

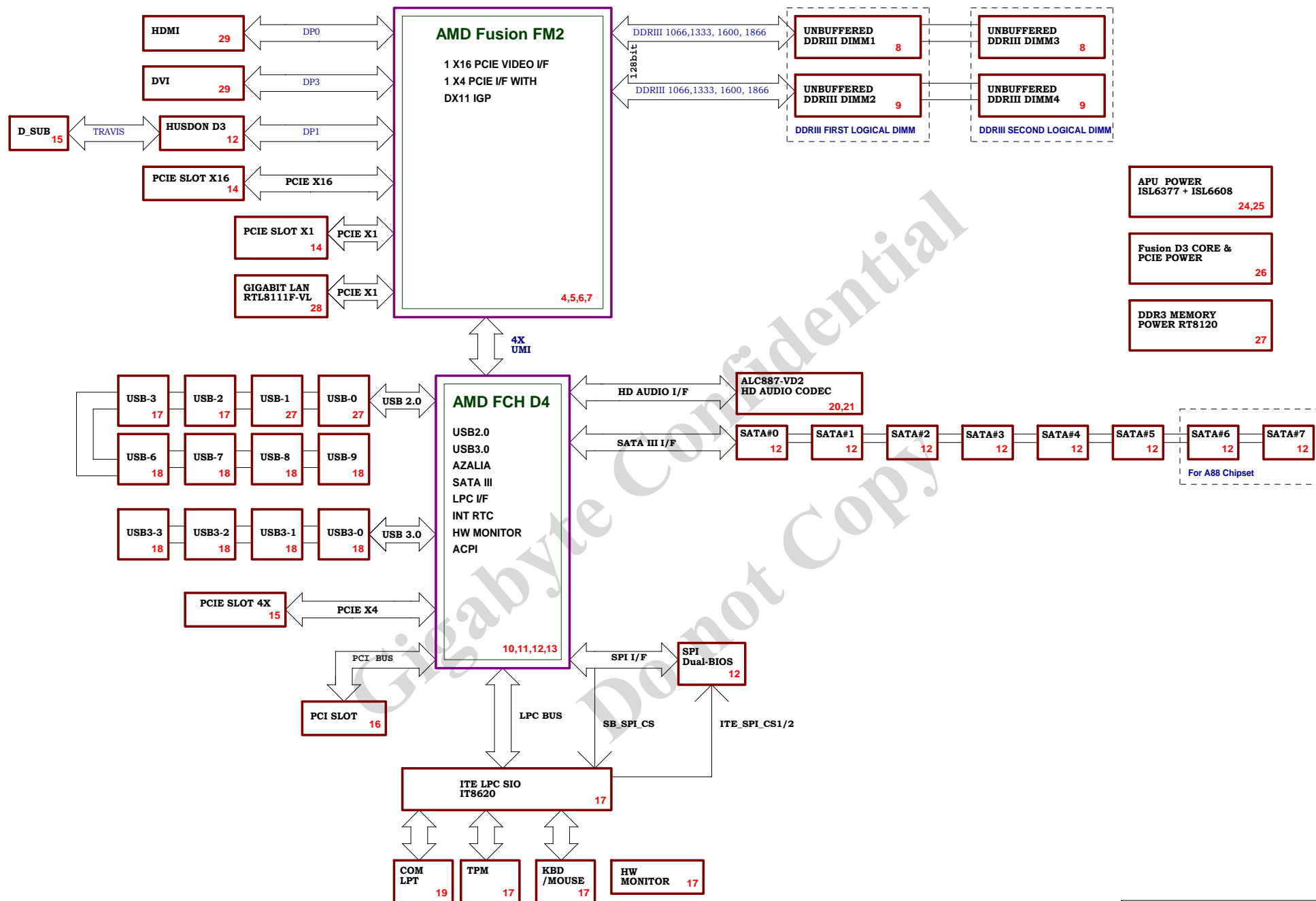
01	COVER SHEET
02	BOM & PCB MODIFY HISTORY
03	BLOCK DIAGRAM
04	APU DDRIII MEMORY
05	APU CONTROL
06	APU GFX, GPP, UMI I/F
07	APU POWER & GND
08	DDRIII CHANNEL A
09	DDRIII CHANNEL B
10	HUDSON D4 UMI/PCIE/PCI/LPC/CPU
11	HUDSON D4 ACPI/USB/GPIO/AUDIO
12	HUDSON D4 SATA/SPI/RGB
13	HUDSON D4 POWER & GND
14	PCI EXPRESS x16 ,x1
15	PCI EXPRESS x4, VGA CONNECTOR
16	PCI SLOT
17	ITE 8620 , KB/MS. HWMO,TPM
18	F_USB, F_USB30 ,R_USB30
19	FAN/COM/LPT/MOSFET HOT
20	ALC887-VD2 CODEC
21	AUDIO JACK
22	ATX, FRONT PANEL
23	POWER SEQUENCE
24	VCORE (PWM ISL6377)
25	VCORE MOS

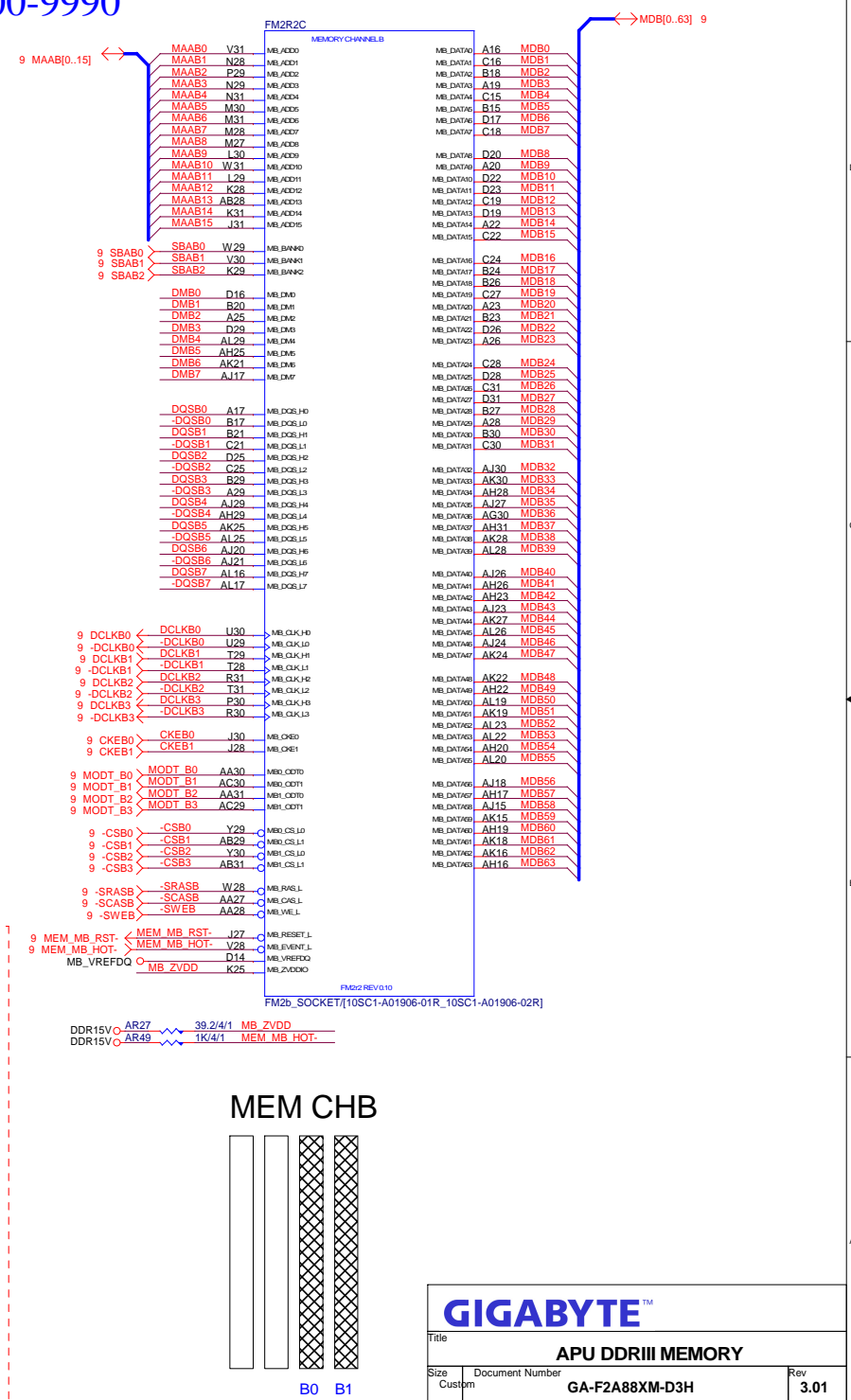
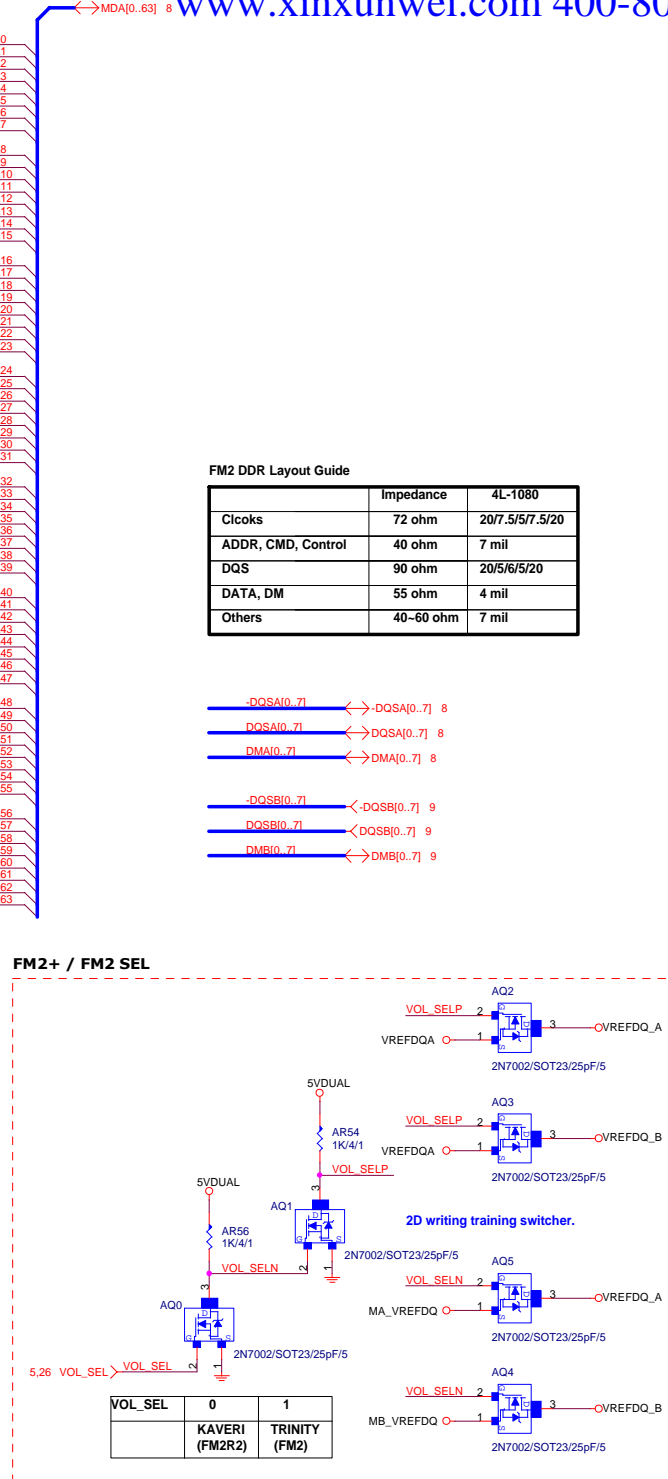
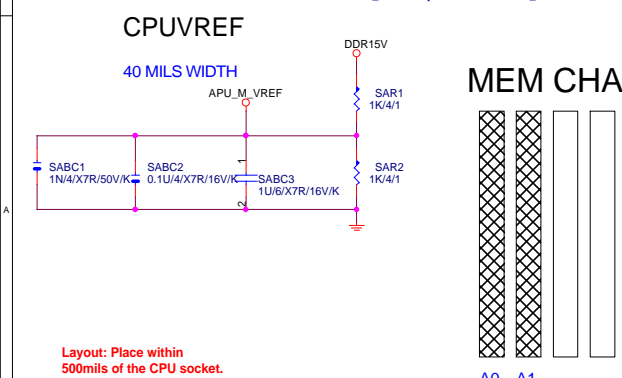
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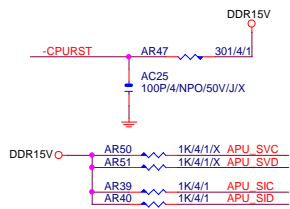
```
APU_VDDIO_SUS=DDR15V
APU_VTT_SUS=DDRVTT
APU_VDDP_RUN=APU_VDDR_RUN=APU_VDDP
```

+1.1V_RUN=FCH_VDD_11_RUN=VCC_SB

```
+3.3V_RUN=VCC3
+3.3V_ALW=3VDUAL
```

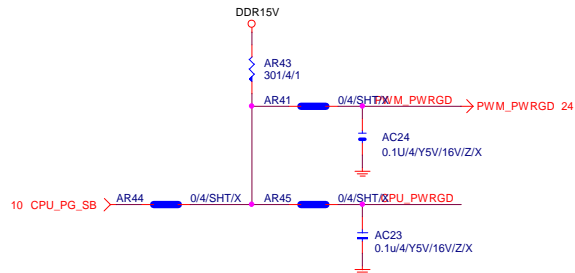





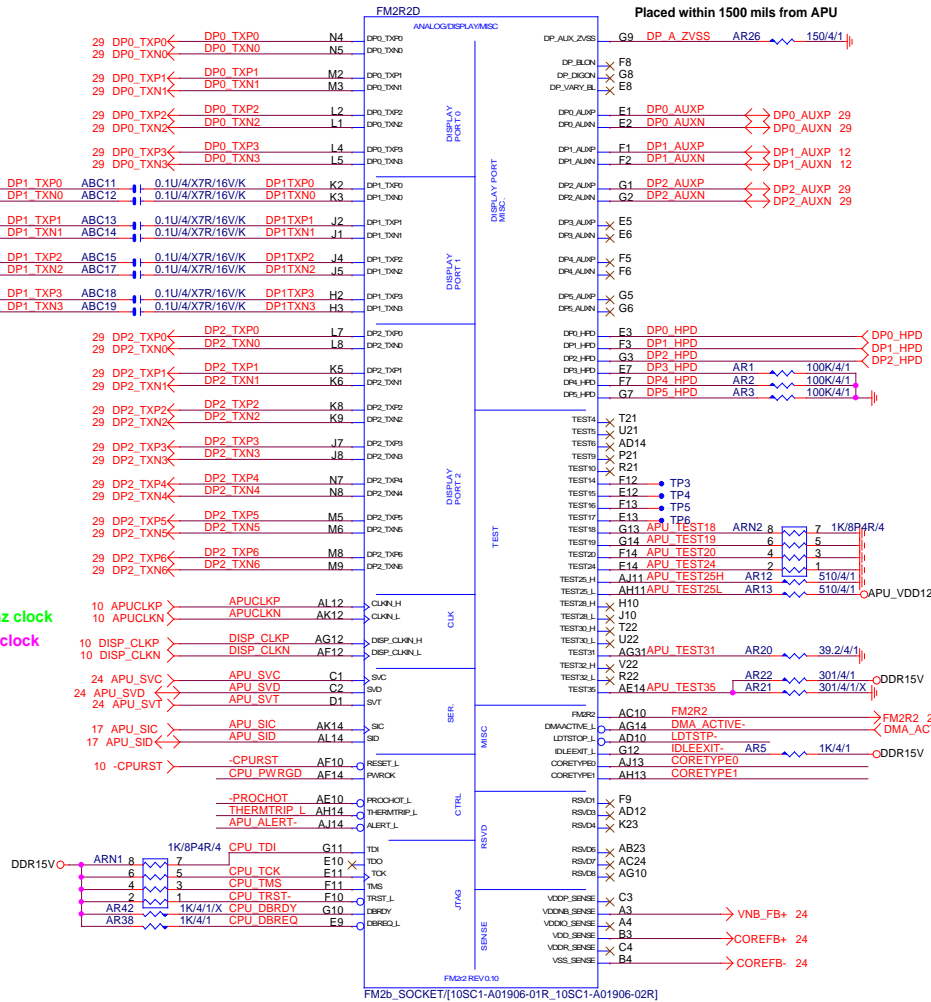


FM2 CPU Clock Layout Guide

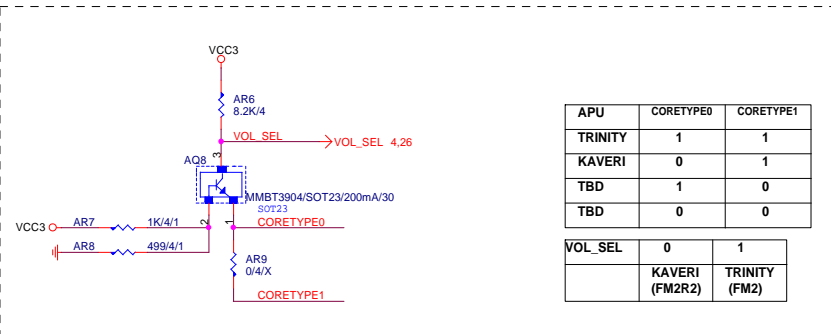
	Impedance	4L-1080
APU Clock	85 ohm	20/4.5/7.5/4.5/20
DISP Clcok	85 ohm	20/4.5/7.5/4.5/20
DP TX/RX	85 ohm	20/4.5/7.5/4.5/20
	55 ohm	4 mil
	40-60 ohm	7 mil



APU Spread 100Mhz clock
DP Non-Spread 100Mhz clock

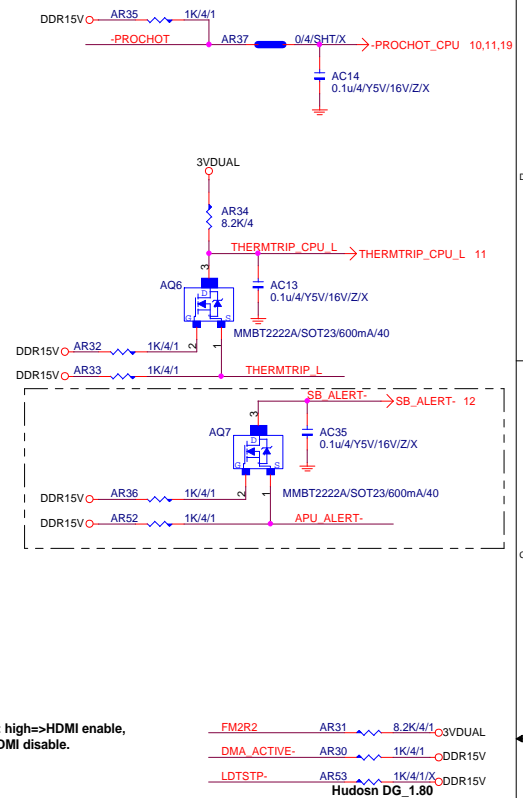


FM2+ / FM2 SEL



APU	CORETYPE0	CORETYPE1
TRINITY	1	1
KAVERI	0	1
TBD	1	0
TBD	0	0

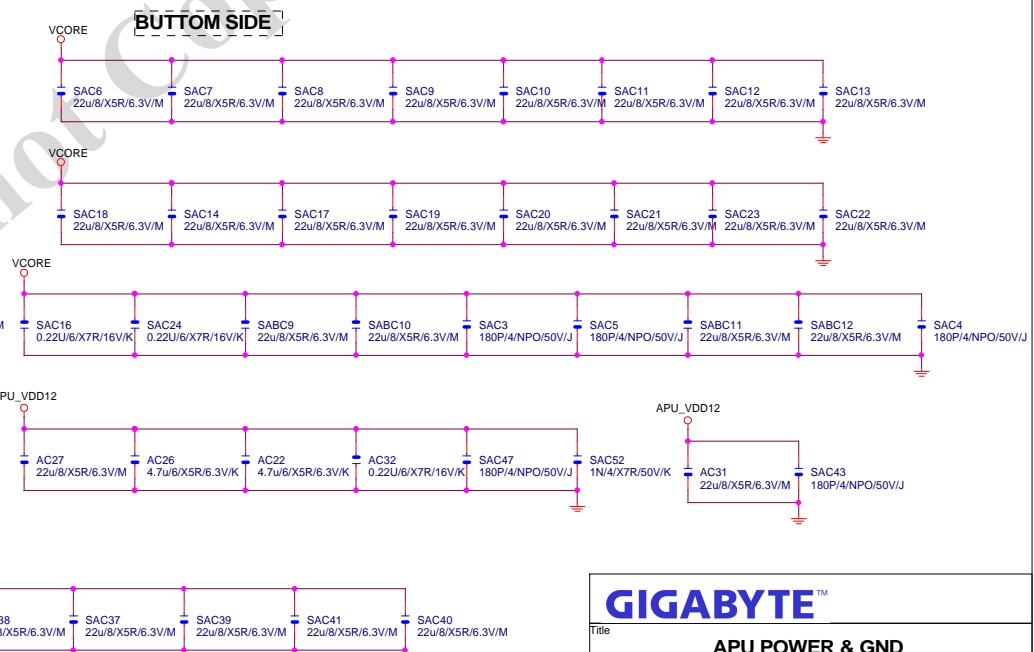
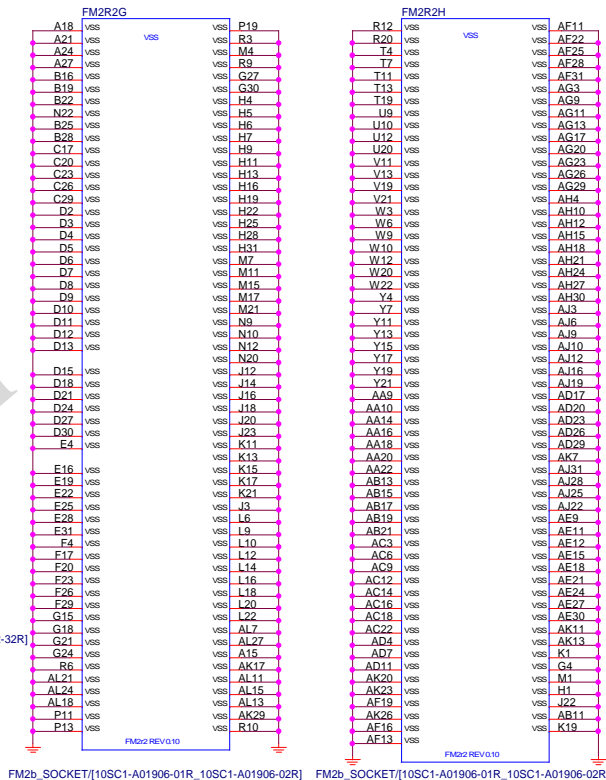
VOL_SEL	0	1
	KAVERI (FM2R2)	TRINITY (FM2)

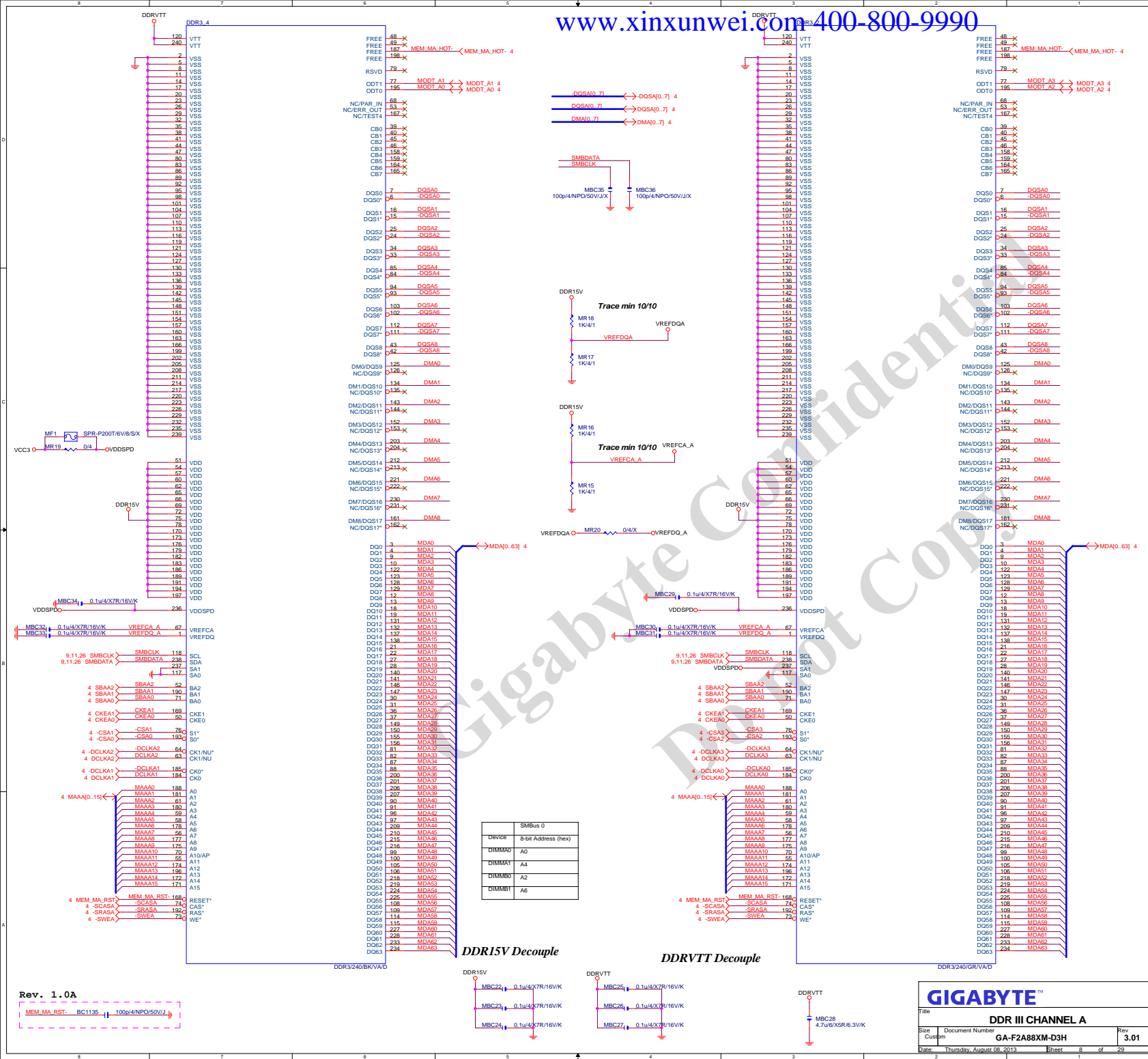


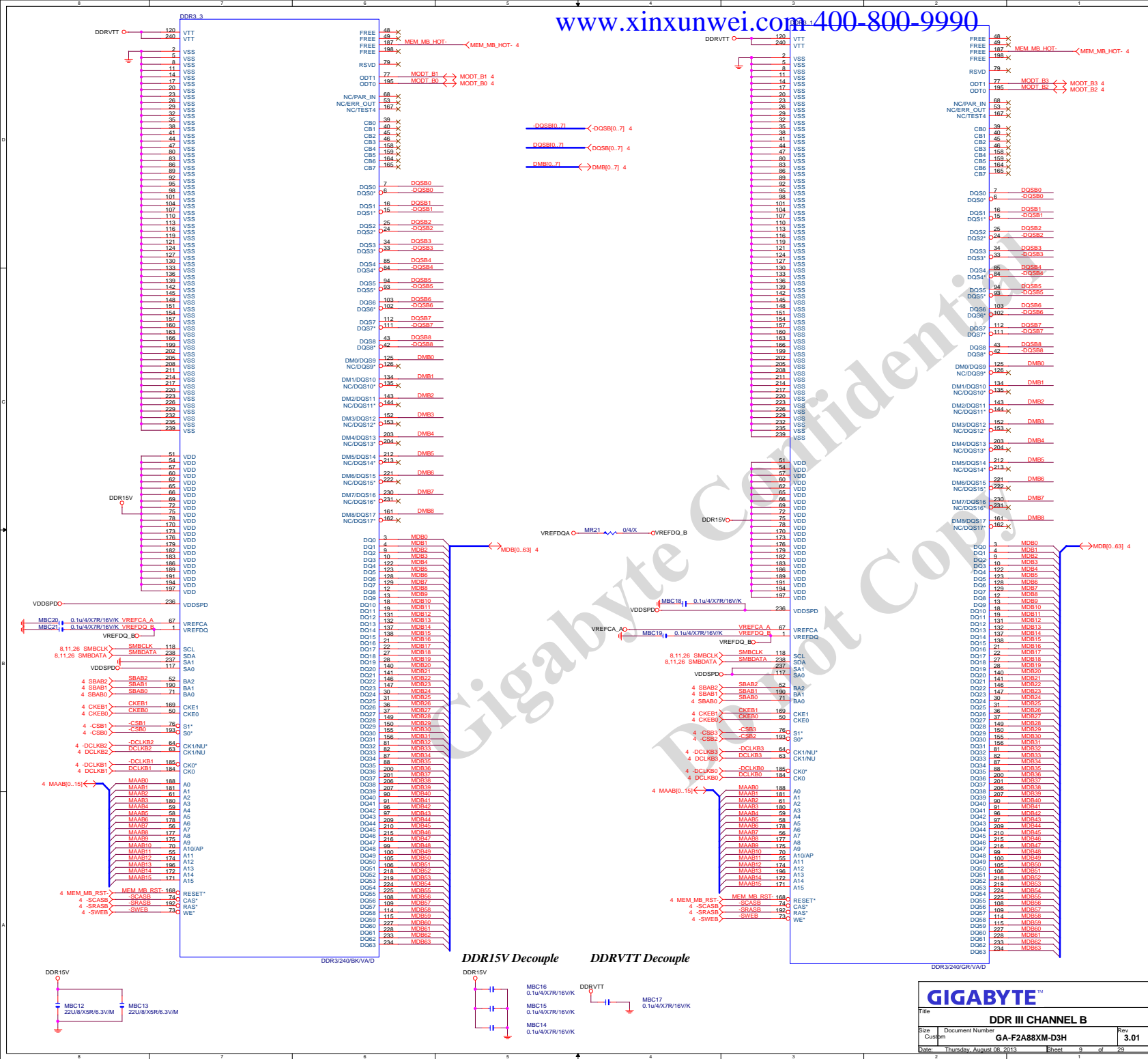
Group	APU FM2
Group A	VDDA25:1.8~2.7V/0.5A
Group A	DDR15V:0.8~2.3V/30A
Group B	VCORE: 0.8~2.0V/120A
Group B	VCORE_NB:1.2V/50A
Group B	VDDP:1.2V/5A
Group B	VDDR:1.2V/5A

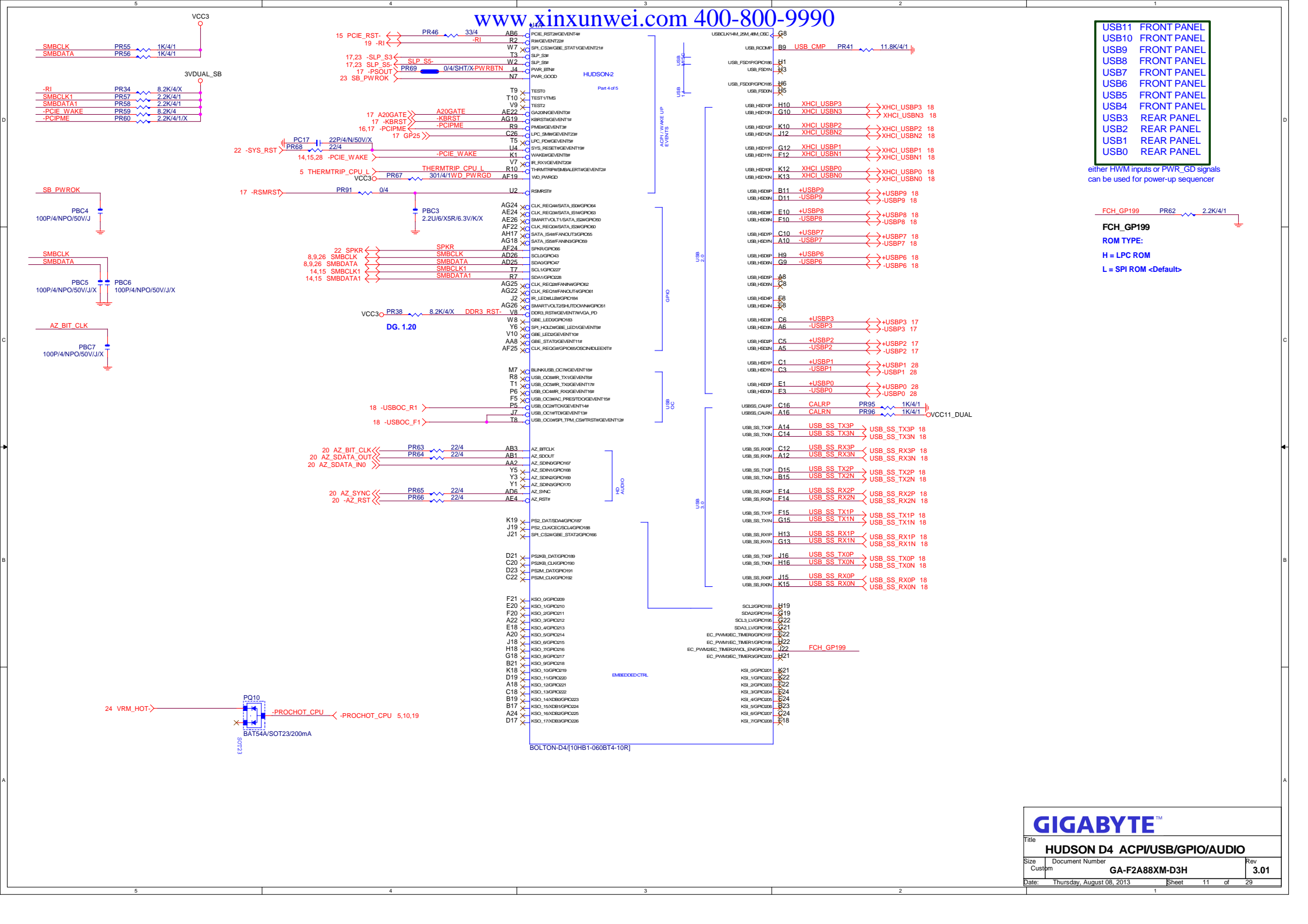
Gropu A must early than Group B



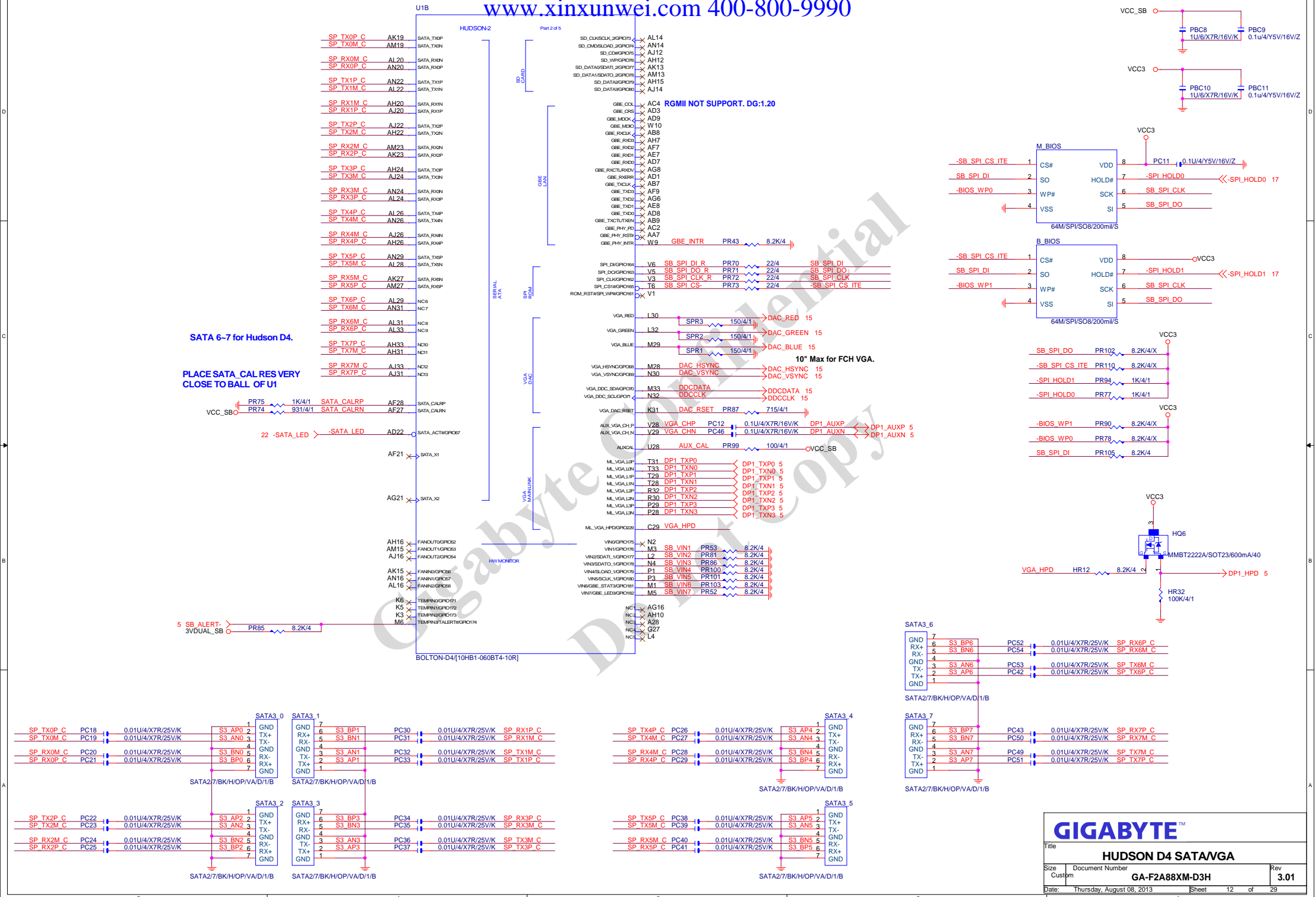


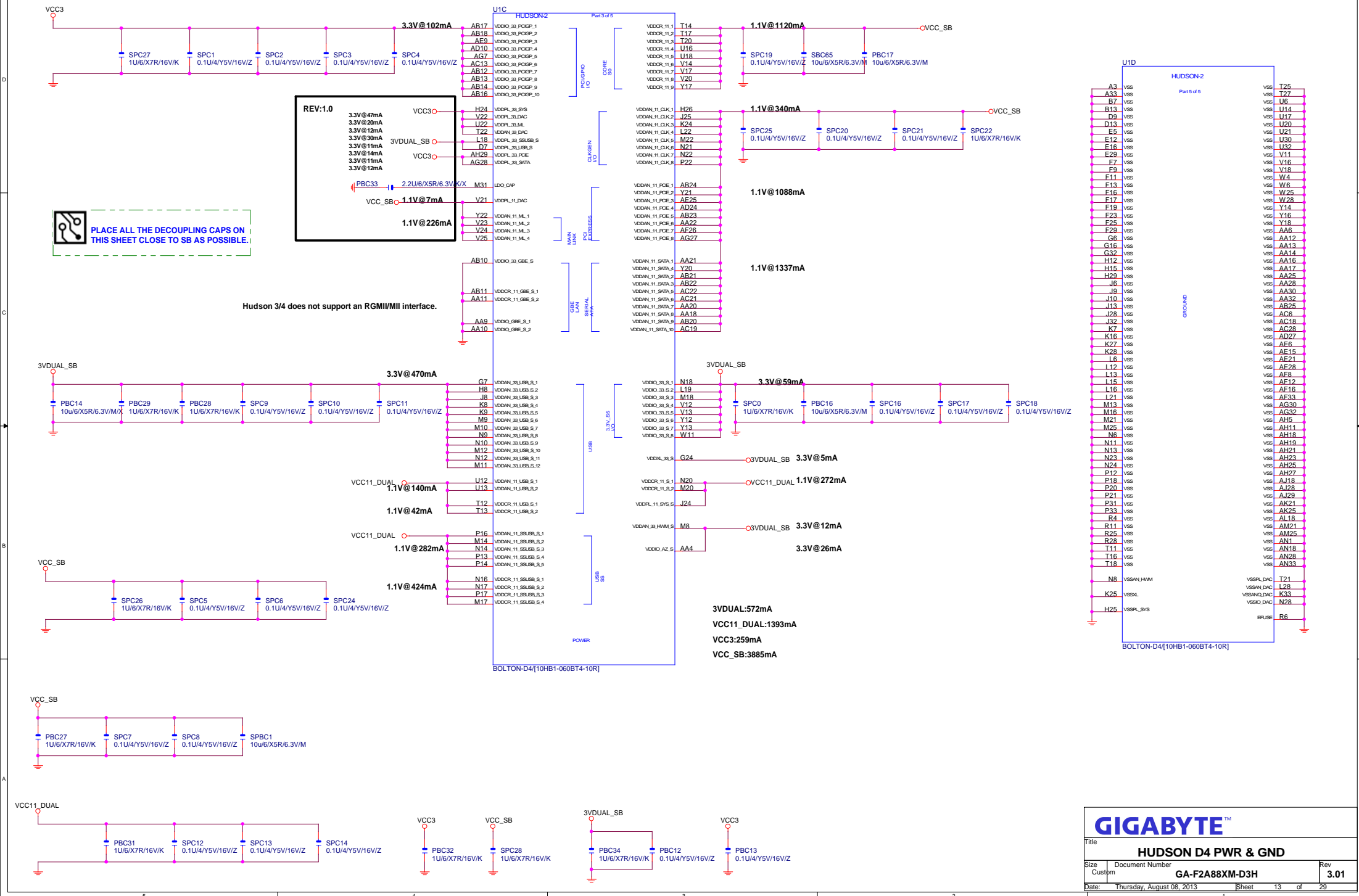


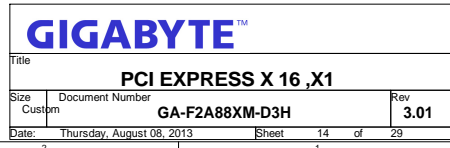


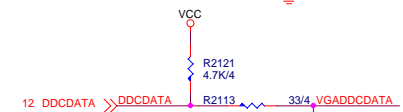
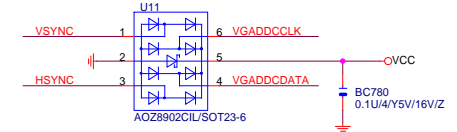


L = SPI ROM <Default>





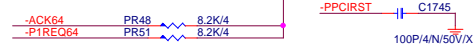
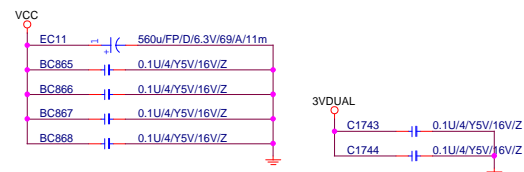
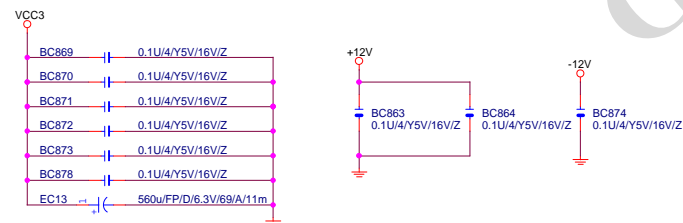
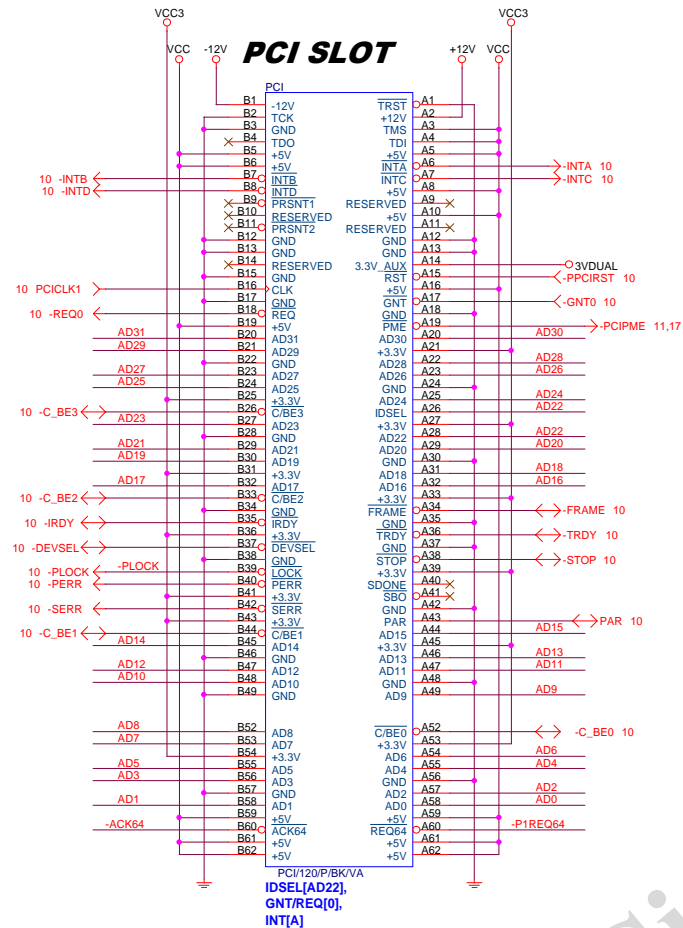




PCI SLOT 1,2

10 AD[0..31] <-> AD[0..31]

PCI SLOT



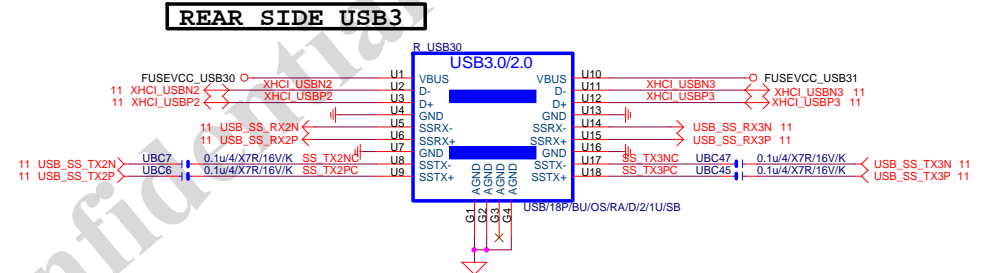
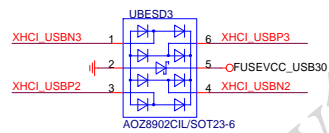
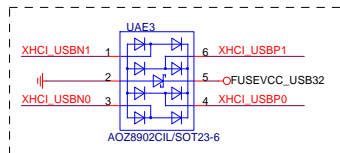
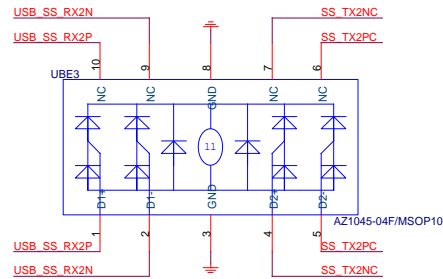
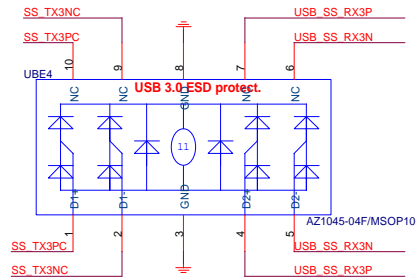
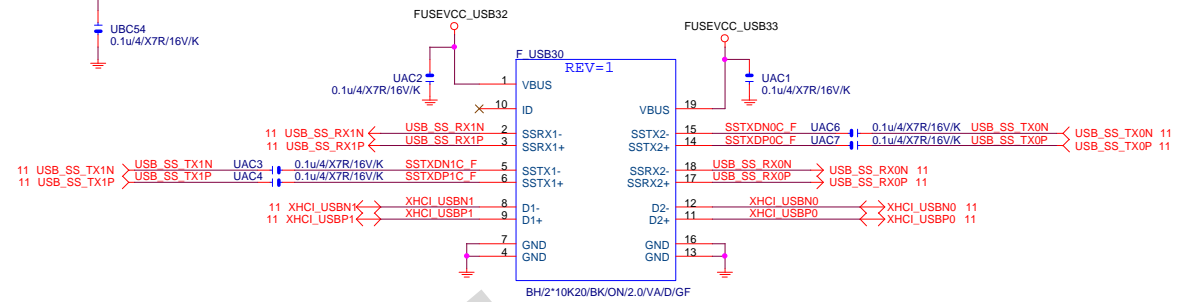
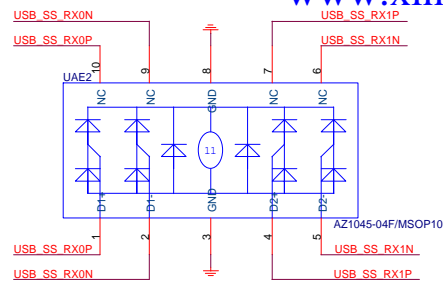
GIGABYTE™

Title

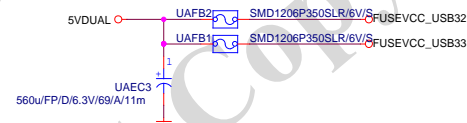
PCI SLOT

Size
CustomDocument Number
GA-F2A88XM-D3HRev
3.01

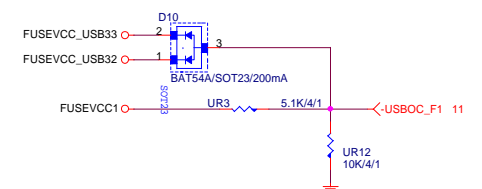
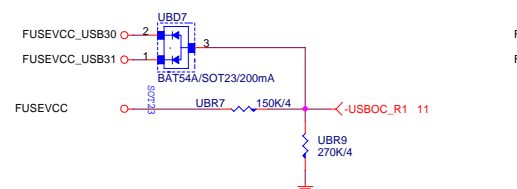
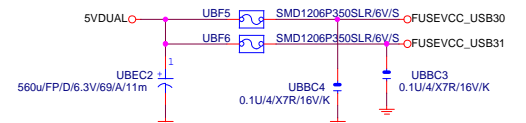
Date: Thursday, August 08, 2013 Sheet 16 of 29



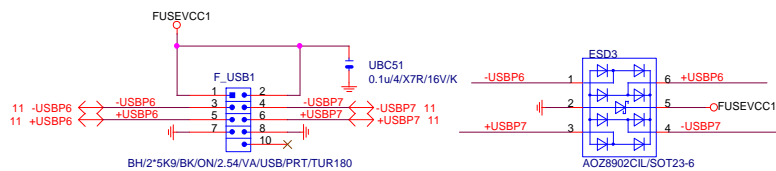
FRONT SIDE



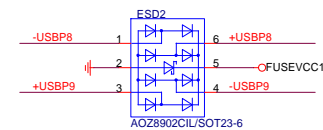
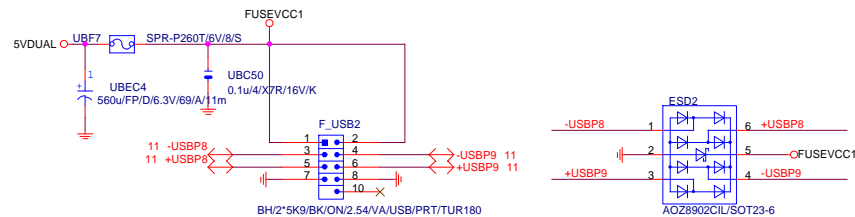
REAR SIDE



FRONT SIDE USB1

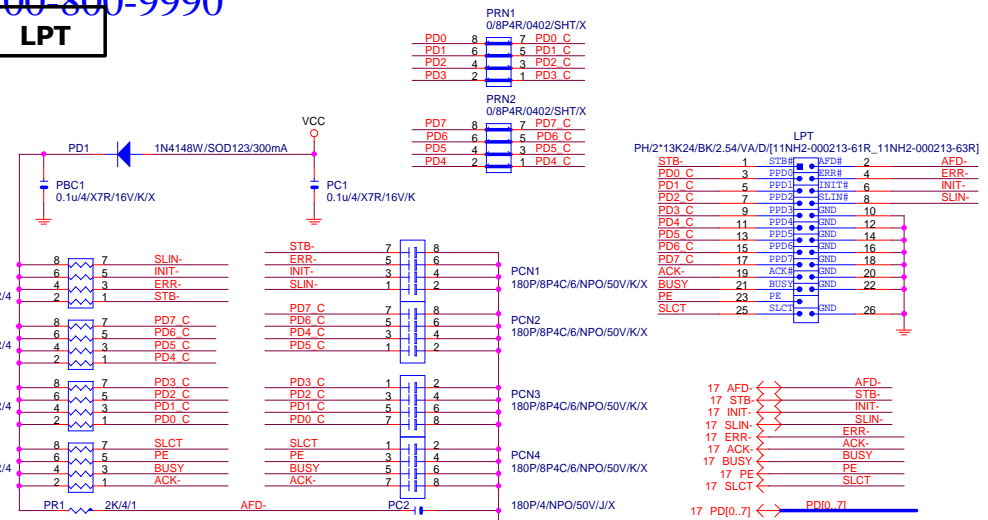
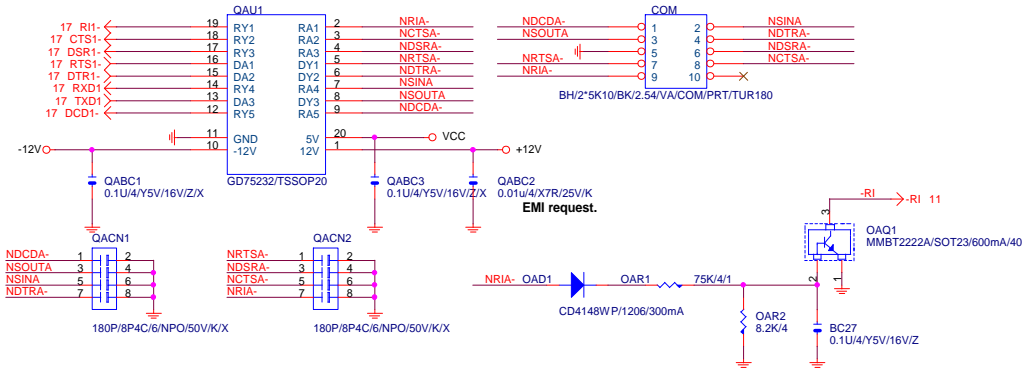


FRONT SIDE USB2



COM

LPT



MOSFET Hot Protection

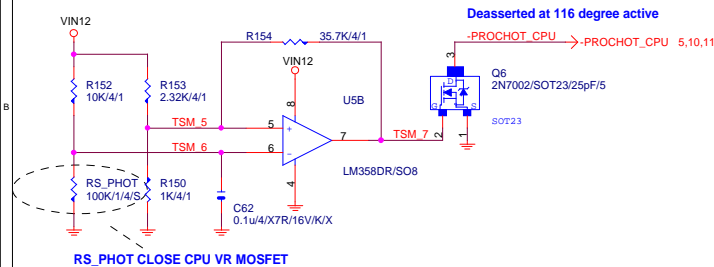
CPU SMART FAN

SYSTEM FAN1

Linear SYS_FAN

Enable Function (NCT3941S)

Full Turn On Function (NCT3941S-A)



SYSTEM FAN2

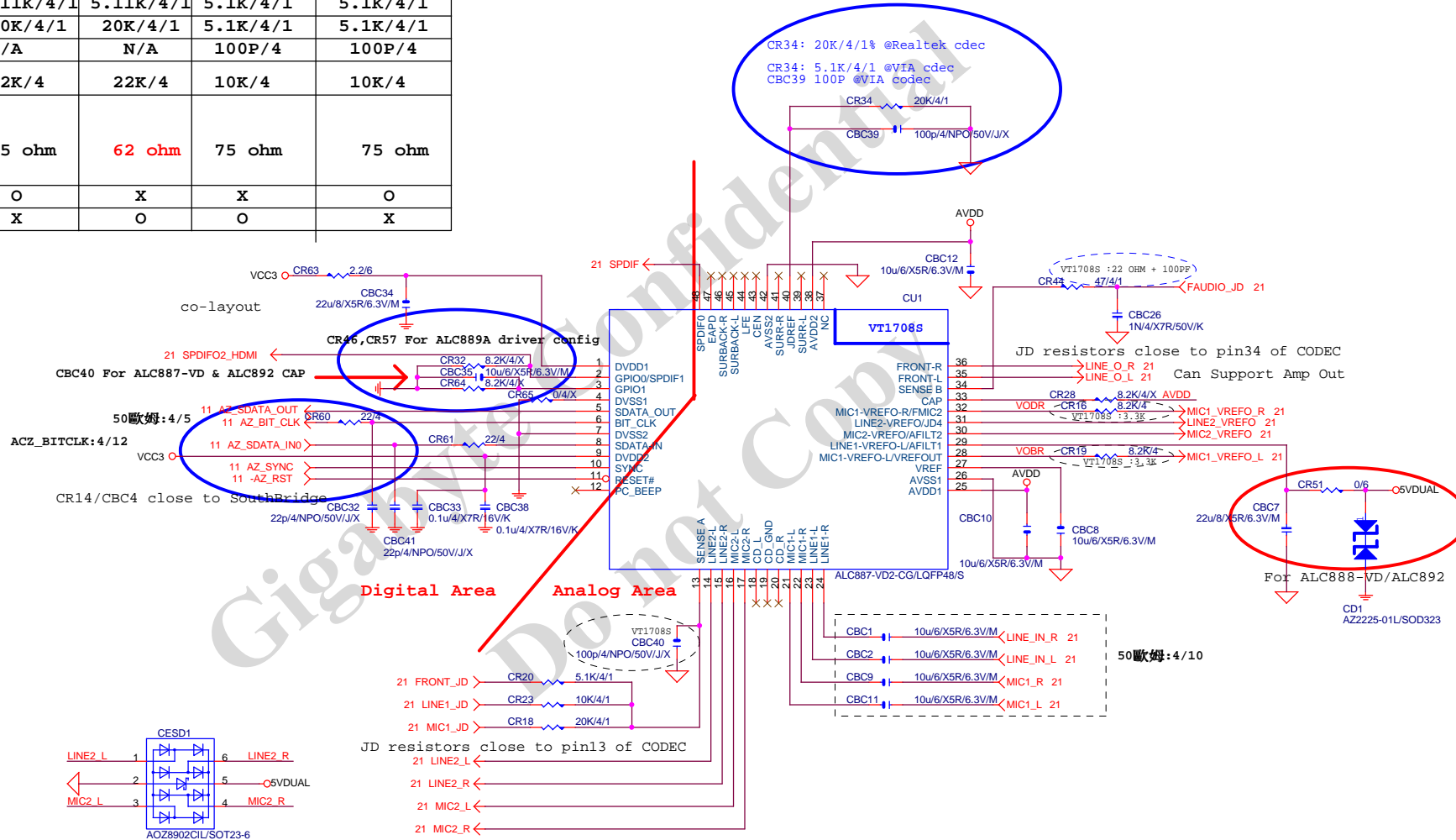
GIGABYTE™

Title CPU & SYS FAN COM,LPT,MOSFET HOT

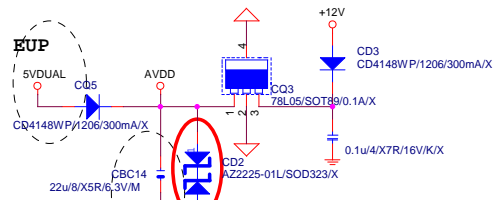
Size Custom Document Number GA-F2A88XM-D3H Rev 3.01

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	ALC887~VD2	ALC889	VT1708S	VT1708SCE
CR65	X	O	O	X
CR64	X	X	X	O
CR44/CBC6	47ohm+1nF	47ohm+1nF	22ohm+100P	22ohm+100P
CR34	20K/1%	20K/1%	5.1K/1%	5.1K/1%
CR31	O	O	O	O
CR30	X	X	X	X
CBC1/CBC2	22uF/X5R	22uF/X5R	22uF/X5R	22uF/X5R
CR20	5.11K/4/1	5.11K/4/1	5.1K/4/1	5.1K/4/1
CR34	20K/4/1	20K/4/1	5.1K/4/1	5.1K/4/1
CBC39/CBC40	N/A	N/A	100P/4	100P/4
CR6/CR7/CR54/CR58	22K/4	22K/4	10K/4	10K/4
CR5/CR8/CR1/CR14/ CR17/CR22/CR13/CR11/ CR57/CR53	75 ohm	62 ohm	75 ohm	75 ohm
CR51/CD1/CBC7	O	X	X	O
CD2/CD3/CQ3/CQ5	X	O	O	X



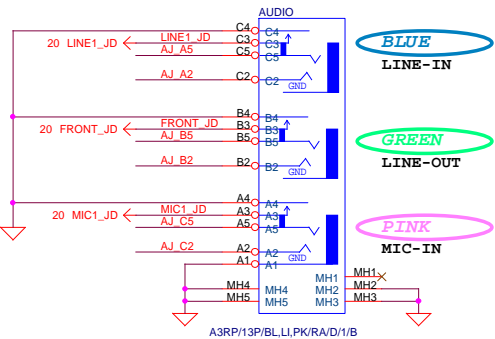
CODEC POWER/EMI PAD



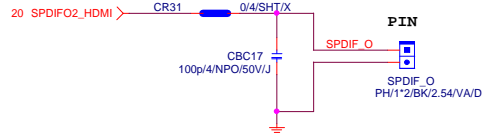
上ALC892時,此類電容要保留

ADD CD2 For ESD PROTECT DIODE

HD Audio Jack

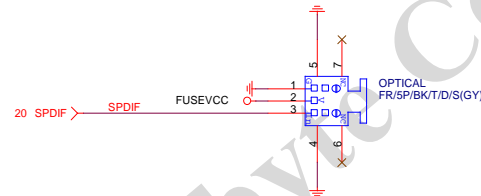


SPDIF_OUT



For HDMI SPDIF

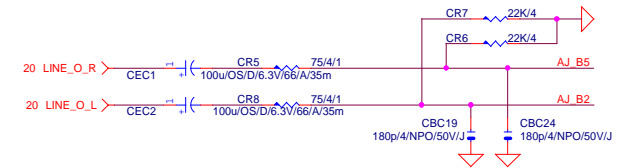
2 type Connector Co-lay



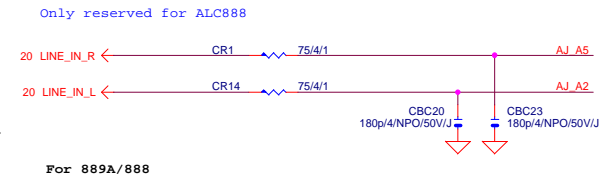
1.0/1.1 Selection

	HDMI_SPDIF	OPTICAL	CR40
Rev: 1.0	V	X	V
Rev: 1.1	HDMI	V	X

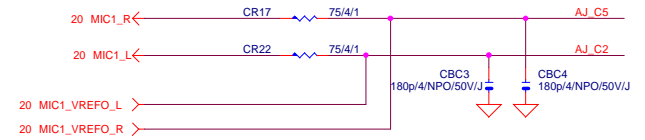
LINE-OUT



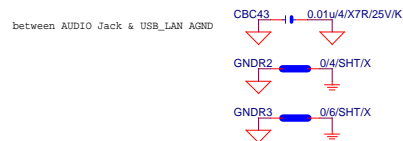
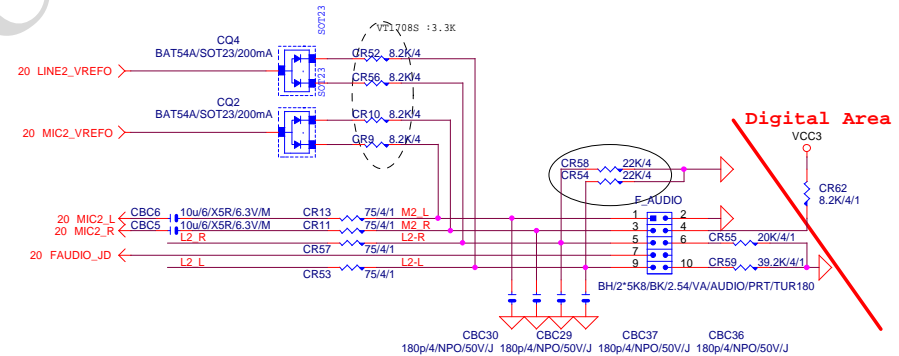
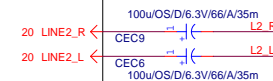
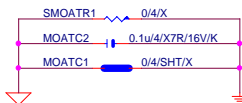
LINE-IN

Verify MIC function
in LINE-in

MIC-IN

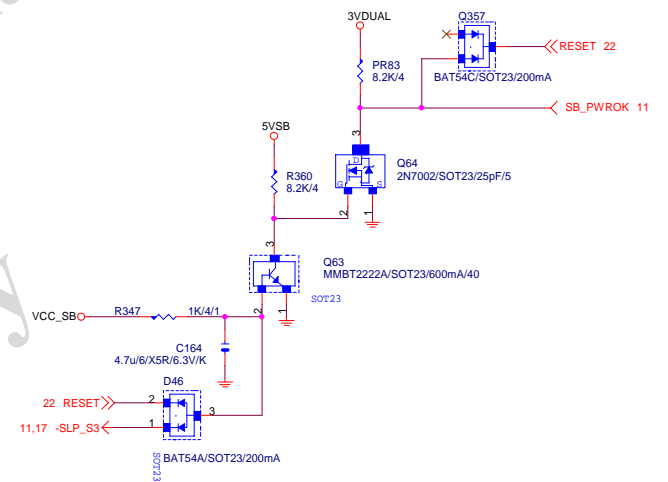


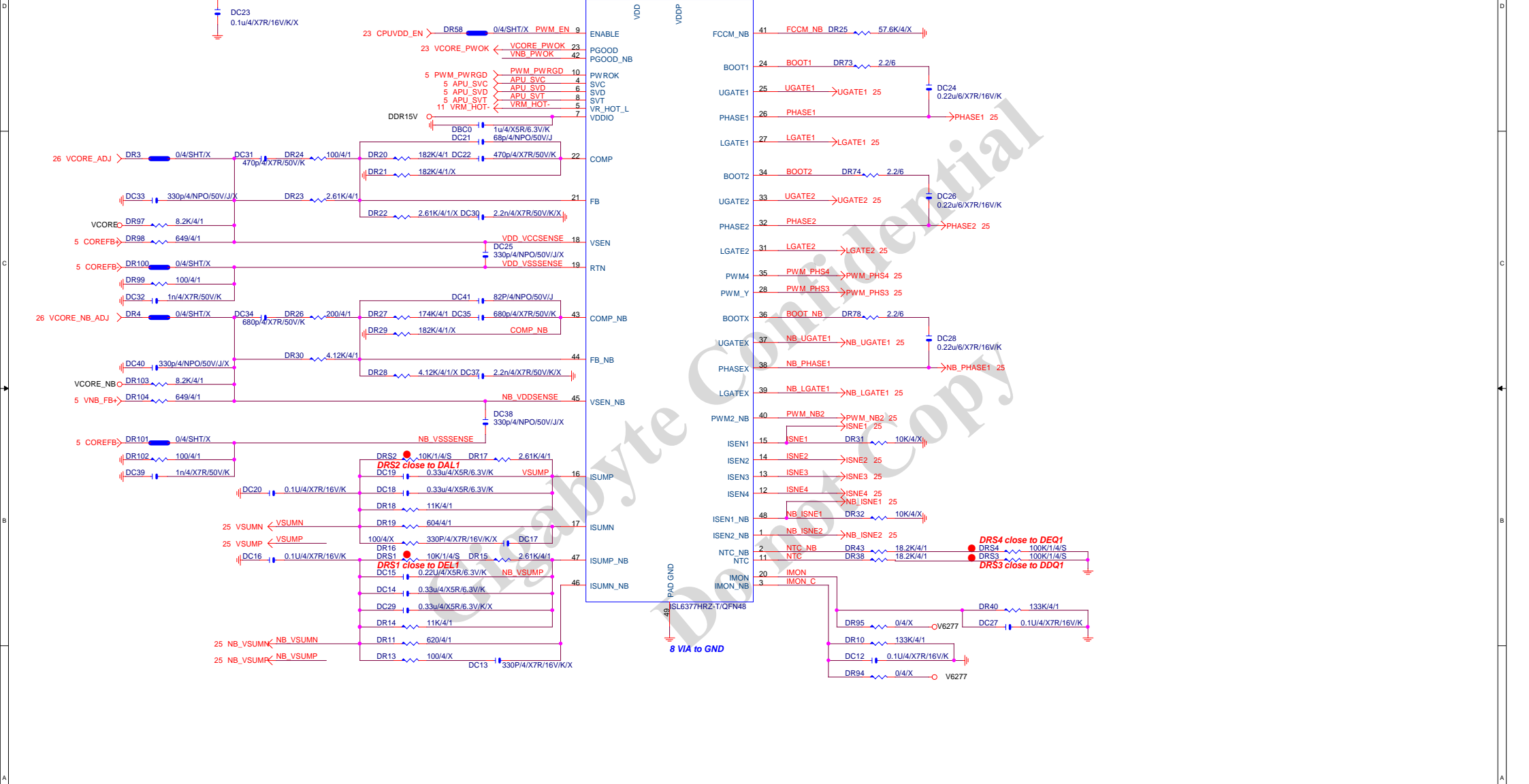
AZALIA FRONT PANEL

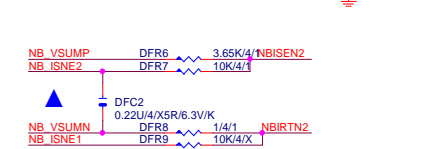
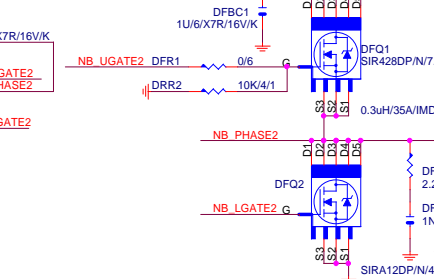
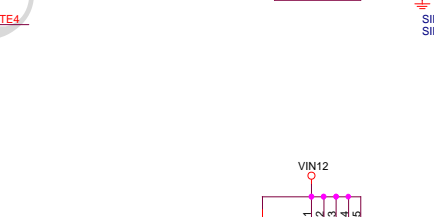
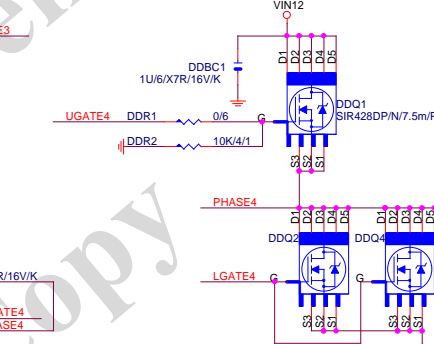
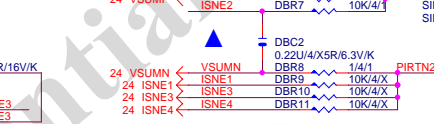
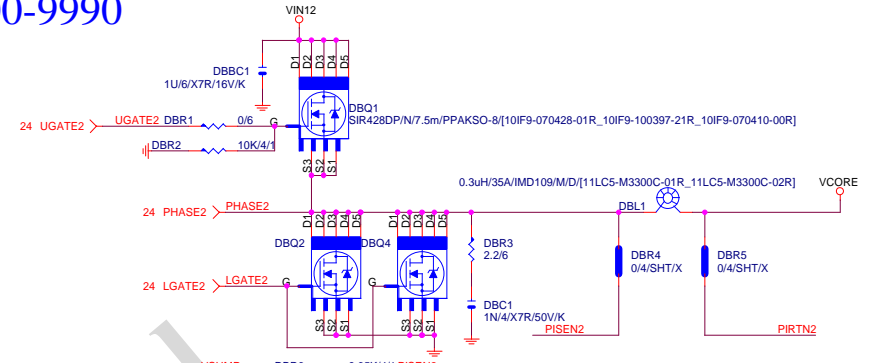
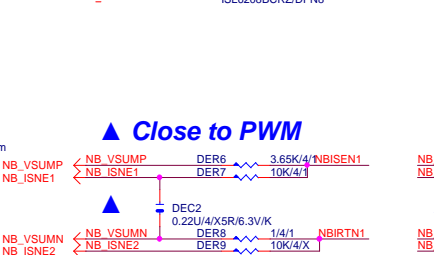
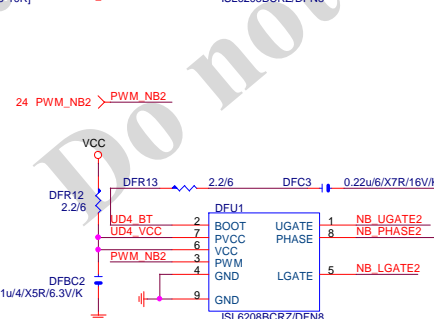
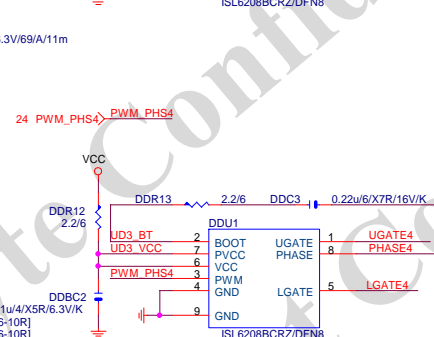
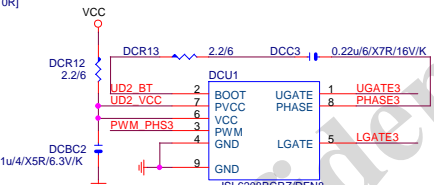
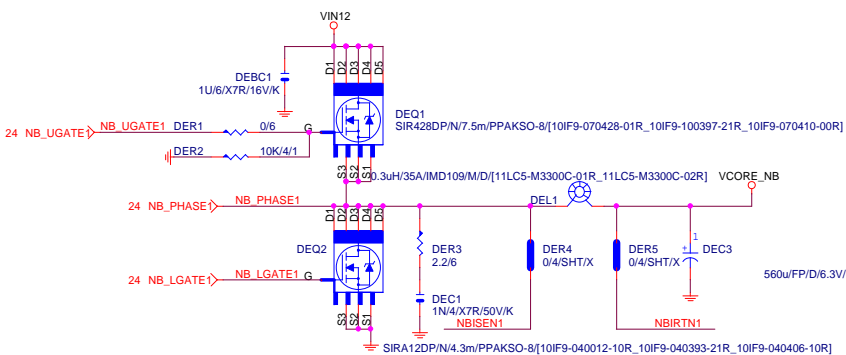
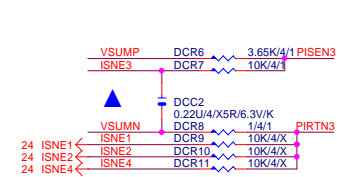
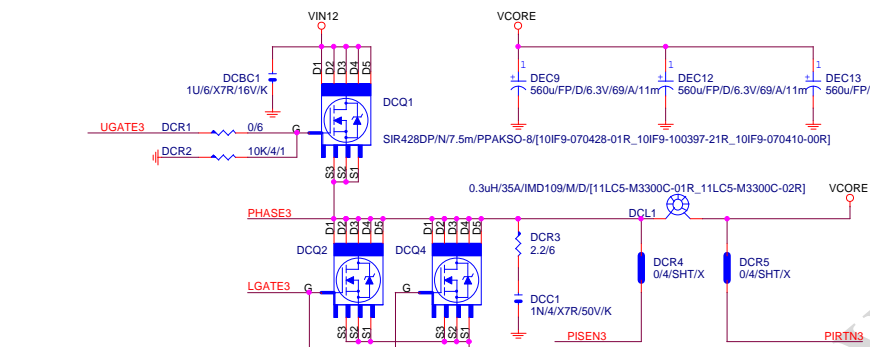
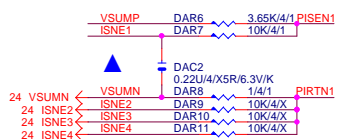
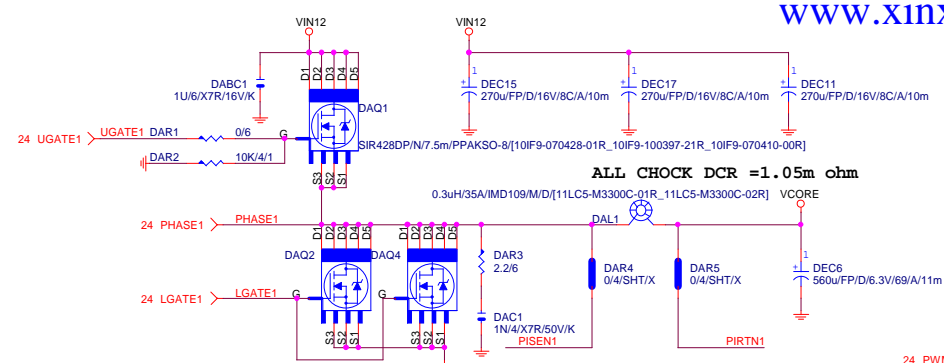
F_AUDIO
Codec --> Audio Jack
Near Audio Jack Left
Under Codec body

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Title	AUDIO JACK	
Size	Document Number	Rev
Custom	GA-F2A88XM-D3H	3.01
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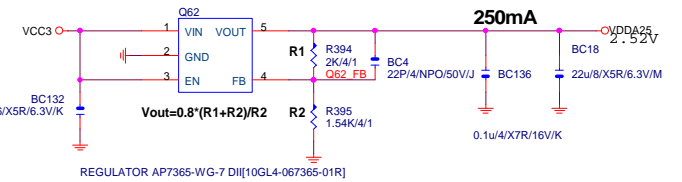
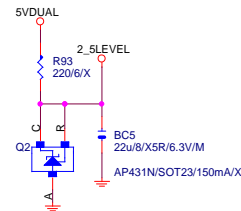
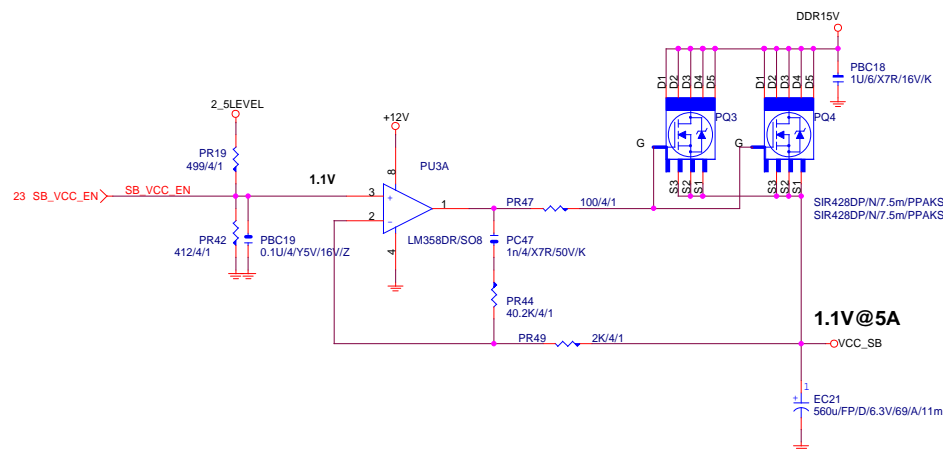






GIGABYTE™			
VCORE MOS			
Title	Document Number	Rev	
Size	GA-F2A88XM-D3H	3.01	
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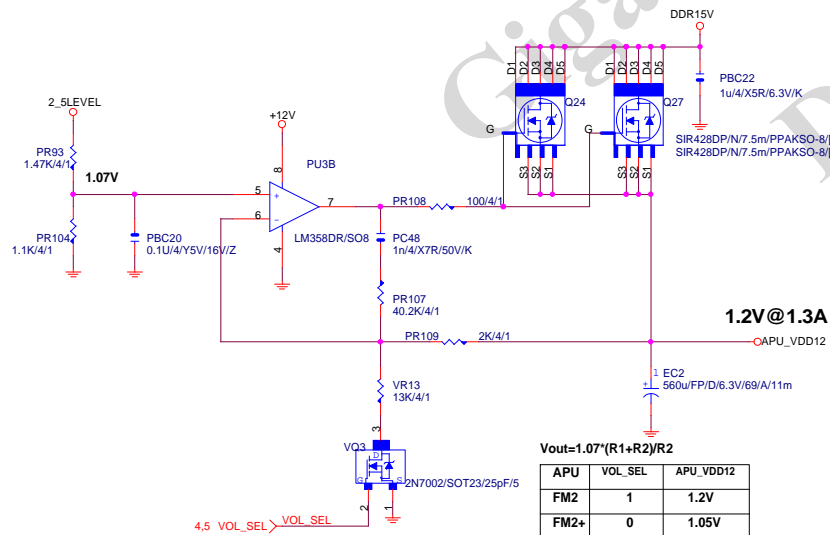
VCC_SB



APU	VOL_SEL	VDDA25
FM2	1	2.5V
FM2+	0	1.8V

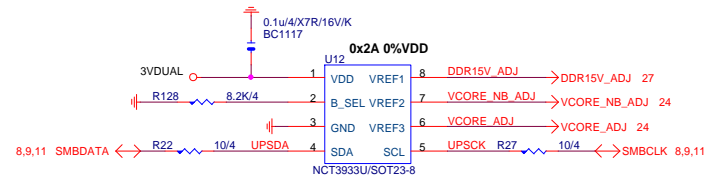
4.5 VOL_SEL > VOL_SEL

APU_VDDP



$$V_{out} = 1.07 * (R1 + R2) / R2$$

APU	VOL_SEL	APU_VDD12
FM2	1	1.2V
FM2+	0	1.05V

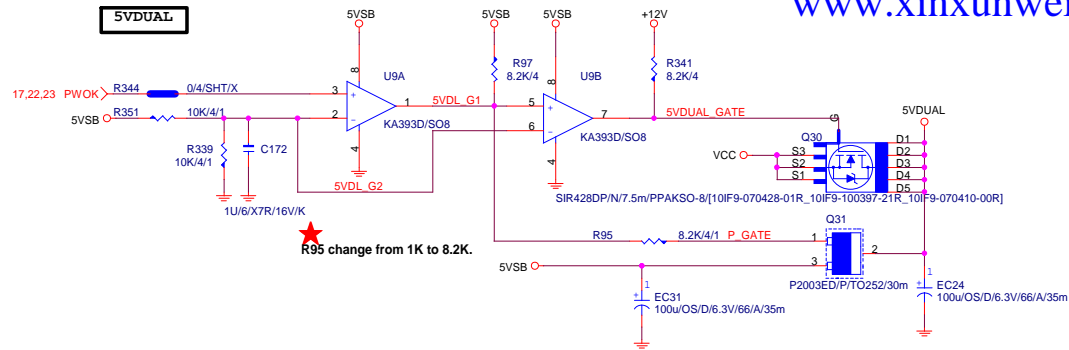


GIGABYTE™

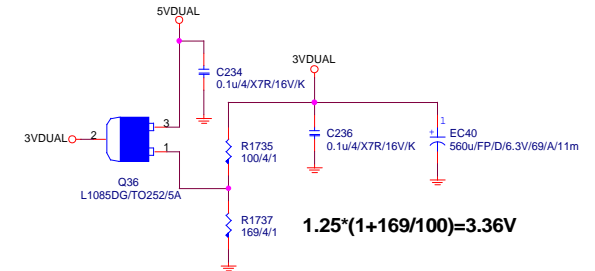
SB PWR,VDDA25,VCC11DUAL

Size	Document Number	Rev
Custom	GA-F2A88XM-D3H	3.01
Date:	Thursday, August 08, 2013	Sheet 26 of 29

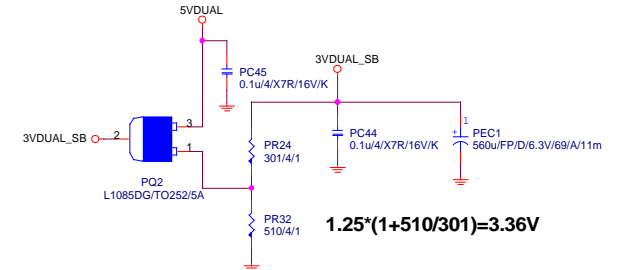
5VDUAL



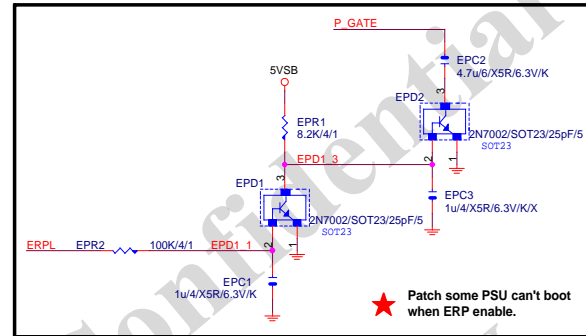
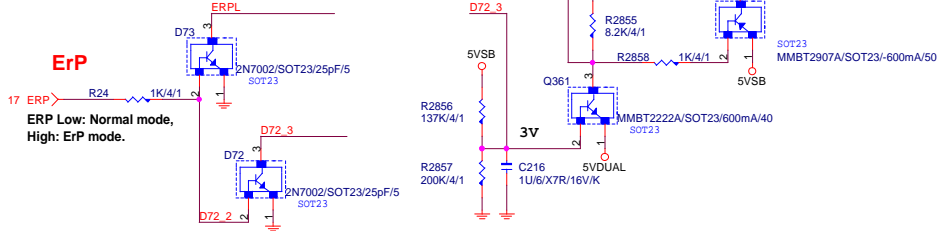
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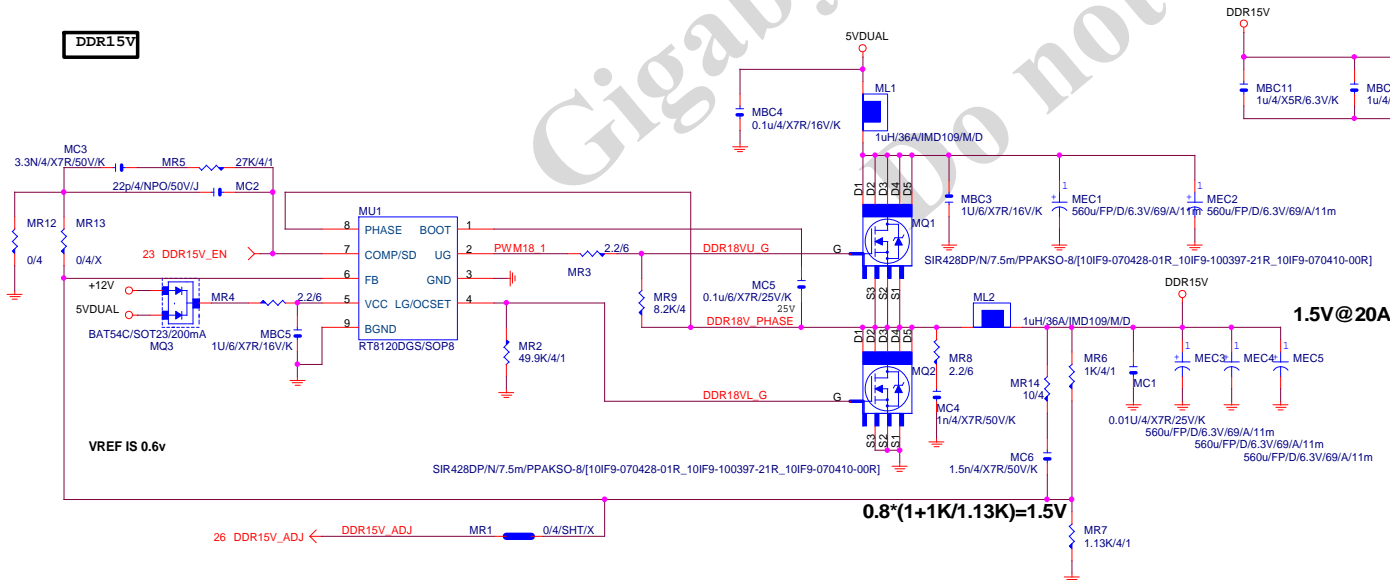
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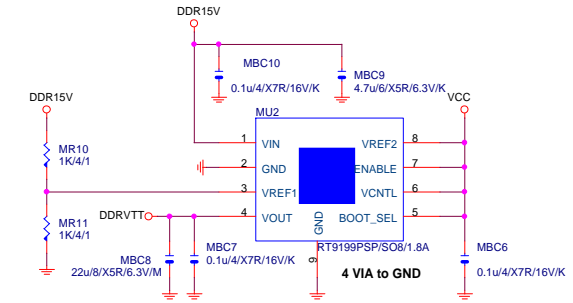
ErP



DDR15V



DDRVTT



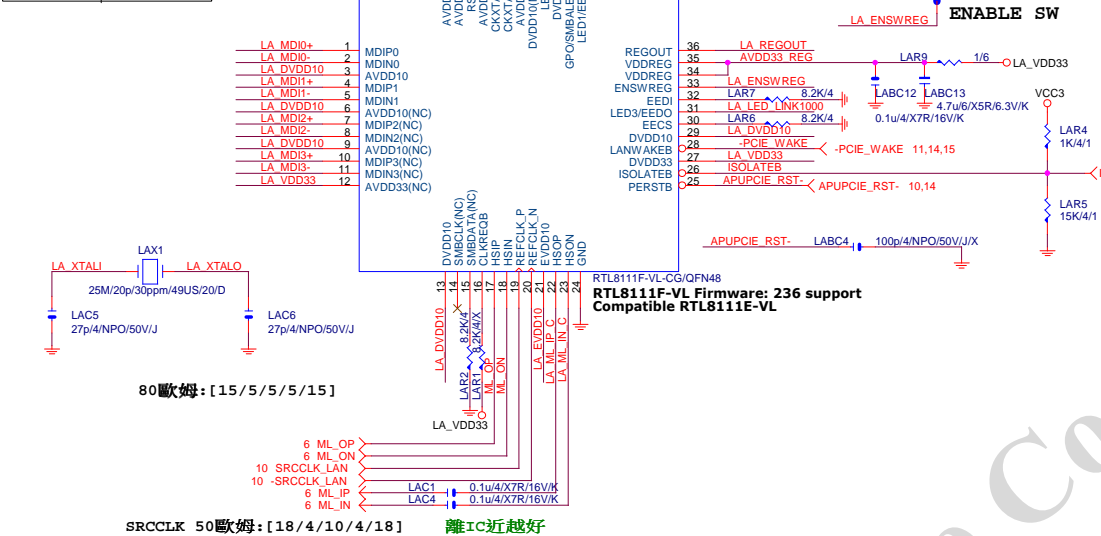
GIGABYTE

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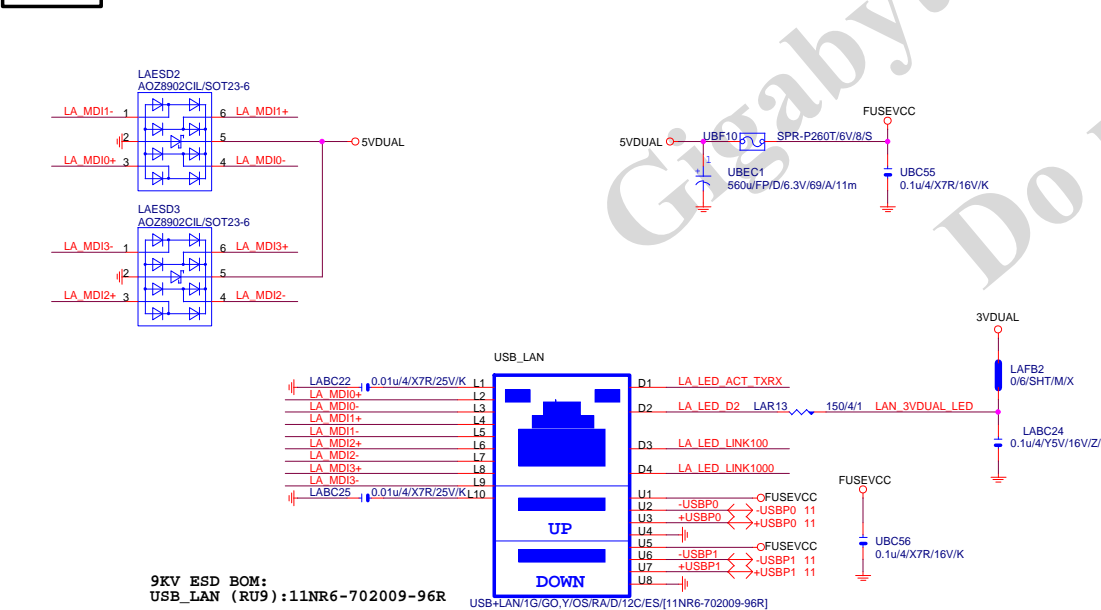
PCIE-1G LAN

Power domain chart

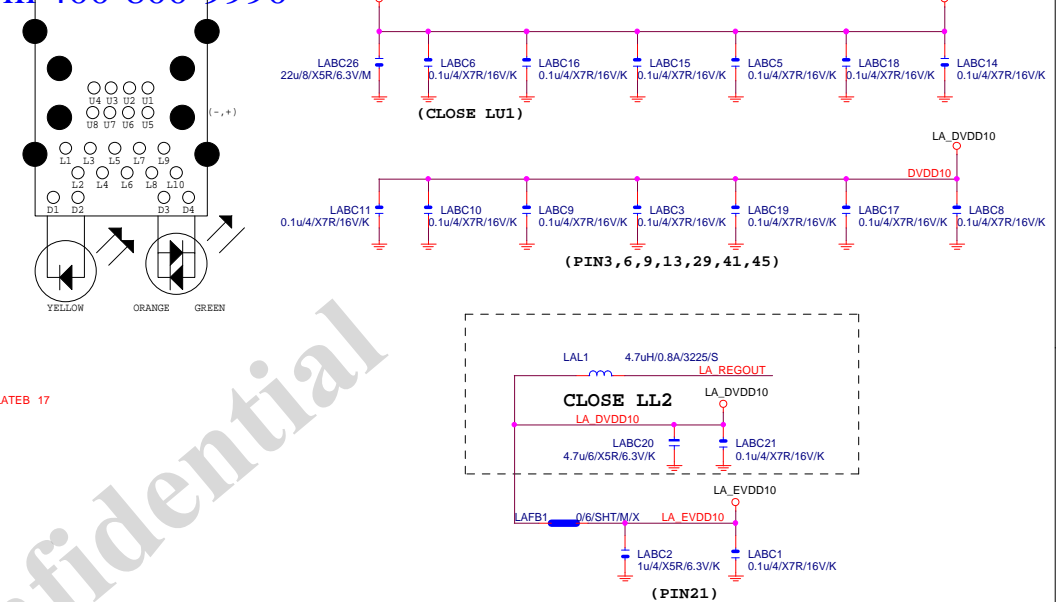
	RTL8111E
AVDD33	3.3V
DVDD33	3.3V
VDDREG	3.3V
DVDD10	1.05V



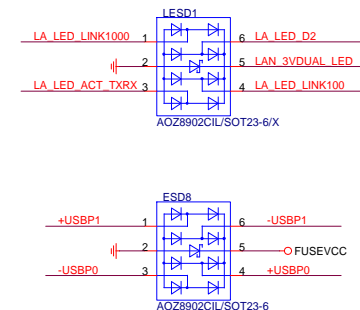
USB LAN



33F-152-19W9



使用RU9 USB_LAN可省略LAESD1保護LED



Title		
RTL8111F-VL		
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