Q7User Manual

Ver:001

Amendment Records

Product name	Version number	Person in charge	Establish/ amend date	Reason for change	The major change contents
Q7	001	Deng Qingwei	2018-12-25	N/A	New updates

Note:

1. Please fill the form if there is any update.
2. For the first time saving the file, note ‘‘N/A’’ in the ‘‘reason for change’’ and ‘‘major change contents’’ line.

Safety maintenance:

Please maintain your system properly to make sure its service life and reduce the damage risk.

- It should avoid the humidity and extreme temperature when beingused.
- Avoid prolonged exposure of the unit to direct sunlight or strong ultraviolet light.
- Do not drop the unit or let it be in any place with severe shock /vibration.
- Please avoid the collision as the LCD screen is very easy to be scratched. Do not use any sharp object to touch thescreen.
- To clean the device housing, please turn off the power, unplug the power cord, scrub / wipe with slightly damp soft cloth. When cleaning the screen, please wipe with the lint free soft cloth.
- Never attempt to disassemble or repair the machine, otherwise the unit may bedamaged.
- Do not place your unit or accessories together with other flammable liquids, gases, or other explosive materials, to avoiddanger.
- Please unplug the power plug and remove the built-in battery if you do not intend to use the device for a long time or in case of thunder weather.

Contents

1.Product Description

1-1Brief Introduction

- 7" Digital touch wide screen, 1280×800 physical resolution;
- Comply with IP 65 rating;
- Android 7.1.2 operation system;
- Micro SD (TF) card storage.

1-2Optional Functions

- NFC (built-inNXP PN7150);
- Camera (built-in) 2.0MP front camera, 5.0MP rear camera;
- Docking station.

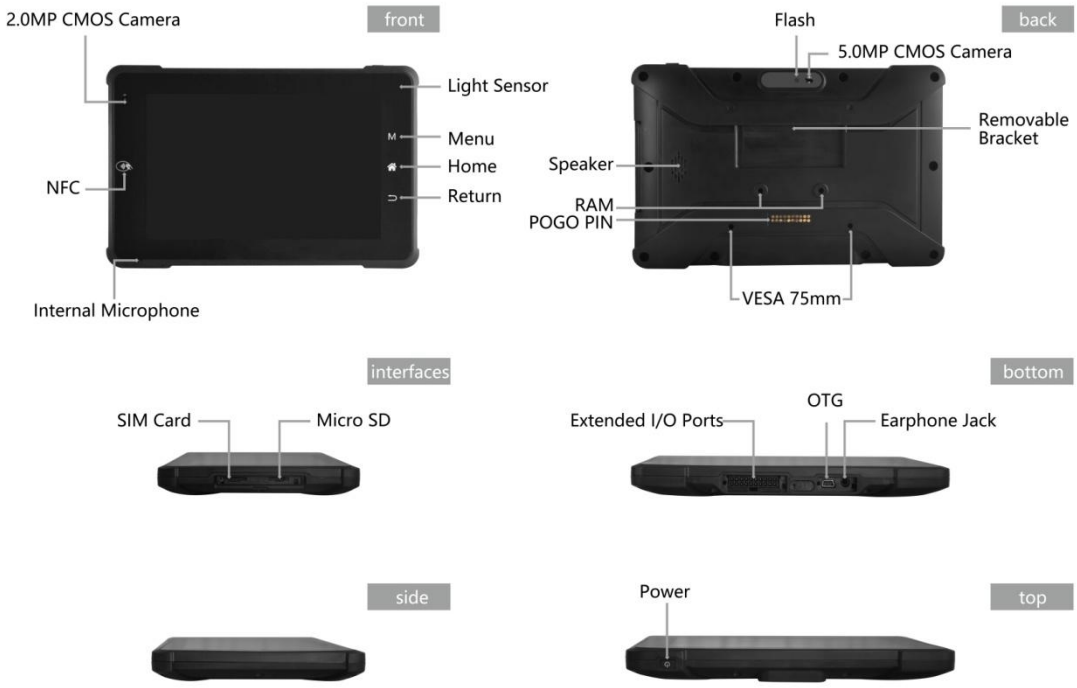
1-3 Basic Parameters

Specifications		**Parameters**
Core	Processor	Qualcomm Quad cord 1.1GHz processor 4*ARM Cortex-A7
	Graphic	Integrated Adreno 304 GPU, up to 400MHz
	RAM	1GB DDR3 (2GB DDR3 optional)
	ROM	8GB EMMC Flash(16GB optional)
	OS	Android 7.1.2
Display	LCD panel	7 inch TFT-LCD, LED backlight
	Resolution	800 × 1280
	Brightness	300nits(typical)
	Contrast Ratio	800:1
	View Angle (°)	80/80(L/R), 80/80(U/D)
	Touch panel	G+G multi-touch capacitive touch panel
Wireless	Wi-Fi	IEEE 802.11a\b\g\n 2.4GHz&5GHz
	Bluetooth	Class 2, Ver 4.0 (optional)
Optional Function	Camera	2.0MP CMOS front camera
		5.0MP CMOS rear camera
	NFC	Built-in
	G-sensor	Built-in
	light sensor	Built-in
	Compass	Built-in
	Gyroscope	Built-in
	speaker	Built-in stereo speaker
Multimedia	Video	Encode: 30fps 720P (H.264), 30fps WVGA(MPEG-4/VP8)
	Audio	MP3/AAC/AAC+/eAAC/AMR-NB/-WB/G.711/WMA 9/10 Pro
User Interface	Onboard I/O ports	1 x TF card slot
		1 x SIM card slot
		1 x OTG (mini-AB type)
		1 x Combo Audio Jack(audio+mic)
	Extended I/O ports (on pigtail cable)	1 x POGO PIN （optional）
		1 x RS422(RS485 optional)
		1x OBDII (Share the same interface with RS232,OBDII serialport will be occupied)

		1 x J1939（optional）
		4 X GPIO(INPUT*2/OUTPUT*2)
		1 x DC in(9~36V)
		1 x ACC Input
	Function Key	Power, Menu, Home, Return
	Power light	LED light
Power Supply	DC In	12V DC (9~36V)
	Battery	3.7V 5000mAh, Poly-lion(run-time up to 3 hours)
Power Consumption	Normal mode	≤6W
	Charging mode	≤8W
Environment	Operating Temp.	-10° C ~55° C (w/ battery) -10° C ~70° C (w/o battery)
	Storage Temp.	-20° C ~ 80° C (w/ battery)
	IP Rating	IP65
Mechanical	Dimensions	200W x130H x 20D mm
	Weight	0.47kg
Accessories	Pigtail Cable	DC in, ACC, GPIO X4, OBDX 1, RS422x1, RS232\OBDII（optional）
	Charger	AC adaptor or car power adaptor
	Mounting	Portable vehicle mounted Bracket or75mm VESA Bracket

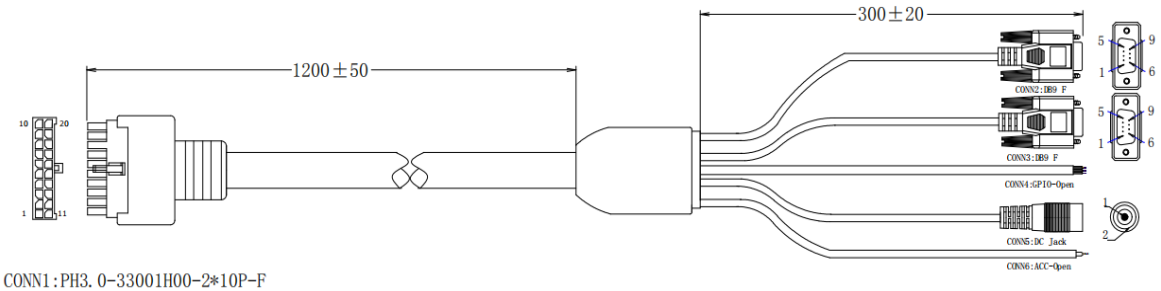
2.Structure Function:

2-1 Overview



2-2 Docking station

3.Extended Cable Definition



CONN1:PH3.0-33001H00-2*10P-F

- CONN1:20PIN
- CONN2:RS232
- CONN3:RS422
- CONN4:GPIO
- CONN5:DC IN
- CONN6:ACC

WIRELIST						
CONN1	Name	CONN 2	CONN 3	CONN 4	CONN 5	CONN 6
PIN		PIN	PIN	PIN	PIN	PIN
1	DC_IN(26#)				1	
2	BAT+(26#)					
3	GND(26#)				2	
4	GND(26#)	5 SHELL				
5	GPIO_58(26#)			1(RED)		
6	GPIO_14(26#)			2(YEL)		
7	RS232_RX(26#)	3				
8	GND(26#)		5 SHELL			
9	RS422_RX-(26#)		4			
10	RS422_TX-(26#)		2			
11	DC_IN(26#)				1	
12	BAT+(26#)					
13	GND(26#)				2	
14	ACC(26#) 2					1(YEL)
15	GPIO_68(26#)			3(WHT)		
16	GPIO_88(26#)			4(GRN)		
17	GND(26#)			5(BLK)		
18	RS232_TX(26#)	2				
19	RS422_RX+(26#)		3			
20	RS422_TX+(26#)		1			

3-1 Serial Port

3-1-1 RS232 test：

Use the converter from USB to RS422 to connect device with computer, open the serial port debugging tool, set up the serial port tool parameter according to the serial port number in the setting.

- Open the Serial Port API Sample, set the parameter: Click Setup→Device→ /dev/ttyHSL0,Baud→115200 and return.
- Click Console, press digital 11, and click send. The serial port debugging tool receiving box will show the information;
- Press digital 11 in the computer serial port debugging tool, the device will receive the information successfully.

3-1-2 RS422 test：

Use the converter from USB to RS422 to connect device with computer, open the serial port debugging tool, set up the serial port tool parameter according to the serial port number in the setting.

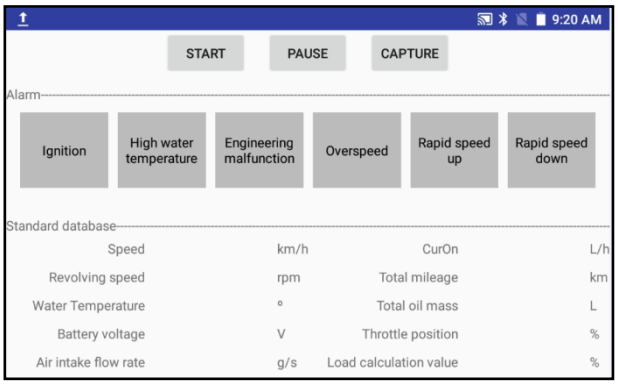
- Open the Serial Port API Sample, set the parameter: Click Setup→Device→ /dev/ttyHSL1,Baud→9600 and return.
- Click Console, press digital 11, and click send. The serial port debugging tool receiving box will show the information;
- Press digital 11 in the computer serial port debugging tool, the device will receive the information successfully.

3-1-3 RS485 test（optional）：

Use the converter from USB to RS485, the rest operation is the same as RS422 test.

3-2 OBD_DEMO（optional）

3-2-1 OBD Interface as shown:



3-3 GPIO_DEMO Interface

3-3-1 GpioJni Demo as shown below

3-3-2 The file system path of the gpio port corresponding device node folder.

GPIO Interface	Yellow	Red	White	Green	Black
IN/OUT	Input 1	Input 2	Output 1	Output 2	GND
GpioJniDemo	Gpio14	Gpio58	Gpio68	Gpio88	

The path of the Gpio68 node in the folder is: /sys/class/gpio/gpio979/

The path of the Gpio58 node in the folder is: /sys/class/gpio/gpio969/

The path of the Gpio88 node in the folder is: /sys/class/gpio/gpio999/

The path of the Gpio14 node in the folder is: /sys/class/gpio/gpio925/

3-3-3. How to read or set the value of gpio port.

READ: Read the value directly within the device node folder, function is asfollows, please refer to the usage within demo for more details.

public String gpioReadStateOne(String state)

Read the data: ON ----the gpio port input is low level

OFF----the gpio port input is high level

SETTING: Write the value directly within the device node folder, function is asfollows, please refer to the usage within demo for more details.

public boolean gpioSetStateOne(String name, int state)

Set a value: ON----set the gpio port output as high level

OFF---set the gpio port output as low level

GPIO：Input Voltage range: 0-3.3V ; output Voltage range:0-3.3V

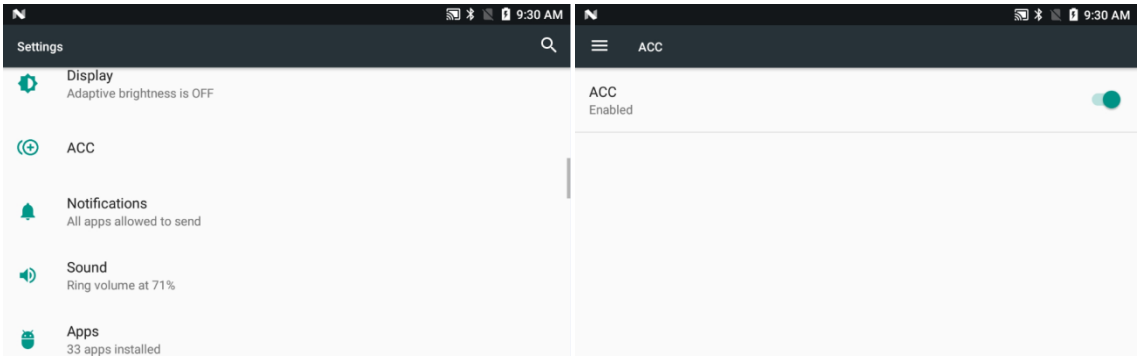
3-4ACC

3-4-1 ACC Connection Instruction：

connecting the tablet with vehicle power supply through extended cable or docking station, and connecting ACC wire on extended cable of the tablet with ACC of vehicle.

ACC wire：

3-4-2 ACC Setting Path：Click Settings→ACC→Enabled



3-4-3 ACCFunctions

- Light up the screen by ACC powered
- Close the screen by ACC outage

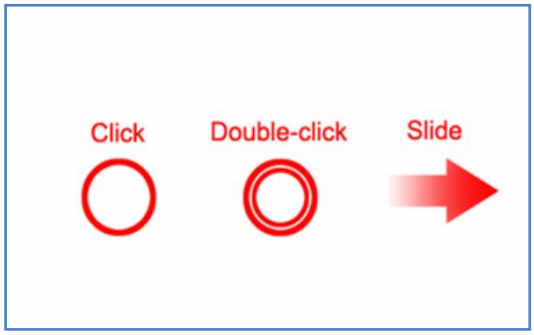
Note: For the above-mentioned ACC powered and outage, that means level edge trigger, but not trigger when ACC at high level or low level.

4.Micro SIM Card & Memory Card Instructions

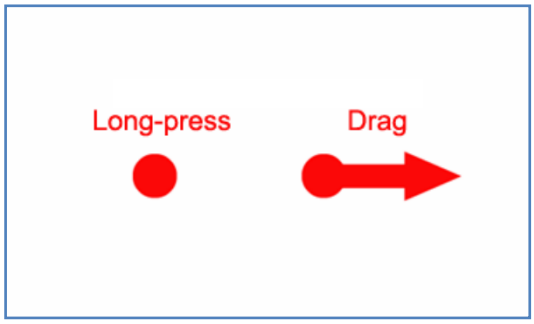
- In order to avoid damaging of the 3G/4G card & memory card, please insert the card smoothly and push slightly before you draw it out.
- The memory card will be heated after long time working.
- If you don’t correctly use the memory card or cut the power when it is being read, maybe some data will be damaged.
- If you don’t correctly use 3G/4G card or cut the power when it is being read, the network will be interrupted.
- If you do not use Micro SD card for a long time, please put it into packing box.

5.Basic Operation

5-1 Click and Slide:



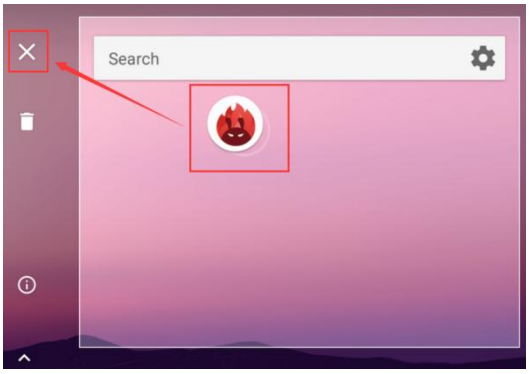
5-2 Long-press and Drag



5-3 Delete

5-3-1 DeleteIcon

Long-press the application icon, and drag to the Home screen, then drop to the ‘X’, lift-up to delete this Icon。



5-3-2 Delete APK：

Long-press the application icon, and drag to the Home screen, then drop to the recycle, lift-up to delete this software。

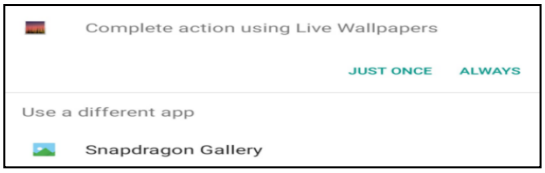
6.MENU

6-1 Icon Bar

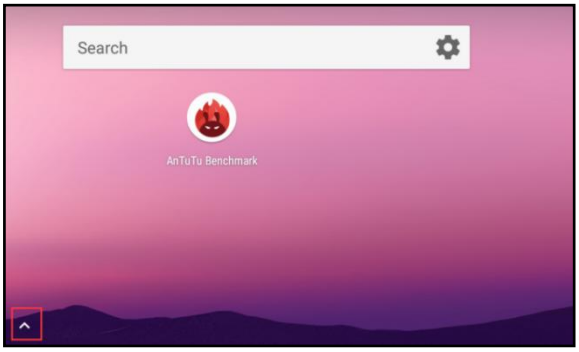
Icon bar shows on the top of screen：

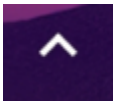
Icon	Name	Description
	Wi-Fi	Wi-Fi signal connection and status of signal weakness or strength.
	No SIM card	Icon displayed when no SIM card.
	Mobile Network	Network available but not surf the Internet via 2G/3G/4G.
		Signal connection and status.
3:25	Time	Current time
	Wi-Fi Hotspot	Wi-Fi Hotspot available
	Bluetooth	Bluetooth available
	Position	GPS positioning
	Flight Mode	Flight mode status

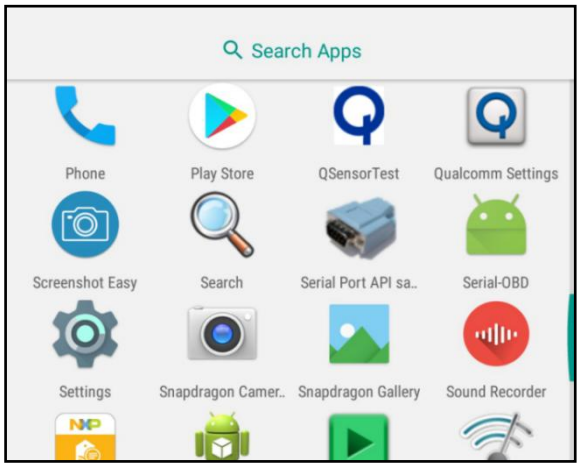
6-2 Menu Setting



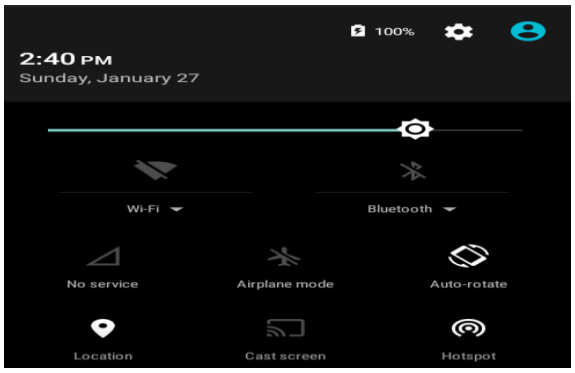
6.2.1 Press menu on screen to pop-up options, Click “Wallpaper” to launchwallpaper.



6.2.2 Click  to enter application list.



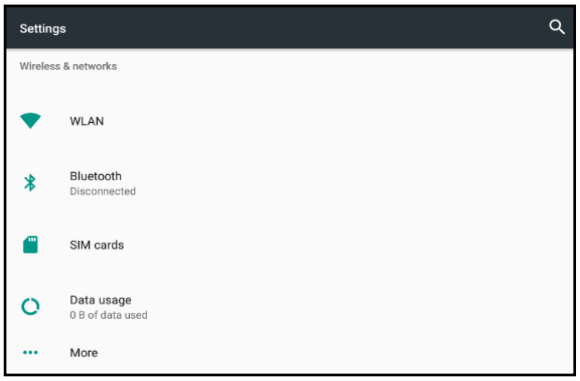
6.2.2.1 Apps will be displayed in theapplication listafterinstalled. Click related icon to enter application.



6.2.3 Drop down from the top of the screen to enternotification bar.

6.2.3.1 The notification bar shows system, running anderror notice.

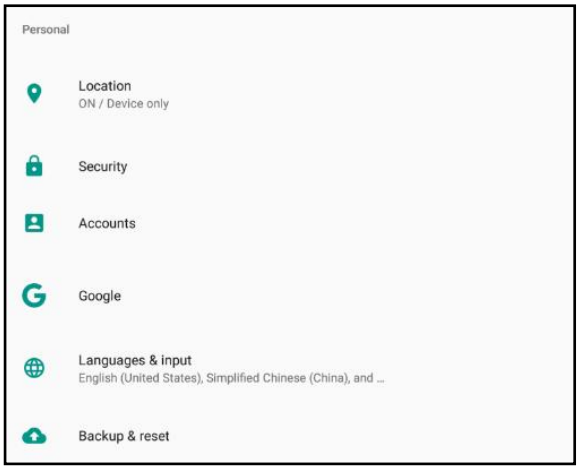
6.2.4 Click"Settings" to launch setting in the applicationlist



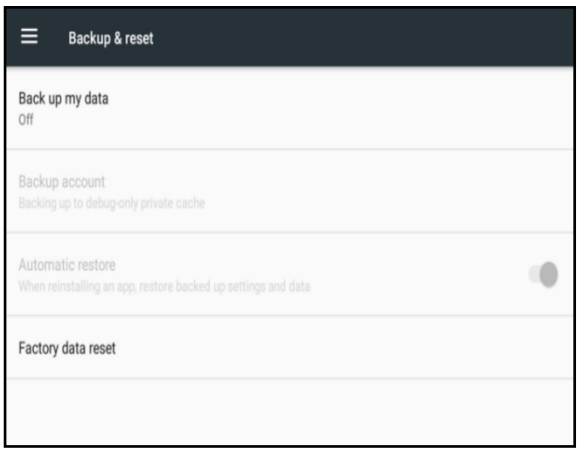
6.2.4.1 Setting according to users' needs. Click search iconto search function options on the upper rightcorner of screen.

6.2.4.2 To set Wi-Fi, Bluetooth, mobile network andother functions in "Wireless & networks" option.

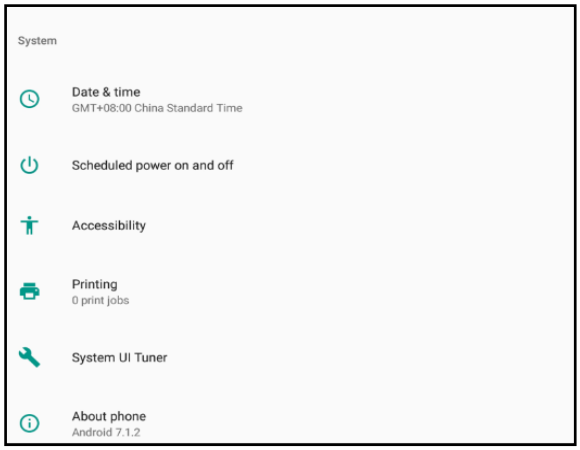
6.2.4.3 To view and set brightness, sleep time, font,rotation, notification, TF card, USB flash disk andother functions in “Device” option.



6.2.4.4 Tomanage position, screen lock, password, account, language, input and other functionsin ”Personal” option.



6.2.4.5 When unrecovered problems occurred, try to click “Backup & reset” and “Factory data reset” thenfollow the instructions. Device will deletesettings and applications after restart, andrestore to factory defaults.
(Please backup all important files before reset.Otherwise files will be deleted automatically andrestore to factory defaults.)



6.2.4.6 To set date & time and accessibility in ”System”option; Do NOT operate if unfamiliar with’’Developer options”.

6-3 NFC（optional）

6-3-1 NFC Setting Path：Click Settings→More→NFC→Open

Photo 1 Photo 2

When the NFC is activated, put the NFC card in the tagging area (as Photo 4). If the card is recognized, and will hear the warning tone. If the card contains the information (such as the manufacturer’s information). Photo 5 will pop up. Photo 6 is the information of NFC card. (Notice: If the card is recognized, it will not always pop up a box, but it should have warning tone.)

Photo 4 Photo 5 Photo 6

7.Accessories

7-1 Standard accessories:

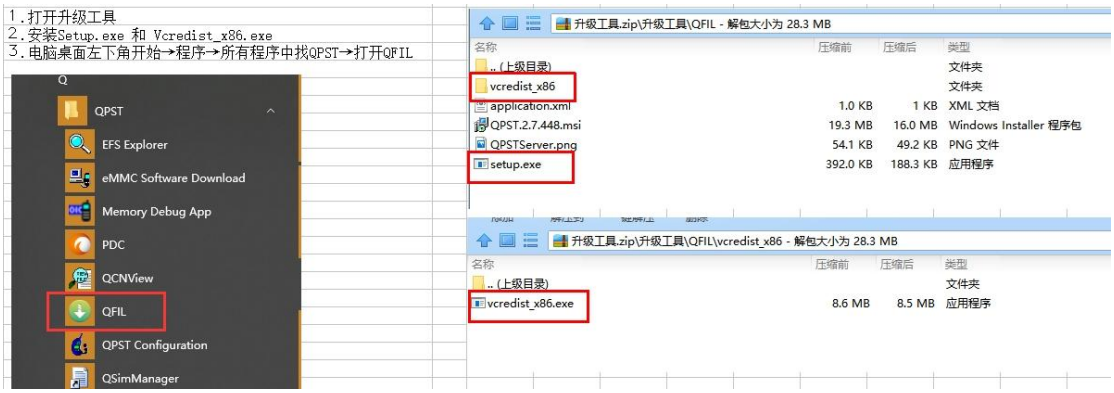
- DC 12V adapter 1pcs

7-2 optionalaccessories:

- Extended cable : DC+ACC+GPIO+RS422 +RS232(OBD optional)
- Docking station : Docking+ DC+ACC+GPIO+RS422 +RS232(OBD optional)
- OTG cable
- Mini USB cable

8.Update firmware

8-1 Install QFIL tools and plug-ins

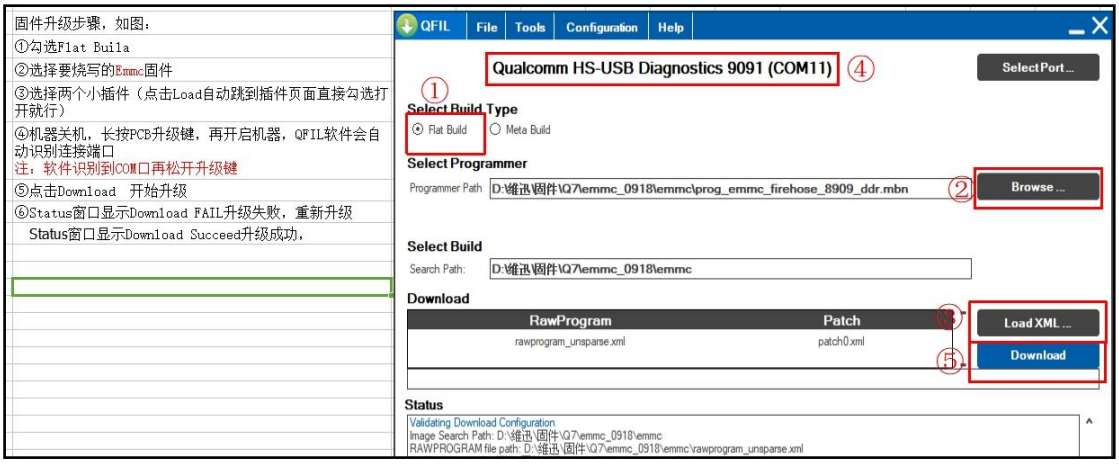


8-2 Update:

8-2-1 Run the QFIL on the compute, use the Mini USB cable to connect with Q7

8-2-2 The device turns on, and can recognize the USB COM（④）, follow the steps 1-2-3-5

8-2-3 The device can not turn on, can not recognize the USB COM, follow steps 1-2-3-4-5, open the rear housing and long press update button on PCB.



8-2-4 Win7&8 need update usb drive： (SC20_Signed_USB_Driver_Win7&8_20170424)

Note: Due to constant effort to improve products and productfeatures, specifications may change without prior notice.

9.Trouble Shooting

9-1 Power Problem Cannot boot up

- Wrong cable connection:
  Connect Extended cable with device first, and connect the AC end of DC adapter with DC input port of Extended cable, then the other end of DC adapter connect with power plug socket.
- Bad connection:
  Check every connection and socket of power source.

9-2 Screen Problem

- No picture on screen.
- The application reaction time is too long and cannot be activated when clicked.
- The image appears delay or still when switching.
  Please restart your system if the device has any problem as describedabove.
- Display screen is misty.
  Please check whether the display screen surface has dust filth or not. Please simply wipe with clean and soft cloth.

Note: Due to constant effort to improve products and productfeatures, specifications may change without prior notice.

10.FCC statements

This device complies with part 15 of the FCC rules. Operation is subject to thefollowing two conditions:
(1) this device may not cause harmful interference, and
(2)this device must accept any interference received, including interference that maycause undesired operation.

NOTE: The manufacturer is not responsible for any radio or TV interference causedby unauthorized modifications or changes to this equipment. Such modifications or changes could void theuser's authority to operate the equipment.

NOTE: This equipment has been tested and found to comply with the limits for aClass B digital device, pursuant to part 15 of the FCC Rules. These limits aredesigned to provide reasonable protection against harmful interference in aresidential installation. This equipment generates uses and can radiate radiofrequency energy and, if not installed and used in accordance with the instructions,may cause harmful interference to radio communications. However, there is noguarantee that interference will not occur in a particular installation. If thisequipment does cause harmful interference to radio or television reception, whichcan be determined by turning the equipment off and on, the user is encouraged totry 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 thereceiver is connected.
-Consult the dealer or an experienced radio/TV technician for help.

The SAR limit of USA (FCC) is 1.6 W/kg averaged over one gram of tissue. Devicetypes Panasonic ELUGA Ray 600 (FCC ID: 2ACHTQ7S) has also been tested against this SAR limit.The highest SAR value reported under this standard during product certification foruse when properly worn on the body is 0.955W/kg. This device was tested fortypical body-worn operations with the back of the handset kept 0mm from the body.To maintain compliance with FCC RF exposure requirements, use accessories thatmaintain a 0mm separation distance between the user's body and the back of thehandset.