Model Name: GA-J1800N-D2H

Revision 1.0

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 SEQUNCE
21	DISCRETE POWER
22	ATX
23	VCORE ISL95836_1
24	VCORE ISL95836_2,VCORE,VAXG
25	HDMI,LPT
26	GENESYS GL850G

Gigabyte Technology

Title	Cover Sheet		
Size: Custom	Document Number: GA-J1800N-D2H		Rev: 1.0
Date: Friday, January 03, 2014	Sheet 1 of 26		

Model Name:GA-J1800N-D2H

Revision 1.0

Component value change history

2013/12/26

Data	Change Item	Reason
2013/09/26	MINI_PCIE REMOVE USB20 SIGNAL WITHOUT BT FUNCTION.	
2013/11/7	CKD.BLUE PCB.BOM REMOVE MINI PCIE SLOT.	
2013/11/11	R94,R130,R95,R97-->0/6/SHT	
	BC41-->10U/6/X5R(機構)	
2013/11/18	R0.2. MODIFY FROM IPX1800G1 R0.1 .CONNECTOR COLOR.PCB COLOR:BROWN.	
2013/11/25	R1.0:R312,TR4-->SHT PAD	
2013/11/27	USB_LAN:USB改GND	PBOM:9MJ180D2H-00-10A.
2013/12/12	ECN ADD MOSFET 10IF9-040393-01R/10IF9-100397-01R.	
2013/12/26	REMOVE OV3/OV4 FIX S3.	FPBOM:9MJ180D2H-00-10C.

Circuit or PCB layout change

DATE	Change Item	Reason

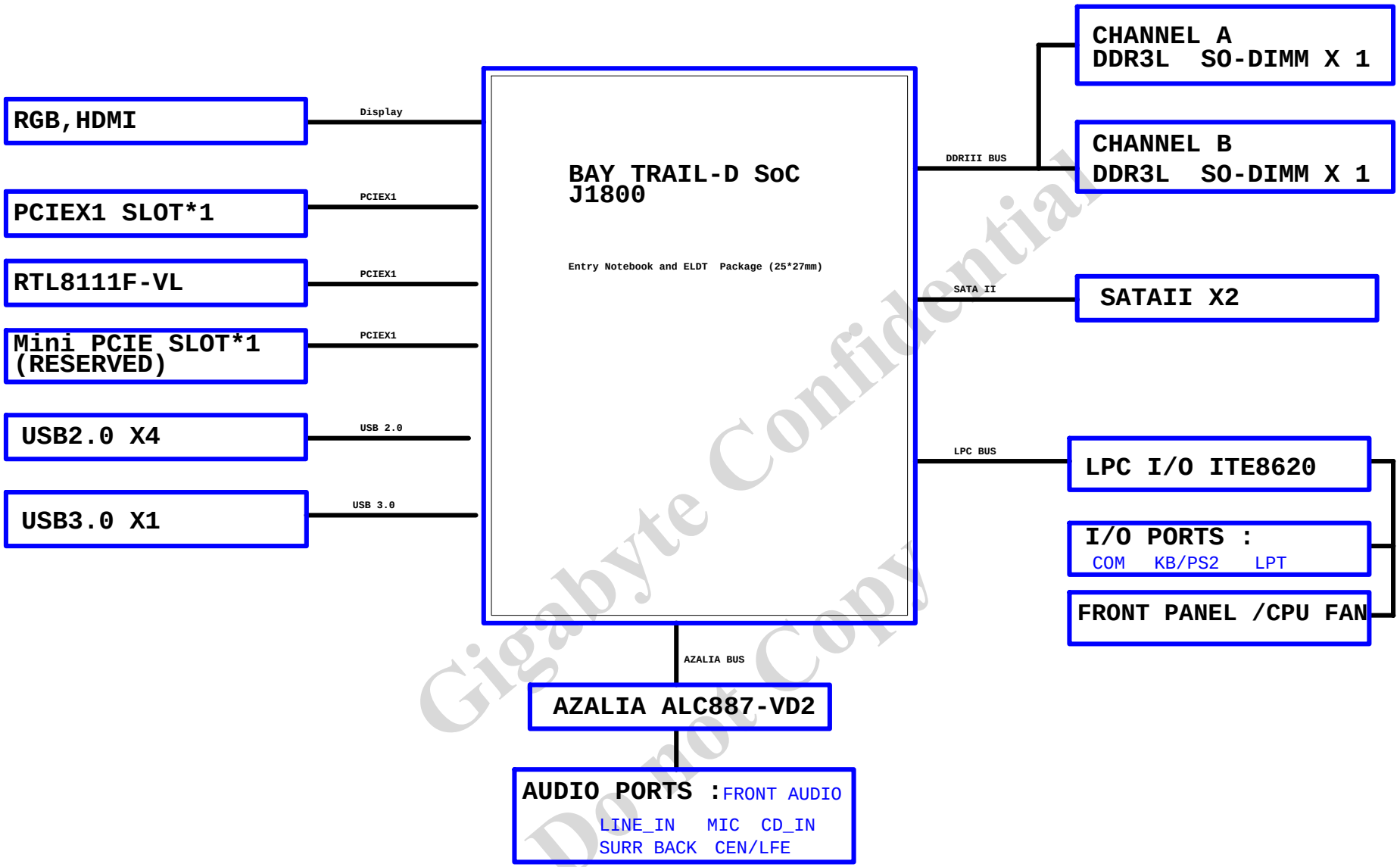
Gigabyte Technology

Title: BOM & PCB MODIFY HISTORY

Size: Custom | Document Number: GA-J1800N-D2H | Rev: 1.0

Date: Friday, January 03, 2014 | Sheet 2 of 26

BLOCK DIAGRAM



Gigabyte Technology			
Title: BLOCK DIAGRAM			
Size: C	Document Number: GA-J1800N-D2H		Rev: 1.0
Date: Friday, January 03, 2014	Sheet 3 of 26		

DDR0

U1A

DDR SYSTEM MEMORY A

MAAA0	K45	DRAM0_MA_0	DRAM0_DQ_0	M36	MDA0
MAAA1	H47	DRAM0_MA_1	DRAM0_DQ_1	J36	MDA1
MAAA2	L41	DRAM0_MA_2	DRAM0_DQ_2	P40	MDA2
MAAA3	H44	DRAM0_MA_3	DRAM0_DQ_3	M40	MDA3
MAAA4	H50	DRAM0_MA_4	DRAM0_DQ_4	P36	MDA4
MAAA5	G53	DRAM0_MA_5	DRAM0_DQ_5	N36	MDA5
MAAA6	H49	DRAM0_MA_6	DRAM0_DQ_6	K40	MDA6
MAAA7	D50	DRAM0_MA_7	DRAM0_DQ_7	K42	MDA7
MAAA8	G52	DRAM0_MA_8	DRAM0_DQ_8	C32	MDA8
MAAA9	E52	DRAM0_MA_9	DRAM0_DQ_9	C36	MDA9
MAAA10	K48	DRAM0_MA_10	DRAM0_DQ_10	A37	MDA10
MAAA11	E51	DRAM0_MA_11	DRAM0_DQ_11	C33	MDA11
MAAA12	F47	DRAM0_MA_12	DRAM0_DQ_12	A33	MDA12
MAAA13	J51	DRAM0_MA_13	DRAM0_DQ_13	C37	MDA13
MAAA14	B49	DRAM0_MA_14	DRAM0_DQ_14	B38	MDA14
MAAA15	B50	DRAM0_MA_15	DRAM0_DQ_15	F36	MDA15
			DRAM0_DQ_16	G38	MDA16
			DRAM0_DQ_17	F42	MDA17
-SRASA	M45	DRAM0_RAS#	DRAM0_DQ_18	J42	MDA18
-SCASA	M44	DRAM0_CAS#	DRAM0_DQ_19	G40	MDA19
-SWEA	H51	DRAM0_WE#	DRAM0_DQ_20	C38	MDA20
			DRAM0_DQ_21	G44	MDA21
SBAA0	K47	DRAM0_BS_0	DRAM0_DQ_22	D42	MDA22
SBAA1	K44	DRAM0_BS_1	DRAM0_DQ_23	A41	MDA23
SBAA2	D52	DRAM0_BS_2	DRAM0_DQ_24	C41	MDA24
			DRAM0_DQ_25	A45	MDA25
-CSA0	P44	DRAM0_CS_0#	DRAM0_DQ_26	B46	MDA26
-CSA2	P45	DRAM0_CS_2#	DRAM0_DQ_27	C40	MDA27
			DRAM0_DQ_28	B40	MDA28
CKEA0	C47	DRAM0_CKE_0	DRAM0_DQ_29	B48	MDA29
	D48	RSVD_D48	DRAM0_DQ_30	B47	MDA30
CKEA2	F44	DRAM0_CKE_2	DRAM0_DQ_31	K52	MDA31
	E46	RSVD_E46	DRAM0_DQ_32	K51	MDA32
			DRAM0_DQ_33	T52	MDA33
MODT_A0	T41	DRAM0_ODT_0	DRAM0_DQ_34	T51	MDA34
MODT_A2	P42	DRAM0_ODT_2	DRAM0_DQ_35	L51	MDA35
			DRAM0_DQ_36	L53	MDA36
DCLKA0	M50	DRAM0_CKP_0	DRAM0_DQ_37	R51	MDA37
-DCLKA0	M48	DRAM0_CKN_0	DRAM0_DQ_38	R53	MDA38
			DRAM0_DQ_39	T47	MDA39
DCLKA2	P50	DRAM0_CKP_2	DRAM0_DQ_40	T45	MDA40
-DCLKA2	P48	DRAM0_CKN_2	DRAM0_DQ_41	Y40	MDA41
			DRAM0_DQ_42	V41	MDA42
M_DMA0	G36	DRAM0_DM_0	DRAM0_DQ_43	T48	MDA43
M_DMA1	B36	DRAM0_DM_1	DRAM0_DQ_44	T50	MDA44
M_DMA2	F38	DRAM0_DM_2	DRAM0_DQ_45	Y42	MDA45
M_DMA3	B42	DRAM0_DM_3	DRAM0_DQ_46	AB40	MDA46
M_DMA4	P51	DRAM0_DM_4	DRAM0_DQ_47	V45	MDA47
M_DMA5	V42	DRAM0_DM_5	DRAM0_DQ_48	V47	MDA48
M_DMA6	Y50	DRAM0_DM_6	DRAM0_DQ_49	AD48	MDA49
M_DMA7	Y52	DRAM0_DM_7	DRAM0_DQ_50	AD50	MDA50
			DRAM0_DQ_51	V48	MDA51
-DDR3A_RST	P41	DRAM0_DRAMRST#	DRAM0_DQ_52	V50	MDA52
			DRAM0_DQ_53	AB44	MDA53
DDR3_VREF	AF44	DRAM_VREF	DRAM0_DQ_54	Y45	MDA54
			DRAM0_DQ_55	V52	MDA55
DRAM_PWROK	AD42	DRAM_VCC_S3_PWROK	DRAM0_DQ_56	W51	MDA56
DCORE_PWROK	AB42	DRAM_CORE_PWROK	DRAM0_DQ_57	AC53	MDA57
			DRAM0_DQ_58	AC51	MDA58
			DRAM0_DQ_59	W53	MDA59
DDR3_ODTPU	AD44	DRAM_RCOMP_0	DRAM0_DQ_60	Y51	MDA60
DDR3_DQPU	AF45	DRAM_RCOMP_1	DRAM0_DQ_61	AD52	MDA61
DDR3_CMDPU	AD45	DRAM_RCOMP_2	DRAM0_DQ_62	AD51	MDA62
			DRAM0_DQ_63		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
ICLK_DRAM_TERMP	AF42				
ICLK_DRAM_TERMN	AH42				
RSVD_AF40	AF40				
RSVD_AF41	AF41				
RSVD_AD40	AD40				
RSVD_AD41	AD41				

R2 23.2/4/1 DDR3_ODTPU
R3 29.4/4/1 DDR3_DQPU
R4 162/4/1 DDR3_CMDPU
R5 100K/4/1
R6 100K/4/1

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

DDR1

U1B

DDR SYSTEM MEMORY B

MAAB0	AY45	DRAM1_MA_0	DRAM1_DQ_0	BG38	MDB0
MAAB1	BB47	DRAM1_MA_1	DRAM1_DQ_1	BC40	MDB1
MAAB2	AW41	DRAM1_MA_2	DRAM1_DQ_2	BA42	MDB2
MAAB3	BB44	DRAM1_MA_3	DRAM1_DQ_3	BD42	MDB3
MAAB4	BB50	DRAM1_MA_4	DRAM1_DQ_4	BC38	MDB4
MAAB5	BC53	DRAM1_MA_5	DRAM1_DQ_5	BD36	MDB5
MAAB6	BB49	DRAM1_MA_6	DRAM1_DQ_6	BF42	MDB6
MAAB7	BF50	DRAM1_MA_7	DRAM1_DQ_7	BC44	MDB7
MAAB8	BC52	DRAM1_MA_8	DRAM1_DQ_8	BH32	MDB8
MAAB9	BE52	DRAM1_MA_9	DRAM1_DQ_9	BG32	MDB9
MAAB10	AY48	DRAM1_MA_10	DRAM1_DQ_10	BG36	MDB10
MAAB11	BE51	DRAM1_MA_11	DRAM1_DQ_11	BJ37	MDB11
MAAB12	BD47	DRAM1_MA_12	DRAM1_DQ_12	BG33	MDB12
MAAB13	BA51	DRAM1_MA_13	DRAM1_DQ_13	BJ33	MDB13
MAAB14	BH49	DRAM1_MA_14	DRAM1_DQ_14	BG37	MDB14
MAAB15	BH50	DRAM1_MA_15	DRAM1_DQ_15	BH38	MDB15
			DRAM1_DQ_16	AU36	MDB16
			DRAM1_DQ_17	AT36	MDB17
-SRASB	AV45	DRAM1_RAS#	DRAM1_DQ_18	AV40	MDB18
-SCASB	AV44	DRAM1_CAS#	DRAM1_DQ_19	AT40	MDB19
-SWEB	BB51	DRAM1_WE#	DRAM1_DQ_20	BA36	MDB20
			DRAM1_DQ_21	AV36	MDB21
SBAB0	AY47	DRAM1_BS_0	DRAM1_DQ_22	AY42	MDB22
SBAB1	AY44	DRAM1_BS_1	DRAM1_DQ_23	AY40	MDB23
SBAB2	BF52	DRAM1_BS_2	DRAM1_DQ_24	BJ41	MDB24
			DRAM1_DQ_25	BG41	MDB25
-CSB0	AT44	DRAM1_CS_0#	DRAM1_DQ_26	BJ45	MDB26
-CSB2	AT45	DRAM1_CS_2#	DRAM1_DQ_27	BH46	MDB27
			DRAM1_DQ_28	BG40	MDB28
CKEB0	BG47	DRAM1_CKE_0	DRAM1_DQ_29	BH40	MDB29
	BE46	RSVD_BE46	DRAM1_DQ_30	BH48	MDB30
CKEB2	BD44	DRAM1_CKE_2	DRAM1_DQ_31	BH47	MDB31
	BF48	RSVD_BF48	DRAM1_DQ_32	AY52	MDB32
			DRAM1_DQ_33	AY51	MDB33
MODT_B0	AP41	DRAM1_ODT_0	DRAM1_DQ_34	AP52	MDB34
MODT_B2	AT42	DRAM1_ODT_2	DRAM1_DQ_35	AP51	MDB35
			DRAM1_DQ_36	AW51	MDB36
DCLKB0	AV50	DRAM1_CKP_0	DRAM1_DQ_37	AW53	MDB37
-DCLKB0	AV48	DRAM1_CKN_0	DRAM1_DQ_38	AR51	MDB38
			DRAM1_DQ_39	AR53	MDB39
DCLKB2	AT50	DRAM1_CKP_2	DRAM1_DQ_40	AP47	MDB40
-DCLKB2	AT48	DRAM1_CKN_2	DRAM1_DQ_41	AP45	MDB41
			DRAM1_DQ_42	AK40	MDB42
M_DMB0	BD38	DRAM1_DM_0	DRAM1_DQ_43	AM41	MDB43
M_DMB1	BH36	DRAM1_DM_1	DRAM1_DQ_44	AP48	MDB44
M_DMB2	BC36	DRAM1_DM_2	DRAM1_DQ_45	AP50	MDB45
M_DMB3	BH42	DRAM1_DM_3	DRAM1_DQ_46	AK42	MDB46
M_DMB4	AT51	DRAM1_DM_4	DRAM1_DQ_47	AH40	MDB47
M_DMB5	AM42	DRAM1_DM_5	DRAM1_DQ_48	AM45	MDB48
M_DMB6	AK50	DRAM1_DM_6	DRAM1_DQ_49	AM47	MDB49
M_DMB7	AK52	DRAM1_DM_7	DRAM1_DQ_50	AF48	MDB50
			DRAM1_DQ_51	AF50	MDB51
-DDR3B_RST	AT41	DRAM1_DRAMRST#	DRAM1_DQ_52	AM48	MDB52
			DRAM1_DQ_53	AM50	MDB53
			DRAM1_DQ_54	AH44	MDB54
			DRAM1_DQ_55	AK45	MDB55
			DRAM1_DQ_56	AM52	MDB56
			DRAM1_DQ_57	AL51	MDB57
			DRAM1_DQ_58	AG53	MDB58
			DRAM1_DQ_59	AG51	MDB59
			DRAM1_DQ_60	AL53	MDB60
			DRAM1_DQ_61	AK51	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	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	AV52	-DQSB4
			DRAM1_DQSN_5	AP44	-DQSB5
			DRAM1_DQSN_6	AK48	-DQSB6
			DRAM1_DQSN_7	AJ51	-DQSB7

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

HEAT SINK

NB_HEATSIN

FANLESS HEATSINK
COST DOWN

SOC_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]

+VCCDDRXXXSI3_1P35
TR1 1K/4/1
R1 0/4/SHT/M/X DDR3_VREF
TR2 1K/4/1
BC1 0.1u/4/X7R/16V/K

DDR1_35V
TR3 8.2K/4
DRAM_PWROK DRAM_PWROK [21]
BC2 1u/4/X5R/6.3V/K/X

Gigabyte Technology			
Title: VLV-M/D MEMROY			
Size: B	Document Number: GA-J1800N-D2H		Rev: 1.0
Date: Friday, January 03, 2014	Sheet 4 of 26		

DISPLAY

U1C

Digital Display Interface

CRT

RSVD

DDI0_TXP_0 AV3 [25] HDMI_TX2+
DDI0_TXN_0 AV2 [25] HDMI_TX2-
DDI0_TXP_1 AT2 [25] HDMI_TX1+
DDI0_TXN_1 AT3 [25] HDMI_TX1-
DDI0_TXP_2 AR3 [25] HDMI_TX0+
DDI0_TXN_2 AR1 [25] HDMI_TX0-
DDI0_TXP_3 AP3 [25] HDMI_TXC+
DDI0_TXN_3 AP2 [25] HDMI_TXC-

DDI0_AUXP AL3
DDI0_AUXN AL1
DDI0_HPD D27 [25] HDMI_HDP_F
DDI0_DDCDATA C26 DDP0_CTRLDATA [25] DDP0_CTRLDATA
DDI0_DDCCLK C28 DDP0_CTRLCLK [25] DDP0_CTRLCLK

DD0 DETECT
0:NOT
1:DETECT

DDI0_VDDEN B28
DDI0_BKLTEN C27
DDI0_BKLTCTL B26

DDI1_TXP_0 AG3
DDI1_TXN_0 AG1
DDI1_TXP_1 AF3
DDI1_TXN_1 AF2
DDI1_TXP_2 AD3
DDI1_TXN_2 AD2
DDI1_TXP_3 AC3
DDI1_TXN_3 AC1

DDI1_AUXP AK3
DDI1_AUXN AK2
DDI1_HPD K30

VCC1_8V R24 2.2K/4/1/X eDP_DDCDATA
R26 8.2K/4
DDI1_DDCDATA P30
DDI1_DDCCLK G30

DD1 DETECT
0:NOT
1:DETECT

DDI1_VDDEN N30
DDI1_BKLTEN J30
DDI1_BKLTCTL M30

RSVD_T2 T2
RSVD_T3 T3
RSVD_AB3 AB3
RSVD_AB2 AB2
RSVD_Y3 Y3
RSVD_Y2 Y2
RSVD_W3 W3
RSVD_W1 W1
RSVD_V2 V2
RSVD_V3 V3
RSVD_R3 R3
RSVD_R1 R1
RSVD_AD6 AD6
RSVD_AD4 AD4
RSVD_AB9 AB9
RSVD_AB7 AB7
RSVD_Y4 Y4
RSVD_Y6 Y6
RSVD_V4 V4
RSVD_V6 V6
GPIO_S0_NC13 A29
GPIO_S0_NC14 C29
RSVD_AB14 AB14
RSVD_C30 B30
RSVD_C30 C30

Intel reserved

VCC1_8V R35 8.2K/4/X BRIDGE_SDA
R36 8.2K/4
TP3
TP4

VCC1_8V R37 2.2K/4/1 DDP0_CTRLDATA
R38 8.2K/4/X
Intel reserved

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

VGA_RED BA3 R
VGA_BLUE AY2 B
VGA_GREEN BA1 G

VGA_IREF AW1 CRT_IREF R7 357/4/1
VGA_IRTN AY3

VGA_HSYNC BD2 H_SYNC R8 33/4 GHSYNC
VGA_VSYNC BF2 V_SYNC R9 33/4 GVSYNC

VGA_DDCCLK BC1 DDCCLK
VGA_DDCDATA BC2 DDCDATA

DDI0_RCOMP_N AK13 DDI0_RCOMP_N R12 402/4/1
DDI0_RCOMP_P AK12 DDI0_RCOMP_P
RSVD_AM14 AM14
RSVD_AM13 AM13
VSS_AM3 AM3 VSS_AM3 R16 0/4/SHT/M/X
VSS_AM2 AM2 VSS_AM2 R17 0/4/SHT/M/X

RSVD_AH14 AH14
RSVD_AH13 AH13
RSVD_AF14 AF14
RSVD_AF13 AF13
VSS_AH3 AH3 VSS_AH3 R23 0/4/SHT/M/X
VSS_AH2 AH2 VSS_AH2 R20 0/4/SHT/M/X

RSVD_T7 T7
RSVD_T9 T9
RSVD_AB13 AB13
RSVD_AB12 AB12
RSVD_Y12 Y12
RSVD_Y13 Y13
RSVD_V10 V10
RSVD_V9 V9
RSVD_T12 T12
RSVD_T10 T10
RSVD_V14 V14
RSVD_V13 V13
RSVD_T14 T14
RSVD_T13 T13
RSVD_T6 T6
RSVD_T4 T4
RSVD_P14 P14

RSVD_K34 K34

RSVD_D32 D32
RSVD_N32 N32
RSVD_J34 J34
RSVD_K28 K28
RSVD_F28 F28
RSVD_F32 F32
RSVD_D34 D34
RSVD_J28 J28
RSVD_D28 D28
RSVD_M32 M32
RSVD_F34 F34

U1D

SATA

PCIE

CLKREQ

SD CARD

HDA

SATA0TXP BF6
SATA0TXN BG7
SATA0RXP AU16
SATA0RXN AV16
SATA_TXP_0
SATA_TXN_0
SATA_RXP_0
SATA_RXN_0

SATA1TXP BD10
SATA1TXN BF10
SATA1RXP AY16
SATA1RXN BA16
SATA_TXP_1
SATA_TXN_1
SATA_RXP_1
SATA_RXN_1

TP1 BA12
SATA_GP0 AY14
SATA_GP1 AY12
[14] -SATALED -SATALED
SATA_LED#

R10 0/4/SHT/M/X BB10
R11 0/4/SHT/M/X BC10
ICLK_SATA_TERMP
ICLK_SATA_TERMN

R13 402/4/1 SATA_RCOMP_P AU18
SATA_RCOMP_N AT18

PCIE_TXP_0 AY7 LA_ML_OP [19]
PCIE_TXN_0 AY6 LA_ML_ON [19]
PCIE_RXP_0 AT14 LA_ML_IP [19]
PCIE_RXN_0 AT13 LA_ML_IN [19]

LAN

PCIE_TXP_1 AV6 PCIEX1_OP [11]
PCIE_TXN_1 AV4 PCIEX1_ON [11]
PCIE_RXP_1 AT10 PCIEX1_IP [11]
PCIE_RXN_1 AT9 PCIEX1_IN [11]

PCIEX1

PCIE_TXP_2 AT7
PCIE_TXN_2 AT6
PCIE_RXP_2 AP12
PCIE_RXN_2 AP10

PCIE_TXP_3 AP6 PET_P3 C178 0.1u/4/X7R/16V/K MPCIE_TP [11]
PCIE_TXN_3 AP4 PET_N3 C179 0.1u/4/X7R/16V/K MPCIE_TN [11]
PCIE_RXP_3 AP9 MPCIE_IP [11]
PCIE_RXN_3 AP7 MPCIE_IN [11]

MINI PCI-E

VSS_BB7 BB7 R14 0/4/SHT/M/X
VSS_BB5 BB5 R15 0/4/SHT/M/X

MMC1_CLK AT22

MMC1_D0 AV20
MMC1_D1 AU22
MMC1_D2 AV22
MMC1_D3 AT20
MMC1_D4 AY24
MMC1_D5 AU26
MMC1_D6 AT26
MMC1_D7 AU20

MMC1_CMD AV26
MMC1_RST# BA24
MMC1_RCOMP AY18

SD2_CLK BA18

SD2_D0 AY20
SD2_D1 BD20
SD2_D2 BA20
SD2_D3_CD# BD18
SD2_CMD BC18

SD3_CLK AY26

SD3_D0 AT28
SD3_D1 BD26
SD3_D2 AU28
SD3_D3 BA26
SD3_CD# BC24
SD3_CMD AV28

SD3_1P8EN BF22
SD3_PWREN# BD22

SD3_RCOMP BF26

PCIE_CLKREQ_0# BG3
PCIE_CLKREQ_1# BD7
PCIE_CLKREQ_2# BG5
PCIE_CLKREQ_3# BE3
SD3_WP_BD5 BD5 TP2

PCIE_RCOMP_P AP14 PCIE_RCOMP_P R21 402/4/1
PCIE_RCOMP_N AP13 PCIE_RCOMP_N

RESERVED_BB4 BB4
RESERVED_BB3 BB3
RESERVED_AV10 AV10
RESERVED_AV9 AV9

HDA_RCOMP BF20 HDA_RCOMP R28 49.9/4/1
HDA_RST# BG22 R29 33/4 -ACZ_RST [17]
HDA_SYNC BH20 A_SYC R30 33/4 ACZ_SYNC [17]
HDA_CLK BJ21 R31 33/4 ACZ_BITCLK [17]
HDA_SDO BG20 A_SO R32 33/4 ACZ_SDOUT [17]
HDA_SDI0 BG19 ACZ_SDIN0 [17]
HDA_SDI1 BG21
HDA_DOCKRST# BH18
HDA_DOCKEN# BG18

PROCHOT# C24 A_-PROCHOT A_-PROCHOT [15]

LPE_I2S2_CLK BF28
LPE_I2S2_FRM BA30 I2S_2_FS
LPE_I2S2_DATAOUT BC30 I2S_2_TXD
LPE_I2S2_DATAIN BD28

RSVD_P34 P34
RSVD_N34 N34
RSVD_AK9 AK9
RSVD_AK7 AK7

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

VCC1_8VDUAL
A_SO R18 8.2K/4/X
ACZ_SDIN0 R19 8.2K/4/X
VCC1_05V
A_-PROCHOT R22 51/4/1

VCC1_8V
I2S_2_FS R25 8.2K/4/X
R27 8.2K/4/X

BIOS BOOT SELECTION
0-->LPC
1-->SPI

Intel reserved
FOR TXE
ENABLE/DISABLE

R33 8.2K/4/X I2S_2_TXD
VCC1_8V R34 8.2K/4

SECURITY FLASH DESCRIPTOR
0-->OVERRIDE
1-->NORMAL

SATA2 CONN

SATA2_0

SATA0TXP 0.01u/4/X7R/25V/K C3 SATA0TXPC
SATA0TXN 0.01u/4/X7R/25V/K C5 SATA0TXNC
SATA0RXN 0.01u/4/X7R/25V/K C7 SATA0RXNC
SATA0RXP 0.01u/4/X7R/25V/K C9 SATA0RXPC

1 GND
2 T+
3 T-
4 GND
5 R-
6 R+
7 GND

SATA2/7/BK/H/OP/VA/D/1/B

SATA2_1

SATA1TXP 0.01u/4/X7R/25V/K C4 SATA1TXPC
SATA1TXN 0.01u/4/X7R/25V/K C6 SATA1TXNC
SATA1RXN 0.01u/4/X7R/25V/K C8 SATA1RXNC
SATA1RXP 0.01u/4/X7R/25V/K C10 SATA1RXPC

BLACK CONNECTOR

SATA2/7/BK/H/OP/VA/D/1/B

VGA ESD

ESD1
VGADDCCLK 1
GHSYNC 3
2
6 VGADDCDATA
5
4 GVSYNC
VCC_5
AZC099-04S/SOT23-6L

SSOP6_ESD

ESD2
VGA_R 1
VGA_G 3
2
6
5
4 VGA_B
VCC3
AZC099-04S/SOT23-6L

VGA SIGNAL

R
G
B
FB1 FB2 FB3 60/4/3A/S
VGA_R VGA_G VGA_B

R39 75/4/1
R41 75/4/1
R40 75/4/1

C11 C12 C13
10p/4/NPO/50V/J
10p/4/NPO/50V/J
10p/4/NPO/50V/J

C14 C15 C16
22p/4/NPO/50V/J
22p/4/NPO/50V/J
22p/4/NPO/50V/J

Close to Filter

GVSYNC
C17 100p/4/NPO/50V/J/X
GHSYNC
C18 100p/4/NPO/50V/J/X

VCC3_SOC
R44 2.2K/4/1
R45 2.2K/4/1
DDCDATA
DDCCLK

R46 1K/4/1
Q1 2N7002/SOT23/25pF/5
VCC
R42 2.2K/4/1
R43 2.2K/4/1
VCC_5
VGADDCDATA

Q2 2N7002/SOT23/25pF/5
VCC
VGADDCCLK

R47 1K/4/1
SOT23

D-SUB

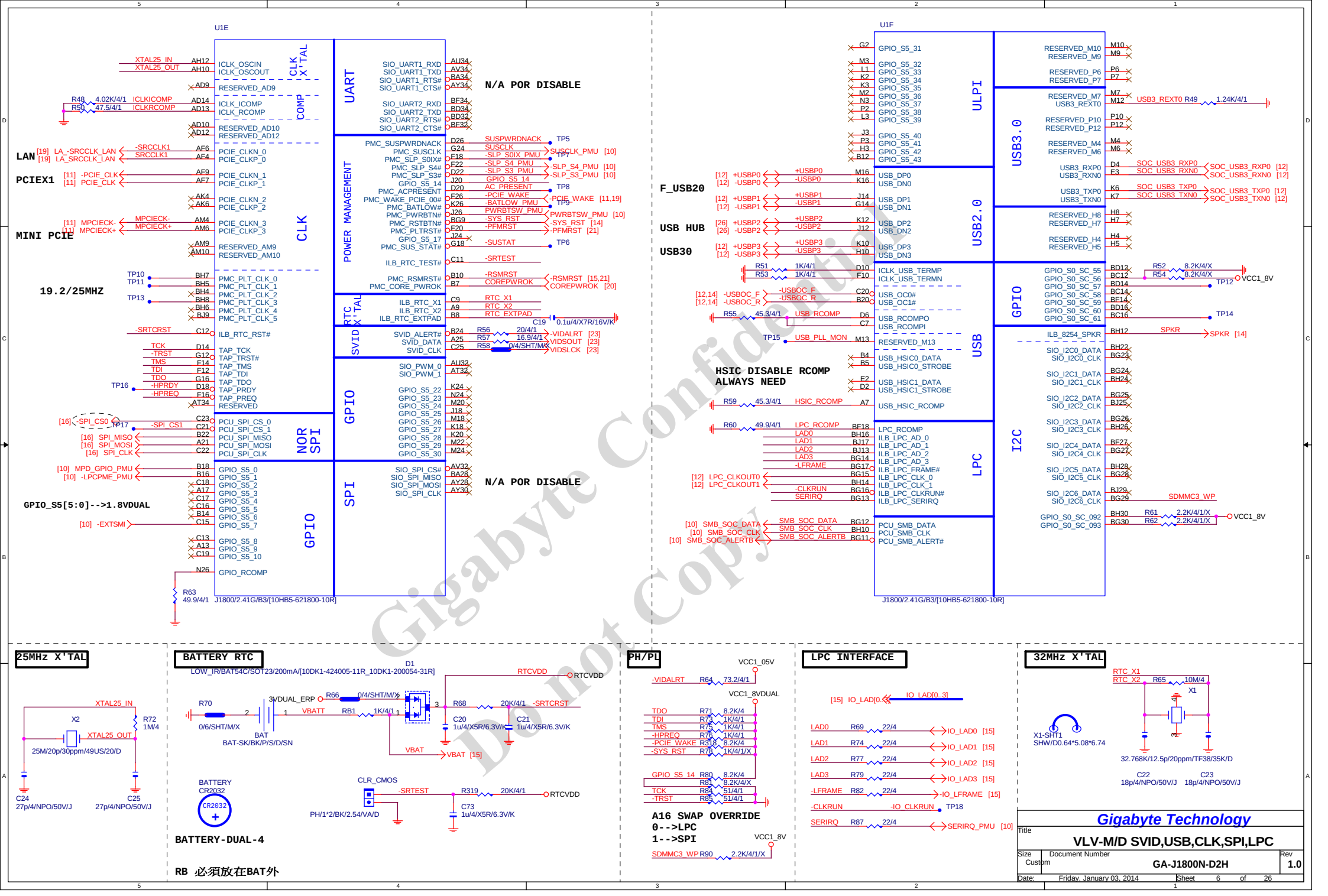
FUSEVCC_R
BC3 0.1u/4/X7R/16V/K/X

VGA
VGA_R 1
VGA_G 2
VGA_B 3
4
5
6
7
8
9
10
11 VGADDCDATA
12 GHSYNC
13 GVSYNC
14 VGADDCCLK
15
16
17

BLACK D-SUB

VGA/BK/SC-11/RA/D/L/[11NR6-103015-21R_11NR6-103015-22R]

Gigabyte Technology		
Title: DISPLAY,SATA,SD,GBE		
Size: Custom	Document Number: GA-J1800N-D2H	Rev: 1.0
Date: Friday, January 03, 2014	Sheet 5 of 26	



25MHz X'TAL

BATTERY RTC

PH/PL

LPC INTERFACE

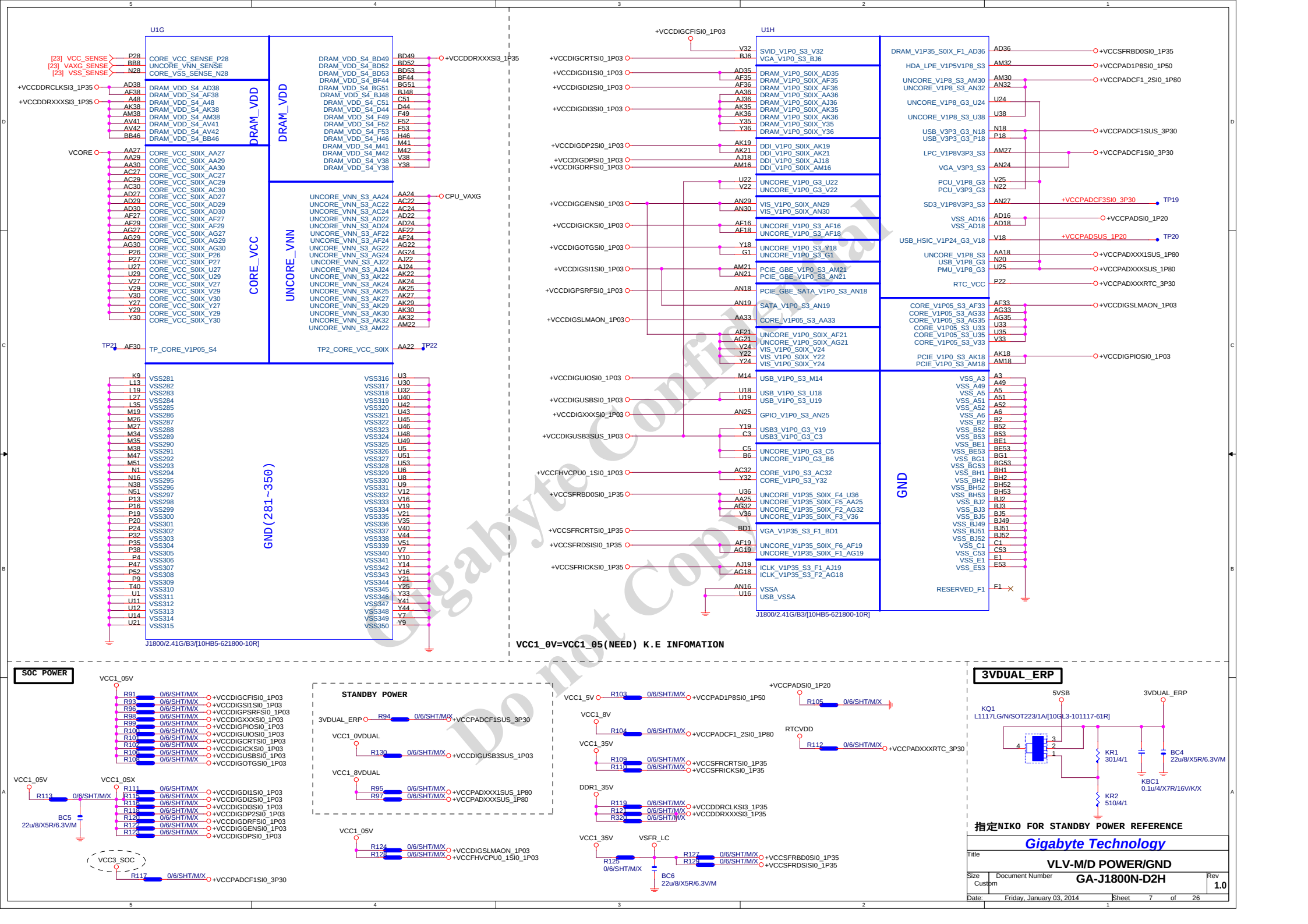
32MHz X'TAL

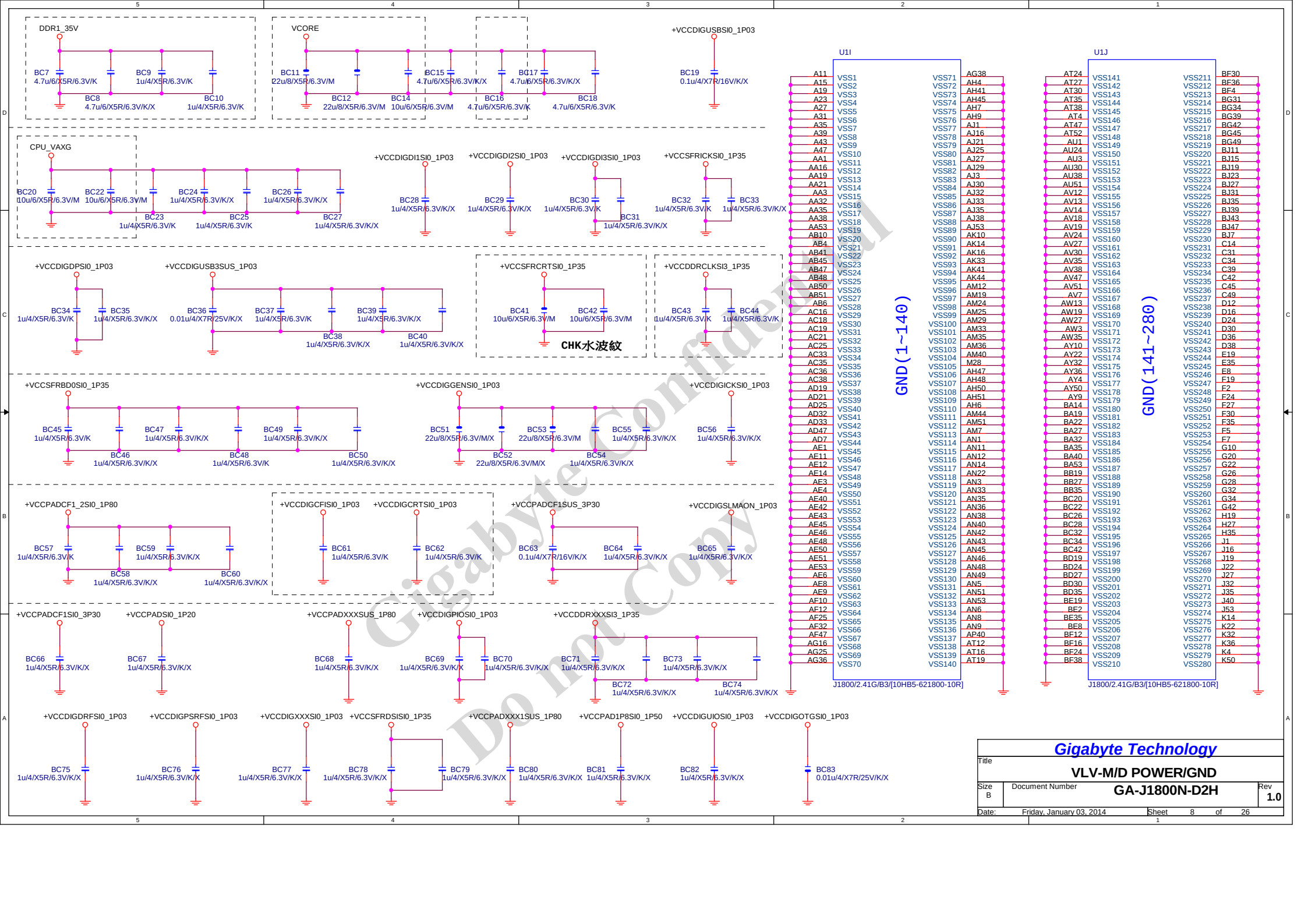
Gigabyte Technology

Title: VLV-M/D SVID,USB,CLK,SPI,LPC

Size	Document Number	Rev
Custom	GA-J1800N-D2H	1.0

Date: Friday, January 03, 2014 Sheet 6 of 26


U1G
U1H
DRAM_VDD
CORE_VCC
UNCORE_VNN
GND(281~350)
GND
J1800/2.41G/B3/[10HB5-621800-10R]
VCC1_0V=VCC1_05(NEED) K.E INFOMATION
SOC POWER
STANDBY POWER
3VDUAL_ERP
KQ1
L1117LG/N/SOT223/1A/[10GL3-101117-61R]
指定NIKO FOR STANDBY POWER REFERENCE
Gigabyte Technology
VLV-M/D POWER/GND
GA-J1800N-D2H
Rev 1.0
Friday, January 03, 2014
Sheet 7 of 26
Gigabyte Confidential
Do not Copy


DDR1_35V
BC7 4.7u/6/X5R/6.3V/K
BC8 4.7u/6/X5R/6.3V/K/X
BC9 1u/4/X5R/6.3V/K
BC10 1u/4/X5R/6.3V/K
VCORE
BC11 22u/8/X5R/6.3V/M
BC12 22u/8/X5R/6.3V/M
BC14 10u/6/X5R/6.3V/M
BC15 4.7u/6/X5R/6.3V/K/X
BC16 4.7u/6/X5R/6.3V/K
BC17 4.7u/6/X5R/6.3V/K/X
BC18 4.7u/6/X5R/6.3V/K
+VCCDIGUSBSI0_1P03
BC19 0.1u/4/X7R/16V/K/X
CPU_VAXG
BC20 10u/6/X5R/6.3V/M
BC22 10u/6/X5R/6.3V/M
BC23 1u/4/X5R/6.3V/K
BC24 1u/4/X5R/6.3V/K/X
BC25 1u/4/X5R/6.3V/K
BC26 1u/4/X5R/6.3V/K/X
BC27 1u/4/X5R/6.3V/K/X
+VCCDIGDI1SI0_1P03
BC28 1u/4/X5R/6.3V/K/X
+VCCDIGDI2SI0_1P03
BC29 1u/4/X5R/6.3V/K/X
+VCCDIGDI3SI0_1P03
BC30 1u/4/X5R/6.3V/K
BC31 1u/4/X5R/6.3V/K/X
+VCCSFRICKSI0_1P35
BC32 1u/4/X5R/6.3V/K
BC33 1u/4/X5R/6.3V/K/X
+VCCDIGDPSI0_1P03
BC34 1u/4/X5R/6.3V/K
BC35 1u/4/X5R/6.3V/K/X
+VCCDIGUSB3SUS_1P03
BC36 0.01u/4/X7R/25V/K/X
BC37 1u/4/X5R/6.3V/K
BC38 1u/4/X5R/6.3V/K/X
BC39 1u/4/X5R/6.3V/K/X
BC40 1u/4/X5R/6.3V/K/X
+VCCSFRCRTSI0_1P35
BC41 10u/6/X5R/6.3V/M
BC42 10u/6/X5R/6.3V/M
CHK水波紋
+VCCDDRCLKSI3_1P35
BC43 1u/4/X5R/6.3V/K
BC44 1u/4/X5R/6.3V/K/X
+VCCSFRBD0SI0_1P35
BC45 1u/4/X5R/6.3V/K
BC46 1u/4/X5R/6.3V/K/X
BC47 1u/4/X5R/6.3V/K/X
BC48 1u/4/X5R/6.3V/K
BC49 1u/4/X5R/6.3V/K/X
BC50 1u/4/X5R/6.3V/K/X
+VCCDIGGENSI0_1P03
BC51 22u/8/X5R/6.3V/M/X
BC52 22u/8/X5R/6.3V/M/X
BC53 22u/8/X5R/6.3V/M
BC54 1u/4/X5R/6.3V/K/X
BC55 1u/4/X5R/6.3V/K/X
+VCCDIGICKSI0_1P03
BC56 1u/4/X5R/6.3V/K/X
+VCCPADCF1_2SI0_1P80
BC57 1u/4/X5R/6.3V/K
BC58 1u/4/X5R/6.3V/K/X
BC59 1u/4/X5R/6.3V/K/X
BC60 1u/4/X5R/6.3V/K/X
+VCCDIGCFISI0_1P03
BC61 1u/4/X5R/6.3V/K
+VCCDIGCRTSI0_1P03
BC62 1u/4/X5R/6.3V/K
+VCCPADCF1SUS_3P30
BC63 0.1u/4/X7R/16V/K/X
BC64 1u/4/X5R/6.3V/K/X
+VCCDIGSLMAON_1P03
BC65 1u/4/X5R/6.3V/K/X
+VCCPADCF1SI0_3P30
BC66 1u/4/X5R/6.3V/K/X
+VCCPADSI0_1P20
BC67 1u/4/X5R/6.3V/K/X
+VCCPADXXXSUS_1P80
BC68 1u/4/X5R/6.3V/K/X
+VCCDIGPIOSI0_1P03
BC69 1u/4/X5R/6.3V/K/X
BC70 1u/4/X5R/6.3V/K/X
+VCCDDRXXXSI3_1P35
BC71 1u/4/X5R/6.3V/K/X
BC72 1u/4/X5R/6.3V/K/X
BC73 1u/4/X5R/6.3V/K/X
BC74 1u/4/X5R/6.3V/K/X
+VCCDIGDRFSI0_1P03
BC75 1u/4/X5R/6.3V/K/X
+VCCDIGPSRFSI0_1P03
BC76 1u/4/X5R/6.3V/K/X
+VCCDIGXXXSI0_1P03
BC77 1u/4/X5R/6.3V/K/X
+VCCSFRDSISI0_1P35
BC78 1u/4/X5R/6.3V/K/X
BC79 1u/4/X5R/6.3V/K/X
+VCCPADXXX1SUS_1P80
BC80 1u/4/X5R/6.3V/K/X
+VCCPAD1P8SI0_1P50
BC81 1u/4/X5R/6.3V/K/X
+VCCDIGUIOSI0_1P03
BC82 1u/4/X5R/6.3V/K/X
+VCCDIGOTGSI0_1P03
BC83 0.01u/4/X7R/25V/K/X
U1I
GND(1~140)
J1800/2.41G/B3/[10HB5-621800-10R]
U1J
GND(141~280)
J1800/2.41G/B3/[10HB5-621800-10R]
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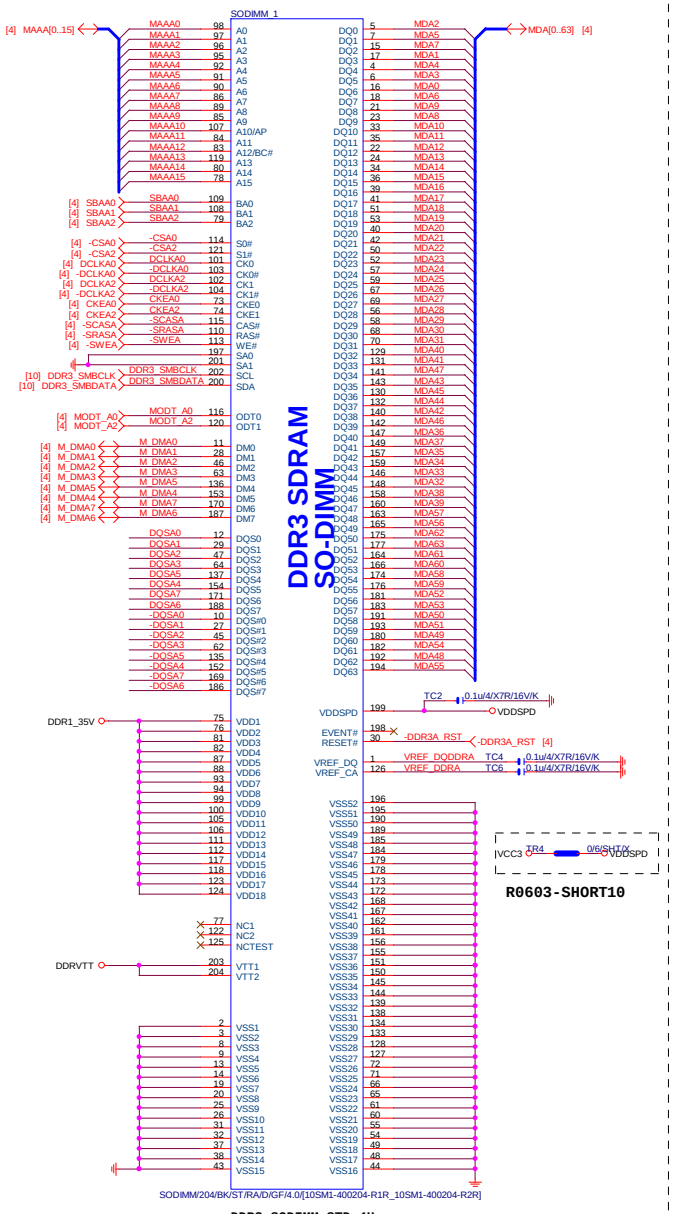
Gigabyte Technology
Title
VLV-M/D POWER/GND
Size B
Document Number
GA-J1800N-D2H
Rev 1.0
Date: Friday, January 03, 2014
Sheet 8 of 26

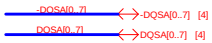
DDR3L A

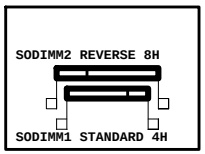
DUAL CHANNEL



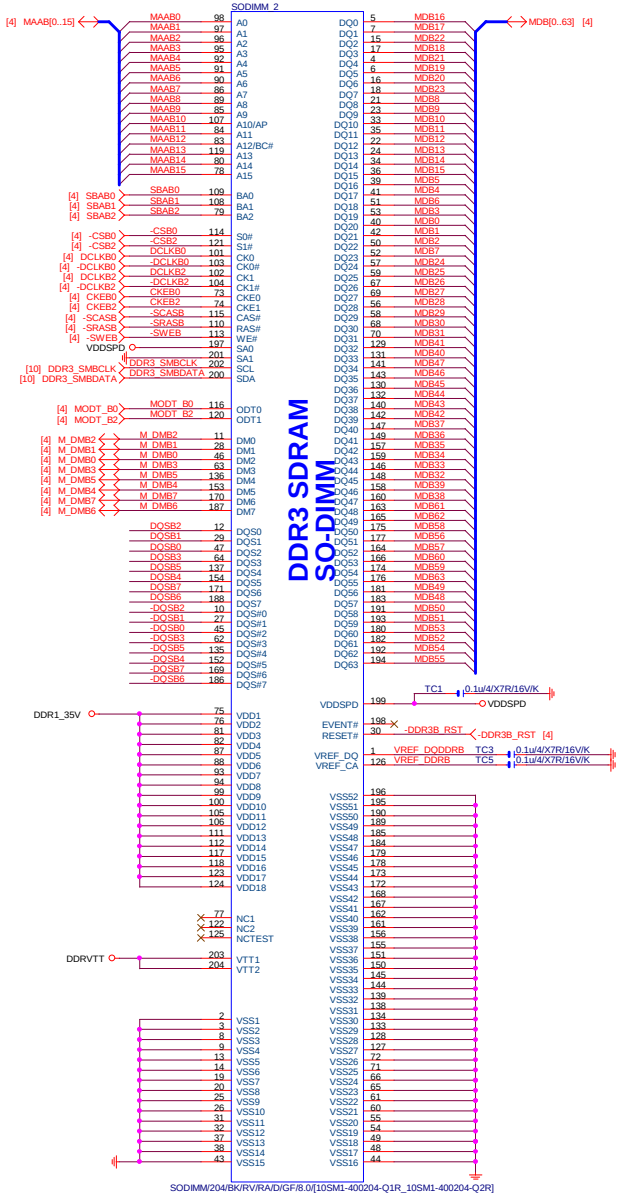
DDR3-SODIMM-STD-4H

R0603-SHORT10





DDR3L B

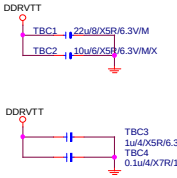


DDR3-SODIMM-RVS-8H

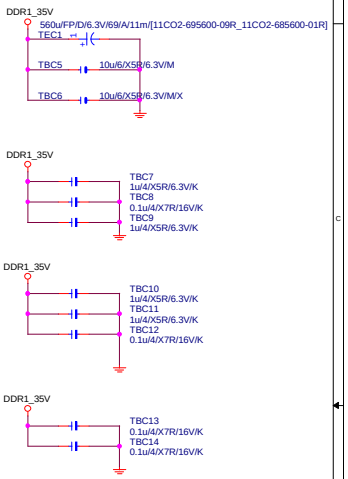
10SM1-400204-Q1R 鸿海 黑色 REVERSE
10SM1-400204-R1R 鸿海 黑色 STANDARD

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

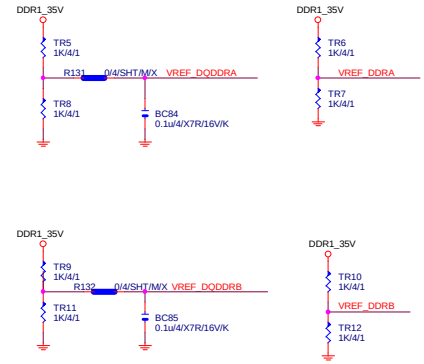
DDRVTT Decouple



DDR15V Decouple

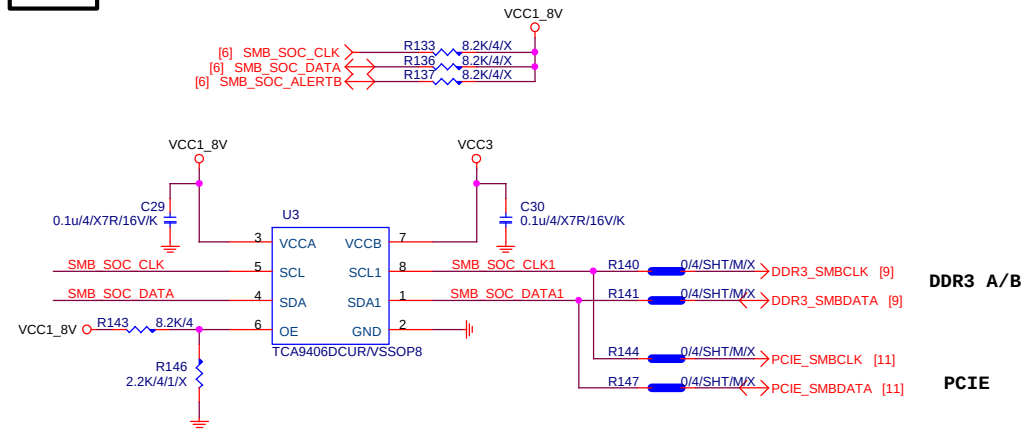


DDR VREF



Gigabyte Technology			
Title: DDR3L SO-DIMM 1,2			
Size: C	Document Number: GA-J1800N-D2H		Rev: 1.0
Date: Friday, January 03, 2014	Sheet 9 of 26		

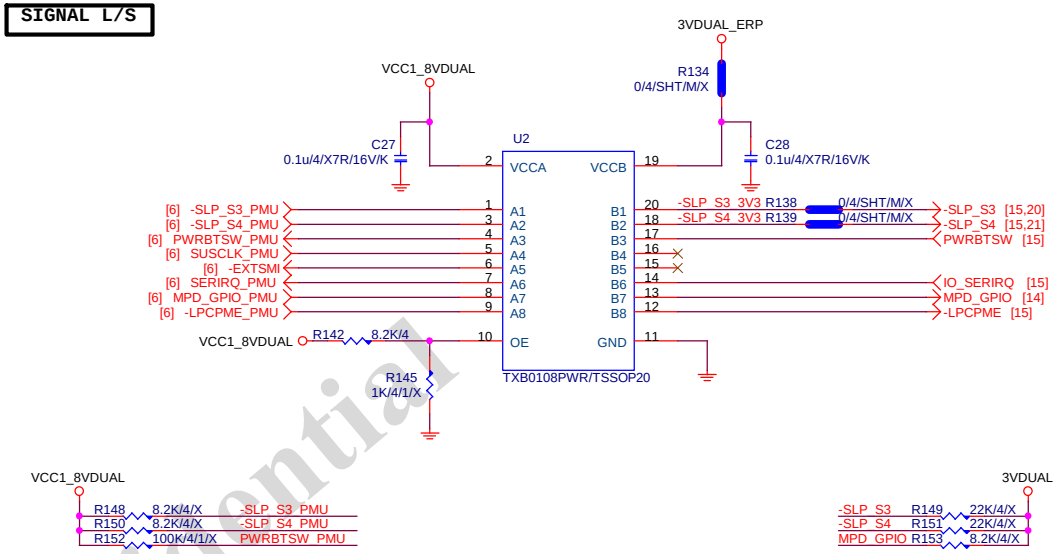
SMBUS



DDR3 A/B

PCIE

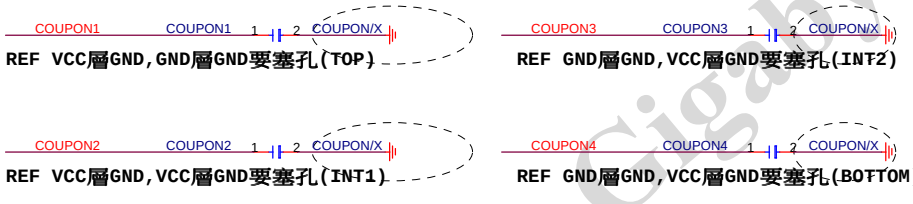
SIGNAL L/S



PWRBTSW_PMU NEED P.H. OVER 100K OR N/A

R149/R151 N/A,FOR S5 LEAKAGE.

COUPON



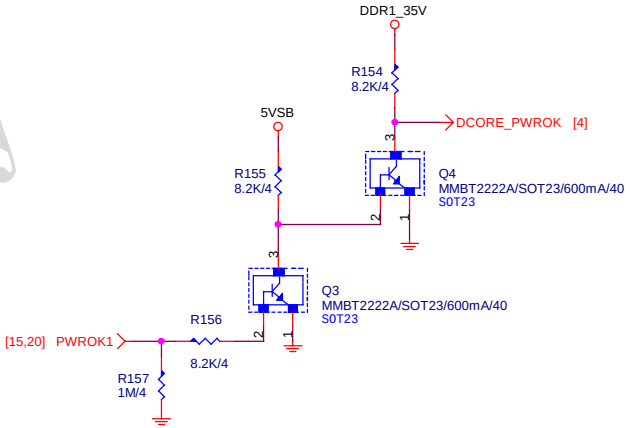
REF VCC層GND,GND層GND要塞孔(TOP)

REF GND層GND,VCC層GND要塞孔(INT2)

REF VCC層GND,VCC層GND要塞孔(INT1)

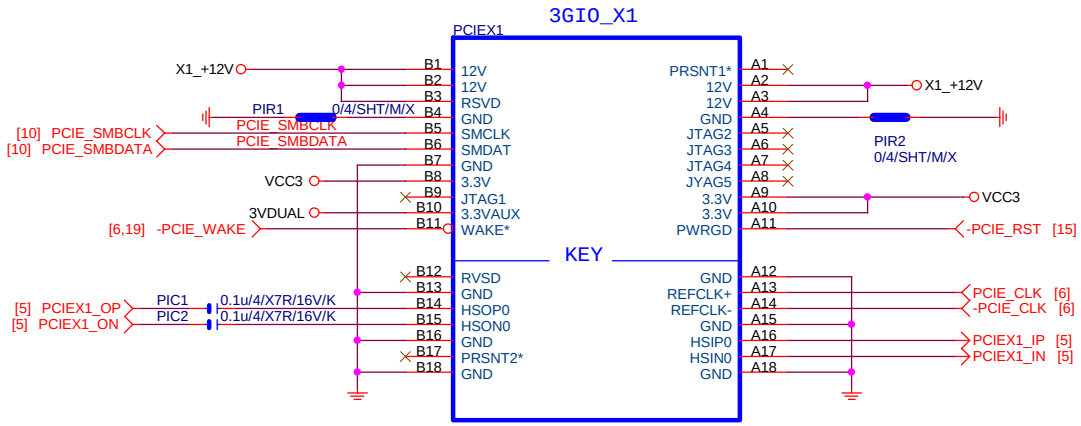
REF GND層GND,VCC層GND要塞孔(BOTTOM)

DDR PWROK



Gigabyte Technology		
Title: SMBUS,SIGNAL L/S		
Size: B	Document Number: GA-J1800N-D2H	Rev: 1.0
Date: Friday, January 03, 2014	Sheet 10 of 26	

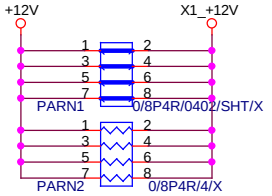
PCIEX1 SLOT

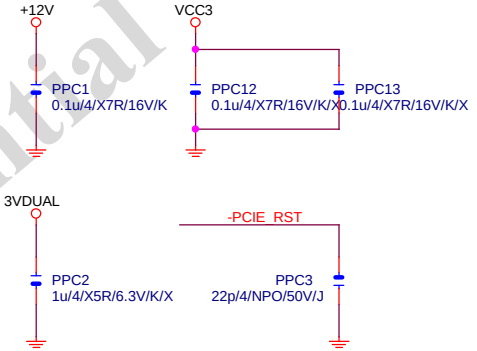


PCI-E/1X-36P/BK/OL

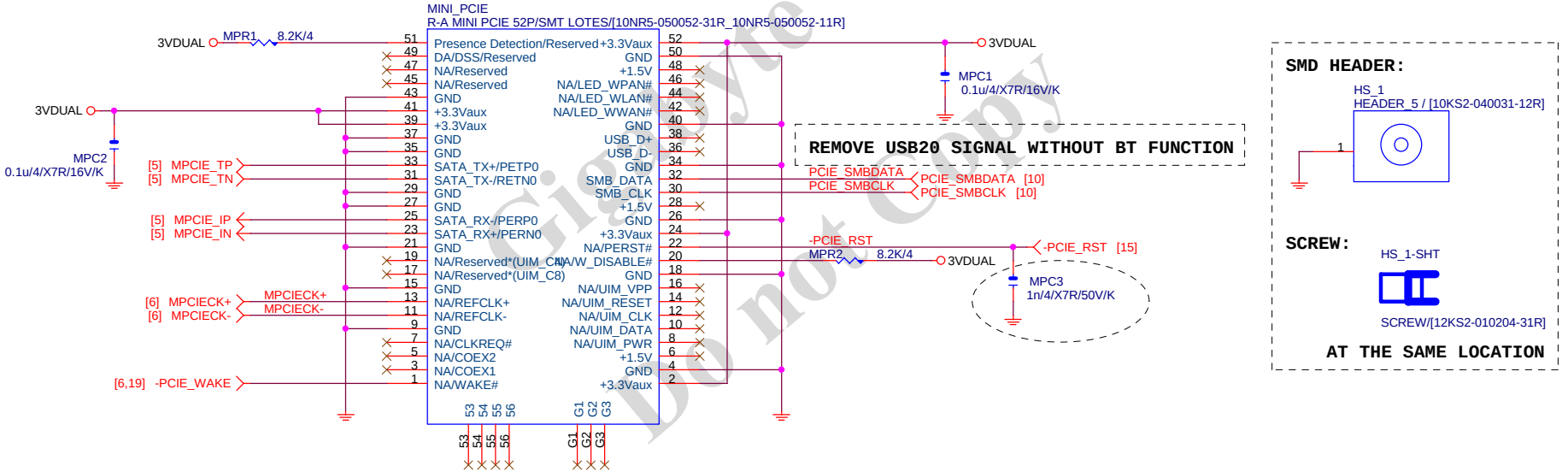
BLACK CONNECTOR

PCIEX16 PROTECT SHT





mini PCI-E



MINI_PCIE52P-HALF-A

BLACK CONNECTOR

SMD HEADER:

SCREW:

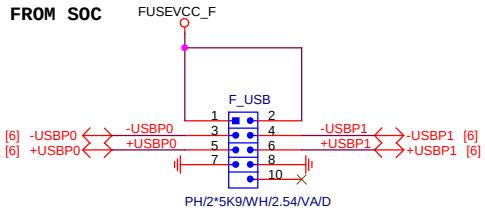
SCREW/[12KS2-010204-31R]

AT THE SAME LOCATION

Gigabyte Technology		
Title: PCIE*1 SLOT/MINI PCIE		
Size: Custom	Document Number: GA-J1800N-D2H	Rev: 1.0
Date: Friday, January 03, 2014	Sheet 11 of 26	

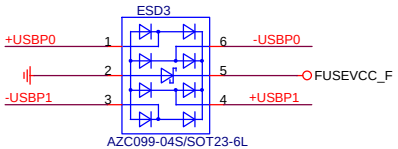
FRONT USB20

FROM SOC



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

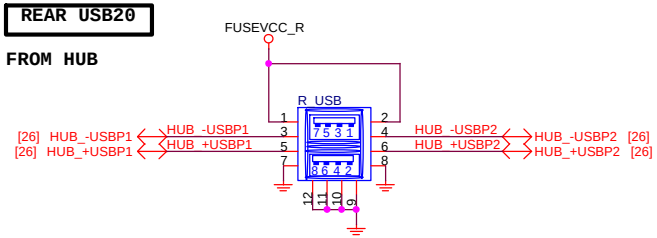
WHITE CONNECTOR



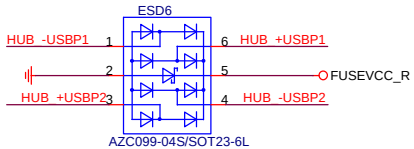
Close to connector

REAR USB20

FROM HUB



USB/A/O/BLACK/GF/2/RA/D

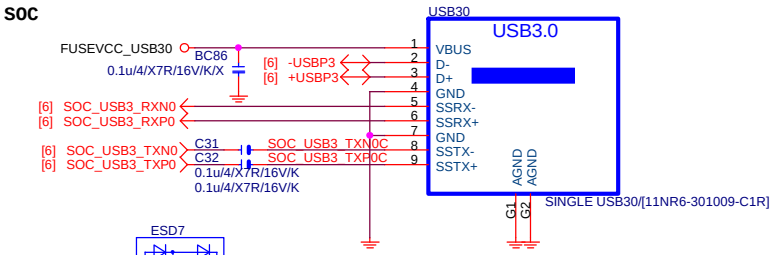


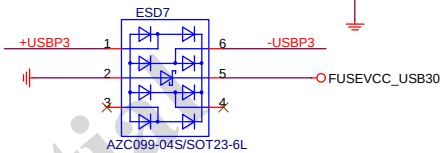
Close to connector

REAR USB30

FROM SOC

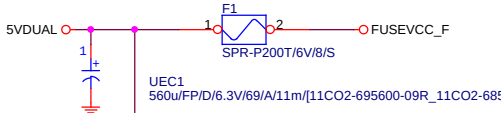
USB30-SINGLE



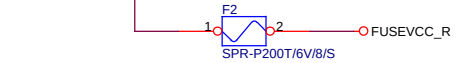


Close to connector

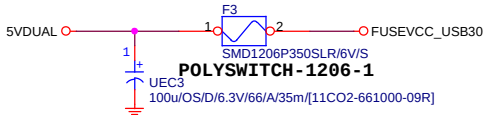
USB POWER



CLOSE F_USB

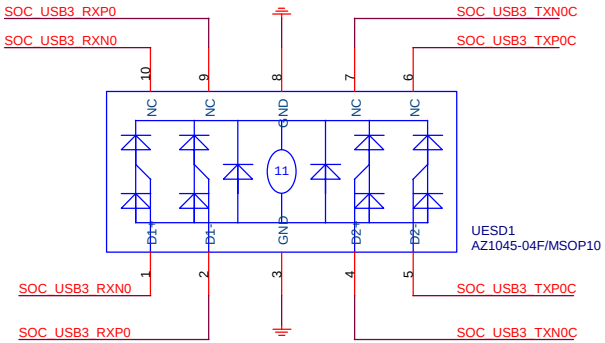


CLOSE R_USB

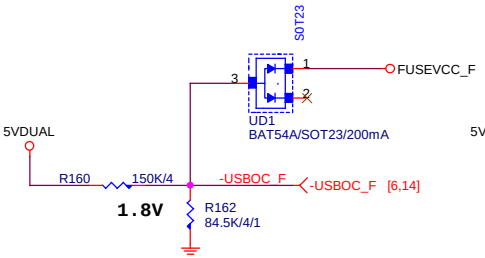


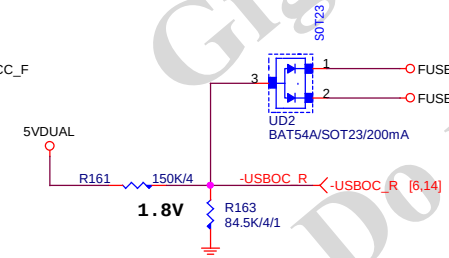
USB30_20 ESD PROCTECT

USB3.0 ESD

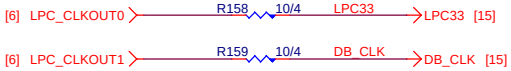


USB_OC



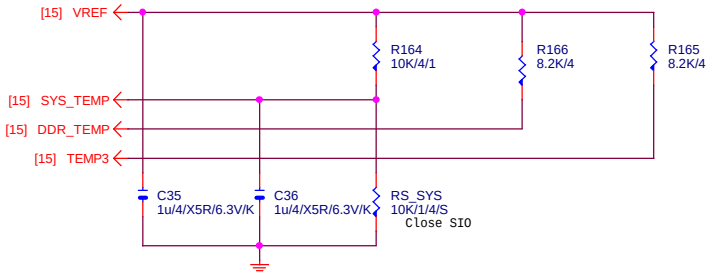


CLK BUFFER

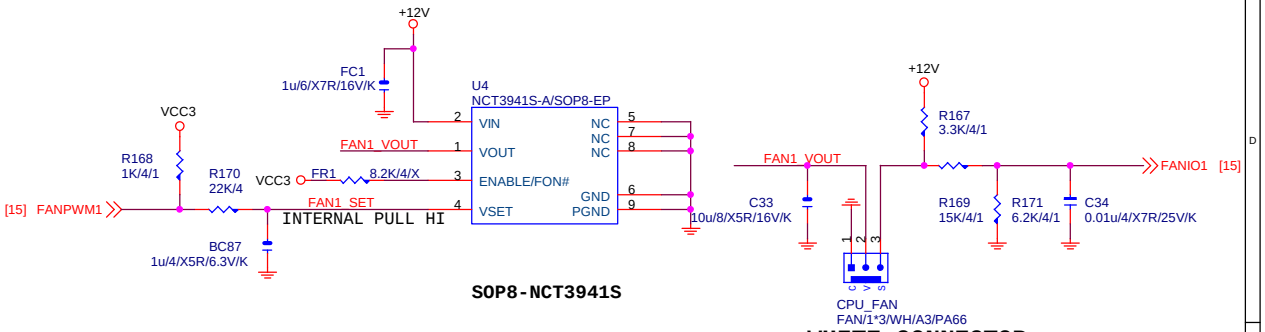


Gigabyte Technology		
Title: USB2.0/USB3.0		
Size: B	Document Number: GA-J1800N-D2H	Rev: 1.0
Date: Friday, January 03, 2014	Sheet 12 of 26	

TEMP H/W MONITOR



CPU SMART FAN

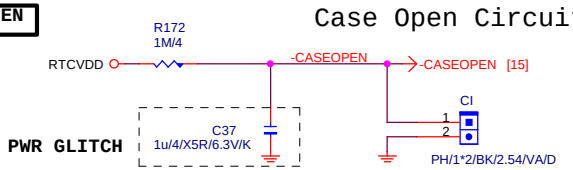


SOP8-NCT3941S

WHITE CONNECTOR

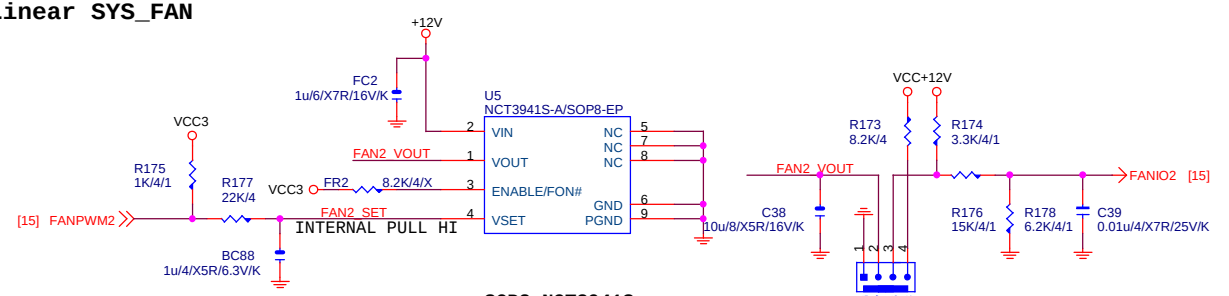
CASE OPEN

Case Open Circuits



SYS SMART FAN

Linear SYS_FAN



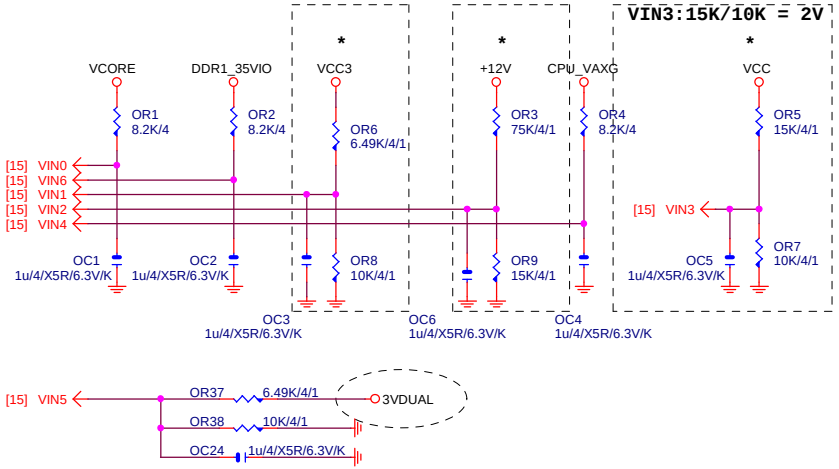
SOP8-NCT3941S

BLACK CONNECTOR

VOLTAGE-- H/W MONITOR

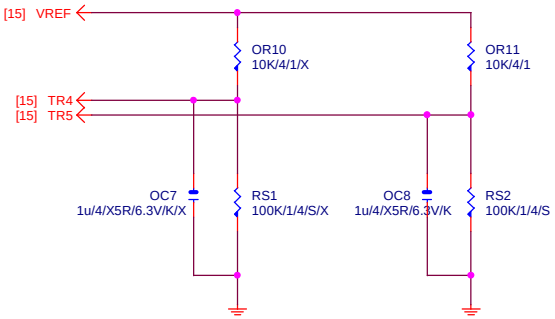
VIN2:75K/15K = 2V

VIN3:15K/10K = 2V



I/O IT8620 THERMAL SENSOR

TR4 & TR5



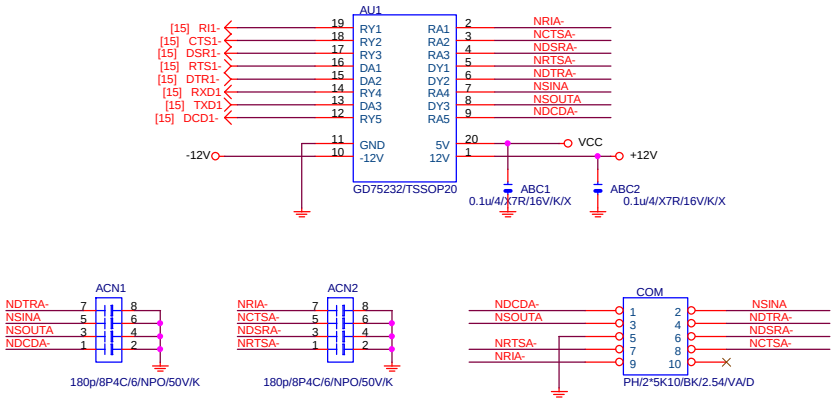
RS1、RS2 CLOSE CPU VR MOSFET

-PROHOT

N/A

Gigabyte Technology		
Title: HWM,FAN CTRL,OV		
Size: Custom	Document Number: GA-J1800N-D2H	Rev: 1.0
Date: Friday, January 03, 2014	Sheet 13 of 26	

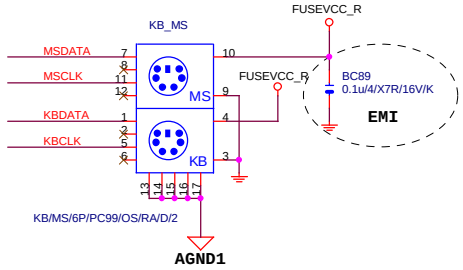
COM

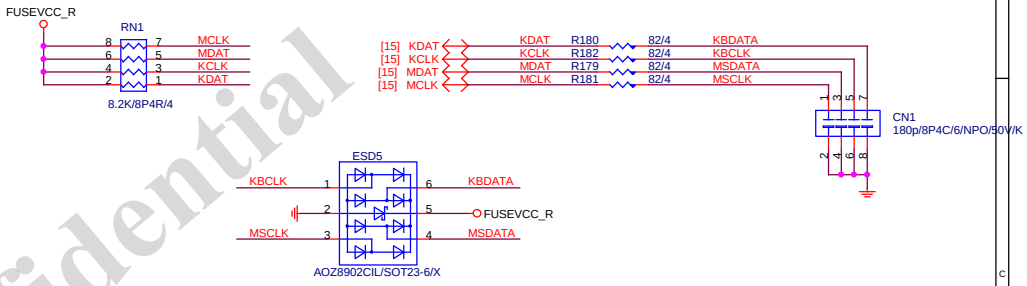


PIN2X5-CUT10-COM

BLACK CONNECTOR

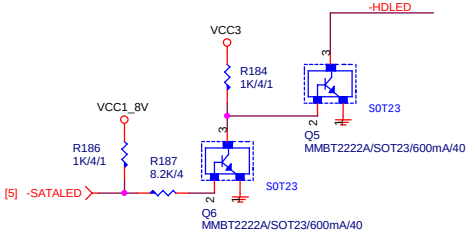
KB/MS



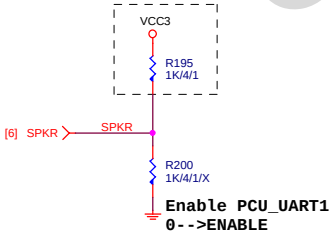


CLOSE KB_MS

SATA LED

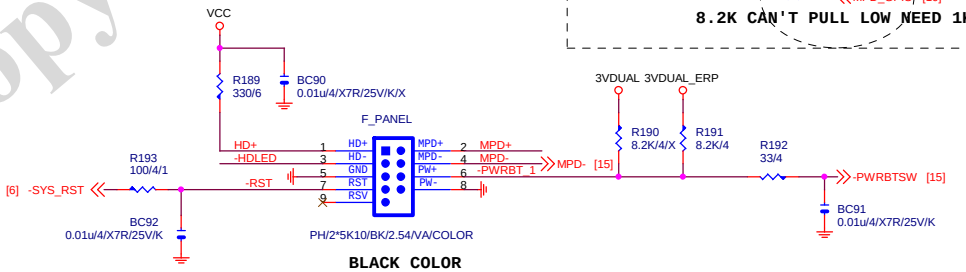


SPKR



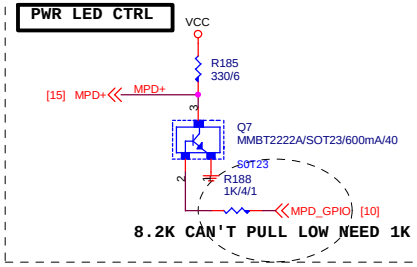
Enable PCU_UART1
0-->ENABLE
1-->DISABLE

INTEL FRONT PANEL



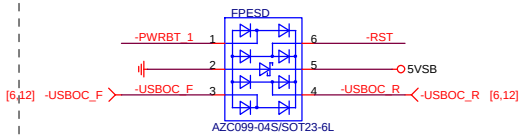
BLACK COLOR

PWR LED CTRL



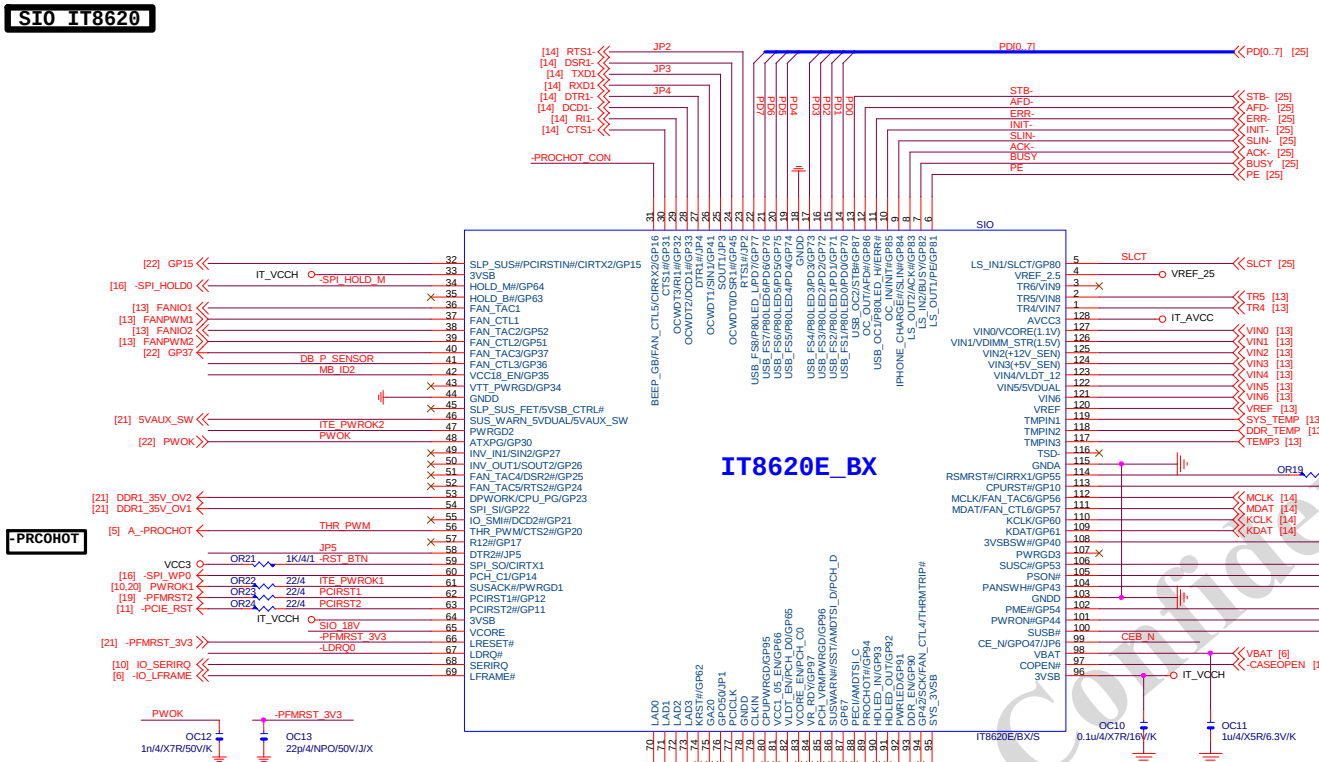
8.2K CAN'T PULL LOW NEED 1K

SYSTEM ESD



Gigabyte Technology		
Title	FP,F_USB,USB PWR,SPKR,SATA LED	
Size: Custom	Document Number: GA-J1800N-D2H	Rev: 1.0
Date: Friday, January 03, 2014	Sheet 14 of 26	

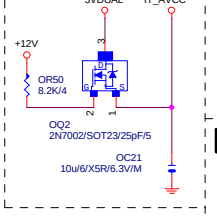
SIO IT8620



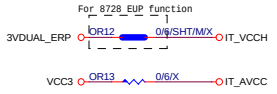
FOR SWITCH NEED PULL HIGH 1K

-THRMTRIP CPU N/A (DTS DETECT)

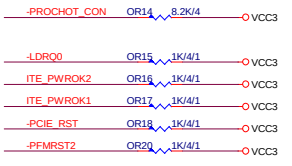
FIX ATX 插拔漏電



PWR SHT

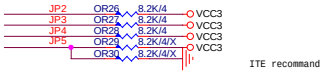


SIO PU



SIO STRAP

H61M-S2 1.1 JP6 stuff pull down



EUP control by PCH

3VDUAL OR31 100/4/1 28_3VSB

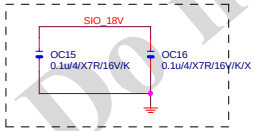
JP3--- High SPI-Flash Disable
Low SPI-Flash Enable

DUAL BIOS OPT STRAP

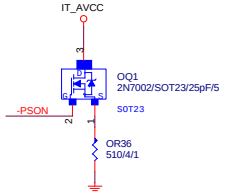
CKD SINGLE BIOS

SIO_18V

internal power pin, max 22nF cap

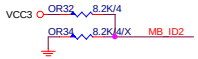


Power leakage

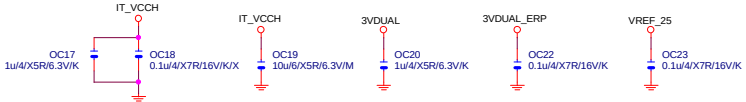


For IT8721 Power leakage

MB ID

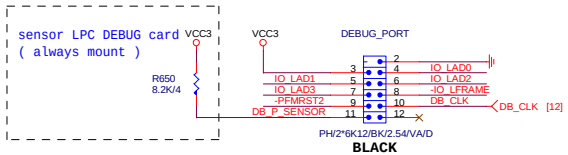


SIO CAP



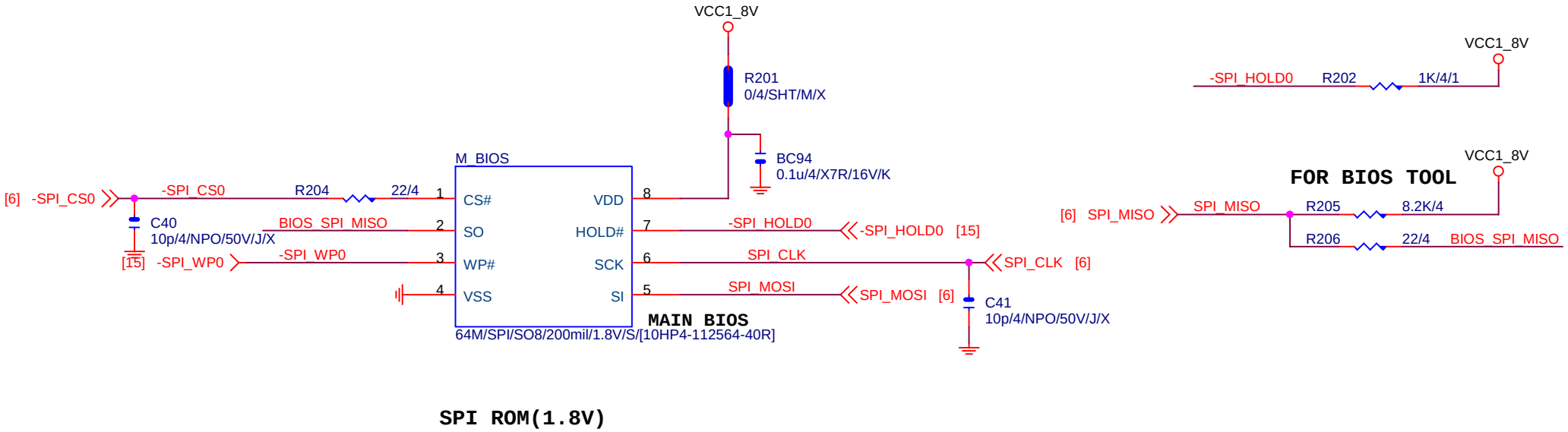
DEBUG PORT

PIN2X6-CUT1



Gigabyte Technology			
Title: ITE8620/BX			
Size: Custom	Document Number: GA-J1800N-D2H		Rev: 1.0
Date: Friday, January 03, 2014		Sheet 15 of 26	

MAIN BIOS

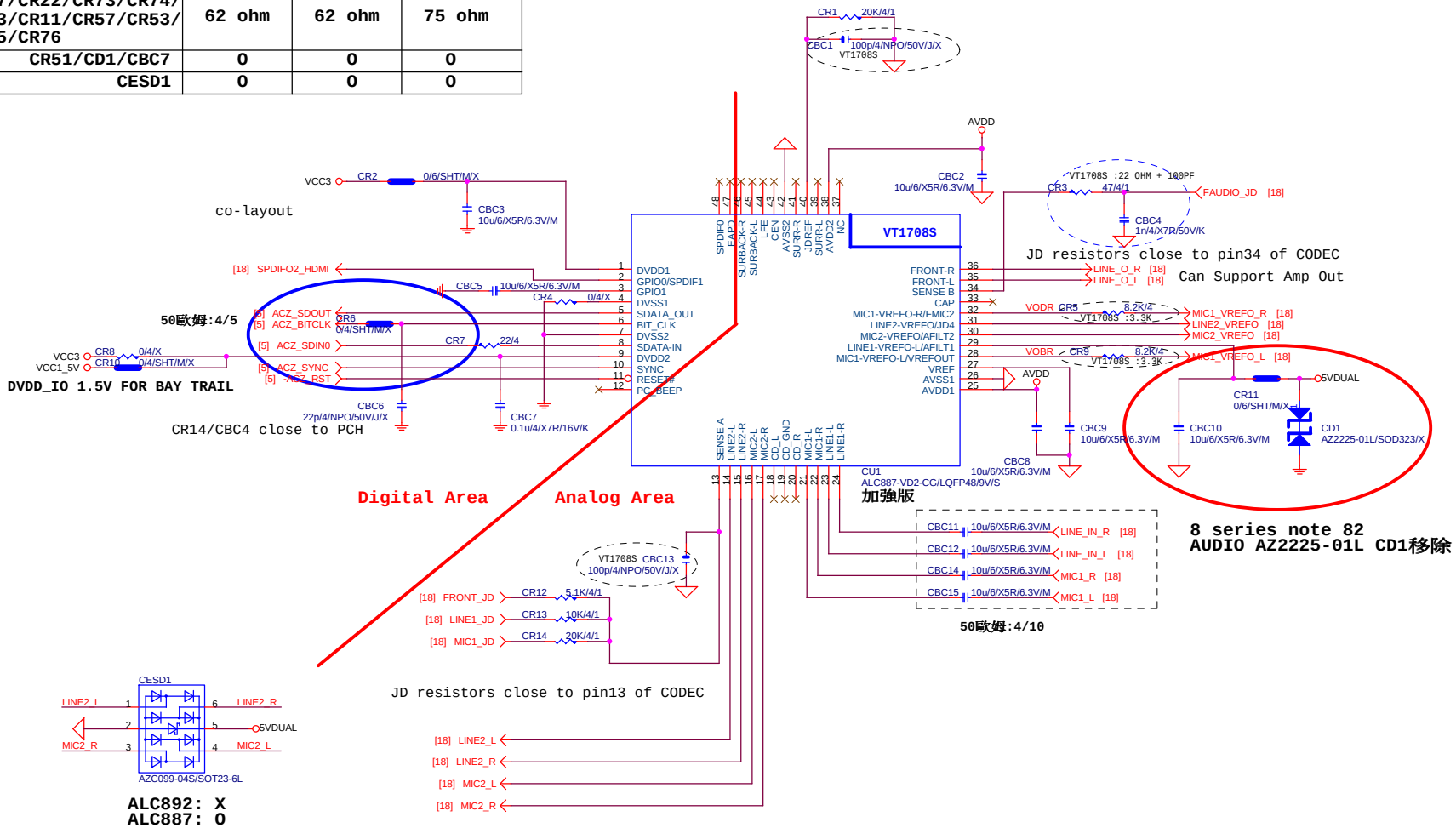


SPI ROM(1.8V)

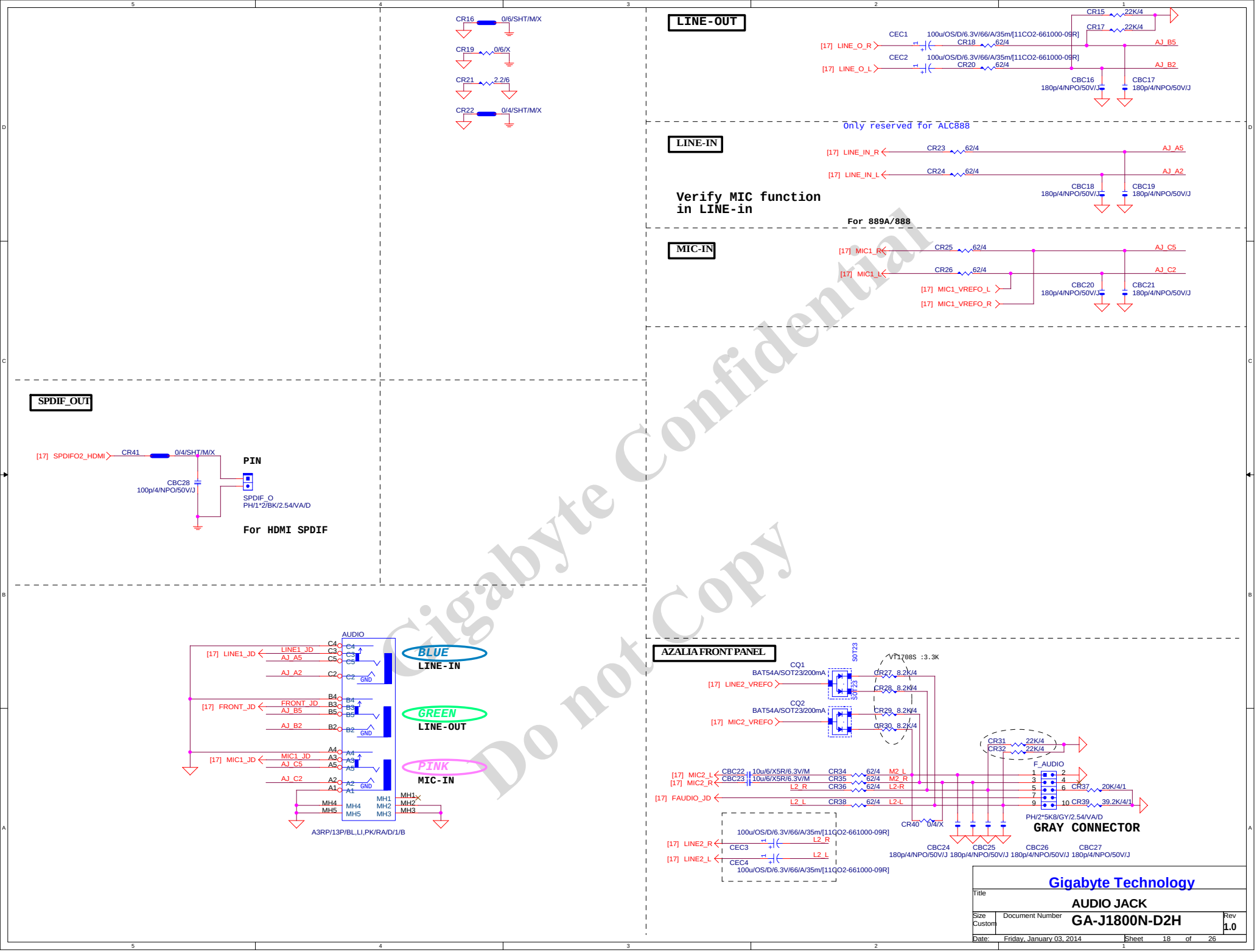
Gigabyte Technology		
Title: SPI BIOS		
Size: Custom	Document Number: GA-J1800N-D2H	Rev: 1.0
Date: Friday, January 03, 2014	Sheet 16 of 26	

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

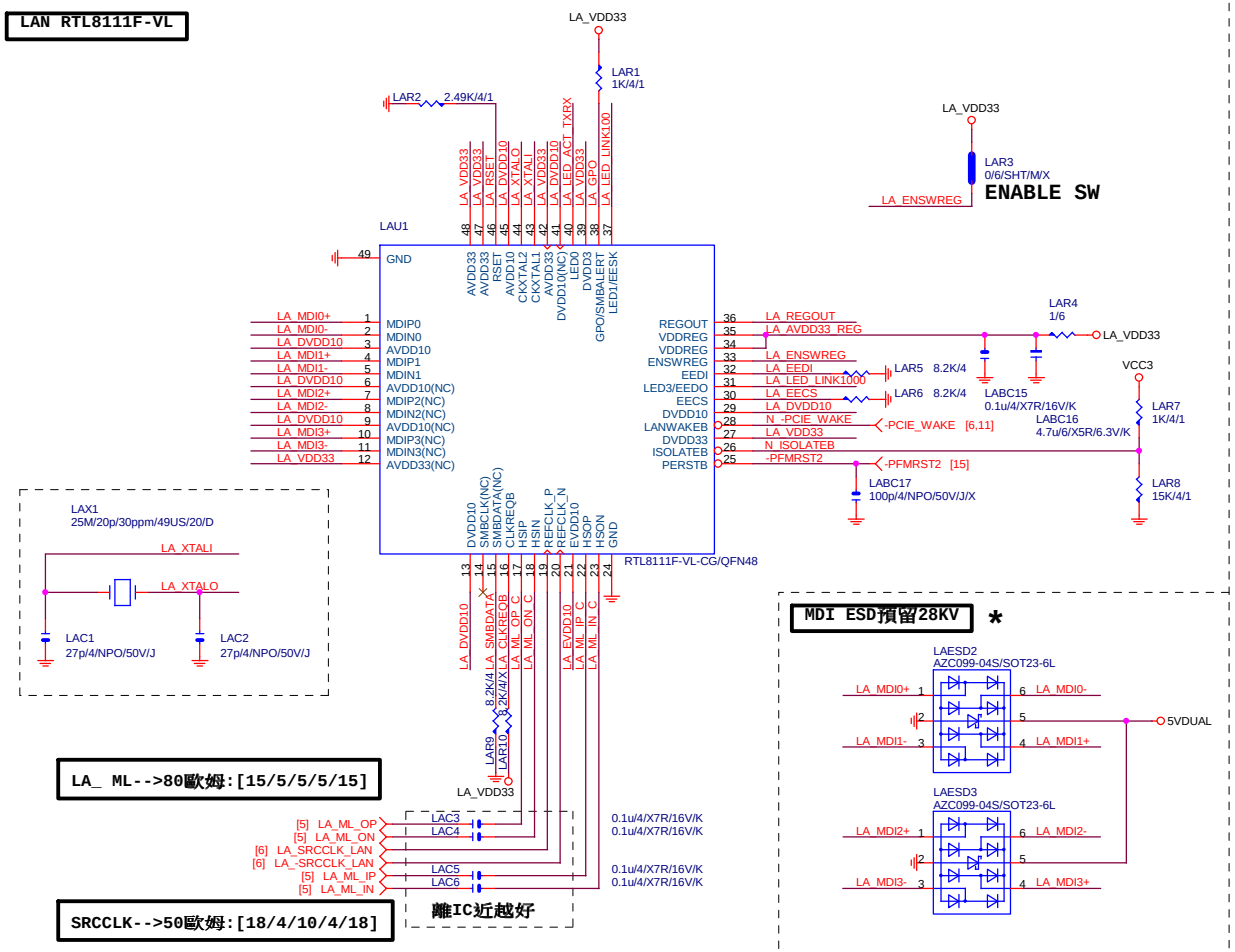
	ALC892	ALC887-VD2	VT1708S-CE
CR44/CBC26	47ohm+1nF	47ohm+1nF	22ohm+100P
CBC42/CBC43	X	X	100P/4
CR6/CR7/CR58/CR54/ CR67/CR68/CR69/CR70	22K/4	22K/4	10K/4/1
CR5/CR8/CR1/CR14/ CR17/CR22/CR73/CR74/ CR13/CR11/CR57/CR53/ CR75/CR76	62 ohm	62 ohm	75 ohm
CR51/CD1/CBC7	0	0	0
CESD1	0	0	0



Gigabyte Technology	
Title	HD AUDIO ALC887B-VD2/VT1708S/VT2021
Size: Custom	Document Number: GA-J1800N-D2H
Rev: 1.0	
Date: Friday, January 03, 2014	Sheet 17 of 26



LAN RTL8111F-VL

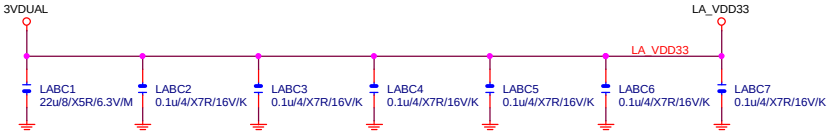


LA_ ML-->80歐姆:[15/5/5/5/15]

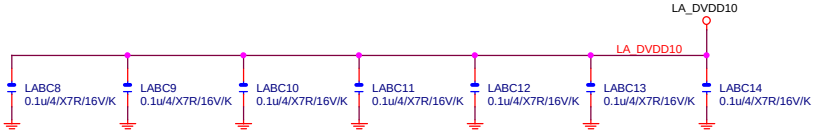
SRCCLK-->50歐姆:[18/4/10/4/18]

MDI ESD預留28KV *

LAN POWER

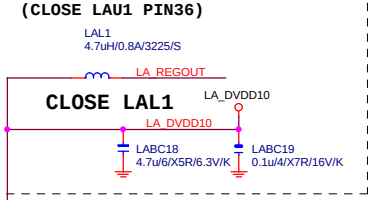


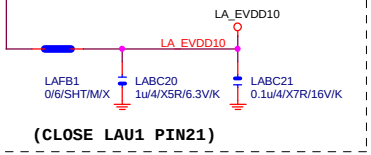
(CLOSE LAU1 PIN:12,27,39,42,47,48)



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

(CLOSE LAU1 PIN36)



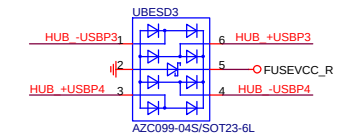


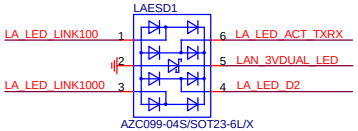
(CLOSE LAU1 PIN21)

Power domain chart

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

LAN CONNECTOR ESD



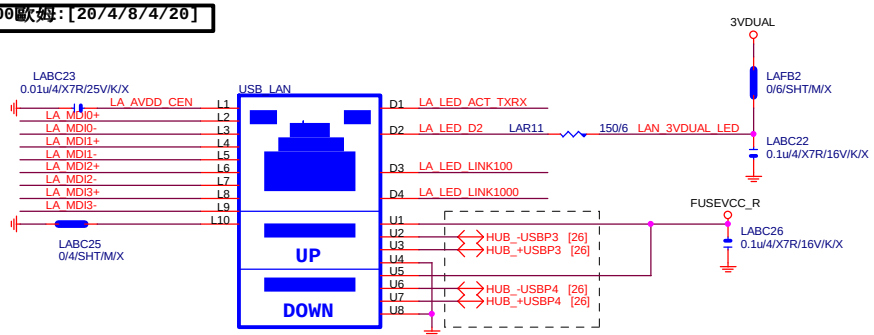


使用RU9 USB_LAN可省略LAESD1保護LED

EMI SHORT PAD

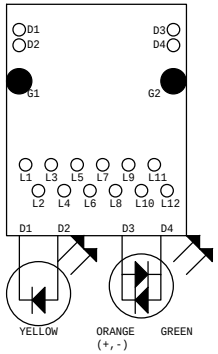
PS:視EMI需求

LA_MDI-->100歐姆:[20/4/8/4/20]

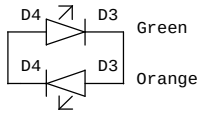


9KV ESD protection

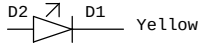
USB_LAN:USB改GND



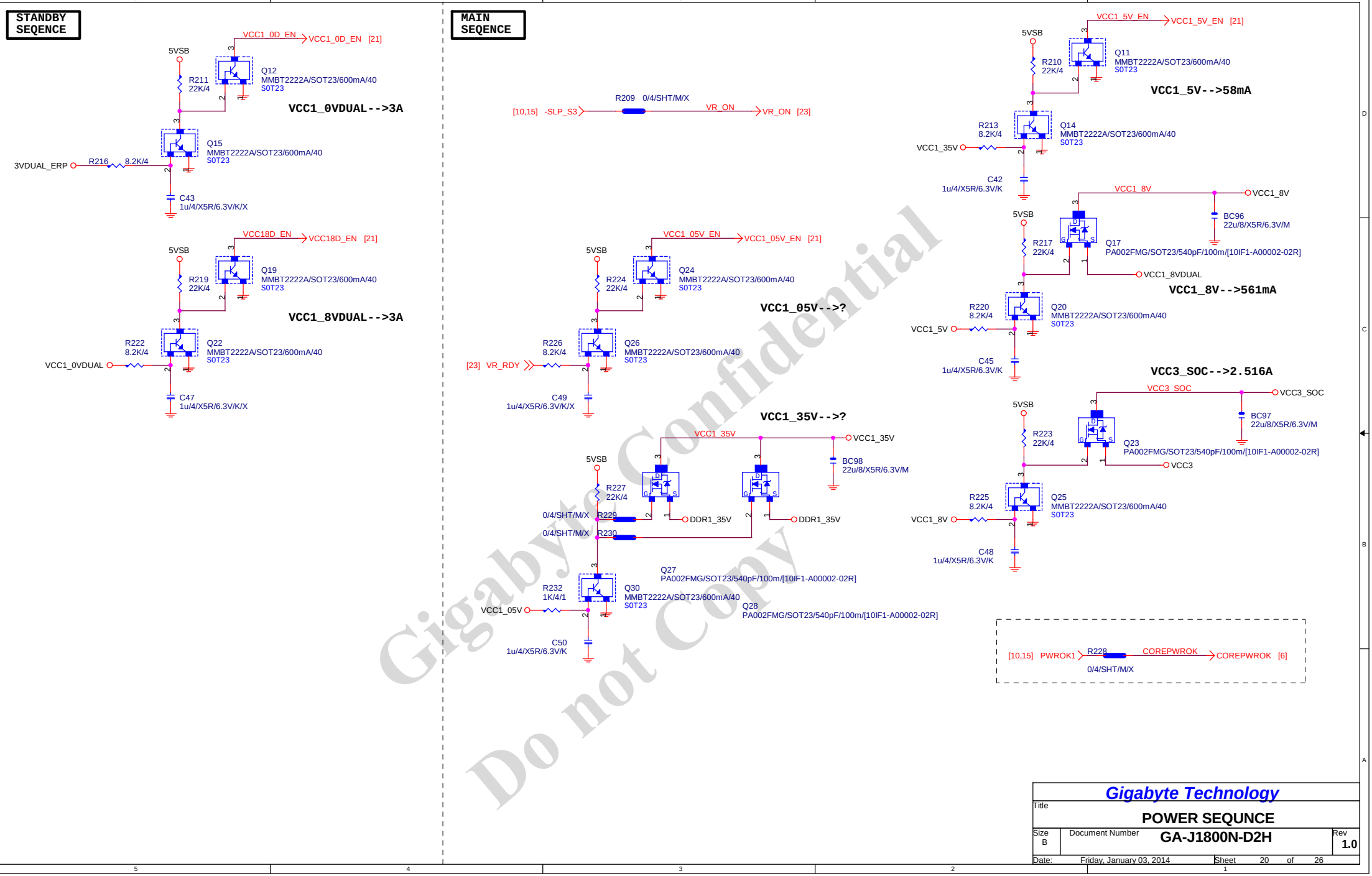
Dual Color LED



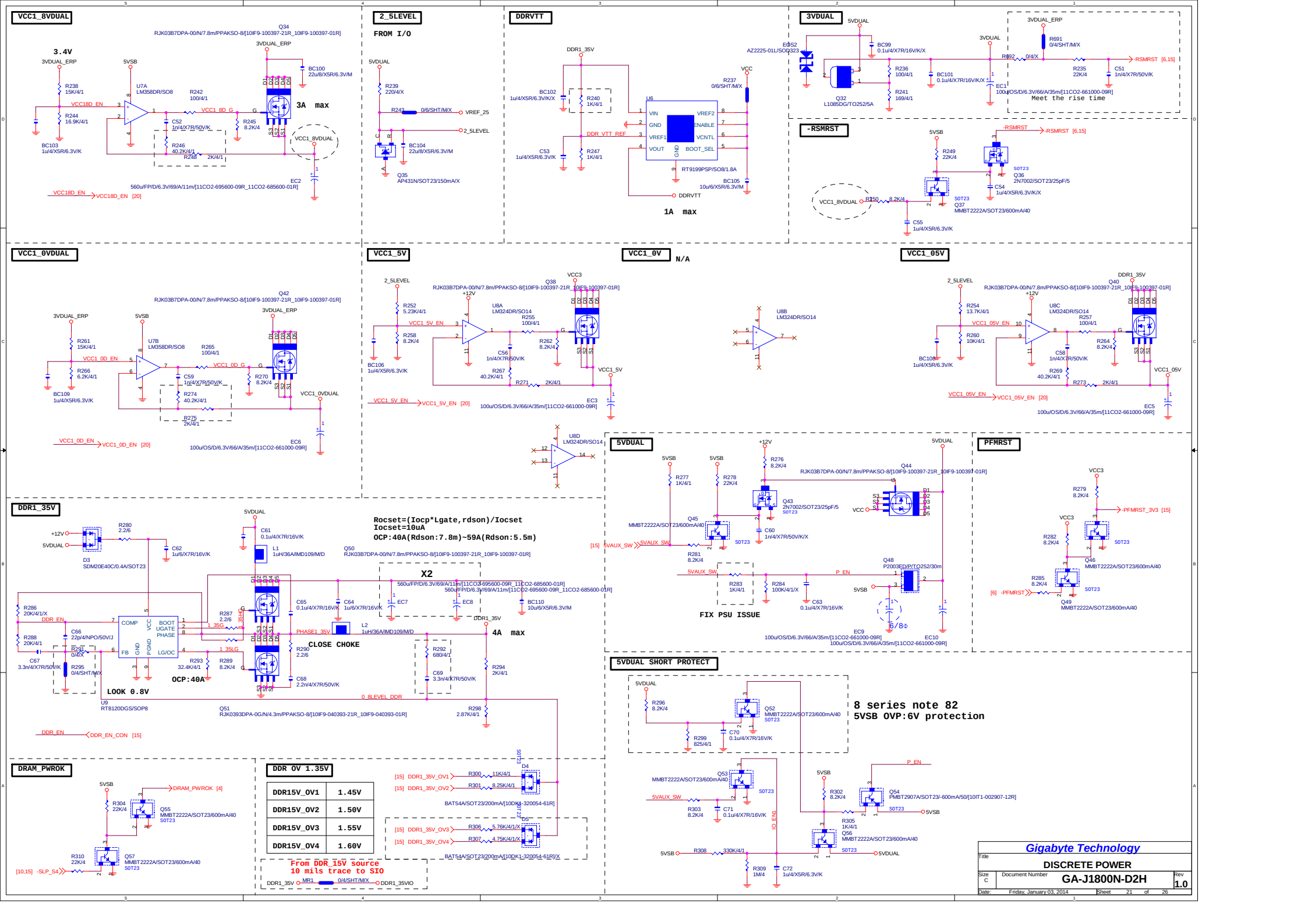
Single Color LED



Gigabyte Technology			
Title: RTL111F-VL			
Size: Custom	Document Number: GA-J1800N-D2H		Rev: 1.0
Date: Friday, January 03, 2014	Sheet 19 of 26		

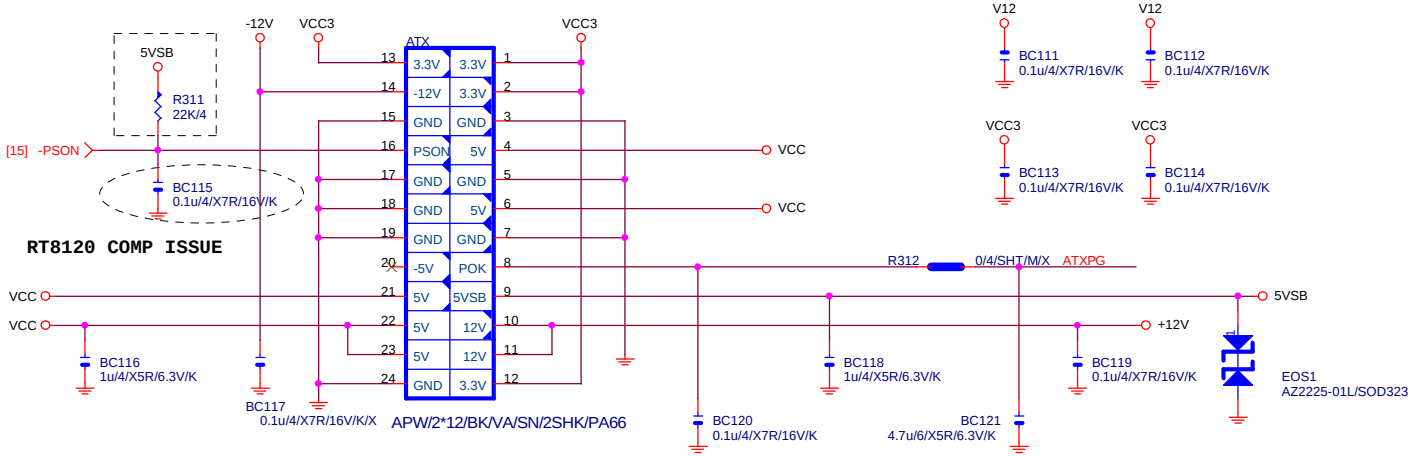


Gigabyte Technology		
Title: POWER SEQUNCE		
Size: B	Document Number: GA-J1800N-D2H	Rev: 1.0
Date: Friday, January 03, 2014	Sheet 20 of 26	


VCC1_8VDUAL
3.4V
Q34
RJK03B7DPA-00/N/7.8m/PPAKSO-8/[10IF9-100397-21R_10IF9-100397-01R]
3VDUAL_ERP
5VSB
U7A
LM358DR/SO8
R238 15K/4/1
R244 16.9K/4/1
BC103 1u/4/X5R/6.3V/K
VCC18D_EN
R242 100/4/1
VCC1_8D_G
R245 8.2K/4
C52 1n/4/X7R/50V/K
R246 40.2K/4/1
R248 2K/4/1
BC100 22u/8/X5R/6.3V/M
3A max
VCC1_8VDUAL
EC2
560u/FP/D/6.3V/69/A/11m/[11CO2-695600-09R_11CO2-685600-01R]
VCC18D_EN
VCC18D_EN [20]
2_5LEVEL
FROM I/O
5VDUAL
R239 220/4/X
R243 0/6/SHT/M/X
VREF_25
2_5LEVEL
BC104 22u/8/X5R/6.3V/M
Q35
AP431N/SOT23/150mA/X
DDRVTT
DDR1_35V
BC102 1u/4/X5R/6.3V/K/X
R240 1K/4/1
DDR_VTT_REF
C53 1u/4/X5R/6.3V/K
R247 1K/4/1
U6
VIN
GND
VREF1
VOUT
VREF2
ENABLE
VCNTL
BOOT_SEL
VCC
R237 0/6/SHT/M/X
RT9199PSP/SO8/1.8A
BC105 10u/6/X5R/6.3V/M
DDRVTT
1A max
3VDUAL
5VDUAL
EDS2
AZ2225-01LSOD323
BC99 0.1u/4/X7R/16V/K/X
R236 100/4/1
R241 169/4/1
Q32
L108SDG/TO252/5A
BC101 0.1u/4/X7R/16V/K/X
EC1 100u/OS/D/6.3V/66/A/35m/[11CO2-661000-09R]
3VDUAL_ERP
R691 0/4/SHT/M/X
R692 0/4/X
R235 22K/4
C51 1n/4/X7R/50V/K
-RSMRST [6,15]
Meet the rise time
-RSMRST
5VSB
R249 22K/4
-RSMRST [6,15]
S0T23
Q36
2N7002/SOT23/25pF/5
C54 1u/4/X5R/6.3V/K/X
VCC1_8VDUAL
R250 8.2K/4
S0T23
Q37
MMBT2222A/SOT23/600mA/40
C55 1u/4/X5R/6.3V/K
VCC1_0VDUAL
Q42
RJK03B7DPA-00/N/7.8m/PPAKSO-8/[10IF9-100397-21R_10IF9-100397-01R]
3VDUAL_ERP
5VSB
U7B
LM358DR/SO8
R261 15K/4/1
R266 6.2K/4/1
VCC1_0D_EN
R265 100/4/1
VCC1_0D_G
BC109 1u/4/X5R/6.3V/K
C59 1n/4/X7R/50V/K
R274 40.2K/4/1
R275 2K/4/1
R270 8.2K/4
VCC1_0VDUAL
EC6
100u/OS/D/6.3V/66/A/35m/[11CO2-661000-09R]
VCC1_0D_EN
VCC1_0D_EN [20]
VCC1_5V
2_5LEVEL
Q38
RJK03B7DPA-00/N/7.8m/PPAKSO-8/[10IF9-100397-21R_10IF9-100397-01R]
VCC3
+12V
U8A
LM324DR/SO14
R252 5.23K/4/1
VCC1_5V_EN
R255 100/4/1
R258 8.2K/4
R262 8.2K/4
BC106 1u/4/X5R/6.3V/K
C56 1n/4/X7R/50V/K
R267 40.2K/4/1
R271 2K/4/1
VCC1_5V
EC3
100u/OS/D/6.3V/66/A/35m/[11CO2-661000-09R]
VCC1_5V_EN
VCC1_5V_EN [20]
U8D
LM324DR/SO14
VCC1_0V
N/A
U8B
LM324DR/SO14
VCC1_05V
2_5LEVEL
DDR1_35V
Q40
RJK03B7DPA-00/N/7.8m/PPAKSO-8/[10IF9-100397-21R_10IF9-100397-01R]
+12V
U8C
LM324DR/SO14
R254 13.7K/4/1
VCC1_05V_EN
R257 100/4/1
R260 10K/4/1
R264 8.2K/4
BC108 1u/4/X5R/6.3V/K
C58 1n/4/X7R/50V/K
R269 40.2K/4/1
R273 2K/4/1
VCC1_05V
EC5
100u/OS/D/6.3V/66/A/35m/[11CO2-661000-09R]
VCC1_05V_EN
VCC1_05V_EN [20]
DDR1_35V
+12V
5VDUAL
D3
SDM20E40C/0.4A/SOT23
R280 2.2/6
C62 1u/6/X7R/16V/K
C61 0.1u/4/X7R/16V/K
L1
1uH/36A/IMD109/M/D
Q50
RJK03B7DPA-00/N/7.8m/PPAKSO-8/[10IF9-100397-21R_10IF9-100397-01R]
X2
560u/FP/D/6.3V/69/A/11m/[11CO2-695600-09R_11CO2-685600-01R]
560u/FP/D/6.3V/69/A/11m/[11CO2-695600-09R_11CO2-685600-01R]
EC7
EC8
BC110 10u/6/X5R/6.3V/M
Rocset=(Iocp*Lgate,rdson)/Iocset
Iocset=10uA
OCP:40A(Rdson:7.8m)~59A(Rdson:5.5m)
R286 20K/4/1/X
DDR_EN
R288 20K/4/1
C66 22p/4/NPO/50V/J
R291 0/4/X
C67 3.3n/4/X7R/50V/K
R295 0/4/SHT/M/X
COMP
FB
VCC
GND
BOOT
UGATE
PHASE
LG/OC
PGND
R287 2.2/6
35HG
1 35G
1 35LG
R293 32.4K/4/1
R289 8.2K/4
OCP:40A
LOOK 0.8V
U9
RT8120DGS/SOP8
C65 0.1u/4/X7R/16V/K
C64 1u/6/X7R/16V/K
PHASE1_35V
L2
1uH/36A/IMD109/M/D
CLOSE CHOKE
R290 2.2/6
C68 2.2n/4/X7R/50V/K
R292 680/4/1
C69 3.3n/4/X7R/50V/K
DDR1_35V
4A max
R294 2K/4/1
0_8LEVEL_DDR
Q51
RJK0393DPA-0G/N/4.3m/PPAKSO-8/[10IF9-040393-21R_10IF9-040393-01R]
R298 2.87K/4/1
DDR_EN
DDR_EN_CON [15]
5VDUAL
5VSB
+12V
R277 1K/4/1
R278 22K/4
R276 8.2K/4
Q44
RJK03B7DPA-00/N/7.8m/PPAKSO-8/[10IF9-100397-21R_10IF9-100397-01R]
Q43
2N7002/SOT23/25pF/5
S0T23
Q45
MMBT2222A/SOT23/600mA/40
C60 1n/4/X7R/50V/K/X
[15] 5VAUX_SW
5VAUX_SW
R281 8.2K/4
P_EN
R283 1K/4/1
R284 100K/4/1/X
C63 0.1u/4/X7R/16V/K
Q48
P2003ED/P/TO252/30m
FIX PSU ISSUE
EC9
100u/OS/D/6.3V/66/A/35m/[11CO2-661000-09R]
EC10
100u/OS/D/6.3V/66/A/35m/[11CO2-661000-09R]
PFMRST
VCC3
R279 8.2K/4
-PFMRST_3V3 [15]
R282 8.2K/4
S0T23
Q46
MMBT2222A/SOT23/600mA/40
R285 8.2K/4
[6] -PFMRST
S0T23
Q49
MMBT2222A/SOT23/600mA/40
5VDUAL SHORT PROTECT
5VDUAL
R296 8.2K/4
Q52
MMBT2222A/SOT23/600mA/40
S0T23
R299 825/4/1
C70 0.1u/4/X7R/16V/K
8 series note 82
5VSB OVP:6V protection
Q53
MMBT2222A/SOT23/600mA/40
S0T23
5VAUX_SW
R303 8.2K/4
C71 0.1u/4/X7R/16V/K
IO_EN1
5VSB
R302 8.2K/4
P_EN
Q54
PMBT2907A/SOT23/-600mA/50/[10IT1-002907-12R]
S0T23
5VSB
R305 1K/4/1
Q56
MMBT2222A/SOT23/600mA/40
S0T23
5VDUAL
5VSB
R308 330K/4/1
R309 1M/4
C72 1u/4/X5R/6.3V/K
DRAM_PWROK
5VSB
R304 22K/4
DRAM_PWROK [4]
Q55
MMBT2222A/SOT23/600mA/40
S0T23
R310 22K/4
Q57
MMBT2222A/SOT23/600mA/40
S0T23
[10,15] -SLP_S4
DDR 0V 1.35V
DDR15V_0V1 1.45V
DDR15V_0V2 1.50V
DDR15V_0V3 1.55V
DDR15V_0V4 1.60V
From DDR_1.5V source
10 mils trace to SIO
DDR1_35V
MR1
0/4/SHT/M/X
DDR1_35VIO
[15] DDR1_35V_OV1
[15] DDR1_35V_OV2
R300 11K/4/1
R301 8.25K/4/1
D4
BAT54A/SOT23/200mA/[10DK1-320054-61R]
[15] DDR1_35V_OV3
[15] DDR1_35V_OV4
R306 5.76K/4/1/X
R307 4.75K/4/1/X
D5
BAT54A/SOT23/200mA/[10DK1-320054-61R]/X
Gigabyte Technology
Title
DISCRETE POWER
Size C
Document Number
GA-J1800N-D2H
Rev 1.0
Date: Friday, January 03, 2014
Sheet 21 of 26

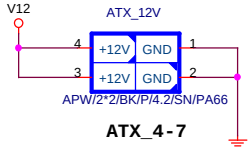
ATXX24 POWER CONNECTOR

【技術通報R&D技術通報155】



BLACK CONNECTOR

ATXX4 POWER CONNECTOR

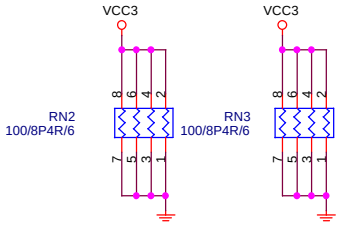


ATX_4-7

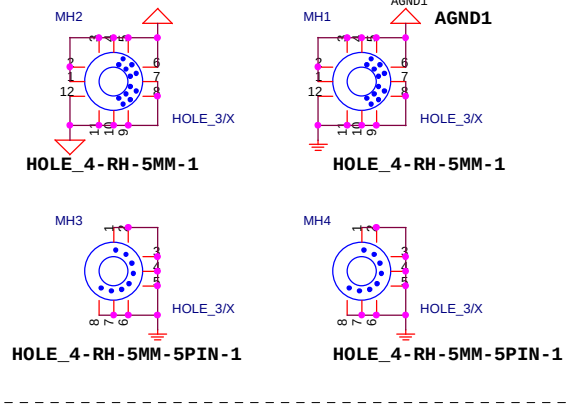
BLACK CONNECTOR

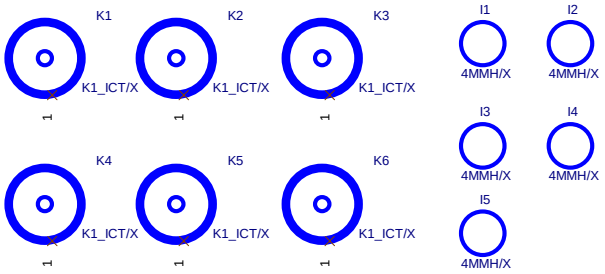
MIN. LOAD

FIX PWR MINMUN LOAD

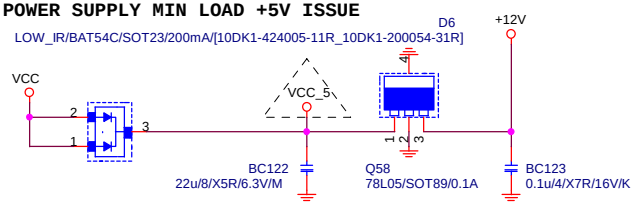


MB LOCATION





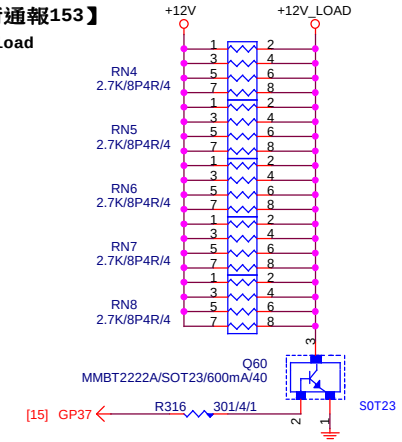
FIX POWER SUPPLY MIN LOAD +5V ISSUE



To prevent the 5VSB under loading when boot

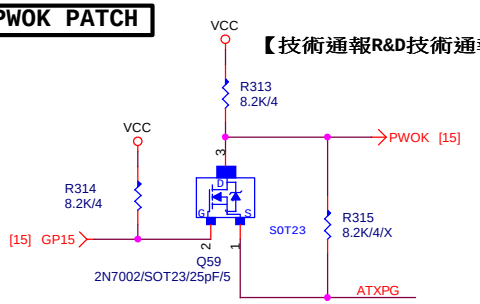
【技術通報R&D技術通報153】

To fix 12V light load
abnromal issue



PWOK PATCH

【技術通報R&D技術通報154】



Gigabyte Technology		
Title: ATX CONNECTOR		
Size: B	Document Number: GA-J1800N-D2H	Rev: 1.0
Date: Friday, January 03, 2014	Sheet 22 of 26	

VCORE PWM

FIX O.V CIRCUIT FAIL

TYPE III

GT2
Load line-->5.9mohm

TYPE II
GAIN 150倍

S.W frequncy-->350Khz
Imax-->45A

LAYOUT RESERVE
CHOKE SPACE

Close DL6

RGntc=(RGseries+DRT4)//RGparellel

RGseries

RGparellel

RGi

IGocp-->40A

RC MATCH
CHOKE 0.3uH--> Ci:0.33u

disable PWM2G

DISABLE NTCG

DISABLE NTC

1.8V LEVEL

PWM
INTERSIL
ISL95836HRTZ

BOTTOM PAD
CONNECT TO GND
THROUGH 10 VIA

RC MATCH
CHOKE 0.3uH--> Ci:0.33u

Close DL2

Rntc=(Rseries+DRT3)//Rparellel

Rseries

Rparellel

Ri

Iocp-->40A

TYPE III

TYPE II GAIN 150倍

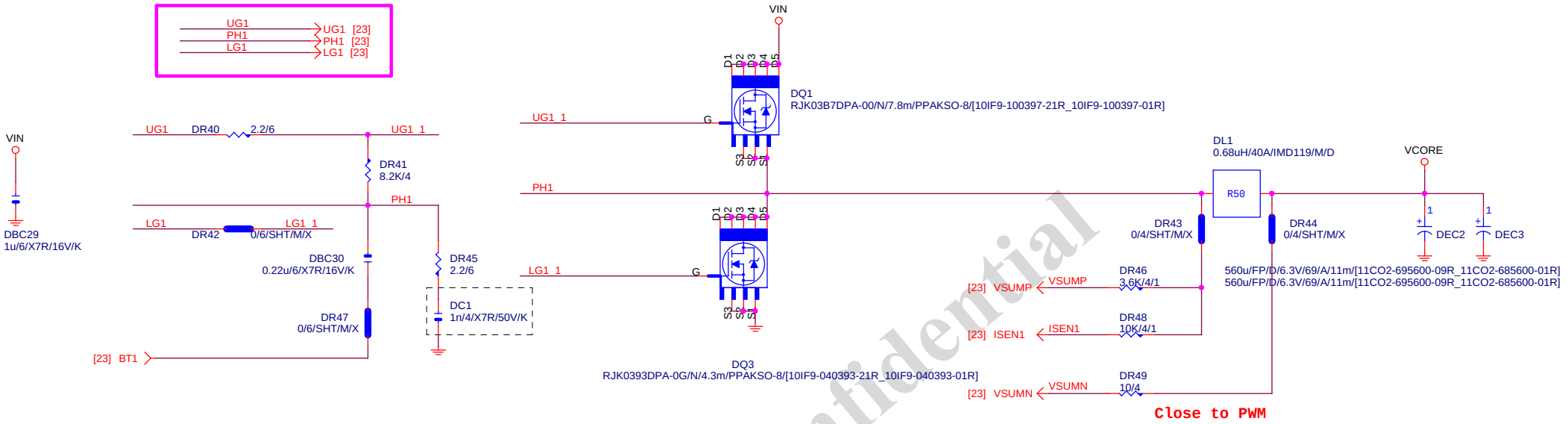
Valley View
Vboot-->1.1V
Imax-->38A

FIX O.V CIRCUIT FAIL

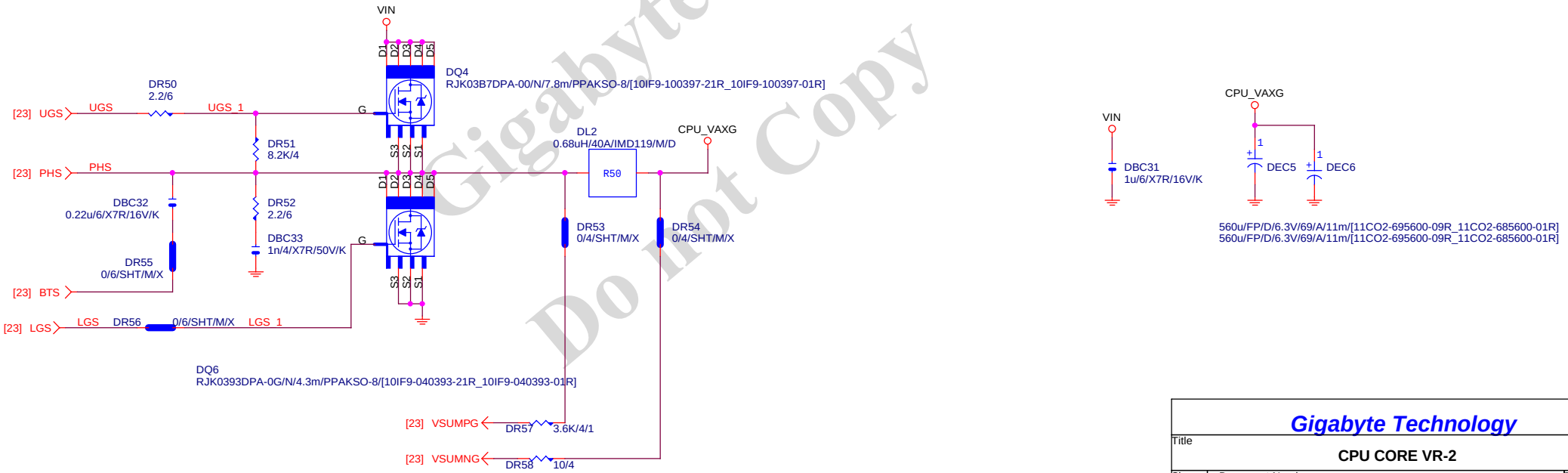
ULTA LOW CPU
Load line-->5.9mohm

Gigabyte Technology			
Title	CPU CORE VR-1		
Size: Custom	Document Number: GA-J1800N-D2H		Rev: 1.0
Date: Friday, January 03, 2014	Sheet 23 of 26		

VCORE

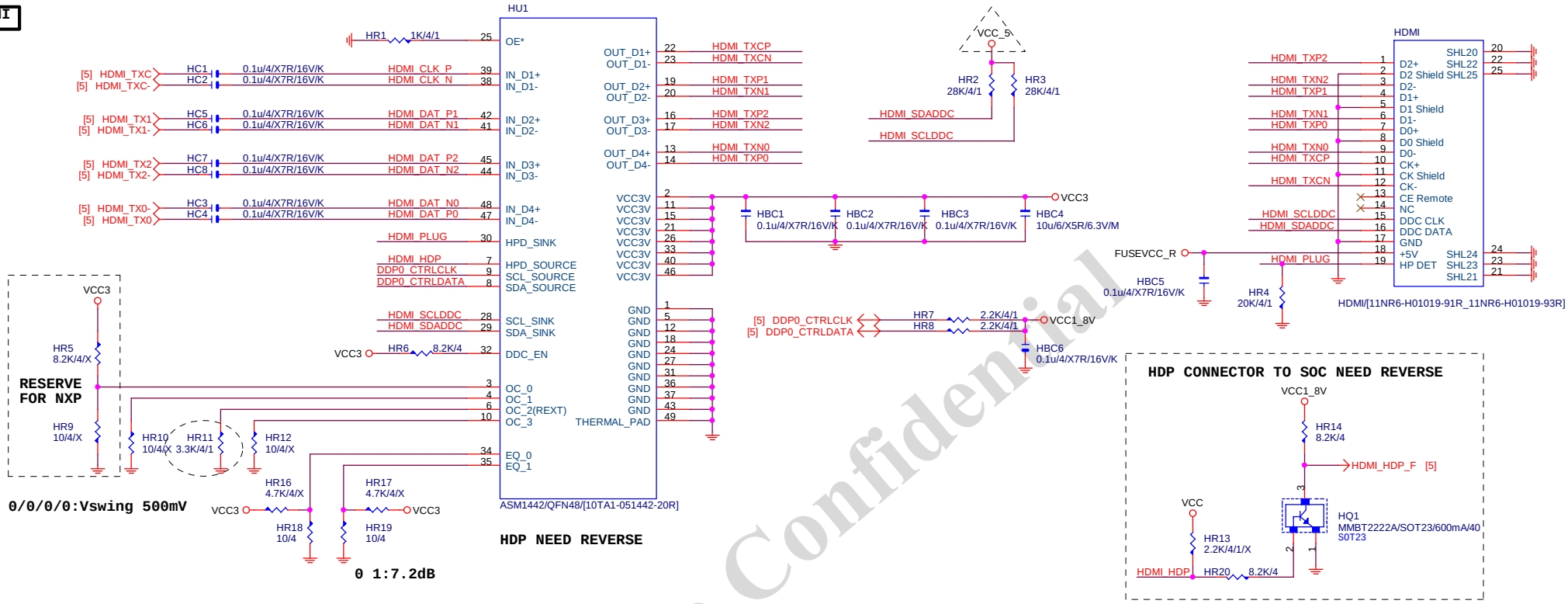


VAXG



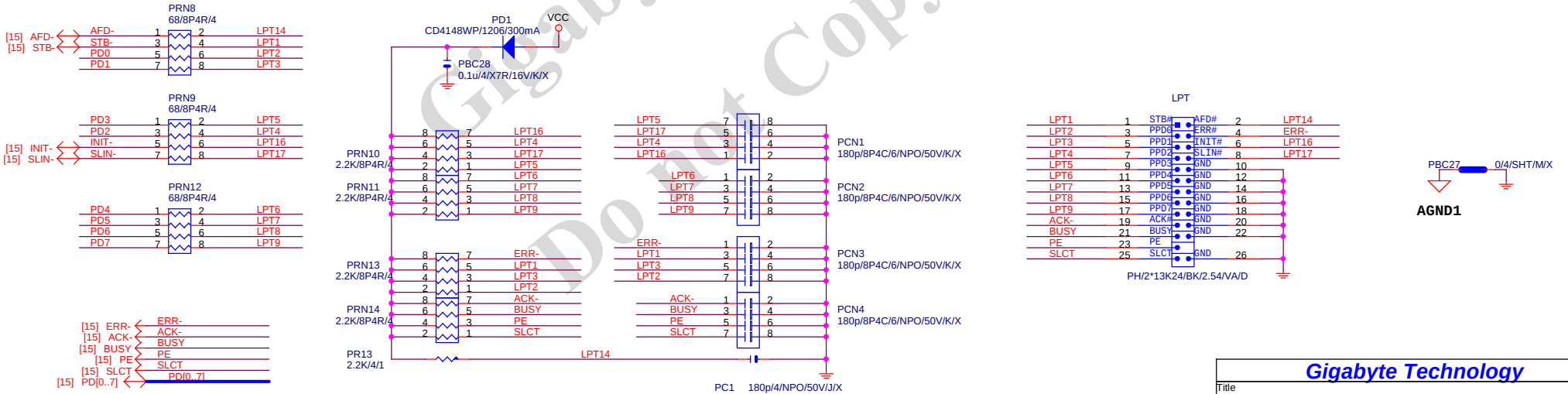
Gigabyte Technology		
Title: CPU CORE VR-2		
Size: Custom	Document Number: GA-J1800N-D2H	Rev: 1.0
Date: Friday, January 03, 2014	Sheet 24 of 26	

HDMI



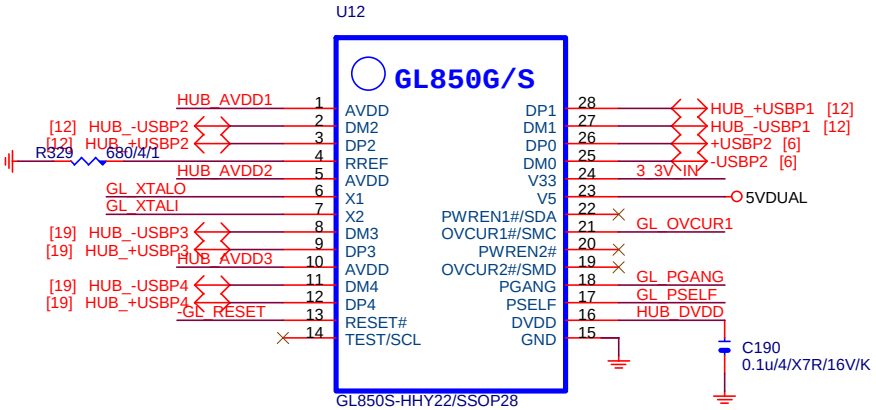
LPT PORT

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



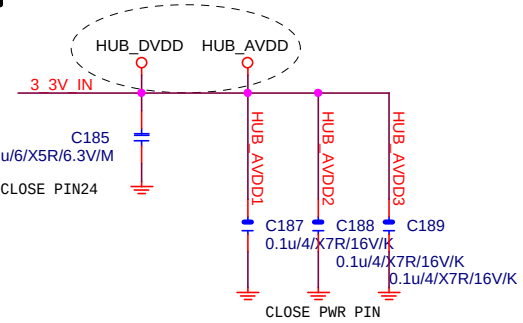
Gigabyte Technology			
Title: HDMI,LPT			
Size: Custom	Document Number: GA-J1800N-D2H		Rev: 1.0
Date: Friday, January 03, 2014	Sheet 25 of 26		

USB20 HUB

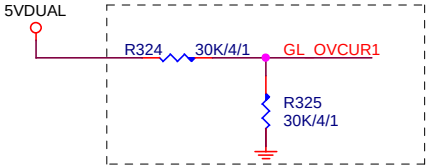


SSOP28-IT8209R

HUB PWR

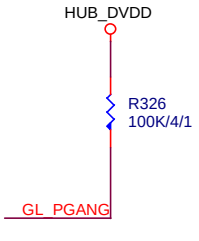


HUB OVER CURRENT SENSE



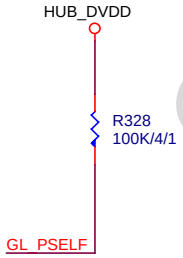
HUB MODE

Ganged mode



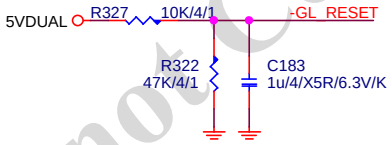
P.H. USE GL_OVCUR1
DETECT ALL PORT

PSELF



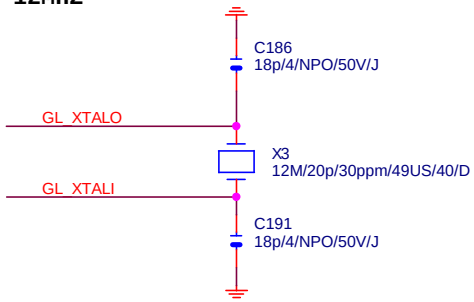
HUB self-power mode:
P.H.=EVERY PORT 500mA.
P.D.=EVERY PORT 100mA.

HUB RESET



HUB CRYSTAL

ONLY SUPPORT 12MHZ



Gigabyte Technology			
Title: HUB GL850G			
Size: Custom	Document Number: GA-J1800N-D2H		Rev: 1.0
Date: Friday, January 03, 2014		Sheet 26 of 26	