Model Name: GA-X79-UD3

SHEET	TITLE
01	COVER SHEET
02	BOM & PCB MODIFY HISTORY
03	BLOCK DIAGRAM
04	CPU_LGA2011-DDR
05	CPU_LGA2011-CTRL_PCIE_DMI
06	CPU_LGA2011-PWR
07	DDR III CHANNEL A/B
08	DDR III CHANNEL C/D
09	PCH_SATA_SAS_GPIO_AUDIO
10	PCH_DMI_USB_PCIE_PCI
11	PCH_PWR_GND
12	PCI EXPRESS X16 SLOT_1
13	PCI EXPRESS X16_1 SWITCH
14	PCI EXPRESS X8_1 SLOT
15	PCI EXPRESS X16_2 SLOT
16	PCI EXPRESS X16_2 SWITCH
17	PCI EXPRESS X8_2 SLOT
18	PCI EXPRESS X4 SLOT
19	PCI EXPRESS X1 & PCI SLOT
20	ITE 8728 SIO
21	DUAL BIOS , TPM
22	-PROHOT,KB/MS,RUSB,COMA
23	VCORE ISL6367-1
24	VCORE ISL6367-2
25	VCORE ISL6367-3
26	ISL6322_CPU_VTTD
27	DDR CH A/B POWER

SHEET	TITLE
28	DDR CH C/D POWER
29	PCH CORE POWER
30	DISCRETE POWER 1
31	DISCRETE POWER 2
32	FP ,FUSB
33	ATX , OC
34	ALC898
35	REAR AUDIO JACK
36	HWM ,FAN CTRL
37	CLOCK GEN & BUFFER
38	F_USB3_FL1009
39	R_USB3_FL1009
40	Gb LAN-INTEL 82579V
41	Marvell 9172 SATA 3.0-A
42	Marvell 9172 SATA 3.0-B
43	Marvell 9172 eSATA
44	PCH GPIO LIST

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Title: Cover Sheet

Size: Custom | Document Number: GA-X79-UD3 | Rev: 1.03

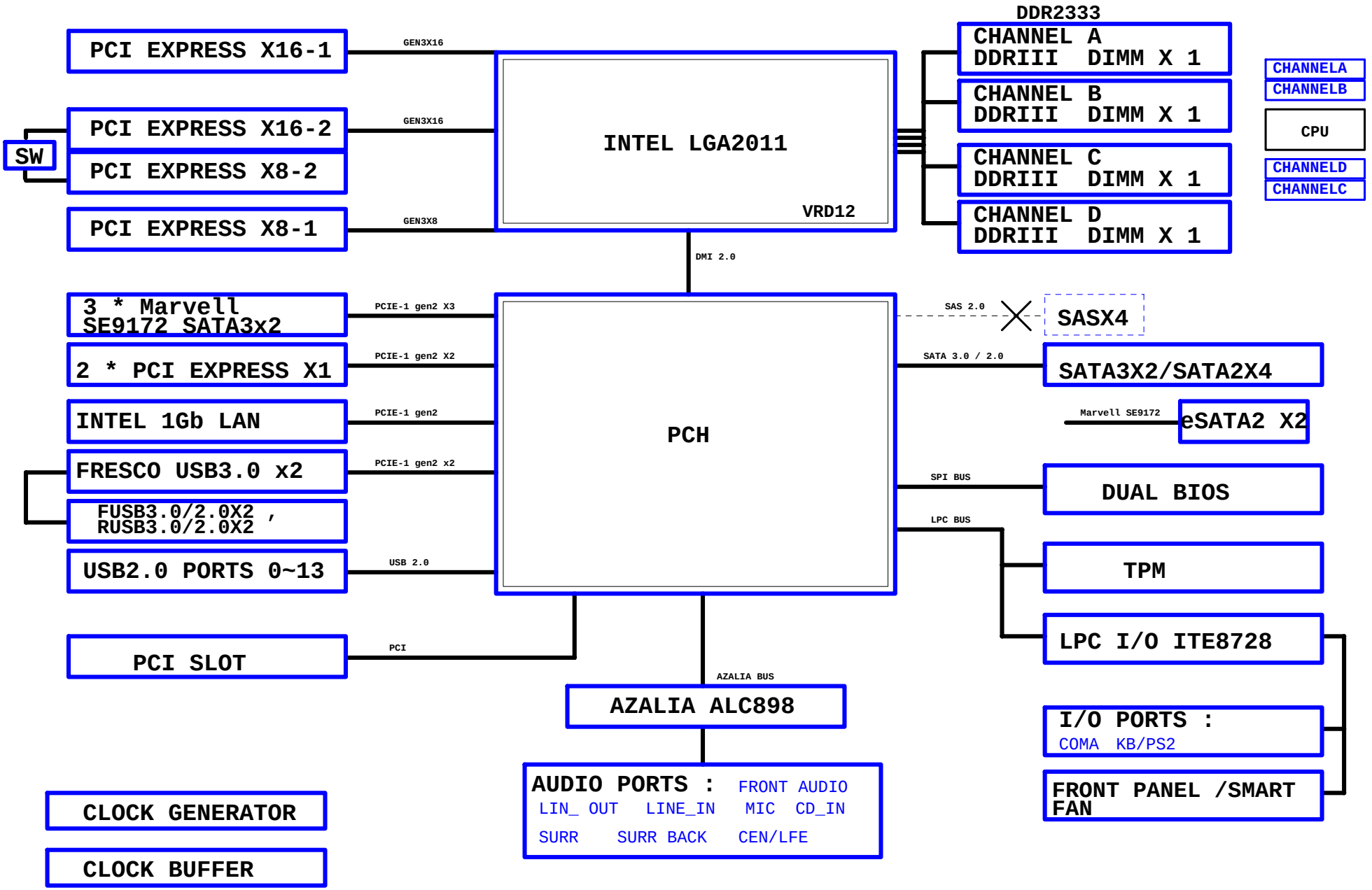
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GA-X79-UD3

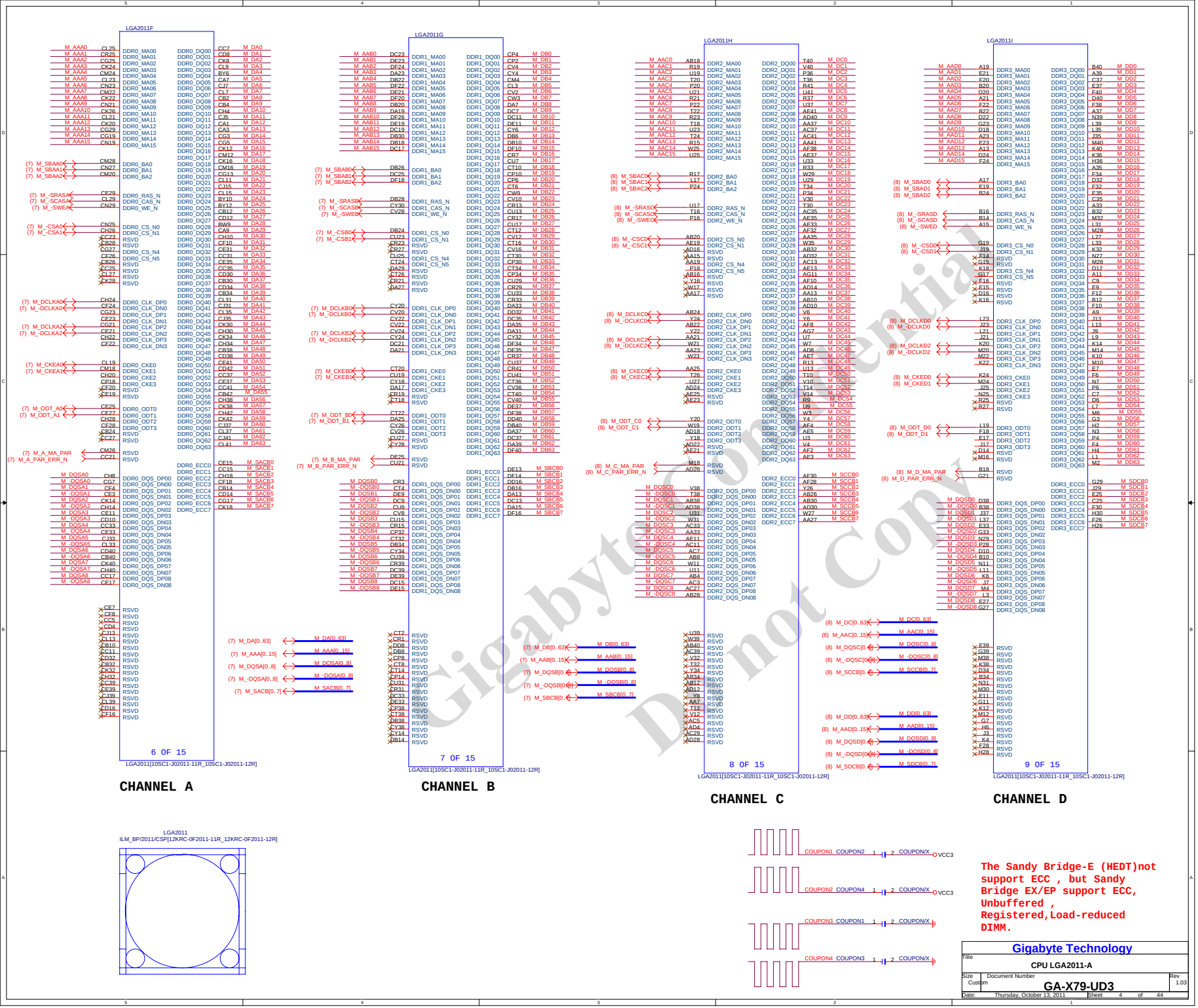
Component value change history

Data	Change Item	Reason
2011-10-12	10G PBOM build	For PVT

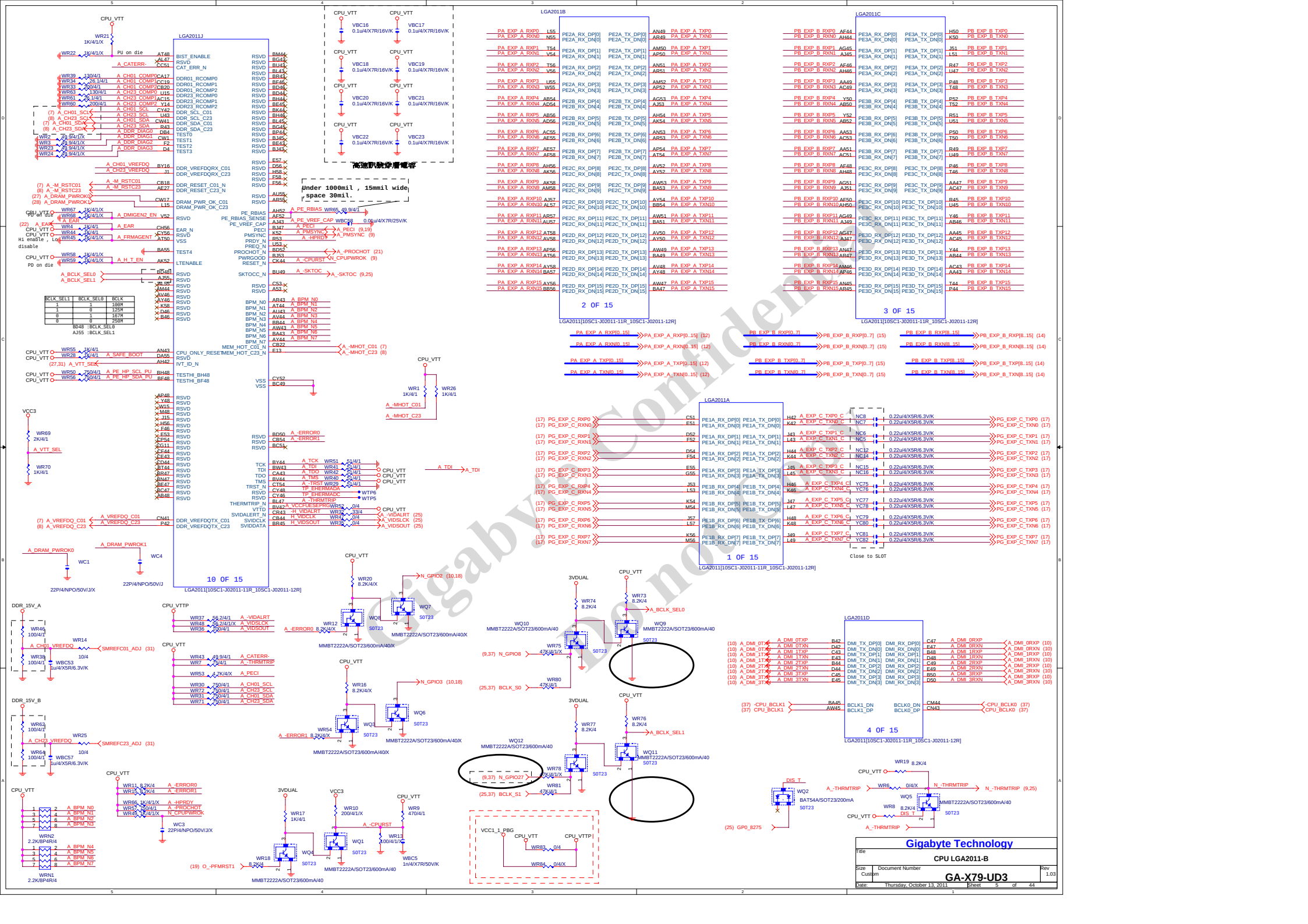
BLOCK DIAGRAM

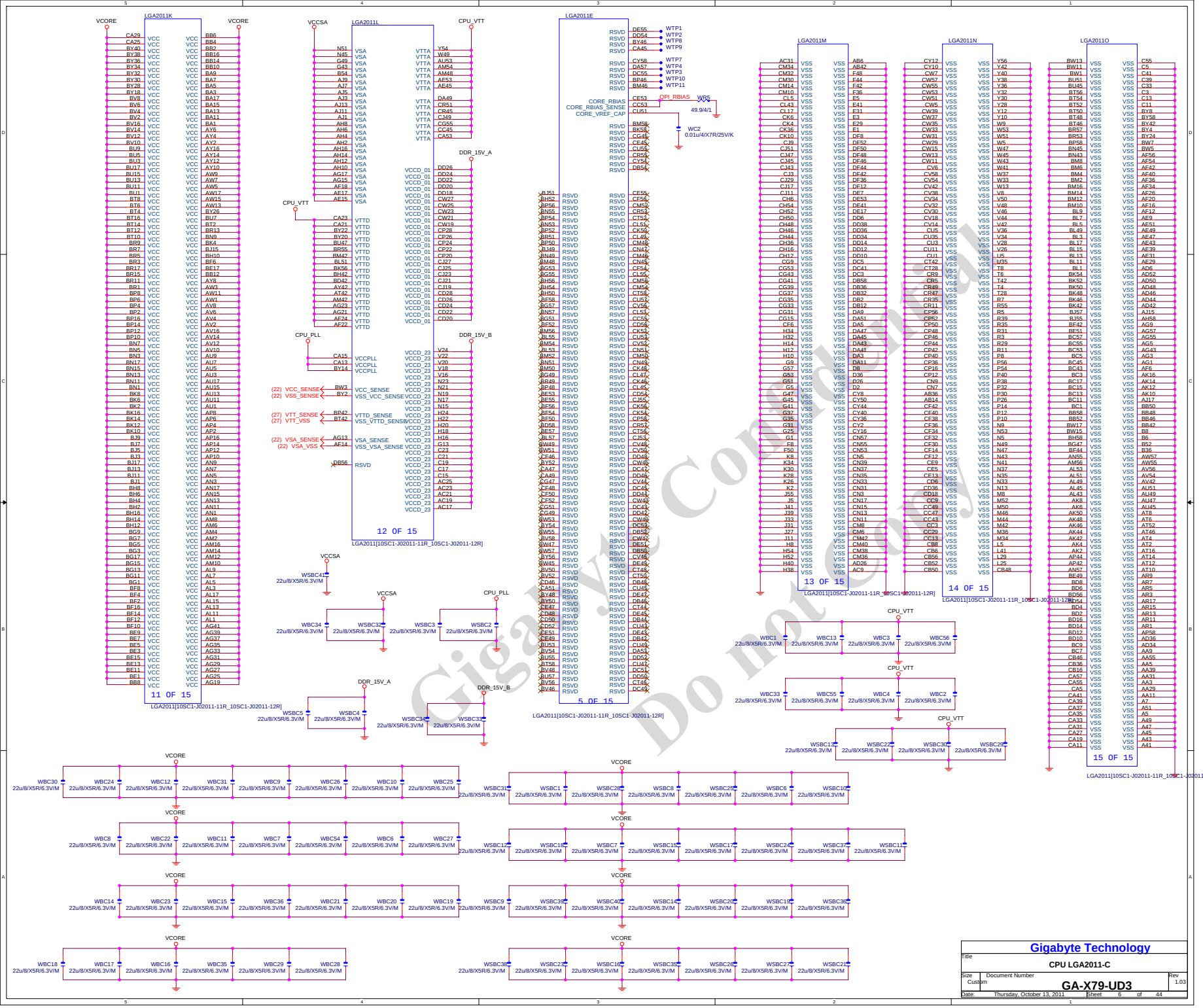


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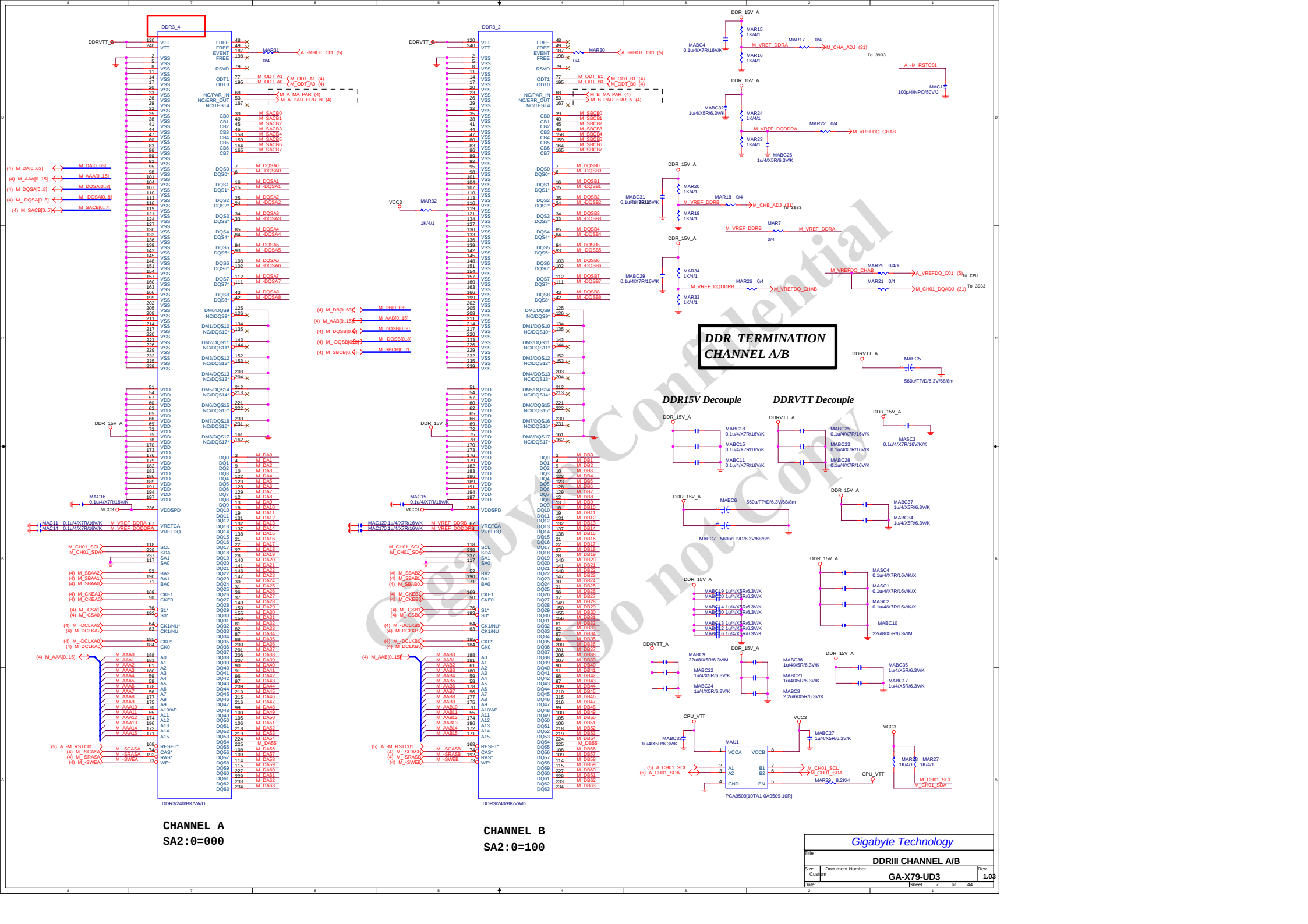
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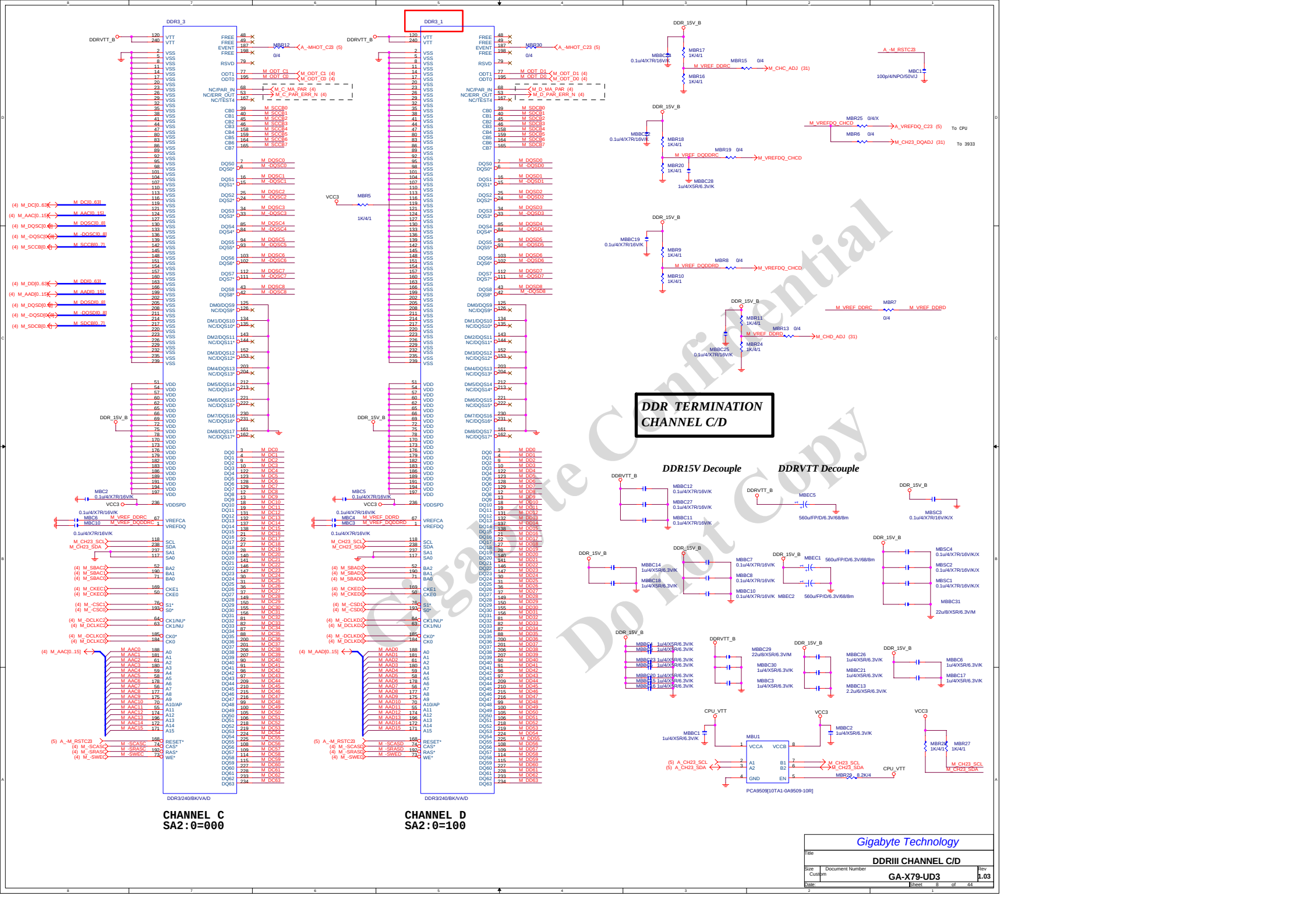

LGA2011J
LGA2011B
LGA2011C
LGA2011A
LGA2011D
10 OF 15
2 OF 15
3 OF 15
1 OF 15
4 OF 15
Under 1000mil , 15mmil wide space 30mil.
Close to SLOT
Gigabyte Technology
CPU LGA2011-B
GA-X79-UD3
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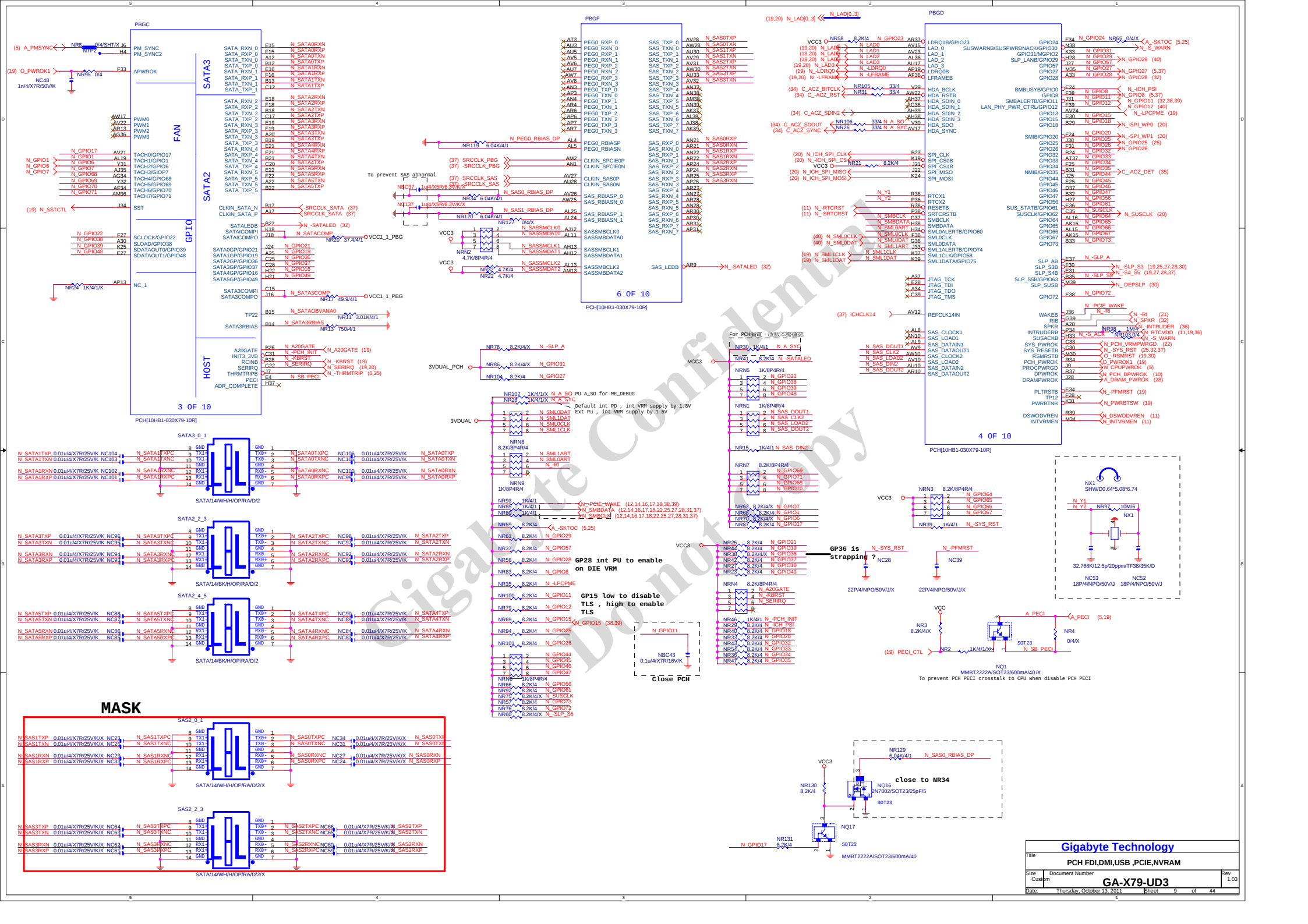
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Size	Custom
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DDR3_4
DDR3_2
DDR3/240/BK/VA/D
CHANNEL A
SA2:0=000
CHANNEL B
SA2:0=100
DDR TERMINATION
CHANNEL A/B
DDR15V Decouple
DDRVTT Decouple
DDR_15V_A
DDRVTT_A
CPU_VTT
VCC3
PCA9509[10TA1-0A9509-10R]
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DDRIII CHANNEL A/B
GA-X79-UD3
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PBGC
PM_SYNC
PM_SYNC2
APWROK
PWM0
PWM1
PWM2
PWM3
FAN
TACH0/GPIO17
TACH1/GPIO1
TACH2/GPIO6
TACH3/GIOP7
TACH4/GPIO68
TACH5/GPIO69
TACH6/GPIO70
TACH7/GPIO71
SST
SCLOCK/GPIO22
SLOAD/GPIO38
SDATAOUT0/GPIO39
SDATAOUT1/GPIO48
GPIO
NC_1
SATA3
SATA2
HOST
SATA3COMPI
SATA3COMPO
TP22
SATA3RBIAS
A20GATE
INIT3_3VB
RCINB
SERIRQ
THRMTRIPB
PECI
ADR_COMPLETE
3 OF 10
PCH[10HB1-030X79-10R]
PBGF
PEG0_RXP_0
PEG0_RXN_0
PEG0_RXP_1
PEG0_RXN_1
PEG0_RXP_2
PEG0_RXN_2
PEG0_RXP_3
PEG0_RXN_3
PEG0_TXP_0
PEG0_TXN_0
PEG0_TXP_1
PEG0_TXN_1
PEG0_TXP_2
PEG0_TXN_2
PEG0_TXP_3
PEG0_TXN_3
PEG0_RBIASP
PEG0_RBIASN
CLKIN_SPCIE0P
CLKIN_SPCIE0N
CLKIN_SAS0P
CLKIN_SAS0N
SAS_RBIASP_0
SAS_RBIASN_0
SAS_RBIASP_1
SAS_RBIASN_1
SASSMBCLK0
SASSMBDATA0
SASSMBCLK1
SASSMBDATA1
SASSMBCLK2
SASSMBDATA2
SAS_LEDB
SAS_TXP_0
SAS_TXN_0
SAS_TXP_1
SAS_TXN_1
SAS_TXP_2
SAS_TXN_2
SAS_TXP_3
SAS_TXN_3
SAS_TXP_4
SAS_TXN_4
SAS_TXP_5
SAS_TXN_5
SAS_TXP_6
SAS_TXN_6
SAS_TXP_7
SAS_TXN_7
SAS_RXP_0
SAS_RXN_0
SAS_RXP_1
SAS_RXN_1
SAS_RXP_2
SAS_RXN_2
SAS_RXP_3
SAS_RXN_3
SAS_RXP_4
SAS_RXN_4
SAS_RXP_5
SAS_RXN_5
SAS_RXP_6
SAS_RXN_6
SAS_RXP_7
SAS_RXN_7
6 OF 10
PCH[10HB1-030X79-10R]
PBGD
LDRQ1B/GPIO23
LAD_0
LAD_1
LAD_2
LAD_3
LDRQ0B
LFRAMEB
HDA_BCLK
HDA_RSTB
HDA_SDIN_0
HDA_SDIN_1
HDA_SDIN_2
HDA_SDIN_3
HDA_SDO
HDA_SYNC
SPI_CLK
SPI_CS0B
SPI_CS1B
SPI_MISO
SPI_MOSI
RTCX1
RTCX2
RESETB
SRTCRSTB
SMBCLK
SMBDATA
SML0ALERTB/GPIO60
SML0CLK
SML0DATA
SML1ALERTB/GPIO74
SML1CLK/GPIO58
SML1DATA/GPIO75
JTAG_TCK
JTAG_TDI
JTAG_TDO
JTAG_TMS
REFCLK14IN
SAS_CLOCK1
SAS_LOAD1
SAS_DATAIN1
SAS_DATAOUT1
SAS_CLOCK2
SAS_LOAD2
SAS_DATAIN2
SAS_DATAOUT2
GPIO24
SUSWARNB/SUSPWRDNACK/GPIO30
GPIO31/MGPIO2
SLP_LANB/GPIO29
GPIO57
GPIO27
GPIO28
BMBUSYB/GPIO0
GPIO8
SMBALERTB/GPIO11
LAN_PHY_PWR_CTRL/GPIO12
GPIO13
GPIO15
GPIO18
SMIB/GPIO20
GPIO25
GPIO26
GPIO32
GPIO33
GPIO34
NMIB/GPIO35
GPIO44
GPIO45
GPIO46
GPIO47
GPIO56
GPIO61
SUS_STATB/GPIO61
SUSCLK/GPIO62
GPIO64
GPIO65
GPIO66
GPIO67
GPIO73
SLP_A8
SLP_S3B
SLP_S4B
SLP_S5B/GPIO63
SLP_SUSB
GPIO72
WAKEB
RIB
SPKR
INTRUDERB
SUSACKB
SYS_PWROK
SYS_RESETB
RSMRSTB
PCH_PWROK
PROCPWRGD
DPWROK
DRAMPWROK
PLTRSTB
PWRBTNB
DSWODVREN
INTVRMEN
4 OF 10
PCH[10HB1-030X79-10R]
SATA3_0_1
SATA/14/WH/H/OP/RA/D/2
SATA2_2_3
SATA/14/BK/H/OP/RA/D/2
SATA2_4_5
SATA/14/BK/H/OP/RA/D/2
MASK
SAS2_0_1
SATA/14/WH/H/OP/RA/D/2/X
SAS2_2_3
SATA/14/WH/H/OP/RA/D/2/X
GP28 int PU to enable on DIE VRM
GP15 low to disable TLS , high to enable TLS
Close PCH
GP36 is strapping ?
close to NR34
NQ16
2N7002/SOT23/25pF/5
NQ17
MMBT2222A/SOT23/600mA/40
NQ1
MMBT2222A/SOT23/600mA/40/X
To prevent PCH PECI crosstalk to CPU when disable PCH PECI
32.768K/12.5p/20ppm/TF38/35K/D
Default int PD , int VRM supply by 1.8V
Ext Pu , int VRM supply by 1.5V
For PCH兩電，改版本需確認
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PCH FDI,DMI,USB ,PCIE,NVRAM
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DMI Lane Reversal

PBGB

DMI_RXN_0 DMI_RXP_0 DMI_TXN_0 DMI_TXP_0 DMI_RXN_1 DMI_RXP_1 DMI_TXN_1 DMI_TXP_1 DMI_RXN_2 DMI_RXP_2 DMI_TXN_2 DMI_TXP_2 DMI_RXN_3 DMI_RXP_3 DMI_TXN_3 DMI_TXP_3

DMI

USB

USBN_0 USBP_0 USBN_1 USBP_1 USBN_2 USBP_2 USBN_3 USBP_3 USBN_4 USBP_4 USBN_5 USBP_5 USBN_6 USBP_6 USBN_7 USBP_7 USBN_8 USBP_8 USBN_9 USBP_9 USBN_10 USBP_10 USBN_11 USBP_11 USBN_12 USBP_12 USBN_13 USBP_13

Front USB

Rear USB

PCI-E

2 OF 10

PCH[10HB1-030X79-10R]

Take care !!

DMI VCC terminated when PU , VSS terminated when PD.

PCH_HS

PCH_HS12SP2-PTX793-02R_12SP2-PTX793-03R]

For X79 HS:12SP2-PTX793-01R

Check the heatsink thermal

PBGA

PCI

1 OF 10

PCH[10HB1-030X79-10R]

INT PU , EXT PD to enable DMI full voltage AC coupling

Follow CRB PD 1k

At least 10ms delay after 3VDUAL_PCH stabel

At least 40ms lead fall to 0V before 3VDUAL_PCH fall to 2V

PBGH

8 OF 10

PCH[10HB1-030X79-10R]

PBGE

NVRAM

5 OF 10

PCH[10HB1-030X79-10R]

32.4/4/1 for NV enable

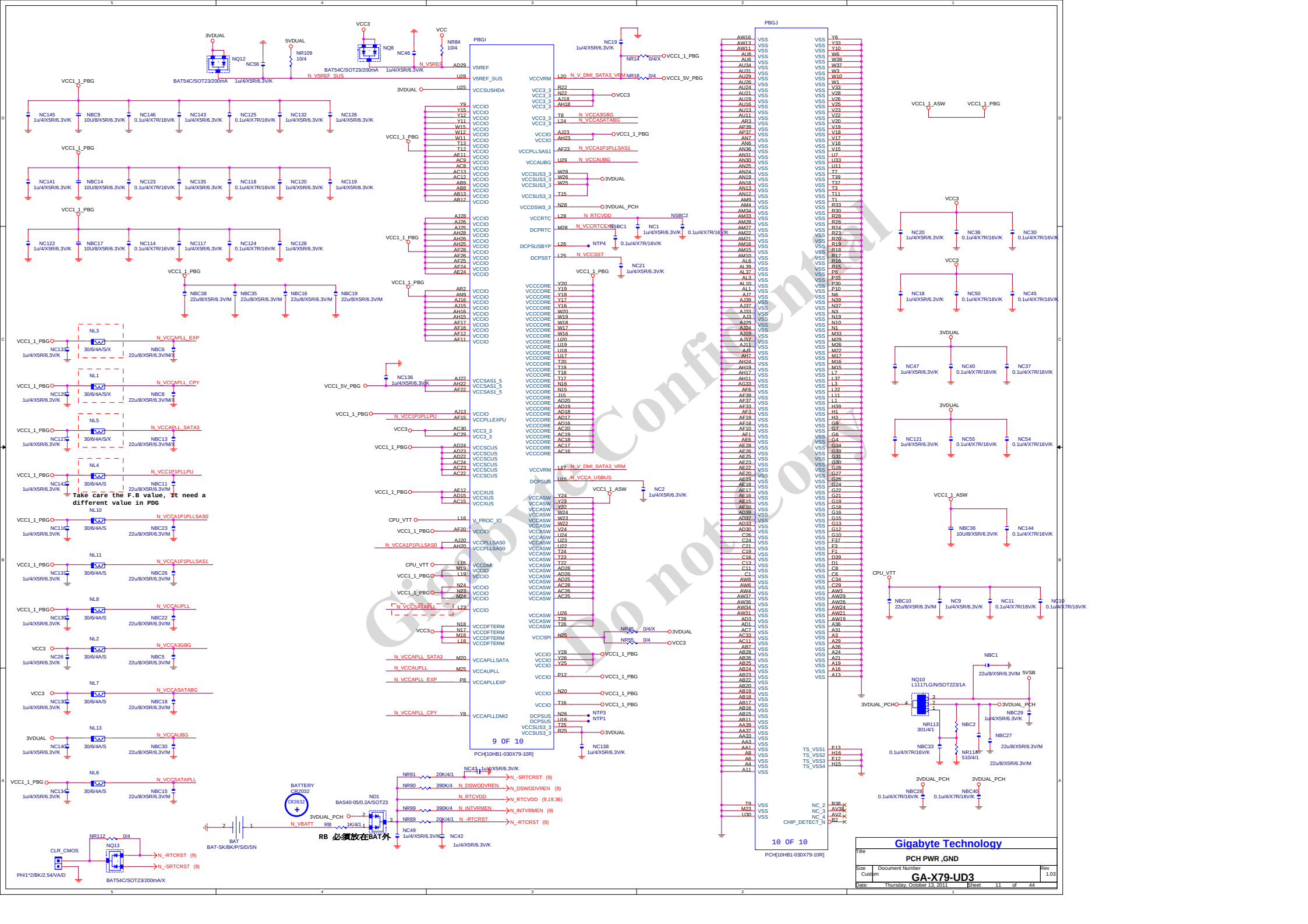
PBGG

7 OF 10

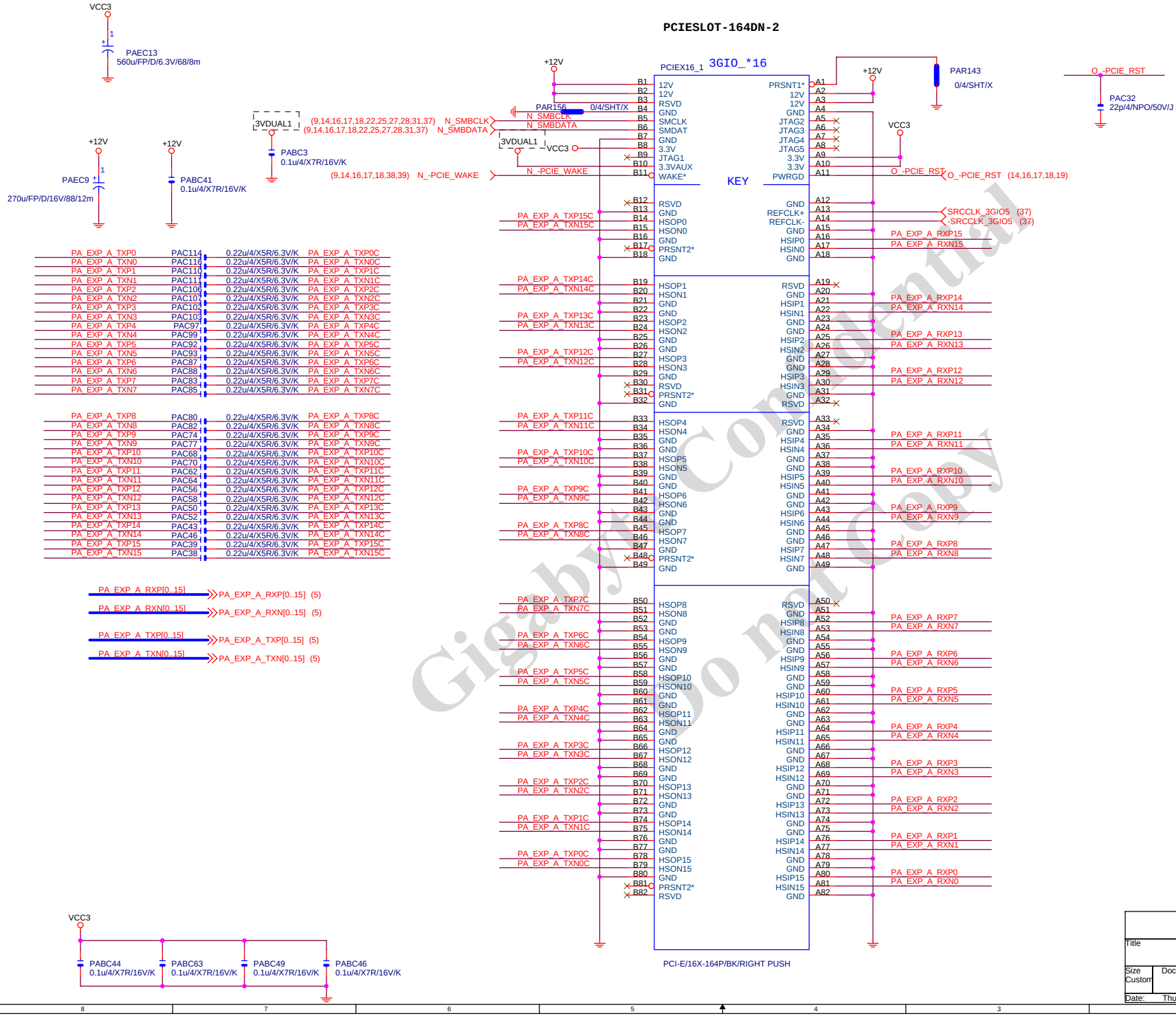
PCH[10HB1-030X79-10R]

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Title	PCH DISPLAY ,CLK BUFFER
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PBGJ
PBGI
PCH[10HB1-030X79-10R]
9 OF 10
10 OF 10
Take care the F.B value, It need a different value in PDG
RB 必須放在BAT外
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PCH PWR ,GND
GA-X79-UD3
Thursday, October 13, 2011

PCIESLOT-164DN-2



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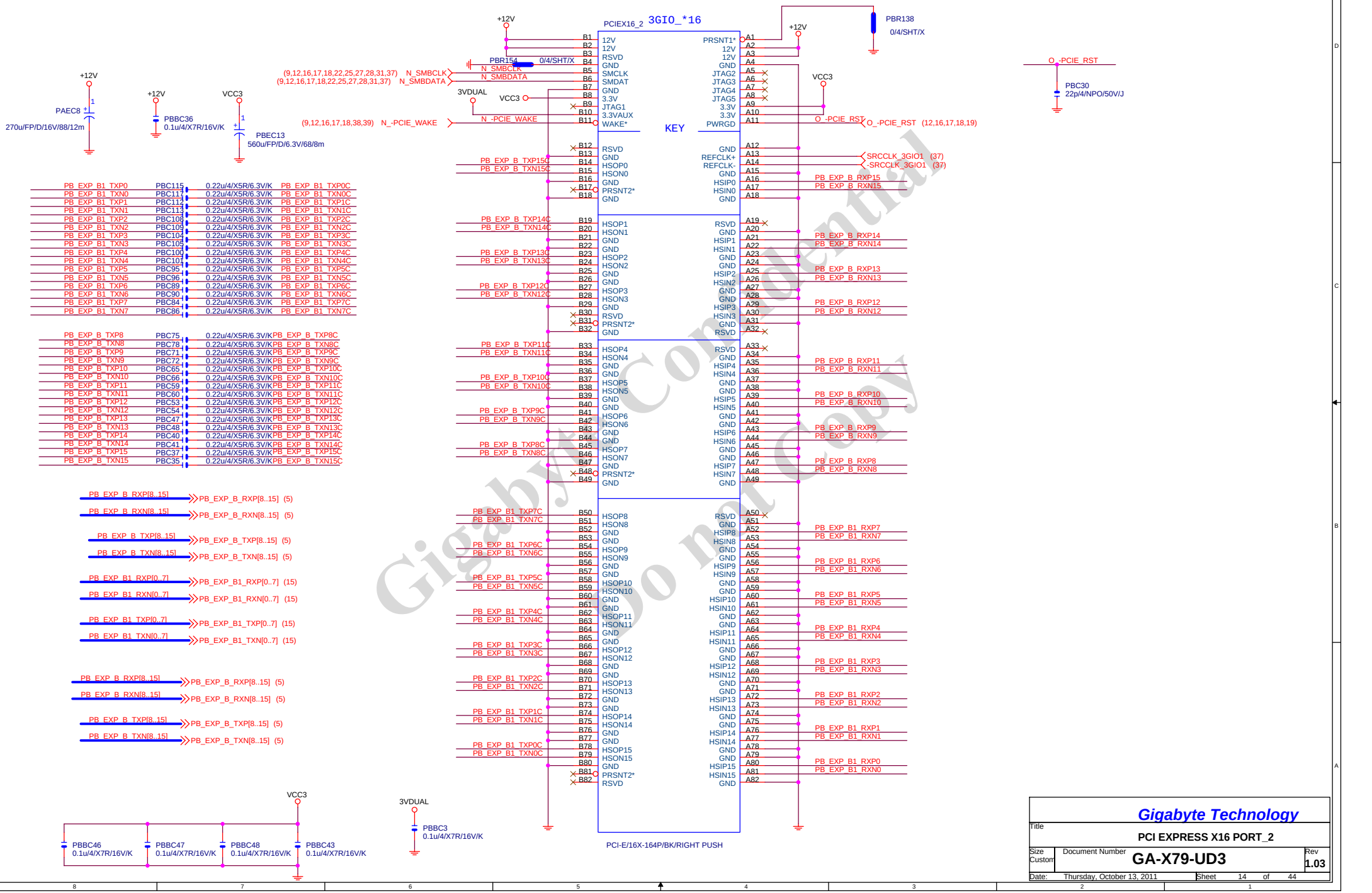
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Size / Custom	Document Number GA-X79-UD3
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Date:	Thursday, October 13, 2011
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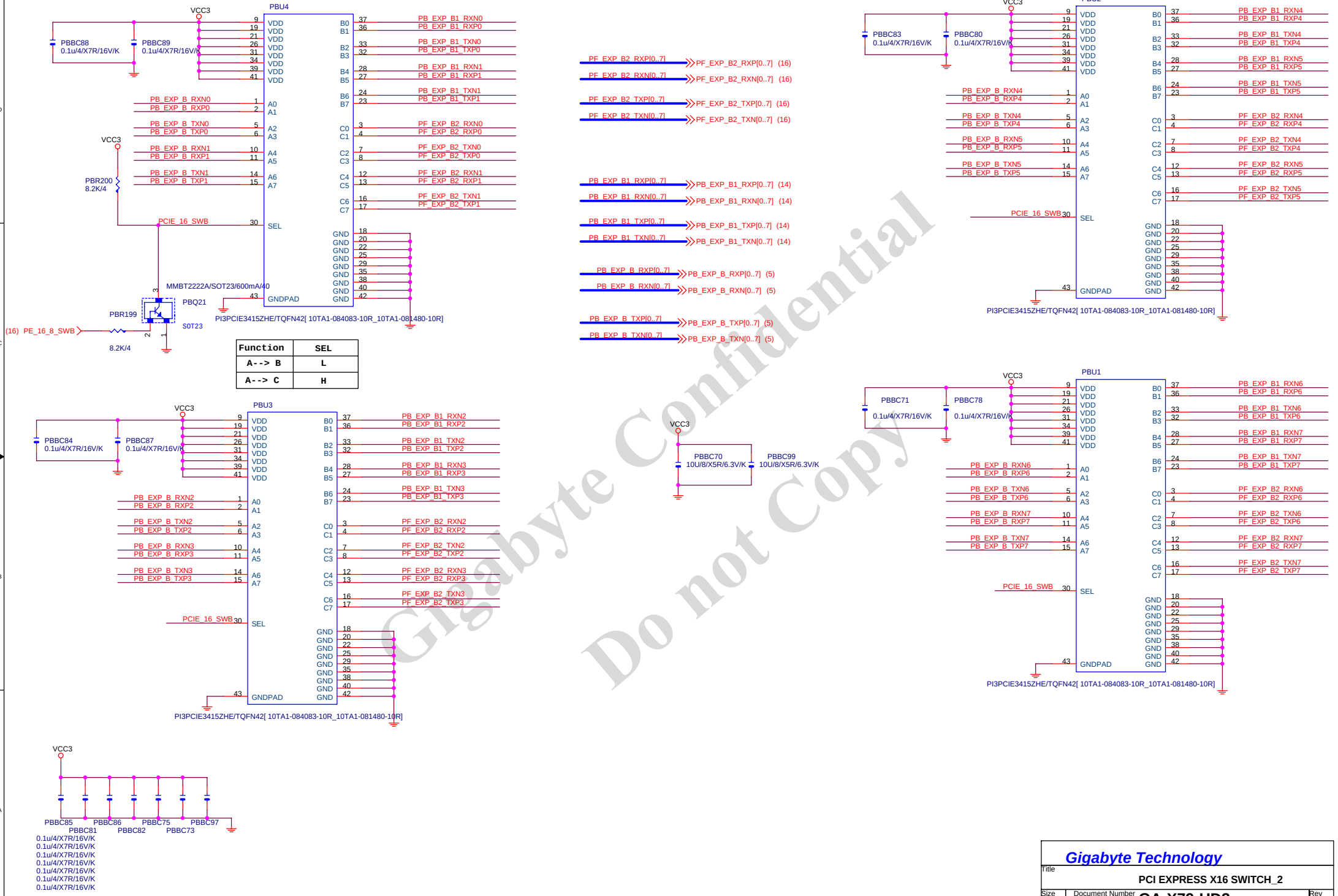
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Size: Custom	Document Number: **GA-X79-UD3**		Rev: **1.03**
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PCIESLOT-164DN-2

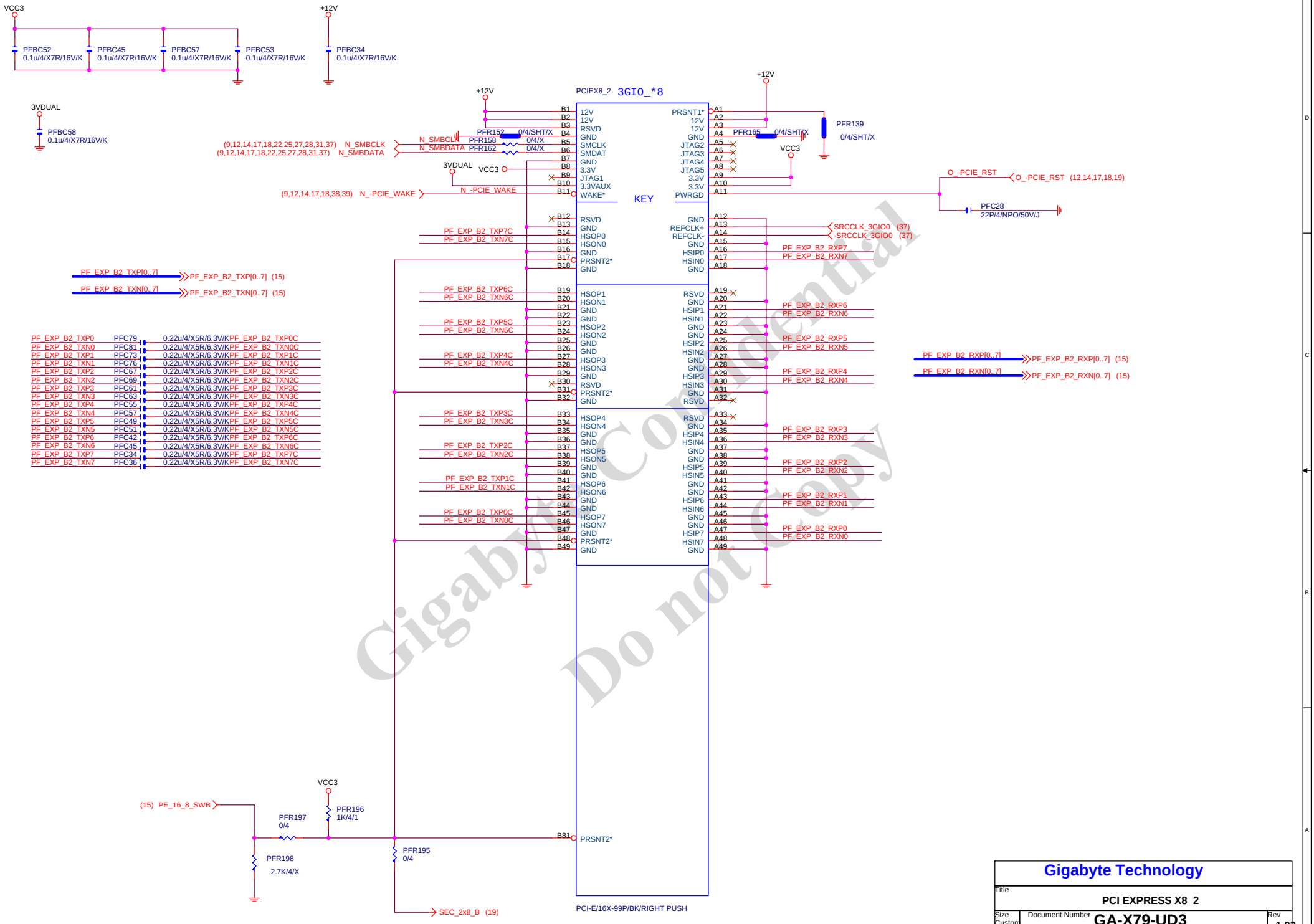


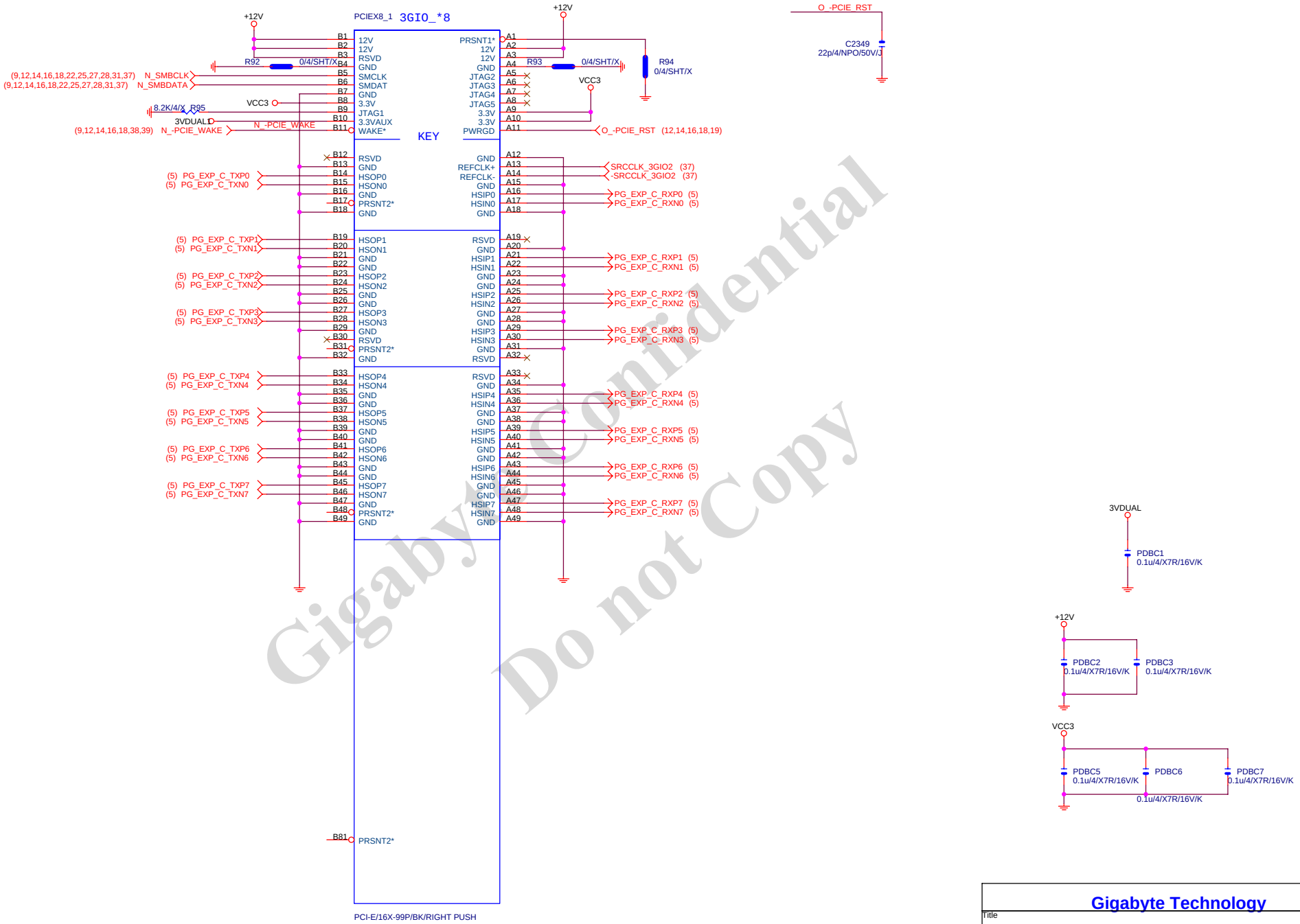
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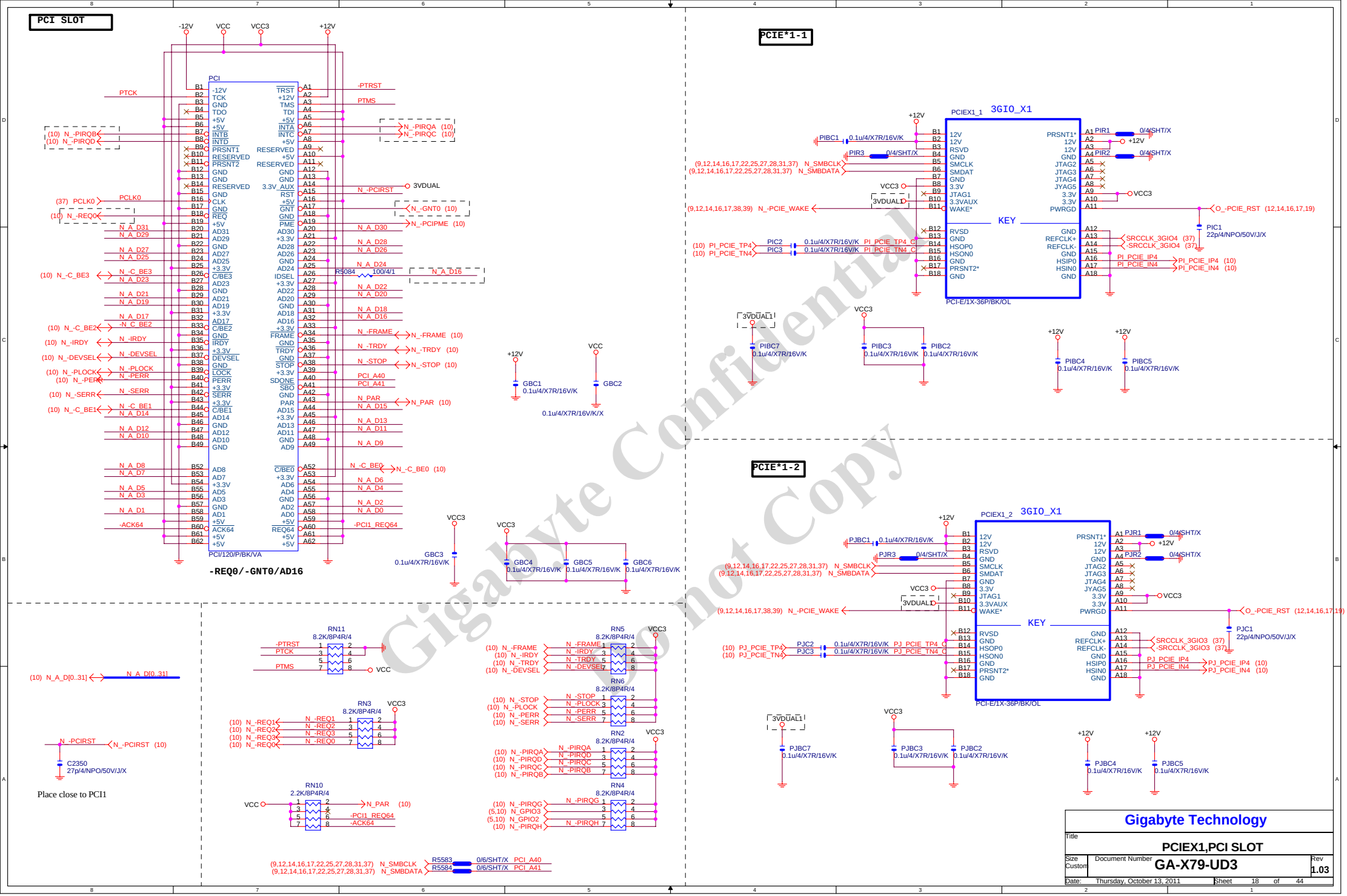
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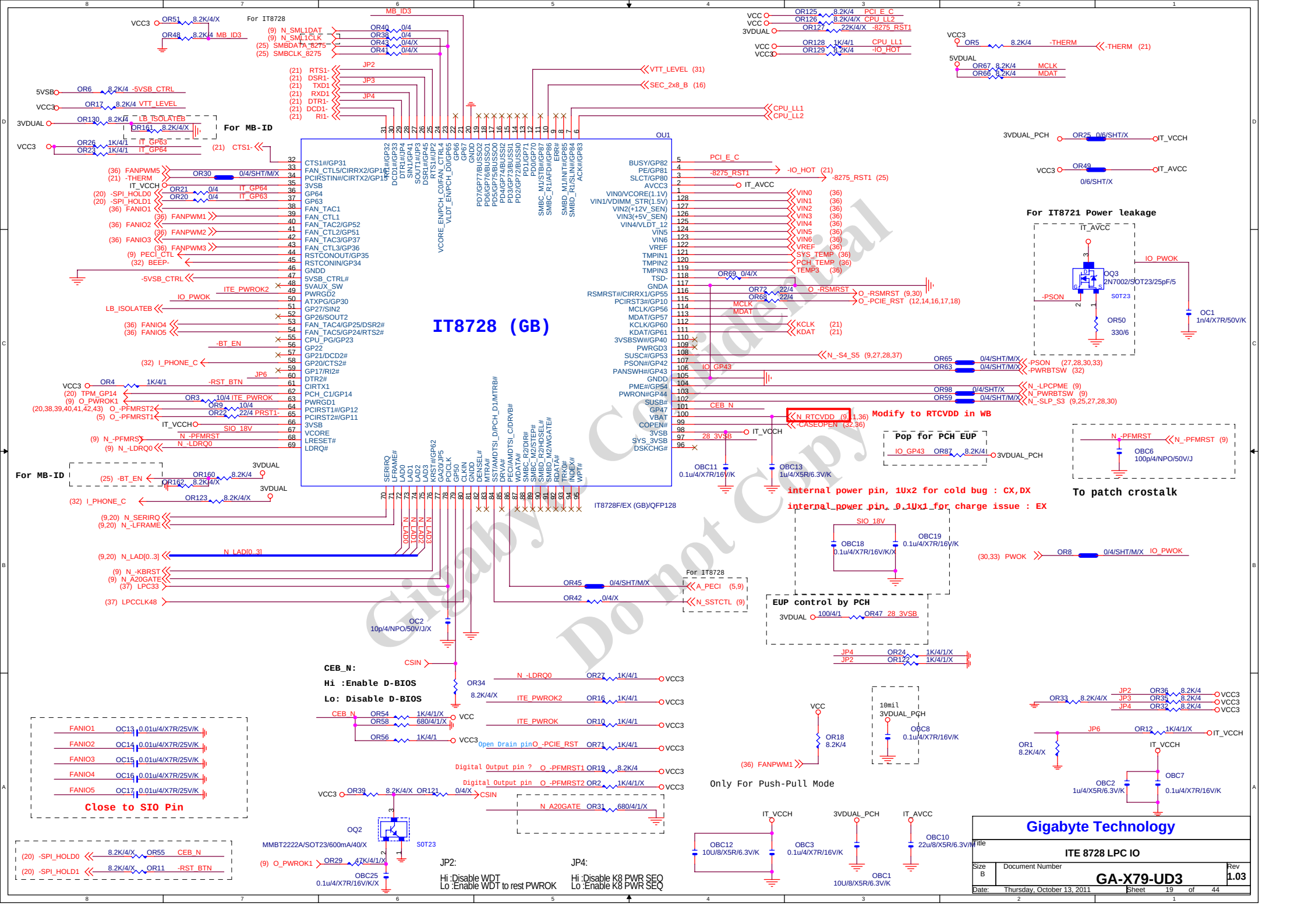

VCC3
PFBC52 0.1u/4/X7R/16V/K
PFBC45 0.1u/4/X7R/16V/K
PFBC57 0.1u/4/X7R/16V/K
PFBC53 0.1u/4/X7R/16V/K
+12V
PFBC34 0.1u/4/X7R/16V/K
3VDUAL
PFBC58 0.1u/4/X7R/16V/K
PCIEX8_2 3GIO_*8
KEY
PFR152 0/4/SHT/X
PFR158 0/4/X
PFR162 0/4/X
PFR165 0/4/SHT/X
PFR139 0/4/SHT/X
N_SMBCLK
N_SMBDATA
N_-PCIE_WAKE
O_-PCIE_RST
PFC28 22P/4/NPO/50V/J
SRCCLK_3GIO0 (37)
-SRCCLK_3GIO0 (37)
PF_EXP_B2_TXP[0..7]
PF_EXP_B2_TXN[0..7]
PF_EXP_B2_RXP[0..7]
PF_EXP_B2_RXN[0..7]
PFC79 0.22u/4/X5R/6.3V/K
PFC81 0.22u/4/X5R/6.3V/K
PFC73 0.22u/4/X5R/6.3V/K
PFC76 0.22u/4/X5R/6.3V/K
PFC67 0.22u/4/X5R/6.3V/K
PFC69 0.22u/4/X5R/6.3V/K
PFC61 0.22u/4/X5R/6.3V/K
PFC63 0.22u/4/X5R/6.3V/K
PFC55 0.22u/4/X5R/6.3V/K
PFC57 0.22u/4/X5R/6.3V/K
PFC49 0.22u/4/X5R/6.3V/K
PFC51 0.22u/4/X5R/6.3V/K
PFC42 0.22u/4/X5R/6.3V/K
PFC45 0.22u/4/X5R/6.3V/K
PFC34 0.22u/4/X5R/6.3V/K
PFC36 0.22u/4/X5R/6.3V/K
(15) PE_16_8_SWB
PFR197 0/4
PFR196 1K/4/1
PFR198 2.7K/4/X
PFR195 0/4
SEC_2x8_B (19)
PCI-E/16X-99P/BK/RIGHT PUSH
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PCI EXPRESS X8_2
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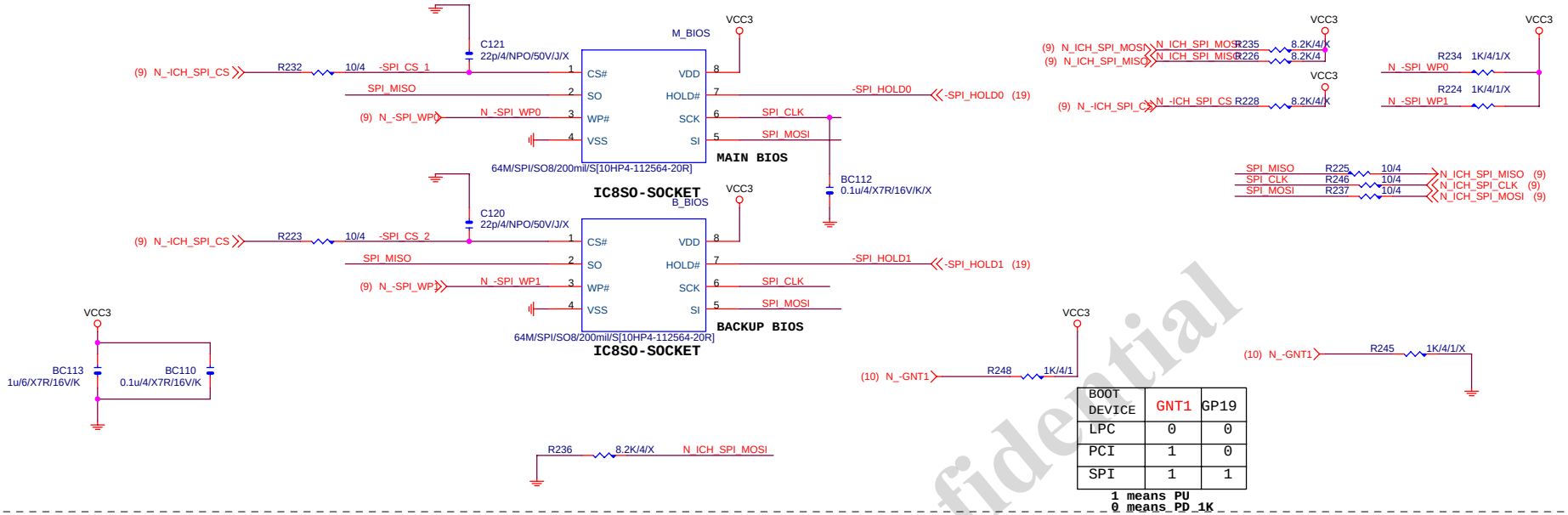


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Size: Custom	Document Number: GA-X79-UD3	Rev: 1.03
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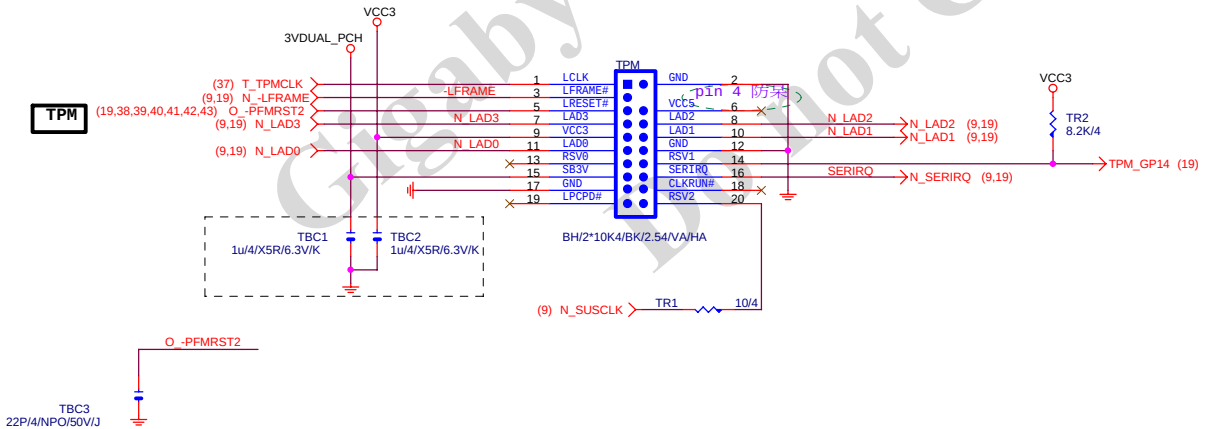

PCI SLOT
PCIE*1-1
PCIE*1-2
-REQ0/-GNT0/AD16
PCI/120/P/BK/VA
PCIEX1_1
PCIEX1_2
3GIO_X1
KEY
PCI-E/1X-36P/BK/OL
Place close to PCI1
Gigabyte Technology
PCIEX1,PCI SLOT
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IT8728 (GB)
IT8728F/EX (GB)/QFP128
For MB-ID
For IT8728
For IT8721 Power leakage
Modify to RTCVDD in WB
Pop for PCH EUP
To patch crostalk
internal power pin, 1Ux2 for cold bug : CX,DX
internal power pin, 0.1Ux1 for charge issue : EX
EUP control by PCH
Only For Push-Pull Mode
Close to SIO Pin
CEB_N:
Hi :Enable D-BIOS
Lo: Disable D-BIOS
JP2:
Hi :Disable WDT
Lo :Enable WDT to rest PWROK
JP4:
Hi :Disable K8 PWR SEQ
Lo :Enable K8 PWR SEQ
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ITE 8728 LPC IO
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BOOT DEVICE	GNT1	GP19
LPC	0	0
PCI	1	0
SPI	1	1

1 means PU
0 means PD 1K



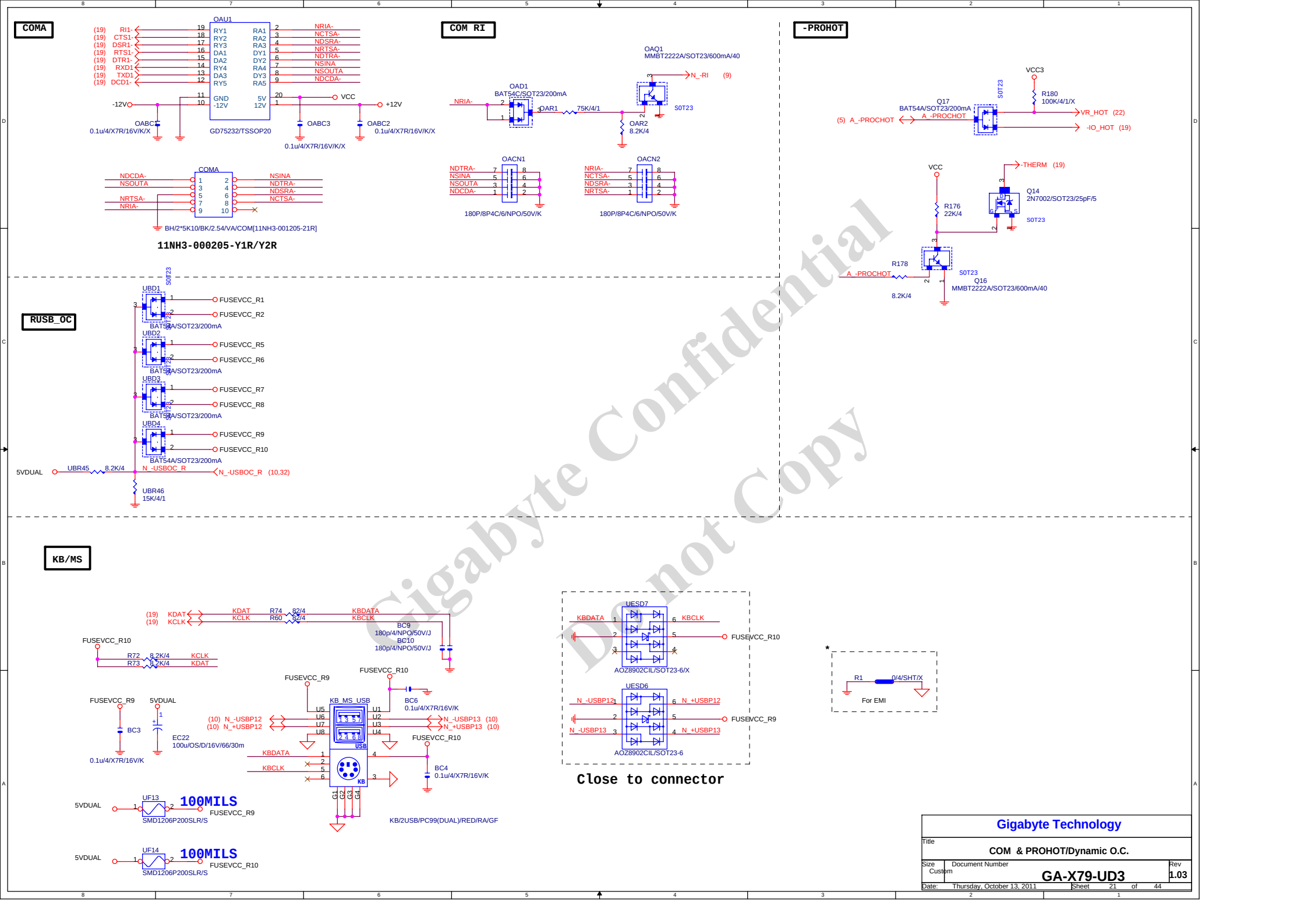
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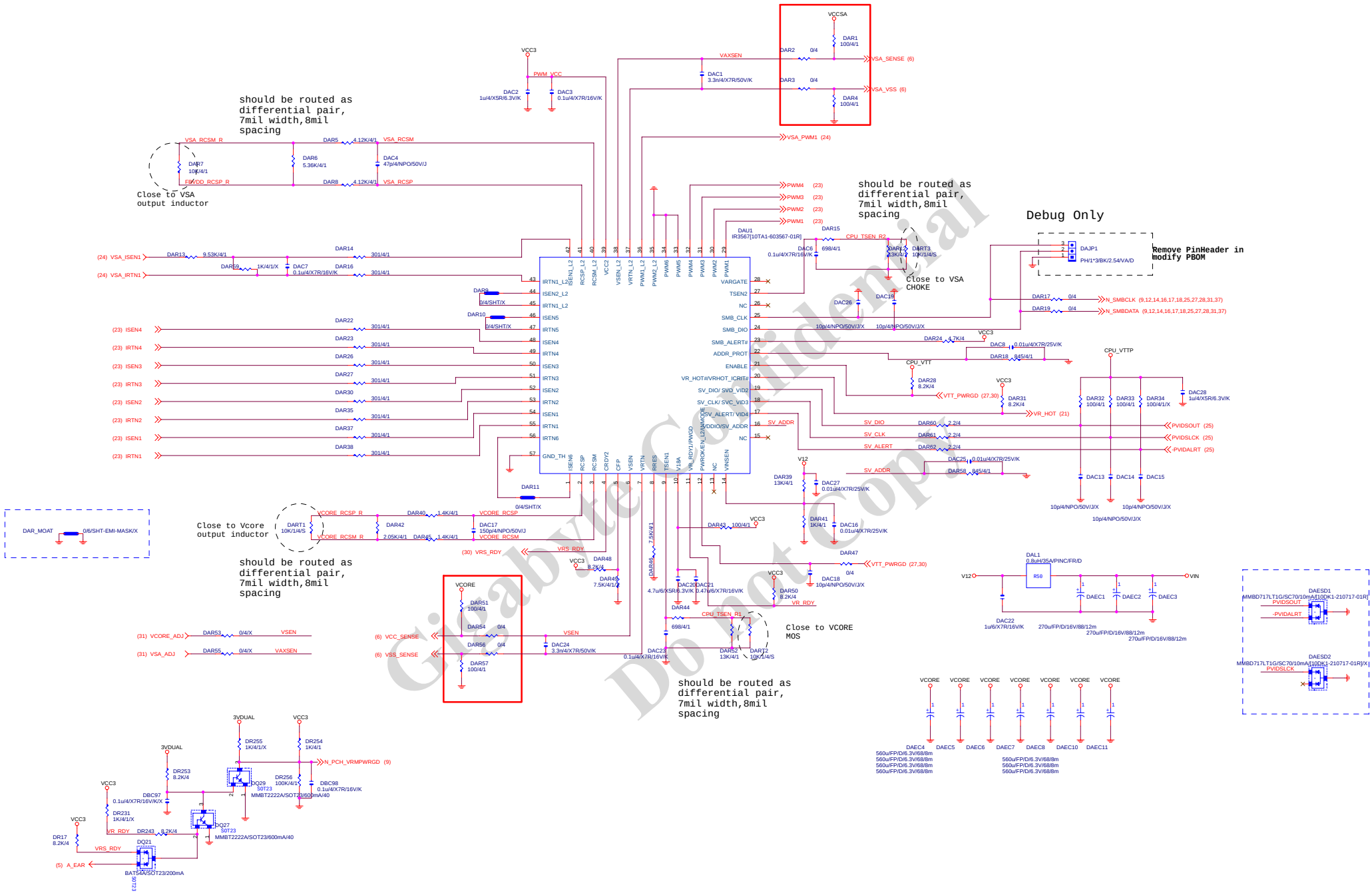
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Size: Custom | Document Number: GA-X79-UD3 | Rev: 1.03

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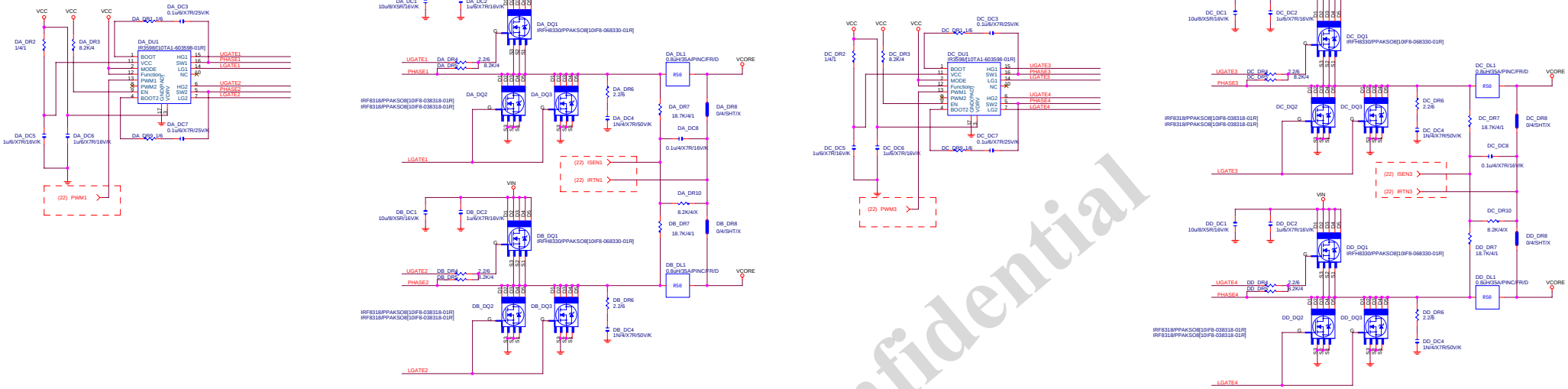


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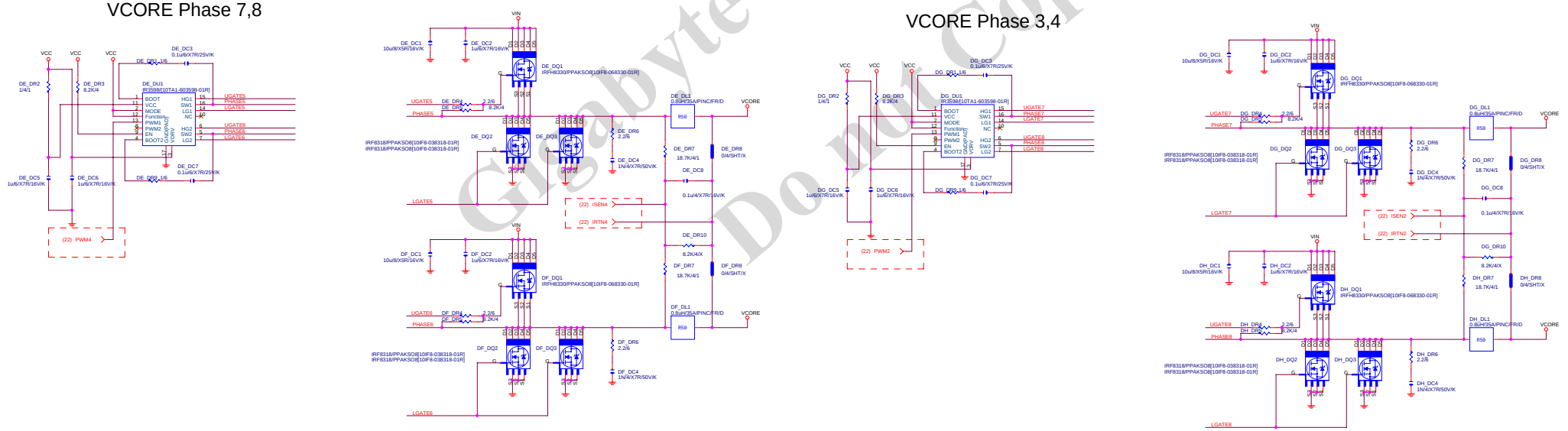
Gigabyte Technology	
Title	IR3567 for VR12 DT
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VCORE Phase 1,2



VCORE Phase 5,6

VCORE Phase 7,8

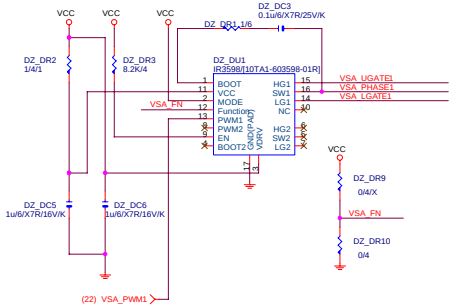


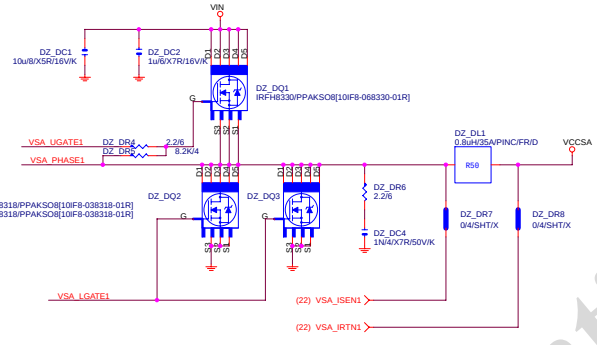
VCORE Phase 3,4

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Gigabyte Technology		
Title: CPU CORE VR		
Size: Custom	Document Number: GA-X79-UD3	Rev: 1.03
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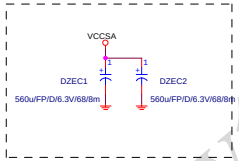
VCCSA Phase



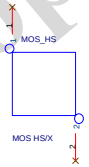


FUNCTION	MODE	PWM MODE	PHASE MODE
0	1	IR ATL	DUAL
1	1	IR ATL	Doubler
0	0	Tri-Ssate	DUAL
1	0	Tri-Ssate	Doubler
OPEN	0	Tri-Ssate	Quad
OPEN	1	IR ATL	Quad

In Quad mode , IC1 pin10 link to IC2 pin10
IC1 pin9 link to IC2 pin9 without PU



MOS HEATSINK



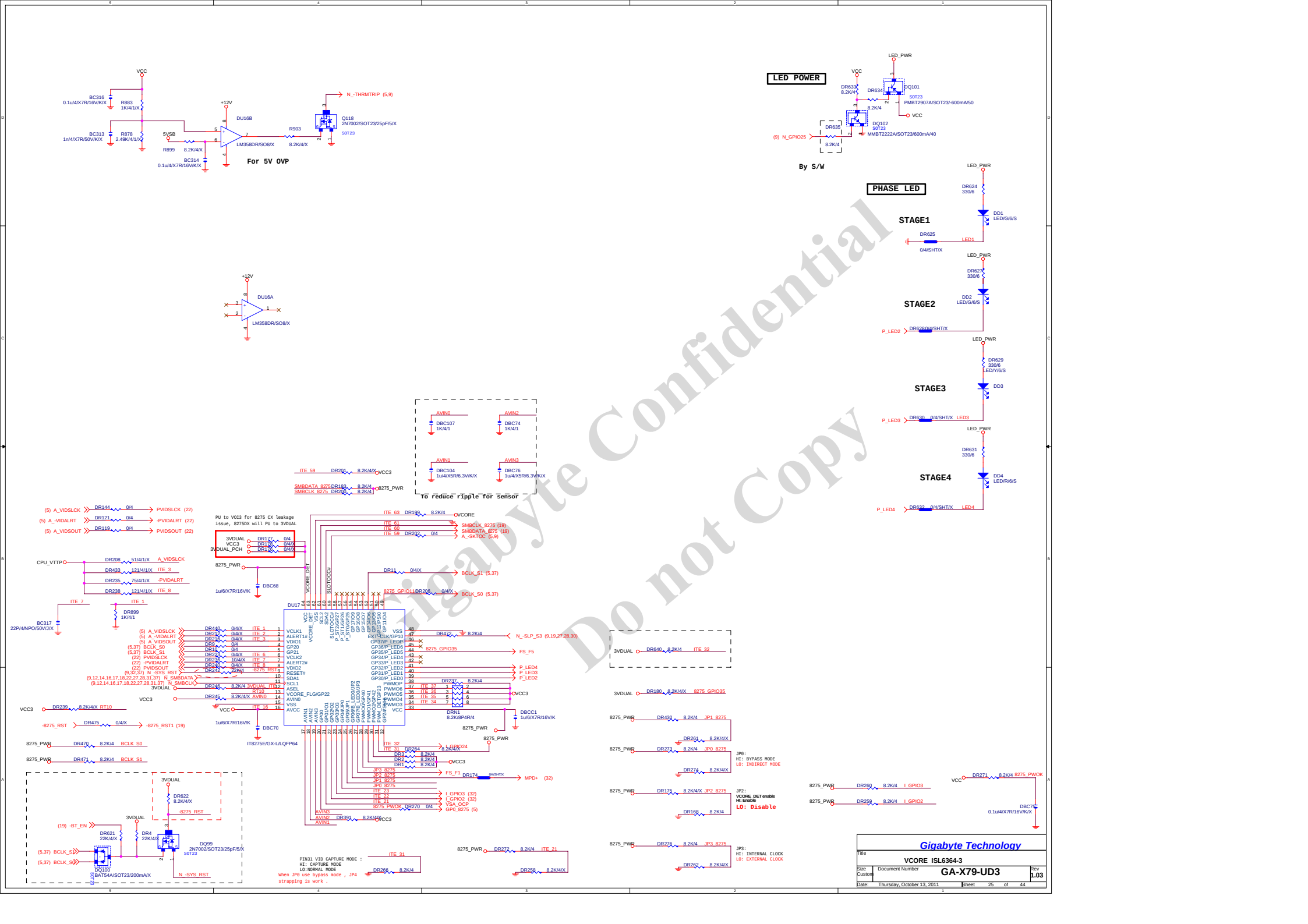
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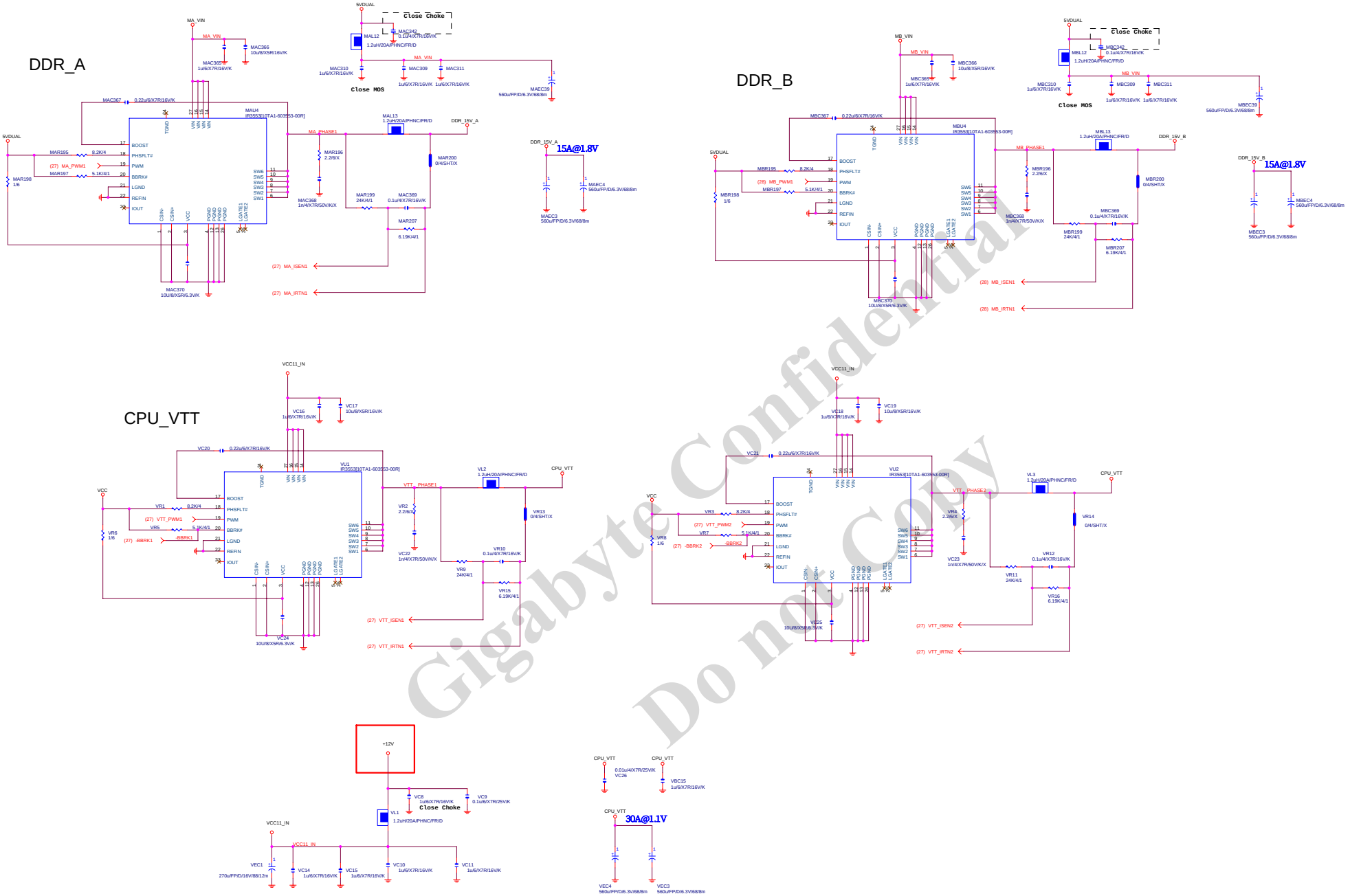
GIGABYTE

Title: VCORE PHASE GEAR 4

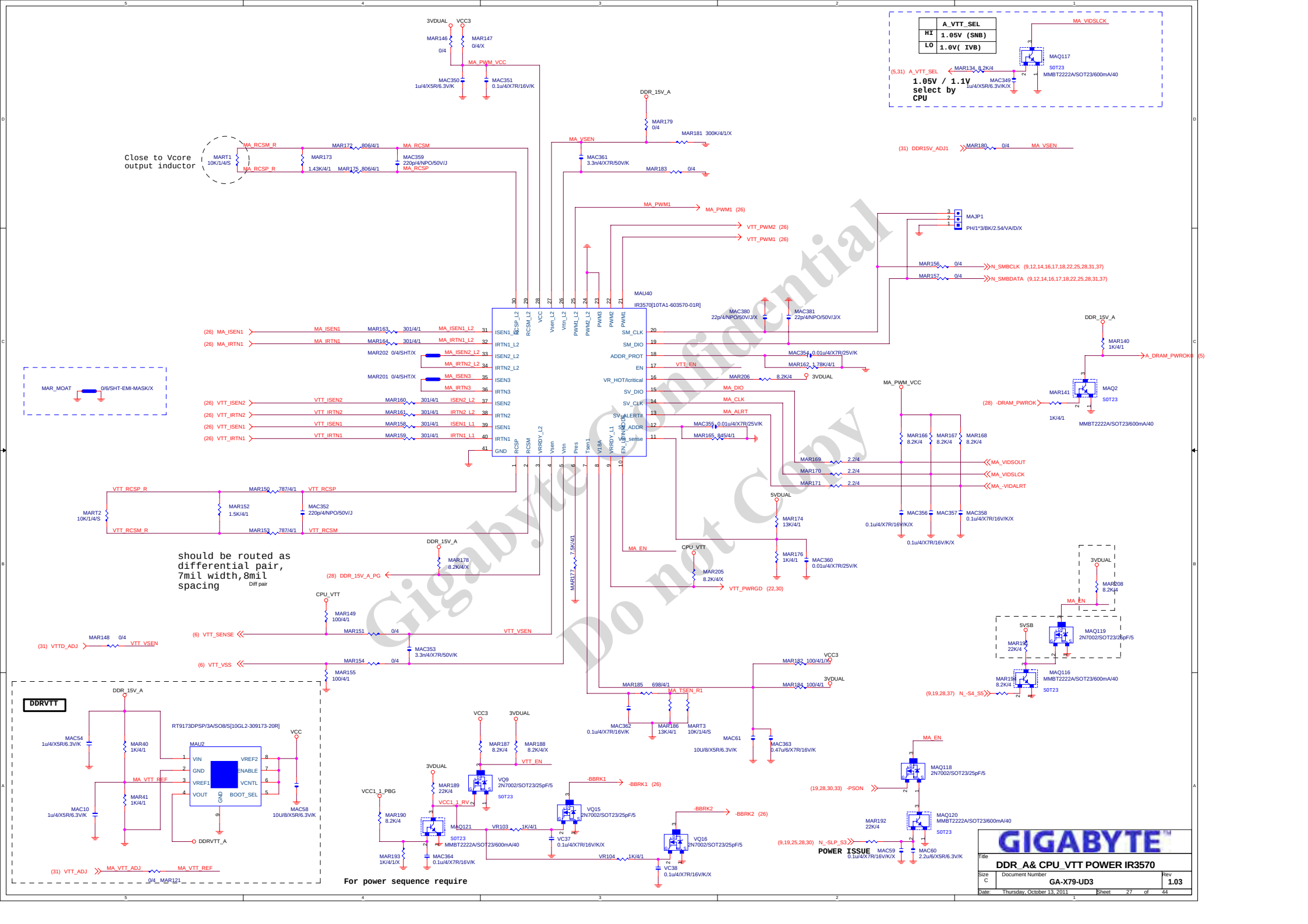
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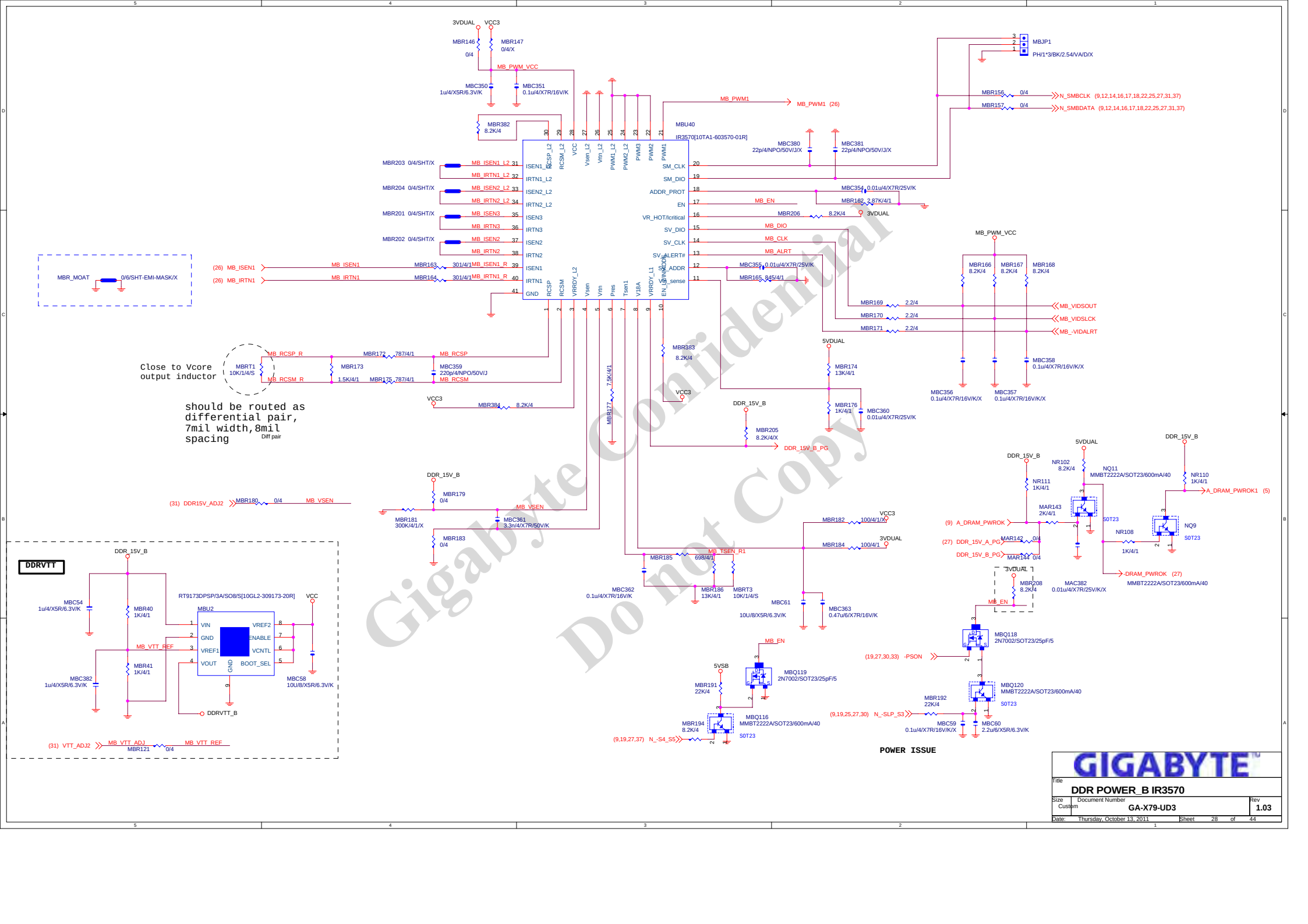
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LED POWER
By S/W
PHASE LED
STAGE1
STAGE2
STAGE3
STAGE4
For 5V OVP
To reduce ripple for sensor
PU to VCC3 for 8275 CX leakage issue, 8275DX will PU to 3VDUAL
PIN31 VID CAPTURE MODE :
HI: CAPTURE MODE
LO:NORMAL MODE
When JP0 use bypass mode , JP4 strapping is work .
JP0:
HI: BYPASS MODE
LO: INDIRECT MODE
JP2:
VCORE_DET enable
HI: Enable
LO: Disable
JP3:
HI: INTERNAL CLOCK
LO: EXTERNAL CLOCK
IT8275E/GX-L/LQFP64
Gigabyte Technology
VCORE ISL6364-3
GA-X79-UD3
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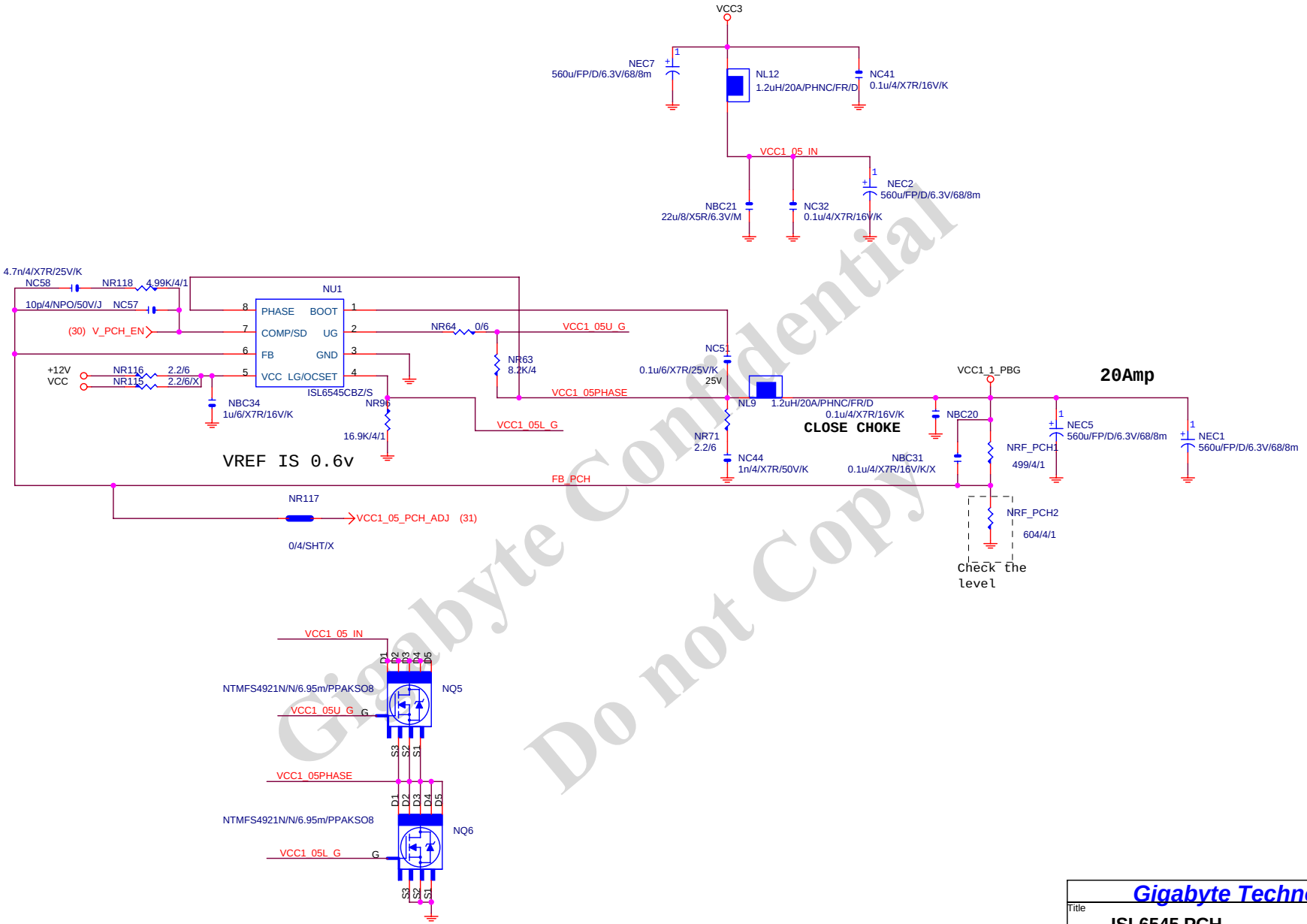


Title	ISL6322 CPUVTT		
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A_VTT_SEL
HI 1.05V (SNB)
LO 1.0V(IVB)
1.05V / 1.1V select by CPU
Close to Vcore output inductor
should be routed as differential pair, 7mil width,8mil spacing
Diff pair
DDRVTT
For power sequence require
POWER ISSUE
GIGABYTE
DDR_A& CPU_VTT POWER IR3570
GA-X79-UD3
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MBU40
IR3570[10TA1-603570-01R]
MBU2
RT9173DPSP/3A/SO8/S[10GL2-309173-20R]
DDRVTT
Close to Vcore output inductor
should be routed as differential pair, 7mil width,8mil spacing
Diff pair
POWER ISSUE
GIGABYTE
DDR POWER_B IR3570
GA-X79-UD3
1.03
Thursday, October 13, 2011
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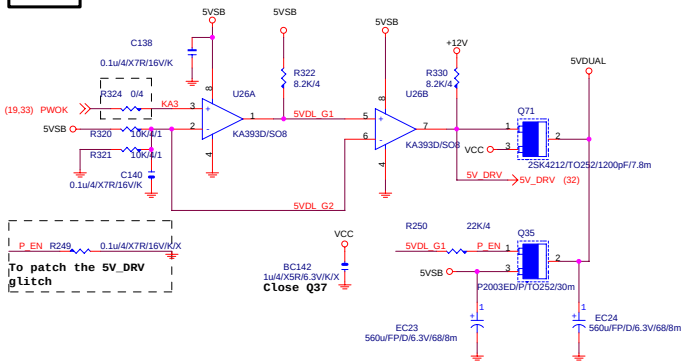
PBG_1.1V



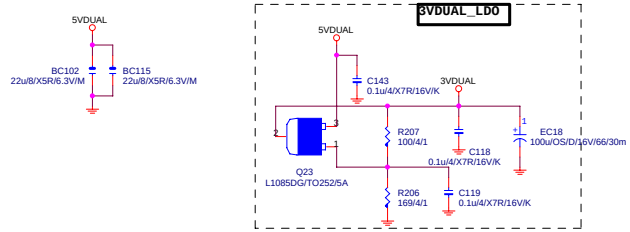
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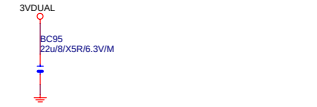
Gigabyte Technology		
Title: ISL6545 PCH		
Size: B	Document Number: GA-X79-UD3	Rev: 1.03
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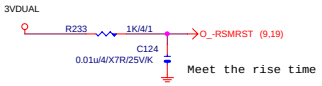
5VDUAL

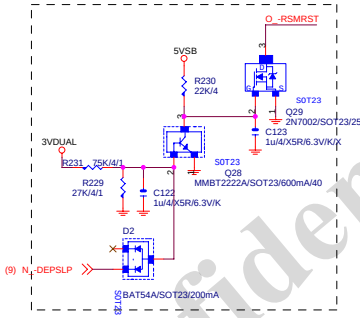


3VDUAL

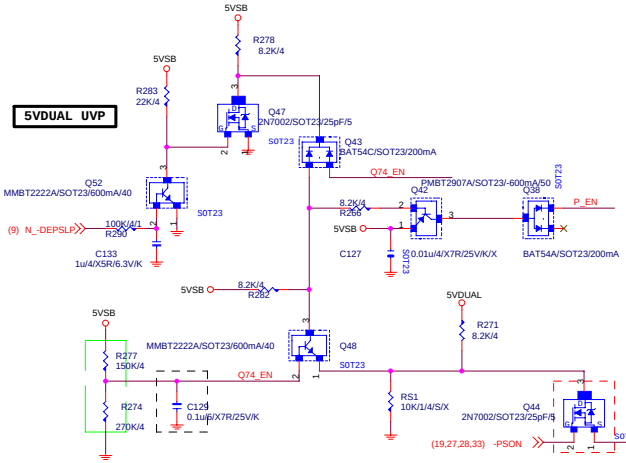


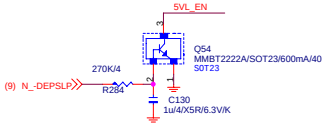


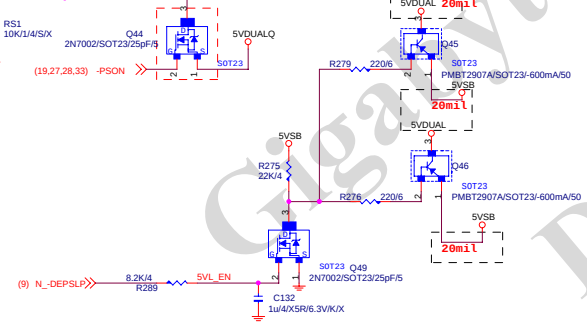


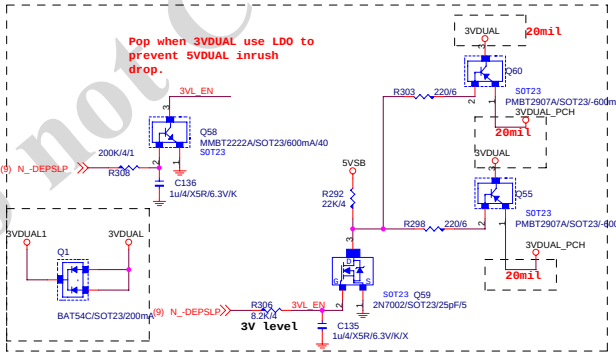


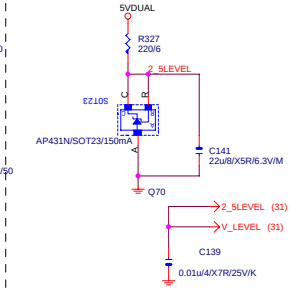
5VDUAL_UVP

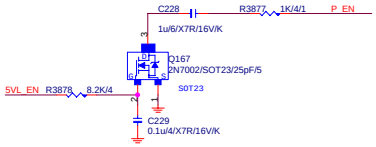


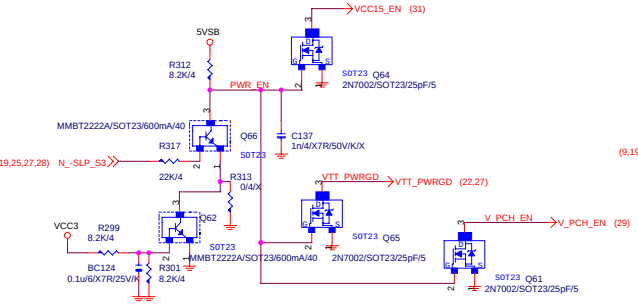


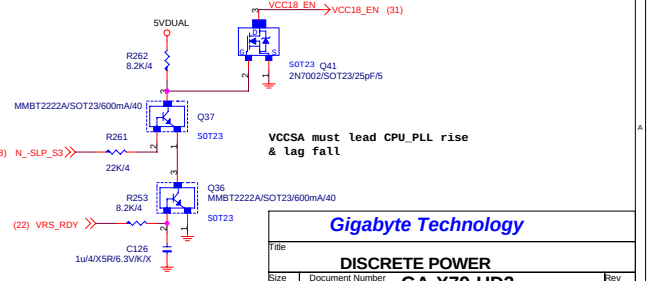






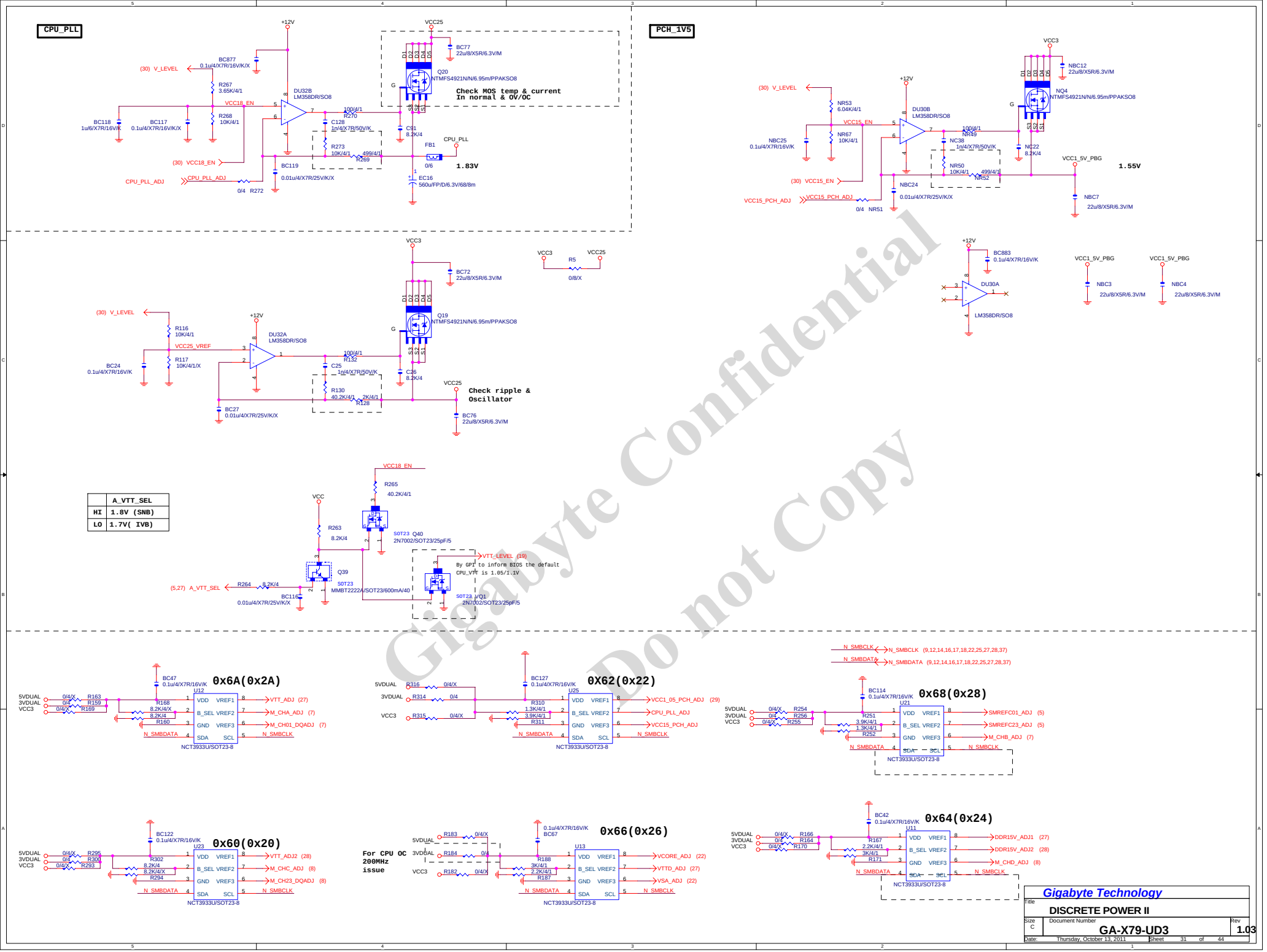






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FRONT USB1

FUSEVCC_F1 FUSEVCC_F2

BC103 0.1u/4/X7R/16V/K

F_USB1

BC104 0.1u/4/X7R/16V/K

P0- P1-
P0+ P1+

BH/2*5K9/BK/ON/2.54/VA/D/GF/LRE/TUR180

FRONT USB2

FUSEVCC_F3 FUSEVCC_F4

BC93 0.1u/4/X7R/16V/K

F_USB2

BC92 0.1u/4/X7R/16V/K

(10) N_-USBP2
(10) N_+USBP2

N_-USBP3 (10)
N_+USBP3 (10)

BH/2*5K9/BK/ON/2.54/VA/USB/PRT/TUR180

UESD1

N_-USBP3 N_+USBP3
N_-USBP2 N_+USBP2

FUSEVCC_F3

AOZ8902CIL/SOT23-6

Close to connector

FRONT USB3

FUSEVCC_F5 FUSEVCC_F6

BC884 0.1u/4/X7R/16V/K

F_USB3

BC885 0.1u/4/X7R/16V/K

(10) N_-USBP4
(10) N_+USBP4

N_-USBP5 (10)
N_+USBP5 (10)

BH/2*5K9/BK/ON/2.54/VA/USB/PRT/TUR180

UESD2

N_-USBP5 N_+USBP5
N_-USBP4 N_+USBP4

FUSEVCC_F5

AOZ8902CIL/SOT23-6

Close to connector

FUSB_OC

FUSEVCC_F3 FUSEVCC_F4

UAD1 SOT23

BAT54A/SOT23/200mA

FUSEVCC_F5 FUSEVCC_F6

UAD2 SOT23

BAT54A/SOT23/200mA

5VDUAL UAR46 8.2K/4 N_-USBOC_F (10)

UAR47 15K/4/1

USB_OC PROTECT

(9,38,39) N_GPIO11

UAD3 SOT23

N_-USBOC_F
N_-USBOC_R

BAT54A/SOT23/200mA

N_-USBOC_R (10,21)

SPKR

VCC

FPD1 1N4148W/SOD123/300mA

To disable TCO timer

VCC3

FPR16 8.2K/4

FPR13 75/6/1

SPK-

FPQ6 MMBT2222A/SOT23/600mA/40

FPR14 75/6/1

FPQ5 MMBT2222A/SOT23/600mA/40

FPR15 1K/4/1

N_SPKR

N_SPKR (9)

VCC

FPR17 1K/4/1 FPQ7 MMBT2222A/SOT23/600mA/40

FPR18 8.2K/4

SOT23

BEEP-

(19) BEEP-

F_USB POWER

5VDUAL

BC14 22u/8/X5R/6.3V/M

BC11 1u/4/X5R/6.3V/K

BC12 1u/4/X7R/50V/K

To reduce the ripple crosstalk from Vin

5VDUALQ UF2 100MILS FUSEVCC_F2
5VDUAL UF4 100MILS FUSEVCC_F4
5VDUAL UF6 100MILS FUSEVCC_F6

5VDUALQ UF1 100MILS FUSEVCC_F1
5VDUAL UF3 100MILS FUSEVCC_F3
5VDUAL UF5 100MILS FUSEVCC_F5

SMD1206P200SLR/S

400MILS

VCC +12V

R69 8.2K/4/X

5V_DRV (30)

Q2 2SK4212/TO252/1200pF/7.8m

CLOSE R_USB

VCC

BC5 0.1u/4/X7R/16V/K

F_USB signal cross moat cap

5VDUALQ 5VDUAL 5VDUAL

EC21 100u/OS/D/16V/66/30m
EC19 100u/OS/D/16V/66/30m
EC29 100u/OS/D/16V/66/30m

INTEL FRONT PANEL

VCC

FPR2 330/6

(25) MPD+ MPD+

FPQ2 MMBT2222A/SOT23/600mA/40

FPR7 8.2K/4

N_GPIO28 (9)

FPR1 330/6

FPBC1 0.01u/4/X7R/25V/K/X

F_PANEL

HD+ HD- GND RESET CI- CI+ PWR+ PWR- MPD+ MSG/PD+ MSG/PD- PW+ PW- SP+ NC NC SP-

-HDLED

-PWRBT_1

FPR5 100/4/1 RESET

(9,25,37) N_SYS_RST

FPBC2 0.01u/4/X7R/25V/K

(19,36) -CASEOPEN

VCC

MPD+

SPK-

BH/2*10K10,12,13/BK/2.54/VA/PA

SATA LED

VCC3

FPR10 1K/4/1

-HDLED

FPC2 180pf/4/NPO/50V/J/X

FPD2 BAT54A/SOT23/200mA

FPR12 1K/4/1

FPR11 8.2K/4

FPQ1 MMBT2222A/SOT23/600mA/40

FPQ4 MMBT2222A/SOT23/600mA/40

(9) N_SATALED

(41) RA_GPIO0

(42) RB_GPIO0

(43) RC_GPIO0

FPD3 BAT54A/SOT23/200mA

-PWRBT_1

FPR9 33/4

-PWRBTSW (19)

FPBC3 0.01U/4/X7R/25V/K/X

FPESD1

5VSB

RESET

AOZ8902CIL/SOT23-6

5VSB

R221 8.2K/4

R222 8.2K/4

(19) I_PHONE_C

Q27 S0T23

MMBT2222A/SOT23/600mA/40

5VDUAL

R218 8.2K/4

R219 8.2K/4

Q25 P2003ED/PTO252/30m

5VDUALQ

RN8 1K/8P4R/4/X

BC105 1u/4/X5R/6.3V/K

RN9 470/8P4R/4

Q26 2N7002/SOT23/25pF/5

S0T23

R220 1K/4/1

EC20 100u/OS/D/16V/66/30m

3VDUAL

BC101 0.1u/4/X7R/16V/K

(25) I_GPIO2

U20 PI3USB102ZLE/TQFN10

P0+ P0-

N_+USBP0 (10)
N_-USBP0 (10)

R215 33K/4/1

R214 51K/4/1

R213 11.3K/4/1

R212 51K/4/1

M+ 2.0V

M- 2.7V

BC100 0.1u/4/X7R/16V/K

(25) I_GPIO3

U19 PI3USB102ZLE/TQFN10

P1+ P1-

N_+USBP1 (10)
N_-USBP1 (10)

R211 33K/4/1

R210 51K/4/1

R209 11.3K/4/1

R208 51K/4/1

5VDUALQ

Q24 BAT54A/SOT23/200mA

FUSEVCC_F1
FUSEVCC_F2

R216 8.2K/4

-USBA_OC

R217 15K/4/1

S0T23

N_-USBOC_F (10)

Q34 2N7002/SOT23/25pF/5

R241 39.2K/4/1

(19) I_PHONE_C

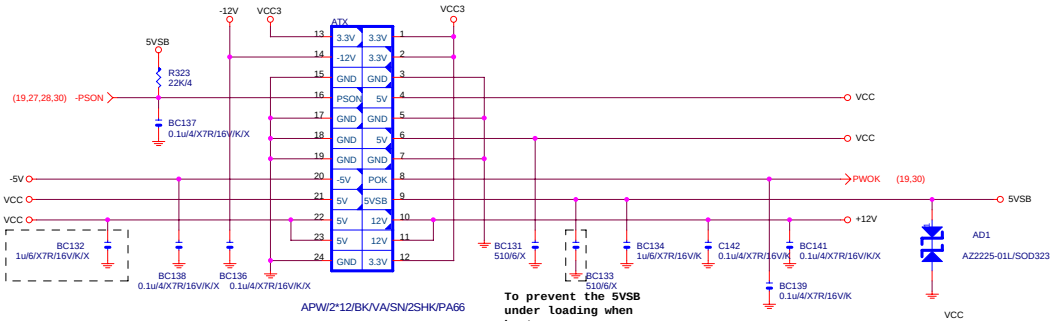
BC111 1u/4/X5R/6.3V/K

-USBA_OC

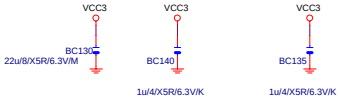
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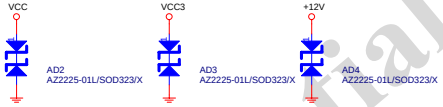
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Size C	Document Number GA-X79-UD3	Rev 1.03
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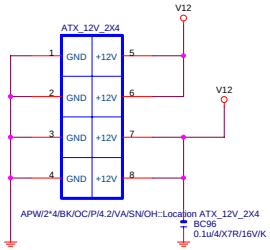
ATX POWER CONNECTOR

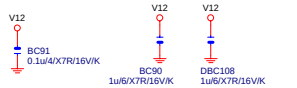


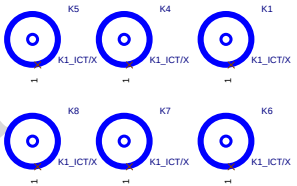
To prevent the 5VSB under loading when boot

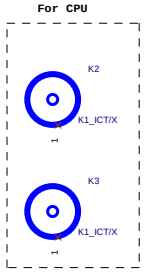


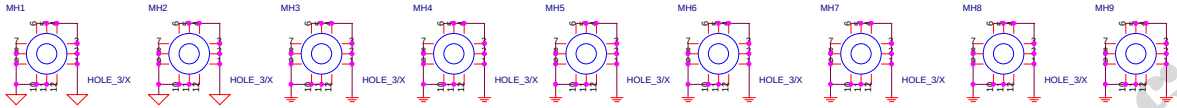


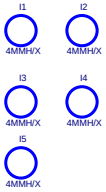




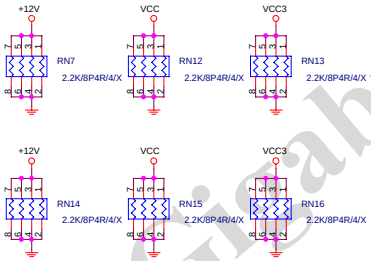








OVER CLOCKING

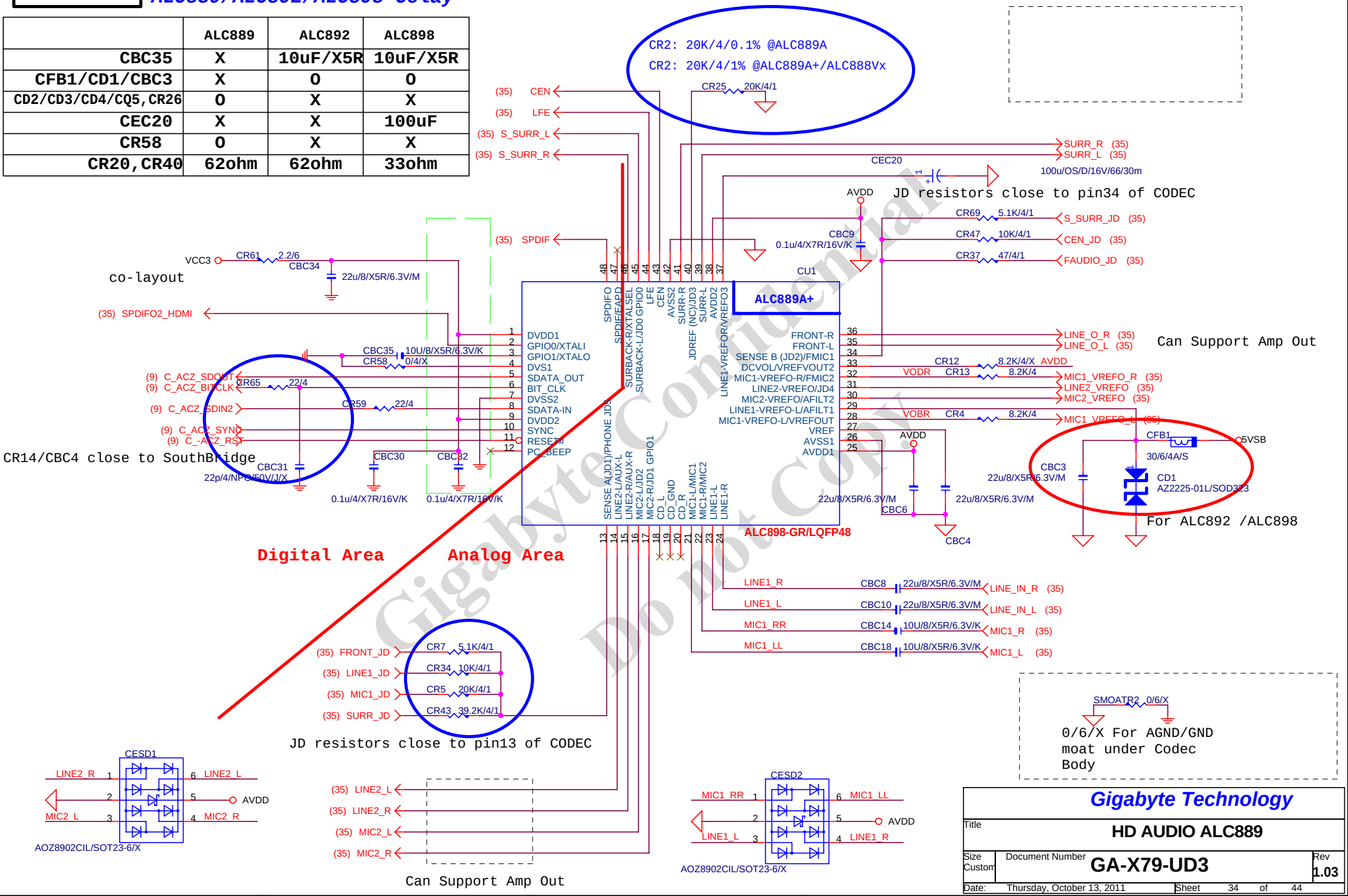


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Gigabyte Technology		
Title: ATX / CLOCK BUFFER		
Size: C	Document Number: GA-X79-UD3	Rev: 1.03
Date: Thursday, October 13, 2011	Sheet 33 of 44	

AZALIA CODEC ***ALC889/ALC892/ALC898 Colay***

	ALC889	ALC892	ALC898
CBC35	X	10uF/X5R	10uF/X5R
CFB1/CD1/CBC3	X	O	O
CD2/CD3/CD4/CQ5,CR26	O	X	X
CEC20	X	X	100uF
CR58	O	X	X
CR20,CR40	62ohm	62ohm	33ohm



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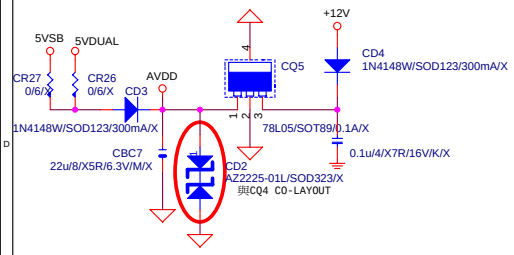
Gigabyte Technology

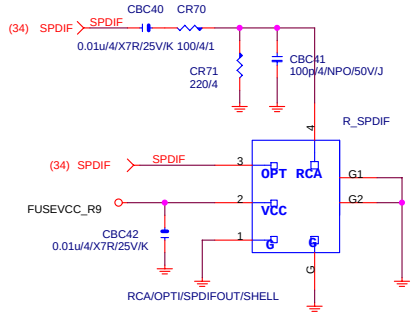
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Size: Custom | Document Number: **GA-X79-UD3** | Rev: **1.03**

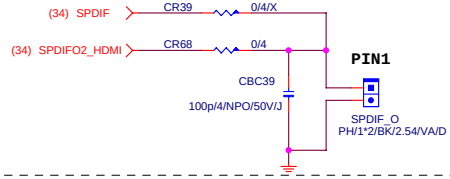
Date: Thursday, October 13, 2011 | Sheet 34 of 44

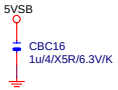
CODEC POWER/EMI PAD



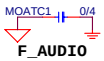


For HDMI SPDIF

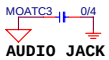




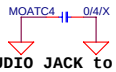
跨MOAT CAP.



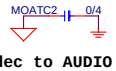
F_AUDIO



AUDIO JACK



AUDIO JACK to USB

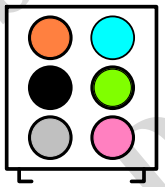


Codec to AUDIO JACK

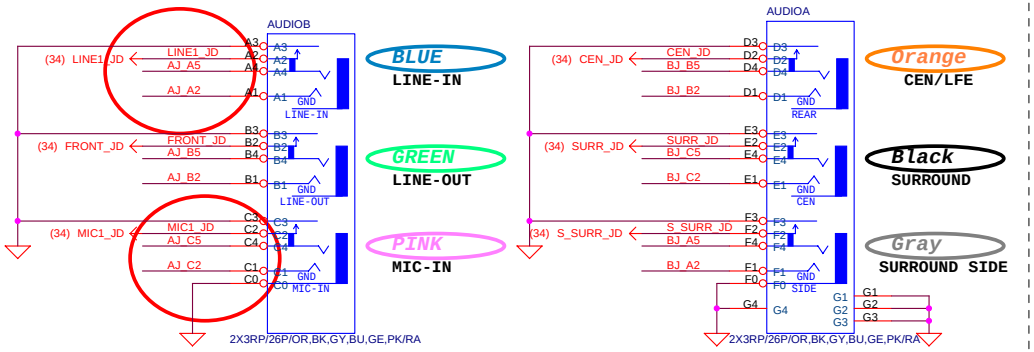


AUDIO JACK to USB

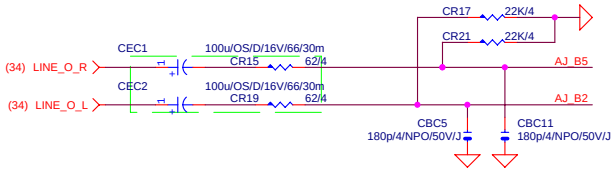
For HDMI SPDIF AZALIA CONNECTOR



11NR6-403007-21R

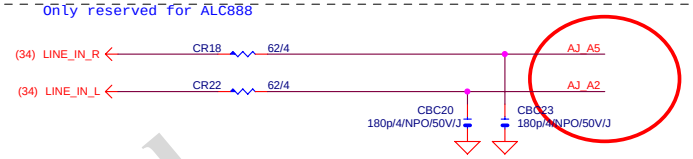


LINE-OUT



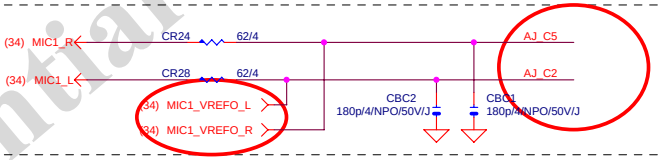
LINE-IN

Only reserved for ALC888

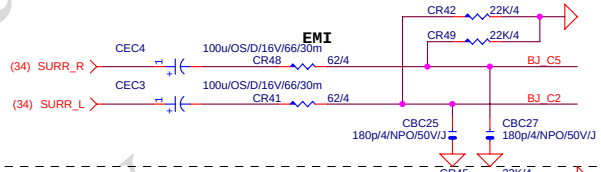


For 889A/888

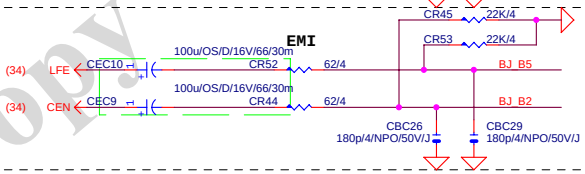
MIC-IN



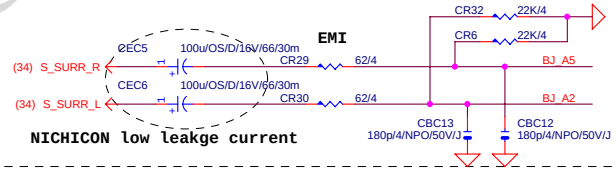
SURROUND



CEN/LFE

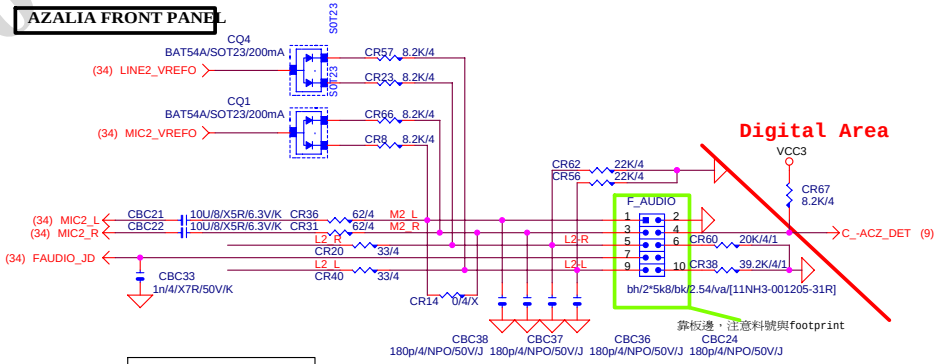


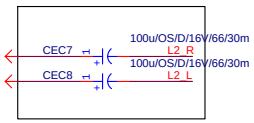
SURR BACK



NICHICON low leakge current

AZALIA FRONT PANEL





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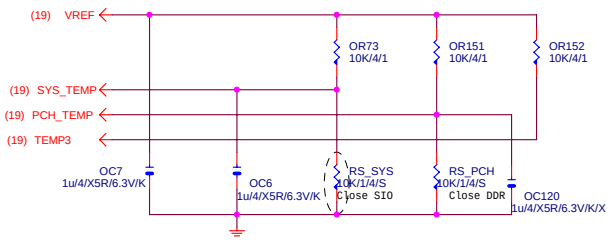
Gigabyte Technology

Title: AUDIO JACK

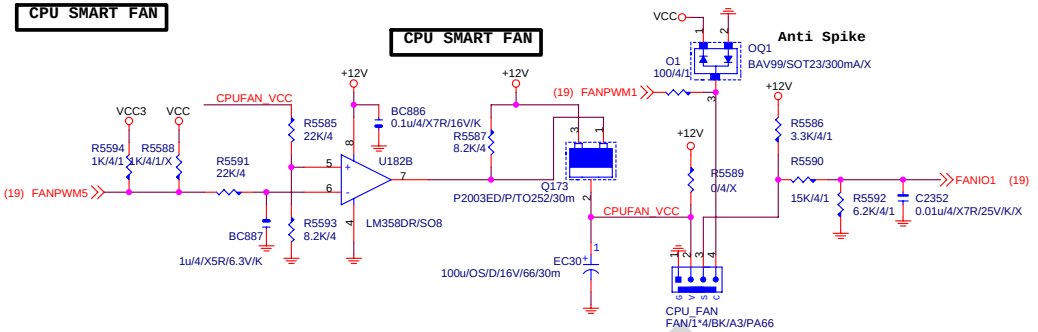
Size: Custom | Document Number: GA-X79-UD3 | Rev: 1.03

Date: Thursday, October 13, 2011 | Sheet 35 of 44

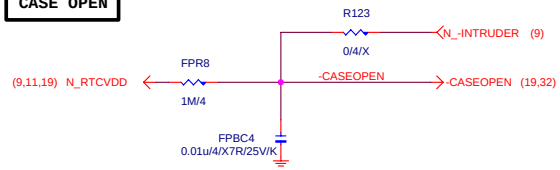
TEMP H/W MONITOR



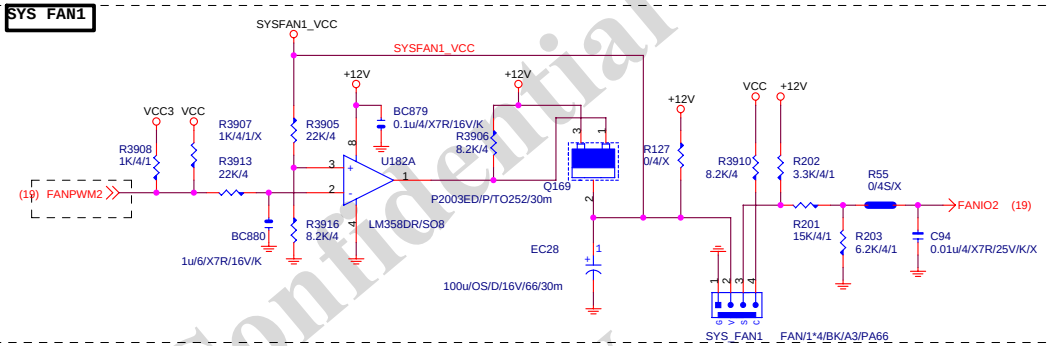
CPU SMART FAN



CASE OPEN

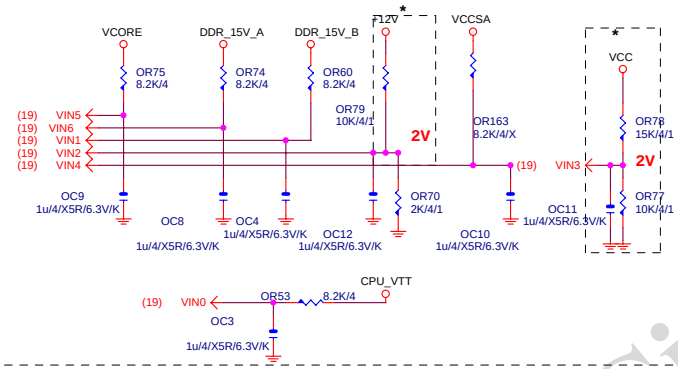


SYS FAN1

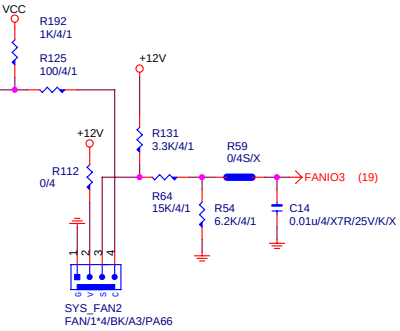


VOLTAGE-- H/W MONITOR

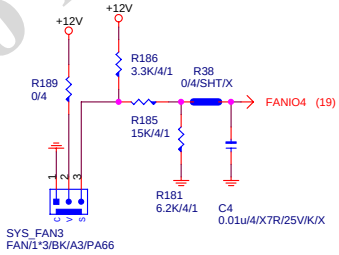
VIN2 must +12V input
VIN3 must VCC input



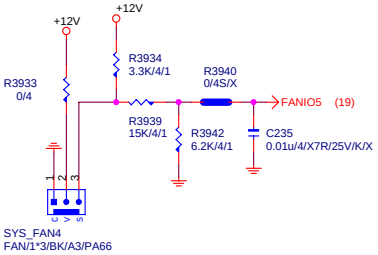
SYS FAN2



SYS FAN3

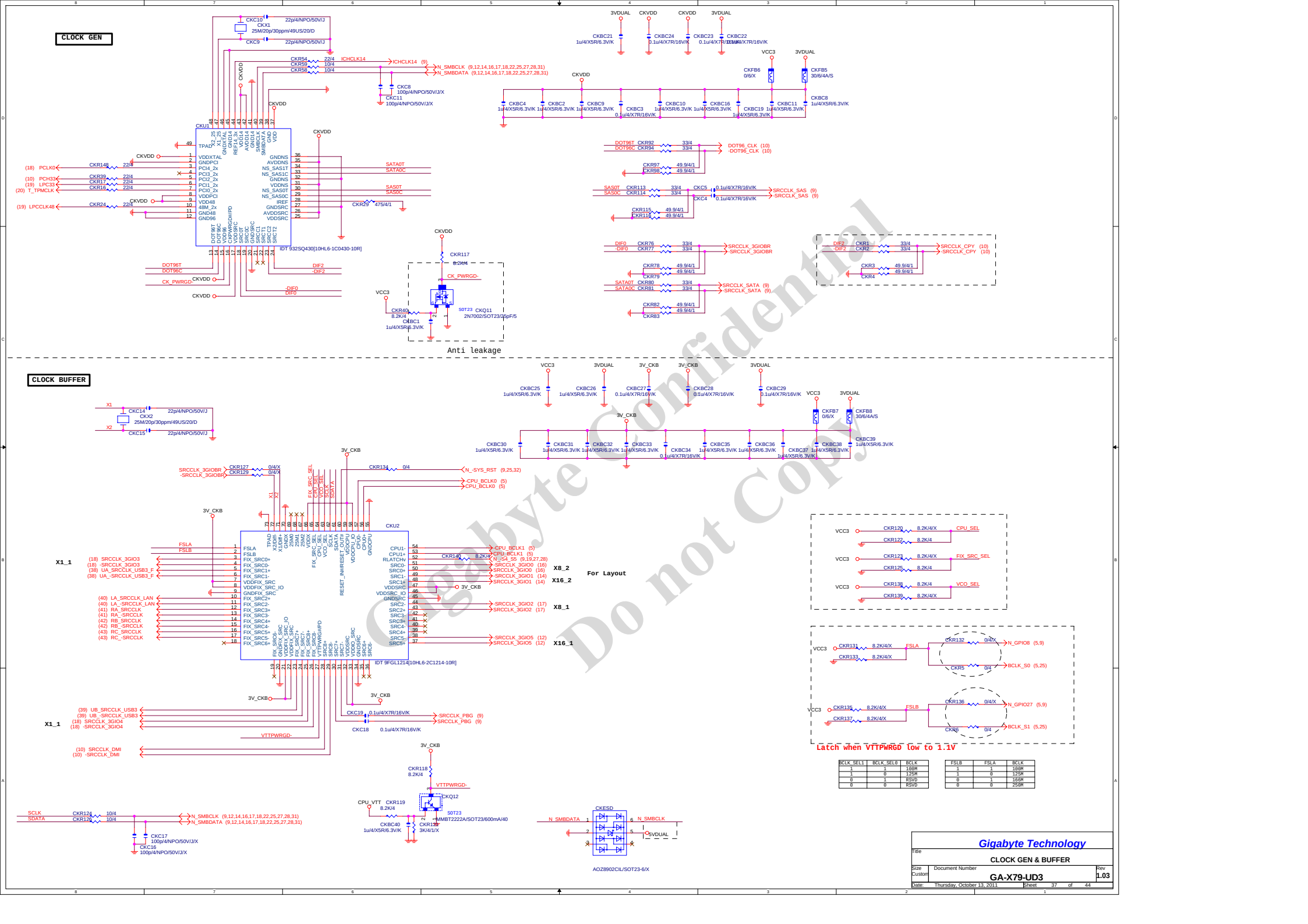


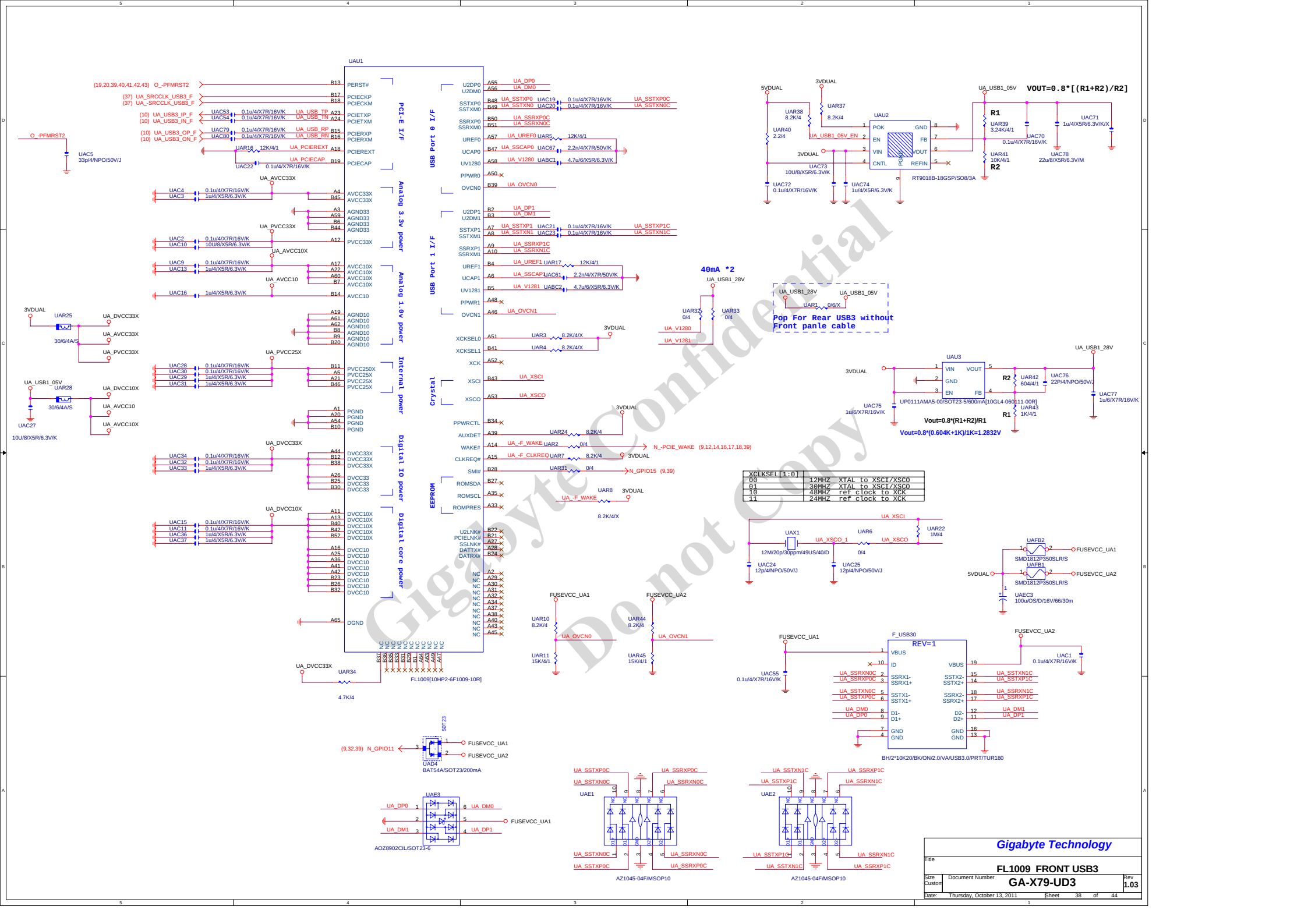
SYS FAN4

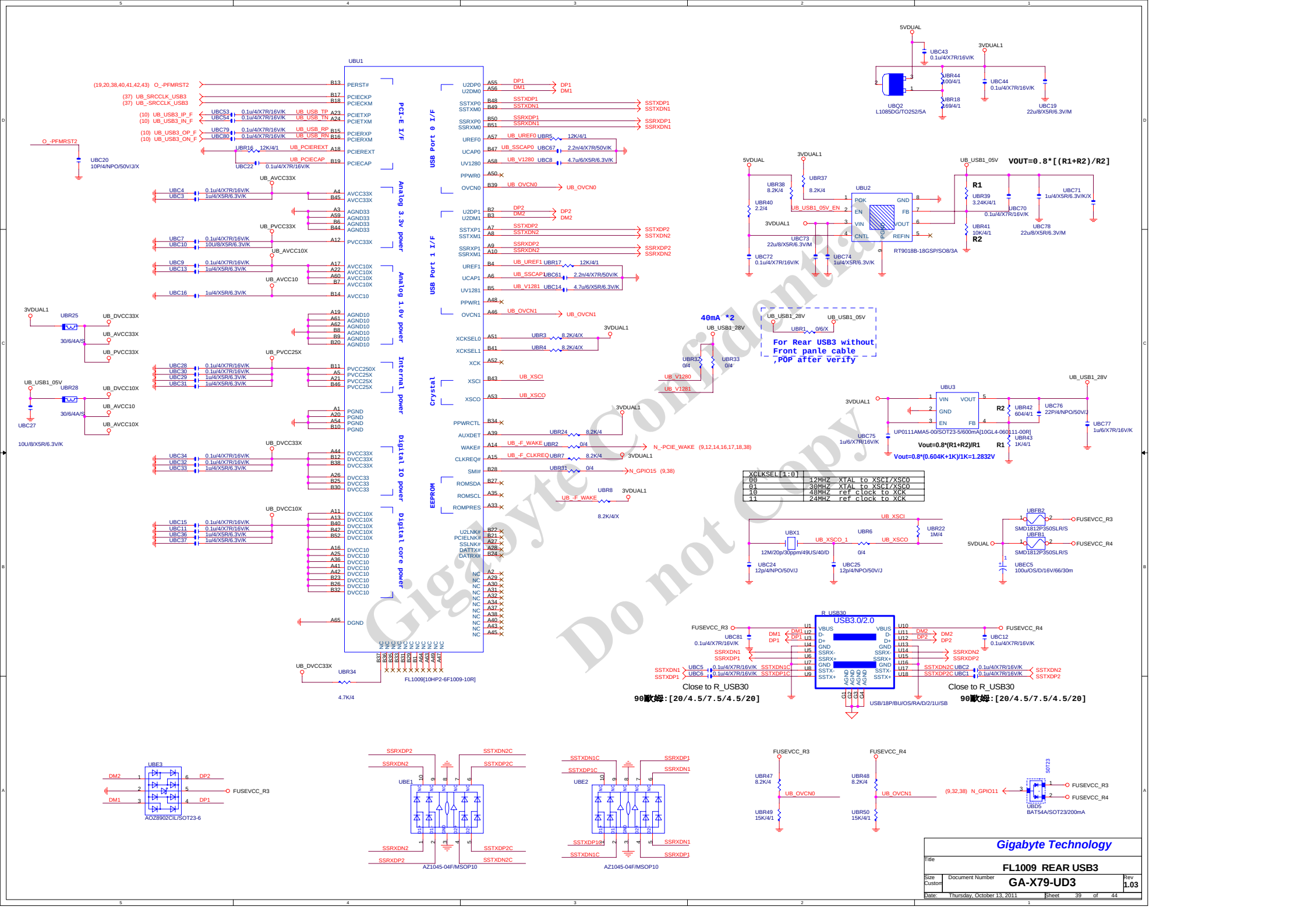


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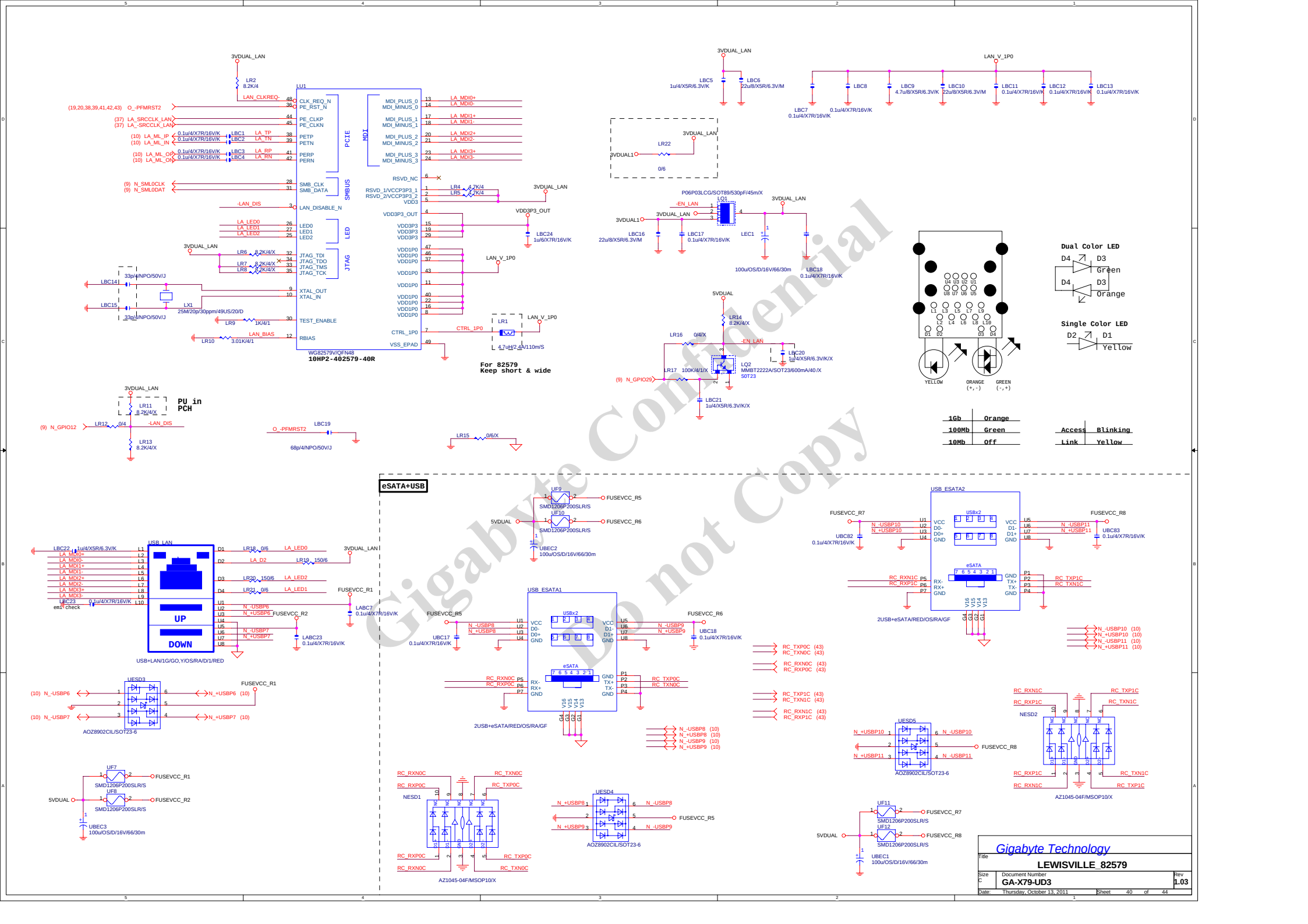
Gigabyte Technology		
Title: HWM,FAN CTRL		
Size: Custom	Document Number: GA-X79-UD3	Rev: 1.03
Date: Thursday, October 13, 2011	Sheet 36 of 44	


CLOCK GEN
CKU1
IDT 932SQ430[10HL6-1C0430-10R]
Anti leakage
CLOCK BUFFER
CKU2
IDT 9FGL1214[10HL6-2C1214-10R]
X1_1
X8_2
X16_2
X8_1
X16_1
For Layout
Latch when VTTPWRGD low to 1.1V
Gigabyte Technology
CLOCK GEN & BUFFER
GA-X79-UD3
1.03
Thursday, October 13, 2011
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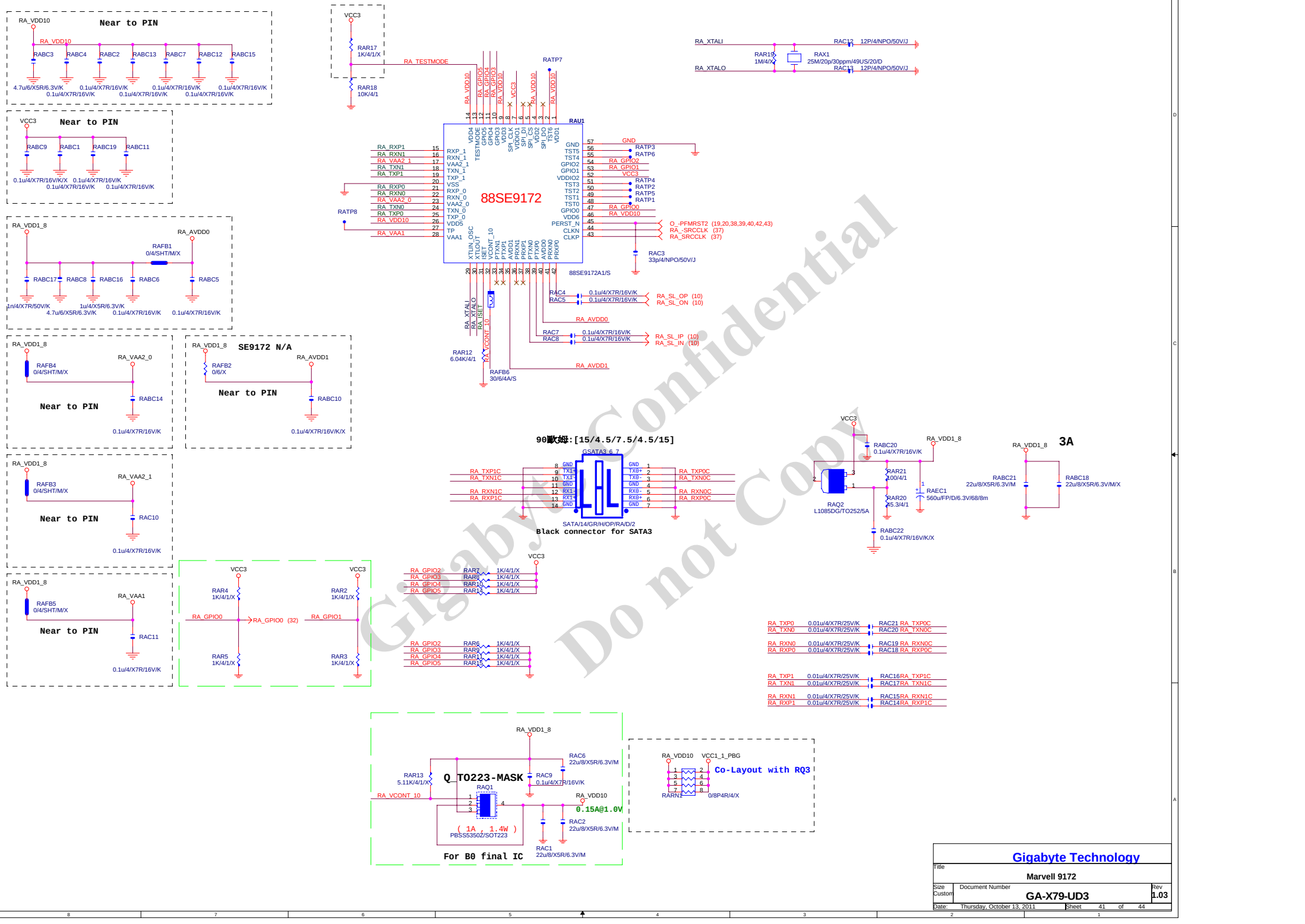

UAU1
PCI-E I/F
Analog 3.3v power
Analog 1.0v power
Internal power
Digital IO power
Digital core power
USB Port 0 I/F
USB Port 1 I/F
Crystal
EEPROM
PERST#
PCIECKP
PCIECKM
PCIETXP
PCIETXM
PCIERXP
PCIERXM
PCIEREXT
PCIECAP
AVCC33X
AGND33
PVCC33X
AVCC10X
AVCC10
PVCC25X
PVCC250X
PVCC25X
DVCC33
DVCC10X
DVCC10
PGND
DGND
U2DP0
U2DM0
SSTXP0
SSTXM0
SSRXP0
SSRXM0
UREF0
UCAP0
UV1280
PPWR0
OVCN0
U2DP1
U2DM1
SSTXP1
SSTXM1
SSRXP1
SSRXM1
UREF1
UCAP1
UV1281
PPWR1
OVCN1
XCKSEL0
XCKSEL1
XCK
XSCI
XSCO
PPWRCTL
AUXDET
WAKE#
CLKREQ#
SMI#
ROMSDA
ROMSCL
ROMPRES
U2LNK#
PCIELNK#
SSLNK#
DATTX#
DATRX#
NC
FL1009[10HP2-6F1009-10R]
UAC5 33p/4/NPO/50V/J
UAC4 0.1u/4/X7R/16V/K
UAC3 1u/4/X5R/6.3V/K
UAC2 0.1u/4/X7R/16V/K
UAC10 10U/8/X5R/6.3V/K
UAC9 0.1u/4/X7R/16V/K
UAC13 1u/4/X5R/6.3V/K
UAC16 1u/4/X5R/6.3V/K
UAC28 0.1u/4/X7R/16V/K
UAC30 0.1u/4/X7R/16V/K
UAC29 1u/4/X5R/6.3V/K
UAC31 1u/4/X5R/6.3V/K
UAC34 0.1u/4/X7R/16V/K
UAC32 0.1u/4/X7R/16V/K
UAC33 1u/4/X5R/6.3V/K
UAC15 0.1u/4/X7R/16V/K
UAC11 0.1u/4/X7R/16V/K
UAC36 1u/4/X5R/6.3V/K
UAC37 1u/4/X5R/6.3V/K
UAC27 10U/8/X5R/6.3V/K
UAR25 30/6/4A/S
UAR28 30/6/4A/S
UAC53 0.1u/4/X7R/16V/K
UAC54 0.1u/4/X7R/16V/K
UAC79 0.1u/4/X7R/16V/K
UAC80 0.1u/4/X7R/16V/K
UAR16 12K/4/1
UAC22 0.1u/4/X7R/16V/K
UAR34 4.7K/4
UAR3 8.2K/4/X
UAR4 8.2K/4/X
UAR24 8.2K/4
UAR2 0/4
UAR7 8.2K/4
UAR31 0/4
UAR8 8.2K/4/X
UAR5 12K/4/1
UAC67 2.2n/4/X7R/50V/K
UABC1 4.7u/6/X5R/6.3V/K
UAR17 12K/4/1
UAC61 2.2n/4/X7R/50V/K
UABC2 4.7u/6/X5R/6.3V/K
UAC19 0.1u/4/X7R/16V/K
UAC20 0.1u/4/X7R/16V/K
UAC21 0.1u/4/X7R/16V/K
UAC23 0.1u/4/X7R/16V/K
UA_USB_TP
UA_USB_TN
UA_USB_RP
UA_USB_RN
UA_PCIEREXT
UA_PCIECAP
UA_DP0
UA_DM0
UA_SSTXP0
UA_SSTXN0
UA_SSRXP0C
UA_SSRXN0C
UA_UREF0
UA_SSCAP0
UA_V1280
UA_OVCN0
UA_DP1
UA_DM1
UA_SSTXP1
UA_SSTXN1
UA_SSRXP1C
UA_SSRXN1C
UA_UREF1
UA_SSCAP1
UA_V1281
UA_OVCN1
UA_XSCI
UA_XSCO
UA_-F_WAKE
UA_-F_CLKREQ
UA_SSTXP0C
UA_SSTXN0C
UA_SSTXP1C
UA_SSTXN1C
O_-PFMRST2
(19,20,39,40,41,42,43) O_-PFMRST2
(37) UA_SRCCLK_USB3_F
(37) UA_-SRCCLK_USB3_F
(10) UA_USB3_IP_F
(10) UA_USB3_IN_F
(10) UA_USB3_OP_F
(10) UA_USB3_ON_F
UA_AVCC33X
UA_PVCC33X
UA_AVCC10X
UA_AVCC10
UA_PVCC25X
UA_DVCC33X
UA_DVCC10X
3VDUAL
UA_USB1_05V
UA_USB1_28V
40mA *2
Pop For Rear USB3 without Front panle cable
UAU2
UAR38 8.2K/4
UAR40 2.2/4
UAR37 8.2K/4
UAR39 3.24K/4/1
UAR41 10K/4/1
UAC72 0.1u/4/X7R/16V/K
UAC73 10U/8/X5R/6.3V/K
UAC74 1u/4/X5R/6.3V/K
UAC70 0.1u/4/X7R/16V/K
UAC71 1u/4/X5R/6.3V/K/X
UAC78 22u/8/X5R/6.3V/M
RT9018B-18GSP/SO8/3A
VOUT=0.8*[(R1+R2)/R2]
R1
R2
UAU3
UP0111AMA5-00/SOT23-5/600mA(10GL4-060111-00R)
UAR42 604/4/1
UAR43 1K/4/1
UAC75 1u/6/X7R/16V/K
UAC76 22P/4/NPO/50V/J
UAC77 1u/6/X7R/16V/K
Vout=0.8*(R1+R2)/R1
Vout=0.8*(0.604K+1K)/1K=1.2832V
XCLKSEL[1:0]
00 12MHZ XTAL to XSCI/XSCO
01 30MHZ XTAL to XSCI/XSCO
10 48MHZ ref clock to XCK
11 24MHZ ref clock to XCK
UAX1 12M/20p/30ppm/49US/40/D
UAR6 0/4
UAR22 1M/4
UAC24 12p/4/NPO/50V/J
UAC25 12p/4/NPO/50V/J
UAFB2 SMD1812P350SLR/S
UAFB1 SMD1812P350SLR/S
UAEC3 100u/OS/D/16V/66/30m
FUSEVCC_UA1
FUSEVCC_UA2
UAR10 8.2K/4
UAR11 15K/4/1
UAR44 8.2K/4
UAR45 15K/4/1
UAC55 0.1u/4/X7R/16V/K
UAC1 0.1u/4/X7R/16V/K
F_USB30
REV=1
BH/2*10K20/BK/ON/2.0/VA/USB3.0/PRT/TUR180
UAD4 BAT54A/SOT23/200mA
UAE3 AOZ8902CIL/SOT23-6
UAE1
UAE2
AZ1045-04F/MSOP10
N_-PCIE_WAKE (9,12,14,16,17,18,39)
N_GPIO15 (9,39)
N_GPIO11 (9,32,39)
Gigabyte Technology
FL1009 FRONT USB3
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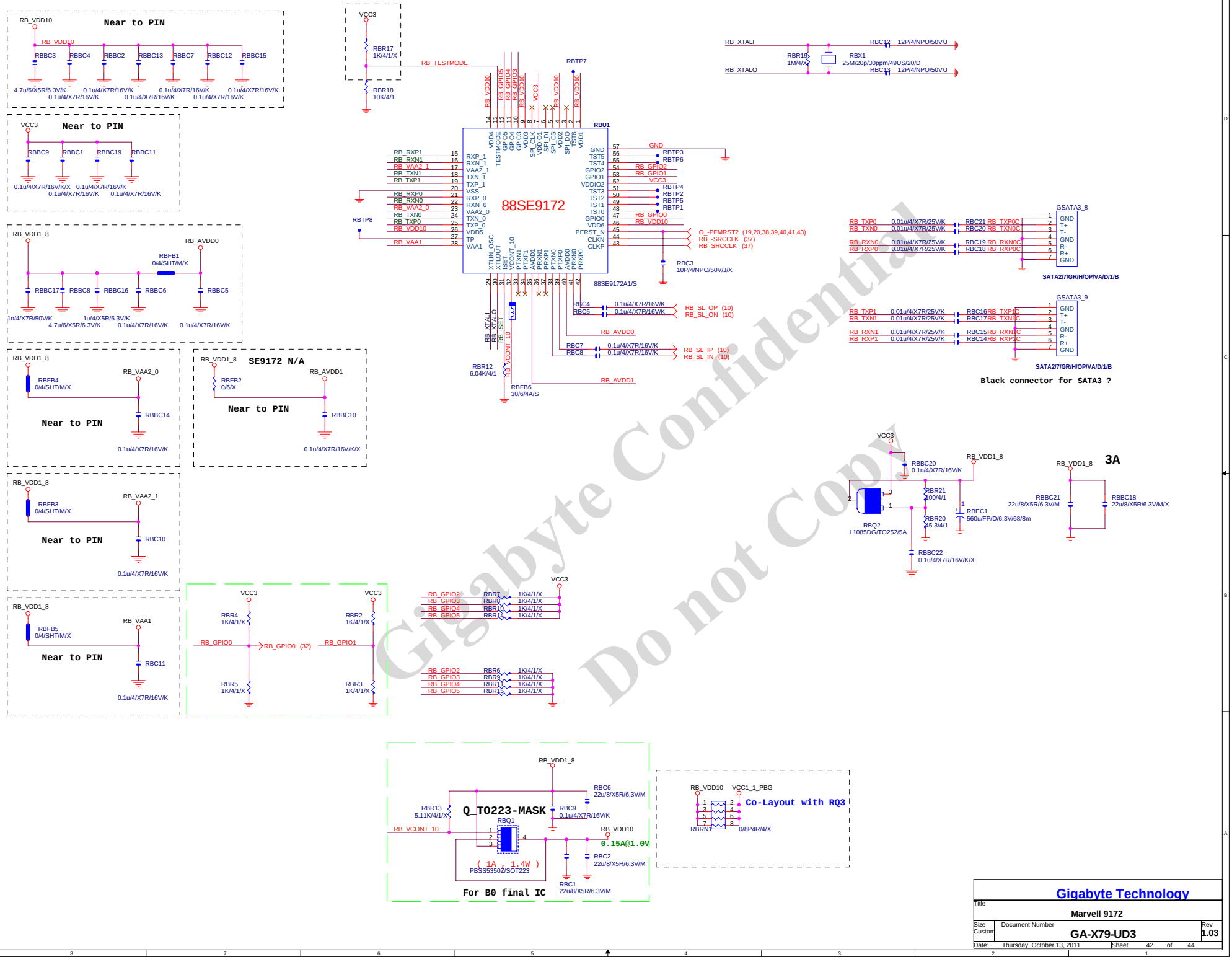


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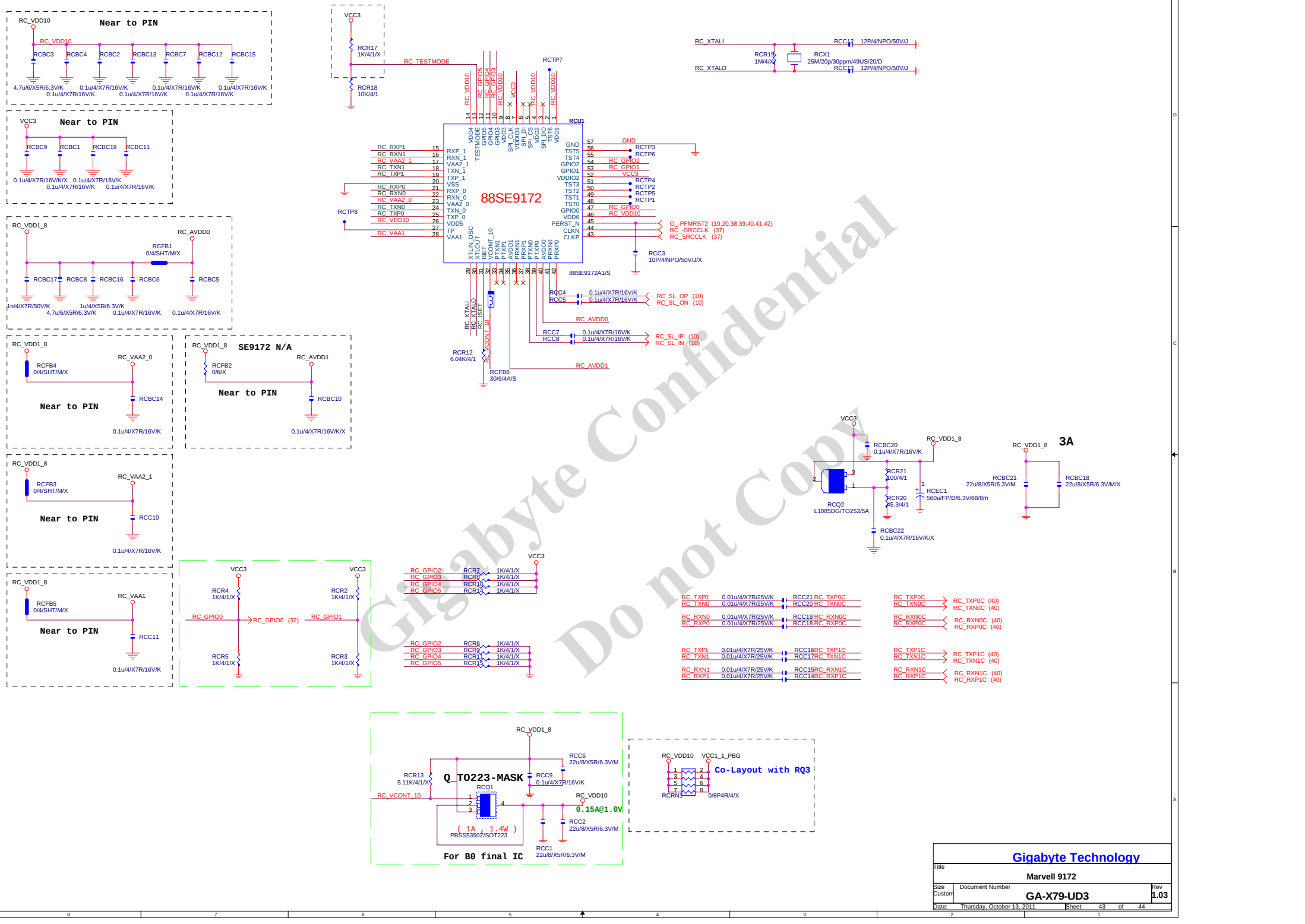
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Near to PIN
RA_VDD10
RABC3
RABC4
RABC2
RABC13
RABC7
RABC12
RABC15
4.7u/6/X5R/6.3V/K
0.1u/4/X7R/16V/K
VCC3
RAR17
1K/4/1/X
RAR18
10K/4/1
RA_TESTMODE
RATP7
RA_XTALI
RA_XTALO
RAR19
1M/4/X
RAX1
25M/20p/30ppm/49US/20/D
RAC12
12P/4/NPO/50V/J
RAC13
RAU1
88SE9172
88SE9172A1/S
GND
RATP3
RATP6
RA_GPIO2
RA_GPIO1
RATP4
RATP2
RATP5
RATP1
RA_GPIO0
RATP8
O_-PFMRST2 (19,20,38,39,40,42,43)
RA_-SRCCLK (37)
RA_SRCCLK (37)
RAC3
33p/4/NPO/50V/J
RAC4
RAC5
RA_SL_OP (10)
RA_SL_ON (10)
RA_AVDD0
RAC7
RAC8
RA_SL_IP (10)
RA_SL_IN (10)
RAR12
6.04K/4/1
RAFB6
30/6/4A/S
RA_AVDD1
RABC17
RABC8
RABC16
RABC6
RABC5
RAFB1
0/4/SHT/M/X
RA_AVDD0
1n/4/X7R/50V/K
1u/4/X5R/6.3V/K
RABC14
RABC10
SE9172 N/A
RAFB2
0/6/X
RAFB4
RAFB3
RAC10
RAFB5
RAC11
90歐姆:[15/4.5/7.5/4.5/15]
GSATA3_6_7
SATA/14/GR/H/OP/RA/D/2
Black connector for SATA3
RA_TXP1C
RA_TXN1C
RA_RXN1C
RA_RXP1C
RA_TXP0C
RA_TXN0C
RA_RXN0C
RA_RXP0C
RABC20
0.1u/4/X7R/16V/K
RAR21
100/4/1
RAR20
45.3/4/1
RAQ2
L1085DG/TO252/5A
RAEC1
560u/FP/D/6.3V/68/8m
RABC22
0.1u/4/X7R/16V/K/X
3A
RABC21
22u/8/X5R/6.3V/M
RABC18
22u/8/X5R/6.3V/M/X
RAR4
RAR5
RAR2
RAR3
RA_GPIO0
RA_GPIO0 (32)
RA_GPIO1
RAR7
RAR8
RAR10
RAR11
RAR6
RAR9
RAR12
RAR15
RA_TXP0
RA_TXN0
RA_RXN0
RA_RXP0
RA_TXP1
RA_TXN1
RA_RXN1
RA_RXP1
0.01u/4/X7R/25V/K
RAC21
RAC20
RAC19
RAC18
RAC16
RAC17
RAC15
RAC14
Q_TO223-MASK
RAQ1
RAR13
5.11K/4/1/X
RAC6
22u/8/X5R/6.3V/M
RAC9
0.1u/4/X7R/16V/K
RAC2
RAC1
(1A , 1.4W)
PBSS5350Z/SOT223
0.15A@1.0V
For B0 final IC
VCC1_1_PBG
RARN1
0/8P4R/4/X
Co-Layout with RQ3
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Near to PIN
RC_VDD10
RCBC3
RCBC4
RCBC2
RCBC13
RCBC7
RCBC12
RCBC15
4.7u/6/X5R/6.3V/K
0.1u/4/X7R/16V/K
VCC3
RCR17
1K/4/1/X
RC_TESTMODE
RCR18
10K/4/1
RCTP7
RC_XTALI
RC_XTALO
RCR19
1M/4/X
RCX1
25M/20p/30ppm/49US/20/D
RCC12
12P/4/NPO/50V/J
RCC13
12P/4/NPO/50V/J
RCU1
88SE9172
88SE9172A1/S
RC_RXP1
RC_RXN1
RC_VAA2_1
RC_TXN1
RC_TXP1
RC_RXP0
RC_RXN0
RC_VAA2_0
RC_TXN0
RC_TXP0
RC_VDD10
RC_VAA1
RCTP8
GND
RCTP3
RCTP6
RC_GPIO2
RC_GPIO1
VCC3
RCTP4
RCTP2
RCTP5
RCTP1
RC_GPIO0
O_-PFMRST2 (19,20,38,39,40,41,42)
RC_-SRCCLK (37)
RC_SRCCLK (37)
RCC3
10P/4/NPO/50V/J/X
RCC4
RCC5
RC_SL_OP (10)
RC_SL_ON (10)
RC_AVDD0
RCC7
RCC8
RC_SL_IP (10)
RC_SL_IN (10)
RCR12
6.04K/4/1
RCFB6
30/6/4A/S
RC_AVDD1
RC_XTALI
RC_XTALO
RC_ISET
RC_VCONT_10
RC_VDD1_8
RC_AVDD0
RCFB1
0/4/SHT/M/X
RCBC17
RCBC8
RCBC16
RCBC6
RCBC5
1n/4/X7R/50V/K
1u/4/X5R/6.3V/K
RC_VAA2_0
RCFB4
0/4/SHT/M/X
RCBC14
RC_AVDD1
RCFB2
0/6/X
RCBC10
SE9172 N/A
RC_VAA2_1
RCFB3
0/4/SHT/M/X
RCC10
RC_VAA1
RCFB5
0/4/SHT/M/X
RCC11
RCR4
RCR5
RCR2
RCR3
RC_GPIO0
RC_GPIO0 (32)
RC_GPIO1
RCR7
RCR8
RCR9
RCR10
RCR11
RCR6
RCC20
RCR21
100/4/1
RCR20
5.3/4/1
RCEC1
560u/FP/D/6.3V/68/8m
RCQ2
L1085DG/TO252/5A
RCBC22
3A
RCBC21
22u/8/X5R/6.3V/M
RCBC18
22u/8/X5R/6.3V/M/X
RC_TXP0
RC_TXN0
RC_RXN0
RC_RXP0
RC_TXP1
RC_TXN1
RC_RXN1
RC_RXP1
0.01u/4/X7R/25V/K
RCC21 RC_TXP0C
RCC20 RC_TXN0C
RCC19 RC_RXN0C
RCC18 RC_RXP0C
RCC16 RC_TXP1C
RCC17 RC_TXN1C
RCC15 RC_RXN1C
RCC14 RC_RXP1C
RC_TXP0C (40)
RC_TXN0C (40)
RC_RXN0C (40)
RC_RXP0C (40)
RC_TXP1C (40)
RC_TXN1C (40)
RC_RXN1C (40)
RC_RXP1C (40)
Q_TO223-MASK
RCQ1
RCR13
5.11K/4/1/X
RCC6
22u/8/X5R/6.3V/M
RCC9
0.1u/4/X7R/16V/K
RCC2
22u/8/X5R/6.3V/M
RCC1
22u/8/X5R/6.3V/M
(1A , 1.4W)
PBSS5350Z/SOT223
0.15A@1.0V
For B0 final IC
RC_VCC1_1_PBG
RCRN1
0/8P4R/4/X
Co-Layout with RQ3
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PCH GPIO

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

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

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