



KX100  
Smart Test Device

Shenzhen Kexin Communication  
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## Smart Test Device Quickly Using Manual

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## Part One: Overview and Composition

### 1、Overview

KX100 is a new system based on Android System platform which is designed for the entire network operation needs of Network Service Provider and it was developed by Shenzhen Kexin Communication Technologies Co.,Ltd. It's a all-in-one intelligent terminal that including optical fiber resource management, power meter ,visual light source, xDSL, LAN testing, line tracing, GPS and mobile phone, It is the perfect combination of design and technology. For the function, it realized optical fiber resource management by accessing the internet through wire line or wireless, and uploading the collected data to server, to realize the testing function of links. It is suitable for many access ways that including xDSL、LAN、FTTx, and help to confirm whether user line (copper cable, fiber optic cable) is ready for service? Not only can the terminal simulate the client PC, used to test the broadband lines or to dial through the client Modem PPPoE, also can be used to check the broadband network connectivity and whether the users' Modem is operation normally, exclude the network broken problems since the user PC failure. It's convenient for your network operation and maintenance work, and can greatly improve the network operational efficiency and service quality.

The test terminal use FWVGA 5.0 Inch high resolution display screen with pixel 854×480 and multipoint

capacitive touch screen with tempering procedure, the screen is compress-resistant and drop resistant, robust, scratch-resistant. The intelligent tester use Android 4.2 embedded operating system, the operation is simply with friendly interface, it can meet various network operation demands of network operators. It is a good assistant for your network operation and maintenance.

### 2、 Appearance and Introduction of All the Parts



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Serial Number	Name	Function
1	Power meter port	Connect fiber interface to test the power meter
2	light source port	Connect fiber interface and use light source to test on-off of optical fiber
3	Power switch	Terminal's turning on/off、standby mode
4	SCAN key	Bar code shortcut key
5	Display screen	On screen display
6	Menu key	Function key
7	Home key	Turn back to lock screen
8	Receiver	Receive voice
9	Return key	Turn back to the last menu interface
10	Volume -	Reduce the volume of talking or loudspeaker
11	Volume +	Add the volume of talking or loudspeaker
12	Reset key	Reset actions on terminal
13	Indicator light	For indicating terminal's status
14	MIC	Terminal's MIC
15	Loudspeaker	Terminal's loudspeaker
16	Light-compensating lamp	Be both Light-compensating lamp window and flashlight
17	Fixed jaw for bandage	For fixing bandage
18	Bandage	Easy to control terminal
19	Battery cover	Battery's fixed cap

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20	Screw for battery cover	For fixing or loosening a battery's cover
21	Camera	Take a view by taking photos or recording pictures.
22	Dust cover for port	Prevent port from dust or water
23	USB Port	For external power of 5V/500mA.
24	MIC USB Port	For connecting PC and USB earphone
25	Charge port	Terminal charging port
26	Ethernet port	Link ethernet for internet test
27	RJ11 port	Connect xDSL line test, and become signal output port of cable trailing
28	Dust cover for Internet access	Protect internet access from dust or water
31	Scanning head window	For scanning barcode (Selectable)
32	Dust cover for optical port	Prevent optical port from dust or water

### Button

Button	Name	Function
	Function key	By clicking this key you can enter wallpaper、management application、system settings
	Home key	By clicking this button you can turn back to system's main screen interface
	Backspace key	Go back to the parent interface.

### 3、Battery's method of application

### ◆ Install the battery

Use screw driver to contrarotate 2 anchor screw for battery cover, take off the clasping hand on battery cover and take down the cover, insert the battery's end with sheetmetal downward battery holder then press the bottom of battery; clamp the battery's cover and the body, then tighten up the 2 battery cover in the clockwise direction, finally battery will be installed.

### ◆ Remove the battery

Use screw driver to contrarotate 2 anchor screw for battery cover, take off the clasping hand on battery cover and take down the cover, then pull the battery's transparent drawstring, finally you can take down the battery.

### ◆ Charging

Connect the terminal to an adaptor, the adaptor will start to charge when it is plugged into the power socket of 100~240V, 50/60Hz. Icon of battery level flashes while it's charging, after charging is completed, icon will stop flashing.

## 4、Basic situation

Support GSM and voice and data traffic.

Terminal dual core CPU MTK6572 , RAM 512M, Flash 4G, support TF storage card (maximum capacity is 32G)

Camara is with 500 megapixel, support the function of automatic focusing, flash and flashlight

Size: 174×91×48mm

Weight: approximately 560g

## Part two: Major functions and method of application

### 1、Fundamental function

#### 1.1、Turn on/off

##### ◆ Turn on/off

Long press power button you can turn it on and then screen will show KEXIN's boot animation.

Prompt box of power menu will pop-up if you long press power button, click "confirm" after choosing "power off", then the terminal will turn off.

#### 1.2、Standby/Wake up

In the state of power-on, it will turn into standby with long time in operation or short press the power button. System can be awakened when you short press the power button. The system will be back to the interface before standby and the program will be back to the status before standby.

#### 1.3、Desktop management

##### ◆ Locking and unlocking

If the user perform no action for some period of time, terminal will be automatically lock and be in standby state, system will be awakened after press the power button, then lock the icon by clicking it, and you can respectively enter different features interface by sliding in a different direction.

##### ◆ Adding/Removing desktop icon

Enter the menu interface by clicking  and find the program that its desktop shortcuts will be created, hold the icon then the icon will be automatically removed to the desktop, press the icon and drag it into icon box (Please keep pressed in duration of operation).

Press the desktop icon to be removed, after the vibration of

icon, a  will appear above the screen, just move the icon to , release the key after the icon turn red, then the goals icon will be removed.

### ◆ Uninstall the installed programs

Enter the menu interface, select the icon of interface to be uninstalled, hold down the icon, move the icon of uninstalled program to “uninstall” after click it, then the uninstalled interface will pop-up, and the installed program will start to run after clicking “OK”, and ends when you click “OK” again.



### 1.4、Receiving/dialing phone

#### ◆ Receiving/dialing phone

When the phone rings, a caller interface will pop-up and issue a bell, user can slide to decide whether answer or hang up according to the icon overlays.

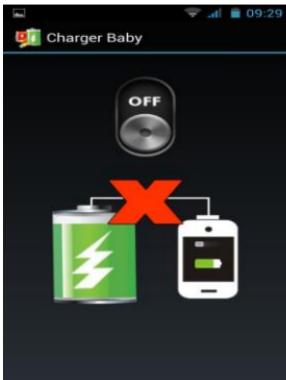
You can make a call by clicking dial plate in main menu or idle desktop, and enter the number, press the button , if you want to end up calling, you can click button  to hang up.

### 1.5、External power supply

The terminal can output power of DC 5V/500mA, the port is USB port.

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By clicking icon  on the main interface, you can enter power-output interface, as shown below:



By clicking“ON/OFF”you can switch the external supply circuit.

### 1. 6、Function of WIFI portable hotspots

Terminal support Wifi portable hot spots, and provide WIFI connection link to other equipment, by clicking items of network sharing and portable hotspots, then it will be ok after turning portable WLAN hotspots. Other device with WIFI functionality can search hotspot' s AP name, then connect and log in the network.

### 2、Cable' s operation test

Cable' s operation test is terminal' s professional test software, including xDSL test、Modem emulation、internet test、network layer test、E china netcom test、downloading speed test、FTP client side, equipment S/N code etc. , client can enter cable' s operation test by clicking icon  in main interface, select corresponding function according to actual test requirement.

Description of all the functions is shown as blow:

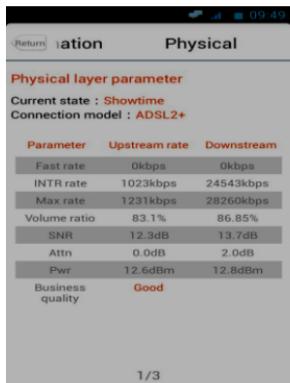
#### 2. 1、xDSL Test (Selectable)

ADSL module built in the terminal, test xDSL line, including

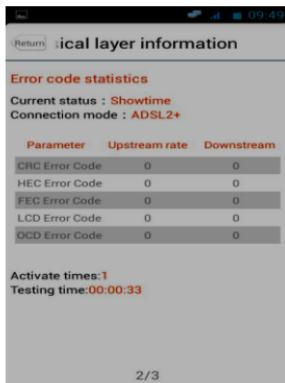
physical layer information、Modem parameter setting、PPPoE dialing、internet test。

### 2.1.1、Physical layer information

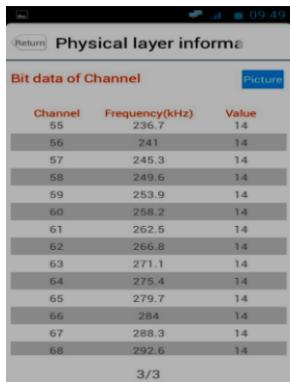
Physical layer information is for testing xDSL line's physical layer information, including xDSL connection status、connection mode、downstream and upstream rate、noise margin、line attenuation、output power、CRC error code、HEC error code、FEC error code、OCD error code、NCD error code and traffic bit diagram。You can test if there is some problem with subscriber line, and the parameter of measured subscriber line, resolve the trouble caused by modem or computer. The test interface will show value of all the parameter to reflect the current state. As shown below:



Interface of physical layer parameter

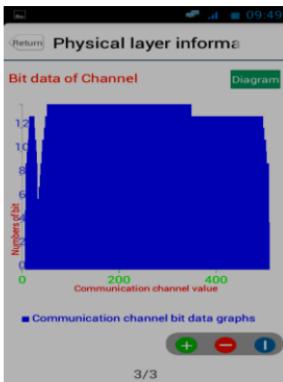


error statistics interface



Channel	Frequency(kHz)	Value
55	236.7	14
56	241	14
57	245.3	14
58	249.6	14
59	253.9	14
60	258.2	14
61	262.5	14
62	266.8	14
63	271.1	14
64	275.4	14
65	279.7	14
66	284	14
67	288.3	14
68	292.6	14

Text display of bit map



Graphical display of bit map

Through current status of xDSL, you can see the connection and handshake between xDSL and party A's equipment.

## 2. 1. 2. Modem parameter setting

Setting includes Modem mode setting and VPI/VCI setting.

In Modem simulation interface Modem's operating mode and 8 groups of value of VPI/VCI. Modem mode includes ADSL compatible mode and ADSL2+ mode, you can set current operating mode through selection, explains of all the modes are as follows:

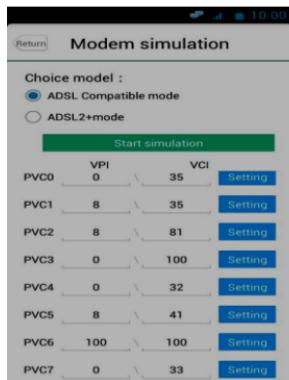
**ADSL2+ mode:** It's ADSL2+ standard mode, under this mode you can automatically select the current connection mode according to the mode of local side, ADSL2+ mode is a senior position of connecting, when local side can not connect ADSL2+ mode, it will switch to ADSL mode, but this ADSL mode is partially compatible with line of ASDL, and other some ADSL can not be compatible.

**ADSL compatible mode:** under this mode, device can not support ADSL2+'s connection mode but ADSL mode's line.

Simulation setting interface will show the current 7 groups of VPI/VCI parameter in terminal. If you want to make some

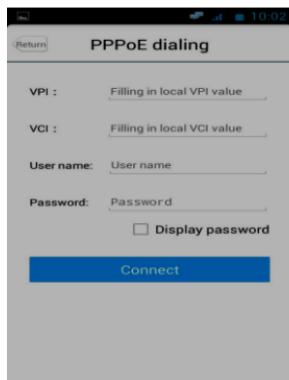
modification, you can change an arbitrary group of VPI/VCI into the value required by the user, in some or other group of VPI/VCI input box, we can input modified value and click the setting button, then the primary VPI/VCI value can be changed into the current one(the data will not be losed when electricity turn off)。

Modem parameter setting interface is shown as below:



### 2.1.3、PPPoE dialing

By clicking icon in test interface, you can dial PPPoE, and log in after input user's name and password.



### 2.1.4、Internet test

After dial successfully, click the icon of internet, enter global function explorer's interface to verify xDSL access's connectivity. In the listing of home page, you can log in useful sites, then input the website to log in, as shown below:

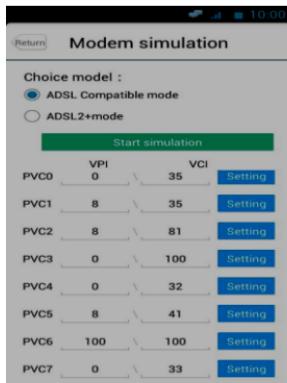


If other programs need xDSL access, upon return, the programs will notify whether the modem will be powered off or powered on when exit——If we need to use xDSL access then it should be powered off, if not it will be powered on. We can also click the home button to return to the main page.

### 2.2、Modem emulation

Used for lan emulation user's Modem, achieve Modem's troubleshooting. By clicking Modem's emulation icon, you can turn on Modem's power, terminal will be at Modem's emulation status, and show Modem's VPI/VCI. Now it is a ethernet port of xDSL Modem, and could simulate the user's Modem, As the Modem terminal will achieve PPPoE's dial-up through customers PC, repair lack of network access caused by user's modem fault. If you need to exit Modem's emulation status, please click the button for exiting

emulation, then you can do it. As shown below:

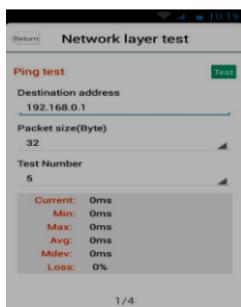


### 2.3、Network layer test

Click network layer test then you can enter it, the test includes: Ping test, Ifconfig test, Route test, Traceroute test. By sliding your finger left and right in the interface you can switch the test items.

#### ◆ Ping test

Enter the IP address or domain name to be Ping, choose the package's size and Ping's frequency, then click test, shown as below:



#### ◆ Ifconfig test

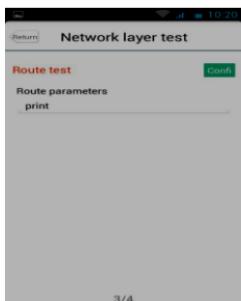
Swipe the screen to the right and click test in Ifconfig

interface then you can view current network information, shown as below:



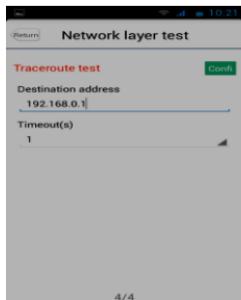
### ◆ Route test

Swipe the screen to the right and click test in route interface then you can view current route information, as shown below:



### ◆ Traceroute test

Swipe the screen to right and input the destination address you need to track in traceroute interface, choose the timeouts, then click test you can start it, as shown below:

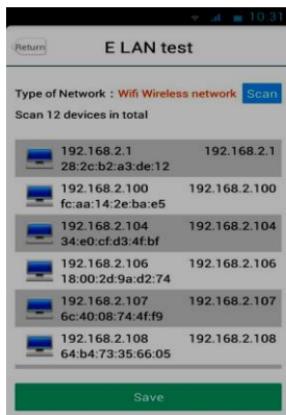


### 2.4、E CNC test

E CNC test is the LAN test software, and used for LAN computer's search function. It support wired network and WIFI network, and can select type of network in interface, you can see the information such as IP add、name of computer and MAC add etc. Within LAN. Shown as below:



Wired network display

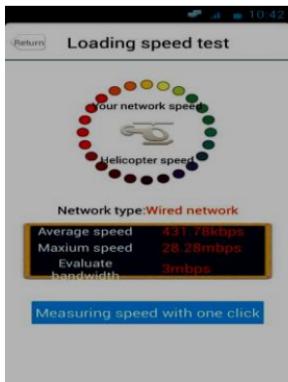


WIFI network display

### 2.5、Downloading speed test

Downloading speed test is for testing the downloading speed of network, it can reflect status of network quality clearly. Test the speed with one click, then interface shown as below

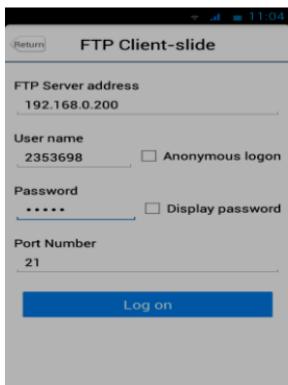
appears:



After the test, average and maximum download speed will be calculated, and network bandwidth will be evaluated.

### 2.6. FTP client side

FTP client side can log in FTP server, upload and download files, shown as below:



Input FTP server address, user's name, password and port number, then click connection you can log in FTP server.

Note: If you want to log in FTP client side, you need to open network(LAN or wireless), and make sure there is network that can

be connected.

### 2.7、Device's S/N code

Terminal can get through Modem of ethernet's junction and communication, then log in Modem's WEB settings, modify equipment's setting of SN code etc., terminal IP address and communication modem IP address should be on same segment, the tolerant log in address can be set in test setting's SN code equipment address, as shown below:



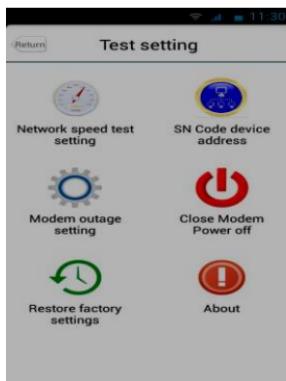
Connect equipment and terminal through wires before logging in, then click the SN code, and system will pop-up window to select SN code equipment address, user should choose equipment address need to be set up, click confirm then you can log in equipment's WEB page.

Input user's name and password, then you can log in equipment's WEB configuration page, by double-clicking screen explorer you can enlarge viewed content, by swiping screen to left and right you can look up different areas within web pages, as shown below:



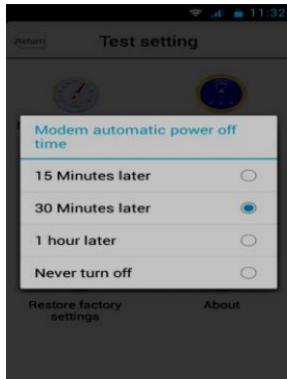
## 2.8、Test setting

Test setting is used for some setting items of terminal test software, including network speed test setting、SN code device address, close modem power off、restore factory setting、about, as shown below:



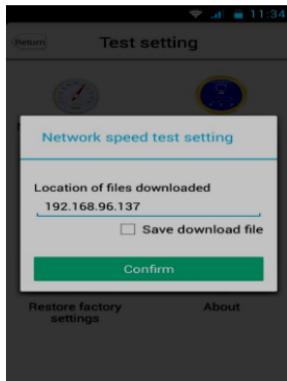
### ◆ Modem's power-off time setting

Is for Modem's hours of service, after exceed time scheduled by setting, Modem will automatic power off, as shown below:



### ◆ Network speed test setting

File downloads location of network speed test setting and if it will be saved in download time, as shown below:



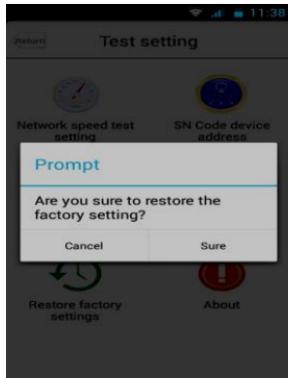
### ◆ SN code device address setting

This item is the default IP address for setting SN code, can be used to set common equipment's IP address, as shown below:



### ◆ Restore factory settings

This setting can restore terminal network setting to factory setting, the tooltip will pop-up before restoring, and the process will be completed after you click confirm, as shown below:



### ◆ About the terminal software's type and company contact method, kindly see the following figure:



### 3、Power Meter&Light source (Optional)

#### 3.1 Optical power testing

Setting of optical power testing is used for testing fiber optic signal's power value, insert pigtail to be tested into terminal optical interface (SC Port) then you can test the power.

On your main screen click the icon  , you can enter the optical power testing interface shown as below:



By clicking button  , you can switch 7 wavelength of 650、850、1300、1310、1490、1550、1625nm, By choosing corresponding

wavelength you can test current power value at it. By clicking button **dBm/mW** you can choose dBm、dB、mW to show power value in them. By clicking button **SaveFile** to save the current test results. Customer can modify the stored file's name by themselves. By clicking button **Quit**, the process will exit the current test.

### 3.2、Red light source

Terminal has red light source output, and output continuous red light or modulating light of 2Hz. Click the button of **VFL** under a laser power interface, and enter red light source control interface, just shown as below:



Click the button of **VFL on** to turn on red CW continuous light source, Status lamp is normally on in the interface, By clicking button of **CW/2Hz** it can be switched to modulated light source of 2Hz, by clicking button of **VFL off** you can turn off the red light source, and by clicking button of **Quit** you can exit out of red light source control interface and return to optical power testing interface.

### 4、Current and wireless signal control

Current and wireless signal control is in the setting, and

provide a quick way. By pulling down reminders, the short cut icon will be shown, By clicking short cut icon you can open or close the options, Grey indicates close, blue indicates open.

Each explanation is as follows:

Icon sets : Click the short cut icon, you can open the setting.

Icon : Open/Close Wifi, if open the unidentified wifi router for the first time, then you need to enter setting, firstly search the Wifi router, and enter the password. After access Wifi, the reminder will show a  to prompt you that Wifi is connected.

Icon : Open/Close bluetooth, if you need to search other bluetooth device, then you need to enter setting, search the device and get paired with it.

Icon : Used for adjusting the backlight brightness of display screen, screen will show  when you click the icon, touch the dots on interface and drag it to adjust until brightness you want, drag right to enhance the brightness, drag left to reduce the brightness.

Icon : For selecting pattern users would ever need, include four patterns of standard、silence、conference、outdoor.

Icon : Airplane mode switch, is used for turning on/turning off airplane mode of the terminal.

## 5、Internet

Click icon  in the right corner of screen to enter web-browser interface, on the home screen you can log into useful sites. You can enter URL or IP address into the address bar and land pages. Click the menu button, it pops internet setup menu.

### 6、Set

In the application of terminal setup, most service of system can be set, including SIM card management、WLAN、ethernet、bluetooth、bandwidth usage etc. and more:

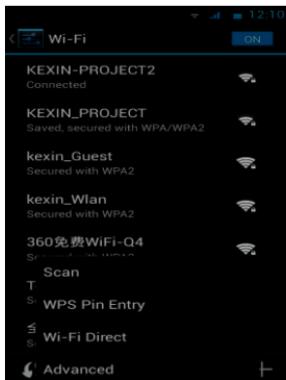
#### 6.1 Wireless & networks

##### ◆ SIM Card management

Be able to select the SIM card when terminal is on standby, and able to select and set the SIM card used by data connection, voice call、Vedio、Information.

##### ◆ Switch and setting of WLAN

Switch that swipe left or right can turn on or turn off WLAN. We can enter WLAN Setting by clicking, after that, search for WLAN routers through terminal, and they will be shown as a list, click the terminal of corresponding router we can connect the router, if router remains unencrypted we need to password and then we can connect it. Click the menu button on bottom of terminal it will pop interface shown as blow:



Click to Scan, then you can search for other network and trusty

access point nearby.

### ◆ Set and switch of blue tooth

By swiping left, right the switch we can turn on or turn off blue tooth, click it we can enter the blue tooth setting, after blue tooth is operating, by clicking the terminal's name you can allow all the blue tooth nearby detects this device, while we can also scan devices nearby.

By clicking “Search device”, it will search the blue tooth device and show its list; by clicking the icon  on left side of blue tooth's name you've searched, you can rename the blue tooth device or cancel the pairing.

### ◆ Bandwidth usage:

Enable or turn off the function of mobile data traffic, view bandwidth usage, and set the flowrate-limited warning

## 6.2 Device

### ◆ Contextual model

By clicking the contextual model, you can enter the interface, then enter corresponding pattern by clicking each option, finally click icon  on right side “standard” pattern then enter voice setting.

### ◆ Show

The options displayed include note of locking the screen, scene selection, subjects choice, font size etc.

### ◆ Storage

Check terminal and memory card's space capacity and system available space.

### ◆ Cell

Be able to check end cell's electricity usage, and the setting

can show the cell's percentage.

### ◆ Application

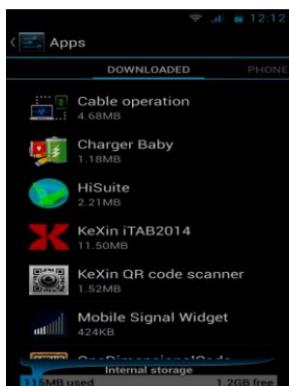
Application program can be managed, It has the following content:

**Management application:** It is used for management of installed application in terminal, includes show the information like storage space of application, access right etc. and clearing data and defaulting setting, enforcing to stop etc.

**Running services:** Check and control currently running service.

**Storage space usage:** Check storage space usage of application.

As shown blow:



### 6.3 System

#### ◆ Date and time:

You can automatic gain internet time after you have opened data connection. When the connection is closed, you should set the date, timezone, time, select the format of time and date

#### ◆ Power on/off by alarm:

Open the function of automatically powering on/off, then

you can set timing of powering on/off

### ◆ Assist:

The accessibility includes the selection metaphors of zooming gesture、large fonts、Hanging up by pressing the power button, automatically rotating the screen、Speaking your passcode、short cut of accessibility、delaying through touching and pressing、instant on.

### ◆ Developer options:

Set developer options.

### ◆ About the terminal:

Click into it, you can upgrade the system, see status information、legal information、basic information just like model and version etc.

## 7、Camera

You can conveniently take photo and record vedio by camera comes with terminal

## 8、Map storage

Enter the program to view the picture and vedio we store in terminal and SD card. Click the icon of  in main interface, Then you can enter to view the image and vedio. glance over the image in folder by a left and right swipe. If it is a vedio, just click and you can see it.

## 9、File Management

See the file we store in terminal or SD card. By file manager, we can glance over and manage the file and folder in built-in storage and storage card. Long hold the icon of file we want to choose, then it will pops up the action menus

## 10、Intall the uninstaller program

### ◆ Install

Find the downloaded application installation package in the file management(the extension is apk)。Click the package, if “installation forbidden” pops up, please choose the set program according to the prompt, open “Set” > “Safety” , select “Unknown sources” , return to the Applist, then click the application program and choose the “Installation” 。

### ◆ Uninstall

Go into the“Set>Application program”。Select the application that should be uninstalled, Click the “uninstall” or go into menu user interface, select the icon of application that will be uninstalled, and hold it .After the vibration of icon, it can be removed. The removed icon will pops up the interface, You can click OK to start the uninstalling program, then click it again to finish the uninstalling

### CE Warning:

1. Use careful with the earphone maybe possible excessive sound pressure from earphones and headphones can cause hearing loss.



2. Caution : Risk of explosion if battery is replaced by an incorrect type. Dispose of used batteries according to the instructions.
3. The product shall only be connected to a USB interface of version USB2.0
4. The plug considered as disconnect device of adapter
5. The device complies with RF specifications when the device used at 0cm form your body
6. Hereby, Shenzhen Kexin Communication Technologies Co.,Ltd declares that this Smart test device is in compliance with essential requirements and other relevant provisions of Directive 1999/5/EC.
7. Extreme temperature: -20~40 centigrade

### FCC Warning

This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and receiver.
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
- Consult the dealer or an experienced radio/TV technician for help.

**Caution:** Any changes or modifications to this device not explicitly approved by manufacturer could void your authority to operate this equipment.

This device complies with part 15 of the FCC Rules. Operation is subject to the following two conditions: (1) This device may not cause harmful interference, and (2) this device must accept any

interference received, including interference that may cause undesired operation.

This Smart Test Device meets the government's requirements for exposure to radio waves. The guidelines are based on standards that were developed by independent scientific organizations through periodic and thorough evaluation of scientific studies. The standards include a substantial safety margin designed to assure the safety of all persons regardless of age or health.

**FCC RF Exposure Information and Statement** The SAR limit of USA (FCC) is 1.6 W/kg averaged over one gram of tissue. Device types: Tablet POS (FCC ID: 2AFVSKX100) has also been tested against this SAR limit. The highest SAR value reported under this standard during product certification for use at the ear is 0.214W/kg and when properly worn on the body is 0.451W/kg. This device was tested for typical body-worn operations with the back of the handset kept 00cm from the body. To maintain compliance with FCC RF exposure requirements, use accessories that maintain a 00cm separation distance between the user's body and the back of the handset. The use of belt clips, holsters and similar accessories should not contain metallic components in its assembly. The use of accessories that do not satisfy these requirements may not comply with FCC RF exposure requirements, and should be avoided.



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