Content Indexing

6 LAYERS PCB STACK

TOP(Signal1)		Cu,thickness:0.7mil,Plating to 1oz
	FR4,thickness:3.8mil,Dielectric Constant:4.3	
GND1		Cu,thickness:1.5mil, 1oz
	FR4,thickness:8mil,Dielectric Constant:4.3	
POWER		Cu,thickness:1.5mil, 1oz
	FR4,thickness:adjust thickness according to the thickness of board ,Dielectric Constant:4.3	
Signal2		Cu,thickness:1.5mil, 1oz
	FR4,thickness:8mil,Dielectric Constant:4.3	
GND2		Cu,thickness:1.5mil, 1oz
	FR4,thickness:3.8mil,Dielectric Constant:4.3	
BOTTOM(Signal3)		Cu,thickness:0.7mil,Plating to 1oz

Rockchip 瑞芯微电子 福州瑞芯微电子有限公司

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File: RK3288_BOX_Ref		REV:3.0
Create Date: Sunday, January 26, 2014	Page Num: 1	
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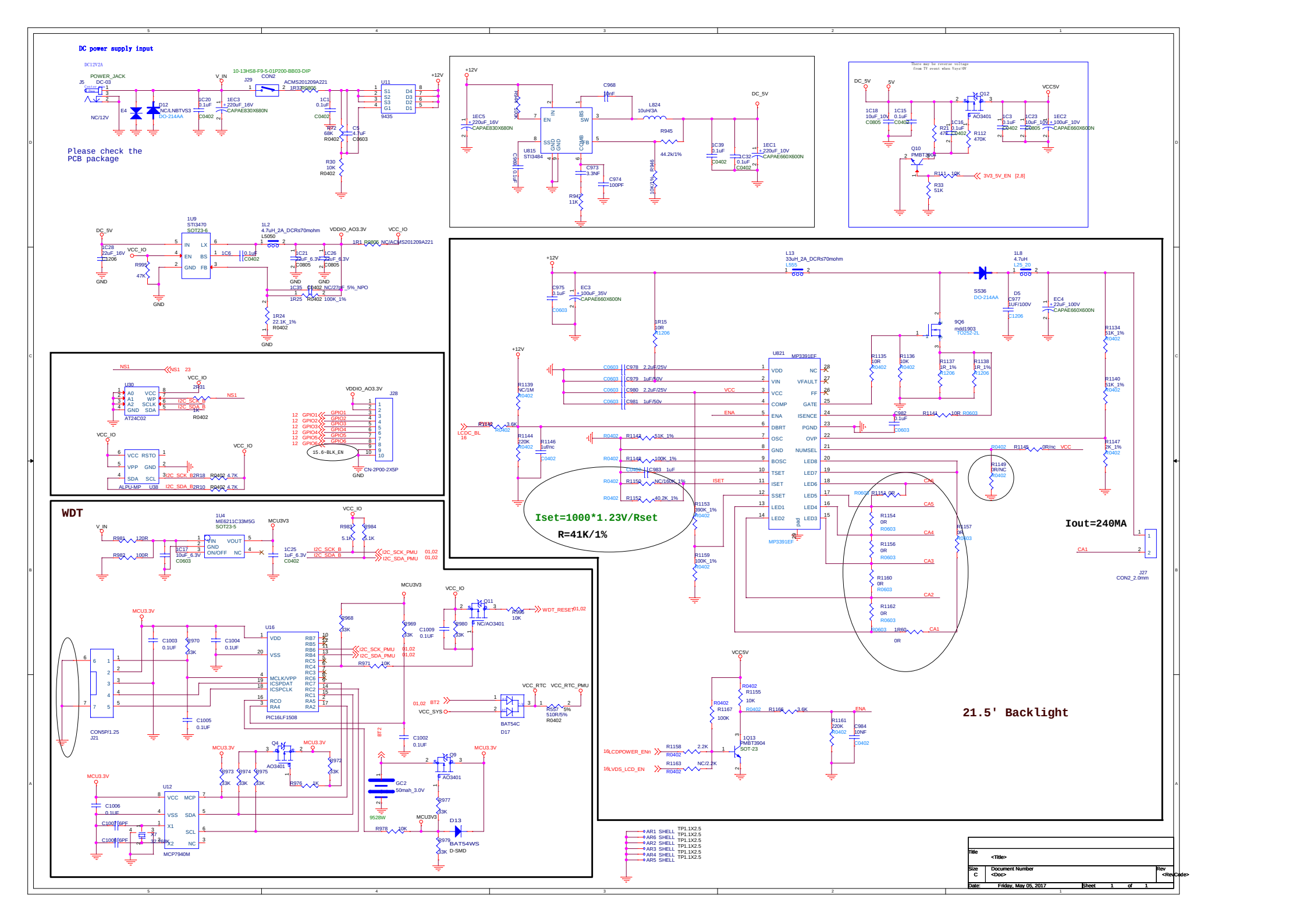
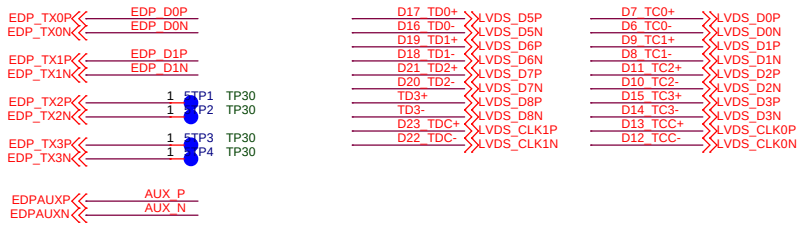
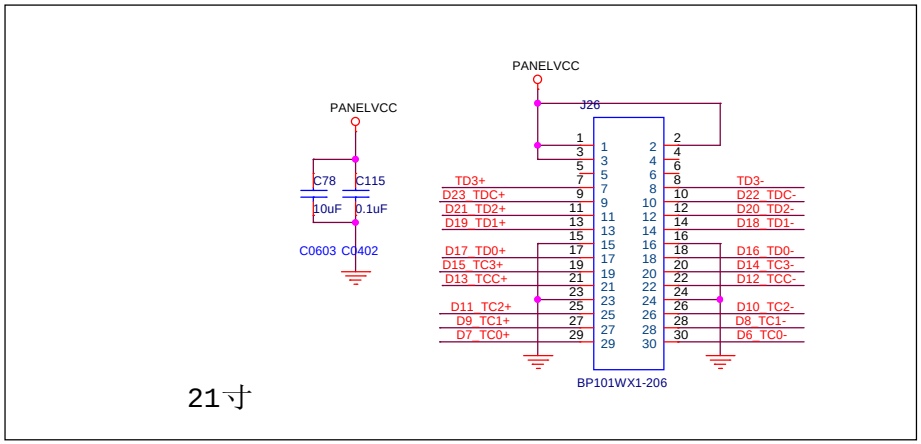
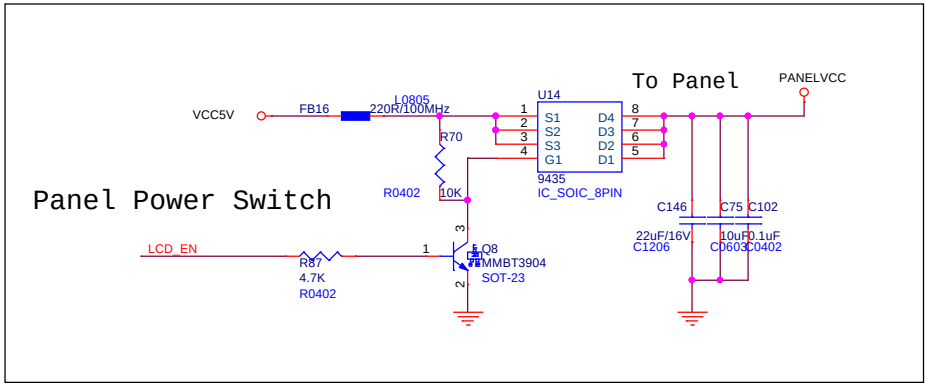
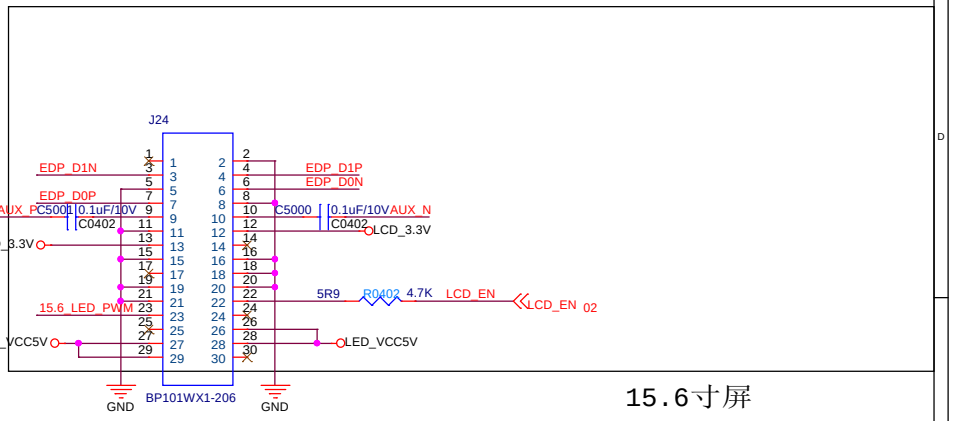
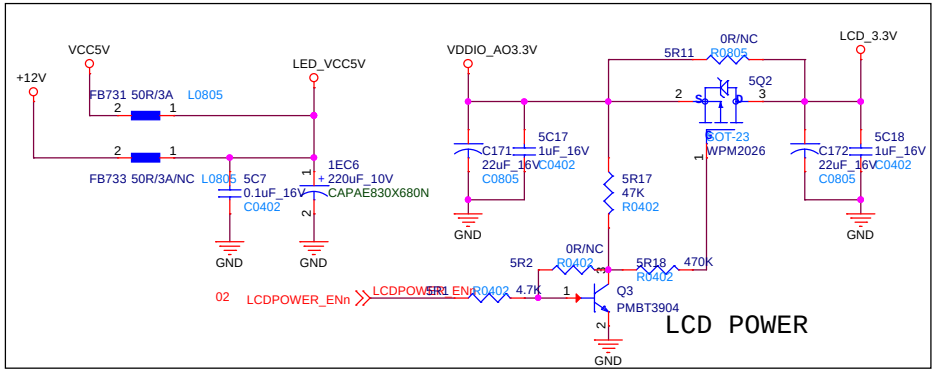

DC power supply input
Please check the PCB package
WDT
Iset=1000*1.23V/Rset
R=41K/1%
Iout=240MA
21.5' Backlight
MP3391EF
PIC16LF1508
MCP7940M
Title
<Title>
Size C
Document Number <Doc>
Rev <RevCode>
Date: Friday, May 05, 2017
Sheet 1 of 1

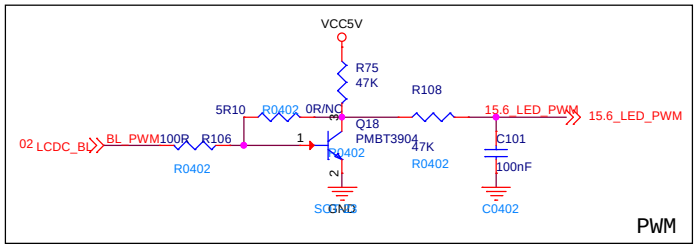












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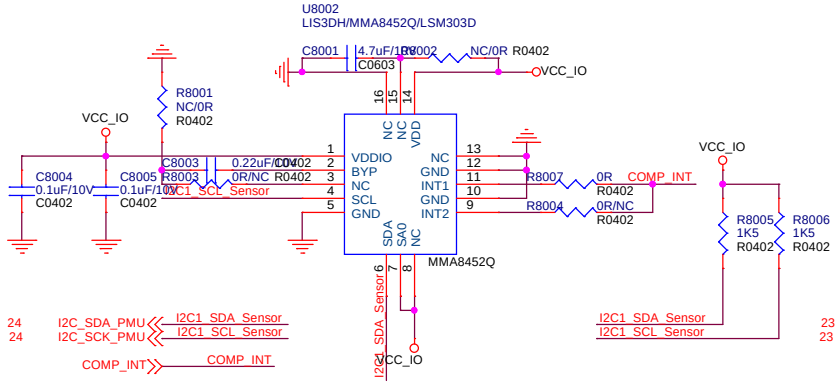
G-sensor

LSM303D with 3D Gsensor and E-compass

	LIS3DH	MMA8452Q	LSM303D
C8001	NC	NC	4.7uF
R8002	0ohm	NC	NC
R8001	NC	0ohm	NC
C8003	NC	0.1uF	0.22uF
R8003	NC	NC	0R
R8004	NC	NC	0R



08 MIPI_D1A_P — MIPI_D1A_P — MIPI_RX_D1P
08 MIPI_D1A_N — MIPI_D1A_N — MIPI_RX_D1N

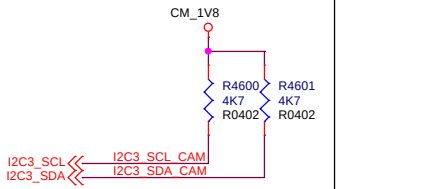
08 MIPI_CLKA_P — MIPI_CLKA_P — MIPI_RX_CLKP
08 MIPI_CLKA_N — MIPI_CLKA_N — MIPI_RX_CLKN

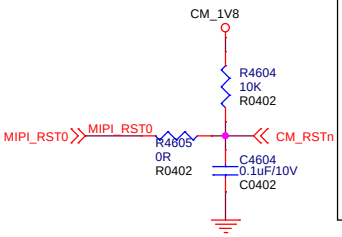
08 MIPI_D0A_P — MIPI_D0A_P — MIPI_RX_D0P
08 MIPI_D0A_N — MIPI_D0A_N — MIPI_RX_D0N

CIF_PDN1
CIF_CLKO

I2C3_SCL_CAM
I2C3_SDA_CAM

CIF_CLKO R4602 33R R0402 MIPI_MCLK0 C4600 NC C0402





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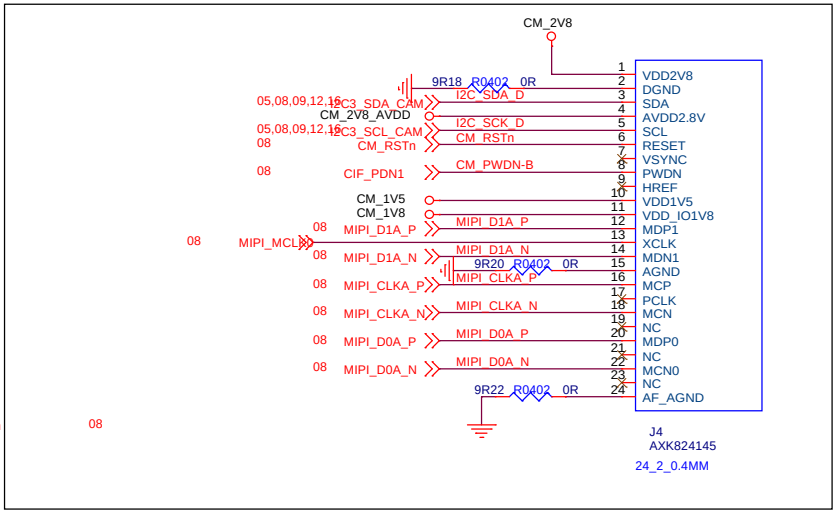

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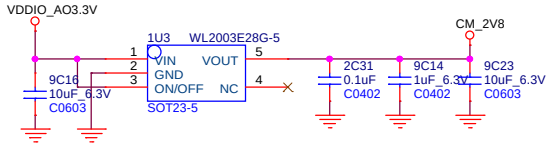

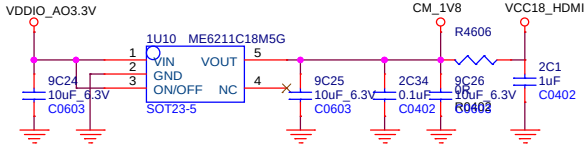

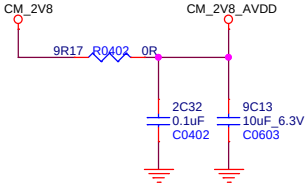

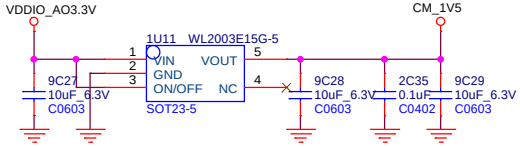

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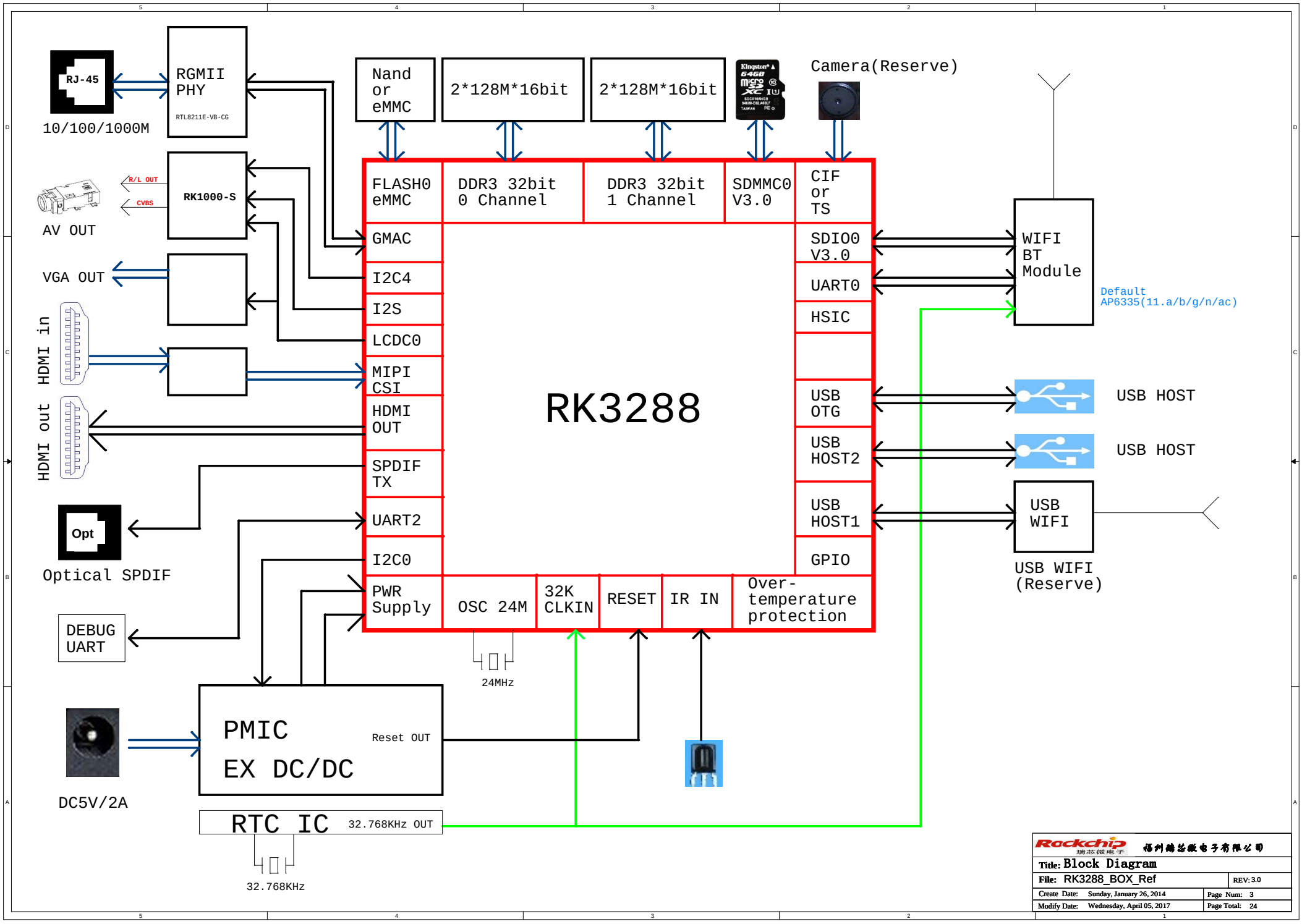
Date: Friday, April 28, 2017	Sheet 1 of 1	

Version	Date	Author	Change Note	Approved
Beat V0.1	20140217	ZDZ	First edictor	
Beat V0.2	20140227	ZDZ	1:PMIC_SLEEP更改接RK3288-J28管脚 2:ROUT/LOUT耦合电容前后网络名一致，耦合电容前网络更改为RK1000-ROUT/LOUT 3:各电源的电容优化 4:S/PDIF电源预留可使用VCCA_33，待机时可以关掉。 5：AV OUT座子的CVBS输出管脚和LOUT对掉 6:SPK_CTL更改接RK3288-G24管脚	
V1.0	20140422	ZDZ	1：见修改文档.	
V1.1	20140516	ZDZ	1：RK3288 PIN AB23,Y12更改接VCCA_33 2：ACT8846和复位IC之间预留一个0R电阻(R203)。如果使用MCU，需用外部的复位IC。R203不贴. 3：以太网的TX信号增加上拉电阻，增强驱动能力。 4：ACT8846 DC4要用上，否则上电不了。 5：ACT8846 INL3输入电源默认用VCC_20供电。 6：解决HDMI CEC漏电问题 7：R85更改成510R 8：增加VDD_CPU,VDD_GPU电容,降低纹波 9：R146更改22R，原来是NC不贴。 10：增加Audio Line Driver 11：修改eMMC电源，默认支持1.8V的高速eMMC。 12：ACT8846型号修正，配RK3288的型号为ACT8846QM490-T 13：RTC IC电源增加预留VCC_SYS供电 14：HDMI ESD器件型号修改 15：更新原理图框图，POWER TREE，原来有误。 16：L26,L27更改成SWPA5020SR24NT/5A	
V1.2	20140805	ZDZ	1：修改记录请见RK3288_BOX_REF_V1.2_20140806原理图修改点	
V1.3	20140926	ZDZ	1：修改记录请见RK3288_BOX_REF_V1.3_20140928原理图修改点	
V1.4			1：在V1.3上增加HDMI IN功能，没有对应的PCB。	
V1.5	20150628	ZDZ	1：在V1.3上基础上，HDMI座子由贴片修改成插件。	
V2.0	20150915	ZDZ	1：增加HDMI IN和VGA OUT功能 2：删掉MIC，摄像头接口 3：删掉单片机预留	
V3.0	20151224	LCH	1：将PMIC由ACT8846-490修改为RK808-B	



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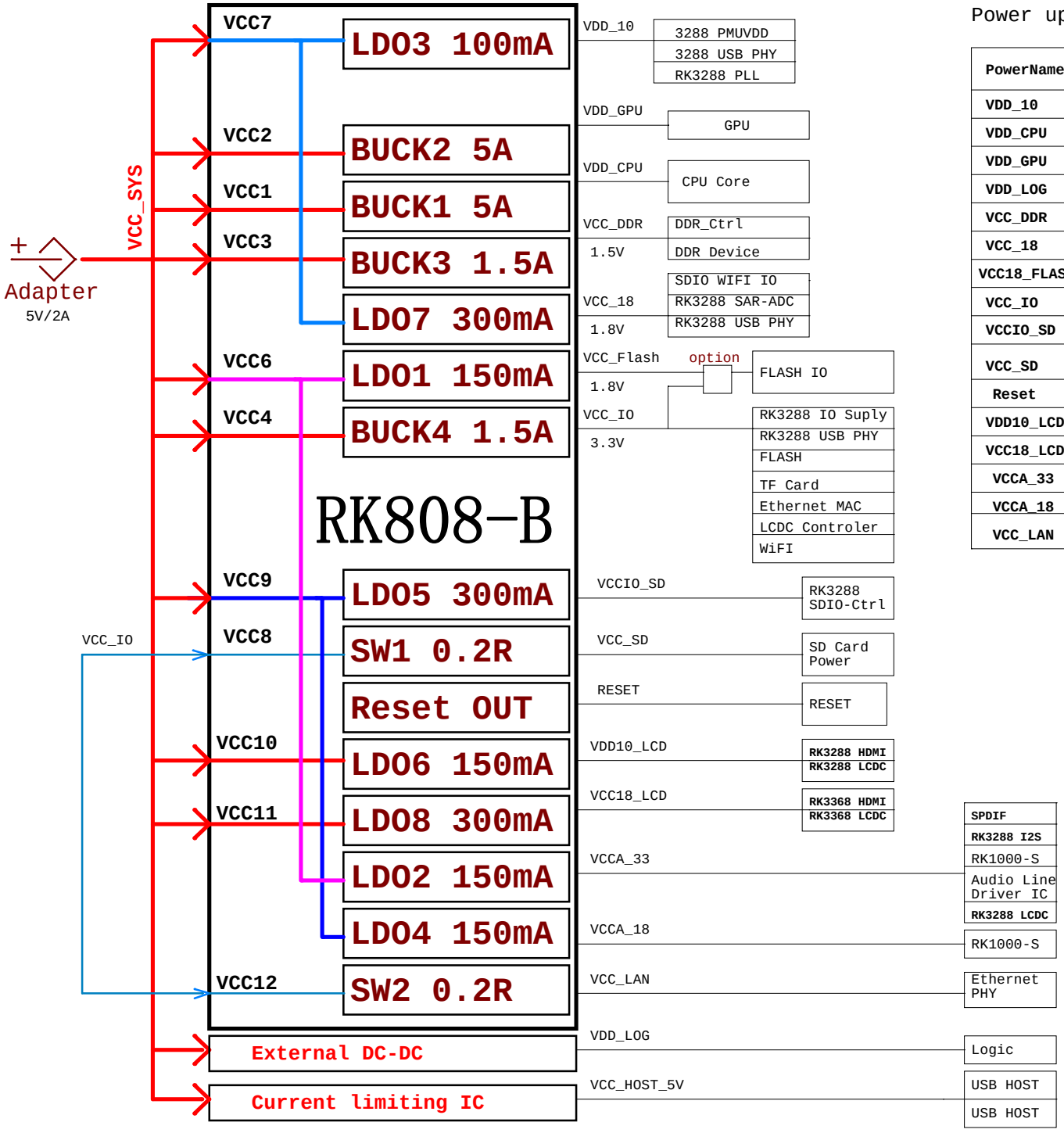

Power up Timing

PowerName	RK808-B Channel	timer 2mS	Default voltage	Normal voltage
VDD_10	LDO3	Slot:1	1.0V	1.0V
VDD_CPU	BUCK1	Slot:2	1.1V	DVFS
VDD_GPU	BUCK2	Slot:3	1.1V	DVFS
VDD_LOG	External DC-DC	Slot:4A	1.0V	DVFS
VCC_DDR	BUCK3	Slot:3	1.5V	1.5V
VCC_18	LDO7	Slot:3	1.8V	1.8V
VCC18_FLASH	LDO1	Slot:4	1.8V	1.8V
VCC_IO	BUCK4	Slot:4	3.3V	3.3V
VCCIO_SD	LDO5	Slot:5	3.3V	1.8V or 3.3V
VCC_SD	SW1	Slot:5	3.3V	3.3V
Reset		16*2mS+50mS		
VDD10_LCD	LDO6	OFF	0V	1.0V
VCC18_LCD	LDO8	OFF	0V	1.8V
VCCA_33	LDO2	OFF	0V	3.3V
VCCA_18	LDO4	OFF	0V	1.8V
VCC_LAN	SW2	OFF	0V	3.3V

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DC_5V

VCC_SYS

System LED

Logic	LED function
SYS_LED=1	System running: green LED
SYS_LED=0	Standby:Red LED

VDDIO_AO3.3V

D10 green

D11 RED

1R30 R0402 10K

1R13 R0402 240R_1%

1R12 R0402 240R_1%

1R11 200K

1Q6 PMBT3904 SOT-23

1Q2 PMBT3904 SOT-23

10K

[2] LED_CTL

SYS_LED 1R5 R0402 47K

IR2 IRM-3638N3 DIP-IR

VCC_IO

R9 4K7 R0402

IR GND 3V3

2R25 47R R0402

11 IR_INT

IR_IN

GND2R26 R0402 4.7K

2C39 NC C0402

2C40 10uF_6.3V C0603

GND

Remote control receiver

IR RECEIVE

SYSTEM POWER

Default 1.1V

Default 1.1V

Default 3.3V

Default 1.5V

U501 RK808-B

VCC_SYS

VDD_CPU

C509 DNP C0402 R510 DNP R0402 L501 1.0uH >6A IND_404030 R513 100R 5% R0402 VDD_CPU_FB

C507 10uF X5R 10V C0805

C511 22uF X5R 6.3V C0603 C512 22uF X5R 6.3V C0603

VDD_GPU

C515 DNP C0402 R511 DNP R0402 L503 1uH >3A IND_303015 R512 100R 5% R0402 VDD_GPU_FB

C513 10uF X5R 10V C0805

C517 22uF X5R 6.3V C0603 C519 22uF X5R 6.3V C0603

VDD_CPU_FB >> VDD_CPU_FB 11

VDD_GPU_FB >> VDD_GPU_FB 11

DCDC1 Buck1 5A 0.7V-1.5V

DCDC2 Buck2 5A 0.7V-1.5V

DCDC3 Buck3 1.5A 1.0V-1.8V

DCDC4 Buck4 1.5A 1.8V-3.3V

VCC1_1 VCC1_2 SW1_1 SW1_2 GND1_1 GND1_2 VFB1

VCC2_1 VCC2_2 SW2_1 SW2_2 GND2_1 GND2_2 VFB2

VCC3 SW3 VFB3

VCC4 SW4 GND4 VFB4

NC1 NC2 GND5 GND3 VREF VREFGND

REF

LDO&Switch

VCCA VCC6 VLDOA VCC7 AGND VCC9 VCC10 VCC11 VCC8 VCC12 VDDIO DGND

1.8-3.4V/150mA VLDO1

1.8-3.4V/150mA VLDO2

0.8-2.5V/100mA low noise VLDO3

0.8-2.5V/300mA low noise VLDO7

1.8-3.4V/150mA VLDO4

1.8-3.4V/300mA VLDO5

0.8-2.5V/150mA low noise VLDO6

1.8-3.4V/300mA VLDO8

0.2R Switch VSWOUT1

0.2R Switch VSWOUT2

VCCRTC OSC32KIN GNDPAD OSC32KOUT1 always on CLK32KOUT1 CLK32KOUT2

RTC

BOOT0 BOOT1 EXT_EN VDC

SDA SCL SLEEP INT DVS1 DVS2 DVSOK NRESPWRON ResetKey/VPPOTP PWRON

ToAp

QFN68_7R00X7R00X0R80_T

C521 1uF X5R 10V C0402

C523 4.7uF X5R 10V C0603

C526 4.7uF X5R 10V C0603

C529 4.7uF X5R 10V C0603

C531 1uF X5R 10V C0402

C533 1uF X5R 10V C0402

C535 DNP 4.7uF X5R 6.3V C0603

C537 4.7uF X5R 6.3V C0603

C539 100nF X5R 6.3V C0402

I2C0_SDA_PMIC R524 22R 5% R0402 PMIC_I2C_SDA

I2C0_SCL_PMIC R525 22R 5% R0402 PMIC_I2C_SCL

PMIC_SLEEP

PMIC_INT

RESET

VCC_IO R526 10K 5% R0402

C543 100nF X5R 10V C0402

C544 100nF X5R 10V C0402

VCC_SYS R531 10K 5% R0402

VCC_RTC R2255 R0402 10K

Q6 AO3401 SOT23

R2257 R0402 10K

R2256 R0402 10K

Q507 NC/8050 SOT23

NC/10K R0402 R29

WDT_RESET18,19

OTP_RESET 18,19

32K_OUT1

32K_OUT2

R545 DNR R0402 C547 DNP C0402

VCC_SYS C508 4.7uF X5R 10V C0603

L500 2.2uH >1.5A IND_303015

VCC_IO C510 10uF X5R 6.3V C0603

R546 DNR R0402 C548 DNP C0402

VCC_SYS C514 10uF X5R 10V C0805

L502 2.2uH >1.5A IND_303015

VCC_DDR C516 22uF X5R 6.3V C0603

C518 47pF C0G 50V C0402

R514 100K 1% R0402

R515 200K 1% R0402

C520 100nF X5R 10V C0402

VCC_Flash

R532 NC/0R

VCCA_33 C522 4.7uF X5R 6.3V C0603 ON:1.8V

VDD_10 C524 1uF X5R 6.3V C0402 OFF

VCC_18 C525 4.7uF X5R 6.3V C0603 ON:1.0V

VCCA_18 C527 4.7uF X5R 6.3V C0603 ON:1.8V

VCCIO_SD C528 1uF X5R 6.3V C0402 OFF

VDD10_LCD C530 4.7uF X5R 6.3V C0603 ON:3.3V

VCC18_LCD C532 4.7uF X5R 6.3V C0603 OFF

VCC_SD C534 4.7uF X5R 6.3V C0603 OFF

VCC_LAN C536 1uF X5R 6.3V C0402 ON:3.3V

VCC_RTC_PMU C538 1uF X5R 6.3V C0402 OFF

R558 1 R0402 2 0R 5%

VCC_RTC

VCC_SYS

C541 22pF C0402

Y500 32.768KHz CRY2_6R90X1R40X1R30

C545 1uF X5R 10V C0402

C540 1uF X5R 10V C0402

C542 22pF 50V C0G C0402

R527 10K 5% R0402

R529 22R 5% R0402 32K_OUT1 for RK3368

R528 10K 5% R0402

R530 22R 5% R0402 32K_OUT2 for WIFI+BT

VCC_IO

VCCIO_WL

VCC_RTC

PMIC_VDC

C2273 1nF/25V C0402

VCC_SYS R2254 220K R0402

R2251 47K R0402

VCC_SYS

C16 10uF C0805

VCC_DDR

U13 SY8089/STI3411A SOT25

VIN LX GND EN FB/OUT

C21 NC C0402

R28 10K R0402

L1 SWPA3015S3R3NT/1A IND_3X3 3.3uH/1A

VDD_LOG

C19 10uF C0603 C23 0.1uF C0402

C22 100pF C0402 R18 82K%1 R0402

Default 1.0V 0.86V-1.36V

PWM_LOG R17 20K%1 R0402 R25 180K%1 R0402

R24 10K%1 R0402 C30 10nF C0402

R26 100K%1 R0402

VCC_IO R27 15K%1 R0402

VCC_IO

R22 2K2 R0402 R23 2K2 R0402

J501 Radiator Radiator_38x38

11 I2C0_SDA_PMIC

11 I2C0_SCL_PMIC

11 PMIC_INT

11 PMIC_SLEEP

10,11 RESET

T2 MARK T3 MARK T4 MARK T5 MARK T6 MARK T1 MARK

H1 H3.8MM H2 H3.8MM H3 H3.8MM H4 H3.8MM

注：板上的所有电感建议采用一体成型的TDK_SPM系列，
感通科技_一体成型GPSR系列。

Rockchip 瑞芯微电子	福州瑞芯微电子有限公司
Title: System Power	
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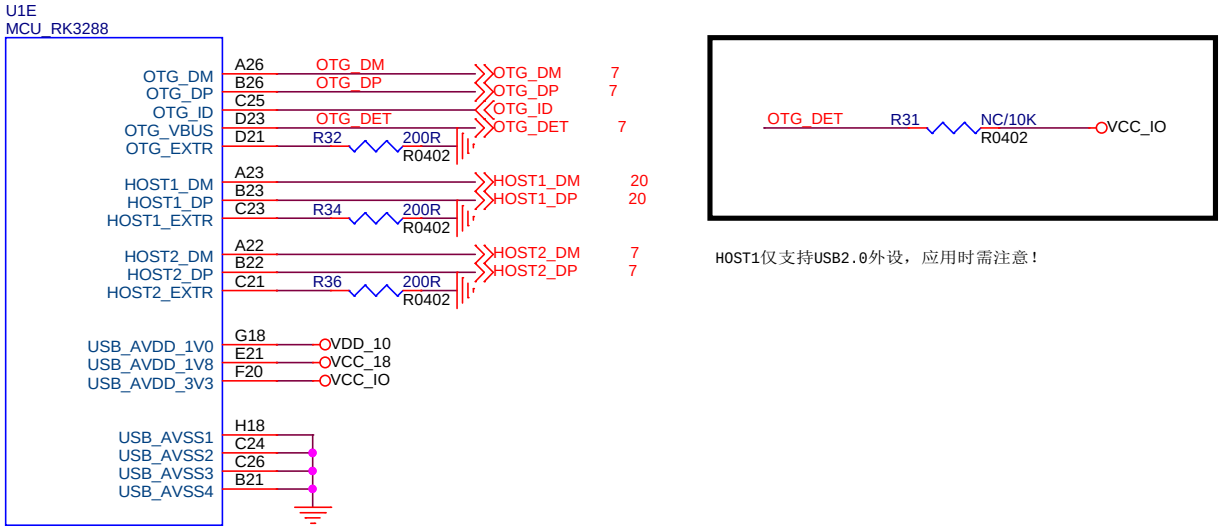
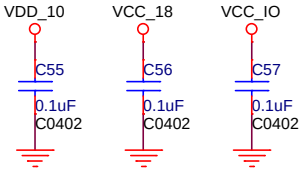
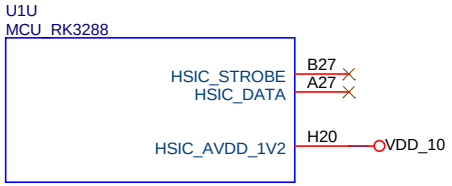


HOST1仅支持USB2.0外设，应用时需注意！

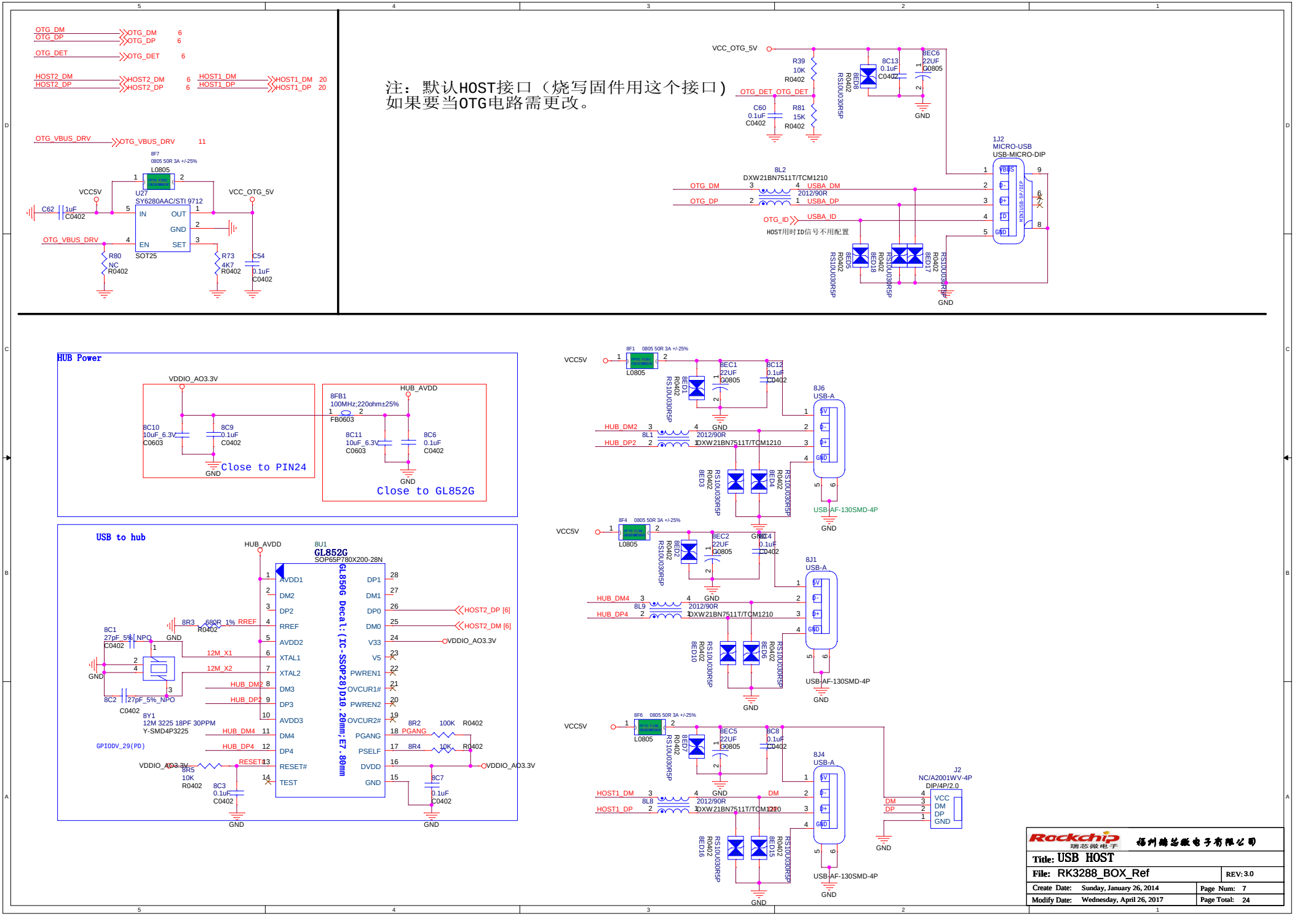
RK3288_E

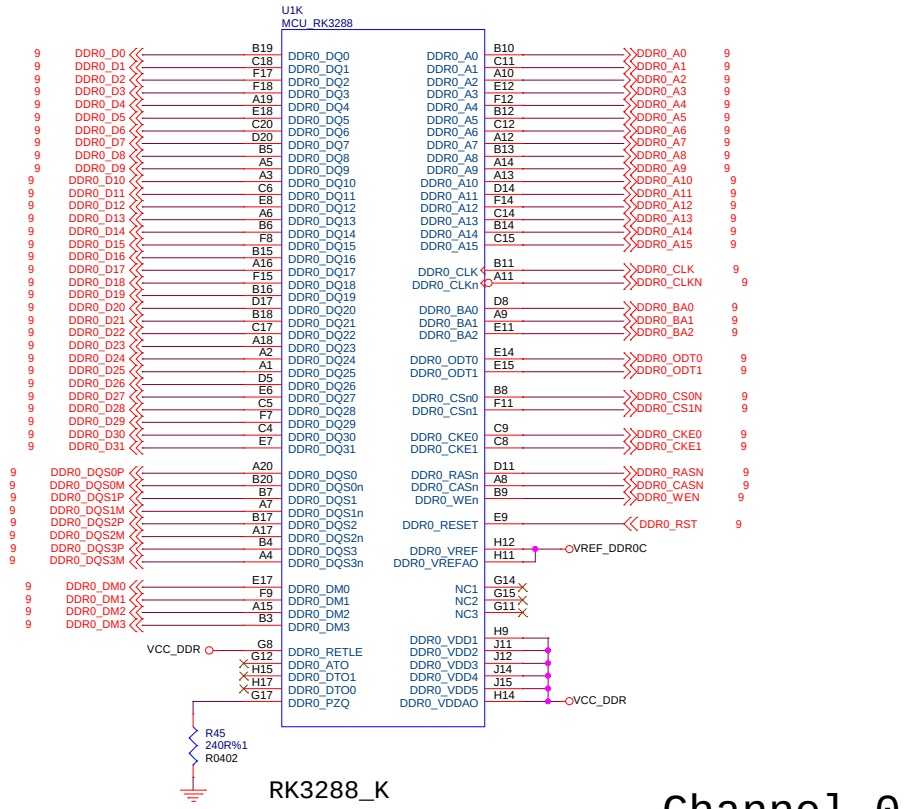




RK3288_U

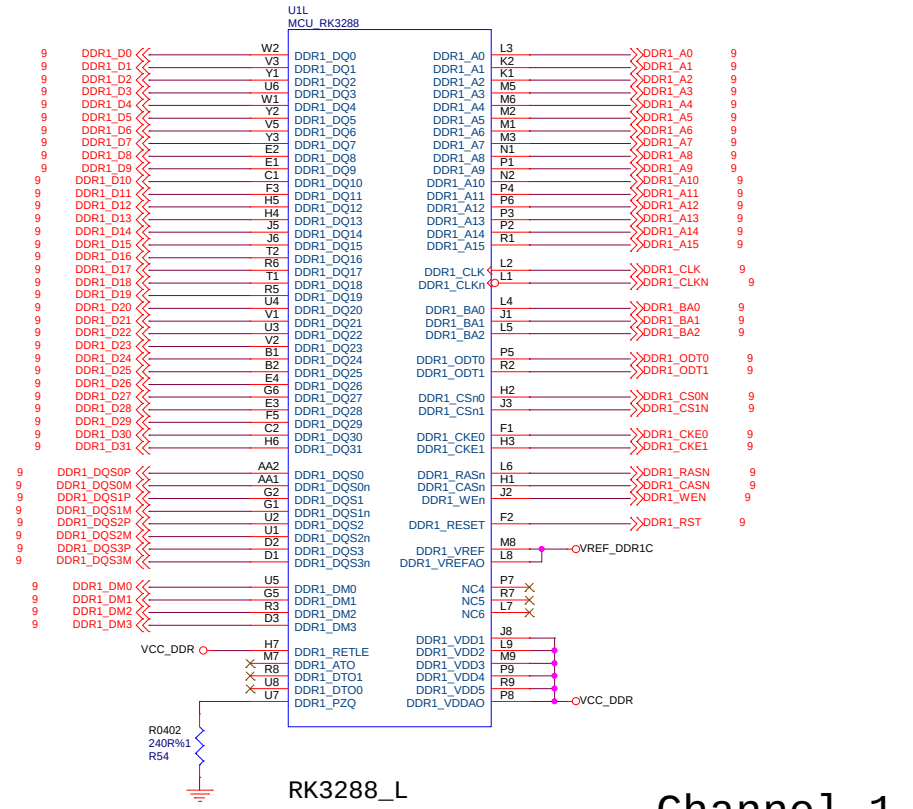
Rockchip 瑞芯微电子 福州瑞芯微电子有限公司		
Title: RK3288 USB/HSIC Controler		
File: RK3288_BOX_Ref		REV:3.0
Create Date: Monday, February 17, 2014	Page Num: 6	
Modify Date: Thursday, April 06, 2017	Page Total: 24	


OTG_DM
OTG_DP
OTG_DET
HOST2_DM
HOST2_DP
HOST1_DM
HOST1_DP
OTG_VBUS_DRV
注：默认HOST接口（烧写固件用这个接口）
如果要当OTG电路需更改。
VCC_OTG_5V
R39 10K R0402
C60 0.1uF C0402
R81 15K R0402
8C13 0.1uF C0402
8EC6 22UF G0805
8ED8 RS10U030R5P
GND
1J2 MICRO-USB USB-MICRO-DIP
8L2 DXW21BN7511T/TCM1210
USBA_DM
USBA_DP
USBA_ID
2012/90R
HOST用时ID信号不用配置
8ED5
8ED18
8ED17
VCC5V
C62 1uF C0402
U27 SY6280AAC/STI 9712
IN
OUT
GND
EN
SET
SOT25
R80 NC R0402
R73 4K7 R0402
C54 0.1uF C0402
8F7 0805 50R 3A +/-25% L0805
HUB Power
VDDIO_AO3.3V
HUB_AVDD
8C10 10uF_6.3V C0603
8C9 0.1uF C0402
8FB1 100MHz;220ohm±25% FB0603
8C11 10uF_6.3V C0603
8C6 0.1uF C0402
Close to PIN24
Close to GL852G
USB to hub
8U1 GL852G SOP65P780X200-28N
GL850G Decal:(IC-SSOP28)D10.20mm;E7.80mm
AVDD1
DM2
DP2
RREF
AVDD2
XTAL1
XTAL2
DM3
DP3
AVDD3
DM4
DP4
RESET#
TEST
DP1
DM1
DP0
DM0
V33
V5
PWREN1
OVCUR1#
PWREN2
OVCUR2#
PGANG
PSELF
DVDD
GND
8C1 27pF_5%_NPO C0402
8R3 680R_1% R0402
8C2 27pF_5%_NPO C0402
8Y1 12M 3225 18PF 30PPM Y-SMD4P3225
12M_X1
12M_X2
HUB_DM2
HUB_DP2
HUB_DM4
HUB_DP4
GPIODV_29(PD)
RESET1
8R5 10K R0402
8C3 0.1uF C0402
8R2 100K R0402
8R4 10K R0402
8C7 0.1uF C0402
HOST2_DP [6]
HOST2_DM [6]
VDDIO_AO3.3V
8J6 USB-A
8J1 USB-A
8J4 USB-A
USB-AF-130SMD-4P
8L1
8L9
8L8
J2 NC/A2001WV-4P DIP/4P/2.0
VCC
DM
DP
GND
福州瑞芯微电子有限公司
Title: USB HOST
File: RK3288_BOX_Ref
REV: 3.0
Create Date: Sunday, January 26, 2014
Page Num: 7
Modify Date: Wednesday, April 26, 2017
Page Total: 24



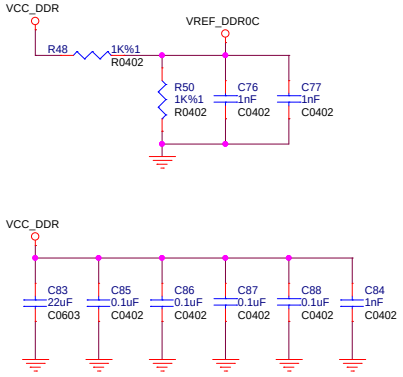
RK3288_K

Channel 0



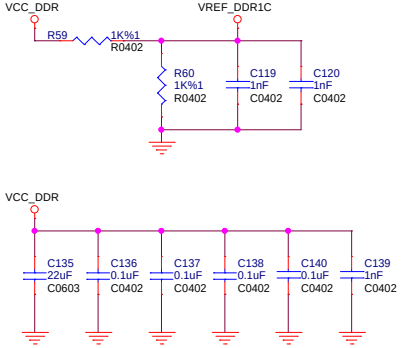
RK3288_L

Channel 1

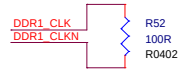


DDR0 FILTER

Note:
These termination resistors must be placed
in the middle of trace, and the termination resistor of CLK must be placed in thebifurcation point.

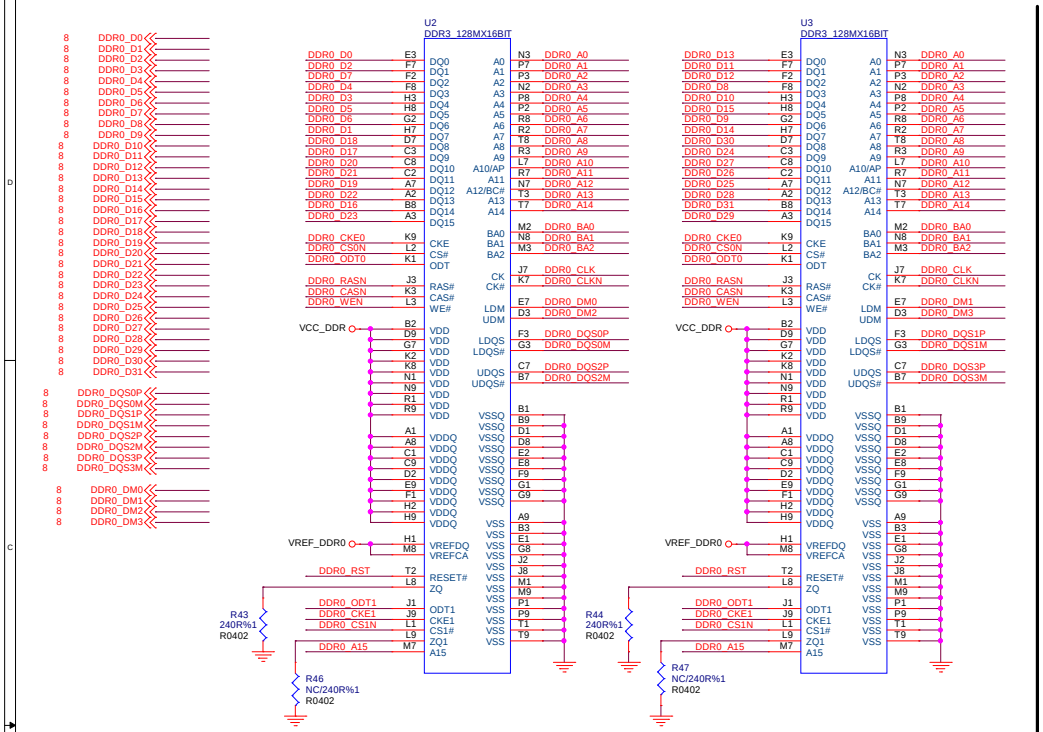


DDR1 FILTER

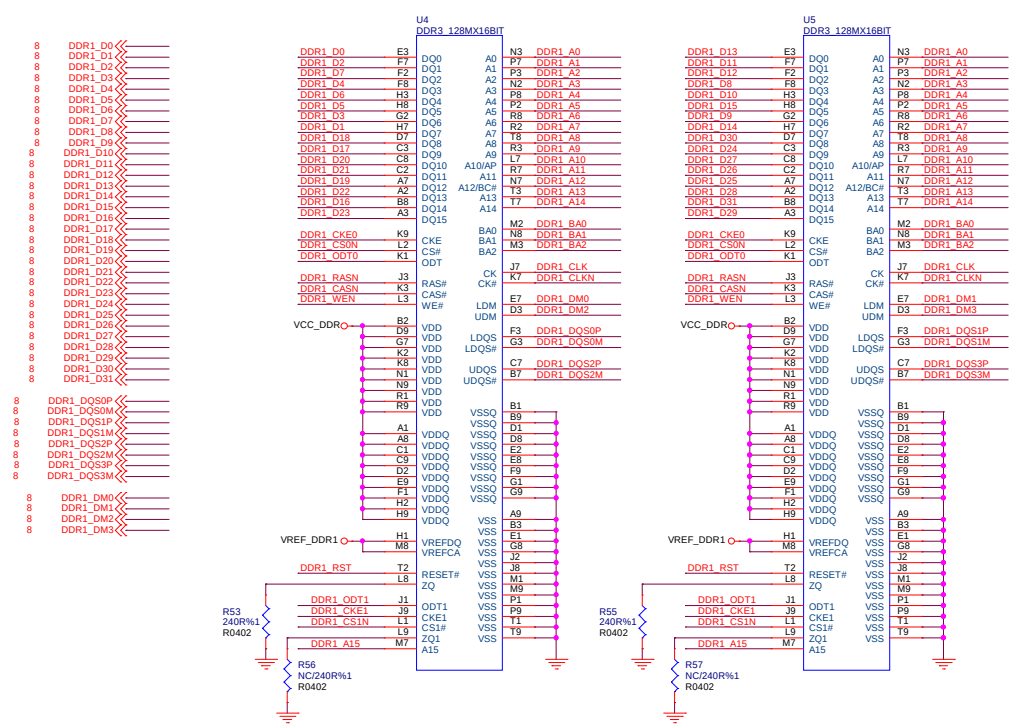


Note:
These termination resistors must be placed
in the middle of trace, and the termination resistor of CLK must be placed in thebifurcation point.

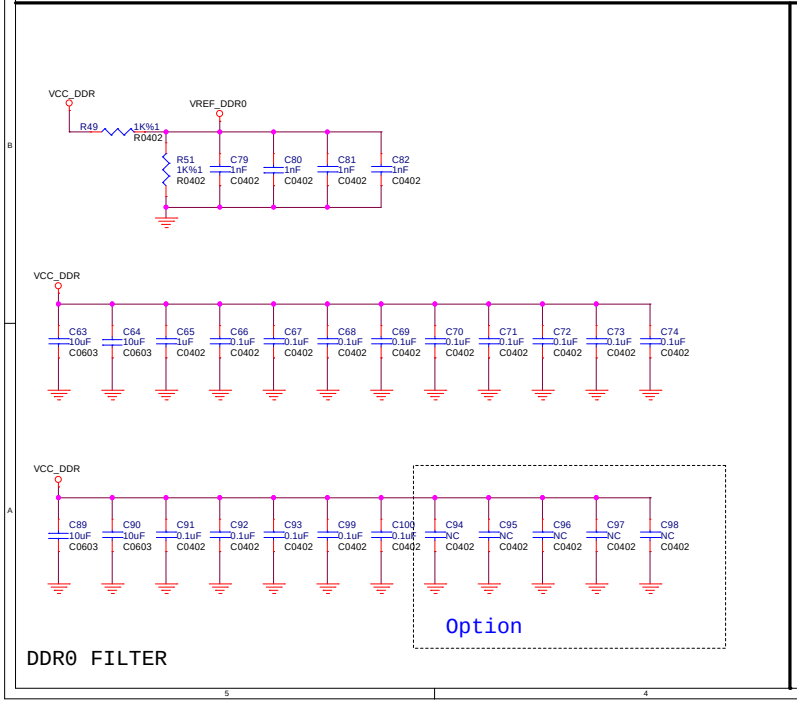
Rockchip 瑞芯微电子	福州瑞芯微电子有限公司	
Title: RK3288 RAM Controler		
File: RK3288_BOX_Ref		REV: 3.0
Create Date: Monday, February 17, 2014	Page Num: 8	
Modify Date: Wednesday, April 05, 2017	Page Total: 24	



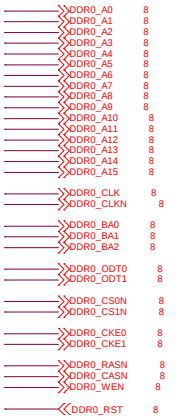
DDR3

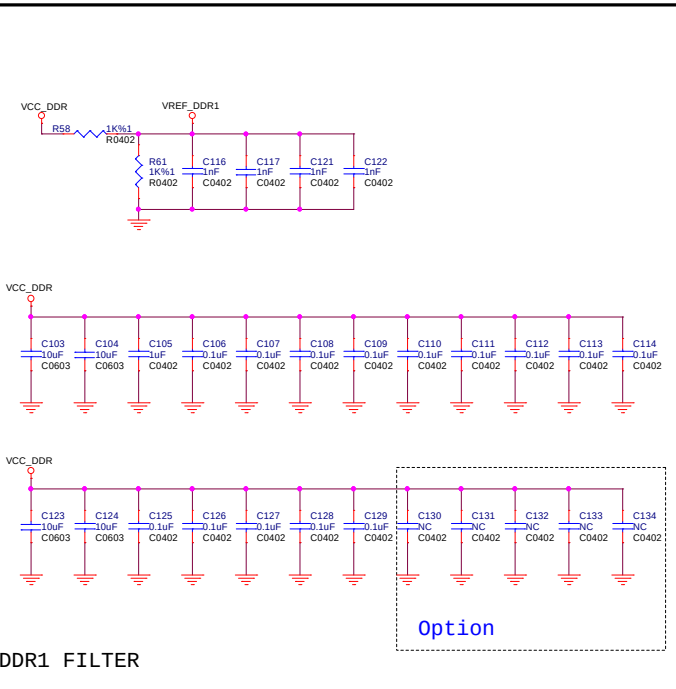


DDR3



DDR0 FILTER

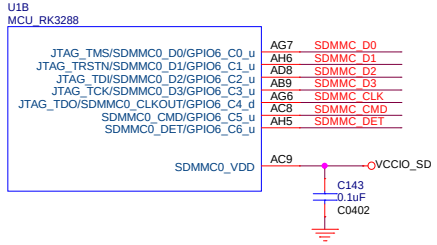




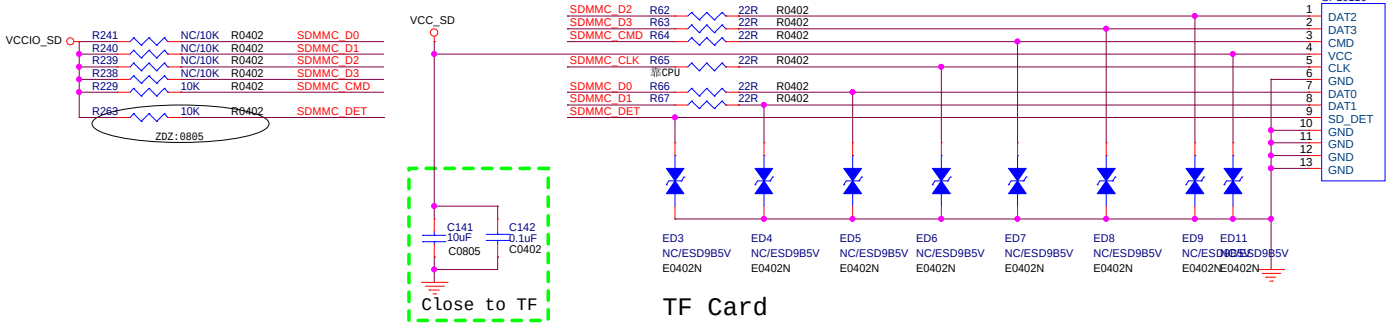
DDR1 FILTER

Rockchip 瑞芯微电子 福州瑞芯微电子有限公司

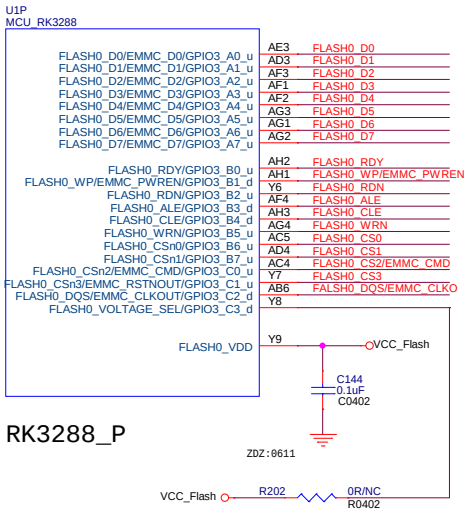
Title: RAM-DDR3-4X16bit		
File: RK3288_BOX_Ref		REV:3.0
Create Date: Tuesday, November 09, 2010	Page Num: 9	
Modify Date: Wednesday, April 05, 2017	Page Total: 24	



RK3288_B

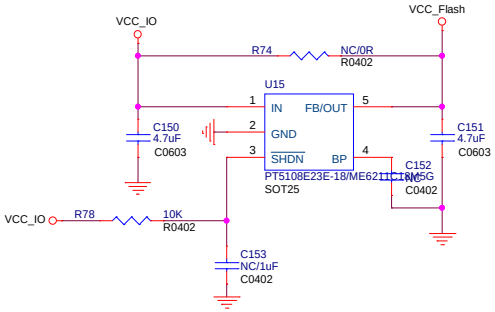


TF Card



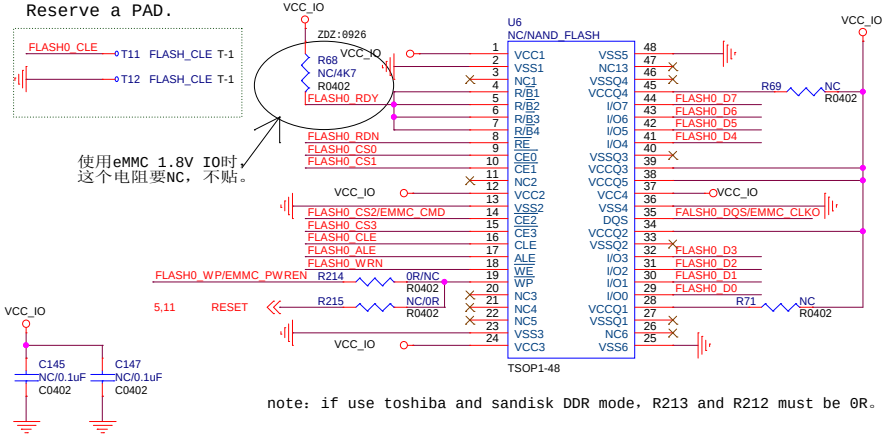
RK3288_P

Flash Power 接1.8V:1.8V IO
悬空：3.3V IO



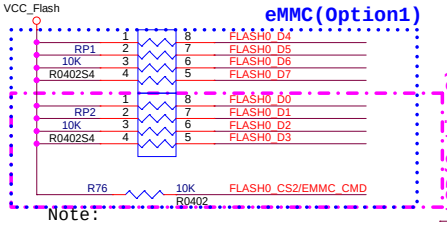
NAND FLASH(Option1)

Note:
Reserve a PAD.

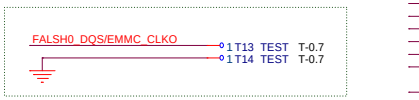


note：if use toshiba and sandisk DDR mode，R213 and R212 must be 0R。

eMMC(Option1)

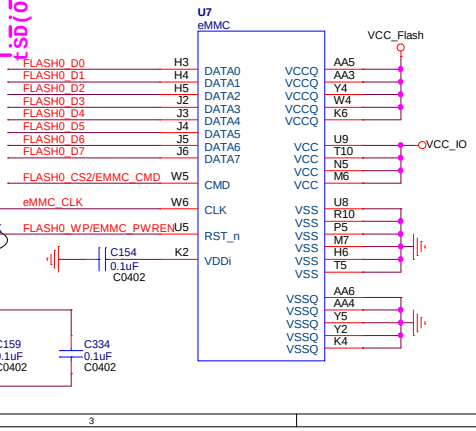


Note:
Reserve a PAD.



eMMC(default)

Pull-up select



	Flash IO voltage		
eMMC (Default)	1.8V (VCCQ<150mA)	R74:DNP U15:DNP R532:0R	Default
	1.8V (VCCQ>150mA)	R74:DNP U15:PT5108E23E-18(500mA) R532:DNP	请确认所使用的eMMC颗粒的VCCQ峰值电流。
	3.3V	R74:0R U15:DNP R532:DNP	
Nand Flash	1.8V (VCCQ<150mA)	R74:DNP U15:DNP R532:0R	
	1.8V (VCCQ>150mA)	R74:DNP U15:PT5108E23E-18(500mA) R532:DNP	请确认所使用的Nand颗粒的VCCQ峰值电流。
	3.3V	R74:0R U15:DNP R532:DNP	

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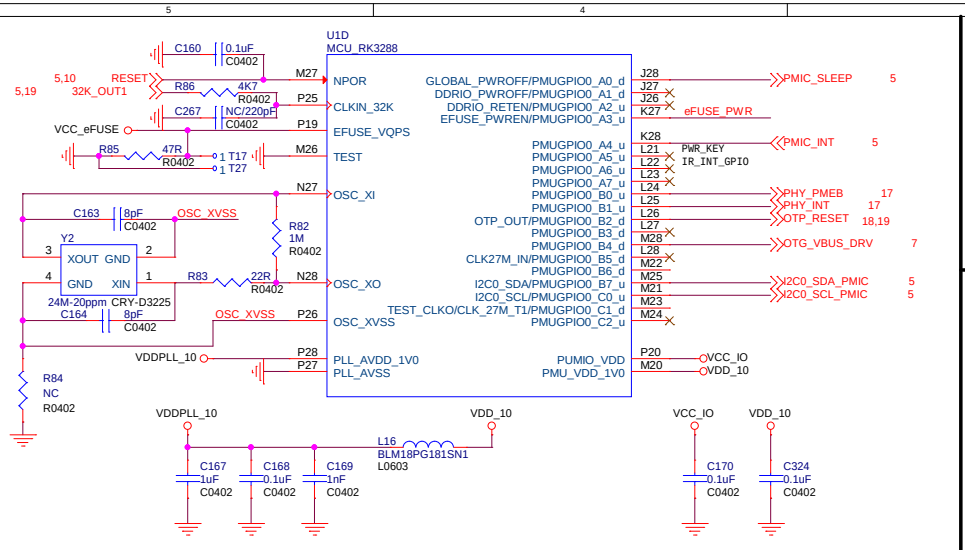
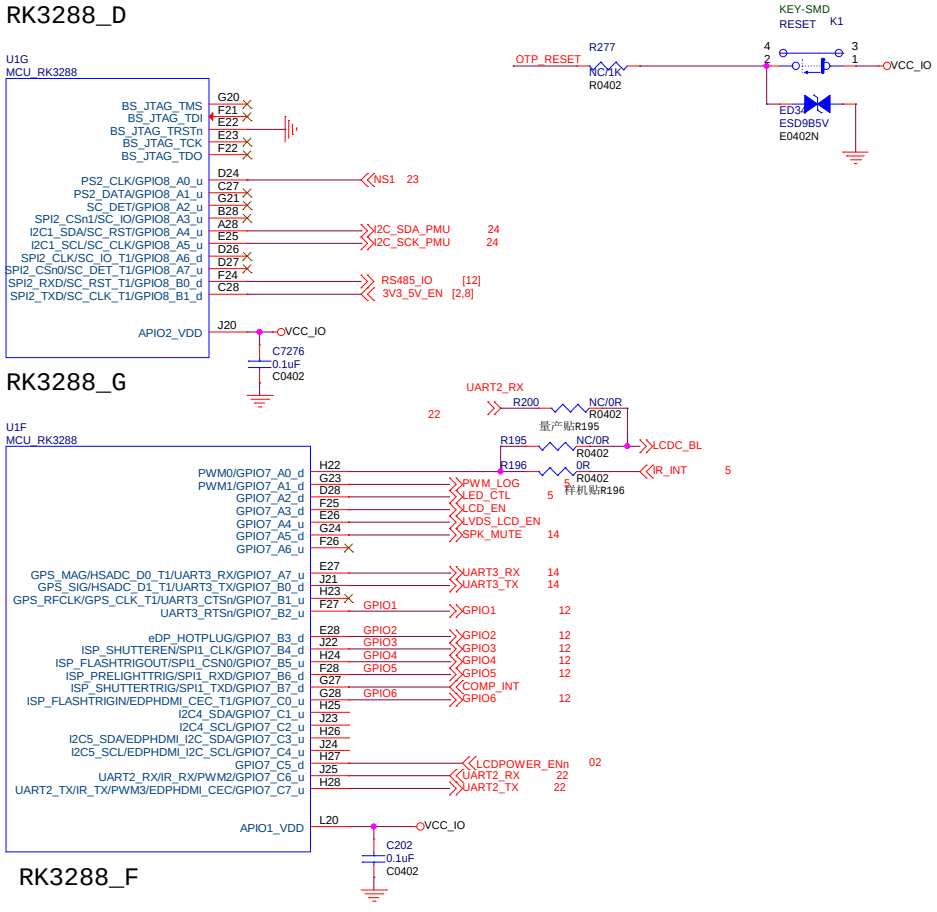
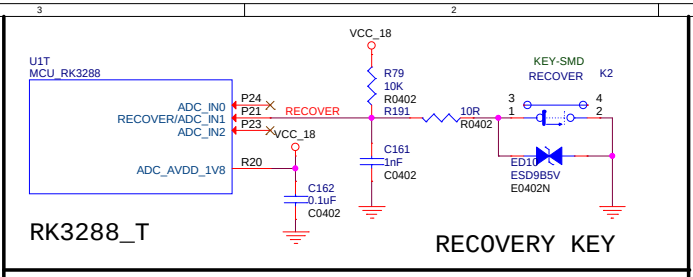
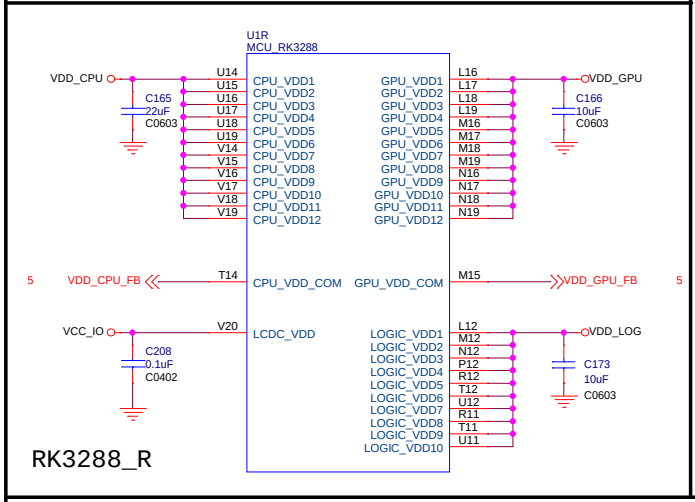
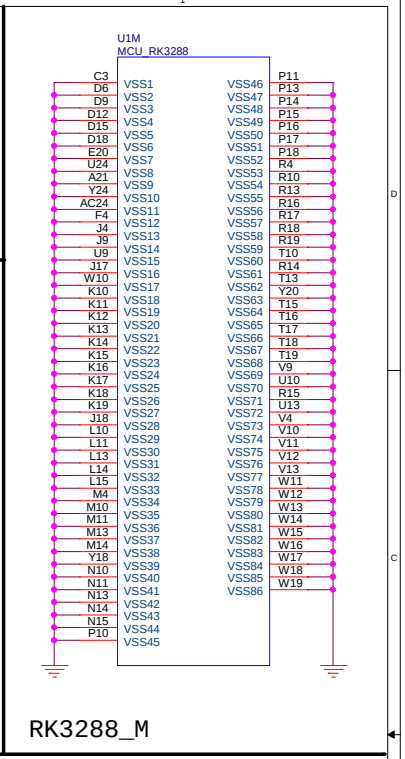
Title: Nand FLASH/eMMC/TF Card		
File: RK3288_BOX_Ref		REV: 3.0
Create Date: Sunday, January 26, 2014	Page Num:	10
Modify Date: Friday, April 07, 2017	Page Total:	24

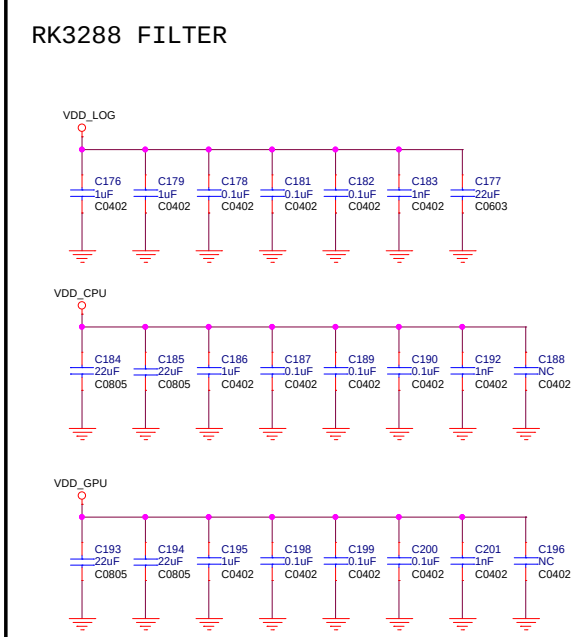


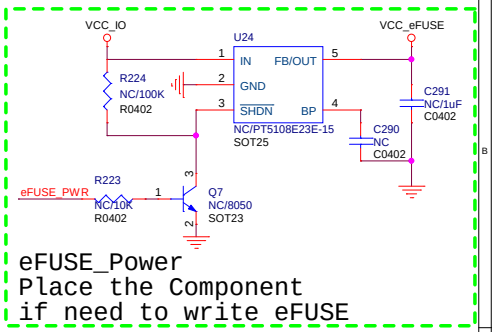


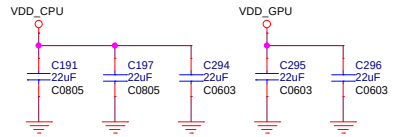






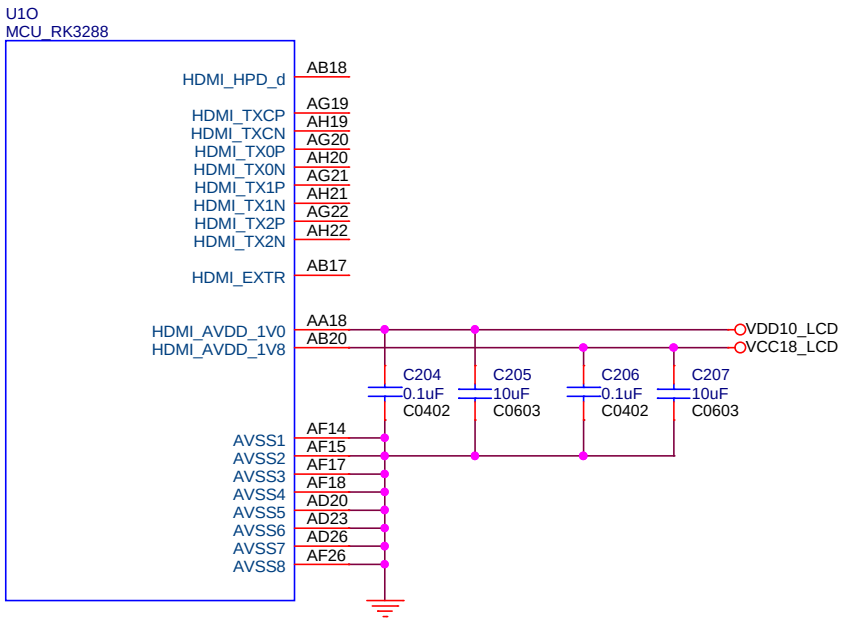






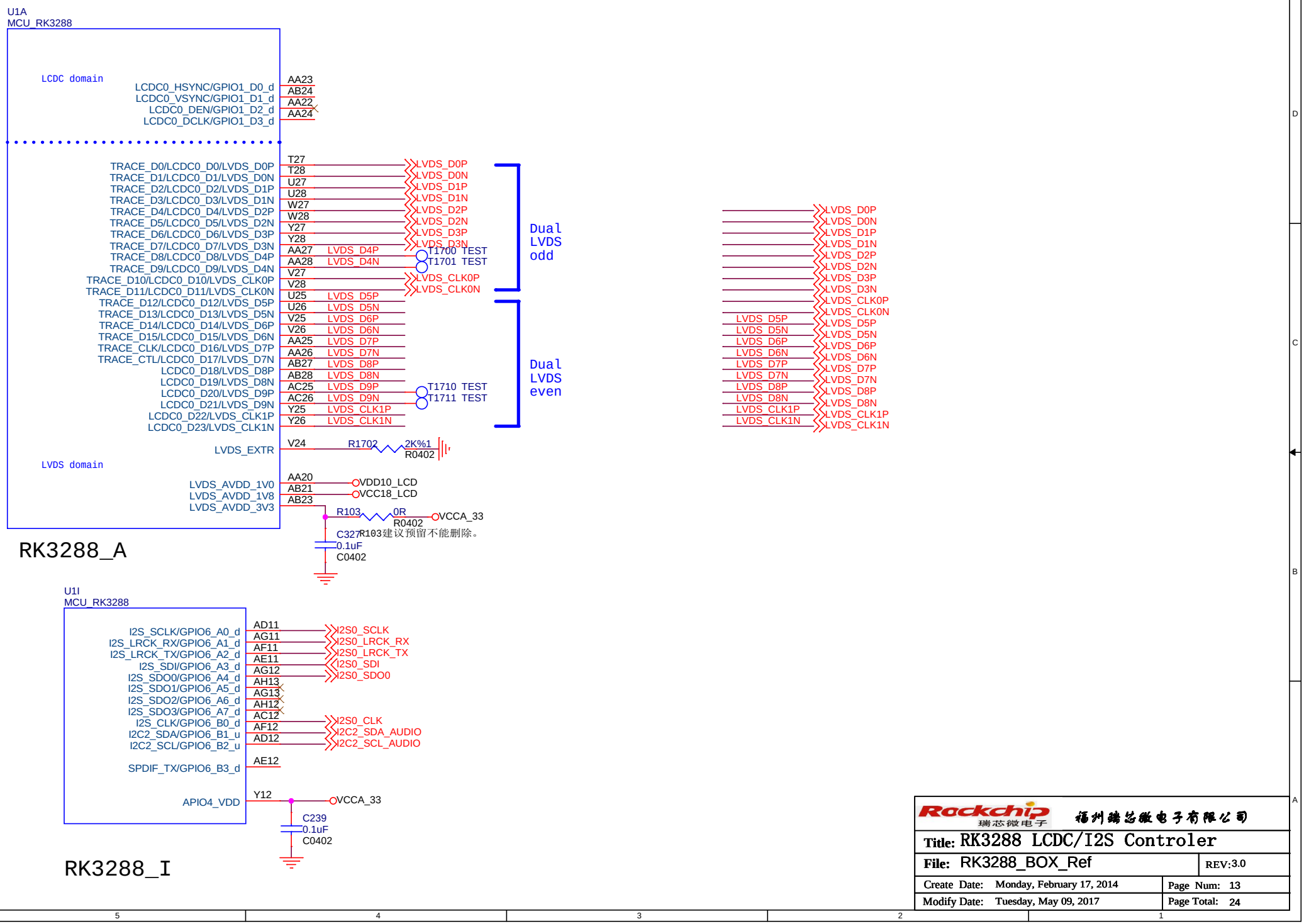
Rockchip 瑞芯微电子 福州瑞芯微电子有限公司

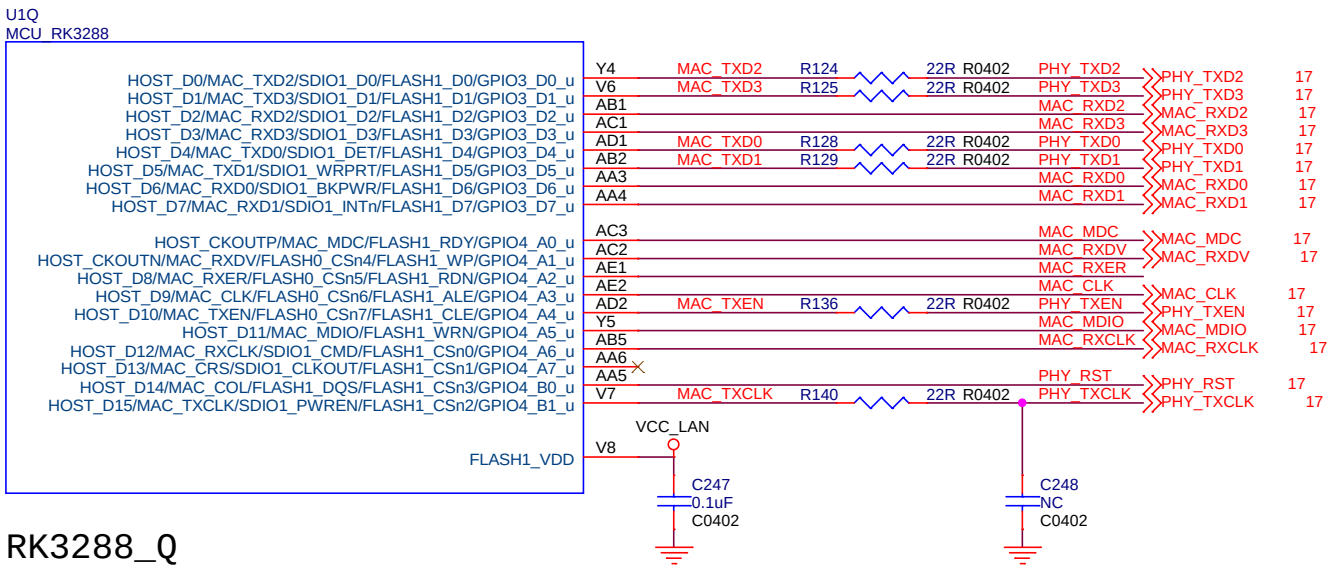
Title: RK3288 GPIO/POWER		
File: RK3288_BOX_Ref		REV: 3.0
Create Date: Sunday, January 26, 2014	Page Num:	11
Modify Date: Friday, April 28, 2017	Page Total:	24



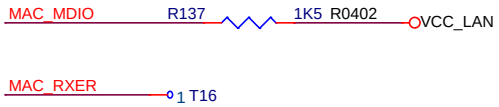
RK3288_0

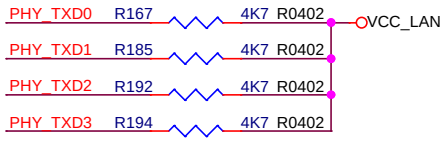
Rockchip 瑞芯微电子	福州瑞芯微电子有限公司	
Title: HDMI OUT		
File: RK3288_BOX_Ref		REV:3.0
Create Date: Sunday, January 26, 2014		Page Num: 12
Modify Date: Friday, April 28, 2017		Page Total: 24


U1A
MCU_RK3288
LCDC domain
LCDC0_HSYNC/GPIO1_D0_d
LCDC0_VSYNC/GPIO1_D1_d
LCDC0_DEN/GPIO1_D2_d
LCDC0_DCLK/GPIO1_D3_d
AA23
AB24
AA22
AA24
TRACE_D0/LCDC0_D0/LVDS_D0P
TRACE_D1/LCDC0_D1/LVDS_D0N
TRACE_D2/LCDC0_D2/LVDS_D1P
TRACE_D3/LCDC0_D3/LVDS_D1N
TRACE_D4/LCDC0_D4/LVDS_D2P
TRACE_D5/LCDC0_D5/LVDS_D2N
TRACE_D6/LCDC0_D6/LVDS_D3P
TRACE_D7/LCDC0_D7/LVDS_D3N
TRACE_D8/LCDC0_D8/LVDS_D4P
TRACE_D9/LCDC0_D9/LVDS_D4N
TRACE_D10/LCDC0_D10/LVDS_CLK0P
TRACE_D11/LCDC0_D11/LVDS_CLK0N
TRACE_D12/LCDC0_D12/LVDS_D5P
TRACE_D13/LCDC0_D13/LVDS_D5N
TRACE_D14/LCDC0_D14/LVDS_D6P
TRACE_D15/LCDC0_D15/LVDS_D6N
TRACE_CLK/LCDC0_D16/LVDS_D7P
TRACE_CTL/LCDC0_D17/LVDS_D7N
LCDC0_D18/LVDS_D8P
LCDC0_D19/LVDS_D8N
LCDC0_D20/LVDS_D9P
LCDC0_D21/LVDS_D9N
LCDC0_D22/LVDS_CLK1P
LCDC0_D23/LVDS_CLK1N
T27
T28
U27
U28
W27
W28
Y27
Y28
AA27
AA28
V27
V28
U25
U26
V25
V26
AA25
AA26
AB27
AB28
AC25
AC26
Y25
Y26
LVDS_D0P
LVDS_D0N
LVDS_D1P
LVDS_D1N
LVDS_D2P
LVDS_D2N
LVDS_D3P
LVDS_D3N
LVDS_D4P
LVDS_D4N
LVDS_CLK0P
LVDS_CLK0N
LVDS_D5P
LVDS_D5N
LVDS_D6P
LVDS_D6N
LVDS_D7P
LVDS_D7N
LVDS_D8P
LVDS_D8N
LVDS_D9P
LVDS_D9N
LVDS_CLK1P
LVDS_CLK1N
T1700 TEST
T1701 TEST
T1710 TEST
T1711 TEST
Dual LVDS odd
Dual LVDS even
LVDS_EXTR
V24
R1702
2K%1
R0402
LVDS domain
LVDS_AVDD_1V0
LVDS_AVDD_1V8
LVDS_AVDD_3V3
AA20
AB21
AB23
VDD10_LCD
VCC18_LCD
R103
0R
R0402
VCCA_33
C327
0.1uF
C0402
R103建议预留不能删除。
RK3288_A
U1I
MCU_RK3288
I2S_SCLK/GPIO6_A0_d
I2S_LRCK_RX/GPIO6_A1_d
I2S_LRCK_TX/GPIO6_A2_d
I2S_SDI/GPIO6_A3_d
I2S_SDO0/GPIO6_A4_d
I2S_SDO1/GPIO6_A5_d
I2S_SDO2/GPIO6_A6_d
I2S_SDO3/GPIO6_A7_d
I2S_CLK/GPIO6_B0_d
I2C2_SDA/GPIO6_B1_u
I2C2_SCL/GPIO6_B2_u
SPDIF_TX/GPIO6_B3_d
APIO4_VDD
AD11
AG11
AF11
AE11
AG12
AH13
AG13
AH12
AC12
AF12
AD12
AE12
Y12
I2S0_SCLK
I2S0_LRCK_RX
I2S0_LRCK_TX
I2S0_SDI
I2S0_SDO0
I2S0_CLK
I2C2_SDA_AUDIO
I2C2_SCL_AUDIO
VCCA_33
C239
0.1uF
C0402
RK3288_I
Rockchip 瑞芯微电子
福州瑞芯微电子有限公司
Title: RK3288 LCDC/I2S Controler
File: RK3288_BOX_Ref
REV:3.0
Create Date: Monday, February 17, 2014
Page Num: 13
Modify Date: Tuesday, May 09, 2017
Page Total: 24

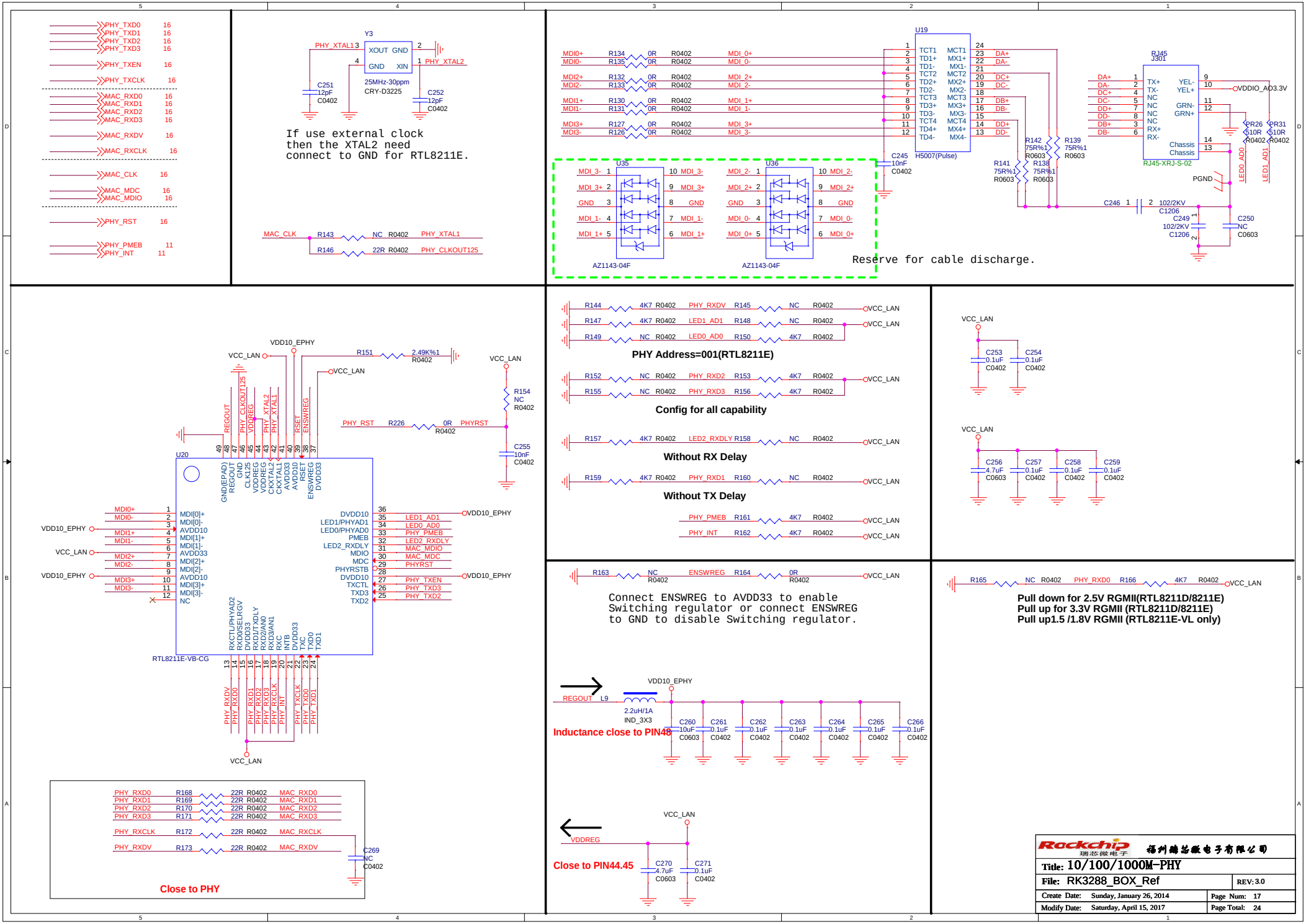


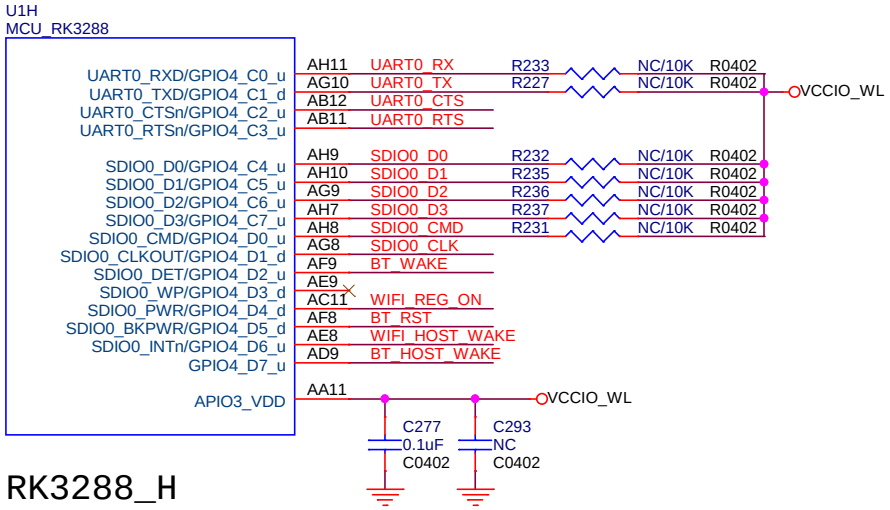
RK3288_Q



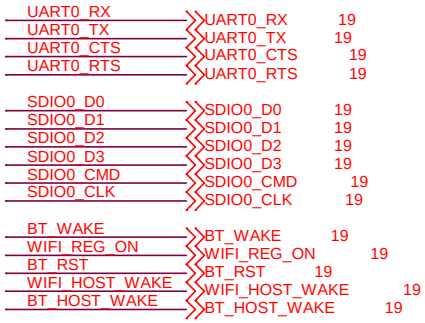


Rockchip 瑞芯微电子 福州瑞芯微电子有限公司		
Title: RK3288 EthernetMAC Controler		
File: RK3288_BOX_Ref		REV:3.0
Create Date: Monday, February 17, 2014		Page Num: 16
Modify Date: Wednesday, April 05, 2017		Page Total: 24


PHY_TXD0 16
PHY_TXD1 16
PHY_TXD2 16
PHY_TXD3 16
PHY_TXEN 16
PHY_TXCLK 16
MAC_RXD0 16
MAC_RXD1 16
MAC_RXD2 16
MAC_RXD3 16
MAC_RXDV 16
MAC_RXCLK 16
MAC_CLK 16
MAC_MDC 16
MAC_MDIO 16
PHY_RST 16
PHY_PMEB 11
PHY_INT 11
Y3
PHY_XTAL1
PHY_XTAL2
XOUT GND
GND XIN
25MHz-30ppm
CRY-D3225
C251 12pF C0402
C252 12pF C0402
If use external clock
then the XTAL2 need
connect to GND for RTL8211E.
MAC_CLK R143 NC R0402 PHY_XTAL1
R146 22R R0402 PHY_CLKOUT125
U19
H5007(Pulse)
MDI0+ R134 0R R0402 MDI_0+
MDI0- R135 0R R0402 MDI_0-
MDI2+ R132 0R R0402 MDI_2+
MDI2- R133 0R R0402 MDI_2-
MDI1+ R130 0R R0402 MDI_1+
MDI1- R131 0R R0402 MDI_1-
MDI3+ R127 0R R0402 MDI_3+
MDI3- R126 0R R0402 MDI_3-
C245 10nF C0402
U35
U36
AZ1143-04F
AZ1143-04F
Reserve for cable discharge.
R142 75R%1 R0603
R139 75R%1 R0603
R141 75R%1 R0603
R136 75R%1 R0603
RJ45
J301
RJ45-XRJ-S-02
VDDIO_AD3.3V
R26 510R R0402
R31 510R R0402
LED0_AD0
LED1_AD1
PGND
C246 102/2KV C1206
C249 102/2KV C1206
C250 NC C0603
U20
RTL8211E-VB-CG
VDD10_EPHY
VCC_LAN
R151 2.49K%1 R0402
R154 NC R0402
PHY_RST R226 0R R0402 PHYRST
C255 10nF C0402
REGOUT
PHY_CLKOUT125
VDDREG
PHY_XTAL2
PHY_XTAL1
RSET
ENSWREG
GND(EPAD)
GND
CLK125
CKXTAL2
CKXTAL1
AVDD33
AVDD10
DVDD33
MDI[0]+
MDI[0]-
AVDD10
MDI[1]+
MDI[1]-
AVDD33
MDI[2]+
MDI[2]-
AVDD10
MDI[3]+
MDI[3]-
NC
DVDD10
LED1/PHYAD1
LED0/PHYAD0
PMEB
LED2_RXDLY
MDIO
MDC
PHYRSTB
DVDD10
TXCTL
TXD3
TXD2
RXCTL/PHYAD2
RXD0/SELRGV
DVDD33
RXD1/TXDLY
RXD2/AN0
RXD3/AN1
RXC
INTB
DVDD33
TXC
TXD0
TXD1
PHY_RXDV
PHY_RXD0
PHY_RXD1
PHY_RXD2
PHY_RXD3
PHY_RXCLK
PHY_INT
PHY_TXCLK
PHY_TXD0
PHY_TXD1
R168 22R R0402 MAC_RXD0
R169 22R R0402 MAC_RXD1
R170 22R R0402 MAC_RXD2
R171 22R R0402 MAC_RXD3
R172 22R R0402 MAC_RXCLK
R173 22R R0402 MAC_RXDV
C269 NC C0402
Close to PHY
R144 4K7 R0402 PHY_RXDV R145 NC R0402 VCC_LAN
R147 4K7 R0402 LED1_AD1 R148 NC R0402 VCC_LAN
R149 NC R0402 LED0_AD0 R150 4K7 R0402
PHY Address=001(RTL8211E)
R152 NC R0402 PHY_RXD2 R153 4K7 R0402 VCC_LAN
R155 NC R0402 PHY_RXD3 R156 4K7 R0402
Config for all capability
R157 4K7 R0402 LED2_RXDLY R158 NC R0402 VCC_LAN
Without RX Delay
R159 4K7 R0402 PHY_RXD1 R160 NC R0402 VCC_LAN
Without TX Delay
PHY_PMEB R161 4K7 R0402 VCC_LAN
PHY_INT R162 4K7 R0402 VCC_LAN
C253 0.1uF C0402
C254 0.1uF C0402
C256 4.7uF C0603
C257 0.1uF C0402
C258 0.1uF C0402
C259 0.1uF C0402
R163 NC R0402 ENSWREG R164 0R R0402 VCC_LAN
Connect ENSWREG to AVDD33 to enable
Switching regulator or connect ENSWREG
to GND to disable Switching regulator.
R165 NC R0402 PHY_RXD0 R166 4K7 R0402 VCC_LAN
Pull down for 2.5V RGMII(RTL8211D/8211E)
Pull up for 3.3V RGMII (RTL8211D/8211E)
Pull up1.5 /1.8V RGMII (RTL8211E-VL only)
REGOUT L9
2.2uH/1A
IND_3X3
Inductance close to PIN48
C260 10uF C0603
C261 0.1uF C0402
C262 0.1uF C0402
C263 0.1uF C0402
C264 0.1uF C0402
C265 0.1uF C0402
C266 0.1uF C0402
VDDREG
Close to PIN44.45
C270 4.7uF C0603
C271 0.1uF C0402
Rockchip 瑞芯微电子
福州瑞芯微电子有限公司
Title: 10/100/1000M-PHY
File: RK3288_BOX_Ref
REV: 3.0
Create Date: Sunday, January 26, 2014
Page Num: 17
Modify Date: Saturday, April 15, 2017
Page Total: 24



RK3288_H



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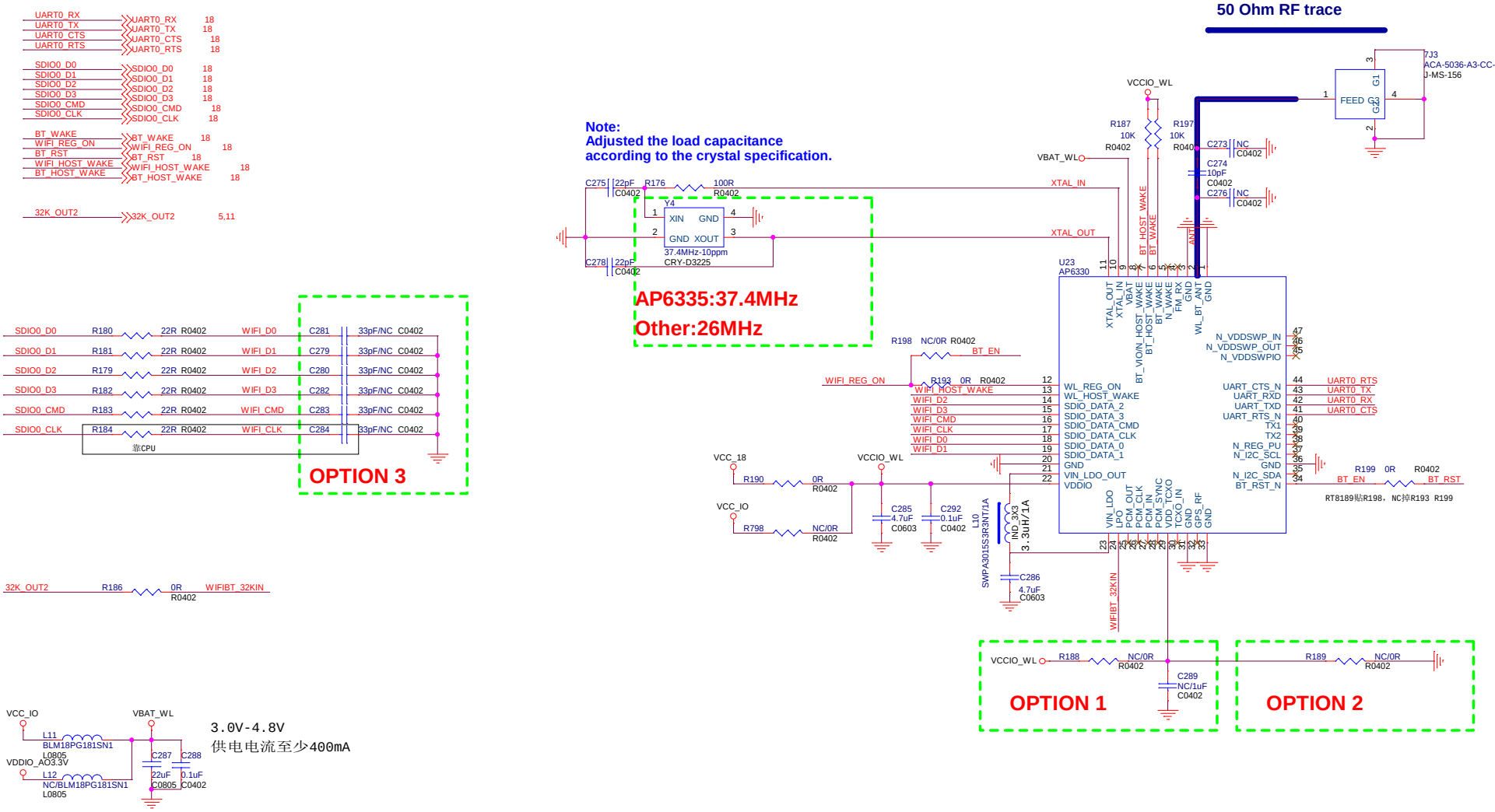
Title: RK3288 SDIO0 Controler	
File: RK3288_BOX_Ref	REV:3.0
Create Date: Monday, February 17, 2014	Page Num: 18
Modify Date: Tuesday, May 09, 2017	Page Total: 24



OPTION	WIFI				BT4.0	Crystals	VDDIO
	a	b/g/n	ac	5GHz			
AP6181		Yes				26MHz	1.71-3.6V
AP6212		Yes			Yes	26MHz	1.71-3.6V
XZ3538		Yes			Yes	26MHz	1.71-3.6V
XZ3660	Yes	Yes		Yes	Yes	26MHz	1.2-2.9V
AP6330	Yes	Yes		Yes	Yes	26MHz	1.2-2.9V
AP6335 (Default)	Yes	Yes	Yes	Yes	Yes	37.4MHz	1.71-3.63V

OPTION	1	2	3
AP6181	No	No	No
AP6212	No	No	No
XZ3538	No	No	No
XZ3660	No	No	No
AP6330	No	No	No
AP6335 (Default)	No	Yes	Yes

Note:
Yes:框内要贴
No:框内不贴

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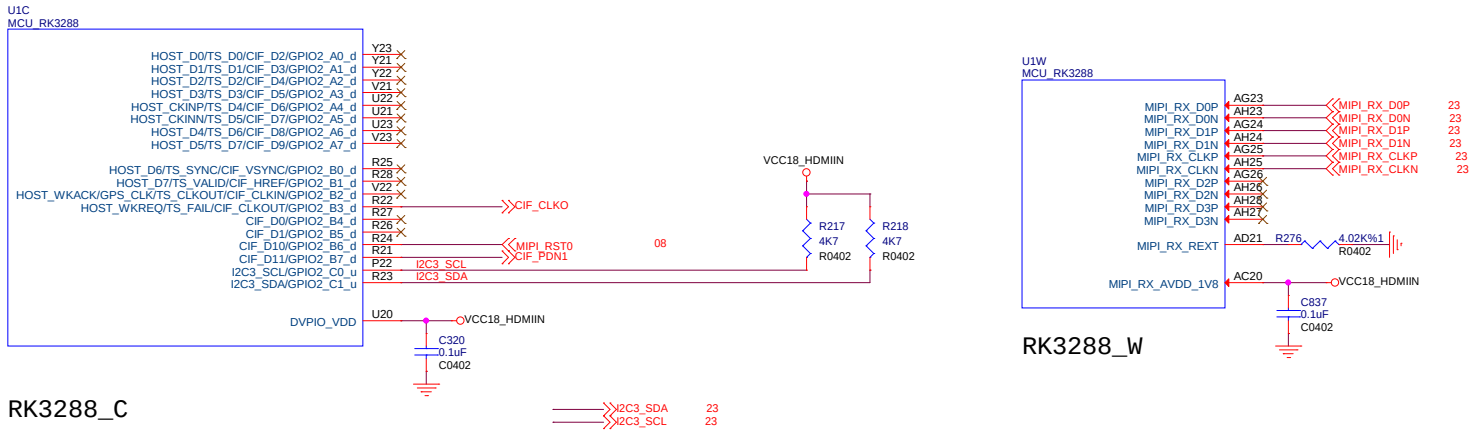
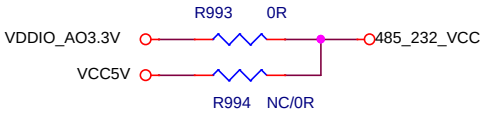
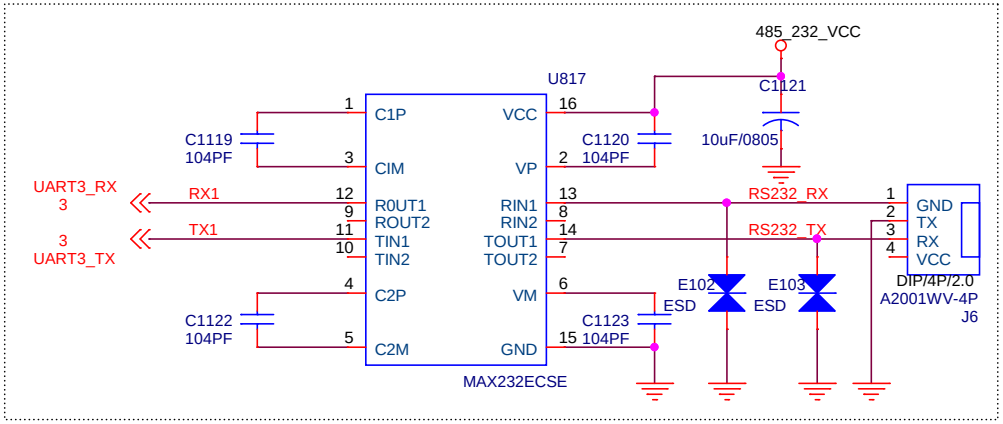
Title: AP6XXX-WIFI/BT	
File: RK3288_BOX_Ref	REV: 3.0
Create Date: Sunday, January 26, 2014	Page Num: 19
Modify Date: Thursday, April 27, 2017	Page Total: 24

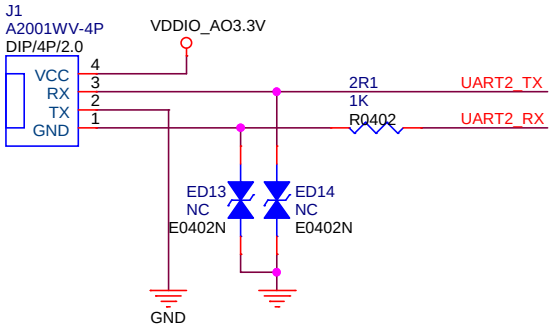


Title:	MIPI Interface
File:	RK3288_BOX_Ref
REV:	3.0
Create Date:	Sunday, January 26, 2014
Page Num:	21
Modify Date:	Tuesday, May 09, 2017
Page Total:	24



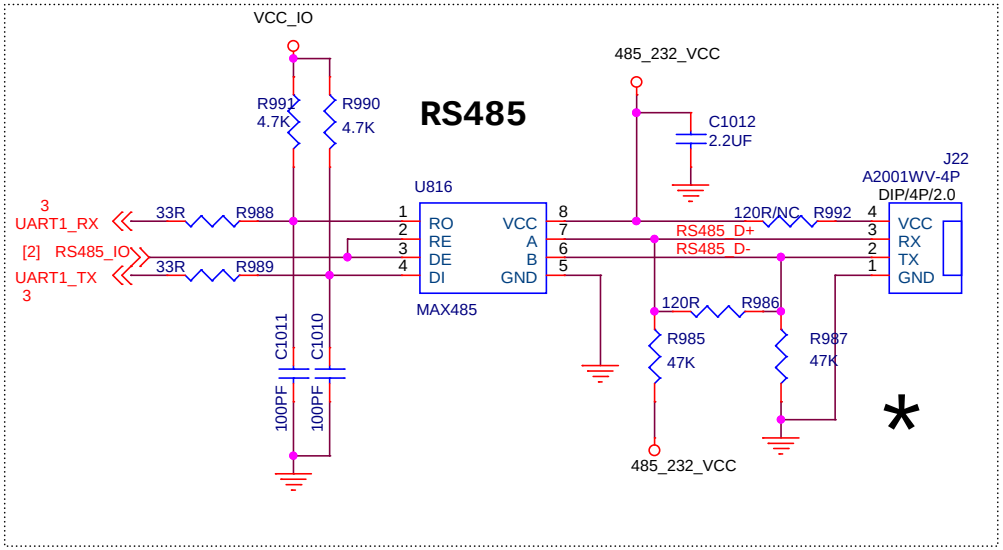


For Linux Debug



mark signal name on PCB

ARC JTAG Debug



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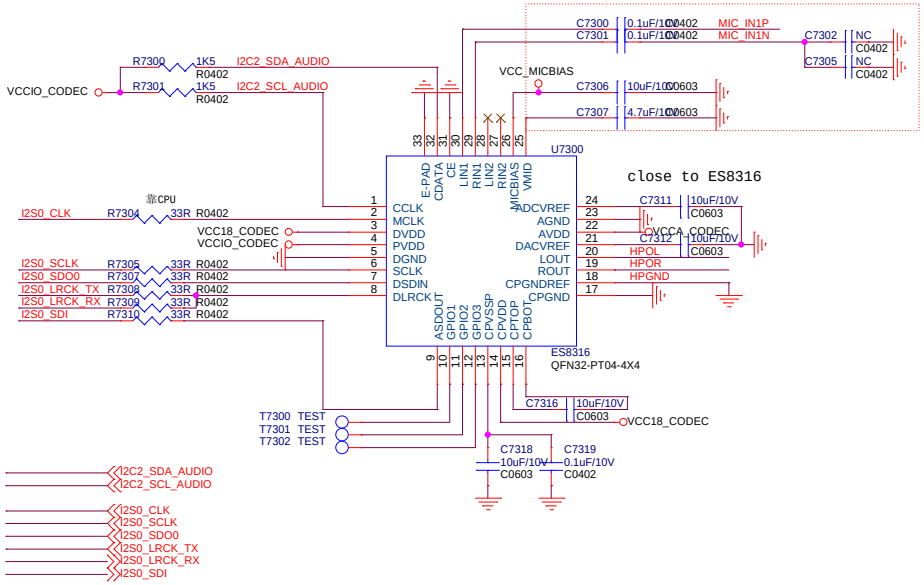
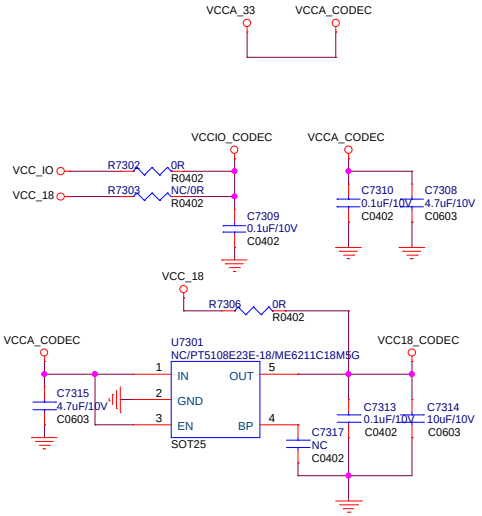
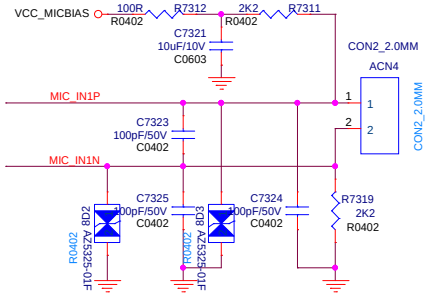
Title: UART Debug		
File: RK3288_BOX_Ref		REV:3.0
Create Date: Monday, February 17, 2014	Page Num: 22	
Modify Date: Wednesday, April 12, 2017	Page Total: 24	

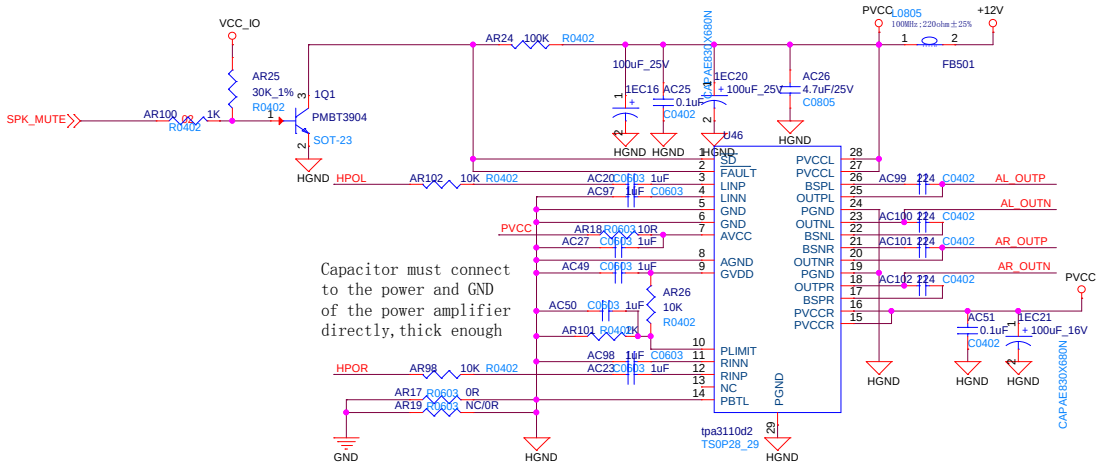
CODEC



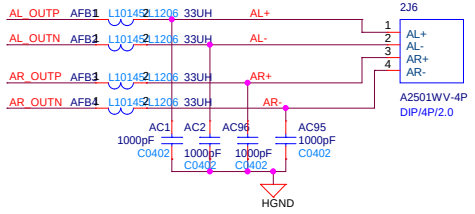


MIC





SPEAKER



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Title: Audio Codec-ALC5631 (option)		
File: RK3288_BOX_Ref		REV: V1.5
Create Date: Thursday, April 06, 2017		Page Num: 43
Modify Date: Wednesday, May 03, 2017		Page Total: 53