

AT01

MTAG351



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

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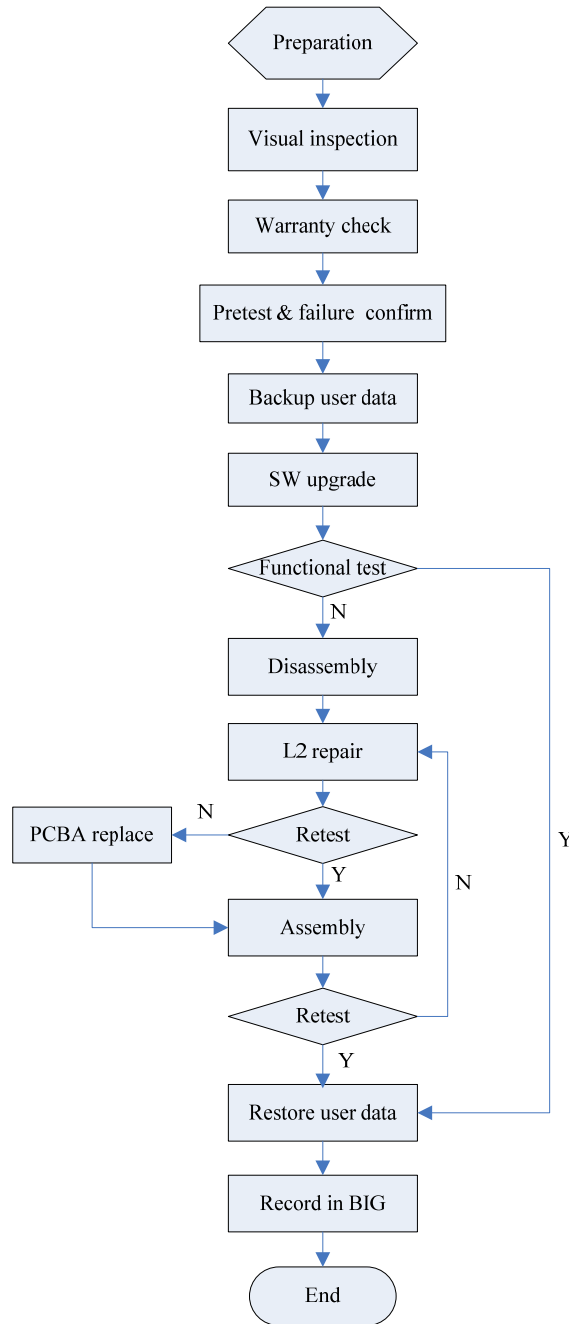
1.0	2012-06-19	First Launch	Shichuan		
Rev.	Date	Modification description	Prepared By	Checked By	Approved By

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1. Level 2 repair process



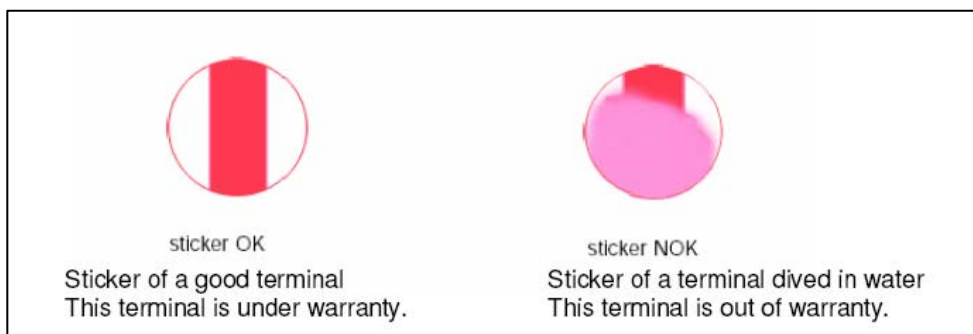
2. Warranty Check and Visual Inspection

2.1. Warranty confirmation of L1:

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



- 2) Humidity sticker: Liquid detection on humidity sticker.



2.2. Visual mechanical check:

- 1) Corrosion
 - Corrosion on the USB connector, SIM connector, and other metal surface
- 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.

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- 6) Broken
 - Touch broken, casing/cover broken, etc.
- 7) Dropped
 - Keypad torn, 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, lost of components
 - Use in abnormal environment like high temperature cause plastic melts

3. 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, which 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) If power on, test step by step with the auto test code:
- 8) Press ***01763*366#** in dial screen and select "AUTO" or "MANU" to start testing

- LCD test.

- i. Screen will display Red/Green/Blue three color bars.
- ii. Select "Pass" to continue.
- iii. Screen will turn black.
- iv. Select "Pass" to continue.
- v. Screen will display with gray bars ,the back light become week from bottom to top.
- vi. Select "Pass" to continue.
- vii. Screen will display white backlight.
- viii. Select "Pass" to continue.

- Battery temperature test.

- i. Screen display OK and the temperature.
- ii. Select "Pass" to continue.

- Keypad test.

- i. Press hard key(Vol up & Vol down Home) or touch icon (Menu &Search&Back), the icon on

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the screen will disappear.

ii. Select "Pass" to continue.

■ Camera LED test.

i. The LED beside the main camera will turn on.

ii. Select "Pass" to continue.

■ LCD backlight test.

i. LCD backlight will flash with three times.

ii. Select "Pass" to continue.

■ Key backlight test.

i. Touch key backlight will flash with three times.

ii. Select "Pass" to continue

■ Front camera test.

i. Scenery capture by front camera will display on the screen.

ii. Select "Pass" to continue

■ Vibrator test.

i. Vibrator with vibrating.

ii. Select "Pass" to continue after vibrating stopped.

■ Main camera test

i. Scenery capture by main camera will display on the screen.

ii. Select "Pass" to continue

■ Receiver test.

i. Screen will display "Receiver discrete test" and handset will sound di-di-di-di.

ii. Select "Pass" to continue

■ Speaker test.

i. Melody can be heard.

ii. Select "Pass" to continue.

■ Mic-Receiver loop test.

i. Talk to the handset and your sound should be heard

ii. Select "Pass" to continue.

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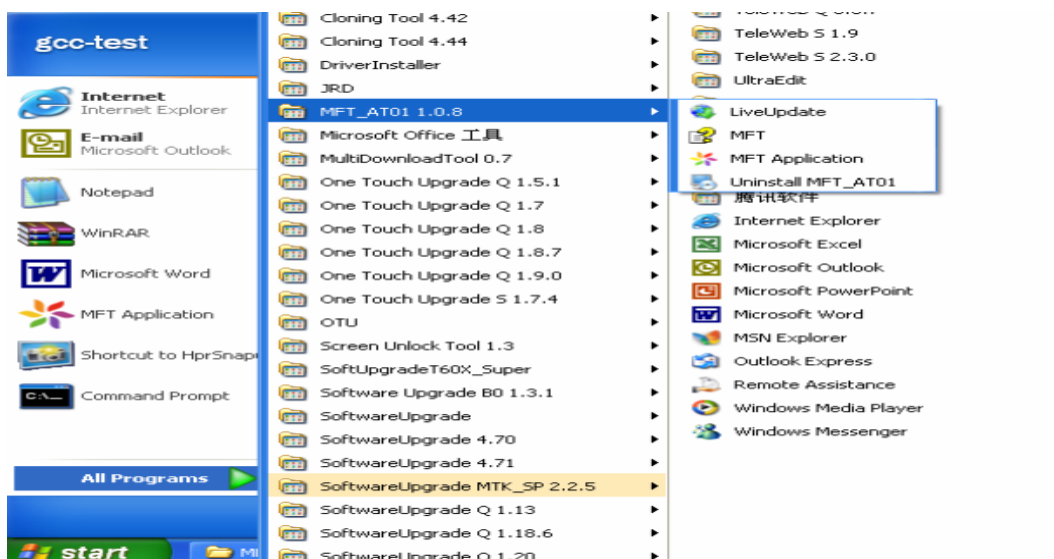
- UIM card test.
 - i. Insert UIM card, it can be detected by handset.
 - ii. Select “Pass” to continue.
- Memory card test
 - i. When test pass, screen will display SD test OK.
 - ii. Select “Pass” to continue.
- USB test
 - i. Plug and remove the USB cable according to prompt. Handset will display OK.
 - ii. Select “Pass” to continue.
- Headset test
 - i. Plug headset when handset prompts and screen will display “OK”.
 - ii. Melody can be heard on left earphone when screen displays “Headset left discrete test”
 - iii. Select “Pass” to continue.
 - iv. Melody can be heard on right earphone when screen displays “Headset right discrete test”
 - v. Select “Pass” to continue.
 - vi. Screen will display “Headset Mic loop”.
 - vii. After heard the loop sound, select “Pass” to continue.
 - viii. Screen will prompt remove the headset. When headset removed screen will display “OK”.
- Bluetooth test.
 - i. Handset will detect the access point and display “OK” and MAC address.
 - ii. Select “Pass” to continue
- WIFI test.
 - i. Handset will detect the WIFI network and display “OK” and WIFI information.
 - ii. Select “Pass” to continue.
- G-sensor test.
 - i. Screen will display “put the handset face up and towards up”, follow this prompt screen will display left arrow, right arrow and down arrow.
 - ii. Select “Pass” to continue.
- Compass test.
 - i. Screen will display compass and arrow always point north.

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- ii. Select "Pass" to continue.
- Light-sensor test.
 - i. Handset will detect the ambient light. The lightness data will change when put something close to the sensor on the left top corner.
 - ii. Select "Pass" to continue.
- Proximity-sensor test.
 - i. Follow handset prompt to shadow the sensor on the left top corner from far to near and from near to far, the relevant data will change that displayed on the screen.
 - ii. Select "Pass" to continue.
- GPS test.
 - i. Satellite will be detected if subscribe the service.
 - ii. Select "Pass" to continue.
- Bt/Wifi Address.
 - i. The MAC address of Bt&Wifi should be displayed
 - ii. Select "Pass" to continue

4. software update

We use MFT tool to do software upgrading in this case. Firstly, you have to install the tool in your computer; after installation of this MFT, you can find it in your computer's program list as below.

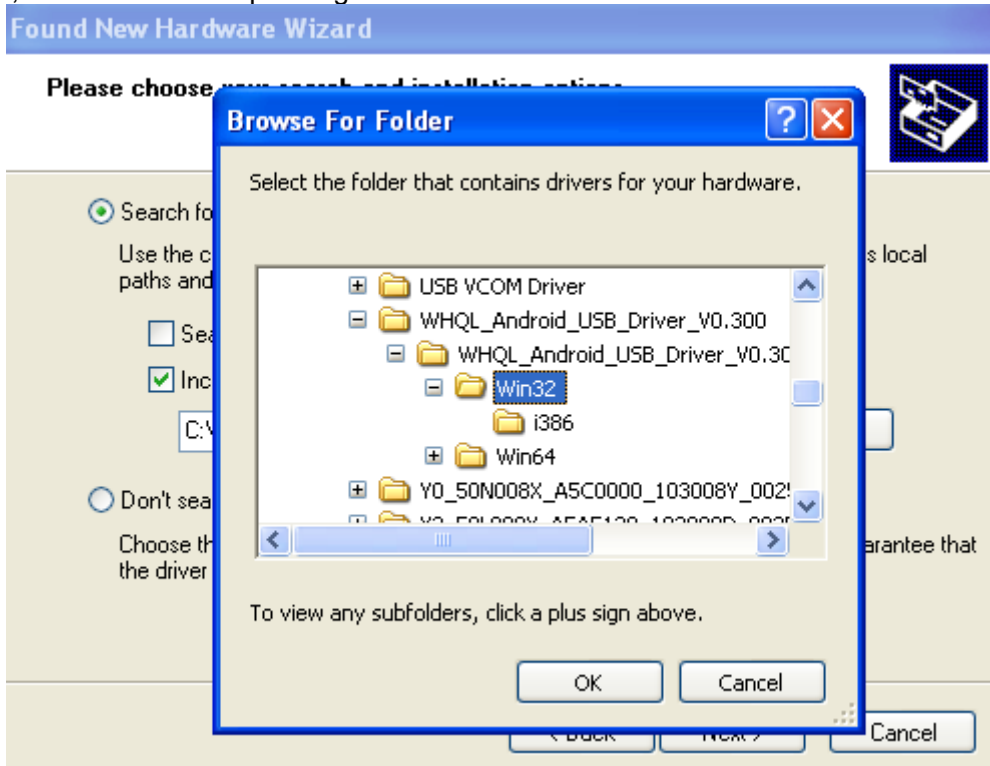


- i. Take out the battery of the handset, press the volume down key and do not release it, at the same time connect to computer the handset via USB cable; you can release the volume down key about 5 seconds after the USB cable is connected.

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- ii. After all this above is done, the computer may prompt a dialog box for installing driver for new hardware; choose the corresponding driver to install.



- Screw driver
- Tweezers
- Soldering iron
- Hot air gun
- Hook
- Knife

Please refer to APPENDIX 1 and find out the picture of the tool.

5.2. Disassembly process

Step 1: Before disassembling process begins, make sure you have worn static loop, and the static loop has good connection with GND, which can help to avoid ESD damage on the PCBA during disassembling.



Step 2: Remove the screws from the cover first.

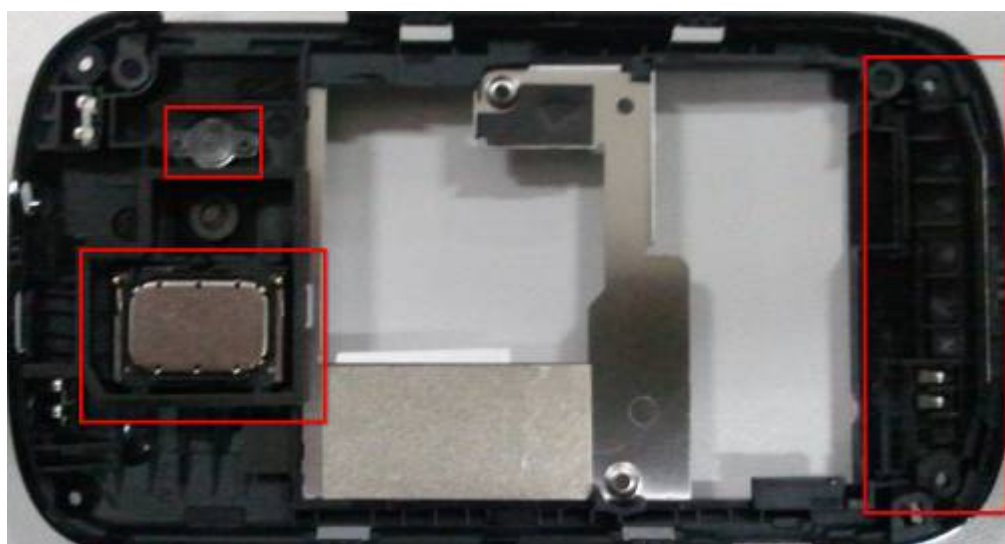


Step 3: Separate the decorate frame.

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Step 4: Remove the Speaker, antenna, and the shield for Camera LED



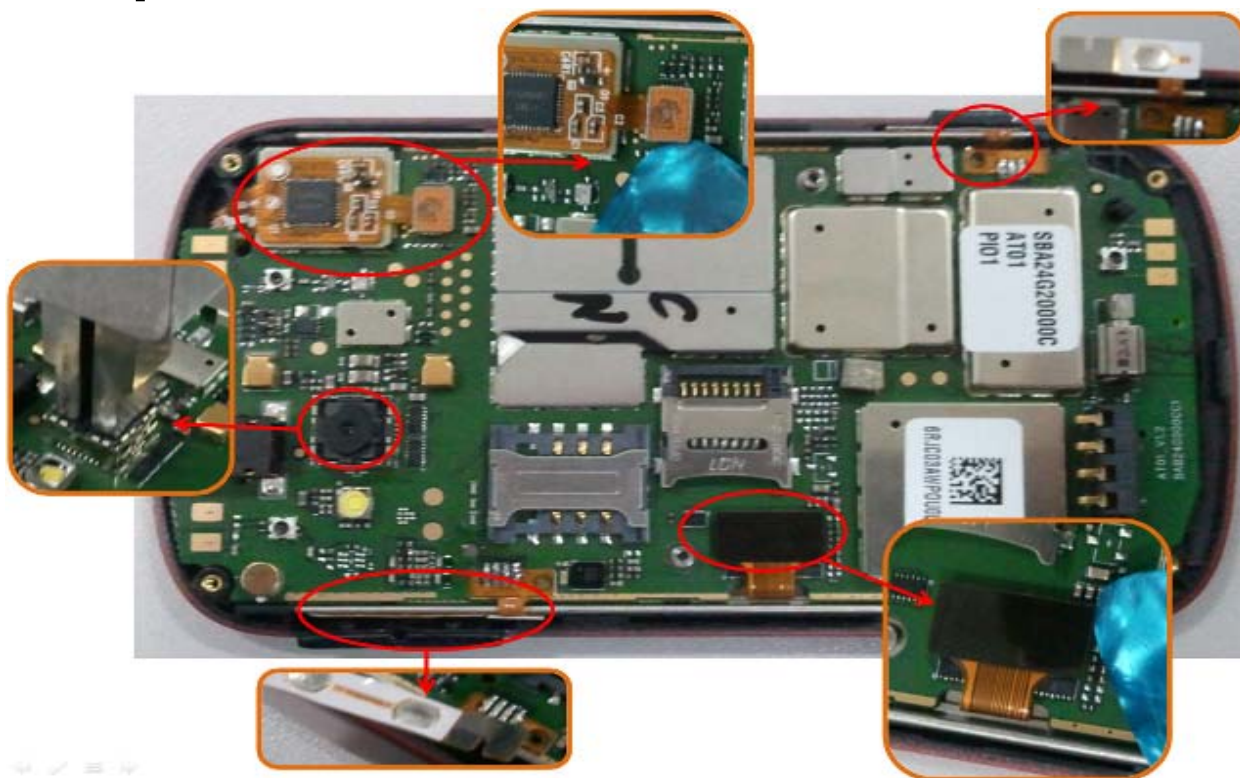
Step 5: Separate the FPC connector and Camera

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Step 6: Remove PCBA from the front casing



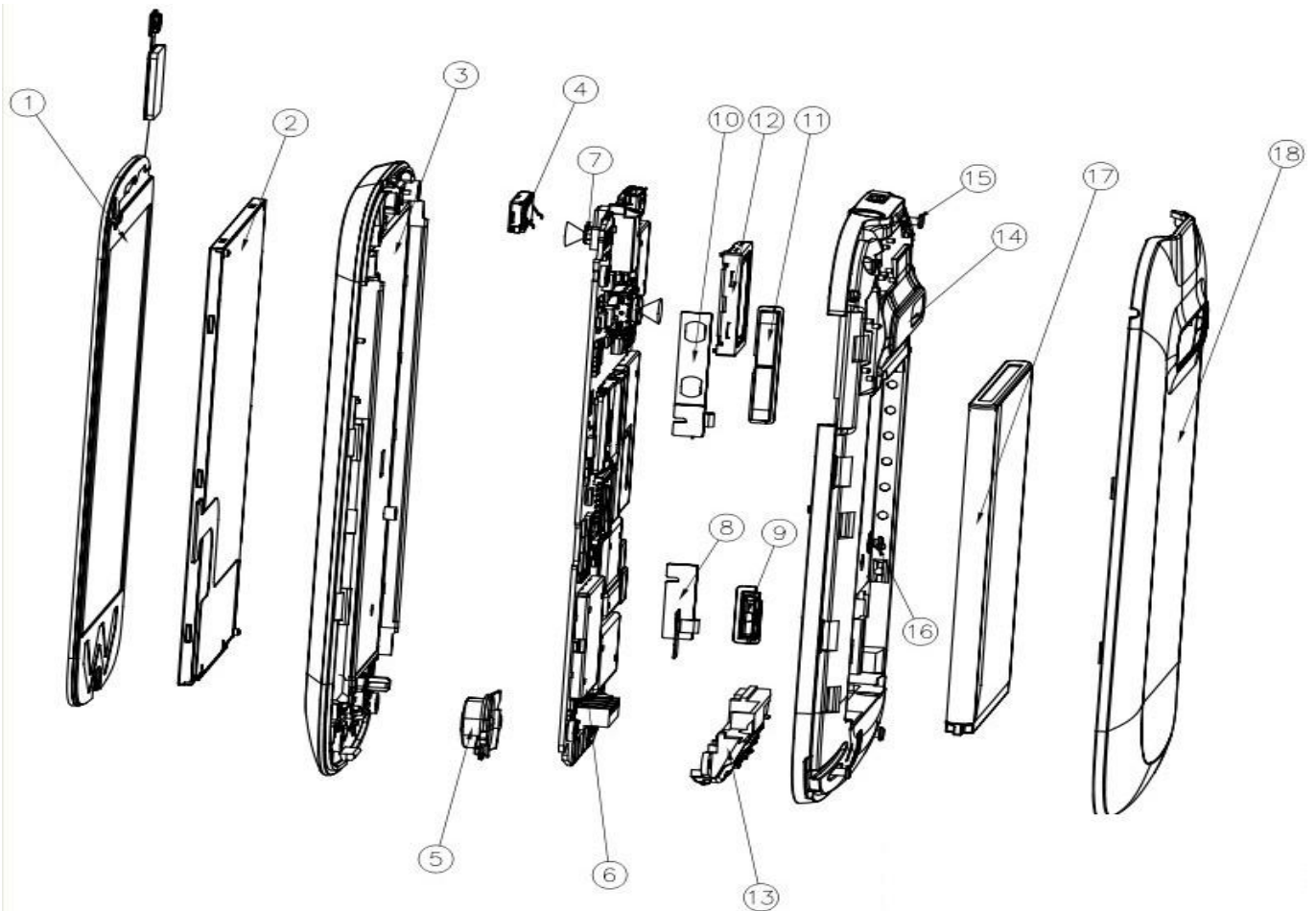
Step 7: Separate FPC from the PCBA(Temperature: $350 \pm 10^{\circ}\text{C}$)



Step 8: Firstly, Please use hot wind gun heating around the touch lens, then separate the touch lens from furnished front casing. (Temperature: 100±10°C, Air Level:3, Height:5-10mm, Time:30s)



Step 9: Disassembly completed !



NO	Spare part
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1	LCD
2	Touch Panel
3	Furnished Front casing
4	Receiver
5	Home Key
6	PCBA
7	Sub Camera
8	Side key FPC-1
9	Side Key-1
10	Side key FPC-2
11	Side Key-2
12	Speaker
13	Antenna Stand
14	Furnished Frame
15	Screw-1
16	Screw-2
17	Battery
18	Back Cover

AT01 MTAG351 L2 spare part list

Item	Description	Part number	Remark
1	Furnished front casing	BCA31P0A20C0	Bluish black soft touch
2	Furnished front casing	BCA31P0E20C0	Spicy red soft touch
3	Furnished Touch panel Module	BED24G0A17C3	IC:Focal5206,,Black printing on the backside,,no logo
4	LCD Module	AUA350T207C1	262K colors,3.5",320×480,TFT,Driver IC:ILI9481B(COG)
5	Furnished frame	BCC24G0V10C0	Dark chrome
6	Home key	BFC31P0A20C0	Black painting,Home key deco:Dark chrome
7	Volume side key	BFC31P0A11C0	Dark chrome
8	Power side key	BFC31P0A12C0	Dark chrome
9	volume key FPC	SBF31P00011C	2Layer,26.3*10.2mm
10	power key FPC	SBF31P00021C	2Layer,12.5*10.95mm
11	rubber gasket	BNG31P0006C0	
12	receiver plug	BNG31P0007C0	
13	Camera module	ASA3001017C1	3M,6.5×6.5×4.1mm,with CONN
14	wafer camera	ASA0300001C2	0.3M,3.24×2.8×2.74mm,20pin,SMT,with metal can,for India version
15	FRAME CONDUCTIVE FOAM	BLF31P0000C0	4*3.5*1.6mm,work thickness
16	Receiver insulated label	BLE31P0000C0	TKAPTON 0.15mm,12*7*0.15mm

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17	Screw	TA54-T3000952AAAA	PM1.4×4.0mm,HD=Φ2.5×T0.5mm,BZN(3+),+ type
18	Screw	BMA1421250C0	PM1.4×(0.3P)×L2.1mm,HD=Φ2.5×T0.5mm,silvery,+ type
19	Main Antenna	BBC24G0000C2	
20	Receiver	AWB0612S06C1	6×12×2mm,,32 Ohms, Spring contact
21	Speaker	AWA2014S04C1	20×14×3.0mm,91dB±3dB,,spring contact, second source
22	Speaker	AWA1420S00C1	14×20×3.0mm,, Spring contact
23	Audio Jack	ARG0050004C1	5pin,Diameter=3.5mm, H=4.3
24	USB connector	ARH0050018C1	5pin,0.65pitch,H=2.4mm
25	T-Flash card connector	ARJ0080046C1	8pin,1.1pitch,H=1.6mm
26	SIM card connector	ARD0060051C1	6pin,2.54pitch,13.6×16.4×H1.8mm
27	Battery connector	ARE0040021C1	4pin,3.1pitch,H=5.4mm
28	Camera socket	ARK0240004C1	24pin,,8×8×H3.5mm
29	Microphone	AWC4013M02C1	Φ4.0×T1.3mm,-44±3dB,SMT
30	Keypad film	BJA31P0000C1	1 dome,17×10.5mm
31	Vibrator motor	AVA0410M01C1	11*4.4*3.6mm,DC2.7V,SMT type
32	TP adhesive Tape 1	BPA31P0001C1	
33	TP adhesive Tape 2	BPA31P0002C1	
34	TP film	BPA24G0004C0	Φ4.5mmX0.15mm
35	conductive adhesive tape	BLG31P0000C0	
36	Commercial Label	CPE0000026C0	64×49mm,L type, blank
37	SWAP PCBA	F-B24G0MSIN1	SWAP PCBA,AT01,800,MT351-2A\BMSIN1

The MTAG351 L2 Spare Part List will be updated in future. And, you can download the latest version form TS web: <https://css.tclmobile.cn/>

5.3. Assembly Process

Please refer to the disassembly process for assembly in reverse order.

6. Disassembly process evaluation

The MTAG351 parts disassembly time is listed here. Technique level and disassembly method listed below. For technique levels:

- 1) Class 1 stands for easy to disassemble.
- 2) Class 2 stands for normally to disassemble.
- 3) Class 3 stands for difficulty to disassemble.

Spare part	Time	Jig	Class	Remark
Battery cover	3s	Plastic Wedge	Class 1	
Remove screws on decorate casing	20	screwdriver	Class 1	
Volume key	5S	Tweezers	Class 1	
Power key	5S	Tweezers	Class 1	
Touch screen connector	5s	Tweezers	Class 1	
Camera connector	5S	Tweezers	Class 1	
LCD connector	5S	Tweezers	Class 1	

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Remove PCBA	20s	Plastic Wedge Tweezers	Class 2	
Remove speaker1	5s	Tweezers	Class 1	
Remove speaker1 mask	5s	Tweezers	Class 1	
Separate LCD	20s	Plastic Wedge Tweezers	Class 2	
Remove main camera	5s	Tweezers	Class 1	
Remove touch screen	20s	Plastic Wedge Tweezers	Class 2	
Remove SIM connector	120s	Hot air gun Tweezers	Class 3	The connector is easy to damage
Remove audio jack	5s	Tweezers	Class1	
Remove speaker2	5s	Tweezers	Class1	
Remove T flash connector	120s	Hot air gun Tweezers	Class 3	The connector is easy to damage
Battery connector	40s	Hot air gun Tweezers	Class3	The connector is easy to damage
Remove Microphone	40	Hot air gun Tweezers	Class3	Easy to damage the FPC
Remove Vibrator	40	Hot air gun Tweezers	Class3	Easy to damage the FPC, action must take ambient components into consideration

7. 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 keypad 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 FPC broken or not

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

8. PCBA Exchange

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

- 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. Package requirement".

9. Other component exchange

The other components exchange such as

- 1) LCD module
- 2) Vibrator
- 3) Receiver
- 4) Speaker
- 5) Microphone
- 6) Camera module
- 7) Audio connector
- 8) Other related mechanical components.

We 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.

10. Commercial label marking (MEID sticker)

10.1. Blank label size

Label Dimension Reference : 64×49mm

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10.2. Samples for commercial label



Figure 1.1 Commercial Label

11. Tools



Plastic Stick



Tweezers



Hot air gun



Screwdriver (TORX6)



Soldering iron




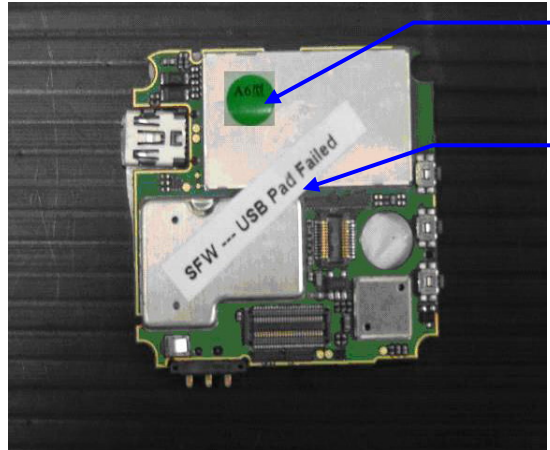


Knife

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12. Package Requirement

1) Appearance Requirements of PCBA

- i. The failure code label, commercial label, custom label and network code should be stuck onto PCBA
- ii. The repair PCBA and custom label should be matched (see appendix one for the detailed information)

<p>PCBA of Flip Phone</p>  <p>Network code</p> <p>Commercial label</p> <p>put commercial label and network code on one side</p>	 <p>Custom label</p> <p>Failure code label</p> <p>Put failure code label and custom label on other side</p>
<p>PCBA of Bar Phone</p>  <p>Put commercial label and custom label on PCBA</p>	 <p>Network code</p> <p>Custom label</p> <p>Commercial code</p> <p>Failure code label</p> <p>At the same time put network code label and failure code label</p>

2) PCBA Packing Requirements

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



Inner packing is anti-static bag



Outer packing is anti-vibration bag

Custom label is easy to see



Put commercial label on anti-vibration bag

3) Packing Requirement

Note: Please pay attention to the following points when different models put into one box. Stick up the same models with tapes.

- i. Mark the model, quantity and specification of custom label on tape.
- ii. The packing box for PCBA should have marking sticker and well sealed by the tape with TCL logo
- iii. Finally put all the packing boxes into packing cases strong enough and post to HK.