GA-AX370-Gaming K5

Revision : 1.0

2015.12.30--B.L

GIGABYTE™

Title	COVER SHEET
Size: Custom	Document Number: GA-AX370-Gaming K5
Rev	1.0
Date: Friday, February 24, 2017	Sheet 1 of 44

Model Name:GA-AX370-Gaming K5

Version: 1.0

P-Code: U16103-0

Component value change history

Date	Change Item		Reason
2016.10.24	0.1 New BOM release	PCB:0.1	New Model ,Modify X370-Gaming 7 Rev0.1 ,Change to 4L PCB
2016.12.30	0.1 E-BOM release	PCB:0.1	1.)rename GA-X370-Gaming 5 => GA-AX370-Gaming K5 2.)Spec change CC logic & switch 改用TI TI HD3SS3220 3.)Add AMD CPU_FAN LED connector 4.)add EC IT8792 5.)Del DB_Port 6.)Del LED_PCH1 7.) 4Dimm DDR 請貼 GA-AX370-Gaming K3 最後新final layout
2017.02.06	1.0A E-BOM release	PCB:1.0	1.)update EC 線路 2.)MASK XMP Turbo LED 3.)模組 DDR layout 走線 4.)add IDT CKG 9FGL1214AKLFT
2017.02.24	1.0B P-BOM release	PCB:1.0	1.)Audio EC-cap change to NICHICON 2.)HDMI ESD change to AZ1045 3.)remove M_BIOS socket 4.)EC-Cap change to Tapping for PVT BOM

Circuit or PCB layout change for next version

Date	Change Item	Reason
2016.10.21	Rev 0.1 Gerber-out	Modify from X370-Gaming 7 Rev0.1 ,Change to 4L PCB
2016.12.29	Rev 0.1 Gerber-out	1.)rename GA-X370-Gaming 5 => GA-AX370-Gaming K5 2.)Spec change CC logic & switch 改用TI TI HD3SS3220 3.)Add AMD CPU_FAN LED connector 4.)add EC IT8792 5.)Del DB_Port 6.)Del LED_PCH1 7.) 4Dimm DDR 請貼 GA-AX370-Gaming K3 最後新final layout
2017.02.03	Rev 1.0 Gerber-out	1.)update EC 線路 2.)MASK XMP Turbo LED 3.)模組 DDR layout 走線 4.)add IDT CKG 9FGL1214AKLFT

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Title	BOM & PCB HISTORY	
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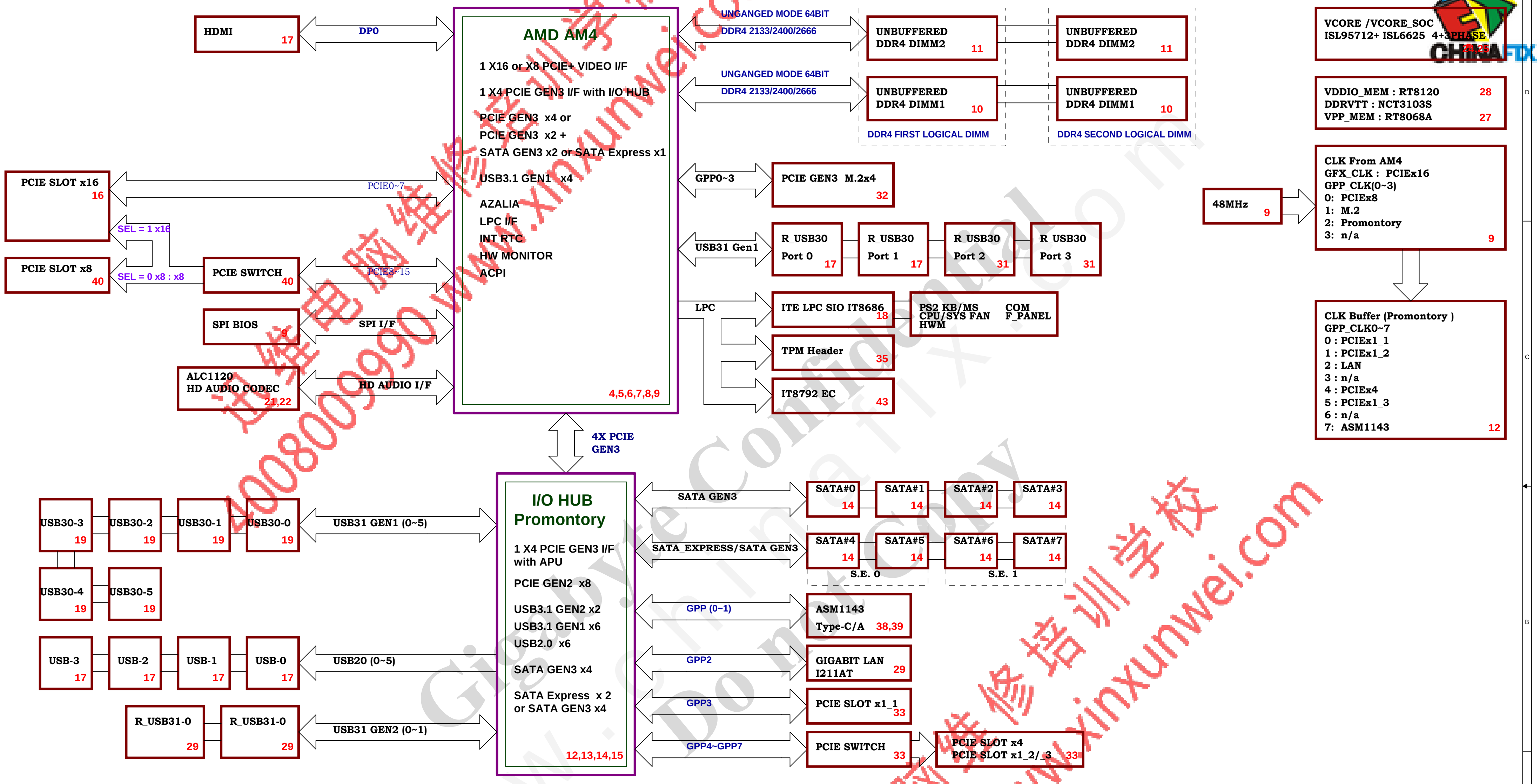

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Title	BLOCK DIAGRAM	
Size Custom	Document Number GA-AX370-Gaming K5	Rev 1.0
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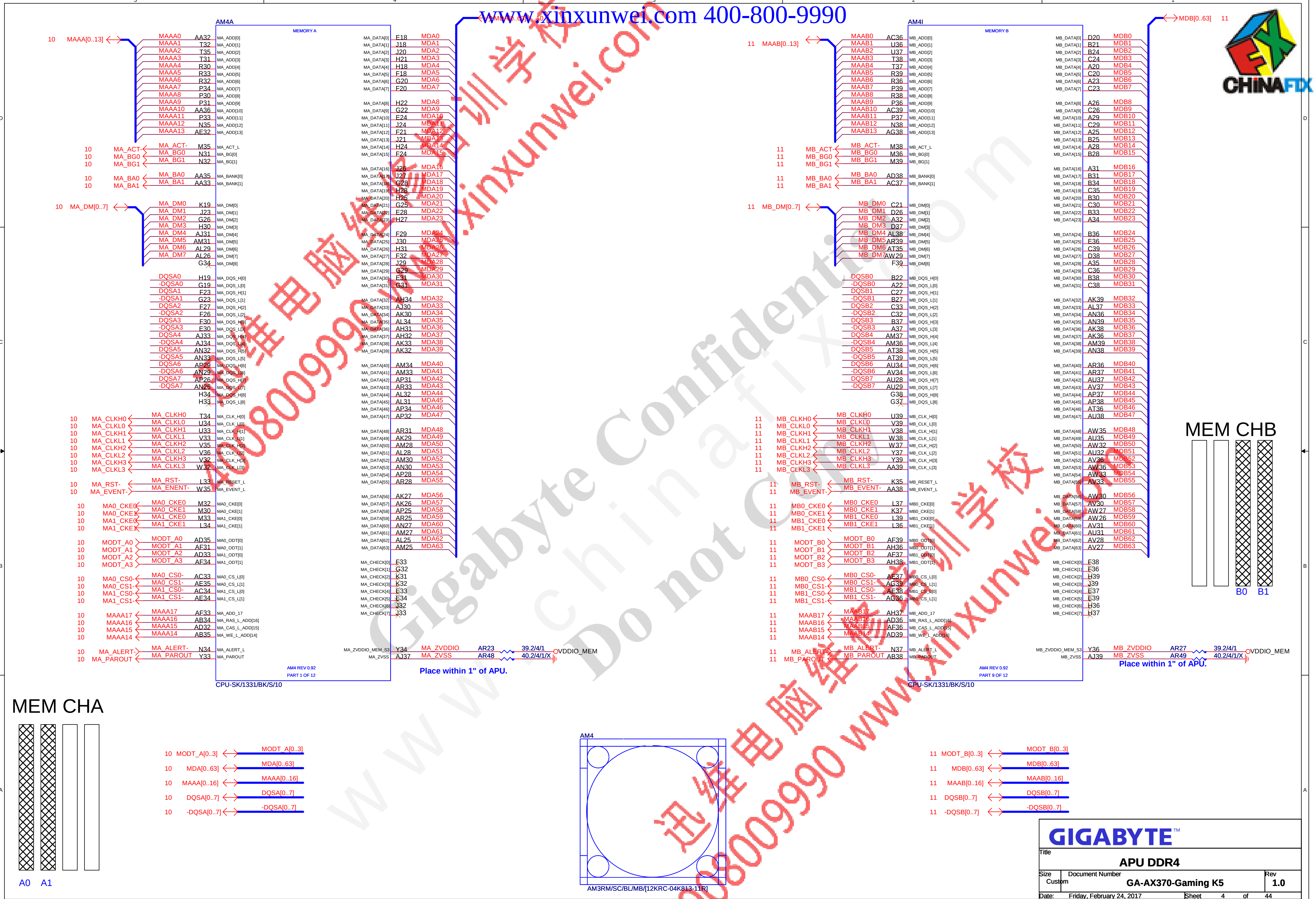

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Title: APU DDR4

Size	Document Number	Rev
Custom	GA-AX370-Gaming K5	1.0

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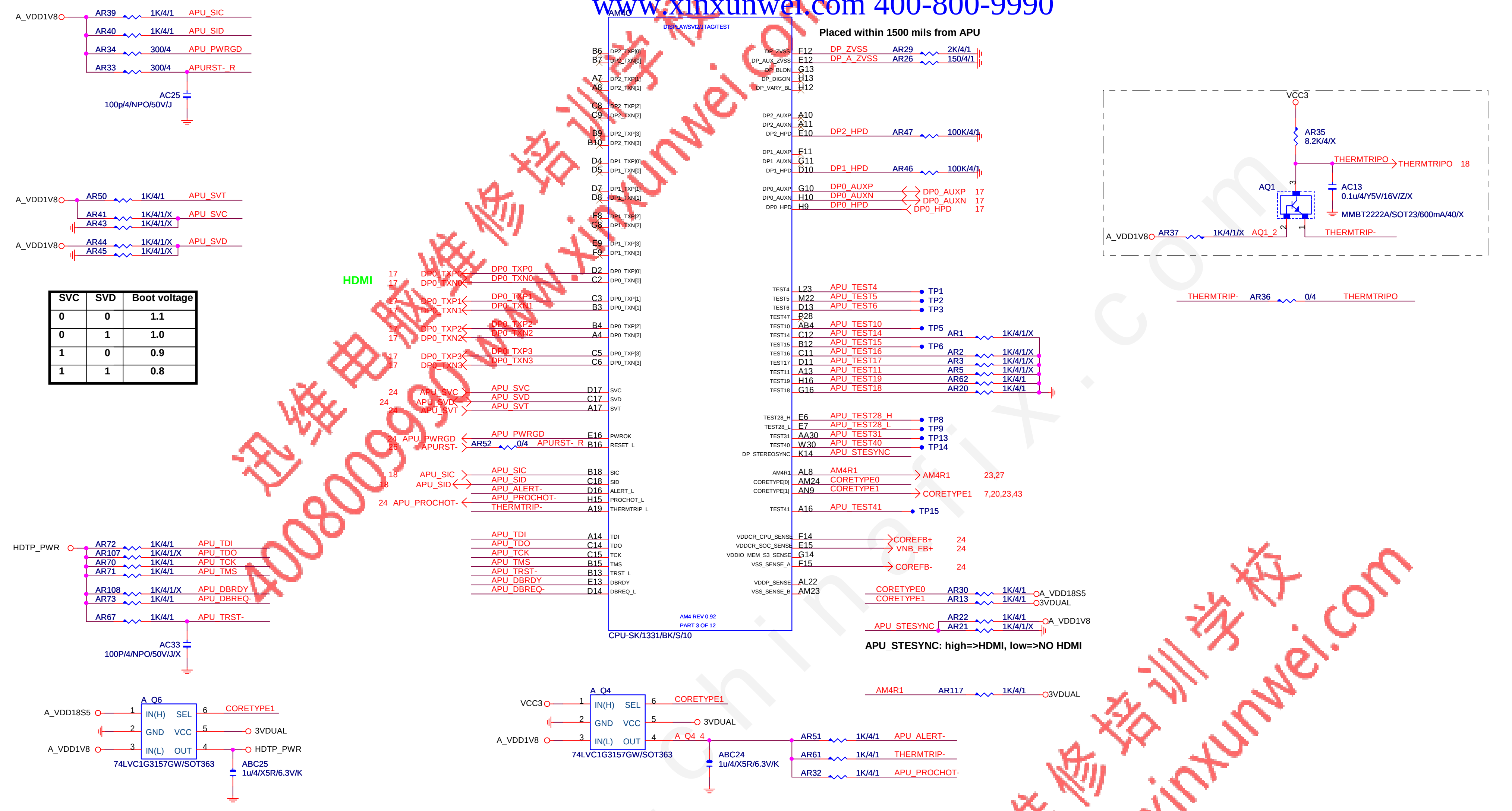

SVC	SVD	Boot voltage
0	0	1.1
0	1	1.0
1	0	0.9
1	1	0.8

AM4 CPU CoreType

CORETYPE 1	CORETYPE 0	Family / Model Numbers	AM4 APU TYPE
0 BR	0	Family 15 h / Models 60 h- 6 Fh	TYPE 0
0	1	Reserved	TYPE 1
1 ST	0	Family 17 h / Models 00 h- 0 Fh	TYPE 2
1 RV	1	Family 17 h / Models 10 h- 1 Fh	TYPE 3

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Title: CPU DDI, CONTROL

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Title	CPU GFX, GPP ,SB ,GND	
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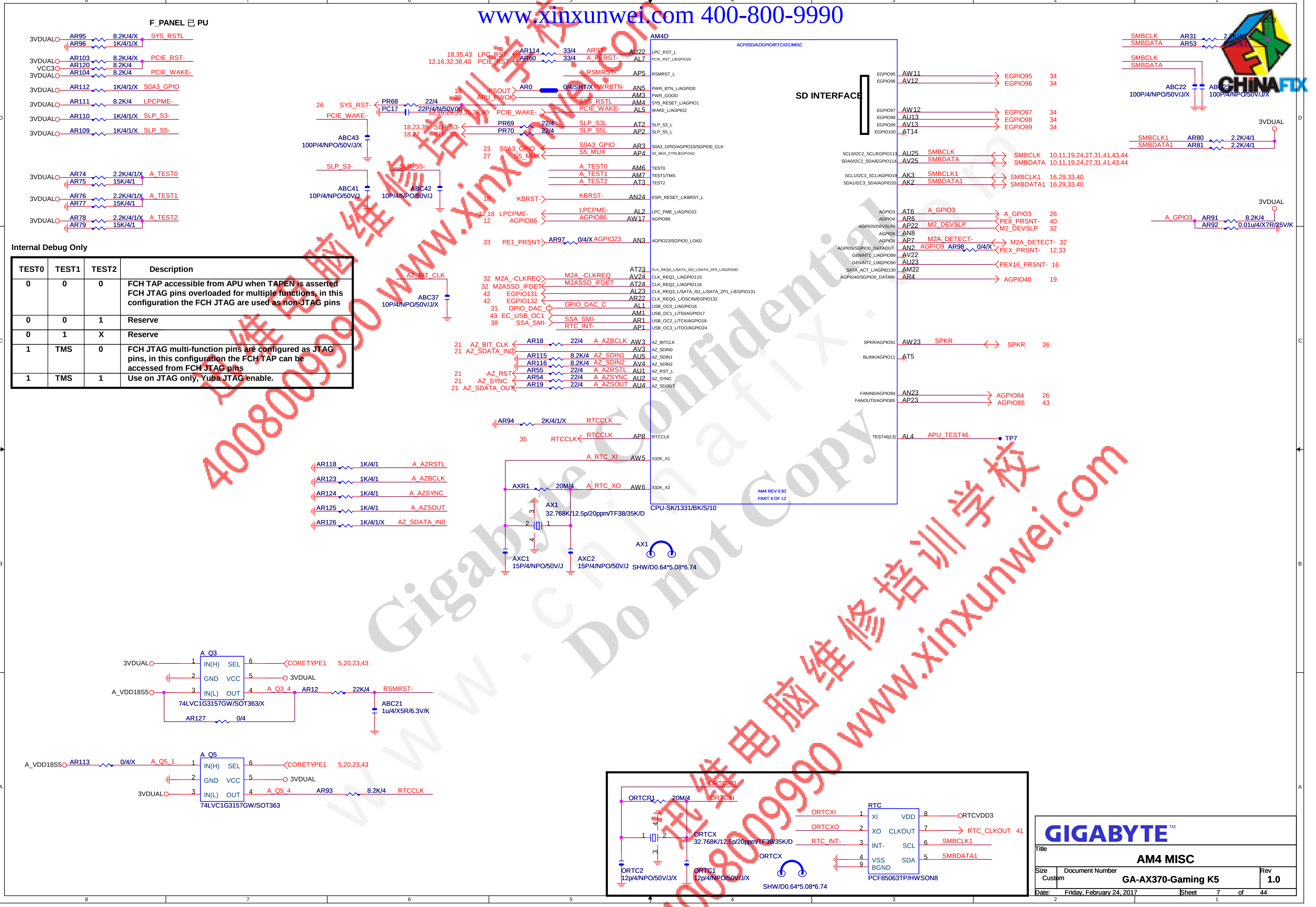

Internal Debug Only

TEST0	TEST1	TEST2	Description
0	0	0	FCH TAP accessible from APU when TAPEN is asserted FCH JTAG pins overloaded for multiple functions, in this configuration the FCH JTAG are used as non-JTAG pins
0	0	1	Reserve
0	1	X	Reserve
1	TMS	0	FCH JTAG multi-function pins are configured as JTAG pins, in this configuration the FCH TAP can be accessed from FCH JTAG pins
1	TMS	1	Use on JTAG only, Yuba JTAG enable.

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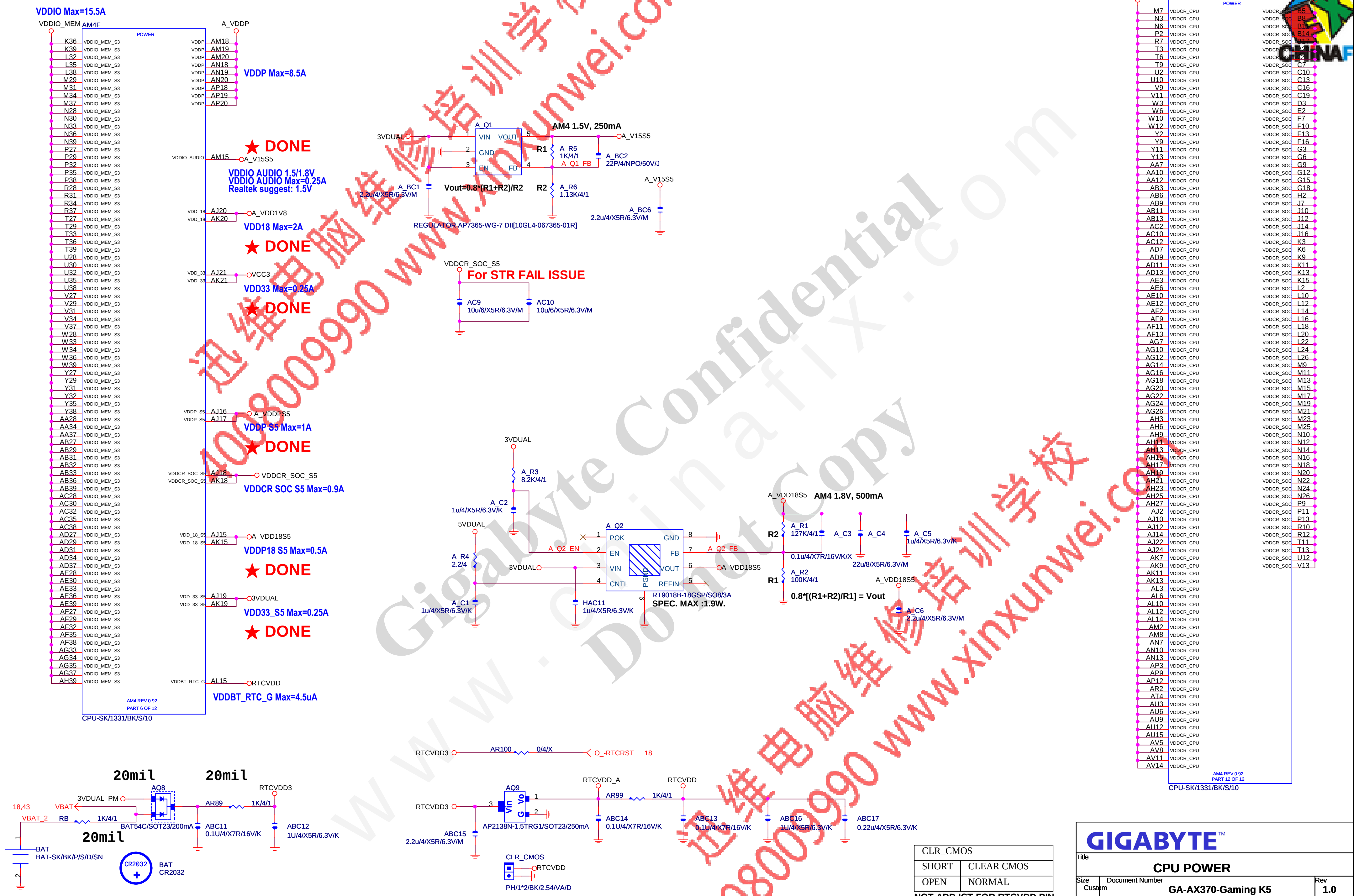
Title	AM4 MISC	
Size: Custom	Document Number: GA-AX370-Gaming K5	Rev: 1.0
Date: Friday, February 24, 2017	Sheet 7 of 44	



CLR_CMOS	
SHORT	CLEAR CMOS
OPEN	NORMAL

NOT ADD ICT FOR RTCVDD PIN

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Title	CPU POWER	
Size Custom	Document Number GA-AX370-Gaming K5	Rev 1.0
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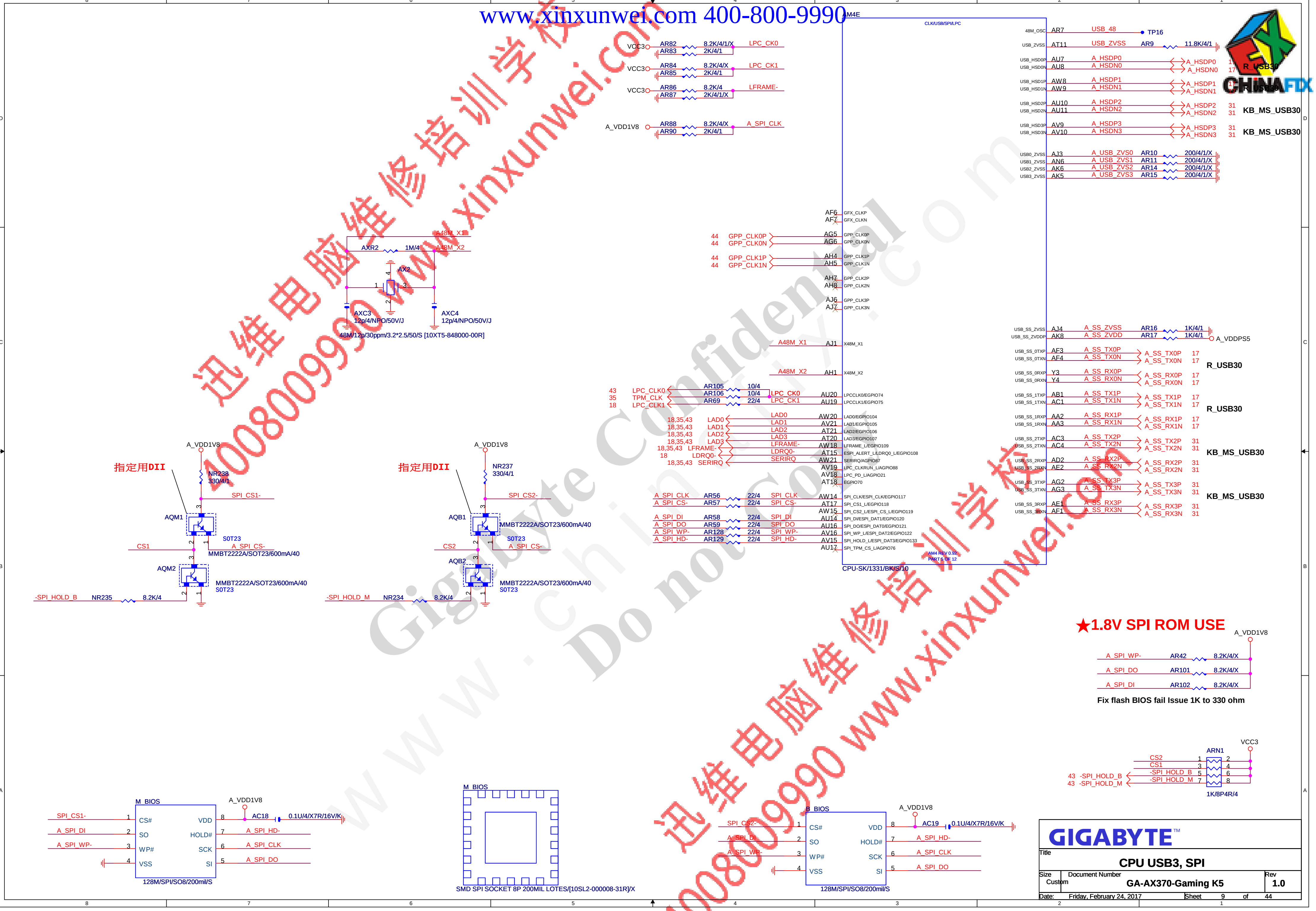

www.xinxunwei.com 400-800-9990
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www.chinafix.com
AM4E
CLK/USB/SPI/LPC
CPU-SK/1331/BK/S/10
AM4 REV 0.92
PART 5 OF 12
USB_48
TP16
USB_ZVSS
R_USB30
KB_MS_USB30
A_VDDP5S
48M/12p/30ppm/3.2*2.5/50/S [10XT5-848000-00R]
AXC3 12p/4/NPO/50V/J
AXC4 12p/4/NPO/50V/J
AXR2 1M/4
AX2
A48M_X1
A48M_X2
LPC_CLK0
TPM_CLK
LPC_CLK1
LAD0
LAD1
LAD2
LAD3
LFRAME-
LDRQ0-
SERIRQ
A_SPI_CLK
A_SPI_CS-
A_SPI_DI
A_SPI_DO
A_SPI_WP-
A_SPI_HD-
指定用DII
A_VDD1V8
NR238 330/4/1
NR237 330/4/1
SPI_CS1-
SPI_CS2-
AQM1
AQM2
AQB1
AQB2
MMBT2222A/SOT23/600mA/40
CS1
CS2
-SPI_HOLD_B
-SPI_HOLD_M
NR235 8.2K/4
NR234 8.2K/4
★1.8V SPI ROM USE
AR42 8.2K/4/X
AR101 8.2K/4/X
AR102 8.2K/4/X
Fix flash BIOS fail Issue 1K to 330 ohm
VCC3
ARN1
1K/8P4R/4
M_BIOS
B_BIOS
CS#
SO
WP#
VSS
VDD
HOLD#
SCK
SI
AC18 0.1U/4/X7R/16V/K
AC19 0.1U/4/X7R/16V/K
128M/SPI/SO8/200mil/S
SMD SPI SOCKET 8P 200MIL LOTES/[10SL2-000008-31R]/X
GIGABYTE
Title
CPU USB3, SPI
Size Custom
Document Number
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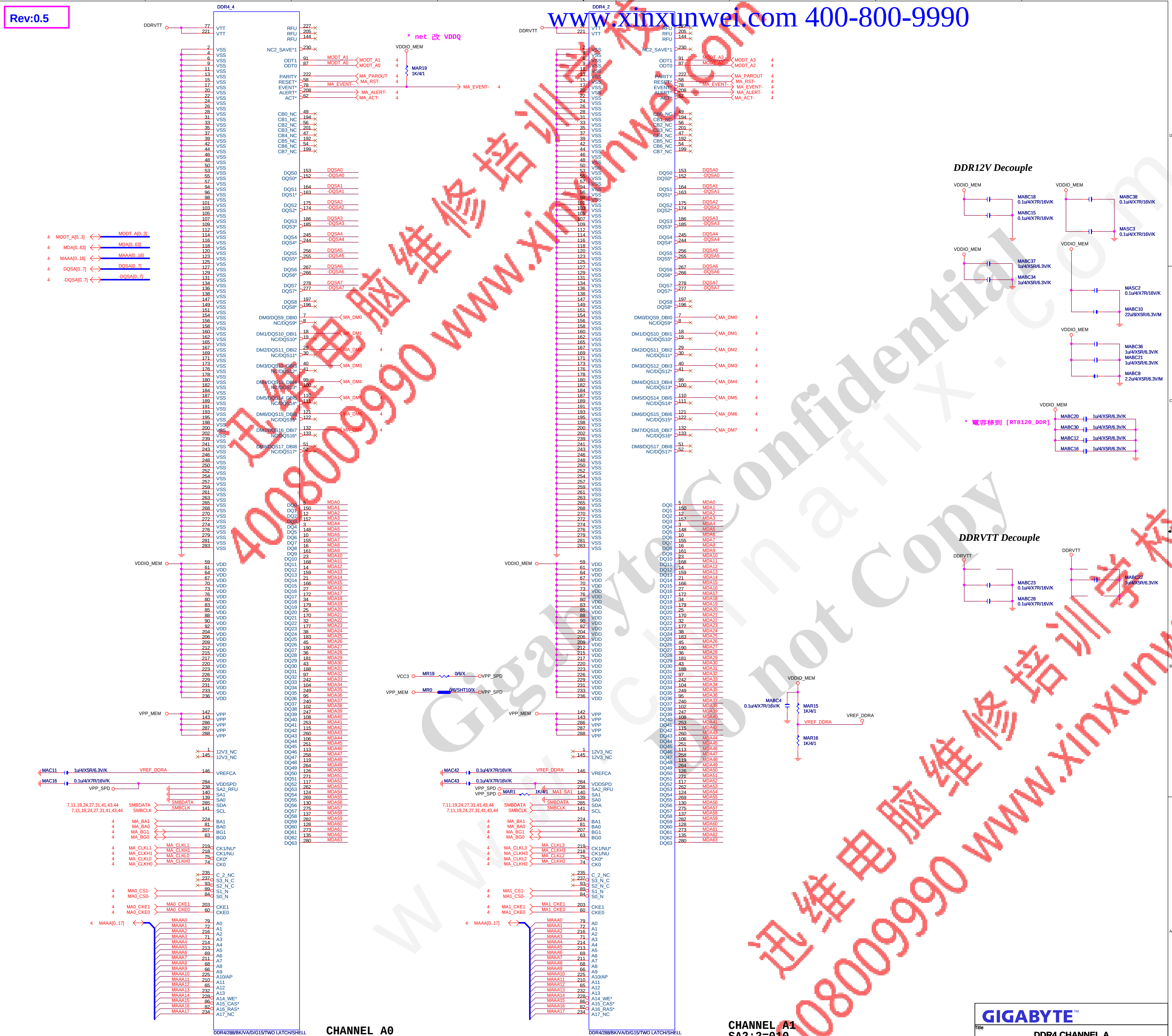
Rev:0.5



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Title	DDR4 CHANNEL A	
Size: Custom	Document Number: GA-AX370-Gaming K5	Rev: 1.0
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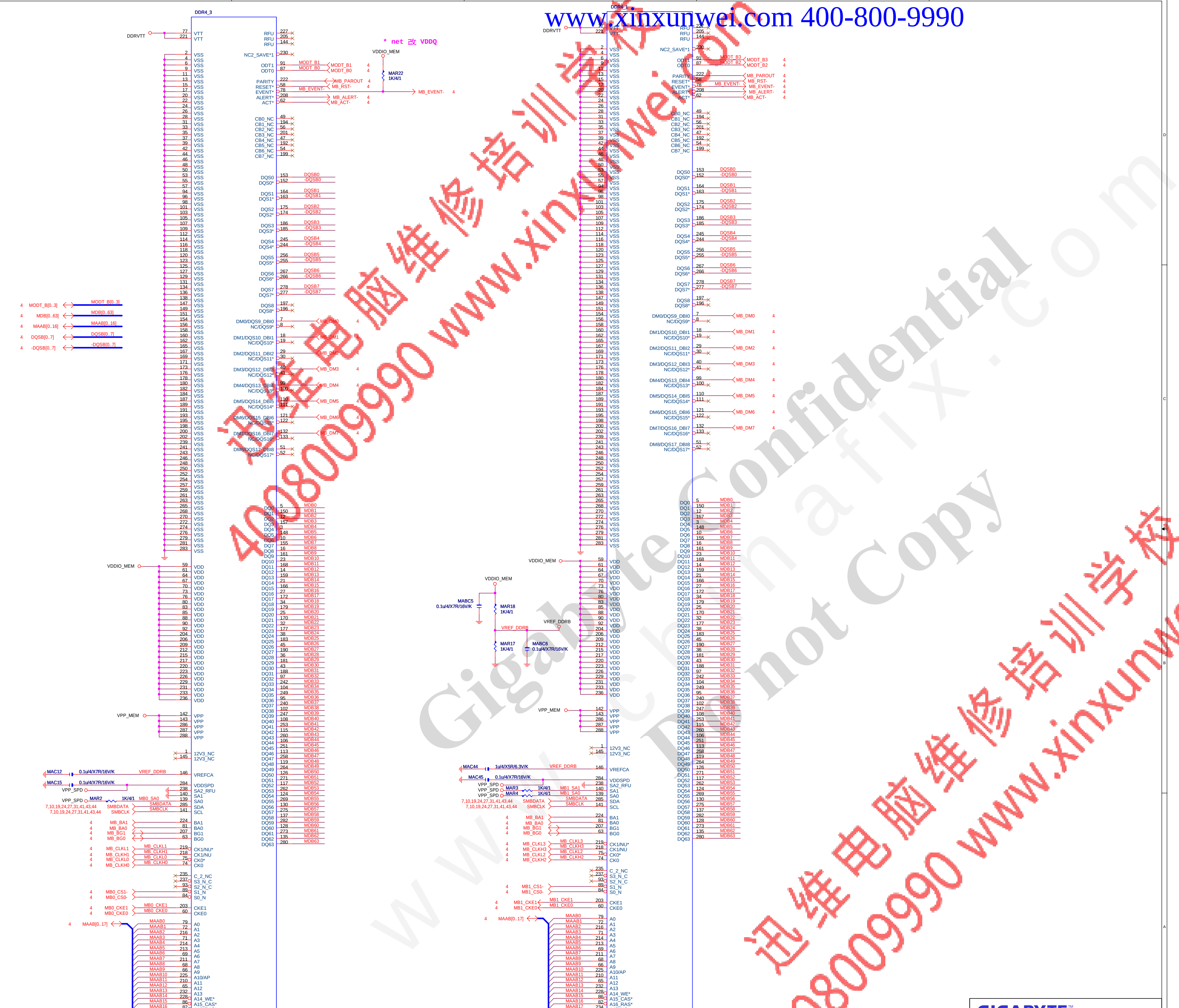

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Title: DDR4 CHANNEL B

Size	Document Number	Rev
Custom	GA-AX370-Gaming K5	1.0

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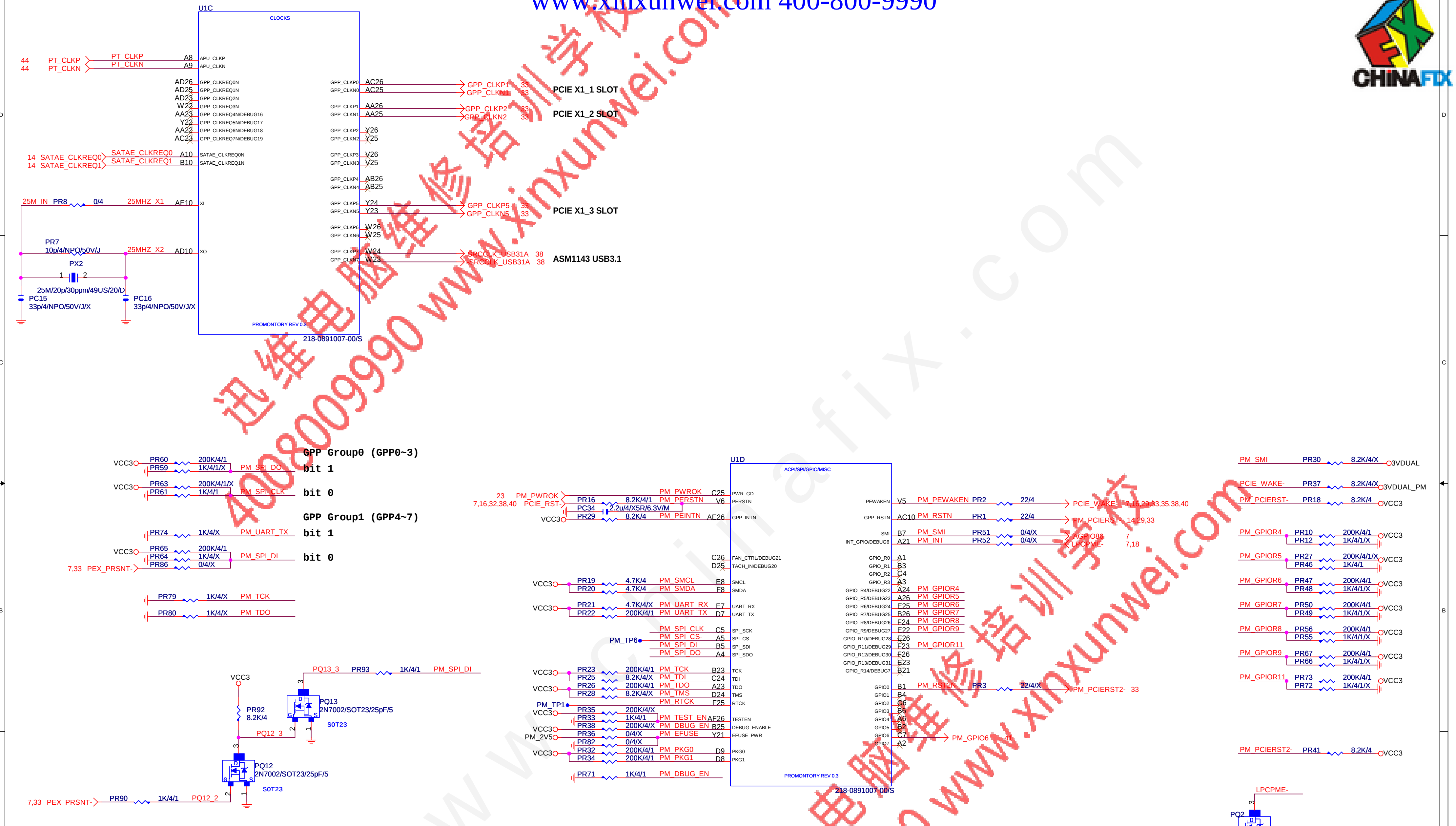

+3.3V_RUN = PM_3V3_S0_B (Through 60R choke/bead)
+3.3V_ALW = PM_3V3_S5_B (Through 60R choke/bead)
1.05V_PROM_S5 = PM_1V05_S5_B (Through 60R choke/bead)
2.5V_PROM = PM_2V5_RUN_B (Through 60R choke/bead)
1.05_PROM_RUN = PM_1V05_RUN_B (Through 60R choke/bead)

ANS 5212759	GIGABYTE™
Title	PM CLK, SPI, MISC
Size: Custom	Document Number: GA-AX370-Gaming K5
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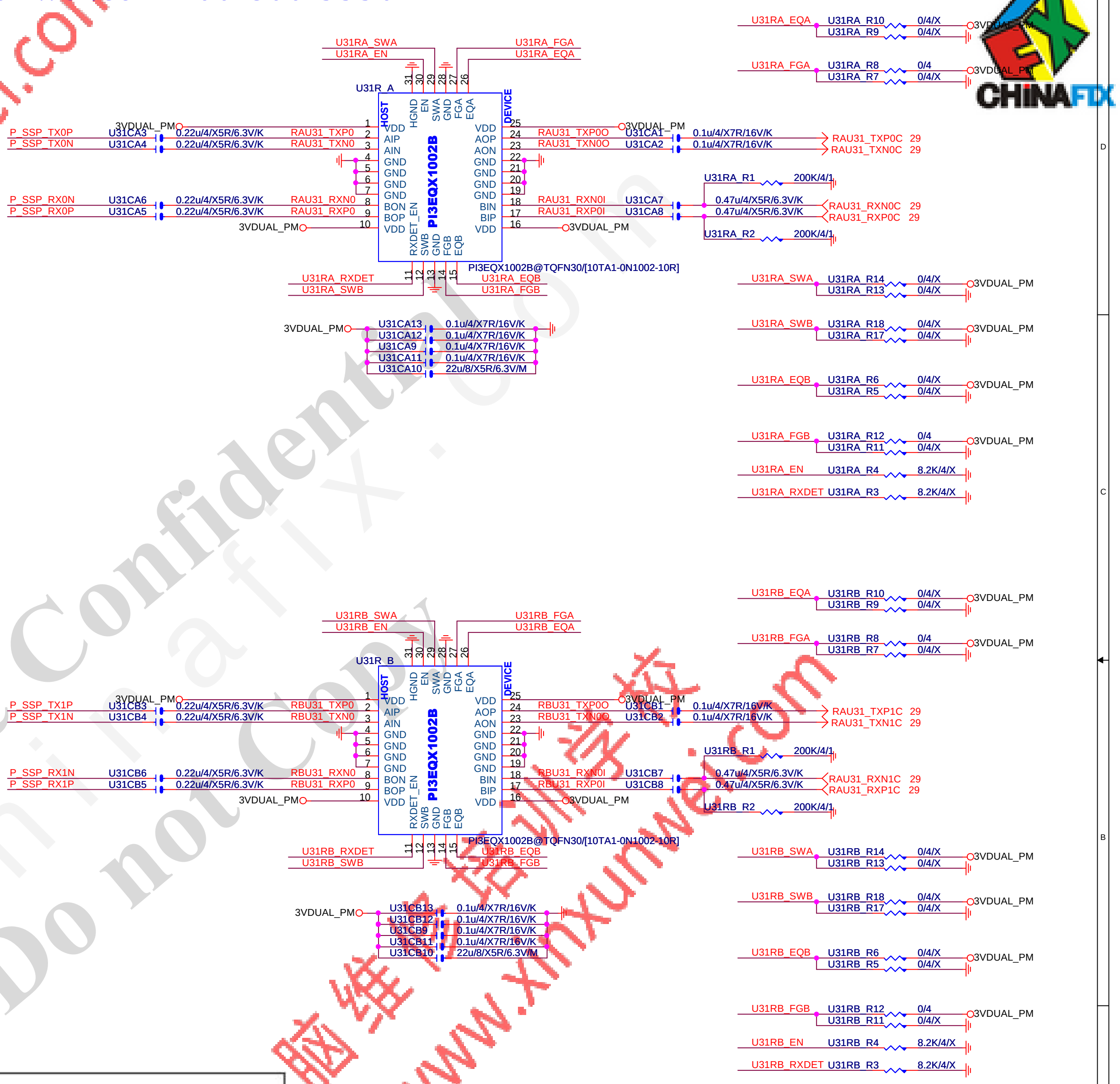

USB3.1	USB2.0	USB_OC
USB_SSP_TX/RXP/N[0]	USB_HSDP/N[5]	USB_OC0N
USB_SSP_TX/RXP/N[1]	USB_HSDP/N[0]	USB_OC1N
USB3.0	**USB2.0**	**USB_OC**
USB_SS_TX/RXP/N[0]	USB_HSDP/N[10]	USB_OC2N
USB_SS_TX/RXP/N[1]	USB_HSDP/N[11]	USB_OC3N
USB_SS_TX/RXP/N[2]	USB_HSDP/N[6]	USB_OC4N
USB_SS_TX/RXP/N[3]	USB_HSDP/N[7]	USB_OC5N
USB_SS_TX/RXP/N[4]	USB_HSDP/N[8]	USB_OC6N
USB_SS_TX/RXP/N[5]	USB_HSDP/N[9]	USB_OC7N
	USB_HSDP/N[1]	USB_OC7N
	USB_HSDP/N[2]	USB_OC7N
	USB_HSDP/N[3]	USB_OC7N
	USB_HSDP/N[4]	USB_OC7N
	USB_HSDP/N[12]	USB_OC7N
	USB_HSDP/N[13]	USB_OC7N

BUS Model	USB			
	3.1 Gen2 10 Gbps	3.1 Gen1 5 Gbps	2.0	Debug Port
PROM4	USB_SSP Port0~1	USB_SS Port 0~5	USB_HSD Port0~13	USB_SSP Port0
PROM2	USB_SSP Port0~1	USB_SS Port 0~1	USB_HSD Port0~5 USB_HSD Port10~13	USB_SSP Port0
PROM1	USB_SSP Port0	USB_SS Port0 USB_SSP Port1	USB_HSD Port0~5 USB_HSD Port10, 12~13	USB_SSP Port0

ANS 5212759
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Title: PM USB

Size: Custom | Document Number: GA-AX370-Gaming K5 | Rev: 1.0

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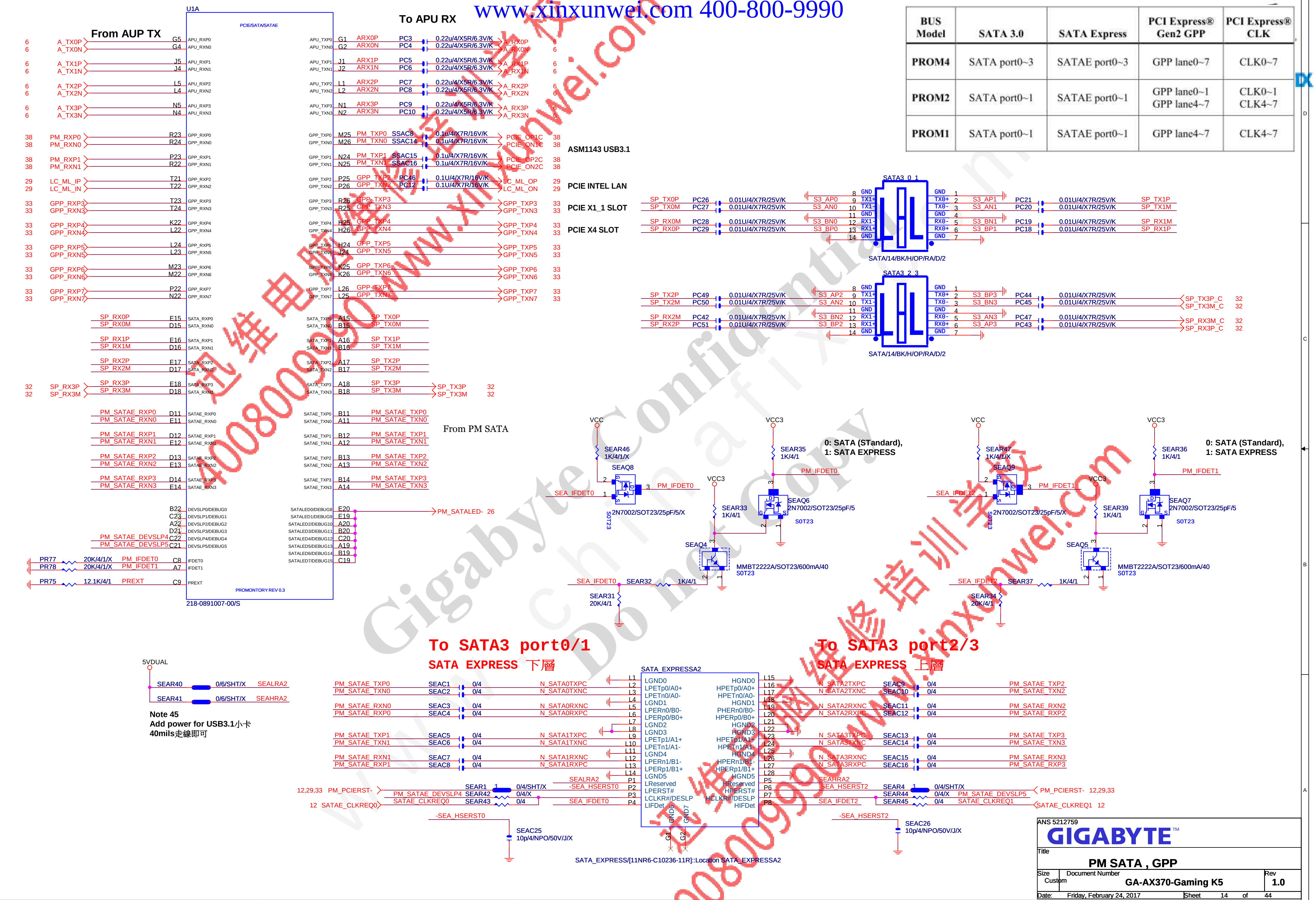
BUS Model	SATA 3.0	SATA Express	PCI Express® Gen2 GPP	PCI Express® CLK
PROM4	SATA port0~3	SATAE port0~3	GPP lane0~7	CLK0~7
PROM2	SATA port0~1	SATAE port0~1	GPP lane0~1 GPP lane4~7	CLK0~1 CLK4~7
PROM1	SATA port0~1	SATAE port0~1	GPP lane4~7	CLK4~7



ANS 5212759

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Title

PM SATA , GPP

Size	Document Number	Rev
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ANS 5212759

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Title	PM POWER, GND	
Size: Custom	Document Number: GA-AX370-Gaming K5	Rev: 1.0
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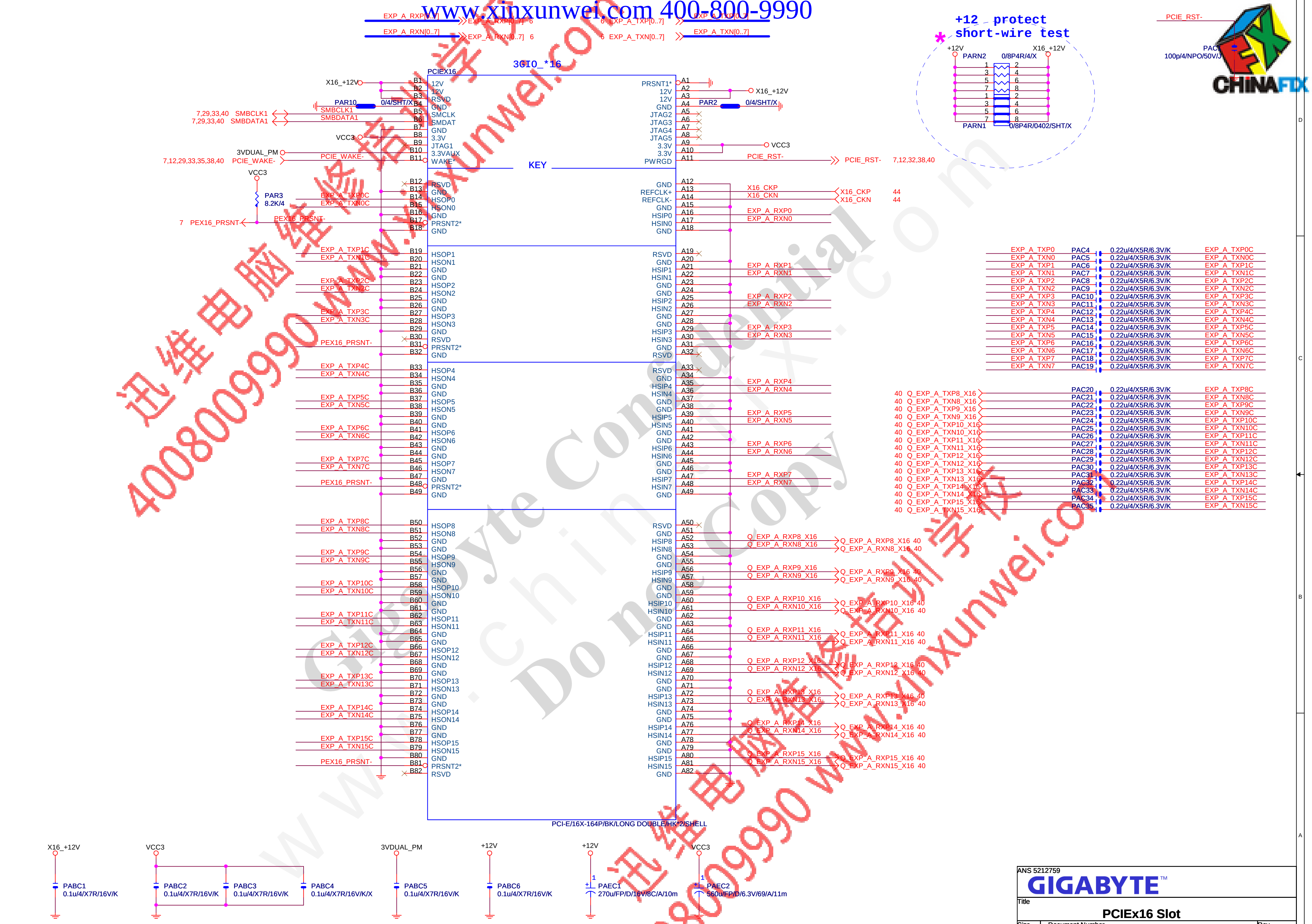

ANS 5212759
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Title: PCIEx16 Slot

Size	Document Number	Rev
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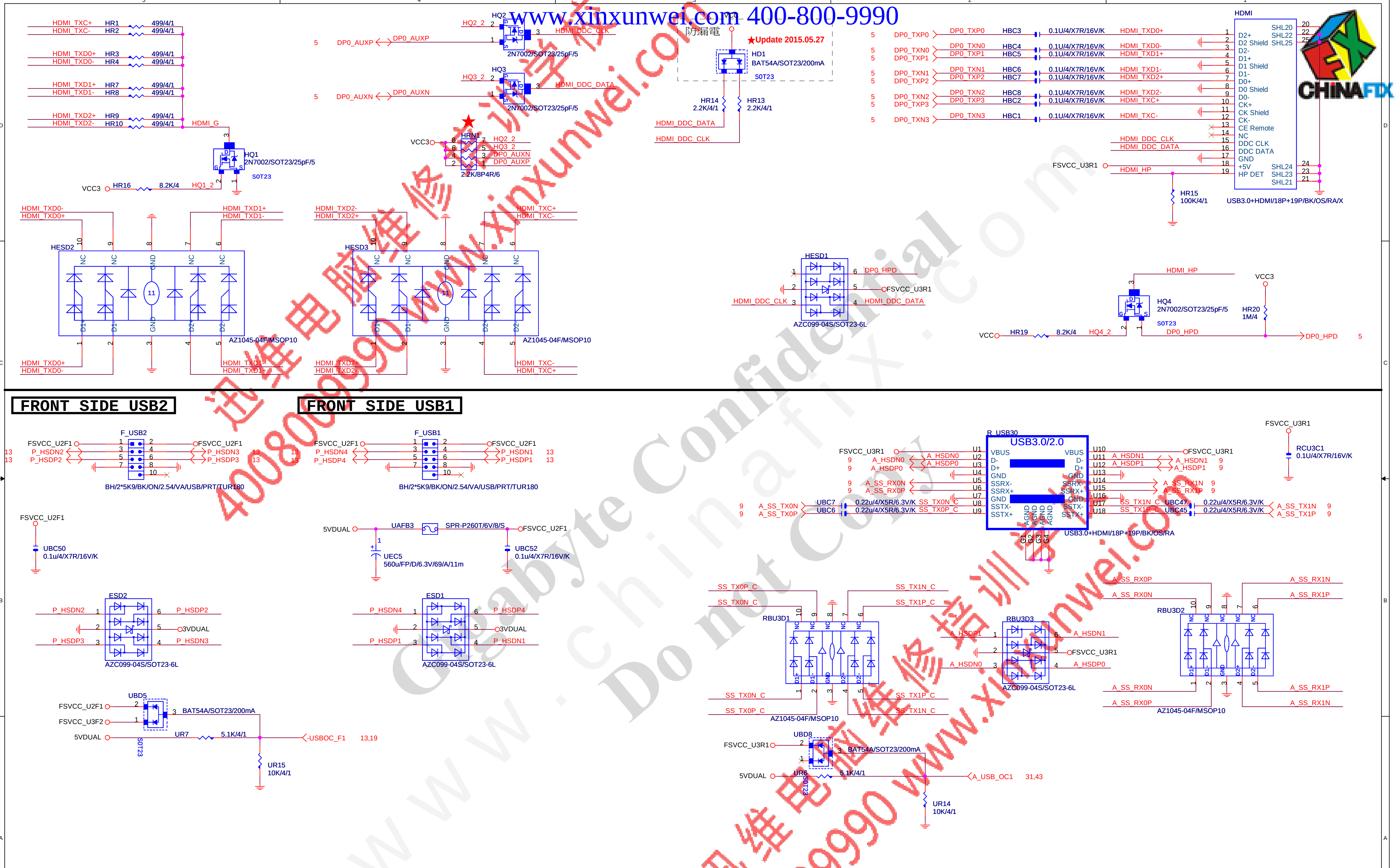

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Title: HDMI, R_USB30, F_USB20

Size: Custom

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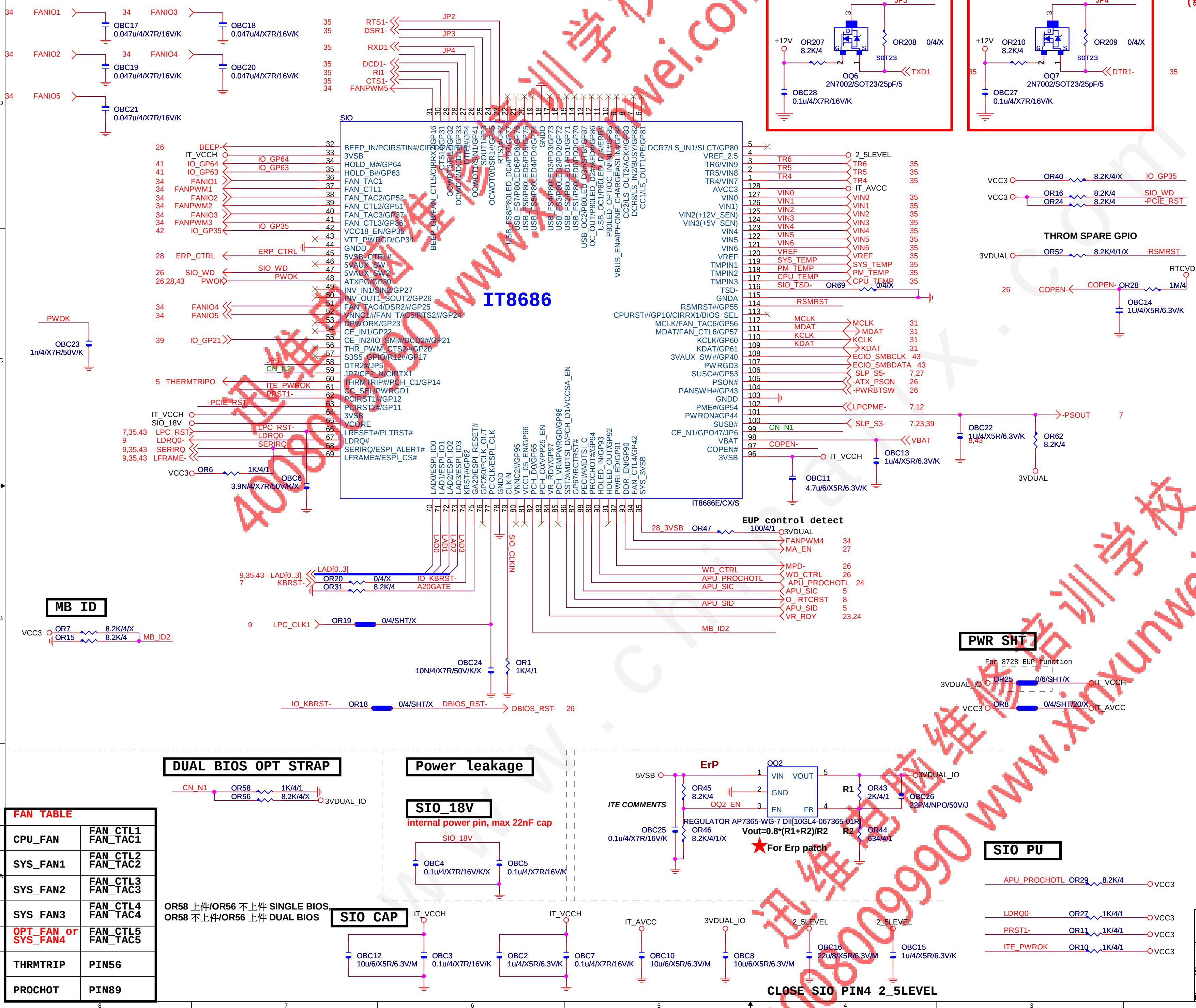
SIO IT8686 REV:0.7

for LPC/eSPI power mode

(組態一) PCIE LAN(Single & Dual LAN)



ERP Wake on LAN

Single LAN	Realtek	組態一
	Atheros	
	Intel 219	組態二
Dual LAN (只留一個LAN支援ERP下WAKE UP)	Atheros+Atheros	組態一
	Intel 219+Atheros	組態三
	Intel 219+Intel 210	
No Support ERP	Single LAN BOM只上OR97。 Dual LAN BOM只上OR97、OR99。	

SIO STRAP

JP2	1	Disable WDT to rest PWROK
	0	Enable WDT to rest PWROK
JP3		Dual-BIOS CS pin mode select bit "0" See the below table
JP4	1	LPC/ESPI power VCCBT = 3.3V
	0	LPC/ESPI power VCCBT = 1.8V
JP5	1	LPC I/F
	0	ESPI I/F
JP6	1	Enable Dual BIOS Function (for GigaByte Only)
	0	Disable Dual BIOS Function (for GigaByte Only)
JP7		Dual-BIOS CE pin mode select bit "1" See the below table
JP7 JP3	1 1	CE pin disable (Hold pin mode)
	1 0	CE mode 1
	0 1	CE mode 2
	0 0	CE mode 3

FAN TABLE

CPU_FAN	FAN_CTL1 FAN_TAC1
SYS_FAN1	FAN_CTL2 FAN_TAC2
SYS_FAN2	FAN_CTL3 FAN_TAC3
SYS_FAN3	FAN_CTL4 FAN_TAC4
OPT_FAN or SYS_FAN4	FAN_CTL5 FAN_TAC5
THRMTRIP	PIN56
PROCHOT	PIN89

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Title	IT 8686 LPC IO	
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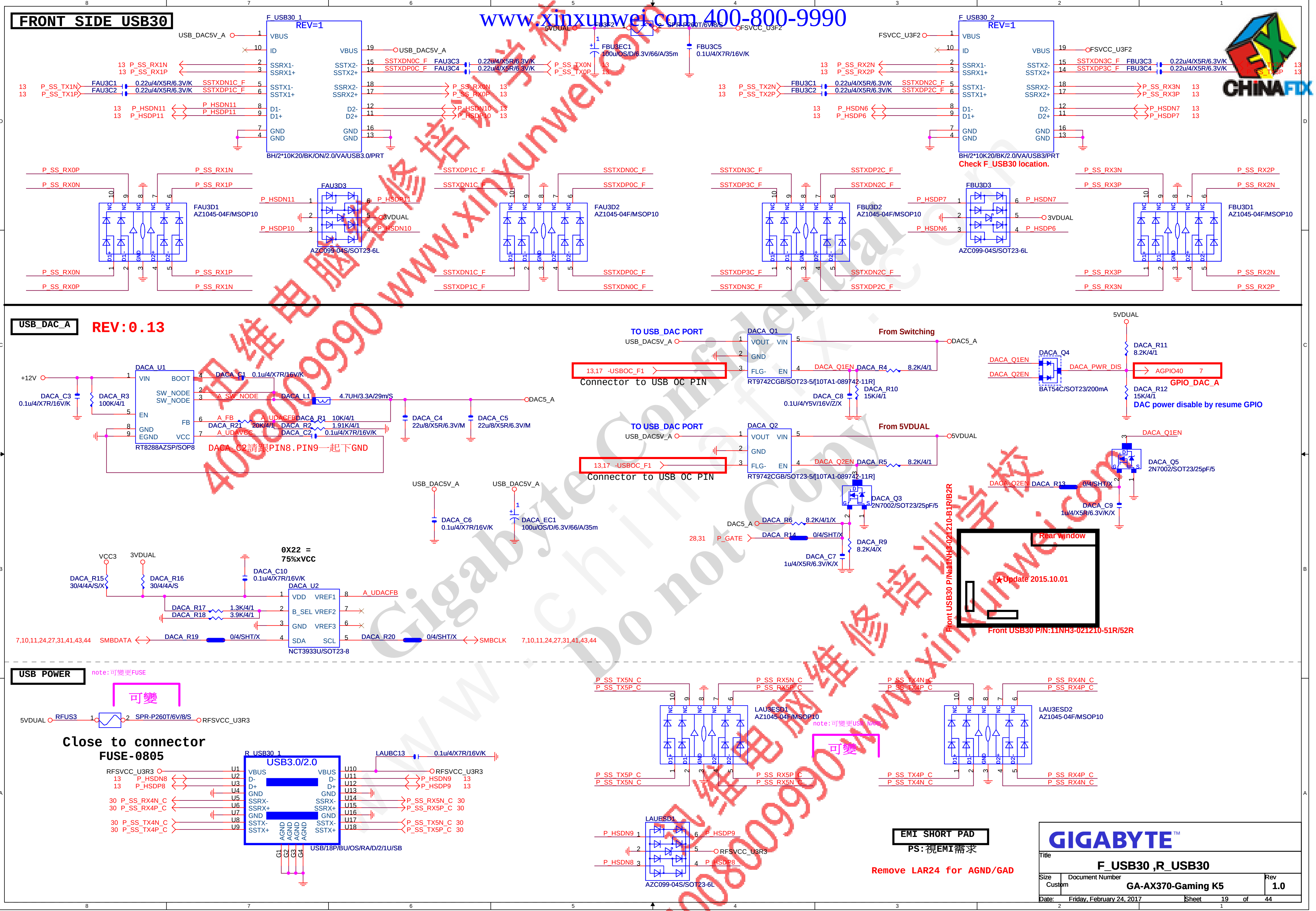

FRONT SIDE USB30
F_USB30_1
REV=1
USB_DAC5V_A
VBUS
ID
SSRX1-
SSRX1+
SSTX1-
SSTX1+
D1-
D1+
GND
SSTX2-
SSTX2+
SSRX2-
SSRX2+
D2-
D2+
BH/2*10K20/BK/ON/2.0/VA/USB3.0/PRT
www.xinxunwei.com 400-800-9990
5VDUAL
F_U3F2
SPR-P260T/6V/8/S
FSVCC_U3F2
FBU3EC1
100u/OS/D/6.3V/66/A/35m
FBU3C5
0.1U/4/X7R/16V/K
F_USB30_2
BH/2*10K20/BK/2.0/VA/USB3/PRT
Check F_USB30 location.
FAU3C1
FAU3C2
FAU3C3
FAU3C4
FBU3C1
FBU3C2
FBU3C3
FBU3C4
0.22u/4/X5R/6.3V/K
FAU3D1
AZ1045-04F/MSOP10
FAU3D2
AZ1045-04F/MSOP10
FAU3D3
AZC099-04S/SOT23-6L
FBU3D1
AZ1045-04F/MSOP10
FBU3D2
AZ1045-04F/MSOP10
FBU3D3
AZC099-04S/SOT23-6L
3VDUAL
USB_DAC_A
REV:0.13
+12V
DACA_U1
VIN
BOOT
SW_NODE
EN
FB
GND
EGND
VCC
RT8288AZSP/SOP8
DACA_C1 0.1u/4/X7R/16V/K
DACA_C3 0.1u/4/X7R/16V/K
DACA_R3 100K/4/1
DACA_L1 4.7UH/3.A/29m/S
DAC5_A
DACA_R1 10K/4/1
DACA_R21 20K/4/1
DACA_R2 1.91K/4/1
DACA_C2 0.1u/4/X7R/16V/K
DACA_C4 22u/8/X5R/6.3V/M
DACA_C5 22u/8/X5R/6.3V/M
DACA_C2請跟PIN8.PIN9一起下GND
TO USB_DAC PORT
DACA_Q1
VOUT
VIN
FLG-
RT9742CGB/SOT23-5/[10TA1-089742-11R]
From Switching
13,17 -USBOC_F1
Connector to USB OC PIN
DACA_Q1EN
DACA_R4 8.2K/4/1
DACA_C8 0.1U/4/Y5V/16V/Z/X
DACA_R10 15K/4/1
DACA_Q2
From 5VDUAL
DACA_Q2EN
DACA_R5 8.2K/4/1
DACA_Q4
BAT54C/SOT23/200mA
DACA_PWR_DIS
AGPIO40 7
GPIO_DAC_A
DACA_R11 8.2K/4/1
DACA_R12 15K/4/1
DAC power disable by resume GPIO
DACA_Q5 2N7002/SOT23/25pF/5
DACA_R13 0/4/SHT/X
DACA_C9 1u/4/X5R/6.3V/K/X
DACA_Q3 2N7002/SOT23/25pF/5
DACA_R6 8.2K/4/1/X
DACA_R14 0/4/SHT/X
28,31 P_GATE
DACA_R9 8.2K/4/X
DACA_C7 1u/4/X5R/6.3V/K/X
USB_DAC5V_A
DACA_C6 0.1u/4/X7R/16V/K
DACA_EC1 100u/OS/D/6.3V/66/A/35m
Front USB30 P/N:11NH3-021210-B1R/B2R
Rear window
★Update 2015.10.01
Front USB30 P/N:11NH3-021210-51R/52R
0X22 = 75%xVCC
VCC3
3VDUAL
DACA_R15 30/4/4A/S/X
DACA_R16 30/4/4A/S
DACA_C10 0.1u/4/X7R/16V/K
DACA_U2
VDD
VREF1
B_SEL
VREF2
VREF3
SDA
SCL
NCT3933U/SOT23-8
DACA_R17 1.3K/4/1
DACA_R18 3.9K/4/1
A_UDACFB
7,10,11,24,27,31,41,43,44 SMBDATA
DACA_R19 0/4/SHT/X
DACA_R20 0/4/SHT/X
SMBCLK 7,10,11,24,27,31,41,43,44
USB POWER
note:可變更FUSE
可變
5VDUAL
RFUS3
SPR-P260T/6V/8/S
RFSVCC_U3R3
Close to connector
FUSE-0805
R_USB30_1
USB3.0/2.0
LAUBC13 0.1u/4/X7R/16V/K
USB/18P/BU/OS/RA/D/2/1U/SB
LAU3ESD1
AZ1045-04F/MSOP10
LAU3ESD2
AZ1045-04F/MSOP10
note:可變更USB NAME
LAUESD1
AZC099-04S/SOT23-6L
EMI SHORT PAD
PS:視EMI需求
Remove LAR24 for AGND/GAD
GIGABYTE
Title
F_USB30 ,R_USB30
Size
Custom
Document Number
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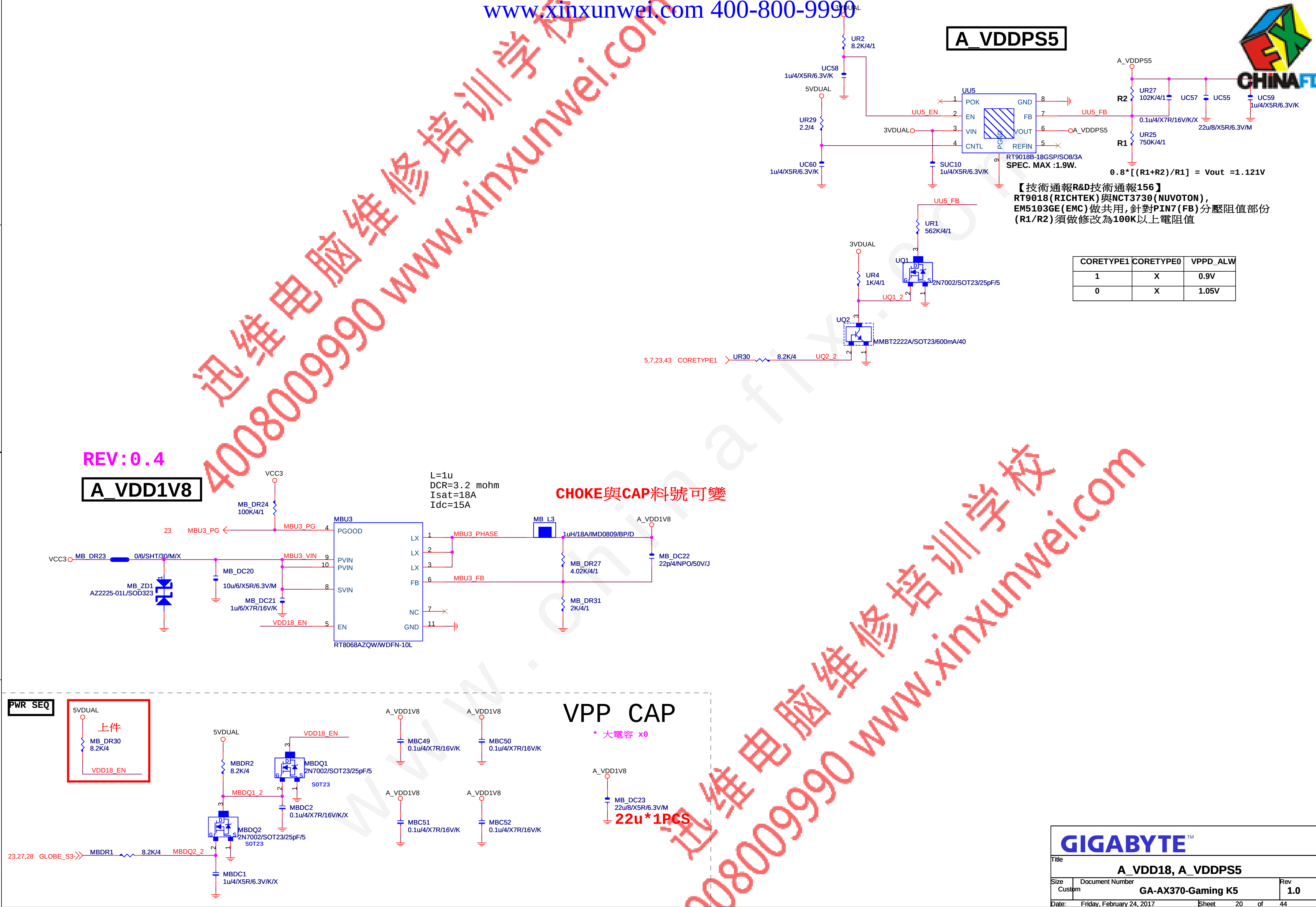

CORETYPE1	CORETYPE0	VPPD_ALW
1	X	0.9V
0	X	1.05V

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Title: A_VDD18, A_VDDPS5

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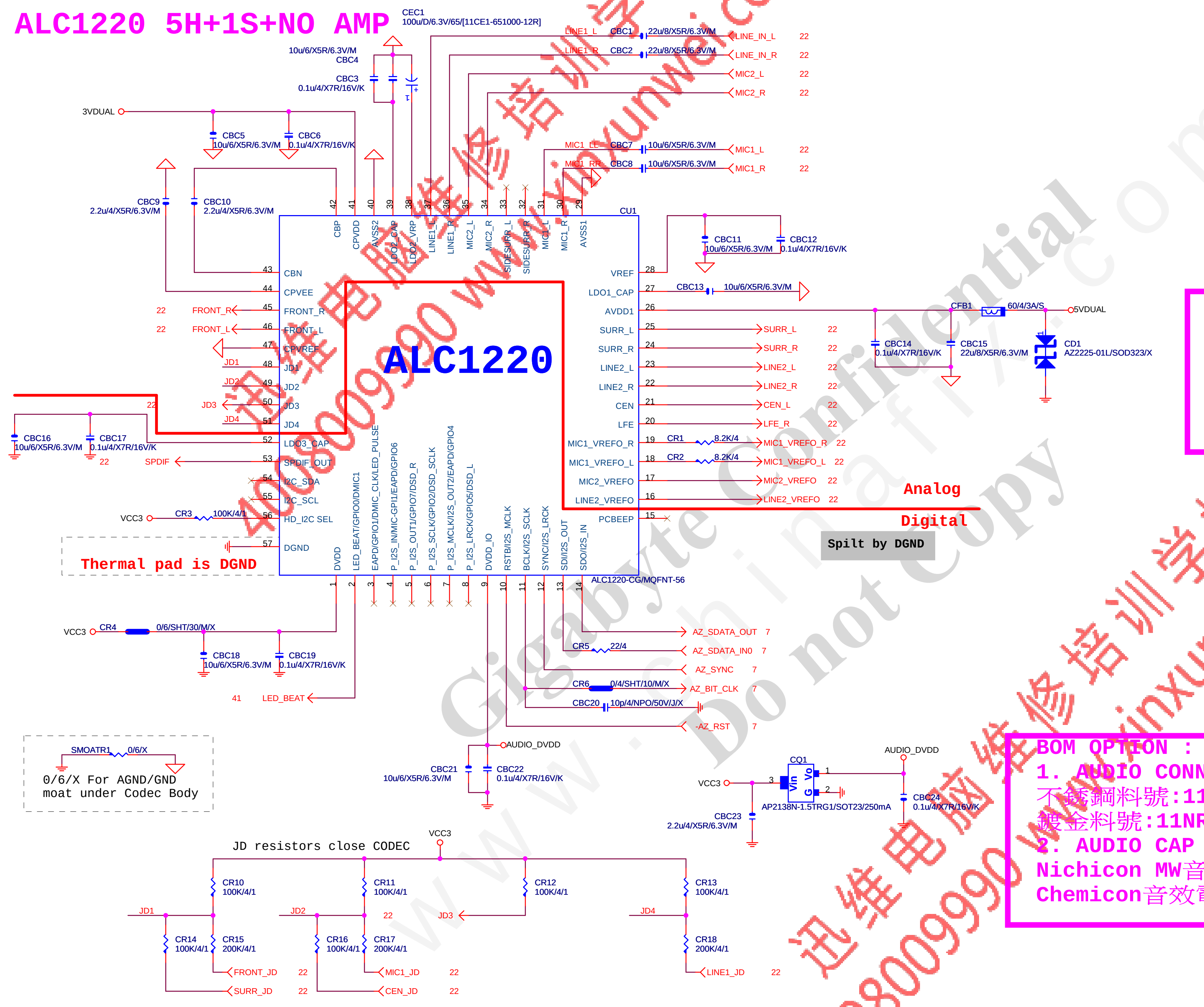
Rev 0.54

ALC1220 5H+1S+NO AMP



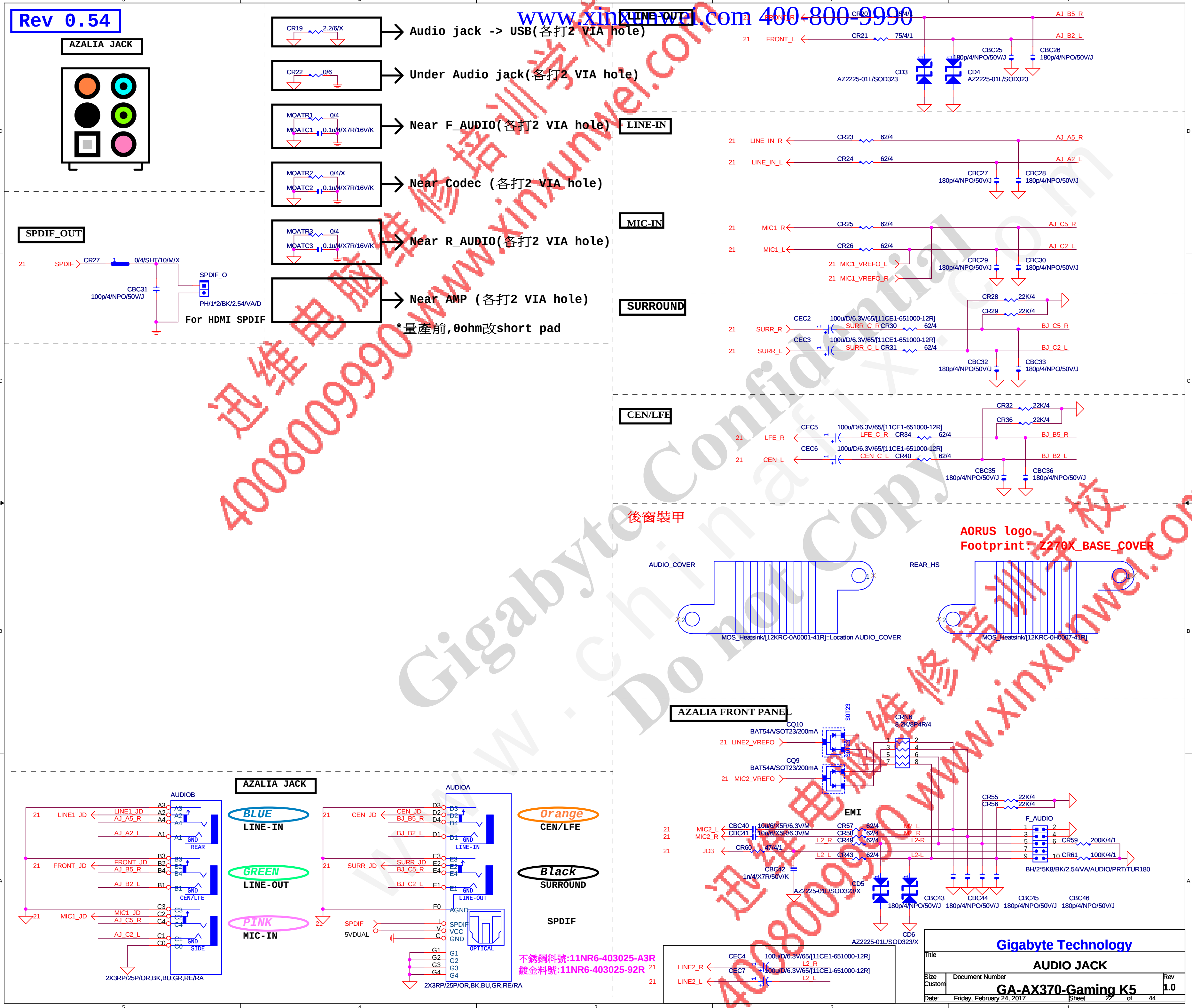
LAYOUT注意:螺絲孔下GND方式
1. MH1下DGND
2. MH2一律改為Isolate

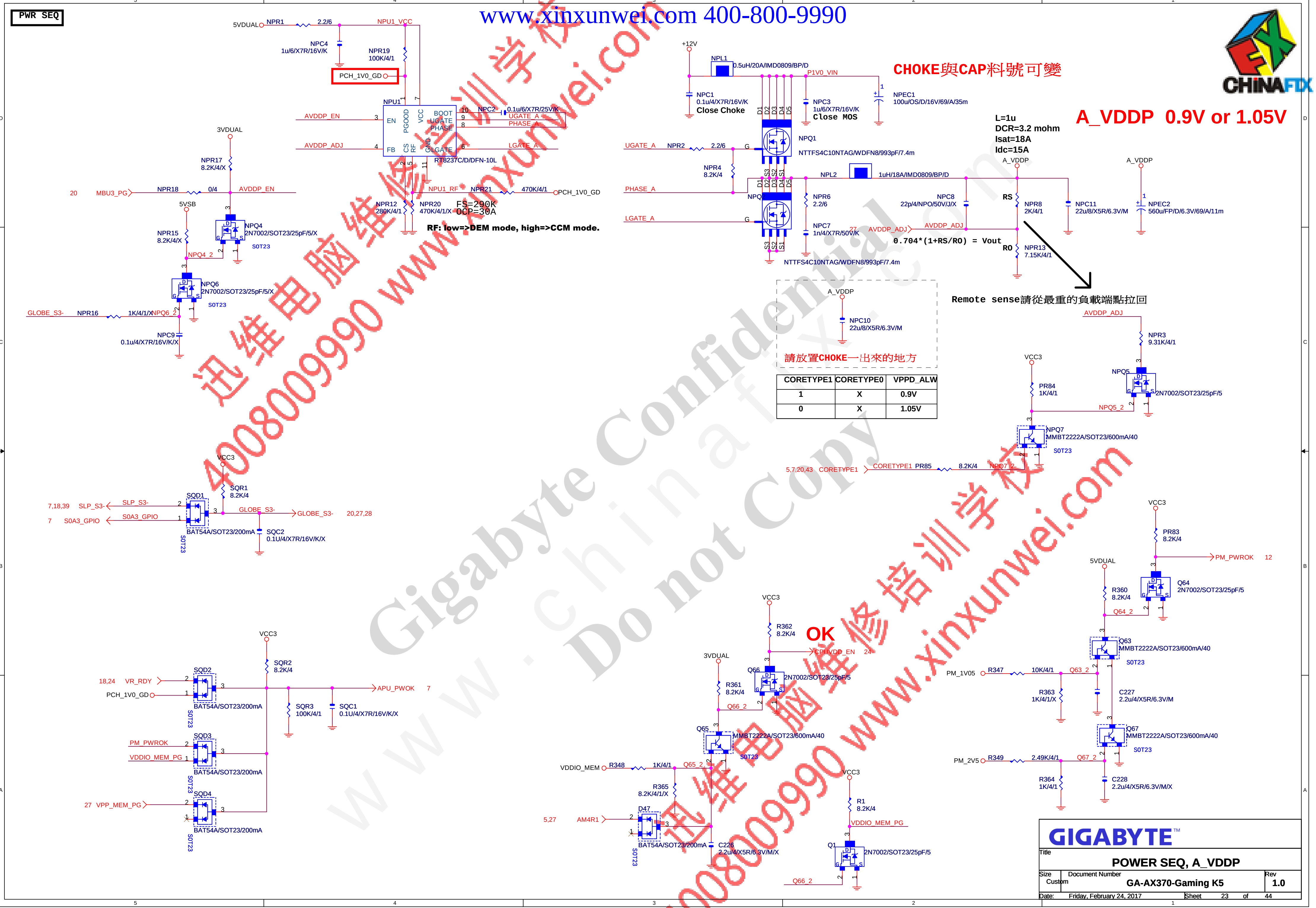
MH1	MH2
DGND	Isolate

LAYOUT注意:是否要加?
AGND切割線

音效區域印刷

BOM OPTION :
1. AUDIO CONNECT
不銹鋼料號:11NR6-403025-A3R
鍍金料號:11NR6-403025-92R
2. AUDIO CAP
Nichicon MW音效電容 : 11CE1-651000-12R
Chemicon音效電容 : 11CE2-651000-05R


Rev 0.54
AZALIA JACK
Audio jack -> USB(各打2 VIA hole)
Under Audio jack(各打2 VIA hole)
Near F_AUDIO(各打2 VIA hole)
Near Codec (各打2 VIA hole)
Near R_AUDIO(各打2 VIA hole)
Near AMP (各打2 VIA hole)
*量產前,0ohm改short pad
SPDIF_OUT
For HDMI SPDIF
LINE-OUT
LINE-IN
MIC-IN
SURROUND
CEN/LFE
後窗裝甲
AUDIO_COVER
MOS_Heatsink/[12KRC-0A0001-41R]::Location AUDIO_COVER
REAR_HS
MOS_Heatsink/[12KRC-0H0007-41R]
AORUS logo
Footprint: Z270X_BASE_COVER
AZALIA FRONT PANEL
EMI
F_AUDIO
BH/2*5K8/BK/2.54/VA/AUDIO/PRT/TUR180
AUDIOB
AUDIOA
BLUE
LINE-IN
GREEN
LINE-OUT
PINK
MIC-IN
Orange
CEN/LFE
Black
SURROUND
SPDIF
OPTICAL
2X3RP/25P/OR,BK,BU,GR,RE/RA
不銹鋼料號:11NR6-403025-A3R
鍍金料號:11NR6-403025-92R
Gigabyte Technology
Title
AUDIO JACK
Size
Custom
Document Number
GA-AX370-Gaming K5
Rev
1.0
Date: Friday, February 24, 2017
Sheet 22 of 44



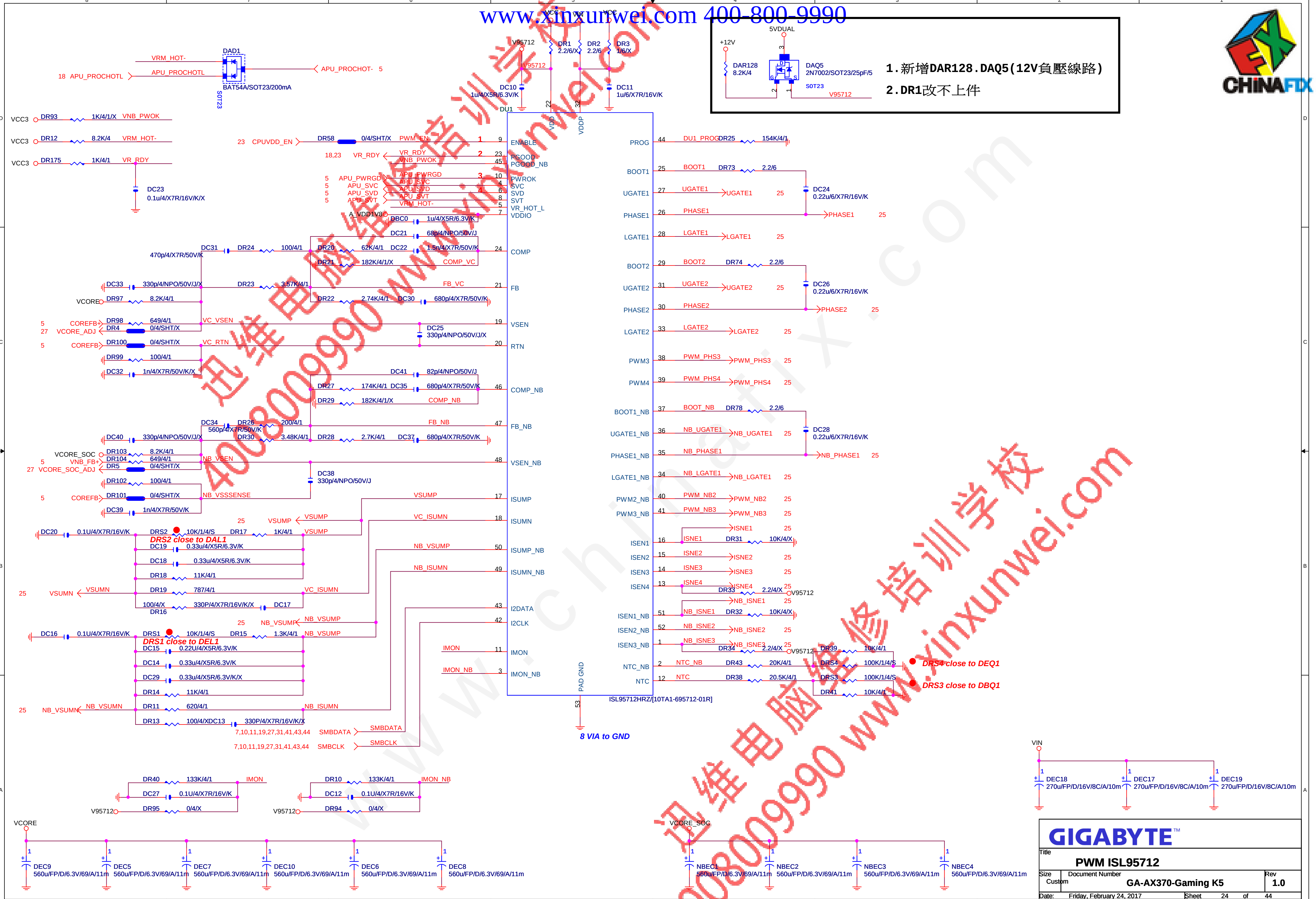
CORETYPE1	CORETYPE0	VPPD_ALW
1	X	0.9V
0	X	1.05V

GIGABYTE

Title: POWER SEQ, A_VDDP

Size	Document Number	Rev
Custom	GA-AX370-Gaming K5	1.0

Date: Friday, February 24, 2017 Sheet 23 of 44



1.新增DAR128.DAQ5(12V負壓線路)

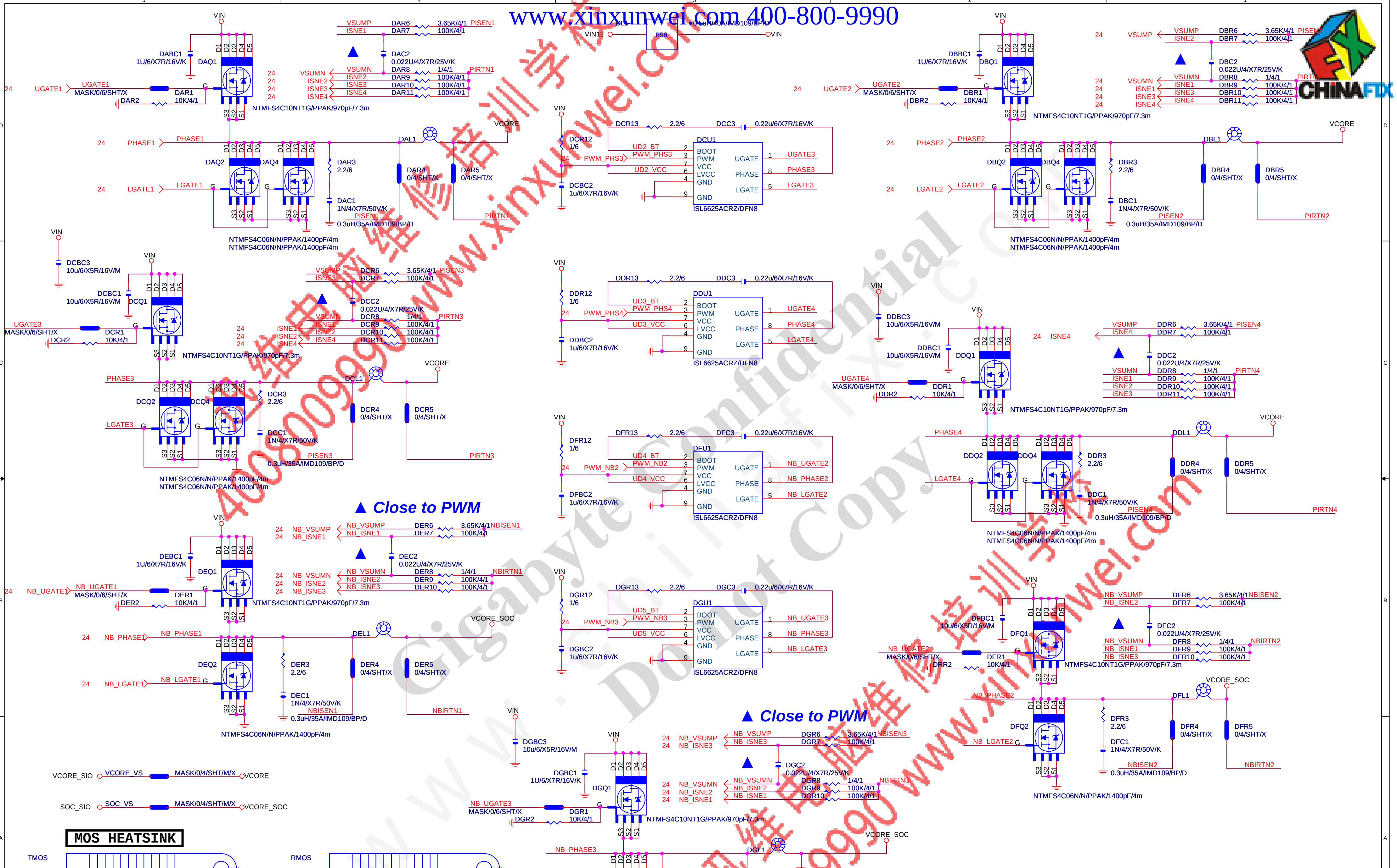
2.DR1改不上件

GIGABYTE

Title: PWM ISL95712

Size	Document Number	Rev
Custom	GA-AX370-Gaming K5	1.0

Date: Friday, February 24, 2017 Sheet 24 of 44

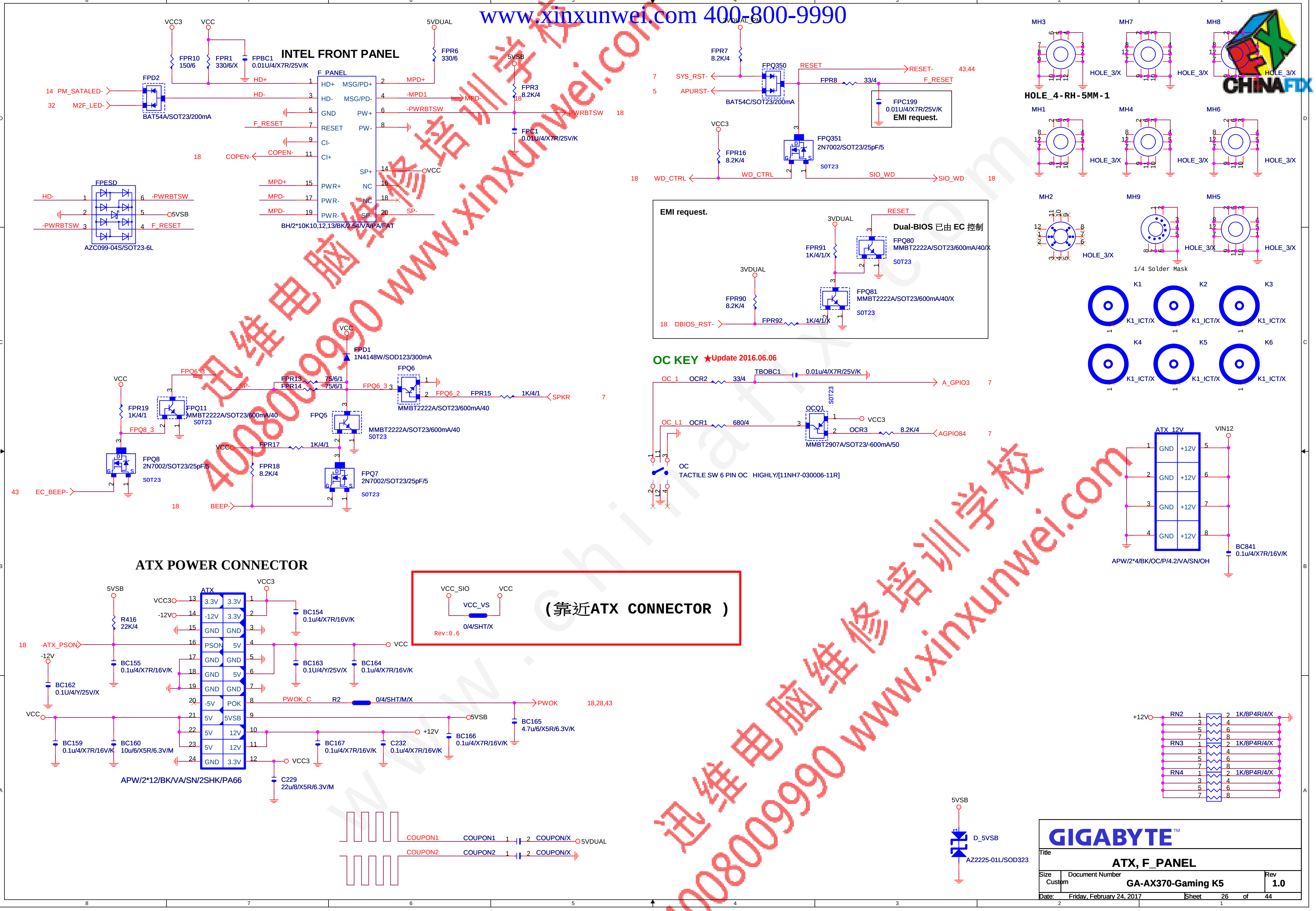


GIGABYTE

Title: VCORE MOS

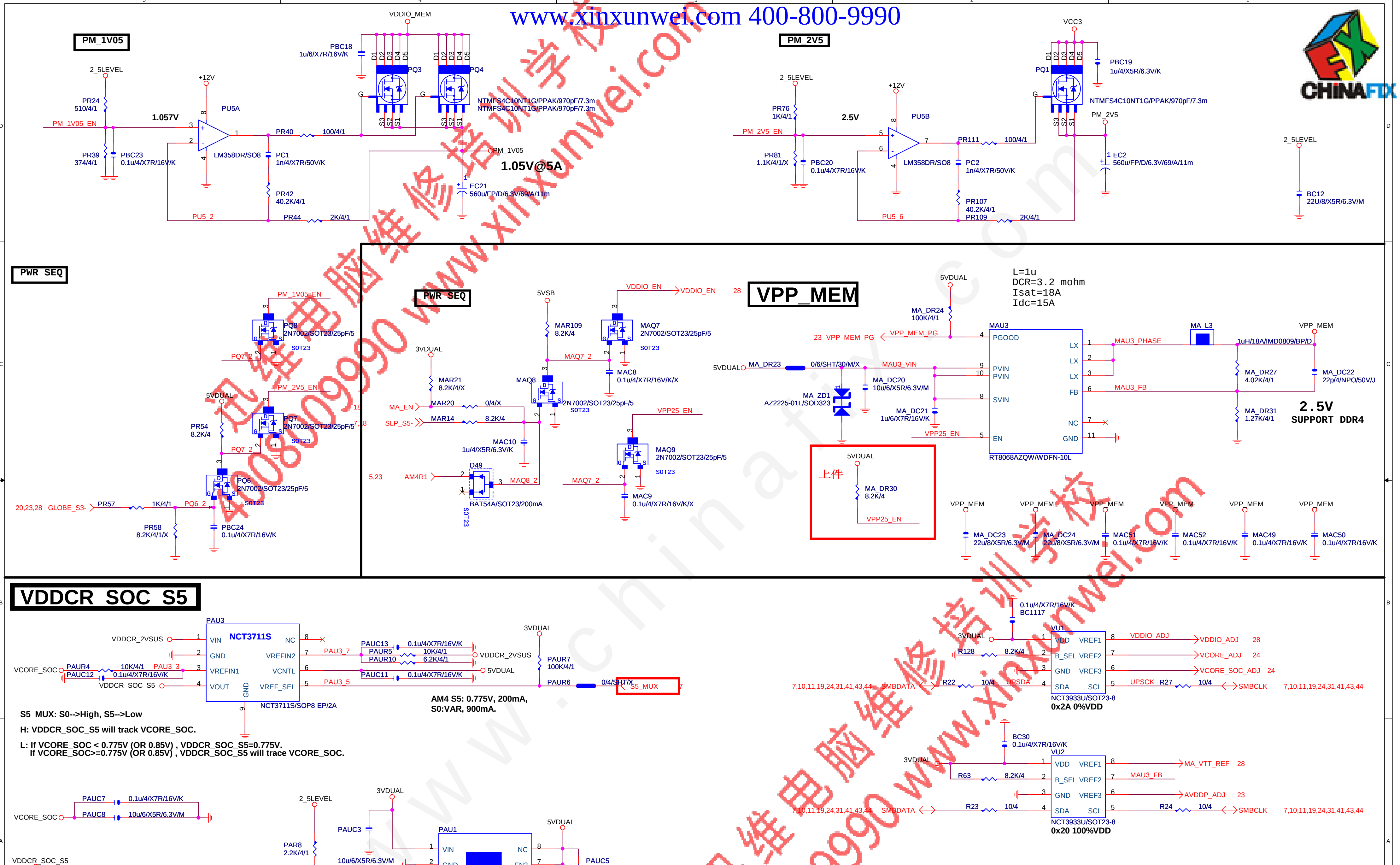
Size: Custom | Document Number: GA-AX370-Gaming K5 | Rev: 1.0

Date: Friday, February 24, 2017 | Sheet 25 of 44



GIGABYTE

Title	ATX, F_PANEL
Size	Custom
Document Number	GA-AX370-Gaming K5
Rev	1.0
Date:	Friday, February 24, 2017
Sheet	26 of 44

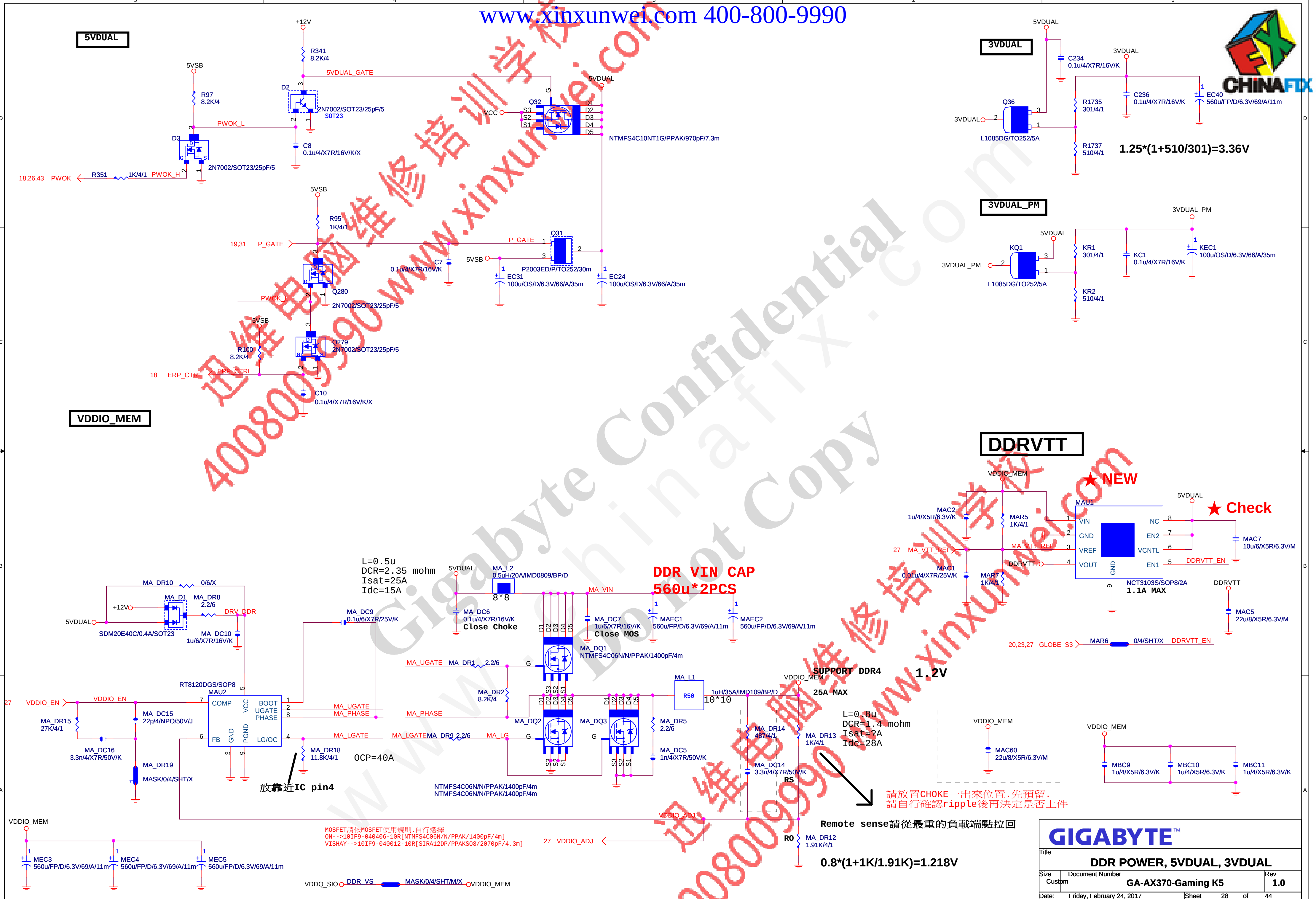


GIGABYTE

Title: PM PWR,VPP_MEM,VDDCR_SOC_S5

Size: Custom | Document Number: GA-AX370-Gaming K5 | Rev: 1.0

Date: Friday, February 24, 2017 | Sheet 27 of 44

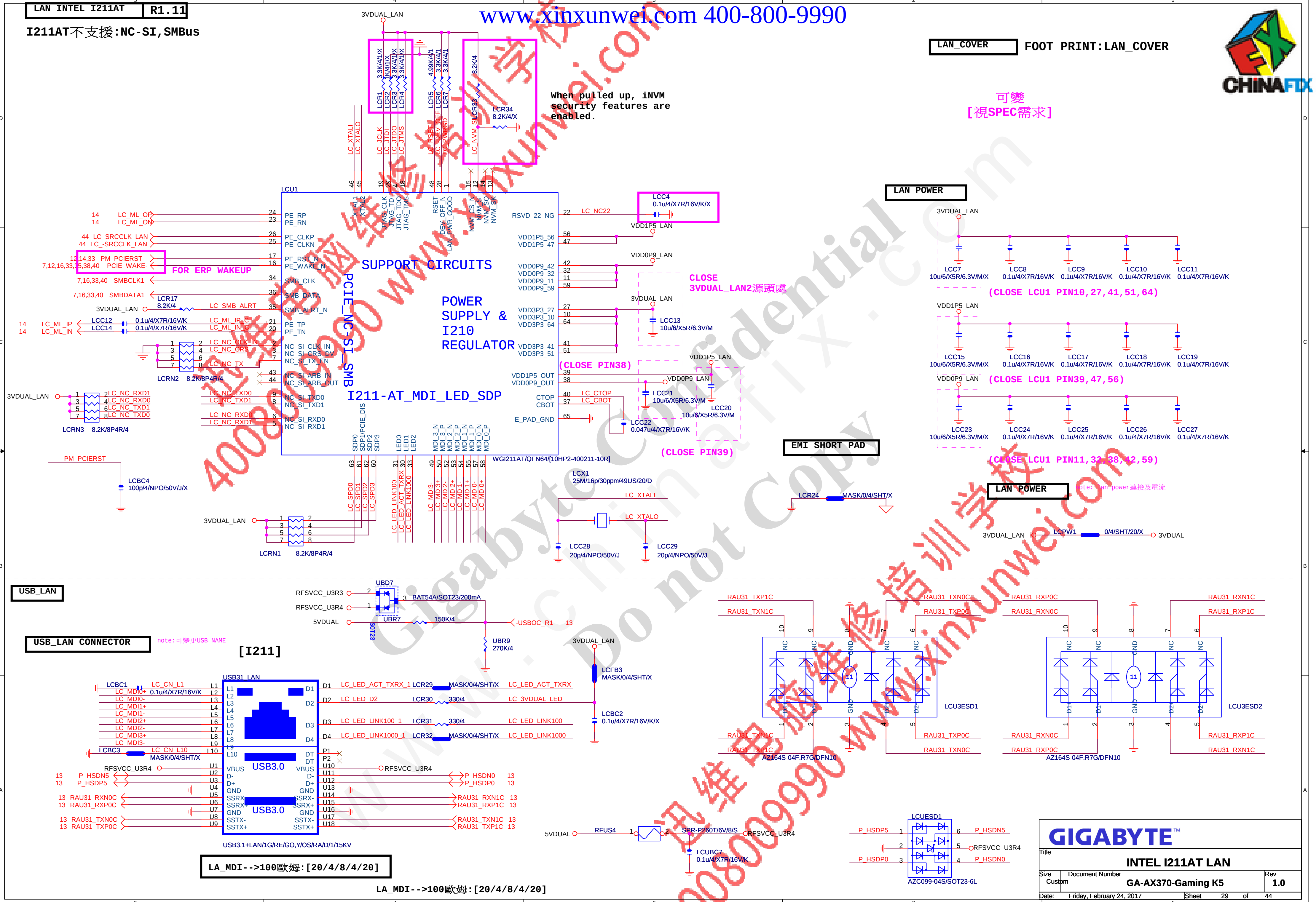


GIGABYTE

Title: DDR POWER, 5VDUAL, 3VDUAL

Size: Custom | Document Number: GA-AX370-Gaming K5 | Rev: 1.0

Date: Friday, February 24, 2017 | Sheet 28 of 44


LAN INTEL I211AT
R1.11
I211AT不支援:NC-SI,SMBus
3VDUAL_LAN
When pulled up, iNVM security features are enabled.
LAN_COVER
FOOT PRINT:LAN_COVER
可變
[視SPEC需求]
LCU1
SUPPORT CIRCUITS
PCIE_NC-SI_SMB
POWER SUPPLY & I210 REGULATOR
I211-AT_MDI_LED_SDP
WGI211AT/QFN64/[10HP2-400211-10R]
FOR ERP WAKEUP
LCC4 0.1u/4/X7R/16V/K/X
VDD1P5_LAN
VDD0P9_LAN
CLOSE 3VDUAL_LAN2源頭處
(CLOSE PIN38)
(CLOSE PIN39)
LAN POWER
(CLOSE LCU1 PIN10,27,41,51,64)
(CLOSE LCU1 PIN39,47,56)
(CLOSE LCU1 PIN11,32,38,42,59)
EMI SHORT PAD
LCR24 MASK/0/4/SHT/X
LAN POWER
LCPW1 0/4/SHT/20/X
3VDUAL
LCX1 25M/16p/30ppm/49US/20/D
LC_XTALI
LC_XTALO
LCC28 20p/4/NPO/50V/J
LCC29 20p/4/NPO/50V/J
LCRN1 8.2K/8P4R/4
LCRN2 8.2K/8P4R/4
LCRN3 8.2K/8P4R/4
LCBC4 100p/4/NPO/50V/J/X
USB_LAN
USB_LAN CONNECTOR
note:可變更USB NAME
[I211]
UBD7 BAT54A/SOT23/200mA
UBR7 150K/4
UBR9 270K/4
LCFB3 MASK/0/4/SHT/X
LCBC2 0.1u/4/X7R/16V/K/X
USB31_LAN
USB3.0
USB3.1+LAN/1G/RE/GO,Y/OS/RA/D/1/15KV
LA_MDI-->100歐姆:[20/4/8/4/20]
LCU3ESD1
LCU3ESD2
AZ164S-04F.R7G/DFN10
RFUS4 SPR-P260T/6V/8/S
LCUBC7 0.1u/4/X7R/16V/K
LCUESD1 AZC099-04S/SOT23-6L
LA_MDI-->100歐姆:[20/4/8/4/20]
GIGABYTE
Title INTEL I211AT LAN
Size Custom
Document Number GA-AX370-Gaming K5
Rev 1.0
Date: Friday, February 24, 2017
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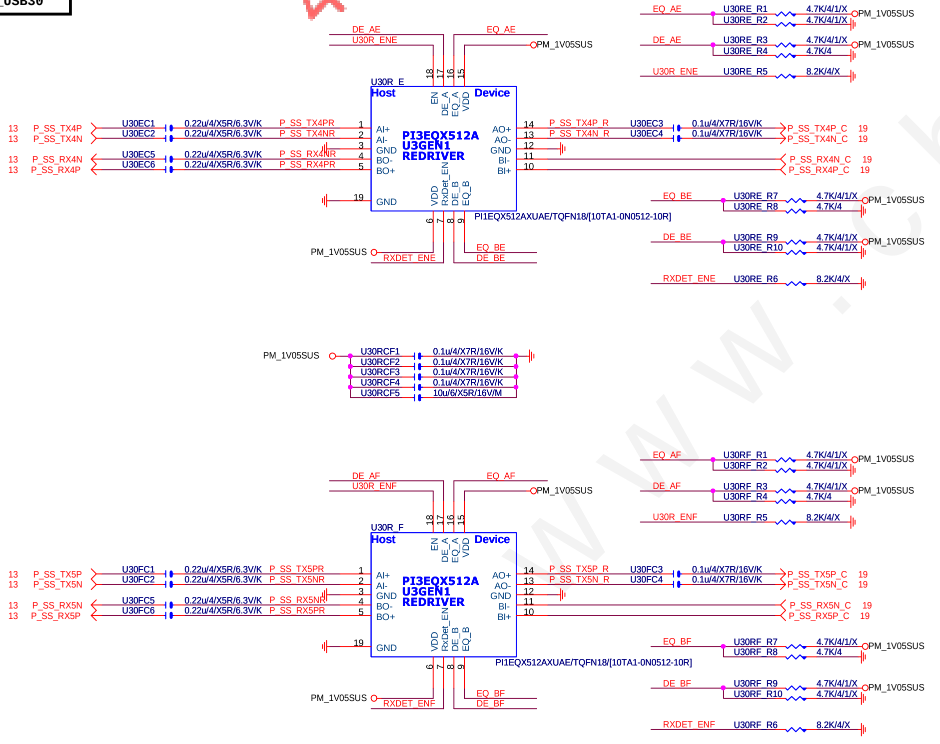
F_USB30_1

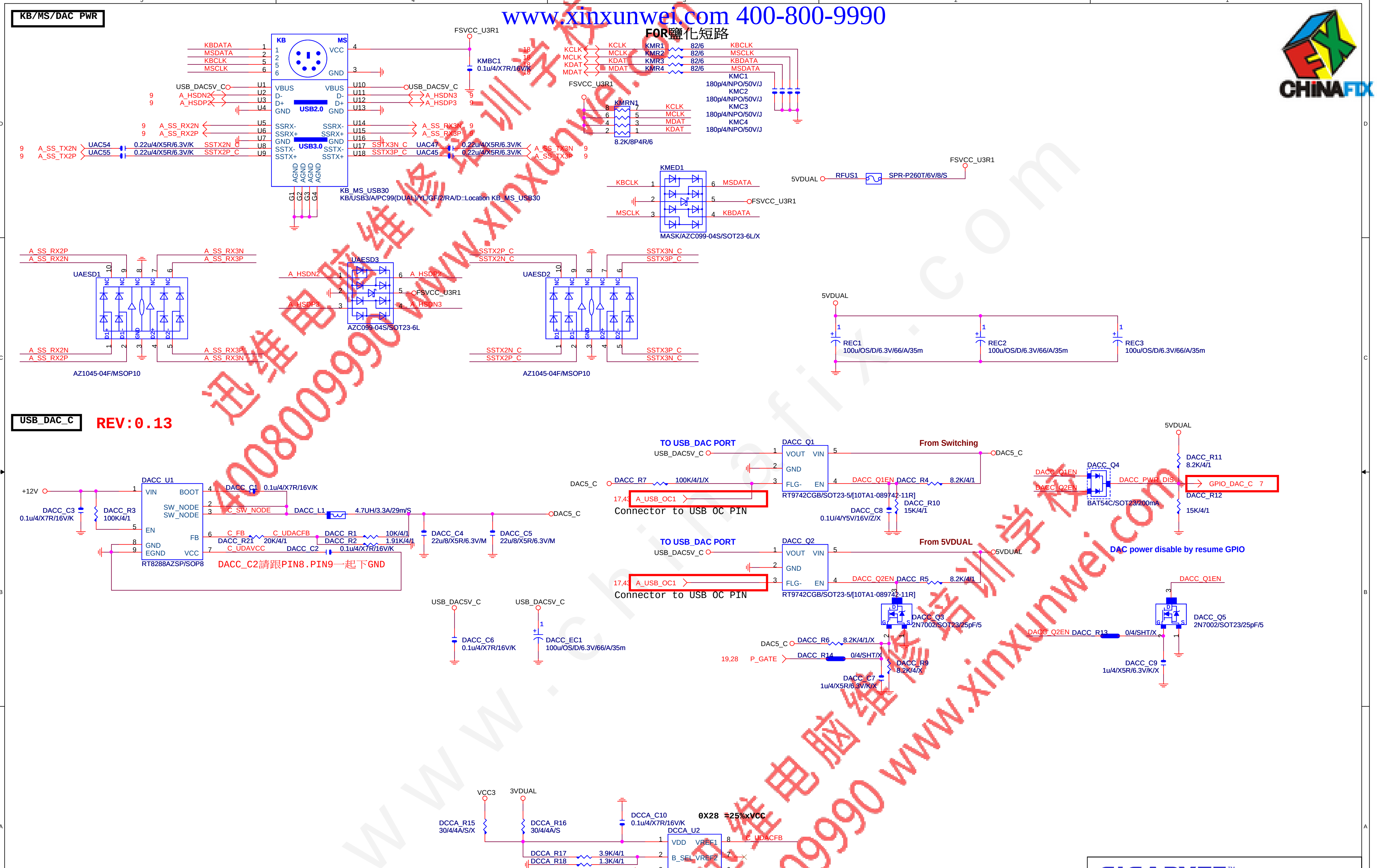
F_USB30_2

R_USB30



GIGABYTE™

Title	PM_USB30_Redriver	
Size C	Document Number GA-AX370-Gaming K5	Rev 1.0
Date: Friday, February 24, 2017	Sheet 30 of 44	



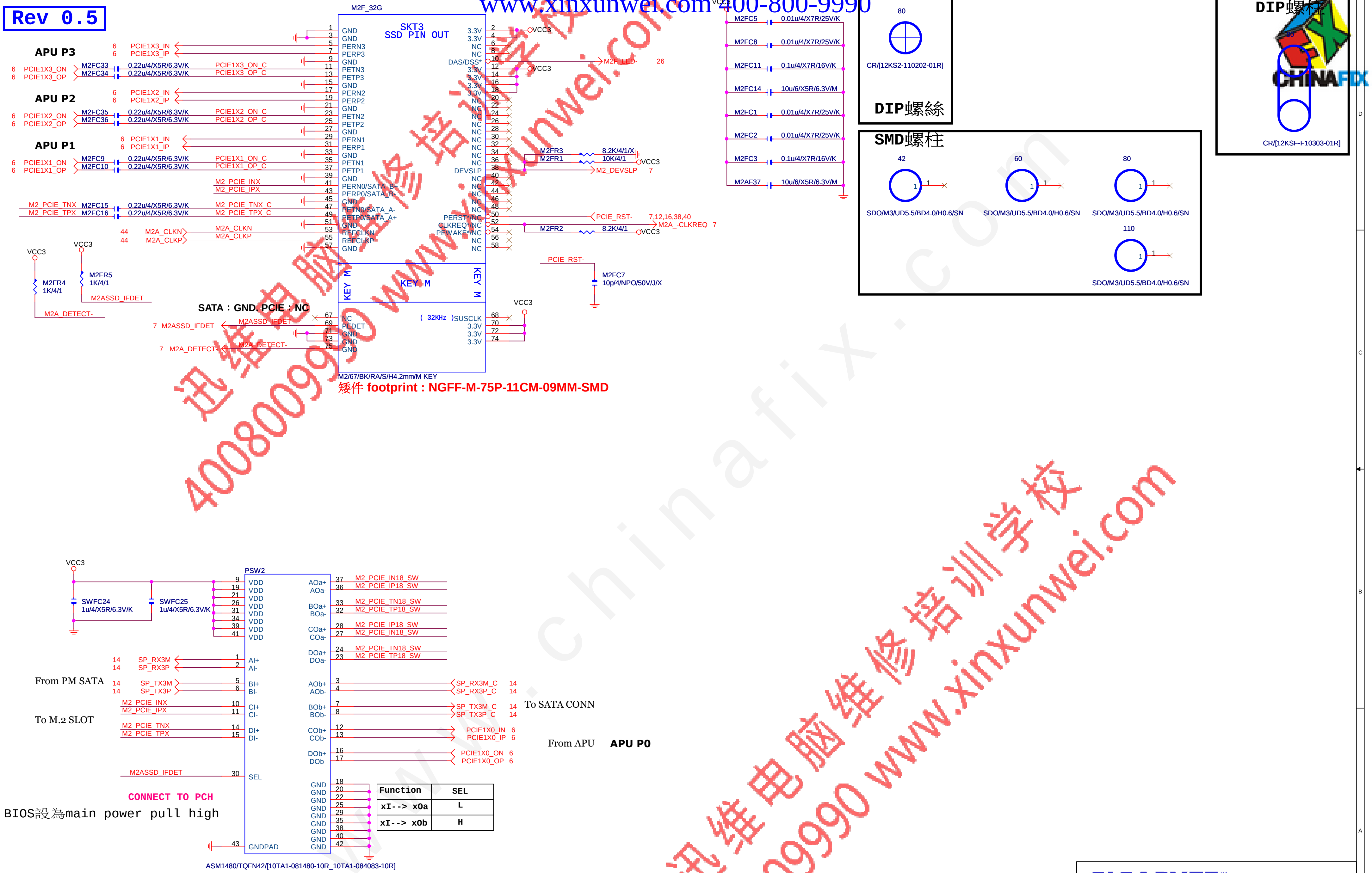
GIGABYTE

Title: KB_MS_USB30

Size: Custom | Document Number: GA-AX370-Gaming K5 | Rev: 1.0

Date: Friday, February 24, 2017 | Sheet 31 of 44

Rev 0.5



Function	SEL
xI--> xOa	L
xI--> xOb	H

GIGABYTE

Title	M.2
Size	Custom
Document Number	GA-AX370-Gaming K5
Rev	1.0
Date:	Friday, February 24, 2017
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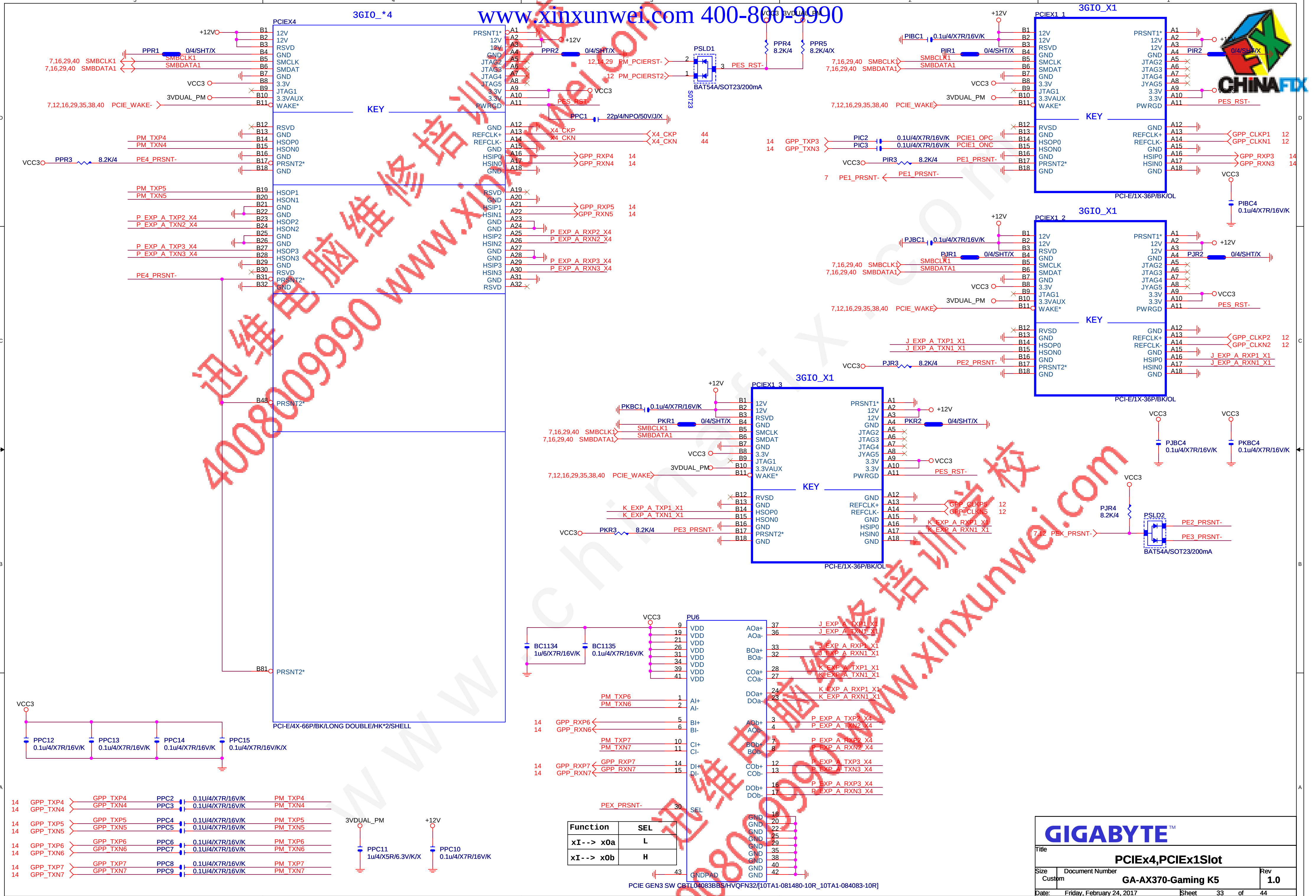


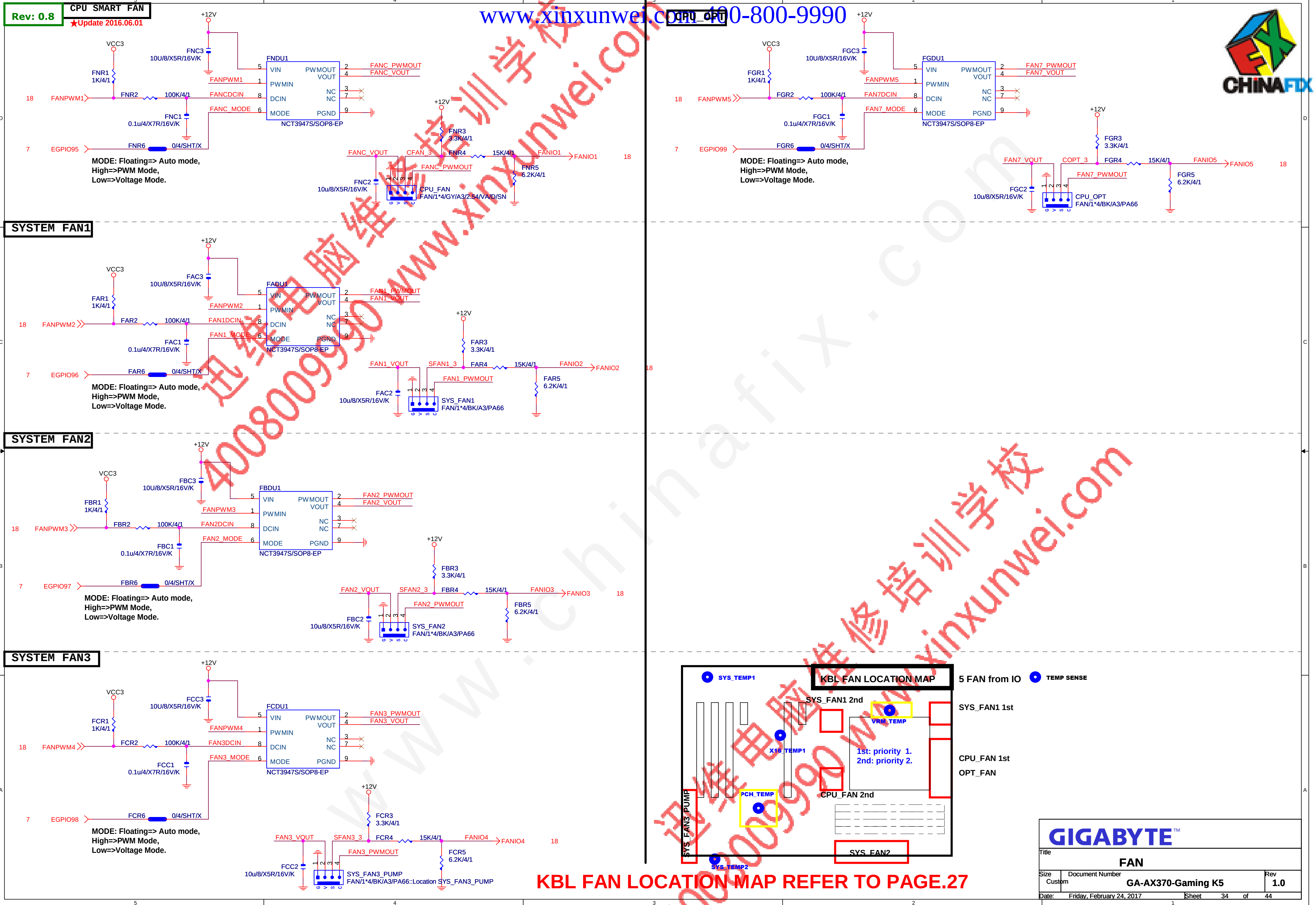
Function	SEL
xI--> xOa	L
xI--> xOb	H

GIGABYTE™

Title: PCIEx4,PCIEx1Slot

Size: Custom | Document Number: GA-AX370-Gaming K5 | Rev: 1.0

Date: Friday, February 24, 2017 | Sheet 33 of 44


Rev: 0.8
CPU SMART FAN
★Update 2016.06.01
+12V
VCC3
FNC3
10U/8/X5R/16V/K
FNR1
1K/4/1
FANPWM1
18 FANPWM1
FNR2
100K/4/1
FANCDCIN
FNC1
0.1u/4/X7R/16V/K
FANC_MODE
FNDU1
VIN
PWMIN
DCIN
MODE
PWMOUT
VOUT
NC
NC
PGND
NCT3947S/SOP8-EP
FANC_PWMOUT
FANC_VOUT
7 EGPIO95
FNR6
0/4/SHT/X
MODE: Floating=> Auto mode,
High=>PWM Mode,
Low=>Voltage Mode.
FNR3
3.3K/4/1
FANC_VOUT
CFAN_3
FNR4
15K/4/1
FANIO1
FANIO1
18
FANC_PWMOUT
FNR5
6.2K/4/1
FNC2
10u/8/X5R/16V/K
CPU_FAN
FAN/1*4/GY/A3/2.54/VA/D/SN
CPU_OPT
FGC3
10U/8/X5R/16V/K
FGR1
1K/4/1
FANPWM5
18 FANPWM5
FGR2
100K/4/1
FAN7DCIN
FGC1
0.1u/4/X7R/16V/K
FAN7_MODE
FGDU1
NCT3947S/SOP8-EP
FAN7_PWMOUT
FAN7_VOUT
7 EGPIO99
FGR6
0/4/SHT/X
MODE: Floating=> Auto mode,
High=>PWM Mode,
Low=>Voltage Mode.
FGR3
3.3K/4/1
FAN7_VOUT
COPT_3
FGR4
15K/4/1
FANIO5
FANIO5
18
FAN7_PWMOUT
FGR5
6.2K/4/1
FGC2
10u/8/X5R/16V/K
CPU_OPT
FAN/1*4/BK/A3/PA66
SYSTEM FAN1
FAC3
10U/8/X5R/16V/K
FAR1
1K/4/1
FANPWM2
18 FANPWM2
FAR2
100K/4/1
FAN1DCIN
FAC1
0.1u/4/X7R/16V/K
FAN1_MODE
FADU1
NCT3947S/SOP8-EP
FAN1_PWMOUT
FAN1_VOUT
7 EGPIO96
FAR6
0/4/SHT/X
MODE: Floating=> Auto mode,
High=>PWM Mode,
Low=>Voltage Mode.
FAR3
3.3K/4/1
FAN1_VOUT
SFAN1_3
FAR4
15K/4/1
FANIO2
FANIO2
18
FAN1_PWMOUT
FAR5
6.2K/4/1
FAC2
10u/8/X5R/16V/K
SYS_FAN1
FAN/1*4/BK/A3/PA66
SYSTEM FAN2
FBC3
10U/8/X5R/16V/K
FBR1
1K/4/1
FANPWM3
18 FANPWM3
FBR2
100K/4/1
FAN2DCIN
FBC1
0.1u/4/X7R/16V/K
FAN2_MODE
FBDU1
NCT3947S/SOP8-EP
FAN2_PWMOUT
FAN2_VOUT
7 EGPIO97
FBR6
0/4/SHT/X
MODE: Floating=> Auto mode,
High=>PWM Mode,
Low=>Voltage Mode.
FBR3
3.3K/4/1
FAN2_VOUT
SFAN2_3
FBR4
15K/4/1
FANIO3
FANIO3
18
FAN2_PWMOUT
FBR5
6.2K/4/1
FBC2
10u/8/X5R/16V/K
SYS_FAN2
FAN/1*4/BK/A3/PA66
SYSTEM FAN3
FCC3
10U/8/X5R/16V/K
FCR1
1K/4/1
FANPWM4
18 FANPWM4
FCR2
100K/4/1
FAN3DCIN
FCC1
0.1u/4/X7R/16V/K
FAN3_MODE
FCDU1
NCT3947S/SOP8-EP
FAN3_PWMOUT
FAN3_VOUT
7 EGPIO98
FCR6
0/4/SHT/X
MODE: Floating=> Auto mode,
High=>PWM Mode,
Low=>Voltage Mode.
FCR3
3.3K/4/1
FAN3_VOUT
SFAN3_3
FCR4
15K/4/1
FANIO4
FANIO4
18
FAN3_PWMOUT
FCR5
6.2K/4/1
FCC2
10u/8/X5R/16V/K
SYS_FAN3_PUMP
FAN/1*4/BK/A3/PA66::Location SYS_FAN3_PUMP
SYS_TEMP1
KBL FAN LOCATION MAP
5 FAN from IO
TEMP SENSE
SYS_FAN1 2nd
VRM_TEMP
SYS_FAN1 1st
X16_TEMP1
1st: priority 1.
2nd: priority 2.
CPU_FAN 1st
OPT_FAN
PCH_TEMP
CPU_FAN 2nd
SYS_FAN3_PUMP
SYS_FAN2
SYS_TEMP2
KBL FAN LOCATION MAP REFER TO PAGE.27
GIGABYTE™
Title
FAN
Size
Custom
Document Number
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1.0
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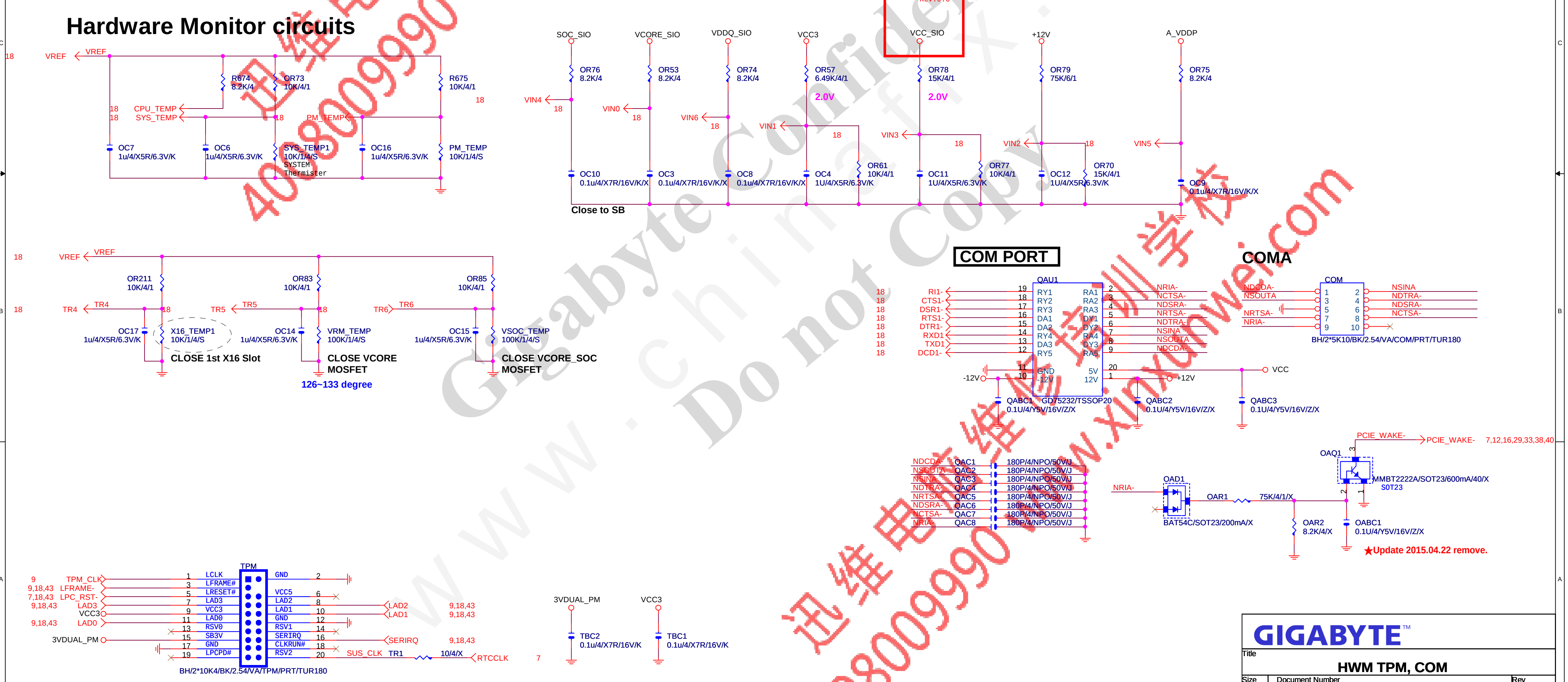

GIGABYTE™

Title	HWM TPM, COM	
Size: Custom	Document Number: GA-AX370-Gaming K5	Rev: 1.0
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CPU TOP CAVITY

GIGABYTE™

Title	CPU SMD CAP TOP
Size: Custom	Document Number: GA-AX370-Gaming K5
Rev	1.0
Date:	Friday, February 24, 2017
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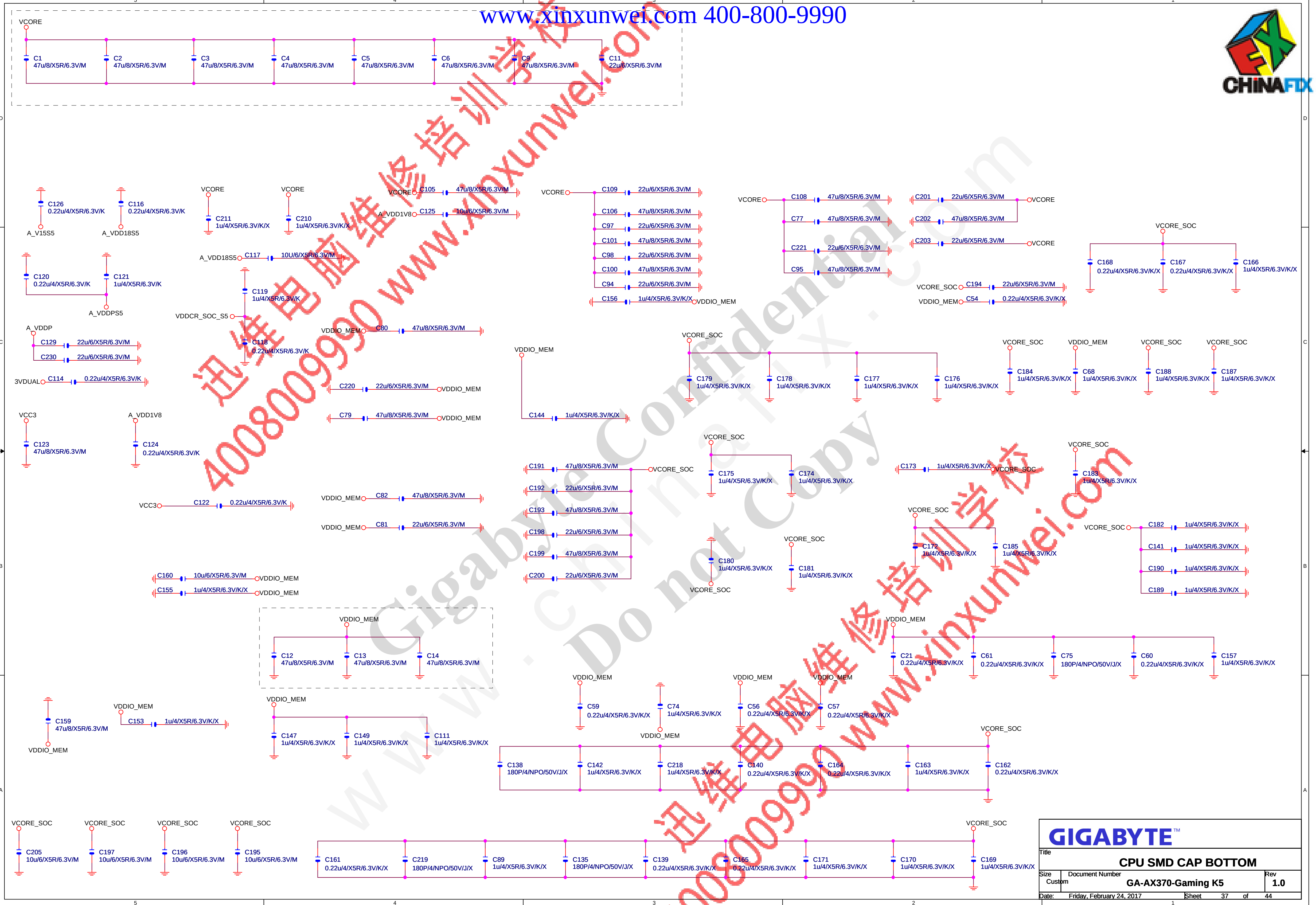


Title	CPU SMD CAP BOTTOM	
Size: Custom	Document Number: GA-AX370-Gaming K5	Rev: 1.0
Date: Friday, February 24, 2017	Sheet 37 of 44	

ASM1143 USB3 Host Rev0.63

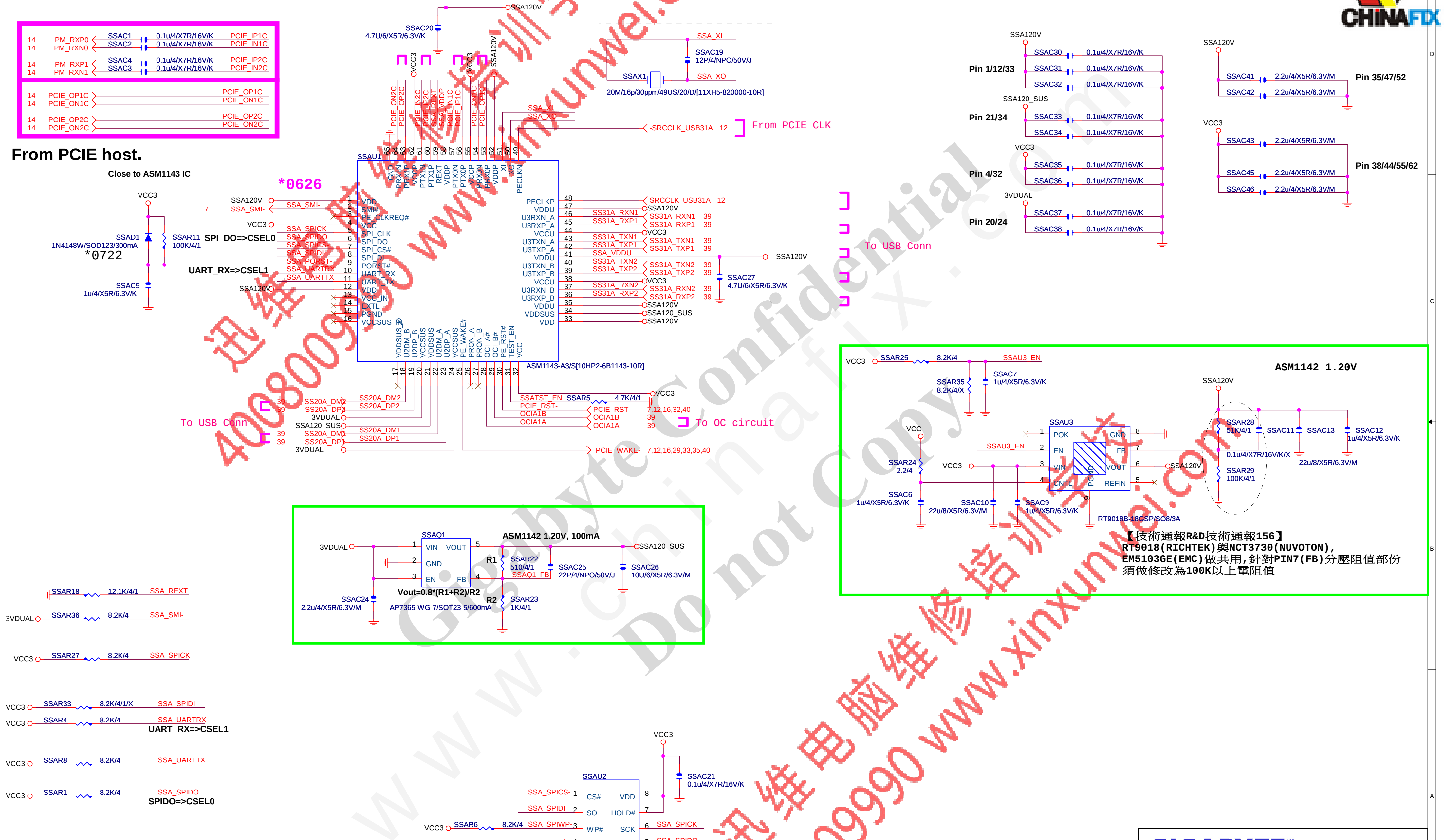
PCIE Gen3 X1 or PCIE Gen2 X2

Color markers can be changed by model

ASM1143 USB3.1

Base on ASM1142 0.3 Reference SCH

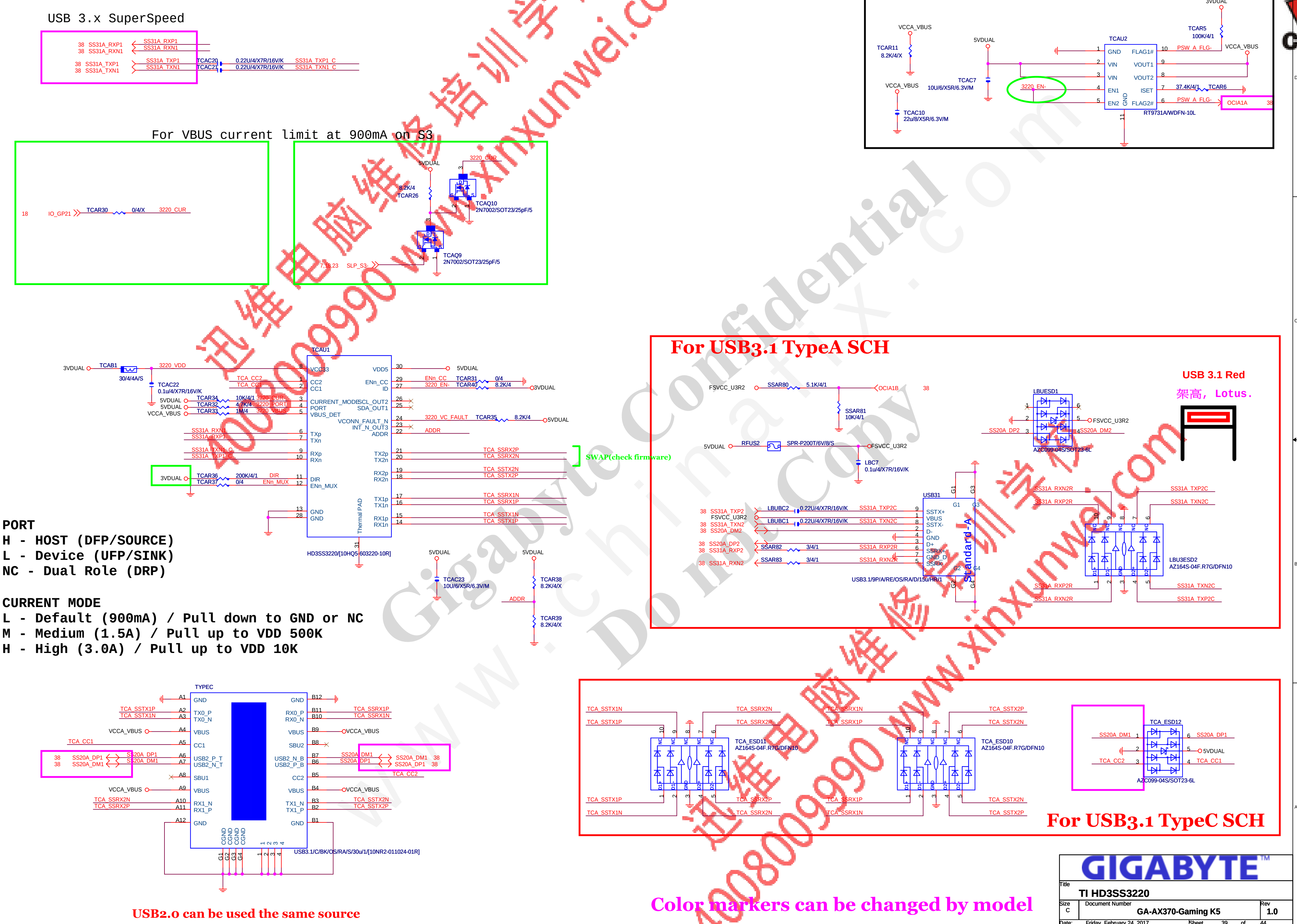
To PCIE host.



CSEL1	CSEL0	
1	1	External 20MHz Crystal (Asynchronous)
0	1	48MHz clock input (Synchronous)
X	0	Reseved for Test

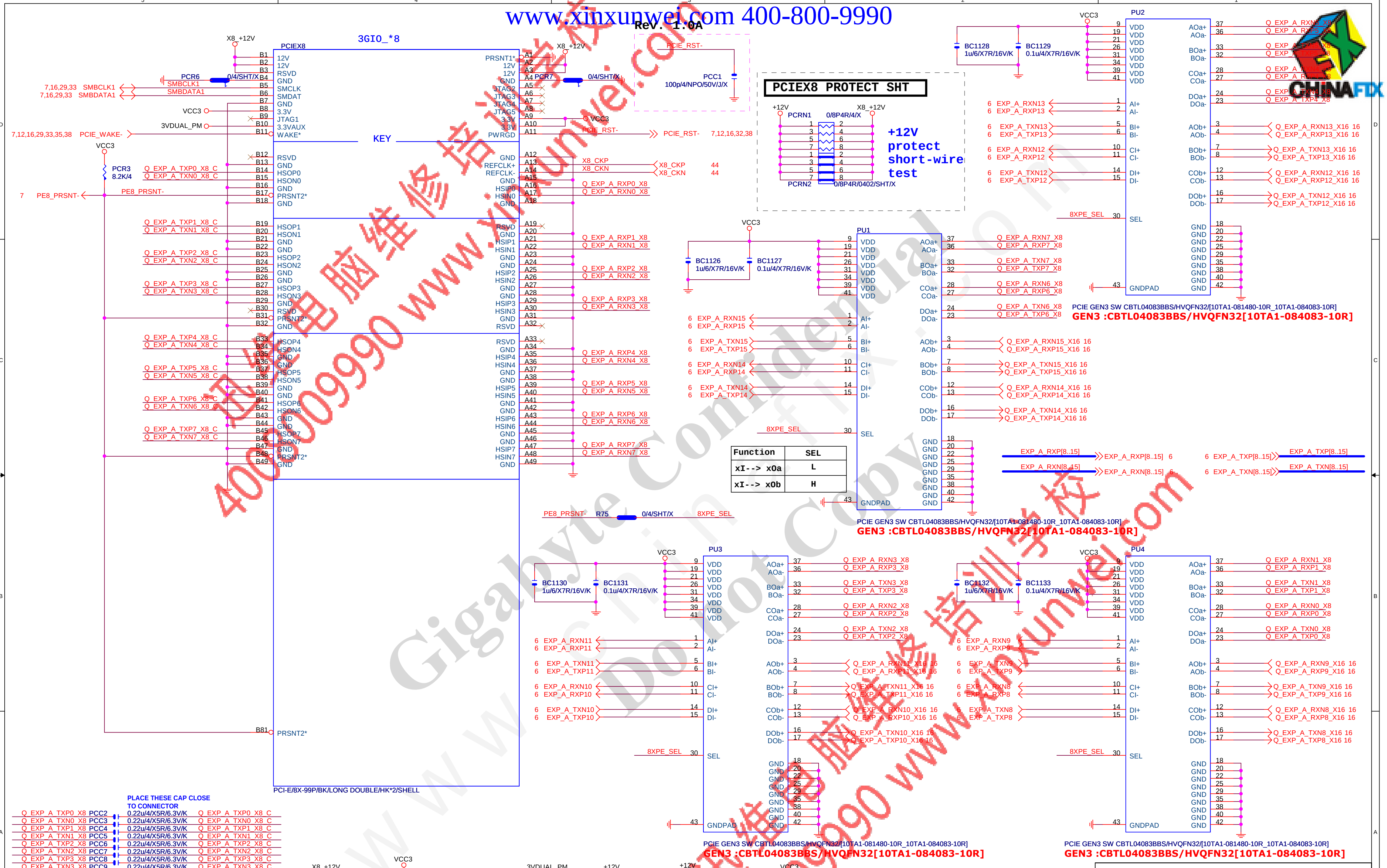
ASM2142 USB31 Host Rev0.3
TI HD3SS3220

www.xinxunwei.com 400-800-9990



PORT
H - HOST (DFP/SOURCE)
L - Device (UFP/SINK)
NC - Dual Role (DRP)

CURRENT MODE
L - Default (900mA) / Pull down to GND or NC
M - Medium (1.5A) / Pull up to VDD 500K
H - High (3.0A) / Pull up to VDD 10K



GIGABYTE

Title: PCIEx8 Slot, SWITCH

Size	Document Number	Rev
Custom	GA-AX370-Gaming K5	1.0

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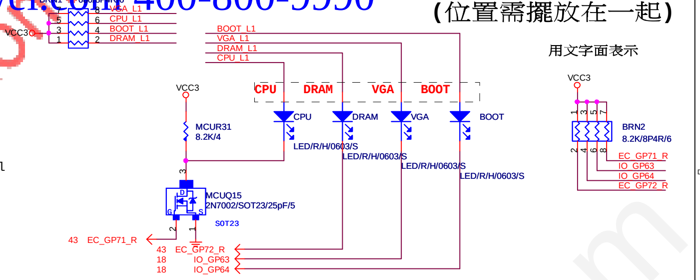
第一區 LED

Rev 0.63

LED GPIO PIN DEFINE

EC_GP71	CPU DEBUG
EC_GP72	DDR DEBUG
IO_GP63	VGA DEBUG
IO_GP64	BOOT DEBUG
IO_GP35	LED_C LED SWITCH
PM_GPIO6	software beat mode control
PM_GPIO7	
EGPIO131	XMP LED
EGPIO132	TURBO LED

DEBUG PORT LED *4
(位置需擺放在一起)



FOR AUDIO 正發光 LED*13
(位置在AUDIO切割線)

FOR PCIEX16 側發光 LED*3
(位置在PCIEX16 SLOT)

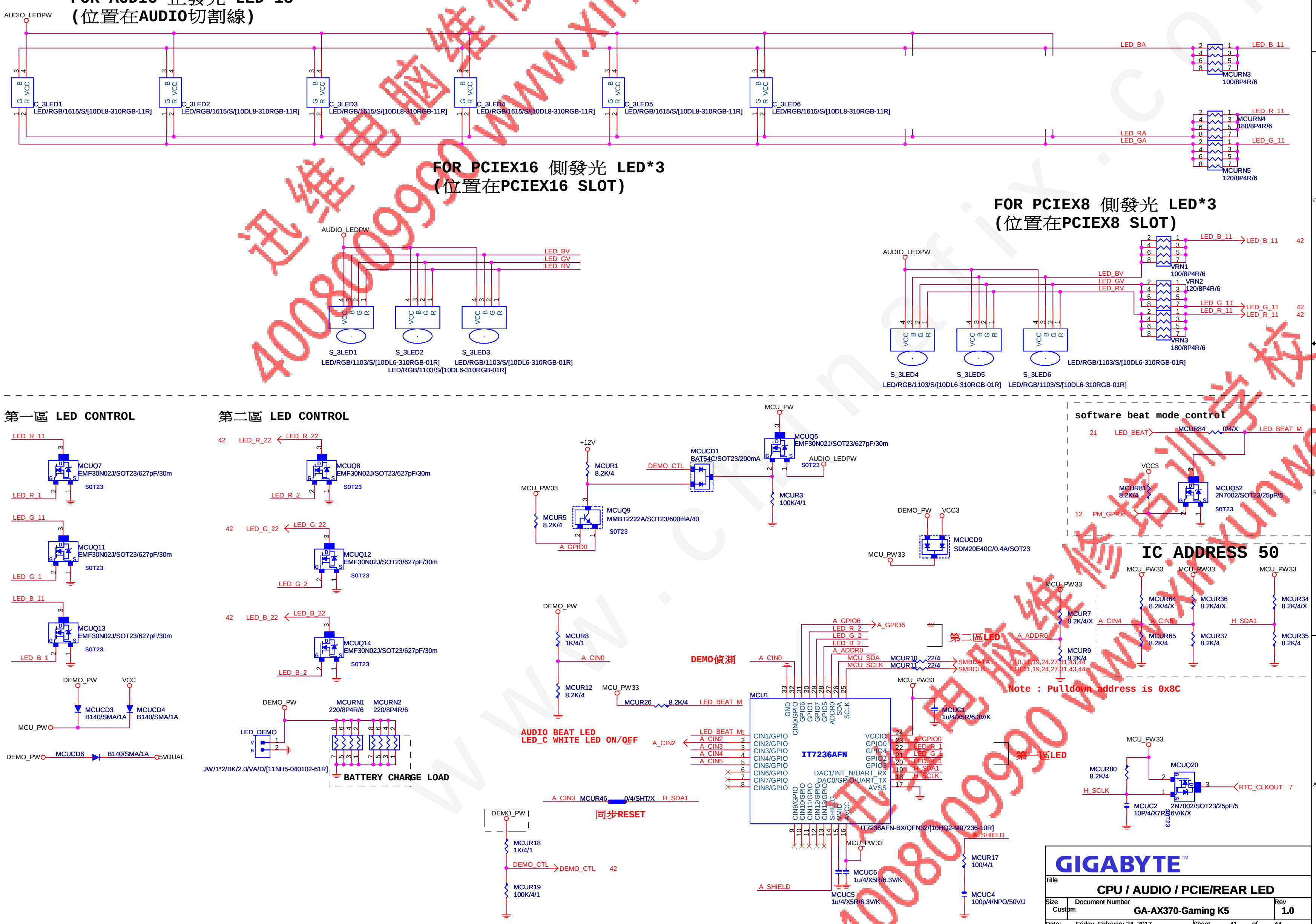
FOR PCIEX8 側發光 LED*3
(位置在PCIEX8 SLOT)

第一區 LED CONTROL

第二區 LED CONTROL

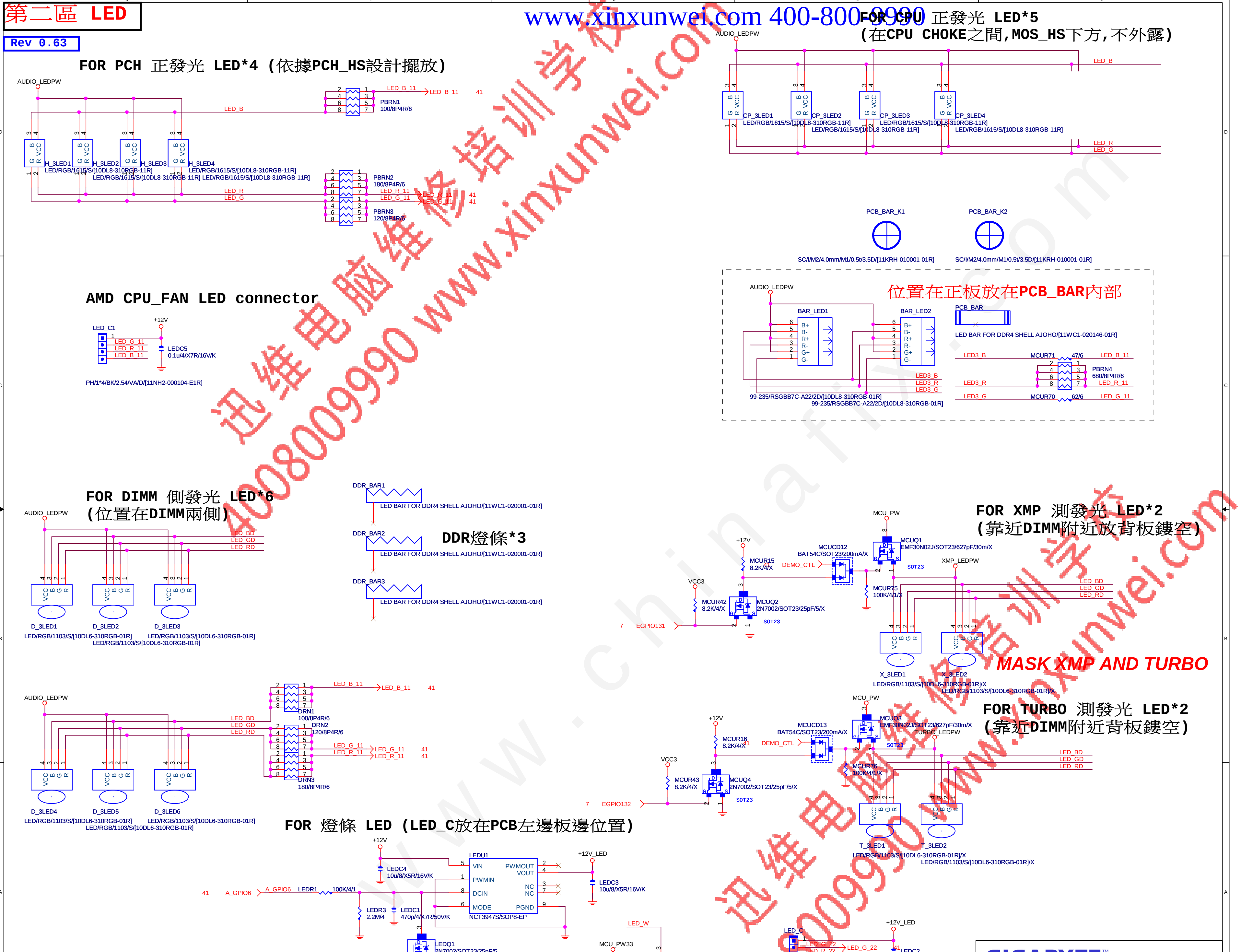
software beat mode control

IC ADDRESS 50



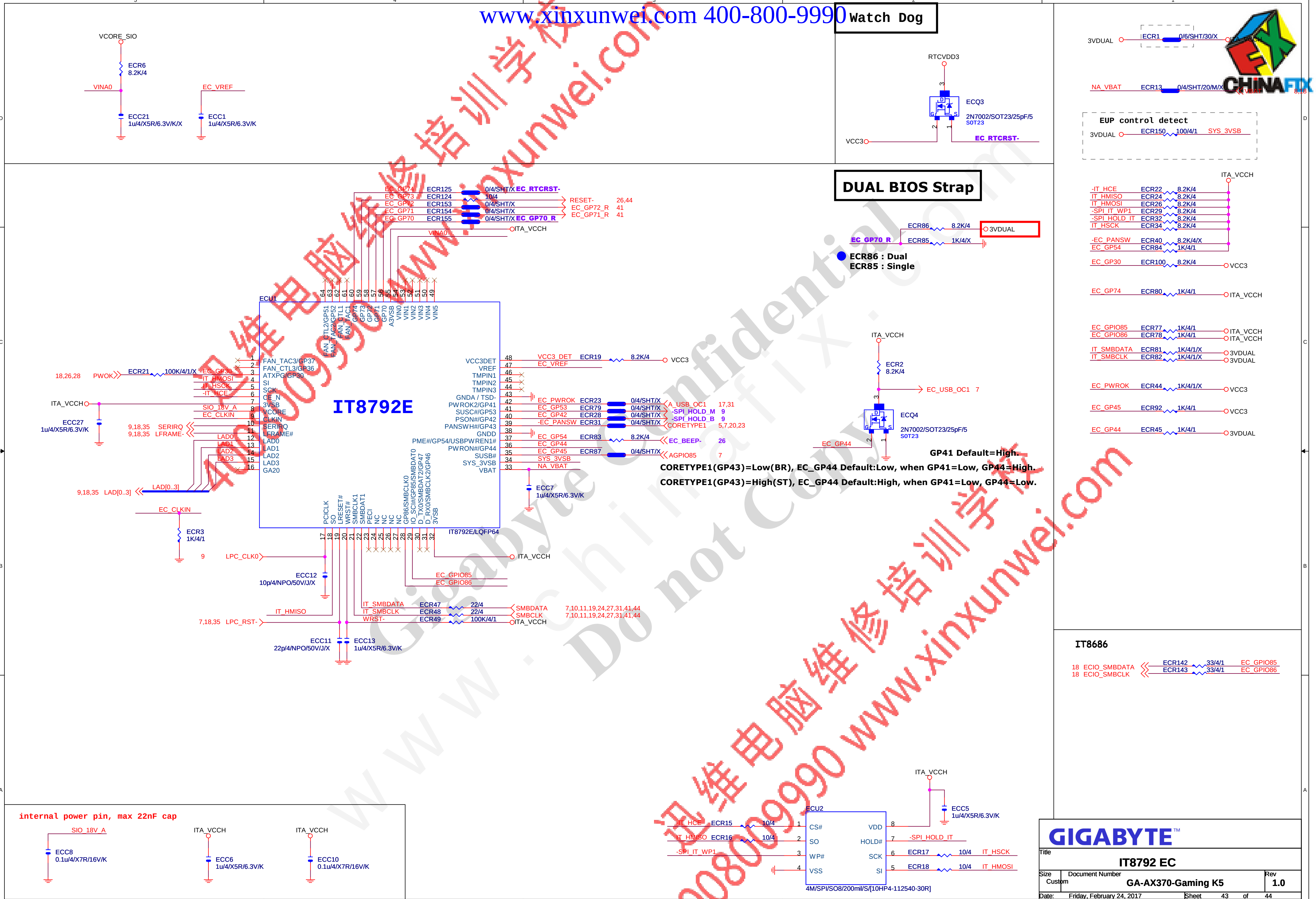
GIGABYTE™

Title	CPU / AUDIO / PCIE/REAR LED	
Size Custom	Document Number GA-AX370-Gaming K5	Rev 1.0
Date: Friday, February 24, 2017	Sheet 41 of 44	



GIGABYTE

Title	PCB / PCH / DDR / LED_C LED		
Size: Custom	Document Number: GA-AX370-Gaming K5		Rev: 1.0
Date: Friday, February 24, 2017	Sheet 42 of 44		

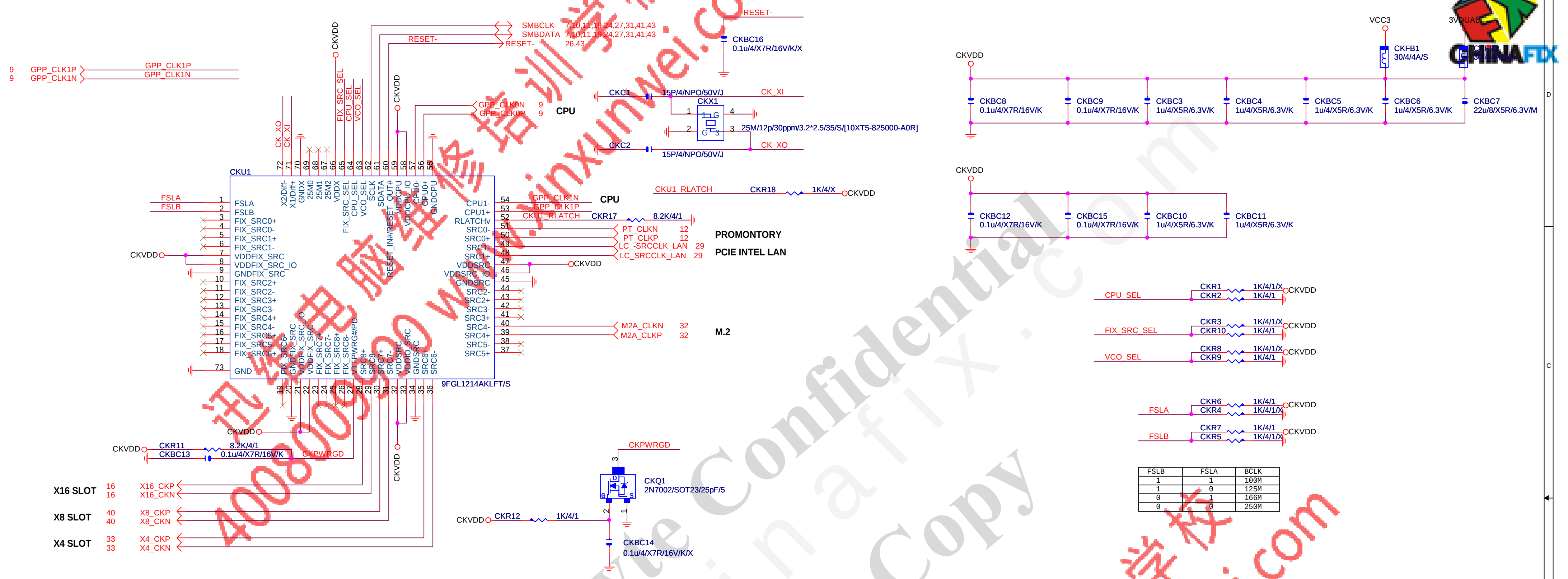


GIGABYTE

Title: IT8792 EC

Size: Custom | Document Number: GA-AX370-Gaming K5 | Rev: 1.0

Date: Friday, February 24, 2017 | Sheet 43 of 44



FSLB	FSLA	BCLK
1	1	100M
1	0	125M
0	1	166M
0	0	250M

GIGABYTE

Title: IDT CKG

Size: Custom | Document Number: GA-AX370-Gaming K5 | Rev: 1.0

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