Athena
Service Manual

HTC Proprietary

Confidential Treatment Requested

Rev. A02

2007/02/15

HTC Corp.

Engineering Mobility

Revision Control Table

Rev	Date	Contents	Dept	Revised	Stage
A01	2007/2/6	First release	PSE	Justin _ Lai	DVT
A02	2007/2/12	1. Modify L2.5 Audio jack from 36H00446-00M to 36H00218-11M. 2. Revise Labeling plan. 3. Revise generic spare part list. 4. Revise disassembly SOP and caution. 5. Add power detect program.	PSE	Justin _ Lai	MV

Table of Contents

1.INTRODUCTION

◆ This manual provides the technical information to support the service activities of Athena.

◆ This document contains highly confidential information, so any or all of this document should not be revealed to any third party.

1.1 Product Features

Platform

➢ Mobile Power Pad with detachable & thin QWERTY keyboard

➢ Microsoft Windows Mobile Pocket PC Phone Edition

Dimension

➢ 133.5 x 98 x 16 mm (additional 4mm for KB)

➢ Less than 359g with battery and KB

Processor/Chipset

➢ Qualcomm MSM 6275

➢ Intel Bulverde 624 MHz

➢ ATi Graphic Chip 2284

Memory

➢ ROM: 256 MB

➢ RAM: 128 MB SDRAM

➢ HDD: 8GB with G sensor

LCD Module

➢ 5" 480x640 VGA resolution

➢ 65K-color TFT LCD with LED backlight

➢ Sensitive Touch Screen

UMTS/HSDPA/GSM/EDGE Function

➢ Internal antenna

➢ HSDPA/UMTS Tri-mode (2100MHz for Europe and 850/1900MHz for USA) and GSM/GPRS/EDGE quad band (850/900/1800/1900)

➢ HSDPA/UMTS

    ➢ 850: 824-849, 869-894MHz

    ➢ 1900: 1850-1910MHz, 1930-1990MHz

    ➢ 2100: 1920-1980MHz, 2110-2170MHz

> GSM / GPRS/EDGE

  > 850: 824-849, 869-894MHz

  > 900: 880-915, 925-960MHz

  > 1800: 1710-1785, 1805-1880MHz

  > 1900: 1850-1910, 1930-1990MHz

> HSDPA / UMTS

  > UMTS: 3GPP Release 99 compliant

  > HSDPA: 3GPP Release 5 compliant

  > UE category 12, QPSK, 1.8Mbps peak rate

  > DL up to 1.8Mbps and UL up to 384Kbps

  > PS RAB on HSDPA channel and CS data call (VT call) simultaneously will be supported

> Global roaming

> Auto band switching

> Handover and cell selection between GSM/EDGE and UMTS

> Generic Services

  > Call Holding, Waiting, Forwarding

  > Call Barring

  > CLI (Calling Line Identity)

  > SMS (Short Message Service)

  > SMSMT, SMSMO, SM Reply, SM Replace, SM Acknowledgement, 8 Bits SMS Data

  > Concatenated messages, up to 640 characters

  > Display own number, telephone number storage capability in terminal and SIM card

  > Network selection

  > Cell broadcast

  > Multi-party conference capability

  > Phase 2 Unstructured Supplementary Service Data

  > Audio Codec: AMR/EFR/FR/HR

  > Network Lock

  > CPHS (Partial Compliance)

> E-GPRS Function

  > EGPRS class B

  > Multi-slot standard class 10

  > MO/MT SMS over GPRS

  > PBCCH

➢ USIM/SIM

  ➢ 1.8 / 3V of UICC

  ➢ Mega SIM

  ➢ USIM Application at least according to 3GPP TS 31.102

  ➢ SIM Application Tool Kit release 96, 98 class 3 and 99 partial

  ➢ Over the Air (OTA) programming

  ➢ Abbreviation Dial Number (ADN)

  ➢ Security Pin 1 & 2 control

Standalone GPS

➢ Internal GPS antenna for UMTS & EDGE

➢ Support NMEA 0183 version 3.0 or above

➢ 20 parallel channel GPS receiver

➢ Acquisition time

  ➢ Hot start: 8 seconds, typical TTFF

  ➢ Warm start: 35 seconds, typical TTFF

  ➢ Cold start: 45 seconds, typical TTFF

➢ Update rate: user configurable once/1sec, once/10sec and once/30sec continuous

➢ GPS Accuracy

  ➢ Position: < 15 meters, 95% typical

  ➢ Velocity: 0.05 meter/sec steady state

Digital Camera

➢ Main Camera: 3 Mega pixel with Auto Focus

➢ 2nd camera: Color CMOS VGA camera

➢ High Power LED for camera flash

Keyboard/Button/Switch

➢ POWER button (Side)

  ➢ Short Press: Power On/Off

  ➢ Long Press: Turn off system power totally

➢ Comm. Manager / Voice Recorder

➢ Camera capture button (Side)

➢ Two step camera button for 3M pixel AF

➢ Volume Up / Down control (Side)

➢ 5-way Navigation button (Left front in landscape)– key orientation shall be adjusted after view changed

➢ Start button

➢ OK Key

➢ Portal Key / G control Key

  ➢ Short Press: Launch IE

  ➢ Short Press in PIE: Activate / Deactivate motion control

➢ Built-in 48 keys QWERTY Keyboard (including two soft keys, one start button, one OK button, one send call key, one end call key, and alphanumeric and symbol keys)

➢ RESET switch (Back)

Notification

➢ 1_{st} lens - one-color (amber) LED for new message and notification

➢ 2_{nd} lens - bi-color (green and blue) LED for WiFi and bluetooth notification

➢ 3_{rd} lens –bi-color (green and red) LED for 3G & 2G network status & GPS indicator

➢ 4_{th} lens – bi-color (green and red) LED for charging status & low power indicator

➢ Notification by Sound, and Message on the display

Audio

➢ Built-in Microphone

➢ Dual speakers with 3D surround sound

➢ Loud speaker for Hands-Free supported

➢ Audio sampling rate

➢ 16-bits with 8KHz, 11KHz, 22KHz, 44.1KHz

➢ AMR/AAC/WAV/WMA/MP3 codec

Connectivity & Interface

➢ Bluetooth

➢ Compliant with v2.0 without EDR

➢ Class 2 transmit power

➢ Supported profiles:

  ➢ GAP (generic access profile)

  ➢ SPP (serial port profile)

  ➢ OPP (object push profile)

  ➢ DUN (dial-up networking profile)

  ➢ GOEP (generic object exchange profile)

  ➢ ActiveSync (legacy application via SPP)

  ➢ HSP (headset profile)

  ➢ HFP (handsfree profile)

  ➢ A2DP (Advanced Audio Distribution profile)

> AVRCP (Audio/Video Remote control Profile)

> Service Discovery Application Profile

> SIM Access Profile

> HID (Human interface device profile)

> FTP

➢ Co-exist with WiFi

➢ WiFi (manufacture option)

➢ IEEE 802.11b/g compliant

➢ Internal WLAN antenna

➢ Data rate auto fallback for extended range

➢ ELP mode

➢ Security 802.11i and AES

> WPA authentication – WEP, WPA, PSK, EAPTLS, PEAP, LEAP,

> Signaling interfaces between the terminal device and the servers: mutually authenticated and encrypted

utilizing TLS (RFC 2246) with RC4 encryption with SGA1 used as the message integrity check

➢ QoS

> 802.11 WME QoS

> 802.11e

➢ HTC ExtUSB (11-pin mini-USB / audio jack in one)

➢ USB 2.0 client

➢ USB charging

➢ mini SD card slot with hotswap feature

➢ External Antenna (UMTS/GSM/CDMA) Connector

➢ External GPS Antenna Connector

➢ 1.8 / 3 V USIM/SIM card slot

➢ HTC Proprietary 16 Pin Port

➢ USB 1.1 host (Support USB low power)

> Thumb Memory

> Card Reader

> Keyboard

> Mouse

➢ VGA Out – VGA

➢ TV Out – Composite & S-Video (4 pin)

➢ 3.5 Ø stereo audio jack with mic

Power

➢ Battery

    ➢ Removable and chargeable Lithium ion polymer battery, 2100mAh

    ➢ Charging time: less than 4 hours

    ➢ RTC: 5 min (min.) supported by golden capacitor

➢ Battery life

    ➢ Playing WMV: 8 hours

    ➢ Playing WMA: 12 hours

    ➢ Talk time: 330~360 minutes for GSM

    ➢ Talk time: 180~300 minutes for UMTS

    ➢ Video Talk time: >120 min

    ➢ Standby time: 300+ hours for GSM

    ➢ Standby time: 300 hours for UMTS

    ➢ Talk time with GPS tracking mode (Backlight is in Max. level): 2.6 hour with 10dBm transmit power at WCDMA band

    ➢ WLAN time: 2.8 hours (Backlight level is 3)

➢ AC adaptor

    ➢ AC input: 100~240Vac, 50/60Hz

    ➢ AC input current: 0.2Aac (max)

    ➢ Output voltage: 5Vdc (typical)

    ➢ Output current: 1A (typical)

Stylus

➢ Lock Type in the main unit

Accessories

➢ Travel Charger w/ mini-USB power plug

➢ Attachable Keyboard and Screen Cover Carrying Case

➢ Mini USB Cable (mini-USB/USB)

➢ Battery (rechargeable and replaceable)

➢ Stereo wired headset with microphone (button for voice command) for 3.5 Ø

➢ User manual, Quick start guide, & Sync. software CD

➢ HTC Proprietary 16 pin cable (one to many ports) [optional]

    ➢ USB Standard A female port

    ➢ VGA (15pin) port

    ➢ Composite Video Out

> > S-Video (4 pin) Out
> Cradle [optional]
> > VGA (15pin) port
> > Video Out port
> > S-Video (4 pin) port
> > 3.5 Ø Audio jack (for External Speakers & Headset)
> > One miniUSB port for power charging
> > One miniUSB port for synchronization
> > 2 x USB Standard A female port (USB Host)
> > 2_{nd} Battery charging slot
> > 3 LEDs Indicators – 2_{nd} Battery, Power & Sync
> Mono Bluetooth headset with microphone [optional]
> Stereo bluetooth headset with microphone [optional]
> Car Charger [optional]
> Car Holder [optional]
> Car Kit with car stereo mute function [optional]
> TTY adaptor for USA market [optional]
> External GPS antenna Cable [optional]
> Keyboard (KB connector) [optional]
> 16pin to D-Sub/VGA cable [optional]
> Bluetooth Keyboard [optional]
> Traveling bag [optional]
> Travel charger holder
> Device with pouch holder
> Bluetooth headset holder
> Sync cable holder
> 4 port video cable holder
> Business card holder
> SD card holder
> Stylus
> Pen

Windows Mobile PPC Phone Edition 2005 Applications

> Pocket Outlook
> Calendar, Contacts, Messaging, Tasks, & Voice Notes

➢ Push Mail

➢ Internet Explorer Mobile

➢ Office Mobile

➢ Word, Excel, & PowerPoint Mobile

➢ Windows Media Player 10 Mobile

➢ Pictures & Videos

ActiveSync Client

➢ Pocket MSN

➢ Device Management

➢ OTA Provisioning

➢ Internet Sharing

➢ Terminal Service Client

➢ Calculator

➢ Games

Value Added Applications

➢ Camera / Camcorder

➢ Camera Mode

    ➢ Encoding format: JPEG

    ➢ Resolution: QXGA 2048x1536, UXGA 1600x1200, SXGA 1280x960, VGA 640x480, QVGA 320x240, QQVGA

160x120

    ➢ Night Mode

    ➢ Digital Zooming: max. 8X

➢ Camcorder Mode

    ➢ 15 fps encoding for CIF resolution

    ➢ Encoding format

    ➢ H.263 + AMR-NB/WB

    ➢ MPEG4 + AMR-NB/WB

➢ Ringtone

    ➢ MIDI

    ➢ 40 polyphonic & Standard MIDI format 0 and 1 (SMF) / SP MIDI

    ➢ MP3, AAC, AAC+, WMA, WAV and AMR-NB/WB

➢ DirectShow Filters for WMP - Audio

    ➢ Audio Playback format: AAC, AAC+, MP3, WMA, WAV, AMR-NB/WB

➢ DirectShow Filters for WMP - Video

- ➢ Video Playback format: H.263, MPEG4, & WMV
- ➢ 5~8 fps @ VGA decoding for H.263 & MPEG4
- ➢ Min. 30 fps @ QVGA decoding for H.263 & MPEG4
- ➢ Combined Bit Rate: 64Kbps (playback)
- ➢ Video scaling up to full VGA display
- ➢ Picture Enhancement for Pictures & Videos
  - ➢ Graphics: JPEG, GIF87a, GIF89a, PNG, WBMP
  - ➢ Video Thumbnail Preview: H.263, MPEG4, & Motion JPEG (AVI)
- ➢ 3G-324M Video Telephony
- ➢ ZIP
- ➢ Smart Dialing
  - ➢ Support of QWERTY Keyboard Input
- ➢ Sub-display UI when keyboard is attached to LCD
- ➢ VGA / TV Out Setting
- ➢ MMS Client
  - ➢ Partial Compliant to MMS 1.2
- ➢ Java virtual machine
  - ➢ JSR 75 File Access
  - ➢ JSR 118 MIDP 2.0
  - ➢ JSR 135 Mobile Media API 1.1
  - ➢ JSR 139 CLDC 1.1
  - ➢ JSR 185 JTWI 1.0
- ➢ Voice Dial & Command
  - ➢ Speaker Dependent or Independent
  - ➢ Support on both wired and bluetooth headset
- ➢ Document Viewer - PDF
- ➢ DRM Engine: For all types of files (Pictures, audio, application etc.), and also all types of delivery method (MMS, email etc.)
  - ➢ OMA 1.0 / 2.0 when available
  - ➢ Multi-DRM support : Microsoft DRM & OMA DRM
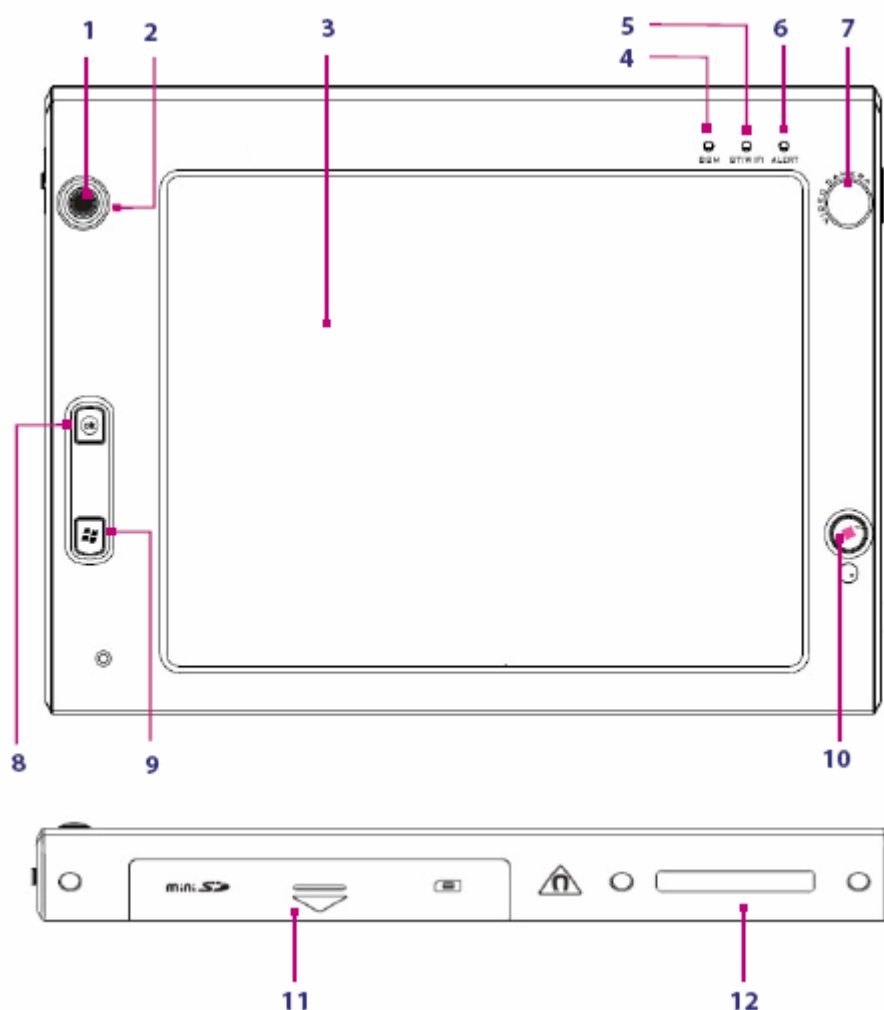- ➢ SIM Manager
- ➢ Comm. Manager
- ➢ STK
- ➢ TTY for US Market

➢ GPS Navigation SW

➢ Quick GPS

➢ Backup Tool

➢ VueFLO (Motion control of G-Sensor)

➢ Symbol Pad

➢ Voice Recorder

➢ Task Manager

➢ HDD Format Tool

➢ Audio Manager

➢ Opera Browser

    ➢ Support HTC VueFLO

1.2   Product overview

➢ **Front side**

#	Item	Function
1	**Navigation Control/CENTER OK button**	Press this multi-directional control up, down, left, or right to move through menus and program instructions; carry out the selection by pressing the CENTER OK button.
2	**Notification LED 1**	This LED shows battery charging status.
3	**Touch Screen**	Tap the screen with the stylus to write, draw, or make a selection.
4	**Notification LED 2**	This LED shows the GSM/UMTS standby/ network status (Green). and GPS indicator (amber)
5	**Notification LED 3**	This LED shows the following: ¡¤ A flashing Blue light for Bluetooth system notification of powered-up and ready to transmit radio fre quency signal. ¡¤ A flashing Green light for Wi-Fi status.

		¡¤ When both Bluetooth and Wi-Fi are enabled, their lights flash alternately.
6	**Notification LED 4**	This LED shows messages and notifications.
7	**Second Camera**	Use this camera for video call conversations or to take self landscape photos.
8	**OK Button**	Press to confirm your data entries, or to exit the program in use.
9	**START Button**	Press to open the Start menu.
10	**INTERNET EXPLORER MOBILE/VueFLO Button**	Press to launch Internet Explorer Mobile. Press this button to activate VueFLO when browsing the Web.
11	**Battery Compartment**	Open this compartment to insert the SIM/USIM card, miniSD ™ card and battery.
12	**Keyboard Copper Connector**	Attach the copper part of the keyboard to this to be able to use the keyboard.

➢ **Back side**

#	Item	Function
14	**Stylus**	Use the stylus to write, draw, or select items on the touch screen.
15	**CAMERA Button**	Press to launch the Camera; press again to take a photo or video clip, depending on the specified capture mode.
16	**Speaker**	Listen to audio files and voice calls here.
17	**COMM MANAGER/VOICE RECORDER button**	Press to open Comm Manager. Press and hold to open the Voice Notes program.
18	**POWER Button**	¡¤ Press to turn off the display temporarily. This switches your device to Sleep mode. You can still receive calls and messages when your device is in Sleep mode. ¡¤ Press and hold (for about 5 seconds) to turn off the power completely. All functions including the phone will be unavailable for use.

19	**Volume Slider**	¡¤ Slide up or down to adjust the speaker volume. ¡¤ During a call, slide up or down to adjust the earpiece volume.
20	**VGA Out/USB port**	Use this connection to output the contents on the screen to an external device using the provided VGA out cable. This also acts as a USB 1.1 host to connect USB peripherals.
21	**HTC ExtUSB ™ port**	Use this connector to synchronize data by connecting the provided USB Sync cable or to recharge the b attery via the provided AC adapter. You can also connect the provided USB stereo headset for hands-free conversation or for listening to audio media.
22	**3.5 mm Earphone Jack**	Lets you listen to audio media, use a hand-free kit or plug in a microphone.
23	**Car Antenna Connector**	Connect your device to the car antenna while in a car to have better reception quality.
24	**RESET Button**	With the stylus, press the RESET button to soft-reset your device.
25	**Camera**	Use the camera to take still photos and record video clips.
26	**Flash Light**	When turned on, it illuminates your subject and allows you to capture clear photos or video even in a dark environmen t. It also flashes when a photo is taken.
27	**GPS Antenna Connector**	If you need better GPS signal reception, you can connect an external GPS antenna.
28	**QWERTY keyboard**	This is similar to a standard PC keyboard. Connect to the device to use the keyboard. This also acts as a protective cover for the device screen.

➤ **Accessories**
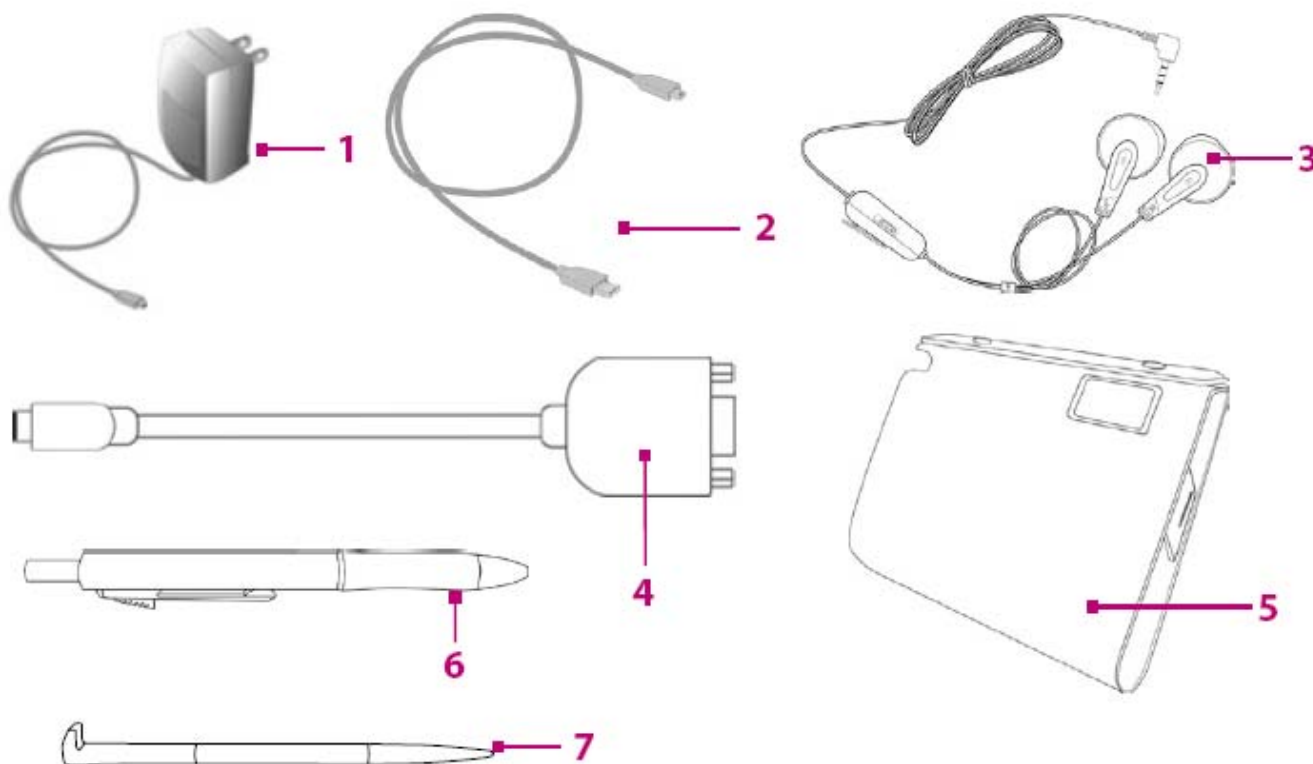
#	Item	Function
1	AC adapter	Recharges the battery.
2	USB Sync cable	Connects to a PC and synchronises data.
3	Stereo headset	Provides a volume control slider and a Send/End button. Press the Send/End button to pick up a call or put a call on hold; press and hold the button to end the call.
4	VGA Out cable	Connects to an external viewing device' s input cable. You can output the contents on the device's screen to an external viewing device.
5	Carrying Case	Acts as a protective carrying case.
6	Combo Stylus	This Stylus doubles as a writing pen. Simply click the top of the stylus to switch between the two functions.
7	Extra Stylus	Use to tap items onscreen.

➢ <u>**Install the USIM/SIM card**</u>

1. Make sure your device is turned off.

2. Open the Battery compartment at the bottom of the device.

3. Flip open the USIM/SIM card slot cover.

4. Insert the USIM/SIM card into the card holder with its gold contacts facing up and then close the cov er. (The cut-off corner of the USIM/SIM card should match the cut-off corner in the USIM/SIM card slot.)
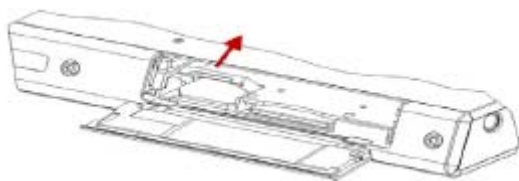
5. Close the battery compartment.

➢ <u>**Install the miniSD card**</u>

1. Make sure your device is turned off.

2. Open the battery compartment at the bottom of the device.

3. Insert the miniSD card into the card holder with its gold contacts facing up and close the battery co mpartment. To remove the miniSD card, press it to pop it out of the slot.

➢ <u>**To remove the battery**</u>

If you need to replace the battery, follow the procedure below to remove the battery from the device.

1. Make sure your device is turned off.

2. Open the Battery compartment at the bottom of the device.

3. Pull up the silver-coloured lock on the battery.

4. Draw out the battery from its slot.
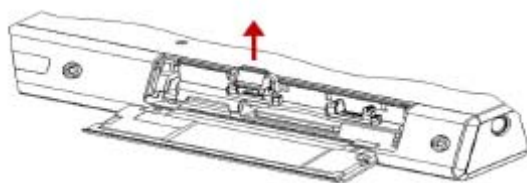
➢ To perform a soft reset

Use the stylus to press the RESET button found on the back of the device. Your device restarts and displays the Today screen.
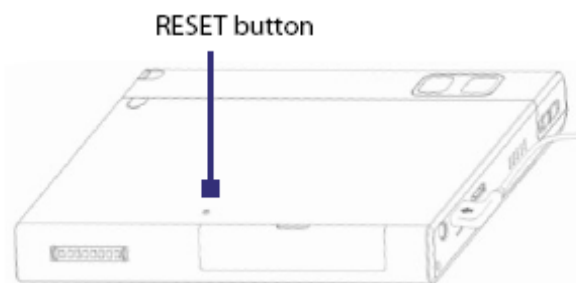
➢ To perform a hard reset

Warning! Your device will be set back to factory default settings. Please ensure any additional installed programs and/or user data have been backed up before a hard re set is performed.

1. Slide the Volume slider down and at the same time, use the stylus to press the RESET button at the back of your device.
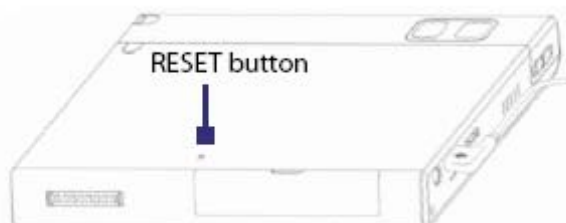
2. After a brief period of time, two choices will appear on-screen. Press the CENTER OK button to perform the hard reset.

Note If you do not want to perform a hard reset, press the CAMERA button to exit.

3. Press the POWER button.

1.3 Using the Hardware Keyboard

Your device provides you with a QWERTY keyboard, which is similar to a standard keyboard on your PC. To use the QWERTY keyboard, attach the main unit to the keyboard (as shown in the image). The main unit securely attaches itself to the keyboard through a magnet. To separate the main unit from the keyboard, simply pull them apart.

Note When separating the keyboard from the main unit, please do so in a gentle way.

Warning! Please avoid placing credit cards, diskettes, audio or video cassettes or any other form of magnetic data carriers near the device or the keyboard as this could otherwise lead to loss of data stored on such objects. Other magnetic sensitive devices like a mechanical wristwatch should also not be placed near the device or keyboard.
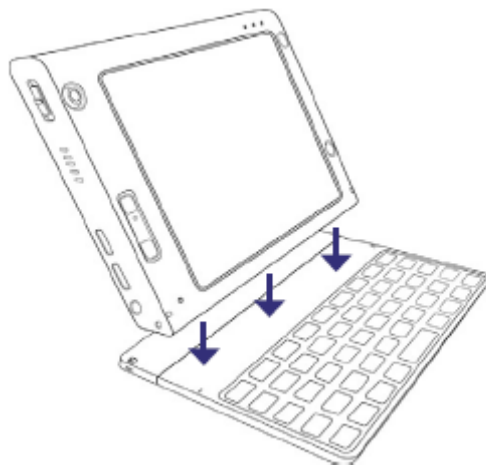
For magnetic devices

Please avoid putting any media that contains magnets, e.g. magnetic card, credit cards, bank cards, audio/video tape or magnetic memory devices, directly on the device or keyboard without any distance.

It is highly recommended to put the media containing magnets in a security distance of at least 5 cm. If you carry your wallet or billfold which contains magnetic cards next to the device or its keyboard, information stored on these cards could be destroyed.

Please make sure that there is an adequate distance from the device or its keyboard other magnetic sensitive devices, e.g., a mechanical watch or measure instruments.

For pacemakers

The functionality of pacemakers can be interfered by the device and its keyboard. Always keep the device and its keyboard in a fair distance to your pacemaker, which at least will be 5 cm. In any case, please do not carry the device and/or its keyboard in the front pockets of your shirt or coat.

For information about other medical active implants, please contact the producer or a doctor to ensure such active implants will not be interfered by magnetic field.

AL

The Sub display

The Sub display lets you view notifications, music info, weather, temperature and time on a designated area on the LCD screen when the keyboard is attached to the LCD screen of the main unit. The Sub display is automatically activated when the QWERTY keyboard is pressed against the LCD screen.

To activate the Sub display

Place the QWERTY keyboard on top of the Athena's LCD screen. The transparent end of the QWERTY keyboard must be on the same side as the hole on the face of the At hena.

QWERTY Keyboard covering the LCD of the Athena.

Sub-display area

Transparent end of the keyboard

Hole

2. COSMETIC INSPECTION CRITERIA

2.1 Classes definition of inspective area

➢ Class A area => The front side of main unit involve all buttons and LED lens except LCD.

➢ Class B area => View of QWERTY keyboard. (Involved stylus).

➢ Class C area => 4 sides and back views of main unit.

➢ Class D area => The socket of battery, inner side of battery cover.

Photo of inspection areas

Class A area	**Class B area**
Class C area	**Class D area**

Description

➢ **D: Diameter / L: Length / W: Width / N: Number of defects/ S: Distance from dot to dot**

➢ Inspecting distance: 30 ¡À 5cm / Mechanical inspection angle: 90 degrees /

➢ LCM inspection angle: 90¡À 15 degrees / Inspection time: 5 secs per surface.

➢ Ambient illumination is to be 500-1100 lux

➢ The inspection condition of Newton ring:

a. Inspection distance: 30cm / Inspection time: 5 sec

b. Ambient illumination is to be 500-1000 Lux (Incandescent lamp)

c. Inspection should be performed under the condition that LCD screen could reflect the mirror image of lamp.

d. The criteria of Newton ring's tinges and measure of area must follow up the worst-case sample.

2.2 Display inspection

Inspection Defects			Accept Level	Level
Electrical Characteristic Defects	Bright Dots	Single	Red+ Green+ Blue $\leq$ 3, S $\geq$ 5mm.	Minor
		2 adjacent	0	Minor
		3 or more adjacent	0	Minor
	Dark Dots	Single	Total Number $\leq$ 2, S $\geq$ 5mm.	Minor
		2 adjacent	0	Minor
	Dark or Bright lines		0	Minor
	All Allowable Dots Defects		Total Number $\leq$ 3, S $\geq$ 5mm.	Minor
	Shift and tilt of screen viewed area		The black edge around display area must be detected by front view.	Minor
Foreign Scratch, Objects or Lint on power off status	Scratch		0.03 < W $\leq$ 0.1 (mm) L $\leq$ 5 (mm), N $\leq$ 2 (mm)	Minor
	Lint (linear foreign objects)		0.03 < W $\leq$ 0.1 (mm) 0.3 < L $\leq$ 3.0 (mm) N $\leq$ 5	Minor
	Spots		0.1 < D $\leq$ 0.3 (mm), N $\leq$ 4	Minor
	Fish eye on film		0.1 < D $\leq$ 0.4 (mm), N $\leq$ 4	Minor
	Breakage on film surface		Not acceptable	Minor
	Total acceptable defect quantity $\leq$ 10			Minor

2.3 Main unit inspection

Gap & Step inspections

Description		Accept Criteria
1.	Gap between ME parts.	≤ 0.15 (mm)
2.	Stylus	Stylus assembly protruding, loose, missing, falling and deformed is not allowed.
3.	Others, refer to production release spec	Others, refer to production release spec

Others

Scratch		
Description	Accept Criteria	
Class A	Exposure of substrate do not accept Scratch : $L \leq 4mm$,$W \leq 0.2mm$,$N \leq 2$, $S \geq 10mm$	MI
Class B	Exposure of substrate do not accept Scratch : $L \leq 4mm$,$W \leq 0.25mm$,$N \leq 3$, $S \geq 10mm$	MI
Class C	Label area don't care Exposure of substrate do not accept Scratch : $L \leq 10mm$,$W \leq 0.4mm$,$N \leq 5$, $S \geq 5mm$	MI
Contamination dot/Granule dot/Cave granule		
Description	Accept Criteria	
Class A	$D \leq 0.5mm$,$N \leq 2$,$S \geq 15$ mm (Ignored if D D$\leq 0.15mm$)	MI
Class B	Total: $D<0.6mm$,$N \leq 4$,$S \geq 15$ mm (Ignored if D D$\leq 0.25mm$)	MI
Class C	$D<0.9mm$,$N \leq 4$,$S \geq 10$ mm	MI
Burr		
Description	Accept Criteria	
Burr.	Don't accept hand scrape	MI
Imprint mark		
Description	Accept Criteria	
Class A	$0.25 \leq diameter \leq 0.65mm$,$N \leq 3$	MI
Class B	$0.65mm<Diameter \leq 1.00mm$,$N \leq 3$	MI
Bright mark		
Description	Accept Criteria	
Class A	$L \leq 2.5mm$,$W \leq 0.25mm$,$N \leq 3$	MI
Class B	$L \leq 3.0mm$,$W \leq 0.25mm$,$N \leq 4$	MI

Class C	L≦3.0mm,W≦0.3mm,N≦5	MI
Lint		
Description	Accept Criteria	
Class A	L≦3mm , W≦0.2mm ,N≦2, S ≧5 mm	MI
Class B	L≦5mm , W≦0.3mm ,N≦3, S ≧5 mm	MI
Class C	L≦10mm , W≦0.3 mm ,N≦3	MI

It is generic cosmetic inspection criteria for all products if there have any conflict with these generic criterions; please follow the product inspection criteria respectively.

3. DEVICE ASSEMBLING AND DISASSEMBLING PROCEDURE

Repair notice before assembling and disassembling:

1. Recommend the three spare parts not reusing again when do refurbishment. Suggest replacing the new parts.

Part number	Description	Q'ty	Remark
74H00644-00M	Button Pre-Assy,button,power,Athena	1	
74H00647-00M	Button Pre-Assy,button,comm manager,Athena	1	
76H01321-00M	Rubber,navi,Silicon rubber w/tape,Athena	1	

2. Be careful to disassembly the bottom cover and avoid deforming.

3. Avoid cracking the hook of battery cover. Before assembly and disassembly the bottom cover, please open the battery cover.

4. Assemble the antenna cover; be careful to hold the volume slider to M/B switch. It would easy to cause the M/B switch damaged.
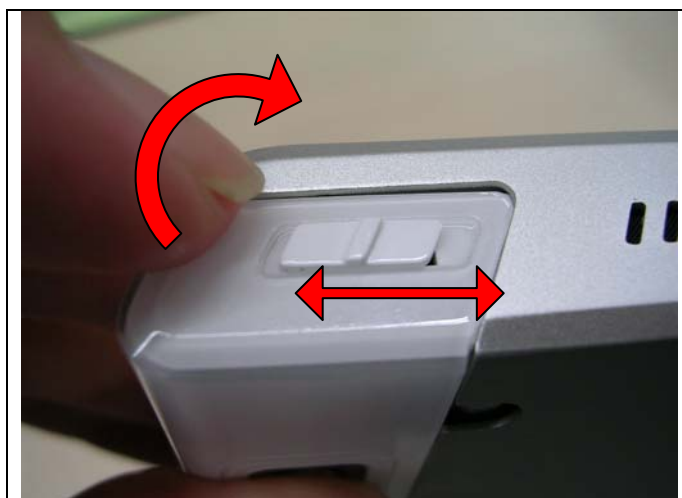
5. Please be careful to disassembly the antenna cover. There are five hooks which the length and depth are different.
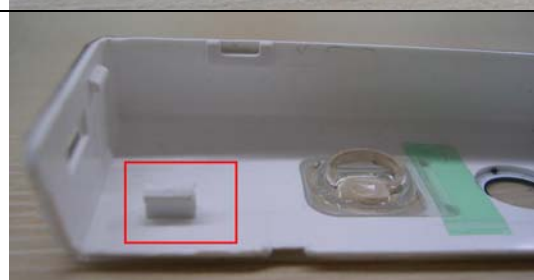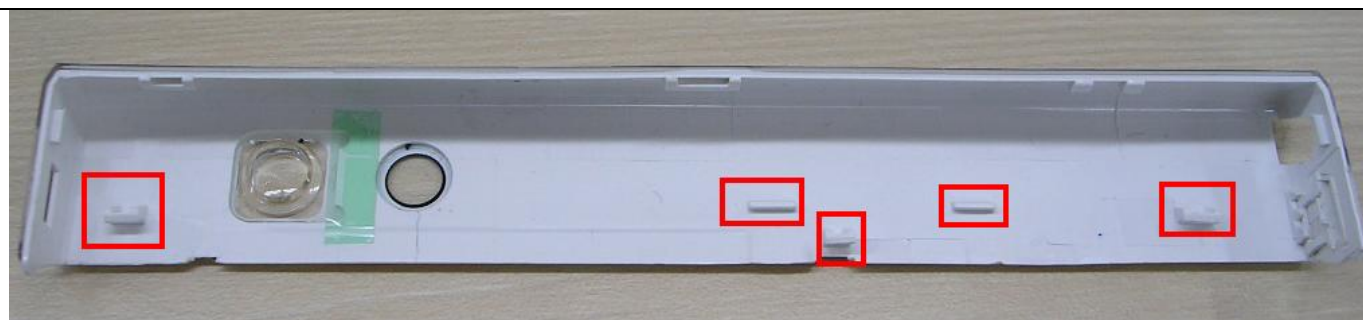
3.1 Disassembling procedure

Tools needed for assembling and disassembling the device:
1. Glove & Lens Cleaning Tissue.
2. Tweezers.(Suggest to use plastic made)
3. Philip Screw Driver #0.
4. Philip Screw Driver type T6.
5. Philip Screw Driver type T5.
6. Flat Plastic Stick.
7. ESD bracelet.

1. Make sure your device is turned off.
2. Open the battery compartment at the bottom of the device.
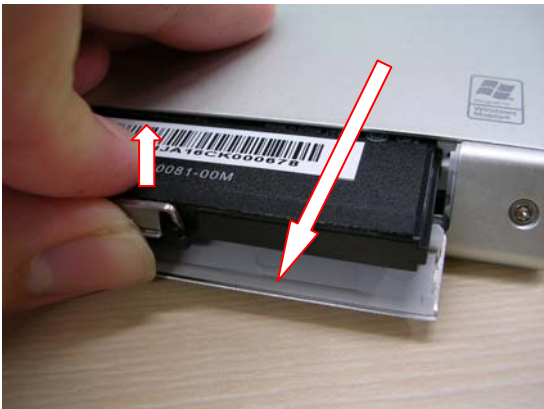
1. Pull up the battery metal holder.
2. Draw out the battery from its slot.

|	
	1. Take out Stylus. 2. Take out two antenna rubbers.
Screw Navi. holder	1. Disassemble Navi. Rubber. 2. Remove Screw. from the Navi. Button. 3. Take out Navi. Button. ✓ SCREW: 72H00609-00M (Q'TY: 1). **[NOTE]** **PLEASE SET UP THE TORQUE OF ELECTRICAL SCREW DRIVER TO 0.3 ± 0.05KGF-CM**
	Take out the Power button and the Comm. manager button.
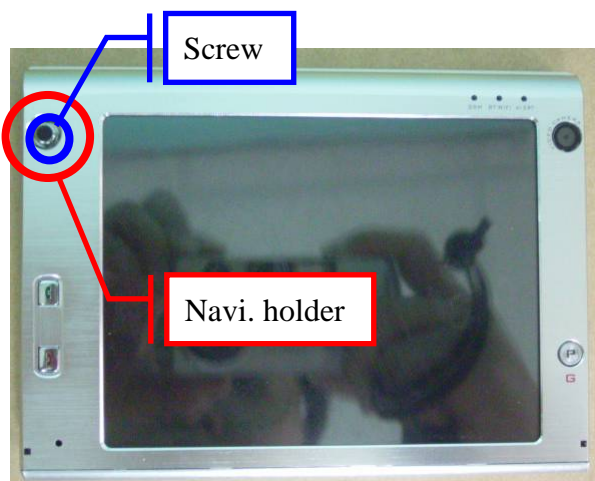
Antenna Cover

Disassemble the antenna cover by plastic stick.

1. Use plastic stick into the gap and release the hooks.
2. Please be careful to disassembly the antenna cover. There are five hooks which the length and depth are different.
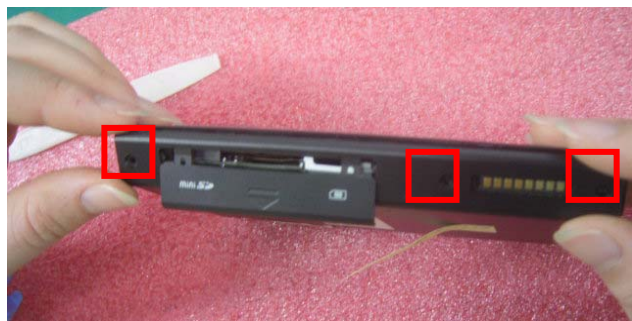
Remove three Screws from the bottom cover and take out bottom cover by plastic stick.

[NOTE]
Be careful to take out the bottom cover and avoid deforming.

✓ SCREW: 72H01853-00M (Q'TY: 3).

[NOTE]
PLEASE SET UP THE TORQUE OF ELECTRICAL SCREW DRIVER TO 0.6 ± 0.05KGF-CM
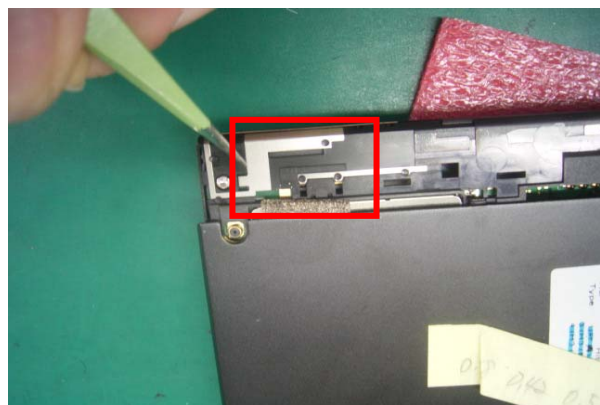
Use tweezers to take out the gasket.
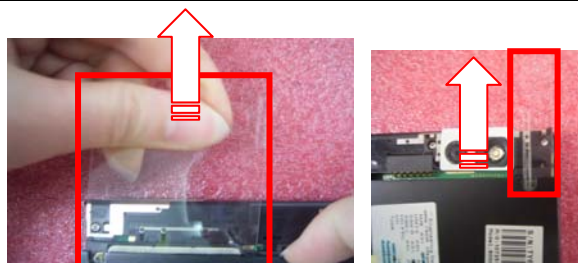
Use tweezers to hook two fillers and take it out from main unit.

---

1. Remove three screws from the antenna.
2. Separate the antenna from upper frame by plastic stick, take out the antenna.

✓ SCREW: 72H00339-00M (Q'TY: 3).

[NOTE]
PLEASE SET UP THE TORQUE OF ELECTRICAL SCREW DRIVER TO 1.2 ± 0.05KGF-CM

Separate main unit and Metal Bezel.
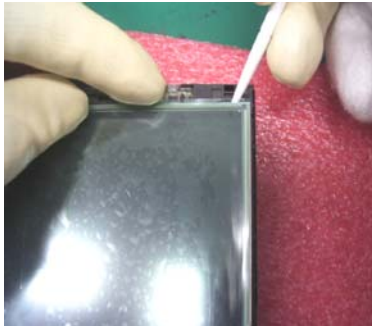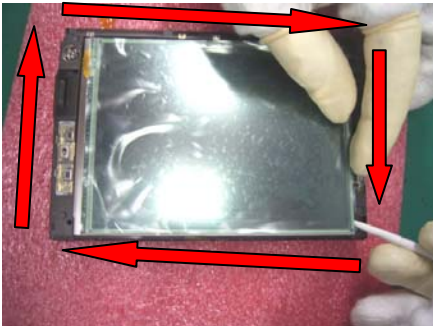
Use plastic stick to separate the LCM and frame. Then take out the LCM. Remove the LCM mylar by tweezers and separate them. Take out LCD.
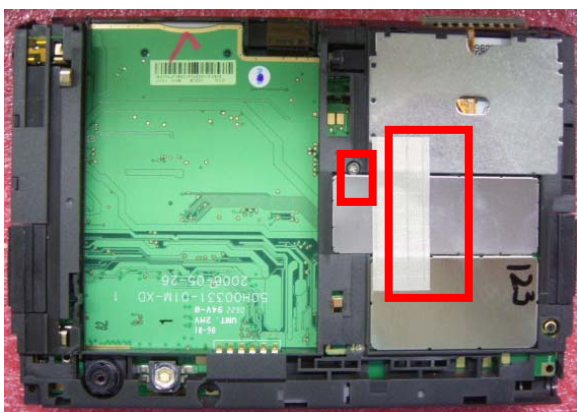
1. Use tweezers to take out the Conductive Fabric from UMTS board.
2. Remove 1 screw on Lower Frame.

   ✓ SCREW: 72H00338-00M (Q'TY: 1).

[NOTE]
PLEASE SET UP THE TORQUE OF ELECTRICAL SCREW DRIVER TO 0.8 ± 0.05KGF-CM
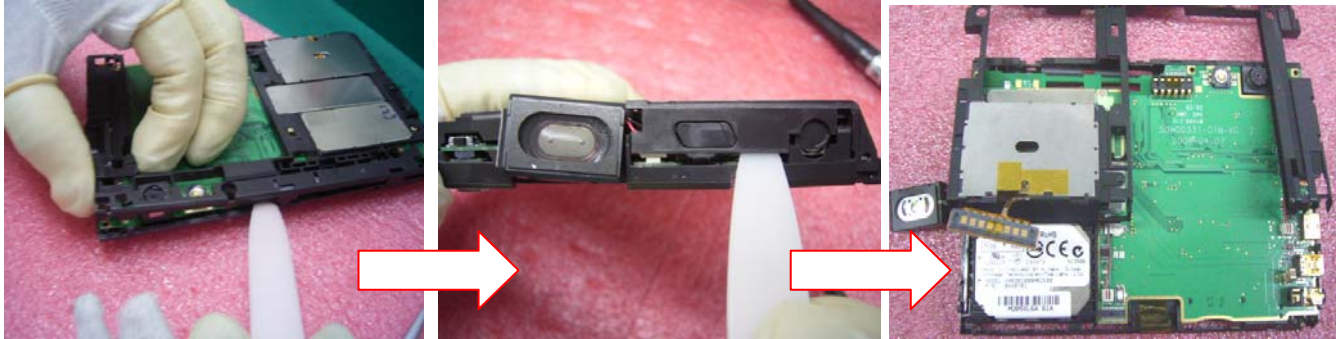
Hook 1   Hook2

Hook 3,4   Hook 5,6
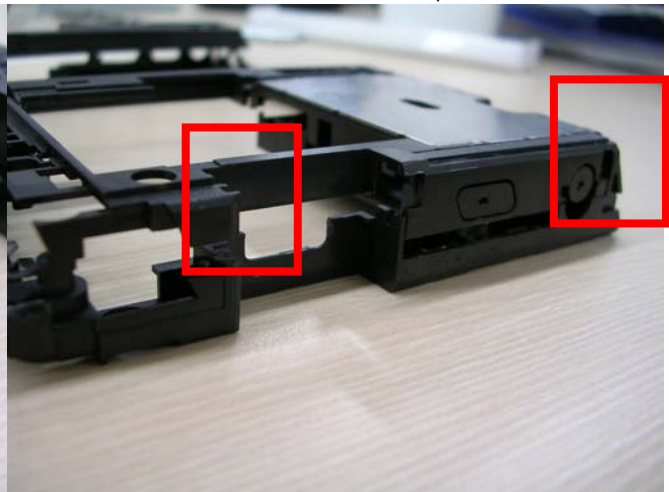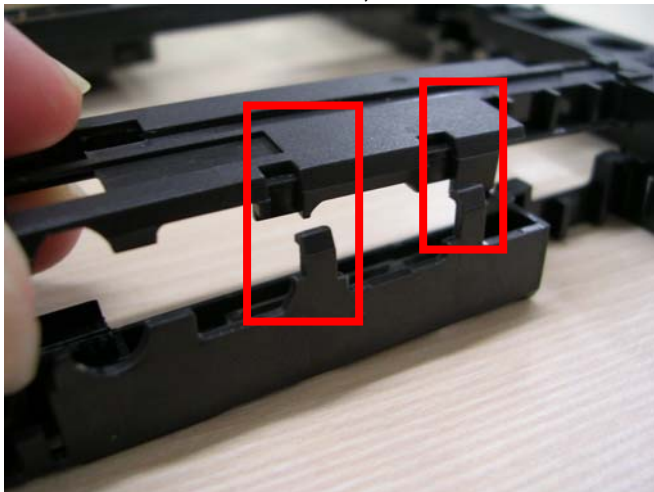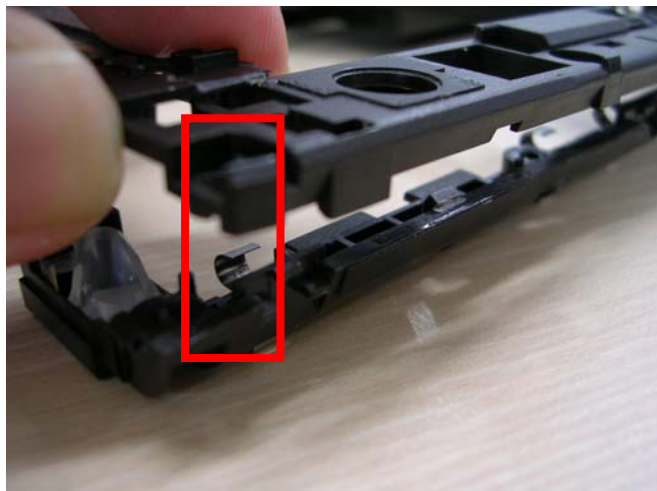
Hook 7	Hook 8
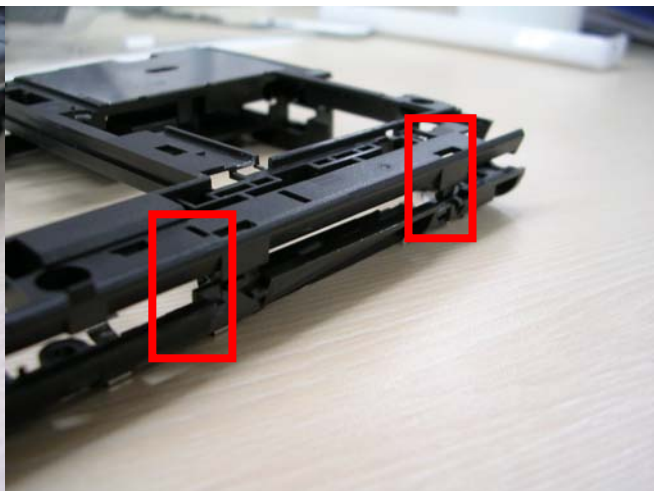
1. Remove HDD FPC from lower frame.
2. Open the upper frame and lower frame by plastic stick and separate them.
3. Pass the HDD FPC through the hole of lower Frame carefully.
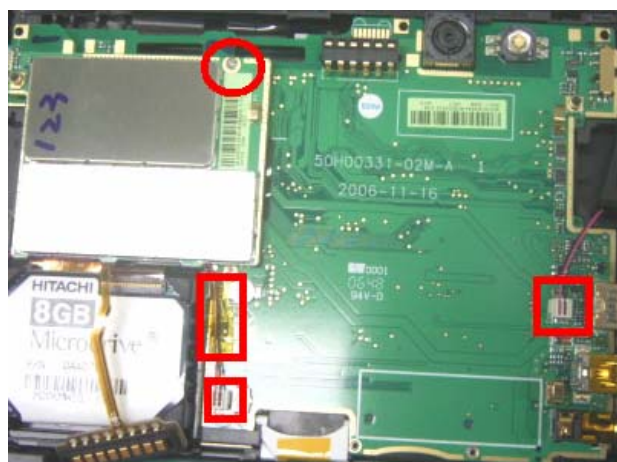
1. Remove 1 screw from the UMTS board and take out it.
2. Remove the mylar and take out Right Speakers.
3. Remove Left Speaker.

   ✓ SCREW: 72H01367-00M (Q'TY: 1).

[NOTE]
PLEASE SET UP THE TORQUE OF ELECTRICAL SCREW DRIVER TO 0.8 ± 0.05KGF-CM
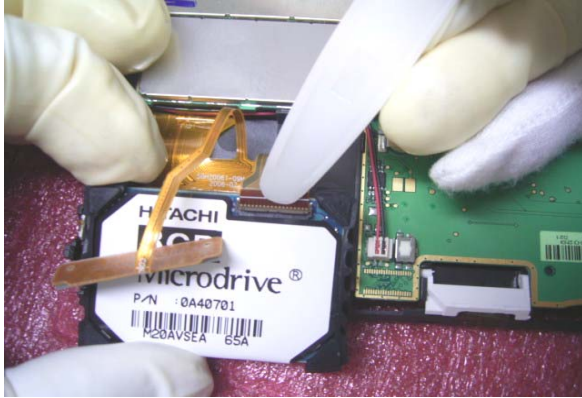
1. Separate HDD and HDD FPC, then take out HDD.
2. Remove two rubbers from HDD.
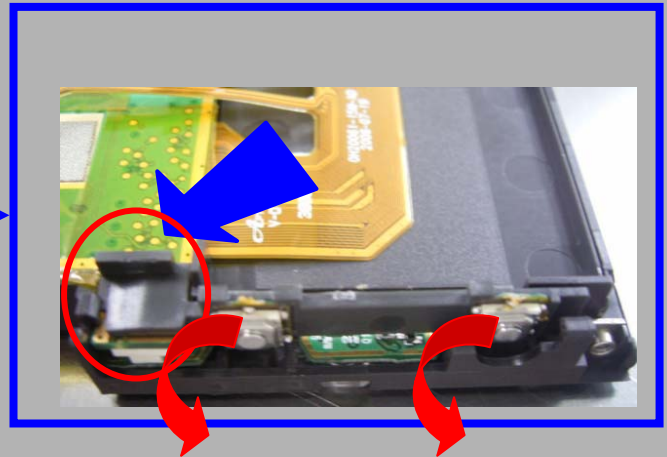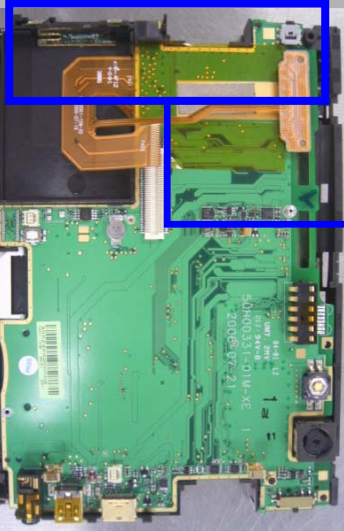
Separate two buttons of Right Switch board from Right SW support.
Then take out SW support by plastic stick.
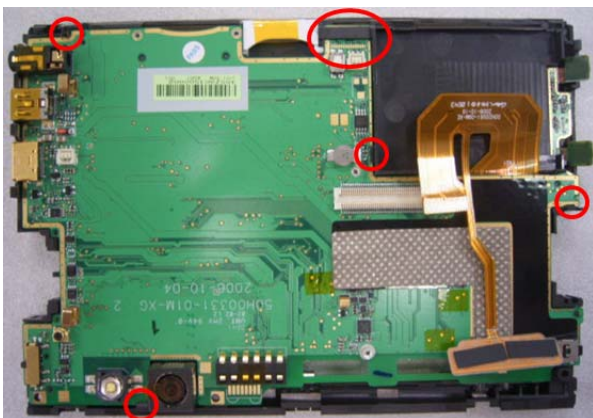
Separate the MB from lower frame and take care of the hook of frame as figure.(Red mark)

Disassembly the Right Switch Board from frame.
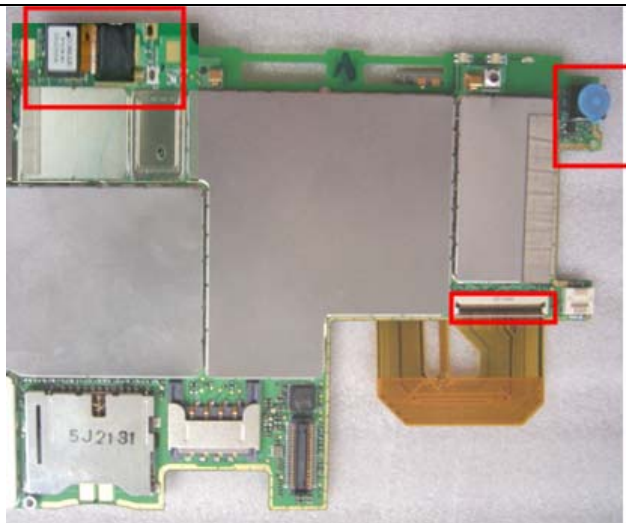
1. Disassembly Main Camera and Second Camera from M/B.
2. Disassembly the HDD FPC from M/B.
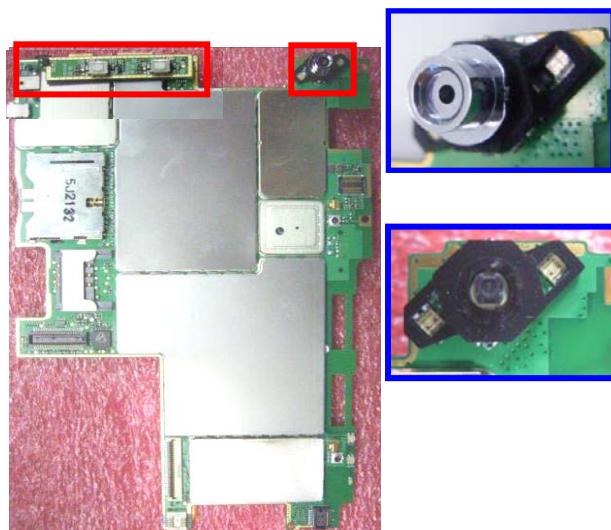
1. Disassembly the Left Switch Board from MB.
2. Disassembly the Navi. Button, then remove the Navi. Rubber from MB.

3.2 Assembling procedure

Assembly Left switch board to main board.

Set up the Navi. Silicon Rubber to M/B as figure.

[NOTE]
There is the gap inwards.
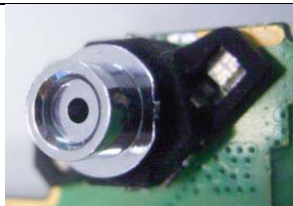
Then set up the Navi. Holder upper the Navi. Silicon rubber.
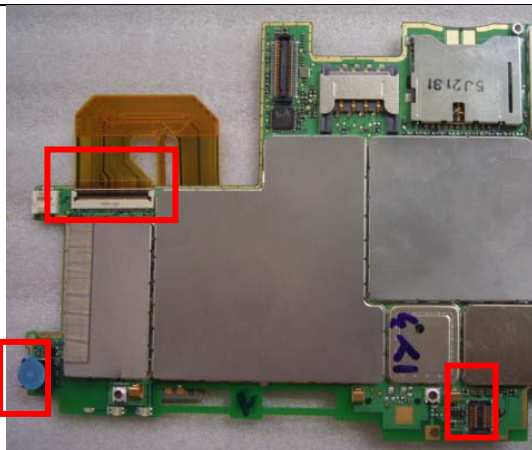
1. Connect the HDD FPC to M/B.
2. Assembly the Second camera and Main camera to M/B.

Assembly Right switch board into upper frame.

Assembly the M/B into upper frame and make sure it hold by the hook as the figure.(Red Mark)
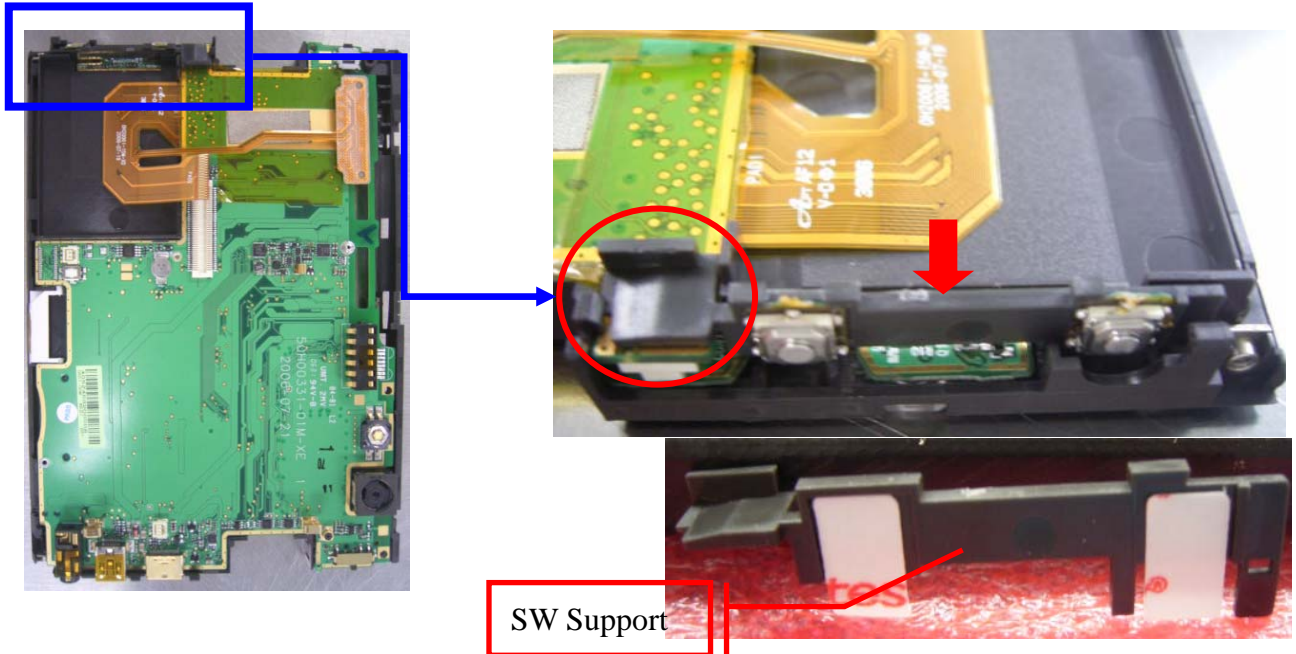
SW Support

1. Insert the Right SW support into the Upper Frame.
2. Press the SW support and push it down to fix the SW support by hook.
3. There are two switch buttons of Right switch board. To turn and paste the switch buttons into Right SW support.

Assembly two rubbers to HDD.

Place the HDD into Upper Frame and connect HDD FPC to it.
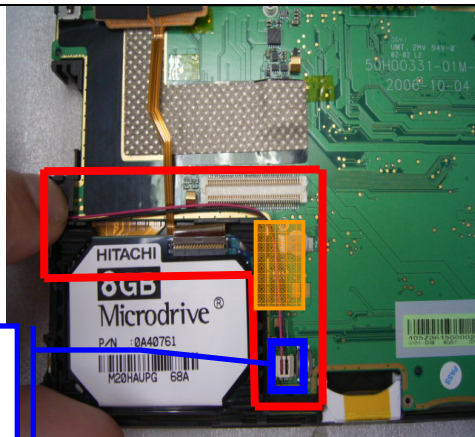
Plug in Right Speaker into connector and adjust the speaker cable along the HDD as figure. Then paste mylar.
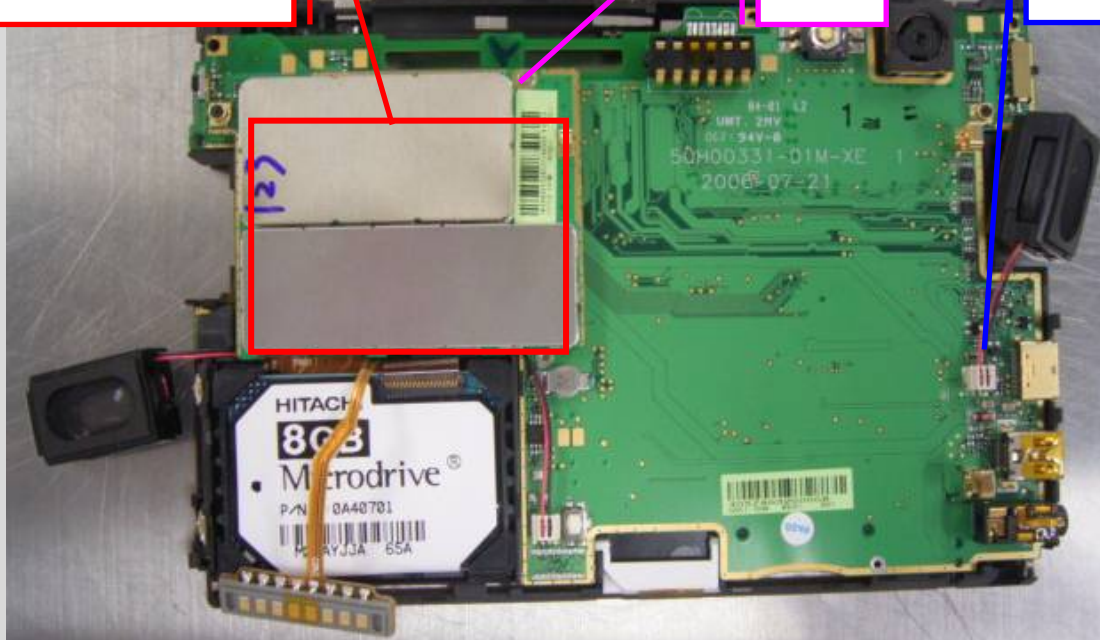
Right Speaker

1. Plug in Left-Speaker into connector.
2. Assembly the UMTS board into M/B. Tighten 1 screw to UMTS PCBA board on the Chassis.

   ✓ SCREW: 72H01367-00M (Q'TY: 1).

[NOTE]
PLEASE SET UP THE TORQUE OF ELECTRICAL SCREW DRIVER TO 0.8 ± 0.05KGF-CM

1. Pass the HDD FPC through the hole of lower frame.
2. Assembly the lower frame and upper frame and make sure hold by the hook.
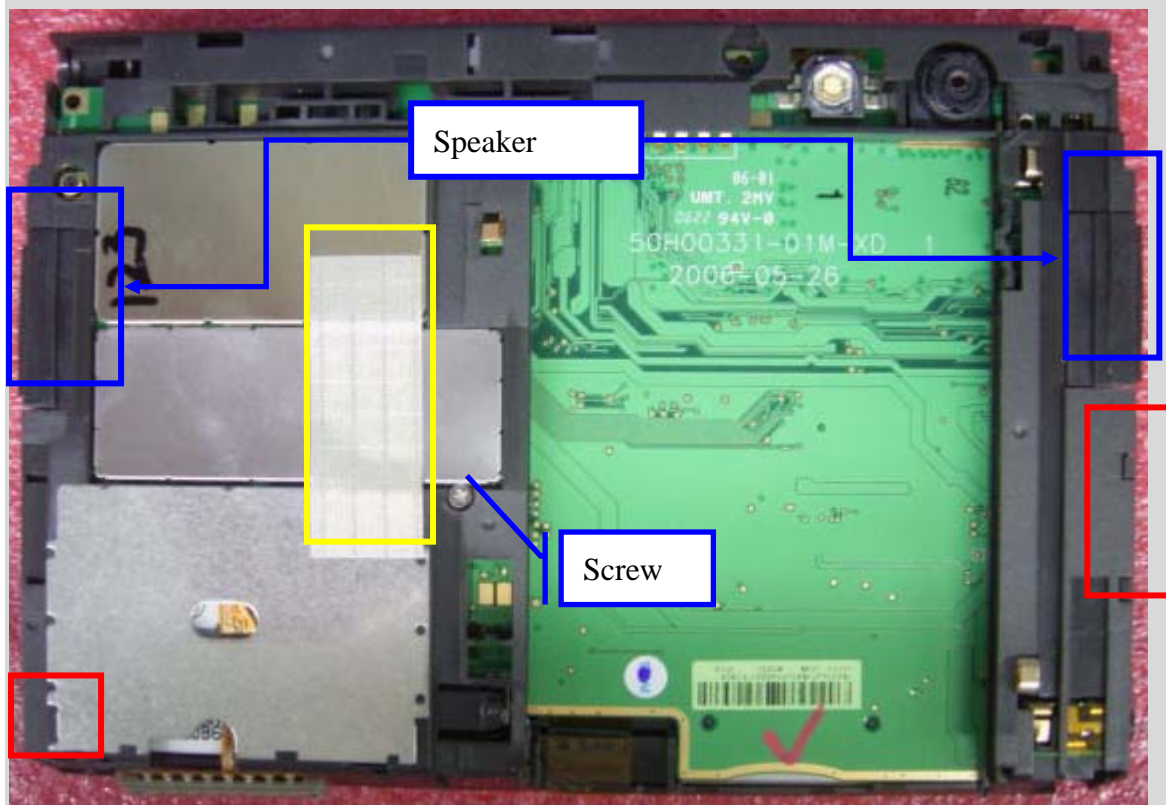
Speaker

Screw

1. Tighten 1 screw to lower frame.
2. Place left speaker and right speaker to the unit.
3. Stick 1 piece of Conductive Fabrics on shield.

   ✓ SCREW: 72H00338-00M (Q'TY: 1).

[NOTE]
PLEASE SET UP THE TORQUE OF ELECTRICAL SCREW DRIVER TO 0.8±0.05KGF-CM
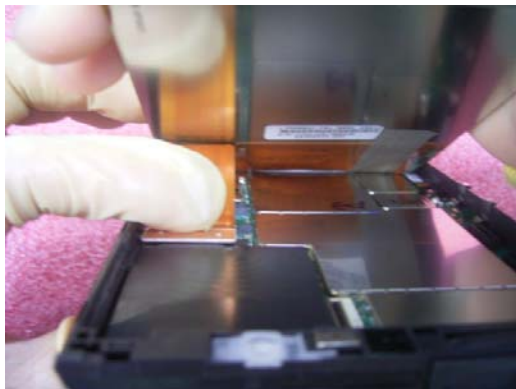
1. Place LCM to Upper Frame.
2. Combine the LCM FPC and the connector of M/B.
3. Stick 1 mylar to fix LCD connecter

LCD connector
Black mylar
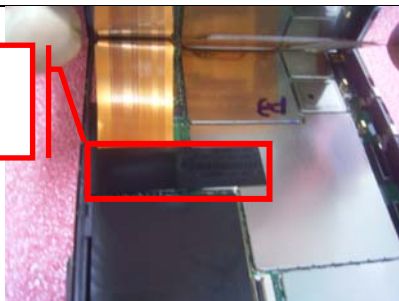
Adjust the position of LCM into upper frame.

Stick yellow mylar into upper frame and speaker as shown as figure.

Remove the mylar of Portal Button and take it into inboard of the Metal Bezel.

Remove the mylar of Function Button and take it into inboard of the Metal Bezel.

Stick yellow mylar into inboard of the Metal Bezel.

	Insert the unit into the Metal Bezel.
	Notice these three springs and be careful to jam it into the Metal Bezel.
	Insert the Left filler.
	Insert the Right filler.
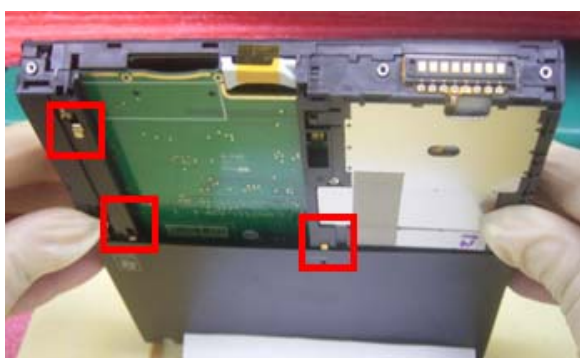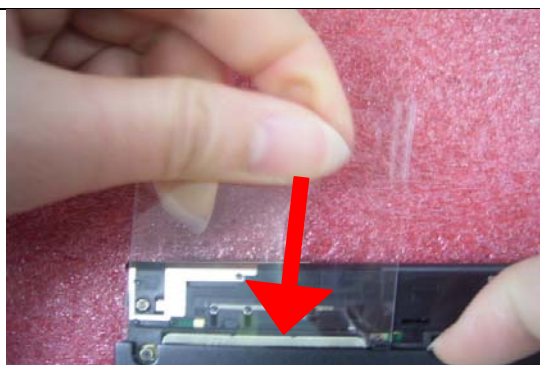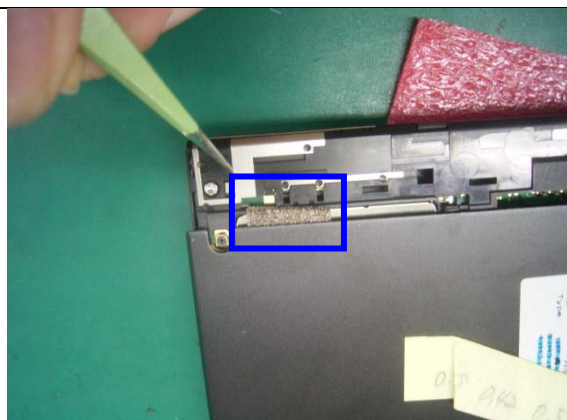
Take one Gasket and insert to the bezel.

The figure is for reference:
Gasket is filled in the relative position in the bezel.
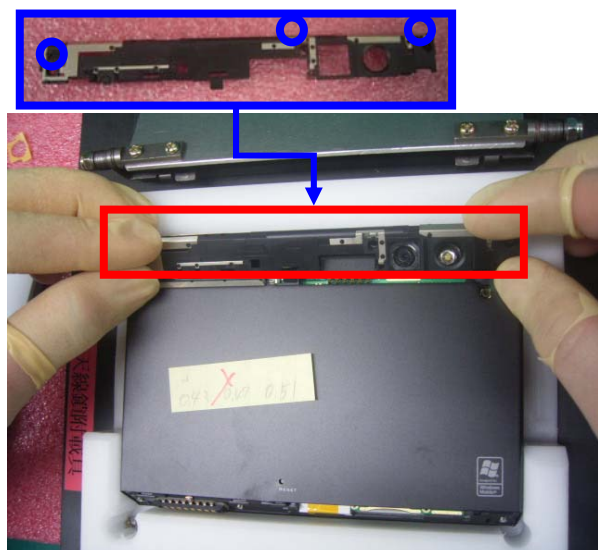
Assembly the antenna to main unit and tighten three screws to antenna.

✓   SCREW: 72H00339-00M (Q'TY: 3).

[NOTE]
PLEASE SET UP THE TORQUE OF ELECTRICAL SCREW DRIVER TO 1.2 ± 0.05KGF-CM

1. Open the battery cover before assembly the Bottom Cover into unit.
2. Then tighten three screws.
3. The Bottom Cover has magnets, be careful to tighten the screws.

   ✓ SCREW: 72H01853-00M (Q'TY: 3).

[NOTE]
PLEASE SET UP THE TORQUE OF ELECTRICAL SCREW DRIVER TO 0.6 ± 0.05KGF-CM

Take one camera Poron. Stick it into antenna as shown as figure.

Stick spacer mylar to upper frame of antenna cover.

1. Assembly antenna cover to main units. First to hold the camera button site to unit. Then assembly the volume slider side to unit.

[NOTE]
Be careful to assembly and adjust the Volume Slider button to unit. Ensure to hold the switch of M/B and don't break it.
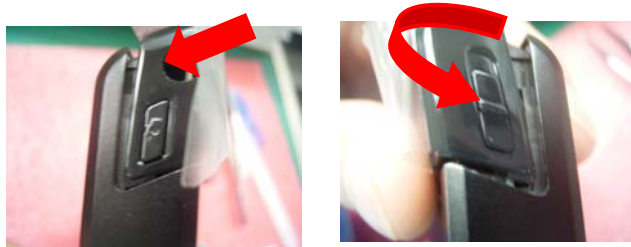
Holder, navi   Screw
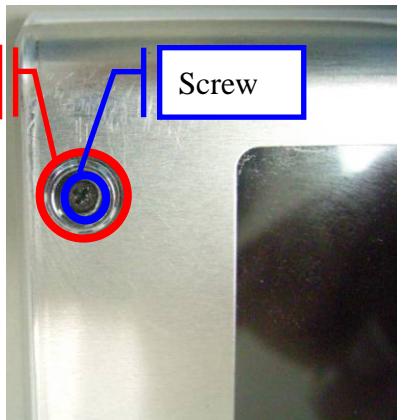
1. Assembly the Navi. Button to unit.
2. Tighten 1 screw to fix the Navi. Button.
3. Stick Navi rubber under the screw.

✓   SCREW: 72H00609-00M (Q'TY: 1).

[NOTE]
PLEASE SET UP THE TORQUE OF ELECTRICAL SCREW DRIVER TO 0.3 ± 0.05KGF-CM

Stick Power button and Comm manager button in to unit.

Insert a Metal Holder into battery lock. Then insert Battery.

Insert stylus and antenna rubber.

4. DIAGNOSTICS PROGRAM AND WINCE TEST ITEM

4.1 Test Plan

Mode	No	Item	Description	Remark
Diagnostic		**Function Test**		
	1	Auto	Auto run the all of function testing.	
	2	SDRAM	RAM memory test.	
	3	LCD	Color bar/R/G/B/Black/White/Gray pattern test.	
	4	LED	LED indicator test.	
	5	Back Light	Back Light adjust test.	
	6	Flash Light	Flash light test.	
	7	Thermal Sensor	Thermal test.	
	8	Touch Panel	Align screen test.	
	9	RomCheckSum	Show ROM Check Sum info.	
	10	Spk-Play	Speaker test.	
	11	Hst-Play	Stereo handset test.	
	12	Int-Mic & Spt-Play	Internal MIC recording and playing it from Speaker test.	
	13	Ext-Mic & Hst-Play	External MIC recording and playing it from handset test.	
	14	SD Card	SD card Read/Write test.	
	15	MMC Card(Mega-Sim)	Mega SIM test	
	16	Read BDA(TI6150)	Show BDA info.	
	17	Read WLAN ID	Show WLAN ID info.	
	18	PCB H/W VER	Show PCB Ver info.	
	19	Battery	Show Battery info.	
	20	External RTC	RTC (Real time clock) test.	
	21	G-Sensor	G-Sensor function test.	
	22	TV-OUT(VGA MODE)	VGA output test.	
	23	HDD Detect	HDD test.	
	24	Key	Function Key test.	
	25	Qwerty Key	Qwerty Key test.	
	26	Exit		
		Run-in Test		
	1	2 Hours	2 Hours Run-in Test/Press UP key.	
	2	4 Hours	4 Hours Run-in Test/Press DN key.	
	3	8 Hours	8 Hours Run-in Test/Press LF key.	
	4	16 Hours	16 Hours Run-in Test/Press RG key.	
	5	Non Limited	Non-limited time Run-in Test/Press REC key.	
		Format FAT		

		Show Device Information		
WinCE		Clear Talk Time		
	1	USB Test	USB link test (Microsoft ActiveSync).	
	2	Camera Test	Camera test.	
	3	2nd Camera Test	2nd Camera Test	
	4	Bluetooth Test	Bluetooth test.	
	5	WLAN Test	WLAN test.	
	6	GPS Test	GPS test.	
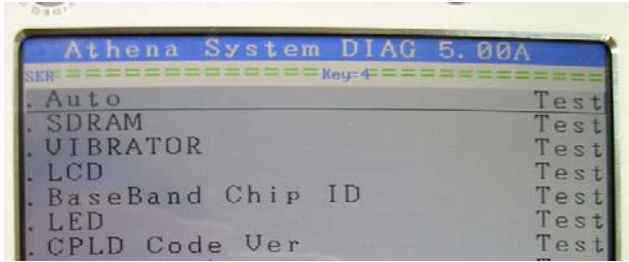
4.2 Test Procedure

➢ Power OFF.

➢ Insert Diagnostic Mini SD card (provided by HTC) to device.

➢ Press **Power + Camera** button, release the **Reset** buttons after hold for 2 seconds, and then the device enter boot-loader mode.

➢ On test menu, use Navi. button to select the item then press Action key to perform test.

➢ Remove the battery directly or perform soft reset to exit the Diagnostic program when finish testing.

➢ If the system fails while testing, please also remove the battery directly to turn off power.

Diagnostic Test

Main Menu/Function Test Menu
I. Using Navi. Button to select the test item.   II. Select item <u>Function</u> to find the Function test menu.
Auto Test
I. Press Navi. Button to select <u>Auto</u> on Function test menu.   II. The program will perform all of function test item for one cycle. Press action button to go next test.   III. Press action button to exit and return to Function test menu.
SDRAM Test

I. Press Navi. Button to select <u>SDRAM</u> on Function test menu.

II. The program will test SDRAM block automatically.

III. Press action button to exit and return to Function test menu.
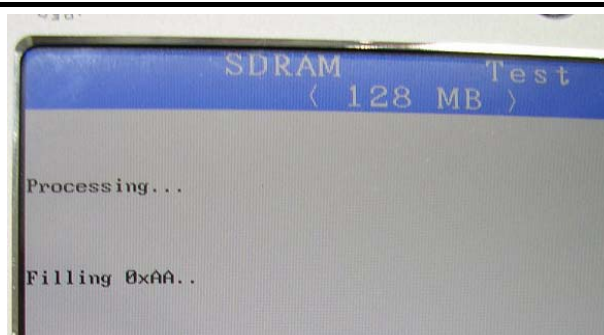
LCD Test (WHITE/BLACK pattern)

I. Press Navi. Button to select <u>LCD</u> on Function test menu.

II. After the test pattern is show up, please check the pattern if any un-uniform color or chromatist.

III. Press action button to go next test pattern.
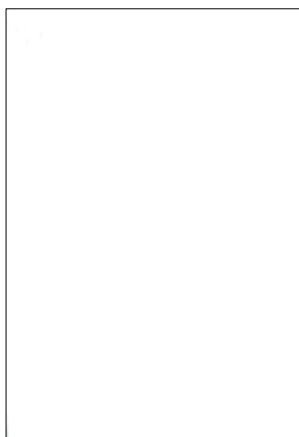
LCD Test (RED/GREEN pattern)

IV. Press action button to go next test pattern.

LCD Test (BLUE/Color bar pattern)

V. Press action button to go next test pattern.
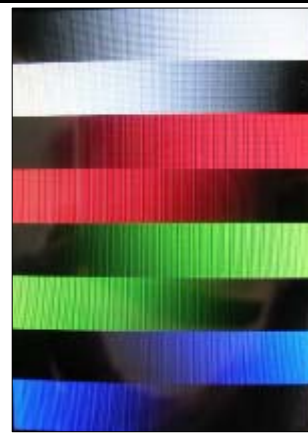
LCD Test (Straight/Crabwise lines pattern)

VI. Press action button to exit and return to Function test menu.

LED Test (WLAN/GSM/Charge-red lights)

I. Press Navi. Button to select <u>LED</u> on Function test menu.

II. After the LED indicator is show up, please check the LED if any un-uniform color.

III. WLAN(**G**),GSM(**G**),Charge(**R**).

IV. Press action button to go next test pattern.
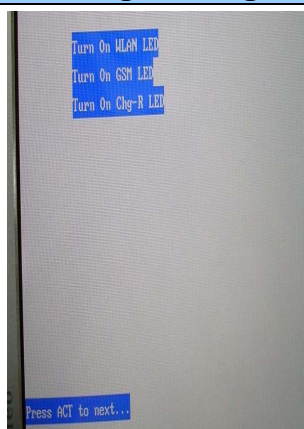
LED Test (Notify/BT/UMTS/Chg-G lights)

V. ALBERT(**O**),BT(**B**),UMTS(**R**)
 Charge(**G**)

VI. Press action button to exit and return to Function test menu.
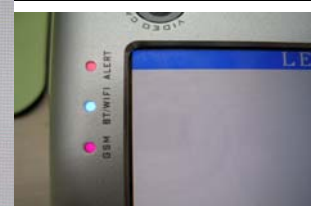
Back Light Test (HIGH/MIDH/LOW/OFF)

I. Press Navi. Button to select <u>Back Light</u> on Function test menu.

II. Press Action key to switch the LCD backlight level from <u>HIGH (100%) -> MIDH (50%) -> Low (25%) -> Off (0%)</u>.

III. Press action button to exit and return to Function test menu.

Flash Light Test

I. Press Navi. Button to select <u>Flash Light</u> on Function test menu.

II. The device will turn on flash light, please check if the flash light turns on.

III. Press action button to turn off flash light and return to Function test menu.

Thermal Sensor Test

I. Press Navi. Button to select <u>Thermal</u> on Function test menu.
II. Press action button to exit and return to Function test menu.
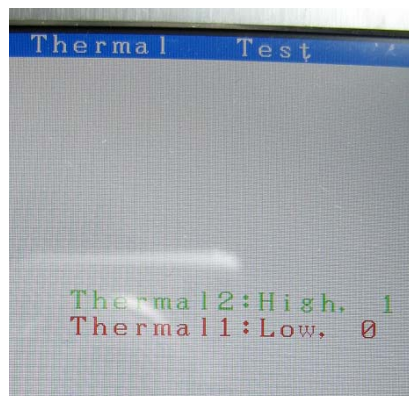
Touch Panel Test

I. Press Navi. Button to select <u>Touch Screen</u> on Function test menu.
II. Using Stylus to tap and follow the symbol "+" at Center, Up-left, Down-left, Down-right position of the screen to perform the test.
III. Press action button to exit and return to Function test menu.

Rom Check Sum Test

I. Press Navi. Button to select <u>Rom Check Sum</u> on Function test menu.
II. Inspect Check Sum and please check the value.
III. Press action button to exit and return to Function test menu.

Spk-Play Test

I. Press Navi. Button to select <u>Spk-Play</u> on Function test menu.

II. Device will play beep sound from speaker.

III. The screen will return to Function test menu after the test is finished.

Hst-Play Test

I. Press Navi. Button to select <u>Hst-Play</u> on Function test menu.

II. Insert Stereo handset and hear the beep sound.

III. The screen will return to Function test menu after the test is finished.

Int-Mic & Spk-Play Test

I. Press Navi. Button to select <u>Int-Mic & Spt-Play</u> on Function test menu.

II. Device will record voice from internal MIC and then play records from speaker.

III. The screen will return to Function test menu after the test is finished.

Ext-Mic & Hst-Play Test

I. Press Navi. Button to select <u>Ext-Mic &</u>
<u>Hst-Play</u> on Function test menu.

II. Insert Stereo handset.

III. Device will record voice from external
MIC and then play records from
handset.

IV. The screen will return to Function test
menu after the test is finished.

SD Card Test

I. Press Navi. Button to select <u>SD Card</u> on
Function test menu.

II. Insert SD card and device will read/write
SD card for testing.

III. The screen will return to Function test
menu after the test is finished.

MMC Card(Mega-SIM) Test

I. Please inset Mega SIM card to the
device before test.

II. Press Navi. Button to select <u>MMC</u>
<u>Card(Mega-SIM)</u> on Function test
menu.

III. Press action button to exit and return to
Function test menu.

Read BDA (TI6150) Test

I. Press Navi. Button to select <u>Read BDA(TI6150)</u> on Function test menu.
II. Device will get BDA data and display it.
III. Press action button to exit and return to Function test menu.
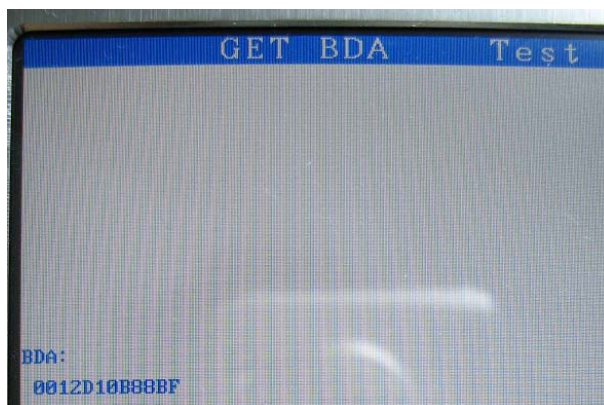
Read WLAN ID Test

I. Press Navi. Button to select <u>Read WLAN ID</u> on Function test menu.
II. Device will get WLAN-ID data and display it.
III. Press action button to exit and return to Function test menu.
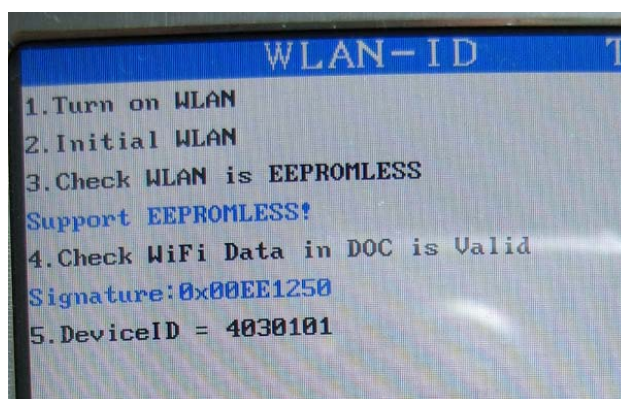
PCB H/W VER Test

I. Press Navi. Button to select <u>PCB H/W VER</u> on Function test menu.
II. Device will get PCB version data and display it.
III. Press action button to exit and return to Function test menu.

Battery Test

I.   Press Navi. Button to select Battery on Function test menu.
II. Plug In/Out the AC-Adapter to check the battery charging/discharging status.
III. Press action button to exit and return to Function test menu.
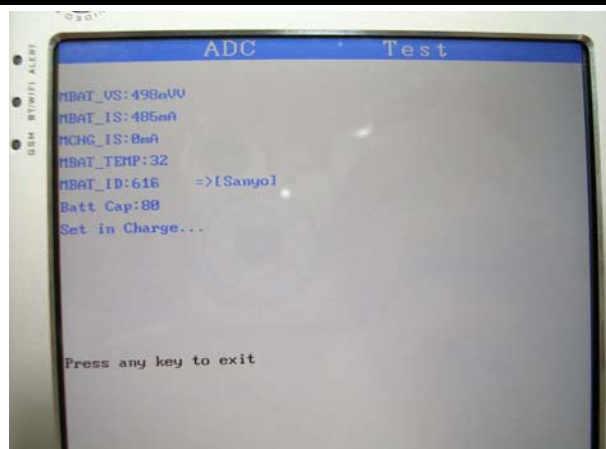
G-Sensor Test

I.   Hold the device to incline as figure.
II. Don't take a straight angle or vertical.
III. Press Navi. Button to select G-Sensor on Function test menu.
IV. Press action button to exit and return to Function test menu.

TV_OUT (VGA MODE) Test

I.   Press Navi. Button to select TV-OUT on Function test menu.
II. Plug in the VGA-OUT cable and connect it to external LCD to check the display output function.
III. Press action button to exit and return to Function test menu.

HDD Detect Test

I. Press Navi. Button to select <u>HDD Detect</u> on Function test menu.
II. Display HDD info and check the HDD status.
III. Press action button to exit and return to Function test menu.

KEY Test

I. Press Navi. Button to select <u>KEY</u> on Function test menu.
II. Follow the instruction on screen to perform the Key/Button test **(Volume Up, Volume Down, Up, Down, Left, Right, Action, Send, End, Portal, Capure, Record, Power)**.
III. Press action button to exit and return to Function test menu.
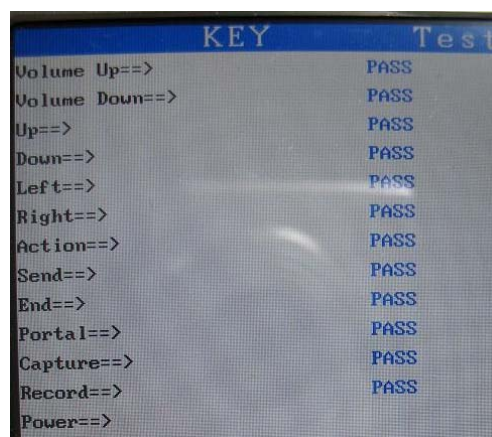
Qwerty Key Test

I. Press Navi. Button to select <u>Qwerty KEY</u> on Function test menu.
II. Plug in Qwerty Keyboard and follow the instruction on screen to perform the Key/Button test.
III. Press action button to exit and return to Function test menu.
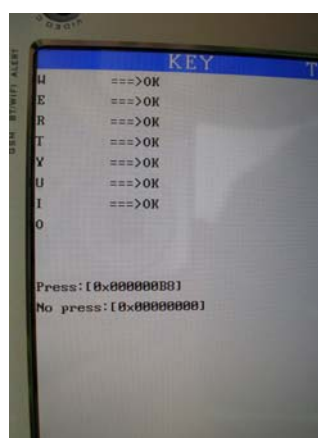
Run-In Test

I.   Return to Main Menu and press Navi. Button to select Run-In test item.
II. Insert AC-adapter and follow the instruction to press key to setup the Run-In hours.
III. The program will perform cycling test (Flash Light, LCD, LED, SDRAM, ROM Check Sum, Spk-Play, Back Light and Battery).
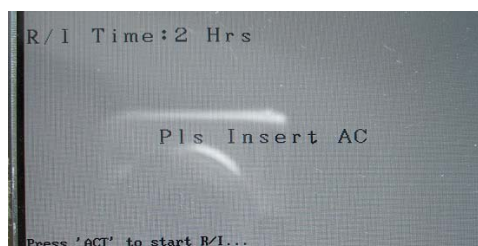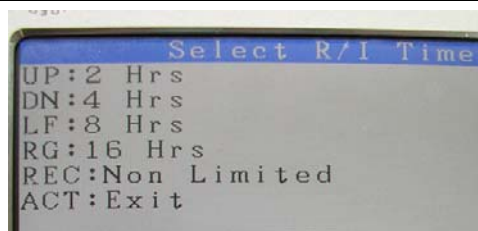
Format FAT

I.   Return to Main Menu and press Navi. Button to select Format FAT item.
II. Press action button to exit and return to Main menu.

(Clear personal information data) for Unit Refurbishment.

Show Device Information (Show DEV Info)

I.   Return to Main Menu and press Navi. Button to select Show Device Information item.
II. Press action key to go next Info item.

Show Device Information (Show GSM Info)

III. Press action key to go next Info item.	
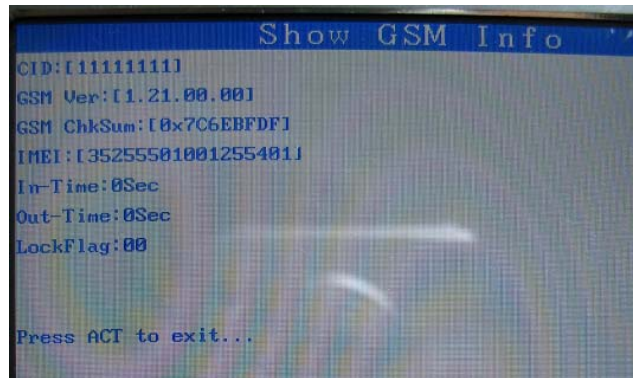
Show Device Information (Show SIM Lock Info)	
IV. Press action button to exit and return to Main menu.	

Clear Talk Time	
I. Return to Main Menu and press Navi. Button to select Clear Talk Time item. II. Device will clear talk time and then show GSM info. III. Press action button to exit and return to Main menu. **Clear Talk Time for Unit Refurbishment**	

WinCE Test

USB Test

I. Start up the Microsoft® ActiveSync®program in the PC. II. Insert USB cable and connect unit to desktop/ or laptop. III. The USB to PC icon ▢-> ▢ is appears on the Today screen when your device is connected to your desktop/ or laptop.	
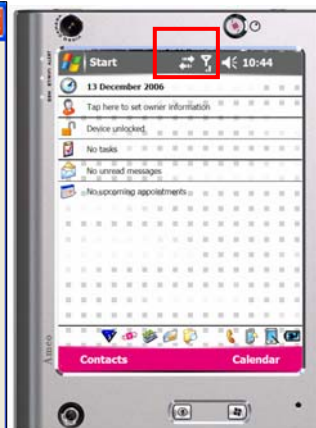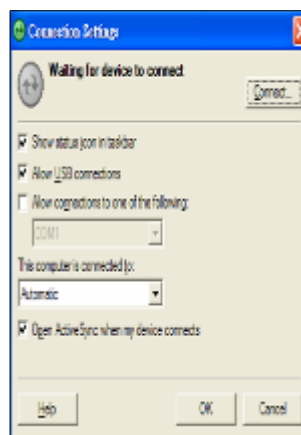
Camera Test

I. Tap Start->Program->Camera or Press Camera button to turn on the Camera. II. Make sure the device will present and enter the preview display. III. Check camera pre-view and image quality.	
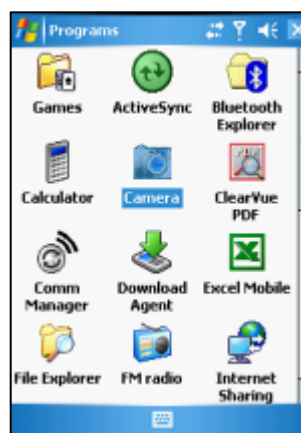
2nd Camera Test

I. Tap Start->Program->Camera or Press Camera button to turn on the Camera. Then select Camera Switching Control to switch 2nd camera. II. Make sure the device will present and enter the preview display. III. Check camera pre-view and image quality.	Camera Switching Control

Bluetooth Test - 1

I. Tap icon Comm Manager on the Today screen and turn on Bluetooth.

II. Tap the icon "Settings" down-right the corner of the screen and select the "Make this device…." Checkbox.

III. Press Action key to go next test pattern.

Bluetooth Test - 2

I. Tap Start->Settings->Connections-> Beam and select "Receive all…." Checkbox.

II. To create a file, tap Start->Programs ->Notes->New.

III. Tap and select the "Beam file…"
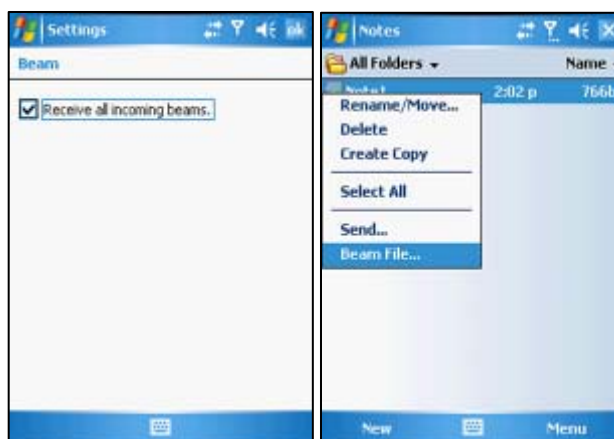
Bluetooth Test - 3

IV. Once device is searched, tap the device to send the file.

V. Return to Today screen and tap Start->Program->Comm Manager ->Bluetooth to turn off Bluetooth.
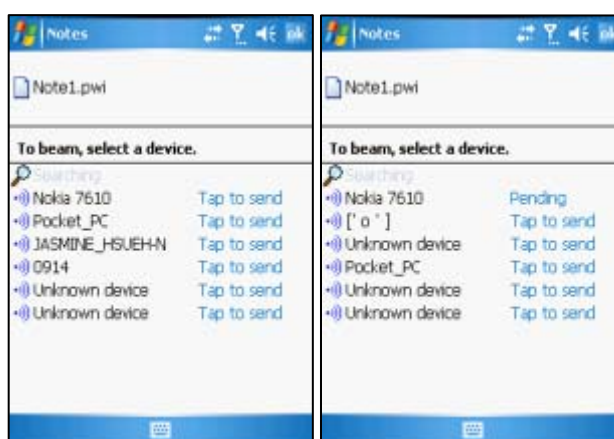
WLAN Test

I. Tap icon <u>Comm Manager</u> on the Today screen and turn on WLAN.

II. Select the hot-spot or access point which searchable and appears on screen.

III. Once the hot-spot (access point) is connected, press the IE button and logon Internet.
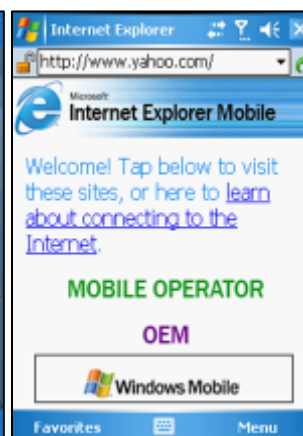
GPS Test

I. Install GPS tool to device and execute the program.

II. Setup the COM port to COM4.

III. Place device in GPS receptor coverage area and tap the icon "Open GPS".

IV. Check the GPS status as picture shown.

[Note]: Please build up similar GPS test station in repair center.
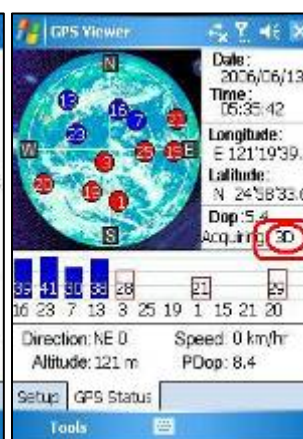
5. LEAKAGE CURRENT MEASUREMENT

Equipments & Fixtures
I. Micro-Current Meter.   II. Power Supply.   III. Cable.   IV. Current series jig.   V. Battery with extension cable.
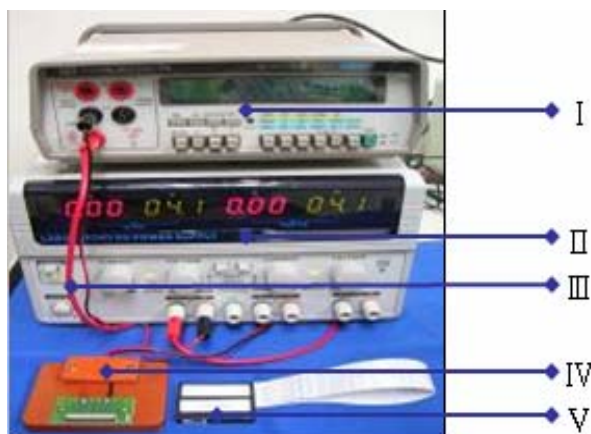
Connect device to test Jig
VI. Insert battery/ with extension cable to UUT (unit under test).   VII. Turn on the device and enter WinCE mode.
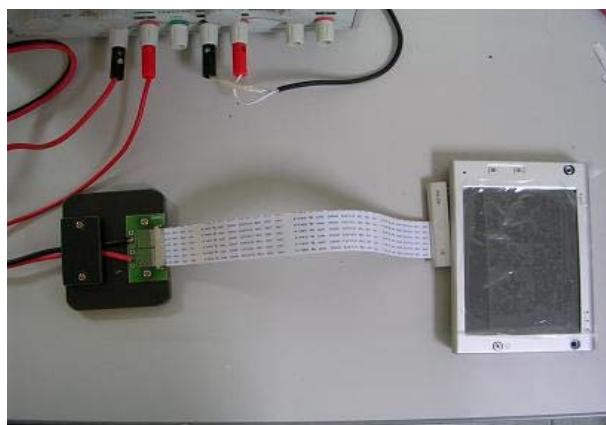
WinCE setup
VIII. Tap the icon 📷 on the Today screen.   IX. Turn on <u>Flight mode</u>.   X. Turn off BT, WLAN, Push Mail and Sync.

Leakage current measurement when Backlight off/Sleep mode

XI. Tap Start->System->Backlight.

XII. Adjust the backlight level to 0% and checks the current from current meter. [Note1]

XIII. Press power button to initial device enter sleep mode and checks the current from current meter. [Note2]

[Note1]: 106mA (Spec $\leq$ 106mA).

[Note2]: 3mA (Spec $\leq$ 3mA).
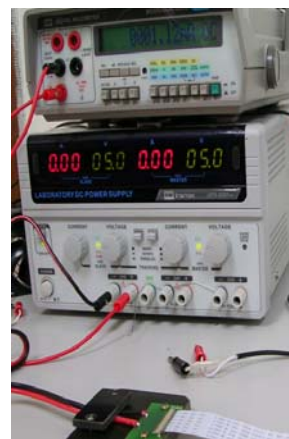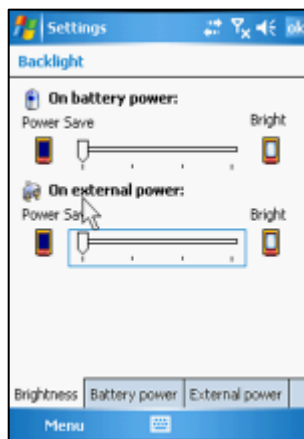
Conclusion

I. If current consumption test PASS when UUT in Flight and Sleep mode, it means that the M/B works normal.

II. If current consumption test FAIL when UUT in Flight or Sleep mode, it means that the M/B works abnormal, please replace M/B and re-test again.
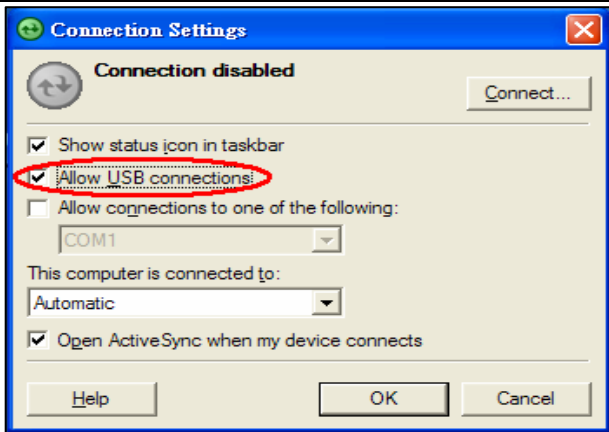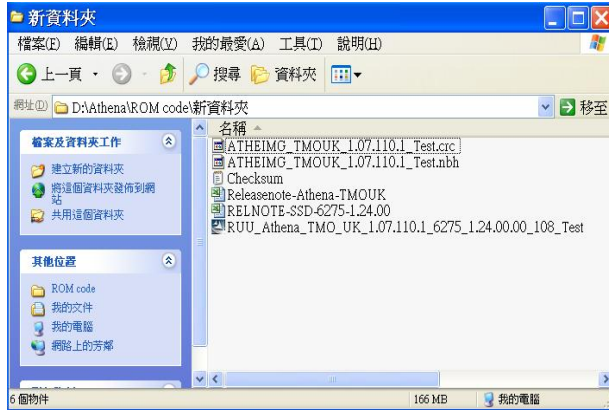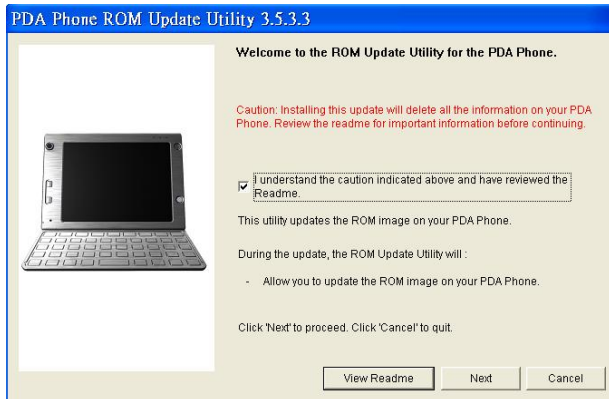
6. OS RE-FLASH PROCEDURE

6.1 OS upgrade thru RUU (Re-flash Upgrade Utility)

Connect device to PC
I. Setting and allow USB connections in Microsoft ActiveSync. II. Connect your device and desktop/ or laptop via USB cable. III. Check the pop-up message from Microsoft ActiveSync when device is synchronized with PC.

Download OS Image from SDO
IV. Download OS image from SDO. http://htcscm10.htc.com.tw/SDO V. Un-zip the file and execute RUU program.

RUU - 1
VI. Read the pop-up message form ROM update utility and select the "I understand…" checkbox. VII. Click "Next" to proceed.

HTC CONFIDENTIAL

RUU - 2

<table>
<tr>
<td>
VIII. Read the pop-up message form ROM update utility to follow and perform the instructions and select the "I completed…" checkbox.
IX. Click "Next" to proceed.
</td>
<td>
PDA Phone ROM Update Utility 3.5.3.3
Follow the instructions below to prepare the PDA Phone for the update process :
1. Connect the PDA Phone to the USB cable.
2. Establish an ActiveSync connection with your PDA Phone.
3. Disable the standby and hibernation modes on the host PC.
4. Make sure Main Battery has a charge greater than 50%.
☑ I completed the steps indicated above.
Please do not lanuch any program during the update process.
Click 'Next' to proceed. Click 'Cancel' to quit.
Back Next Cancel
</td>
</tr>
</table>

RUU - 3

<table>
<tr>
<td>
X. Current image version confirmation.
XI. Click "Update" to proceed.
</td>
<td>
PDA Phone ROM Update Utility 3.5.3.3
Current information about your PDA Phone:
Image Version : 1.07.00.00
Select from below:
Update Update the current ROM version.
Click 'Cancel' to quit.
Cancel
</td>
</tr>
</table>

RUU - 4

<table>
<tr>
<td>
XII. Double verify the ROM revision which you want to update before re-flash procedure.
XIII. Click "Next" to proceed.
</td>
<td>
PDA Phone ROM Update Utility 3.5.3.3
Verify that you want to update the ROM version:
From :
Image Version : 1.07.00.00
To :
Image Version : 1.07.110.1
Click 'Next' to proceed. Click 'Cancel' to quit.
Back Next Cancel
</td>
</tr>
</table>

RUU - 5

XIV. Read the information from pop-up message and the OS update procedure will takes 10 minutes long. XV. Click "Next" to proceed.	PDA Phone ROM Update Utility 3.5.3.3 You are now ready to update your ROM image. This operation takes approximately 10 minutes. During the update process, the following things occur. - The PDA Phone is prepared for the update process. - The progress bar is displayed on the host PC and on the PDA Phone. - The completion screen is displayed on the host PC. Click 'Next' to proceed. Click 'Cancel' to quit. Back Next Cancel

RUU - 6

XVI. You can see the update progress from your PC and in your device.	15% Updating the ROM image on your PDA Phone... Please do not remove the USB connection from the PDA Phone or launch any program during the update process. Remember, the operation will take about 10 minutes.

RUU - 7

XVII.The OS upgrade is finished, click "Finish" to close the utility.	PDA Phone ROM Update Utility 3.5.3.3 Congratulations ! Your ROM update is now complete. Your PDA Phone is ready for use. Follow the instructions on your host PC to re-establish a partnership and synchronize your data using ActiveSync. Click 'Finish' to close the utility. Finish

6.2 OS upgrade thru SD card

Download OS Image from SDO

I. Download OS image from SDO. http://htcscm10.htc.com.tw/SDO II. Un-zip the image file.	

Format SD card and copy image file to SD card

III. Select file system and format the SD card to FAT32 mode. IV. Copy image file XXX.nbh to the micro SD card and rename to **ATHEIMG.NBH**.	
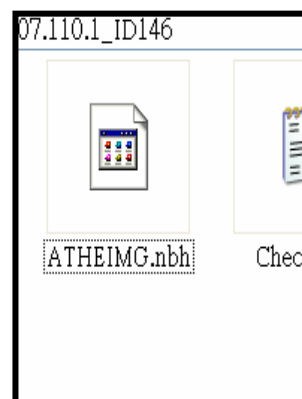
SD Upgrade - 1

V. Turn the device power off and insert Diagnostic SD card. VI. Press and hold **Power + Camera** button, and **Reset** button to entry Boot loader mode. VII. Press **Power** button to start upgrade procedure.	

SD Upgrade - 2

VIII. Reading source code from SD card. [Note]: This process will takes 15 mins, please don't power off the device. IX. After finish, press **Reset** button to reboot.	
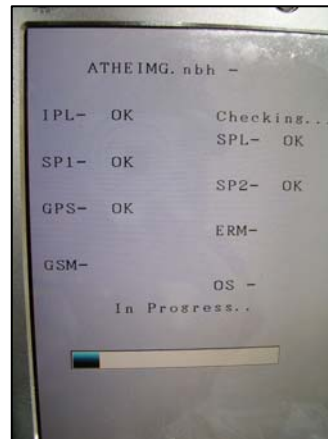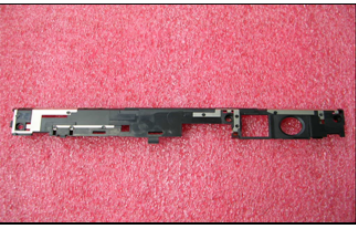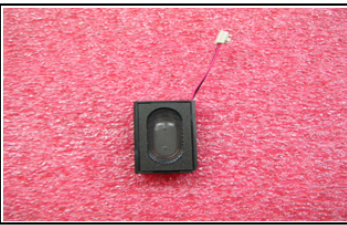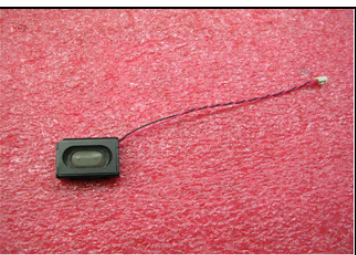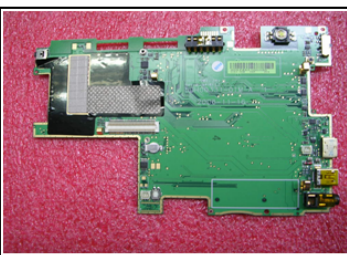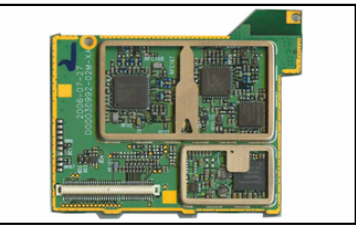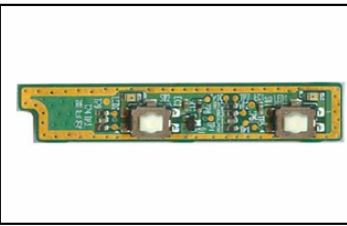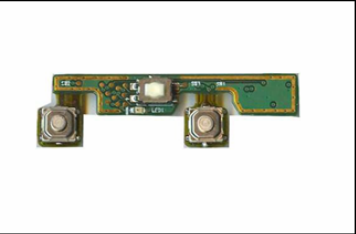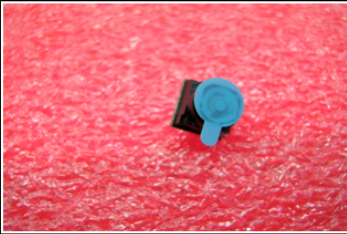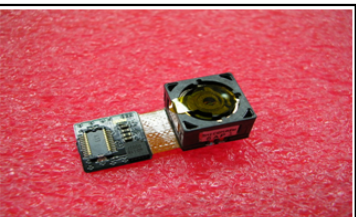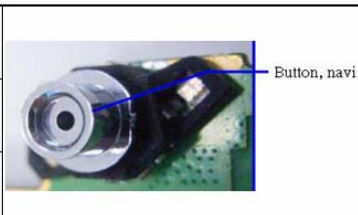
7. GENERIC SPARE PART LIST AND PHOTOS

Picture for SPL 80H Kernel and Accessories
(Part no on picture is for Generic version only, please check SPL for detail per customer)

Part No.	36H00506-00M		Part No.	36H00509-00M
Description	Antenna,ACON,CER147		Description	SPEAKER MODULE left channel
Q'ty	1		Q'ty	1

Part No.	36H00510-00M		Part No.	51H00331-XXM **(Different P/N by customer)**
Description	SPEAKER MODULE right channel		Description	PCBA-MAIN BOARD
Q'ty	1		Q'ty	1

Part No.	51H00359-00M		Part No.	51H00362-00M
Description	PCBA,UMTS Module		Description	PCBA-SWITCH BOARD,Left
Q'ty	1		Q'ty	1

Part No	51H10047-00M		Part No	54H00201-00M
Description	Rigid-Flex Board ASSY,Switch Board_Right		Description	Camera Module,06P037,LITEON,6.5*6.5*4.25mm
Q'ty	1		Q'ty	1

Part No.	54H00202-00M		Part No.	60H00049-00M
Description	Camera Module,LITE-ON,Micron 3MP/AF		Description	TFT-LCD,LTP500GV-F01,5inch
Q'ty	1		Q'ty	1
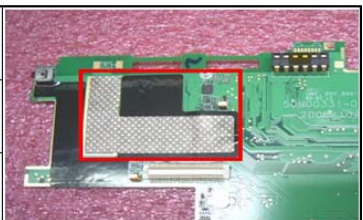
Part No.	65H00004-00P	
Description	Micro Drive,8GB	
Q'ty	1	

Part No.	71H01476-00M	
Description	Button,navi	
Q'ty	1	

Part No.	71H01488-XXM **(Different P/N by customer)**	
Description	Cover,antenna conn	
Q'ty	2	

Part No.	71H01497-00M	
Description	Filler,left-upper	
Q'ty	1	

Part No.	71H01499-00M	
Description	Filler,right-upper	
Q'ty	1	

Part No.	71H01501-00M	
Description	Holder,navi	
Q'ty	1	

Part No.	71H01507-00M	
Description	Lens,camera2	
Q'ty	1	

Part No.	72H00338-00M	
Description	SCREW,PH,FLAT,M1.4X2.5,NYLOK,L1.5	
Q'ty	1	

Part No.	72H00339-00M	
Description	SCREW,TORX,M1.6x8,NYLOK,L4.5	
Q'ty	3	

Part No.	72H00609-00M	
Description	Screw,KH-BT1.4X2.4 BZ,AISI-1018	
Q'ty	1	

Part No	72H01367-00M	
Description	Screw,ph,fd,M1.4*5.5,nylok	
Q'ty	1	

Part No.	72H01543-00M	
Description	Conductive Fabric,35*13mm	
Q'ty	1	

Part No.	72H01646-00M		Part No	72H01796-00M	
Description	Conductive Fabric,40*15*0.1mm, U-TEK		Description	Holder,metal,Battery	
Q'ty	2		Q'ty	1	

Part No	72H01818-00M		Part No	72H01841-00M	
Description	EMI Gasket,3*2*0.35mm,U-TEK		Description	EMI Gasket,41*28*0.15mm ,L-type gasket	
Q'ty	4		Q'ty	1	
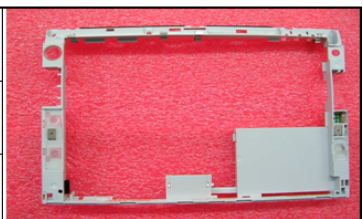
Part No	72H01852-00M		Part No	72H01853-XXM **(Different P/N by customer)**	
Description	EMI Gasket,16*6*2mm,U-TEK		Description	Screw,TORX,M1.6x2.35,NYLOK	
Q'ty	1		Q'ty	3	

Part No	73H20061-09M		Part No	74H00644-00M	
Description	FPC Pre-Assy,uHDD_FPC for Hitachi,CAREER		Description	Button Pre-Assy,button,power **(Not reusable)**	
Q'ty	1		Q'ty	1	

Part No	74H00647-00M		Part No	74H00653-XXM **(Different P/N by customer)**	
Description	Button,comm manager **(Not reusable)**		Description	Frame Pre-Assy,Upper	
Q'ty	1		Q'ty	1	

Part No	74H00654-XXM **(Different P/N by customer)**		Part No	74H00655-XXM **(Different P/N by customer)**	
Description	Frame Pre-Assy,Lower		Description	Cover Pre-Assy,Antenna	
Q'ty	1		Q'ty	1	
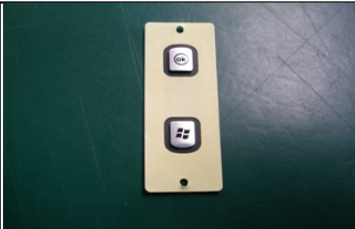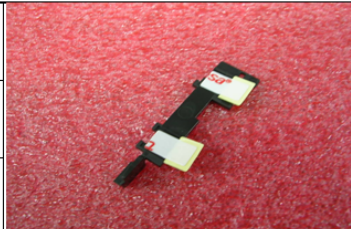
Part No	74H00656-XXM **(Different P/N by customer)**		Part No	74H00662-XXM **(Different P/N by customer)**	
Description	Bezel Pre-Assy,Metal		Description	Cover Pre-Assy,bottom	
Q'ty	1		Q'ty	1	
Part No	74H00680-XXM **(Different P/N by customer)**		Part No	74H00681-00M	
Description	Keypad Pre-Assy,function **(Not reusable)**		Description	Support Pre-Assy,SW,right	
Q'ty	1		Q'ty	1	
Part No	74H00687-XXM **(Different P/N by customer)**		Part No	74H00806-XXM **(Different P/N by customer)**	
Description	Keypad Pre-Assy,portal **(Not reusable)**		Description	Stylus Pre-Assy	
Q'ty	1		Q'ty	1	
Part No	76H01320-00M		Part No	76H01321-00M	
Description	Rubber,mask,navi,Silicon rubber		Description	Rubber,navi,Silicon rubber w/tape **(Not reusable)**	
Q'ty	1		Q'ty	1	
Part No	76H01328-00M		Part No	76H01344-00M	
Description	Rubber,isolator,uHDD		Description	Mylar,Spacer,SW-L,PC,T-TEK	
Q'ty	2		Q'ty	1	
Part No	76H01661-00M		Part No	76H01702-00M	
Description	Mylar,UMTS,board		Description	Tape,Mylar,Adhesive,LCM	
Q'ty	1		Q'ty	1	
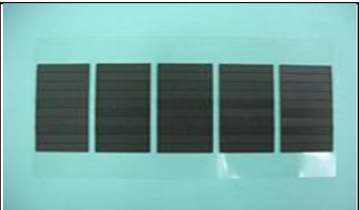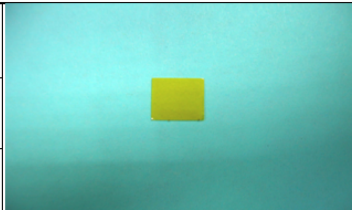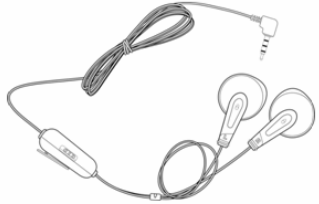
Part No	76H01758-00M
Description	Adhesive-Double Tape
Q'ty	1

Part No	76H01705-00M
Description	Poron,SR-S-15P,CAMERA,FLASH
Q'ty	1

Part No	76H01760-00M
Description	Insulator,KAPTON,UMTS,board
Q'ty	1

Part No	77H00203-00M
Description	Water Sensitive Label,4*2.5mm
Q'ty	1

Part No	76H01761-00M
Description	Spacer,MYLAR,RIGHT,FRAME,UPPER
Q'ty	1

Part No	76H01767-00M
Description	Tape,Kapton,speaker
Q'ty	3

Part No	77H00480-00M
Description	SIM indication Label,6*3mm
Q'ty	1

Part No	77H00482-00M
Description	Mini SD indication Label,8.5*6mm
Q'ty	1

Part No	78H00010-XXM (Different P/N by customer)
Description	Qwerty Keyboard
Q'ty	1

Part No	35H00081-00M
Description	BATTERY_LI-ION,2200mAh,3.7V
Q'ty	1

Part No	79H00055-XXM (Different P/N by customer)
Description	AC Adapter,1A,5V
Q'ty	1

Part No	36H00482-XXM (Different P/N by customer)
Description	Earphone
Q'ty	1

Part No	70H00124-XXM 70H00122-XXM **(Different P/N by customer)**		**Part No**	73H00131-04M	
Description	Pouch,Accessory bag		**Description**	USB Cable with WEEE logo	
Q'ty	1		**Q'ty**	1	
Part No	73H00252-XXM **(Different P/N by customer)**		**Part No**	77H00453-XXM **(Different P/N by customer)**	
Description	16 pin to D-sub video cable		**Description**	Regulation Label,Main unit	
Q'ty	1		**Q'ty**	1	
Part No	77H00454-XXM **(Different P/N by customer)**		**Part No**		
Description	Regulation Label,Main unit certification label		**Description**		
Q'ty	1		**Q'ty**		

8. GENERIC LABELING PLAN

Main unit

1a.Main unit Regulatory label (on the rear housing of main unit)

> HTC P/N: 77H00454-00M
>
> Image file name: Main_Unit_Regulation
>
> Please note: 1. The brand name is shown on Bezel.
>
> > 2. All bar codes must be code 128 symbology.

1b. Main unit Regulatory label (on the battery cover of main unit)

HTC P/N: 77H00453-00M

WEEE-Reg.-Nr.:XX XX XXX XXX
MAC : XXXXXXXXXXXX
P/N:XXHXXXXX-XX

IMEI:35255501XXXXXX

S/N:XXXXXXXXXXX   XX

7.5 mm

48 mm

Controlled by MFG

1c. Main unit SIM indication Label

HTC P/N: 77H00480-00M

1d. Main unit Mini SD indication Label
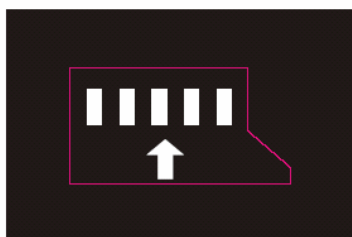
HTC P/N: 77H00482-00M

For S/N: SSYWWPPZZZZZ

SS: SITE CODE --> HT

Y: Year Last Digital of the Year.

WW: Week Code   : **01 ~ 54**

PP: Product Code   : FM

ZZZZZ: Serial Number (00001 ~ 99999) Use Base 10

MODEL ID: ATHE100.

Label Characteristic:

Material: polyester

Color: pantone 422c

Ink: pantone 425c

1e. Main unit Magnetic field warning label

HTC P/N: 77H00481-00M

1f. Main unit indication for battery door label

HTC P/N: 77H00492-00M

1g. Film, protect film for bar code regulatory label
(The label will be sticked on the battery cover of main unit)

HTC P/N: 77H00502-00M

49mm

8mm

CRADLE

2. Cradle Regulatory label

HTC P/N: 77H00456-00M

Image file name: USB cradle

Please note the brand name is shown on front cover.
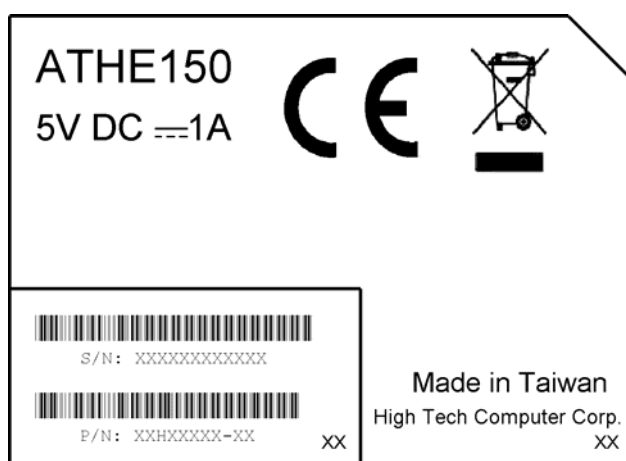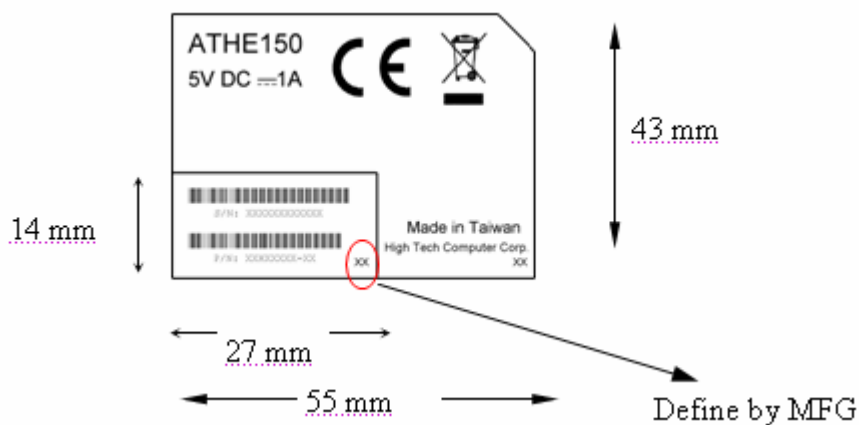
Label characteristic:

Same as regulation label for Main unit

3. Main Battery Warning Label

HTC P/N: 35H00081-00M

Image file name: Main_Battery_warning

Manufacture by battery vendor.
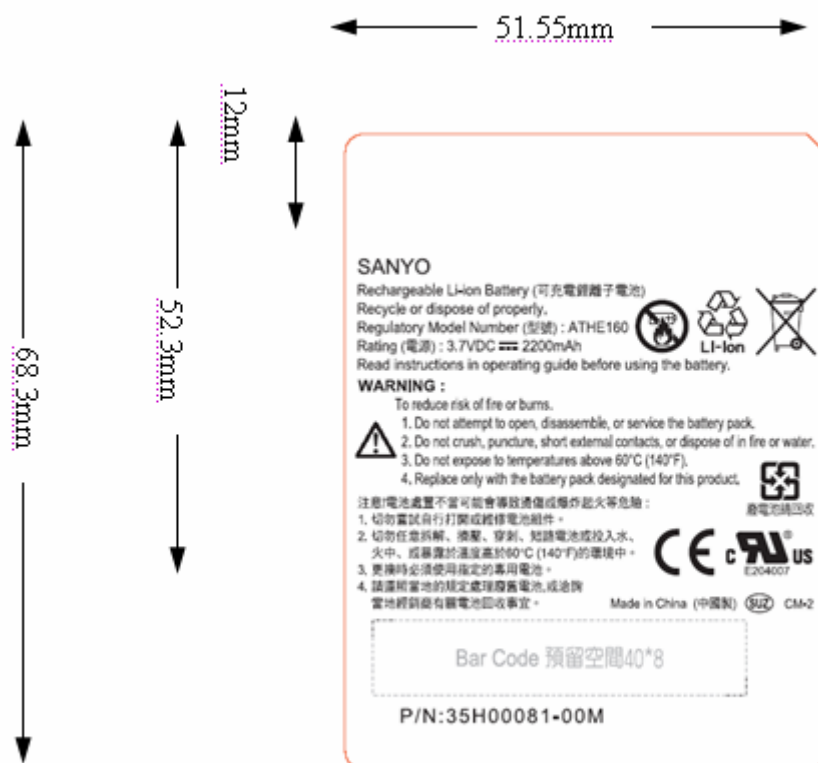
Label characteristic:

Material: **TBD**

Color: **TBD**

Ink: **TBD**

9. RF ANTENNA SPECIFICATION

Items	Test Name	TxLevel	TCH	Ist Downlink CellPower	Note
1	Camp @ DCS Band	0	512	-75	BCCH=600
2	BS Originate Call	0	512	-75	
E-GSM 900 ReceiverTest					
3	Fast Bit Error Rate	5	975	-104	
4	Fast Bit Error Rate	5	37	-104	
5	Fast Bit Error Rate	5	124	-104	
E-GSM 900 Ttansmitter Test					
6	Check TX Power	5	975	-75	
7	Check TX Power	5	37	-75	
8	Check TX Power	5	124	-75	
DCS 1800 ReceiverTest					
9	Fast Bit Error Rate	0	512	-104	
10	Fast Bit Error Rate	0	698	-104	
11	Fast Bit Error Rate	0	885	-104	
DCS 1800 Ttansmitter Test					
12	Check TX Power	0	512	-75	
13	Check TX Power	0	698	-75	
14	Check TX Power	0	885	-75	
PCS 1900 ReceiverTest					
15	Fast Bit Error Rate	0	512	-104	
16	Fast Bit Error Rate	0	662	-104	
17	Fast Bit Error Rate	0	810	-104	
PCS 1900 Ttansmitter Test					
18	Check TX Power	0	512	-75	
19	Check TX Power	0	662	-75	
20	Check TX Power	0	810	-75	
GSM 850 ReceiverTest					
21	Fast Bit Error Rate	5	128	-104	
22	Fast Bit Error Rate	5	189	-104	
23	Fast Bit Error Rate	5	251	-104	
PCS 1900 Ttansmitter Test					
24	Check TX Power	5	128	-75	
25	Check TX Power	5	189	-75	
26	Check TX Power	5	251	-75	

Items	Test Name	Power Level	Uplink/Downlink UARFCN	Ist Downlink CellPower	Note
1	Camp @ W-CDMA Band I (2100)	3	9613/10563	-60	
2	BS Originate Call	3	9613/10563	-60	
ReceiverTest					
3	Bit Error Rate	3	9613/10563	-104	
4	Bit Error Rate	3	9750/10700	-104	
5	Bit Error Rate	3	9887/10837	-104	
Ttansmitter Test					
6	Check TX_Max Power	3	9613/10563	-60	
7	Check TX_Max Power	3	9750/10700	-60	
8	Check TX_Max Power	3	9887/10837	-60	
Items	Test Name	Power Level	Uplink/Downlink UARFCN	Ist Downlink CellPower	Note
1	Camp @ W-CDMA Band II(1900)	3	9263/9663	-60	
2	BS Originate Call	3	9263/9663	-60	
ReceiverTest					
3	Bit Error Rate	3	9263/9663	-104	
4	Bit Error Rate	3	9400/9800	-104	
5	Bit Error Rate	3	9537/9937	-104	
Ttansmitter Test					
6	Check TX_Max Power	3	9263/9663	-60	
7	Check TX_Max Power	3	9400/9800	-60	
8	Check TX_Max Power	3	9537/9937	-60	
Items	Test Name	Power Level	Uplink/Downlink UARFCN	Ist Downlink CellPower	Note
1	Camp @ W-CDMA Band VI(850)	3	4133/4358	-60	
2	BS Originate Call	3	4133/4358	-60	
ReceiverTest					
3	Bit Error Rate	3	4133/4358	-104	
4	Bit Error Rate	3	4175/4400	-104	
5	Bit Error Rate	3	4232/4457	-104	
Ttansmitter Test					
6	Check TX_Max Power	3	4133/4358	-60	
7	Check TX_Max Power	3	4175/4400	-60	

8	Check TX_Max Power	3	4232/4457	-60	

10. BOARD LEVEL 2.5 REPAIRS

Basic Repair Instructions for Component Replacement:

Step 1 Place the solder-proof tape to cover the surrounding area of the components which being replaced.

Warning：DO NOT overheat the tape and components to avoid the tape melted and make the component damage.

Step 2 Use Heater Gun (HAKO850B, set the temperature between
350℃, Air Speed 3~5) to remove the components.

Step 3 It has to wait the temperature cool down before the damaged components been removed. Or, the others components could be gone when the solder-proof tape been taken off.

Step 4 After the damaged components has been replaced; clear the surroundings for solder and flux residues.

➢ 51H00331-00M PCBA-MAIN BOARD(Side A)

Location	P/N	Description	Substitute
SW1	36H00160-00M	Slide_Switch,HSS112,HCH	
SW3	36H00508-00M	Switch,TSW-20,SHINMEI	
CON5	75H00454-00M	Connector I/O,Normal,11P,0.4Pitch,302-11101-00,ACT	
CON6	75H00571-00M	Connector I/O,16P,0.45Pitch,0.5A,5V,30mohm,020030FB016G501ZL,SUYIN	
CON8	75H00484-00M	Connector B to B,80P,0.5Pitch,0.05A,60V,90mohm,AXK5F80537YG,MATSUSHITA	
ACON1 ACON2	75H00124-00M	Connector Device,BM02B-ASRS-TF_LF_SN,2pin,Pitch=1mm,JST	
ACON3	36H00446-00M	Audio Jack,JP011-D4BA-3602XT,3.5mm,T-MEC	36H00218-11M
PCG101	16H00012-00M	Gold Cap,0.07F,70ohm,3.3V,-25/+50%,XH414H II02E,SEIKO,7.6*4.8*1.72mm,,70/-25degC	
PCON101	75H00489-00M	Connector Others,6P,2.5Pitch,3A,6V,30mohm,BTR1Q-6K2000,ACON	
PF101	36H00300-00M	Fuse,046702.5,2.5A/32V,LITTLEFUSE,Apache	

GSW1	75H00514-00P	Connector RF,Female,4P,MS-162,HIROSE,3.5*3.1*2.5mm	
PLED6	27H00145-00M	LED,700mA,3.72V,LXK2-PW12-R00,LUMILEDS	

➤ Side A Photo and Component Location

➢ **51H00331-00M** **PCBA-MAIN BOARD(Side B)**

Location	P/N	Description	Substitute
SW10	36H00314-00M	Switch,soq-152BJST,MITSUMI	
CON1	75H00487-00M	Connector B to B,60P,0.4Pitch,AXK760147G,NAIS,14.3*4.1*1.5mm	
CON2	75H00575-00M	Connector FPC,50P,0.3Pitch,0.5A,50V,40mohm,FF02S50SV1-R3000,JAE	
CON3	75H00432-00M	Connector SD Card,mini-SD,CIM-F07N,11pin,Pitch=1.3mm,MITSUMI,0.0*0.0*2.2mm	
CON10	75H00488-00M	Connector B to B,22P,0.4Pitch,0.03A,60V,90mohm,AXK7L22217G,MATSUSHITA	
CON11	75H00485-00M	Connector B to B,20P,0.4Pitch,0.5A,60V,90mohm,female,AXK720137G,MATSUSHITA	
CON12 CON13	75H00452-00M	Connector B to B,10P,0.5Pitch,AXK5F10537Y,NAIS,90mohm,0.5A,60V	
AMIC1	36H00208-00M	MIC,SP0103NB3-SB-3,EMKAY,Pb-FREE,100/-40degC,6.15*3.76*1.45 mm	
BCON1	75H00616-00M	Connector SIM Card,8P,2.54Pitch,4250820-SINR01,HAMBURG,14.9*16.3*2.0mm	
PF102	36H00300-00M	Fuse,046702.5,2.5A/32V,LITTLEFUSE,Apache	

➢   Side B Photo and Component Location

11. GENERIC TROUBLESHOOTING

1‧Main Unit Does Not Respond to Power Button

(1) Connect the AC adapter, maybe the battery pack is exhaust and wait for few minutes if unit boot.

(2) Check if battery installed well and switch to lock.

(3) Check key lock switch if enable

(4) Check the Power Button if any damage.

(5) Try with another battery pack.

(6) Try if unit can enter boot-loader mode. If so, try to re-flash ROM if can solve the problem.

(7) Check all connections including LCD FPC to Main Board.

(8) Replace Main Board if necessary.

(9) Once the defective part has been identified, verify it again with the defective part whether the symptom could be duplicated.

2‧Touch Panel Does Not Respond to Screen Tap

(1) Check the connection of LCM FPC cable whether is properly connected.

(2) Try to cold boot the unit then tries again.

(3) Try with another LCM.

(4) Try with another Main Board.

(5) Replace LCM if necessary

(6) Replace Main Board if necessary.

(7) Once the defective part has been identified, verify it again with the defective part whether the symptom could be duplicated.

3‧Buttons Do Not Respond

(1) Try to cold boot the unit then tries again.

(2) Dismantle the unit; check the status of switches on the Main Board and the plastic parts of the Button not responding.

(3) Try with another Main Board or Front Bezel.

(4) Replace Main Board or Front Bezel if necessary.

(5) Once the defective part has been identified, verify it again with the defective part whether the symptom could be duplicated.

4‧Unusual Vertical / Horizontal lines or partial display

(1) Check the connection of LCM FPC whether is properly connected.

(2) Try to cold boot the unit then tries again.

(3) Try to re-flash the ROM code.

(4) Try with another LCM.

(5) Try with another Main Board.

(6) Replace LCM if necessary

(7) Replace Main Board if necessary.

(8) Once the defective part has been identified, verify it again with the defective part whether the symptom could be duplicated.

5．Back Light Does Not Turn ON/OFF

(1) Check the connection of LCM FPC whether is properly connected.

(2) Try to re-flash the ROM code.

(3) Try with another LCM.

(4) Try with another Main Board.

(5) Replace LCM if necessary

(6) Replace Main Board if necessary.

(7) Once the defective part has been identified, verify it again with the defective part whether the symptom could be duplicated.

6．Mini-SD Card cannot be used

(1) Check whether Mini-SD Card is fully inserted to the slot until you hear a click.

(2) Try to re-flash the ROM code.

(3) Try with another Mini-SD Card.

(4) Try with another Main Board.

(5) Replace Main Board if necessary.

(6) Once the defective part has been identified, verify it again with the defective part whether the symptom could be duplicated.

7．PC Connection not possible

(1) If test result is NFF, it is possible caused by user connect cradle to computer before ActiveSync is installed.

(2) Check whether "Connection Settings" in the MS ActiveSync is properly set.

(3) Check whether it connects with other cables or cradle, customer's cable might be damaged.

(4) Check the external appearance of the connector on the unit whether it is physically damaged.

(5) Try to re-flash the ROM code.

(6) Replace Main Board if necessary.

(7) Once the defective part has been identified, verify it again with the defective part whether the symptom could be duplicated.

8 · Battery Pack does not start

(1) Make sure the battery cover is closed properly.

(2) Connect to the AC Adapter and see if it takes charge. Also check AC Adapter condition.

(3) Check whether AC Adapter is functioning properly.

(4) Check whether the condition of Battery Charging status is correct.

(5) Check the appearance of Battery Pack if any abnormal..

(6) Try with another Battery Pack or Replace Battery Pack if necessary

(7) Try with another Main Board or Replace Main Board if necessary.

(8) Once the defective part has been identified, verify it again with the defective part whether the symptom could be duplicated.

9 · Battery discharges quickly even after fully charged

(1) Make sure the Battery Pack takes fully charge with AC Adapter.

(2) Check whether the condition of Battery Charging status is correct.

(3) Dismantle the unit and check the appearance of Battery Pack.

(4) Try with another Battery Pack or Replace Battery Pack if necessary

(5) Try with another Main Board or Replace Main Board if necessary.

(6) Once the defective part has been identified, verify it again with the defective part whether the symptom could be duplicated.

10 · Battery Pack does not recharge

(1) Make sure the Battery Pack takes fully charge with AC Adapter.

(2) Check whether the condition of Battery Charging status is correct. Charge should be done no more than 4 hours.

(3) Dismantle the unit and check the appearance of Battery Pack.

(4) Try with another Battery Pack or Replace Battery Pack if necessary

(5) Try with another Main Board or Replace Main Board if necessary.

(6) Once the defective part has been identified, verify it again with the defective part whether the symptom could be duplicated.

11 · No Sound from Speaker or Distorted sound

(1) Check "Sound & Notifications" Settings in the unit for Sound Enabling.

(2) Make sure it's not MUTED.

(3) Try to re-flash the ROM code.

(4) Clean up the speaker connection side on MB if there is any contamination.

(5) Dismantle and Check whether the Speaker is properly installed (Orientation)

(6) Replace Speaker if necessary.

(7) Replace Main Board if necessary.

(8) Once the defective part has been identified, verify it again with the defective part whether the symptom could be duplicated.

12．No Recorded Sound or Distorted sound

(1) Check "Sound & Notifications" Settings in the unit for Sound Enabling.

(2) Make sure it's not MUTED.

(3) Try to re-flash the ROM code.

(4) Dismantle and Check whether the Microphone is properly installed.

(5) Replace Microphone if necessary.

(6) Replace Main Board if necessary.

(7) Once the defective part has been identified, verify it again with the defective part whether the symptom could be duplicated.

13．Wireless connection (WLAN/BT) not possible

(1) Make sure the wireless environment is OK before your checking.

(2) Make sure the wireless connection setting has been properly set.

(3) Make a life connection with Internet or another device.

(4) Try to re-flash the ROM code.

(5) Try with another main board if necessary

(6) Once the defective part has been identified, verify it again with the defective part whether the symptom could be duplicated.

CHAPTER 12 – BATTERY RUNDOWN TEST PROCEDURE

1. Tool Requirement: Battery Rundown Software.
2. Before performing battery rundown test, please measure and examine the Unit/MB Board whether it is normal or not by leakage current measurement.
3. Please check whether it's the former battery or not.

Test Criteria

A. Please charge your unit to full capacity for battery before doing the test.
B. Please turn off GSM, Bluetooth, WLAN, or others function before testing.
C. Please run the Rundown tool for an hour.
D. After one hour testing, the result of capacity should bigger than 72%.
E. If the test result is lower than the Criteria, should exchange the battery for customers in Warranty.

➢ Step 1: It is required to save **PowerDetect.exe、model.txt、SetBackLight.dll** in the same folder under WinCE via ActiveSync or copy by Mini-SD card.

File Explorer PowerDetect ▾ Name ▾ model 2/1/07 241B PowerDetect 2/1/07 26.0K Up Menu	**PowerDetect.exe** is the main executive program for battery testing；**model.txt** is the related parameter setting for the main executive program. **SetBackLight.dll** is used to control the backlight of PDA, and it will be hidden while using file explorer.

➢ Step 2: Adjust the power management setting before using rundown test program.

	1. Go to settings-> Backlight.
	2. Turn the bright on battery power to max.
	3. Cancel the item of Turn off backlight if device is not used for.

> Step 3: Click "PowerDetect.exe"

> Step 4: Battery Rundown tool UI

Adjust Record Log time if needs. (Default is 2 Mins)

Record Log and Capacity Curve will be showed.
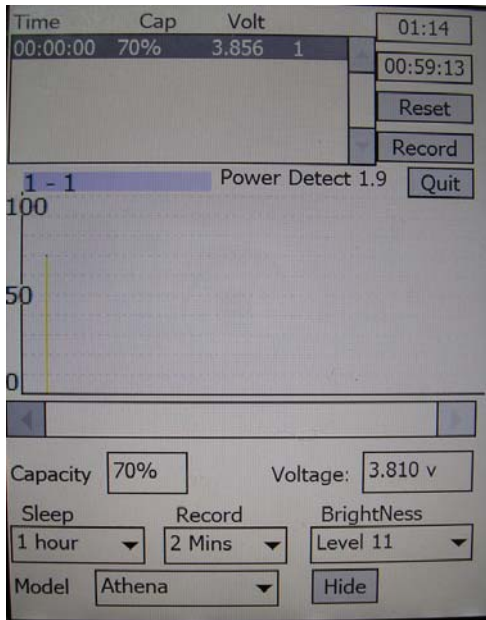
➢ Step 5: Plug-out AC adapter and then start testing.

➢ Step 6: After finishing the test, the tool will generate a log named "**PowerCap.txt**".

The log includes three parts of information：**Time, Capacity, and Voltage**.