CROSSCALL

CORE-X5

Disassembly – Assembly guide

Version 4.2

INTRODUCTION

Crosscall was founded more than 10 years ago on a commitment: to manufacture durable mobile phones, even under the most difficult conditions of use.
It is thanks to its years of experience and the special attention of its teams to design, industrialization and quality control that Crosscall offers its users a **5-year manufacturer's warranty** and spare parts available for 10 years. on all products from the new CORE range, which is exceptional in the world of telephony.

This document is a disassembly and reassembly guide for the **Crosscall STELLAR-M6** smartphone.

It also explains what operations must be carried out when changing a part.

It is organized as follows:
- **Warnings and precautions to be taken before disassembling the device.**
- **Necessary equipment: List of essential tools for the disassembly/reassembly of the parts**
- **Change of parts:**

  Structured as follows for each main room:
  - Disassembly of the part.
  - Exchange of the part: concerns the preparation of the new part.
  - Reassembly of the part.

WARNINGS

Beyond the impact on the warranty (see box below), opening the device and replacing parts can have an impact on the water resistance, resistance and autonomy of your product. , if this is not carried out in a center approved by CROSSCALL.

Before having a repair carried out, check whether or not it is guaranteed by referring to the general after-sales service conditions on our website and read the elements below.

WARRANTY IMPACT

Any modification or change made to your device outside of an authorized CROSSCALL repair center will void the warranty. If your device needs to be repaired, we advise you to entrust it to the CROSSCALL after-sales service
(contact available on our website https://crosscall.com/sav/).

WATERPROOFING

Please note that telephones repaired outside an approved CROSSCALL center are no longer watertight.

BATTERY

The dangers of handling batteries.

To ensure your safety, CROSSCALL batteries and devices are tested according to international standards. The design of our devices also contributes to your safety: the battery is confined in a metal frame.

The battery is a part that can present risks for the person carrying out the repair if the latter does not have the required qualifications. Failure to remove the battery correctly may damage the device and cause personal injury.

A lithium battery is characterized by its **high energy density**. Before handling a battery, you should be aware of the following risks (non-exhaustive list).

The main risk is related to **poor handling** (shocks, blows, deterioration) which can pose a **significant security risk.**

Mechanical damage can lead to deformation of the cells inside the battery and cause internal shorts and **battery runaway**. The lithium battery then releases the energy it has stored in an uncontrolled manner.

Thermal runaway, with temperatures above 250°C, will lead to a strong generation of flammable gases inside the battery concerned and these gases will trigger the explosion of the battery casing. The metals then merge and burn.

The fumes given off are **toxic** and **highly corrosive**.

Contact with moisture can also cause short circuit.

Safety instructions

- Switch off the device before any intervention.
- Do not turn it back on before complete reassembly.
- Turn off the device before removing the battery. If you remove the battery while the device is on, the device may malfunction.
- Do not disassemble or puncture the battery, as this may cause an explosion or fire.
- Do not cause a short circuit.
- Do not reuse the battery if you have any doubts about its integrity following dismantling.
- Recycle the battery according to the standards in force.
- Do not throw it into fire

Please observe the waste disposal rules when disposing of the packaging, battery, device and its electronic parts. Drop them off at a collection point so that they can be properly recycled. Do not dispose of used electrical and electronic devices or batteries in an ordinary trash can. Please deposit the used lithium batteries in a place designed for this purpose.

ELECTROSTATIC DISCHARGES, WORKING ENVIRONMENT

During the disassembly / reassembly operation, it is advisable to wear an antistatic bracelet connected to the ground. If this is not possible, it is essential to wash your hands and discharge yourself of any static electricity build-up by touching a grounded metal object (ex. radiator) before proceeding with the disassembly / reassembly of the device.

Electrostatic discharge can permanently damage the electronics of the device.

Any work on the device must be carried out in a bright, clean and dust-free environment. The latter can deposit on parts related to photography and video and distort the focus. Metallic dust can also cause short circuits.

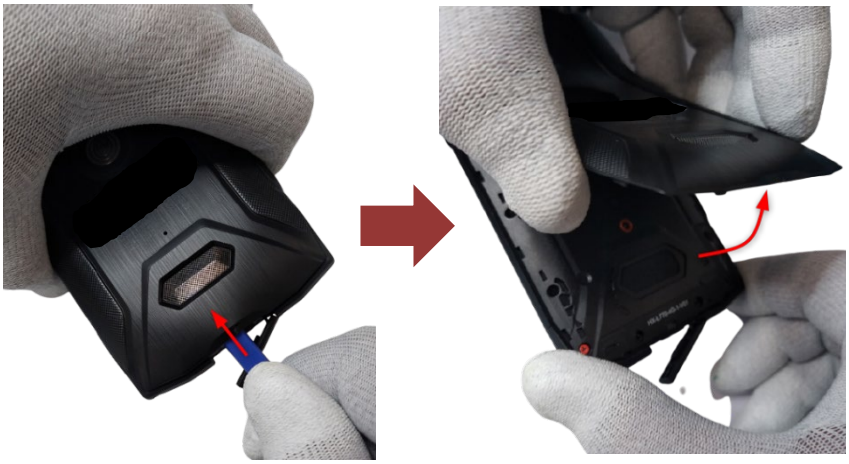
REQUIRED EQUIPMENT

Description	Picture	Description	Picture
ESD equipment		LOCTUO RTV165 silicone syringe	
Antistatic tools for dismantling: nylon pointer, pick, etc.		SIM extractor	
Antistatic tweezers		Glue applicator gun	
Cutter		Tape screen protector	
Philips screwdriver PH00		Isopropylic alcohol	
Torque screwdriver PH00		Rag	

DISASSEMBLY, ASSEMBLY AND EXCHANGE OF PARTS

Back cover

Back cover disassembly

	Remove the protective cover from the USB connector
	Insert the plastic tool between the cover and the rear cosmetic, then lift off the cover.
	The rear cover can be removed

Reassembling the rear cover

	Position the rear cover on the rear cosmetic.
	Press around the edge of the cover to clip it into place.
	Press the entire back cover to press the adhesive between the cosmetics.

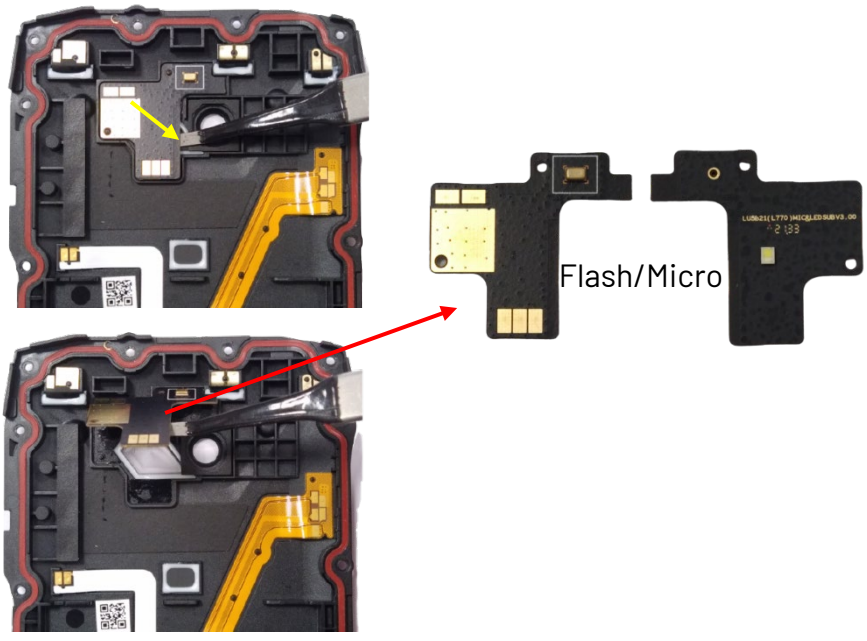
Battery cover

Removing the battery cover

	Extract the SIM drawer by inserting the extractor into the drawer hole.

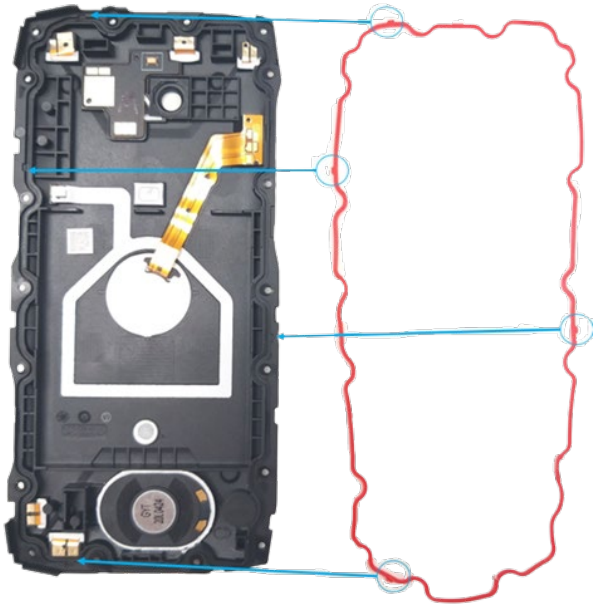
  **M1.5x5F** (X18)	Unscrew the 18 M1.5x5F screws circled in red.
	The rear cover can then be removed.

Changing the back cover

	Remove the flash/micro daughter card by inserting the pre-clip under the card, on the side indicated by the yellow arrow.

	On the new part, peel off the adhesive protectors and stick the daughter board in its place.

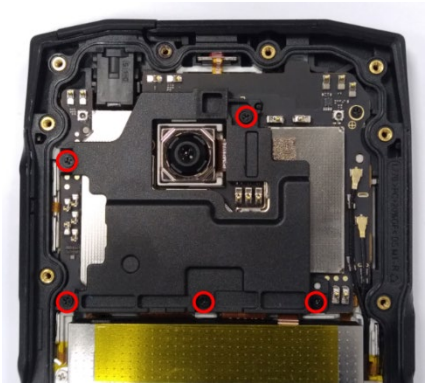
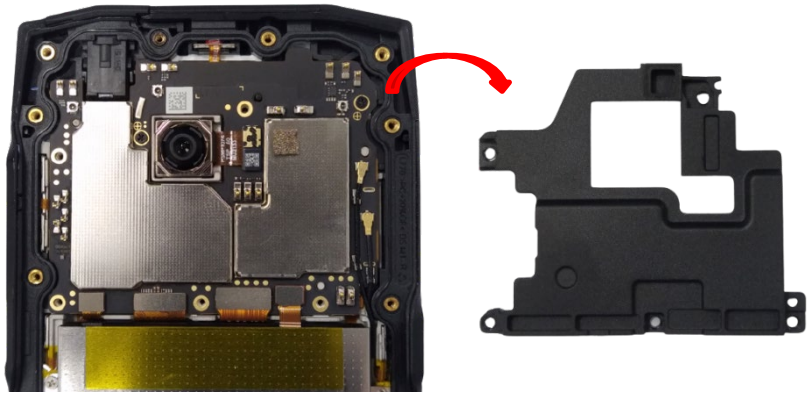
Reassembling the back cover

	First place the marks to make it easier to fit the joint.
 **M1.5x5F** (X18) 	Screw in the 18 M1.5x5F screws. Observe the screwing order shown in the illustration opposite.

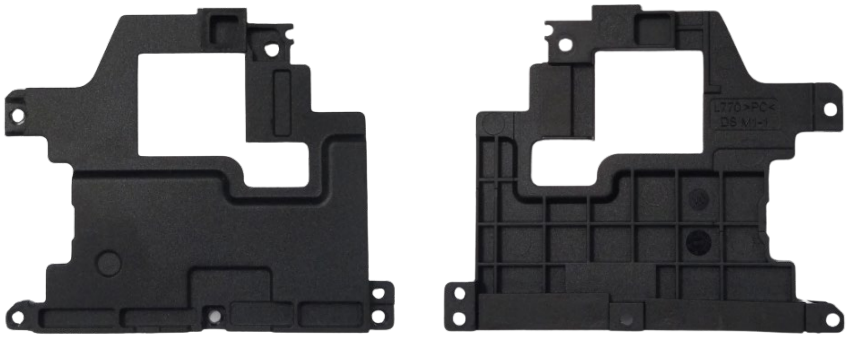
	Replace the SIM drawer.

Motherboard support

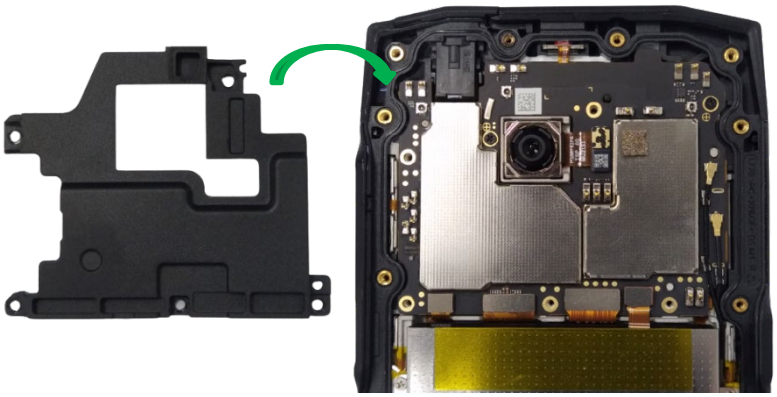
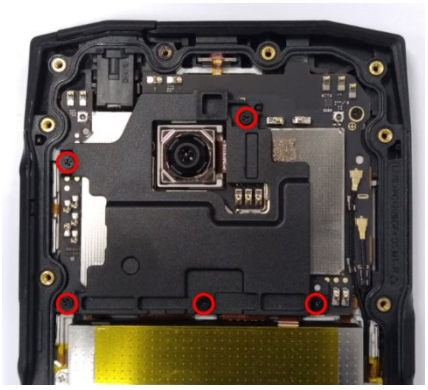
Removing the motherboard support

  **M1.4x4F** (X5)	Unscrew the 5 M1.4x4F screws circled in red.
	The motherboard support can now be removed.

Changing the motherboard support

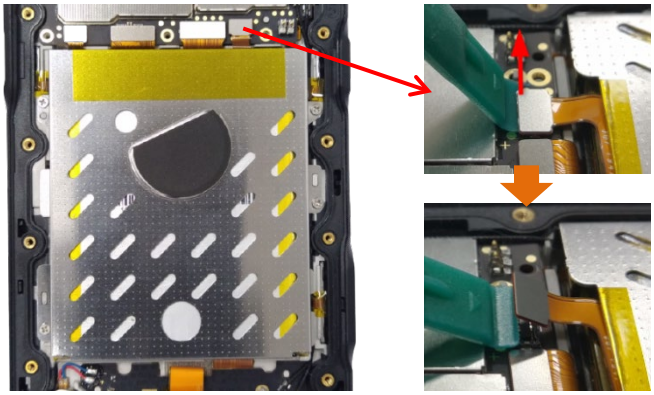
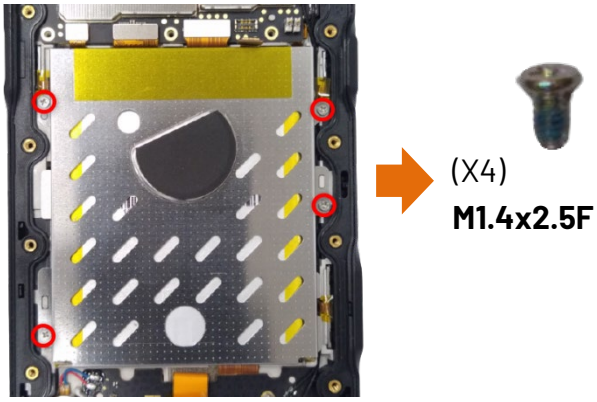
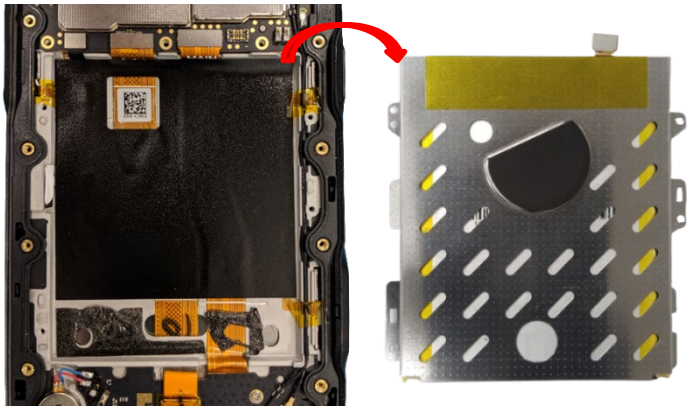
	No specific action

Reassembling the motherboard support

	Place the bracket on the motherboard.
 **M1.4x4F** (X5) 	Screw in the 5 M1.4x4F screws. No specific torque required, just tighten until the screws lock.

Battery

Disassembling the battery

	Unplug the battery connector by lifting it using a dismantling tool.
	Unscrew the 4 M1.4x2.5F screws circled in red.
	The battery can now be removed.

Changing the battery

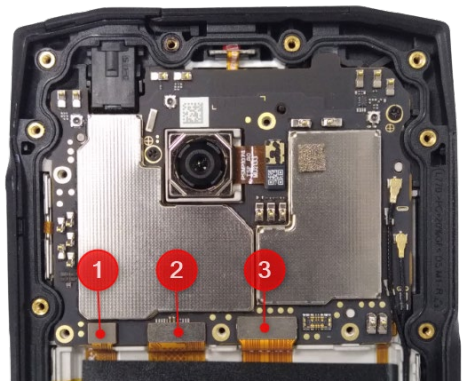
Battery = Battery cell + Shielding + Adhesive 	The shielding and adhesive can be peeled off and reused on a new battery cell.

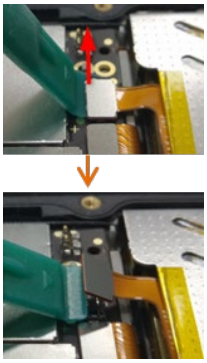
Reassembling the battery

 (x4) **M1.4x2.5F** 	Before positioning the new battery, check that the location is perfectly clean and smooth (no folds in the adhesive, no foreign objects such as screws). Place the battery in its slot and tighten the 4 M1.4x2.5 screws.
	Connect the battery connector.

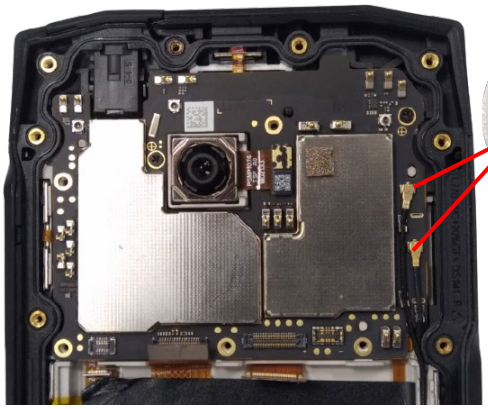
Mainboard

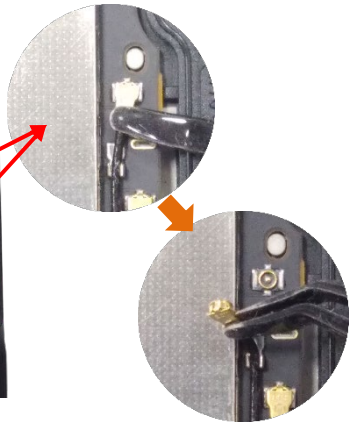
Disassembling the mainboard



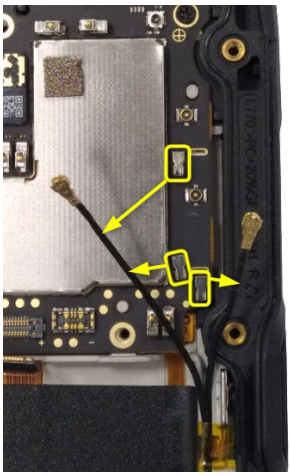


Unplug the 3 flex connectors using an antistatic tool.
1- Side buttons
2- LCD + Touch
3- USB main flex

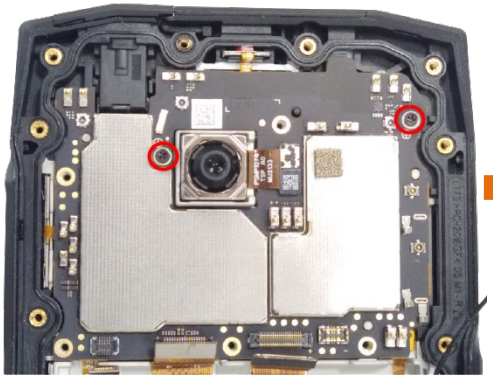
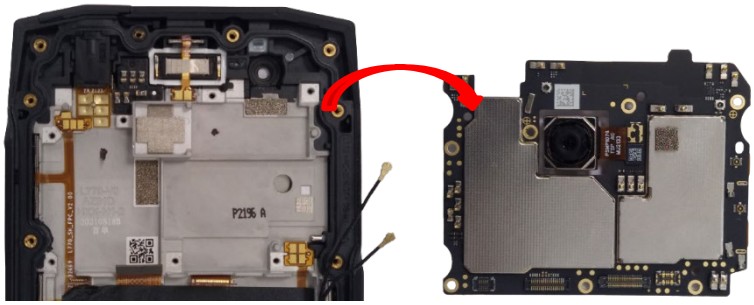




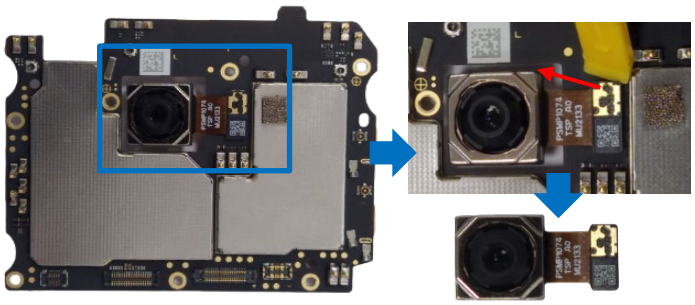
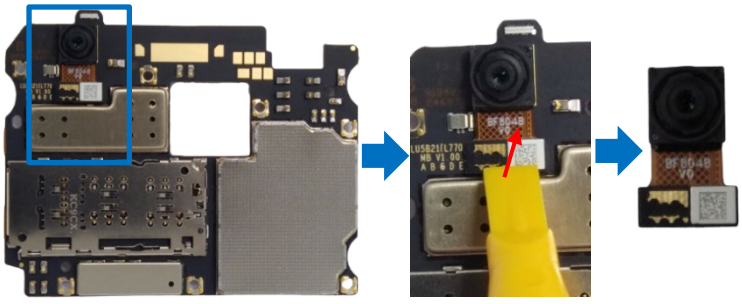
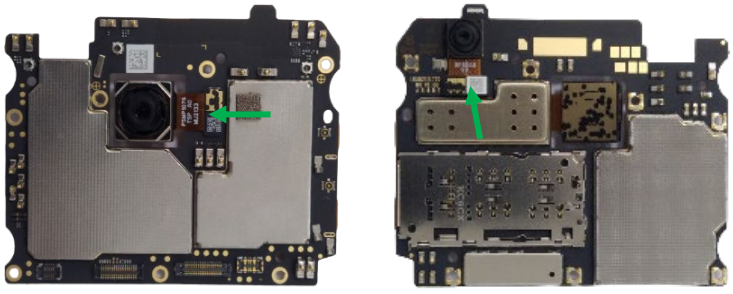
Disconnect the 2 coaxial cables using flat-nose pliers.



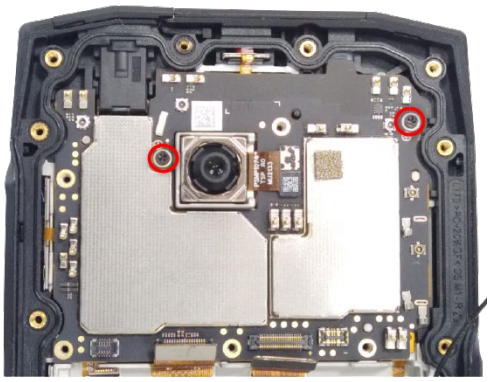
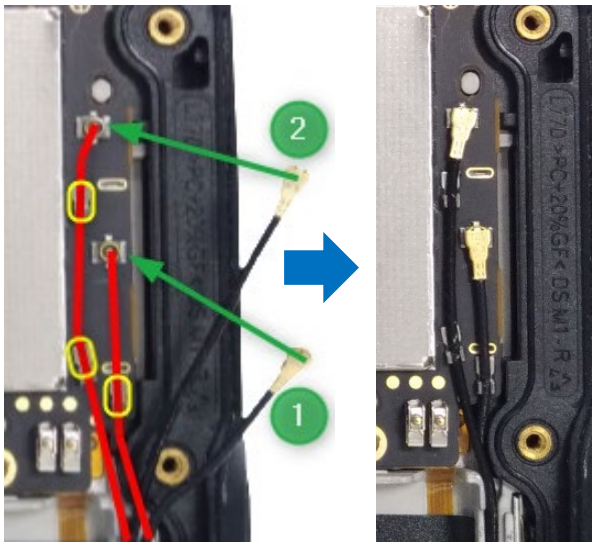
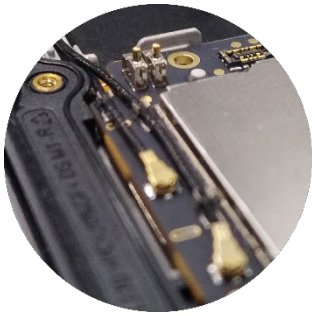
Remove the 2 cables from their guides, 2 for the longer and 1 for the shorter.
Use the flat-nose pliers to extract them.

	Unscrew the 2 M1.4x4F screws circled in red.
	The motherboard can now be removed.

Changing the mainboard

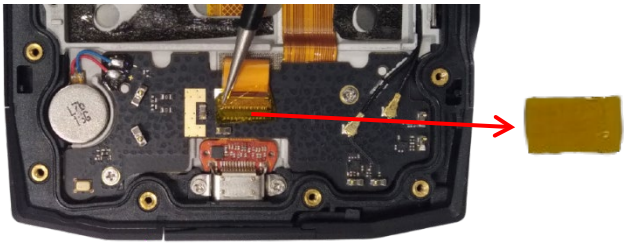
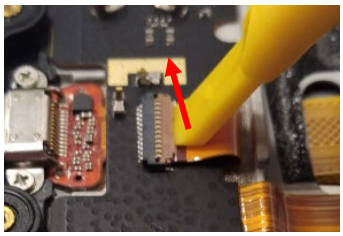
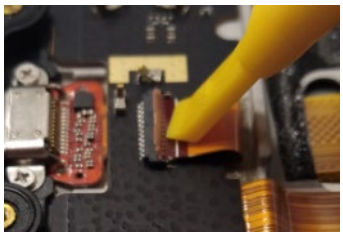
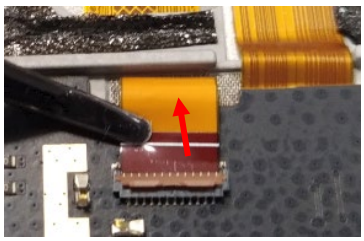
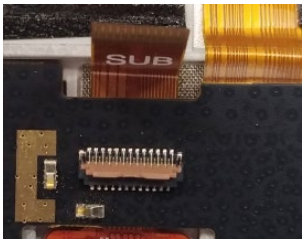
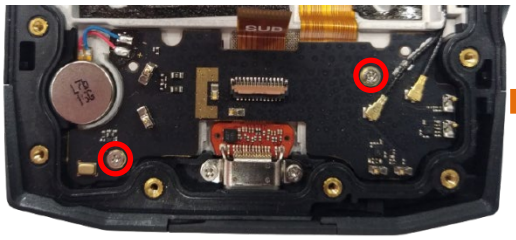
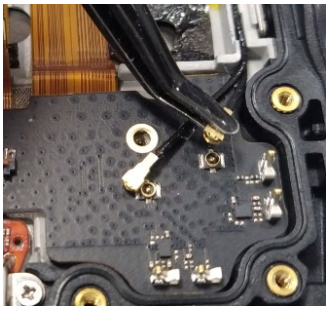
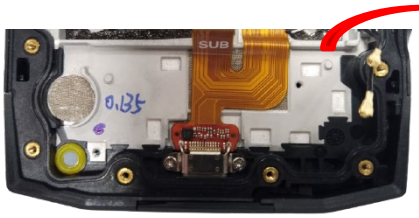
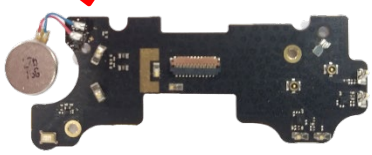
	Remove the rear camera from the old motherboard using an antistatic tool.
	Also remove the front camera using the same tool.
	Connect the 2 cameras to the new motherboard.

Reassembling the mainboard

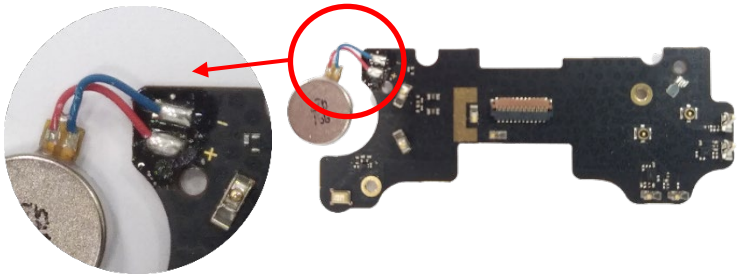
(x2) **M1.4x4.0** 	Insert the motherboard into its slot and screw in the 2 M1.4x4F screws circled in red.
	Connect the 3 flexes marked with a green arrow.
 	Replace and connect the coaxial cables. Insert them into their guides, starting with the shortest (1) which is below the longer cable (2). The photo on the left shows the position of the cables in red and the 3 guides in yellow..

Main daughter card

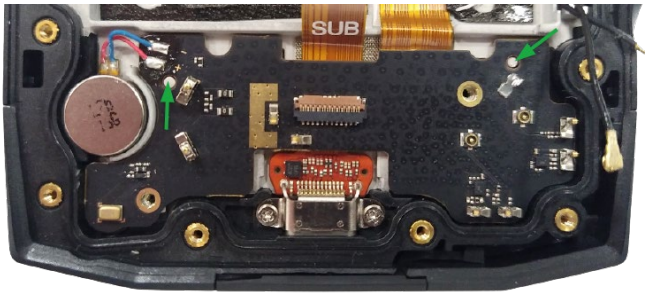
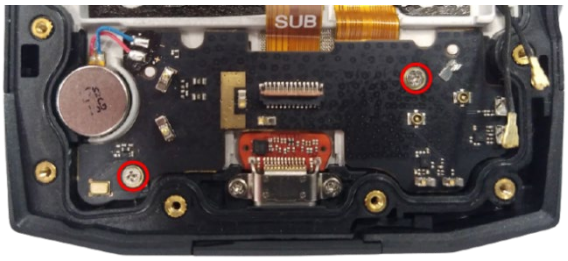
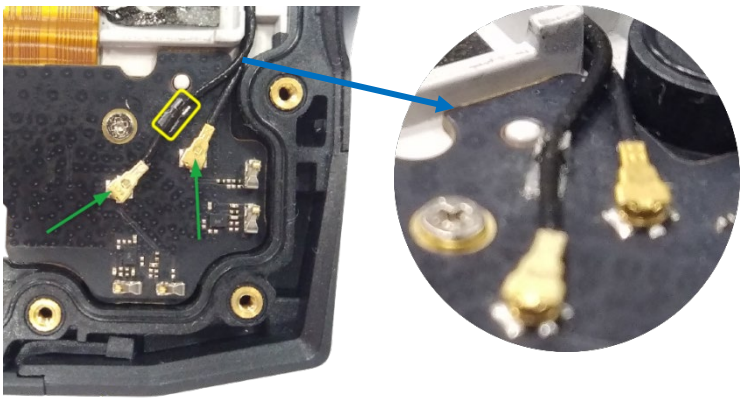
Disassembling the main daughter card

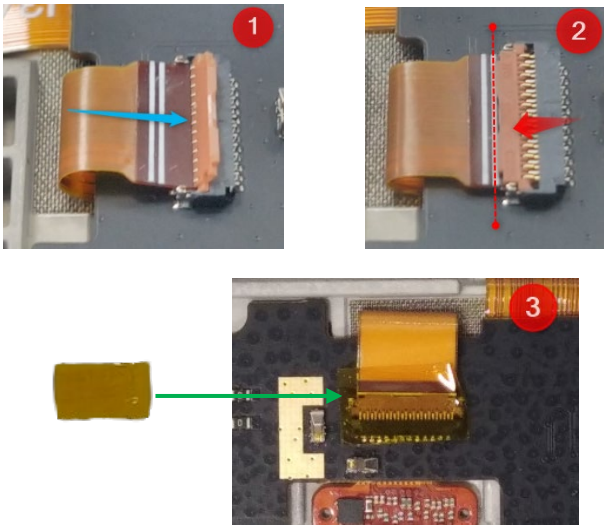
	Remove the insulation from the flex connector on the daughterboard.
 	Release the flex by lifting the brown plastic lock.
 	Extract the flex from the connector using the tweezers.
 (x2) **M1.4x3.0**	Unscrew the 2 M1.4x3 screws holding the daughterboard in place.
 	Remove the vibrator by inserting a flat pair of tweezers from underneath and disconnect the 2 coaxial cables.
 	The daughter board can be removed.

Changing the main daughter board

	Recover the vibrator from the old daughterboard or use a new vibrator if necessary. Reattach it to the new card, making sure the polarity is correct (red +, blue -).

Riassembling the main daughter board

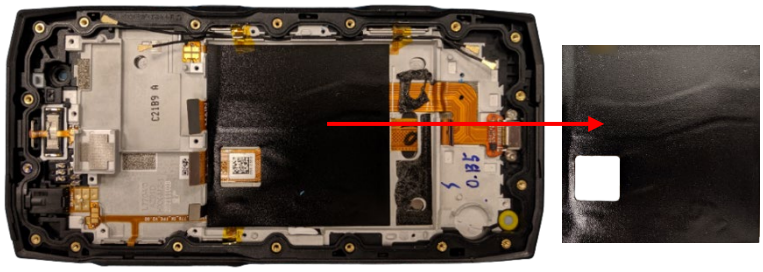
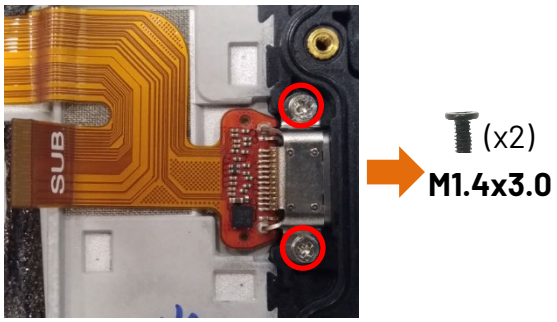
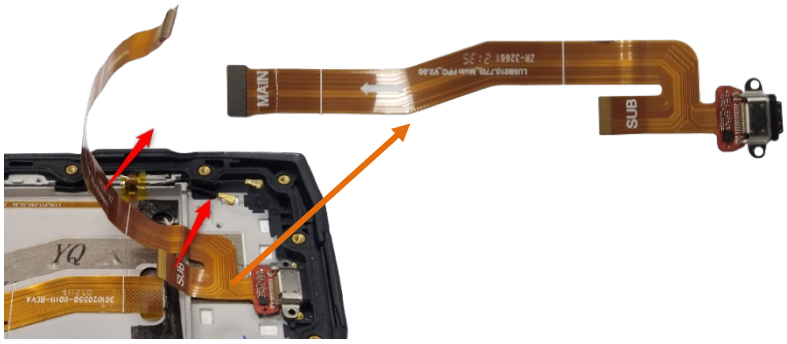
	Place the daughterboard and vibrator in their respective slots, aligning the 2 guide studs (marked with a green arrow) with the holes on the daughterboard.
(x2) **M1.4x3.0** 	Screw in the 2 M1.4.3.0F screws.
	Connect the 2 coaxial connectors, placing the shorter of the two under the longer one. Insert the latter into its guide, marked in yellow.



1> Insert the main flex into the connector, the second white line (dotted line in fig. 2) must be flush with the closed connector.
2> Fold back the brown plastic lock to secure the flex.
3> Glue the insulator to the connector.

Main USB Flex

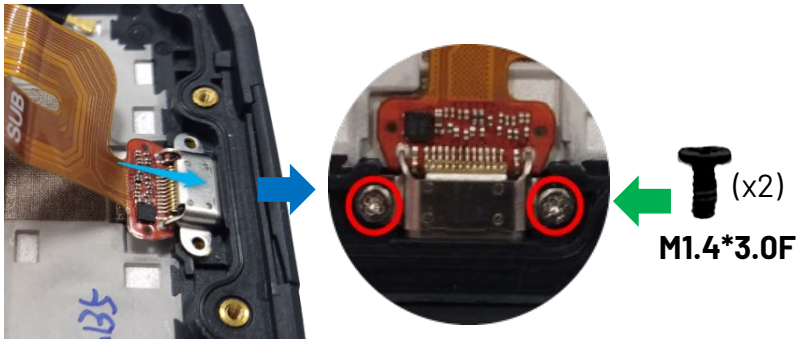
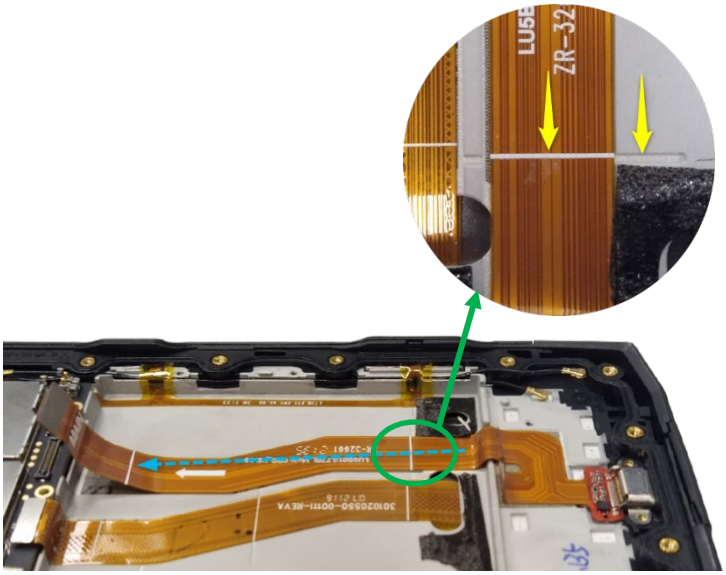
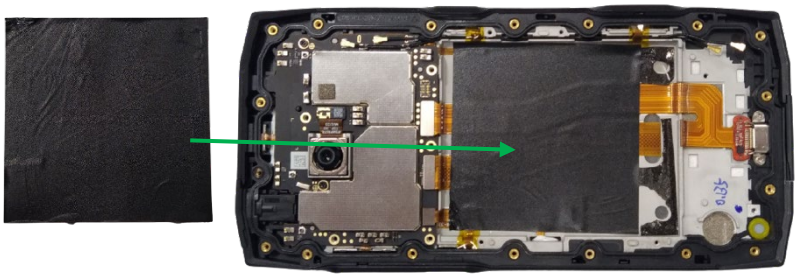
Disassembling the flex

	Remove the black adhesive covering the flexes.
	Unscrew the 2 M1.4x3.0F screws from the USB connector.
	Carefully pull the flex off the connector.
	Continue to peel it off by pulling gently along its entire length. The flex can now be removed completely.

Changing the flex

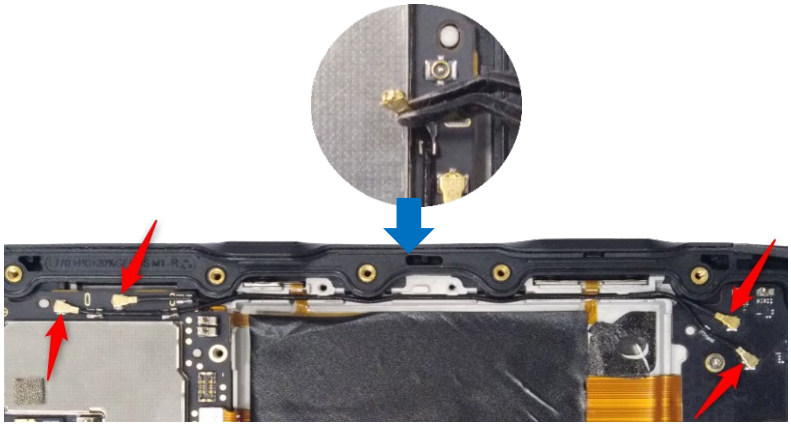
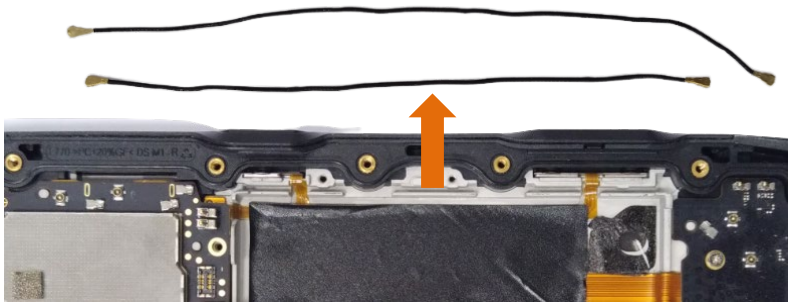
	No specific action.

Riassembling the flex

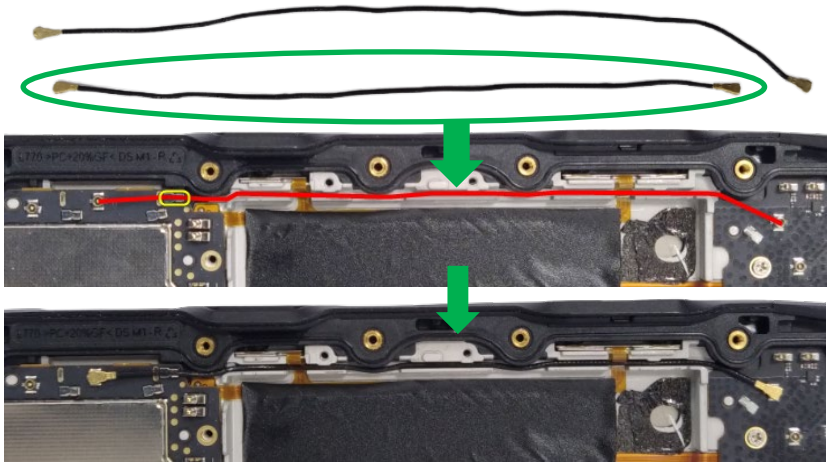
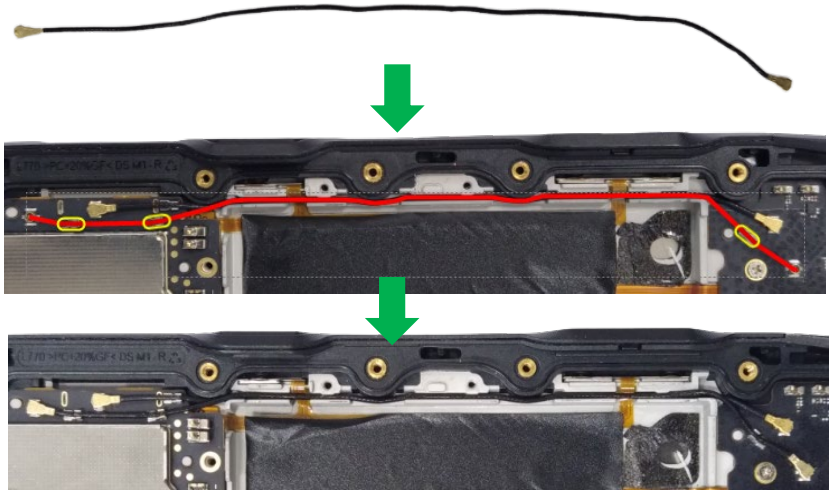
	Insert the USB connector into its slot and then screw in the 2 M1.4x3.0F Phillips head screws circled in red.
	Then glue the flex back together along its entire length. It must be fitted precisely so that there is no stress when the connectors are plugged in. Position the flex from the USB connector towards the motherboard connector (blue dotted arrow). Align the white marker on the flex with the marker on the cosmetic (yellow arrows).
	Re-adhere the black adhesive to the flexes.

Coaxial cables

Disassembling the cables

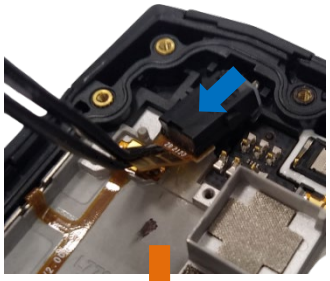
	Remove the 2 insulating tapes.
	Unplug the 4 connectors on the motherboard and daughterboard using a pair of tweezers.
	Remove the 2 cables from their housings, starting with the longer of the 2. Change the cables.

Reassembling the cables

	First insert and connect the shorter cable along the red line, in the side trunking and in the guide shown in yellow.
	Then lay the second, longer cable on top of the first. Insert it along the red line into the same trunking and through the 3 guides in yellow.
	Stick the 2 insulating tapes to hold the cables in place.

Audio Jack

Disassembling the connector

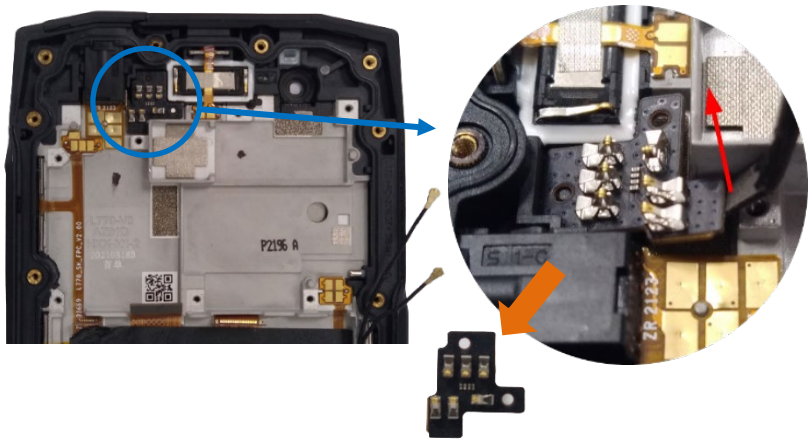
  	Lift the connector contacts with pliers and pull back to release the module. Change the connector.

Reassembling the connector

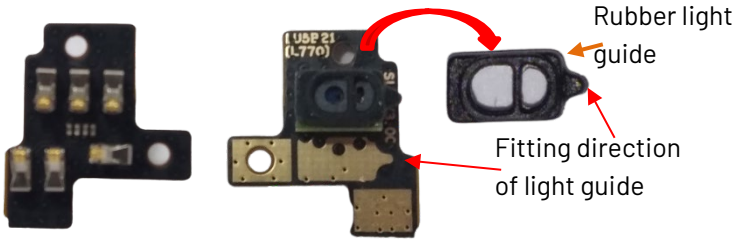
 	Insert the jack connector in the direction indicated by the green arrow. Press the connector and contacts together. Check that the pin is aligned with the hole in the flex (blue arrow).

Proximity sensor daughter board

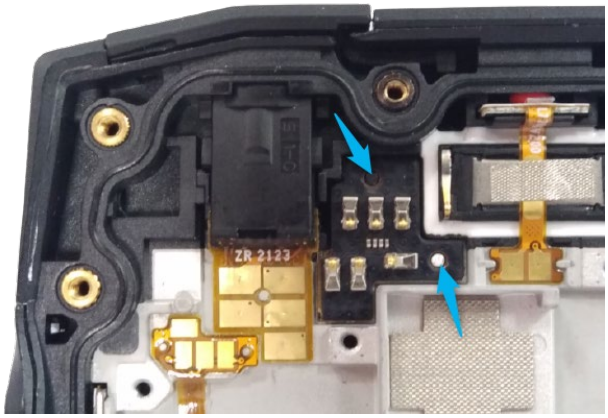
Disassembling the sensor

	Lift the sensor card by inserting a pair of pliers, as shown opposite by the red arrow. Remove the card.

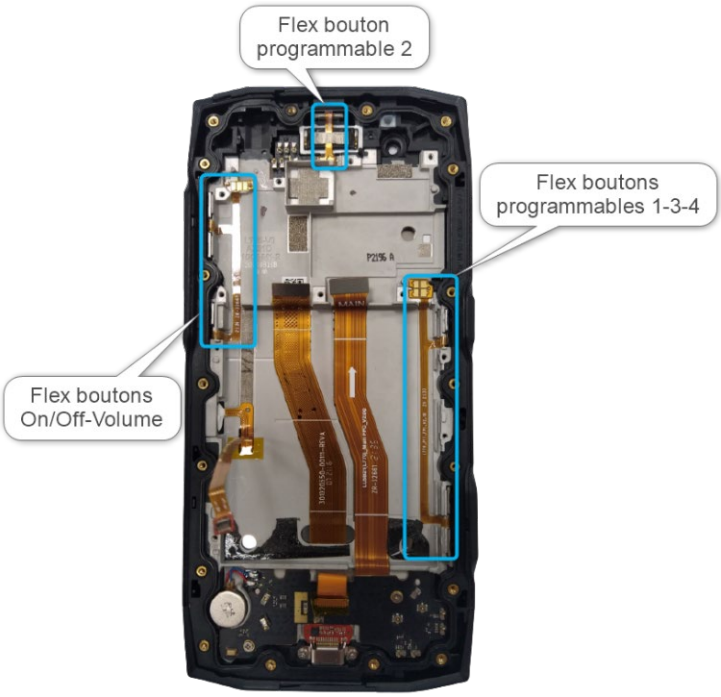
Changing the sensor

	Retrieve the rubber light guide from the old board component and replace it in the direction indicated by the gold mark as shown in the photo.

Reassembling the proximity sensor daughter board

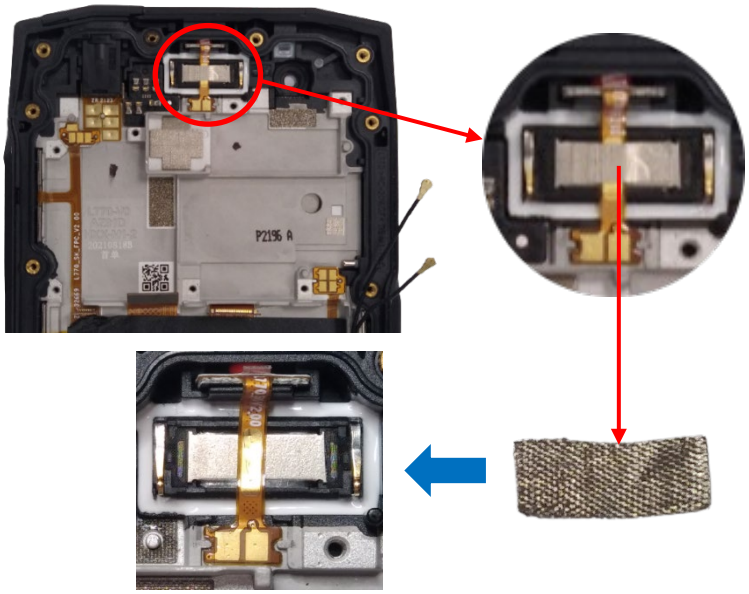
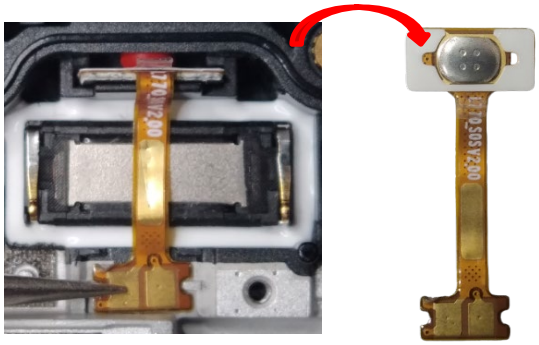
	Check that the rubber light guide is in place, then replace the card in its slot. It is held in place by double-sided adhesive tape. Check that the 2 guide studs coincide with the holes on the card (blue arrows).

Flex side buttons



Flex button 2

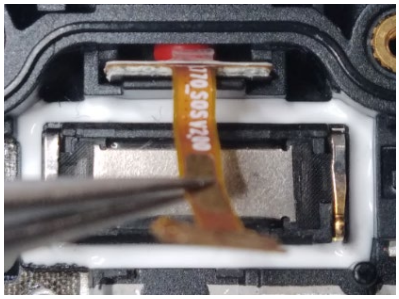
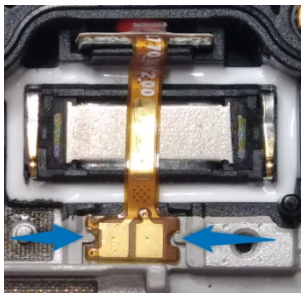
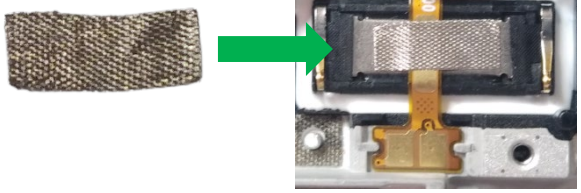
Removing the programmable flex button 2

	Remove the conductive adhesive using the tweezers.
	Peel off the flex and extract the knob.

Replacing the programmable flex button 2

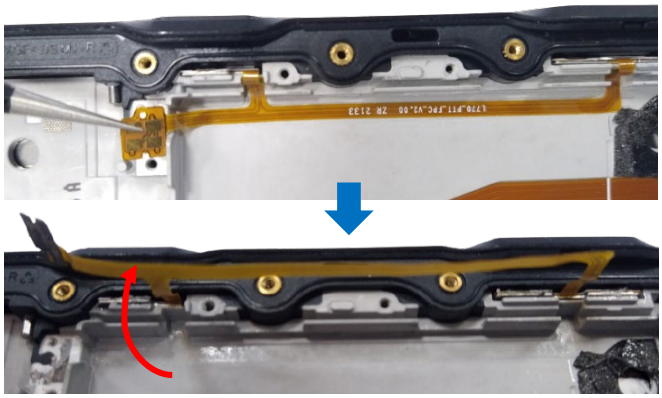
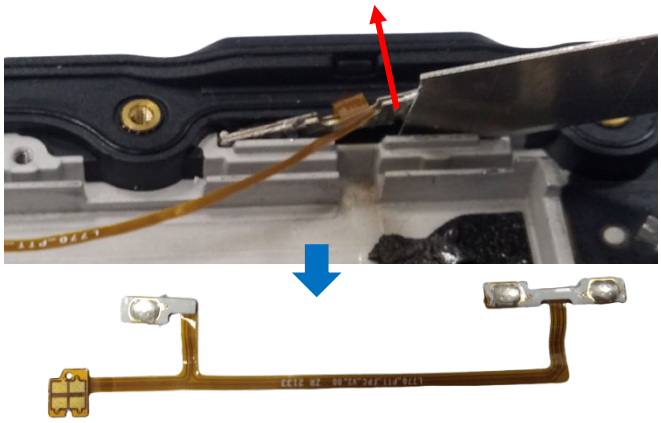
	No specific action is required when changing this part.

Remontage du flex bouton programmable 2

 	Insert the button into its housing and stick the flex onto the earpiece. Check that the 2 lugs on the cosmetic match the notches on the flex (blue arrows).
	Stick the conductive adhesive to the flex and the earpiece.

Flex programmable buttons 1.3.4

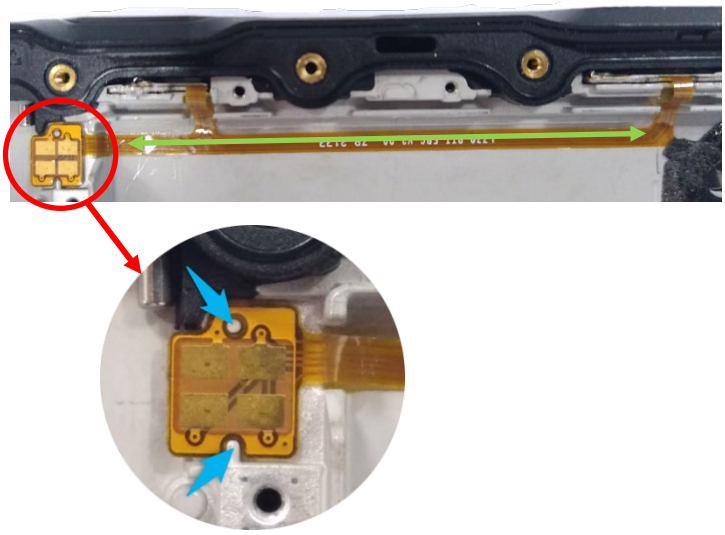
Removing the Flex programmable buttons 1.3.4

	Use the pliers to remove the flex along its entire length.
	Remove the buttons using a cutter and extract the flex.

Replacing the flex programmable buttons 1.3.4

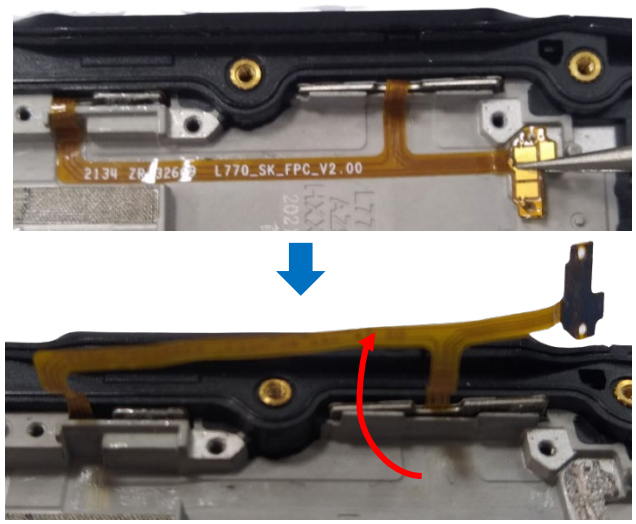
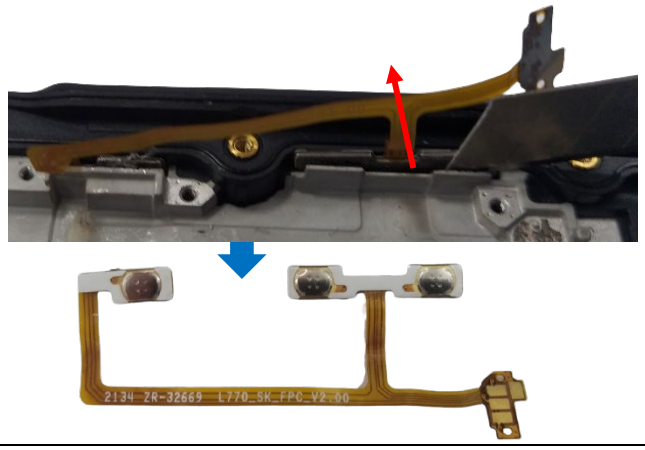
	Peel off the protective films from the adhesives.

Reassembling the flex programmable buttons 1.3.4

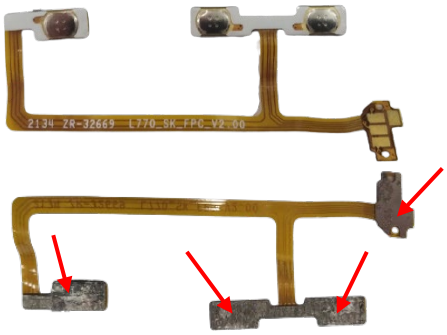
	Insert the 3 buttons into their housings
	Glue the contacts to the flex, making the 2 guide studs on the cosmetic coincide with the holes in the flex (blue arrows). Then glue the flex along its entire length (green arrow).

Flex On/Off-Volume buttons

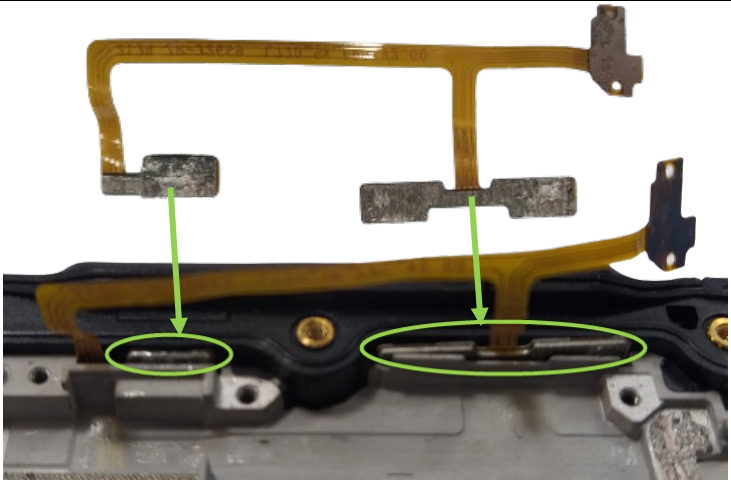
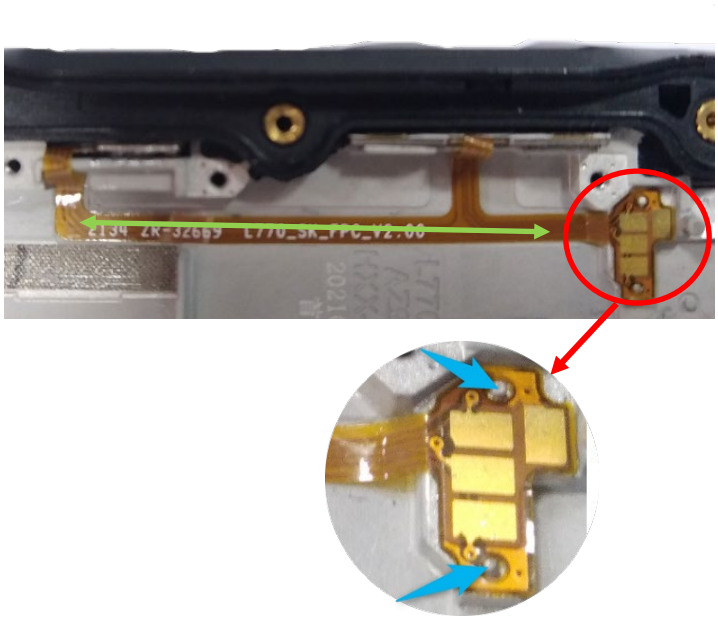
Removing the Flex On/Off-Volume buttons

	Use the pliers to remove the flex along its entire length.
	Remove the buttons using a cutter and extract the flex.

Replacing the flex On/Off-Volume buttons

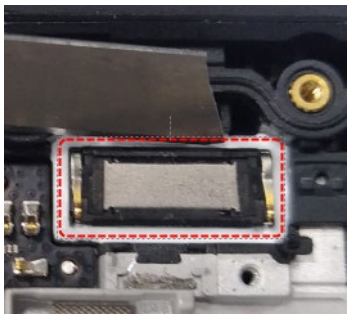
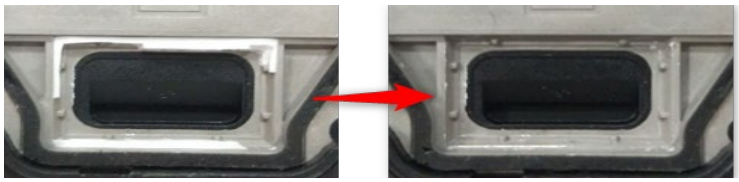
	Peel off the protective films from the adhesives.

Remounting the flex On/Off-Volume buttons

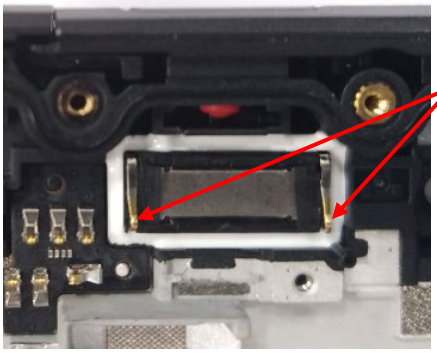
	Insert the 3 buttons into their housings
	Glue the contacts to the flex, making the 2 guide studs on the cosmetic coincide with the holes in the flex (blue arrows). Then glue the flex along its entire length (green arrow).

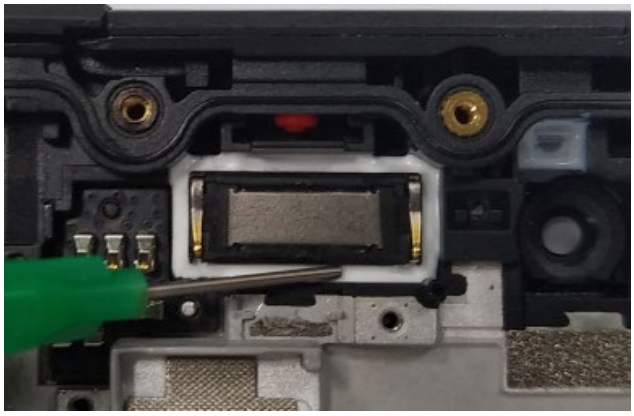
Microphone

Removing the microphone

	Cut the silicone seal around the microphone with a cutter.
	Use the flat-nose pliers to remove the earpiece. **Be careful not to damage the membrane on the cosmetic during this operation.**
	Clean the remaining silicone seal.

Replacing the microphone

 Contacts face downwards	Place the earphone in its compartment, in the direction shown in the photo or on the symbol engraved on the cosmetic (in green), with the contacts facing downwards.

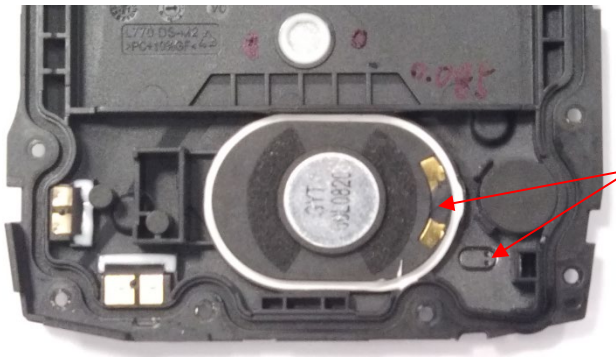
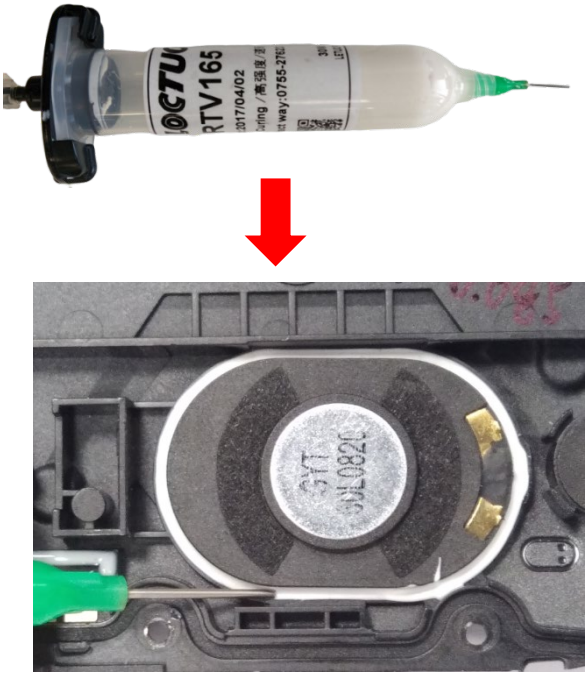
  	Apply LOCTUO RTV165 silicone sealant (recommended product - not sold by CROSSCALL) around the earpiece and allow to dry for a few minutes before reassembling the product.

Speaker

Removing the speaker

	Cut the silicone seal around the loudspeaker with a cutter.
	Use the flat-nose pliers to remove the speaker. Be careful not to damage the membrane on the cosmetics during this operation.

Reassembling the loudspeaker

 Orientation du haut-parleur	Place the speaker in its compartment, in the direction shown in the photo. The contacts should face to the right as indicated by the indicator on the cosmetic.
	Apply LOCTUO RTV165 silicone sealant (recommended product - not sold by CROSSCALL) around the speaker, leave to dry for a few minutes before reassembling the daughterboard.

INFORMATION FOR RECYCLERS

MATÉRIAL / SUBSTANCE	CAS-NUMBER	WEIGHT (G)	% IN THE PRODUCT	COMPONENTS	% IN THE COMPONENT
ALUMINIUM	7429-90-5	45,59	**18%**	Chassis	86%
				Battery	6%
				Camera decoration	83%
				Speaker	14%
				SIM slot	32%
				Customisable buttons	100%
SILVER	7440-22-4	0,14	**0,1%**	Screen	<1%
				Motherboard	<1%
				Battery	<1%
COBALT	7440-48-4	16,30	**7%**	Battery	40%
COPPER	7440-50-8	17,77	**7%**	Motherboard	49%
				Daughterboard	57%
				Chassis	2%
				Speaker	4%
				SIM drawer	14%
DYSPROSIUM	7429-91-6	0,0015	**0,0006%**	Vibrator	<1%
TAIN	7440-31-5	1,40	**0,6%**	Motherboard	10%
IRON	7439-89-6	13,75	**6%**	Screen	12%
				Speaker	56%
				Screws	79%
				Vibrator	52%
				USB-C	61%
INDIUM	7440-74-6	0,000030	**0,00001%**	Screen	<1%
				Cameras	<1%
				Motherboard	<1%
LITHIUM	12190-79-3 21324-40-3 12031-63-9 12031-66-2	1,96	**0,8%**	Battery	3%
MAGNESIUM	7439-95-4	0,35	**0,1%**	Screen	<1%
NEODYME	7440-00-8	0,48	**0,2%**	Speaker	7%
				Vibrator	1%
				Magnet	25%
NICKEL	7440-02-0	2,98	**1%**	Screen	1%
				Battery	0,5%

				Speaker	2%
GOLD	7440-50-5 13967-50-5	0,021	**0,009%**	Motherboard	<1%
				Battery	<1%
				Speaker	<1%
				Cameras	<1%
				USB-C	<1%
PALLADIUM	7440-05-3	0,0026	**0,001%**	USB-C	<1%
PET	25038-59-9	6,28	**3%**	Screen	12%
PLATINE	7440-06-4	0,000050	**0,00002%**	FPC	<1%
POLYAMIDE	25038-54-4	3,93	**2%**	PCB cover Battery	5%
POLYCARBONATE	24936-68-3	29,83	**12%**	Back cover	100%
				PCB Protection	100%
				Battery protection	100%
				Sidebar	100%
				Buttons	60%
POLYMERE	/	29,05	**12%**	Screen	14%
				Motherboard	14%
				Daughterboard	19%
PRASEODYME	7440-10-0	0,21	**0,1%**	Speaker	4%
				Vibrator	4,0%
				Magnet	4%
RHODIUM	7440-16-6	0,000090	**0,00004%**	X-Link	<1%
TANTALE	7440-25-7	0,000020	**0,00001%**	Motherboard	<1%
TITANE	7440-32-6	0,19	**0%**	Motherboard	<1%
				Screen	<1%
				Cameras	<1%
TUNGSTENE	7440-33-7	0,114050	**0,04580%**	Vibrator	14%
GLASS	65997-17-3	22,33	**9%**	Screen	29%
				Chassis (plastic)	10%
				Motherboard	20%
ZINC	7440-66-6	1,745200	**0,70088%**	Speaker	<1%

BILL OF MATERIAL

- BATTERY COVER PANEL
- NFC ANTENNA
- SPEAKER

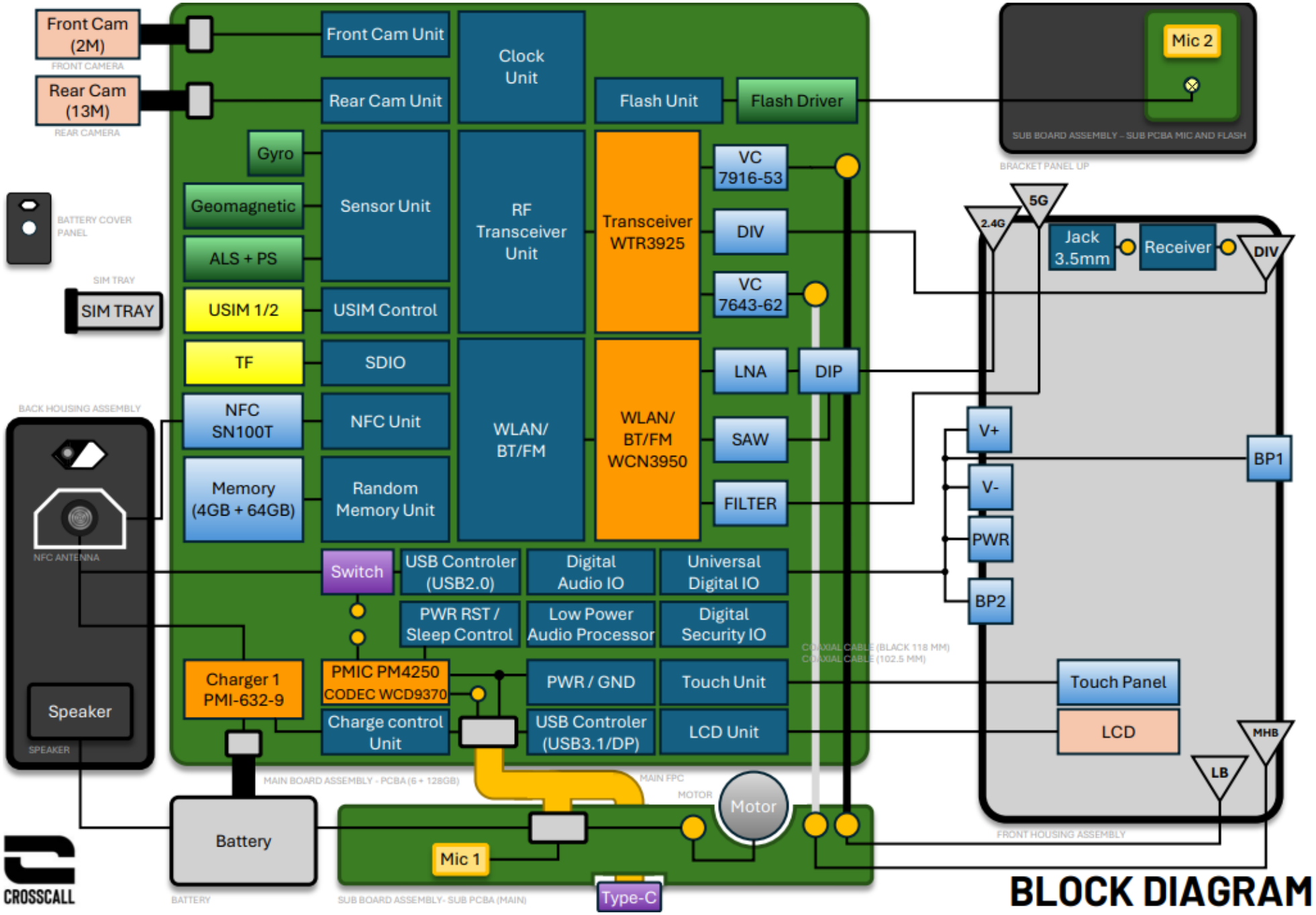
- TOP BACK PANEL
- SUB BOARD ASSEMBLY - SUB PCBA MIC AND FLASH

- FRONT HOUSING ASSEMBLY
- SUB BOARD ASSEMBLY – SENSOR
- RECEIVER
- EARPHONE FPC

- MAIN BOARD ASSEMBLY - PCBA (4 + 64GB)
- REAR CAMERA
- FRONT CAMERA
- BATTERY
- MAIN FPC
- COAXIAL CABLE (WHITE – 118 MM)
- COAXIAL CABLE (BLACK – 102.5 MM)
- SUB BOARD ASSEMBLY- SUB PCBA
- MOTOR

- BOTTOM BRACKET PANEL

CROSSCALL



BLOCK DIAGRAM