



HTC Corporation

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A01

Doc. Title

Blackstone Service Manual

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Blackstone

Service Manual



HTC Proprietary

Confidential Treatment Requested

Rev. A01

HTC Corp.

Engineering Mobility

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SM-TP001-0704



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REVISION CONTROL TABLE

REV	DATE	CONTENTS	DEPT.	REVISED	STAGE
AX01	2008/8/21	Fist Draft.	PSE	Leo Wei	DVT
AX02	2008/10/21	Chapter 3 to 10 are created in SM.	PSE	Leo Wei	PVT
A01	2008/11/06	<ol style="list-style-type: none">Chapter 4.1 added the engineer ID in diagnostic program.Chapter 5.2 added the value for Idle/sleep current test.Chapter 9.2 revised the L2.5 component part.	PSE	Leo Wei	MV

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1. Introduction

- This manual provides the technical information to support the service activities of this product.
- This document contains highly confidential information, so any or all of this document should not be revealed to any third party.
 - Chapter 1: Introduction-This Chapter is about Products features and basic Product function. After reading this chapter, you will know what feature the product has and basic hardware operation. Also you will know how to perform soft-rest and hard-rest in this chapter.
 - Chapter 2: Device Disassembling and Assembling Procedure- After reading this chapter, you will learn how to disassemble and assemble the product. Also, you will know what tools to use and the torque. Please follow the instruction to disassemble the unit to prevent from damaging the unit.
 - Chapter 3: ROM Re-flash Procedure- After reading this chapter, you will learn how to perform the ROM image re-flesh by using RUU and SD-Card. Also you can find the steps of enter the boot loader mode.
 - Chapter 4: DIAGNOSTIC PROGRAM- After reading this chapter, you will learn
 - How to use the diagnostic program to perform unit function test
 - How to test some functions in Windows Mobile mode (ex. WLAN, Bluetooth, and USB etc...)
 - Chapter 5: Power measurement test- After reading this chapter, you will learn how to use MB leakage test procedure and battery run-down test (Battery Capacity Measurement).
 - Chapter 6: Cosmetic Inspection Criteria- After reading this chapter you will learn the appearance quality inspection criteria, ex. Display, bezel, and housing etc...
 - Chapter 7: Generic Troubleshooting- After reading this chapter, you will learn how to do generic trouble-shooting.
 - Chapter 8: Generic Labeling Plan- In this chapter, you will find generic labels for reference, ex. Regulation label, and battery label etc...
 - Chapter 9: Generic Spare Part List and Photos- In this chapter, you will find Spar parts reference list and photos for repairing, including unit and Board level.
 - Chapter 10: RF Antenna Specification- Reference Spec for RF test.

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1.1 Product Features

Features

Target

- Schedule: Oct. 2008

Platform

- Ultra slim bar type touch phone
- Windows Mobile 6.1 Professional

Dimension

- 115 x 62.8 x 12 mm

Weight

- 147 grams with battery

Processor/Chipset

- Qualcomm MSM7201A, 528 MHz

Memory

- Flash: 512MB
- RAM: 288 MB DDR (include 32 MB memory in the baseband)

LCD Module

- 3.8-inch 480x800 WVGA resolution
- 262K-color TFT LCD with LED back light
- Sensitive touch screen

HSPA/UMTS/EDGE/GPRS/GSM Function

- Internal antenna
- Dual mode
 - ◆ HSPA/UMTS dual-band (900/2100 MHz) and GSM/GPRS/EDGE quad-band (850/900/1800/1900 MHz) for Europe and Asia; or
 - ◆ HSPA/UMTS dual-band (850/2100 MHz) and GSM/GPRS/EDGE quad-band (850/900/1800/1900 MHz) for Telstra; or
 - ◆ HSPA/UMTS dual-band (850/1900 MHz) and GSM/GPRS/EDGE quad-band (850/900/1800/1900 MHz) for N. America
- ◆ HSDPA/UMTS
 - ✓ 850: 824-849, 869-894 MHz
 - ✓ 900: 880-915, 925-960 MHz
 - ✓ 1900: 1850-1910, 1930-1990 MHz
 - ✓ 2100: 1920-1980, 2110-2170 MHz
- ◆ GSM/GPRS/EDGE
 - ✓ 850: 829~849, 869-894 MHz
 - ✓ 900: 880-915, 925-960 MHz
 - ✓ 1800: 1710-1785, 1805-1880 MHz
 - ✓ 1900: 1850-1910, 1930-1990 MHz
- HSDPA
 - ◆ 3GPP release 5 compliant
 - ◆ UE category 6, up to 3.6 Mbps peak rate
 - ◆ UE category 8, up to 7.2 Mbps peak rate
- HSUPA
 - ◆ 3GPP release 6 compliant
 - ◆ UE category 5, up to 2 Mbps peak rate
- Global roaming
- Auto band switching
- Handover and cell selection between GSM/EDGE and UMTS

- DTM
- SAIC (circuit switch only)
- Equalizer (HSDPA channels only)
- Audio codec: AMR-NB, EFR, FR, HR
- SMS (MO, MT), concatenated SMS (640 characters)
- Generic services:
 - ◆ Call holding/waiting/forwarding
 - ◆ Call barring
 - ◆ CLI (Calling Line Identity)
 - ◆ Display own number
 - ◆ Network selection
 - ◆ Cell broadcast
 - ◆ Multi-party conference call
 - ◆ Spool icon
 - ◆ Phase 2+ unstructured supplementary service data
 - ◆ Network lock
 - ◆ CPHS (partial support)
- EGPRS functionality
 - ◆ Multi-slot class 12 (10 Operator dependent)
 - ◆ PBCCH
 - ◆ Link adaptation and Incremental Redundancy
- USIM/SIM
 - ◆ 1.8/3V of UICC
 - ◆ USIM Application at least according to 3GPP TS 31.102
 - ◆ SIM Application Tool Kit release 96 complete, 98 class 3, and 99 partial
 - ◆ EAP-SIM
 - ◆ Over the Air (OTA) programming
 - ◆ FDN
 - ◆ ADN
 - ◆ Security Pin 1 & 2 control

TTY/TDD function

Standalone GPS / A-GPS

GPS

- Internal GPS antenna
- Sensitivity -145 dBm for cold start and -155 dBm for tracking
- Support NMEA 0183 version 3.0 or above
- Dynamically allocated parallel channel GPS receiver
- Acquisition time
 - ◆ Hot start: 8 seconds, average TTFF(open sky & static condition)
 - ◆ Warm start: 60 seconds, average TTFF(open sky & static condition)
 - ◆ Cold start: 75 seconds, average TTFF (open sky & static condition)
- Update rate: 1/sec (default)
- GPS Accuracy
 - ◆ Position: < 15 meters, 95% successful rate
 - ◆ Velocity: 0.05 meter/sec steady state

A-GPS

- Support UE-Based & UE-Assisted A-GPS
- OMA SUPL v1.0 compliance (v2.0 if available)



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- ◆ SUPL-RRLP
- ◆ WAP push over SUPL
- Standard 3GPP A-GPS compliance
 - ◆ 3GPP TS 44.031 (RRLP 5.12)
 - ◆ 3GPP TS 25.305 (GSM & UMTS)
- JSR 179 (Location API) support
- Emergency priority override existing A-GPS service
- Performance requirement
 - ◆ TTFF (95% successful rate): < 20 seconds
 - ◆ 2D Location Error (95% successful rate): < 100 m
 - ◆ Sensitivity requirement
 - ✓ GPS for one satellite: up to -142 dBm
 - ✓ GPS for remaining satellite: up to -147 dBm
 - ◆ 3GPP TS 25.171 compliance (Requirement for support of Assisted Global Positioning System)
 - ◆ 3GPP 34.171 (Terminal conformance specification, Assisted Global Positioning System)
 - ◆ 3GPP TS 34.108 (Common test environments for User Equipment conformance testing)
- Fallback to Standalone mode when no network connection

Motion G-sensor

- Tri-Axis Accelerometer
- Resolution: 1.22 milli-g
- Auto portrait / landscape mode change when device orientation change

Ambient Light Sensor

- Support auto display backlight control

FM Radio

- Tuning range: 76-90 MHz for Japan and 87.5-108 MHz for the other regions
- FM sensitivity: 8uV @ (S+N)/N=26 dB
- Auto channel search

Digital Camera

- Main camera:
 - ◆ 5 MP Color CMOS with auto focus [manufacture option]
- 2nd camera:
 - ◆ VGA color CMOS camera

Key/Button/Switch

- Power button
 - ◆ Short press: system on/off
 - ◆ Long press: power on/off
- Volume up and down control
- Reset

Notification

- Notification by sound, vibration or status shown on the display

Audio

- Built-in microphone
- Receiver
- Loud speaker with hands-free support
- Full duplex
- Audio sampling rate

- ◆ 16-bits with 8KHz, 11KHz, 22KHz, 44.1KHz
- AMR-NB/AMR-WB/AAC/AAC+/eAAC+/WAV/WMA/MP3 codec
- Audio Path Routing
 - ◆ Bluetooth
 - ◆ Receiver
 - ◆ Speaker
 - ◆ Headset
 - ◆ VoIP over WLAN

Connectivity & Interface

- Bluetooth
 - ◆ Version 2.0 compliant with EDR
 - ◆ Class 2 transmit power
 - ◆ Supported profiles:
 - ✓ GAP (generic access profile)
 - ✓ SPP (serial port profile)
 - ✓ OPP (object push profile)
 - ✓ GOEP (generic object exchange profile)
 - ✓ ActiveSync-Over-Bluetooth (legacy application via SPP)
 - ✓ HSP (headset profile)
 - ✓ HFP (handsfree profile)
 - ✓ A2DP (Advanced Audio Distribution profile)
 - ✓ AVRCP (Audio/Video Remote control Profile)
 - ✓ HID (Human interface device profile)
 - ✓ SIM Access Profile
 - ✓ Service Discovery Application Profile
 - ✓ BPP (basic printing profile)
 - ✓ FTP (file transfer profile)
 - ✓ PAN (personal area networking profile)
 - ✓ DUN (dial-up networking profile)
 - ◆ Co-exist with Wi-Fi
- Wi-Fi
 - ◆ IEEE 802.11 b/g compliant
 - ◆ Internal antenna
 - ◆ Data rate auto fallback for extended range
 - ◆ ELP mode
 - ◆ Security 802.11i and AES
 - ✓ WPA authentication – WEP, WPA, PSK, EAP-TLS, 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
 - ✓ Fast AP to AP handover
- Mini-USB connector (11-pin, no audio)
 - ◆ USB 2.0 High-Speed client
- 3.5 mm stereo audio jack with mic
- 1.8/3V USIM/SIM card slot
- microSD card slot with hotswap feature



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◆ SD 2.0 compatible

Power

- Battery
 - ◆ Removable and chargeable battery, 1,350 mAh
- Battery life
 - ◆ Playing WMV: up to 8 hours based on NSTL test case
 - ◆ Playing WMA: up to 12 hours based on NSTL test case
 - ◆ GSM talk time: 240 mins to 480 mins based on RF power level 5~7
 - ◆ UMTS talk time: 130 mins to 420 mins based on RF power level 0dBm~23dBm
 - ◆ Video telephony time: 140 mins based on RF power level 0dB~Max
 - ◆ VoIP talk time: up to 160 mins
 - ◆ GSM standby time: 235~440 hours based on MFRF2~MFRF5
 - ◆ UMTS standby time: 330~680 hours based on DRX 63~128
 - ◆ VoIP standby time: up to 100 hours
- AC adaptor
 - ◆ AC input: 100 ~ 240V AC, 50/60 Hz
- DC output: 5V and 1A

Liquid Indicator

Stylus

- Lock type mechanism with plug in/out detect function

Lanyard / Strap Hole

Accessories

- Quick Start Guide [Inbox]
- CD (User manual & Sync. software) [Inbox]
- Screen Protector [Inbox]
- Stylus [Inbox]
- Travel Charger [Inbox]
- USB Sync Cable (mini-USB/USB) [Inbox]
- Car Charger
- Battery with Battery Cover [Inbox]
- Wired Stereo Headset with 3.5mm audio connector [Inbox]
- Pouch (Carrying Case)
- 3-in-1 Stylus
- Mono Bluetooth Headset, BH M200
- Stereo Bluetooth Headset, BH S100
- Bluetooth Keyboard
- Car Holder
- TTY/TTD Adaptor(3.5mm to 2.5mm) for US Market

Compatibility Test

Below accessories are required to do the compatibility test

- Mono Bluetooth Headset, BH M100
- Handsfree Carkit : Parrot CK3400LS, Parrot MK6000, Parrot Minikit, Audi, BMW, Mercedes in car solutions and Wavecom MB SAP solution
- Bluetooth Conference: Parrot Conference
- Bluetooth Speaker: Parrot Boombox

● SanDisk memory cards (including SDHC format)
Microsoft Windows Mobile 6.1 Professional Applications

- Microsoft Outlook Mobile
 - ◆ Messaging (SMS/E-mail), Contacts, Calendar, Tasks, Email Set Up Wizard
- Microsoft Internet Explorer Mobile
- Microsoft Media Player Mobile
- Microsoft ActiveSync
- Microsoft Windows Mobile Update
- Internet Sharing
- Pictures & Videos
 - ◆ Graphics: JPEG, GIF87a, GIF89a, PNG, WBMP
- Games
- File Explorer
- Device Management
- Security Enhancement
 - ◆ Storage Card Encryption, Device Lock
- Microsoft Office Mobile
 - ◆ Word, Excel, OneNote & PowerPoint Mobile
- Microsoft Windows Live!
 - ◆ Windows Live Messenger
 - ◆ Windows Live Mail (Push Mail)
 - ◆ Windows Live Contacts
 - ◆ Windows Live Search
 - ◆ Windows Live Spaces
- Microsoft Smart Dial
- Microsoft Remote Desktop Mobile

Customer Specific Windows Mobile Applications

- Microsoft Windows Mobile Marketplace

Value-Added Applications

- Windows Mobile Enhancements
 - ◆ DirectShow Filters
 - ✓ Audio playback

Codec	Extension	Profile
AAC	.aac/.m4a/.mp4/.3gp	LC profile
AAC+	.aac/.m4a/.mp4/.3gp	
eAAC+	.aac/.m4a/.mp4/3gp	
AMR-NB	.amr/.3gp	
AMR-WB	.awb/.3gp	
QCELP	.qcp/.3g2	
EVRC	.qcp	
MIDI	.mid	
SP-MIDI	.mid	
MPEG4	.m4a	

- ✓ Video playback



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Codec	Extension	Profile
H.264	.mp4/ .3gp/ .3g2/ .m4v	Baseline profile
H.263	.3gp/ .3g2	P0 profile
MPEG4	.mp4	Simple profile
Motion-JPEG	.avi	

- ✓ H263, MPEG4: 30 fps decoding for QVGA and VGA resolution, 20 fps decoding for WVGA
- ✓ H264: 30 fps decoding for QVGA and VGA resolution, 20 fps decoding for WVGA
- ◆ Pictures & Videos enhancements
 - ✓ Link camera icon to in-house camera & camcorder application
 - ✓ Thumbnail view for video files:
 - ◇ AVI (.avi)
 - ◇ H.263 (.3gp)
 - ◇ H.263 (.3g2)
 - ◇ MPEG-4 (.mp4)
 - ◇ H.264 (.mp4/.3gp)
- ◆ Ring Tone enhancements
 - ✓ MIDI
 - ◇ 40 polyphonic & Standard MIDI format 0 and 1 (SMF) / SP MIDI
 - ✓ Ring Tone support codec (format):
 - ◇ eAAC+ (.aac)/ AAC+ (.aac)/ AAC (.aac)/ AMR-NB (.amr)/ AMR-WB (.awb)/ QCP (.qcp/.3g2)/ MIDI (.mid)/ MP3 (.mp3)/ MPEG4-Audio (.mp4)/ WMA (.wma)/ Wave (.wav)

Telephony

- ◆ (HTC) Phone Canvas
 - ✓ Full screen incoming call alert
- ◆ (3G-324M) Video Telephone
 - ✓ 3GPP Release 99 3G-324M support
 - ✓ MPEG4/ H.263 Video and AMR-NB Audio Support

Multimedia

- ◆ (HTC) Camera
 - ✓ Camera Mode
 - ◇ Encoding format: JPEG
 - ◇ Resolution: QSXGA 2592x1944, QXGA 2048x1536, UXGA 1600x 1200, SXGA 1280x960, VGA 640x480, QVGA 320x240
 - ◇ Digital Zoom up to 4X
 - ✓ Camcorder Mode
 - ◇ Up to 24fps encoding for QVGA resolution
 - ◇ Encoding format

Codec	Extension	Profile
H.263 + AMR-NB	.3gp	Profile 0
MPEG4 + AMR-NB	.mp4	Simple profile

Codec	Extension	Profile
H.263 + AMR-NB	.3gp	Profile 0
MPEG4 + AMR-NB	.mp4	Simple profile

- ✓ Effects: Grayscale, Sepia, Cool, Negative
- ✓ "Property" adjustment
- ✓ Camera Album access
- ◆ Album
- ◆ MP3 Trimmer
- Audio Booster
- ◆ Streaming Media Player
 - ✓ A 3GPP PSS based client solution
 - ✓ Support RTSP/RTP based streaming protocol
- ◆ FM Radio
- Web
 - ◆ Opera Browser
 - ◆ RSS Reader & Podcast
 - ◆ YouTube Client
- Input Method
 - ◆ EZ-INPUT
 - ✓ Prediction, completion and correction
 - ✓ Touch software keyboard
- Messaging
 - ◆ MMS Client
 - ✓ OMA MMS (v1.2 or above)
- GPS/LBS
 - ◆ Google Maps
 - ◆ Quick GPS
- User Interface
 - ◆ Manila Tabs
 - ✓ Home
 - ✓ Programs
 - ✓ People
 - ✓ Messages
 - ✓ Mail
 - ✓ Photos & Videos
 - ✓ Music
 - ✓ Internet
 - ✓ Weather
 - ✓ Settings
 - ◆ TouchFLO
 - ✓ Random Access for Contact
 - ✓ Scroll
 - ✓ Gesture
 - ◆ Large Start Menu
 - ◆ Auto Screen Rotation
 - ✓ To be integrated with G-Sensor
 - ✓ Support screen /orientation detection for following applications
 - ◇ Browser
 - ◇ Camera (orientation detection)
 - ◇ Album
- Tools & Utilities
 - ◆ Task Manager



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- ◆ (HTC) Connection Setup
- ◆ Voice Recorder
- ◆ Zip
- ◆ Document Viewer – PDF
- ◆ OMA DRM Engine:
 - ✓ OMA 1.0
- ◆ Java virtual machine
 - ✓ JSR 185 JTWI
 - ✓ JSR 75 PIM access
 - ✓ JSR 120 Wireless Messaging API
 - ✓ JSR 135 Mobile Media API
- ◆ Voice Speed Dial
- ◆ Long Press End Key Menu
- ◆ STK
- ◆ SIM manager
- ◆ TTY/TDD (for US market only)
- ◆ (HTC) Volume Control
- ◆ Business Card Reader
- ◆ Document Printing
 - ✓ Materials
 - ◇ Word, Excel, Power Point, E-mail, Notes
- ◆ Photo printing
 - ✓ PictBridge support
- Windows Mobile Enhancements
 - ◆ DirectShow Filters
 - ✓ Video scaling up to full screen display
- Multimedia
 - ◆ (HTC) Camera
 - ✓ Upload to Facebook and YouTube
 - ✓ Support dual (portrait and landscape) UI when device orientation changes with G-sensor
 - ✓ Smooth digital zoom
 - ✓ Allow user to select the focus area (max cut to 16 grids to select)
 - ◆ Album
 - ✓ Upload to Facebook and YouTube
 - ✓ Support OMA DRM 1.0
 - ✓ Associate image/video files to Album
 - ✓ Background music for slideshow
 - ◆ Streaming Media Player
 - ✓ H264 high resolution playback
- Telephony
 - ◆ (HTC) Phone Experience
 - ✓ Covering device to mute incoming call ring tone
 - ✓ After call ended, save to contacts
- Web
 - ◆ Upload to Facebook and YouTube
- User Interface
 - ◆ InfoWidgets
 - ✓ Stocks Widget
 - Show stock information (symbol name, company name, price, volume and change)
 - Delay quote: 15~ 20 mins

Regulatory & Certificate

- Microsoft Windows Mobile Logo (NTSL)
- USB Certification
- BQB Certification
- Wi-Fi Certification
- CB Certificate/report [International]
- GCF Certification [European Union]
- R&TTE: EMC / EMI, Safety SAR [European Union]
- UAELAB [UAE]
- ICASA [South Africa]
- FCC Approval [USA]
- FCC HAC [North America]
- PTCRB Approval [North America]

1.2 Product overview

Left panel

VOLUME UP

During a call or when playing music, press this button to increase the volume.

VOLUME DOWN

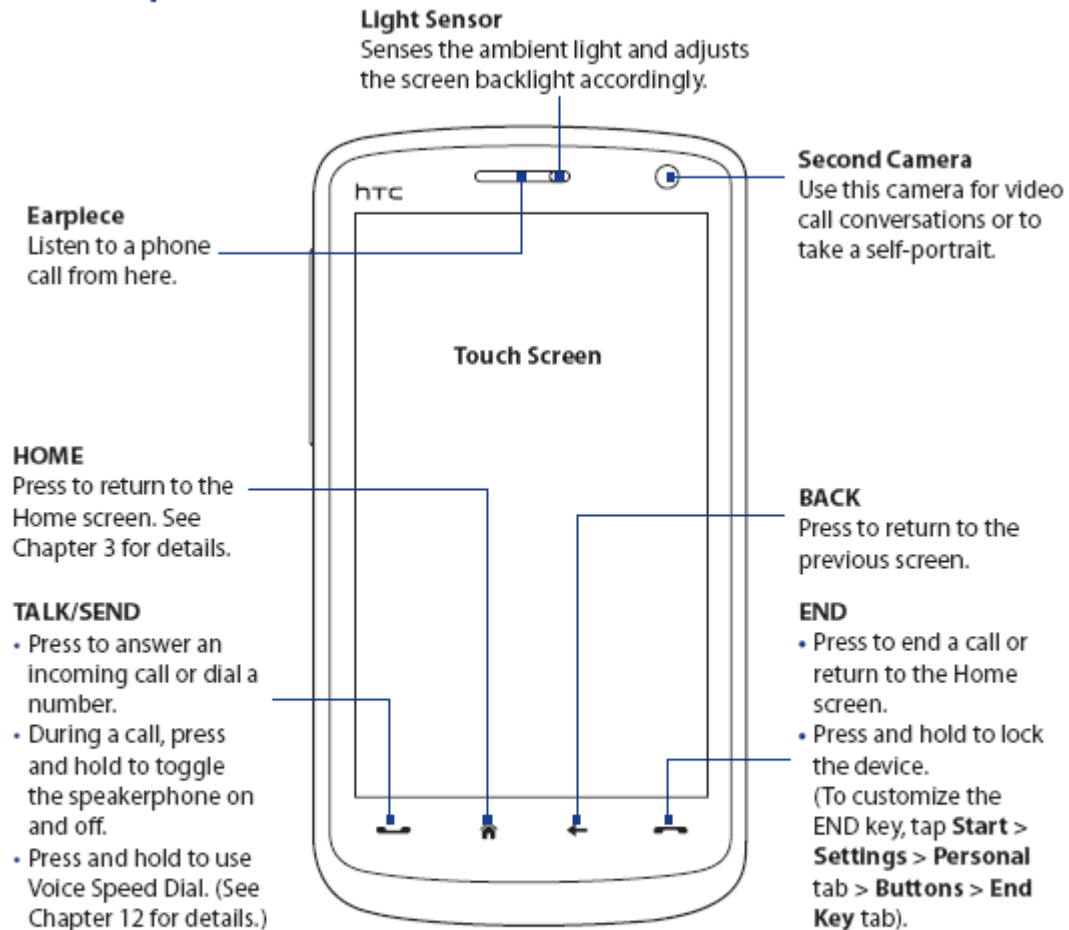
During a call or when playing music, press this button to lower the volume.

Right panel

Stylus

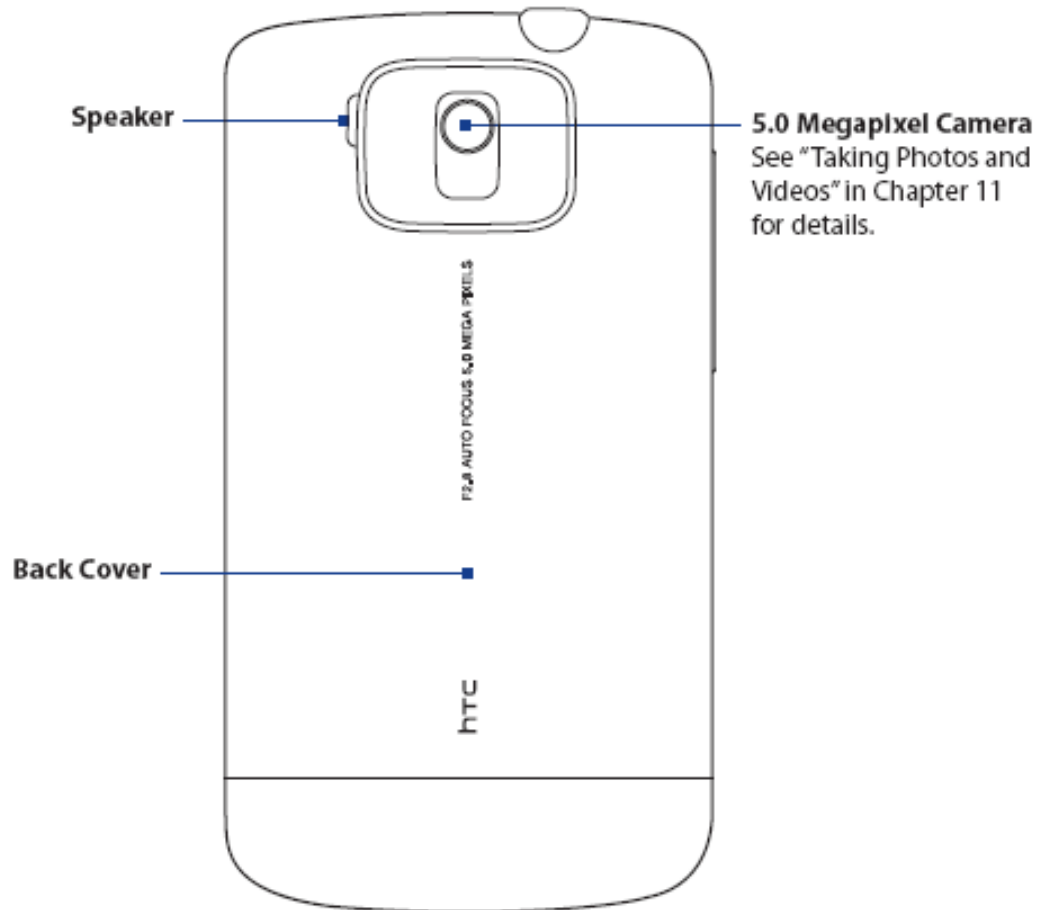
(See "Stylus" in this chapter for details.)

Front panel



Note By default, the device vibrates and plays a sound when you press any of the virtual buttons — TALK/SEND, HOME, BACK and END. To disable any of these notifications, tap **Start** > **Settings** > **Personal** tab > **Buttons** > **Virtual Buttons** tab, then clear the **Play a sound** or the **Vibrate the device** check box according to your preference.

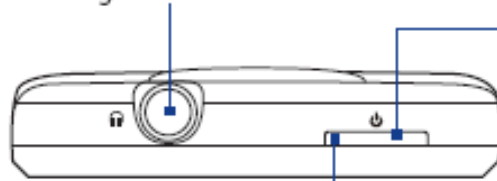
Back panel



Top panel

3.5 mm Audio Jack

Connect the supplied stereo headset for hands-free conversation or for listening to audio media.



Notification LED*

See description below.

POWER

Press to turn off the display temporarily. To turn off the power, press and hold for about 3 seconds. For more information, see "Starting Up" in this chapter.

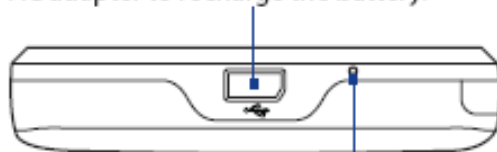
* The Notification LED under the POWER button shows a:

- Flashing green light when there are new SMS, MMS or e-mail messages, missed calls, or reminders.
- Solid green light when the device is connected to the power adapter or a computer and the battery is fully charged.
- Solid amber light when the battery is being charged.
- Flashing amber light when the remaining battery level reaches below 10%.

Bottom panel

Sync Connector

Connect the supplied USB cable to synchronize information or plug in the AC adapter to recharge the battery.



Microphone

- To remove the Battery cover

To remove the back cover

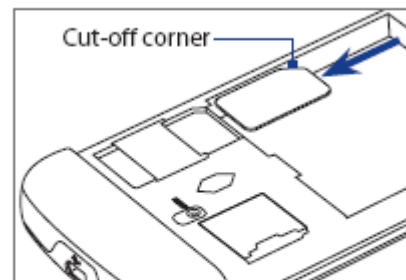
1. Make sure your device is turned off.
2. Firmly hold the device with both hands and the front panel facing down.
3. Push the lower part of the back cover up with your thumbs until it disengages from the device and then slide it up to remove.



- To install / remove the SIM card

To install the SIM card

1. Make sure your device is turned off.
2. Locate the SIM card slot, then insert the SIM card with its gold contacts facing down and its cut-off corner facing out the card slot.
3. Slide the SIM card completely into the slot.



To remove the SIM card

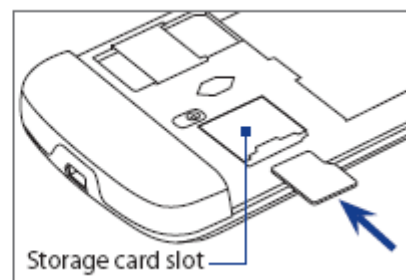
1. Remove the battery if it is installed.
2. Slide the SIM card out from the SIM card slot with your thumb.

- To install / remove the SD card

To install a microSD card

Insert the microSD card into the slot with its gold contacts facing down until it clicks into place.

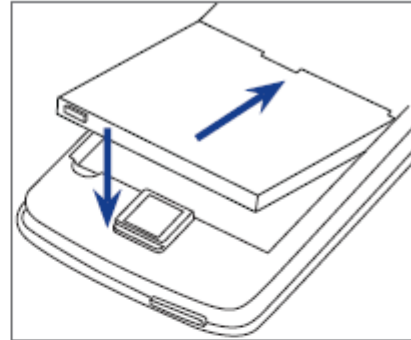
Note To remove the microSD card, press it to eject it from the slot.



- To install / remove the battery

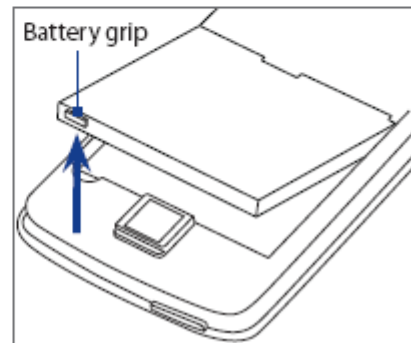
To install the battery

1. Align the battery's exposed copper contacts with the battery connectors inside the battery compartment.
2. Insert the contacts side of the battery first and then gently push the battery into place.
3. Replace the back cover.



To remove the battery

1. Make sure your device is turned off.
2. Remove the back cover.
3. The upper right side of the battery has a protruding grip. Lift the protruding grip to remove the battery.





- Charging the battery

To charge the battery

1. Connect the USB connector of the AC adapter to the sync connector on your device.
2. Plug in the AC adapter to an electrical outlet to start charging the battery.

Note Only the AC adapter and USB sync cable provided with your device must be used to charge the device.

Charging is indicated by a solid amber light on the LED indicator under the POWER button. As the battery is being charged while the power is on, a charging icon  also appears in the title bar of the Home screen. After the battery has been fully charged, a full battery icon  appears in the title bar of the Home screen.



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- **To perform a soft reset**

1. Remove the back cover.
2. Pull out the stylus.
3. Use the stylus to press the RESET button located between the SIM card and the storage card slots.
Your device restarts and displays the Today screen.

- **To perform a hard reset**

Warning! Your device will be set back to factory default settings. Make sure that any additional installed programs and/or user data have been backed up before you perform a hard reset.

1. Pull out the stylus
2. With the device turned off, press and hold the VOLUME UP and VOLUME DOWN buttons, then briefly press the POWER button.
3. Continue pressing the VOLUME UP and VOLUME DOWN buttons until you see this message on the screen:

```
This operation will delete
all your personal data,
and reset all settings to
the manufacturer default
settings. Press VolUp
to restore manufacturer
defaults, or press other
keys to cancel.
```

4. Release the VOLUME UP and VOLUME DOWN buttons.
5. Press the VOLUME UP button to perform the hard reset, or press any other button to cancel the reset.

- **To clear storage**

You can also use Clear Storage to reset your device back to factory default settings.

1. On the Home screen, slide to the Settings tab and then tap All Settings.
2. On the System tab, tap Clear Storage.
3. Enter "1234" and then tap Yes.



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2. Device Disassembling and Assembling Procedure

2.1 Tools list

level	No.	Item	Vendor	P/N
L 1	1	Mini USB DATA interface Cable		
	2	Earphone Headset		
	3	AC Adapter		
	4	WLAN AP		
	5	Memory Card with Diag. test program (need be encoded by HTC)	HTC design	
	6	Memory card for ROM code re-flash (must be encoded by HTC)	HTC design	
	7	3pin battery holder	HTC special tools	MLT-00008
	8	Universal Leakage Current Tester	HTC special tools	MLT-00001
	9	Power supply		
	10	Current Meter		
	11	Mobile tester		
L 2	12	Special Made Plastic Stick	HTC special tools	RTT-00006
	13	Hand tools		
	14	Oven for rework purpose	HTC special tools	RTT-00007
	15	Barcode label printer (400dpi resolution and up)		
L 2.5	16	Lead-free Soldering station		
	17	Hot air gun		

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SM-TP001-0704

2.2 Disassembling procedure



1. PHILLIPS SCREW-DRIVER 00x50
2. TORX SCREW-DRIVER T5x50
3. FLAT PLASTIC STICK (P/N: RTT-00006)
4. CLEANING CLOTH
5. PLASTIC TWEEZERS
6. ESD WRIST STRAP.



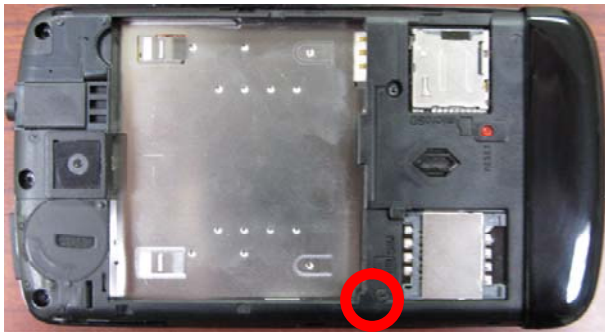
Take out the stylus



Remove the battery cover as shown



Take out the battery as shown



Unfasten the screw at the location indicated

Tool: Phillips screw-driver 0

P/N: 72H02916-00M

Torque: 0.7±0.1kgf-cm



Insert the flat plastic stick between the housing and Antenna cover to release the hooks



Unfasten the screws at the location indicated

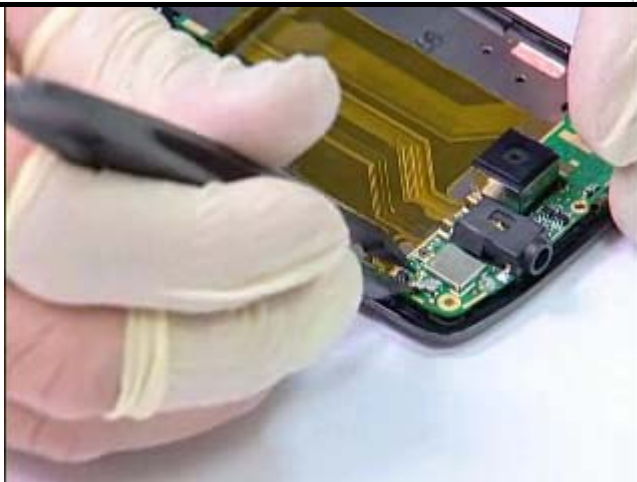
Tool: Torx screw-driver T5

P/N: 72H02257-00M

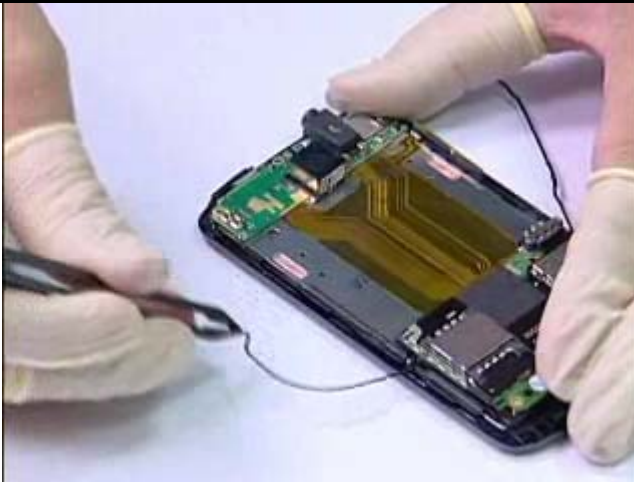
Torque: 0.7±0.1kgf-cm



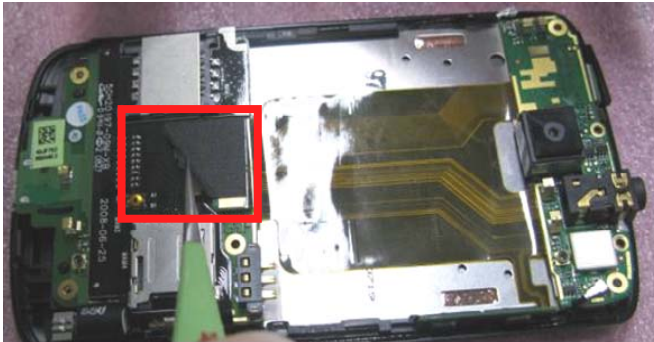
Insert the flat plastic stick between the Housing and Bezel to separate the Housing



Disconnect the GPS coaxial cable from Rigid flex board as shown.



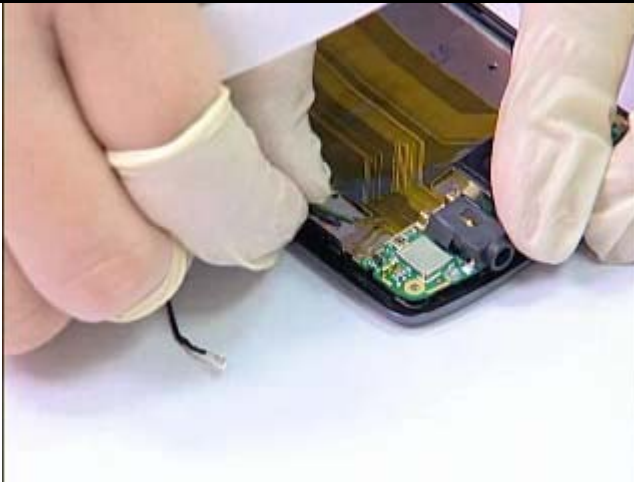
Disconnect the BT/WLAN coaxial cable from Rigid-flex Board as shown.



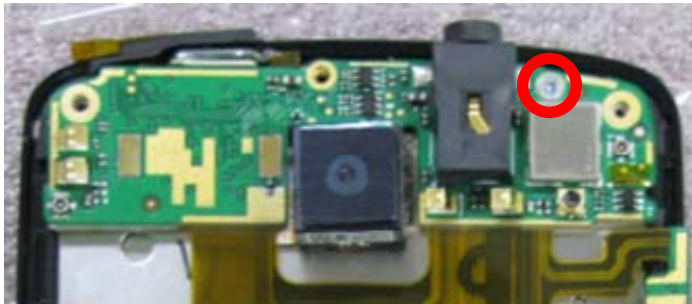
Remove the black Mylar as show



Remove the FPC connector as shown



Remove the volume key as shown.

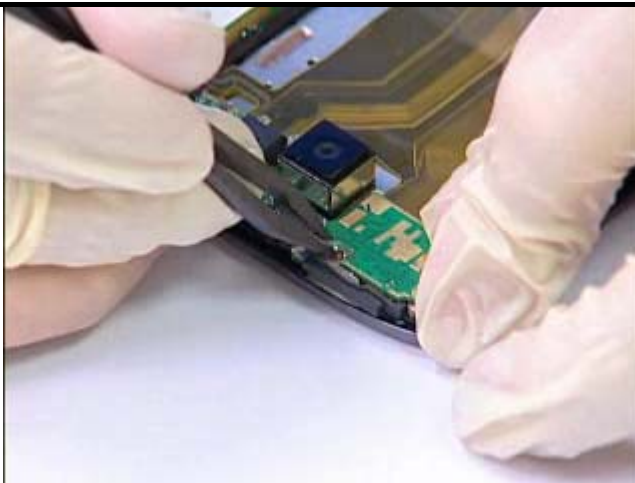


Unfasten the screw at the location indicated

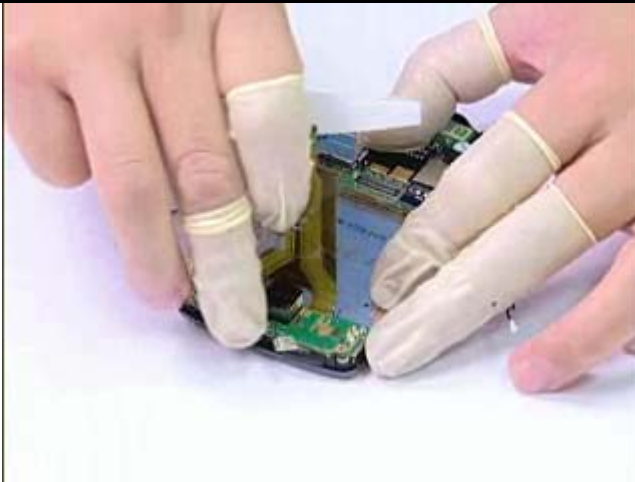
Tool: Phillips screw-driver 0

P/N: 72H01266-00M

Torque: 0.7 ± 0.1 kgf-cm



Remove the Power FPC as shown.



Remove the Rigid-flex board from Bezel.



Remove the main camera as shown.



Unfasten the screw at the location indicated

Tool: Phillips screw-driver 0

P/N: 72H01266-00M

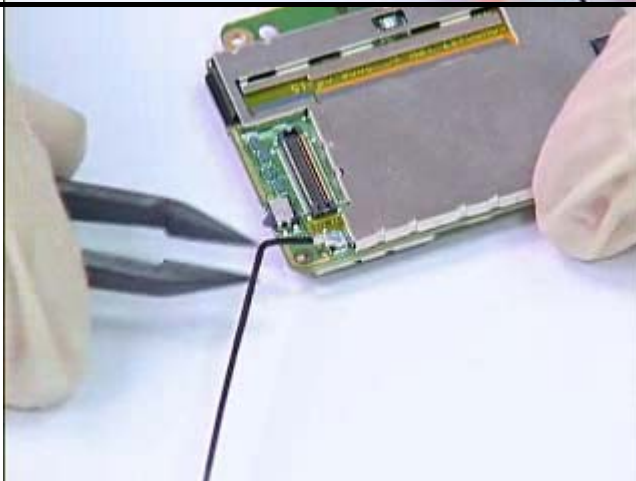
Torque: 0.7±0.1kgf-cm



Remove the Vibrator as shown.



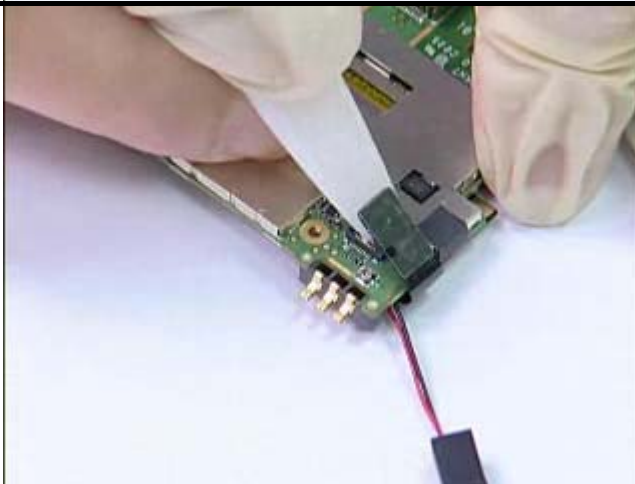
Disconnect the BT/WLAN coaxial cable from MAIN BOARD as shown.



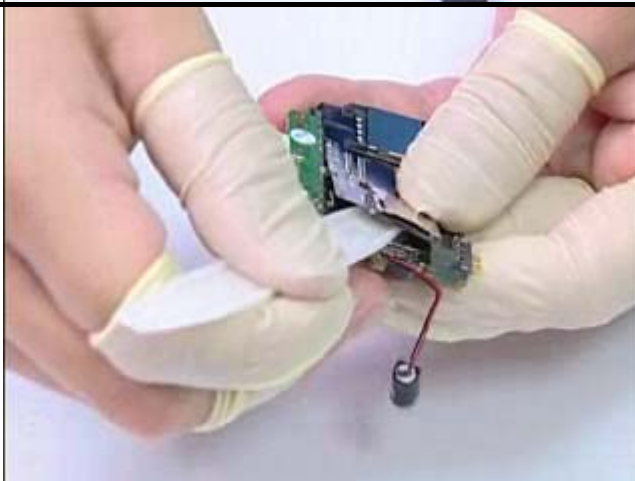
Disconnect the GPS coaxial cable from MAIN BOARD as shown.



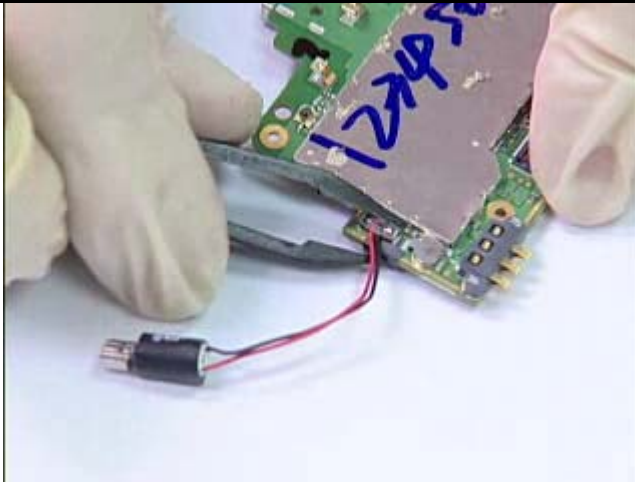
Remove the Microphone Rubber from MAIN BOARD.



Disconnect the SIM FPC from Main Board.



Take out the SIM board from Main Board



Disconnect the Vibrator from the Main Board



Remove the Receiver



Remove the Speaker Rubber



Remove the Speaker



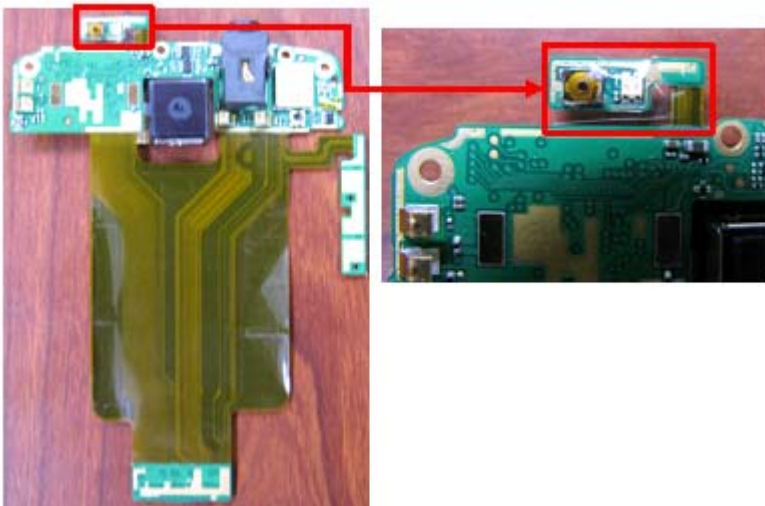
Disassembly Completed

The Disassembling process is done

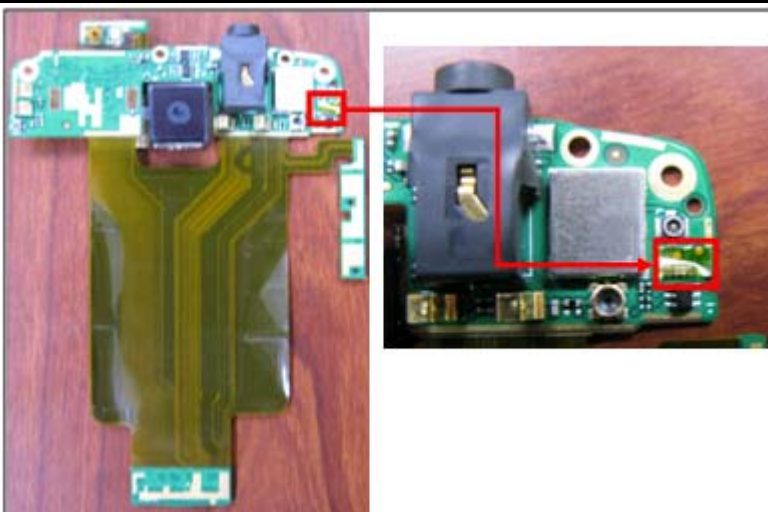
2.3 Assembling procedure



Assemble the Main camera as shown



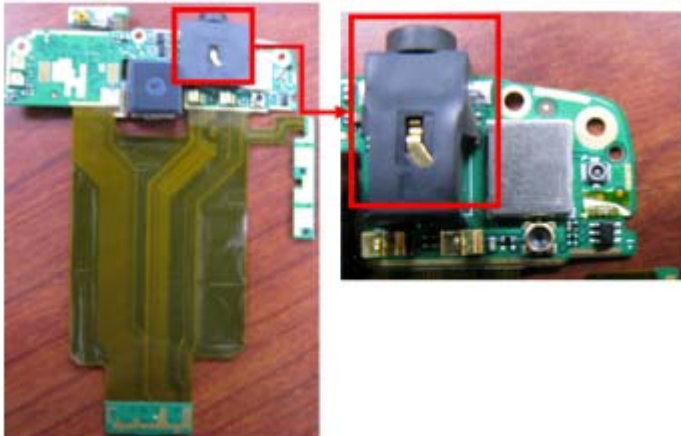
Paste a Mylar on the Rigid-flex board as shown.



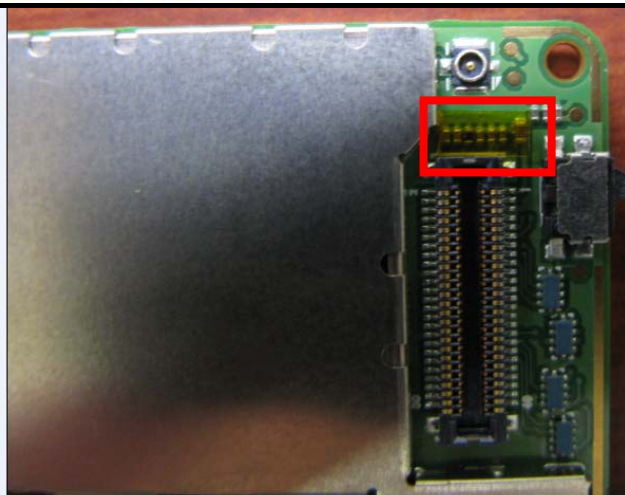
Paste a Mylar on Rigid-flex board as shown



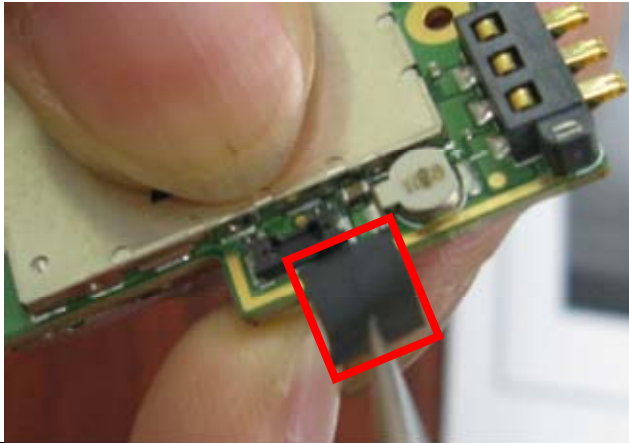
Paste a gasket on rigid flex board as shown.



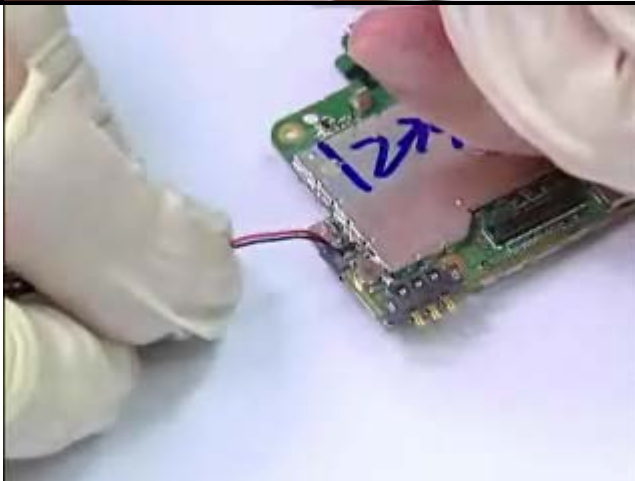
Paste a Mylar on audio jack as shown.



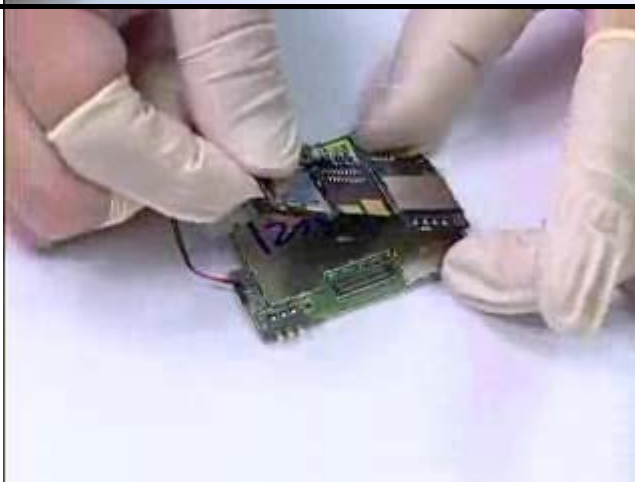
Paste a Mylar on main board as shown



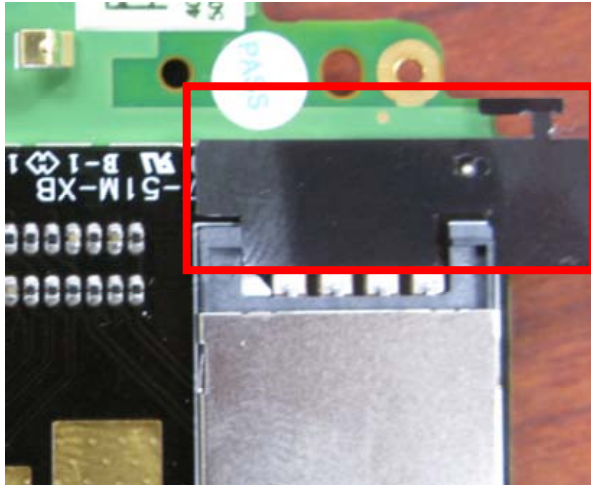
Paste a Mylar on main board as shown



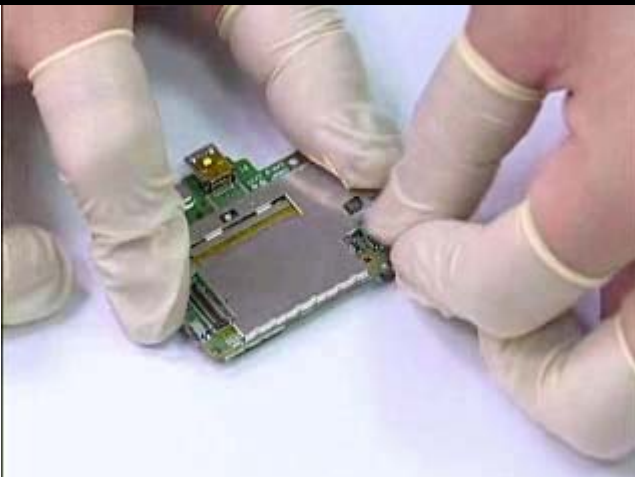
Connect the vibrator with main board as shown



Align the SIM board with the guide pins on the shield cover and attach it to main board



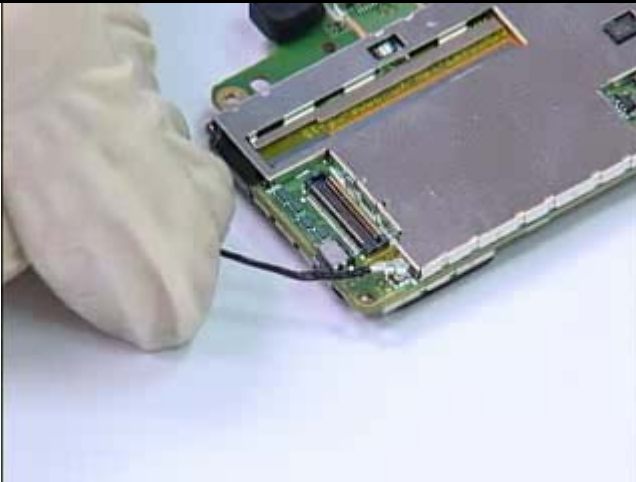
Paste a Mylar on main board as shown.



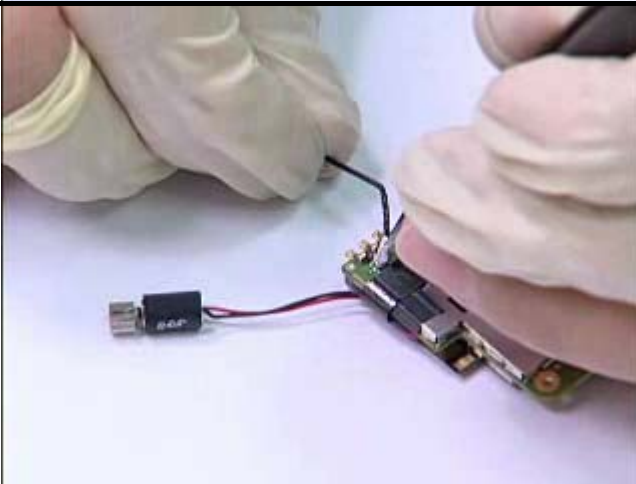
Connect the connector of SIM board as shown.
Note. The Vibrator cable is within the FPC



Put the microphone Rubber on the Microphone



Connect the left coaxial cable BT/WIFI on M/B as shown.



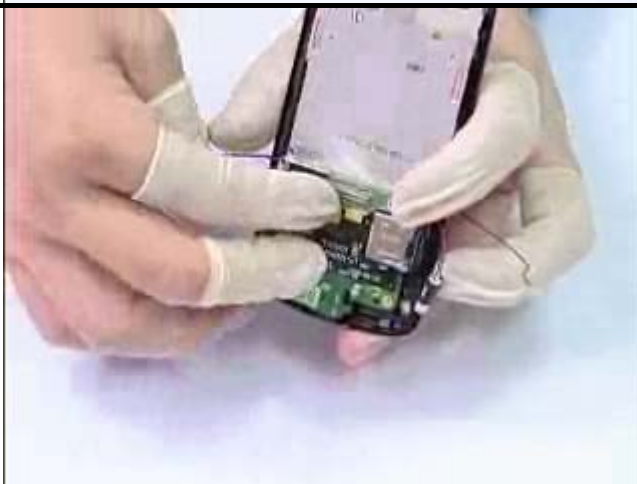
Connect the left coaxial cable BT/WIFI on M/B as shown.



Remove the release paper of the adhesive tape on the bezel as shown



Put the receiver into the slot on the bezel.
Note: Pins are upward.



Assemble the main board and insert the USB connector into the slot



Connect the LCM connector with main board as shown.



Assemble the vibrator on bezel as shown

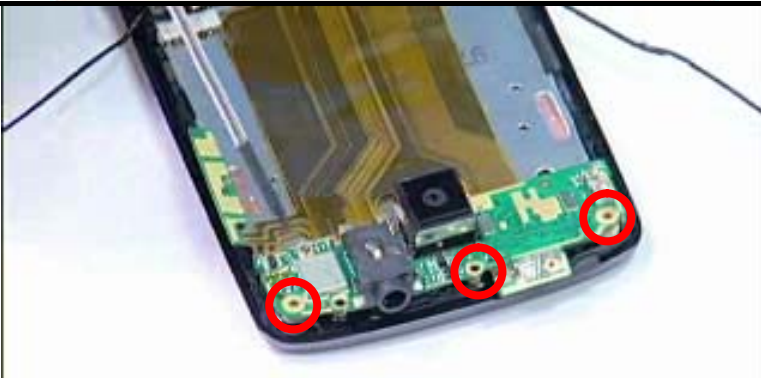


Fasten the screw at the location indicated

Tool: Phillip screw-driver 0

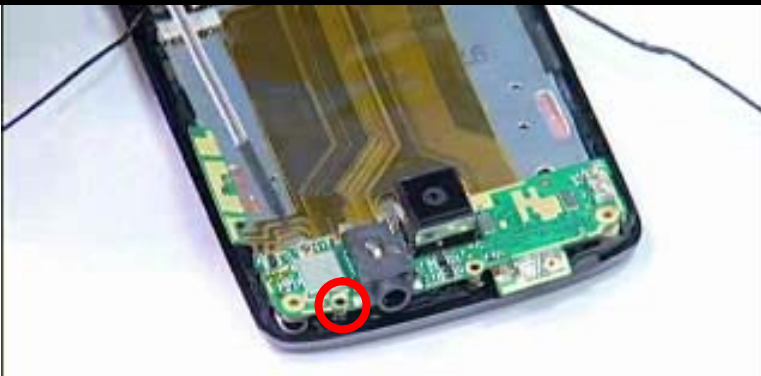
P/N: 72H01266-00M

Torque: 0.7±0.1kgf-cm



Put the Rigid flex board on the bezel.

Note: The three holes of Rigid flex Board must align with the hole on the bezel.



Fasten the screw at the location indicated

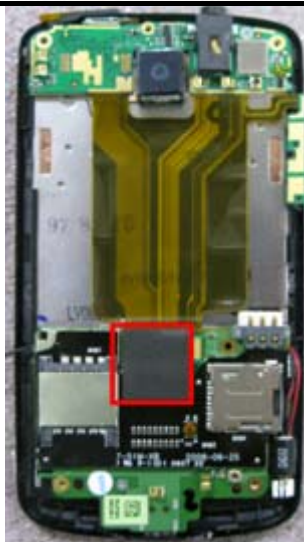
Tool: Phillip screw-driver 0

P/N: 72H01266-00M

Torque: 0.7 ± 0.1 kgf-cm



Connect the Rigid flex board connector as shown



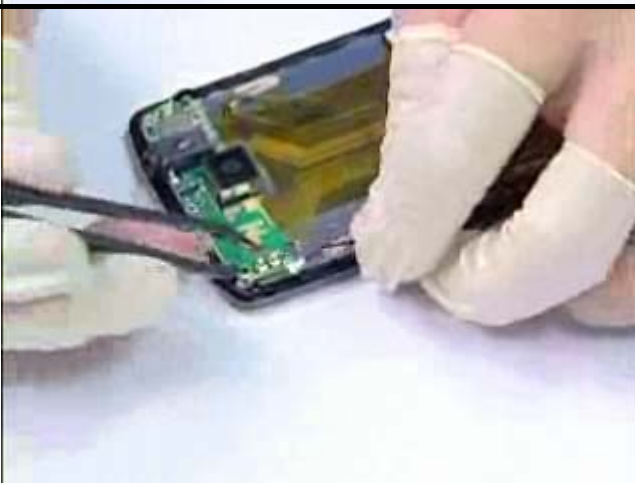
Paste a Mylar on M/B connector as shown



Connect the right coaxial cable GPS with Rigid flex board as shown



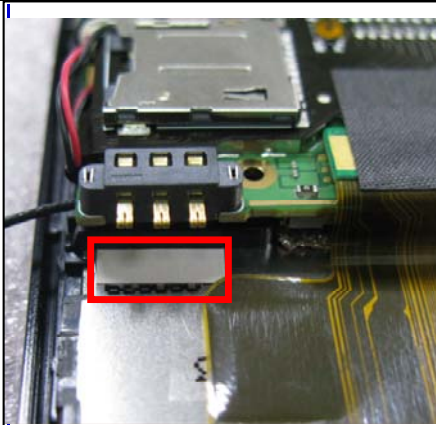
Put the cable into the slot of bezel



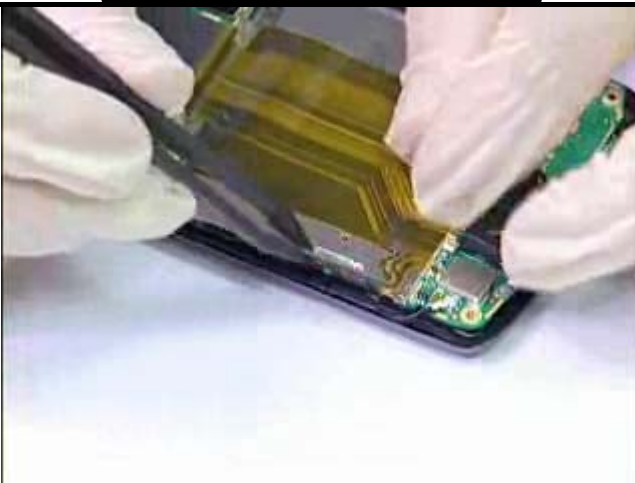
Connect the left coaxial cable BT/WIFI with Rigid flex board as shown



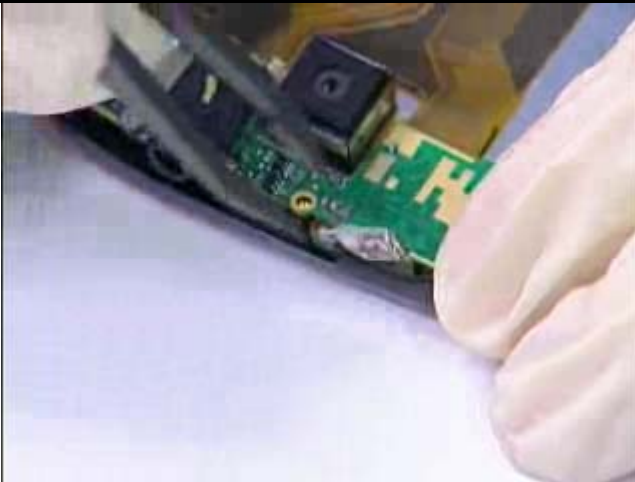
Put the cable into the slot of bezel



Paste a water sensitive label on bezel as shown



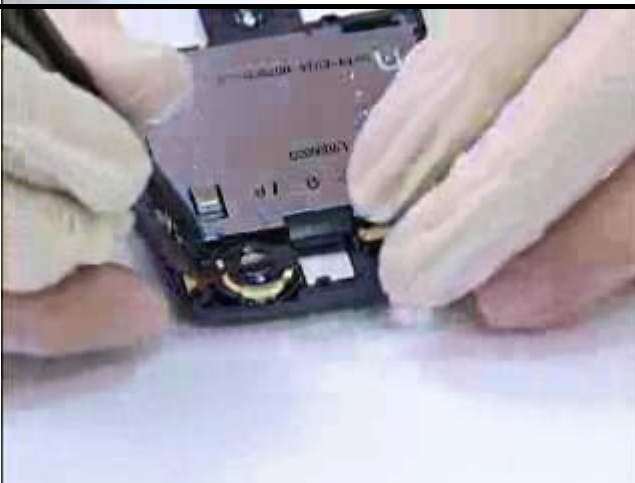
Attach the volume button FPC to the bezel



Attach the power button FPC to the bezel



Install the speaker by putting it into the slot on the housing



Put the speaker rubber on the speaker to fix speaker



Combine the housing with bezel
Caution: Make sure the Main camera is inserted correctly



Fasten the screws at location indicated

Tool: TORX SCREW-DRIVER T5

P/N: 72H02257-00M

Torque: 0.7±0.1kgf-cm



Fasten the screws at location indicated

Tool: PHILLIP SCREW-DRIVER 0

P/N: 72H02916-00M

Torque: 0.7±0.1kgf-cm



Assemble the antenna cover on housing



Put the battery into unit as shown



Install the battery cover on unit as show

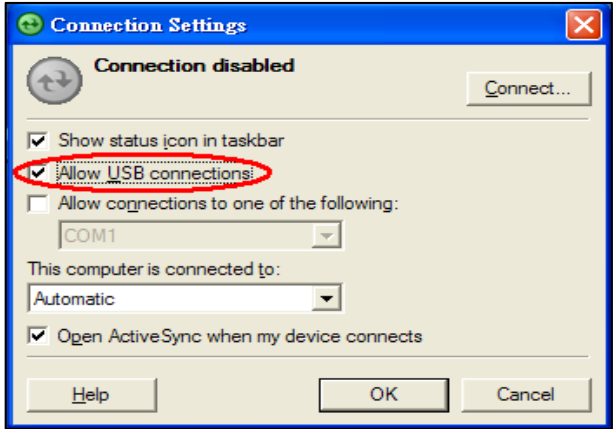
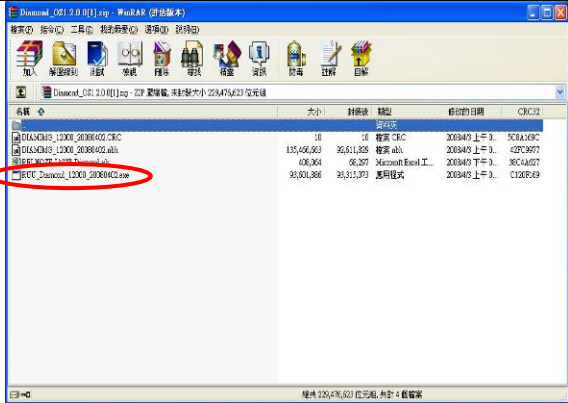


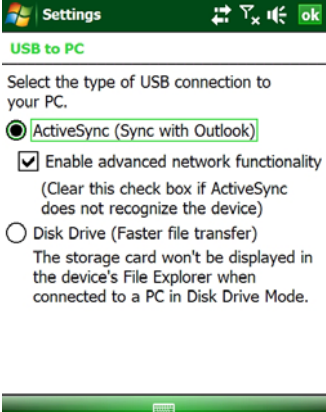
Insert the stylus into the slot

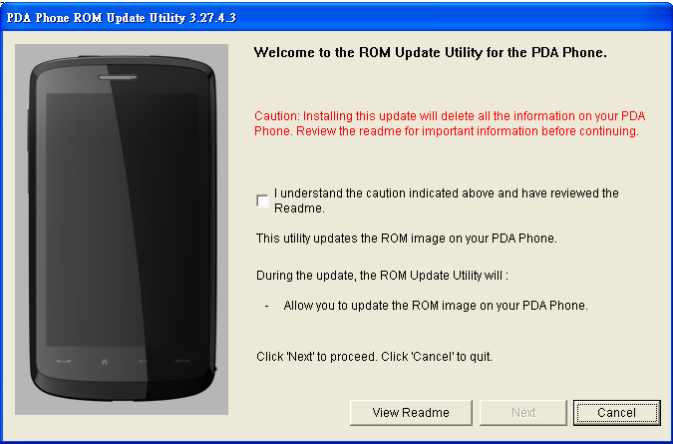
The Assembling Process is Done. You may perform the Function Test or the following process.

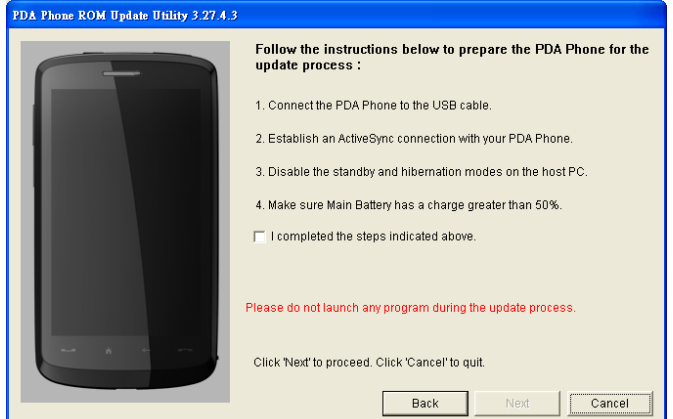
3. ROM Re-flash Procedure

3.1 ROM upgrade thru RUU (Re-flash Upgrade Utility)

Connect device to PC	
<ol style="list-style-type: none"> Setting and allow USB connections in Microsoft ActiveSync. Connect your device and desktop/ or laptop via USB cable. Check the pop-up message from Microsoft ActiveSync when device is synchronized with PC. 	
Download OS Image from SDO	
<ol style="list-style-type: none"> Download OS image from SDO. http://htcscm10.htc.com.tw/SDO Un-zip the file and execute RUU program. 	

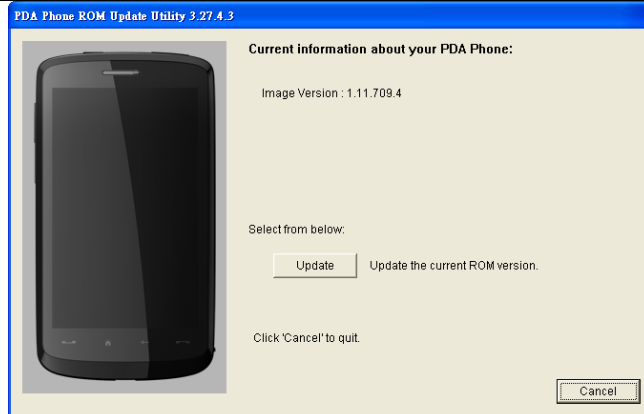
Check the setting of menu	
<p>6. Select the type of USB connection with "ActiveSync" mode in the settings of menu.</p>	

RUU-1	
<p>7. Hold the volume down key then press power button to trigger the boot loader mode.</p> <p>8. Read the pop-up message form ROM update utility and select the "I understand..." checkbox.</p> <p>9. Click "Next" to proceed.</p>	

RUU-2	
<p>10. Read the pop-up message form ROM update utility to follow and perform the instructions and select the "I completed..." checkbox.</p> <p>11. Click "Next" to proceed.</p>	

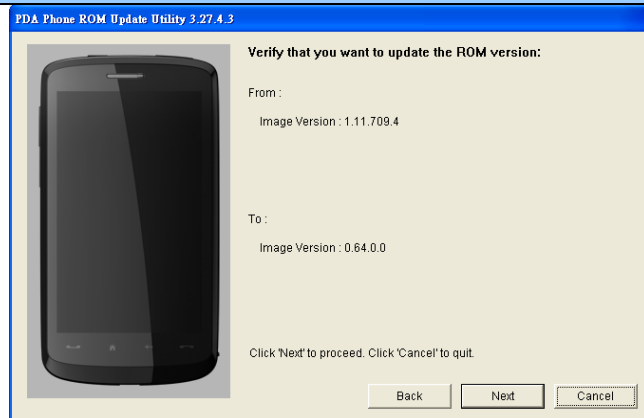
RUU - 3

12. Current image version confirmation.
13. Click "Update" to proceed



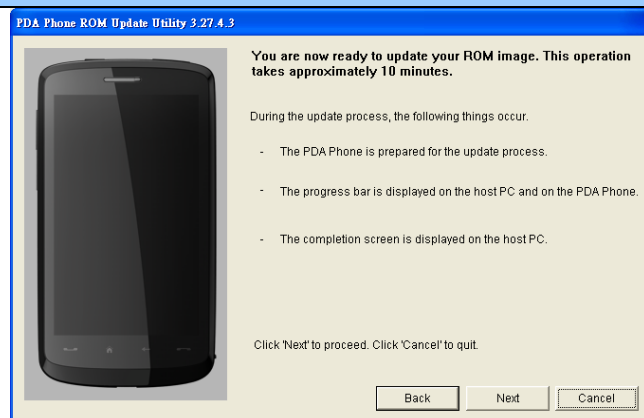
RUU-4

14. Double verify the ROM revision which you want to update before re-flash procedure.
15. Click "Next" to proceed.



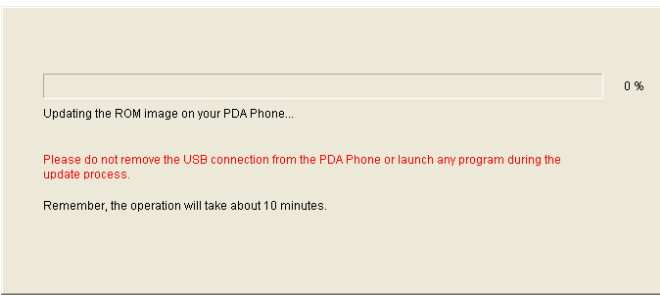
RUU-5

16. Read the information from pop-up message and the OS update procedure will takes 10 minutes long.
17. Click "Next" to proceed.



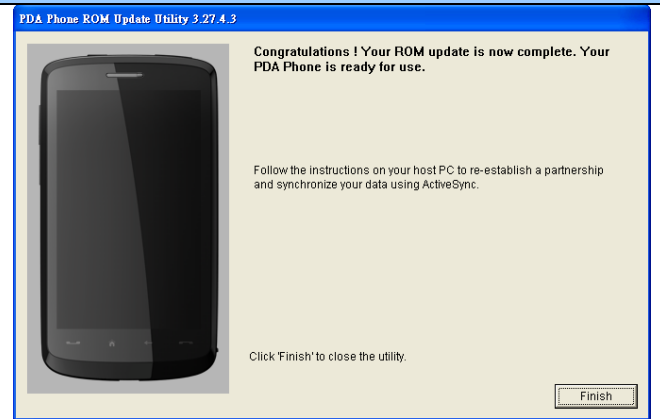
RUU – 6

18. You can see the update progress from your PC and in your device.

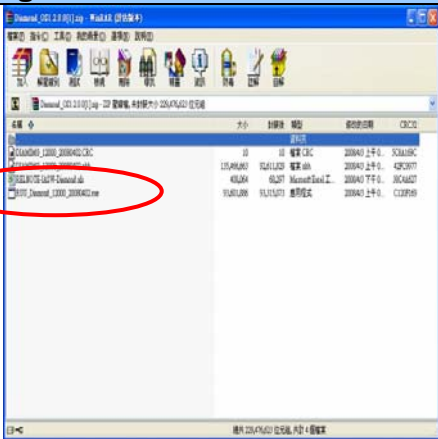



RUU – 7

19. The OS upgrade is finished, click "Finish" to close the utility.

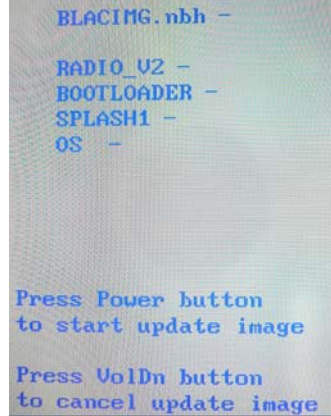


3.2 ROM Image upgrade thru SD card

Download OS Image from SDO	
<ol style="list-style-type: none"> Download OS image from SDO. http://htcscm10.htc.com.tw/SDO Un-zip the image file. 	
Format SD card and copy image file to SD card	
<ol style="list-style-type: none"> Select file system and format the SD card to FAT32 mode. Copy image file XXXX.nbh to the micro SD card and rename to BLACIMG.NBH. 	

SD Upgrade - 1

5. Turn the device power off and insert micro SD card.
6. Press and hold **Volume down** + **Power** button and then release the power button first to enter Boot loader mode.
7. Press **Power** button to start upgrade procedure.



SD Upgrade - 2

8. Reading source code from micro SD card.
- [Note]: Please don't power off the device during this process.**



SD Upgrade - 3

9. After finish, press Reset button to reboot.





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4. DIAGNOSTIC PROGRAM

4.1 List of Diagnostic Test Items

Mode	No	Item	Description	Remark
Function Test				
Diagnostic	1	Auto	Auto Regular Tests (Display, B.L, Vibrator, etc...)	
	2	F/T1 Test	Insert USB cable	
	3	Back Light Test	LCD back light test (dim to bright).	
	4	SDRAM test	SDRAM read / write test	
	5	SD card Test	SD card read / write test	
	6	Key Test	Power, Volume up, Volume down, Key send, Key home, Key back, Key end	
	7	Display Test	Color bar/R/G/B/Black/White/Gray pattern.	
	8	Touch Panel Test	Touch Panel test	
	9	Vibrator Test	Vibrator on test.	
	10	LED Test	Backlight of Navi board module	
	11	Stylus Detect Test	Stylus remove and insert	
	12	Read Battery info.	Battery size	
	13	Light Sensor Test	Light sensor test	
	14	CPU Identify	CPU Type	
	15	ROM Checksum Test	ROM size	
	16	G Sensor Test	Motion G sensor function test	
Run-in Test				
	1	1 Hour	1 Hour Run-in Test/Press Soft1 key.	Option
	2	2 Hours	2 Hours Run-in Test/Press Soft 2 key.	Option
	3	4 Hours	4 Hours Run-in Test/Press Start key.	Option
	4	8 Hours	8 Hours Run-in Test/Press OK key.	Option
Format Internal Storage (Personal information, talk times)				
Device Info				
Engineer ID				



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Mode	No	Item	Description	Remark
Win CE	1	Bluetooth Test	Bluetooth Function Test	
	2	USB Test	USB link test (Microsoft ActiveSync)	
	3	Camera Test	Camera Function Test	
	4	WLAN Test	WLAN Function Test	
	5	GPS Test	GPS Function Test	
	6	FM Radio	FM Radio Function Test	
	7	Audio Test	All Audio Function Test	

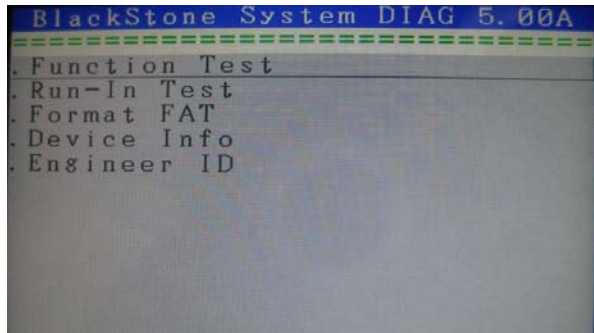
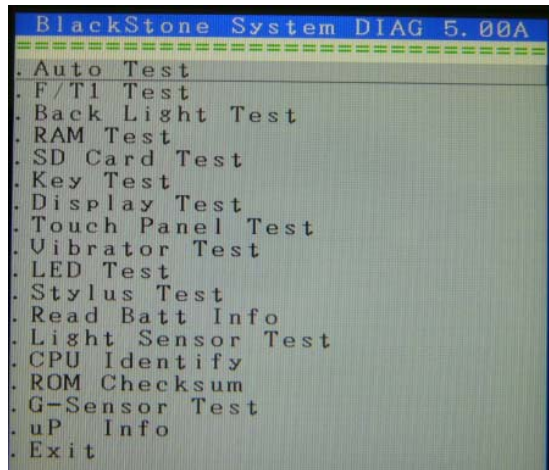
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SM-TP001-0704

Test Procedure

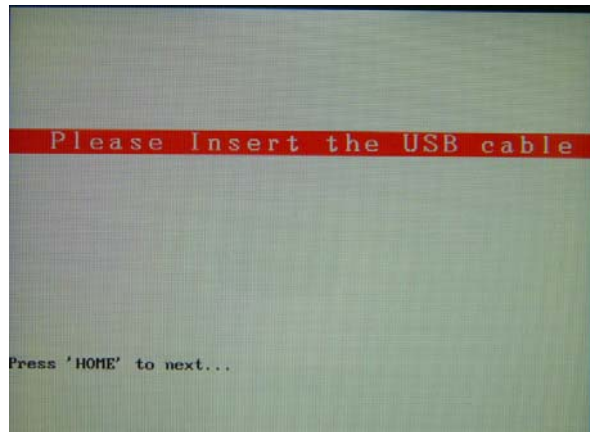
How to select test item: Using Volume button -"Up" or "Down" to select the test items How to execute the test program: Press "Action" button to start each of test items.

Diagnostic

Main Menu/Function Test Menu	
<ol style="list-style-type: none"> 1. Turn the device power off and insert Diagnostic SD card. 2. Press and hold Volume Down and press Power button then enter Diagnostic mode. 3. Using to select the test item and move to next page as well. Select item "Function Test" to find the Function test menu. 	
Auto Test	
<ol style="list-style-type: none"> 4. Press the Home key to start the Auto-test. 5. It will perform the regular tests, please follow the system instruction to do the test. 	

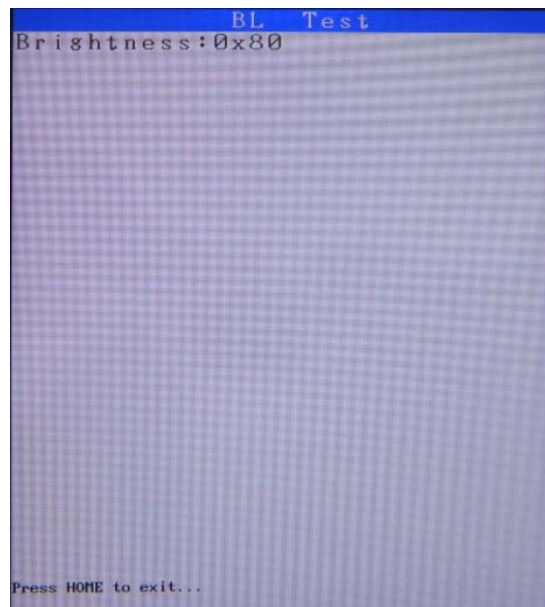
F/T1 Test

6. Press Home key to select F/T1 Test on Function test menu.
7. Press Home key to exit and return to Function test menu.



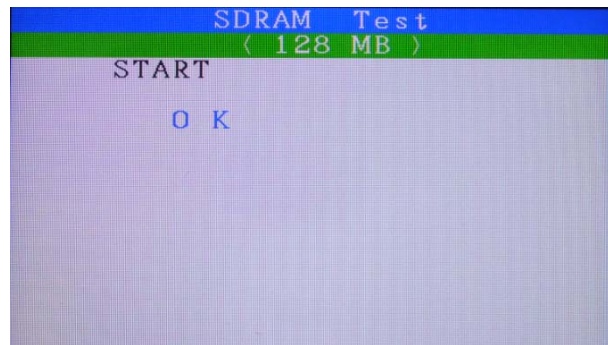
Back Light Test

8. Press Home key to select B.L Test on Function test menu.
9. Press Home key to switch the LCD backlight level from Level 1, Level2, Level3, Level4, Level5 Press Home key to exit and return to Function test menu.



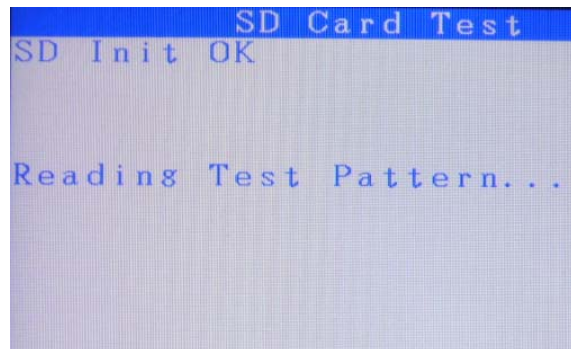
SDRAM Test

- 10. Press Home key to select SDRAM Test on Function test menu.
- 11. Press Home key to exit and return to Function test menu.



SD card Test

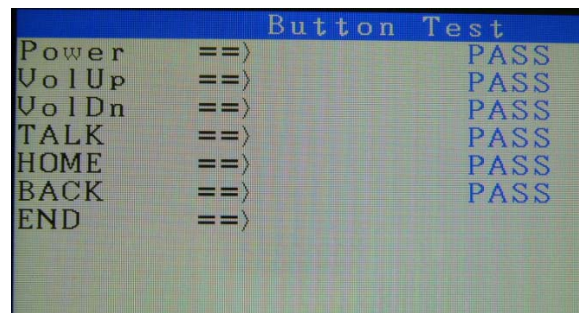
- 12. Press Home key to select SD card Test on Function test menu.



Key Test

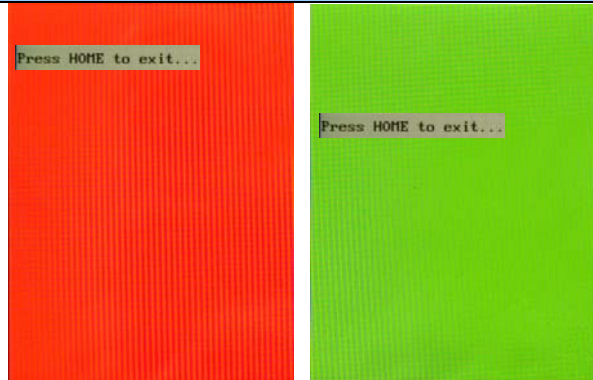
- 13. Press Home key to select Key Test on Function test menu.
- 14. Follow the instruction on screen to perform the Key/Button test (**Power, Volume up, Volume down, Key send, Key home, Key back, Key end**).

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



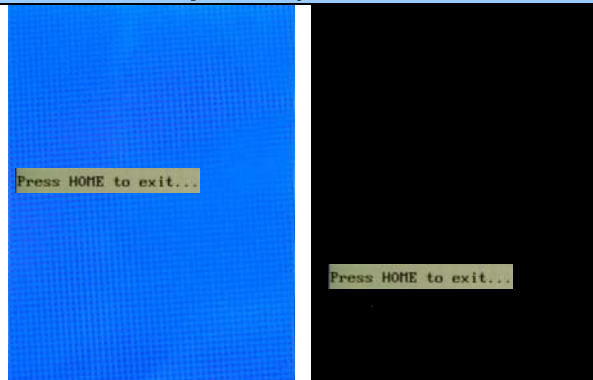
Display Test (and RED/ GREEN pattern)

- 15. Press Home key to select Display Test on Function test menu.
- 16. After the test pattern is show up, please check the pattern if any un-uniform color or chromatist.
- 17. Press Home key to continue the next test pattern.



Display Test (BLUE/ BLACK pattern)

- 18. Press Home key to continue the next test pattern.



Display Test (WHITE/Color bar pattern)

- 19. Press Home key to continue the next test pattern.



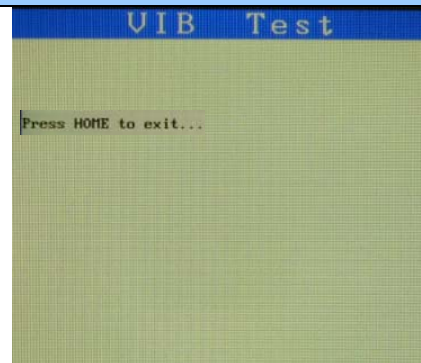
Touch Panel Test

20. Press Home key to select Touch Panel Test on Function test menu.



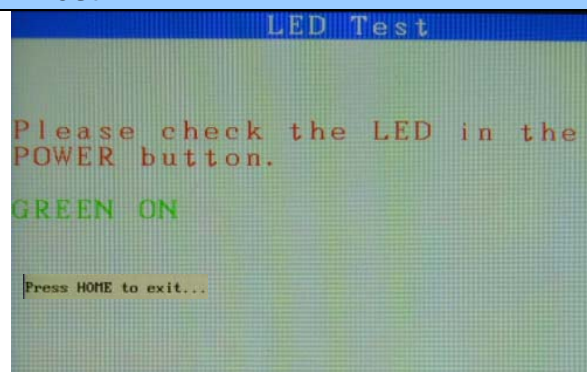
Vibrator Test

21. Press Home key to select Vibrator Test on Function test menu.
22. Press Home key to exit and return to Function test menu.



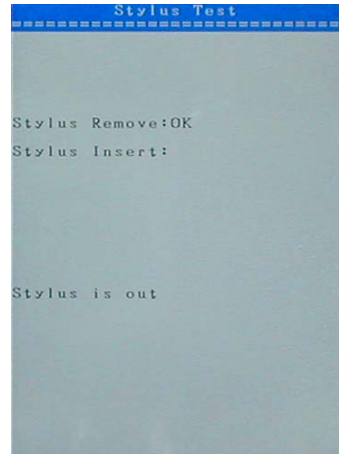
LED Test

23. Press Home key to select
24. It will perform the LED test, please follow the system instruction to check the LED.



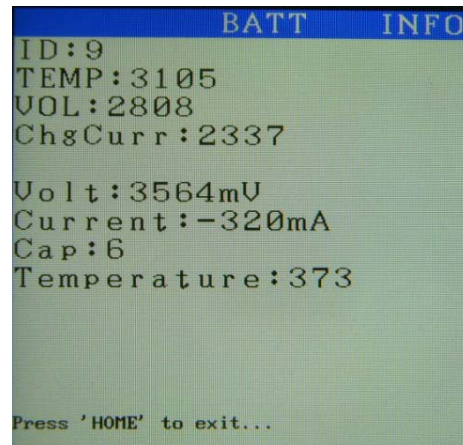
Stylus Detect Test

25. Press Home key to select
26. It will perform the stylus test, please follow the system instruction to remove and insert the stylus.



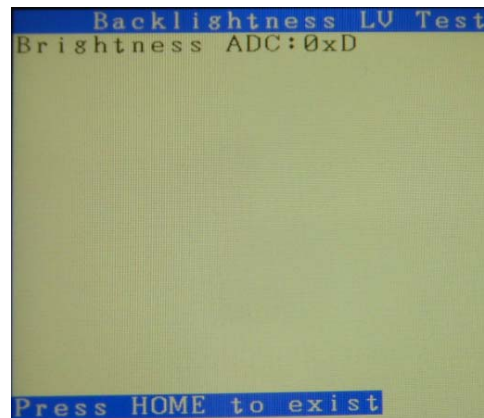
Read Battery info.

27. Press Home key to select Read battery info. on Function test menu.



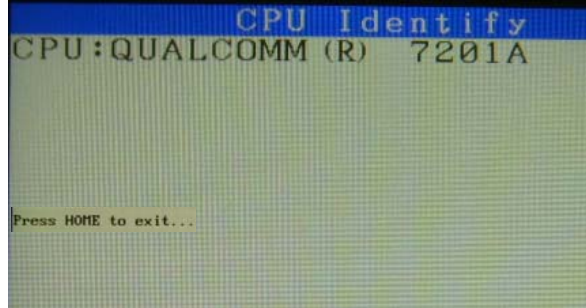
Light Sensor Test

28. Press Home key to select Light sensor test on Function test menu.
29. Press Home key to exit and return to Function test menu.



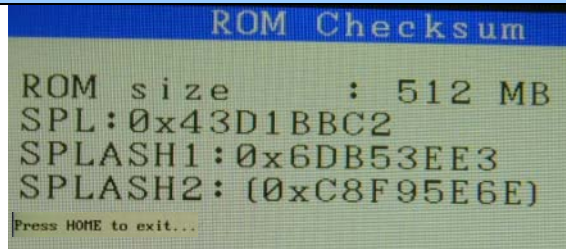
CPU Identify

- 30. Press Home key to select CPU Identify on Function test menu.
- 31. Press Home key to exit and return to Function test menu.



ROM Checksum Test

- 32. Press Home key to select
- 33. The Rom Checksum will be displayed on the screen



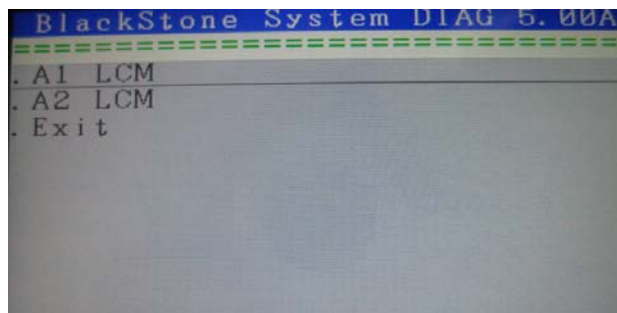
G Sensor Test

- 34. Press Home key to select G Sensor Test on Function test menu.
- 35. Put the unit on the table with when performing this G sensor testing.


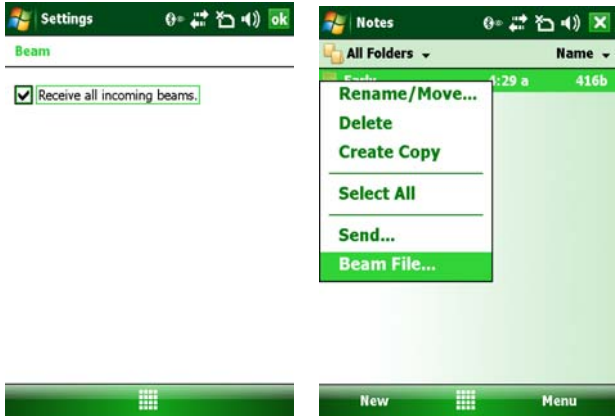
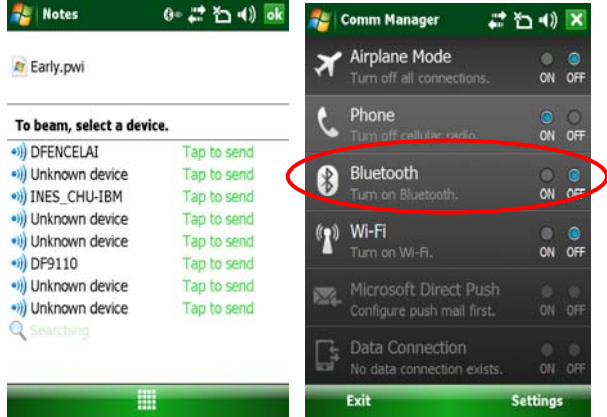


Engineer ID



- 36. Press Home key to select Engineer ID on Main menu.
- 37. Press Home A1 LCM for Version A1
- 38. Press Home key to exit and return to Main menu.

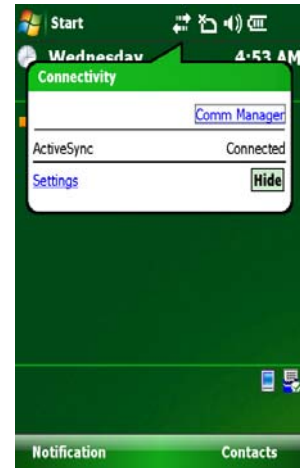


WinCE Test

Bluetooth Test - 1	
<ol style="list-style-type: none"> 1. Tap icon <u>Comm Manager</u> on the Today screen and turn on Bluetooth. 2. Tap the icon “Settings” down-right the corner of the screen and select the “Make this device....” Checkbox. 3. Press Action key (Jog-ball) to go next test pattern. 	
Bluetooth Test-2	
<ol style="list-style-type: none"> 4. Tap <u>Start->Settings->Connections->Beam</u> and select “Receive all....” Checkbox. 5. To create a file, tap Start->Programs ->Notes->New 6. Tap and select the “Beam file...” 	
Bluetooth Test-3	
<ol style="list-style-type: none"> 7. Once device is searched, tap the device to send the file. 8. Return to Today screen and tap <u>Start->Program->Comm Manager ->Bluetooth</u> to turn off Bluetooth. 	

USB Test

1. Start up the Microsoft® ActiveSync® program in the PC.
2. Select ActiveSync in the setting of menu
3. Insert USB cable and connect unit to desktop/ or laptop.
4. The USB to PC icon -> is appears on the Today screen when your device is connected to your desktop/ or laptop.



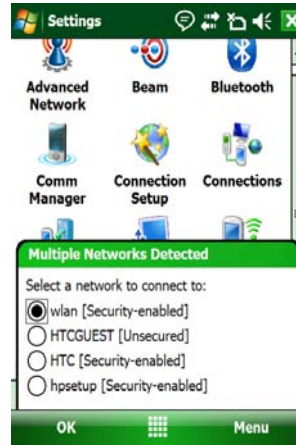
Camera Test

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



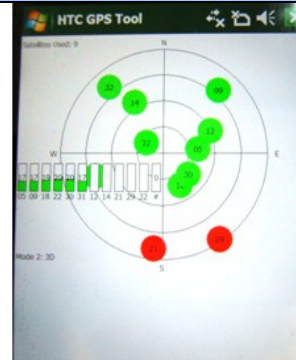
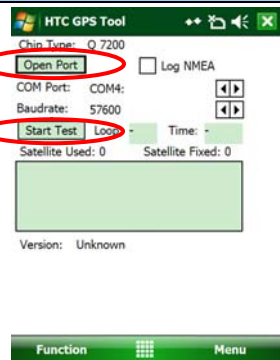
WLAN Test

1. Tap icon Comm Manager on the Today screen and turn on WLAN.
2. Select the hot-spot/ or access point which searchable and appears on screen.
3. Once the hot-spot (access point) is connected, press the IE button and logon Internet.



GPS Test

1. Download test program from SDO (DOC-00042190) <http://htcscm10.htc.com.tw/SDO>
2. Setup the COM port to COM4.
3. Place device in GPS receptor coverage area and tap the icon "Open GPS".
4. Check the GPS status as picture shown.



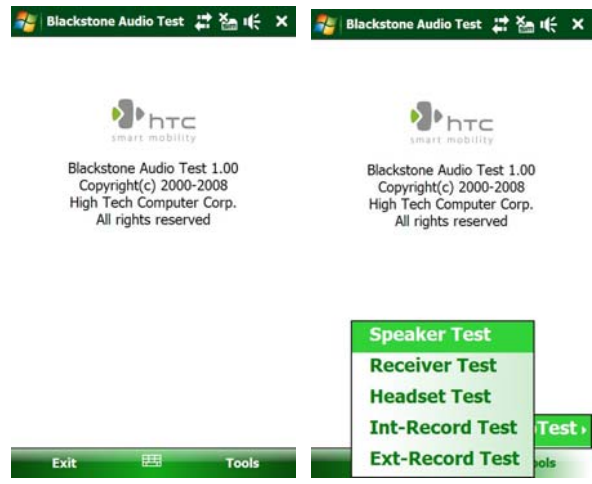
FM Radio Test

1. Insert the headset into the Audio Jack before doing the testing.
2. Tap icon FM Radio in the programs of the menu.
3. Select the different channels for testing.



Audio Test-1

1. Download test program from SDO (GSD-0000XXXX)
<http://htcscm10.htc.com.tw/SDO>
2. Un-zip the image file.
3. Copy "mfgtest.dll" and "Audio Test.exe" to internal storage.
4. Execute "Audio Test" program from internal storage.
5. Choose the each test in the menu of "Tools"



Audio Test-2

6. Select the Speaker Test then press Play button for testing



Audio Test-3

7. Select the Receiver Test then press Play button for testing



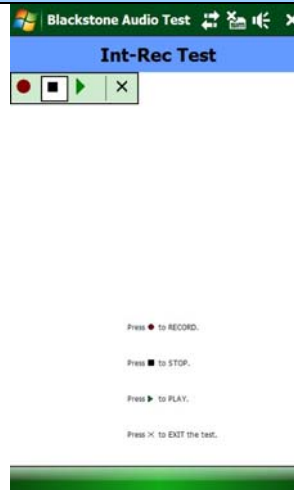
Audio Test-4

- 8. Connect the headset into the Audio jack before doing the testing
- 9. Select the Headset Test then press Play button for testing



Audio Test-5

- 10. Select the Int-Rec Test then press the "Record" button for voice recording first
- 11. Stop the voice record then press "Play" button for internal receiver test



Audio Test-6

- 12. Connect the headset into the Audio Jack before doing the testing
- 13. Select the Ext-Rec Test then press the "Record" button for voice recording first



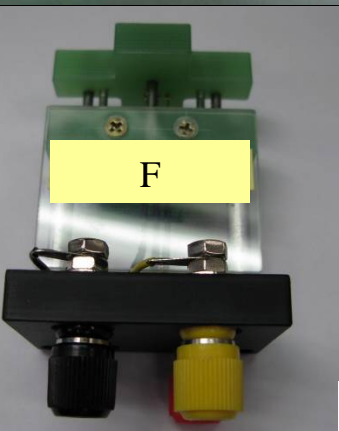


5. Power measurement test

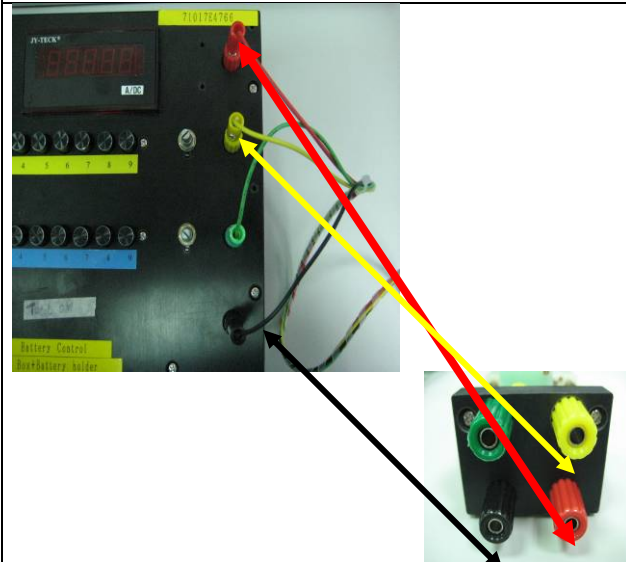
5.1 Main board leakage current Test Procedure

This is a quick method to measure if any abnormal leakage current on main board which caused high power consumption compare to GOOD main board.

Equipment list

	<p>1. Control box</p>
	<p>2. 4 colors cable Cable A: Red Cable B: Yellow Cable C: Green Cable D: Black</p>
 <p style="text-align: center;">F</p> <p style="text-align: right;">Jig-F</p>	<p>C. types Jig Jig - F (3 pins-Short)</p>

Equipment set up



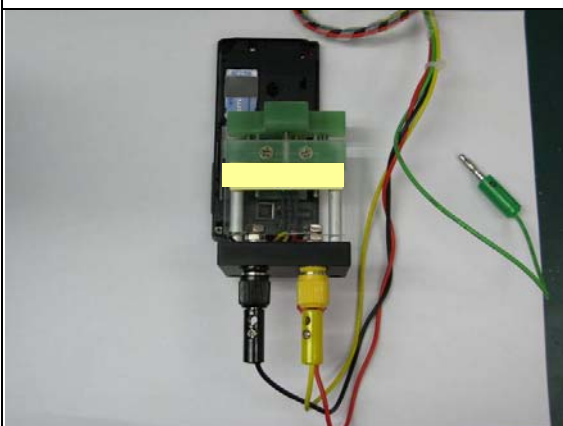
1. Connect control box and jig through 3 colors cable with red, black and yellow



2. Set up each button by row A~D according to product specification Following is an setting for Diamond

MODEL	JIG TYPE	Button set up matrix			
		A	B	C	D
Blackstone	F	0	8	X	0

It means, press button A0,B8,D0

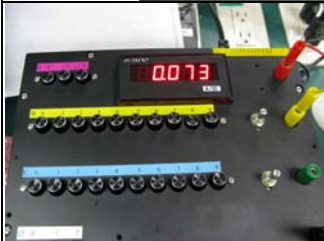


3. Install jig to device (the photo is for reference only)

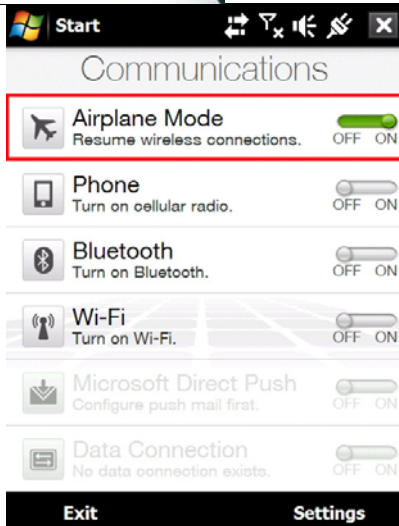
Start testing



1. Turn on control box power button



2. Press Power button to turn on the Device



3. In "main page", Check phone status, Click "Turn on Airplane mode"

Set the unit to :

* Airplane mode

* Make sure all RF function is off (phone, BT, Wifi..)

Idle current test

4. Measure Idle mode current. Idle current value must under **60mA**, if over the criteria, it means M/B failed, please replace M/B for repair.



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Sleep current test

5. After idle current checked, Switch OFF the unit. Unit is turn off and no display. sleep current value must under **6.35mA**, if over the criteria, it means M/B failed, please replace M/B for repair.

Conclusion:

If current consumption is passed at both of idle and sleep mode, it means M/B is GOOD. If there is any item FAILED at idle or sleep mode, it means M/B is failed, please replace M/B for repair.

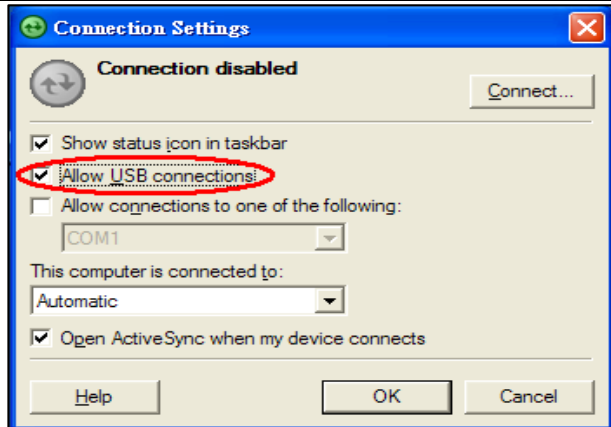
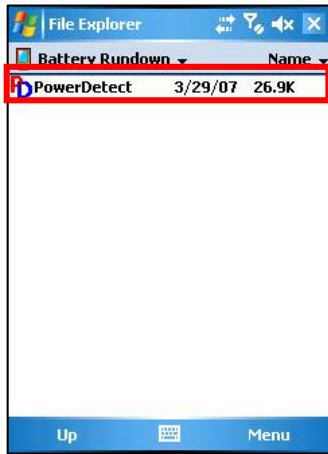
5.2 Battery rundown test procedure

Test Requirement:

- Windows 2000/XP
- USB Cable
- ActiveSync 4.2 above (WINCE 6.0 should use ActiveSync 4.5)
- Master Unit
- Battery in Warrantee

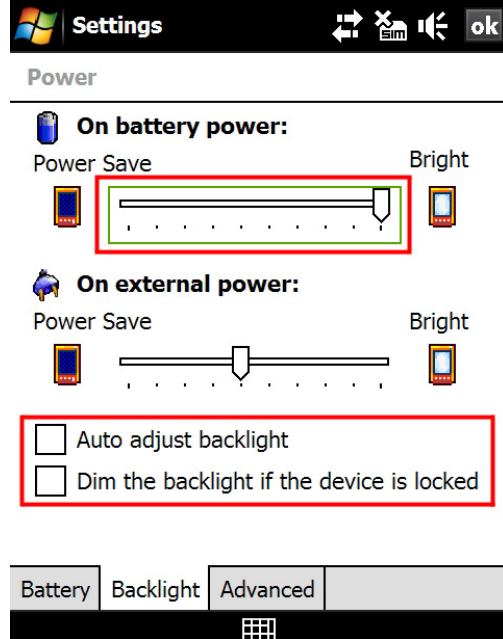
Caution: Please charge your unit to full capacity for battery (until the green light is displayed) before doing the test.

TEST PROCEDURE

Connect device to PC	
<p>I. Setting and allow USB connections in Microsoft ActiveSync.</p> <p>II. Connect your device and desktop/ or laptop via USB cable.</p> <p>III. Check the pop-up message from Microsoft ActiveSync when device is synchronized with PC.</p>	
Copy the Battery Rundown tool into the device	
<p>IV. Make a folder in the device.</p> <p>V. Copy PowerDetect.exe into the folder.</p>	

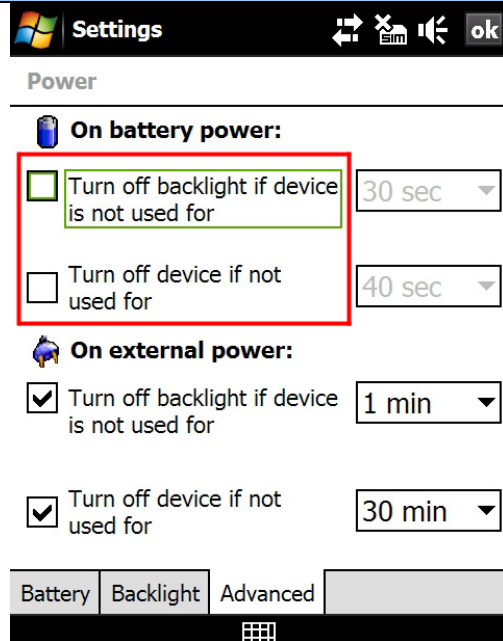
Battery Rundown-1

VI. Adjust the Backlight brightness into the maximum level on battery power. (Disable **auto adjust backlight** and **dim the backlight if the device is locked**)



Battery Rundown-2

VII. Disable **Turn off backlight if device is not used for** and **Turn off device if not used for** on Advanced menu.





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Battery Rundown-3

VIII. Execute **PowerDetect.exe** under WinCE



Battery Rundown-3

IX. Set the Sleep as **1hour**
X. Set the Record as **2Mins**

Time	Cap	Volt		01:47
00:00:01	100%	4.194	1	00:58:32

1 - 1 Power Detect 2.01 Quit

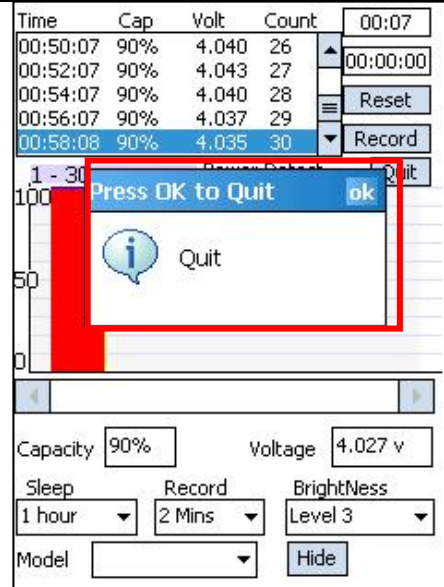
Capacity: 100% Voltage: 4.194 v

Sleep: 1 hour Record: 2 Mins BrightNess: Level 3

Model: Hide

Battery Rundown-4

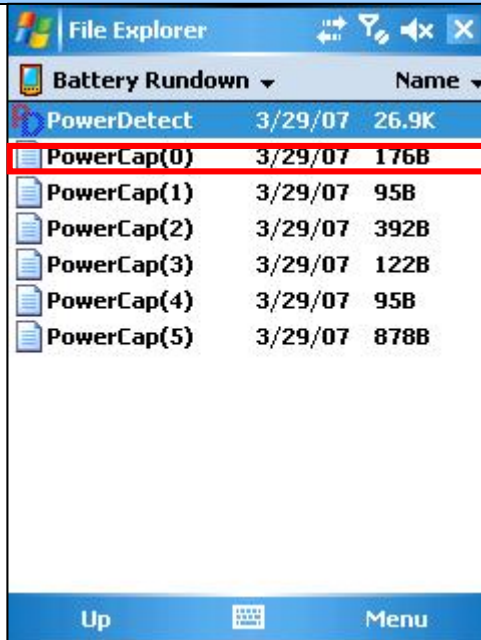
- XI. After running 1 hour, the test will be finished.
- XII. Press the Power Button to turn on the power.
- XIII. Click ok to quit the program.



Time	Cap	Volt	Count	Timer
00:50:07	90%	4.040	26	00:07
00:52:07	90%	4.043	27	00:00:00
00:54:07	90%	4.040	28	
00:56:07	90%	4.037	29	
00:58:08	90%	4.035	30	

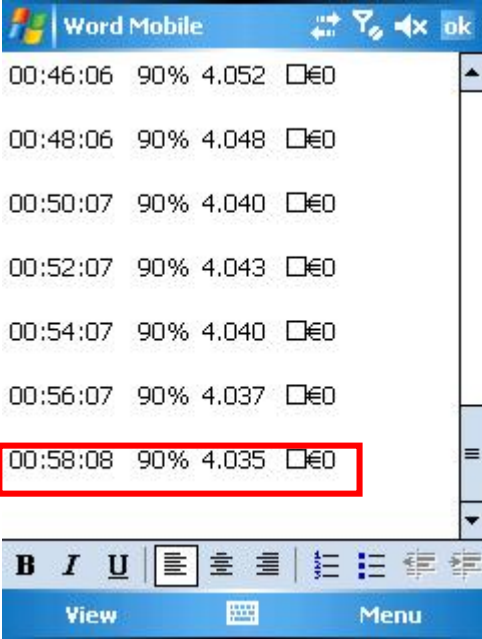
Battery Rundown-5

- XIV. Test result is generated into the log file as **PowerCap(x)**.



Name	Date	Size
PowerDetect	3/29/07	26.9K
PowerCap(0)	3/29/07	176B
PowerCap(1)	3/29/07	95B
PowerCap(2)	3/29/07	392B
PowerCap(3)	3/29/07	122B
PowerCap(4)	3/29/07	95B
PowerCap(5)	3/29/07	878B

Battery Rundown-6

XV. Tag the log file to check the capacity.	
---	---

Caution: If the capacity is under **70%**,
 Please replace a new battery.

6. Cosmetic Inspection Criteria

6.1 Classes definition of inspective area

- Class A area => The front side of main unit involve all buttons except LCD.
- Class C area => 4 sides and back views of main unit include power key, volume key and stylus.
- Class D area => Socket of battery, inner side of battery cover, Antenna and battery connector

Photo of inspection areas



CLASS C



CLASS D





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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.

Description

- **D:** Diameter / **L:** Length / **W:** Width / **N:** Number of defects/ **S:** Distance from dot to dot
- Inspecting distance: 30 ± 5cm / Mechanical inspection angle : 90 degrees /
- LCM inspection angle : 90±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.

6.2 Display inspection

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



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6.3 Main unit inspection

Cosmetic inspection generic spec.:

1. Exposure of substratum is not acceptable for peeling. (Area 4 is included) If not exposure of substratum, please check by SPEC of dot or scratch. (Area 4 is not included)
2. Logo may not have blurred or double print., the peeling on logo is not acceptable.
3. The character printing of main unit does not allow bad printing, scratch, dirty, lacquered peeling, dark/white dot on it)
- 4 .Camera Lens: Contamination dot / foreign matter
 $D \leq 0.25\text{mm}$, $S \geq 3\text{mm}$; Lint: $L \leq 1.5\text{mm}$, $W \leq 0.2\text{mm}$.
5. Accessories include Cradle; please follow Class B for inspection.
6. Main unit cosmetic inspection criteria of class D, please follow dummy class C for inspection criteria.

GAP & STEP INSPECTIONS

Description	Accept criteria	Level
Status of main unit assembly	Defective assembly and deformed shape were not allowed	Minor
Gap between each key and ME parts	Can't stuck up or no click feeling, It couldn't allow stuck up at pressing process	Minor
Gap between all generic ME parts	Gap between all generic ME parts < 0.3 mm	Minor
Gap between Touch Window and A parts	Gap between Touch Window and A parts < 0.35 mm	Minor
Stylus	Stylus assembly protruding, loose, missing, falling and deformed are not allowed	Minor
Step between mating parts	Step between all generic ME parts < 0.2 mm. Reverse step do not accept	Minor

The inspective point of D area:

1. Any marks generated by scratching, grinding or colliding are acceptable except base material exposed
2. Not allow battery connector deform. The hook of battery cover also can't allow broken and deform



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COSMETIC INSPECTION:

Scratch

Description	Accept criteria	
Class A	Exposure of substrate do not accept Scratch : $L \leq 4\text{mm}$, $W \leq 0.2\text{mm}$, $N \leq 2$, $S \geq 10\text{mm}$	MI
Class C	Label area don't care Exposure of substrate do not accept Scratch : $L \leq 10\text{mm}$, $W \leq 0.4\text{mm}$, $N \leq 5$, $S \geq 5\text{mm}$	MI

Contamination dot/Granule dot/Cave granule

Description	Accept criteria	
Class A	$D \leq 0.5\text{mm}$, $N \leq 2$, $S \geq 15\text{mm}$ Ignored if $D \leq 0.15\text{mm}$	MI
Class C	$D < 0.9\text{mm}$, $N \leq 4$, $S \geq 10\text{mm}$	MI

Burr....etc.

Description	Accept criteria	
Burr.	Don't accept hand scrape	MI

Imprint mark

Description	Accept criteria	
Class A	$0.25 \leq \text{diameter} \leq 0.65\text{mm}$, $N \leq 3$	MI

Bright mark

Description	Accept criteria	
Class A	$L \leq 2.5\text{mm}$, $W \leq 0.25\text{mm}$, $N \leq 3$	MI

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Class C

$L \leq 3.0\text{mm}, W \leq 0.3\text{mm}, N \leq 5$

MI

Lint

Description	Accept criteria	
Class A	$L \leq 3\text{mm}, W \leq 0.2\text{mm}, N \leq 2, S \geq 5\text{mm}$	MI
Class C	$L \leq 10\text{mm}, W \leq 0.3\text{mm}, N \leq 3$	MI



This definition is not applicable to LCM.



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7. Generic Troubleshooting

1 · Main Unit Does Not Respond to Power Button

- (1) Connect the AC adapter, maybe the battery pack is exhaust and wait few minutes for battery recharging.
- (2) Check if battery installed well.
- (3) Check the Power Button whether it's damaged.
- (4) Replace another battery pack.
- (5) Try to start boot-loader mode [refer to section 4.2]. Re-flash ROM if boot loader mode is enabled.
- (6) Check all connectors including LCD FPC to Main Board.
- (7) Replace Main Board if necessary.
- (8) Once the defective part has been identified, verify the defective part again whether the symptom could be duplicated with another unit.

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 perform screen tap 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 the defective part again whether the symptom could be duplicated with another unit.

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 the defective part again whether the symptom could be duplicated with another unit.



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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 · CF/SD Card cannot be used

- (1) Check whether CF/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 CF/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.



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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.



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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 the defective part again whether the symptom could be duplicated with another unit.



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13 · Wireless connection (WLAN/BT) not functioning

- (1) Make sure the wireless environment is OK before connecting to WLAN.
- (2) Make sure the wireless connection setting has 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 the defective part again whether the symptom could be duplicated with another unit.

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SM-TP001-0704

8. Generic Labeling Plan

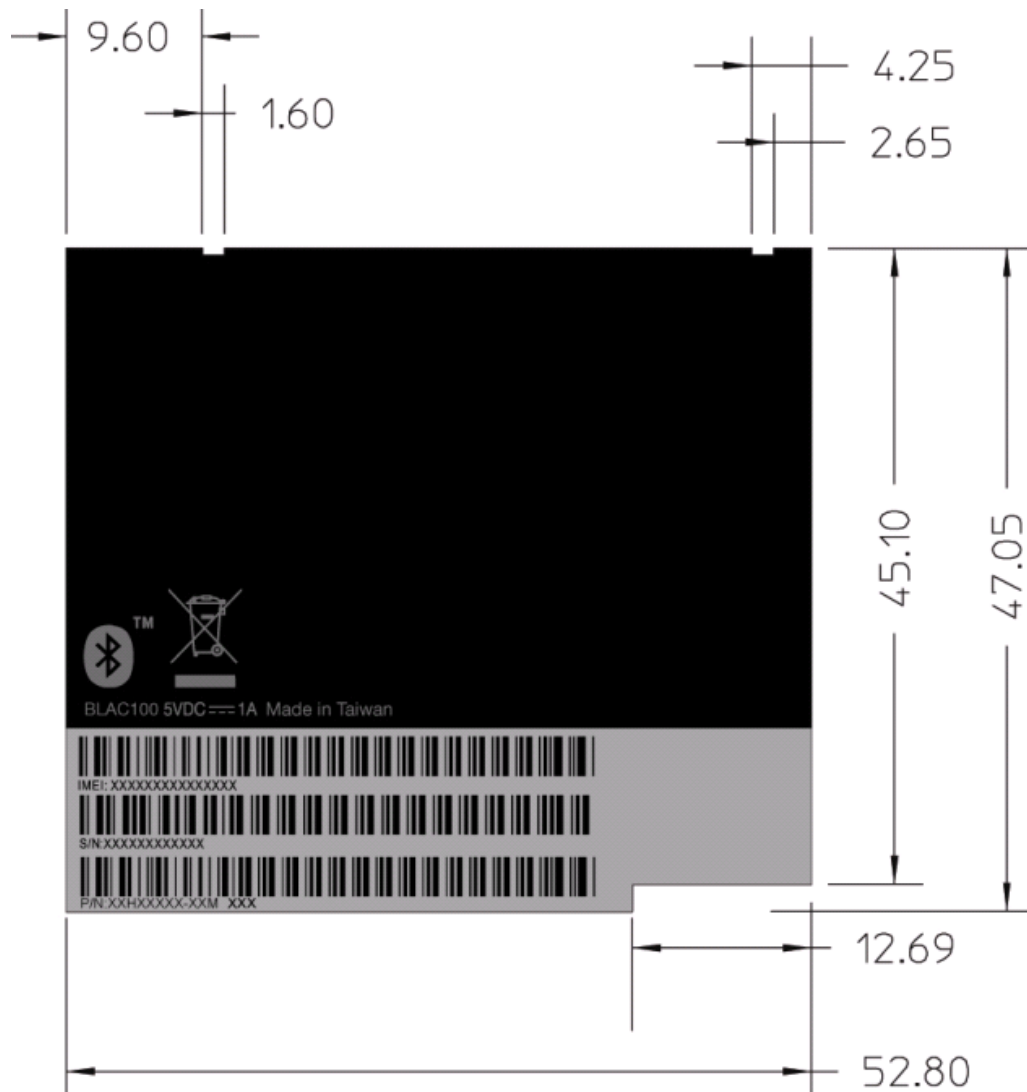
■ Main unit

■ Agency label *BLAC100*

The brand name is shown on bezel

HTC P/N: 77H00691-00M

Size: 47.05X 52.8mm

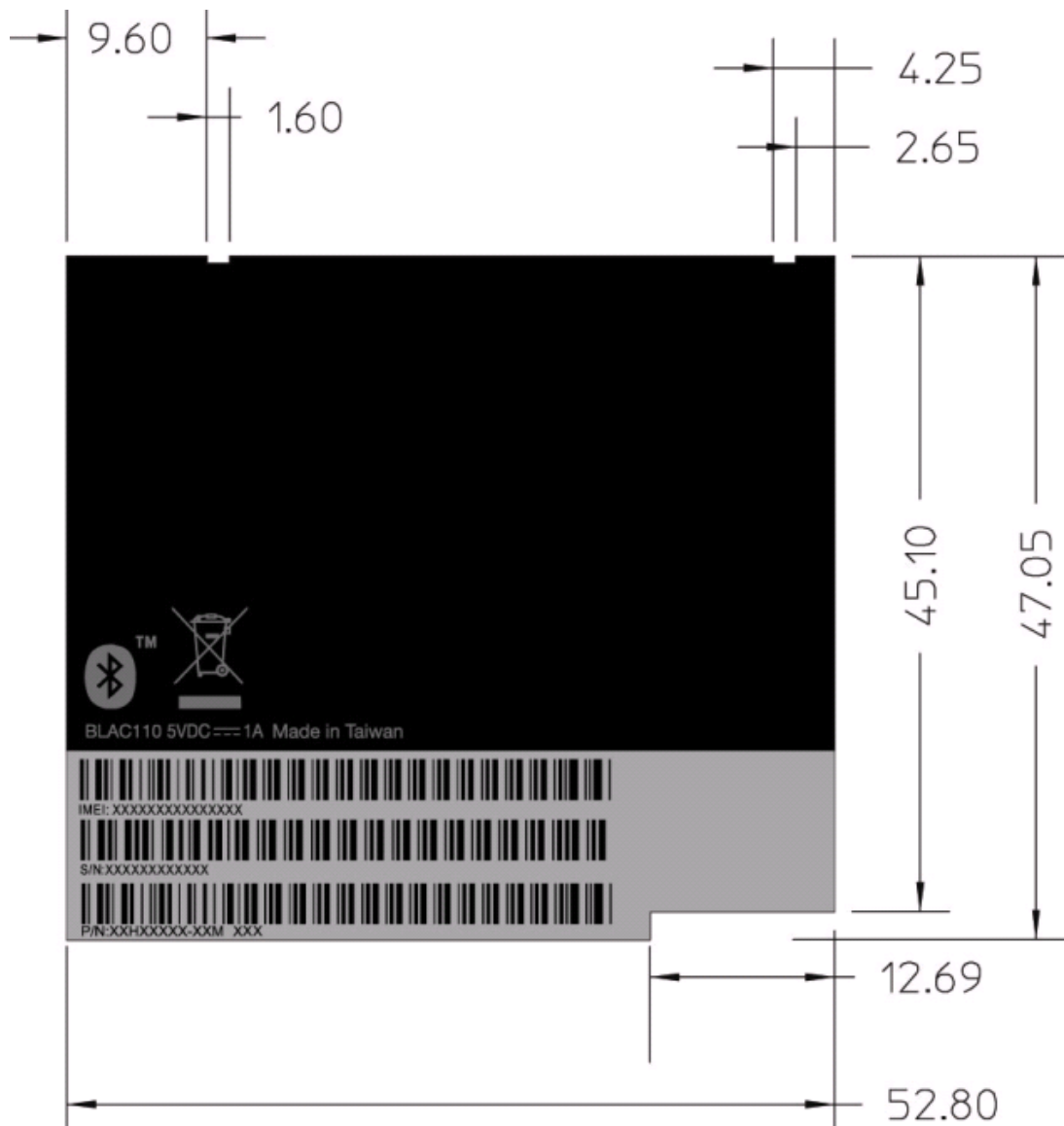


■ **Agency label_BLAC110**

The brand name is shown on bezel

HTC P/N: 77H00691-02M

Size: 47.05X 52.8mm

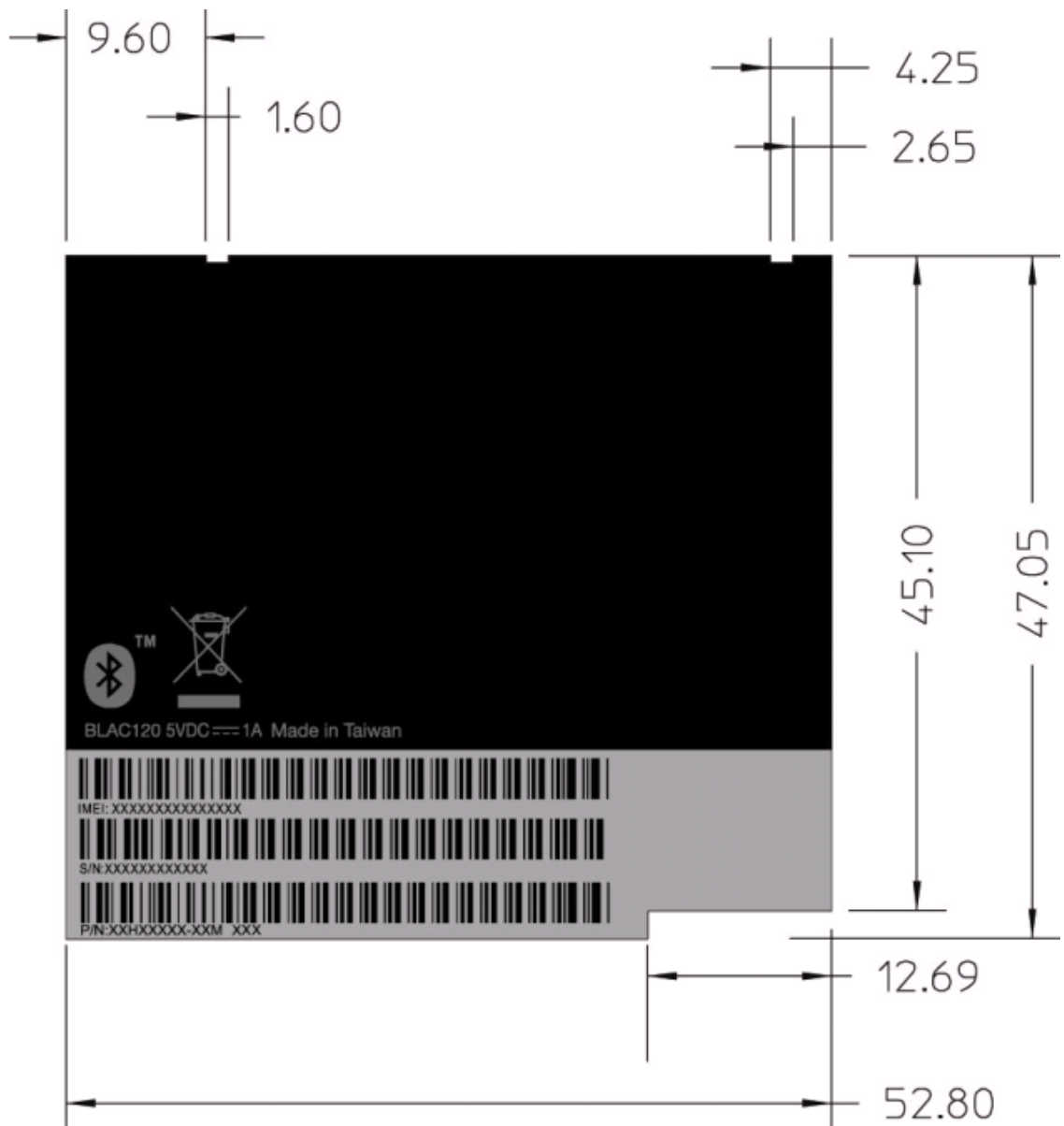


■ **Agency label_BLAC120**

The brand name is shown on bezel

HTC P/N: 77H00691-01M

Size: 47.05X 52.8mm



■ **Water sensitive label**

HTC P/N: 77H00673-00M

Qty: 1

■ **Tamper evident label**

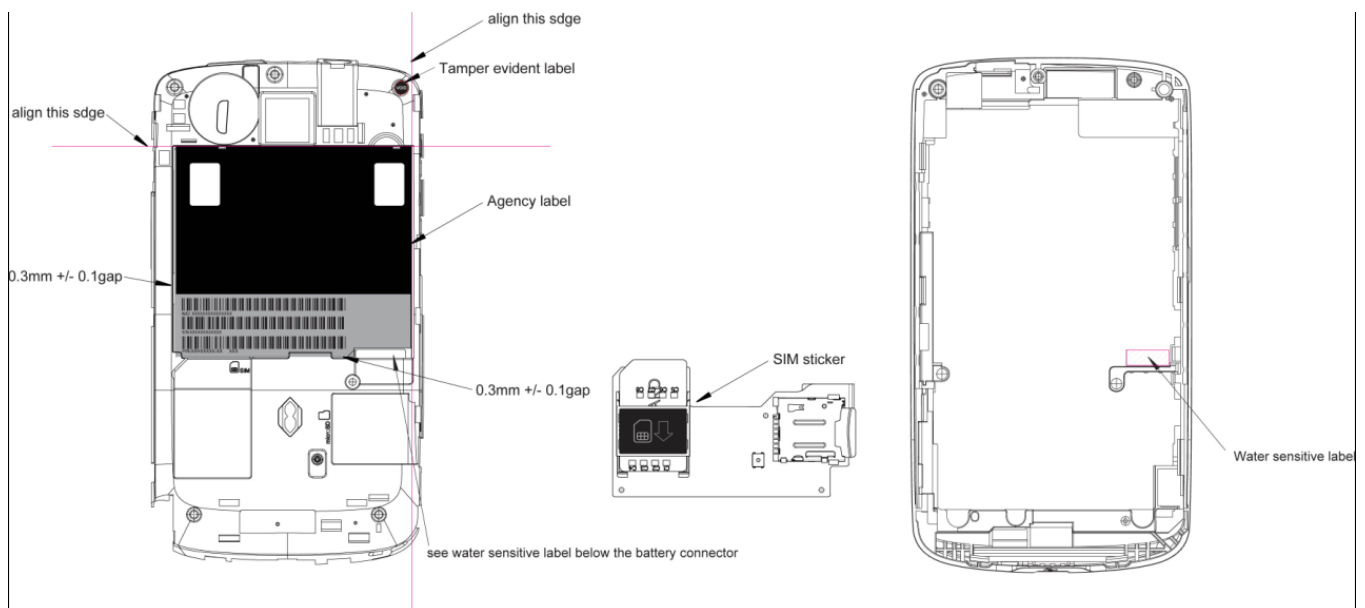
HTC P/N: 77H00460-01M

Qty: 1

■ **SIM sticker**

HTC P/N: 77H00732-00M

Qty: 1





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9. Generic Spare Part List and Photos

9.1 SPL for Repair

NO	P/N	Description	Qty
1	77H00460-01M	Tamper-Evident Label,VOID wording,black background,3*3mm,MING JYE	1
2	77H00691-00M	Regulation Label,BLAC100,CHENG MAY,52.8*47.05mm,Blackstone	1
3	35H00120-01M	BATTERY_LI-POLYMER,1350mAh,3.7V,WELLDONE,US555143A9H,SONY,53*47*6.2mm,60/-20degC	1
4	36H00666-00M	Speaker,MP-150015BAKDIC,Polaris	1
5	36H00746-00M	Receiver,MPR061501DH,KDIC	1
6	36H00754-00M	Vibrator,A4A-05-WBS-4,C.I.KASEI,3V,80mA,11000+/-2500rpm,14mm wire,60/-10degC,12.85*5.3*5.3mm	1
7	51H40487-XXM	PCBA-MAIN BOARD with SKU_ID,UMTS 900/2100,Avago,Blackstone	1
8	54H00295-00M	Camera Module,FOXCONN,CMHT-5AM00D,MI-5130 + Largan9440,AF,Largan,Largan,5Mpixel,Micron,19.74*15.98*7.75mm	1
9	72H01266-00M	Screw,FPH,M1.4-0.3xL2.5(2.55,0.3)+Ny	2
10	72H02257-00M	Screw,FPH,M1.4-0.3x3(2.7,0.3),CR3-BI-Ny	6
11	72H02916-00M	Screw,FPHM1.4*L4.0(2.45,0.3),BLACK,Hermann	1
12	72H02980-00M	EMI Gasket,15*15*0.12mm,Blackstone	1
13	72H02982-00M	Conductive Fabric,JORJIN,10*7.5*0.12mm,Blackstone	1
14	73H00299-00M	Cable,W.FL2-2LP-04K2-AC-(70.5),HIROSE	2
15	73H20197-XXM	FPC Pre-Assy,SIM and Mirco SD,AFLEX,Blackstone	1
16	76H03018-00M	Rubber,Mic,Blackstone	1
17	76H03121-00M	Rubber,Speaker,Silicon,Blackstone	1
18	76H03175-00M	Mylar,AudioJack,Blackstone	1
19	76H03176-00M	Mylar,VibratorSide,Blackstone	1
20	76H03177-00M	Mylar,MainPCB,Blackstone	1
21	76H03216-00M	Insulator,Kepton,upperPCB,Blackstone	2
22	76H03224-00M	Mylar,Kepton_power_button,plastic,10*4.5*0.06mm,Blackstone	1
23	77H00673-00M	Water Sensitive Label,3.5*9.5mm,MING JYE,ATLANTIS	1
24	71H02605-00M	Cover,antenna,blackstone	1
25	71H02606-00M	Keypad,PowerKey,Blackstone	1
26	74H01313-03M	Cover Pre-Assy,ORANGE,C-battery-cover,Blackstone-A2	1
27	74H01316-00M	Stylus Pre-Assy,Blackstone	1
28	74H01322-00M	Housing Pre-Assy,Blackstone	1
29	80H00768-XX	Rigid-Flex Board W/ 2nd Camera+Sponge & Volume button	1
30	80H00782-XX	LCM w/ Touch window & Bezel	1
31	77H00732-00M	SIM sticker	1


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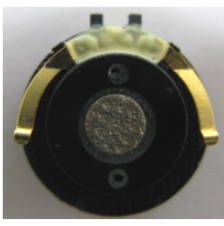
Picture for SPL 80H Kernel and Accessories

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


<table border="1"> <tr><td>Part No.</td><td>51H40487-XXM</td></tr> <tr><td>Description</td><td>MAIN BOARD</td></tr> <tr><td>Q'ty</td><td>1</td></tr> <tr><td>Repair Code</td><td>M101</td></tr> <tr><td>Refurbishment</td><td>NO</td></tr> <tr><td>Return To HTC</td><td>YES</td></tr> </table> 	Part No.	51H40487-XXM	Description	MAIN BOARD	Q'ty	1	Repair Code	M101	Refurbishment	NO	Return To HTC	YES	<table border="1"> <tr><td>Part No.</td><td>80H00768-XX</td></tr> <tr><td>Description</td><td>Rigid-Flex Board W/ 2nd Camera+Sponge & Volume button</td></tr> <tr><td>Q'ty</td><td>1</td></tr> <tr><td>Repair Code</td><td>M201.2</td></tr> <tr><td>Refurbishment</td><td>NO</td></tr> <tr><td>Return To HTC</td><td>NO</td></tr> </table> 	Part No.	80H00768-XX	Description	Rigid-Flex Board W/ 2nd Camera+Sponge & Volume button	Q'ty	1	Repair Code	M201.2	Refurbishment	NO	Return To HTC	NO
Part No.	51H40487-XXM																								
Description	MAIN BOARD																								
Q'ty	1																								
Repair Code	M101																								
Refurbishment	NO																								
Return To HTC	YES																								
Part No.	80H00768-XX																								
Description	Rigid-Flex Board W/ 2nd Camera+Sponge & Volume button																								
Q'ty	1																								
Repair Code	M201.2																								
Refurbishment	NO																								
Return To HTC	NO																								
<table border="1"> <tr><td>Part No.</td><td>73H20197-XXM</td></tr> <tr><td>Description</td><td>FPC Pre-Assy,SIM and Mirco SD</td></tr> <tr><td>Q'ty</td><td>1</td></tr> <tr><td>Repair Code</td><td>C122.3</td></tr> <tr><td>Refurbishment</td><td>NO</td></tr> <tr><td>Return To HTC</td><td>NO</td></tr> </table> 	Part No.	73H20197-XXM	Description	FPC Pre-Assy,SIM and Mirco SD	Q'ty	1	Repair Code	C122.3	Refurbishment	NO	Return To HTC	NO	<table border="1"> <tr><td>Part No.</td><td>80H00782-XX</td></tr> <tr><td>Description</td><td>LCM w/ Touch window & Bezel</td></tr> <tr><td>Q'ty</td><td>1</td></tr> <tr><td>Repair Code</td><td>L101.2</td></tr> <tr><td>Refurbishment</td><td>YES</td></tr> <tr><td>Return To HTC</td><td>YES</td></tr> </table> 	Part No.	80H00782-XX	Description	LCM w/ Touch window & Bezel	Q'ty	1	Repair Code	L101.2	Refurbishment	YES	Return To HTC	YES
Part No.	73H20197-XXM																								
Description	FPC Pre-Assy,SIM and Mirco SD																								
Q'ty	1																								
Repair Code	C122.3																								
Refurbishment	NO																								
Return To HTC	NO																								
Part No.	80H00782-XX																								
Description	LCM w/ Touch window & Bezel																								
Q'ty	1																								
Repair Code	L101.2																								
Refurbishment	YES																								
Return To HTC	YES																								
<table border="1"> <tr><td>Part No.</td><td>54H00295-00M</td></tr> <tr><td>Description</td><td>Main Camera</td></tr> <tr><td>Q'ty</td><td>1</td></tr> <tr><td>Repair Code</td><td>G117</td></tr> <tr><td>Refurbishment</td><td>NO</td></tr> <tr><td>Return To HTC</td><td>NO</td></tr> </table> 	Part No.	54H00295-00M	Description	Main Camera	Q'ty	1	Repair Code	G117	Refurbishment	NO	Return To HTC	NO	<table border="1"> <tr><td>Part No.</td><td>35H00120-XXM</td></tr> <tr><td>Description</td><td>Battery</td></tr> <tr><td>Q'ty</td><td>1</td></tr> <tr><td>Repair Code</td><td>B101</td></tr> <tr><td>Refurbishment</td><td>NO</td></tr> <tr><td>Return To HTC</td><td>YES</td></tr> </table> 	Part No.	35H00120-XXM	Description	Battery	Q'ty	1	Repair Code	B101	Refurbishment	NO	Return To HTC	YES
Part No.	54H00295-00M																								
Description	Main Camera																								
Q'ty	1																								
Repair Code	G117																								
Refurbishment	NO																								
Return To HTC	NO																								
Part No.	35H00120-XXM																								
Description	Battery																								
Q'ty	1																								
Repair Code	B101																								
Refurbishment	NO																								
Return To HTC	YES																								
<table border="1"> <tr><td>Part No.</td><td>71H02606-00M</td></tr> <tr><td>Description</td><td>Power Key</td></tr> <tr><td>Q'ty</td><td>1</td></tr> <tr><td>Repair Code</td><td>C106</td></tr> <tr><td>Refurbishment</td><td>YES</td></tr> <tr><td>Return To HTC</td><td>NO</td></tr> </table> 	Part No.	71H02606-00M	Description	Power Key	Q'ty	1	Repair Code	C106	Refurbishment	YES	Return To HTC	NO	<table border="1"> <tr><td>Part No.</td><td>74H01322-00M</td></tr> <tr><td>Description</td><td>Housing</td></tr> <tr><td>Q'ty</td><td>1</td></tr> <tr><td>Repair Code</td><td>C102</td></tr> <tr><td>Refurbishment</td><td>YES</td></tr> <tr><td>Return To HTC</td><td>NO</td></tr> </table> 	Part No.	74H01322-00M	Description	Housing	Q'ty	1	Repair Code	C102	Refurbishment	YES	Return To HTC	NO
Part No.	71H02606-00M																								
Description	Power Key																								
Q'ty	1																								
Repair Code	C106																								
Refurbishment	YES																								
Return To HTC	NO																								
Part No.	74H01322-00M																								
Description	Housing																								
Q'ty	1																								
Repair Code	C102																								
Refurbishment	YES																								
Return To HTC	NO																								
<table border="1"> <tr><td>Part No.</td><td>36H00746-00M</td></tr> <tr><td>Description</td><td>Receiver</td></tr> <tr><td>Q'ty</td><td>1</td></tr> <tr><td>Repair Code</td><td>G103.1;</td></tr> <tr><td>Refurbishment</td><td>NO</td></tr> <tr><td>Return To HTC</td><td>NO</td></tr> </table> 	Part No.	36H00746-00M	Description	Receiver	Q'ty	1	Repair Code	G103.1;	Refurbishment	NO	Return To HTC	NO	<table border="1"> <tr><td>Part No.</td><td>36H00754-00M</td></tr> <tr><td>Description</td><td>Vibrator</td></tr> <tr><td>Q'ty</td><td>1</td></tr> <tr><td>Repair Code</td><td>G105;</td></tr> <tr><td>Refurbishment</td><td>NO</td></tr> <tr><td>Return To HTC</td><td>NO</td></tr> </table> 	Part No.	36H00754-00M	Description	Vibrator	Q'ty	1	Repair Code	G105;	Refurbishment	NO	Return To HTC	NO
Part No.	36H00746-00M																								
Description	Receiver																								
Q'ty	1																								
Repair Code	G103.1;																								
Refurbishment	NO																								
Return To HTC	NO																								
Part No.	36H00754-00M																								
Description	Vibrator																								
Q'ty	1																								
Repair Code	G105;																								
Refurbishment	NO																								
Return To HTC	NO																								


Part No.	74H01313-0XXM	
Description	Battery Cover	
Q'ty	1	
Repair Code	C112	
Refurbishment	YES	
Return To HTC	NO	

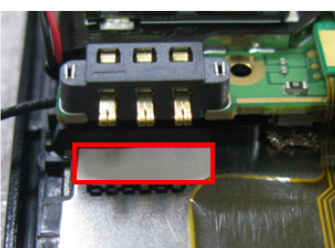
Part No.	71H02605-00M	
Description	Antenna cover	
Q'ty	1	
Repair Code	G114.1	
Refurbishment	YES	
Return To HTC	NO	


Part No.	36H00666-00M	
Description	Speaker	
Q'ty	1	
Repair Code	G103;	
Refurbishment	NO	
Return To HTC	NO	

Part No.	74H01316-00M	
Description	Stylus	
Q'ty	1	
Repair Code	G102	
Refurbishment	NO	
Return To HTC	NO	

Part No.	76H03018-00M	
Description	Mic. Rubber	
Q'ty	1	
Repair Code	G114.2	
Refurbishment	NO	
Return To HTC	NO	

Part No.	76H03121-00M	
Description	Speaker Rubber	
Q'ty	1	
Repair Code	G114.2	
Refurbishment	NO	
Return To HTC	NO	

Part No.	77H00673-00M	
Description	Water Sensitive Label	
Q'ty	1	
Repair Code	O12.1	
Refurbishment	NO	
Return To HTC	NO	

Part No.	73H00299-00M	
Description	Coaxial Cable	
Q'ty	2	
Repair Code	B108	
Refurbishment	NO	
Return To HTC	NO	

Part No.	72H01266-00M	
Description	Screw(M1.4-0.3xL2.5)	
Q'ty	2	
Repair Code	O05	
Refurbishment	NO	
Return To HTC	NO	

Part No.	72H02257-00M	
Description	Screw(M1.4-0.3x3)	
Q'ty	6	
Repair Code	O05	
Refurbishment	NO	
Return To HTC	NO	

<table border="1"> <tr><td>Part No.</td><td>72H02916-00M</td></tr> <tr><td>Description</td><td>Screw(M1.4*L4.0)</td></tr> <tr><td>Q'ty</td><td>1</td></tr> <tr><td>Repair Code</td><td>O05</td></tr> <tr><td>Refurbishment</td><td>NO</td></tr> <tr><td>Return To HTC</td><td>NO</td></tr> </table>	Part No.	72H02916-00M	Description	Screw(M1.4*L4.0)	Q'ty	1	Repair Code	O05	Refurbishment	NO	Return To HTC	NO		<table border="1"> <tr><td>Part No.</td><td>72H02980-00M</td></tr> <tr><td>Description</td><td>EMI Gasket (15*15*0.12mm)</td></tr> <tr><td>Q'ty</td><td>1</td></tr> <tr><td>Repair Code</td><td>N/A</td></tr> <tr><td>Refurbishment</td><td>NO</td></tr> <tr><td>Return To HTC</td><td>NO</td></tr> </table>	Part No.	72H02980-00M	Description	EMI Gasket (15*15*0.12mm)	Q'ty	1	Repair Code	N/A	Refurbishment	NO	Return To HTC	NO	
Part No.	72H02916-00M																										
Description	Screw(M1.4*L4.0)																										
Q'ty	1																										
Repair Code	O05																										
Refurbishment	NO																										
Return To HTC	NO																										
Part No.	72H02980-00M																										
Description	EMI Gasket (15*15*0.12mm)																										
Q'ty	1																										
Repair Code	N/A																										
Refurbishment	NO																										
Return To HTC	NO																										
<table border="1"> <tr><td>Part No.</td><td>72H02982-00M</td></tr> <tr><td>Description</td><td>Conductive Fabric</td></tr> <tr><td>Q'ty</td><td>1</td></tr> <tr><td>Repair Code</td><td>N/A</td></tr> <tr><td>Refurbishment</td><td>NO</td></tr> <tr><td>Return To HTC</td><td>NO</td></tr> </table>	Part No.	72H02982-00M	Description	Conductive Fabric	Q'ty	1	Repair Code	N/A	Refurbishment	NO	Return To HTC	NO		<table border="1"> <tr><td>Part No.</td><td>76H03175-00M</td></tr> <tr><td>Description</td><td>Mylar,AudioJack</td></tr> <tr><td>Q'ty</td><td>1</td></tr> <tr><td>Repair Code</td><td>N/A</td></tr> <tr><td>Refurbishment</td><td>NO</td></tr> <tr><td>Return To HTC</td><td>NO</td></tr> </table>	Part No.	76H03175-00M	Description	Mylar,AudioJack	Q'ty	1	Repair Code	N/A	Refurbishment	NO	Return To HTC	NO	
Part No.	72H02982-00M																										
Description	Conductive Fabric																										
Q'ty	1																										
Repair Code	N/A																										
Refurbishment	NO																										
Return To HTC	NO																										
Part No.	76H03175-00M																										
Description	Mylar,AudioJack																										
Q'ty	1																										
Repair Code	N/A																										
Refurbishment	NO																										
Return To HTC	NO																										
<table border="1"> <tr><td>Part No.</td><td>76H03176-00M</td></tr> <tr><td>Description</td><td>Mylar,VibratorSide</td></tr> <tr><td>Q'ty</td><td>1</td></tr> <tr><td>Repair Code</td><td>N/A</td></tr> <tr><td>Refurbishment</td><td>NO</td></tr> <tr><td>Return To HTC</td><td>NO</td></tr> </table>	Part No.	76H03176-00M	Description	Mylar,VibratorSide	Q'ty	1	Repair Code	N/A	Refurbishment	NO	Return To HTC	NO		<table border="1"> <tr><td>Part No.</td><td>76H03177-00M</td></tr> <tr><td>Description</td><td>Mylar,MainPCB</td></tr> <tr><td>Q'ty</td><td>1</td></tr> <tr><td>Repair Code</td><td>N/A</td></tr> <tr><td>Refurbishment</td><td>NO</td></tr> <tr><td>Return To HTC</td><td>NO</td></tr> </table>	Part No.	76H03177-00M	Description	Mylar,MainPCB	Q'ty	1	Repair Code	N/A	Refurbishment	NO	Return To HTC	NO	
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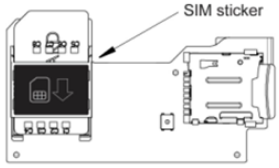
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Part No.	77H00460-01M		Part No.	77H00732-00M	
Description	Tamper-Evident Label		Description	SIM sticker	
Q'ty	1		Q'ty	1	
Repair Code	N/A		Repair Code	N/A	
Refurbishment	NO		Refurbishment	NO	
Return To HTC	NO		Return To HTC	NO	

NOTE:

THE PHOTO OF SPL IS GENERIC AND FOR REFERENCE ONLY, THE COLOR AND THE APPEARANCE MAY BE DIFFERENT FROM THE SHIPPED PARTS, IF YOU WANT TO APPLY THOSE PARTS, PLEASE CONTACT YOUR SERVICE ACCOUNT MANAGER FOR MORE INFORMATION.

AS FOR PICTURE, PLEASE REFER TO THE TABLE AS BELOW.

9.2 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 the components damaged

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

Step 3 Wait till the temperature cool down before removing the solder-proof tape to avoid other components being removed

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

Notice:

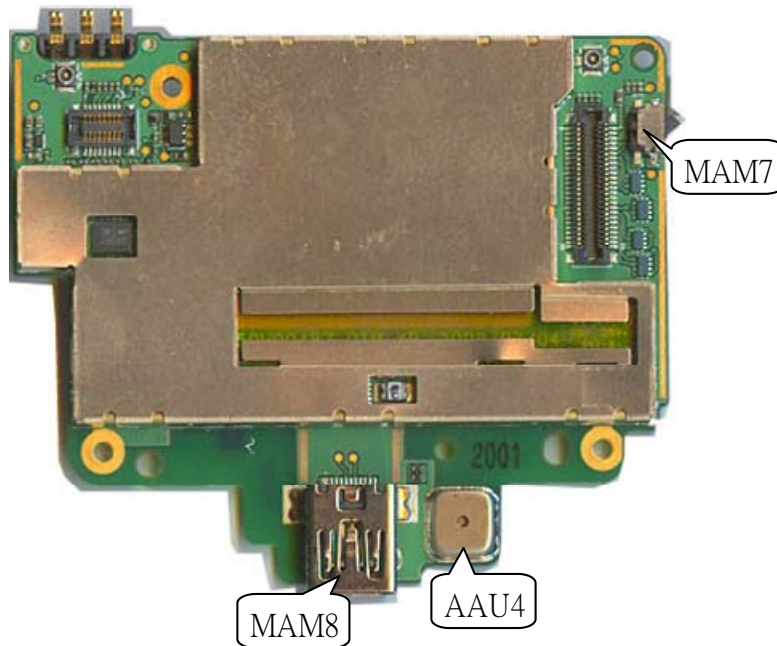
- A. Check the polarity and the position of the components, it can't be shifted, reversed or lifted.
- B. All the parts of the PCB should be checked if it is missing or not.
- C. The OP must to wear antistatic wrist strap .Don't put boards together and avoid hitting them.
- D. When you solder and repair that the soldering iron temperature must be setup 415°C. (The temperature range is 415°C ±5°C),and the solder wire's diameter is 0.4/0.5/0.6mm(SAC 305 (1.1%))
- E. Please be noticed to follow below steps for main board repair which is equipped with **Golden**

Capacitor:

1. When replacing level 2.5 components located around the golden capacitor:
 - I. The temperature of the hot air blower must be under 400°C
 - II. When apply the hot air to the part / component, the heating time must be under 20 seconds (including the time of removing and soldering)
 - III. The temperature of the soldering iron must be under 350°C
 - IV. When apply the solder tip to the part / component, the heating time must be under 5 seconds
 - V. The solder tip must not contact with the golden capacitor
2. For BGA replacement: The golden capacitor must be removed before perform pre-heating, heating, soldering and de-soldering process, and then it must be replaced with a new one (please refer to 1.c. and 1.d. steps)
3. For main board which failed to pass the function test, the golden capacitor must be replaced with a new one and must follow below soldering criteria: The temperature of the soldering iron must be under 350°C When apply the solder tip to the part / component, the heating time must be under 5 seconds The solder tip must not have a contact with the body of golden capacitor

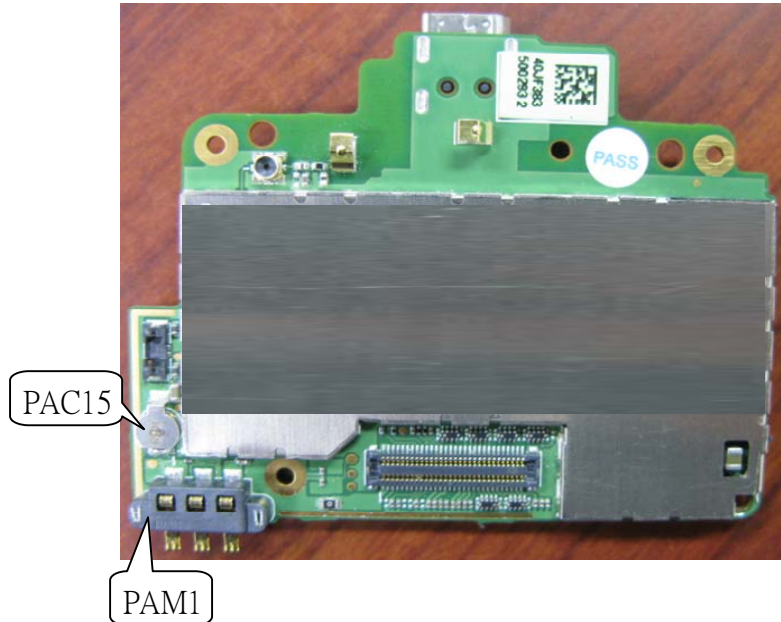
➤ **MAIN BOARD (51H40487-XXM)**

TOP SIDE



Location	Number	Description	Remark
MAM7	36H00678-00M	Switch,DT-24M,ROKI	Light switch
AAU4	36H00741-00M	Microphone,OSNF213-30C,KDIC	Microphone
MAM8	75H00837-00M	Connector I/O,11P,0.45Pitch,MJE2A-11K7P20,ACON	USB connector

BOTTOM SIDE



Location	Number	Description	Remark
PAC15	16H00019-00M	Gold Cap,0.02F,300ohm,SEIKO,XH311HGII45E,60/ -20degC,30%,3.3V,5.8*3.8*1.45mm	Gold Cap
PAM1	75H00786-00M	Connector Device(Battery conn),3P,2.5pitch,250089MB003G400ZL,SUYI N,0.5A,5V,50mohm,DREAM	Battery connector



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10. RF Antenna Specification

● Embedded Tri-band Antenna (GSM) Specification

EIRP

Condition	Channel		
GSM900	975	42	124
PL 5	≥ 28 dBm	≥ 28 dBm	≥ 28 dBm
DCS1800	512	698	885
PL 0	≥ 27 dBm	≥ 27 dBm	≥ 27 dBm
PCS1900	512	661	810
PL 0	≥ 25 dBm	≥ 25 dBm	≥ 25 dBm

EIS (The specification of the BER test is $\leq 2\%$)

Condition	Channel		
GSM900	975	42	124
Cell Power	≤ -104 dBm	≤ -104 dBm	≤ -104 dBm
DCS1800	512	698	885
Cell Power	≤ -104 dBm	≤ -104 dBm	≤ -104 dBm
PCS1900	512	661	810
Cell Power	≤ -104 dBm	≤ -104 dBm	≤ -104 dBm



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- [Embedded Dual-band Antenna \(UMTS\) Specification](#)

EIRP

Condition	Channel		
UMTS900	2712/2937	2787/3012	2863/3088
	≥ 18 dBm	≥ 18 dBm	≥ 18 dBm
UMTS2100	9613/10563	9750/10700	9887/10837
	≥ 18 dBm	≥ 18 dBm	≥ 18 dBm

EIS (The specification of the BER test is **≤ 2 %**)

Condition	Channel		
UMTS900	2712/2937	2787/3012	2863/3088
	≤ -104 dBm	≤ -104 dBm	≤ -104 dBm
UMTS2100	9613/10563	9750/10700	9887/10837
	≤ -104 dBm	≤ -104 dBm	≤ -104 dBm

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