L2 Repair Document

Medoc/ONE TOUCH 985/985(A/N/S)

Note: this manual is non-contractual and TCT can modify it without prior notice on the characteristics of described equipments.

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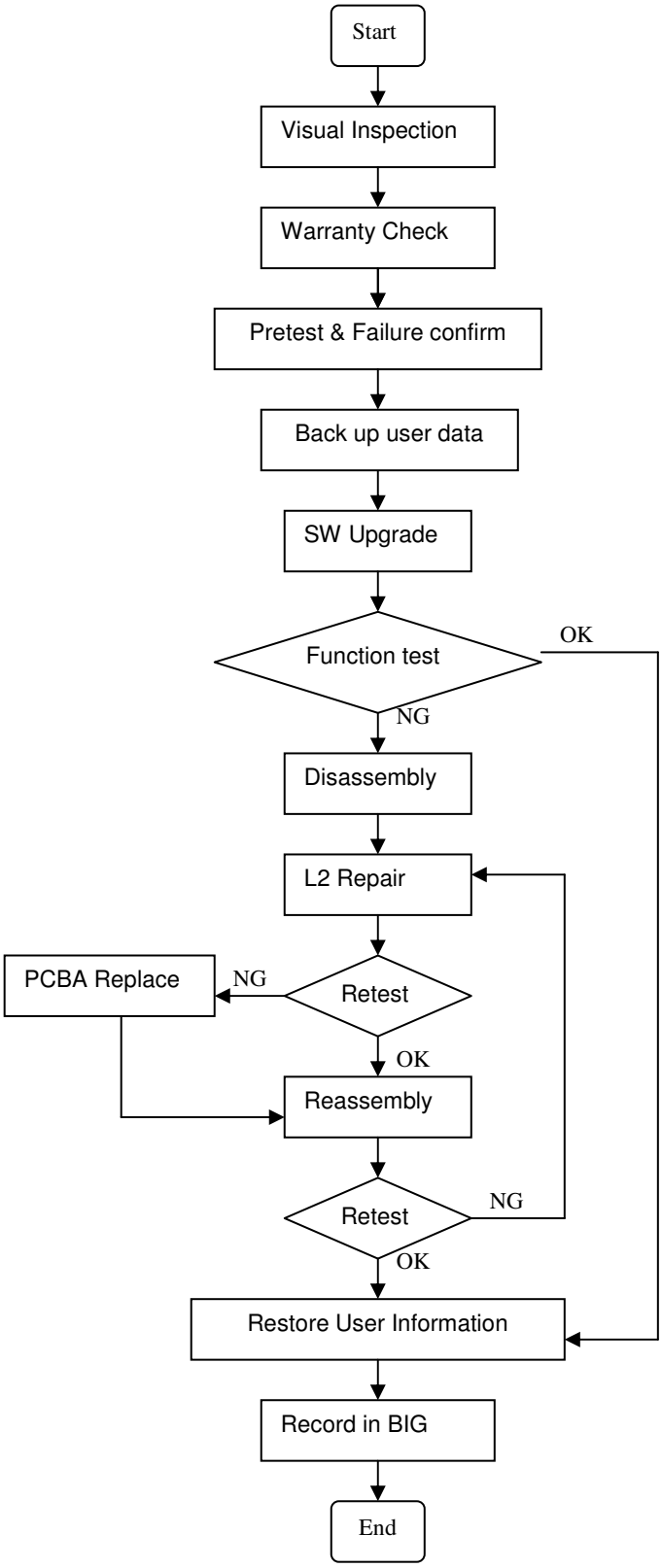
Rev.	**Date**	**Modification description**	**Prepared By**	**Checked By**	**Approved By**

1 Level2 repair process

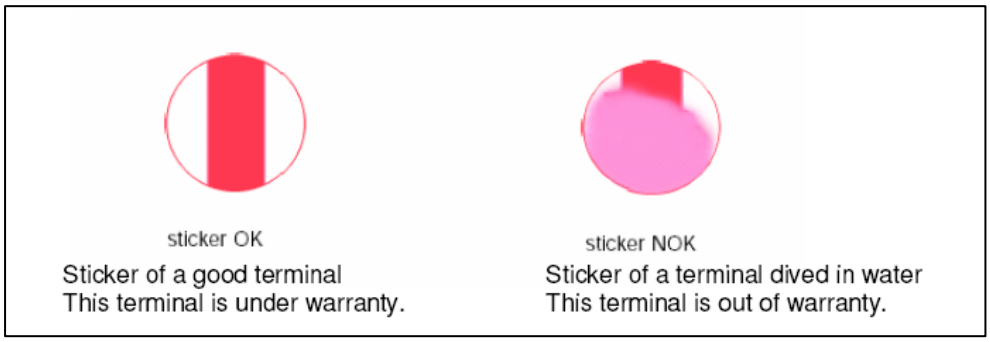


2 Warranty Check and Visual Inspection

Warranty confirmation of L1:

1) IMEI sticker check:
   a) The IMEI number MUST be the same with the one on the IMEI sticker. If not, it's out of warranty policy
   b) IMEI label should not be
      - Removed
      - Scratched
      - Unreadable
      - Un-approved or un-provided by Alcatel.

2) Humidity sticker: Liquid detection on humidity sticker.



Visual mechanical check:

1) Corrosion
   - Corrosion on the USB connector, SIM connector, and other metal surfaces。

2) Hole (diameter > 1mm)
   - Holes on any surface, including the front casing, furnished frame, battery cover, touch Lens, keypad…

3) Bump

- Bumps (diameter > 1mm) on any surface, including front casing, decorate frame, battery cover, touch Lens, keypad, etc.

4) Scratch

- Scratches (length > 3mm) on any surface, including the front casing, decorate frame, battery cover, touch Lens, keypad, etc.

5) Distortion

- Bend, twisted or crushed on the h/s, cover/casing or connectors, etc.

6) Broken

- Touch broken, casing/cover broken, etc.

7) Dropped

- Keypad tear off, touch lens, connectors dropped, etc.

8) Gap

- External physical damage relating to abnormal use, like front case and frame opened

9) Others

- Damage caused by disassembly ,wrong part assembly, loss of components
- Use in abnormal environment like high temperature causing plastic melts

Pretest

1) Check that the SIM card is set correctly.
2) Insert the battery.
3) Power on the cell phone.
4) If the cell phone can not power on, visually check the condition of the battery connector. Replace it if necessary.
5) If the cell phone asks to input NCK code, this means it is SIM locked and can only be worked with dedicated SIM card. Use the correct SIM card.
6) Enter the phone code if necessary.
7) After the phone power on, test step by step with the auto test code:

- Press *#2886# in dial screen and select “Start” to begin the testing. Then you will see the interface displaying the version. Press pass to continue

  If one of the testing failed, it will retest from the first one

- TRACABILITY Test
  - i. You will see the CU_reference, BT address and WIFI address…
  - ii. Press “Pass” to continue.
- LCD MIRE/BLACK/GREYCHART/WHITE Test
  - i. You will see the LCD color changes if it functions well
  - ii. Press “Pass” to continue.
- KEYPAD Test.
  - i. Press the key displayed on the screen. The key on the screen will disappear you press it if it functions well
  - ii. Press “Pass” to continue.
- BACKLIGHT Level Test.
  - i. You can the screen backlight will flashing.
  - ii. Press “Pass” to continue.
- VIBRATOR Test
  - i. You can feel the phone’s vibrating if it functions well.
  - ii. Press “Pass” to continue.
- CAMERA IMG Test
  - i. Scene will be shown on the screen.
  - ii. Press “Pass” to continue.
- CAMERA IMG FRONT Test
  - i. Scene from front camera will be shown on the screen.
  - ii. Press “Pass” to continue.
- Melody Test.
  - i. You can hear a melody if it functions well
  - ii. Press “Pass” to continue.
- HEADSET Test.
  - i. Insert handset and the phone will detect it if it functions well
  - ii. Press “Pass” to continue.
- USB Test
  - i. Insert the USB cable and the phone will detect it if it functions well

ii. Press “Pass” to continue.

- GSENSOR Test
  - i. put the handset face up and towards up, then to the Left, Right, Up and Down
  - ii. Press “Pass” to continue
- COMPASS Test
  - i. If it’s OK, press pass to continue
- ALS/PS Test
  - i. Put your thumb on the proximity sensor then remove
  - ii. Press “Pass” to continue
- SIM Test
  - i. Insert the SIM card and the phone will detect it if it functions well
  - ii. Press “Pass” to continue
- Memory card Test
  - i. Insert the Memory card and the phone will detect it if it functions well
  - ii. Press “Pass” to continue
- Battery temp Test
  - i. Battery temperature will be displayed on the screen
  - ii. Press “Pass” to continue
- BT Test
  - i. The phone will running the BT and show the BT address on screen
  - ii. Press “Pass” to continue
- WIFI Test
  - i. The phone will running the WIFI and search available network
  - ii. Press “Pass” to continue
- GPS Test
  - i. The phone will running the GPS and search satellite
  - ii. Press “Pass” to continue
- CALL Test
  - i. The phone will auto dial emergency phone

4 Disassembly and assembly ONE TOUCH 536

4.1 ESD Safety


Please wear static loop or static glove

4.2 Disassembly tool

You may use the following tools during the disassembly and reassembly procedure:

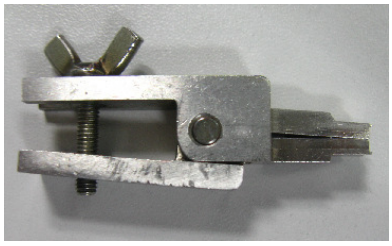
Plastic Flake

Tweezers

Hot wind gun

Screwdriver

Soldering iron



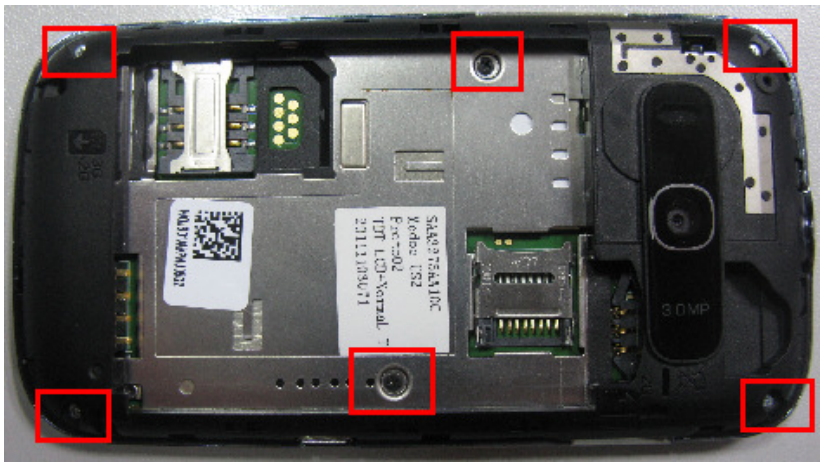
Camera Jig

4.3 Disassembly process

The steps of disassembly ONE TOUCH 985 are as below.

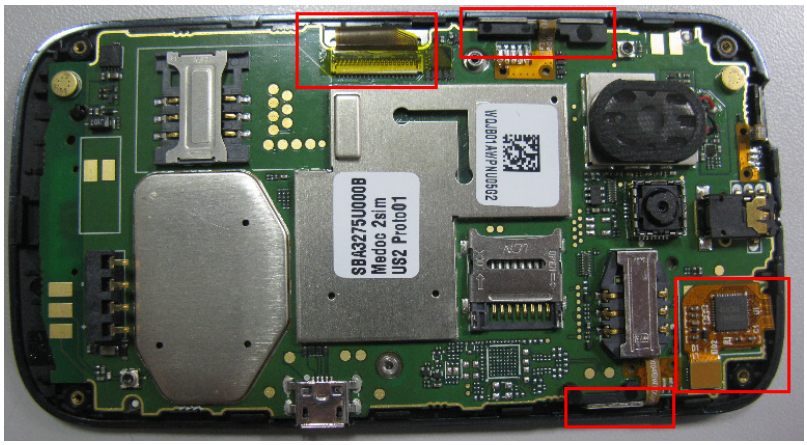
This module should only be disassembled from bottom to top.

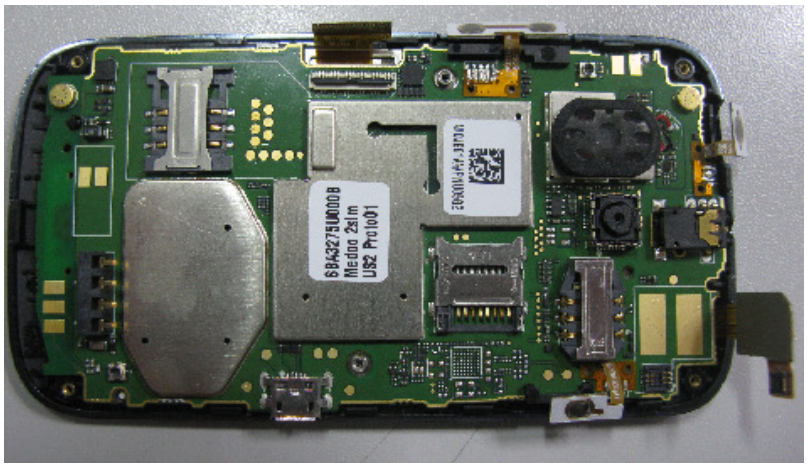
Step1: Take off the 6 screws from the furnished frame by screw driver.



Step 2: Separate the furnished frame from furnished front casing

Step 3： Remove Touch Lens and LCD Module FPC connector by Plastic Flake





Step 4: Separate the Main PCBA from Furnished front casing

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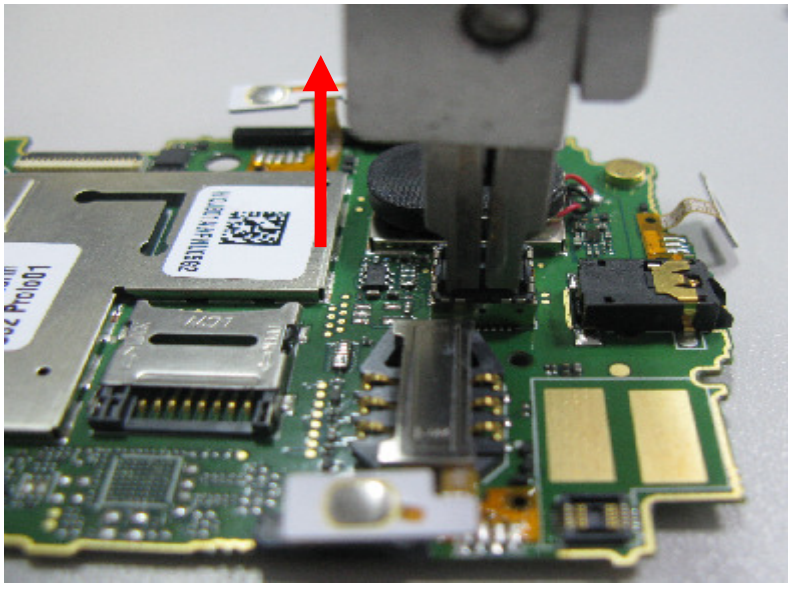
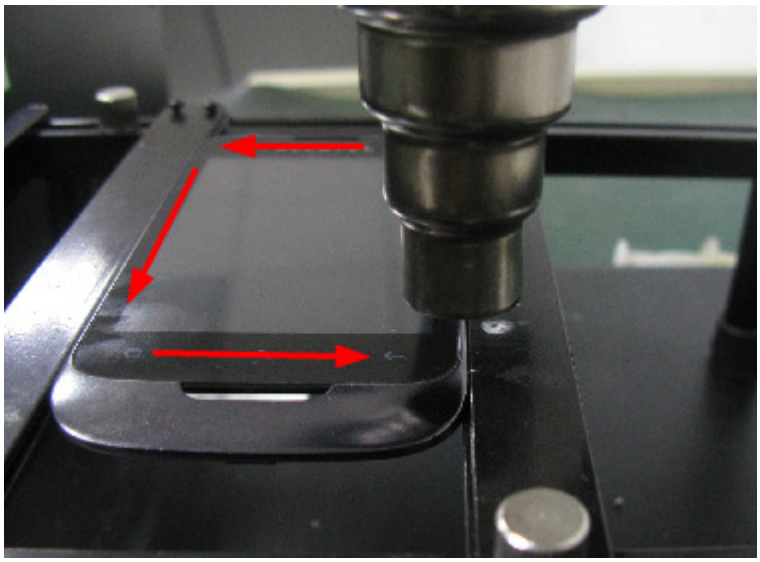
Step 5：Extract the camera by camera jig.

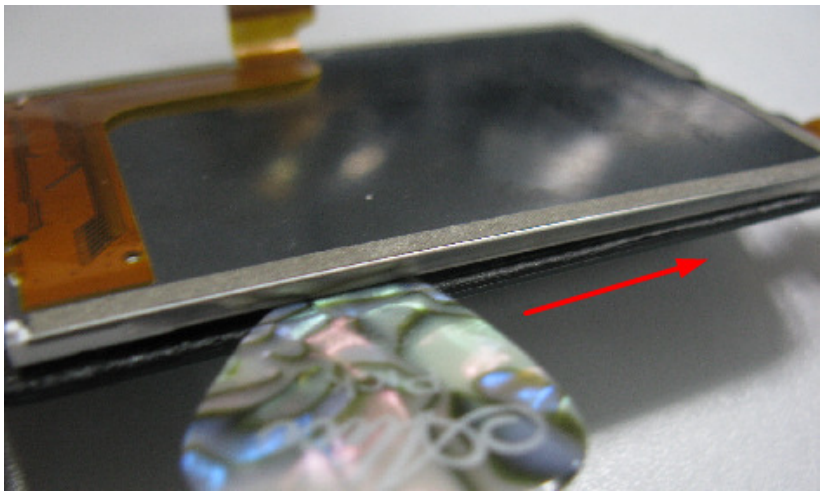


Step 6：Please use hot wind gun heating around the edge of the touch lens, then separate the touch lens from furnished front casing. (Temperature: 100±10℃, Air Level:3, Height:5-10mm, Time:30s)

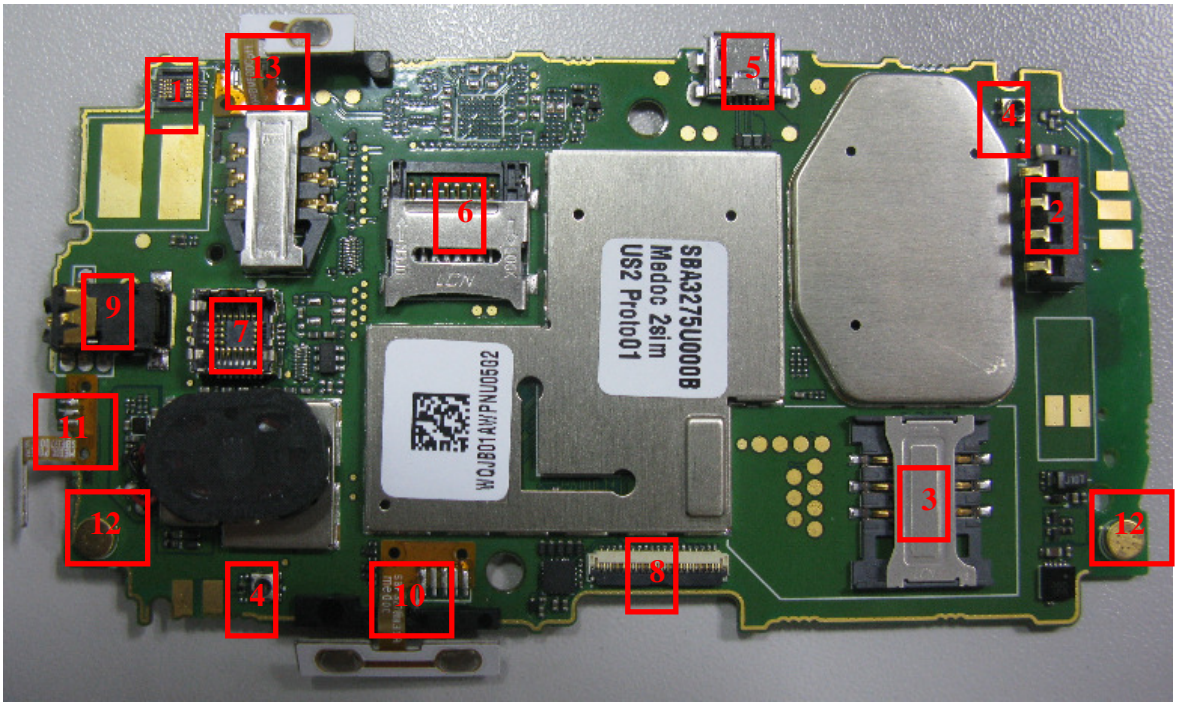


Step 8: If you find the top of the touch screen is too viscous when you separate the touch screen from furnished front casing by plastic flake, please first prop the touch screen up by plastic pen and pay attention the place of TP FPC.

Step 9： Separate the LCD Module from Touch lens by Plastic Flake.



Step 10: Remove the following components from main PCBA with hot wind gun.



1- Touch panel Module connector 2-battery connector 3-SIM connector 4-RF connector 5-USB connector 6-T flash connector 7-camera connector 8-LCD module connector 9-audior jack 10-volume side key FPC 11- Power side key FPC 12-Microphone 13-Camera key FPC

Disassembly Notice:

Put all the spare parts on right position (don't let all spare parts mixed and put on the clean place to avoid vitiated or stained for each spare part) after disassembly. When taking apart of LCD, take care not to dirty or damage it.

4.4 Reassembly Process

Please make reference to the disassembly process for assembly reverse an order of the disassembly steps.

Attention: Insert main FPC and assembly main PCBA with furnished keypad casing, lock the main FPC connector to PCBA connector, and then place the side key, Assembly the furnished frame. Note the orientations of the main FPC.

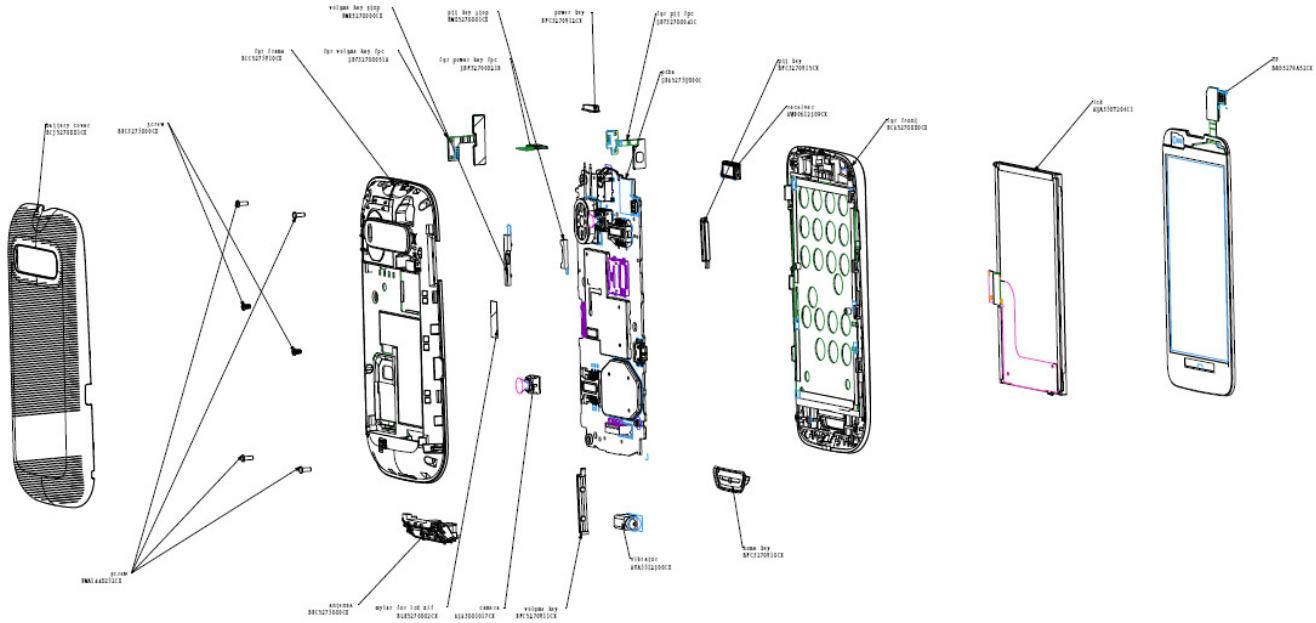
4.5 Disassembly process evaluation

We list the ONE TOUCH 985 parts disassembly time, technique levels and disassembly methods as below, for technique levels, Class 1 signifies easy to disassembly, Class 2 signifies normal to disassembly and Class 3 signifies hard to disassembly.

spare part	Time for disassembly	Jigs for disassembly	Difficulty Class	Remark
battery cover	3s	Plastic Flake	Class 1	
Furnished casing with screws	20	screwdriver	Class 1	
PCBA	20s	Plastic Flake	Class 1	
Volume key	5S	Tweezers	Class 1	
Power key	5S	Tweezers	Class 1	
Antenna Module	20S	Tweezers	Class 1	
Speaker	10s	Soldering iron	Class 1	
Camera module	10s	Camera jig	Class 1	
volume key FPC	15s	Hot wind gun screwdriver	Class 2	
Power key FPC	15s	Hot wind gun screwdriver	Class 2	
Receiver	10s	Tweezers	Class 1	
Receiver mylar	10s	Tweezers	Class 1	
PS rubber	5s	Tweezers	Class 1	
Vibrator	5s	Tweezers	Class 1	
LCD Module	20s	Plastic Flake	Class 2	
LCD connector tape	20s	Tweezers	Class 2	
TP FPC tape	20s	Tweezers	Class 2	Be careful for main PCBA pad and LCD FPC damage
BTB connector socket	60s	Hot wind gun Tweezers	Class3	The connector is easy to be damaged
RF swithch	60s	Hot wind gun Tweezers	Class3	The connector is easy to be damaged
USB connector	60s	Hot wind gun Tweezers	Class3	The connector is easy to be damaged
2 in 1SIM card connector	120s	Hot wind gun Tweezers	Class 3	The connector is easy to be damaged
audio jack	60s	Hot wind gun Tweezers	Class3	The connector is easy to be damaged
flash card connector	120s	Hot wind gun Tweezers	Class 3	The connector is easy to be

				damaged
Battery connector	40s	Hot wind gun Tweezers	Class3	The connector is easy to be damaged
Microphone	40s	Hot wind gun Tweezers	Class3	
LED	60s	Soldering iron Tweezers	Class3	
Keypad film	20s	Tweezers	Class 2	

4.6 Disassembly Complete



5 Level 2 repair

This chapter describes the LEVEL 2 repair that can be done without any diagnostic equipment.

	Problem description	Action And Solution
Charging	Bad or No Charge	1.Check voltage of the battery: if 0V, charge some minutes and check the charge indicator; 2.Check the battery contact, change the battery connector if broken; 3.Check the charge plug on B cover, change it if necessary;
Switch on with battery power	Can ‘t Switch on	1.Check voltage of the battery; 2.Check the battery contact, change the battery connector if broken;

		3.Check the power on key; 4.Check BTB connector socket pin
Main display	Missing line or column; no display; bad or no LCD backlight	Check Connection flex (FPC cable),change it if necessary; Replace display module if necessary;
Vibrator	The vibrator does not work	Check the contact on the PCBA (dirty or oxidized), replace the vibrator if necessary;
Network Problem	No emission or No reception	Check the antenna contactor on the B cover; Check the contact on the PCBA (dirty or oxidized);
TF card	No communication between the phone and the TF card	Check the TF connector on the PCBA;
Camera	Camera doesn't work	Check camera module Check also camera socket broken or not
Audio	Bad or no emission (TX audio from mobile); Bad or no reception (RX audio on mobile); Hands-free problem; Key beep and melody problem	Check microphone, replace it if necessary; Check the contact on the PCBA (dirty or oxidized) Check loud speaker, replace it if necessary; Check the contact on the PCBA (dirty or oxidized)

In case the LEVEL 2 repair can't solve the problem, or the PCBA is damaged, exchange the PCBA.

6 PCBA exchange

If Level 2 repair does not solve the failure, it is mandatory to change the PCBA and follow the process as below.

1) Collect the PCBA (without accessories, LCD and camera), with microphone and vibrator.
2) Get a new PCBA from the swap stock. Reuse those accessories to assemble the mobile.
3) Fill in the record sticker with IMEI number, fault code, short code, Hardware Technical Level and software version.
4) Send the NG PCBA with record sticker back to L3 repair center with the recommended packaging method,

Note: packaging method please refer item "12. Packaging requirement".

7 Other component exchange

The other components exchange such as

1) LCD module
2) Vibrator
3) Receiver
4) Speaker
5) Microphone
6) Camera
7) FPC connection
8) Audio connector
9) Camera connector
10) Other related mechanical components

Please follow the detail steps 4.3 (Disassembly and assembly process).

But need to be very careful to handle the components with related special tool or jig (especially replacing new components)

It is better to handle it with plastic tools (plastic tweezers and wedge etc.).

Besides operator must wear anti-static gloves, fingertips or wear static loop during the whole process of components exchange.

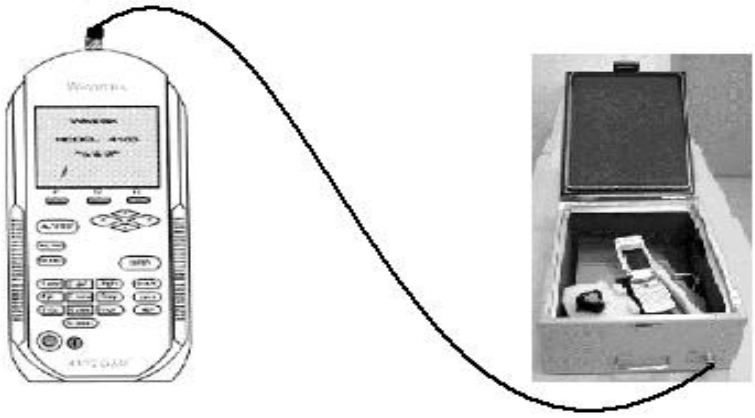
8 Final test

8.1 Function Test

During the function test, the following items must be checked and validated.

1) Cosmetic aspect of the handset,
2) The Software Technical sticker state on the Board
3) Switch on the handset
4) Default welcome message
5) Press *#2886# on the idle screen to start the auto test

8.2 Measurement



Measurements	Channel	Power level	Tol.min	Tol.max	Condition
GSM					
Connection Mobile	63*	9	None	None	Radiated meas
Call base from mobile	5*	9	None	None	Radiated meas
Power level measurements	5*	9	22 dBm	28 dBm	Radiated meas
Power level measurement	5*	5	31 dBm	35 dBm	Radiated meas
Peak Phase error measurements	5*	5	0°	20°	Radiated meas
RMS Phase error measurements	5*	5	0°	5°	Radiated meas
Frequency error measurements	5*	5	-90 Hz	+90 Hz	Radiated meas
RX Level (BS power level : -60dBm)	5*	5	45	55	Radiated meas
Power level measurements	120*	5	31 dBm	35 dBm	Radiated meas
Peak Phase error measurements	120*	5	0°	20°	Radiated meas
RMS Phase error measurements	120*	5	0°	5°	Radiated meas
Frequency error measurements	120*	5	-90 Hz	+90 Hz	Radiated meas
RX Level (BS power level : -60dBm)	120*	5	45	55	Radiated meas

DCS					
Power level measurements	515*	0	28 dBm	32 dBm	Radiated meas
Peak Phase error measurements	515*	0	0°	20°	Radiated meas
RMS Phase error measurements	515*	0	0°	5°	Radiated meas
Frequency error measurements	515*	0	-180 Hz	+180 Hz	Radiated meas
RX Level (BS power level : -60dBm)	515*	0	45	55	Radiated meas
Power level measurements	880*	0	28 dBm	32 dBm	Radiated meas
Peak Phase error measurements	880*	0	0°	20°	Radiated meas
RMS Phase error measurements	880*	0	0°	5°	Radiated meas
Frequency error measurements	880*	0	-180 Hz	+180 Hz	Radiated meas
RX Level (BS power level : -60dBm)	880*	0	45	55	Radiated meas
Keyboard test (1)	-	-	-	-	-
Audio test GSM	70*	9	None	None	Radiated meas
Hang up	70*	9	None	None	Radiated meas
Call mobile from BS	700*	9	None	None	Radiated meas
Power level measurements	700*	0	27 dBm	33 dBm	Radiated meas
Audio test DCS	700*	0	None	None	Radiated meas
Hang up	70*	9	None	None	Radiated meas
PCS					
Connection Mobile	661*	5	None	None	Radiated meas
Call base from mobile	513*	5	None	None	Radiated meas
Power level measurements	513*	5	15 dBm	25 dBm	Radiated meas
Power level measurements	513*	0	25 dBm	35 dBm	Radiated meas
Peak Phase error measurement	513*	0	0°	20°	Radiated meas
RMS Phase error measurements	513*	0	0°	6°	Radiated meas
Frequency error measurements	513*	0	-180 Hz	+180 Hz	Radiated meas

RX Level (BS power level : -65dBm)	513*	0	35	55	Radiated meas
Keyboard test (1)	-	-	-	-	-
Power level measurements	880*	0	25 dBm	35 dBm	Radiated meas
Peak Phase error measurements	880*	0	0°	20°	Radiated meas
RMS Phase error measurements	880*	0	0°	6°	Radiated meas
Frequency error measurements	880*	0	-180 Hz	+180 Hz	Radiated meas
RX Level (BS power level : -60dBm)	880*	0	35	55	Radiated meas
Audio test 1900	683*	5	None	None	Radiated meas
Hang up	683*	5	None	None	Radiated meas
Call mobile from BS	683*	5	None	None	Radiated meas
Power level measurements	683*	5	15 dBm	25 dBm	Radiated meas
Hang up	683*	5	None	None	Radiated meas

Note: These values are given for reference. Compatible low, middle and high channels have to be found.

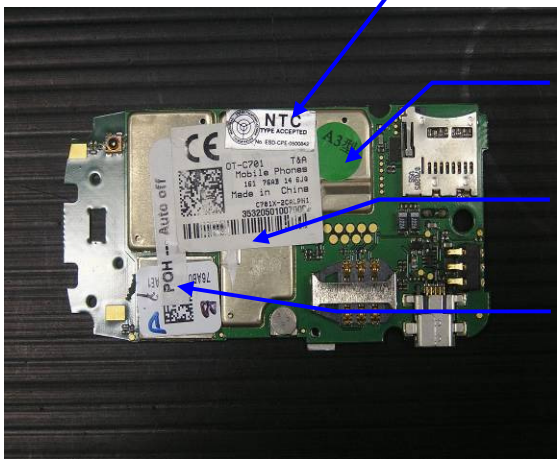
APPENDIX 1 Packaging Requirements

1、 Appearance Requirements of PCBA

a、 The failure code label, commercial label, custom label and network code should be stuck onto PCBA

b、 The repair PCBA and custom label should be matched (see appendix one for the detailed information)

PCBA of Flip Phone

put commercial label and network code on one side	Put failure code label and custom label on other side
PCBA of Bar Phone  Put commercial label and custom label on PCBA	 At the same time put network code label and failure code label

2、 PCBA Packing Requirements

i. After packing with anti-vibration bag, the commercial label on PCBA should be easy recognized;

 Inner packing is anti-static bag	 Outer packing is anti-vibration bag

 Put commercial label on anti-vibration bag	

3、 Packing Requirements

ii. Please pay attention to the following points when different models put into one box：

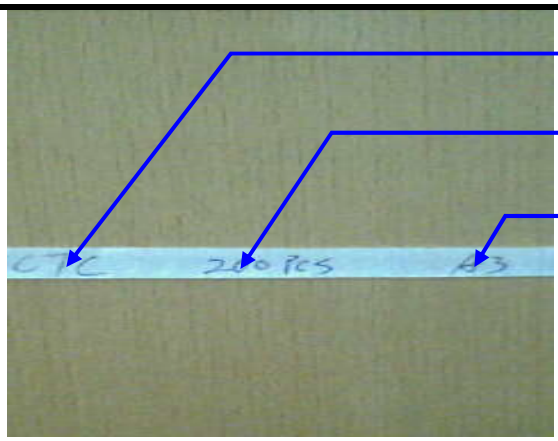
iii. Stick up the same models with tapes

iv. Mark the model, quantity and specification of custom label on tape

v. The packing box for PCBA should have marking sticker and well sealed by the tape

vi. with TCL logo

vii. Finally put all the packing boxes into packing cases strong enough and post to HK.

 Stick up the same models with tapes	 Mark the model, quantity and specification of custom label on tape