# L206 EVB User Manual

**Version**： V1.2

**Date**： 2017-12-16

Shanghai Mobiletek Communication Ltd

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# Version history

| date | version | Description of change |
|---|---|---|
| 2015-11-17 | V1.0 | create |
| 2016-06-16 | V1.1 | Fixed link error |
| 2017-12-16 | V1.2 | Update sub board picture |
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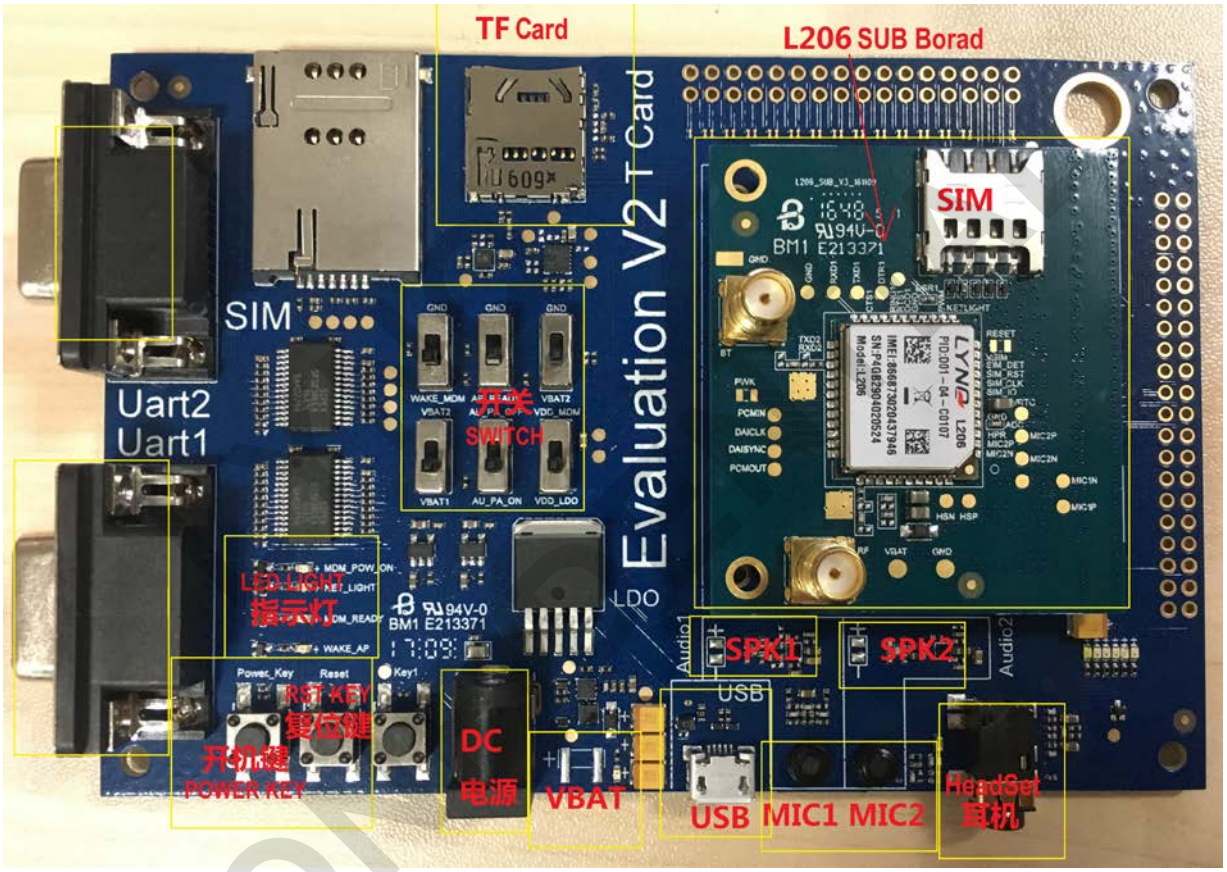
# Contents

# 1. Introduction

L206 Development Board (hereinafter referred to as the board) to help developers to develop，debugging，Testing L206 2G GSM / GPRS module function。The whole development board is composed of three main board, a motherboard for L206 development (hereinafter referred to as the motherboard);Secondly, L206 development small board (hereinafter referred to as a plate);Three for L206 module (hereinafter referred to as modules).Usually turn L206 development board and L206 module assembly together to provide to the customer.The following is a development board function distribution and elevation.This paper described in subsequent chapters of its various parts.



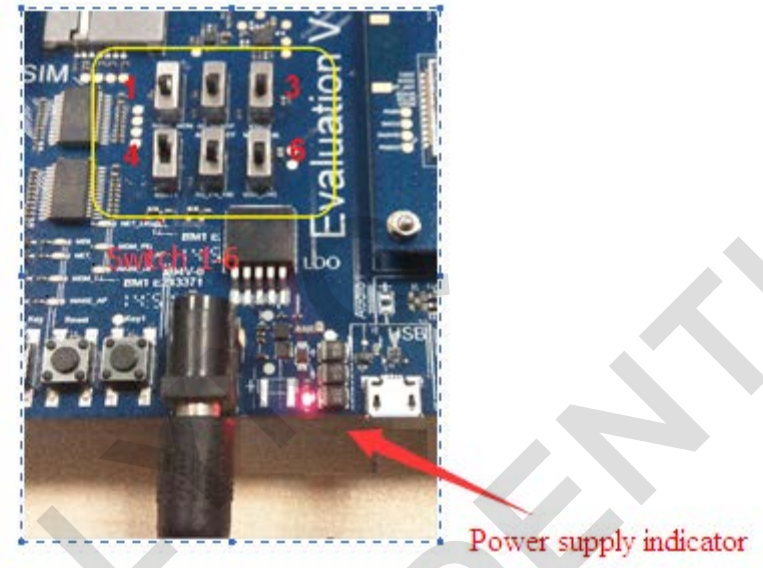

Picture 1：function distribution of Development board



## 2. Power supply

L206 development board provides two methods for power supply: external DC 5 V adapter and welding VBAT DC power supply (3.6 ~ 4.2 V).These two approaches can switch through the "switch 4" (please see chapter after switch instructions).Such as through an external DC 5 v power supply, adapter development board "will convert the DC 5 v to 4 v for system power supply;Such as through VBAT welding line of power supply, the system will directly from the VBAT power.No matter adopt what kind of power supply, so long as supply successful supply beside red leds willnormally on aspower supply, the following figure illustrates the DC 5 v power supply:




Picture 2: DC 5 v power supply figure

# 3. Power button and reset button

When the development board on electric power supply after the light is normally on success, long pressdevelopment board left the power button 3 seconds to open the module.Module open after long press the power button for 3 seconds to close the module.Abnormal after startup, such as module is running, press reset button for more than 1 seconds to restart or forcibly closed modules (The different reset effects of different software ).

Note: the module boot, the green LED indicator light MDM_POW_ON should normally on (see the following LED lights), but small L206 development board V1 did not do this definition, so if customers to use V1 MDM_POW_ON indicator will not be on the development of the small board.


picture 3: power key and reset key

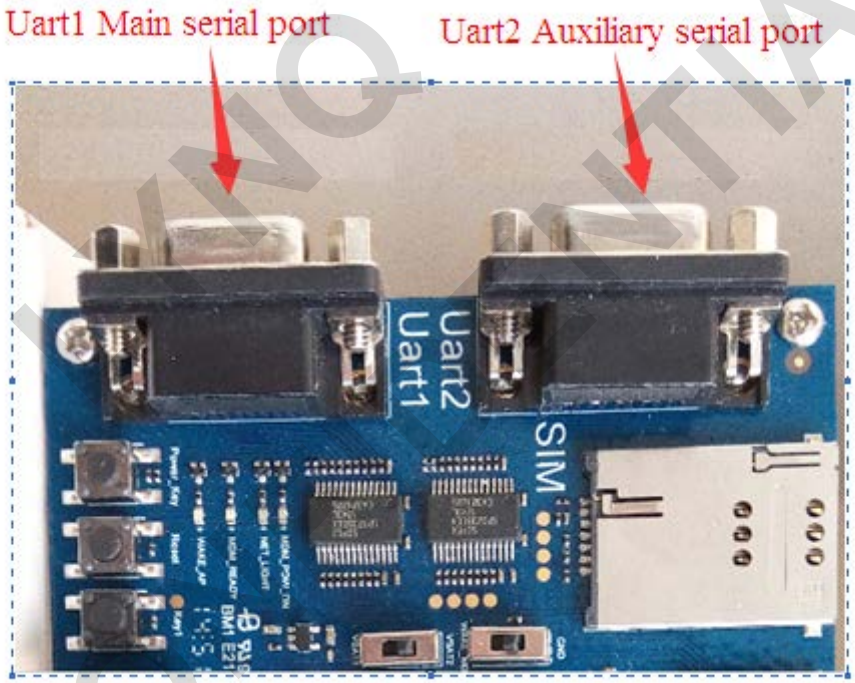
# 4. Application interface

## 4.1UART Serial ports

Development board has two sets of DB9 COM port, the signal of the signal pin and L206 module.Board via a serial port level conversion chip SP3238 COMS 2.8 V level on the module into a standard RS232 5 V level.User can provide the necessary of the DB9 serial lines to connect the PC or other device for a serial port communication.Main serial support hardware flow control for the at command, data transmission, software upgrades,etc.Auxiliary serial port is mainly used for debugging, data transmission, etc.

Note: SP3238 level conversion chip maximum data rate of 250 KBPS, while using a serial port tools, please note that the baud rate is not greater than 250000, otherwise, communication may be abnormal.

About the serial port baud rate associated Settings, please refer to L206 software user manual.

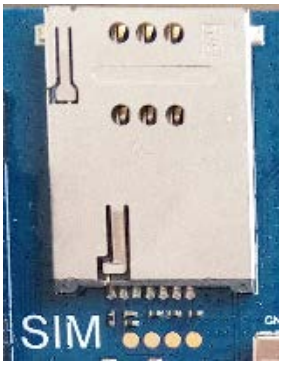



Picture4: A serial port

## 4.2SIM card interface

Developmentboard provide a SIM holder interface, used to support voice and data applications.Can automatically identify 1.8 V and 3 V SIM card

About the serial port baud rate associated Settings, please refer to L206 software user manual.




Picture 5: SIM card interface

## 4.3T card interface

T card interface for development board, for customers extend storage space.L206 T card does not support functions, the interface is invalid.

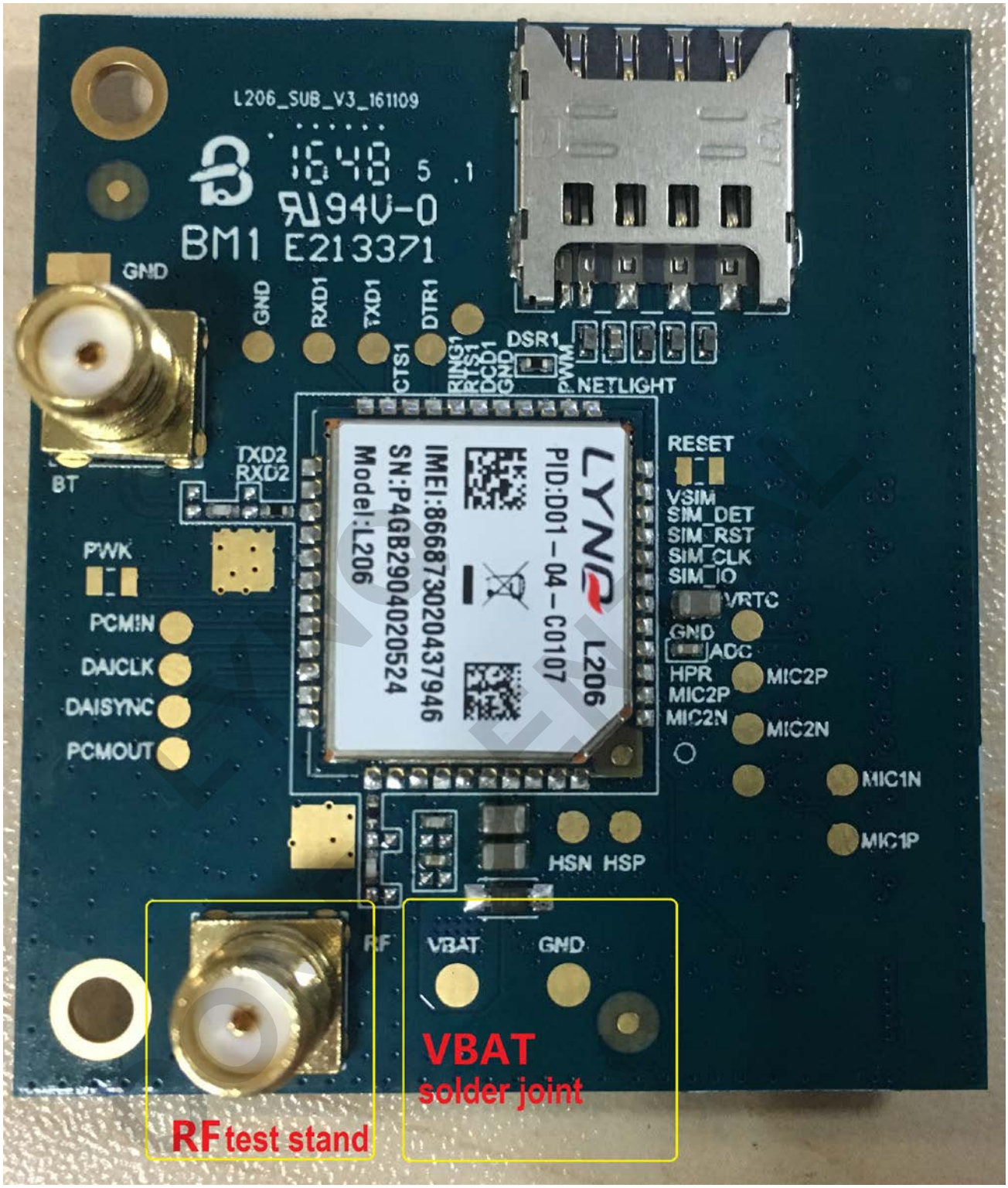
Picture 6: T card interface

## 4.4Antenna Interface

Antenna interface is located in the development of the small plate corner, RF antenna interface from the bonding pad, after a Pi type matching circuit is connected to the RF test block (U.F L - R - SMT - 10 the first generation of the RF test block).Through the cable lines to connect to external antenna.As shown in the figure below:

Note: if you want to rf performance testing modules, so can't draw on the motherboard, because the motherboard power supply line is too long will affect module power supply, which affects radio frequency (rf) index.The correct approach is: 1, disconnect the motherboard power supply.2, from below VBAT solder joint introduction of about

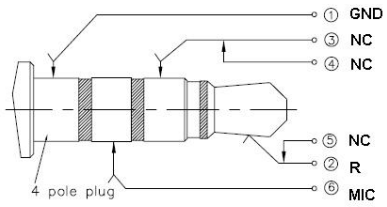
3.8 V dc power supply




Picture 7: Antenna interface

## 4.5Audio interface

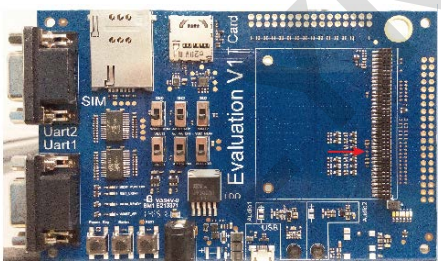
Development board to provide two-way audio and a headphone jack, earphone is a standard 3.5 mm, headphones line interface definition is illustrated below:

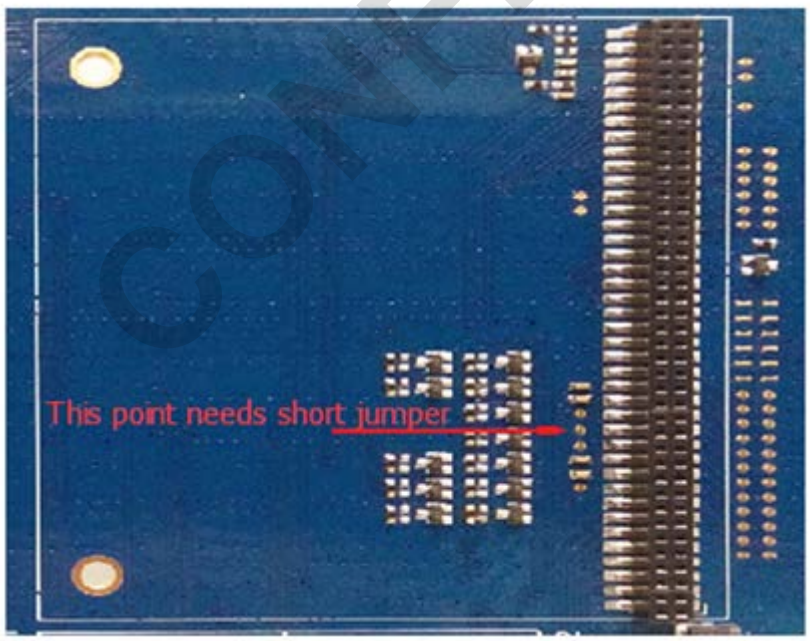



Picture 8: 3.5 mm Headphones line interface definitions

L206 module support two-way audio and the first audio is composed by MIC1P ,MIC1N, HSP, HSN, mike MIC1P signal, MIC1N connected to the development board MIC1;HSP reciver signal, HSN by audio power amplifier is connected to the enlarge SPK1 solder joints.The first two-way audio by MIC2_P MIC2_N, EAR_R composition, including MIC2P, MIC2N connected to the development board MIC2 and headset, mike EAR_R connected to the audio power amplifier and the headphones right channel.The second audio used by the customer to choose development board environment or headset mode.The following is an audio details:

1.Two way audio  MIC bias voltage from the motherboard of VDD_3V ,the motherboard with a jumper wire to short welding up MIC bias is connected to the VDD_3V (please keep open jumpers on both sides of the point).



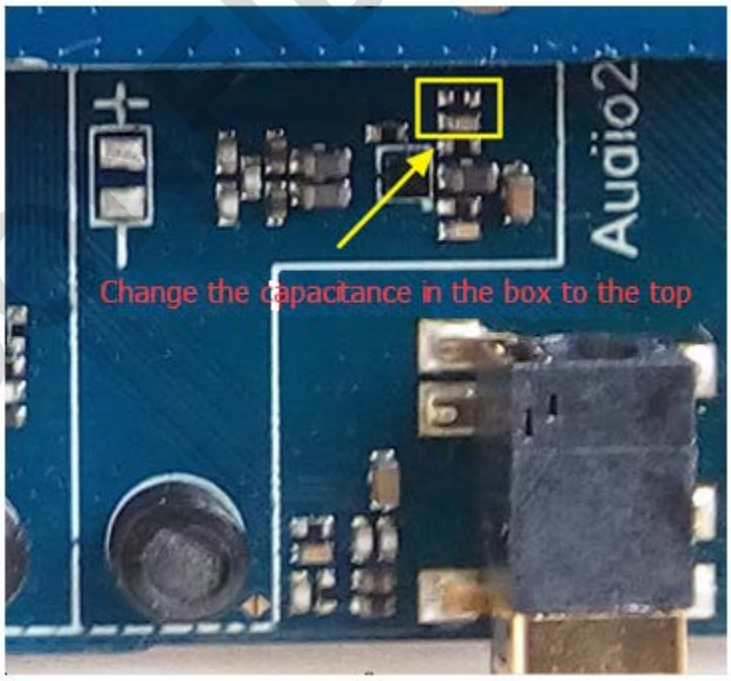

Picture 9: MIC bias point jump line

2.Two way audio PA is to open and close at the same time, controlled by "switch 5", please see below the switch control。

3.On The second audio,if you want to use the mike of development board , need to short connect the jumper by MIC2 development board.If you use headphones, so keep open.


Picture 10

4.In second audio if using a SPK on development board, please send the following capacitance to above (above capacitance show amplify right sound channel signal, the following capacitance show amplified left sound channel signals, L206 module provides a headset right sound channel signals, thus capacitance should change to the above).If use the headset, Please keep as is.



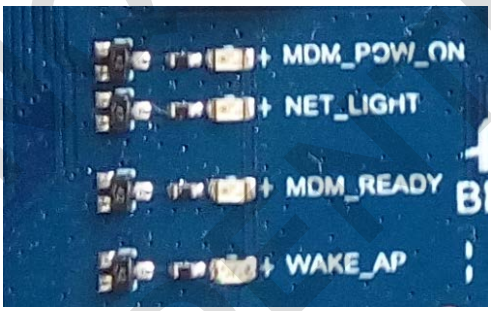

Picture 11

## 4.6LED lights toggle switch

There are four lights located in the left corner of development board, used to indicate the various states.The definition of each lamp table as following1：

table1：（From top to bottom）

| Number | name | description |
|---|---|---|
| 1 | MDM_POW_ON | Module boot instructions，Module boot when lights is on（V1 Small plate undefined） |
| 2 | NET LIGHT | Network status indicator, specific defined by software. |
| 3 | MDM_READY | Module serial wake up instructions. |
| 4 | WAKEUP_AP | Module wake up AP（See the end of this section）. |

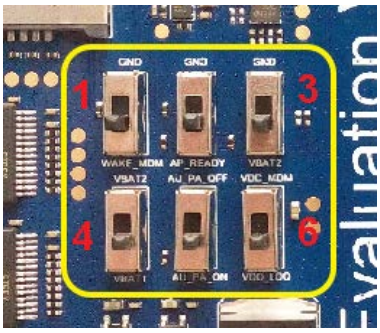



Picture 12 :status light

In the middle development board has six toggle switch, defined as shown in table 2：

Table 2：

| number | name | description |
|---|---|---|
| 1 | WAKEUP_MDM | AP module wake up（See the end of this section）. |
| 2 | AP_READY | AP sleep mode( L206not support this feature now) |
| 3 | Force DLoad | L206 not support this feature. |
| 4 | The power switch | On the dial show DC 5 v power supply;Stir welding power supply |
| 5 | Audio_PA_EN | On the dial show close the audio PA；Allocated show open audio PA. |
| 6 | VDD_EXT_EN | On the dial show using the reference level of module；allocated show using the 1.8 V reference level of development board.Please on the dial on L206 module. |

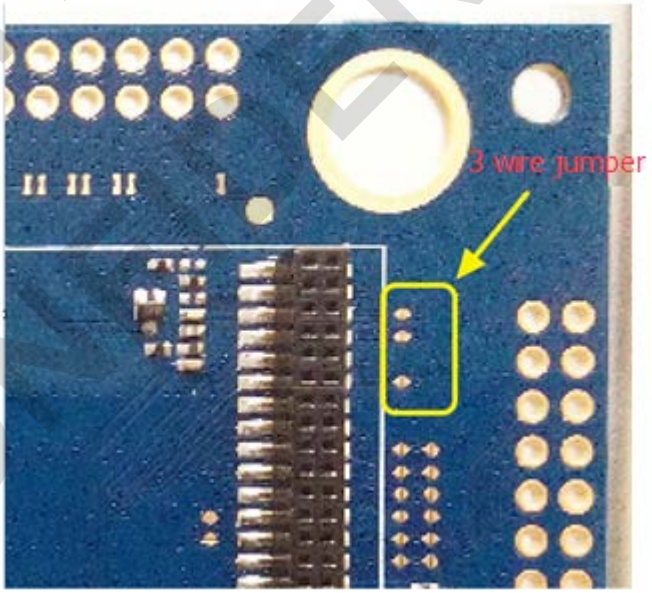



Picture 13：toggle switch

*Each lamp and toggle switch configuration and inquiry, please refer to the L206 software manual.

* About introduction of the LED lights and shifter lever switch*：

L206 module without separate MDM_READY WAKEUP_AP and WAKEUP_MDM feet, the function of the three feet by the main serial port (Uart1) DSR1, RING1, DTR1 feet to complete.L206 development board offers three lines to jump point to connect the three groups respectively, after the jumper can use Uart1 DSR1, RING1, DTR1 to complete control functions.When a customer USES L206 module to design their own products, please note DSR1, RING1, DTR1 design.If you have questions, please contact our technical support.




Picture 14

## 4.7USB and others

In the middle there is a micro USB below development board , for USB download and DSP log grab of module.L206 does not support USB function, the interface is invalid.


picture15: USB interface

# 5. Accessoriesand installation

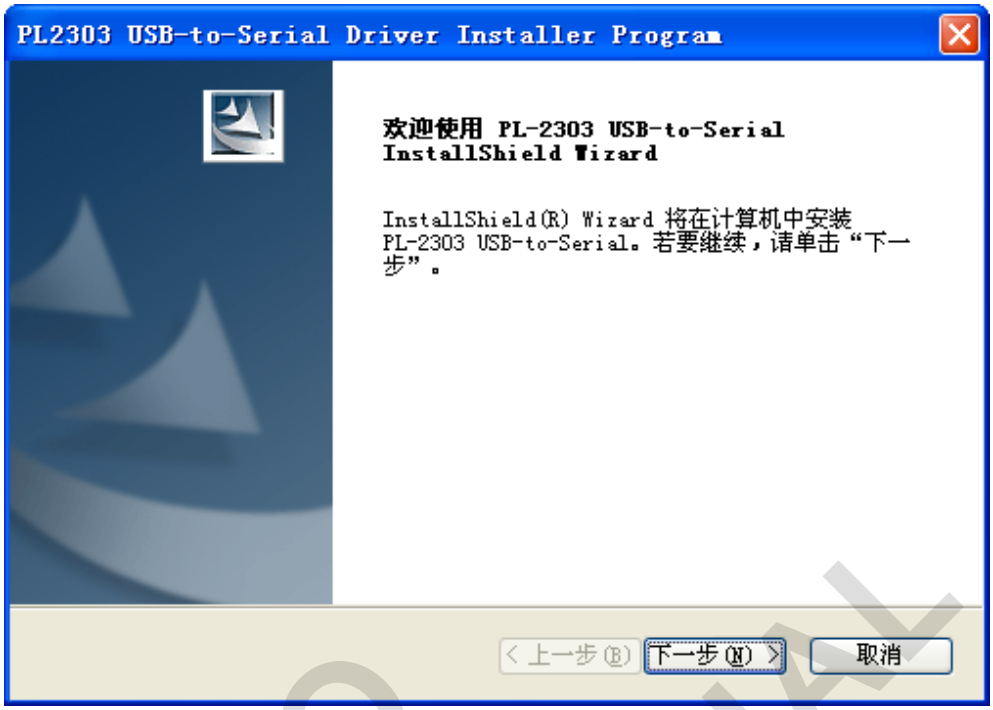
## 5.1Accessories

L206 development board will provide the corresponding accessories, when unpacking , please check the accessories are complete.Under normal circumstances, A complete set of equipment should include power adapter (A), (B) -c USB to RS232 serial port line, rf antenna (C).As shown in the figure below:


picture16：Accessories and the connection diagram

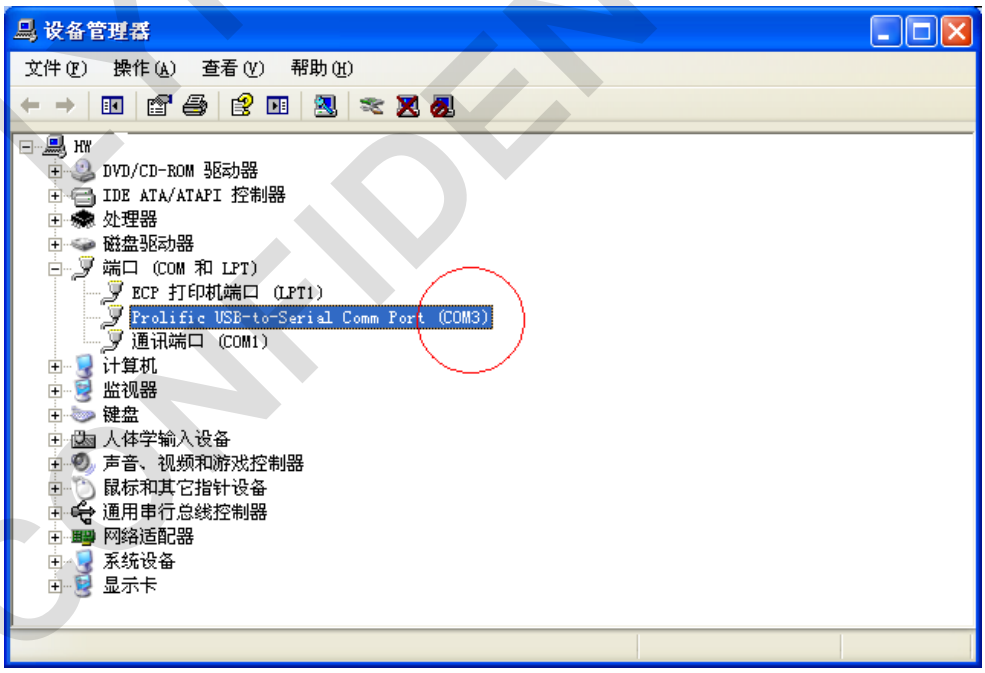
## 5.2Driver installation

EVB development board comes with a USB to RS232 serial port driver installation package CD，double-click the installation according to the default Settings.




Picutre17：Turn the USB serial port driver installation process

Driver installation is finished, can be found in the device manager serial device, as shown in thefigure below：




Picture 18：A serial port equipment

## 5.3 AT Command port configuration

After USB serial port driver is installed completely, through the following steps can be used for L206 module AT commands to operate:：

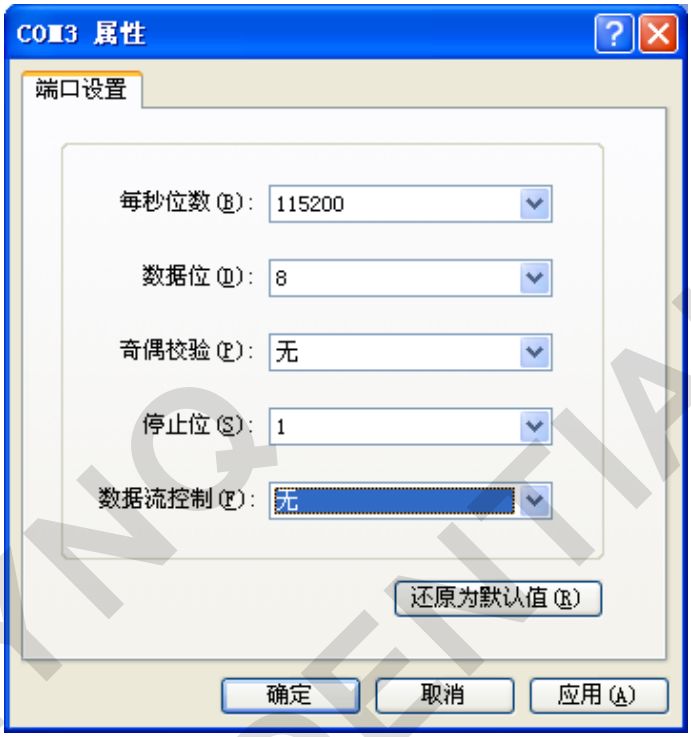
Connect antenna, RF cable line and chuck and insert SIM card.

Connect USB serial port to the main serial port, and open the super terminal: start menu - > all

programs - > accessories - > - > super terminal of communication.

Use the super terminal software, create a new connection.Select the USB serial port, and configure a serial port baud rate.

A serial port configuration into "115200, 8 data bits, parity, 1 stop bit, and no flow control", as shown in the figure below.




Picture 19：A serial port configuration

1) If the connection is: CMU200 or Agilent 8960 instrument to test the GPRS, need through the super terminal or other serial port tools, in order to send the following the AT command, activate the GPRS connection.

**AT+CGATT =1<CR><LF>**

**AT+CGACT =1,1<CR><LF>**