ROCKPro64_V2.1

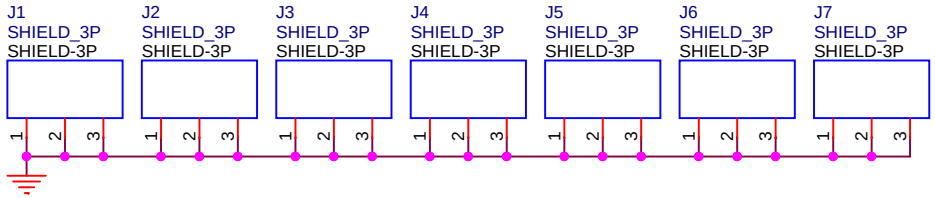
CONTENT INDEXING

Note：
1：If the Value or option of the component properties is DNP，indicating do not mounted

Note

Option

Description



PINE64		
Title: RockPro64_RK3399		
Size: A4	Document Number: Index	Rev: V2.0
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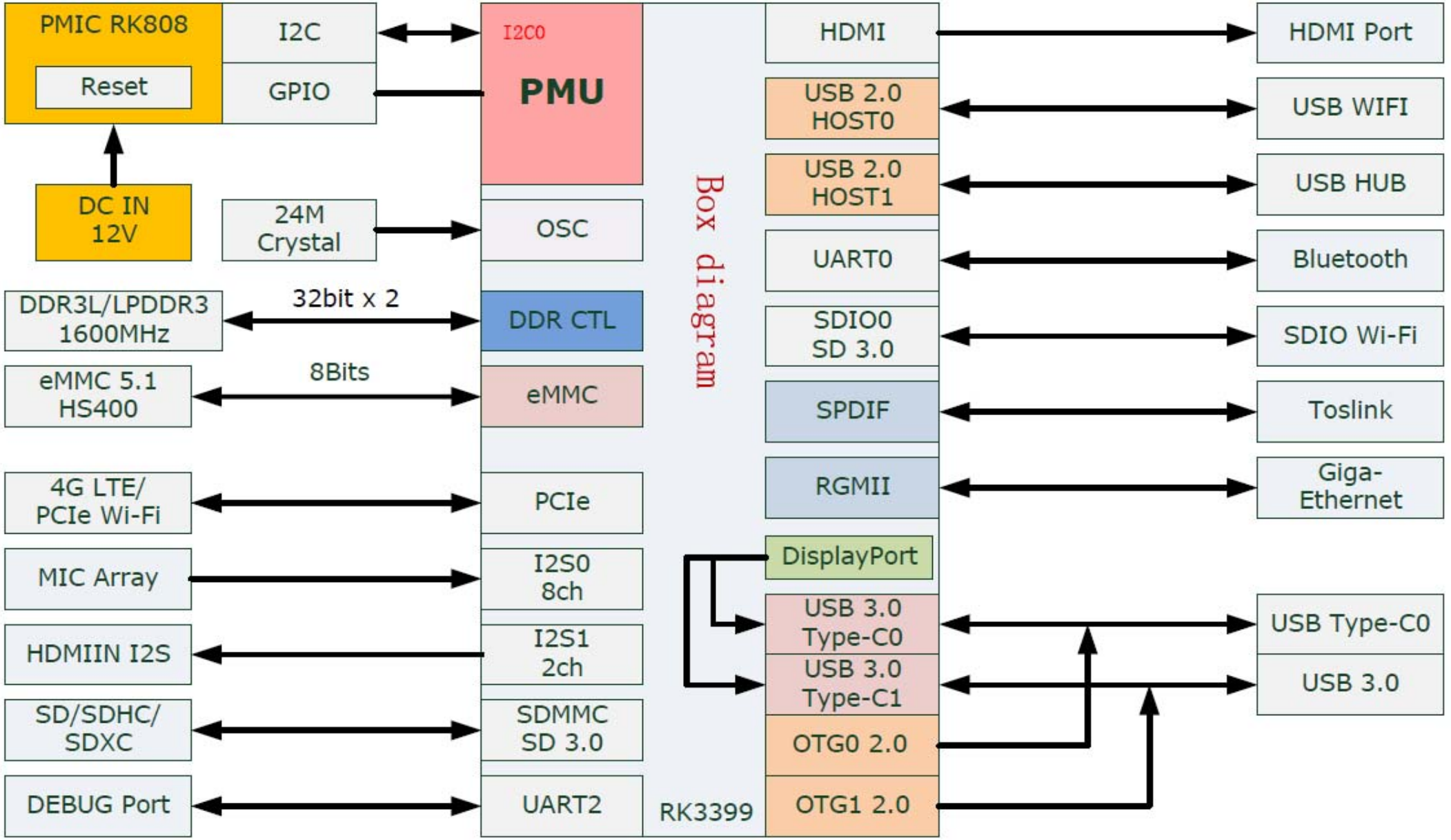
Block Diagram



PINE64		
Title: RockPro64_RK3399		
Size: A4	Document Number: Block Diagram	Rev: V2.0
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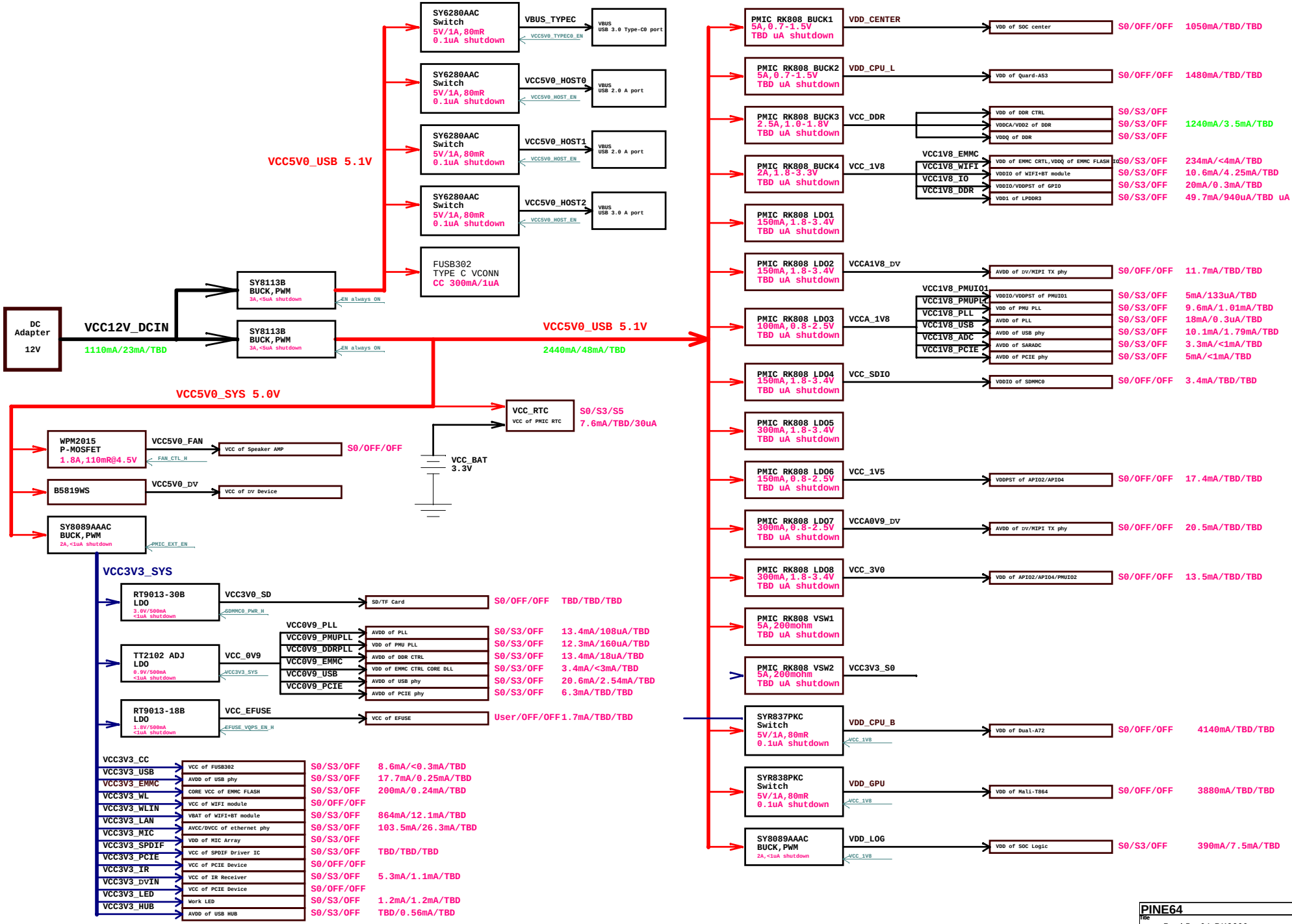
RK3399 POWER DIAGRAM



PINE64			
Title	RockPro64_RK3399		
Size A2	Document Number Power Tree		Rev V2.0
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RK3399 Power Domain Map

Part Port	Domain	Pin name in datasheet	I/O type	Power supply	Power source
Part C	PMUIO1	pmuio1_gpio0ab	1.8V only	VCC1V8_PMU	RK808 VLDO3
Part E	PMUIO2	pmu1830_gpio1abcd	1.8V(Default) 3.0V	VCC1V8_PMU	RK808 VLDO3
Part I	APIO1	gmac_gpio3abc	3.3V only	VCC1V8_IO VCC3V3_IO	RK808 Buck4 RK808 VSW2
Part L	APIO2	bt656_gpio2ab	1.8V(Default) 3.0V	VCC1V8_DVP	RK808 VLDO1
Part G	APIO3	wifi/bt_gpio2cd	1.8V only	VCC1V8_WIFI	RK808 Buck4
Part K	APIO4	gpio1830_gpio4cd	1.8V 3.0V(Default)	VCC_1V5 VCC3V0_IO	RK808 VLDO6 RK808 VLDO8
Part J	APIO5	audio_gpio3d_gpio4a	1.8V(Default) 3.0V	VCCA1V8_CODEC	RK808 VLDO7
Part F	SDMMC0	sdmmc_gpio4b	1.8V 3.0V(Default)	VCC_SDIO	RK808 VLDO4

PINE64		
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I2C MAP

Port	Pin name	Domain	Bus name	Pull-up voltage	Slave Device	Slave Addr (MS 7Bits)	Note	Slave Bus Capability
I2C0	GPIO1_B7/SPI3_RXD/I2C0_SDA GPIO1_C0/SPI3_TXD/I2C0_SCL	PMUIO2	I2C_SDA_PMIC I2C_SCL_PMIC	VCC_1V8	Rockchip RK808	0x1b	PMIC	100kHz,400KHz
					SYR837PKC	0x40	DC-DC BUCK	100kHz,400KHz,3.4MHz
					SYR838PKC	0x41	DC-DC BUCK	100kHz,400KHz,3.4MHz
I2C1	GPIO4_A1/I2C1_SDA GPIO4_A2/I2C1_SCL	APIO5	I2C_SDA_VIDEO I2C_SCL_VIDEO	VCC_1V8	TC358749XBG		DV Transmit	
I2C2	GPIO2_A0/VOP_D0/CIF_D0/I2C2_SDA GPIO2_A1/VOP_D1/CIF_D1/I2C2_SCL	APIO2	RESERVE					
I2C3	GPIO4_C0/I2C3_SDA/UART2B_RX GPIO4_C1/I2C3_SCL/UART2B_TX	APIO4	I2C_SDA_DV I2C_SCL_DV	VCC_3V0				
I2C4	GPIO1_B3/I2C4_SDA GPIO1_B4/I2C4_SCL	PMUIO2	I2C_SDA_MEMS I2C_SCL_MEMS	VCC_1V8	Fairchild FUSB302B	0x44,0x46	USB-TypeC Mux	100kHz,400KHz,1MHz
I2C5	GPIO3_B2/MAC_RXER/I2C5_SDA GPIO3_B3/MAC_CLK/I2C5_SCL	APIO1	Other pin function					
I2C6	GPIO2_B1/SPI2_RXD/CIF_HREF/I2C6_SDA GPIO2_B2/SPI2_TXD/CIF_CLKIN/I2C6_SCL	APIO2	RESERVE					
I2C7	GPIO2_A7/VOP_D7/CIF_D7/I2C7_SDA GPIO2_B0/VOP_CLK/CIF_VSYNC/I2C7_SCL	APIO2	RESERVE					

PINE64		
Title: RockPro64_RK3399		
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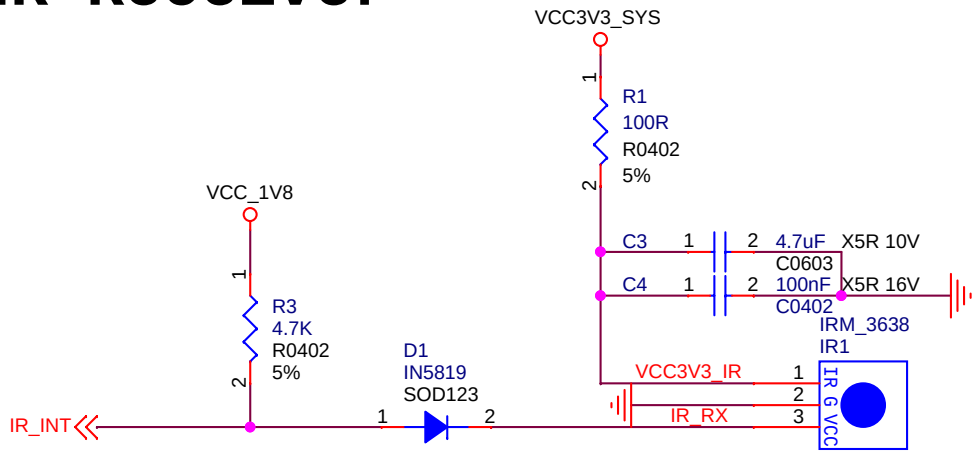
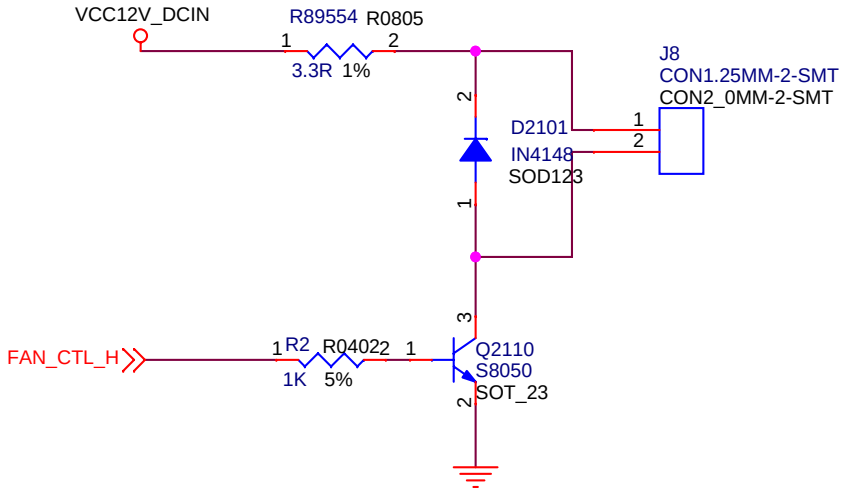
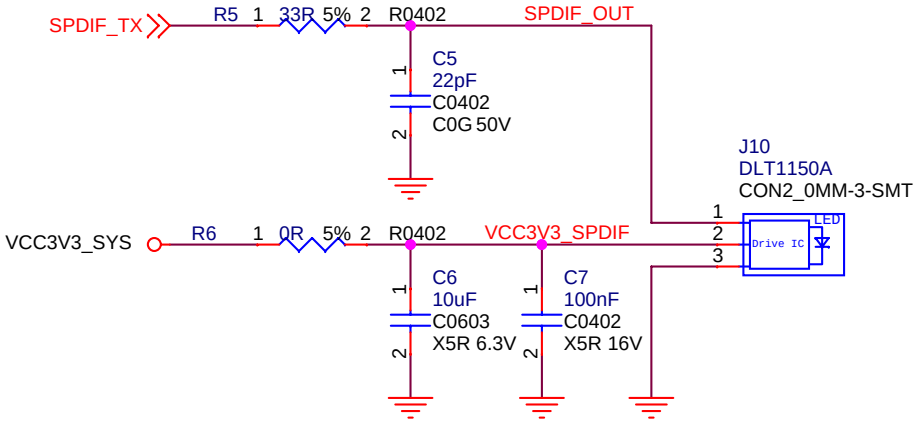
IR Receiver



HEATSINK/FAN (option)

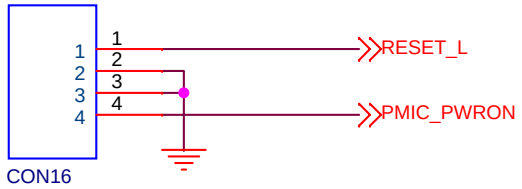


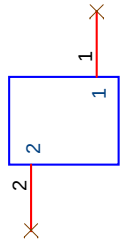
SPDIF OUT



预留复位，开机键扩展连接座

XH_2.5mm/NC





PINE64		
Title: RockPro64_RK3399		
Size: Custom	Document Number: IR SPDIF	Rev: V2.0
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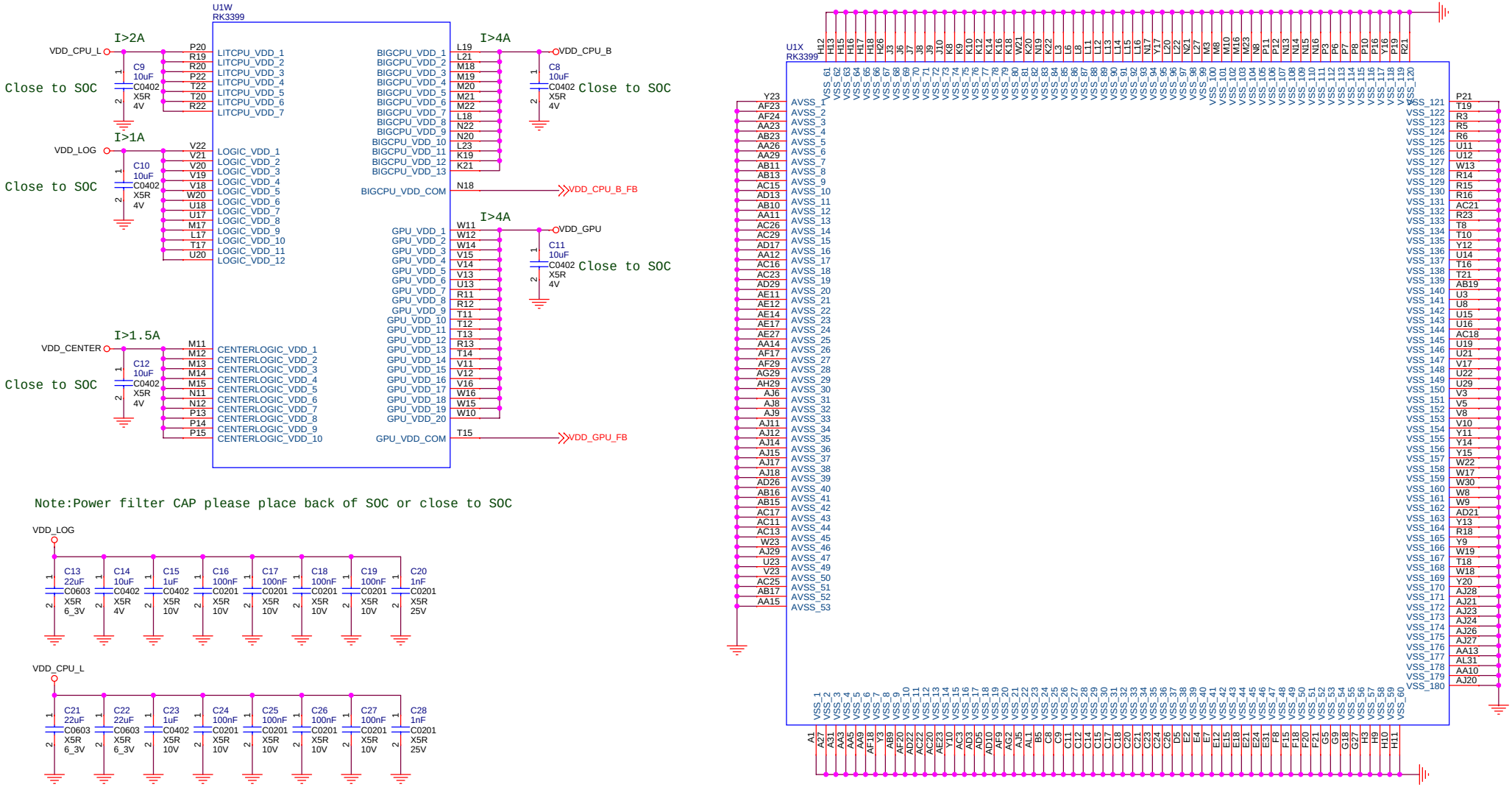

PINE64		
Title	RockPro64_RK3399	
Size: A3	Document Number: Rk3399 Power	Rev: V2.0
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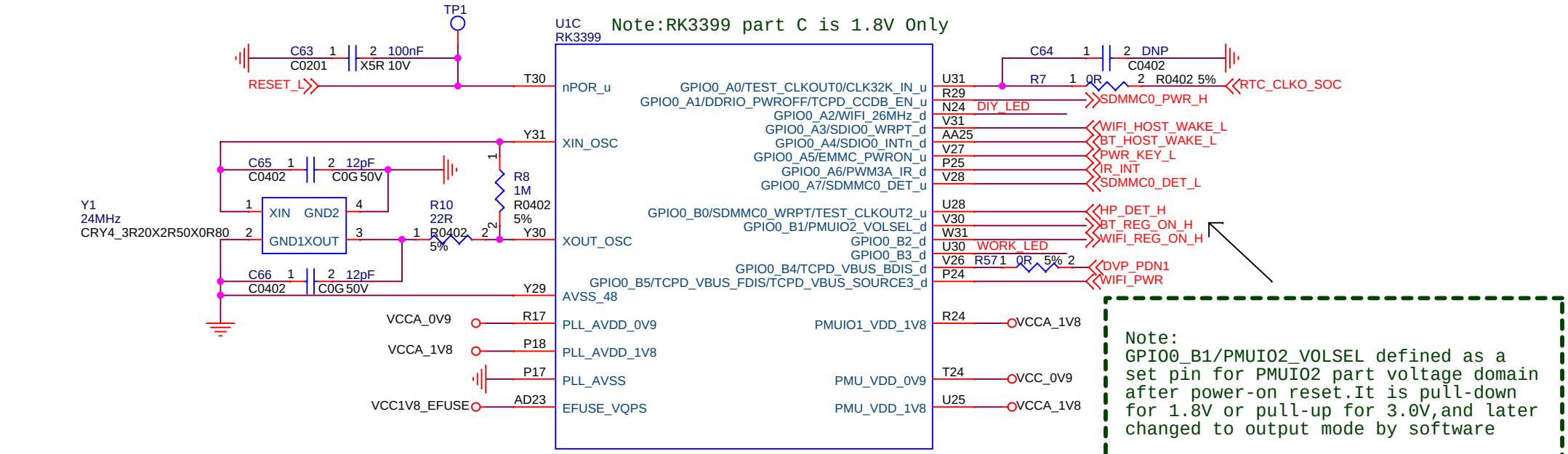
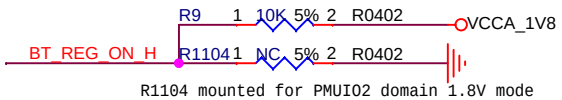


Note:
GPIO0_B1/PMUIO2_VOLSEL defined as a set pin for PMUIO2 part voltage domain after power-on reset.It is pull-down for 1.8V or pull-up for 3.0V,and later changed to output mode by software

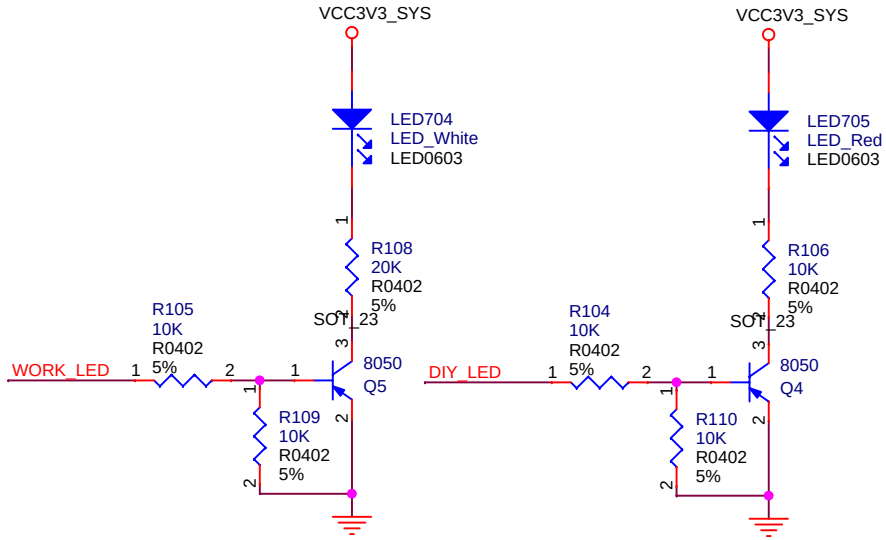
R1103 mounted for PMUIO2 domain 3.0V mode

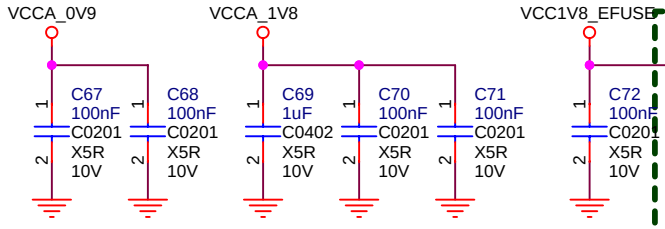


R1104 mounted for PMUIO2 domain 1.8V mode

Cristal selection requirements:
1.Nominal Frequency is 24MHz;
2.Frequency tolerance is +/-20ppm;
3.Operating Temperature range is -20~70℃;
4.Equivalent resistance < 60ohm;

LED





Note:
R1104 must always be mounted

PINE64		
Title: RockPro64_RK3399		
Size: A4	Document Number: RK3399 PMU Controler	Rev: V2.0
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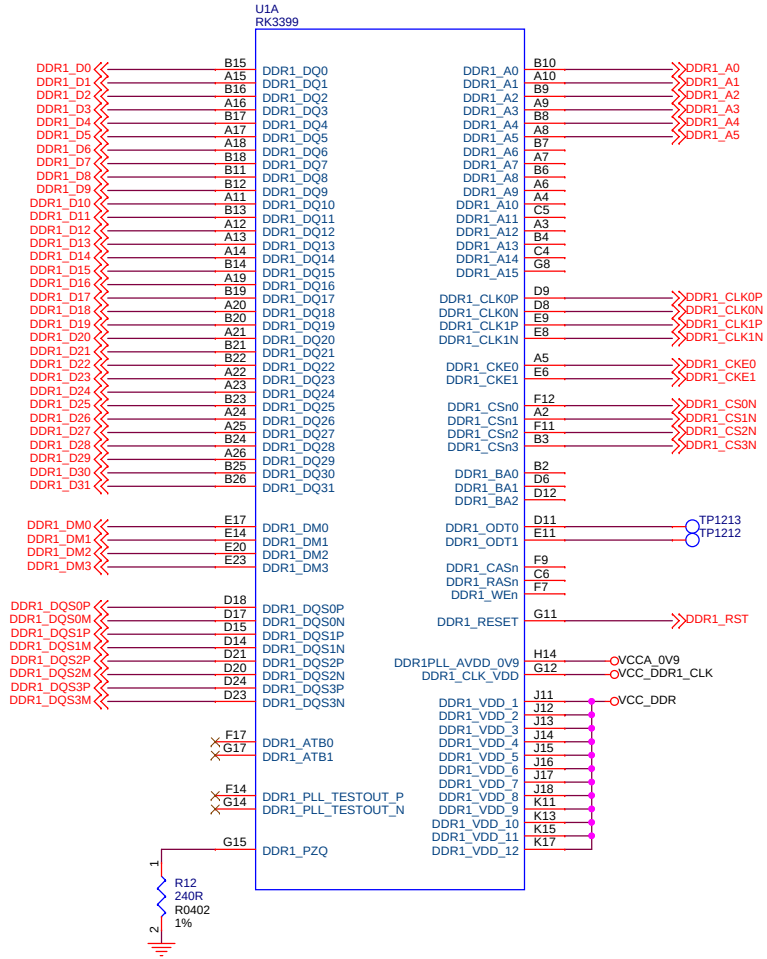
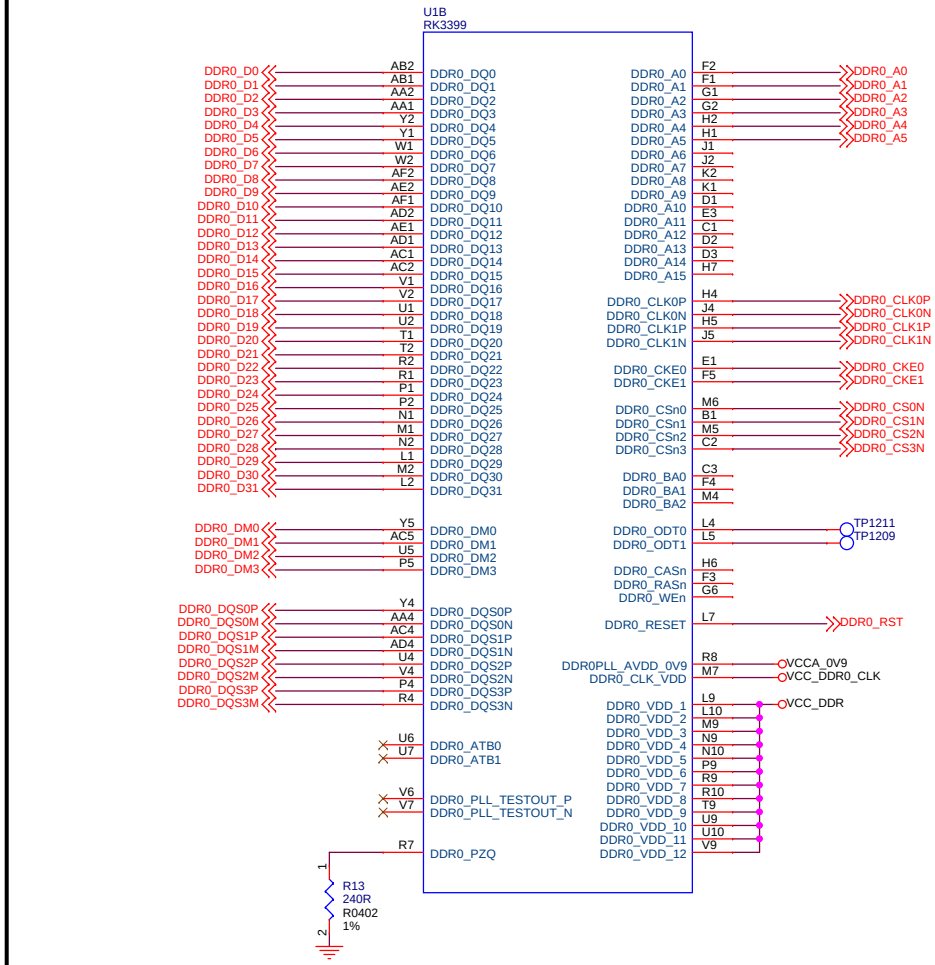
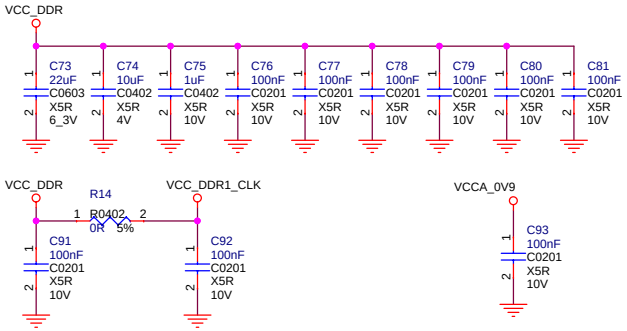
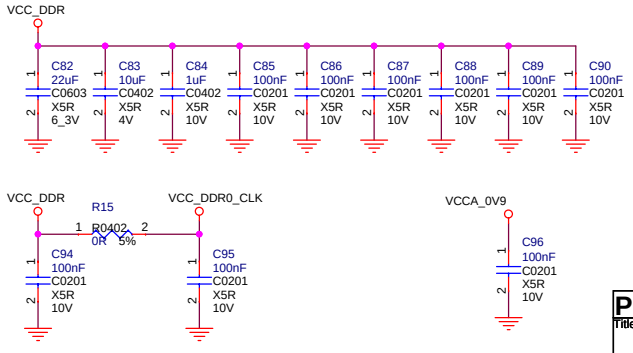




DDR FILTER Note:R1202 cannot be deleted



DDR FILTER Note:R1203 cannot be deleted



PINE64		
Title	RockPro64_RK3399	
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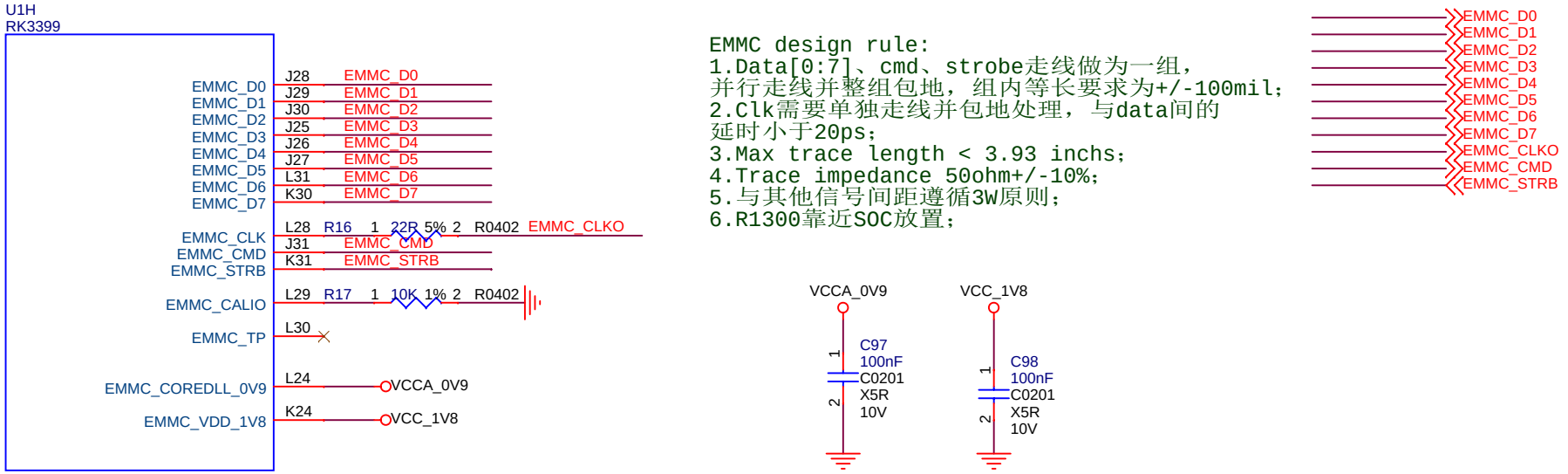

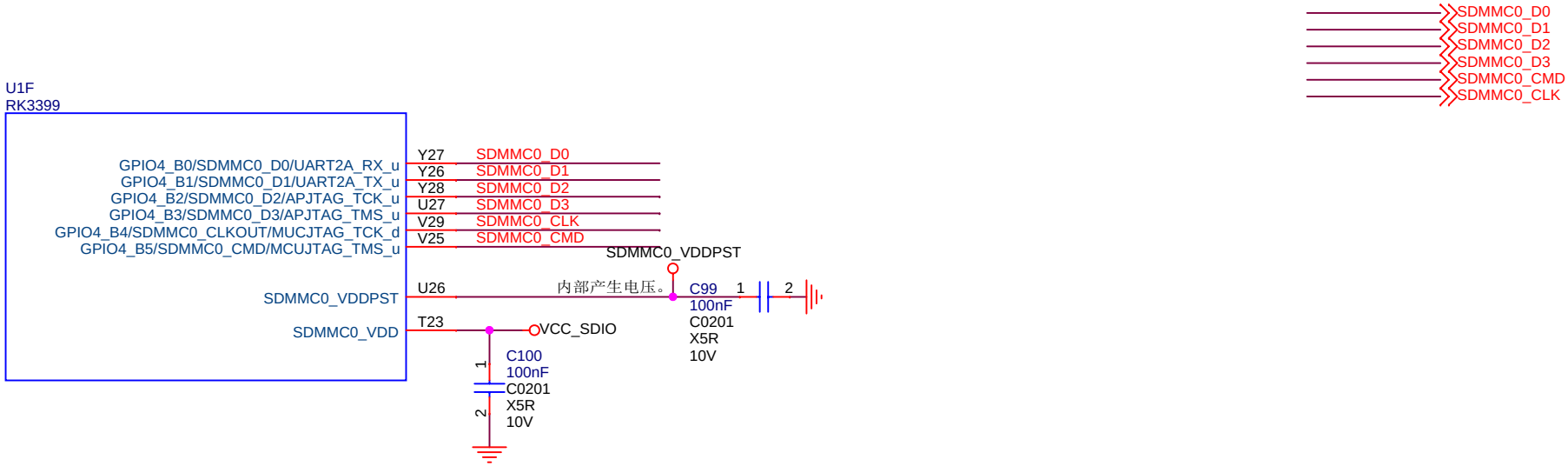

PINE64		
Title: RockPro64_RK3399		
Size: A4	Document Number: RK3399 FLASH&SDMMC	Rev: V2.0
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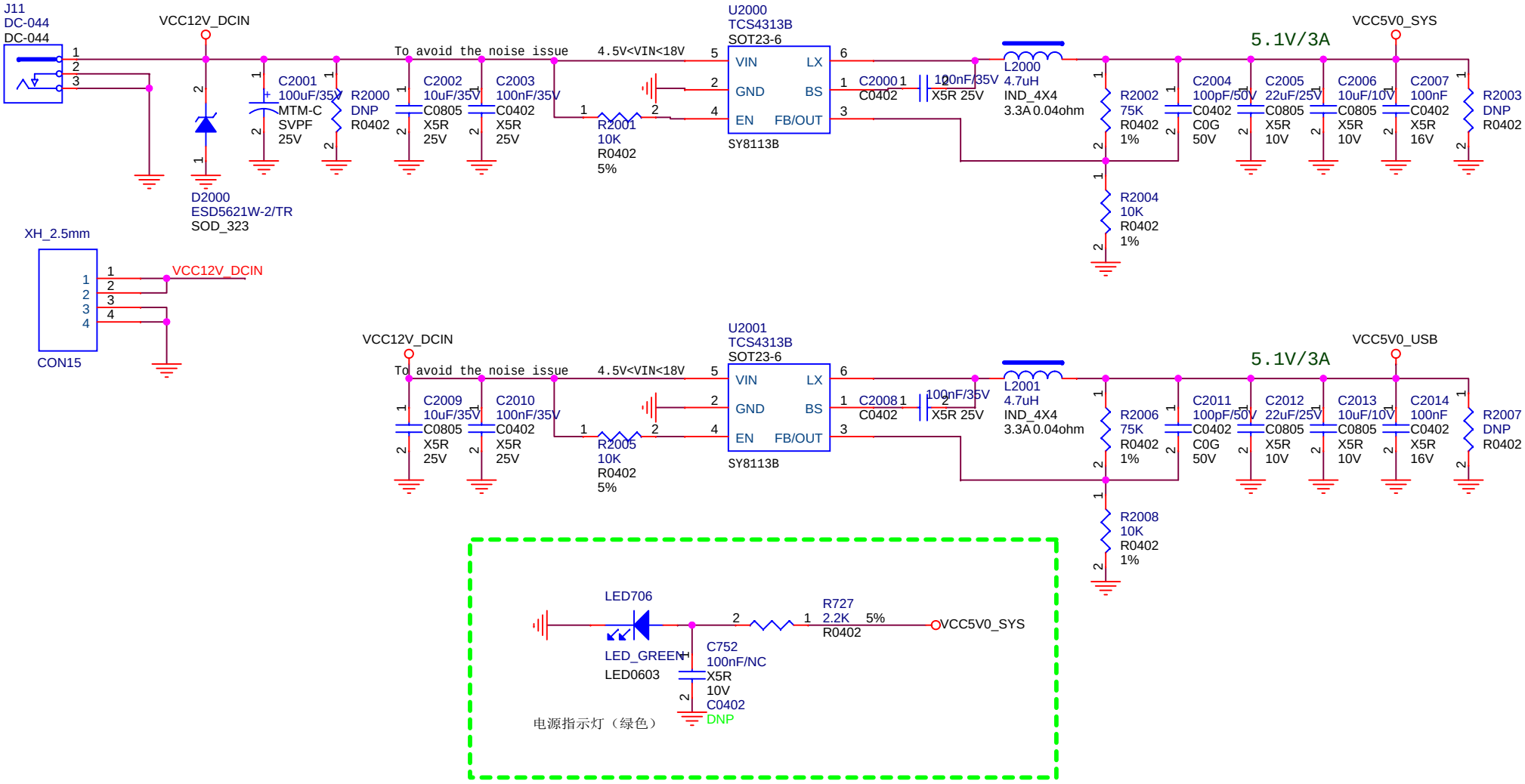
DC IN&SYSTEM Power



PINE64		
Title	RockPro64_RK3399	
Size: A4	Document Number: RK3399 USB/USIC Controler	Rev: V2.0
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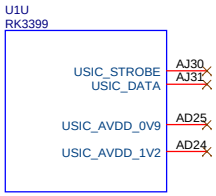
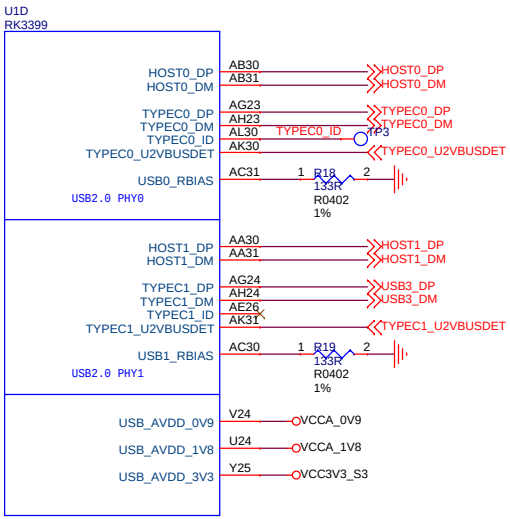
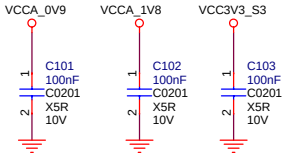


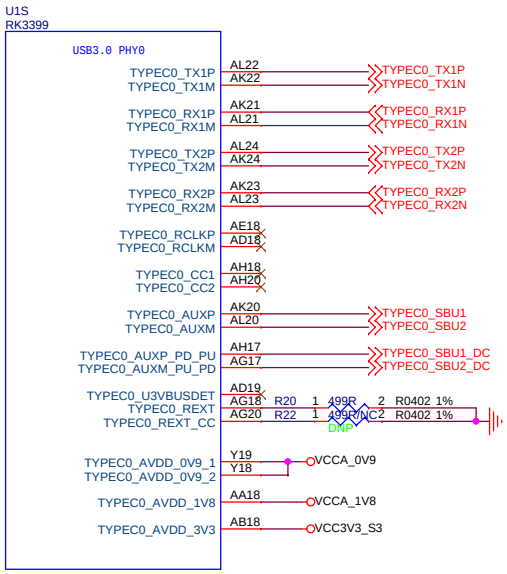
USB2.0

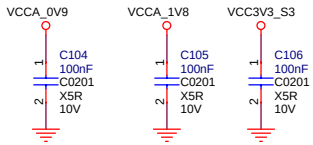




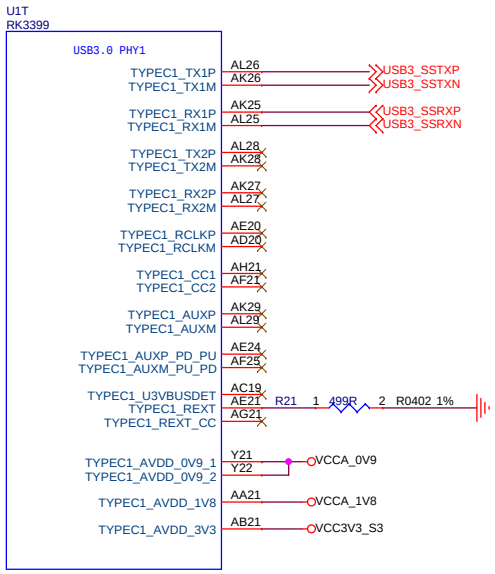
USB2.0 design rule:
1.Max intra-pair skew < 4 ps;
2.Max trace length < 6 inchs;
3.Max allowed via < 6;
4.Trace impedance 90ohm+/-10%;
5.与其他信号间距遵循3W原则;

USB3.0





USB3.0 design rule:
1.Max intra-pair skew < 4 ps;
2.Max length skew between TX and RX < 1.6 ns;
3.Max trace length < 6 inchs;
4.Max allowed via < 4;
5.Trace impedance 90ohm+/-10%;
6.与其他信号间距遵循3W原则;



DP design rule:
1.Max intra-pair skew < 4 ps;
2.Max trace length < 6 inchs;
3.Max allowed via < 4;
4.Trace impedance 90ohm+/-10%;
5.与其他信号间距遵循3W原则;

PINE64		
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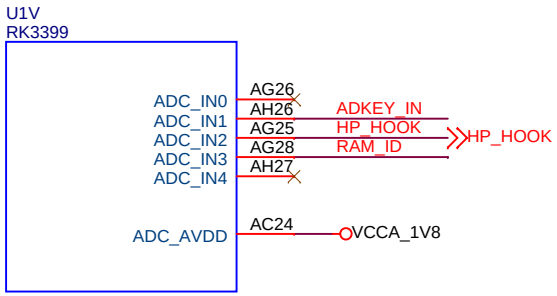
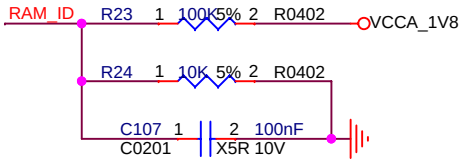
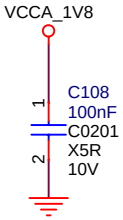


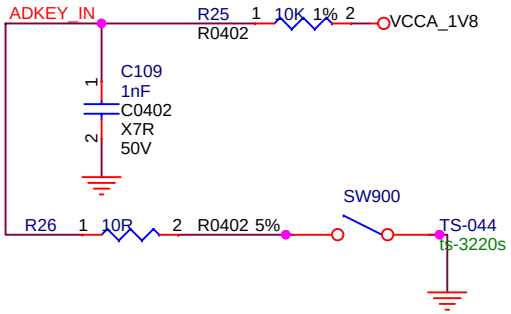




	RAM ID	R1501 PU	R1502 PD
DDR3/DDR3L	0.6V	200K	100K
LPDDR3	0.112V	150K	10K
LPDDR4	1.5V	100K	499K

调试升级按键

Note:
系统上电时，如果ADKEY_IN电平为0V，
则RK3399进入Recovery模式；



PINE64

Title	RockPro64_RK3399	
Size: A4	Document Number: RK3399 SARADC/KEY	Rev: V2.0
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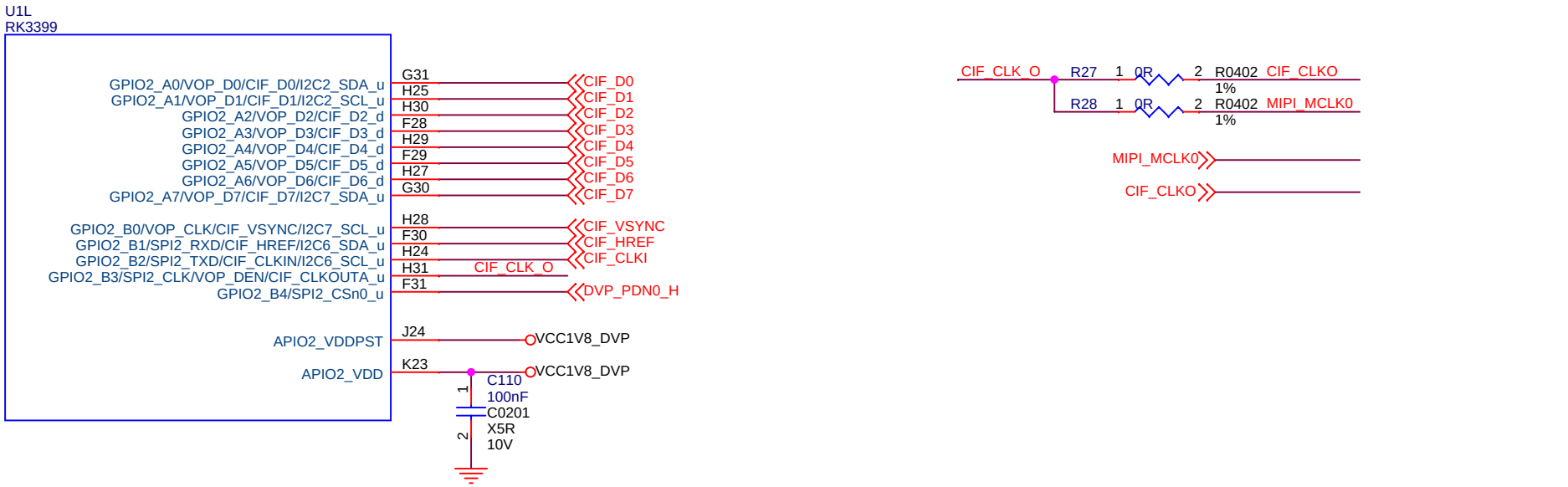

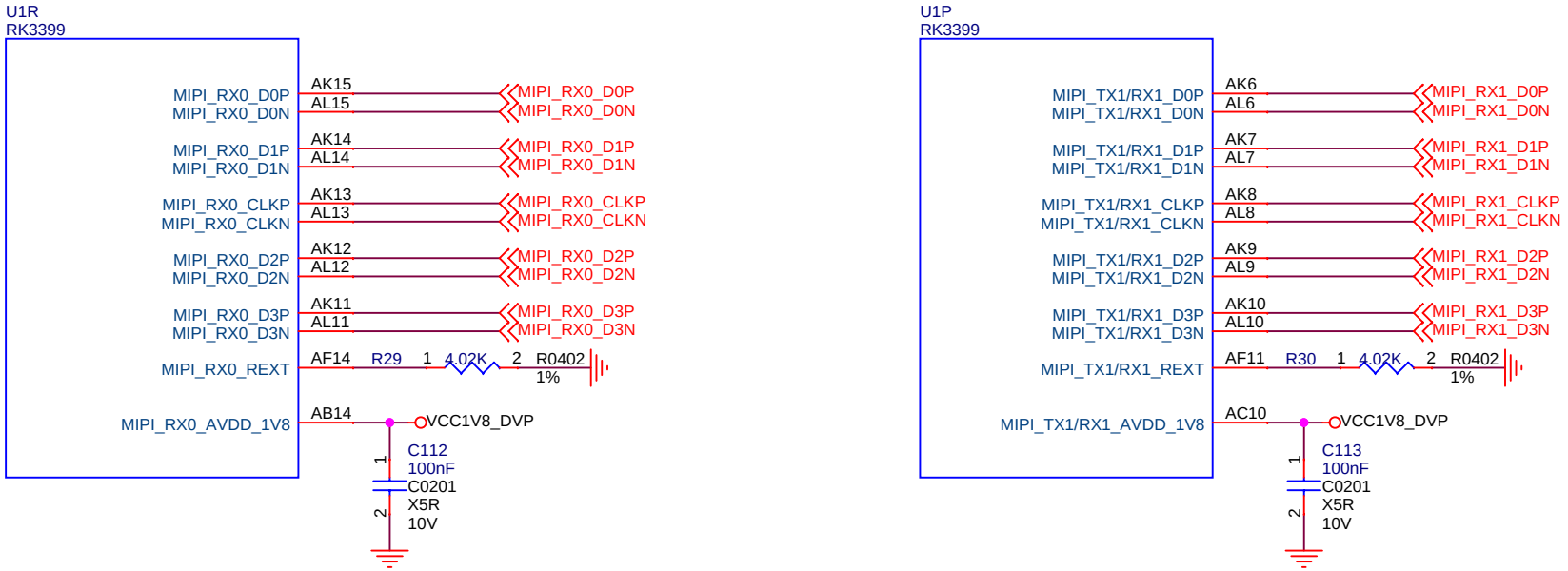

PINE64		
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Size: A4	Document Number: RK3399 DVP Interface	Rev: V2.0
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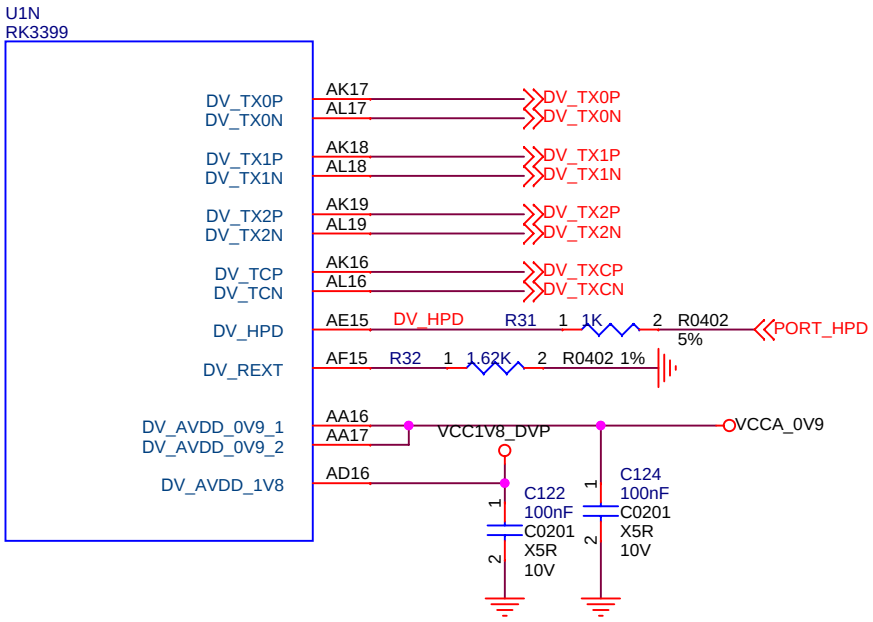
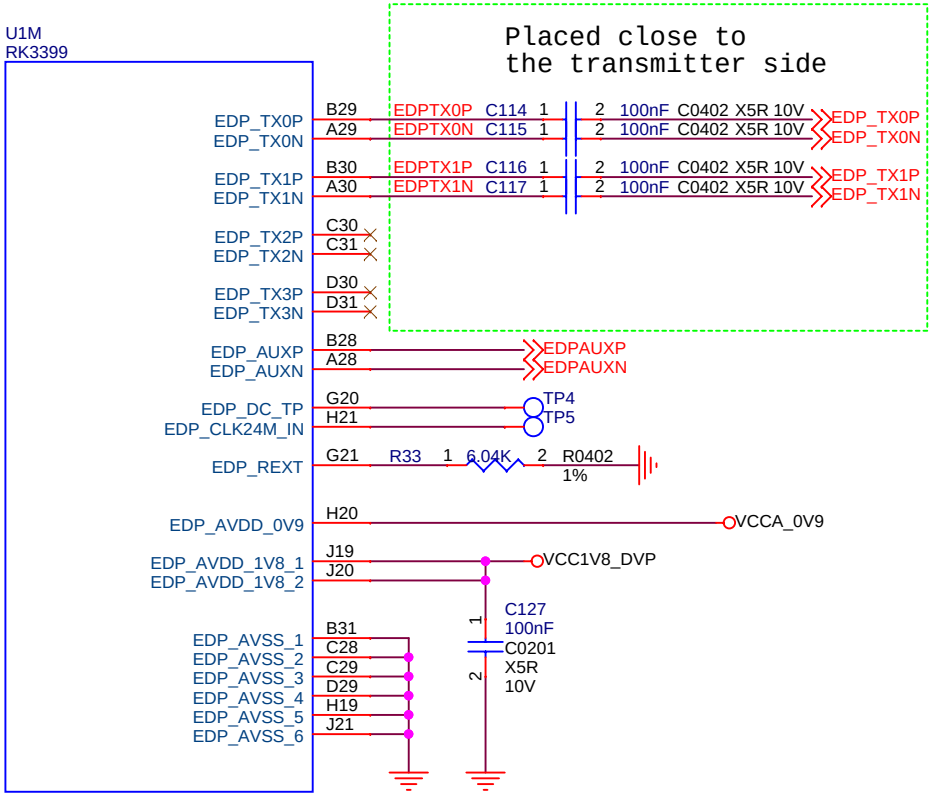
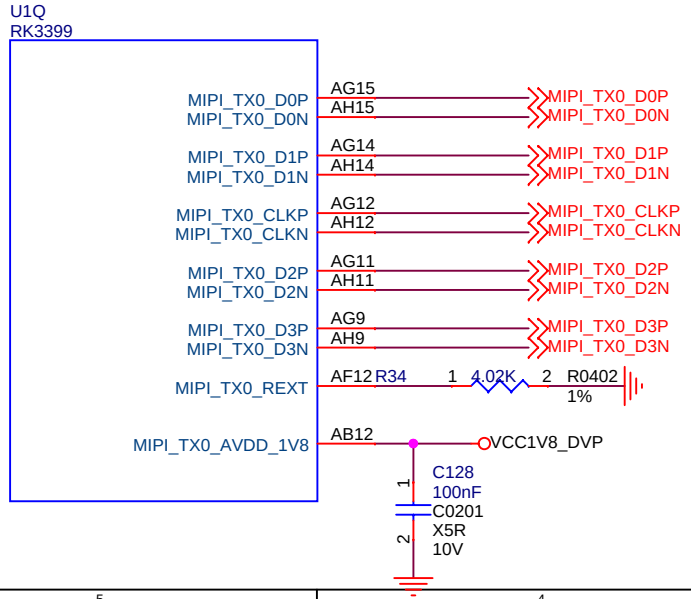


Digital Video design rule:
1.Max intra-pair skew < 4 ps;
2.Max length skew between clk and data < 80 ps;
3.Max trace length < 9.8 inchs;
4.Max allowed via < 4;
5.Trace impedance 100ohm+/-10%;
6.与其他信号间距遵循3W原则;



eDP design rule:
1.Max intra-pair skew < 4 ps;
2.Max trace length < 6 inchs;
3.Max allowed via < 4;
4.Trace impedance 90ohm+/-10%;
5.与其他信号间距遵循3W原则;



MIPI design rule:
1.Max intra-pair skew < 4 ps;
2.Max length skew between clk and data < 7ps;
3.Max trace length < 7.2 inchs;
4.Max allowed via < 4;
5.Trace impedance 100ohm+/-10%;
6.与其他信号间距遵循3W原则;

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U1I RK3399

Note:RK3399 part I is 3.3V only

GPIO3_A0/MAC_TXD2/SPI4_RXD_d F24 MAC_TXD2 R37 22R 5% R0402 PHY_TXD2
GPIO3_A1/MAC_TXD3/SPI4_TXD_d H23 MAC_TXD3 R35 22R 5% R0402 PHY_TXD3
GPIO3_A2/MAC_RXD2/SPI4_CLK_u E30 MAC_RXD2
GPIO3_A3/MAC_RXD3/SPI4_CSn0_u E25 MAC_RXD3
GPIO3_A4/MAC_TXD0/SPI0_RXD_d D26 MAC_TXD0 R38 22R 5% R0402 PHY_TXD0
GPIO3_A5/MAC_TXD1/SPI0_TXD_d G23 MAC_TXD1 R36 22R 5% R0402 PHY_TXD1
GPIO3_A6/MAC_RXD0/SPI0_CLK_u E26 MAC_RXD0
GPIO3_A7/MAC_RXD1/SPI0_CSn0_u F27 MAC_RXD1

GPIO3_B0/MAC_MDC/SPI0_CSn1_u E29 MAC_MDC
GPIO3_B1/MAC_RXDV_d C27 MAC_RXDV
GPIO3_B2/MAC_RXER/I2C5_SDA_u F23 PMIC_INT_L
GPIO3_B3/MAC_CLK/I2C5_SCL_u G24 R39 22R 5% R0402 MAC_CLK
GPIO3_B4/MAC_TXEN/UART1_RX_u H22 MAC_TXEN R40 22R 5% R0402 PHY_TXEN
GPIO3_B5/MAC_MDIO/UART1_TX_u G26 MAC_MDIO
GPIO3_B6/MAC_RXCLK/UART3_RX_u F25 MAC_RXCLK
GPIO3_B7/MAC_CRS/CIF_CLKOUTB/UART3_TX_u B27 PHY_RST

D27
GPIO3_C0/MAC_COL/UART3_CTSn/SPDIF_TX_u E28 MAC_TXCLK R41 22R 5% R0402 SPDIF_TX
GPIO3_C1/MAC_TXCLK/UART3_RTSn_u PHY_TXCLK

Note:PMU终断GPIO1_C5更改至此

C129 DNP C0402

APIO1_VDDPST J22 VCC_1V8
APIO1_VDD J23 VCCIO_PHY

VCCIO_PHY C130 100nF C0201 X5R 10V
VCC_1V8 C131 100nF C0201 X5R 10V

U1E RK3399

Note:RK3399 part E is 1.8V/3.0V mode

GPIO1_A0/ISP0_SHUTTER_EN/ISP1_SHUTTER_EN/TCPD_VBUS_SINK_EN_d R25 LCD_EN
GPIO1_A1/ISP0_SHUTTER_TRIG/ISP1_SHUTTER_TRIG/TCPD_CC0_VCONN_EN_d T31 CPU_GPIO1_A1
GPIO1_A2/ISP0_FLASHTRIGIN/ISP1_FLASHTRIGIN/TCPD_CC1_VCONN_EN_d R26 TYPEC0_CC_INT_L
GPIO1_A3/ISP0_FLASHTRIGOUT/ISP1_FLASHTRIGOUT_d R27 VCC5V0_TYPEC0_EN
GPIO1_A4/ISP0_PRELIGHT_TRIG/ISP1_PRELIGHT_TRIG_d R28 CPU_GPIO1_A4
GPIO1_A5/AP_PWROFF_d R30 PMIC_SLEEP_H
GPIO1_A6/TSADC_INT_z P26 OTP_OUT_H
GPIO1_A7/SPI1_RXD/UART4_RX_u P27 SPI_RXD_M2

GPIO1_B0/SPI1_TXD/UART4_TX_u R31 SPI_TXD_M2
GPIO1_B1/SPI1_CLK/PMCU_JTAG_TCK_u P28 SPI_CLK_M2
GPIO1_B2/SPI1_CSn0/PMCU_JTAG_TMS_u P29 SPI_CSN0_M2
GPIO1_B3/I2C4_SDA_u P31 I2C4_SDA
GPIO1_B4/I2C4_SCL_u P30 I2C4_SCL
GPIO1_B5_d M24 CPU_GPIO1_B5
GPIO1_B6/PWM3B_IR_d M25 GPU_SLEEP_H
GPIO1_B7/SPI3_RXD/I2C0_SDA_u M26 I2C0_SDA_PMIC

GPIO1_C0/SPI3_TXD/I2C0_SCL_u N30 I2C0_SCL_PMIC
GPIO1_C1/SPI3_CLK_d M27 CPU_B_SLEEP_H
GPIO1_C2/SPI3_CSn0_u N31 CPU_GPIO1_C2
GPIO1_C3/PWM2_d M28 LOG_DVS_PWM
GPIO1_C4/I2C8_SDA_u M29 I2C8_SDA
GPIO1_C5/I2C8_SCL_u M30 I2C8_SCL
GPIO1_C6/TCPD_VBUS_SOURCE0_d L25 CPU_GPIO1_C6
GPIO1_C7/TCPD_VBUS_SOURCE1_d M31 DVP_PWR

GPIO1_D0/TCPD_VBUS_SOURCE2_d L26 PCIE_PWR

DFTJTAG_TMS_u AA24
DFTJTAG_TRSTn_d AB24

PMUIO2_VDDPST N23 VCC_1V5
PMUIO2_VDD P23 VCC_3V0

R2018 10K

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_1V5 C132 100nF C0201 X5R 10V
VCC_3V0 C133 100nF C0201 X5R 10V

I2C0_SDA_PMIC R42 2.2K 5% R0402 VCC_3V0
I2C0_SCL_PMIC R43 2.2K 5% R0402
I2C4_SDA R44 2.2K 5% R0402 VCC_3V0
I2C4_SCL R45 2.2K 5% R0402
I2C4_SDA R46 0R 5% R0402 I2C4_SDA_TYPEC
I2C4_SCL R47 0R 5% R0402 I2C4_SCL_TYPEC
I2C4_SDA R48 0R 5% R0402 I2C4_SDA_TP
I2C4_SCL R49 0R 5% R0402 I2C4_SCL_TP

U1G RK3399

Note:RK3399 part G is 1.8V only

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

GPIO2_D0/SDIO0_CMD_u AH6 SDIO0_CMD
GPIO2_D1/SDIO0_CLKOUT/TEST_CLKOUT1_u AF7 SDIO0_CLK
GPIO2_D2/SDIO0_DETN/PCIE_CLKREQn_u AL4 PCIE_CLKREQ_L
GPIO2_D3/SDIO0_PWREN_d AD9 BT_WAKE_L
GPIO2_D4/SDIO0_BKPWR_d AF8 R56 1 0R 5% 2 R0402 PCIE_PERST_L

APIO3_VDD_1V8 AB8 VDDIO_WL

C135 100nF C0201 X5R 10V

SDIO design rule:
1.Data[0:3]、cmd走线做为一组，
并行走线并整组包地，组内等长要求为+/-100mil；
2.Clk需要单独走线并包地处理，与data间的
延时小于20ps；；
4.Max trace length < 3.93 inchs；
5.Trace impedance 50ohm+/-10%；
6.与其他信号间距遵循3W原则；

PI-2BUS

SPI_CLK 1 22R 5% 2 R277 SPI_CLK_M2
SPI_CSN0 1 22R 5% 2 R276 SPI_CSN0_M2
SPI_TXD 1 22R 5% 2 R275 SPI_TXD_M2
SPI_RXD 1 22R 5% 2 R274 SPI_RXD_M2

SPI FLASH 128M

VCC_3V0
R50 10K R51 10K R52 10K
C134 0.1uF R53 10K R54 10K R55 10K
U2 GD25Q127CSIG
SPI_CSN0_M2 /CS VCC SPI_CLK_M2
SPI_RXD_M2 DO /HOLD
/WP CLK SPI_TXD_M2
GND DIO

U1J RK3399

Note:RK3399 part J is 1.8V/3.0V mode

GPIO3_D0/I2S0_SCLK_d AG3 I2S0_SCLK_PCM
GPIO3_D1/I2S0_LRCK_RX_d AF4 I2S0_LRCK_RX_PCM
GPIO3_D2/I2S0_LRCK_TX_d A12 I2S0_LRCK_TX_PCM
GPIO3_D3/I2S0_SDI0_d Y7 I2S0_SDI0_PCM
GPIO3_D4/I2S0_SDI1SDO3_d AE5 I2S0_SDO3_PCM
GPIO3_D5/I2S0_SDI2SDO2_d AA6 I2S0_SDO2_PCM
GPIO3_D6/I2S0_SDI3SDO1_d AH2 I2S0_SDO1_PCM
GPIO3_D7/I2S0_SDO0_d AH1 I2S0_SDO0_PCM

GPIO4_A0/I2S_CLK_d AC7 I2S_CLK
GPIO4_A1/I2C1_SDA_u AG1 I2C1_SDA
GPIO4_A2/I2C1_SCL_u Y6 I2C1_SCL
GPIO4_A3/I2S1_SCLK_d AF3 I2S1_SCLK
GPIO4_A4/I2S1_LRCK_RX_d AA7 I2S1_LRCK_RX
GPIO4_A5/I2S1_LRCK_TX_d AJ1 I2S1_LRCK_TX
GPIO4_A6/I2S1_SDI0_d AD6 I2S1_SDI0
GPIO4_A7/I2S1_SDO0_d AC6 I2S1_SDO0

APIO5_VDDPST AA8 VCC_1V5
APIO5_VDD Y8 VCC_3V0

VCC_3V0 C455 100nF C0201 X5R 10V

VCC_3V0 R60 4.7K R0402 R8204 1K5/NC R0402 VCC18_MIPI
I2C1_SCL Q8200 2SK3018/NC SOT23 I2C1_SCL_CAM 30
R89552 33R R0201

VCC_IO R59 4.7K R0402 R8206 1K5/NC R0402 VCC18_MIPI
I2C1_SDA Q8201 2SK3018/NC SOT23 I2C1_SDA_CAM 30
R89553 33R R0201

U1K RK3399

Note:RK3399 part J is 1.8V/3.0V mode

GPIO4_C0/I2C3_SDA/UART2B_RX_u AG6 I2C3_SDA_DV
GPIO4_C1/I2C3_SCL/UART2B_TX_u AL2 I2C3_SCL_DV
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 CPU_GPIO4_C5
GPIO4_C6/PWM1_d AL3 FAN_CTL_H
GPIO4_C7/DV_CECINOUT/EDP_HOTPLUG_u AD7 DV_CEC

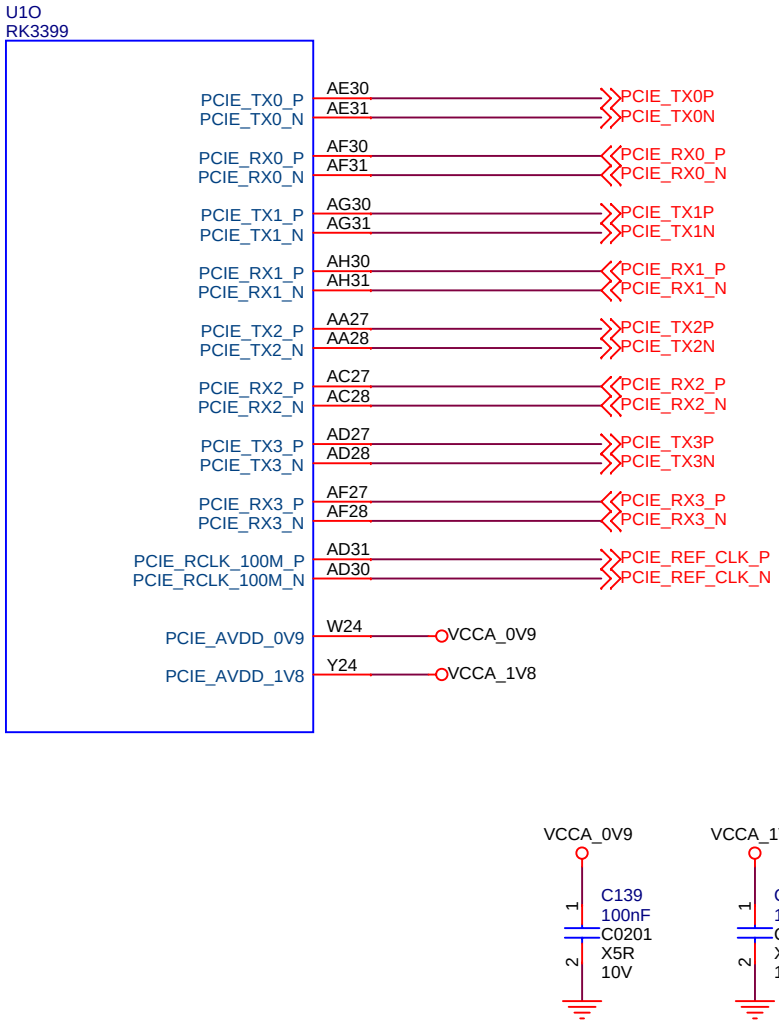
GPIO4_D0/PCIE_CLKREQnB_u AE6 CPU_GPCLK
GPIO4_D1/DP_HOTPLUG_d AK4 CPU_GPIO4_D1
GPIO4_D2_d AH3 VCC5V0_HOST_EN
GPIO4_D3_d AK3 CPU_GPIO4_D3
GPIO4_D4_d AH5 CPU_GPIO4_D4
GPIO4_D5_d AJ3 TOUCH_INT
GPIO4_D6_d AG4 TOUCH_RST

APIO4_VDDPST AC8 VCC_1V5
APIO4_VDD AC9 VCC_3V0

TP6 TP7

VCC_1V5 C137 100nF C0201 X5R 10V
VCC_3V0 C138 100nF C0201 X5R 10V

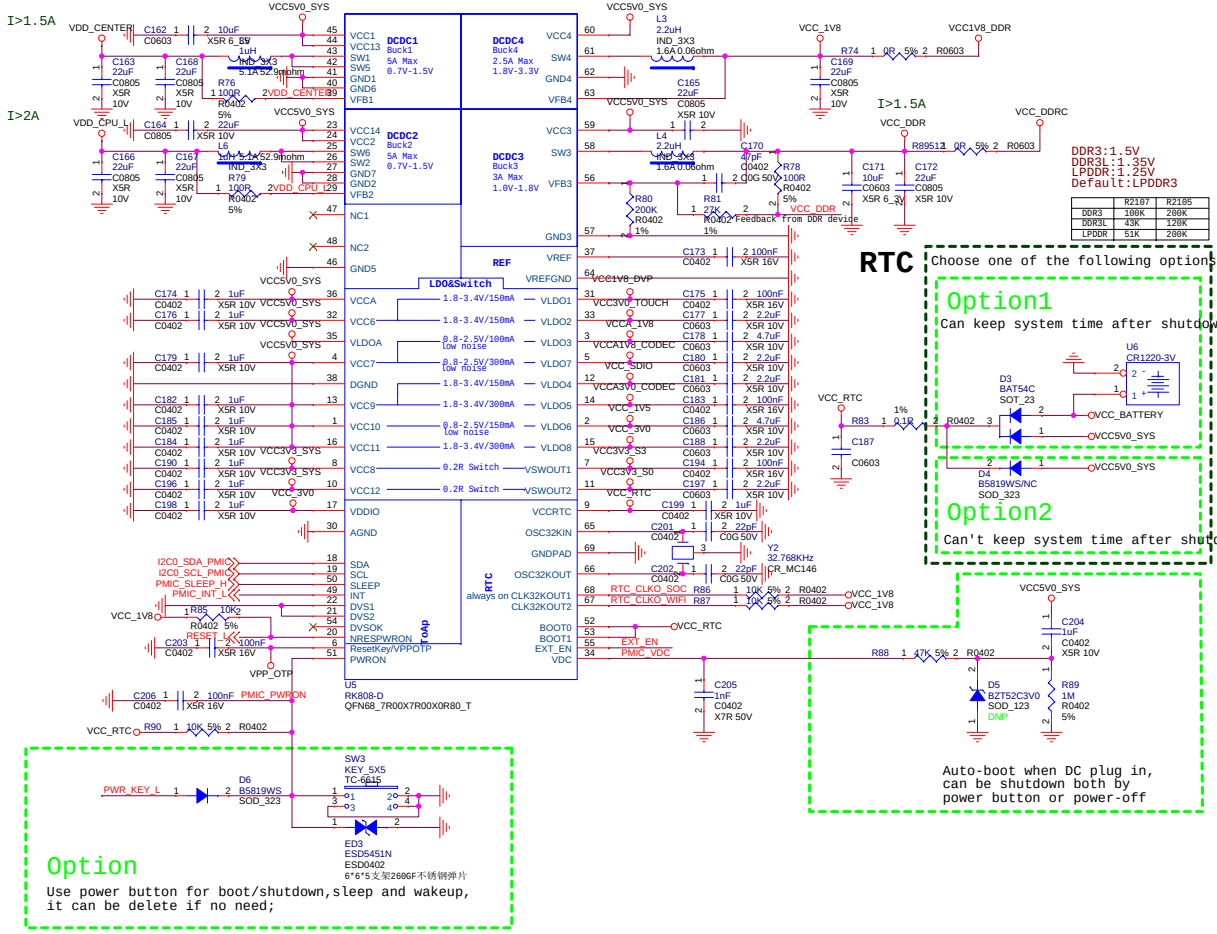
PINE64
Title: RockPro64_RK3399
Size: Custom | Document Number: RK3399 GPIO | Rev: V2.0
Date: Tuesday, MAR 6, 2018 | Sheet 15 of 33




```
PCIE design rule:
1.Max intra-pair skew < 4ps;
2.Max inter-pair skew < 1.6 ns;
3.Max trace length < 14 inchs;
4.Max allowed via < 4;
5.Trace impedance 100ohm+/-10%;
6.与其他信号间距遵循3W原则;
```

PINE64		
Title: RockPro64_RK3399		
Size: A4	Document Number: RK3399 PCIE	Rev: V2.0
Date: Tuesday, MAR 6, 2018	Sheet 16 of 33	

PMIC



DDR3:1.5V
DDR3L:1.35V
LPDDR:1.25V
Default:LPDDR3

	R2107	R2105
DDR3	100K	200K
DDR3L	43K	120K
LPDDR	51K	200K

RTC

Choose one of the following options;

Option1

Can keep system time after shutdown;

Option2

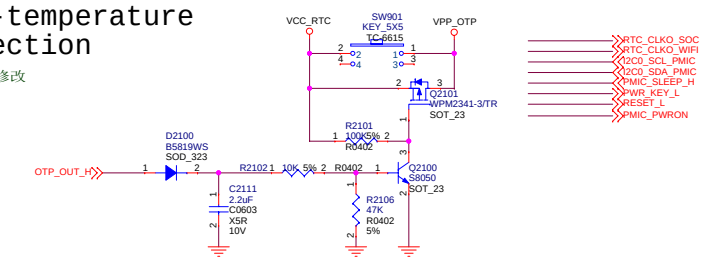
Can't keep system time after shutdown;

Option

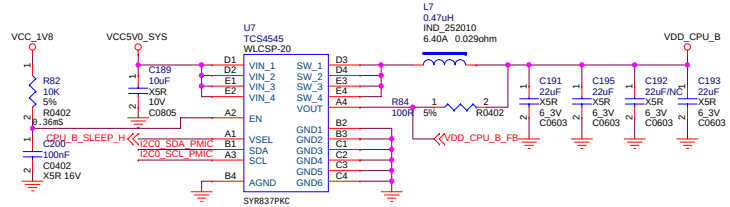
Use power button for boot/shutdown,sleep and wakeup,
it can be delete if no need;

Over-temperature Protection

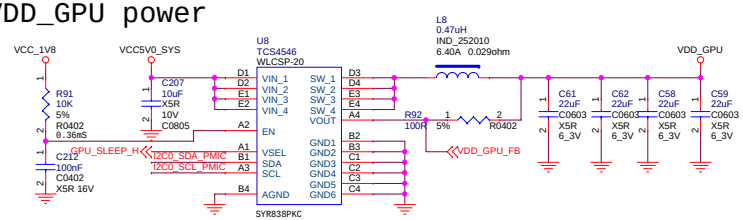
复位电路修改



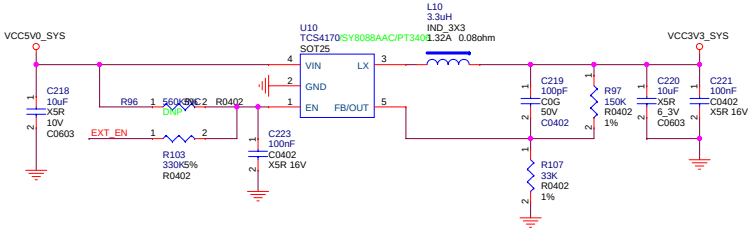
VDD_CPU_B power



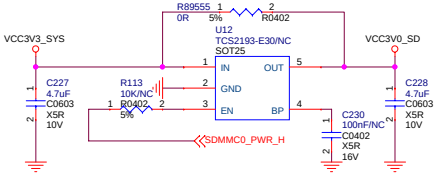
VDD_GPU power



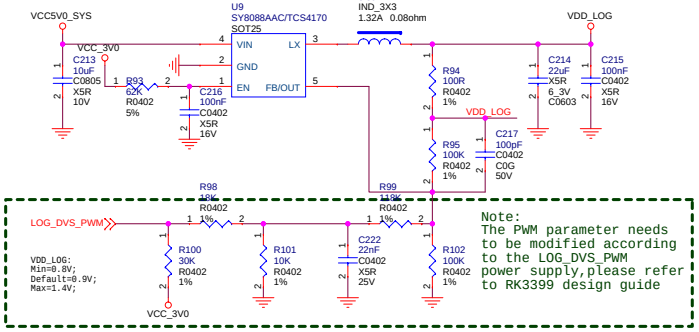
VCC3V3_SYS power



VCC3V0_SD power

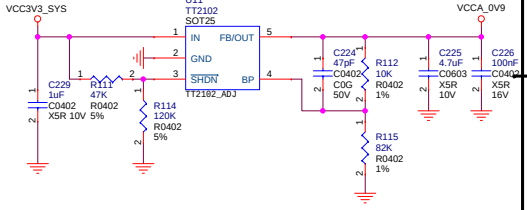


VDD_LOG power



Note:
The PWM parameter needs to be modified according to the LOG_DVS_PWM power supply,please refer to RK3399 design guide

VCC_0V9 power



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Size	Document Number: PMIC RK808-D
Custom	Rev: V2.0
Date:	Tuesday, MAR 6, 2018
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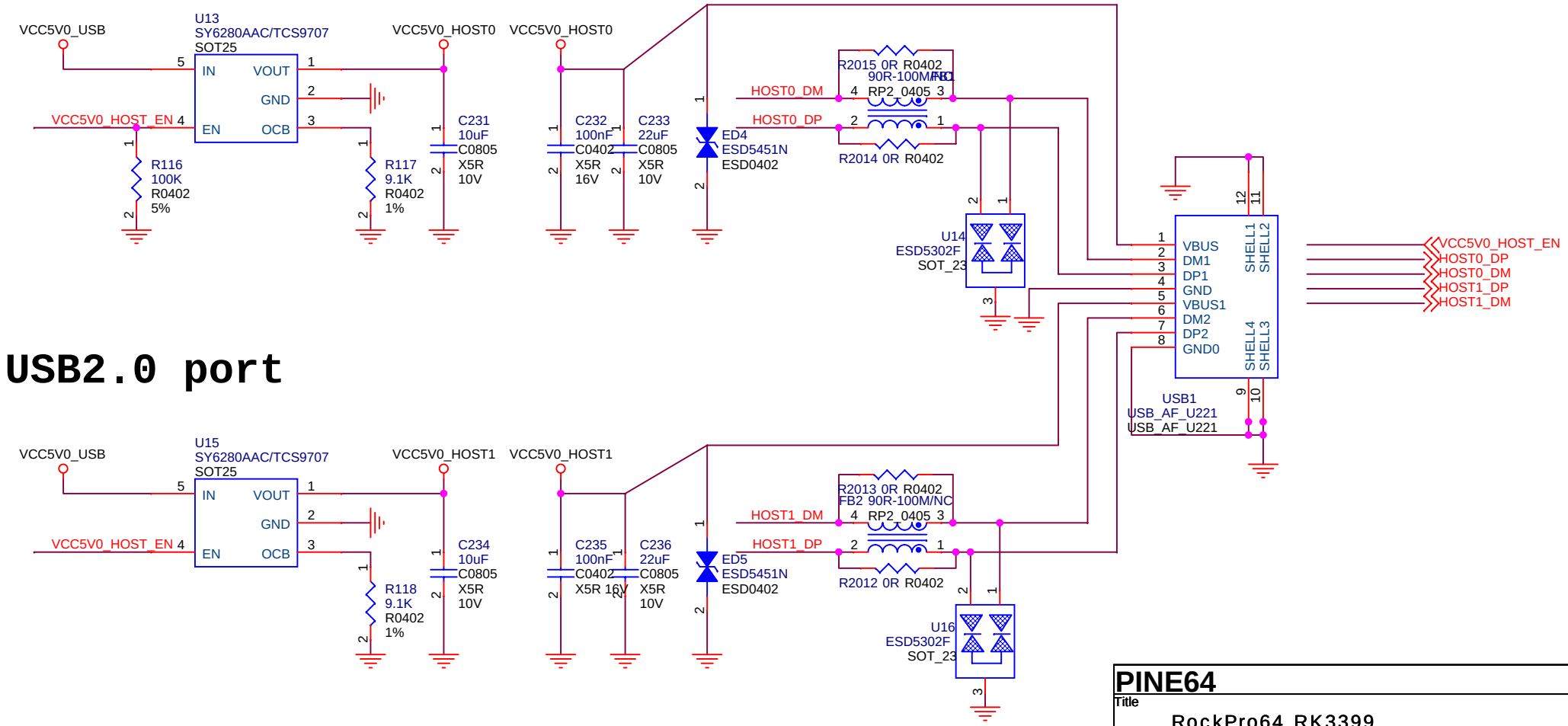
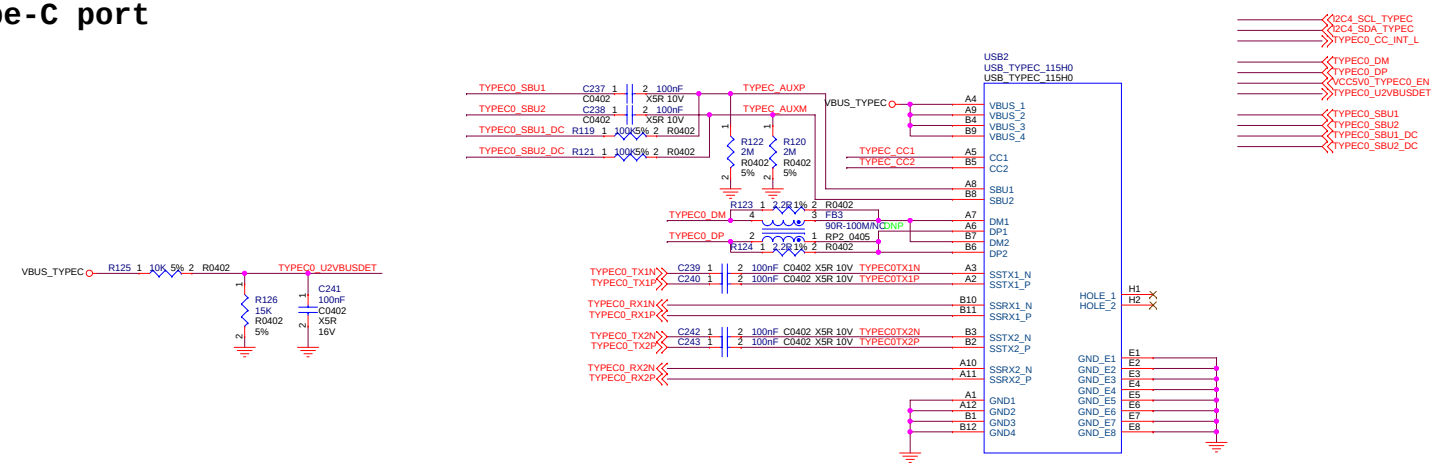
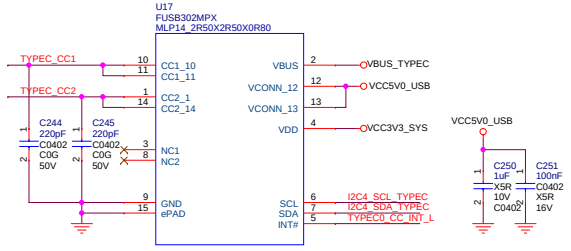


PINE64		
Title: RockPro64_RK3399		
Size: Custom	Document Number: USB HOST 2.0	Rev: V2.0
Date: Tuesday, MAR 6, 2018	Sheet 19 of 33	

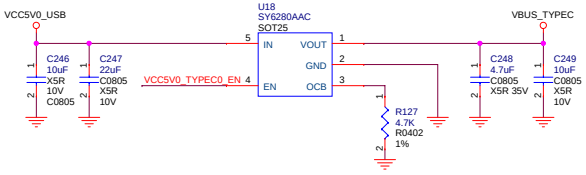
USB Type-C port



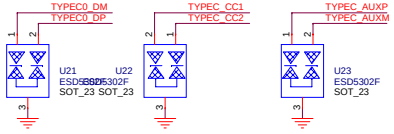
CC CTRL



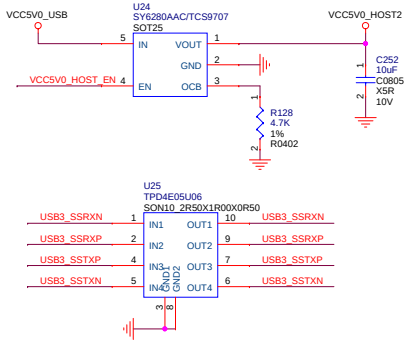
Limit switch

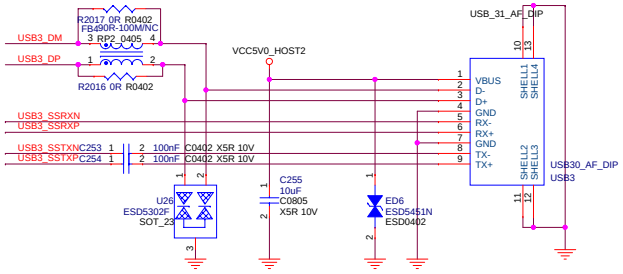


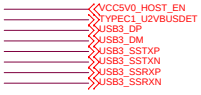
ESD



USB3.0 port







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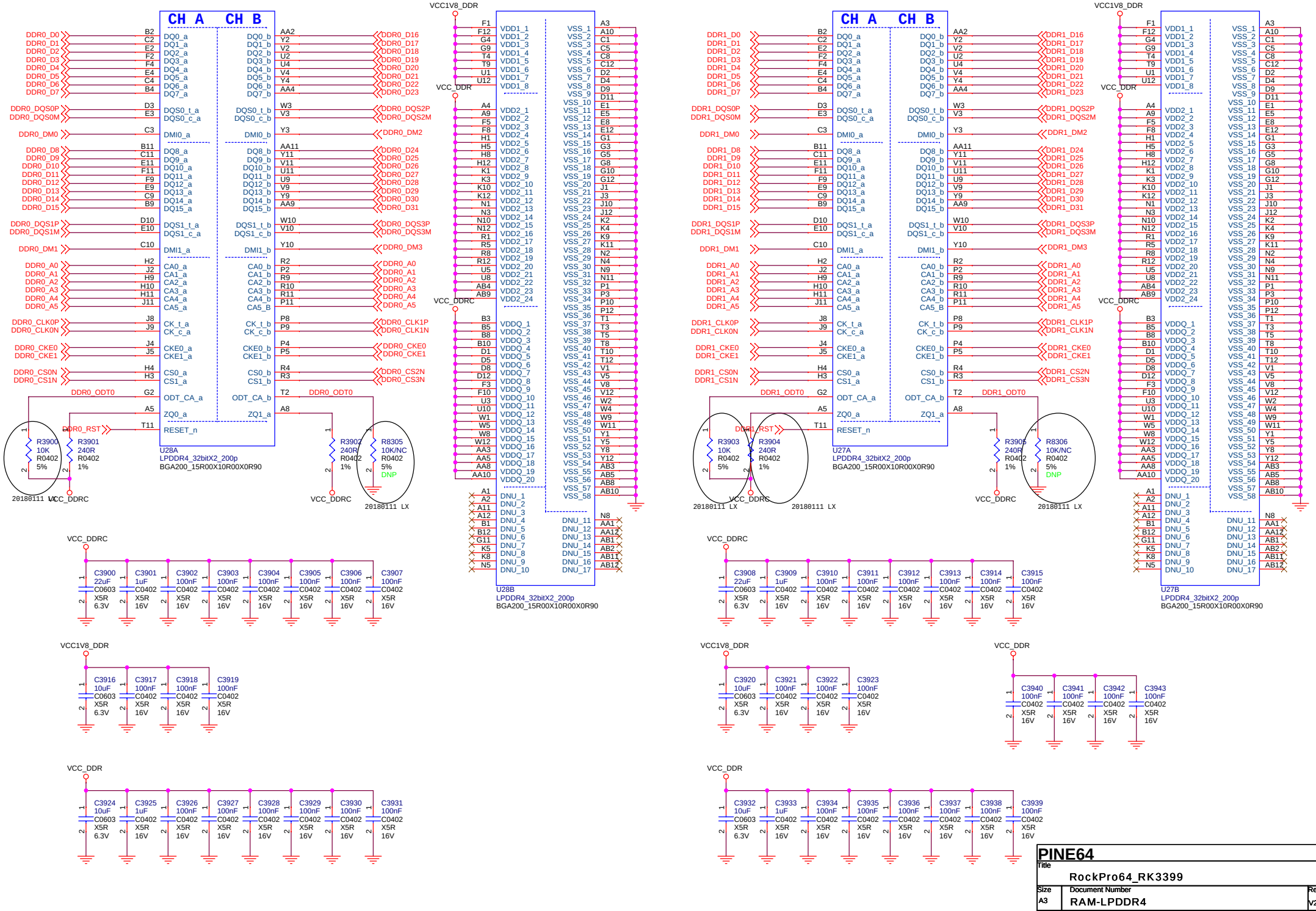
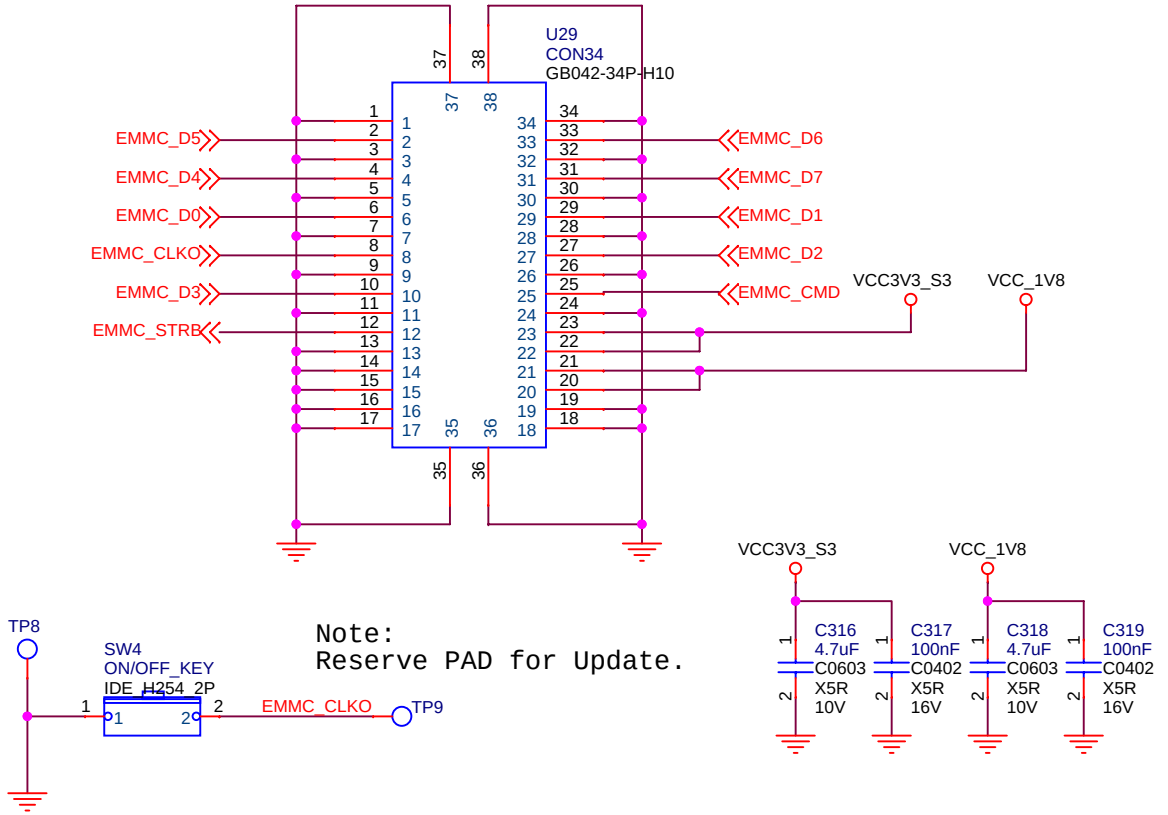
Size: Custom	Document Number: USB 3.0	Rev: V2.0
Date: Tuesday, MAR 6, 2018	Sheet 20 of 33	



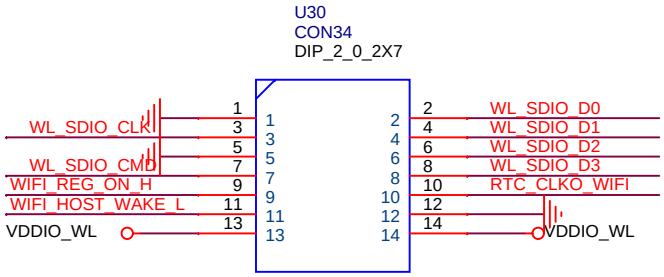
PINE64		
Title	RockPro64_RK3399	
Size: A3	Document Number: RAM-LPDDR4	Rev: V2.0
Date: Tuesday, MAR 6, 2018	Sheet 21 of 33	

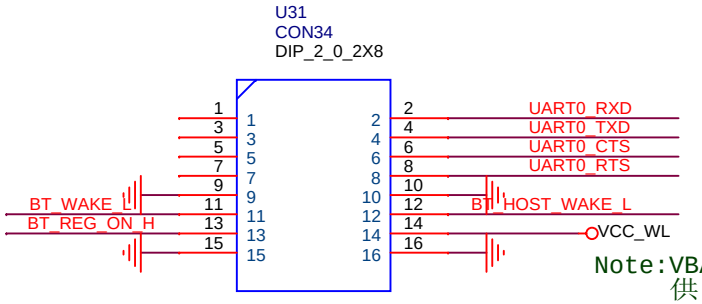
eMMC Port



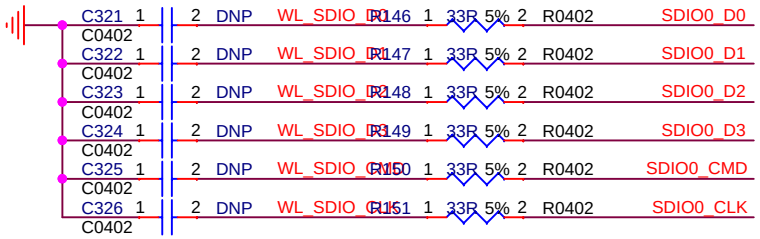
PINE64		
Title: RockPro64_RK3399		
Size: A4	Document Number: eMMC COM	Rev: V2.0
Date: Tuesday, MAR 6, 2018	Sheet 22 of 33	

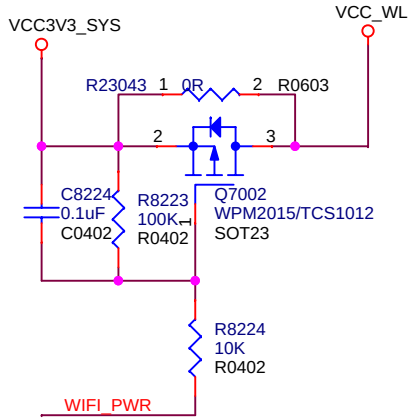
SDIO WIFI/BT MODULE-MIMO

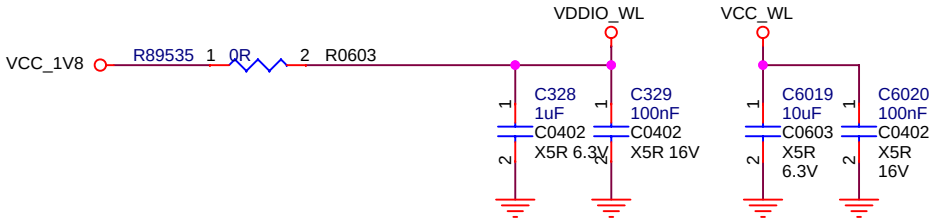




Note:VBAT电压范围3.0V~4.8V，
供电电流至少400mA

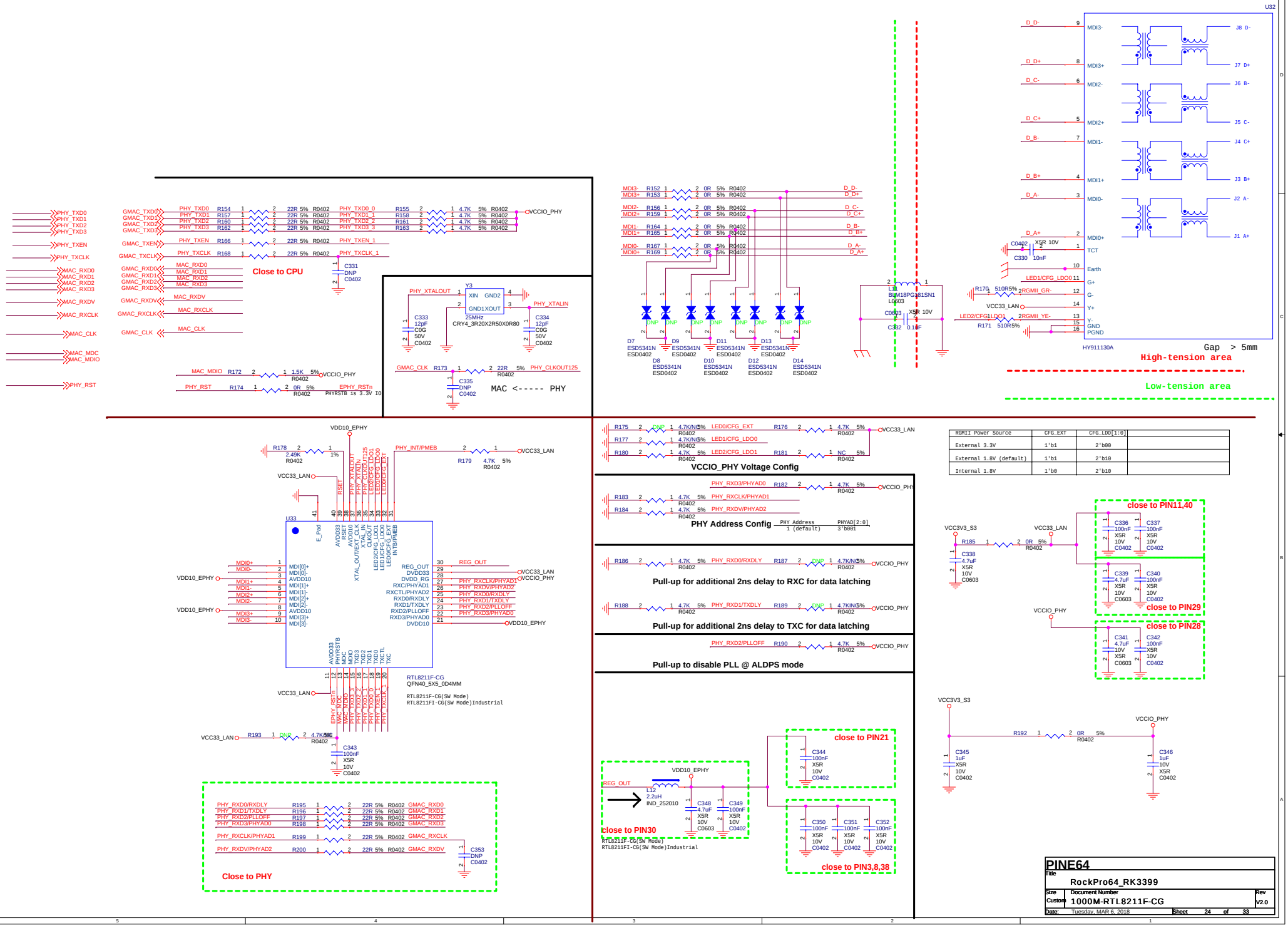






PINE64		
Title: RockPro64_RK3399		
Size: A4	Document Number: WIFI COM	Rev: V2.0
Date: Tuesday, MAR 6, 2018	Sheet 23 of 33	

RJ45 & Transformer



RGMII Power Source	CFG_EXT	CFG_LDO[1:0]	
External 3.3V	1'b1	2'b00	
External 1.8V (default)	1'b1	2'b10	
Internal 1.8V	1'b0	2'b10	

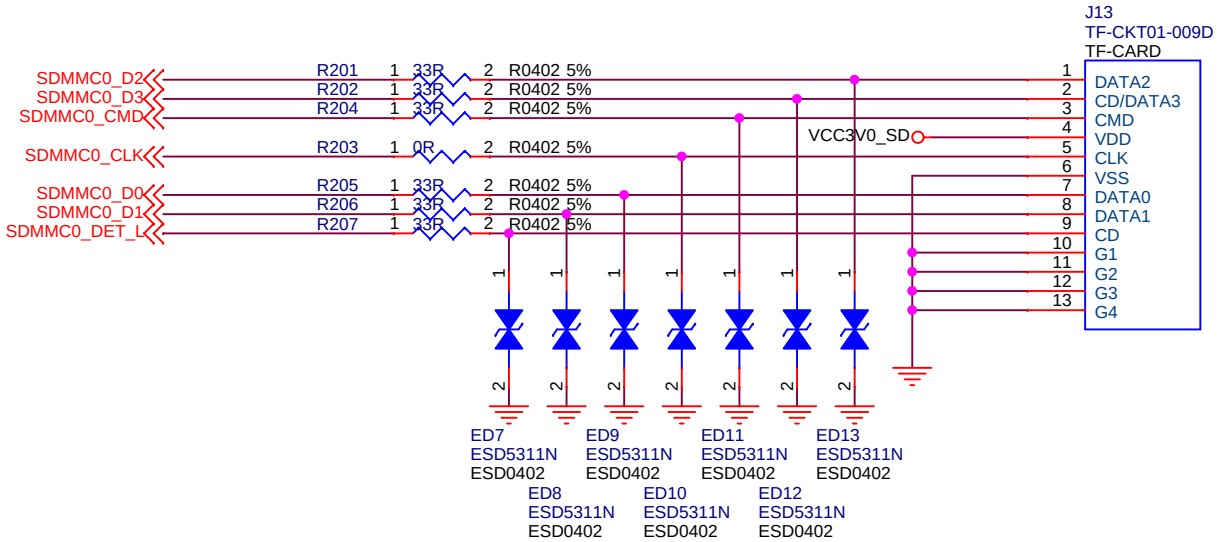
PINE64

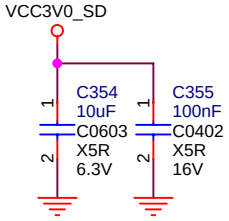
Title: RockPro64_RK3399

Size: Custom | Document Number: 1000M-RTL8211F-CG | Rev: V2.0

Date: Tuesday, MAR 6, 2018 | Sheet 24 of 33

TF CARD





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Size: A4	Document Number: TF CARD	Rev: V2.0
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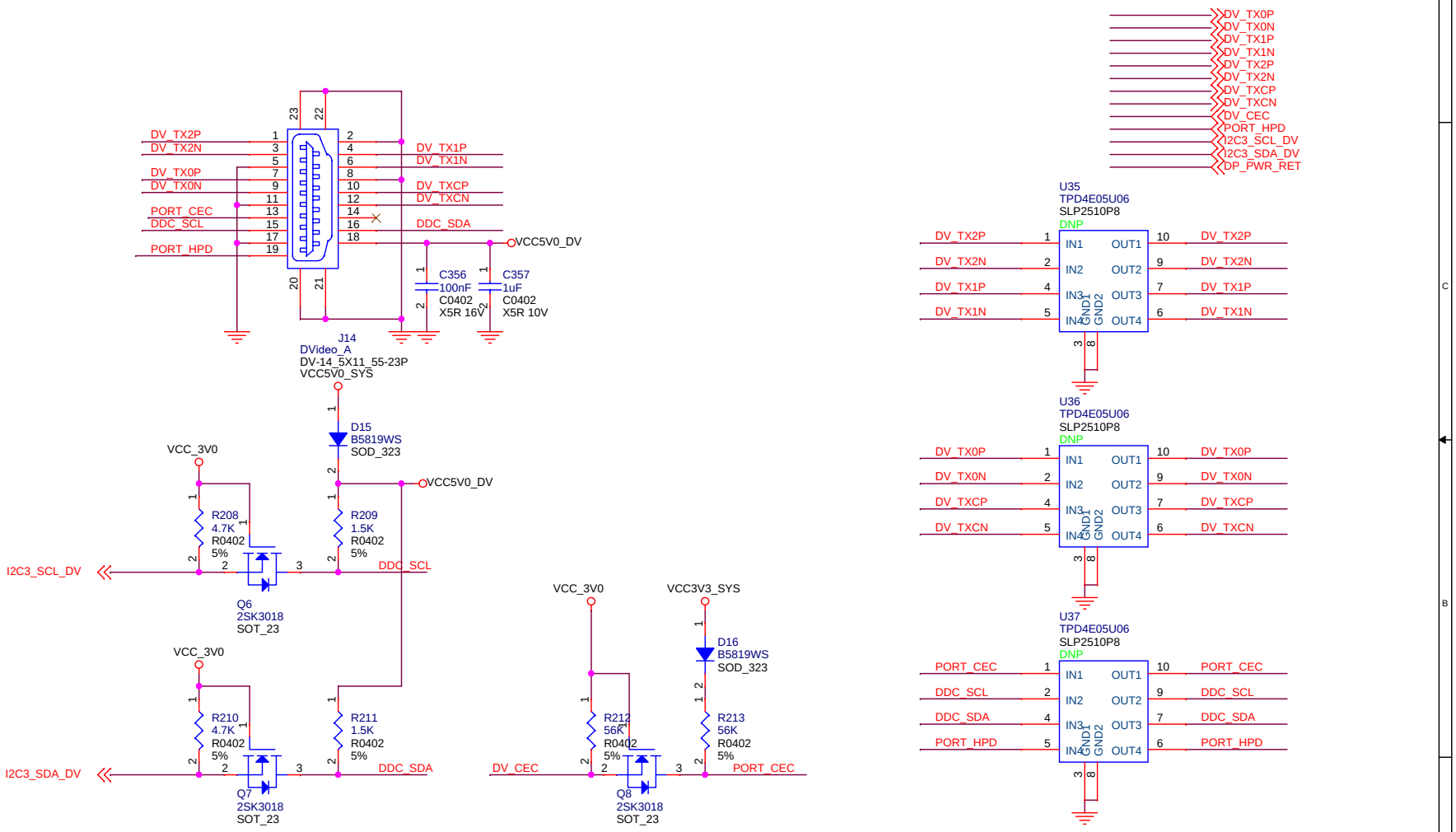
Digital Video Output



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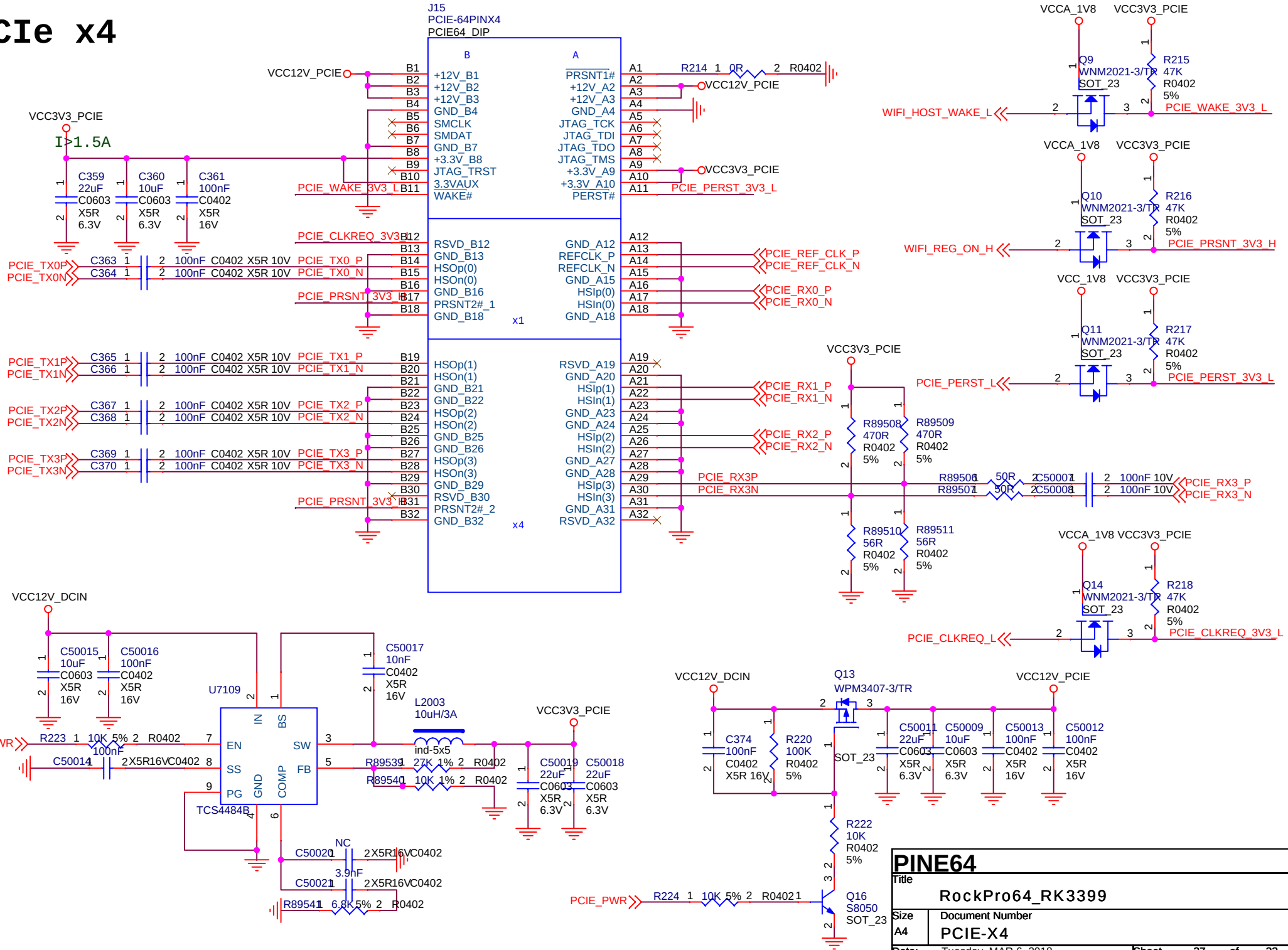
PCIe x4


J15
PCIE-64PINX4
PCIE64_DIP
VCC12V_PCIE
VCC3V3_PCIE
I>1.5A
C359 22uF C0603 X5R 6.3V
C360 10uF C0603 X5R 6.3V
C361 100nF C0402 X5R 16V
PCIE_WAKE_3V3_L
PCIE_CLKREQ_3V3_L
PCIE_PRSNT_3V3_H
PCIE_TX0P
PCIE_TX0N
C363 100nF C0402 X5R 10V
C364 100nF C0402 X5R 10V
PCIE_TX0_P
PCIE_TX0_N
PCIE_TX1P
PCIE_TX1N
C365 100nF C0402 X5R 10V
C366 100nF C0402 X5R 10V
PCIE_TX1_P
PCIE_TX1_N
PCIE_TX2P
PCIE_TX2N
C367 100nF C0402 X5R 10V
C368 100nF C0402 X5R 10V
PCIE_TX2_P
PCIE_TX2_N
PCIE_TX3P
PCIE_TX3N
C369 100nF C0402 X5R 10V
C370 100nF C0402 X5R 10V
PCIE_TX3_P
PCIE_TX3_N
B1 +12V_B1
B2 +12V_B2
B3 +12V_B3
B4 GND_B4
B5 SMCLK
B6 SMDAT
B7 GND_B7
B8 +3.3V_B8
B9 JTAG_TRST
B10 3.3VAUX
B11 WAKE#
B12 RSVD_B12
B13 GND_B13
B14 HSOp(0)
B15 HSOn(0)
B16 GND_B16
B17 PRSNT2#_1
B18 GND_B18
x1
B19 HSOp(1)
B20 HSOn(1)
B21 GND_B21
B22 GND_B22
B23 HSOp(2)
B24 HSOn(2)
B25 GND_B25
B26 GND_B26
B27 HSOp(3)
B28 HSOn(3)
B29 GND_B29
B30 RSVD_B30
B31 PRSNT2#_2
B32 GND_B32
x4
A1 PRSNT1#
A2 +12V_A2
A3 +12V_A3
A4 GND_A4
A5 JTAG_TCK
A6 JTAG_TDI
A7 JTAG_TDO
A8 JTAG_TMS
A9 +3.3V_A9
A10 +3.3V_A10
A11 PERST#
A12 GND_A12
A13 REFCLK_P
A14 REFCLK_N
A15 GND_A15
A16 HSIp(0)
A17 HSIn(0)
A18 GND_A18
A19 RSVD_A19
A20 GND_A20
A21 HSIp(1)
A22 HSIn(1)
A23 GND_A23
A24 GND_A24
A25 HSIp(2)
A26 HSIn(2)
A27 GND_A27
A28 GND_A28
A29 HSIp(3)
A30 HSIn(3)
A31 GND_A31
A32 RSVD_A32
R214 0R R0402
PCIE_REF_CLK_P
PCIE_REF_CLK_N
PCIE_RX0_P
PCIE_RX0_N
PCIE_RX1_P
PCIE_RX1_N
PCIE_RX2_P
PCIE_RX2_N
PCIE_RX3P
PCIE_RX3N
R89508 470R R0402 5%
R89509 470R R0402 5%
R89510 56R R0402 5%
R89511 56R R0402 5%
R89506 50R
R89507 50R
C50007 100nF 10V
C50008 100nF 10V
PCIE_RX3_P
PCIE_RX3_N
VCCA_1V8
VCC3V3_PCIE
Q9 WNM2021-3/TR SOT_23
R215 47K R0402 5%
WIFI_HOST_WAKE_L
PCIE_WAKE_3V3_L
Q10 WNM2021-3/TR SOT_23
R216 47K R0402 5%
WIFI_REG_ON_H
PCIE_PRSNT_3V3_H
VCC_1V8
Q11 WNM2021-3/TR SOT_23
R217 47K R0402 5%
PCIE_PERST_L
PCIE_PERST_3V3_L
Q14 WNM2021-3/TR SOT_23
R218 47K R0402 5%
PCIE_CLKREQ_L
PCIE_CLKREQ_3V3_L
VCC12V_DCIN
C50015 10uF C0603 X5R 16V
C50016 100nF C0402 X5R 16V
U7109
TCS4484B
IN
BS
EN
SW
SS
FB
GND
COMP
PG
PCIE_PWR
R223 10K 5% R0402
C50014 100nF C0402 X5R 16V
C50017 10nF C0402 X5R 16V
L2003 10uH/3A
ind-5x5
R89539 27K 1% R0402
R89540 10K 1% R0402
C50019 22uF C0603 X5R 6.3V
C50018 22uF C0603 X5R 6.3V
C50020 NC
C50021 3.9nF
R89541 6.8K 5% R0402
C50010 2X5R16VC0402
Q13 WPM3407-3/TR
SOT_23
C374 100nF C0402 X5R 16V
R220 100K R0402 5%
C50011 22uF C0603 X5R 6.3V
C50009 10uF C0603 X5R 6.3V
C50013 100nF C0402 X5R 16V
C50012 100nF C0402 X5R 16V
R222 10K R0402 5%
R224 10K 5% R0402
Q16 S8050 SOT_23
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RockPro64_RK3399
Size A4
Document Number PCIE-X4
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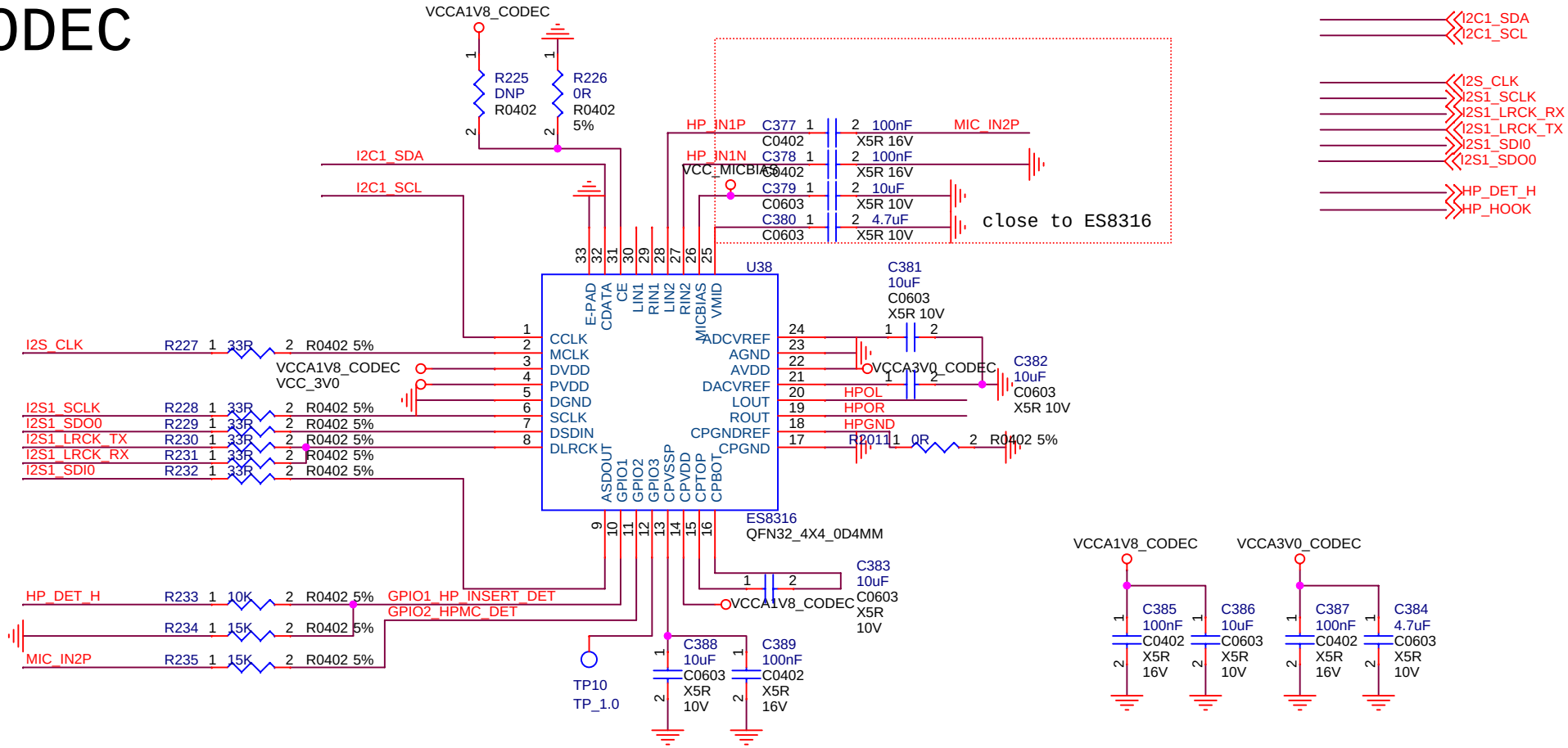
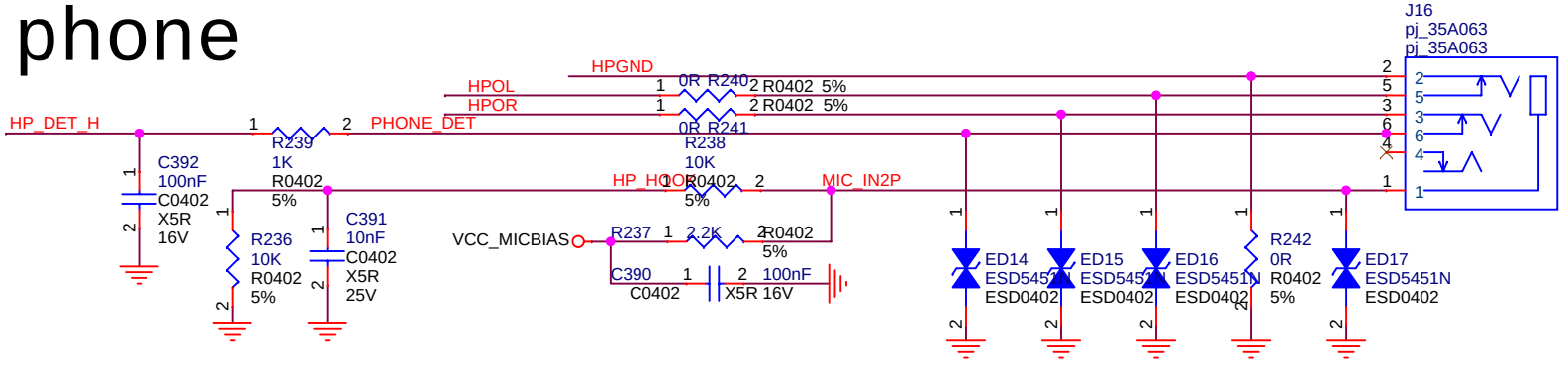
CODEC



Head phone



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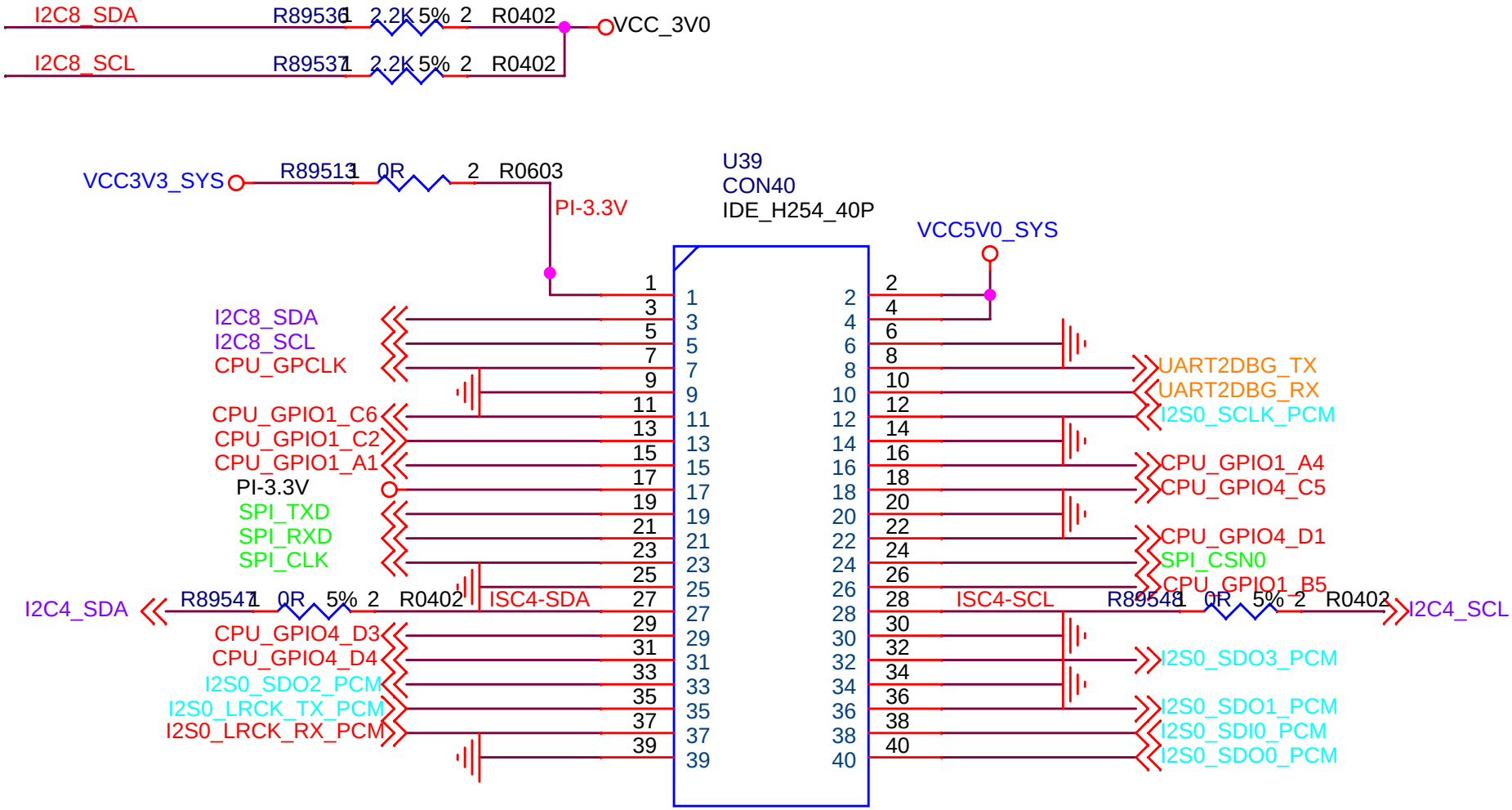

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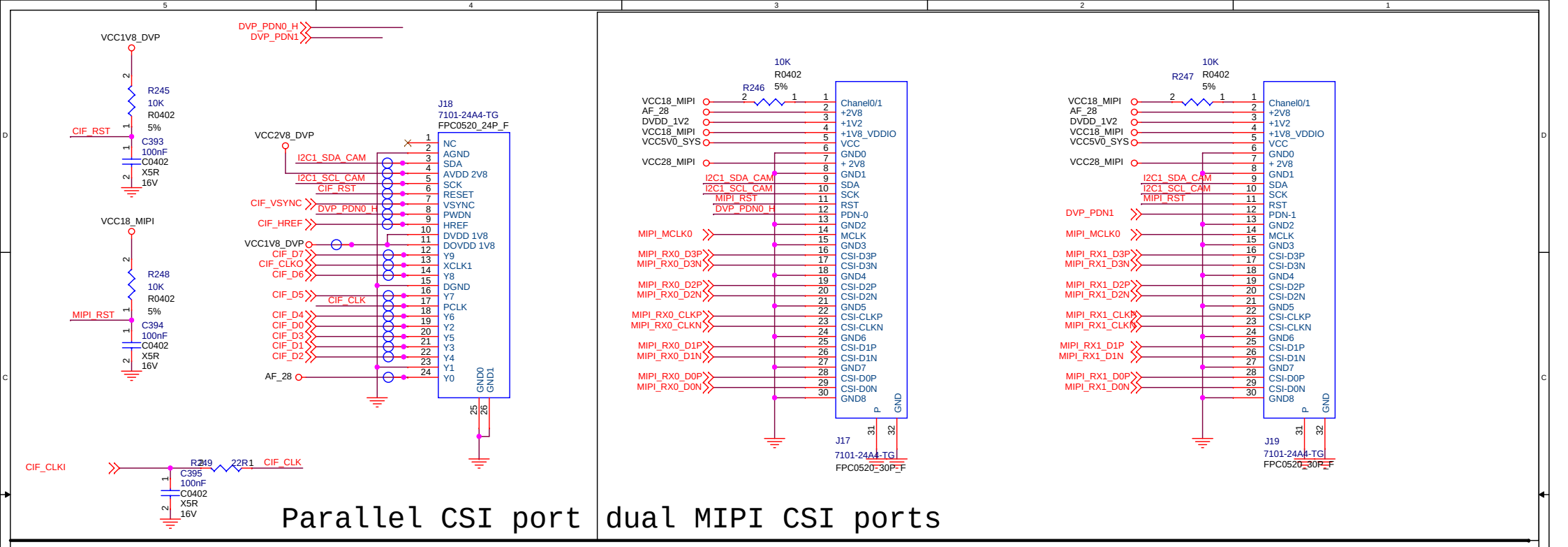

VCC18_MIPI全部切换为2.8V
U41由TCS2193E18更改为TCS2193E28

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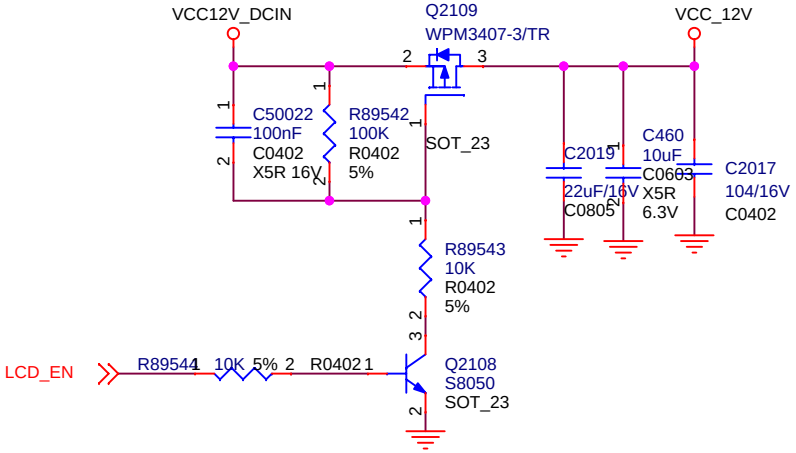
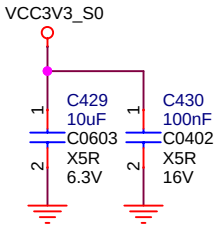
eDP Panel





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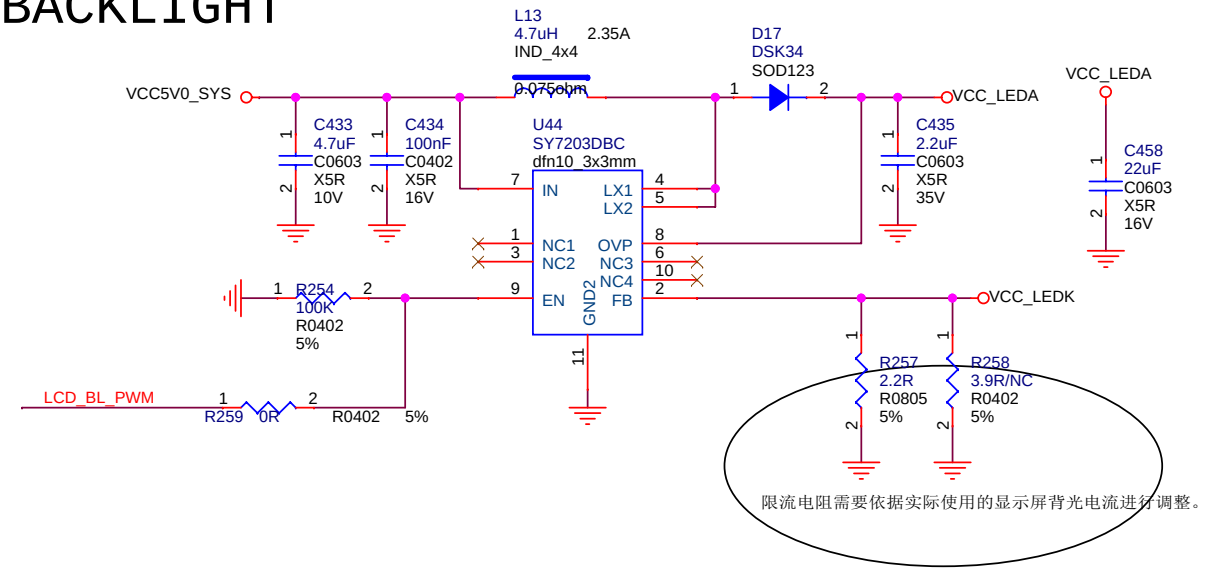
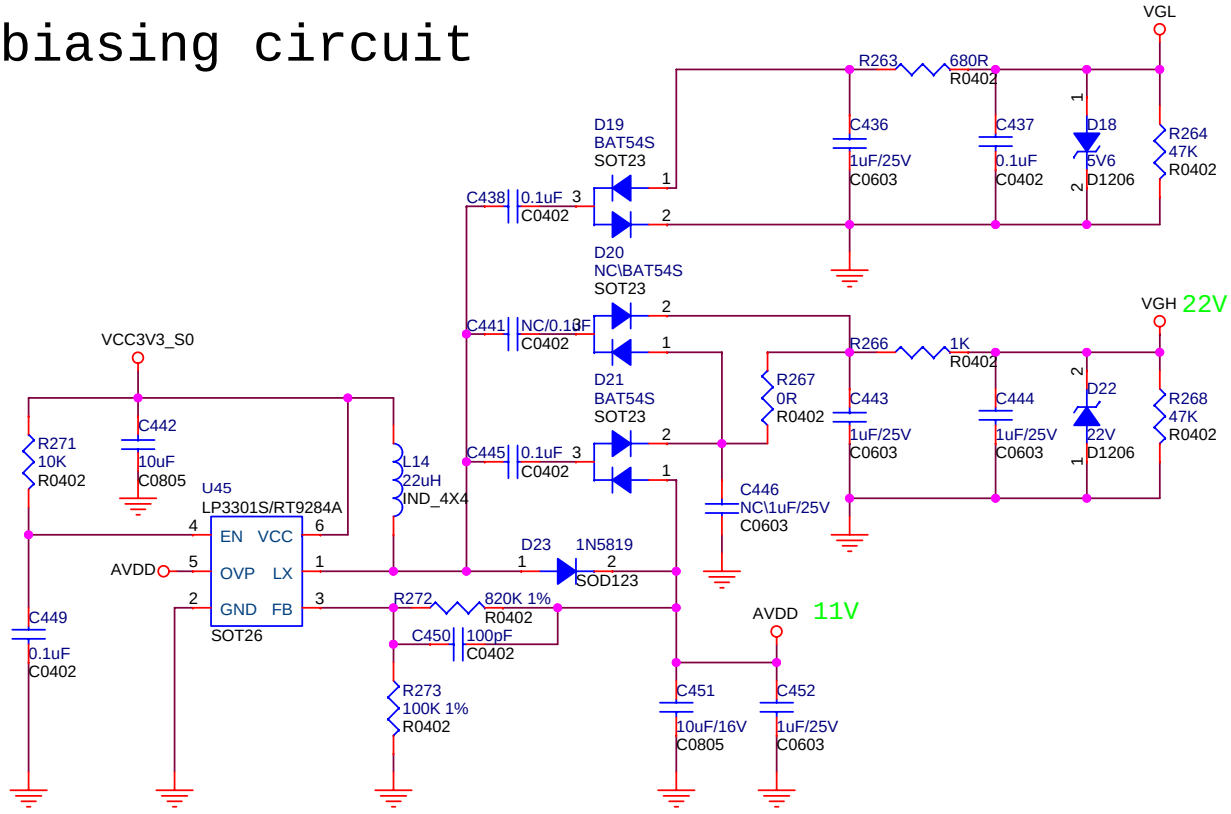
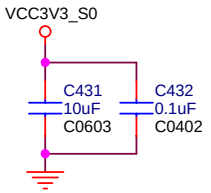
MIPI Panel

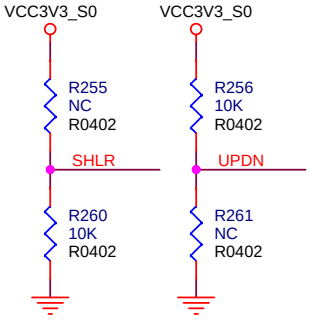
BACKLIGHT

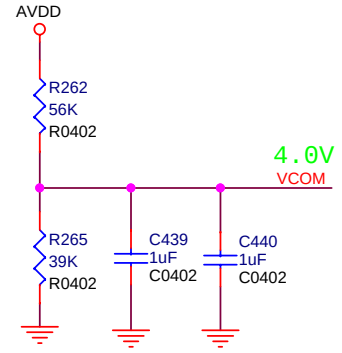


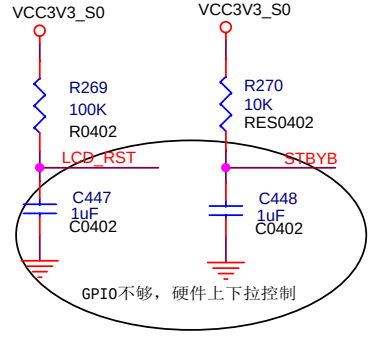
biasing circuit

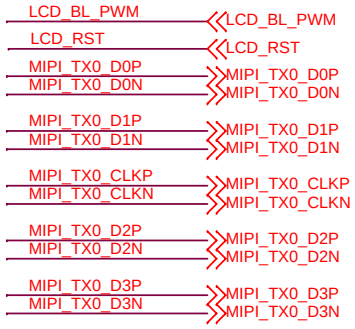


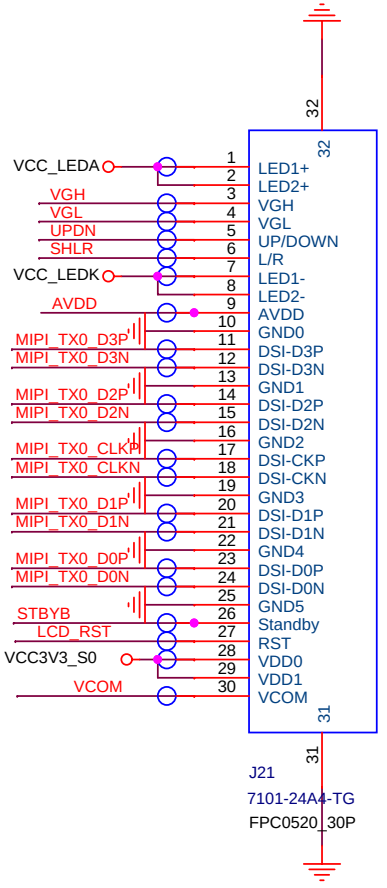












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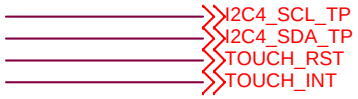
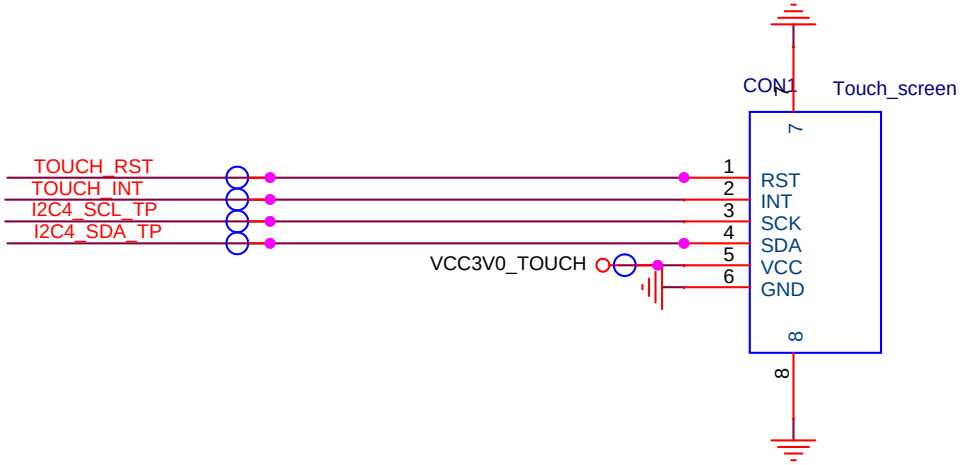
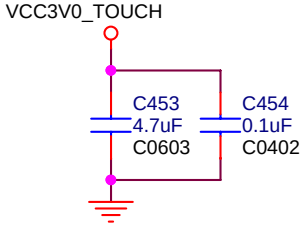
Touch Panel connector







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