

SAMSUNG

Mobile Device SM-A137F 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

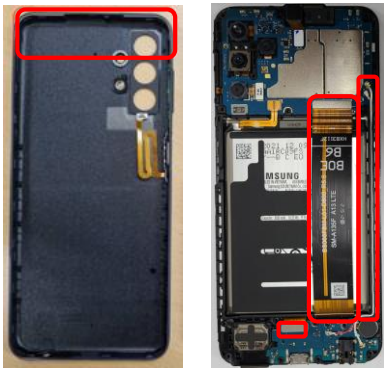
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2-1. RAM & Storage size by region

Region	Model Code	Basic	Memory (RAM+ROM)	SIM	NFC	SKU
						Modifier
EUR	SM-A137F_EUR_XX	BSM-A137F/3D3N	3+32	DS	UICC	U
		BSM-A137F/6D4N	4+64	DS	UICC	V
		BSM-A137F/1D4N	4+128	DS	UICC	K
MEA	SM-A137F_MEA_MEA	BSM-A137F/6R4D	4+64	DS	X	G
		BSM-A137F/1R4D	4+128	DS	X	H

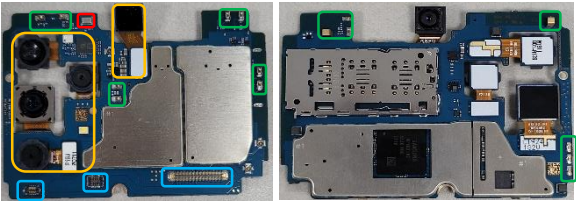
2. SVC Model Information

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.

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



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
Display Bracket Battery Inseparable part (Front Assy)	Display and Bracket are inseparable. Battery replacement is required when Front Assy components are defected.

3. Product Function

3-1. Main Function

Item	Description
OS	Android V12.0 (R)
SM-A137F Network	2G - GSM : 850 / 900 / 1800 / 1900 3G - WCDMA : B1 / B5 / B8 4G - FDD : B1 / B3 / B5 / B7 / B8 / B20 / B28 - TDD : B38 / B40 / B41
Battery	5,000 mAh
Processor	MediaTek MT6769V/CTZA Octa-Core 2GHz, 1.8GHz 64bit
Connectivity	GPS, Glonass, Beidou, Galileo, QZSS, BT5.2, USB 2.0 Type-C, Wi-Fi 802.11 a/b/g/n/ac 2.4G+5GHz, NFC (Only for SM-A137F_EUR)
Camera	Rear Wide : 50MP, AF, F1.8 Ultra Wide : 5MP, FF, F2.2 Bokeh : 2MP, F2.4 Macro : 2MP, F2.4 Front : 8MP, FF, F2.2
Display	6.6" In-Cell Touch LCD PLS, 2408 x 1080 (FHD+)
SM-A137F_EUR RAM	3 / 4 B
SM-A137F_EUR ROM	32 / 64 / 128 GB
SM-A137F_MEA RAM	4 / 6 GB
SM-A137F_MEA ROM	64 / 128 GB
Sensor	Accelerometer, Finger print Sensor, Geomagnetic Sensor, Virtual Light Sensing, Virtual Proximity Sensing

4. Exploded View and Parts List

4-1. Electronical Part List

: Refer to '[01-SM-A137F_Common_Main Part List](#)' file which uploaded separately

4-2. Cellular phone Exploded View

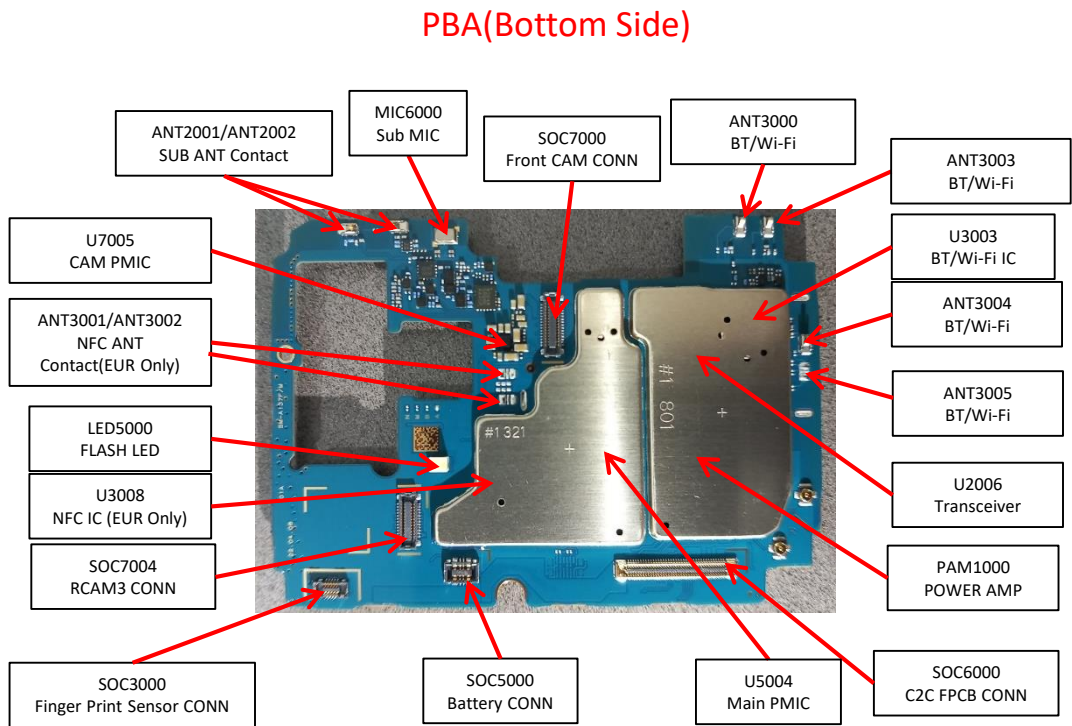
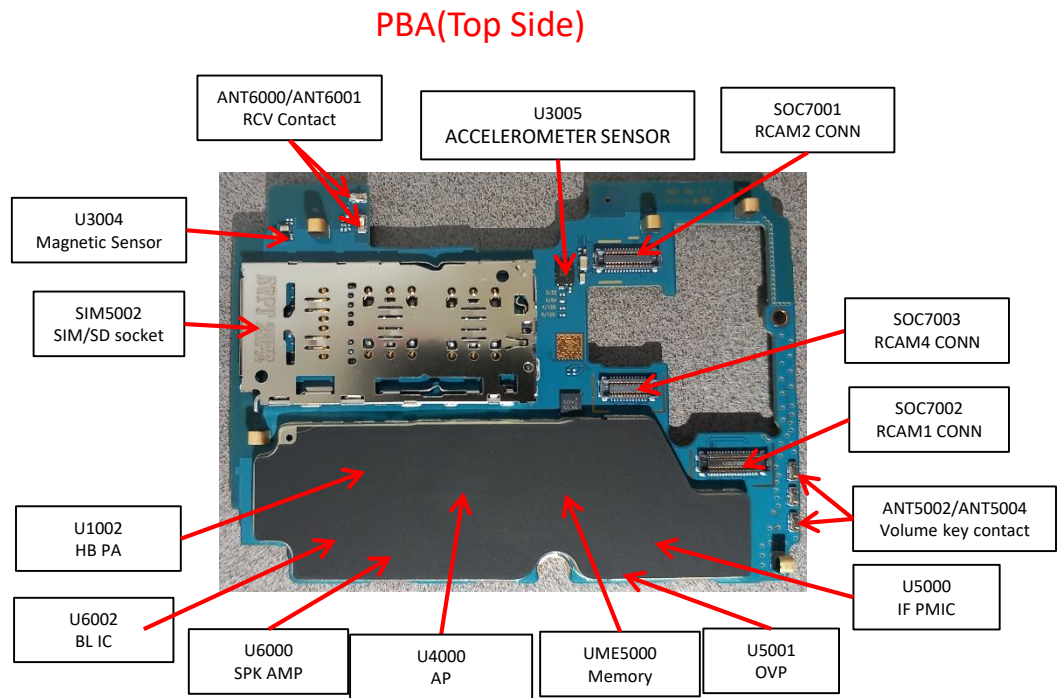
: Refer to '[02-SM-A137F_Common_Exploded View](#)' file which uploaded separately

4-3. Cellular phone Parts list

: Refer to SVC PPL

5. Components Layout

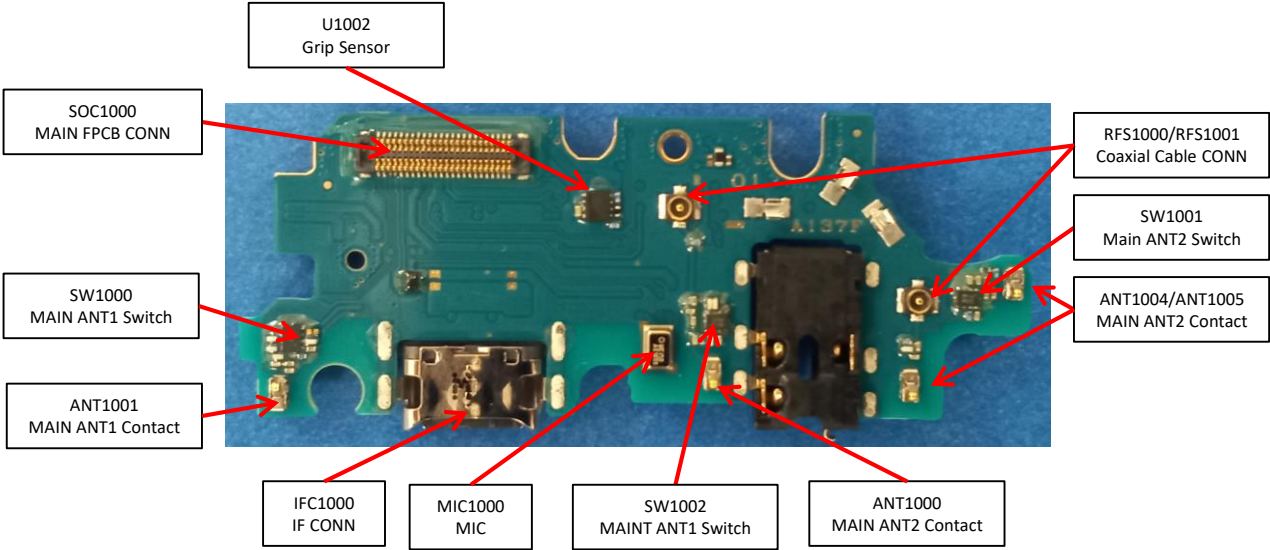
5-1. Components Layout



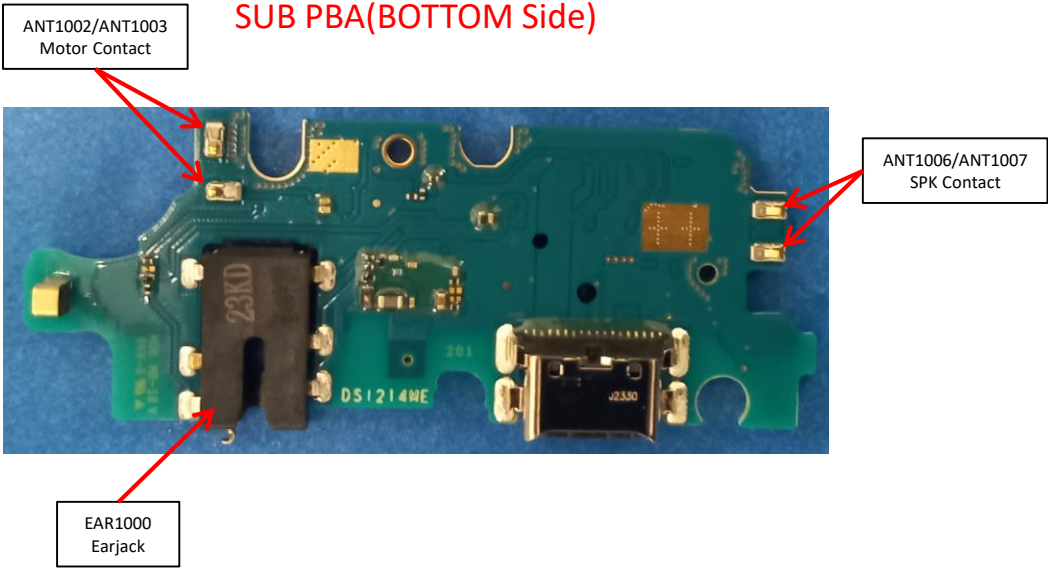
5. Components Layout

5-1. Components Layout

SUB PBA(Top Side)



SUB PBA(BOTTOM Side)



6. Trouble Shooting (L3)

6-1 Display

6-2 Touch

6-3 Power, Charging

6-4 Camera

6-5 Audio

6-6 Sensor

6-7 Connectivity (Wi-Fi, GPS, NFC)

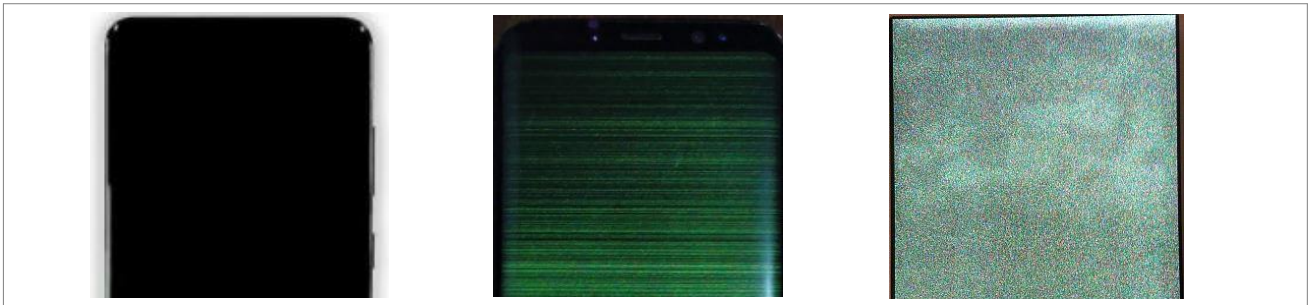
6-8. No SVC

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

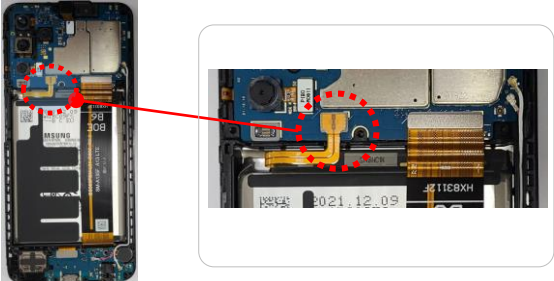
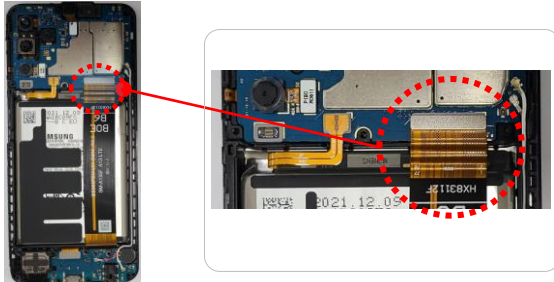
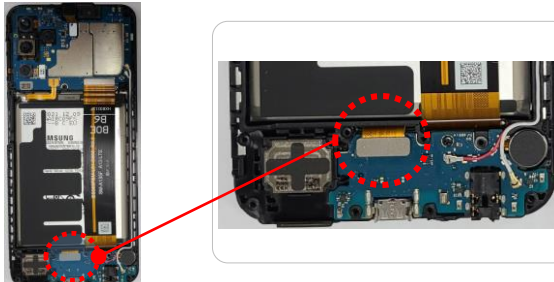
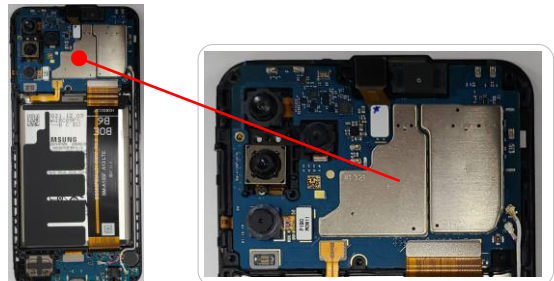
- Check booting sound and no vibration .

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

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

6-1. Display

6-1-1. Black Display

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

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
 * Checking external damage of the device	1. Check if there is any damage of external impact on the device. (especially, Front Window)
 [Disassemble Jig]	2. Disassemble the device. - Refer to ' Disassembly and assembly video guide for Galaxy A13 ' 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
 [Disassemble Jig]	1. Disassemble the device. - Refer to 'Disassembly and assembly video guide for Galaxy A13' from the GSPN.
	2. Exchange the display module with new one and check the device.
	3. If not, finally, exchange the PBA with new one and check the device.

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

1) Symptom

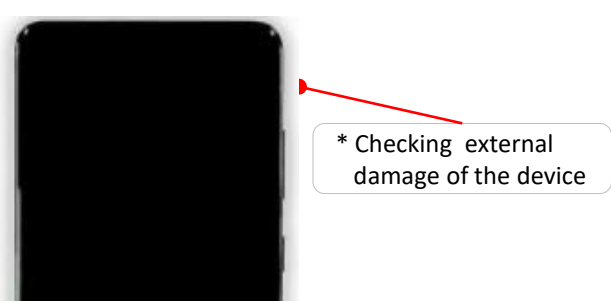
- Description : Abnormal touch(Ghost touch)

2) Defect Decision Conditions

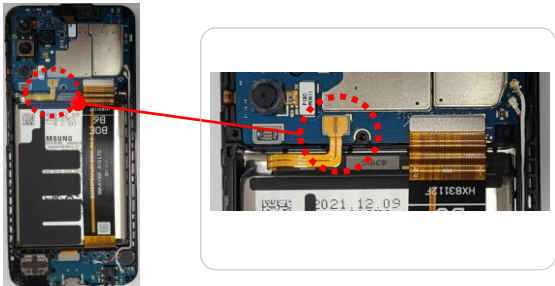
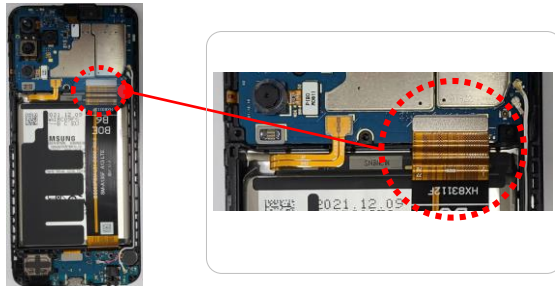
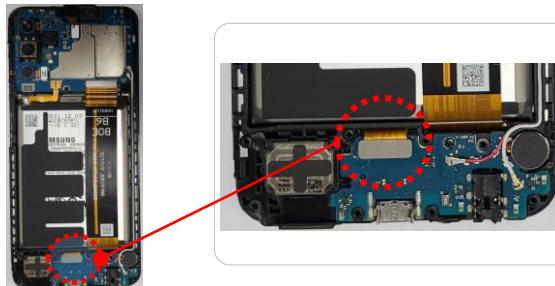
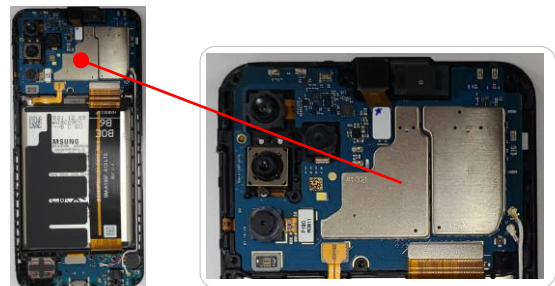
- Description : Abnormal touch(Ghost touch)

3) Repair Guide

- Caution : First of all, check if there is any damage of external impact on the device.

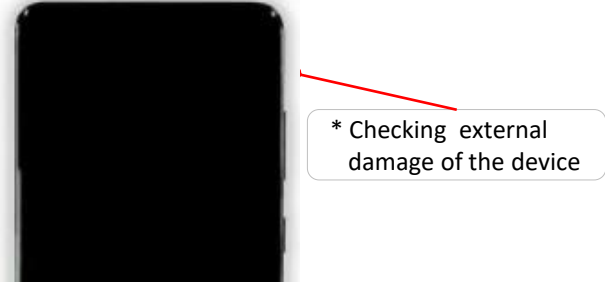
Image	Description
	1. Check if there is any damage of external impact on the device. (especially, Front Window)
	2. Input key string *#2663#, click TSP FW update(General). After that, check the *#0*# tsp test. If the touch test is not work normally, check the next step.
 [Disassemble Jig]	3. Disassemble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

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

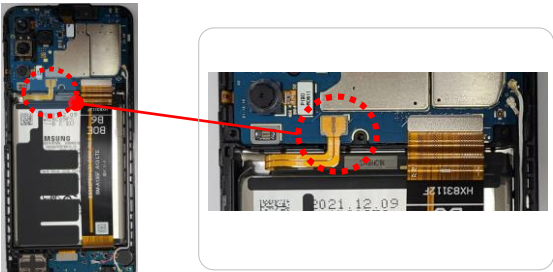
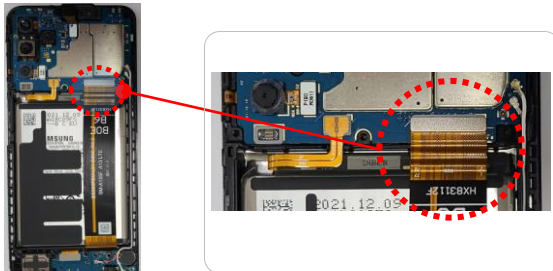
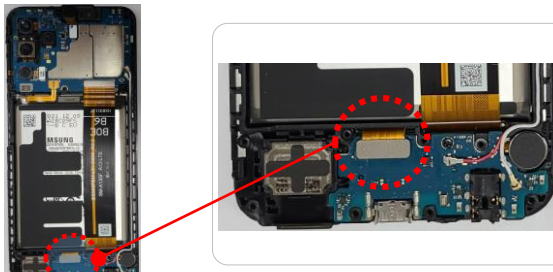
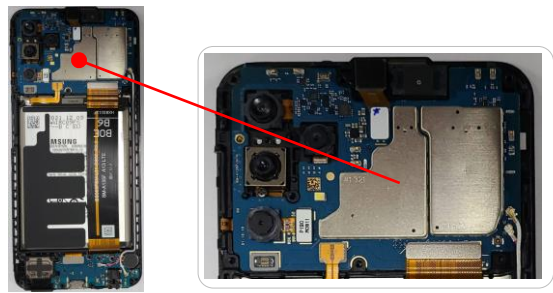
Image	Description
	[Attention] 4. Disconnect Battery Connector at first.
	5. Check the 'PBA ↔ Display' connector and connect it again when it connected improperly. After that, connect battery connector again and check the display.
	6. Check the SUB connector and connect it again when it connected improperly.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

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)
 [Disassemble Jig]	2. Disassemble the device. - Refer to ' <u>Disassembly and assembly video guide for Galaxy A13</u> ' from the GSPN.

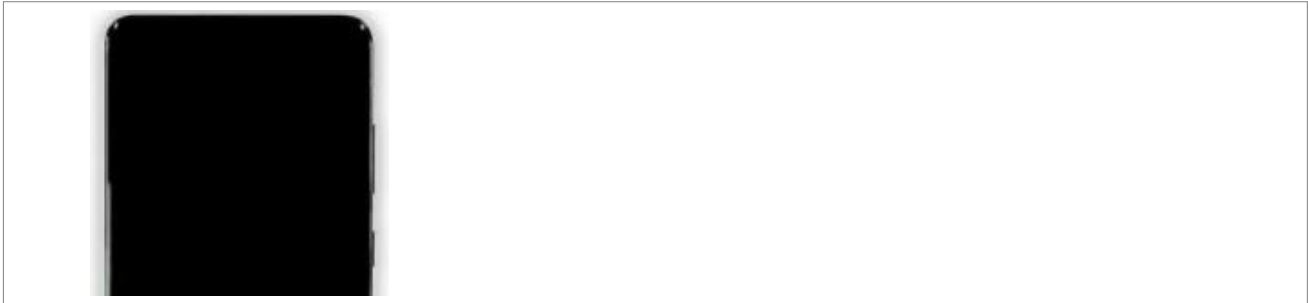
6-2-3. No Touch

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

6-3. Power, Charging

6-3-1. No Power

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



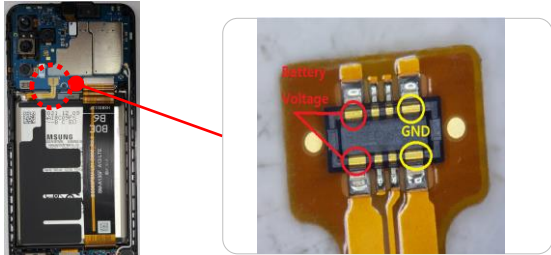
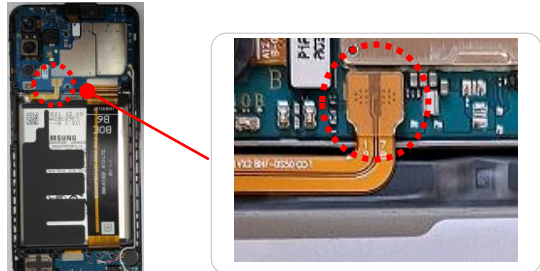
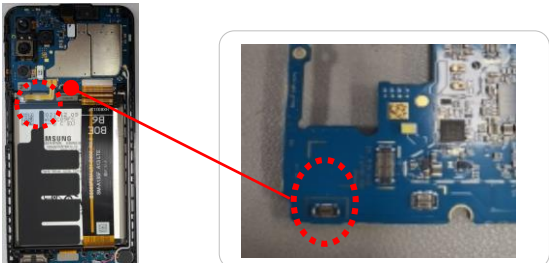
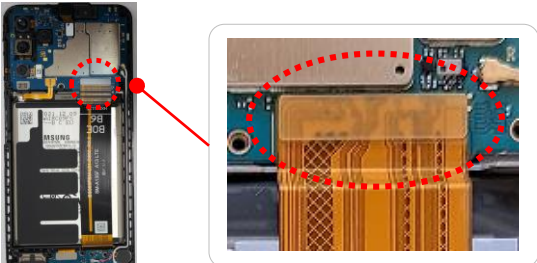
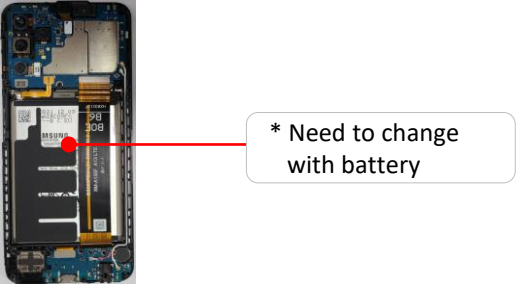
- 2) Defect Decision Conditions
 - Description : The phone no any display & vibration after booting.

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

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

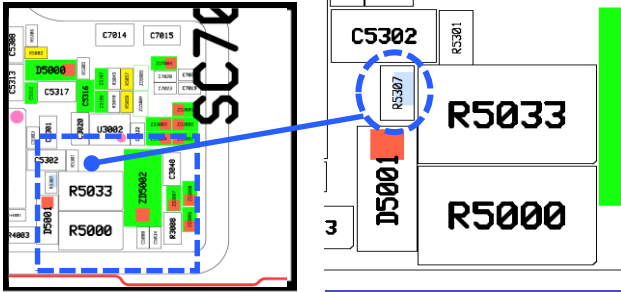
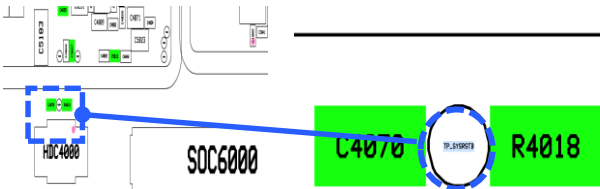
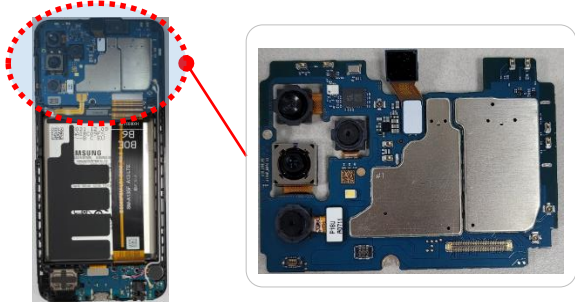
6-3. Power, Charging

6-3-1. No Power

Image	Description
	1. Check battery voltage at first 1&2 pin : Battery voltage, 7&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.
	2. Check the 'PBA ↔ Battery' connector(SOC5000) and connect it again when it connected improperly. After that, check to turn on the phone.
	3. Check the 'PBA ↔ Power key ' contact pin(SOC3000) and clean the contact pin/pad when there is a foreign object. After that, check to turn on the phone.
	4. Check the 'PBA ↔ LCD ' connector(SOC6000) and connect it again when it connected improperly. After that, check to turn on the phone.
	5. Exchange the display module with new one and check the device.

6-3. Power, Charging

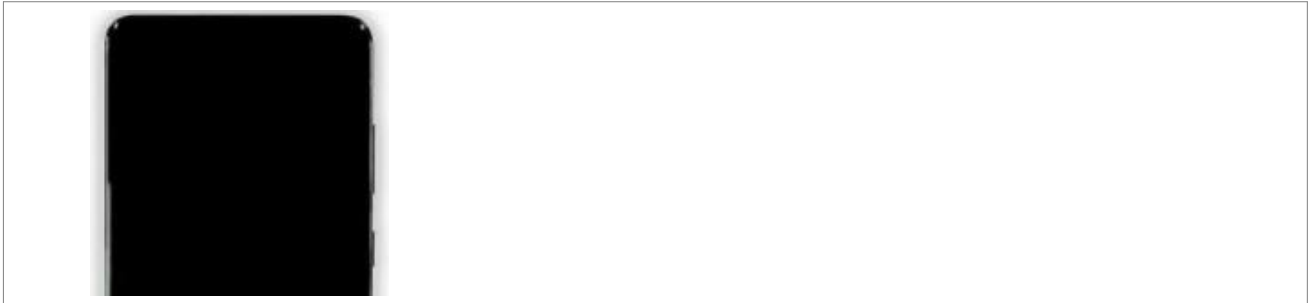
6-3-1. No Power

Image	Description
	1. Check 'Power Key signal' on the PBA as below. → check R5307 voltage when the charged battery is connected. R5307 voltage : High(Battery level) → power signal is OK. Change the power key FPCB. R5307 voltage : low → power signal is abnormal. Check the step2.
	2. Check the TP_SYSRSTB after power key is pressed during 2~3 seconds. (boot on) - Check if 'TP_SYSRSTB' is changed from 0v to 1.8v. - If its signal is changed, PMIC is OK.
	3. If PS_HOLD signal is 0v after press power key, exchange the PBA.

6-3. Power, Charging

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

- 1) Symptom
 - Description : reboot during power on



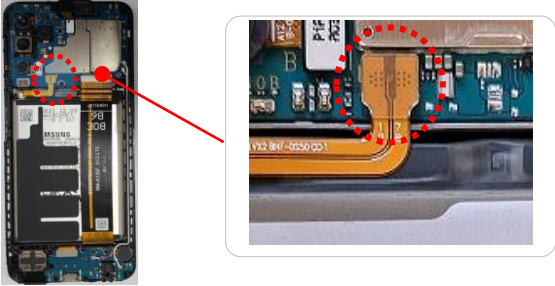
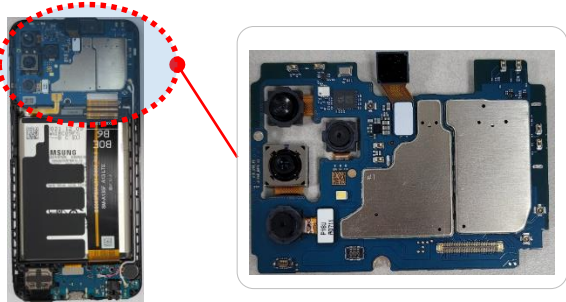
- 2) Defect Decision Conditions
 - Description : The phone is rebooting during power on.

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

Image	Description
	1. Check power on current with Power Supply and ANYWAY JIG.
	2-1. Push down Anyway Jig switch 7,8 2-2. Power supply set to 4.5v ↑ 2-3. During booting, check current. If the current consumed by the set is not displayed, proceed to step 3.
[Disassemble Jig]	3. Disassemble the device. - Refer to ' <u>Disassembly and assembly video guide for Galaxy A13</u> ' from the GSPN.

6-3. Power, Charging

6-3-2. Reboot during Power on

Image	Description
	4. check the battery connector connection and battery condition.
	5. If not, replace PBA.

6-3. Power, Charging

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

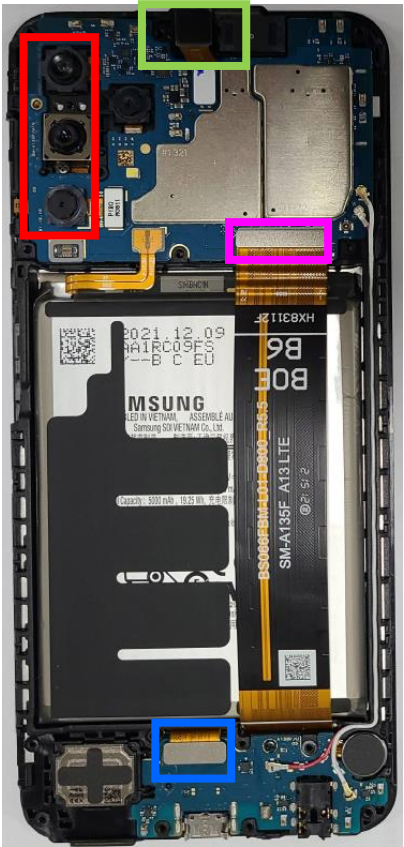
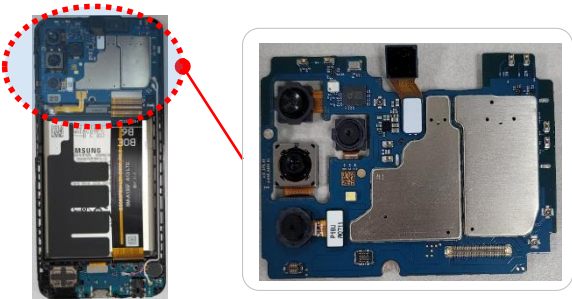
- 1) Symptom
- Description : Battery level decreases rapidly in the idle state.
- 2) Defect Decision Conditions
- Description : Battery level decreases rapidly in the idle state by abnormal current consumption.

3) Repair Guide

Image	Description
	1. Check Power-off leakage current. 1-1. Push down Anyway Jig switch 6,7,8 1-2. Check Power-off leakage current.
	2-1. Check sleep current. . Push down Anyway Jig switch 7,8 . After booting, Check sleep current. 2-2. Check $-1\text{mA} \leq \text{Power-off leakage} \leq 2\text{mA}$ 2-3. Check sleep current $\leq 10\text{mA}$
 [Disassemble Jig]	3. Disassemble the device. - Refer to 'Disassembly and assembly video guide for Galaxy A13' from the GSPN.

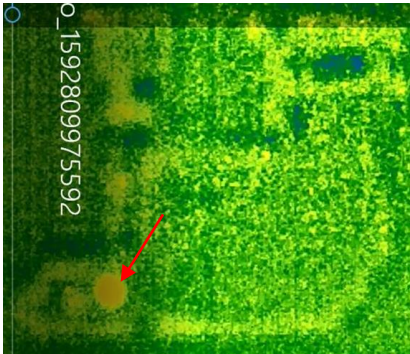
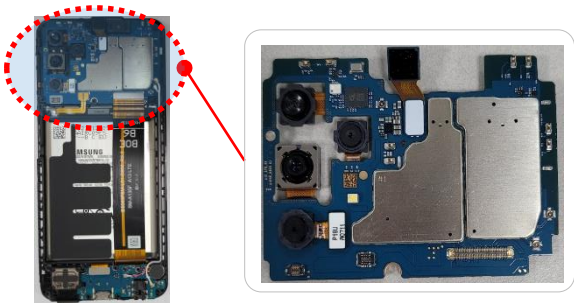
6-3. Power, Charging

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

Image	Description
	4-1. If there is a thermal camera, check if there is a hot part and replace the hot part. 4-2. 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. (4 Rear CAMs, VT CAM, Con-to-con FPCB, IF Sub FPCB) 4-3. If leakage current goes down by detaching the part, replace the detached part by normal one.
	5. If leakage current doesn't go down OR the hot part can't be replaced, replace the PBA.

6-3. Power, Charging

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

Image	Description
	6-1. 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.
	6-2. 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.

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

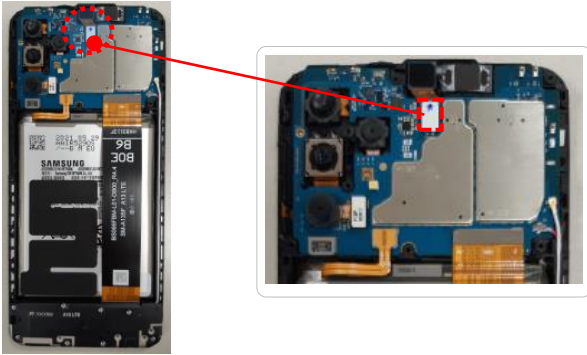
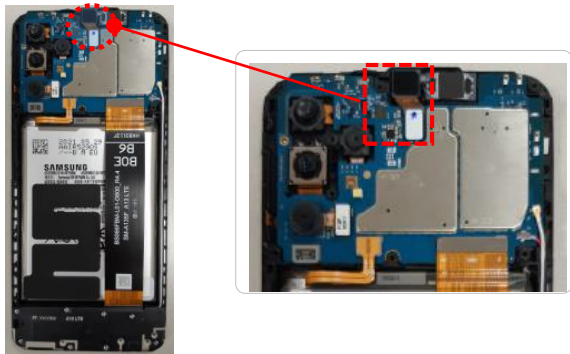
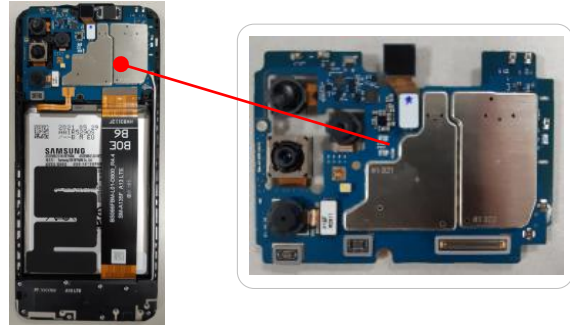
- 1) Symptom
- Description : Black display and can't turn on the front camera



- 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.

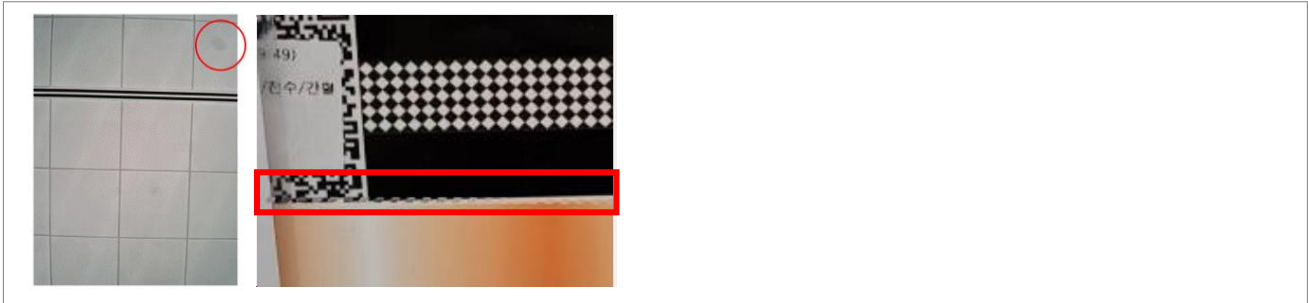
Image	Description
	1. Execute Front Cam test of *#0*#.
[Disassemble Jig]	2. Disassemble the device. - Refer to ' Disassembly and assembly video guide for Galaxy A13 ' from the GSPN.
	[Attention] 3. Disconnect Battery Connector at first.

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

Image	Description
	4. Check if the connector is disengaged at first.
	5. If connector is okay, replace the camera module with new one and check the device. (SOC7000)
	6. If not, finally, exchange the PBA.

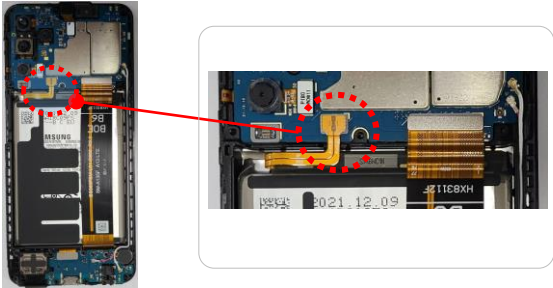
6-4-2. Abnormal Preview(Front Camera) (L3)

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

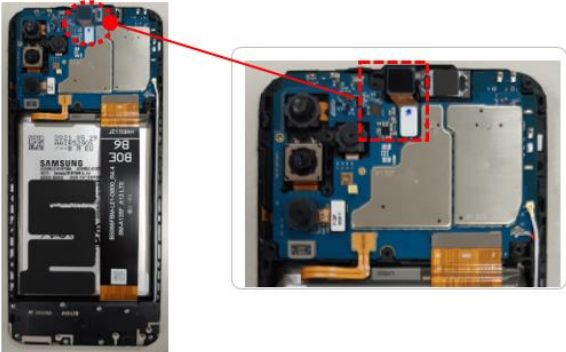


- 2) Defect Decision Conditions
- Description : Blemishes or dots on image

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

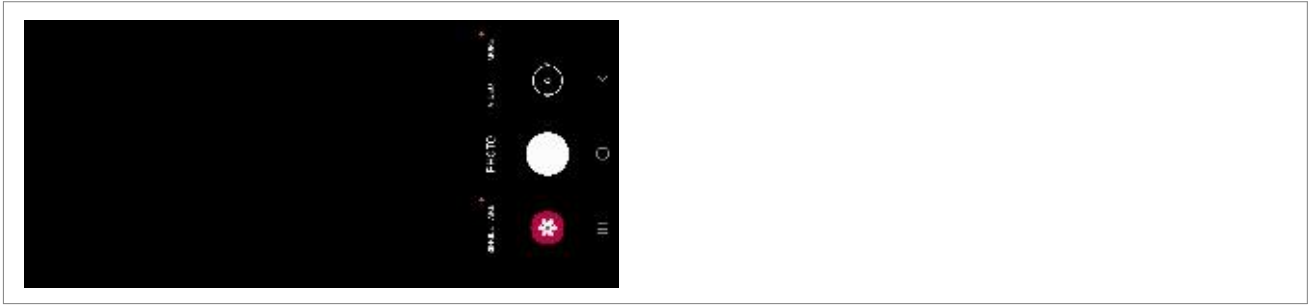
Image	Description
	1. Check the camera hole. - Should be clean and no particle.
 [Disassemble Jig]	2. Disassemble the device. - Refer to ' Disassembly and assembly video guide for Galaxy A13 ' from the GSPN.
	[Attention] 3. Disconnect Battery Connector at first.

6-4-2. Abnormal AF(Front Camera)

Image	Description
	4. Replace the camera module with new one and check the device. (SOC7000)

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
A screenshot of the Samsung diagnostic menu accessed by dialing *#0*#. The menu has a grid of options. 'REAR CAM' is highlighted with a red square. Other options include RED, GREEN, BLUE, FRONT CAM, VIDEO REC, IMAGE, STILL, VIDEO, and others.	1. Execute Mega cam test of *#0*# to figure out which camera has defect. - Rear1 : Wide camera - Rear2 : Ultra wide camera - Rear3 : Bokeh camera - Rear4 : Macro camera
A blue, curved plastic tool used for disassembling the device. [Disassemble Jig]	2. Disassemble the device. - Refer to 'Disassembly and assembly video guide for Galaxy A13' from the GSPN.
Two images showing the internal components of the phone. The left image shows the battery and other components. The right image is a close-up of the battery connector being disconnected from the motherboard. Red dashed lines and arrows indicate the connection points.	[Attention] 3. Disconnect Battery Connector at first.

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

Image	Description
	4. Check if the connector is disengaged at first. If connector is okay, replace the camera module with new one and check the device. - Rear1 : Wide camera - Rear2 : Bokeh camera - Rear3 : Ultra wide camera - Rear4 : Macro camera
	5. If Wide Cam[RCAM1] is defective check 'Capacitors' on the PBA as below. - RCAM1_DVDD_1P05=1.05V (C7015) - RCAM1_AVDD_2P8=2.8V (C7014) - CAM_VDDIO_1P8=1.8V (C7036)
	6. If Bokeh Wide Cam is defective check 'Capacitors' on the PBA as below. - RCAM3_4_AVDD_2P8=2.8V (C7010) - RCAM3_4_DVDD_1P8=1.8V (C7022) - CAM_VDDIO_1P8=1.8V (C7021)

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

Image	Description
	7. If Ultra Wide Cam is defective check 'Capacitors' on the PBA as below. - RCAM2_AVDD_2P8=2.8V (C7007) - RCAM2_DVDD_1P2=1.2V (C7006) - CAM_VDDIO_1P8=1.8V (C7008)
	8. If Macro Wide Cam is defective check 'Capacitors' on the PBA as below. - RCAM3_4_AVDD_2P8=2.8V (C7026) - RCAM3_4_DVDD_1P8=1.8V (C7024) - CAM_VDDIO_1P8=1.8V (C7025)
	9. If the device is not working normally with new capacitors, exchange the PBA.

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

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

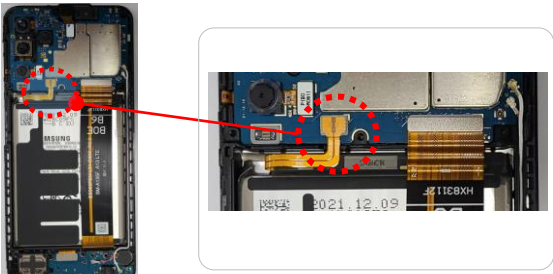
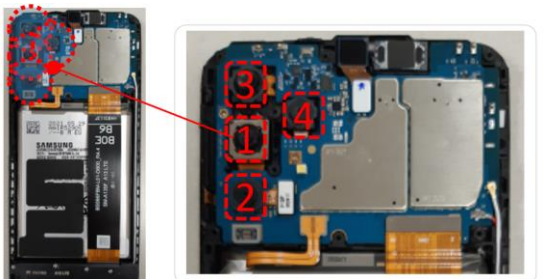


- 2) Defect Decision Conditions
- Description : The image of rear camera is out of focus.

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

Image	Description
	1. Check the camera deco glass. - Should be clean and no particle.
	2. Execute Mega cam test of *#0*# to figure out which camera has defect. - Rear1 : Wide camera - Rear2 : Ultra wide camera - Rear3 : Bokeh camera - Rear4 : Macro camera
[Disassemble Jig]	3. Disassemble the device. - Refer to '<u>Disassembly and assembly video guide for Galaxy A13</u>' from the GSPN.

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

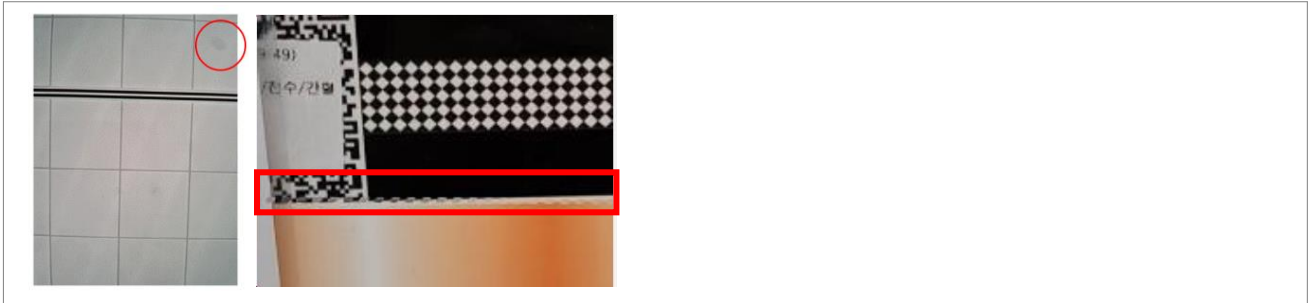
Image	Description
	[Attention] 4. Disconnect Battery Connector at first.
	5. Replace the camera module with new one and check the device. - Rear1 : Wide camera - Rear2 : Bokeh camera - Rear3 : Ultra wide camera - Rear4 : Macro camera

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

Image	Description
 A photograph of a rear camera module assembly. It features a blue printed circuit board (PCB) with various electronic components. On the left side, there are three circular camera lenses of different sizes. A large, rectangular silver metal shield is mounted in the center of the board. Various surface-mount components, including capacitors and integrated circuits, are visible on the PCB. A small white label with the text 'F18J1 R0711' is located near the bottom left of the shield.	12. If the device is not working normally with new resistors, exchange the PBA.

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

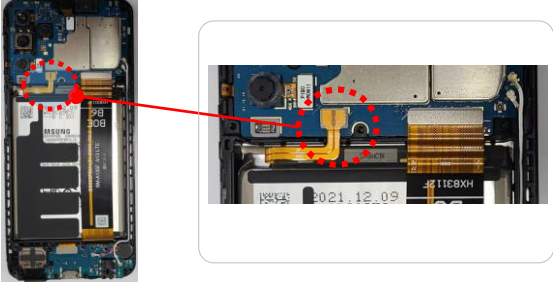
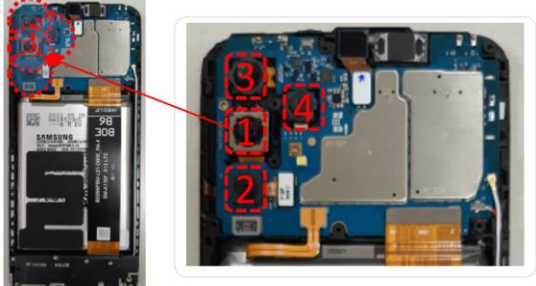
- 1) Symptom
- Description : Abnormal display of rear camera



- 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 : Ultra wide camera - Rear3 : Bokeh camera - Rear4 : Macro camera
[Disassemble Jig]	3. Disassemble the device. - Refer to 'Disassembly and assembly video guide for Galaxy A13' from the GSPN.

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

Image	Description
	[Attention] 4. Disconnect Battery Connector at first.
	5. Replace the camera module with new one and check the device. - Rear1 : Wide camera - Rear2 : Bokeh camera - Rear3 : Ultra wide camera - Rear4 : Macro camera

6-5-1. SPK sound abnormal

1) Symptom

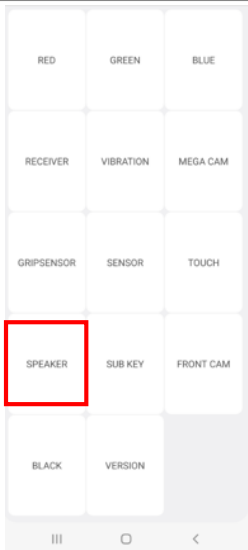
- Description : SPK sound is low/abnormal

2) Defect Decision Conditions

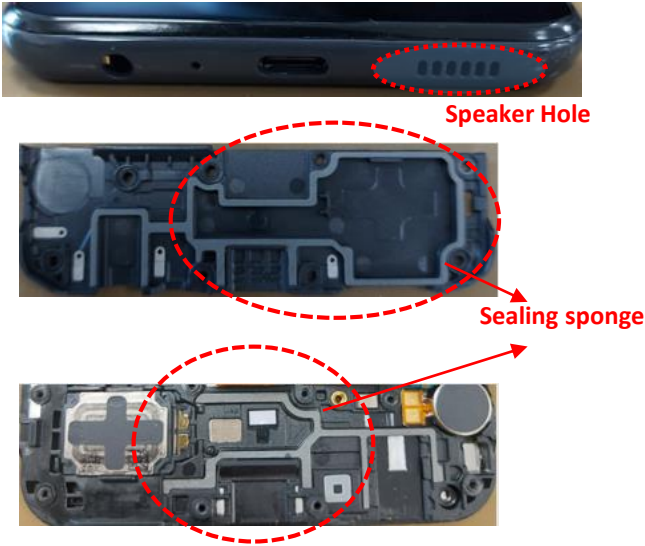
- Description : The phone sounds abnormally

3) Repair Guide

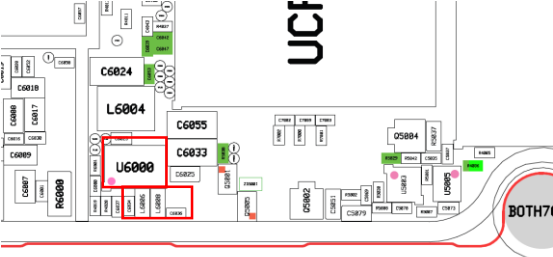
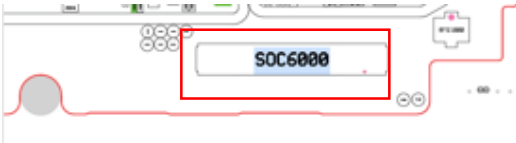
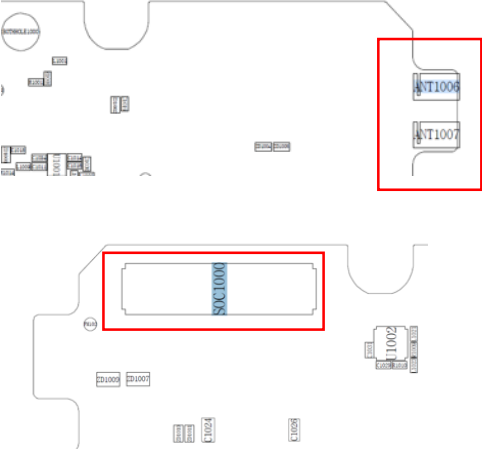
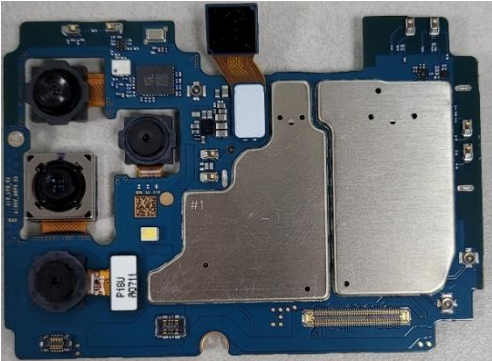
- **Caution : Disconnect battery connector first when it shows.**

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

6-5-1. SPK sound abnormal

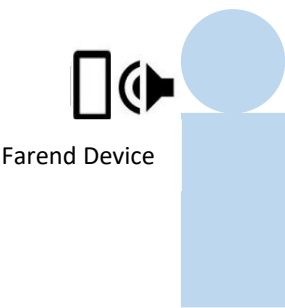
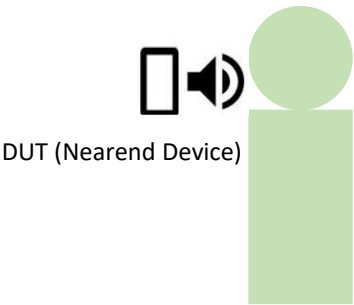
Image	Description
 SPK	Refer to the SPK location.
 Speaker Hole Sealing sponge	3. Check SPK Hole and sealing sponge and if it is ok, change to new SPK module.

6-5-1. SPK sound abnormal

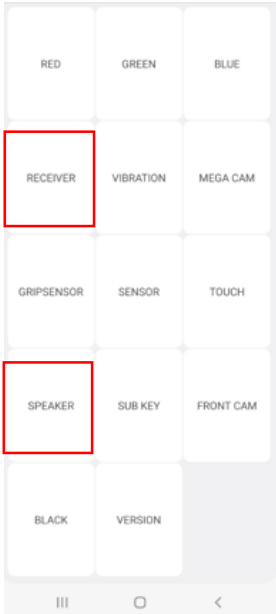
Image	Description
 UCF  Main PBA	4. In case of SPK problem, Check visual of below components Main PBA : C6034, C6036, L6006, L6008, U6000, SOC6000 → change components when you find defects.
 Sub PBA	5. In case of SPK problem, Check visual of below components SUB PBA : ANT1006, ANT1007, SOC1000 → change components when you find defects. If the components are ok, change the SUB PBA.
	6. If the device is not working normally after exchanging it, exchange Main PBA .

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.

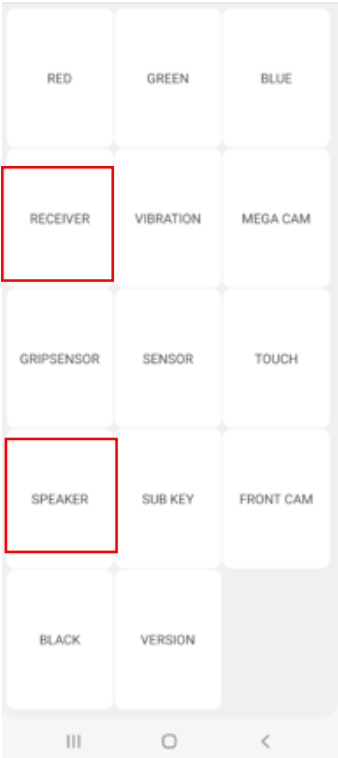


3) Repair Guide

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

[Disassemble Jig]

6-5-2. Rx Voice mute

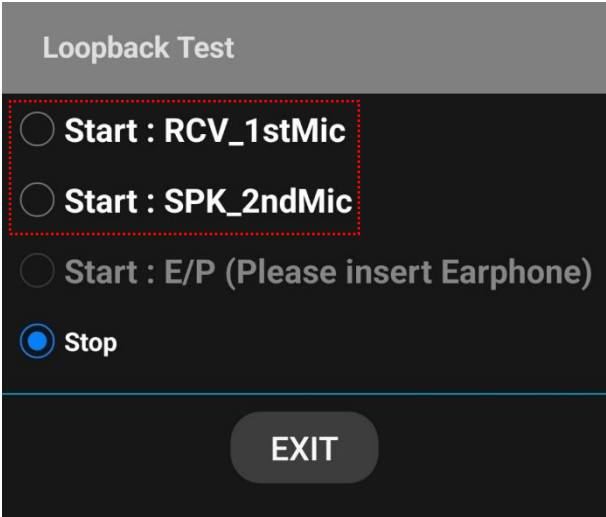
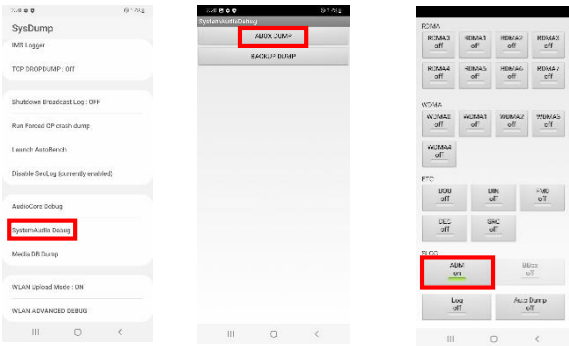
Image	Description
RECEIVER   SPEAKER	3. Swap the SPK or RECEIVER modules to the normal samples.
	4. RECEIVER test - *#0*# - Select : RECEIVER - Check the receiver sound 5. SPEAKER test - *#0*# - Select : SPEAKER - Check the speaker sound

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

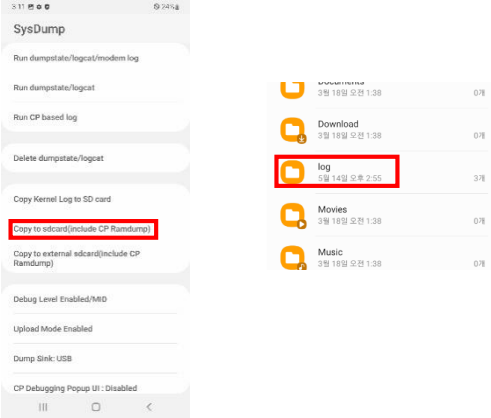
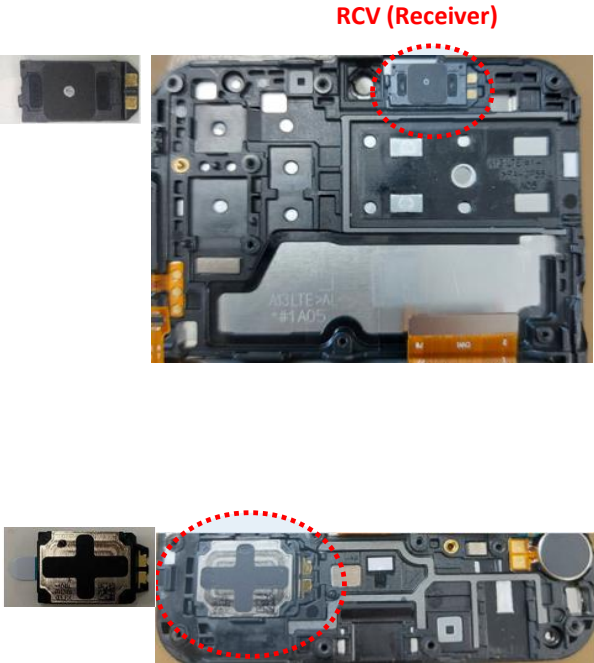
- 1) Symptom
- Description : While calling, Rx voice is swinging, low or noisy.
- 2) Defect Decision Conditions
- Description : A person who is calling with a nearend device can hear something wrong in Rx voice.
(voice is swinging, low or noisy)



3) Repair Guide

Image	Description
	1. RCV loopback test (Problem in Handset mode) - *#0283# - Select : Start : RCV_1stMIC - Do test : say something into a Bottom mic - Should hear the voice clearly through the Top SPK without noise.
	1-2. SPK loopback test (Problem in Handsfree mode) - *#0283# - Select : Start : SPK_2ndMIC - Do test : say something into a Top mic - Should hear the voice clearly through the Top, Bottom SPK without noise.
	If it's ok in the loopback test (if the voice was heard clearly from SPK without noise), 2. get dumps while calling. - *#9900# - System Audio Debug → ABOX DUMP - Press ADM off (it will be changed to ADM On) - Press home button and Call test

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

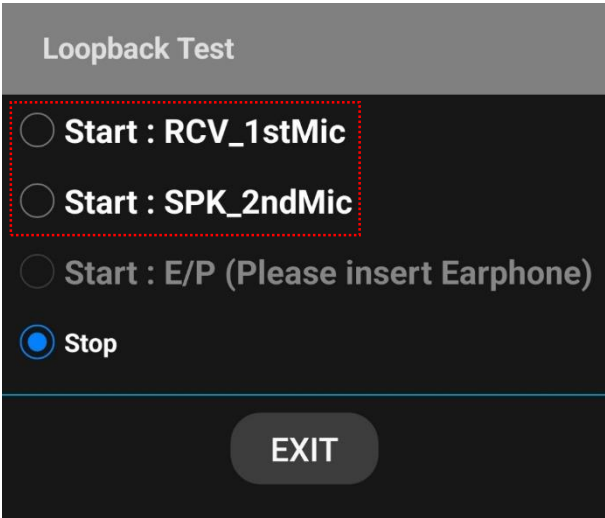
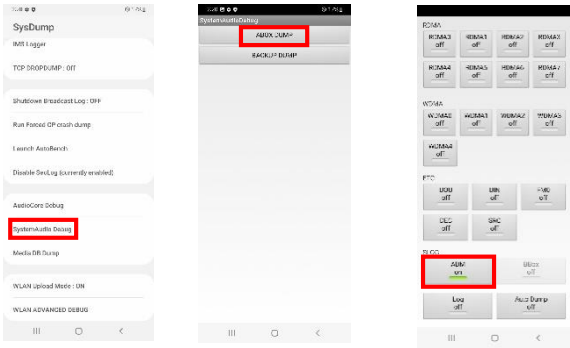
Image	Description
	2-2. get dumps while calling - After finishing test - *#9900# - System Audio Debug → ABOX DUMP - Press ADM On (it will be changed to ADM Off) - Press COPY TO SDCARD - Share log folder
 [Disassemble Jig]	If there was a loopback test problem (if the voice was low or noisy from RCV or SPK), 3. Disassemble the device. - Refer to '<u>Disassembly and assembly video guide for Galaxy A13</u>' from the GSPN.
 RCV (Receiver) SPK (Speaker)	4. Swap the RECEIVER or SPEAKER modules to normal samples. - SPK module damaged. - RCV module damaged

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

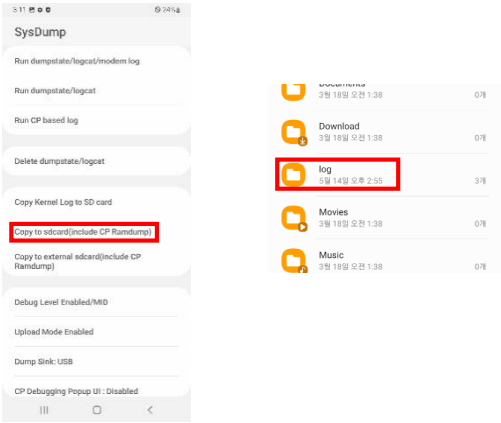
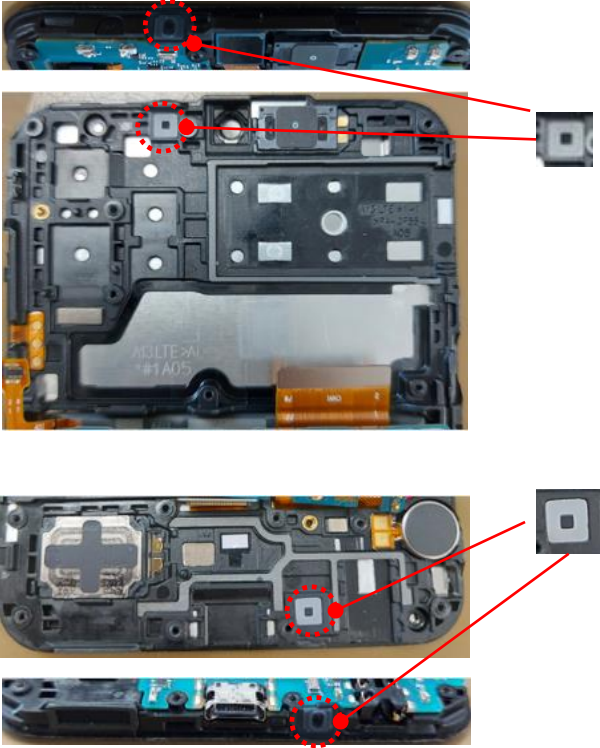
- 1) Symptom
- Description : While calling, Tx voice is Mute.
- 2) Defect Decision Conditions
- Description : A person who is calling with a farend device can't hear Rx voice.



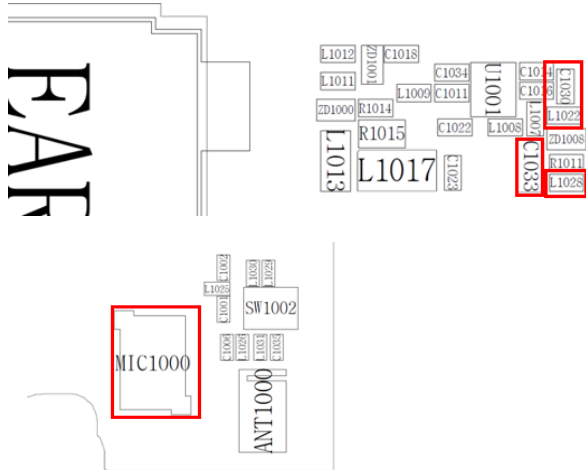
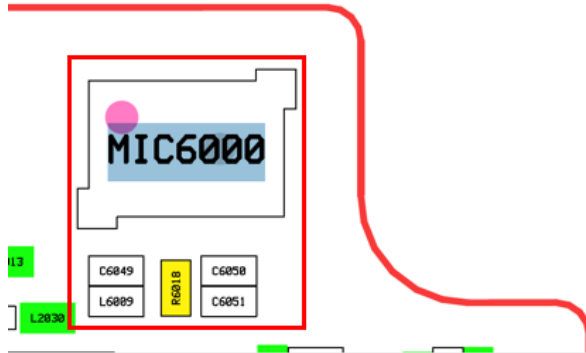
3) Repair Guide

Image	Description
	1. RCV loopback test (Problem in RCV call : Handset mode) - *#0283# - Select : Start : RCV_1stMIC - Should hear the voice clearly through the Top SPK without noise.
	1-2. SPK loopback test (Problem in SPK call : Handsfree mode) - *#0283# - Select : Start : SPK_2ndMIC - Should hear the voice clearly through the Top, Bottom SPK without noise.
	If it's ok in the loopback test (if the voice was heard clearly from SPK without noise), 2. get dumps while calling. - *#9900# - System Audio Debug → ABOX DUMP - Press ADM off (it will be changed to ADM On) - Press home button and Call test

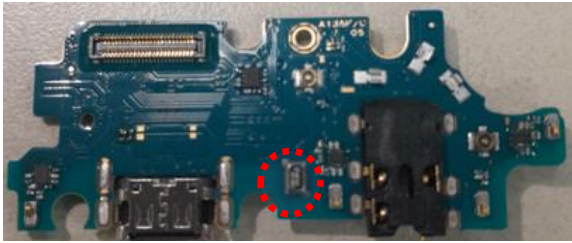
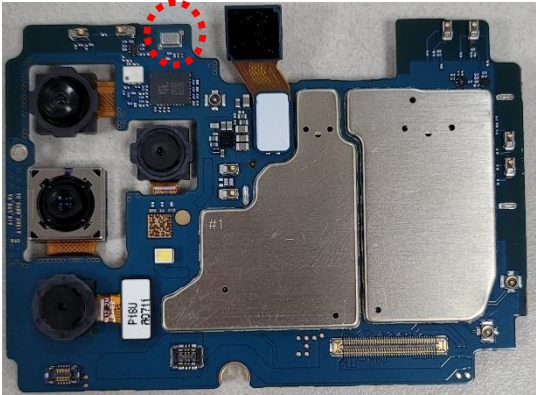
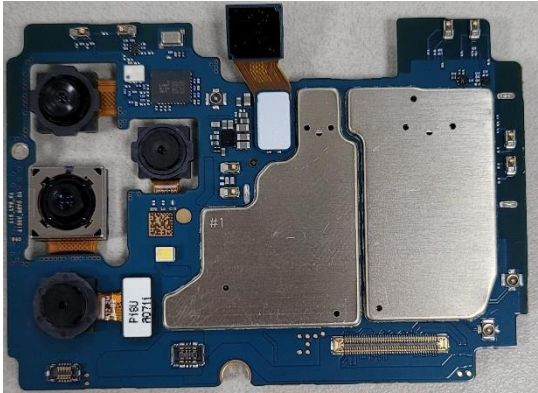
6-5-4. Tx Voice mute/swing/noise

Image	Description
	2-2. get dumps while calling - After finishing test - *#9900# - System Audio Debug → ABOX DUMP - Press ADM On (it will be changed to ADM Off) - Press COPY TO SDCARD - Share log folder
	If there was a loopback test problem (if the voice was mute, low or noisy from SPK) 3. First, you have to check if there is a problem with rubber. If there is no rubber, or if it is torn or blocked, replace it.

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

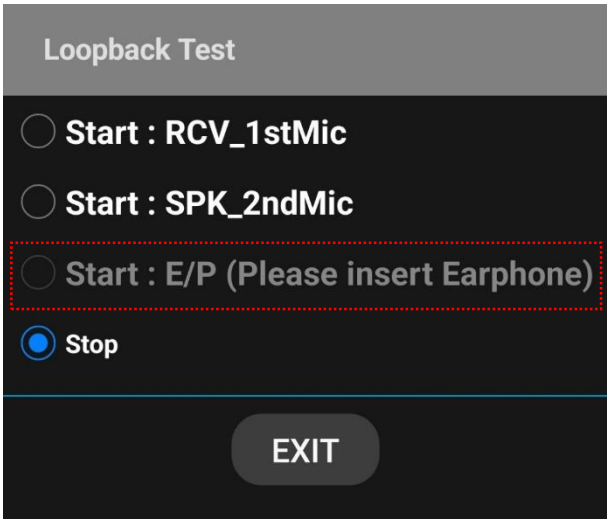
Image	Description
 The diagram shows the Sub PBA layout. On the left, there is a large 'FAR' label. The main component area contains various capacitors (C1012, C1018, C1034, C1011, C1009, C1022, C1008, C1033, C1028, C1017, C1014, C1015, C1016, C1017, C1018, C1019, C1020, C1021, C1022, C1023, C1024, C1025, C1026, C1027, C1028, C1029, C1030, C1031, C1032, C1033, C1034, C1035, C1036, C1037, C1038, C1039, C1040, C1041, C1042, C1043, C1044, C1045, C1046, C1047, C1048, C1049, C1050, C1051, C1052, C1053, C1054, C1055, C1056, C1057, C1058, C1059, C1060, C1061, C1062, C1063, C1064, C1065, C1066, C1067, C1068, C1069, C1070, C1071, C1072, C1073, C1074, C1075, C1076, C1077, C1078, C1079, C1080, C1081, C1082, C1083, C1084, C1085, C1086, C1087, C1088, C1089, C1090, C1091, C1092, C1093, C1094, C1095, C1096, C1097, C1098, C1099, C1100), resistors (R1014, R1015, R1016, R1017, R1018, R1019, R1020, R1021, R1022, R1023, R1024, R1025, R1026, R1027, R1028, R1029, R1030, R1031, R1032, R1033, R1034, R1035, R1036, R1037, R1038, R1039, R1040, R1041, R1042, R1043, R1044, R1045, R1046, R1047, R1048, R1049, R1050, R1051, R1052, R1053, R1054, R1055, R1056, R1057, R1058, R1059, R1060, R1061, R1062, R1063, R1064, R1065, R1066, R1067, R1068, R1069, R1070, R1071, R1072, R1073, R1074, R1075, R1076, R1077, R1078, R1079, R1080, R1081, R1082, R1083, R1084, R1085, R1086, R1087, R1088, R1089, R1090, R1091, R1092, R1093, R1094, R1095, R1096, R1097, R1098, R1099, R1100), inductors (L1012, L1018, L1034, L1011, L1009, L1022, L1008, L1033, L1028, L1017, L1014, L1015, L1016, L1017, L1018, L1019, L1020, L1021, L1022, L1023, L1024, L1025, L1026, L1027, L1028, L1029, L1030, L1031, L1032, L1033, L1034, L1035, L1036, L1037, L1038, L1039, L1040, L1041, L1042, L1043, L1044, L1045, L1046, L1047, L1048, L1049, L1050, L1051, L1052, L1053, L1054, L1055, L1056, L1057, L1058, L1059, L1060, L1061, L1062, L1063, L1064, L1065, L1066, L1067, L1068, L1069, L1070, L1071, L1072, L1073, L1074, L1075, L1076, L1077, L1078, L1079, L1080, L1081, L1082, L1083, L1084, L1085, L1086, L1087, L1088, L1089, L1090, L1091, L1092, L1093, L1094, L1095, L1096, L1097, L1098, L1099, L1100), and other components (U1001, SW1002, ANT1000, MIC1000). The MIC1000 component is highlighted with a red box. Sub PBA	4. In case of 1st MIC problem, Check visual of below components Sub PBA : MIC1000, L1022, C1030, C1033, L1028 → change components when you find defects.
 The diagram shows the Main PBA layout. A large red box highlights the MIC6000 component. Below it, there are several capacitors (C6049, C6050, C6051, L6009, R6018) and a yellow component (R6018). The MIC6000 component is highlighted with a red box. Main PBA	5. In case of 2nd MIC problem, Check visual of below components Main PBA : MIC6000, C6050, C6051 R6018, L6009, C6049 → change components when you find defects.

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 MIC6000 or Main PBA
	8. if there is no sound in 1st mic or 2nd mic loopback test after swap MIC1000, Sub PBA or MIC6000, 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.**

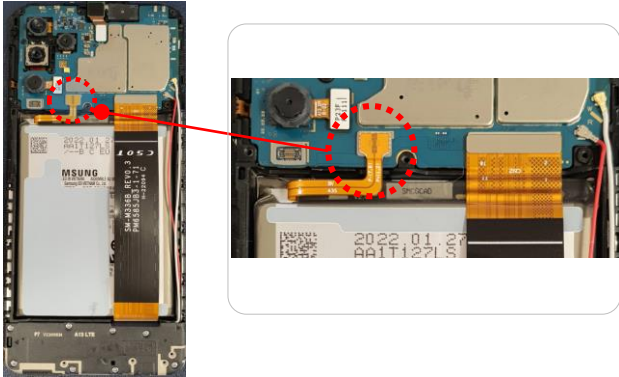
Image	Description
	1. Execute test mode (*#0283#) on call mode and goes to LOOPBACK – Start E/P mode. Check loopback mode is working properly.
 [Disassemble Jig]	2. Disassemble the device. - Refer to '<u>Disassembly and assembly video guide for Galaxy A13</u>' from the GSPN.

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. Accelerometer 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
 [Disassemble Jig]	1. Disassemble the device. - Refer to '<u>Disassembly and assembly video guide for Galaxy A13</u>' from the GSPN.
	[Attention] 2. Disconnect Battery Connector at first. (SOC5000)

6-6-1. Accelerometer Problem

Image	Description
	3. Check 'Capacitors' nearby 'U3005' on the PBA as below. - VDD_SENSOR_1P8=1.8V (Ref. C3049 or C3016) 4. Check its 'Power Level' is OK when it turned on. - If not, replace U5004 on Main PBA.
	5. Check 'Accelerometer IC' 'U3005' on the PBA as below. - crack, open, short, etc. 6. If it has a problem, replace U3005.
	7. Check 'Resistors' nearby 'U3005' on the PBA as below. - SPI signal (TP_ACC_SPI_) 8. If it has no signal, replace PBA
	6. Exchange the PBA with new one and check the device.

6-6-2. Magnetic Sensor Problem

1) Symptom

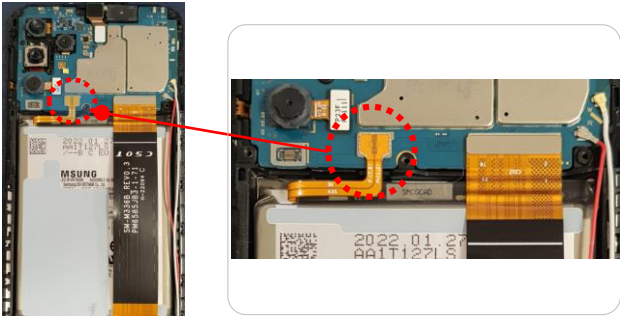
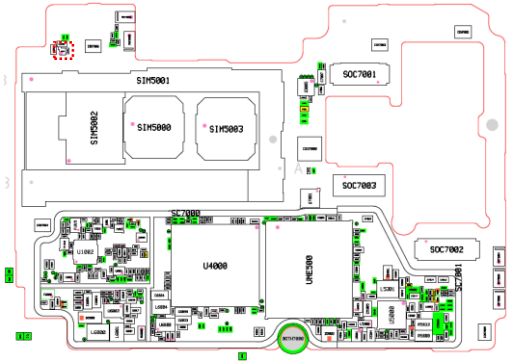
- Description : Magnetic Sensor does not work.

2) Defect Decision Conditions

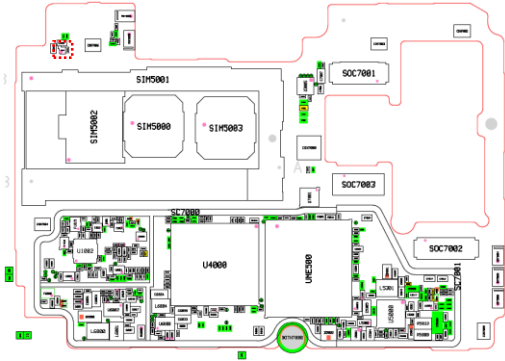
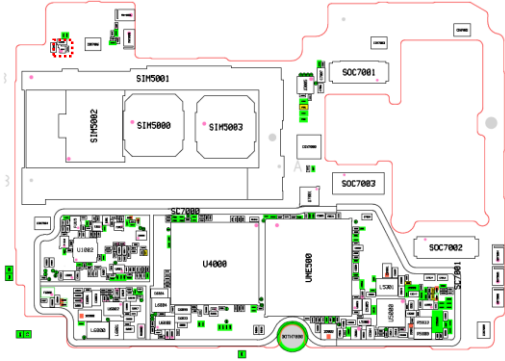
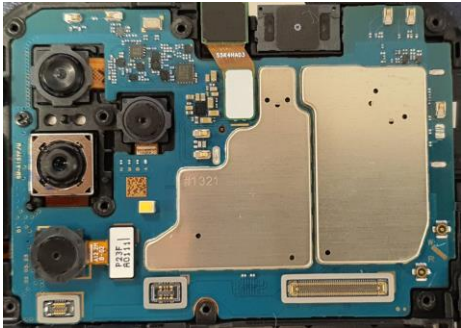
- Description : No response.

3) Repair Guide

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

Image	Description
 [Disassemble Jig]	1. Disassemble the device. - Refer to '<u>Disassembly and assembly video guide for Galaxy A13 LTE</u>' from the GSPN.
	[Attention] 2. Disconnect Battery Connector at first. (SOC5000)
	3. Check 'Capacitors' nearby 'U3004' on the PBA as below. - VDD_SENSOR_1P8=1.8V (Ref. C3015) 4. Check its 'Power Level' is OK when it turned on. - If not, replace U5004.

6-6-2. Magnetic Sensor Problem

Image	Description
	5. Check 'Sensor IC' 'U3004' on the PBA as below. - crack, open, short, etc. 6. If it has a problem, replace U3004 IC.
	7. Check 'Resistors' nearby 'U3004' on the PBA as below. - I2C signal (Ref. R4050,R4051) 8. If it has no signal, replace PBA
	9. Exchange the PBA with new one and check the device.

6-7. Connectivity (Wi-Fi)

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 Wi-Fi signal bar than normal device.
- Setting → Wi-Fi → SCAN : Number of APs is less than normal device when searching AP

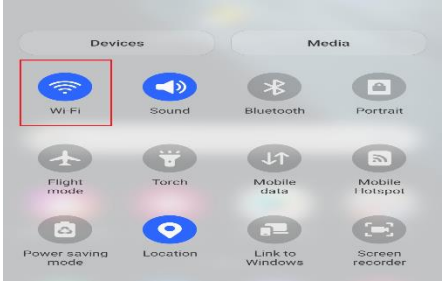
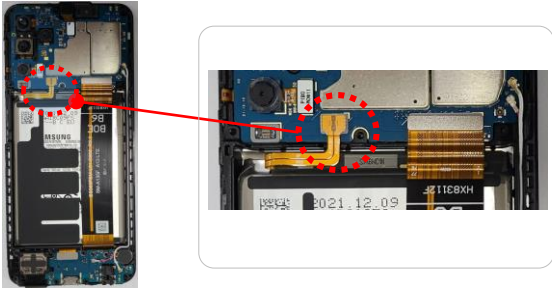
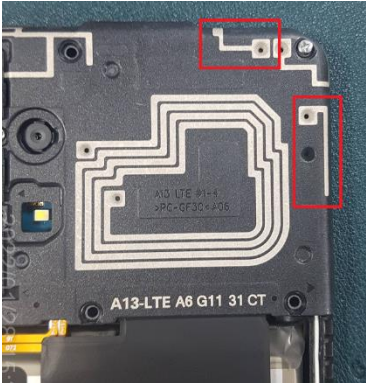
3) Repair Guide

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

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

6-7. Connectivity (Wi-Fi)

6-7-1. Wi-Fi Connection Problem

Image	Description
	4. Check Wi-Fi Function On - Enable Wi-Fi function - If it is ok, turn off the phone
	[Attention] Disconnect Battery Connector before next step
	5. Check the LDS Antenna - Crack on LDS Antenna - Change Rear Assy when you find defects
	6. Check Antenna C-clip is damaged. (ANT3000, ANT3004)

6-7-1. Wi-Fi Connection Problem

Image	Description

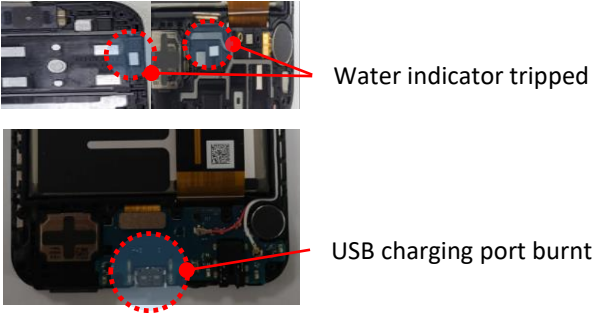
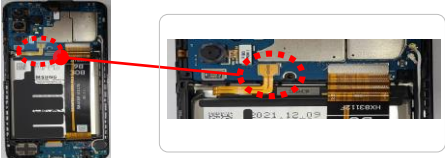
Image	Description
A schematic diagram of a mobile phone circuit board. The Wi-Fi IC (U3003) is highlighted with a red rectangle. Other components labeled include F3004, C3000, L3014, C3007, C3002, L3013, C3003, L3014, C3005, C3006, C3008, C3044, L3004, F3000, C3045, C3009, C3010, C3011, C3012, C3013, C3014, C3015, C3016, C3017, C3018, C3019, C3020, C3021, C3022, C3023, C3024, C3025, C3026, C3027, C3028, C3029, C3030, C3031, C3032, C3033, C3034, C3035, C3036, C3037, C3038, C3039, C3040, C3041, C3042, C3043, C3044, C3045, C3046, C3047, C3048, C3049, C3050, C3051, C3052, C3053, C3054, C3055, C3056, C3057, C3058, C3059, C3060, C3061, C3062, C3063, C3064, C3065, C3066, C3067, C3068, C3069, C3070, C3071, C3072, C3073, C3074, C3075, C3076, C3077, C3078, C3079, C3080, C3081, C3082, C3083, C3084, C3085, C3086, C3087, C3088, C3089, C3090, C3091, C3092, C3093, C3094, C3095, C3096, C3097, C3098, C3099, C3100, C3101, C3102, C3103, C3104, C3105, C3106, C3107, C3108, C3109, C3110, C3111, C3112, C3113, C3114, C3115, C3116, C3117, C3118, C3119, C3120, C3121, C3122, C3123, C3124, C3125, C3126, C3127, C3128, C3129, C3130, C3131, C3132, C3133, C3134, C3135, C3136, C3137, C3138, C3139, C3140, C3141, C3142, C3143, C3144, C3145, C3146, C3147, C3148, C3149, C3150, C3151, C3152, C3153, C3154, C3155, C3156, C3157, C3158, C3159, C3160, C3161, C3162, C3163, C3164, C3165, C3166, C3167, C3168, C3169, C3170, C3171, C3172, C3173, C3174, C3175, C3176, C3177, C3178, C3179, C3180, C3181, C3182, C3183, C3184, C3185, C3186, C3187, C3188, C3189, C3190, C3191, C3192, C3193, C3194, C3195, C3196, C3197, C3198, C3199, C3200, C3201, C3202, C3203, C3204, C3205, C3206, C3207, C3208, C3209, C3210, C3211, C3212, C3213, C3214, C3215, C3216, C3217, C3218, C3219, C3220, C3221, C3222, C3223, C3224, C3225, C3226, C3227, C3228, C3229, C3230, C3231, C3232, C3233, C3234, C3235, C3236, C3237, C3238, C3239, C3240, C3241, C3242, C3243, C3244, C3245, C3246, C3247, C3248, C3249, C3250, C3251, C3252, C3253, C3254, C3255, C3256, C3257, C3258, C3259, C3260, C3261, C3262, C3263, C3264, C3265, C3266, C3267, C3268, C3269, C3270, C3271, C3272, C3273, C3274, C3275, C3276, C3277, C3278, C3279, C3280, C3281, C3282, C3283, C3284, C3285, C3286, C3287, C3288, C3289, C3290, C3291, C3292, C3293, C3294, C3295, C3296, C3297, C3298, C3299, C3300, C3301, C3302, C3303, C3304, C3305, C3306, C3307, C3308, C3309, C3310, C3311, C3312, C3313, C3314, C3315, C3316, C3317, C3318, C3319, C3320, C3321, C3322, C3323, C3324, C3325, C3326, C3327, C3328, C3329, C3330, C3331, C3332, C3333, C3334, C3335, C3336, C3337, C3338, C3339, C3340, C3341, C3342, C3343, C3344, C3345, C3346, C3347, C3348, C3349, C3350, C3351, C3352, C3353, C3354, C3355, C3356, C3357, C3358, C3359, C3360, C3361, C3362, C3363, C3364, C3365, C3366, C3367, C3368, C3369, C3370, C3371, C3372, C3373, C3374, C3375, C3376, C3377, C3378, C3379, C3380, C3381, C3382, C3383, C3384, C3385, C3386, C3387, C3388, C3389, C3390, C3391, C3392, C3393, C3394, C3395, C3396, C3397, C3398, C3399, C3400, C3401, C3402, C3403, C3404, C3405, C3406, C3407, C3408, C3409, C3410, C3411, C3412, C3413, C3414, C3415, C3416, C3417, C3418, C3419, C3420, C3421, C3422, C3423, C3424, C3425, C3426, C3427, C3428, C3429, C3430, C3431, C3432, C3433, C3434, C3435, C3436, C3437, C3438, C3439, C3440, C3441, C3442, C3443, C3444, C3445, C3446, C3447, C3448, C3449, C3450, C3451, C3452, C3453, C3454, C3455, C3456, C3457, C3458, C3459, C3460, C3461, C3462, C3463, C3464, C3465, C3466, C3467, C3468, C3469, C3470, C3471, C3472, C3473, C3474, C3475, C3476, C3477, C3478, C3479, C3480, C3481, C3482, C3483, C3484, C3485, C3486, C3487, C3488, C3489, C3490, C3491, C3492, C3493, C3494, C3495, C3496, C3497, C3498, C3499, C3500, C3501, C3502, C3503, C3504, C3505, C3506, C3507, C3508, C3509, C3510, C3511, C3512, C3513, C3514, C3515, C3516, C3517, C3518, C3519, C3520, C3521, C3522, C3523, C3524, C3525, C3526, C3527, C3528, C3529, C3530, C3531, C3532, C3533, C3534, C3535, C3536, C3537, C3538, C3539, C3540, C3541, C3542, C3543, C3544, C3545, C3546, C3547, C3548, C3549, C3550, C3551, C3552, C3553, C3554, C3555, C3556, C3557, C3558, C3559, C3560, C3561, C3562, C3563, C3564, C3565, C3566, C3567, C3568, C3569, C3570, C3571, C3572, C3573, C3574, C3575, C3576, C3577, C3578, C3579, C3580, C3581, C3582, C3583, C3584, C3585, C3586, C3587, C3588, C3589, C3590, C3591, C3592, C3593, C3594, C3595, C3596, C3597, C3598, C3599, C3600, C3601, C3602, C3603, C3604, C3605, C3606, C3607, C3608, C3609, C3610, C3611, C3612, C3613, C3614, C3615, C3616, C3617, C3618, C3619, C3620, C3621, C3622, C3623, C3624, C3625, C3626, C3627, C3628, C3629, C3630, C3631, C3632, C3633, C3634, C3635, C3636, C3637, C3638, C3639, C3640, C3641, C3642, C3643, C3644, C3645, C3646, C	

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

6-7. Connectivity (GPS)

6-7-2. GPS Problem

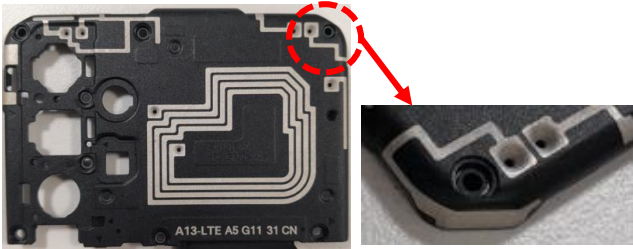
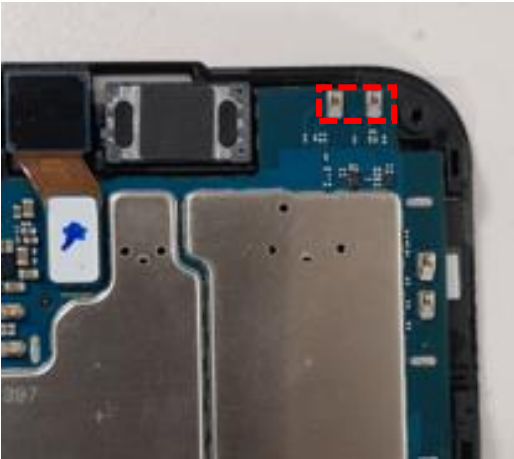
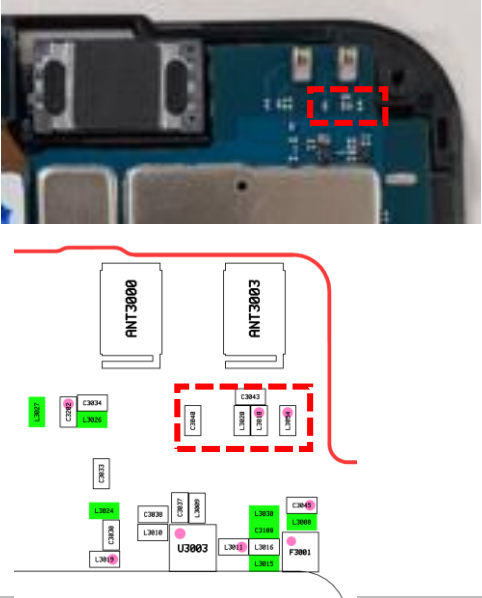
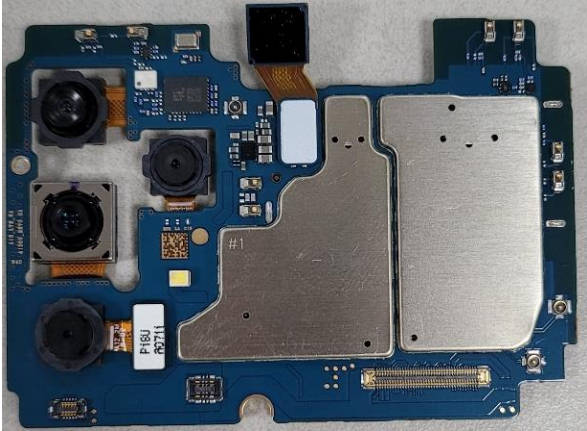
Image	Description
	5. Check the LDS GPS - Crack on LDS pattern - Change Rear ant when you find defects
	6. Check Antenna Clip is damaged. (ANT3000, ANT3003)
	7. Check the Antenna Matching component (C3040, C3043, L3020, L3018, L3054) - Crack - Open - Damaged or broken traces and others

Image	Description

6-7. Connectivity (GPS)

6-7-2. GPS Problem

Image	Description
	11. If the device is not working normally with new component, exchange the Main PBA - Crack - Open - Damaged or broken traces and others

6-7. Connectivity (NFC)

6-7-3. NFC Connection Problem (A137F_EUR only)

1) Symptom

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



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 card mode.

3) Repair Guide

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

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

6-7. Connectivity (NFC)

6-7-3. NFC Connection Problem (A137F_EUR only)

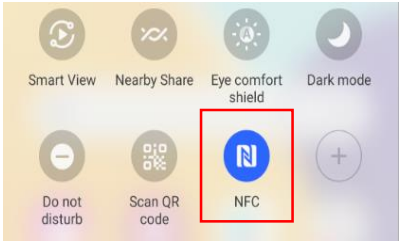
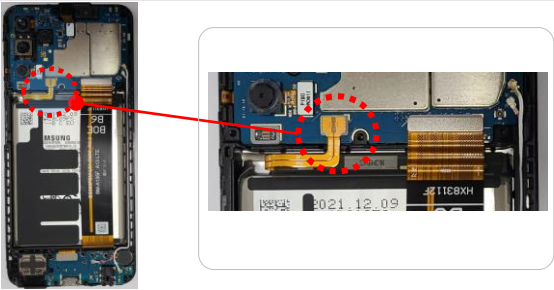
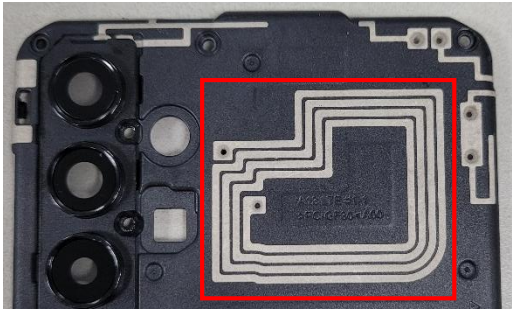
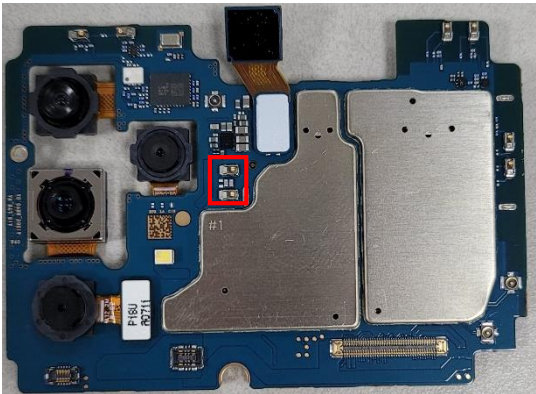
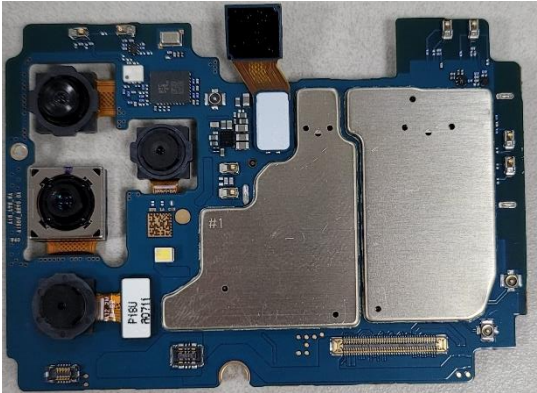
Image	Description
	4. Check NFC Function On - Enable Wi-Fi function - If it is ok, turn off the phone
	[Attention] Disconnect Battery Connector before next step
	5. Check the LDS Antenna - Crack on LDS Antenna - Change Rear ANT when you find defects
	6. Check Antenna C-clip is damaged. (ANT3001, ANT3002) - Change C-Clip when you find defects

Image	Description
	7-1. Check if CLK works normally at 26MHz (NFC_CLK_26M (C3104/Inner Side)) If CLK does not work normally, there is a problem with PMIC (U5004).
	7-2. Check and change Tx/Rx Path components (C3097, C3100, C3096, C3107, C3095, C3102, C3098, C3099, R3010, R3012, L3021, L3022) - Crack - Open - Damaged or broken traces and others - Change components when you find defects
	7-3. Check and change the power shunt cap components (C3084, C3087, C3012, C3013, C3094, C3093, C3086, C3014, C3092) - Crack - Open - Damaged or broken traces and others - Change components when you find defects
	7-4. Check and change the NFC IC(U3008) - Crack - Open - Damaged or broken traces and others - Change NFC IC when you find defects

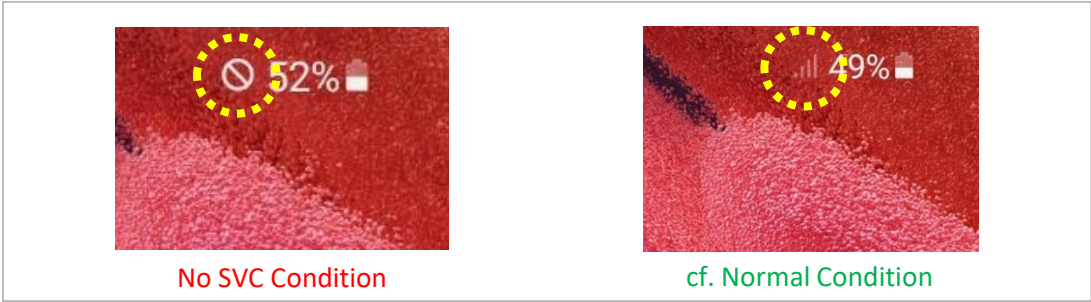
6-7. Connectivity (NFC)

6-7-3. NFC Connection Problem (A137F_EUR only)

Image	Description
	8. If the device is not working normally with new component, exchange the Main PBA - Crack - Open - Damaged or broken traces and others

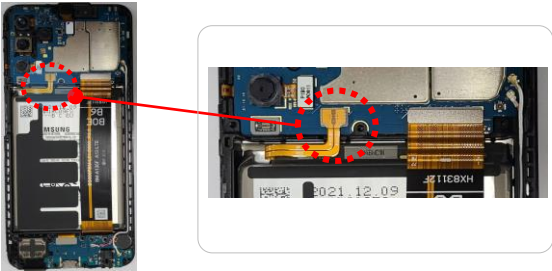
6-8-1. NO SVC

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

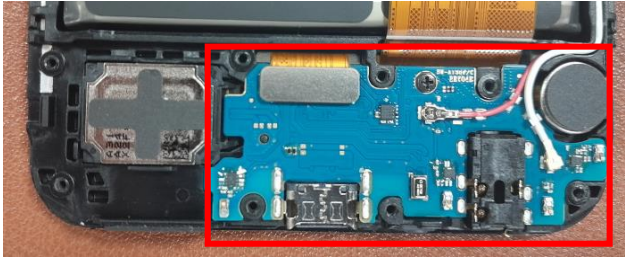
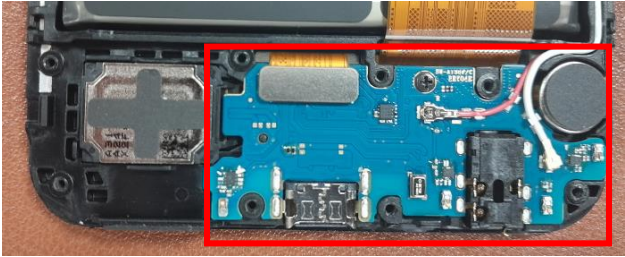


- 2) Defect Decision Conditions
- The phone continues to show this prohibition mark after rebooting or turning on and off airplane mode.
- Other phones around the phone maintain the normal condition.

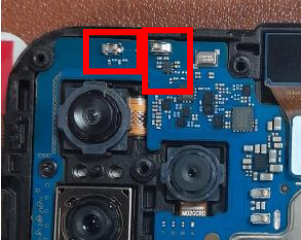
- 3) Repair Guide
- **Caution : Disconnect battery connector first when it shows.**

Image	Description
 [Disassemble Jig]	1. Disassemble the device. - Refer to 'Disassembly and assembly video guide for Galaxy A13' from the GSPN.
	[Attention] 2. Disconnect Battery Connector at first. (SOC5000)
	3. Check Antenna Coaxial cable are OK. Also, check cable condition. - Broken traces and others. - Little particles or dust which can disturb connections.

6-8-1. NO SVC

Image	Description
	4. Check Antenna Coaxial cable and FPCB connector are OK. -Disassemble SUB PBA and check bottom surface. Also, check cable and FPCB condition. - Broken traces and others. - Little particles or dust which can disturb connections.
	5-1. Exchange the Coaxial cable with new one and check the device is working normally.
	5-2. If not, exchange the SUB PBA with new one and check the device.

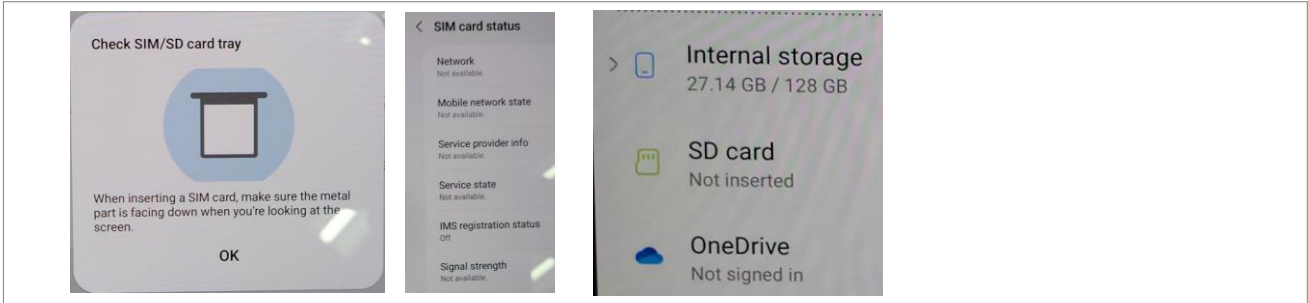
6-8-1. NO SVC

Image	Description
	6. Check Antenna Clip is damaged. (ANT2001, 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.
 [Disassemble Jig]	2. Disassemble the device. - Refer to ' Disassembly and assembly video guide for Galaxy A13 ' from the GSPN.
	[Attention] 3. Disconnect Battery Connector at first. (SOC5000)

Image	Description
A schematic diagram of the SIM/SD socket area. It shows various components including SIM001, SOC7001, SOC7002, SOC7003, U4000, and U2000. A red dashed box highlights the SIM/SD socket area.	4. Check the SIM/SD Socket for cracks or damage. If you see cracks or damage, replace the SIM/SD Sockets.

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