

SHEET

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10	SMBUS,SIGNAL L/S
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Gigabyte Technology

Title

Cover Sheet

Size
Custom

Document Number

IPX1800G1 (DB)

Rev
1.01

Date: Tuesday, February 11, 2014

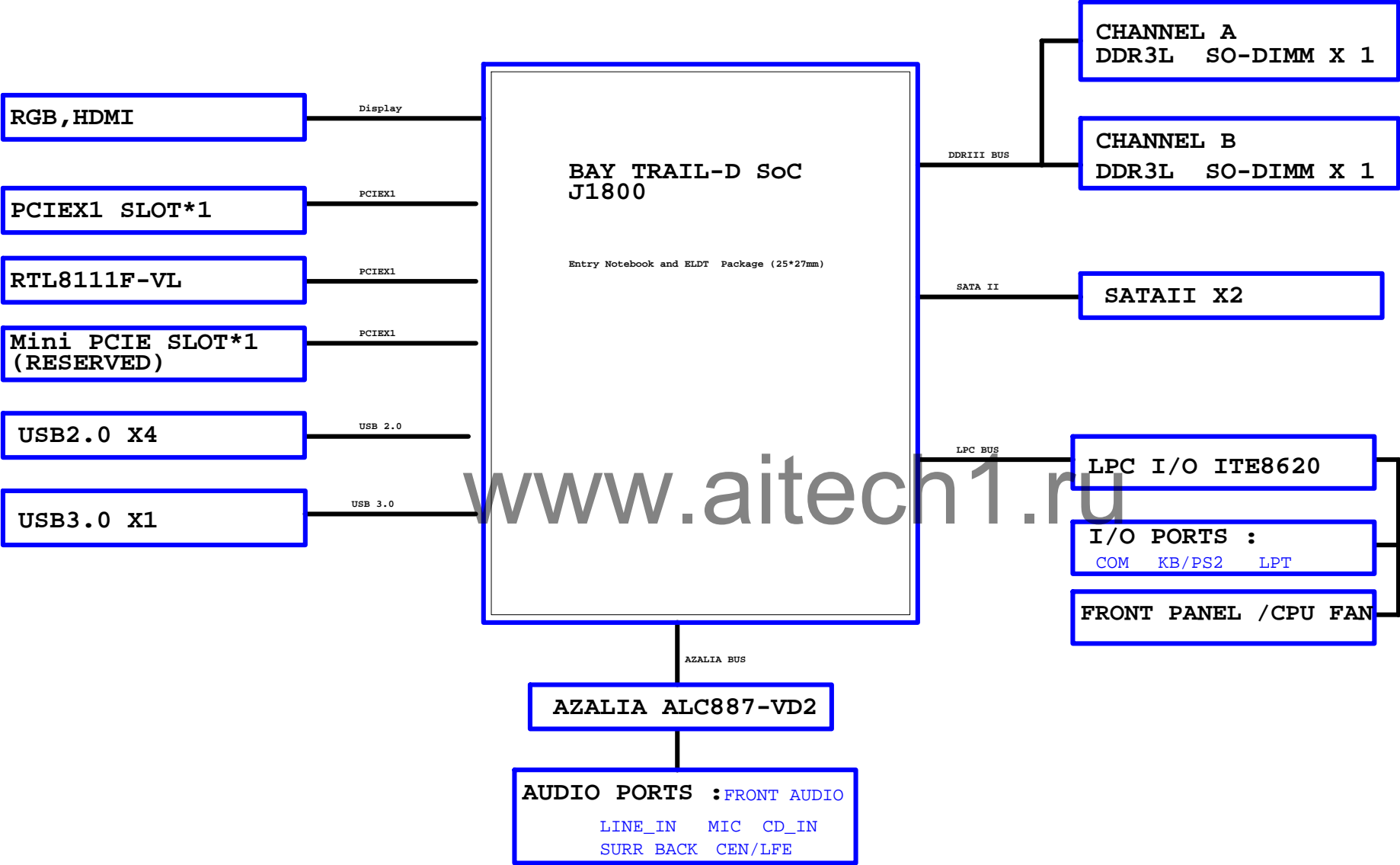
Sheet 1 of 26

Revision 1.01

2014/02/10

[illegible][illegible]

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 F38
[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

DRAM0_RAS#
DRAM0_CAS#
DRAM0_WE#

DRAM0_BS_0
DRAM0_BS_1
DRAM0_BS_2

DRAM0_CS_0#
DRAM0_CS_2#

DRAM0_CKE_0
RSVD_D48
DRAM0_CKE_2
RSVD_E46

DRAM0_ODT_0
DRAM0_ODT_2

DRAM0_CKP_0
DRAM0_CKN_0

DRAM0_CKP_2
DRAM0_CKN_2

DRAM0_DRAMRST#

DRAM_VREF

DRAM_VCC_S3_PWROK
DRAM_CORE_PWROK

DRAM_RCOMP_0
DRAM_RCOMP_1
DRAM_RCOMP_2

ICLK_DRAM_TERM
ICLK_DRAM_TERM

RSVD_AF40
RSVD_AF41
RSVD_AD40
RSVD_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	AD30	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 BF46
[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 BF42
[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_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#

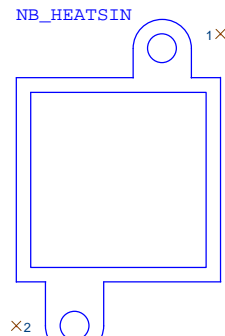
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DRAM1_DQSP_4	AU53	DQSB4
DRAM1_DQSP_5	AP42	DQSB5
DRAM1_DQSP_6	AK47	DQSB6
DRAM1_DQSP_7	AH52	DQSB7

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

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

HEAT SINK

FANLESS HEATSINK



SOC_HS
CPU_HS[12SP2-SA0601-01R_12SP2-SA0601-02R_12SP2-SA0601-03R]

[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]

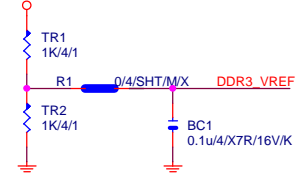
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[9] MAAB[0..15] ↔ MAAB[0..15]

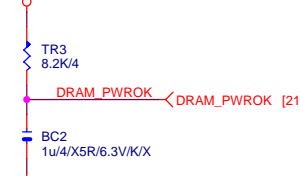
[9] DQSB[0..7] ↔ DQSB[0..7]

[9] -DQSB[0..7] ↔ -DQSB[0..7]

+VCCDDRXXS3_1P35



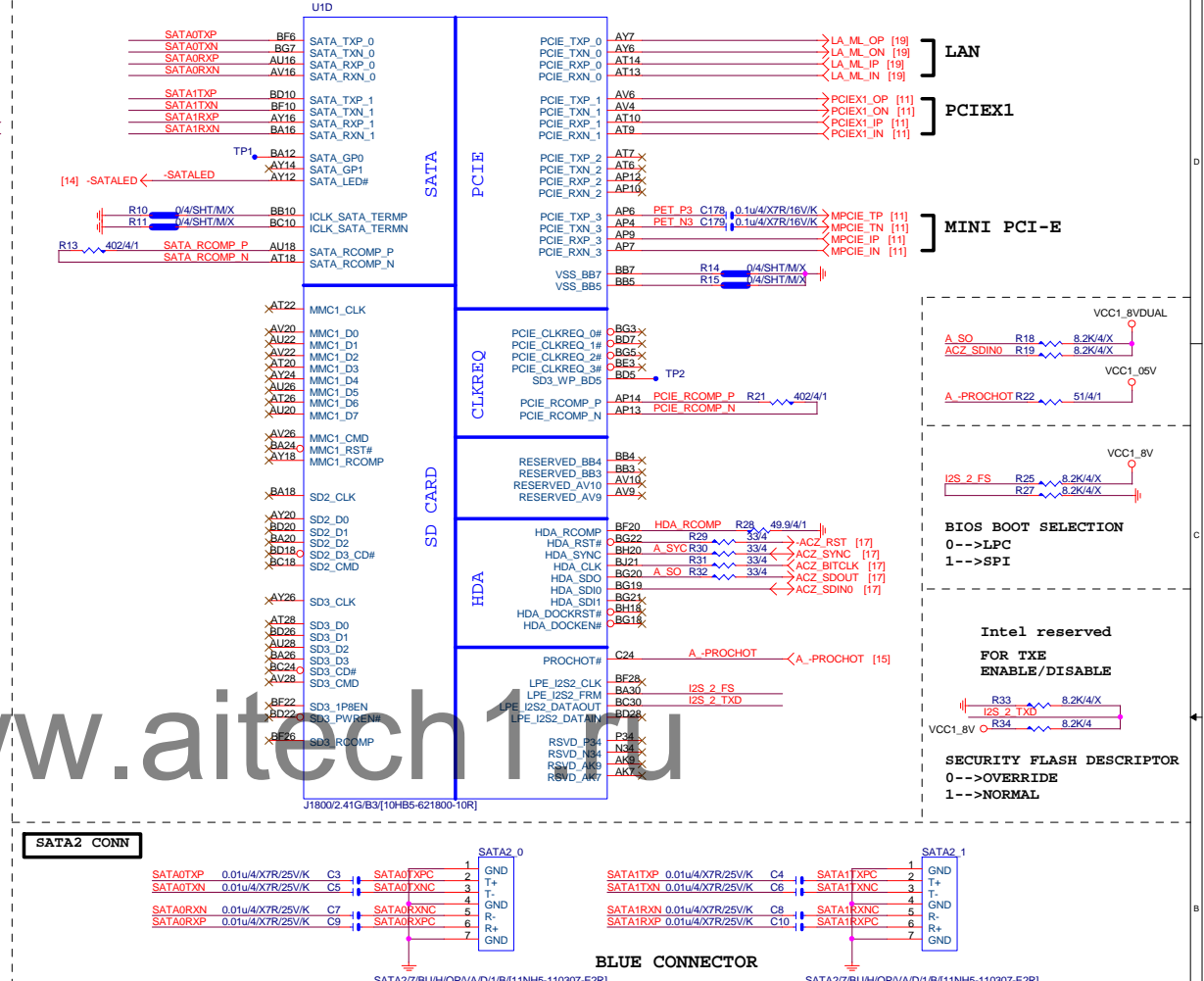
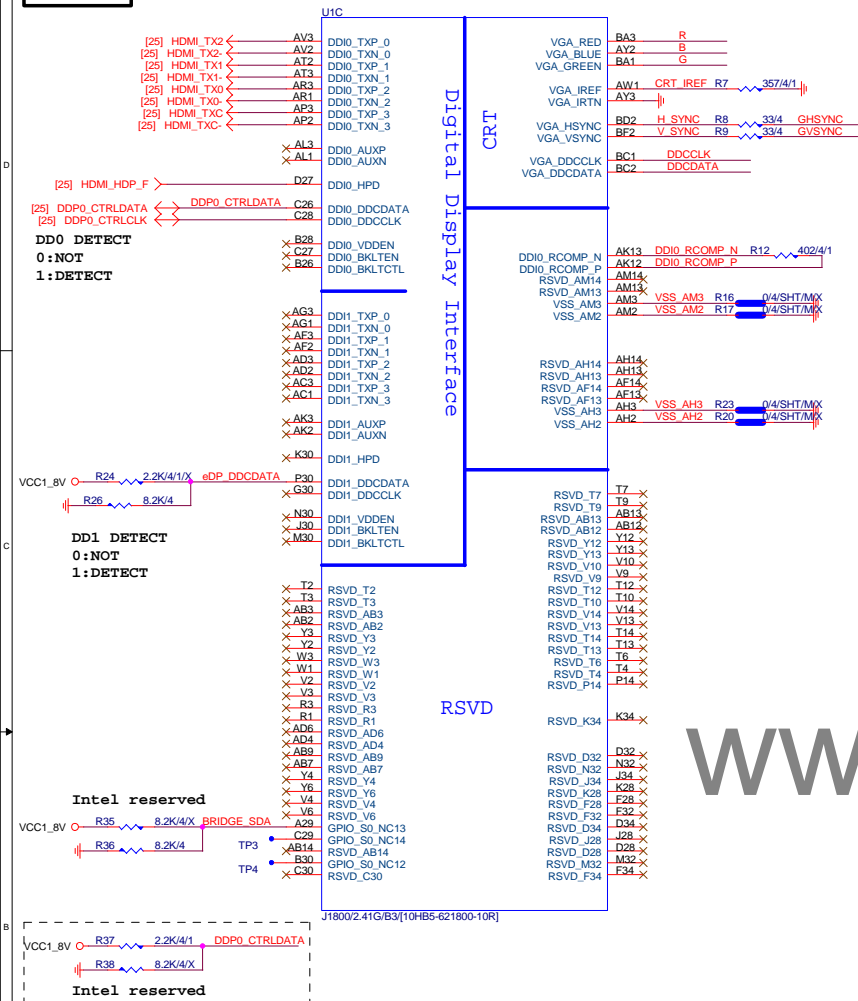
DDR1_35V



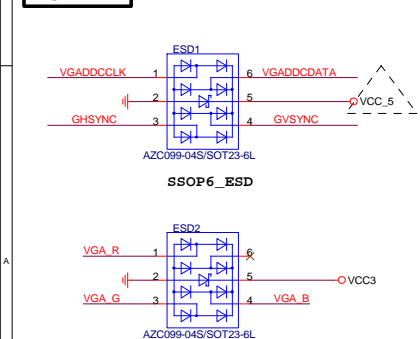
Gigabyte Technology

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Size B	Document Number	IPX1800G1 (DB)	Rev 1.0
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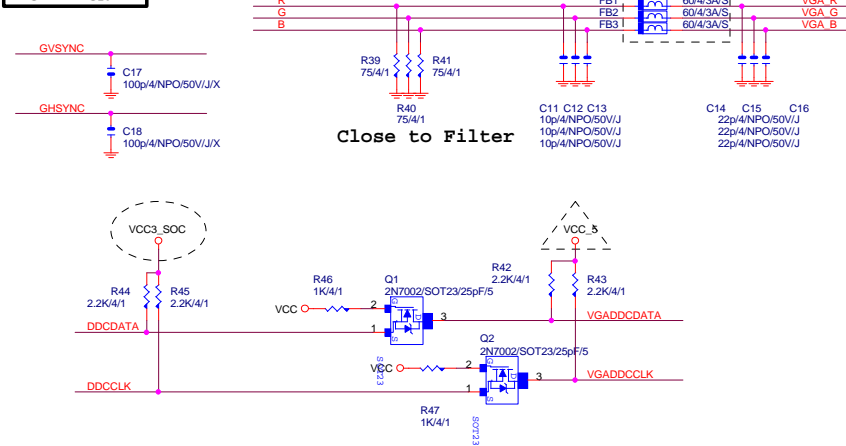
DISPLAY



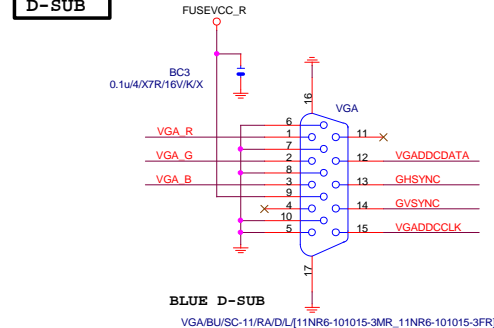
VGA ESD

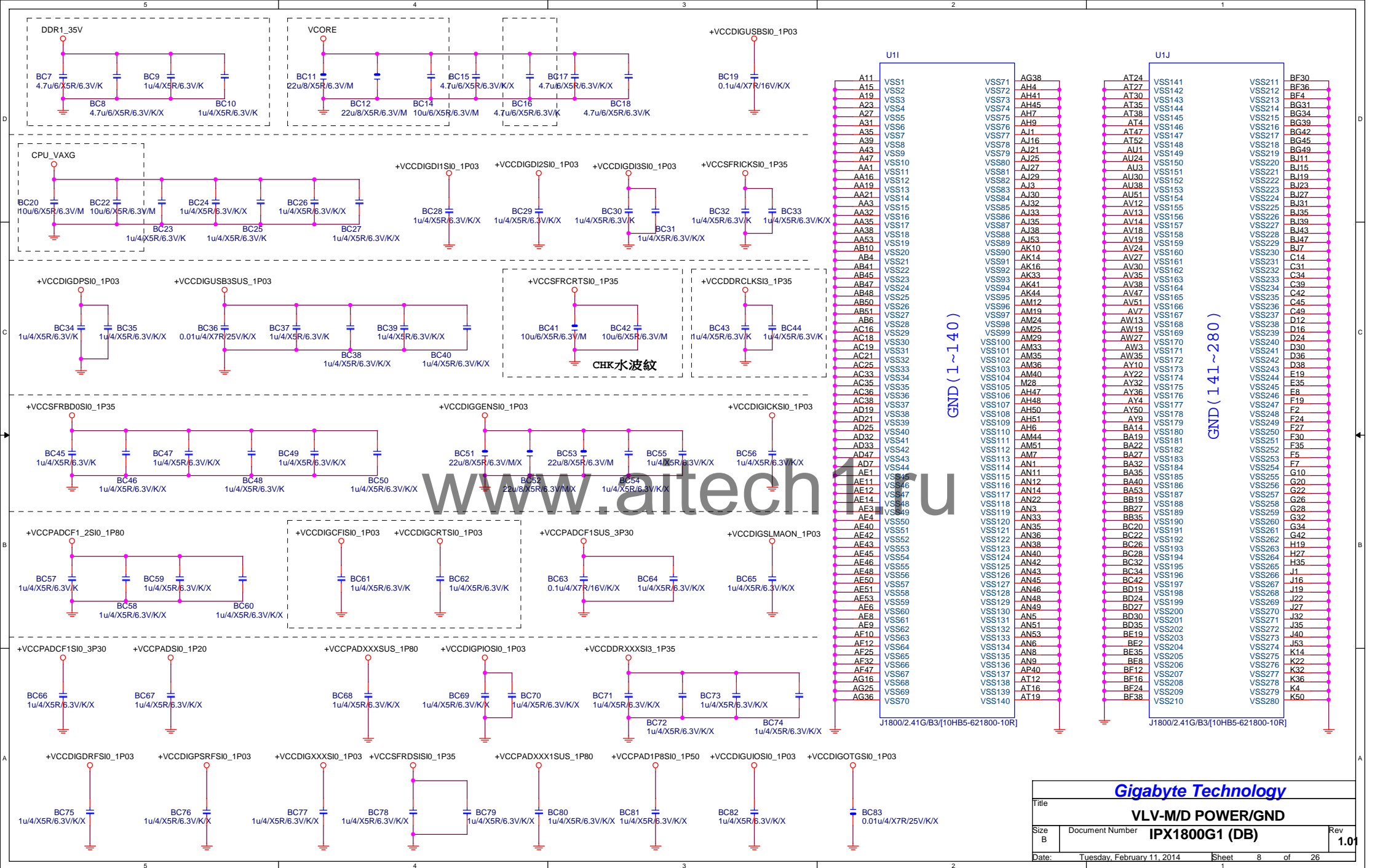


VGA SIGNAL



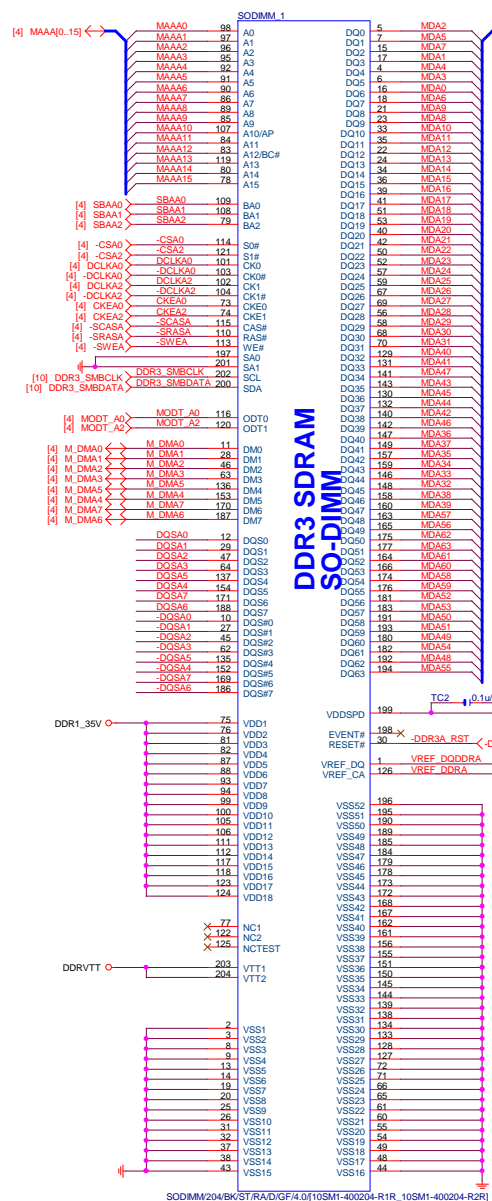
D. GUP



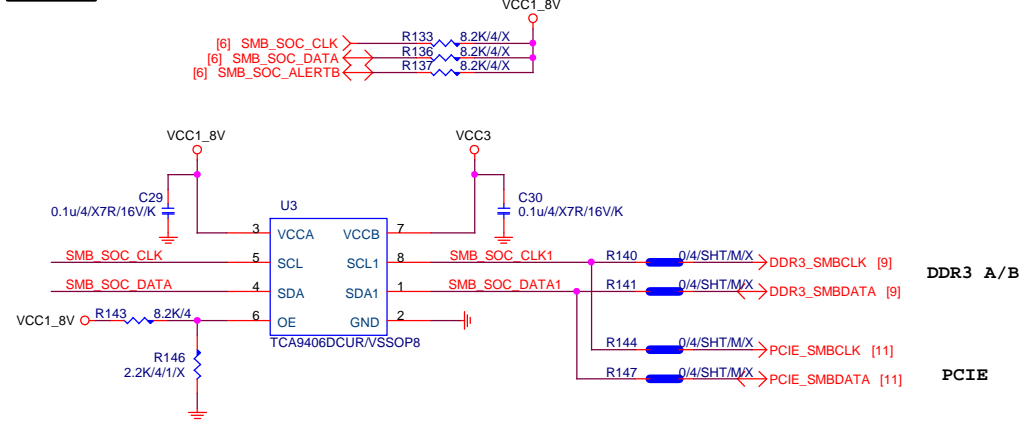


DDR3L A

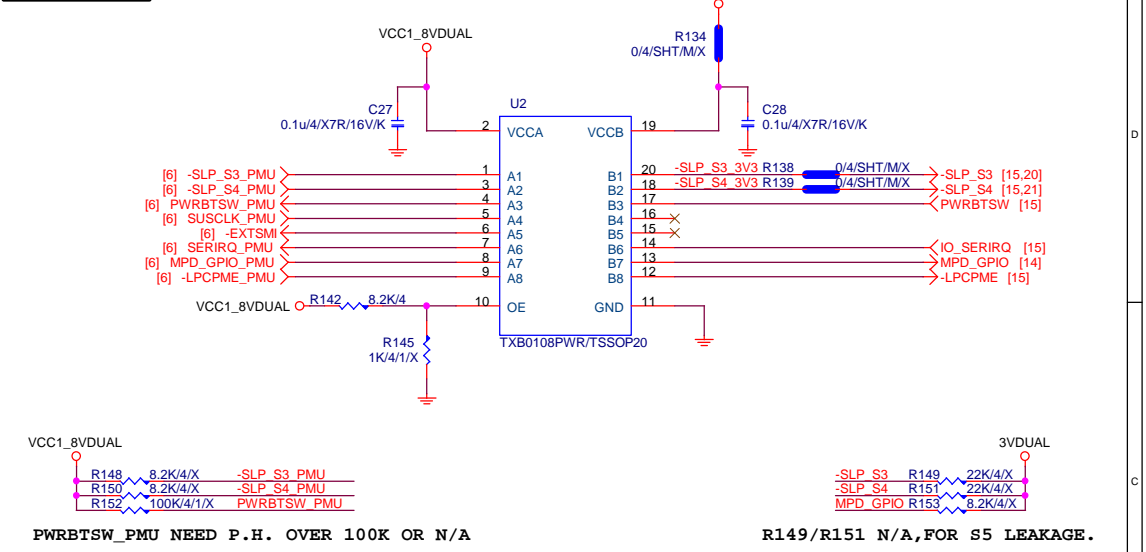
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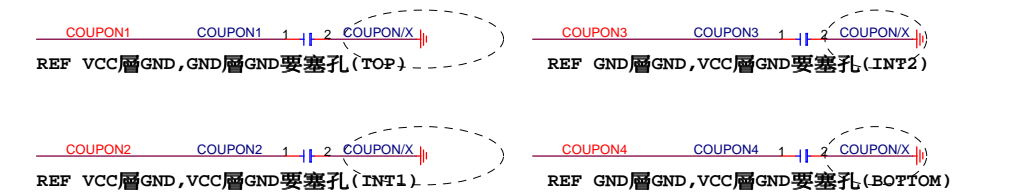
SMBUS



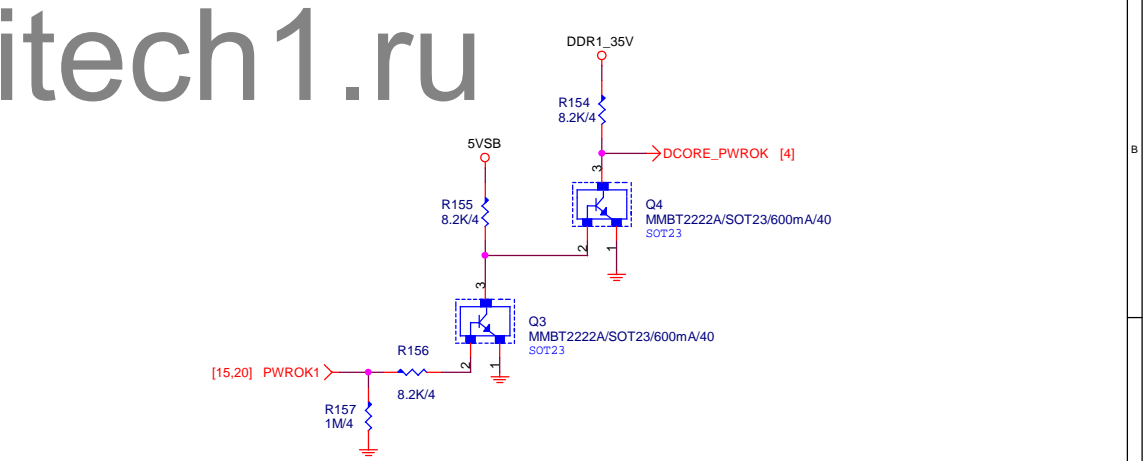
SIGNAL L/S



COUPON

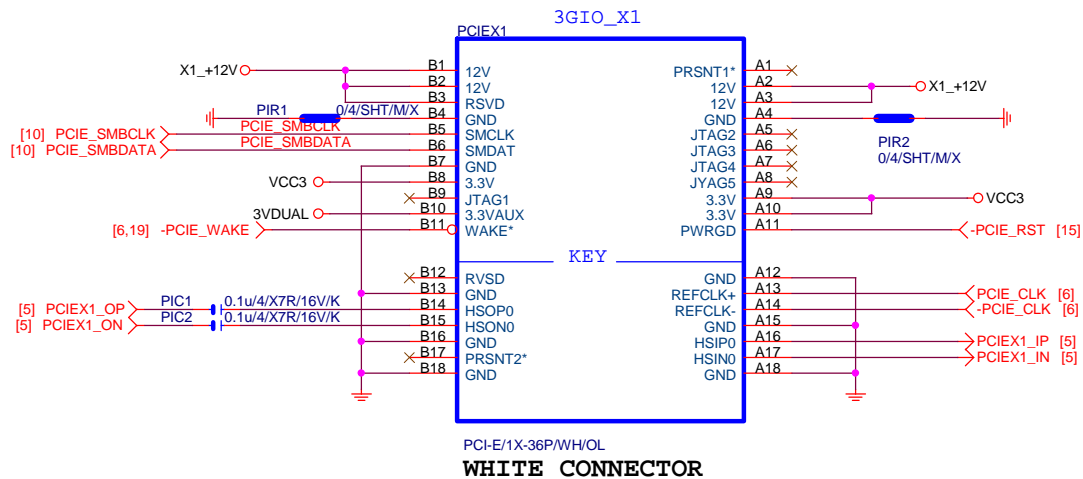


DDR PWROK

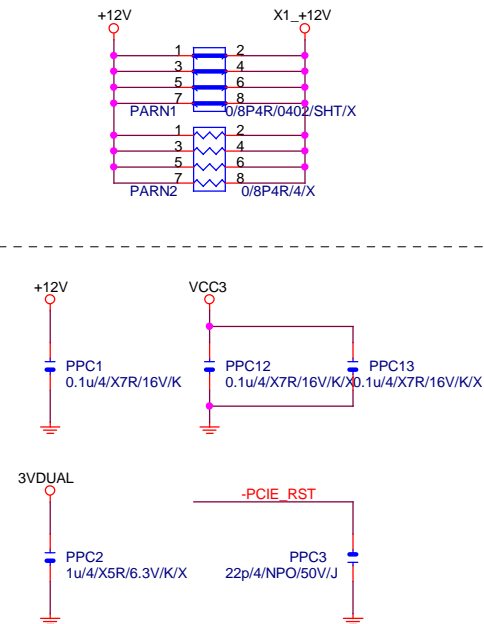


Gigabyte Technology			
Title			
SMBUS, SIGNAL L/S			
Size B	Document Number	IPX1800G1 (DB)	Rev 1.01
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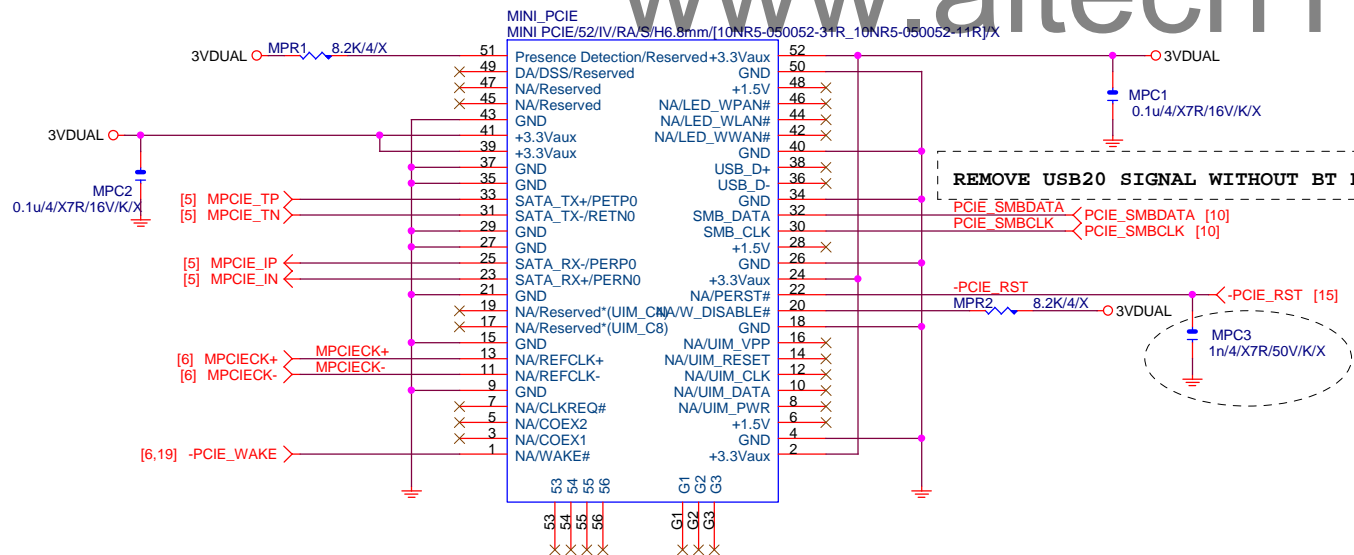
PCIEX1 SLOT



PCIEX16 PROTECT SHT



mini PCI-E



MINI_PCIE52P-HALF-A

BLACK CONNECTOR

SMD HEADER:

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

SCREW:

HS_1-SHT

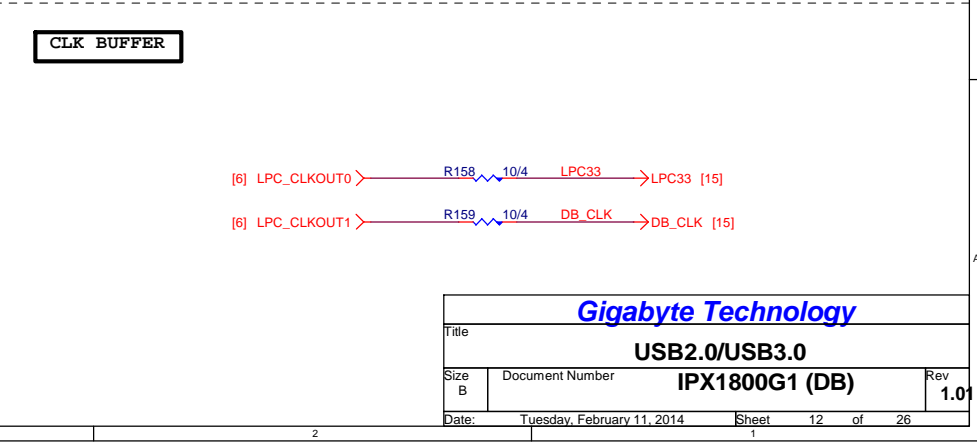
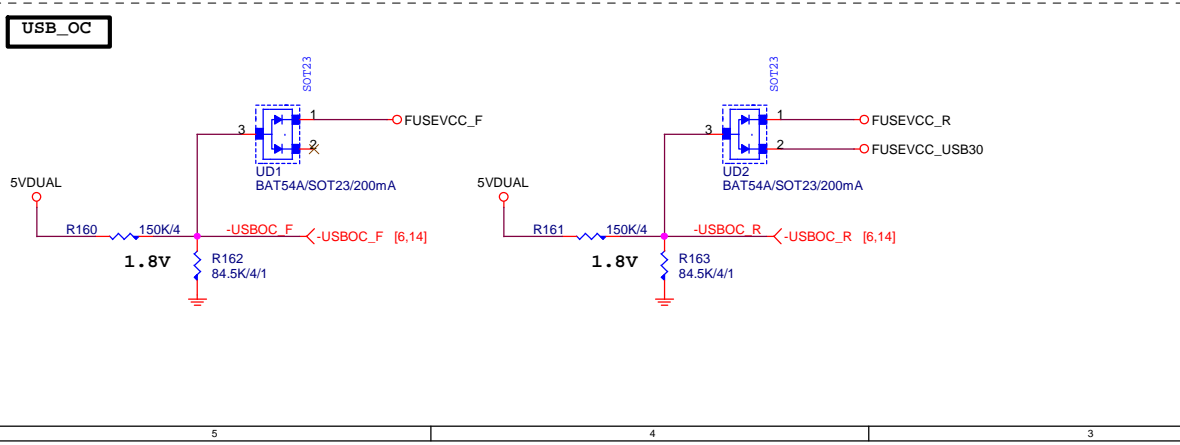
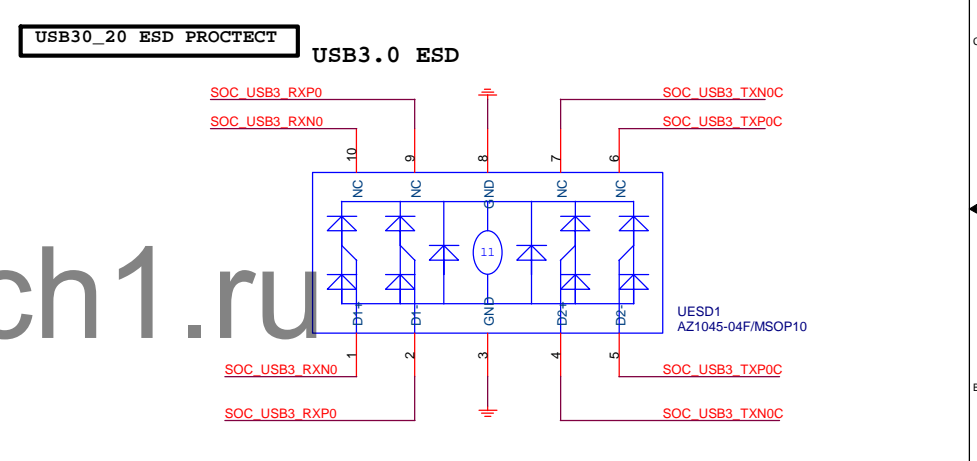
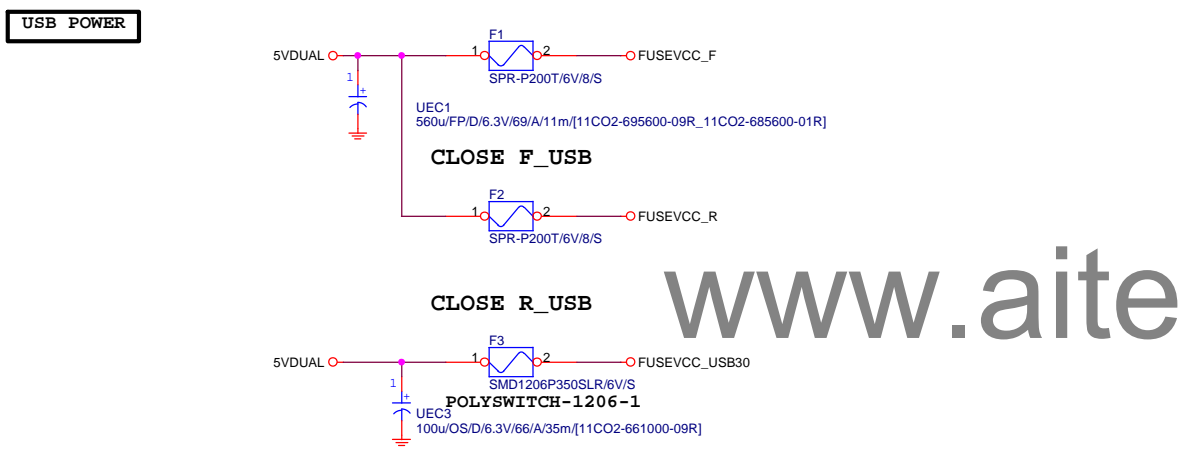
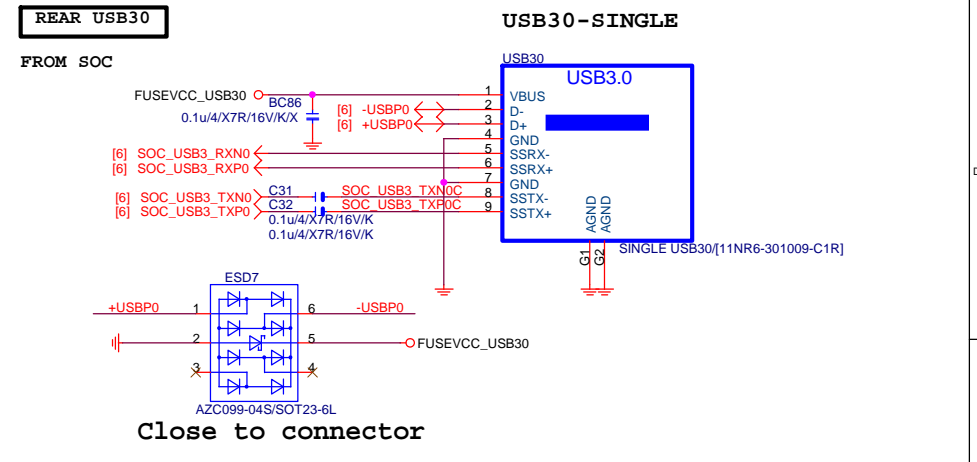
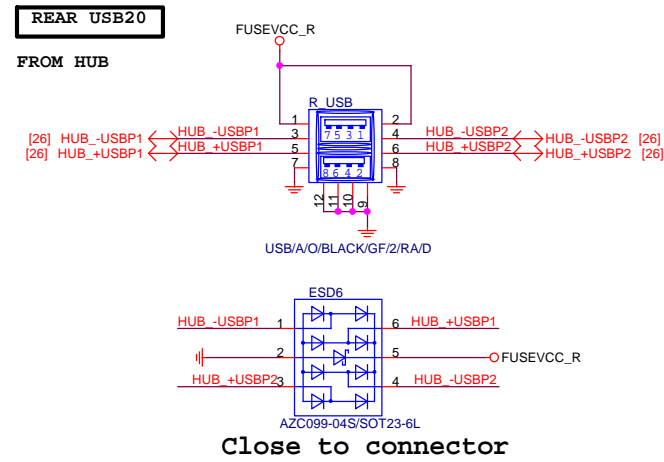
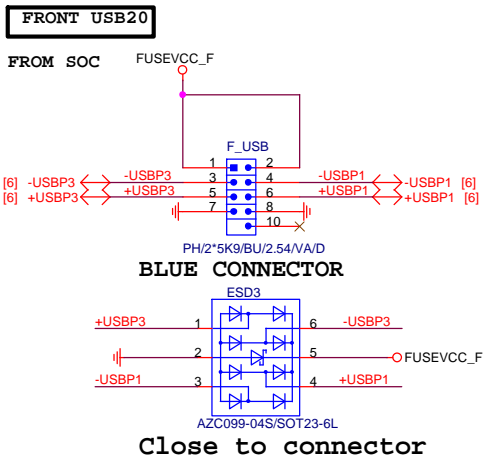


SCREW/[12KS2-010204-01R]/X

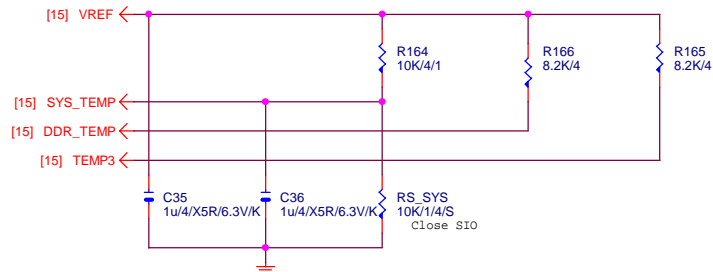
AT THE SAME LOCATION

Gigabyte Technology

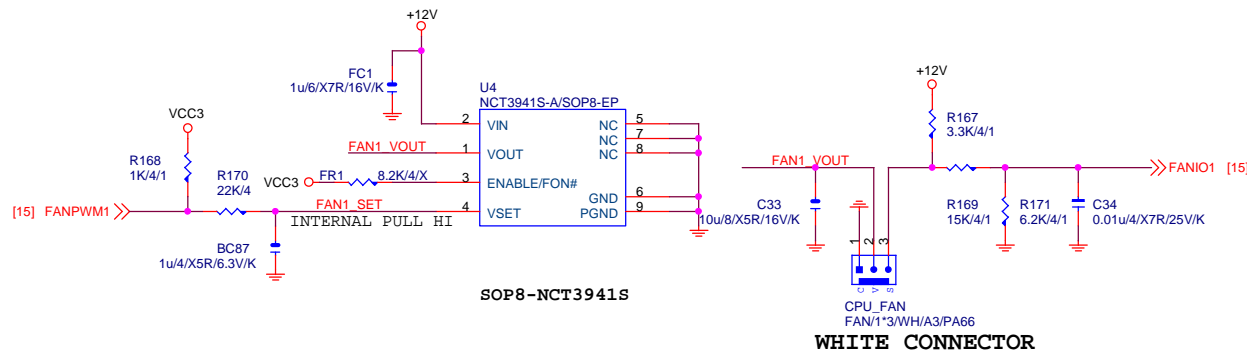
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PCIE*1 SLOT/MINI PCIE		
Size	Document Number	Rev
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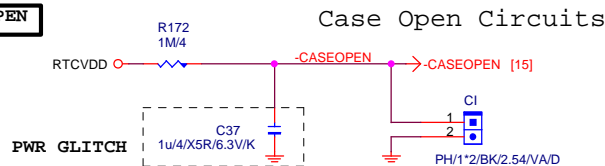
TEMP H/W MONITOR



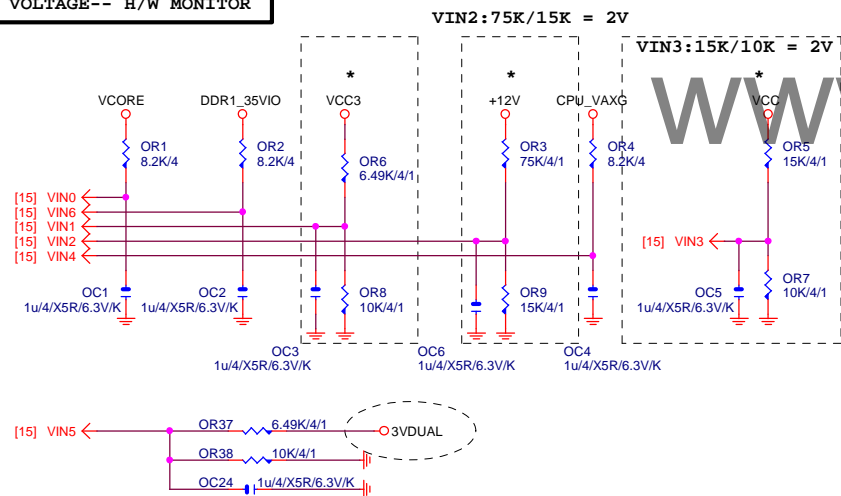
CPU SMART FAN



CASE OPEN

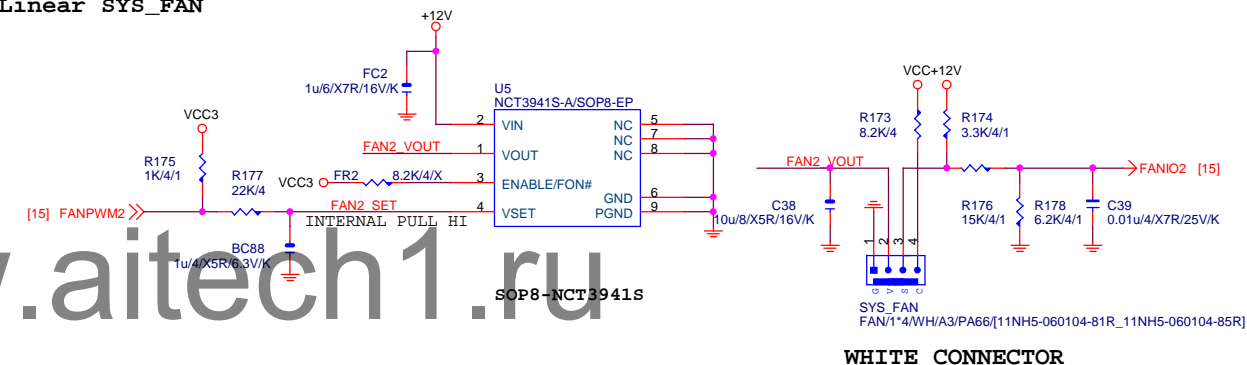


VOLTAGE-- H/W MONITOR

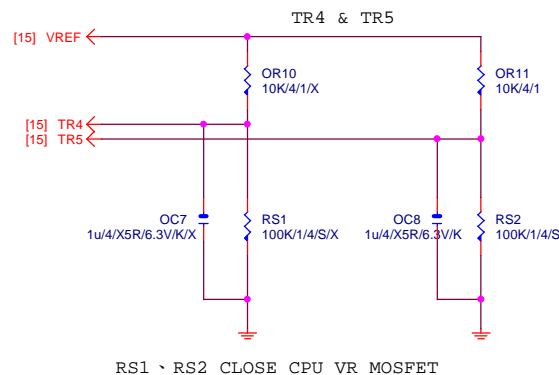


SYS SMART FAN

Linear SYS_FAN



I/O IT8620 THERMAL SENSOR



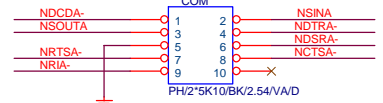
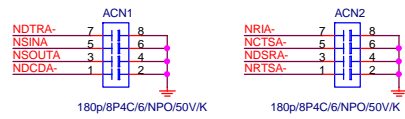
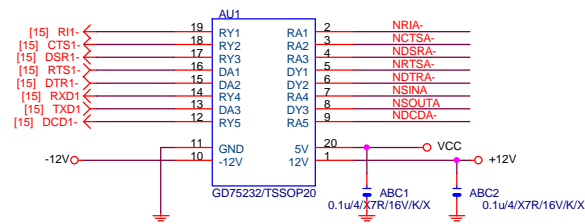
-PROHOT

N/A

Gigabyte Technology

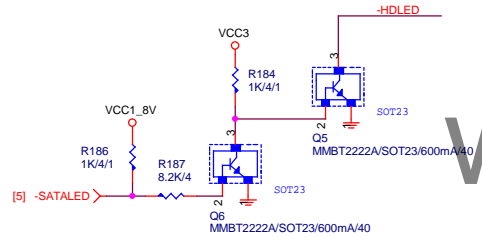
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Size	Document Number	IPX1800G1 (DB)	
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COM

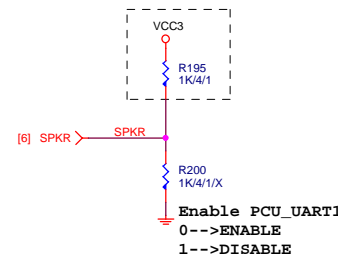


PIN2X5-CUT10-COM
BLACK CONNECTOR

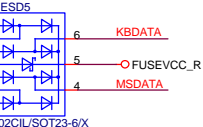
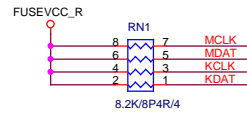
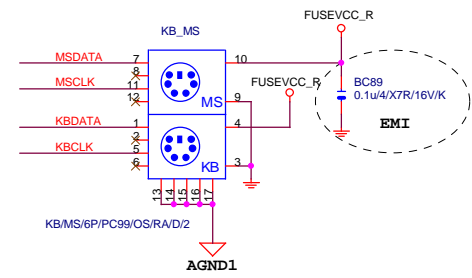
SATA LED



SPKR

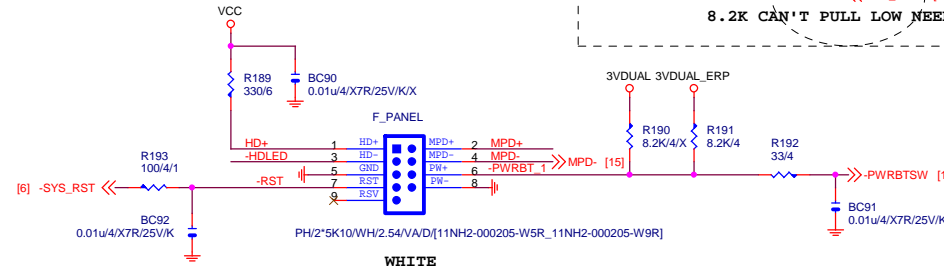


KB/MS

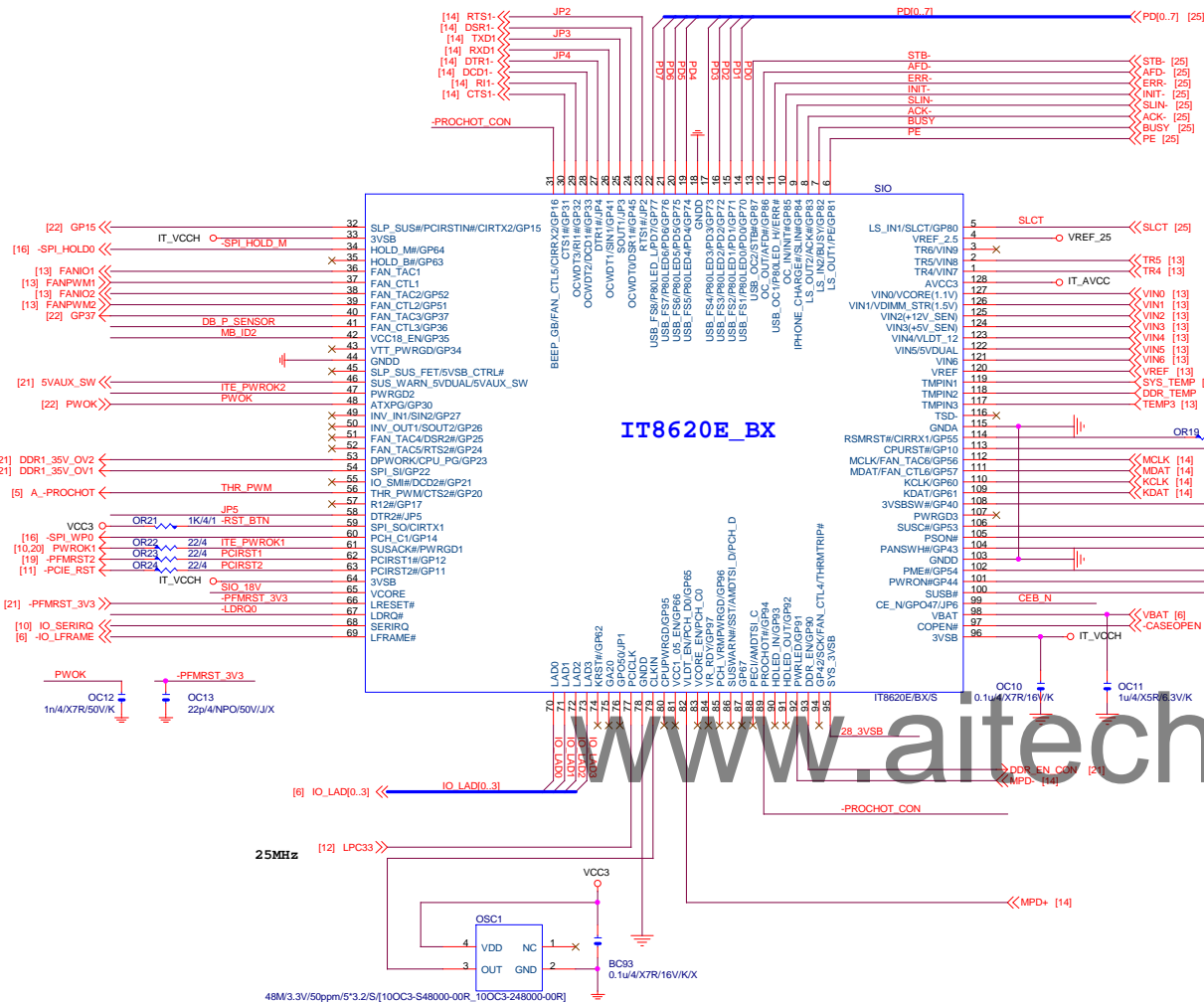


CLOSE KB_MS

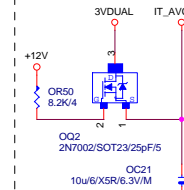
INTEL FRONT PANEL



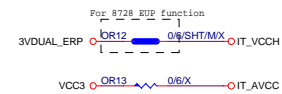
SIO IT8620



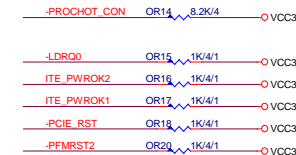
FIX ATX 插拔漏電



PWR SHT

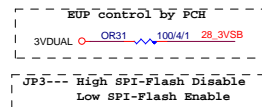


SIO PU



SIO STRAP

H61M-S2 1.1 JP6 stuff
pull down



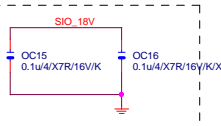
DUAL BIOS OPT STRAP

CKD SINGLE BIOS

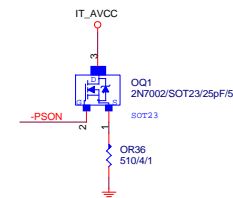


SIO 18V

internal power pin, max 22nF cap



Power leakage

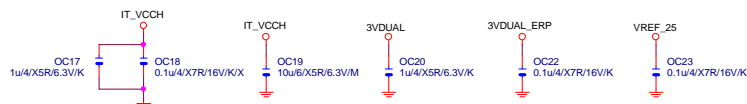


For IT8721 Power leakage

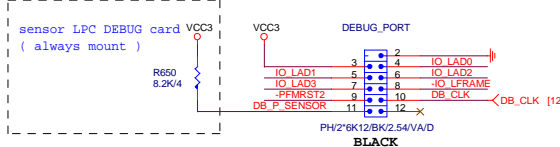
MB ID



SIO CAP

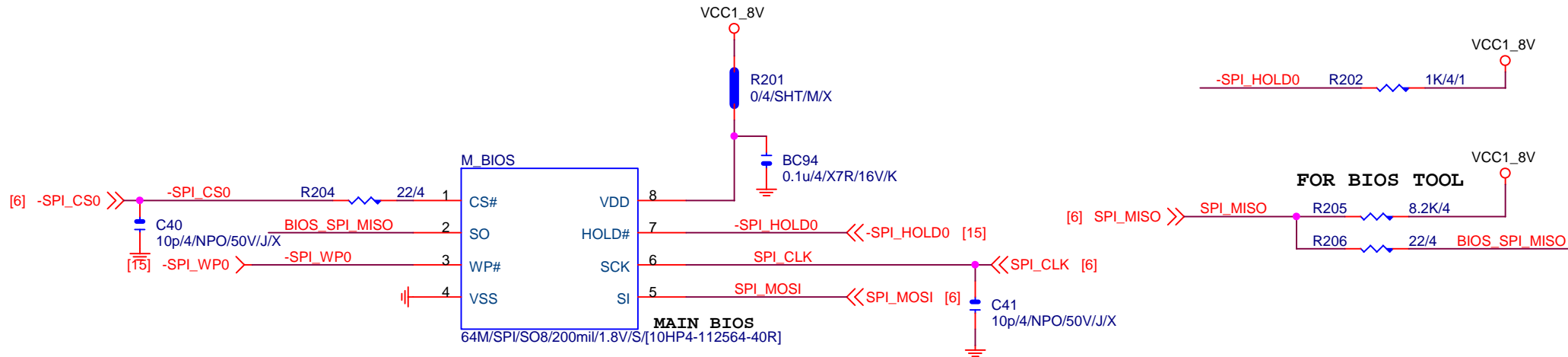


DEBUG PORT



Gigabyte Technology			
Title			
ITE8620/BX			
Size	Document Number	IPX1800G1 (DB)	
Custom		Rev 1.01	
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MAIN BIOS



SPI ROM(1.8V)

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Gigabyte Technology

Title

SPI BIOS

Size
Custom

Document Number

IPX1800G1 (DB)

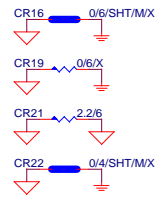
Rev
1.01

Date:

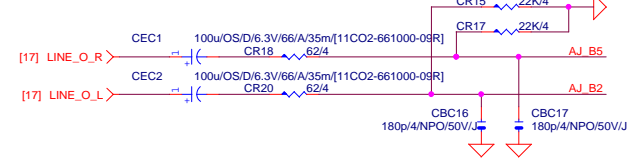
Tuesday, February 11, 2014

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LINE-OUT



Only reserved for ALC888

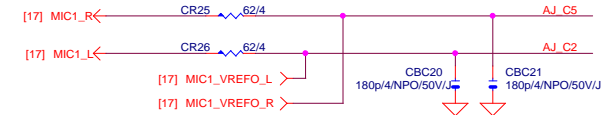
LINE-IN



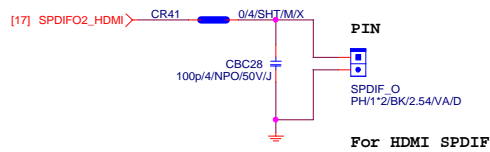
Verify MIC function
in LINE-in

For 889A/888

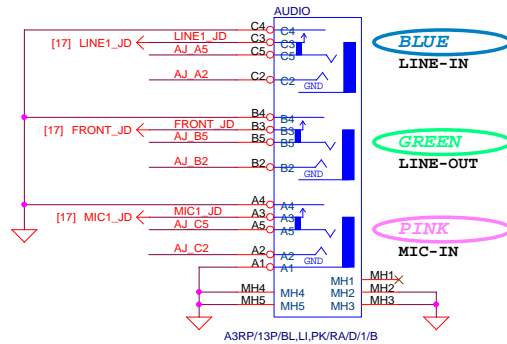
MIC-IN



SPDIF_OUT



For HDMI SPDIF



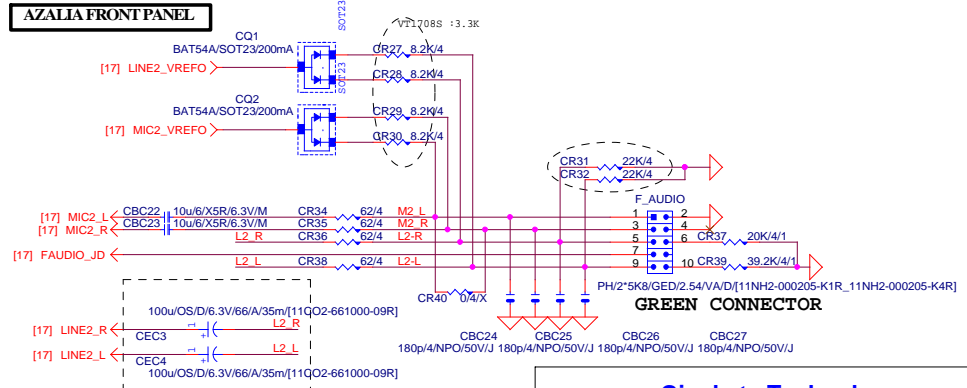
A3RP/13P/BL/LI/PK/RA/D/1/B

BLUE
LINE-IN

GREEN
LINE-OUT

PINK
MIC-IN

AZALIA FRONT PANEL



Gigabyte Technology

AUDIO JACK

IPX1800G1 (DB)

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[illegible][illegible][illegible][illegible]

LAN RTL8111F-VL

LA_VDD33

LA_VDD33 REG

ENABLE SW

MDI ESD預留28KV *

Power domain chart

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

LAN CONNECTOR ESD

EMI SHORT PAD

Gigabyte Technology

RTL111F-VL

IPX1800G1 (DB)

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Date: Tuesday, February 11, 2014 Sheet 19 of 26

[illegible]

LAN RTL8111F-VL

LA_VDD33

LA_VDD33 REG

ENABLE SW

MDI ESD預留28KV *

Power domain chart

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

LAN CONNECTOR ESD

EMI SHORT PAD

Gigabyte Technology

Title
RTL111F-VL

Size Custom Document Number IPX1800G1 (DB) Rev 1.01

Date Tuesday, February 11, 2014 Sheet 19 of 26

LAN RTL8111F-VL

LA_VDD33

LA_VDD33 REG

ENABLE SW

MDI ESD預留28KV *

Power domain chart

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

LAN CONNECTOR ESD

EMI SHORT PAD

Gigabyte Technology

RTL111F-VL

IPX1800G1 (DB)

Date: Tuesday, February 11, 2014 Sheet 19 of 26

LAN RTL8111F-VL

LA_VDD33

LA_VDD33 REG

ENABLE SW

MDI ESD預留28KV *

Power domain chart

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

LAN CONNECTOR ESD

EMI SHORT PAD

Gigabyte Technology

Title: RTL111F-VL

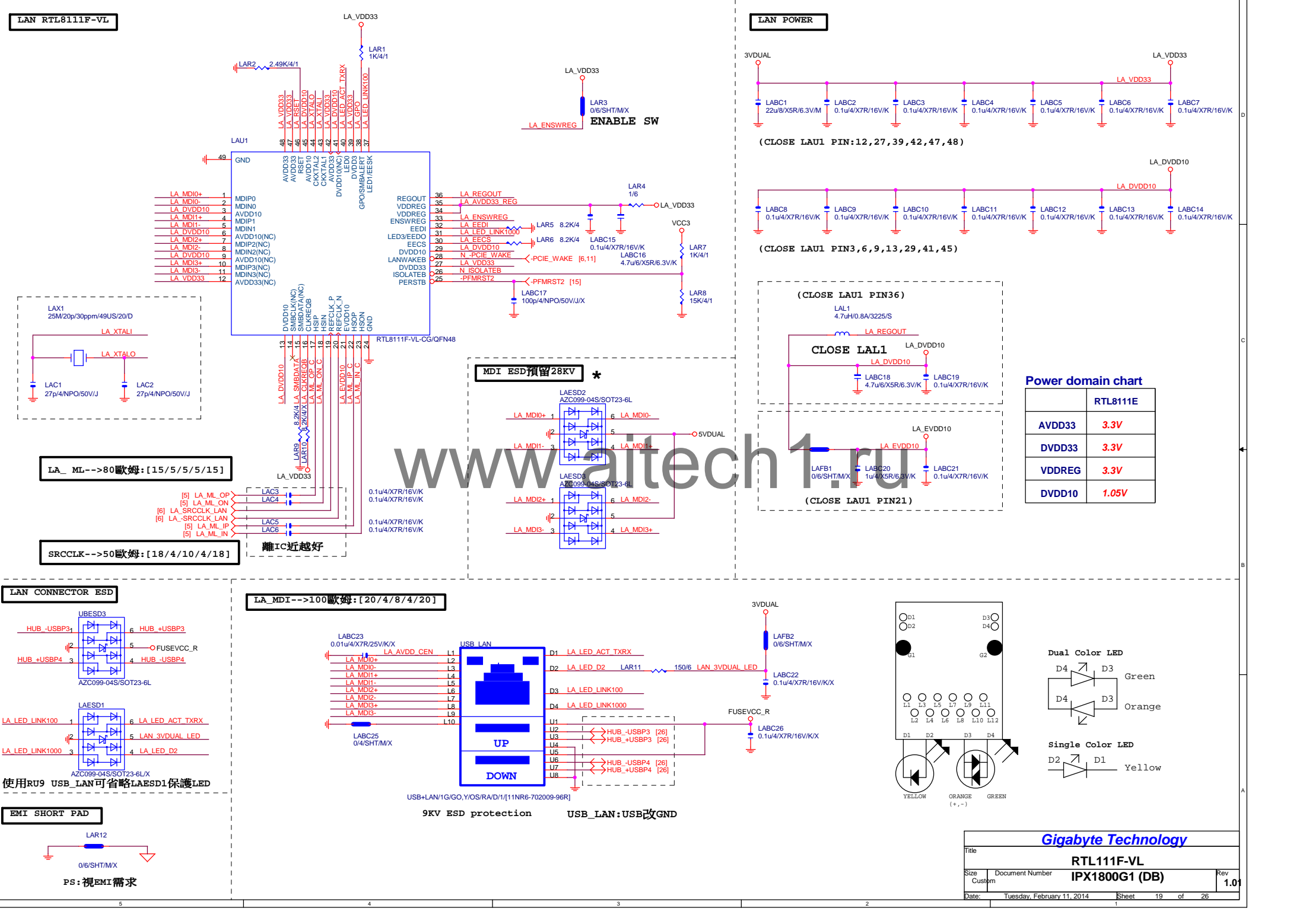
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Document Number: IPX1800G1 (DB)

Date: Tuesday, February 11, 2014

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LAN RTL8111F-VL

LAN POWER

LAN CONNECTOR ESD

EMI SHORT PAD

Power domain chart

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

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9KV ESD protection

USB_LAN: USB改GND

Gigabyte Technology

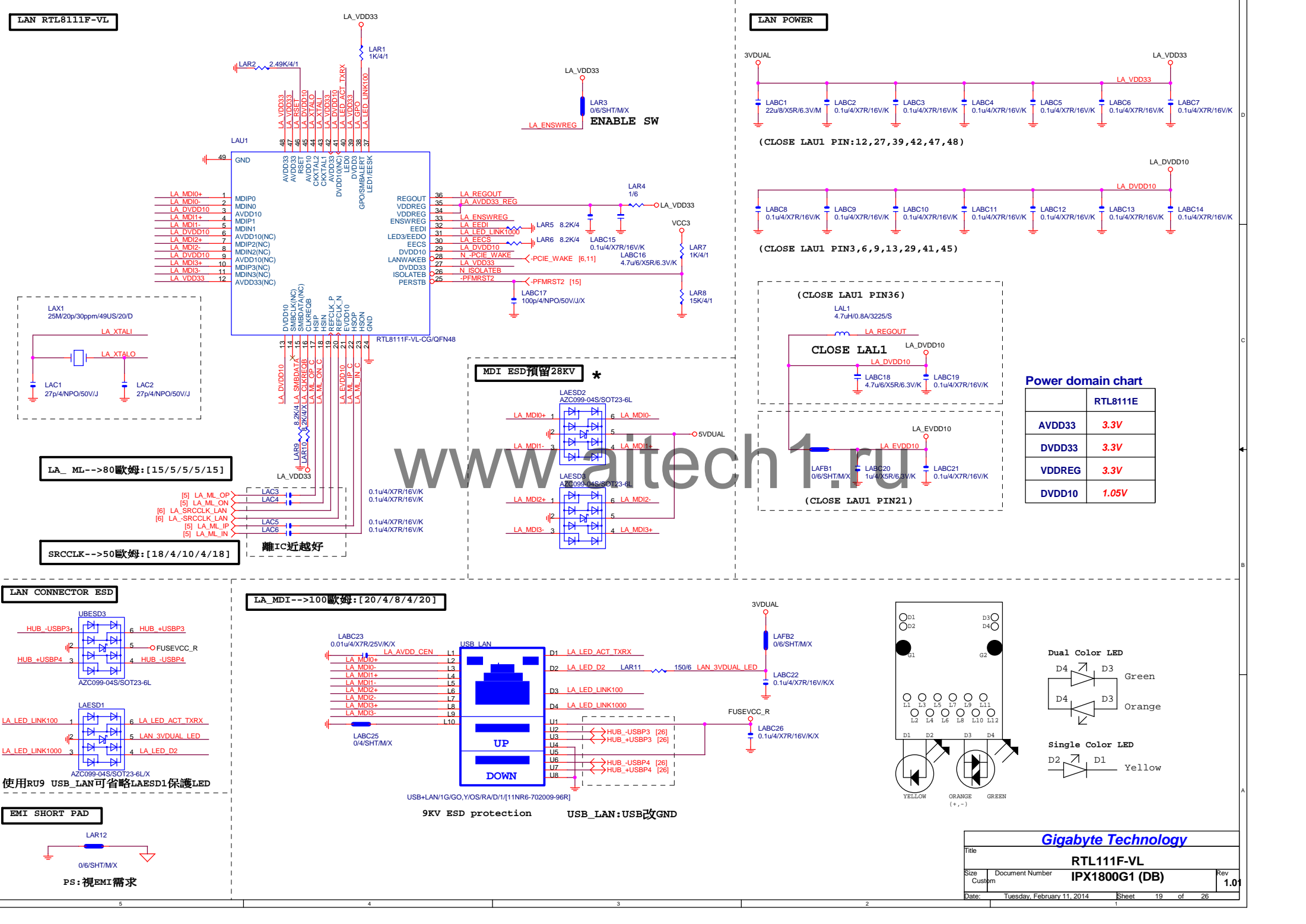
RTL111F-VL

IPX1800G1 (DB)

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LAN RTL8111F-VL

LAN POWER

LAN CONNECTOR ESD

EMI SHORT PAD

Power domain chart

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

Gigabyte Technology

Title: RTL111F-VL

Size: Custom

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Date: Tuesday, February 11, 2014

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LAN RTL8111F-VL

LAN POWER

LAN CONNECTOR ESD

EMI SHORT PAD

Power domain chart

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

Gigabyte Technology

Title: RTL111F-VL

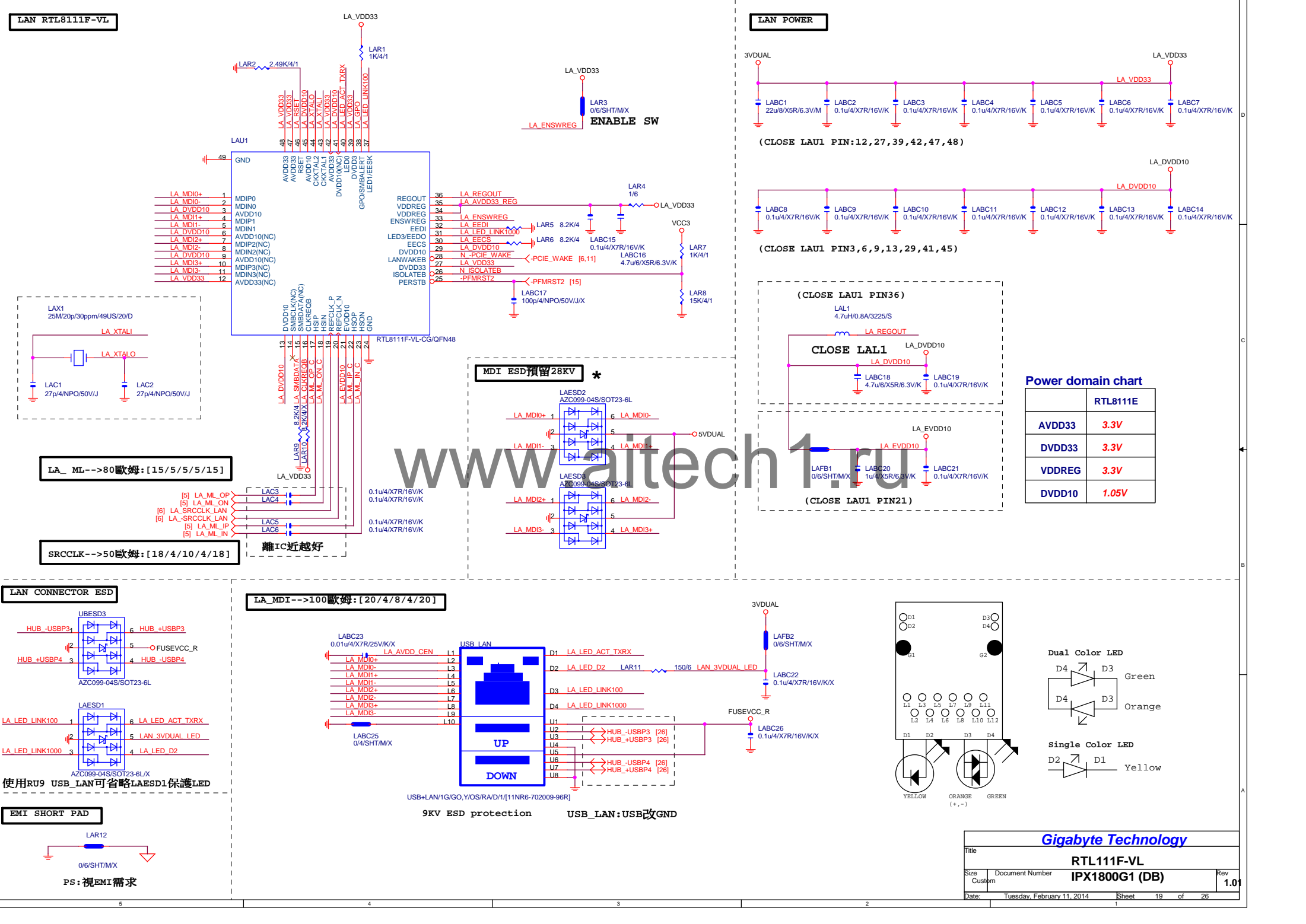
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Document Number: IPX1800G1 (DB)

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LAN RTL8111F-VL

LAN POWER

MDI ESD預留28KV *

LAN CONNECTOR ESD

EMI SHORT PAD

Gigabyte Technology

RTL111F-VL

IPX1800G1 (DB)

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Title

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PS:視EMI需求

USB_LAN:USB改GND

9KV ESD protection

Dual Color LED

Single Color LED

Power domain chart

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

LA_VDD33

LA_DVDD10

LA_EVDD10

LA_VDD33 REG

LA_ENSWREG

LA_LED LINK100

LA_LED LINK1000

LA_LED ACT TXRX

LA_LED D2

LA_LED D1

LA_LED D0

LA_LED D3

LA_LED D4

LA_LED D5

LA_LED D6

LA_LED D7

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LA_LED D236

LA_LED D237

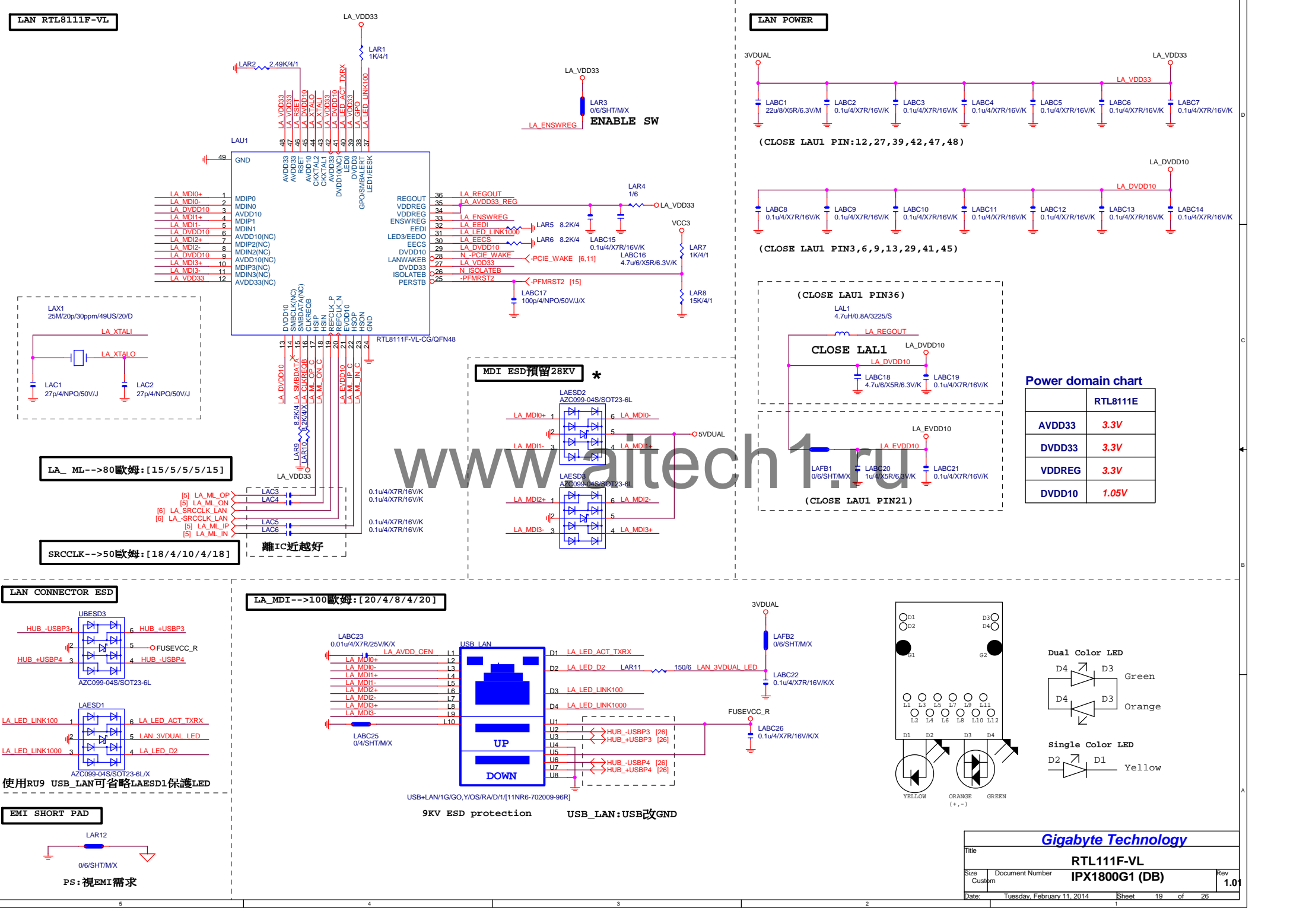
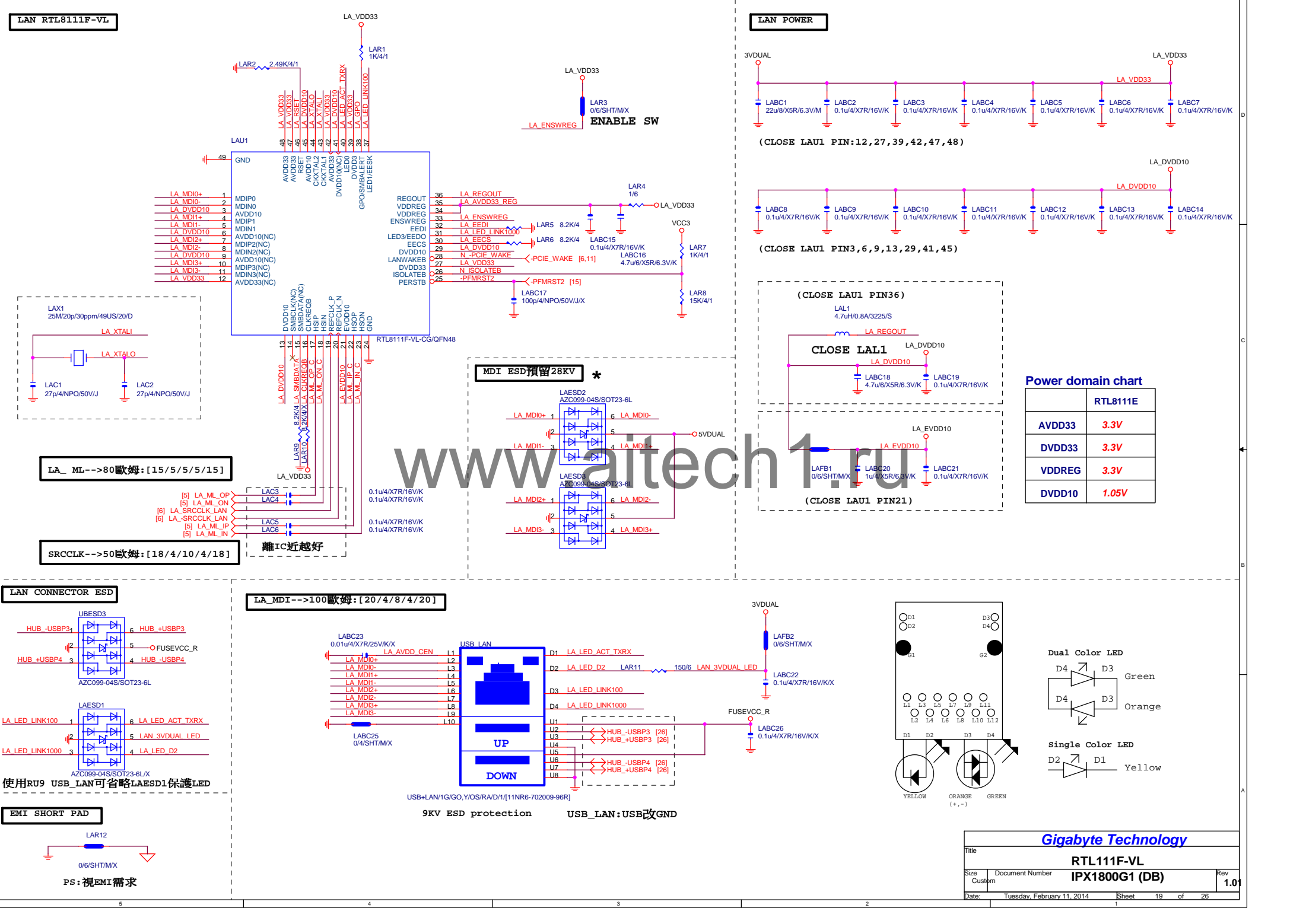
LA_LED D238

LA_LED D239

LA_LED D240

LA_LED D241

LA_LED D



LAN RTL8111F-VL

LA_VDD33

LA_VDD33 REG

ENABLE SW

MDI ESD預留28KV *

Power domain chart

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

LAN CONNECTOR ESD

EMI SHORT PAD

Gigabyte Technology

Title: RTL111F-VL

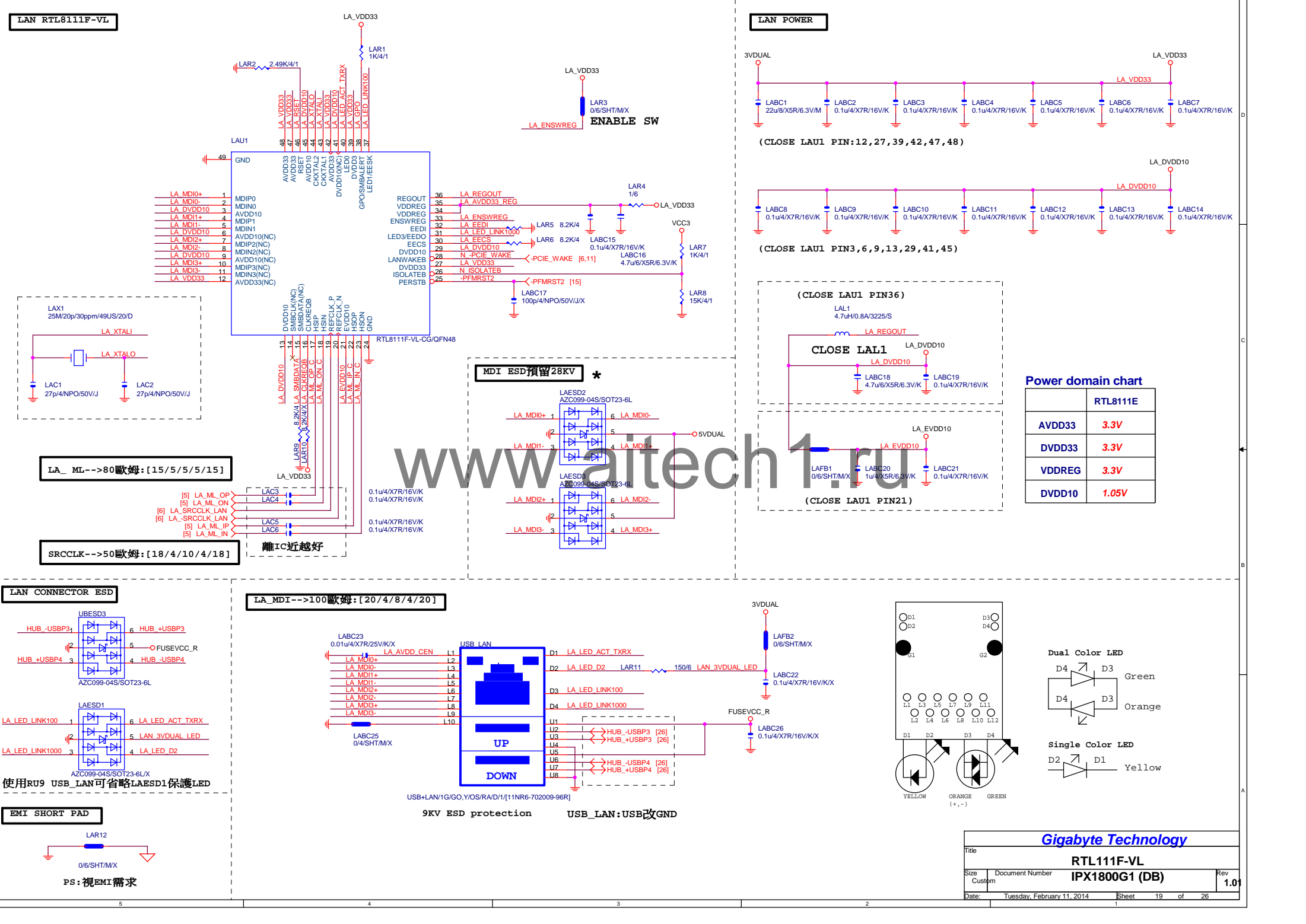
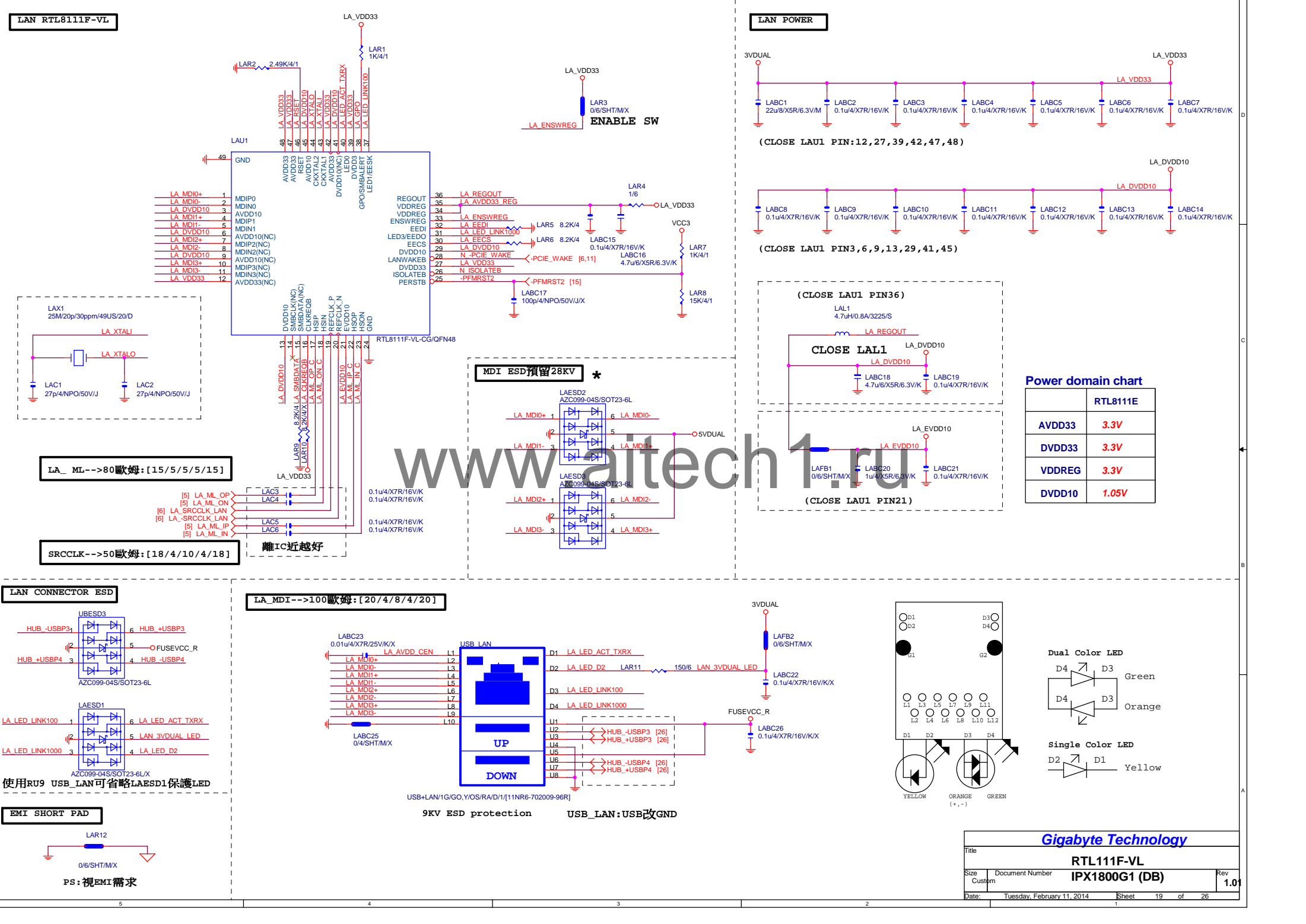
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[illegible]

LAN RTL8111F-VL

LAN POWER

LAN CONNECTOR ESD

EMI SHORT PAD

Power domain chart

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

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9KV ESD protection

USB_LAN:USB改GND

Dual Color LED

Single Color LED

Gigabyte Technology

RTL111F-VL

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LAN RTL8111F-VL

LAN POWER

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

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

(CLOSE LAU1 PIN36)

Power domain chart

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

MDI ESD預留28KV *

LAN CONNECTOR ESD

EMI SHORT PAD

Gigabyte Technology

Title: RTL111F-VL
Size: Custom Document Number: IPX1800G1 (DB) Rev: 1.01
Date: Tuesday, February 11, 2014 Sheet: 19 of 26

[illegible]

LAN RTL8111F-VL

LAN POWER

LAN CONNECTOR ESD

EMI SHORT PAD

MDI ESD預留28KV

Power domain chart

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

Gigabyte Technology

RTL111F-VL

IPX1800G1 (DB)

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LAN RTL8111F-VL

LAN POWER

LAN CONNECTOR ESD

EMI SHORT PAD

MDI ESD預留28KV

Power domain chart

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

Gigabyte Technology

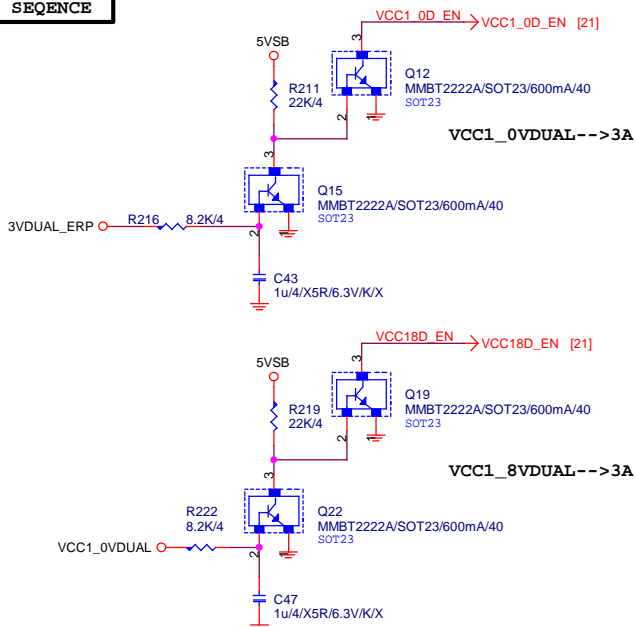
RTL111F-VL

IPX1800G1 (DB)

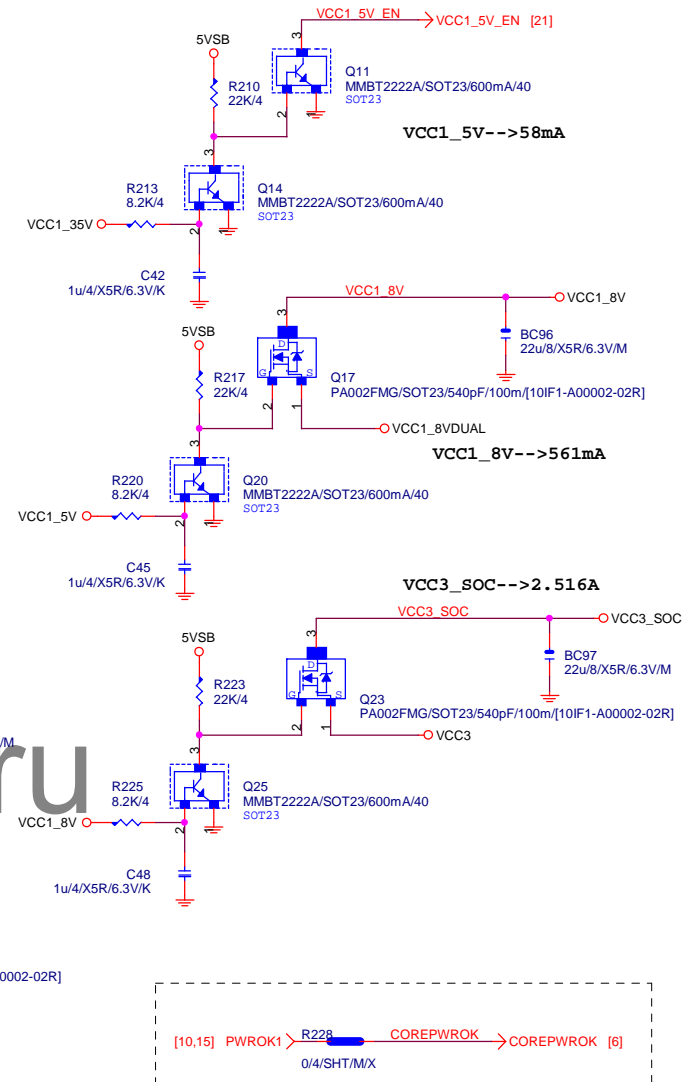
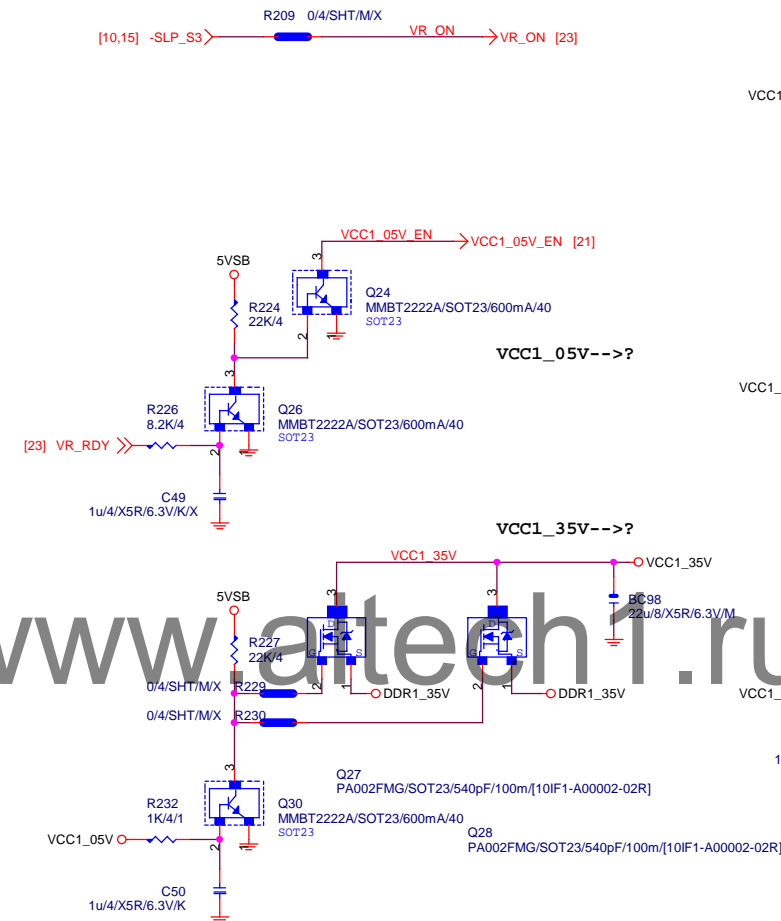
Rev 1.01

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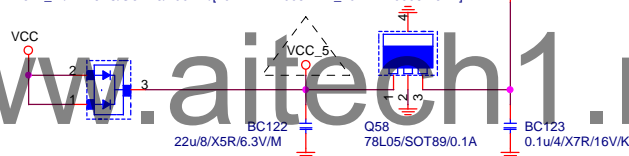
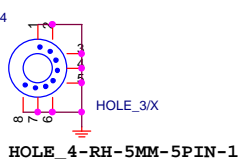
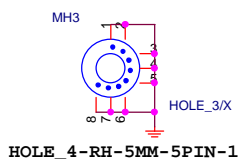
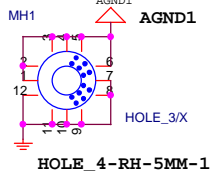
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STANDBY
SEQUENCE

MAIN SEQUENCE	
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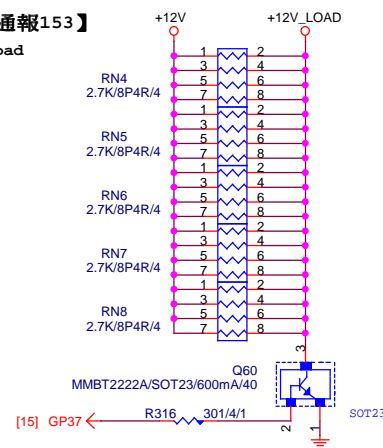


【技術通報R&D技術通報155】

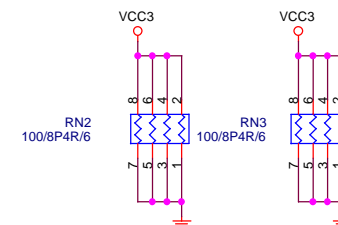


To prevent the 5VSB under loading when boot

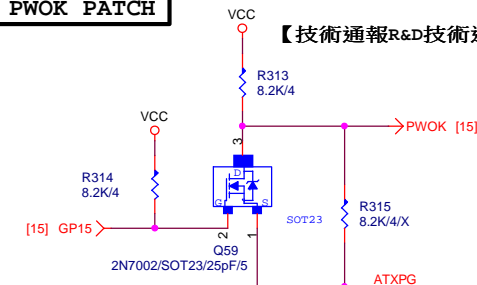
To fix 12V light load
abnromal issue



FIX PWR MINMUN LOAD

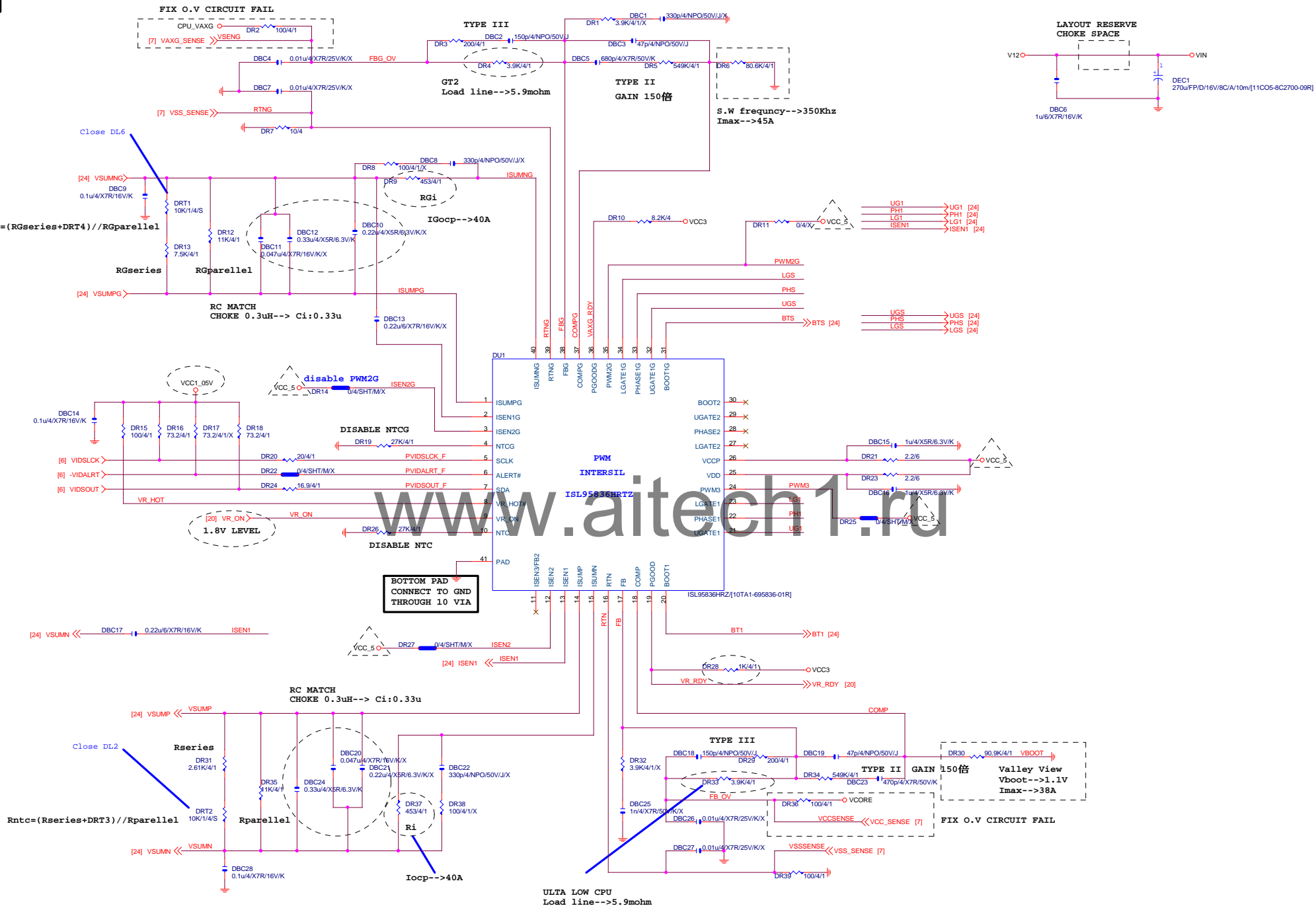


【技術通報R&D技術通報154】

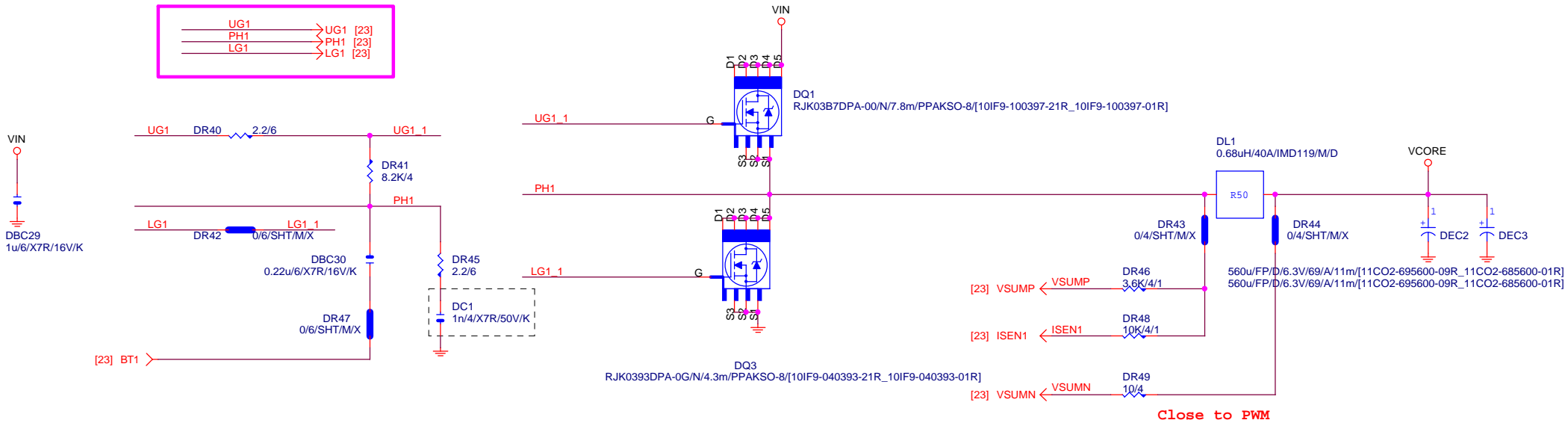


Gigabyte Technology

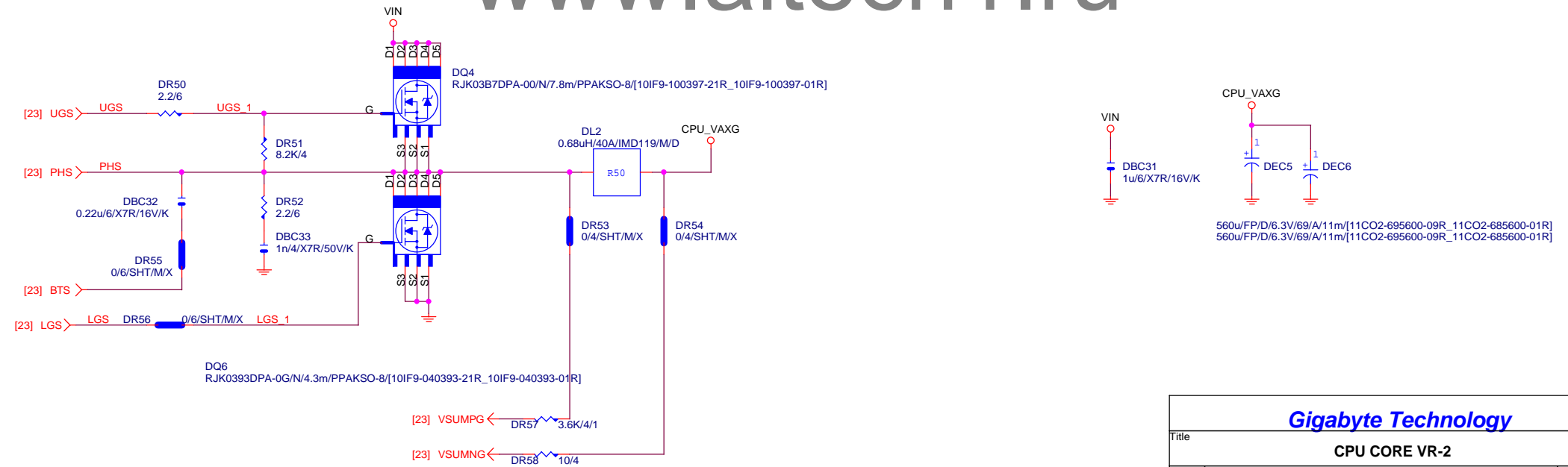
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VCORE

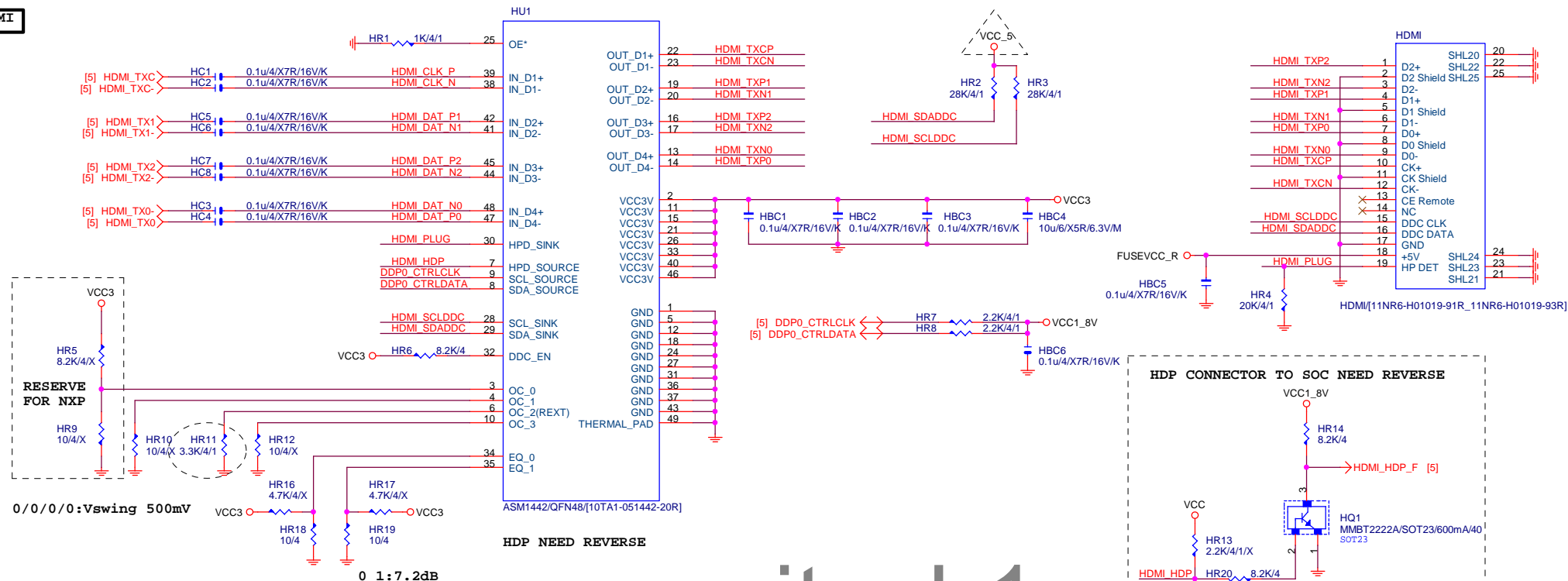


VAXG



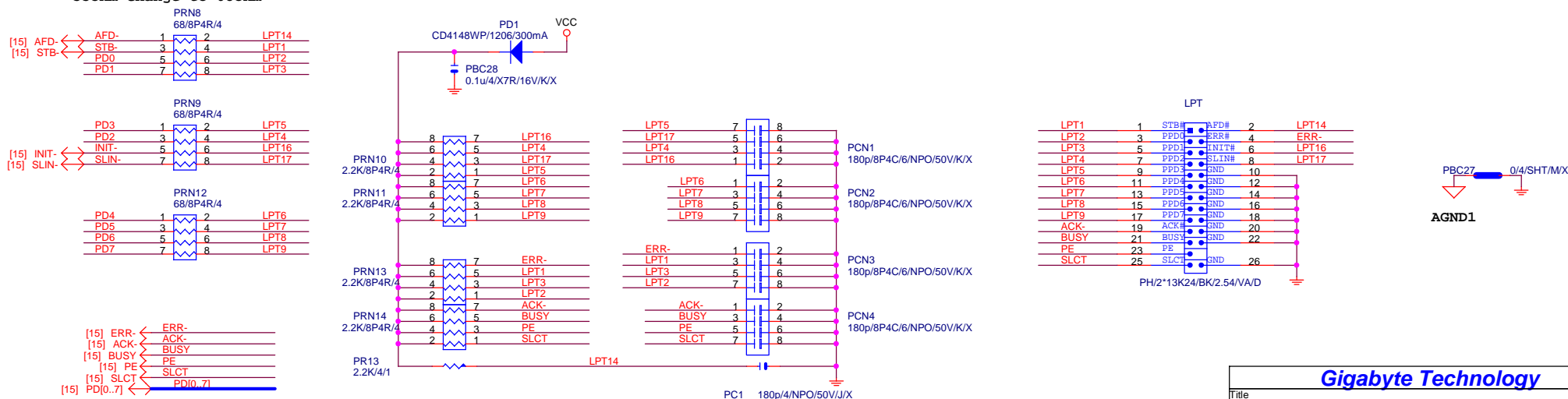
Gigabyte Technology

Title			
CPU CORE VR-2			
Size	Document Number	IPX1800G1 (DB)	
Custom		Rev 1.01	
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HDMI

LPT PORT

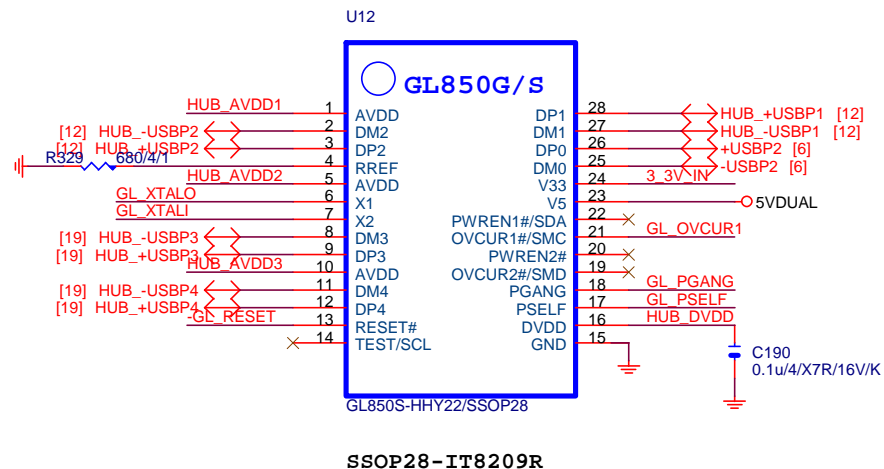
【技術通報R&D技術通報151】
33ohm Change to 68ohm



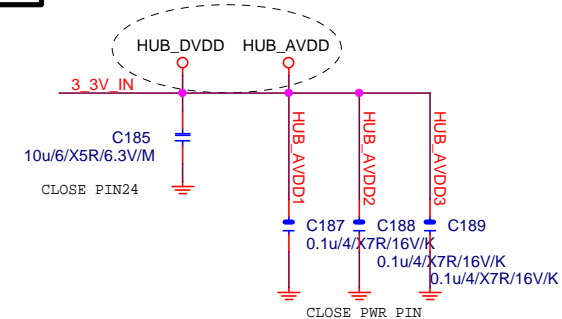
Gigabyte Technology

Title			
HDMI,LPT			
Size	Document Number		Rev
Custom	IPX1800G1 (DB)		1.01
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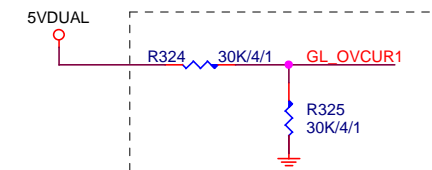
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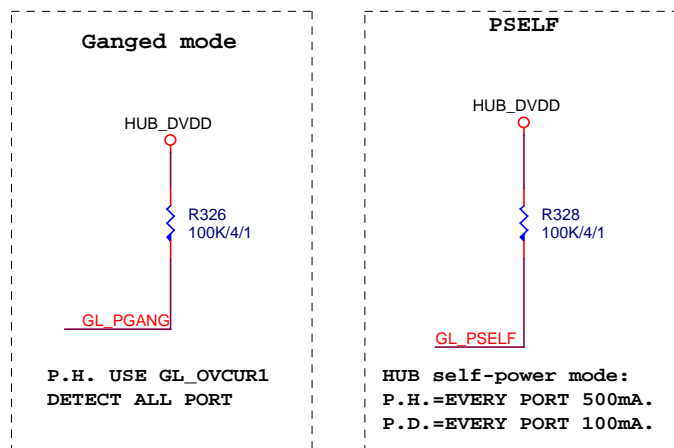
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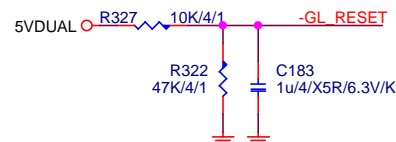
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HUB MODE

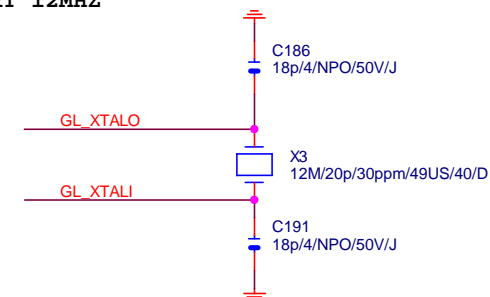


HUB RESET



HUB CRYSTAL

ONLY SUPPORT 12MHZ



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