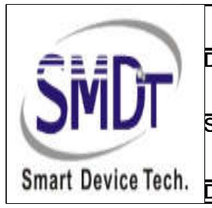
Version	Date	Author	Change Note	Approved
V1.0	20160325	hxs	First edictor	
V1.0	20160420	hxs	1、修改 GPU 供电 用 SYR837 供电; 2、删除 VDD_CPU_B、 VDD_GPU 连接到采集电压回路; 3、R4012 修改成 0R; 4、修改 R410 放置到主控页,注意 PCB 布局靠近控制器; 5、修改 VREF_DDR1、 VREF_DDR0 从 VCC_DDR 取电	



Smart Device Technology Co.,Ltd

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RK3399 I2C MAP

3399E I2C MAP

Port	Pin name	Pull-up voltage	Bus name		ADDRESS
				Rockchip RK808D	
I2C0	GPIO1_B7/SPI3_RXD/I2C0_SDA	VCC3V0_PMU	I2C_SDA_PMIC	RK837	
	GPIO1_C0/SPI3_TXD/I2C0_SCL	VCC3V0_PMU	I2C_SCL_PMIC	RK838	
				AT8563 _ RTC	
I2C1	GPIO4_A1/I2C1_SDA	VCC1V8_CODEC	I2C_SCL_AUDIO	ALC5651	
	GPIO4_A2/I2C1_SCL	VCC1V8_CODEC	I2C_SDA_AUDIO	MIPI CAM	
I2C2	GPIO2_A0/VOP_D0/CIF_D0/I2C2_SDA				
	GPIO2_A1/VOP_D1/CIF_D1/I2C2_SCL				
I2C3	GPIO4_C0/I2C3_SDA/UART2B_RX	VCC3V0_IO	I2C_SDA_HDMI	HDMI ID	
	GPIO4_C1/I2C3_SCL/UART2B_TX	VCC3V0_IO	I2C_SCL_HDMI	HDMI ID	
		VCC3V0_IO		TC358775	
	GPIO1_B3/I2C4_SDA	VCC3V0_IO		MCU	
I2C4	GPIO1_B4/I2C4_SCL	VCC3V0_IO		AT24C16	
		VCC3V0_IO		AT88SC	
		VCC3V0_IO		FUSB302MPX	
I2C5					
I2C6	GPIO2_B1/SPI2_RXD/CIF_HREF/I2C6_SDA	VCC3V0_IO			
	GPIO2_B2/SPI2_TXD/CIF_CLKIN/I2C6_SCL	VCC3V0_IO			
I2C7	GPIO2_A7/VOP_D7/CIF_D7/I2C7_SDA	VCC3V0_IO	I2C_SDA_TP	TP	
	GPIO2_B0/VOP_CLK/CIF_VSYNC/I2C7_SCL	VCC3V0_IO	I2C_SCL_TP	TC358749XBG HDMI IN	

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3.3V GPIO LEVEL

	GPIO NAME	FUNCTION	NAME
MIPI CSI0	GPIO2_B4/DVP_PDN0_H	HDMIIN_PWREN	
	SPI1_CLK	HDMIIN_INT	GPIO1_B1
	GPIO2_A1/CIF_D1	HDMIIN_STBY	
	CPU_IR	HDMIIN_IR	
	SPI1_CSn0	HDMIIN_RST	GPIO1_B2
	I2C_SDA_HDMI	I2C_HDMI_IN	I2C3
	MIPI_CSI0	MIPI_CSI	

1.8V GPIO LEVEL

	GPIO NAME	FUNCTION	NAME
MIPI CAM	DVP_PDN1_H	MIPI_PWDN	GPIO1_D4
	GPIO2_B1/CIF_HREF	MIPI_RST	
	GPIO2_B3/CIF_CLKO	MIPI_MCLK_T2	
	I2C_SCL_AUDIO	I2C_CAM	I2C1
	MIPI_CSI1	MIPI_CSI1_CAM	MIPI_CSI1/DSI1

3.3V GPIO LEVEL

	GPIO NAME	FUNCTION	NAME
TP	I2C_SDA_HDMI	TP_I2C	I2C3
	TOUCH_INT_L	TP_INT	GPIO1_C4
	TOUCH_RST_L	TP_RESET	GPIO4_C6

3.3V GPIO LEVEL

	GPIO NAME	FUNCTION	NAME
MCU	I2C_MEMS	MCU_CPU_I2C	I2C4
	CHG_OK_H	WORK_DET	GPIO1_A1
	RTC_I2C	MCU_RTC_I2C	
	PMU_PWRON	POWER_KEY	PMU_PWRON
	COMP_INT_L	OFF-INT#	GPIO1_A0
	RTC_INT	MCU_INT	

3.3V GPIO LEVEL

	GPIO NAME	FUNCTION	NAME
LVDS	CABC_EN	REST_LVDS_IC	GPIO4_D5
	EFUSE_VQPS_EN_H	LVDS_PANEL_EN	GPIO4_D3
	LCD_EN_H	LCD_EN_H	GPIO1_B5
	LCD_BL_PWM	LCD_BL_PWM	PWM0
	MIPI_DSI0	MIPI_DSI0	
	RESX	LVDS_DET	GPIO2_D3

3.3V GPIO LEVEL

	GPIO NAME	FUNCTION	NAME
EDP	CABC_EN	REST_LVDS_IC	GPIO4_D5
	LCD_RST_H	EDP_PANEL_EN	GPIO4_D3
	LCD_EN_H	LCD_EN_H	GPIO1_B5
	LCD_BL_PWM	LCD_BL_PWM	PWM0
	MIPI_DSI0	MIPI_DSI0	
	DVP_PWR_H	EDP_DET	GPIO0_B0

3.3V GPIO LEVEL

	GPIO NAME	FUNCTION	NAME
I2C TO UART	GPIO2_B0/CIF_VSYNC GPIO2_A7/CIF_D7	I2C TO UART	I2C7
	GPIO2_A6/CIF_D6	RST	GPIO2_A6
	GPIO2_A5/CIF_D5	INT	GPIO2_A5

3.3V GPIO LEVEL

	GPIO NAME	FUNCTION	NAME
LED	CHG_OK_H	POWER LED	GPIO1_A1
	Monter	WORK LED	GPIO1_C2

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RK3399 POWER DIAGRAM

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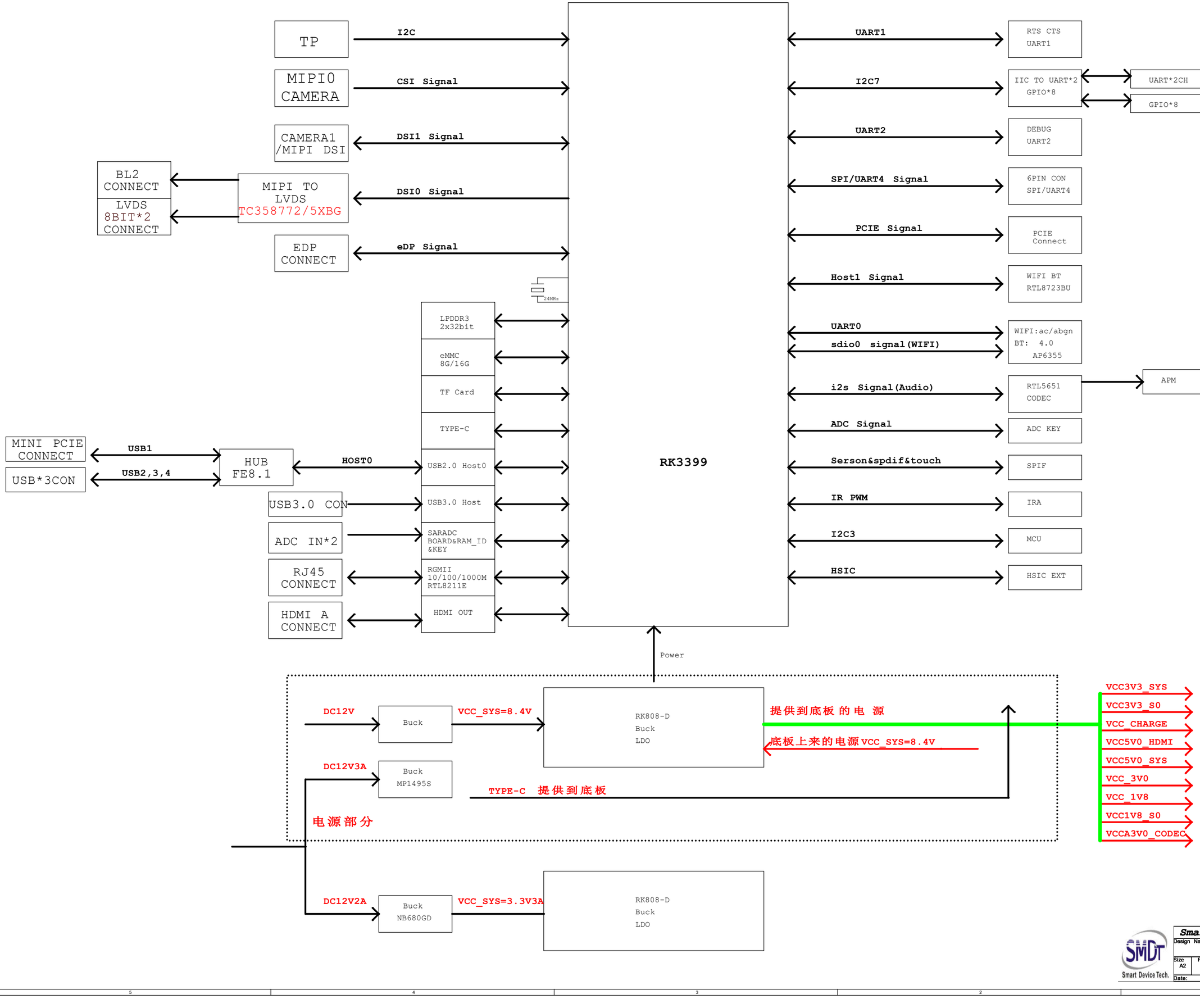

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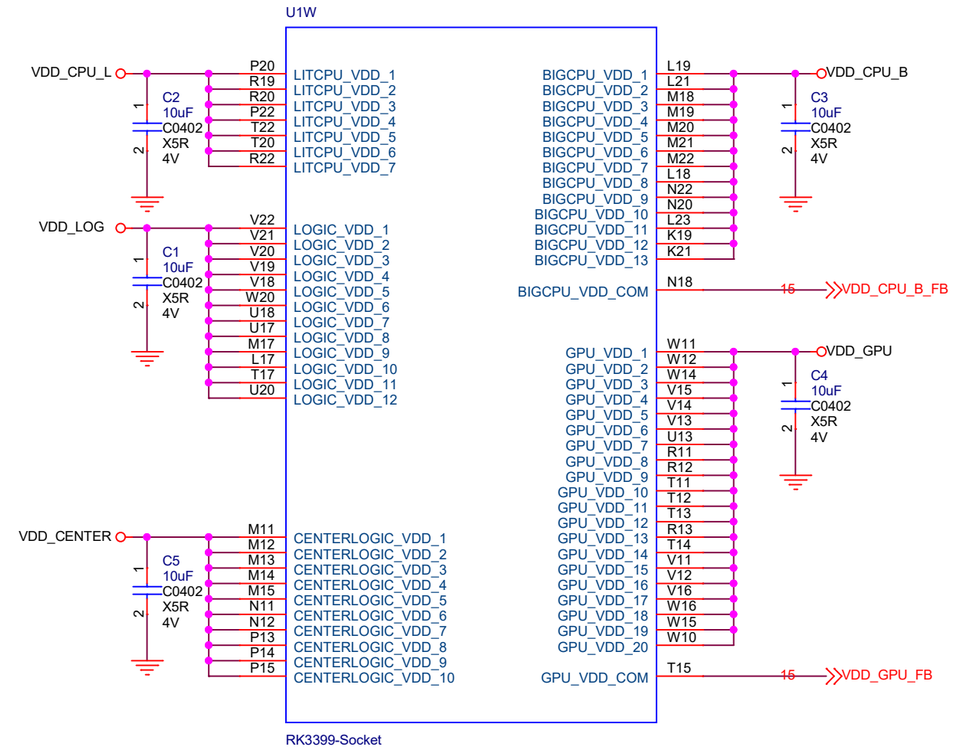

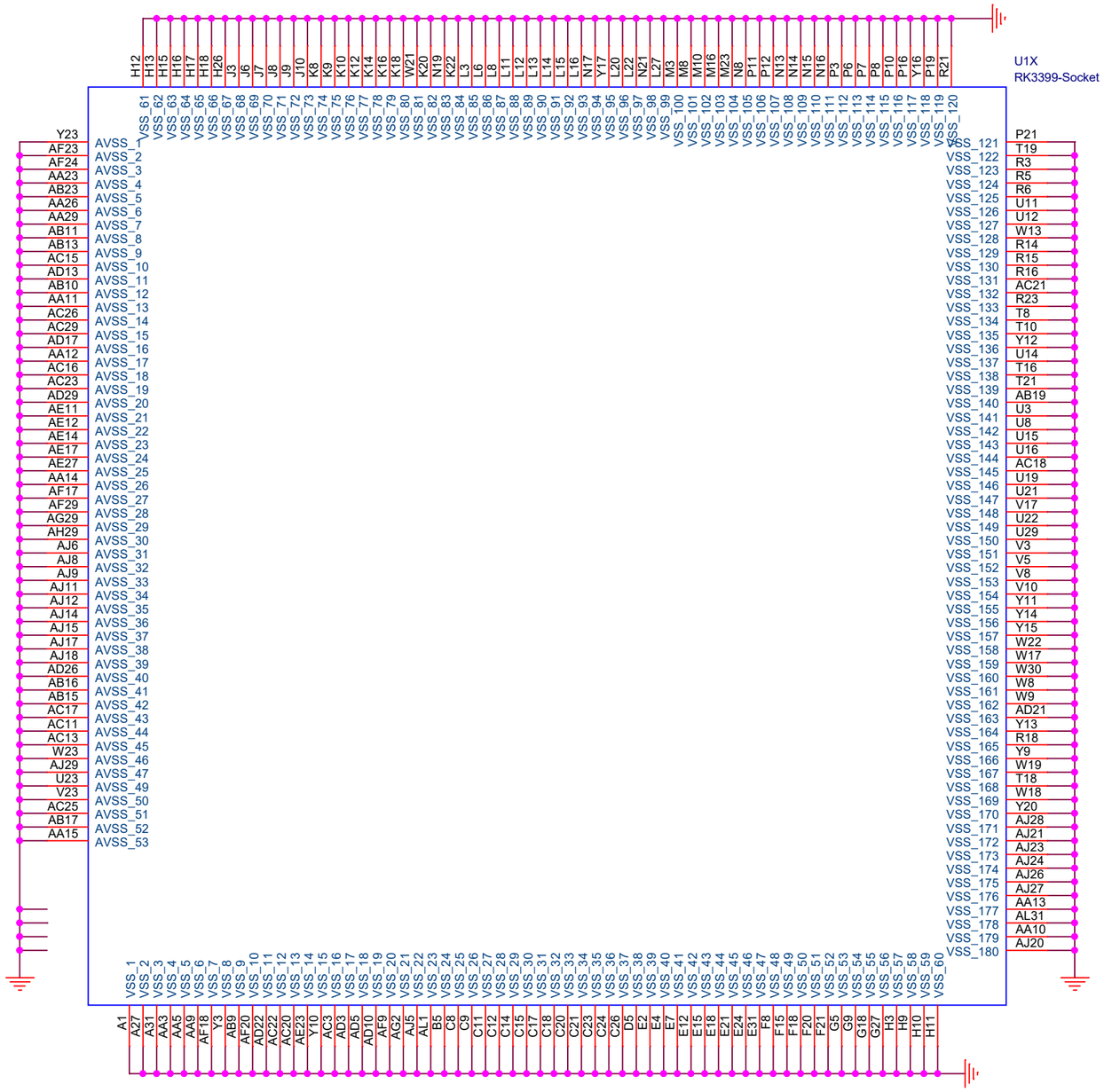

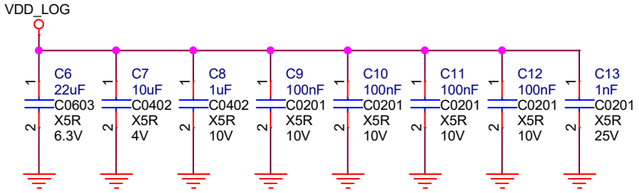

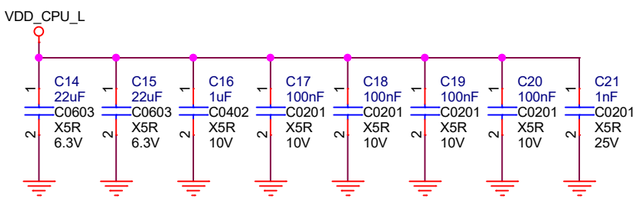

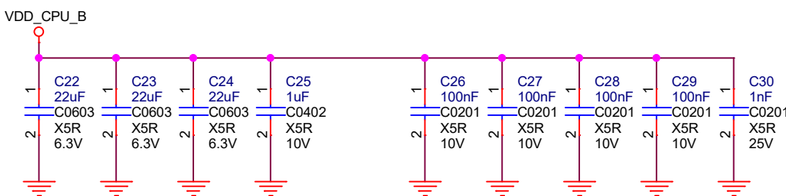

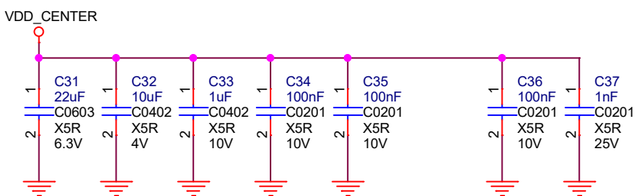

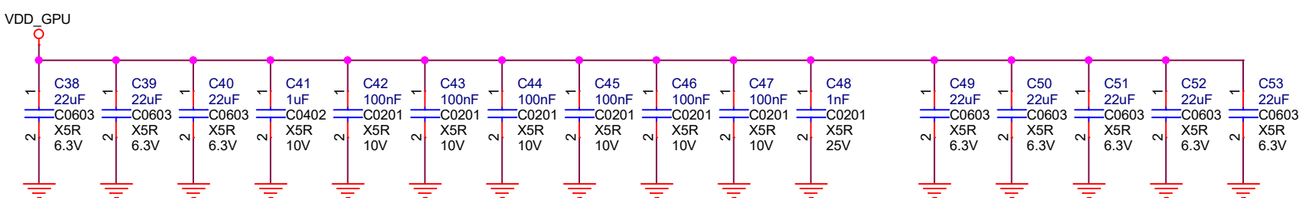

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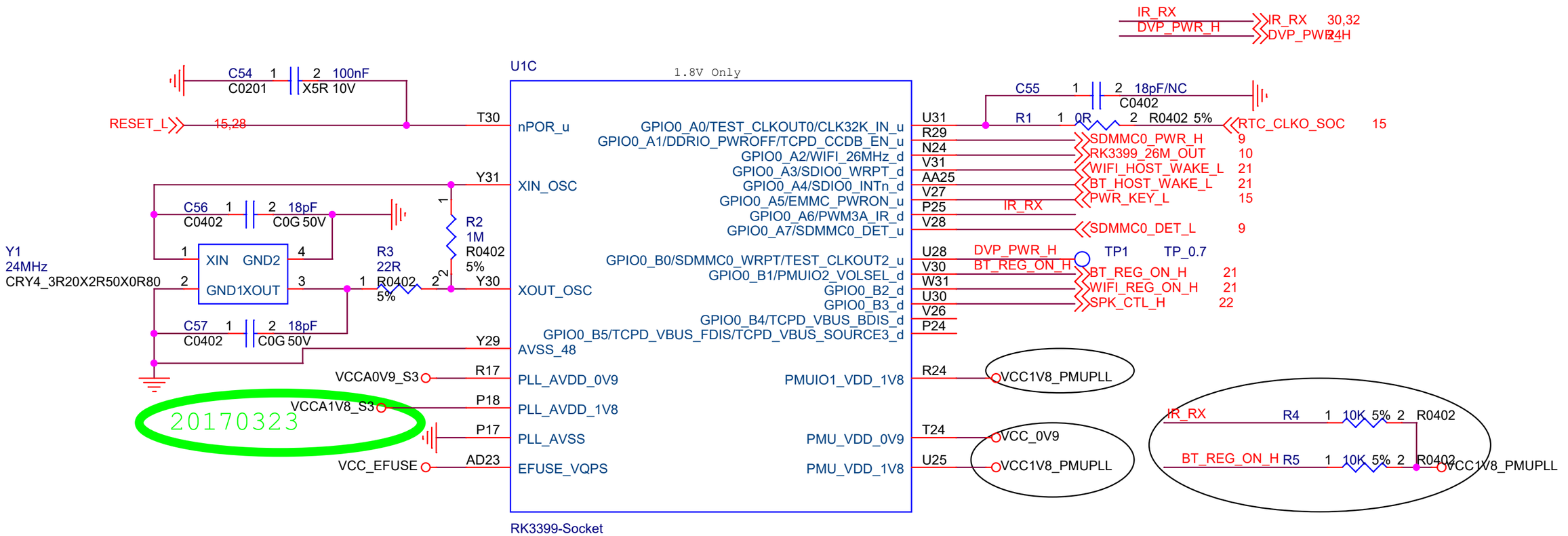

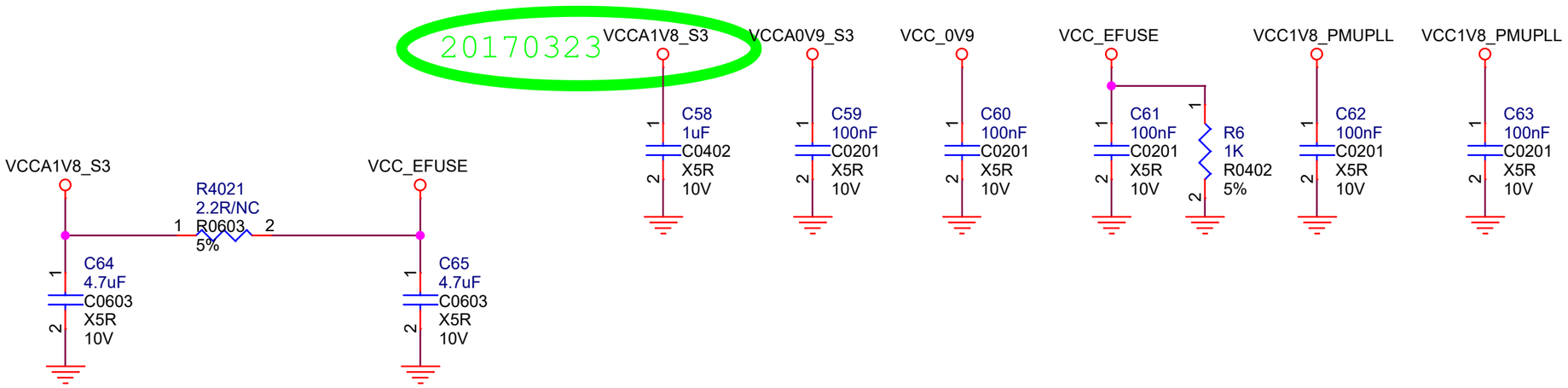

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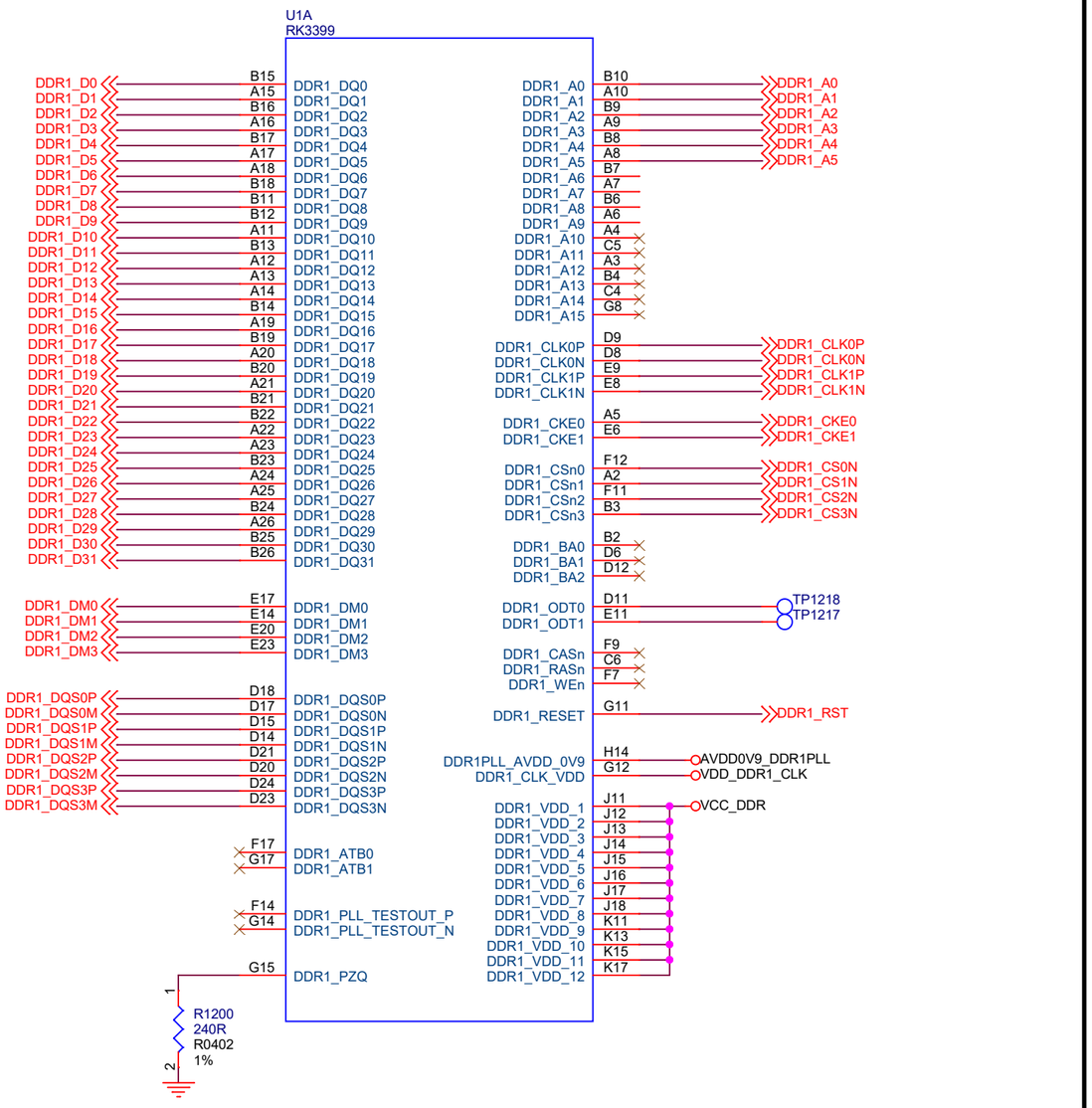

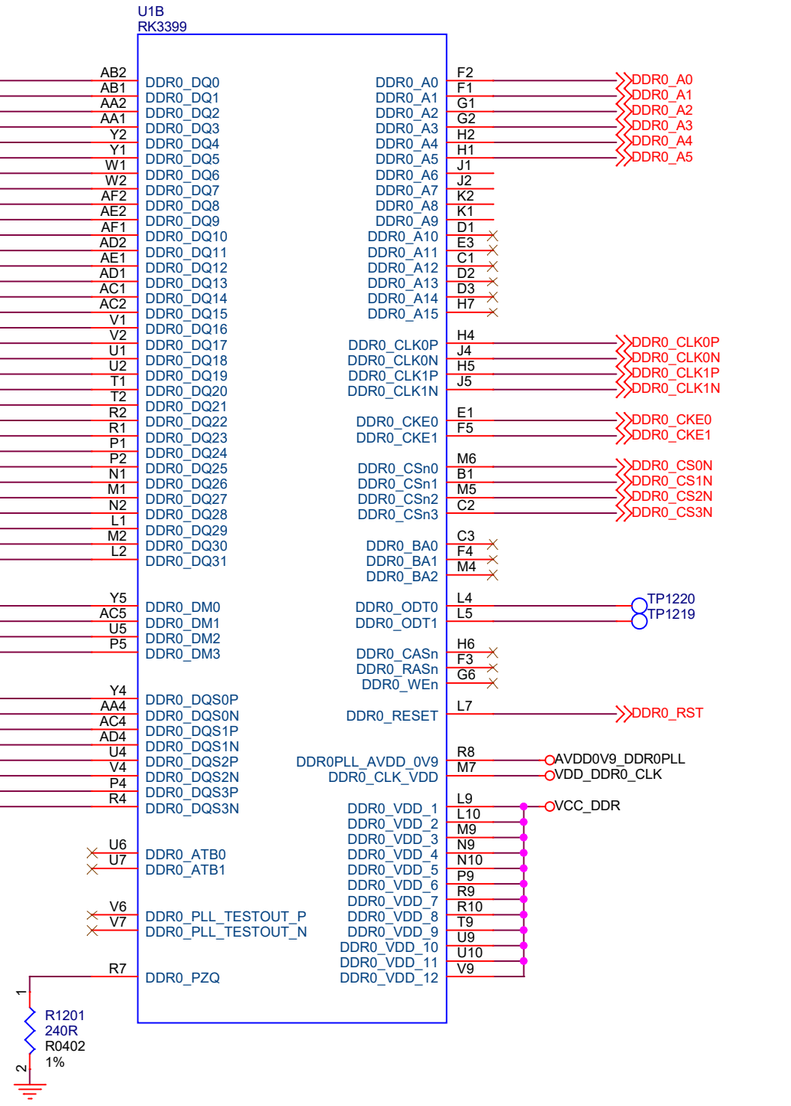

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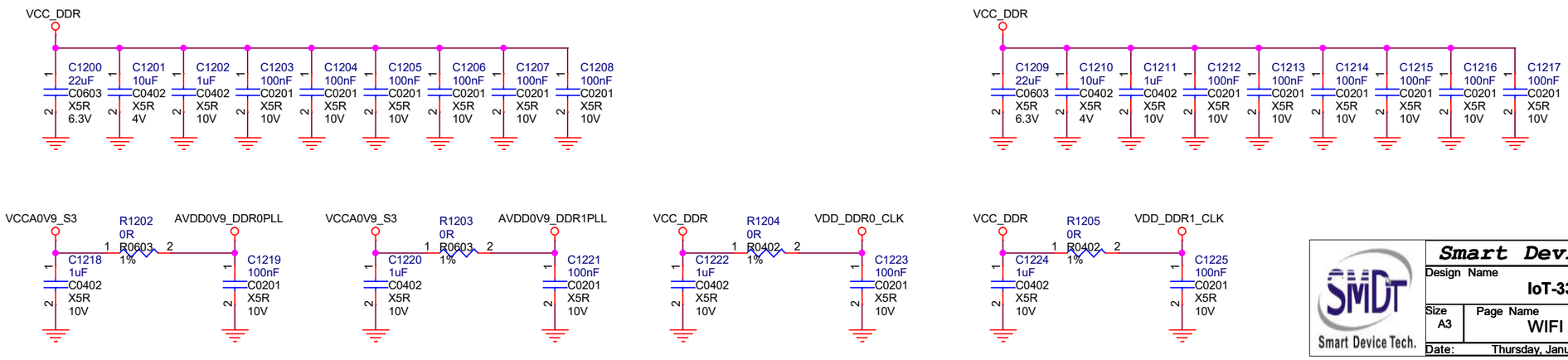

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U1H

RK3399-Socket

EMMC_D0 J28 18 EMMC_D0
EMMC_D1 J29 18 EMMC_D1
EMMC_D2 J30 18 EMMC_D2
EMMC_D3 J25 18 EMMC_D3
EMMC_D4 J26 18 EMMC_D4
EMMC_D5 J27 18 EMMC_D5
EMMC_D6 L31 18 EMMC_D6
EMMC_D7 K30 18 EMMC_D7

EMMC_CLK L28 18 EMMC_CLKO
EMMC_CMD J31 18 EMMC_CMD
EMMC_STRB K31 EMMC_STRB 18 EMMC_STRB

EMMC_CALIO L29 R16 10K 1 R0402 2 1%
EMMC_TP L30 EMMC_TP TP2

EMMC_COREDLL_0V9 L24 VCC0V9_S3
EMMC_VDD_1V8 K24 VCC1V8_S3

VCC0V9_S3
C91 100nF C0201 X5R 10V
VCC1V8_S3
C92 100nF C0201 X5R 10V

R17 2 47K 1 R0402 5%

CON_TFCARD_A107C
TF-CKT01-009D
J88

U1F

RK3399-Socket

GPIO4_B0/SDMMC0_D0/UART2A_RX_u Y27 SDMMC0_D0
GPIO4_B1/SDMMC0_D1/UART2A_TX_u Y26 SDMMC0_D1
GPIO4_B2/SDMMC0_D2/APJTAG_TCK_u Y28 SDMMC0_D2
GPIO4_B3/SDMMC0_D3/APJTAG_TMS_u U27 SDMMC0_D3
GPIO4_B4/SDMMC0_CLKOUT/MUCJTAG_TCK_d V29 SDMMC0_CLK
GPIO4_B5/SDMMC0_CMD/MCUJTAG_TMS_u V25 SDMMC0_CMD

SDMMC0_VDDPST U26 SDMMC0_VDDPST
SDMMC0_VDD T23 SDMMC0_VDD

SDMMC0_VDDPST 内部产生电压。
C93 100nF C0201 X5R 10V
VCC_SDIO
C94 100nF C0201 X5R 10V

SDMMC0_D2
SDMMC0_D3
SDMMC0_CMD
SDMMC0_CLK 1 33R R18 2 R0402 5%
SDMMC0_D0
SDMMC0_D1
SDMMC0_DET_L 7

VCC3V0_SD

1 DAT2
2 DAT3
3 CMD
4 VDD
5 CLK
6 VSS1
7 DAT0
8 DAT1
9 nCD
13 12 11 10
G4 G3 G2 G1

ED1 EGS04V12A30T ESD0402
ED4 EGS04V12A30T ESD0402
ED5 EGS04V12A30T ESD0402
ED6 EGS04V12A30T ESD0402
ED7 EGS04V12A30T ESD0402
ED2 EGS04V12A30T ESD0402
ED3 EGS04V12A30T ESD0402

VCC3V0_SD
C96 100nF C0402 X5R 16V

U3
PT5108E23E-30
SOT_23_5
1 IN
2 GND
3 EN
4 BP
5 OUT

VCC3V3_SYS
C97 4.7uF C0603 X5R 10V
R19 1K 1 R0402 2 5%
C99 100nF C0402 X5R 16V
C98 4.7uF C0603 X5R 10V
VCC3V0_SD
7 SDMMC0_PWR_H

TF CARD

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Design Name: IoT-3399E			
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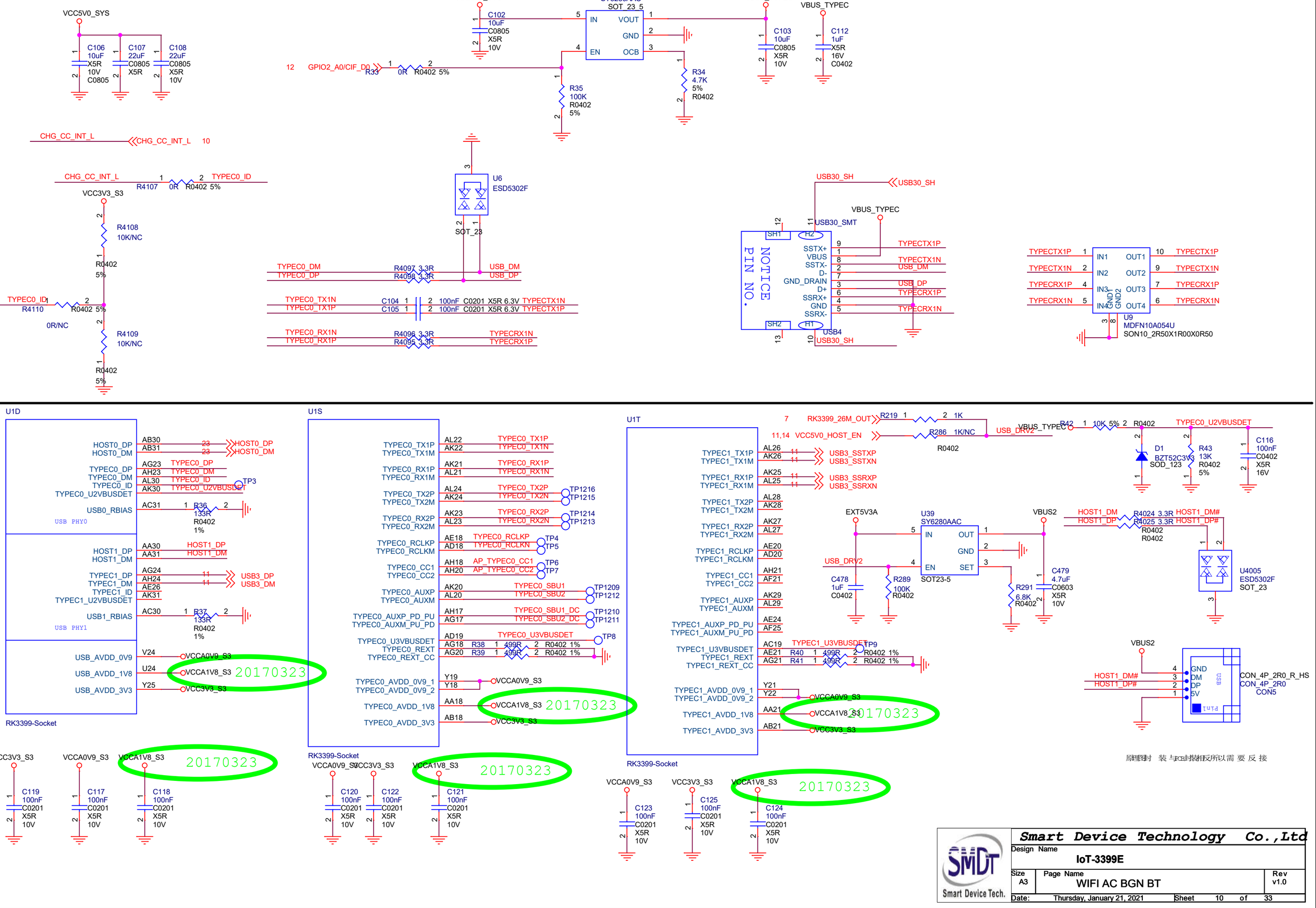
VCC5V0_SYS
C106 10uF X5R 10V C0805
C107 22uF C0805 X5R
C108 22uF C0805 X5R 10V
U7 SY6280AAC SOT_23_5
IN VOUT GND EN OCB
C102 10uF C0805 X5R 10V
VBUS_TYPEC
C103 10uF C0805 X5R 10V
C112 1uF X5R 16V C0402
12 GPIO2_A0/CIF_D0 R33 0R R0402 5%
R35 100K R0402 5%
R34 4.7K 5% R0402
CHG_CC_INT_L
CHG_CC_INT_L 10
CHG_CC_INT_L R4107 0R R0402 5% TYPEC0_ID
VCC3V3_S3
R4108 10K/NC
R0402 5%
TYPEC0_ID R4110 0R R0402 5%
0R/NC
R4109 10K/NC
R0402 5%
U6 ESD5302F SOT_23
TYPEC0_DM TYPEC0_DP
R4097 3.3R R4098 3.3R
USB_DM USB_DP
TYPEC0_TX1N TYPEC0_TX1P
C104 C105 100nF C0201 X5R 6.3V
TYPECTX1N TYPECTX1P
TYPEC0_RX1N TYPEC0_RX1P
R4096 3.3R R4095 3.3R
TYPECRX1N TYPECRX1P
USB30_SH
VBUS_TYPEC
USB30_SMT
SH1 SH2 H1 H2
NOTICE PIN NO.
SSTX+ VBUS SSTX- D- GND_DRAIN D+ SSRX+ GND SSRX-
TYPECTX1P TYPECTX1N USB_DM USB_DP TYPECRX1P TYPECRX1N
USB4 USB30_SH
TYPECTX1P TYPECTX1N TYPECRX1P TYPECRX1N
IN1 IN2 IN3 IN4 OUT1 OUT2 OUT3 OUT4 GND1 GND2
U9 MDFN10A054U SON10_2R50X1R00X0R50
U1D
HOST0_DP HOST0_DM TYPEC0_DP TYPEC0_DM TYPEC0_ID TYPEC0_U2VBUSDET USB0_RBIAS
USB PHY0
AB30 AB31 AG23 AH23 AL30 AK30 AC31
HOST0_DP HOST0_DM TYPEC0_DP TYPEC0_DM TYPEC0_ID TYPEC0_U2VBUSDET TP3
R36 133R R0402 1%
HOST1_DP HOST1_DM TYPEC1_DP TYPEC1_DM TYPEC1_ID TYPEC1_U2VBUSDET USB1_RBIAS
USB PHY1
AA30 AA31 AG24 AH24 AE26 AK31 AC30
HOST1_DP HOST1_DM USB3_DP USB3_DM
R37 133R R0402 1%
USB_AVDD_0V9 USB_AVDD_1V8 USB_AVDD_3V3
V24 U24 Y25
VCCA0V9_S3 VCCA1V8_S3 VCC3V3_S3
20170323
RK3399-Socket
U1S
TYPEC0_TX1P TYPEC0_TX1M TYPEC0_RX1P TYPEC0_RX1M TYPEC0_TX2P TYPEC0_TX2M TYPEC0_RX2P TYPEC0_RX2M TYPEC0_RCLKP TYPEC0_RCLKM TYPEC0_CC1 TYPEC0_CC2 TYPEC0_AUXP TYPEC0_AUXM TYPEC0_AUXP_PD_PU TYPEC0_AUXM_PU_PD TYPEC0_U3VBUSDET TYPEC0_REXT TYPEC0_REXT_CC TYPEC0_AVDD_0V9_1 TYPEC0_AVDD_0V9_2 TYPEC0_AVDD_1V8 TYPEC0_AVDD_3V3
AL22 AK22 AK21 AL21 AL24 AK24 AK23 AL23 AE18 AD18 AH18 AH20 AK20 AL20 AH17 AG17 AD19 AG18 AG20 Y19 Y18 AA18 AB18
TYPEC0_TX1P TYPEC0_TX1N TYPEC0_RX1P TYPEC0_RX1N TYPEC0_TX2P TYPEC0_TX2N TYPEC0_RX2P TYPEC0_RX2N TYPEC0_RCLKP TYPEC0_RCLKN AP_TYPEC0_CC1 AP_TYPEC0_CC2 TYPEC0_SBU1 TYPEC0_SBU2 TYPEC0_SBU1_DC TYPEC0_SBU2_DC TYPEC0_U3VBUSDET
TP1216 TP1215 TP1214 TP1213 TP4 TP5 TP6 TP7 TP1209 TP1212 TP1210 TP1211 TP8
R38 R39 499R R0402 1%
VCCA0V9_S3 VCCA1V8_S3 VCC3V3_S3
20170323
RK3399-Socket
U1T
TYPEC1_TX1P TYPEC1_TX1M TYPEC1_RX1P TYPEC1_RX1M TYPEC1_TX2P TYPEC1_TX2M TYPEC1_RX2P TYPEC1_RX2M TYPEC1_RCLKP TYPEC1_RCLKM TYPEC1_CC1 TYPEC1_CC2 TYPEC1_AUXP TYPEC1_AUXM TYPEC1_AUXP_PD_PU TYPEC1_AUXM_PU_PD TYPEC1_U3VBUSDET TYPEC1_REXT TYPEC1_REXT_CC TYPEC1_AVDD_0V9_1 TYPEC1_AVDD_0V9_2 TYPEC1_AVDD_1V8 TYPEC1_AVDD_3V3
AL26 AK26 AK25 AL25 AL28 AK28 AK27 AL27 AE20 AD20 AH21 AF21 AK29 AL29 AE24 AF25 AC19 AE21 AG21 Y21 Y22 AA21 AB21
11 USB3_SSTXP 11 USB3_SSTXN 11 USB3_SSRXP 11 USB3_SSRXN
TYPEC1_U3VBUSDET TP9
R40 R41 499R R0402 1%
VCCA0V9_S3 VCCA1V8_S3 VCC3V3_S3
20170323
RK3399-Socket
7 RK3399_26M_OUT
11,14 VCC5V0_HOST_EN
R219 1K R286 1K/NC R0402
USB_DRV2
VBUS_TYPEC
R42 10K 5% R0402
TYPEC0_U2VBUSDET
D1 BZT52C3V3 SOD_123
R43 13K R0402 5%
C116 100nF C0402 X5R 16V
EXT5V3A
U39 SY6280AAC
IN OUT GND EN SET
SOT23-5
C478 1uF C0402
R289 100K R0402
R291 6.8K R0402
C479 4.7uF C0603 X5R 10V
VBUS2
HOST1_DM HOST1_DP
R4024 3.3R R4025 3.3R R0402
HOST1_DM# HOST1_DP#
U4005 ESD5302F SOT_23
CON_4P_2R0_R_HS CON_4P_2R0 CON5
GND DM DP 5V USB
Part1
原理图封装与pcb封装相反所以需要反接
C119 C117 C118 C120 C122 C121 C123 C125 C124
100nF C0201 X5R 10V
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USB2.0 Host / SUB3.0 Host

U1V
ADC_IN0
ADC_IN1
ADC_IN2
ADC_IN3
ADC_IN4
ADC_AVDD
AG26 BOARD_ID
AH26 ADKEY_IN
AG25 ADKEY_IN
AG28 HP_HOOK
AH27 RAM_ID
BATT_TC_L
AC24 VCCA1V8_S3
R46 1 10K R0402 5% 2
28,30
22
VCCA1V8_S3
20170323
RAM_ID
R44 1 100K1% 2 R0402 VCCA1V8_S3 20170323
R45 1 100K1% 2 R0402
C126 1 2 100nF
C0402 X5R 16V
BOARD_ID
R47 1 270K-1% 2 R0402 VCCA1V8_S3 20170323
R564 1 1M-1% 2 R0402
底端电阻是1.6伐
1.8*1650k/(1650k+150k)= 1.65v;
电池的0v、0.72v、1.6伐;
U1O
RK3399-Socket
PCIE_AVDD_1V8 Y24
PCIE_AVDD_0V9 W24
PCIE_RCLK_100M_N AD30
PCIE_RCLK_100M_P AD31
PCIE_RX3_N AF28
PCIE_RX3_P AF27
PCIE_TX3_N AD28
PCIE_TX3_P AD27
PCIE_RX2_N AC28
PCIE_RX2_P AC27
PCIE_TX2_N AA28
PCIE_TX2_P AA27
PCIE_RX1_N AH31
PCIE_RX1_P AH30
PCIE_TX1_N AG31
PCIE_TX1_P AG30
PCIE_RX0_N AF31
PCIE_RX0_P AF30
PCIE_TX0_N AE31
PCIE_TX0_P AE30
RK3399-Socket
ADKEY_IN
R482 1 10K 1% 2 R0402
C609 1nF C0402 C0G 50V
VCCA1V8_S3
C127 100nF C0201 X5R 10V
20170323
VCC5V0_HOST_EN
VCC5V0_HOST_EN 10,14
EXT5V3A
U14
SY6280AAC
SOT_23_5
IN VOUT GND EN OCB
VCC5V0_HOST2
R835 R0402 1K
C138 10uF C0805 X5R 10V
C139 100nF X5R 6.3V C0402
R54 100K R0402 5%
R55 10K R0402 5%
USB30_SH
C128 1uF/NC
R48 3.3R/NC
C129 3.3R
VCC5V0_HOST2
USB30_SMT
SH1 H2 SH2 H1
SSTX+ SSTX- D- GND_DRAIN D+ SSRX+ GND SSRX-
USB3_SSTXP_
USB3_SSTXN_
USB3_DM_
USB3_DP_
USB3_SSRXP_
USB3_SSRXN_
NOTICE PIN NO.
USB1
EXT5V3A
C392 10uF C0805 X5R 16V
C393 100nF C0402 X5R 16V
20170322
USB30_SH
USB30_SH
USB3_DM_ USB3_DP_
R49 3.3R R50 3.3R
USB3_SSRXN_ USB3_SSRXP_
R51 3.3R R52 3.3R
USB3_SSTXN_ USB3_SSTXP_
C132 100nF C135 100nF
USB3_DM 10 USB3_DP 10
USB3_SSRXN 10 USB3_SSRXP 10
USB3_SSTXN 10 USB3_SSTXP 10
U12
ESD5302F
SOT_23
USB3_SSTXN_ 10
USB3_SSTXP_ 9
USB3_SSRXP_ 7
USB3_SSRXN_ 6
OUT1 OUT2 OUT3 OUT4 IN1 IN2 IN3 IN4 GND2 GND1
USB3_SSTXN_ 1
USB3_SSTXP_ 2
USB3_SSRXP_ 4
USB3_SSRXN_ 5
U13
MDFN10A054U
SON10_2R50X1R00X0R50

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U1L

GPIO2_A0/VOP_D0/CIF_D0/I2C2_SDA_u
GPIO2_A1/VOP_D1/CIF_D1/I2C2_SCL_u
GPIO2_A2/VOP_D2/CIF_D2_d
GPIO2_A3/VOP_D3/CIF_D3_d
GPIO2_A4/VOP_D4/CIF_D4_d
GPIO2_A5/VOP_D5/CIF_D5_d
GPIO2_A6/VOP_D6/CIF_D6_d
GPIO2_A7/VOP_D7/CIF_D7/I2C7_SDA_u

G31 GPIO2_A0/CIF_D0
H25 GPIO2_A1/CIF_D1
H30 GPIO2_A2/CIF_D2
F28 GPIO2_A3/CIF_D3
H29 GPIO2_A4/CIF_D4
F29 GPIO2_A5/CIF_D5
H27 GPIO2_A6/CIF_D6
G30 GPIO2_A7/CIF_D7

GPIO2_B0/VOP_CLK/CIF_VSYNC/I2C7_SCL_u
GPIO2_B1/SPI2_RXD/CIF_HREF/I2C6_SDA_u
GPIO2_B2/SPI2_TXD/CIF_CLKIN/I2C6_SCL_u
GPIO2_B3/SPI2_CLK/VOP_DEN/CIF_CLKOUTA_u
GPIO2_B4/SPI2_CSn0_u

H28 GPIO2_B0/CIF_VSYNC
F30 GPIO2_B1/CIF_HREF
H24 GPIO2_B2/CIF_CLKI
H31 GPIO2_B3/CIF_CLKO
F31 GPIO2_B4/DVP_PDN0_H

GPIO2_B1/CIF_HREF 32
GPIO2_B2/CIF_CLKI 32
GPIO2_B3/CIF_CLKO 32

APIO2_VDDPST
J24 VCC_1V5

APIO2_VDD
K23 VCC_3V0

RK3399-Socket

func1	func2	func3
GPIO2_A0/CIF_D0		I2C2_SDA
GPIO2_A1/CIF_D1		I2C2_SCL
GPIO2_A7/CIF_D7		I2C7_SDA
GPIO2_B0/CIF_VSYNC		I2C7_SCL
GPIO2_B1/CIF_HREF	SPI2_RXD	I2C6_SDA
GPIO2_B2/CIF_CLKI	SPI2_TXD	I2C6_SCL
GPIO2_B3/CIF_CLKO	SPI2_CLK	
GPIO2_B4/DVP_PDN0_H	SPI2_CSN	

TYPEC PWREN
MIPI CSI RST

GPIO2_A0/CIF_D0 → GPIO2_A0/CIF_D0 10
GPIO2_A1/CIF_D1 → GPIO2_A1/CIF_D1 32
GPIO2_A2/CIF_D2 → GPIO2_A2/CIF_D2 29
GPIO2_A3/CIF_D3 → GPIO2_A3/CIF_D3 29
GPIO2_A4/CIF_D4 → GPIO2_A4/CIF_D4 29
GPIO2_A5/CIF_D5 → GPIO2_A5/CIF_D5 28
GPIO2_A6/CIF_D6 → GPIO2_A6/CIF_D6 28
GPIO2_B0/CIF_VSYNC → GPIO2_B0/CIF_VSYNC 28
GPIO2_A7/CIF_D7 → GPIO2_A7/CIF_D7 28

GPIO2_B0/CIF_VSYNC — R56 1 10K 2 R0402 1% — VCC_3V0
GPIO2_A7/CIF_D7 — R57 1 10K 2 R0402 1%

GPIO2_B4/DVP_PDN0_H → GPIO2_B4/DVP_PDN0_H 32

VCC_1V5: C140 100nF C0201 X5R 10V
VCC_3V0: C141 100nF C0201 X5R 10V

U1R

MIPI_RX0_D0P
MIPI_RX0_D0N
MIPI_RX0_D1P
MIPI_RX0_D1N
MIPI_RX0_CLKP
MIPI_RX0_CLKN
MIPI_RX0_D2P
MIPI_RX0_D2N
MIPI_RX0_D3P
MIPI_RX0_D3N
MIPI_RX0_REXT
MIPI_RX0_AVDD_1V8

AK15 MIPI_RX0_D0P 32
AL15 MIPI_RX0_D0N 32
AK14 MIPI_RX0_D1P 32
AL14 MIPI_RX0_D1N 32
AK13 MIPI_RX0_CLKP 32
AL13 MIPI_RX0_CLKN 32
AK12 MIPI_RX0_D2P 32
AL12 MIPI_RX0_D2N 32
AK11 MIPI_RX0_D3P 32
AL11 MIPI_RX0_D3N 32
AF14 — R58 1 4.02K 2 R0402 1%
AB14 VCC1V8_S3

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VCC1V8_S3: C142 100nF C0201 X5R 10V
VCC1V8_S3: C143 100nF C0201 X5R 10V

U1P

MIPI_TX1/RX1_D0P
MIPI_TX1/RX1_D0N
MIPI_TX1/RX1_D1P
MIPI_TX1/RX1_D1N
MIPI_TX1/RX1_CLKP
MIPI_TX1/RX1_CLKN
MIPI_TX1/RX1_D2P
MIPI_TX1/RX1_D2N
MIPI_TX1/RX1_D3P
MIPI_TX1/RX1_D3N
MIPI_TX1/RX1_REXT
MIPI_TX1/RX1_AVDD_1V8

AK6 MIPI_TX1/RX1_D0P 32
AL6 MIPI_TX1/RX1_D0N 32
AK7 MIPI_TX1/RX1_D1P 32
AL7 MIPI_TX1/RX1_D1N 32
AK8 MIPI_TX1/RX1_CLKP 32
AL8 MIPI_TX1/RX1_CLKN 32
AK9 MIPI_TX1/RX1_D2P 32
AL9 MIPI_TX1/RX1_D2N 32
AK10 MIPI_TX1/RX1_D3P 32
AL10 MIPI_TX1/RX1_D3N 32
AF11 — R59 1 4.02K 2 R0402 1%
AC10 VCC1V8_S3

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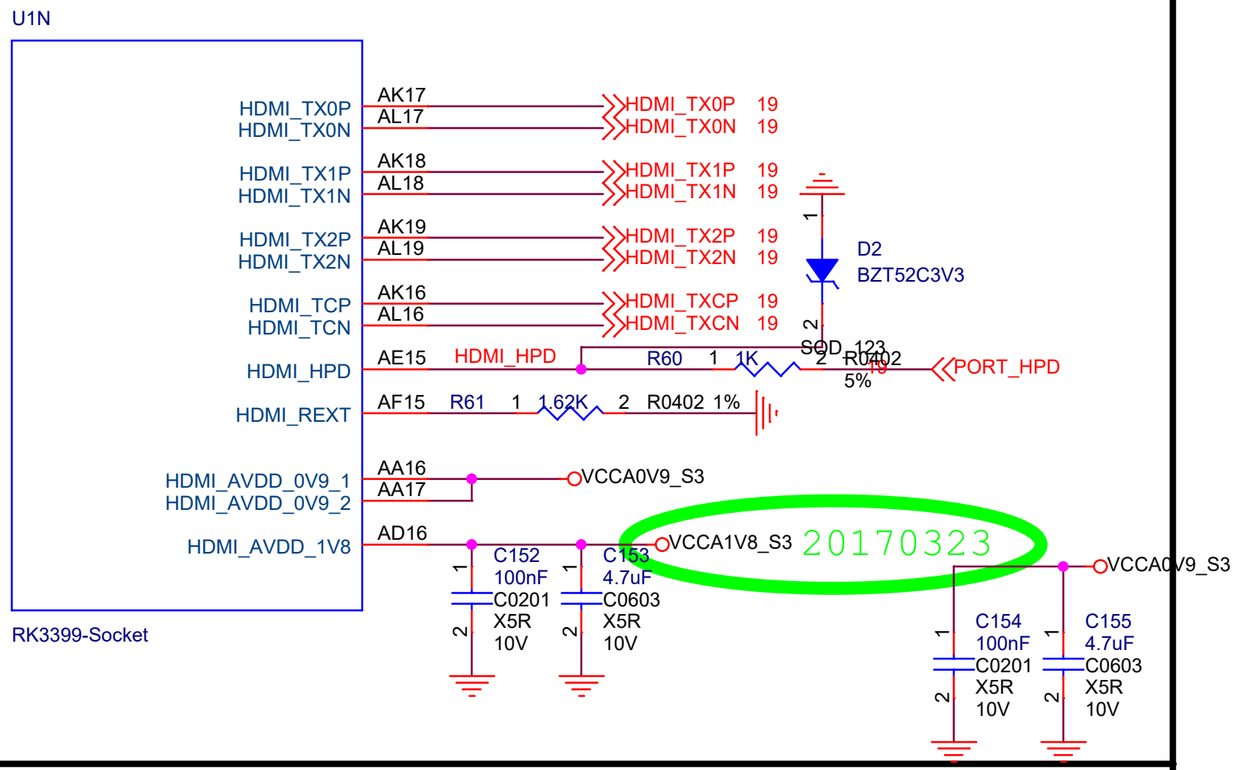

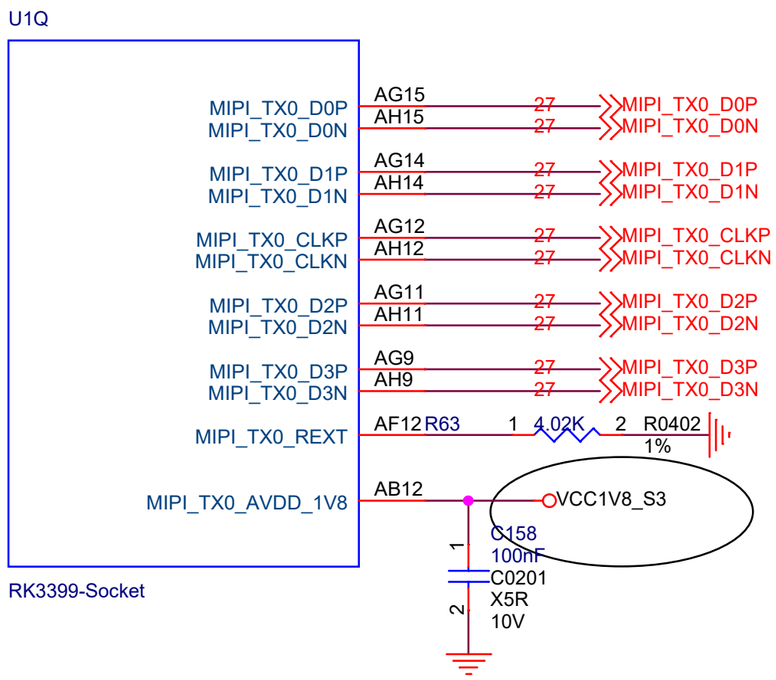

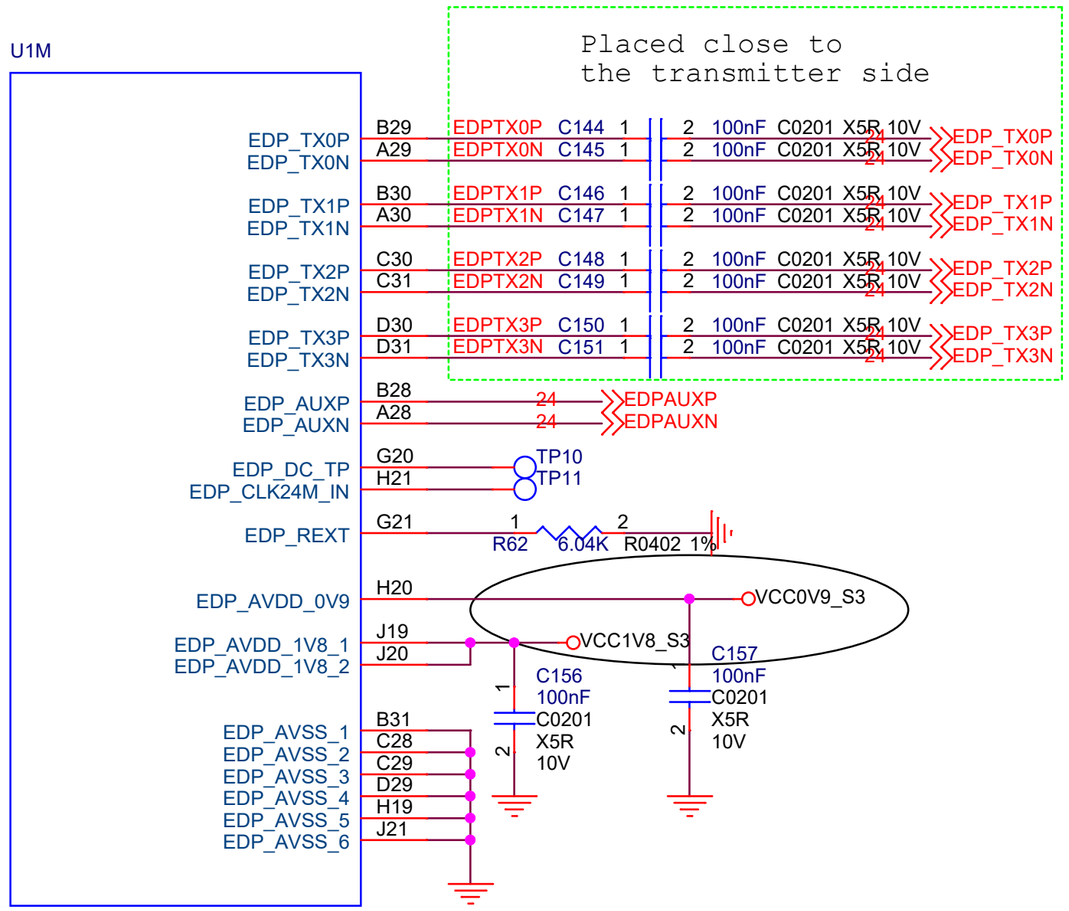

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U1I

3.3V Only

GPIO3_A0/MAC_TXD2/SPI4_RXD_d F24 MAC_TXD2 16
GPIO3_A1/MAC_TXD3/SPI4_TXD_d H23 MAC_TXD3 16
GPIO3_A2/MAC_RXD2/SPI4_CLK_u E30 MAC_RXD2 16
GPIO3_A3/MAC_RXD3/SPI4_CSn0_u E25 MAC_RXD3 16
GPIO3_A4/MAC_TXD0/SPI0_RXD_d D26 MAC_TXD0 16
GPIO3_A5/MAC_TXD1/SPI0_TXD_d G23 MAC_TXD1 16
GPIO3_A6/MAC_RXD0/SPI0_CLK_u E26 MAC_RXD0 16
GPIO3_A7/MAC_RXD1/SPI0_CSn0_u F27 MAC_RXD1 16

GPIO3_B0/MAC_MDC/SPI0_CSn1_u E29 MAC_MDC 16
GPIO3_B1/MAC_RXDV_d C27 MAC_RXDV 16
GPIO3_B2/MAC_RXER/I2C5_SDA_u F23 MAC_RXER 16
GPIO3_B3/MAC_CLK/I2C5_SCL_u G24 MAC_MCLK 16
GPIO3_B4/MAC_TXEN/UART1_RX_u H22 MAC_TXEN 16
GPIO3_B5/MAC_MDIO/UART1_TX_u G26 MAC_MDIO 16
GPIO3_B6/MAC_RXCLK/UART3_RX_u F25 MAC_RXCLK 16
GPIO3_B7/MAC_CRS/CIF_CLKOUTB/UART3_TX_u B27 MAC_CRS 16

GPIO3_C0/MAC_COL/UART3_CTSn/SPDIF_TX_u D27 MAC_COL 16
GPIO3_C1/MAC_TXCLK/UART3_RTSn_u E28 MAC_TXCLK 16

APIO1_VDDPST J22 VCC1V8_S3
APIO1_VDD J23 VCC3V3_S3

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VCC1V8_S3 C159 100nF C0201 X5R 10V
VCC3V3_S3 C160 100nF C0201 X5R 10V

U1G

1.8V Only

GPIO2_C0/UART0_RX_u AE9 21 UART0_RXD
GPIO2_C1/UART0_TX_u AH8 21 UART0_TXD
GPIO2_C2/UART0_CTSn_u AG8 21 UART0_CTS
GPIO2_C3/UART0_RTSn_u AL5 21 UART0_RTS
GPIO2_C4/SDIO0_D0/SPI5_RXD_u AD8 21 SDIO0_D0
GPIO2_C5/SDIO0_D1/SPI5_TXD_u AK5 21 SDIO0_D1
GPIO2_C6/SDIO0_D2/SPI5_CLK_u AG7 21 SDIO0_D2
GPIO2_C7/SDIO0_D3/SPI5_CSn0_u AE8 21 SDIO0_D3

GPIO2_D0/SDIO0_CMD_u AH6 21 SDIO0_CMD
GPIO2_D1/SDIO0_CLKOUT/TEST_CLKOUT1_u AF7 21 SDIO0_CLK
GPIO2_D2/SDIO0_DETN/PCIE_CLKREQn_u AL4 21 BT_WAKE_L
GPIO2_D3/SDIO0_PWREN_d AD9 RESX
GPIO2_D4/SDIO0_BKPWR_d AF8 32 DVP_PDN1_H

APIO3_VDD_1V8 AB8 VCC1V8_S3

RESX 27 RESX

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VCC1V8_S3 C163 100nF C0201 X5R 10V

U1J

GPIO3_D0/I2S0_SCLK_d AG3 I2S0_SCLK 22
GPIO3_D1/I2S0_LRCK_RX_d AF4 I2S0_LRCK_RX 22
GPIO3_D2/I2S0_LRCK_TX_d AJ2 I2S0_LRCK_TX 22
GPIO3_D3/I2S0_SDI0_d Y7 I2S0_SDI0 22
GPIO3_D4/I2S0_SDI1SDO3_d AE5 I2S0_SDI1 22
GPIO3_D5/I2S0_SDI2SDO2_d AA6 I2S0_SDO2 22
GPIO3_D6/I2S0_SDI3SDO1_d AH2 I2S0_SDO1 22
GPIO3_D7/I2S0_SDO0_d AH1 I2S0_SDO0 22

GPIO4_A0/I2S_CLK_d AC7 I2S_CLK 22
GPIO4_A1/I2C1_SDA_u AG1 I2C_SDA_AUDIO 22
GPIO4_A2/I2C1_SCL_u Y6 I2C_SCL_AUDIO 22
GPIO4_A3/I2S1_SCLK_d AF3 I2S1_SCLK_BT_PCM 21
GPIO4_A4/I2S1_LRCK_RX_d AA7 I2S1_LRCK_RX_BT_PCM 21
GPIO4_A5/I2S1_LRCK_TX_d AJ1 I2S1_LRCK_TX_BT_PCM 21 TP12
GPIO4_A6/I2S1_SDI0_d AD6 I2S1_SDI0_BT_PCM 21
GPIO4_A7/I2S1_SDO0_d AC6 I2S1_SDO0_BT_PCM 21

APIO5_VDDPST AA8 VCCA1V8_CODEC
APIO5_VDD Y8 VCCA1V8_CODEC

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VCCA1V8_CODEC C166 100nF C0201 X5R 10V

I2C_SCL_AUDIO R70 1 2.2K 2 R0402 5% VCCA1V8_CODEC
I2C_SDA_AUDIO R72 1 2.2K 2 R0402 5%
I2C_SCL_AUDIO R74 1 0R 2 R0402 5% I2C_SCL_CAM 32
I2C_SDA_AUDIO R75 1 0R 2 R0402 5% I2C_SDA_CAM 32

U1E

GPIO1_A0/ISP0_SHUTTER_EN/ISP1_SHUTTER_EN/TCPD_VBUS_SINK_EN_d R25 COMP_INT_L
GPIO1_A1/ISP0_SHUTTER_TRIG/ISP1_SHUTTER_TRIG/TCPD_CC0_VCONN_EN_d T31 CHG_OK_H
GPIO1_A2/ISP0_FLASHTRIGIN/ISP1_FLASHTRIGIN/TCPD_CC1_VCONN_EN_d R26 CHG_CC_INT_L
GPIO1_A3/ISP0_FLASHTRIGOUT/ISP1_FLASHTRIGOUT_d R27 GM8775_IRQ GM8775_IRQ
GPIO1_A4/ISP0_PRELIGHT_TRIG/ISP1_PRELIGHT_TRIG_d R28
GPIO1_A5/AP_PWROFF_d R30 PMIC_SLEEP_H 15
GPIO1_A6/TSADC_INT_z P26 OTP_OUT_H 15
GPIO1_A7/SPI1_RXD/UART4_RX_u P27 SPI1_RXD

GPIO1_B0/SPI1_TXD/UART4_TX_u R31 SPI1_TXD
GPIO1_B1/SPI1_CLK/PMCU_JTAG_TCK_u P28 SPI1_CLK
GPIO1_B2/SPI1_CSn0/PMCU_JTAG_TMS_u P29 SPI1_CSn0
GPIO1_B3/I2C4_SDA_u P31 I2C_SDA_MEMS
GPIO1_B4/I2C4_SCL_u P30 I2C_SCL_MEMS
GPIO1_B5_d M24 LCD_EN_H
GPIO1_B6/PWM3B_IR_d M25 GPU_SLEEP
GPIO1_B7/SPI3_RXD/I2C0_SDA_u M26 I2C_SDA_PMIC 15

GPIO1_C0/SPI3_TXD/I2C0_SCL_u N30 I2C_SCL_PMIC 15
GPIO1_C1/SPI3_CLK_d M27 CPU_B_SLEEP CPU_B_SLEEP 15
GPIO1_C2/SPI3_CSn0_u N31 Motor_PWR Motor_PWR 14,30
GPIO1_C3/PWM2_d M28 LOG_DVS_PWM 15
GPIO1_C4/I2C8_SDA_u M29 TOUCH_INT_L
GPIO1_C5/I2C8_SCL_u M30 PMIC_INT_L 15
GPIO1_C6/TCPD_VBUS_SOURCE0_d L25
GPIO1_C7/TCPD_VBUS_SOURCE1_d M31

GPIO1_D0/TCPD_VBUS_SOURCE2_d L26

DFTJTAG_TMS_u AA24
DFTJTAG_TRSTn_d AB24

PMUIO2_VDDPST N23 VCC_1V5
PMUIO2_VDD P23 VCC_3V0

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CHG_CC_INT_L CHG_CC_INT_L 10
SPI1_RXD SPI1_RXD 28
SPI1_TXD SPI1_TXD 28
SPI1_CLK SPI1_CLK 32
SPI1_CSn0 SPI1_CSn0 32
I2C_SDA_MEMS I2C_SDA_MEMS 27,30
I2C_SCL_MEMS I2C_SCL_MEMS 27,30
CHG_OK_H CHG_OK_H 30
LCD_EN_H LCD_EN_H 24,27
TOUCH_INT_L TOUCH_INT_L 24
COMP_INT_L COMP_INT_L 30
GPU_SLEEP GPU_SLEEP 15
Motor_PWR Motor_PWR 14,30

1.8V Only	VDDPST=VDDIO=1.8V
3.3V Only	VDDPST=1.8V,VDDIO=3.3V
other	3.0V mode:VDDPST=1.5V,VDDIO=3.0V 1.8V mode:VDDPST=1.8V,VDDIO=1.8V

VCC_3V0 C161 100nF C0201 X5R 10V
VCC_1V5 C162 100nF C0201 X5R 10V

I2C_SDA_PMIC R66 1 2.2K 2 R0402 5% VCC_3V0
I2C_SCL_PMIC R67 1 2.2K 2 R0402 5%
I2C_SDA_MEMS R68 1 2.2K 2 R0402 5% VCC_3V0
I2C_SCL_MEMS R69 1 2.2K 2 R0402 5%

U1K

GPIO4_C0/I2C3_SDA/UART2B_RX_u AG6 I2C_SDA_HDMI
GPIO4_C1/I2C3_SCL/UART2B_TX_u AL2 I2C_SCL_HDMI
GPIO4_C2/PWM0/VOP0_PWM/VOP1_PWM_d AF5 LCD_BL_PWM
GPIO4_C3/UART2C_RX_u AK2 UART2DBG_RX
GPIO4_C4/UART2C_TX_u AJ4 UART2DBG_TX
GPIO4_C5/SPDIF_TX_d AK1 SPDIF_TX
GPIO4_C6/PWM1_d AL3 TOUCH_RST_L
GPIO4_C7/HDMI_CECINOUT/EDP_HOTPLUG_u AD7 HDMI_CEC

GPIO4_D0/PCIE_CLKREQnB_u AE6
GPIO4_D1/DP_HOTPLUG_d AK4 VCC5V0_HOST_EN
GPIO4_D2_d AH3
GPIO4_D3_d AK3 EFUSE_VQPS_EN_H
GPIO4_D4_d AH5 HP_DET_H
GPIO4_D5_d AJ3 CABC_EN
GPIO4_D6_d AG4 LCD_RST_H

APIO4_VDDPST AC8 VCC_1V5
APIO4_VDD AC9 VCC_3V0

RK3399-Socket

I2C_SDA_HDMI R71 1 2.2K 5% 2 R0402 VCC_3V0
I2C_SCL_HDMI R73 1 2.2K 5% 2 R0402

VCC_1V5 C164 100nF C0201 X5R 10V
VCC_3V0 C165 100nF C0201 X5R 10V

I2C_SDA_HDMI I2C_SDA_HDMI 19,24,32
I2C_SCL_HDMI I2C_SCL_HDMI 19,24,32
LCD_BL_PWM LCD_BL_PWM 24,27
UART2DBG_RX UART2DBG_RX 28
UART2DBG_TX UART2DBG_TX 28
SPDIF_TX SPDIF_TX 22
TOUCH_RST_L TOUCH_RST_L 24
HDMI_CEC HDMI_CEC 19
CABC_EN CABC_EN 27
LCD_RST_H LCD_RST_H 24
HP_DET_H HP_DET_H 22
EFUSE_VQPS_EN_H EFUSE_VQPS_EN_H 27
VCC5V0_HOST_EN VCC5V0_HOST_EN 10,11

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VLDO2_2.8V150MA

VCC3V3_SYS
R229 0R/NC R0402 5%
RTC_VCC# D6 1N5819 SOD_123
R103 0R R0402 5%
MCU-VCC
BAT1 Button_3.0V C221 4.7uF
VCC_RTC
GND
Y2300 32.768KHz
RTC-NC
C907 18pF/NC
C0402
U220 PCF8563/AT8563 SO8N
OSCI OSCO nINT GND VDD CLKO SCL SDA
RTC-SCK R818 0R I2C_SCL_PMIC
RTC-SDA R817 0R I2C_SDA_PMIC
MCU-SCK 30 MCU-SCK
MCU-SDA 30 MCU-SDA
MCU-INT MCU-INT 30
MCU-INT R704 0R R0402 RTC-NMI-N

U16 SY8088AAC SOT_23_5
VIN LX GND FB/OUT EN
VCC3V3_SYS
C175 10uF C0805 X5R 10V
R77 47K R0402 5%
C170 100nF C0402 X5R 16V
L1 2.2uH L2520 1.6A 0.06ohm
R78 100K R0402 1%
R81 200K/1% R0402
C168 100pF C0402 C0G 50V
C176 10uF C0805 X5R 10V
C177 100nF C0402 X5R 16V
VCC_0V9

U19 TT2102 SOT_23_5
IN FB/OUT GND SHDN BP
VCC_1V8
C185 4.7uF C0603 X5R 10V
VCC1V8_S3
R84 47K R0402 5%
R88 120K/1% R0402
R89 82K R0402 1%
R83 10K R0402 1%
C186 4.7uF C0603 X5R 10V
C187 100nF C0402 X5R 16V
VCCA0V9_S3

U4002 PT5108E23E-18 SOT_23_5
IN OUT GND EN BP
VCC3V3_SYS
C50005 4.7uF C0603 X5R 10V
VCC1V8_S3
R4020 47K R0402 5%
R4019 120K/1% R0402
C50004 100nF C0402 X5R 16V
C50006 4.7uF C0603 X5R 10V
VCCA1V8_S3
20170323

SW1 RESET SMT2_6R00X3R50X4R20
VCC3V3_S5
VPP_OTP
Q4 AO3423 SOT_23
R87 100K 5% R0402
OTP_RESET
15,30 OTP_RESET
R86 1K/NC 5% R0402
14 OTP_OUT_H
D4 1N5819 SOD_123
C189 2.2uF C0603 X5R 10V
R90 10K R0402
R91 47K R0402 5%
Q5 MMBT3904 SOT_23

VDD_CENTER 0.7-1.5V5A

TP13 TP_1.0
VCC5V0_SYS
VDD_CENTER
C192 22uF C0805 X5R 10V
C196 22uF C0805 X5R 10V
L4 1uH 0402HA 0.069ohm
R92 100R R0402 5%
2VDD_CENTER
VCC5V0_SYS
DCDC1 Buck1 5A 0.7V-1.5V
DCDC4 Buck4 1.5A 1.8V-3.3V
VCC1 VCC13 SW1 SW5 GND1 GND6 VFB1
VCC4 SW4 GND4 VFB4

VDD_CPU_L 0.7-1.5V5A

TP15 TP_1.0
VDD_CPU_L
C191 10uF C0603 X5R 6.3V
C202 22uF C0805 X5R 10V
C203 22uF C0805 X5R 10V
L7 1uH 6A 48.1mohm 0402HA
R96 100R R0402 5%
2VDD_CPU_L
VCC5V0_SYS
DCDC2 Buck2 5A 0.7V-1.5V
DCDC3 Buck3 1.5A 1.0V-1.8V
VCC14 VCC2 SW6 SW2 GND7 GND2 VFB2
VCC3 SW3 VFB3

1.0V1.5A

VCC5V0_SYS
L5 1uH 0402HA 0.069ohm
C198 22uF C0805 X5R 10V
VCC_1V8
C197 22uF C0805 X5R 10V
L6 1uH 0402HA 0.069ohm
C204 47pF C0402 C0G 50V
R95 100R R0402 5%
R97 200K/1% R0402 1%
R98 27K/1% R0402 1%
Feedback from DDR device
VCC_DDR
C205 10uF C0603 X5R 6.3V
C206 22uF C0805 X5R 10V
VCC_DDR

	R98	R97
DDR3	100K	200K
DDR3L	43K	120K
LPDDR3	51K	200K
LPDDR4	27K	200K

DDR3:1.5V
DDR3L:1.35V
LPDDR:1.25V
LPDDR4:1.13V

7 PWR_KEY_L
7 RTC_CLKO_SOC
21 RTC_CLKO_WIFI

NC1 NC2 GND5
REF VREFGND
LDO&Switch
VCCA VCC6 VLDOA VCC7 DGND VCC9 VCC10 VCC11 VCC8 VCC12
VLDO1 1.8-3.4V/150mA
VLDO2 1.8-3.4V/150mA
VLDO3 0.8-2.5V/100mA low noise
VLDO7 0.8-2.5V/300mA low noise
VLDO4 1.8-3.4V/150mA
VLDO5 1.8-3.4V/300mA
VLDO6 0.8-2.5V/150mA low noise
VLDO8 1.8-3.4V/300mA
VSWOUT1 0.2R Switch
VSWOUT2 0.2R Switch
C208 2uF C0402 X5R 16V
C212 2uF C0402 X5R 16V
C216 2uF C0402 X5R 16V
C220 2uF C0402 X5R 16V
C224 2uF C0402 X5R 16V
C226 2uF C0402 X5R 16V
C228 2uF C0402 X5R 16V
C231 2uF C0402 X5R 16V
C233 2uF C0402 X5R 16V
MCU-5V
VCC5V0_SYS
VCC3V3_SYS
VCC_3V0
VCC_1V8
VCC3V0_TOUCH
VCC1V8_PMUPLL
VCCA3V0_CODEC
VCC_SDIO
VCC_1V5
VCC3V0
VCC3V3_S3
VCC3V3_S0
C209 2.2uF C0603 X5R 10V
C210 2.2uF C0603 X5R 10V
C215 4.7uF C0603 X5R 10V
C217 2.2uF C0603 X5R 10V
C219 2.2uF C0603 X5R 10V
C223 2.2uF C0603 X5R 10V
C225 4.7uF C0603 X5R 10V
C227 2.2uF C0603 X5R 10V
C229 4.7uF C0603 X5R 10V
C230 2.2uF C0603 X5R 10V
RTC_VCC#
C234 2uF C0402 X5R 16V
VCCRTC OSC32KIN GNDPAD OSC32KOUT
C235 18pF C0402 C0G 50V
Y2301 FC-135 32.768KHz
C236 18pF C0402 C0G 50V
RTC_CLKO_SOC R112 10K 5% R0402
RTC_CLKO_WIFI R113 10K 5% R0402
always on CLK32KOUT1 CLK32KOUT2
VCC_1V8
BOOT0 BOOT1 EXT_EN VDC
VCC_RTC
PMIC_EXT_EN
PMIC_RK808_VDC
C239 10nF C0402 X5R 25V
R115 100K R0402 5%
D8 BZT52C3V0 SOD_123
R20 220K-1%/NC R0402 5%
DCIN_PLUS
D9 1N5819/NC SOD_123
VCC5V0_SYS
DCIN_PLUS
DCIN_PLUS 15
RTC
PMIC_SLEEP_H
PMIC_INT_L
SDA SCL SLEEP INT DVS1 DVS2 DVSOK NRESPWRON ResetKey/VPPOTP PWRON
U21 RK808-D QFN68_7R00X7R00X0R80_T
I2C_SDA_PMIC 18
I2C_SCL_PMIC 19
PMIC_SLEEP_H 50
PMIC_INT_L 49
22 21 54 20 6 51
RESET_L
C238 100nF C0402 X5R 16V
C237 100nF C0402 X5R 16V
7,28
VPP_OTP
D10
PWR_KEY_L
POWER_KEY
SW2 POWER SMT2_6R00X3R50X4R20
VCC_RTC
1N5819 SOD_123
R111 10K R0402 5%
14
14,15
14
ED9 EGS04V12A30T ESD0402
VPP_OTP
POWER_KEY
28,30
R581 100R R0402 5%
D24 1N5819 SOD_123
OTP_RESET
OTP_RESET 15,30
接底板按键:

RECOVERY
GPIO2_A6/CIF_D6
GPIO2_A6/CIF_D6
R4063 33R
R292 10K
SW5 POWER SMT2_6R00X3R50X4R20
RECOVERY
VCC_1V5
R4082 10K

VDD_CPU_B

VCC_1V8
VCC3V3_SYS
CB30 TAN_A_22uF
CB31 TAN_A_22uF
R93 10K R0402 5%
C199 100nF C0402
CPU_B_SLEEP
I2C_SDA_PMIC
I2C_SCL_PMIC
14 CPU_B_SLEEP
CPU_B_SLEEP
U20 SYR837 /XZ3216
VIN_1 VIN_2 VIN_3 VIN_4 EN VSEL SDA SCL AGND
SW_1 SW_2 SW_3 SW_4 VOUT GND1 GND2 GND3 GND4 GND5 GND6
CSP20_1R96X1R56X0R66
C193 10uF X5R 10V C0603
0.36mS
L3 0.22uH 0402HA
R94 100R 5% R0402
VDD_CPU_B_FB
VDD_CPU_B
PCE6 100uF/6.3V CAP_SMD_3528
TP14 TP_1.0
C194 100nF C0402 X5R 16V

VDD_GPU

VCC_1V8
VCC3V3_SYS
CB32 TAN_A_22uF
CB33 TAN_A_22uF
R116 10K 5% R0402
C240 10uF X5R 10V C0603
0.36mS
C243 100nF C0402
GPU_SLEEP
I2C_SDA_PMIC
I2C_SCL_PMIC
GPU_SLEEP
14 GPU_SLEEP
U23 SYR838PKC CSP20_1R96X1R56X0R66
VIN_1 VIN_2 VIN_3 VIN_4 EN VSEL SDA SCL AGND
SW_1 SW_2 SW_3 SW_4 VOUT GND1 GND2 GND3 GND4 GND5 GND6
L9 0.22uH 0402HA
R118 100R 5% R0402
VDD_GPU_FB
VDD_GPU
PCE7 100uF/6.3V CAP_SMD_3528
TP17 TP_1.0
C241 100nF C0402 X5R 16V

VCC5V0_SYS
U22 SY8088AAC SOT_23_5
VIN LX GND EN FB/OUT
VCC1V8_S3
C213 10uF C0805 X5R 10V
R100 1K/NC R0402
VCC_1V8
20160830
R102 47K R0402 5%
C218 100nF C0402 X5R 16V
L8 2.2uH L2520 1.6A 0.06ohm
VDD_LOG
TP16 TP_1.0
R99 100R R0402 1%
C211 22uF X5R 6.3V C0603
C214 100nF C0402 X5R 16V
R104 82K R0402 1%
C222 100pF C0402 C0G 50V
R105 20K R0402 1%
R106 180K R0402 1%
14 LOG_DVS_PWM
VDD_CENTER:
Min=0.8V;
Default=0.9V;
Max=1.4V;
R108 15K/NC R0402
R109 30K R0402 1%
R107 10K R0402 1%
C232 10nF C0402 X5R 50V
R110 100K R0402 1%
VCC_1V8
VCC_3V0

VCC_0V9
VCC0V9_S3
C246 10uF C0603 X5R 6.3V
C247 100nF C0402 X5R 16V

VCC_1V8
VCC1V8_S3
C248 10uF C0603 X5R 6.3V
C249 100nF C0402 X5R 16V

VCC_DDR
VCC_DDRC
C250 10uF C0603 X5R 6.3V
C251 100nF C0402 X5R 16V

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MAC_TXCLK
MAC_TXD3
MAC_TXD2
MAC_TXD0
MAC_TXD1
MAC_MDC
MAC_MDIO

U7010

MAC_MDC	14	MDC	TRXP0
MAC_MDIO	15	MDIO	TRXN0
			TRXP1
MAC_TXCLK	21	TX_CLK	TRXN1
TXCTL	20	TX_CTL	TRXP2
MAC_TXD0	19	TXD0	TRXN2
MAC_TXD1	18	TXD1	TRXP3
MAC_TXD2	17	TXD2	TRXN3
MAC_TXD3	16	TXD3	
			HSIP
RX_CLK	28	RX_CLK/PHYAD1	HSIN
RX_DV	27	RX_DV/PHYAD2	HSOP
RXD0	26	RXD0/RXDLY	HSON
RXD1	25	RXD1/CFG_MODE0	
RXD2	24	RXD2/CFG_MODE1	NC
RXD3	23	RXD3/CFG_MODE2	RESERVED
			RESERVED4
LED0/PHYAD0	35	LED0/PHYAD0	
LED1/CFG_LDO0	36	LED1/CFG_LDO0	LX
LED2/CFG_LDO1	37	LED2/CFG_LDO1	
			VDD33_LX
XTAL_I	45	XTAL_I	DVDD33
XTAL_O	46	XTAL_O/EXT_CLK	
			AVDD33
CLKOUT	44	CLKOUT	AVDD332
			DVDD_RGMII
INT_N	34	INT_N/PME_N	
PHYRSTB	13	RESET_N	DVDDL
			AVDDL
	48	RBIAS	AVDDL1
	49	EP	AVDDL3

MDI0+	2
MDI0-	3
MDI1+	5
MDI1-	6
MDI2+	7
MDI2-	8
MDI3+	10
MDI3-	11
LX	32
DVDD33	30
AVDD33	1
AVDD33	12
DVDD_RGMII	29
DVDDL	22
AVDDL	4
AVDDL	9
AVDDL	47

DVDD33 R142 4.7K R0402 5% INT_N
GND R154 2.49K/1% R0402 PHYRSTB
GND

L10 2.2uH 1.6A L2520
C281 4.7uF C0603 X5R 10V
C282 100nF C0402 X5R 16V
VDDL

Pin33 is reserved for internal use.
Keep floating and do not pull up externally

If RESET, INT, LED0, CFG_LDO[1:0] need to be pulled up, they should be pulled up to DVDD33

If RXD[3:0], RX_CLK, RX_DV need to be pulled up, they should be pulled up to DVDD_RGMII

LED6 GREEN R139 499R R0402 LED0/PHYAD0
VCC3V3_S3
C265 NC
GND

PHY address 00011b

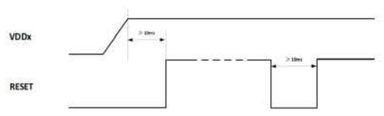
if the LED pin is pulled high, it will be an active low output. And if the LED pin is pulled low, it will be an active high output.

Calculate the value of external load capacitor according to the crystal load capacitance

Y3 25MHz CRY4_3R20X2R50X0R80
XIN GND2 GND1XOUT
XTAL_O XTAL_I
C257 18pF C0402 C0G 50V
C258 18pF C0402 C0G 50V

ensure the reset timing is matched

Reset timing



MAC_MDIO R151 4.7K R0402 DVDD_RGMII
R138 4.7K R0402 RXD3 R137 4.7K/NC R0402 UTP <=> RGMII
R132 4.7K R0402 RXD2 R136 4.7K/NC R0402 RXC delay enable
R130 4.7K R0402 RXD1 R133 4.7K/NC R0402 PHYAD1
R131 4.7K/NC R0402 RXD0 R128 4.7K R0402
RX_CLK R127 4.7K R0402 5%
GND

R149 4.7K R0402 LED2/CFG_LDO1 R126 4.7K/NC R0402 DVDD33
R140 4.7K R0402 LED1/CFG_LDO0 R129 4.7K/NC R0402 RGMII 3.3V
GND

RXD[3:1]	Operation Mode
3'b000	UTP <=> RGMII
3'b001	FIBER <=> RGMII
3'b010	UTP/FIBER <=> RGMII
3'b011	UTP <=> SGMII
3'b100	SGMII (PHY) <=> RGMII
3'b101	SGMII (MAC) <=> RGMII
3'b110	UTP <=> FIBER (AUTO)
3'b111	UTP <=> FIBER (FORCE)

CFG_LDO[1:0]	RGMII Voltage Selection
2'b00	External 3.3V
2'b01	Internal 2.5V
2'b10	Internal 1.8V
2'b11	Not Available

DVDD33 R152 51K R0402 5%
PHYRSTB
C256 10nF C0402 X7R 50V

VCC3V3_S3 FB4 180R/100MHz L0603 1.5A 25%
DVDD33
C262 10uF C0603 X5R 6.3V
C269 100nF C0402 X5R 16V
C270 100nF C0402 X5R 16V
GND

VDDL FB1 180R/100MHz L0603 1.5A 25%
AVDDL
C276 100nF C0402 X5R 16V
C277 100nF C0402 X5R 16V
C278 10uF C0805 X5R 10V
GND

FB3 180R/100MHz L0603 1.5A 25%
VCC3V3_S3 AVDD33
C267 100nF C0402 X5R 16V
C268 100nF C0402 X5R 16V
GND

FB2 0R L0603 1.5A 25%
VDDL DVDDL
C261 100nF C0402 X5R 16V
GND

DVDD33 R141 0R/NC R0402 DVDD_RGMII
C259 10uF C0603 X5R 6.3V
C260 100nF C0402 X5R 16V
GND

R141 is only for 3.3V RGMII application.
R141 must be removed for 2.5V/1.8V RGMII application.

CLKOUT R125 33R/NC R0402 5% MAC_MCLK

Place filter network close to RX_CLK.
Reserved for EMI

RX_CLK R134 33R R0402 5% MAC_RXCLK
C255 18pF C0402 C0G 50V

RX_DV R143 0R R0402 5% MAC_RXDV
RXD0 R144 0R R0402 5% MAC_RXD0
RXD1 R145 0R R0402 5% MAC_RXD1
RXD2 R146 0R R0402 5% MAC_RXD2
RXD3 R147 0R R0402 5% MAC_RXD3
TXCTL R148 0R R0402 5% MAC_TXEN
PHYRSTB R157 0R R0402 5% MAC_CRS
INT_N R158 0R R0402 5% MAC_RXER

LED4 GREEN R4034 499R R0402 5% LED2/CFG_LDO1
DVDD33
LED5 YELLOW R4035 499R R0402 5% LED1/CFG_LDO0

G24107/SMD

MDI0+	12	TD4-	MX4-	13	LAN_MDI0+
MDI0-	11	TD4+	MX4+	14	LAN_MDI0-
	10	TCT4	MCT4	15	LAN_MDI1+
MDI1+	9	TD3-	MX3-	16	
MDI1-	8	TD3+	MX3+	17	
	7	TCT3	MCT3	18	
MDI2+	6	TD2-	MX2-	19	LAN_MDI2+
MDI2-	5	TD2+	MX2+	20	LAN_MDI2-
	4	TCT2	MCT2	21	
MDI3+	3	TD1-	MX1-	22	LAN_MDI3+
MDI3-	2	TD1+	MX1+	23	LAN_MDI3-
	1	TCT1	MCT1	24	

100M:C=0.1UF/4
1G: C=0.01UF/4
0.01UF/4.25V
CTPI C180

R4032 75R R4033 75R R4031 75R R563 75R
1nF/2KV C188 C1206

1	TX+	J1	
2	TX-	J2	
3	RX+	J3	
6	RX-	J4	
4	TN1	J5	
5	TN2	J6	
7	RN1	J7	
8	RN2	J8	
9	NC1		
10	NC2		
11	SH1		
12	SH2		

J87 RJ45 RJ45J

R472 220R_2A100MHZ
C184 0.01UF/4/25V
C183 100nF
GND_GLAN

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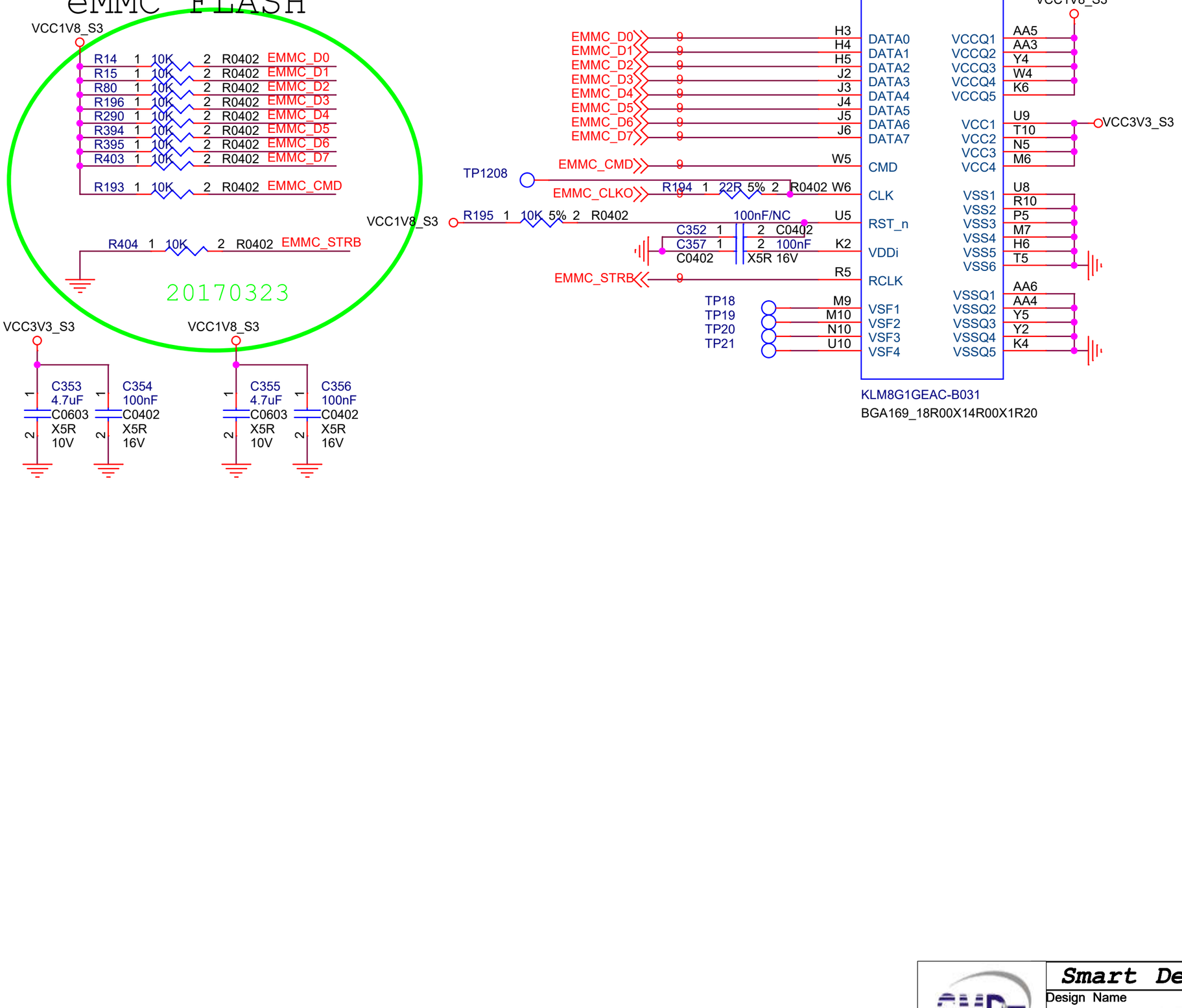
eMMC FLASH



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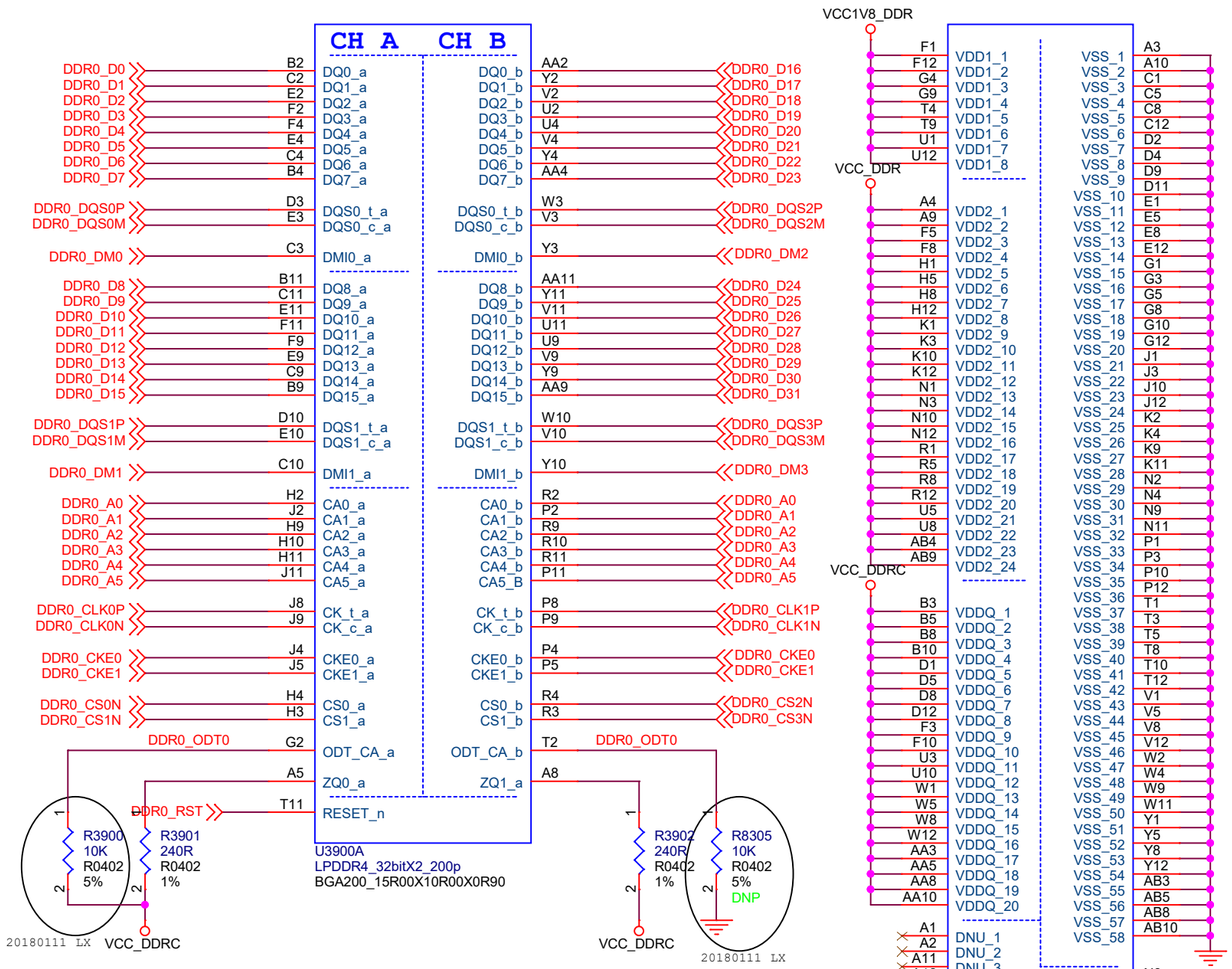

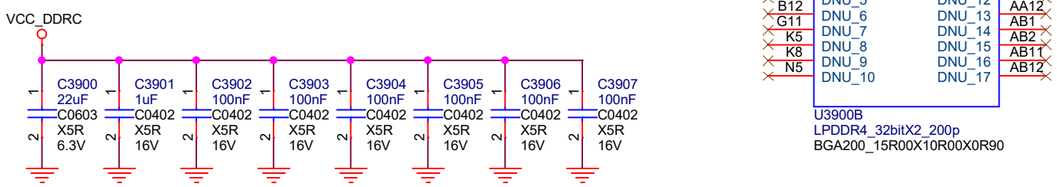

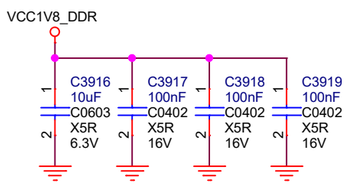

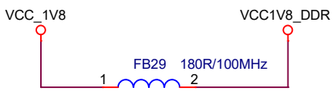

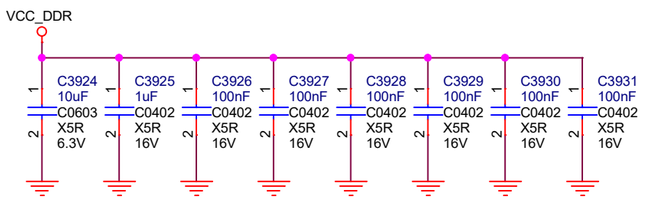

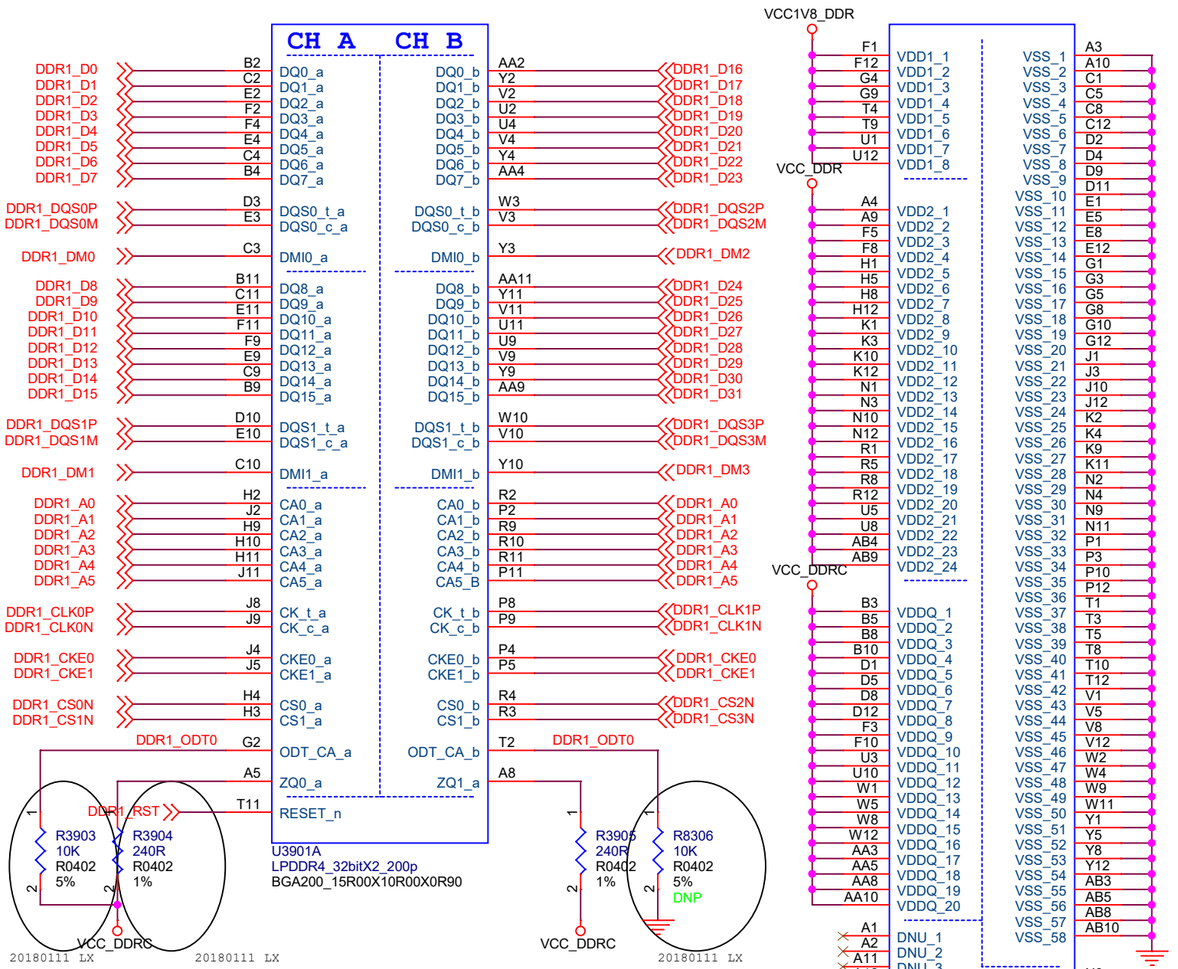

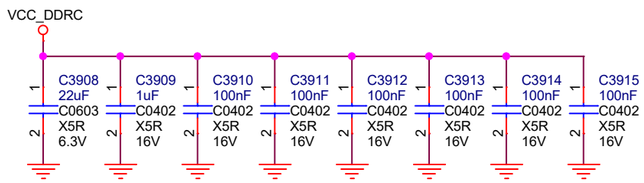

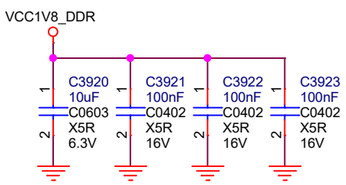

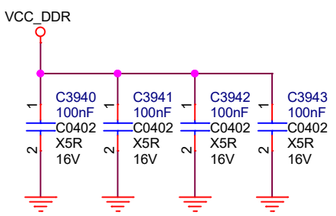

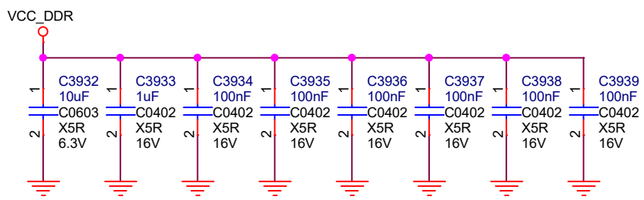

Rockchip 瑞芯微电子	Fuzhou Rockchip Electronics		
Project:	IoT-RK3399E		
File:	<Page name>		
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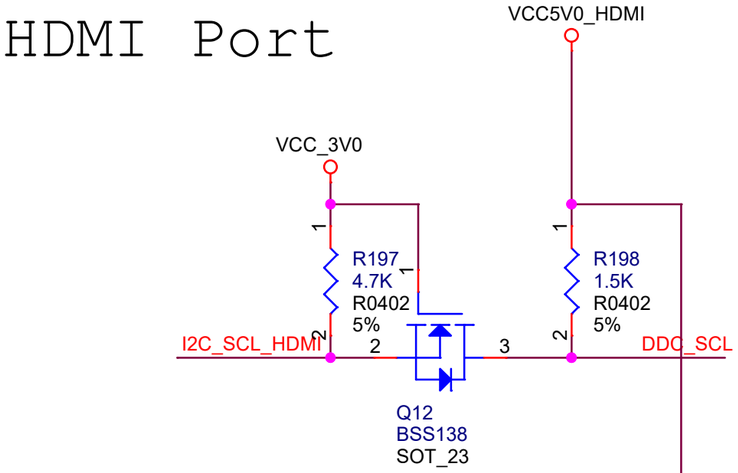
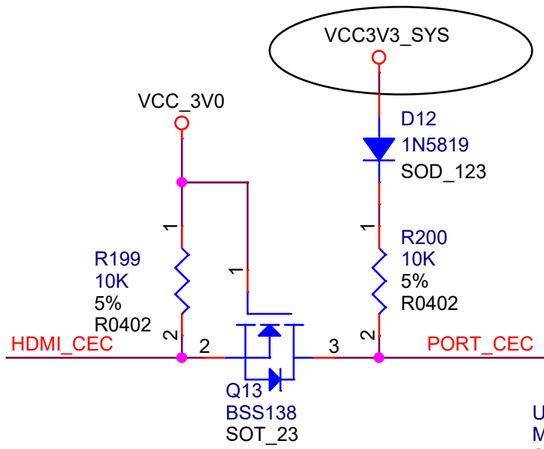
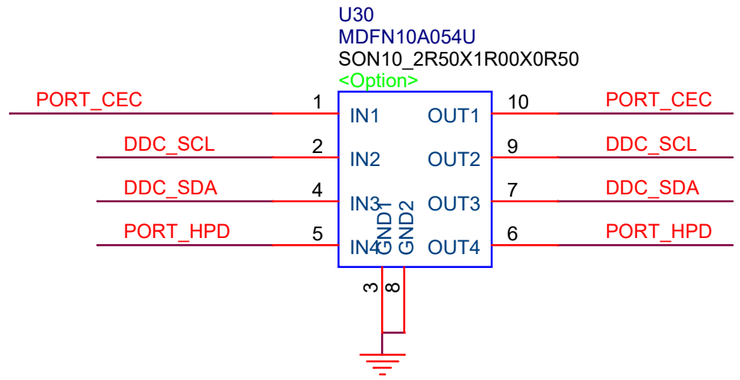
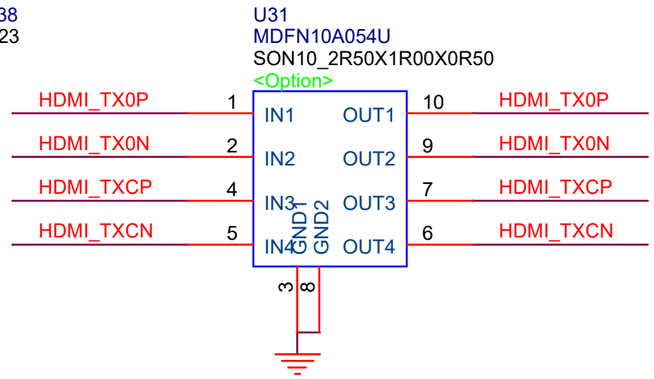
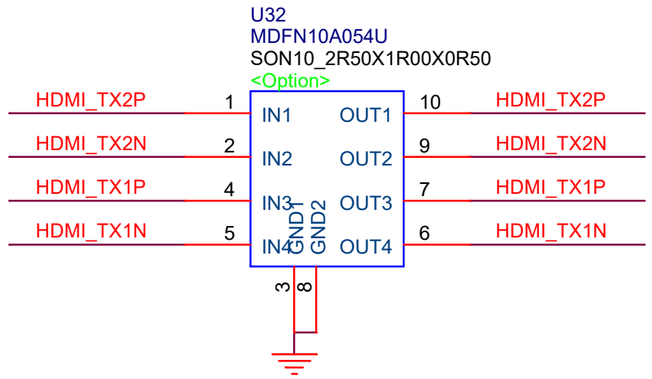
HDMI Port

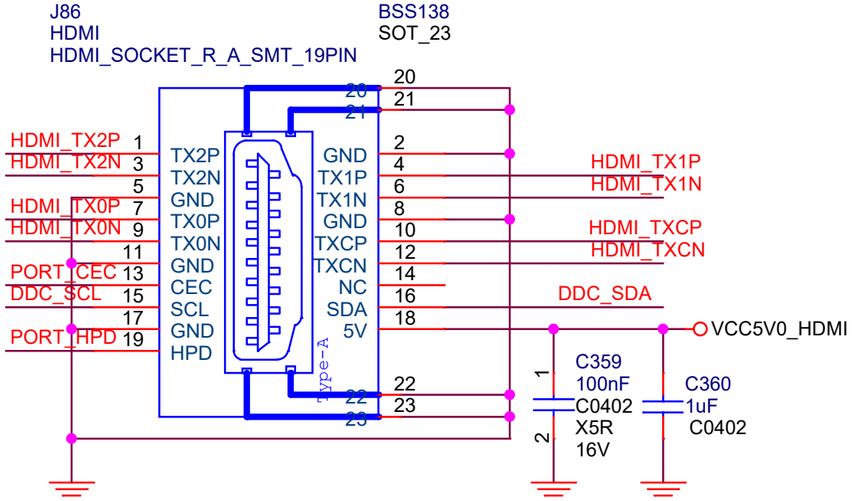


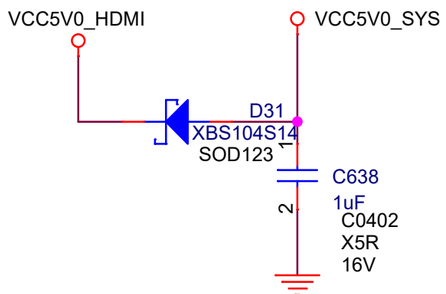












HDMI_TX0P 13
HDMI_TX0N 13

HDMI_TX1P 13
HDMI_TX1N 13

HDMI_TX2P 13
HDMI_TX2N 13

HDMI_TXCP 13
HDMI_TXCN 13

HDMI_CEC 14
PORT_HPD 13

I2C_SCL_HDMI I2C_SCL_HDMI 14,24,32
I2C_SDA_HDMI I2C_SDA_HDMI 14,24,32

Smart Device Technology Co.,Ltd

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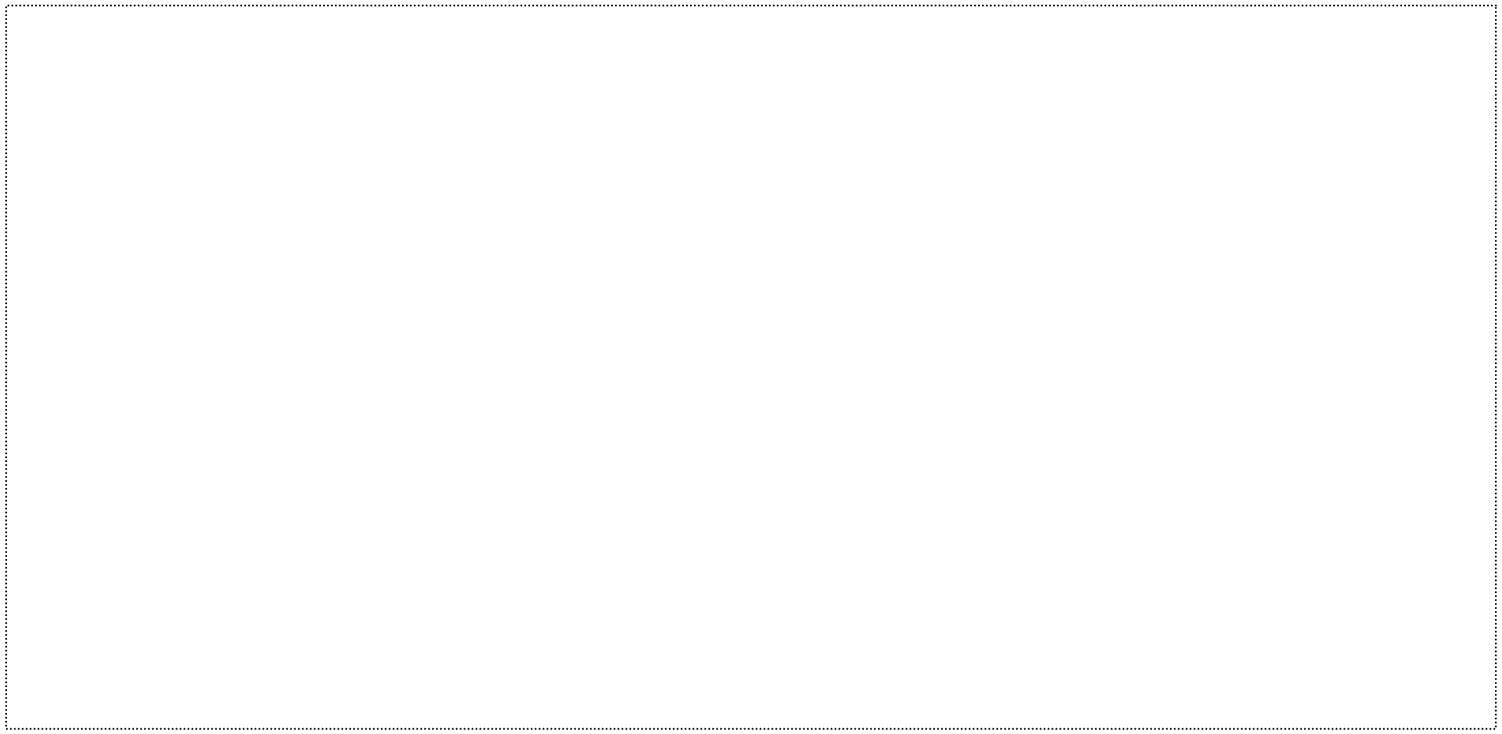

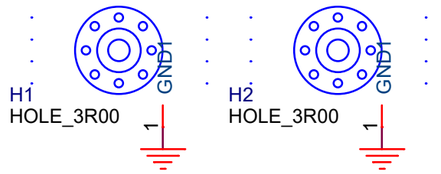

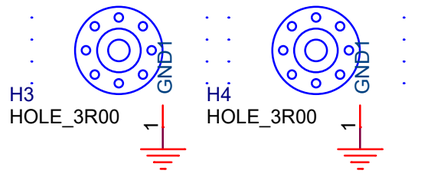

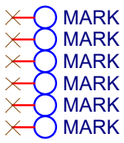

PAGE28 4CH*UART

PAGE29 MINI PCI-E

PAGE30 MCU

PAGE31 DCIN DCDC8.6V,DCDC5V DCDC3.3V

PAGE32 PCI-E (M2) (V00 NO OPTION)

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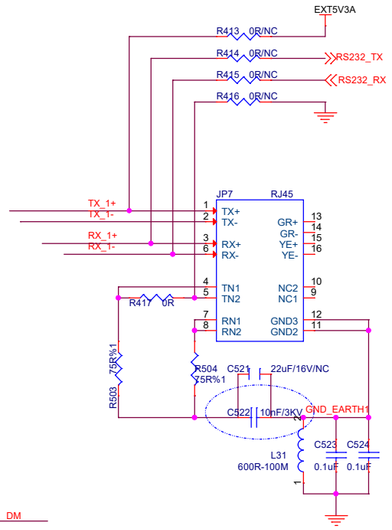
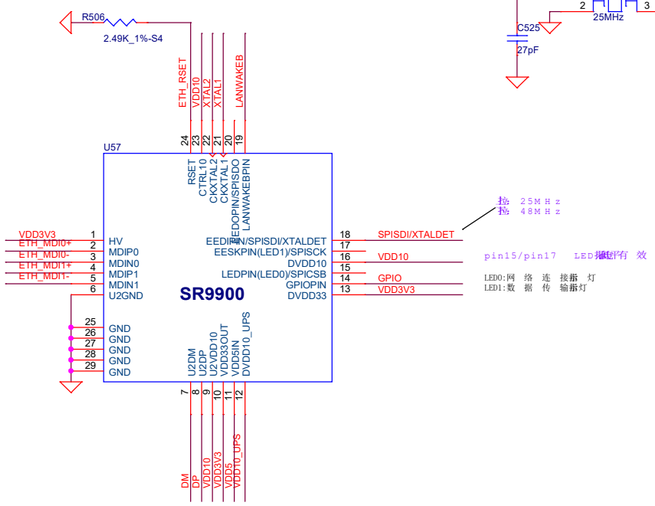
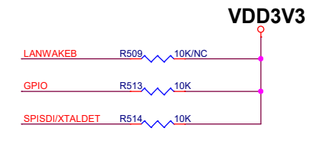
RJ45



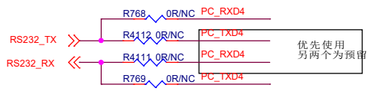


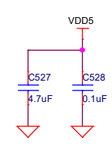


16 HUB_DM4 R507 0R DM
16 HUB_DP4 R508 0R DP

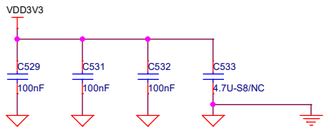
EXT5V3A FB20 600R/100MHz VDD5

pin10，23，12为3.3V和1.05V的输出端，不需要任何电源IC

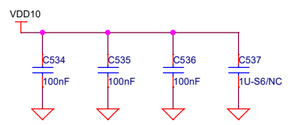




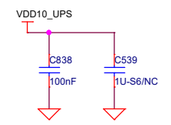
Place C102 and C144 close to VDD5 pin-- 11



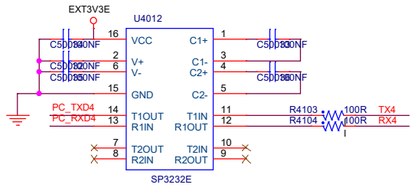
Place C147,C146,C145 close to each VDD33 pin-- 1, 10, 13
Place C150 close to VDD33 pin-- 10 (reserved)

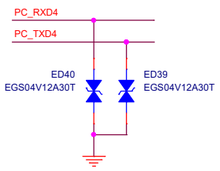


Place C160,C151,C153 close to each VDD10 pin-- 9, 16, 23
Place C259 close to VDD10 pin-- 9 (reserved)

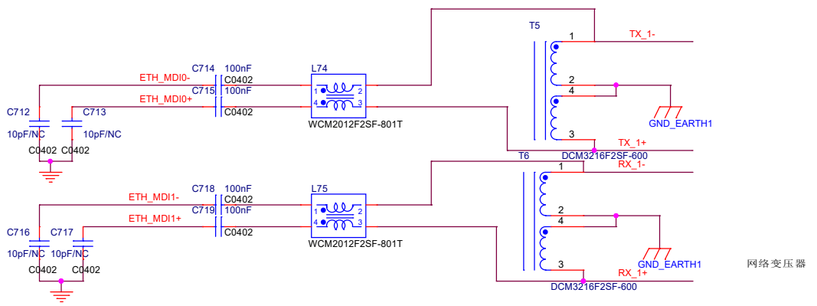


Place C159 close to VDD10_UPS pin-- 12
Place C157 close to VDD10_UPS pin-- 12 (reserved)





TX4
RX4



网络变压器

Title	<Title>		
Size A2	Document Number <Doc>		Rev <RevCode>
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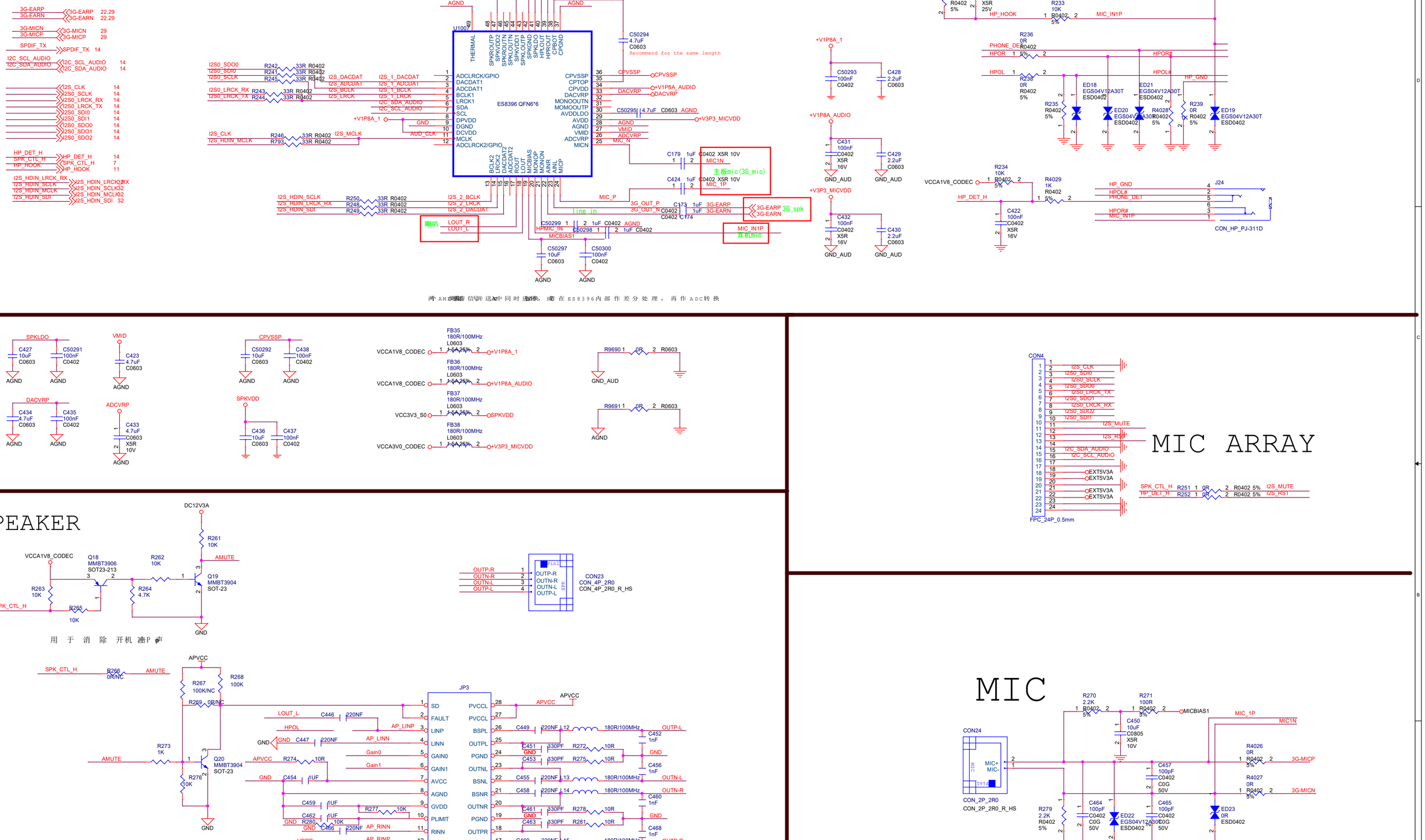
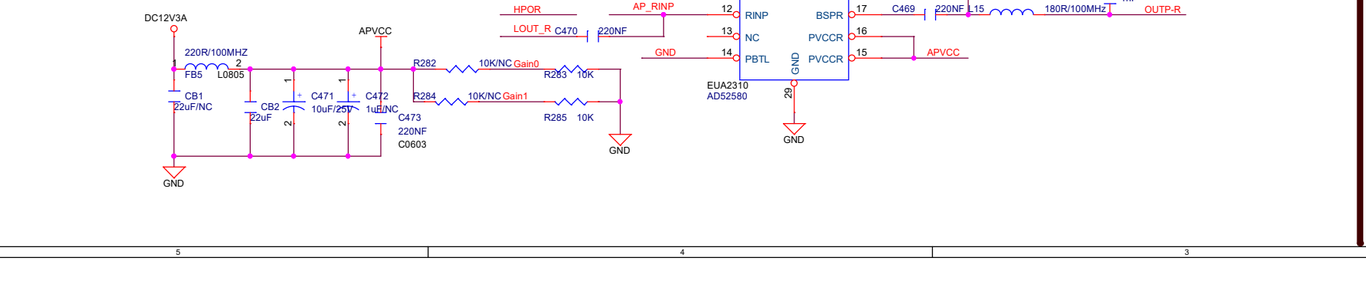
CODEC_ES8396



两个AMP的输出信号进入ES8396中同时进行，或者在ES8396内部作差分处理，再作ADC转换

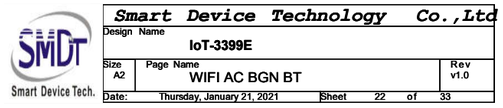


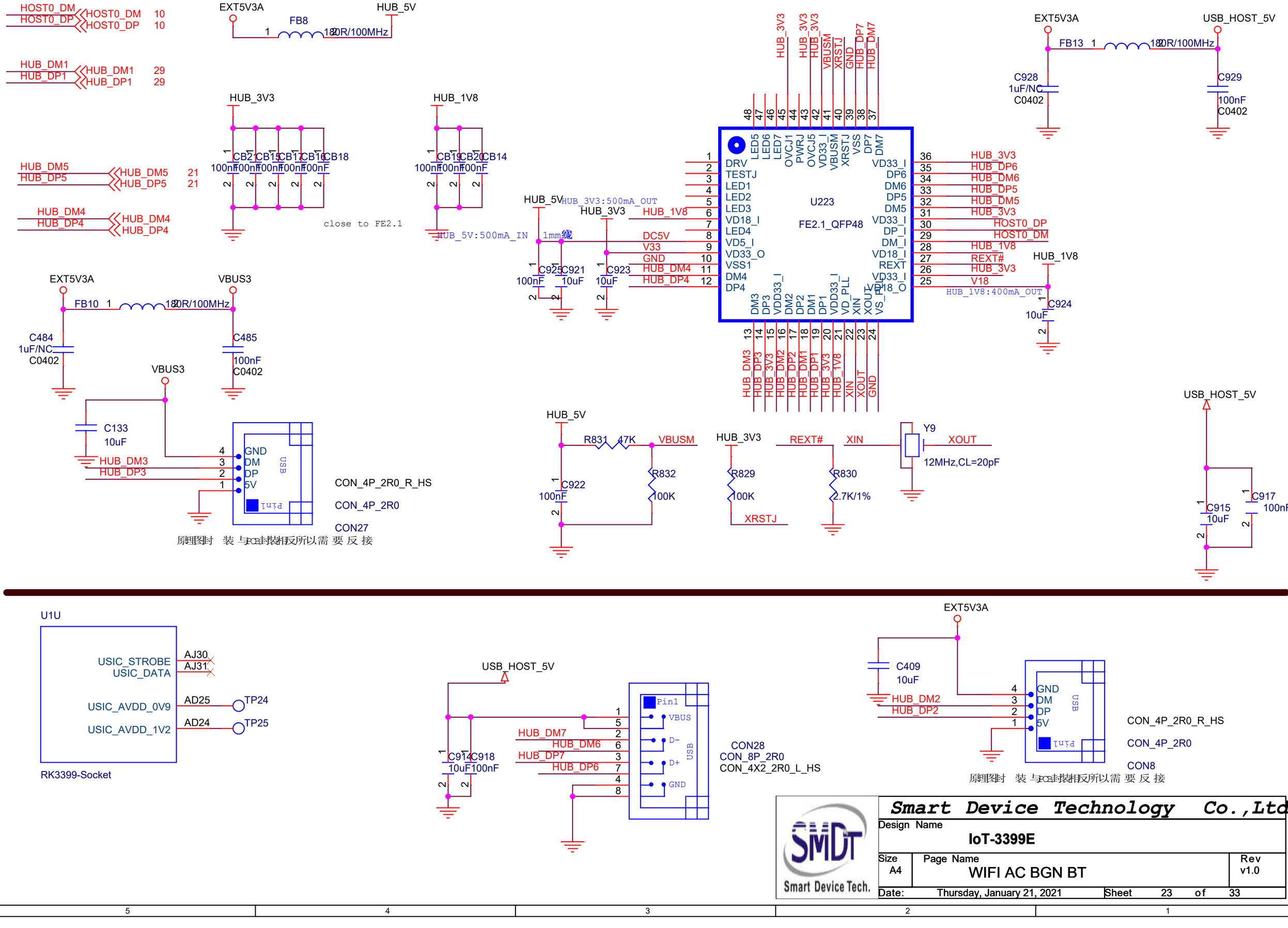
MIC ARRAY

SPEAKER

用于消除开机油P声

MIC




HOST0_DM
HOST0_DP
HOST0_DM 10
HOST0_DP 10
EXT5V3A
FB8
HUB_5V
1
180R/100MHz
HUB_DM1
HUB_DP1
HUB_DM1 29
HUB_DP1 29
HUB_3V3
HUB_1V8
CB21 CB15 CB17 CB16 CB18
100nF 100nF 100nF 100nF 100nF
CB19 CB20 CB14
100nF 100nF 100nF
HUB_DM5
HUB_DP5
HUB_DM5 21
HUB_DP5 21
HUB_DM4
HUB_DP4
HUB_DM4
HUB_DP4
close to FE2.1
HUB_5V:500mA_IN
HUB_5V
HUB_3V3:500mA_OUT
HUB_3V3
HUB_1V8
DC5V
V33
GND
HUB_DM4
HUB_DP4
1mm线
C925 C921
100nF 10uF
C923
10uF
U223
FE2.1_QFP48
DRV
TESTJ
LED1
LED2
LED3
VD18_I
LED4
VD5_I
VD33_O
VSS1
DM4
DP4
LED5 LED6 LED7 OVCJ1 PWRJ OVCJ5 VD33_I VBUSM XRSTJ VSS DP7 DM7
VD33_I
DP6
DM6
DP5
DM5
VD33_I
DP_I
DM_I
VD18_I
REXT
VD33_I
VD18_O
DM3 DP3 VDD33_I DM2 DP2 DM1 DP1 VD33_I VD_PLL XIN XOUT VS_RTC
HUB_DM3 HUB_DP3 HUB_3V3 HUB_DM2 HUB_DP2 HUB_DM1 HUB_DP1 HUB_3V3 HUB_1V8 XIN XOUT GND
HUB_3V3
HUB_DP6
HUB_DM6
HUB_DP5
HUB_DM5
HUB_3V3
HOST0_DP
HOST0_DM
HUB_1V8
REXT#
HUB_3V3
V18
HUB_1V8:400mA_OUT
C924
10uF
EXT5V3A
FB13
180R/100MHz
USB_HOST_5V
C928
1uF/NC
C0402
C929
100nF
C0402
EXT5V3A
FB10
180R/100MHz
VBUS3
C484
1uF/NC
C0402
C485
100nF
C0402
VBUS3
C133
10uF
HUB_DM3
HUB_DP3
GND
DM
DP
5V
USB
Pin1
CON_4P_2R0_R_HS
CON_4P_2R0
CON27
原理图封 装 与PCB封装相反所以需 要 反 接
HUB_5V
R831 47K
VBUSM
R832
100K
C922
100nF
HUB_3V3
R829
100K
XRSTJ
REXT#
XIN
R830
2.7K/1%
Y9
XOUT
12MHz,CL=20pF
USB_HOST_5V
C915
10uF
C917
100nF
U1U
USIC_STROBE
USIC_DATA
AJ30
AJ31
USIC_AVDD_0V9
AD25
TP24
USIC_AVDD_1V2
AD24
TP25
RK3399-Socket
USB_HOST_5V
C914 C918
10uF 100nF
HUB_DM7
HUB_DM6
HUB_DP7
HUB_DP6
Pin1
VBUS
D-
D+
GND
USB
CON28
CON_8P_2R0
CON_4X2_2R0_L_HS
EXT5V3A
C409
10uF
HUB_DM2
HUB_DP2
GND
DM
DP
5V
USB
Pin1
CON_4P_2R0_R_HS
CON_4P_2R0
CON8
原理图封 装 与PCB封装相反所以需 要 反 接
Smart Device Technology Co.,Ltd
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Smart Device Tech.

eDP屏电源eDPANELVCC有3.3V,5V,12V 都有,
在板卡上我们需对应选择 好屏电源！

J84
eDP_2X10P
DIP_2X10P_2R0_L_HS
eDPANELVCC

eDP_HPD信号输出的信号3.3V或者1.8V。别的电压的屏还未测

JP5
HEADER_3X2P_2R0
LVDS_PWR_SEL

DC12V3A
EXT3V3E
EXT5V3A
PANELVCC_IN

R297 10K
R298 0R
C491 1uF/NC
U42
FDS9435
C494 1uF/25V
C495
C493 10uF
100nF

Q21
MMBT3904
R300 1K
R301 20K
C496 10uF
C497 10nF/NC
C499 10uF
C0603
C500 100nF/NC
C0402

EGS04V12A02T
ESD0402
ED38
ED37
R299 100K
R0402 5%
R302 100K
C492 C0402 100nF X5R 10V
C498 100nF C0402 X5R 10V
R296 10K
R814 13K
DVP_PWR_H
eDP_HPD

U4004
MDFN10A054U
SON10_2R50X1R00X0R50

U4003
MDFN10A054U
SON10_2R50X1R00X0R50

LCD_RST_H
TOUCH_RST_L
TOUCH_INT_L
LCD_BL_PWM
LCD_EN_H
DVP_PWR_H
GPIO2_B0/CIF_VSYNC
GPIO2_A7/CIF_D7
MCU-LVDS-PWM
GPIO2_A5/CIF_D5

R321 0R/NC
R322 0R
R327 499R
R328 10K
R330 1K
R339 1K/NC
R352 4.7K
R332 100K
Q44 MMBT3904
Q45 SOT-23 MMBT3904
EDP_BL_EN
C868 1uF C0402
C77 10uF
C76 100nF
C867 4.7uF/NC
R314 510R/NC
R315 499R
R317 10K
R319 1K/NC
R318 3.9K
R316
EDP_BL_ADJ
R320 10K/NC
Q43 SOT-23 MMBT3904
CON21
CON_6P_2R0
CON_6P_2R0_R_HS

CAP TP

R388 33R TP_I2C_SCL
R390 33R TP_I2C_SDA
C505 100nF
R310 2K/NC TP_I2C_SCL
R312 2K/NC TP_I2C_SDA
R303 4.7K TOUCH_INT_L
R813 4.7K TOUCH_RST_L
CON22
CON_6P_2R0
CON_6P_2R0_R_HS
C73 100nF C0402
C72 10uF/NC C0805

BAKCLIGHT

背面走线 图上封装与正面封装相反 所以需要反接

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Design Name: IoT-3399E
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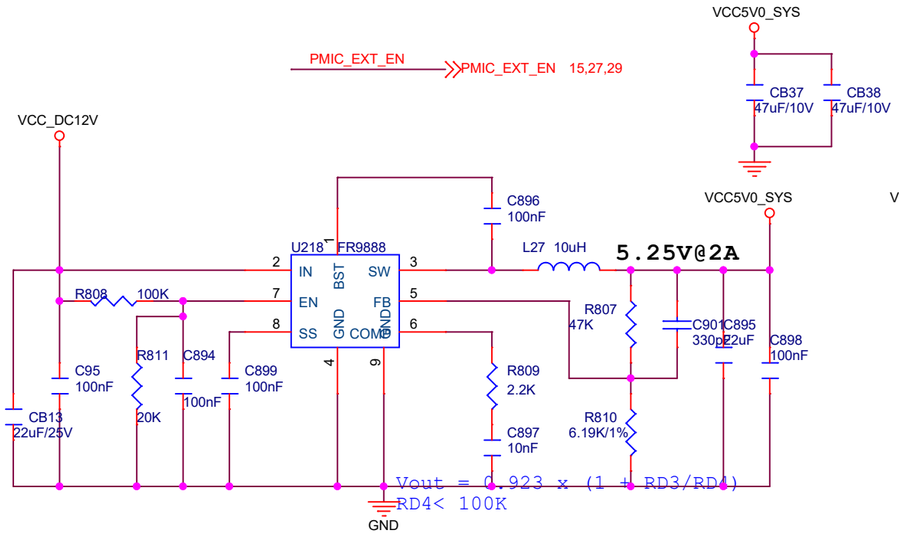

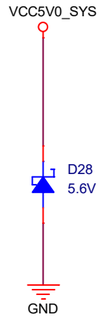

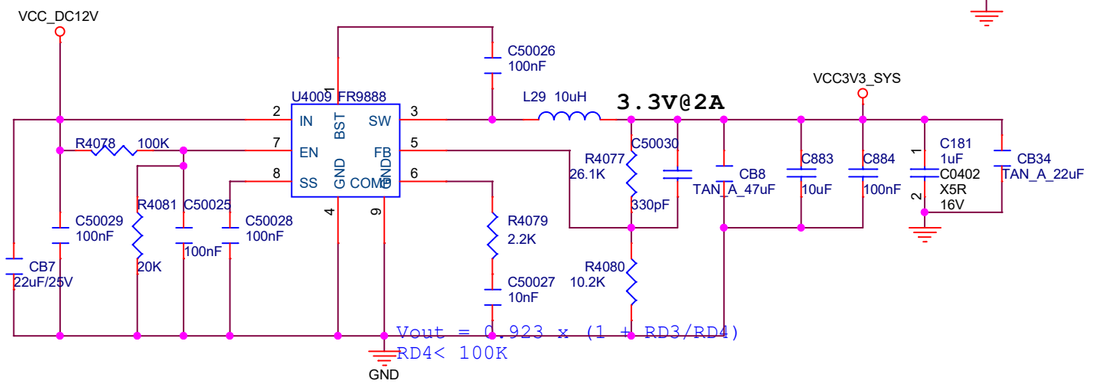

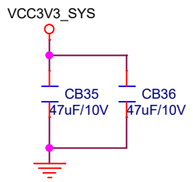

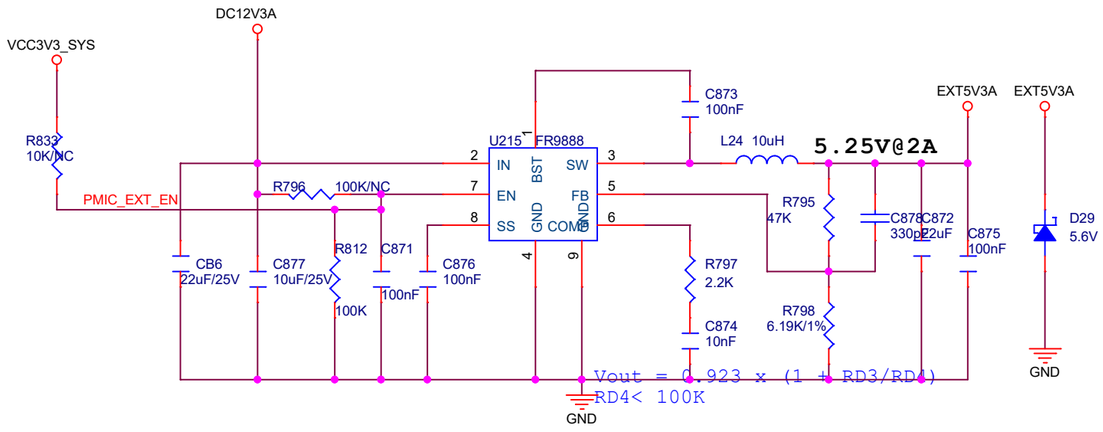

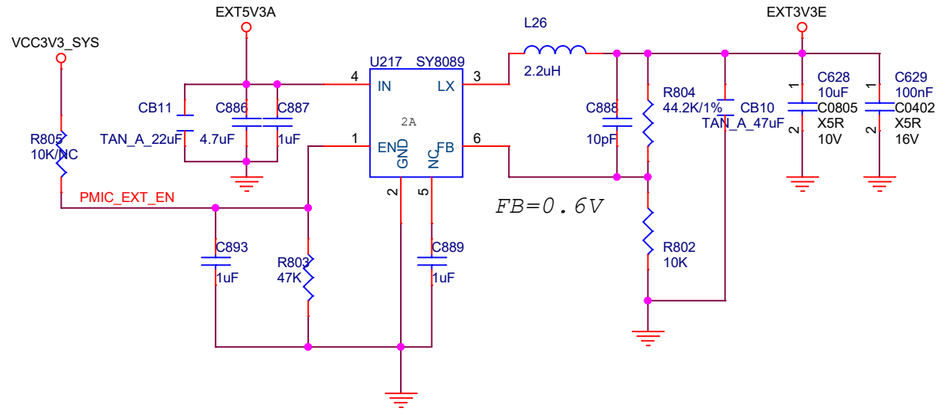

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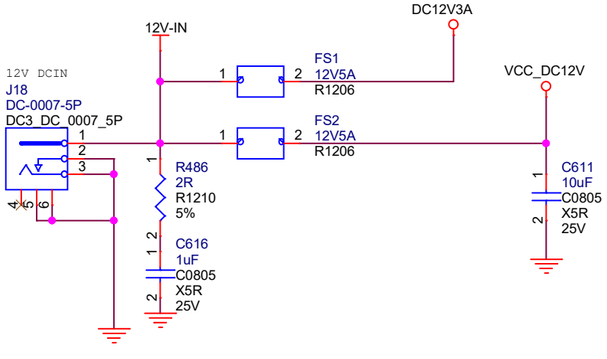

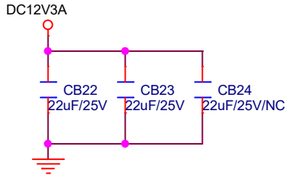

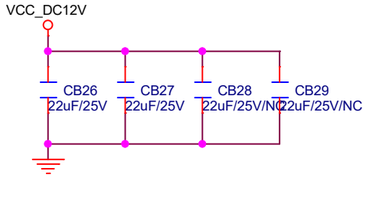

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CABC_EN
LCD_EN_H
CABC_EN 14
LCD_EN_H 14,24,27

SPDIF_TX
SPDIF_TX 14

GM8775_IRQ
GM8775_IRQ

主控输出的MIPI信号

接主控1.8V的IO

RESX
RESX 14

I2C_SCL_MEMS
I2C_SDA_MEMS
I2C_SCL_MEMS 14,30
I2C_SDA_MEMS 14,30

LCD_BL_PWM
LCD_BL_PWM 14,24,27

MIPI_TX0_D3N
MIPI_TX0_D3P
MIPI_TX0_D2N
MIPI_TX0_D2P
MIPI_TX0_CLKN
MIPI_TX0_CLKP
MIPI_TX0_D1N
MIPI_TX0_D1P
MIPI_TX0_D0N
MIPI_TX0_D0P
MIPI_TX0_D3N 13
MIPI_TX0_D3P 13
MIPI_TX0_D2N 13
MIPI_TX0_D2P 13
MIPI_TX0_CLKN 13
MIPI_TX0_CLKP 13
MIPI_TX0_D1N 13
MIPI_TX0_D1P 13
MIPI_TX0_D0N 13
MIPI_TX0_D0P 13

SPDIF_TX R255 33R R0402 LVDS_EN
C441 18pF C0402 C0G 50V

3.3V
VDDIO
EXT5V3A
U7004 PT5108E23E-33 SOT_23_5
IN OUT GND EN BP
C50255 10uF C0603
C50257 100nF C0402
C50256 4.7uF C0603 X5R 10V
C50258 100nF C0402 X5R 16V
C50259 100nF C0402 X5R 16V
LVDS_EN R9632 1K R9633 10K

MIPI_TX0_D3P R9610 33R R0402 MIPI_LVDS_D3P
MIPI_TX0_D3N R9618 33R R0402 MIPI_LVDS_D3N
MIPI_TX0_D2P R9621 33R R0402 MIPI_LVDS_D2P
MIPI_TX0_D2N R9612 33R R0402 MIPI_LVDS_D2N
MIPI_TX0_D1P R9620 33R R0402 MIPI_LVDS_D1P
MIPI_TX0_D1N R9619 33R R0402 MIPI_LVDS_D1N
MIPI_TX0_D0P R9622 33R R0402 MIPI_LVDS_D0P
MIPI_TX0_D0N R9628 33R R0402 MIPI_LVDS_D0N
MIPI_TX0_CLKP R9615 33R R0402 MIPI_LVDS_CLKP
MIPI_TX0_CLKN R9629 33R R0402 MIPI_LVDS_CLKN
接主控输出的MIPI信号

U7002A
DA3P DA3N DA2P DA2N DA1P DA1N DA0P DA0N DACP DACN
A_Y3P A_Y3N A_Y2P A_Y2N A_Y1P A_Y1N A_Y0P A_Y0N A_CLKP A_CLKN
B_Y3P B_Y3N B_Y2P B_Y2N B_Y1P B_Y1N B_Y0P B_Y0N B_CLKP B_CLKN
LVDS_D3P LVDS_D3N LVDS_D2P LVDS_D2N LVDS_D1P LVDS_D1N LVDS_D0P LVDS_D0N LVDS_CLK0P LVDS_CLK0N
LVDS_D8P LVDS_D8N LVDS_D7P LVDS_D7N LVDS_D6P LVDS_D6N LVDS_D5P LVDS_D5N LVDS_CLK1P LVDS_CLK1N
通道0
通道1
GM8775C

VCC_1V8 FB26 600R/100MHz VDD_LVDS
C50249 10uF C50253 100nF C50242 100nF C50244 10uF

DC12V3A DC12V3A C79 C78 10uF 100nF GND GND
DC12V3A BL_LVDS_EN BL_LVDS_ADJ GND1 PWM EN 12V 12V1 CON20 CON_6P_2R0 CON_6P_2R0_R_HS GND
背面面料里 图封装pcs封装相反所以需要反接

VDDIO
R9611 10K/NC R0402
R9608 10K/NC R0402
I2C_SCL_MEMS R9616 33R/NC R0402
I2C_SDA_MEMS R9627 33R/NC R0402
GM8775_I2C_ADDR
GM8775_I2C_TYPE
U7002B
SCL SDA I2C_ADDR I2C_TYPE EN GPO_1 GPO_0 IRQ REFCLK TEST
VDDIO VCORE VDD_RX VDD_LVDS1 VDD_LVDS2 VDD_PLL VSS_PLL EPAD GND
GM8775C
VDDIO CABC_EN R9614 10K/NC R0402 R9624 33R R0402
C50245 100nF C0402 TP221 TP222
GM8775_IRQ R9630 33R R0402
R9608 0R/NC R0402
R9629 0R R0402
C50236 10nF C0402 C50240 10nF C0402 C50250 1uF C0402 C50243 10uF C0402
3.3V
C50246 10nF C0402 C50248 100nF C0402 C50254 100nF C0402 C50247 100nF C0402
VDDIO
1.8V
C50239 10nF C0402 C50251 100nF C0402 C50238 10nF C0402 C50241 100nF C0402
VDD_LVDS

VDD_LVDS
C50252 100nF C0402 R9622 10K/NC R0402 R9617 R0402
U7003 VDD OUT STANDBY GND OSC_26MHZ/NC
C50237 1nF C0402
R9628 0R R0402
GND

U4014 CFL28101FRU
U4015 CFL28101FRU
U4016 CFL28101FRU
U4017 CFL28101FRU
U4018 CFL28101FRU
LVDS_D7N LVDS_D7P LVDS_D6N LVDS_D6P
LVDS_D3P LVDS_D3N LVDS_D5P LVDS_D5N
LVDS_CLK1P LVDS_CLK1N LVDS_D8P LVDS_D8N
LVDS_CLK0P LVDS_CLK0N LVDS_D2P LVDS_D2N
LVDS_D1P LVDS_D1N LVDS_D0P LVDS_D0N
LVDS_D7N_ LVDS_D7P_ LVDS_D6N_ LVDS_D6P_
LVDS_D3P_ LVDS_D3N_ LVDS_D5P_ LVDS_D5N_
LVDS_CLK1P_ LVDS_CLK1N_ LVDS_D8P_ LVDS_D8N_
LVDS_CLK0P_ LVDS_CLK0N_ LVDS_D2P_ LVDS_D2N_
LVDS_D1P_ LVDS_D1N_ LVDS_D0P_ LVDS_D0N_

EXT5V3A EXT3V3E
R360 0R R361 0R/NC
R362 499R
R363 10K
R366 1K/NC
LCD_EN_H R369 1K
Q26 MMBT3904
R372 4.7K
R370 100K
BL_LVDS_EN
C559 1uF C0402
Q25 SOT-23 MMBT3904
GND GND GND

EFUSE_VQPS_EN_H
EFUSE_VQPS_EN_H 14
LCD_BL_PWM
LCD_EN_H
LCD_BL_PWM 14,24,27
LCD_EN_H 14,24,27

VDDIO
R350 10K/NC R0402
GM8775_I2C_TYPE
R347 1K R0402
I2C_TYPE: HIGH:Master LOW:Slave

VDDIO
R355 10K R0402
GM8775_I2C_ADDR
R353 10K/NC R0402
I2C_ADDR: HIGH:0x5A LOW:0x58

EXT5V3A EXT3V3E
R373 0R R374 0R/NC
EXT3V3E
R375 1K
R376 10K/NC
1K/NC R377 3.9K R378 BL_LVDS_ADJ
Q27 SOT-23 MMBT3904
C560 4.7uF
LCD_BL_PWM R579 1K
R380 10K
GND

EXT5V3A
J82 VSEL
LVDSVCC_IN V-LCD 5V V-LCD2
12V V-LCD1 3V
DC12V3A EXT3V3E
LVDSVCC_IN
DIP_2X3P_2R0_L_HS
R381 10K
C561 1uF
R382 0R
U48 FDS9435
CHVDD_PANEL
C563 10uF C564 100nF
C562 1uF/NC
EFUSE_VQPS_EN_H
R7 10K R0402 5%
Q28 MMBT3904
R383 20K
C565 10uF
C566 10nF

CHVDD_PANEL
J83 LVDS_2X15P DIP_2X15P_2R0_L_HS
VCC VCC1 GND 0-VN0 0-VN1 0-VN2 GND1 0-VNC 0-VN3 1-VN0 1-VN1 1-VN2 GND2 1-VNC 1-VN3
VCC2 GND3 GND4 0-VP0 0-VP1 0-VP2 GND5 0-VPC 0-VP3 1-VP0 1-VP1 1-VP2 GND6 1-VPC 1-VP3
LVDS_D0N_ LVDS_D1N_ LVDS_D2N_ LVDS_CLK0N_ LVDS_D3N_ LVDS_D5N_ LVDS_D6N_ LVDS_D7N_ LVDS_CLK1N_ LVDS_D8N_
LVDS_D0P_ LVDS_D1P_ LVDS_D2P_ LVDS_CLK0P_ LVDS_D3P_ LVDS_D5P_ LVDS_D6P_ LVDS_D7P_ LVDS_CLK1P_ LVDS_D8P_
LVDS
VCC1V8_S3
R216 10K 5% R0402
RESX

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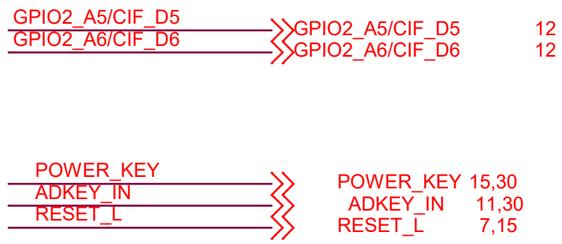

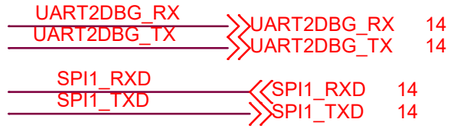

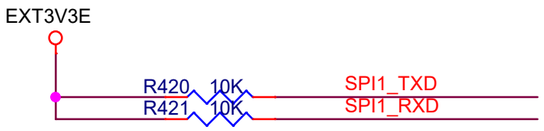

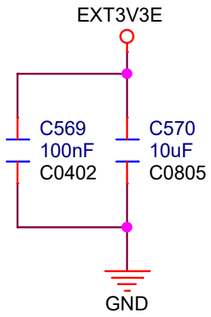

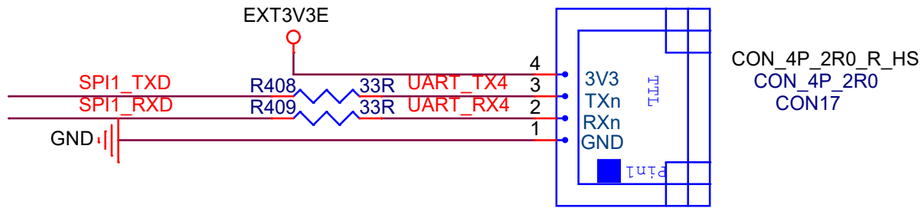

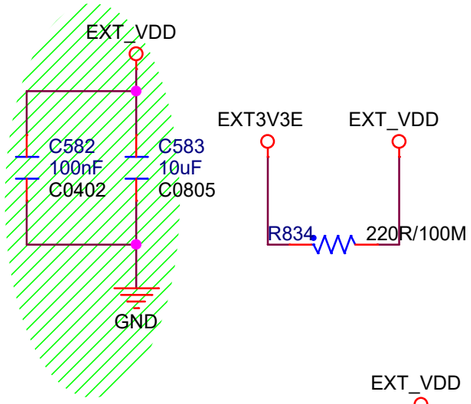

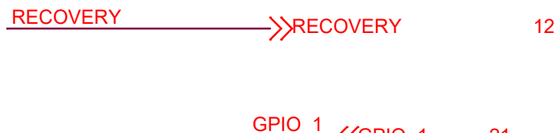

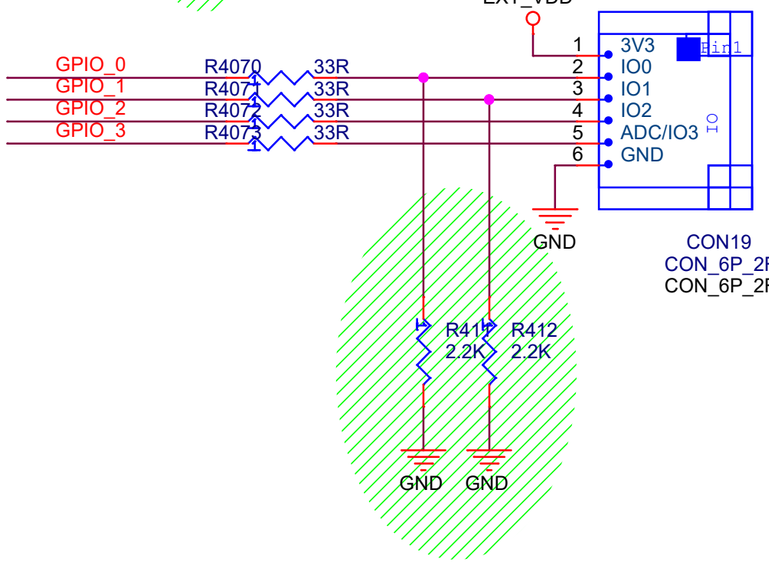

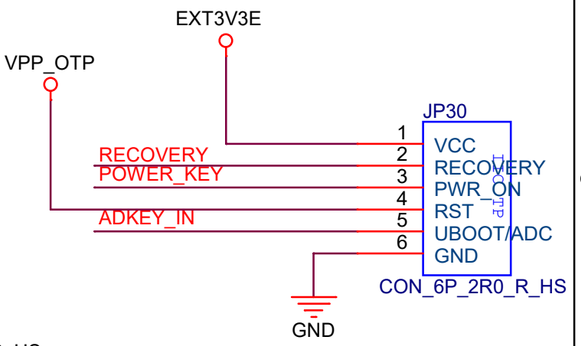

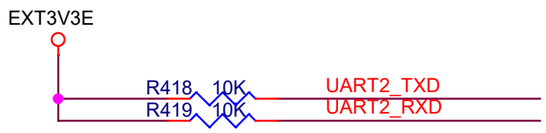

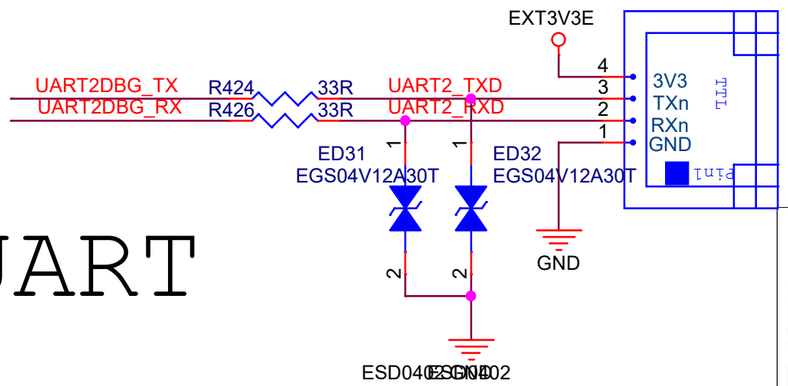

DEBUG OR UART

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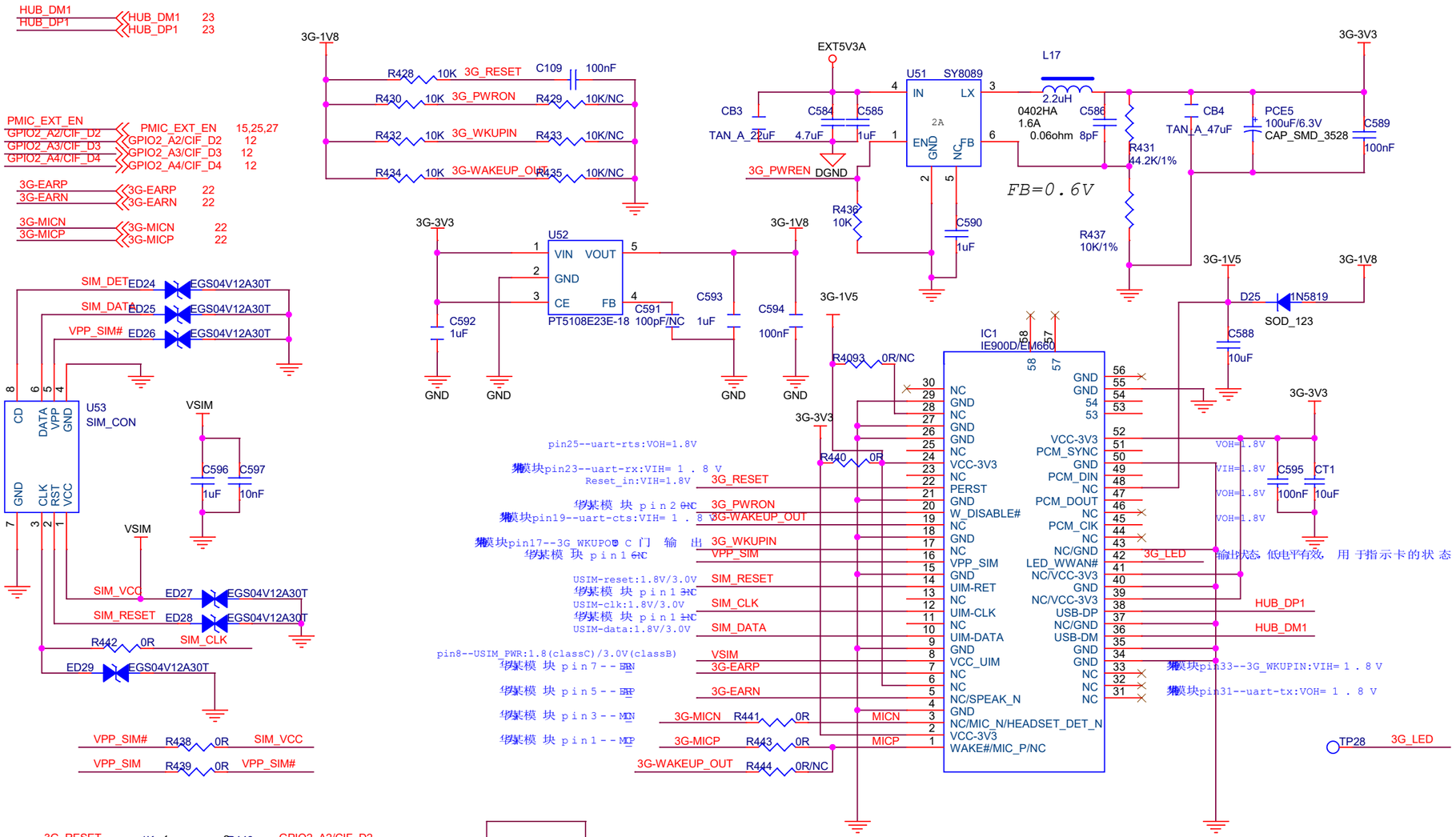

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LED_CONTROL

IR_RX — IR_RX 7,32

Motor_PWR — Motor_PWR 14

CHG_OK_H — CHG_OK_H 14
COMP_INT_L — COMP_INT_L 14
OTP_RESET — OTP_RESET 15

POWER_KEY — POWER_KEY 15,28
ADKEY_IN — ADKEY_IN 11,28

MCU-SCK — MCU-SCK
MCU-SDA — MCU-SDA

I2C_SCL_MEMS — I2C_SCL_MEMS 14,27
I2C_SDA_MEMS — I2C_SDA_MEMS 14,27

MCU-INT — MCU-INT 15

DCIN_PLUS — DCIN_PLUS 15
MCU-LVDS-PWM — MCU-LVDS-PWM 15

MCU-VCC
R449 10K MCU-SCK
R450 10K MCU-SDA
R293 10K CPU_SCL
R323 10K CPU-SDA

VCC3V3_S3 — R451 10K — SOC-WORK-DET — R452 510K — GND

用 于MCU检测AIO是否处于供电状态

SOC-POWER-DET — R453 10K — VCC3V3_S3

用 于MCU检测CPU的工作态。

CHG_OK_H — R454 1K/NC — SOC-WORK-DET

MCU-ON — D30 1N5819 SOD_123 — POWER_KEY

OTP_RESET# — R457 1K/NC — Q29 MMBT3904/NC
R821 1K — OTP_RESET
R459 100K/NC — GND

U54 STM8S00K3

IR-MCU	1 PD4	PD3 20	MCU-ON
MCU-UART-TX	2 TX	PD2 19	SOC-WORK-DET
MCU-UART-RX	3 RX	PD1 18	SOC-POWER-DET
NRST	4 NRST	PC7 17	OFF-INT#
	5 XIN	PC6 16	OTP_RESET#
	6 XOUT	PC5 15	MCU-INT R460 4.7K
	7 VSS	PC4 14	MCU-SCK
SWDCLK	8 VCAP	PC3 13	MCU-SDA
	9 VCC	SCL 12	CPU_SCL
STB R465 0R R0402	10 PA3	SDA 11	CPU-SDA

MCU-VCC — C602 1uF — GND

I2C_SCL_MEMS — R462 100R — CPU_SCL
I2C_SDA_MEMS — R463 100R — CPU-SDA

DCIN_PLUS — R820 0R — MCU-SCK
MCU-LVDS-PWM — R819 1K — MCU-SDA

VCC3V3_S3 — R467 47K — R469 4.7K — COMP_INT_L
OFF-INT# — R470 10K — Q31 MMBT3904 — R473 100K — GND

当MCU接受到红外power键时，发出一个脉冲给A10，A10快速显示关机界面避免闪机。

MCU-VCC — R468 10K — NRST — C603 1uF — GND

MCU-VCC — R160 100R — VCC3V3_S5
C604 10uF C0805 — GND

EXT3V3E
MCU-UART-TX — R478 10K — R0402
MCU-UART-RX — R479 10K — R0402

IR MODULE

U55 — Demo-dulator — VSS 3 — OUT 1 — GND 2

VCC-MCU — C599 10nF — C600 100nF — R456 33R — MCU-VCC
R458 4.7K
IR_OUT — BAT54C D14 — SOT-23 — IR-MCU
IR_RX

IR Receiver — SENSOR/GP1U26R-S

预留3pin 2.54mm间距焊接位置

注：VCC-3V3在系统关机时会掉电
MCU-VCC在插入火牛时即掉电

MCU-VCC — D17 RED_BLUE LED
LED-PWR 2 — R471 LED-R 510R
R4084 LED-B 510R — LED_RG
现PCB焊接：pin3为红，pin1为蓝灯
10K — R474 — Q32 MMBT3904
CHG_OK_H — R475 1K — GND

Motor -> PWR LED OF
Motor -> Work_Led

Motor_PWR — R476 1K — R0402 5% — Q33 MMBT3904 SOT_23
R477 10K R0402 5% — GND

ADKEY_IN — SW4 UBOOT TACKSW_IT1207SMD — ED30 EGS04V12A30T ESD0402
20160830

MCU-5V — U219 PT5108E23E-30 SOT_23_5 — IN 1 — GND 2 — EN 3 — OUT 5 — BP 4 — /CE75B18M/WL2801E-18
R815 10K 5% — R6402
C904 4.7uF C0603 10V
C906 100pF C0402 X5R 16V
R816 10K R0402 5%
C903 100nF C0402 X5R 16V
C905 4.7uF C0603 X5R 10V
C902 100nF C0402 X5R 16V
MCU-VCC

VCC3V3_S3 — U66 AT88SC0104CA-SU SOP8 — A0 1 — A1 2 — A2 3 — nGND 4 — VCC 8 — WP 7 — SCL 6 — SDA 5 — GND
C683 100nF — GND
R559 100R R0402 — I2C_SCL_MEMS
R560 100R R0402 — I2C_SDA_MEMS

VCC3V3_S3 — U67 AT24C16B SOP8 — A0 1 — A1 2 — A2 3 — nGND 4 — VCC 8 — WP 7 — SCL 6 — SDA 5 — GND
R4030 4.7K R0402
C684 100nF — GND
R561 100R R0402 — I2C_SCL_MEMS
R562 100R R0402 — I2C_SDA_MEMS

VCC5V0_SYS — C630 10uF C0805 X5R 16V
VCC5V0_SYS — C634 100nF C0402 X5R 16V

VCC5V0_SYS — Q41 AO3423 SOT_23 — D42 BAT54C SOT-23 — MCU-5V
5V-STB — D22 1N5819 — R568 1K — GND
C690 10uF C0805

CON11 CON_7P_2R54 CON_7P_2R5_L_HS — LED/IR
Pin1 — B — 3V3 — R — ADC — IR — GND — 3V2
1 LED-R
2 LED-PWR
3 LED-B
4 R483 0R ADKEY_IN
5 IR_OUT
6 GND
7 VCC-MCU

指示灯和遥控接口

GND — NRST — SOC-POWER-DET — SWDCLK — STM8
Pin1 — GND — RST — SWDIO — SWDCLK
J81 CON_4P_2R0 CON_4P_2R0_R_HS

CON10 CON_6P_2R54 CON_6P_2R5_R_HS — PWR-IN
Pin1 — 12v — 12V1 — GND — GND1 — 5V-STB — STB
1 12V-IN
2
3 GND
4 GND
5 5V-STB
6 STB
R484 100K — GND

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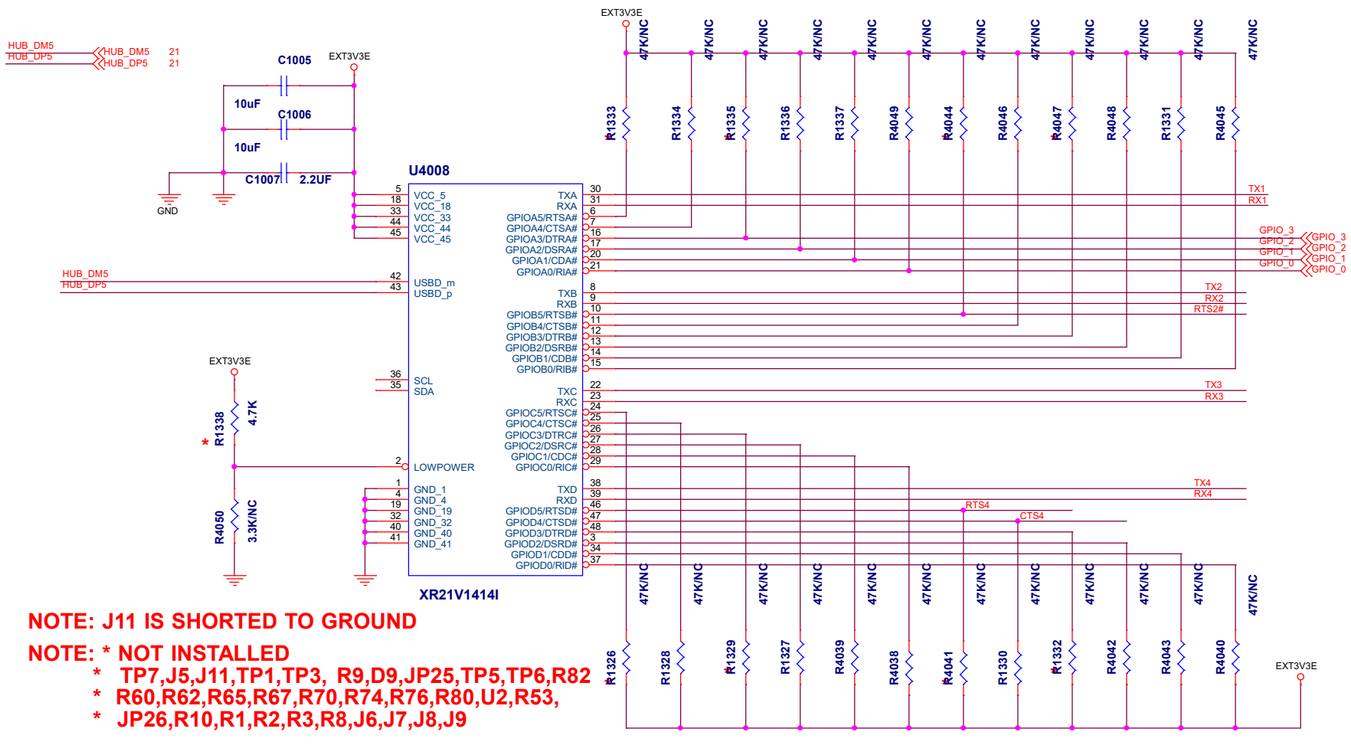
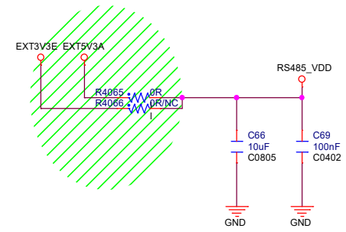
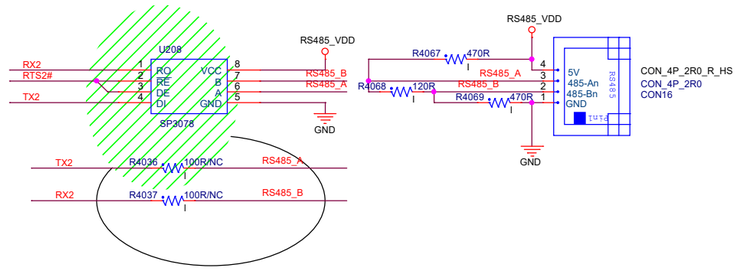
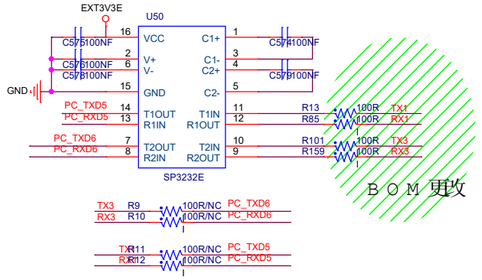
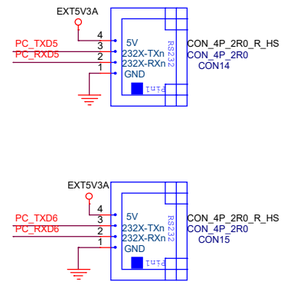
USB to UART(4CH)











NOTE: J11 IS SHORTED TO GROUND

NOTE: * NOT INSTALLED

- * TP7,J5,J11,TP1,TP3, R9,D9,JP25,TP5,TP6,R82
- * R60,R62,R65,R67,R70,R74,R76,R80,U2,R53,
- * JP26,R10,R1,R2,R3,R8,J6,J7,J8,J9

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MIPI_TX1/RX1_D3N 12
MIPI_TX1/RX1_D3P 12
MIPI_TX1/RX1_D2N 12
MIPI_TX1/RX1_D2P 12
MIPI_TX1/RX1_CLKN 12
MIPI_TX1/RX1_CLKP 12
MIPI_TX1/RX1_D1N 12
MIPI_TX1/RX1_D1P 12
MIPI_TX1/RX1_D0N 12
MIPI_TX1/RX1_D0P 12

I2C_SCL_CAM 14
I2C_SDA_CAM 14
DVP_PDN1_H 14

GPIO2_A1/CIF_D1 12
GPIO2_B3/CIF_CLKO 12
GPIO2_B4/DVP_PDN0_H 12

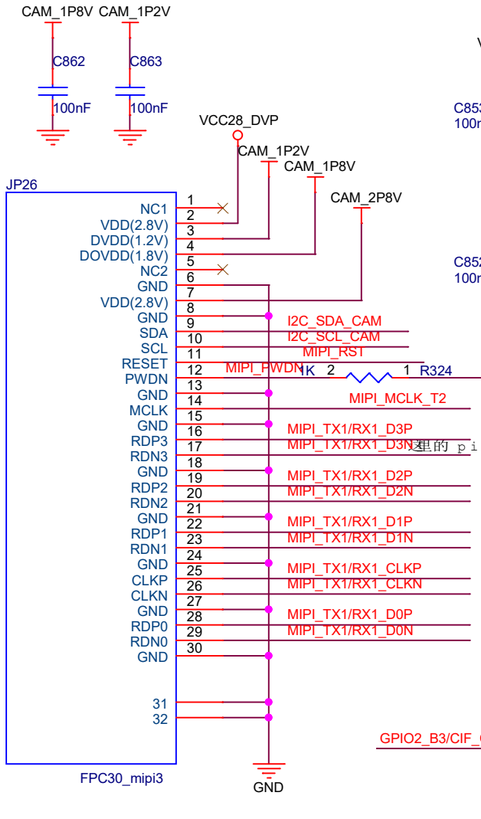
GPIO2_B1/CIF_HREF 12
GPIO2_B2/CIF_CLKI 12

3.0V GPIO 20170320

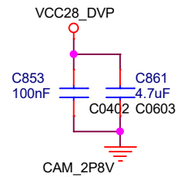
GPIO2_B0/CIF_VSYNC 28
GPIO2_A7/CIF_D7 28

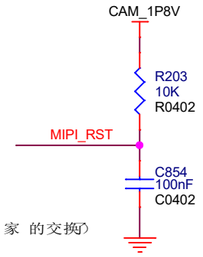
I2S_HDIN_LRCK_RX 22
I2S_HDIN_SCLK 22
I2S_HDIN_MCLK 22
I2S_HDIN_SDI 22

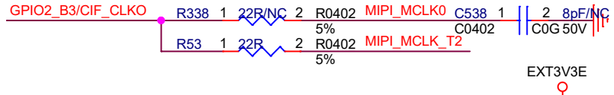
SPI1_CLK 14
SPI1_CSn0 14

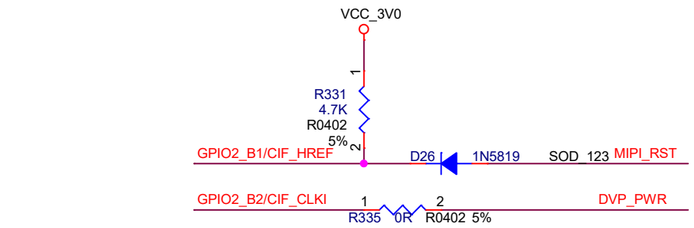


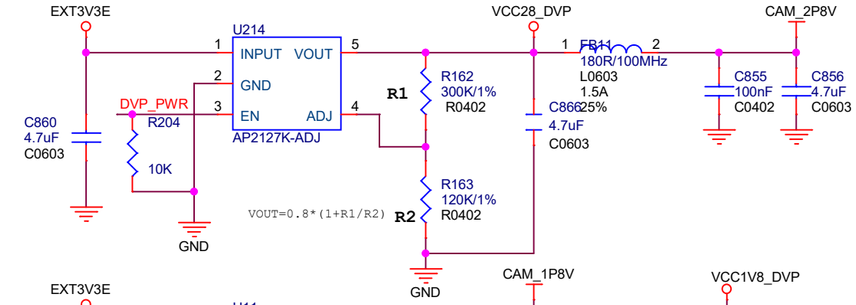
interface for MIPI Camera OV13850
RK3288最多支持1400w像素摄像头

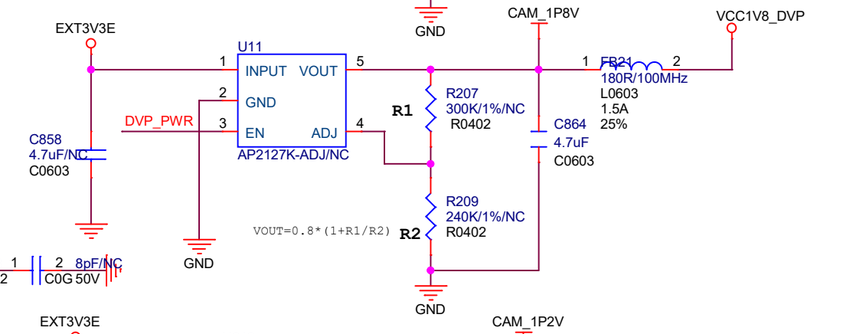


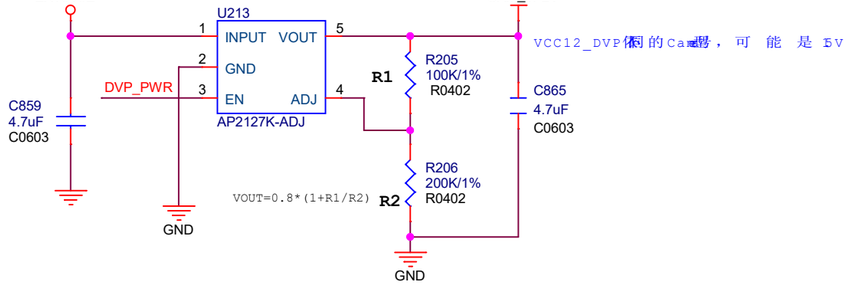












Smart Device Technology Co.,Ltd			
Design Name: IoT-3399E			
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HDMI IN

J89
HDMI/NC
HDMI_SOCKET_R_A_SMT_19PIN

HDMI_RX2+ 1 TX2P
HDMI_RX2- 3 TX2N
5 GND
HDMI_RX0+ 7 TX0P
HDMI_RX0- 9 TX0N
11 GND
HDMIIN_CEC 13 CEC
HDMIIN_DDC_SCL 15 SCL
17 GND
HDMIIN_HPD 19 HPD
20 21 GND
2 4 TX1P → HDMI_RX1+
6 TX1N → HDMI_RX1-
8 GND
10 TX1P → HDMI_RXC+
12 TXCN → HDMI_RXC-
14 NC
16 SDA → HDMIIN_DDC_SDA
18 5V → HDMIIN_5V
22 23 GND
Type-A

C7227
0.1uF
C0402

U60
ESD5304D
DNP

HDMI_RX2+ 1 IN1 OUT1 10 HDMI_RX2+
HDMI_RX2- 2 IN2 OUT2 9 HDMI_RX2-
HDMI_RX1+ 4 IN3 OUT3 7 HDMI_RX1+
HDMI_RX1- 5 IN4 OUT4 6 HDMI_RX1-
3 GND GND 8

U61
ESD5304D
DNP

HDMI_RX0+ 1 IN1 OUT1 10 HDMI_RX0+
HDMI_RX0- 2 IN2 OUT2 9 HDMI_RX0-
HDMI_RXC+ 4 IN3 OUT3 7 HDMI_RXC+
HDMI_RXC- 5 IN4 OUT4 6 HDMI_RXC-
3 GND GND 8

HDMIIN_CEC ED35 EGS04V12A30T ESD0402
HDMIIN_DDC_SCL ED34 EGS04V12A30T ESD0402
HDMIIN_DDC_SDA ED36 EGS04V12A30T ESD0402
HDMIIN_HPD ED33 EGS04V12A30T ESD0402

D32 1N5819 SOD_123 HDMIIN_5V
R742 4K7 R0402 HDMIIN_DDC_SDA R722 22R R0402 RX_SDA
R743 4K7 R0402 HDMIIN_DDC_SCL R723 22R R0402 RX_SCL
HDMIIN_5V R747 1K R0402 HDMIIN_HPD R746 22R R0402 RX_HPD

LT6911C

Y2303
27MHz
CRY4_3R20X2R50X0R80
C503021 C0402 2 15pF C0G 50V
C503011 C0402 2 15pF C0G 50V
XIN GND2
GND1XOUT
R9692 22R R0402 5%
R9693 1M R0402 5%
XTALO
XTALI

R9634 7K68_1%
REXT

U7009
LT6911C_U2

EPAD 65
VCC12D_RX 1 HDMI_RXC- 2 HDMI_RXC+ 3
CKN 4
CKP 5
VCC12A_RX 6 HDMI_RX0- 7 HDMI_RX0+ 8
D0N 9
D0P 10
VCC33_RX 11 HDMI_RX1- 12 HDMI_RX1+ 13
D1N 14
D1P 15
VCC12A_RX 16 HDMI_RX2- 17 HDMI_RX2+ 18
D2N 19
D2P 20
VCC12_PI 21
VCC12_RXPLL 22
VCC33_IO 23
VCC33_RX 24 RX_SDA 25 RX_SCL 26
DSDA 27
DSCL 28
NC 29
NC 30
SLEEP_33 31
RSTN 32
CSCL 33
CSDA 34
RX_HPD 35
VDD 36
VCC33_IO 37
GPIO5 38
IIS_WS 39
IIS_SCLK 40
IIS_MCLK 41
VDD 42
IIS_D0/SPDIF 43
VCC33_IO 44
VCC12_TX 45 VCC12_TX
VCC33_TXPLL 46 VCC33_TX
VCC12_TX2 47 VCC12_TX
VCC33_TX2 48 VCC33_TX
M3_N3 MIPI_N1_D3-
M3_P3 MIPI_N1_D3+
M2_N3 MIPI_N1_D2-
M2_P3 MIPI_N1_D2+
MCK_N3 MIPI_N1_CLK-
MCK_P3 MIPI_N1_CLK+
M1_N3 MIPI_N1_D1-
M1_P3 MIPI_N1_D1+
M0_N3 MIPI_N1_D0-
M0_P3 MIPI_N1_D0+
VCC12_TX3 VCC12_TX
VCC33_TX3 VCC33_TX
XTALI 64
XTALO 63
VCC33_RX 62
REXT 61
VDD 60
VCC12_TX0 59
M3_N1 58
M3_P1 57
M2_N1 56
M2_P1 55
MCK_N1 54
MCK_P1 53
M1_N1 52
M1_P1 51
M0_N1 50
M0_P1 49

P10 1 SLEEP_33
P11 1 I2C_SCL_HDMI_IN RSTN
P12 1 I2C_SDA_HDMI_IN CSCL
HDMIIN_INT CSDA
RX_HPD
GPIO5
IIS_WS
IIS_SCLK
IIS_MCLK
IIS_D0/SPDIF
VCC33_TX

If you don't use the function of IIS_MCLK, IIS_MCLK can be used as UART_TX, this pin can print log, the baud rate is 62500.

MIPI_N1_CLK+ R728 0R R0402 MIPI_RX0_CLKP
MIPI_N1_CLK- R729 0R R0402 MIPI_RX0_CLKN
MIPI_N1_D0+ R730 0R R0402 MIPI_RX0_D0P
MIPI_N1_D0- R731 0R R0402 MIPI_RX0_D0N
MIPI_N1_D1+ R732 0R R0402 MIPI_RX0_D1P
MIPI_N1_D1- R733 0R R0402 MIPI_RX0_D1N
MIPI_N1_D2+ R734 0R R0402 MIPI_RX0_D2P
MIPI_N1_D2- R735 0R R0402 MIPI_RX0_D2N
MIPI_N1_D3+ R736 0R R0402 MIPI_RX0_D3P
MIPI_N1_D3- R737 0R R0402 MIPI_RX0_D3N

IIS_SCLK R751 22R R0402 I2S_HDIN_SCLK
IIS_WS R752 22R R0402 I2S_HDIN_LRCK_RX
IIS_MCLK R754 22R R0402 I2S_HDIN_MCLK
IIS_D0/SPDIF R9694 22R R0402 I2S_HDIN_SDI

SPI1_CLK → SPI1_CLK 14
SPI1_CSn0 → SPI1_CSn0 14
SPI1_CLK 5% R4092 2 0R 1 R4090 HDMIIN_INT
SPI1_CSn0 5% R4091 2 0R 1 R4089 RSTN

VCC33_HDMIIN
R756 10K R0402
HDMIIN_INT
R757 NC R0402

MIPI_RX0_D3N → MIPI_RX0_D3N 12
MIPI_RX0_D3P → MIPI_RX0_D3P 12
MIPI_RX0_D2N → MIPI_RX0_D2N 12
MIPI_RX0_D2P → MIPI_RX0_D2P 12
MIPI_RX0_D1N → MIPI_RX0_D1N 12
MIPI_RX0_D1P → MIPI_RX0_D1P 12
MIPI_RX0_D0N → MIPI_RX0_D0N 12
MIPI_RX0_D0P → MIPI_RX0_D0P 12
MIPI_RX0_CLKN → MIPI_RX0_CLKN 12
MIPI_RX0_CLKP → MIPI_RX0_CLKP 12

GPIO2_A1/CIF_D1 → GPIO2_A1/CIF_D1 12
GPIO2_B3/CIF_CLKO → GPIO2_B3/CIF_CLKO 12
GPIO2_B4/DVP_PDN0_H → GPIO2_B4/DVP_PDN0_H 12

I2S_HDIN_LRCK_RX → I2S_HDIN_LRCK_RX 22
I2S_HDIN_SCLK → I2S_HDIN_SCLK 22
I2S_HDIN_MCLK → I2S_HDIN_MCLK 22
I2S_HDIN_SDI → I2S_HDIN_SDI 22

GPIO2_A7/CIF_D7 R4091 1 2 33R I2C_SDA_HDMI_IN
GPIO2_B0/CIF_VSYNC R4092 1 2 33R I2C_SCL_HDMI_IN

GPIO2_B0/CIF_VSYNC → GPIO2_B0/CIF_VSYNC 28
GPIO2_A7/CIF_D7 → GPIO2_A7/CIF_D7 28

VCC33_TX: 10uF C50263, 0.1uF C50262, 0.1uF C50267, 0.1uF C50268, 0.1uF C50264, 0.1uF C50266, 0.1uF C50265
VCC33_RX: 10uF C50271, 1uF C50272, 0.1uF C50270, 0.1uF C50269
VDD: 10uF C50274, 1uF C50275, 0.1uF C50273, 0.1uF C50276, 0.1uF C50277
VCC12D_RX: 10uF C50287, 1uF C50288, 0.1uF C50286
VCC12A_RX: 10uF C50284, 1uF C50285, 0.1uF C50283, 0.1uF C50289, 0.1uF C50290
VCC12_TX: 1uF C50279, 0.1uF C50278, 0.1uF C50280, 0.1uF C50281, 0.1uF C50282

USB_HOST_5V
U62
1 IN FB/OUT 5
2 GND
3 SHDN BP 4
PT5108E23E-33
SOT23-5
C7229 4.7uF C0603
C7231 NC C0402
C7228 4.7uF C0603
C7240 0.1uF C0402
C7230 NC C0402
FB30 220R/100MHz → VCC33_TX
FB31 220R/100MHz → VCC33_RX
HDMIIN_PWREN R739 10K R0402

VCC33_HDMIIN
C50031 4.7uF C0603
R741 10K R0402
U4011
1 INPUT VOUT 5
2 GND
3 EN ADJ 4
TPL740ADJ
VOUT=0.8*(1+R1/R2)
R1 R4088 100K-1% R0402
R2 R4087 200K-1% R0402
GND
VDD12_HDMIIN
C7236 4.7uF C0603
C7244 0.1uF C0402
FB32 220R/100MHz → VDD
FB33 220R/100MHz → VCC12_TX
FB34 220R/100MHz → VCC12A_RX
FB6 220R/100MHz → VCC12D_RX

EXT3V3E
R333 4.7K/NC R0402 5%
GPIO2_B4/DVP_PDN0_H
2 5% 0R R334 HDMIIN_PWREN
R340 10K 5% R0402

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Size C	Document Number <Doc>	Rev <RevCode>
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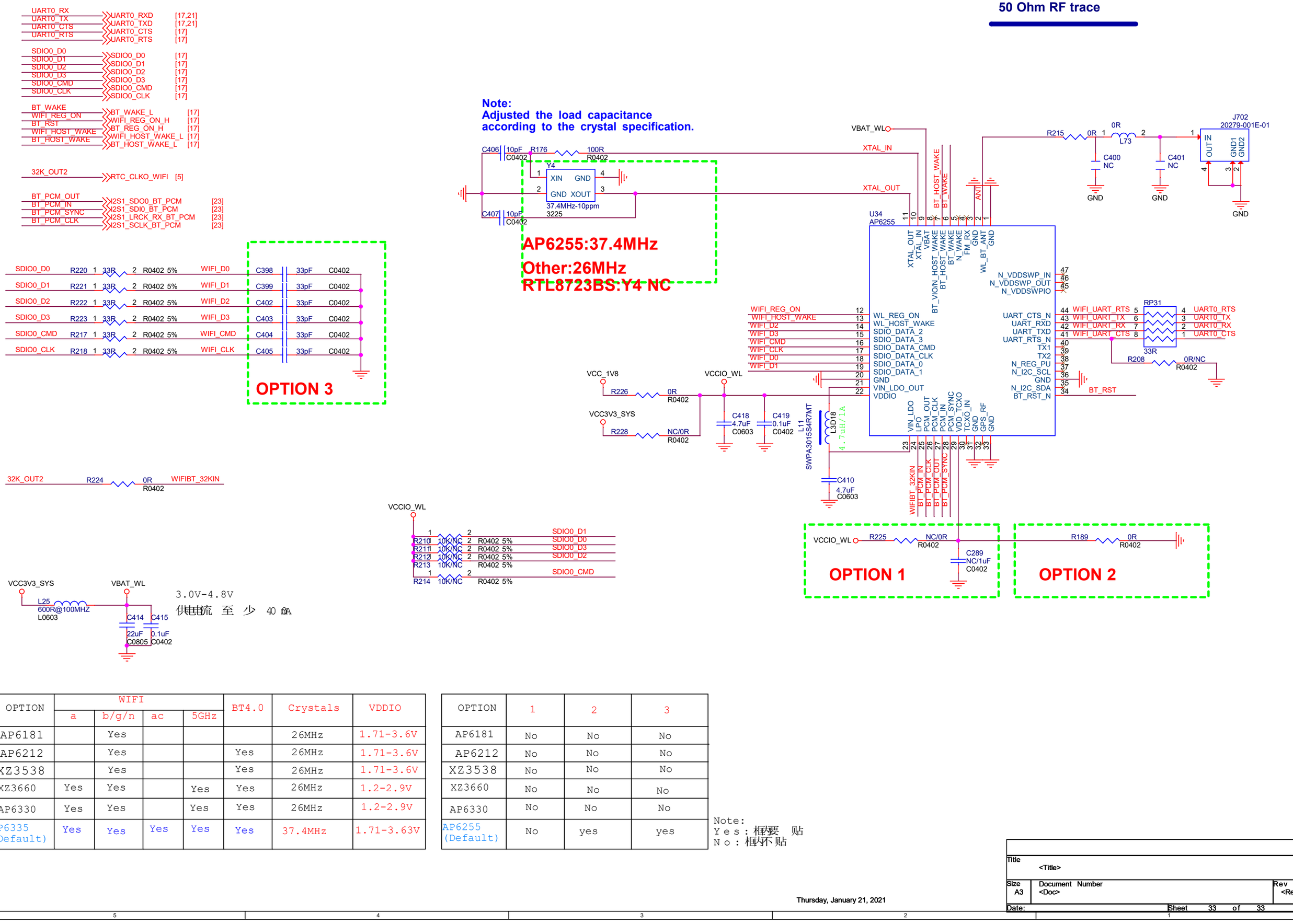

OPTION	WIFI				BT4.0	Crystals	VDDIO
	a	b/g/n	ac	5GHz			
AP6181		Yes				26MHz	1.71-3.6V
AP6212		Yes			Yes	26MHz	1.71-3.6V
XZ3538		Yes			Yes	26MHz	1.71-3.6V
XZ3660	Yes	Yes		Yes	Yes	26MHz	1.2-2.9V
AP6330	Yes	Yes		Yes	Yes	26MHz	1.2-2.9V
AP6335 (Default)	Yes	Yes	Yes	Yes	Yes	37.4MHz	1.71-3.63V

OPTION	1	2	3
AP6181	No	No	No
AP6212	No	No	No
XZ3538	No	No	No
XZ3660	No	No	No
AP6330	No	No	No
AP6255 (Default)	No	yes	yes

Note:
Yes：框要 贴
No：框勿不贴

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Size A3	Document Number <Doc>	Rev <RevCode>
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