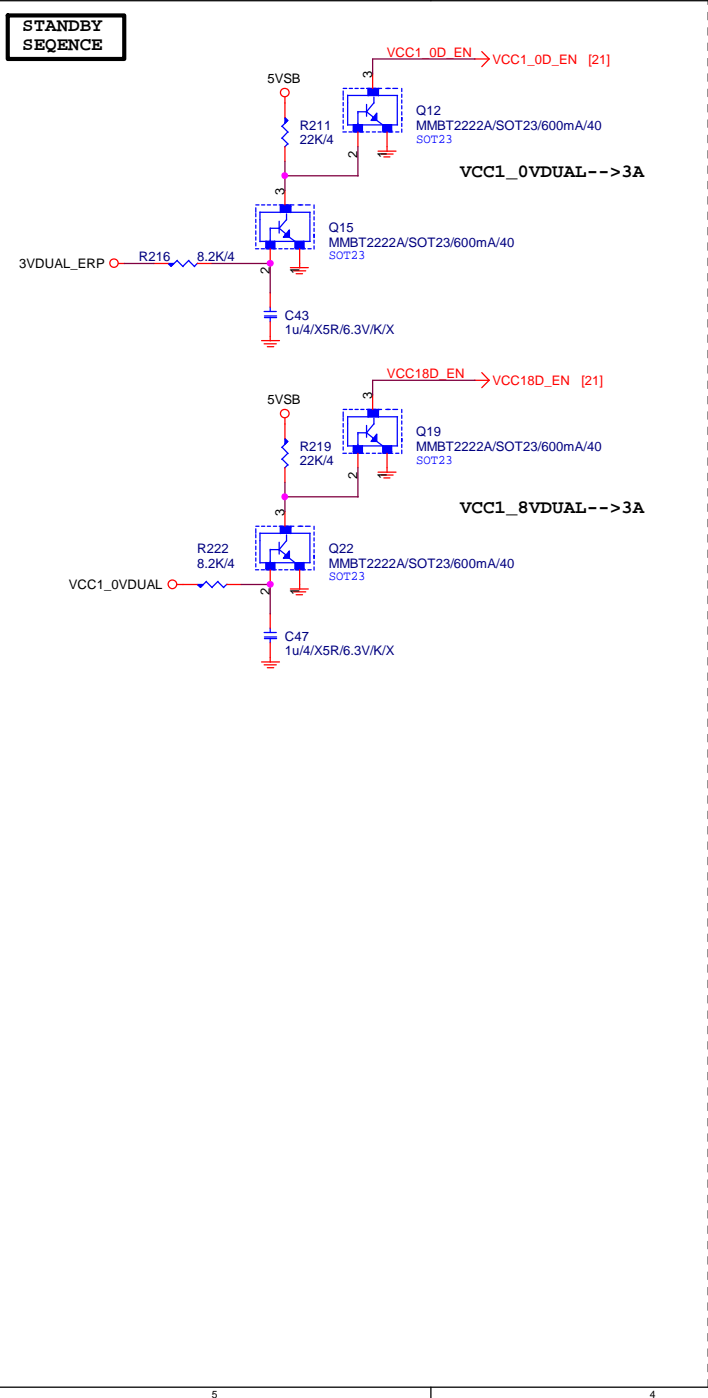
Title				RTL111F-VL			
Size	Custom	Document Number				Rev	
		GA-J1800N-D2H				1.0	
Date:		Thursday, February 06, 2014		Sheet		19 of 26	

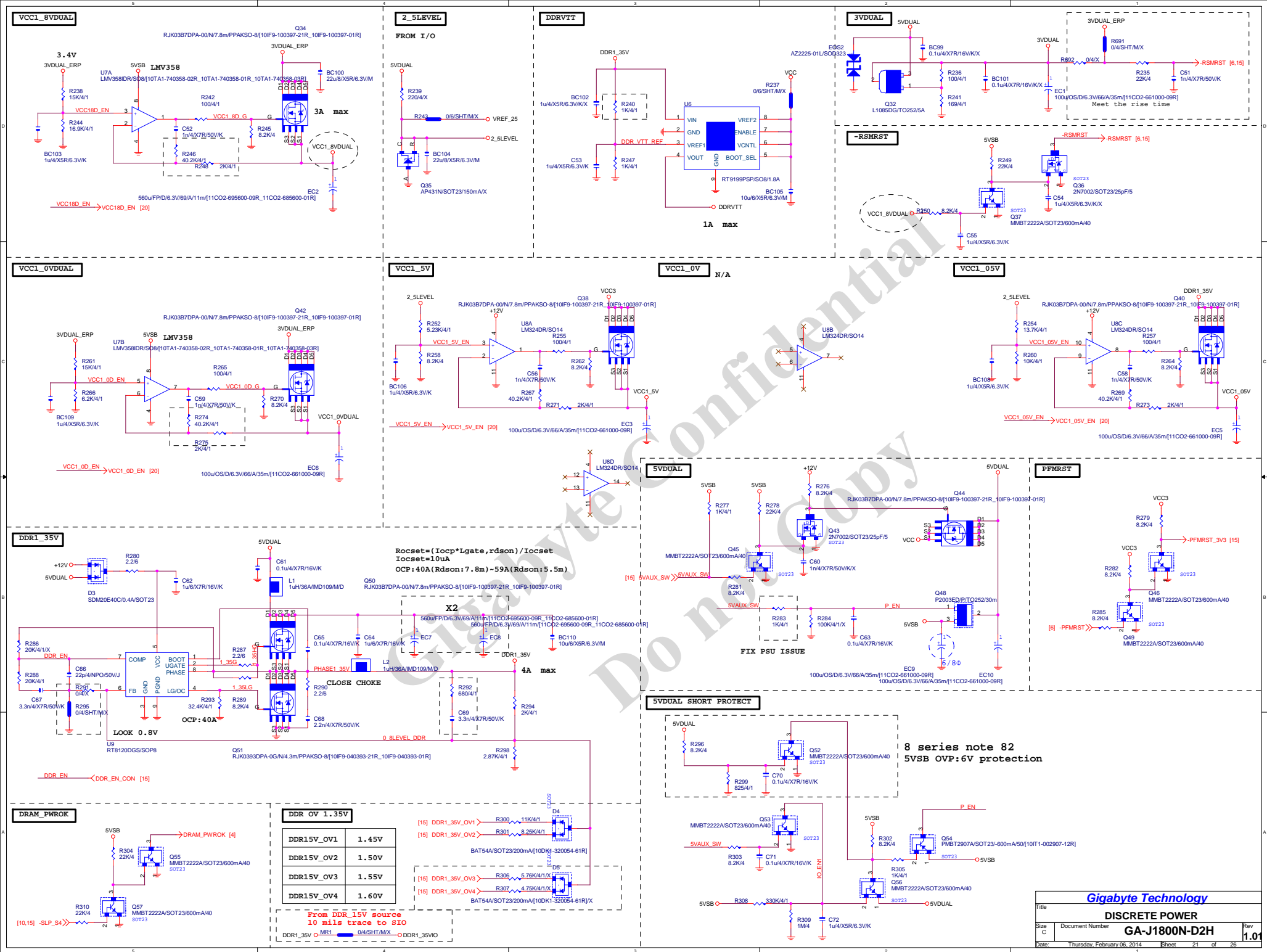
STANDBY
SEQUENCE

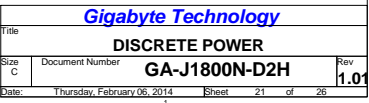


MAIN SEQUENCE



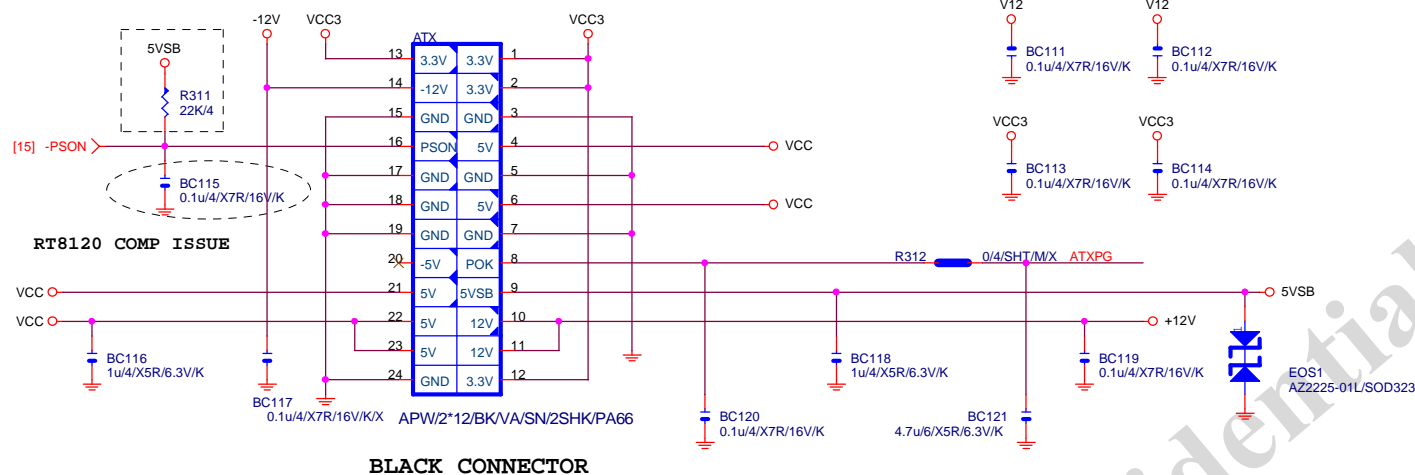






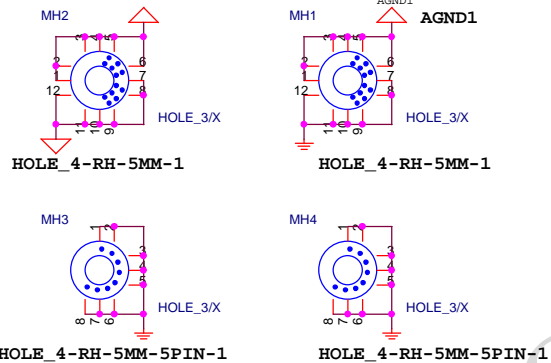
ATXX24 POWER CONNECTOR

【技術通報R&D技術通報155】

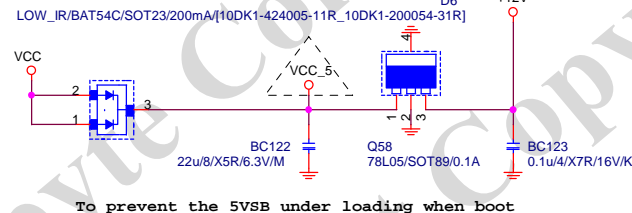


BLACK CONNECTOR

MB LOCATION



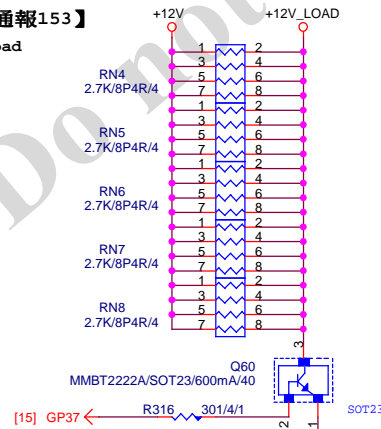
FIX POWER SUPPLY MIN LOAD +5V ISSUE



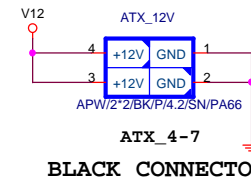
To prevent the 5VSB under loading when boot

【技術通報R&D技術通報153】

To fix 12V light load abnormal issue



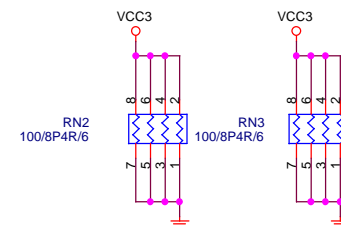
ATXX4 POWER CONNECTOR



BLACK CONNECTOR

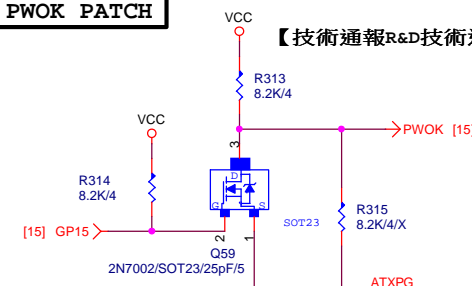
MIN. LOAD

FIX PWR MINMUN LOAD



PWOK PATCH

【技術通報R&D技術通報154】

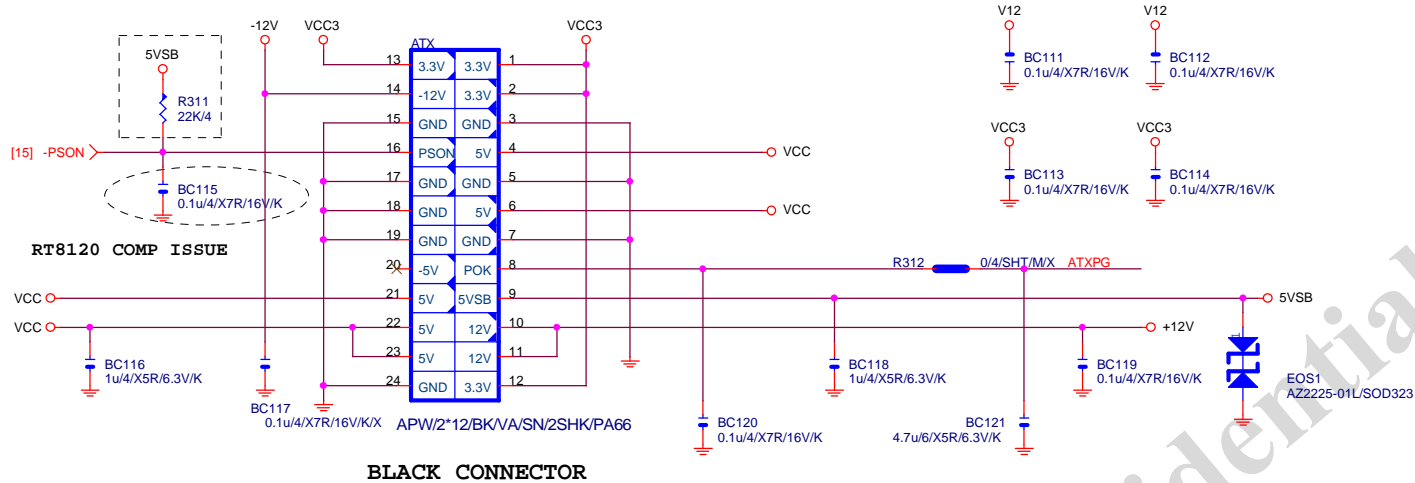


Gigabyte Technology

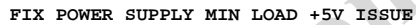
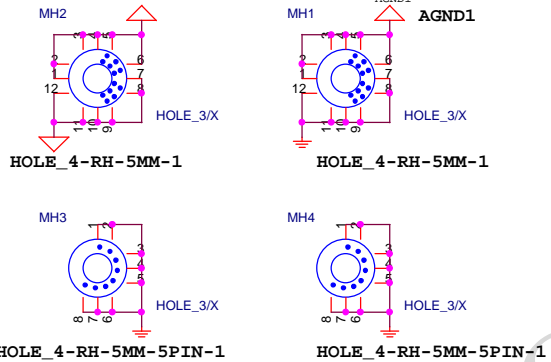
Title		
ATX CONNECTOR		
Size B	Document Number	Rev
	GA-J1800N-D2H	1.01
Date:	Thursday, February 06, 2014	Sheet 22 of 26

ATXX24 POWER CONNECTOR

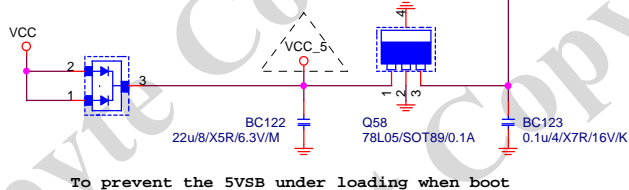
【技術通報R&D技術通報155】



MB LOCATION



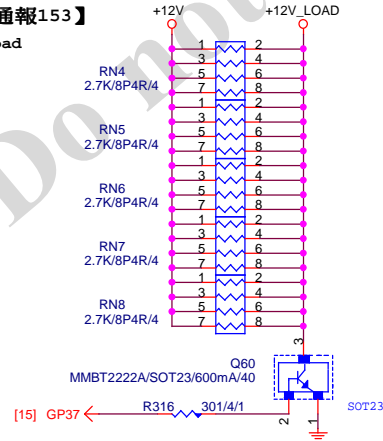
LOW_IR/BAT54C/SOT23/200mA[10DK1-424005-11R_10DK1-200054-31R]



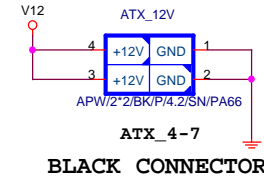
To prevent the 5VSB under loading when boot

【技術通報R&D技術通報153】

To fix 12V light load
abnromal issue

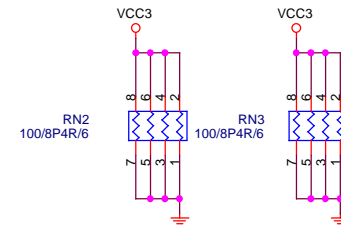


ATXX4 POWER CONNECTOR



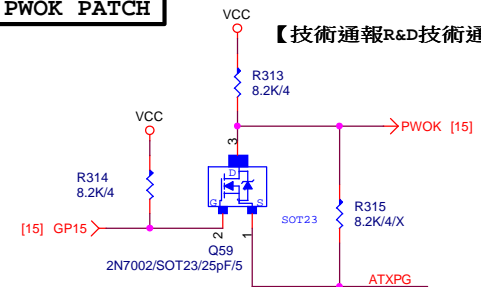
MIN. LOAD	
-----------	--

FIX PWR MINMUN LOAD



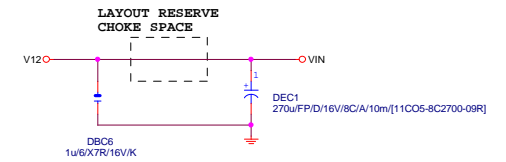
PWOK PATCH

【技術通報R&D技術通報154】

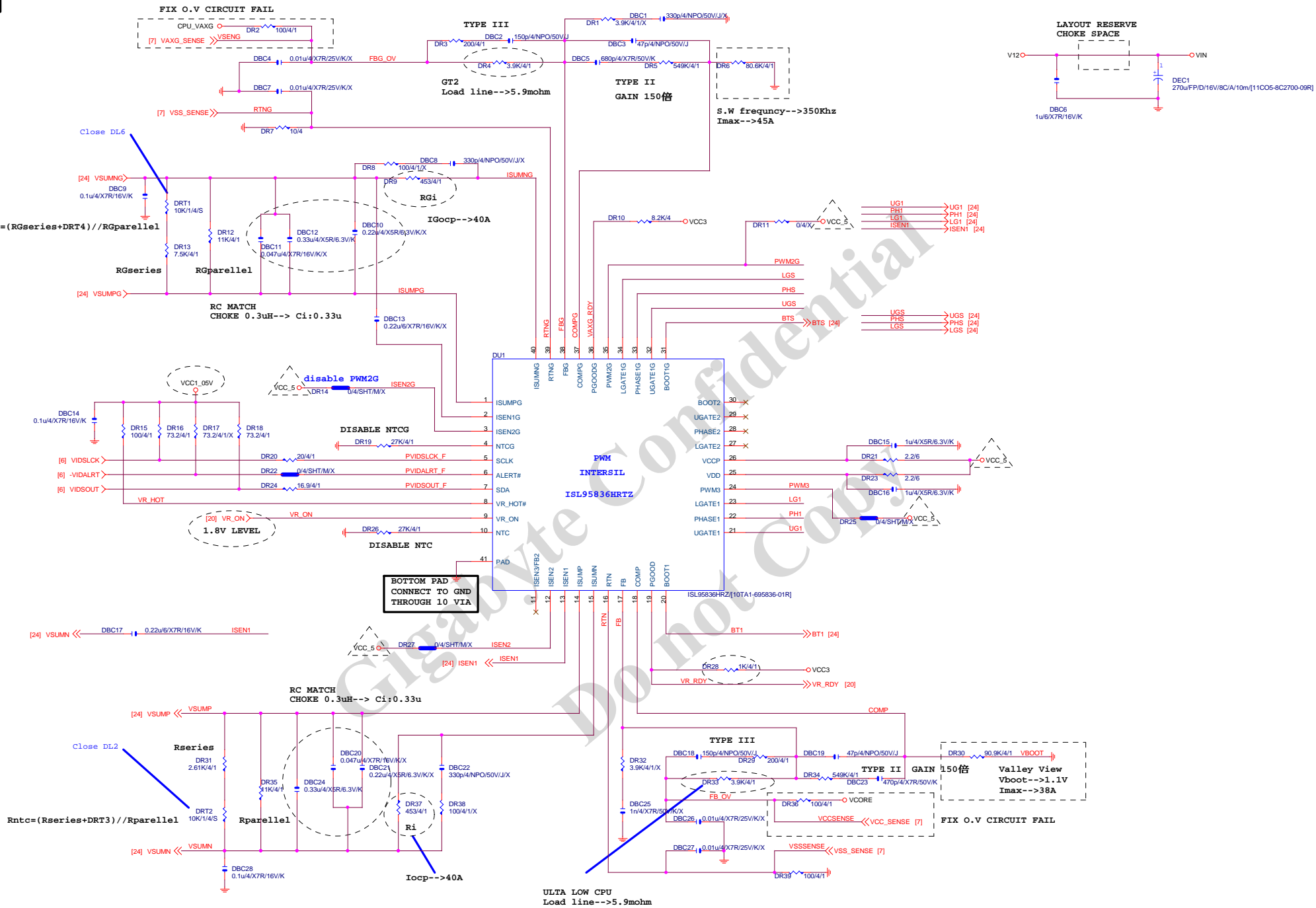


Gigabyte Technology

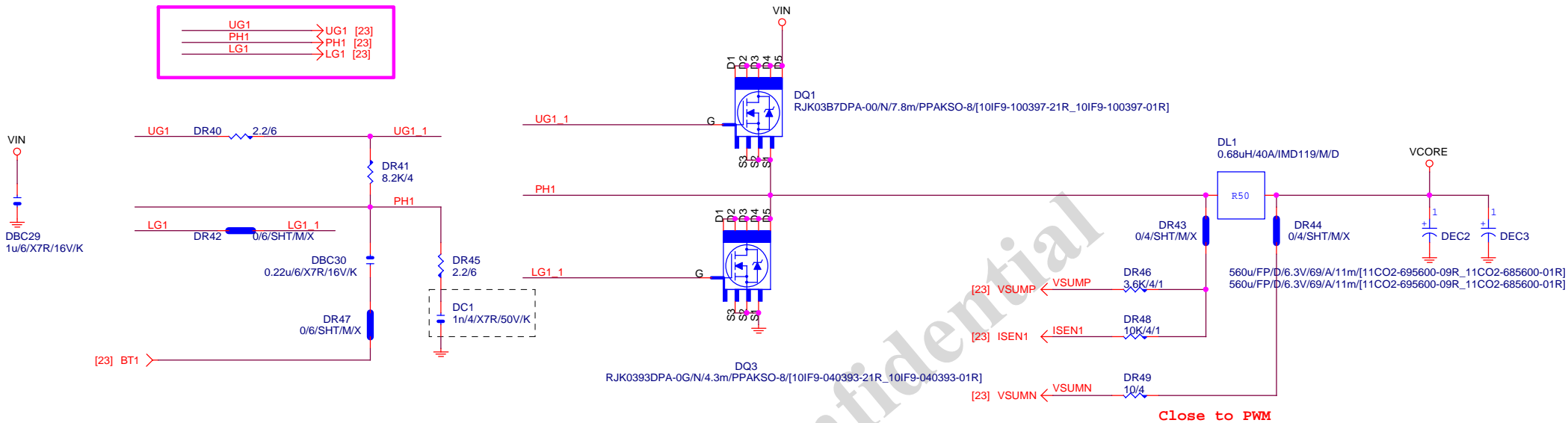
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Size B	Document Number	GA-J1800N-D2H	Rev 1.01
Date:	Thursday, February 06, 2014	Sheet 22 of 26	



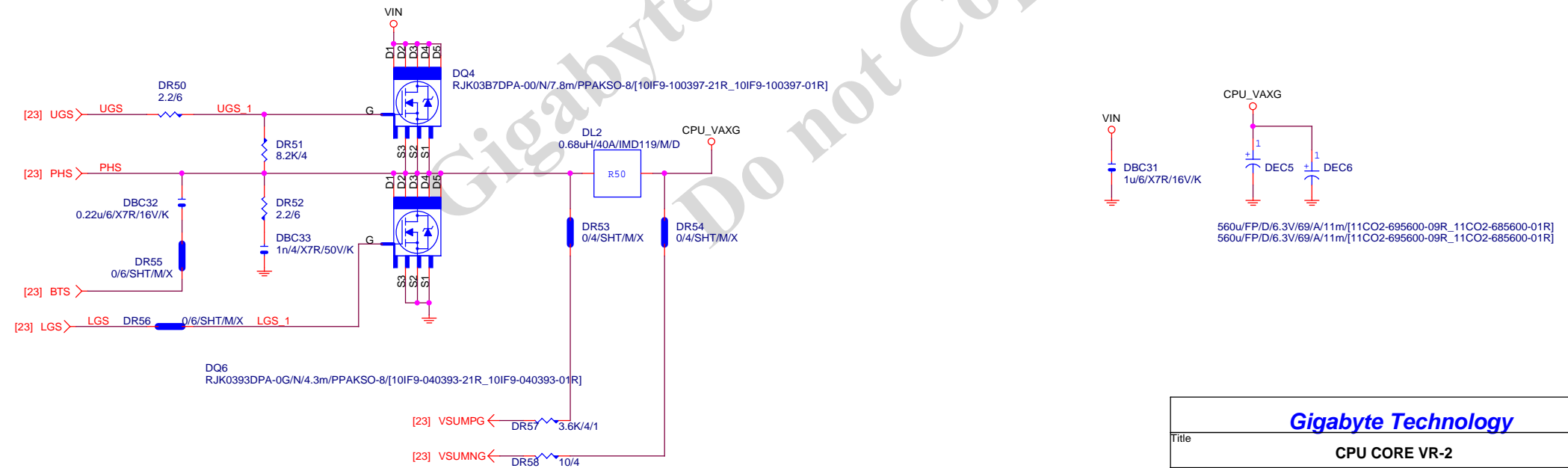
```
Valley View
Vboot-->1.1V
Imax-->38A
-----
CIRCUIT FAIL
```



VCORE



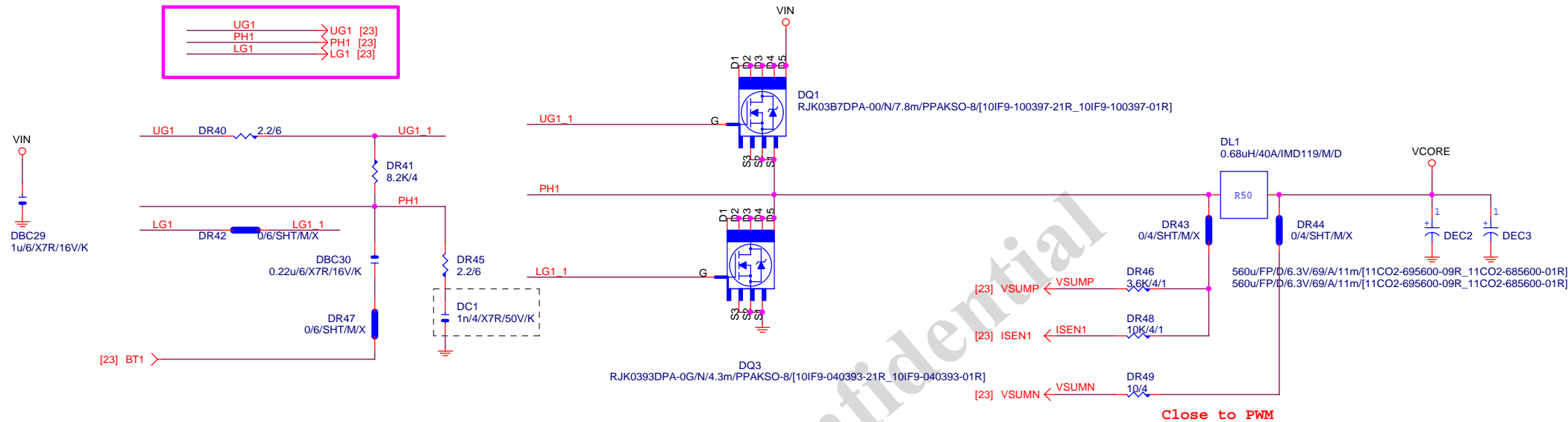
VAXG



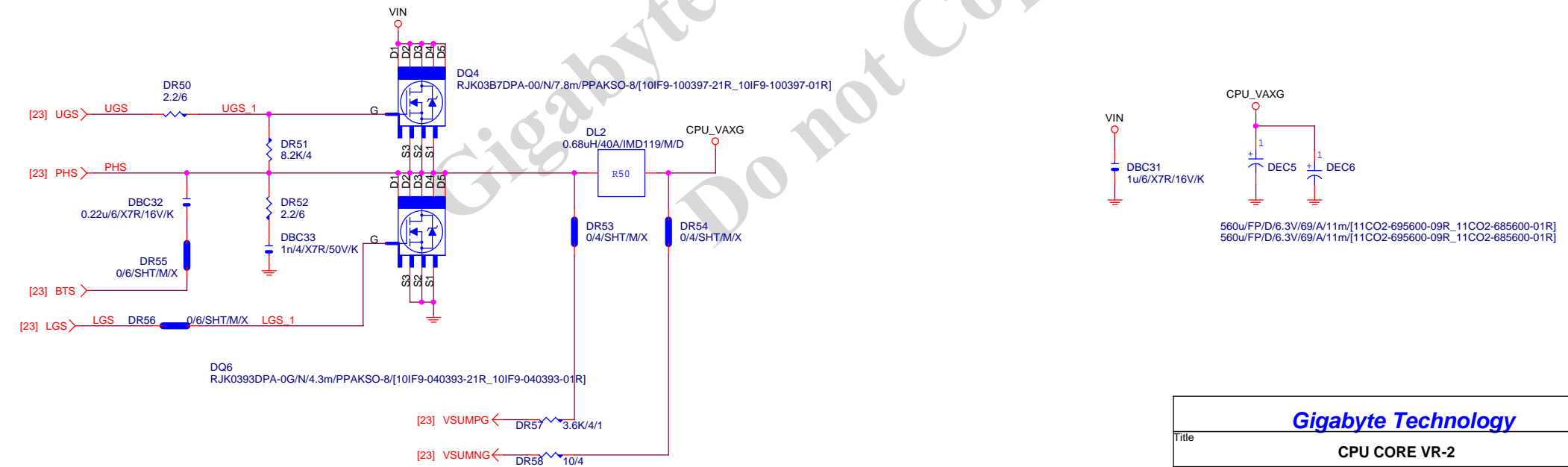
Gigabyte Technology

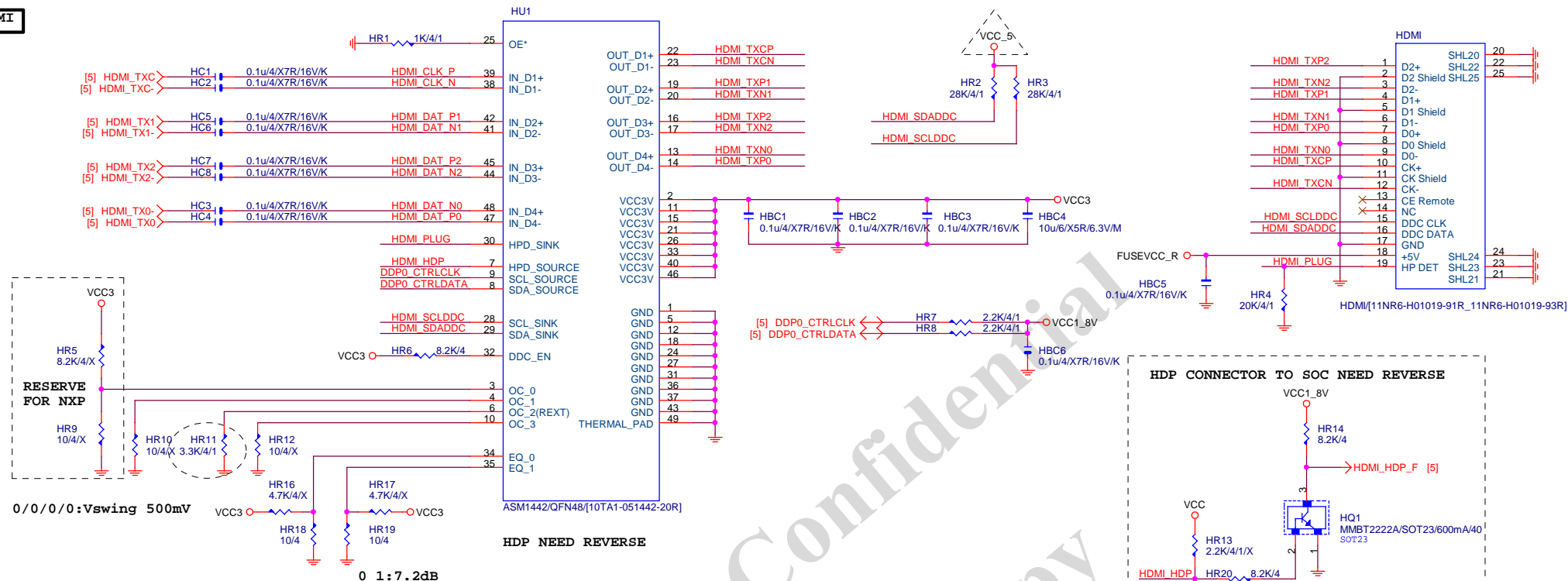
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CPU CORE VR-2			
Size	Document Number	GA-J1800N-D2H	
Custom		Rev 1.01	
Date:	Thursday, February 06, 2014	Sheet 1	24 of 26

VCORE



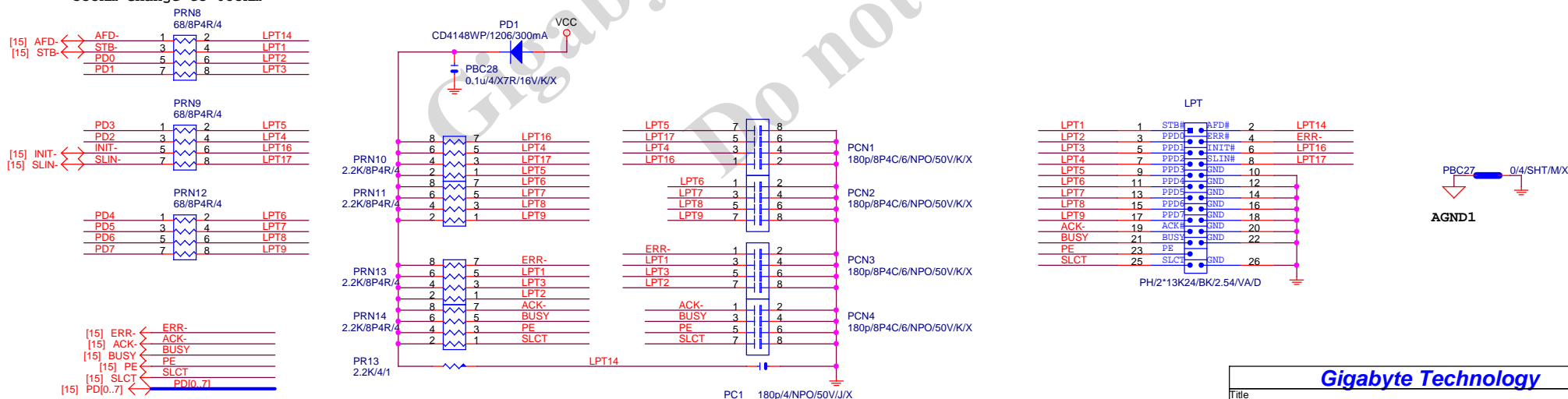
VAXG



HDMI

LPT PORT

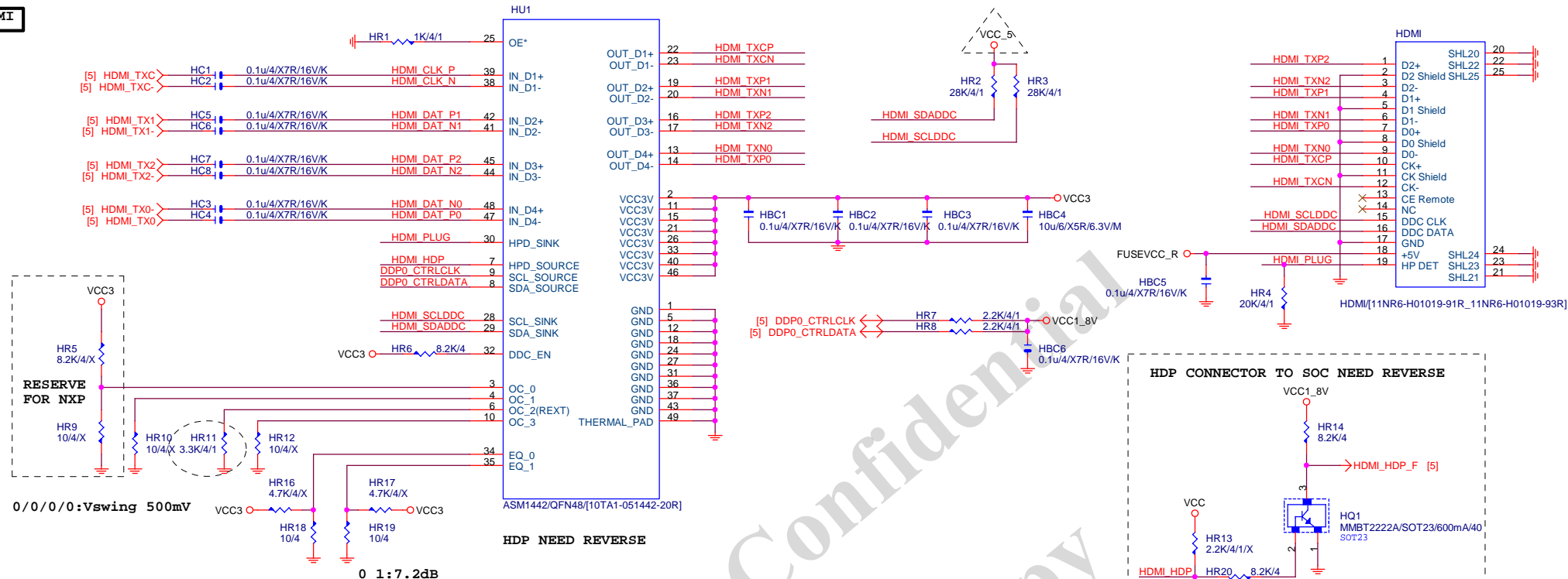
【技術通報R&D技術通報151】
33ohm Change to 68ohm



Gigabyte Technology

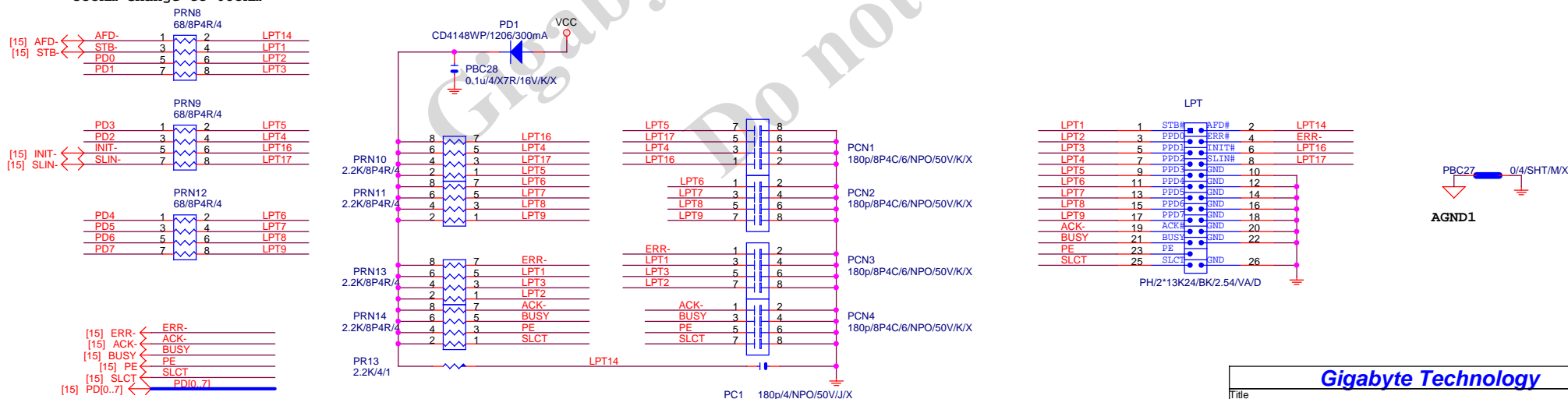
Title				HDMI,LPT			
Size	Document Number	GA-J1800N-D2H				Rev	
Custom						1.01	
Date:	Thursday, February 06, 2014		Sheet	25	of	26	

HDMI



LPT PORT

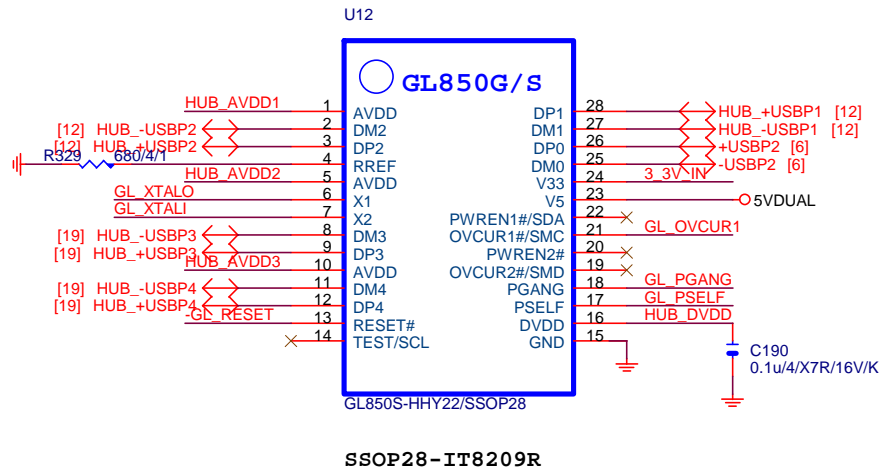
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33ohm Change to 68ohm



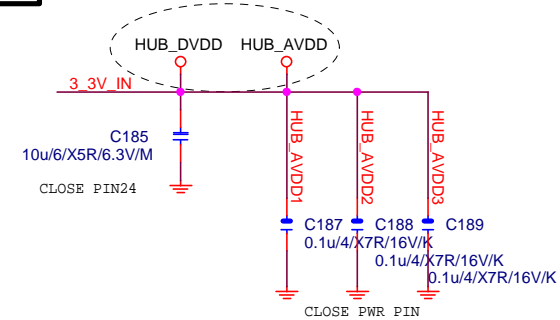
Gigabyte Technology

Title				HDMI,LPT			
Size	Document Number	GA-J1800N-D2H				Rev	
Custom						1.01	
Date:	Thursday, February 06, 2014		Sheet	25	of	26	

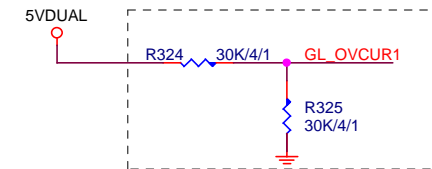
USB20 HUB



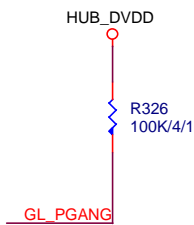
HUB PWR



HUB OVER CURRENT SENSE

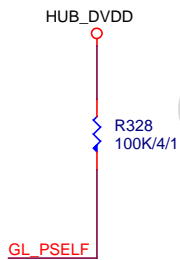


HUB MODE



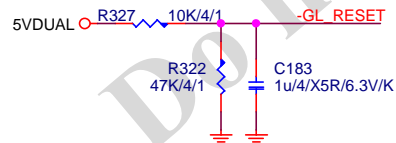
```
P.H. USE GL_OVCUR1
DETECT ALL PORT
```

PSELF



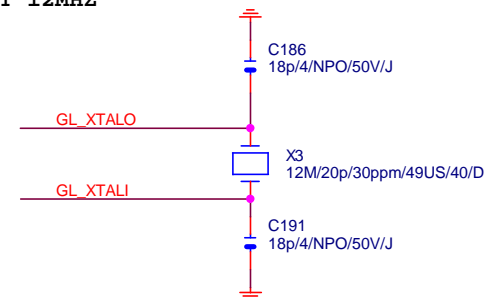
```
HUB self-power mode:
P.H.=EVERY PORT 500mA.
P.D.=EVERY PORT 100mA.
```

HUB RESET



HUB CRYSTAL

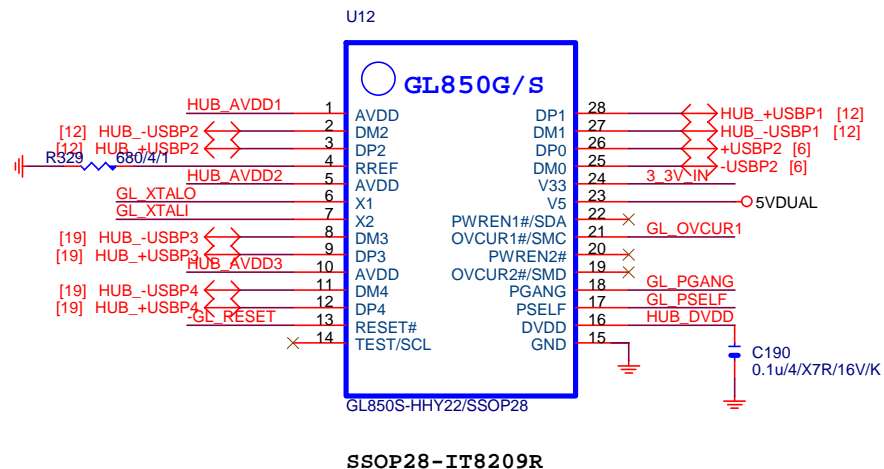
ONLY SUPPORT 12MHZ



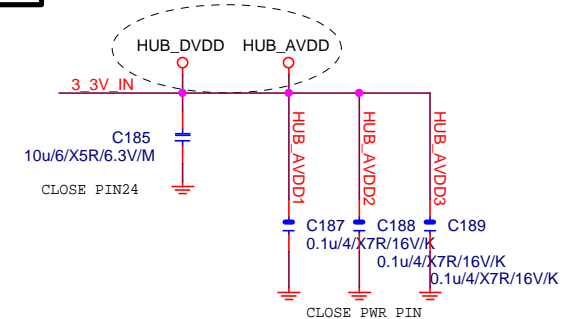
Gigabyte Technology

Title			
HUB GL850GS			
Size	Document Number		Rev
Custom	GA-J1800N-D2H		1.0
Date:	Thursday, February 06, 2014	Sheet	26 of 26

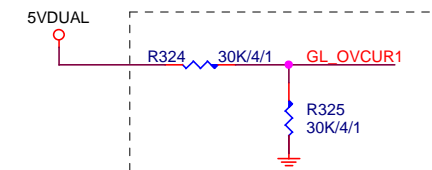
USB20 HUB



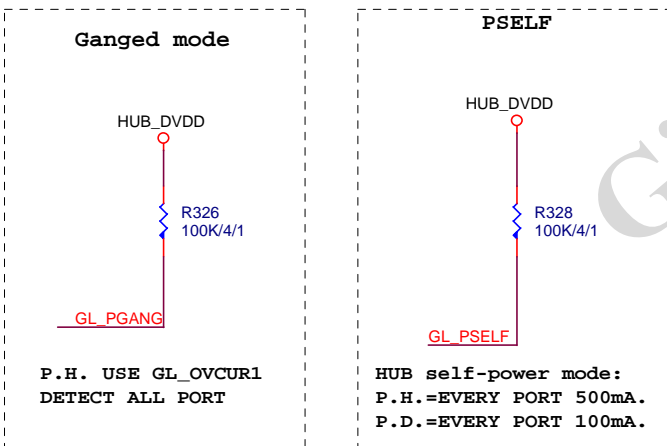
HUB PWR



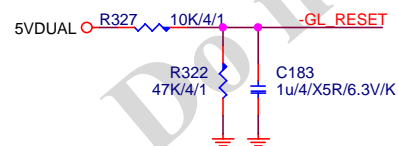
HUB OVER CURRENT SENSE



HUB MODE

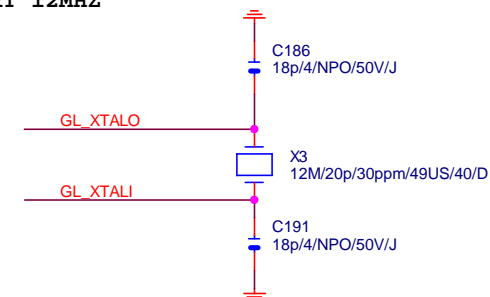


HUB RESET



HUB CRYSTAL

ONLY SUPPORT 12MHZ



Gigabyte Technology

Title			
HUB GL850GS			
Size	Document Number	GA-J1800N-D2H	Rev
Custom			1.0
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