

SHEET

TITLE

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01	COVER SHEET
02	BOM & PCB MODIFY HISTORY
03	BLOCK DIAGRAM
04	CPU_LGA1155-A
05	CPU_LGA1155-B
06	CPU_LGA1155-C
07	DDR III CHANNEL A
08	DDR III CHANNEL B
09	PCH_FDI,DMI,USB,PCIE,NVRAM
10	PCH_DP,CLK BUFFER
11	PCH_HOST,SATA,PCI
12	PCH_GPIO,CTRL,AUDIO
13	PCH_PWR,GND
14	PCI EXPRESS*16 SLOT
15	PCI EXPRESS*1x2 SLOT
16	ITE 8728 LPC IO
17	KB_MS,R_USB,-PROCHOT
18	HWM,FAN CTRL,OV
19	SINGLE BIOS
20	FP,FUSB,SPK,SATALED
21	ALC887
22	REAR AUDIO JACK
23	REALTEK 8111F/USB_LAN
24	DISCRETE POWER
25	ATX,-S_WARN,-S_ACK,5VDUAL
26	Richtek_RT8120_CPU_VTT
27	VCORE INTERSIL_95836_1

28	VCORE INTERSIL_95836_2
29	VCORE INTERSIL_95836_3

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Model Name: GA-H61M-S1

Revision 2.1

Component value change history

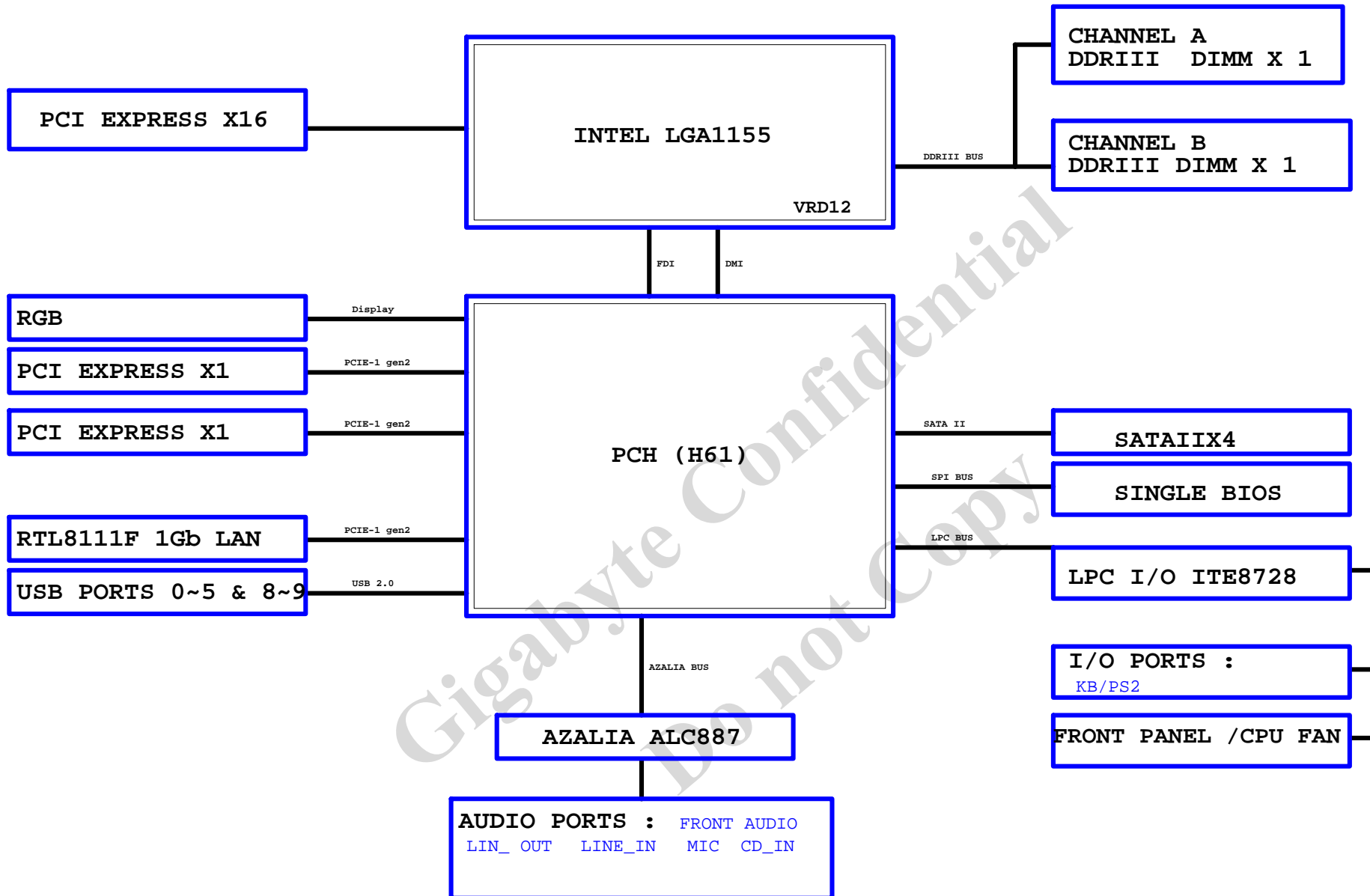
2011/09/14

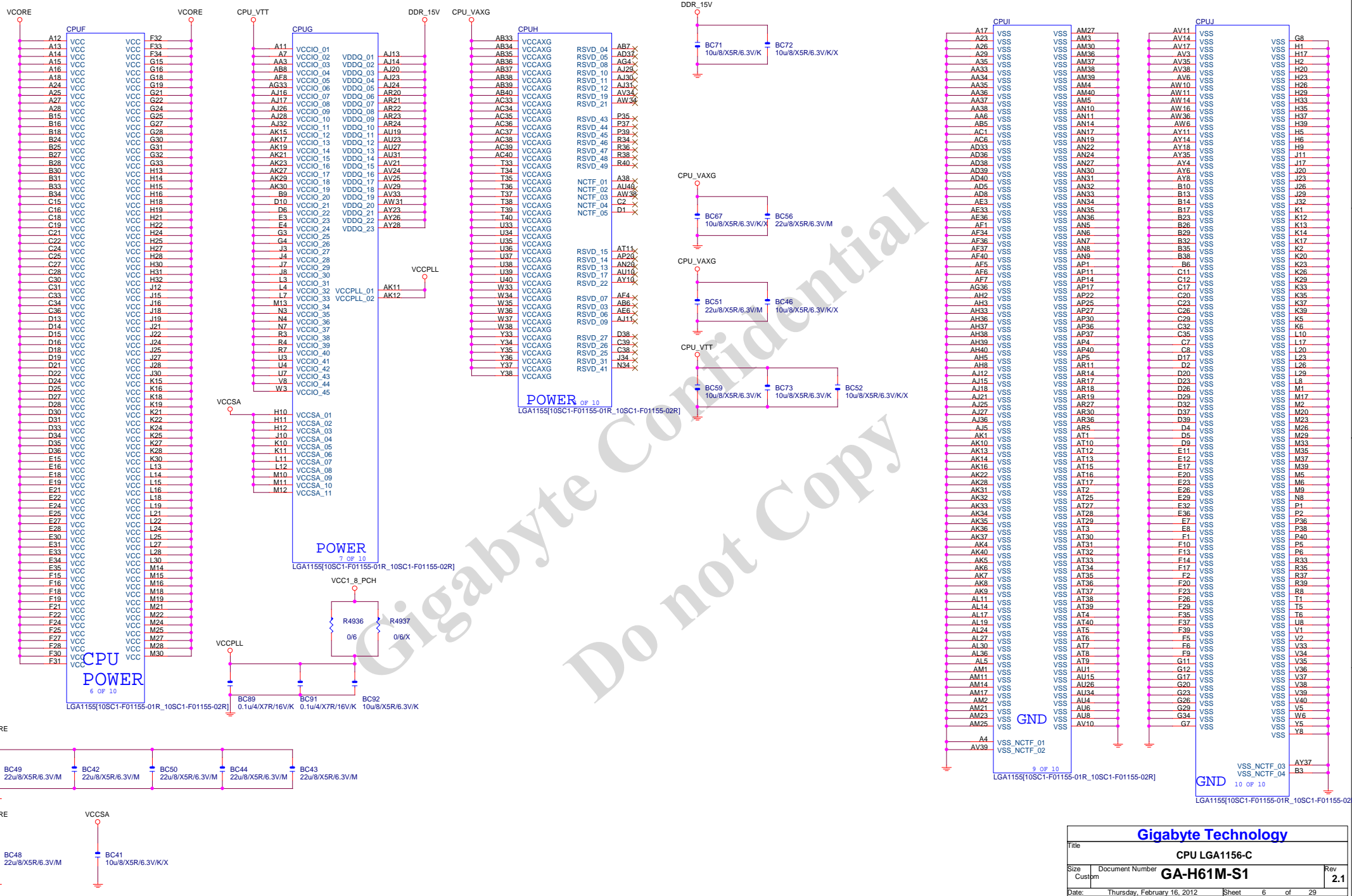
Data	Change Item	Reason
2011.07.05	9MH61MDS2-00-01	first release
	add R4977	fix SYS_FAN smart fan issue
	add R4980	ite 8728 JP6 function
	DR125 pull high change to +12V	RMA use
	add ESD18 for PS/2 KB_MS	follow super Anti 4 function
	PWM change to 6364	
	CODEC change to ALC887-VD2	
2011.07.15	9MH61MDS2-00-10A	
	fix VRM non-balance issue	
2011.08.22	9MH61MDS2-00-10B	
	some CAP change to Japan's os-con & adjust loadline	
2011.08.19	9MH61MDS2-00-10C	
	remove BC35 & BC34 change to 0.1u fix SIO 8728 factory issue	
2011.08.26	9MH61MDS2-00-10D	
	VRM & DDR Choke change to Ferrite Choke	
	Atheros 8151B change to Realtek 8111E	
2011.08.22	9MH61MDS2-00-12A	H61M-DS2 R1.2 BOM first release
	remove BC35 & BC34 change to 0.1u fix SIO 8728 factory issue	
	some CAP change to Japan's os-con & adjust loadline	
	add second source ON-MOSFET for VRM	
2011.09.08	9MH61MDS2-00-12B	

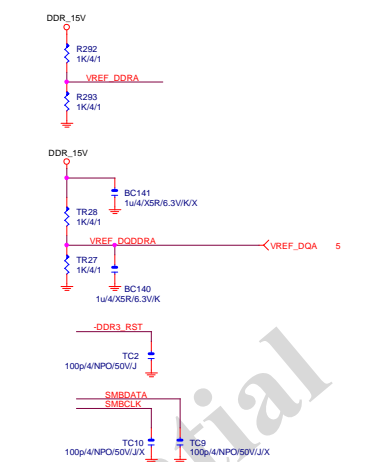
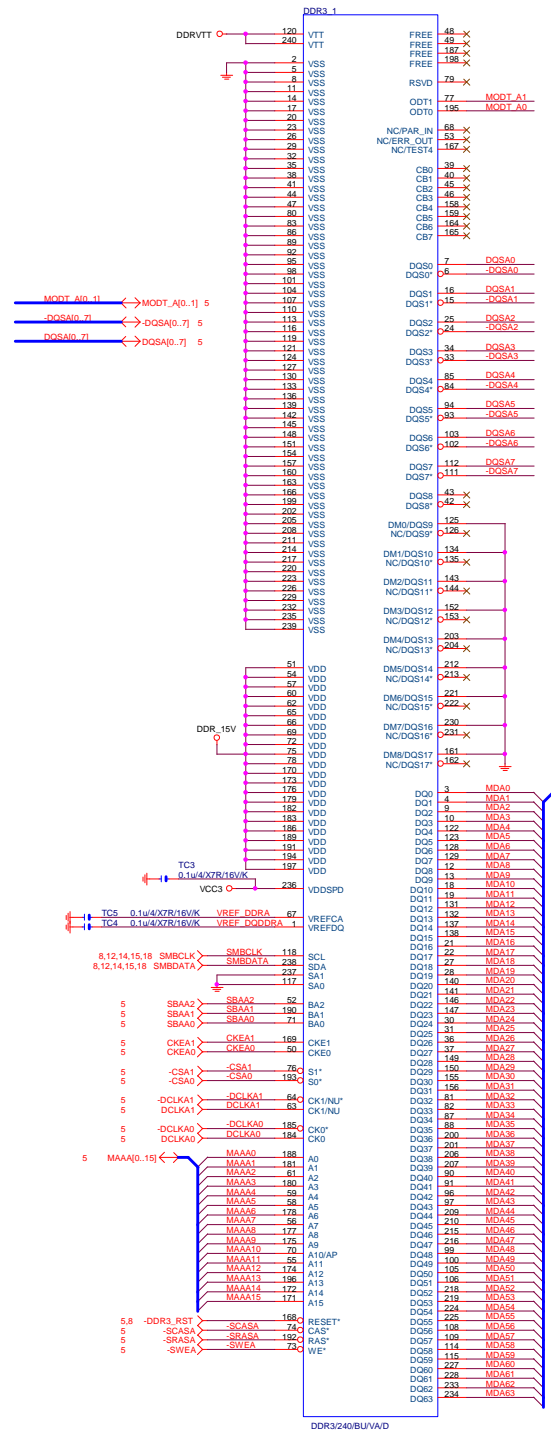
Circuit or PCB layout change

DATE	Change Item	Reason
2011.07.01	H61M-DS2 R0.1 gerber out	
	add R4977	fix SYS_FAN smart fan issue
	add R4980	ite 8728 JP6 function
	DR125 pull high change to +12V	RMA use
	add ESD18 for PS/2 KB_MS	follow super Anti 4 function
	PWM change to 6364	
2011.07.15	H61M-DS2 R1.0 gerber out	
	VRM & DDR Choke change to Ferrite Choke	
	Atheros 8151B change to Realtek 8111E	
2011.08.16	H61M-DS2 R1.2 gerber out	
	add LAR14 shortpin short R_USB AGND & DGND	
2011.09.07	H61M-DS2 R1.21 gerber out	

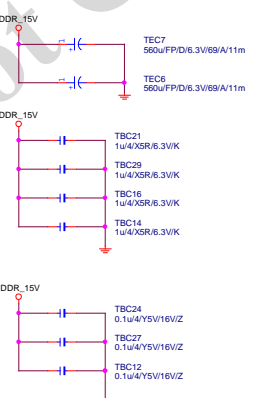
BLOCK DIAGRAM



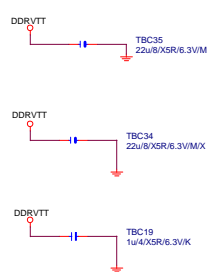




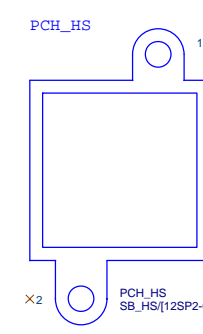
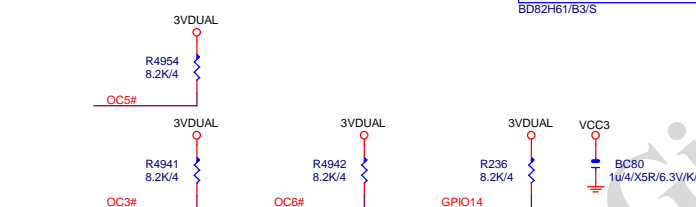
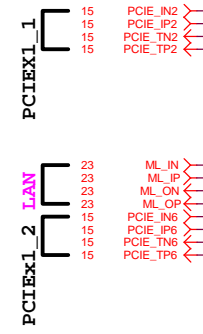
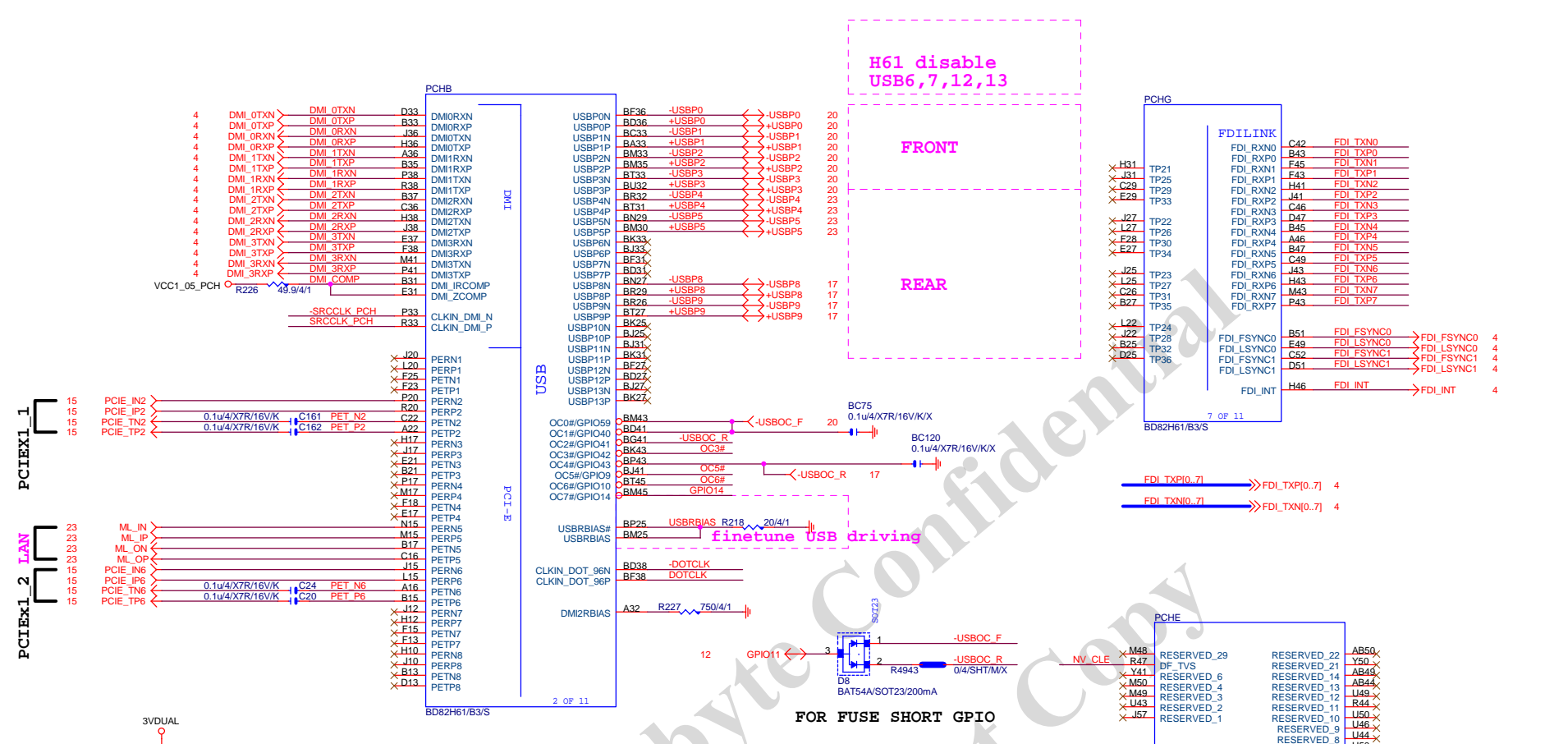
DDR15V Decouple



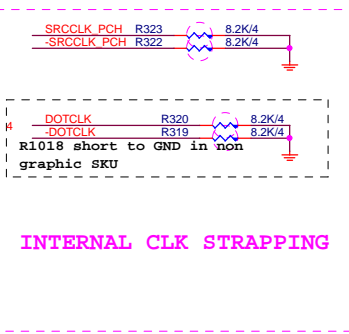
DDRVTT Decouple



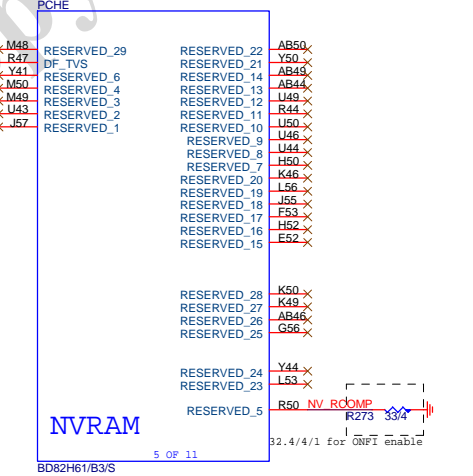
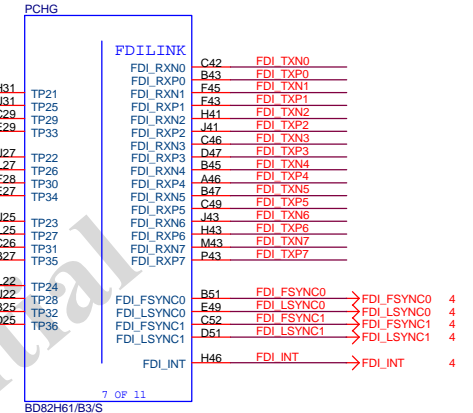
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Size	Document Number	Rev
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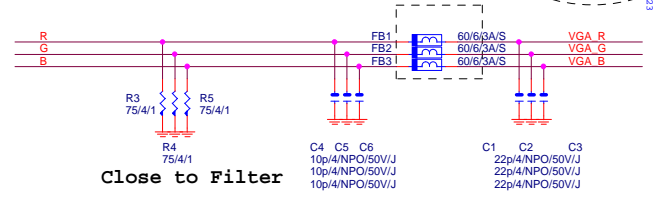
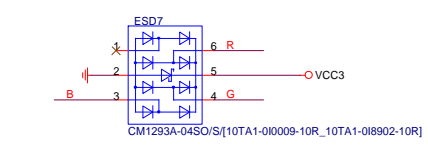
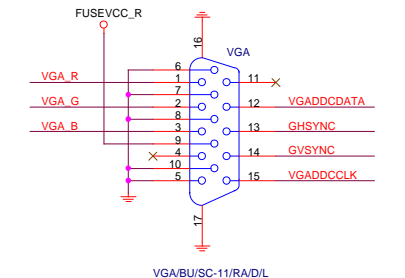
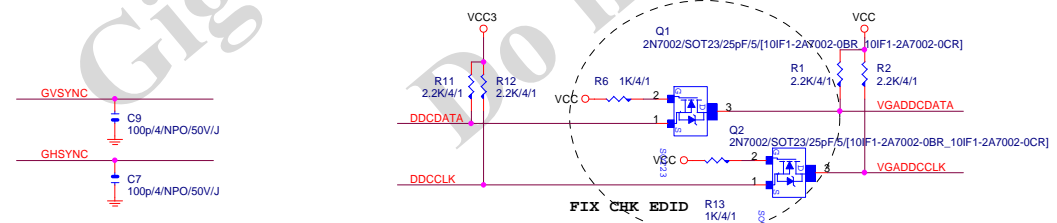
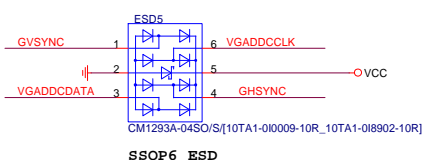
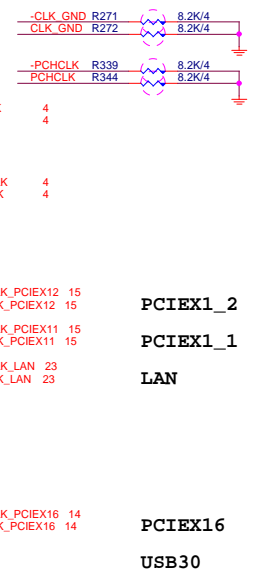
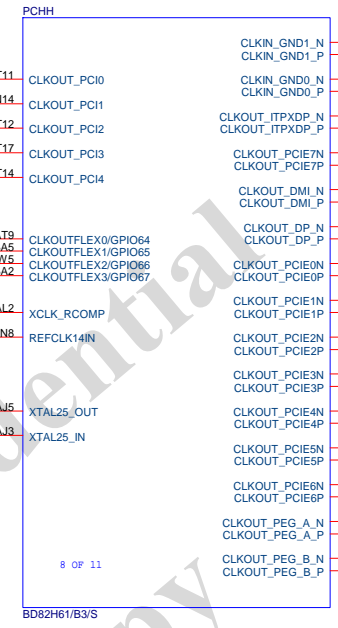
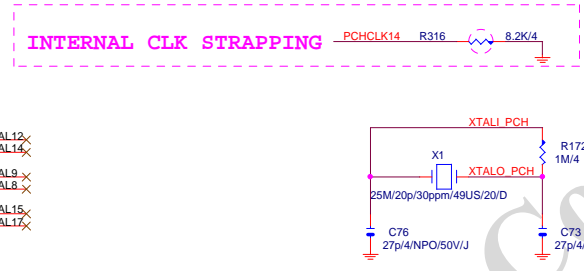
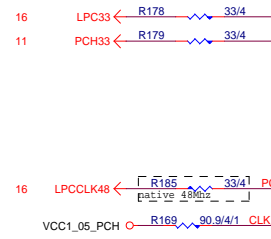
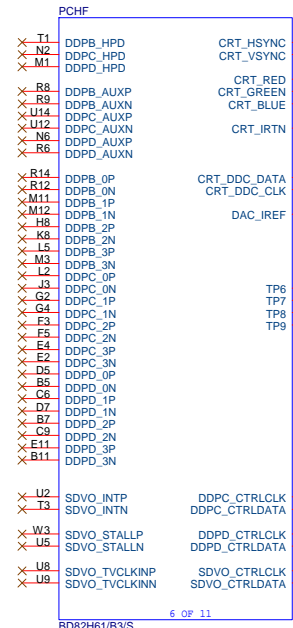


USB OC# Configure for H61	
OC0#	USB0,1(F_USB1)
OC1#	USB2,3(F_USB2)
OC2#	USB4,5(USB_LAN)
OC3#	N/A
OC4#	USB8,9(R_USB1)
OC5#	USB10~11(R_USB2)
OC6#	N/A
OC7#	GPIO14

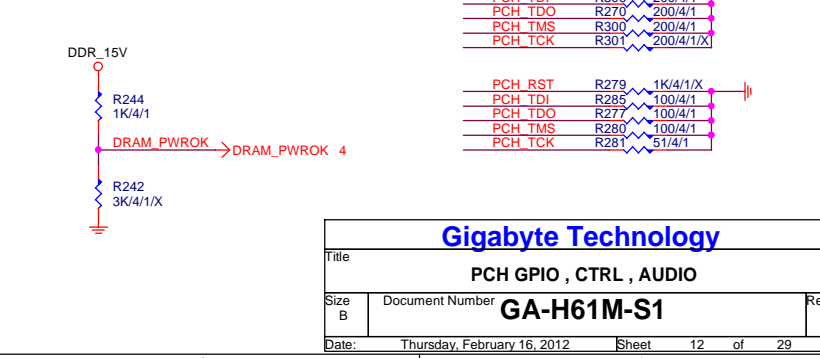
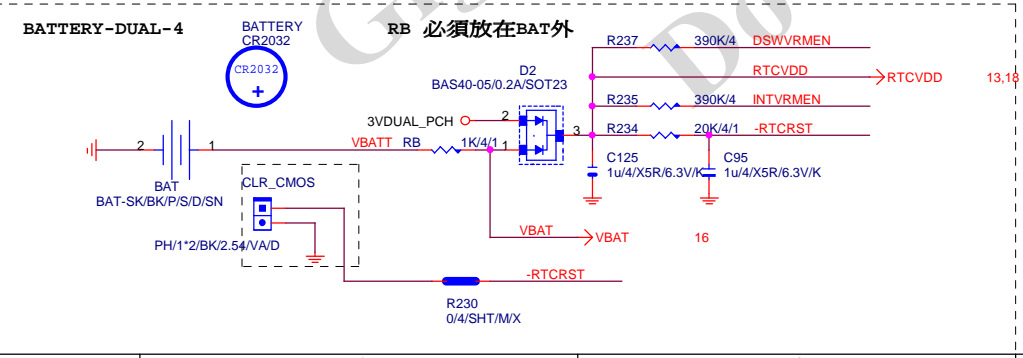
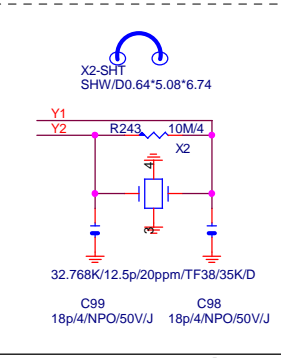
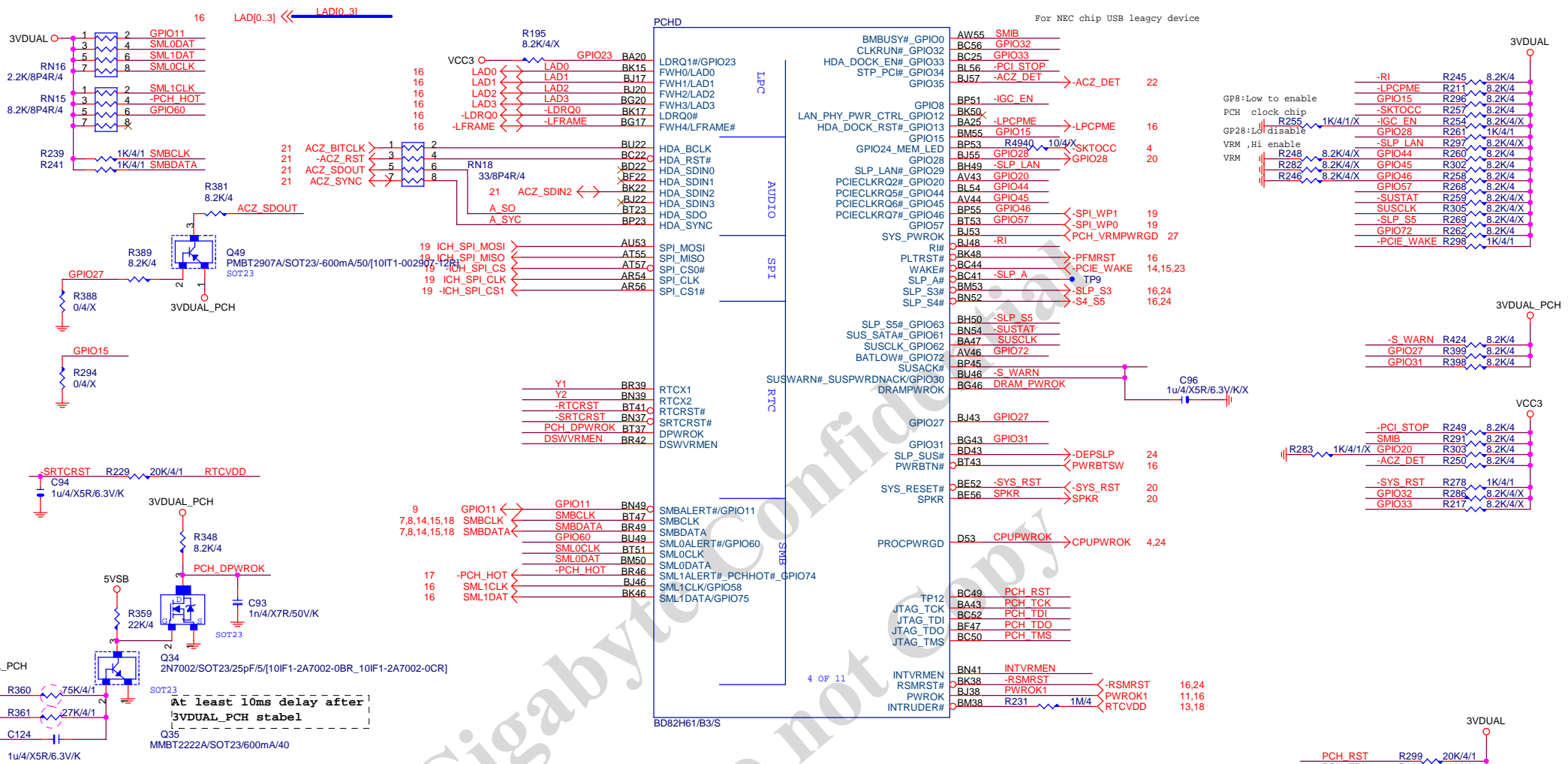


FOR FUSE SHORT GPIO

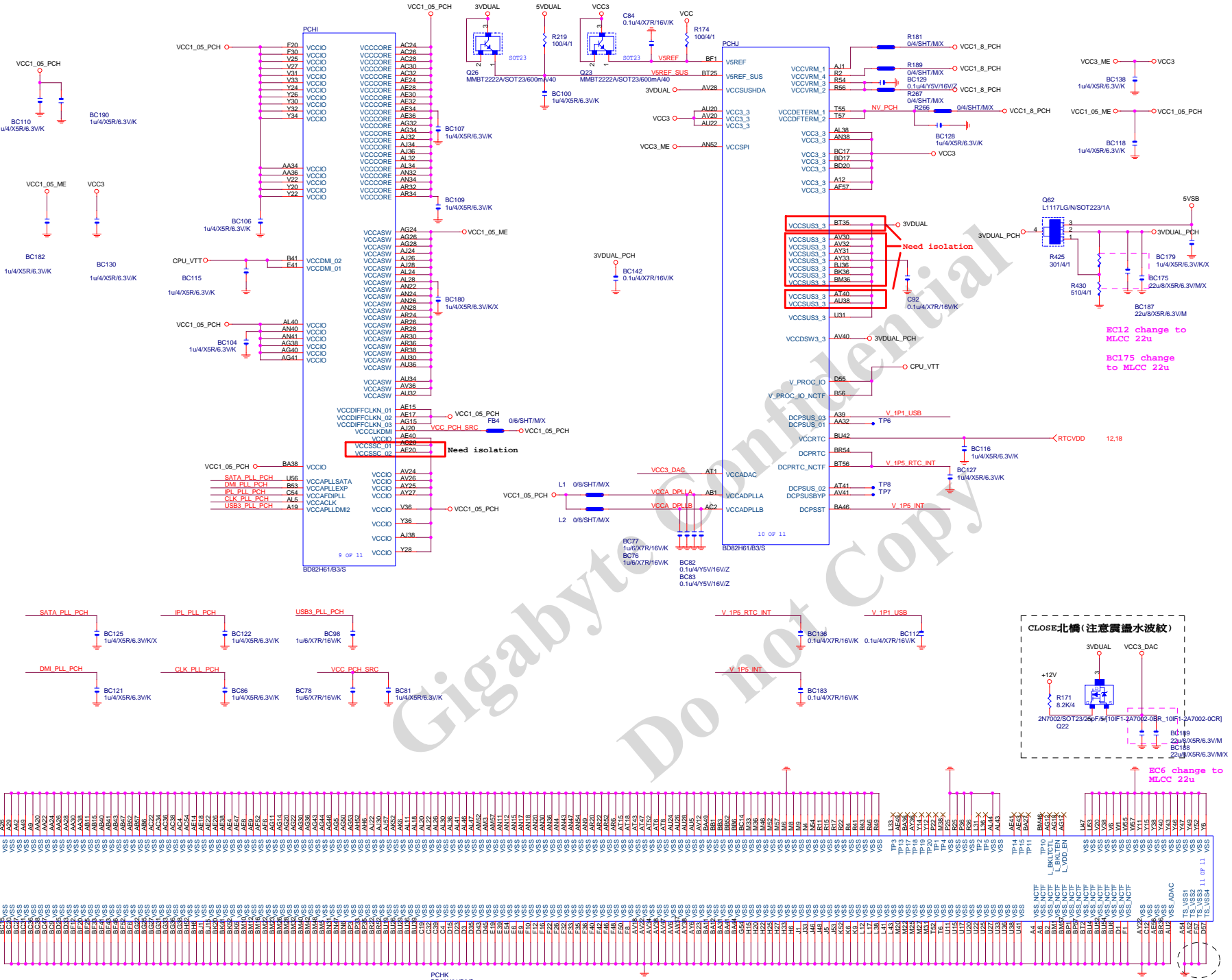




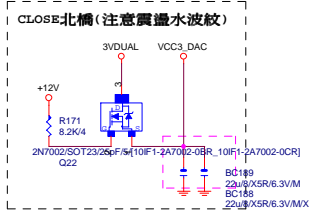
Gigabyte Technology			
Title: PCH DISPLAY ,CLK BUFFER			
Size: Custom	Document Number: GA-H61M-S1	Rev: 2.1	
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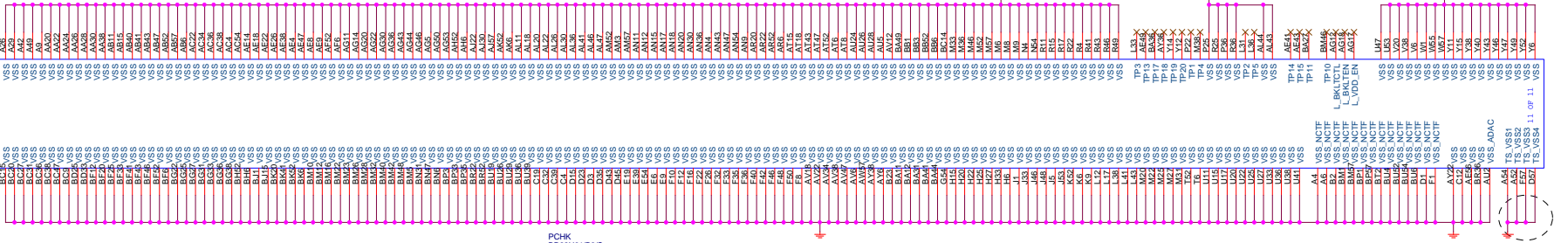
Gigabyte Technology		
PCH GPIO, CTRL, AUDIO		
Size B	Document Number	Rev
	GA-H61M-S1	2.1
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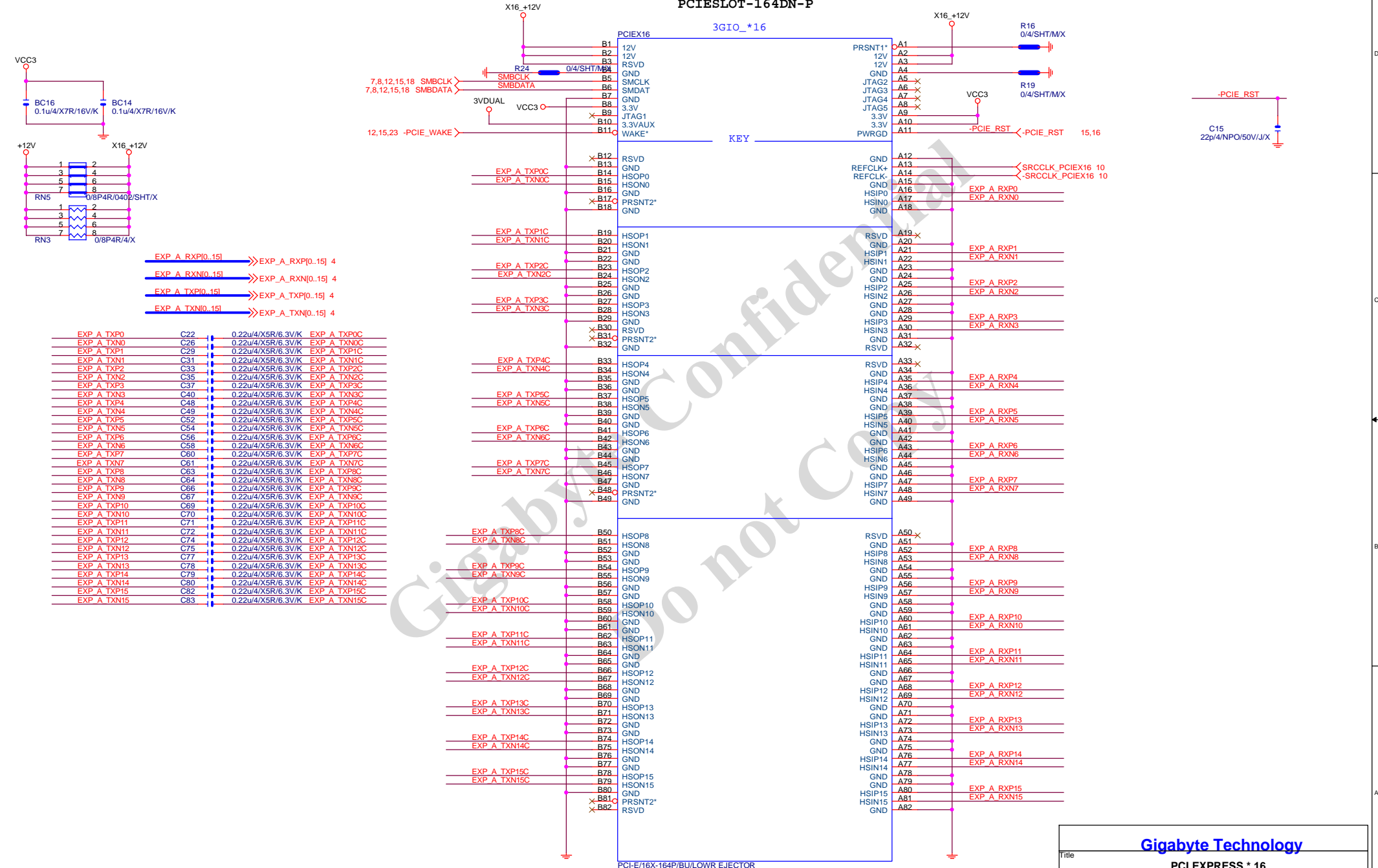
BC12 change to MLCC 22u
 BC175 change to MLCC 22u



BC6 change to MLCC 22u



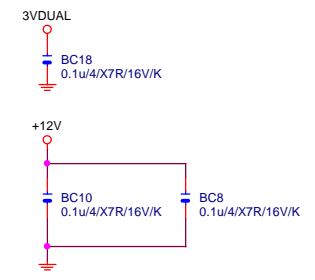
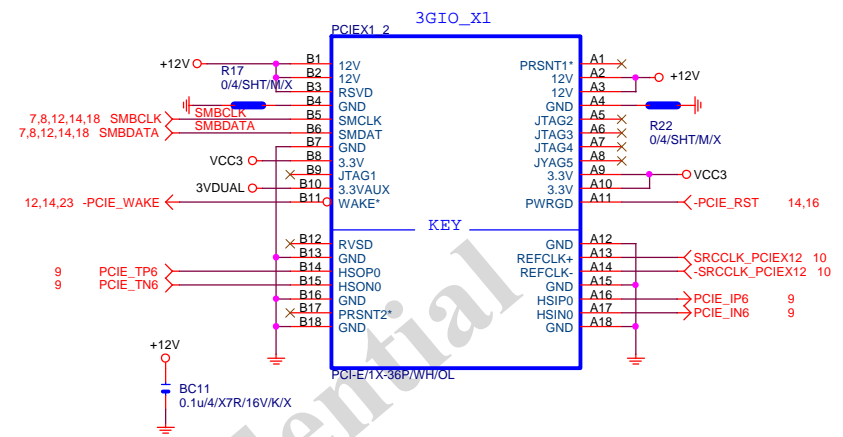
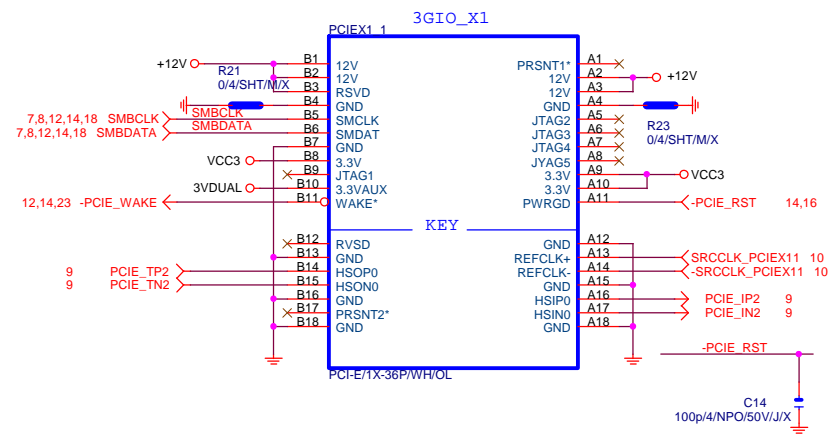
PCIESLOT-164DN-P



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Gigabyte Technology		
Title PCI EXPRESS * 16		
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PCIE*1

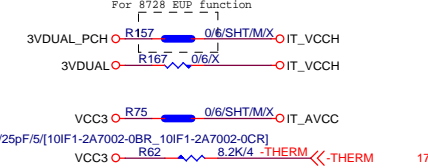
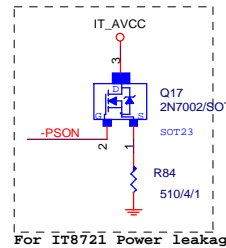
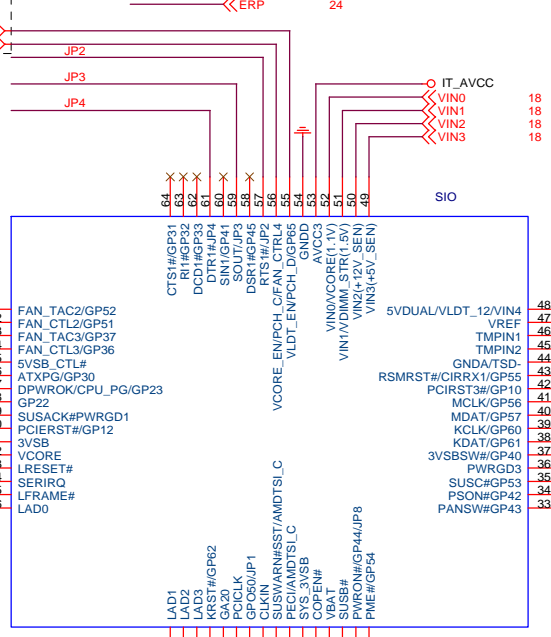
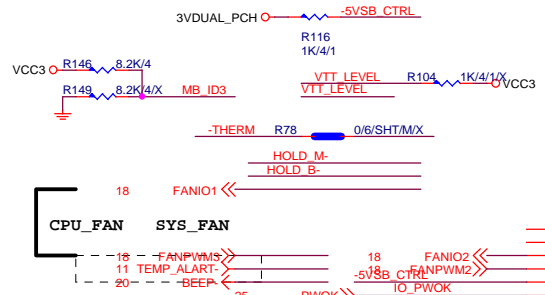


CLK GEN

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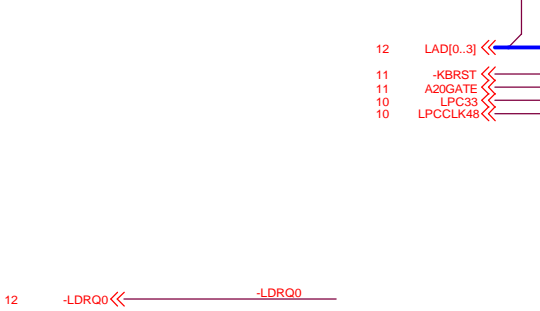
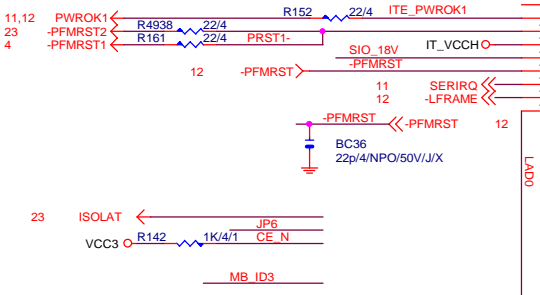
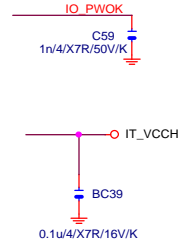
Gigabyte Technology		
PCIE1,X2/CLK GEN		
Size Custom	Document Number GA-H61M-S1	Rev 2.1
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GP22 Default GP22 DIODS
GP23 Default CPU_PG DODS



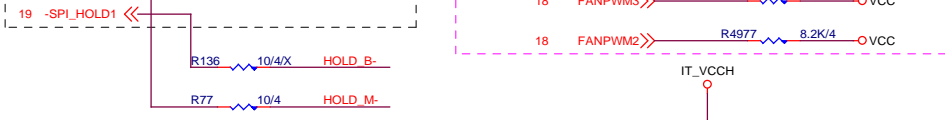
GP40 Default 3VBSW# D08

CHK GPIO53

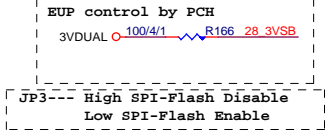
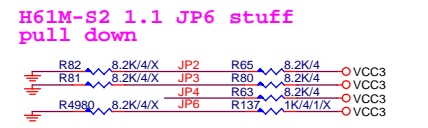
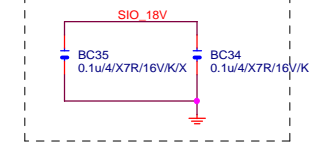


IT8728	
PIN121	VCORE_EN/PCH_C0
PIN120	VLDT_EN/PCH_D0
PIN19	ATXPG
PIN31	PCH_C1
PIN53	SST/AMDTSI_D/MTRB#/PCH_D1
PIN55	PEC1/AMDTSI_C/DRV#
PIN66	SYS_3VSB
PIN70	GP47
PIN95	VIN2 (VCC5)
PIN96	VIN1 (VCC12)
PIN97	VIN1/VDIMM_STR (1.5V)
PIN98	VIN0/VCORE (1.1V)/NC

H61M-DS2 R0.2



internal power pin, max 22nF cap



PCIRST1 is OD in IT8728

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ITE 8728 LPC IO

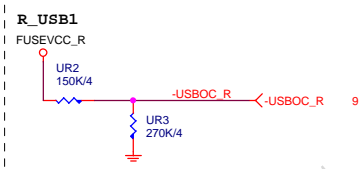
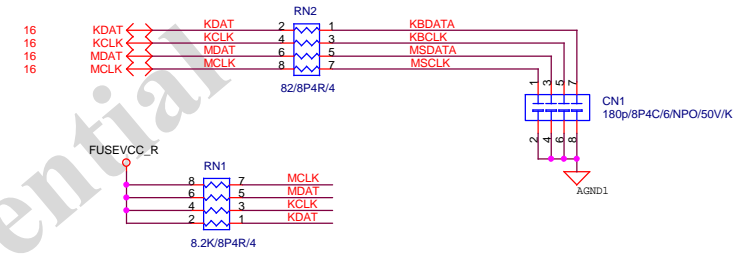
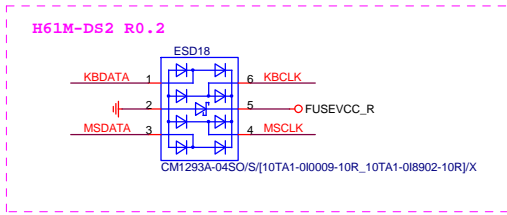
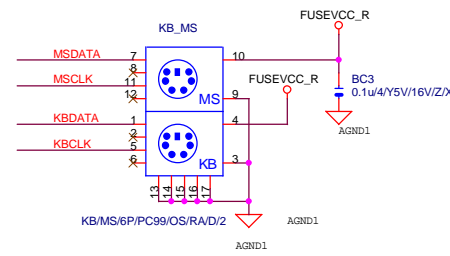
Size B Document Number GA-H61M-S1 Rev 2.1

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COM

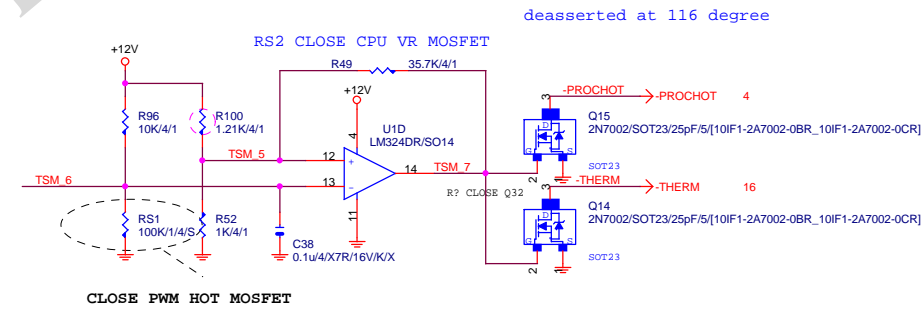
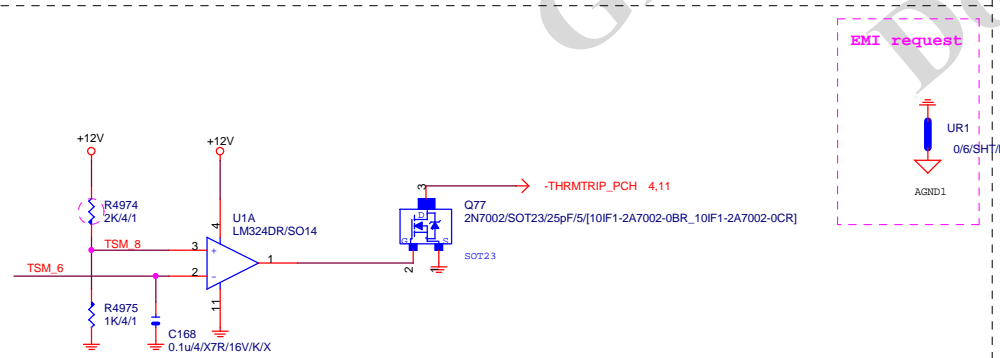
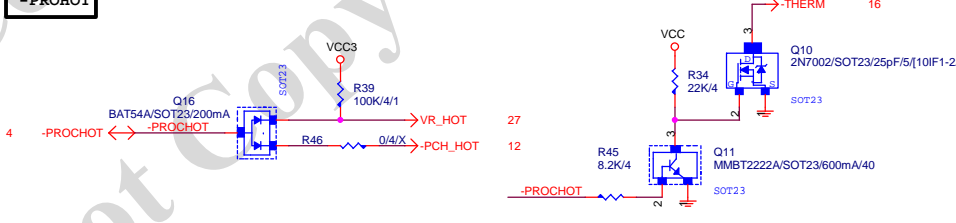
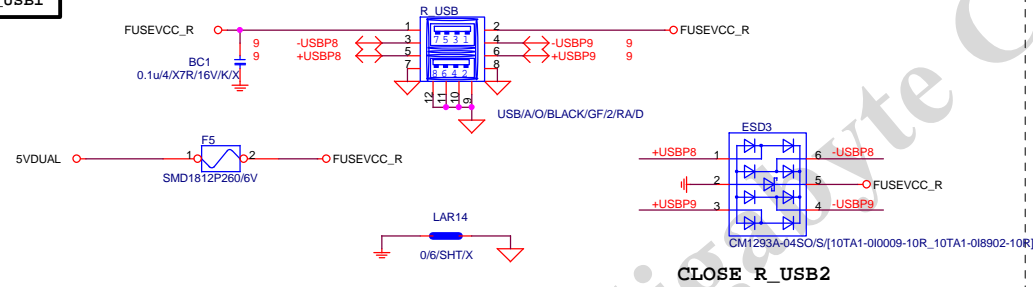
COM R.I

KB/MS



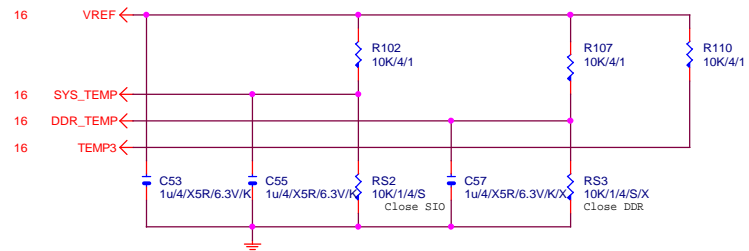
R_USB1

-PROHOT

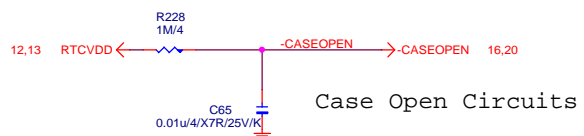


Gigabyte Technology		
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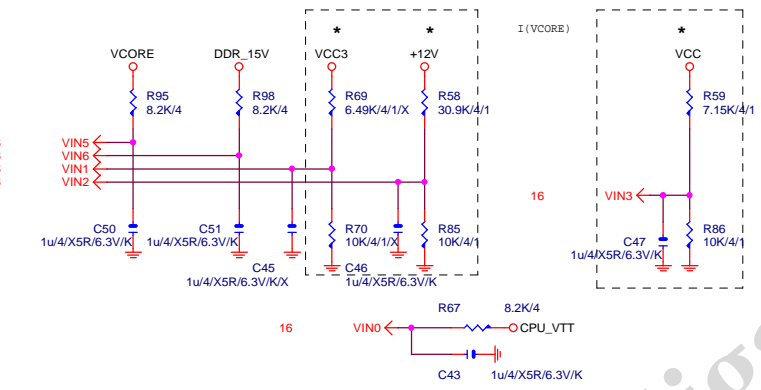
TEMP H/W MONITOR



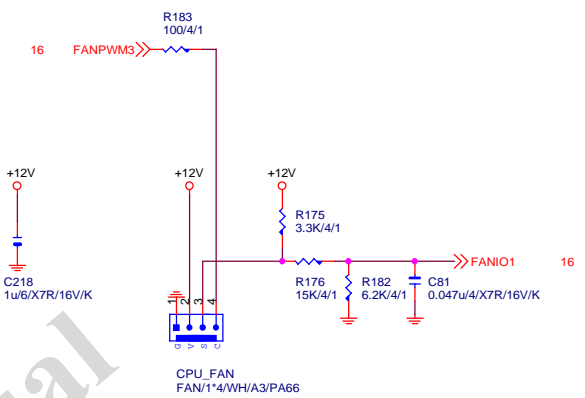
CASE OPEN



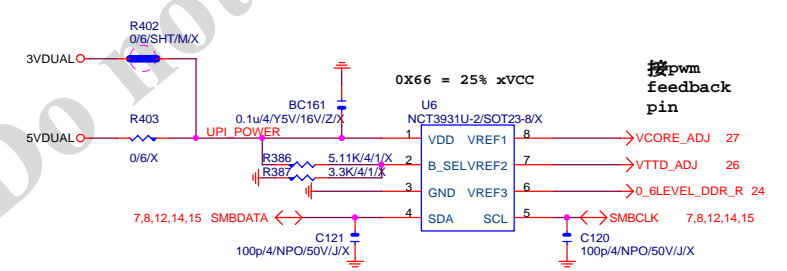
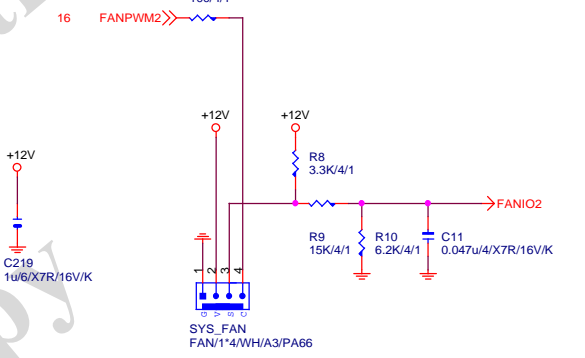
VOLTAGE-- H/W MONITOR



CPU SMART FAN



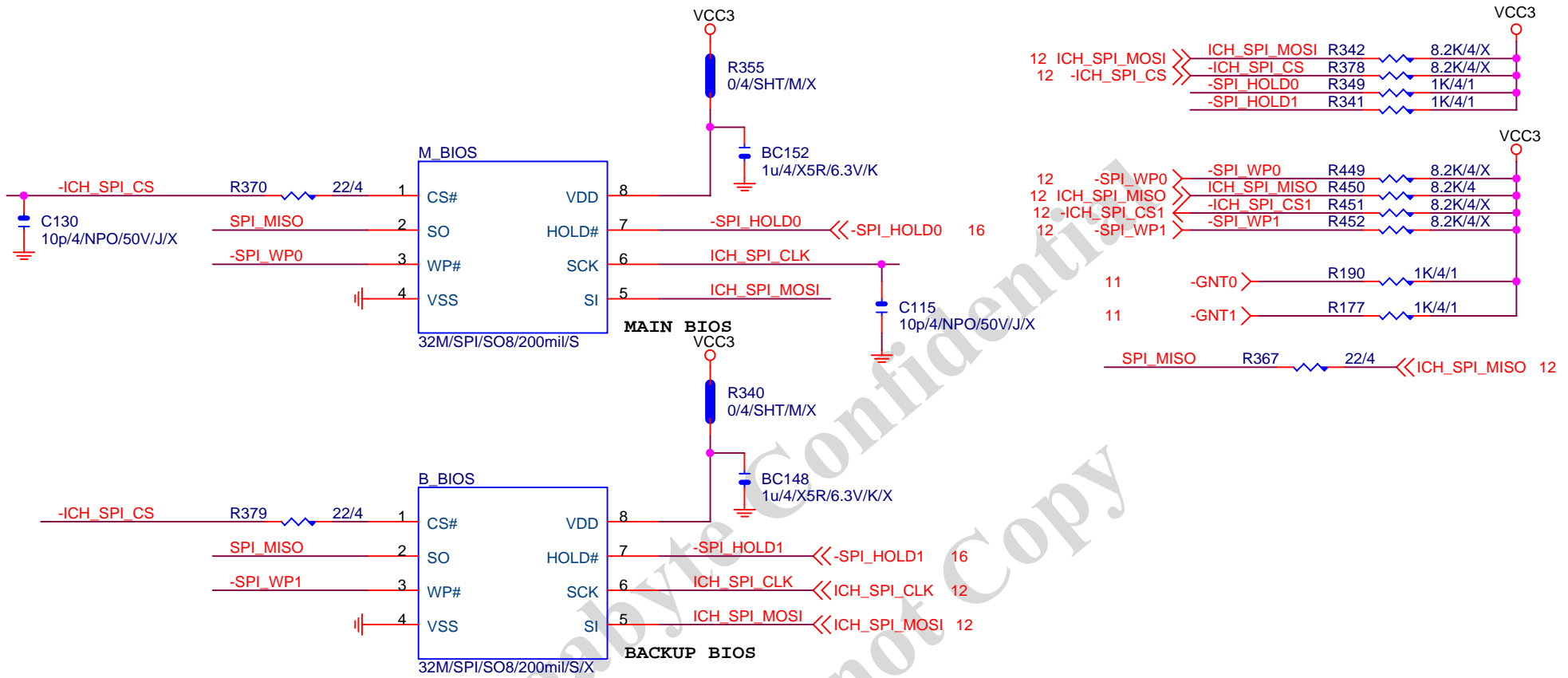
SYS SMART FAN



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Title		
HWM,FAN CTRL,OV		
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DUAL BIOS



BOOT DEVICE	GNT1	GNT0
LPC	0	0
PCI	0	1
SPI	1	1

1 means floating
0 means PD 1K

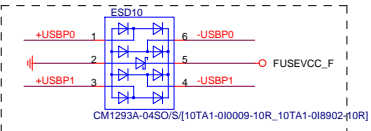
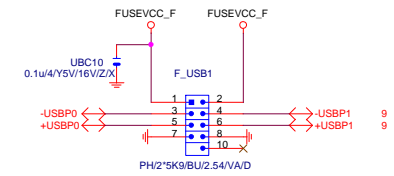
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SINGLE BIOS

GA-H61M-S1

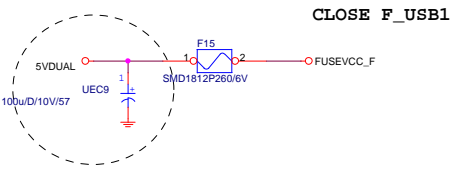
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FRONT USB1

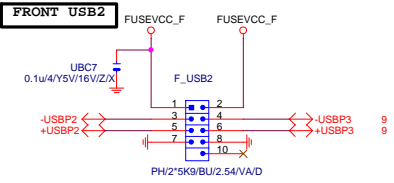


Close to connector

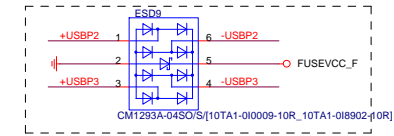
change to BLUE COLOR



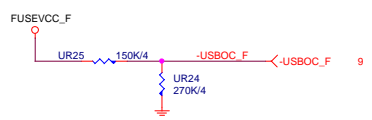
CLOSE F_USB1



FRONT USB3



Close to connector

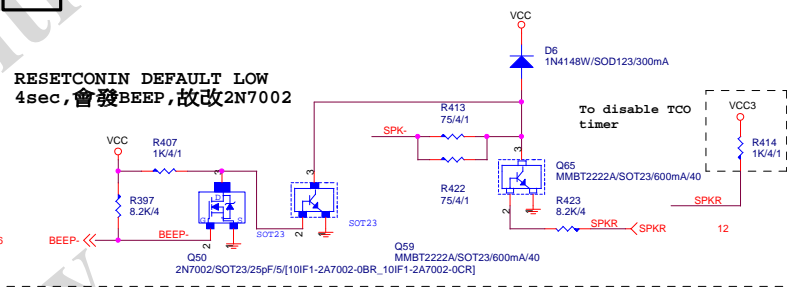


SATA LED

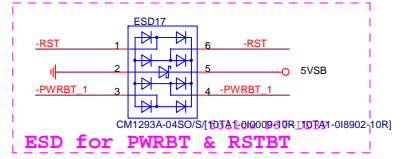


SPKR

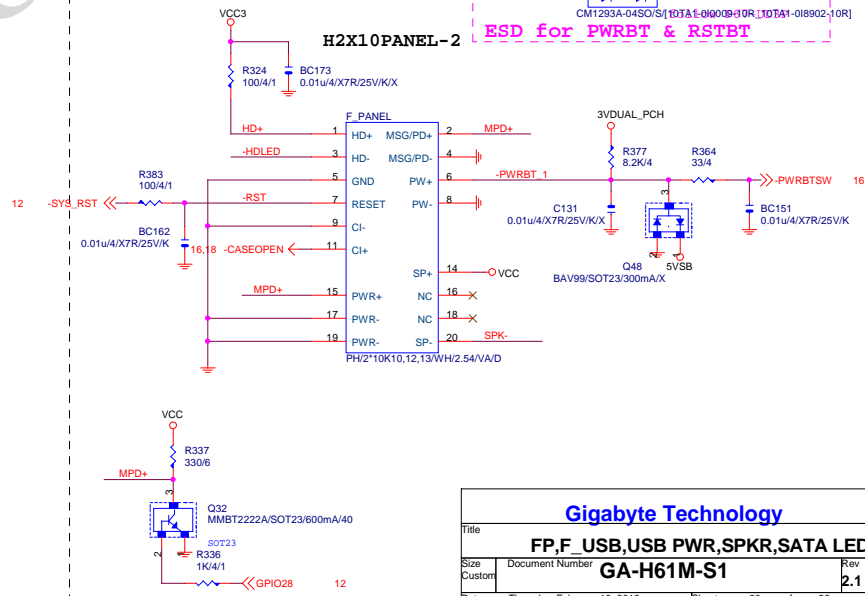
RESETCONIN DEFAULT LOW
4sec, 會發BEEP, 故改2N7002



INTEL FRONT PANEL



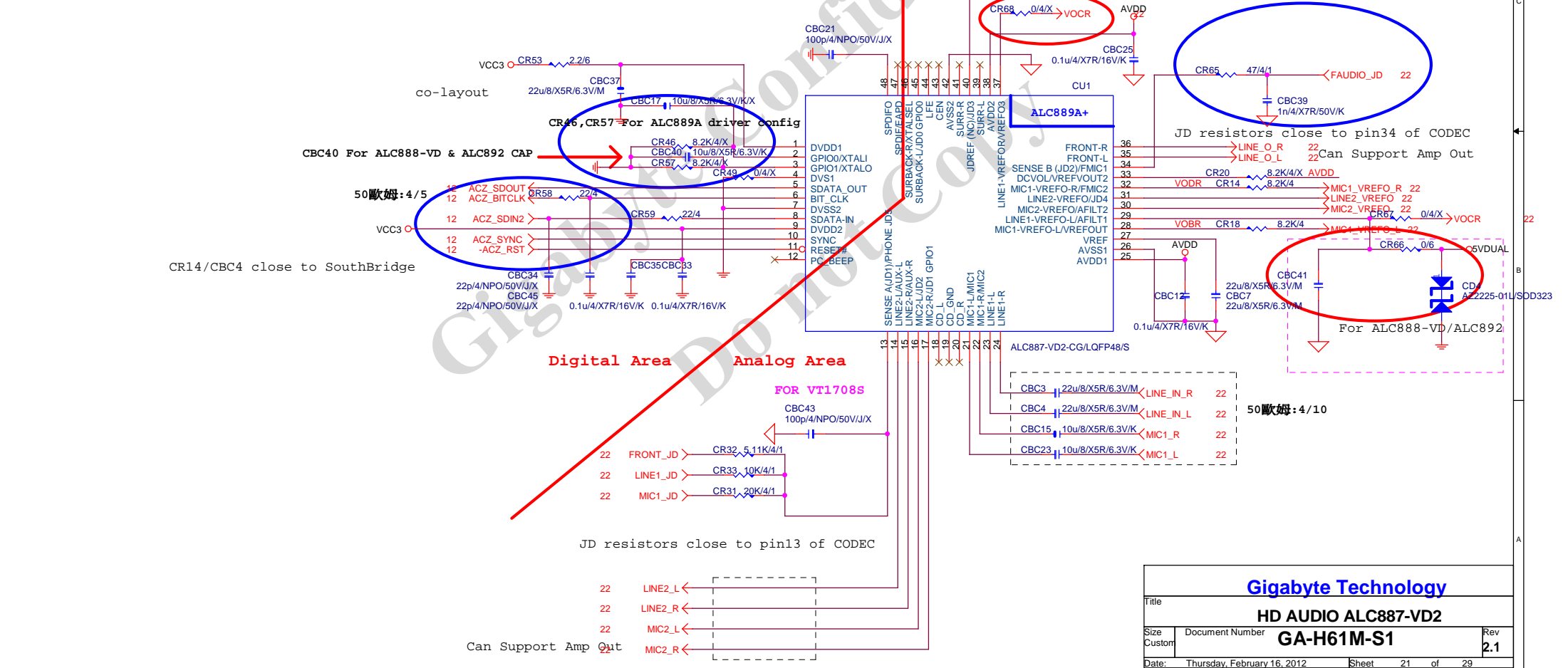
H2X10PANEL-2



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Title	FP,F_USB,USB PWR,SPKR,SATA LED	
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	ALC883	ALC888-VA	ALC888B	ALC888-VD	ALC892R	ALC889	ALC889A
CR46	X	X	X	X	X	X	O
CR57	X	X	X	X	X	X	O
CR49	O	O	X	X	X	O	O
CBC40	X	X	X	10uF/X5R	10uF/X5R	X	X
CR20	O	X	X	X	X	X	X
CR26	20K/1%	20K/1%	20K/1%	20K/1%	20K/1%	20K/1%	20K/0.1%
CR47	X	X	O	X	O	O	X
CR48	O	O	X	O	X	X	O
CBC2/CBC4/CBC5/CBC6/CBC10/CBC11	4.7uF/X5R	4.7uF/X5R	4.7uF/X5R	4.7uF/X5R	4.7uF/X5R	10uF/X5R	4.7uF/X5R
CR1/CR3/CR10/CR12/CR15/CR19/CR56/CR27/CR55/CR37/CR28/CR34/CR6/CR9/CR51/CR61	75 ohm	75 ohm	75 ohm	75 ohm	75 ohm	66 ohm or lower	75 ohm
CR66/CR68/CD3/CBC41	X	X	X	O	X	X	X
CR67/CD1/CD2/CQ3/CQ5	O	O	O	X	O	O	O



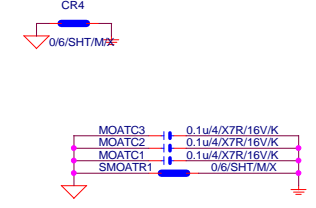
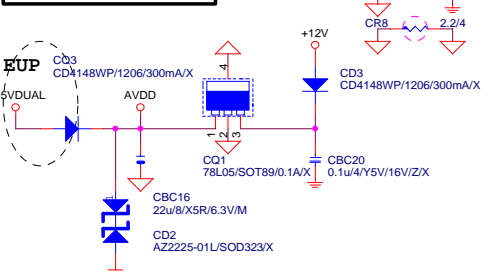
Gigabyte Technology

HD AUDIO ALC887-VD2

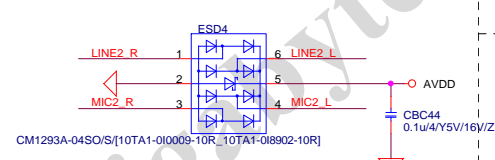
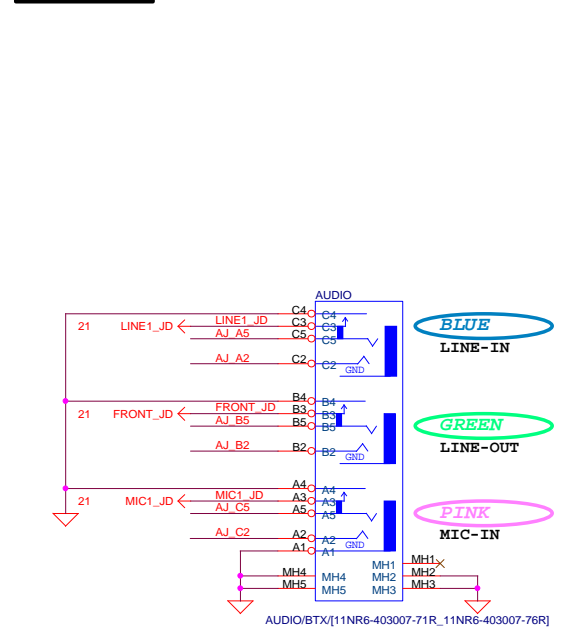
GA-H61M-S1

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 Custon: **GA-H61M-S1**
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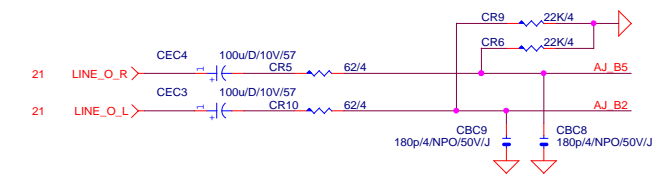
CODEC POWER/EMI PAD



AZALIA JACK

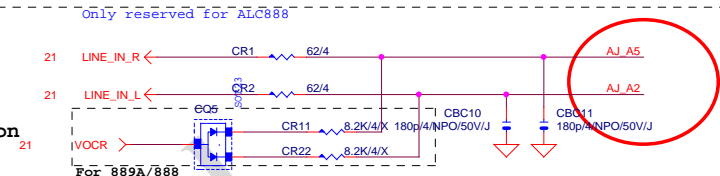


LINE-OUT

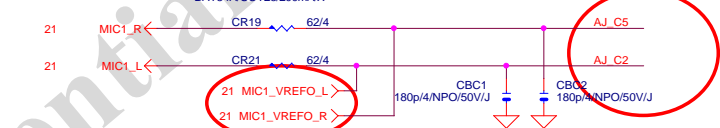


LINE-IN

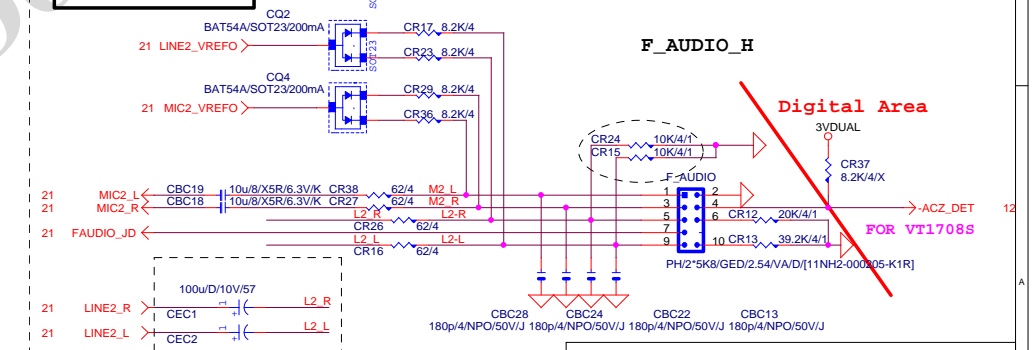
Verify MIC function in LINE-in



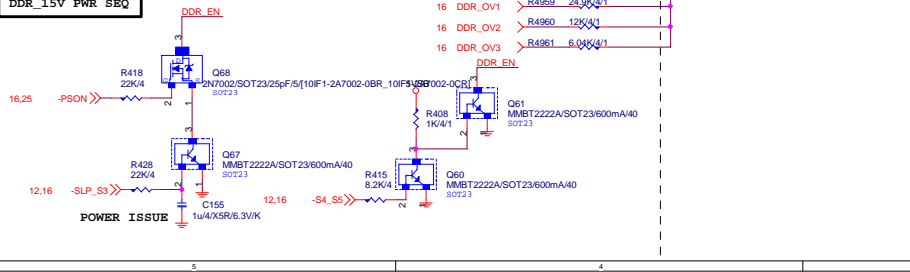
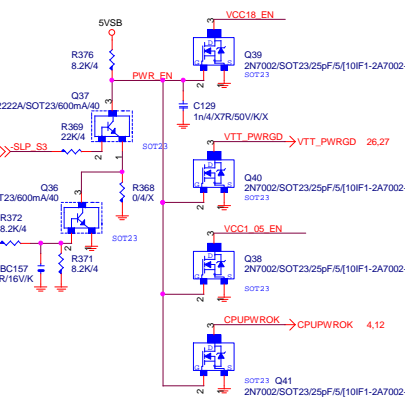
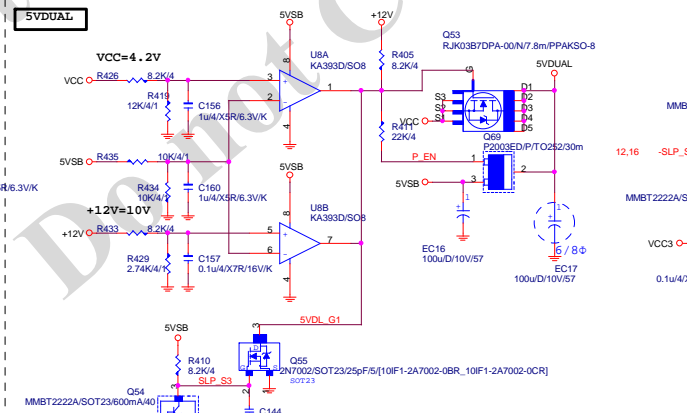
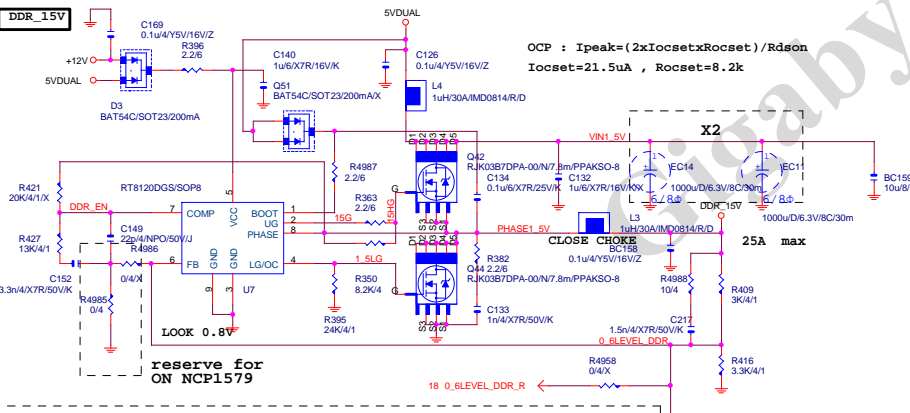
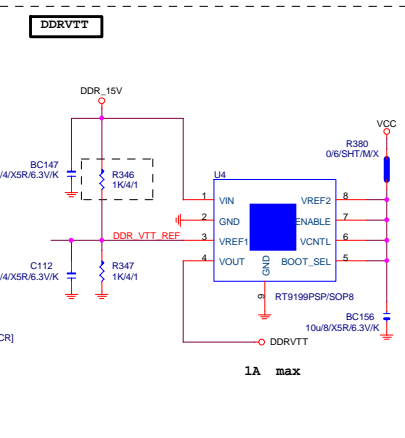
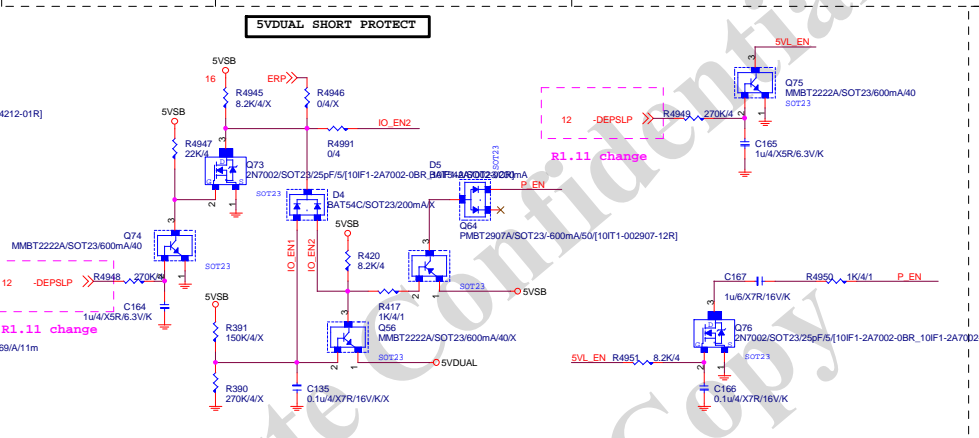
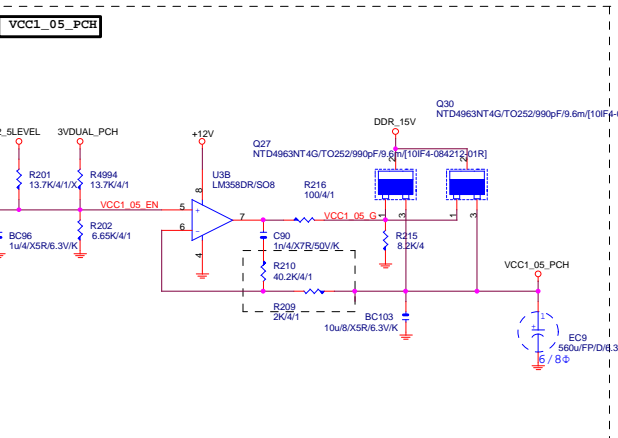
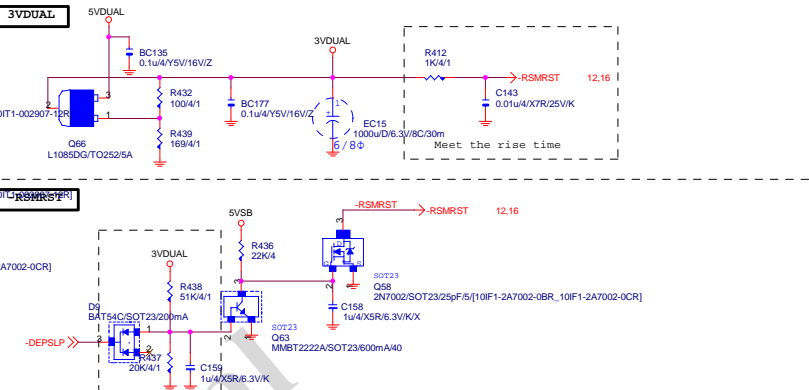
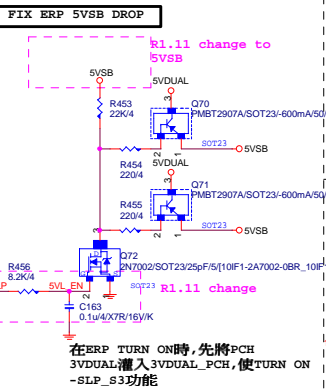
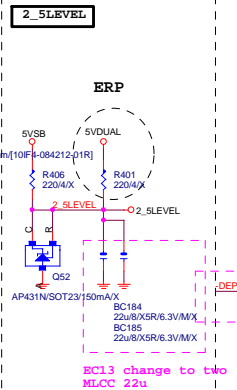
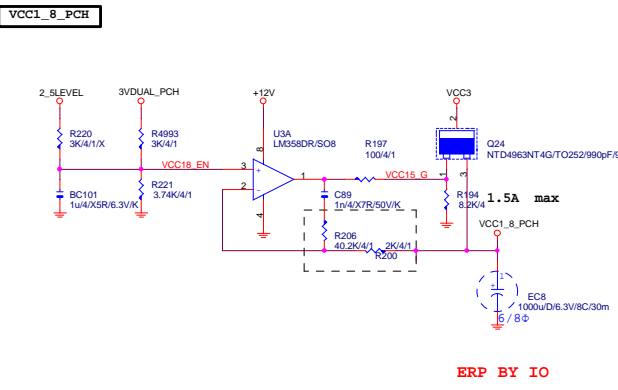
MIC-IN



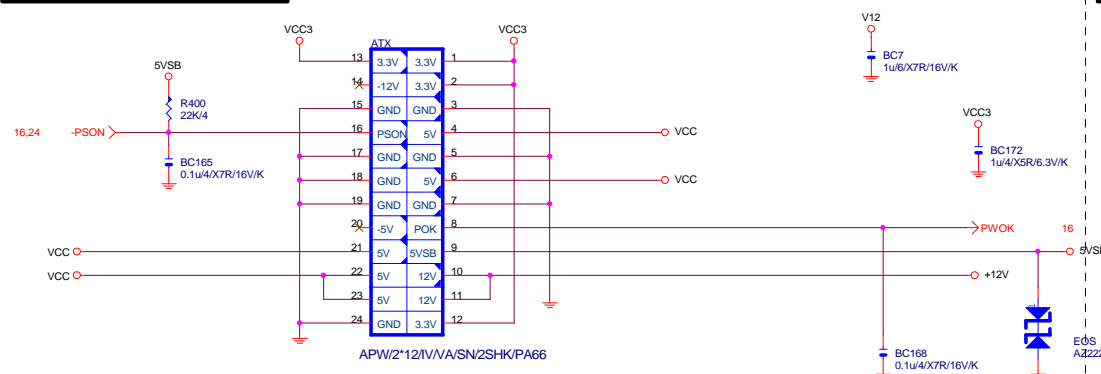
AZALIA FRONT PANEL



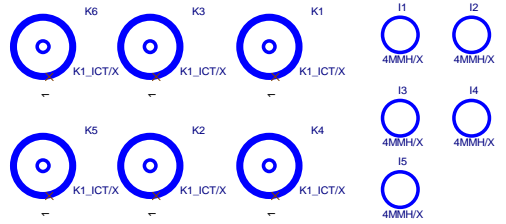
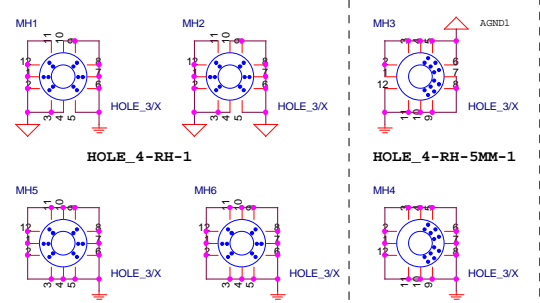
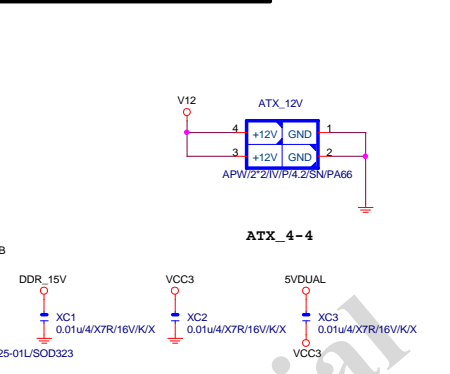
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AUDIO JACK		
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ATXX24 POWER CONNECTOR



ATXX4 POWER CONNECTOR

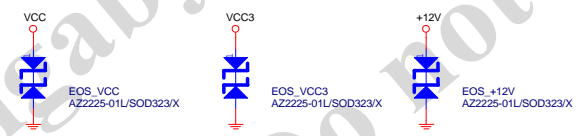


To prevent the 5VSB under loading when boot

5VDUAL1 (USB PORT/DDR.III POWER)
5VDUAL (3VDUAL/OTHER)

-S_WARN-->5VDUAL1-->-S_ACK (PCH) -->-DEPSLP/-RSMRST-->5VDUAL-->3VDUAL

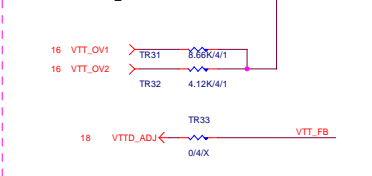
HOLE_4-RH-5MM-1



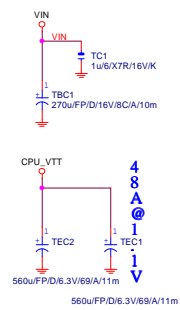
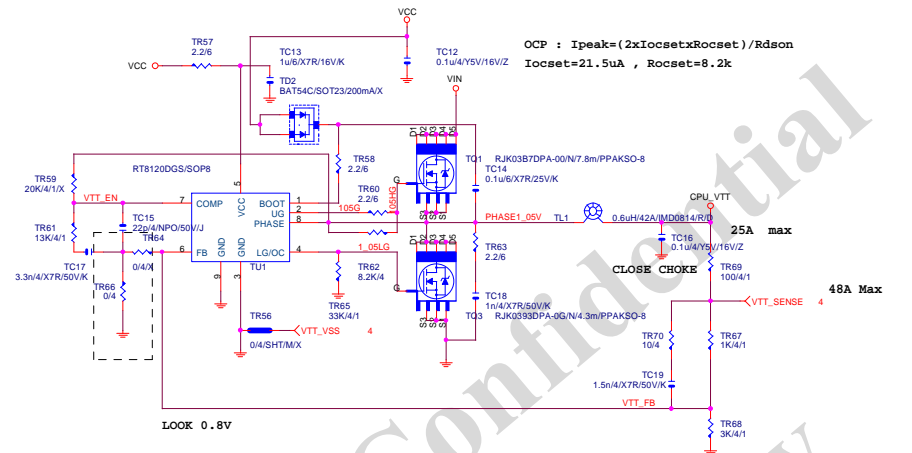
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ATX CONNECTOR		
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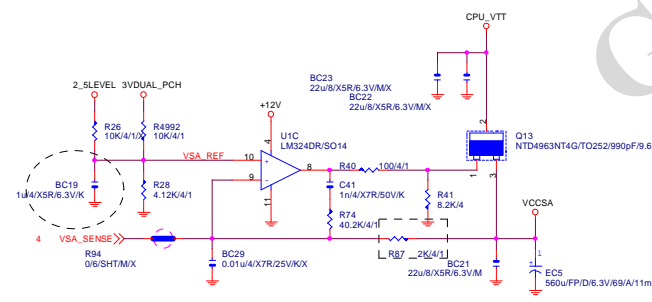
VTT OV option



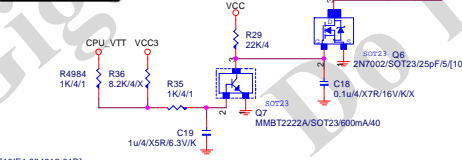
VTT_EN	
HI	ENABLE
LO	DISABLE



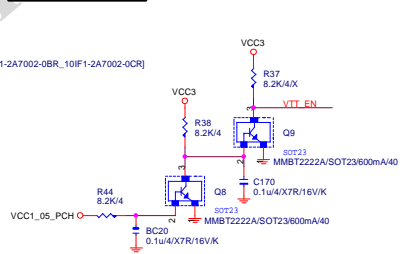
VCCSA



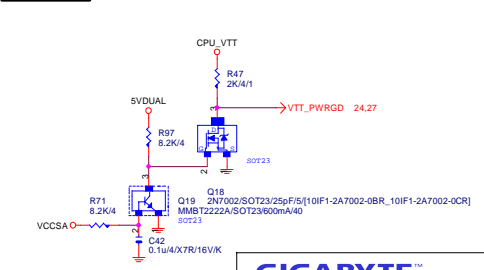
VCCSA PWR SEQ

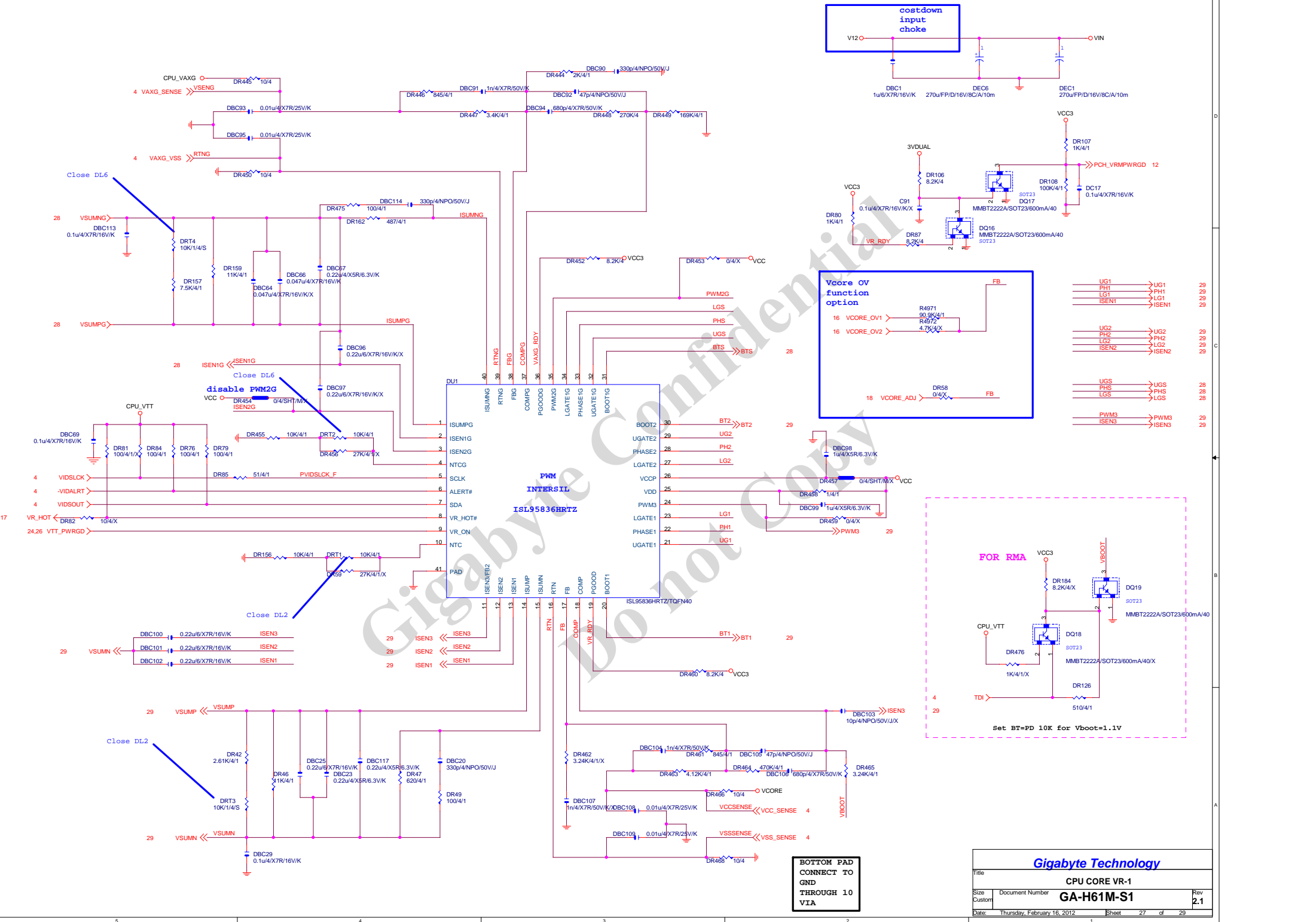


CPU_VTT PWR SEQ

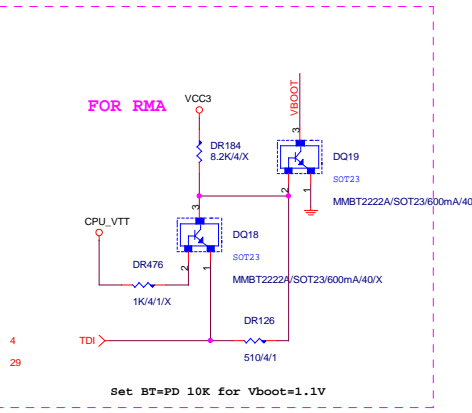
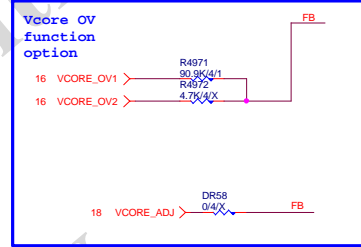


VTT_PWRGD





costdown
input
choke



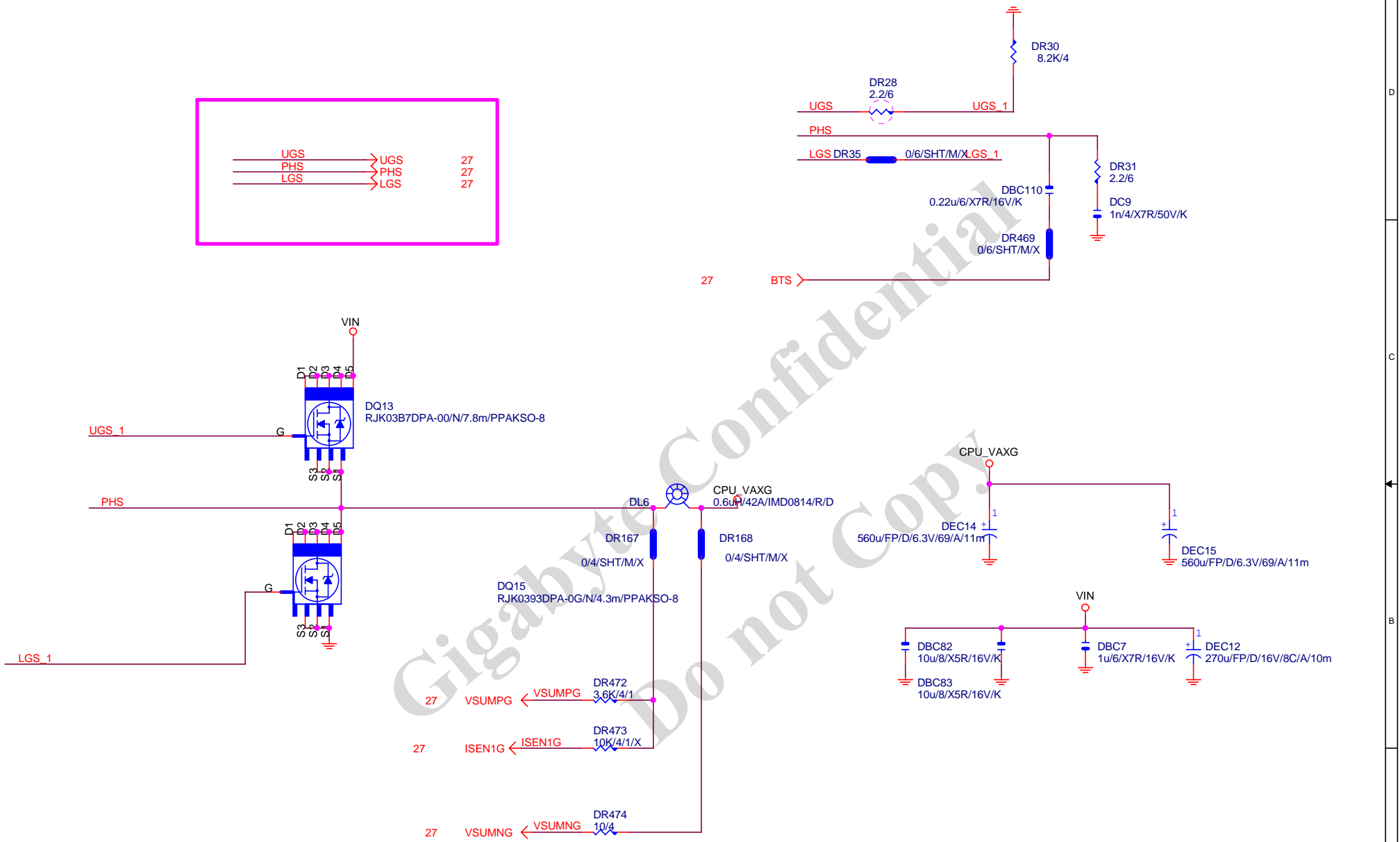
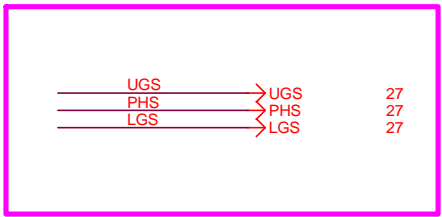
PWM
INTERSiL
ISL9583HRTZ

**BOTTOM PAD
CONNECT TO
GND
THROUGH 10
VIA**

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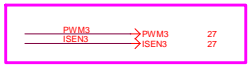
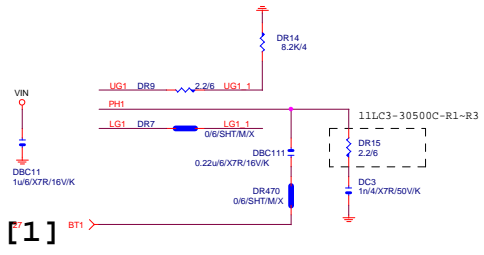
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VAXG

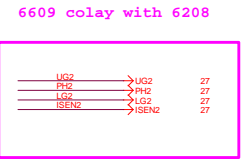
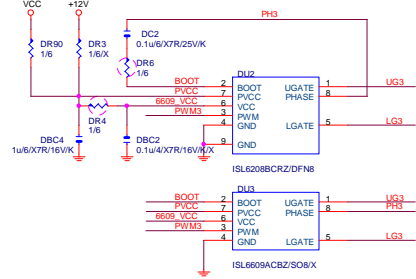


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Title CPU CORE VR-2		
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Pop 1S16625CB for PBT
[1S16625CBZ/908]



6609 colay with 6208

