

Demo Board For RV1106G

RV1106G_AOV_DEMO_V11

Reference Design Main Functions Introduction

Power	Discrete
RAM	SPI FLASH
Interface	SDMMC/SDIO/MIPI_CSI/I2S/USB/ADC

Rockchip Confidential

Rockchip	Rockchip Electronics Co., Ltd
Project:	RV1106G_AOV_DEMO
File:	00.Cover Page
Date:	Friday, May 24, 2024
Designed by:	LinXu
Reviewed by:	Default
Rev:	V1.1
Sheet:	0 of 0

Index and Notes

Catalogue

Page	Description
Page01	00.Cover Page
Page02	01.Index and Notes
Page03	02.Revision History
Page04	03.Block Diagram
Page05	04.Power Diagram and Sequence
Page06	06.IO Power Domain Map
Page07	10.RV1106G Power/Codec/ETH/USB
Page08	11.RV1106G OSC/RTC/PMU/VCCIO
Page09	12.RV1106G ADC/FLASH/SDMMC
Page10	13.RV1106G SDIO/LCD/VICAP/MIPI
Page11	20.Power-System
Page12	25.USB&CHARGE
Page13	42.Flash-Micro-SD Card
Page14	45.VI-Camera Power
Page15	47.VI-Camera
Page16	63.WIFI
Page17	70.Audio
Page18	71.PIR/LED Interface
Page19	99.Mark/Hole

Note

NOTE 1:

Component parameter description

1. DNP stands for component not mounted temporarily
2. If Value or option is DNP, which means the area is reserved without being mounted

NOTE 2:

Please use our recommended components to avoid too many changes.

For more informations about the second source,please refer to our AVL.

Generate Bill of Materials

Header:

```
Item\tPart\tDescription\tPCB Footprint\tReference\tQuantity\tOption
```

Combined property string:

```
{Item}\t{Value}\t{Description}\t{PCB Footprint}\t{Reference}\t{Quantity}\t{Option}
```

Graphic Description



Rockchip Confidential

Rockchip	Rockchip Electronics Co., Ltd
Project:	RV1106G_AOV_DEMO
File:	01.Index and Notes
Date:	Friday, May 24, 2024
Designed by:	LinXu
Reviewed by:	Default
Rev:	V1.1
Sheet:	0 of 0

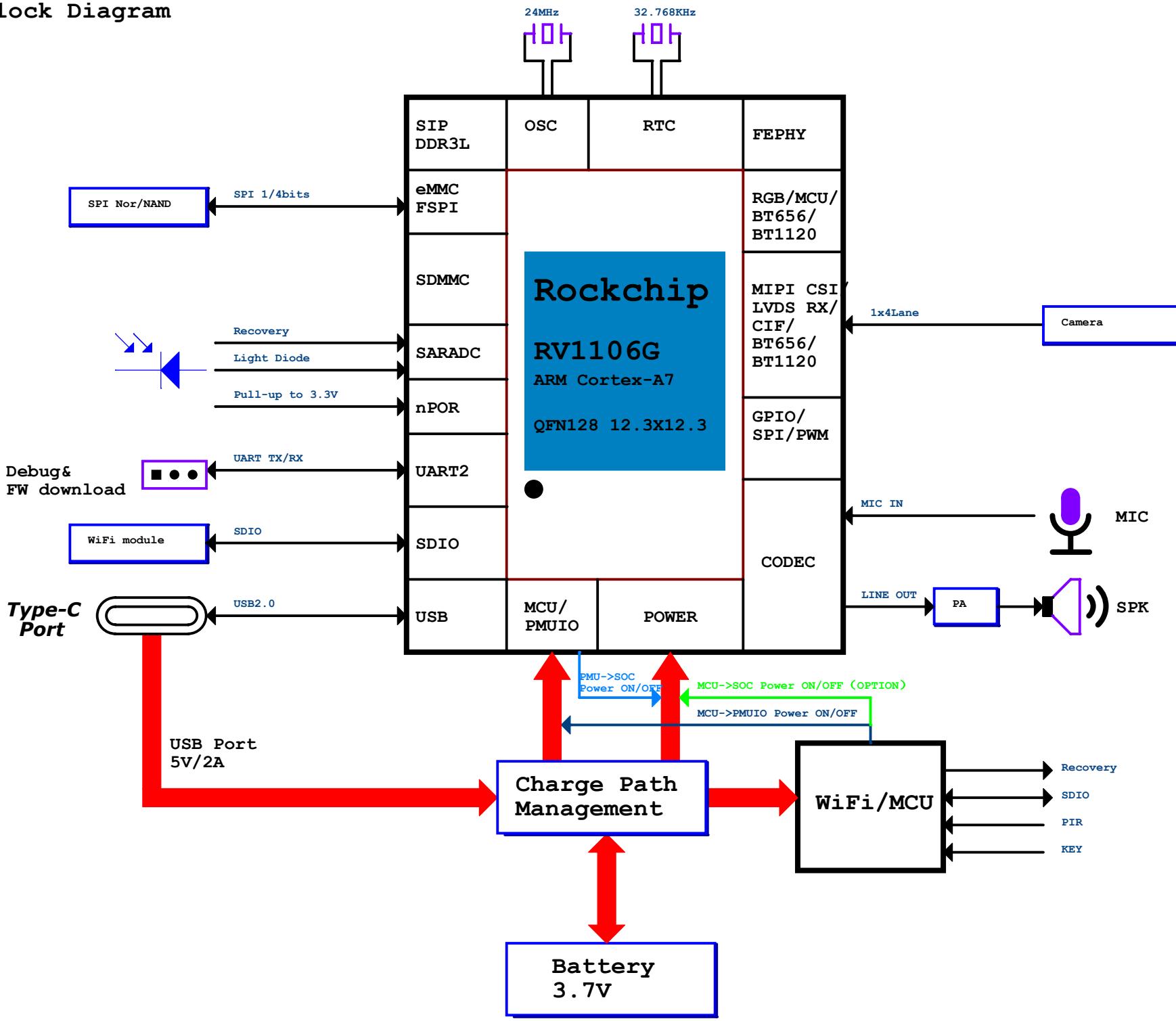
Revision History

Version	Date	Author	Change Note	Approved
V1.0	2024.03.05	whb	First edition	
V1.1	2024.05.21	LinXu	1.Modify power diagram and sequence 2.Add R2521/D2502 for RTC power mangerment 3.Change R2001/R2002 to 150K 4.Change R2007 to 100K 5.Change R2014/R2015 to 200K 6.Change C2019 to 47nF	

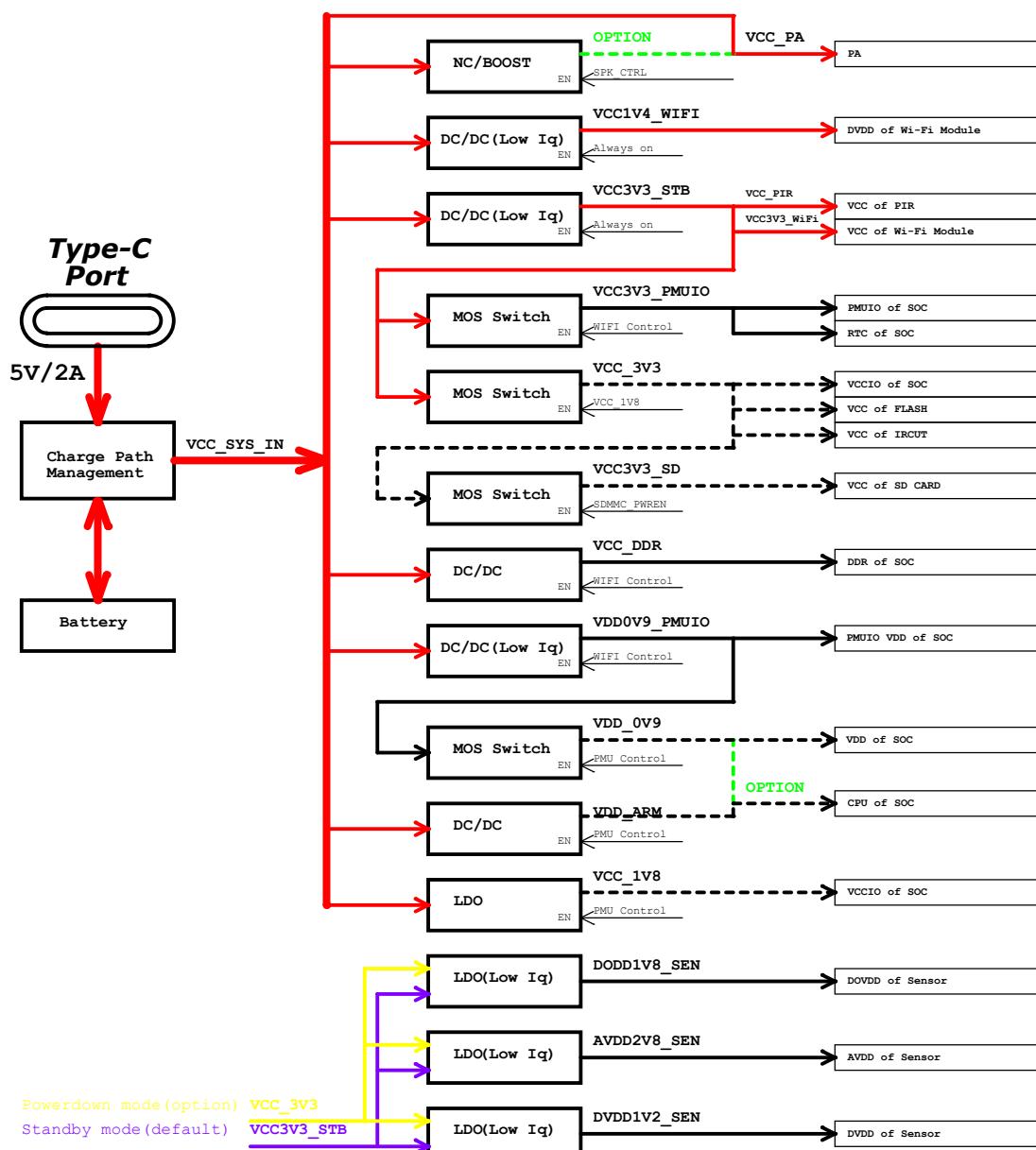
Rockchip Confidential

 Rockchip	Rockchip Electronics Co., Ltd
Project:	RV1106G_AOV_DEMO
File:	02.Revision History
Date:	Friday, May 24, 2024
Designed by:	LinXu
Reviewed by:	Default
Sheet:	0 of 0

Block Diagram



Power Diagram and Sequence

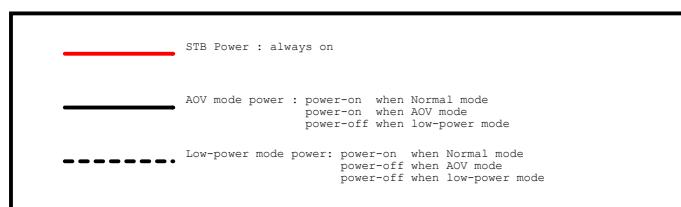
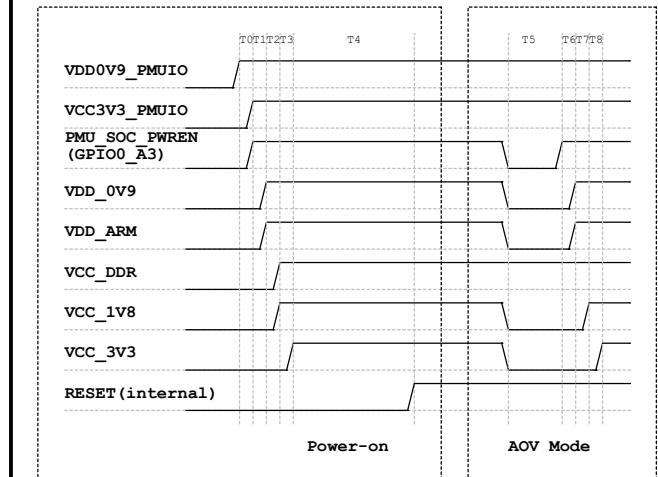


Note:
1. If the sensor wants to use "standby mode", the sensor must support it, otherwise it can only use the "powerdown mode".
如果sensor想使用standby模式必须sensor支持才行，否则只能使用powerdown模式。

Power-on Sequence				
Power Name	PMIC Channel	Time Slot	Default voltage	Peak Current
VCC3V3_STB	DC-DC BUCK	Slot: 1	3.3V	
VCC1V4_WIFI	DC-DC BUCK	Slot: 1A	1.4V	
VDD0V9_PMUIO	DC-DC BUCK	Slot: 1B	0.9V	
VCC3V3_PMUIO	Switch	Slot: 2	3.3V	
VCC_DDR	DC-DC BUCK	Slot: 4	1.35V	
VDD_0V9	Switch	Slot: 3	0.9V	
VDD_ARM	DC-DC BUCK	Slot: 3	0.9V	
VCC_1V8	LDO	Slot: 4	1.8V	
VCC_3V3	Switch	Slot: 5	3.3V	

RESET Internal POR will reset SOC after nPOR(pin66) is ready

Note:
1. T0、T1、T2、T3、T5、T7、T8>1ms (不同时序间隔大于等于1ms)
2. T1-T2+T3<10ms (总上电时序小于10ms)
3. 4# in RESET output from internal POR (T4为内部POR输出复位)
4. T5>10ms (下电时间建议大于10ms以避免未完全放电)
5. Trise>100us (电涌上升沿大于100us)
6. 相同时序内的电源，没有先后上电要求



Rockchip Confidential

Rockchip	Rockchip Electronics Co., Ltd
Project:	RV1106G_AOV_DEMO
File:	04.Power Diagram and Sequence
Date:	Friday, May 24, 2024
Designed by:	LinKu
Reviewed by:	Default
Rev:	V1.1
Sheet:	0 of 0

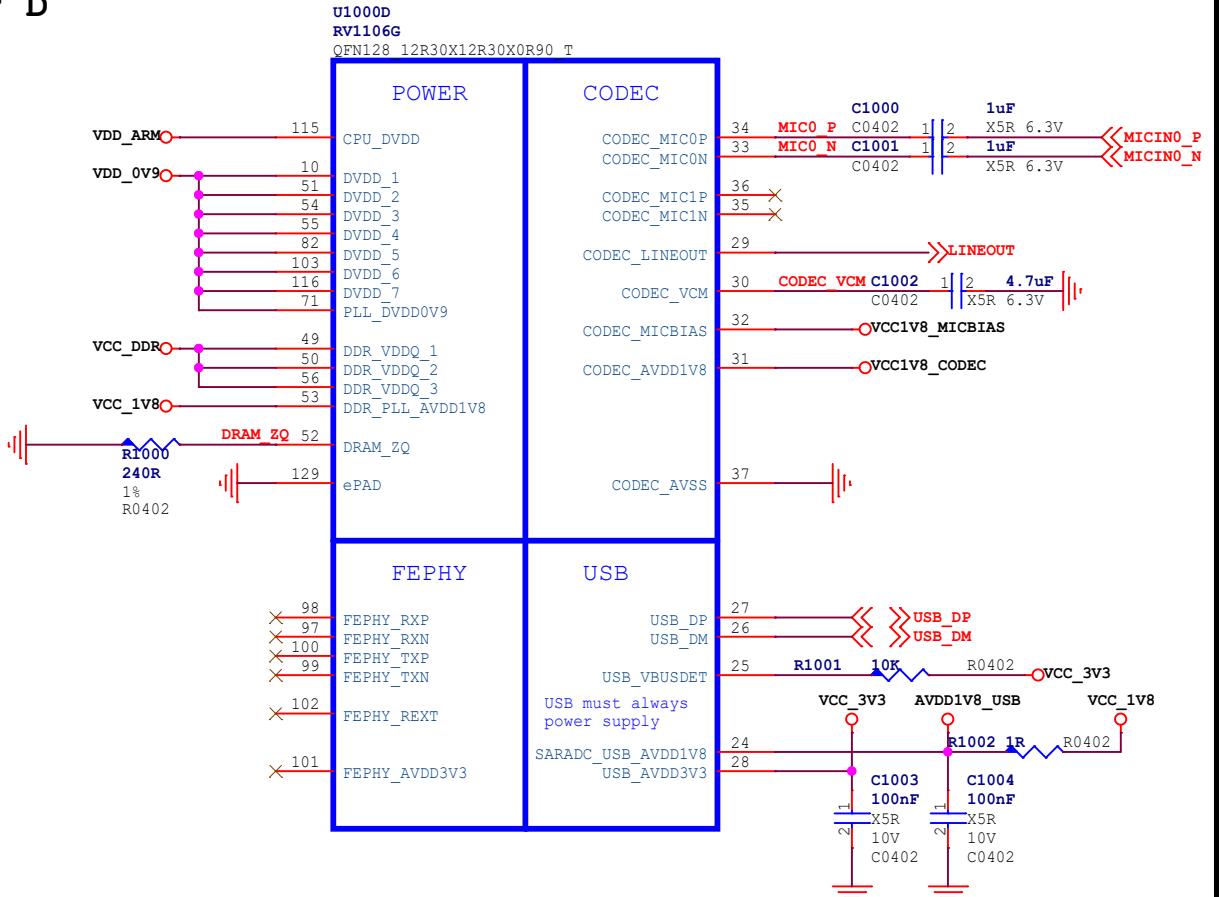
IO Power Domain Map

IO Domain	IO Group	Support of IO Voltage		Default Actual assigned IO Domain Voltage			Remark
		1.8V	3.3V	Net Name of Power Supply	Power Source	Voltage	
PMU	Group GPIO0_A		✓	VCC_3V3		3.3V	
VCCIO1	Group GPIO1_AB		✓	VCC_3V3		3.3V	
VCCIO2	Group GPIO4_C	✓		VCC_1V8		1.8V	
VCCIO3	Group GPIO4_AB	✓	✓	VCCIO_FLASH		1.8/3.3V	
VCCIO4	Group GPIO3_A	✓	✓	VCC_3V3		3.3V	
VCCIO5	Group GPIO2_AB	✓	✓				
VCCIO6	Group GPIO1_CD	✓	✓	VCC_3V3		3.3V	
VCCIO7	Group GPIO3_BCD	✓		VCC_1V8		1.8V	

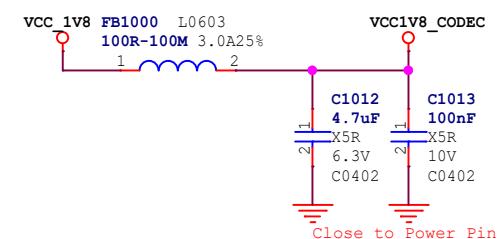
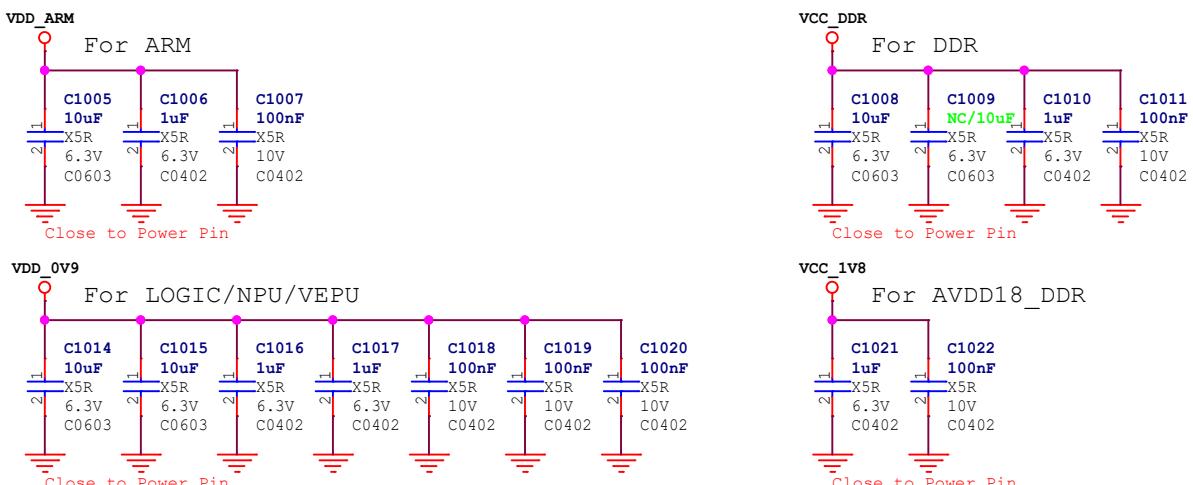
Rockchip Confidential

 Rockchip	Rockchip Electronics Co., Ltd
Project:	RV1106G_AOV_DEMO
File:	06.IO Power Domain Map
Date:	Friday, May 24, 2024
Designed by:	LinXu
Reviewed by:	Default
Sheet:	0 of 0

PART D



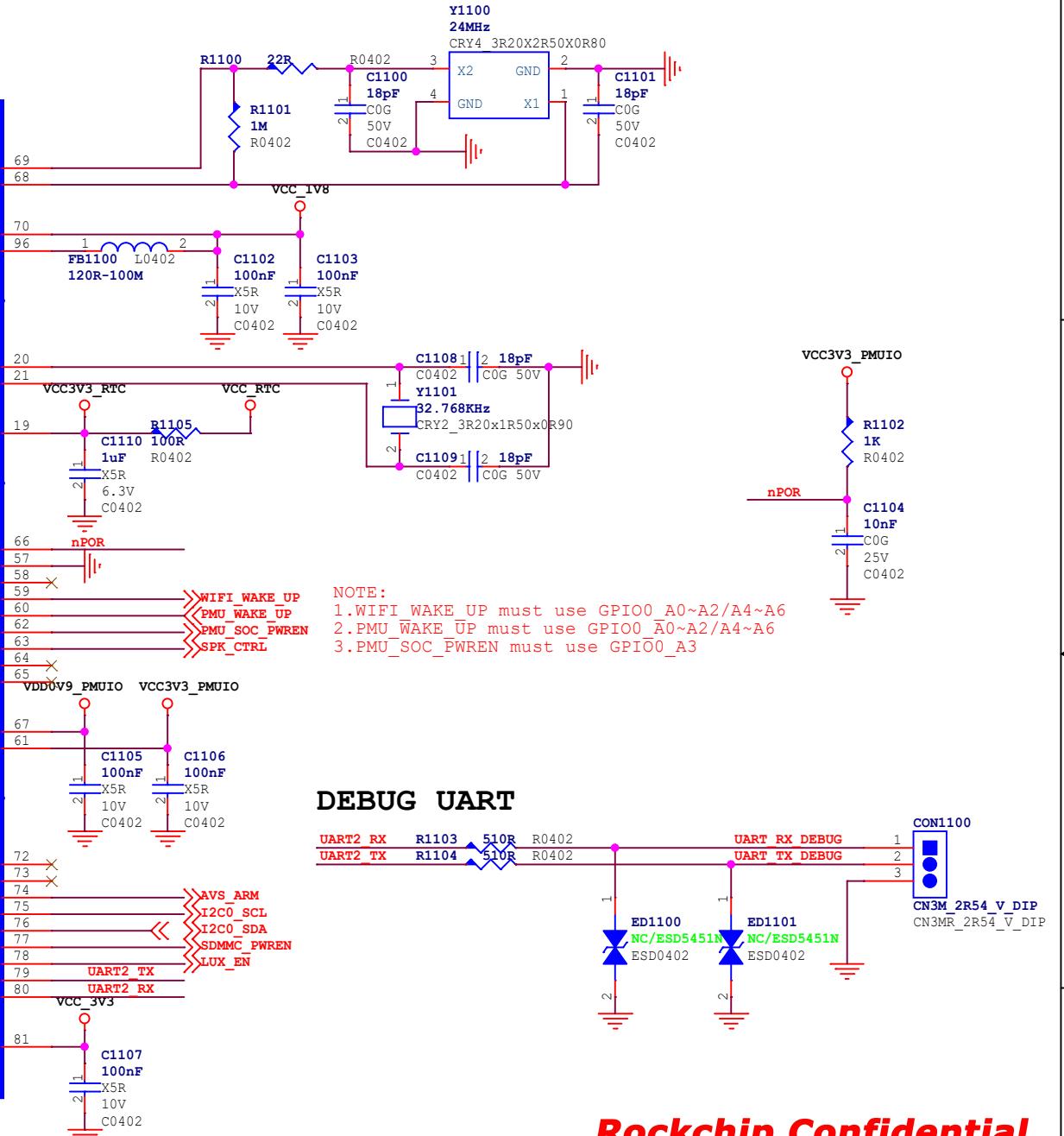
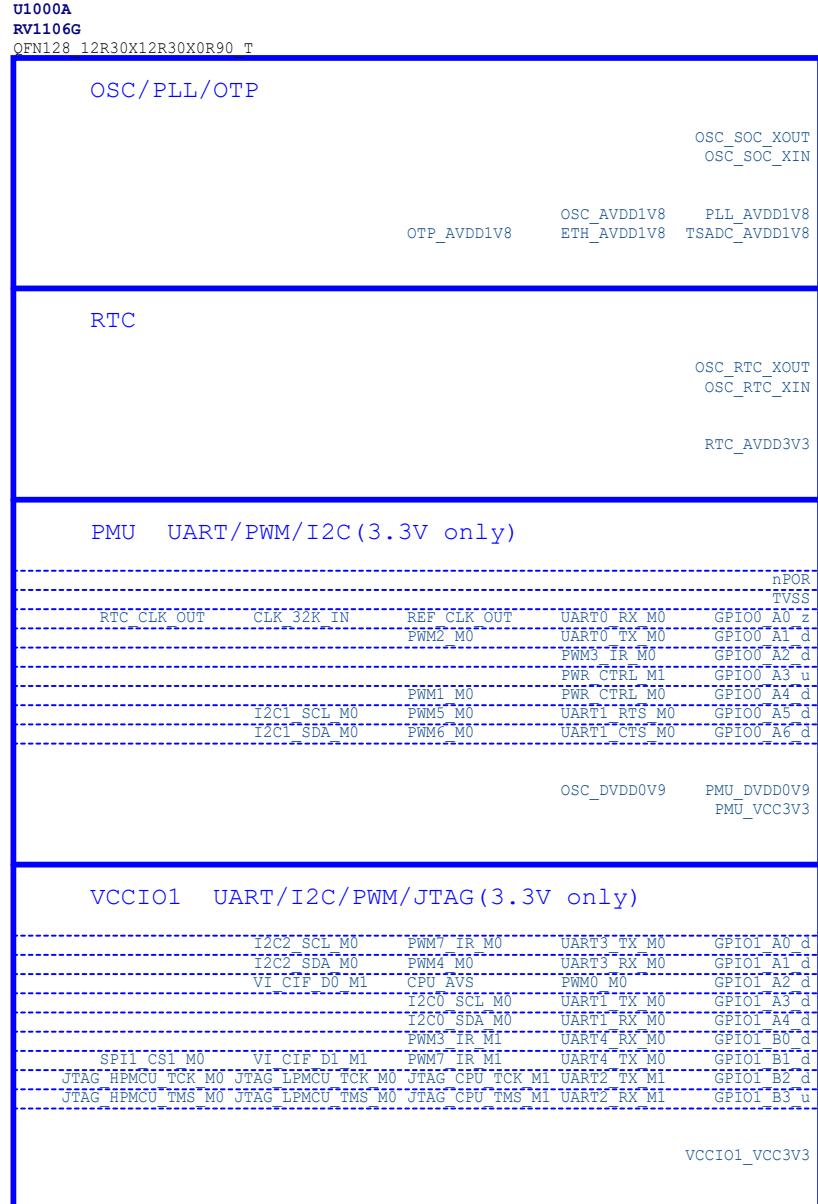
POWER



Rockchip Confidential

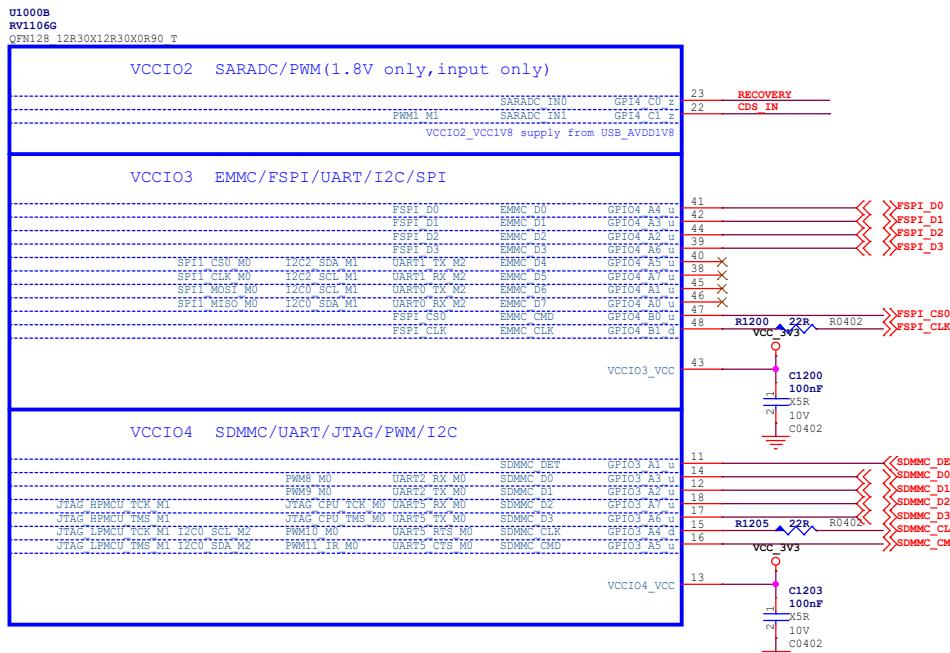
Rockchip	Rockchip Electronics Co., Ltd
Project:	RV1106G_AOV_DEMO
File:	10.RV1106G Power/Codec/ETH/USB
Date:	Friday, May 24, 2024
Designed by:	LinXu
Reviewed by:	Default
Sheet:	0 of 0

PART A



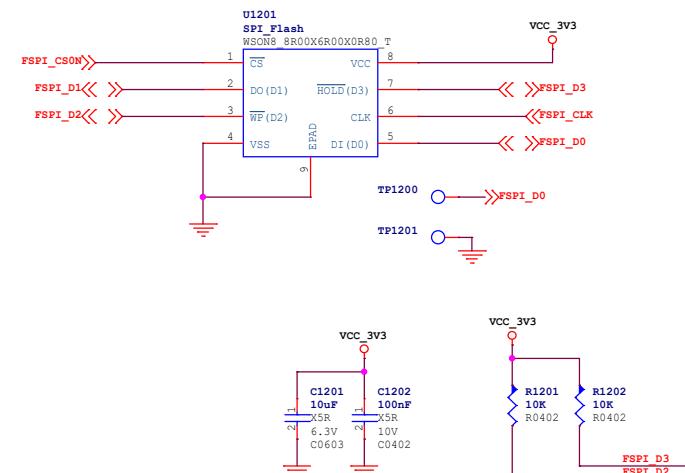
Rockchip Confidential

Rockchip	Rockchip Electronics Co., Ltd
Project:	RV1106G_AOV_DEMO
File:	11.RV1106G_OSC/RTC/PMU/VCCIO
Date:	Friday, May 24, 2024
Designed by:	LinXu
Reviewed by:	Default
Sheet:	0 of 0

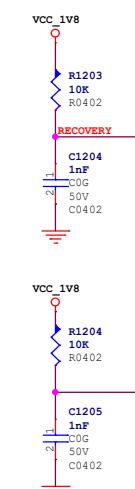


SPI Flash

NOTE:
Refer to the latest AVL for parts selection.



SARADC



Rockchip Confidential

Rockchip Electronics Co., Ltd

Project: RV1106G_AOV_DEMO

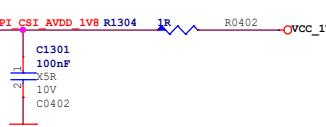
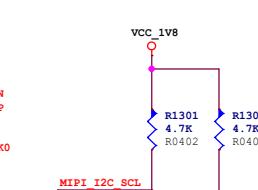
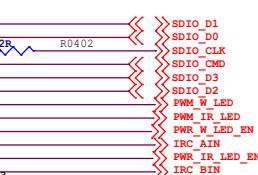
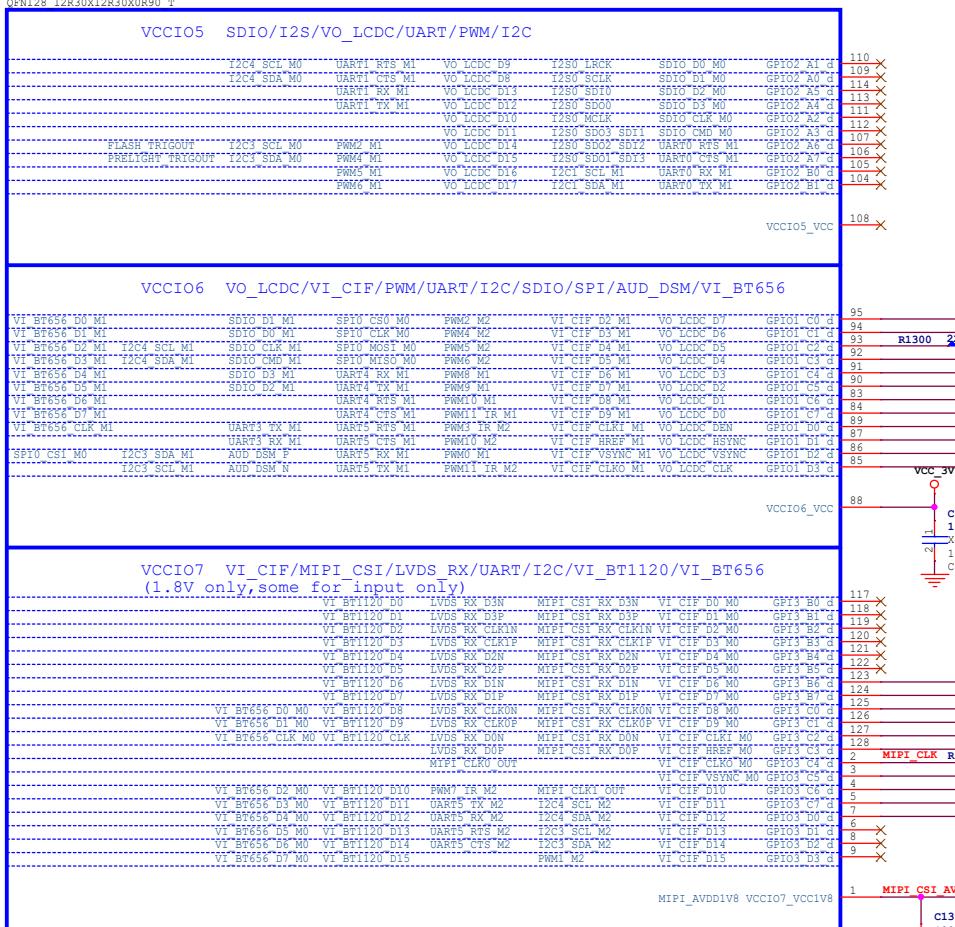
File: 12.RV1106G_ADC/FLASH/SDMMC

Date: Friday, May 24, 2024 Rev: V1.1

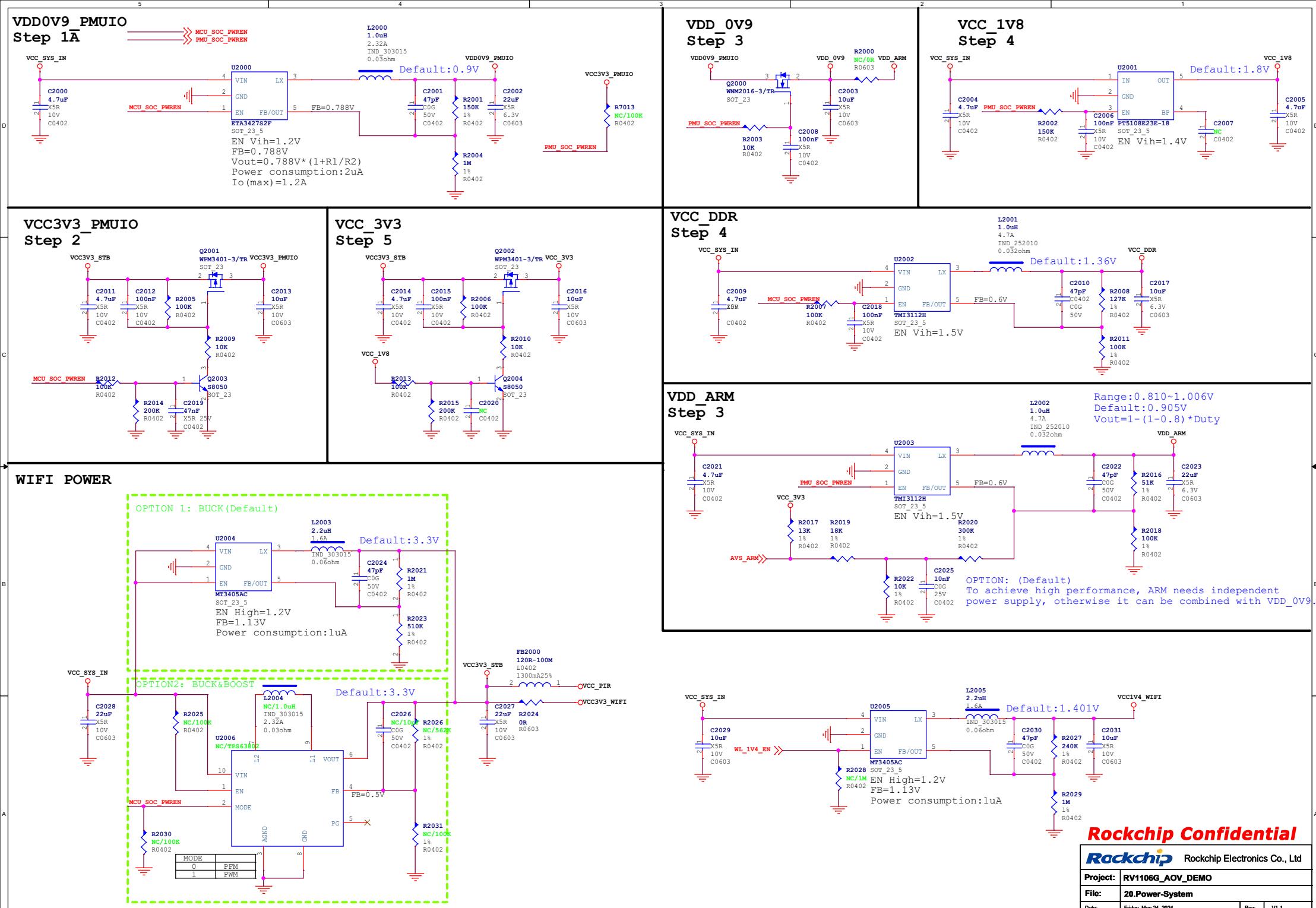
Designed by: LinKu Reviewed by: Default Sheet: 0 of 0

**U1000C
RV1106G**

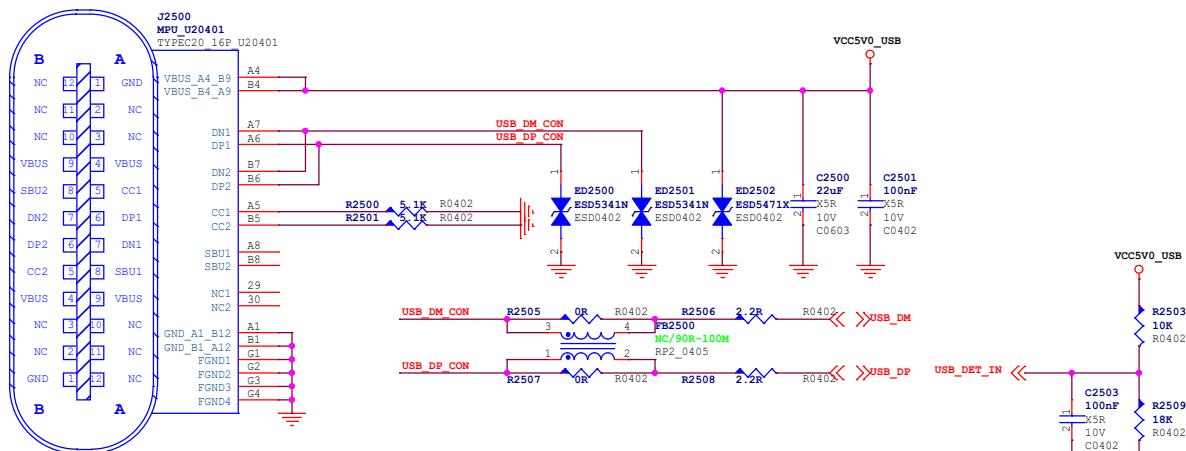
VCCIO5 SDIO/I2S/VO LCDC/UART/PWM/I2C



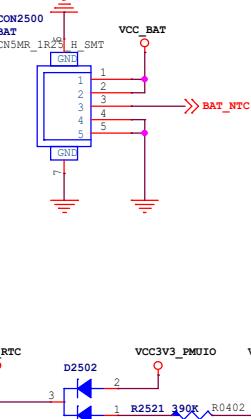
Project:	RV1106G_AOV_DEMO		
Date:	13.RV1106G SDIO/LCD/VICAP/MPI		
Designed by:	LinXu	Reviewed by:	Default
			Sheet: 0 of 0



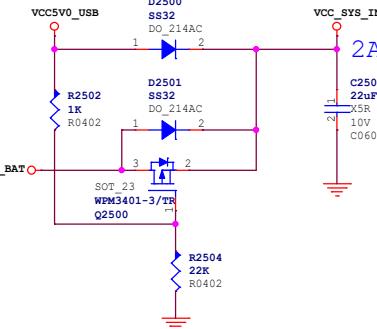
USB HOST



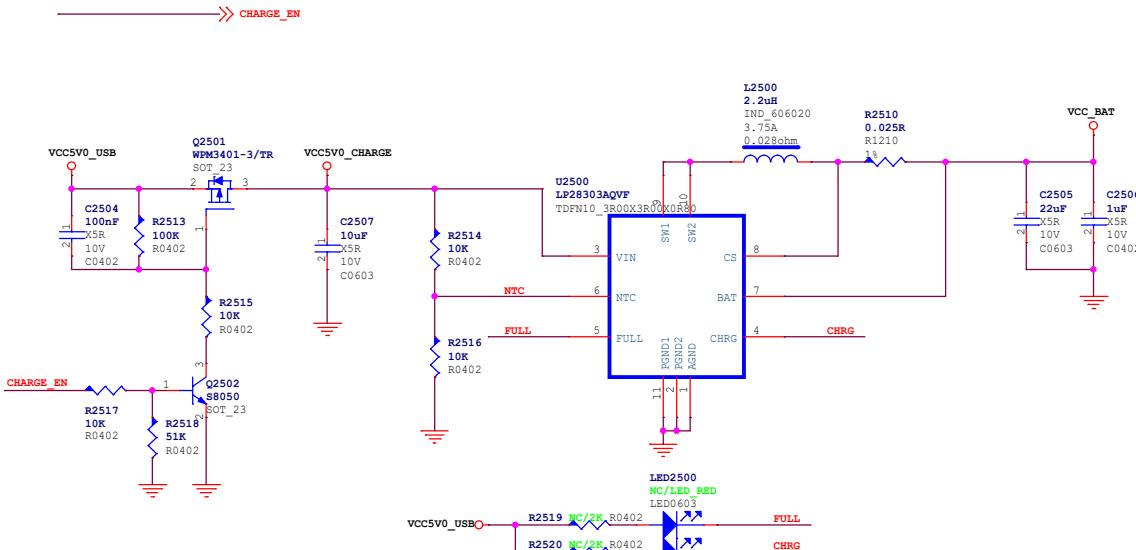
BATTERY



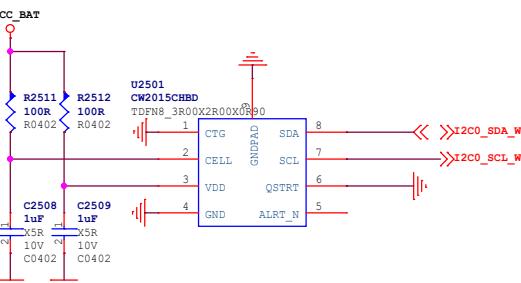
SYS_POWER



CHARGE



FUEL GAUGES



I2C_ADDRESS:
R:0xC5
W:0xC4

Rockchip Confidential

Rockchip Electronics Co., Ltd

Project: RV1106G_AOV_DEMO

File: 25.USB&CHARGE

Date: Friday, May 24, 2024

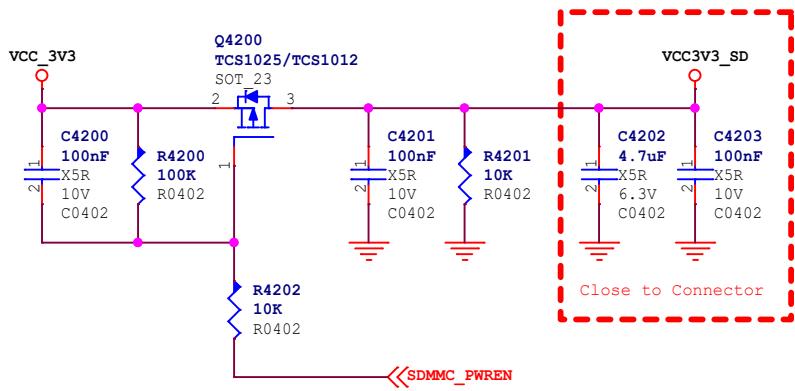
Designed by: LinKu

Reviewed by: Default

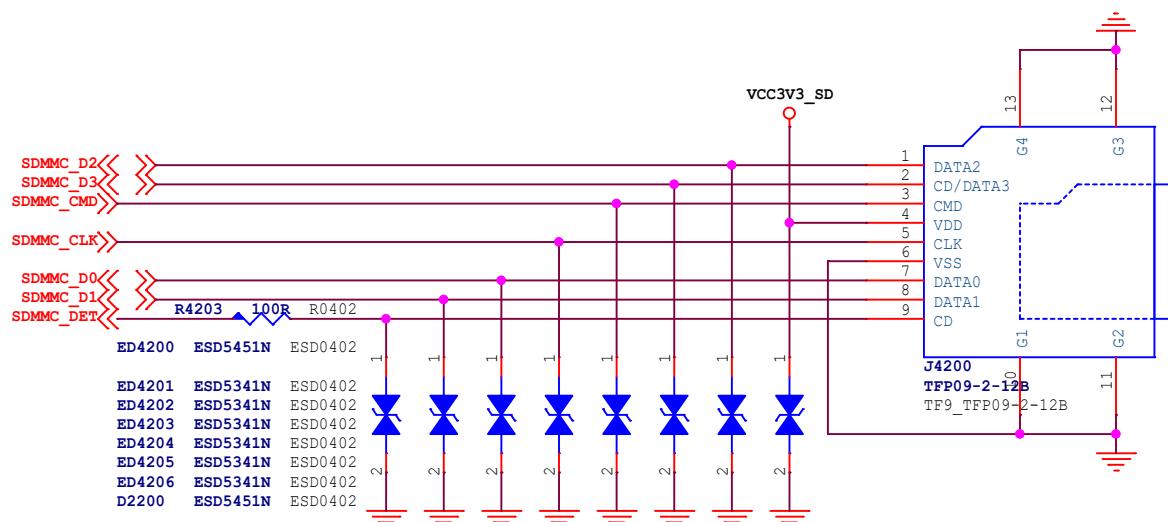
Rev: V1.1

Sheet: 0 of 0

Micro-SD Card Power



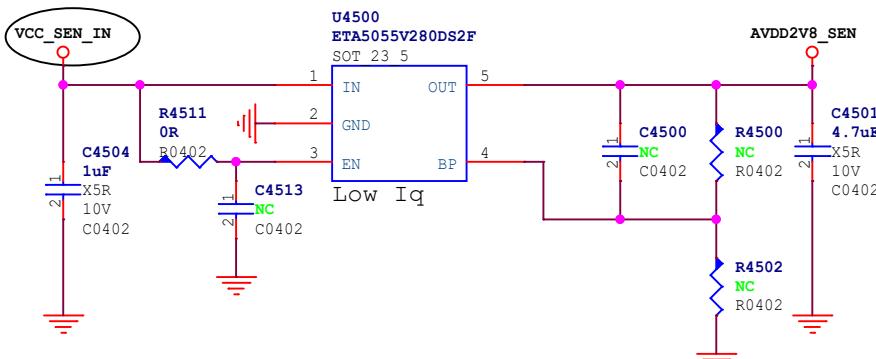
Micro-SD Card



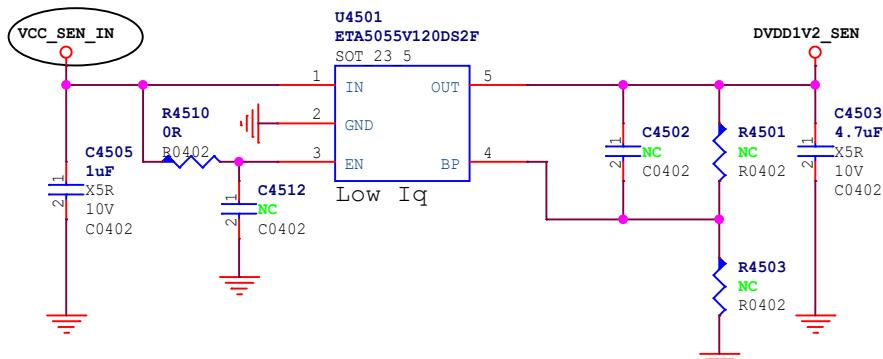
Rockchip Confidential

Rockchip		Rockchip Electronics Co., Ltd
Project:	RV1106G_AOV_DEMO	
File:	42.Flash-Micro-SD Card	
Date:	Friday, May 24, 2024	Rev: V1.1
Designed by:	LinXu	Reviewed by: Default
Sheet:	13 of 19	

AVDD2V8_SEN



DVDD1V2_SEN



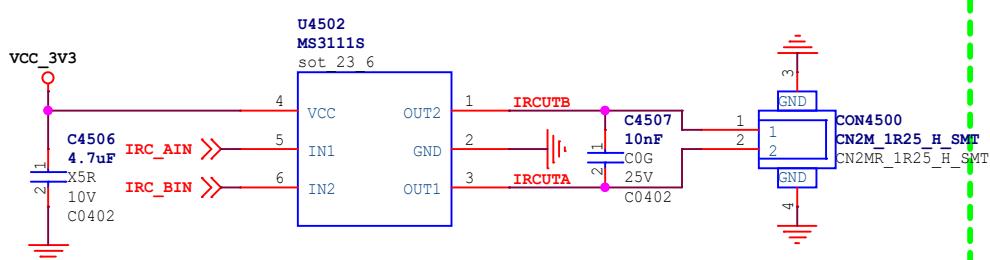
Note:

Default power-on timing:

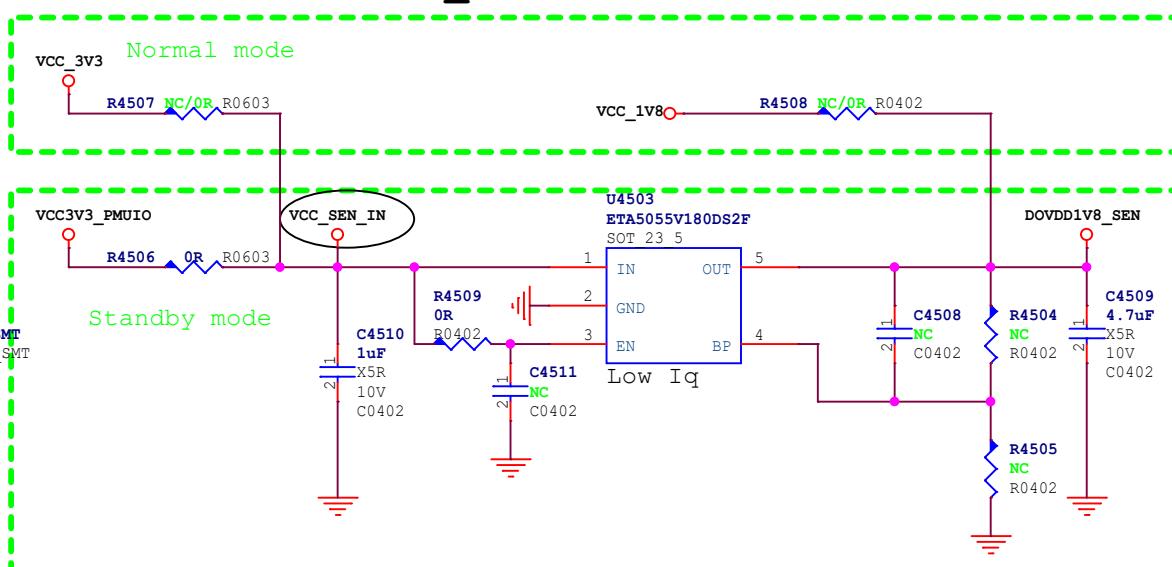
All three power on at the same time.

Or DOVDD(1V8) -->DVDD(1V2) -->AVDD(2V8)

IR-CUT

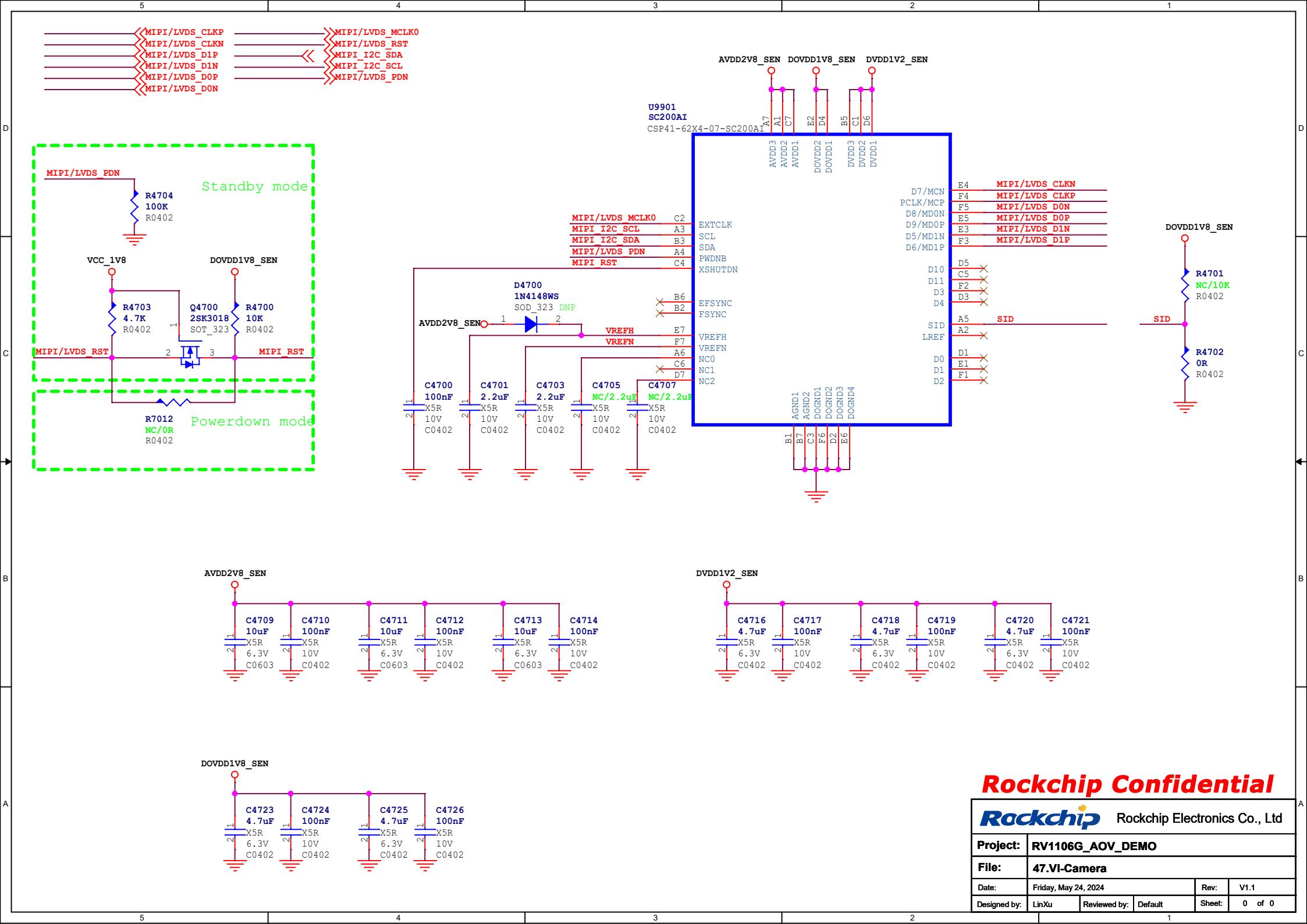


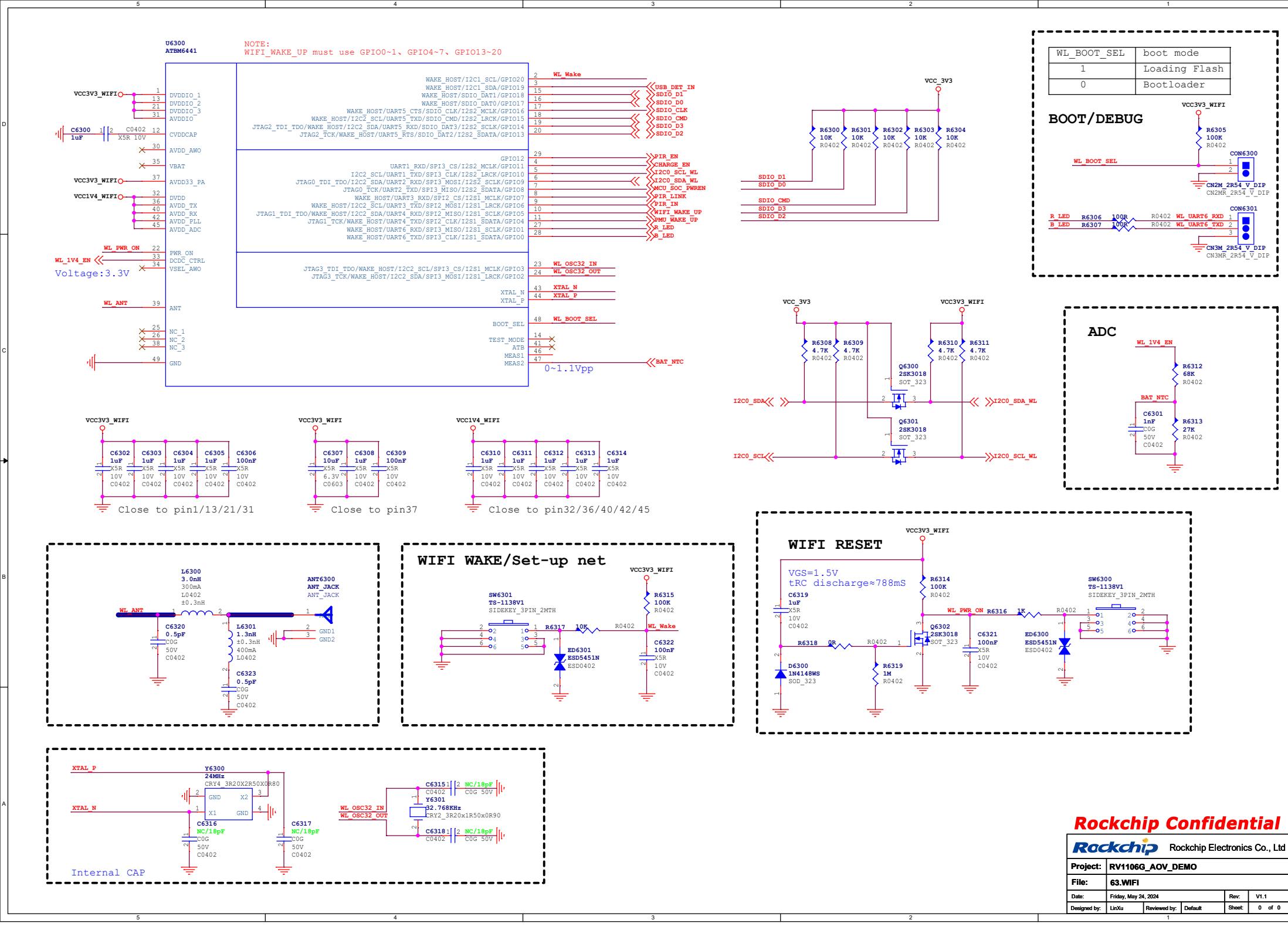
DOVDD1V8_SEN



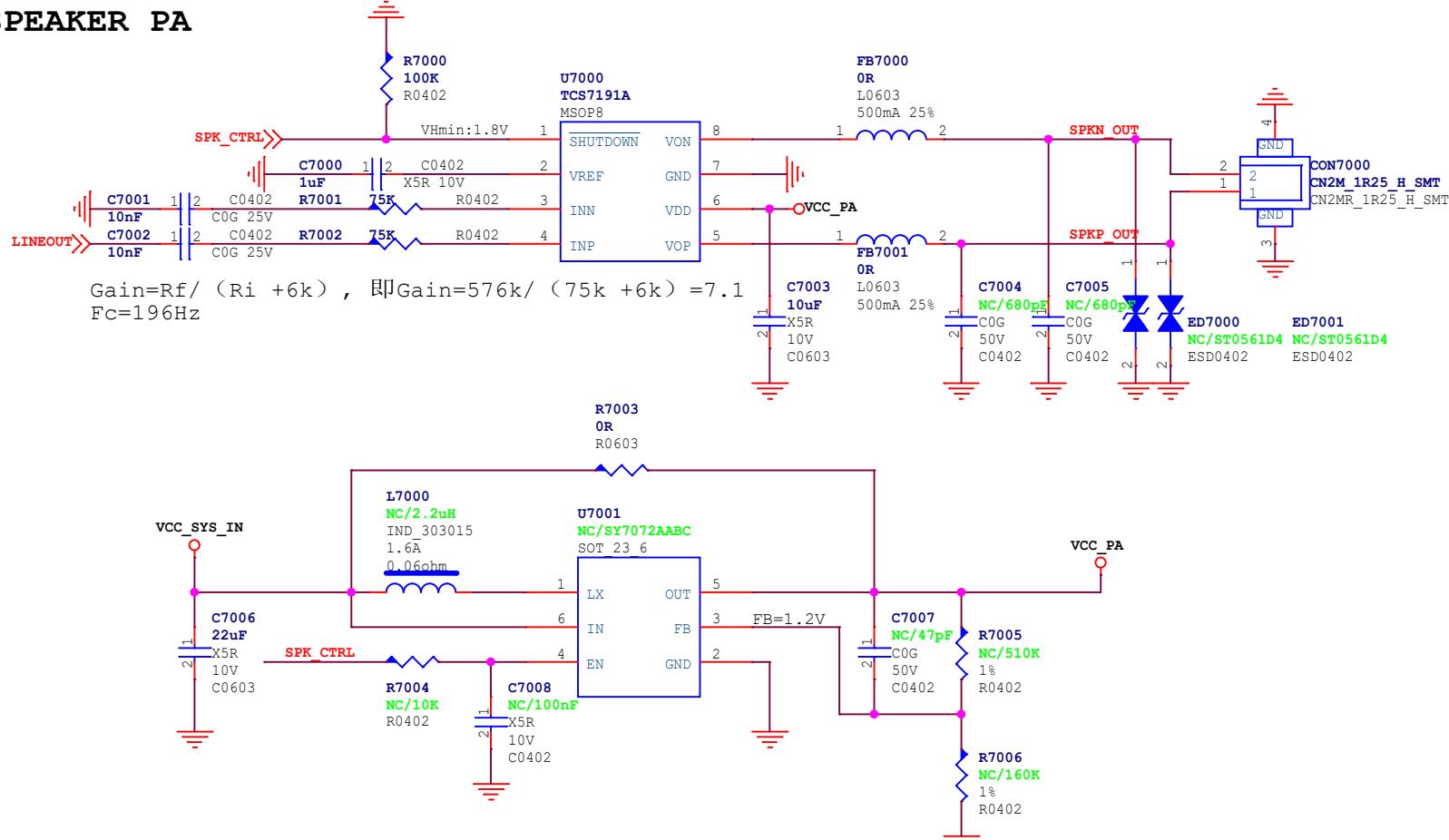
Rockchip Confidential

Rockchip		Rockchip Electronics Co., Ltd
Project:	RV1106G_AOV_DEMO	
File:	45.VI-Camera Power	
Date:	Friday, May 24, 2024	Rev:
Designed by:	LinXu	Reviewed by:
Sheet:	0	of 0

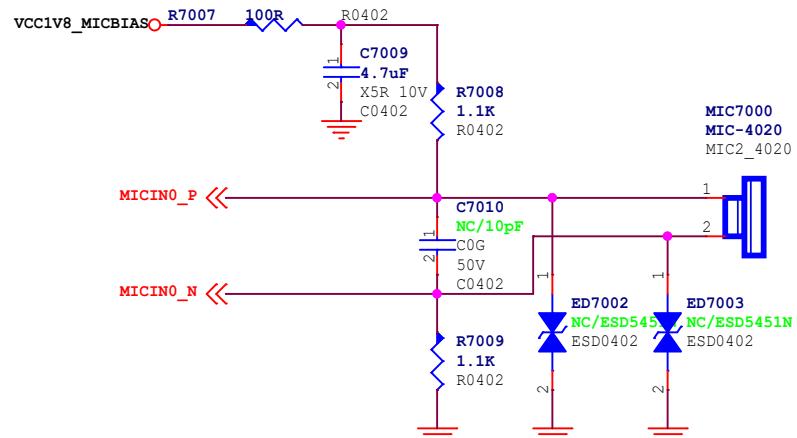




SPEAKER PA

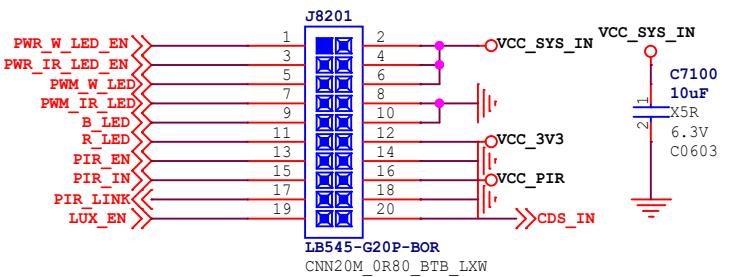


MIC



Rockchip Confidential

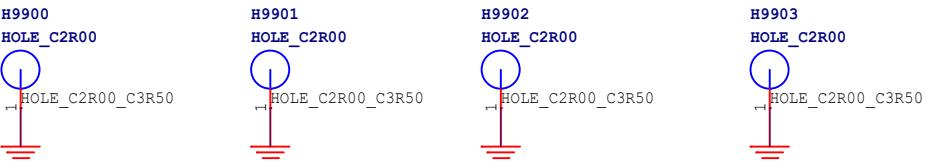
Rockchip		Rockchip Electronics Co., Ltd	
Project:	RV1106G_AOV_DEMO		
File:	70.Audio		
Date:	Friday, May 24, 2024	Rev:	V1.1
Designed by:	LinXu	Reviewed by:	Default
Sheet:	0	of	0



Rockchip Confidential

Rockchip		Rockchip Electronics Co., Ltd
Project:	RV1106G_AOV_DEMO	
File:	71.PIR/LED Interface	
Date:	Friday, May 24, 2024	Rev: V1.1
Designed by:	LinXu	Reviewed by: Default
Sheet:	0	of 0

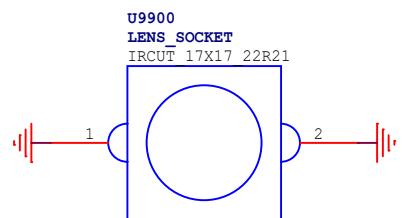
HOLE



MARK



LENS



Rockchip Confidential

Rockchip	Rockchip Electronics Co., Ltd
Project:	RV1106G_AOV_DEMO
File:	99.Mark/Hole
Date:	Friday, May 24, 2024
Designed by:	LinXu
Reviewed by:	Default
Rev:	V1.1
Sheet:	0 of 0