New Product SVC Guide
[SM-A115A/U]

Rev 1.0

SAMSUNG

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Specification

Item	Spec.		
AP Chipset	Vendor & Name	Cores & Architecture	Speed (Big/Little)
	Qualcomm SDM450	8 × Arm Cortex-A53 & 64 bit	1.8 Ghz
Memory	RAM	Storage	External Memory (Micro SD)
	2GB/3GB	32GB	Up to 2TB
Display	Size	Resolution	Type
	6.39 inch	HD+（1560X720）	Incell
CAMERA	Resolution (Main / Front)	Flash LED	Dual Camera
	13MP+2MP+5MP / 8MP	Rear only	-
Network	2G/3G	LTE	
	Support	4G LTE FDD, 4G LTE TDD	
Sensors	Accelerometer, Fingerprint, Light, Proximity		
Connectivity & LBS	Bluetooth 4.2 WIFI 802.11b/g/n/ac 2.4GHz/5.0GHz, WiFi-Direct		Support GPS，Glonass，Galileo
Battery Type & Capacity	Embedded battery		4,000 mAh
Charging capacity & Adapter type	9V1.67A		Type C
Water Resistance & OS Ver.	-		Android Q
Ear Jack & Wireless charging	3.5 mm stereo		-
Remarks			

RAM & Storage size by region - NA

SKU CODE Rule	Model Name	Region	RAM	Storage	Color	Status
SM-A115AZZKAXXX	SM-A115AZ	AIO (Criket)	2	32	Black	single SIM
SM-A115AZZBAXXX			2	32	Blue	single SIM
SM-A115AZZWAXXX			2	32	White	single SIM
SM-A115AZZRAXXX			2	32	Red	single SIM
SM-A115U1ZKAXXX	SM-A115U1	OYM	2	32	Black	single SIM
SM-A115U1ZBAXXX			2	32	Blue	single SIM
SM-A115U1ZWAXXX			2	32	White	single SIM
SM-A115U1ZRAXXX			2	32	Red	single SIM
SM-A115UZKAXXX	SM-A115U	VZW	2	32	Black	single SIM
SM-A115UZBAXXX			2	32	Blue	single SIM
SM-A115UZWAXXX			2	32	White	single SIM
SM-A115UZRAXXX			2	32	Red	single SIM
SM-A115UZKAXXX	SM-A115U	TMK	2	32	Black	single SIM
SM-A115UZBAXXX			2	32	Blue	single SIM
SM-A115UZWAXXX			2	32	White	single SIM
SM-A115UZRAXXX			2	32	Red	single SIM
SM-A115UZKAXXX	SM-A115U	TMB	2	32	Black	single SIM
SM-A115UZBAXXX			2	32	Blue	single SIM
SM-A115UZWAXXX			2	32	White	single SIM
SM-A115UZRAXXX			2	32	Red	single SIM

RAM & Storage size by region - NA

SKU CODE Rule	Model Name	Region	RAM	Storage	Color	Status
SM-A115UZKAXXX	SM-A115U	SPR	2	32	Black	single SIM
SM-A115UZBAXXX			2	32	Blue	single SIM
SM-A115UZWAXXX			2	32	White	single SIM
SM-A115UZRAXXX			2	32	Red	single SIM
SM-A115UZKAXXX	SM-A115U	USC	2	32	Black	single SIM
SM-A115UZBAXXX			2	32	Blue	single SIM
SM-A115UZWAXXX			2	32	White	single SIM
SM-A115UZRAXXX			2	32	Red	single SIM
SM-A115WZKAXXX	SM-A115W	XAC	2	32	Black	single SIM
SM-A115WZBAXXX			2	32	Blue	single SIM
SM-A115WZWAXXX			2	32	White	single SIM
SM-A115WZRAXXX			2	32	Red	single SIM
SM-S115DLZKAXXX	SM-S115DL	TFN	2	32	Black	single SIM
SM-S115DLZBAXXX			2	32	Blue	single SIM
SM-S115DLZWAXXX			2	32	White	single SIM
SM-S115DLZRAXXX			2	32	Red	single SIM

RAM & Storage size by region

1. Now we have three kinds of EMCPs：2+32G, 3+32G
2. SKU CODE Rules(“SM-A115FZKDCIS” as an example):
   - ”SM-A115F” is the model name
   - After model name, we use two letters (such as “ZK”) to present the color, “SM-A115F**ZK**DCIS” is black. More details refer to below matrix

Color	Code
Black	ZK
Blue	ZB
White	ZW
Red	ZR

   - We use “D” or “A” to present double SIM or single SIM, ”SM-A115FZK**D**CIS” is a double SIM product.

SIM card info	Code
double SIM	D
single SIM	A

   - The last three letters is country operator “SM-A115FZKD**CIS**”

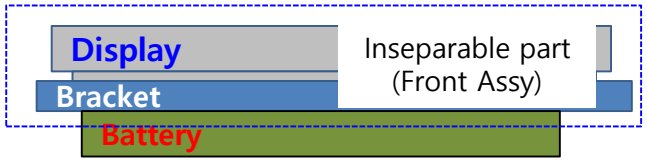
Disassembly & Reassembly

Part list which must be changed after reassembly

Item	Code	Pictures (Images)
Fingerprint Module Tape (Whenever the rear cover is disassembled.)	GH81-18930A	
Front camera CU TAPE (When the front camera is changed.)	GH81-19061A	
A/S JDM-ETC FRONT CAM FOAM_SM-A115_SVC (When the front camera is changed.)	GH81-18785A	

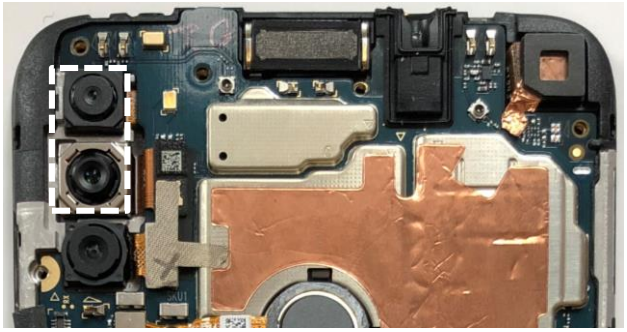
Disassembly & Reassembly

Battery replacement

Type	Structure	Battery replace
	Display and Bracket can not be separated. Battery replacement is required when Front Ass'y(Display) is replaced. If the Front Assy is supplied without battery, please order battery together. ※ Do not reuse the battery.	It need to replace the battery when the display replace.

Disassembly & Reassembly

Important management points



Ensure the camera located well in right place and BTB shall be buckled in place without deviation and avoid collapse.

■ **The main camera and auxiliary camera must be replaced in pairs**

■ **After replacing camera module, A/S engineer needs to check the camera as following steps:**

Step 1: Open the camera function and check whether camera can work normally.

Step 2: Download and install the Galaxy Diagnostic tool

Step 3: Open the Galaxy Diagnostic tool and set the Golden Value flag

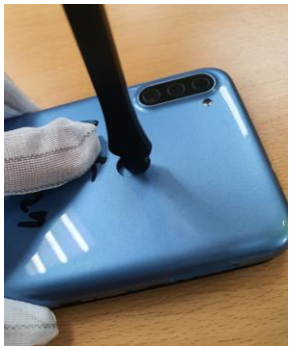
Step 4: After opening the Golden Value flag, Arcsoft algorithm will call the Golden Value built in the S/W version and imaging.

■ **Full function test should be do after any level repairing.**

Disassembly & Reassembly

Important management points

■ **Back cover disassemble**



■ **After replacing camera module, A/S engineer needs to check the camera as following steps:**

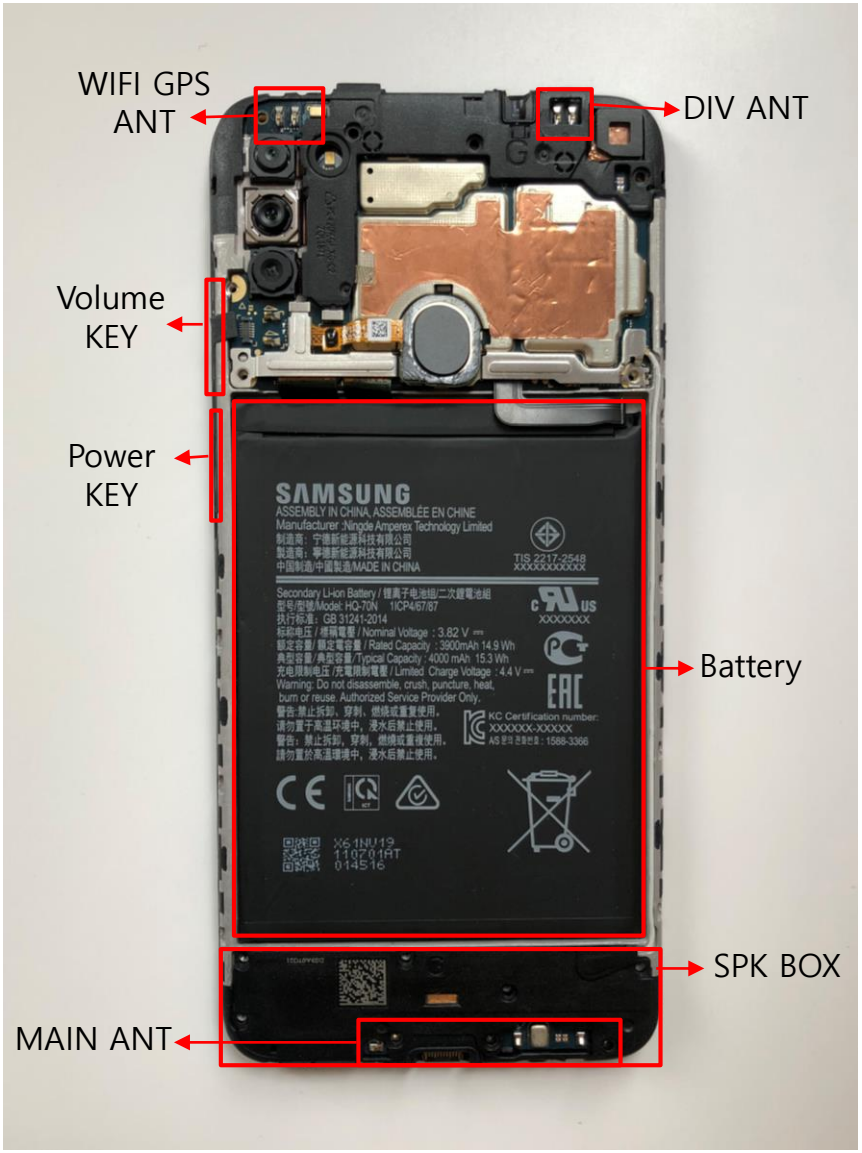
Step 1: Remove the SIM tray using the eject pin.

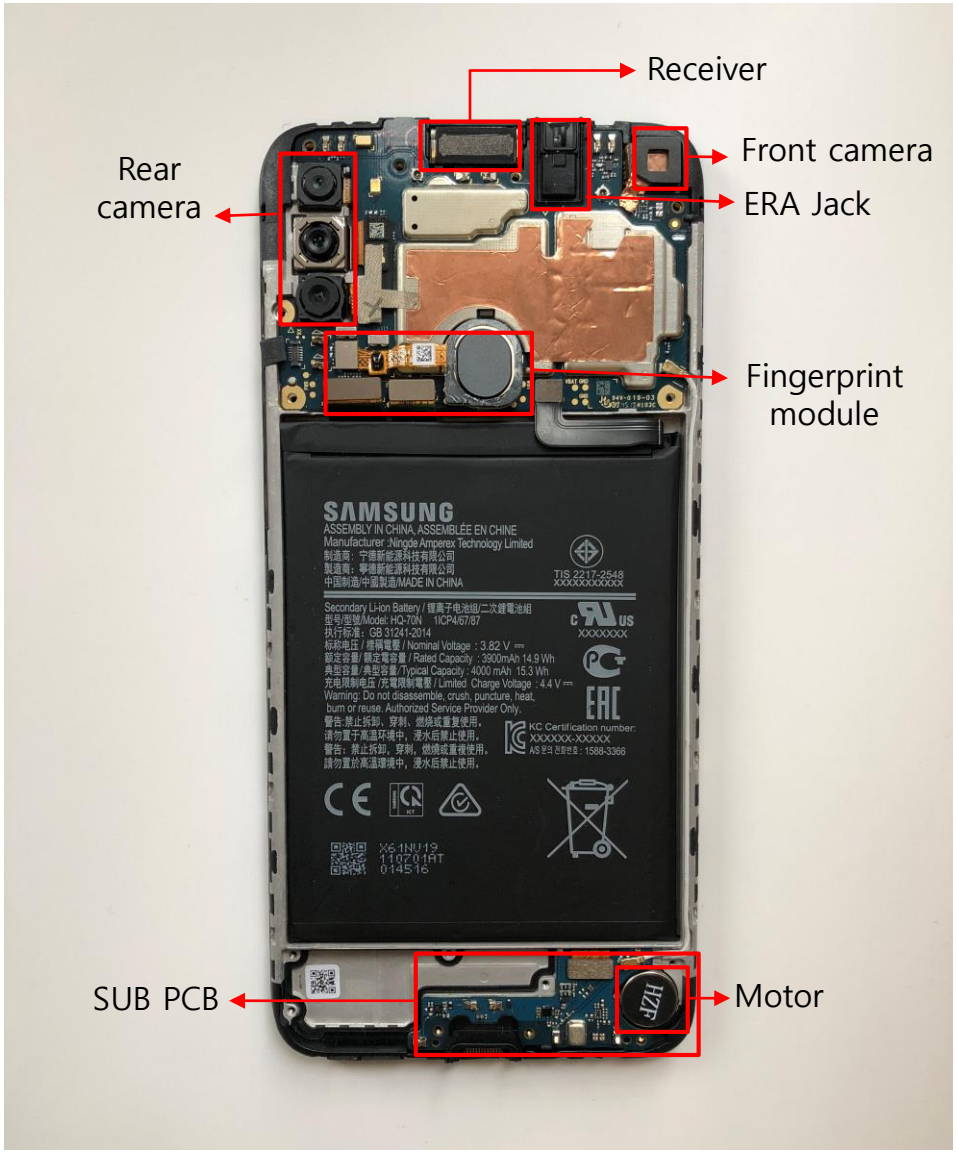
Step 2: Disassembly the back cover from the front ass'y using the disassemble stick.

Step 3: Set the temperature to **65 ℃/ 5 minutes** using the mobile dryer and put the device

Step 4: Gently press the fingerprint key **using the disassemble stick or your finger** to remove the back cover

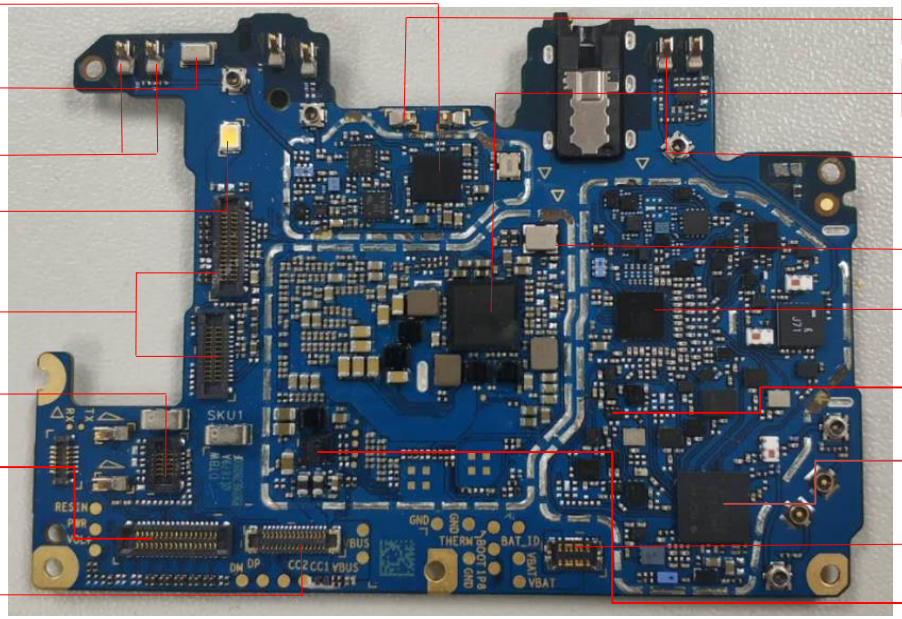
Parts Layout





Parts Layout

PBA (Bottom)



U3008 WCN chip

U1701 SUB MIC

ANT3102/ANT3103 WIFI/BT/GPS ANT

Led2201 Rear Camera flash

J2101/J2104 Camera BTB Connector

J1801 Fingerprint BTB Connector

J2001 LCD BTB Connector

J1901/J1902 KB FPC BTB Connector

ANT1701/ANT1702 REC shrapnel

U201 PMU-PM8953

ANT2801/ANT3300 DIV ANT

X201 19.2M Crystal

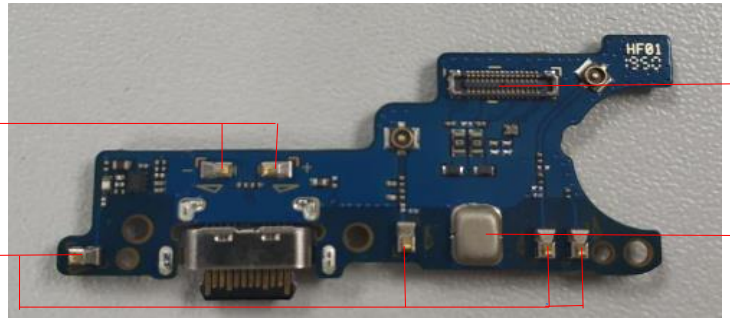
U2501 RF transceiver

U2807 RF SWITCH

U2700 RF 2G PA

J1601 Battery BTB Connector

U1704 Smart PA



ANT201/ANT202 SPK shrapnel

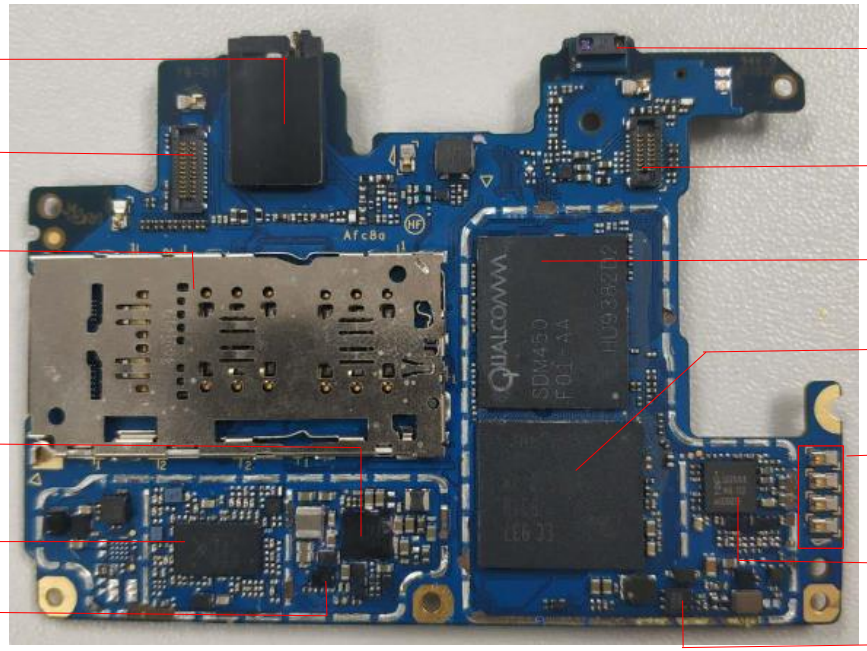
ANT301/ANT302/ANT304/ANT309 RF Main ANT

J102 MAIN FPC BTB CONNECTOR

U201 MAIN MIC

Parts Layout

PBA (TOP)



J1701 Earphone Socket

J2103 Front CAM BTB Connector

J2304 SIM/SD Card Connector

U301 PMIC_PMI632

PA2601 RF PA

U1602 OVP IC

U2202 P-SENSOR

J2102 Rear CAM BTB Connector

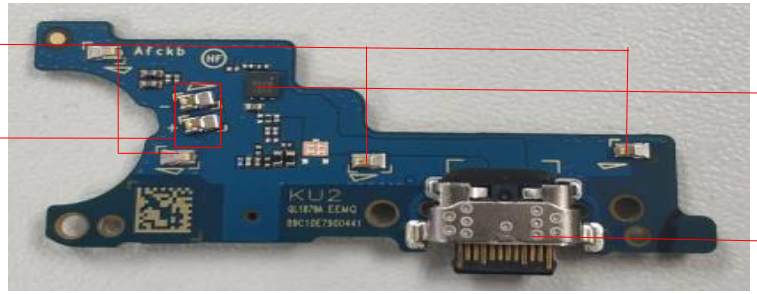
U801 CPU-SDM450

U1501 memory

ANT1801/ANT1802/ANT1803/ANT1804
Side key

U3401 NFC IC

U2001 BL Driver IC



ANT305/ANT306/ANT307/ANT311 Gr
ounded shrapnel

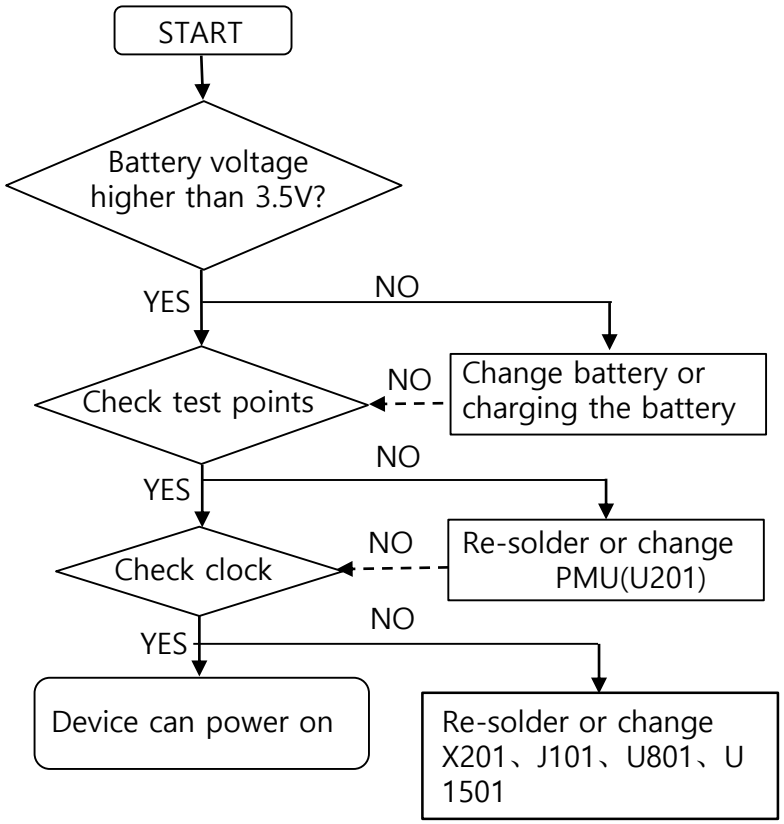
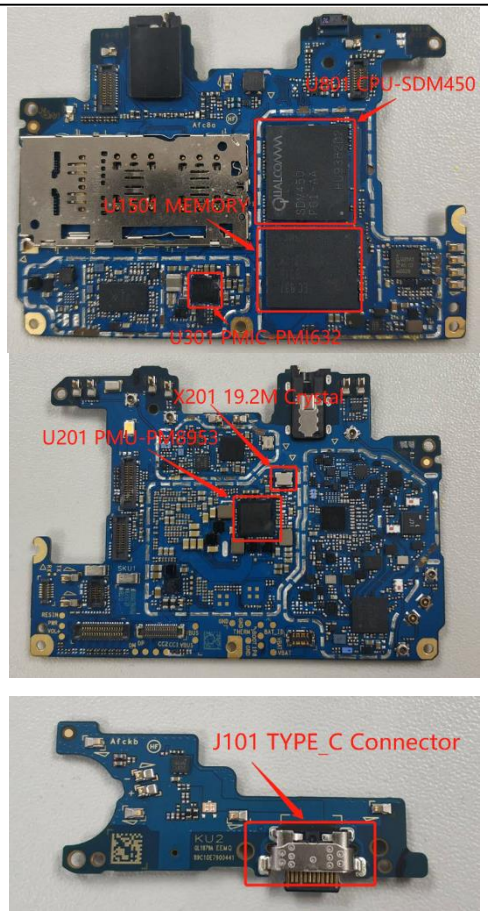
ANT203/ANT204 MOTOR shrapnel

Q101 NMOS

J101 TYPE_C Connector

Troubleshooting

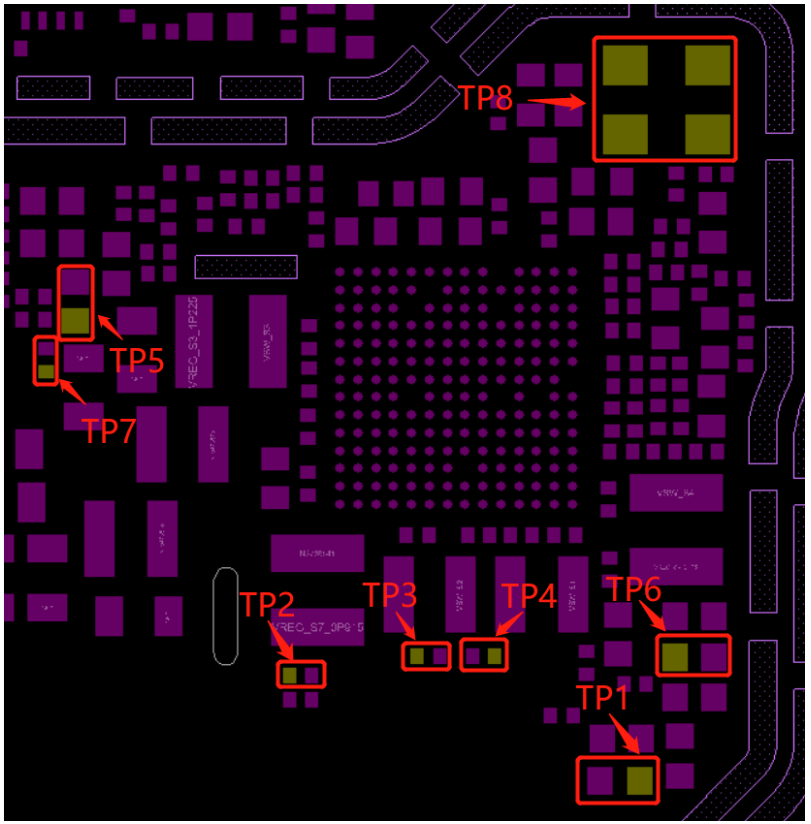
■ No Power

CHECKING FLOW	IMAGE
	

Troubleshooting

■ No Power

Power on voltage check				
Power Domain	Configurable Voltage	Signal Name	Measurement Location	TP
VPH_PWR	3.0-5.25V	VPH_PWR	C503	TP1
VDD_MEM	0.915V	VREG_S7_0P915	C535	TP2
VDD_CORE	0.8625V	VREG_S2_0P8625	C516	TP3
VDD_MODEM	0.8625V	VREG_S1_0P8625	C515	TP4
PM8953_Low-voltage LDOs	1.225V	VREG_S3_1P225	C521	TP5
PM8953_High-voltage LDOs	2.04V	VREG_S4_2P05	C523	TP6
APC	0.87v	VREG_S5_S6_0P8625	C537	TP7



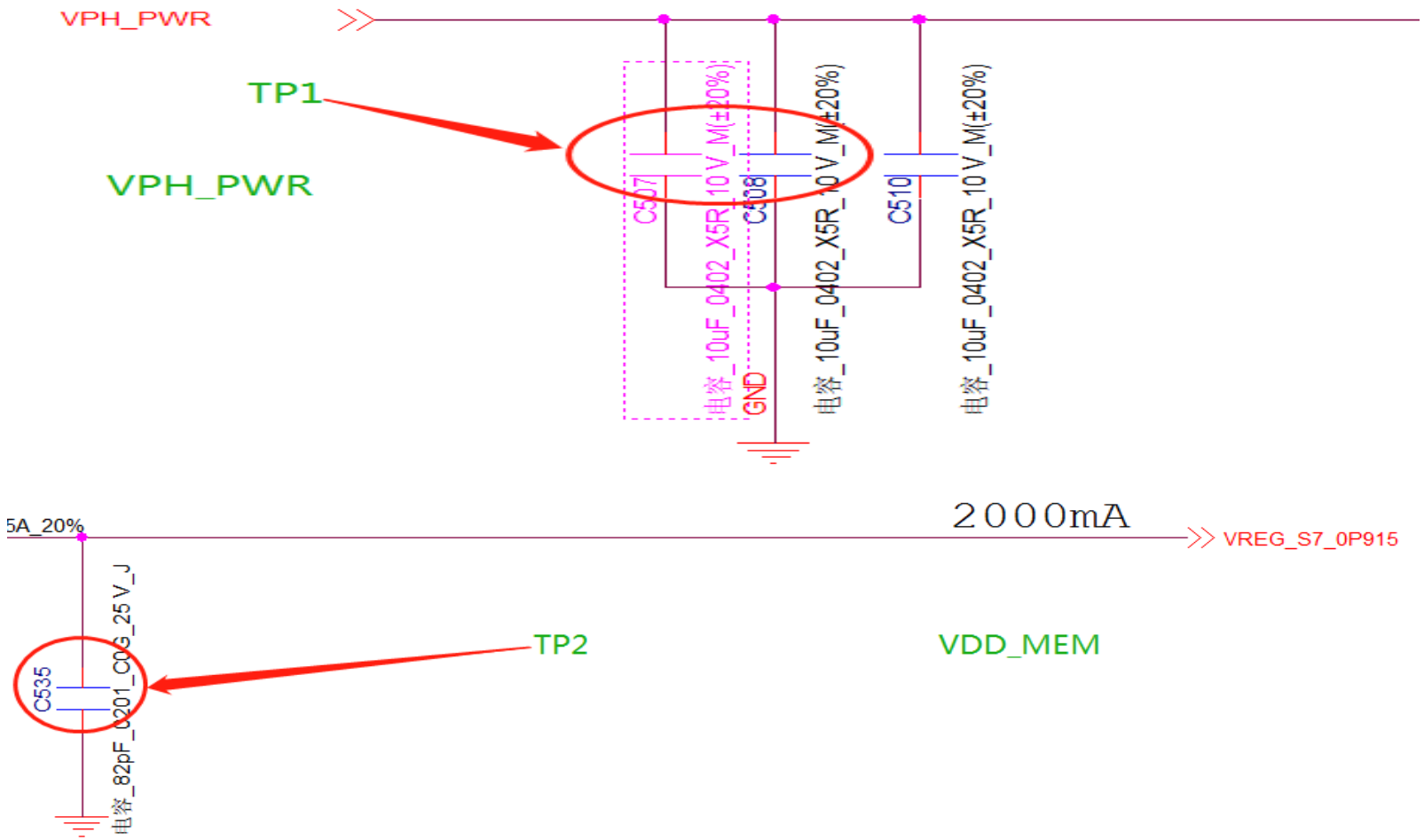
■ Oscillate frequency measurement

Signal Name	Frequency MHZ	Measurement Location	TP
XTAL_19M_IN	19.2M	X201	TP8

Troubleshooting

■ No Power

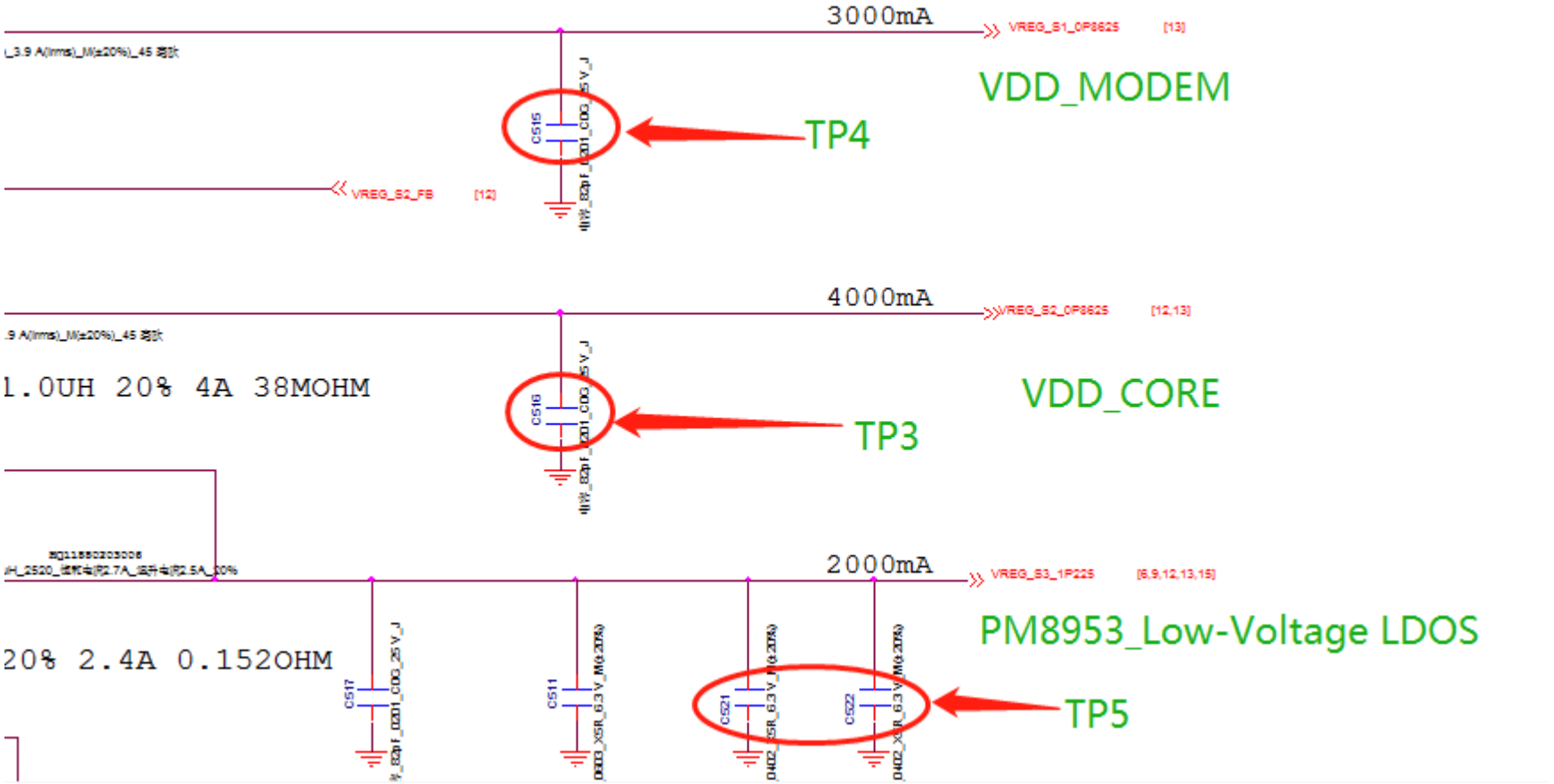
- Checking Power signal(Battery connector, PMU, Clock)



Troubleshooting

■ No Power

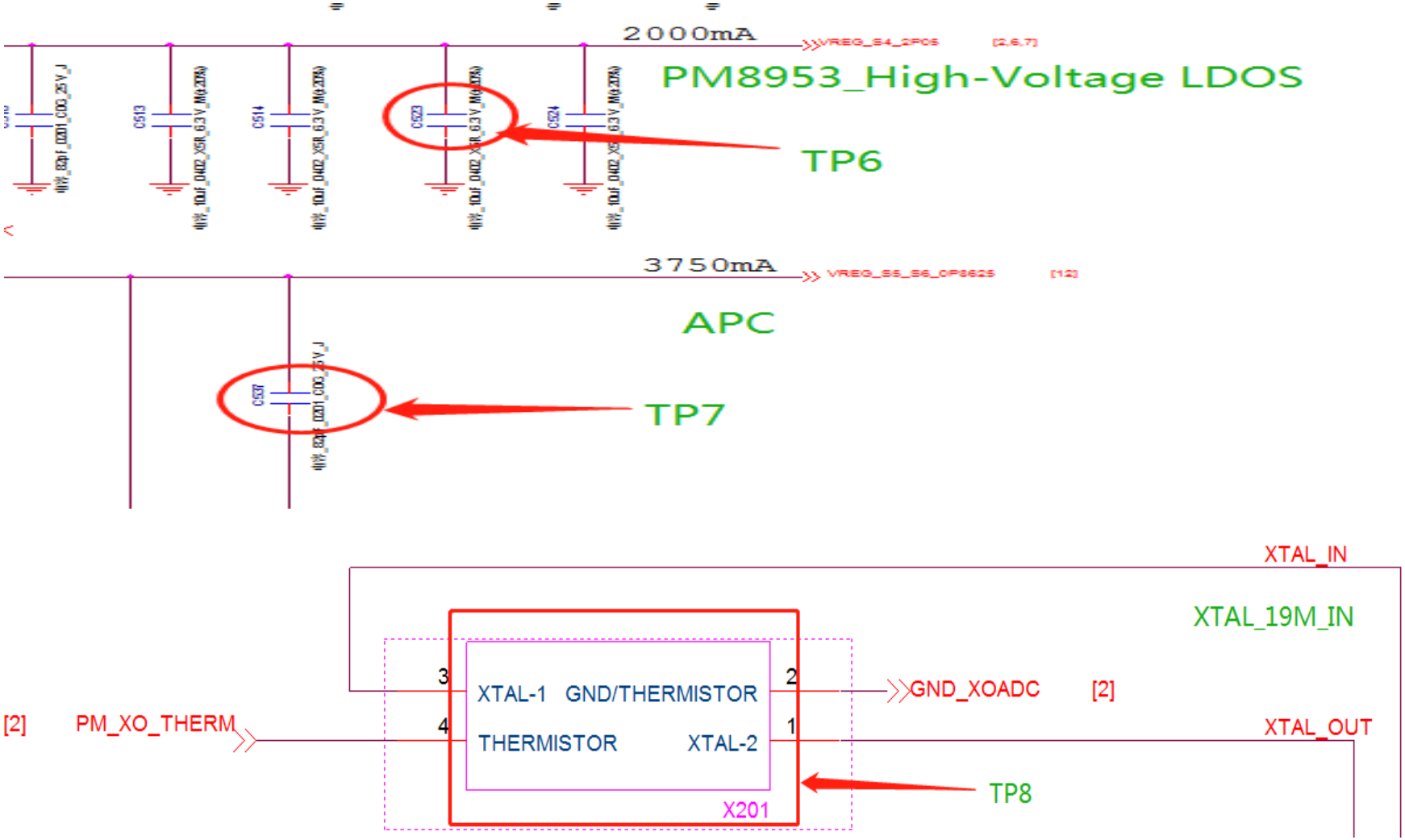
- Checking Power signal(Battery connector, PMU, Clock)



Troubleshooting

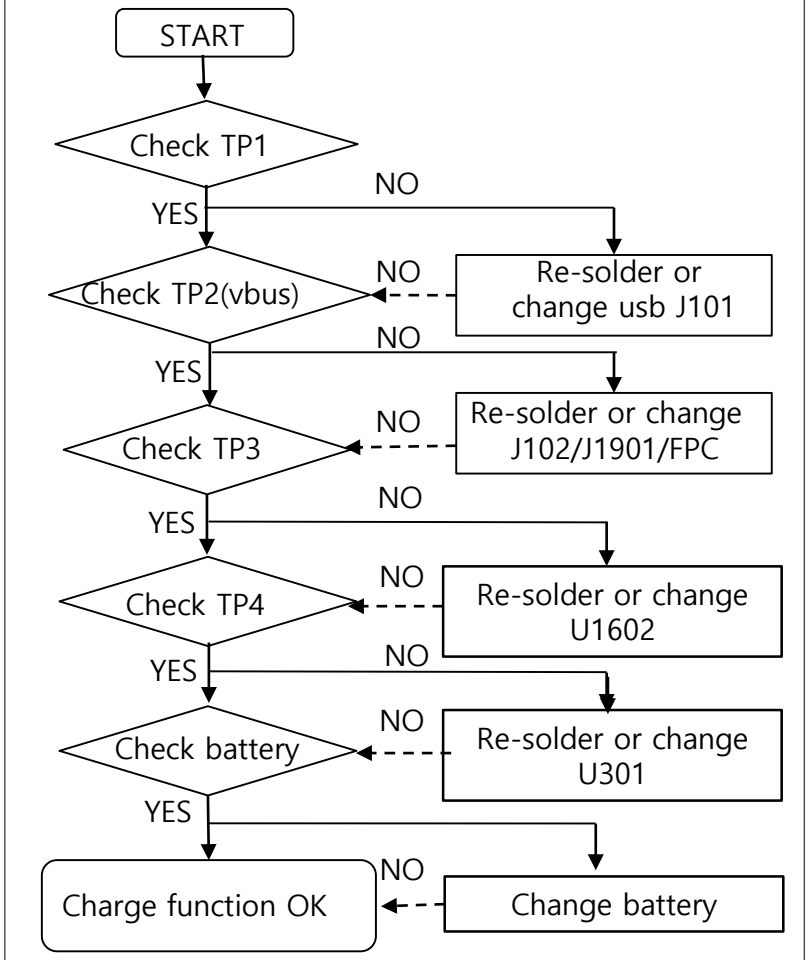
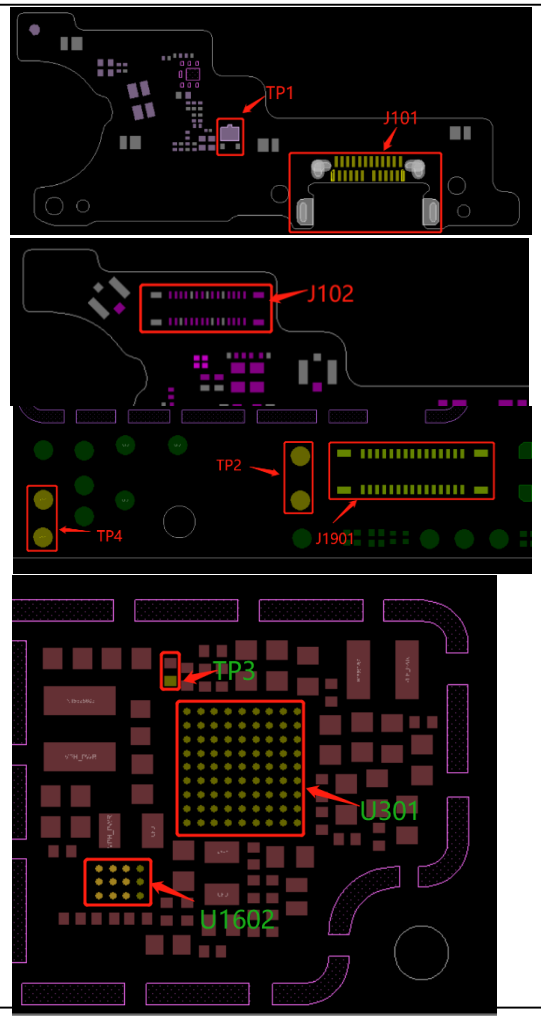
■ No Power

- Checking Power signal (Battery connector, PMU, Clock)



Troubleshooting

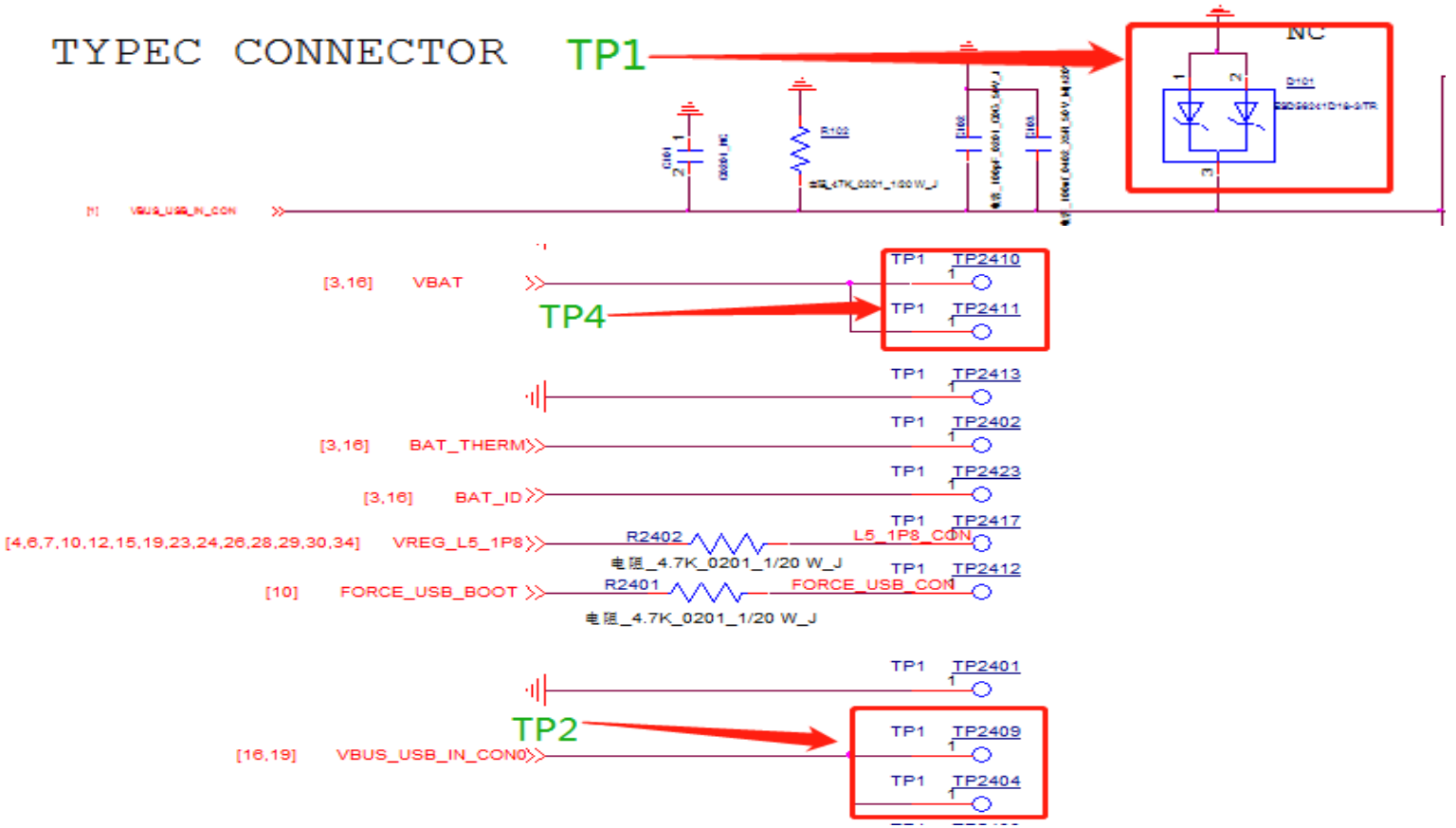
■ No Charging

CHECKING FLOW	IMAGE
	

Troubleshooting

■ No Charging

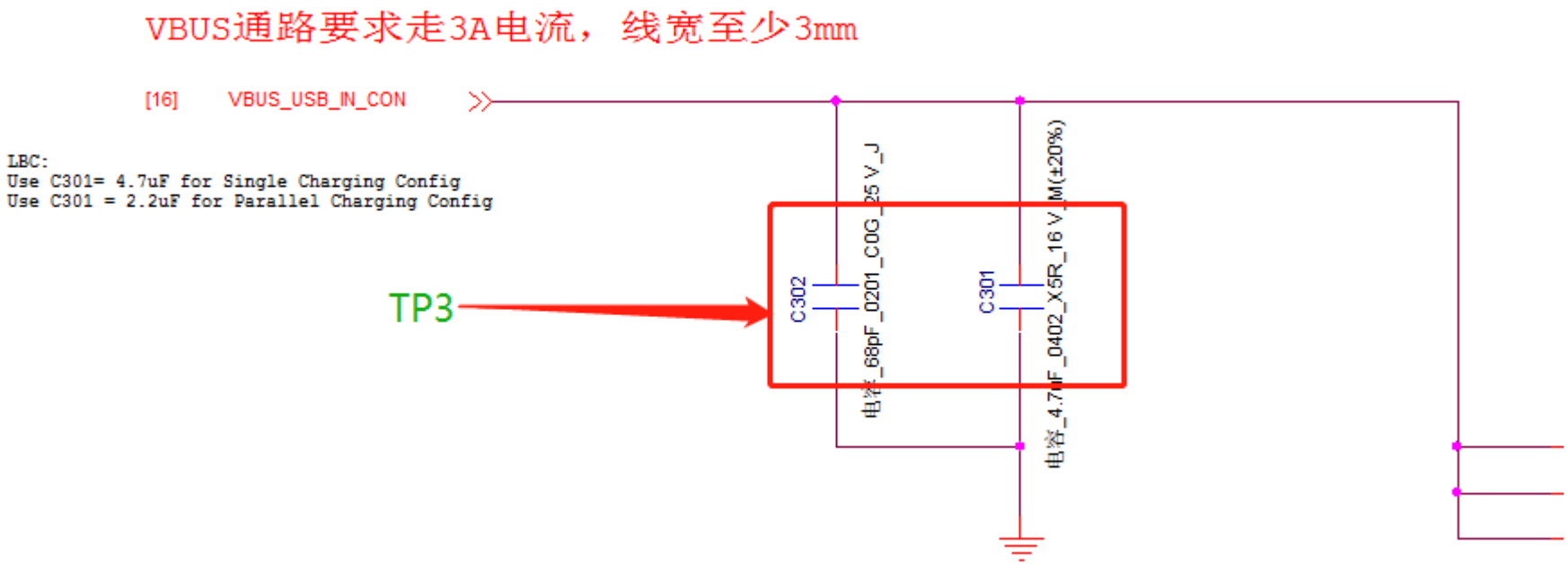
- The charging controlled by PMU chip PMI632 (U301).



Troubleshooting

No Charging

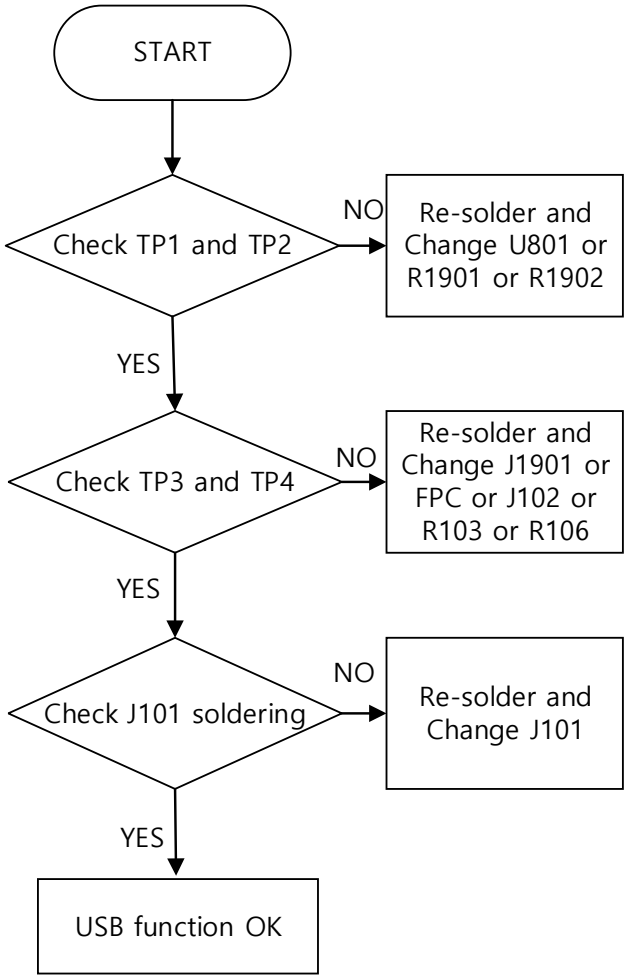
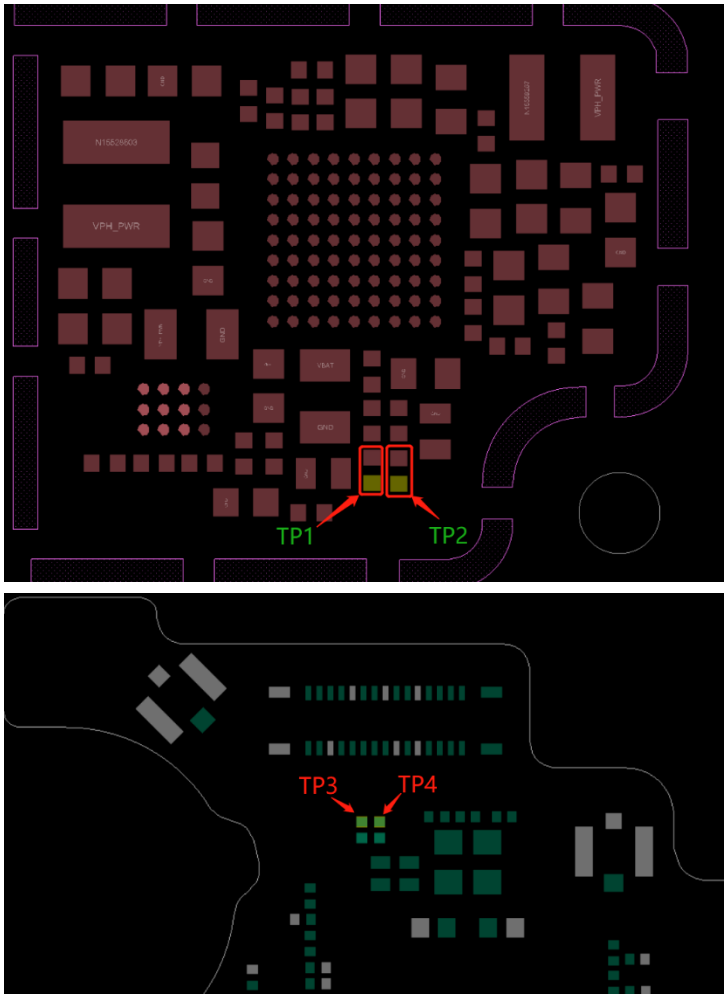
- The charging controlled by PMU chip PMI632 (U301).



Troubleshooting

■ USB

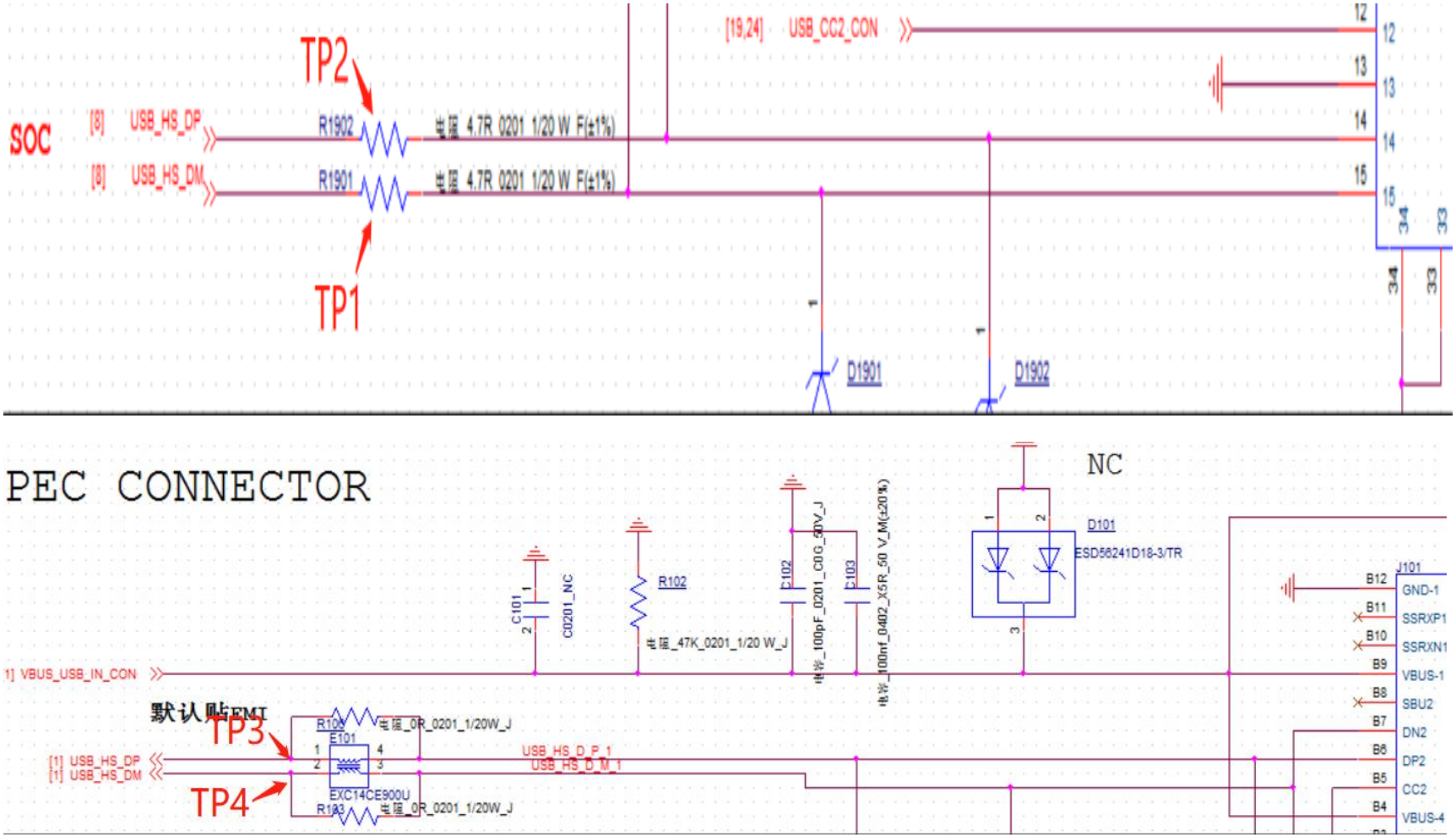
1. I/O connector is used as the USB port.

CHECKING FLOW	IMAGE
	

Troubleshooting

■ USB

1.1 I/O connector is used as the USB port.

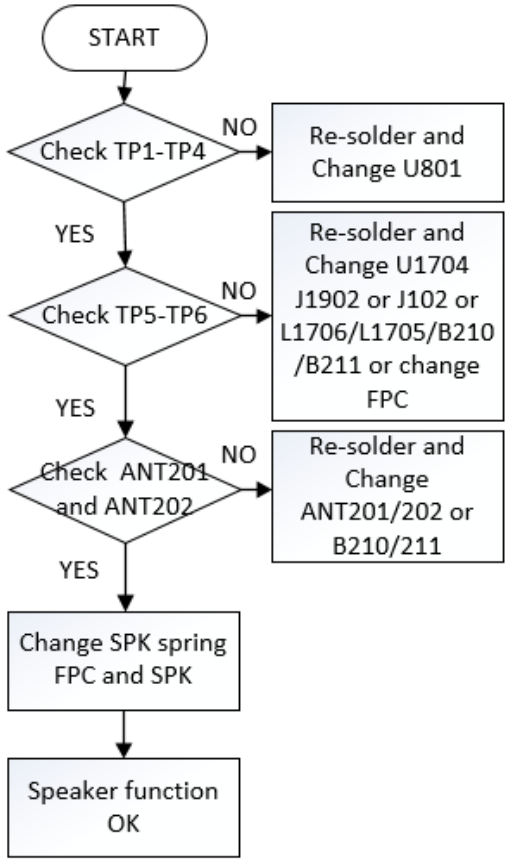
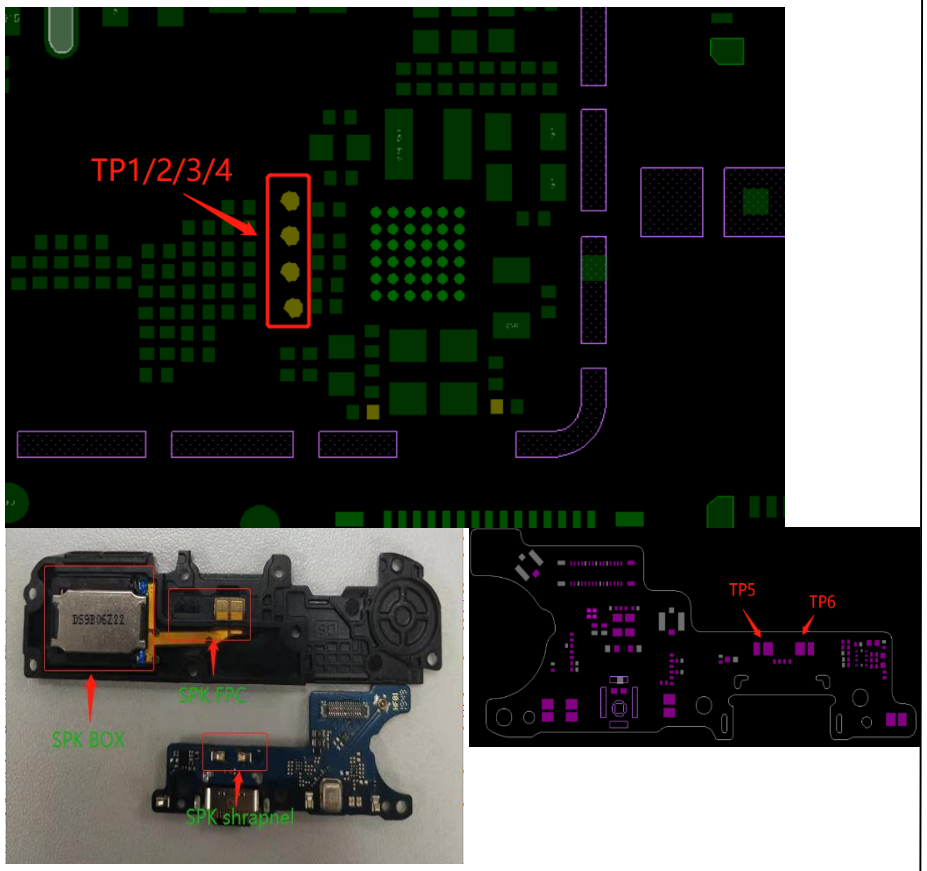


Troubleshooting

■ Sound Problem

2. Audio speaker

- The Speaker control signals are generated by CPU-SDM450(U801) and Smart PA(U1704) , the chip U801 、 U1704 and the speaker are to be checked out.

CHECKING FLOW	IMAGE
	

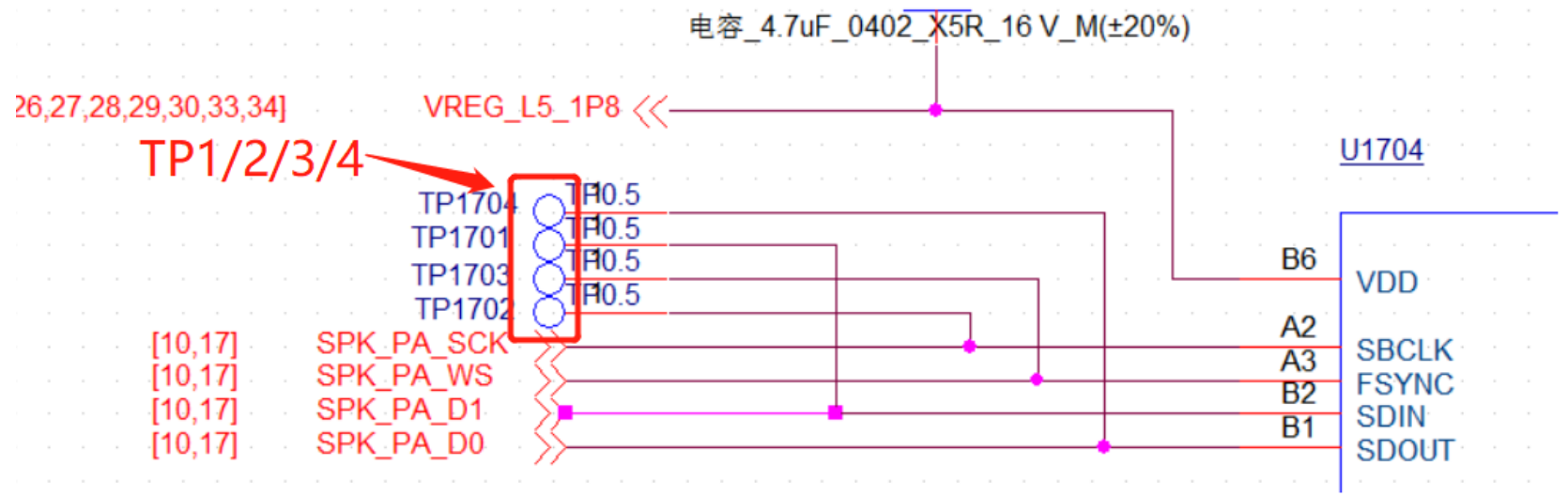
Troubleshooting

■ Sound Problem

2.1 Audio speaker

- The Speaker control signals are generated by PM8953(U201) , the chip and the speaker are to be checked out.

Circuit Diagram

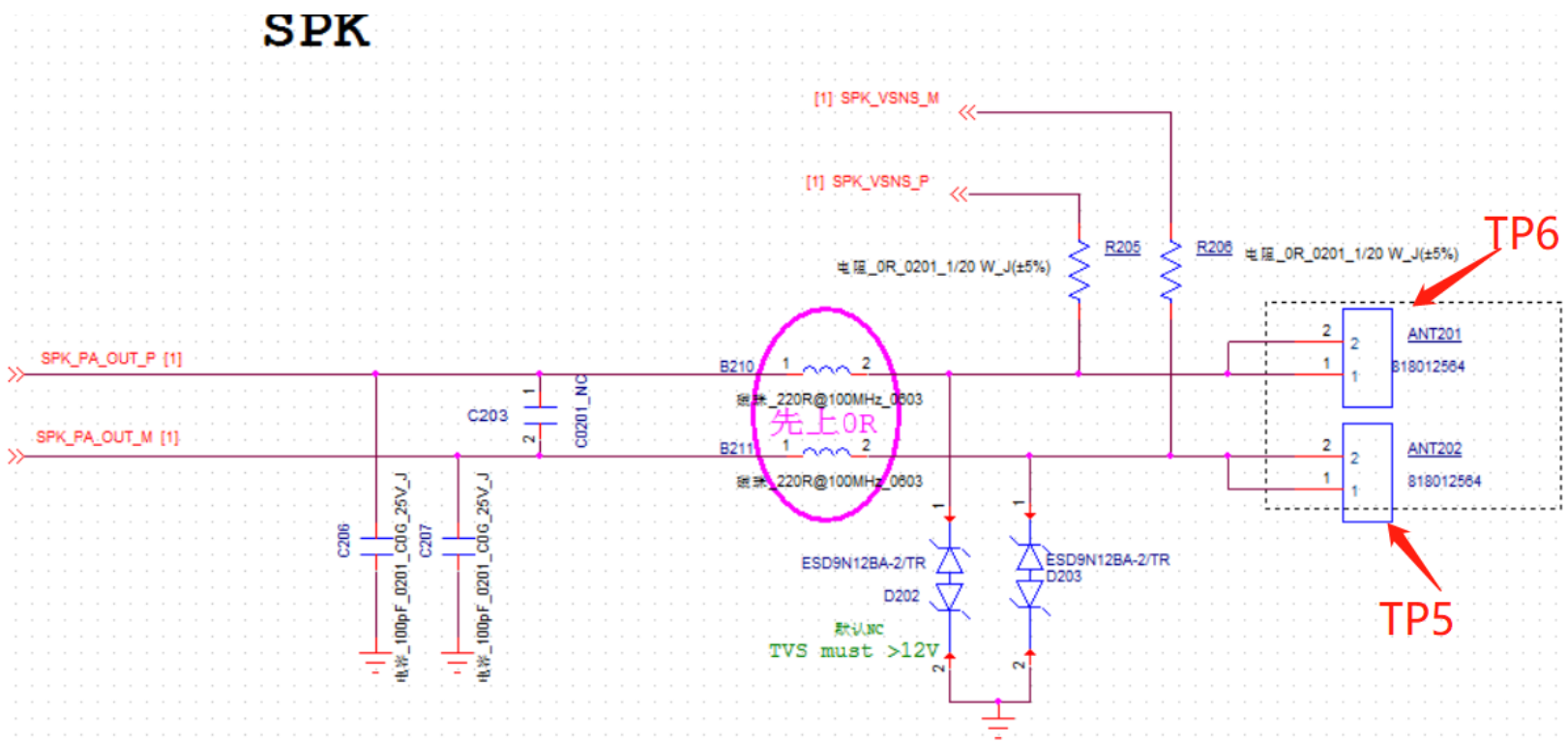


Troubleshooting

■ Sound Problem

2. 2 Audio speaker
- The Speaker control signals are generated by PM8953(U201) , the chip and the speaker are to be checked out.

Circuit Diagram

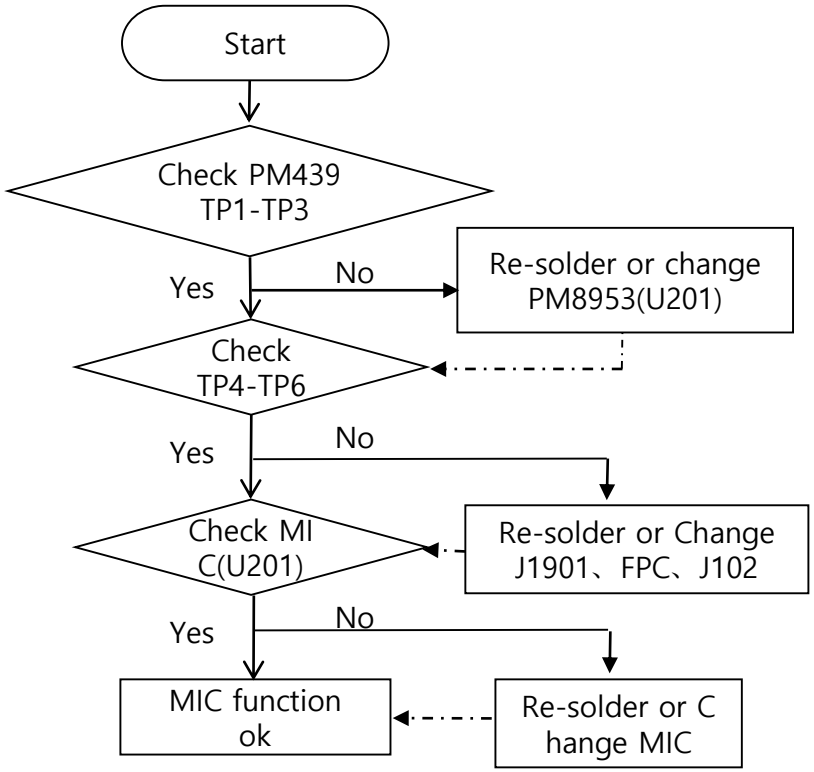
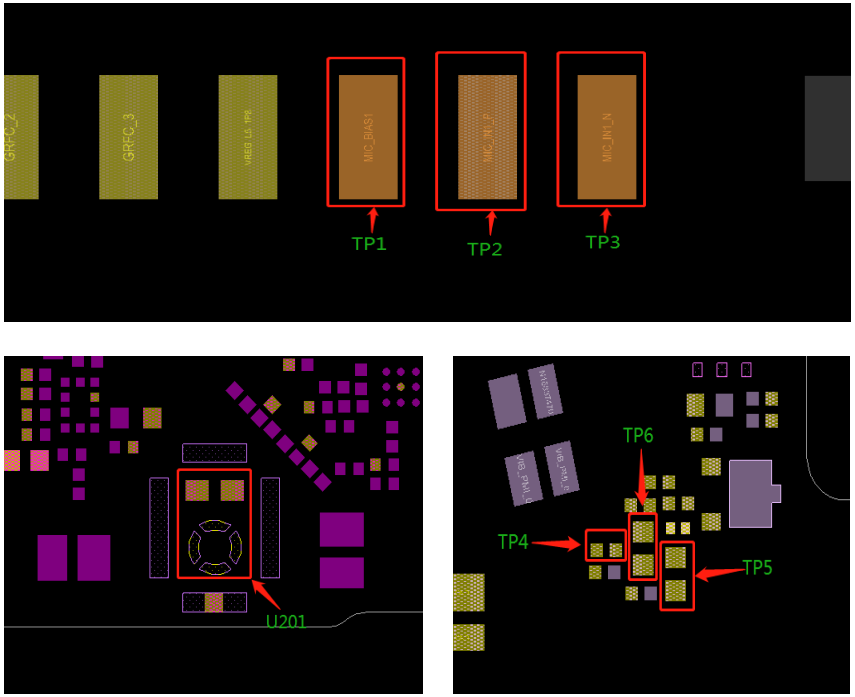


Troubleshooting

■ Sound Problem

3. Audio Main MIC

The MIC control signals are generated by PMU chip PM8953(U201), the PMU chip and the MIC are to be checked out.

CHECKING FLOW	IMAGE
	

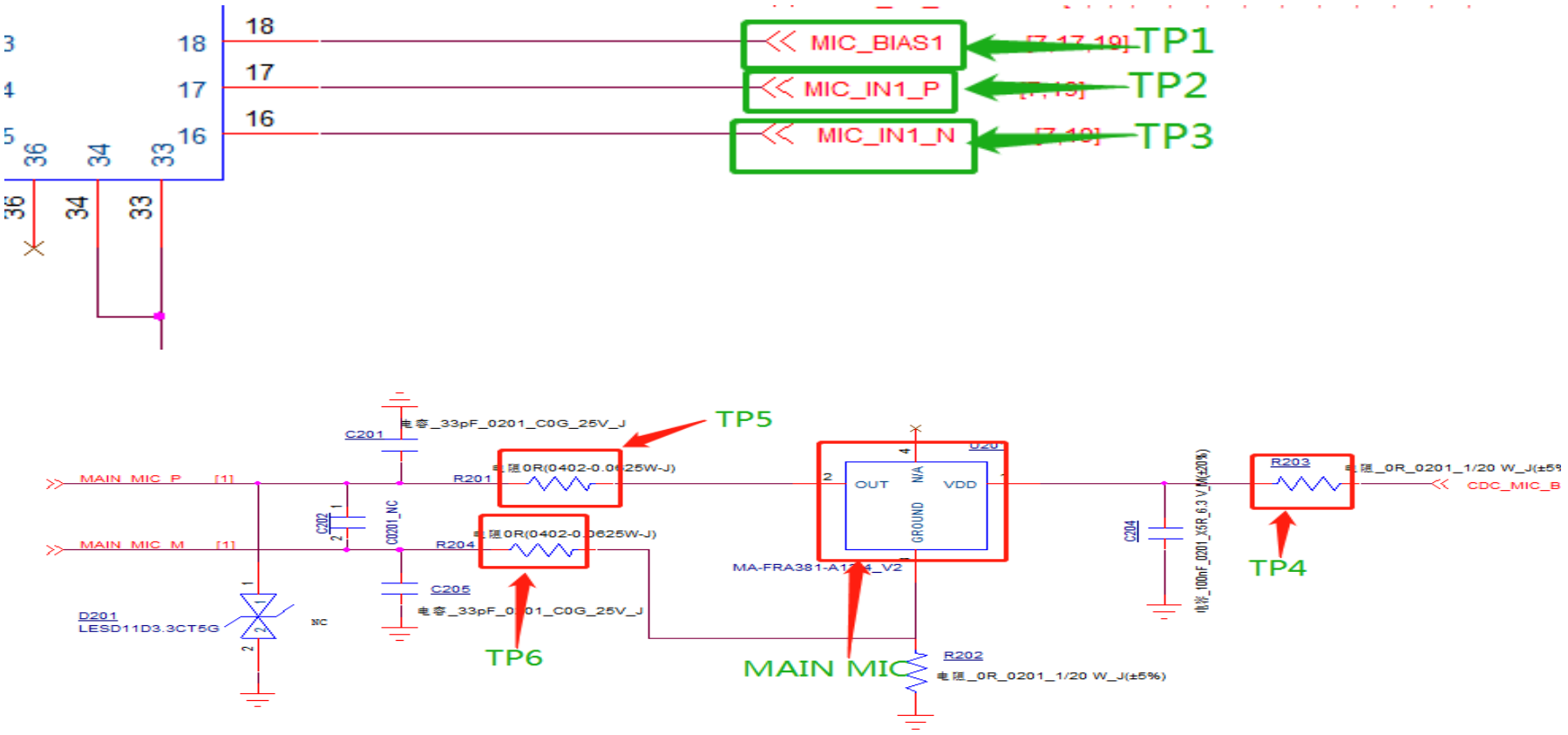
Troubleshooting

■ Sound Problem

3.1 Audio Main MIC

The MIC control signals are generated by PMU chip PM8953(U201), the PMU chip and the MIC are to be checked out.

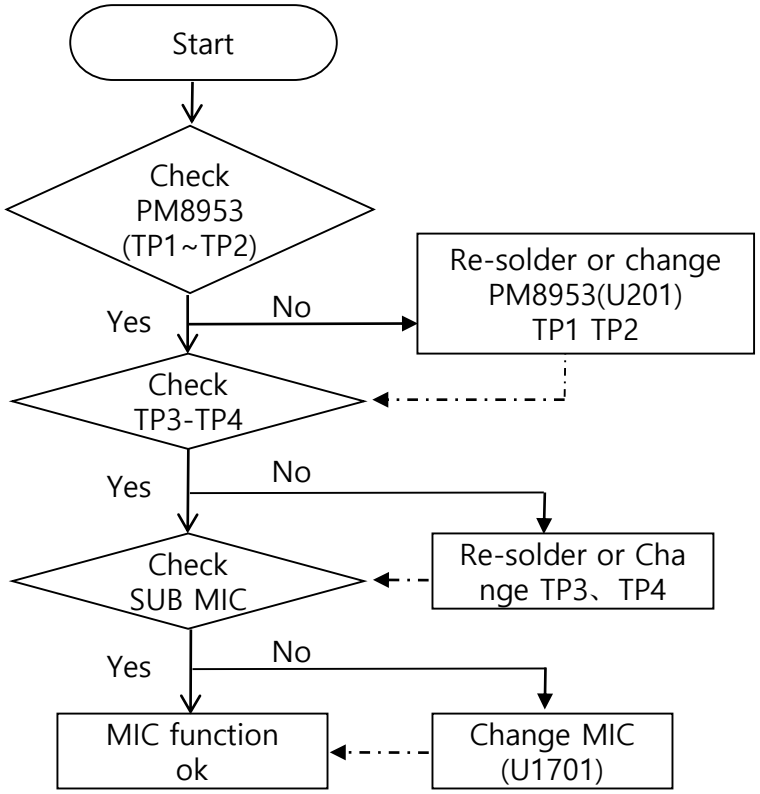
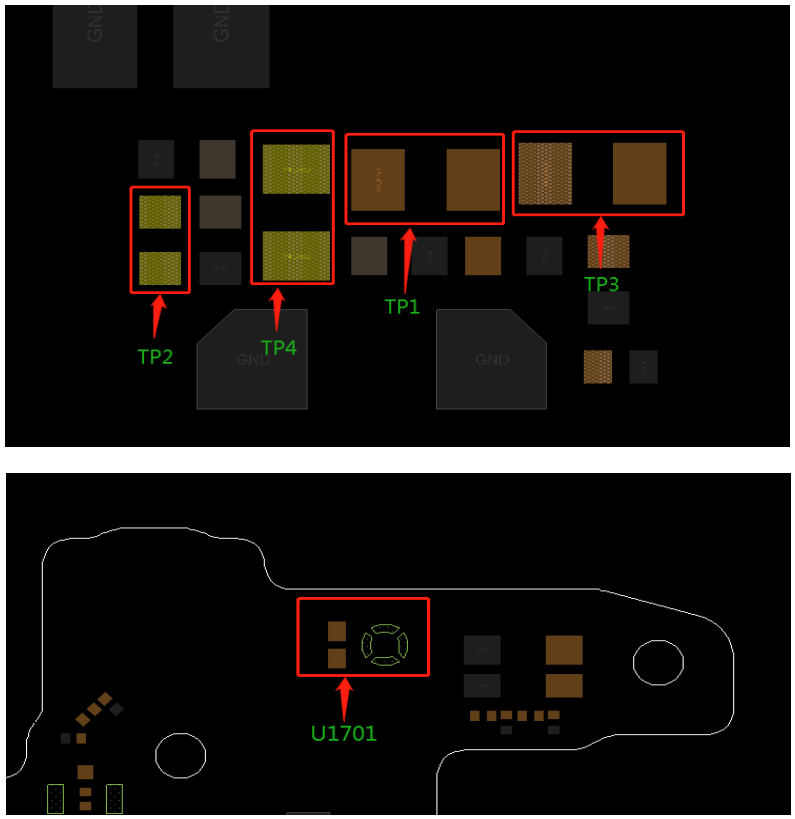
Circuit Diagram



Troubleshooting

■ Sound Problem

4. Audio SUB MIC
The MIC control signals are generated by PM8953(U201), the PMU chip and the MIC are to be checked out.

CHECKING FLOW	IMAGE
	

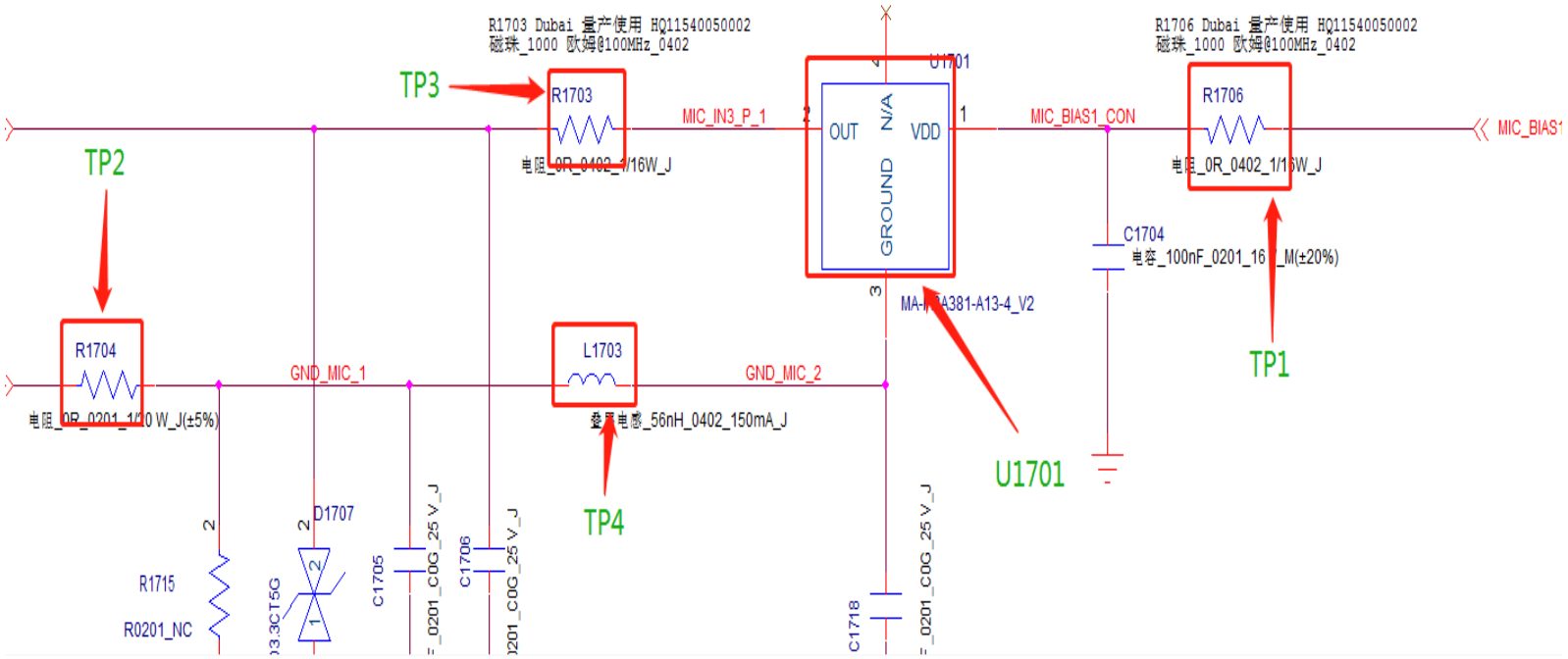
Troubleshooting

■ Sound Problem

4.1 Audio SUB MIC

The MIC control signals are generated by PM8953(U201), the PMU chip and the MIC are to be checked out.

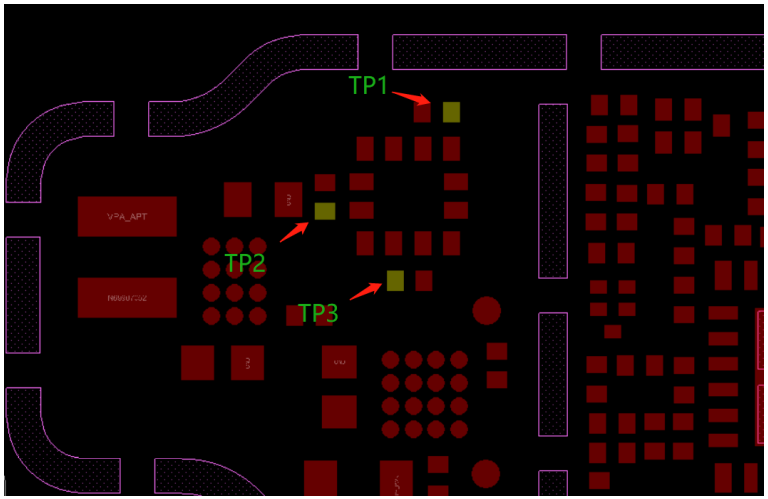
Circuit Diagram



Troubleshooting

■ G-SENSOR

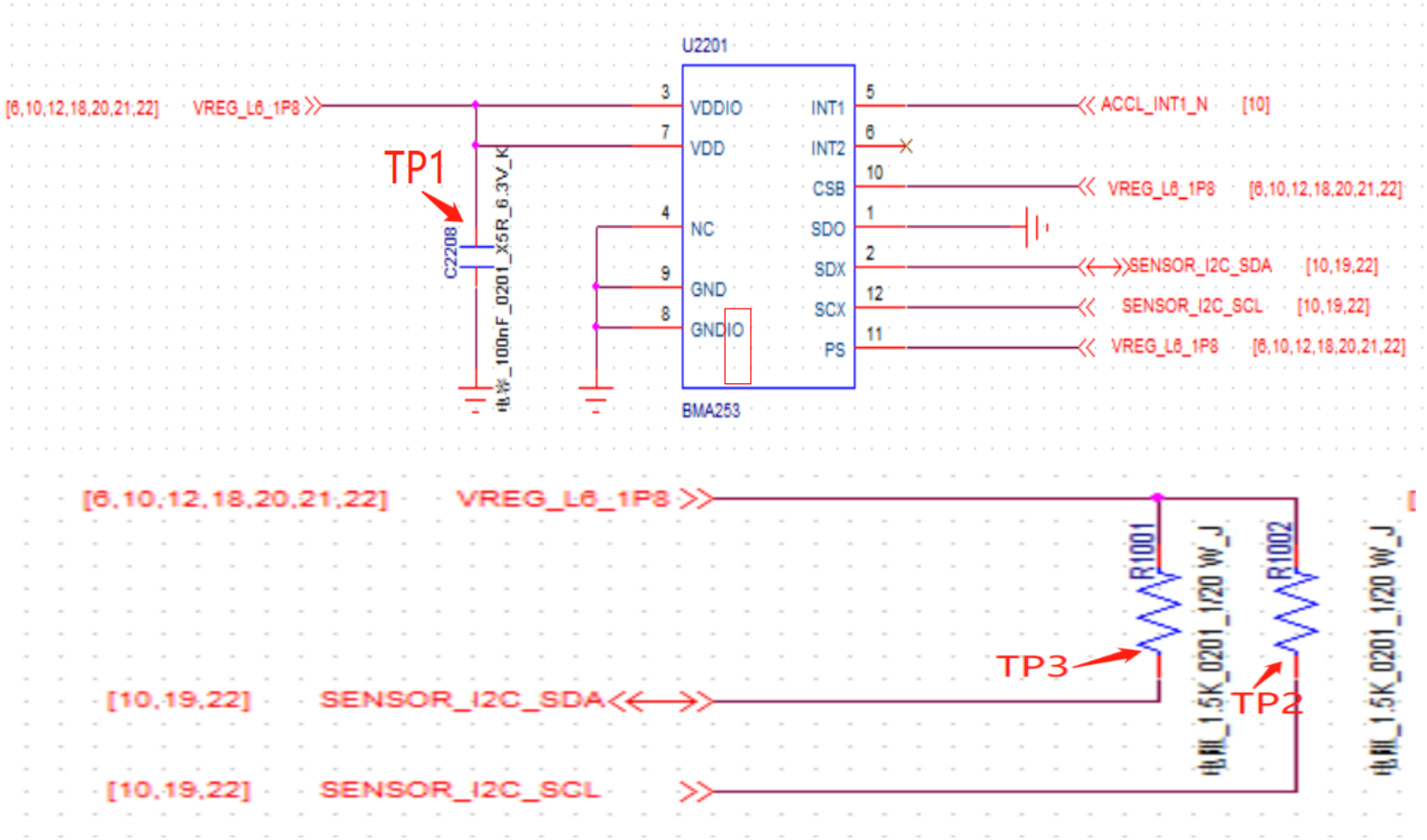
5. The G sensor is calibrated by using SW algorithm.

CHECKING FLOW	IMAGE
START Check VREG_L6_1P8(TP1) NO → Re-solder and Change U201 YES Check TP2-TP3 NO → Re-solder and Change R1001 or R1002 YES Re-solder and Change U2201 G sensor function OK	

Troubleshooting

■ G-SENSOR

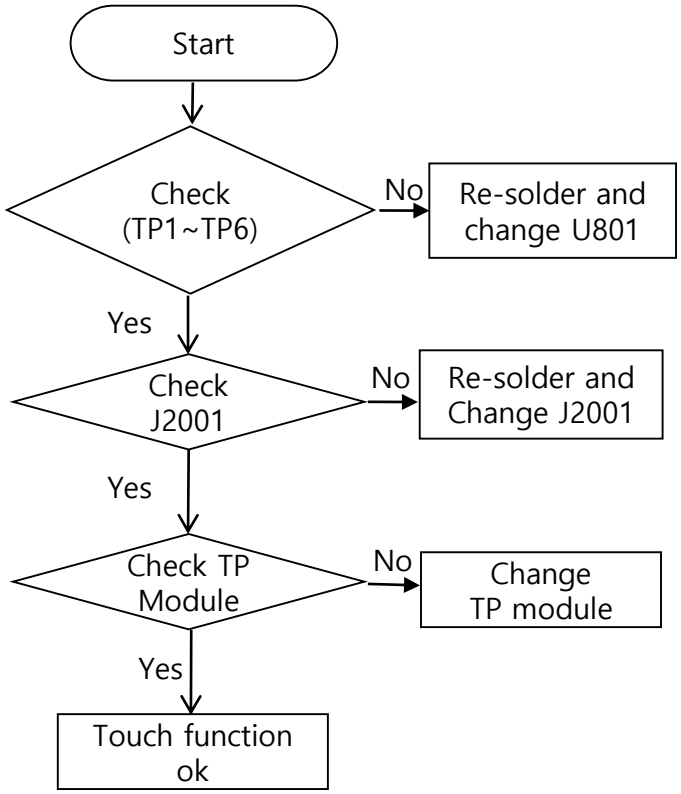
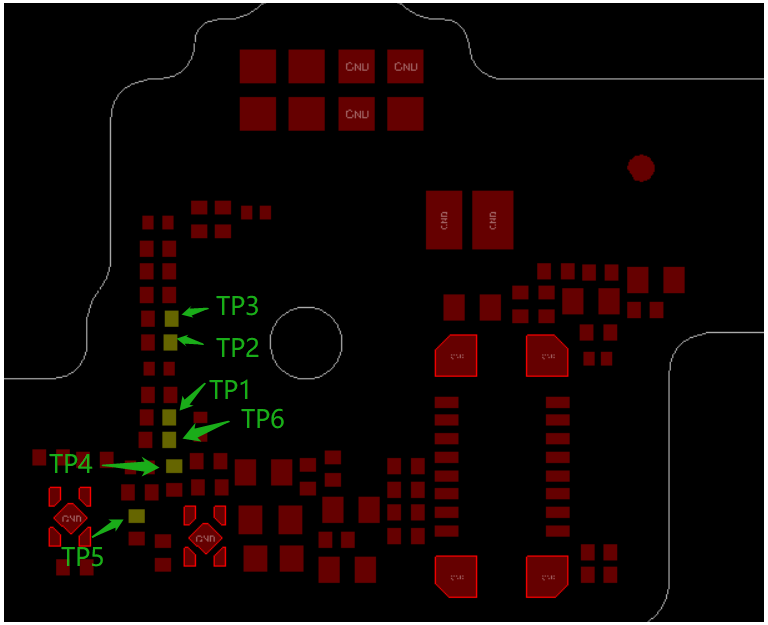
5.1 The G sensor is calibrated by using SW algorithm.



Troubleshooting

■ Proximity and light sensor

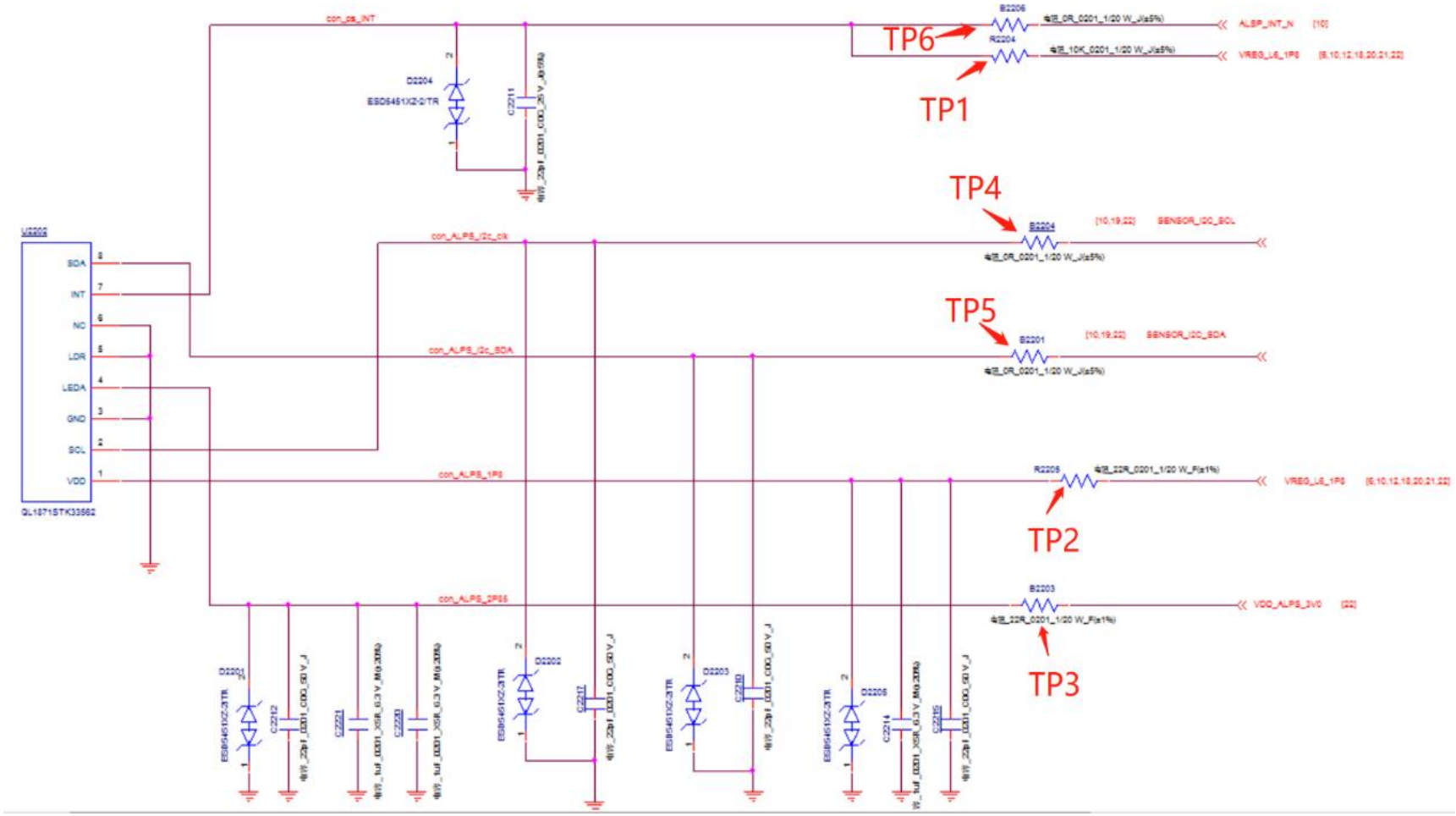
6. Proximity and Light Sensor is worked as below: Control the screen's on/off operation automatically while making phone calls, and adjust the screen brightness according to ambient light

CHECKING FLOW	IMAGE
	

Troubleshooting

■ Proximity and light sensor

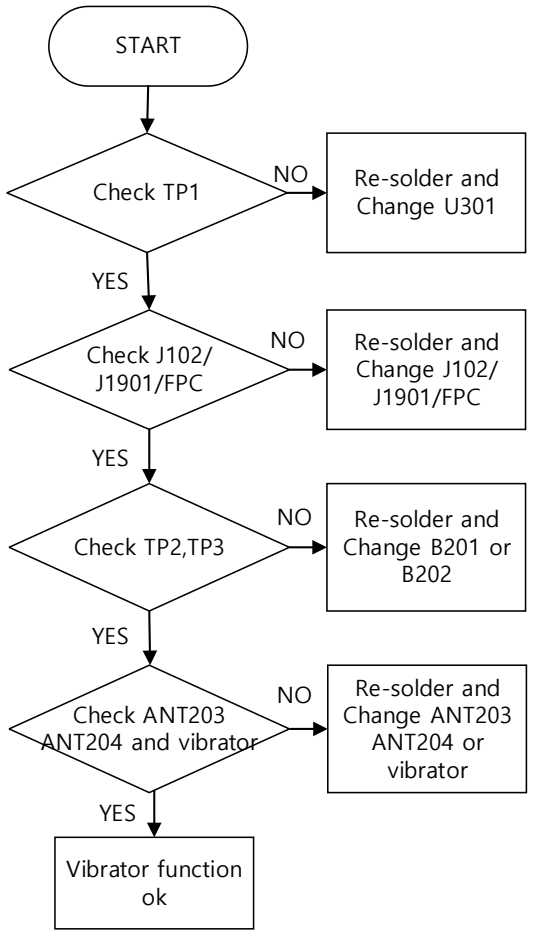
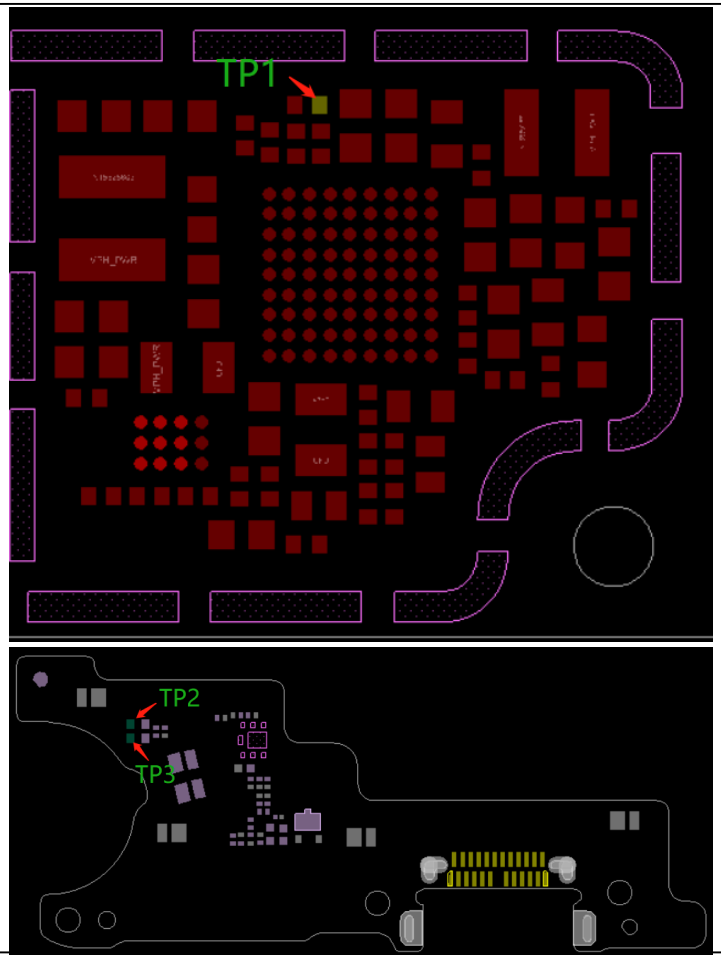
6.1 Proximity and Light Sensor is worked as below: Control the screen's on/off operation automatically while making ph one calls, and adjust the screen brightness according to ambient light.



Troubleshooting

■ Vibrator

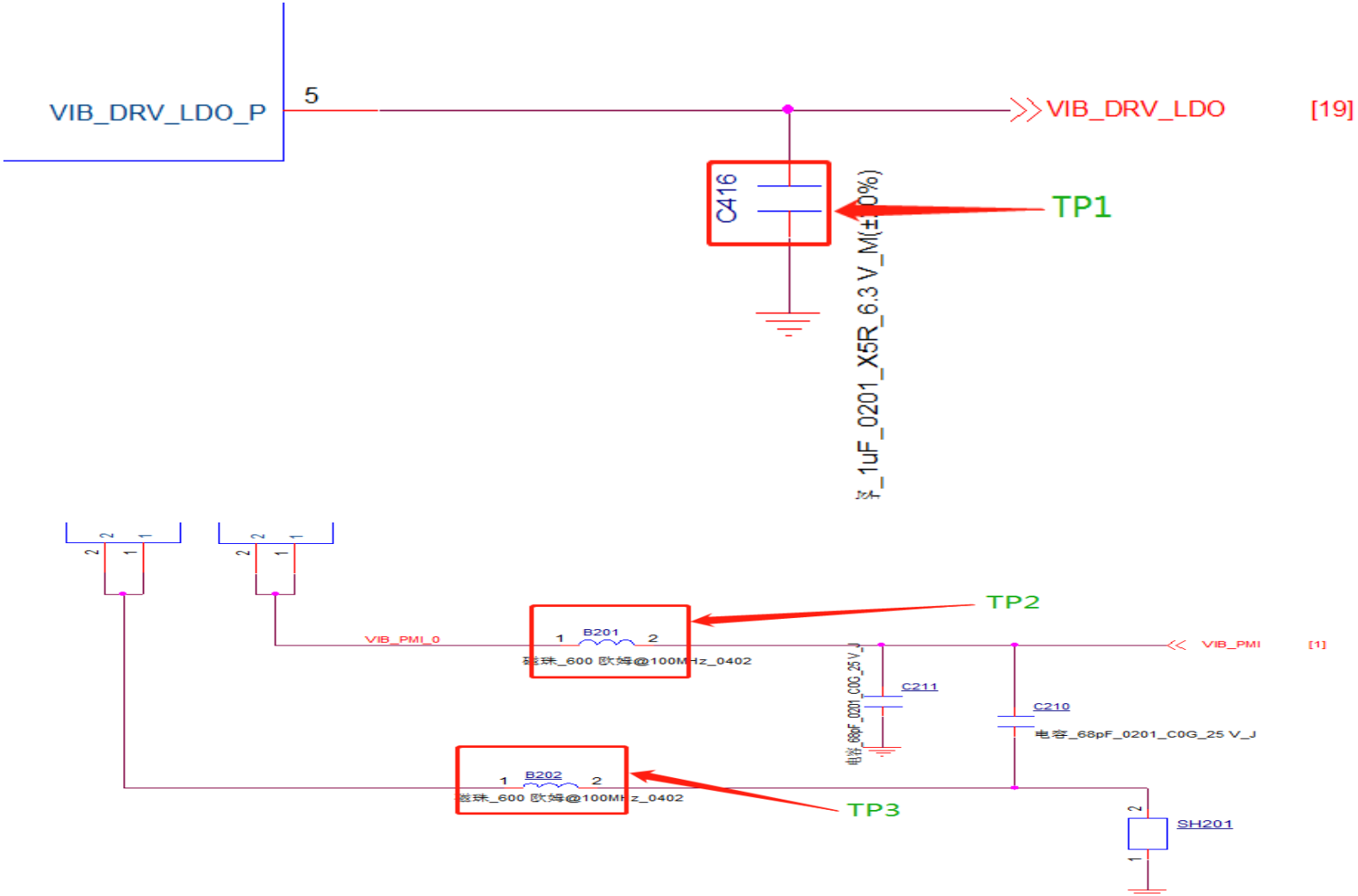
7. The Vibrator control signals are generated by PMI632(U301).

CHECKING FLOW	IMAGE
	

Troubleshooting

■ Vibrator

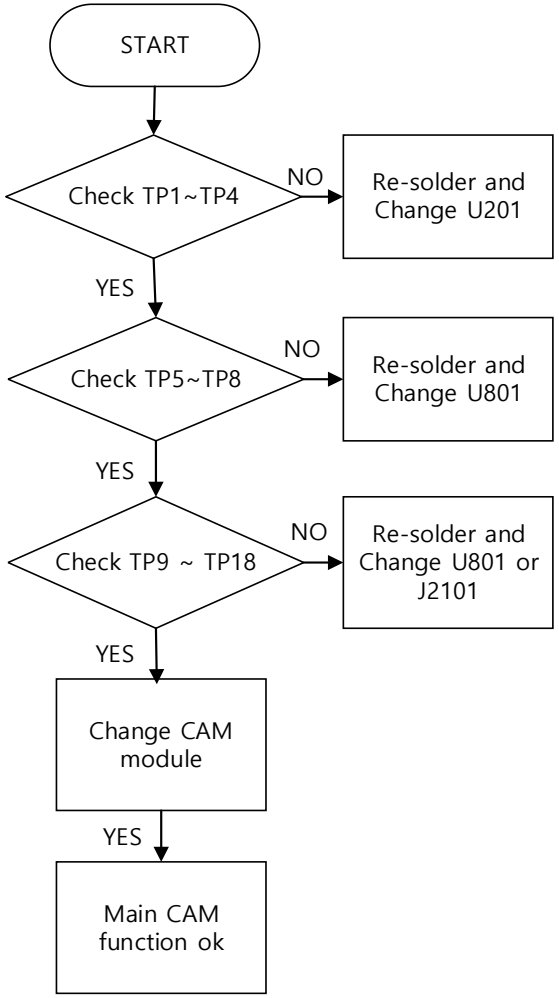
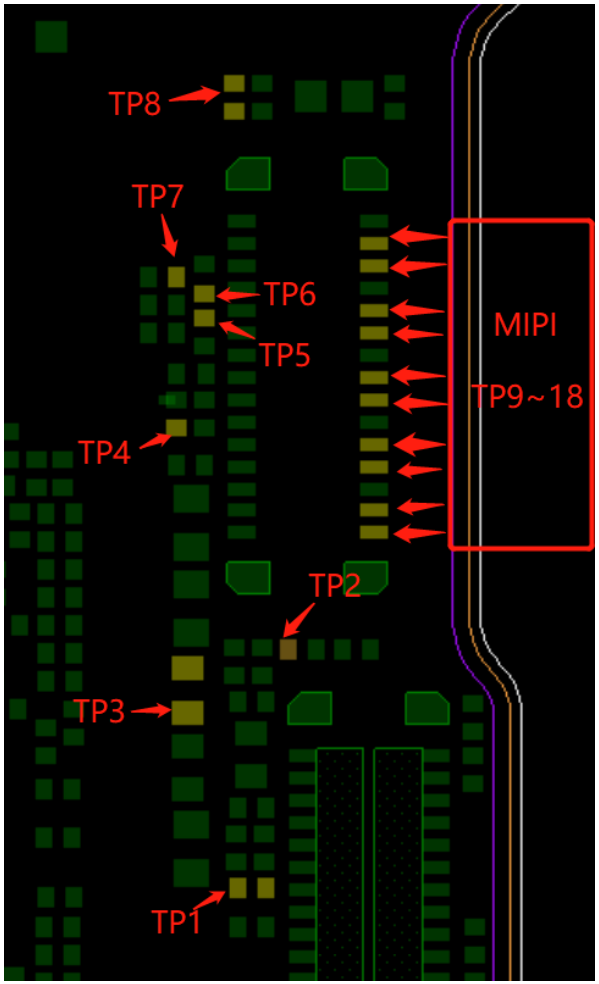
7.1 The Vibrator control signals are generated by PMI632(U301).



Troubleshooting

■ Main Camera

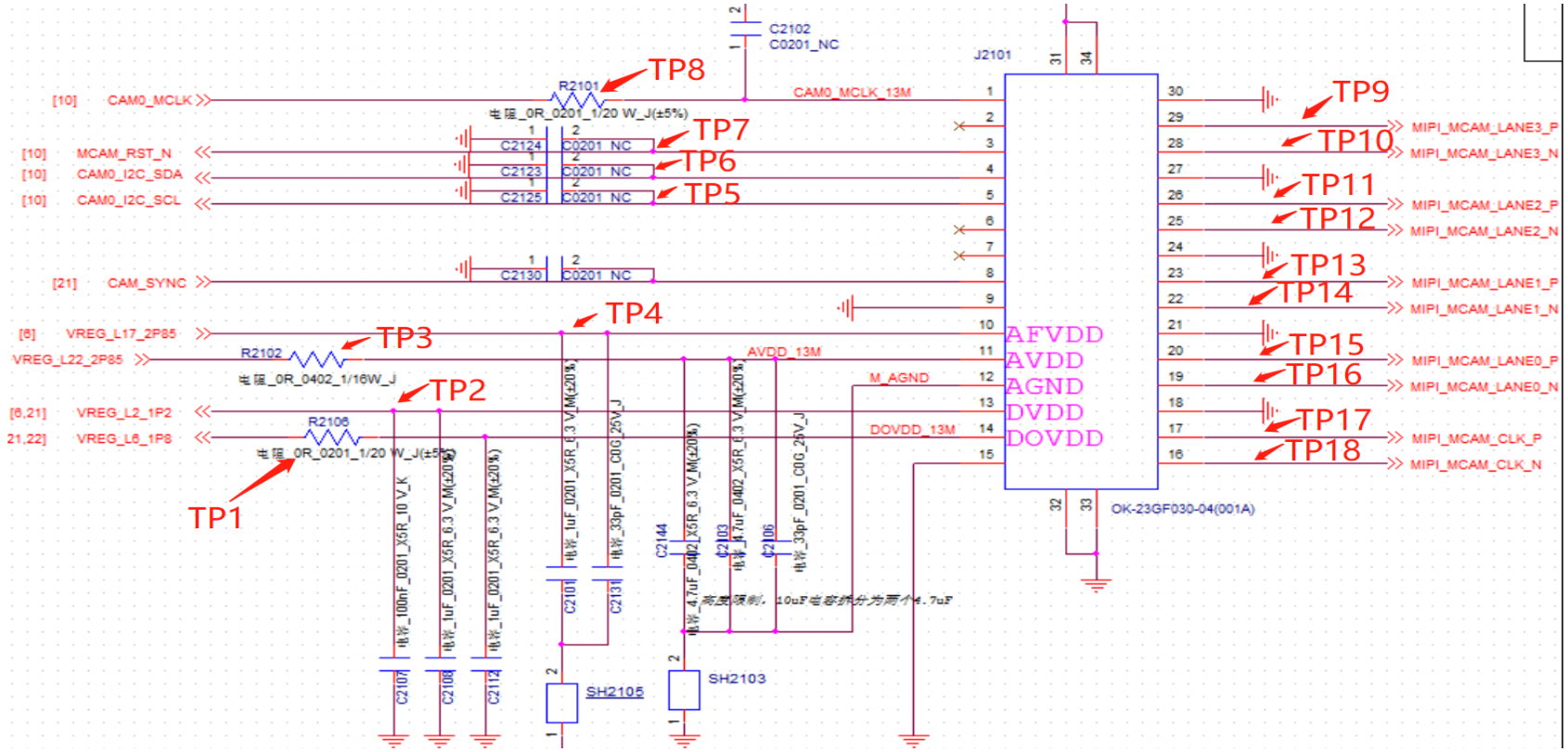
8. The Camera control signals are generated by PM8953 (U201) and SDM450(U801)

CHECKING FLOW	IMAGE
	

Troubleshooting

■ Main Camera

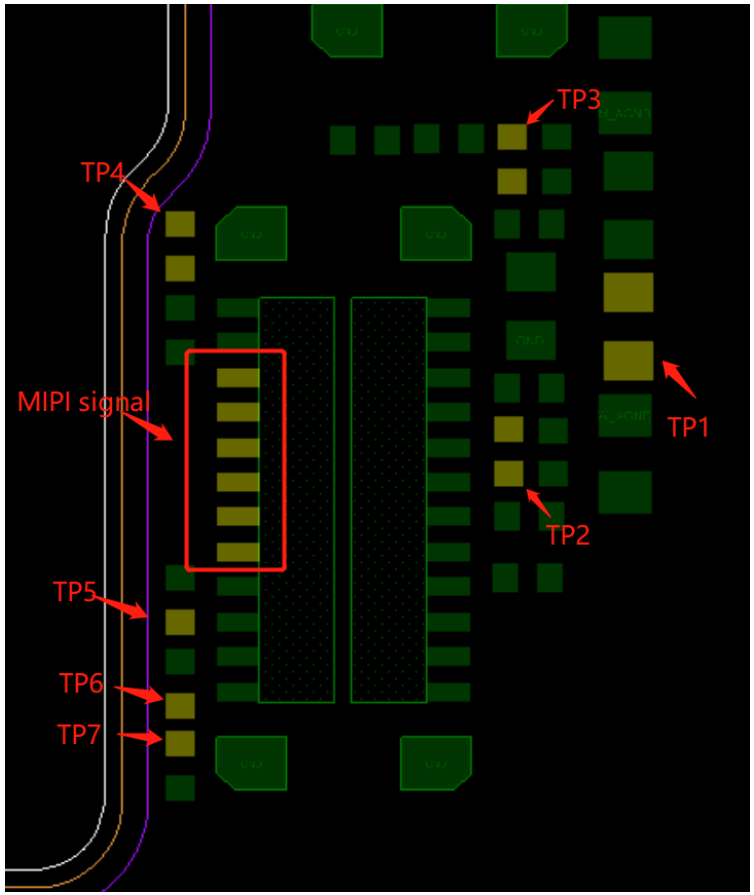
8. The Camera control signals are generated by PM8953 (U201) and SDM450(U801)



Troubleshooting

■ Rear auxiliary 5M Camera

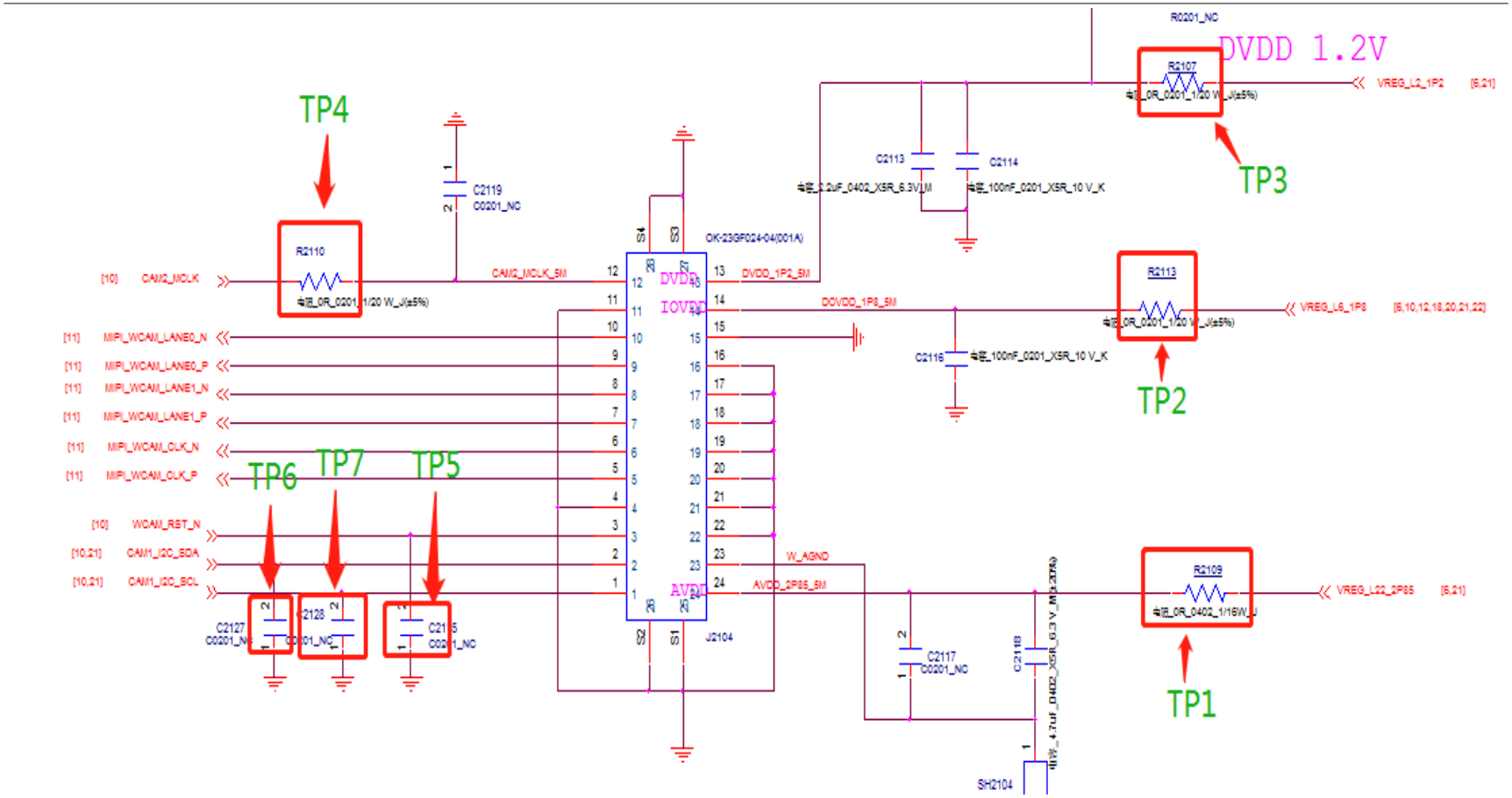
9. The Camera control signals are generated by PM8953（U201）and SDM450(U801)

CHECKING FLOW	IMAGE
START Check TP1~TP3 — NO → Re-solder and Change U201 YES Check TP4~TP7 — NO → Re-solder and Change U801 YES Check MIPI signal — NO → Re-solder and Change U801 or J2104 YES Change CAM module YES 5M Wide CAM function ok	

Troubleshooting

■ Rear auxiliary 5M Camera

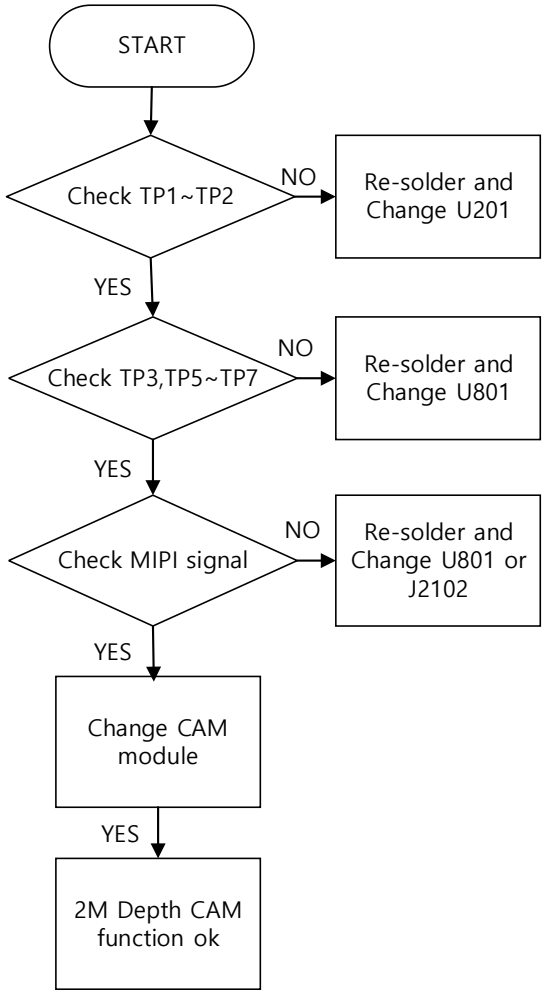
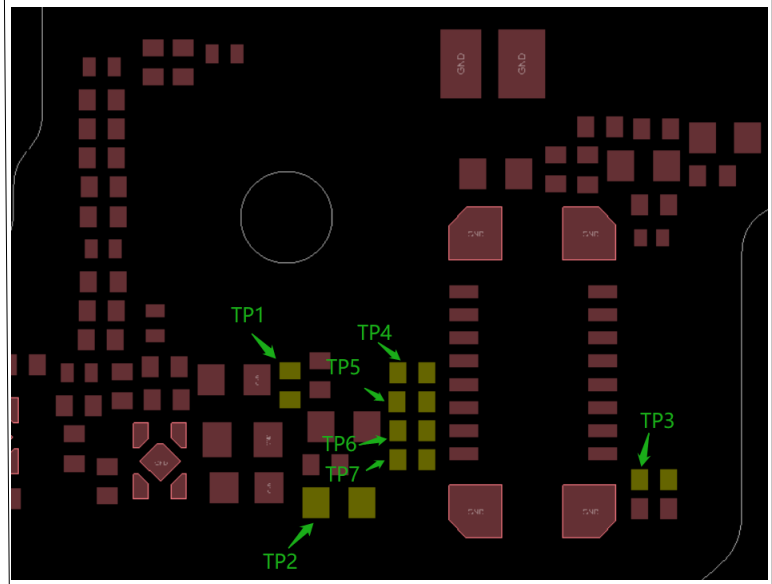
9.1 The Camera control signals are generated by PM8953（U201）and SDM450(U801)



Troubleshooting

■ Rear auxiliary 2M Camera

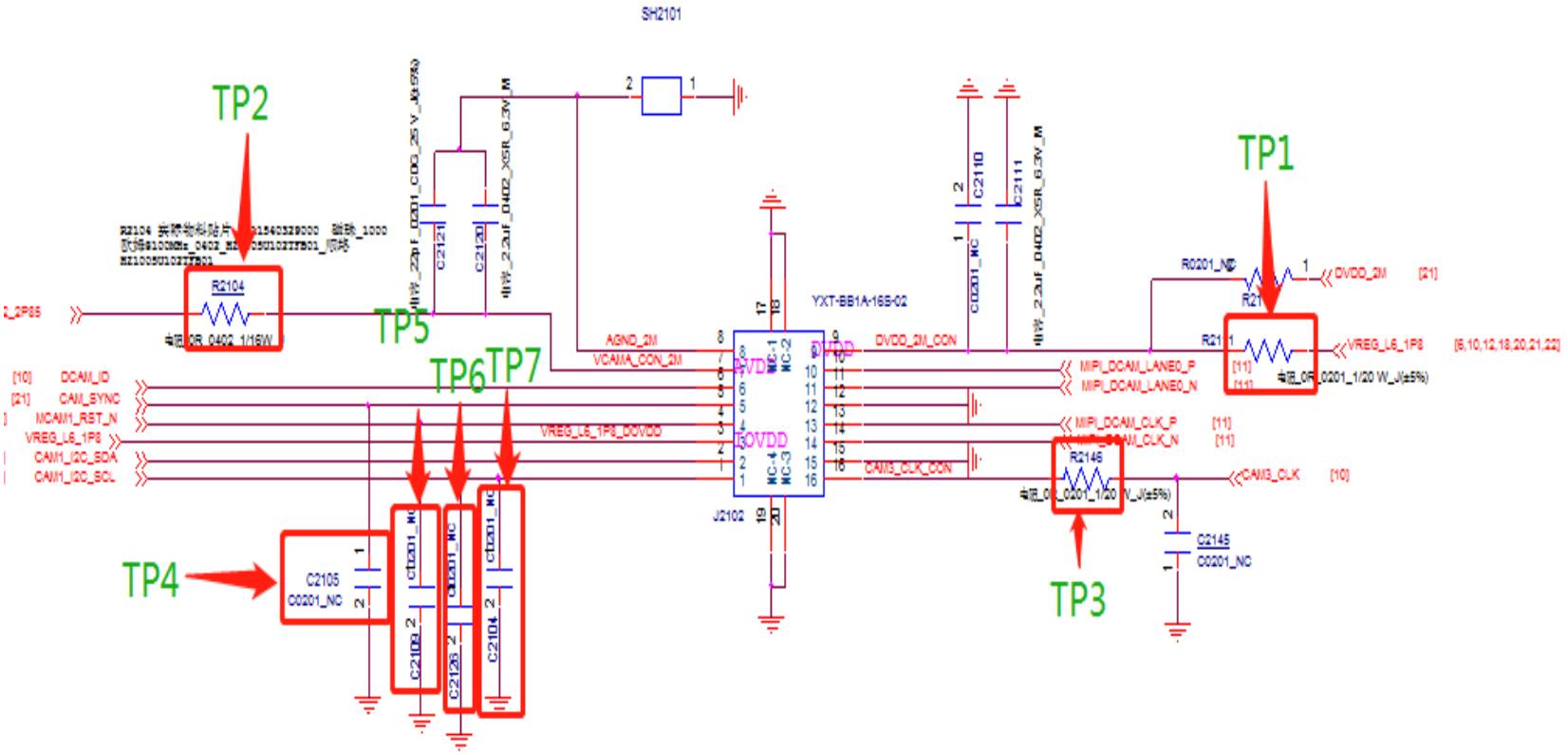
10. The Camera control signals are generated by PM8953(U201) and SDM450(U801)

CHECKING FLOW	IMAGE
	

Troubleshooting

■ Rear auxiliary 2M Camera

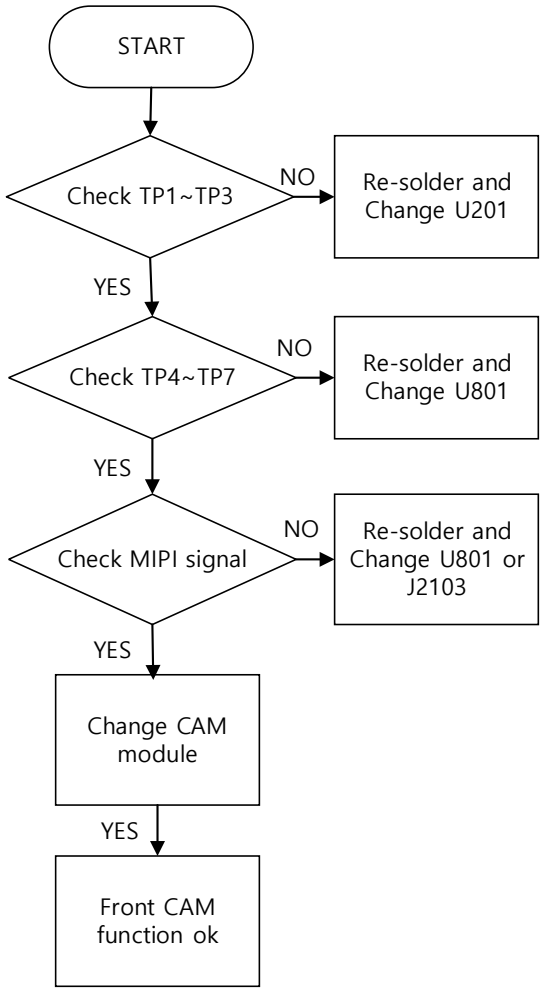
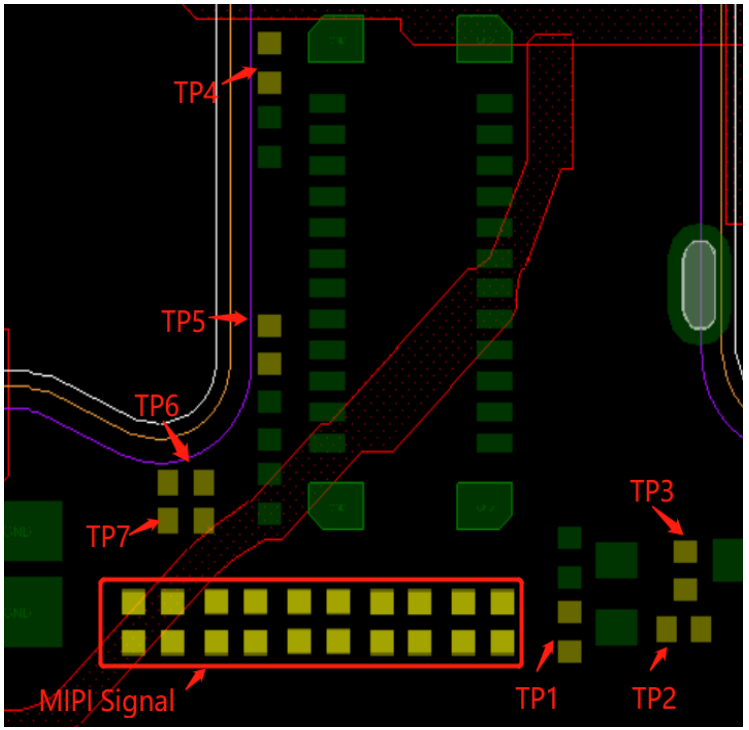
10. 1 The Camera control signals are generated by PM8953(U201) and SDM450(U801)



Troubleshooting

■ Front Camera

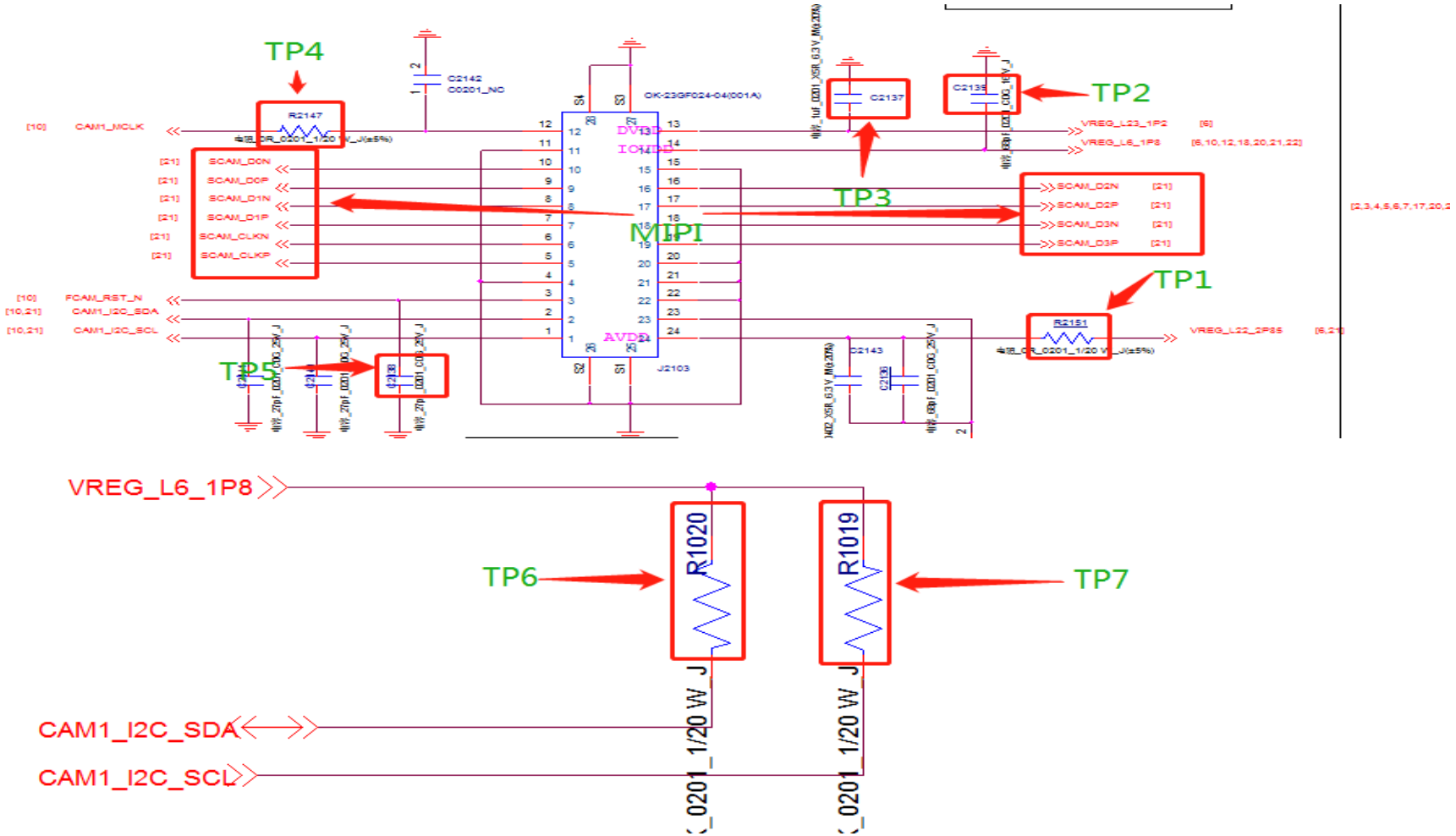
11. The Camera control signals are generated by PM8953（U201）and SDM450(U801).

CHECKING FLOW	IMAGE
	

Troubleshooting

■ Front Camera

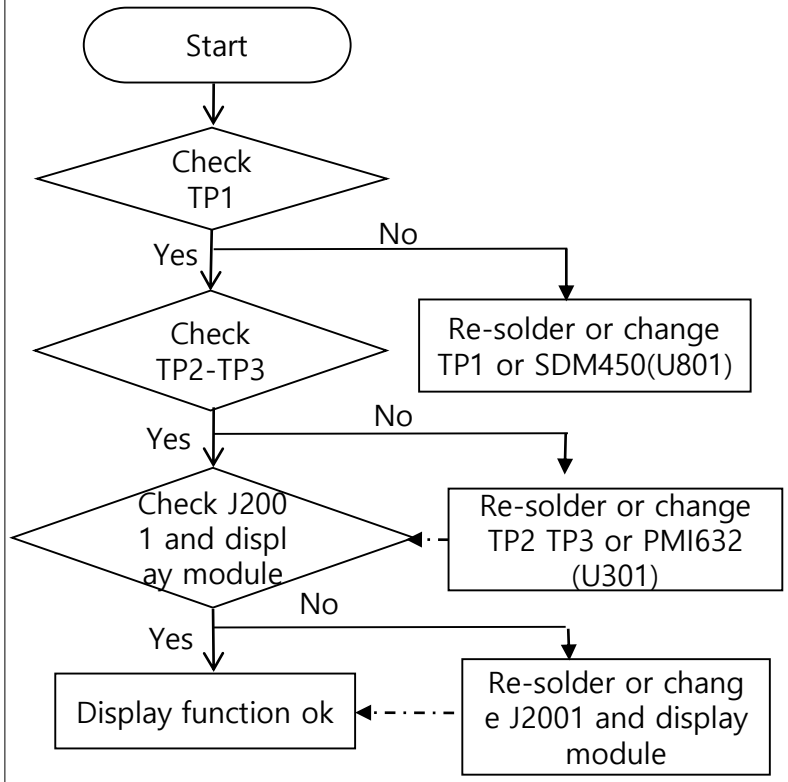
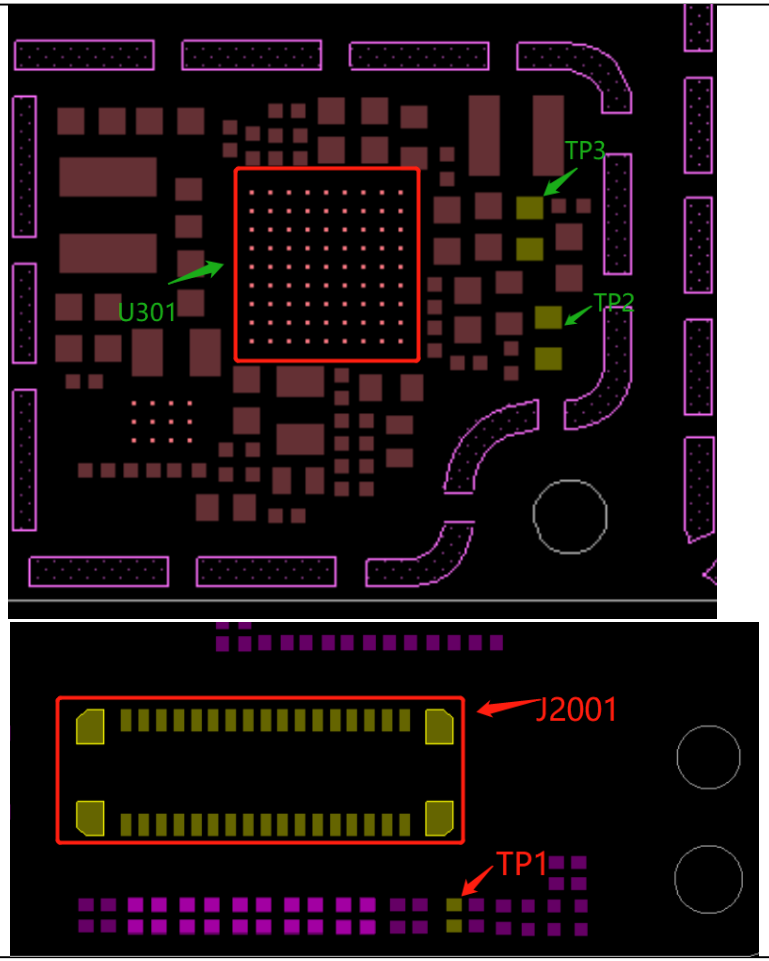
11.1 The Camera control signals are generated by PM8953（U201） and SDM450(U801).



Troubleshooting

■ Display Problem

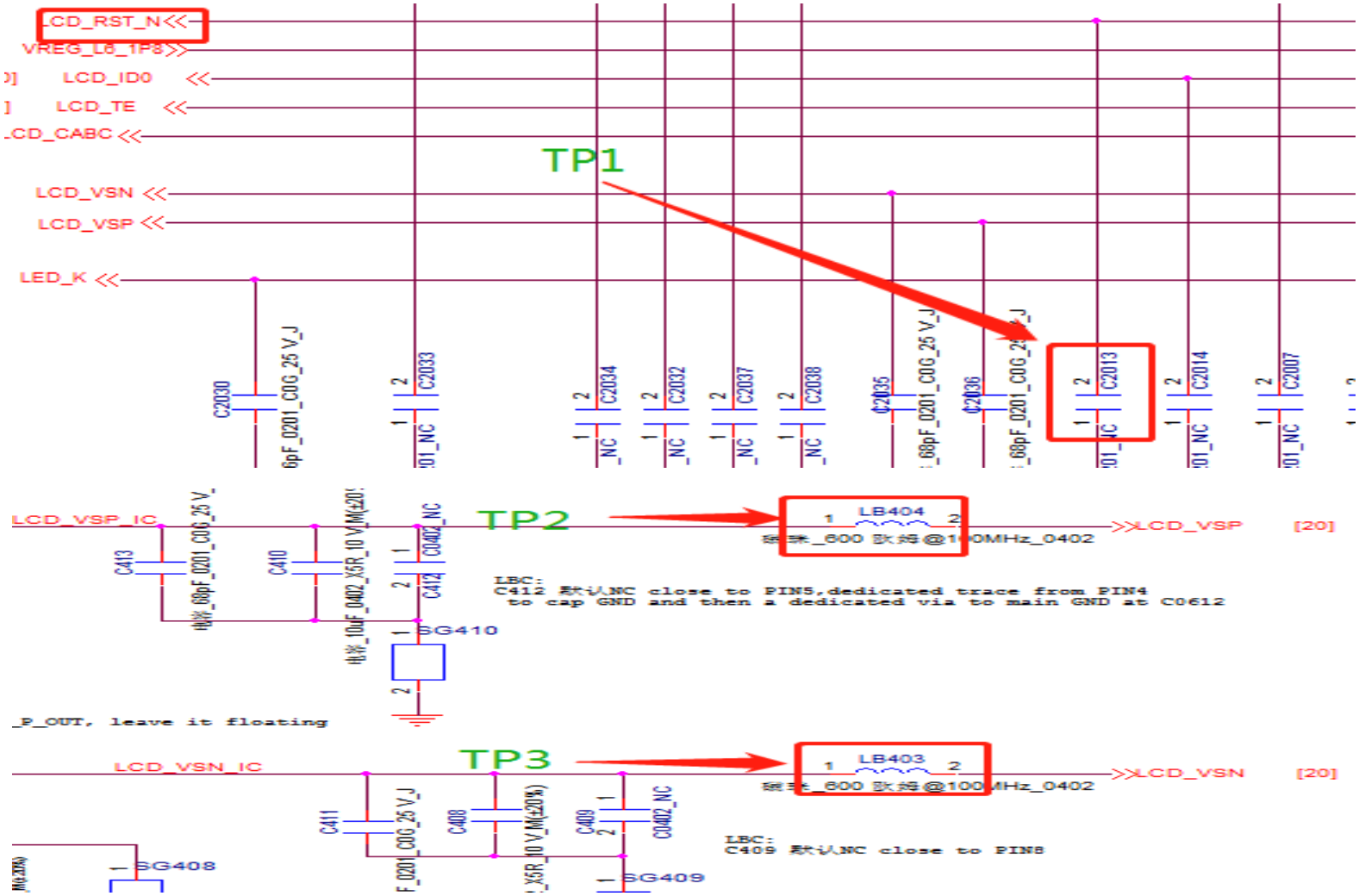
12. The LCD control signals are generated by SDM450.

CHECKING FLOW	IMAGE
	

Troubleshooting

■ Display Problem

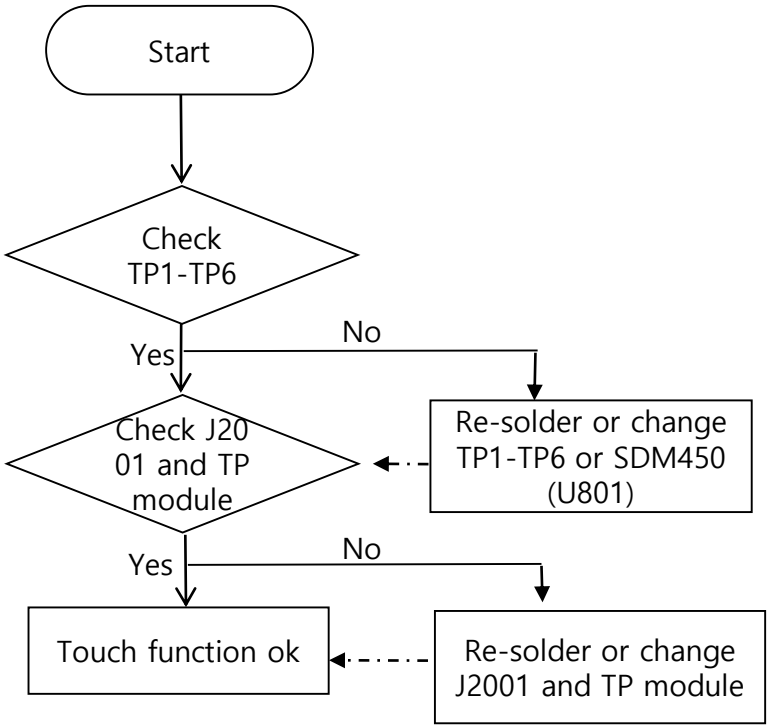
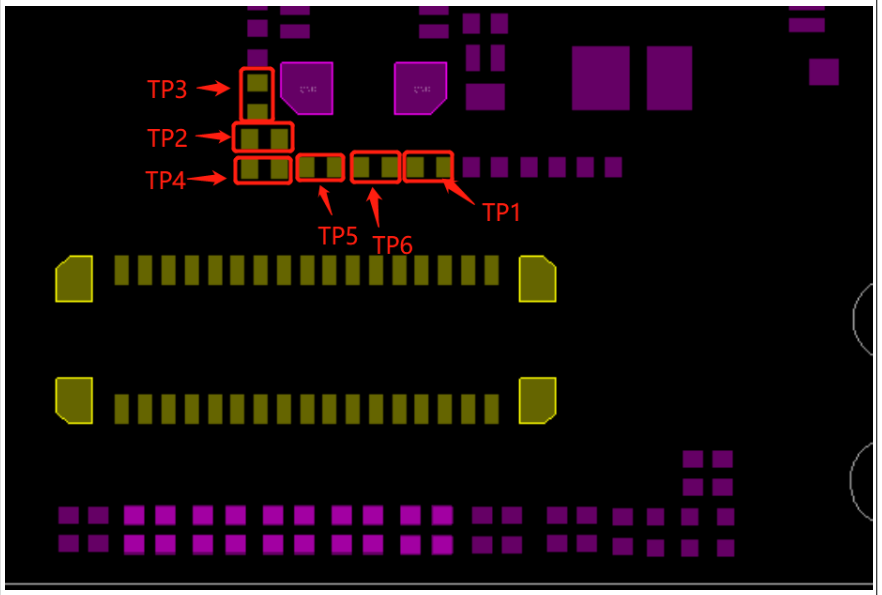
12.1 The LCD control signals are generated by SDM450.



Troubleshooting

■ Touch Problem

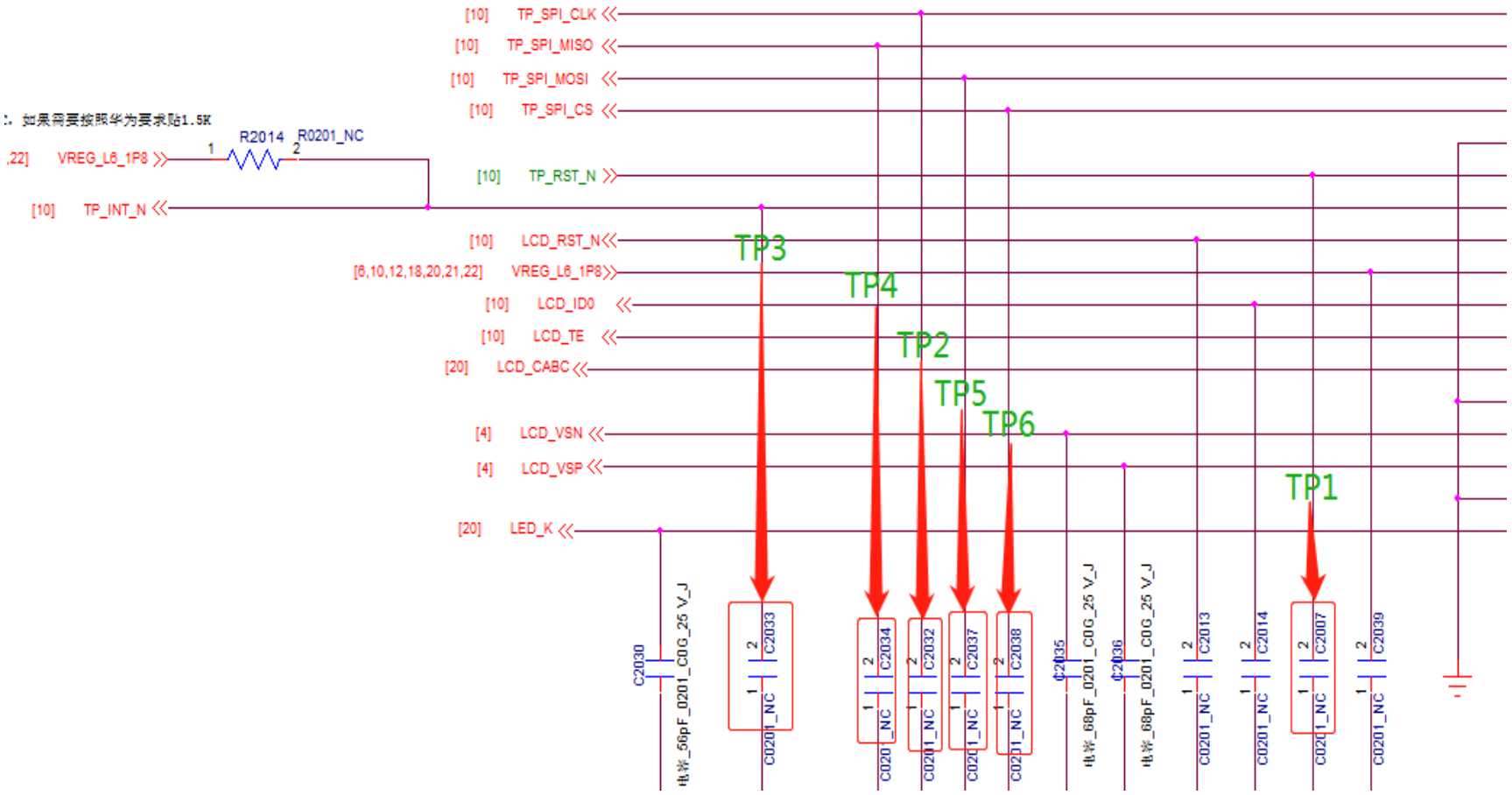
13.The Touch control signals are generated by SDM450. It is assembled with LCD.

CHECKING FLOW	IMAGE
	

Troubleshooting

■ Touch Problem

13.The Touch control signals are generated by SDM450. It is assembled with LCD.



SVC Technical Information

Part list which must be changed after reassembly

Item	Code	Item	Code
Finger print tape	GH81-18930A		

Calibration items for A115A/U

TSP Cal.	X	Force Touch Cal.	X	Optical Finger print Cal.	X	mmWave RF Cal.	X
Speaker Cal.	O	Digital Hall IC Cal.	X	TOF Camera Cal.	X	Multi Camera Cal.	O

※ Only USA device need Speaker Cal.
Multi-camera calibration guide is provided separately.