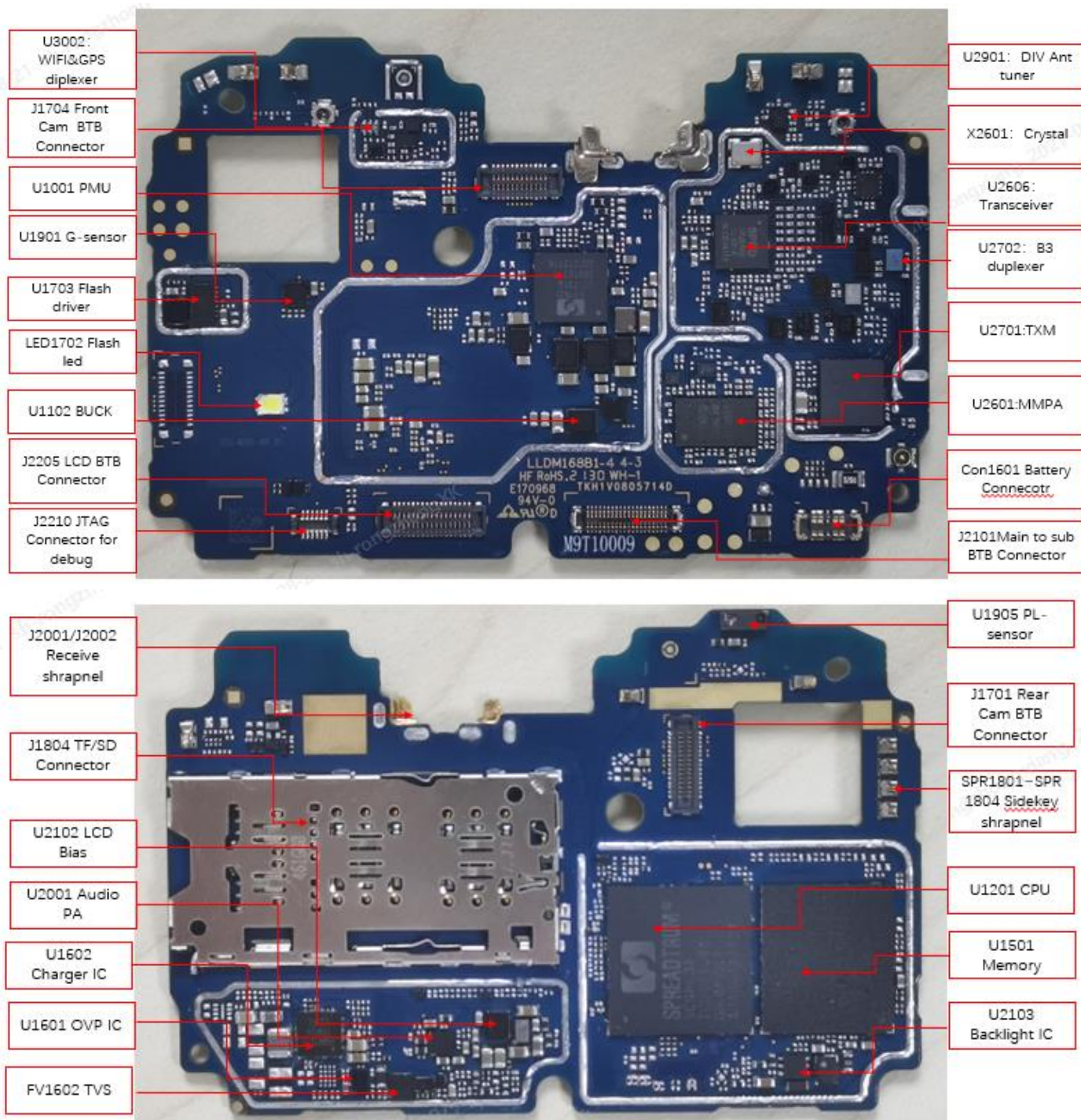
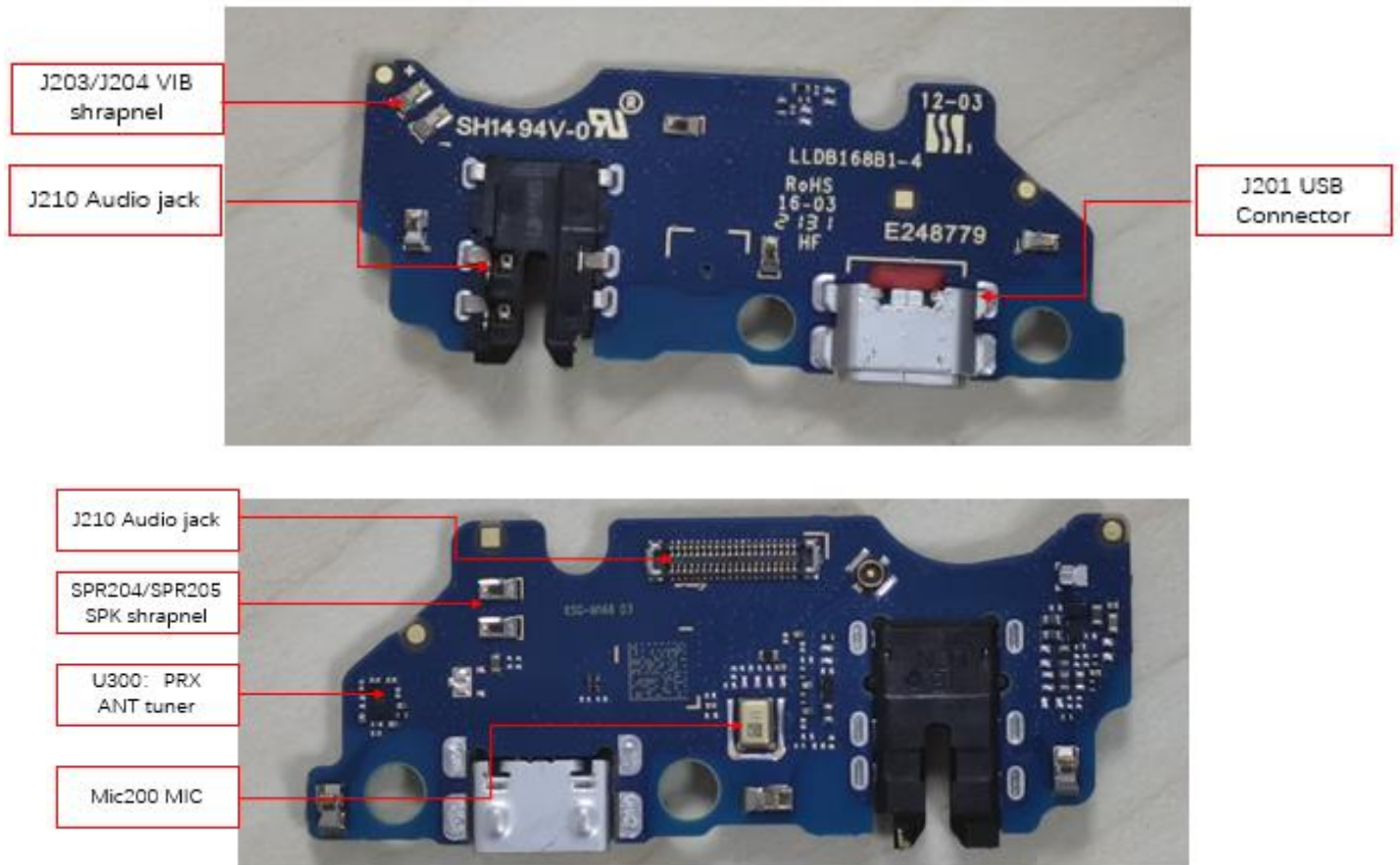


## 8. Level 3 Repair

### 8-1. Components Layout



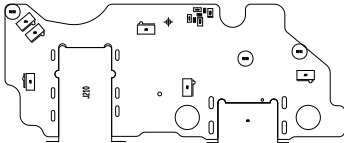
## 8. Level 3 Repair

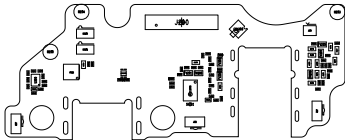


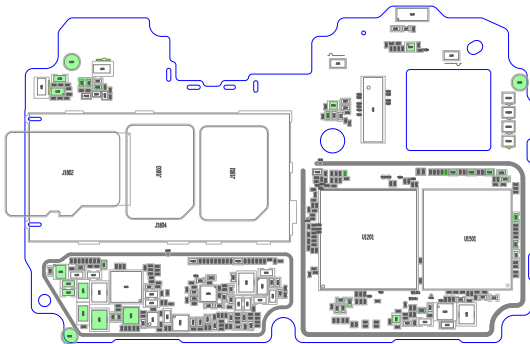
آموزش شماتیک و نقشه خوانی

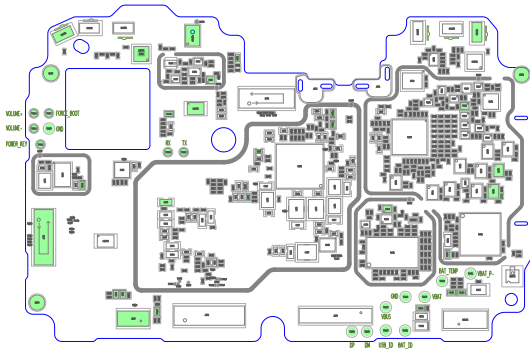
**iranbsm.ir**

**Mobile schematic training**

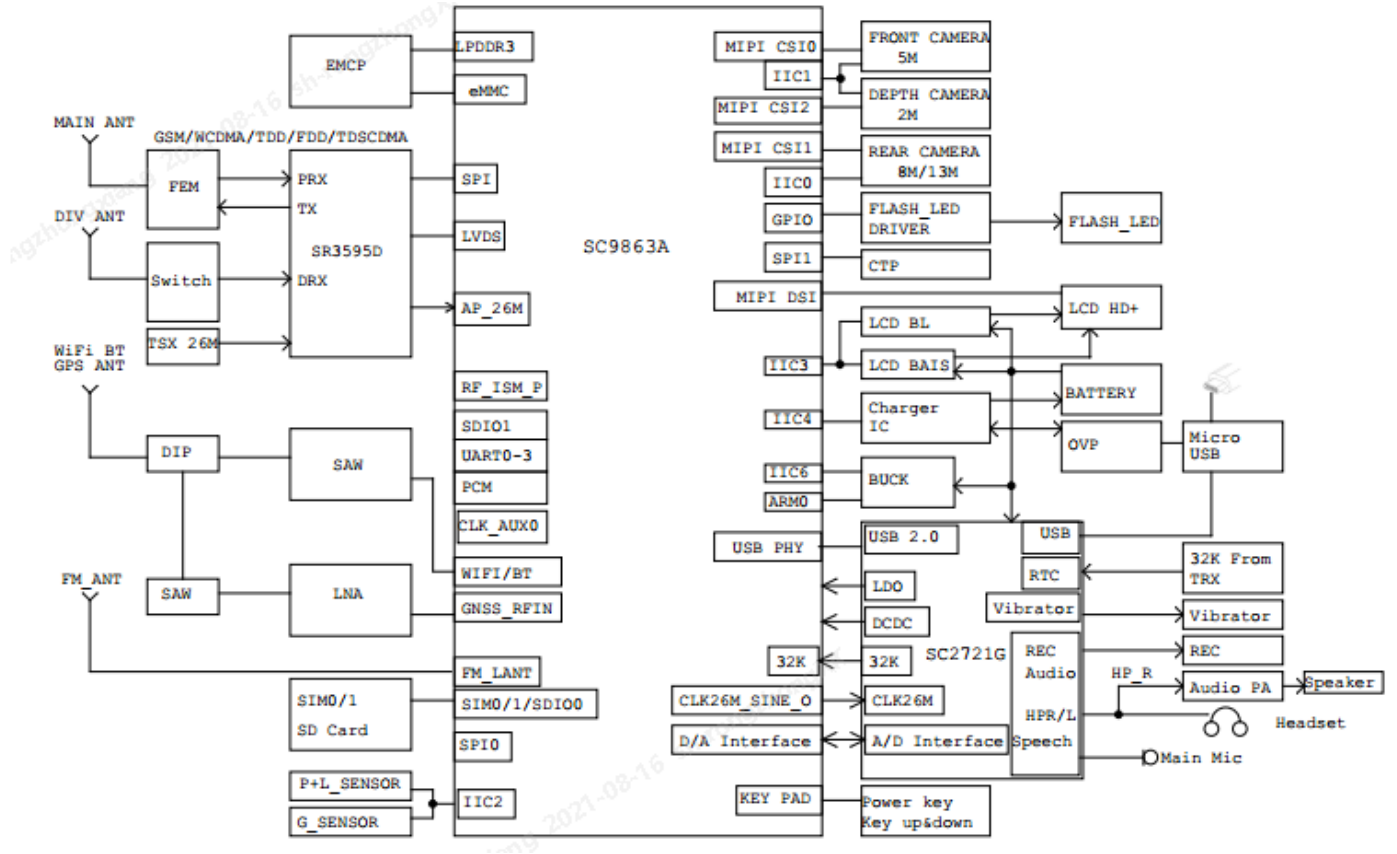






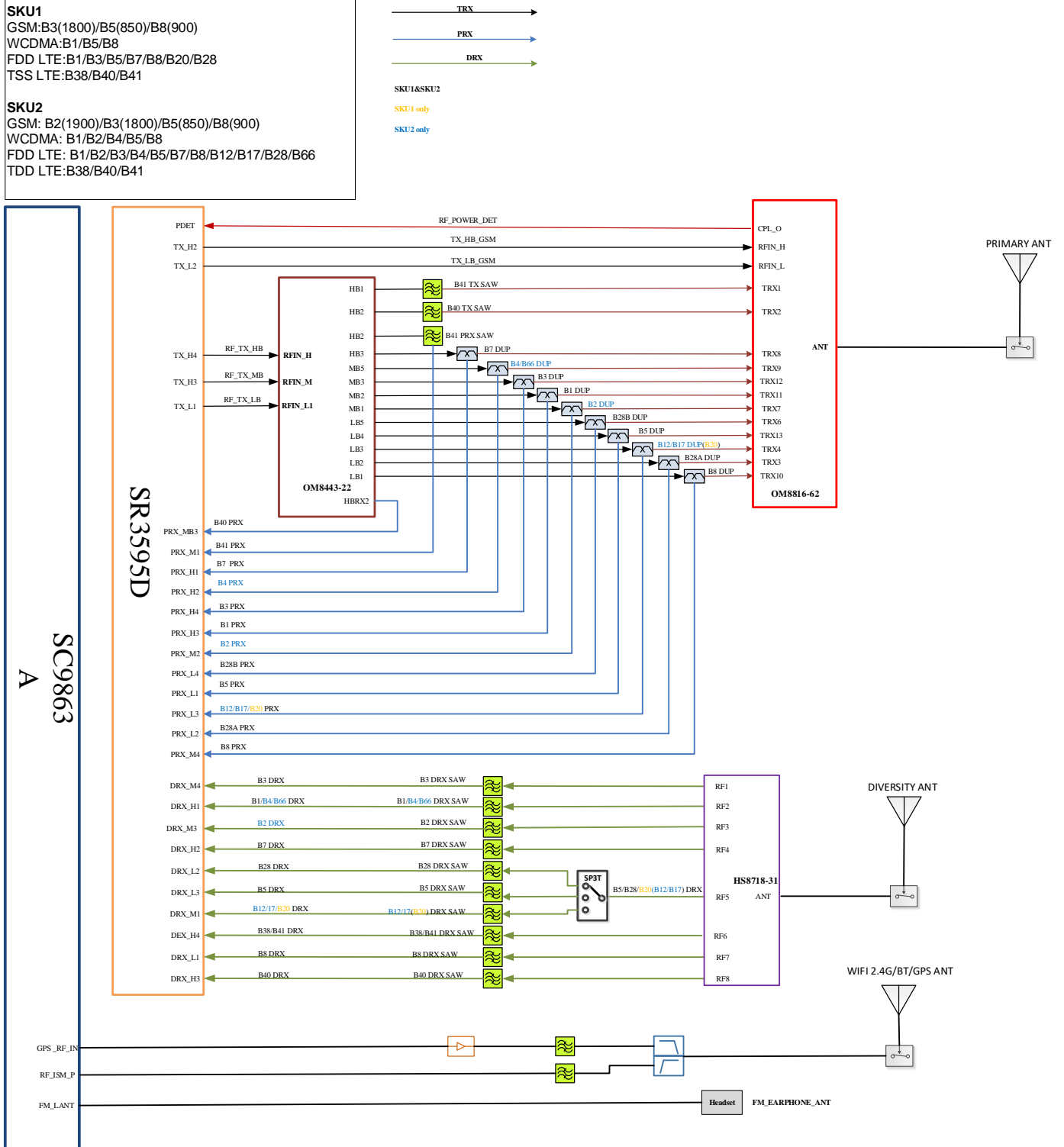


## 8. Level 3 Repair



## 8. Level 3 Repair

### RF Block Diagram



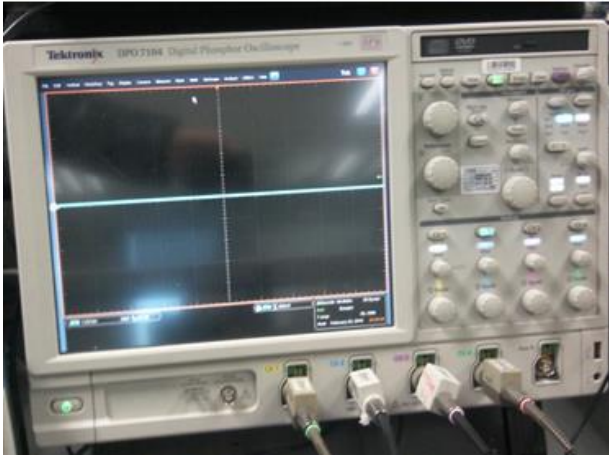


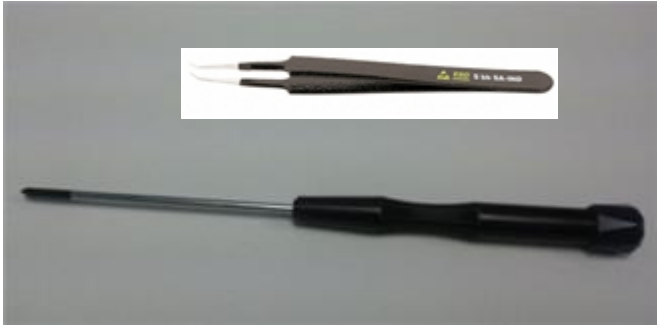
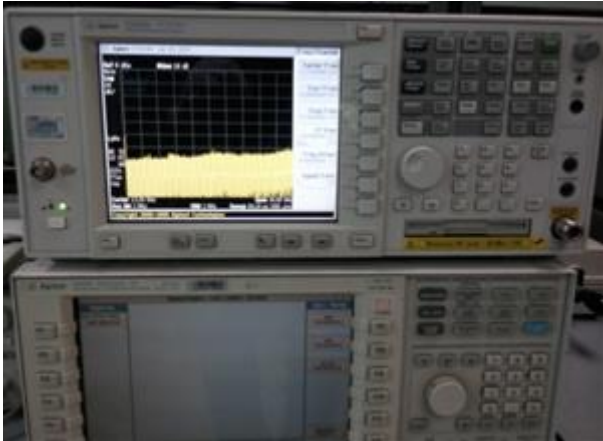

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## 8. Level 3 Repair

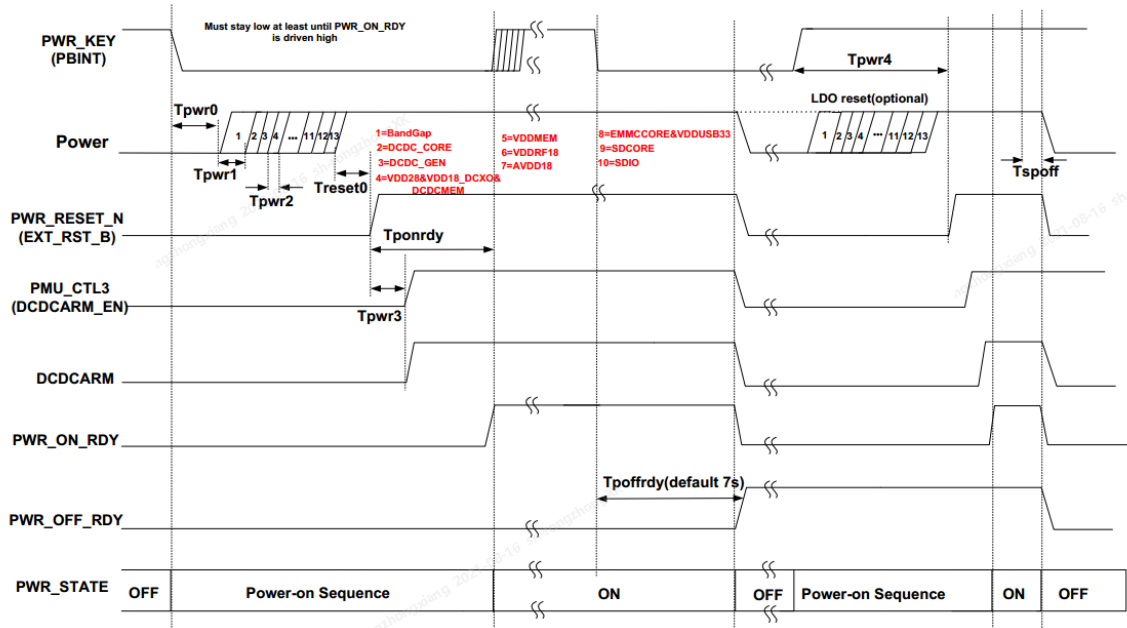
### 8-3. Flow chart of Troubleshooting.

	
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)



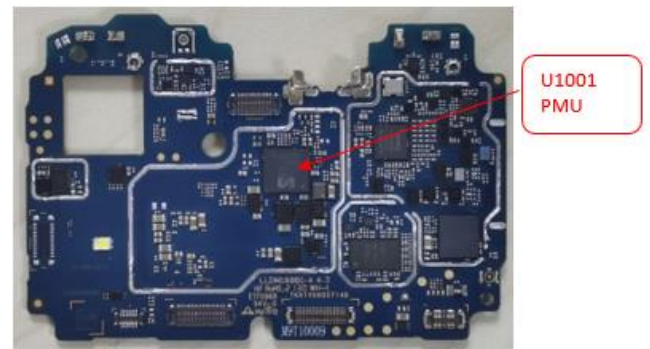
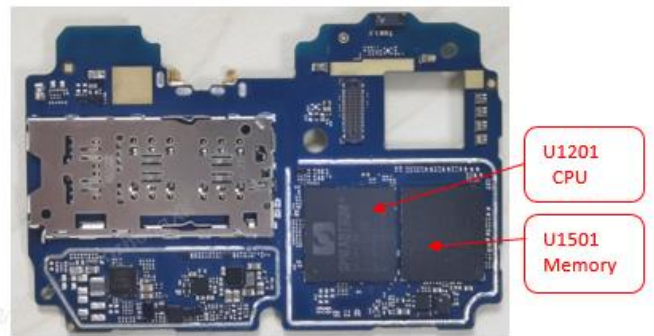
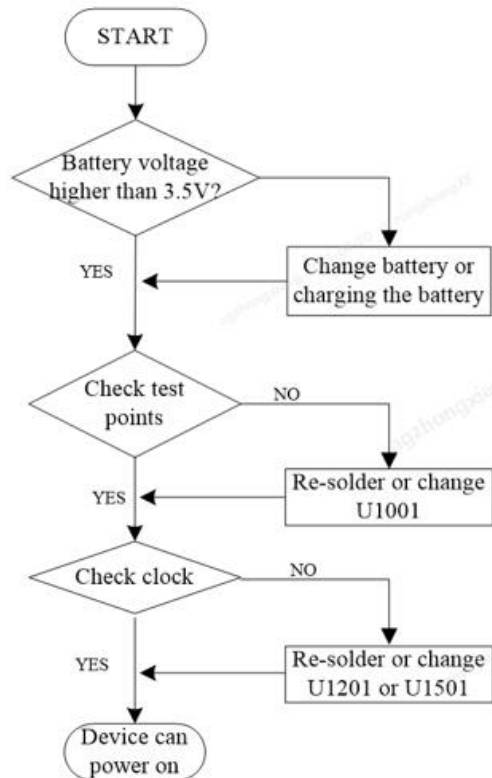
Integrated 7s reset circuit supports below two mode by SW select

- Reset PMU together
- Reset ARM core only

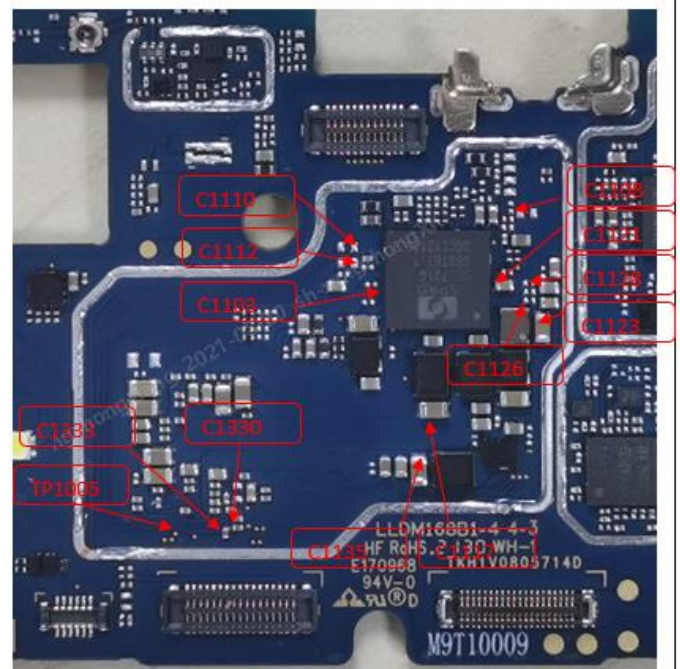
NO	Event	Volt(V)	TP
0	Tpwr0	/	NO TP
1	Tpwr1	/	NO TP
2	DCDC_CORE	0.9	C1117
3	DCDC_GEN	1.4	C1123
4	VDD2V8	2.8	C1103
5	VDD1V8_DCXO	1.85	C1108
6	VDDMEM	1.8	C1121
7	VDDRF1V8	1.85	C1128
8	AVDD1V8	1.8	C1126
9	EMMCORE	3	C1110
10	VDDUSB33	3.3	C1330
11	SDCORE	3	C1112
12	SDIO	3	C1333
13	EXT_RST_B	1.8	TP1005
14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

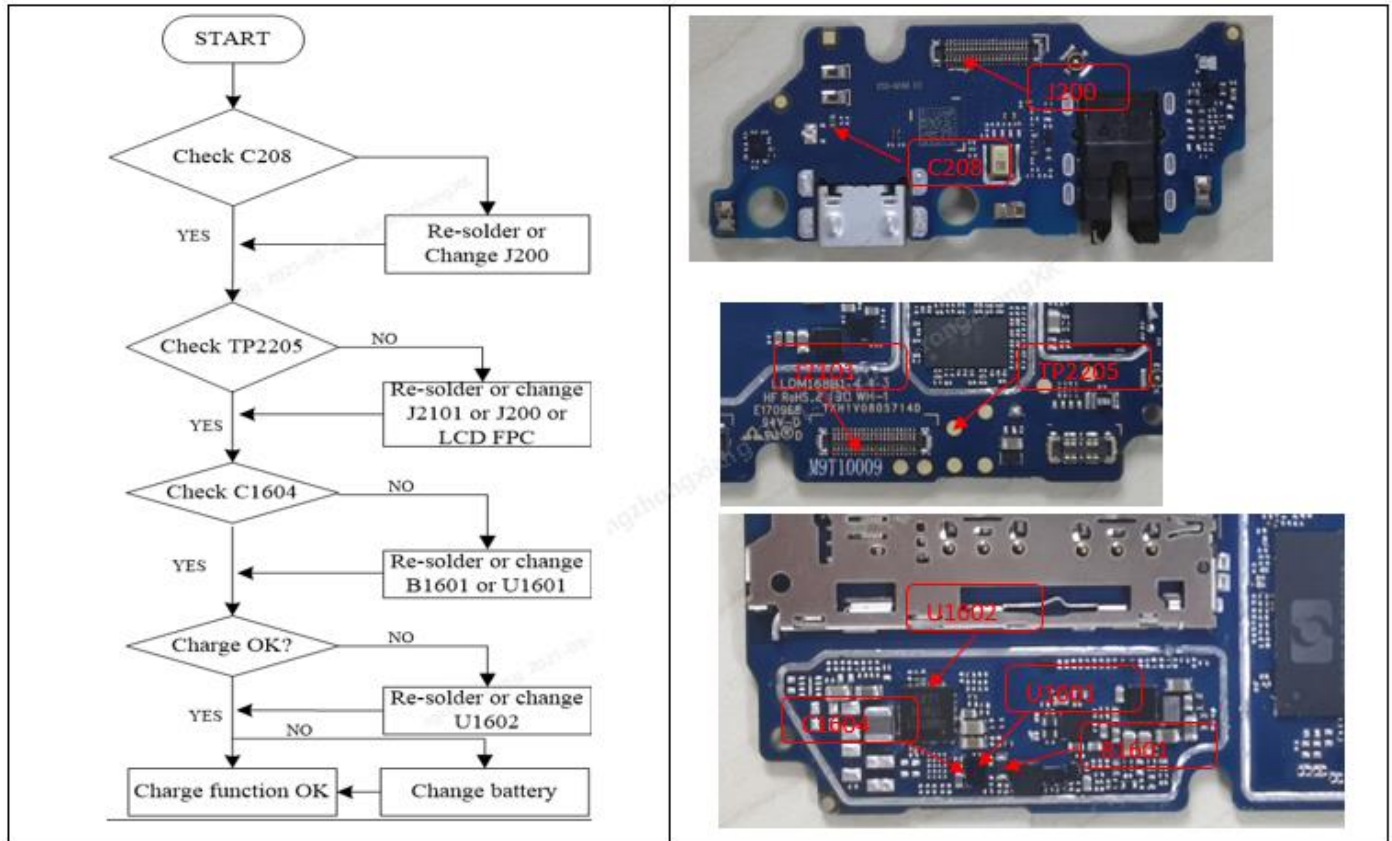




## 8. Level 3 Repair

### 8-3-2. Charging

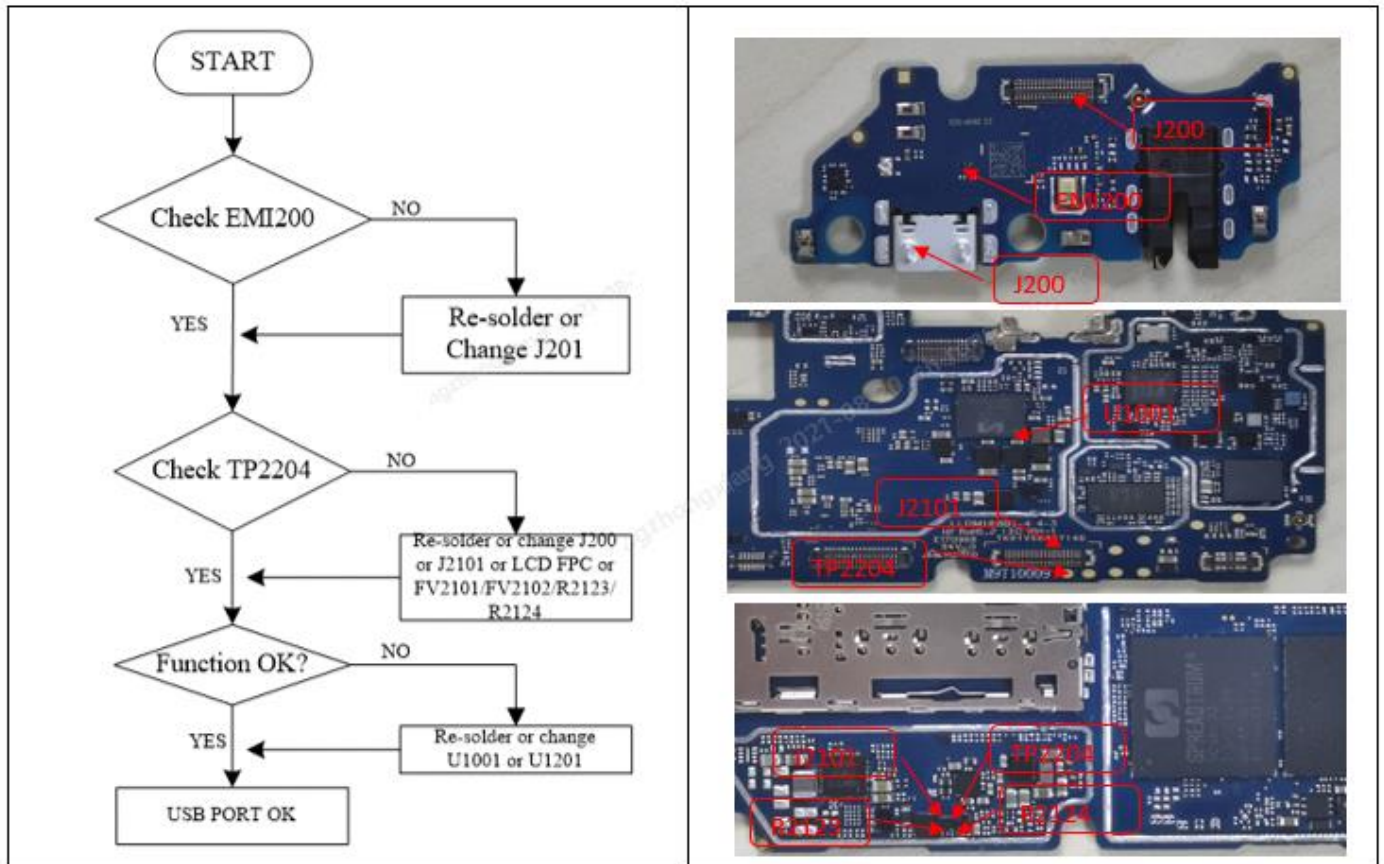
The charging controlled by PMU chip SD155 or BQ25601 (U1602).



## 8. Level 3 Repair

### 8-3-3. USB

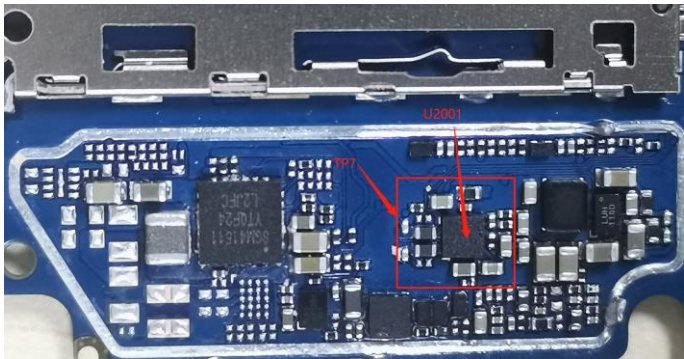
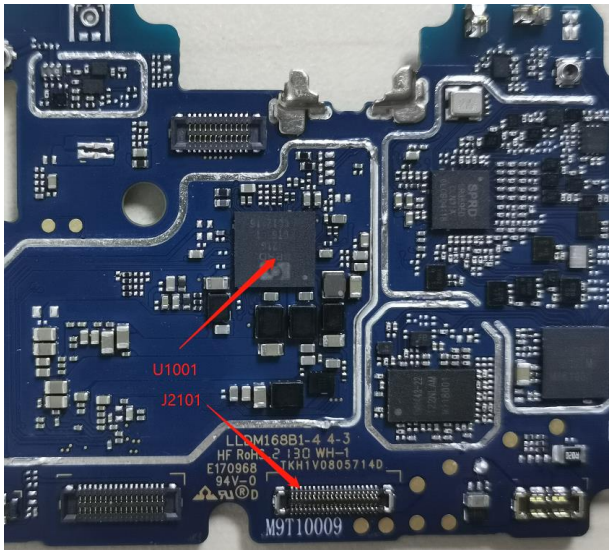
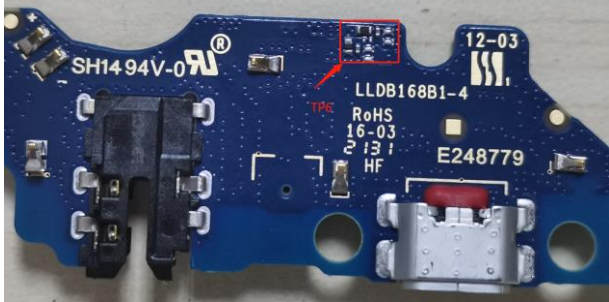
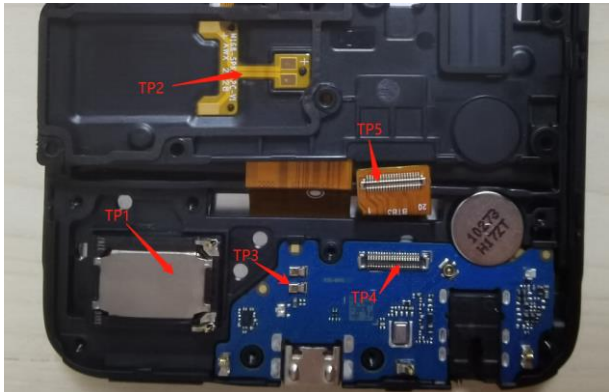
I/O connector is used as the USB port.



## 8. Level 3 Repair

### 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
<div><p>Start</p><p>Check J2101 , TP1-7</p><p>No</p><p>Re-solder or change J2101,TP1-8</p><p>Yes</p><p>Check U1001,L CM FPC</p><p>No</p><p>Re-solder or change U1001,LCM FPC</p><p>Yes</p><p>Speaker function ok</p></div> <div></div>	<div></div>

## 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
<div><div><div>Start</div><div>Check J2001 , J2002,TP 1-2</div><div>No</div><div>Re-solder or change Check J2001 , J2002,TP1-2</div><div>Yes</div><div>Check U1001</div><div>No</div><div>Re-solder or change U1001</div><div>Yes</div><div>Receiver function ok</div></div></div>	<div></div>



# 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
<div><pre>graph TD; Start([Start]) --&gt; D1{Check MIC200, TP1-7, J200, J2101}; D1 -- No --&gt; R1[Re-solder or change MIC200, TP1-7, J200, J2101]; R1 --&gt; Y1((Yes)); D1 -- Yes --&gt; D2{Check U1001, LCM FPC}; D2 -- No --&gt; R2[Re-solder or change U1001, LCM FPC]; R2 --&gt; Y2((Yes)); D2 -- Yes --&gt; Y2; Y2 --&gt; End([Main MIC function ok]);</pre></div>	<div></div> <div></div>



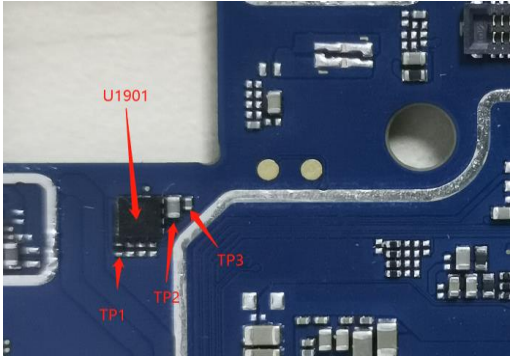
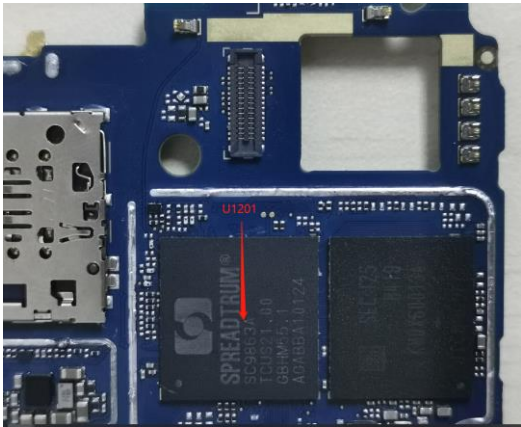
## 8. Level 3 Repair

Checking Flow Headset mic	Image
<pre>graph TD; Start([Start]) --&gt; Check1{Check J210 , J200,J2101,TP1-8}; Check1 -- No --&gt; ReSolder1[Re-solder or change J210 , J200,J2101,TP1-8]; ReSolder1 --&gt; Check1; Check1 -- Yes --&gt; Check2{Check U1001,L CM FPC}; Check2 -- No --&gt; ReSolder2[Re-solder or change U1001,L CM FPC]; ReSolder2 --&gt; Check2; Check2 -- Yes --&gt; OK[Headset MIC function ok];</pre>	

# 8. Level 3 Repair

## 8-3-7. Accelerometer sensor

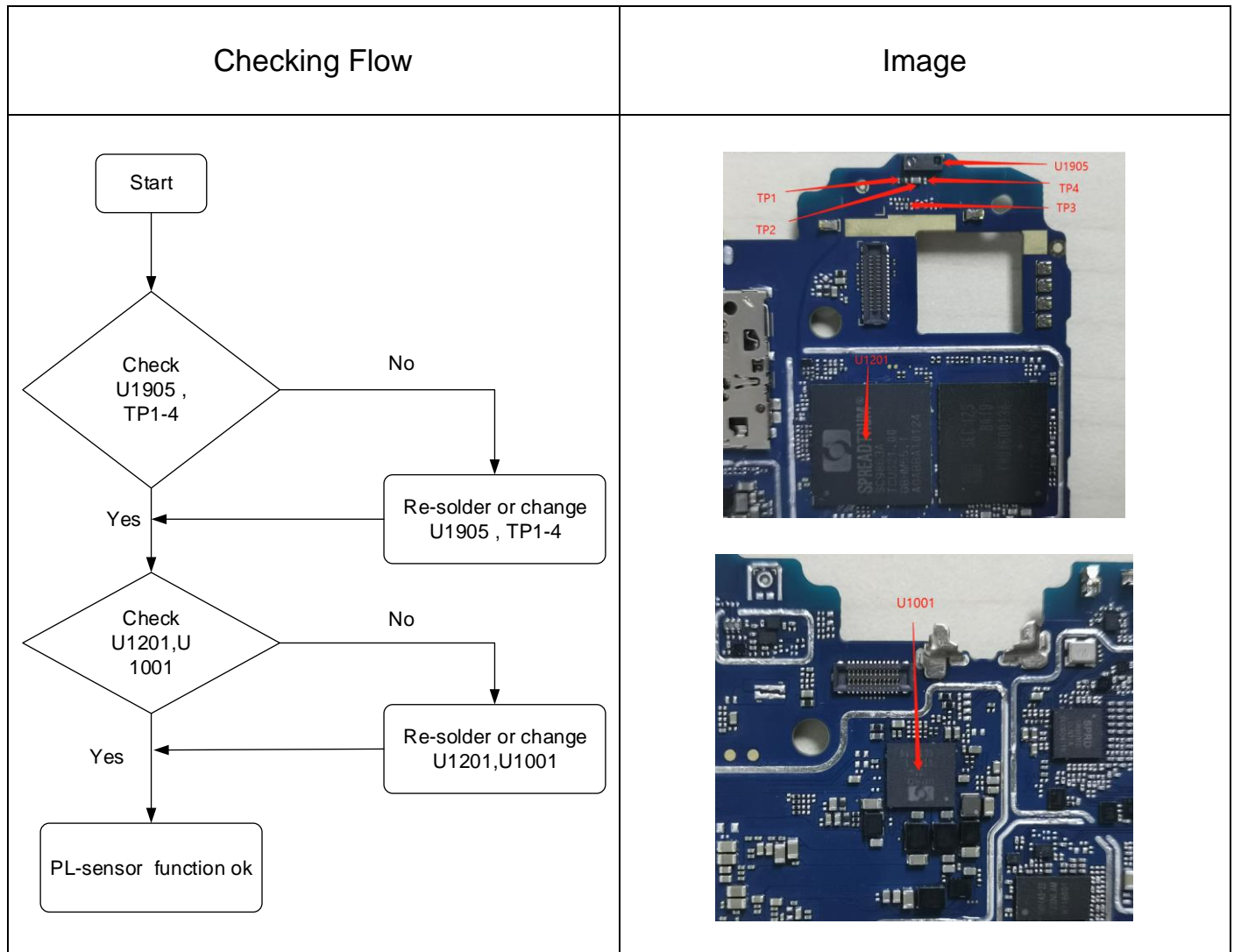
The Accelerometer sensor is calibrated by using SW algorithm.

Checking Flow	Image
<div><p>Start</p><p>Check U1901 , TP1-3</p><p>No</p><p>Re-solder or change U1901 , TP1-3</p><p>Yes</p><p>Check U1201</p><p>No</p><p>Re-solder or change U1201</p><p>Yes</p><p>Accelerometer sensor function ok</p></div>	<div></div> <div></div>

## 8. Level 3 Repair

### 8-3-8. Proximity and light sensor

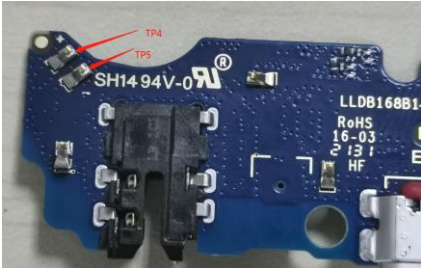
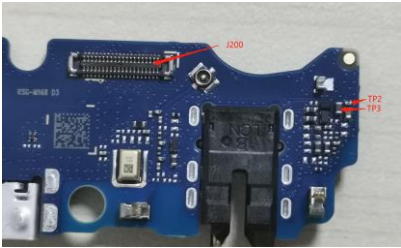
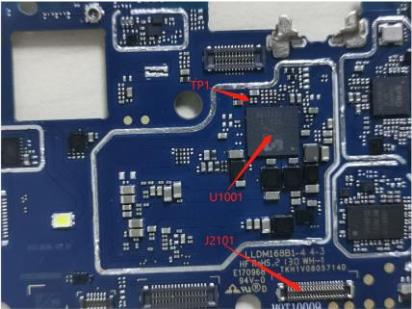
Proximity and Light Sensor is worked as below: Control the screen's on/off operation automatically while making phone calls, and adjust the screen brightness according to ambient light.



## 8. Level 3 Repair

### 8-3-9. Vibrator

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

Checking Flow	Image
<div><p>Start</p><p>Check vibrator module , LCM FPC,J2101,J200</p><p>No</p><p>Re-solder or change vibrator module , LCM FPC,J2101,J200</p><p>Yes</p><p>Check TP1-TP6,U1001</p><p>No</p><p>Re-solder or change TP1-TP6,U1001</p><p>Yes</p><p>Vibrator function ok</p></div>	<div></div>



## 8. Level 3 Repair

### 8-3-10.Main Camera

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

Checking Flow	Image
<div><pre>graph TD; Start([Start]) --&gt; Check1{Check camera module &amp; J1701}; Check1 -- No --&gt; ReSolder1[Re-solder or change camera module and J1701]; ReSolder1 --&gt; Check1; Check1 -- Yes --&gt; Check2{Check TP1-TP7,U1201,U1001}; Check2 -- No --&gt; ReSolder2[Re-solder or change TP1-TP7,U1201,U1001]; ReSolder2 --&gt; Check2; Check2 -- Yes --&gt; End([Camera function ok]);</pre></div>	<div><p>This image shows the camera module connector J1701 and several test points (TP1 through TP7) on the blue PCB. Red arrows point to each of these components.</p></div> <div><p>This image shows the camera control chips U1001 and U1201 on the blue PCB. Red arrows point to each of these chips.</p></div>

## 8. Level 3 Repair

### 8-3-13. Front Camera

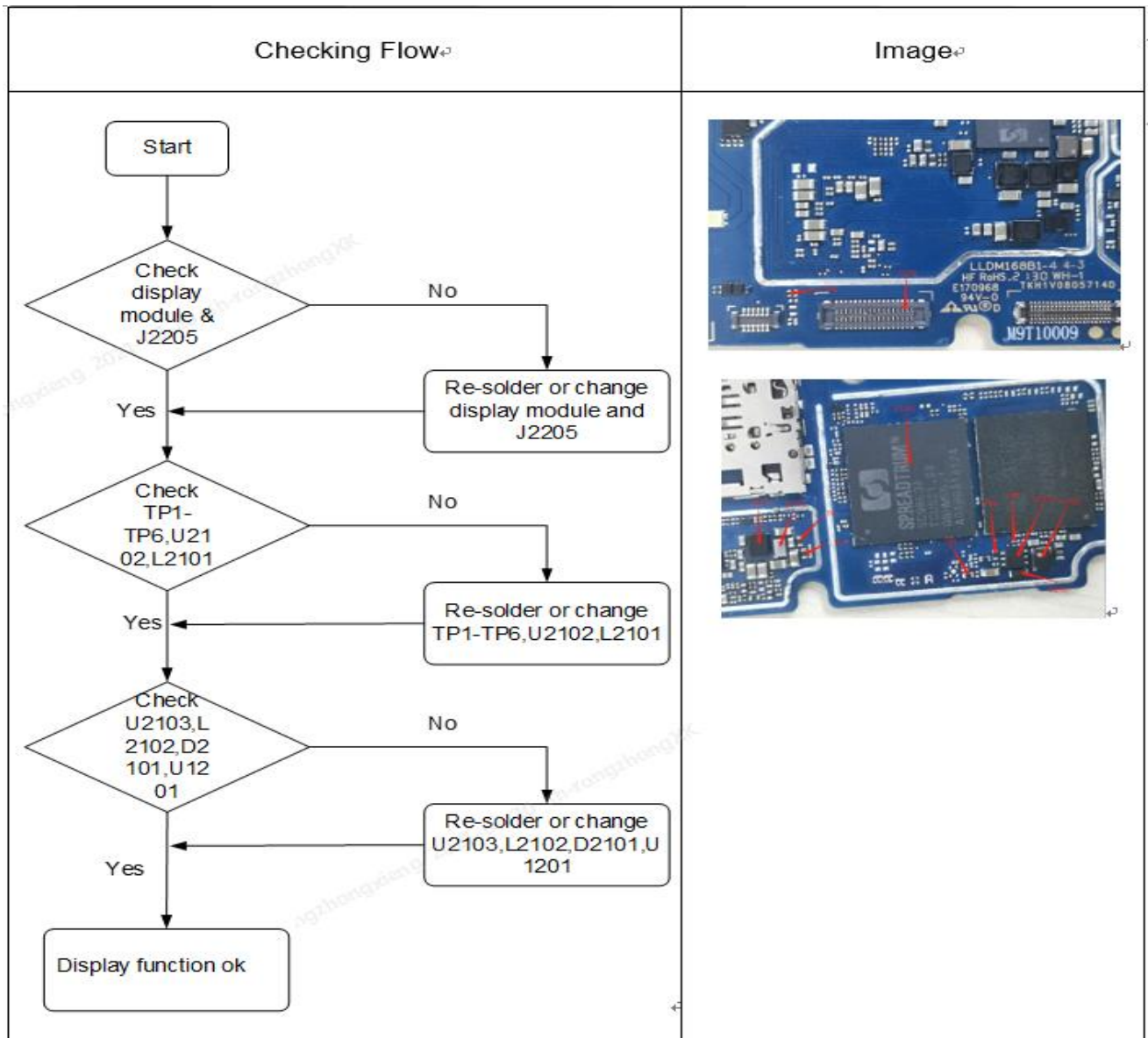
The Camera control signals are generated by SC2721G (U1001) and SC9863A(U1201).

Checking Flow	Image
<div><pre>graph TD; Start([Start]) --&gt; CheckJ1704{Check camera module &amp; J1704}; CheckJ1704 -- No --&gt; ReSolderJ1704[Re-solder or change camera module and J1704]; ReSolderJ1704 --&gt; CheckTPs{Check TP1-TP5,U1201,U1001}; CheckTPs -- No --&gt; ReSolderTPs[Re-solder or change TP1-TP5,U1201,U1001]; CheckTPs -- Yes --&gt; End([Camera function ok]); CheckJ1704 -- Yes --&gt; CheckTPs;</pre></div>	<div><p>The top image shows the camera module connector J1704 and the SC2721G (U1001) chip. The bottom image shows the SC9863A (U1201) chip and test points TP1, TP2, and TP5.</p></div>

## 8. Level 3 Repair

### 8-3-14 LCD

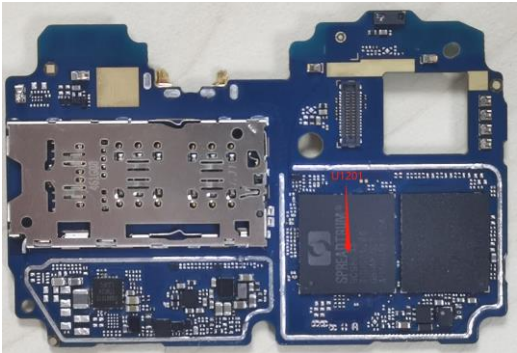
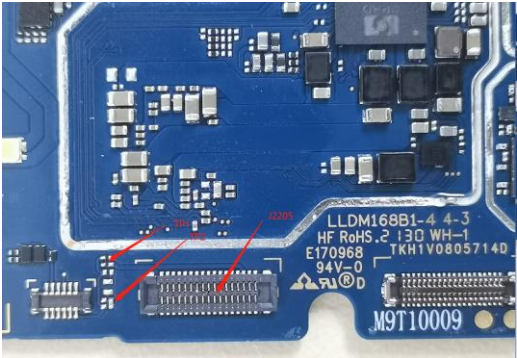
The LCD control signals are generated by SM7225(U201).



## 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
<div><p>Start</p><p>Check TP module &amp; J2205</p><p>No</p><p>Re-solder or change TP module and J2205</p><p>Yes</p><p>Check TP1-TP2 &amp; U1201</p><p>No</p><p>Re-solder or change TP1-TP2 &amp; U1201</p><p>Yes</p><p>Touch function ok</p></div>	<div></div>