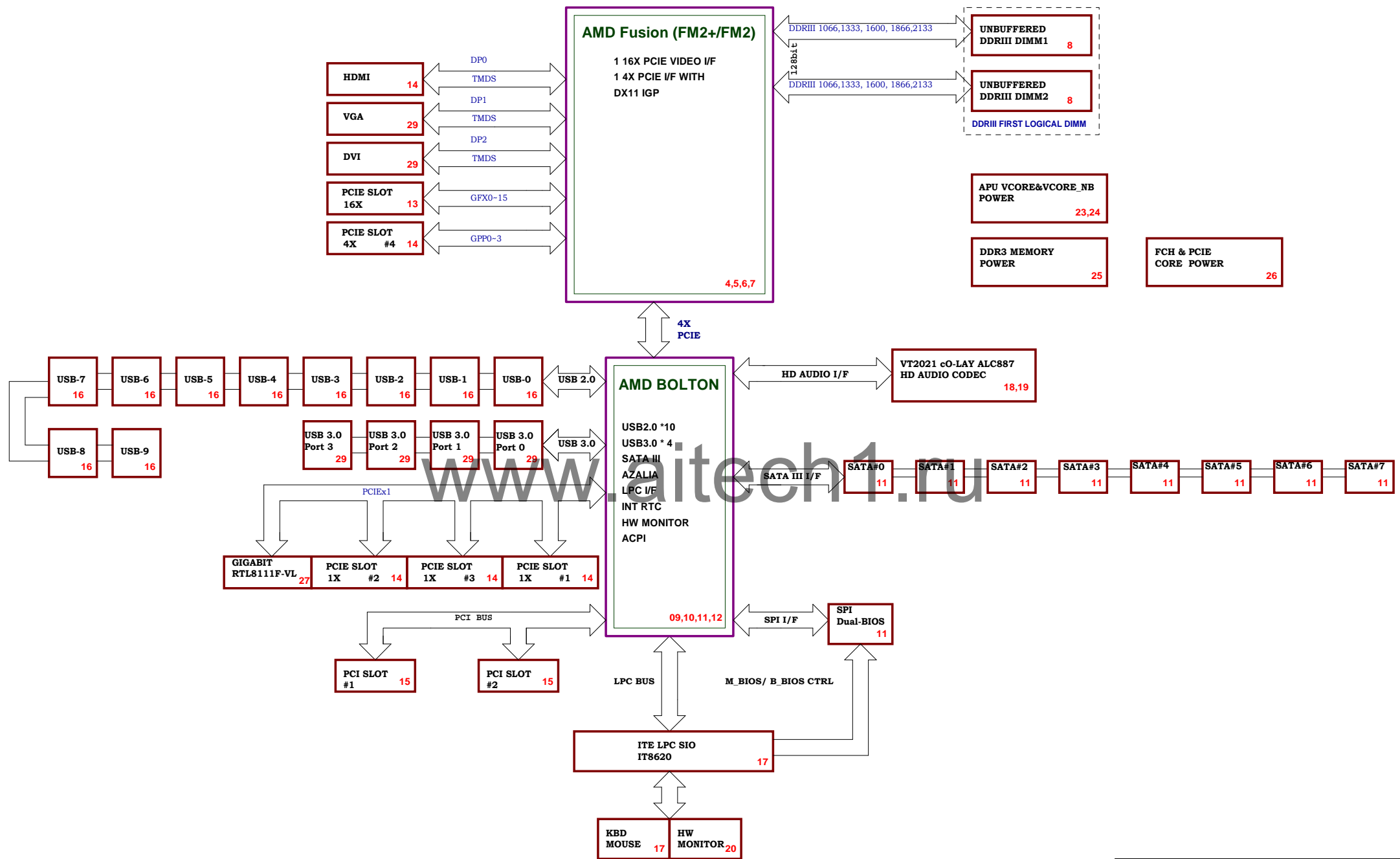


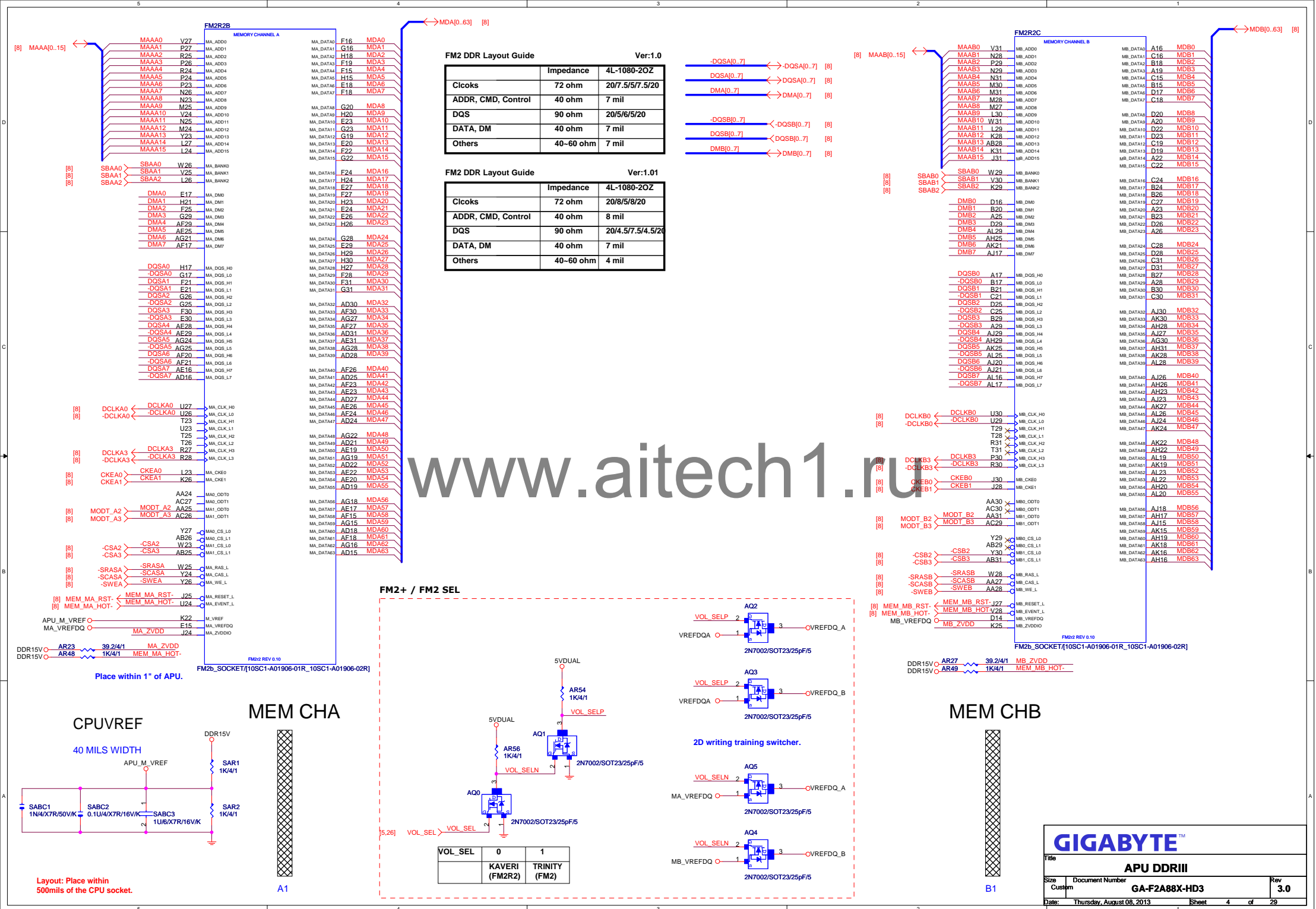
GA-F2A88X-HD3

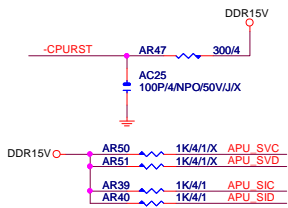
PAGE	TITLE	Revision : 3.0
01	COVER SHEET	
02	BOM & PCB MODIFY HISTORY	
03	BLOCK DIAGRAM	
04	APU DDRIII MEMORY	
05	APU CONTROL	
06	APU GFX, GPP, SB I/F	
07	APU POWER & GND	
08	DDRIII CHANNEL A B	
09	BOLTON PCIE/PCI/CPU/LPC/CLK	
10	BOLTON ACPI/GPIO/USB/AUDIO	
11	BOLTON SATA/IDE/HWM/SPI	
12	BOLTON POWER & GND	
13	PCIE x16 , x1	www
14	PCIE x1, HDMI	
15	PCI SLOT	
16	USB 2.0,COM	
17	ITE IT8620E	
18	ALC887 CODEC	
19	AUDIO JACK	
20	FAN/HWMO	
21	ATX, FRONT PANEL	
22	POWER SEQUENCE ,EUP	
23	VCORE (PWM ISL6377+ISL6208B)	
24	VCORE MOSFET (4+2 Phase)	
25	SB POWER, VDDA25 ,VDDP12 ,VCC11_DUAL	

[illegible]

			
Title			
COVER SHEET			
Size	Document Number	Rev	
Custom	GA-F2A88X-HD3	3.0	
Date:	Thursday, August 08, 2013	Sheet	1 of 29

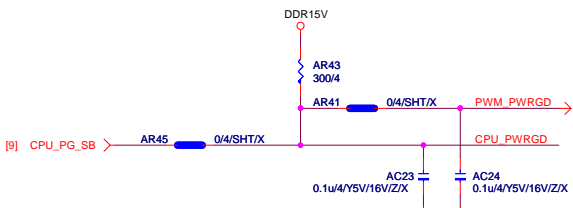
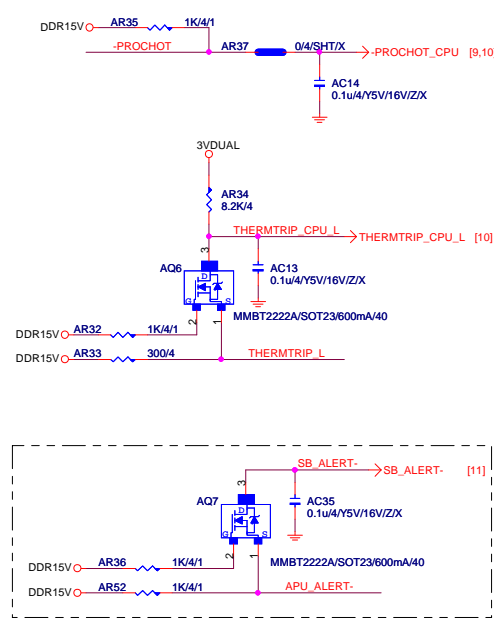
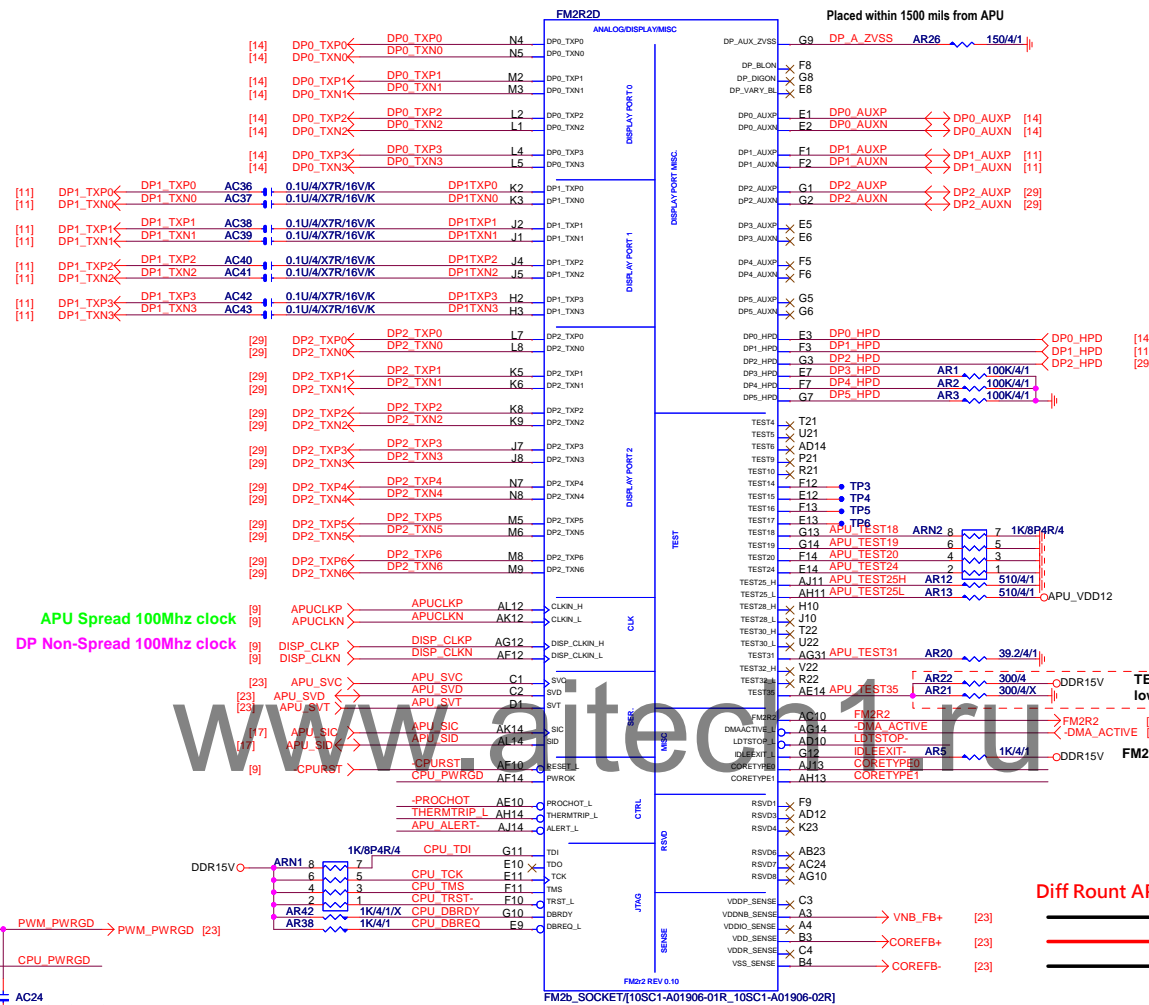






SVI 2.0 max frequency=20MHz.
Resolution=6.5mV

SVT=Serial VID Telemetry for
APU get PWM infomation used.



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

TEST35: high=>HDMI enable,
low=>HDMI disable.

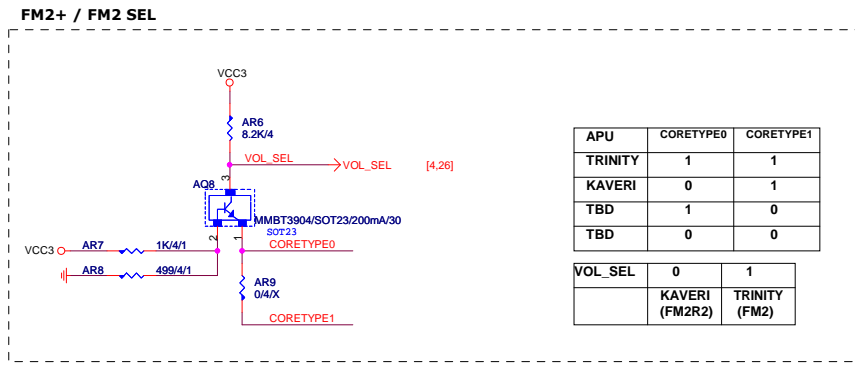
FM2 DG:1.01 No Connect on Board.

Diff Rount APU to PWM

VNB_FB+
COREFB-
COREFB+

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

Group A must early than Group B



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

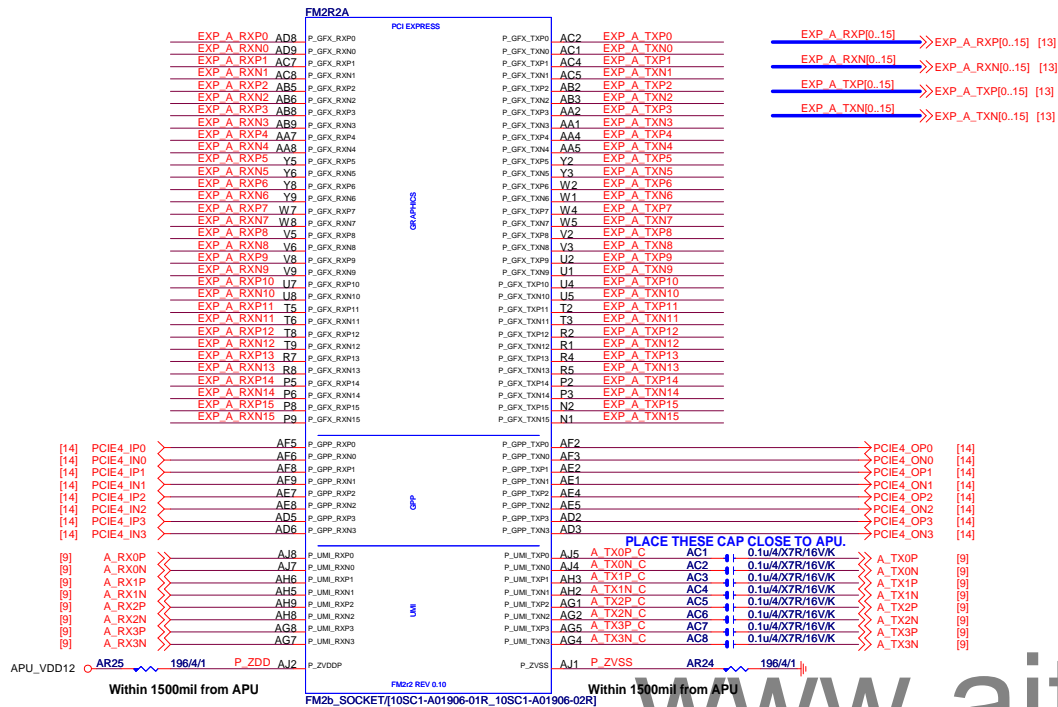
VOL_SEL	0	1
	KAVERI (FM2R2)	TRINITY (FM2)

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Title: **APU CONTROL**

Size: Custom Document Number: **GA-F2A88X-HD3** Rev: **3.0**

Date: Thursday, August 08, 2013 Sheet: 5 of 29



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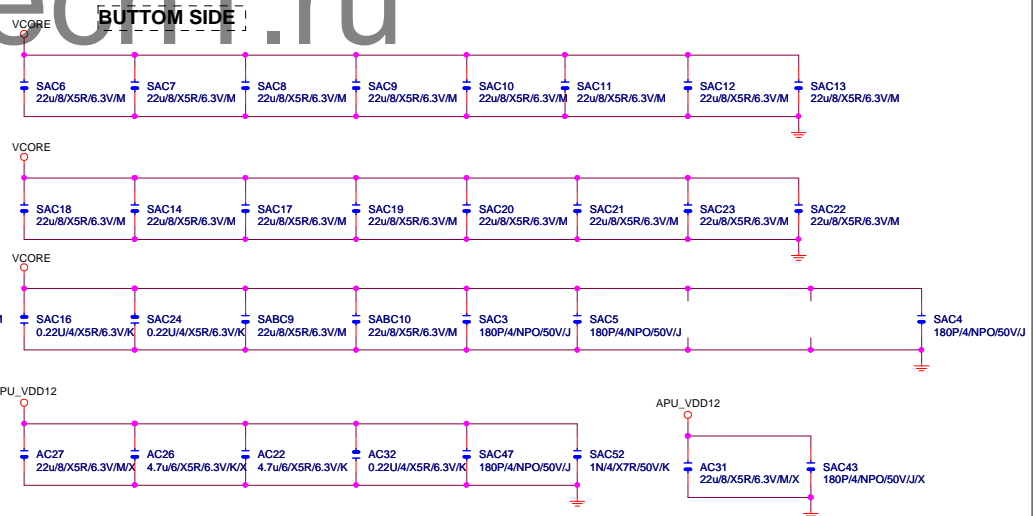
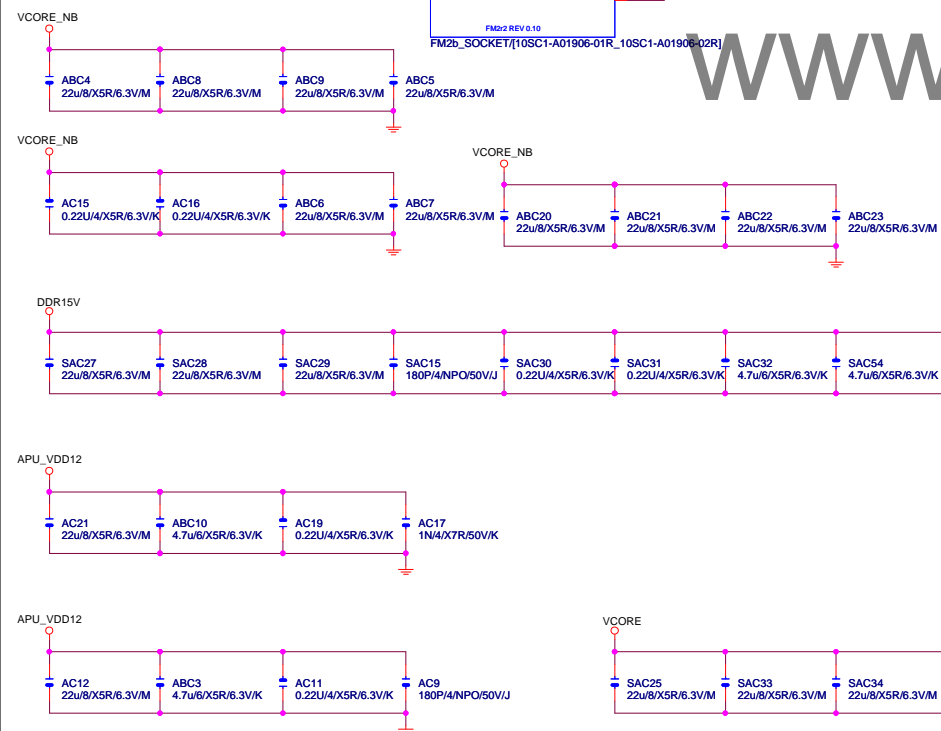
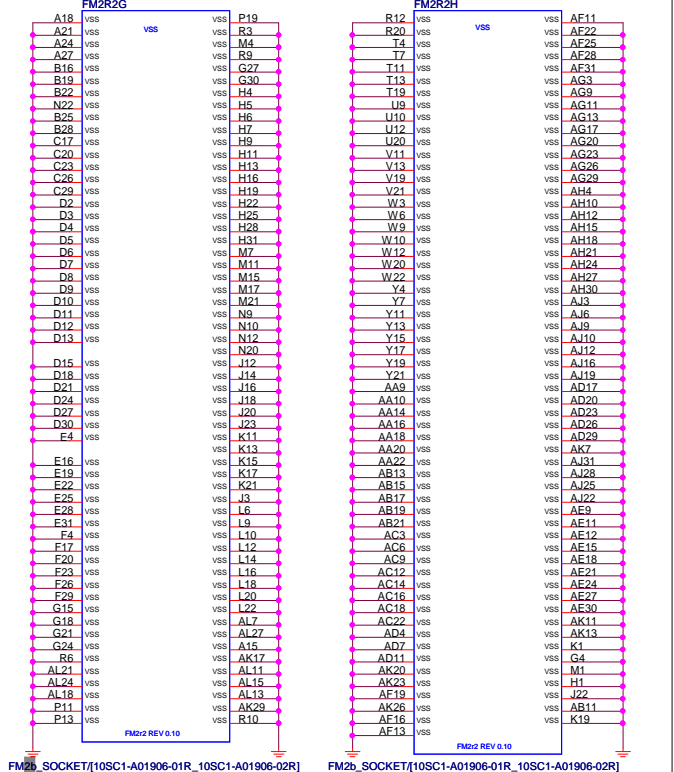
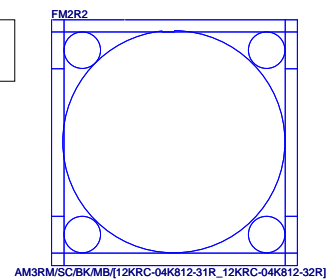
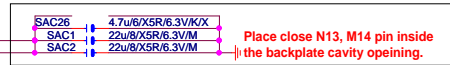
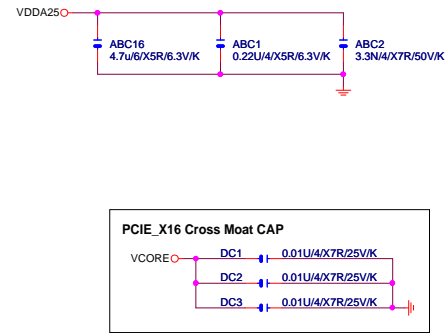
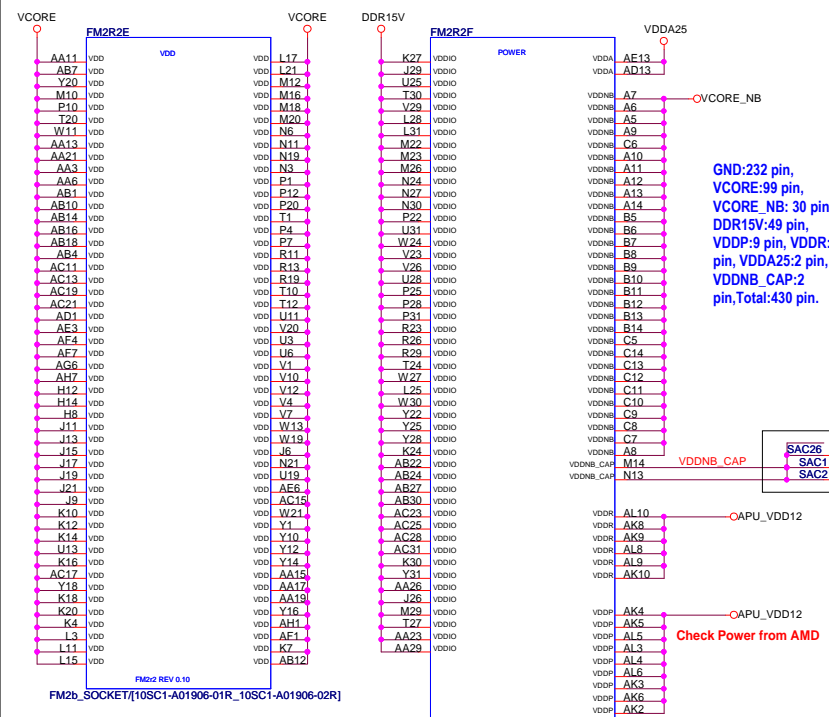
GIGABYTE™

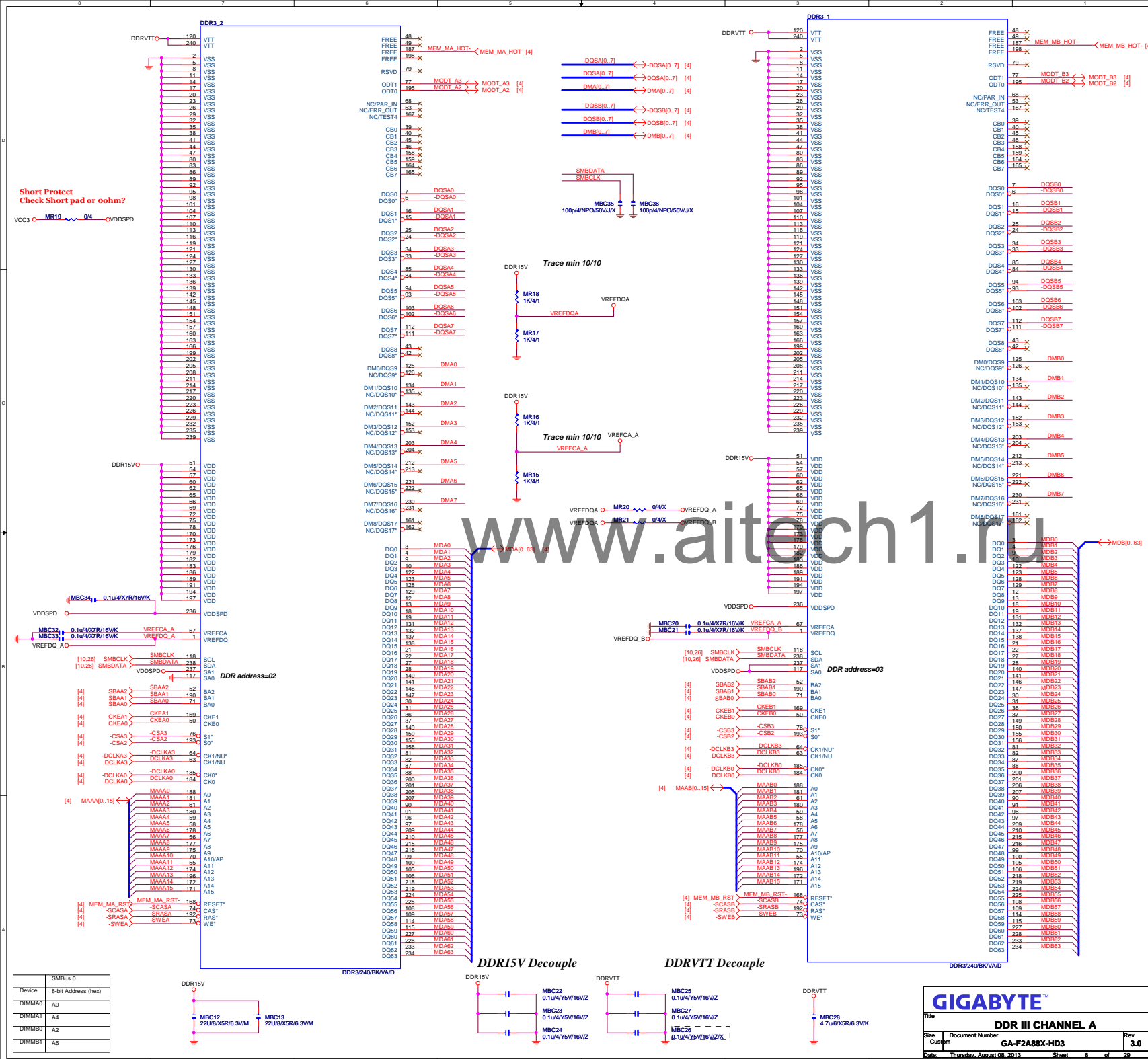
Title **APU GFX, GPP, SB I/F**

Size Custom Document Number **GA-F2A88X-HD3** Rev **3.0**

Date: Thursday, August 08, 2013 Sheet 6 of 29

DDR15V=1.25V/1.35V/1.5V(DDR3)

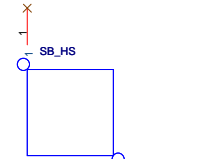






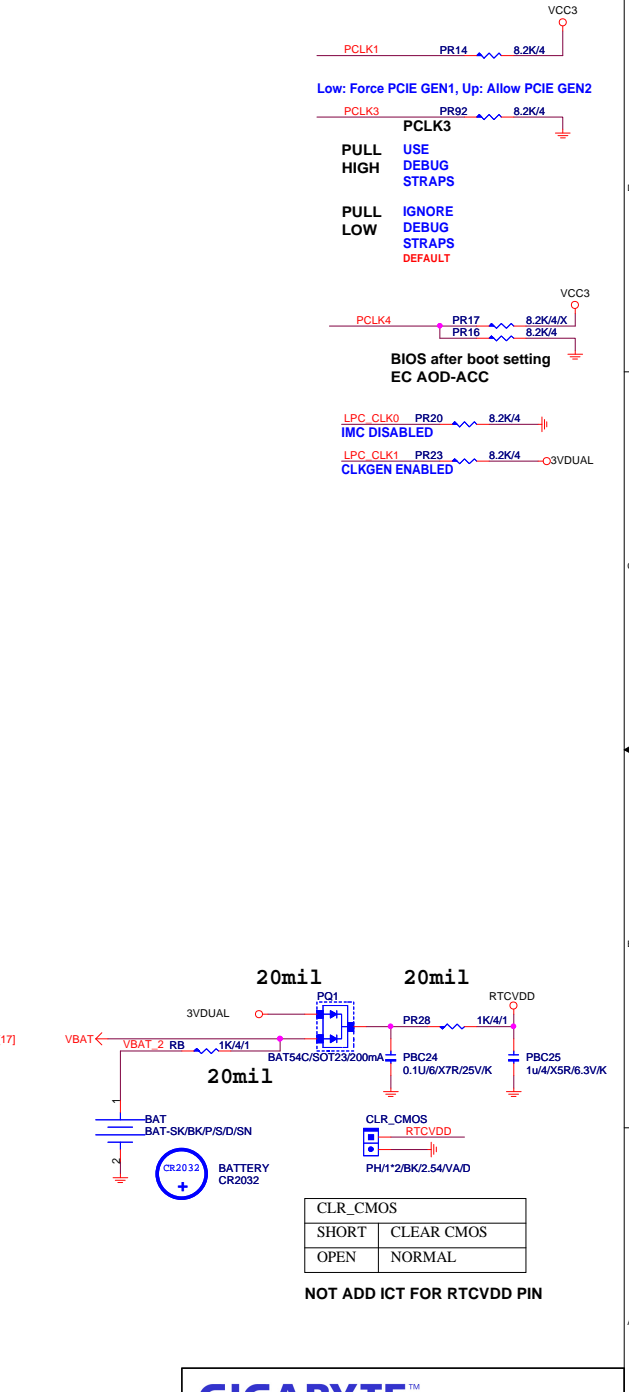
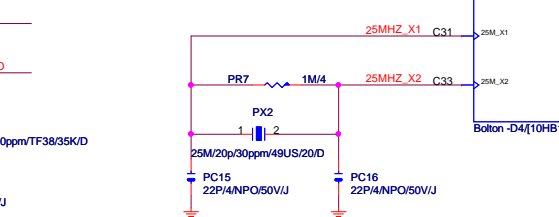
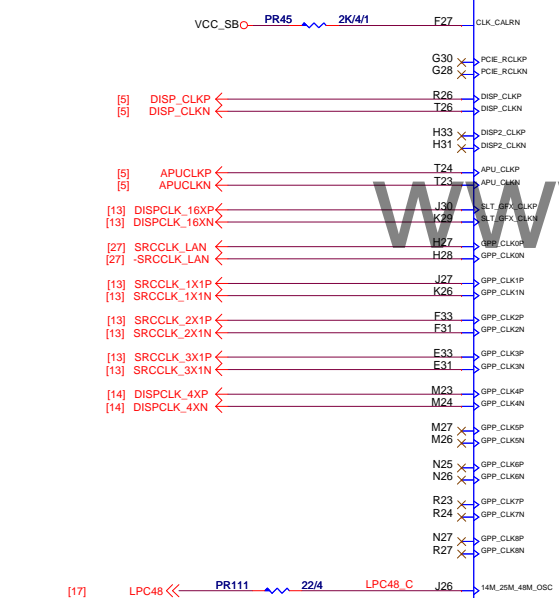
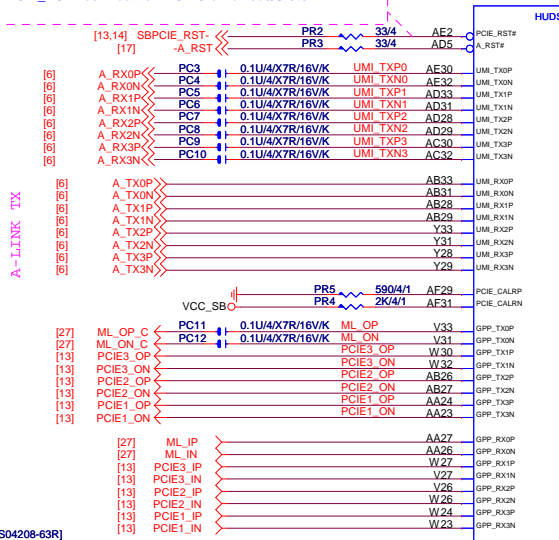
PLACE THESE PCIE AC COUPLING CAPS CLOSE TO SB850

S.B HEATSINK

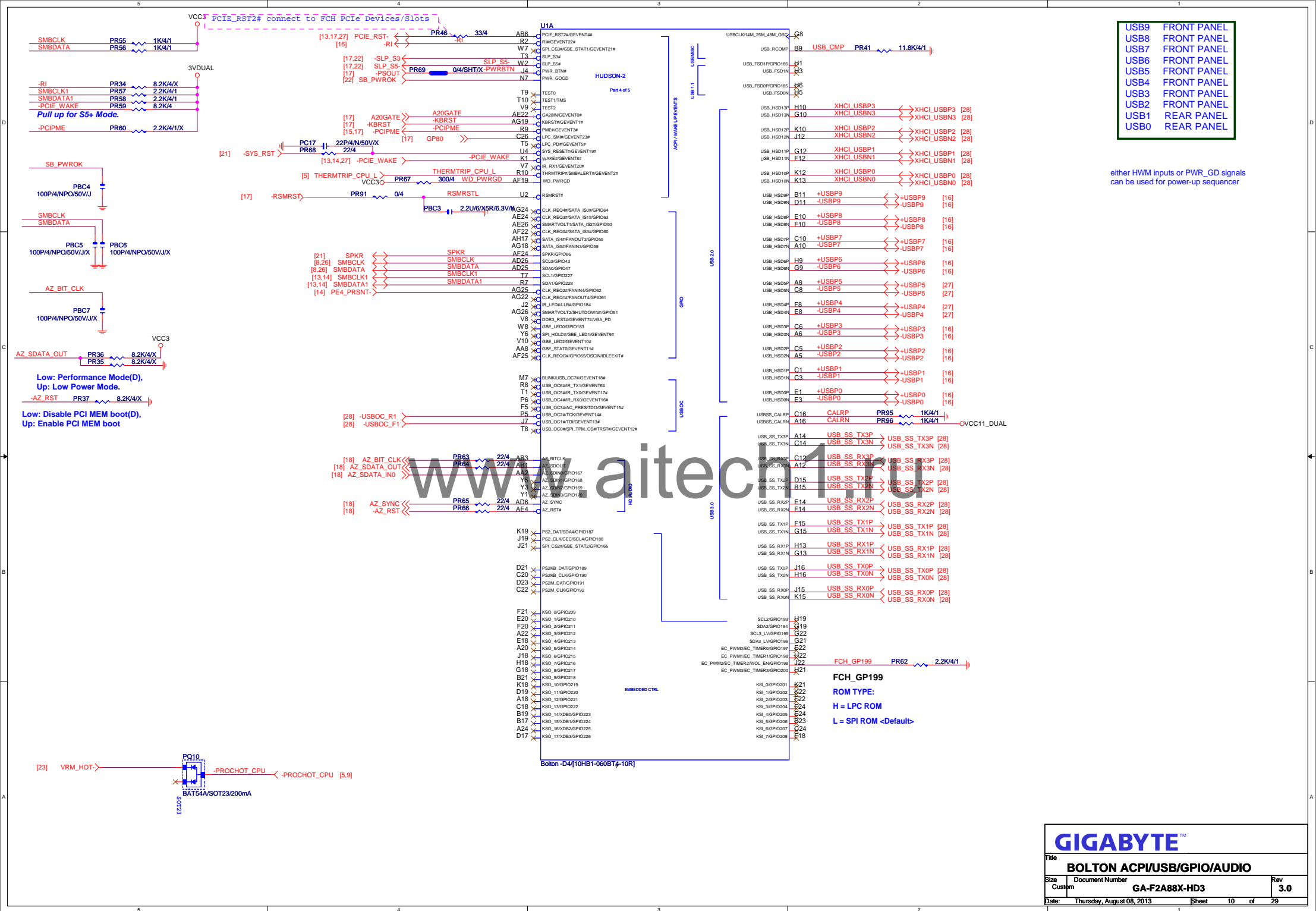


SB_HS[12SP2-S04208-61R_12SP2-S04208-62R_12SP2-S04208-63R]

PCIE_RST# connect to APU PCIe Devices/Slots



GIGABYTE™			
Title			
BOLBOLTON PCIE/PCI/CPU/LPCTON			
Size	Document Number	Rev	
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PLACE ALL THE DECOUPLING CAPS ON THIS SHEET CLOSE TO SB AS POSSIBLE.

VGA Translator Not Implemented.

VGA Translator Not Implemented.

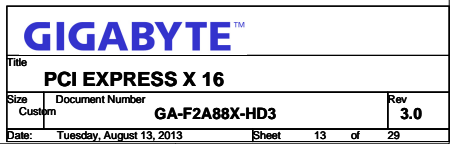
Hudson 3/4 does not support an RGMII/MII interface.

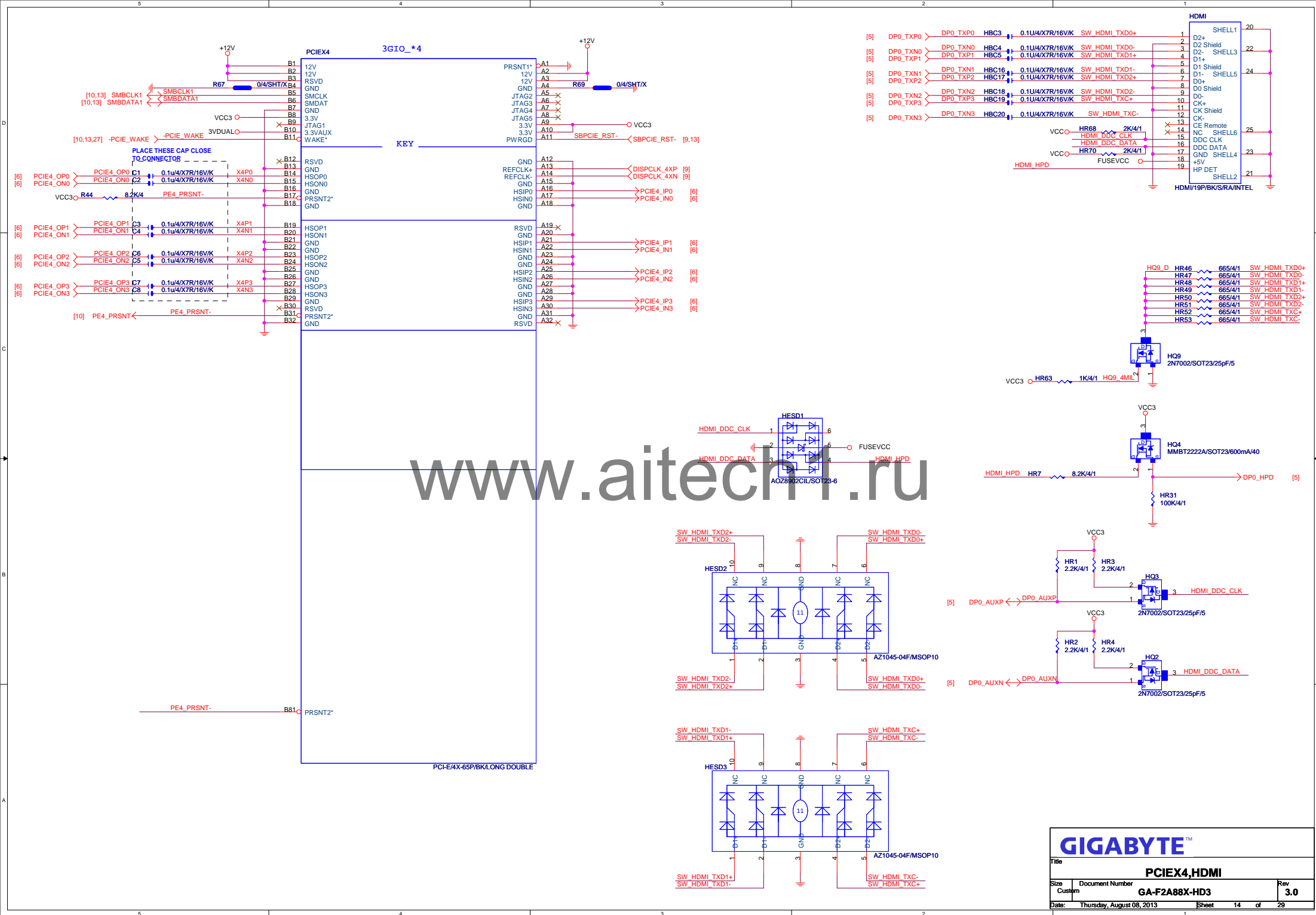
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Title **BOLTON PWR & GND**

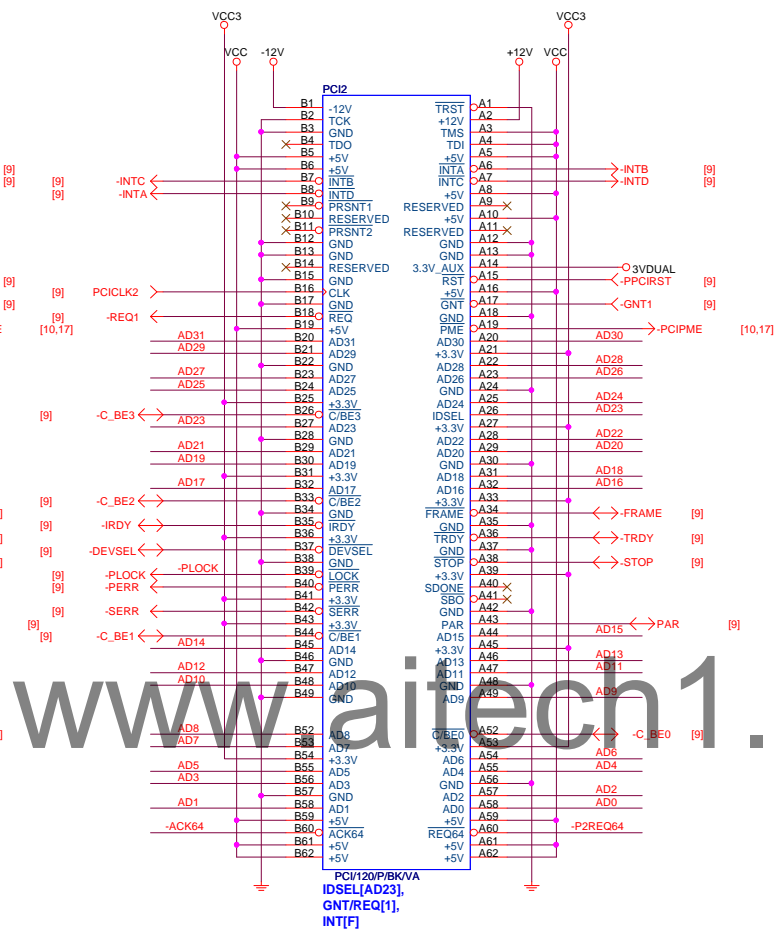
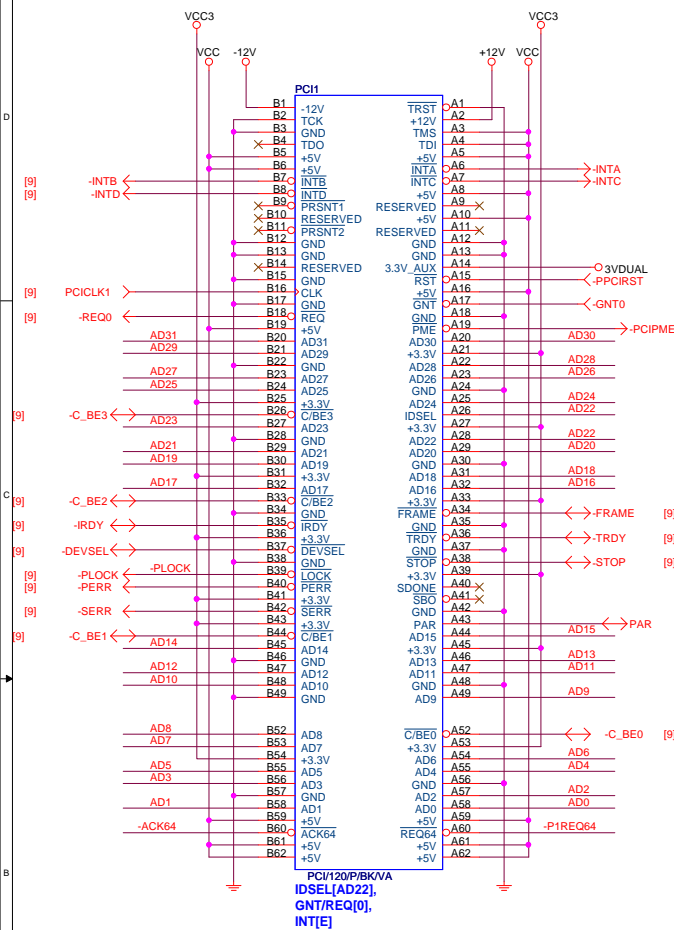
Size	Document Number	Rev
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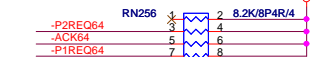
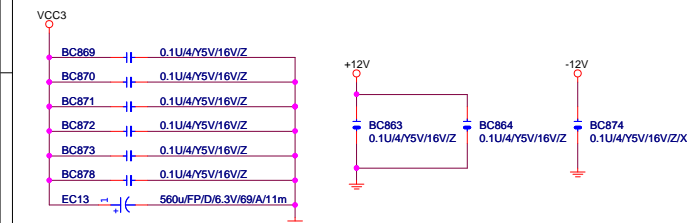


PCI SLOT

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

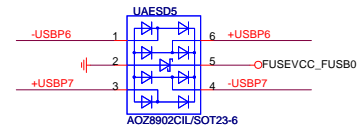
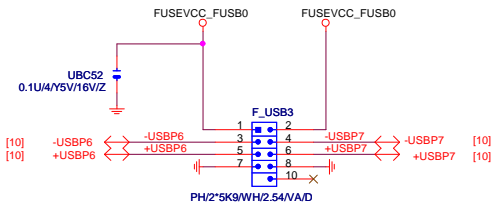
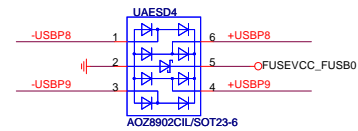
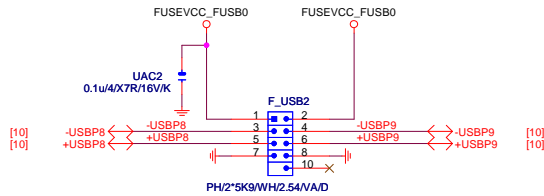
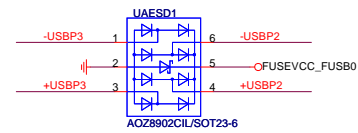
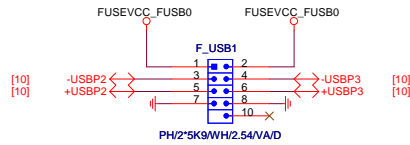
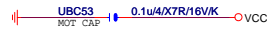
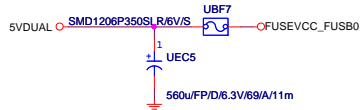
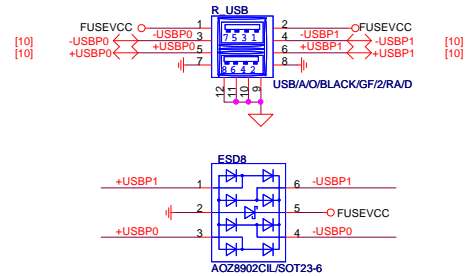
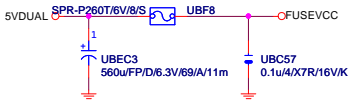
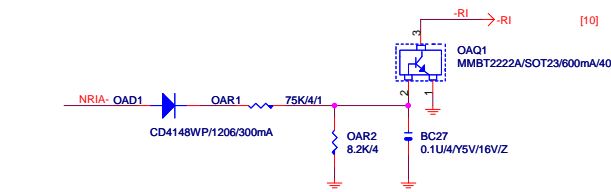
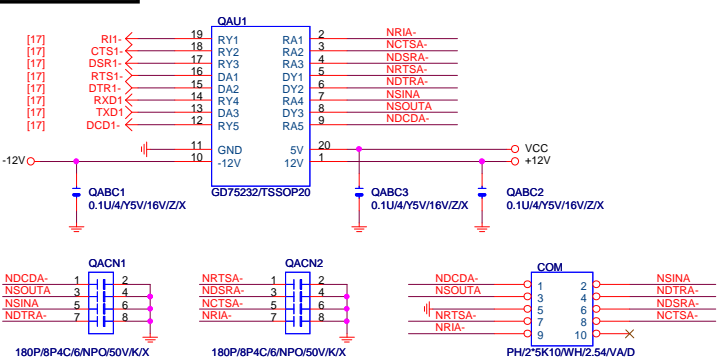


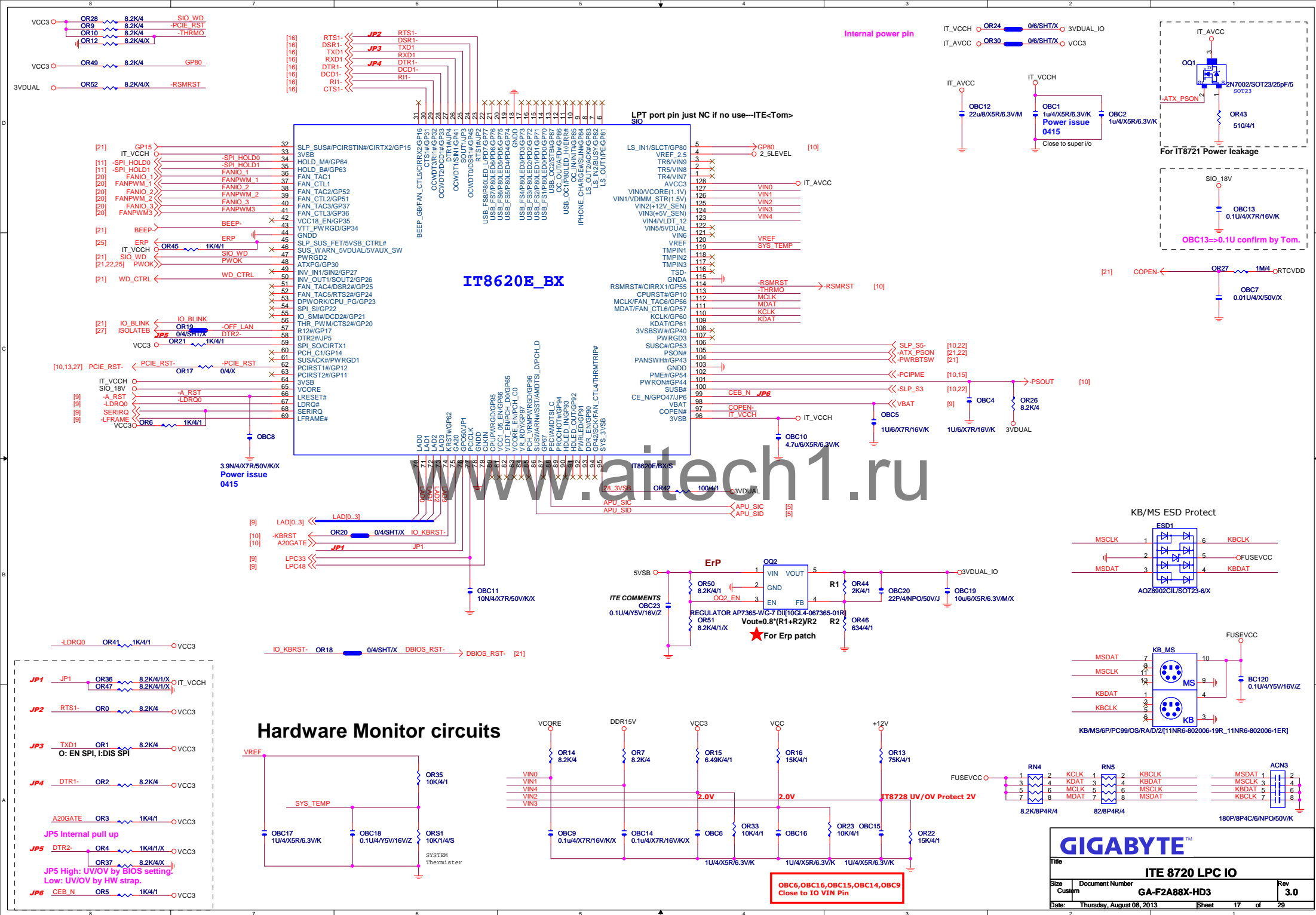
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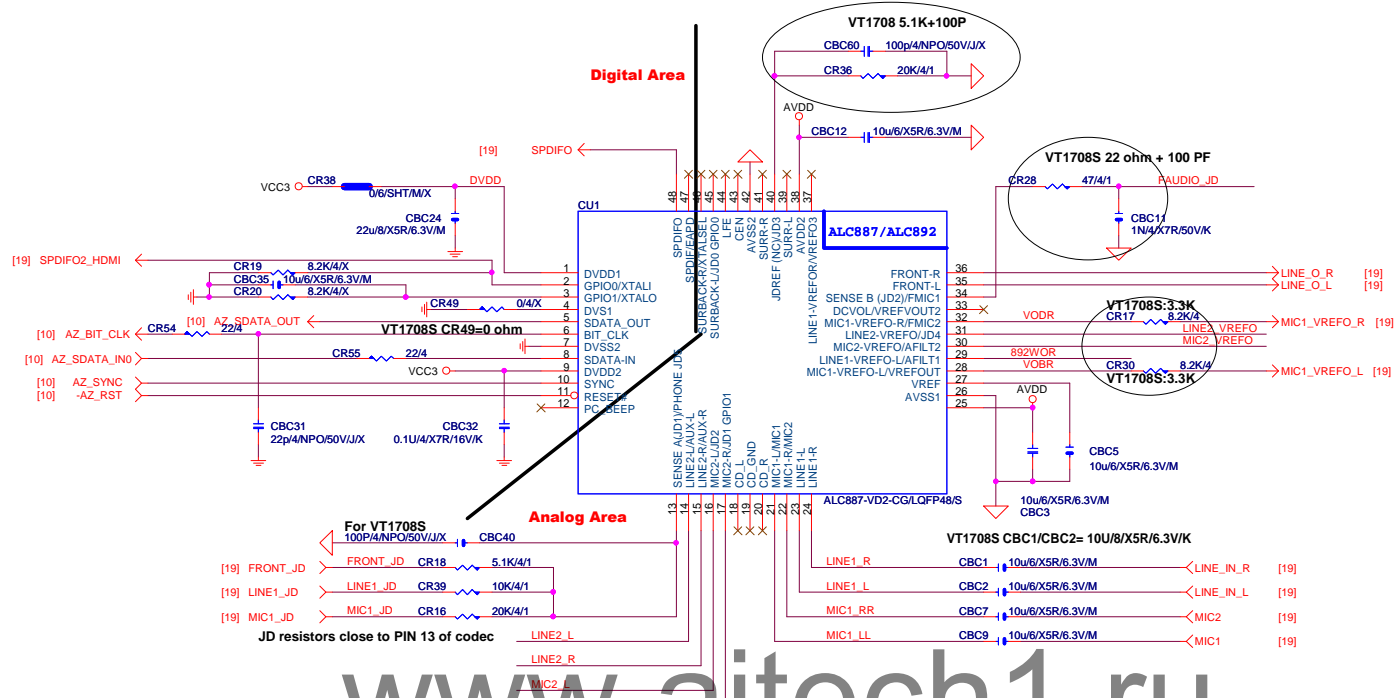


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Title			PCI SLOT 1,2
Size	Document Number	Rev	
Custom	GA-F2A88X-HD3	3.0	
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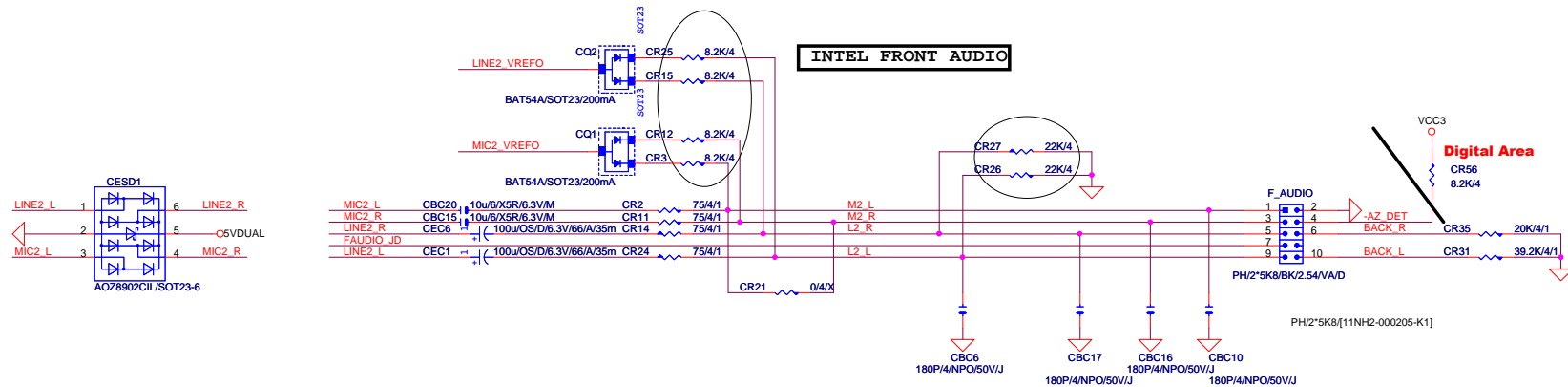






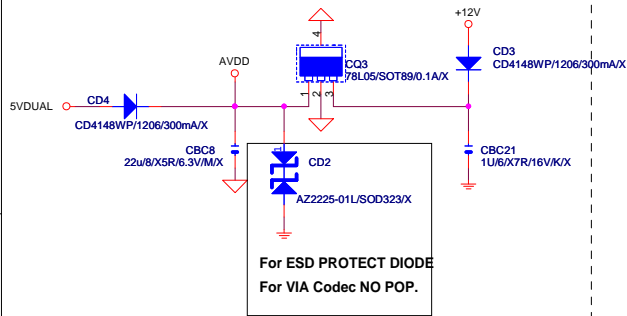
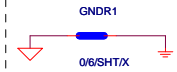
www.aitech1.ru

For VT1708S:3.3K

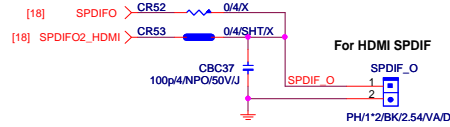


GIGABYTE™			
Title			
ALC887 CODEC			
Size	Document Number	Rev	
Custom	GA-F2A88X-HD3	3.0	
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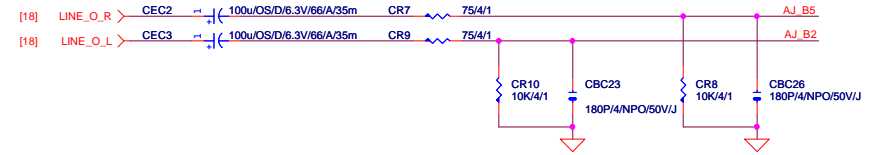
Between Audio to USB_LAN



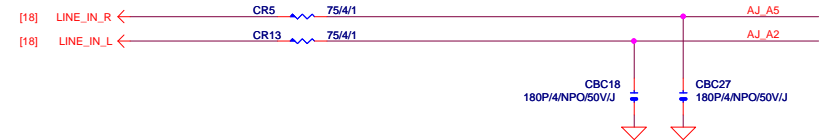
SPDIF



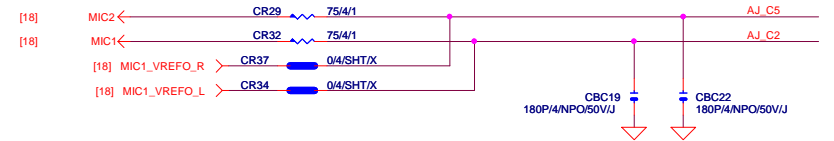
LINE OUT
FRONT OUT



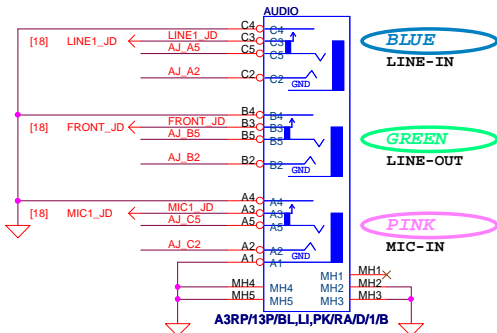
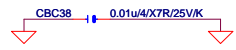
LINE-IN



MIC



For Audio precision test



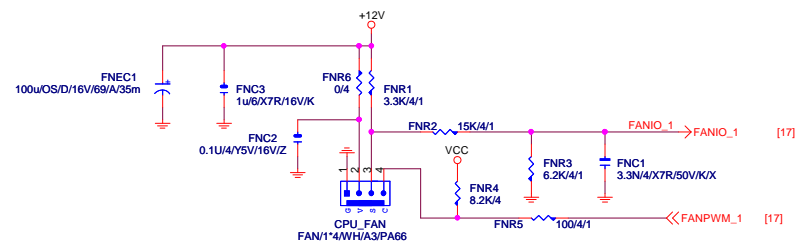
A3RJ/13P/B/[11NR6-403006-01_11NR6-403006-02]
3RJ+15P/[11NR6-403004-11]

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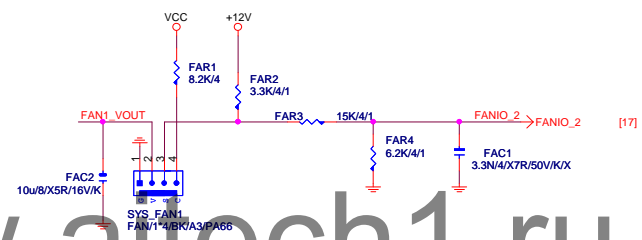
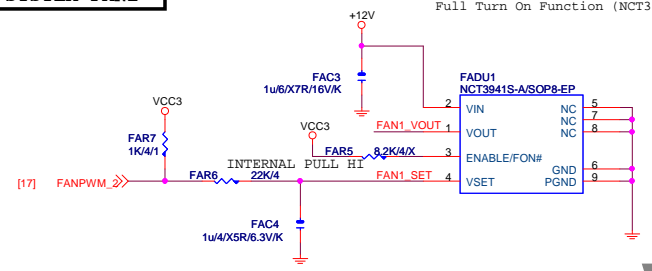
Title			AUDIO JACK	
Size	Document Number	Rev		
Custom	GA-F2A88X-HD3	3.0		
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CPU SMART FAN

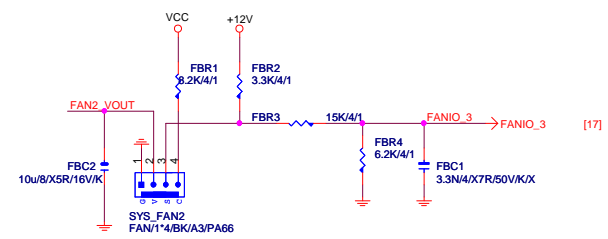
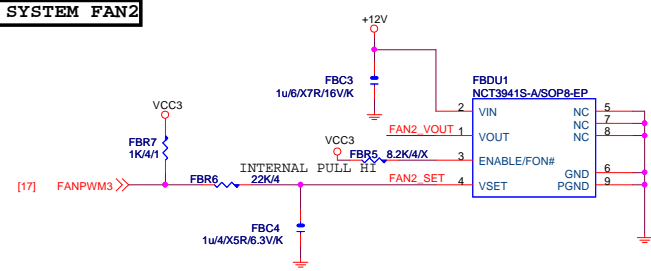


SYSTEM FAN1

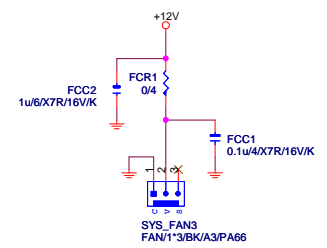
Linear SYS_FAN Enable Function (NCT3941S)
Full Turn On Function (NCT3941S-A)

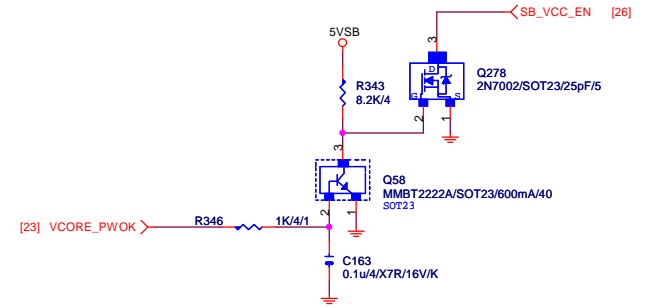
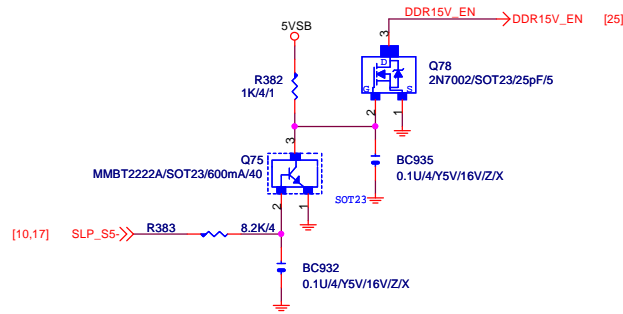
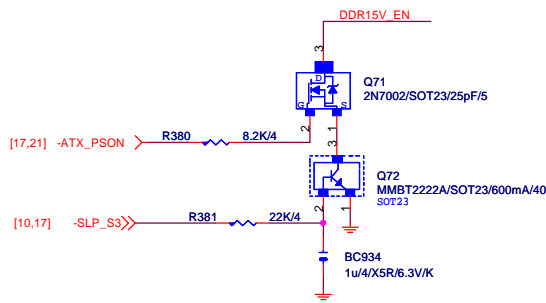


SYSTEM FAN2



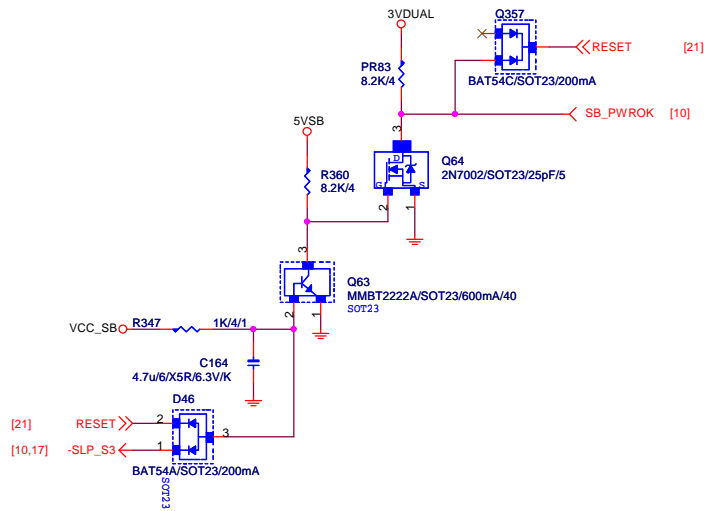
SYSTEM FAN3





ADJ PWM_EN Sequence, See Page 22 Red Frame
Change DR23, DR30 ADJ LL Meet AMD Spec

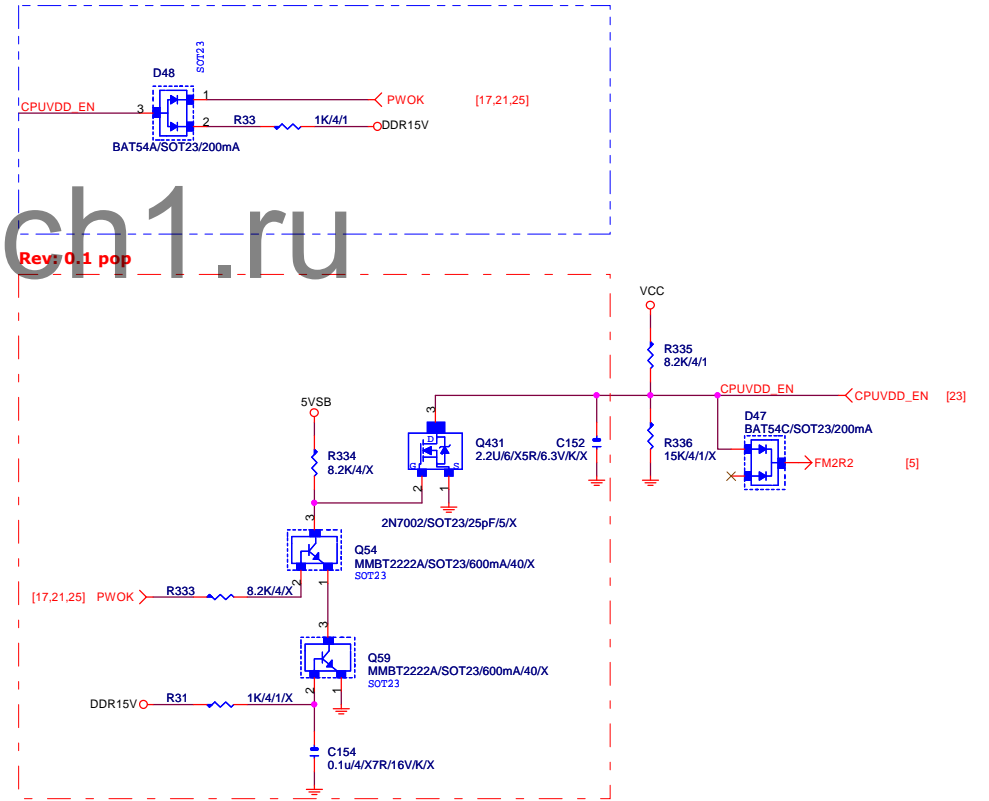
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Colay

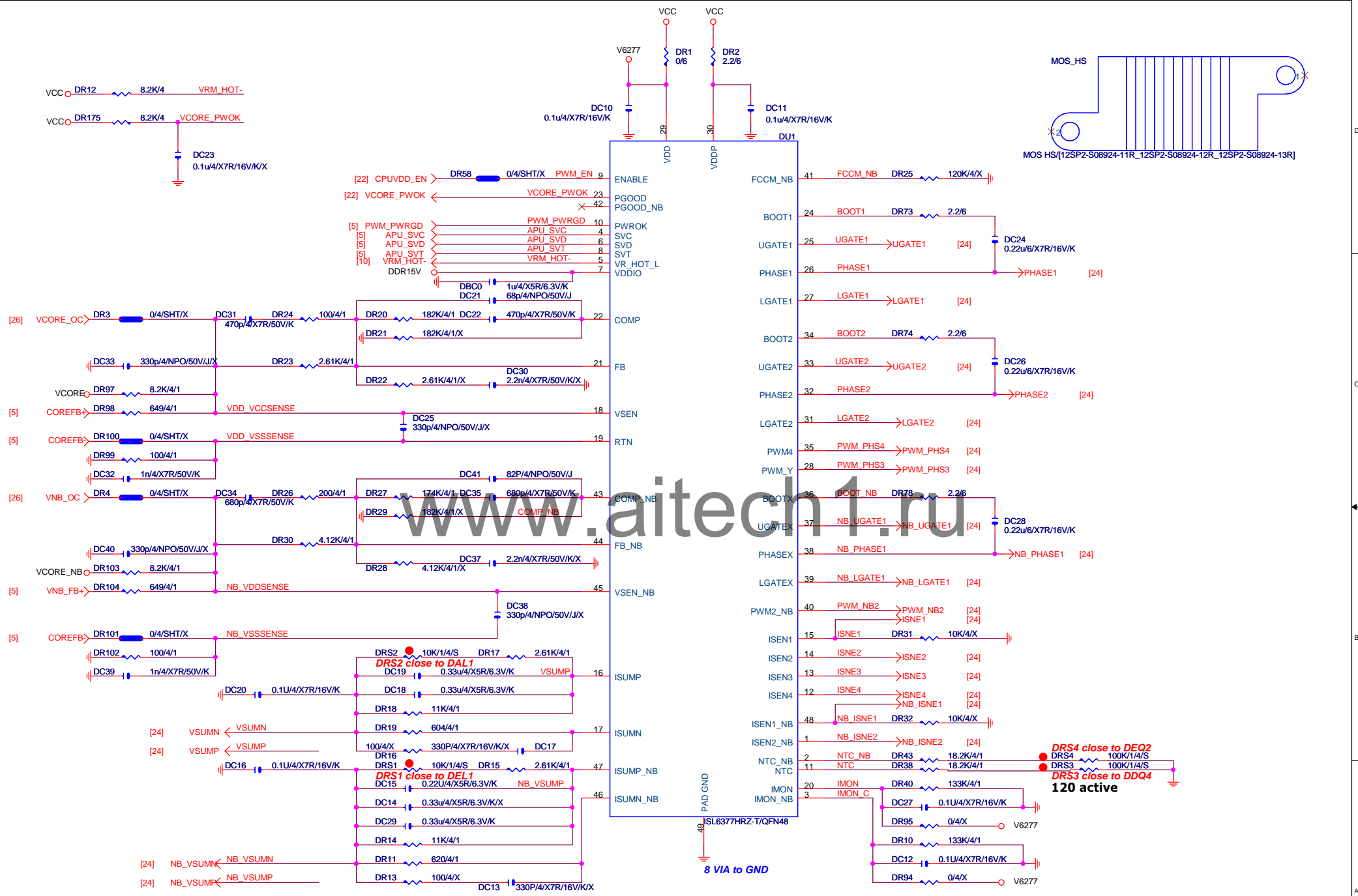
Rev : 1.0 pop

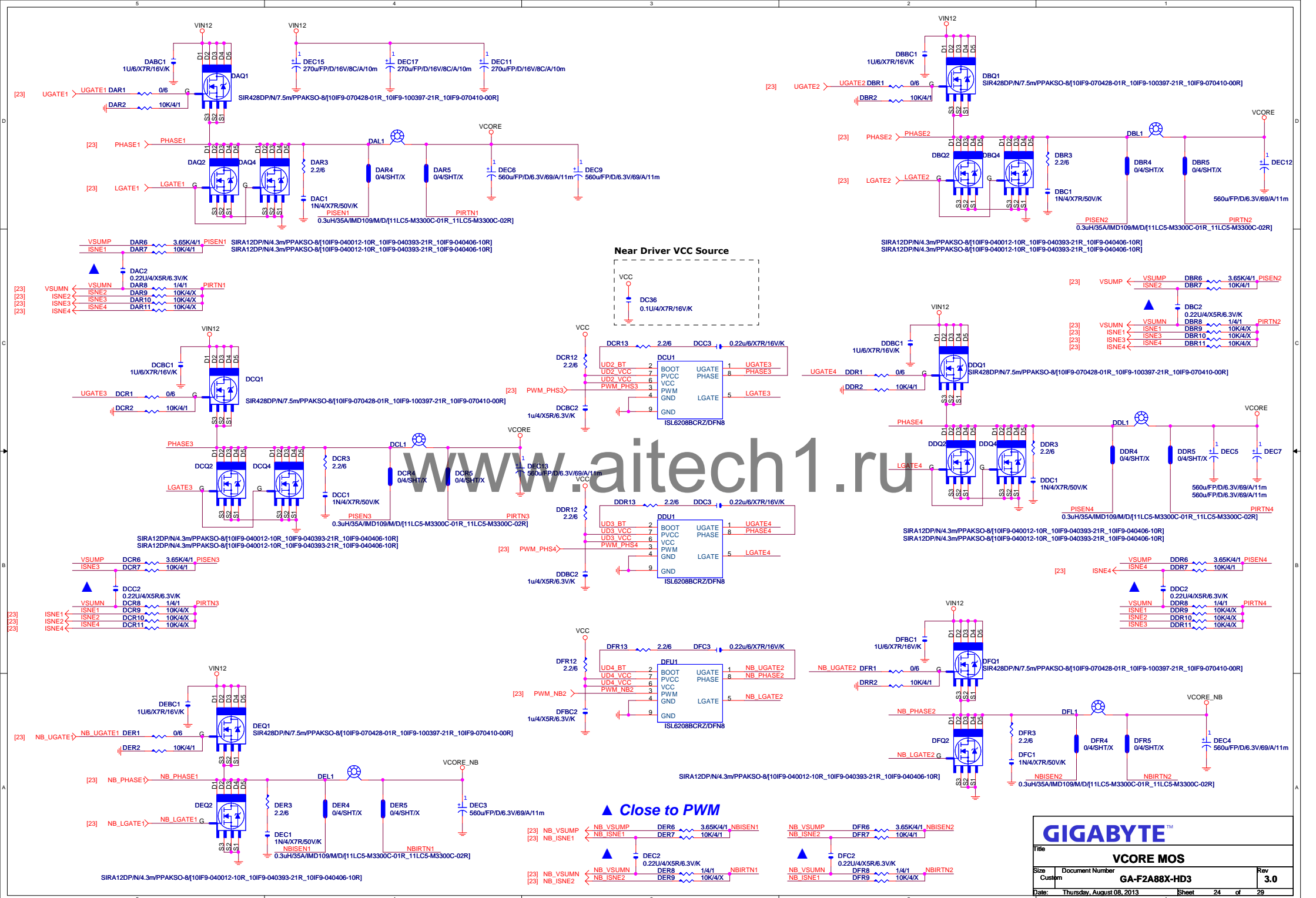
Rev: 0.1 pop



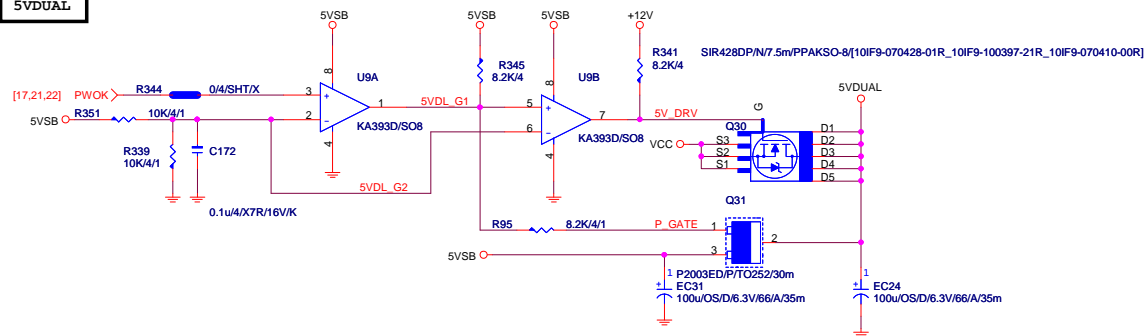
GIGABYTE™

Title			
POWER SEQUENCE			
Size	Document Number	Rev	
Custom	GA-F2A88X-HD3	3.0	
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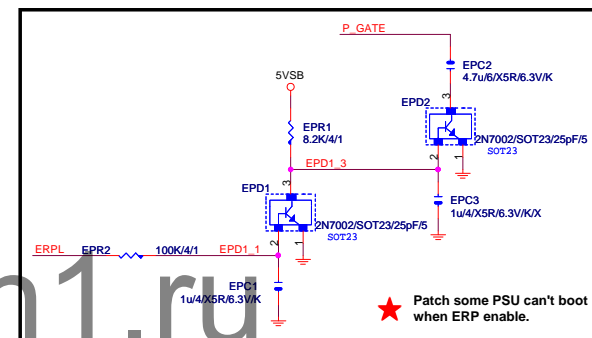
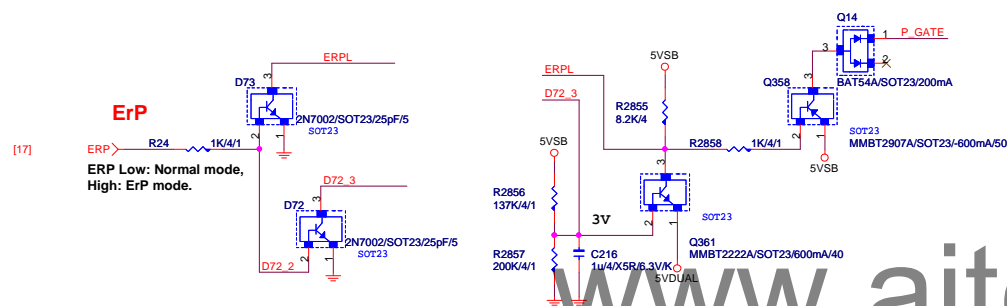




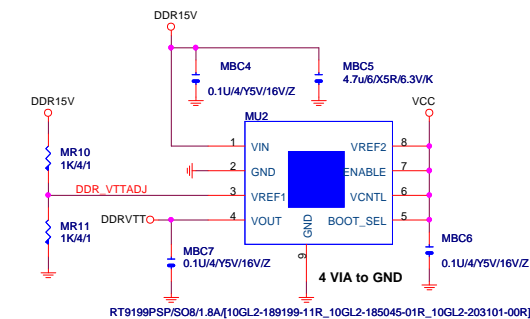
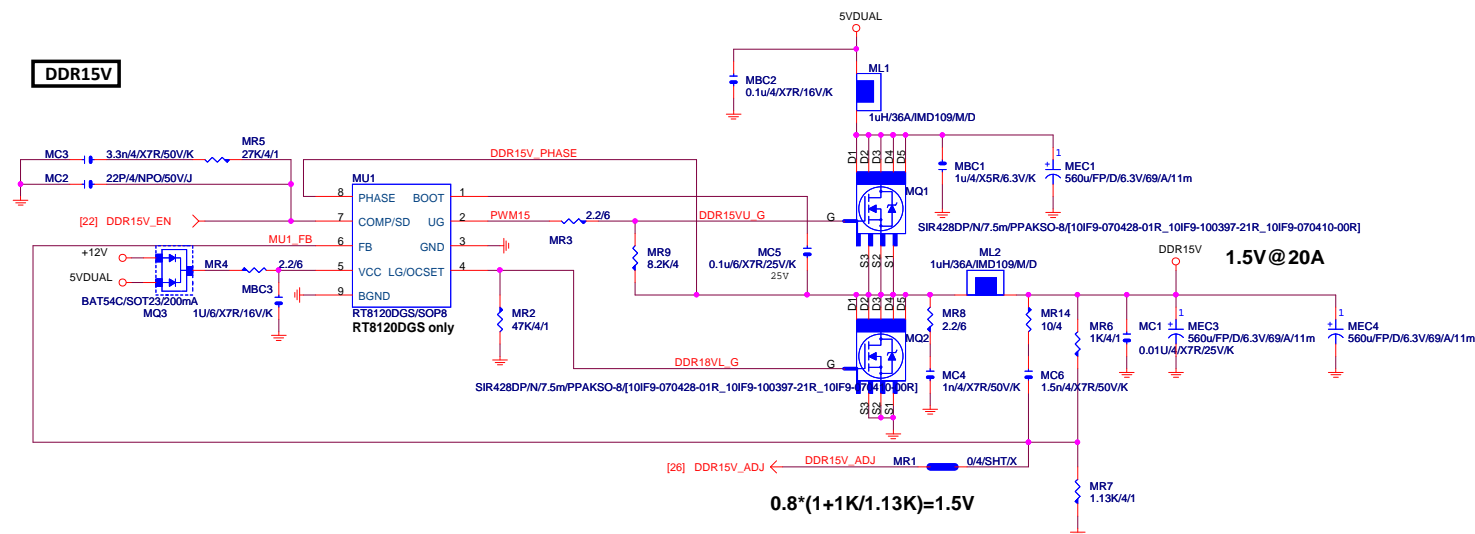
5VDUAL



ErP



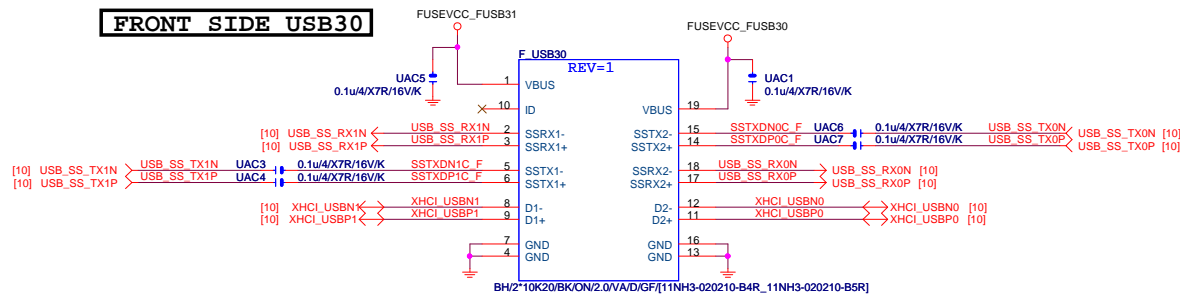
DDR15V



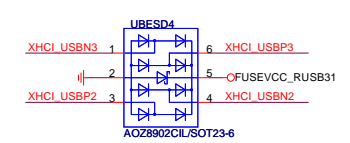
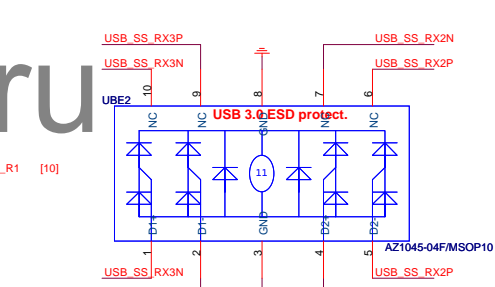
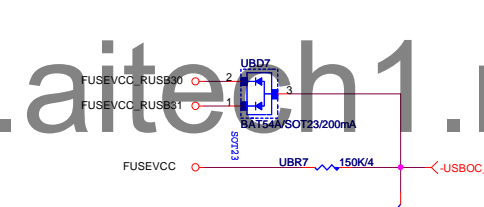
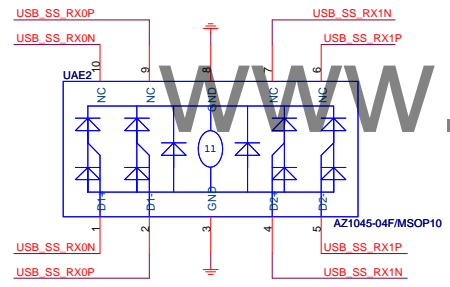
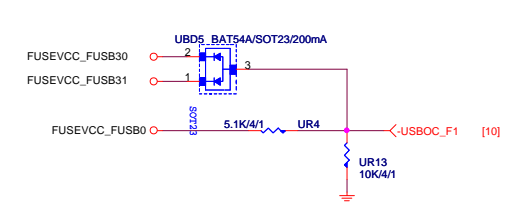
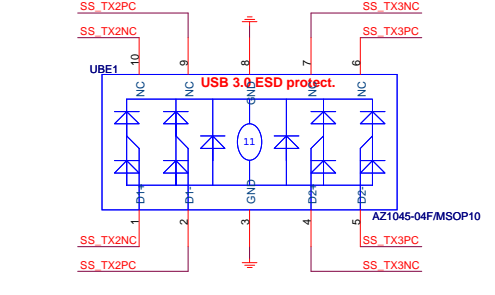
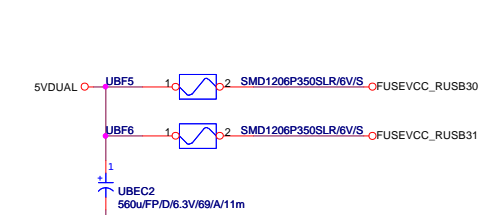
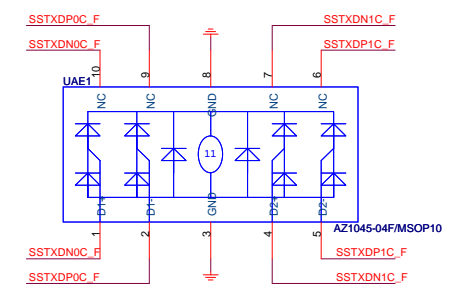
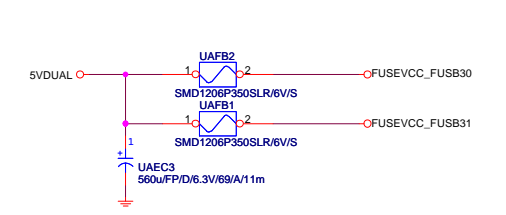
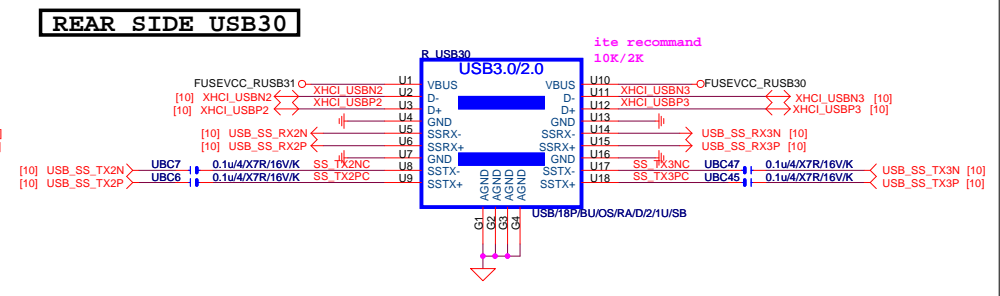
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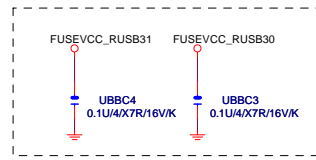
FRONT SIDE USB30



REAR SIDE USB30



Close R_USB30



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