Reference Schematic For RK3308

RK3308_AI-VA_MB_REF_V11 20180703

PMIC: Discrete RAM: DDR3

ROM: eMMC/Nand/SPI Nor + TF card

Interface: ACODEC/I2S/PDM/SPDIF/LCDC/MAC

Fuzhou Rockchip Electronics

Project: RK3308_AI-VA_MB_REF

File: 00.Cover Page

Date: Wednesday, July 04, 2018 Rev: 1.1

Designed by: Joseph Sheet: 1 of 51

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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
- 3. If Flash is compatible, please notice when eMMC is used, the option is that @eMMC is mounted, @Nand is not mounted when Nand is used, the option is that @Nand is mounted, @eMMC is not 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.



Bill of Materials

Header:

Item\tPart\tDescription\tPCB Footprint\tReference\tQuantitv\tOption

Combined property string:

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

Ra	ckchip Fuzhou Rocke	obio E	ootronics			
	瑞芯微电子 Fuzilou Rocki	Fuzhou Rockchip Electronics				
Project:	RK3308_AI-VA_MB_REF					
File:	01.Index					
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Revision History

Version	Date	Author	Change Note	Approved
V0.1	2018.03.07	Joseph.Wei	First edition	
V1.0	2018.05.11	Joseph.Wei	1 Update VDD_CORE&VDD_LOG Power supply circuits, they are seperated by different power supply 2 Update Analog MIC circurt, MIC1&MIC 2 as Loopback function, MIC3~MIC8 as MIC IN function. 3 Update VDD_LOG Power supply circuit, Set VDD_LOG default voltage as 1.04V, modify R2208=110K%1 4 Update TF Card circuits. 5 Update RMII circuits. 6 Update WiFi circuits. 7 ADD LPDDR2&DDR2 design circuits. 8 Upadate Hardware ID circuits. Detailed change point please check published document: 《RK3308 AI-VA REF V10 20180511 SCH Modify Notes》.	
V1.1	2018.07.03	Joseph.Wei	1 ADD PMIC RK816-3 design circuits. 2 FLASH Default selecet Nand Flash. 3 ADD RTL8723DS design circuits. 4 Modify the ADC of Recovery to ADC_KEY_IN1. 5 Modify divider resistance of WIFI_REG_ON . 6 Modify divider resistance of CLK_32K_OUT . 7 ADD PowerAmp XA8872 design circuits. 8 VDD_1V0 Power Supply from VDD_LOG. 9 PDM MIC:PDM_CLK Unified modify to PIN T16 of RK3308. 10 Modify Loopback circuit parameter.	

Ro	瑞芯微电子 Fuzhou Rocke	chip El	ectronics
Project:	RK3308_AI-VA_MB_REF		
File:	02.Revision History		
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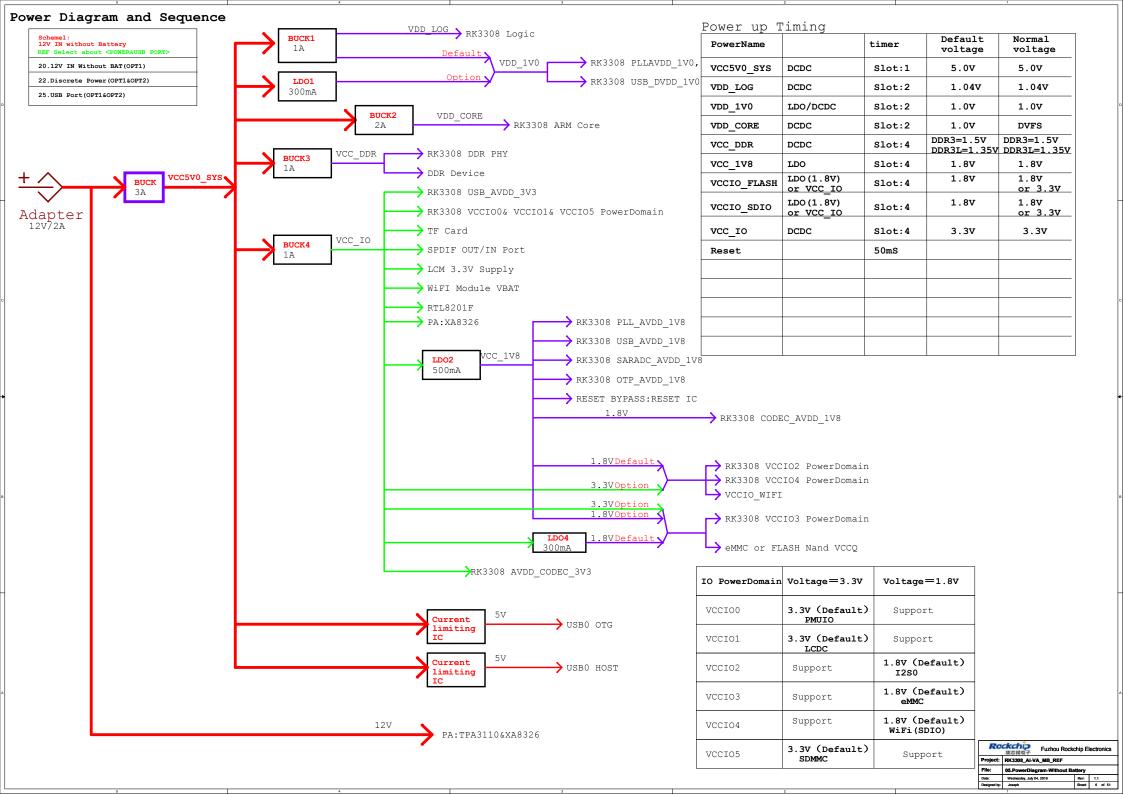
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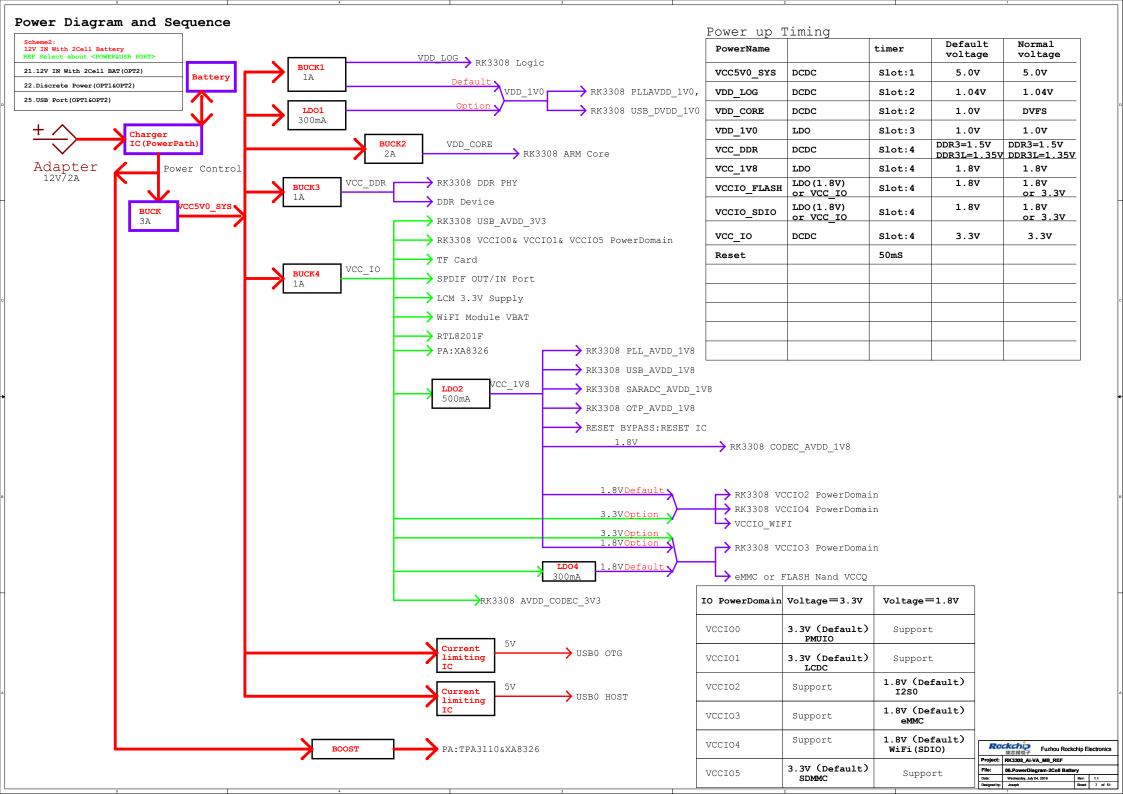
Block Diagram DDR CTL DDR LCD Panel **eMMC** LCDC Flash CTL Nand SPINor PHY:RTL8201F MAC SDMMC **I2S1** AMP **RK3308 USB PHY0 USB OTG HPOUT USB PHY1** LINEOUT **AMP USB HOST** CODEC Analog MIC Array 8xADC SARADC **KEYBOARD** Connector LINE_IN SPDIF TX SPDIF OUT I2C1 Digital MIC Array SPDIF IN Connector SPDIF RX I2SO/PDM SDIO SYSTEM WIFI/BT **UART4/PCM** POWER DC Adapter Charger IN IC OR SYSTEM POWER RK816-3 Battary (Option) Rockchip _{瑞芯微电子} Fuzhou Rockchip Electronics RK3308_AI-VA_MB_REF Project: File: 03.Block Diagram Wednesday, July 04, 2018 Designed by: Sheet: 4 of 51 Joseph

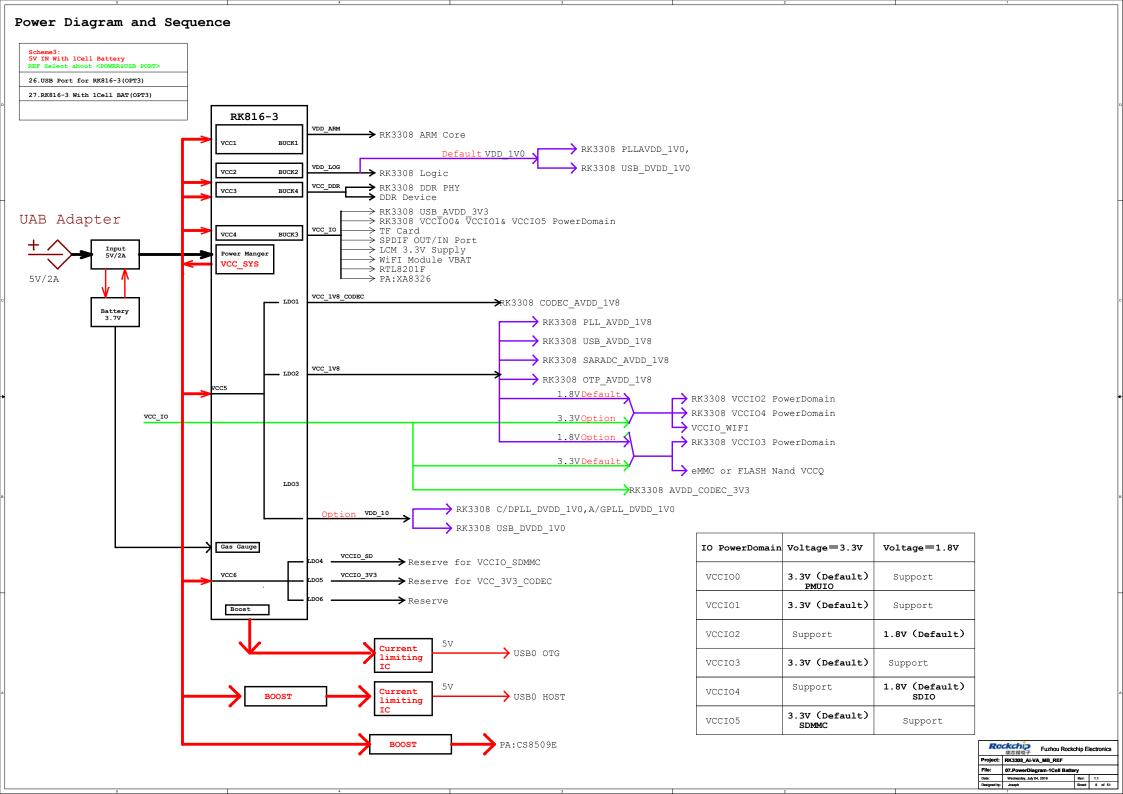
I2C MAP

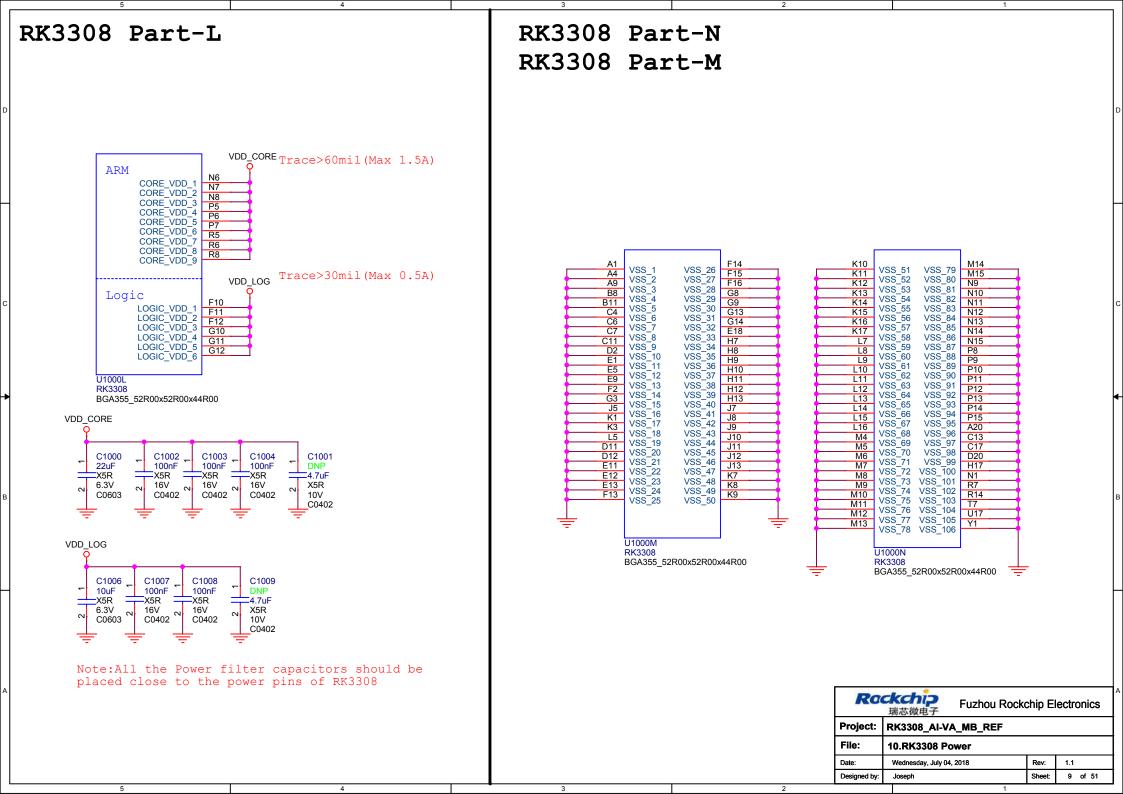
Port	Pin name	Domain	Bus name	Pull-up voltage	Slave Device	Slave Addr (MS 7Bits)		Slave Bus Capability
1200	GPIO1 D1/UART1 TX/I2C0 SCL/SPI2_CSN0 GPIO1_D0/UART1_RX/I2C0_SDA/SPI2_CLK	VCCIO1	12C0_SCL 12C0_SDA	VCC_IO	Reserve			
					IS31FL3236A	0x3C/0x3F	MIC Array Connector-Analog	
					ATSHA204A-SSHDA-T	0x64		
I2C1	GPIO0_B4/I2C1_SCL GPIO0_B3/I2C1_SDA		I2C1_SCL I2C1_SDA	VCC_IO	XA8326	0x31/0x30		
		VCCIO0	I2C1_SDA		RK816-3	0x1A		
I2C2	GPIO2_A3/UARTO_RTSN/SPIO_CSNO/I2C2_SCL GPIO2_A2/UARTO_CTSN/SPIO_CLK/I2C2_SDA	VCCIO2	I2C2_SCL I2C2_SDA	APIO2_VDD	Reserve			

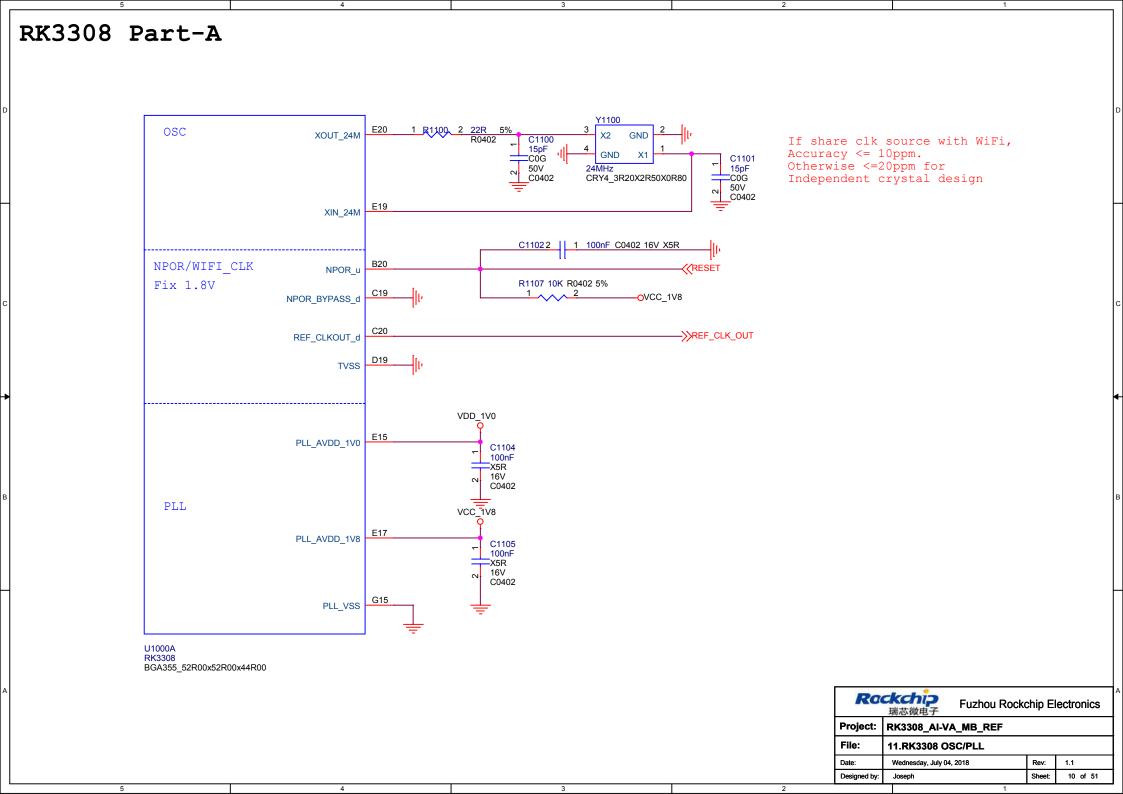
Rockchip 瑞芯微电子 Fuzhou Rockchip Electronic								
	Project:	RK3308_AI-VA_MB_REF						
File: 04.I2C MAP								
	Date:	Wednesday, July 04, 2018	Rev:	1.1				
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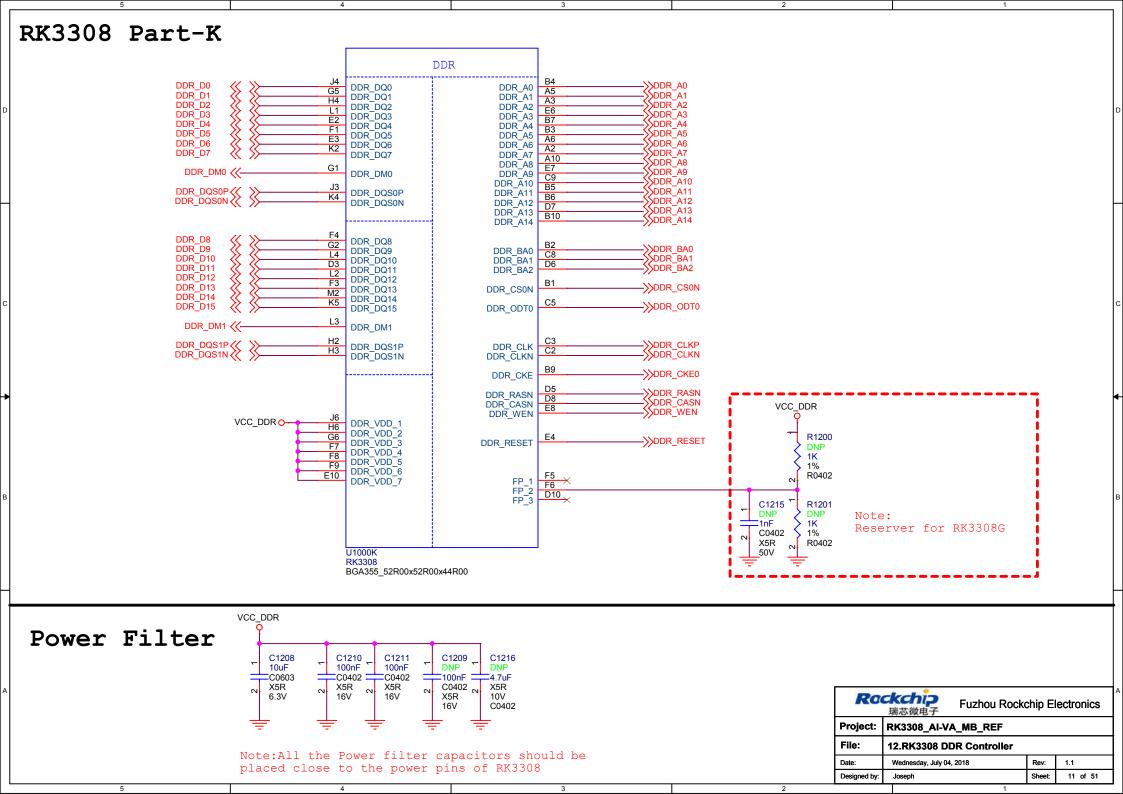


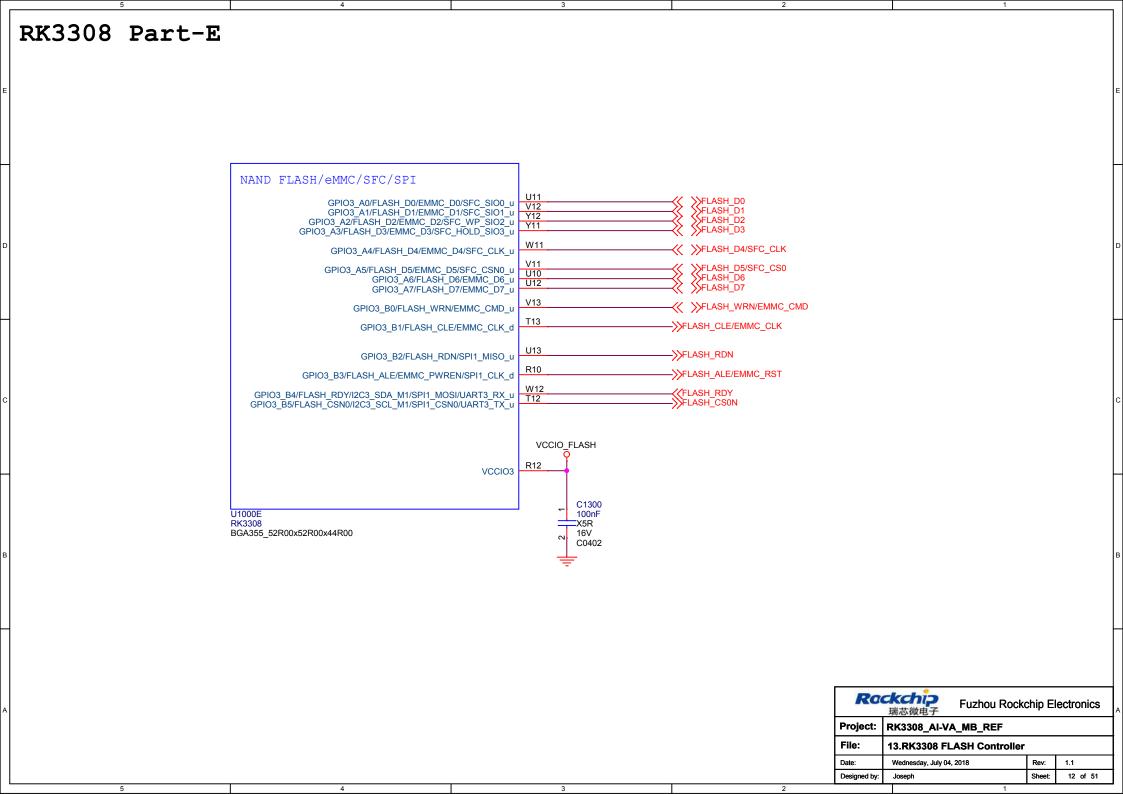


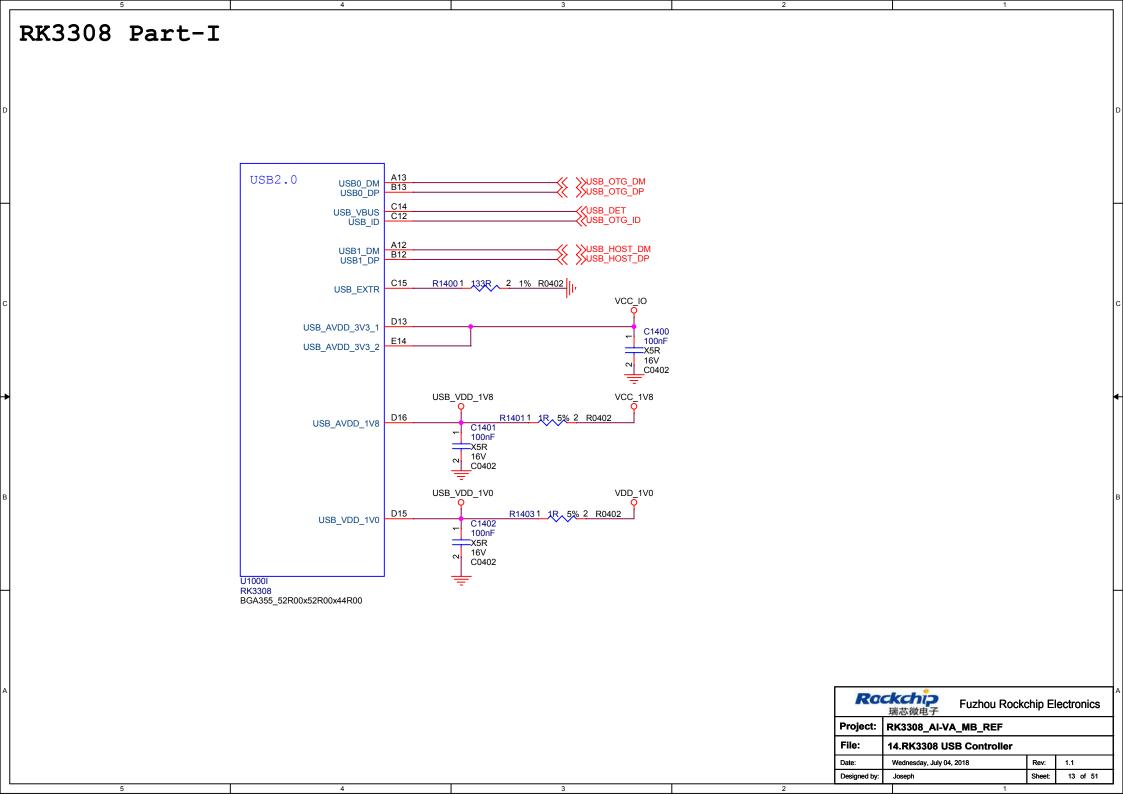


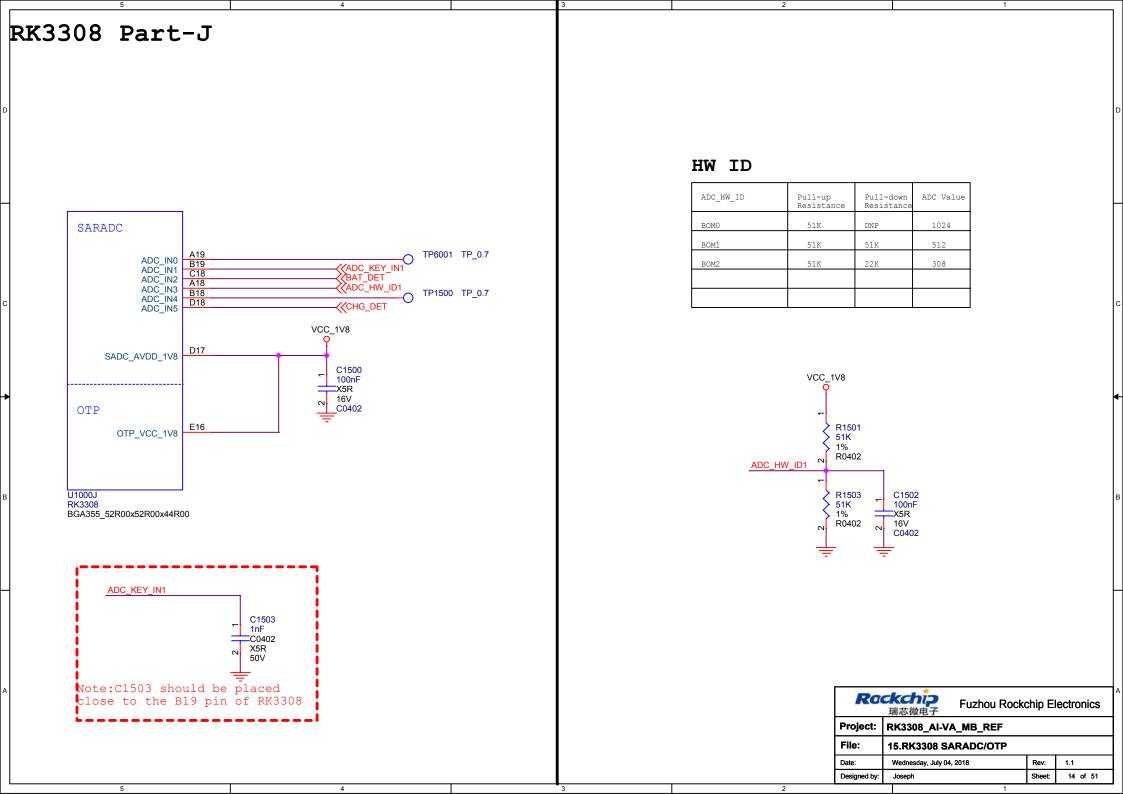


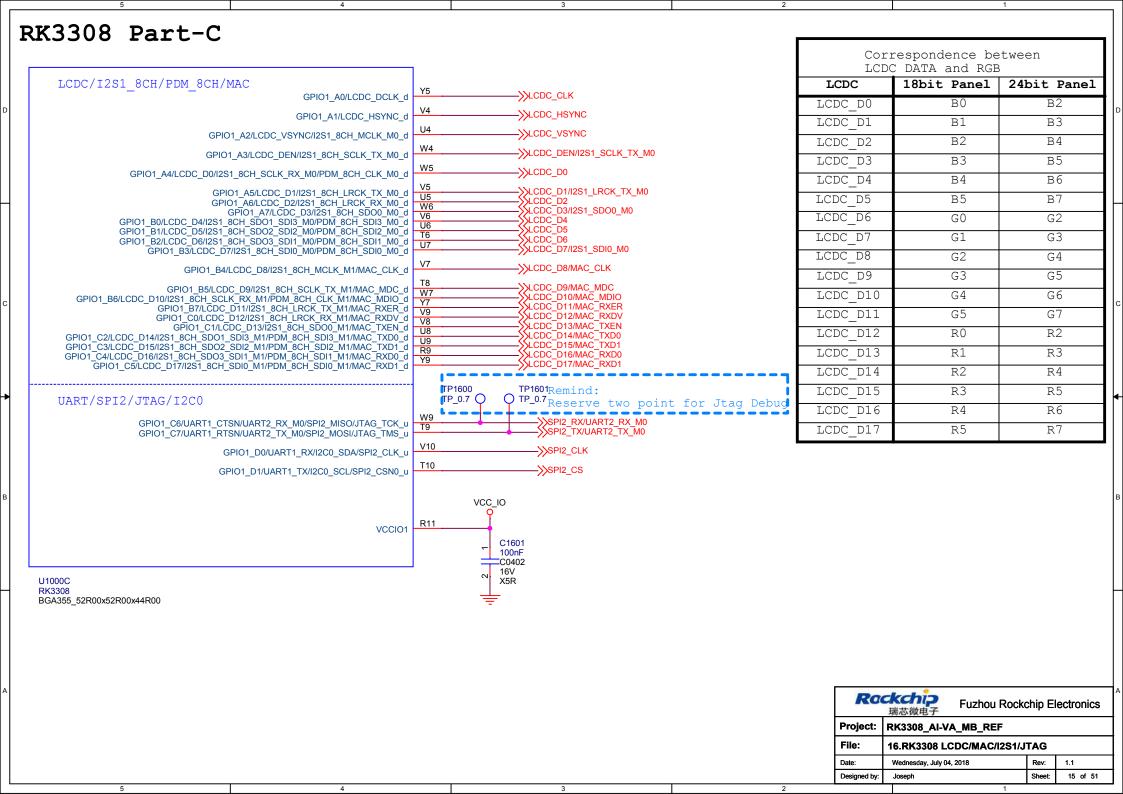


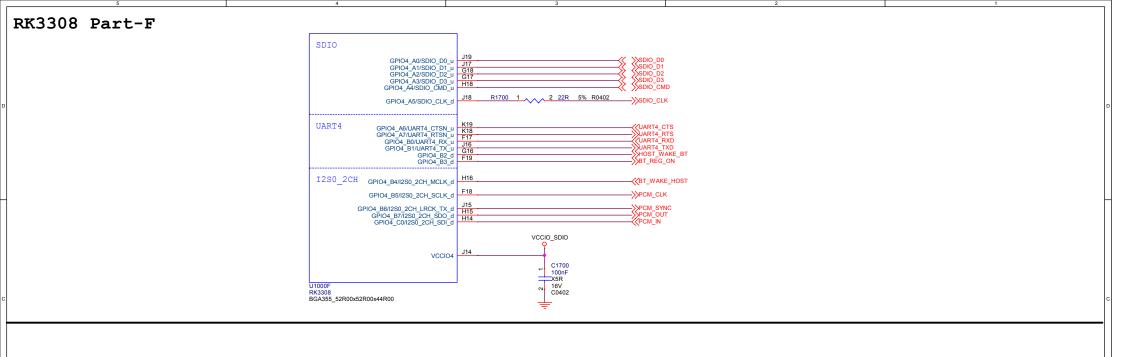




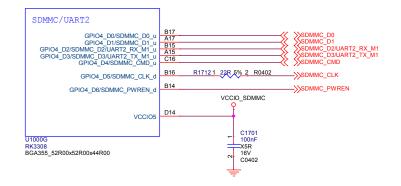




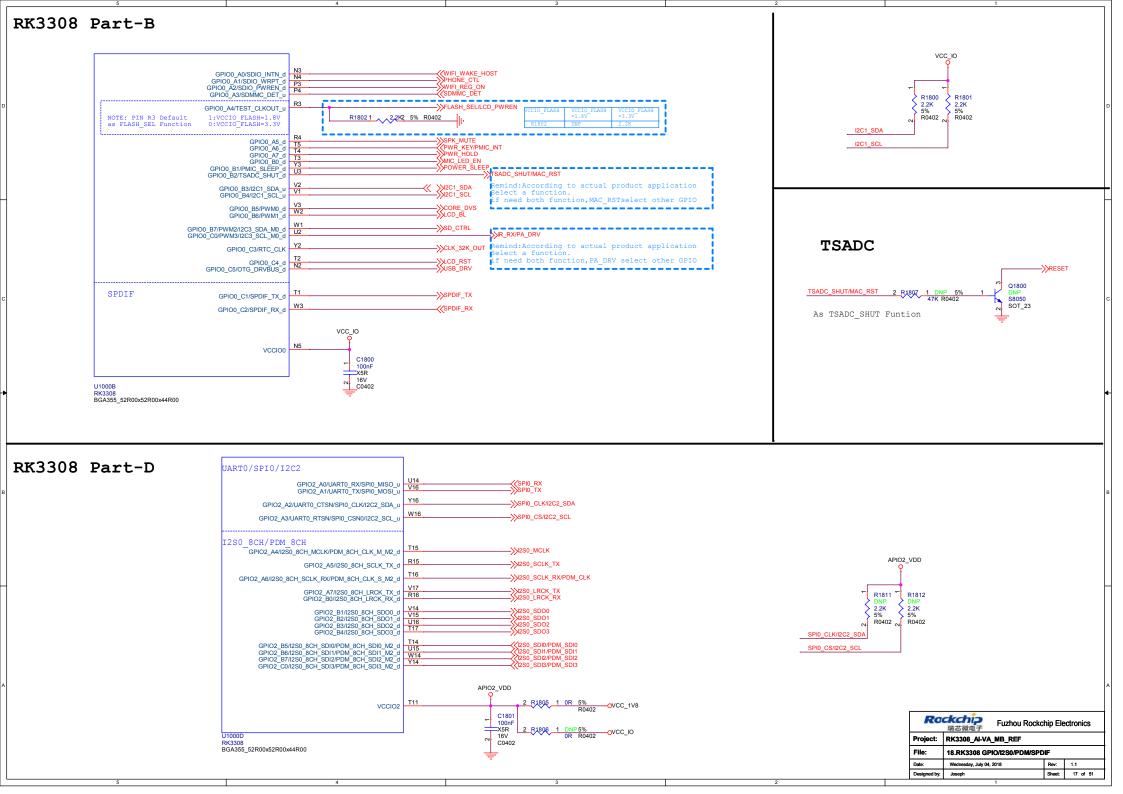


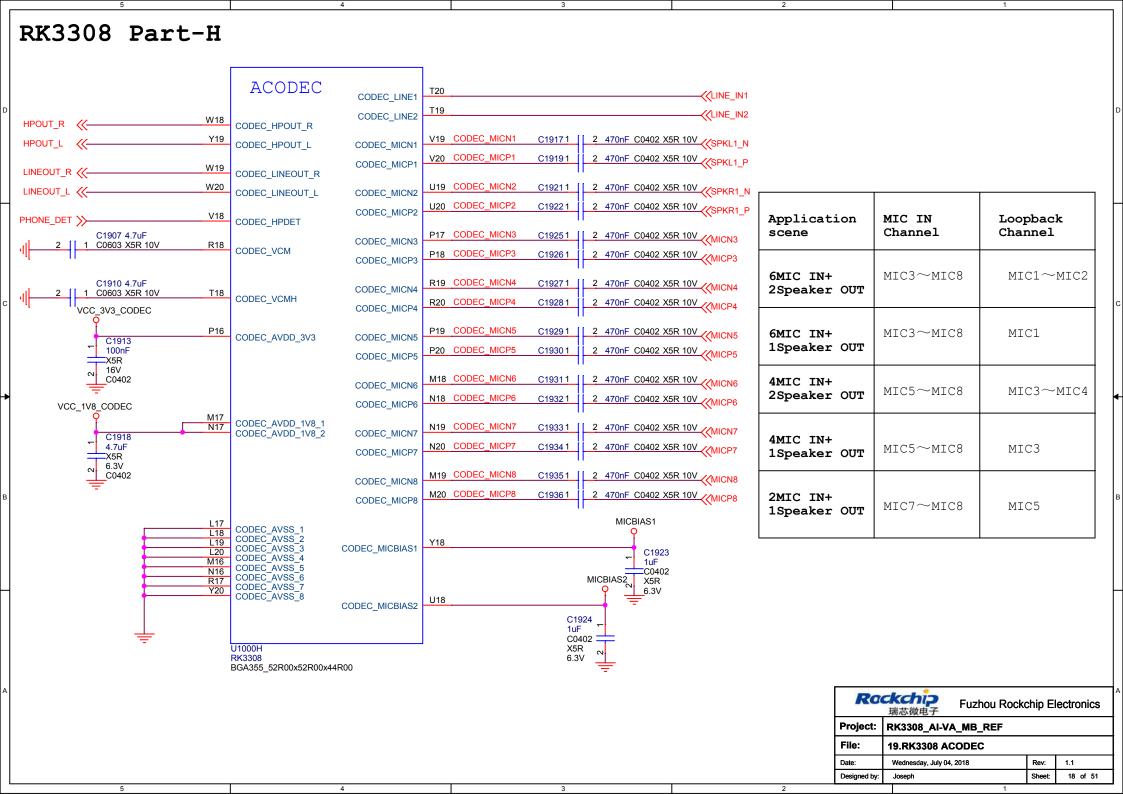


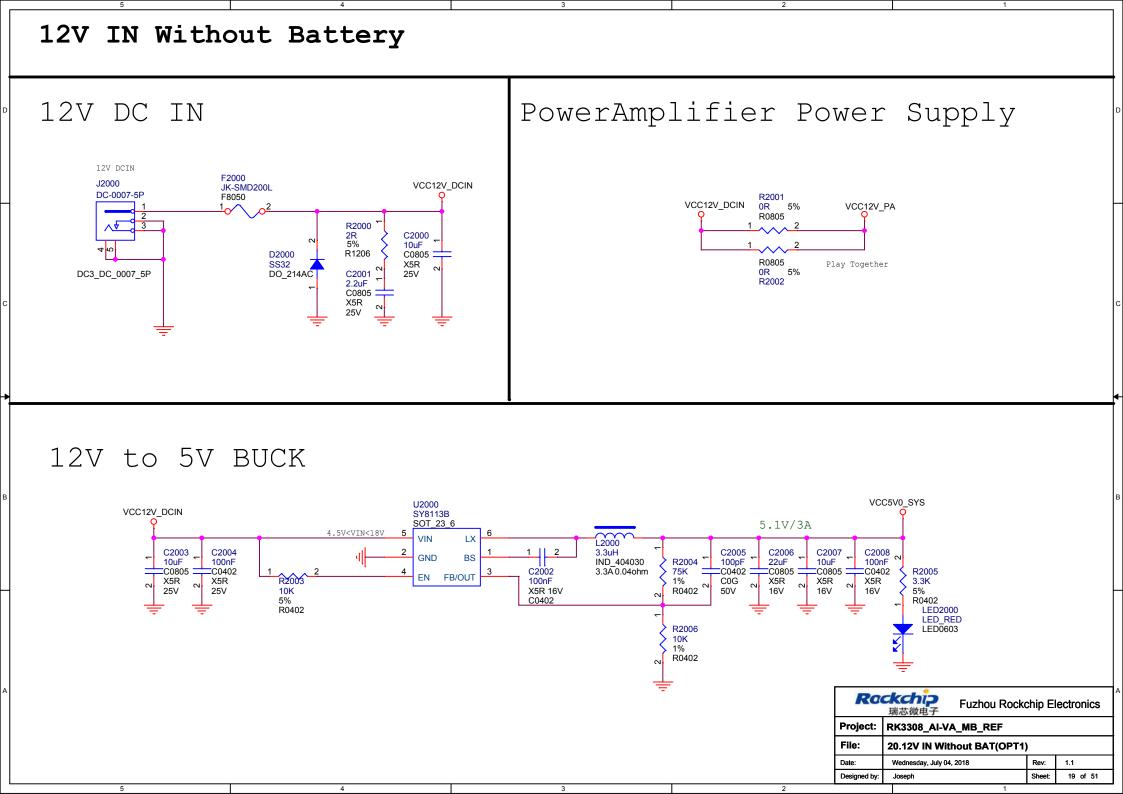
RK3308 Part-G

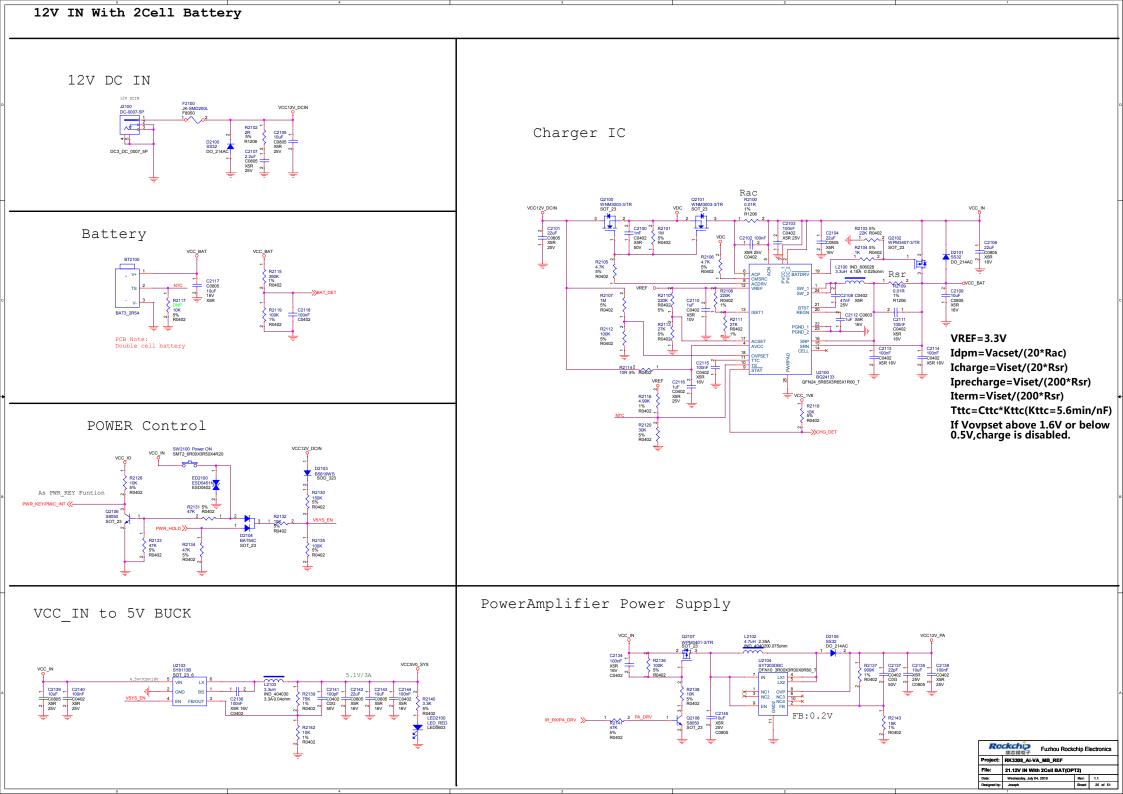


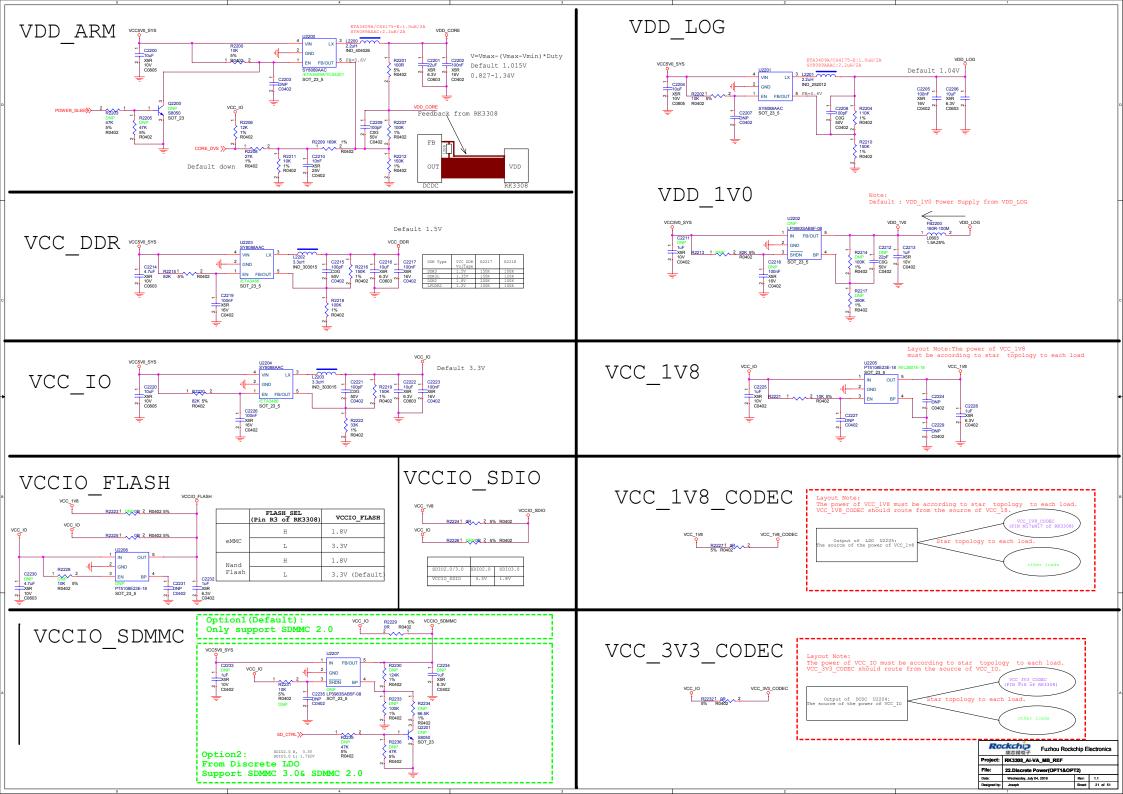
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Project:	Project: RK3308_Al-VA_MB_REF						
File:	17.RK3308 SDIO/SDMMC	DIO/SDMMC					
Date:	Wednesday, July 04, 2018	Rev:	1.1				
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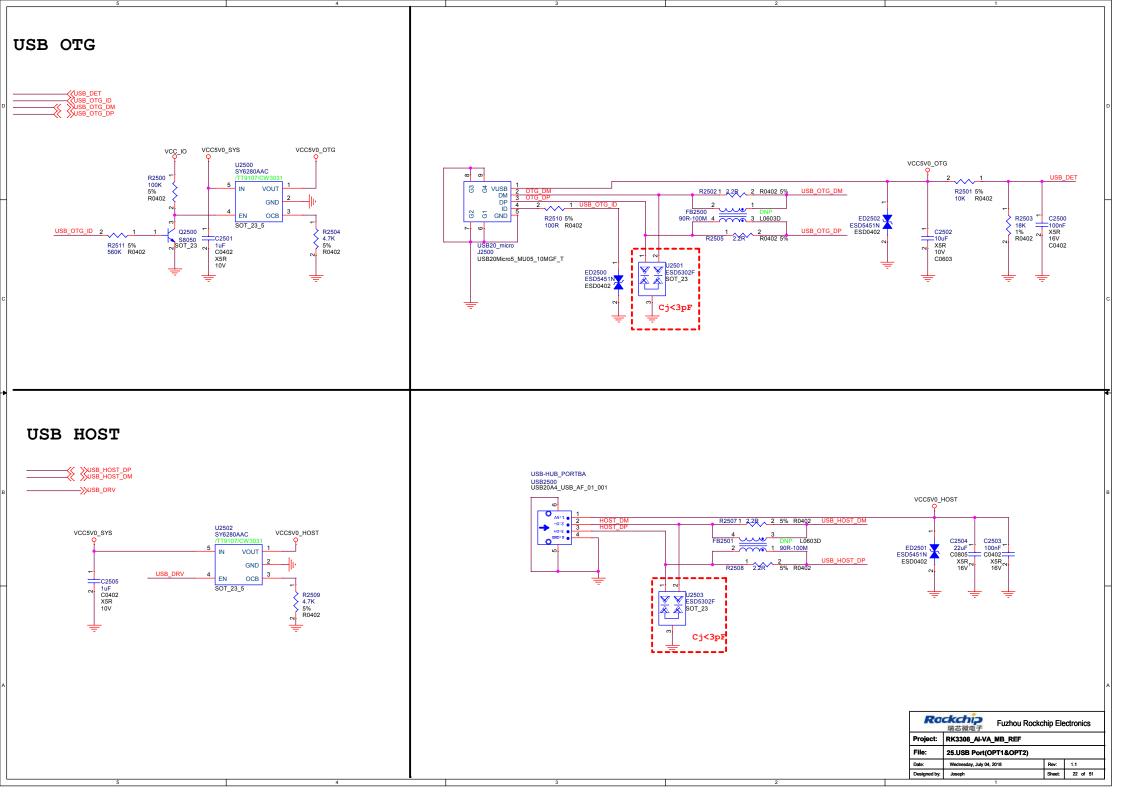


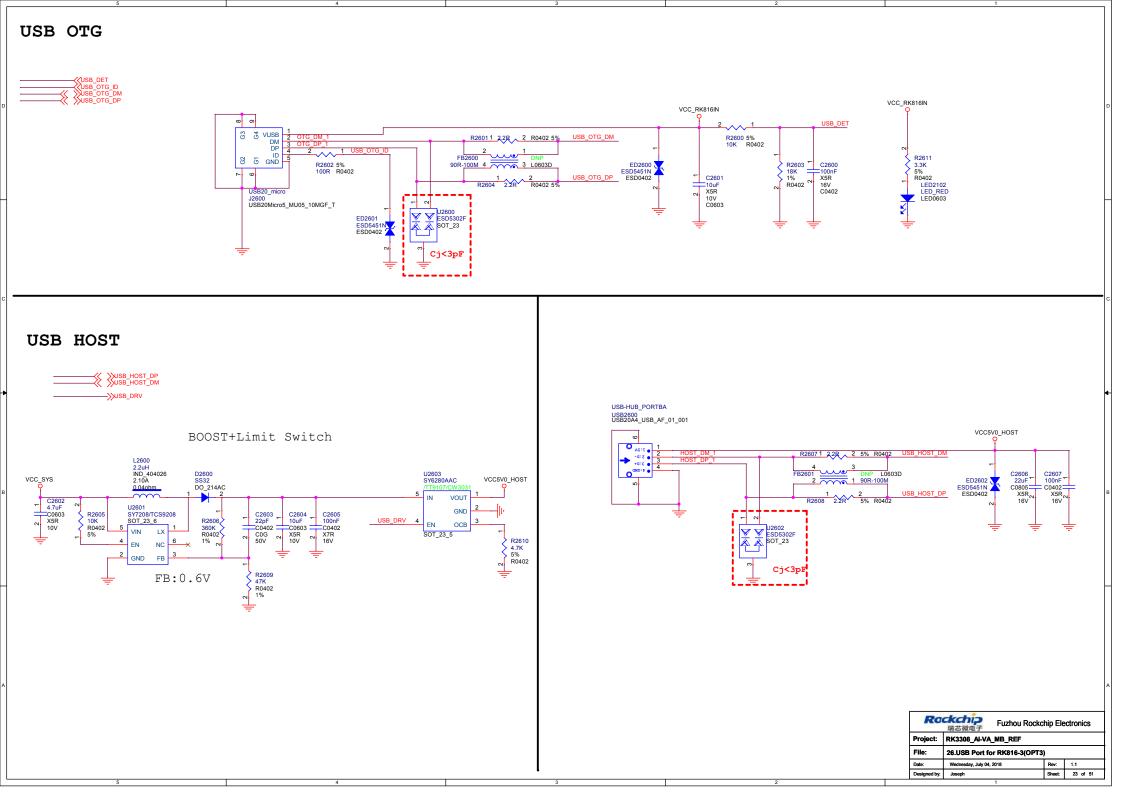


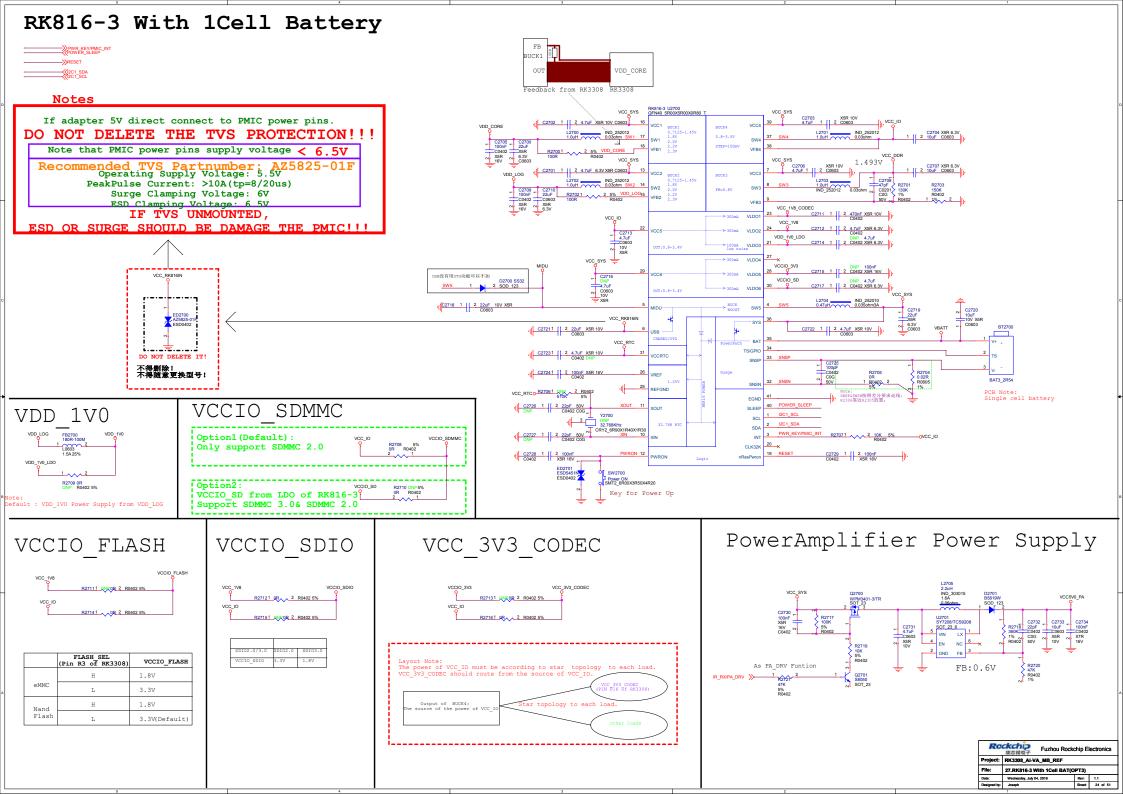


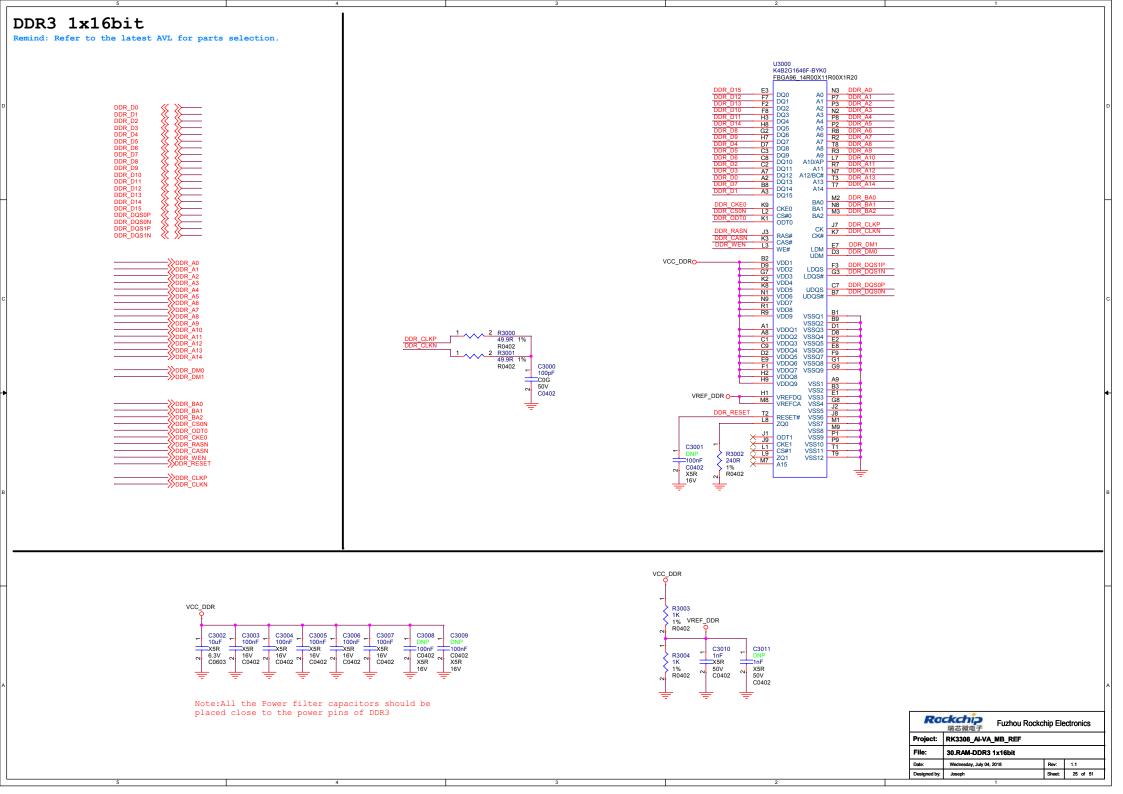


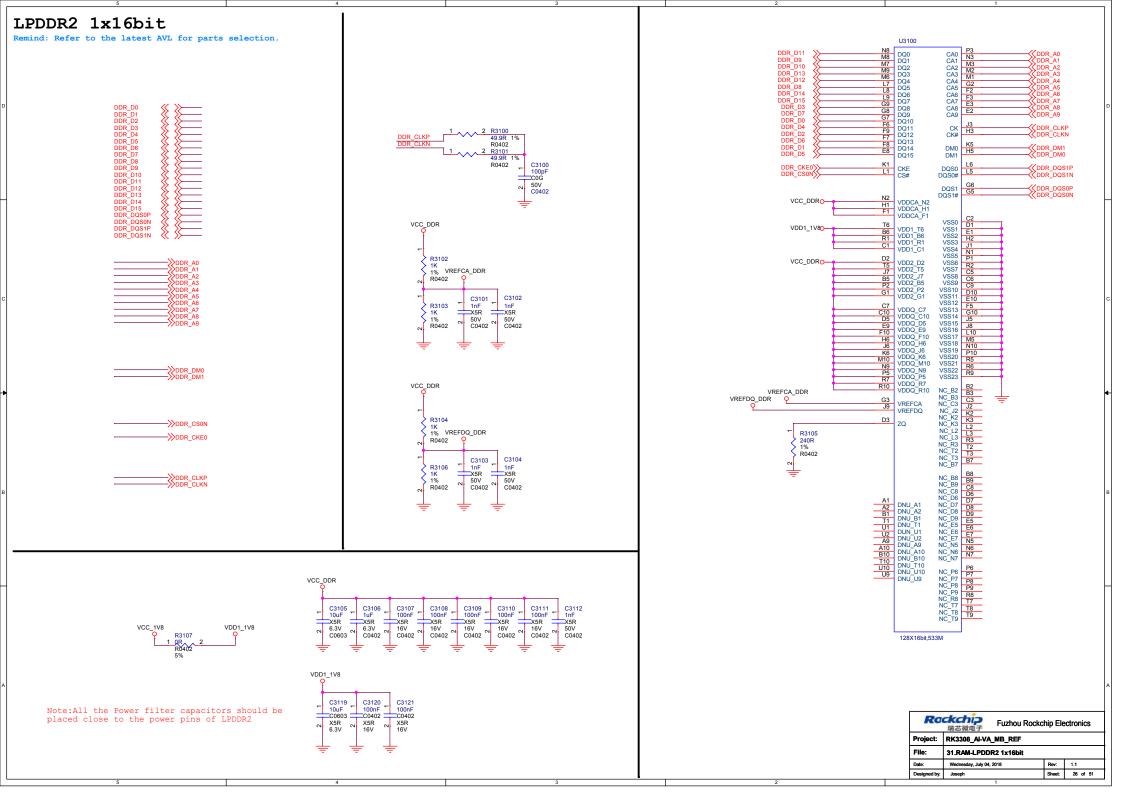


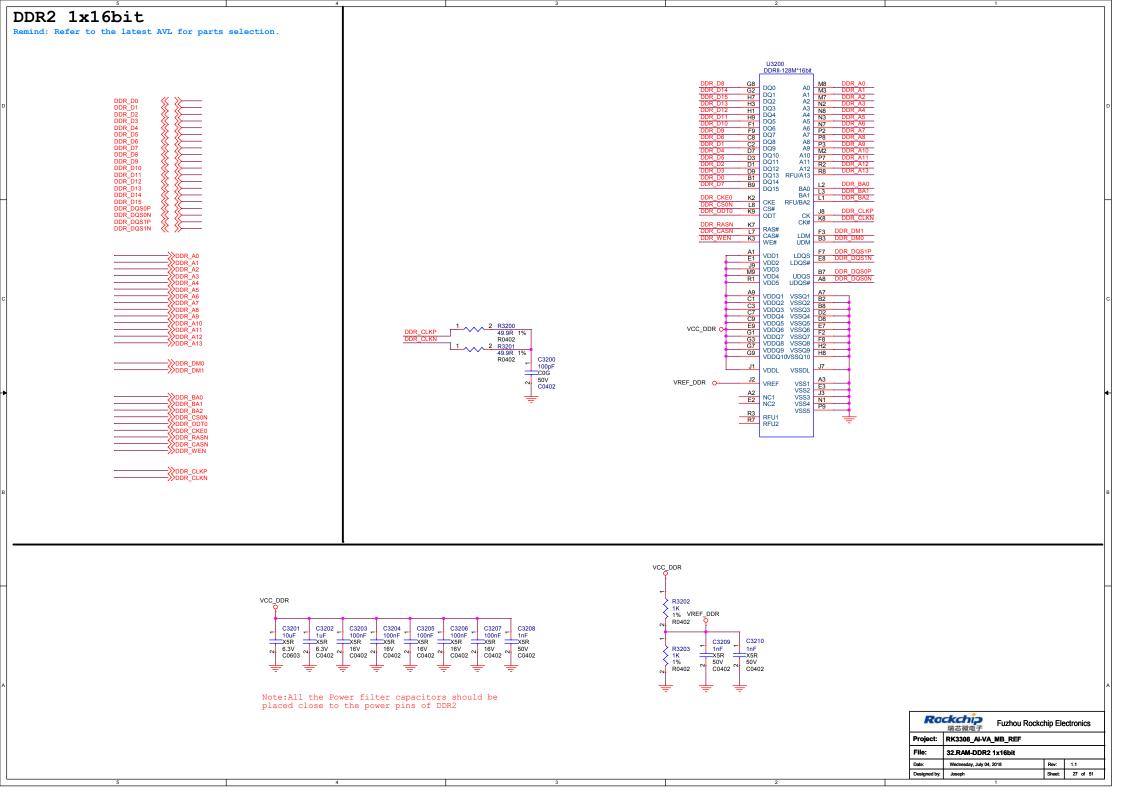


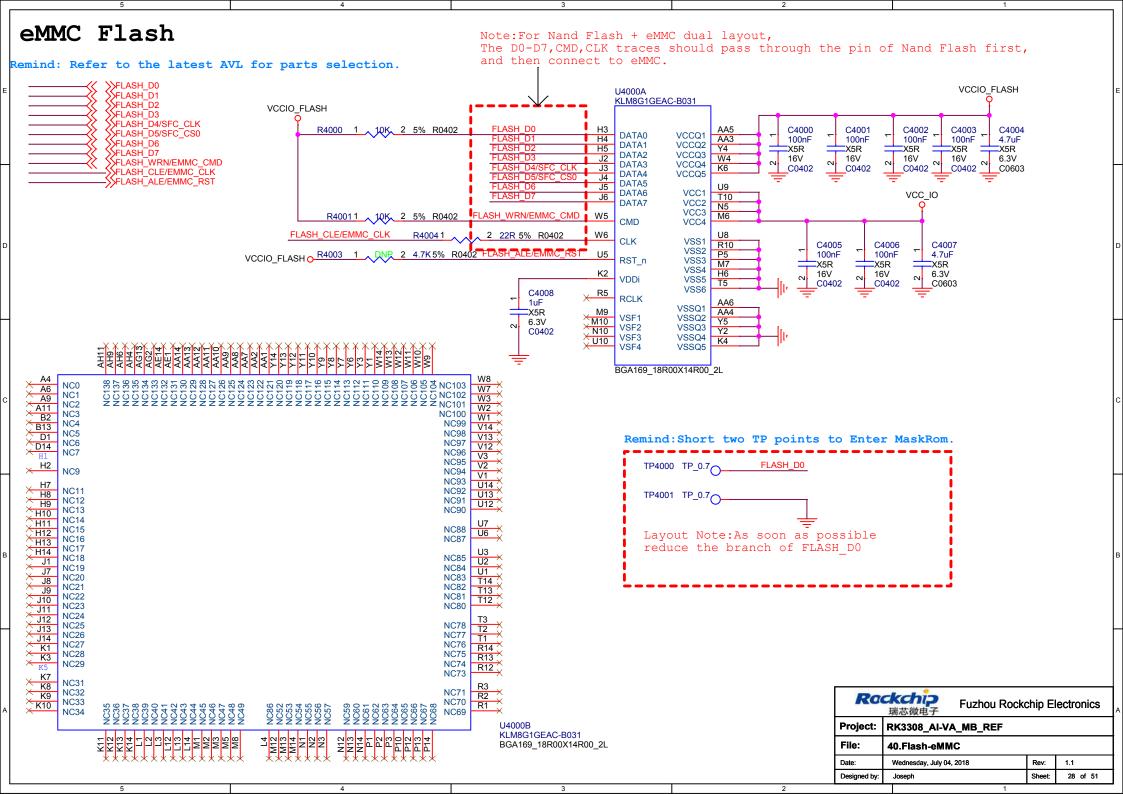


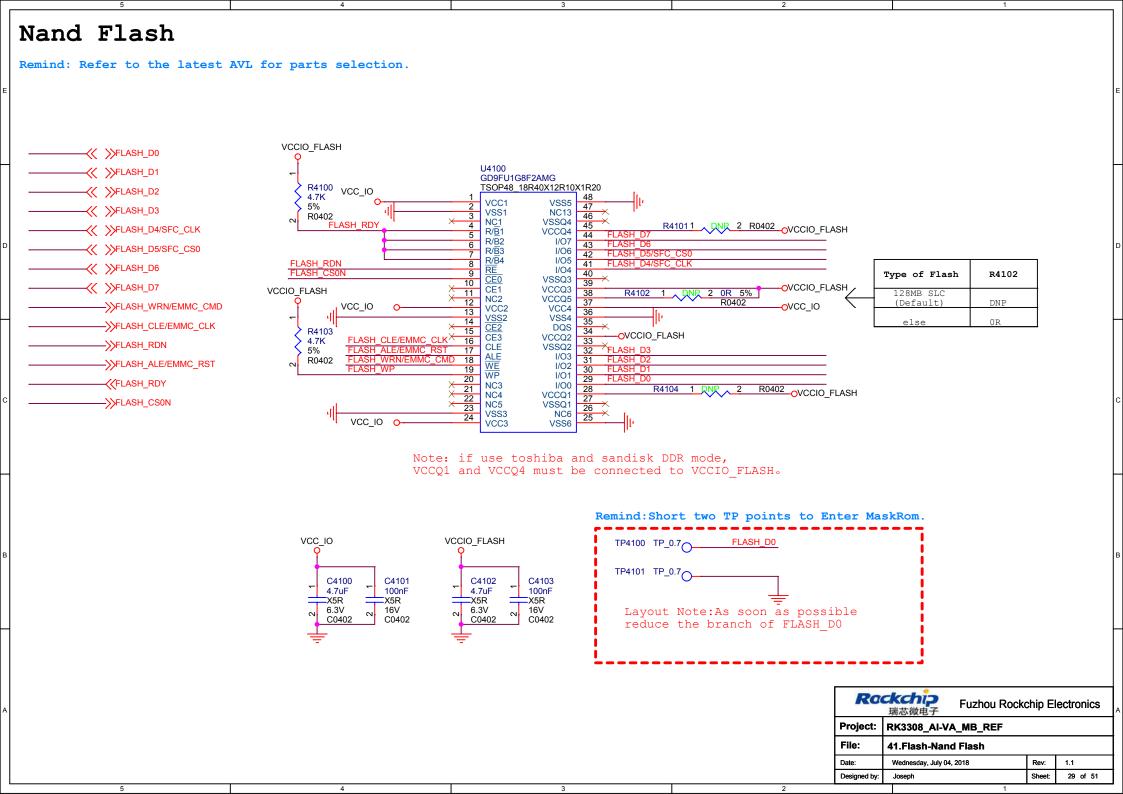


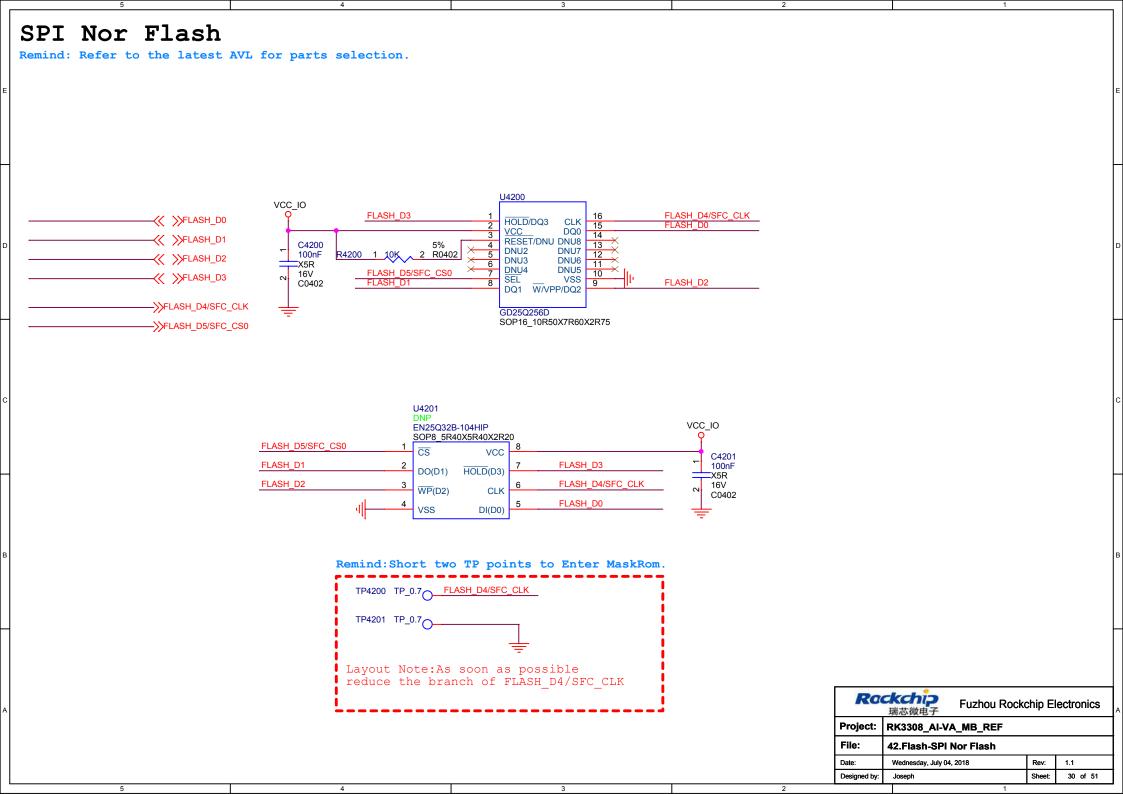


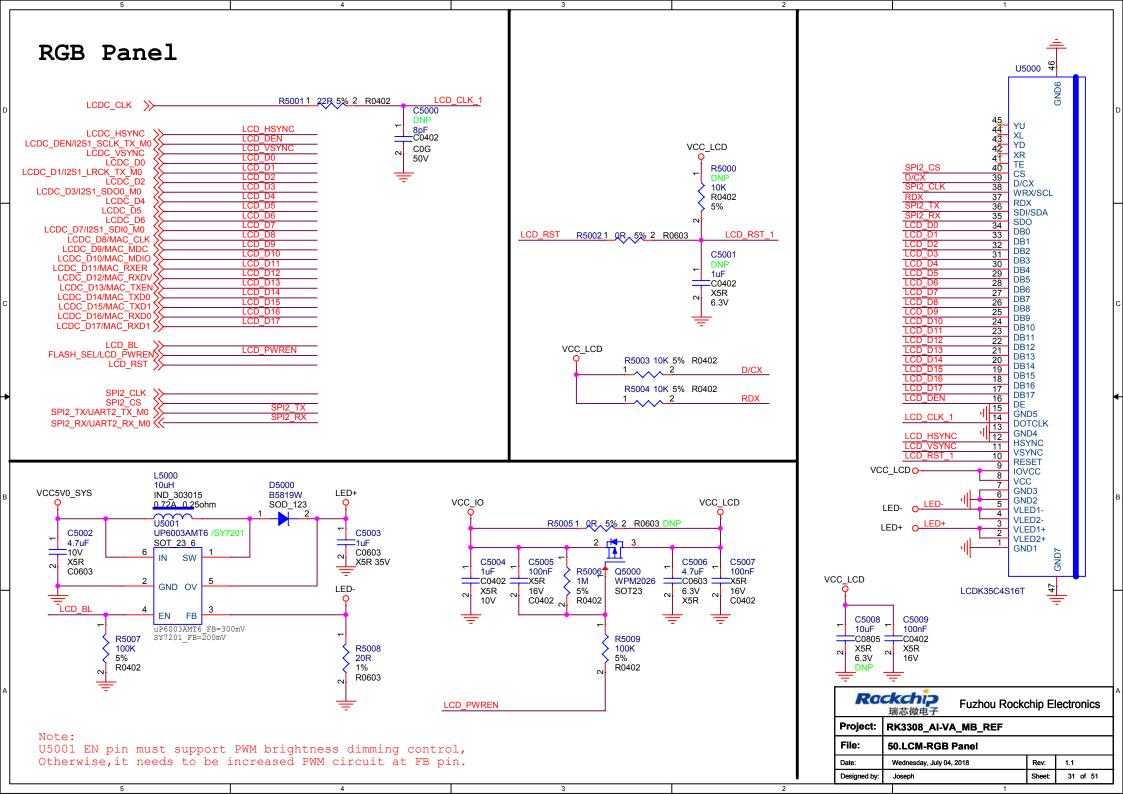


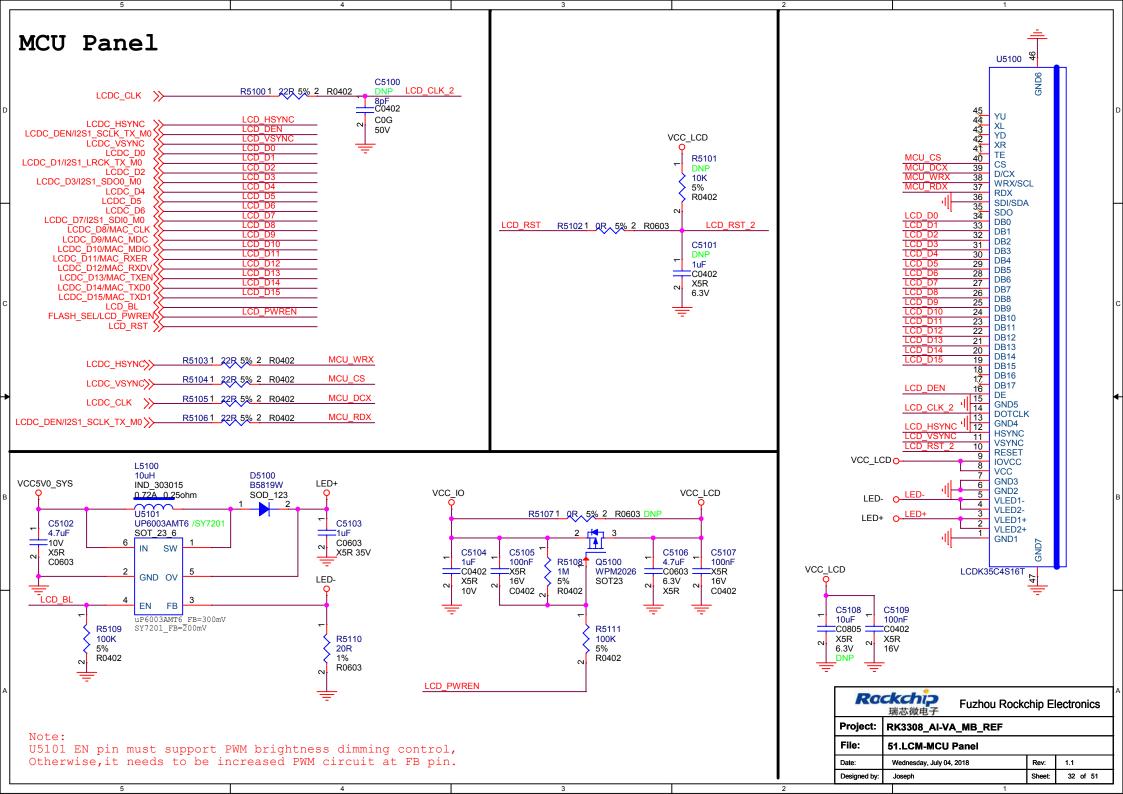


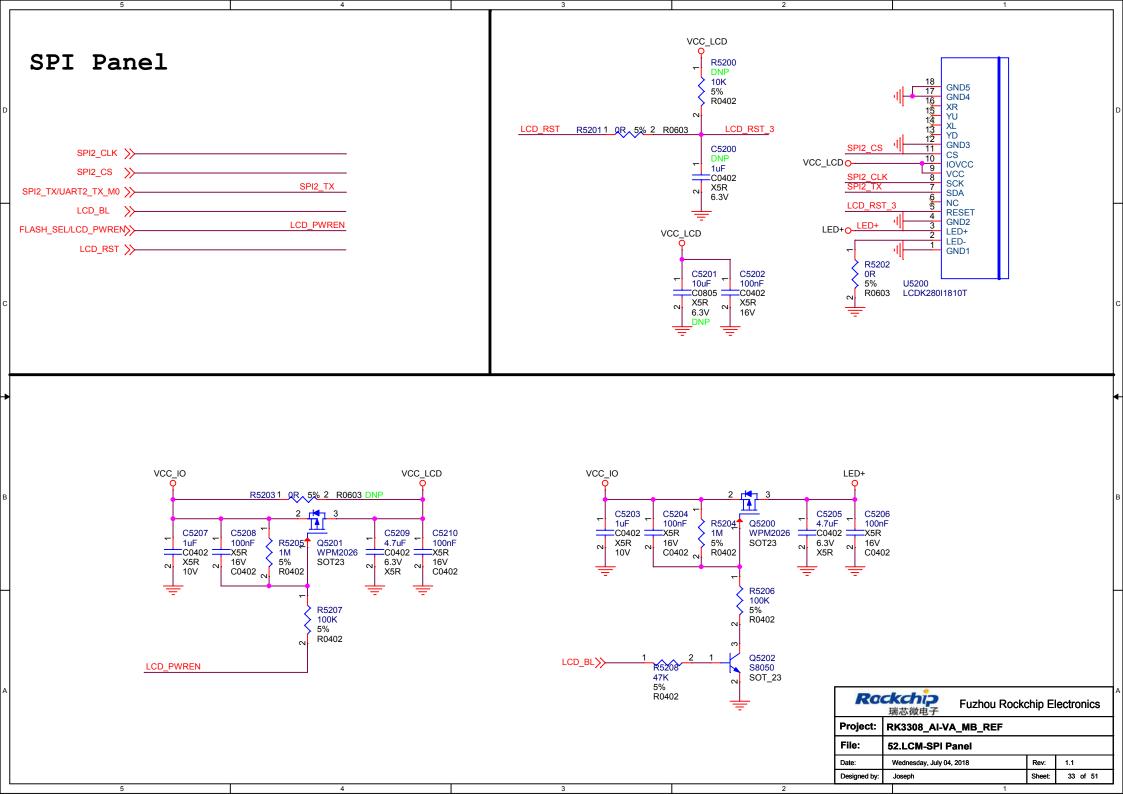


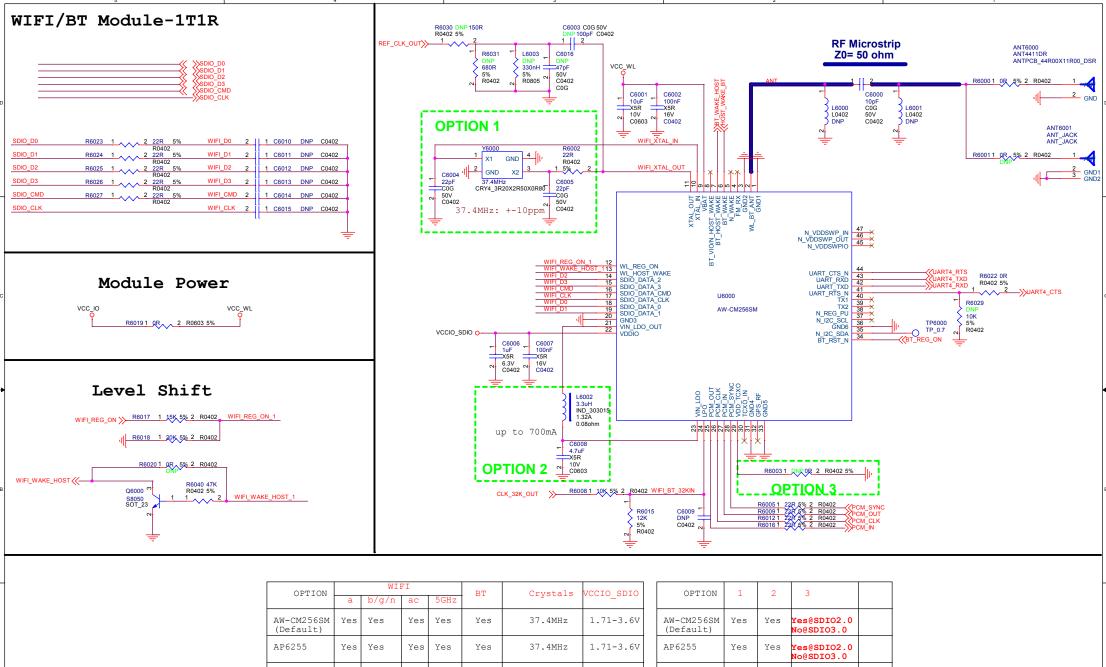










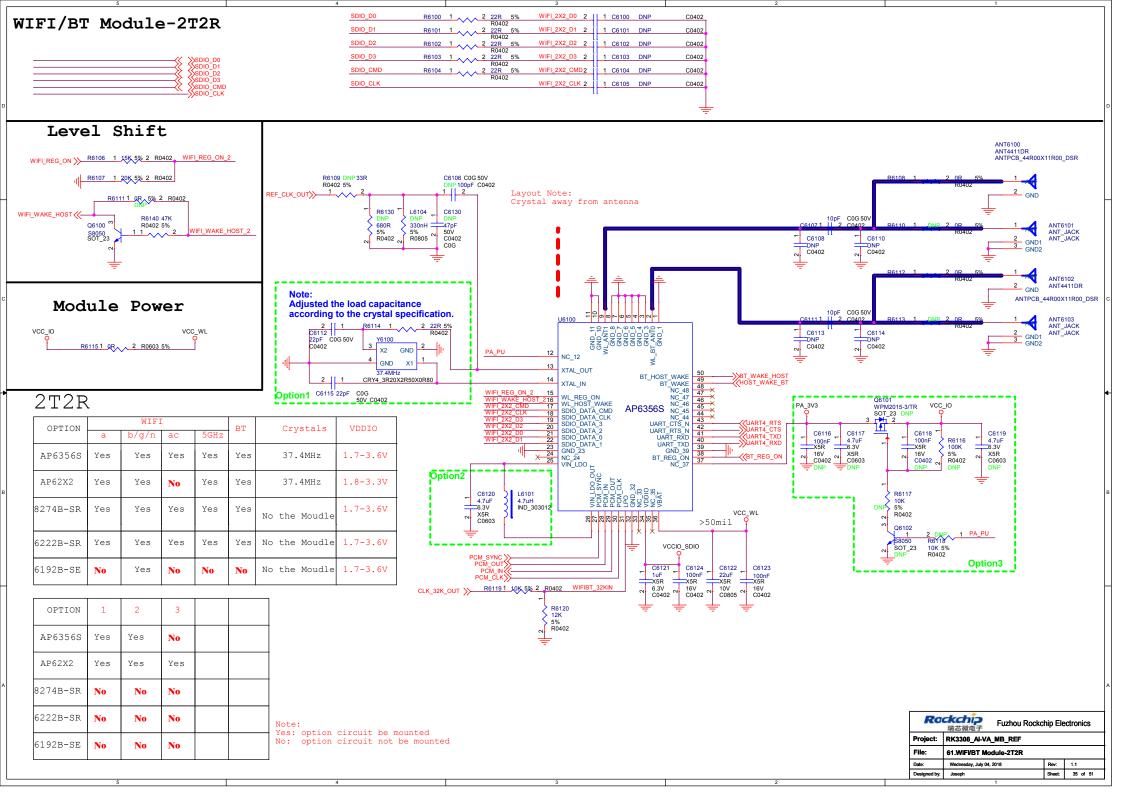


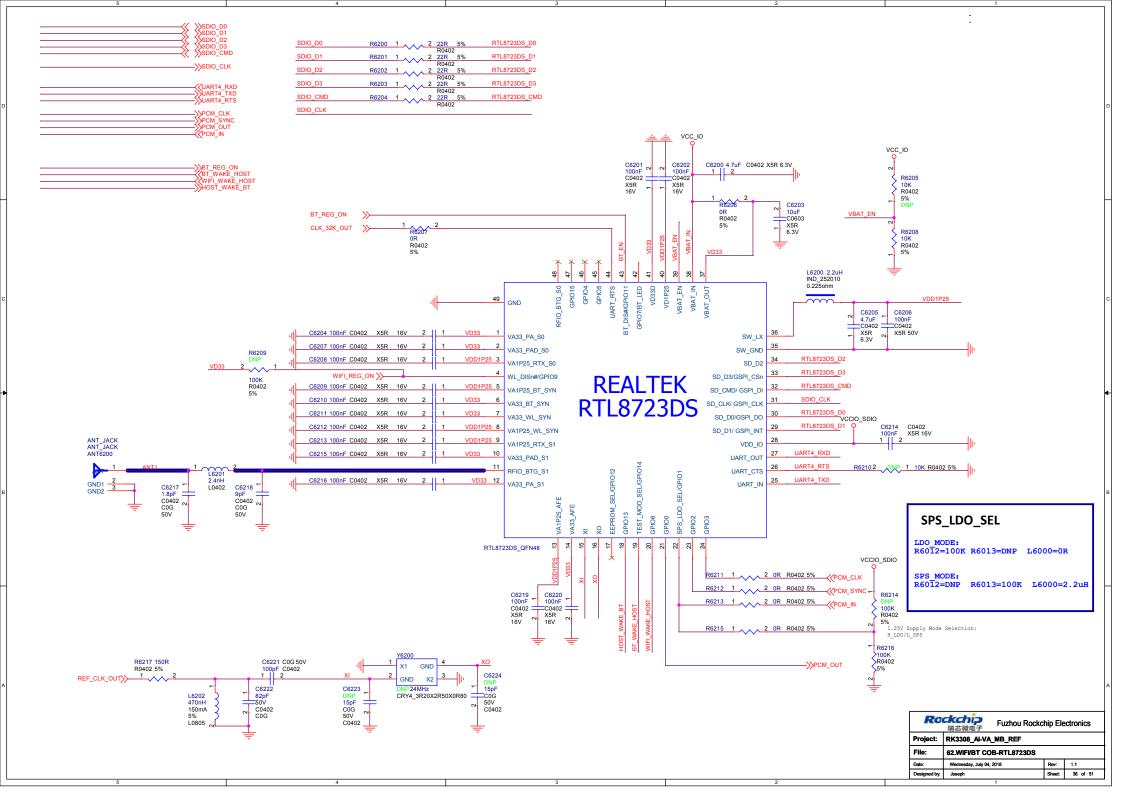
	a	b/g/n	ac	5GHz		-	_
AW-CM256SM (Default)	Yes	Yes	Yes	Yes	Yes	37.4MHz	1.71-3.6V
AP6255	Yes	Yes	Yes	Yes	Yes	37.4MHz	1.71-3.6V
RTL8723BS	No	Yes	No	No	Yes	No the Moudle	1.62-3.6V
RTL8723DS	No	Yes	No	No	Yes	No the Moudle	1.62-3.6V
RTL8189ETV MODULE	No	Yes	No	No	No	No the Moudle	1.8V/3.3V

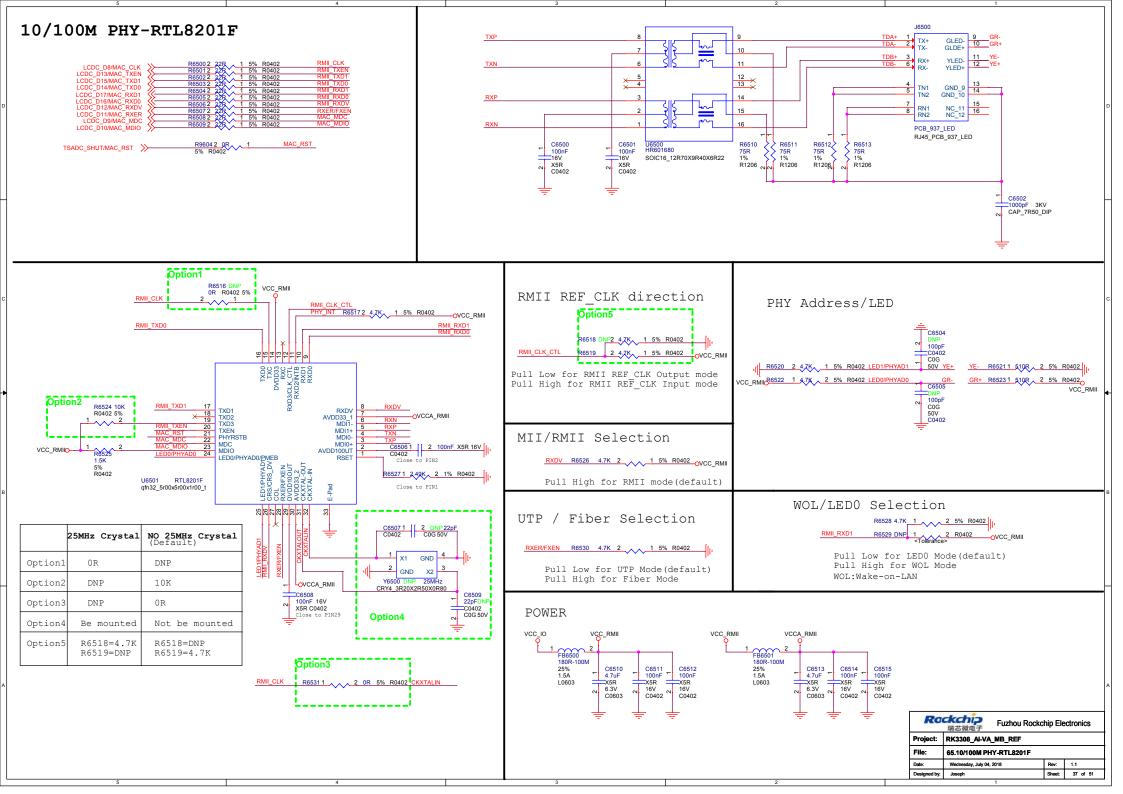
OPTION	1	2	3	
AW-CM256SM (Default)	Yes		Yes@SDIO2.0 No@SDIO3.0	
AP6255	Yes		Yes@SDIO2.0 No@SDIO3.0	
RTL8723BS	No	No	No	
RTL8723DS	No	No	No	
RTL8189ETV MODULE	No	No	No	

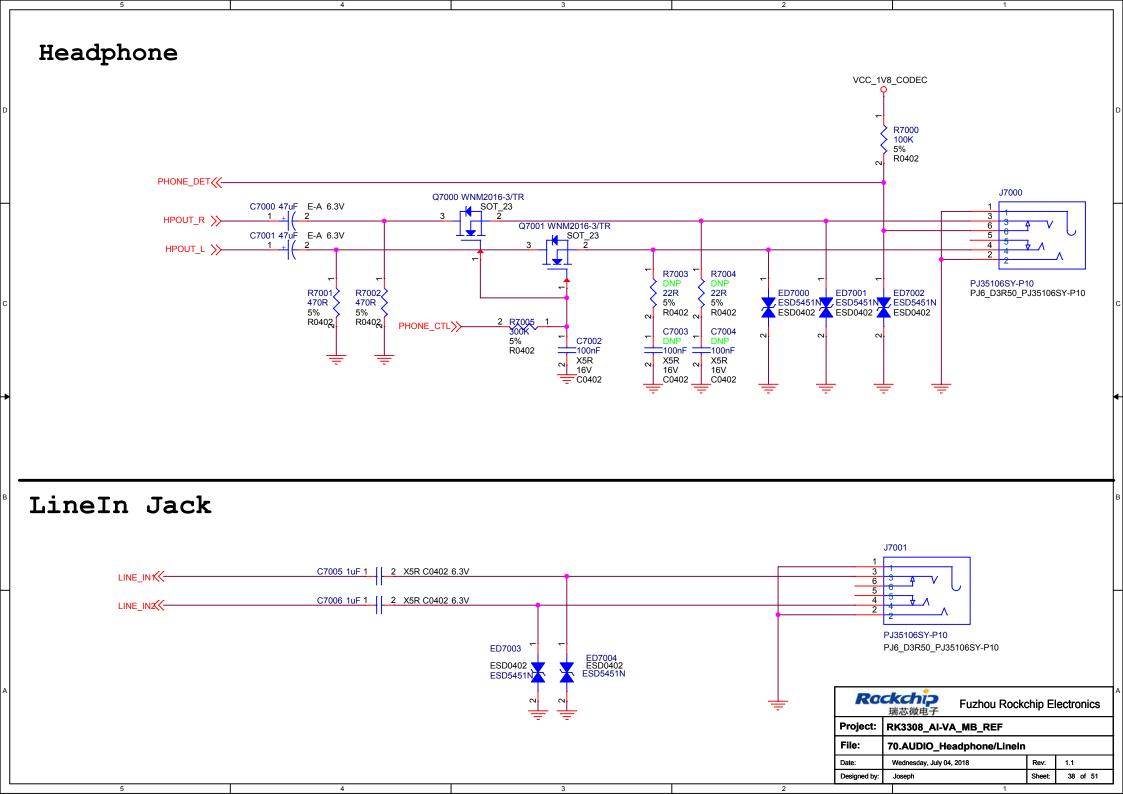
Note: Yes: option circuit be mounted No: option circuit not be mounted

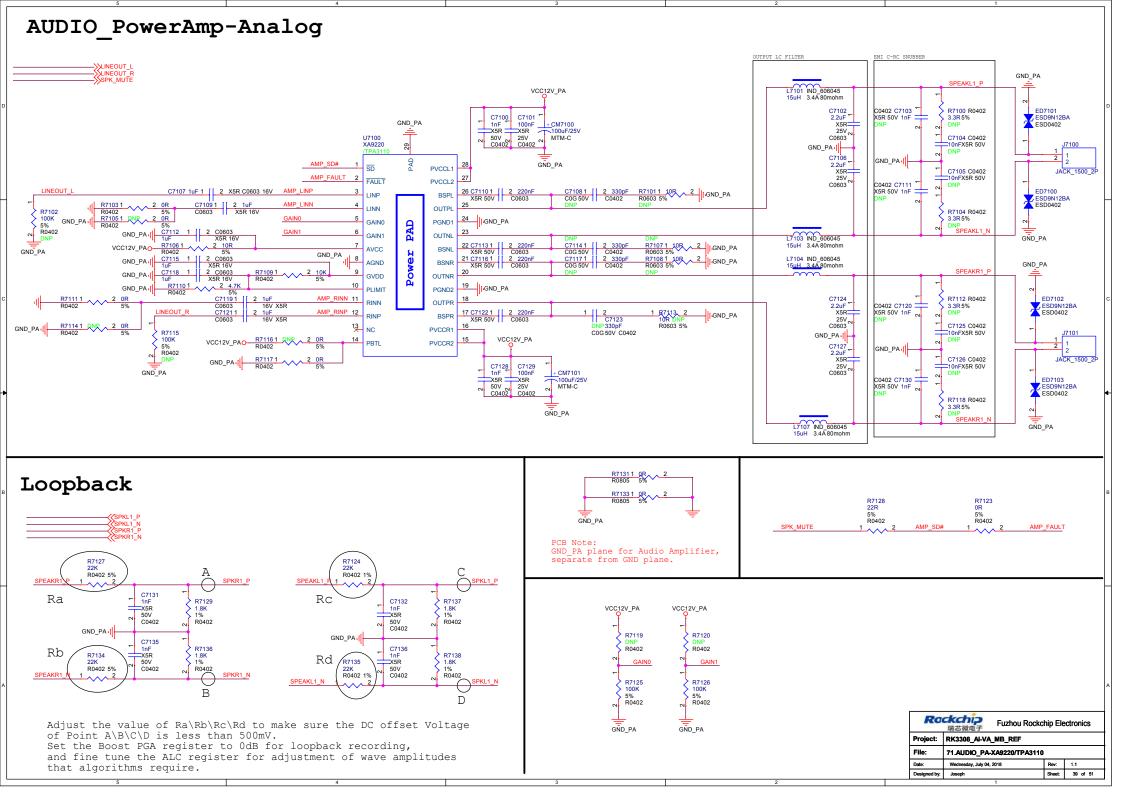
Rockchip Fuzhou Rockchip Electronics								
Project: RK3308_AI-VA_MB_REF								
File:	60.WIF/BT Module-1T1R							
Date:	Wednesday, July 04, 2018	Rev:	1.1					
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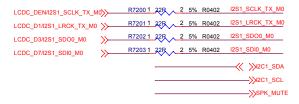


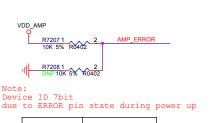






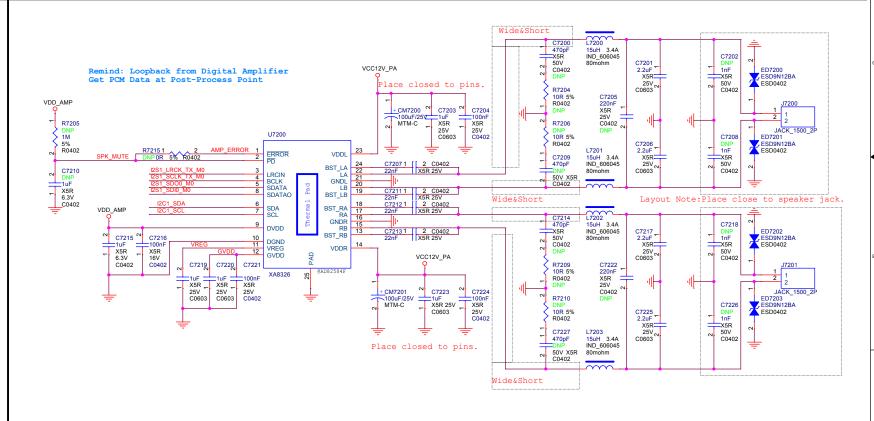
AUDIO_PowerAmp-Digital



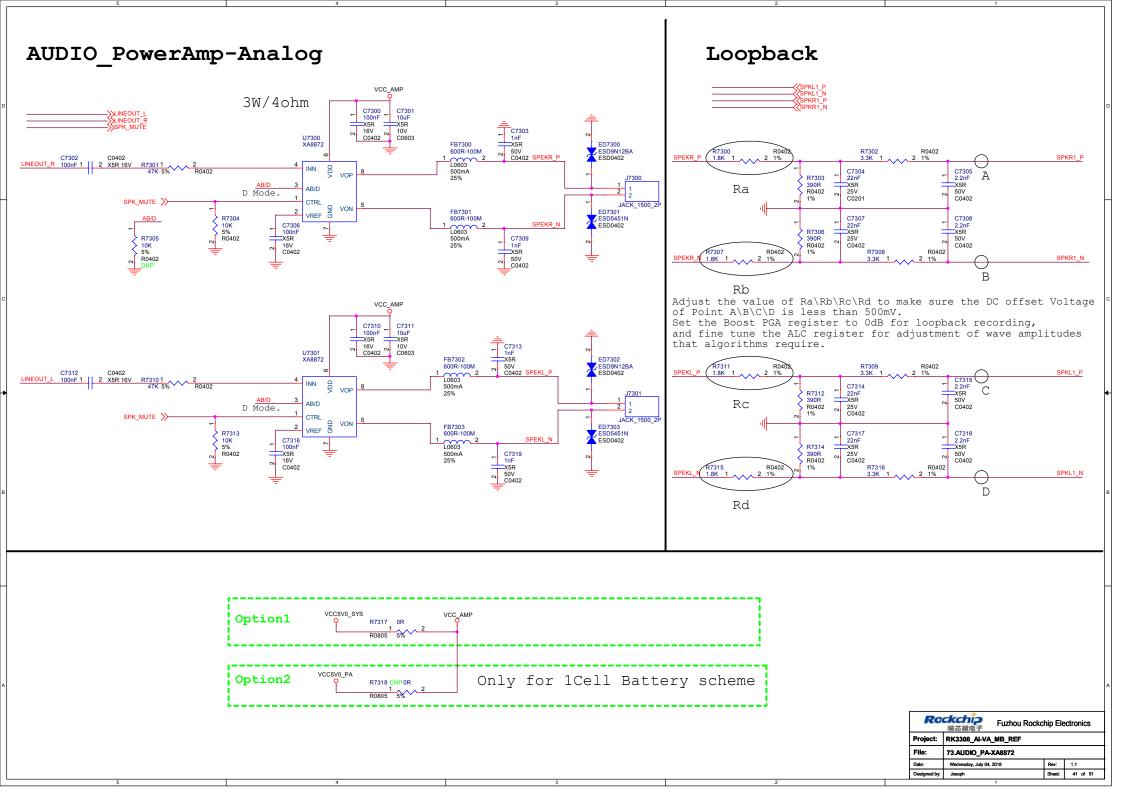


·	J .
AMP ERROR	Address of I2C
Н	0x31
L	0x30

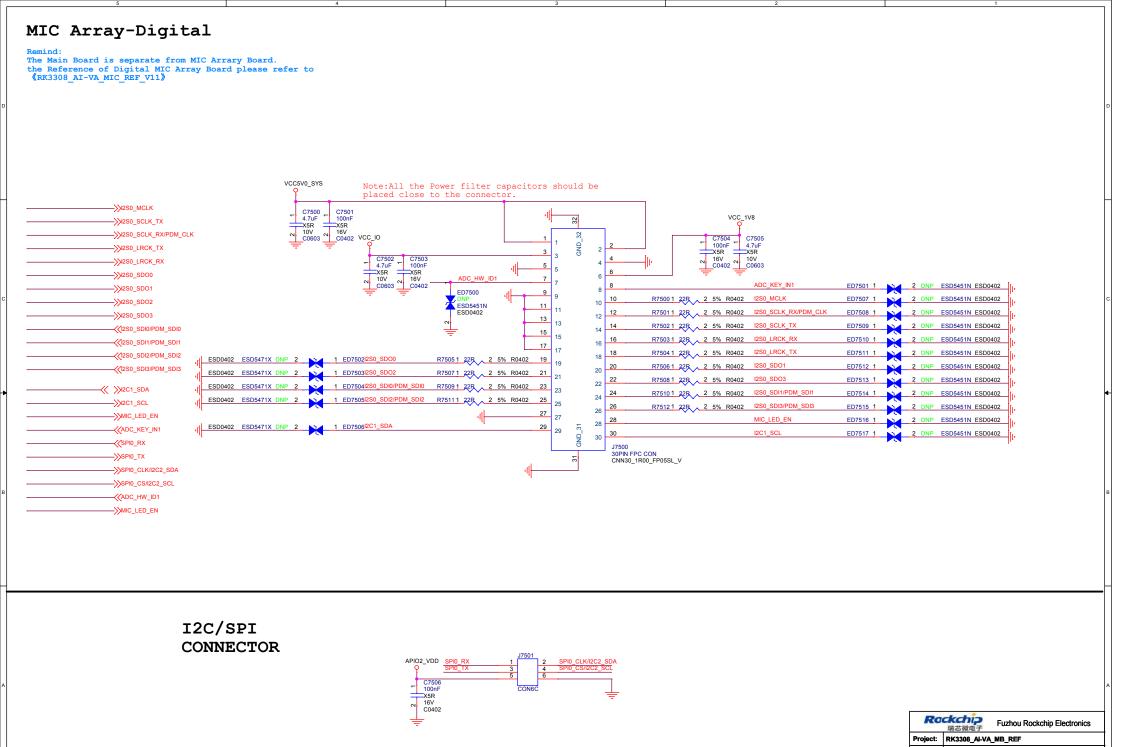




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Project: RK3308_AI-VA_MB_REF
File: 72_AUDIO_PA_XA8326
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MIC Array-Analog Remind: The Main Board is separate from MIC Arrary Board. the Reference of Analog MIC Array Board please refer to 《RK3308 AI-VA MIC REF V11》 Note: All the Power filter capacitors should be VCC5V0_SYS placed close to the connector. **</**MICN3 C7400 C7401 **(**MICP3 100nF 4.7uF X5R X5R 16V 10V **(**MICN4 C0402 C0603 **<**⟨MICP4 **(**MICN5 ADC HW ID1 2 DNP ESD5451N ESD0402 ED7408 1 **<**∕MICP5 ESD0402 ESD5451N DNP 2 1 ED7400 ADC_KEY_IN1 ESD0402 ESD5471X DNP 2 ED7401 MICN7 **≪**MICN6 MICP7 ED7409 1 2 DNP ESD5471X ESD0402 **(**MICP6 2 DNP ESD5471X ESD0402 MICN8 ED7410 1 1 ED7402 MICP8 11 ESD0402 ESD5471X DNP 2 **(**MICN7 13 ESD5471X DNP 2 ED7403 MICN3 MICP3 ED7411 1 2 DNP ESD5471X ESD0402 **(**MICP7 15 MICN4 ED7412 1 16 17 ESD0402 ESD5471X DNP 2 1 ED7404 MICP4 **(**MICN8 ED7405 MICN5 19 **//**MICP8 MICP5 ED7413 1 ESD0402 ESD5471X DNP 2 21 MICN6 ED7414 1 2 DNP ESD5471X ESD0402 22 MICBIAS1 23 MICBIAS2 24 24 MICBIAS1 25 MICBIAS2 26 27 27 MIC_LED_EN C7404 28 12C1 SDA 29 100nF ->>I2C1 SCL I2C1 SCL C7405 X5R 100nF 16V ->>MIC_LED_EN X5R ED7407 J7400 C0402 16V DNP ESD5471X 30PIN FPC CON ED7415 C0402 CNN30_1R00_FP05SL_V </ADC_KEY_IN1 ESD5471X ESD0402 ESD0402 </ADC_HW_ID1</pre> Rockchia **Fuzhou Rockchip Electronics** 瑞芯微电子 Project: RK3308_AI-VA_MB_REF File: 74.MIC Array Connector-Analog Rev: Wednesday, July 04, 2018 Designed by: Sheet: 42 of 51 Joseph



75.MIC Array Connector-Digital
Wednesday, July 04, 2018

Joseph

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