

野火_RK3566 LUBANCAT_1_原理图_V1.0

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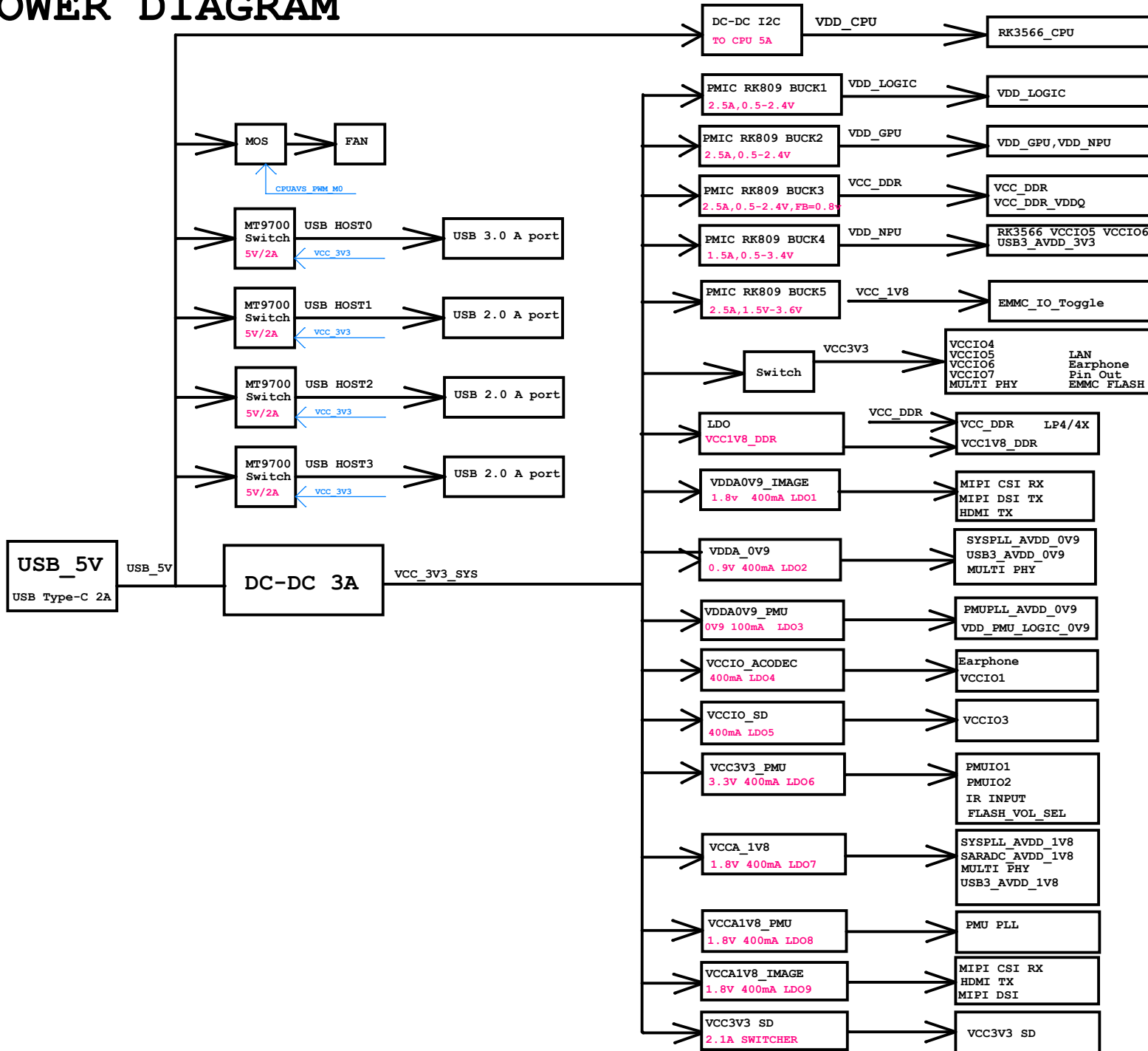
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Title 野火_RK3566 LUBANCAT_1_原理图_V0.1		
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历史版本

版本号	日期	设计	描述
V0.1	2022-03-18	ghs	初始版本
V1.0	2022-12-12	ghs	修正PHY芯片的RST引脚复位电平不匹配问题

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Size A3	Document Number Historic Version	Rev V1.0
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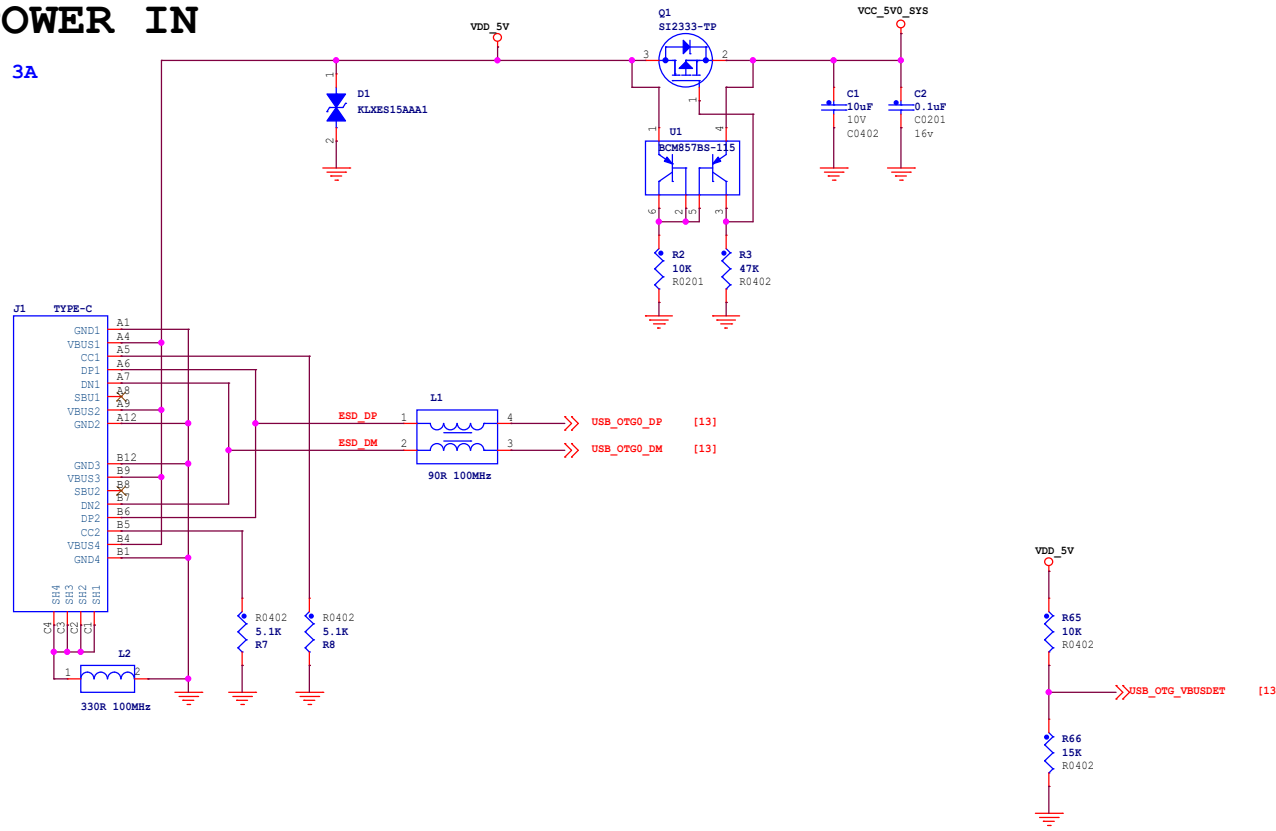
POWER DIAGRAM



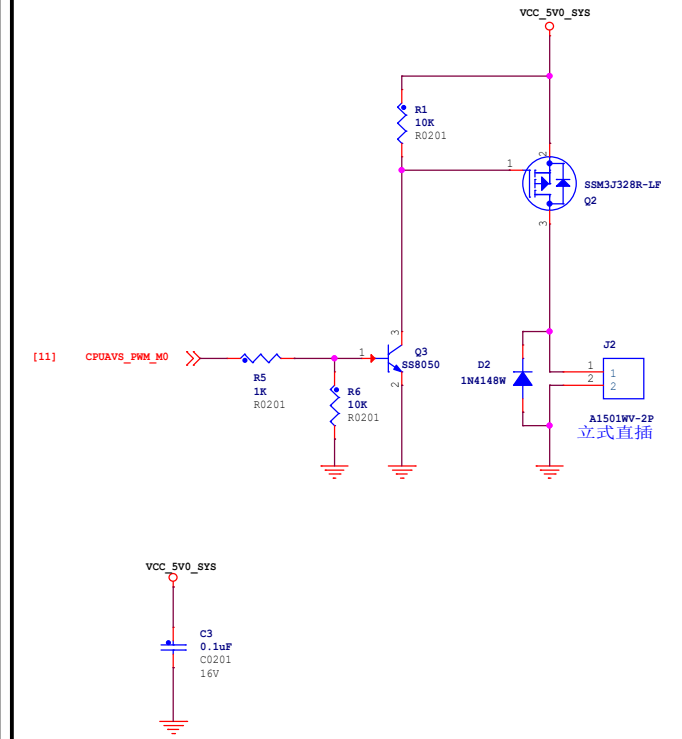
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Size	Document Number	Rev
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POWER IN

5V 3A

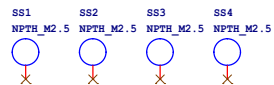


Active Cooling

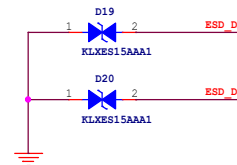


机械定位孔

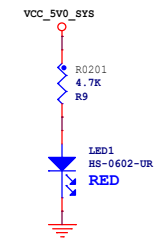
4*M3



USB ESD

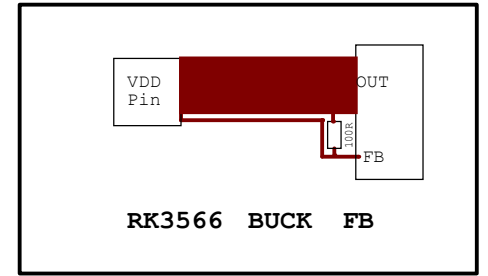
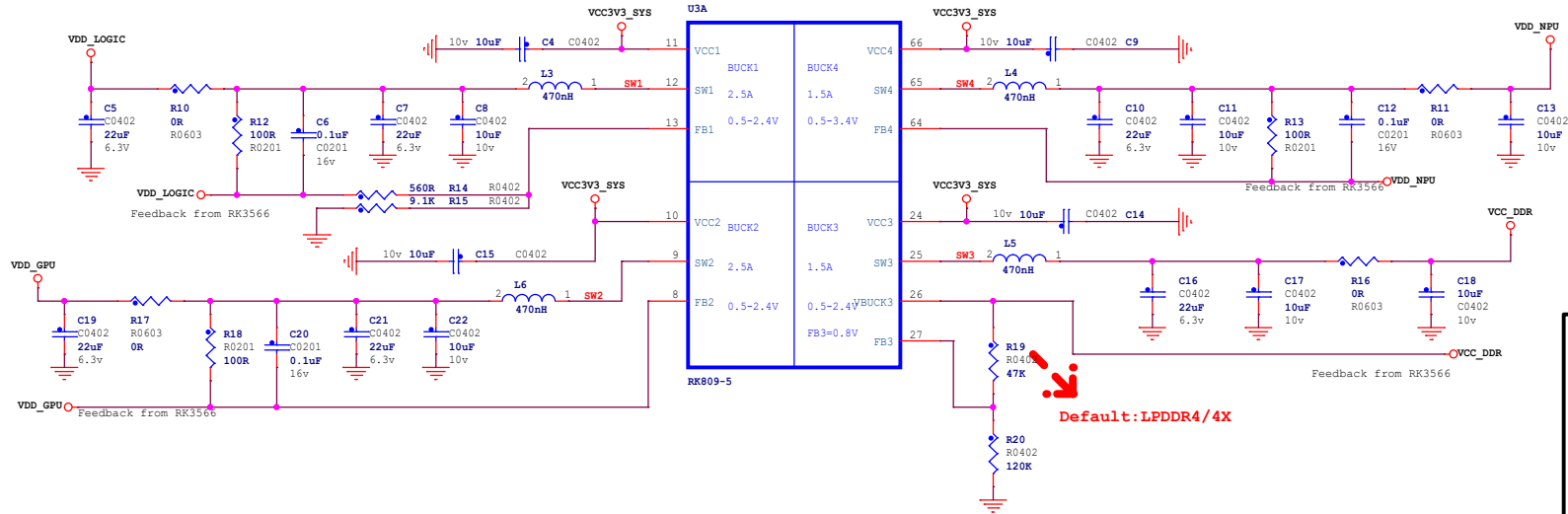


PWR_LED

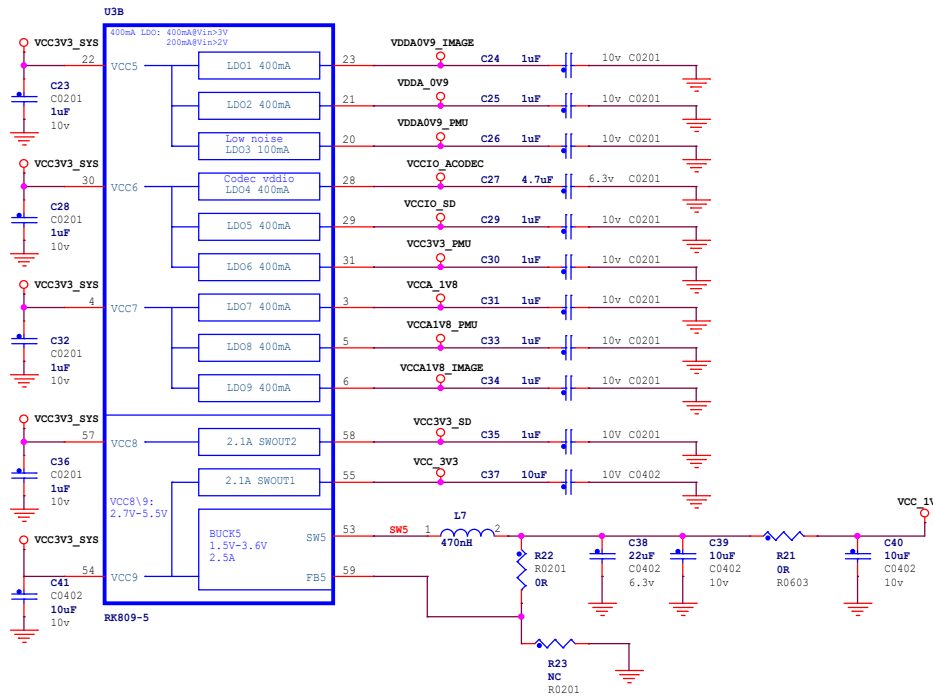


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PMIC RK809 DCDC

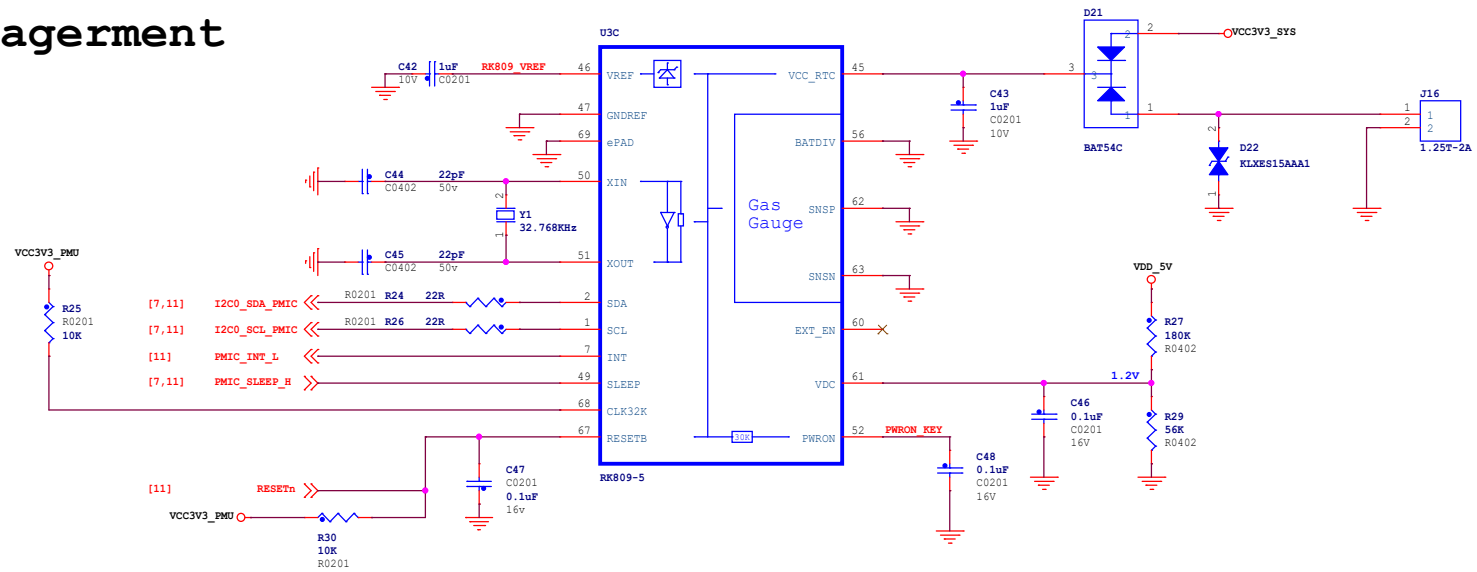


PMIC RK809 LDO

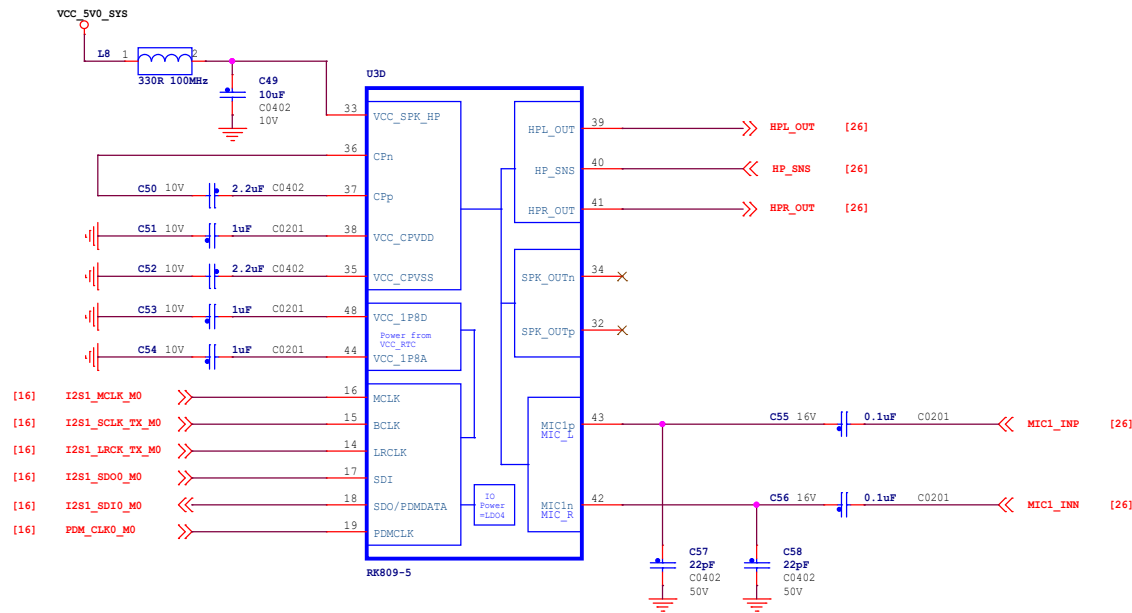


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Size	Document Number	Rev
A3	PMIC_DCDC/LDO	V1.0
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PMIC RK809 Management

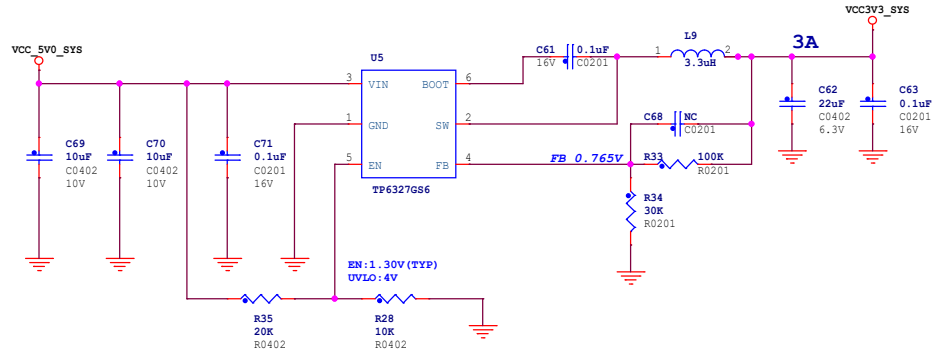


PMIC RK809 CODEC

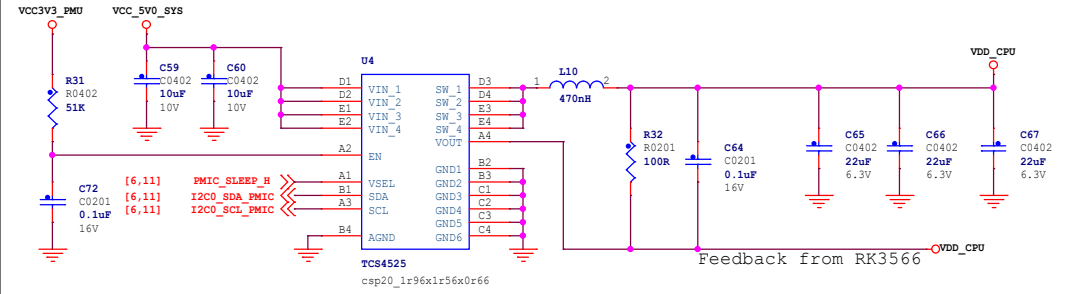


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Size	Document Number	Rev
A3	PMIC_Management/CODE	V1.0
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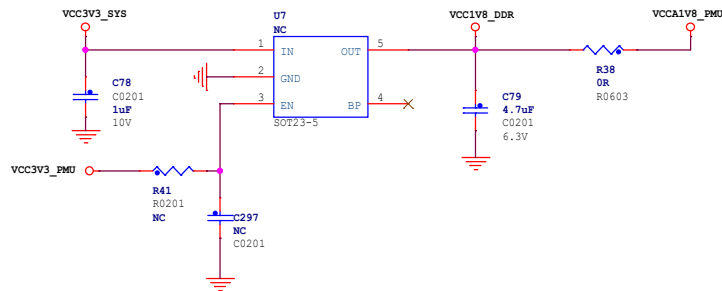
SYS_Power



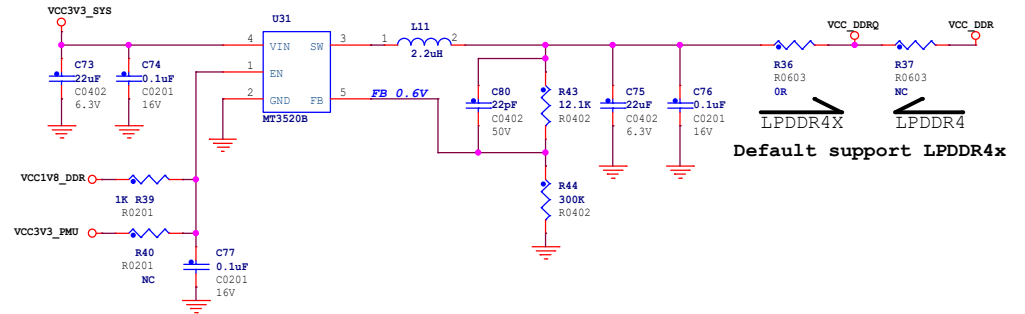
RK3566 CPU Power VDD_CPU_EXT



Auxiliary power supply LPDDR4_VCC1V8_DDR

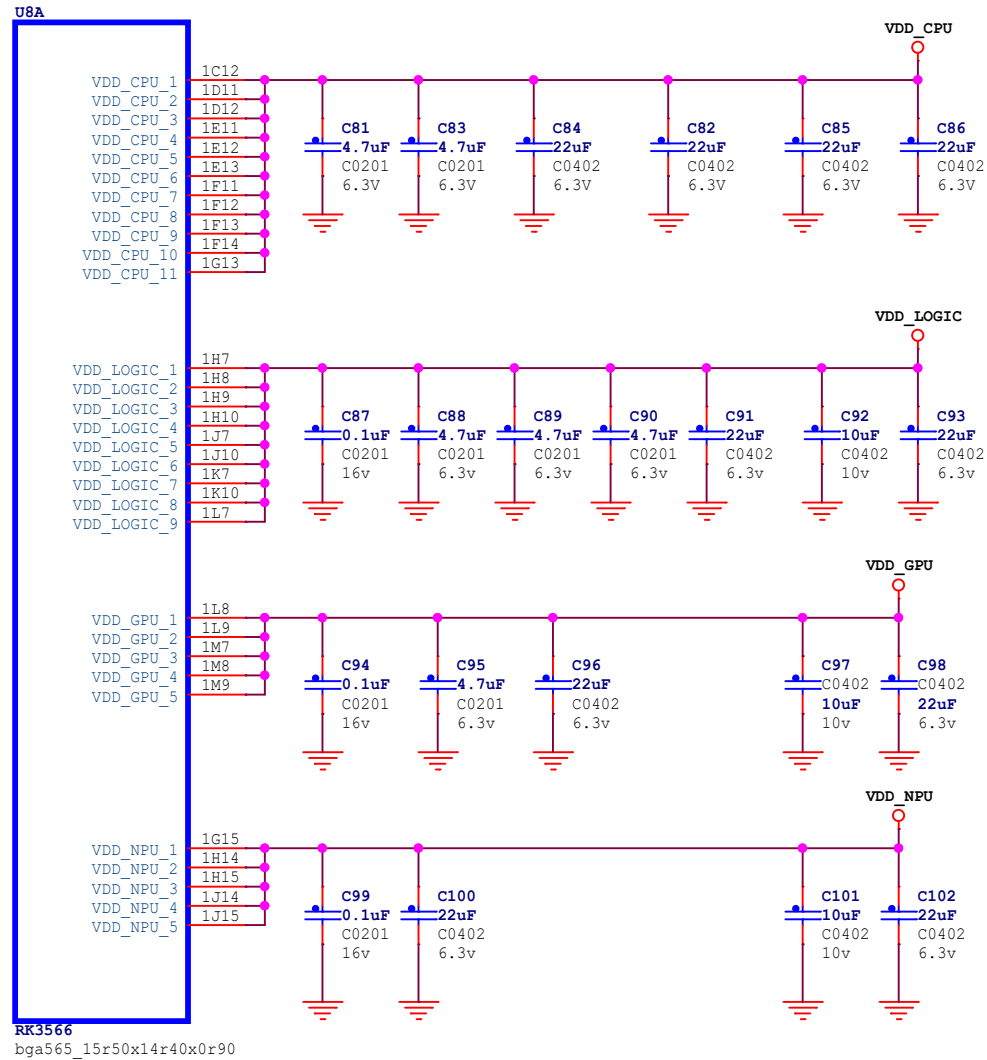


LPDDR4X Power output: 0.6V

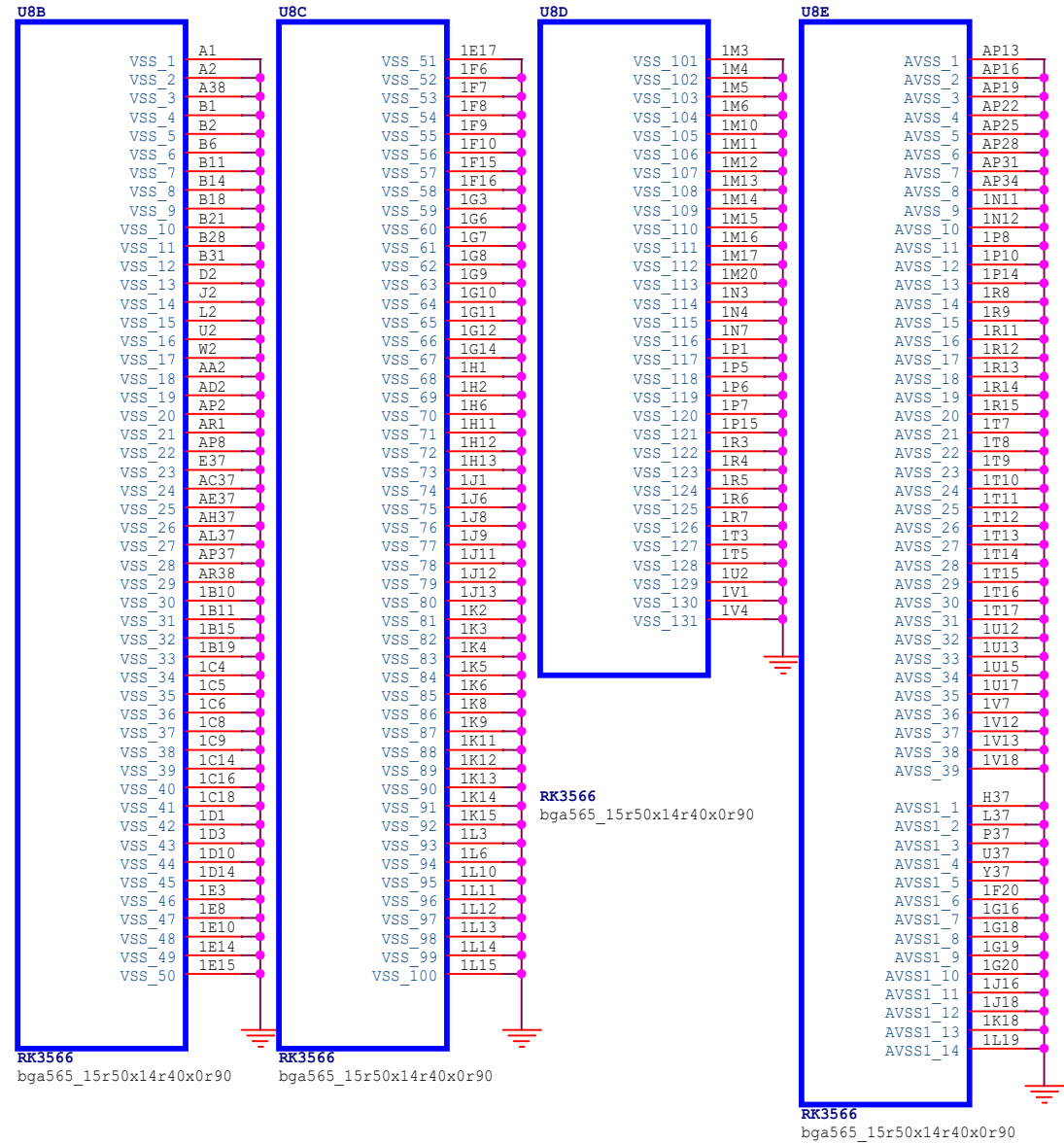


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Title 野火_RK3566 LUBANCAT_1原理图_V0.1		
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RK3566_ABCDE (Power&GND)



RK3566
bga565_15r50x14r40x0r90



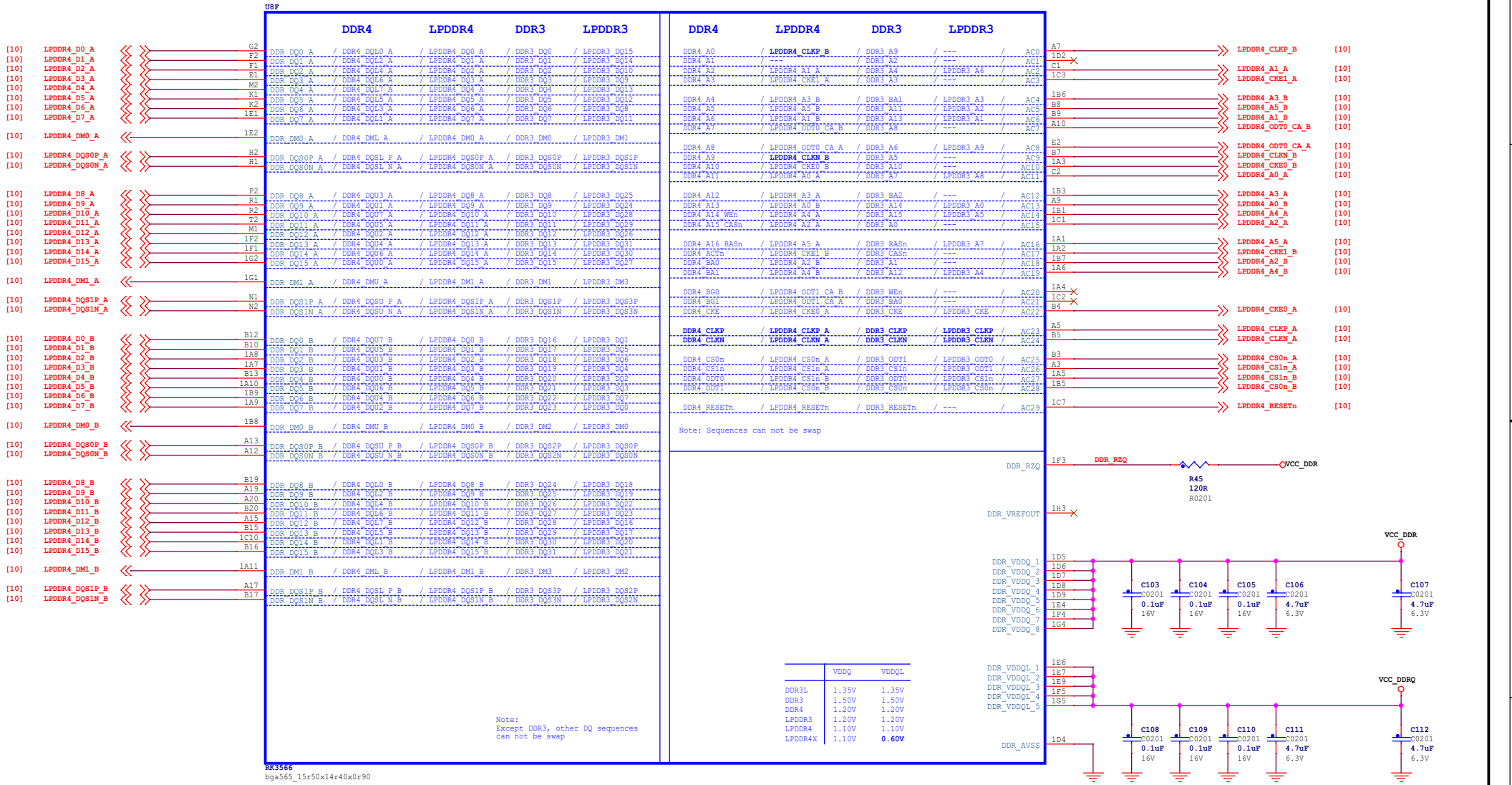
RK3566
bga565_15r50x14r40x0r90

RK3566
bga565_15r50x14r40x0r90

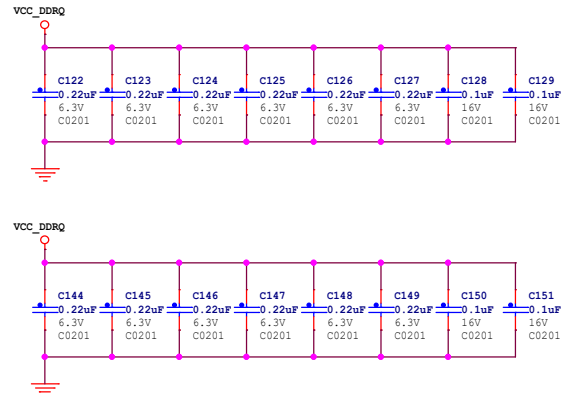
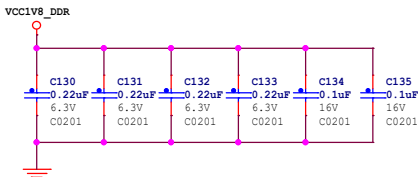
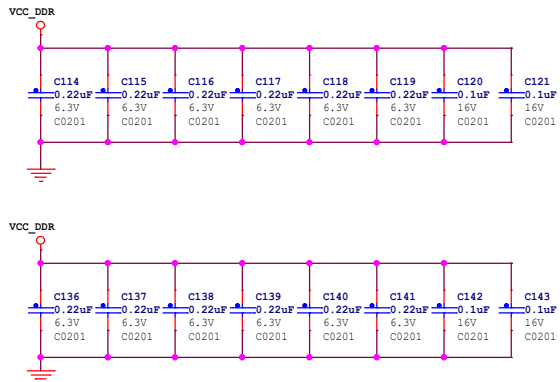
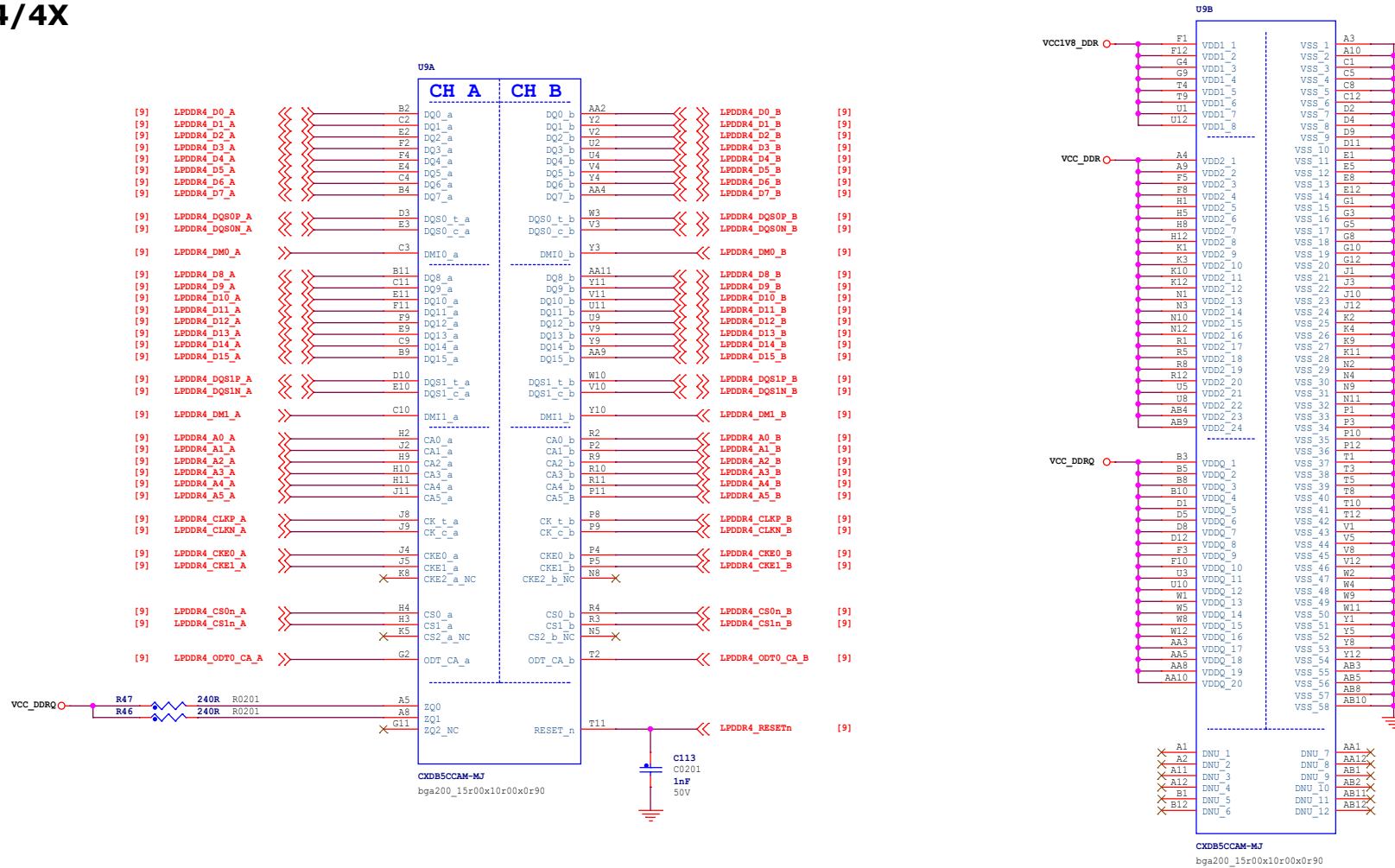
RK3566
bga565_15r50x14r40x0r90

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Title 野火_RK3566 LUBANCAT_1_原理图_v0.1		
Size A4	Document Number RK3566_Power/GND	Rev V1.0
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RK3566_F (DDR PHY)

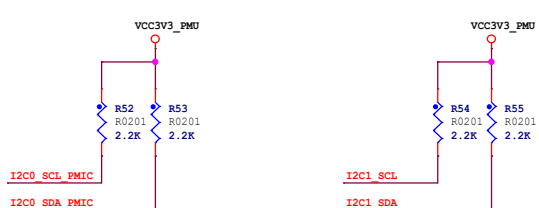
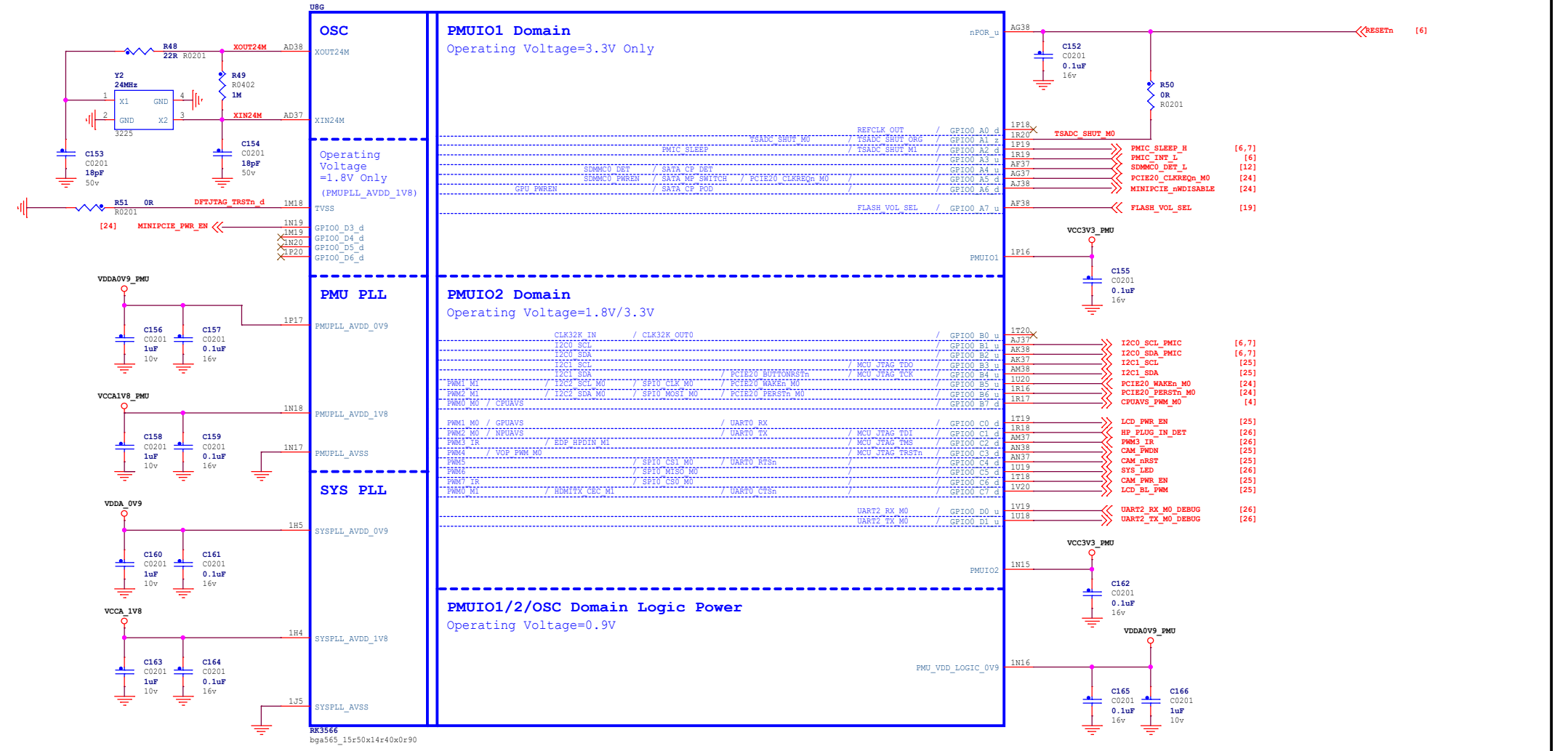


LPDDR4/4X



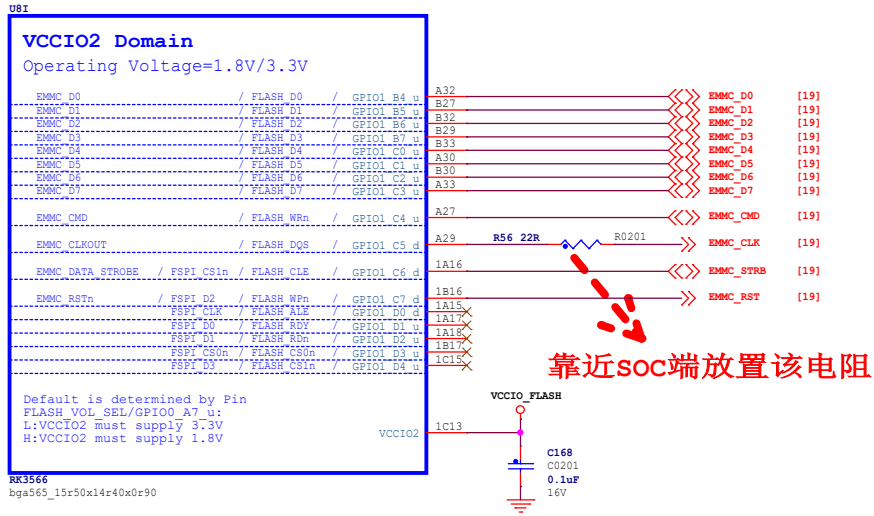
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Title 野火_RK3566 LUBANCAT_1_原理图_V0.1		
Size A3	Document Number LPDDR4	Rev V1.0
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RK3566_G (OSC/PLL/PMUIO1/2)

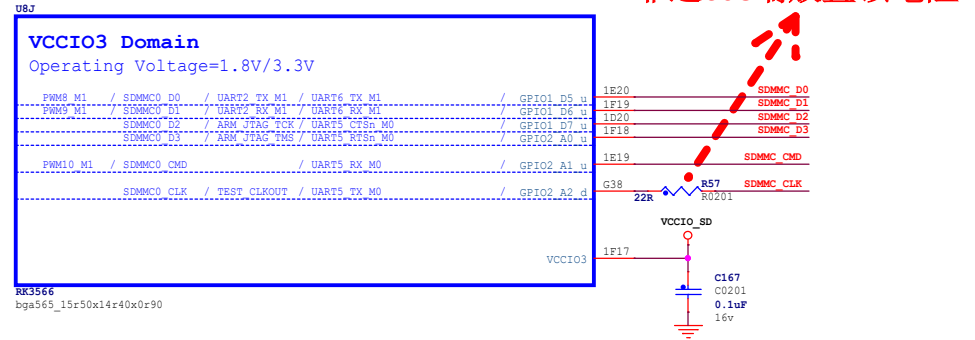


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Size A3	Document Number RK3566_OSC/PLL/PMUIO	Rev V1.0
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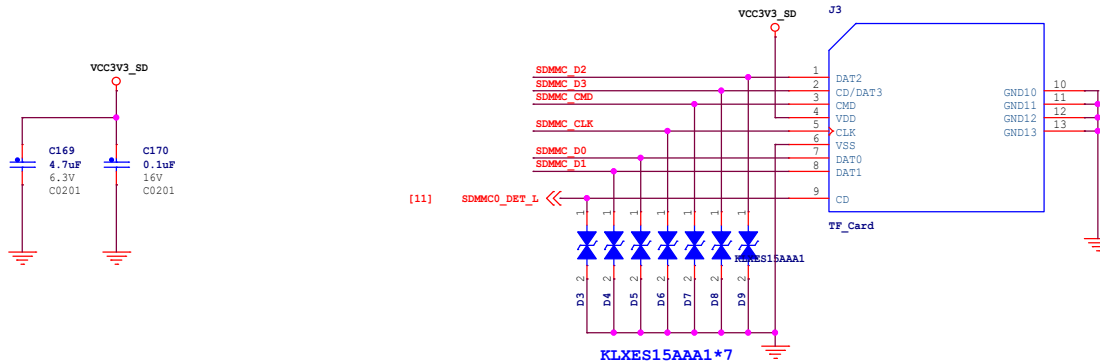
RK3566_I (VCCIO2 Domain) EMMC_IO



RK3566_J (VCCIO3 Domain) SDMMC_IO

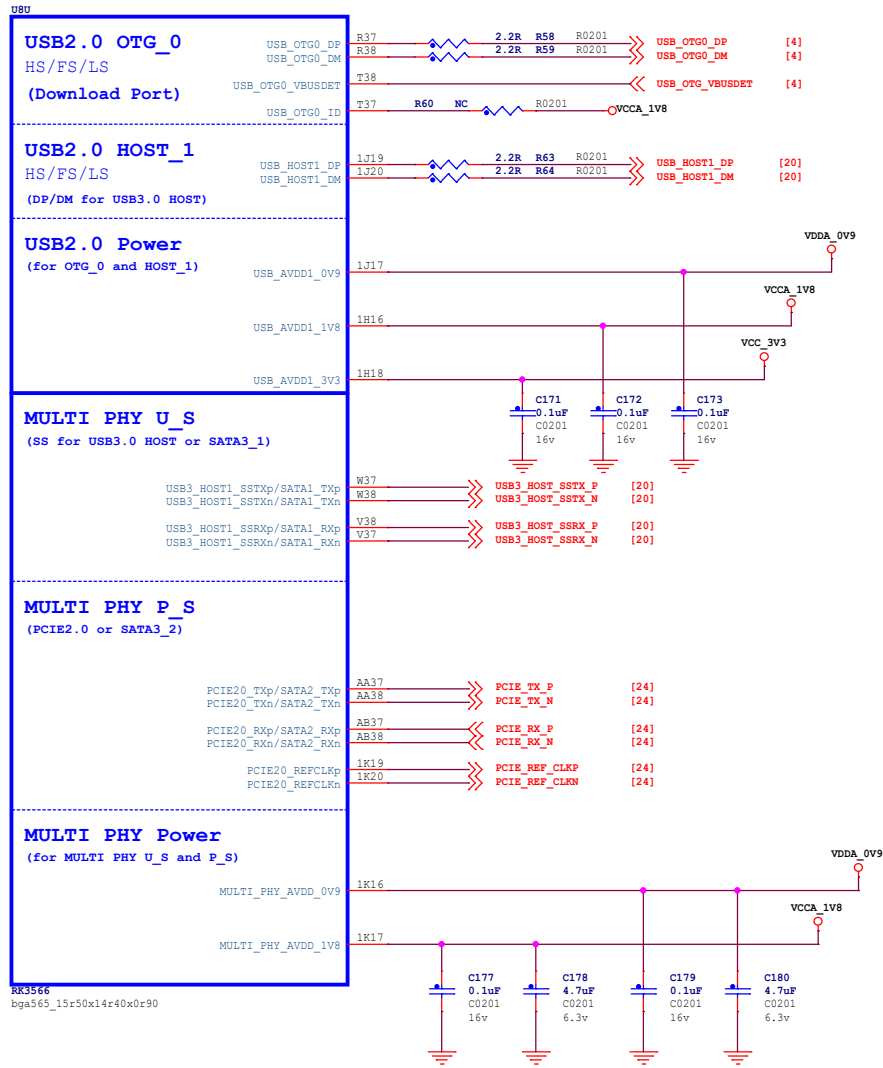


TF_CARD

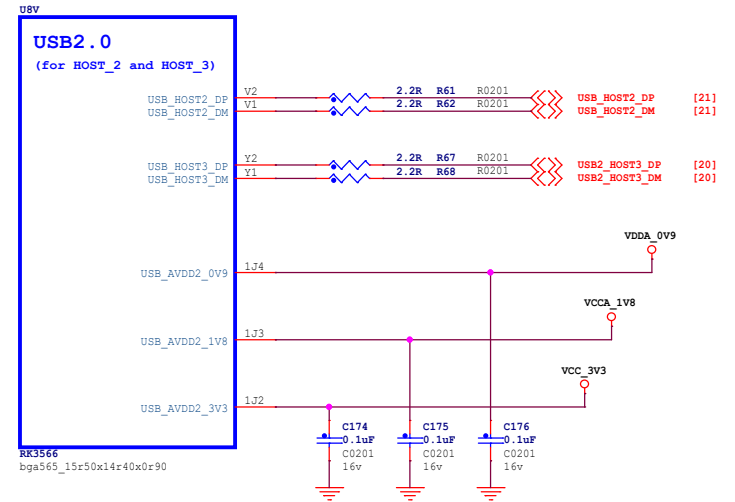


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Title	野火_RK3566_LUBANCAT_1_原理图_V0.1	
Size	Document Number	Rev
A3	RK3566_EMMC/SD Controller	V1.0
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RK3566_U (USB3.0/SATA/PCIe2.0 x1)



RK3566_V (USB2.0 HOST)



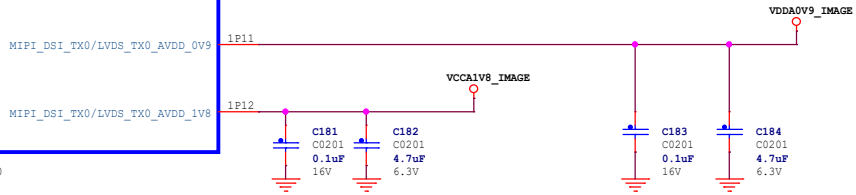
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<https://yehuoem.taobao.com>

Title 野火_RK3566_LUBANCAT_1_原理图_V0.1		
Size A3	Document Number RK3566_USB/PCIe/SATA_PHY	Rev V1.0
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RK3566_R (MIPI_DSI_TX0/LVDS_TX0)

MIPI DSI TX0/LVDS TX0

MIPI_DSI_TX0_D0p/LVDS_TX0_D0p	AP30	MIPI_DSI_TX0_D0p	[25]
MIPI_DSI_TX0_D0n/LVDS_TX0_D0n	AR30	MIPI_DSI_TX0_D0n	[25]
MIPI_DSI_TX0_D1p/LVDS_TX0_D1p	AR29	MIPI_DSI_TX0_D1p	[25]
MIPI_DSI_TX0_D1n/LVDS_TX0_D1n	AF29	MIPI_DSI_TX0_D1n	[25]
MIPI_DSI_TX0_D2p/LVDS_TX0_D2p	AR27	MIPI_DSI_TX0_D2p	[25]
MIPI_DSI_TX0_D2n/LVDS_TX0_D2n	AR27	MIPI_DSI_TX0_D2n	[25]
MIPI_DSI_TX0_D3p/LVDS_TX0_D3p	AR26	MIPI_DSI_TX0_D3p	[25]
MIPI_DSI_TX0_D3n/LVDS_TX0_D3n	AF26	MIPI_DSI_TX0_D3n	[25]
MIPI_DSI_TX0_CLKp/LVDS_TX0_CLKp	LV16	MIPI_DSI_TX0_CLKp	[25]
MIPI_DSI_TX0_CLKn/LVDS_TX0_CLKn	LV15	MIPI_DSI_TX0_CLKn	[25]

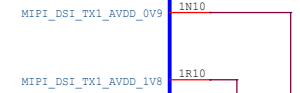


RR3566
bga565_15r50x14r40x0r90

RK3566_S (MIPI_DSI_TX1)

MIPI DSI TX1

MIPI_DSI_TX1_D0p	AP24		
MIPI_DSI_TX1_D0n	AR24		
MIPI_DSI_TX1_D1p	AR23		
MIPI_DSI_TX1_D1n	AP23		
MIPI_DSI_TX1_D2p	AP21		
MIPI_DSI_TX1_D2n	AR21		
MIPI_DSI_TX1_D3p	AR20		
MIPI_DSI_TX1_D3n	AP20		
MIPI_DSI_TX1_CLKp	LV11		
MIPI_DSI_TX1_CLKn	LV11		

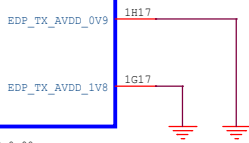


RR3566
bga565_15r50x14r40x0r90

RK3566_T (eDP/DP TX)

eDP_TX

EDP_TX_D0p	J37		
EDP_TX_D0n	J38		
EDP_TX_D1p	K38		
EDP_TX_D1n	K37		
EDP_TX_D2p	M37		
EDP_TX_D2n	M38		
EDP_TX_D3p	N37		
EDP_TX_D3n	N38		
EDP_TX_AUXp	1H19		
EDP_TX_AUXn	1H20		

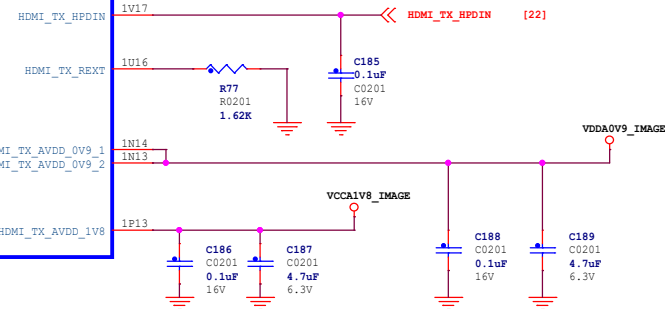


RR3566
bga565_15r50x14r40x0r90

RK3566_Q (HDMI2.0 TX)

HDMI2.0 TX

HDMI_TX_D2p	AP36	2.2R	R69	R0201	HDMI_TX_D2p	[22]
HDMI_TX_D2n	AR36	2.2R	R70	R0201	HDMI_TX_D2n	[22]
HDMI_TX_D1p	AR35	2.2R	R71	R0201	HDMI_TX_D1p	[22]
HDMI_TX_D1n	AP35	2.2R	R72	R0201	HDMI_TX_D1n	[22]
HDMI_TX_D0p	AP33	2.2R	R73	R0201	HDMI_TX_D0p	[22]
HDMI_TX_D0n	AR33	2.2R	R74	R0201	HDMI_TX_D0n	[22]
HDMI_TX_CLKp	AR32	2.2R	R75	R0201	HDMI_TX_CLKp	[22]
HDMI_TX_CLKn	AP32	2.2R	R76	R0201	HDMI_TX_CLKn	[22]



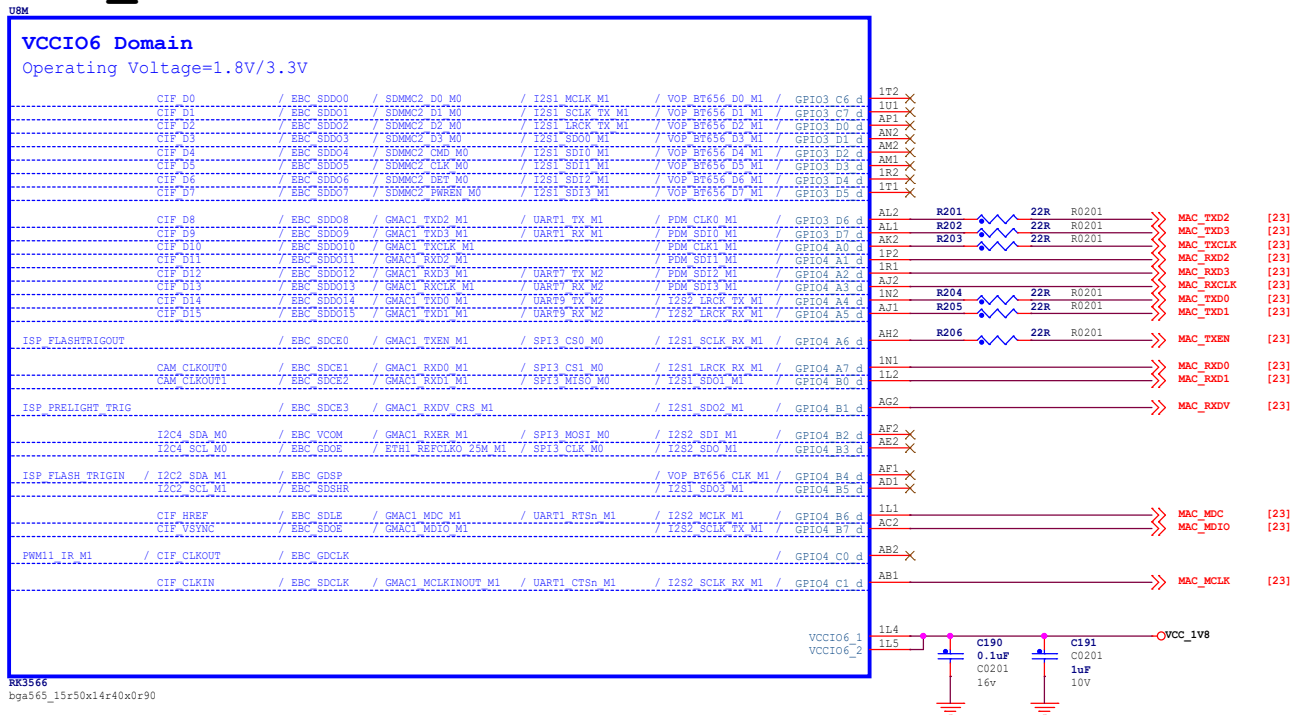
RR3566
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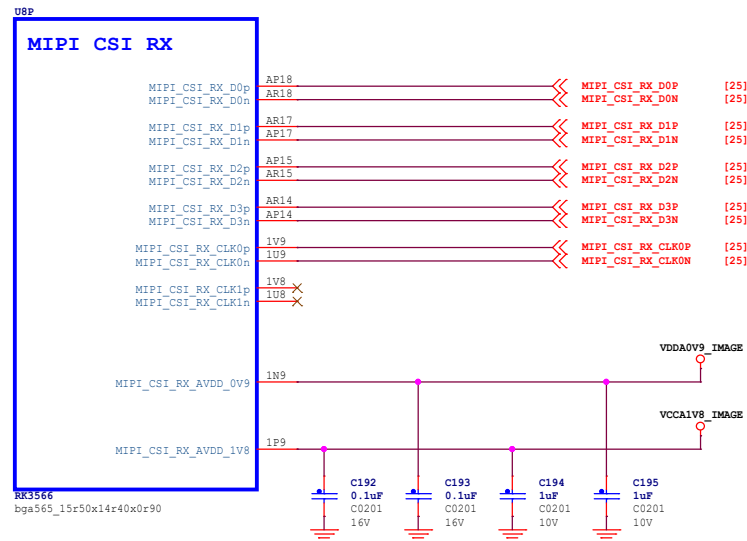
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Size A3	Document Number MIPI_DSI/EDP/HDMI_Controller	Rev V1.0
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RK3566_M(VCCIO6 Domain)

GMAC_Controller



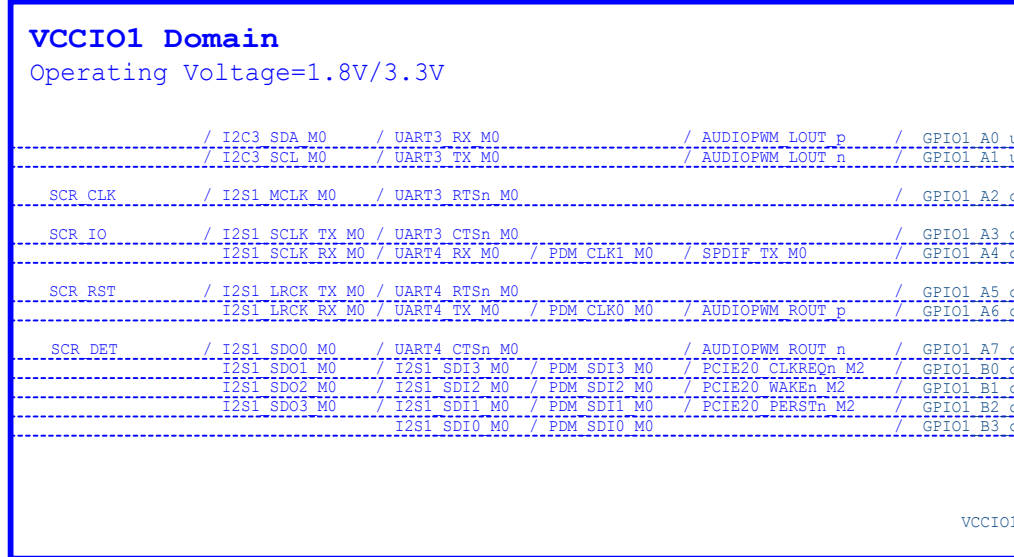
RK3566_P(MIPI_CSI_RX)



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Title	野火_RK3566_LUBANCAT_1_原理图_V0.1	
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A3	MIPI_CSI/GMAC_Controller	V1.0
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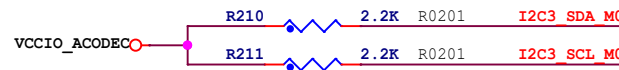
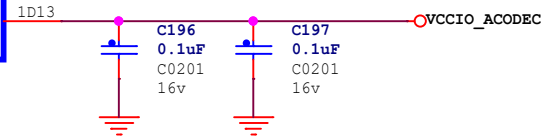
RK3566_H (VCCIO1 Domain)

U8H



RK3566
bga565_15r50x14r40x0r90

VCCIO1



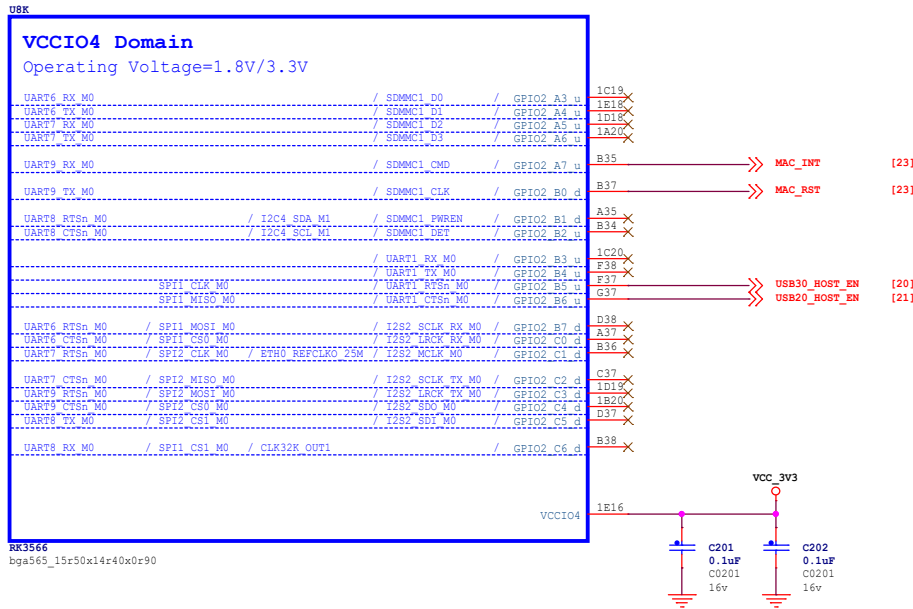
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野火_RK3566 LUBANCAT_1_原理图_v0.1

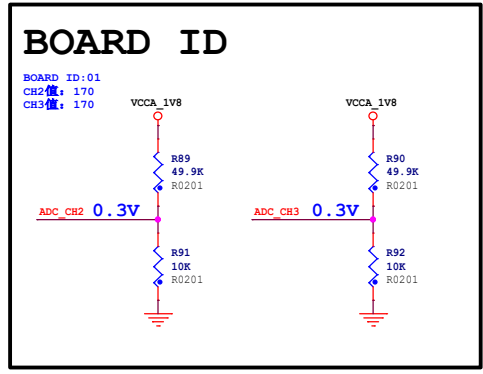
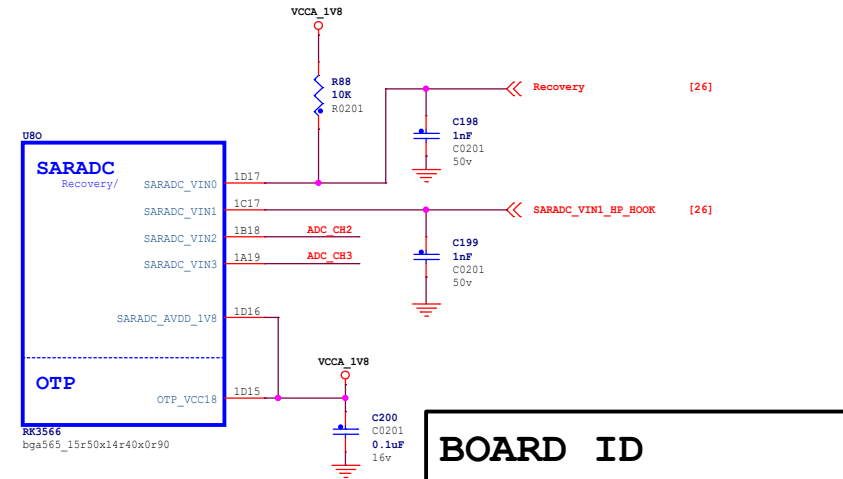
Size A4	Document Number RK3566_Audio Interface	Rev V1.0
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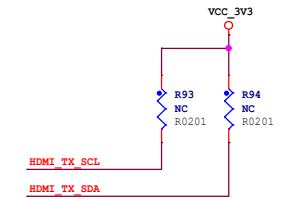
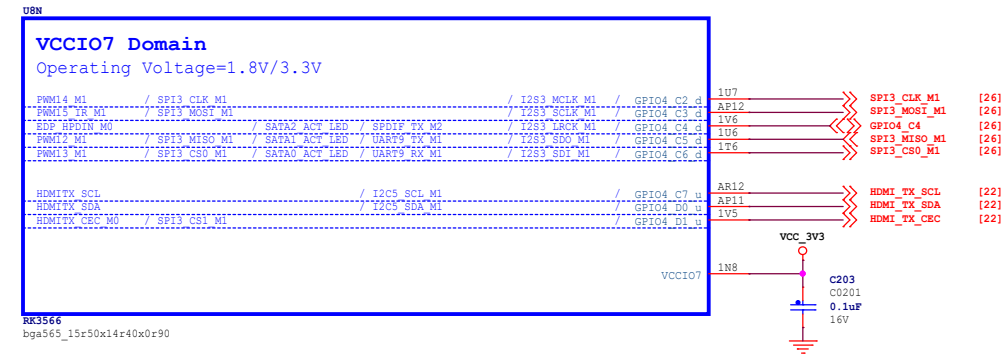
RK3566_K (VCCIO4 Domain)



RK3566_O (SARADC/OTP)



RK3566_N (VCCIO7 Domain)



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A3	RK3566_SARADC/GPIO	V1.0
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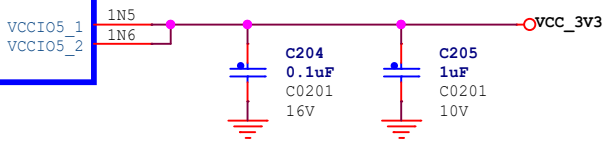
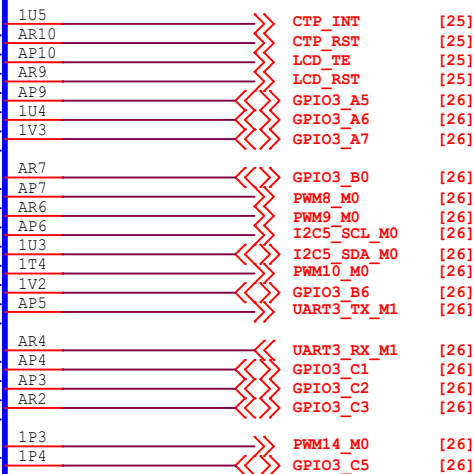
RK3566_L (VCCIO5 Domain)

U8L

VCCIO5 Domain

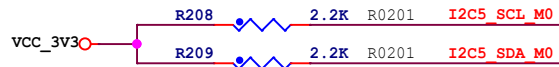
Operating Voltage=1.8V/3.3V

VOP BT1120 D0	/ SPI1 CS0 M1	/ GMAC1 TXD2 M0	/ I2S3 MCLK M0	/ SDMMC2 D0 M1	/ GPIO3 A1 d
VOP BT1120 D1		/ GMAC1 TXD3 M0	/ I2S3 SCLK M0	/ SDMMC2 D1 M1	/ GPIO3 A2 d
VOP BT1120 D2		/ GMAC1 RXD2 M0	/ I2S3 LRCK M0	/ SDMMC2 D2 M1	/ GPIO3 A3 d
VOP BT1120 D3		/ GMAC1 RXD3 M0	/ I2S3 SDO M0	/ SDMMC2 D3 M1	/ GPIO3 A4 d
VOP BT1120 D4		/ GMAC1 TXCLK M0	/ I2S3 SDI M0	/ SDMMC2 CMD M1	/ GPIO3 A5 d
VOP BT1120 D5		/ GMAC1 RXCLK M0		/ SDMMC2 DET M1	/ GPIO3 A7 d
VOP BT1120 D6		/ ETH1 REFCLK0 25M M0		/ SDMMC2 PWREN M1	/ GPIO3 B0 d
PWM8 M0	/ VOP BT1120 D7	/ GMAC1 RXD0 M0	/ UART4 RX M1		/ GPIO3 B1 d
PWM9 M0	/ VOP BT1120 D8	/ GMAC1 RXD1 M0	/ UART4 TX M1		/ GPIO3 B2 d
VOP BT1120 D9	/ I2C5 SCL M0	/ GMAC1 RXDV CRS M0		/ PDM SDI0 M2	/ GPIO3 B3 d
VOP BT1120 D10	/ I2C5 SDA M0	/ GMAC1 RXER M0		/ PDM SDI1 M2	/ GPIO3 B4 d
PWM10 M0	/ VOP BT1120 D11	/ I2C3 SCL M1	/ GMAC1 TXD0 M0		/ GPIO3 B5 d
PWM11 IR M0	/ VOP BT1120 D12	/ I2C3 SDA M1	/ GMAC1 TXD1 M0		/ GPIO3 B6 d
PWM12 M0		/ GMAC1 TXEN M0	/ UART3 TX M1	/ PDM SDI2 M2	/ GPIO3 B7 d
PWM13 M0		/ GMAC1 MCLKINOUT M0	/ UART3 RX M1	/ PDM SDI3 M2	/ GPIO3 C0 d
VOP BT1120 D13	/ SPI1 MOSI M1		/ PCIE20 PERSTn M1	/ I2S1 SDO2 M2	/ GPIO3 C1 d
VOP BT1120 D14	/ SPI1 MISO M1		/ UART5 TX M1	/ I2S1 SDO3 M2	/ GPIO3 C2 d
VOP BT1120 D15	/ SPI1 CLK M1		/ UART5 RX M1	/ I2S1 SCLK RX M2	/ GPIO3 C3 d
PWM14 M0	/ VOP PWM M1	/ GMAC1 MDC M0	/ UART7 TX M1	/ PDM CLK1 M2	/ GPIO3 C4 d
PWM15 IR M0	/ SPDIF TX M1	/ GMAC1 MDIO M0	/ UART7 RX M1	/ I2S1 LRCK RX M2	/ GPIO3 C5 d



RK3566

bga565_15r50x14r40x0r90



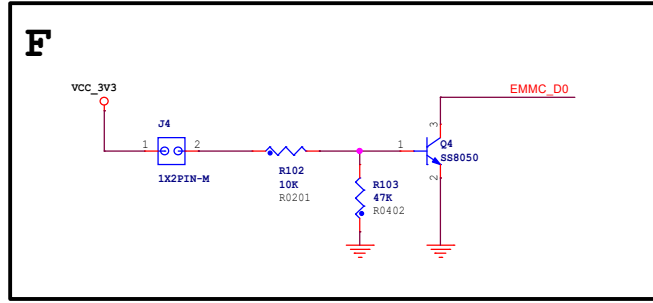
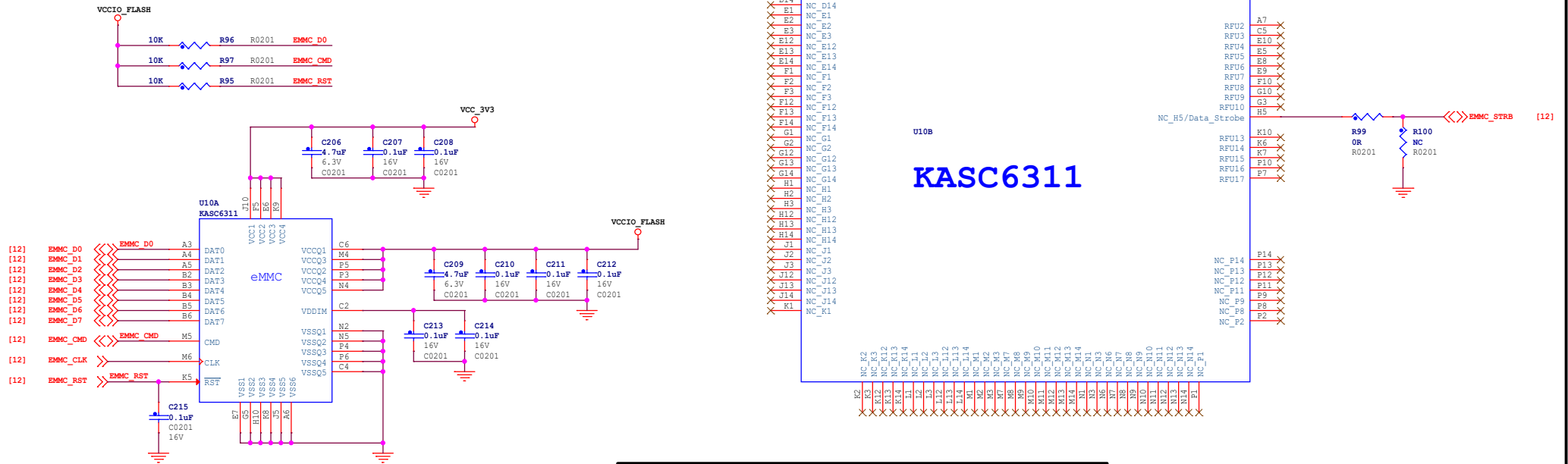
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野火_RK3566 LUBANCAT_1 原理图_v0.1

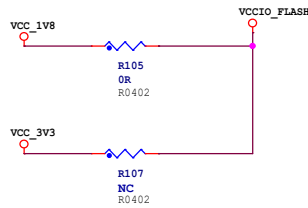
Size A4 Document Number RK3566_VO Interface Rev V1.0

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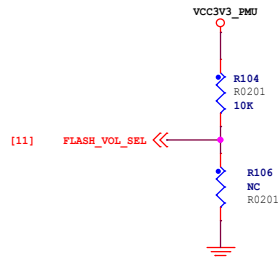
EMMC FLASH



EMMC_IO_Toggle



FLASH_VOL_SEL



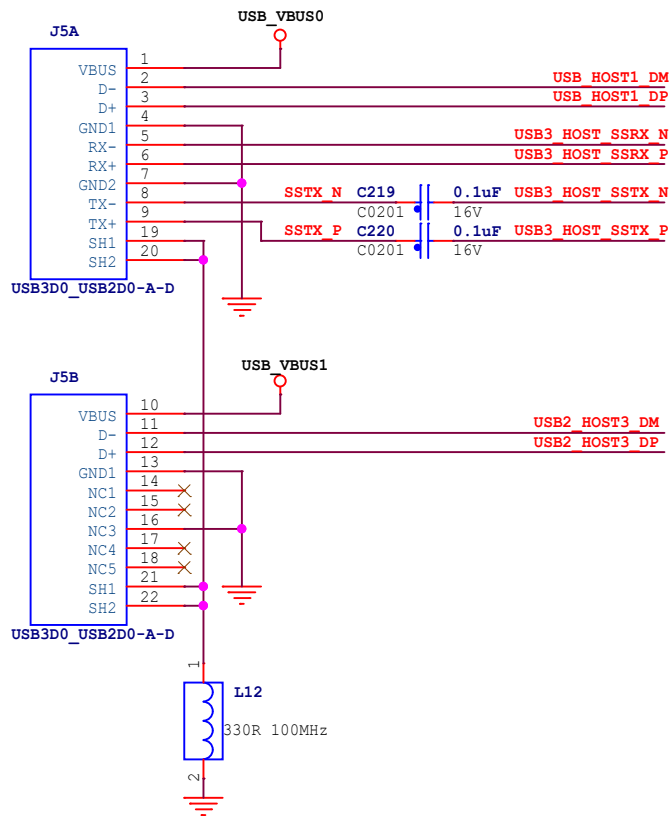
Note:

FLASH_VOL_SEL state decided to VCCIO2 domain IO driven by default
 Logic=L: 3.3V IO driven
 Logic=H: 1.8V IO driven

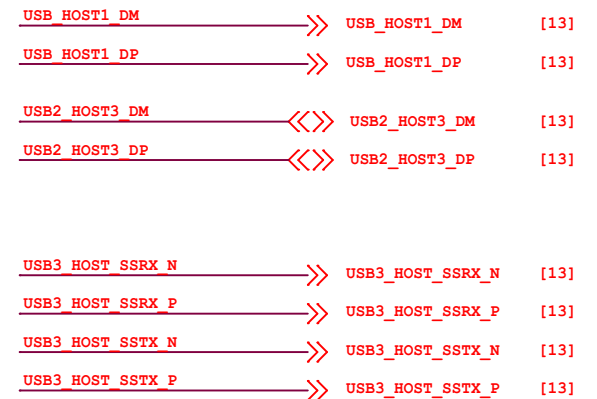
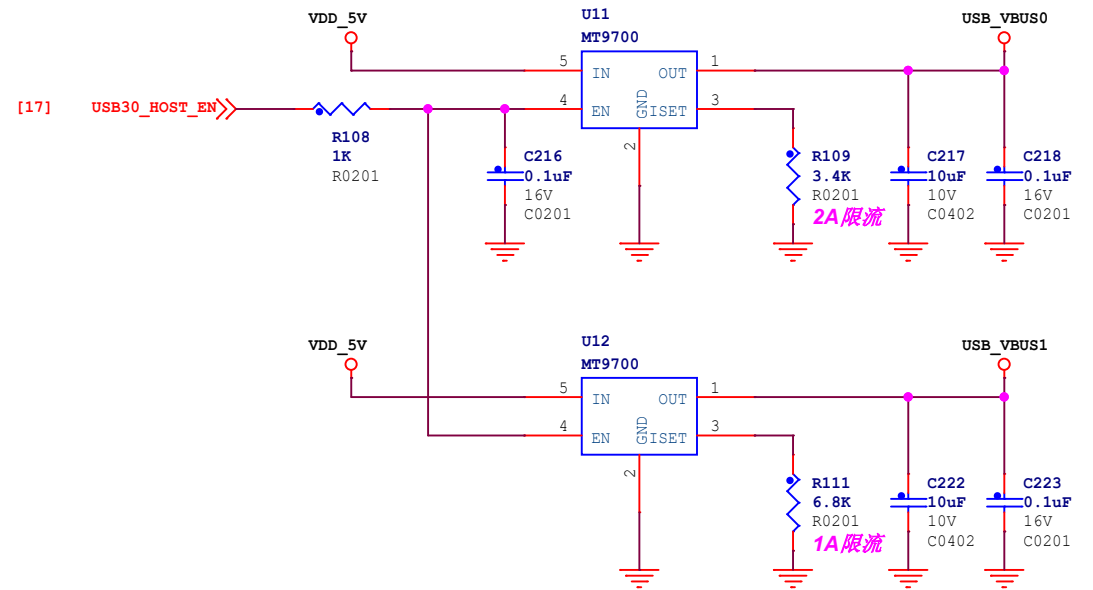
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Title	野火_RK3566_LUBANCAT_1_原理图_V0.1	
Size	Document Number	Rev
A3	EMMC_FLASH	V1.0
Date:	Monday, December 12, 2022	Sheet 19 of 26

USB 3.0 HOST x1

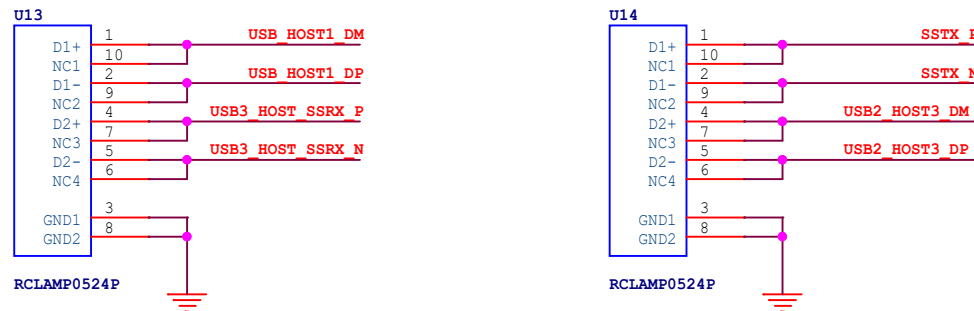
USB 2.0 HOST x1



USB POWER



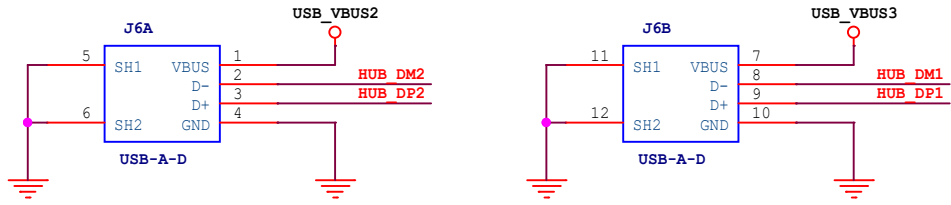
ESD



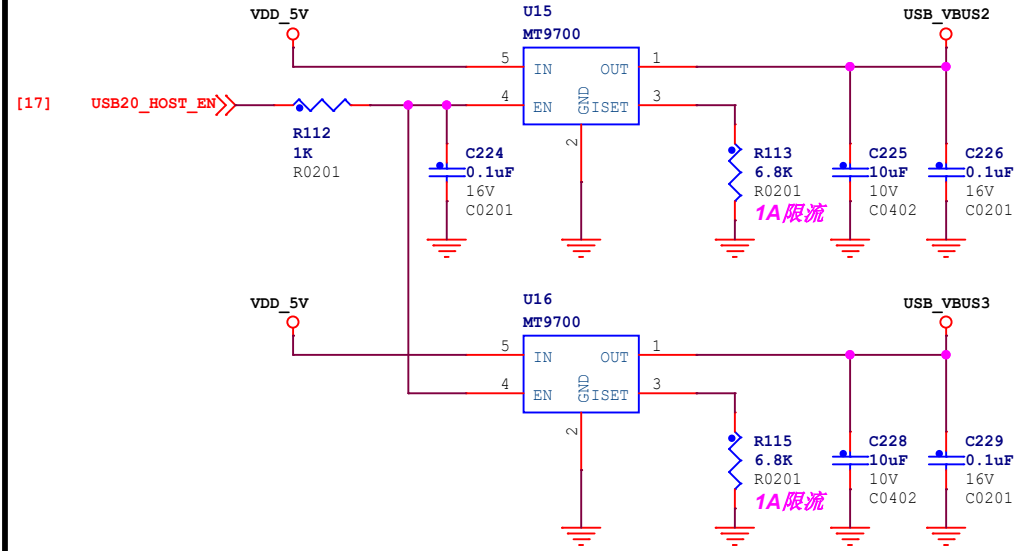
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Title		
野火_RK3566 LUBANCAT_1_原理图_V0.1		
Size	Document Number	Rev
A4	USB_PORT_1	V1.0
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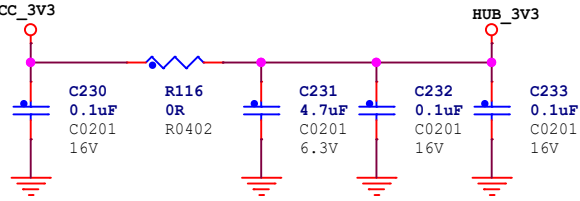
USB 2.0 HOST x2



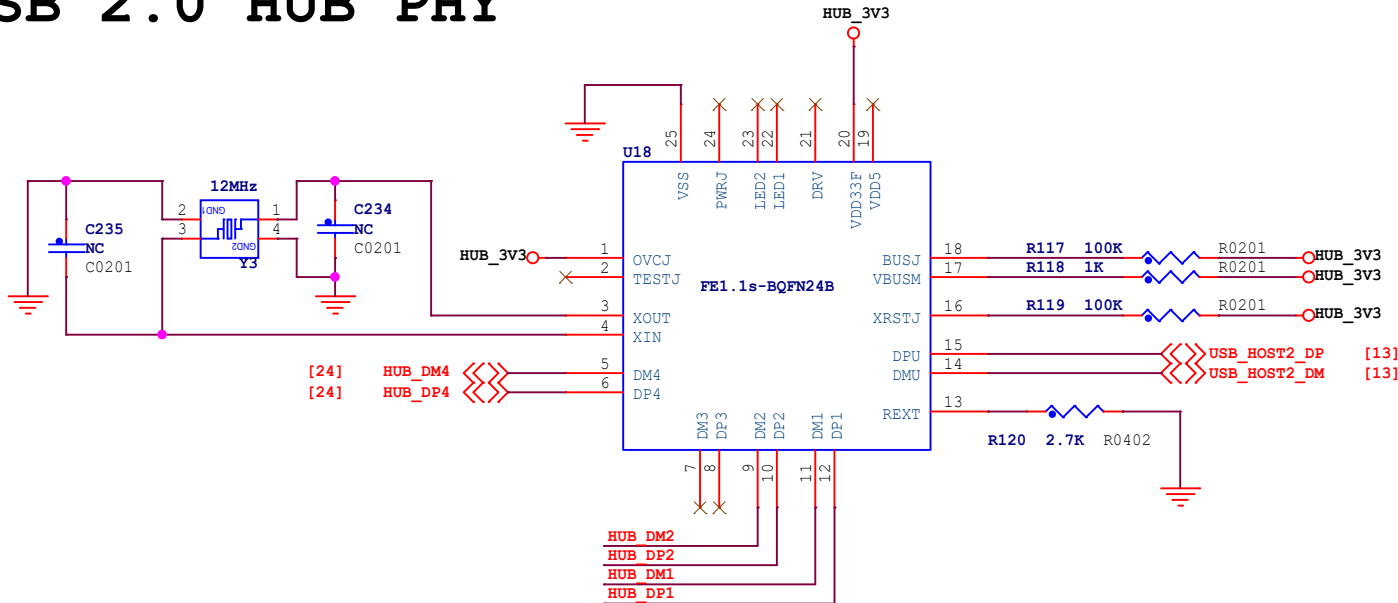
USB POWER



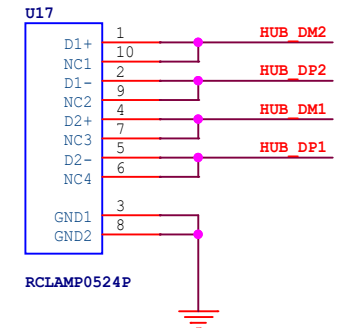
Filter capacitor



USB 2.0 HUB PHY



ESD



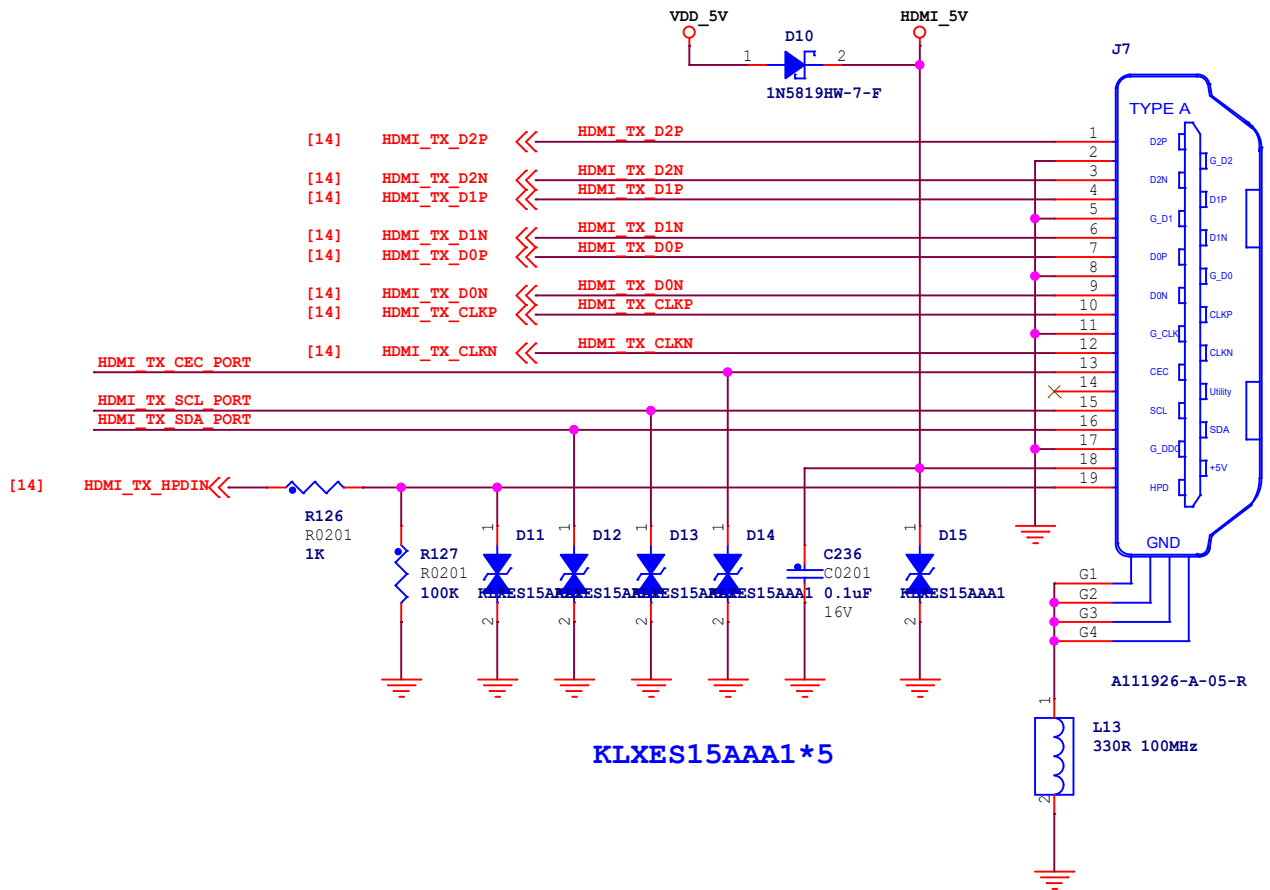
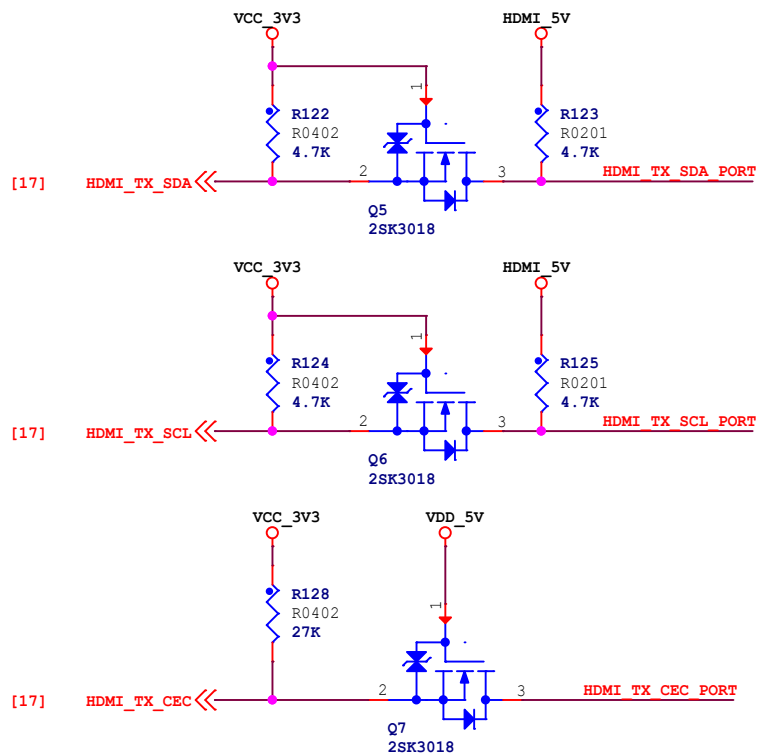
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Title
 野火_RK3566 LUBANCAT_1 原理图_V0.1

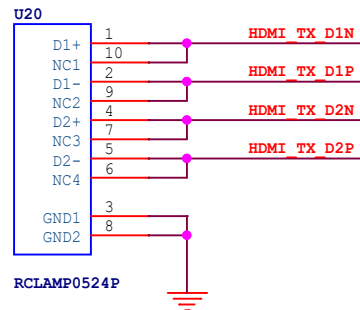
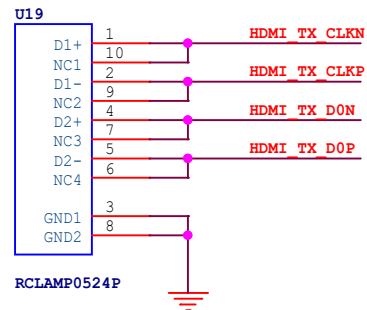
Size A4	Document Number USB_PORT_2	Rev V1.0
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HDMI_PORT



ESD



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Title
 野火_RK3566 LUBANCAT_1_原理图_v0.1

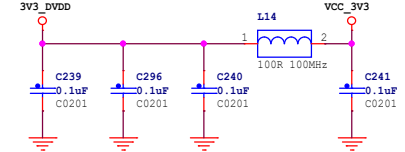
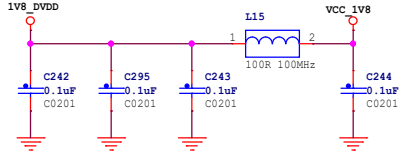
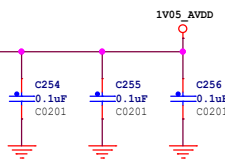
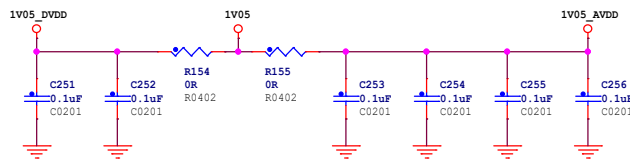
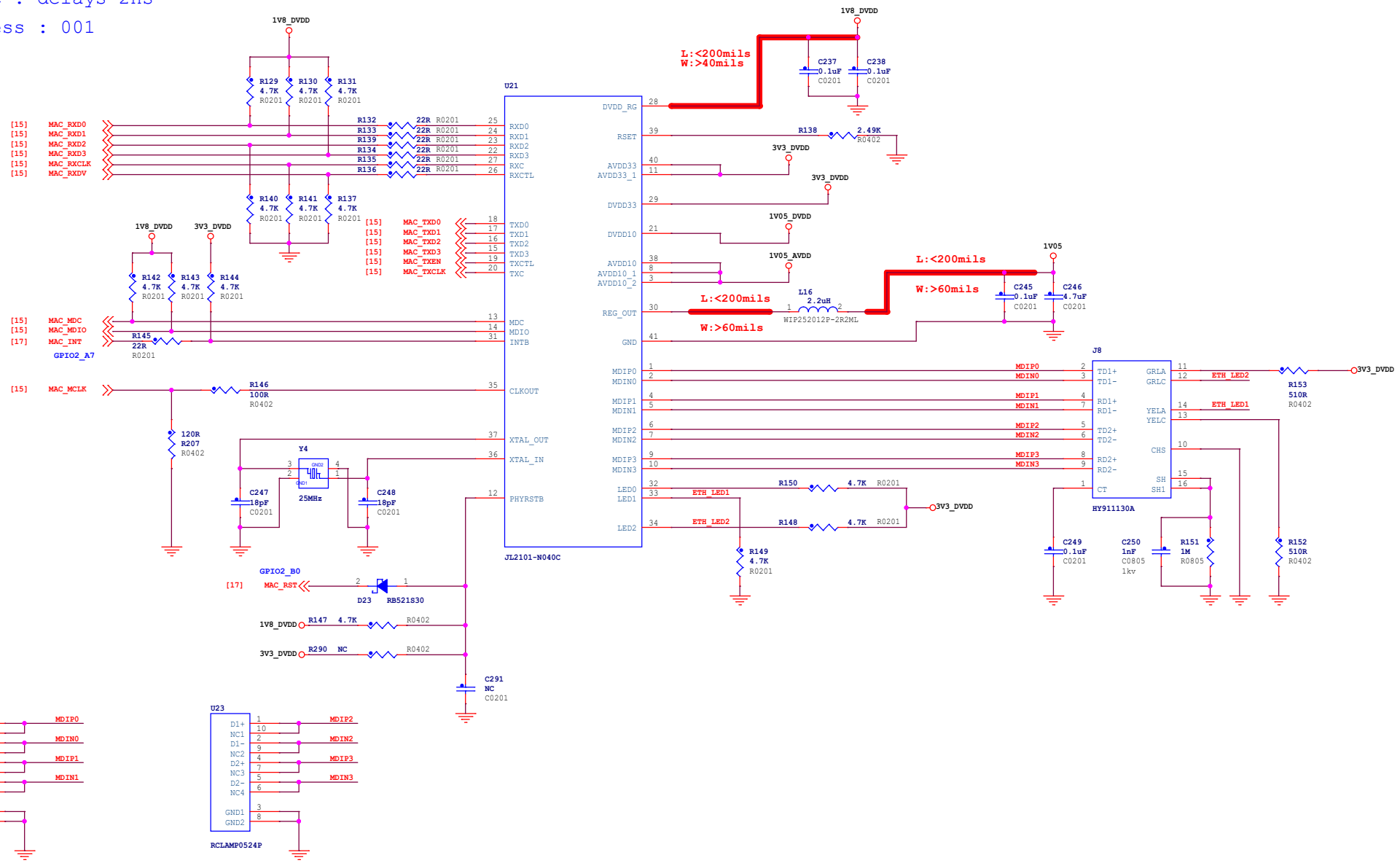
Size A4	Document Number HDMI_PORT	Rev V1.0
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JL2101-N040C

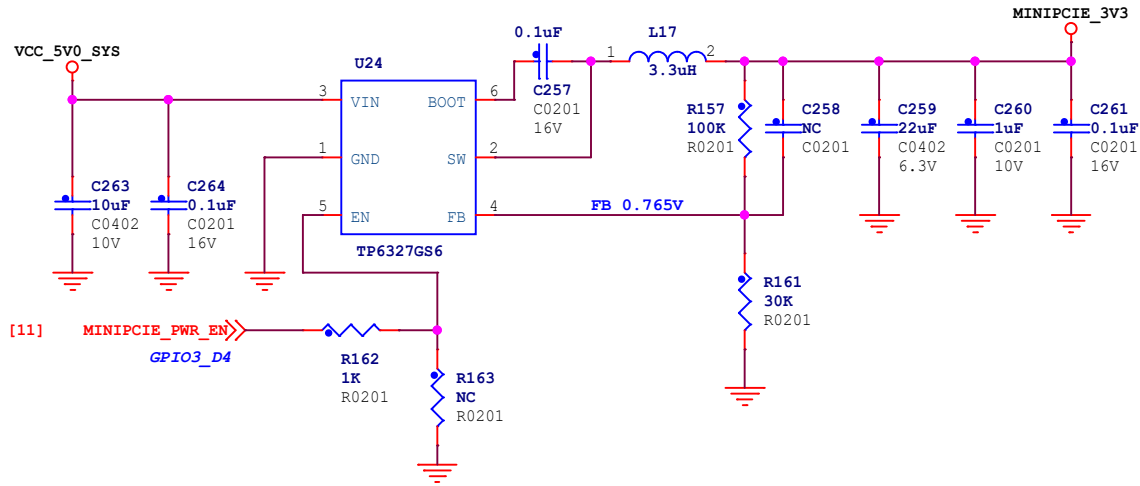
TXC / RXC : delays 2ns

PHY Address : 001

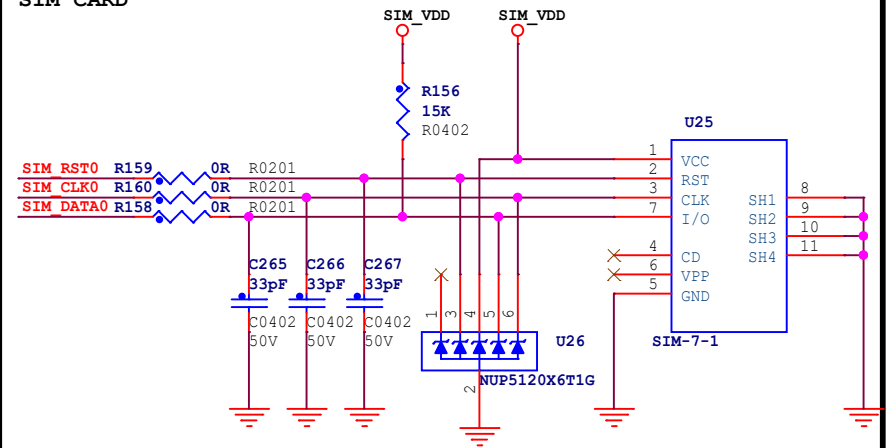


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Title 野火_RK3566_IUBANCAT_1_原理图_V0.1		
Size A3	Document Number WAN RTL8211F/JL2101-N040C	Rev V1.0
Date: Monday, December 12, 2022	Sheet 23	of 26

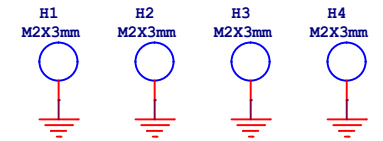
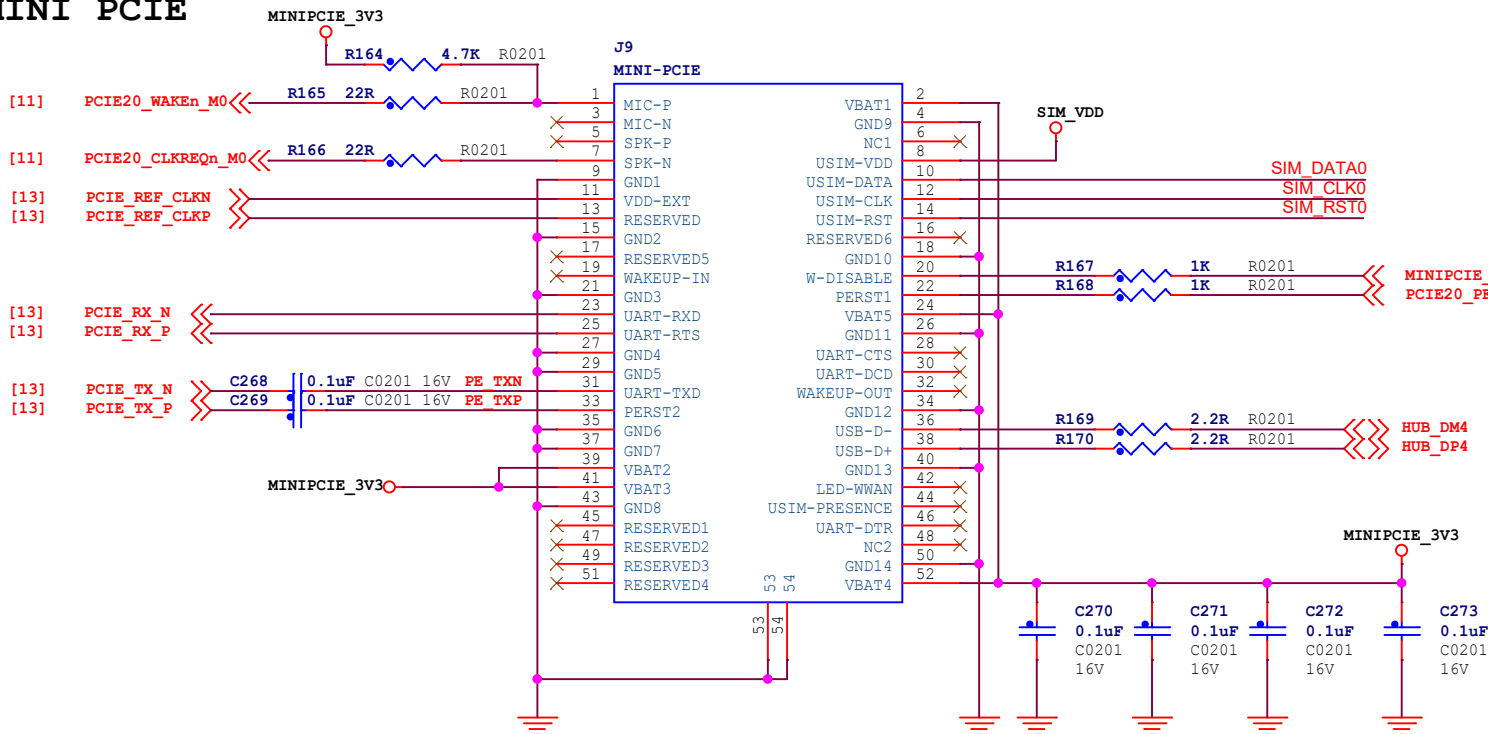
MINI PCIE POWER



SIM CARD

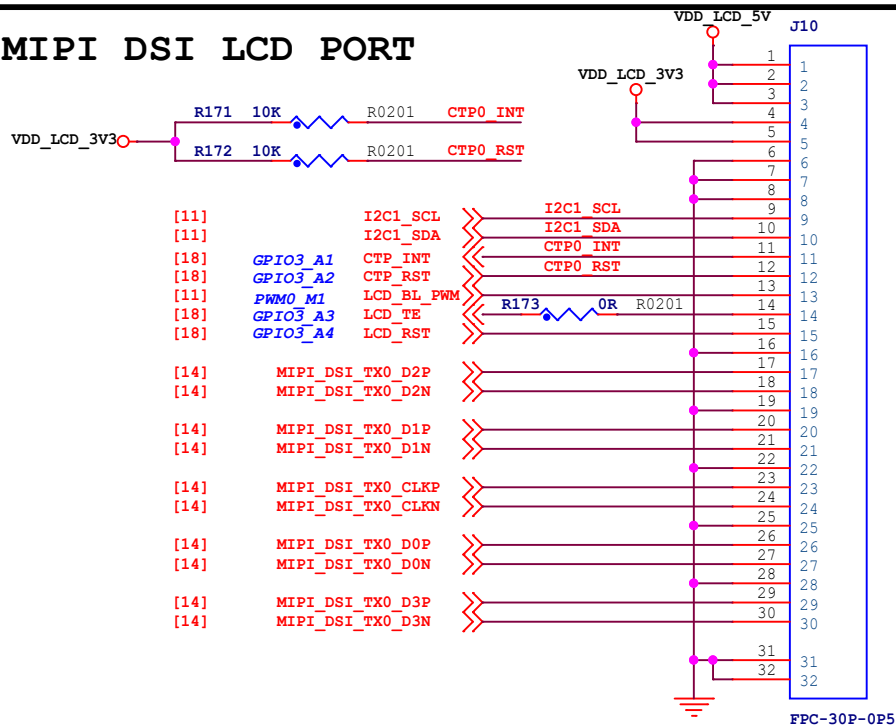


MINI PCIE

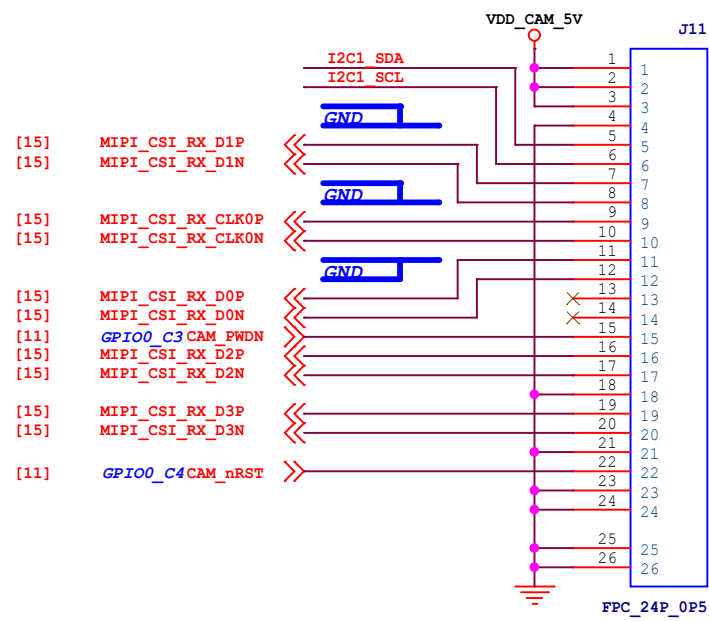


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野火_RK3566 LUBANCAT_1 原理图_v0.1		
Size	Document Number	Rev
A4	MINI PCIE_PORT	V1.0
Date: Monday, December 12, 2022	Sheet 24	of 26

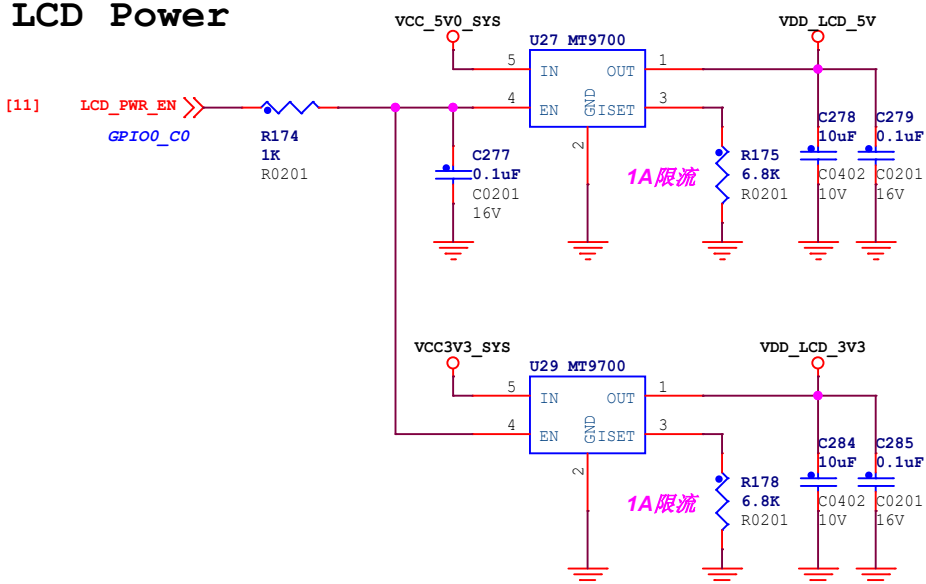
MIPI DSI LCD PORT



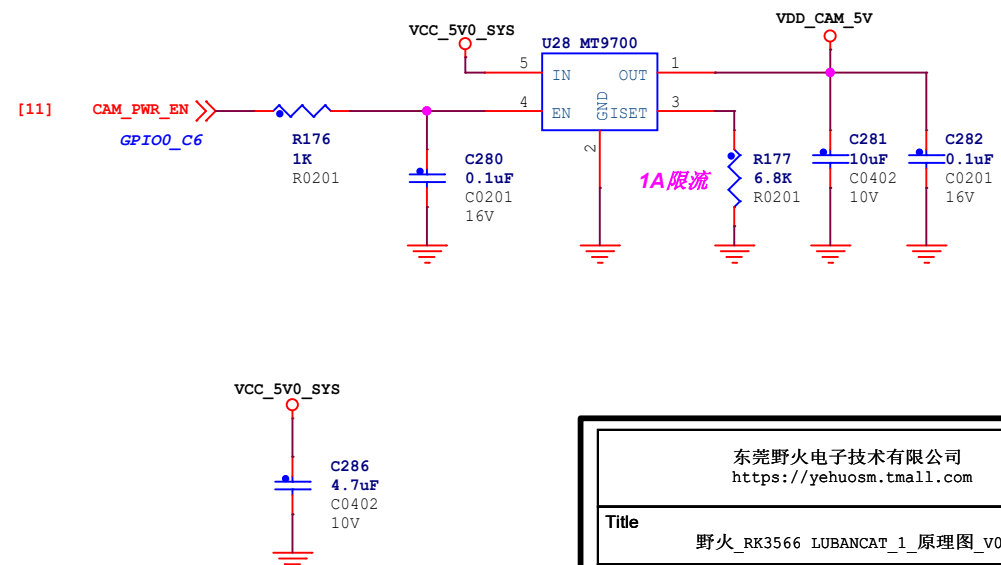
MIPI CSI PORT



LCD Power



MIPI CSI Power

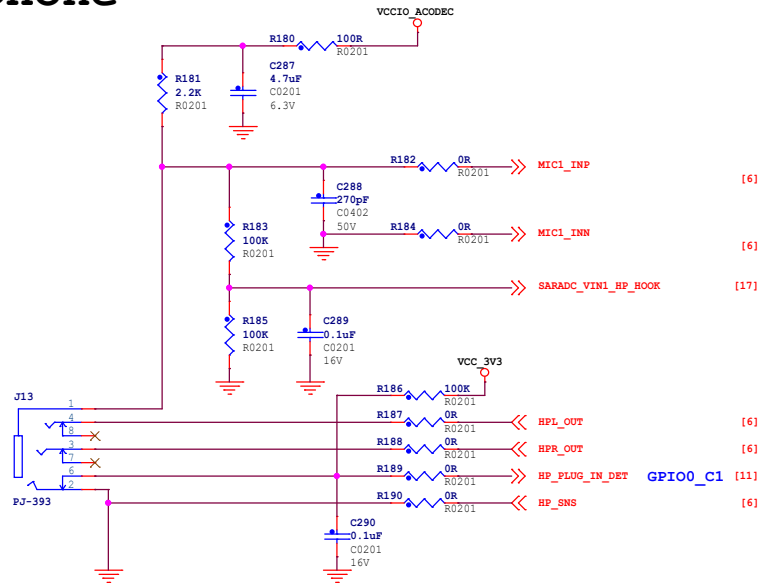


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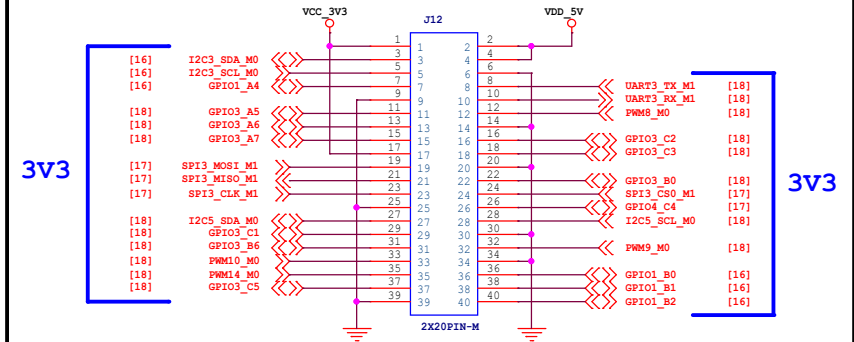
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Size: A4	Document Number: MIPI DSI/MIPI CSI_PORT	Rev: V1.0
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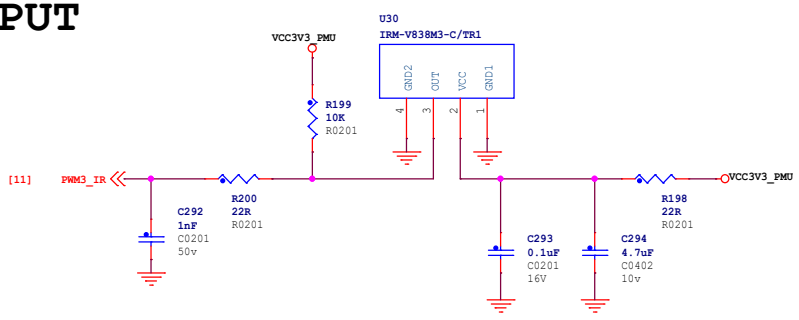
Earphone



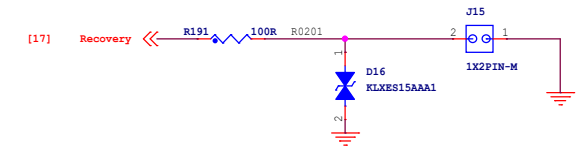
Pin Out



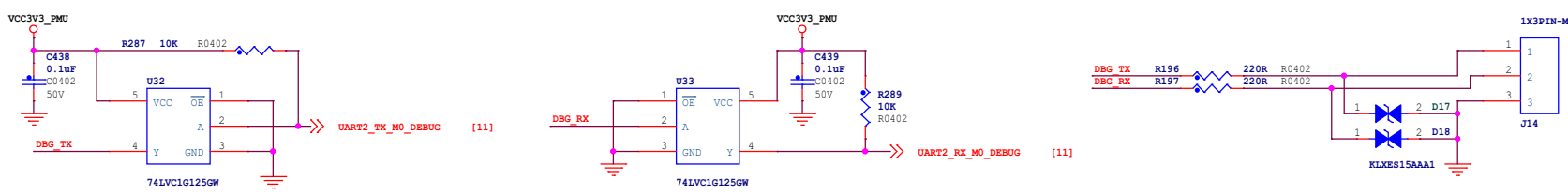
IR_INPUT



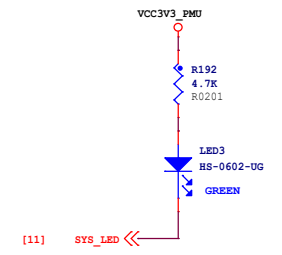
REC KEY



Debug UART2



SYS_LED



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Title	野火_RK3566 LUBANCAT_1 原理图_V0.1	
Size	Document Number	Rev
A3	DEBUG/KEY/LED/IR_IN/PIN_OUT	V1.0
Date:	Monday, December 12, 2022	Sheet 26 of 26