

Lenovo

Moto g 5G



Moto g 5G
Level 3 – Service Manual

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REVISION HISTORY

<i>Revision</i>	<i>Date</i>	<i>Notes</i>
1		Initial Release.

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L3 PARTS LIST AND IMAGE

Table 1. L3 Parts List

Location	Part Number	Ref.	Commodity	Qty	Part Level	Description	Function	Remark
1	SC98C80713	U1301	IC	1	L3	IC,PMIC,FOWPSP,36PINS, 1.8V,10mA	Power Management Integrated Circuits	
2	SC98C79162	U1201	IC	1	L3	IC, PWR MGMT (RF Bucks & LDO), PMR735A		
3	SC98D53125	U5801	IC	1	L3	IC,PMIC,WLNSP24B, 24PINS,QET6105 PA PMIC		
4	SC98D20040	U1501	IC	1	L3	IC,PMIC,PM-6375-0-FOWNSP144-TR-01-0		
	S938C66937	J3401, J3403, J3404	Connector	3	L3	LC4312AA000107+CONN_24Pin		
	S938C84152	J3501	Connector	1	L2.5	LC4312AA000158+CONN, BB,Socket,10 pin,P0.		
	S948D71002	J3601	Connector	1	L2.5	LC4320AA000124+CONN, Micro+Nano/SD,PIN		
	S948D49801	J3602	Connector	1	L2.5	LC4320AA000032+CONN, Nano SIM,PIN PUSH,HL		
	S948D49798	J3603	Connector	1	L2.5	LC4320AA000030+CONN, SD,PIN PUSH,9.6x7.65		
	S938C99132	J3701	Connector	1	L2.5	LC4312AA000124+CONN, BB,Socket,P0.35mm		
	S948D67717	J3702	Connector	1	L2.5	LC4312AA000366+CONN, BB,Socket,10pin,0.3A		
5	S948D21209	J3801	Connector	1	L2.5	LC4312AA000289+CONN, BB,Socket,10pin	Battery Connector	
	S948D68846	J3931	Connector	1	L2.5	LC4441AA000102+CONN, Gasket,0.41 mm		
	S948D67712	J6301	Connector	1	L2.5	LC4460AA000037+CONN, CAN-CLIP2x1.35xH0.9m		
	S948D52273	J1001	Connector	1	L2.5	LC4310AA000126+CONN, TypeCUSB,16pin,8A		On Sub Board
	S938C84627	J1003	Connector	1	L2.5	LC4391AA000043+connector, AudioJack, D3.		On Sub Board
	S938D21848	MIC3101	Microphone	1	L2.5	LC2430AA000073+MIC, BOT2.75X1.85XH0.9mm		

NOTE

L3 parts are not commonly stocked, contact our USA distributors partners to request prices and lead times.

Front View

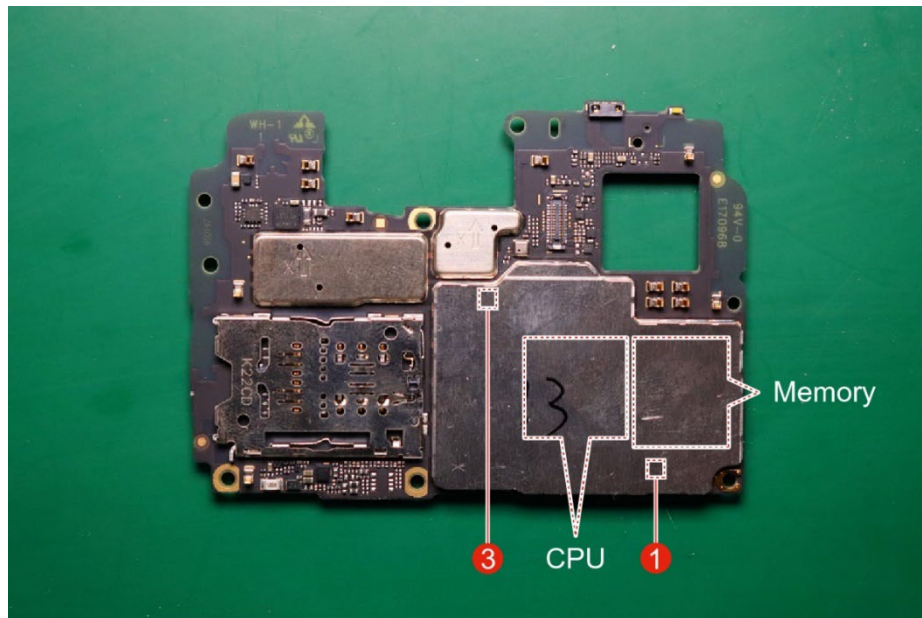


Figure 1. Front View

Back View

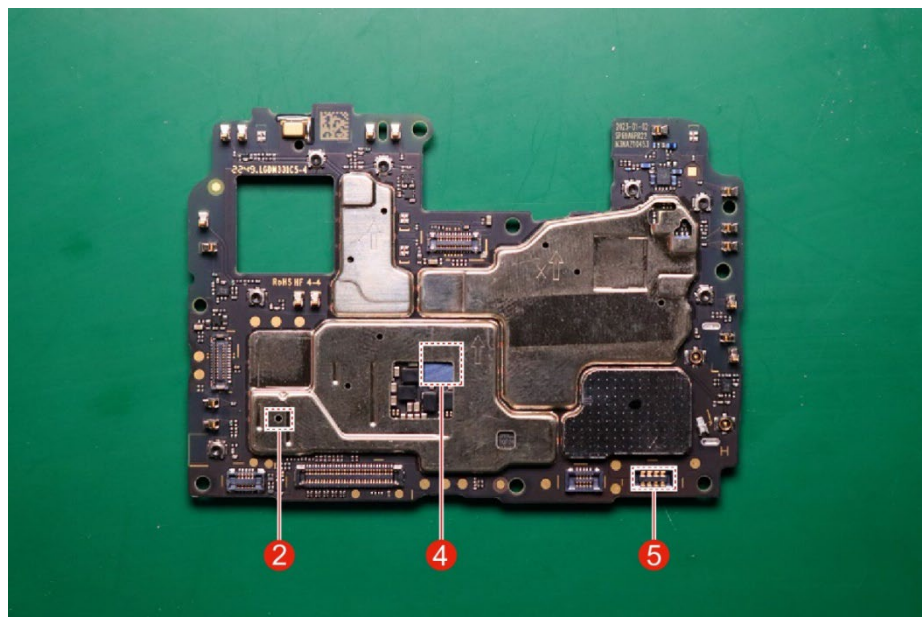


Figure 2. Back View

TROUBLE SHOOTING GUIDE

Power Supply Faults

The main symptoms caused by power failure are as follows: failure to start up, high leakage current at shutdown, and high current at startup. The main causes of this problem are welding, power filter or ESD device short circuit to the ground, and device connected to the power supply burnt.

The steps to locate and resolve the problem are as follows:

1. Check the welding status of the components connected to the power supply, whether they are welded or connected to the surrounding devices.
2. Use a multimeter to check whether there is a short circuit in the power supply to the ground and check the causes of the short circuit step by step (mainly: tin connection, IC burn, ESD protection device breakdown, capacitor breakdown, etc.).
3. Power on to test whether the output of each power supply is normal.

If the output value of a power supply is abnormal, check whether there is a problem in the welding of the relevant filter capacitor and whether it is broken down. If the filter capacitor is broken, replace it; After eliminating one by one, the main chip can be located at last.

The test position of each power supply and its normal startup Value are shown in the following table.

Table 3-17 PM6375 power-on sequence for SM6375

Power on sequence ¹	Signal name	Vout primary (V)	Intended load
0	Power on trigger received		
1	VIO_OUT	1.8	VDD_PX0 , PMIC IO pads
2	S7A	1.952	HV SUBREG
3	S5A	0.952	LV Subreg
4	S6A	1.352	MV SUBREG
5	L8A	1.2	PMK8003 VDD_ACTIVE 1.2V
6	S1E	0.752	VDD_MX
7	L17A	0.8	LPI_MX
8	S2E	0.752	VDD_CX
9	L1A	0.752	LPI_CX
10	L9A	1.8	AON PX3 LDO
11	L2E	0.624	WCSS_CX
12	VREF_MSM	1.25	
13	S3E	1.232	LP4X_VDD2 PARENT BUCK
13	S1N	1.128	LP4X_VDD2 BKP
14	L3E	1.128	LP4x_VDD2
15	L1E	0.624	LP4X_VDDQ
16	L11A	1.8	eMMC/UFS
17	L4A	1.2	PHY 1.2V
18	VREG_BB	1.2	LNBBCLK
19	L7A	0.88	PHY 0.88V
20	L18A	0.88	USB SS 0.9V
21	L10A	1.8	PHY 1.8V
22	L7E	3.08	USB HS 3p1
23	L24A	2.96	eMMC/UFS 2.96V
24	SLEEP_CLK	1.8	32KHz Clock
25	CXO	1.2	19.2MHz CXO Clock
26	L5A	2.96	SD Card PX2
27	L22A	2.96	Sd Card 2.96V
28	S3A	0.752	APC0

Table 3-19 Power-on timing specifications

Parameter ¹	Minimum	Typical	Maximum	Units
t _{reg1} – power-on event to first regulator on ²	26	–	200	ms
t _{reset0} – PON_RESET_N low to first regulator off	–	10	–	ms
t _{reg} – inter-regulator turn-on time	–	200	–	μs
t _{off} – inter-regulator turn-off time	–	1000	–	μs
t _{ps_hold} – PS_HOLD time out ³	150	200	250	ms

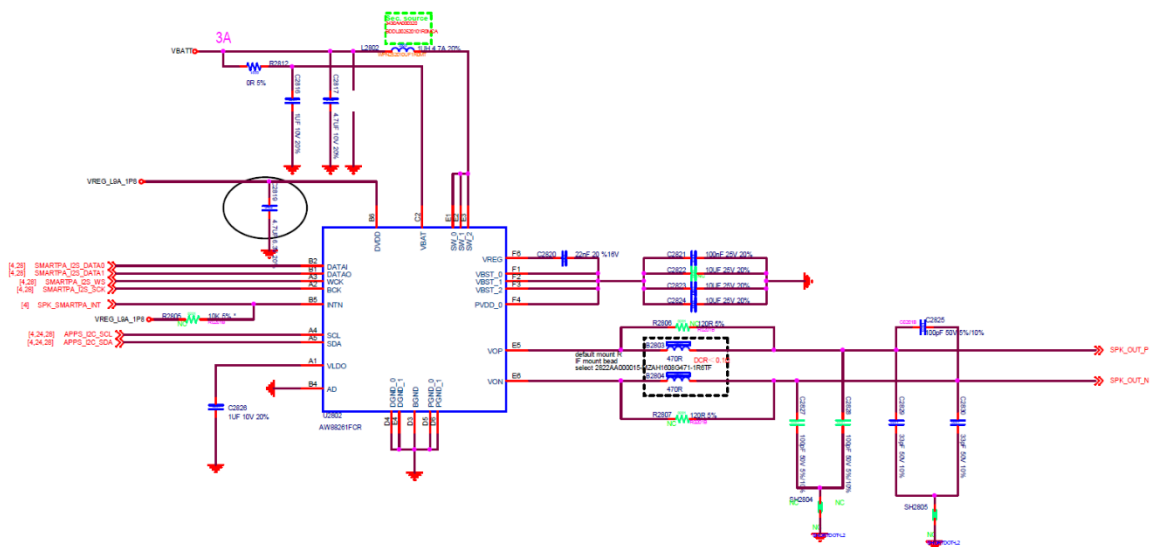
1. t_{reg0} and t_{settle} specifications are covered by the individual module (SMPS, LDO) specifications.
2. The first-regulator power-on time (t_{reg1}) depends on the bandgap-reference decoupling capacitor at REF_BYP. The specified value is based on 0.1 μF. If these debounce timers are increased, then the t_{reg1} value will also increase.
3. PS_HOLD timeout is the time after which the PMIC turns off if PS_HOLD is not yet driven high enough by the SDM device.

Audio Faults

The audio part mainly includes four parts: speaker, receiver, mic and headset. First of all, according to the adverse phenomenon, distinguish which part of the problem, and then according to the following respective module analysis.

Speaker loop

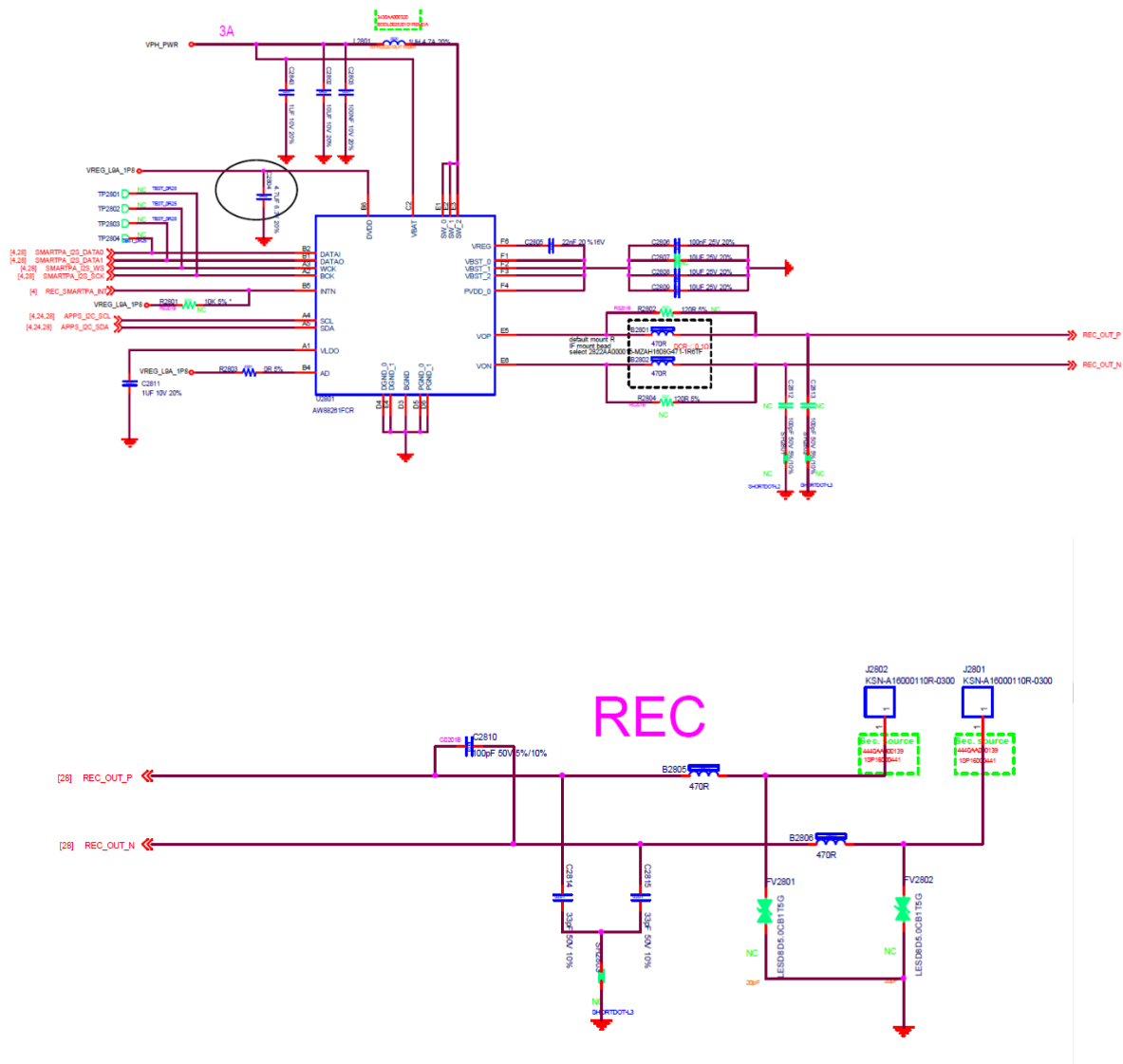
The speaker of the M331 phone is on the small board, which is connected to the motherboard via the FPC. Using external power amplifier, channel device on the motherboard. Speaker audio output schematic is as follows:



2. SPK ring tone is small or noisy:
 - a. The software volume is not set correctly.
 - b. Whether the ground capacitor and ESD device of SPK_OUT_P/N are stuck or broken down or short-circuit.
 - c. SPK ontology reasons.
3. There is no ringtone for the switch on and off machine, but SPK OK for engineering test:
 - a. Set the scene mode to turn off the ringtone for the switch on and off machine.
 - b. The software is faulty, and there is no power on ringSPK ontology reasons.

Receiver loop

The handset of the M331 is embedded in the front case and connects to the motherboard via shrapnel. Mainly used for talking. The Receiver loop diagram is shown as follows:



The Receiver loop

Common faults and causes of the Receiver are as follows:

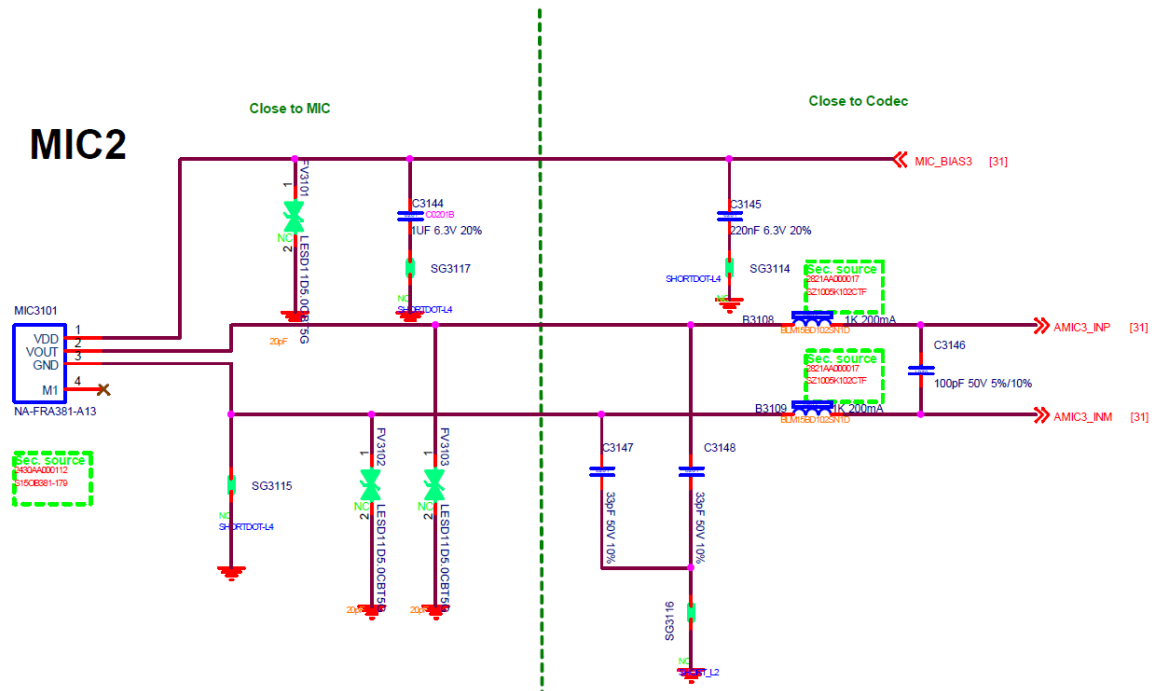
1. No sound for Receiver:

- a. Poor assembly of Receiver and poor contact between shrapnel and board.
 - b. The device on the I2S line is welded.
 - c. The Receive ontology is bad.
 - d. Volume setting or software problems.
 - e. Whether the audio PA (U2801) is bad.
2. Noise or low volume of Receiver:
- a. Poor receipt of materials to Receiver.
 - b. The device on the AU_HSP/N line is welded or burned.
 - c. Software problems.

MIC circuit

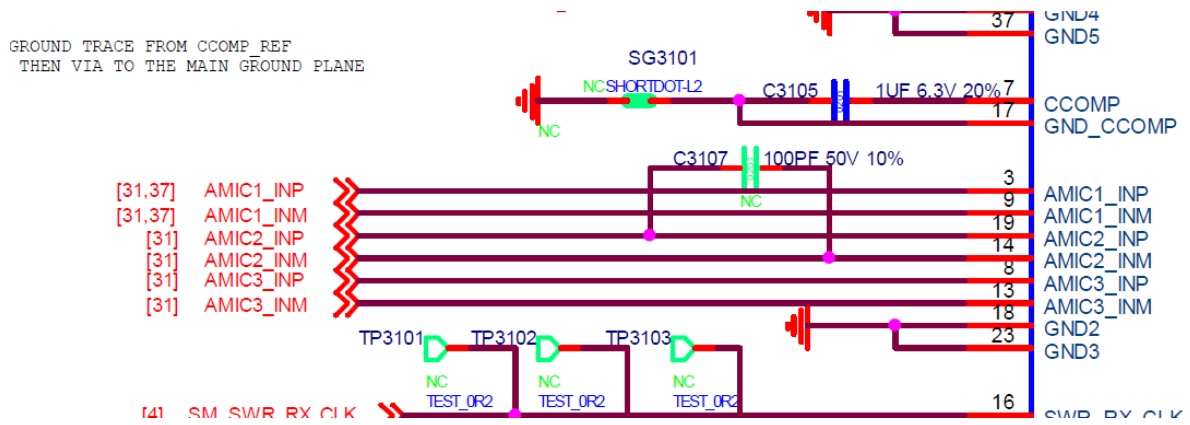
The M331 contains 2 MIC loops. One serves as the primary MIC on the small board, and one serves as the secondary MIC on the main board. The 2 MICs are patch type silicon MICs.

The schematic diagram of the auxiliary MIC circuit on the motherboard is as follows:

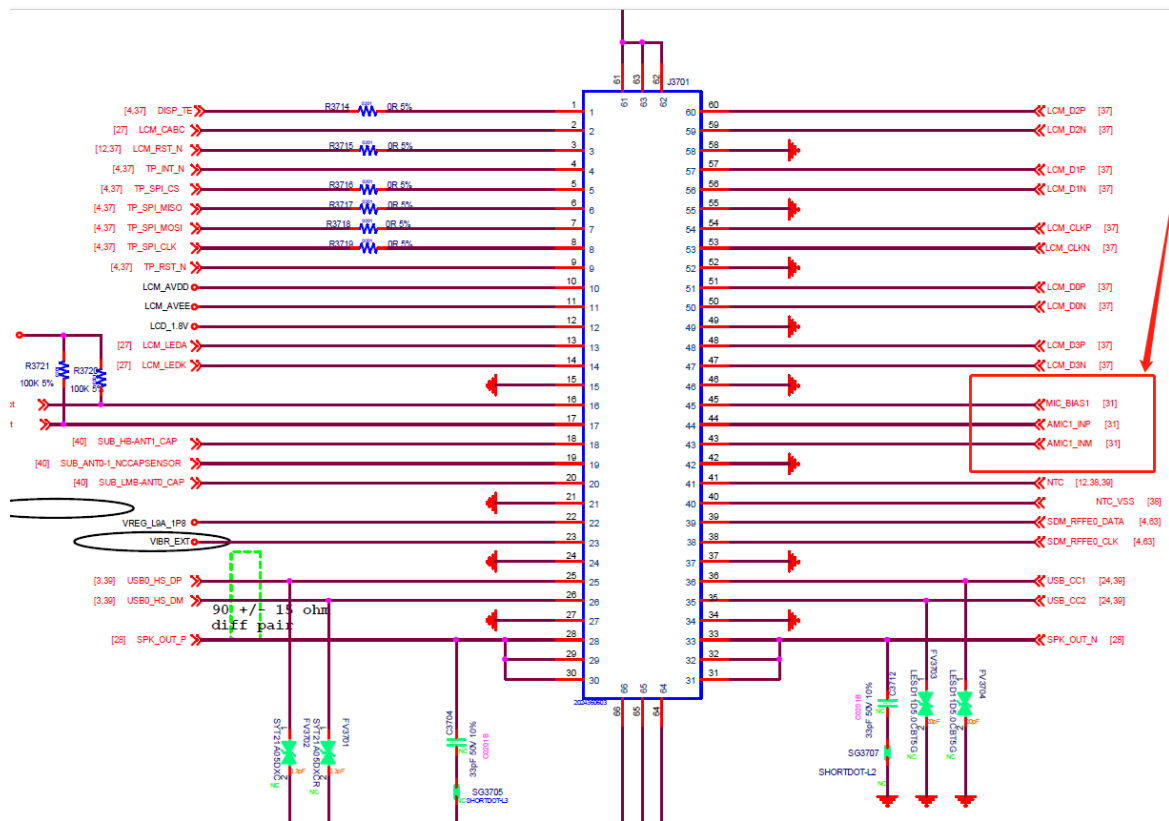


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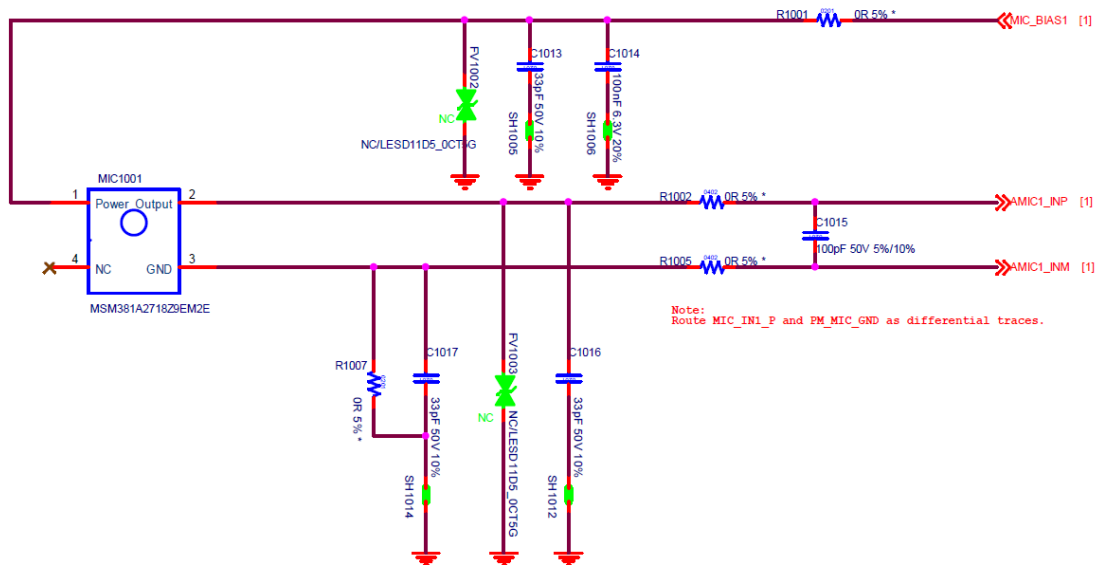
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The schematic diagram of the board master MIC is as follows:



Main MIC



Common faults and causes of the MIC are as follows:

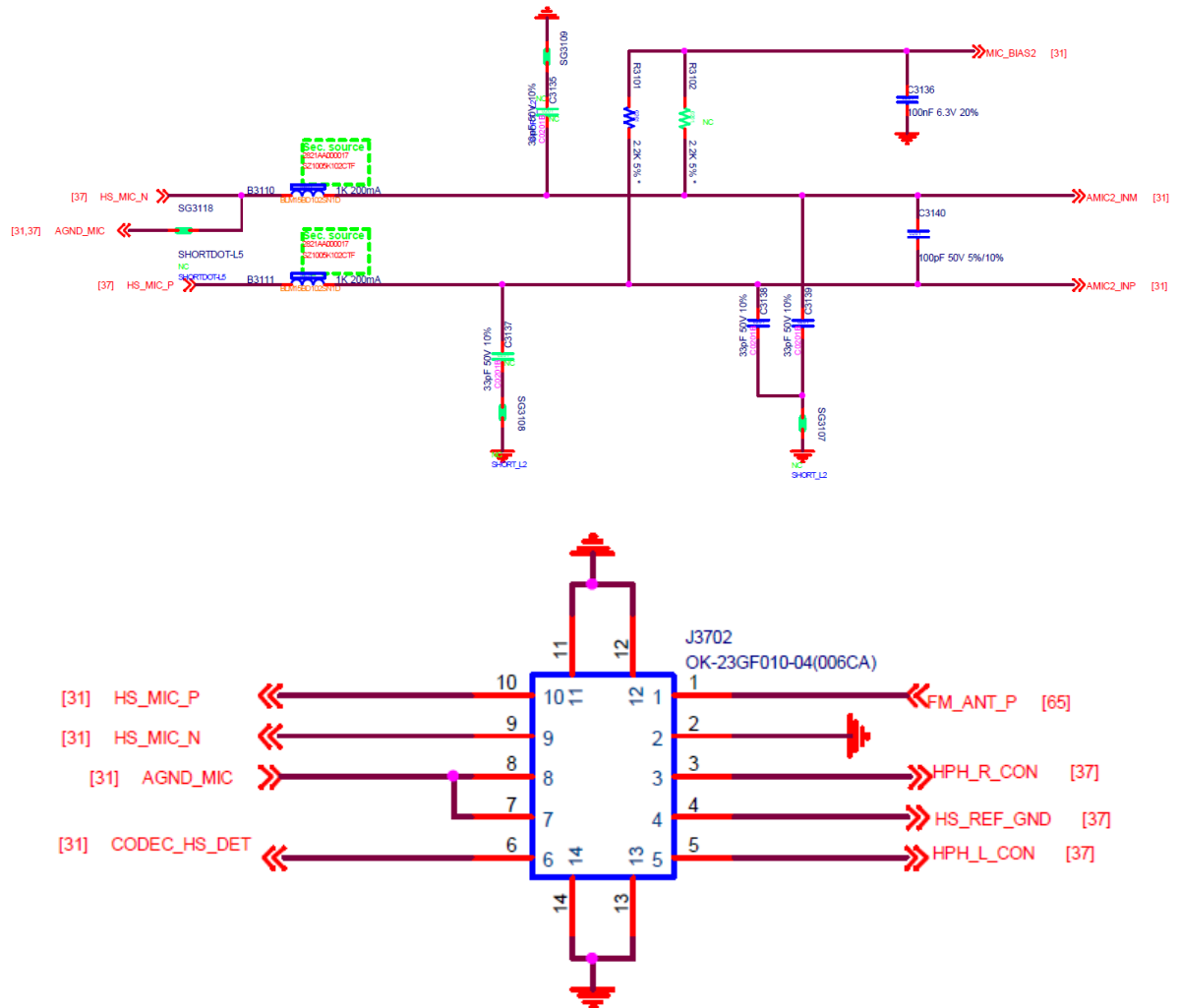
1. The MIC cannot send messages or record recordings.
 - a. The MIC is poorly welded.
 - b. The device on the MIC_P/N line of the motherboard is welded.
 - c. To ground filtering capacitor and ESD device to ground short circuit.
 - d. MIC ontology is bad; (If there is no sound after the MIC recording is tested, the Speaker channel may be broken). The Receive ontology is bad.
2. MIC has noise or small sound.
 - a. MIC body is bad.
 - b. MIC air filter is not attached, and dust enters the sound inlet hole.
 - c. MIC sealant sleeve is not installed.
 - d. Software problems.
 - e. The conductive cloth on the small board is not pasted as required.

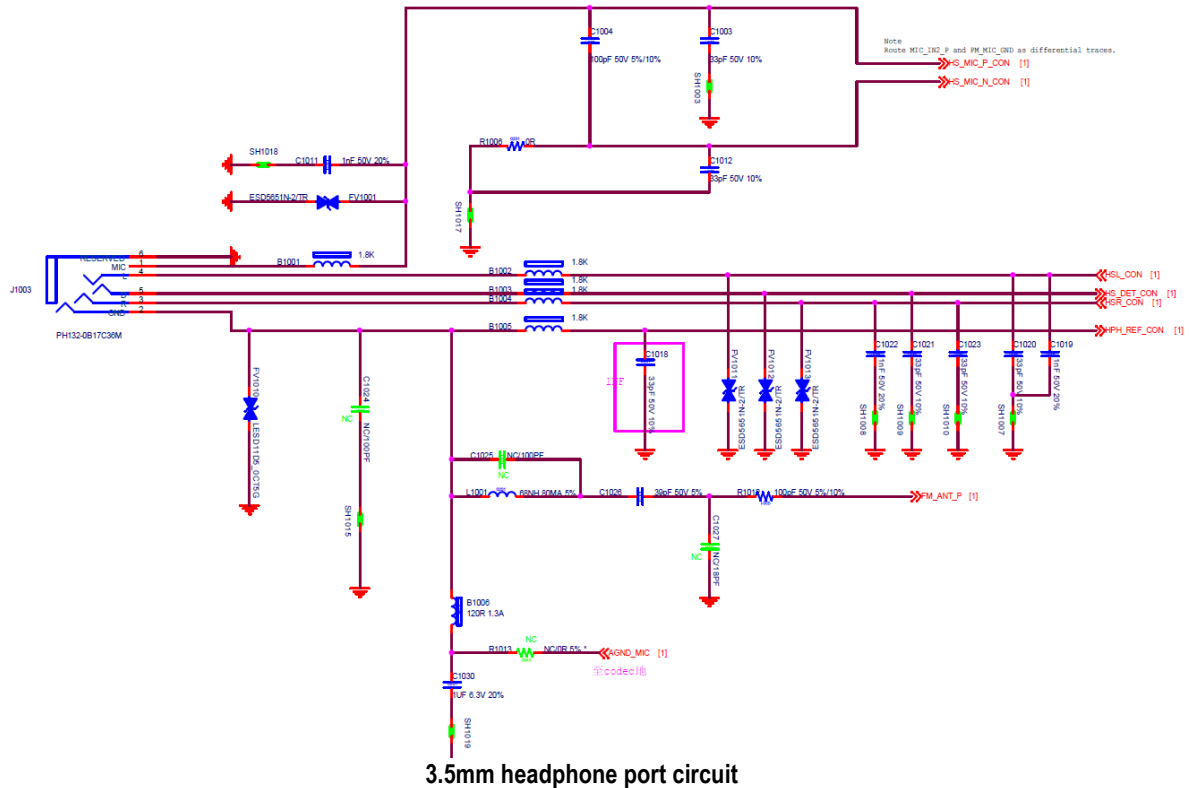
Headphone loop

The headset used for the M331 is a standard 3.5mm headset. The circuit schematic diagram is as follows:

靠近BTB

靠近CODEC





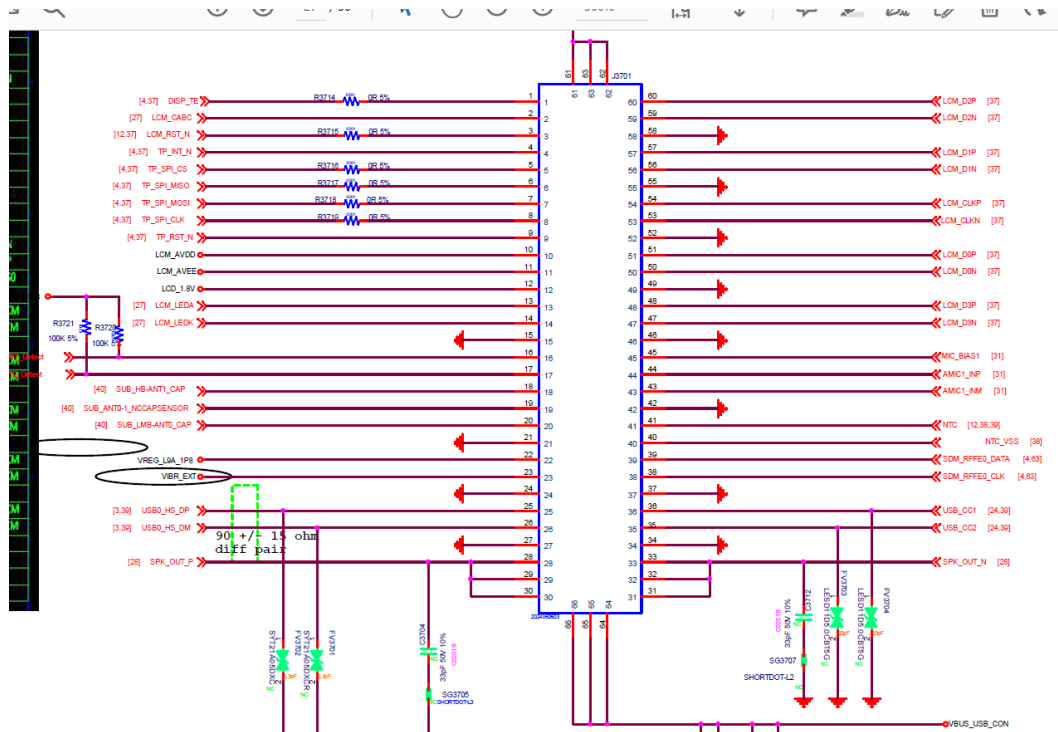
Common faults and causes of the headphone are as follows:

1. No sound from the earphone:
 - a. The earphone is not plugged in properly.
 - b. The headphone connector solder pad is welded.
 - c. Whether the device on the HSL_CON/HSR_CON line is welded or damaged.
 - d. Whether TVS to ground and capacitance to ground are damaged.
 - e. The internal circuit of the chip is damaged or welded.
2. The insertion and removal of the earphone cannot be identified:
 - a. The earphone shall detect whether the line device on HS_DET_CON is welded or damaged.
 - b. Whether the headphone holder shrapnel is in good contact with the mainboard.
 - c. Short circuit of ESD device to ground.
 - d. Software.
3. The headset MIC is not delivered: The headset is not inserted in place.

USB failure

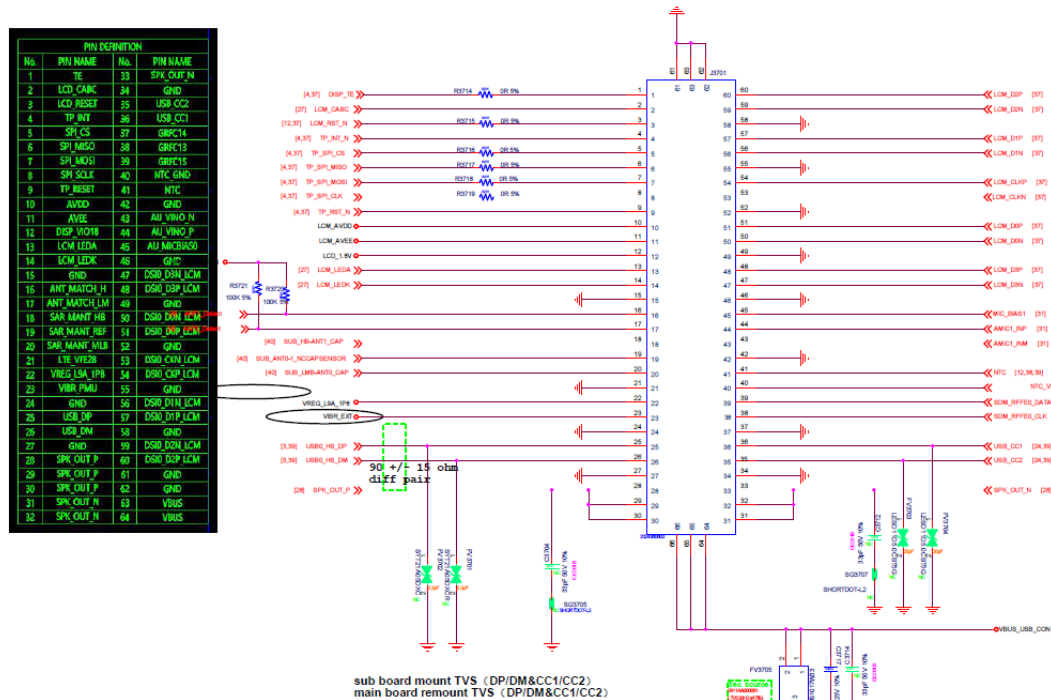
During the test, the fault "Failed to open the serial port" often occurs. The main causes of this failure are:

1. Mobile phone cannot start, please refer to cannot start the maintenance.
2. USB test point oxidation, no good contact with the fixture.
3. USB connector welding.
4. USB circuit itself, please check whether the device is welded, and the test point is connected. Whether the TVS device and surge device to ground are stuck or broken down, leading to short circuit of USB_DM, USB_DP and VBUS to ground.

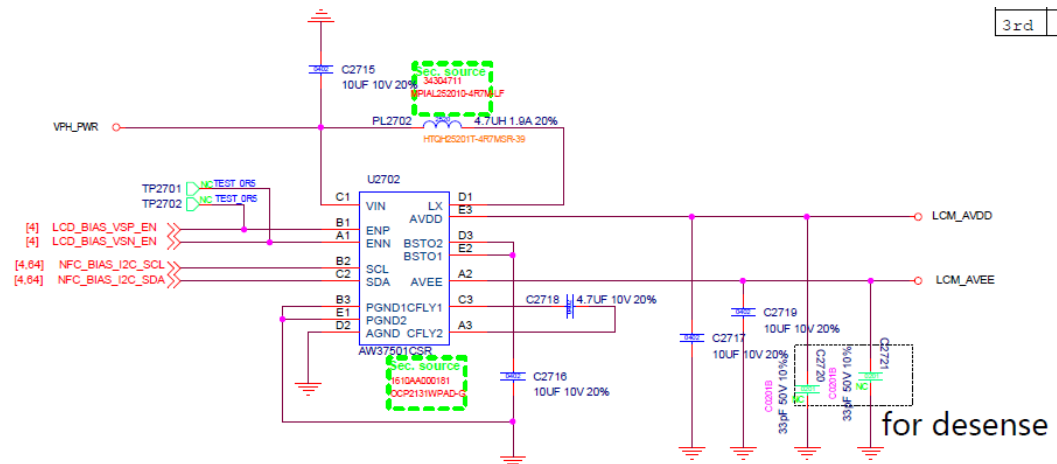


LCD fault

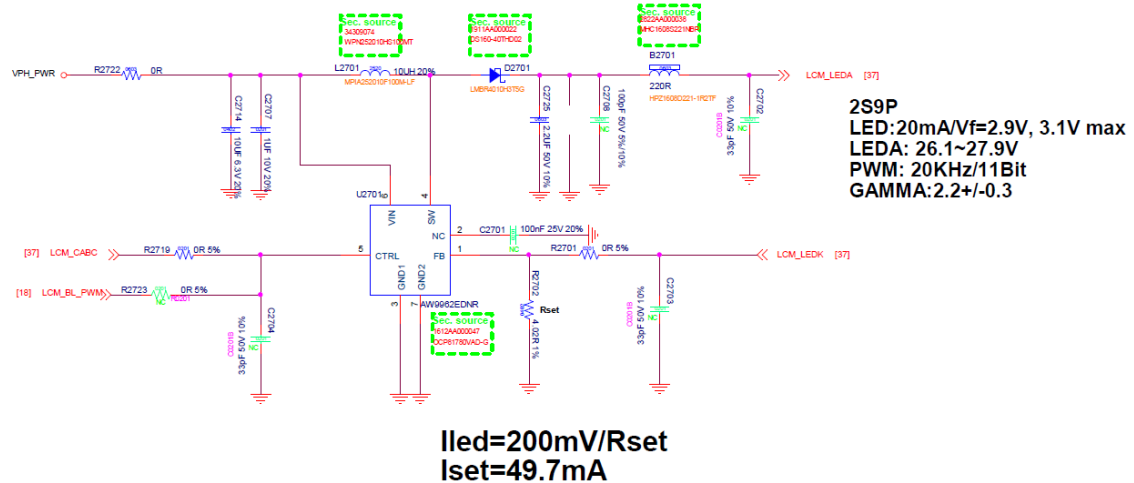
The M331 uses a 6.528-inch LCD that connects to the mainboard through a board connector. The schematic diagram of this part of the loop is as follows:



LCD interface circuit



I2C Address 0X3E



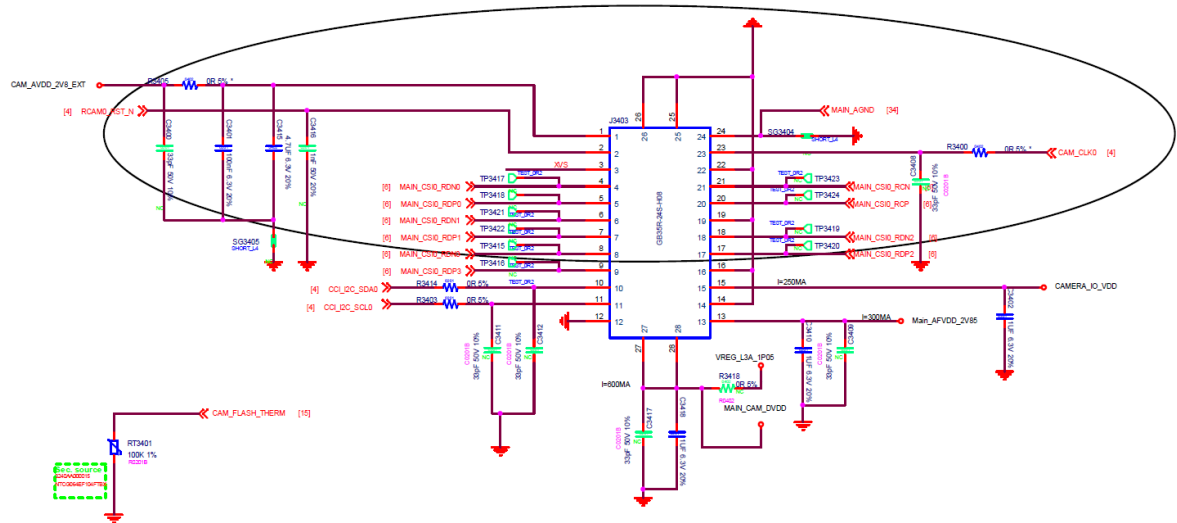
Common LCD module faults and causes are as follows:

1. LCD black screen:
 - a. The LCD is not installed properly or in poor contact with the fixture.
 - b. LCD backlight circuit is broken, check whether the backlight enabling foot is pulled up, check whether the backlight chip circuit has welding problems, the backlight IC input and output pin PWM control pin is normal.
 - c. LCD itself is faulty.
 - d. The conductive cloth on the LCD has burrs touching the LCD backlight foot.
 - e. Whether Schottky diode is broken down.
 - f. The offset voltage output (VSP/VSN) is abnormal.
2. LCD white or flowered: indicates that the LCD backlight circuit is OK, but only part of the display is abnormal. The causes of failure are usually:
 - a. LCD connector poor contact, poor welding or poor contact with the fixture.
 - b. Whether the EMI device is welded or short circuit with tin.
 - c. Software problems.
3. LCD black dot, bright spot, black line, stripe fault cause: LCD body bad.

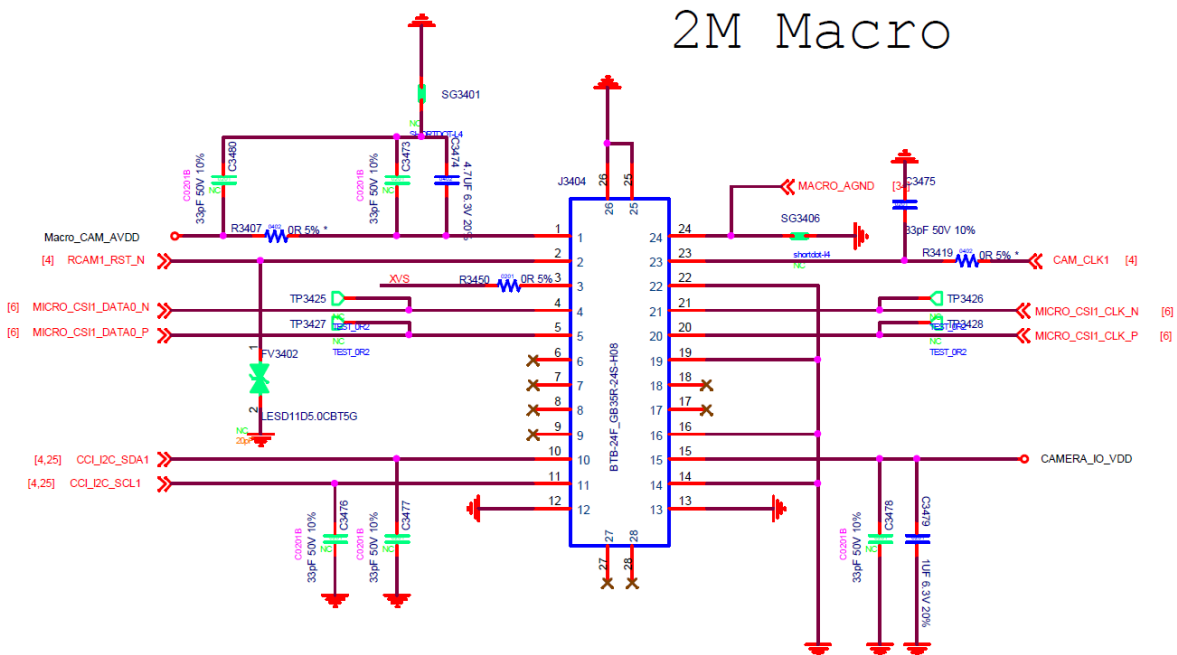
Camera malfunction

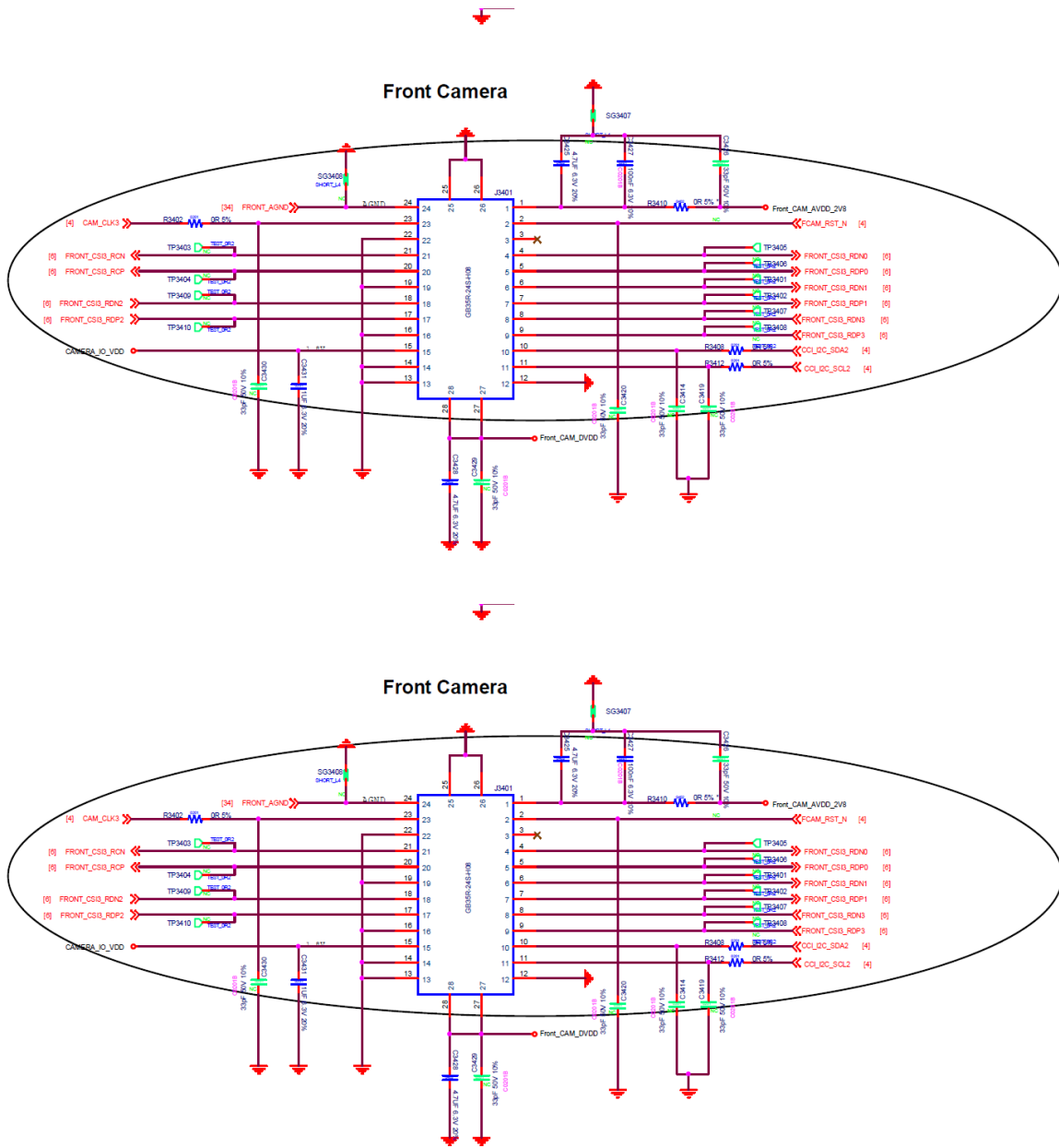
M331 is a three-camera design. One front CAMERA is connected to the motherboard through connectors J3303, and two rear cameras are connected to the motherboard through connectors J3301 and J3302. Camera control is accomplished through I2C bus.

Rear Camera 16M/50M



2M Macro





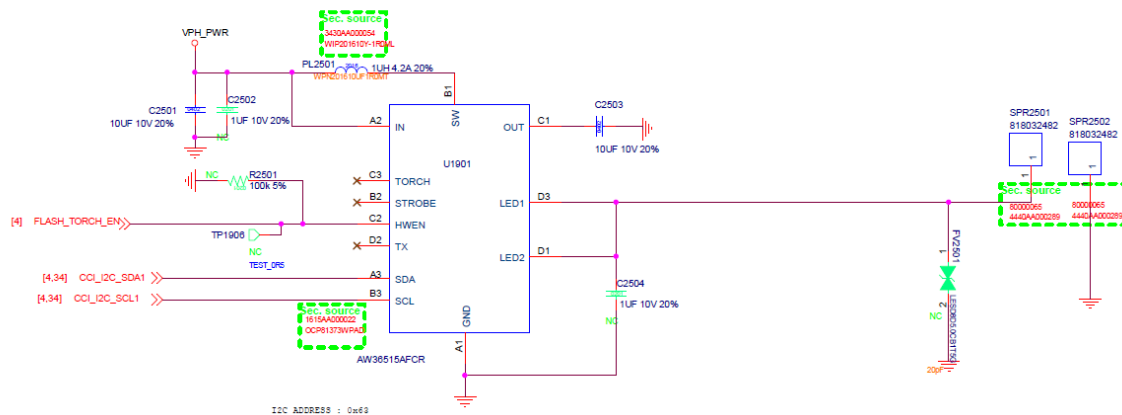
Common Camera faults and causes are as follows:

1. Failed to initialize the Camera and cannot enter the main interface of the Camera:
 - a. The Camera is not in good contact.
 - b. Camera ontology failure.
 - c. The Camera Power supply is abnormal.
 - d. The software is abnormal.
2. Abnormal color or color in Camera preview:
 - a. Poor Camera contact.
 - b. Restore factory Settings and restart.

3. Camera cannot store photos:
 - a. The memory of the body is insufficient, and the T card is not inserted.
 - b. The software is abnormal.
4. If there are other problems with the Camera, please replace the Camera and try to confirm whether there are problems with the Camera ontology.

The Flash is Faulty

M331 rear flash

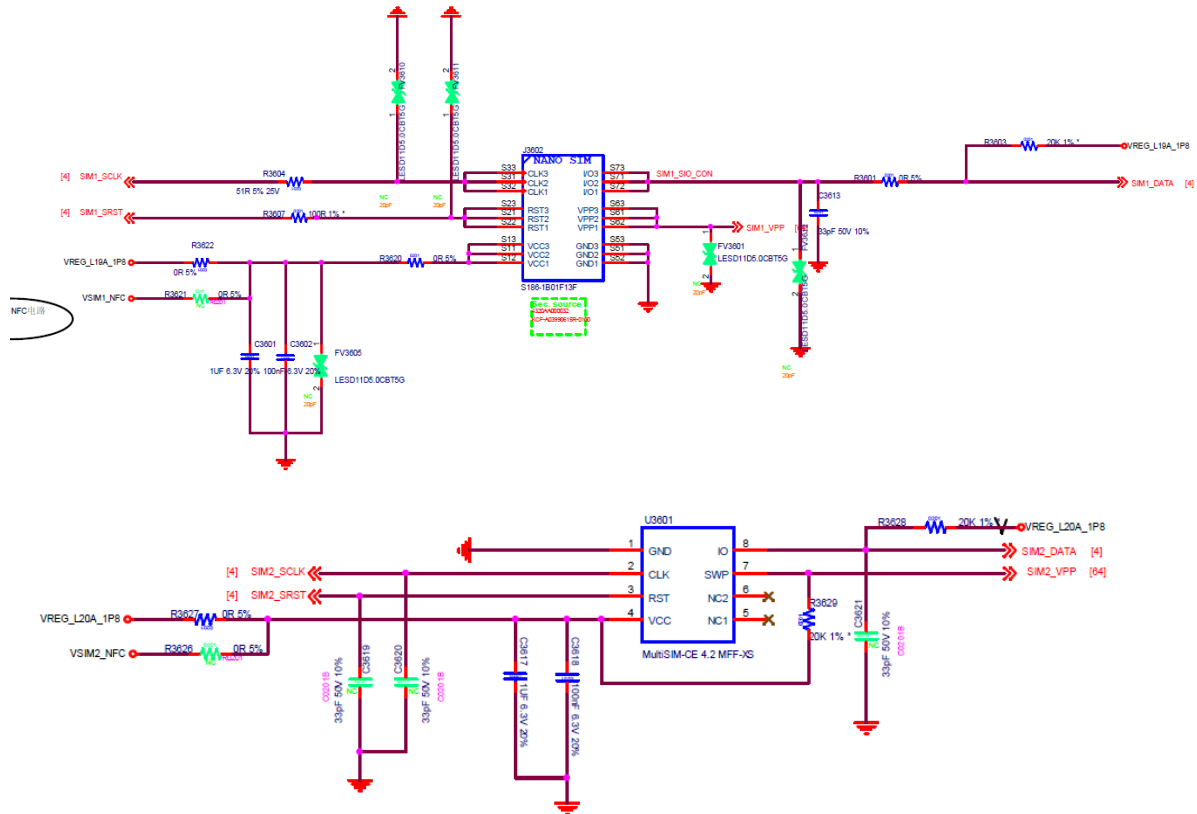


Common Camera faults and causes are as follows:

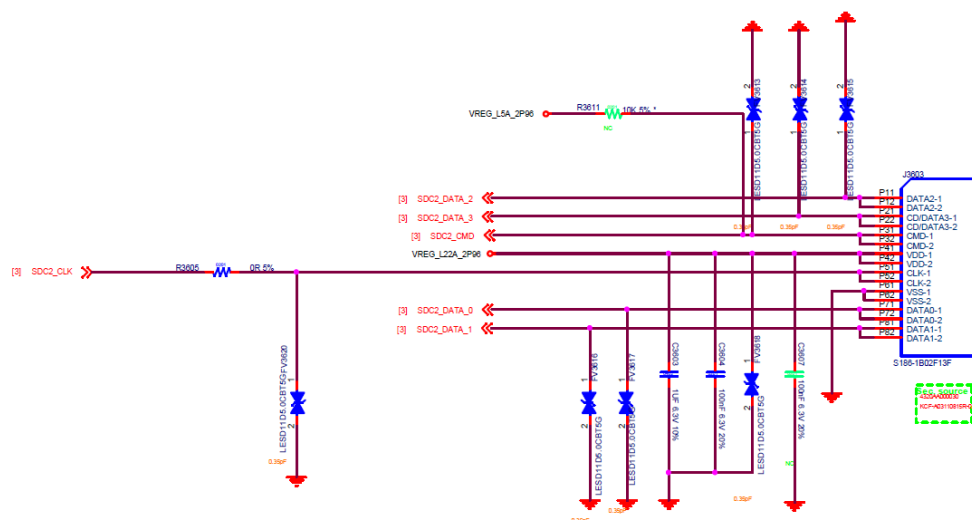
1. Chip welding.
2. The body of the flash is damaged or welded.

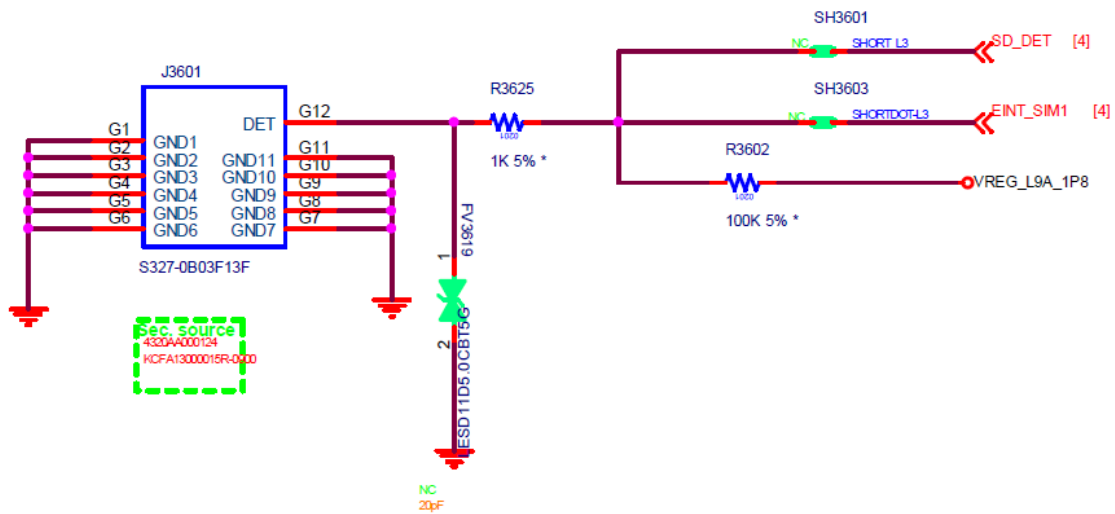
The USIM/T-Flash Card is Faulty

M331 adopts Nano + SD booth; The outgoing signal is connected to the CPU.



Dish SKU Mount E-SIM





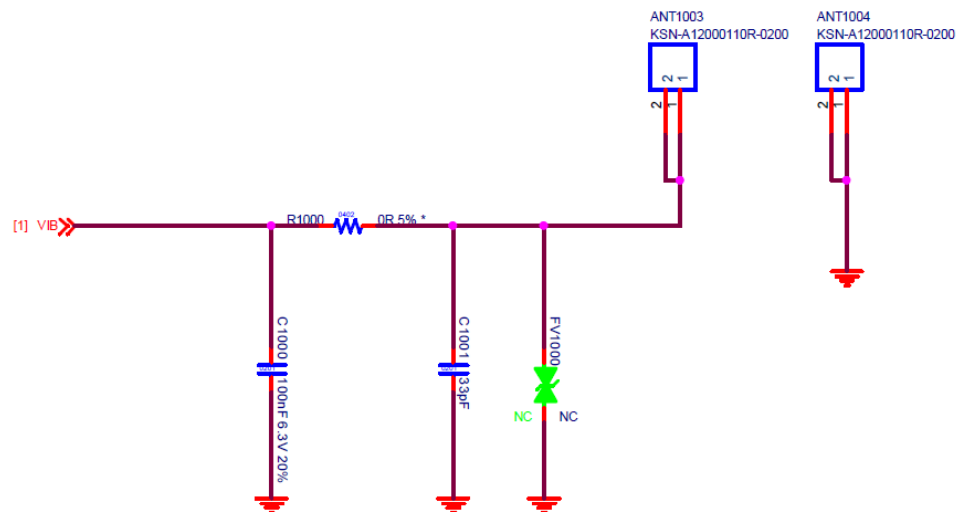
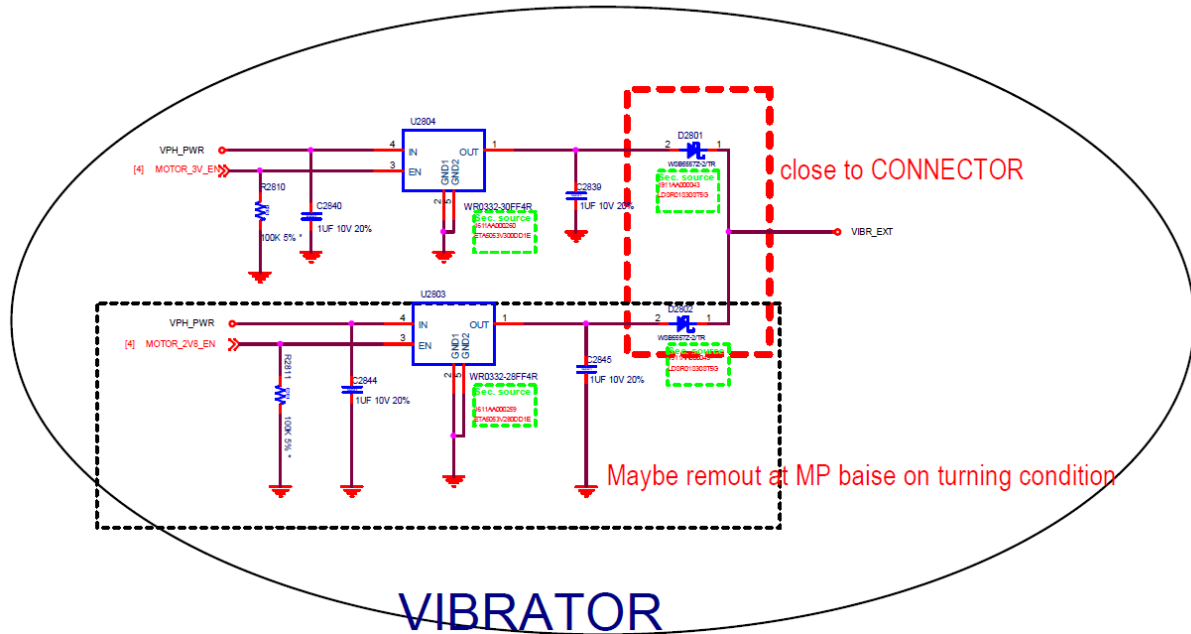
USIM/T - Flash card circuit

Common faults and causes are as follows:

1. Do not recognize the card, the reasons are usually:
 - a. The booth contact is poor.
 - b. The ESD protection device is broken down and short-circuited to the ground.
 - c. Whether the booth is welded.
 - d. Whether the insertion card exceeds the stroke or is inserted backwards.
2. T-Flash read and write test fails:
 - a. T-flash is faulty card.
 - b. There may be a short circuit or welding phenomenon in the resistance.
 - c. Software reasons.
3. T-Flash cannot be transmitted through USB:
 - a. T-Flash itself read and write test failure.
 - b. Software failure.
 - c. USB fault, check whether the USB access is normal.

Invalid motor test

M331 ADOPTS WELDING linear motor, located in the small board, the small board is connected to the motherboard through FPC, the motor is connected to the PMIC output, the negative end of the ground.



Common faults and causes are as follows:

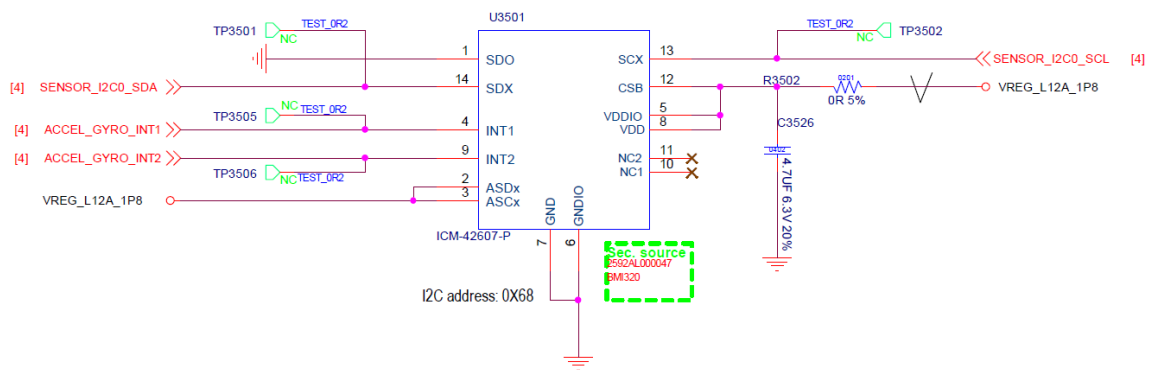
1. Motor no vibration:
 - a. The shrapnel of the small plate is in poor contact with the motor.
 - b. The motor body is bad.

2. Motor vibration is weak:
 - a. The motor body is bad.
 - b. Reasons for software setting.
3. Motor vibration sometimes no: motor body problem.
4. Motor vibration noise:
 - a. Structure assembly problem.
 - b. Motor ontology reasons.

A+G-Sensor fails to be tested

M331 A+G-Sensor I3C Data reading communication.

G + Gyro



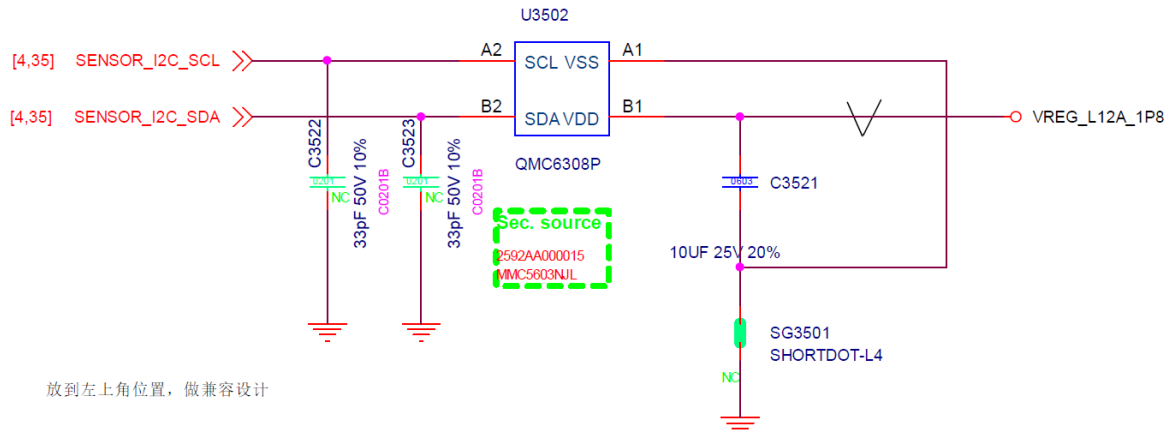
Common faults and causes are as follows:

1. Function NG: Check the module circuit for welding or short circuit faults.
2. Check whether the IC power supply is normal.

Failed to test the M-Sensor

The M331 M-Sensor uses QMC6308P, I2C data reading communication.

E_COMPASS

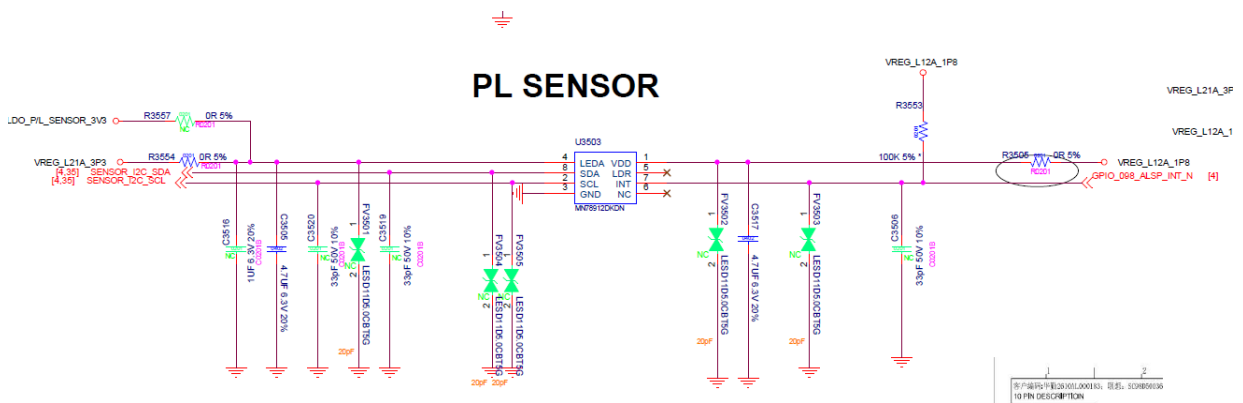


Common faults and causes are as follows:

1. Function NG: Check whether there is welding or short circuit fault in the module circuit.
2. Check whether the IC power supply is normal.

PL - sensor fault

M331 PL-Sensor, I2C data reading communication.

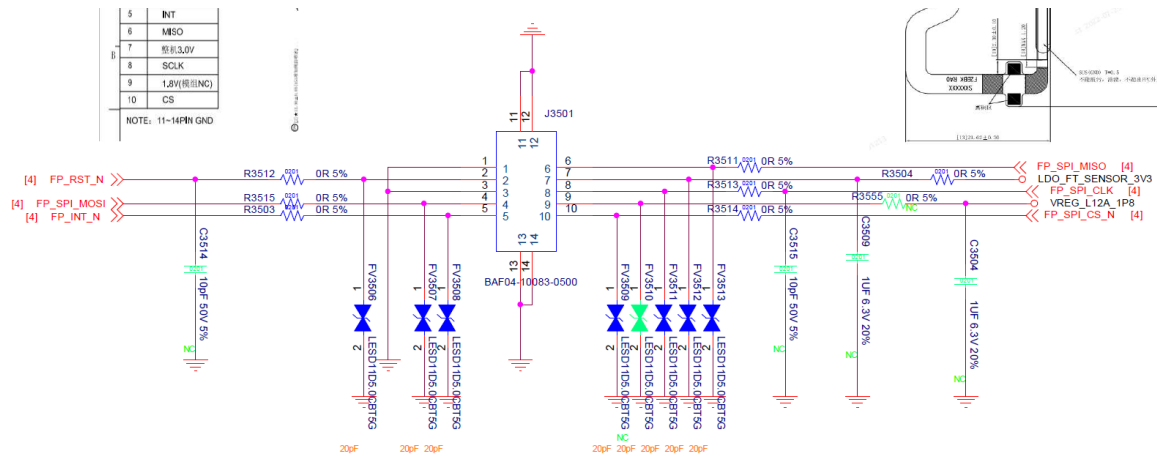


Common faults and their causes are function NG. The causes are analyzed as follows:

1. Check whether the power supply is normal.
2. Whether the structural rubber sleeve has fallen off or into ash.
3. Welding of PL-Sensor body is abnormal.

Fingerprint Failure

The M331 fingerprint module is connected to the motherboard through a 14-pin connector, and the main data communication port is SPI. The circuit diagram is shown below.

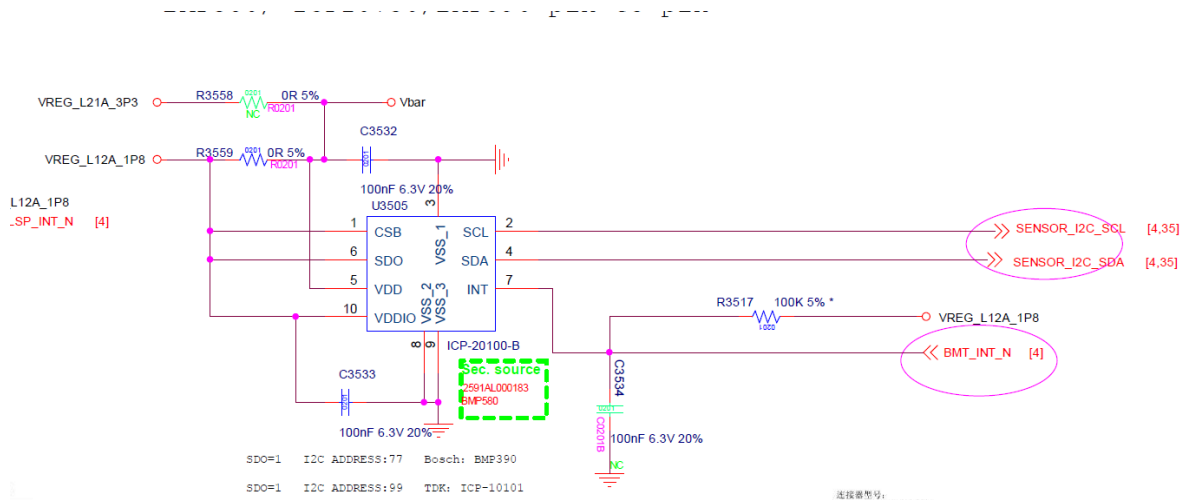


The common fault of fingerprint Sensor is function NG. The causes are as follows:

1. Check whether the power supply is normal.
2. Whether the connector is welded or damaged.
3. Whether the resistance value is correct and whether the welding is good.

Barometer Function

M331 Barometer, I2C data reading communication.

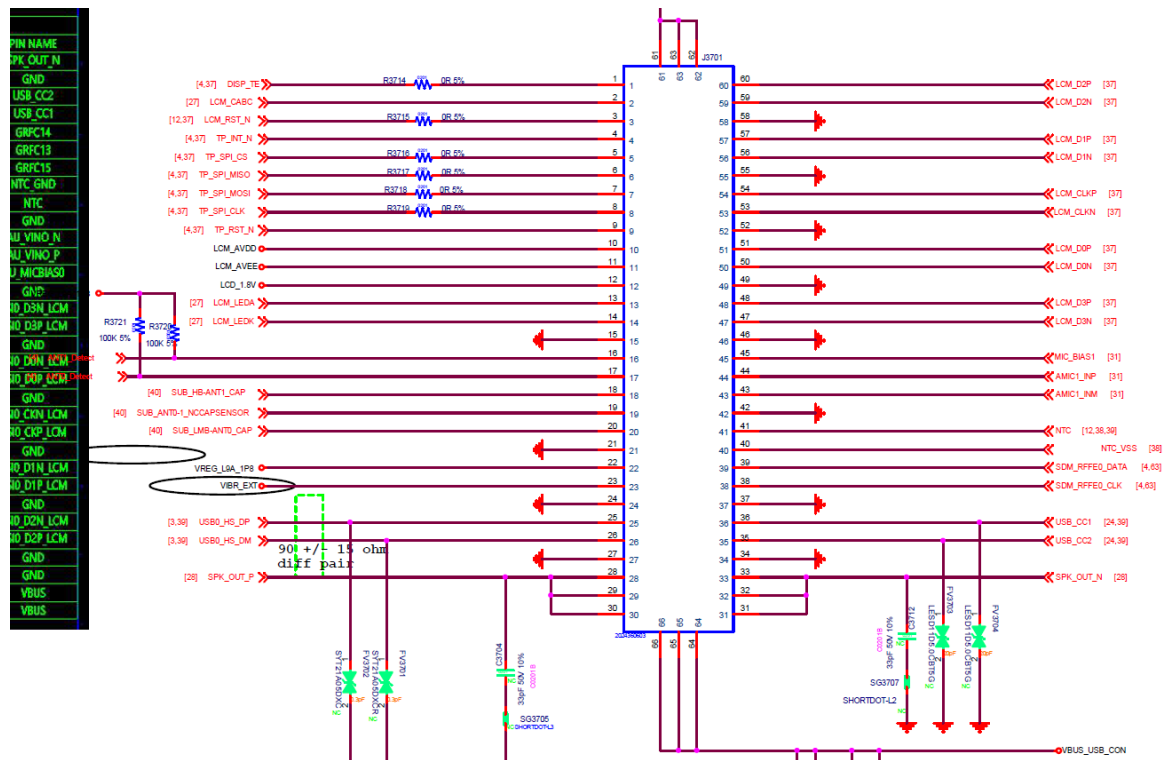


Common faults and causes are as follows:

1. Function NG: Check whether there is welding or short circuit fault in the module circuit.
2. check whether the IC power supply is normal.

Touch Panel Function

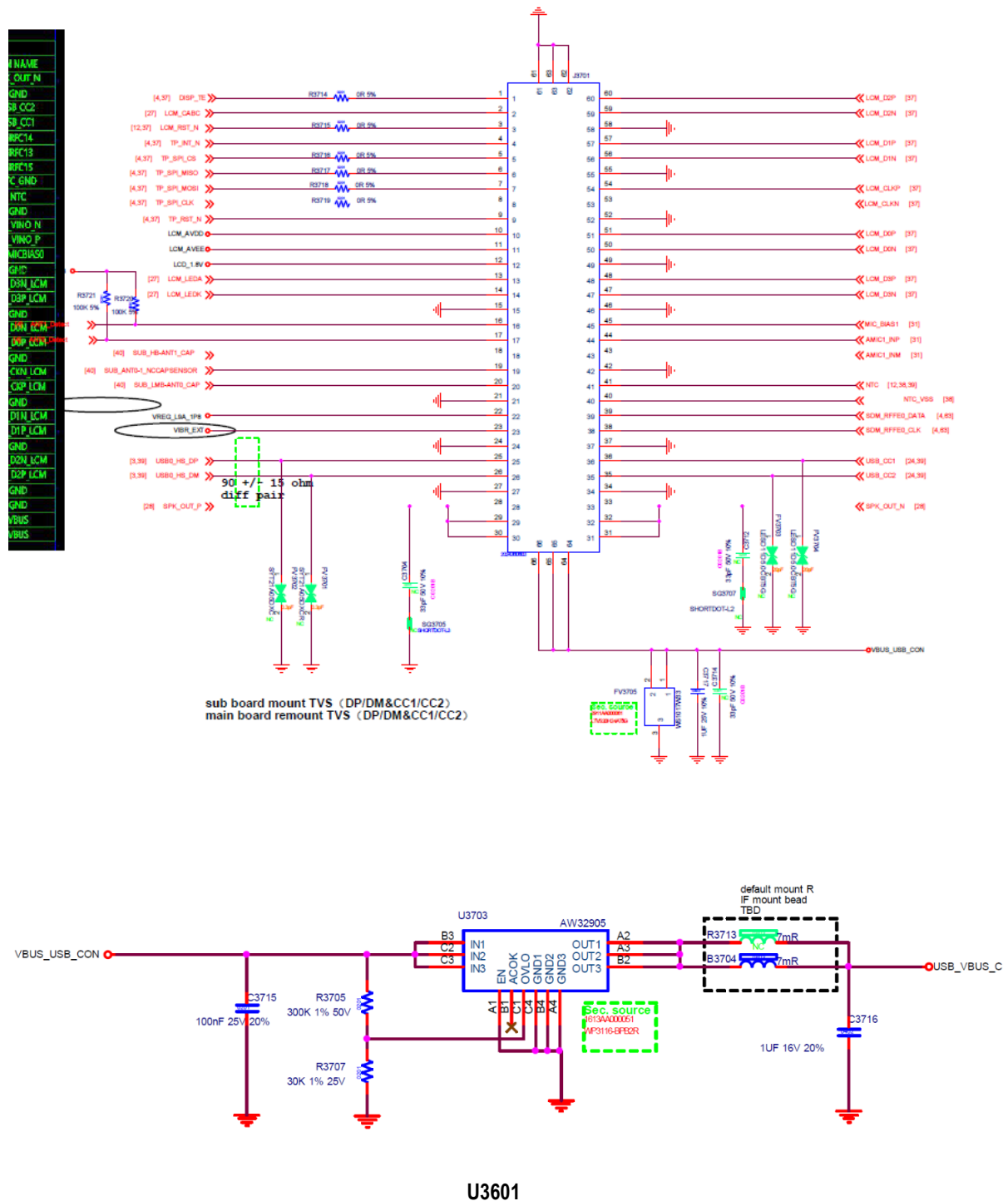
The circuit of M331 Touch Panel is very simple, VIO18_PMU power supply supplies power to Touch Panel IC, SPI bus transfers commands and data.



Common faults and causes of Touch Panel are:

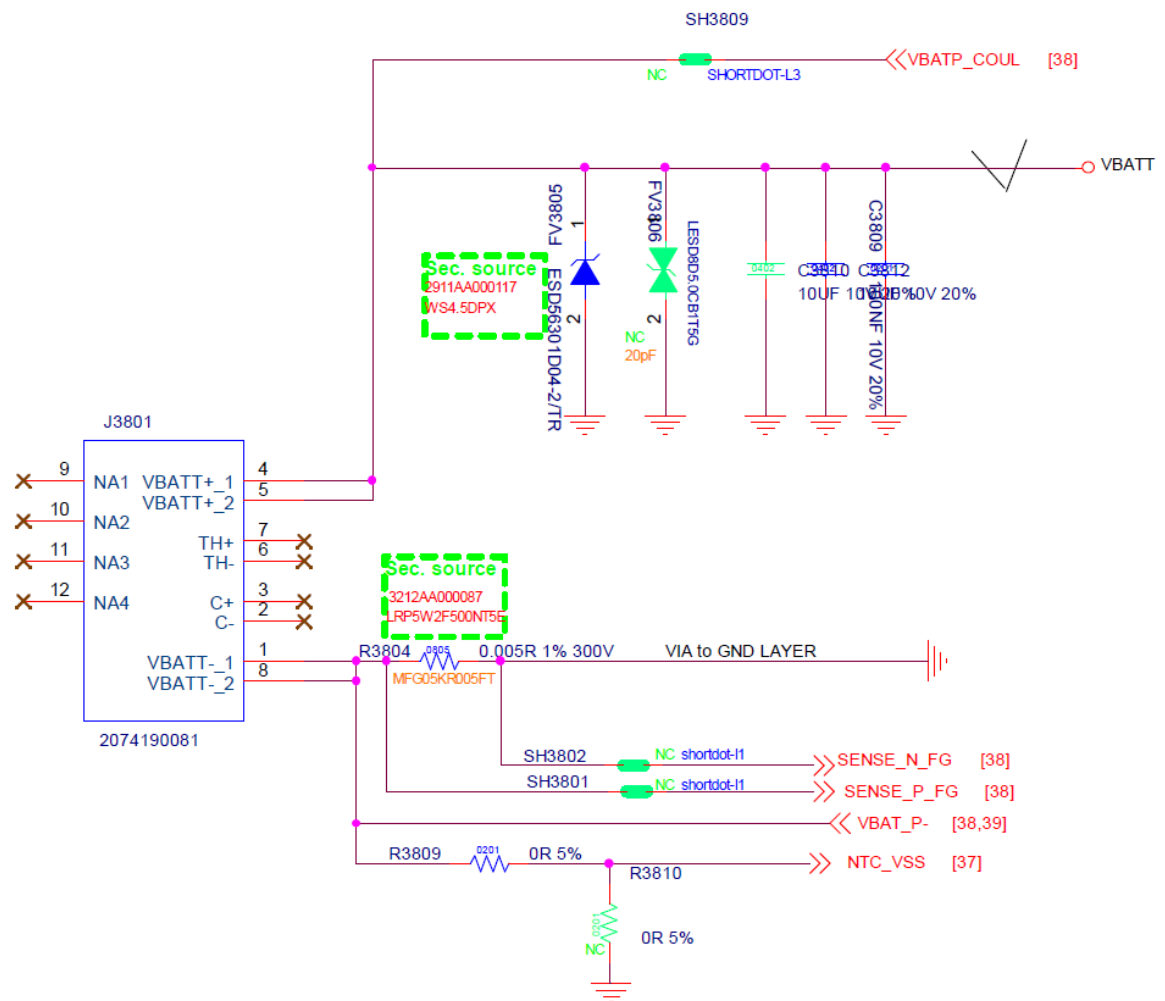
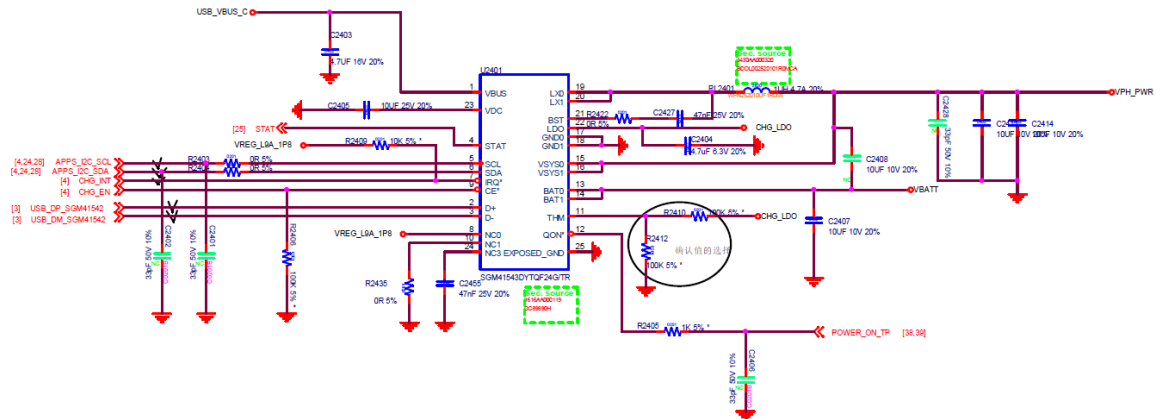
1. Low Sensor sensitivity and slow response: software problem.
2. TP No functions:
 - a. Firstly, check whether the FPC of TP is in good contact with the connector.
 - b. Then measure whether VIO18_PMU is normal and confirm whether the power supply is normal.
 - c. Whether the voltage on the spi line is normal.
 - d. Whether there are any problems such as virtual welding, reverse welding and breakdown in ESD device welding.
3. Touch Panel function is not good:
 - a. Check whether there is welding or short circuit fault in the Touch Panel module circuit.
 - b. A software problem.

Charging Failure Symptom



Moto g 5G

Level 3 – Service Manual



Battery connector circuit diagram

The possible causes are as follows: The battery cannot be charged:

1. The surge protection device on the motherboard is abnormal, short circuit to the ground.

2. Small board USB interface loose, poor contact.
3. Damage or welding of OVP chip or Mt6375/Charge pump SC8551ACFFR.
4. The battery connector is not in good contact or deformed, and the software cannot identify the battery.
5. The FPC of main and auxiliary plate is not in good contact.

Startup Failure

Failure to start the phone is the most likely fault. Software problems, welding problems, and device failures are the main causes of failure to boot. In the process of maintenance, you can coordinate with LCD and power current, as well as keyboard for general positioning.

1. Shutdown leakage current is large: the main reason for the fault is that the device connected to the VBAT has a short-circuit problem to the ground. It is usually caused by TVS tube, CPU, PMIC or RF PA burning or welding problems.
2. No current and no LCD display:
 - a. The power button is not inserted properly.
 - b. The battery connector is in poor contact (can be checked by plugging in and charging).
3. Power on the LCD static display: Usually for software reasons, you need to download the software again.
4. Black screen on LCD; At present, it is mainly caused by memory empty welding and empty welding. Or software problem, need to download the software again.
5. The side key FPC welding has welding defects, and the side key power button has fallen off.

Automatic Startup

1. When connected to the power supply, power on, plug in the USB, do not start and restart: it is because the software needs to be connected to the power supply to start up.
2. The motherboard and small board FPC buckle will also lead to automatic boot.
3. Side key FPC body is not good, PWRKEY short circuit caused by automatic startup.

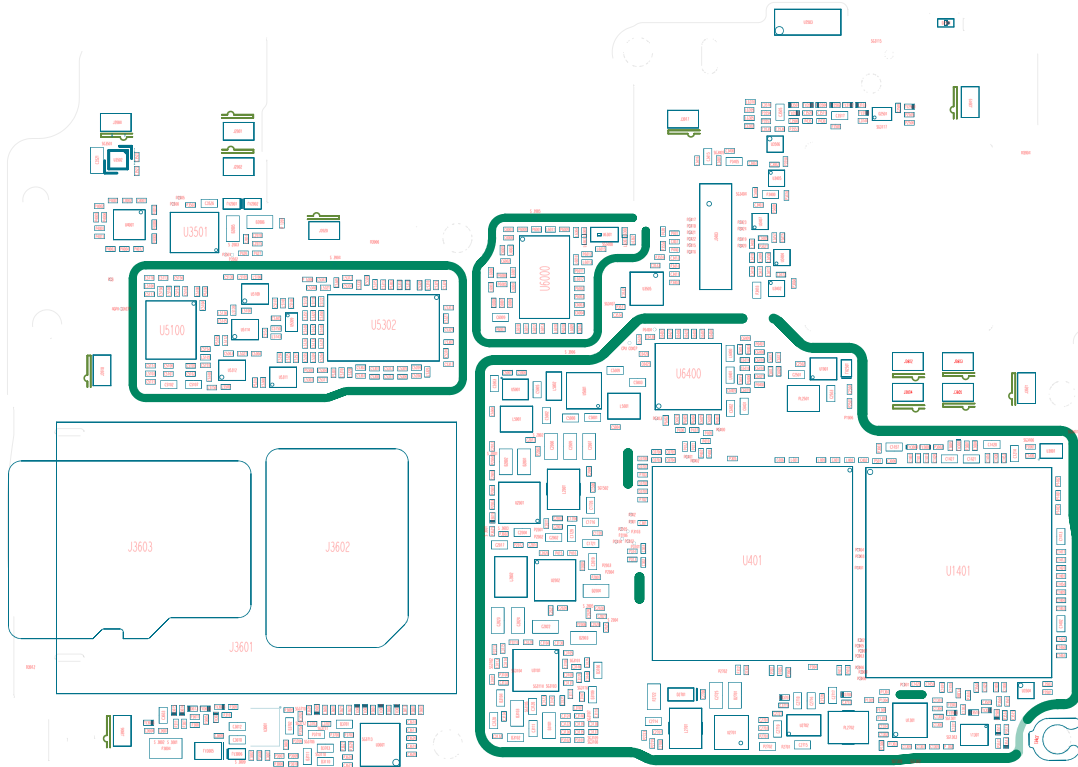
SERVICE CODE

Commonly used Service codes, for your reference.

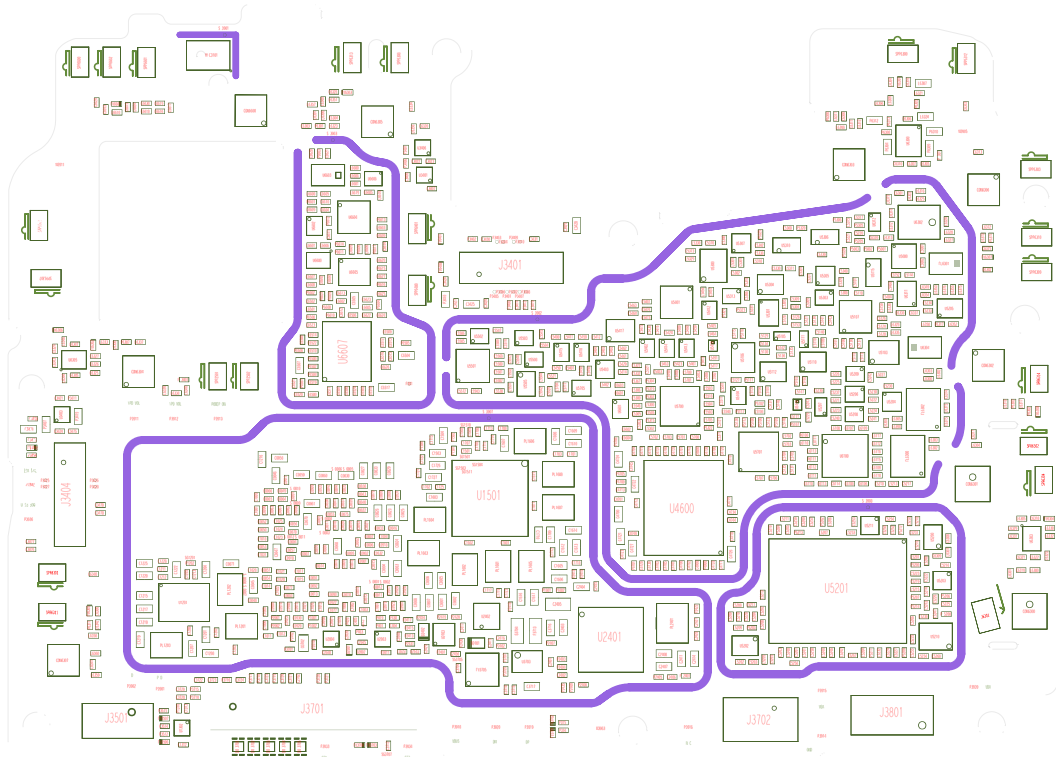
<i>Service Code</i>	<i>Function</i>
*#06#	View your phone's IMEI number.
##*#4636#*#	Display battery information, WLAN status, and usage statis.
##*#225#*#	Display Calendar data stored on your phone.
##*#426#*#	Run Google Play Services diagnostics.
*#67#	Display call forwarding information on your phone.
*#61#	See how long it takes to forward calls.
*31#	Turn on caller ID.
#31#	Turn off caller ID.
*43#	Turn on call waiting.
#43#	Turn off call waiting.

BOARD LAYOUT

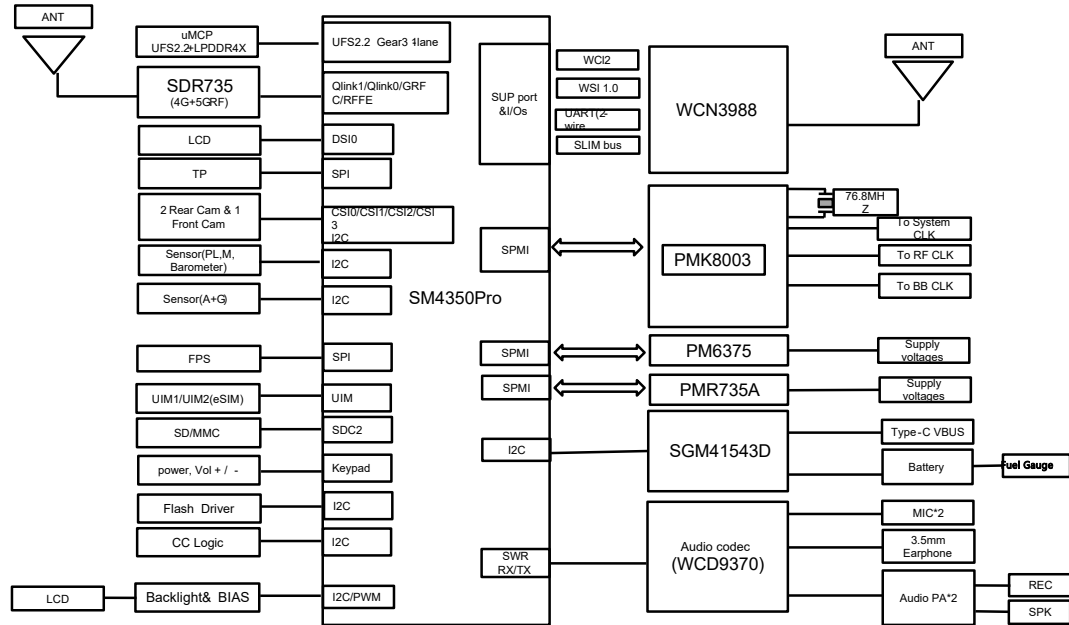
Front Diagram



Back Diagram



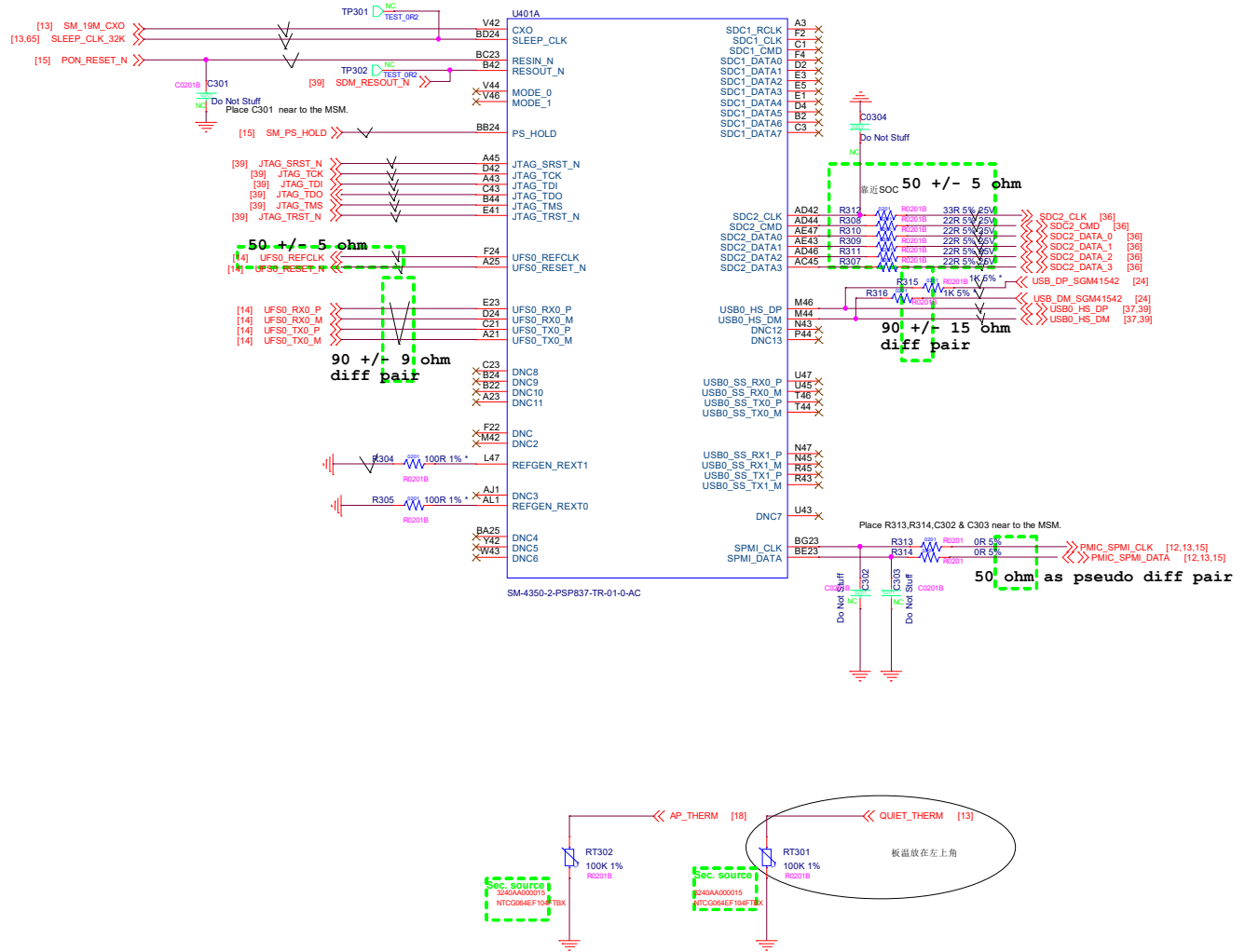
BLOCK DIAGRAM



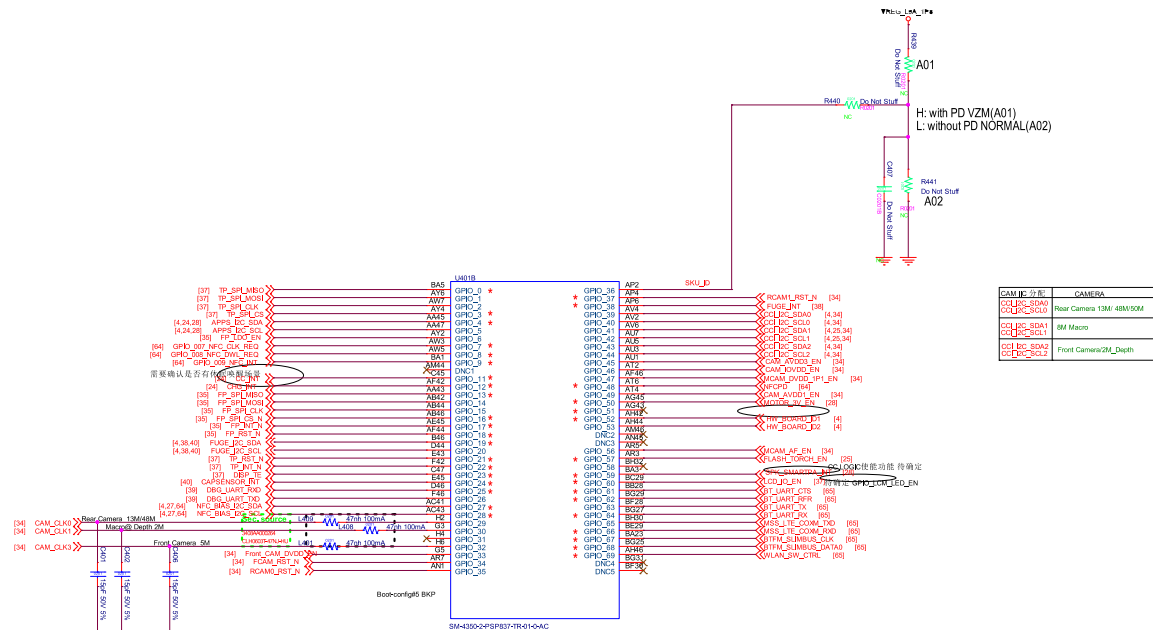
SCHEMATIC

If you need or involve the key component schematics (e.g., PMIC/CPU), please contact SVCPE@lenovo.com directly.

SM4350_AC_CONTROL

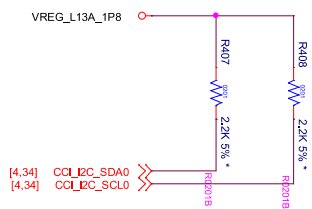


SM4350_AC_GPIO

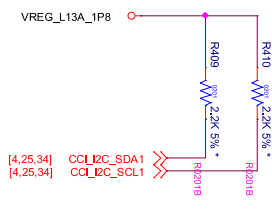


I2C

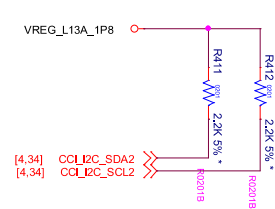
Camera I2C0



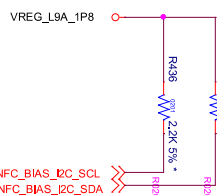
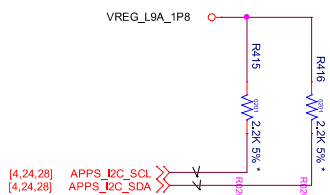
Camera I2C1



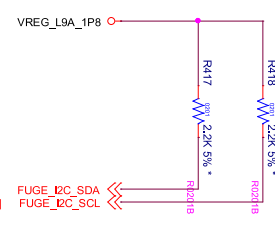
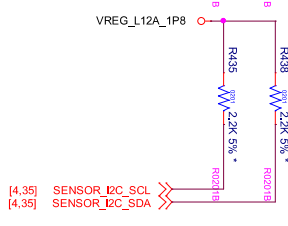
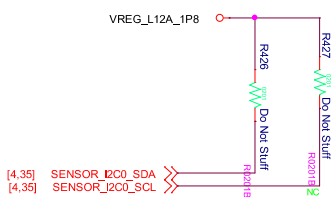
Camera I2C2



APPS I2C



SENSOR I3C0



HW ID

Circuit / Component Definition

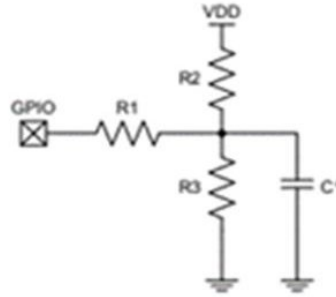
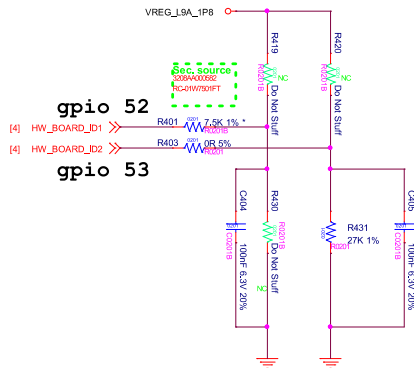
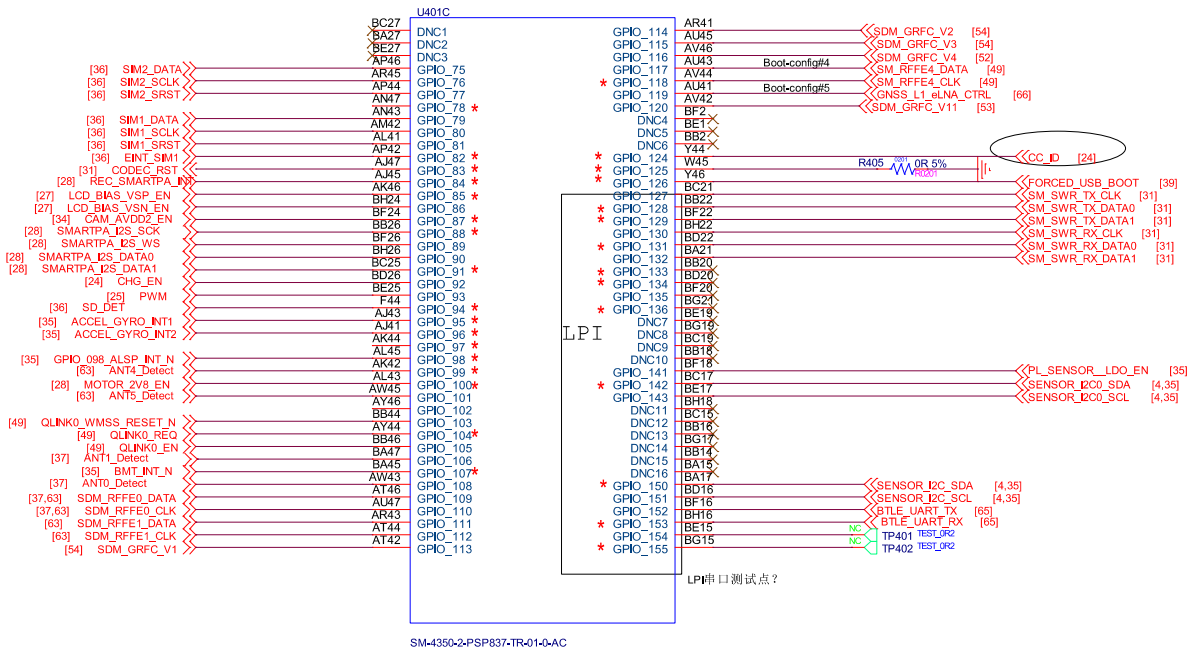


Figure 1. Circuit topology

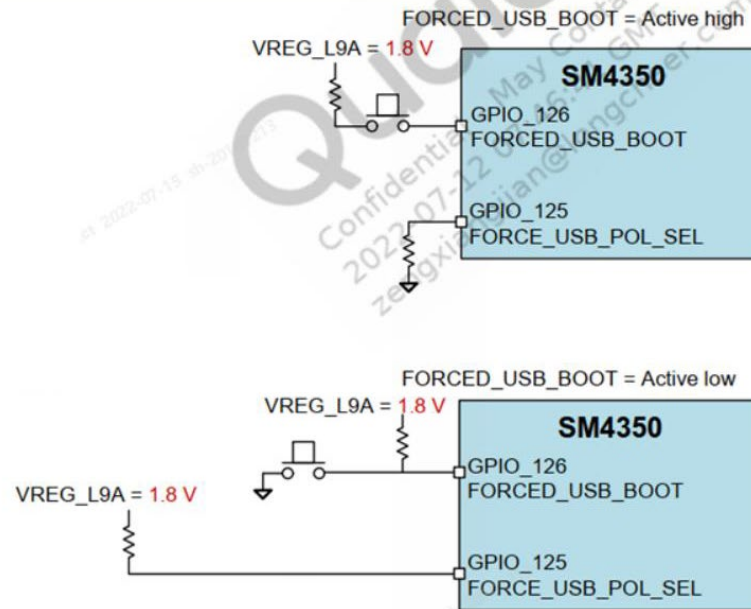
HW ID 1 GPI052	HW ID 2 GPI03	Model No.	HW revision	radio	RF SKU	PCB revision	Notes	HW ID 1 (GPIO 62)				HW ID 2 (GPIO 63)			
								R1127 (R1)	R1127 (R2)	R1128 (R3)	C1130 (C1)	R1132 (R1)	R1128 (R2)	R1330 (R3)	C1131 (C1)
A	B	EVb (A100)	1	NA	NA	EVb	7.5k -	DNP	DNP	0.1uF -	DNP	DNP	DNP		
A	B	Pro EVT	1	NA	NA	Pro EVT软件无法配置	7.5k -	DNP	DNP	0.1uF -	0ohm -	DNP	DNP		
C	C	EV1T (A200)	1	NA	NA	EV1T	7.5k -	DNP	DNP	0.1uF -	0ohm -	10k -	DNP		
E	E	EV2T (A300)	NA	NA	NA	EV2T	7.5k -	DNP	DNP	0.1uF -	0ohm -	0.1uF -	DNP		
E	E	DV1T (B100)	1	NA	NA	DV1T	7.5k -	DNP	DNP	0.1uF -	0ohm -	DNP	18k - 0.1uF -		
F	F	DV2T (B200)	1	NA	NA	DV2T	7.5k -	DNP	DNP	0.1uF -	0ohm -	DNP	75k - 0.1uF -		
G	G	PVT (C000)	1	NA	NA	PVT	7.5k -	DNP	DNP	0.1uF -	0ohm -	DNP	27k - 0.1uF -		

No external pull-ups on the GPIOs (GPIO_117, GPIO_119, GPIO_120, GPIO_103,GPIO_106, GPIO_113, GPIO_51, GPIO_50)



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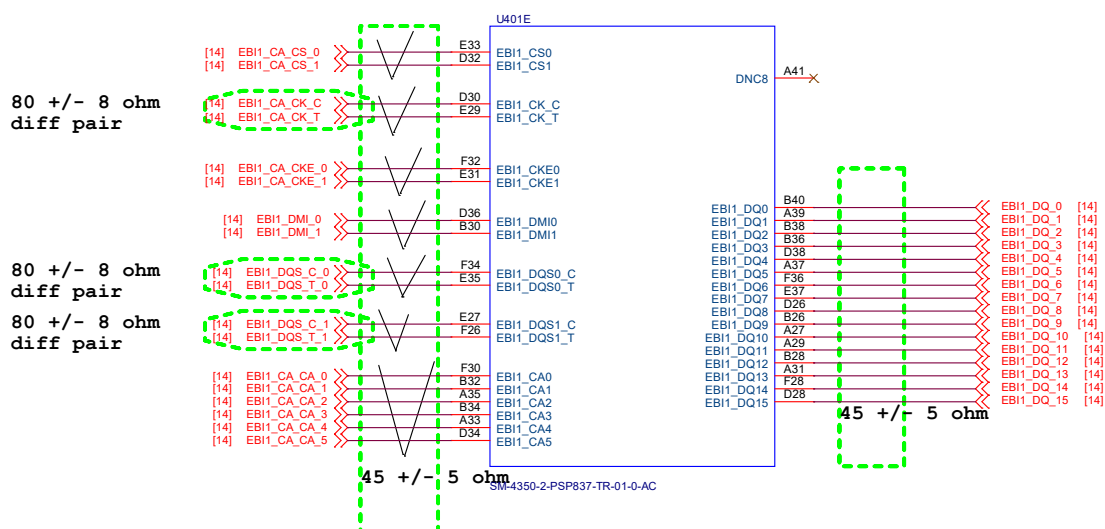
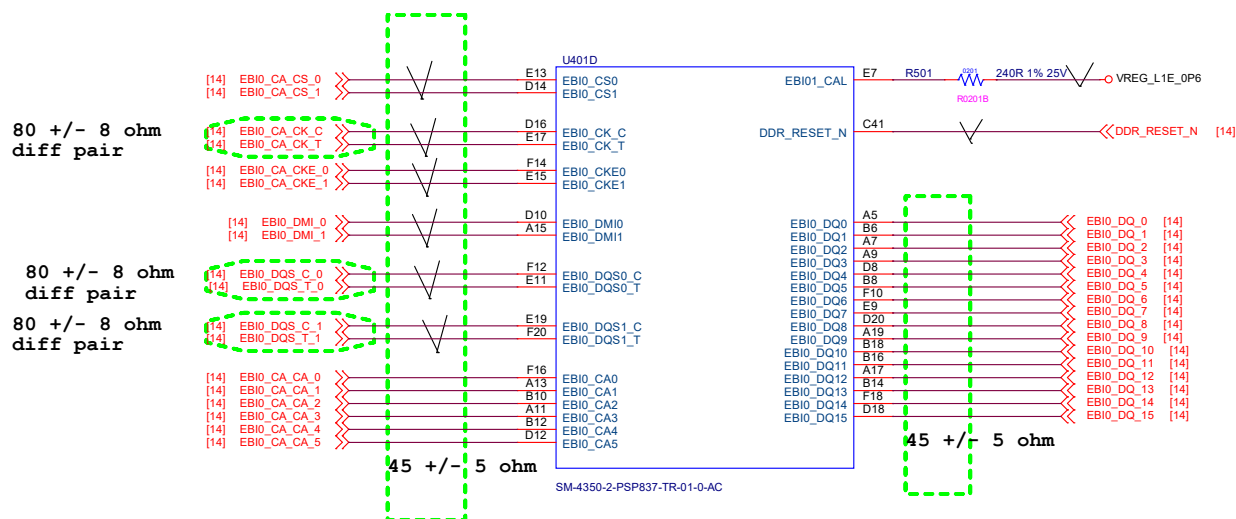
Level 3 – Service Manual



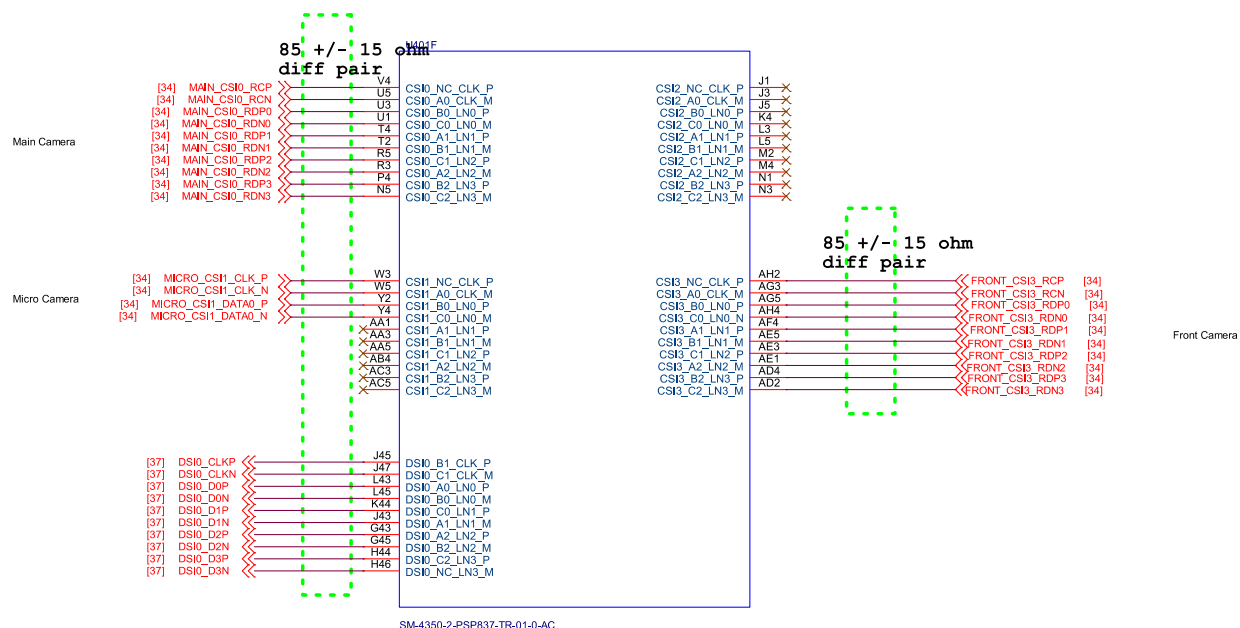
	SPK_PA	CC logic	G+Gyro	FG_VBAT	SAR	E_COMPASS	LCD BIAS	L sensor	CHG	
APPS_I2C (GPIO_4&GPIO_5)	0X34 0X35 400Khz	0X40 400K								
APPS2_I2C (GPIO_27&GPIO_28)							0X55 100K/400K		0X36 400K	
FUGE_I2C (GPIO_19&GPIO_20)				0X1A 400K						
SENSOR_I2C0 (GPIO_142&GPIO_143)			0X68 400K							
SENSOR_I2C (GPIO_150&GPIO_151)						0X3E 400K		0X20 400K		

	F CAM	Main CAM	Macro CAM	Depth CAM	FLASH LED
Camera I2C0 (GPIO_39&GPIO_40)		0X40 100K/400K			0X63 400K
Camera I2C1 (GPIO_41&GPIO_42)			0X34 100K/400K		
Camera I2C2 (GPIO_43&GPIO_44)	0X40 100K/400K			0X63 400K	

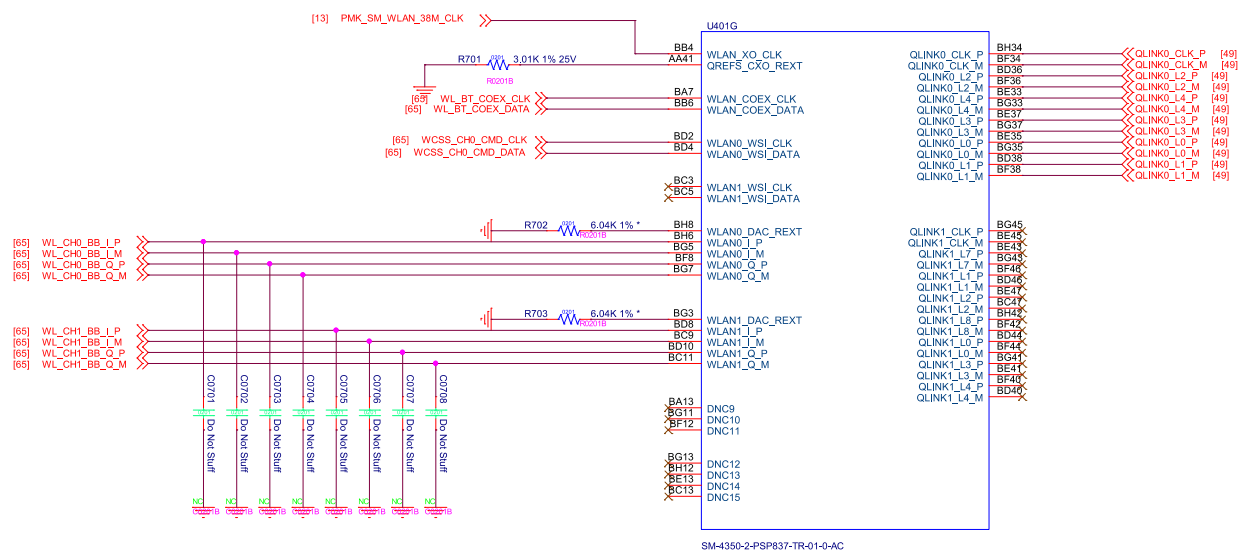
SM4350_AC LPDDR4X

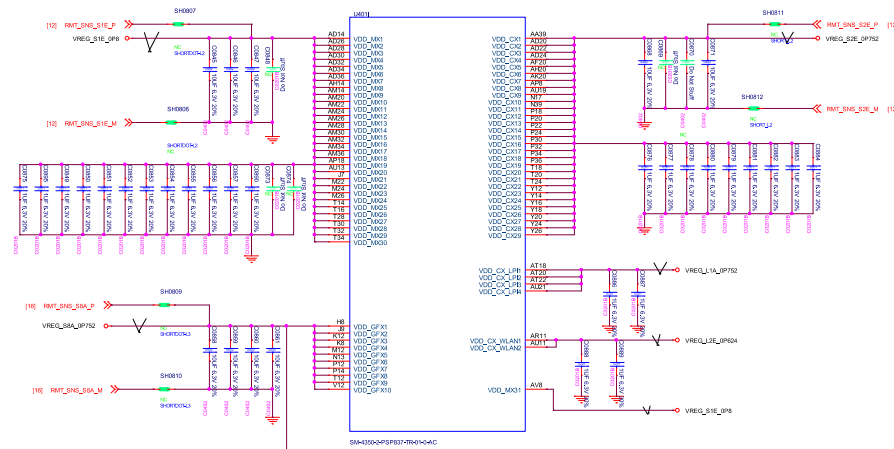
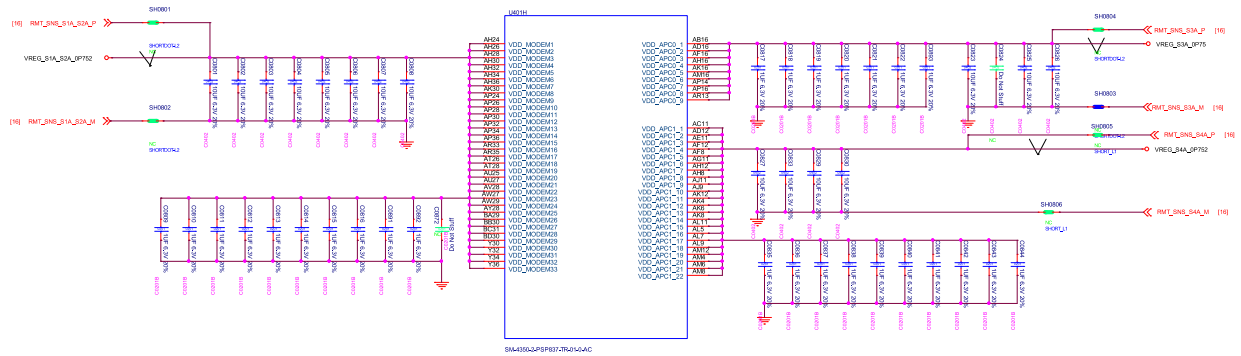


SM4350_AC CSI/DSI

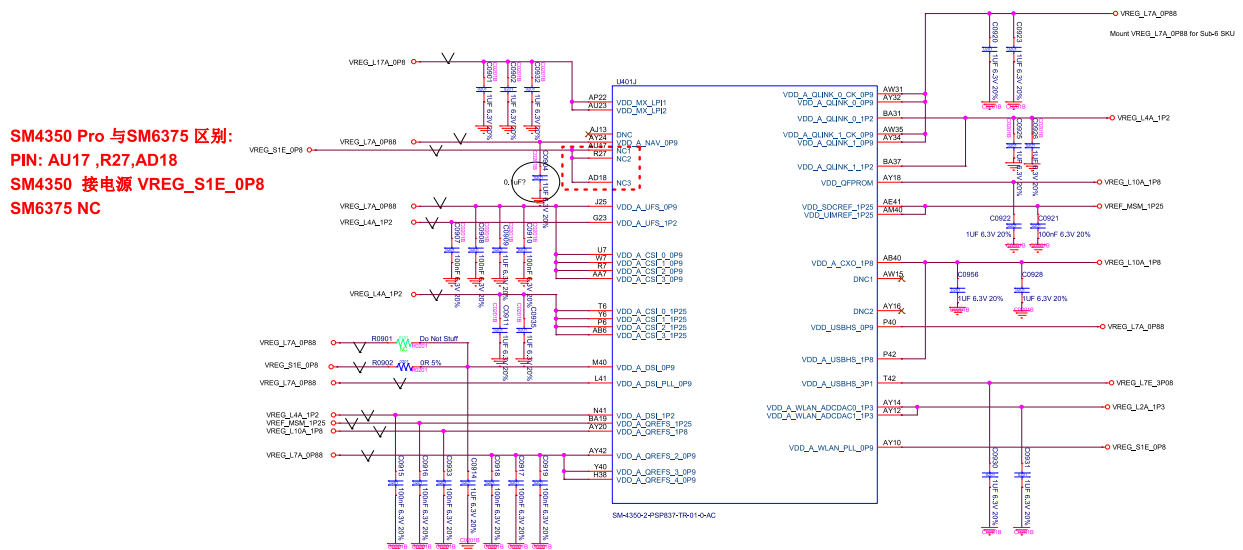


SM4350_AC WCSS/RF



SM4350_AC PWR_1

SM4350_AC_PWR_2

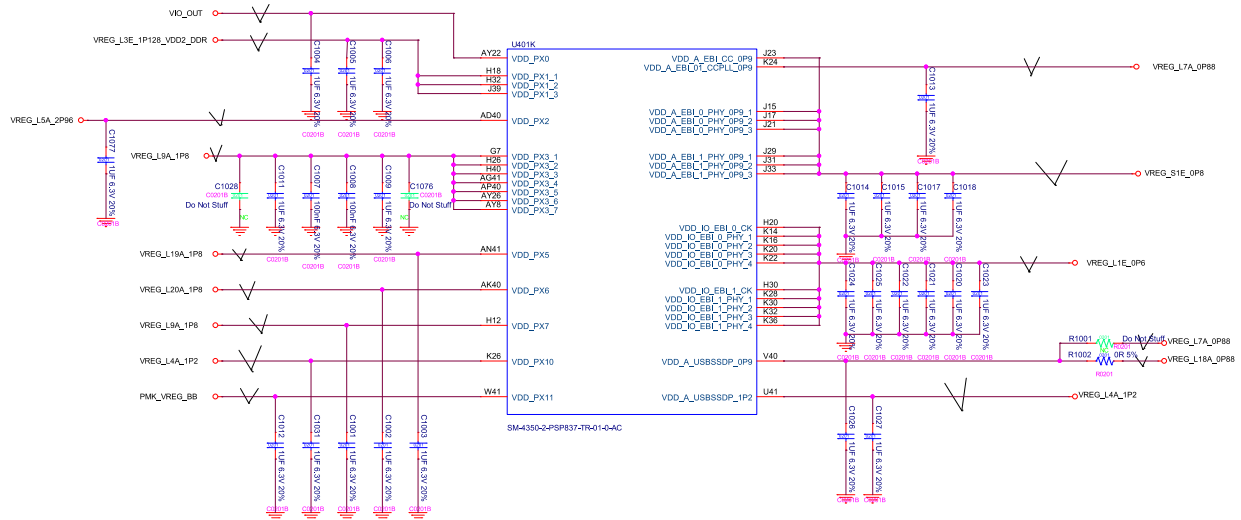


Note:

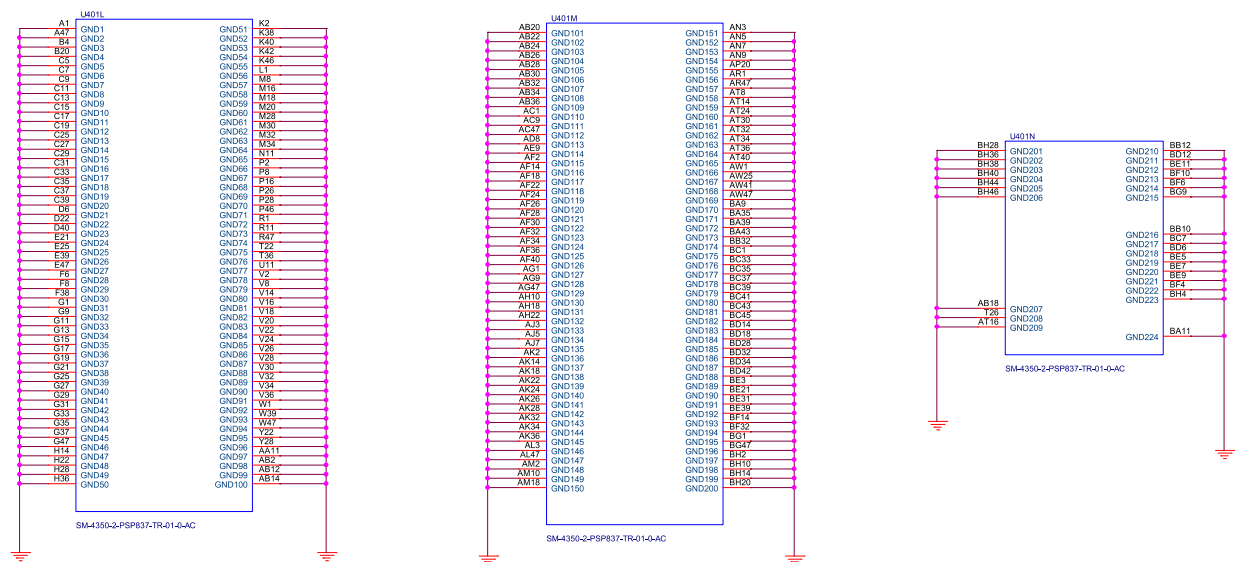
From a PDN standpoint for VDD_A_EBI and VDD_IO_EBI, following is recommended to be done in the Layout.

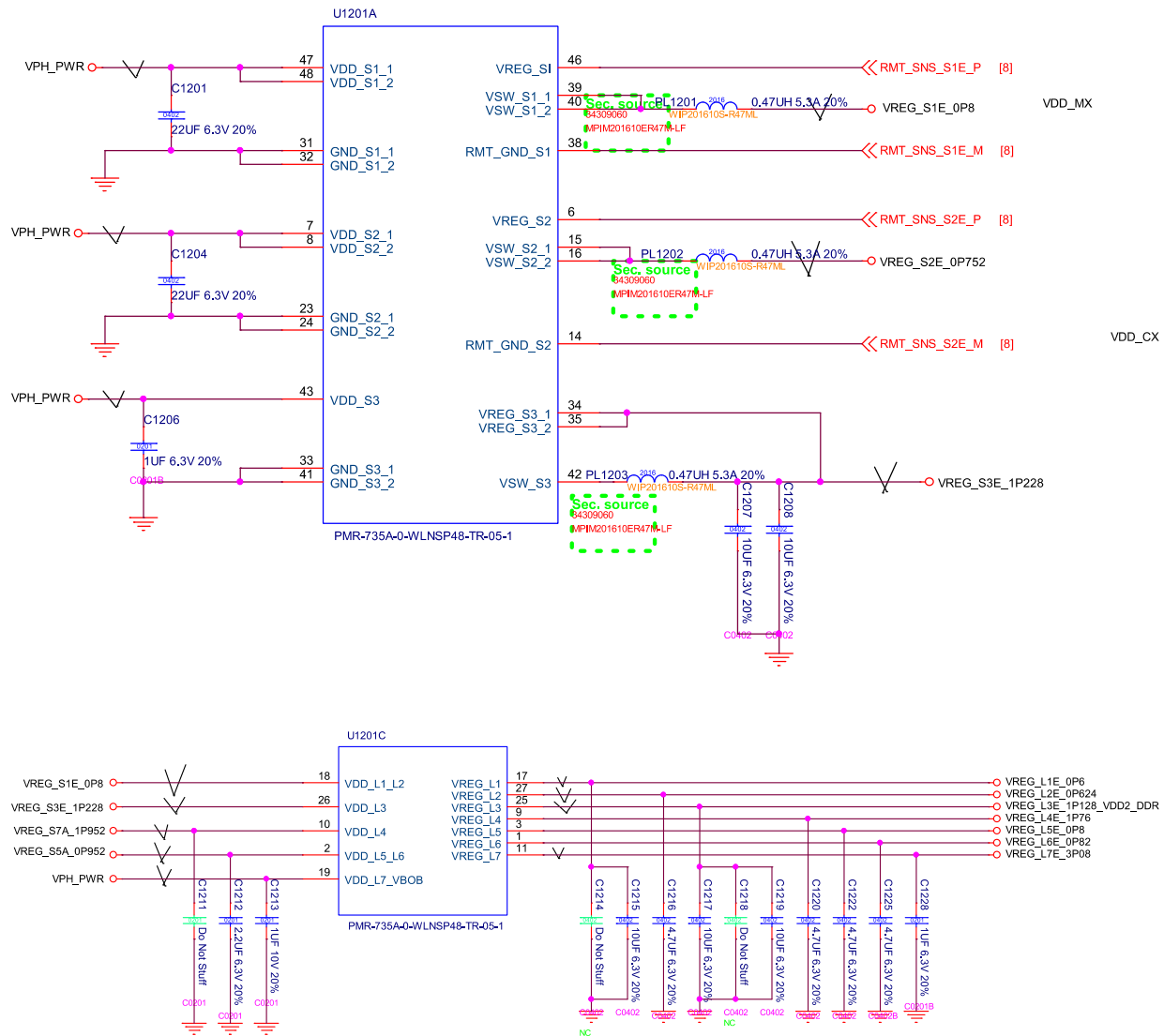
1. Place the capacitors C231,C230,C233,C232,C270,C269 connected to VREG_S1E_0P8 close to SM6375 Pins J21, J17, J15, J33, J31, J29.
2. Place the capacitors C255,C254,C267,C265,C275,C272 connected to VREG_L1E_0P6 close to SM6375 pins K22, K20, K16, K14, H20, K36, K32, K30, K28, H30.
3. Ensure VDD_A_EBI pins are shorted together in any of the PCB layer L1-L4.
4. Ensure VDD_IO_EBI pins are shorted together in any of the PCB layer L1-L4.

SM4350_AC_PWR_3

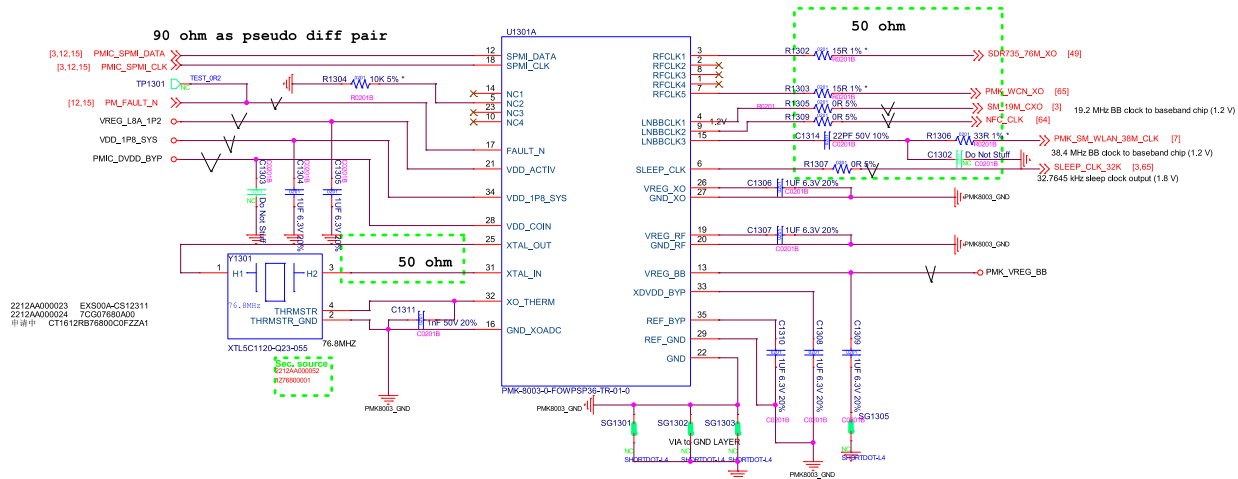


SM4350_AC GROUND





PMK8003_CLK



SM6375/SM4350-AC schematic changes required to have a common PCB

- In SM4350-AC schematics, mark pins listed in [SM6375 and SM4350 Pin differences](#) as NC for SM6375-based design.
- PMK8003 VDD_1P8_SYS (pin 34) connection.
 - On SM6375 platform connect to PM6375 VIO_OUT.
 - On SM4350-AC platform connect to 1.8 V supply from external LDO (eLDO).

BOM changes required for SM4350-AC:

- If accurate RTC and RTC alarm-based power-on features are required, dedicated 1.8 V eLDO for PMK8003 VDD_1P8_SYS (pin 34) must be provisioned on SM4350-AC design.

eLDO for PMK8003 VDD_1P8_SYS	RTC accuracy	RTC alarm PON interrupt
No	500 ppm	No
Yes	50 ppm	Yes

PM6375 OPT hardware controls

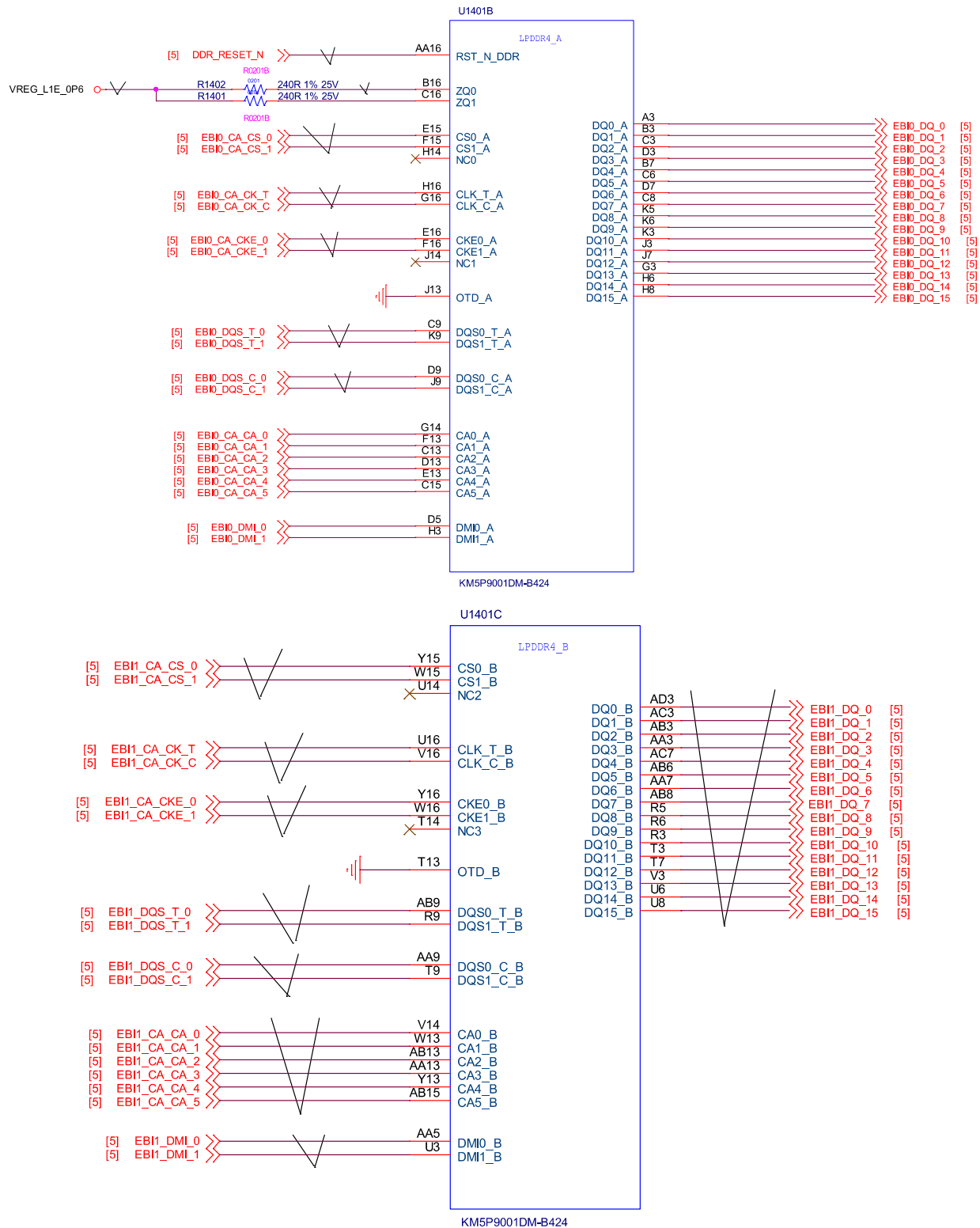
Pin number	Pin name	SM6375 platform option pin resistor value	SM4350-AC PRO platform option pin resistor value
124	Option	130 K 1% tolerance	47 K 1% tolerance

- See the *PM6225/PM6375 Power Management IC Data Sheet* (80-27912-1), section 3.9 OPT hardware controls for supported option pin resistor for different configuration.

Note: See the *SM4350 + PM6375 + PM7250B + PMK8003 + SMR526 Reference Schematic* (80-PU654-42) for more information.

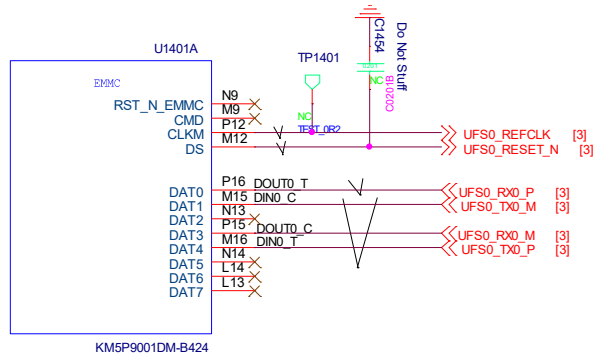


MEMORY_UMCP

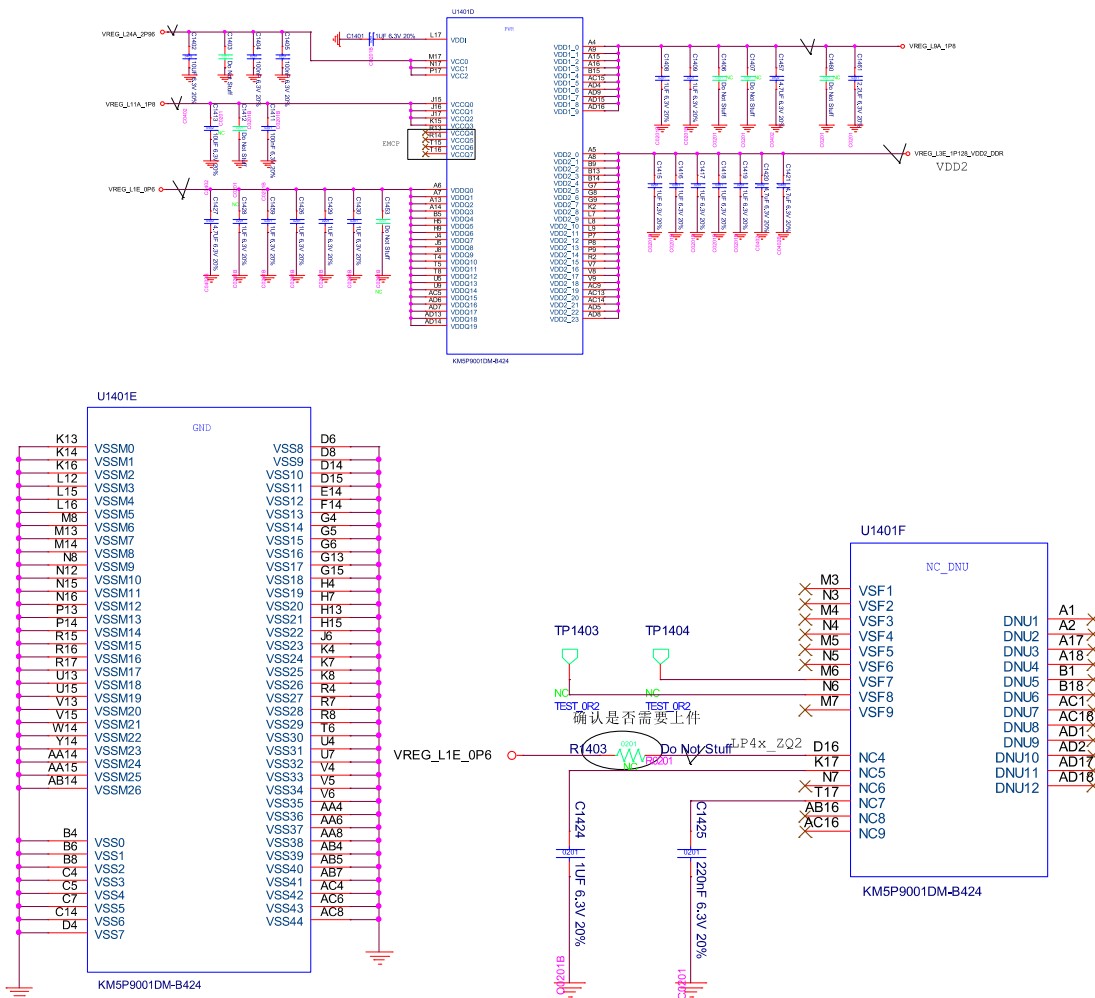


Moto g 5G

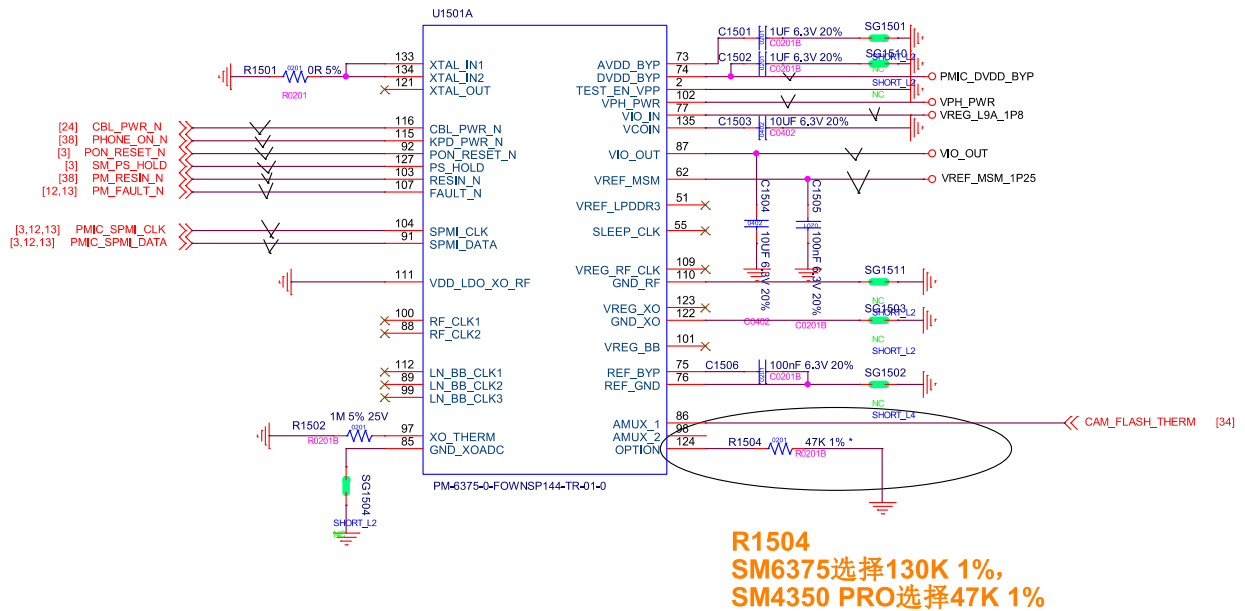
Level 3 – Service Manual



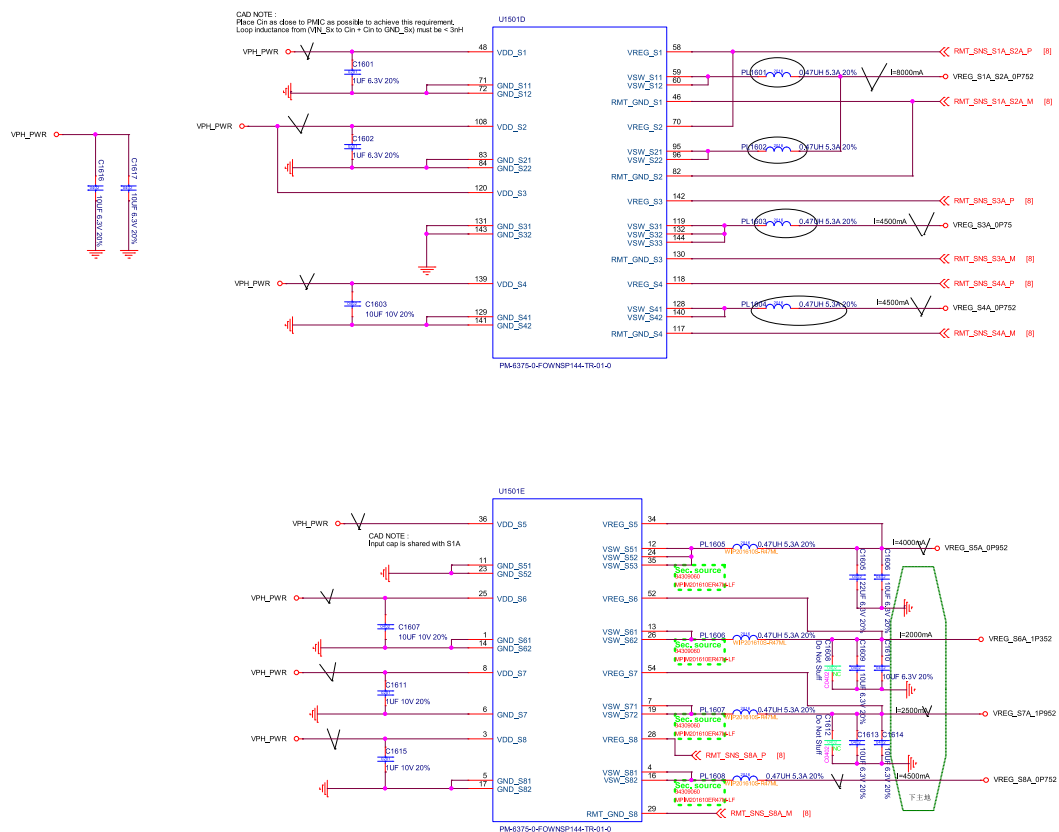
4G+64G	KM5P9001DM-B424	1415AA000079	1415AL000040	1st.
	MT29VZZAD81SFSL-046 W.22C	Applying	1412AL000151	2nd.
	H9QG9G5AN6X154	1415AA000082	1415AL000042	3th.
4G+128G	KM5L9001DM-B424	1415AA000080	1415AL000041	1st.
	MT29VZZCD91SFSM-046 W.18C	1415AA000081	1415AL000046	2nd.



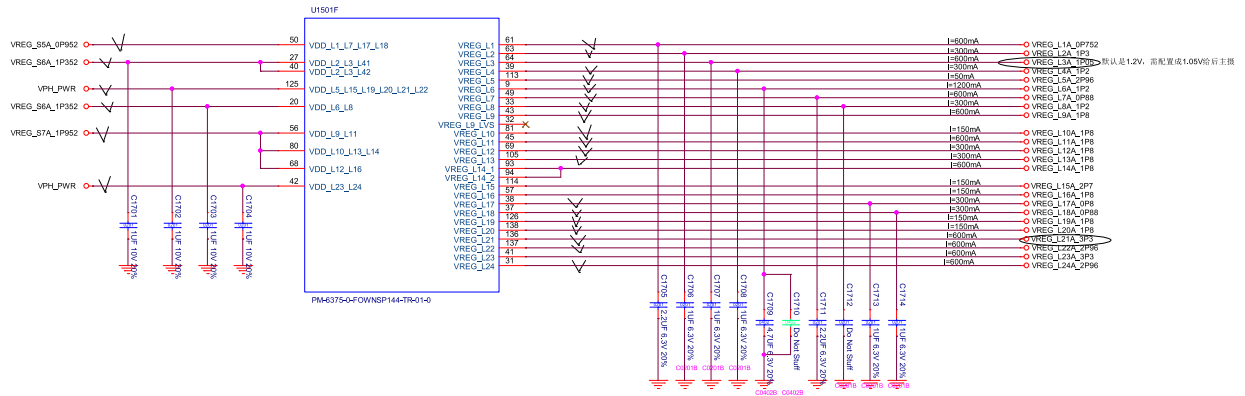
PM6375_CONTROL



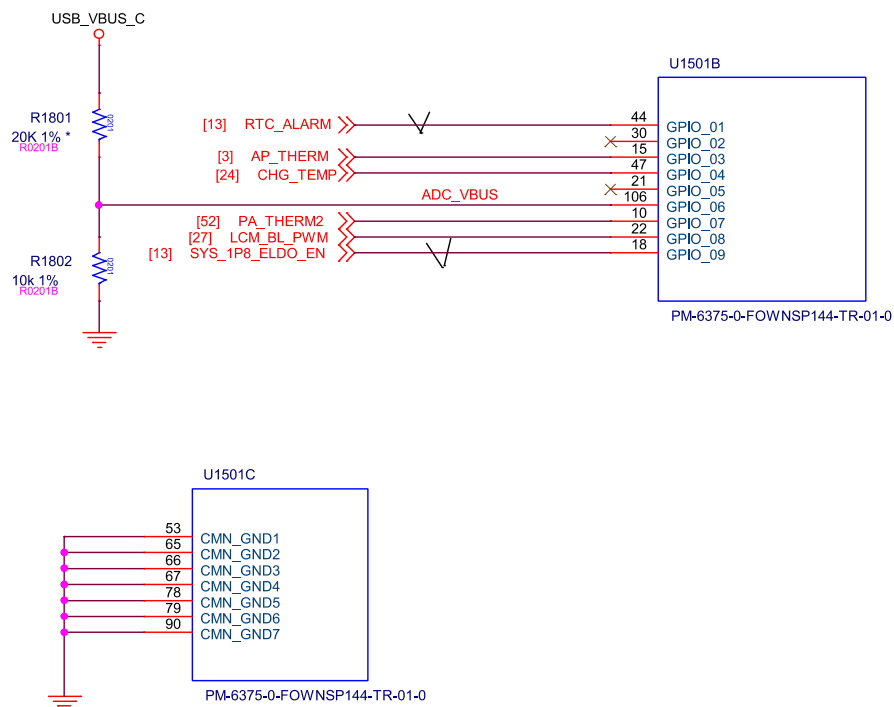
PM6375_BUCKS



PM6375_LDOS



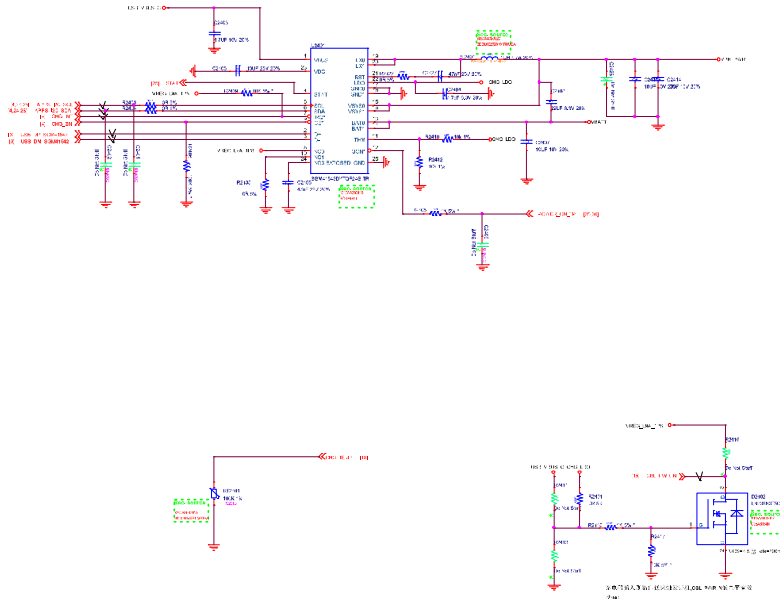
PM6375_GPIO_S_GND



Charger

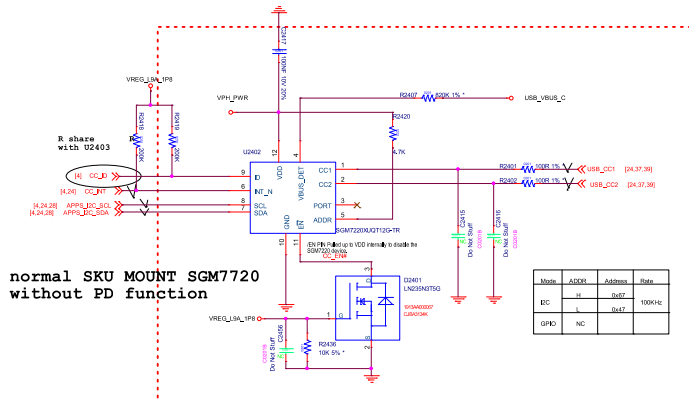
15W Charger

U2401				
Part	Manufacturer	Part Number	IC Address	Rate
1st	SGMT7220XUGT12G/TS	SGM	0x57	Normal
2nd	TBD	TBD	TBD	
3rd	TBD	TBD	TBD	

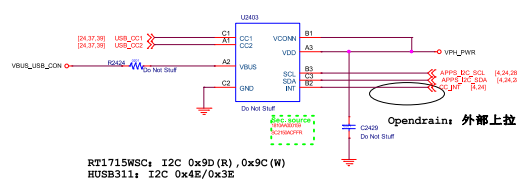


CC logic

U2402				
Part	Manufacturer	Part Number	IC Address	Rate
1st	SGMT7220XUGT12G/TS	SGM	0x57	Normal
2nd	TBD	TBD	TBD	
3rd	TBD	TBD	TBD	

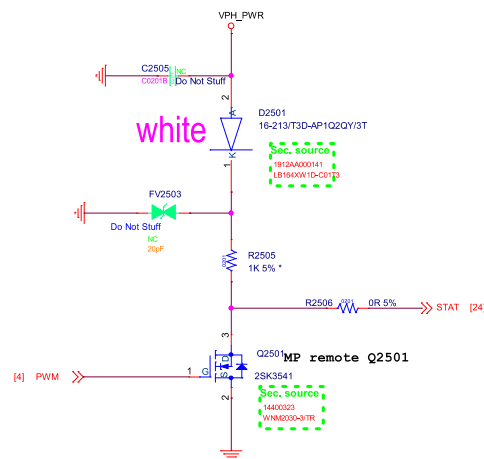
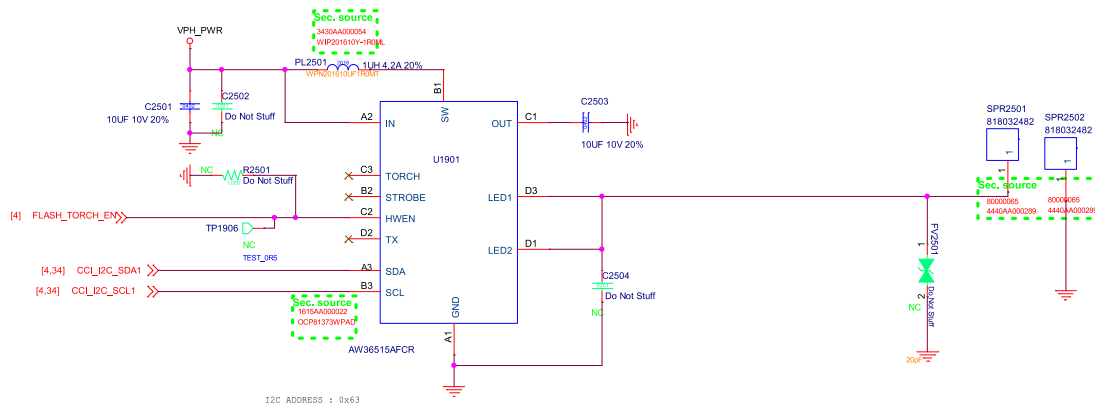


Pin	Signal	Address	Rate
CC1	CC1	0x57	100KHz
CC2	CC2	0x57	100KHz
CC3	CC3	0x57	100KHz



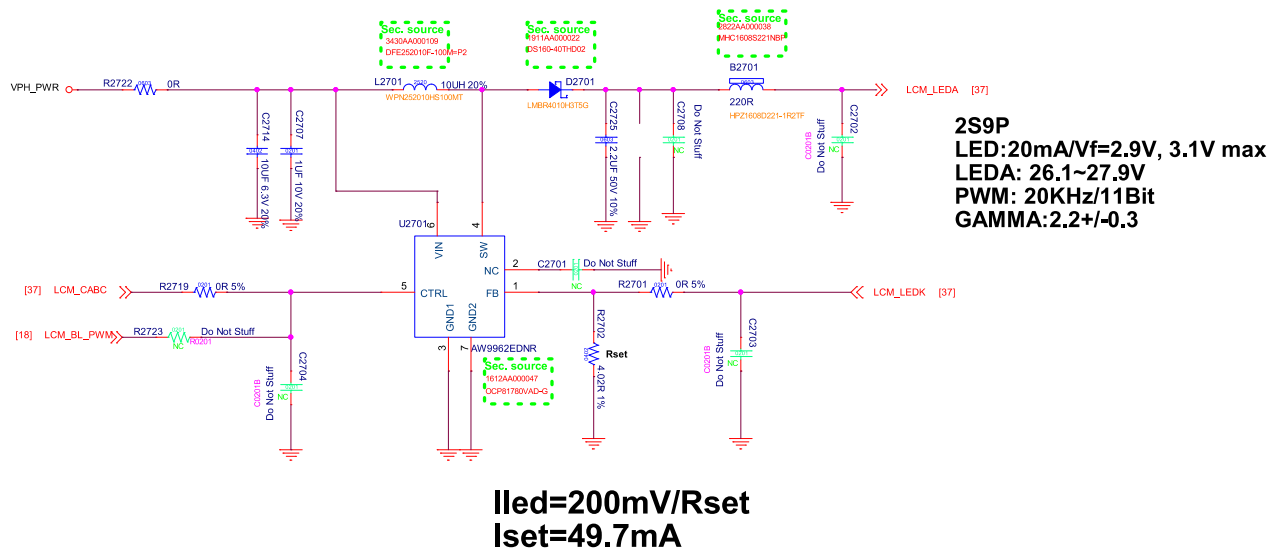
VZM SKU MOUNT RT1715
with PD function

Flash LED Driver & LED

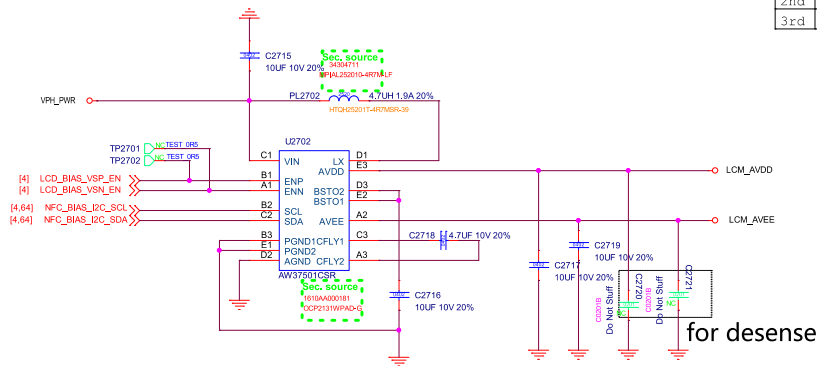


Charger indicator

LCM Backlight Driver



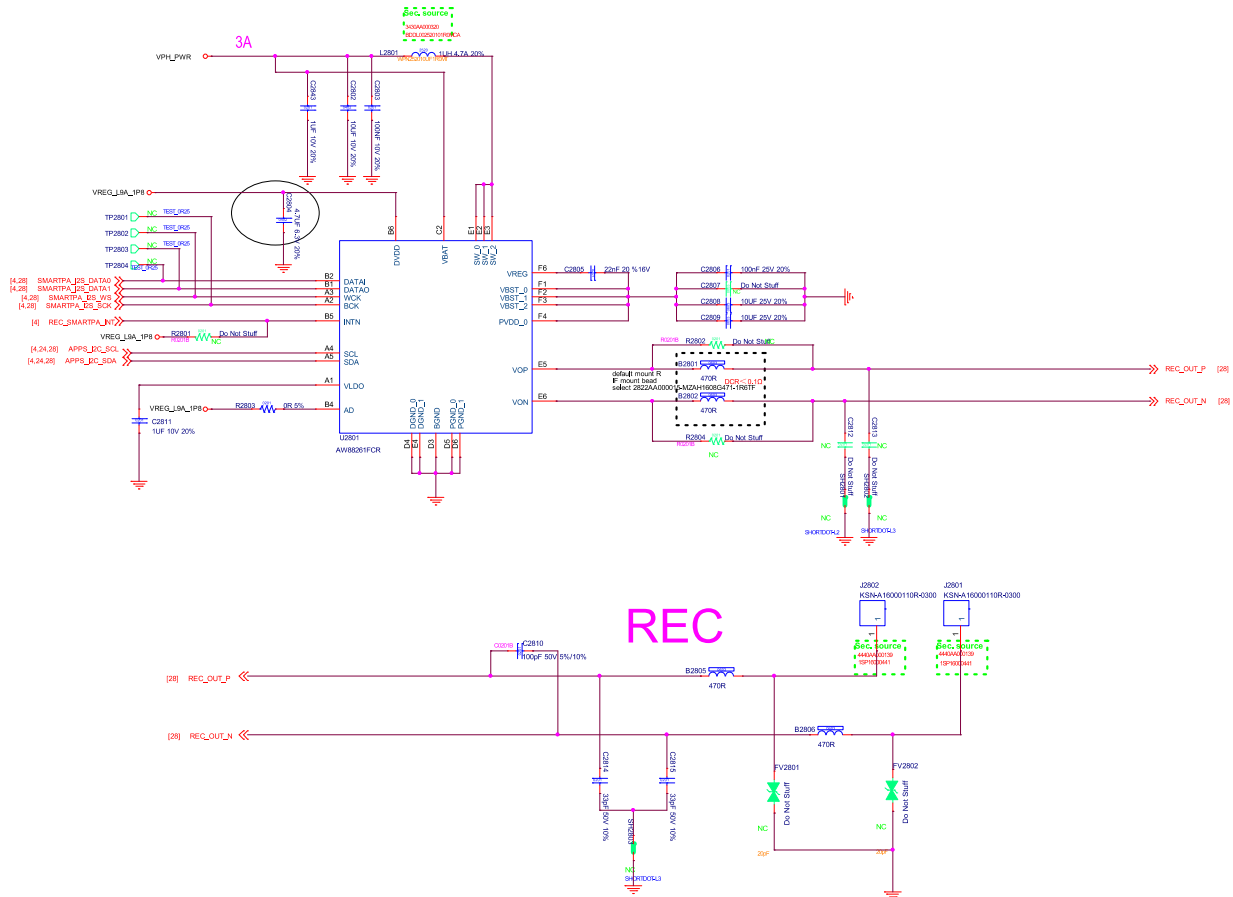
LCM BIAS



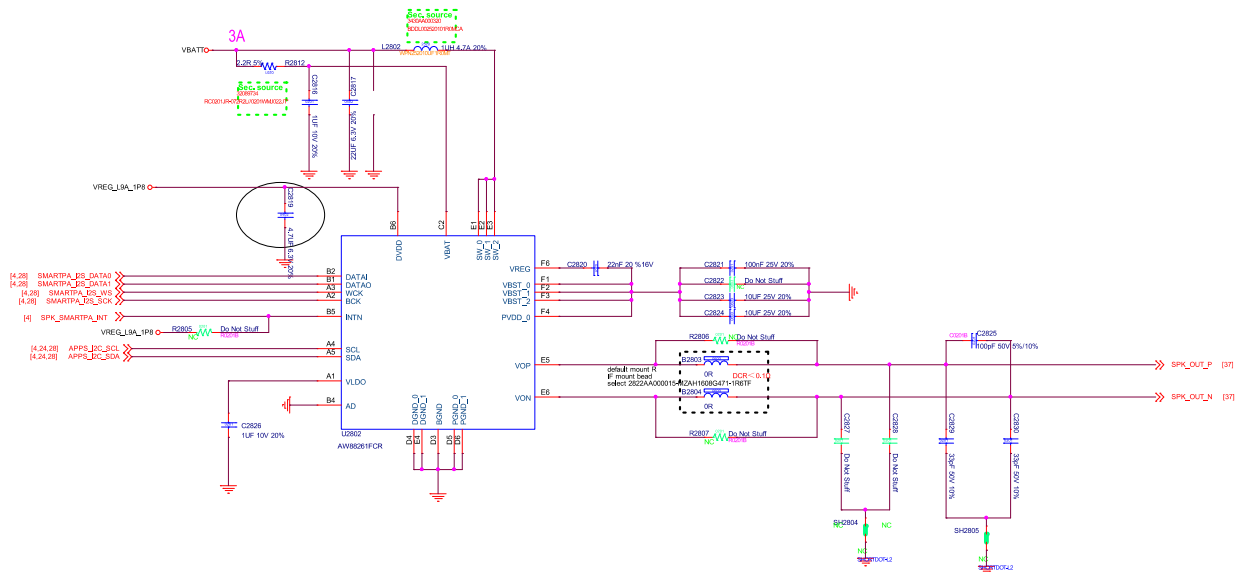
U2702				
	Manufacture 1 P/N	Manufacture	I2C ADDRESS	Rate
1st	OCF2131WPAD-G	OCS	0x3E	400KHz
2nd	TBD	TBD	TBD	
3rd	TBD	TBD	TBD	

I2C Address 0X3E

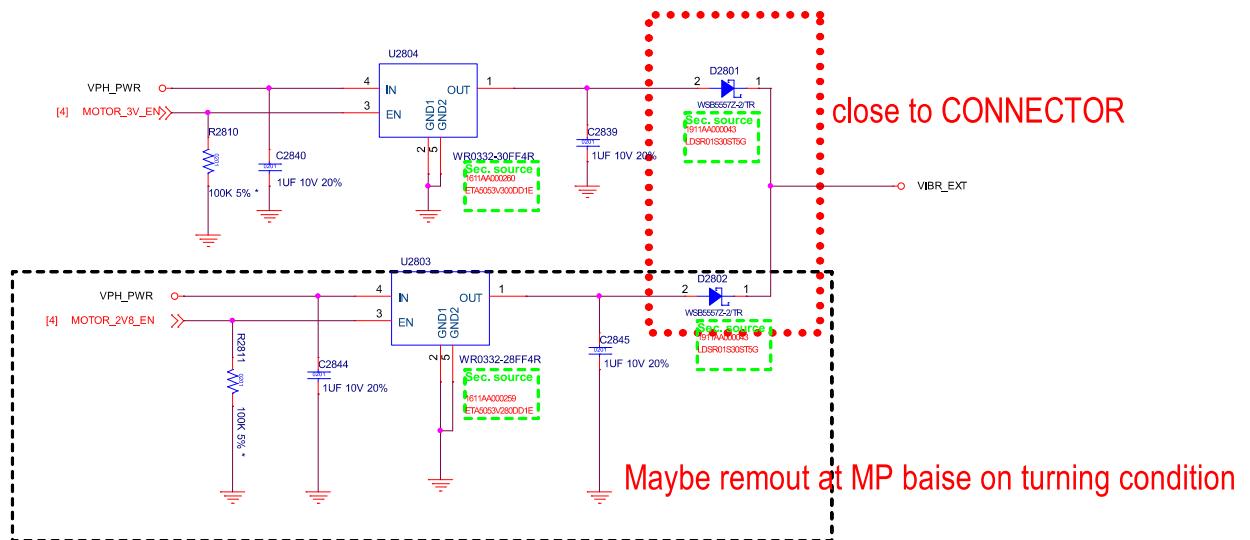
Audio_PA_REC & Vibrator PA FOR REC



PA FOR SPK

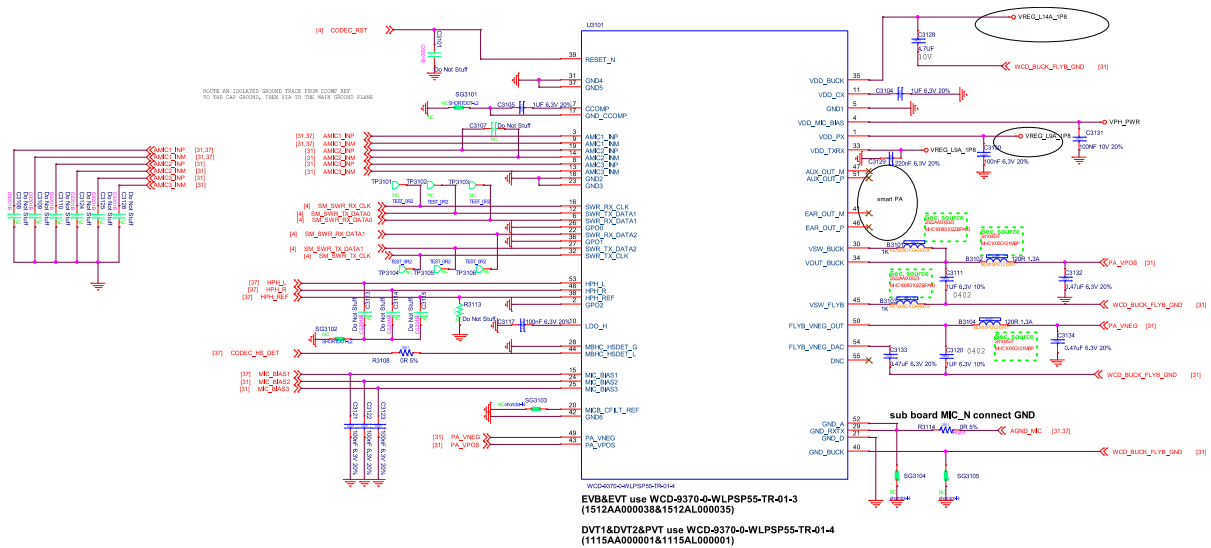


PA FOR VIBRATOR



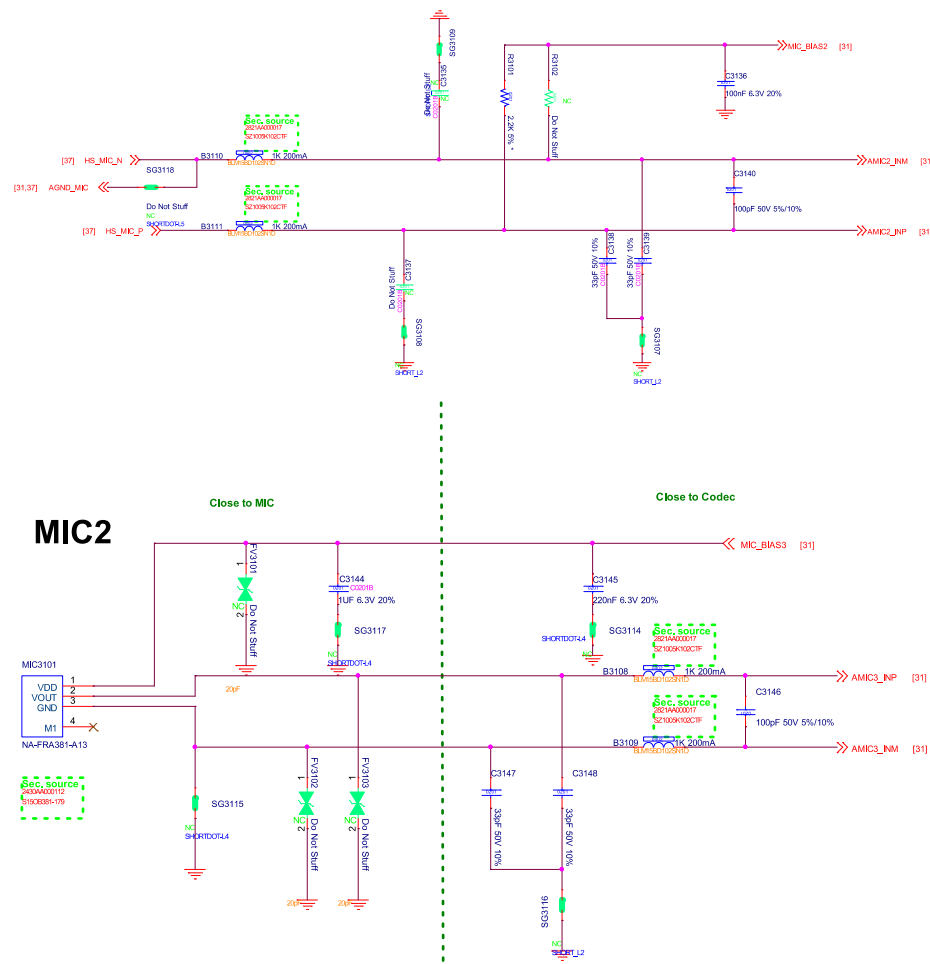
VIBRATOR

CODEC_WCD9370



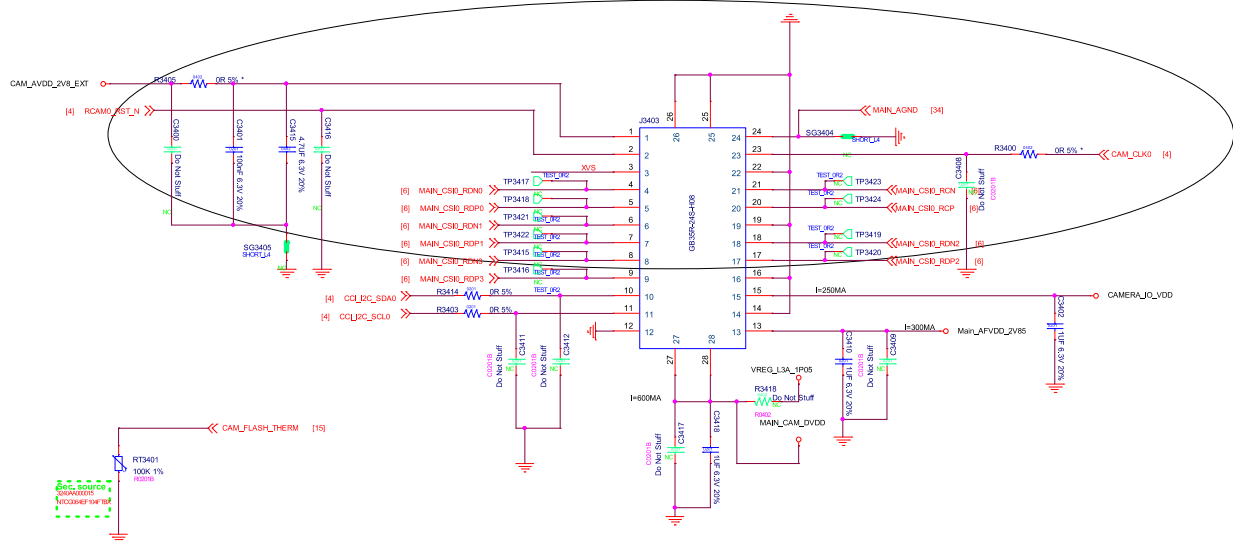
靠近BTB

靠近CODEC

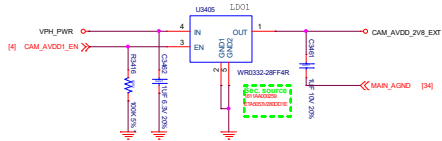


CAMERA

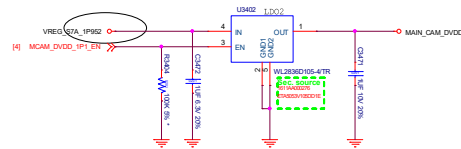
Rear Camera 16M/50M



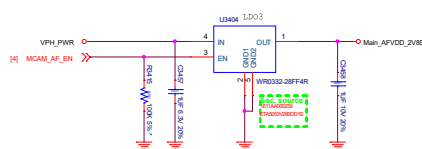
后摄 LDO AVDD 2.8V



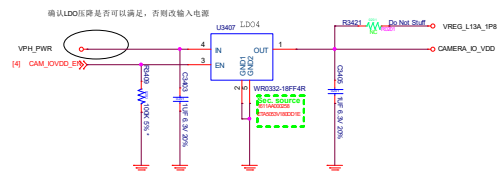
后摄 LDO DVDD 1.1V



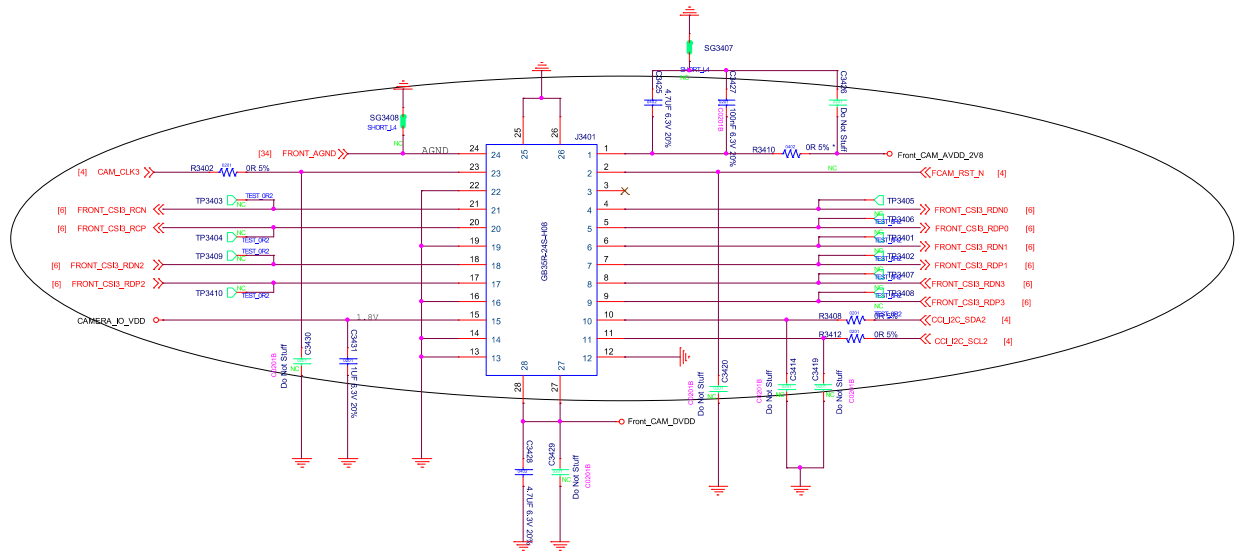
后摄 LDO AFVDD 2.8V



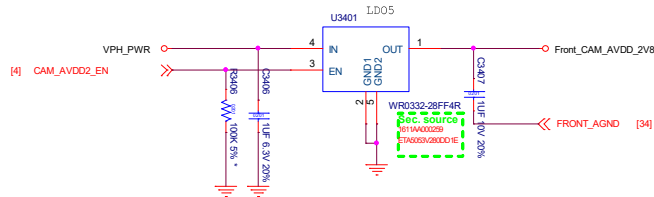
LDO CAM IOVDD 1.8V



Front Camera

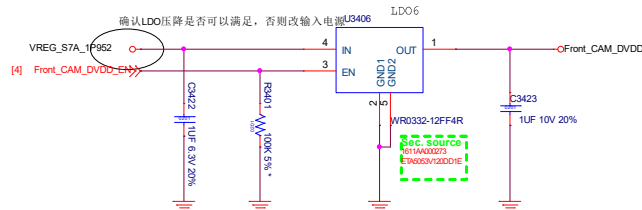


前摄&Macro LDO AVDD 2.8V



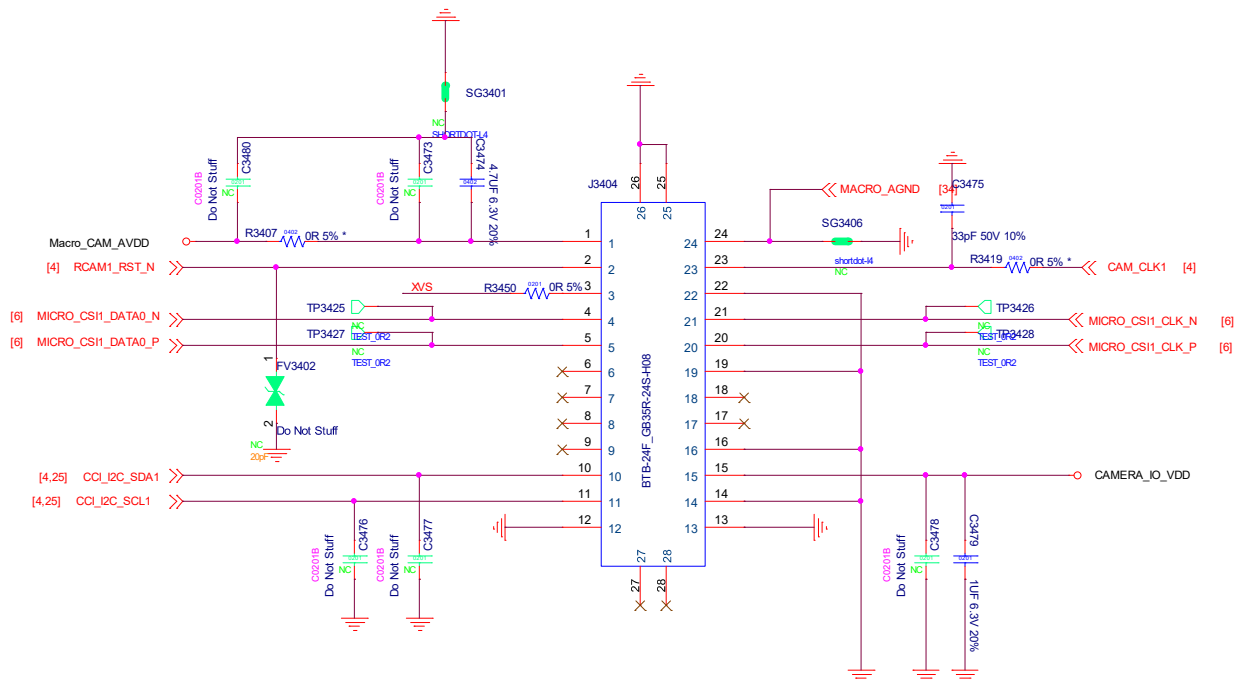
电源	后主摄	后副摄	前摄
AVDD(2.8V)	LDO1	LDO5 LDO7预留	LDO5
DVDD(1.1)	VREG_L13A_1P05 LDO2预留		
DVDD(1.2)			LDO6
AFVDD(2.8V)	LDO3		
DOVDD(1.8V)	VREG_L13A_1P8 LDO4预留	VREG_L13A_1P8 LDO4预留	VREG_L13A_1P8 LDO4预留

前摄 LDO DVDD 1.2V

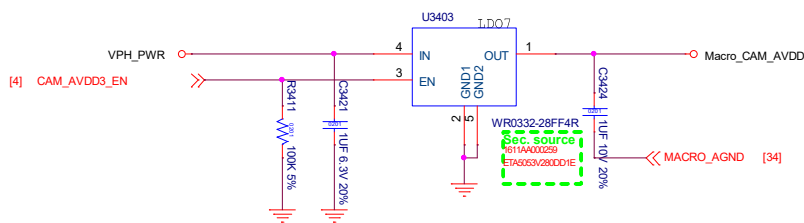


信号	后主摄	后副摄	前摄
IIC	IIC0	IIC1	IIC2
MCLK	MCLK0	MCLK1	MCLK3
MIPI	CIS0	CIS1	CIS3

2M Macro



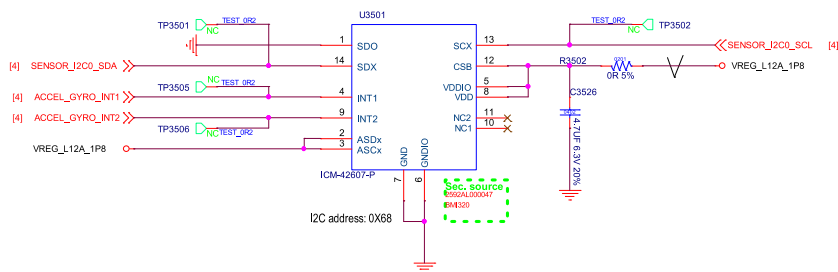
Macro LDO AVDD 2.8V



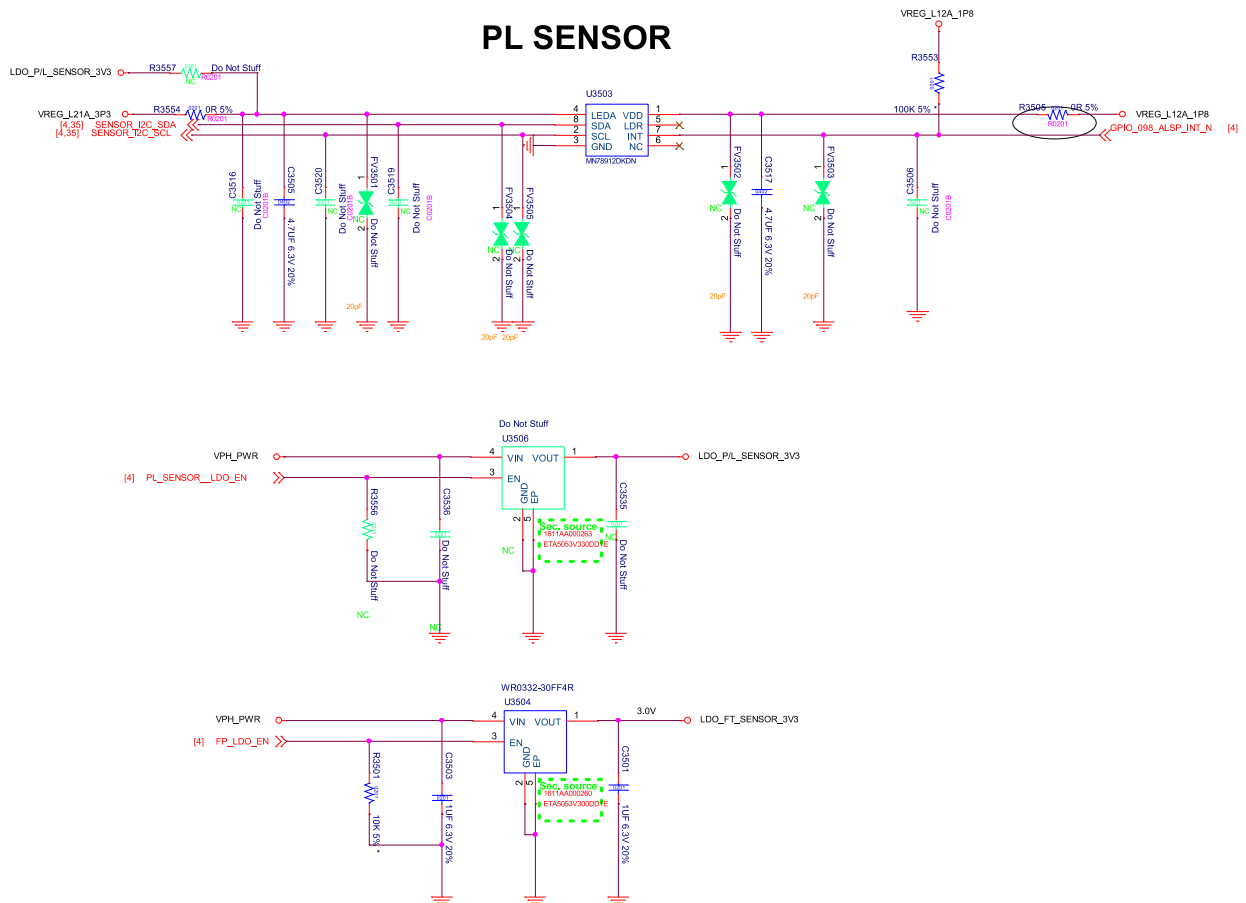
SENSOR

U2501				
	Manufacture 1 P/N	Manufacture	I2C ADDRESS	Rate
1st	ICM-42607-P	TDK	0x68	400KHz
2nd	LSM6DSOETR3	ST	TBD	
3rd	TBD	TBD	TBD	

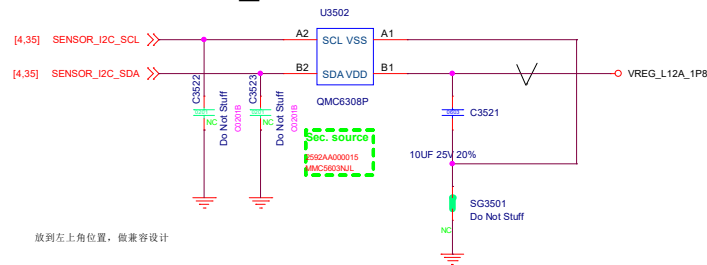
G + Gyro



PL SENSOR

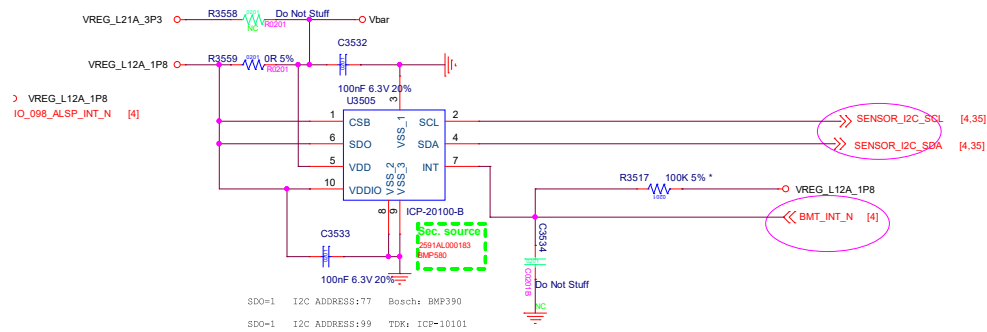


E_COMPASS

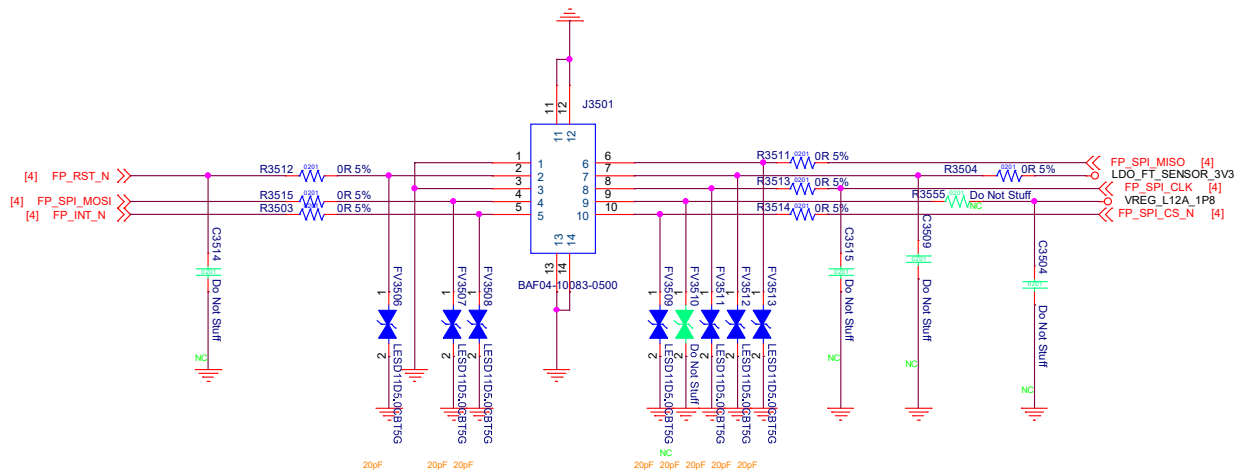


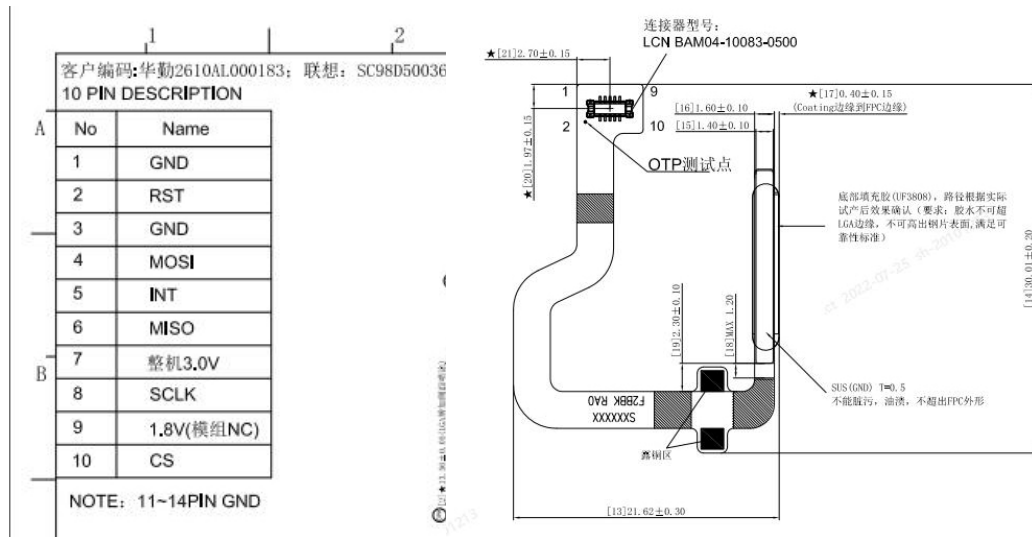
Barometer

BMP380/ ICP10730/BMP390 pin-to-pin

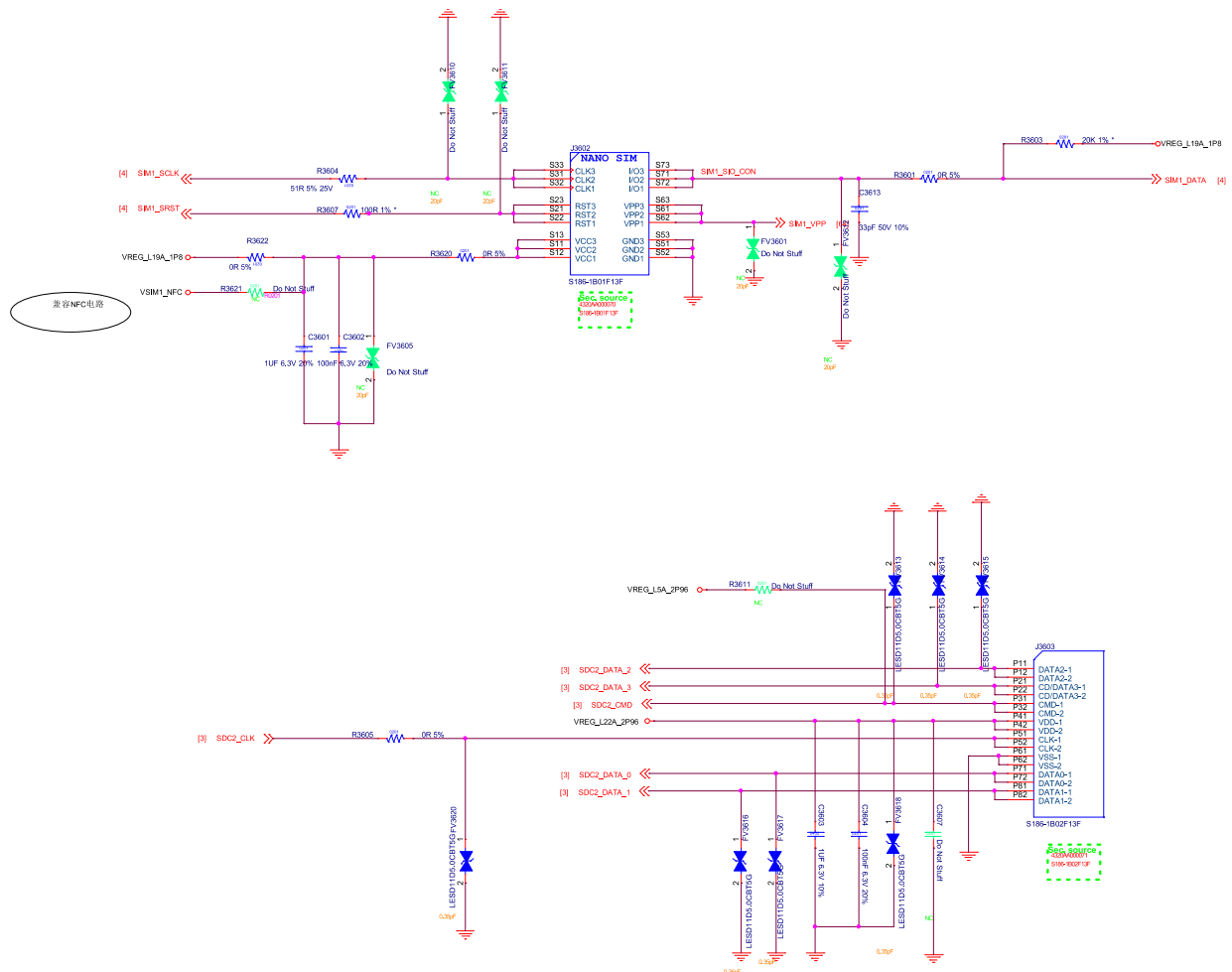


FP





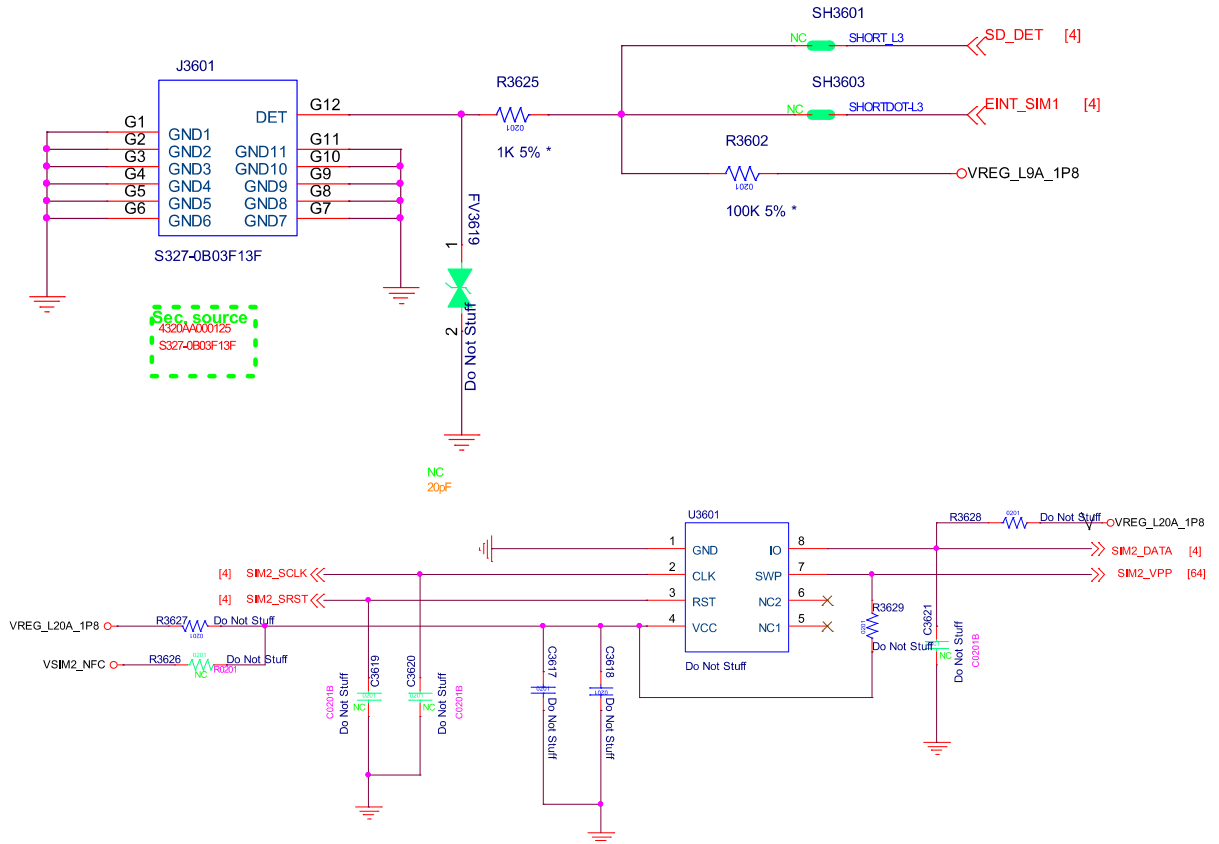
SIM/TF CARD



Moto g 5G

Level 3 – Service Manual

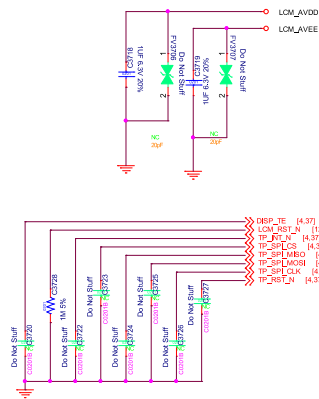
J3601			
	Manufacture 1 P/N	Manufacture	Remake
1st	KCF-A13002003R-0100	昆山惠乐	
2nd	S208-3B20C14F	鸿日达	
3rd	TBD	TBD	



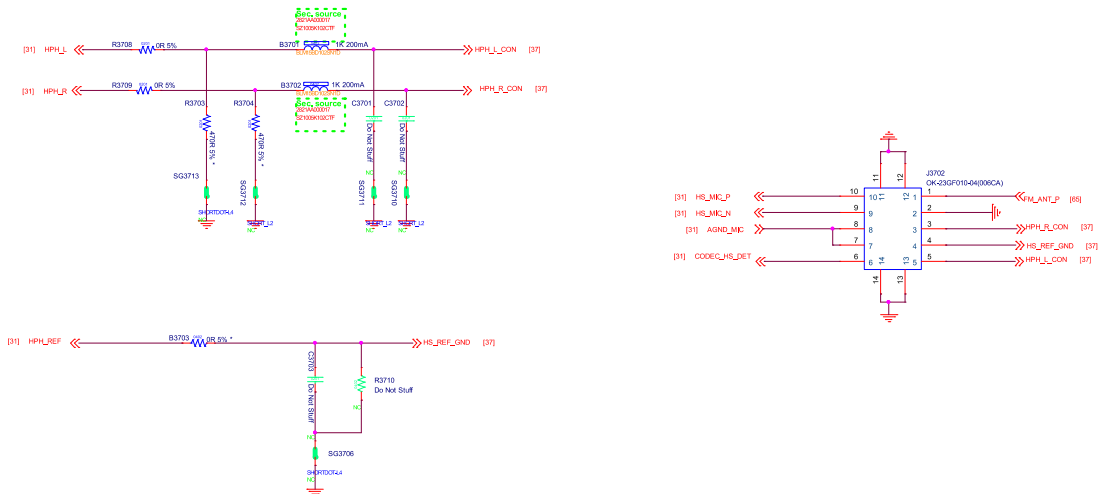
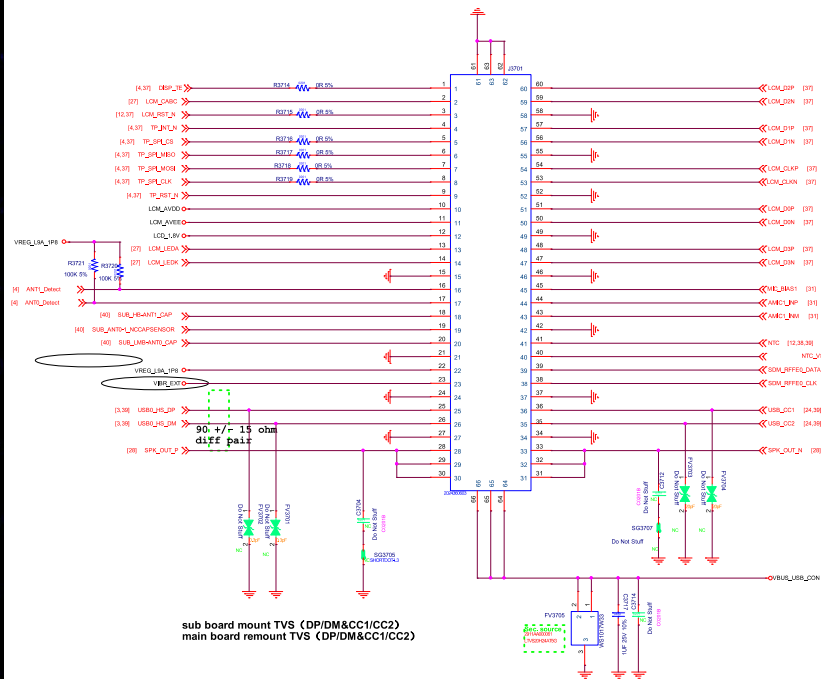
Dish SKU Mount E-SIM

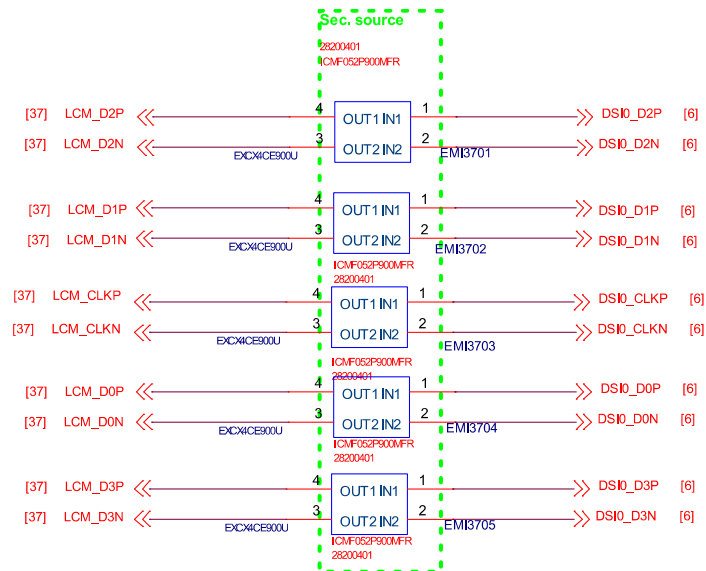
SUB_CONN

Sub Connector

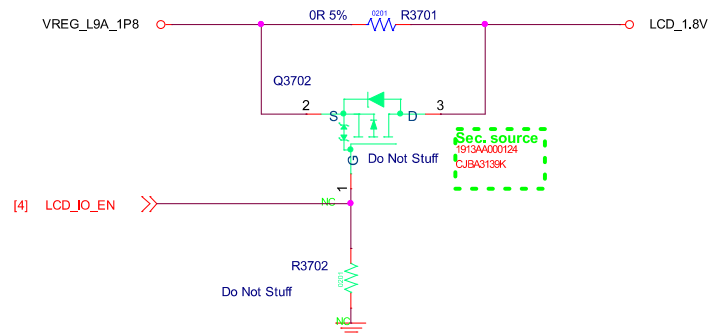
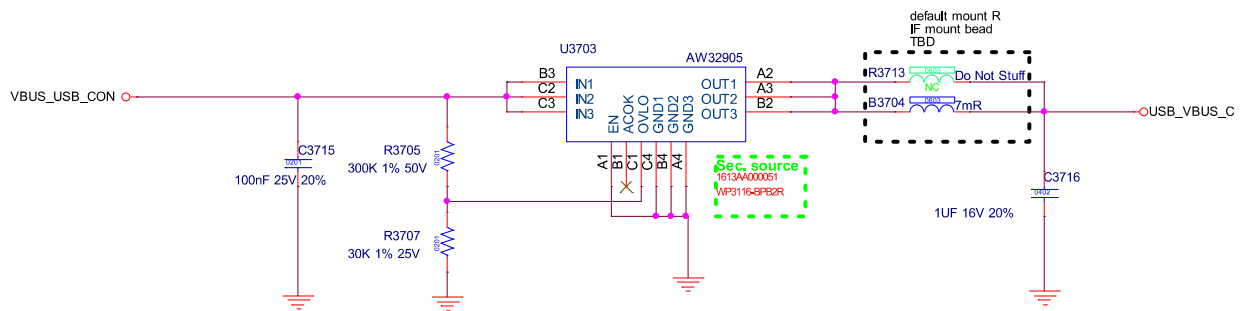


PIN DEFINITION			
No.	PIN NAME	No.	PIN NAME
1	TE	33	SPK_OUT_N
2	LCD_CABC	34	GND
3	LCD_RESET	35	USB_CC2
4	TP_INT	36	USB_CC1
5	SPI_CS	37	GRFC14
6	SPI_MISO	38	GRFC13
7	SPI_MOSI	39	GRFC15
8	SPI_SCLK	40	NTC_GND
9	TP_RESET	41	NTC
10	AVDD	42	GND
11	AVEE	43	AU_VINO_N
12	DISP_VIO18	44	AU_VINO_P
13	LCM_LED_A	45	AU_MICBIAS0
14	LCM_LED_K	46	GND
15	GND	47	DSIO_D3M_LCM
16	ANT_MATCH_H	48	DSIO_D3P_LCM
17	ANT_MATCH_LM	49	GND
18	SAR_MANT_HB	50	DSIO_D0M_LCM
19	SAR_MANT_REF	51	DSIO_D0P_LCM
20	SAR_MANT_MLB	52	GND
21	LTE_VFE28	53	DSIO_CHN_LCM
22	VREG_L9A_1PB	54	DSIO_CKP_LCM
23	VIBR_PMIJ	55	GND
24	GND	56	DSIO_D1M_LCM
25	USB_DP	57	DSIO_D1P_LCM
26	USB_DM	58	GND
27	GND	59	DSIO_D2M_LCM
28	SPK_OUT_P	60	DSIO_D2P_LCM
29	SPK_OUT_P	61	GND
30	SPK_OUT_P	62	GND
31	SPK_OUT_N	63	VBUS
32	SPK_OUT_N	64	VBUS

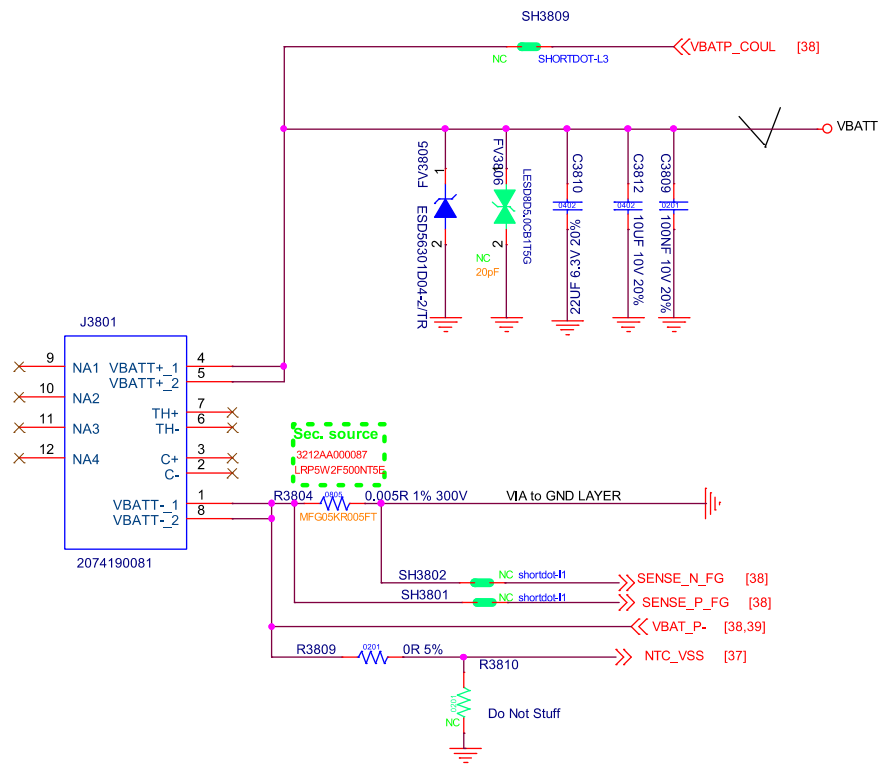




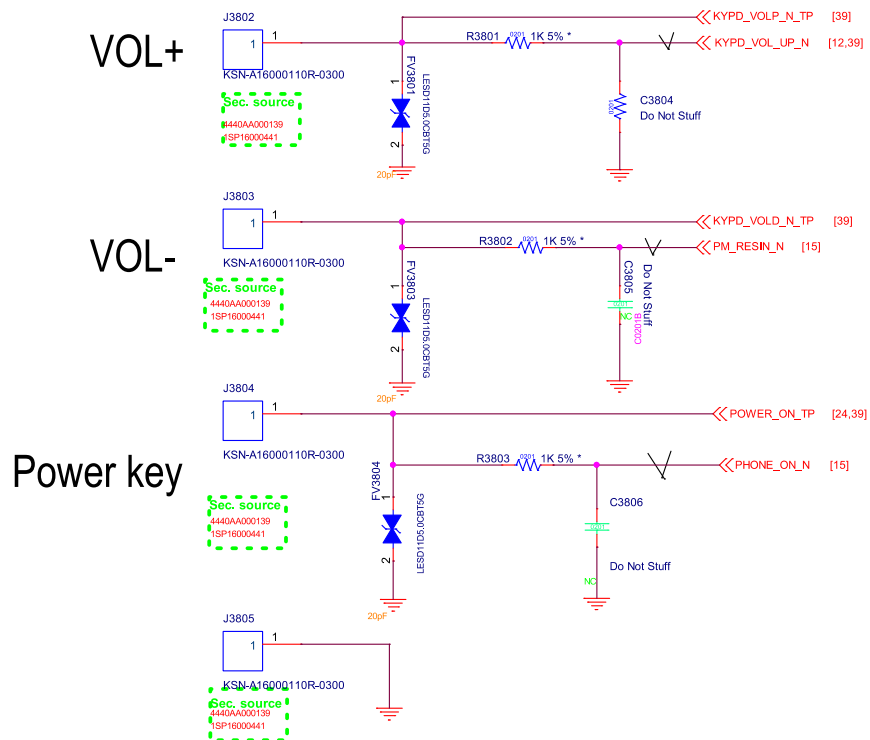
OVP



VBAT_CONN BATTERY

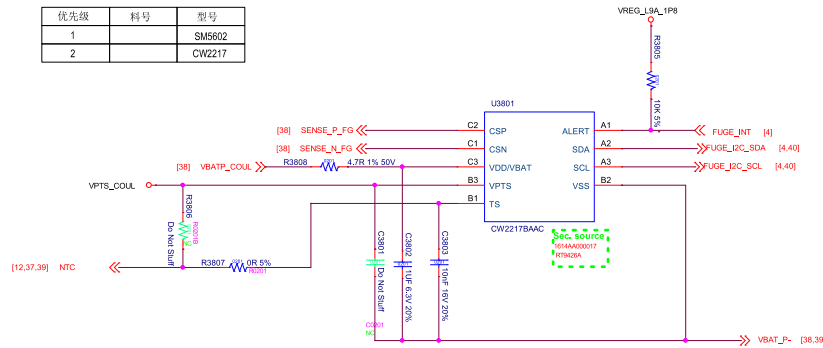


SIDEKEY



Fuel_Gauge

优先级	料号	型号
1		SM5602
2		CW2217



1st CW2217B
R3806=NC C3801=NC
2ed RT9426A

CellWise

CW2217B

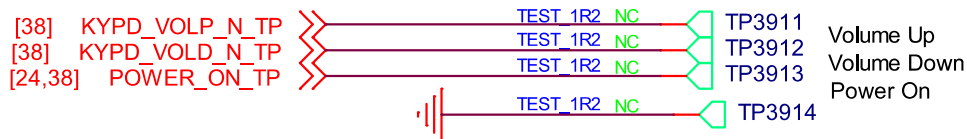
integrated. The measured temperature is utilized by the gauge algorithm directly and could be read by the host MCU too. 10kohm, 47kohm and 100kohm NTC thermistors are supported and the thermistor type selection is in the battery profile, 10kohm NTC thermistor is selected by default.

Part	NTC Thermistor Supported
CW2217B	R25C=10kΩ±1%, β(25/85) value = 3435K±1%
	R25C=10kΩ±1%, β(25/50) value = 3380K±1%
	R25C=47kΩ±1%, β(25/50) value = 4050K±1%
	R25C=100kΩ±1%, β(25/50) value = 4250K±1%

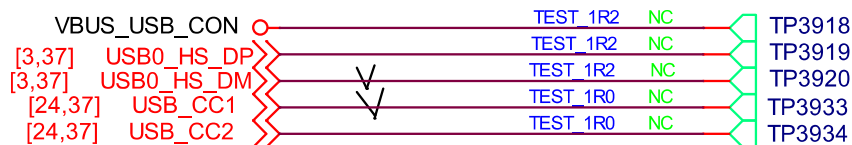
Table 1. NTC Thermistor Selection Guide

TEST POINT

KEY



USB



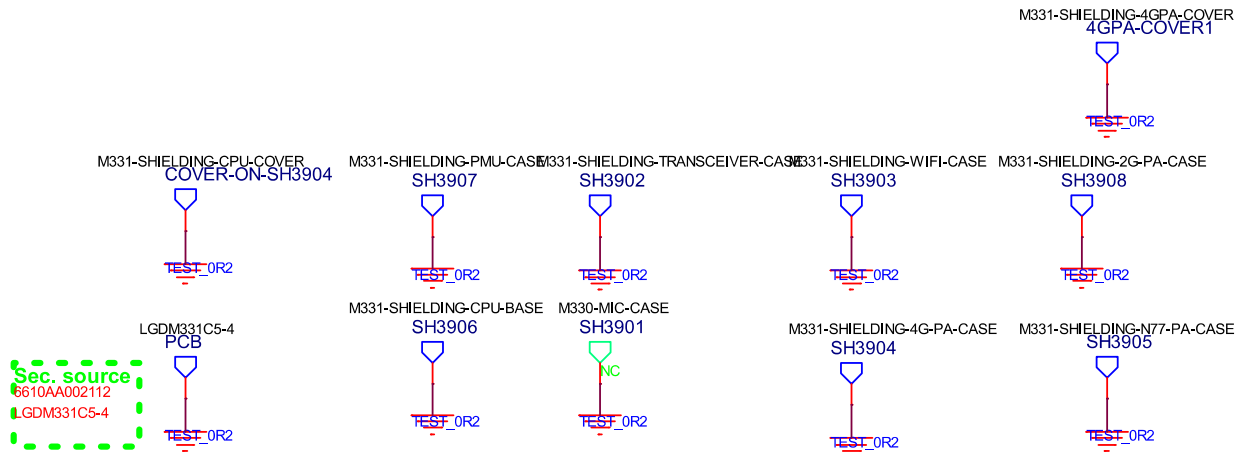
UART



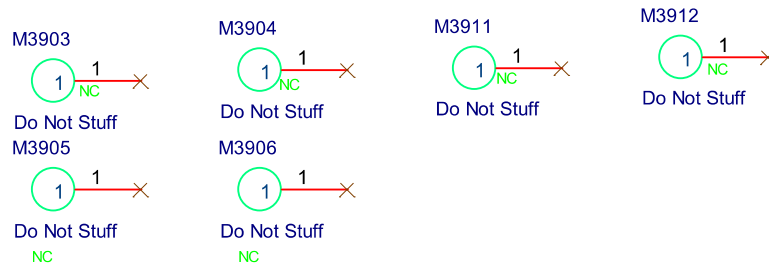
VBAT



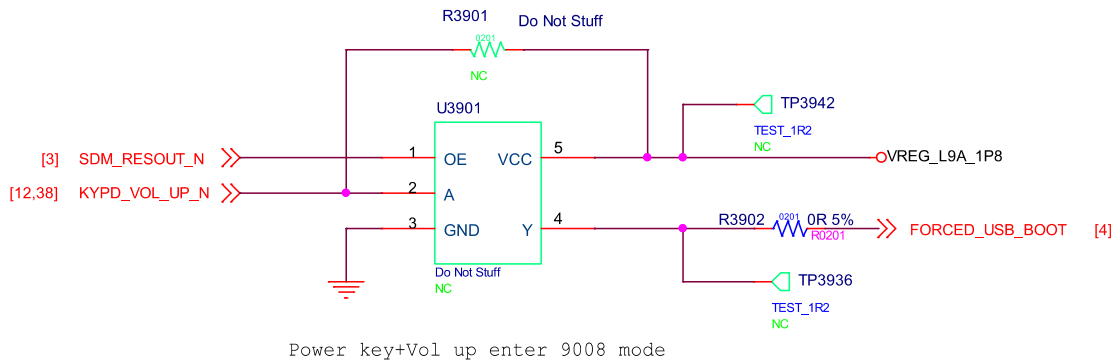
SHIELDING



Marks point

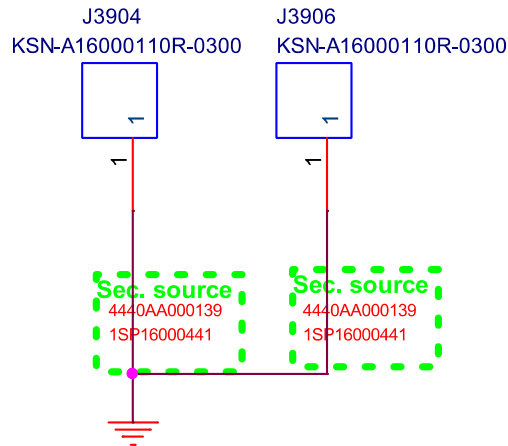


USB_BOOT

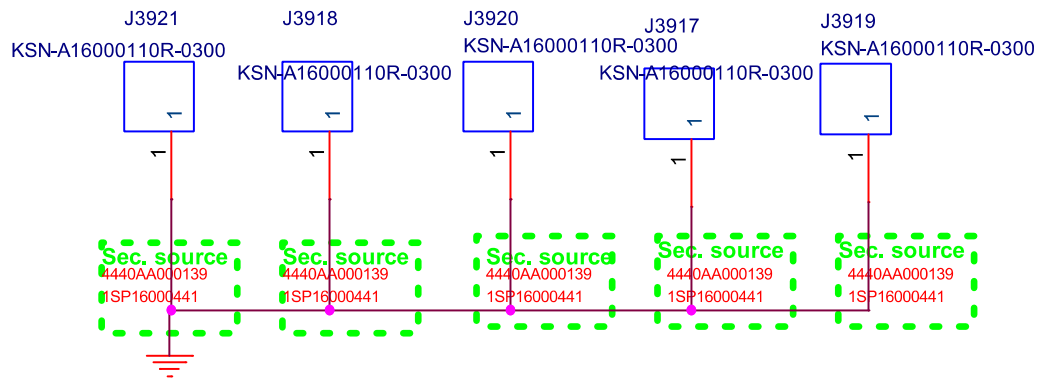


INPUT		OUTPUT
OE	A	Y
L	H	L
L	L	H
H	X	Z

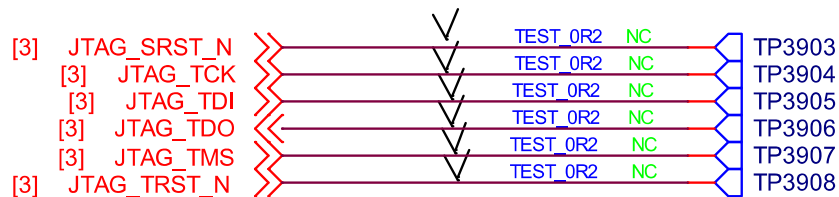
TOP 面接地弹片



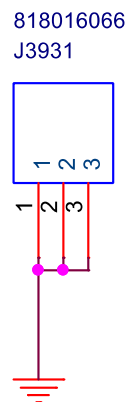
BOTTOM 面接地弹片



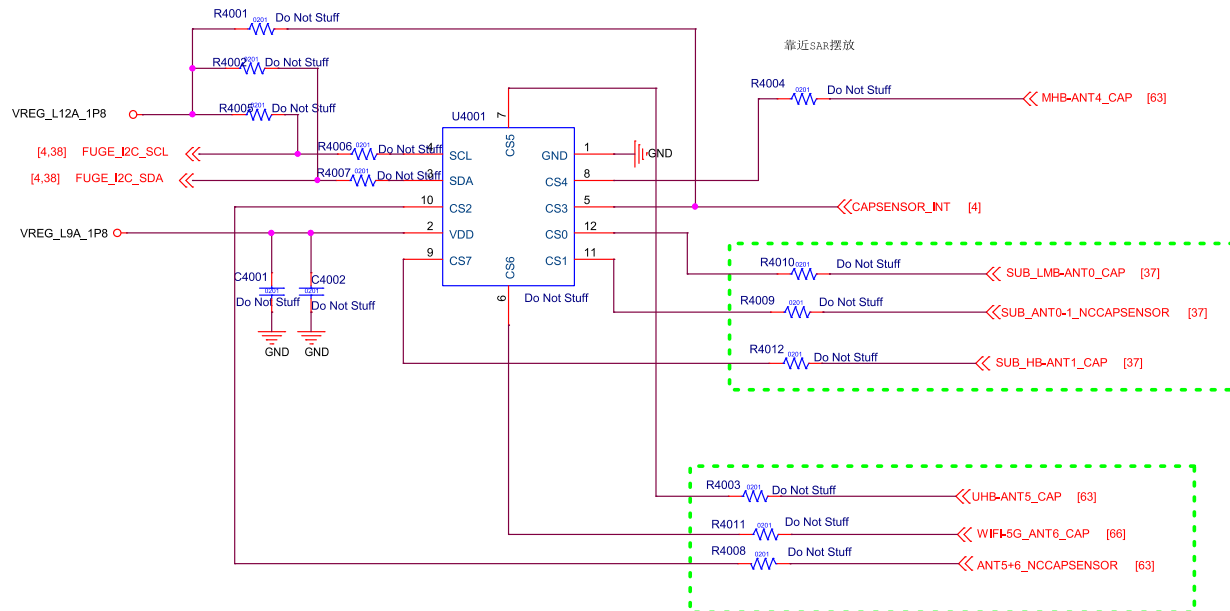
JTAG



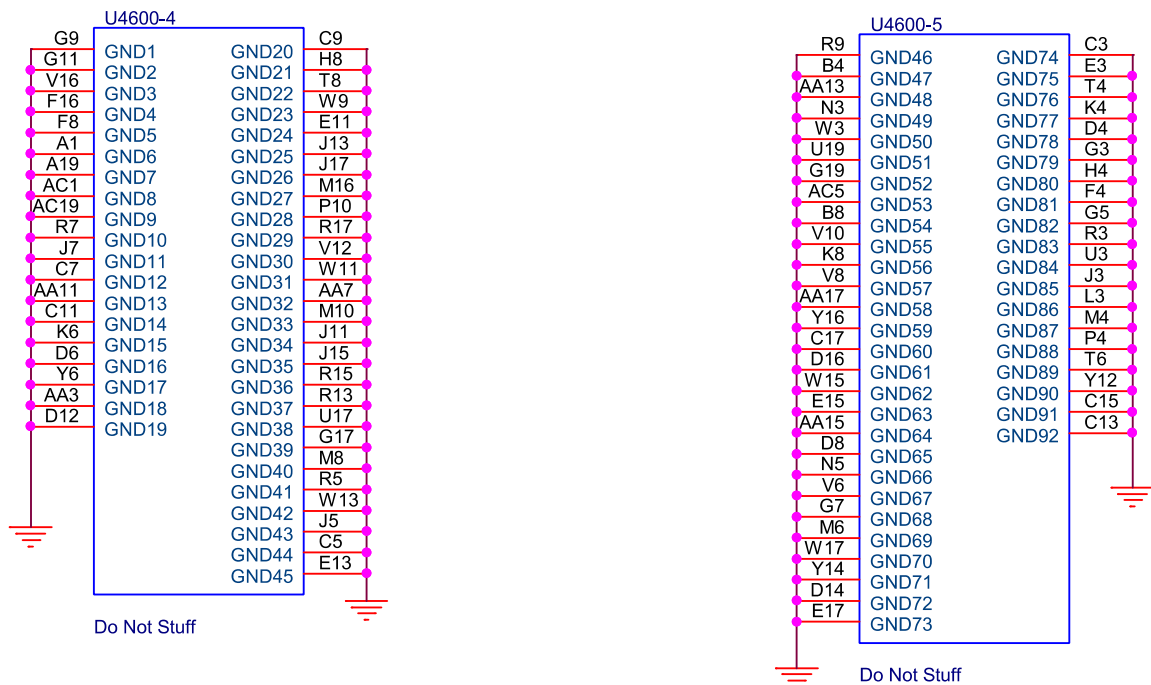
螺丝垫片



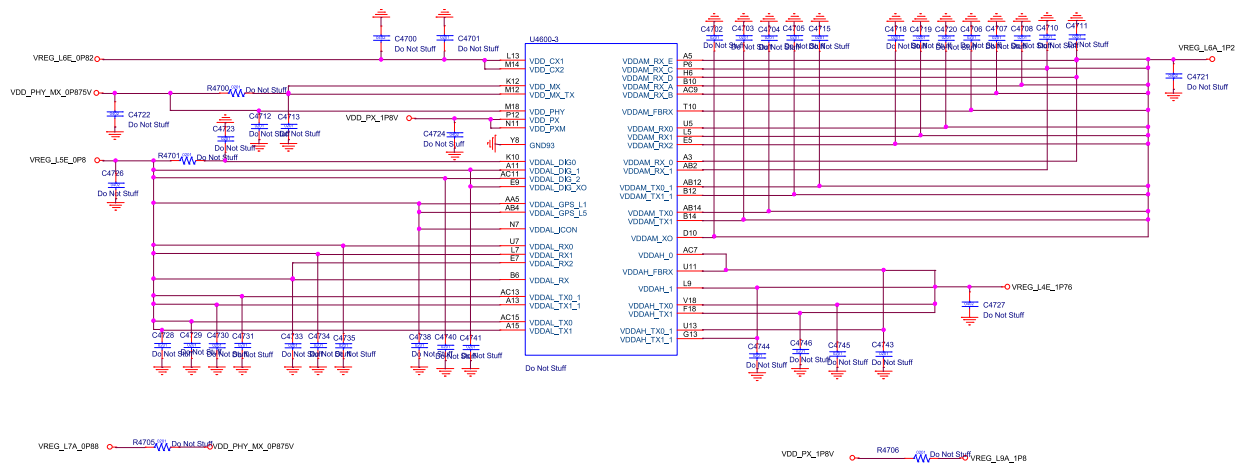
SAR



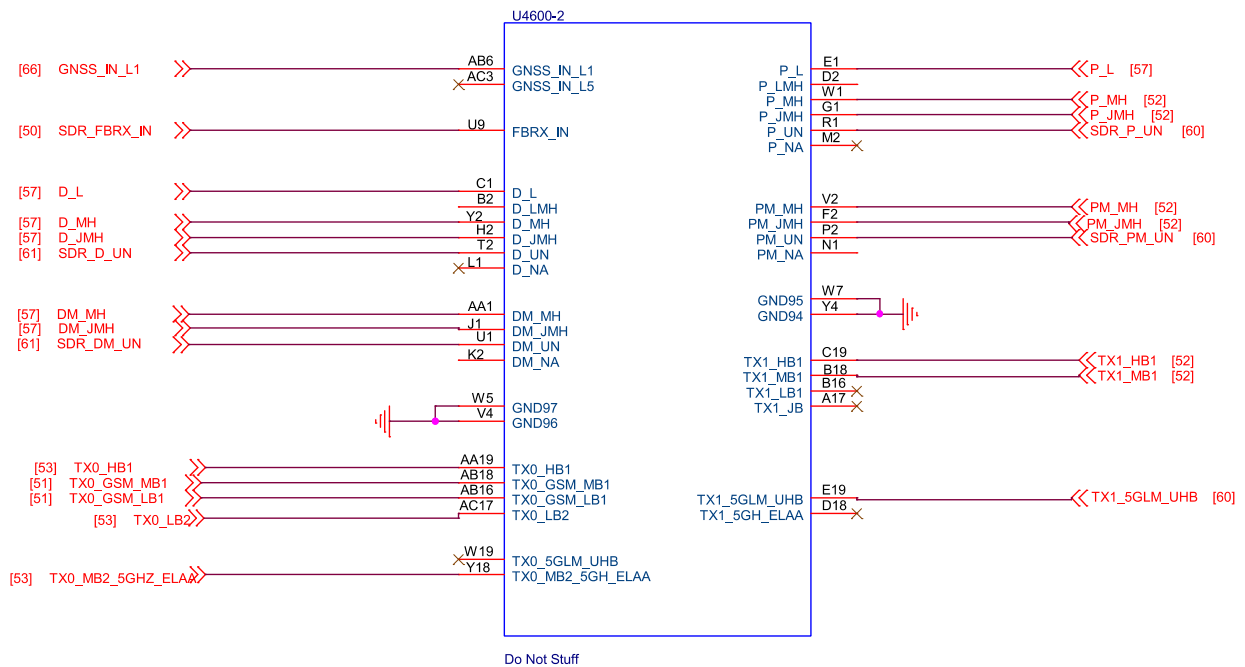
SDR735_GND



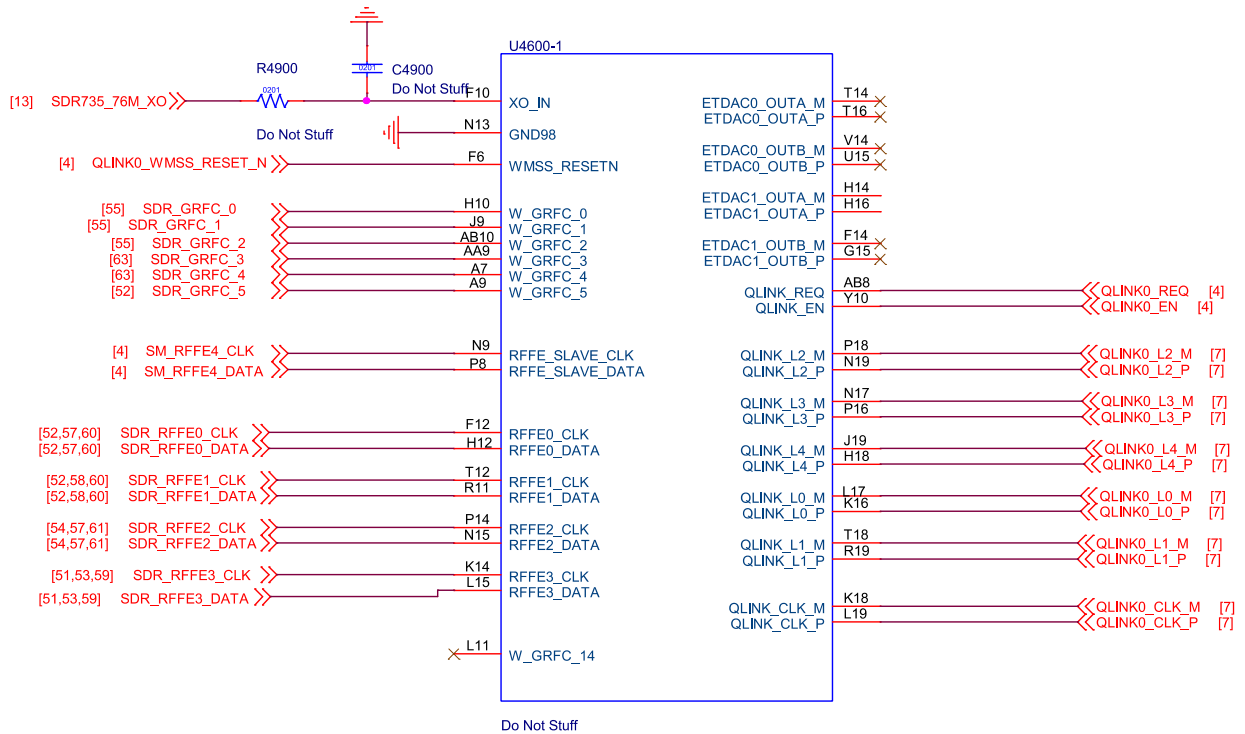
SDR735_PWR



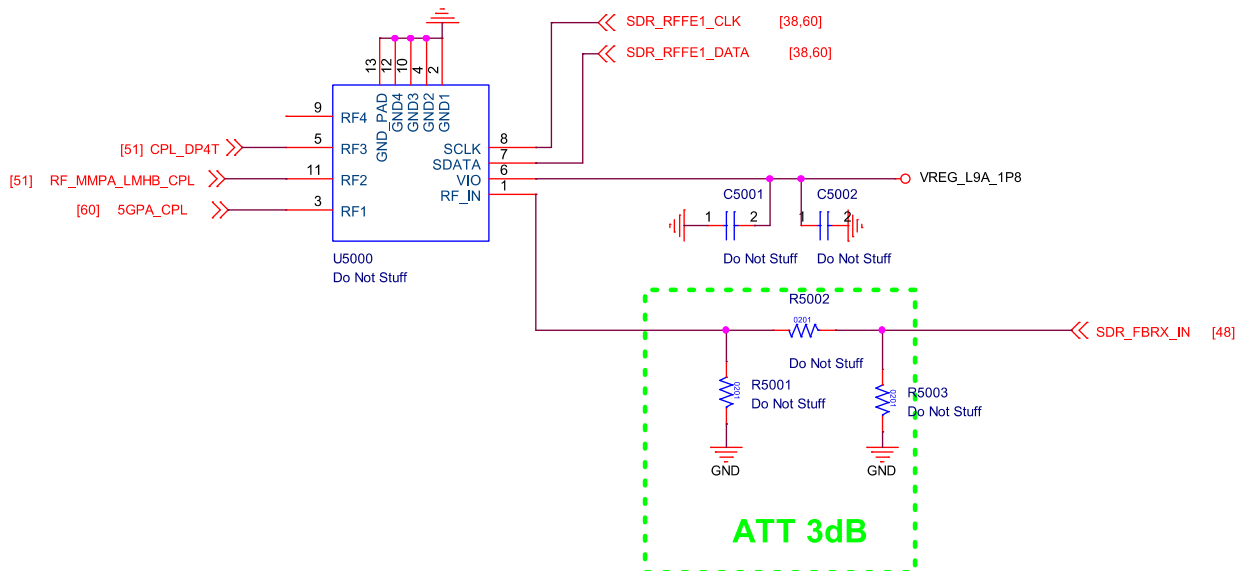
SDR735_TX_RX



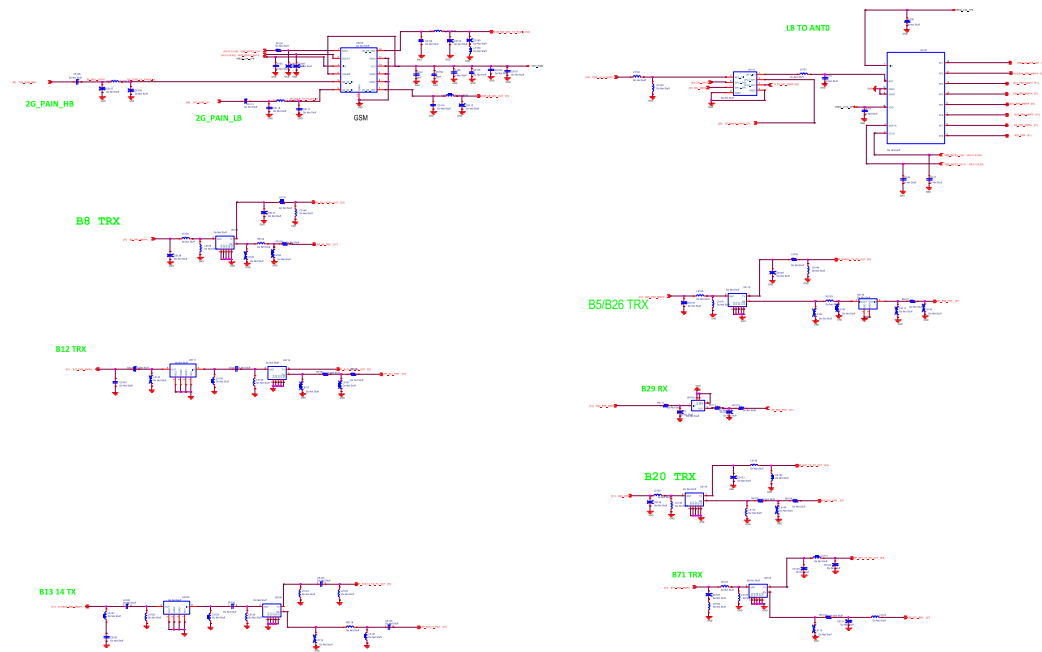
SDR735_WMSS



FBRX SWITCH

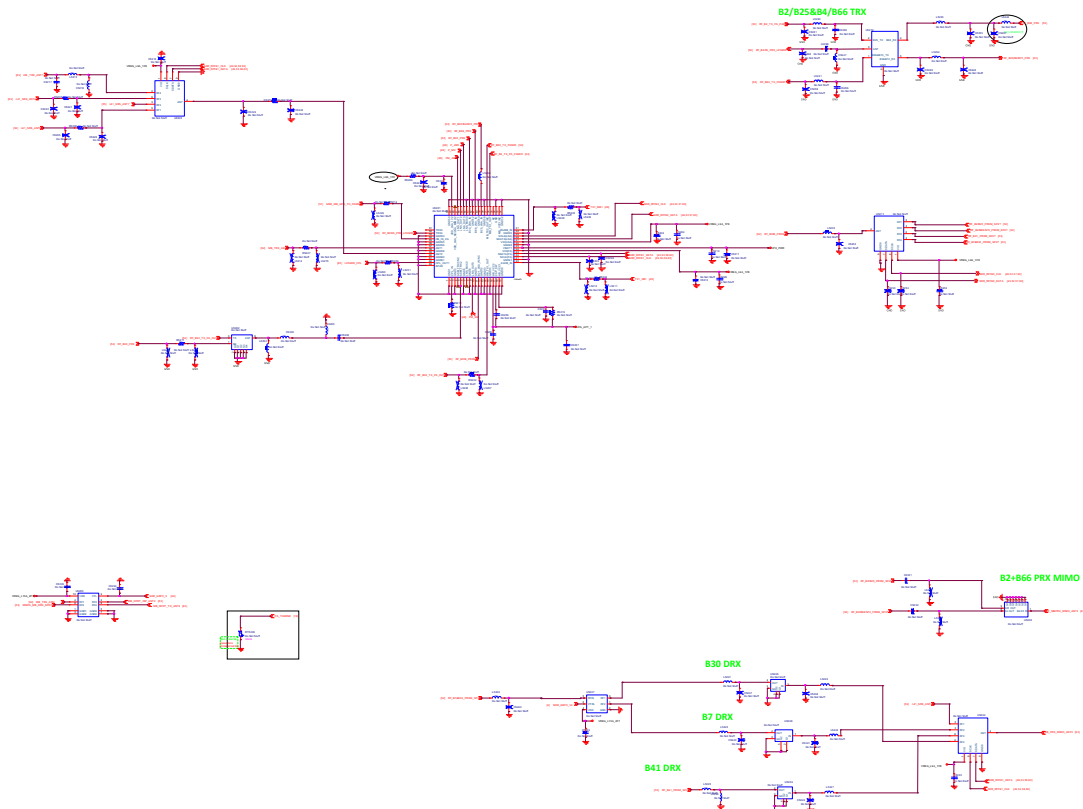


2G_PA

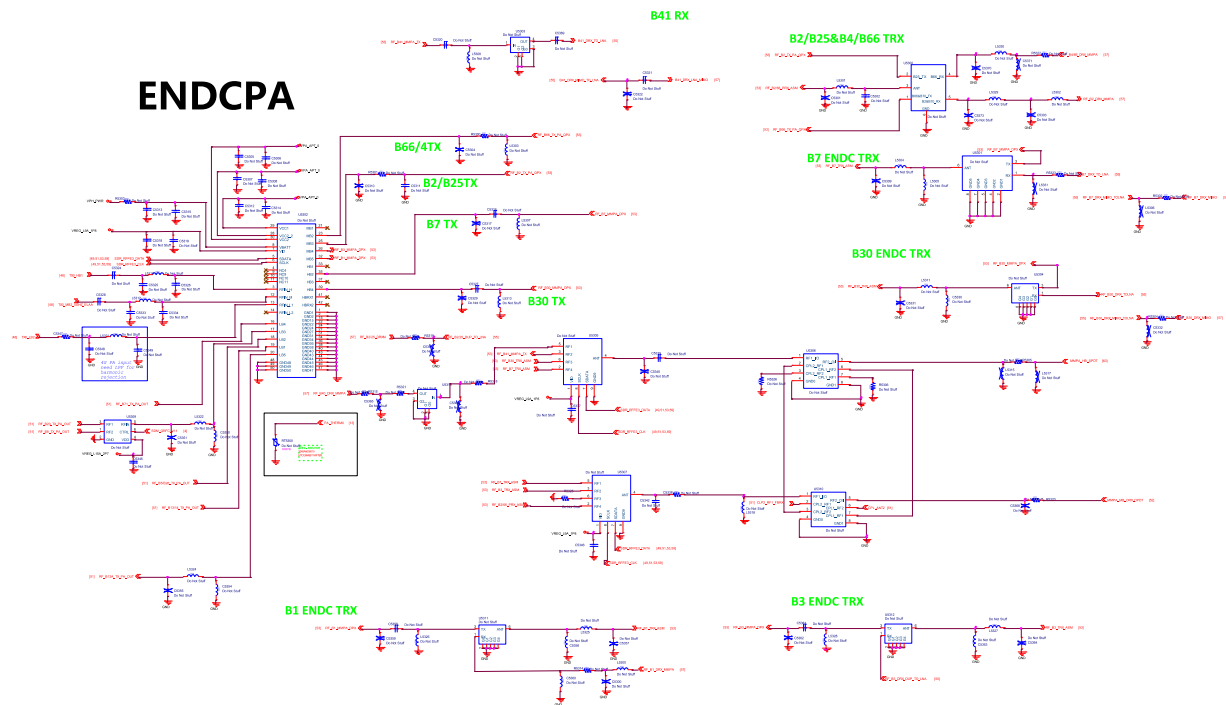


MB_LPAMiD_QPM6370

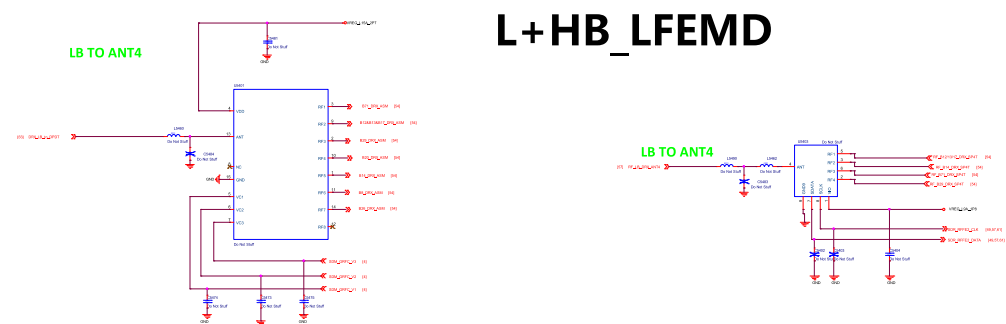
MHB_QM77048B



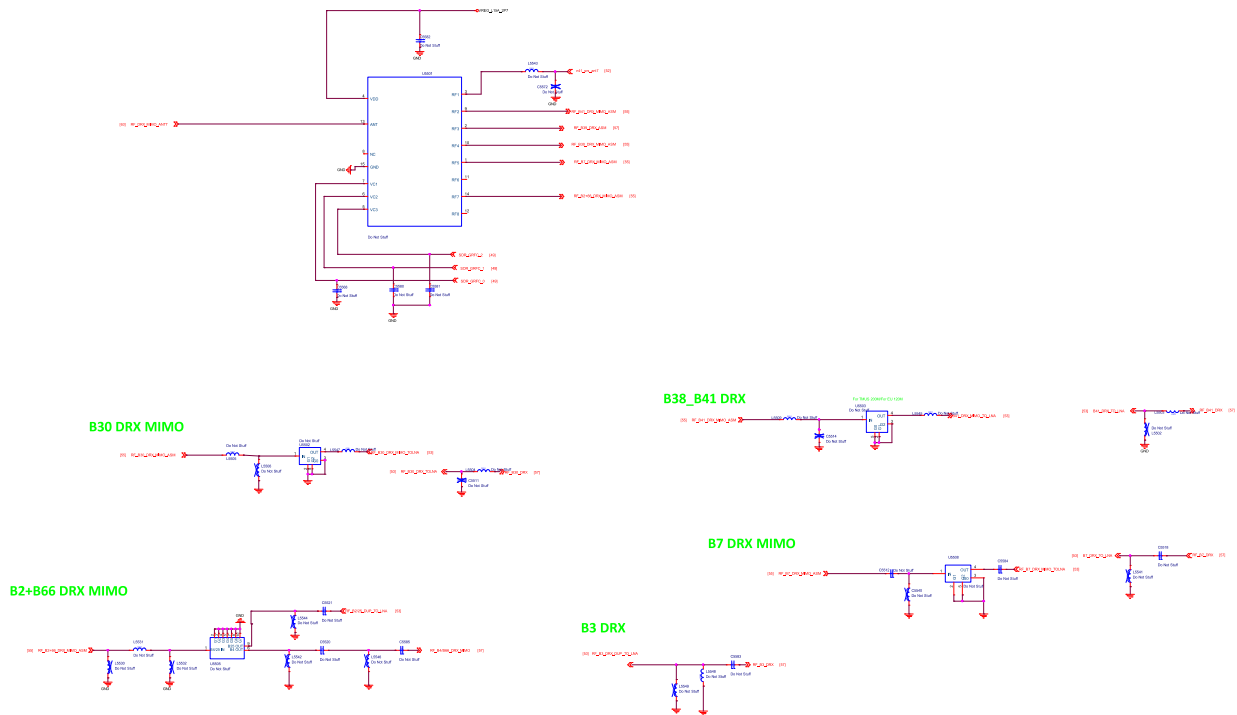
RF_ENDC_PA_LMH_PRX



RF_LMH_DRX

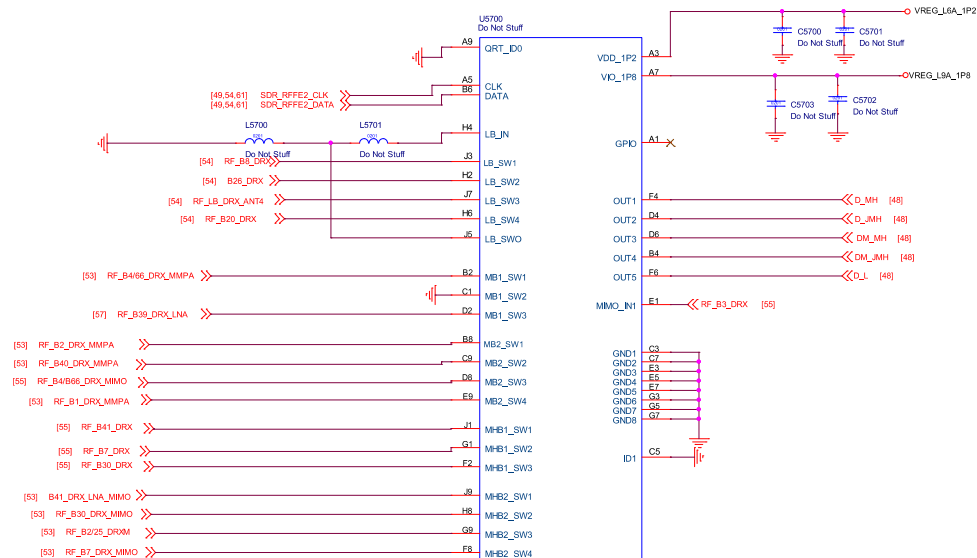


LTE_DRX_MIMO

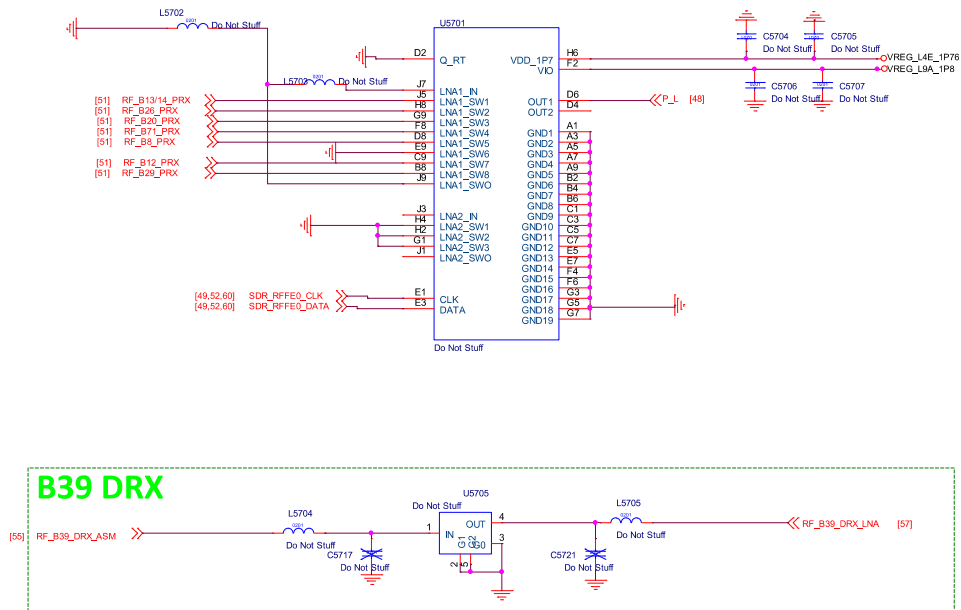


QLN5030

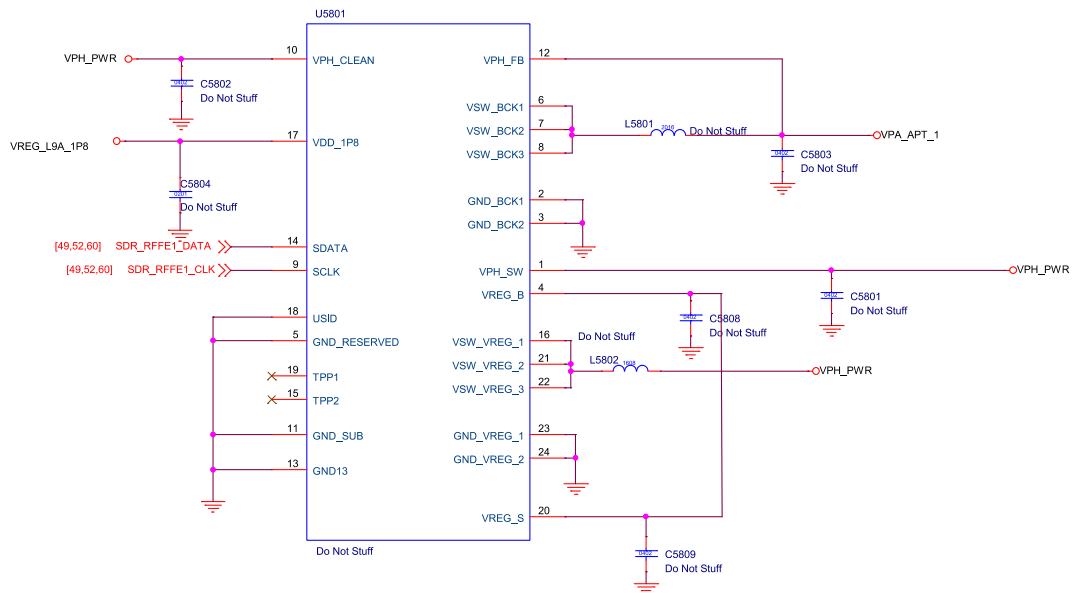
QLN5030 LMHB LNA - DRX



QLN5020 LB LNA - PRX

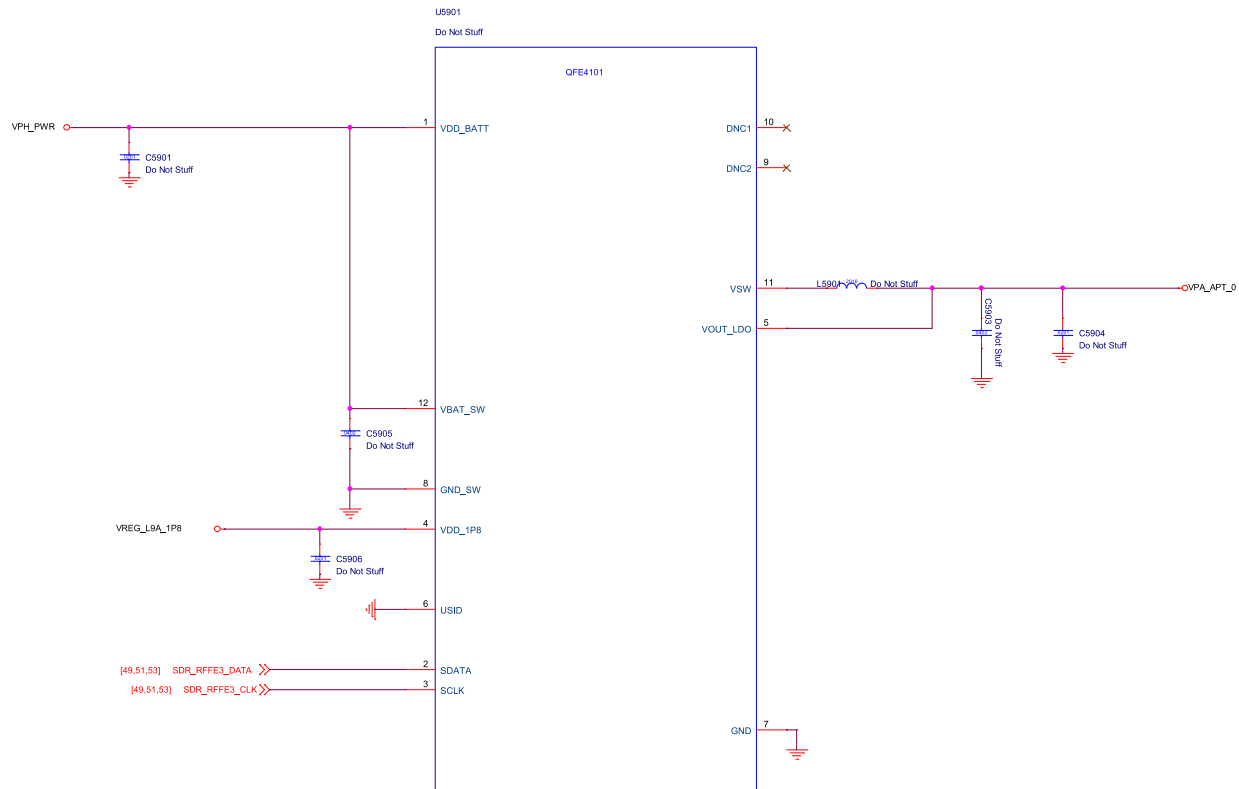


QET6105_CH1

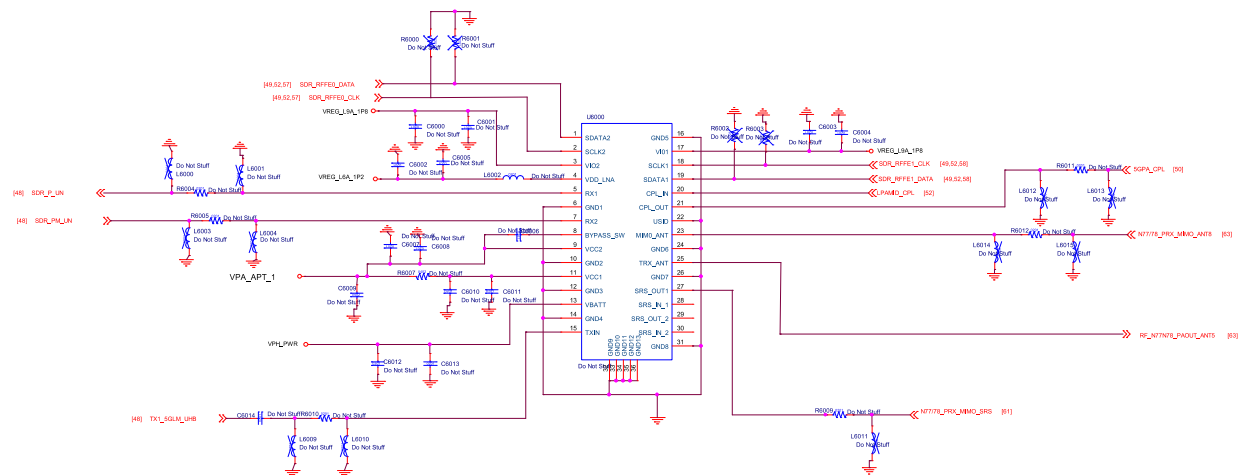


QET4101 CH0

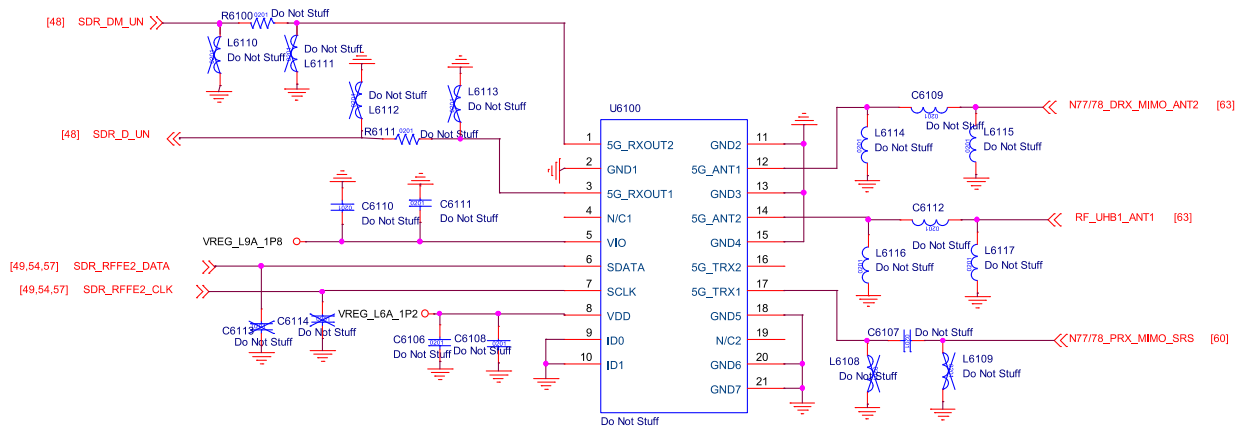
PWR OUT FOR 4G-MMPA



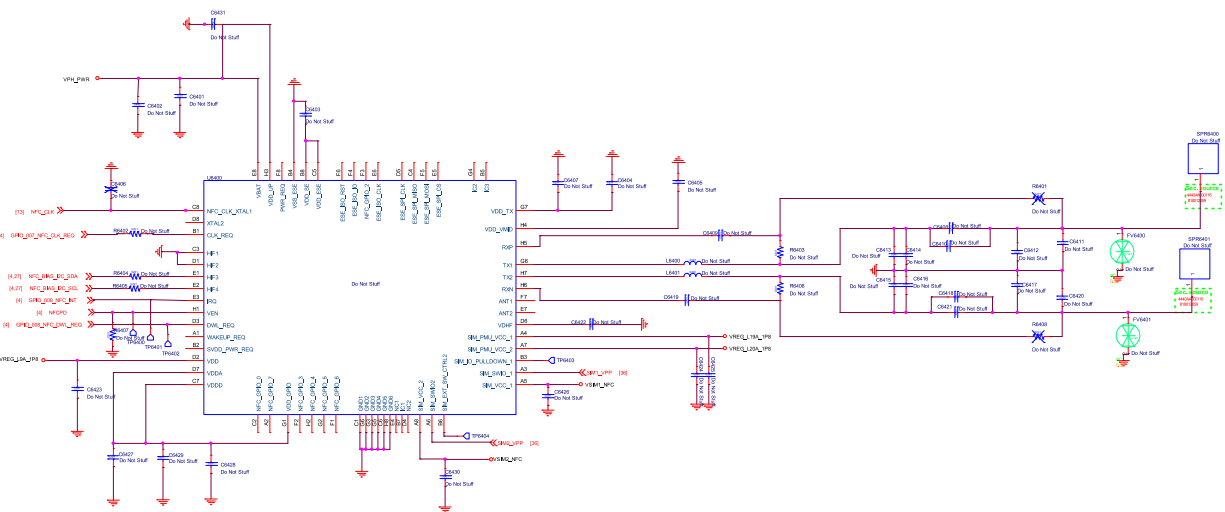
N77/78 PA_Moudle



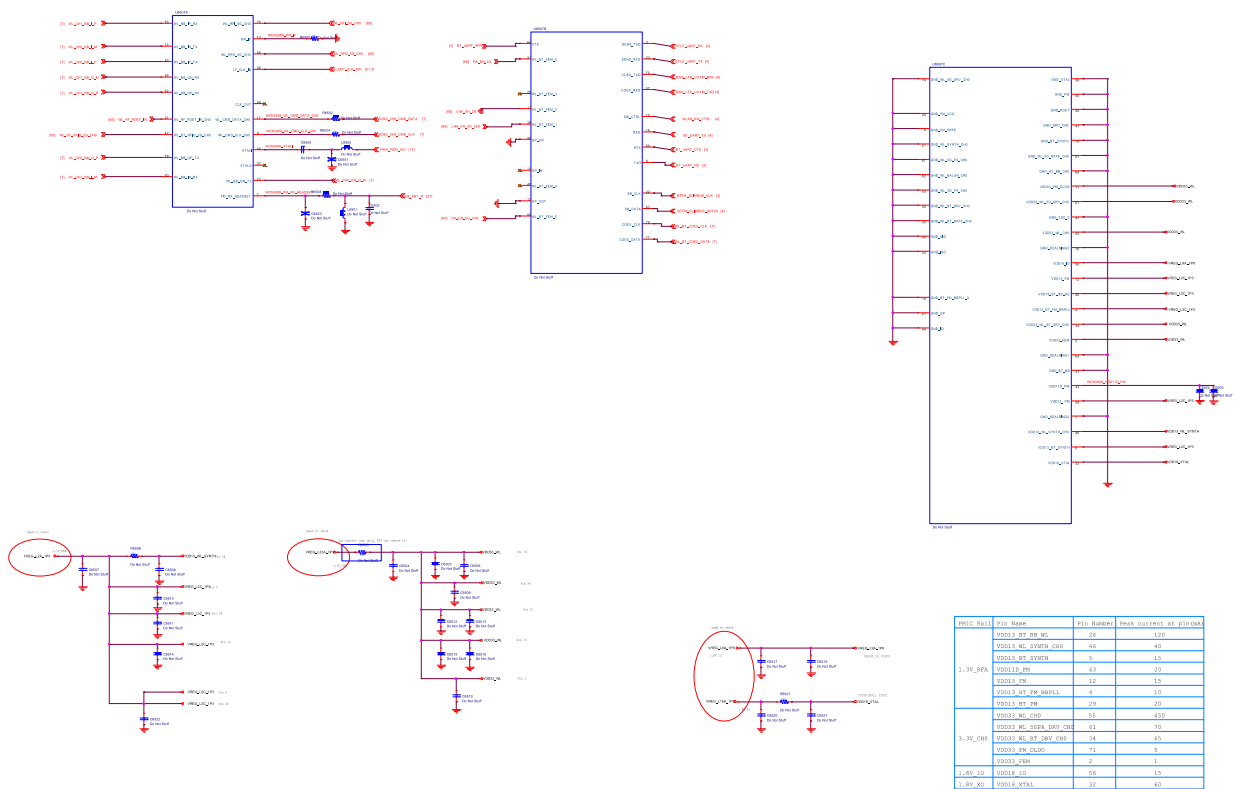
N77/N78 DRX_0



NFC



WCN3988

**WCN_ANT**