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Service Manual  
PDA Phone Product  
Prodigy

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HTC Proprietary  
Confidential Treatment Requested

**Rev. XA**  
August 13, 2005

**HTC Corp.**  
*Engineering Mobility*



# TITLE: Service Manual for Prodigy

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## **1.Introduction**

This manual provides the technical information to support service activities of PDA phone (Prodigy). This document contains highly confidential information, any or all of this document should not be revealed to any third party.

## **2.Product Specifications**

### **2.1 Product Configuration**

Standard Package

ITEM	CONTAINS
1	Main Unit
2	Stylus
3	AC Adapter w/ mini –USB plug
4	Stereo wired headset with microphone
5	Carrying Case
6	Car Kit
7	User's Manual, Quick start guide, Sync., S/W (CD)
8	Battery
9	Travel charger
10	User's Manual



## 2.2 Specifications of Prodigy

Item	Specification
Soldering status	<ul style="list-style-type: none"> <li>● Meet Lead-free requirement</li> </ul>
Platform	<ul style="list-style-type: none"> <li>● Microsoft Windows Pocket PC phone edition</li> <li>● PDA form factor integrated quad-band GSM/EDGE, Bluetooth, WiFi, 1.3/2 mega-pixel camera, and sliding QWERTY keyboard</li> </ul>
Outside Dimensions	<ul style="list-style-type: none"> <li>● 58mm(W) x 109mm(H) x 23.7mm (T)</li> </ul>
Weight	<ul style="list-style-type: none"> <li>● Less than 160 g (Main unit with battery pack)</li> </ul>
Battery	<ul style="list-style-type: none"> <li>● Removable rechargeable Lithium Polymer battery</li> <li>● 1250 mAH</li> <li>● Battery Life: <ul style="list-style-type: none"> <li>* WMA: 12 hours</li> <li>* WMV: 8 hours</li> </ul> </li> <li>● Talk time: 3.5 ~ 5 hrs</li> <li>● Standby Time: 150 ~ 200 hrs</li> </ul>
AC Adapter	<ul style="list-style-type: none"> <li>● AC input 100 ~ 240 Vac, 50/60 HZ</li> <li>● DC output : 5V / 1A (typical)</li> </ul>
GPRS/GSM (Tri-band) module	<ul style="list-style-type: none"> <li>● Quad-Band ( 850/900/1800/1900)MHz</li> <li>● Internal Antenna</li> <li>● Audio codec: AMR, EFR, FR, HR</li> <li>● Supplement services <ul style="list-style-type: none"> <li>* Call holding/waiting/ forwarding</li> <li>* CLI (Call line Identity)</li> <li>* Display own number</li> <li>* Network selection</li> <li>* Cell broadcast</li> <li>* Multi-party conference call</li> <li>* Spool Icon</li> <li>* Network lock</li> </ul> </li> </ul>



EDGE functionality	<ul style="list-style-type: none"> <li>● EGPRS Class B,</li> <li>● Multi-slot Class 10</li> <li>● PBCCH</li> <li>● Incremental Redundancy</li> </ul>
SIM	<ul style="list-style-type: none"> <li>● 1.8V/3V SIM Operation</li> <li>● SIM Application Tool Kit release 98 class 3</li> <li>● Over the Air (OTA) programming</li> <li>● FDN/AND/SDN</li> <li>● Security PIN 1&amp;2 control</li> </ul>
Memory	<ul style="list-style-type: none"> <li>● ROM: 128MB (for program and users' storage)</li> <li>● RAM: 64 MB DDR SDRAM</li> </ul>
Processor/Chipset	<ul style="list-style-type: none"> <li>● TI OMAP 850</li> </ul>
LCD Module	<ul style="list-style-type: none"> <li>● 64K-color TFT Transflective LCD with white LED back light</li> <li>● 2.8" 240 x 320 dots resolution</li> <li>● Sensitive Touch Screen</li> </ul>
Interface	<ul style="list-style-type: none"> <li>● One Infrared port IrDA SIR</li> <li>● 1.8V/3V SIM card</li> <li>● Mini-SD card slot (top)</li> <li>● 2.5 <math>\phi</math> stereo audio jack</li> <li>● External antenna connector</li> </ul>
Stylus	<ul style="list-style-type: none"> <li>● Lock type mechanism</li> </ul>
Keyboard/Button/Switch	<ul style="list-style-type: none"> <li>● Five way navigation button</li> <li>● Power button</li> <li>● Volume control button (up &amp; down)</li> <li>● 2 phone button, Send (Yes) &amp; End (No)</li> <li>● 2 AP buttons ( message-left, IE-right)</li> <li>● 2 soft keys</li> <li>● Camera shutter button</li> <li>● Voice command/Voice recorder button</li> <li>● Reset Switch</li> <li>● RF button</li> <li>● Sliding QWERTY keyboard with 39 keys + 2 soft keys</li> </ul>



Notification	<ul style="list-style-type: none"> <li>● One Bi-color LED for GSM standby, GSM message, GSM network status, notification, and charging status.</li> <li>● Two respective (blue and green) LEDs for for Bluetooth/ WiFi notification.</li> <li>● Notification by sound, Message, Vibration on the display.</li> </ul>
CMOS Camera	<p>Main Camera (manufacture option)</p> <ul style="list-style-type: none"> <li>● CMOS 1.3 mega Pixel with fixed lens</li> <li>● Or CMOS 2.1 mega Pixel with macro lens</li> <li>● Video/flash light</li> <li>● Preview Mirror</li> </ul>
Audio	<ul style="list-style-type: none"> <li>● Build-in Microphone</li> <li>● Receiver</li> <li>● Dual speaker on both sides</li> <li>● Loud speaker for Hands-free supported</li> <li>● Full duplex</li> <li>● WAV/WMA/AMR/AAC/MP3 codec.</li> <li>● 16 bits with 8KHz,11 KHz, 22KHz,44.1 KHz, sampling rate</li> </ul>
Bluetooth	<ul style="list-style-type: none"> <li>● Compliant with V1.2</li> <li>● Class 2 transmit power</li> <li>● Supported profiles: <ul style="list-style-type: none"> <li>➤ Generic Access profile</li> <li>➤ Serial Port profile</li> <li>➤ Headset profile</li> <li>➤ Object Push profile</li> <li>➤ DUN profile</li> <li>➤ Heads-free profile</li> <li>➤ Generic Object Exchange profile</li> <li>➤ HID profile</li> </ul> </li> <li>● Co-exist with WiFi</li> </ul>





WiFi	<ul style="list-style-type: none"> <li>● IEEE 802.11b/g compliant</li> <li>● Internal WLAN Antenna</li> <li>● 11, 5.5, 2 and 1 Mbps per channel, auto fallback for extended range</li> <li>● ELP mode</li> <li>● Support 802.11i&amp;AES</li> <li>● Security <ul style="list-style-type: none"> <li>* WPA authentication</li> </ul> </li> <li>● QoS <ul style="list-style-type: none"> <li>* 802.11 WME QoS</li> <li>* 802.11e is preferred</li> <li>*Fast AP to AP handover</li> </ul> </li> </ul>
Regulatory	<ul style="list-style-type: none"> <li>● PTCRB</li> <li>● R&amp;TTE: EMC/EMI, CEM, Safety</li> <li>● FCC</li> <li>● WiFi Certification</li> <li>● Bluetooth Certifiaction</li> <li>● Microsoft Windows Mobile version 5.0 logo</li> </ul>
Accessories	<ul style="list-style-type: none"> <li>● Carrying Case</li> <li>● AC adapter with mini-USB plug</li> <li>● Sync. Cable (mini-USB)</li> <li>● Battery (rechargeable and replaceable)</li> <li>● Car adapter</li> <li>● Stylus</li> <li>● Car Kit w/car stereo mute function</li> <li>● Stereo-wired headset with microphone</li> <li>● Mono bluetooth headset with microphone</li> <li>● Keyboard</li> <li>● Cradle (optional)</li> <li>● User manual, quick start guide, Sync. S/W (CD)</li> <li>● Travel charger</li> </ul>



### **3. Labeling**

#### **3.1 Main unit Regulatory label (on the rear housing of main unit)**

**TBD**

#### **3.2 Serial number description**

For S/N: SSYWWPPZZZZZ

SS: SITE CODE --> HT or TW

Y: Year Last Digital of the Year.

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

PP: Product Code : **TBD**

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



## 4. Servicing Tools

This chapter provides information for the servicing tools for Prodigy.

### Repair Level Definition

#### Unit

- L0 Accessory test and unit swap
- L1 Unit Test and ROM Re-flash
- L2 Refurbishment and Module Swap +L1
- L2.5 M/B Repair(connector, button, MIC...) +L2

#### List of Servicing Tools

level	No.	Item	Use for	Remark
L 1	1	Mini USB DATA interface Cable	Check for mini USB communication; RUU re-flash	
	2	Earphone Headset	For Audio test.	
	3	AC Adapter	Transfer AC to DC for Unit	
	4	WLAN AP	For WiFi test	
	5	Mini Memory Card with Diag. test program (need be encoded by HTC)	For unit Diag. test	HTC design
	6	128MB mini SD memory card ( must be encoded by HTC)	For unit Re-flash ROM code transfer to SD card	HTC design
	7	Unit current consumption test fixture	Measure Unit current consumption	HTC design
	8	Power supply		
	9	Current Meter		
		10	Mobile tester	For RF test
L 2	11	Special Made Plastic Stick	Assembly & Disassembling	HTC special tools
	12	Hand tools	Assembly & Disassembling	
	13	Label printer	Print agency label if replacing M/B	
L 2.5	14	Lead-free Soldering station	Board level repair	
	15	Air heater	Board level repair	



## 5. Disassembling and Assembling

### 5.1 Disassembling



Tools needed of Assembling and Disassembling **Prodigy**

From left to right in the picture

1. Lens Cleaning Tissue.
2. Philip Screw Driver #0.
3. Torex Screw Driver T5X40
4. Special Made Plastic Stick.
5. Tweezers.



Remove the Stylus, mini-SD Card slot Filler, and protection rubber of antenna connector.



Next, Remove the battery cover by releasing lock switch



Remove battery cover



**Warning:** To reduce risk of fire or burns, do not disassemble, crush, puncture, short external contacts, or dispose of in fire or water. Replace only with specified batteries. Recycle or dispose of used batteries properly



Remove main battery from unit



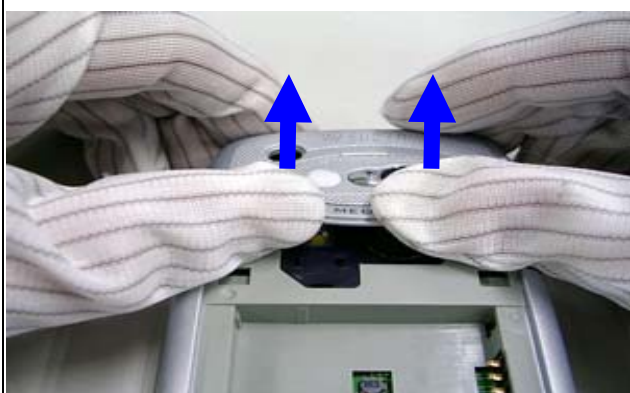
Use the plastic stick to Insert and gently twist into the gap between back housing and antenna cover.



Unlock the inside hook



There are 2 hook on the top side of Antenna cover,  
Use 2 thumbs to push the bottom of antenna cover



Take care of disassembling Antenna cover during the process, it is easy to damage the hook of Antenna cover



Antenna cover is removed



Release 4 screws from back housing



To insert plastic stick into the gap of top of back housing



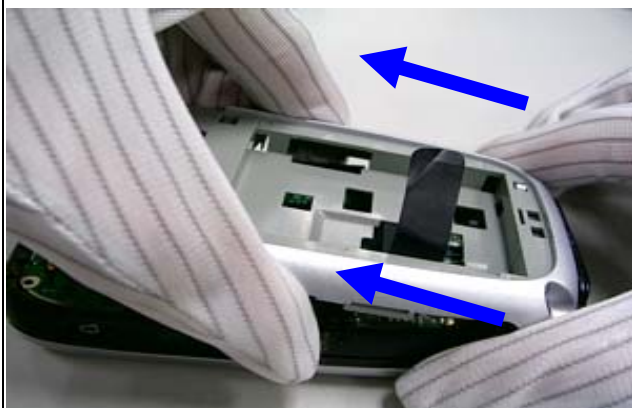
Unlock hook



There are 3 hooks at right side



Another 3 hooks at left side



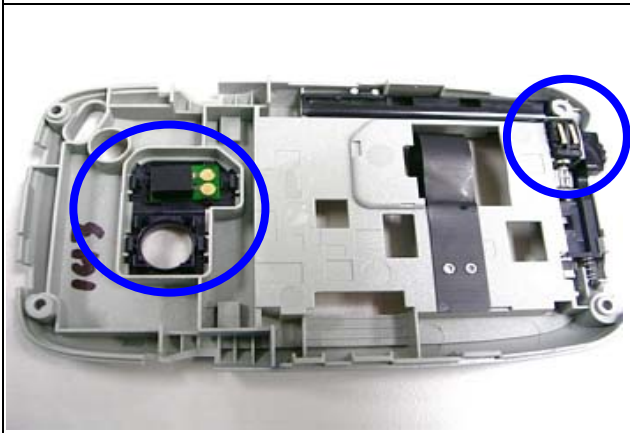
Disassembly back housing







The back housing is separated



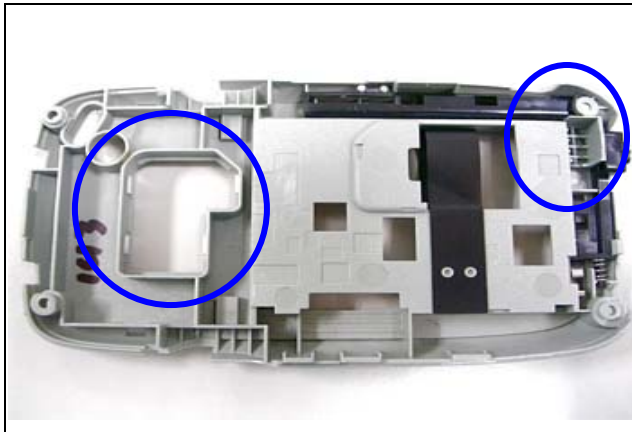
There are 2 parts on the back housing,  
1. Flash light  
2. Vibrator



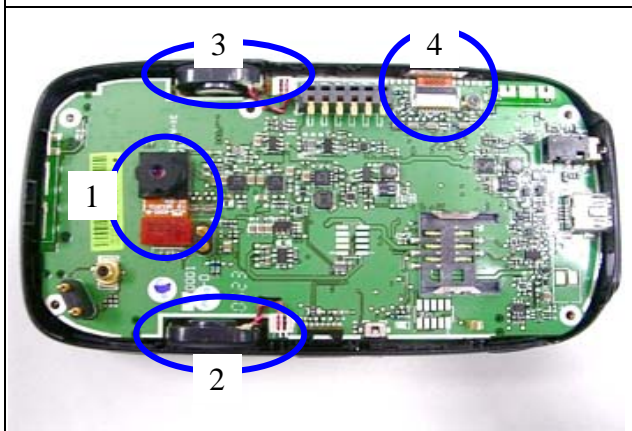
Use Plastic stick to unlock hooks of flash light module



Use tweezes to remove Vibrator



Flash-light module and Vibrator are removed

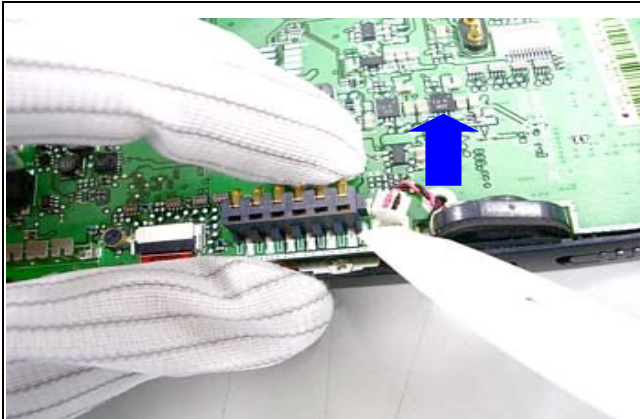


Following need to be assembled

1. Camera
2. Speaker
3. Speaker
4. Keyboard FPC cable



Remove Camera



Disassembly speakers



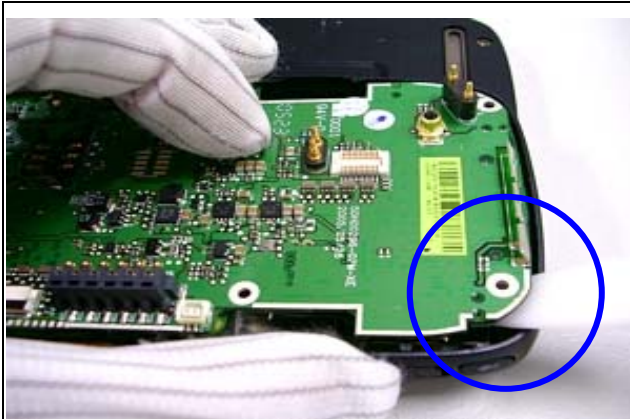
Both side speakers are removed



Disconnect keyboard FPC cable



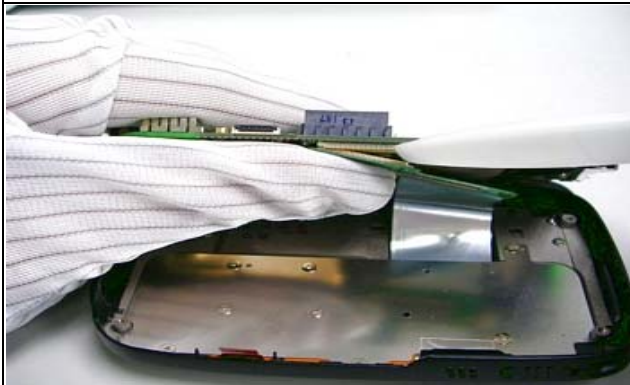
Shift the slide tray as left picture



Use plastic stick to raise main board



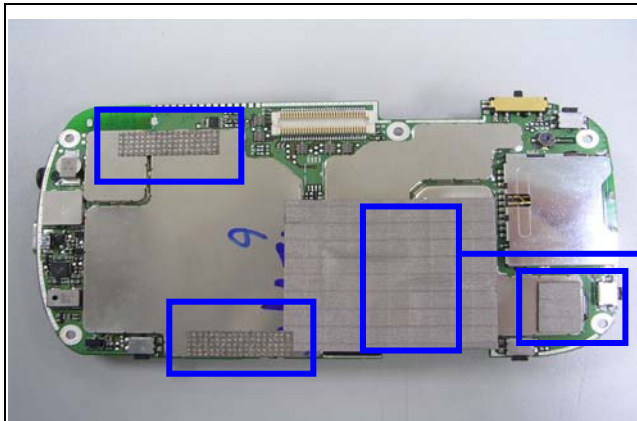
The main board is connected with Rigid-Flex Board



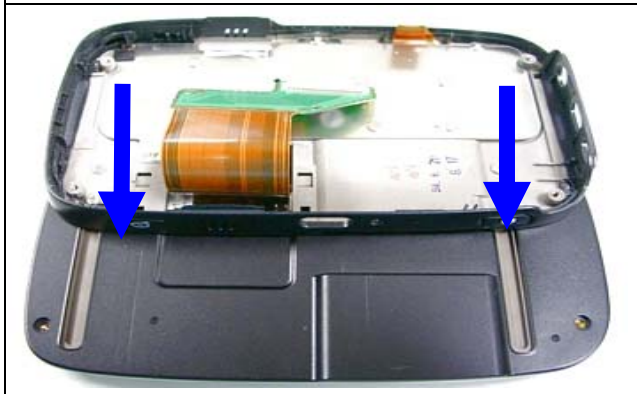
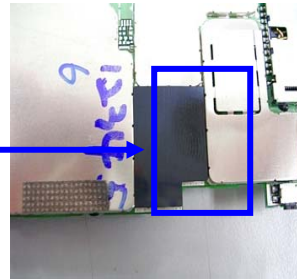
Disconnect the FPC cable



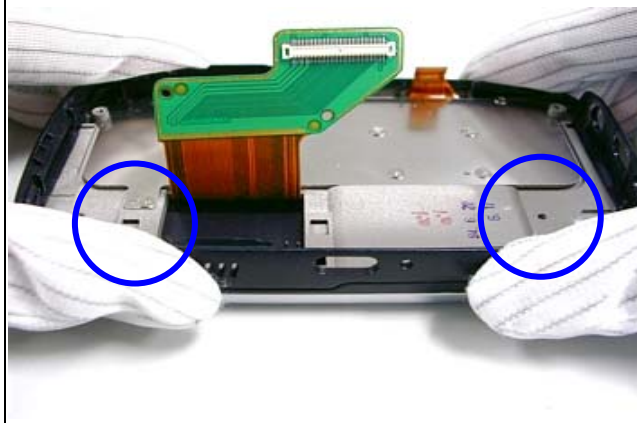
The main board is released



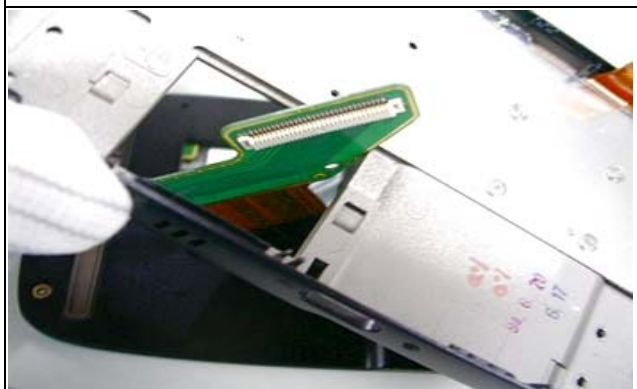
Make sure sponges and Mylar, Gasket,... are stuck in the main board



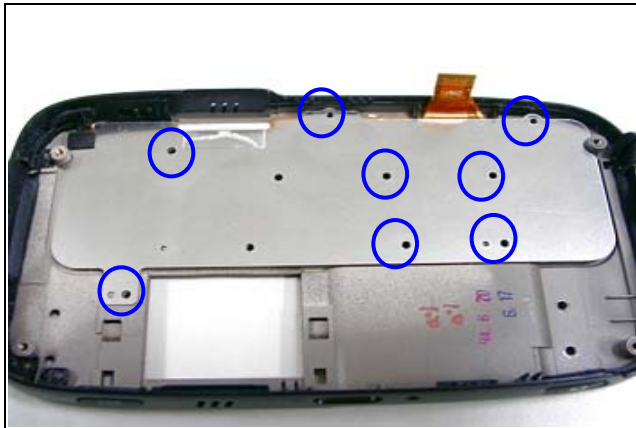
Shift the slide tray back



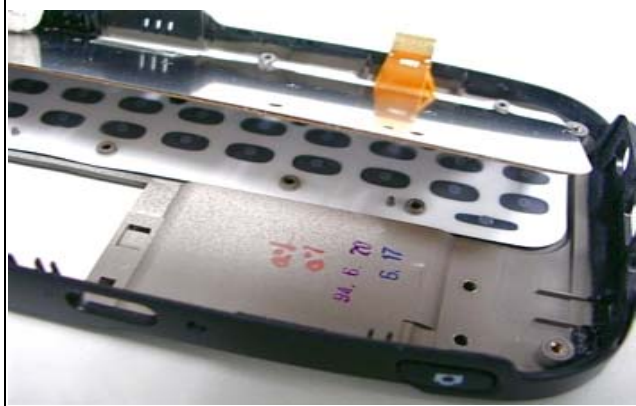
Disassembly 4 screws on both sides.



Disassembly slide tray of keyboard



Remove 8 screws



Disassembly keyboard



Keyboard and keypad are moved



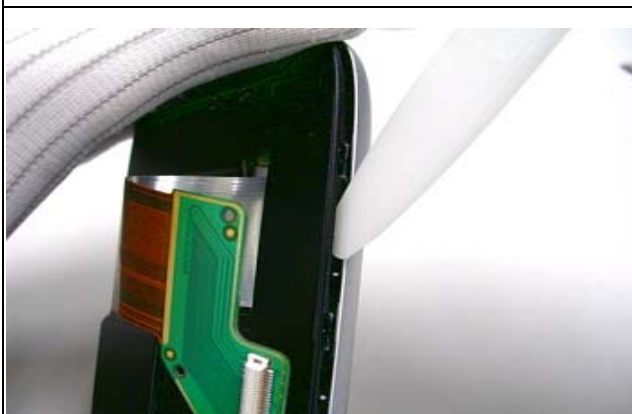
There is metal board to support FPC keyboard, if tear the FPC keyboard from the metal board, the FPC keyboard will be used any more.



Remove 4 screws



Use plastic stick to unlock the hook



There are 6 hooks at both side, and 2 hooks at top and bottom side



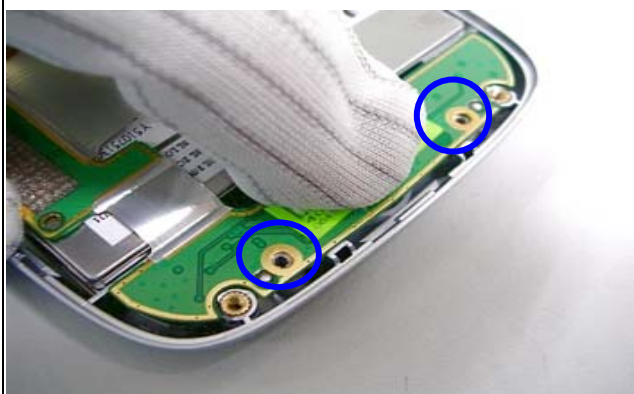
Unlock another side



Let FPC cable through the space of Housing case, Separate housing and front Bezel

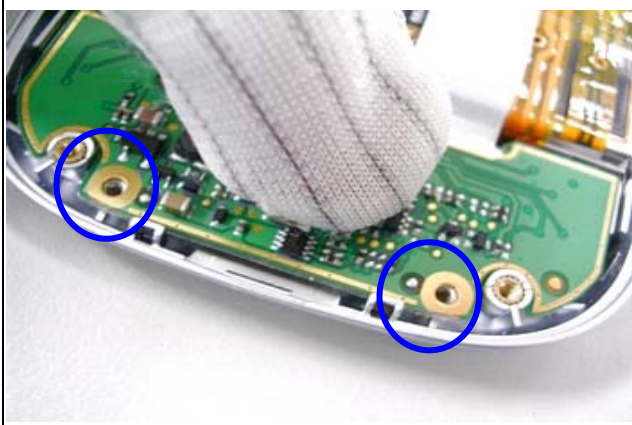


Remove protect tapes from the Rigid-Flex Board

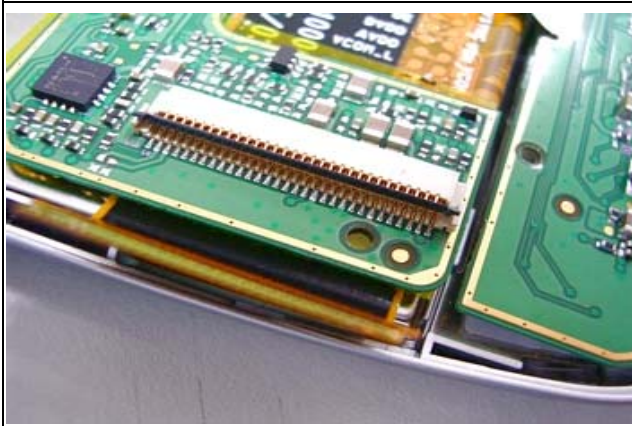


Remove 2 screws of top side





Remove 2 screws of bottom side



Disconnect LCM FPC cable



Disassembly Rigid-Flex Board



Disassembly LCM to front Bezel



Disassembly Receiver

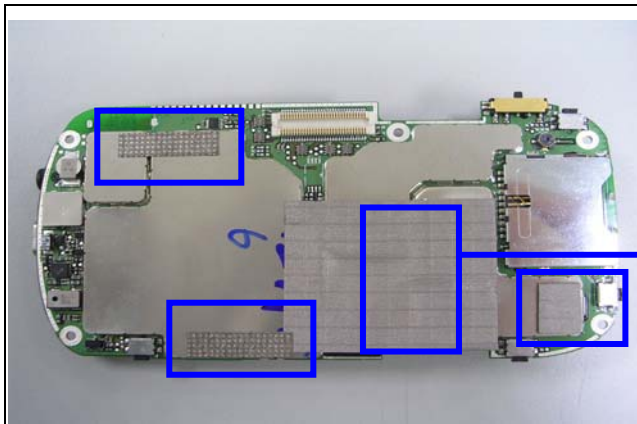


Disassembly process is done

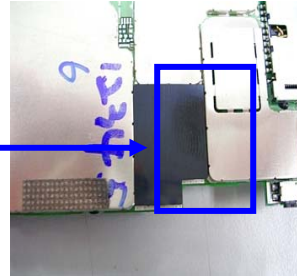
**The Unit Disassembly is done**



## 5.2 Assembling



Make sure sponges and Mylar, Gasket,... are stuck in the main board



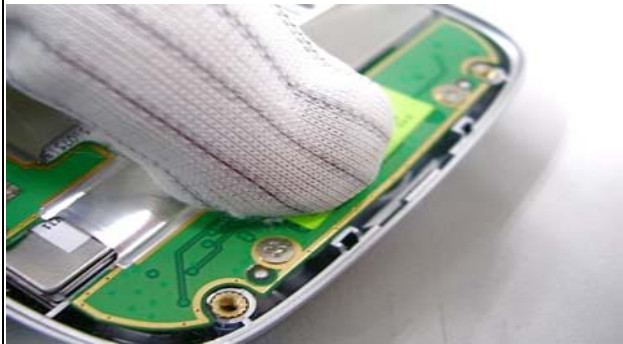
Assembly Receiver to front Bezel



Assembly 5 ways keypad to front Bezel



Assembly LCM to front Bezel



Install 2 screws to fix top side of Rigid-Flex Board



Install 2 screws to fix bottom side of Rigid-Flex Board



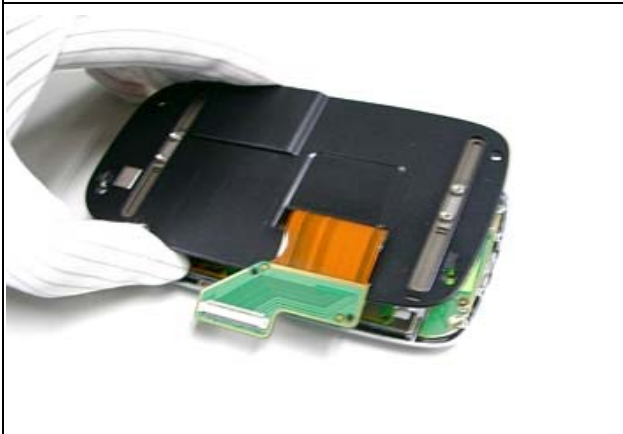
Assembly LCM FPC cable



Stick tape to protect LCM connector and bottom side of Rigid-Flex Board



Assembly housing



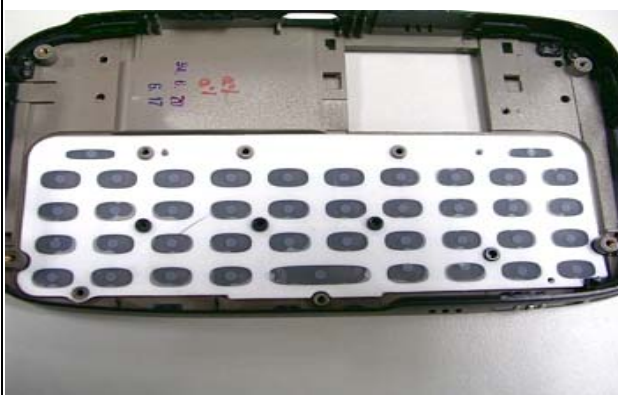
Use finger and thumb to press the hook



Make sure no gap



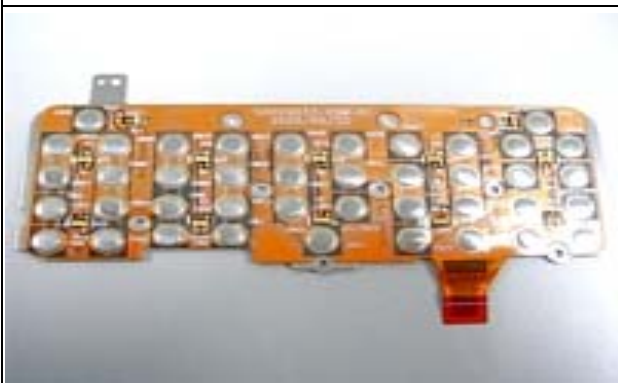
Shift the slide pillar in the place

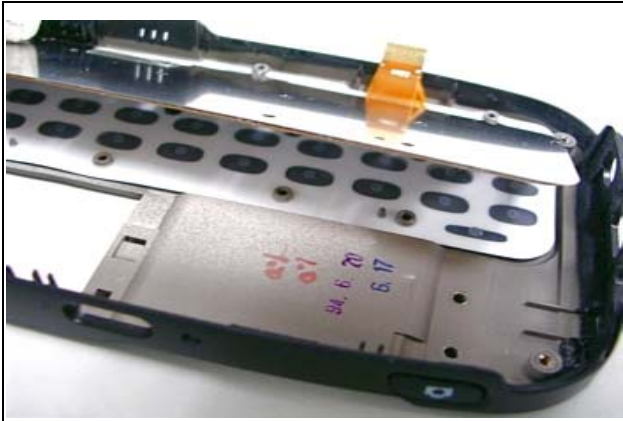


Assembly Qwerty keypad

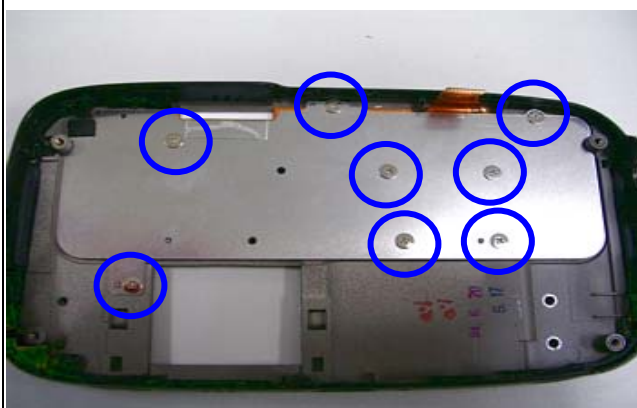


Stick FPC keyboard to metal support holder





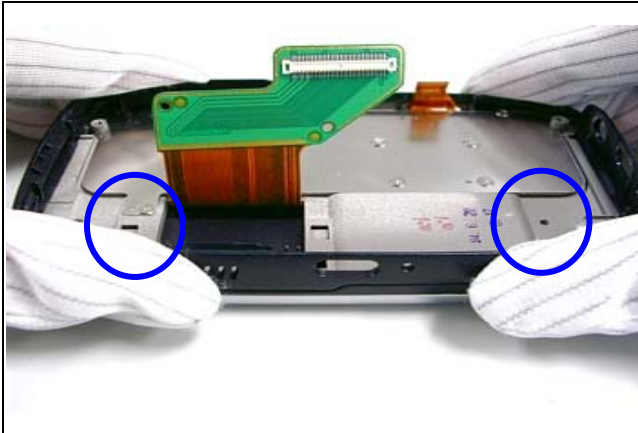
Assembly keyboard



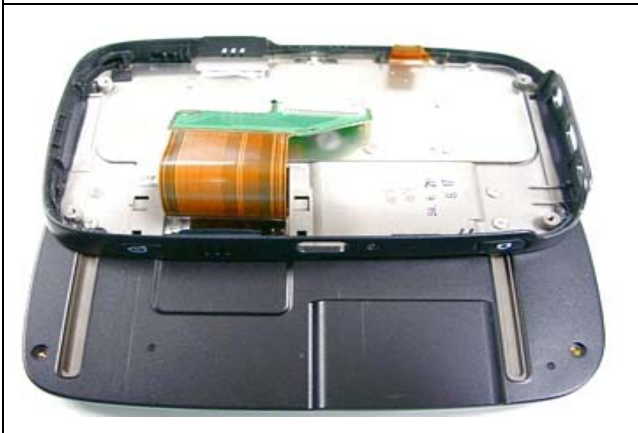
Install 8 screws to fix keyboard



Assembly the tray of keyboard



Install 4 screws on both sides



Shift the position as left picture

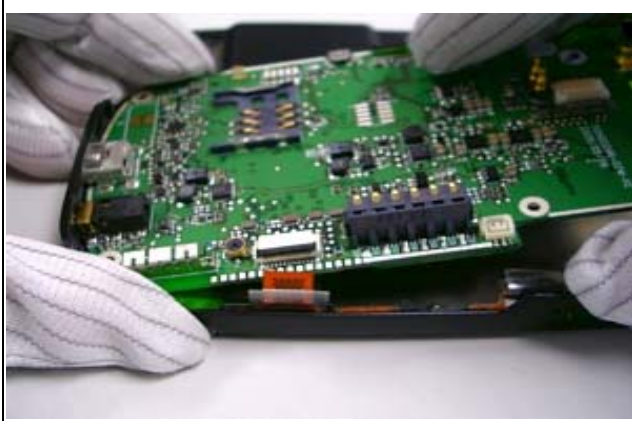


Assembly Microphone rubber



Connect FPC cable

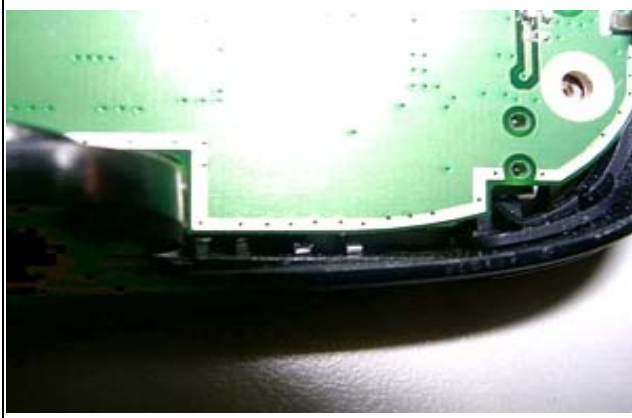




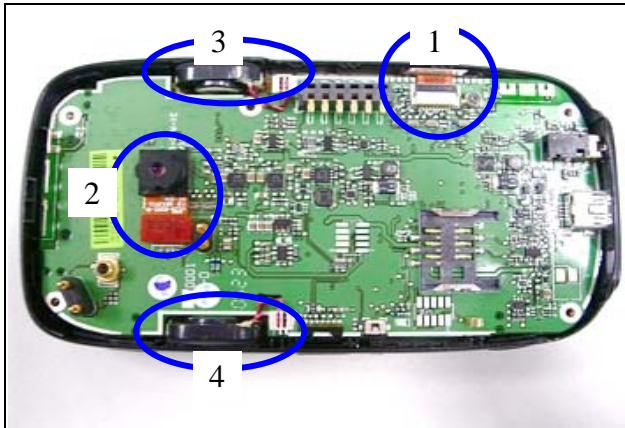
Assembly main board to the tray of keyboard



Make sure mini-USB connector and Audio jack is in place



Take care the volume control switch while put the main board into the tray of keyboard



Following need to be assembly

1. Keyboard FPC cable
2. Camera
3. Speaker
4. Speaker



Assembly flash-light module to back housing



Assembly Vibrator to back housing



Assembly Back housing



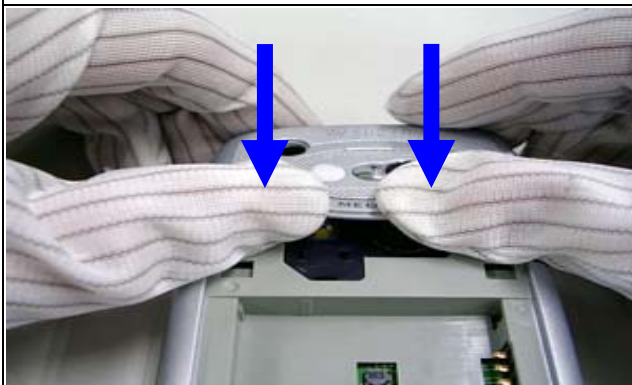
From bottom to top side while assembly



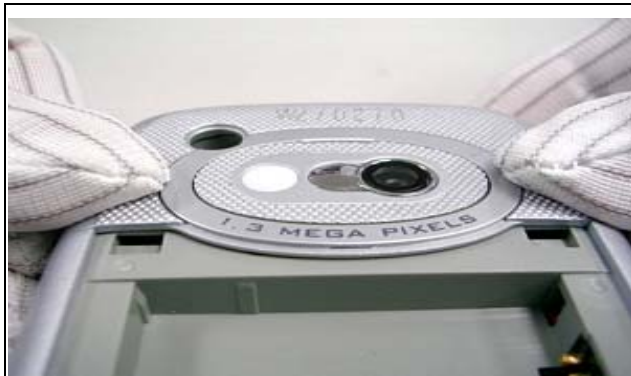
Use finger and thumb to press the hook



Assembly Antenna cover, two hooks must be paired first



Push the Antenna cover from top side



Use both thumbs to press the Antenna cover



Put the Battery into its place.



**Warning:** To reduce risk of fire or burns, do not disassemble, crush, puncture, short external contacts, or dispose of in fire or water. Replace only with specified batteries. Recycle or dispose of used batteries properly



Put back the battery cover.



Assembly is done

Now The unit is ready for performing TEST.

**The Unit Assembly is done and ready for further tests.**



### 5.3 Notification once Backup battery, M//B replacement

If you are authorized by HTC for board level component replacement, and if you perform M/B replacement, must take care for following notice:

	<p>Golden cap replacement.</p> <p>In case of back up battery defective and need to be replaced, please be noticed to soldering requirement:</p> <ol style="list-style-type: none"> <li>1. Soldering Spec must be within <b>TBD °C / TBD</b> seconds.</li> <li>2. Never touch the two pin in short circuit, release one by one.</li> </ol>
	<p><b>Warranty Seal (Security Label)</b></p> <p>Be sure to apply new Warranty seal once the unit has been repaired before sending back to customer.</p> <p><b>Stuck position: TBD</b></p>
	<p>In case of MB replacement, since the IMEI has to follow new MB IMEI, repair site is required to re-print Regulatory label to change IMEI no, but Serial no. must remain unchanged.</p> <p><b>Label format : TBD</b></p>



## 6. Equipment of Problem Diagnostics

### 6.1 List of Test Jigs

Item Name	Usage	Remark
USB to Mini USB Cable/Cradle	For Sync test ; RUU re-flash ROM image	
Special Plastic Tool	For unit disassembly	
Hand tools	For unit disassembly	
AC Adapter	For battery recharge and power related tests	
Earphone with Microphone	For audio test	
Mini SD card with <b>diagnostic</b>	For Function	Program designed by HTC
PC or Notebook	Use for Communication/Synchronization test	

### 6.2 Hardware Requirement for PC

- O.S.: Windows 2000 above
- CPU: Pentium 166MHz or above
- Memory: 64MB~128MB

### 6.3 Software Requirement

- Microsoft Active Sync **version 4.0 above**
- Diagnostic Program loaded on Mini SD card. ( encoded by HTC)



## 7. Diagnostic Program

### 7.1. List of Test Items (not final version yet)

No.	Item	Description	Remark
	Pre Test	All manual test for 1 loop	
	Run – in Test	All auto function test for option : 1/2/4/8 hrs	
	SDRAM Test	RAM Check Size/Write/Read/Comparison test.	
	Display Test	Test the LCD display quality.	
	LED Test	Test the message LED.	
	Back Light Test	Back light ON with in different brightness level.	
	SD Test	SD card Write/Read/Write Protect test.	
	Vibrator Test	Test the function of the vibrator.	
	Button Test	Test every most of button.	
	Touch panel Test	Touch screen alignment test. Suggest to test in WinCE	
	Flash Light Test	Flash light at Video and Capture mode	
	Qwerty Test	All the key of Qwerty Test	
	Slide Test	Check Slide key	
	Int. Mic & Play	Internal Microphone and Speaker test.	
	Int Rec & Receiver	Internal Microphone and Receiver test.	
	Ext. Rec&Play	External headset Microphone and Speaker test.	
	Msystem Format	Clean all PIM( personal information manage) storage <b>CAUTION:</b> This item is applied for refurbishment case only. If the unit is repaired and will send back to original customer, It is unnecessary to perform Msystem format	
	Clear Talk time	Clear talk time recode in WinCE system information	
	Diag to SD	Copy Diag program to another encoded SD card	
	Device info	Check unit information	
	Write system SN	HTC internal use only	
	USB Test	HTC internal use only	
	SIR Test	HTC internal use only	
	Checksum Test	HTC internal use only	



## 7.2 Test Items Operation

How to Enter Test Mode (not final confirmed yet)

- >Insert mini-SD card (with Diagnostic program pre loaded sent by HTC) into Min- SD slot
- >Power on the unit. While **press** and **hold** the **Capture button** and **Reset** the unit with stylus, release **Reset** button first about 1 second to enter test Mode. You will find the screen showing as following:



## 7.3 How to execute Diag. test program:

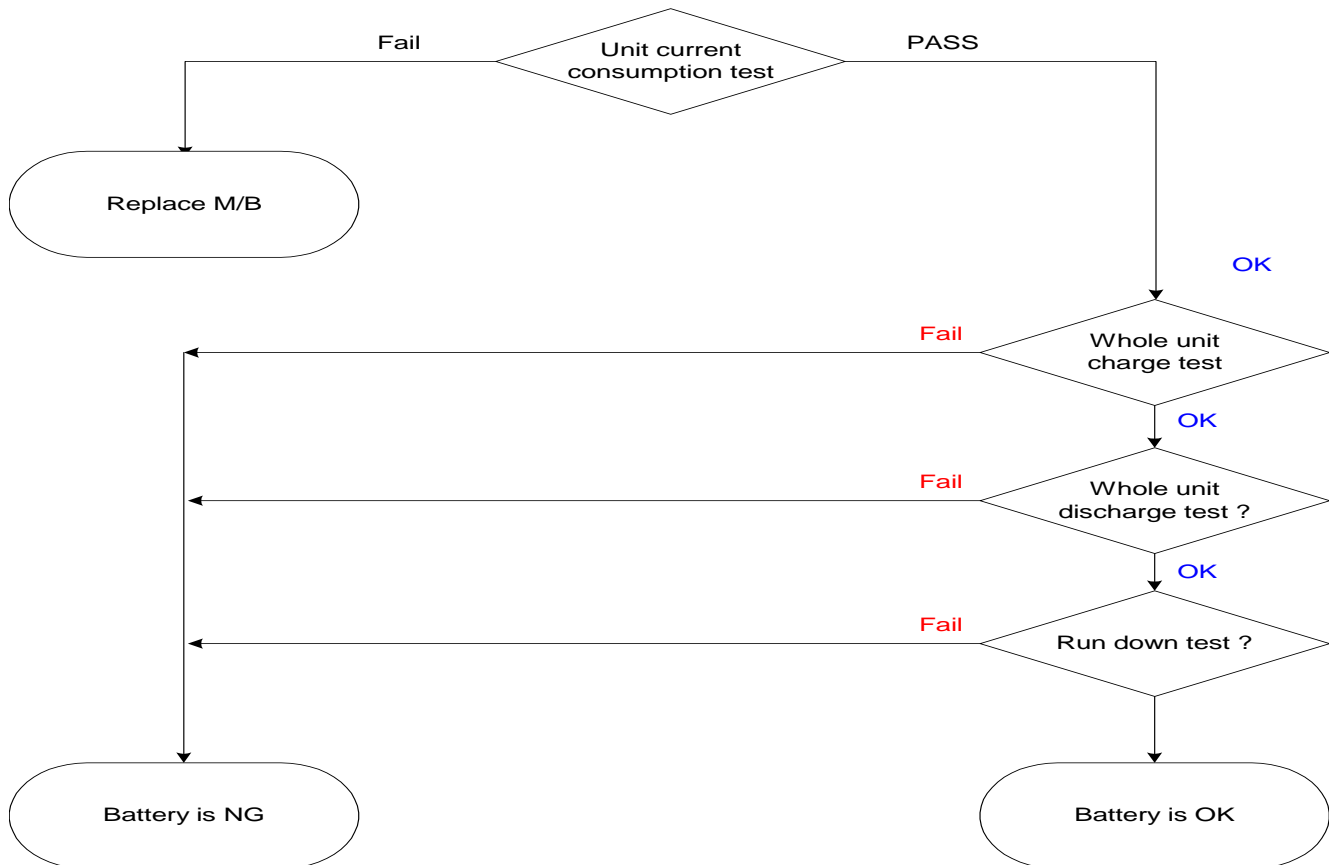
- Using navigation button -"Up" or "Down" to select the test items
- Using navigation button -"Left" or "Right" to change page
- Press "**Action**" to execute testing





## 8. Main battery Test procedure

### 8.1 : Certification flow

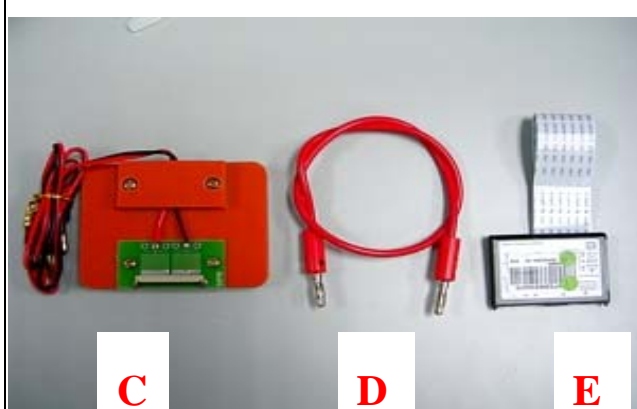




## 8.2 Current consumption measurement



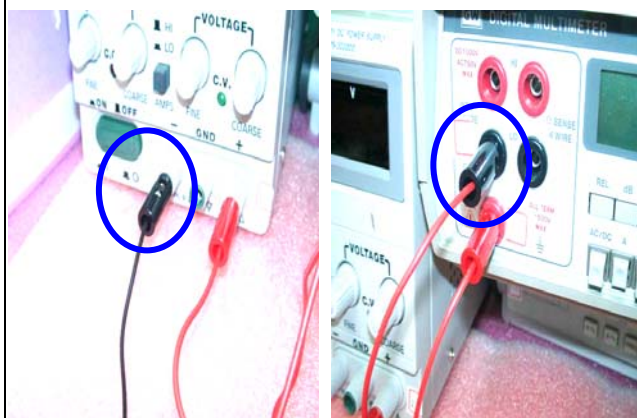
- 1. Equipment requirement**
  - A. Power Supply (set at 4 V /1A).
  - B. Micro-Current Meter (support 0.5mA ~ 1A at least).



- 2. Fixture requirement**
  - C. Current series jig.( with black and red cable)
  - D. Cable
  - E. Battery with extension cable



- 3. Connect cable (D) to positive polarity of power supply (A) and current meter (B)**



- 4. Connect cable of fixture( C ) to negative polarity of power supply (A) and current meter (B)**

Note : black cable to power supply (A) and red cable to current meter (B)



**5. Install battery fixture (E) to unit**

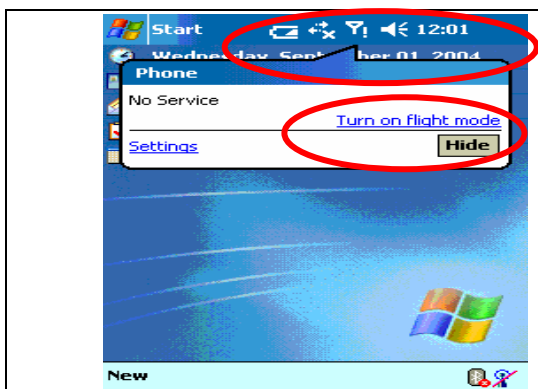


**6. Ready for testing**  
(Don't turn on power at the moment)



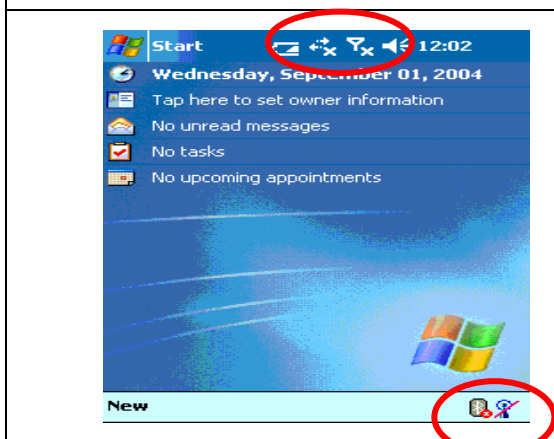
**7. Turn on power supply ( 4V)**

**8. Turn on current meter ( 2A)**



9. Press Power button to turn on the unit

10. In “main page”, Check phone status, Click “Turn on flight mode”



11. Make sure all the RF function is closed already



12. Turn off back light, the current will be showing on current meter, this status is so called “idle mode”, The criteria is as follows

<= TBD

Unit is still turned on but no back light



13. After idle current checked, press power button then release soon, the power will be off, this status is so called “sleep mode”

The criteria is as follows

<= TBD

Unit is turn off and no display



### 8.3 Whole unit charge and discharge test

	<p><b>1. Whole unit charge test</b> Plug in AC adapter to unit.</p>
	<p>The charge light must be turn on, If it is failed in charge test, replace another good battery for double check.</p>
	<p><b>2. Whole unit discharge test</b> Unplug AC adapter,</p>
	<p>The charge light must be off, <b>but the LCD screen must still on display</b>. If it is failed in discharge test, replace another good battery for double check.</p>



### 8.4 Battery Performance on unit with Run Down Program ( not confirm yet)

<p>-&gt; Copy Run Down software “power detect” and “model.txt” to unit (My Document) or SD card</p> <p>-&gt; Make sure turn off all RF function ( BT/WLAN/GSM) setting already before executing Run down test.</p> <p>-&gt; Execute power detect</p>	
<p>-&gt; There is no necessary to adjust setting of power management, the program will stop automatically after one hour and detecting status per 2 minutes.</p>	
<p>-&gt; After one hour later the program will stop, open the log file of PowerCap.txt. Please check battery remaining capacity.</p>	

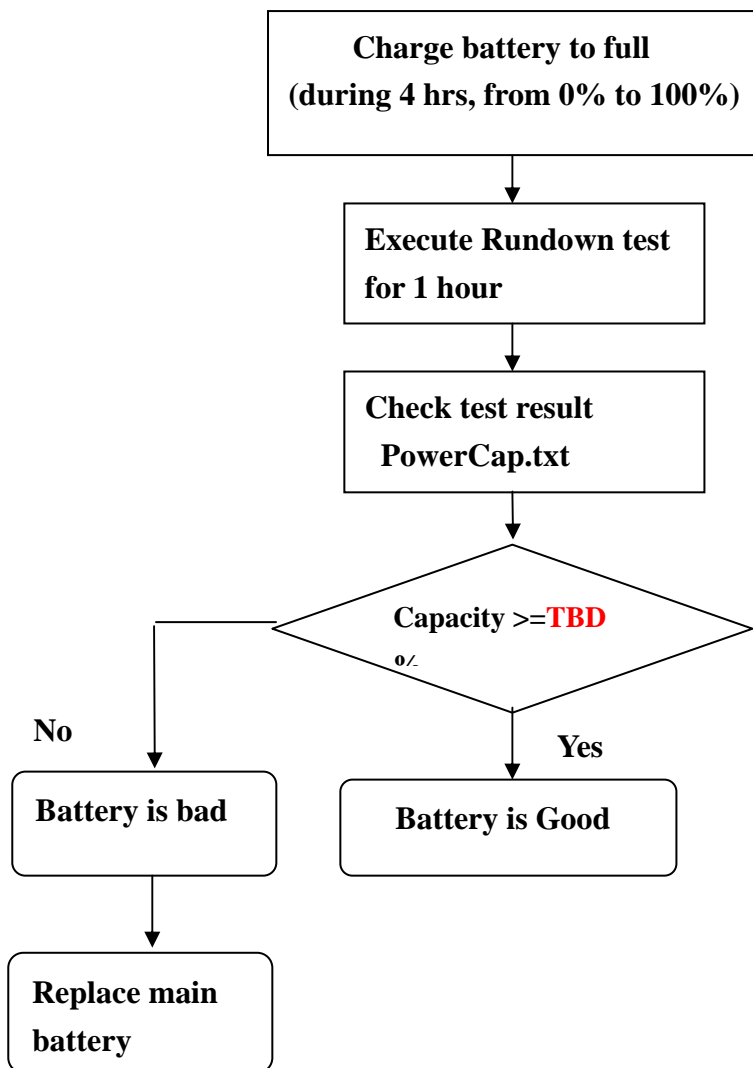


Check remaining percentage of battery at time 00:00:XX

The criteria is as follows:  
**>=TBD %**

Time	Capacity (%)	Voltage (V)
00:46:07	81%	3.996
00:44:05	81%	3.991
00:48:08	80%	3.986
00:46:06	79%	3.986
00:50:08	78%	3.982
00:48:06	78%	3.982
00:52:08	77%	3.977
00:50:06	77%	3.977
00:54:08	76%	3.972
00:52:06	75%	3.972
00:56:09	74%	3.967
00:54:07	74%	3.967
00:58:09	73%	3.957
00:56:08	73%	3.957
00:00:08	65%	3.962
00:02:08	64%	3.899

-The flow chart is as follows.





9. LCM Inspection Criteria (New part only)

TBD

10. RF Test

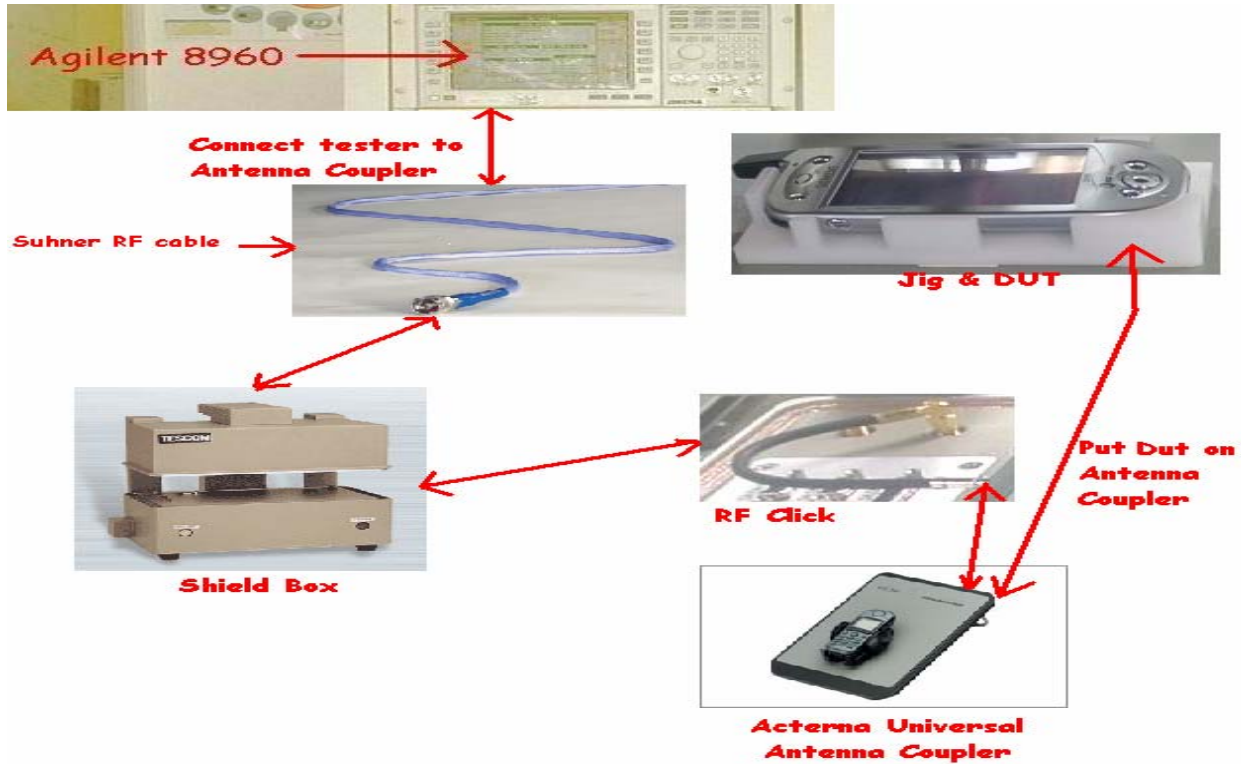
10.1 **GSM function test**

For RF antenna test, you need to set up your mobile tester, Antenna coupler and Shielding box to meet HTC specification and requirement.

10.2 **Hardware Requirement:**

1. Mobile Tester.
2. Plane Antenna
3. Test Jig.
4. Shielding Box
5. RF golden sample
6. RF cable

10.3 **RF test connection (following is a example of HTC RF test solution)**







## 10.4 RF Antenna specification

Item	Test Name	Tx level	TCH	1 <sup>st</sup> Download cell power	Note
1	Camp @DCS Band	0	512	-75	BCH=600
2	BS Originate call	0	512	-75	
<b>E-GSM 900 RECEIVER TEST</b>					
3	Fast Bit Error Rate	5	975	-104	
4	Fast Bit Error Rate	5	42	-104	
5	Fast Bit Error Rate	5	124	-104	
<b>E-GSM 900 Transmitter TEST</b>					
6	TX Phase RMS Error	5	975	-104	
7	TX Phase Peak Error	5	975	-104	
8	TX Frequency Error	5	975	-104	
9	TX Phase RMS Error	5	42	-104	
10	TX Phase Peak Error	5	42	-104	
11	TX Frequency Error	5	42	-104	
12	TX Phase RMS Error	5	124	-104	
13	TX Phase Peak Error	5	124	-104	
14	TX Frequency Error	5	124	-104	
15	Check TX Power	5	975	-104	
16	Check TX Power	5	42	-104	
17	Check TX Power	5	124	-104	



<b>DCS 1800 Receiver Test</b>					
1	Fast Bit Error Rate	0	512	-104	
2	Fast Bit Error Rate	0	698	-104	
3	Fast Bit Error Rate	0	885	-104	
<b>DCS 1800 Transmitter Test</b>					
4	TX Phase RMS Error	0	512	-104	
5	TX Phase Peak Error	0	512	-104	
6	TX Frequency Error	0	512	-104	
7	TX Phase RMS Error	0	698	-104	
8	TX Phase Peak Error	0	698	-104	
9	TX Frequency Error	0	698	-104	
10	TX Phase RMS Error	0	885	-104	
11	TX Phase Peak Error	0	885	-104	
12	TX Frequency Error	0	885	-104	
13	Check TX Power	0	512	-104	
14	Check TX Power	0	700	-104	
15	Check TX Power	0	885	-104	



<b>PCS 1900 Receiver Test</b>					
1	Fast Bit Error Rate	0	512	-104	
2	Fast Bit Error Rate	0	661	-104	
3	Fast Bit Error Rate	0	810	-104	
<b>PCS 1900 Transmitter Test</b>					
4	TX Phase RMS Error	0	512	-104	
5	TX Phase Peak Error	0	512	-104	
6	TX Frequency Error	0	512	-104	
7	TX Phase RMS Error	0	661	-104	
8	TX Phase Peak Error	0	661	-104	
9	TX Frequency Error	0	660	-104	
10	TX Phase RMS Error	0	810	-104	
11	TX Phase Peak Error	0	810	-104	
12	TX Frequency Error	0	810	-104	
13	Check TX Power	0	512	-104	
14	Check TX Power	0	661	-104	
15	Check TX Power	0	810	-104	



<b>GSM 850 Receiver Test</b>					
1	Fast Bit Error Rate	7	128	-104	
2	Fast Bit Error Rate	7	189	-104	
3	Fast Bit Error Rate	7	251	-104	
<b>GSM 850 Transmitter Test</b>					
4	TX Phase RMS Error	7	128	-104	
5	TX Phase Peak Error	7	128	-104	
6	TX Frequency Error	7	128	-104	
7	TX Phase RMS Error	7	189	-104	
8	TX Phase Peak Error	7	189	-104	
9	TX Frequency Error	7	189	-104	
10	TX Phase RMS Error	7	251	-104	
11	TX Phase Peak Error	7	251	-104	
12	TX Frequency Error	7	251	-104	
13	Check TX Power	7	128	-104	
14	Check TX Power	7	189	-104	
15	Check TX Power	7	251	-104	




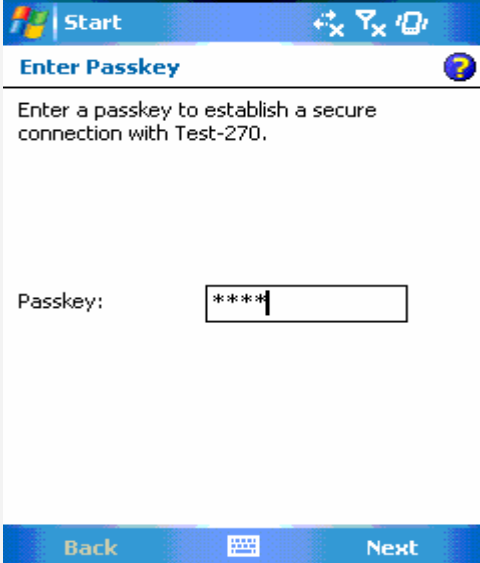
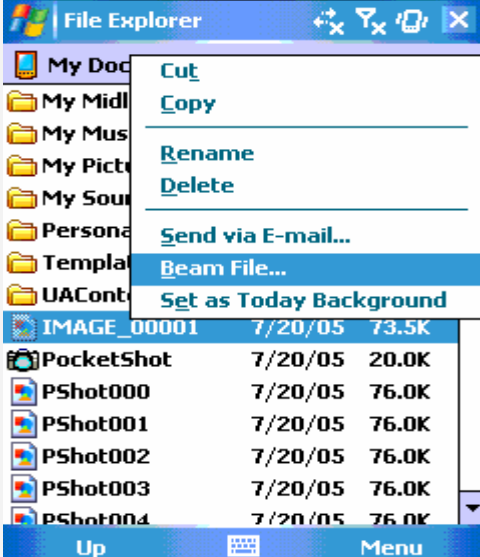
### 10.5 Bluetooth Function Test

<p>-&gt;Prepare Two units with BT function, One will be the UUT (unit under test) and the other one will be the Host unit (Source unit).</p> <p>-&gt;Named in Owner Information for Both devices</p> <p>Here is an example: Host device named "Test_270" UUT device named "Test_519"</p>	
<p>-&gt; Turn on Bluetooth for both devices</p> <p>-&gt;Choose "Bluetooth Setting" for both devices.</p>	
<p>-&gt;Enable "Turn on Bluetooth"</p> <p>-&gt;Enable "Make this device discoverable to other devices" for both devices.</p>	

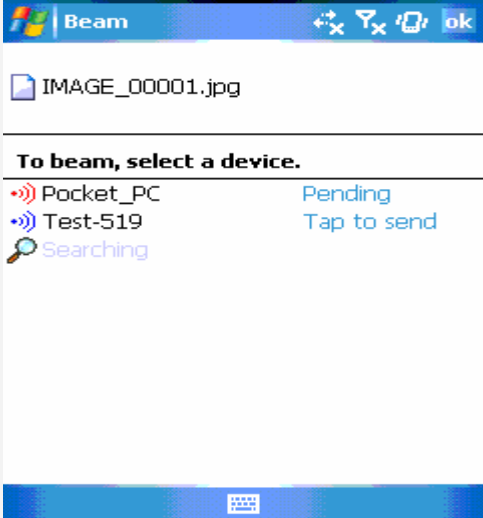
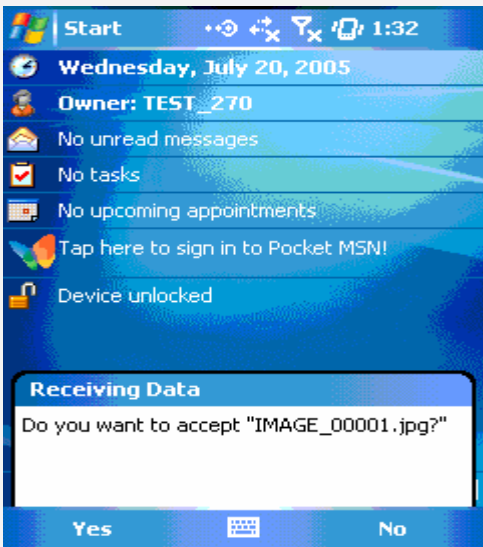
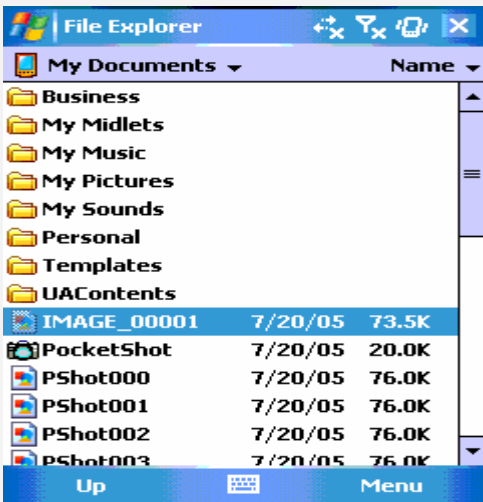


<p>-&gt; Tap “ New Partnership...” in Host device</p>	
<p>-&gt; In Host device, will find the UUT device (Test_519) and showing in the page</p> <p>-&gt; In Host device, Tap “ Test_519”</p> <p>-&gt; Tap “ NEXT”</p>	
<p>-&gt; In Host device, Input passkey “ 0000”</p> <p>-&gt; Tap “NEXT”</p>	



<p>-&gt; In UUT ( TEST_519), The Screen will appear an message</p> <p>-&gt; Tap "YES"</p>	
<p>-&gt; In UUT ( TEST_519), The Screen will appear a request of passkey</p> <p>-&gt; In UUT ( TEST_519) , Input "0000"</p> <p>-&gt; Tap "NEXT"</p>	
<p>-&gt; In Host device (Test_270), choose a file ( for example: Image_00001, then press and hold the file until appear sub-icon</p> <p>-&gt; Tap "Beam file"</p>	

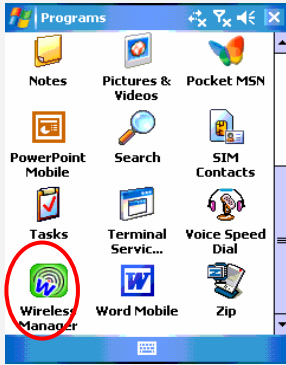

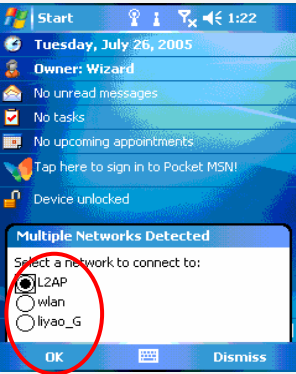


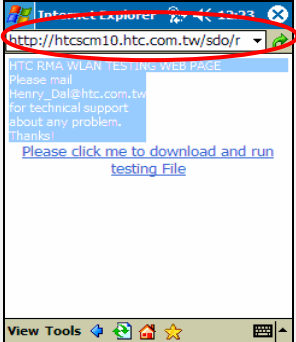


<p>-&gt; In Host device, the screen will appear UUT "Test_519"</p> <p>-&gt; Tap UUT "Test_519"</p>	
<p>-&gt; In UUT(Test_519), The screen will appear message: Do you want to accept " Image_0001?"</p> <p>-&gt; Tap YES</p>	
<p>-&gt;In UUT(Test_519), it must successful get a file " Image_00001" in the folder of My document.</p>	

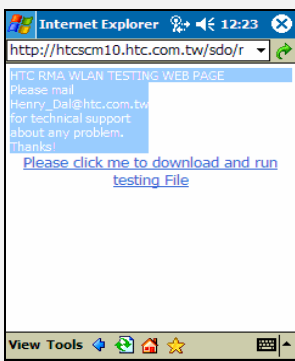
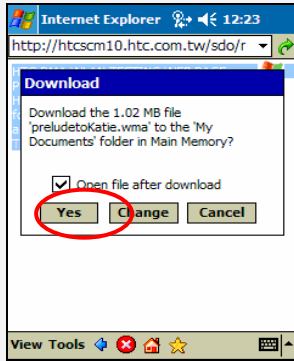






## 10.6 WLAN Function Test

<p>-&gt;Enable Wireless manager</p> <p>-&gt; Turn on WLAN</p>	 <p>(Click Wireless manager icon)</p>  <p>(Turn on WLAN)</p>
<p>-&gt;Choice AP device when multiple networks detected.</p> <p>-&gt;Check the symbol of connection and power performance indicate to ensure the wireless is turn on as well.</p>	 <p>(Choice AP device)</p>  <p>(Check WLAN performance)</p>
<p>-&gt;Tap <u>Start-&gt;Internet Explorer.</u></p> <p>-&gt;Enter web address:  <a href="http://htcscm10.htc.com.tw/SDO/WLAN.ASP">:http://htcscm10.htc.com.tw/SDO/WLAN.ASP</a></p>	 <p>(Select Internet Explorer)</p>  <p>(Enter web address)</p>



<p>-&gt;Login HTC WLAN testing web page.</p> <p>-&gt;Please tap the indication at center of screen to start download file.</p> <p>-&gt;Tap "Yes" and start to download mp3 file.</p>	<div style="display: flex; justify-content: space-around;"> <div style="text-align: center;">  <p>(HTC WLAN testing web)</p> </div> <div style="text-align: center;">  <p>(Download file for 1Mbytes)</p> </div> </div>
<p>-&gt;After download finished, please check the playing status in windows media to ensure the function is normal.</p>	<div style="display: flex; justify-content: space-around;"> <div style="text-align: center;">  <p>(File download)</p> </div> <div style="text-align: center;">  <p>(Play in Windows media)</p> </div> </div>



## 11. Firmware of OS/ Radio/Application upgrade

### 11.1 RUU (Rom Upgrade Utility)

OS/GSM/AP upgrade is performed via RUU download from RMAIII or customer web.

Service center is required to make the first master unit via RUU (Rom Upgrade Utility).

RUU package is able to download from HTC RMAIII

Website <http://htcscm10.htc.com.tw/rmaiii/> or customer website with some easy step.

Make sure your master unit is fully charged before starting download.

Based on encoded mechanism for locking of CID and language, service center is able to purchase some **128 MB** encoded mini-SD card from HTC for ROM image download purpose.

The following steps will lead you how to build your master unit via :

1. RUU mechanism.
2. New sample unit

Also the procedure is able to create mini-SD card for re-flash purpose, then for each repair unit, you only need to do re-flash via mini-SD card. You could decide how many mini-SD cards you need for this purpose depend on your needed. You can send PO to HTC for purchasing the encoded mini-SD card, material description is as follows

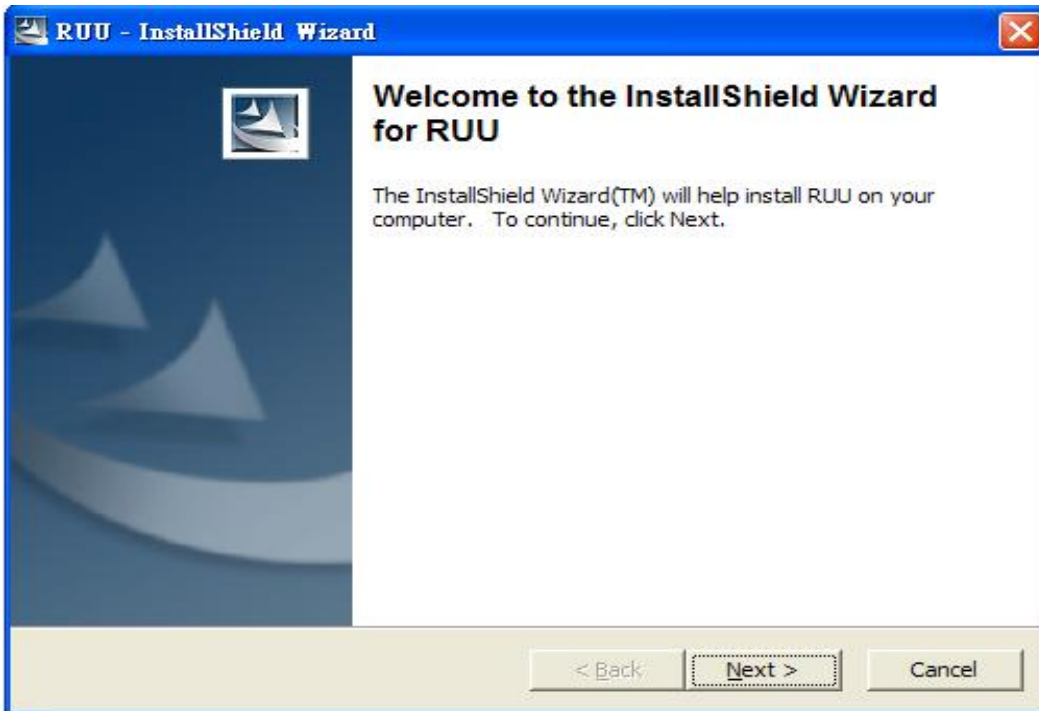
**“128 MB mini-SD card for ROM image download, level 1, Prodigy”**

- a. Execute RUU, here is an example, actually file name and process depend on released RUU version.

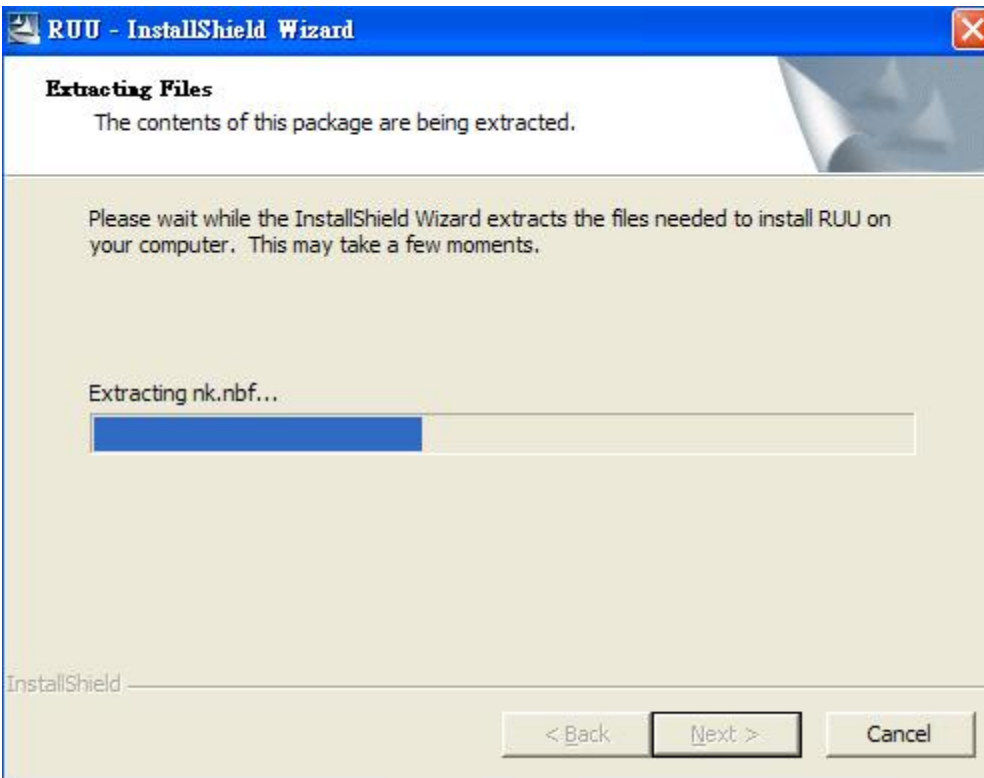




b. Following display will show on screen:

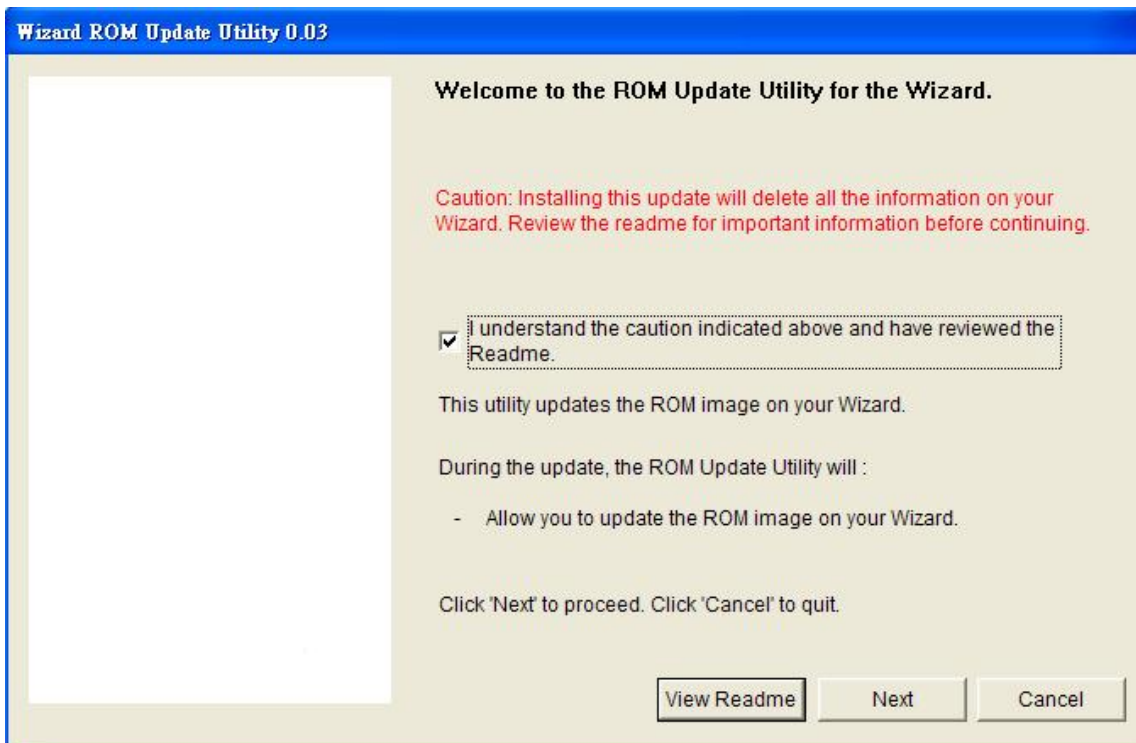


c. Type Next

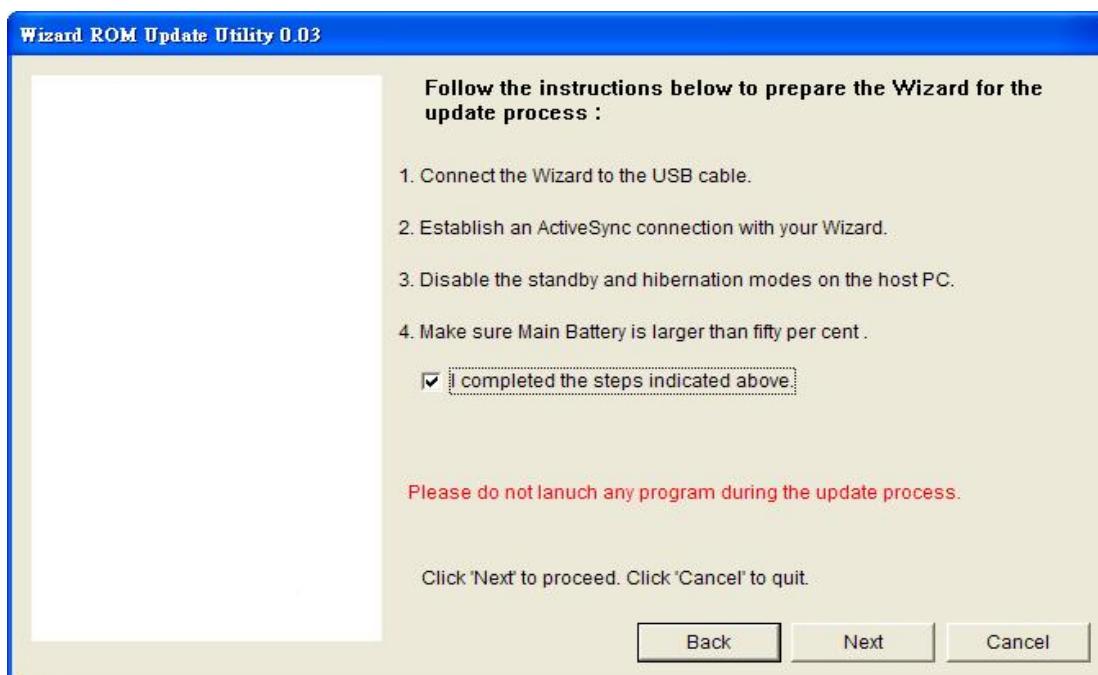




d. The screen will show on display, click NEXT



e. Follow the instruction on PC and make sure Active Sync connection is established before go to **NEXT**





f. Click Update

Wizard ROM Update Utility 0.03

**Current information about your Wizard:**

Model ID :

Image Version :

Language :

Select from below:

Update the current ROM version.

Click 'Cancel' to quit.

g. Click NEXT

Wizard ROM Update Utility 0.03

**Verify that you want to update the ROM version:**

From :

Model ID :

Image Version :

Language :

To :

Model ID : Wizard

Image Version : 0.28.0.5

Language : WWE

Click 'Next' to proceed. Click 'Cancel' to quit.



h. Click NEXT and wait until process completed.

**Wizard ROM Update Utility 0.03**


**You are now ready to update your ROM image. This operation takes approximately 10 minutes.**

During the update process, the following things occur.

- The Wizard is prepared for the update process.
- The progress bar is displayed on the host PC and on the Wizard.
- The completion screen is displayed on the host PC.

Click 'Next' to proceed. Click 'Cancel' to quit.

i. Start to re-flash unit

 92%

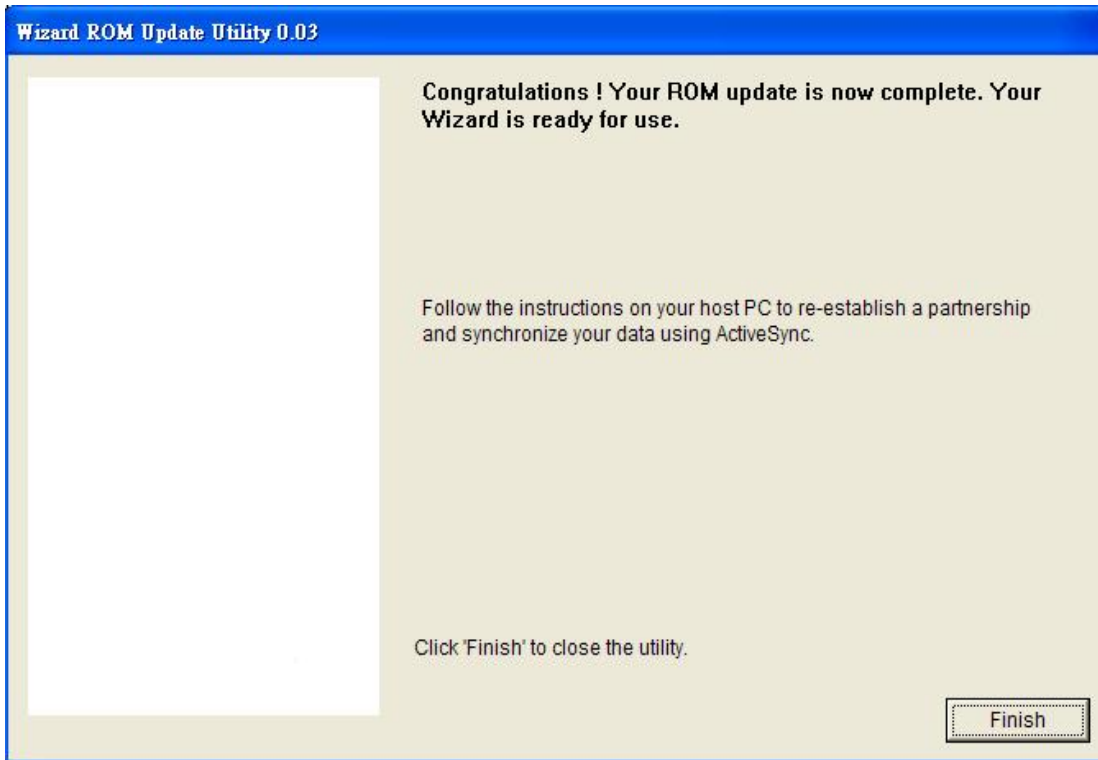
Updating the ROM image on your Wizard...

Please do not remove the USB connection from the Wizard or launch any program during the update process.

Remember, the operation will take about 10 minutes.



j. Once completed, Display will show as below in PC, and unit will be auto re-boot







## 11.2 Upload ROM image from master unit to HTC encoded mini-SD card

### System Requirement:

- Windows 2000 above
- USB Cable or Cradle
- ActiveSync. Version 4.0 above
- MTTY.exe
- Master Unit with most updated Rom Code
- 128 MB encoded mini-SD card.

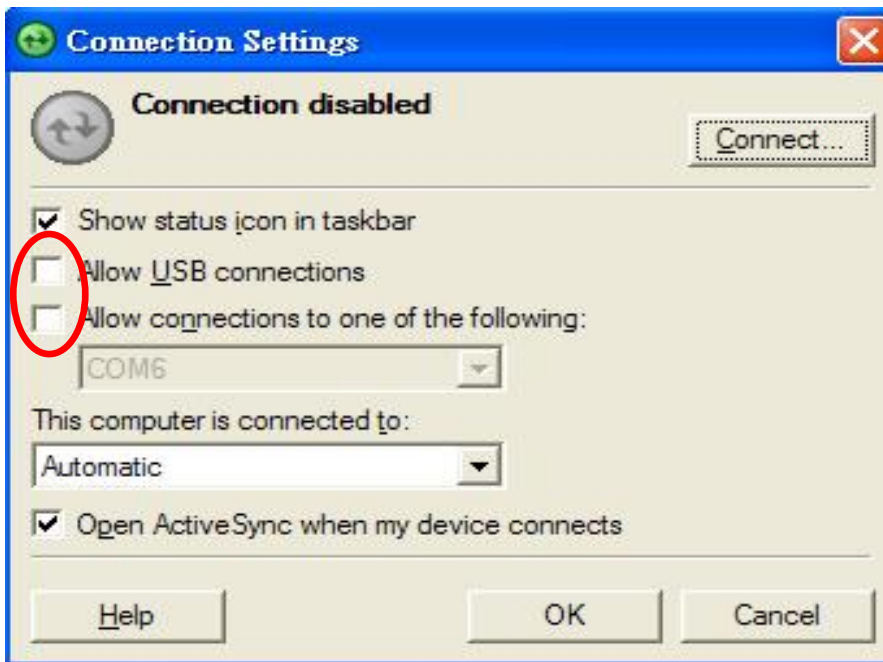
**Caution:** The unit must have at least 70% of battery capacity before starting the re-flash process.  
Charge the battery in advance if necessary.

**Note:** For the master unit, you could prepare it on these following ways:

- Take one from Swap unit with most update Rom Code.
- Build one first by connecting to HTC website <http://htcscm10.htc.com.tw/rmaiii/>
- Customer website for OS Upgrade/ Download via RUU.

**(You Only need to do this ONCE there are New RUU released)**

a. Uncheck USB and COM port in Connection Settings in ActiveSync if you have installed the ActiveSync 4.0 above in your PC and make sure the USB port is available.

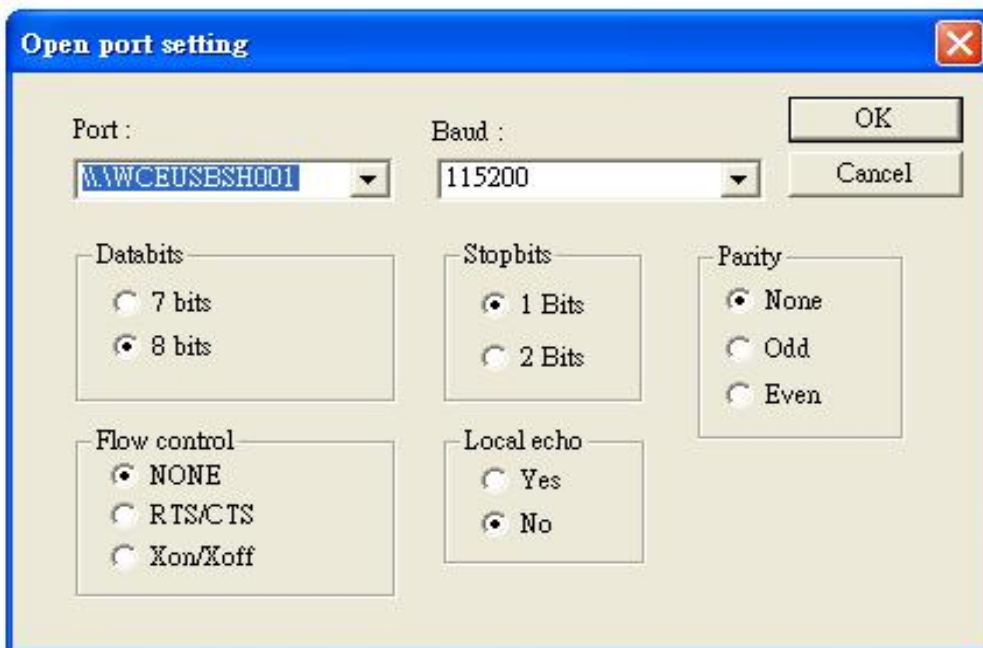




- b. Set the Unit into Boot-loader Mode (While **Press & Hold** Recode button and Reset the units), wait for the screen show on display ( **not final confirmed yet**):



- c. **Connect USB cable to unit and PC**, Execute MTTY.exe and set into USB Port, Here is an example, actually display depend on MTTY.exe version.

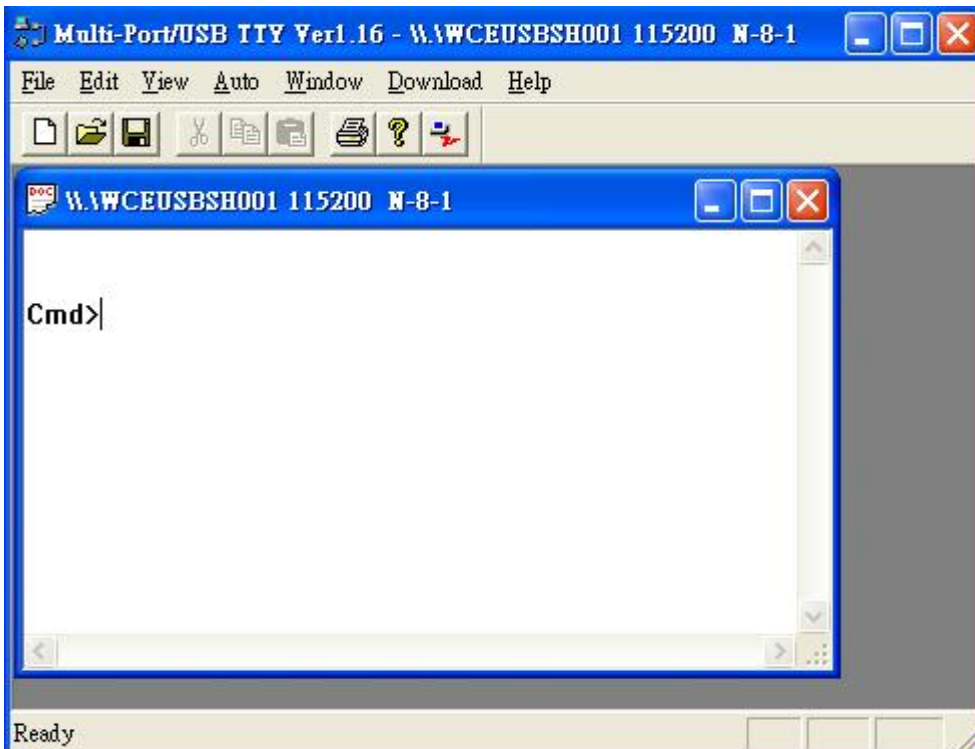




d. Insert HTC encoded 128 MB mini-SD card into mini-SD slot



e. On the PC side, Select OK and press ENTER. Following display will show on PC



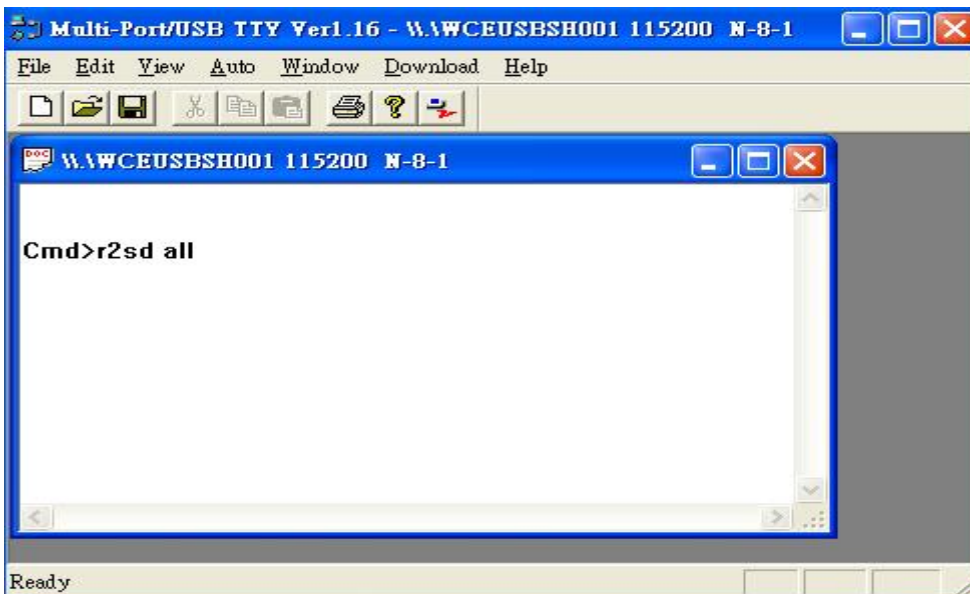


f. The prompt "CMD>" will appear, then upload ROM Image , Type:

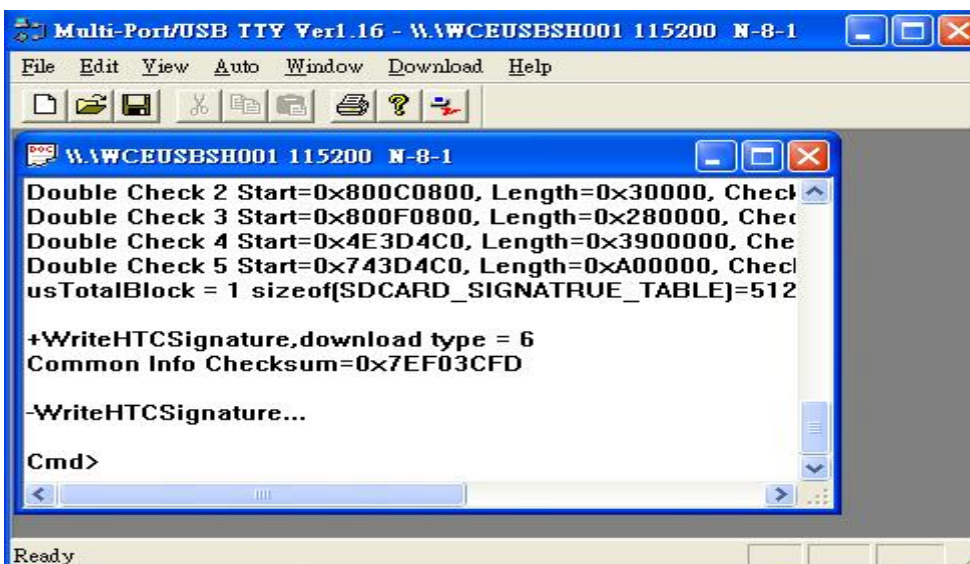
**CMD>r2sd all**

(it means to upload ROM image code to encoded mini-SD card by typing r2sd command, note there is a blank space between r2sd , all), then Press **ENTER**

**The following display will be shown on PC screen .....**



g. The process begins and waiting for some minutes, if process is done the screen will show on PC.



**CAUTION! DO NOT REMOVE THE USB CABLE FROM THE PC OR PDA, FAIL TO DO SO MAY CAUSE DEVICE UNIT FAIL TO BOOT.**



h. if process is done, The screen will show on unit.



Take out the mini-SD card from PDA phone and mark it according to the Language you build for.

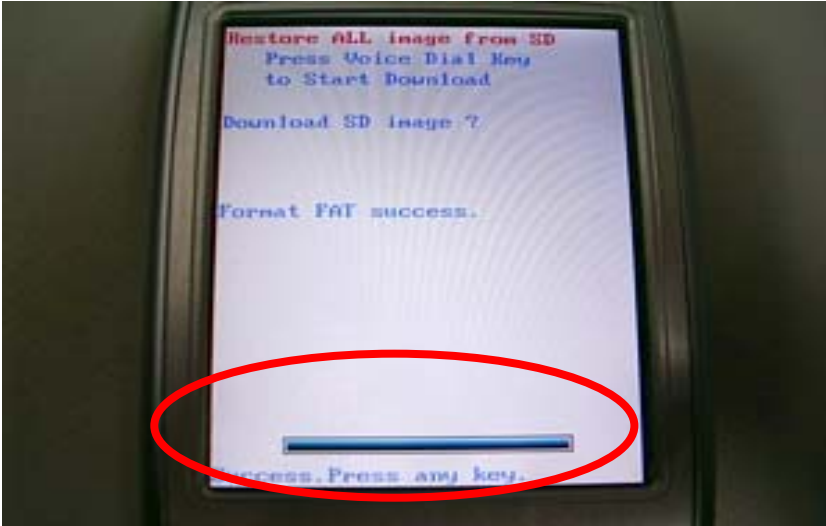
### 11.3 Use Pre-loaded mini-SD card to Re-flash Unit

- a. Insert Pre-loaded mini-SD card to the unit. **Please pay attention not to format the mini-SD card.**
- b. Reset the unit and enter the boot-loader mode, by pressing **Record button** simultaneously and **Reset** the unit. **Display will show as below....**





- c. Follow the instruction on the unit by pressing Voice dial key( Volume up) to start flash.  
Once it is Done, the screen will be showing as below

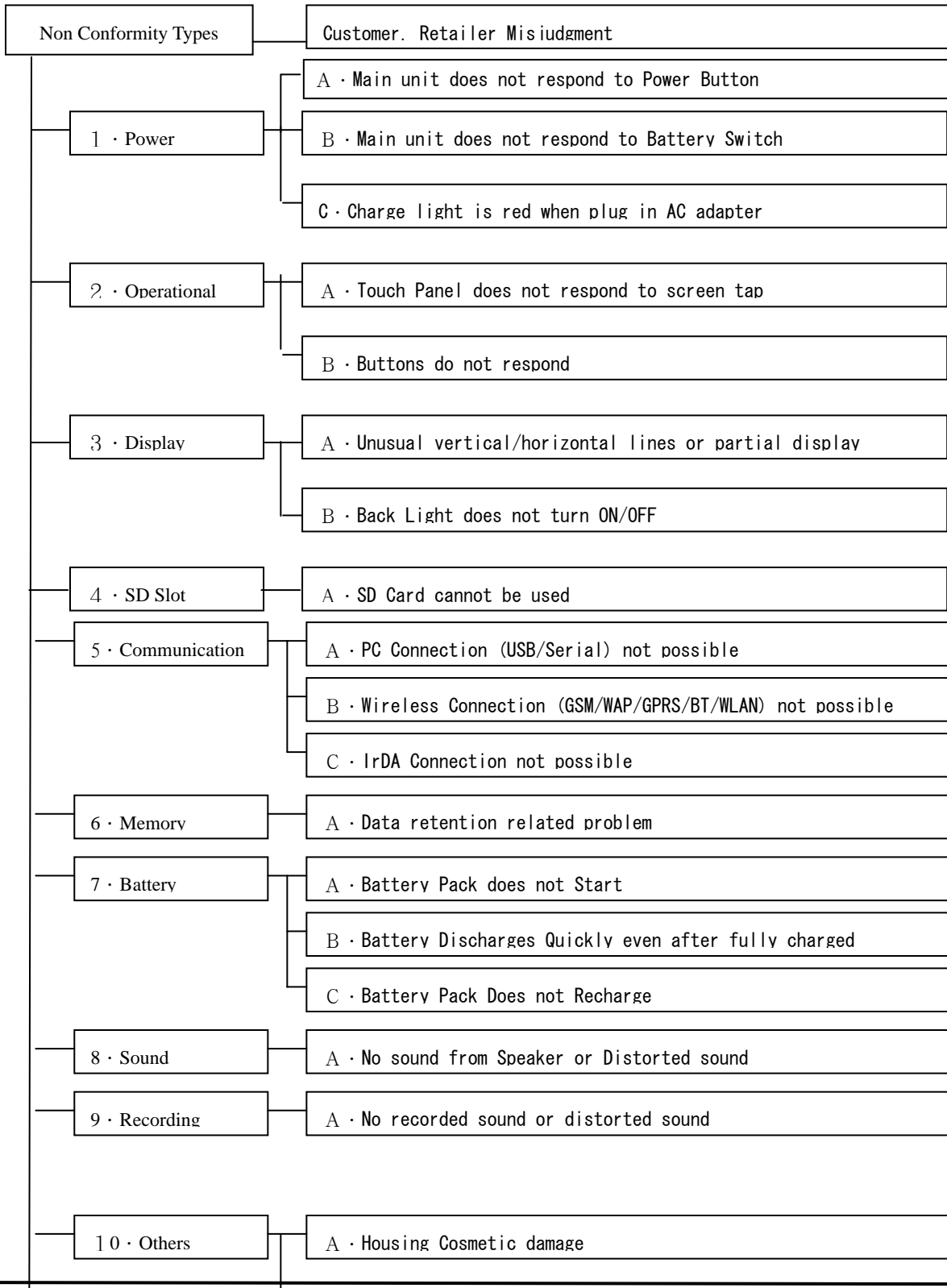


- d. Take out the mini-SD card and RESET the device (unit).  
Now the upgrade procedure is **Done**.

**Note : Due to security issue, it is not allowed to re-flash different customer ID .**



## 12. Classification of Non-Conformity





B. Backup battery malfunction

## **13. Troubleshooting & Repair**

**Before repairing, please try to duplicate if the symptom exist or Customer mishandling .**

- 1 – A · Main Unit Does Not Respond to Power Button**
- 1 – B · Main Unit Does Not Respond to Battery Switch**
- 1 – C · Charge light is red when plug in AC adapter**

- (1) Make sure the Battery is installed properly to activate the battery pack.
- (2) Connect the AC Adapter, maybe the battery pack is exhaust.
- (3) Check the Battery lock is close properly.
- (4) Try with another battery pack.
- (5) Replace battery pack if necessary.
- (6) Try to enter boot loader mode, Perform Re-flash OS if successfully.
- (7) CMOS Camera is not assembled properly.
- (8) Check all connections including LCD FPC to Main Board. Try with another Main Board.
- (9) Fuse blown .
- (10) Customer abuse caused the power button fallen off
- (11) Both item 9 & 10 , MB replacement is necessary unless you are authorized to do board level repair.
- (12) If Charge light is red when plug in AC adapter, it means the main battery is not charge enough and can't power on,  
You just need to continue charge unit the light become Amber.
- (13) Once the defective part has been identified, verify it again with the defective part whether the symptom could be duplicated.

### **2 – A · Touch Panel Does Not Respond to Screen Tap**

- (1) Dismantle the unit, check the perimeter of Display between Front Bezel and Touch Panel surface for unusual foreign objects. Clean it, reassemble the unit and check the panel's function again.
- (2) Check the connection of LCM FPC whether is properly connected.
- (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.

### **2– B · Buttons Do Not Respond**

- (1) Dismantle the unit, check the status of switches on the Main Board and the plastic parts of button of the Button not responding.
- (2) Try with another Main Board or Front Bezel.
- (3) Replace Main Board or Front Bezel if necessary.
- (4) Once the defective part has been identified, verify it again with the defective part whether the symptom could be duplicated.
- (5) Hard Reset The unit.

### **3– A · Unusual Vertical / Horizontal lines or partial display**

- (1) Check the connection of LCM FPC whether is properly connected.
- (2) Try with another LCM.
- (3) Try with another Main Board.
- (4) Replace LCM if necessary
- (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.

### **3– B · Back Light Does Not Turn ON/OFF**

- (1) Check the connection of FPC whether is properly connected.
- (2) Try with another LCM.
- (3) Try with another Main Board.
- (4) Replace LCM if necessary
- (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.



#### **4– A · SD Card cannot be used**

- (1) Check whether SD or MMC Card is fully inserted to the slot until you hear a click.
- (2) Try with another SD / MMC Card and Check whether it is Write Protected.
- (3) Try with another Main Board.
- (4) Replace Main Board if necessary.
- (5) Once the defective part has been identified, verify it again with the defective part whether the symptom could be duplicated.

#### **5– A · PC Connection (USB / Serial) not possible**

- (1) Check whether “Connection Settings” in the MS ActiveSync is properly set.
- (2) Check whether it connects with other cables or cradle, customer’s cable might be damaged.
- (3) Check the external appearance of the connector on the unit whether it is physically damaged.
- (4) Replace Main Board if necessary.
- (5) Once the defective part has been identified, verify it again with the defective part whether the symptom could be duplicated.

#### **5– B · Wireless Connection (GSM / GPRS / BT / WLAN) not possible**

- (1) Make sure the user has been contacting the Carrier for SIM Card validation and activation.
- (2) Make sure the Wireless Connection Settings has been properly set.
- (3) Make sure the SIM Card is properly inserted to the SIM compartment. Make a life call or test it with the RF Test Station (Antenna Test).
- (4) Dismantle the Main Unit and check whether the Antenna is properly installed.
- (5) Try with another Antenna.
- (6) Try with another 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.



### **5 – C · IrDA Connection not possible**

- (1) Make sure the IrDA port settings on the Notebook or PC are properly set.
- (2) Make sure the IrDA function is properly activated on the Pocket PC and on the other device.
- (3) Make sure there's no obstruction between the two devices in connection and within the distance.
- (4) Check the IrDA window whether it is broken or cracked. Replace Front Bezel if necessary.
- (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.

### **6 – A · Data Retention related problem**

- (1) Back up battery is rechargeable, to retention purpose when main battery power is used up or when changing the main battery, Make sure to charge the unit if not use for a while.
- (2) Data introduced by User might be lost when Battery has drained completely.
- (3) Ask user to charge the Main Unit when latest warning message pops up.
- (4) Ask users to back up their data to the PC or SD card when expect stop using the unit for long period of time, for example, more than one week.
- (5) Charge the Main Unit and check if data loses even the Battery pack is charged or at least The unit still can be powered on without AC Adapter.
- (6) Check whether AC Adapter is functioning properly.
- (7) Check whether the condition of Battery Charging status is correct.
- (8) Check the appearance of Battery Pack.
- (9) Replace Battery Pack if necessary
- (10) Replace Main Board if necessary.
- (11) Once the defective part has been identified, verify it again with the defective part whether the symptom could be duplicated.

### **7 – A · Battery Pack does not start**

- (1) Make sure the Battery lock is closed properly. Data introduced by User might be lost when Battery has drained completely.
- (2) Connect to the AC Adapter and see if it takes charge. Also check AC Adapter condition.



- (3) Ask users to back up their data to the PC or SD card when expect stop using the unit for long period of time, for example, more than one week.
- (4) Charge the Main Unit and check if data loses even the Battery pack is charged or at least The unit still can be powered on without AC Adapter.
- (5) Check whether AC Adapter is functioning properly.
- (6) Check whether the condition of Battery Charging status is correct.
- (7) Dismantle the unit and check the appearance of Battery Pack.
- (8) Try with another Battery Pack or Replace Battery Pack if necessary
- (9) Try with another Main Board or Replace Main Board if necessary.
- (10) Once the defective part has been identified, verify it again with the defective part whether the symptom could be duplicated.

#### **7–B · 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.

#### **7–C · 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 in no more than 3 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.



### **8— A · 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) Dismantle and Check whether the Speaker is properly installed (Orientation)
- (4) Make sure the connection point between MB and Speaker is free from contamination or dust.
- (5) Replace Speaker 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.
- (8) Replace Camera if camera function was defect at the same time.

### **9— A · 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) Dismantle and Check whether the Microphone is properly installed (check or missing rubber)
- (4) Replace Microphone if necessary.
- (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) Replace Camera if camera function was defect at the same time.

### **10— A · Housing Cosmetic damage**

- (1) Unless it is for Refurbishment, all housing replacement due to cosmetic damage shall be subject to be charged.

### **10— B · Backup battery malfunction**

- (1) Check backup battery status in unit
- (2) Charge the unit until backup battery to 100%
- (3) Remove main battery for 30 second



- 
- (4) Assemble main battery back to unit and lock up.
  - (5) Power on the unit, The screen must display in main page ( Today page)

## **14. Spare part list**

### **14.1 Unit spare part list (No final version yet)**






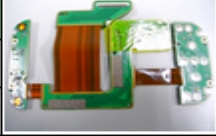

















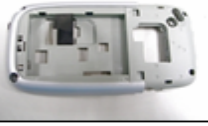







Item	HTCP/N	Description	Using Q'ty
			Q'ty
1	35H00062-00M	BATTERY_LI-ION,1200mAh,3.7V,ICP063450GJ,MAXELL	1
2	36H00180-00M	Vibrator,Cylinder type,A4A-05-WTB-3,C.I.Kasei,	1
3	36H00288-00M	Speaker,DSH-911,MERRY,16*10*4.4mm	2
4	36H00328-00M	Receiver,DTR830-001,MERRY,70/-30degC	1
5	36H00341-00M	Antenna Pre-Assy,AMPHENOL,GAN40023,PRODIGY	1
6-1	51H10045-00M	Rigid-Flex Board ASSY, <b>SAMSUNG</b> , Prodigy	1
6-2	51H10045-01M	Rigid-Flex Board ASSY, <b>TOPPOLY</b> , Prodigy	1
7	54H00129-00M	Module Assy,Flash light,LTM-0447W,LITEON,12*7*0.5mm	1
8	54H00134-00M	Camera Module Assy,LITEON,LT9653FCL-HT-113r	1
9-1	60H00032-00M	LCD Module,LTP280QV-E01, <b>SAMSUNG</b>	1
9-2	60H00037-00M	LCD Module,TD028STEB1, <b>TOPPOLY</b> ,Magician	1
10	71H01276-00M	Keypad,AP-key,PRODIGY	1
11	71H01278-00M	Keypad,Navi-key,PRODIGY	1
12	72H00970-00M	Gasket,conductive fabric tape,Wizard	7
13	72H00985-00M	Dome,Navi-key Assy, PRODIGY	1
14	72H01000-00M	Holder,Strap holder, Keyboard, PRODIGY	1
15	72H01010-00M	Screw,BZ, Nylok,TORX, M1.6x3, for cover A-B	8
16	72H01016-00M	Screw,FPHM1.4-0.3X1.6TP-PSH(3.25,0.25)Ni	8
17	72H01048-00M	Gasket,Conductive Cloth,Shielding-Mainboard,Wizard	1
18	72H01049-00M	Gasket,Conductive Sponge,EDGE,Wizard	1
19	72H01050-00M	Screw,HAMA NAKA SHOUKIN,RF board,Ni,TP-B	4
20	72H01052-00M	Screw,HAMA NAKA SHOUKIN,for cover C-D,Ni/BL,	4
21	72H01065-00M	Gasket,conductive fabric, PRODIGY	7
22	73H20033-09M	FPC Pre-Assy,CAREER,QWERTYKEY FPC 2Layers	1
23	74H00495-00M	Bezel Pre-Assy,Display, PRODIGY	1
24	74H00498-00M	Housing Pre-Assy,Display	1
25	74H00499-00M	Bezel Pre-Assy,Keyboard, PRODIGY	1
26	74H00501-00M	Housing Pre-Assy,Keyboard, PRODIGY	1
27	74H00503-00M	Cover Pre-Assy,Batter cover Assy, PRODIGY	1
28	74H00504-00M	Stylus Pre-Assy,Stylus Assy, PRODIGY	1
29	74H00542-00M	Keypad Pre-Assy,Qwerty key,US,PRODIGY	1
30	76H01030-00M	Rubber,microphone,wizard	1
31	76H01037-00M	Rubber,RF Connector,PRODIGY	1
32	76H01061-00M	Mylar,mainpcb,Wizard	1
33	TBD	FRU Unit no battery ( Depend on SKU p/n)	1
34	TBD	FRU Mainboard ( Depend on SKU p/n)	1



Picture of SPL(Please check customer code before taking this part no.)

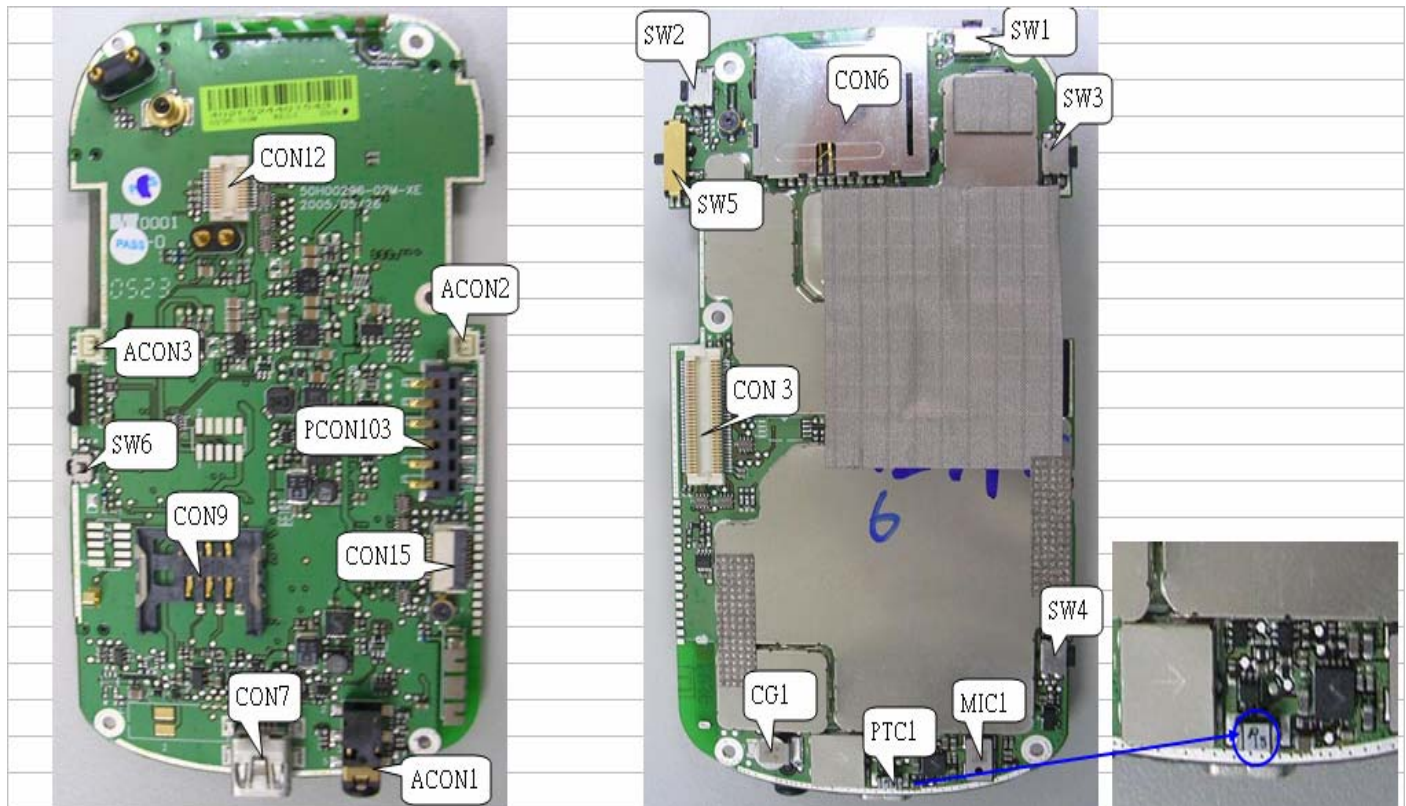
(Part no on picture is for Reference only, please check SPL for detail per customer)

35H00062-00M		36H00180-00M		36H00288-00M	
BATTERY		Vibrator		Speaker	
Q'ty: 1		Q'ty: 1		Q'ty: 2	
36H00328-00M		36H00341-00M		51H10045-xx	
Receiver		Antenna Pre-Assy		Rigid-Flex Board	
Q'ty: 1		Q'ty: 1		Q'ty: 1	
54H00129-00M		54H00134-00M		60H	
Module Assy,Flash light		Camera Module		LCM	
Q'ty: 1		Q'ty: 1		Q'ty: 1	
71H01276-00M		71H01278-00M			
Keypad,AP-key		Keypad,Navi-key			
Q'ty: 1		Q'ty: 1			
72H00985-00M		72H01000-00M		72H01010-00M	
Dome,Navi-key Assy		Holder,Strap holder, Keyboard,		Screw,BZ, Nylok,TORX, M1.6x3,	
		Q'ty: 1		Q'ty: 8	
72H01016-00M		72H01048-00M		72H01049-00M	
Screw,FPHM1.4-0.3X1.6TP-		Gasket,Conductive Cloth,Shielding-		Gasket,Conductive Sponge,EDGE,Wizard	
Q'ty: 8		Q'ty:1		Q'ty: 1	
72H01050-00M		72H01052-00M		72H01065-00M	
Screw,HAMA NAKA SHOUKIN,RF		Screw,HAMA NAKA SHOUKIN,for cover C-		Gasket,conductive fabric, PRODIGY	
Q'ty:4		Q'ty:4		Q'ty:7	
73H20033-09M		74H00495-00M		74H00498-00M	
FPC Pre-Assy,CAREER,QWERT		Bezel Pre-Assy,Display,		Housing Pre-Assy,Display	
Q'ty: 1		Q'ty: 1		Q'ty: 1	
74H00499-00M		74H00501-00M		74H00503-00M	
Bezel Pre-Assy,Keyboard,		Housing Pre-Assy,Keyboard,		Cover Pre-Assy,Batter cover Assy, PRODIGY	
Q'ty: 1		Q'ty: 1		Q'ty: 1	
74H00504-00M		74H00542-00M		76H01030-00M	
Stylus Pre-Assy,Stylus Assy, PRODIGY		Keypad Pre-Assy,Qwerty		Rubber,microphone,wizard	
Q'ty: 1		Q'ty: 1		Q'ty: 1	
76H01037-00M		76H01061-00M			
Rubber,RF Connector,PRODIGY		Mylar,mainpcb,Wizard			
Q'ty: 1		Q'ty: 1			





## 14.2 Board Level Spare Part List



Latest Update :August 1, 2005					
Item	HTC P/N	Description	Location	Using Q'ty	Remark
1	16H00012-00M	Gold Cap,0.07F,70ohm,3.3V,-	CG1	1	Gold cap (Backup Battery)
2	36H00129-00M	SWITCH BUTTON,PTS-	SW1/ SW2/ SW3/ SW4	4	Power/ RF/ Record/ Capture
3	36H00160-00M	Slide Switch,HSS112,HCH	SW5	1	Volume control
4	36H00208-00M	MIC,SP0103NC3,EMKAY,Pb-FREE,100/-	MIC1	1	Microphone
5	36H00301-00M	Fuse,PTC,1.5A, 6V 0.04 ohm~0.12	PTC1	1	Fuse
6	36H00305-00M	Audio Jack,JP007-G4BA-2602XT,Misaki	ACON1	1	Audio Jack
7	36H00308-00M	Switch,Reset switch,SOH-	SW6	1	Reset switch
8	75H00124-00M	Connector Device,BM02B-ASRS-	ACON2 ACON3	2	Speaker
9	75H00273-00M	Connector B to	CON3	1	Linking M/B and Rigid-Flex board
10	75H00379-00M	Connector I/O,Mini USB	CON7	1	Mini USB
11	75H00395-00M	Connector SIM Card,50mohm,ICC-	CON9	1	SIM card connector
12	75H00397-00M	Connector B to	CON12	1	Camera connector
13	75H00432-00M	Connector SD Card,mini-SD,	CON6	1	mini SD card connector
14	75H00433-00M	Connector	PCON103	1	Battery connector
15	75H00449-00M	Connector FPC,30V,FH26-21S-	CON15	1	Qwerty keyboard connector



## **15. Appendix**

### **A. Customer, Retailer Misjudgment**

Before attempt repairing the unit, make sure the type of reported failure could be clearly reproduced; otherwise, check with the customer or distributor once again to identify the problem correctly. The following are failure symptoms that are typical by misjudgment

No.	Item	Possibility
1	No Power even the power button is pressed	Main Battery low power exhausted.
		While Back Light is turned OFF, the surrounding lighting will be reflected on the panel and in a dim location, it looks like the unit is turned OFF.
		According to the Power Management settings, the units will be switched OFF automatically.
2	Battery discharges quickly	The battery life depends on the devices being used in SD Card Slot, and frequency of use of the Back light. These functions consume a lot of energy.
		Operating with front light ON, or using high energy consumption devices such as SD Memory Card will drain out the battery pack faster.
3	Battery cannot be charged	Using AC adapter that is NOT supplied with the unit.
		Charging the battery while operating the unit with heavy loadings could cause the temperature inside the unit to build up which could cause the unit stop charging. At this moment, the LED indicator will flash Yellow to notify user that the charging has been stopped. Or the temperature is extremely low will also stop charging.
		Since the extreme high or low temperature will cause the battery to discharge quickly, it has been designed to cut battery charge below 0°C and above 35~40°C to protect the battery pack.
4	Cannot make communications via mobile phones through exclusive cable.	If the unit could pass the test with Loop back Interface card, the possibility of unit malfunction becomes low. Then the following items could be the reason of problem such as location, timing, signal strength, service provider's mixed up, or problem with the mobile itself. Or could be incompatibility issue.



5	Cannot use SD Memory Card	Cards which are not being pre-formatted.
		SD card has been switched to Write Protect mode.
		Card not inserted completely, or bad contact between connector contacts.
6	Black or White dot on the screen.	For LCD panel's normal behavior, it is hard to find a panel without any bad pixel. Once the numbers of dots and the distance between them are within the specifications, it is allowed.
7	Touch Screen or Program Buttons are not reacting.	Could be wrong operation.
		Screen not properly aligned with the stylus calibration.
8	Front Light dim, cannot turn ON, or shuts OFF automatically.	Check the Front Light settings in Power Management settings
9	Cannot playback music, No sound or volume is low.	When Battery low, the music playback becomes difficult and the volume could become lower.
10	Cannot execute installed application programs	Could be an incompatible software
11	Operation is slow in response	Could be insufficient memory. Check amount of system memory.
12	Hang up	Software being used sometimes is not fully compatible with the system.
		Execute many application programs simultaneously
		Software that requires big amount of memory spaces or the system memory is low or the files being used is fragmented.
13	System Memory is enough, but is shows insufficient.	Software that requires big amount of memory spaces or the system memory is low or the files being used is fragmented.

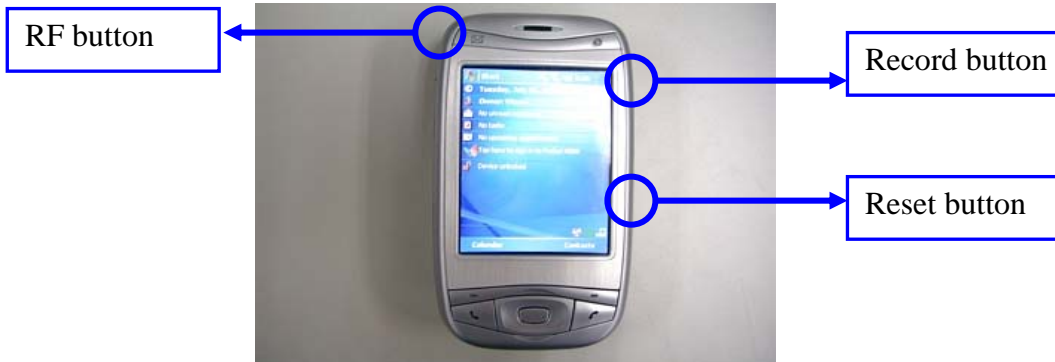
**\*Note: Nevertheless, the above symptoms could be solved by a warm- reset or cold- reset, make sure the warm /cold reset has been executed and try to reproduce the symptom reported.**



## B. How to check backup battery

TBD

## C. How to perform Warm reset and Cold reset (not final confirmed yet) :

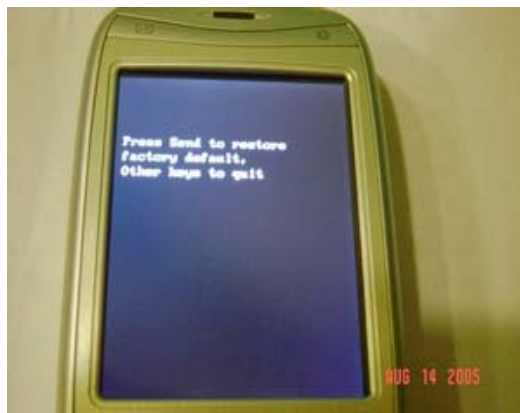


**Warm-reset** : Reset the unit by pressing reset button.

**Cold-reset** : Press and hold RF button + Record button, then Reset the unit .

Will see the screen as below (IPL/SPL v0.28 above),

then press **Send Key** to turn back manufacture default setting



## D. To remove main battery, it is requested that turn off the unit before removing main battery