



High Tech Computer, Corp.

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A02

Doc. Title

Kaiser Service Manual

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Kaiser

Service Manual



HTC Proprietary

Confidential Treatment Requested

Rev. A02

HTC Corp.

Engineering Mobility



High Tech Computer, Corp.

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REVISION CONTROL TABLE

REV	DATE	CONTENTS	DEPT	REVISED	STAGE
AX01	2007/06/07	Fist Draft	PSE	Justin_Hsu	CVT
A01	2007/08/31	<ol style="list-style-type: none"> 1. Modify product overview 2. include warranty and LDI label to label plan 3. Add RF spec 	PSE	Justin_Hsu	MV
A02	2007/11/26	<ol style="list-style-type: none"> 1. Add 2.3 Assembly Tips 2. Correct Screw P/N to 72H02293-00M in 9.1 SPL for repair 3. Add 5.1 Main board leakage current test procedure 	PSE	Steven_Liu	MV
A03	2008/2/1	<ol style="list-style-type: none"> 1. Add repair notice for Qwerty keypad assembly procedure in page 33 2. Add TOPPOLY LCD into assembly tips in page 38 3. Modify SPL note and photo for adding Refurbishment item 	PSE	Steven_Liu	MV



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1. Introduction

- This manual provides the technical information to support the service activities of Kaiser.
- 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-flash 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.



1.1 Product Features

Platform

- PDA form factor integrated dual modes WCDMA/HSDPA and quad-band GSM/EDGE, Bluetooth, WiFi, mega-pixel camera, and one stop sliding QWERTY keyboard with 45 degree flip up display
- Microsoft Windows 6 Professional

Dimension

- 112 mm(L) x 59 mm(W) x 18.65 / 19.55mm around antenna (T)
- 190 g with battery pack

Processor/Chipset

- Qualcomm MSM 7200, 400Mhz

Memory

- ROM: 256 MB (for programs and users' storage)
- RAM: 64 or 128 MB DDR RAM

LCD Module

- 2.8" QVGA (or VGA[TBD]) dots resolution
- 65K-color TFT LCD with LED back light
- Sensitive Touch Screen

WCDMA/HSDPA (available when ready)/GSM/EDGE Function

- Internal antenna
- Dual-mode, HSDPA/UMTS (2100MHz for Europe, 850/1900/2100MHz for Cingular and

800/1700/2100Mhz for Japan) and GSM/GPRS/EDGE quad band (850/900/1800/1900)

- HSDPA / UMTS
 - ◆ 3GPP Release 5 compliant
 - ◆ UE category 6, QPSK, 3.6Mbps peak rate
 - ◆ Concurrent: DL up to 1.8Mbps and UL up to 384Kbps
- Global roaming
- Auto band switching
- Handover and cell selection between GSM/EDGE and WCDMA
- DTM
- SAIC(Circuit-Switch only)
- Equalizer (HSDPA channels only)
- Audio codec: AMR, EFR, FR, HR
- SMS (MO, MT), concatenated SMS (640 characters)
- Supplement 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)



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- EGPRS Functionality
 - ◆ EGPRS class B
 - ◆ Multi-slot class 10
 - ◆ PBCCH
 - ◆ Link Adaptation and Incremental Redundancy
- USIM/SIM
 - ◆ 1.8/3V of UICC
 - ◆ USIM Application at least according to 3GPP TS31.102
 - ◆ SIM Application Tool Kit release 96 complete, 98 class 3, and 99 partial
 - ◆ Mega-SIM [MFG. Option]
 - ◆ EAP-SIM
 - ◆ Over the Air (OTA) programming
 - ◆ FDN
 - ◆ ADN
 - ◆ Security Pin 1 & 2 control

Standalone GPS / A-GPS

Standalone GPS

- Internal GPS antenna
- Support both standalone & assisted modes
- Sensitivity : better than -150dBm for indoor & outdoor
- Support NMEA 0183 version 3.0 or above
- Dynamically allocated parallel channel GPS receiver
- Update rate: once/1sec (default)

A-GPS

- E911 Location Information (for device shipped to US)
- Support UE-Based & UE-Assisted A-GPS
- OMA SUPL v1.0 compliance (v2.0 if available)

- ◆ SUPL-RRLP
- ◆ SUPL-RRC (TBD) [QCT not supported]
- ◆ SMS initiated SUPL (TBD) [QCT not supported]
- ◆ 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
 - ◆ TTF (95% successful rate): < 20 seconds
 - ◆ 2D Location Error (95% successful rate): < 100 m
 - ◆ 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
- Performance requirement (Standalone mode) [China Mobile Requirement]
 - ◆ 8 parallel channel GPS receiver [QCT limitation]
 - ◆ Data update frequency: > 1Khz
 - ◆ Sensitivity requirement
 - ✓ GPS for one satellite: up to -142dBm
 - ✓ GPS for remaining satellite: up to



-147dBm

Camera (manufacture option)

- Main camera:
 - ◆ 3M Color CMOS with AF
- 2nd camera: [MFG. Option]
 - ◆ color CMOS VGA camera

Keyboard/Button/Switch

- Power button (Upper Side)
 - ◆ Short Press: system on/off
 - ◆ Long Press: Turn off power totally
- Start Button
- OK button
- One navigation pad (5-way)
 - ◆ Key orientation shall be adjusted after view changed
- Send/Hands-free button
 - ◆ Long Press during the call: Hands-free On/Off
- End button
- Jog Wheel (including 2 portions)
 - ◆ Scrolling area – up/down scrolling and action functions
 - ◆ Bottom key – function as OK key
- Voice dial & Voice record Or PoC (Left upper position)
- Camera capture button
 - ◆ Two step camera button for 3M AF lens
- soft keys (Contact and Calendar)
- 2 AP buttons (Messaging and Portal or PIE)
- QWERTY keyboard with 2 additional soft keys
- Two LEDs for Cap Lock & FN Lock on QWERTY keyboard

- Reset

Notification

- One bi-color LED for UMTS/GSM standby, UMTS/GSM message, UMTS/GSM network status, notification, and charging status
- Tri-color respective (blue, amber, and green) LEDs for bluetooth/ GPS/ WiFi notification
- Vibration for notification
- Notification by sound and message on the display

Audio

- Built-in Microphone
- Receiver
- Loud speaker for Hands-Free supported
- Full duplex
- Audio sampling rate
 - ◆ 16-bits with 8KHz, 11KHz, 22KHz, 44.1KHz
- AMR/AAC/WAV/WMA/MP3 codec
- Audio Path Routing for VoIP over WLAN

Connectivity & Interface

- Bluetooth TI6300
 - ◆ Compliant with v2.0 with EDR
 - ◆ Class 2 transmit power
 - ◆ Supported profiles:
 - ✓ Generic Access profile
 - ✓ Serial Port profile
 - ✓ Headset profile
 - ✓ Object Push profile
 - ✓ PAN
 - ✓ Hands-free profile



- ✓ Generic Object Exchange profile
- ✓ A2DP profile
- ✓ AVRCP profile
- ✓ SIM Access profile (carrier dependent)
- ✓ Service Discovery profile
- ✓ HID profile
- ✓ FTP
- ✓ BPP
- ◆ Co-exist with WiFi
- WiFi (manufacture option)
 - ◆ IEEE 802.11b/g compliant
 - ◆ Internal WLAN antenna
 - ◆ Data rate auto fallback for extended range
 - ◆ ELP mode
 - ◆ Security 802.11i and AES
 - ✓ WPA authentication – WEP, WPA, PSK, EAPTLS, PEAP, LEAP
 - ✓ Signaling interfaces between the terminal device and the servers: mutually authenticated and encrypted utilizing TLS (RFC 2246) with RC4 encryption with SGA1 used as the message integrity check
 - ◆ QoS
 - ✓ 802.11 WME QoS
 - ✓ 802.11e
 - ✓ Fast AP to AP handover
 - ◆ or no WiFi SKU
- HTC ExtUSB 11-pin mini-USB
 - ◆ USB 2.0 Client with Full Speed (12Mbps)
 - ◆ H2W (For Sync, Power charge, Audio and Wired Remote Controller...etc)
- Micro SD with lid

- 1.8/3V USIM/SIM card slot

Power

- Battery
 - ◆ Charging time: 2.5~3 hours
- AC adaptor
 - ◆ AC input: 100 ~ 240V AC, 50/60 Hz
- DC output: 5V and 1A
- Ambient Light Sensor

Liquid Indicator

Stylus

- Retractable stylus with lock type mechanism

Hanger hole

- Stylish hanger to wear phone with neck strap as pendant or to attach various phone hangers

Accessories

- User manual, Quick start guide & Sync. Software CD
- Screen Protector
- Stylus
- 3-in-1 stylus
- Travel Charger (AC adaptor)
- Pouch (Carrying Case)
- USB Sync Cable (mini-USB/USB)
- Battery
- Wired Stereo Headset
- 3.5 mm Audio Adaptor
- 3.5 mm Audio Adaptor with microphone
- Wired Remote Controller
- Mono Bluetooth headset, M100
- Mono Bluetooth headset, M200



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- Stereo Bluetooth headset, S100
- Bluetooth keyboard
- Bluetooth Handsfree
- Y Cable 11-pin to 5 pin + 6 pin
- Y Cable 11-pin to 5 pin + 3.5 mm audio jack
- Car Charger
- Generic Car Holder

Microsoft Windows Mobile Crossbow 6

Professional Applications

- Outlook Mobile
 - ◆ Messaging, Calendar, Contacts, Tasks, & Voice Notes
- Internet Explorer Mobile
- Office Mobile
 - ◆ Word, Excel, & PowerPoint Mobile
- Windows Media Player 10 Mobile
- Pictures & Videos
- ActiveSync Client
- Internet Sharing
- Windows Live & Messenger
- Device Management
- OTA Provisioning
- RDM
- Calculator
- Games

Value Added Applications

- Camera / Camcorder
 - ◆ Camera Mode
 - ✓ Encoding format: JPEG
 - ✓ Resolution: 2048x1536,UXGA
1600x 1200, SXGA 1280x960, VGA
640x480, QVGA 320x240, QQVGA

- 160x120
- ✓ Night Mode
- ✓ Digital Zooming: at least 8X
- ◆ Camcorder Mode
 - ✓ 15 fps encoding for QVGA resolution
 - ✓ Encoding format
 - ✓ H.263 + AMR-NB
 - ✓ MPEG4 + AMR-NB

- Ringtone
 - ◆ MIDI
 - ✓ 40 polyphonic & Standard MIDI format 0 and 1 (SMF) / SP MIDI
 - ◆ MP3, AAC, AAC+, WMA, WAV and AMR-NB
- DirectShow Filters for WMP – Audio
 - ◆ Audio Playback format: AAC, AAC+, eAAC+, MP3, WMA, WAV, AMR-NB/WB
- DirectShow Filters for WMP – Video
 - ◆ Video Playback format: H.263, MPEG4, WMV, Motion JPEG (AVI) & H.264
 - ◆ Min. 30 fps decoding for H.263 & MPEG4 @ QVGA resolution
 - ◆ Combined Bit Rate: 64Kbps (playback)
- Picture Enhancement for Pictures & Videos
 - ◆ Graphics: JPEG, GIF87a, GIF89a, PNG, WBMP
 - ◆ Video Thumbnail Preview: H.263, & MPEG4
- 3G-324M Video Telephony
- ZIP
- Smart Dialing
 - ◆ Support of QWERTY Keyboard Input
- MMS Client
 - ◆ Partial Compliant to MMS 1.2
- Java virtual machine (J2ME, CLDC 1.1, MIDP 2.0)



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- ◆ JSR 185 JTWI
- ◆ JSR 75 PIM access
- ◆ JSR 120 Wireless Messaging API
- ◆ JSR 135 Mobile Media API
- ◆ JSR 179 (Location API)
- ◆ JSR 184 Mobile 3D Graphics API
- Voice Dial & Command
 - ◆ Speaker Dependent or Independent
- Document Viewer - PDF
- OMA DRM Engine: For all types of files (Pictures, audio, application etc.), and also all types of delivery method (MMS, email etc.)
 - ◆ OMA 1.0 / 2.0 when available
 - ◆ Multi-DRM support : MSFT & OMA DRM
- SIM Manager
- Comm. Manager
- STK
- TTY/TDD for US Market
- Sound Effect of Sliding
 - ◆ System sound effect when sliding out and closing up the qwerty keyboard
 - ◆ User customizable sounds
- Auto Power On when KB is slide out
- Audio Manager
 - ◆ Music Player

- Ringtone Trimmer
- GPS Navigation SW (if GPS or A-GPS is available)
- RSS / Podcast Reader
- Voice Recorder
- Task Manager
- Backup Tool
- Document Printing

Regulatory & Certificate

- GCF certification [Operator dependent]
- R&TTE: EMC / EMI, Safety SAR
- WiFi Certification
- FCC Approval
- FCC Hearing Aid Compatibility
- PTCRB Approval
- BQB (Bluetooth Qualification Body) certification
- Windows Mobile Logo (NTSL)
- USB certification
- JATE (Japan Market only)
- TELEC (Japan Market only)
- CB certificate / report
- UAELAB
- ICASA

1.2 Product overview

Front panel

Second Camera

Use this video camera for video call conversations.

Notification LEDs

* See description below.

Hardware Keyboard

See Chapter 2 for details.

Earpiece

Listen to a phone call from here.

Touch Screen

Left/Right SOFT KEYS

TALK

Press to answer an incoming call or dial a number.

START MENU

INTERNET EXPLORER

See Chapter 10 for details.

NAVIGATION Control/ENTER

Press this multi-directional control up, down, left, or right to move through menus and program instructions; carry out the selection by pressing the center button.

END

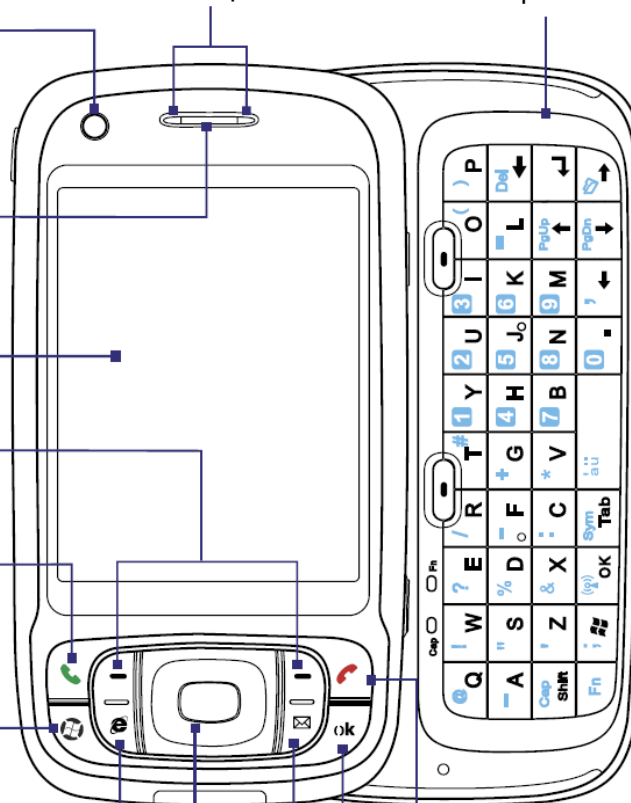
Press to end a call or to return to the Today screen.

OK

See **OK button**.

MESSAGING

See Chapter 7 for details.



* Left LED: Shows Green and Amber lights for HSDPA/UMTS/EDGE/GSM/GPRS standby, message, and network status as well as for notification and battery charging status.

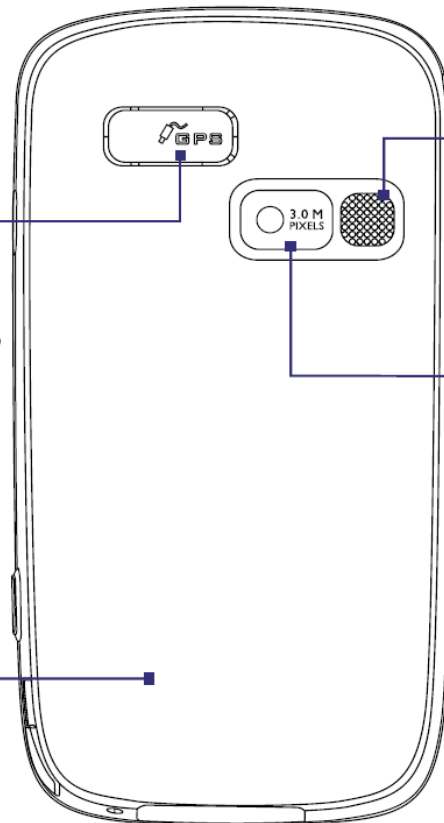
Right LED: Shows a flashing Blue light for Bluetooth system notification of powered-up and ready to transmit Bluetooth signal, or a flashing Green light for Wi-Fi status. When both Bluetooth and Wi-Fi are enabled, their lights flash alternately. Shows Amber light for GPS status.

Back panel

GPS Antenna Connector

Peel off the rubber cap and connect an external GPS antenna for better GPS signal reception.

Note Please use only the external GPS antenna with model number **GA S120**.



Speaker

3 Megapixel Camera

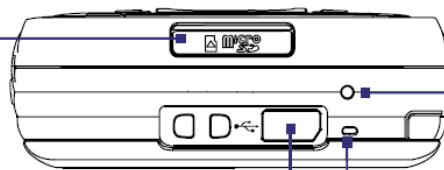
See Chapter 11 for details.

Back Cover

Slide the back cover upward to remove it.

microSD Slot

See "Installing a Storage Card" for details.



RESET

With the stylus, press the RESET button to soft-reset your device.

Microphone

Sync Connector/Earphone Jack

Connect the supplied USB cable to synchronize information or plug in the AC adapter to recharge the battery. You can also connect the supplied USB stereo headset for hands-free conversation or for listening to audio media.

Left panel

VOICE COMMAND

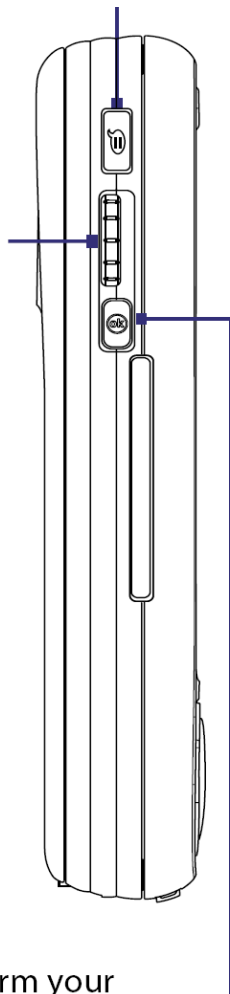
- Press to activate or cancel voice recognition. See Chapter 13 for details.
- Press and hold to record a voice note.

Jog Wheel

- Scroll up or down to navigate through menus, program instructions; press the wheel to carry out selection.
- During a call or playing music, scroll up or down to adjust the sound volume.
- When receiving an incoming call, scroll down to silence the audio notification.

OK button

Press to confirm your data entries, or to exit the program in use.



Right panel

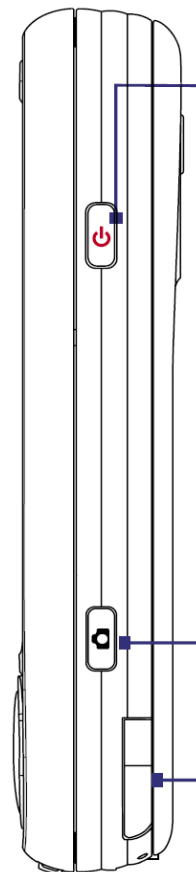
POWER

Press to turn off the display temporarily. To turn off the power, press and hold for about 5 seconds. For more information, see "Starting Up" in this chapter.

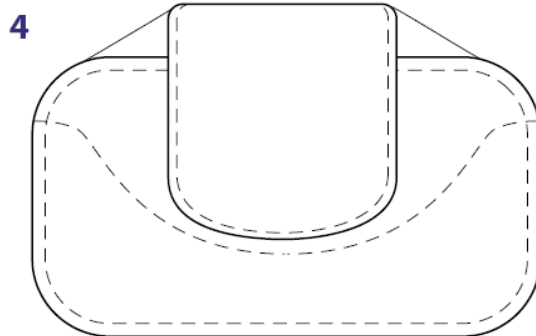
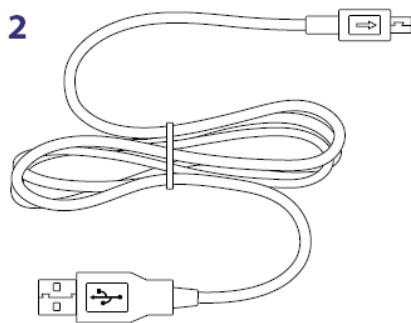
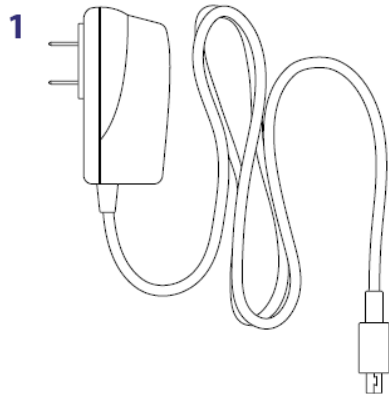
CAMERA

Press to launch the Camera. See Chapter 11 for details.

Stylus



Accessories

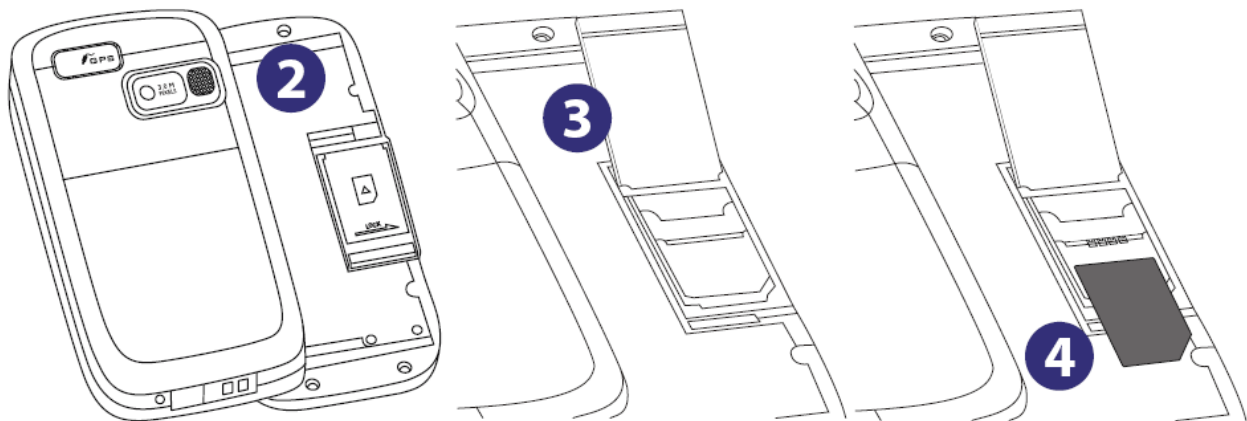


No.	Item	Function
1	AC adapter	Recharges the battery.
2	USB Sync cable	Connects your device to a PC and synchronizes data.
3	Stereo headset	Provides a volume control slider and a Send/End button. Press the Send/End button to pick up a call or put a call on hold; press and hold the button to end the call.
4	Pouch	Acts as a protective carrying case for your device.

To install the USIM/SIM card

1. Make sure your device is turned off.
2. Slide out the hardware keyboard.
3. Slide the SIM card door lock to the left and then open the SIM card door.
4. Hold the USIM/SIM card with its gold contacts facing down and its cut-off corner facing toward outside of the slot. Insert the USIM/SIM card by sliding it into the slot.

Tip You'll also see an illustrations on how to insert the USIM/SIM card on the SIM card door.



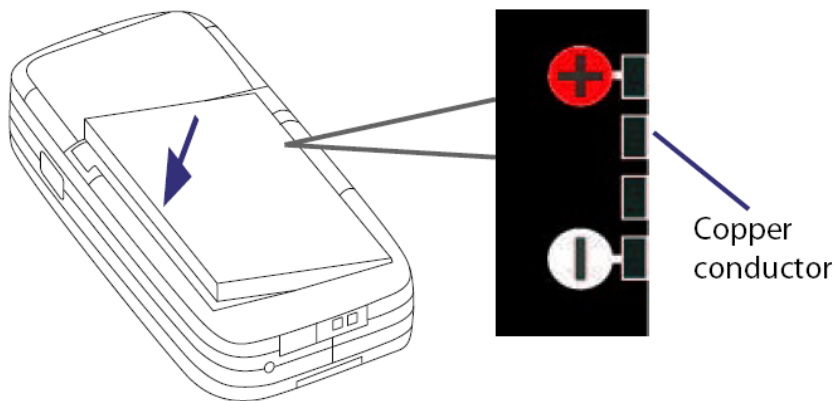
5. After inserting the USIM/SIM card, close the SIM card door and then lock it by sliding the lock to the right.

To remove the USIM/SIM card

To remove the USIM/SIM card, push the USIM/SIM card out from the back of the slot and then slide it out from the SIM card slot.

To install the battery

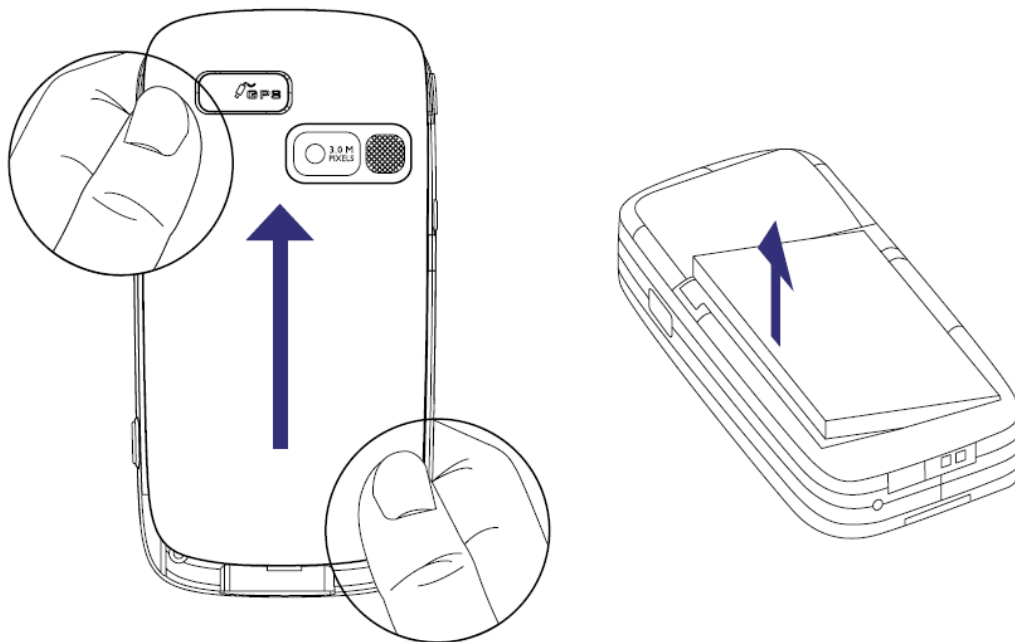
Install the battery by inserting it with its exposed copper part aligned with the protruding copper conductor on the upper right side of the battery compartment. Insert the right side of the battery first, then gently push the battery into place.



After you have inserted the battery, replace the back cover.

To remove the battery

1. Make sure your device is turned off.
2. Slide the back cover upward to release and remove the cover.
3. To remove the battery, lift it up from the left end of the battery.



There is a storage card slot at the bottom of your device. To have additional storage for your images, videos, music, and files, you can purchase a microSD™ card and insert it into the slot.

To insert a microSD card

1. Peel open the rubber that covers the storage card slot.







2. Insert the microSD card into the slot with gold contacts facing down.
3. Replace the rubber cover.

Note To remove the microSD card, press the microSD card to pop it out of the slot.

2. Device Disassembling and Assembling Procedure

2.1 Disassembling procedure

		<p>TOOLS NEEDED FOR ASSEMBLING AND DISASSEMBLING PROCESS.</p> <ol style="list-style-type: none"> 1. LENS CLEANING CLOTH. 2. TORX SCREW DRIVER T5X50. 3. TORX SCREW DRIVER T6X50. 4. PHILIPS SCREW DRIVER 00X40. 5. FLAT PLASTIC STICK. 6. PLASTIC TWEEZERS.
		<p>HOLD THE THUMBS ON THE TOP LEFT AND BOTTOM RIGHT OF THE BATTERY COVER AND SLIDE IT UPWARDS</p>
		<p>SLIDE DOWN THE STYLUS</p>
		<p>REMOVE THE BATTERY</p>



UNFASTEN THE SCREW(S) AT THE LOCATION INDICATED



FLIP THE FLAT PLASTIC STICK TO RELEASE THE LOCKS AT THE FOLLOWING LOCATIONS



REMOVE THE SPEAKER
CAUTION: AVOID DAMAGE THE SPEAKER



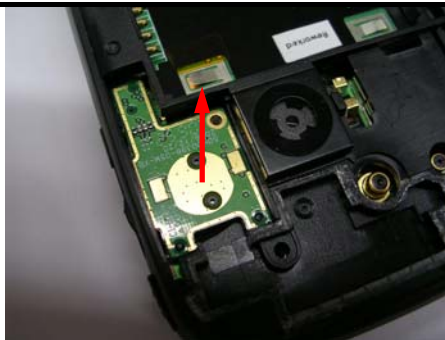
UNFASTEN THE SCREW(S) AT THE LOCATION INDICATED



REMOVE THE SPEAKER RUBBER



UNFASTEN THE SCREW(S) AT THE LOCATION INDICATED



RELEASE THE PCBA SUB BOARD CONECTOR FROM THE MAIN BOARD



HOLD THE FLAT PLASTIC STICK VERTICALLY AND SLIDE THROUGH THE GAP BETWEEN HOUSING AND COVER PRE-ASSY (C COVER)



REMOVE THE MICROPHONE



UNFASTEN THE SCREW(S) AT THE LOCATION INDICATED



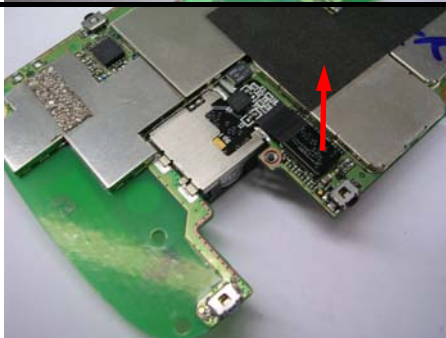
RELEASE THE KEYBOARD CONNECTOR AND REMOVE THE FPC



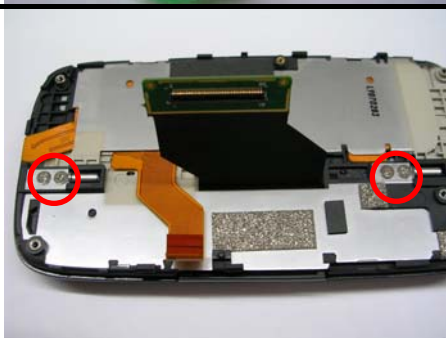
FLIP THE FLAT PLASTIC STICK AND DISASSEMBLE THE CONNECTOR



USE FLAT PLAASTIC STICK TO HOLD OPEN THE METAL BLADE AND REMOVE THE CAMERA SHIELDING



RELEASE THE CAMERA CONNECTOR



UNFASTEN THE SCREW(S) AT THE LOCATION INDICATED



SLIDE FLAT PLASTIC STICK OVER THE SUPPORT PRE-ASSY, ON-C-COVER

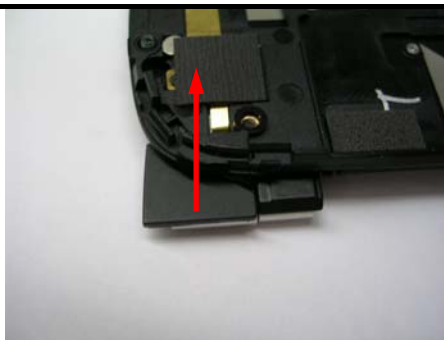


CAREFULLY REMOVE THE LCM BEZEL FROM THE KEYBOARD

➤ **BEWARE WHEN REMOVING THE FPC, RIGID-FLEX-BOARD**



UNFASTEN THE SCREW(S) AT THE LOCATION INDICATED



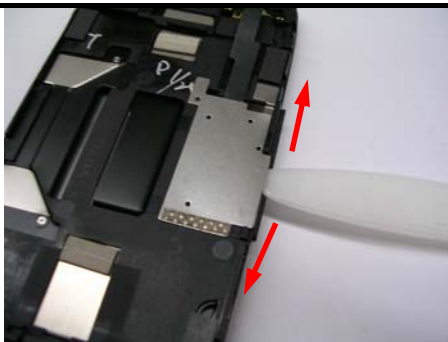
REMOVE THE COVER PRE-ASSY, HINGE-PLASTIC-COVER, LEFT



HOLD THE FLAT PLASTIC STICK VERTICALLY AND SLIDE THROUGH THE GAP TO DISASSEMBLE



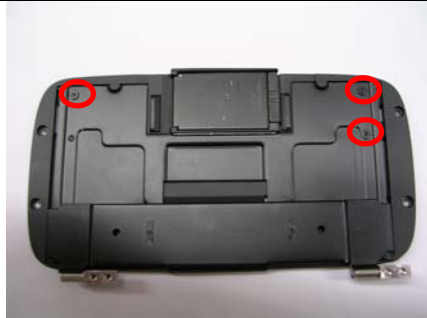
RELEASE THE SIM CARD FPC CONNECTOR



DISASSEMBLE THE FPC PRE-ASSY, SIM, GLOBAL FLEX



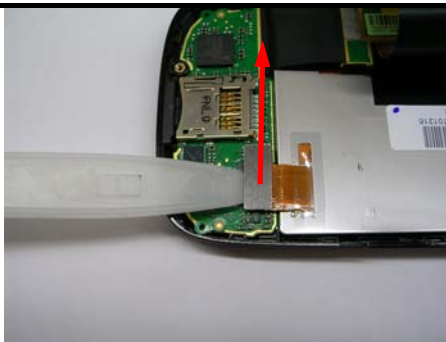
UNFASTEN THE SCREW(S) AT THE LOCATION INDICATED



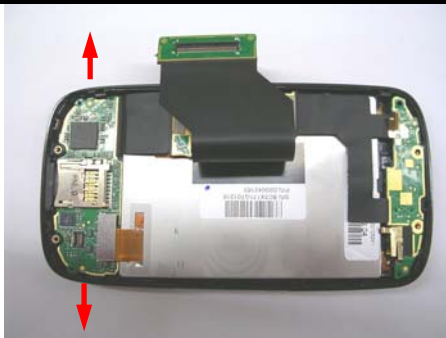
SLIDE THE HINGE DOWNWARDS AND UNFASTEN THE SCREW(S) AT THE LOCATION INDICATED



UNFASTEN THE SCREW(S) AT THE LOCATION INDICATED



RELEASE THE LCM CONNECTOR



APPLY FORCE OUTWARDS TO THE LOCATION INDICATED AND REMOVE THE FPC BOARD



REMOVE THE KEYPAD, THE LCM MODULE AND THE RECEIVER



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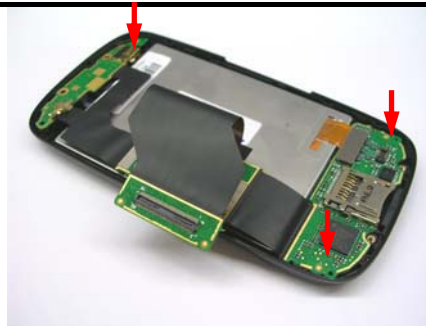
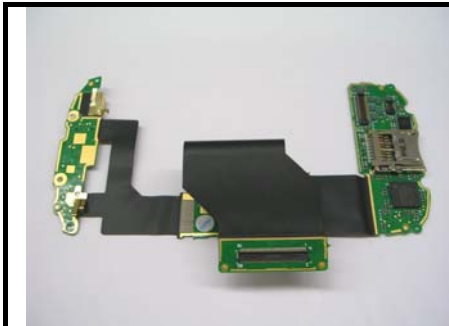
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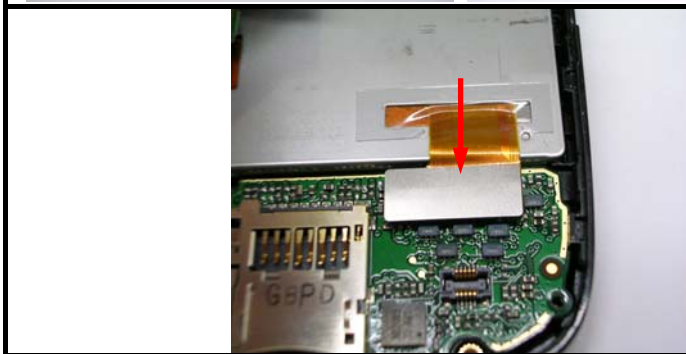
DISASSEMBLY COMPLETED!

2.2 Assembling procedure

		<p>TOOLS NEEDED FOR ASSEMBLING AND DISASSEMBLING PROCESS.</p> <ol style="list-style-type: none"> 1. LENS CLEANING CLOTH. 2. TORX SCREW DRIVER T5X50. 3. TORX SCREW DRIVER T6X50. 4. PHILIPS SCREW DRIVER 00X40. 5. FLAT PLASTIC STICK. 6. PLASTIC TWEEZERS.
		<p>INSERT THE RECEIVER ON THE TOP OF THE BEZEL</p>
		<p>PLACE THE KEYPAD ON THE BEZEL</p>
		<p>PLACE LCM MODULE ON THE BEZEL</p>



PLACE THE FPC, RIGID-FLEX-BOARD ON THE BEZEL AND LOCK THE PCBA ON THE BEZEL

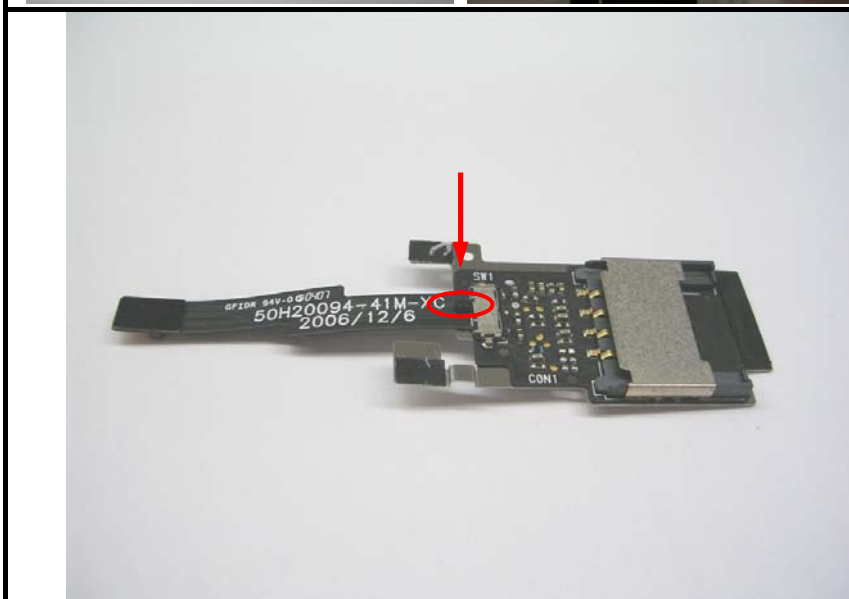


INSERT THE LCM FPC CONNECTOR TO THE FPC, RIGID-FLEX-BOARD







FASTEN THE SCREW(S) AT THE LOCATION INDICATED


TORQUE: $0.6 \pm 0.1 \text{KGF}^{-\text{CM}}$

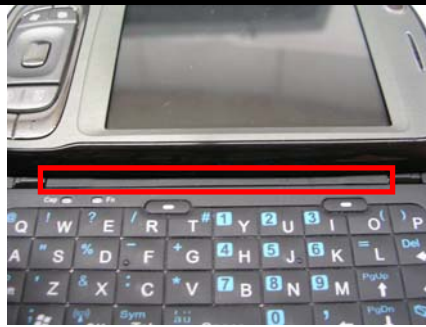


PLEASE ENSURE THAT THE SWITCH IS FIXED AT THE LOWER POSITION

		<p>STICK THE FPC PRE-ASSY, SIM, GLOBAL FLEX ON THE COVER PRE-ASSY, B-COVER</p>
		<p>LOCK THE SEMI-AUTO-PUMP-UP, PRE ASSY SLIDE-HINGE ONTO THE COVER PRE-ASSY, B-COVER</p>
		<p>SLIDE THE HINGE UPWARDS AND LOCK INTO THE POSITION INDICATED</p>
		<p>FASTEN THE SCREW(S) AT THE LOCATION INDICATED IN THE ORDER OF THE NUMBERS</p> <p>TORQUE: $0.8 \pm 0.1 \text{KGF}^{-\text{CM}}$</p>

		<p>1. SLIDE THE HINGE DOWNWARDS 2. FASTEN THE SCREW(S) AT THE LOCATION INDICATED IN THE ORDER OF THE NUMBERS</p> <p>TORQUE: $0.8 \pm 0.1\text{KGF}^{-\text{CM}}$</p>
		<p>ASSEMBLE THE PART 1 AND 2, CLEARFULLY INSERT THE PFC CONNECTOR THROUGH THE HOLE</p>
		<p>ATTACH THE FPC PRE-ASSY, SIM CONNECTOR TO RIGID-FLEX BOARD ASSY</p>
		<p>APPLY FORCE THROUGH OUT THE EDGE OF THIS PART AND MAKE SURE THE PART IS ASSEMBLED PROPERLY</p>

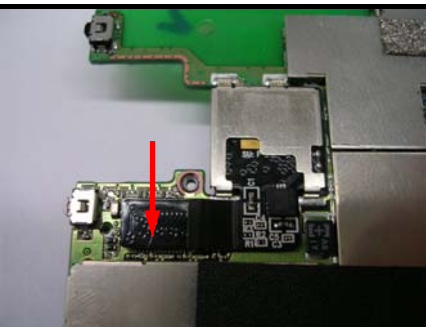
		<p>FASTEN THE SCREW(S) AT THE LOCATION INDICATED IN THE ORDER OF THE NUMBERS</p> <p>TORQUE: $1.0 \pm 0.2\text{KGF}^{-\text{CM}}$</p>
		<p>ASSEMBLE THE PART 1 AND 2, CLEARFULLY INSERT THE PFC CONNECTOR THROUGH THE HOLE</p>
		<p>FASTEN THE SCREW(S) AT THE LOCATION INDICATED IN THE ORDER OF THE NUMBERS</p> <p>TORQUE: $1.0 \pm 0.2\text{KGF}^{-\text{CM}}$</p>
		<p>STICK THE PART TO THE LOCATION INDICATED</p>



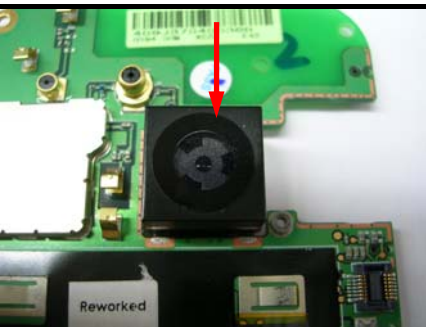
STICK THE PART TO THE LOCATION INDICATED



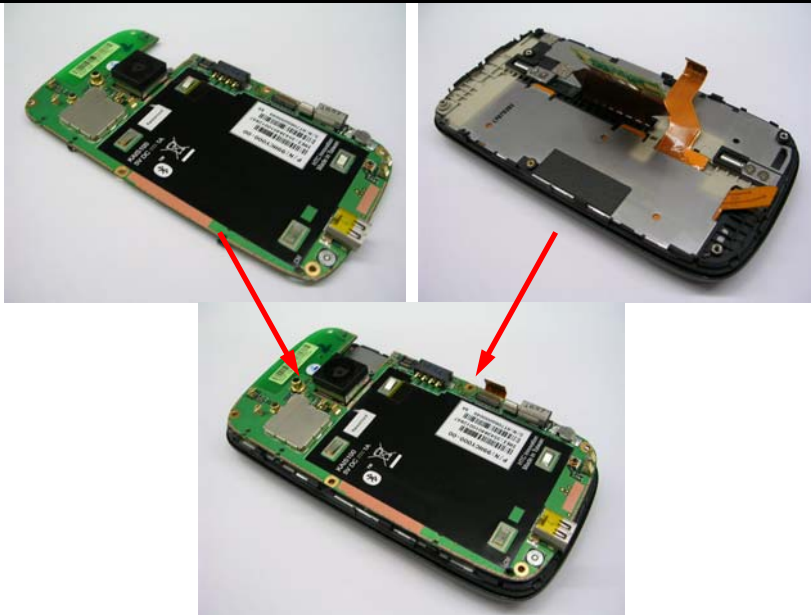
SLIDE THE CAMERA FPC THROUGH THE HOLE OF THE MAIN BOARD



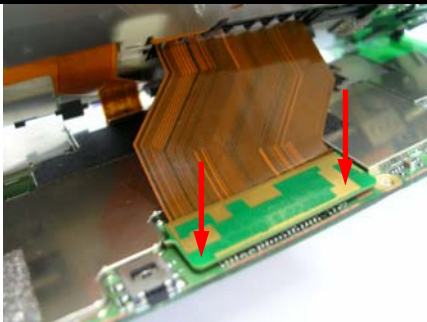
INSERT THE CAMERA CONNECTOR TO MAIN BOARD



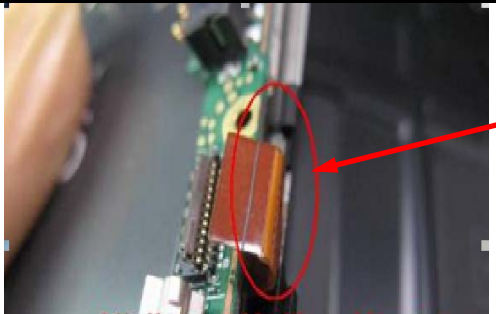
PLACE THE CAMERA COVER ON THE TOP OF THE CAMERA AND LOCK ON TO THE MAIN BOARD



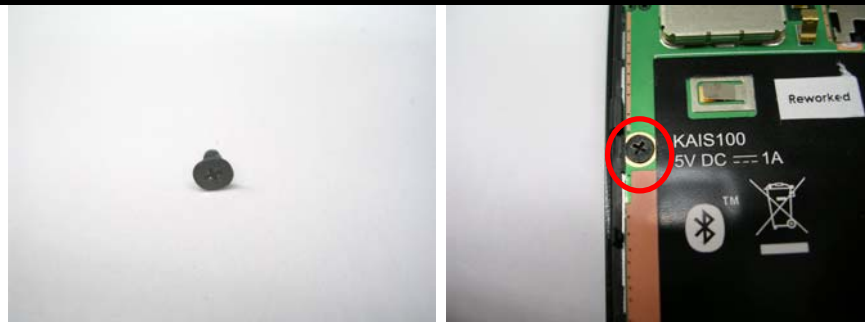
PLACE THE MAIN BOARD ON THE TOP



ATTACH THE CONNECTOR OF THE FPC, RIGID-FLEX-BOARD TO THE MAIN BOARD



1. To bend the FPC cable as indicated picture and let FPC cable parallel with connector then it's easy to do assembly
2. ASSEMBLE THE KEYBOARD FPC TO THE MAIN BOARD



FASTEN THE SCREW(S) AT THE LOCATION INDICATED

TORQUE: 0.5 ± 0.1 KGF^{-CM}



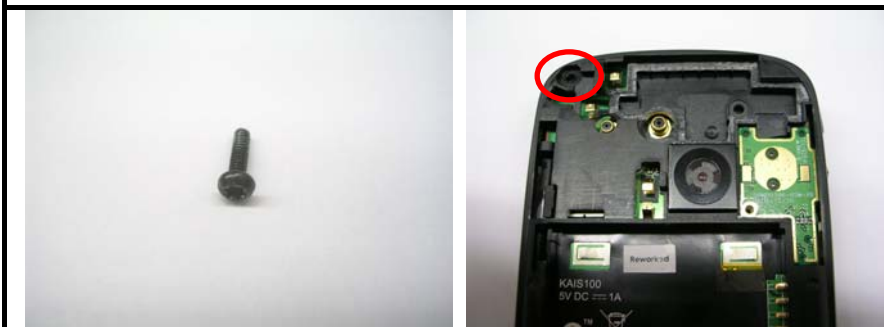
INSERT THE MICROPHONE TO THE MICROPHONE SLOT OF THE HOUSING



PLACE THE HOUSING ON THE TOP OF THE MAIN BOARD AND LOCK ONTO THE COVER PRE-ASSY, C-COVER



APPLY FORCE DOWN THE EDGES AND MAKE SURE THE HOUSING AND KEYBOARD ARE PROPERLY ASSEMBLED



FASTEN THE SCREW(S) AT THE LOCATION INDICATED

TORQUE: $1.2 \pm 0.2\text{KGF}^{\text{CM}}$

		<p>ATTACH THE PCBA, SUB BOARD ON THE MAIN BOARD</p>
		<p>FASTEN THE SCREW(S) AT THE LOCATION INDICATED</p> <p>TORQUE: $0.4 \pm 0.1 \text{KGF}^{\text{CM}}$</p>
		<p>PLACE THE SPEAKER RUBBER ON THE HOUSING</p>
		<p>STICK THE SPEAKER ON THE ANTENNA COVER</p>



ASSEMBLE THE ANTENNA COVER ON THE TOP OF THE HOUSING



FASTEN THE SCREW(S) AT THE LOCATION INDICATED IN THE ORDER OF THE NUMBERS

TORQUE: $1.2 \pm 0.2\text{KGF}^{-\text{CM}}$



INSERT THE BATTERY



HOLD THE THUMBS ON THE TOP LEFT AND BOTTOM RIGHT OF THE BATTERY COVER AND SLIDE IT DOWNWARDS



INSERT THE STYLUS

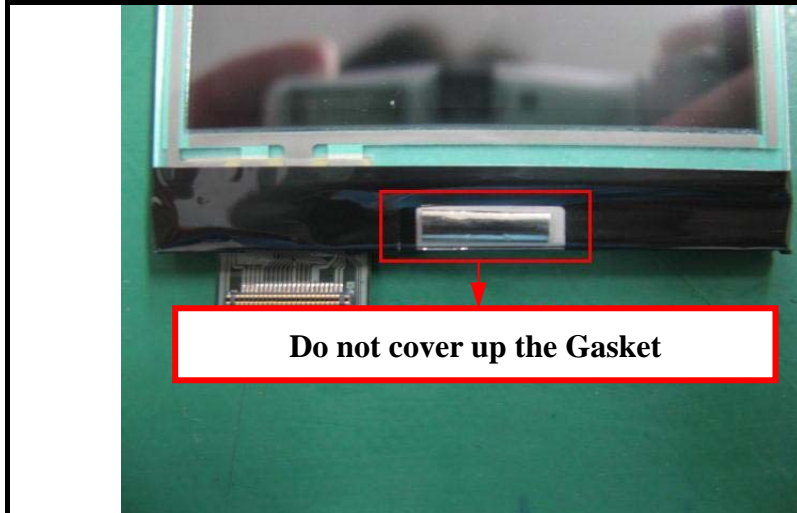


ASSEMBLY COMPLETED!

2.3 Assembly Tips

	<p>STICK THE MYLAR (P/N: 76H02287-00M) ALONG THE LOW EDGE OF TOPPOLY LCM (P/N: 60H00091-00M)</p>
	<p>BOTH OF RIGHT AND LEFT SIDE OF TOPPOLY LCM MUST BE FIRMLY AND FLATLY ATTACHED</p>

Attaching Mylar to SONY LCM (60H00092-00M)



STICK THE MYLAR (P/N: 76H02287-00M) ALONG THE LOW EDGE OF SONY LCM (P/N: 60H00092-00M)

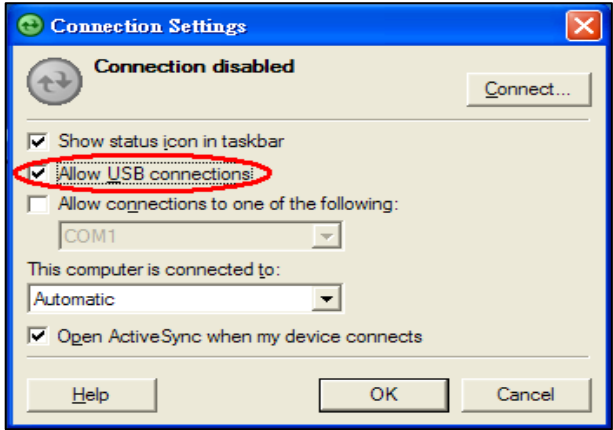
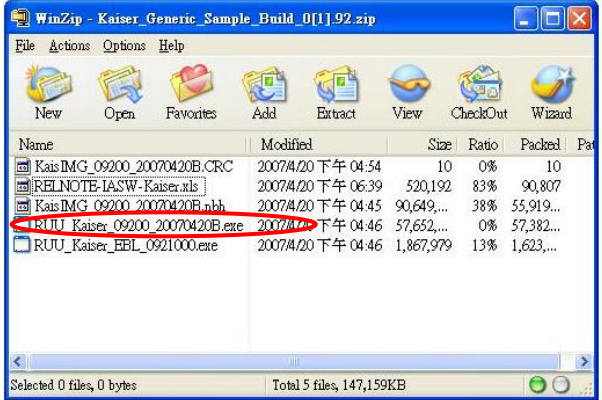
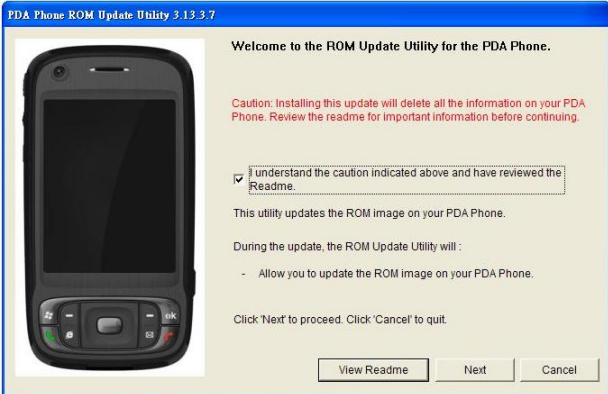


BOTH OF RIGHT AND LEFT SIDE OF SONY LCM MUST BE FIRMLY AND FLATLY ATTACHED



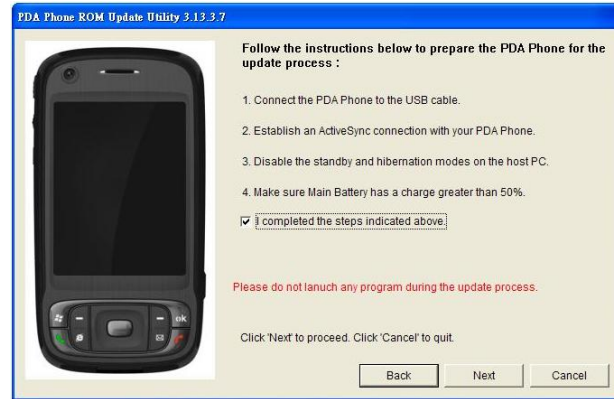
3. ROM Re-flash Procedure

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

Connect device to PC	
<ul style="list-style-type: none"> I. Setting and allow USB connections in Microsoft ActiveSync. II. Connect your device and desktop/ or laptop via USB cable. III. Check the pop-up message from Microsoft ActiveSync when device is synchronized with PC. 	
Download OS Image from SDO	
<ul style="list-style-type: none"> I. Download OS image from SDO. http://htcscm10.htc.com.tw/SDO II. Un-zip the file and execute RUU program. 	
RUU – 1	
<ul style="list-style-type: none"> III. Read the pop-up message form ROM update utility and select the “I understand...” checkbox. IV. Click “Next” to proceed. 	

RUU - 2

- V. Read the pop-up message form ROM update utility to follow and perform the instructions and select the "I completed..." checkbox.
- VI. Click "Next" to proceed.



RUU - 3

- VII. Current image version confirmation.
- VIII. Click "Update" to proceed.



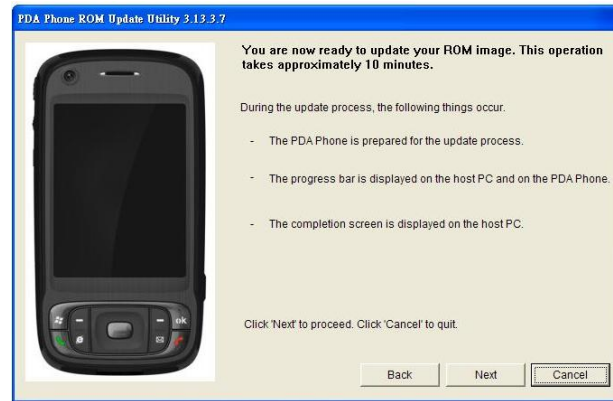
RUU - 4

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



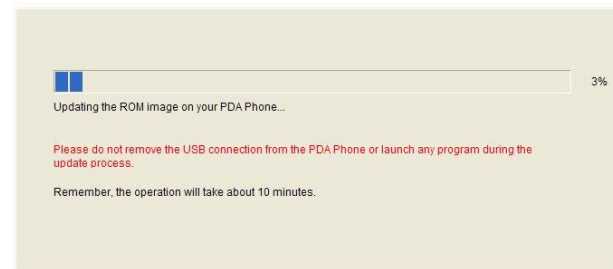
RUU - 5

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



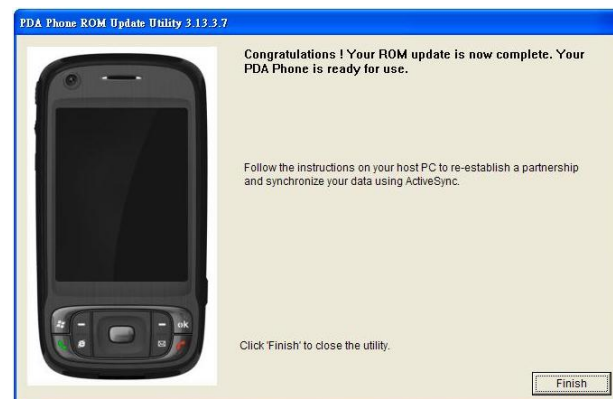
RUU - 6

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

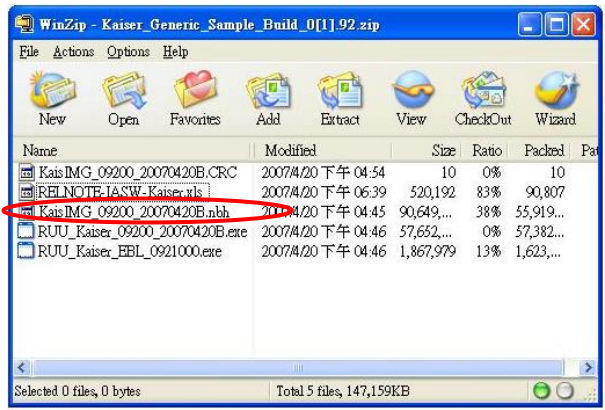

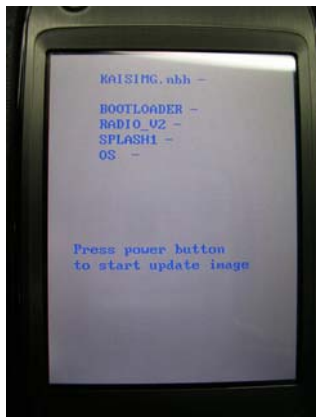


RUU - 7

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



3.2 Rom Image upgrade thru SD card

Download OS Image from SDO	
<p>I. Download OS image from SDO. http://htcscm10.htc.com.tw/SDO</p> <p>II. Un-zip the image file.</p>	
Format SD card and copy image file to SD card	
<p>III. Select file system and format the SD card to FAT32 mode.</p> <p>IV. Copy image file XXX.nbh to the micro SD card and rename to KAISING.NBH.</p>	
SD Upgrade - 1	
<p>V. Turn the device power off and insert Diagnostic SD card.</p> <p>VI. Press and hold Camera button, and Reset button to entry Boot loader mode.</p> <p>VII. Press Power button to start upgrade procedure.</p>	

SD Upgrade - 2

VIII. Reading source code from SD card.

[Note]: This process will takes 10 mins,
please don't power off the device.



IX. After finish, press [Reset](#) button to reboot.





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4. DIAGNOSTIC PROGRAM

4.1 List of Diagnostic / WinCE Test Items

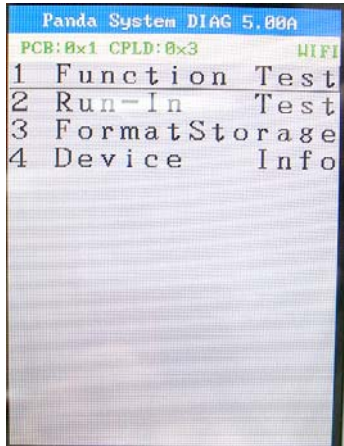

Mode	No	Item	Description	Remark	
Diagnostic	Function Test				
		1	Auto	Auto Regular Tests (Display, B.L, Vibrator, etc...)	
		2	MegaSIM	Mega SIM Test	
		3	ROMChecksum Test	Rom size	
		4	SDRAM Test	RAM memory test.	
		5	Display Test	Color bar/R/G/B/Black/White/Gray pattern.	
		6	B. L Test	Front light test (On/Dim/Off).	
		7	LED Test	Red, Green, BT, WL, Key Led	
		8	Vibrator Test	Vibrator on test.	
		9	SD Card Test	SD card Read/Write test.	
		10	Button Test	Record, Capture, App1(Send), App2(IE), Volume up, Volume down, Key up, Key down, Key left, Key right, Key action, Soft1, Soft2, Send, End, Start, OK	
		11		Speaker Test	Speaker out test.
		12	Receiver Play Test	Receiver out test.	
		13	IntMic Test	Internal MIC record and play to Speaker test.	
	14	ExtMic Test	Internal MIC record and play to Headset test.		
Win CE	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 Storage (Personal information, talk times)				
	Device Info				
		1	USB Test	USB link test (Microsoft ActiveSync).	
		2	Camera Test	Camera test.	
		3	Bluetooth Test	Bluetooth test.	
	4	WLAN Test	WLAN test.		

Test Procedure

How to select test item: Using navigation button -"Up" or "Down" to select the test items

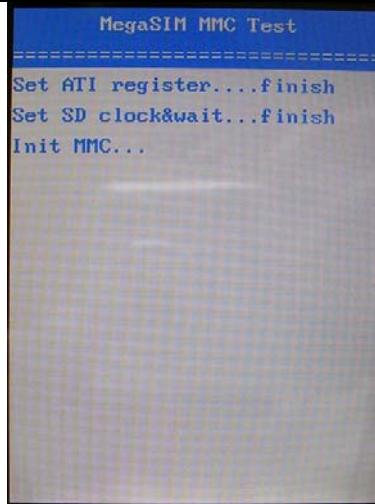
How to execute the test program: Press "Action" button to start each of test items.

Diagnostic

Main Menu/Function Test Menu	
<ol style="list-style-type: none"> I. Turn the device power off and insert Diagnostic SD card. II. Press and hold Capture button, including Reset button, and then enter Diagnostic mode. III. Using to select the test item and move to next page as well. IV. Select item "Function Test" to find the Function test menu. 	
Auto Test	
<ol style="list-style-type: none"> I. Press the Action key to start the Auto-test. II. It will perform the regular tests, please follow the system instruction to do the test. 	

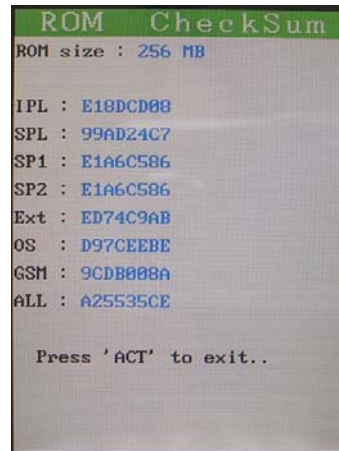
MegaSIM Test

- III. Press the Action key to start the MegaSIM Test.
 Note. If your unit doesn't support Mega SIM, you don't have to perform the test.



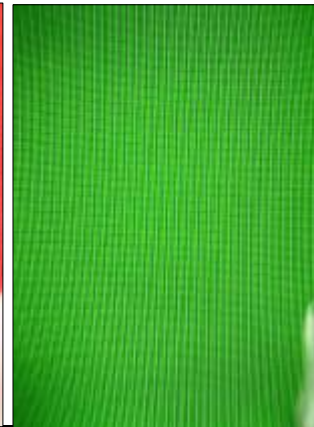
ROM Checksum Test

- IV. Press Action key to select
 V. The Rom Checksum will be displayed on the screen



Display Test (and RED/ GREEN pattern)

- I. Press Action key to select Display Test on Function test menu.
- II. After the test pattern is show up, please check the pattern if any un-uniform color or chromatist.
- III. Press Action key to continue the next test pattern.



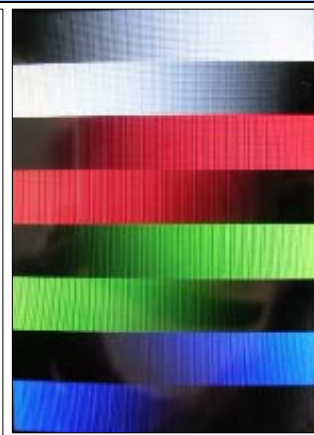
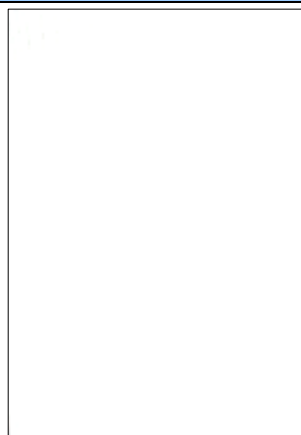
Display Test (BLUE/ BLACK pattern)

- V. Press Action key to continue the next test pattern.



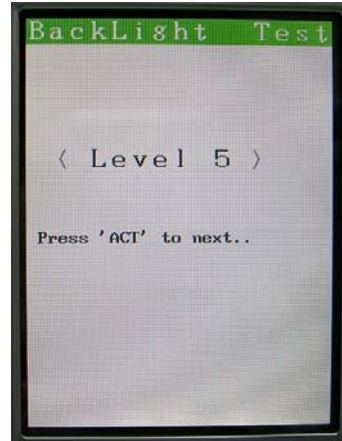
Display Test (WHITE/Color bar pattern)

- VI. Press Action key to continue the next test pattern.



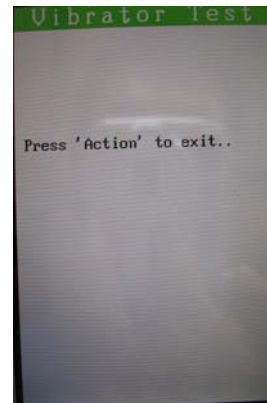
LCD Back Light Test

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



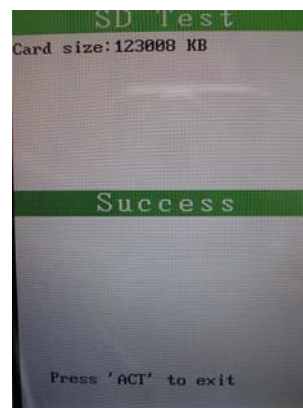
Vibrator Test

- I. Press Action key to select Vibrator Test on Function test menu.
- II. Press Action key to exit and return to Function test menu.



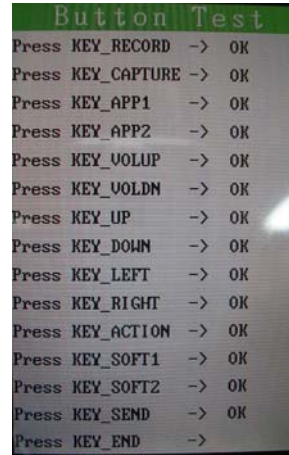
SD Card Test

- I. Press Action key to select SD Card Test
- II. If success, press Action key to exit and return to Function test menu.



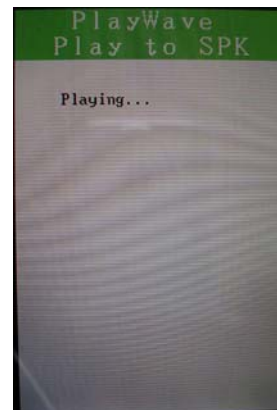
Button Test

- I. Press Action key to select Button Test on Function test menu.
- II. Follow the instruction on screen to perform the Key/Button test (Record, Capture, App1(Send), App2(IE), Volume up, Volume down, Key up, Key down, Key left, Key right, Key action, Soft1, Soft2, Send, End, Start, OK.).
- III. The screen will return to Function test menu after the test is finished.



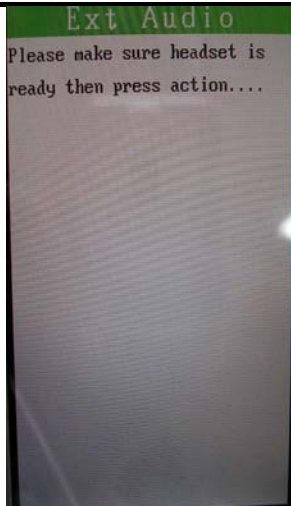


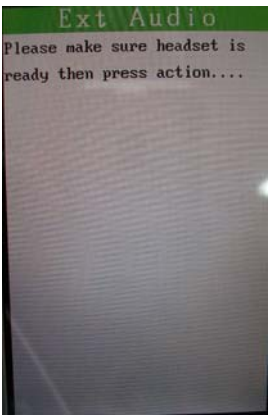

Speaker Test

- I. Press Action key to select Speaker Test on Function test menu.



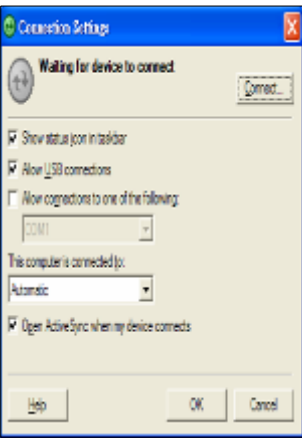

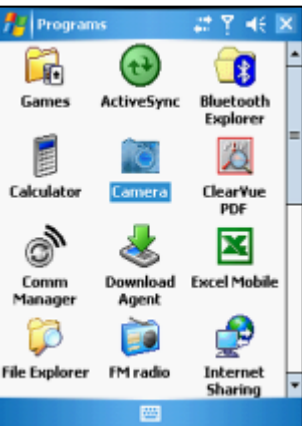



Receiver Play Test

- I. Press Action key to select Receiver Play Test on Function test menu
- II. The screen will return to Function test menu after the test is finished

	 <p>Ext Audio Please make sure headset is ready then press action...</p>
IntMic Test	
<ol style="list-style-type: none"> I. Press Action key to select IntMic Test on Function test menu. II. After recording and playing , The screen will return to Function test menu 	  <p>LED Test LED Status RECORD : ON</p> <p>RecordData <External Mic> Recording...</p>
ExtMic Test	
<ol style="list-style-type: none"> I. Press Action key to select ExtMic Test on Function test menu. II. Please make sure headset is ready then press action. III. The screen will return to Function test menu after the test is finished. 	  <p>Ext Audio Please make sure headset is ready then press action...</p> <p>PlayData Play to REV playing...</p>

WinCE Test

USB Test	
<ol style="list-style-type: none"> I. Start up the Microsoft® ActiveSync® program in the PC. II. Insert USB cable and connect unit to desktop/ or laptop. III. The USB to PC icon -> is appears on the Today screen when your device is connected to your desktop/ or laptop. 	 
Camera Test	
<ol style="list-style-type: none"> I. Tap <u>Start->Program->Camera</u> or Press Camera button to turn on the Camera. II. Make sure the device will present and enter the preview display. III. Check camera pre-view and image quality. 	 

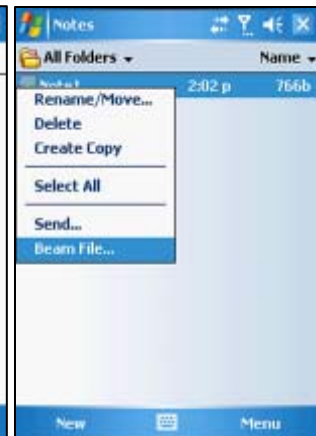
Bluetooth Test - 1

- I. Tap icon Comm Manager on the Today screen and turn on Bluetooth.
- II. Tap the icon "Settings" down-right the corner of the screen and select the "Make this device..." Checkbox.
- III. Press Action key (Jog-ball) to go next test pattern.



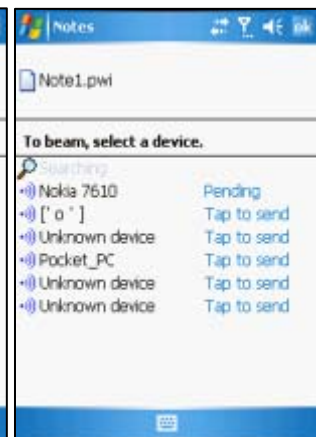
Bluetooth Test - 2

- I. Tap Start->Settings->Connections->Beam and select "Receive all..." Checkbox.
- II. To create a file, tap Start->Programs ->Notes->New.
- III. Tap and select the "Beam file..."



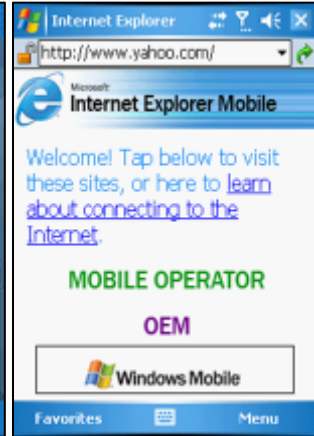
Bluetooth Test - 3

- IV. Once device is searched, tap the device to send the file.
- V. Return to Today screen and tap Start->Program->Comm Manager ->Bluetooth to turn off Bluetooth.



WLAN Test

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



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.

(1) Requirement :

- Control box

Equipment list



1. Control box



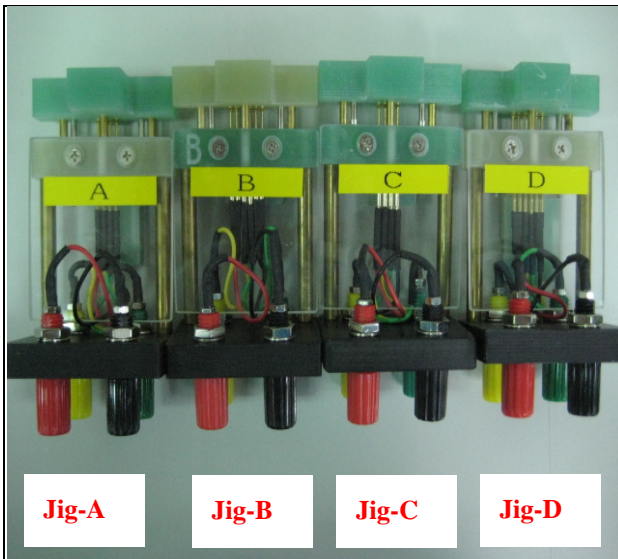
2. 4 colors cable

Cable A: Red

Cable B: Yellow

Cable C: Green

Cable D: Black



C. 4 types Jig

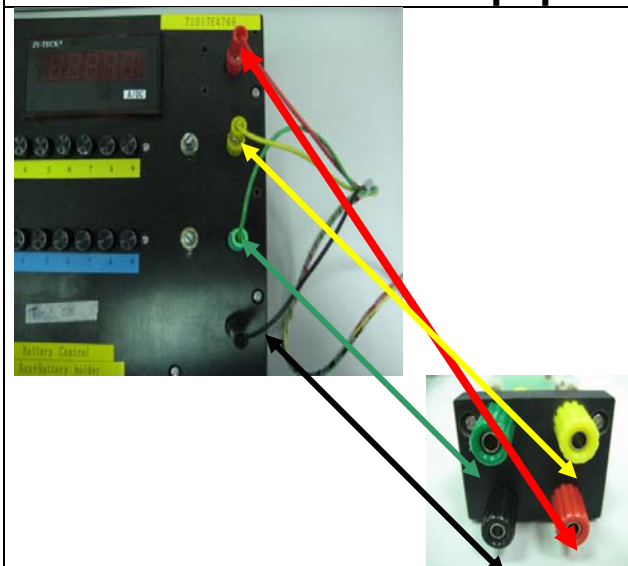
Jig - A (4 pins-Short)

Jig - B (6 pins-Long)

Jig - C (4 pins-Short)

Jig - D (6 pins-Long)

Equipment set up



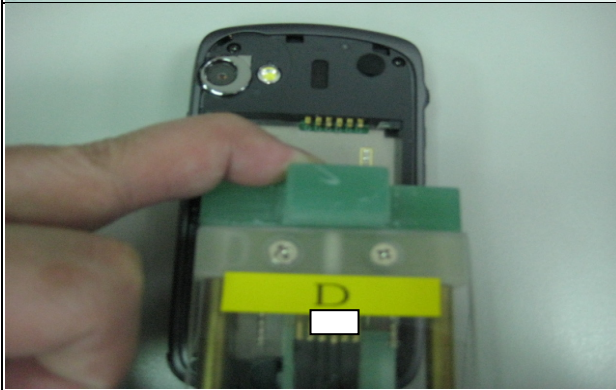
1. Connect control box and jig through 4 colors cable



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

MADEL	JIG TYPE	Button set up matrix			
		A	B	C	D
Kaiser	C	0	8	2	0

It means, press button A0,B8,C2,D0

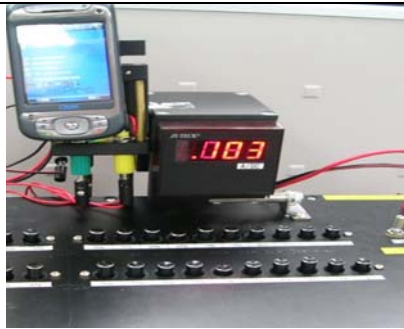


3. Install jig to device (the photo is for reference only)

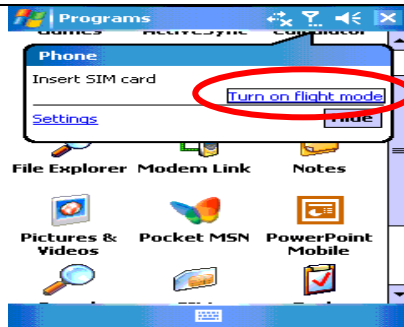
Start testing



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 flight mode"
Set the unit to :
* Flight mode
* Make sure all RF function is off (phone, BT, Wifi..)

Idle current test

4. Measure Idle mode current. Idle current value must under **66mA** (refer to each product Service Manual), if over the criteria, it means M/B failed, please replace M/B for repair.

Sleep current test

5. After idle current checked, Switch OFF the unit. Unit is turn off and no display. sleep current value must under **6mA** (refer to each product Service Manual), 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.

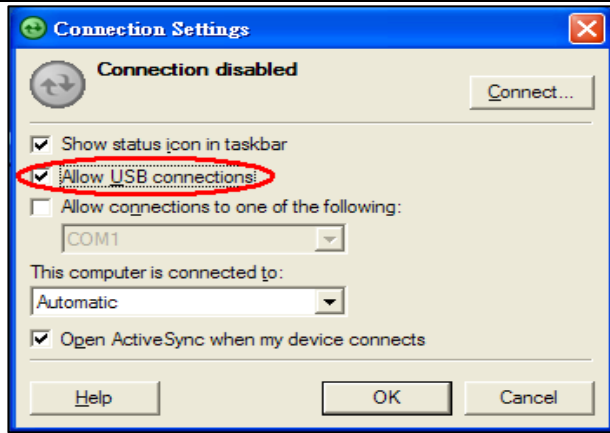
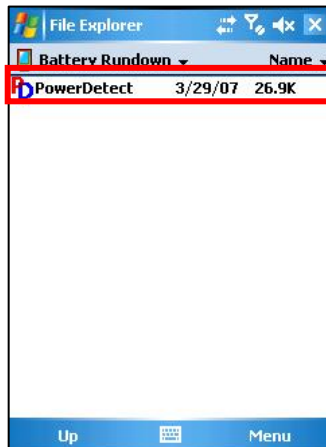
Battery rundown test procedure

Test Requirement:

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

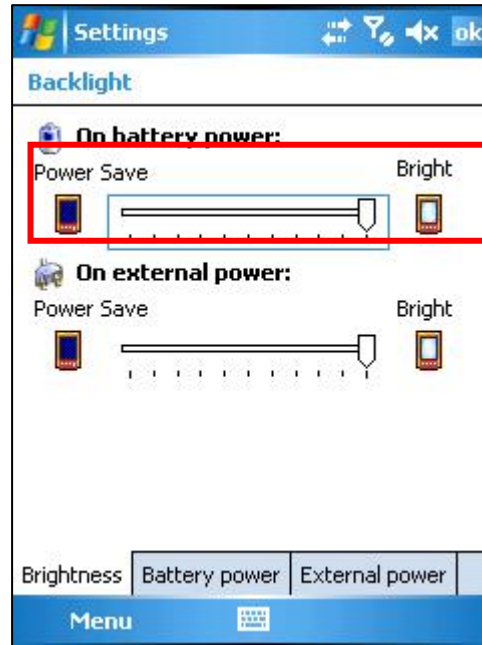
Caution: Please charge your unit to full capacity for battery (until the green light is displayed) before doing the test.

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>	

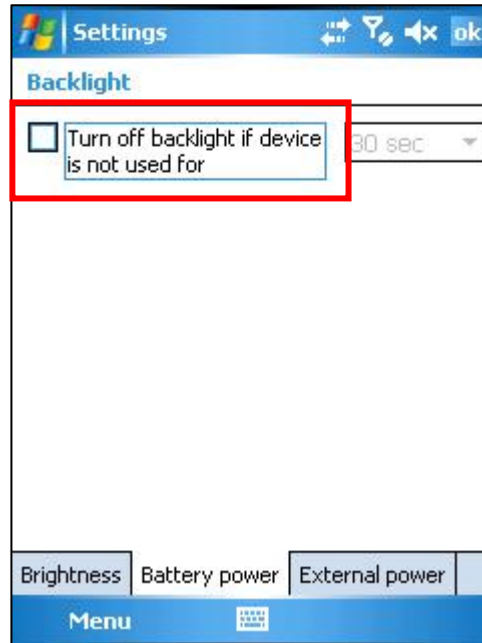
Battery Rundown-1

VI. Adjust the Backlight brightness into the maximum level on battery power.



Battery Rundown-2

VII. Disable Turn off backlight if device is not used for in Battery power.



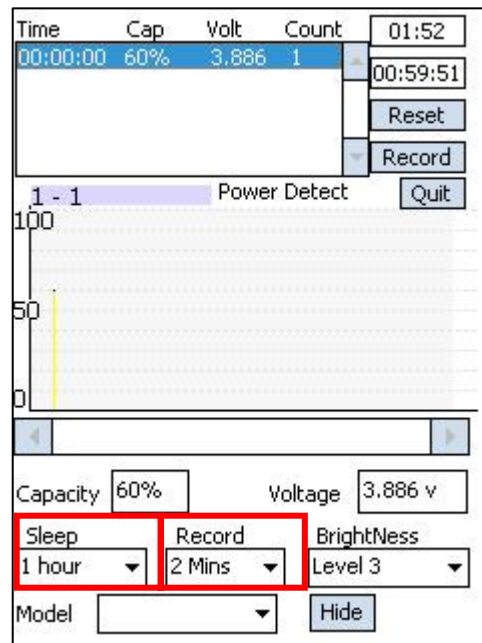
Battery Rundown-3

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



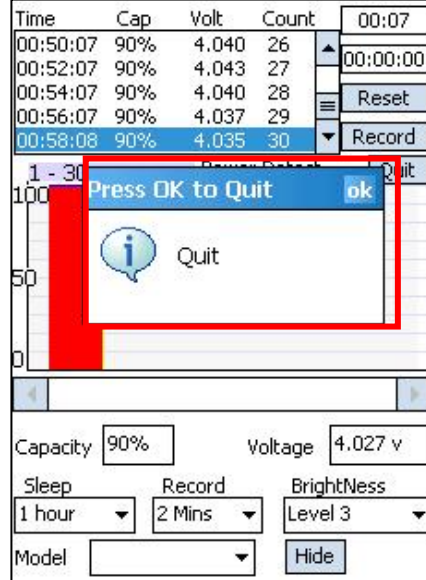
Battery Rundown-3

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



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	

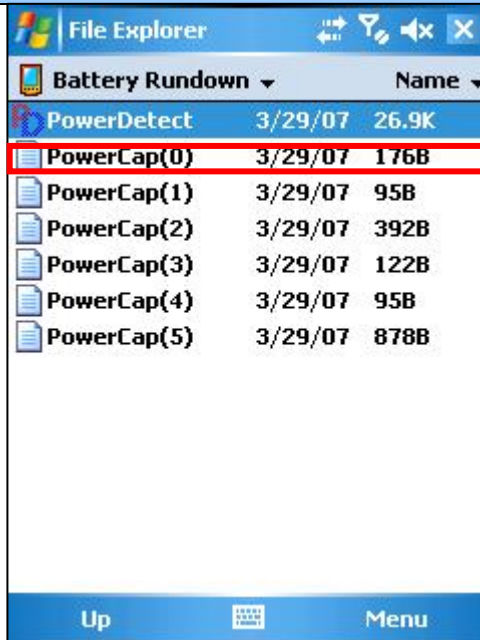
Capacity: 90% Voltage: 4.027 v

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

Model: [] Hide

Battery Rundown-5

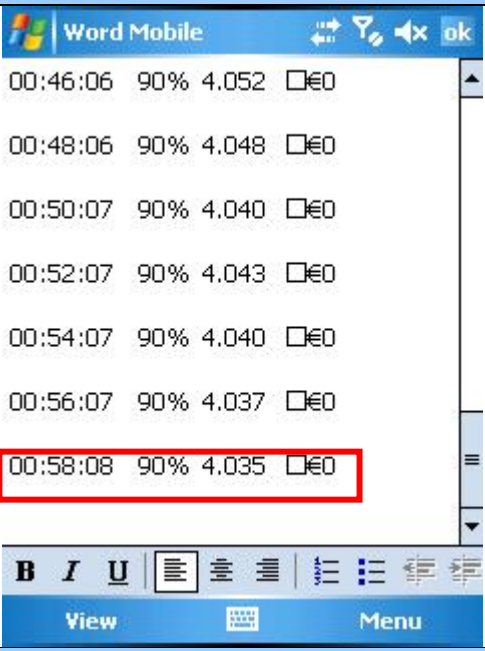
- XIV. Test result is generated into the log file as **PowerCap(x)**.



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.



Time	Percentage	Capacity
00:46:06	90%	4.052
00:48:06	90%	4.048
00:50:07	90%	4.040
00:52:07	90%	4.043
00:54:07	90%	4.040
00:56:07	90%	4.037
00:58:08	90%	4.035

**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 and LED lens except LCD.
- Class B area => View of QWERTY keyboard. (Involved stylus).
- Class C area => 4 sides and back views of main unit.
- Class D area => The socket of battery, inner side of battery cover.

Photo of inspection areas



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 ≥ 5 mm.
		2 adjacent	0
		3 or more adjacent	0
	Dark Dots	Single	Total Number ≤ 2 , S ≥ 5 mm.
		2 adjacent	0
	Dark or Bright lines	0	
	All Allowable Dots Defects	Total Number ≤ 3 , S ≥ 5 mm.	
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 \leq 0.1 (mm) L \leq 5 (mm), N \leq 2 (mm)	
	Lint (linear foreign objects)	0.03 < W \leq 0.1 (mm) 0.3 < L \leq 3.0 (mm) N \leq 5	
	Spots	0.1 < D \leq 0.3 (mm), N \leq 4	
	Fish eye on film	0.1 < D \leq 0.4 (mm), N \leq 4	
	Breakage on film surface	Not acceptable	
	Total acceptable defect quantity ≤ 10		

6.3 Main unit inspection

Gap & Step inspection			
Description		Accept criteria	Level
1	Gap between bezel and BTM cover	< 0.15 mm	Minor
2	Gap between LCM bezel and touch panel	< 0.7 mm	Minor
3	Gap between bezel and antenna cover	< 0.25 mm	Minor
4	Gap between mating parts on K/B	< 0.25 mm	Minor
5	Gap between key and keyboard opening	< 0.3 mm	Minor
6	Step between bezel and antenna cover in A area	< 0.25 mm	Minor
7	Step between bezel and antenna cover in C area	< 0.4 mm	Minor

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.



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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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8. Generic Labeling Plan

<Kaiser Model ID>

Model ID	VT	Camera	Antenna
KAIS100	N	Y	US
KAIS110	N	N	US
KAIS120	Y	Y	US
KAIS130	Y	Y	EU



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Agency label

Agency label-KAIS100

Regulatory label

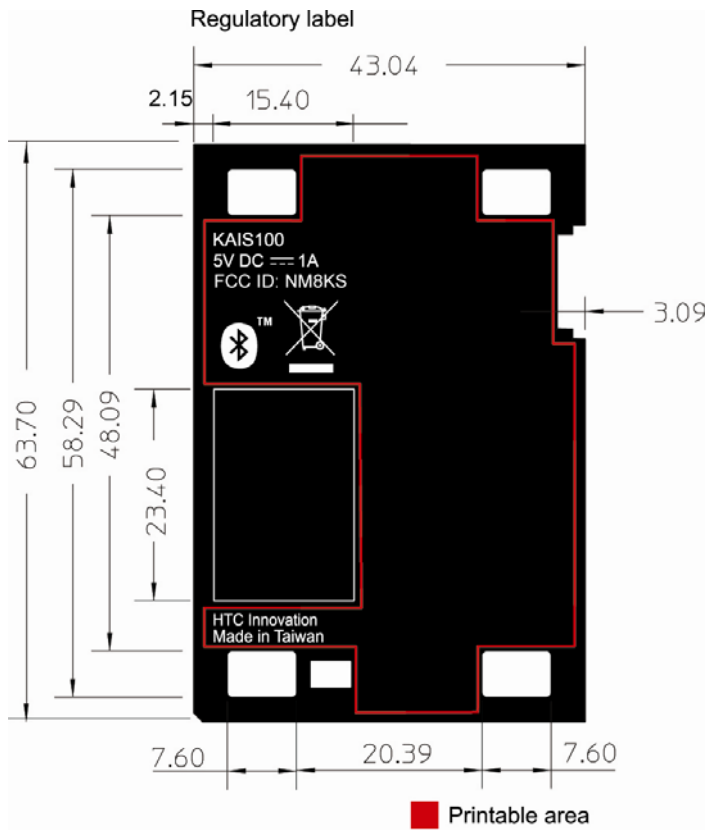
HTC P/N: 77H00471-00M

Size: 43.04 X 63.7mm

Barcode label

HTC P/N: 77H00470-00M

Size: 23.0 X 15.0mm



HTC P/N	Description



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Agency label-KAIS110

Regulatory label

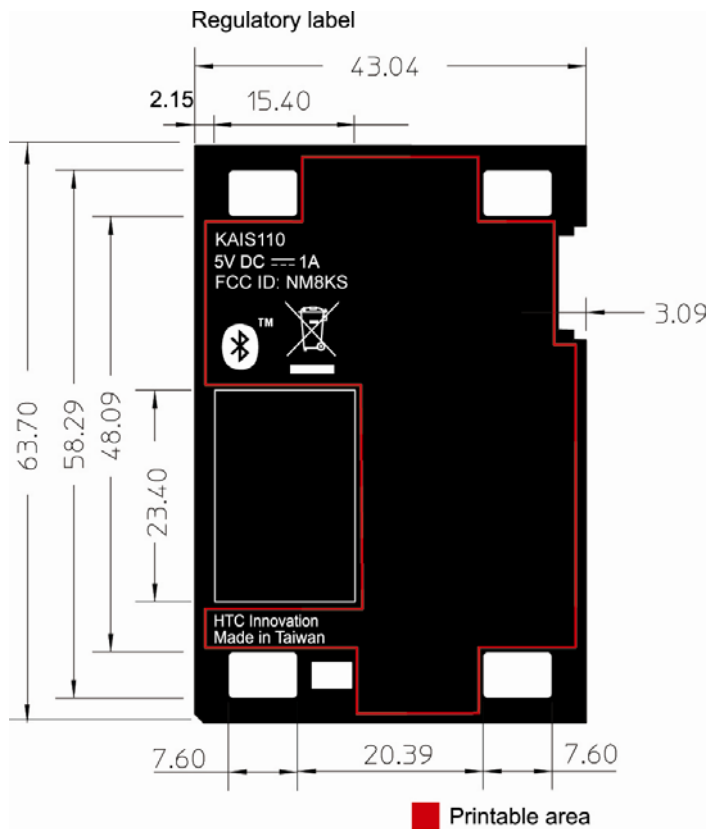
HTC P/N: 77H00471-01M

Size: 43.04 X 63.7mm

Barcode label

HTC P/N: 77H00470-00M

Size: 23.0 X 15.0mm



Barcode label



HTC P/N	Description

Agency label-KAIS120

Regulatory label

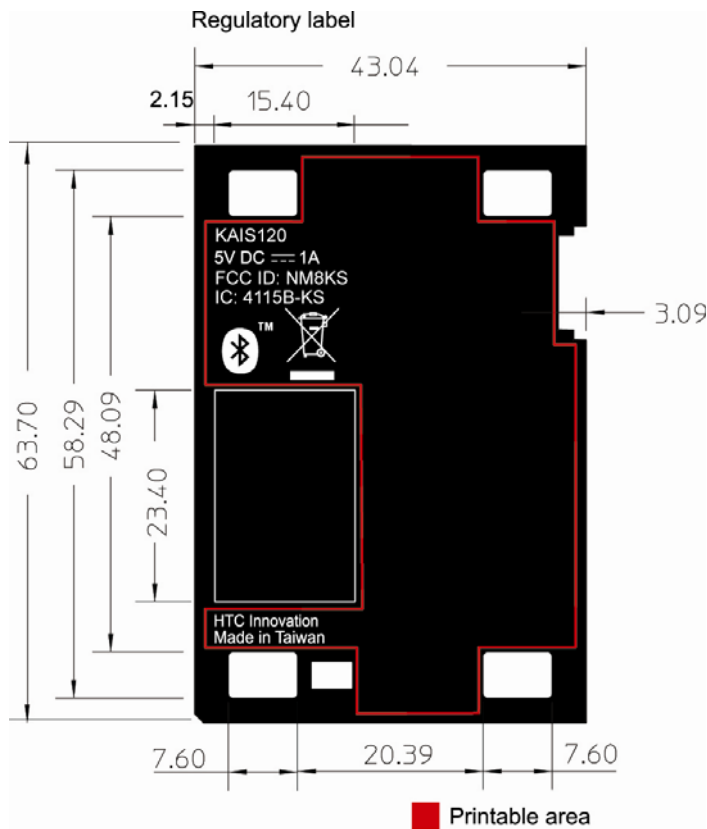
HTC P/N: 77H00471-02M

Size: 43.04 X 63.7mm

Barcode label

HTC P/N: 77H00470-00M

Size: 23.0 X 15.0mm



Barcode label



HTC P/N	Description

Agency label-KAIS130

Regulatory label

HTC P/N: 77H00471-03M

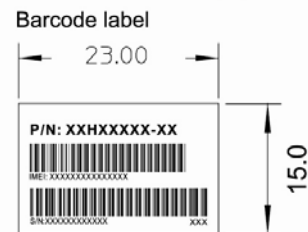
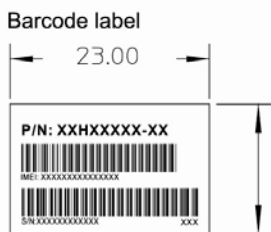
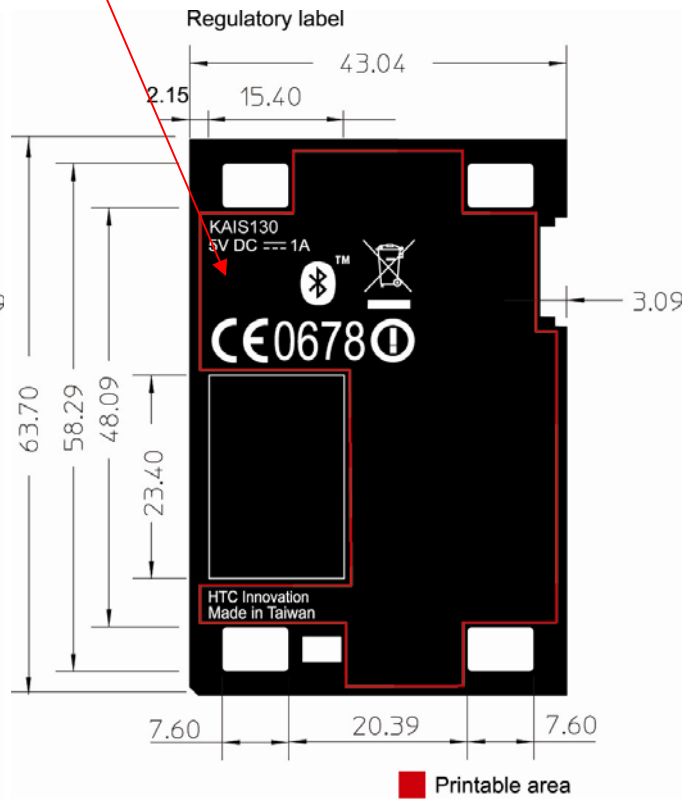
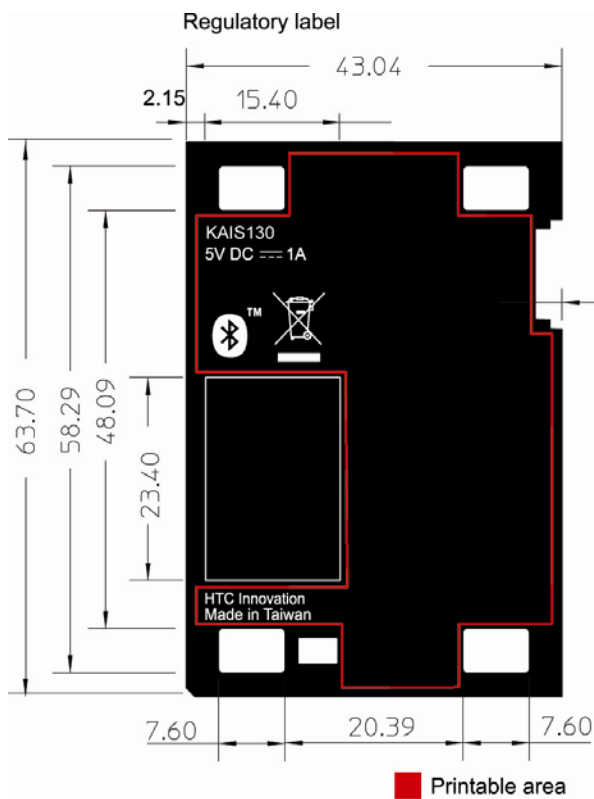
Size: 43.04 X 63.7mm

Barcode label

HTC P/N: 77H00470-00M

Size: 23.0 X 15.0mm

Running change to the one with "CE0678!" on agency

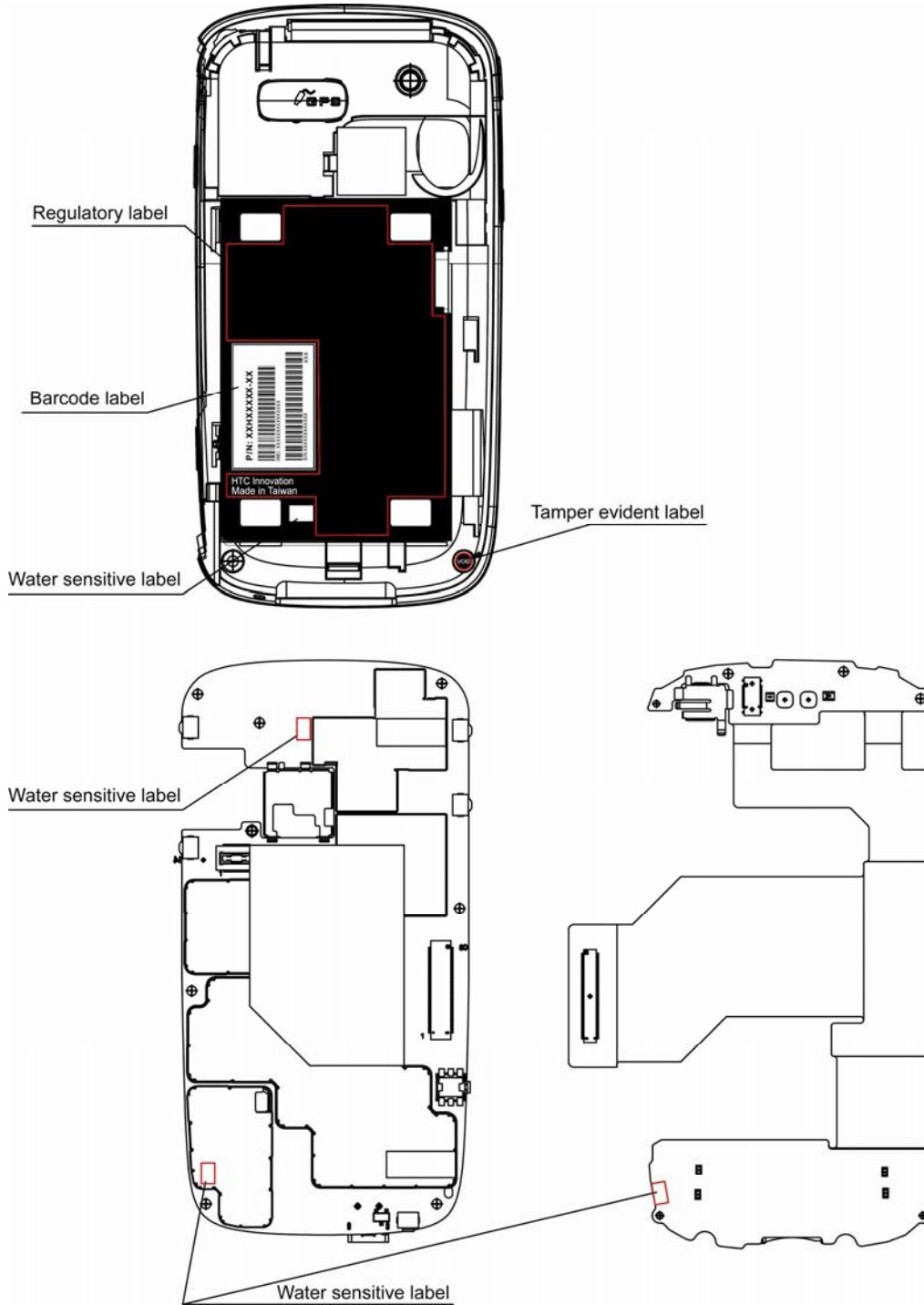


HTC P/N	Description

Unit label location explanation

Water sensitive label
HTC P/N: 77H00203-00M
Size: 4.0X2.5mm

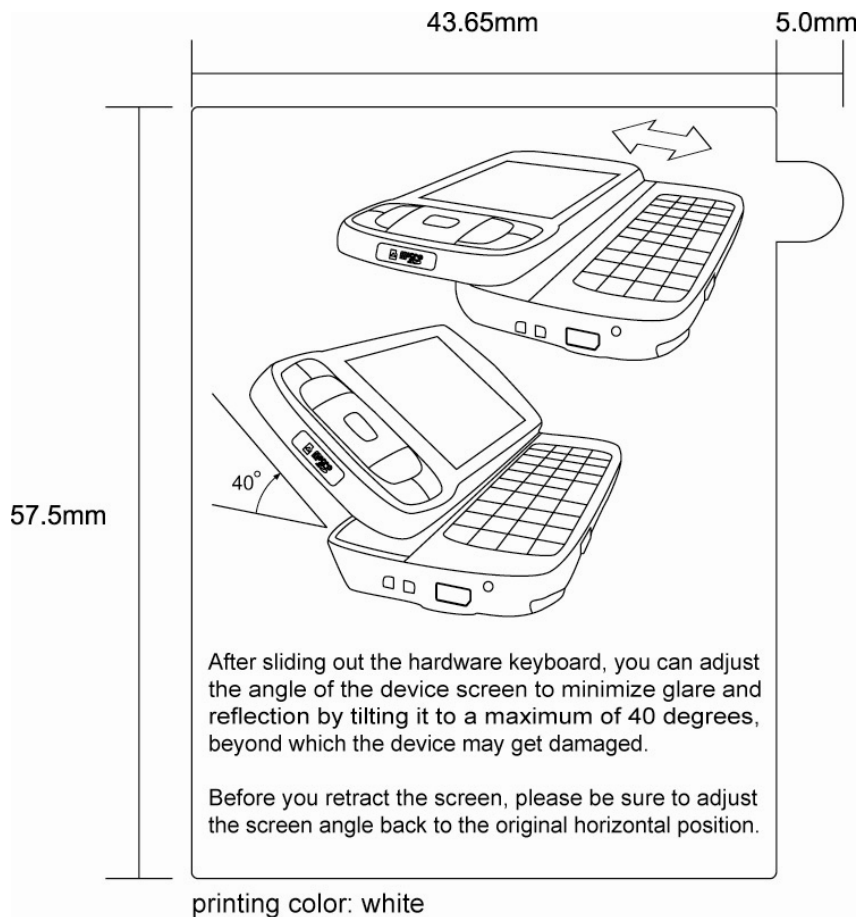
Tamper evident label
HTC P/N: 77H00460-01M
Size: D=3



Screen Protector

HTC P/N: 76H02140-00M

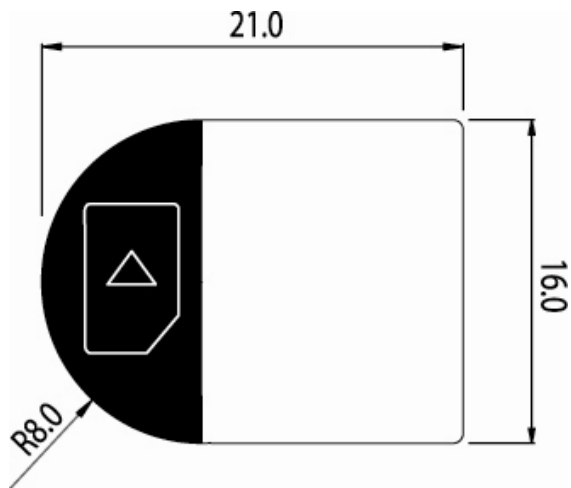
Size: 48.65 x 57.5mm



SIM card indicate sticker

HTC P/N: 77H00527-00M

Size: 21.0 x 16.0mm

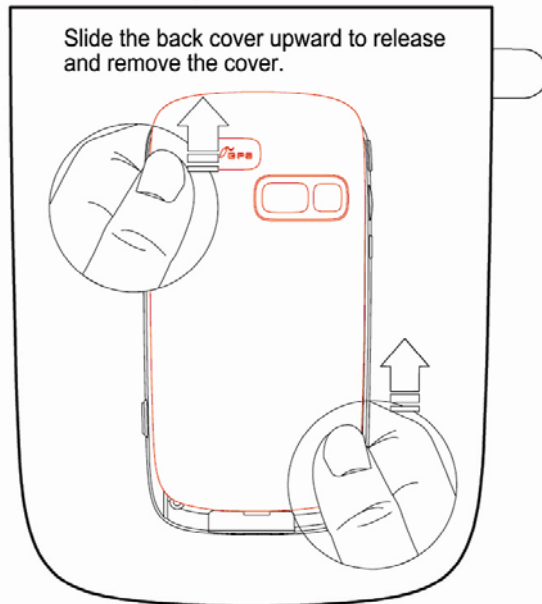


Battery cover indicate sticker

HTC P/N: 77H00528-00M

Size: 54.6 x 61.0mm

sticker on battery cover



Battery label

Battery label-SAMSUNG

HTC P/N: 35H00086-00M





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Battery label-Dynapack

HTC P/N: 35H00088-00M





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9. Generic Spare Part List and Photos

9.1 SPL for Repair

Item	P/N	Description	Qty	Substitute
1	36H00542-00M	Speaker	1	
2	36H00548-00M	Microphone	1	
3	36H00550-00M	Receiver	1	
4	36H00556-00M	Antenna Pre-Assy	1	
5	51H00394-02M	PCBA-MAIN BOARD,Kaiser	1	
6	51H00396-00M	PCBA,Sub board,Kaiser	1	
7	51H10051-00M	Rigid-Flex Board ASSY,Kaiser	1	
8	54H00225-00M	2nd Camera Module	1	
9	54H00227-00P	Main Camera Module	1	
10	60H00091-00M	TFT-LCD Module, TOPPOLY	1	
11	72H00658-00M	Screw,PH,FD,M1.4x2.5,YELLOW	1	V
12	72H01706-00M	Screw,M1-6,L2-8,T5,Herald	10	V
13	72H01715-00M	Screw,HAMA NAKA SHOUKIN,T1.6,DELTA TP	1	V
14	72H01981-00M	Screw,M1.4,L2.3,(D3.5*H0.2),Kaiser	4	V
15	72H02002-00M	Screw,TORX,KH-M1.6*2.6,Black,Kaiser	1	V
16	72H02064-00M	EMI Gasket,R-F PCB,SPG,3.5X10mm,0.5t,Kaiser	2	
17	72H02293-00M	Screw,Black Ni,M1.6*6,Kaiser	4	
18	73H20092-41M	FPC Pre-Assy,Qwerty,GLOBAL FLEX,Kaiser	1	
19	73H20094-41M	FPC Pre-Assy,SIM,GLOBAL FLEX,Kaiser	1	
20	74H00871-00M	Pre Assy Semi-Auto-Pump-Up,Slide-Hinge,Kaiser	1	
21	74H00873-00M	Shielding Pre-Assy,Camera-3M,Kaiser	1	
22	76H01838-00M	ME Gasket,Support-LCD,Woven,Kaiser	2	
23	76H01859-00M	Mylar,logic,mylar,Kaiser	1	
24	76H01897-00M	Rubber,speaker,TPU,Kaiser	1	
25	76H01901-00M	Mylar,For-B-cover-Hinge,Black,Kaiser	1	
26	76H01931-00M	Rubber,2nd Camera,silicon,Kaiser	1	
27	77H00471-03M	Regulation Label,KAIS130,43.04*63.7mm,CHENG MAY,Kaiser	1	
28	74H00780-01M	Housing Pre-Assy,D cover,voice command,Kaiser	1	
29	74H00859-00M	Support Pre-Assy,On-c-cover-center,POM,Kaiser	1	
30	74H00860-00M	Cover Pre-Assy,B-cover,KAISER	1	



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NOTE:

THE PHOTO OF SPL IS GENERIC AND ONLY FOR REFERENCE, THE COLOR AND 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.


FOR REFURBISHMENT PARTS, THE TABLE IS FOR YOUR REFERENCE. YOU CAN DO THE REFURBISHMENT ONLY WHEN YOUR SERVICE MODEL IS ALLOWED TO DO IT.


Picture for SPL 80H Kernel and Accessories


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


Part No.	35H00086-00M	
Description	BATTERY_LI-POLYMER,1350mAh,3.7V	
Q'ty	1	
Refurbishment	Yes	

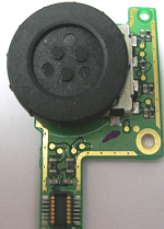
Part No.	36H00542-00M	
Description	Speaker	
Q'ty	1	
Refurbishment	No	

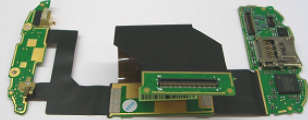
Part No.	36H00548-00M	
Description	Microphone	
Q'ty	1	
Refurbishment	No	

Part No.	36H00550-00M	
Description	Receiver	
Q'ty	1	
Refurbishment	No	

Part No.	36H00566-00M	
Description	Antenna Pre-Assy	
Q'ty	1	
Refurbishment	No	


Part No.	51H00394-02M	
Description	PCBA-MAIN BOARD	
Q'ty	1	
Refurbishment	No	

Part No.	51H00396-00M	
Description	PCBA,Sub board	
Q'ty	1	
Refurbishment	No	


Part No.	51H10051-00M	
Description	Rigid-Flex Board ASSY	
Q'ty	1	
Refurbishment	No	

Part No.	60H00091-00M	
Description	TFT-LCD Module, TOPPOLY	
Q'ty	1	
Refurbishment	Yes	

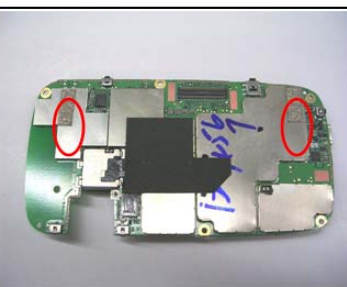
Part No.	72H00658-00M	
Description	SCREW, PH, FD, M1.4x 2.5, YELLOW	
Q'ty	1	
Refurbishment	No	

Part No.	72H01706-00M	
Description	Screw, M1-6, L2-8, T5	
Q'ty	10	
Refurbishment	No	

Part No.	72H01715-00M	
Description	Screw, HAMA NAKA SHOUKIN, T1.6	
Q'ty	1	
Refurbishment	No	

Part No.	72H01981-00M	
Description	Screw, M1.4, L2.3, (D3.5 *H0.2)	
Q'ty	4	
Refurbishment	No	


Part No.	72H02002-00M	
Description	Screw, TORX, KH-M1.6*2.6	
Q'ty	1	
Refurbishment	No	

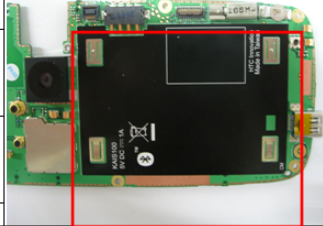
Part No.	72H02064-00M	
Description	EMI Gasket, R-F PCB, Kaiser	
Q'ty	2	
Refurbishment	No	

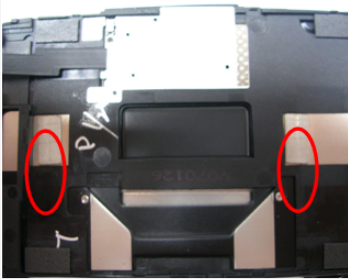
Part No.	72H30037-01M	
Description	Screw, PT, P, M1.6*6 mm	
Q'ty	4	
Refurbishment	No	

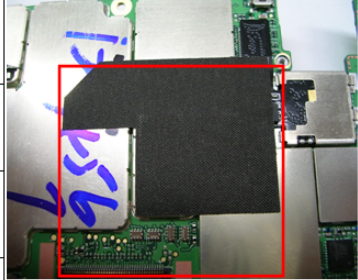
Part No.	73H20092-41M	
Description	FPC Pre-Assy, Qwerty, GLOBAL FLEX	
Q'ty	1	
Refurbishment	No	


Part No.	73H20094-41M	
Description	FPC Pre-Assy, SIM, GLOBAL FLEX	
Q'ty	1	
Refurbishment	No	

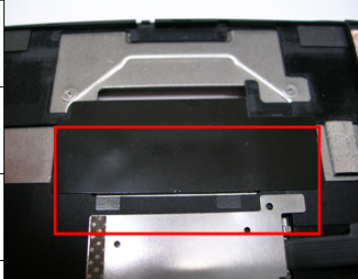
Part No.	74H00871-00M	
Description	Semi-Auto-Pump-Up,Per Assy Slide-Hinge	
Q'ty	1	
Refurbishment	Yes	

Part No.	77H00471-XXM	
Description	Regulation Label	
Q'ty	1	
Refurbishment	No	

Part No.	76H01838-00M	
Description	ME Gasket,Support-LCD	
Q'ty	2	
Refurbishment	No	


Part No.	76H01859-00M	
Description	Mylar,logic,mylar,Kaiser	
Q'ty	1	
Refurbishment	No	

Part No.	76H01897-00M	
Description	Rubber,speaker,TPU	
Q'ty	1	
Refurbishment	No	


Part No.	76H01901-00M	
Description	Mylar,For-B-cover-Hinge,Black,Kaiser	
Q'ty	1	
Refurbishment	No	

Part No.	76H01931-00M	
Description	Rubber,2nd Camera,silicon,Kaiser	
Q'ty	1	
Refurbishment	No	


Part No.	74H00780-01M	
Description	Housing Pre-Asy,D cover,voice command	
Q'ty	1	
Refurbishment	Yes	

Part No.	74H00859-00M	
Description	Support Pre-Asy,On-c-cover-center,POM	
Q'ty	1	
Refurbishment	Yes	


Part No.	74H00860-00M	
Description	Cover Pre-Asy,B-cover	
Q'ty	1	
Refurbishment	Yes	


Part No.	74H00861-00M	
Description	Cover Pre-Asy,C-cover	
Q'ty	1	
Refurbishment	Yes	

Part No.	74H00865-00M	
Description	Cover Pre-Asy,hinge-Plastic-cover,left	
Q'ty	1	
Refurbishment	Yes	

Part No.	74H00867-00M	
Description	Keypad Pre-Asy,Qwerty	
Q'ty	1	
Refurbishment	Yes	

Part No.	74H00868-00M	
Description	Bezel Pre-Asy,A cover	
Q'ty	1	
Refurbishment	Yes	

Part No.	74H00869-00M	
Description	Keypad Pre-Asy,AP	
Q'ty	1	
Refurbishment	Yes	

Part No.	74H00870-00M	
Description	Stylus Pre-Asy	
Q'ty	1	
Refurbishment	Yes	

Part No.	74H00872-00M	
Description	Cover Pre-Asy,battery	
Q'ty	1	
Refurbishment	Yes	

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. Checking the polarity of CON8, and the position can't be shifted.
- B. Checking the polarity of SW8、SW7, and it can't be reversed.
- C. All the parts of the PCB should be checked if it is missing or not.
- D. The OP must to wear antistatic wrist band .Don't put boards together and avoid hitting them.
- E. 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%))
- F. 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



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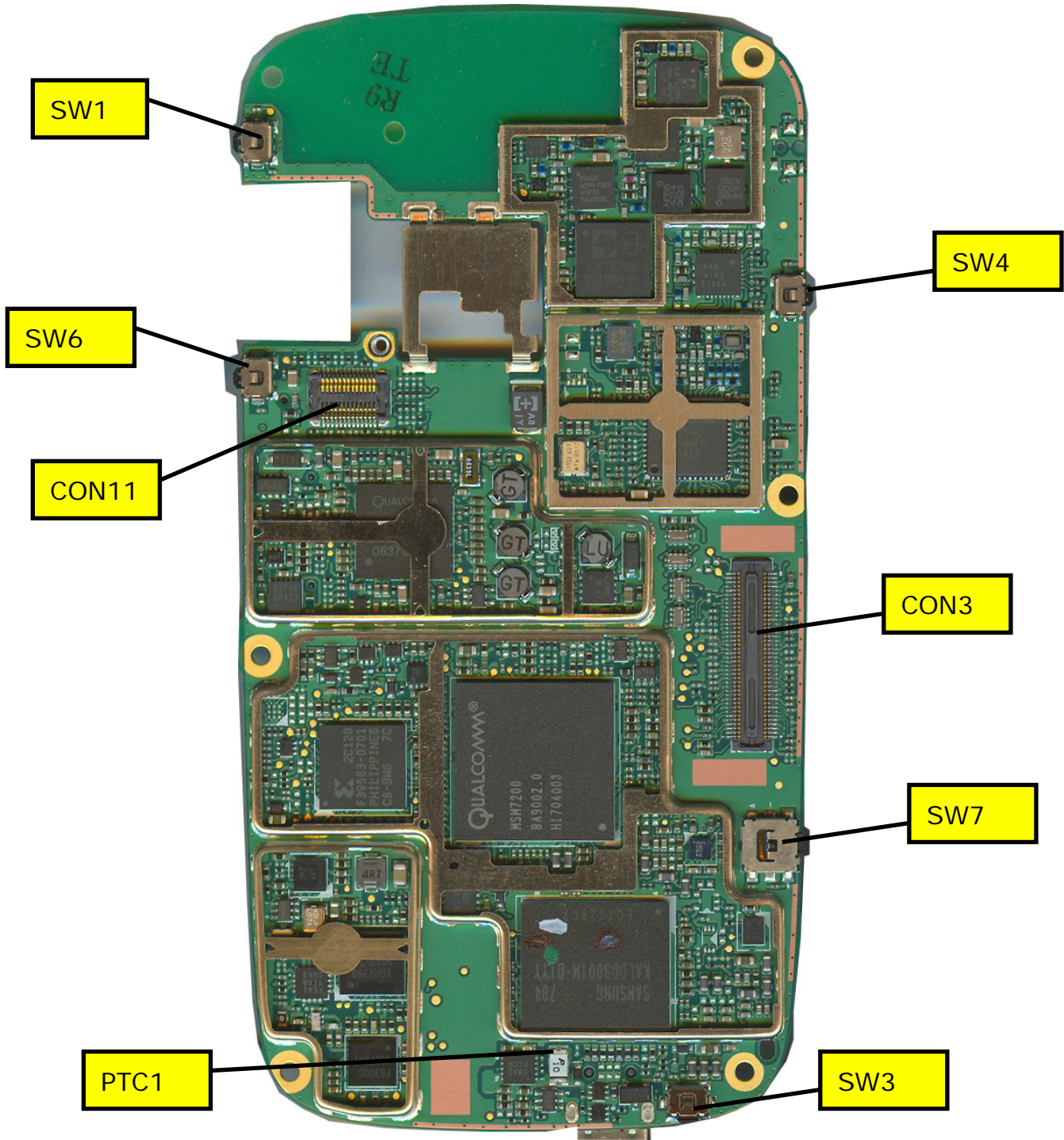
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51HXXXXXXXXX PCBA-MAIN BOARD (Side A)

Location	P/N	Description	Remark
PTC1	36H00058-00M	Fuse,1A,6V,0.055ohm ~ 0.21ohm,SMD1206P100TF,PTC	Fuse
SW1	36H00230-00M	SWITCH,SOH-213HST,MITSUMI,70/-20degC	PTT Button
SW4	36H00230-00M	SWITCH,SOH-213HST,MITSUMI,70/-20degC	Power Button
SW6	36H00230-00M	SWITCH,SOH-213HST,MITSUMI,70/-20degC	Ok Button
SW3	36H00308-00M	Switch, Reset switch,SOH-213HNT,MITSUMI	Reset Button
SW7	36H00508-00M	Switch,TSW-20,SHINMEI	Camera Button
CON3	75H00649-00M	Connector B to B,100mohm,80P,0.4mmPitch,0.3A,30V	Rigid-Flex Board Connector
CON11	75H00654-00M	Connector B to B,90mohm,26P,0.4Pitch,0.5A,60V,AXK7L26217G,NAIS	Camera Connector

➤ Side A Photo and Component Location





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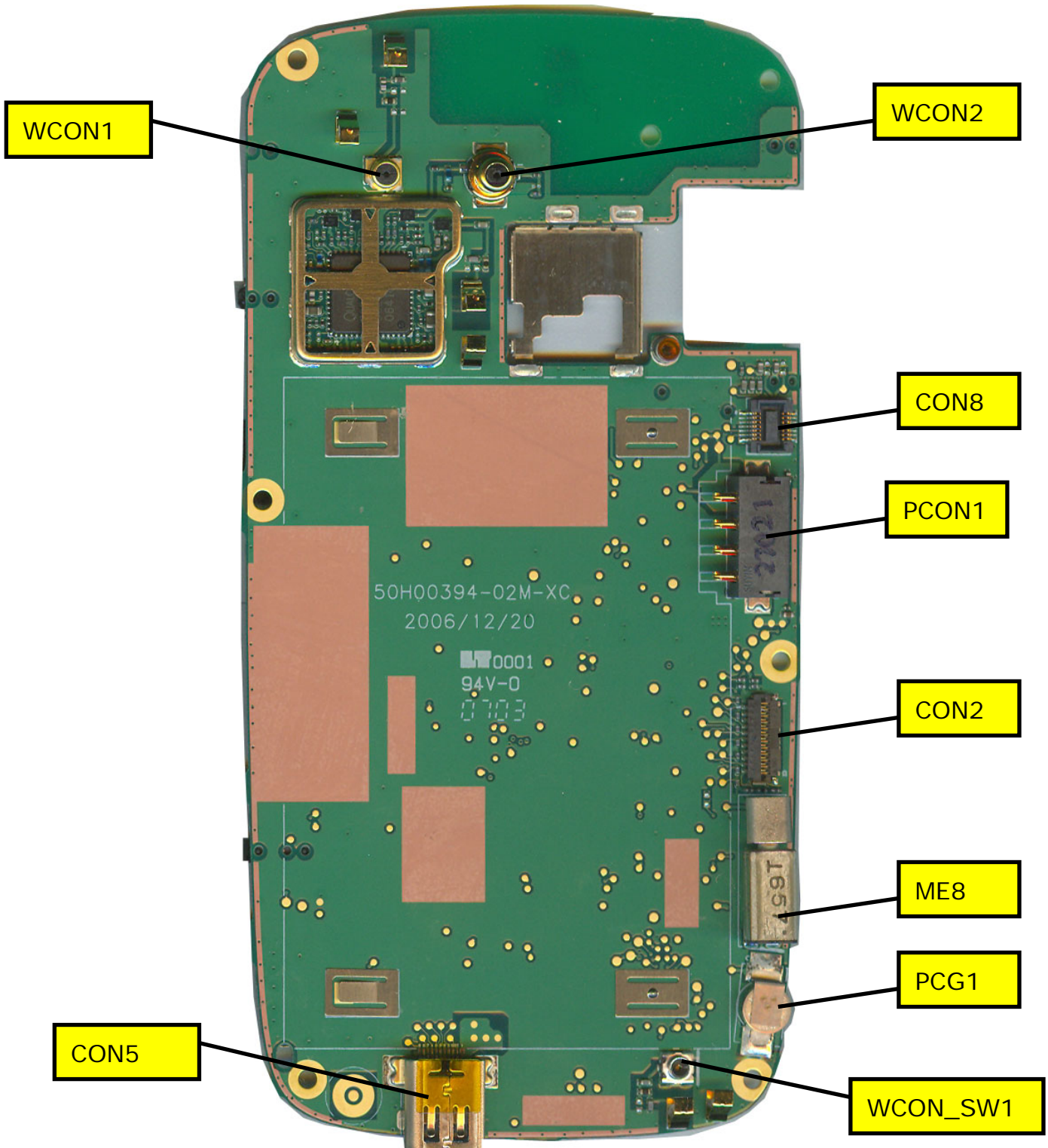
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51HXXXXXXXXX PCBA-MAIN BOARD (Side B)

Location	P/N	Description	Remark
PCG1	16H00012-00M	Gold Cap,0.07F,70ohm	Golden Cap
WCON1	75H00514-00P	Connector RF,Female,4P,MS-162,HIROSE,3.5*3.1*2.5mm	RF connector
WCON2	75H00276-00P	Connector RF,5.8*5.4*3.9,Female,MS-147(06),4pin,HRS	GPS extension antenna connector
ME8	36H00355-00M	Vibrator,SSR-2881,SMT type, SANYO	Vibrator
CON8	75H00655-00P	Connector B to B,70mohm,14P,0.4mmPitch,0.3A,60V,AXK714137G	PCBA, Sub board Connector
CON5	75H00465-00M	Connector I/O,Reverse,11P,0.4Pitch,MJE21-11K7P20,ACON	USB Connector
PCON1	75H00554-00M	Connector,4Pin,2.5mm,250037MB004G511ZL-C,SUYIN,40mohm	Battery Connector
CON2	75H00579-00M	Connector FPC,23P,0.3Pitch,FH26-23S-0.3SHW(05),HIROSE	Keyboard Connector
WCON_SW1	75H00248-00M	COAXIAL CONNECTOR,RF,WITH SWITCH,SMD	RF connector

➤ Side A Photo and Component Location





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10. RF Antenna Specification

10.1 EU Antenna

Items	Test Name	Tx Level	TCH	1st Downlink Cell Power	Note
1	Camp @ DCS Band	0	512	-65	BCCH=600
2	BS Originate Call	0	512	-65	
E-GSM 900 Receiver Test					
3	Fast Bit Error Rate	5	975	-104	
E-GSM 900 Transmitter Test					
4	TX Phase RMS Error	5	975	-104	
5	TX Phase Peak Error	5	975	-104	
6	TX Frequency Error	5	975	-104	
7	Check TX Power	5	975	-104	

Items	Test Name	Tx Level	TCH	1st Downlink Cell Power	Note
1	Camp @ W-CDMA Band I (2100)	3	9613	-65	
2	BS Originate Call	3	9613	-65	
E-GSM 2100 Receiver Test					
3	Bit Error Rate	3	9613	-104	
E-GSM 2100 Transmitter Test					
4	Check TX_Max Power	3	9613	-60	



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10.2 US Antenna

Items	Test Name	Tx Level	TCH	1st Downlink Cell Power	Note
1	Camp @ DCS Band	0	512	-75	BCCH=600
2	BS Originate Call	0	512	-75	
GSM 850 Receiver Test					
3	Fast Bit Error Rate	5	128	-104	
GSM 850 Transmitter Test					
4	TX Phase RMS Error	5	128	-104	
5	TX Phase Peak Error	5	128	-104	
6	TX Frequency Error	5	128	-104	
7	Check TX Power	5	128	-104	

Items	Test Name	Tx Level	TCH	1st Downlink Cell Power	Note
1	Camp @ W-CDMA Band II (1900)	3	9400	-65	
2	BS Originate Call	3	9400	-65	
Receiver Test					
3	Bit Error Rate	3	9400	-104	
Transmitter Test					
4	Check TX_Max Power	3	9400	-60	

Items	Test Name	Tx Level	TCH	1st Downlink Cell Power	Note
1	Camp @ W-CDMA Band II (850)	3	4175	-60	
2	BS Originate Call	3	4175	-60	
Receiver Test					
3	Bit Error Rate	3	4175	-104	
Transmitter Test					
4	Check TX_Max Power	3	4175	-60	