

Working Instructions

- mechanical -



Xperia™ E4 & E4 Dual
E2104, E2105, E2115, E2124

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SONY

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***For general information about mechanical repair related issues, refer to
1220-1333: Generic Repair Manual - mechanical***

1 Exterior Views

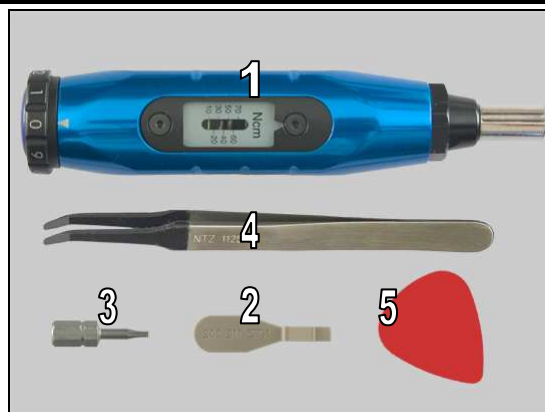
1.1 E2104, E2105, E2115, E2124



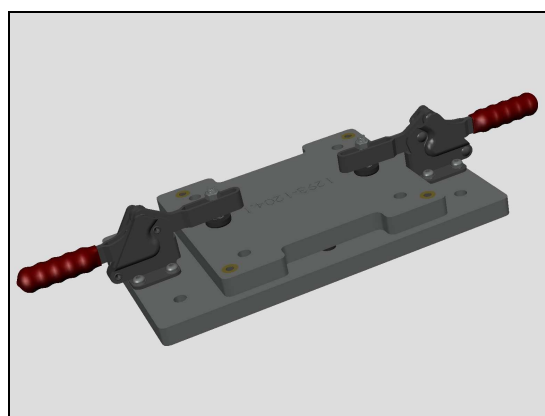
2 Special Tools

SPECIAL TOOLS

1. Torque Screwdriver
2. Front Opening Tool
3. Torx Bit T5
4. Flex Film Assembly Tool
5. Guitar Pick



TP PRESS FIXTURE

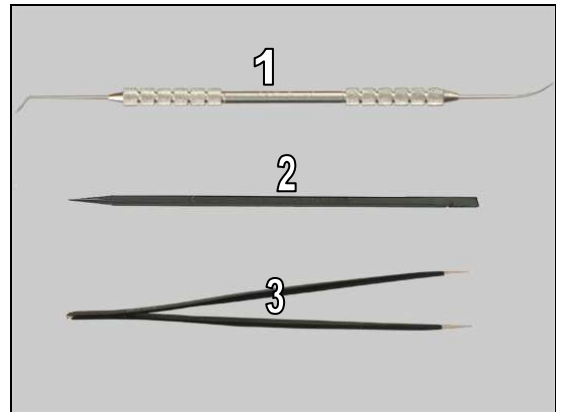


For part no's on the tools above, refer to the 'Tools Catalogue/Matrix'!

Standard Tools

STANDARD TOOLS

1. Dentist Hook
2. Nylon Pointer
3. Tweezers



4. Freezer



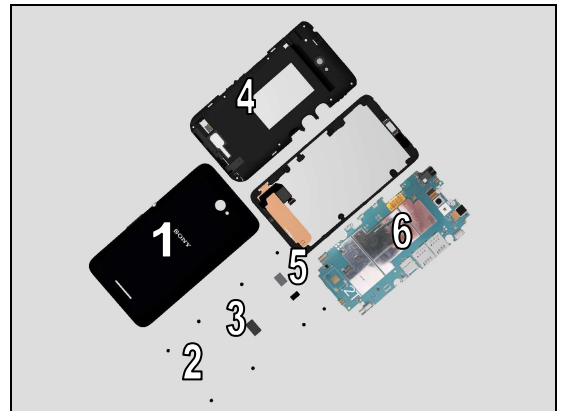
5. Hot Air with Temperature Control.



3 Disassembly

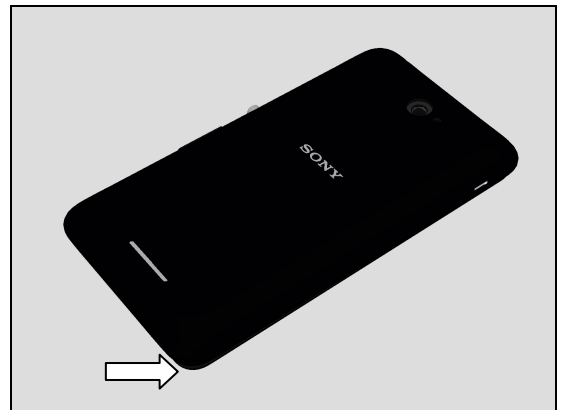
The disassembly is done in the following order:

1. Battery Cover
2. Screw_1.6mm_3.5mm
3. Battery Conn Sponge
4. Rear Cover Assy
5. TP ZIF Conn Mylar
6. Main PBA



3.1 Battery Cover

Loosen Battery Cover at strap hole area using fingers as shown in picture.

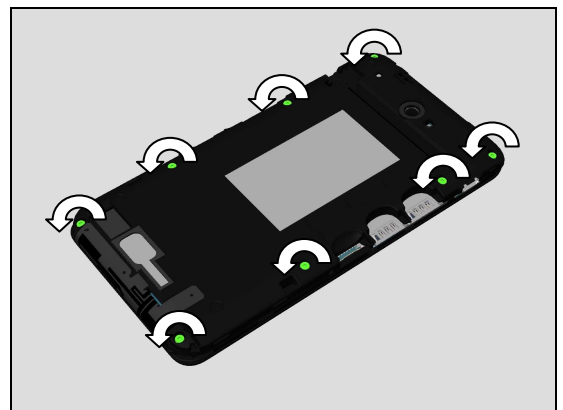


Lift up and remove the Battery Cover.



3.2 Screw_1.6mm_3.5mm

Remove eight, Screw 1.6mm x 3.2mm by using Torx Bit T5.



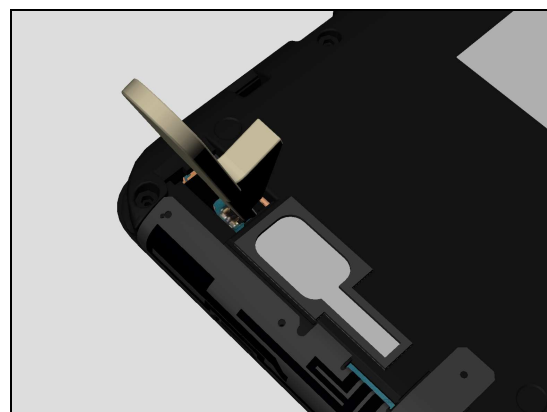
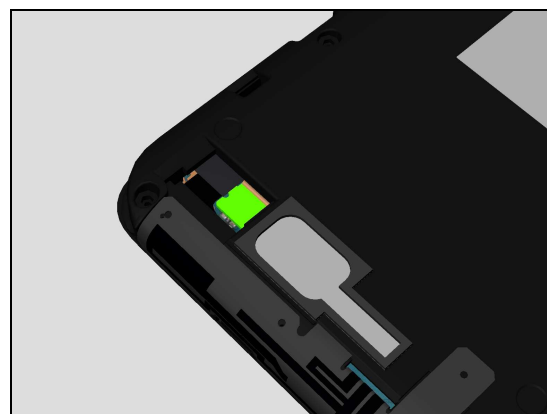
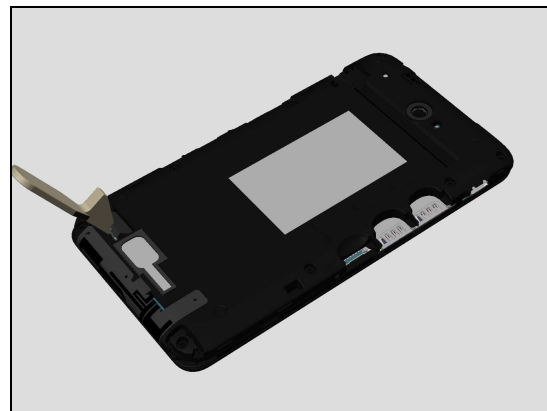
3.3 Battery Conn Sponge

Using Front Opening Tool insert into cavity of Rear Cover Assy to loosen Battery Conn Sponge.

Remove Battery Conn Sponge using fingers

Location of Battery board-to-board (BtB) connector shown in picture.

Use Front Opening Tool to disconnect Battery 2300mAh Main board-to-board (BtB) connector.



3.4 Rear Cover Assy

Insert Guitar Pick into Rear Cover Assy as shown in picture and slide alongside as shown in picture.



Stop when reaching Micro SD connector location.



Remove Guitar Pick to avoid damaging connectors.



Insert Guitar Pick again into Rear Cover Assy as shown in picture.



Repeat same action for topside.



Stop when reaching Micro SD connector location.



Remove Guitar Pick to avoid damaging power and volume switches.



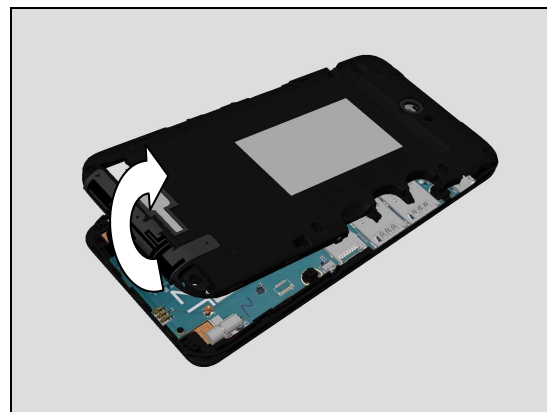
Insert Guitar Pick again into Rear Cover Assy as shown in picture.



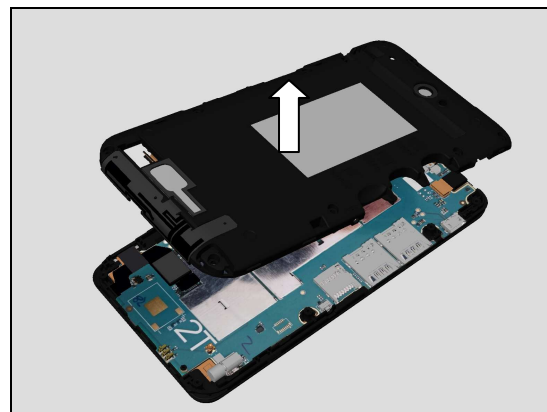
Repeat same action for bottom side.



Tilt up Rear Cover Assy from bottom side using fingers as shown in picture.



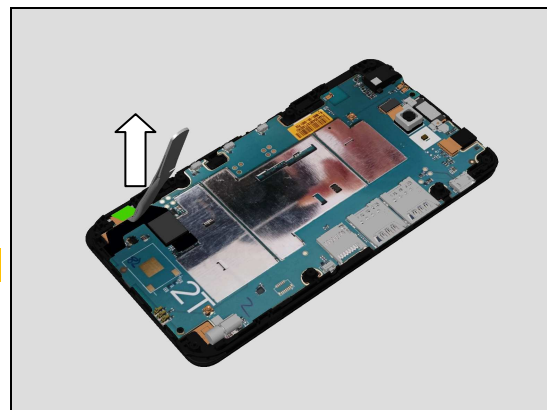
Remove using fingers.



3.5 TP Zif Mylar

Remove LCD TFT Mylar using Flex Film Assembly Tool.

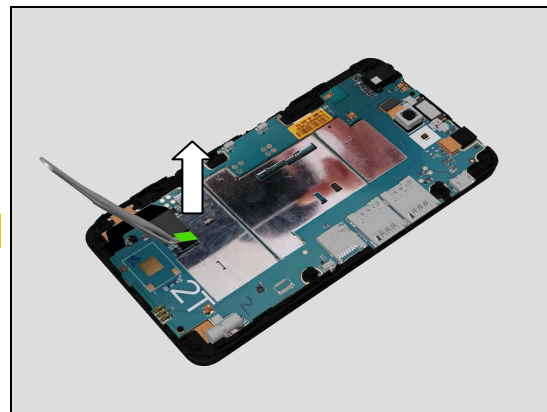
Scrap! Not to be reused!



Disassembly

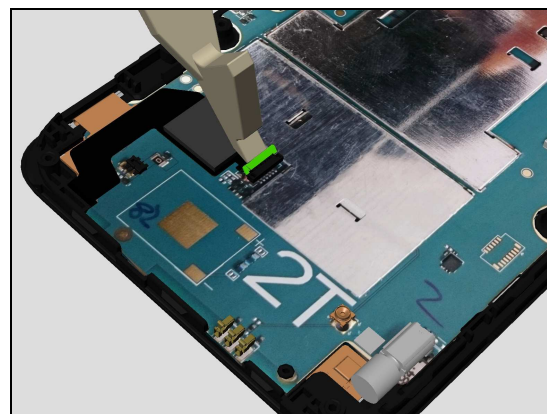
Remove Touch Panel Mylar using Flex Film Assembly Tool.

Scrap! Not to be reused!

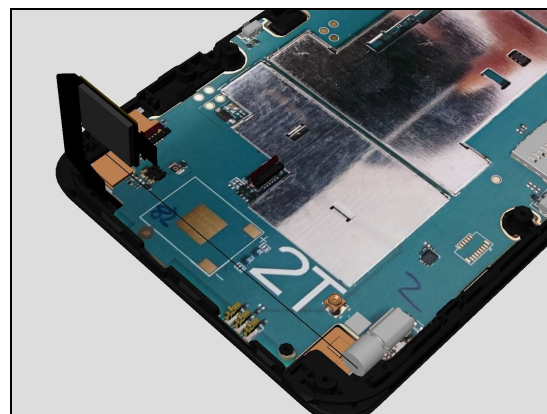


3.6 Main PBA

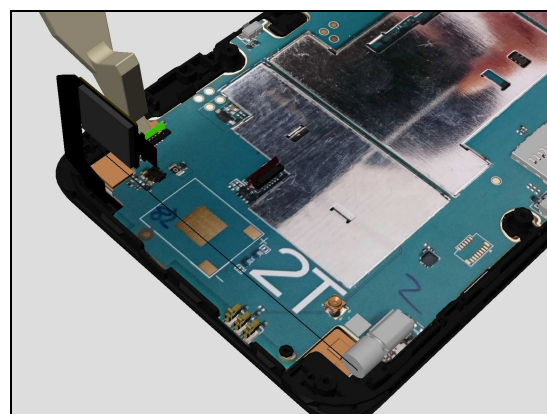
Use Front Opening Tool to unlock and disconnect Touch Panel Zif connector.



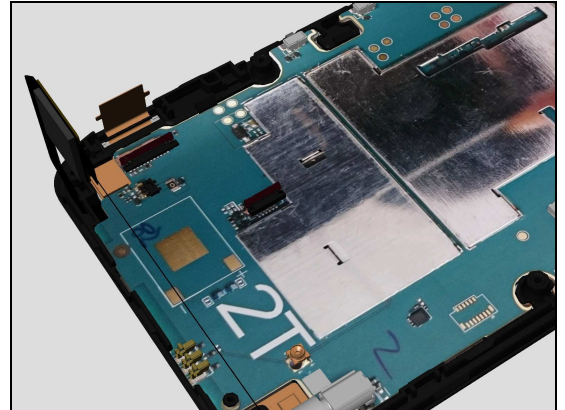
Bend back Touch Panel FPC as shown in picture.



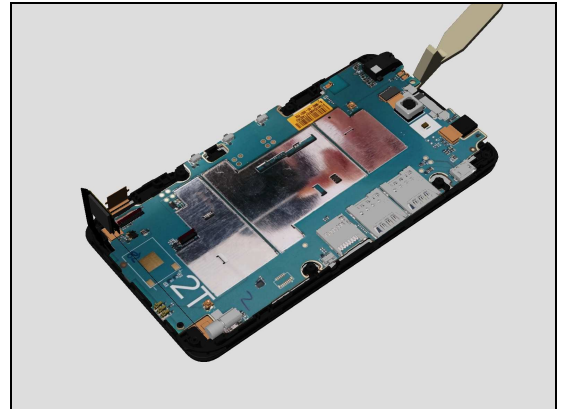
Use Front Opening Tool to unlock and disconnect LCD TFT Zif connector.



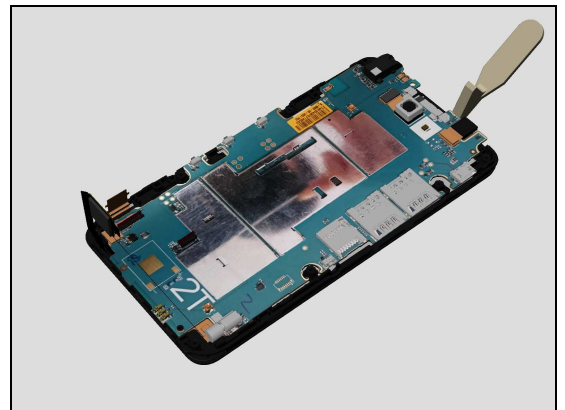
Bend back Touch Panel FPC as shown in picture.



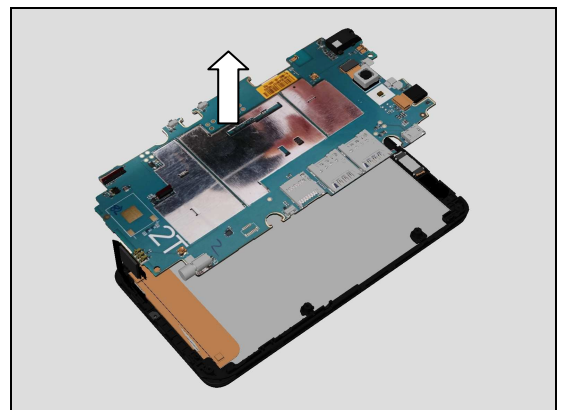
Use Front Opening Tool to release first snap hook at topside of Main PBA as shown in picture.



Use Front Opening Tool to release second snap hook at topside of Main PBA as shown in picture.



Remove Main PBA.



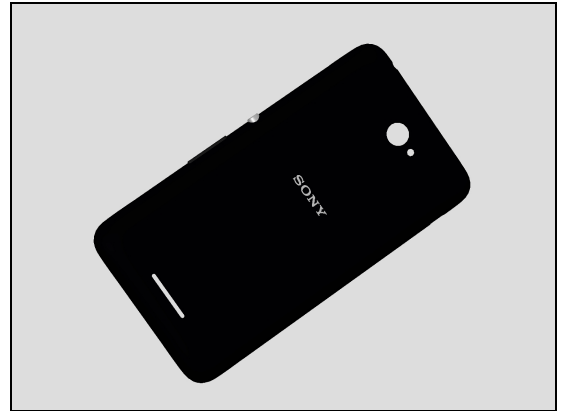
4 Replacement

4.1 Battery Cover

Follow the 3.1 – 3.1 Disassembly instructions!

Prepare the new Battery Cover.

Follow the 5.6 – 5.6 Reassembly instructions!

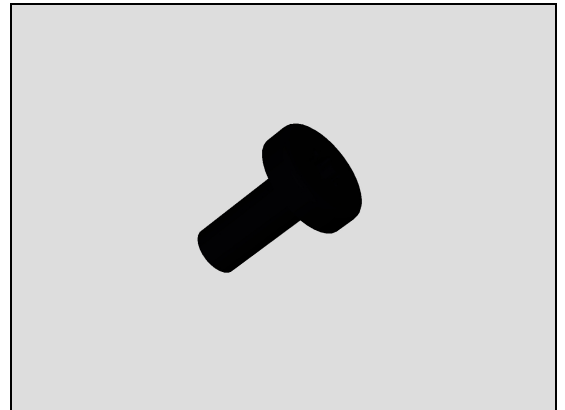


4.2 Screw_1.6mm_3.5mm

Follow the 3.1 – 3.2 Disassembly instructions!

Prepare the new Screw_1.6mm_3.5mm

Follow the 5.5 – 5.6 Reassembly instructions!

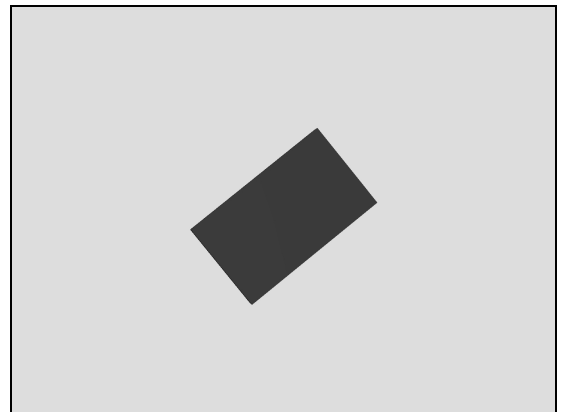


4.3 Battery Conn Sponge

Follow the 3.1 – 3.3 Disassembly instructions!

Prepare the new Battery Conn Sponge.

Follow the 5.4 – 5.6 Reassembly instructions!



4.4 Rear Cover Assy

Follow the 3.1 – 3.4 Disassembly instructions!

Follow the 4.7, 4.8 & 4.9 Removal instructions!

Carry out the Removal as described below!

Prepare the new Rear Cover Assy.

Carry out the Installation as described below!

Follow the 4.7, 4.8 & 4.9 Installation instructions!

Follow the 5.3 – 5.6 Reassembly instructions!



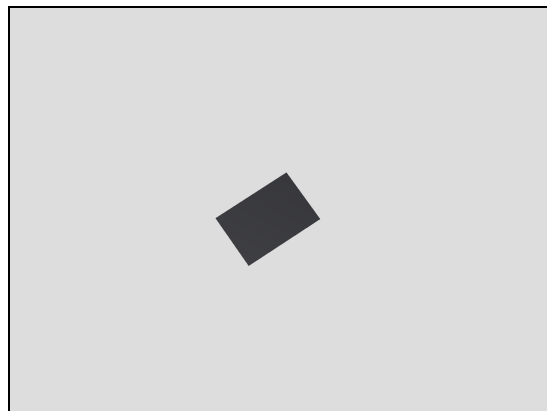
4.5 TP ZIF Conn Mylar

Follow the 3.1 – 3.5 Disassembly instructions!

Prepare the new TP Zif Conn Mylar

Do not reuse!

Follow the 5.2 – 5.6 Reassembly instructions!

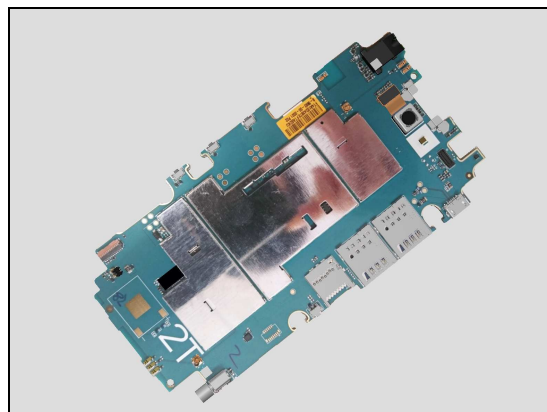


4.6 Main PBA

Follow the 3.1 – 3.6 Disassembly instructions!

Prepare the new Main PBA

Follow the 5.1 – 5.6 Reassembly instructions!



Replacement

4.7 Battery 2300mAh

Follow the 3.1 – 3.4 Disassembly instructions!

Follow the 4.8 Removal instructions!

Carry out the Removal as described below!

Prepare the new Battery 2300mAh.

Carry out the Installation as described below!

Follow the 4.8 & 4.9 Installation instructions!

Follow the 5.6 – 5.3 Reassembly instructions!

REMOVAL

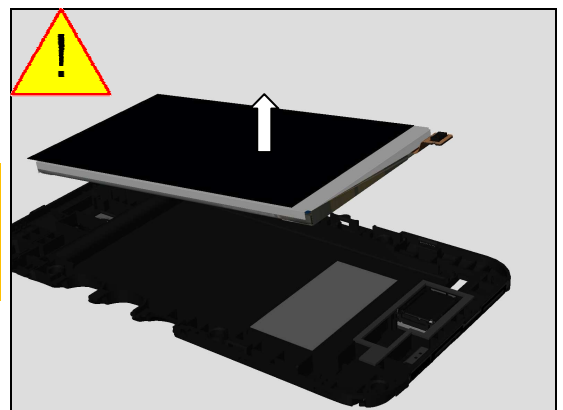
1. Place the Rear Cover Assy with Battery 2300mAh into ESD safe bag.
2. Place the unit into the fridge.
3. Set the fridge temperature at -20°C, and set the time at 30 minutes.

Remove from freezer, then immediately Insert Front Opening Tool as shown in picture to loosen adhesive located under battery.

Attention: If Rear Cover Assy with Battery 2300mAh returns to room temperature, adhesive will bond again!

Remove Battery 2300mAh using fingers

Carefully inspect the Battery after removing it. Battery with visual signs of been punctured etc, should be scraped after removal and disposed of in accordance with local policies!

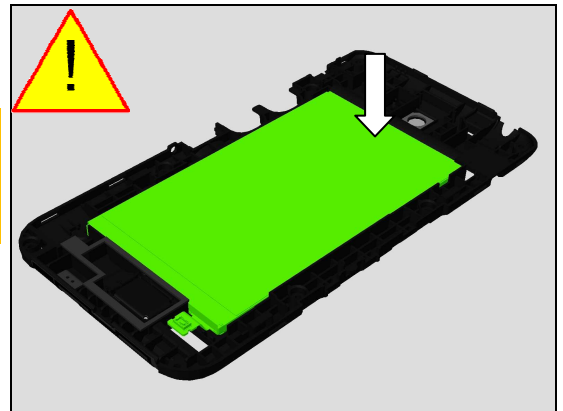


Replacement

INSTALLATION

If reusing the Battery 2300mAh carefully inspect the Battery before assembly. Batteries with visual signs of being bent, having been punctured, bubbles etc. should be scraped after removal!

Place the Battery 2300mAh gently into the Rear Cover Assy cavity, bottom side first, use fingers to secure the position of the Battery 2300mAh.



Replacement

4.8 Battery Adhesive

Follow the 3.1 – 3.4 Disassembly instructions!

Follow the 4.7 Removal instructions!

Carry out the Removal as described below!

Prepare the new Battery Adhesive.

Carry out the Installation as described below!

Follow the 4.7 & 4.9 Installation instructions!

Follow the 5.6 – 5.3 Reassembly instructions!

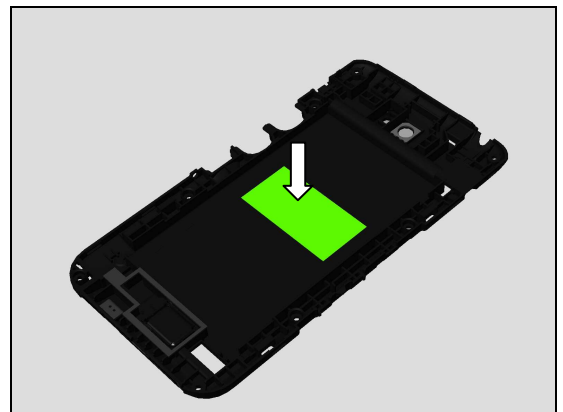
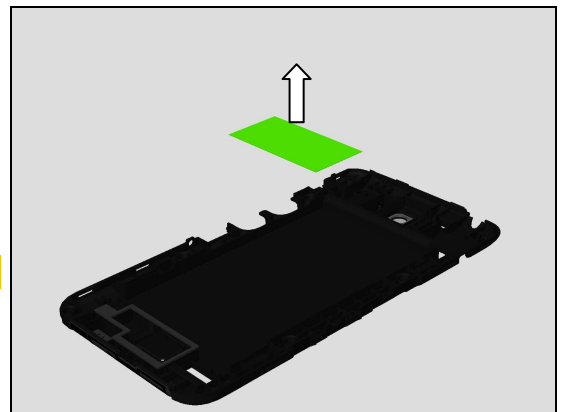
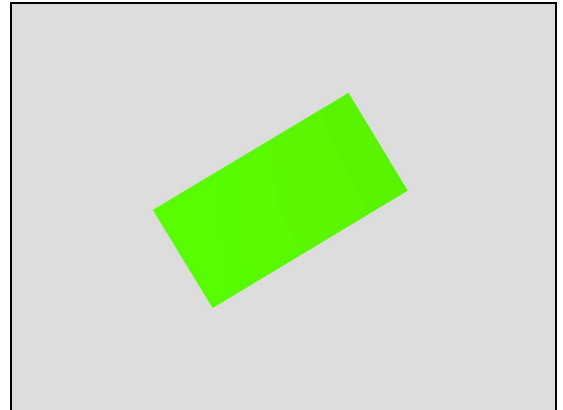
REMOVAL

Remove Battery Adhesive using Flex Film Assembly Tool.

Scrap! Not to be reused!

INSTALLATION

Place new Battery Adhesive using Flex Film Assembly Tool into its proper position.



Replacement

4.9 Battery Mylar

Follow the 3.1 – 3.4 Disassembly instructions!

Prepare the new Battery Mylar

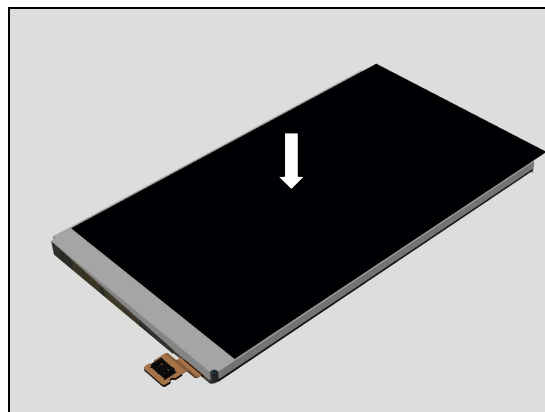
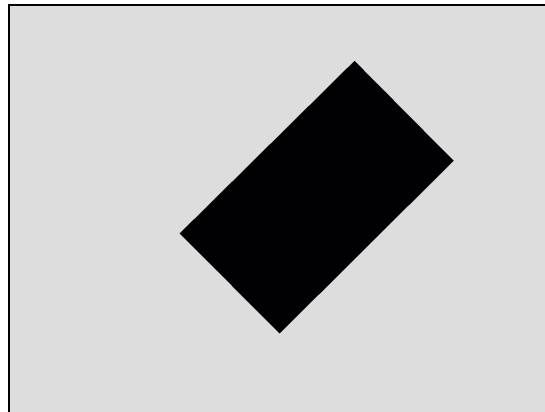
Carry out the Installation as described below!

Follow the 4.7 & 4.8 Installation instructions!

Follow the 5.3 – 5.6 Reassembly instructions!

INSTALLATION

Place Battery Mylar onto Battery 2300mAh using fingers to secure it.



Replacement

4.10 CAMERA CHAT

Follow the 3.1 – 3.4 Disassembly instructions!

Carry out the Removal as described below!

Prepare the new CAMERA CHAT

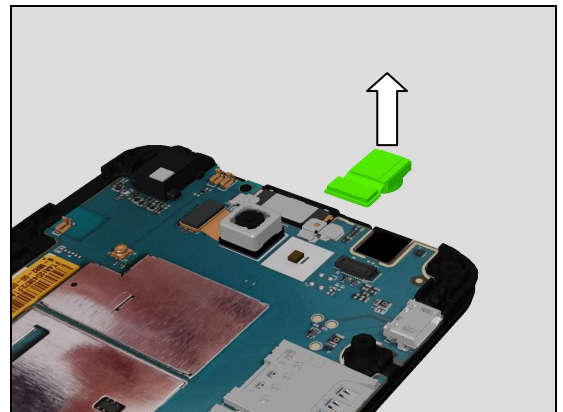
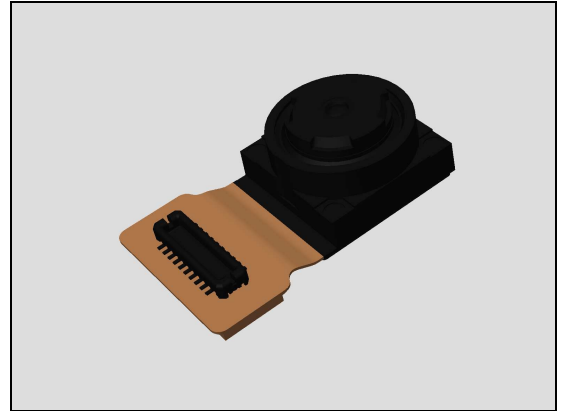
Carry out the Installation as described below!

Follow the 5.3 – 5.6 Reassembly instructions!

REMOVAL

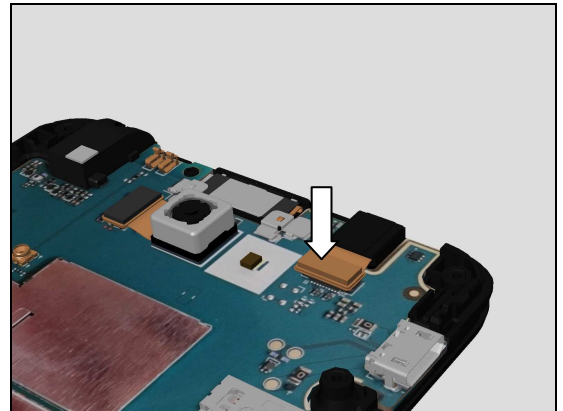
Use Front Opening Tool to disconnect CAMERA CHAT board-to-board (BtB) connector.

Remove Camera Main using fingers gripping at the sides.



INSTALLATION

Attach CAMERA CHAT BtB connector to Main PBA, press directly on top of connector using Nylon Pointer for 5sec to fully secure board-to-board (BtB) connector attachment!



Replacement

4.11 CAMERA MAIN

Follow the 3.1 – 3.4 Disassembly instructions!

Carry out the Removal as described below!

Prepare the new CAMERA MAIN.

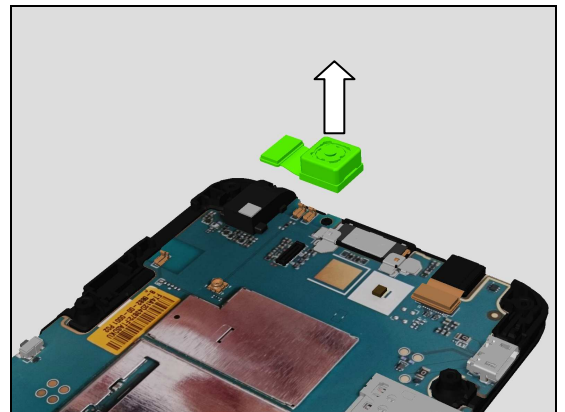
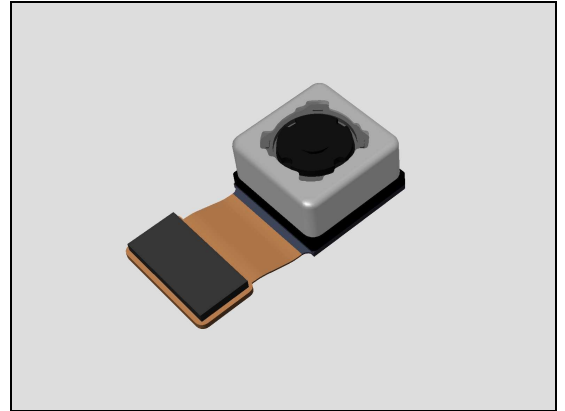
Carry out the Installation as described below!

Follow the 5.3 – 5.6 Reassembly instructions!

REMOVAL

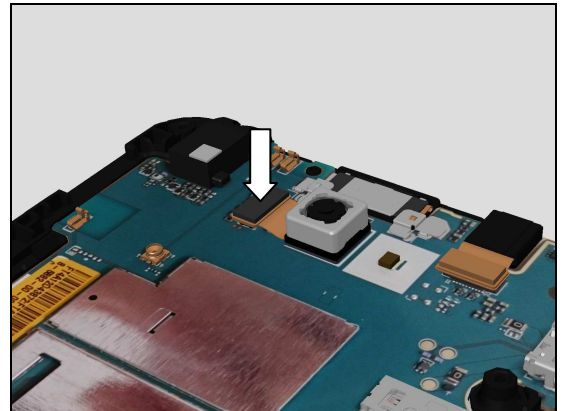
Use Front Opening Tool to disconnect CAMERA MAIN board-to-board (BtB) connector.

Remove Camera Main using fingers gripping at the sides.



INSTALLATION

Attach CAMERA MAIN BtB connector to Main PBA, press directly on top of connector using Nylon Pointer for 5sec to fully secure board-to-board (BtB) connector attachment!



Replacement

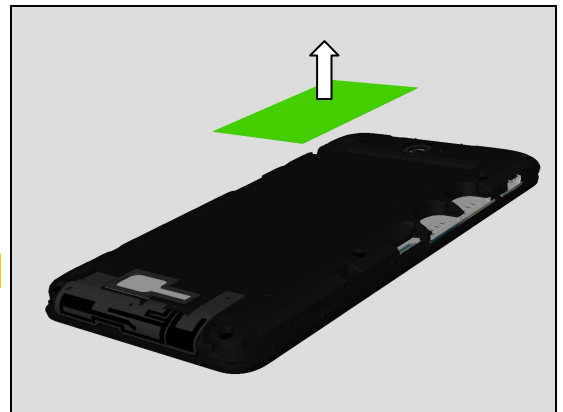
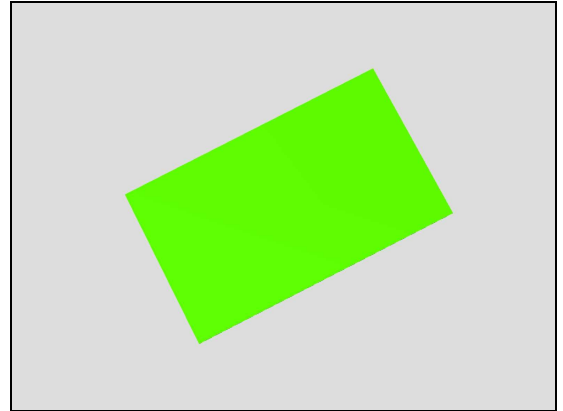
4.12 Core Unit Label

Follow the 3.1 Disassembly instructions!
Carry out the Removal as described below!
Prepare the new Core Unit Label.
Carry out the Installation as described below!
Follow the 5.6 Reassembly instructions!

REMOVAL

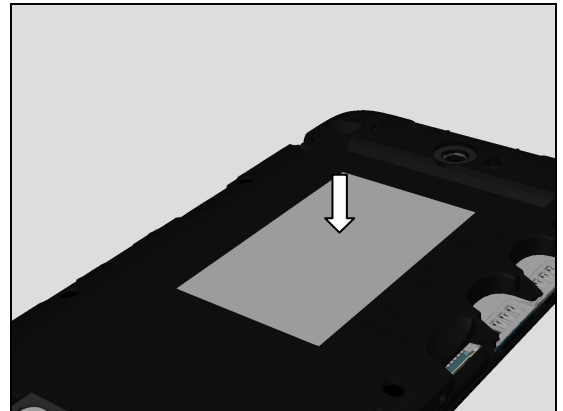
Remove CU Label using Flex Film Assembly Tool.

Scrap! Not to be reused!



INSTALLATION

Place new CU Label using Flex Film Assembly Tool into its proper position.



Replacement

4.13 Front Cover Assy + LCD TFT + Touch Panel

Follow the 3.1 – 3.6 Disassembly instructions!

Follow the 4.17 Removal instructions!

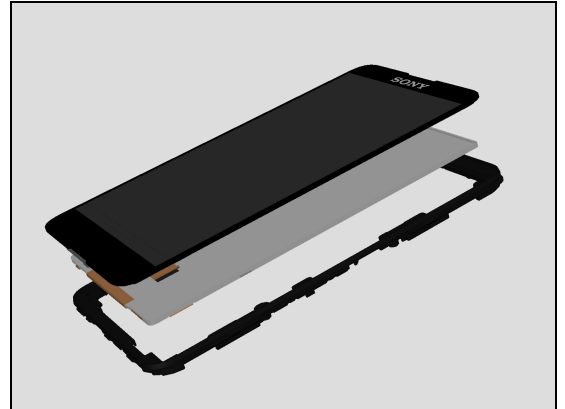
Carry out the Removal as described below!

Prepare the new Front Cover Assy + LCD TFT + Touch Panel.

Carry out the Installation as described below!

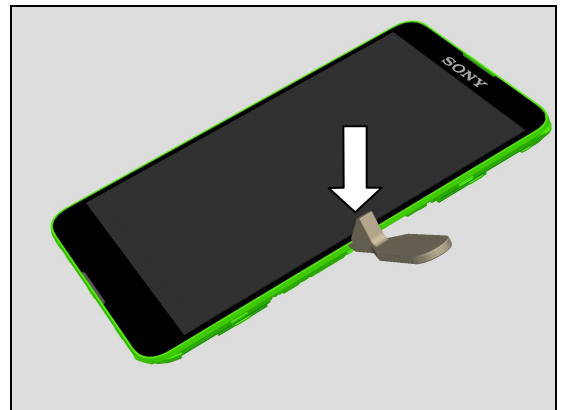
Follow the 4.17 Installation instructions!

Follow the 5.1 – 5.6 Reassembly instructions!

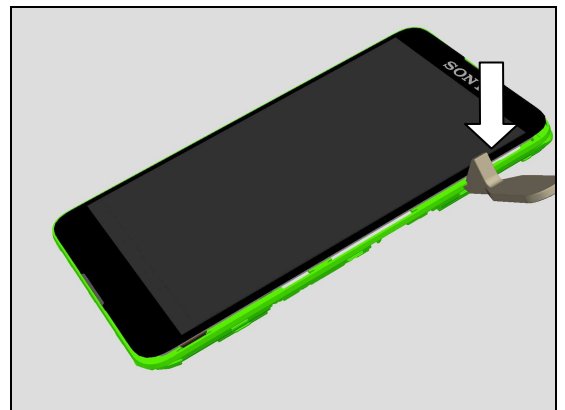


REMOVAL

Using Front Opening Tool press down on snap hook located on Front Cover Assy.

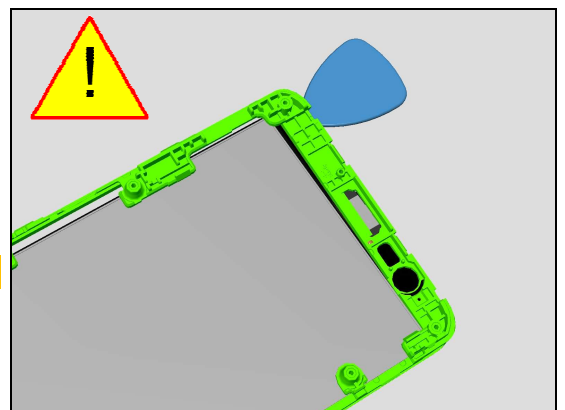


Using Front Opening Tool press down on 2nd snap hook located on Front Cover Assy, loosening the frame!



Gently insert Guitar Pick working around the Front Cover Assy loosening adhesive.

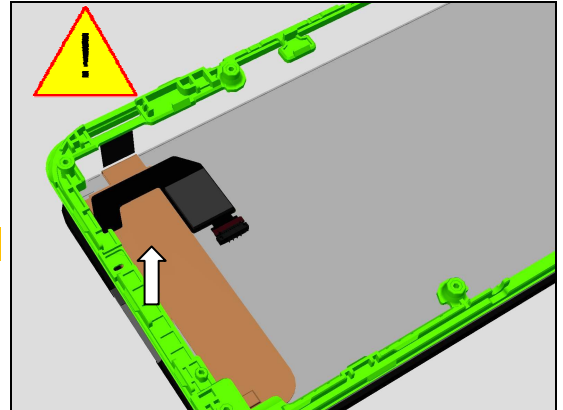
Pay attention not to damage LCD TFT!



Replacement

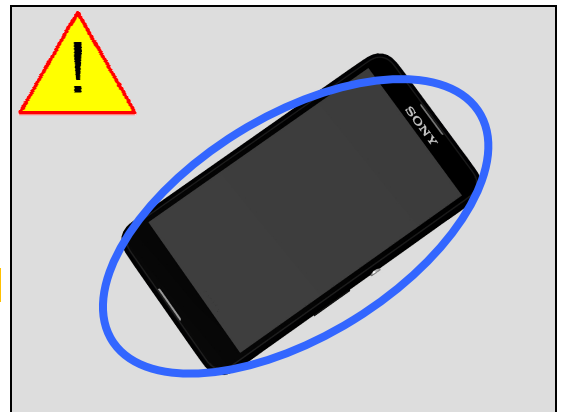
Remove Front Cover Assy pay attention not to damage FPC's.

Scrap! Do not reuse Front Cover Assy!

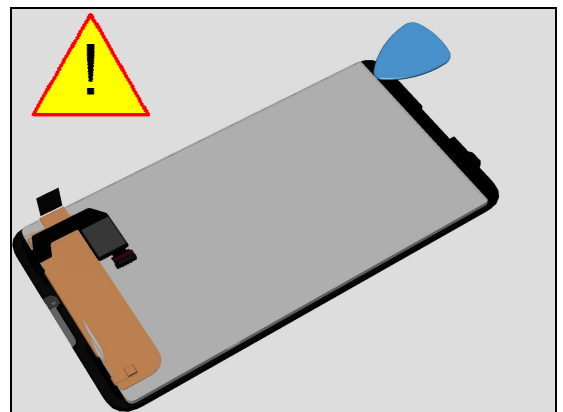


Heat topside side area of Touch Panel in circular motion using Hot Air Gun at low to medium temperature for around 5minutes to soften Touch Panel adhesive.

Do not allow adhesive to cool!

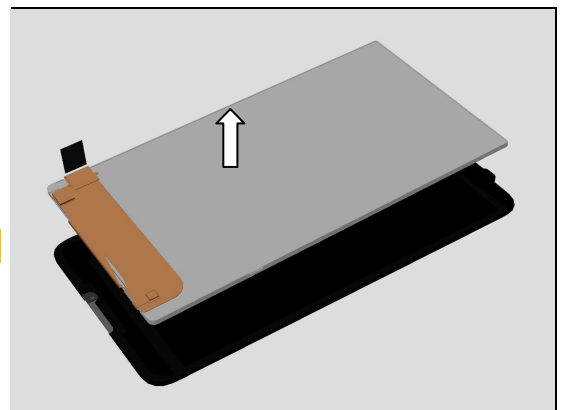


Gently using Guitar Pick loosening LCD TFT from Touch Panel on all sides.



Remove LCD TFT from Touch Panel, use TP Protective Film (A/415-58800-0010) to cover LCD TFT preventing dirt and dust or damage!

Scrap! Do not reuse Touch Panel!



Replacement

INSTALLATION

Carefully assemble all 3 parts using fingers Touch Panel + LCD TFT + Front Cover Assy, carefully thread LCD FPC thru the frame and bend into correct position, then bend over Touch Panel FPC into proper position.

Pay attention not to damage FPC's!
Remove all unnecessary protection films and adhesive films!
Do not remove outer Touch Panel protection film!

Carefully place assembly into the fixture bottom end first to avoid damage to FPC.

Inspect alignment of Front Cover Assembly, and then place Front Cover Assembly into TP Press Fixture.

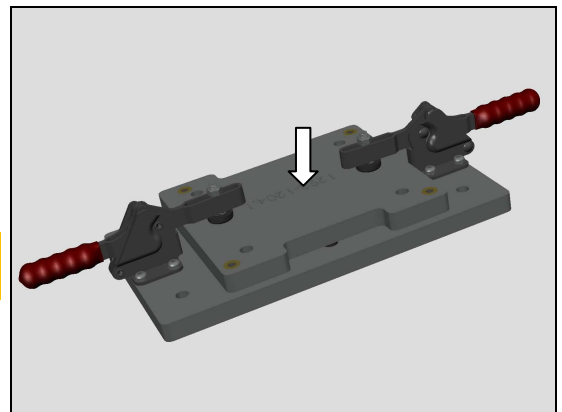
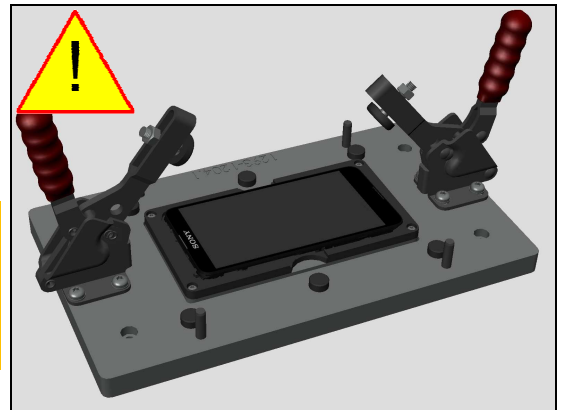
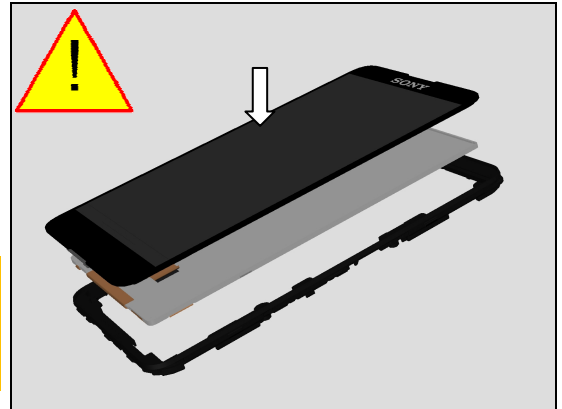
Receiver must not be assembled before Pressing the assembly!
Touch Panel protective film must be added before Pressing!
Pay attention not to damage FPC's!

Attach top Press Plate onto TP Press Fixture with Front Cover Assembly and press it with preset pressure value of 500N / 10 sec! Using TP Press Fixture (1293-1204).

Attention: Please make sure both handle lock tightly, you will hear click sound when locked!

Inspect complete Front Assy.

Follow 4.17 installation instruction Receiver and Receiver Sponge!



Replacement

4.14 Liquid Intrusion Label (Audio Jack)

Follow the 3.1 – 3.4 Disassembly instructions!

Carry out the Removal as described below!

Prepare the new Liquid Intrusion Label.

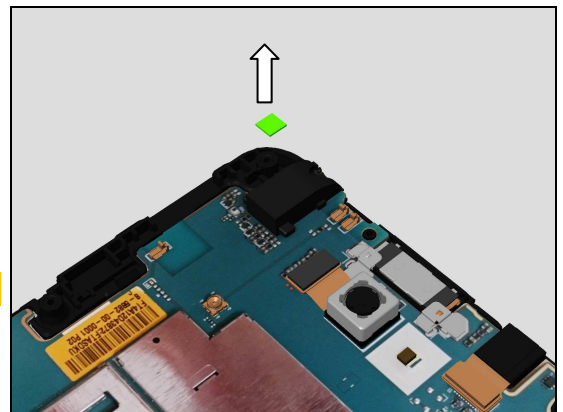
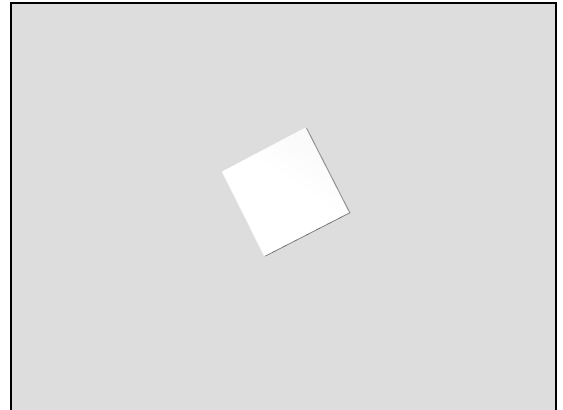
Carry out the Installation as described below!

Follow the 5.3 – 5.6 Reassembly instructions!

REMOVAL

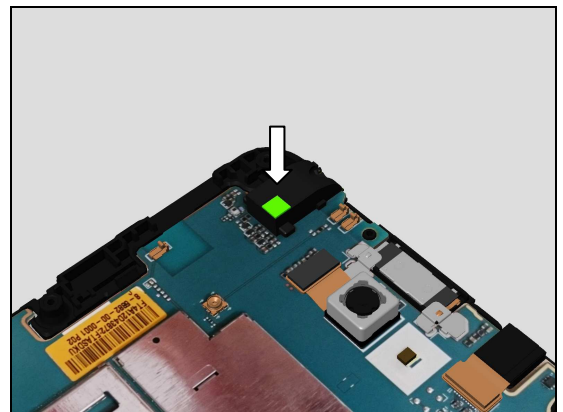
Remove the Liquid Intrusion Label using Flex Film Assembly Tool.

Scrap! Not to be reused!



INSTALLATION

Place new Liquid Intrusion Label using Flex Film Assembly Tool into its proper position.



Replacement

4.15 Liquid Intrusion Label (Main PBA)

Follow the 3.1 – 3.4 Disassembly instructions!

Carry out the Removal as described below!

Prepare the new Liquid Intrusion Label.

Carry out the Installation as described below!

Follow the 5.3 – 5.6 Reassembly instructions!

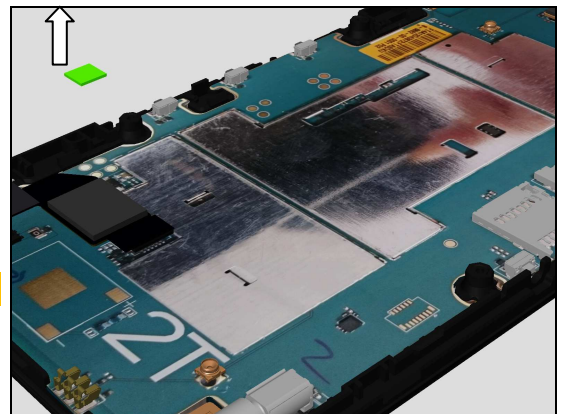
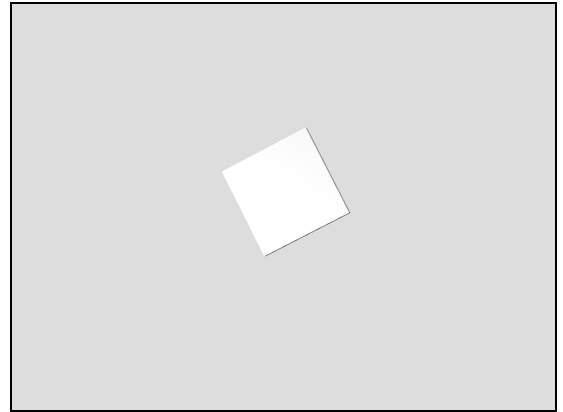
REMOVAL

Remove the Liquid Intrusion Label using Flex Film Assembly Tool.

Scrap! Not to be reused!

INSTALLATION

Place new Liquid Intrusion Label using Flex Film Assembly Tool into its proper position.



Replacement

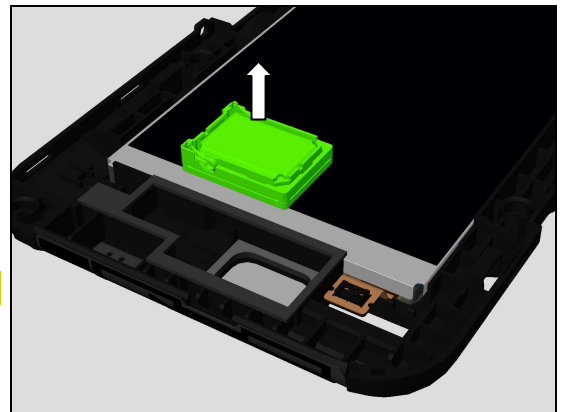
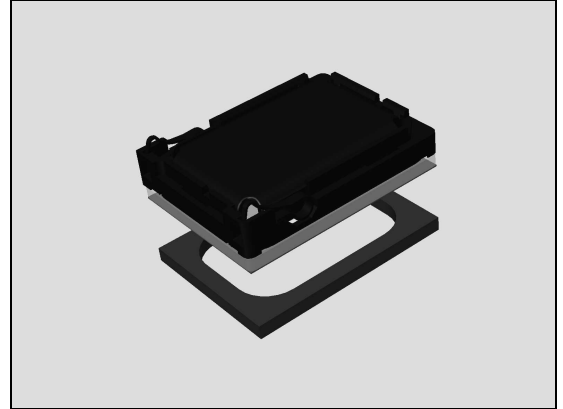
4.16 Loud Spkeaker + Loudspeaker Sponge

Follow the 3.1 – 3.4 Disassembly instructions!
Carry out the Removal as described below!
Prepare the new Loud Spkeaker + Loudspeaker Sponge.
Carry out the Installation as described below!
Follow the 5.3 – 5.6 Reassembly instructions!

REMOVAL

Carefully remove the Loud Spkeaker using Front Opening Tool.

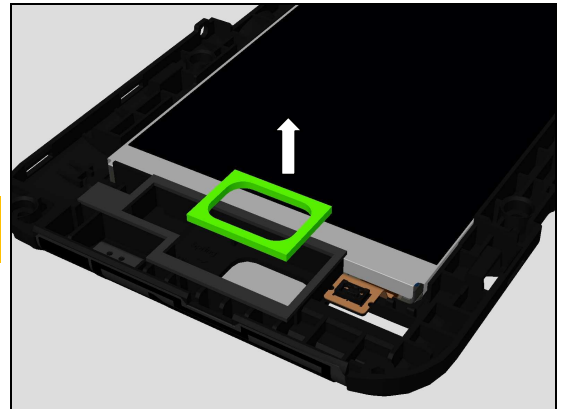
Inspect Loud Spkeaker for damage!



Remove the Loudspeaker Sponge with the Dentist Hook.

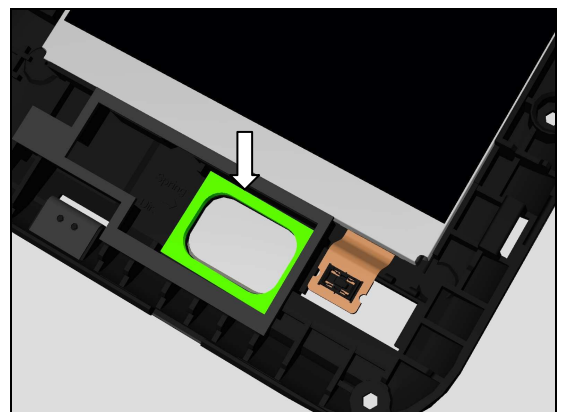
Clean any remaining adhesive residue!

Scrap! Not to be reused!



INSTALLATION

Place new Loudspeaker Sponge using a Flex Film Assembly Tool into its proper position.

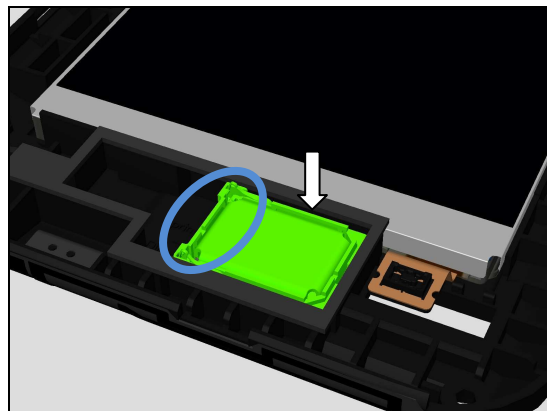


Replacement

Place new Loud speaker using fingers into its proper position.

Attention: Check alignment of Loud speaker contact pins before installation as shown in picture!

Press directly on top of Loud speaker using Nylon Pointer for five seconds to secure attachment.



Replacement

4.17 Receiver + Receiver Sponge

Follow the 3.1 – 3.6 Disassembly instructions!

Carry out the Removal as described below!

Prepare the new Receiver + Receiver Sponge

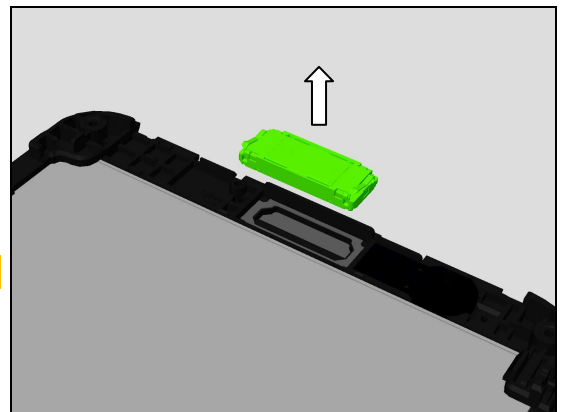
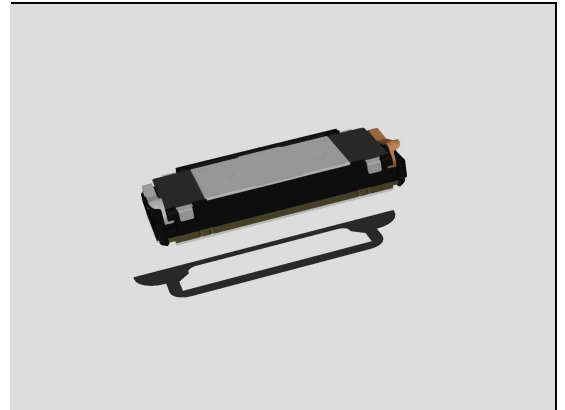
Carry out the Installation as described below!

Follow the 5.1 – 5.6 Reassembly instructions!

REMOVAL

Carefully remove the Receiver using Front Opening Tool.

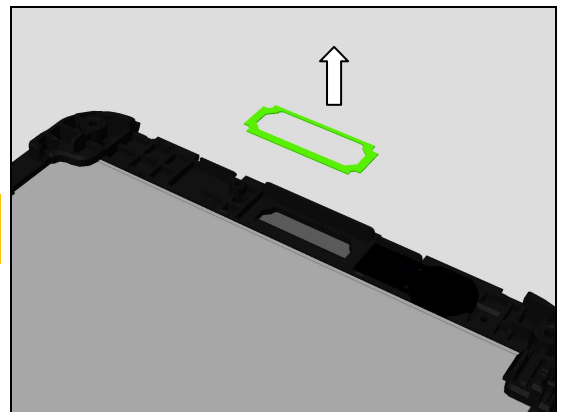
Scrap! Not to be reused!



Remove the Receiver Sponge with the Dentist Hook.

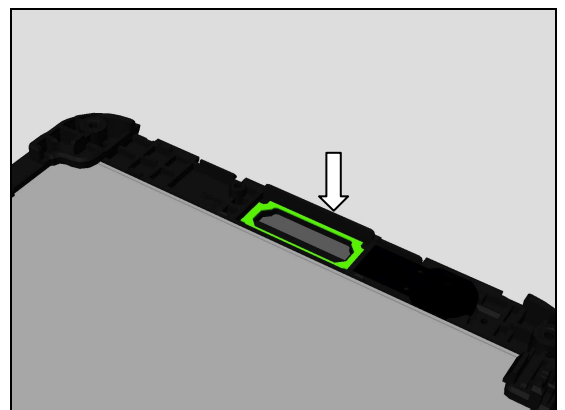
Clean any remaining adhesive residue!

Scrap! Not to be reused!



INSTALLATION

Place new Receiver Sponge using a Flex Film Assembly Tool into its proper position.

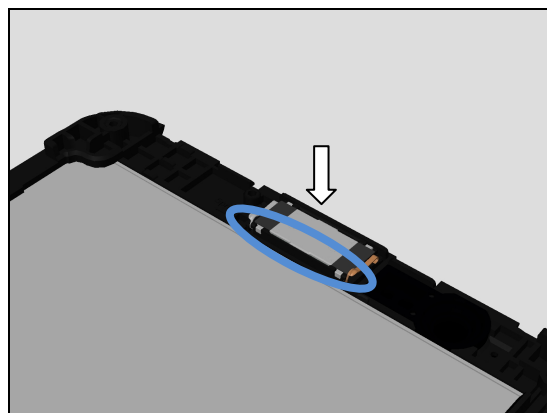


Replacement

Place new Receiver using fingers into its proper position.

Attention: Check alignment of Receiver contact pins before installation as shown in picture!

Press directly on top of Receiver using Nylon Pointer for five seconds to secure attachment.



Replacement

4.18 SPK Sponge Black Mesh

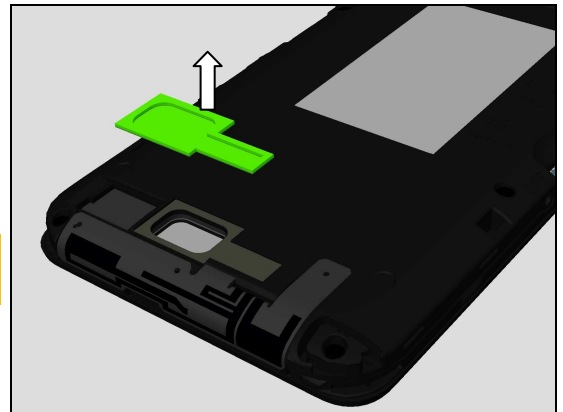
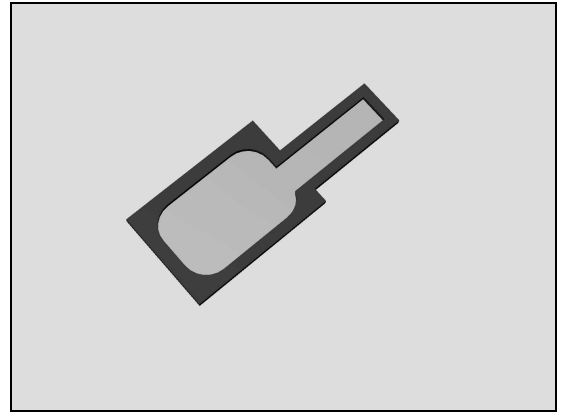
Follow the 3.1 Disassembly instructions!
Carry out the Removal as described below!
Prepare the new SPK Sponge Black Mesh
Carry out the Installation as described below!
Follow the 5.6 Reassembly instructions!

REMOVAL

Remove the SPK Sponge Black Mesh with the Dentist Hook.

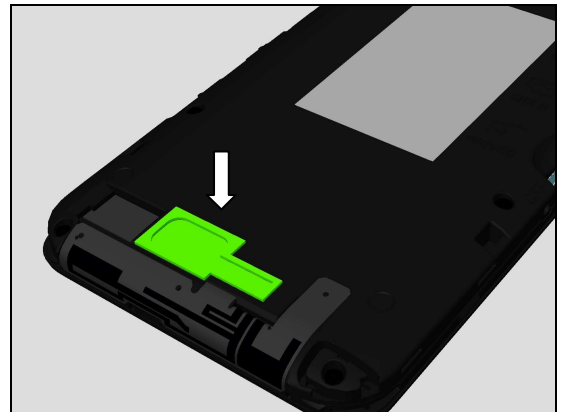
Clean any remaining adhesive residue!

Scrap! Not to be reused!



INSTALLATION

Place new SPK Sponge Black Mesh using a Flex Film Assembly Tool into its proper position.



Replacement

4.19 Board Swap – Replacement

Follow the 3.1 – 3.6 Disassembly instructions!

Follow the 4.10, 4.11 Removal instructions!

Replace the Swap Board.

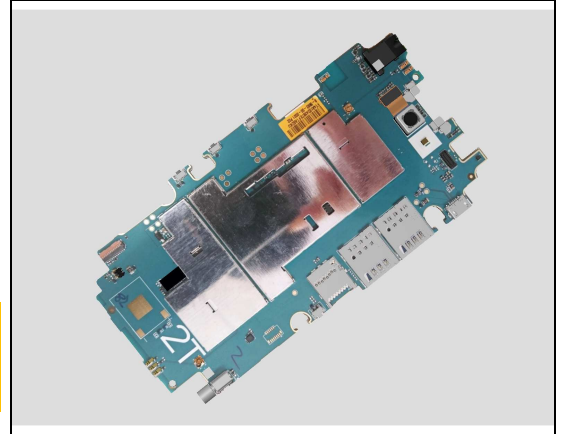
Follow the 4.10, 4.11, Installation instructions!

Additionally if applicable follow the 4.14 and 4.15 Installation instructions!

Follow the 5.1 – 5.6 Reassembly instructions!

Reuse the Camera, Chat Camera!

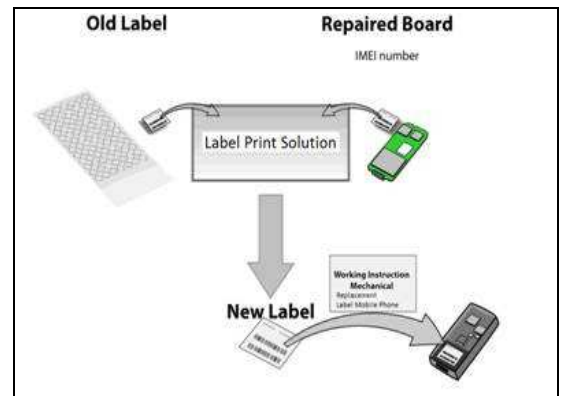
Please refer to: Trouble Shooting Application 1257-2706 for applicable E2104, E2105, E2115 calibrations!



4.20 Board Swap – Change Label

CHANGE LABEL

Follow the instructions in the Generic Repair Manual – Build swap for change of label.

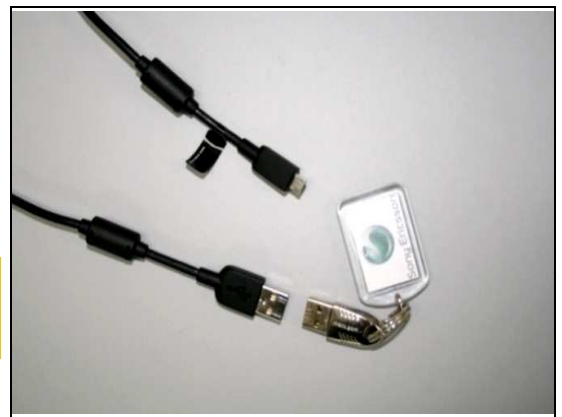


4.21 Board Swap – Customize of Software

CUSTOMIZE OF SOFTWARE

Follow the instructions in the Generic Repair Manual – Build swap for customization of the software.

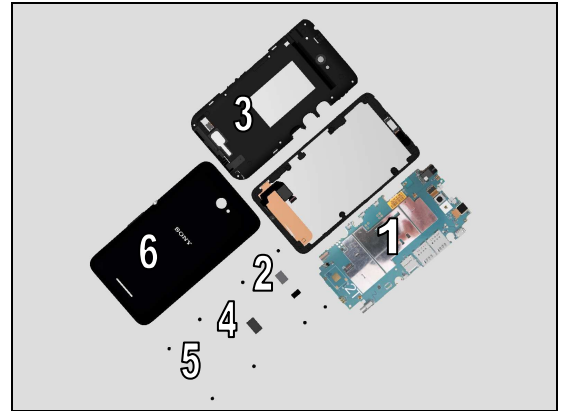
After SW Flash press the Key On/Off to power on the phone, place unit on flat desk and wait 4 minutes until system boot up has been completed!



5 Reassembly

The reassembly is done in the following order:

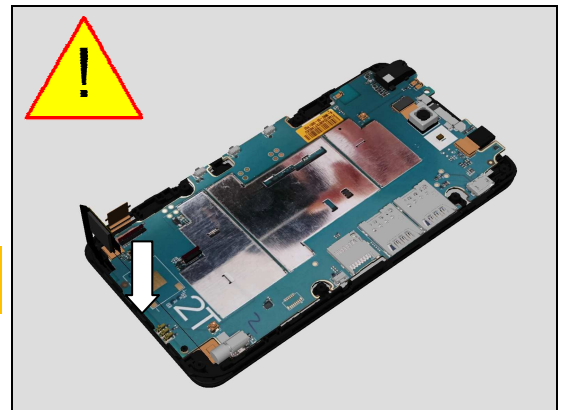
1. Main PBA
2. TP Zif Mylar
3. Rear Cover Assy
4. Battery Conn Sponge
5. Screw_1.6mm_3.5mm
6. Battery Cover



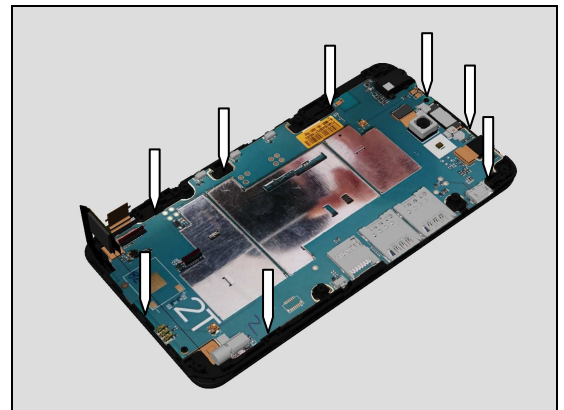
5.1 Main PBA

Place Main PBA at an angle into its proper position as shown in picture.

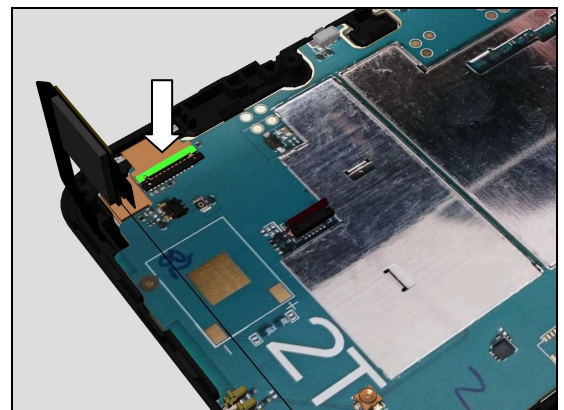
Be careful not to damage LCD TFT FPC or Touch Panel FPC during Main PBA assembly!



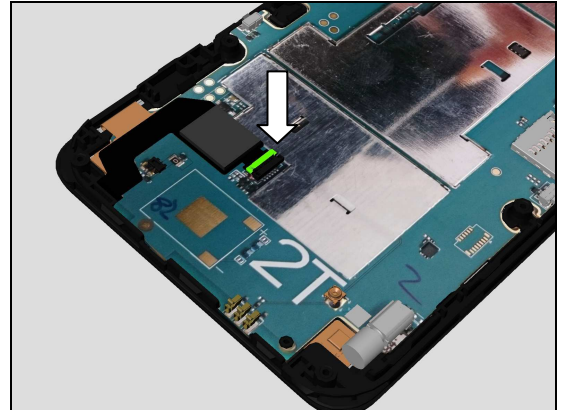
Press Main PBA gently to secure all snap hooks as shown in picture.



Carefully bend over LCD TFT FPC into position, lock ZIF connector to secure its attachment.

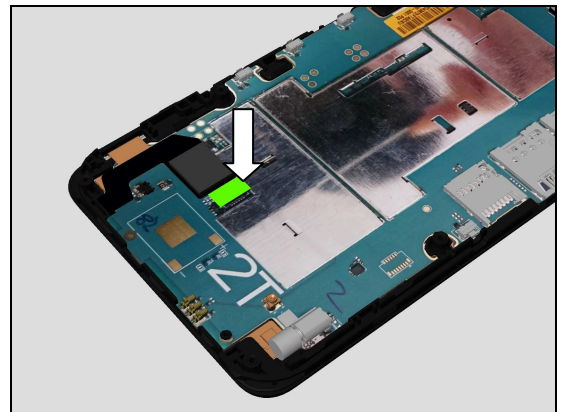


Carefully bend over Touch Panel FPC into position, lock ZIF connector to secure its attachment.

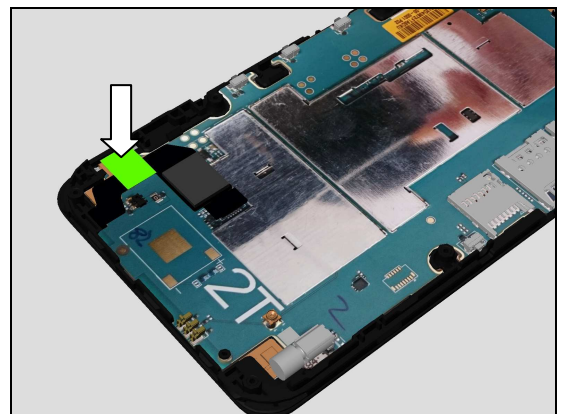


5.2 TP Zif Tape

Place new TP Zif Taper using Flex Film Assembly Tool into its proper position.

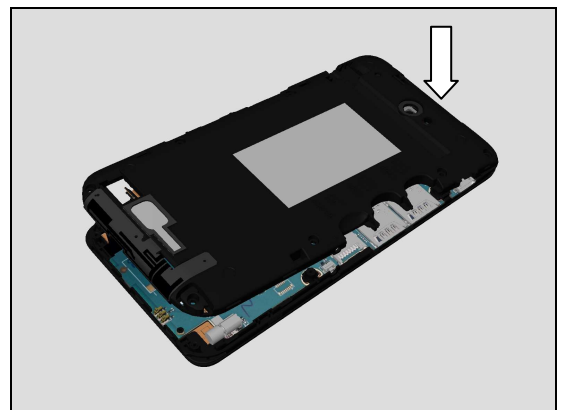


Place new TP Zif Taper using Flex Film Assembly Tool into its proper position.



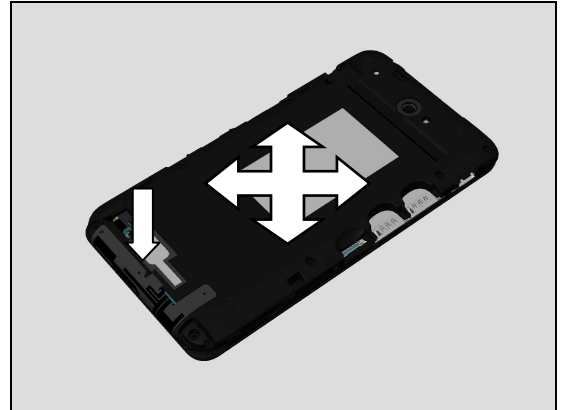
5.3 Rear Cover Assy

Hold Rear Cover Assy at an angle and insert the hooks of the Rear Cover Assy onto topside of Front Cover Assy cavity as shown in picture.



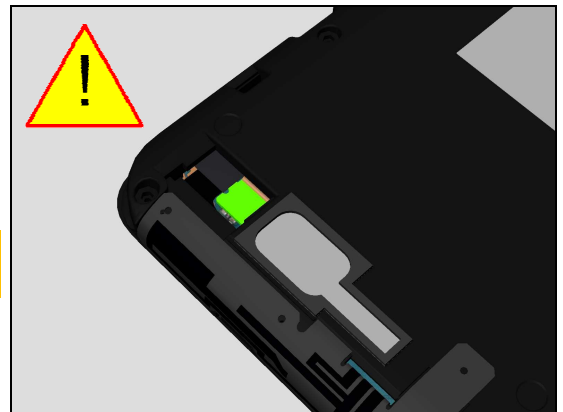
Reassembly

Press down at bottom side, and then press down on all sides of Rear Cover Assy make it snap securely on to Front Cover Assy.



Attach Battery 2300mAh BtB connector to Main PBA, press directly on top of connector using Nylon Pointer for 5sec to fully secure board-to-board (BtB) connector attachment!

Before continuing power on the phone to verify Battery 2300mAh connected properly!



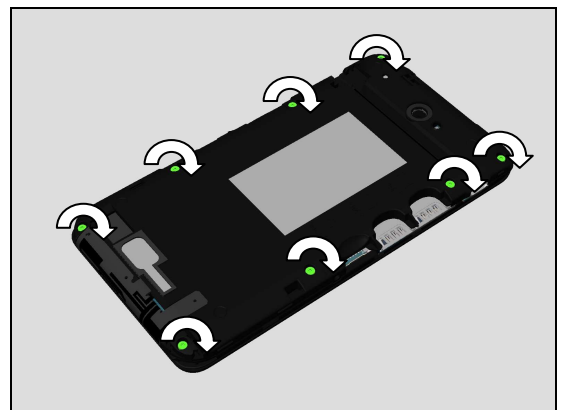
5.4 Battery Conn Sponge

Attach Battery Conn Sponge into cavity of Rear Cover Assy, press using Nylon Pointer to fully secure attachment!



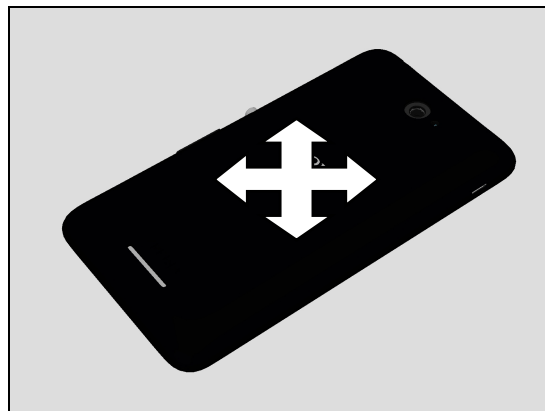
5.5 Screw_1.6mm_3.5mm

Apply 12+1 NCM torque when tightening all eight Screw_1.6mm_3.2mm by using Torx Bit T5.



5.6 Battery Cover

Attach Battery Cover and then press down on all sides of Battery Cover make it snap securely on to Rear Cover Assy.



6 Revision History

Rev.	Date	Changes / Comments
1	2015-Feb-11	Released
2	2015-Feb-11	No Change System Error
3	2015-Mar-02	E2124 Model Added