

# SAMSUNG

## Mobile Device SM-A136B/M Common

# ***SERVICE*** *Manual*

## Contents

### - Level 3 -

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# 1. SVC Tech Information

## 1-1. Calibration Items

- ‘O’ mark items must be calibrated after repairing/replacing each part.

TSP Cal.	-	Force Touch Cal.	-	Optical Finger print Cal.	-
Speaker Cal.	-	Digital Hall IC Cal.	-	TOF Camera Cal.	-
Water Resistance	-	Ranging Sensor Cal	-	UWB Cal	-
Multi Camera Cal.	O	mmWave RF Cal. (Only for USA/Japan)	-		

## 1-2. Part list which must be changed after reassembly

- No parts must to be changed after reassembly. (Hook Type)

## 1-3. JIG

- Common Jig : Camera Cal Jig(chart)
- UV protect film Jig : N/A (No protect film)

## 1-4. WRT Test Information

- It does not support water resistance. The test is not available.

## 1-5. AOD Setting Information

- It does not support AOD.

# 2. SVC Model Information

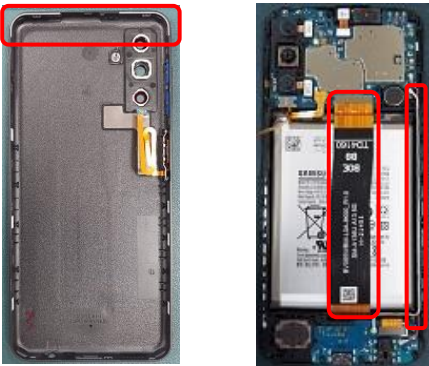
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## 2-1. RAM & Storage size by region

Region		Dev Model	Specifications					Basic code	SKU Modifier
			RAM	ROM	NFC	MST	SIM		
EUR	CIS	SM-A136B_EUR_XX	4	128	UICC	X	DS	BSM-A136B/1D4N	V
			4	64	UICC	X	DS	BSM-A136B/64DN	U
4			128	UICC	X	DS	BSM-A136B/1D4N	V	
4			64	UICC	X	DS	BSM-A136B/64DN	U	
SEAO		SM-A136B_SEA_XXV	6	128	X	X	DS	BSM-A136B/1R6D	H
			4	128	X	X	DS	BSM-A136B/1R4D	G
			4	64	X	X	DS	BSM-A136B/64D	D
			4	128	X	X	SS	BSM-A136B/1R4	E
SWA		SM-A136B_SWA_INS	6	128	X	X	DS	BSM-A136B/1R6D	H
			4	128	X	X	DS	BSM-A136B/1R4D	G
			4	64	X	X	DS	BSM-A136B/64D	D
MEA	AFR	SM-A136B_MEA_MEA	6	128	UICC	X	DS	BSM-A136B/1D6N	W
			4	128	UICC	X	DS	BSM-A136B/1D4N	V
			4	64	UICC	X	DS	BSM-A136B/64DN	U
4			128	UICC	X	DS	BSM-A136B/1D4N	V	
4			64	UICC	X	DS	BSM-A136B/64DN	U	
4			128	UICC	X	SS	BSM-A136B/1R4N	O	
4			64	UICC	X	SS	BSM-A136B/64N	N	
LA		SM-A136M_LA_TPA	4	128	X	X	DS	BSM-A136M/128D	G
			4	64	X	X	DS	BSM-A136M/64D	D
			4	128	X	X	SS	BSM-A136M/128	E
			4	64	X	X	SS	BSM-A136M/64	A
			4	128	X	X	DS	BSM-A136M/128D	S
CHN	HK	SM-A136B_CHN_TGY	6	128	UICC	X	DS	BSM-A136B/1D6N	W
			4	64	UICC	X	DS	BSM-A136B/64DN	U
	TW		4	128	UICC	X	DS	BSM-A136B/1D4N	V
			4	64	UICC	X	DS	BSM-A136B/64DN	U

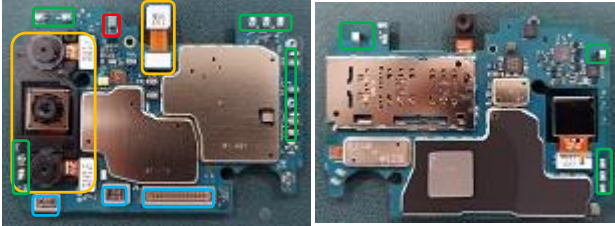
# 2. SVC Model Information

## 2-2. Disassembly & Reassembly (Important management points)

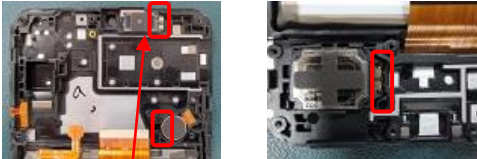


When detaching Rear, check if there is any damage to flood prevention sponge at the top of the Rear. Be careful with C2C FPCB, coaxial cable when assembling and disassembling.

Back-Glass




Check whether Camera Module, MIC module, Connector, Contact are damaged or not.



RCV disassembly hole

When disassembling RCV/MOT/SPK, Insert tweezers to each hole. Be careful not to touch the battery and not to peel the tape



Be careful with Finger print key Bracket(twist)/FPCB(damage), during assembly and disassembly.

## 2-3. Disassembly & Reassembly (Battery replacement)

Do not reuse the battery after it has been removed. It must be replaced with a new battery.

**\* Reusing a removed battery could lead to potential safety hazards**

Type	Structure
<div><div><div>Display</div><div>Bracket</div><div>Battery</div></div><div>Inseparable part (Front Assy)</div></div>	<div>Display and Bracket are inseparable.</div> <div>Battery replacement is required when Front Assy components are defected.</div>

# 3. Product Function

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## 3-1. Main Function

Item	Description
OS	Android V12.0 (R)
Network	<b>2G</b> - GSM : 850 / 900 / 1800 / 1900 <b>3G</b> - WCDMA : B1 / B2 / B4 / B5 / B8 <b>4G</b> - FDD : B1 / B2 / B3 / B4 / B5 / B7 / B8 / B12 / B17 / B20 / B26 / B28 / B66 - TDD : B38 / B40 / B41 - MIMO : B7 / B38 / B41 <b>5G</b> - FDD : N1 / N3 / N5 / N7 / N8 / N20 / N28 - TDD : N38 / N40 / N41 / N78 - MIMO : N7 / N38 / N41 / N78
Battery	5,000 mAh
Processor	MTK 5G-C(MT6833) 2.2GHz Dual, 2.0GHz Hexa
Connectivity	GPS, Glonass, Beidou, Galileo, QZSS, BT5.0, USB 2.0 Type-C, Wi-Fi 802.11 a/b/g/n/ac 2.4G+5GHz, NFC (SM-A135F EUR, MEA,CHN only support NFC)
Camera	<b>Rear</b> Wide : 50MP, AF, F1.8 Bokeh : 2MP, F2.4 Macro : 2MP, F2.4 <b>Front</b> : 5MP, FF, F2.0
Display	6.5" HD+, 720 x 1600, LCD
RAM	3 / 4 / 6 GB
ROM	32 / 64 / 128 GB
Sensor	6axis sensor(Accelerometer, Gyro Sensor), Virtual Ambient Light sensor, Geomagnetic Sensor, Virtual proximity sensor, Fingerprint Sensor

# 4. Exploded View and Parts List

## 4-1. Electronical Part List

: Refer to '[01-SM-A136B\\_Common\\_Main Part List](#)' file which uploaded separately

## 4-2. Cellular phone Exploded View

: Refer to '[02-SM-A136B\\_Common\\_Exploded View](#)' file which uploaded separately

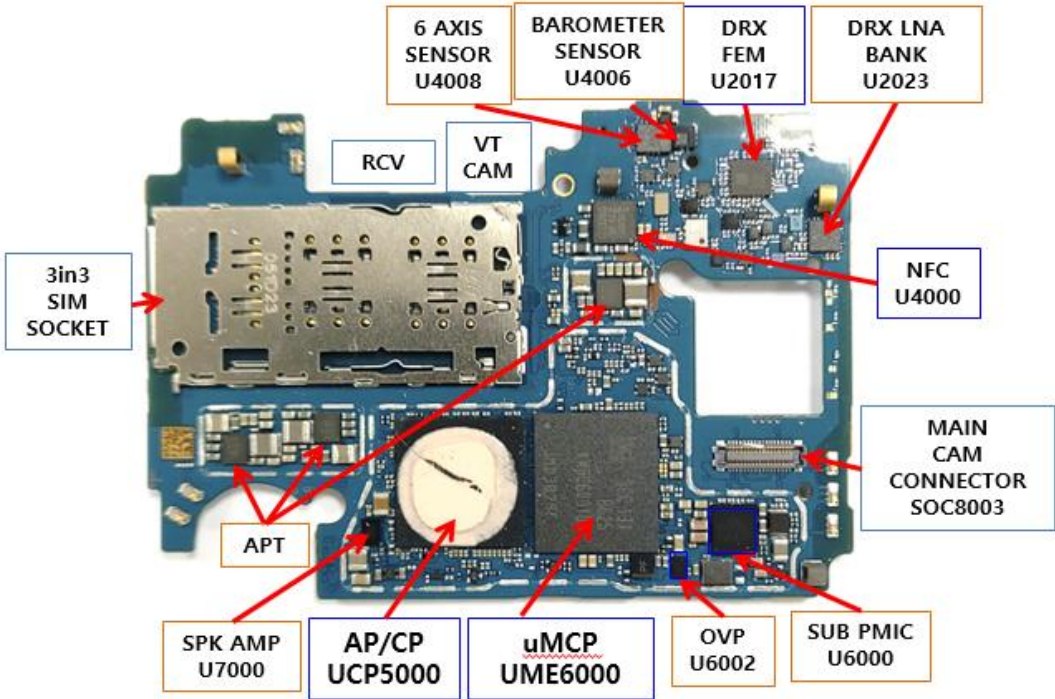
## 4-3. Cellular phone Parts list

: Refer to SVC PPL

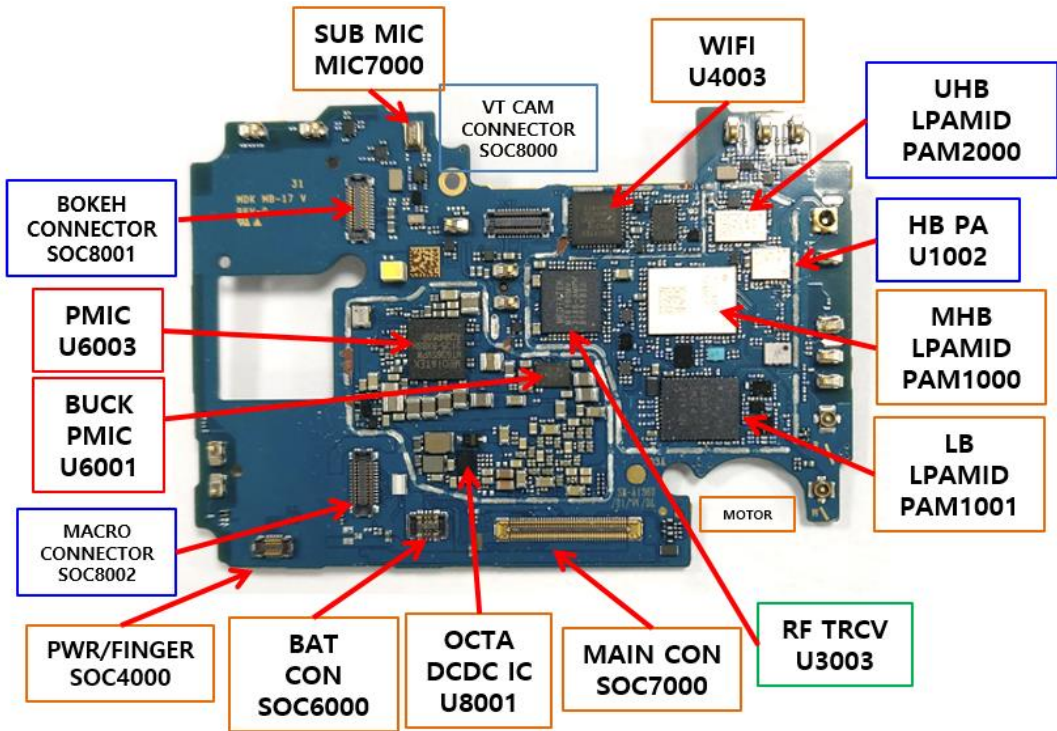
# 5. Components Layout

## 5-1. Components Layout

PBA(Top Side)



PBA(Bottom Side)

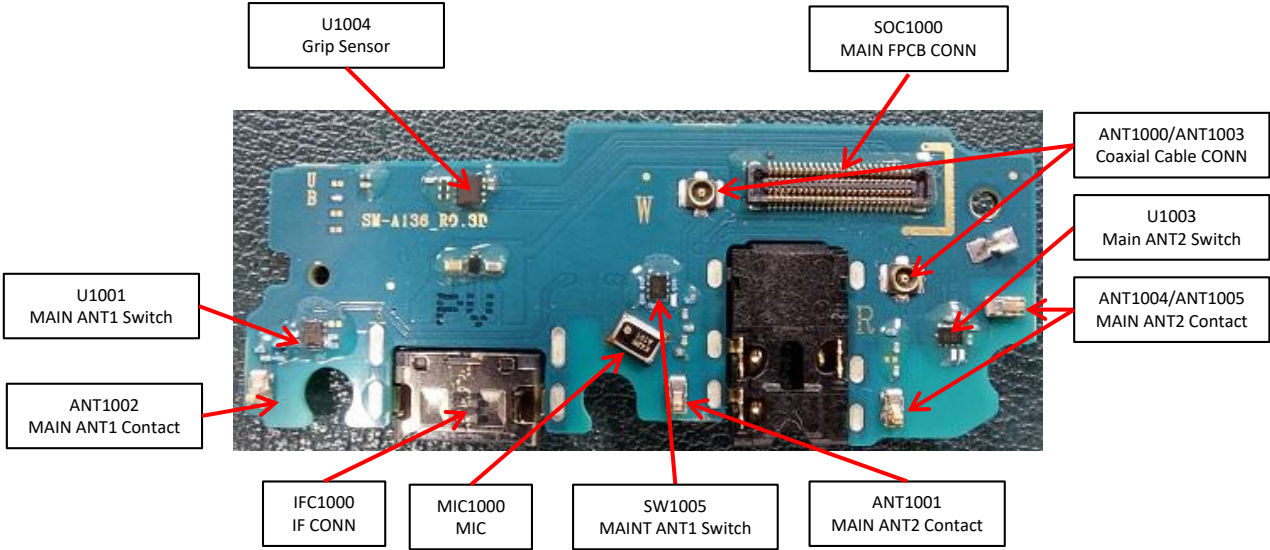




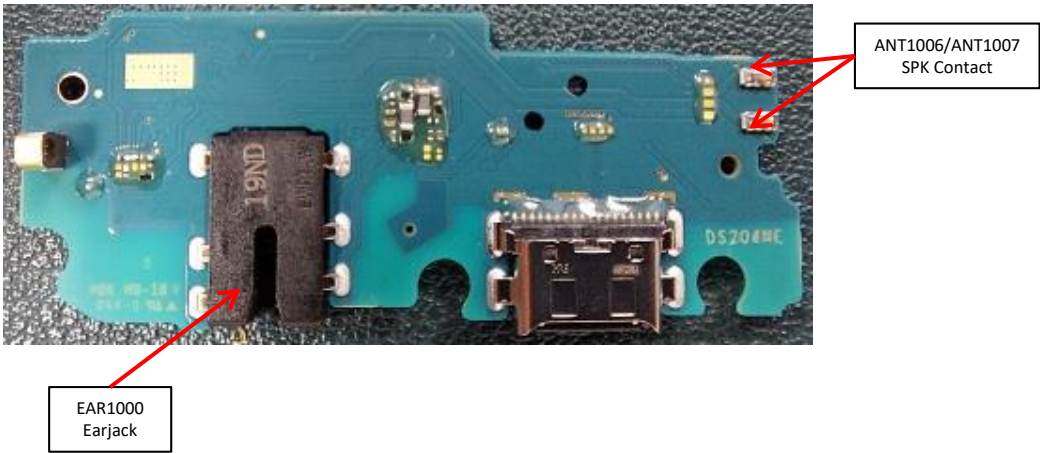
# 5. Components Layout

## 5-1. Components Layout

SUB PBA(Top Side)



SUB PBA(BOTTOM Side)



# 6. Trouble Shooting (L3)

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6-1 Display

6-2 Touch

6-3 Power, Charging

6-4 Camera

6-5 Audio

6-6 Sensor

6-7 Connectivity (WiFi, GPS, NFC)

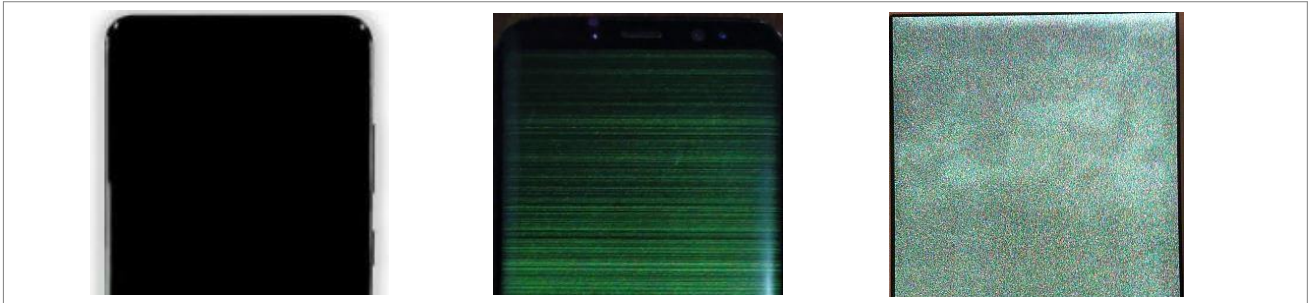
6-8. No SVC

6-9. USIM

# 6-1. Display

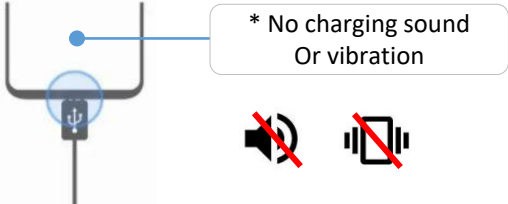

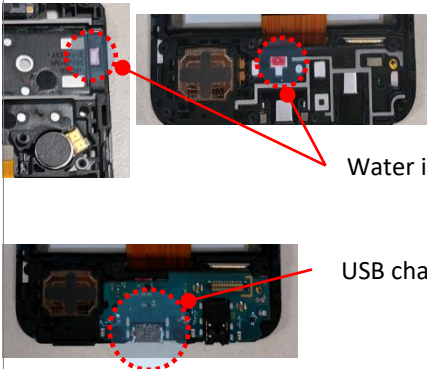
## 6-1-1. Black Display

- 1) Symptom
- Description : No display after power on. Temporary no display or dimmed display

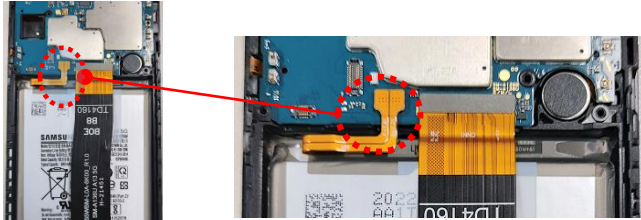
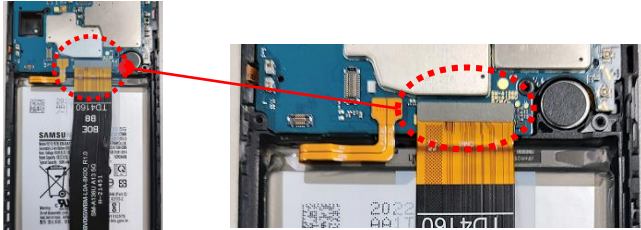
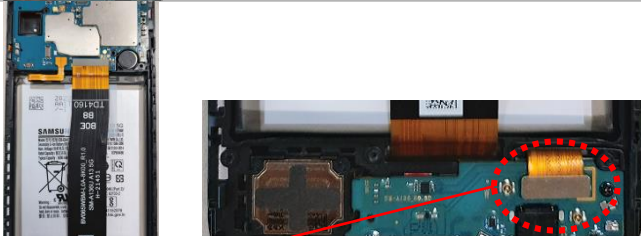

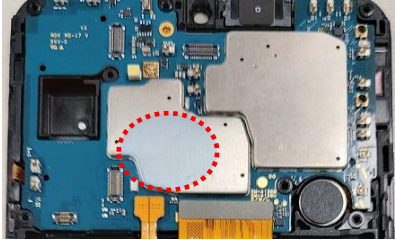


- 2) Defect Decision Conditions
- Noised images on the screen after turning on
- Check booting sound and no vibration .

- 3) Repair Guide
- **Caution : Disconnect battery connector first when it shows.**

Image	Description
	<div>1. Check the charging notification sound or vibration when connected to charger.</div> <div>- Should be no sound and no vibration.</div> <div>- The device keep 'No display' status.</div>
	<div>2. Disassemble the device.</div> <div>- Refer to '<b>Disassembly and assembly video guide for Galaxy A13 5G</b>' from the GSPN.</div>
<div><div>Water indicator tripped</div><div>USB charging port burnt</div></div>	<div>3. Check the disassembled device for OOW.</div> <div>- Water damage.</div> <div>- Part burnt.</div> <div>(Charging port, PBA, Battery and others)</div> <div>- Broken traces and others.</div>

## 6-1-1. Black Display

Image	Description
	<p><b>[Attention]</b></p> <p>4. Disconnect Battery Connector at first.</p>
	<p>5. Check the 'PBA ↔ Display' connector and connect it again when it connected improperly. After that, connect battery connector again and check the display.</p>
	<p>6. Check the SUB connector and connect it again when it connected improperly. After that, connect battery connector again and check the display.</p>
	<p>7. Exchange the display module with new one and check the device.</p>
	<p>8. If the device is working normally after removing the capacitor, exchange it with new capacitor.</p> <p>If not, exchange the PBA.</p>

# 6-1. Display




## 6-1-2. Bit defect (Horizontal line) (L3)

- 1) Symptom
- Description : Bit defect(Horizontal line) after power on.



- 2) Defect Decision Conditions
- Description : Even if the screen changes or the device reboots, the bit failure phenomenon remains.

- 3) Repair Guide
- **Caution : First of all, check if there is any damage of external impact on the device.**

Image	Description
 <div>* Checking external damage of the device</div>	1. Check if there is any damage of external impact on the device. (especially, Front Window)
	2. Disassemble the device. - Refer to ' <b><u>Disassembly and assembly video guide for Galaxy A13 5G</u></b> ' from the GSPN.
	3. Exchange the display module with new one and check the device.






## 6-1-3. Screen overlap / shaking / flicker (L3)

- 1) Symptom
- Description : Screen overlap / shaking / blinking after power on. Temporary symptom or continuous maintenance.

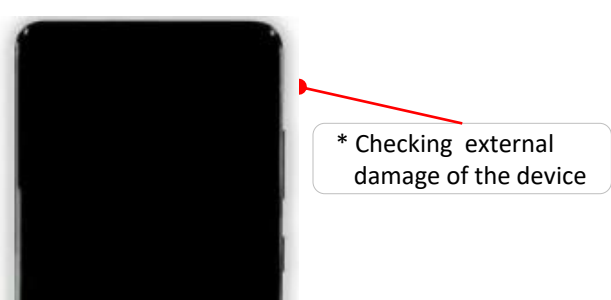




- 2) Defect Decision Conditions
- Description : You can see that symptom when something is changed or something is played on the screen of device. (ex : contents of Youtube[Mosaic Pattern], swap menu block on screen [ICON Crack])
- 3) Repair Guide
- Caution : Disconnect battery connector first when it shows.

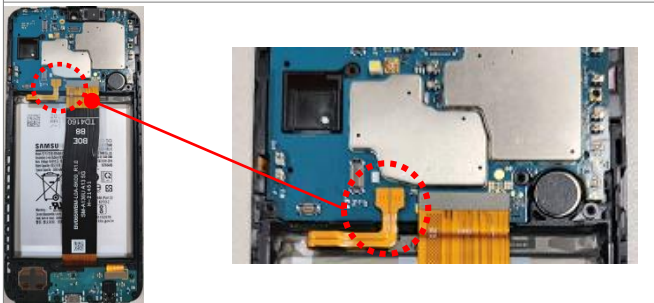
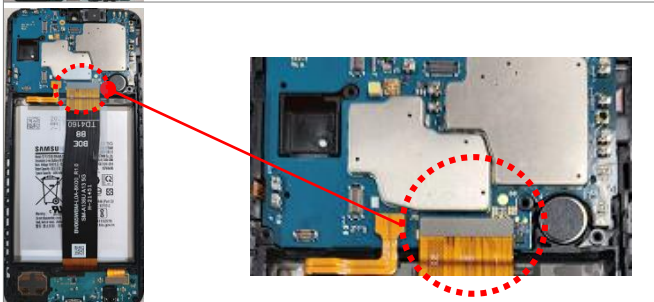
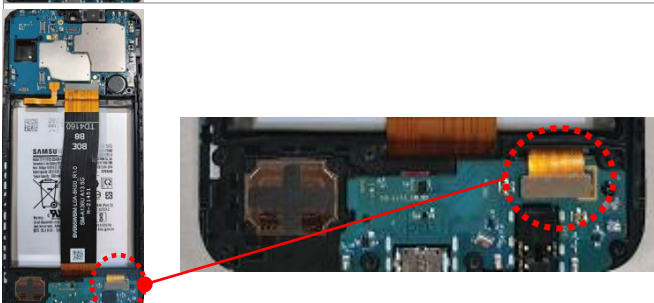

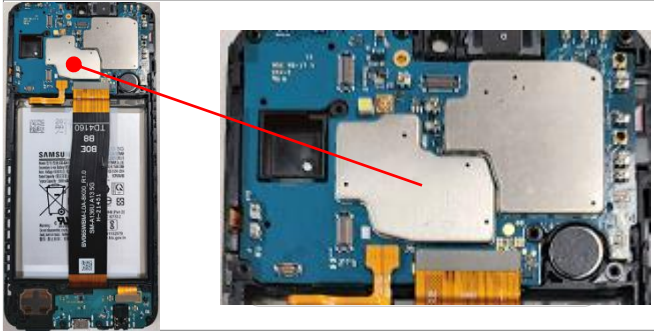
Image	Description
	<div>1. Disassemble the device.</div> <div>- Refer to '<b>Disassembly and assembly video guide for Galaxy A13 5G</b>' from the GSPN.</div>
	<div>2. Exchange the display module with new one and check the device.</div>
	<div>3. If not, finally, exchange the PBA with new one and check the device.</div>

## 6-2-1. Abnormal Touch(Ghost touch)

- 1) Symptom
- Description : Abnormal touch(Ghost touch)
- 2) Defect Decision Conditions
- Description : Abnormal touch(Ghost touch)
- 3) Repair Guide
- Caution : First of all, check if there is any damage of external impact on the device.

Image	Description
	1. Check if there is any damage of external impact on the device. (especially, Front Window)
	2. Input key string <b>*#2663#</b> , click TSP FW update(General). After that, check the <b>*#0*#</b> tsp test.  If the touch test is not work normally, check the next step.
	3. Disassemble the device. - Refer to ' <b><u>Disassembly and assembly video guide for Galaxy A13 5G</u></b> ' from the GSPN.

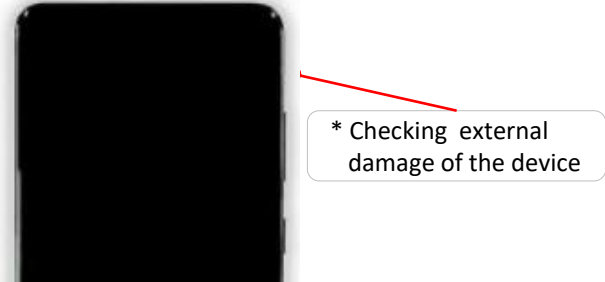

## 6-2-1. Abnormal Touch(Ghost touch)

Image	Description
	<p><b>[Attention]</b></p> <p>4. Disconnect Battery Connector at first.</p>
	<p>5. Check the 'PBA ↔ Display' connector and connect it again when it connected improperly. After that, connect battery connector again and check the display.</p>
	<p>6. Check the SUB connector and connect it again when it connected improperly. After that, connect battery connector again and check the display.</p>
	<p>7. Exchange the display module with new one and check the device.</p>
	<p>8. If the device is working normally after removing the capacitor, exchange it with new capacitor.</p> <p>If not, exchange the PBA.</p>

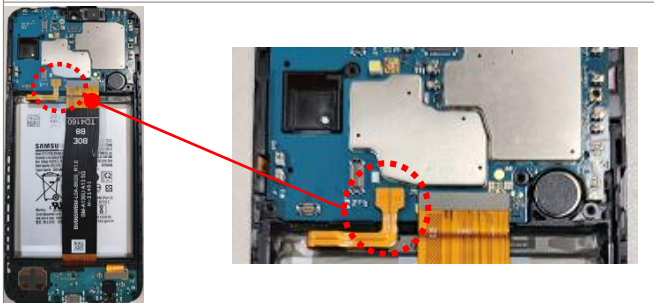
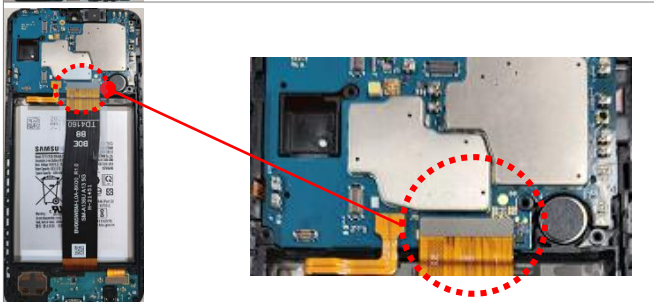
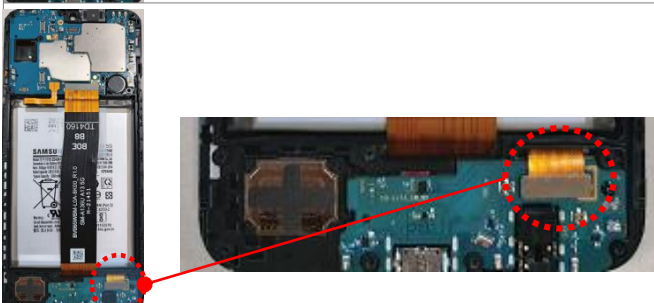

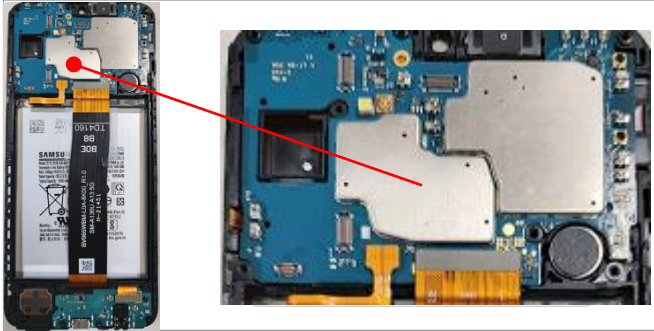


## 6-2-3. No Touch

- 1) Symptom
  - Description : No touch
- 2) Defect Decision Conditions
  - Description : No Touch
- 3) Repair Guide
  - **Caution : First of all, check if there is any damage of external impact on the device.**

Image	Description
	1. Check if there is any damage of external impact on the device. (especially, Front Window)
	2. Disassemble the device. - Refer to ' <u><b>Disassembly and assembly video guide for Galaxy A13 5G</b></u> ' from the GSPN.

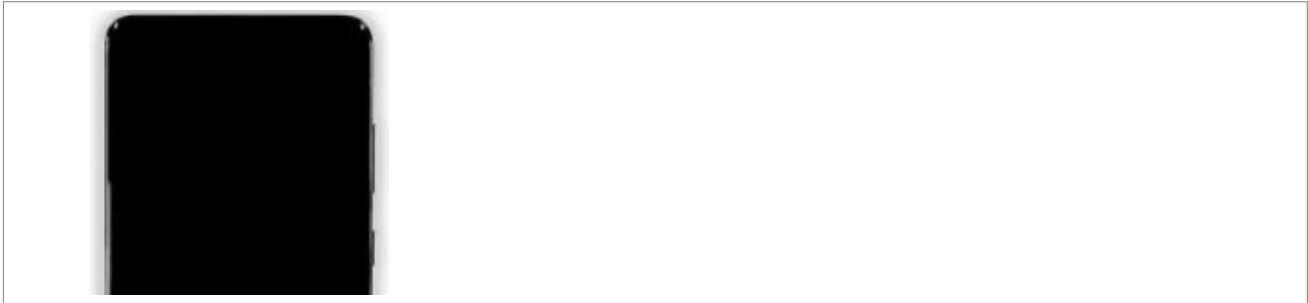
## 6-2-3. No Touch

Image	Description
	<p><b>[Attention]</b></p> <p>4. Disconnect Battery Connector at first.</p>
	<p>5. Check the 'PBA &lt;=&gt; Display' connector and connect it again when it connected improperly. After that, connect battery connector again and check the display.</p>
	<p>6. Check the SUB connector and connect it again when it connected improperly. After that, connect battery connector again and check the display.</p>
	<p>7. Exchange the display module with new one and check the device.</p>
	<p>8. If the device is working normally after removing the capacitor, exchange it with new capacitor.</p> <p>If not, exchange the PBA.</p>

# 6-3. Power, Charging

## 6-3-1. No Power

- 1) Symptom
  - Description : No display & vibration after press power key.



- 2) Defect Decision Conditions
  - Description : The phone no any display & vibration after booting.

- 3) Repair Guide
  - **Caution : Disconnect battery connector first when it shows.**

Image	Description
	<ul style="list-style-type: none"><li>1. Check the charging notification sound or vibration when connected to charger.<ul style="list-style-type: none"><li>- Should be no sound and no vibration.</li><li>- The device keep 'No Power' status.</li></ul></li></ul>
	<ul style="list-style-type: none"><li>2. Disassemble the device.<ul style="list-style-type: none"><li>- Refer to '<b><u>Disassembly and assembly video guide for Galaxy A13 5G</u></b>' from the GSPN.</li></ul></li></ul>
	<ul style="list-style-type: none"><li>3. Check the disassembled device for OOW.<ul style="list-style-type: none"><li>- Water damage.</li><li>- Part burnt. (Charging port, PBA, Battery and others)</li><li>- Broken traces and others.</li></ul></li></ul>

# 6-3. Power, Charging

## 6-3-1. No Power

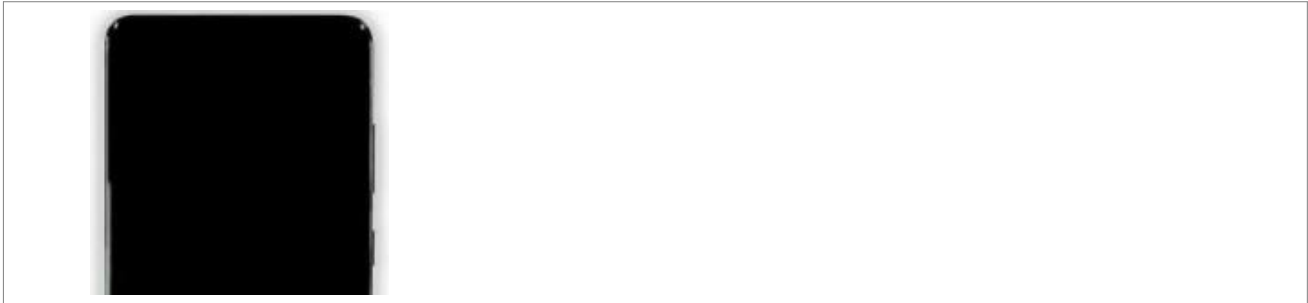
Image	Description
	<p>1. Check battery voltage at first 1&amp;2 pin : Battery voltage, 7&amp;8 pin : GND (There is no passive material check point outside of shield can) It's normal over 3.5v. If battery voltage is under 3.5v, charge the phone with charger.</p>
	<p>2. Check the 'PBA ↔ Battery' connector(SOC6000) and connect it again when it connected improperly. After that, check to turn on the phone.</p>
	<p>3. Check the 'PBA ↔ Power key ' contact pin(SOC4000) and clean the contact pin/pad when there is a foreign object. After that, check to turn on the phone.</p>
	<p>4. Check the 'PBA ↔ LCD 'connector(SOC7000) and connect it again when it connected improperly. After that, check to turn on the phone.</p>
	<p>5. Exchange the display module with new one and check the device.</p>





## 6-3-2. Reboot during Power on(L3)

- 1) Symptom
  - Description : reboot during power on



- 2) Defect Decision Conditions
  - Description : The phone is rebooting during power on.

- 3) Repair Guide
  - **Caution : Disconnect battery connector first when it shows.**

Image	Description
	<div>1. Disassemble the device.</div> <div>- Refer to '<b><u>Disassembly and assembly video guide for Galaxy A13 5G</u></b>' from the GSPN.</div>
	<div>2. check the battery connector connection.</div>
	<div>3. If not, replace PBA.</div>

## 6-3-3. Sudden Discharge in the idle state (L3)

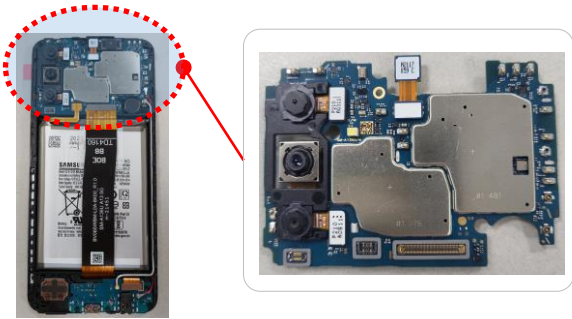

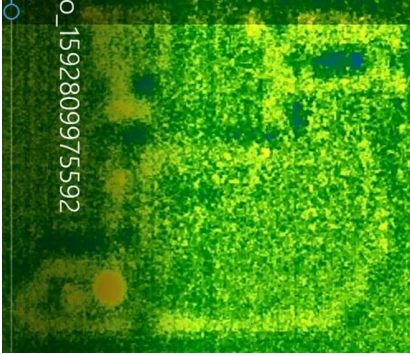
- 1) Symptom
- Description : Battery level decreases rapidly in the idle state.
- 2) Defect Decision Conditions
- Description : Battery level decreases rapidly in the idle state by abnormal current consumption.

### 3) Repair Guide

Image	Description
	<div>1. Disassemble the device.</div> <div>- Refer to '<a href="#">Disassembly and assembly video guide for Galaxy A13 5G</a>' from the GSPN.</div>
	<div>2-1. If there is a thermal camera, check if there is a hot part and replace the hot part.</div> <div>2-2. If there isn't a thermal camera OR you can't find a hot part, detach the following parts one by one and recheck the leakage current. (3 Rear CAMs, VT CAM, Con-to-con FPCB, IF Sub FPCB)</div> <div>2-3. If leakage current goes down by detaching the part, replace the detached part by normal one.</div>

# 6-3. Power, Charging

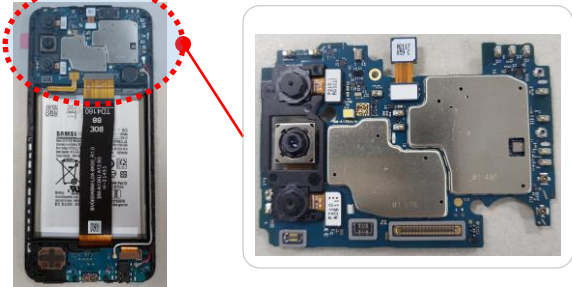
## 6-3-3. Sudden Discharge in the idle state (L3)

Image	Description
	3. If leakage current doesn't go down OR the hot part can't be replaced, replace the PBA.
	4-1. If there is a thermal camera, check if there is a hot part on PCB in the idle state and replace the hot part.
	(Thermal camera sample image) Search where the hotspot appears.



# 6-3. Power, Charging

## 6-3-3. Sudden Discharge in the idle state

Image	Description
	<p>4-2. If there isn't a thermal camera OR you can't find a hot part OR the hot part can't be replaced, replace the PBA.</p>

## 6-4-1. Entry Fail(Front Camera) (L3)

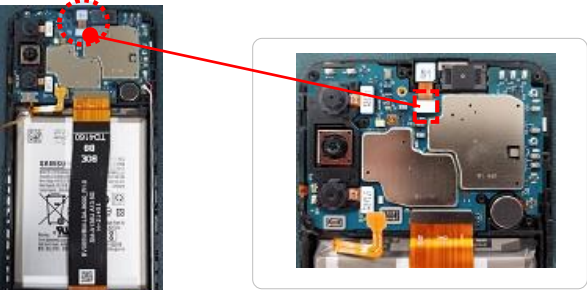
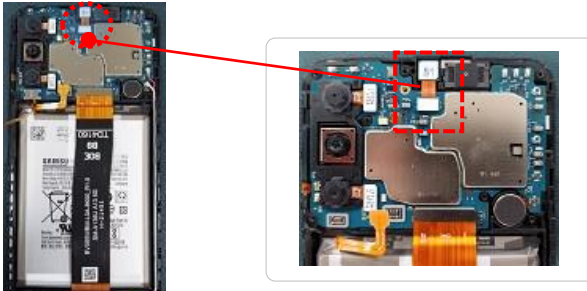
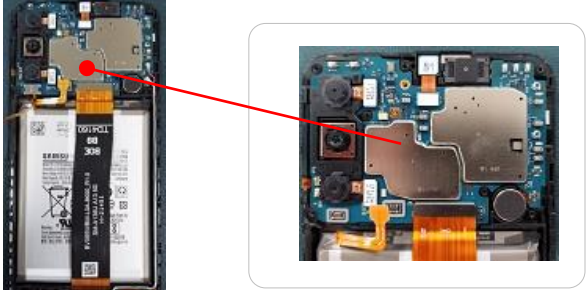
- 1) Symptom
- Description : Black display and can't turn on the front camera



- 2) Defect Decision Conditions
- Description : Black display instead of preview image or return to home screen
- 3) Repair Guide
- Caution : Disconnect battery connector first when it shows.

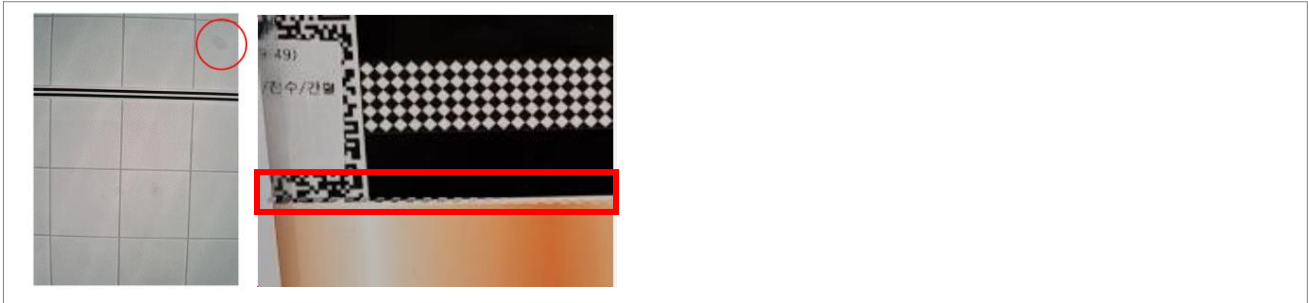
Image	Description
	1. Execute Front Cam test of *#0*#.
	2. Disassemble the device. - Refer to ' <a href="#">Disassembly and assembly video guide for Galaxy A13 5G</a> ' from the GSPN.
	<b>[Attention]</b> 3. Disconnect Battery Connector at first.

## 6-4-1. Entry Fail(Front Camera)

Image	Description
	<p>4. Check if the connector is disengaged at first.</p>
	<p>5. If connector is okay, replace the camera module with new one and check the device. (SOC8000)</p>
	<p>6. If not, finally, exchange the PBA.</p>

## 6-4-2. Abnormal Preview(Front Camera) (L3)

- 1) Symptom
- Description : Abnormal display of front camera

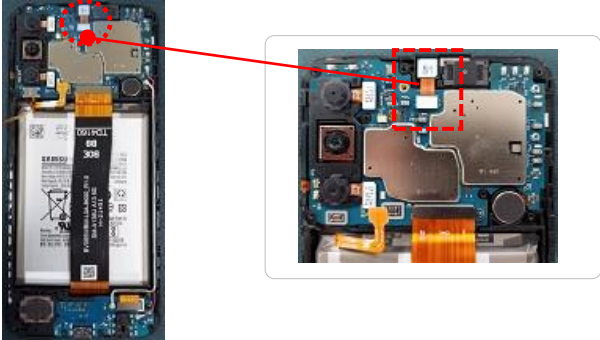


- 2) Defect Decision Conditions
- Description : Blemishes or dots on image

- 3) Repair Guide
- Caution : Disconnect battery connector first when it shows.

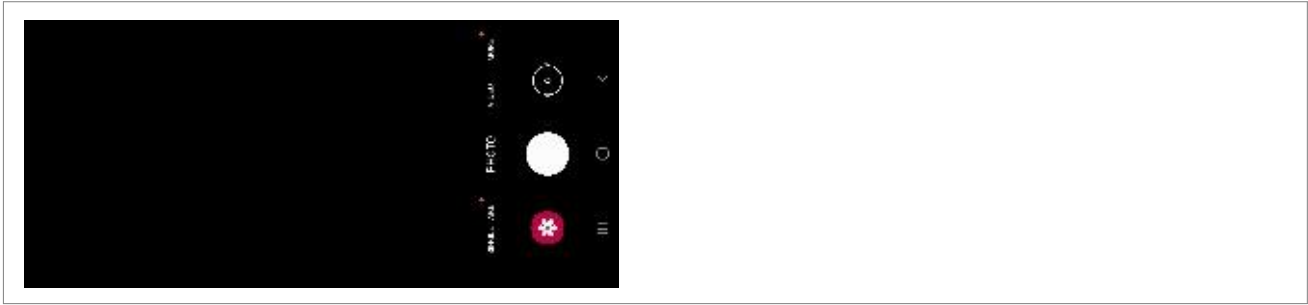
Image	Description
	1. Check the camera hole. - Should be clean and no particle.
	2. Disassemble the device. - Refer to ' <b>Disassembly and assembly video guide for Galaxy A13 5G</b> ' from the GSPN.
	<b>[Attention]</b> 3. Disconnect Battery Connector at first.

## 6-4-2. Abnormal Preview(Front Camera)

Image	Description
	<p>4. Replace the camera module with new one and check the device. (SOC8000)</p>

## 6-4-3. Entry Fail(Rear Camera)

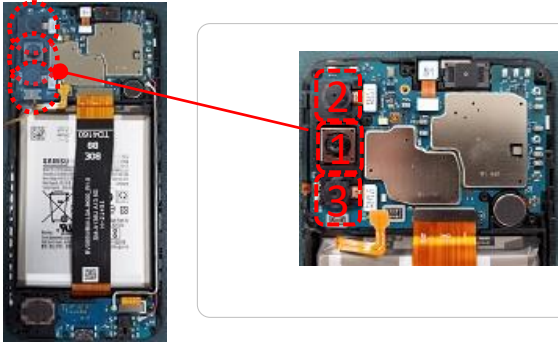
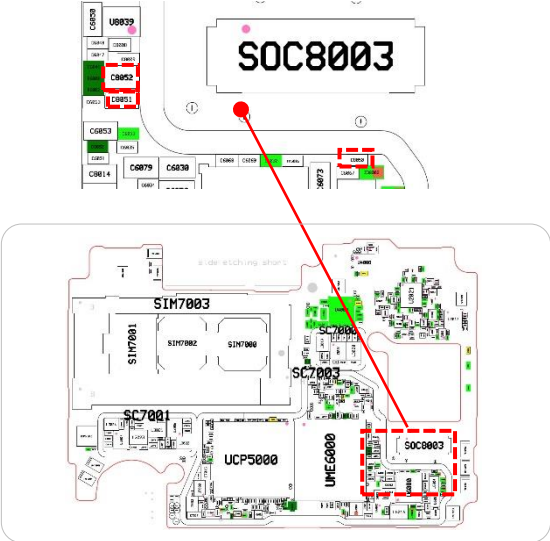
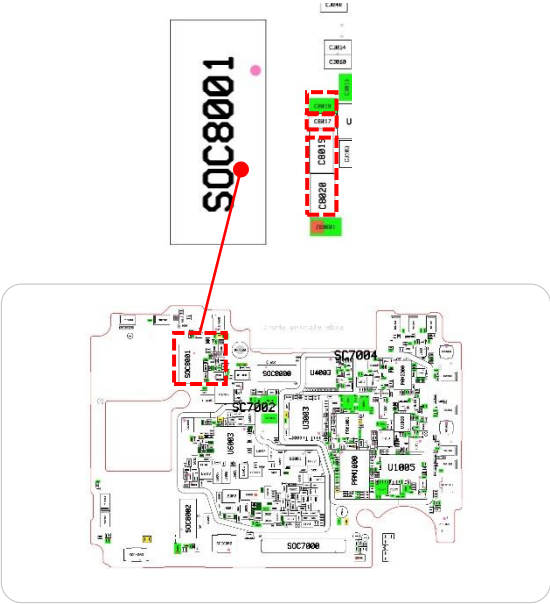
- 1) Symptom
- Description : Black display and can't turn on the rear camera



- 2) Defect Decision Conditions
- Description : Black display instead of preview image or return to home screen
- 3) Repair Guide
- Caution : Disconnect battery connector first when it shows.

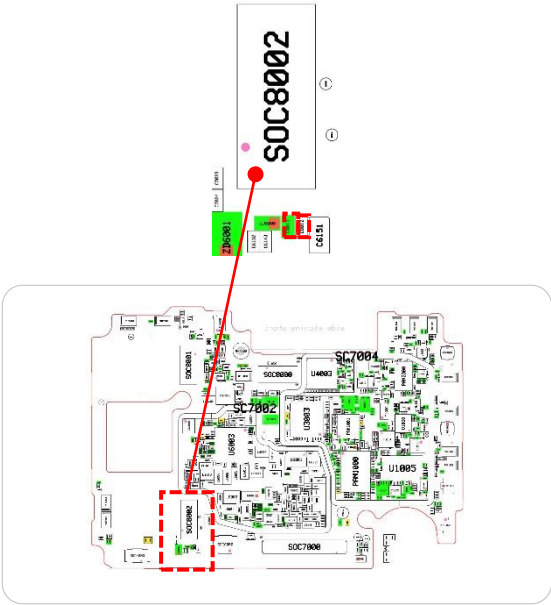
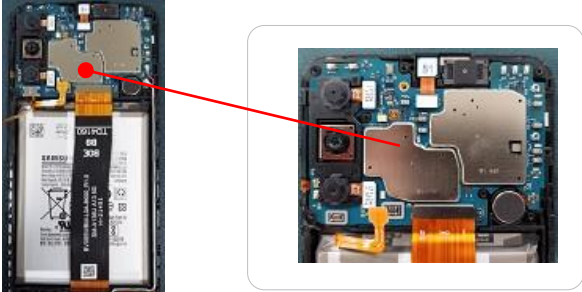
Image	Description
	<div>1. Execute Mega cam test of *#0*# to figure out which camera has defect.</div> <div>- Rear1 : Wide camera</div> <div>- Rear2 : Bokeh camera</div> <div>- Rear3 : Macro camera</div>
	<div>2. Disassemble the device.</div> <div>- Refer to '<u>Disassembly and assembly video guide for Galaxy A13 5G</u>' from the GSPN.</div>
	<div>[Attention]</div> <div>3. Disconnect Battery Connector at first.</div>

6-4-3. Entry Fail(Rear Camera)

Image	Description
	<p>4. Check if the connector is disengaged at first.</p> <p>If connector is okay, replace the camera module with new one and check the device.</p> <ul style="list-style-type: none"><li>- Rear1 : Wide camera</li><li>- Rear2 : Bokeh camera</li><li>- Rear3 : Macro camera</li></ul>
	<p>5. If Wide Cam[RCAM1] is defective check 'Capacitors' on the PBA as below.</p> <ul style="list-style-type: none"><li>- RCAM1_DVDD_1P05=1.05V (C8051)</li><li>- RCAM1_AVDD_2P8=2.8V (C8052)</li><li>- CAM_VDDIO_1P8=1.8V (C8050)</li></ul>
	<p>6. If Bokeh Wide Cam is defective check 'Capacitors' on the PBA as below.</p> <ul style="list-style-type: none"><li>- RCAM2_AVDD_2P8=2.8V (C8019,C8020)</li><li>- RCAM2_DVDD_1P8=1.8V (C8017)</li><li>- CAM_VDDIO_1P8=1.8V (C8018)</li></ul>



6-4-3. Entry Fail(Rear Camera)

Image	Description
	<p>8. If Macro Wide Cam is defective check 'Capacitors' on the PBA as below.</p> <ul style="list-style-type: none"><li>- RCAM3_AVDD_2P8=2.8V (C8014,C8015)</li><li>- RCAM3_DVDD_1P8=1.8V (C8012)</li><li>- CAM_VDDIO_1P8=1.8V (C8013)</li></ul>
	<p>9. If the device is not working normally with new capacitors, exchange the PBA.</p>



## 6-4-4. Abnormal AF (Rear Camera)

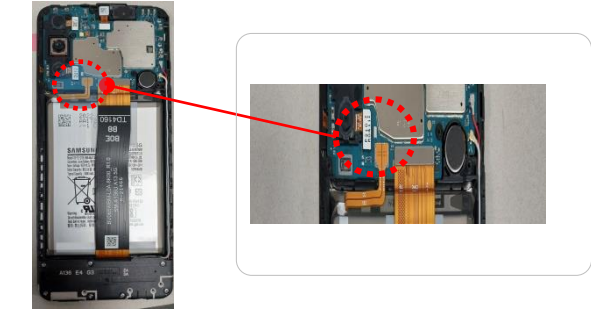
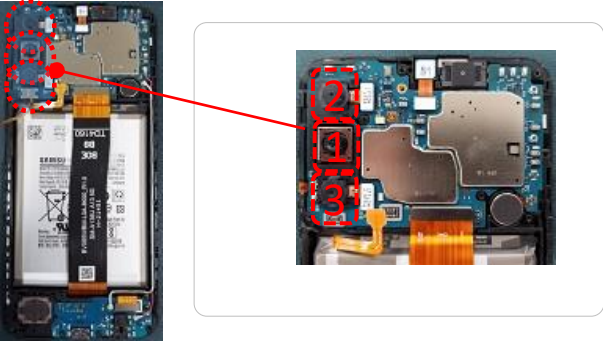
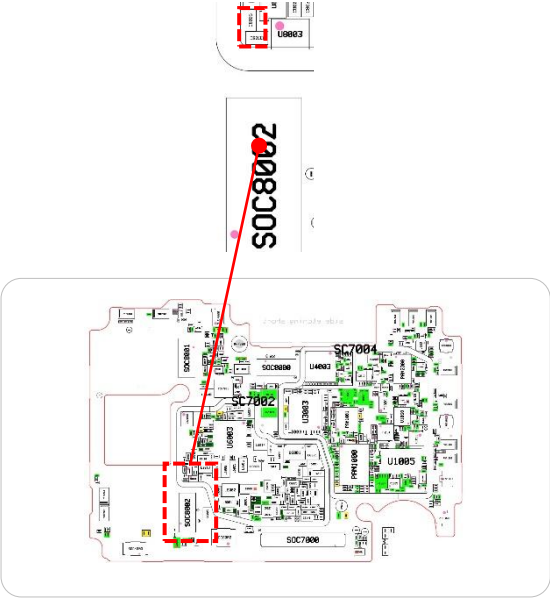
- 1) Symptom
- Description : Out of focus for rear camera



- 2) Defect Decision Conditions
- Description : The image of rear camera is out of focus.
- 3) Repair Guide
- **Caution : Disconnect battery connector first when it shows.**

Image	Description
	<div>1. Check the camera deco glass.</div> <div>- Should be clean and no particle.</div>
	<div>2. Execute Mega cam test of *#0*# to figure out which camera has defect.</div> <div>- Rear1 : Wide camera</div> <div>- Rear2 : Bokeh camera</div> <div>- Rear3 : Macro camera</div>
	<div>3. Disassemble the device.</div> <div>- Refer to '<b>Disassembly and assembly video guide for Galaxy A13 5G</b>' from the GSPN.</div>

6-4-4. Abnormal AF(Rear Camera)

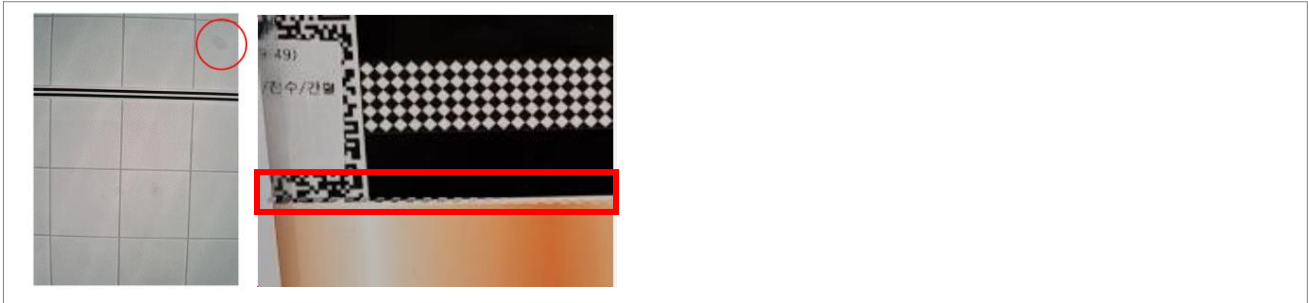
Image	Description
	<p>[Attention]</p> <p>4. Disconnect Battery Connector at first.</p>
	<p>5. Replace the camera module with new one and check the device.</p> <ul style="list-style-type: none"><li>- Rear1 : Wide camera</li><li>- Rear2 : Bokeh camera</li><li>- Rear3 : Macro camera</li></ul>
	<p>10. Replace the 'Capacitors' nearby 'SOC8002' on the PBA as below.</p> <ul style="list-style-type: none"><li>- RCAM1_AFVDD_2P8=2.8V (C8026,C8033)</li></ul>

## 6-4-4. Abnormal AF(Rear Camera)

Image	Description
	<p>12. If the device is not working normally with new resistors, exchange the PBA.</p>

## 6-4-5. Abnormal Preview(Rear Camera) (L3)

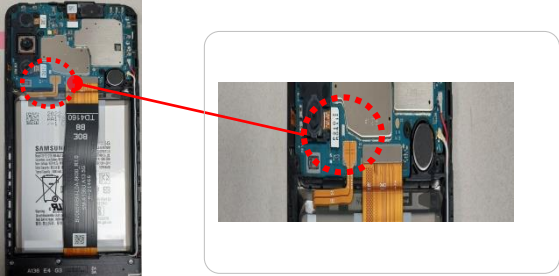
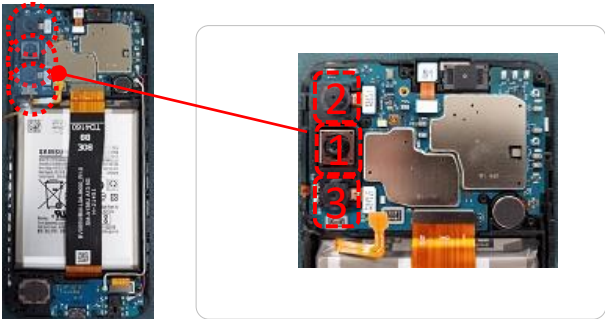
- 1) Symptom
- Description : Abnormal display of rear camera



- 2) Defect Decision Conditions
- Description : Blemishes or dots on image
- 3) Repair Guide
- Caution : Disconnect battery connector first when it shows.

Image	Description
	1. Check the camera deco glass and lens. - Should be clean and no particle.
	2. Execute Mega cam test of *#0*# to figure out which camera has defect. - Rear1 : Wide camera - Rear2 : Bokeh camera - Rear3 : Macro camera
	3. Disassemble the device. - Refer to ' <b>Disassembly and assembly video guide for Galaxy A13 5G</b> ' from the GSPN.

6-4-5. Abnormal Preview(Rear Camera) (L3)

Image		Description
		<p>[Attention]</p> <p>4. Disconnect Battery Connector at first.</p>
		<p>5. Replace the camera module with new one and check the device.</p> <ul style="list-style-type: none"><li>- Rear1 : Wide camera</li><li>- Rear2 : Bokeh camera</li><li>- Rear3 : Macro camera</li></ul>

## 6-5-1. SPK sound abnormal

1) Symptom

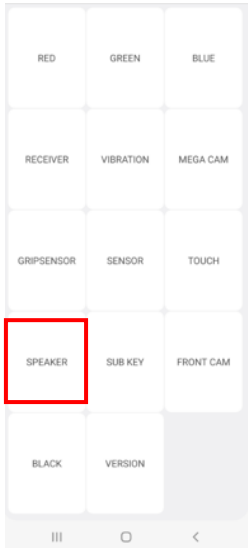

- Description : SPK sound is low/abnormal

2) Defect Decision Conditions




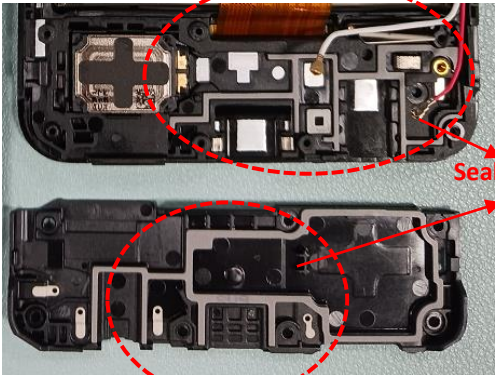
- Description : The phone sounds abnormally

3) Repair Guide

- **Caution : Disconnect battery connector first when it shows.**

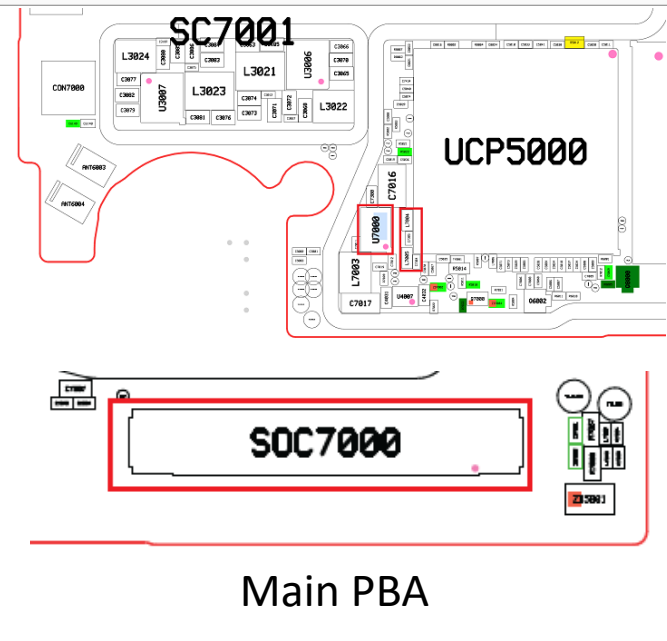
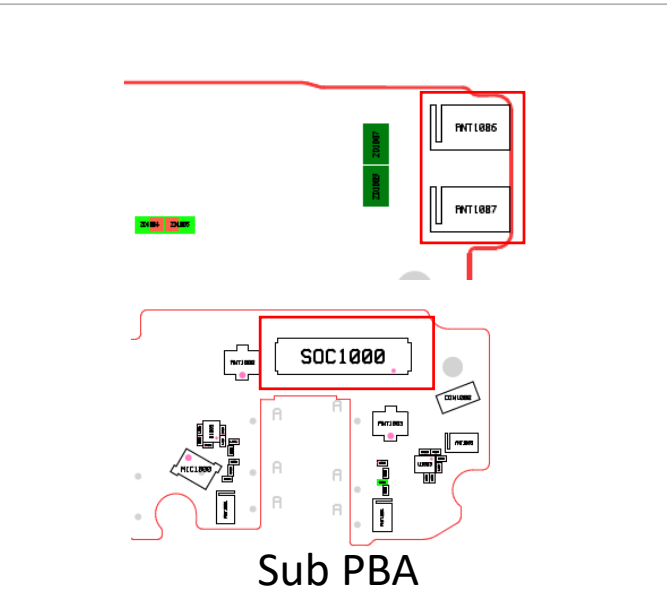

Image	Description
	1. Execute Speaker test of *#0*# to figure out.
	2. Disassemble the device. - Refer to ' <u><b>Disassembly and assembly video guide for Galaxy A13 5G</b></u> ' from the GSPN.

6-5-1. SPK sound abnormal

Image	Description
<div data-bbox="198 312 544 1011"></div> <div data-bbox="189 1027 232 1052"><p>SPK</p></div> <div data-bbox="151 1087 366 1203"></div>	<p>1. Refer to the SPK location.</p>
<div data-bbox="104 1365 679 1460"></div> <div data-bbox="544 1464 686 1491"><p>Speaker Hole</p></div> <div data-bbox="129 1508 619 1881"></div> <div data-bbox="576 1665 741 1692"><p>Sealing sponge</p></div>	<p>2. Check SPK Hole and sealing sponge and if it is ok, change to new SPK module.</p>



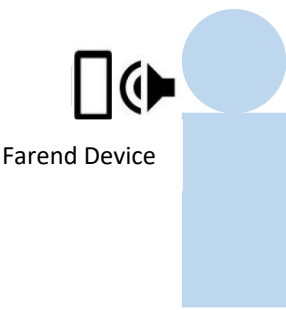
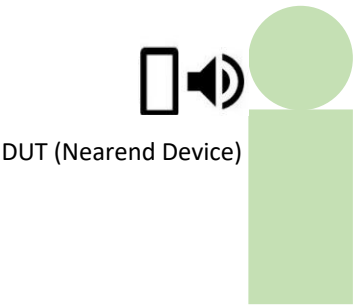
### 6-5-1. SPK sound abnormal

Image	Description
 <p><b>Main PBA</b></p>	<p>3. In case of SPK problem, Check visual of below components Main PBA : C7304, C7305 L7004, L7005, U7000, SOC7000</p> <p>→ change components when you find defects.</p>
 <p><b>Sub PBA</b></p>	<p>4. In case of SPK problem, Check visual of below components SUB PBA : ANT1006, ANT1007, SOC1000</p> <p>→ change components when you find defects.</p> <p>If the components are ok, change the SUB PBA.</p>
	<p>5. If the device is not working normally after exchanging it, exchange Main PBA .</p>





## 6-5-2. Rx Voice mute


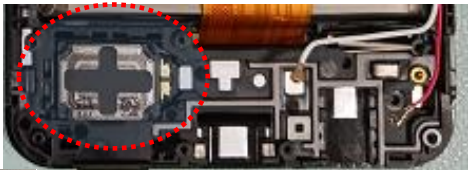
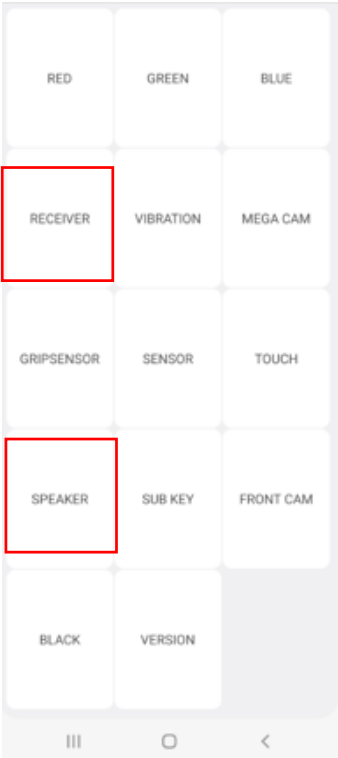
- 1) Symptom
- Description : While calling, Rx voice is mute.
- 2) Defect Decision Conditions
- Description : A person who is calling with a nearend device can't hear Rx voice.



### 3) Repair Guide

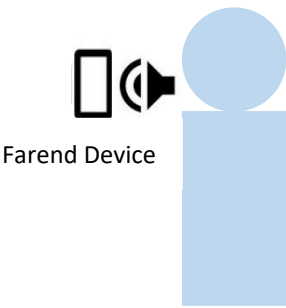
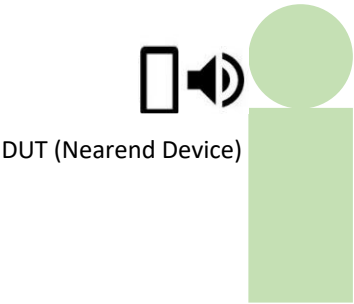
Image	Description
	<div>1. RCV Call Speaker test (Problem in Handset mode) - *#0*# - Select : RECEIVER - Check the problematic receiver.</div>
	<div>1-2. SPK Call Speaker test (Problem in Handsfree mode) - *#0*# - Select : SPEAKER - Check the problematic speaker.</div>
	<div>If there wasn't no sound from SPK</div> <div>2. Disassemble the device. - Refer to '<b>Disassembly and assembly video guide for Galaxy A13 5G</b>' from the GSPN.</div>

6-5-2. Rx Voice mute

Image	Description
<div><p>RECEIVER</p><p>SPEAKER</p></div>	<p>3. Swap the SPK or RECEIVER modules to the normal samples.</p>
<div></div>	<p>4. RECEIVER test</p> <ul style="list-style-type: none"><li>- *#0*#</li><li>- Select : RECEIVER</li><li>- Check the receiver sound</li></ul> <p>5. SPEAKER test</p> <ul style="list-style-type: none"><li>- *#0*#</li><li>- Select : SPEAKER</li><li>- Check the speaker sound</li></ul>

6-5-3. Rx Voice swing/low/noise

- 1) Symptom
- Description : While calling, Rx voice is swinging, low or noisy.
- 2) Defect Decision Conditions
- Description : A person who is calling with a nearend device can hear something wrong in Rx voice.  
(voice is swinging, low or noisy)



3) Repair Guide

Image	Description
	<div>1. RCV loopback test (Problem in Handset mode)</div> <div>- *#0283#</div> <div>- Select : Start : RCV_1stMIC</div> <div>- Do test : say something into a Bottom mic</div> <div>- Should hear the voice clearly through the Top SPK without noise.</div>
	<div>1-2. SPK loopback test (Problem in Handsfree mode)</div> <div>- *#0283#</div> <div>- Select : Start : SPK_2ndMIC</div> <div>- Do test : say something into a Top mic</div> <div>- Should hear the voice clearly through the Top, Bottom SPK without noise.</div>
	<div>If it's ok in the loopback test (if the voice was heard clearly from SPK without noise),</div> <div>2. get dumps while calling.</div> <div>- *#9900#</div> <div>- Silent log off-&gt;Default</div> <div>- Press home button and Call test</div>

6-5-3. Rx Voice swing/low/noise

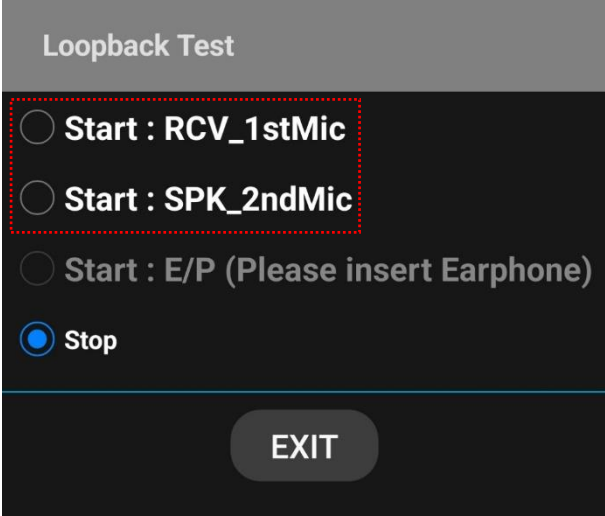
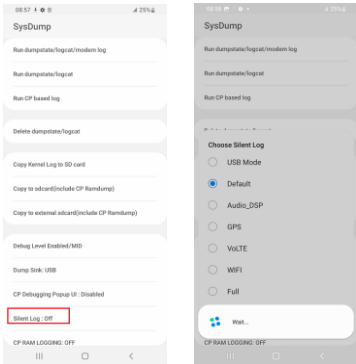
Image	Description
	<p>2-2. get dumps while calling</p> <ul style="list-style-type: none"><li>- After finishing test</li><li>- *#9900#</li><li>- Press Run dumpstate/logcat/modem log</li><li>- Press Copy to sdcard(include CP Ramdump)</li><li>- Share log folder</li></ul>
	<p>If there was a loopback test problem (if the voice was low or noisy from RCV or SPK),</p> <p>3. Disassemble the device.</p> <ul style="list-style-type: none"><li>- Refer to '<u>Disassembly and assembly video guide for Galaxy A13 5G</u>' from the GSPN.</li></ul>
	<p>4. Swap the RECEIVER or SPEAKER modules to normal samples.</p> <ul style="list-style-type: none"><li>- SPK module damaged.</li><li>- RCV module damaged</li></ul>

6-5-4. Tx Voice mute/swing/noise

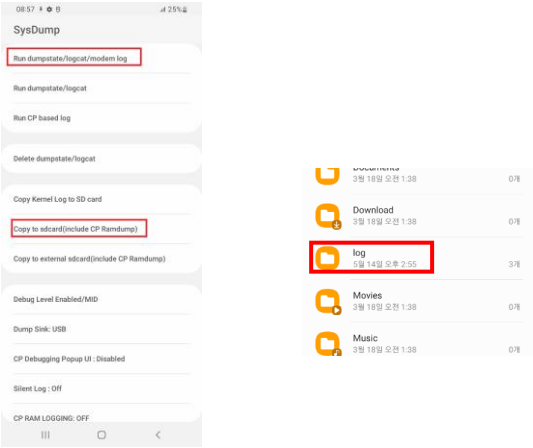
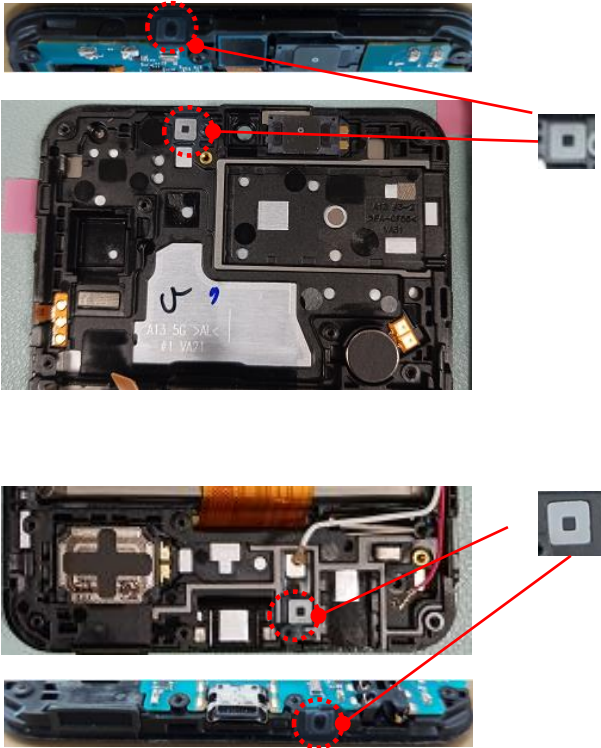
- 1) Symptom
- Description : While calling, Tx voice is Mute.
- 2) Defect Decision Conditions
- Description : A person who is calling with a farend device can't hear Rx voice.



3) Repair Guide

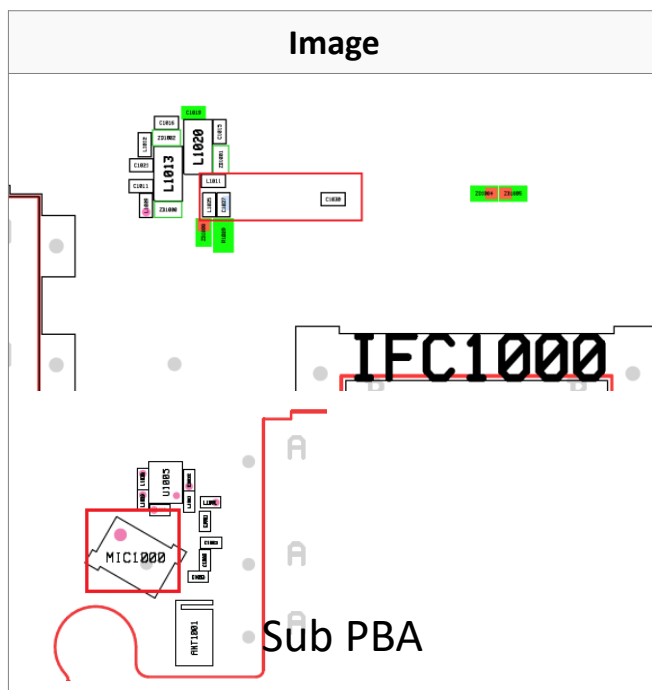
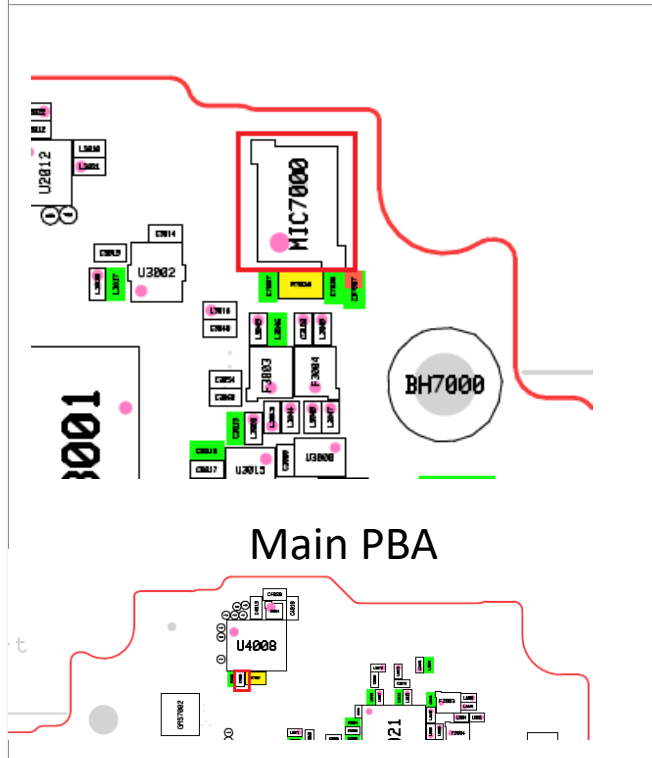
Image	Description
	<div>1. RCV loopback test (Problem in RCV call : Handset mode)</div> <div>- *#0283#</div> <div>- Select : Start : RCV_1stMIC</div> <div>- Should hear the voice clearly through the Top SPK without noise.</div>
	<div>1-2. SPK loopback test (Problem in SPK call : Handsfree mode)</div> <div>- *#0283#</div> <div>- Select : Start : SPK_2ndMIC</div> <div>- Should hear the voice clearly through the Top, Bottom SPK without noise.</div>
	<div>If it's ok in the loopback test (if the voice was heard clearly from SPK without noise),</div> <div>2. get dumps while calling.</div> <div>- *#9900#</div> <div>- Silent log off-&gt;Default</div> <div>- Press home button and Call test</div>

6-5-4. Tx Voice mute/swing/noise




Image	Description
	<p>2-2. get dumps while calling</p> <ul style="list-style-type: none"><li>- After finishing test</li><li>- *#9900#</li><li>- Press Run dumpstate/logcat/modem log</li><li>- Press Copy to sdcard(include CP Ramdump)</li><li>- Share log folder</li></ul>
	<p>If there was a loopback test problem (if the voice was mute, low or noisy from SPK)</p> <p>3. First, you have to check if there is a problem with rubber.</p> <p>If there is no rubber, or if it is torn or blocked, replace it.</p>



#### 6-5-4. Tx Voice mute/swing/noise

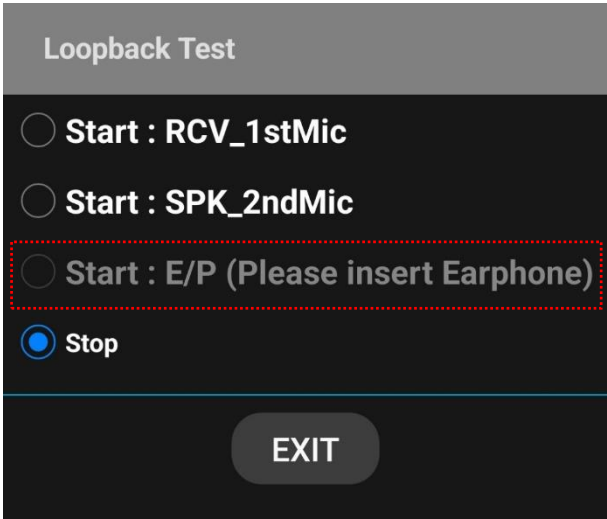

Image	Description
 <p>The diagram shows a Sub PBA (Peripheral Board Assembly) with various components labeled. A red box highlights the MIC1000 component. Other components labeled include L1020, L1025, C1027, C1030, and U1000. The text 'Sub PBA' is written at the bottom of the diagram.</p>	<p>4. In case of 1st MIC problem, Check visual of below components Sub PBA : MIC1000, L1025 C1027, C1030</p> <p>→ change components when you find defects.</p>
 <p>The diagram shows a Main PBA (Main Board Assembly) with various components labeled. A red box highlights the MIC7000 component. Other components labeled include U2012, U3002, U3004, U3006, U3008, U3010, U3012, U3014, U3016, U3018, U3020, U3022, U3024, U3026, U3028, U3030, U3032, U3034, U3036, U3038, U3040, U3042, U3044, U3046, U3048, U3050, U3052, U3054, U3056, U3058, U3060, U3062, U3064, U3066, U3068, U3070, U3072, U3074, U3076, U3078, U3080, U3082, U3084, U3086, U3088, U3090, U3092, U3094, U3096, U3098, U3100, U3102, U3104, U3106, U3108, U3110, U3112, U3114, U3116, U3118, U3120, U3122, U3124, U3126, U3128, U3130, U3132, U3134, U3136, U3138, U3140, U3142, U3144, U3146, U3148, U3150, U3152, U3154, U3156, U3158, U3160, U3162, U3164, U3166, U3168, U3170, U3172, U3174, U3176, U3178, U3180, U3182, U3184, U3186, U3188, U3190, U3192, U3194, U3196, U3198, U3200, U3202, U3204, U3206, U3208, U3210, U3212, U3214, U3216, U3218, U3220, U3222, U3224, U3226, U3228, U3230, U3232, U3234, U3236, U3238, U3240, U3242, U3244, U3246, U3248, U3250, U3252, U3254, U3256, U3258, U3260, U3262, U3264, U3266, U3268, U3270, U3272, U3274, U3276, U3278, U3280, U3282, U3284, U3286, U3288, U3290, U3292, U3294, U3296, U3298, U3300, U3302, U3304, U3306, U3308, U3310, U3312, U3314, U3316, U3318, U3320, U3322, U3324, U3326, U3328, U3330, U3332, U3334, U3336, U3338, U3340, U3342, U3344, U3346, U3348, U3350, U3352, U3354, U3356, U3358, U3360, U3362, U3364, U3366, U3368, U3370, U3372, U3374, U3376, U3378, U3380, U3382, U3384, U3386, U3388, U3390, U3392, U3394, U3396, U3398, U3400, U3402, U3404, U3406, U3408, U3410, U3412, U3414, U3416, U3418, U3420, U3422, U3424, U3426, U3428, U3430, U3432, U3434, U3436, U3438, U3440, U3442, U3444, U3446, U3448, U3450, U3452, U3454, U3456, U3458, U3460, U3462, U3464, U3466, U3468, U3470, U3472, U3474, U3476, U3478, U3480, U3482, U3484, U3486, U3488, U3490, U3492, U3494, U3496, U3498, U3500, U3502, U3504, U3506, U3508, U3510, U3512, U3514, U3516, U3518, U3520, U3522, U3524, U3526, U3528, U3530, U3532, U3534, U3536, U3538, U3540, U3542, U3544, U3546, U3548, U3550, U3552, U3554, U3556, U3558, U3560, U3562, U3564, U3566, U3568, U3570, U3572, U3574, U3576, U3578, U3580, U3582, U3584, U3586, U3588, U3590, U3592, U3594, U3596, U3598, U3600, U3602, U3604, U3606, U3608, U3610, U3612, U3614, U3616, U3618, U3620, U3622, U3624, U3626, U3628, U3630, U3632, U3634, U3636, U3638, U3640, U3642, U3644, U3646, U3648, U3650, U3652, U3654, U3656, U3658, U3660, U3662, U3664, U3666, U3668, U3670, U3672, U3674, U3676, U3678, U3680, U3682, U3684, U3686, U3688, U3690, U3692, U3694, U3696, U3698, U3700, U3702, U3704, U3706, U3708, U3710, U3712, U3714, U3716, U3718, U3720, U3722, U3724, U3726, U3728, U3730, U3732, U3734, U3736, U3738, U3740, U3742, U3744, U3746, U3748, U3750, U3752, U3754, U3756, U3758, U3760, U3762, U3764, U3766, U3768, U3770, U3772, U3774, U3776, U3778, U3780, U3782, U3784, U3786, U3788, U3790, U3792, U3794, U3796, U3798, U3800, U3802, U3804, U3806, U3808, U3810, U3812, U3814, U3816, U3818, U3820, U3822, U3824, U3826, U3828, U3830, U3832, U3834, U3836, U3838, U3840, U3842, U3844, U3846, U3848, U3850, U3852, U3854, U3856, U3858, U3860, U3862, U3864, U3866, U3868, U3870, U3872, U3874, U3876, U3878, U3880, U3882, U3884, U3886, U3888, U3890, U3892, U3894, U3896, U3898, U3900, U3902, U3904, U3906, U3908, U3910, U3912, U3914, U3916, U3918, U3920, U3922, U3924, U3926, U3928, U3930, U3932, U3934, U3936, U3938, U3940, U3942, U3944, U3946, U3948, U3950, U3952, U3954, U3956, U3958, U3960, U3962, U3964, U3966, U3968, U3970, U3972, U3974, U3976, U3978, U3980, U3982, U3984, U3986, U3988, U3990, U3992, U3994, U3996, U3998, U4000, U4002, U4004, U4006, U4008, U4010, U4012, U4014, U4016, U4018, U4020, U4022, U4024, U4026, U4028, U4030, U4032, U4034, U4036, U4038, U4040, U4042, U4044, U4046, U4048, U4050, U4052, U4054, U4056, U4058, U4060, U4062, U4064, U4066, U4068, U4070, U4072, U4074, U4076, U4078, U4080, U4082, U4084, U4086, U4088, U4090, U4092, U4094, U4096, U4098, U4100, U4102, U4104, U4106, U4108, U4110, U4112, U4114, U4116, U4118, U4120, U4122, U4124, U4126, U4128, U4130, U4132, U4134, U4136, U4138, U4140, U4142, U4144, U4146, U4148, U4150, U4152, U4154, U4156, U4158, U4160, U4162, U4164, U4166, U4168, U4170, U4172, U4174, U4176, U4178, U4180, U4182, U4184, U4186, U4188, U4190, U4192, U4194, U4196, U4198, U4200, U4202, U4204, U4206, U4208, U4210, U4212, U4214, U4216, U4218, U4220, U4222, U4224, U4226, U4228, U4230, U4232, U4234,</p>	<p>5. In case of 2nd MIC problem, Check visual of below components Main PBA : MIC7000, C7029</p> <p>→ change components when you find defects.</p>

6-5-4. Tx Voice mute/swing/noise

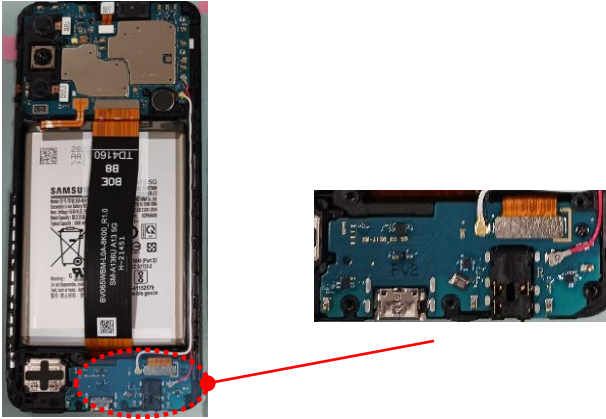
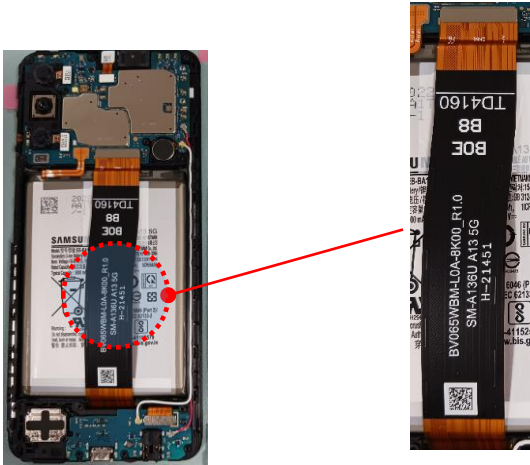

Image	Description
	6. If there is a sound problem in 1st mic, you have to swap MIC1000 or Sub PBA
	7. If there is a sound problem in 2nd mic, you have to swap MIC7000 or Main PBA
	8. if there is no sound in 1st mic or 2nd mic loopback test after swap MIC1000, Sub PBA or MIC7000, it can be AP damaged.  swap Main PBA

## 6-5-5. Earphone sound abnormal (L3)

- 1) Symptom
  - Description : Earphone sound is low/abnormal
- 2) Defect Decision Conditions
  - Description : Earphone sound is ok when you swap new one.
- 3) Repair Guide
  - **Caution : Disconnect battery connector first when it shows.**

Image	Description
 A screenshot of a 'Loopback Test' menu on a device. The menu has a dark background with white text. At the top, it says 'Loopback Test'. Below that are four options, each with a radio button: 'Start : RCV_1stMic', 'Start : SPK_2ndMic', 'Start : E/P (Please insert Earphone)', and 'Stop'. The 'Start : E/P (Please insert Earphone)' option is highlighted with a red dashed border. At the bottom, there is a grey button labeled 'EXIT'.	<div>1. Execute test mode (*#0283#) on call mode and goes to LOOPBACK – Start E/P mode. Check loopback mode is working properly.</div>
 A photograph showing two black Samsung earphone components on a light-colored wooden surface. The top component is a wide, curved earpiece with the 'SAMSUNG' logo in the center. The bottom component is a thin, straight cable or stem.	<div>2. Disassemble the device. - Refer to '<b><u>Disassembly and assembly video guide for Galaxy A13 5G</u></b>' from the GSPN.</div>

6-5-5. Earphone sound abnormal (L3)

Image	Description
	3. Try to swap new Sub PBA and check that is working properly.
	4. Try to check Sub FPCB that is working properly.
	5. If the device is not working normally after exchanging it, exchange Main PBA

6-6-1. 6Axis Sensor Problem

1) Symptom


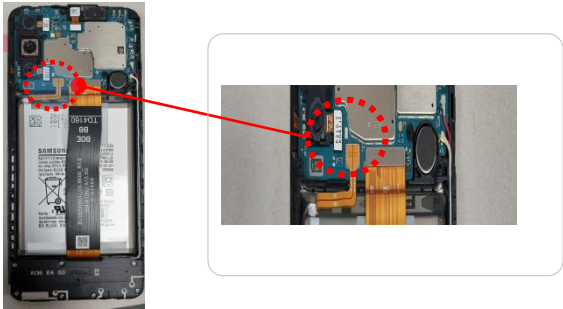
- Description : Accelerometer does not work.

2) Defect Decision Conditions

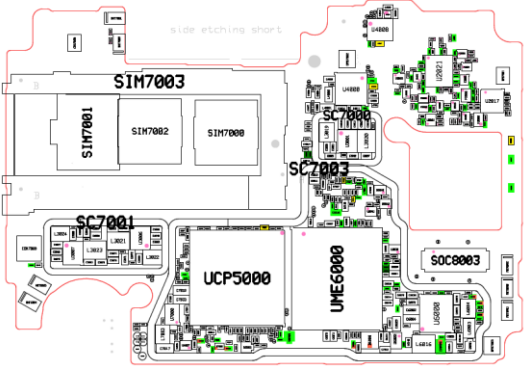
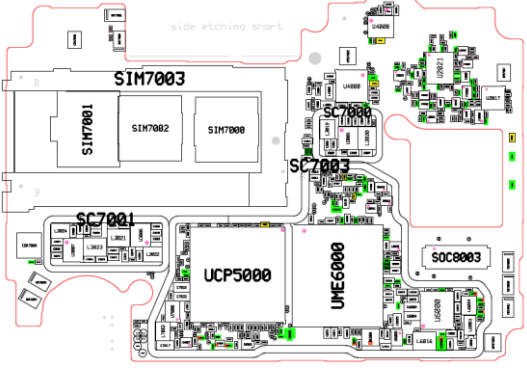
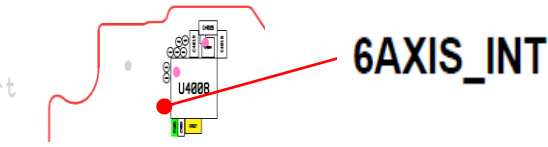

- Description : No response.

3) Repair Guide

- **Caution : Disconnect battery connector first when it shows.**

Image	Description
	<p>1. Disassemble the device.</p> <p>- Refer to '<b><u>Disassembly and assembly video guide for Galaxy A13 5G</u></b>' from the GSPN.</p>
	<p><b>[Attention]</b></p> <p>2. Disconnect Battery Connector at first. (SOC6000)</p>

## 6-6-1. Accelerometer Problem

Image	Description
	<div>3. Check 'Capacitors' nearby 'U4008' on the PBA as below. - VDD_SENSOR_1P8=1.8V (Ref. C4018 or C4019)</div> <div>4. Check its 'Power Level' is OK when it turned on. - If not, replace U6000 on Main PBA.</div>
	<div>5. Check 'Accelerometer IC' 'U4008' on the PBA as below. - crack, open, short, etc.</div> <div>6. If it has a problem, replace U4008.</div>
	<div>7. Check 'Resistors' nearby 'U4008' on the PBA as below. - INT signal (Ref.TP4014)</div> <div>8. If it has no signal, replace PBA</div>
	<div>6. Exchange the PBA with new one and check the device.</div>



## 6-6-2. Magnetic Sensor Problem

1) Symptom

- Description : Magnetic Sensor does not work.

2) Defect Decision Conditions

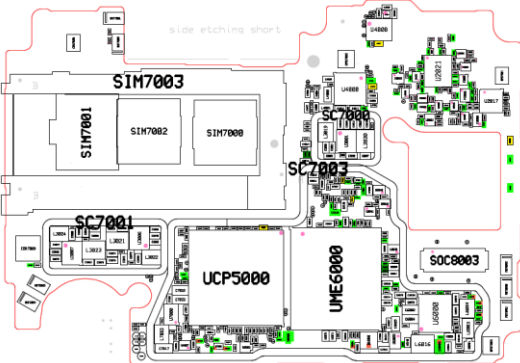
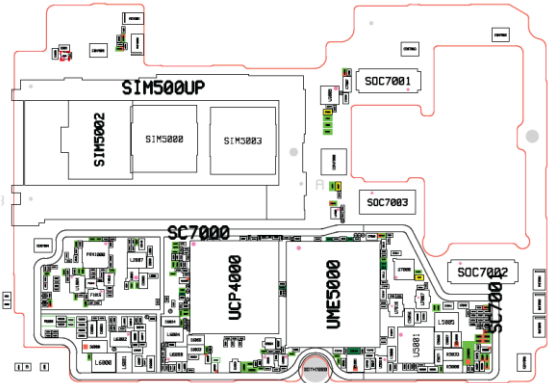

- Description : No response.

3) Repair Guide

- **Caution : Disconnect battery connector first when it shows.**

Image	Description
	<p>1. Disassemble the device.</p> <p>- Refer to '<b>Disassembly and assembly video guide for Galaxy A13 5G</b>' from the GSPN.</p>
	<p>[Attention]</p> <p>2. Disconnect Battery Connector at first. (SOC6000)</p>
	<p>3. Check 'Capacitors' nearby 'U3004' on the PBA as below.</p> <p>- VDD_SENSOR_1P8=1.8V (Ref. C3015)</p> <p>4. Check its 'Power Level' is OK when it turned on.</p> <p>- If not, replace U6000.</p>

## 6-6-2. Magnetic Sensor Problem

Image	Description
	<p>5. Check 'Sensor IC' 'U4004' on the PBA as below.</p> <ul style="list-style-type: none"><li>- crack, open, short, etc.</li></ul> <p>6. If it has a problem, replace U4004 IC.</p>
	<p>7. Check 'Resistors' nearby 'U4004' on the PBA as below.</p> <ul style="list-style-type: none"><li>- I2C signal (Ref. TP4000,TP4001)</li></ul> <p>8. If it has no signal, replace PBA</p>
	<p>9. Exchange the PBA with new one and check the device.</p>

## 6-6-3. Finger Print Sensor Problem

1) Symptom


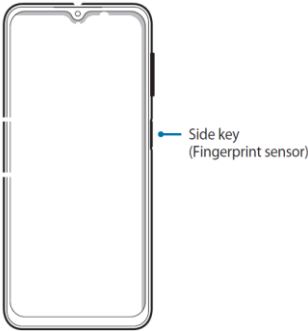
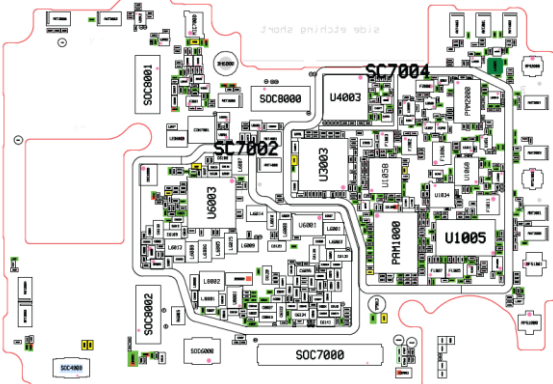
- Description : Finger Print Sensor does not work.

2) Defect Decision Conditions

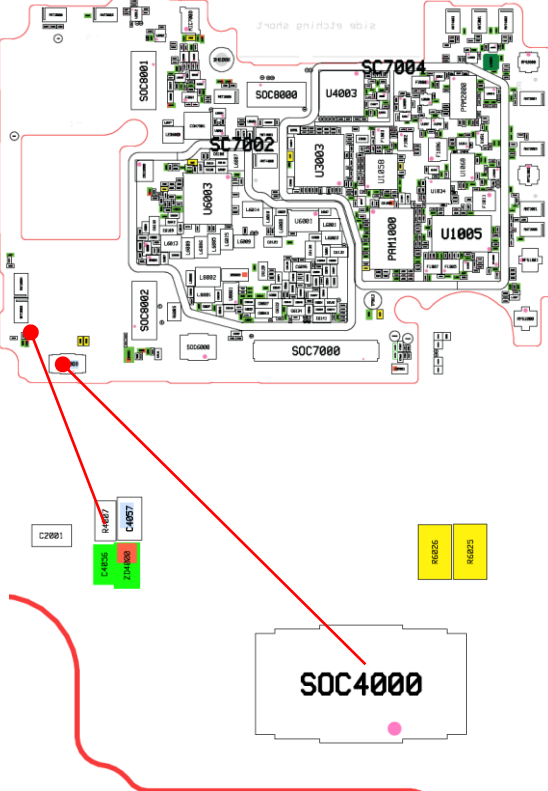
- Description : No response when you touch finger print sensing area.

3) Repair Guide

- Caution : Disconnect battery connector first when it shows.

Image	Description
	<p>1. Disassemble the device.</p> <p>- Refer to '<b>Disassembly and assembly video guide for Galaxy A13 5G</b>' from the GSPN.</p>
	<p>2. Replace the Finger Print Sensor module.</p> <p>and check Finger Print Sensor in test mode.</p>
	<p>3. If it is not work, Check Finger Print Sensor Connector 'SOC4000' on the PBA as below.</p> <p>- crack, open, short, etc.</p> <p>4. If it has a problem, replace SOC4000.</p>

## 6-6-3. Finger Print Sensor Problem

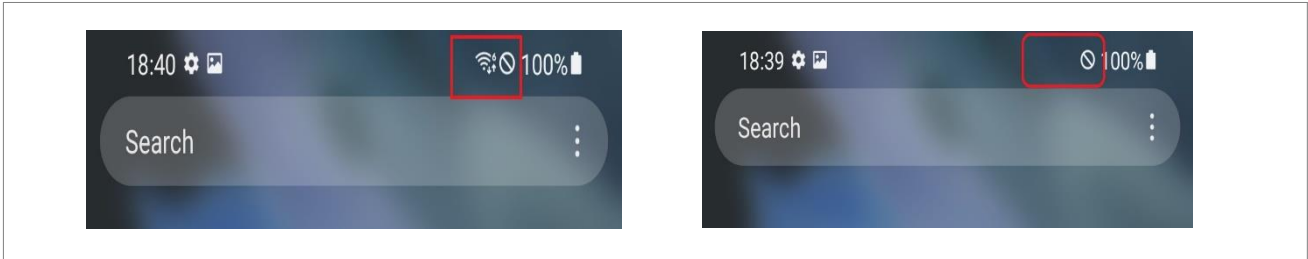
Image	Description
	<p>5. If it is not work, check C4057(VDD_BTP_3P3) Voltage of Main PBA.</p> <p>6. Check its 'Power Level' is OK when it turned on.</p> <ul style="list-style-type: none"><li>- If not, replace U6000.</li></ul>
	<p>7. Check points on the PBA as below.</p> <ul style="list-style-type: none"><li>- SPI signals (Ref. SOC4000 PIN 4,6,7,8,9,10)</li></ul> <p>8. If it has no signal, replace PBA</p>

# 6-7. Connectivity (WiFi)

## 6-7-1. Wi-Fi Connection Problem

- 1) Symptom
- Description : Wi-Fi Connection Problem after Wi-Fi On.

No Connection to AP or frequent disconnection



- 2) Defect Decision Conditions
- The phone shows Wi-Fi on without problem after rebooting.

But It won't connect to AP or will be disconnected automatically after connection.

Also, It shows weak wifi signal bar than normal device.

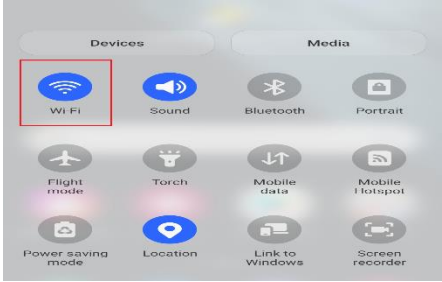
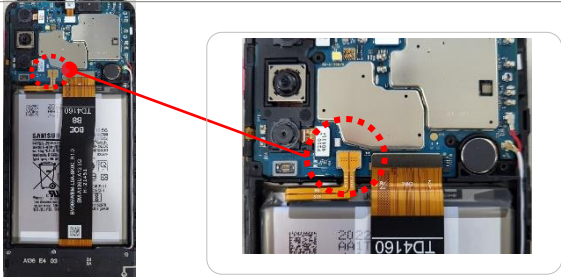
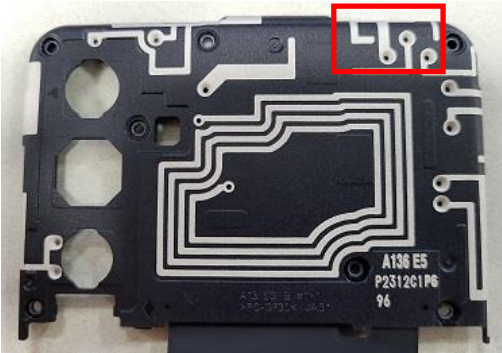

- Setting → WIFI → SCAN : Number of APs is less than normal device when searching AP

- 3) Repair Guide
- **Caution : Disconnect battery connector first when it shows.**

Image	Description
	<div>1. Check the charging notification sound or vibration when connected to charger.</div> <div>- Should be no sound and no vibration.</div> <div>- The device keep 'No Power' status.</div>
	<div>2. Disassemble the device.</div> <div>- Refer to '<b>Disassembly and assembly video guide for Galaxy A13 5G</b>' from the GSPN.</div>
<div></div>	<div>3. Check the disassembled device for OOW.</div> <div>- Water damage.</div> <div>- Part burnt.</div> <div>(Charging port, PBA, Battery and others)</div> <div>- Broken traces and others.</div>

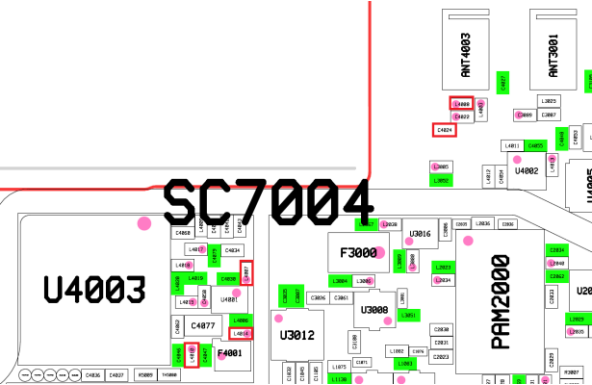
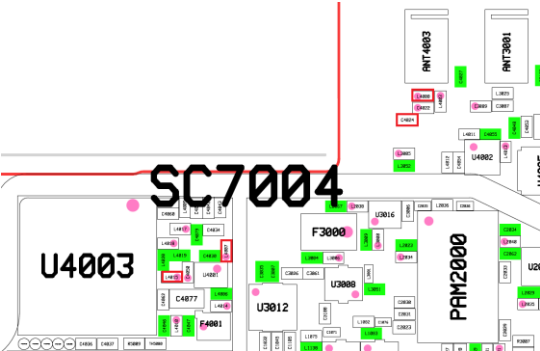
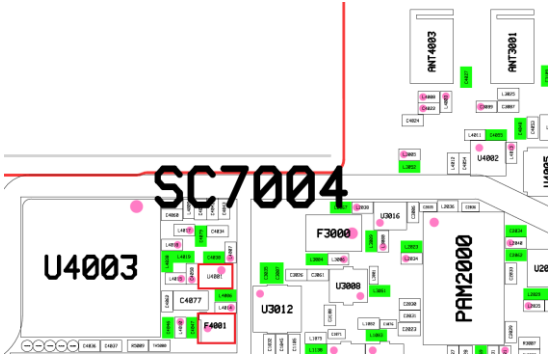
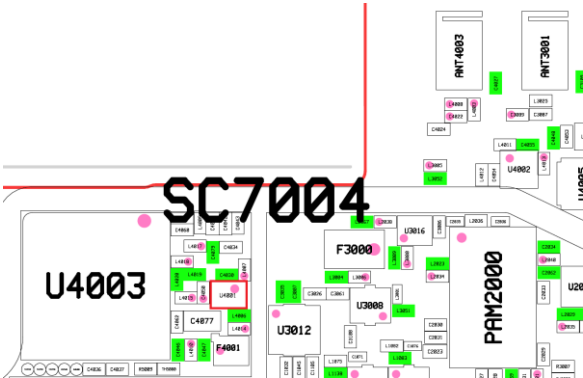
# 6-7. Connectivity (WiFi)

## 6-7-1. Wi-Fi Connection Problem

Image	Description
	<p>4. Check Wi-Fi Function On</p> <ul style="list-style-type: none"><li>- Enable Wi-Fi function</li><li>- If it is ok, turn off the phone</li></ul>
	<p>[Attention]</p> <p>Disconnect Battery Connector before next step</p>
	<p>5. Check the LDS Antenna</p> <ul style="list-style-type: none"><li>- Crack on LDS Antenna</li><li>- Change Rear Assy when you find defects</li></ul>
	<p>6. Check Antenna C-clip is damaged. (ANT4003)</p>

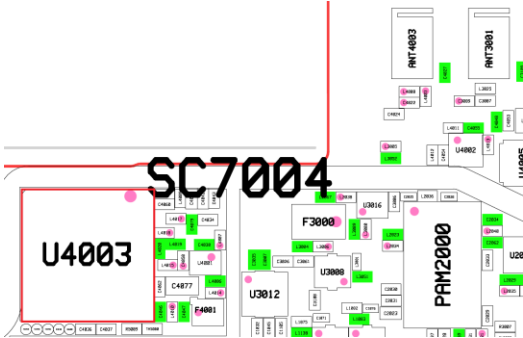



## 6-7-1. Wi-Fi Connection Problem

Image	Description
	<p>7. Check and change the series component (L4010, L4014, L4007, C4024, L4008) [WiFi 2.4G]</p> <ul style="list-style-type: none"><li>- Crack</li><li>- Open</li><li>- Damaged or broken traces and others</li></ul>
	<p>7-1. Check and change the series component (L4015, L4007, C4024, L4008) [WiFi 5G]</p> <ul style="list-style-type: none"><li>- Crack</li><li>- Open</li><li>- Damaged or broken traces and others</li></ul>
	<p>8. Check and change the SAW filter components (F4001, U4001) [WIFI 2.4G]</p> <ul style="list-style-type: none"><li>- Crack</li><li>- Open</li><li>- Damaged or broken traces and others</li></ul>
	<p>8-1. Check and change the Band pass filter and Switch components (U4001) [WIFI 5G]</p> <ul style="list-style-type: none"><li>- Crack</li><li>- Open</li><li>- Damaged or broken traces and others</li></ul>

# 6-7. Connectivity (WiFi)

## 6-7-1. Wi-Fi Connection Problem

Image	Description
	<p>9. Check and change the Wi-Fi IC(U4003)</p> <ul style="list-style-type: none"><li>- Crack</li><li>- Open</li><li>- Damaged or broken traces and others</li></ul>
	<p>10. If the device is not working normally with new component, exchange the Main PBA</p> <ul style="list-style-type: none"><li>- Crack</li><li>- Open</li><li>- Damaged or broken traces and others</li></ul>

## 6-7-2. GPS Problem

- 1) Symptom
- Description : Received GPS signal problem after GPS On.
- 2) Defect Decision Conditions
- The phone shows GPS on without problem after rebooting.
- But It won't receive GPS signal after GPS On.
- Also, it shows weak performance than normal device while driving or using map
- 3) Repair Guide
- **Caution : Disconnect battery connector first when it shows.**

Image	Description
	<div>1. Check the charging notification sound or vibration when connected to charger.</div> <div>- Should be no sound and no vibration.</div> <div>- The device keep 'No Power' status.</div>
	<div>2. Disassemble the device.</div> <div>- Refer to '<b>Disassembly and assembly video guide for Galaxy A13 5G</b>' from the GSPN.</div>
<div></div>	<div>3. Check the disassembled device for OOW.</div> <div>- Water damage.</div> <div>- Part burnt.</div> <div>(Charging port, PBA, Battery and others)</div> <div>- Broken traces and others.</div>
	<div>4. Check GPS is working properly</div> <div>- Setting - enable Location function</div>
	<div><b>[Attention]</b></div> <div>Disconnect Battery Connector before next step</div>

# 6-7. Connectivity (GPS)


## 6-7-2. GPS Problem

Image	Description
	<p>5. Check the LDS GPS</p> <ul style="list-style-type: none"><li>- Crack on LDS pattern</li><li>- Change Rear ant when you find defects</li></ul>
	<p>6. Check Antenna Clip is damaged. (ANT4003)</p>
	<p>7. Check the Antenna Matching component (L4005, C4020, L4004, L4002)</p> <ul style="list-style-type: none"><li>- Crack</li><li>- Open</li><li>- Damaged or broken traces and others</li></ul>

Image	Description
	<p>8. Check and change the Filter or LNA/Bead or Series/Shunt component (U4009, C4053, L4013, U4002, C4054, L4012, C4034, L4017)</p> <ul style="list-style-type: none"> <li>- Crack</li> <li>- Open</li> <li>- Damaged or broken traces and others</li> </ul>
	<p>9. Check TCXO(OSC6000) change when you find defects.</p> <ul style="list-style-type: none"> <li>- Crack</li> <li>- Open</li> <li>- Damaged or broken traces and others</li> </ul>
	<p>10. Change Transceiver IC (U4003) and change when you find defect.</p>

# 6-7. Connectivity (GPS)

## 6-7-2. GPS Problem

Image	Description
	<p>11. If the device is not working normally with new component, exchange the Main PBA</p> <ul style="list-style-type: none"><li>- Crack</li><li>- Open</li><li>- Damaged or broken traces and others</li></ul>



# 6-7. Connectivity (NFC)

## 6-7-3. NFC Connection Problem (A136B\_EUR Only)

1) Symptom

- Description : NFC Connection Problem after NFC On.  
No recognition tag or No operation on cardmode



2) Defect Decision Conditions

- The phone shows Wi-Fi on without problem after rebooting.
- But It won't recognize Tag or will be not operated on cardmode.

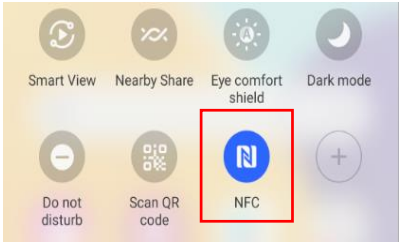
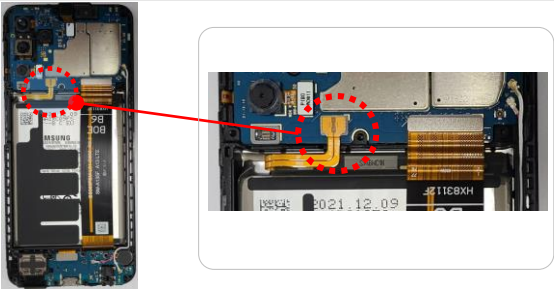
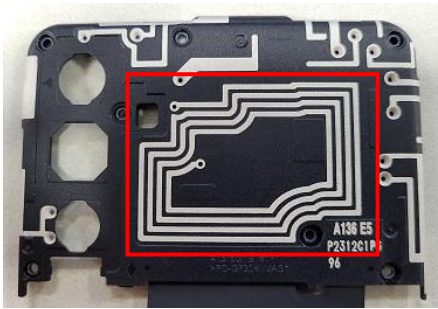
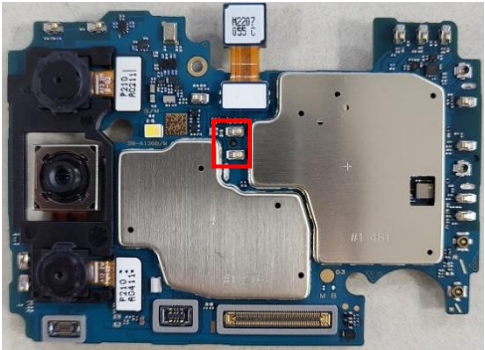
3) Repair Guide

- **Caution : Disconnect battery connector first when it shows.**

Image	Description
	<p>1. Check the charging notification sound or vibration when connected to charger.</p> <ul style="list-style-type: none"><li>- Should be no sound and no vibration.</li><li>- The device keep 'No Power' status.</li></ul>
	<p>2. Disassemble the device.</p> <ul style="list-style-type: none"><li>- Refer to '<b>Disassembly and assembly video guide for Galaxy A13 5G</b>' from the GSPN.</li></ul>
<p>Water indicator tripped</p> <p>USB charging port burnt</p>	<p>3. Check the disassembled device for OOW.</p> <ul style="list-style-type: none"><li>- Water damage.</li><li>- Part burnt. (Charging port, PBA, Battery and others)</li><li>- Broken traces and others.</li></ul>

# 6-7. Connectivity (NFC)

## 6-7-3. NFC Connection Problem (A136B\_EUR Only)

Image	Description
	<p>4. Check NFC Function On</p> <ul style="list-style-type: none"><li>- Enable Wi-Fi function</li><li>- If it is ok, turn off the phone</li></ul>
	<p>[Attention]</p> <p>Disconnect Battery Connector before next step</p>
	<p>5. Check the LDS Antenna</p> <ul style="list-style-type: none"><li>- Crack on LDS Antenna</li><li>- Change Rear ANT when you find defects</li></ul>
	<p>6. Check Antenna C-clip is damaged. (ANT3001, ANT3002)</p> <ul style="list-style-type: none"><li>- Change C-Clip when you find defects</li></ul>


# 6-7. Connectivity (NFC)

## 6-7-3. NFC Connection Problem (A136B\_EUR Only)

Image	Description
	<p>7-1. Check if CLK works normally at 26MHz (NFC_CLK_26M (C4001/Inner Side))</p> <p>If CLK does not work normally, there is a problem with PMIC (U6003).</p>
	<p>7-2. Check and change Tx/Rx Path components (C4000,C4013,C4019, ANT4001, ANT4000, L4000, L4001, C4004, C4005, C4006, R4001, R4002, C4007, C4017, C4003)</p> <ul style="list-style-type: none"><li>- Crack</li><li>- Open</li><li>- Damaged or broken traces and others</li><li>- Change components when you find defects</li></ul>
	<p>7-3. Check and change the power shunt cap components (C4002, C4015, C4014, C4010, C4008, C4009, C4016, C4012, C4011)</p> <ul style="list-style-type: none"><li>- Crack</li><li>- Open</li><li>- Damaged or broken traces and others</li><li>- Change components when you find defects</li></ul>
	<p>7-4. Check and change the NFC IC(U4000)</p> <ul style="list-style-type: none"><li>- Crack</li><li>- Open</li><li>- Damaged or broken traces and others</li><li>- Change NFC IC when you find defects</li></ul>

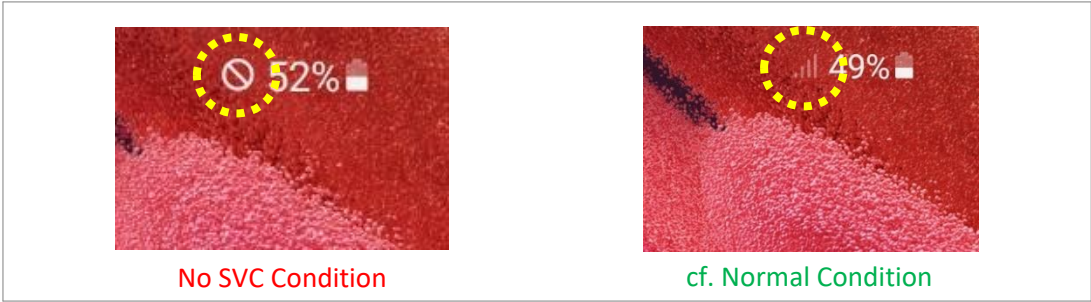
# 6-7. Connectivity (NFC)

## 6-7-3. NFC Connection Problem (A136B\_EUR Only)

Image	Description
 A photograph of the main printed circuit board (PBA) of a Samsung device. The board is blue and populated with various components, including two cameras, a large silver heat shield, and several integrated circuits. A small white component with the number 'K207' is visible at the top.	<div>8. If the device is not working normally with new component, exchange the Main PBA</div> <ul style="list-style-type: none"><li>- Crack</li><li>- Open</li><li>- Damaged or broken traces and others</li></ul>

6-8-1. NO SVC

- 1) Symptom
- Description : A prohibition mark shows on the right of the status bar instead of the antenna bars.



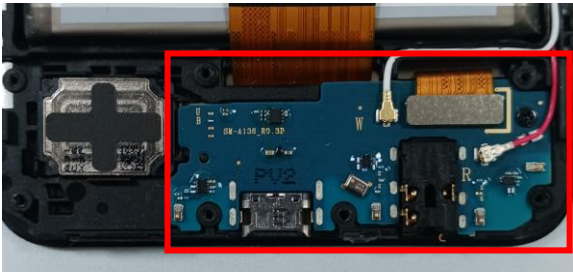

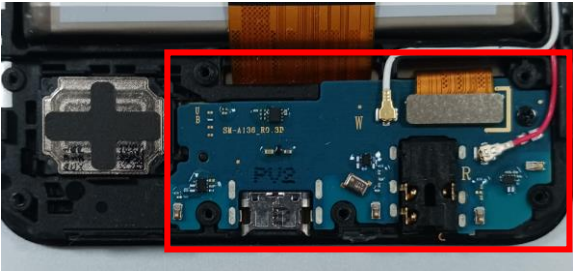
- 2) Defect Decision Conditions
- The phone continues to show this prohibition mark after rebooting or turning on and off airplane mode.
  - Other phones around the phone maintain the normal condition.

- 3) Repair Guide
- **Caution : Disconnect battery connector first when it shows.**

Image	Description
	<p>1. Disassemble the device.</p> <p>- Refer to '<b>Disassembly and assembly video guide for Galaxy A13 5G</b>' from the GSPN.</p>
	<p><b>[Attention]</b></p> <p>2. Disconnect Battery Connector at first. (SOC6000)</p>
	<p>3. Check Antenna Coaxial cable are OK.</p> <p>Also, check cable condition.</p> <ul style="list-style-type: none"><li>- Broken traces and others.</li><li>- Little particles or dust which can disturb connections.</li></ul>



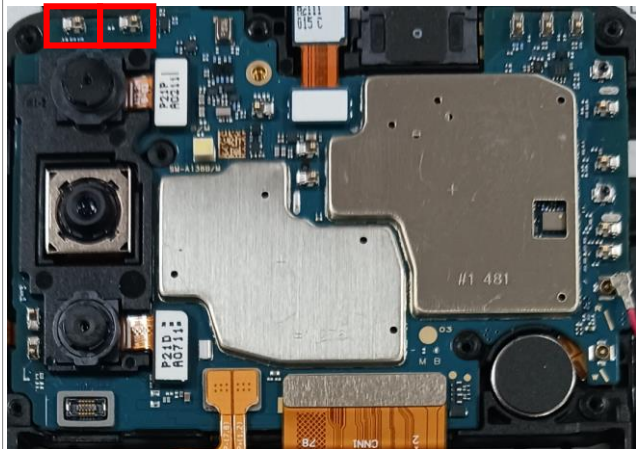

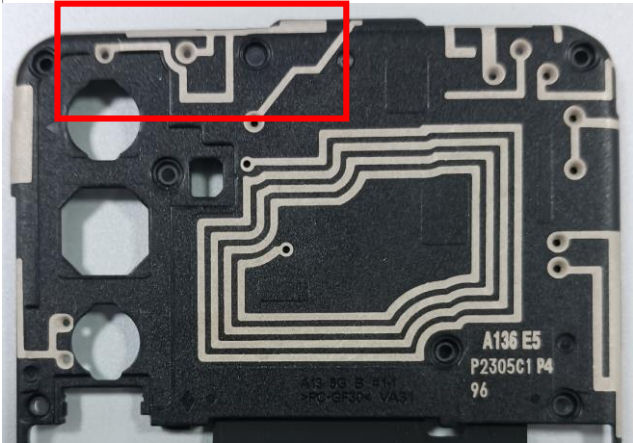
6-8-1. NO SVC

Image	Description
	<p>4. Check Antenna Coaxial cable and FPCB connector are OK.</p> <p>-Disassemble SUB PBA and check bottom surface.</p> <p>Also, check cable and FPCB condition.</p> <ul style="list-style-type: none"><li>- Broken traces and others.</li><li>- Little particles or dust which can disturb connections.</li></ul>
	<p>5-1. Exchange the Coaxial cable with new one and check the device is working normally.</p>
	<p>5-2. If not, exchange the SUB PBA with new one and check the device.</p>



# 6-8. NO SVC

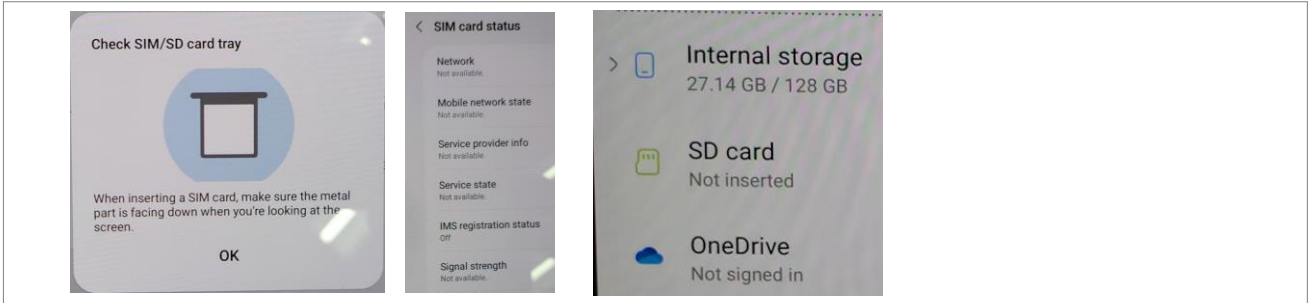
## 6-8-1. NO SVC

Image	Description
	6. Check Antenna Clip is damaged. (ANT2000, ANT2002)
	
	7. Check Main Antenna is damaged. Check Sub Antenna is damaged.

6-9-1. Abnormal USIM/SD

1) Symptom

- Description USIM or SD card is not recognized.



2) Defect Decision Conditions

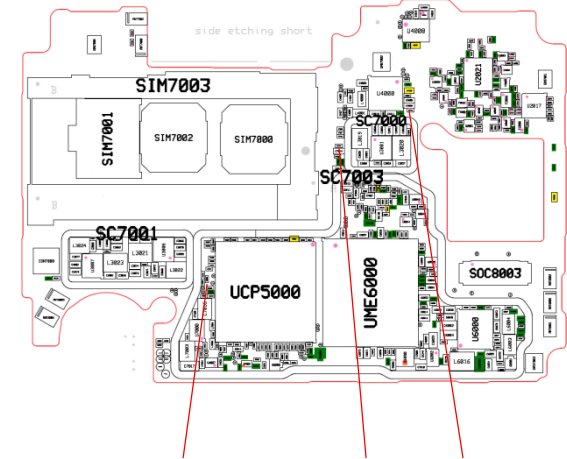
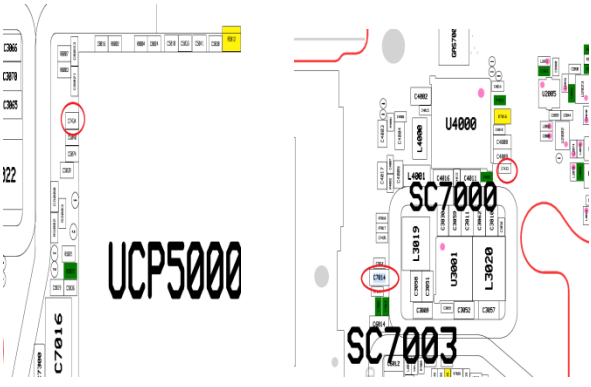

- Description : The changed SIM card or SD card is not recognized.

3) Repair Guide

- **Caution : Disconnect battery connector first when it shows.**

Image	Description
	1. Check the USIM Card or SD card - Check if there is any problem using a normal SIM card or SD card.
	2. Disassemble the device. - Refer to ' <b>Disassembly and assembly video guide for Galaxy A13 5G</b> ' from the GSPN.
	<b>[Attention]</b> 3. Disconnect Battery Connector at first. (SOC6000)

6-9-1. Abnormal USIM/SD

Image	Description
	<p>4. Check the SIM/SD Socket for cracks or damage. If you see cracks or damage, replace the SIM/SD Sockets.</p>
	<p>5. Check the voltage of PBA</p> <ul style="list-style-type: none"><li>- C7433= 1.8 or 3.0V</li><li>- C7434 = 1.8 or 3.0V</li><li>- C7014 = 3.0V</li></ul>
	<p>6. If the voltage checked is abnormal, replace the PBA with new one and check the device.</p>

# SAMSUNG

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