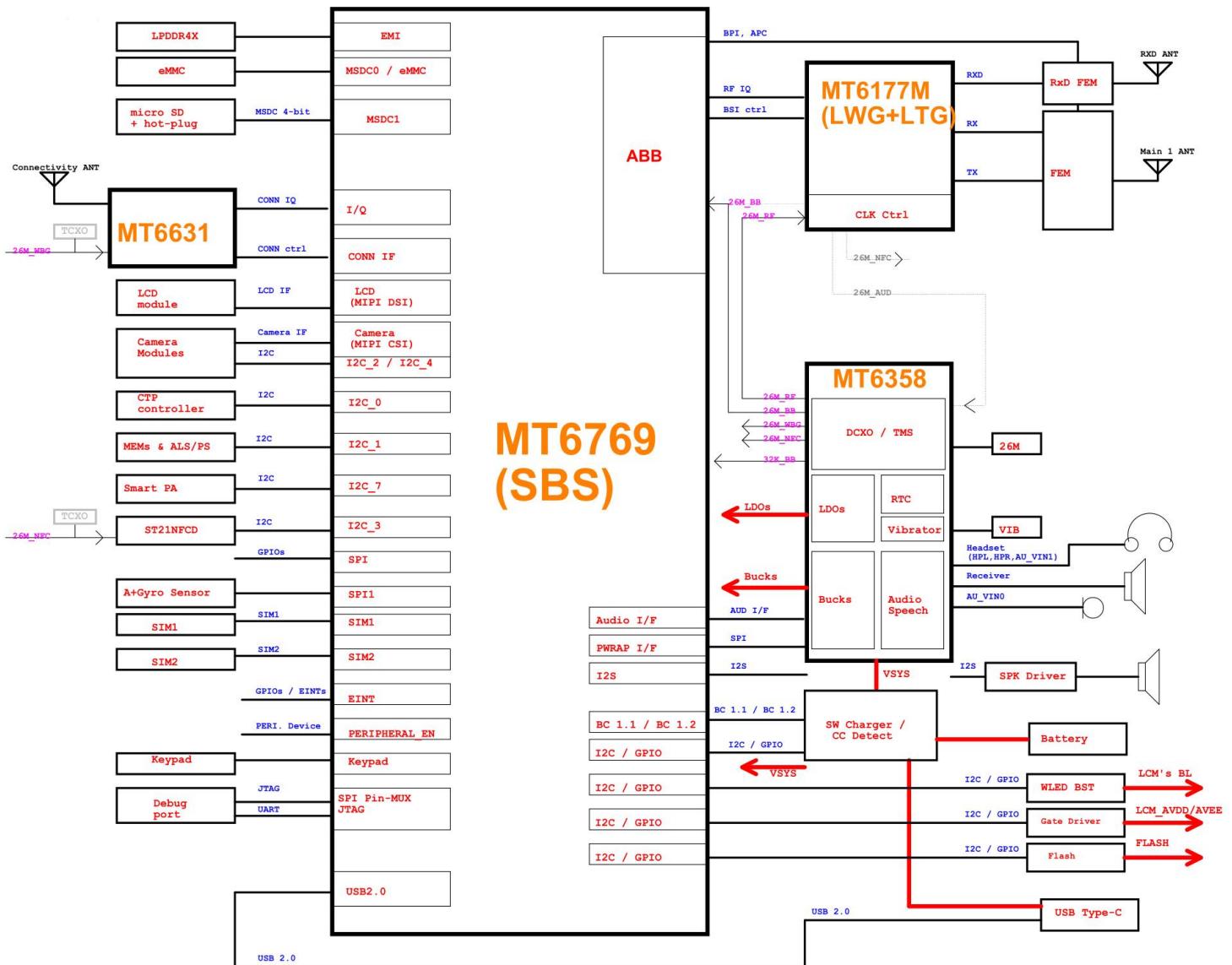


REF_SCH TOP LEVEL



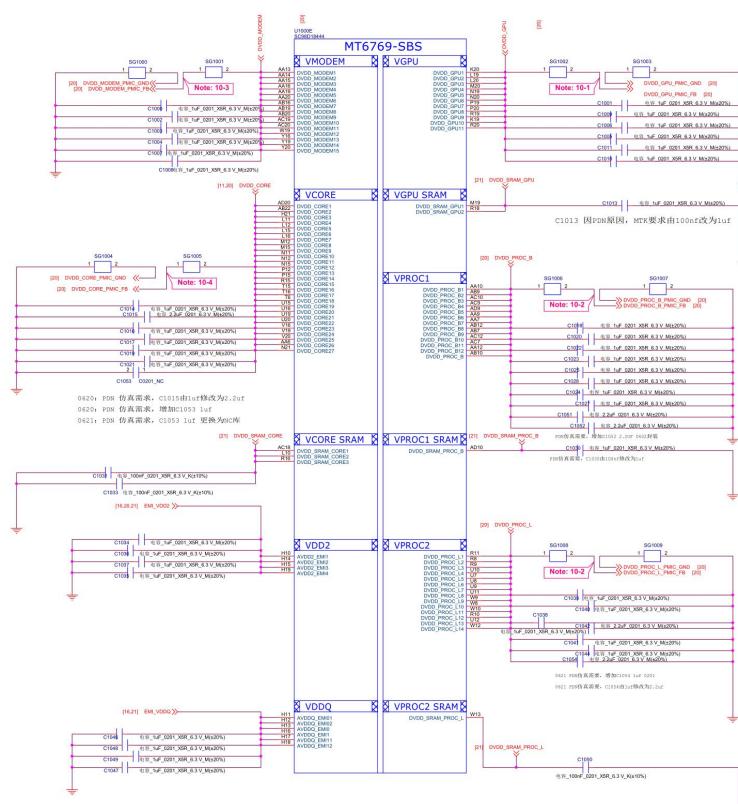
02_I2C_ID_Overview

I2C	Sub SYS	Function	Part Number	I2C Spec.	Budget Timing	I2C Slave Address / Write / Read (7-bit mode)	
I2C-0	AP	Cap Touch controller	GT1151	400 Kbps	Yes.	0x5D	Write:0xBA / Read:0xBB
		LCM Gate Drive	RT4801HWSC	400 Kbps	Yes.		
I2C-1 (I3C)	Sensor Hub	Magnetic Sensor	AK09918C	400 Kbps	Yes.	0x0C	Write:0x18 / Read:0x19
		Ambient Light Sensor	CM36558	400 Kbps	Yes.	0x51	Write:0xA2 / Read:0xA3
		Proximity Sensor					
		Pressure Sensor	BMP280	400 Kbps	Yes.	0x77	Write:0xEE / Read:0xEF
I2C-2 (I3C)	AP	Rear Camera	IMX519	400 Kbps		0x1A	Write:0x34 / Read:0x35
			EEPROM	400 Kbps		0x50	Write:0xA0 / Read:0xA1
			AF driver	400 Kbps		0x0C	Write:0x18 / Read:0x19
		Dual cam (B+b) - Main2	S5K2P7	400 Kbps		0x2D	Write:0x5A / Read:0x5B
			EEPROM	400 Kbps		0x50	Write:0xA0 / Read:0xA1
			AF driver	400 Kbps		0x0C	Write:0x18 / Read:0x19
I2C-3	AP	NFC					
		Audio PA					
I2C-4 (I3C)	AP	Front Camera	S5K2T7	400 Kbps		0x2D	Write:0x5A / Read:0x5B
			EEPROM	400 Kbps		0x52	Write:0xA4 / Read:0xA5
			AF driver=NA				
I2C-5	AP	Reserved					
I2C-6	AP SSPM	Reserved					
I2C-7	AP	Audio Smart PA	MT6660	400 Kbps	Yes.	0x34	Write:0x68 / Read:0x69
		SW Charger	SW Charger	400 Kbps	Yes.		
		CC Detect	RT1715WSC	400 Kbps	Yes.		
		Flash LED 5V Boost	RT4505	400 Kbps	Yes.		

Note : I2C Spec. : Standard mode (100 kbps) and Fast mode (400 kbps), Fast mode Plus (1 Mbps) and High-speed mode (3.4 Mbps)

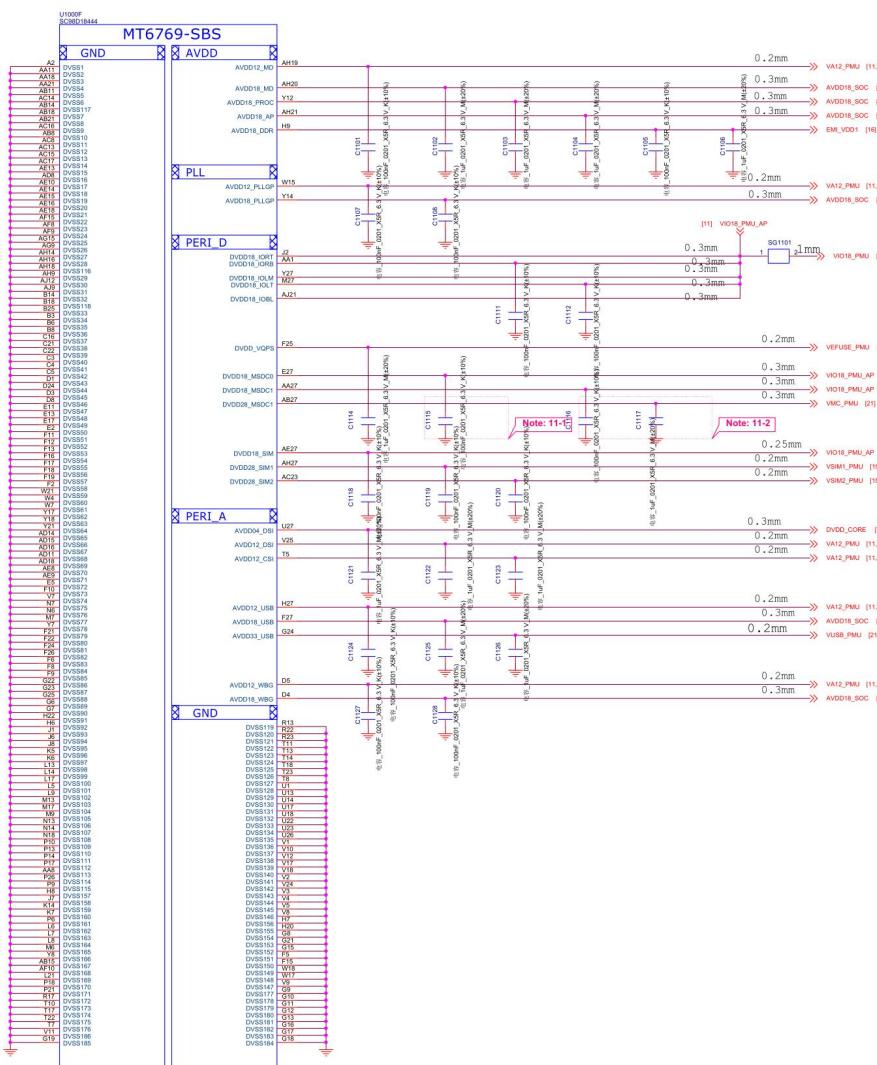
10_BB_POWER_PDN

Schematic design notice of "10_BB_POWER_PDN" page:



- Note 10-1:** Differential pair of DVDD_GPU remote sense must be close to BB's ball. Remote sense trace with GND shielding to PMIC (Differential).
- Note 10-2:** Differential pair of DVDD_PROC remote sense must be close to BB's ball. Remote sense trace with GND shielding to PMIC (Differential).
- Note 10-3:** Differential pair of DVDD_MODEM remote sense must be close to BB's ball. Remote sense trace with GND shielding to PMIC (Differential).
- Note 10-4:** Differential pair of DVDD_CORE remote sense must be close to BB's ball. Remote sense trace with GND shielding to PMIC (Differential).

11_BB_POWER_IO



Schematic design notice of "11_BB_POWER_IO" page:

Note 11-1: C1115 closed DVDD18 MSDC0 150mil

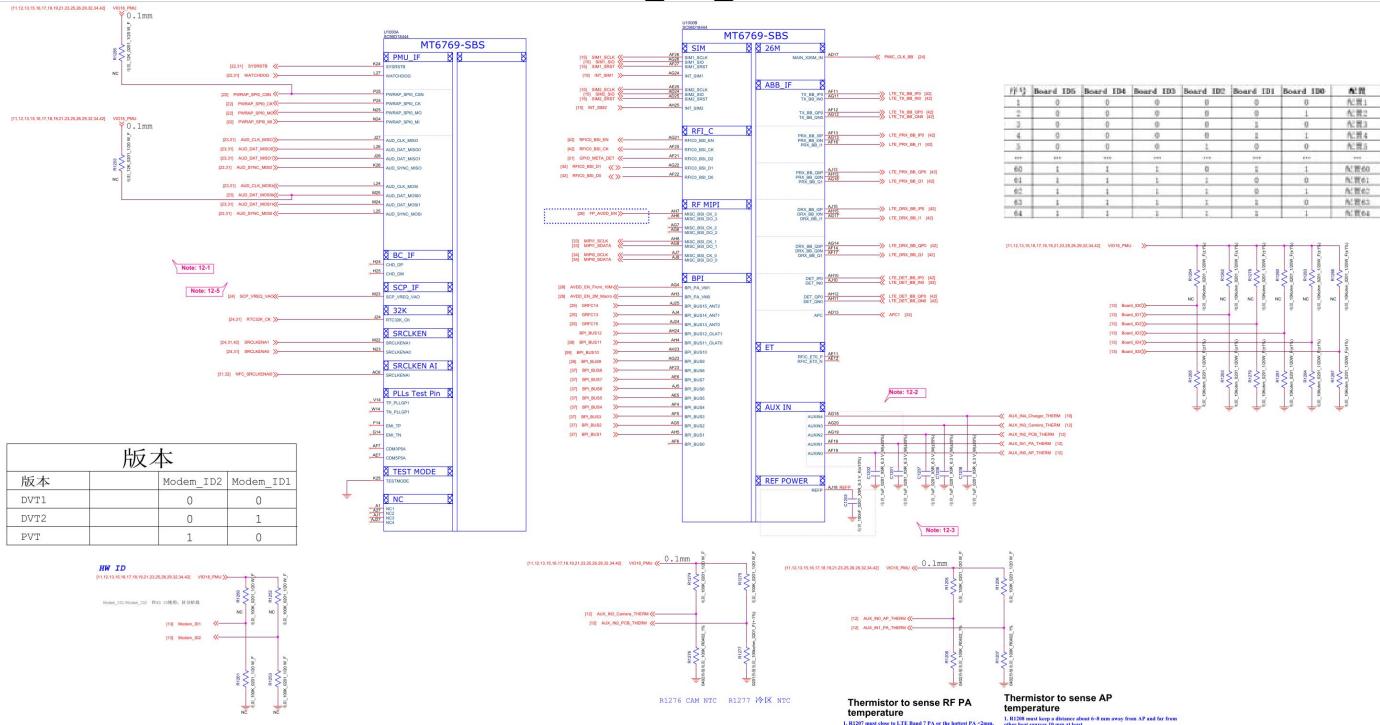
Note 11-2: C1116 closed DVDD18_MSDC1 150mil
C1117 closed DVDD28_MSDC1 150mil

AVDD12 : 单个点走8mil, 两路分支各16mil, 总路径20mil

VIO18_PMU_AP:总路径40mil

AVDD18_SOC:总路径20mil

12_BB_1



Schematic design notice of "12_BB_1" page:

Note 12-1: PWRAP_SPI0_CS# and "AUD_DAT_MOSIO" are bootstrap pins to select which interface will be the JTAG pin out

HW_ID	
PWRAP_SPI0	default#D
HI	LO
HI	HI
LO	HI
LO	LO

Note 12-2: To shunt a 1uF capacitor in the AUXIN ADC input to prevent noise coupling. It should be placed as close to BB as possible. Connect the unused AUX ADC input to GND.

Note 12-3: The de-coupling cap. for REFF (AJ18 ball) have to be placed as close to BB as possible.

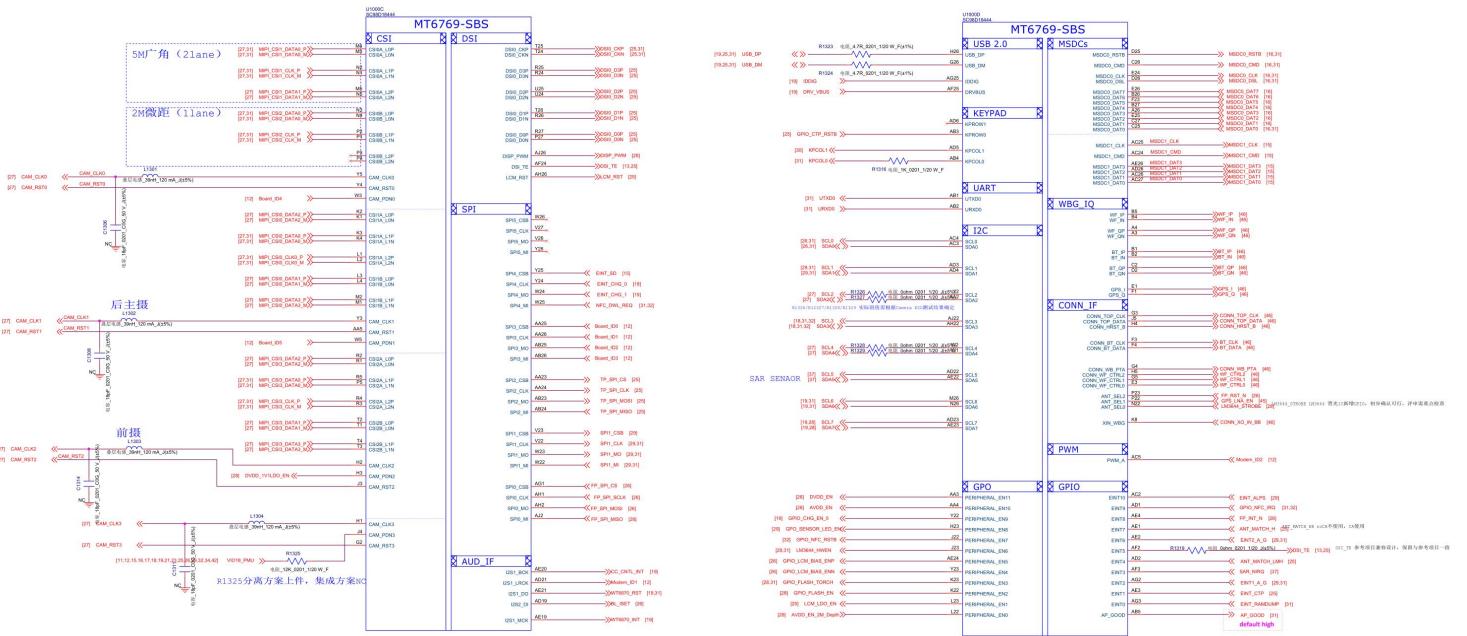
Note 12-4: HW pin for DDR type feature in bootstrap (refer to BB HW design Note)

AUD_SYNC_MISO	AUD_CLK_MISO	CAM_PDN2	PMIC_E558 voltage	DDR Type
default#D	default#D	default#D	VDRAM1 / VDRAM2	DDR
No ext. pull	No ext. pull	No ext. pull	1.125v / 0.6v	LPAK eMCP
No ext. pull	12K pull to VIO18	No ext. pull	1.125v / 0.6v	LP3 eMCP
12K pull to VIO18	No ext. pull	No ext. pull	1.225v / OFF	Reserved
12K pull to VIO18	12K pull to VIO18	No ext. pull	1.125v / 1.6v	

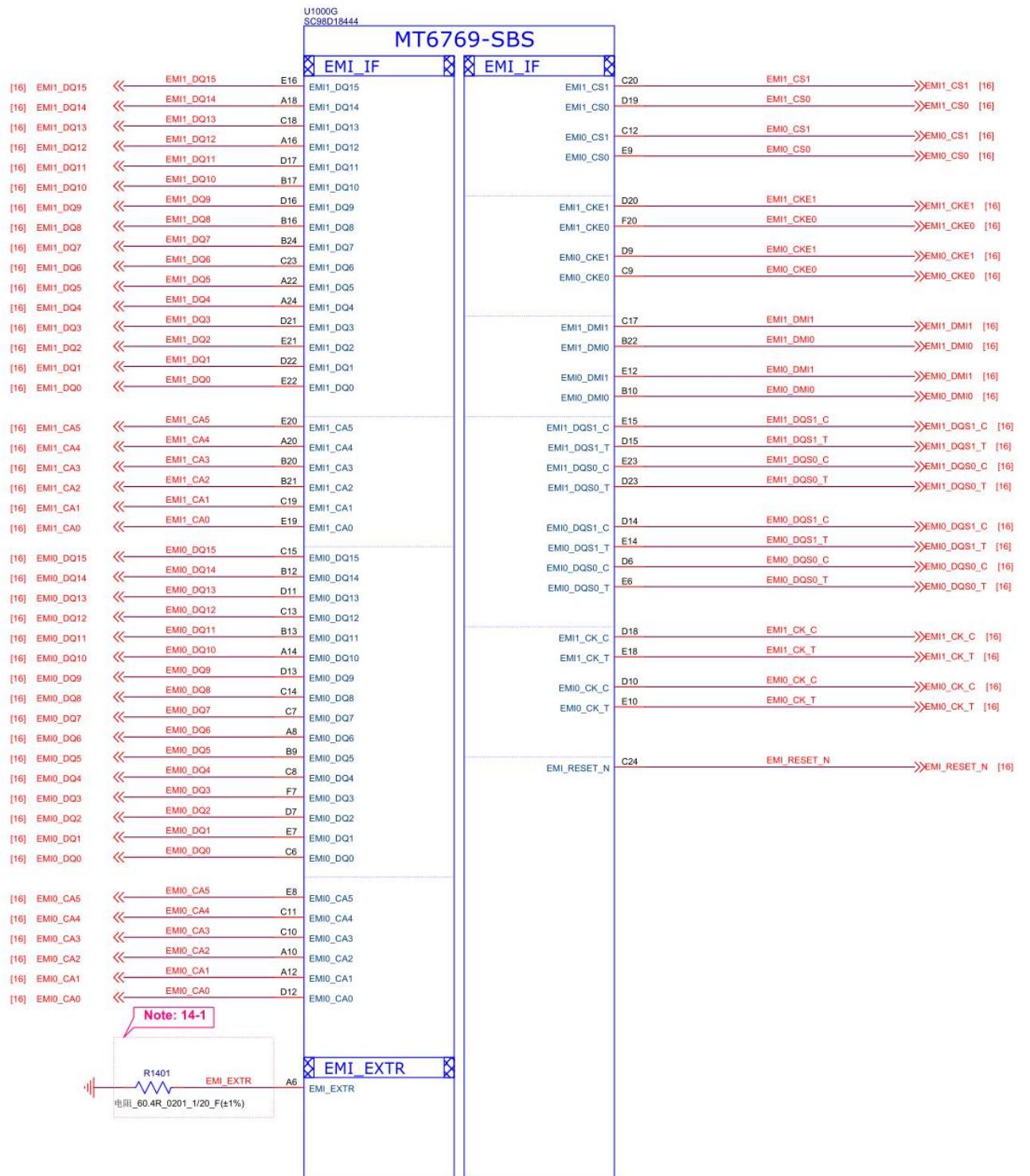
Note 12-5: Thermistor to sense RF PA temperature

1. AJ127 must close to ETX Board 7.5% or the hottest PA+2mm.
2. The distance to the nearest distance from package edge to edge.
3. The distance is the shortest distance from package edge to edge.

13_BB_2



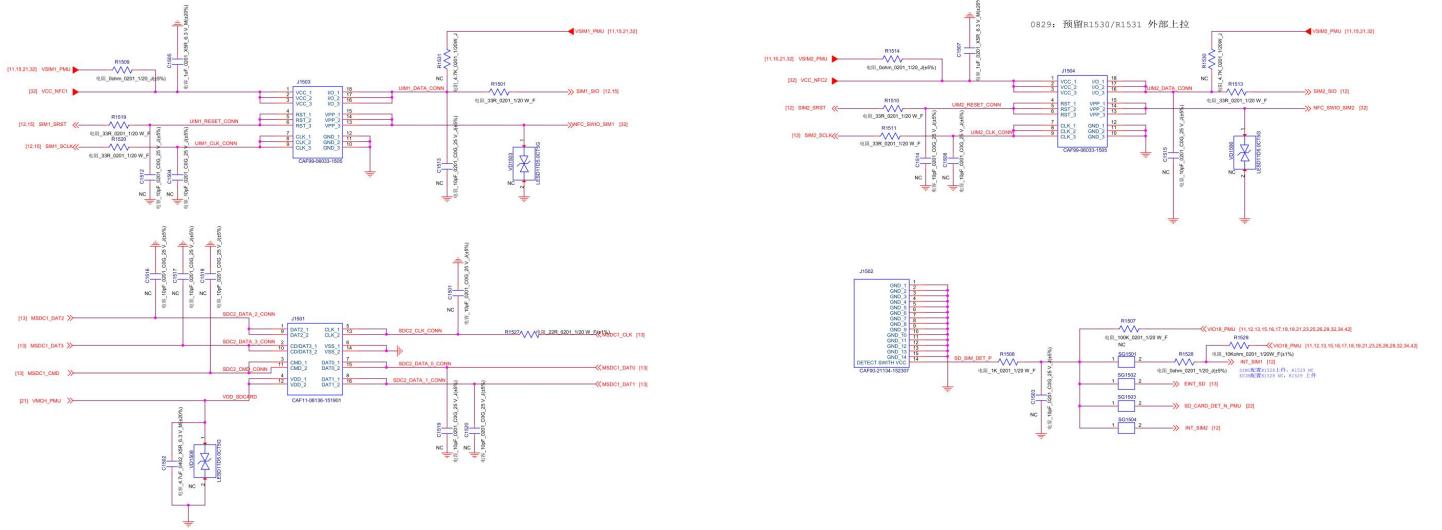
14_BB_3



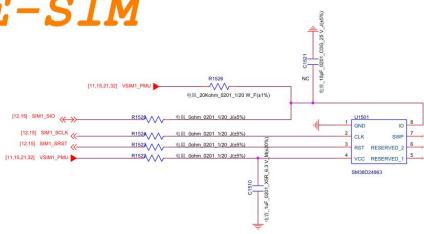
Schematic design notice of "14_BB_3" page.

Note 14-1: R1401 please select 60.4 ohm (1%) resistor

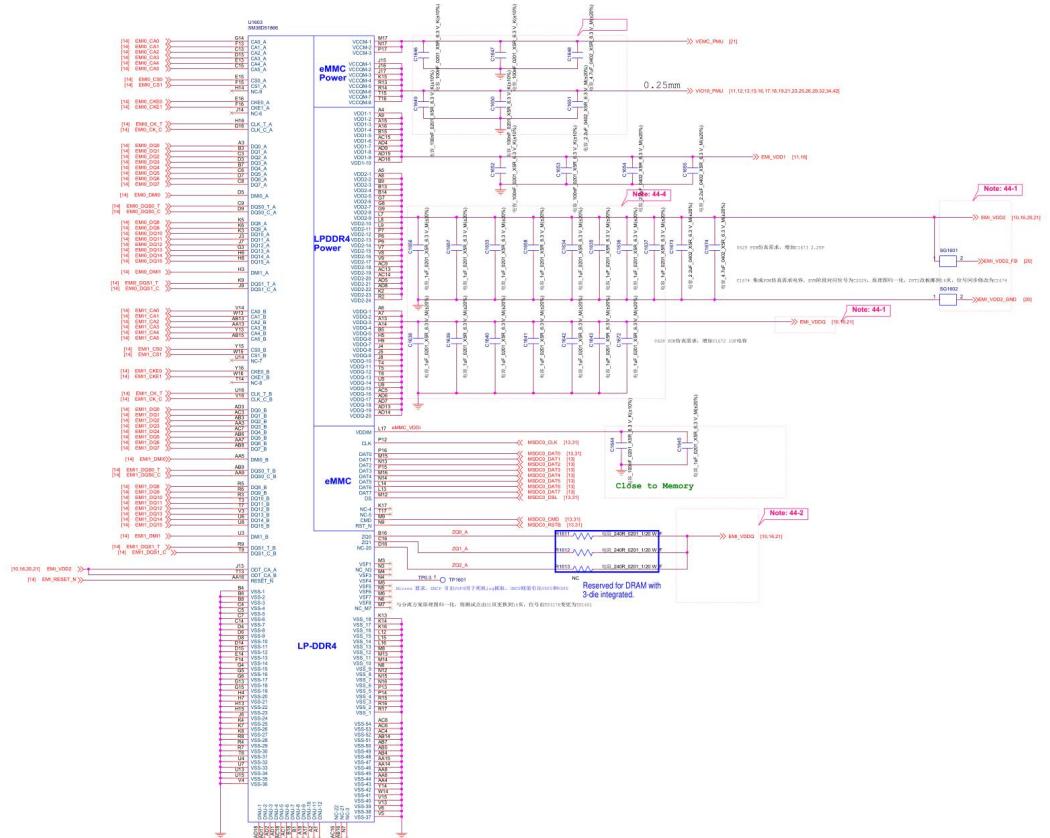
15_MEMORY_SD SIM CARD



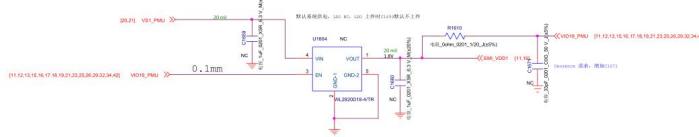
E-SIM



16_Memory_EMMC_LPDDR4X



LDO For DDR4



Schematic design notice of "44_Memory_eMMC_LPDDR4X"

Note 44-2: DRAM ZQx resistor = 240ohm (1%) that must be connected to VDDQ.

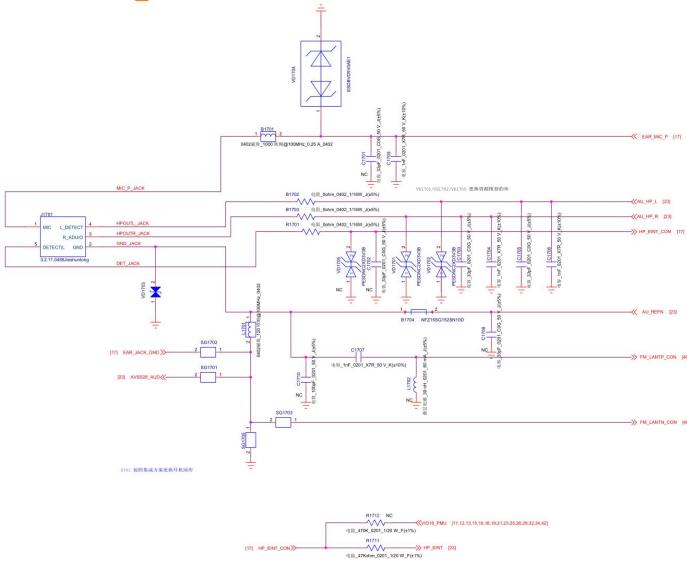
Note 442: Drawn ZQX resistor = 2400 mΩ (1%) that must be connected to VDDQ.

Note 44-3: Please refer to eMCP vendor's datasheet or MTK common design notice to get the recommendation bypass cap. value for VCC/VCCQ/VDDI power domains of eMMC.

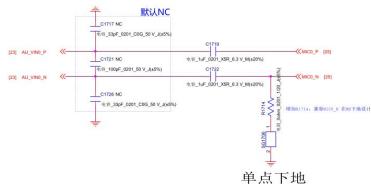
Note 44-4: VDD2 VDDQ decoupling cap; closed to DRAM ball.
For other cap for PMIC [$>10\mu F$, at PMIC page];
please also refer to MMD and layout guide for placement.

17_AUDIO_Earphone_MIC

Earphone Audio

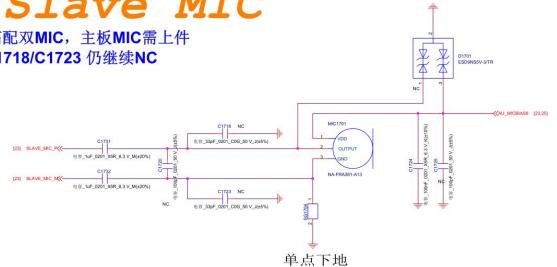


Main MIC

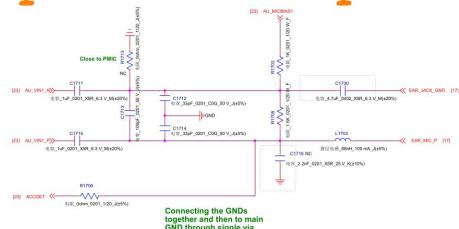


Slave MIC

低配单MIC，高配双MIC，主板MIC需上件
需要上件时C1718/C1723仍继续NC

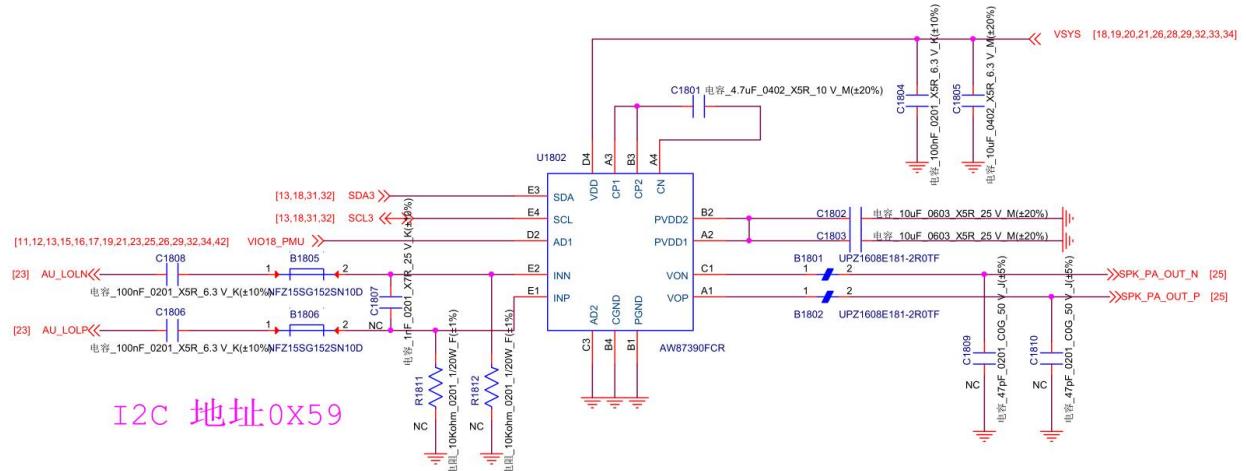


Earphone Microphone

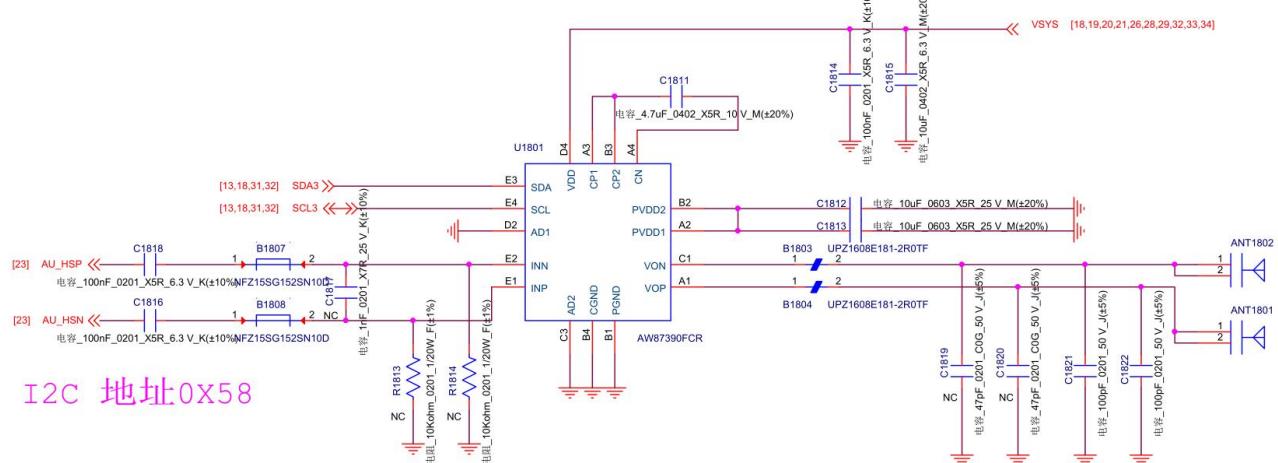


18_AUDIO_Speaker_Receiver

SPEAKER



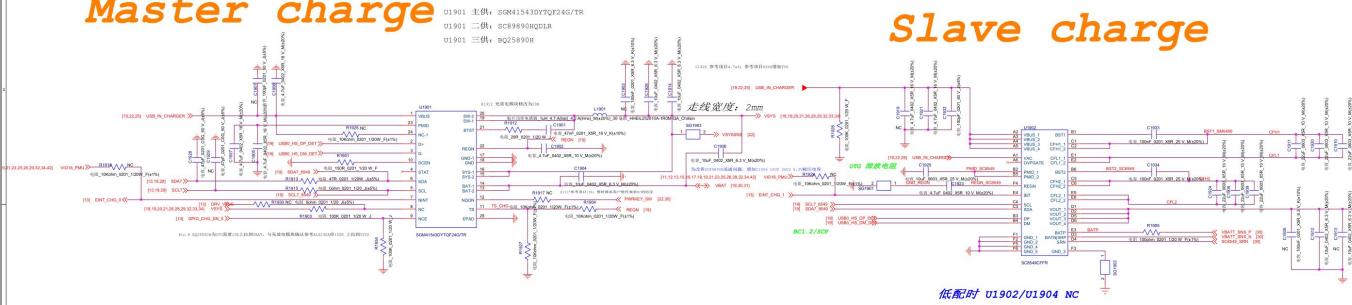
Receiver



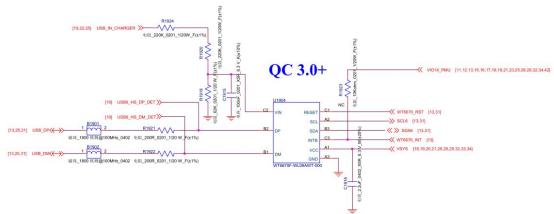
19_Charger

Master charge

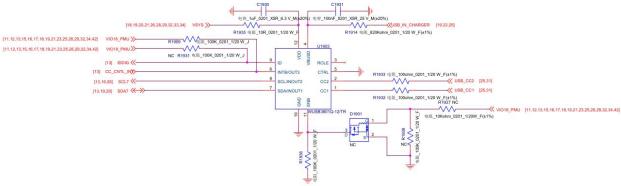
Slave charge



QC 3.0+

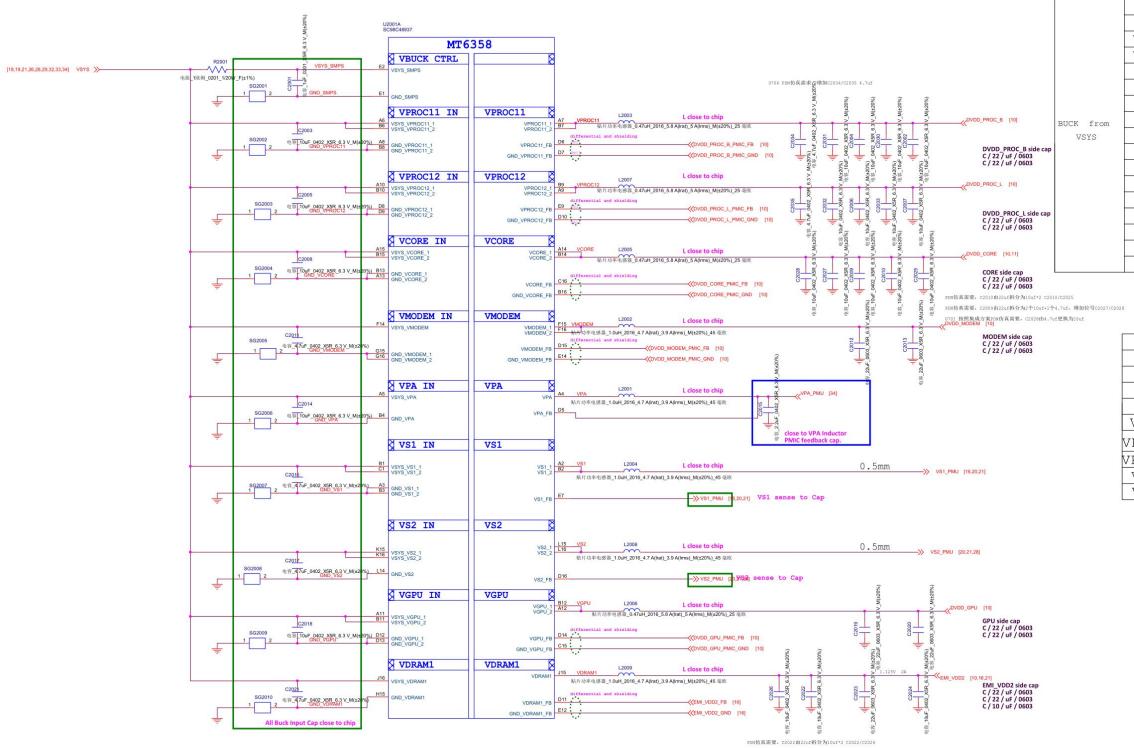


CC logic



20_POWER_MT6358_Buck

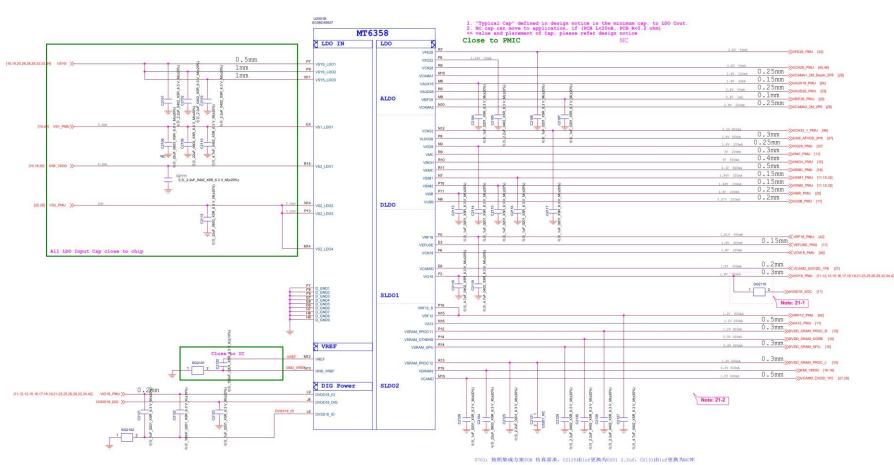
MT6358 BUCK output



IP	Inductance	IDC (A)	
VS1	1	2.6	
VS2	1	2.5	
VDRAM	1	2.5	
VPA	1	4	
VMODEM	1	4	
VPROC11	0.47	5.3	
VPROC12	0.47	3.85	
VCORE	0.47	5.3	
VGPU	0.47	3.9	

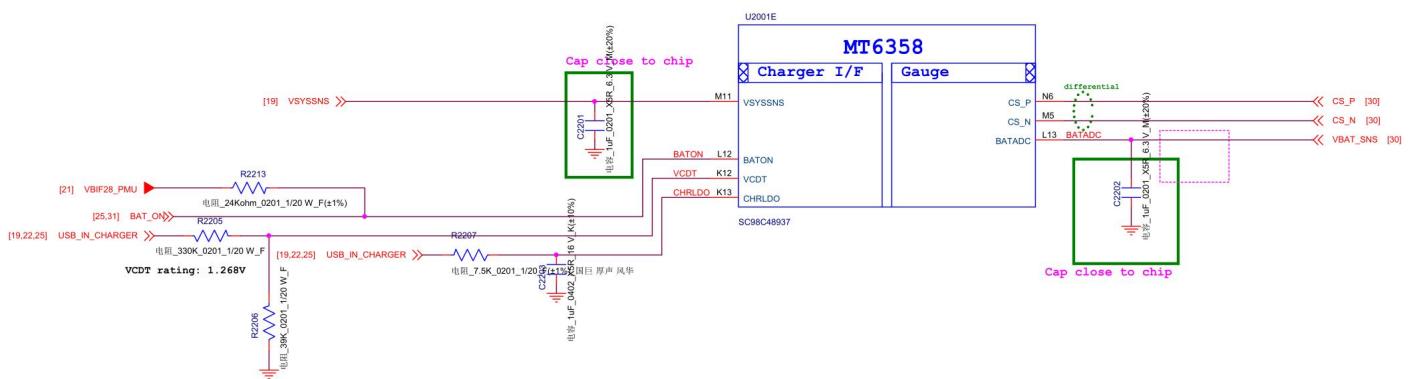
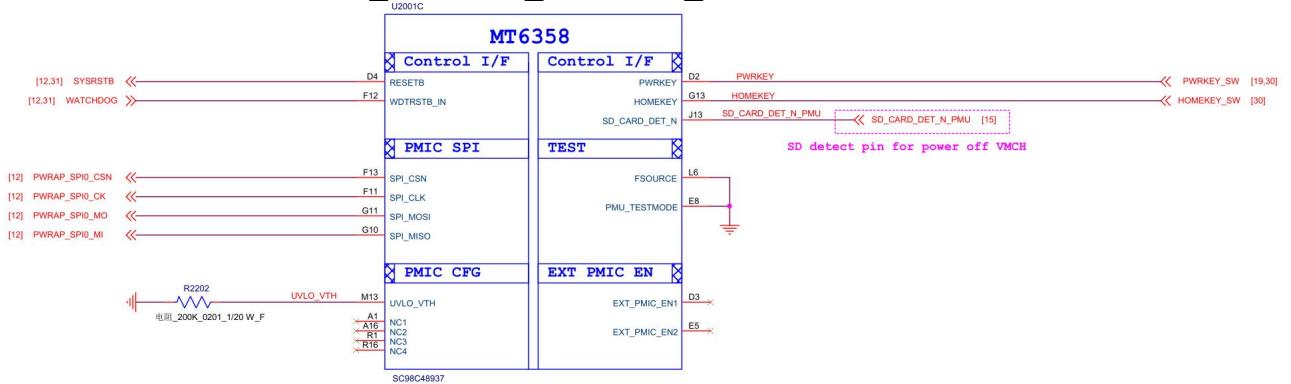
21_POWER_MT6358_LDO

MT6358 LDO output

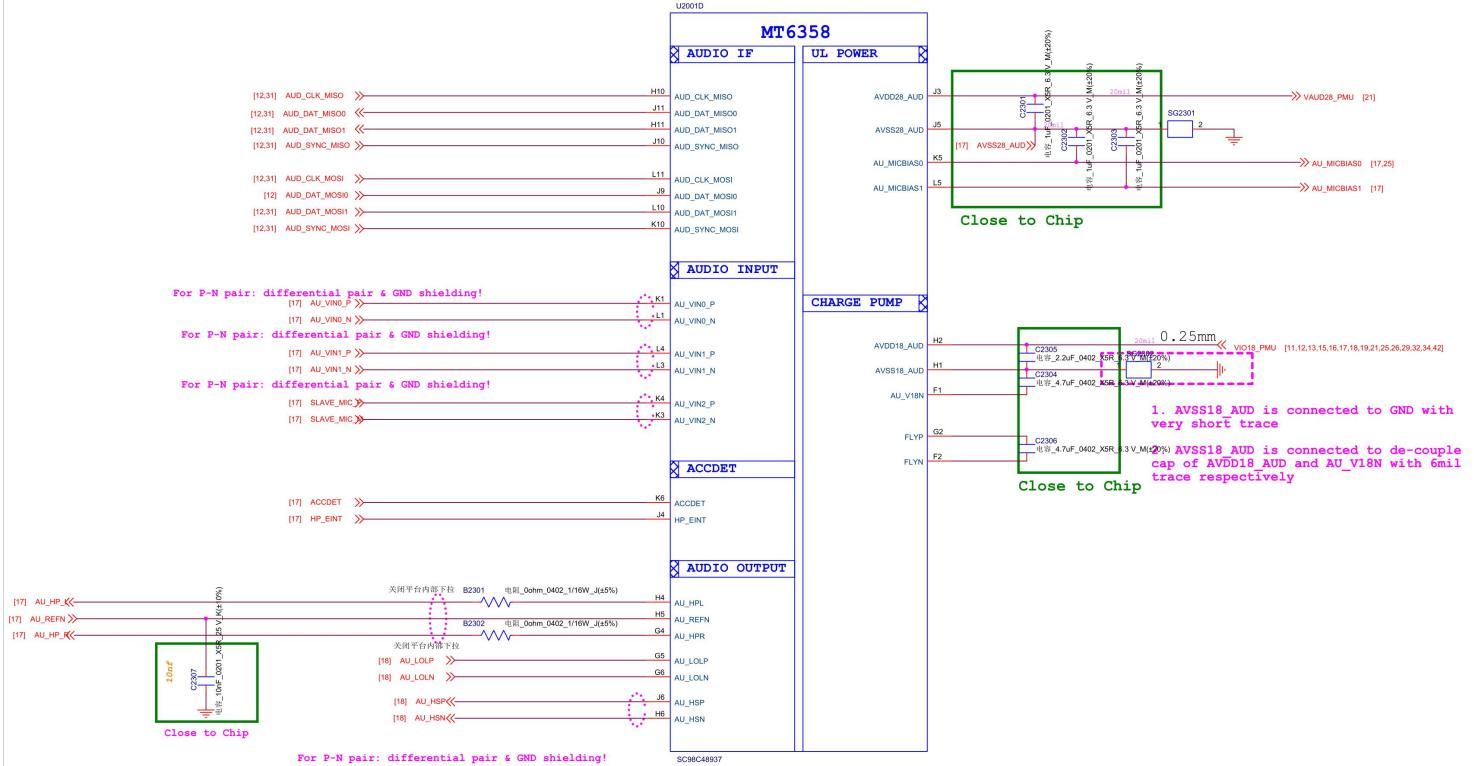


Input Power	Power Name	Output Voltage (V)	Output Current	Default Voltage
LDO from VSI1	VIOB1	2.0	100mA	2.0V
VIOB2	2.24	100mA	2.24V	
VIOB3	2.8	100mA	2.8V	
VIOA1	3.1/2.5/2.0	200mA	3.1V	
VIOX1B	1.8	200mA	1.8V	
VIOX2B	2.8	200mA	2.8V	
VIOY1B	2.8	200mA	2.8V	
VIOZ1B	3.3/3.4/3.5/3.6	200mA	3.3V	
VIOZ2B	2.8/3.0	200mA	2.8V	
VIOC	3.86/2.9/3.0/3.3	200mA	3.0V	
VIMC	2.9/3.0/3.3	200mA	3.0V	
VIMC'	2.9/3.0/3.3	200mA	3.0V	
VIMD	3.0/3.1/3.2/3.3	200mA	3.1V	
VISN2	1.57/1.48/1.6/1.63/1.64	200mA	1.6V	
VISR8	1.5/1.51/1.51/1.51/1.51/1.51/1.51/1.51	200mA	2.8V	
VISB8	3.07	200mA	3.07V	
VISB	1.8	200mA	1.8V	
VIF18	1.81	450mA	1.81V	
VIF21	1.79/1.8/1.84	200mA	1.84V	
VAMC	2.8	200mA	2.8V	
VAMC'	2.8/2.9/3.0/3.1	200mA	3.0V	
VCM10	1.8	200mA	1.8V	
VIO18	1.8	200mA	1.8V	
VIF12	1.2	200mA	1.2V	
VAMC'	1.8	200mA	1.8V	
VISAM_PMC012	0.6/0.7/0.8	200mA	0.6V	
VISAM_OP01	0.55/1.1	200mA	0.6V	
VISAM_OP1	0.45/1.2	200mA	0.6V	
VISAM_OP2	0.4/1.8	200mA	0.6V	
VISAM_PMC012	0.6/0.6/0.6	200mA	1.2V	

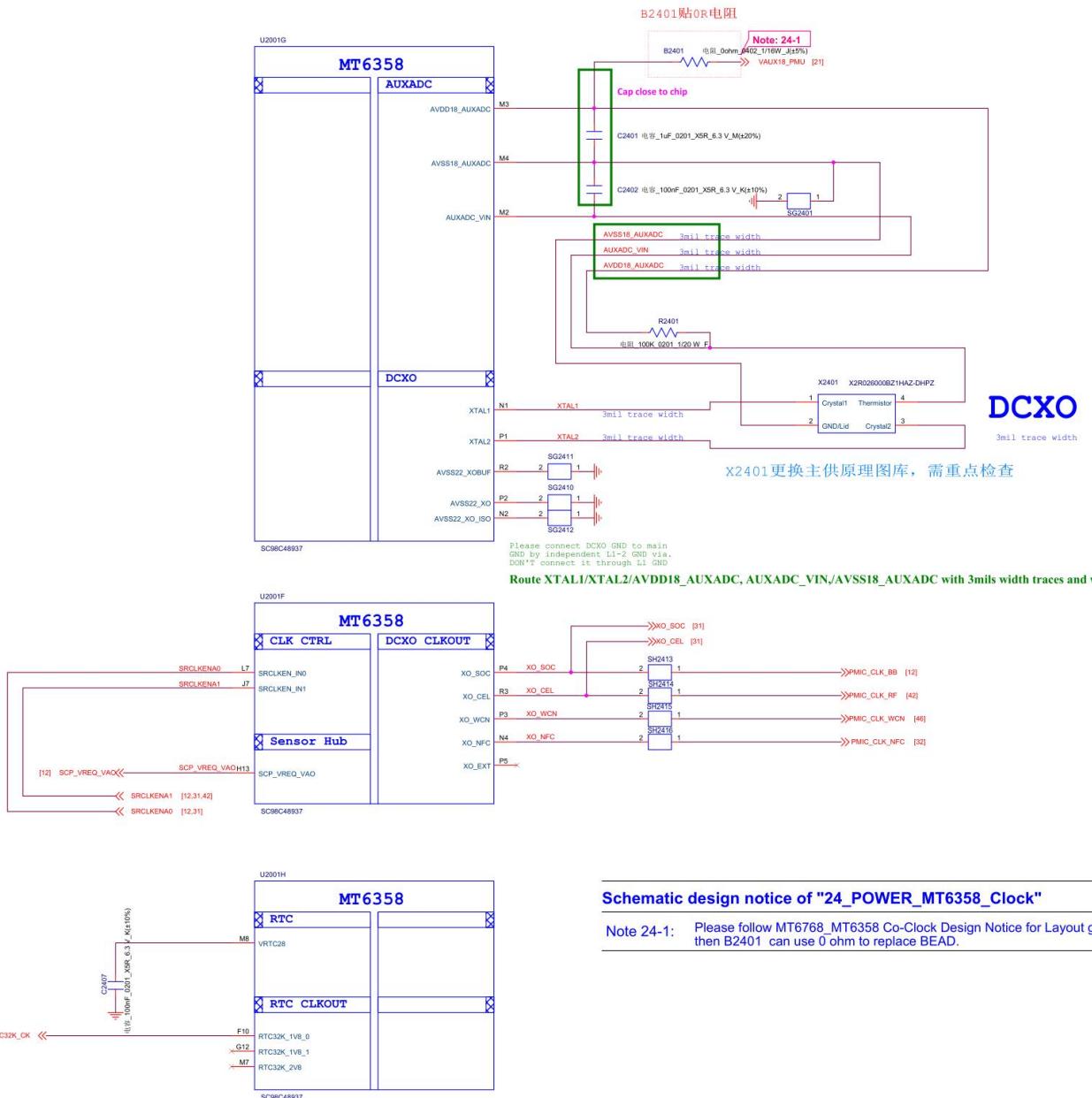
22_POWER_MT6358_IF



23_POWER_MT6358_Audio

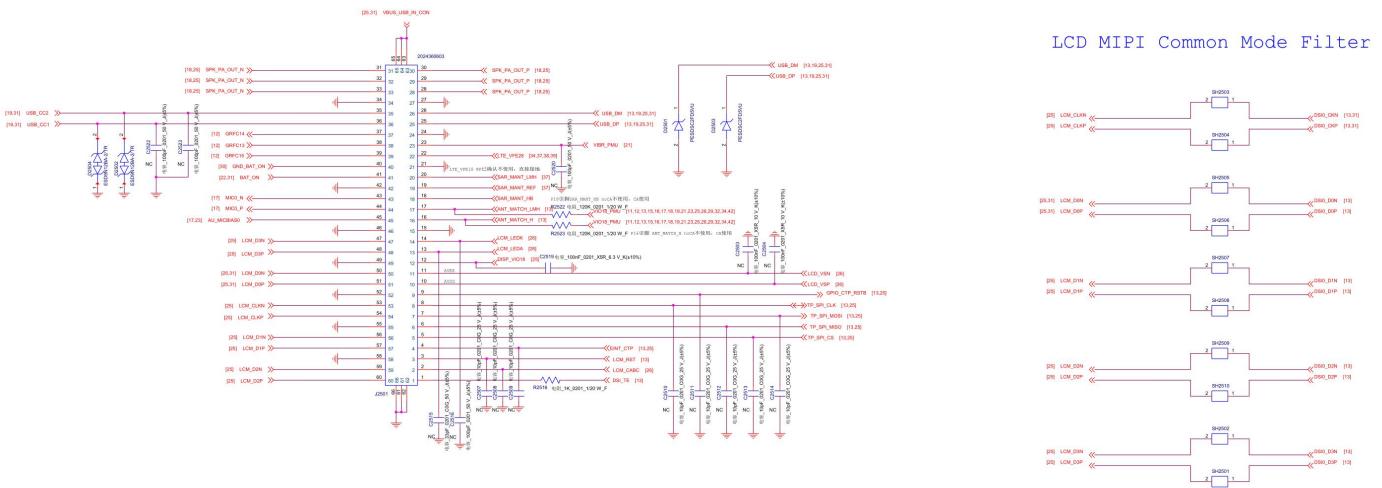


24_POWER_MT6358_Clock

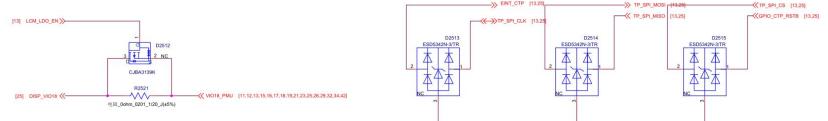
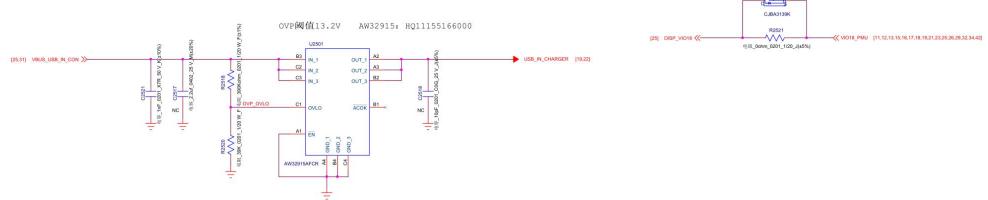


25_LINK_OVP

LINK LINK 线序待KB线序最终确定后根据KB线序做调整



OVP OVP参考AL9260A AW32905 更换OVP库

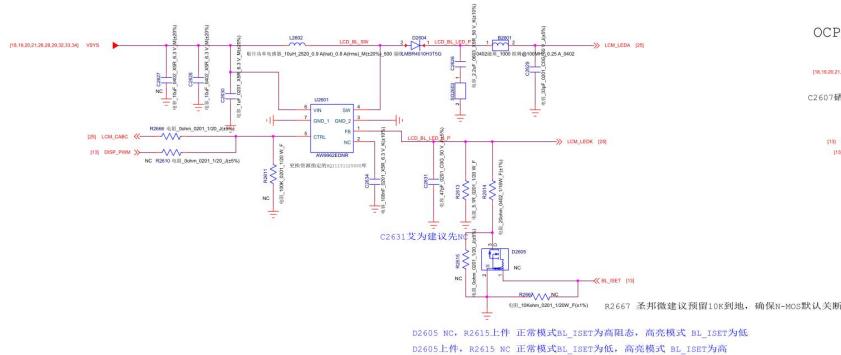


26_LCD_BL_BIAS_Finger

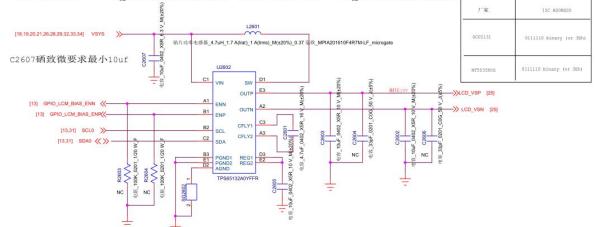
LCM Backlight

LCM Bias

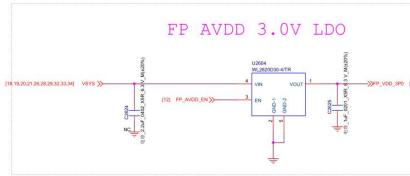
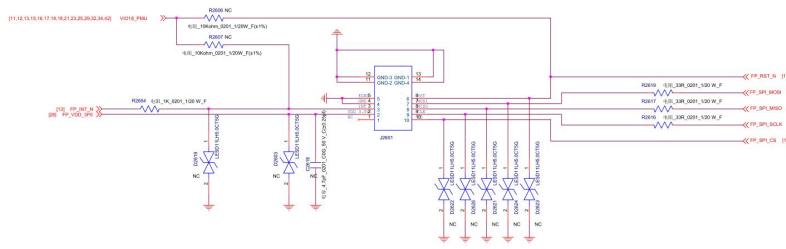
按照资源推荐型号更换U2602封装库，然后结合SPC修改外围匹配。



OCP2131 HQ11152662000 /TPS65132 HQ11140016000



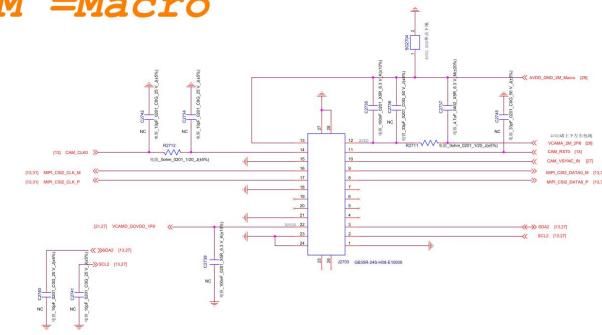
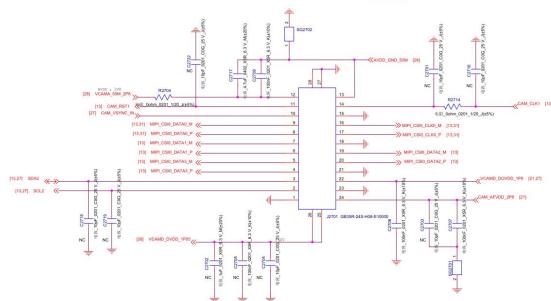
Finger Print



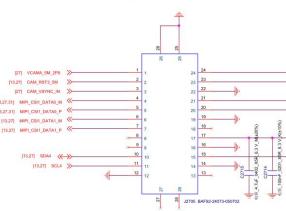
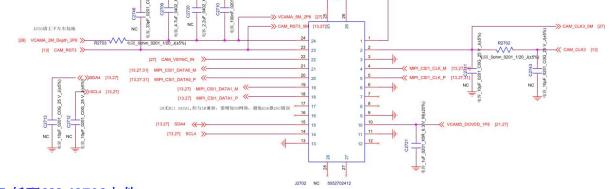
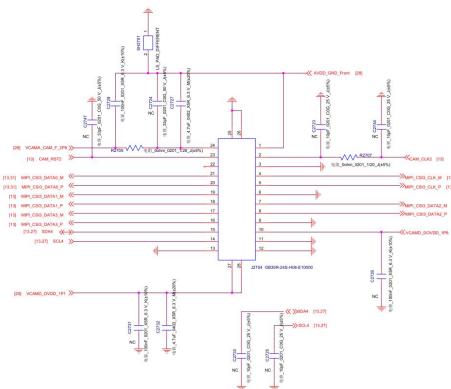
27_Camera

Main Camera 50M_OIS

2M =Macro

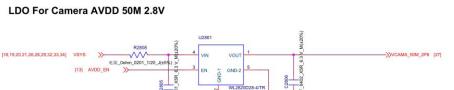
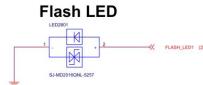
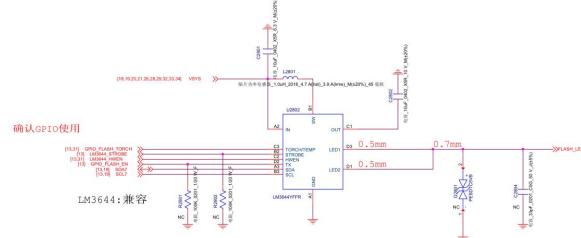


Front CAM 16M/8M



28_Camera_Flash_Powers_LDO

Rear CAM FLASH

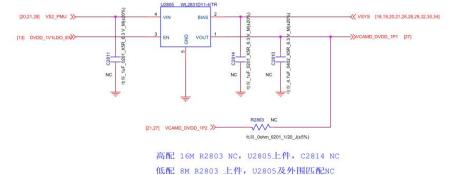
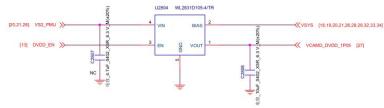


LDO For Camera AVDD Front 16M/8M 2.8V

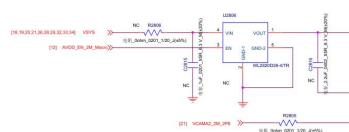


LDO For CAM DVDD Front 16M 1.1V HQ11154597000, LDO_1.1_500 mA

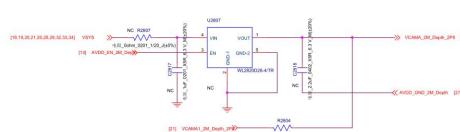
LDO For Camera DVDD 50M 1.05V



LDO For Camera AVDD 2M Macro 2.8V 预留外部LDO

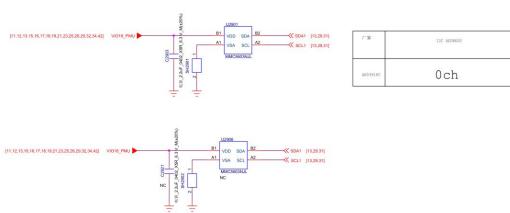


LDO For Camera AVDD 2M Depth 2.8V 预留外部LDO

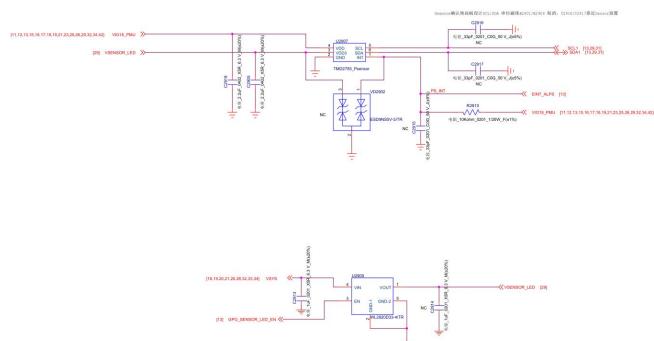


29_Sensors

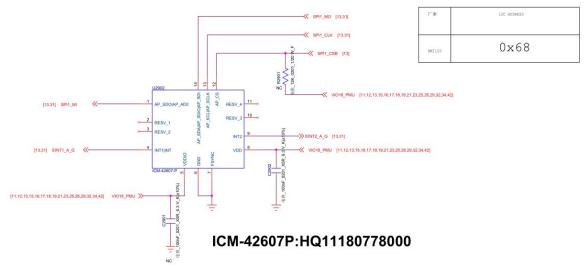
M-Sensor



ALPS SENSOR



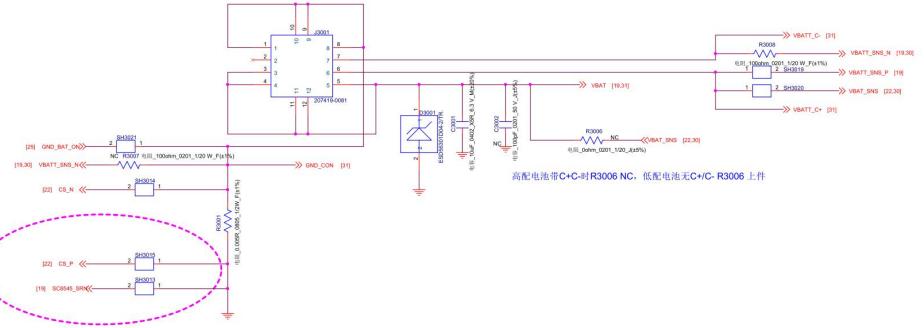
Acccerometer + Gyro Sensor



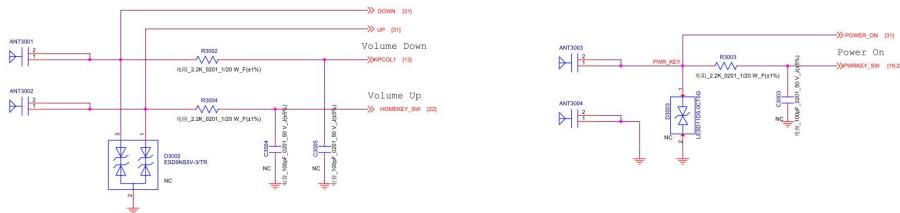
G Sensor OD0.7更新不需要再兼容，删除单 G sensor

EN	IC ADDRESS
0x1110	0x68

30_BAT_Key BATT CON



KEY



31_Testpoint_Debug

MEMORY 测试点



Charger 测试点



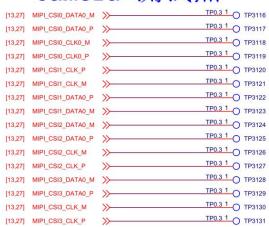
CLK 测试点



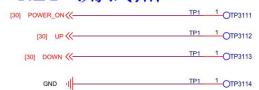
LCM 测试点 靠近连接器端放置



Camera 测试点



KEY 测试点



NFC 测试点



闪光灯驱动IC 测试点



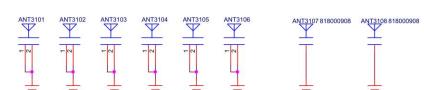
Sensor 测试点



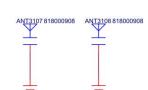
MARK



接地弹片



金属DECO接地弹片



RAMDUMP debug key



BAT_ON 测试点



VBUS_USB_IN_CON 测试点



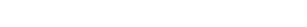
GND 1 测试点



USB_DP 测试点



USB_DM 测试点



USB_C2C 测试点



USB_CCI 测试点



META 测试点



SRCCLKEN1 测试点



SRCCLKEN2 测试点



音频 测试点



AUD_CLK_MISO 测试点



AUD_DAT_MISO 测试点



AUD_SYNC_MISO 测试点



AUD_CLK_MOSI 测试点



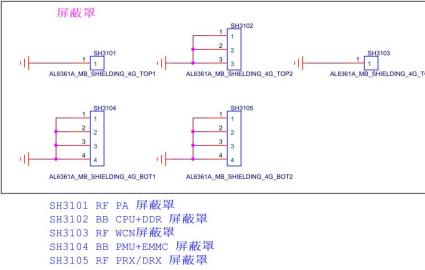
AUD_DAT_MOSI 测试点



AUD_SYNC_MOSI 测试点

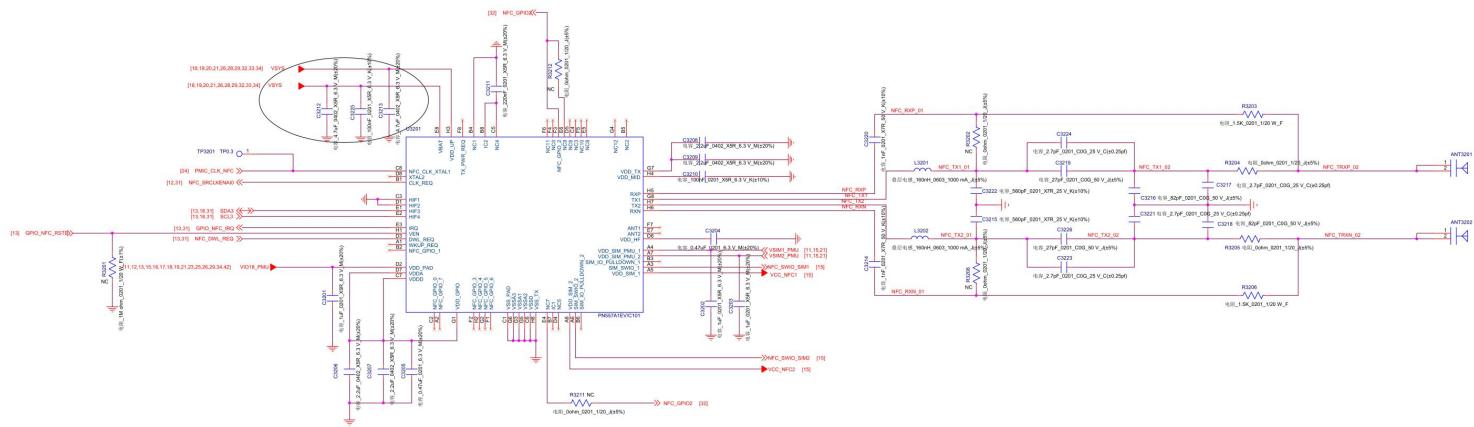


0711: 按照集成方案首例要求增加测试点

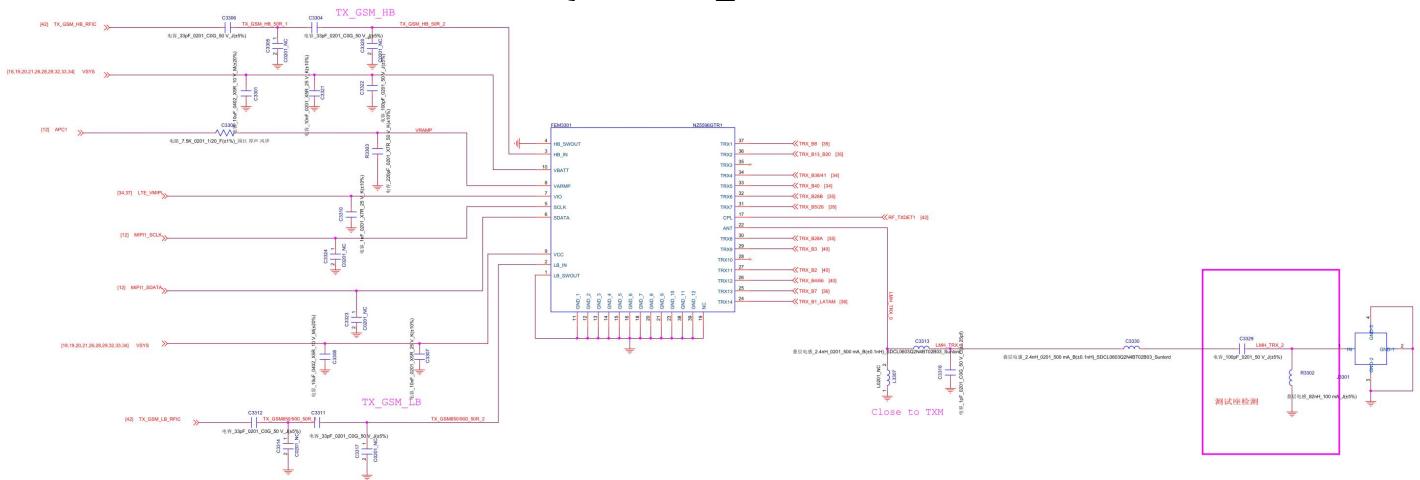


SH3101 RF PA 屏蔽罩
SH3102 BB CPU+DDR 屏蔽罩
SH3103 RF WCN屏蔽罩
SH3104 BB PNU+EMMC 屏蔽罩
SH3105 RF PRX/DRX 屏蔽罩

32_NFC



QRD8953_2-4-2



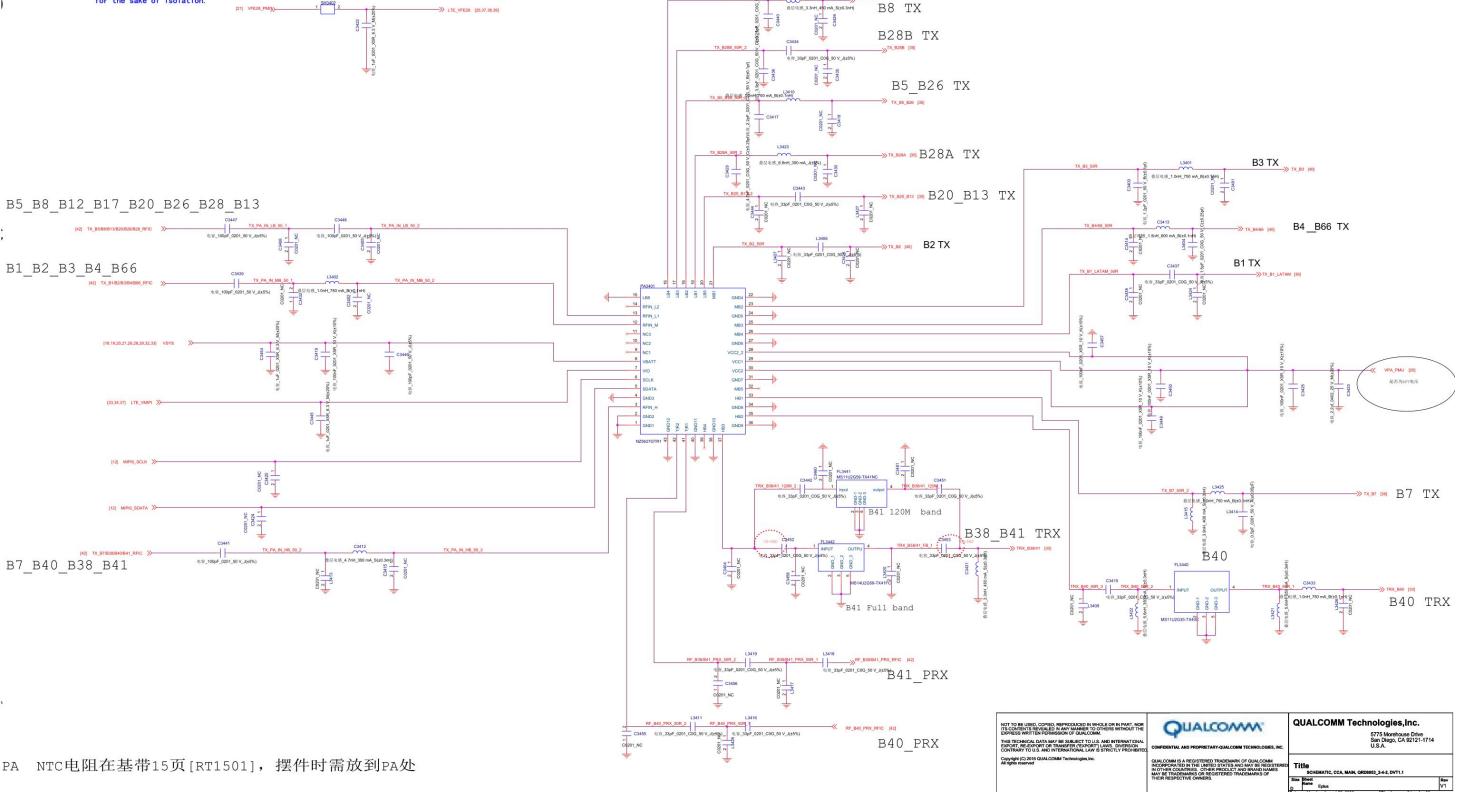
B38/41

B38/41

Description	Code	Vendor	SKU
B41 SAW 120M	NDFH065-2605SA	华菱	Europe&LATAM

Note: Don't change the PA output ports of B3/5/8/12/4
for the sake of isolation.

for the sake of isolation.

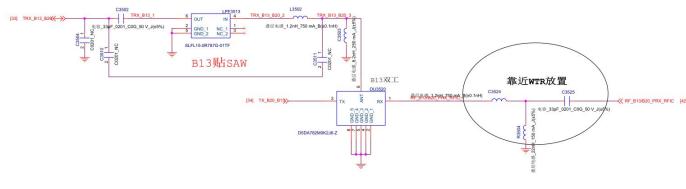


PA NTC电阻在基带15页[RT1501]，摆件时需放到PA处

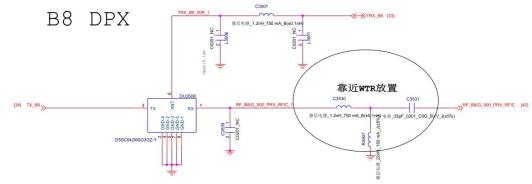
DPX

B20/13 DPX

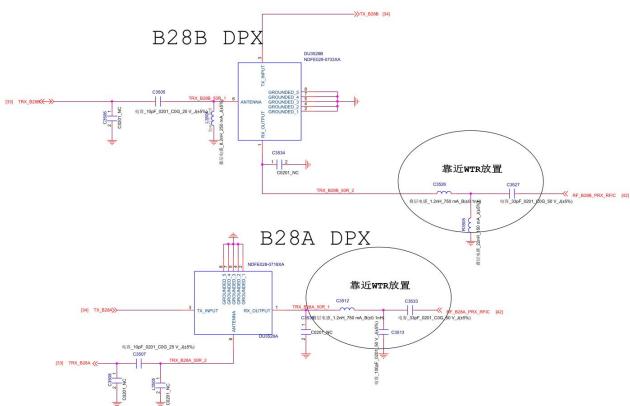
Description	Code	Vendor	SKU
B20 DPX	SPX806CYH02	Wisei	Europe&APEM
B13 DPX	D5DA782MOK2J6-Z	Taiyo	LATAM



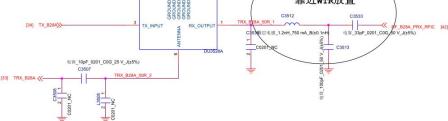
B8 DPX



B28B DPX

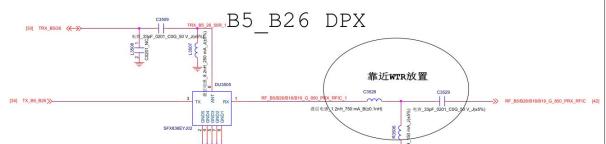


B28A DPX

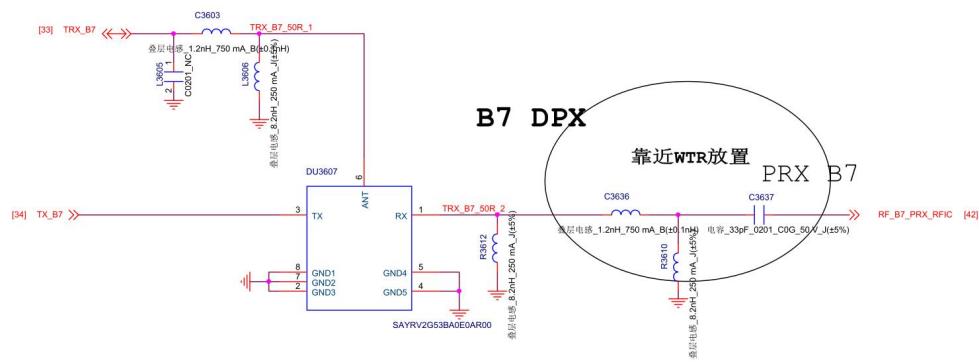


Description	Code	Vendor	SKU
B26 DPX	SAYEV831IMBA0A0R0Q	MURATA	LATAM&APEM
B5 DPX	HDBD05CNSS-B11	好达	Europe

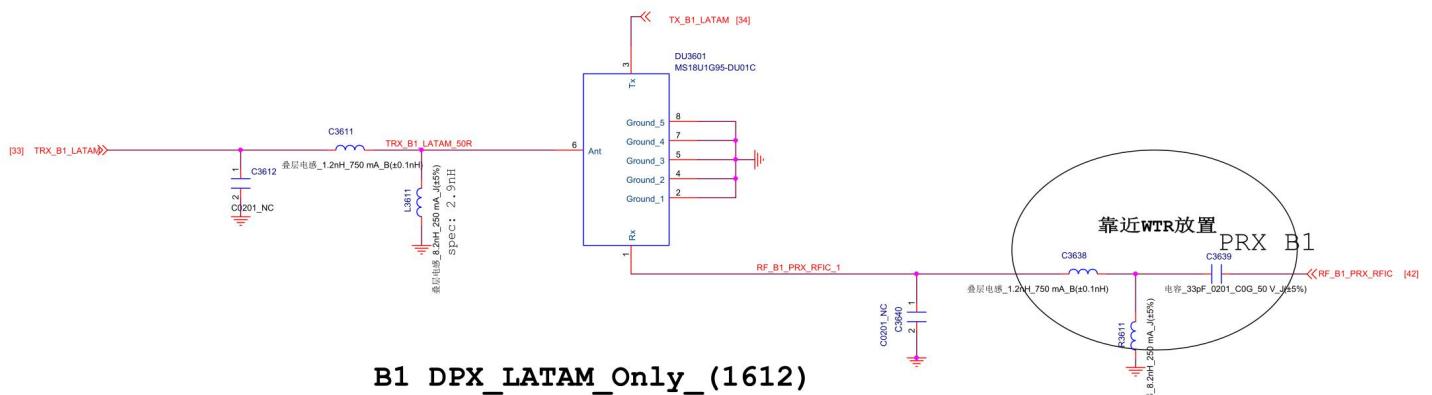
B5_B26 DPX



DPX2



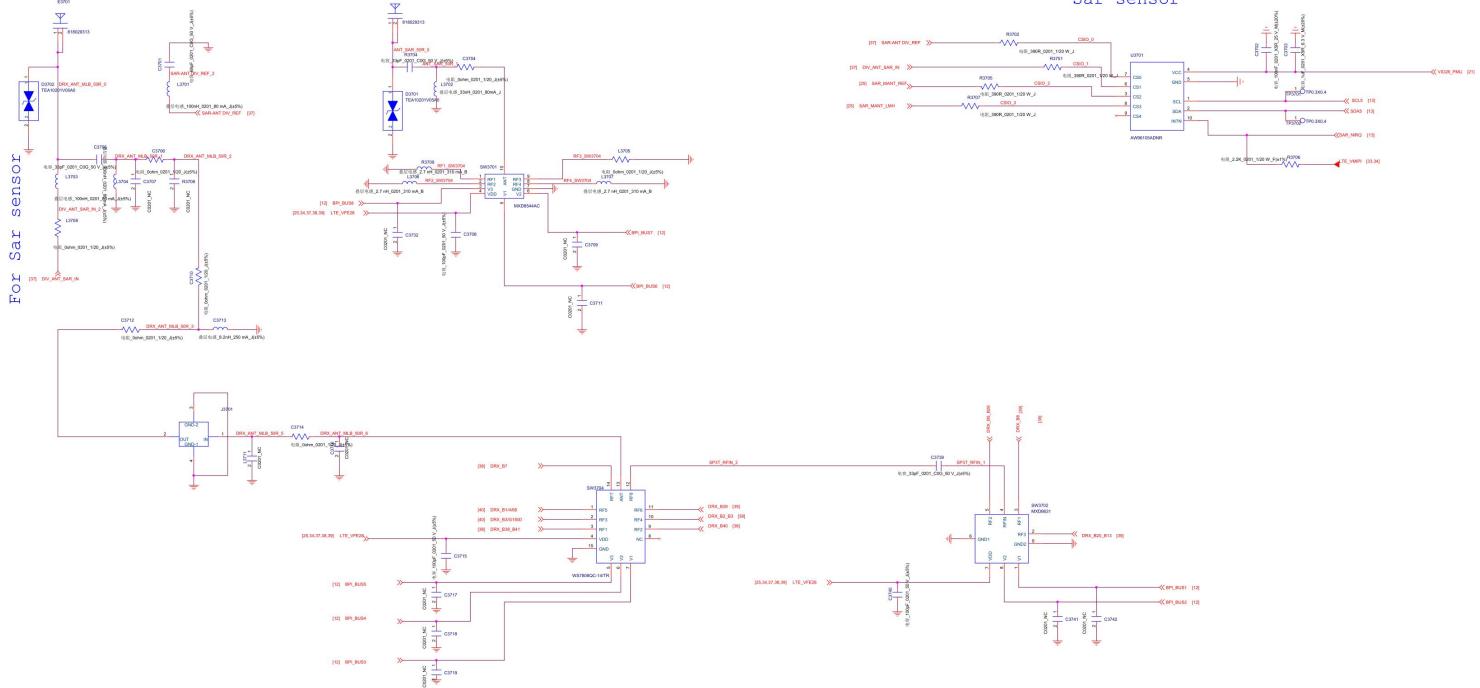
B7 DPX



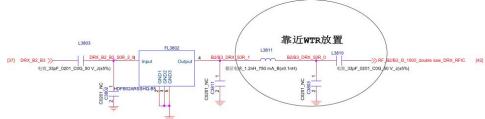
B1 DPX_LATAM_Only_(1612)

SAR_SENSOR

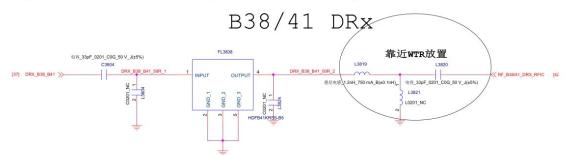
Sar sensor



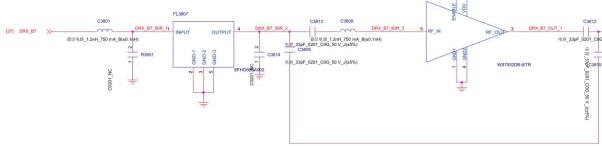
B38_41_2



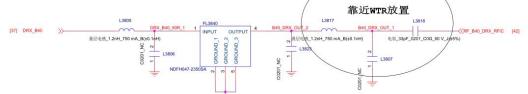
Description	Code	Vendor	SKU
B38 SAM	NDFP075-2605SA	华微	LATAM
B41 SAM	HDF241KRSS-85	好达	Europe&APEM



B7 DRx

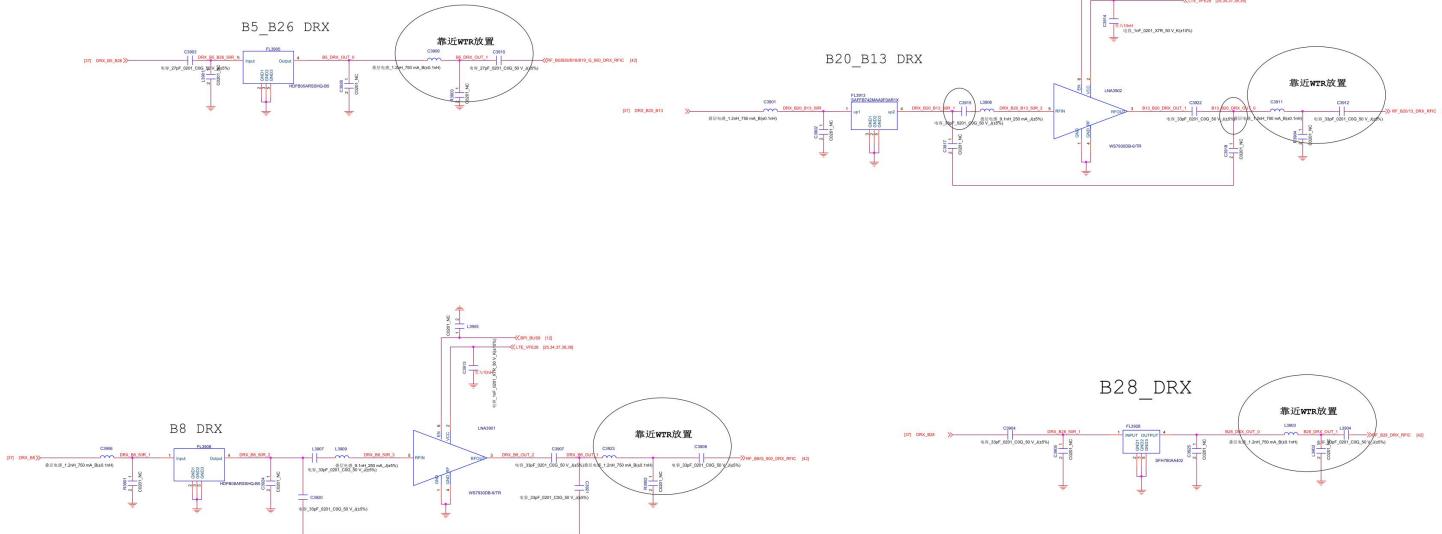


DRX_B40

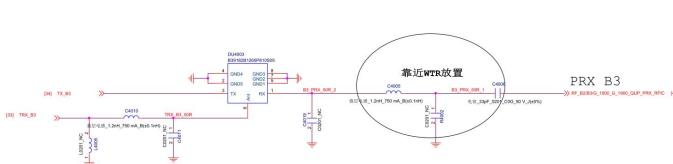
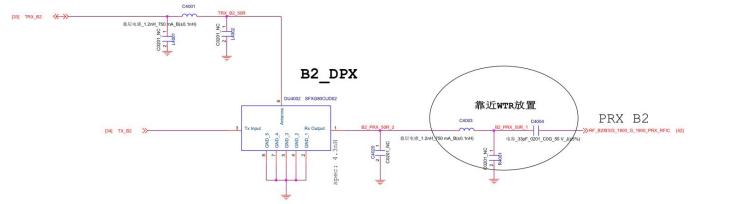


DRX

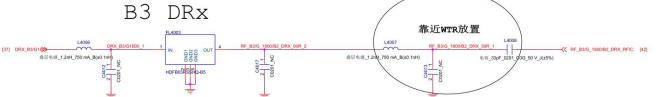
Description	Code	Vendor	SKU
B24 DRX	NDPH052-0876SA	华显	LATAM & PEM
B5 DRX	HDHB05ARSSHQ-B5	好达	Europe



B2

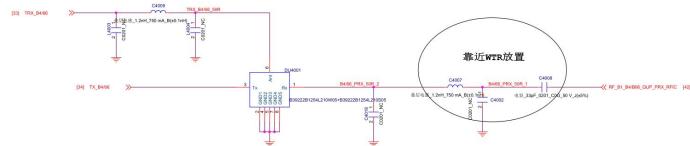


B3 DRx



B1/B4/B66

Description	Code	Vendor	SKU
B66 SAW	MS11U2G15-RX66S	麦捷	LATAM
B1 SAW	HDFB01RSSHQ-B5	好达	Europe&APEM

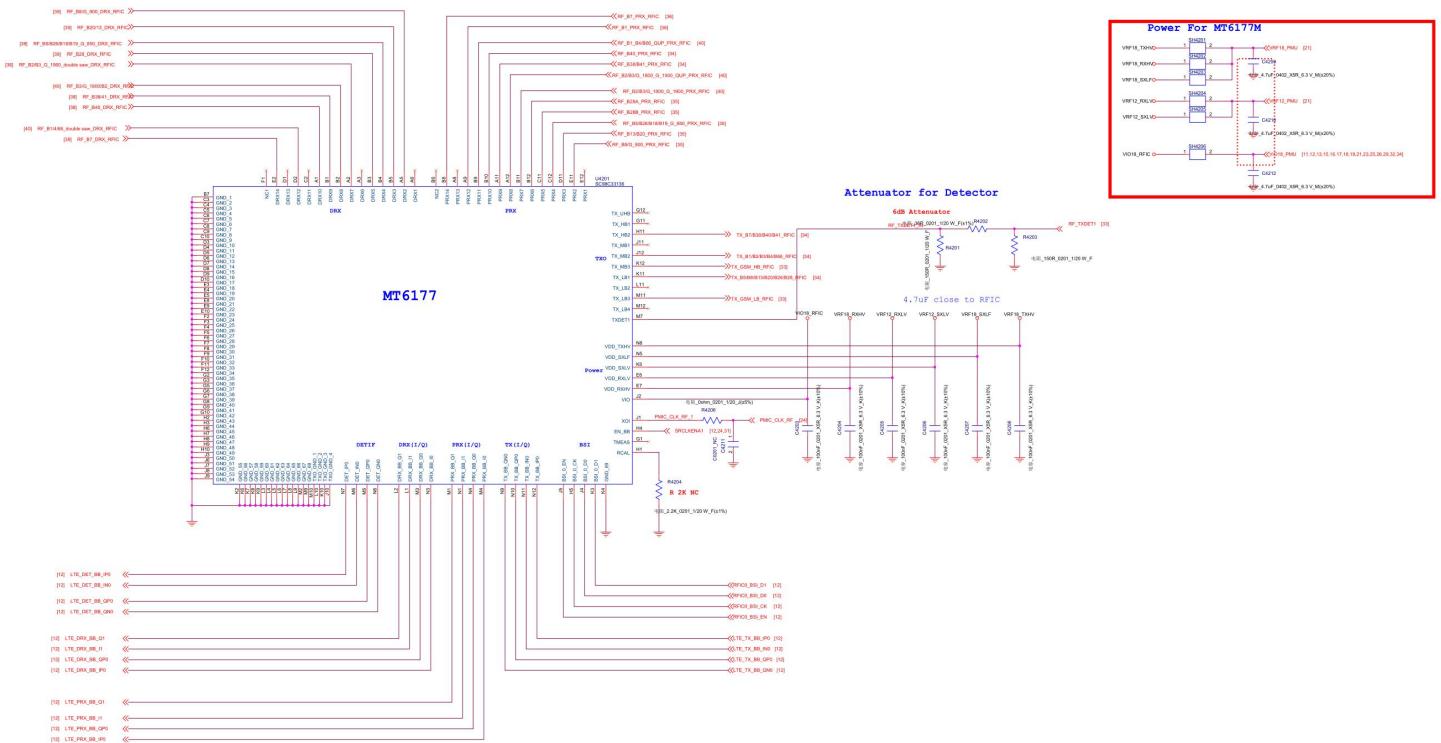


B1/4/66 DRx



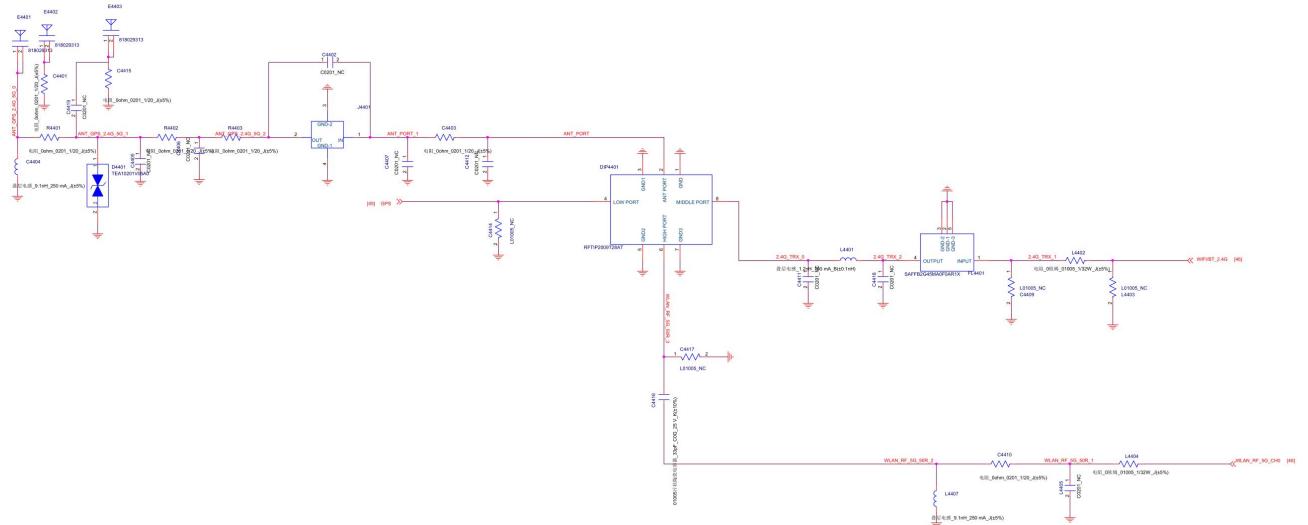
31_RF_MT6177_Pin_Out

PRX/DRX 1-8 For LB/MB:600M-2025M
PRX/DRX 9-12 For HB/MB:1805M-2690M

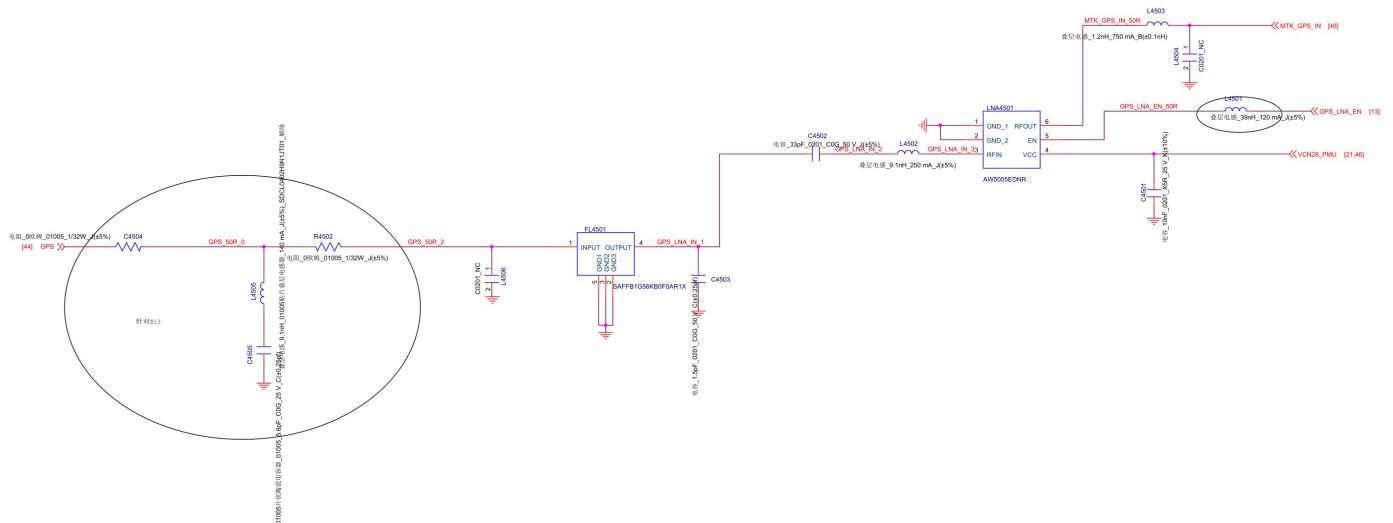


WIFI 2.4G_BT_5G_GPS

WIFI 2.4G_BT_5G_GPS



GPS



36_RF_WCN_MT6631

