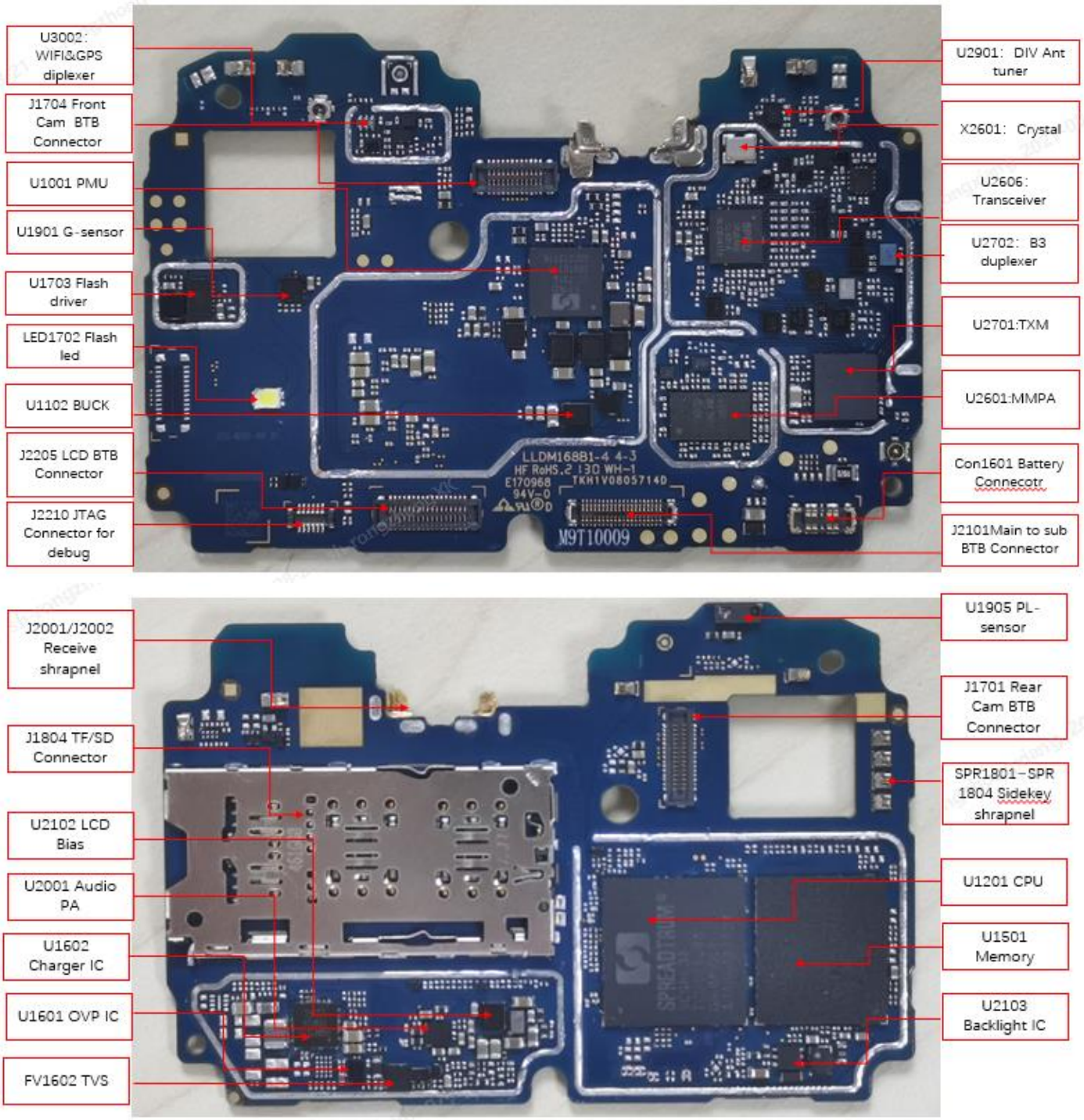
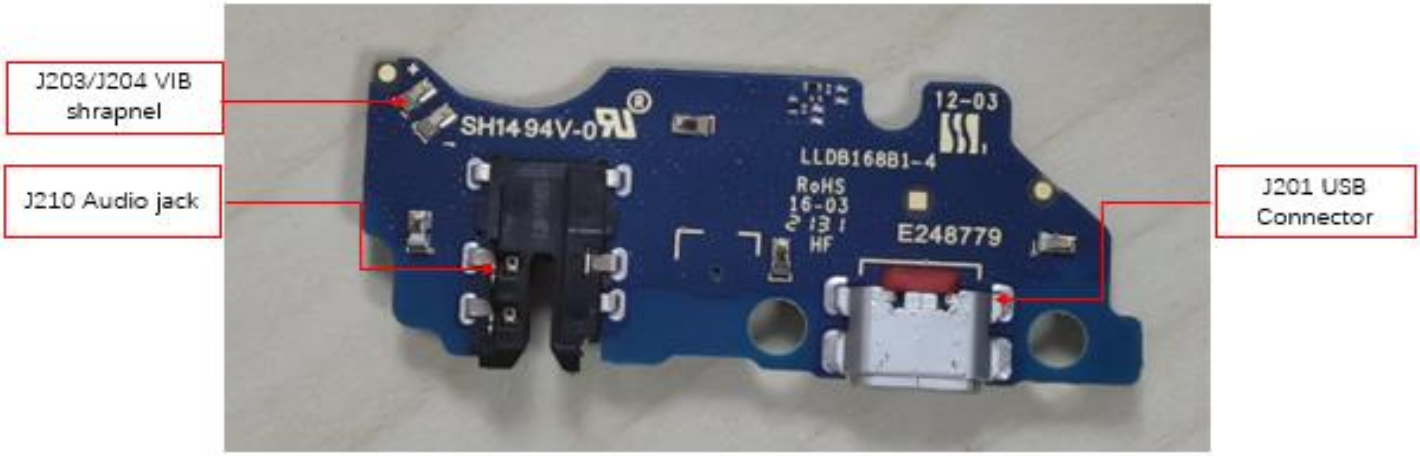
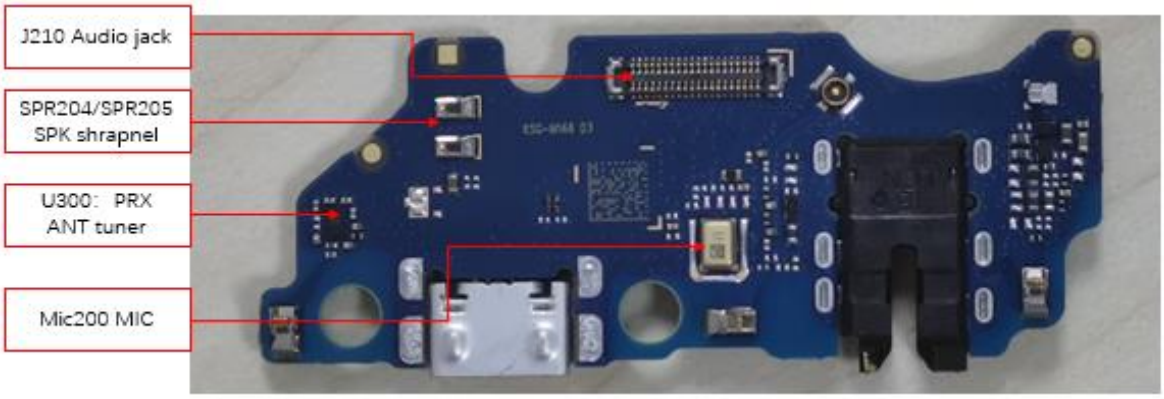
8. Level 3 Repair

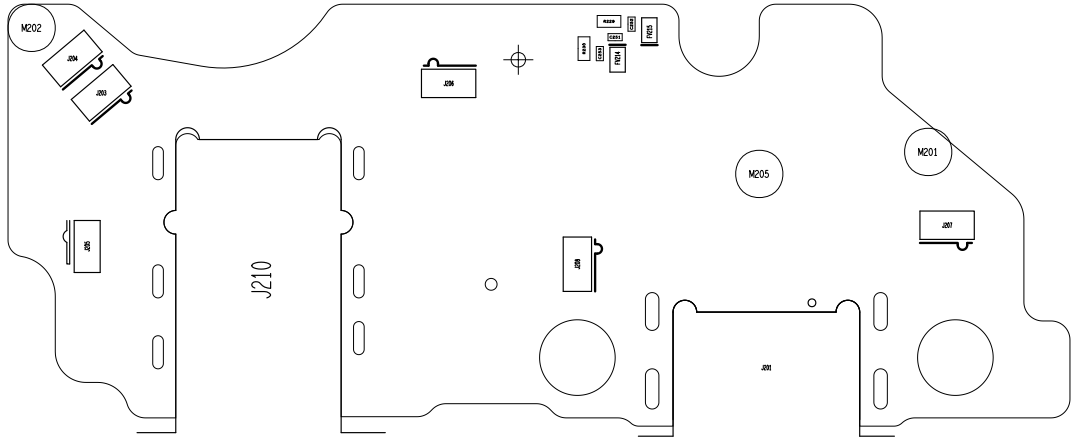
8-1. Components Layout

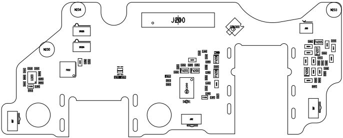


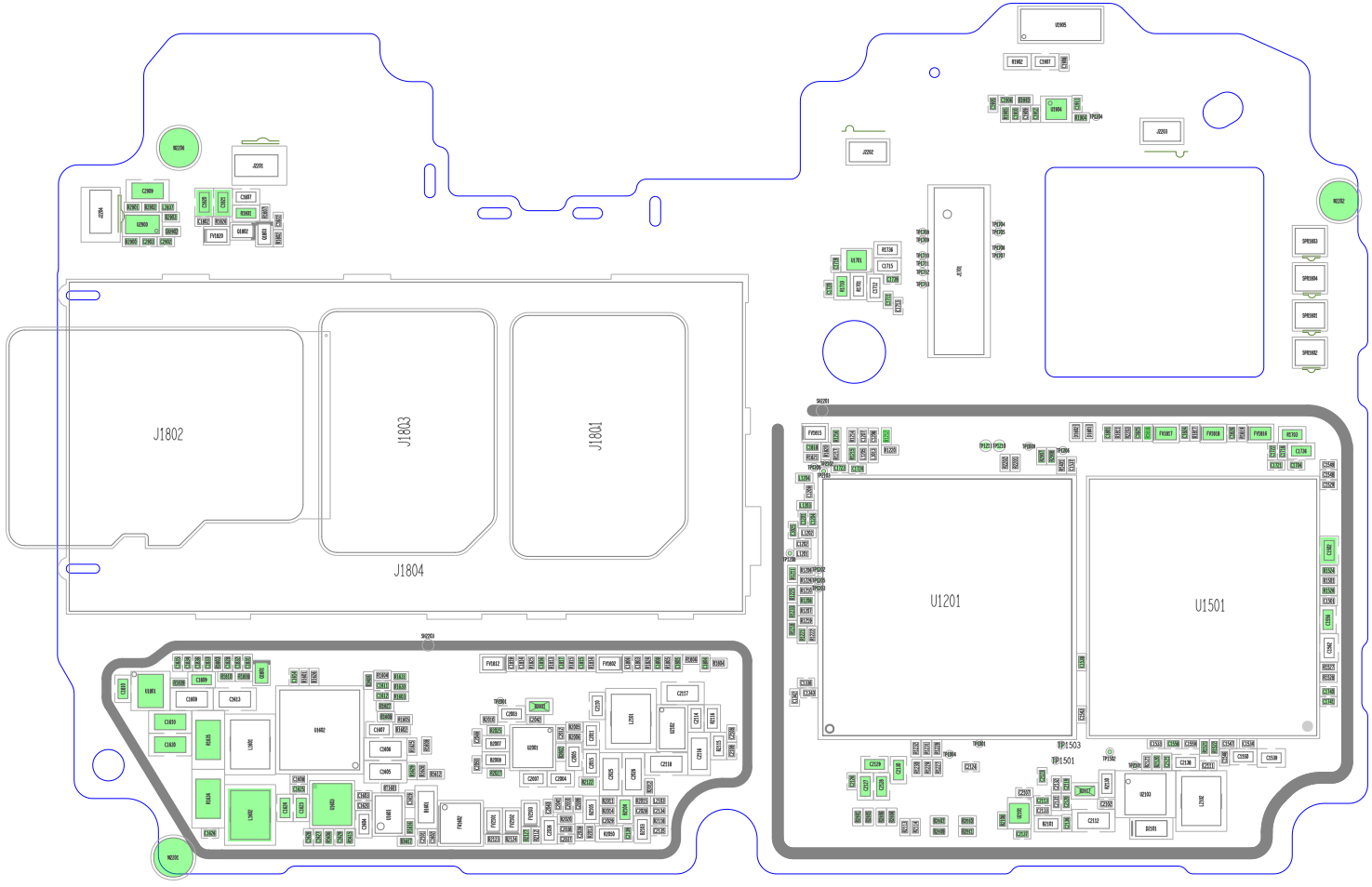
8. Level 3 Repair

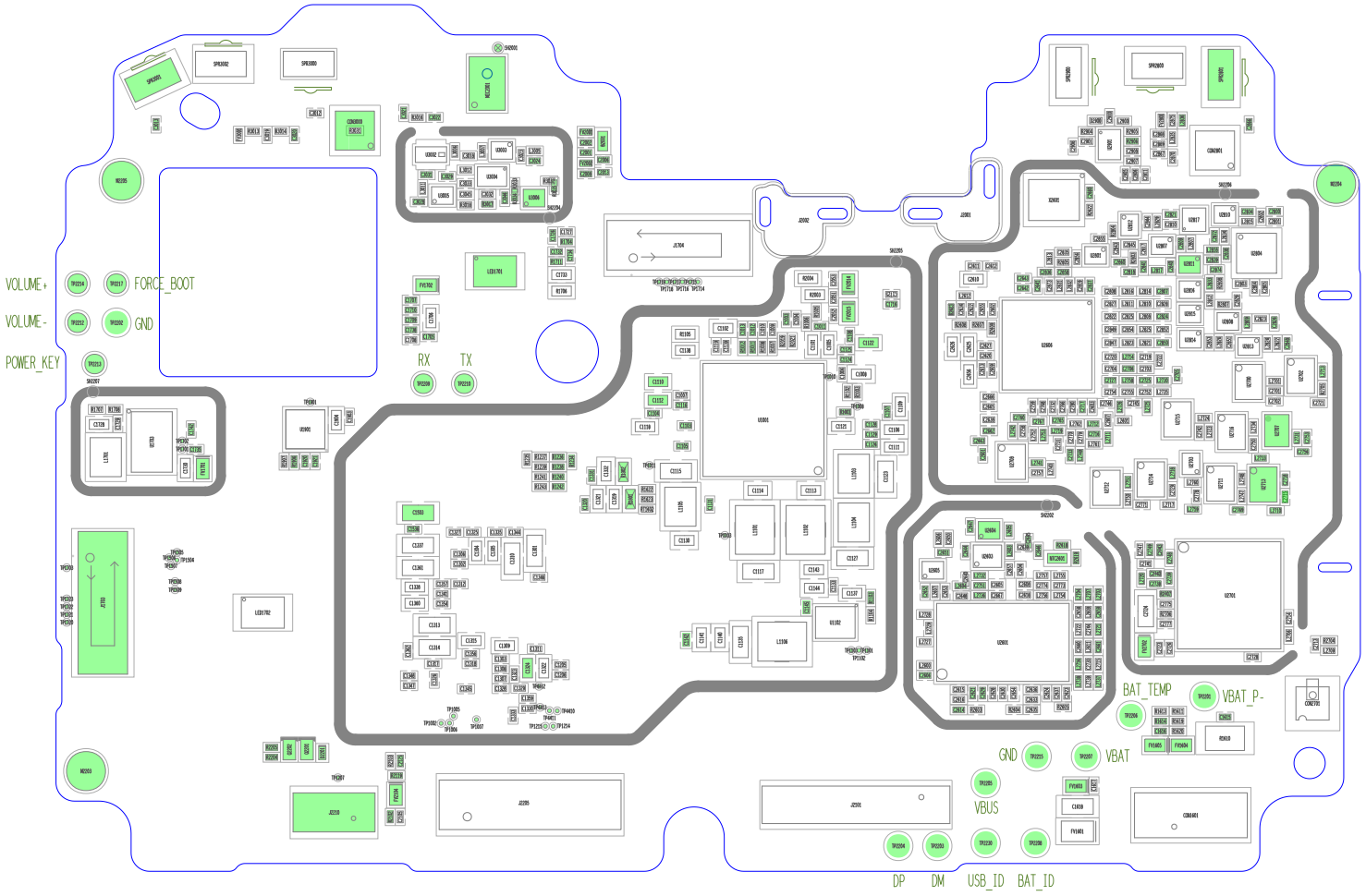




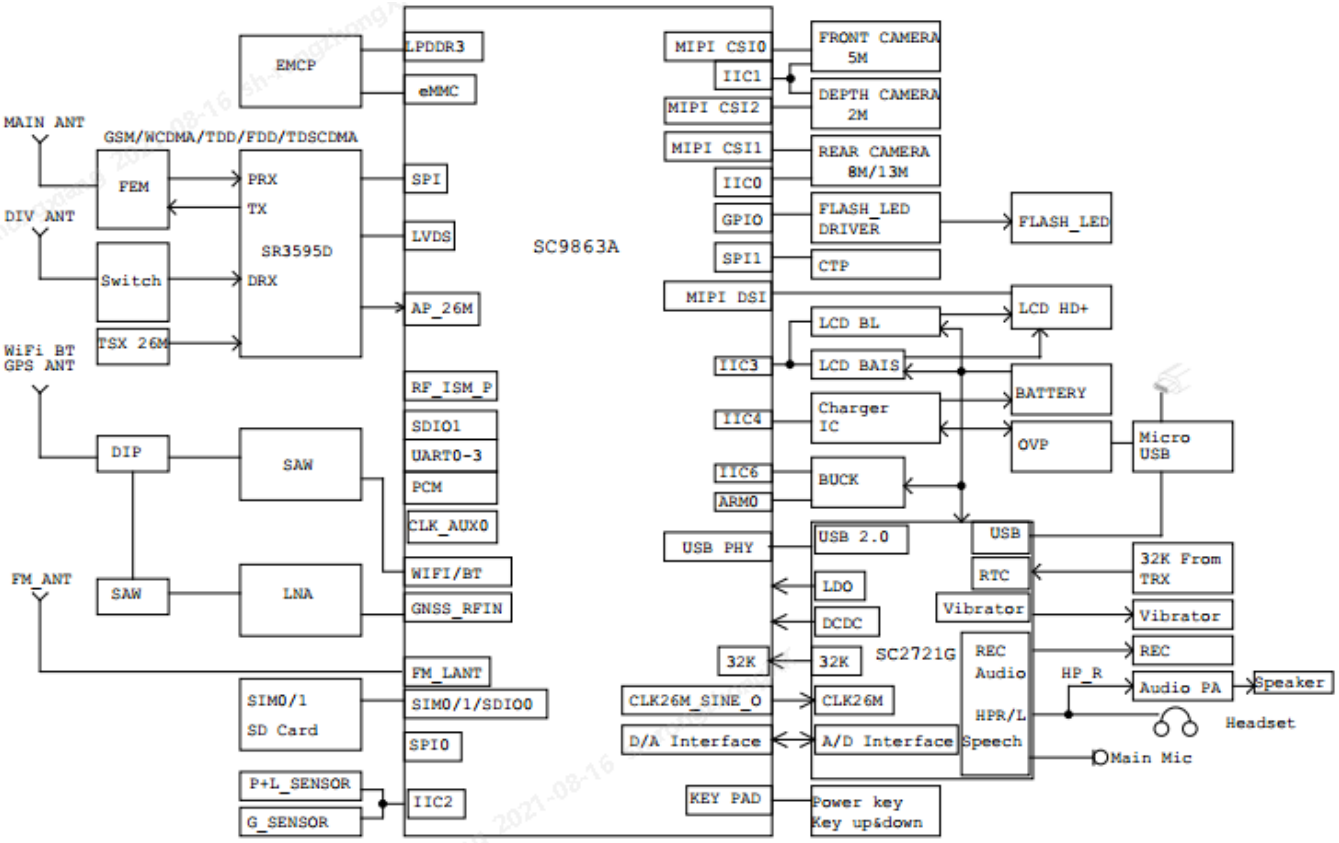

M202
J204
J203
J206
M205
M201
J207
J205
J210
J209
J201


M204
M200
J200
M203


J1802
J1803
J1801
J1804
U1201
U1501


VOLUME+
VOLUME-
POWER_KEY
FORCE_BOOT
GND
RX
TX
BAT_TEMP
VBAT_P-
GND
VBAT
VBUS
DP
DM
USB_ID
BAT_ID

8. Level 3 Repair

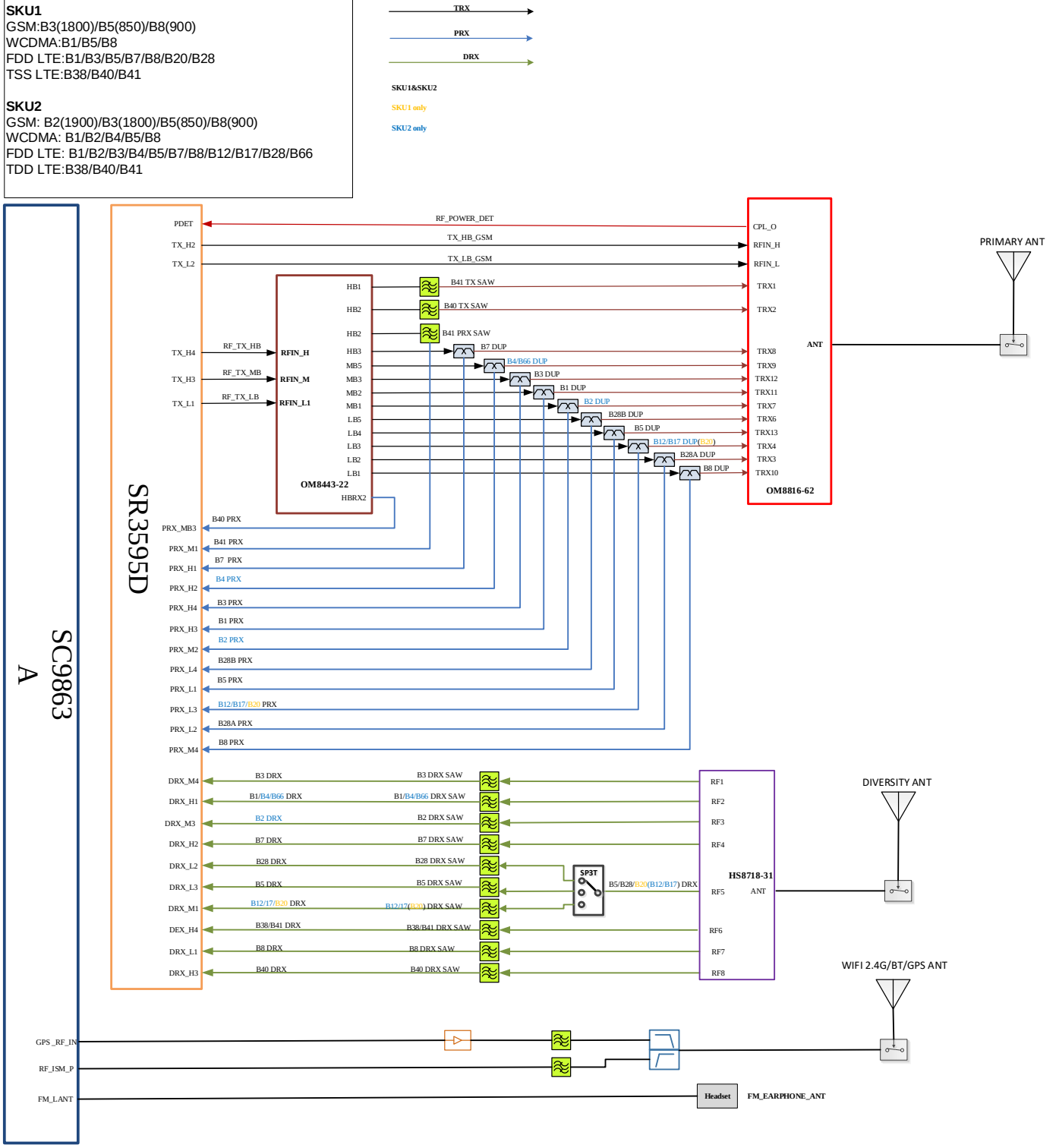


8. Level 3 Repair

RF Block Diagram

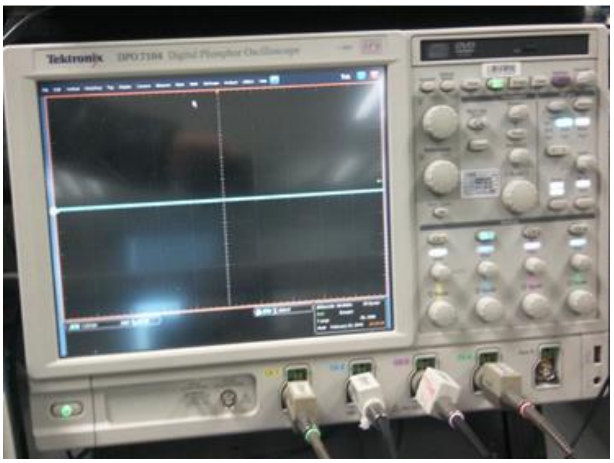
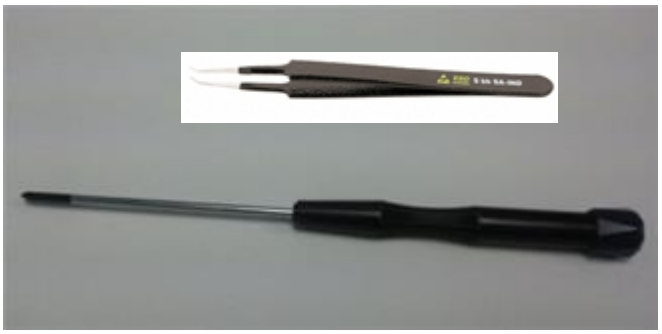
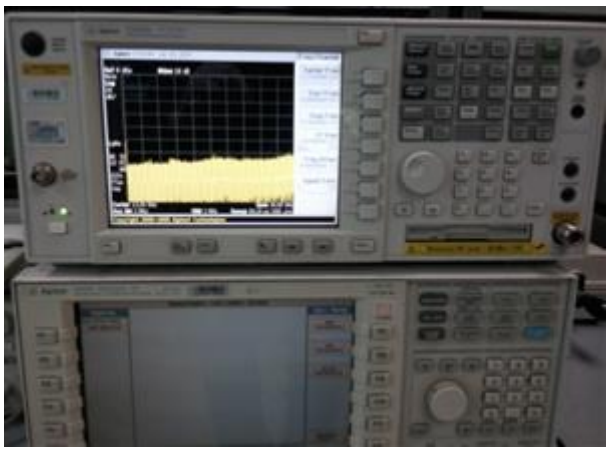
SKU1
GSM:B3(1800)/B5(850)/B8(900)
WCDMA:B1/B5/B8
FDD LTE:B1/B3/B5/B7/B8/B20/B28
TSS LTE:B38/B40/B41

SKU2
GSM: B2(1900)/B3(1800)/B5(850)/B8(900)
WCDMA: B1/B2/B4/B5/B8
FDD LTE: B1/B2/B3/B4/B5/B7/B8/B12/B17/B28/B66
TDD LTE:B38/B40/B41



8. Level 3 Repair

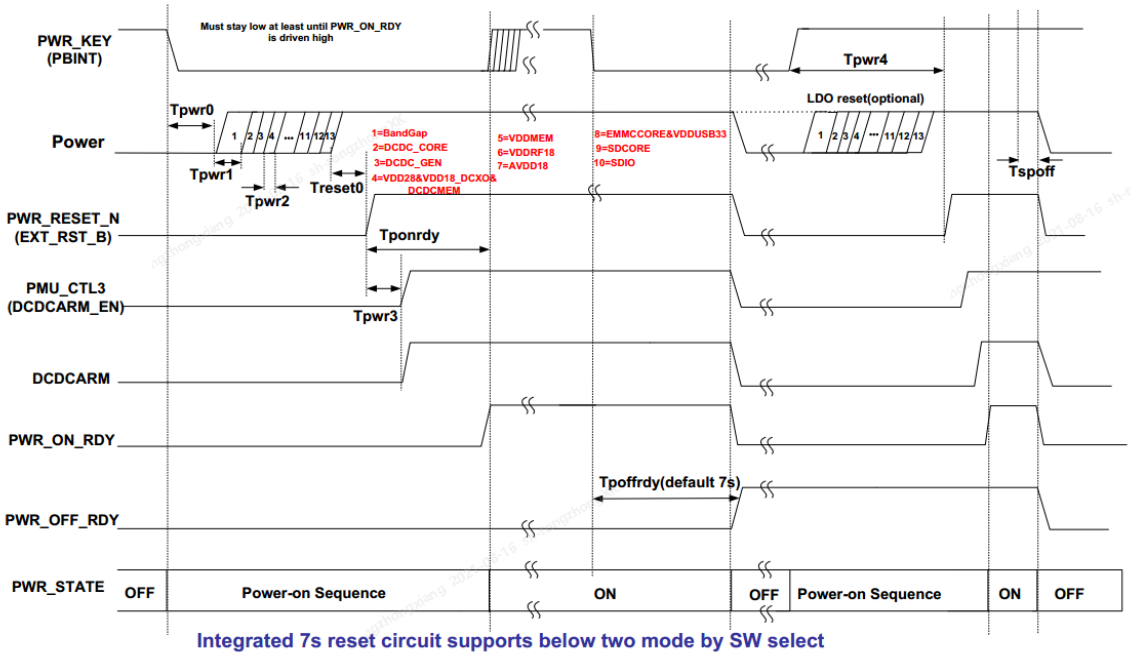
8-3. Flow chart of Troubleshooting.

	
Oscilloscope	**Digital Multimeter**
	
Power Supply	**+ driver, ESD Safe Tweezer**
	
8960 & Spectrum Analyzer	**Soldering iron**

8. Level 3 Repair

8-3-1. Power On

■ **Checking Power signal (Battery connector, PMU, Clock)**



Integrated 7s reset circuit supports below two mode by SW select

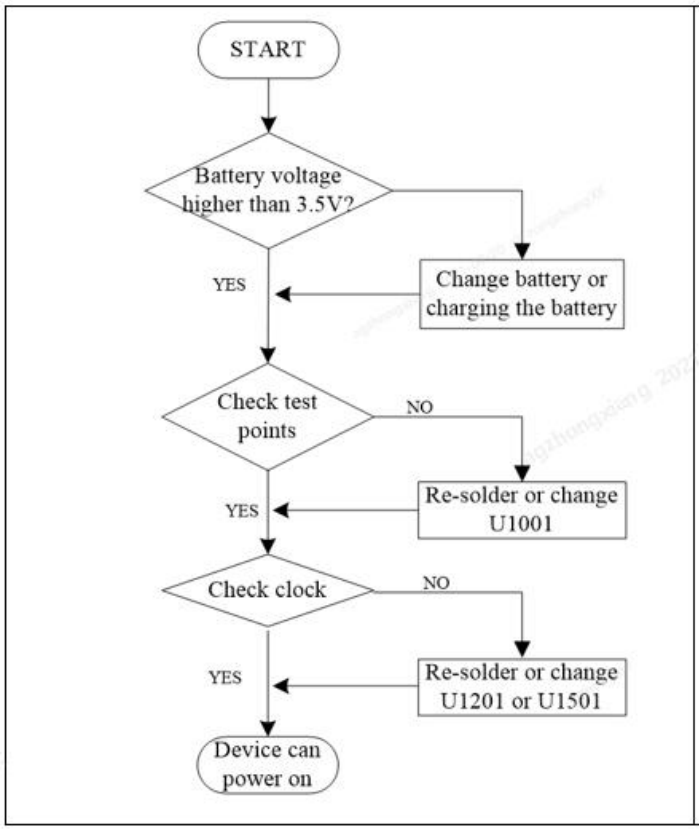
–Reset PMU together

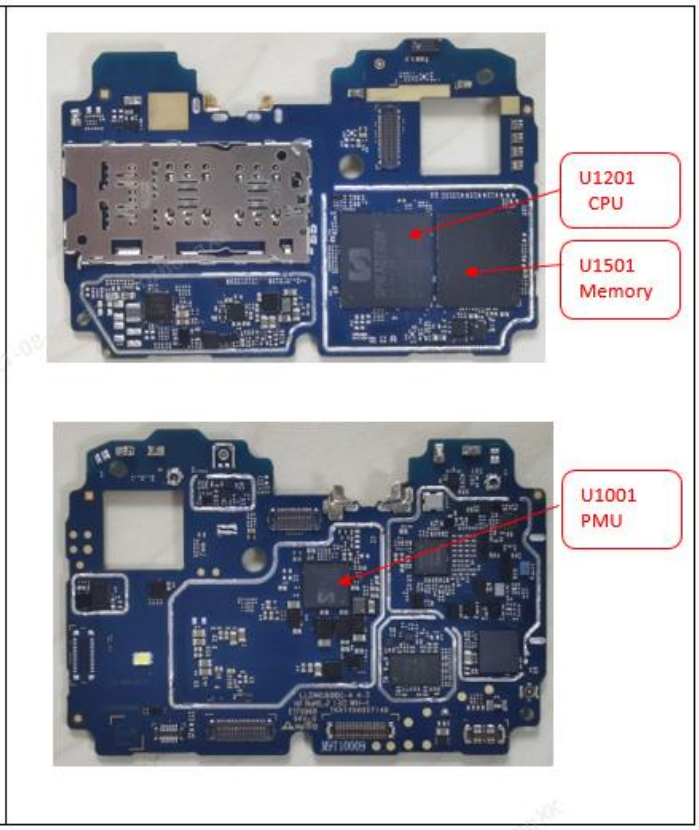
–Reset ARM core only

NO	Event	Volt(V)	TP
0	Tpwr0	/	NO TP
1	Tpwr1	/	NO TP
2	DCDC_CORE	0.9	C1117
3	DCDC_GEN	1.4	C1123
4	VDD2V8	2.8	C1103
5	VDD1V8_DCXO	1.85	C1108
6	VDDMEM	1.8	C1121
7	VDDRF1V8	1.85	C1128
8	AVDD1V8	1.8	C1126
9	EMMCCORE	3	C1110
10	VDDUSB33	3.3	C1330
11	SDCORE	3	C1112
12	SDIO	3	C1333
13	EXT_RST_B	1.8	TP1005
14	VDDARM_EN	1.8	TP1101
15	VDDARM0	0.9	C1135

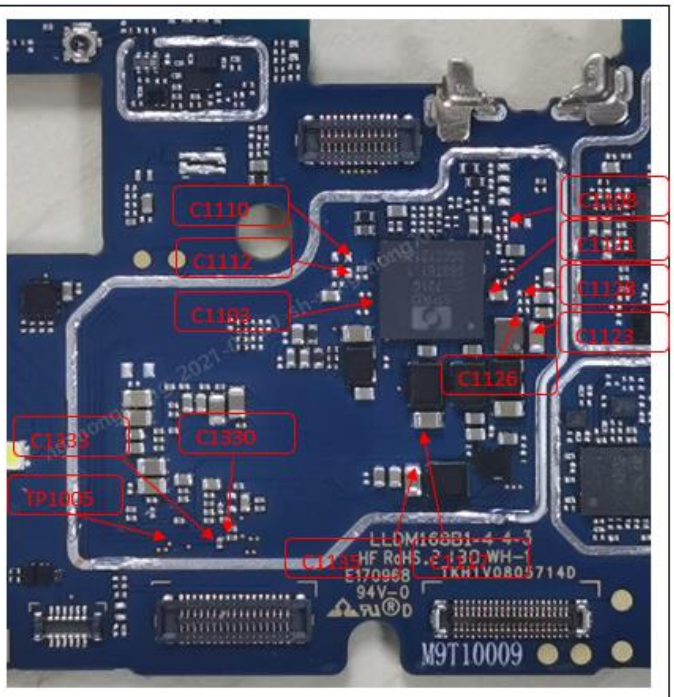
Power on sequence

8. Level 3 Repair





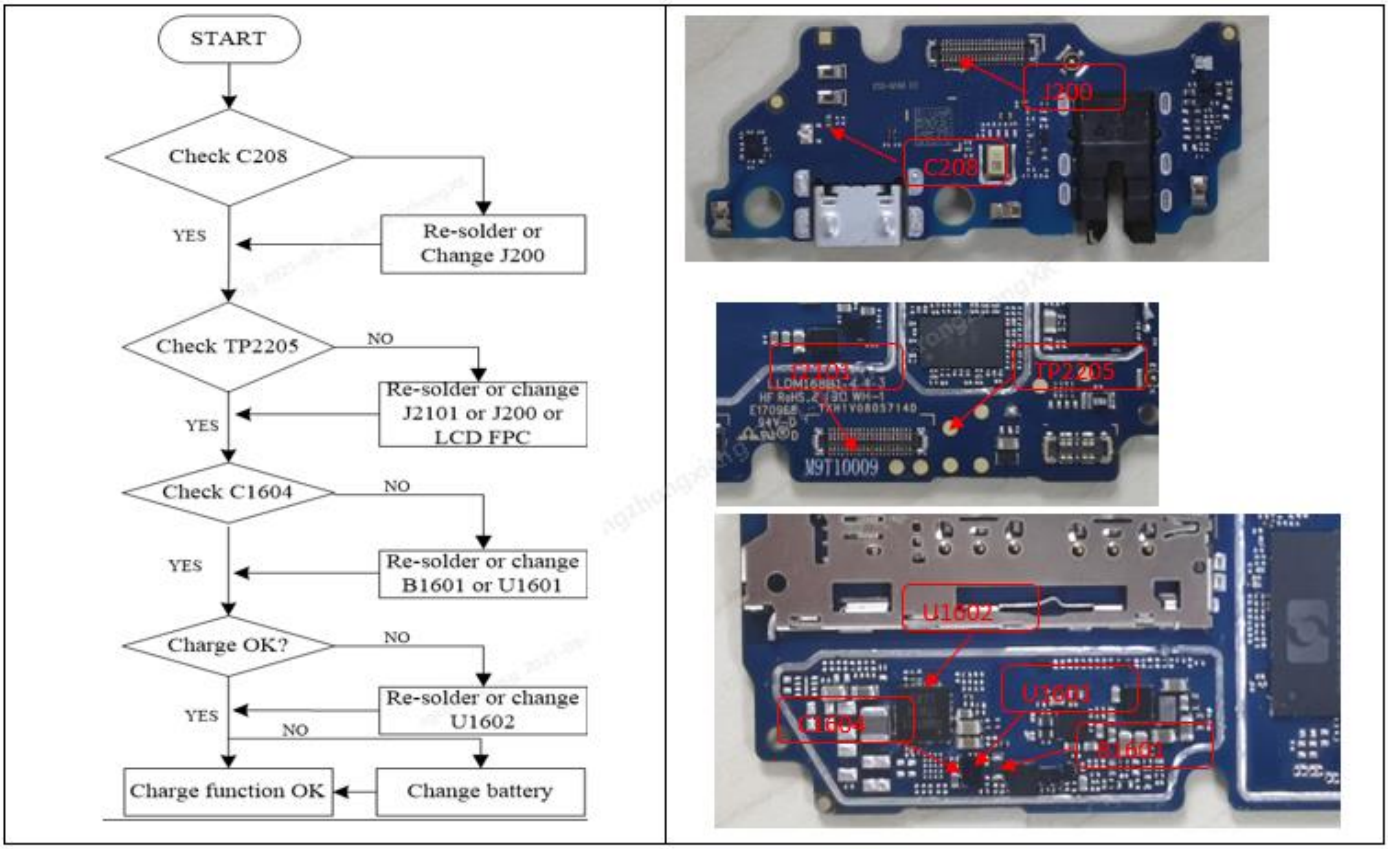
NO	Event	Volt(V)	TP
1	DCDC_CORE	0.9	C1117
2	DCDC_GEN	1.4	C1123
3	VDD2V8	2.8	C1103
4	VDD1V8_DCXO	1.85	C1108
5	VDDMEM	1.8	C1121
6	VDDRF1V8	1.85	C1128
7	AVDD1V8	1.8	C1126
8	EMMCCORE	3	C1110
9	VDDUSB33	3.3	C1330
10	SDCORE	3	C1112
11	SDIO	3	C1333
12	EXT_RST_B	1.8	TP1005
13	VDDARM_EN	1.8	TP1101
14	VDDARM0	0.9	C1135



8. Level 3 Repair

8-3-2. Charging

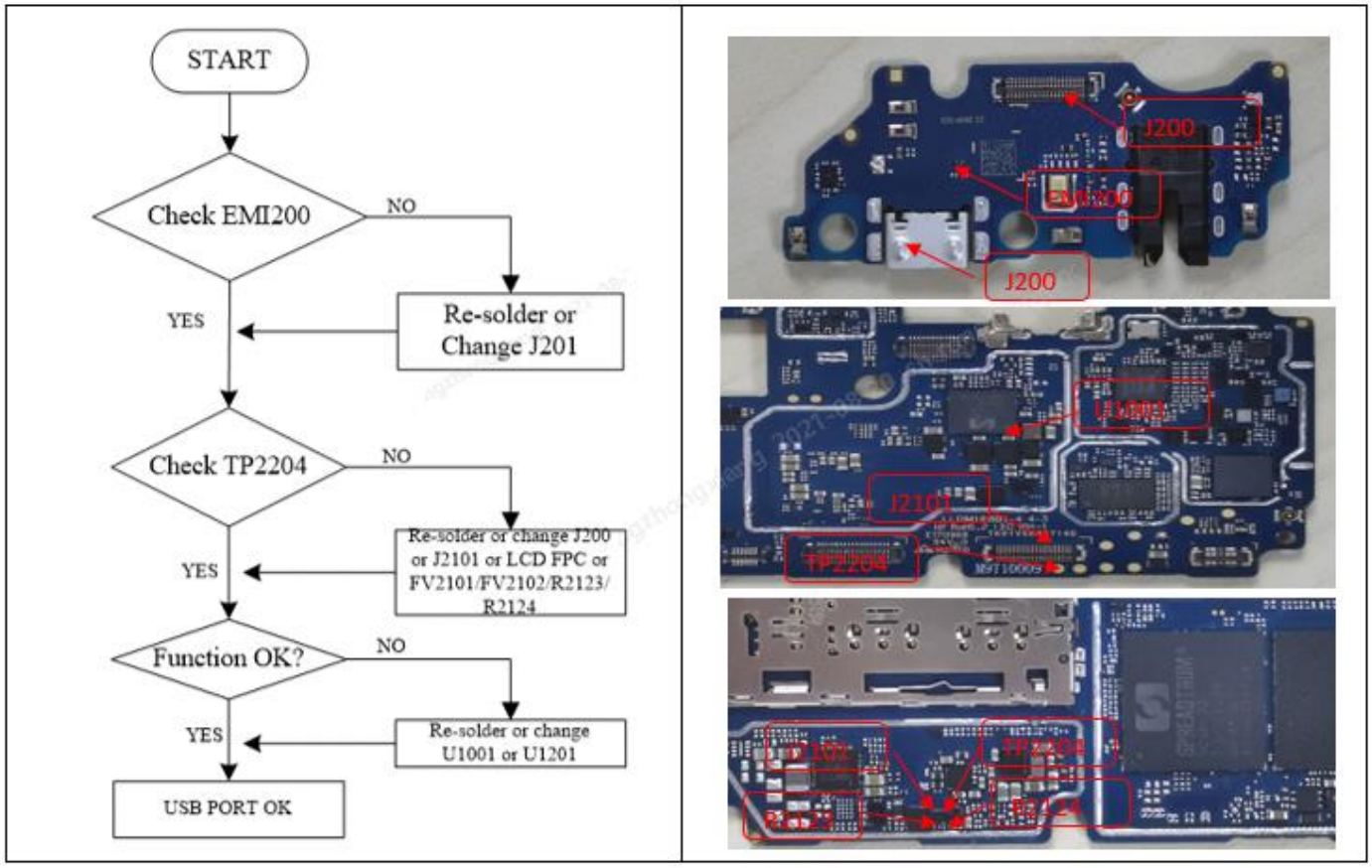
The charging controlled by PMU chip SD155 or BQ25601（U1602).



8. Level 3 Repair

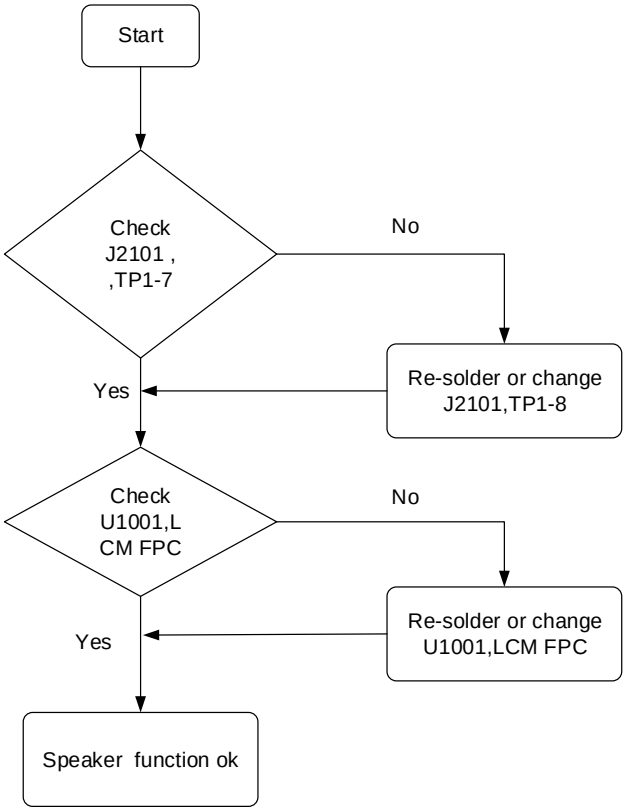
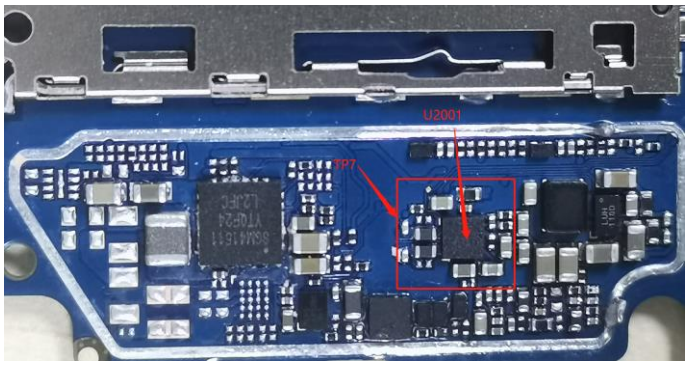
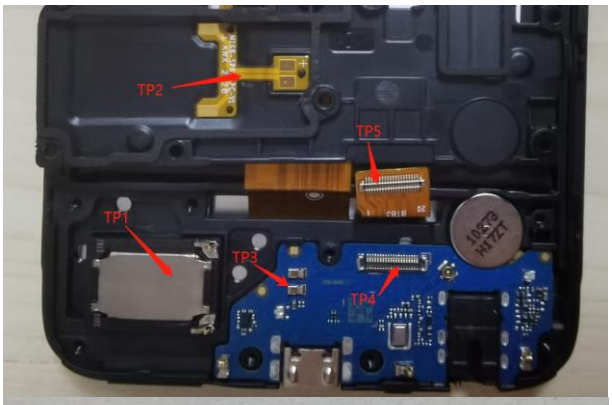
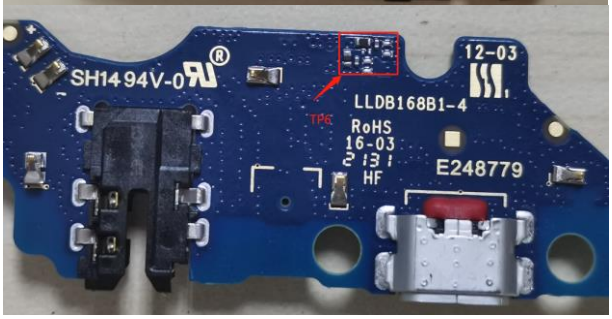
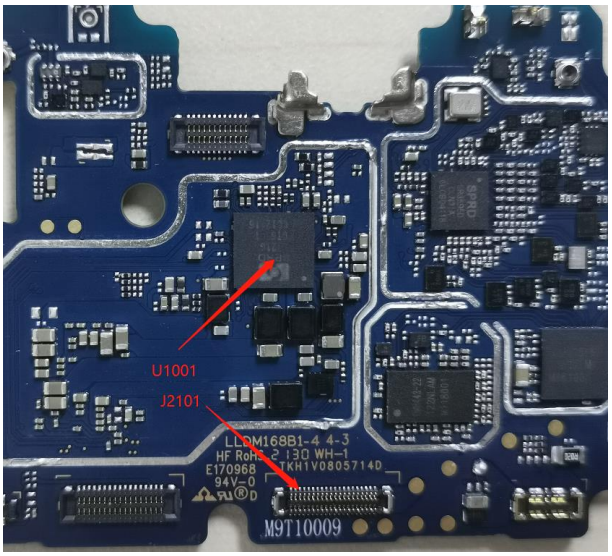
8-3-3. USB

I/O connector is used as the USB port.



8-3-4. Audio speaker

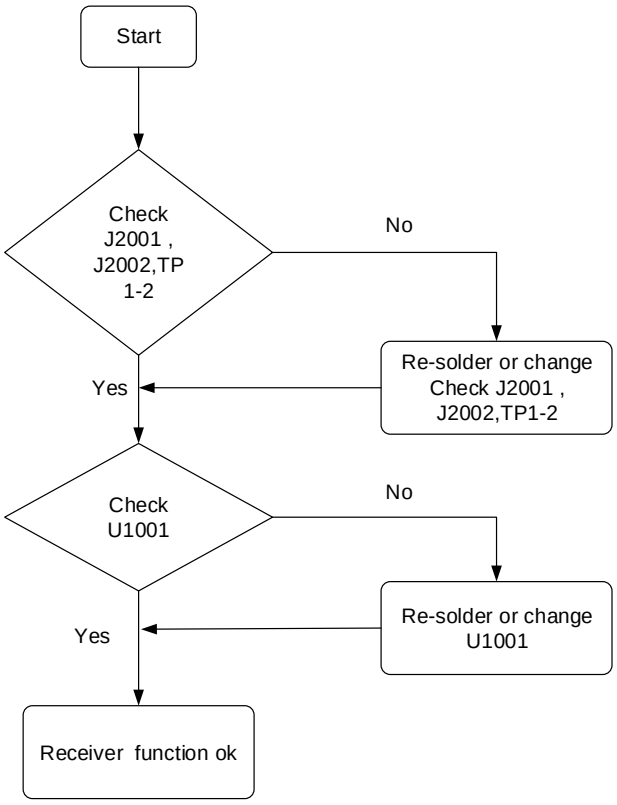
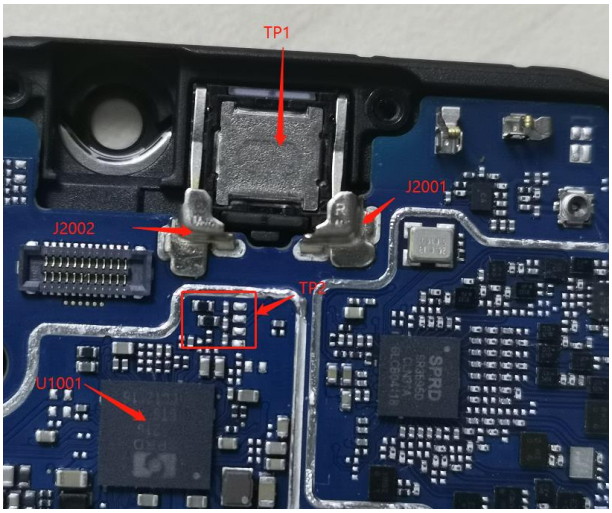
The Speaker control signals are generated by SC2721G (U1001) , There is an audio PA(U2001) in the middle, the chips and the speaker are to be checked out.

Checking Flow	Image
 	  

8. Level 3 Repair

8-3-5. Audio receiver

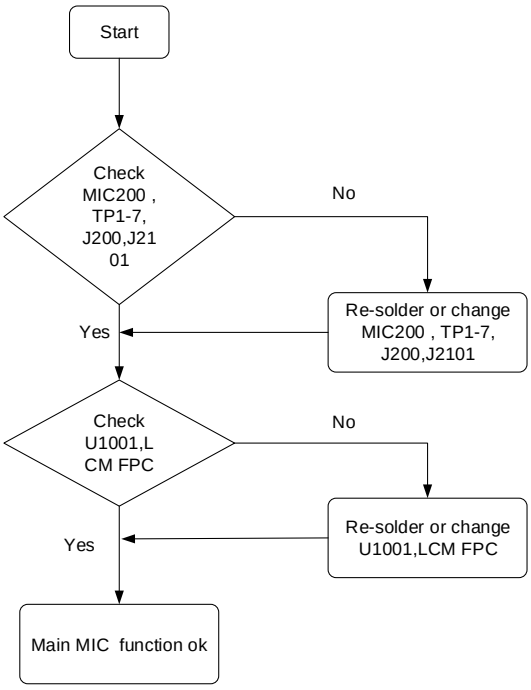
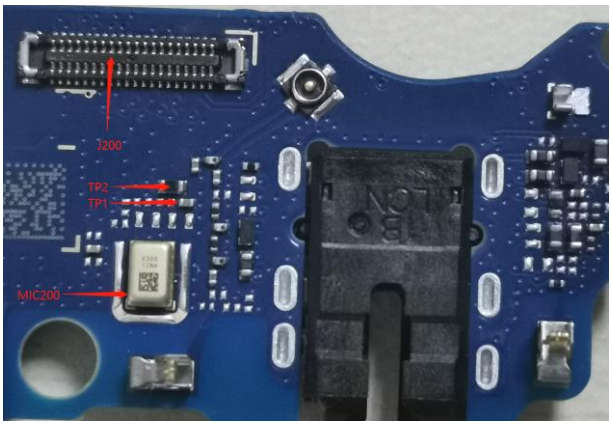
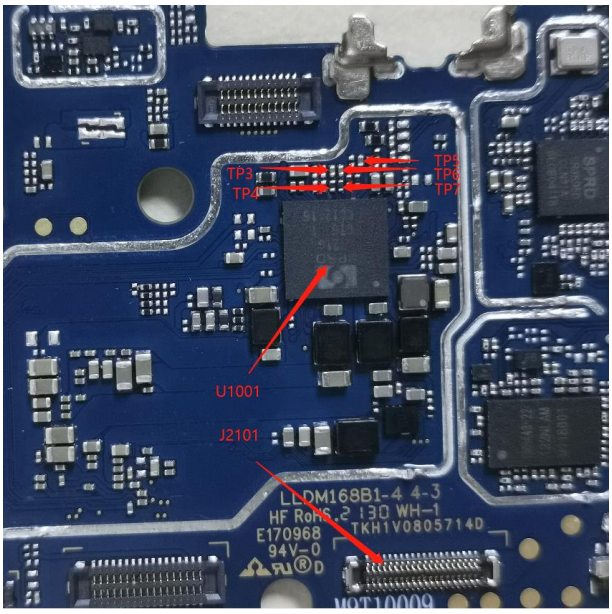
The receiver control signals are generated by SC2721G (U1001), the PMU chip and the receiver are to be checked out.

Checking Flow	Image
	

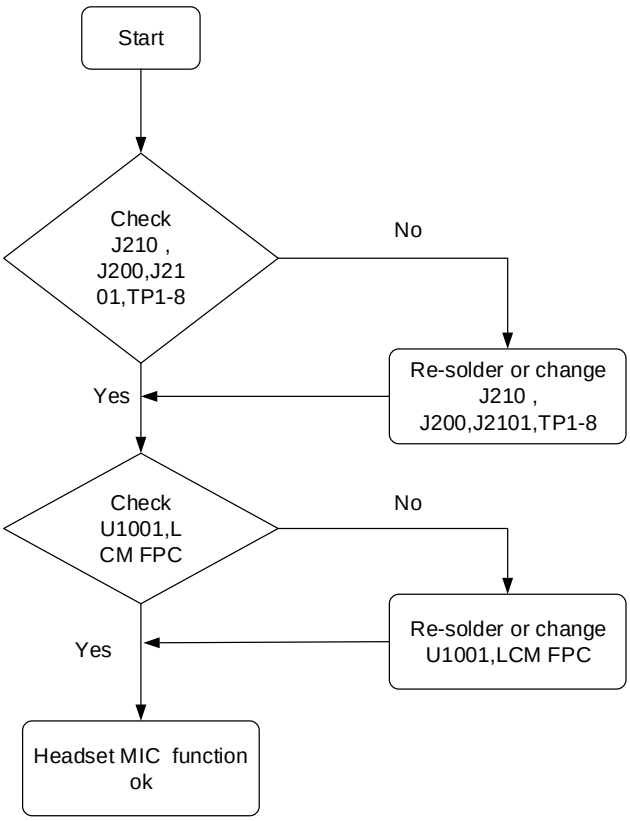
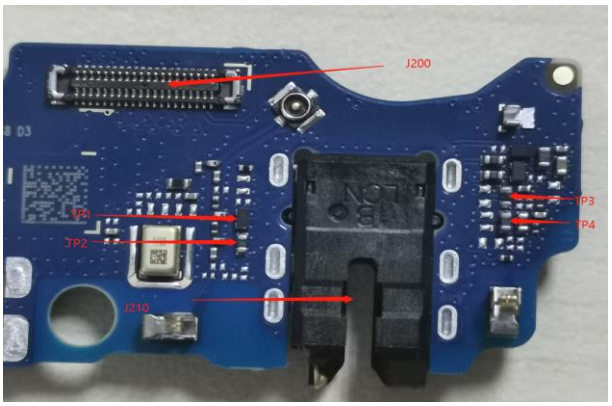
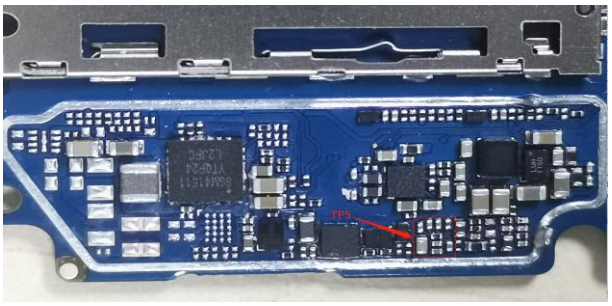
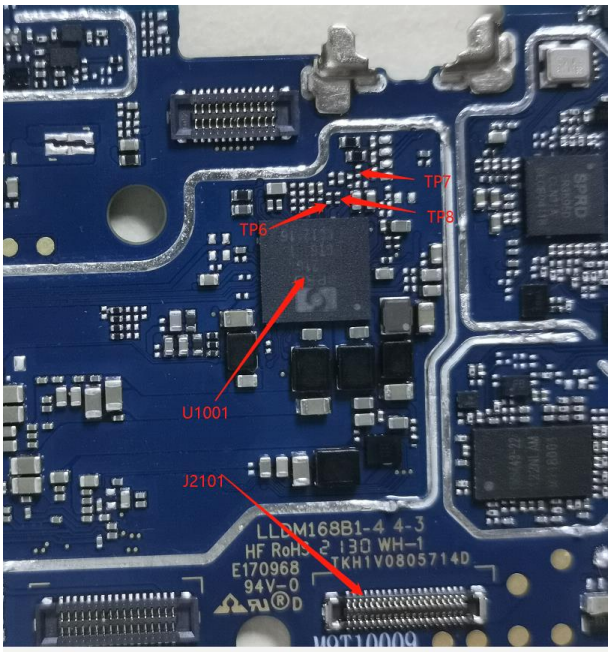
8. Level 3 Repair

8-3-6. Audio_MIC

The MIC control signals are generated by SC2721G (U1001), the PMU chip and the MIC are to be checked out.

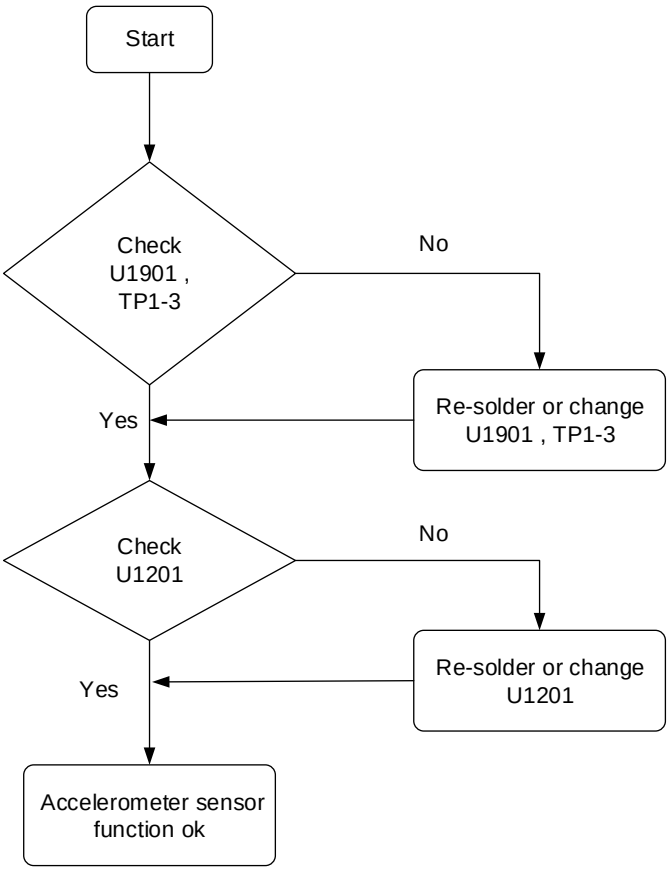
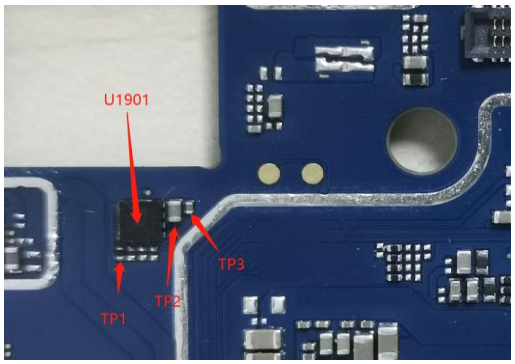
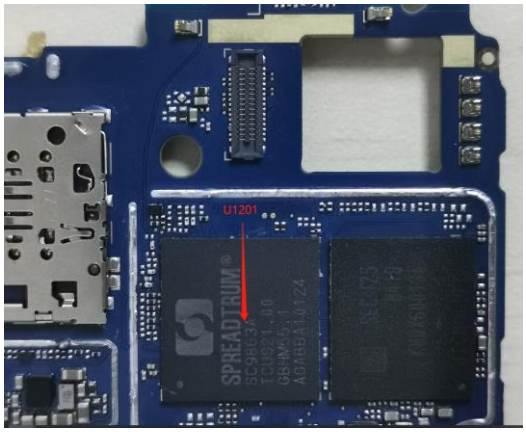
Checking Flow Main Mic	Image
	
	

8. Level 3 Repair

Checking Flow Headset mic	Image
	  

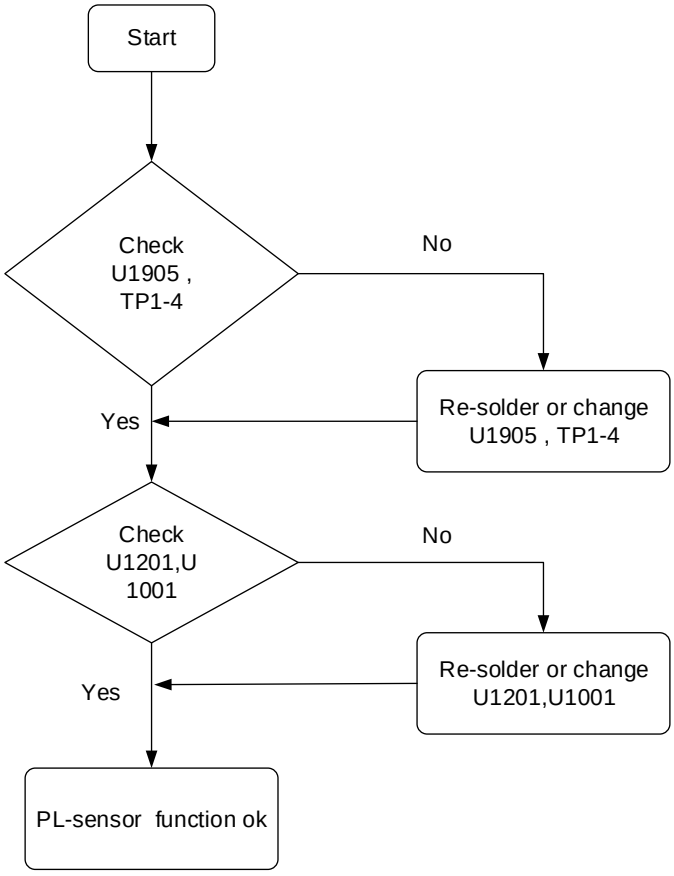
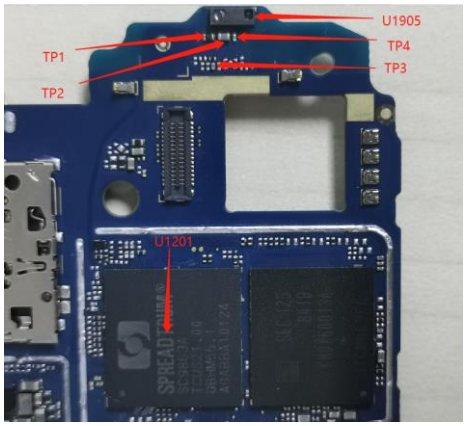
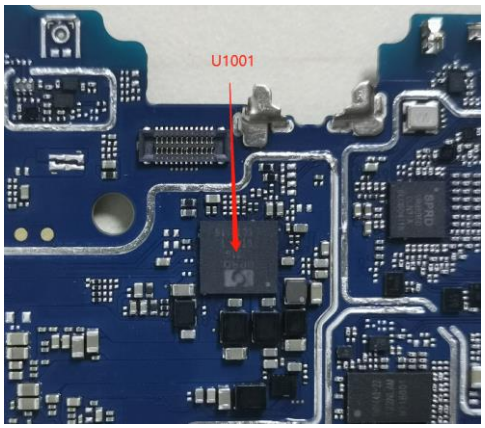
8-3-7. Accelerometer sensor

The Accelerometer sensor is calibrated by using SW algorithm.

Checking Flow	Image
	 

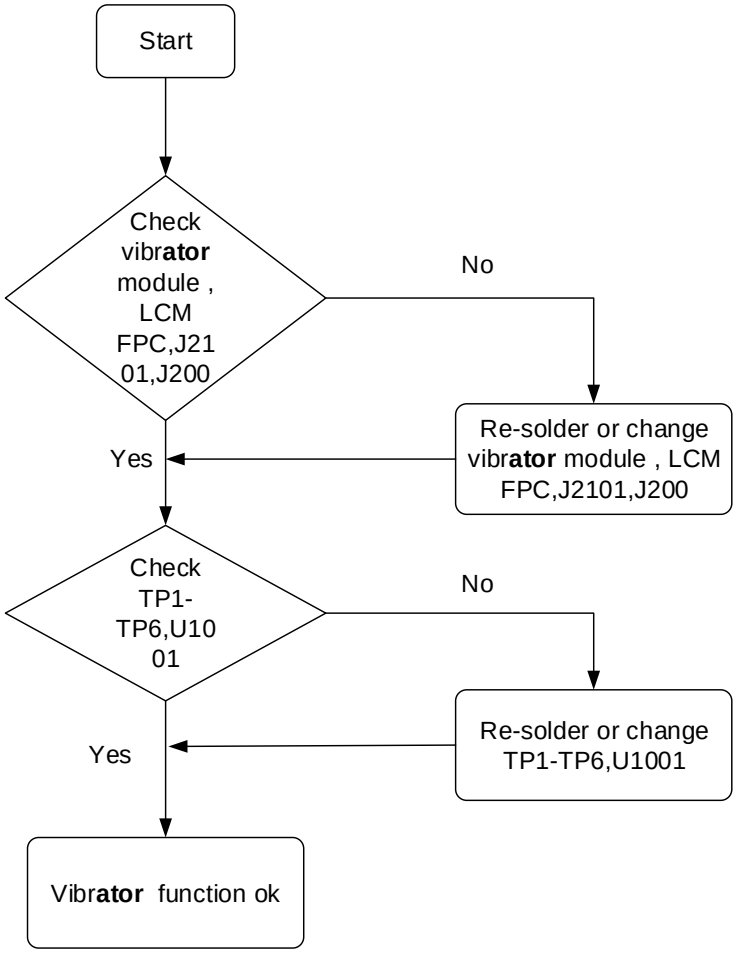
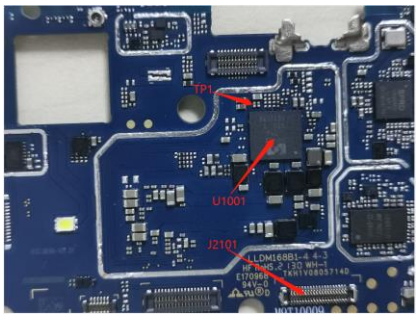
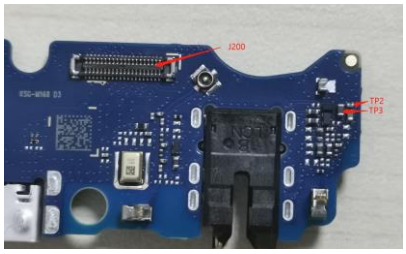
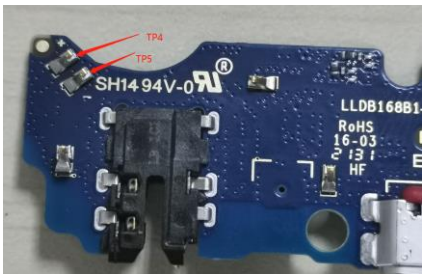
8-3-8. Proximity and light sensor

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
	 

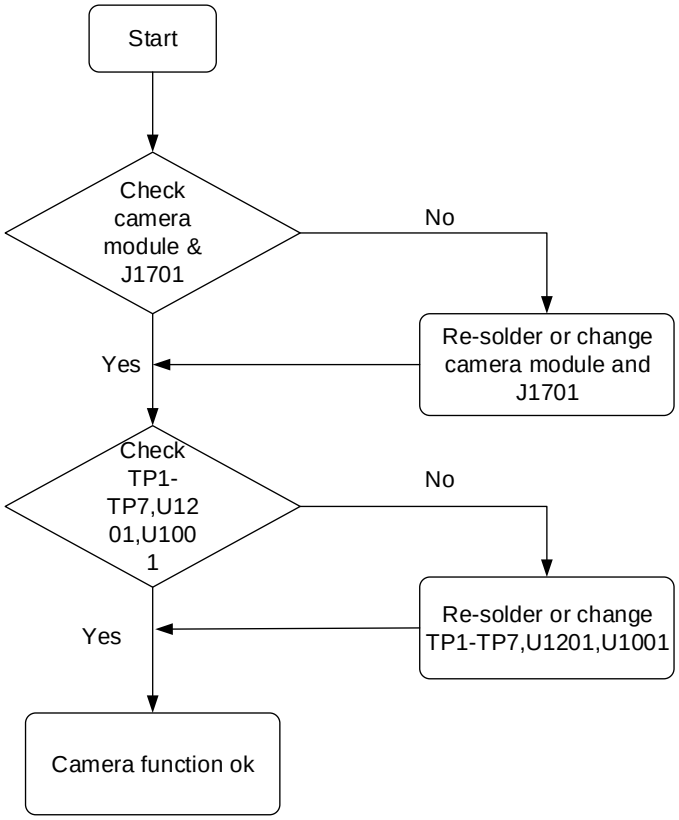
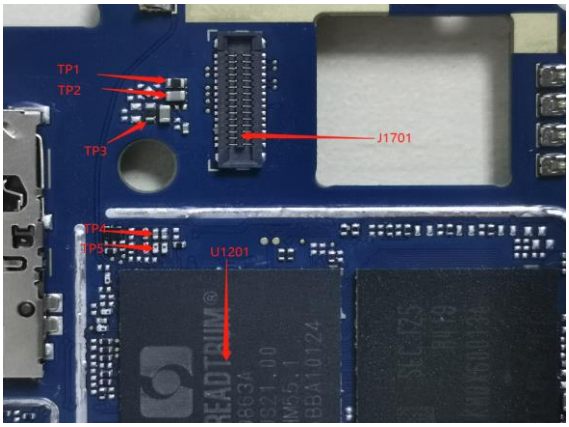
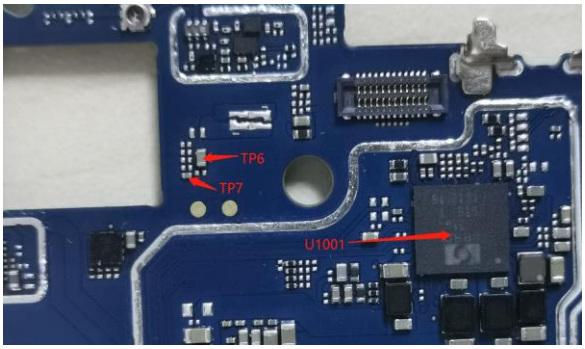
8-3-9. Vibrator

The Vibrator control signals are generated by SC2721G (U1001).

Checking Flow	Image
	  

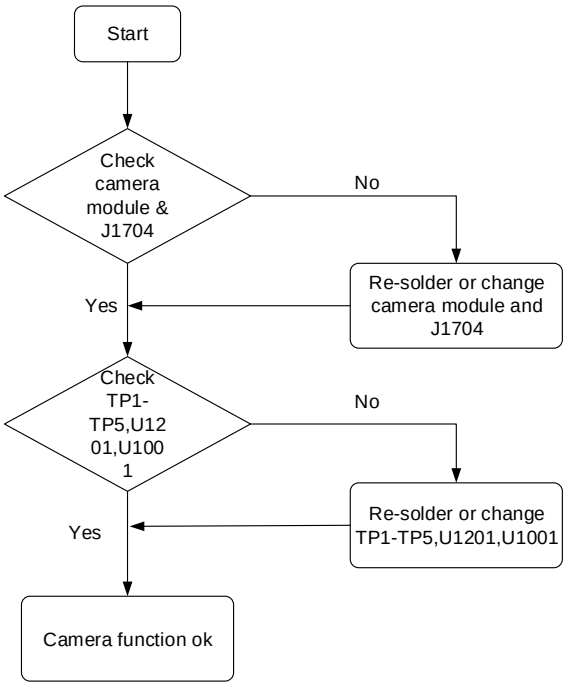
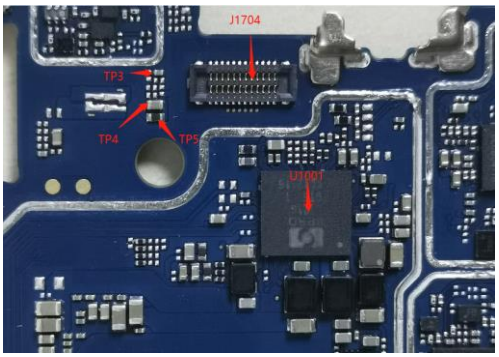
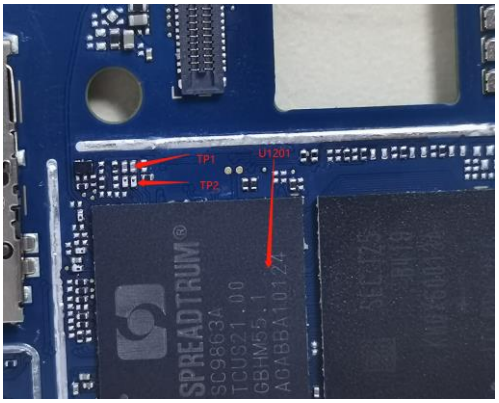
8-3-10.Main Camera

The Camera control signals are generated by SC2721G (U1001) and SC9863A (U1201).

Checking Flow	Image
	 

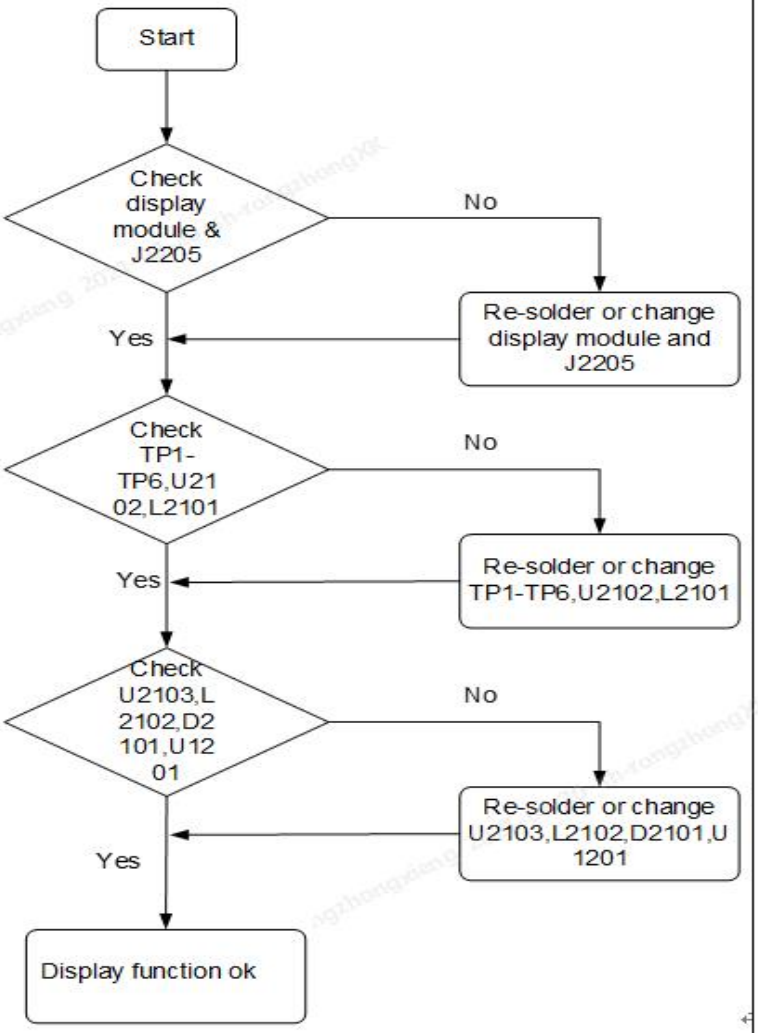
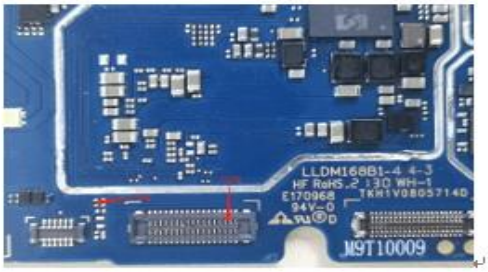
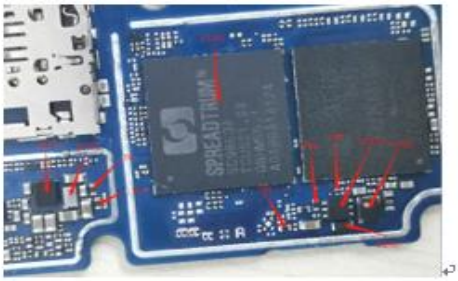
8-3-13. Front Camera

The Camera control signals are generated by SC2721G (U1001) and SC9863A(U1201).

Checking Flow	Image
	 

8-3-14 LCD

The LCD control signals are generated by SM7225(U201).

Checking Flow	Image
	 

8. Level 3 Repair

8-3-15 Touch

The touch control signals are generated by SC9863A(U1201). It is assembled with LCD.

Checking Flow	Image